



**WOOD BUFFALO
ENVIRONMENTAL ASSOCIATION**

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Wood Buffalo Environmental Association

**JANUARY 2025
MONTHLY REPORT**

CONTINUOUS MONITORING

February 28, 2025

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





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February 28, 2025

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**RE: Monthly Ambient Air Quality Monitoring Report January 2025
Wood Buffalo Environmental Association**

Enclosed is the January 2025 Ambient Air Quality Monitoring Report for the continuous ambient air quality monitoring stations of the Wood Buffalo Environmental Association (WBEA) regional air quality monitoring network. The WBEA works closely with Alberta Environment and Protected Areas (AEPA) and funding for this work was provided by the Oil Sands Monitoring Program (OSM). It is independent of any position of the OSM Program.

The continuous ambient air quality monitoring network stations are:

AMS 01 – Bertha Ganter – Fort McKay	AMS 19 – Firebag
AMS 02 – Mildred Lake	AMS 20 – MacKay River
AMS 03 – Lower Camp (Meteorology)	AMS 21 – Conklin
AMS 04 – Buffalo Viewpoint	AMS 22 – Janvier
AMS 05 – Mannix	AMS 23 – Fort Hills
AMS 06 – Patricia McInnes	AMS 25 – Waskōw ohci Pimâtisiwin
AMS 07 – Athabasca Valley	AMS 27 – Jackfish 2/3
AMS 08 – Fort Chipewyan	AMS 29 – Surmont 2
AMS 09 – Barge Landing	AMS 30 – Ells River
AMS 11 – Lower Camp (Air Quality)	AMS 31 – Blackrod
AMS 13 – Fort McKay South	AMS 33 – Monday Creek
AMS 14 – Anzac	AMS 506 – Jackfish 1
AMS 17 – Wapasu	AMS 508 – Kirby North
AMS 18 – Stony Mountain	AMS 512 – Hangingstone Expansion



The WBEA submits this report on behalf of its members and for some members to satisfy the requirements contained in their EPEA Approvals (as amended):

Industry Operators	EPEA Approval No.
Athabasca Oil Operations	289664-01-00; 241311-01-00
Canadian Natural	153125-01-00; 20809-02-00; 149968-01-05; 224816-01-00; 237382-01-00; 308463-00-00
Cenovus Energy Inc.	48522-02-00; 206355-01-00
Chemtrade Logistics	404827-00-00
CNOOC International	137467-01-00, 236394-01-00
Connacher Oil and Gas Ltd.	240008-01-00
ConocoPhillips Company	48263-01-00
Greenfire Resources Operating Corporation	153105-01-00
H.J. Baker Sulphur Canada ULC	426549-00-00
Hammerstone Infrastructure Materials Ltd.	189942-01-00
Harvest Operations Corp.	246984-01-00
Imperial Oil Limited	46586-01-00
Inter Pipeline Limited	73203-02-00
IPC Canada Ltd.	301778-00-01
Keyera Energy Ltd.	187-03-03; 462683-00-00
MEG Energy Corp.	216466-01-00
Parsons Creek Aggregates	231302-00-00
PetroChina Canada Ltd.	254465-01-00
Suncor Energy Inc.	94-03-00; 80105-01-00; 151469-01-00; 48408-02-00
Sunshine Oilsands Ltd.	305529-00-00
Surmont Energy	318401-00-00
Syncrude Canada Ltd.	26-03-00
Titan Tire Reclamation Corporation	364232-00-00

Government and Non-Government Organizations

Alberta Energy Regulator	Health Canada
Alberta Environment and Protected Areas	Keyano College
Alberta Health	Parks Canada
Alberta Health Services	Regional Municipality of Wood Buffalo
Environment and Climate Change Canada	

Indigenous Communities

Athabasca Chipewyan First Nation	Fort McKay Métis Nation
Chard Métis Nation	Fort McMurray 468 First Nation
Chipewyan Prairie Dene First Nation	Lakeland Métis
Christina River Dene Nation Council	McMurray Métis
Conklin Resource Development Advisory Committee	Mikisew Cree First Nation
Fort McKay First Nation	



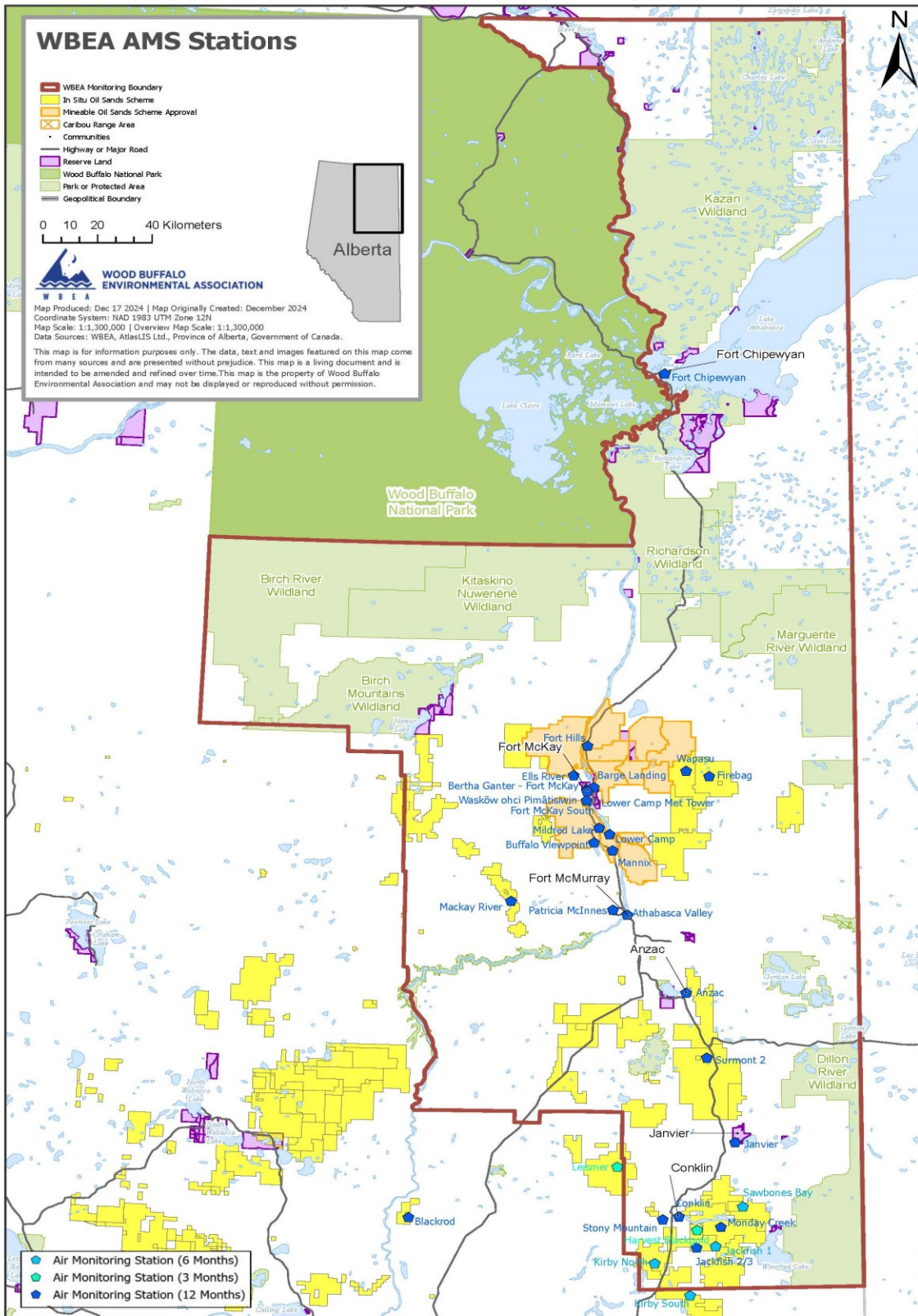


Figure 1. Map of WBEA Continuous Monitoring Network

The following operational notes are provided as per the Air Monitoring Directive requirements.

1.0 Concentrations in Excess of Alberta Ambient Air Quality Guidelines and Objectives

There were no ambient concentrations in excess of the Alberta Ambient Air Quality Objectives or Guidelines (AAAQO/AAAQG) as indicated in the Air Monitoring Directive Section RC 15-F for CO, NH₃, NO₂, O₃, and SO₂.

There were 10 ground-level concentrations in excess of the 1-hour H₂S objective reported to AEPA; following data validation and processing, nine exceedances were confirmed.

There were 2 ground-level concentrations in excess of the 24-hour H₂S objective reported to AEPA; following data validation and processing, one exceedance was confirmed.

There were two ambient ground-level concentrations in excess of the 1-hour PM_{2.5} guideline reported to AEPA; following data validation and processing, the exceedances were confirmed.

There were thirty-six ambient ground-level concentrations in excess of the 30-minute TRS guideline reported to AEPA; following data validation and processing, thirty-five exceedances were confirmed.

Site	Parameter	Date / Time	Reference	Period	Reported	Final	Status*
Ells River	TRS	6Jan25, 16:30		30-min	5	5.1	exc
Ells River	TRS	7Jan25, 07:30		30-min	6	5.6	exc
Ells River	TRS	7Jan25, 08:00		30-min	5	5.1	exc
Barge Landing	TRS	7Jan25, 19:30		30-min	5	5.1	exc
Mildred Lake	H2S	8Jan25, 21:00	436670	1-hr	10	10.1	exc
Mildred Lake	H2S	8Jan25, 22:00	436672	1-hr	14	14.3	exc
Mildred Lake	H2S	8Jan25, 23:00	436672	1-hr	20	20.1	exc
Mildred Lake	H2S	8Jan25, 24:00	436672	1-hr	23	23.2	exc
Mildred Lake	H2S	8Jan25, 24:00	436672	24-hr	4	4.4	exc
Mildred Lake	H2S	9Jan25, 01:00	436675	1-hr	11	10.7	exc
Mildred Lake	H2S	9Jan25, 02:00	436675	1-hr	10	9.8	nae
Anzac	PM2.5	9Jan25, 21:00	436708	1-hr	126	125.7	exc
Surmont 2	PM2.5	9Jan25, 21:00	436709	1-hr	114	114.5	exc
Ells River	TRS	12Jan25, 08:00		30-min	7	7.3	exc
Ells River	TRS	12Jan25, 08:30		30-min	14	14.5	exc
Ells River	TRS	12Jan25, 09:00	436750	1-hr	-	-	ret
Ells River	TRS	12Jan25, 09:00		30-min	13	13.4	exc
Ells River	TRS	12Jan25, 09:30		30-min	15	14.6	exc
Ells River	TRS	12Jan25, 10:00	436750	1-hr	-	-	ret

Ells River	TRS	12Jan25, 10:00		30-min	13	13.1	exc
Ells River	TRS	12Jan25, 10:30		30-min	13	13.0	exc
Ells River	TRS	12Jan25, 11:00		30-min	5	5.1	exc
Ells River	TRS	12Jan25, 21:30		30-min	5	5.0	nae
Ells River	TRS	12Jan25, 24:00	436758	24-hr	-	-	ret
Ells River	TRS	13Jan25, 08:30		30-min	11	11.4	exc
Ells River	TRS	13Jan25, 09:00		30-min	6	5.6	exc
Ells River	TRS	13Jan25, 11:30		30-min	10	9.8	exc
Ells River	TRS	13Jan25, 12:00		30-min	10	10.2	exc
Ells River	TRS	13Jan25, 12:30		30-min	6	6.0	exc
Ells River	TRS	13Jan25, 13:00		30-min	7	6.7	exc
Ells River	TRS	13Jan25, 13:30		30-min	5	5.1	exc
Ells River	TRS	13Jan25, 14:00		30-min	9	8.7	exc
Ells River	TRS	13Jan25, 15:00		30-min	6	6.3	exc
Ells River	TRS	13Jan25, 15:30		30-min	11	10.8	exc
Ells River	TRS	13Jan25, 16:00		30-min	12	11.8	exc
Ells River	TRS	13Jan25, 16:30		30-min	16	16.1	exc
Ells River	TRS	13Jan25, 17:00		30-min	17	17.0	exc
Ells River	TRS	13Jan25, 17:30		30-min	11	10.8	exc
Ells River	TRS	13Jan25, 18:00		30-min	5	5.5	exc
Bertha Ganter	TRS	14Jan25, 04:30		30-min	6	5.6	exc
Bertha Ganter	TRS	14Jan25, 05:00		30-min	7	7.4	exc
Bertha Ganter	TRS	14Jan25, 05:30		30-min	8	8.5	exc
Ft. McKay S	TRS	14Jan25, 05:30		30-min	11	10.7	exc
Fort Hills	TRS	14Jan25, 05:30		30-min	6	6.1	exc
Bertha Ganter	TRS	14Jan25, 06:00		30-min	6	5.9	exc
Ft. McKay S	TRS	14Jan25, 06:00		30-min	6	6.3	exc
Fort Hills	TRS	14Jan25, 06:00		30-min	6	5.7	exc
Mildred Lake	H2S	15Jan25, 02:00	436828	1-hr	12	12.3	exc
Mildred Lake	H2S	15Jan25, 08:00	436829	1-hr	15	14.7	exc
Monday Creek	NO2	14Jan25, 19:00		1-hr	0	0	nae
Anzac	TRS	15Jan25, 16:00		30-min	5	5.1	exc
Mildred Lake	H2S	15Jan25, 24:00	436852	24-hr	3	2.9	nae
Lower Camp	H2S	25Jan25, 22:00	437142	1-hr	10	10.4	exc
Lower Camp	H2S	26Jan25, 10:00	437151	1-hr	10	10.2	exc

*status legend:

- late exceedance, raw values were not found to be in exceedance in real time, and/or were not reported, but final values were found to be an exceedance after data processing.
- exc exceedance, raw values reported in real time were confirmed to be in exceedance after data processing.
- nae not an exceedance, raw values reported in real time were found not in exceedance after data processing.
- ret retracted, reported exceedance was found to be not an exceedance after investigation of measurement system status and/or validation of raw data in conjunction with all associated measurement parameters.

2.0 Data Processing and Validation

Concentrations reported in near real-time are raw values. The final values are determined after processing data for reporting. For all parameters, except PM_{2.5}, the final 5-minute data values are determined by subtracting the daily zero responses, interpolated to the time of each raw 5-minute value, from the raw 5-minute data values. The PM_{2.5} analyzers do not have the capability of performing zero's, therefore, the raw 5-minute values are validated through a comparison with associated parameters at the same, or a nearby, AMS. The final 5-minute data values are then rounded to one decimal place greater than the reporting precision indicated in the Air Monitoring Directive (AMD). The final 1-hour data values are calculated from final 5-minute data values and then rounded to reporting precision. The final 24-hour data values are calculated from the final 1-hour values.

After data processing and validation, NO₂ concentrations are re-calculated from baseline-corrected NO_x and NO concentrations. Specifically, the NO concentration is subtracted from the NO_x concentration to determine the NO₂ concentration.

2.1 Revisions to ETS Electronic Transfer System – Data and Monthly Reports

There were no revisions to historical data stored in the Electronic Transfer System with this monthly report.

3.0 Operational Status

3.1 Continuous Monitoring

In January 2025, there were 8 instances that resulted in monitoring instruments operating less than 90% of the time.

Station	Parameter	Details
Fort Chipewyan	Ozone (O ₃)	The O3 analyzer at Fort Chipewyan air monitoring station (AMS) operated less than 90% of January 2025, which is a contravention of the Air Monitoring Directive (AMD) (2016, as amended), Chapter 6, Clause DQ 4-C. This incident was reported to Alberta Environment and Protected Areas (AB EPA) on January 13, 2025 (reference number 436790). During the first week of January, the O3 analyzer flatlined intermittently. The WBEA collaborated with the local Fort Chipewyan technicians to investigate the issue, but the root cause could not be determined, and the issue persisted. A site visit by a WBEA technician was scheduled for January 9. During this visit, the analyzer was replaced, its performance was verified, and normal operations were restored on the same day. Data from this incident was invalidated for a total of 177 hours.
Jackfish 1	Wind Speed (WS) & Wind Direction (WD)	The wind speed and wind direction (WS/WD) sensor at the Jackfish 1 AMS operated less than 90% of January 2025, which is a contravention of the Air Monitoring Directive (AMD) (2016, as



amended), Chapter 6, Clause DQ 4-C. This incident was reported to Alberta Environment and Protected Areas (AB EPA) on February 10, 2025 (reference number 437586).

Throughout the month of January, the WS/WD sensor froze due to weather conditions, resulting in intermittent flatlining. Operation returned to normal once weather conditions changed. Data from these events were invalidated, resulting in an operational time of 88% for the month of January.

Anzac	Wind Speed (WS) & Wind Direction (WD)	<p>The wind speed and wind direction (WS/WD) sensor at the Anzac AMS operated less than 90% of January 2025, which is a contravention of the Air Monitoring Directive (AMD) (2016, as amended), Chapter 6, Clause DQ 4-C. This incident was reported to Alberta Environment and Protected Areas (AB EPA) on February 13, 2025 (reference number 437673).</p> <p>During the daily system checks on January 13, 16 and 27, it was noted that the WS/WD readings were incorrect. On January 13, the sensor was frozen due to weather conditions and returned to normal operations after de-icing. On January 16, troubleshooting on-site determined that both the cross arm and sensor were misaligned; adjustments were made to correct the alignment. On January 27, troubleshooting on-site determined the tail of the wind vane was missing. The vane was replaced, and the sensor was properly calibrated. Data from these events were invalidated, resulting in an operational time of 70% for the month of January.</p>
Conklin	Wind Speed (WS) & Wind Direction (WD)	<p>The wind speed and wind direction (WS/WD) sensor at the Conklin AMS operated less than 90% of January 2025, which is a contravention of the Air Monitoring Directive (AMD) (2016, as amended), Chapter 6, Clause DQ 4-C. This incident was reported to Alberta Environment and Protected Areas (AB EPA) on February 18, 2025 (reference number 437789).</p> <p>Throughout the month of January, the WS/WD sensor froze due to weather conditions, resulting in intermittent flatlining. Normal operation returned once weather conditions changed. Data from these events were invalidated, resulting in an operational time of 88% for January.</p>
Blackrod	Wind Speed (WS) & Wind Direction (WD)	<p>The wind speed and wind direction (WS/WD) sensor at the Blackrod AMS operated less than 90% of January 2025, which is a contravention of the Air Monitoring Directive (AMD) (2016, as amended), Chapter 6, Clause DQ 4-C. This incident was reported to Alberta Environment and Protected Areas (AB EPA) on February 21, 2025 (reference number 437929).</p> <p>Throughout the month of January, the WS/WD sensor froze due to weather conditions, resulting in intermittent flatlining. In some instances, normal operation returned once weather conditions changed. However, after several days of flatlining, the sensor was removed and thawed on January 20. Data from these events were invalidated, resulting in an operational time of 72.3% for January.</p>
Fort Chipewyan	Total Reduced Sulphur (TRS)	<p>The TRS analyzer at Fort Chipewyan AMS operated less than 90% of January and February 2025, which is a contravention of the Air Monitoring Directive (AMD) (2016, as amended), Chapter 6, Clause DQ 4-C. This incident was reported to Alberta Environment and Protected Areas (AB EPA) on February 21, 2025 (reference number 437908).</p> <p>On January 27, a power failure at the station disrupted the normal operation of all air quality analyzers for 3 hours. The power failure caused a malfunction of the TRS converter, affecting the accuracy of the daily span results. A site visit was scheduled for February 3, the best available time due to the remote location. During the visit the TRS converter was replaced, and its performance was verified. A period of stabilization and adjustment was needed to ensure optimal performance of the analyzer. Normal operation was restored on February 21. During the data validation process, 96 hours of data from January were invalidated, resulting in an operational time of 86.7%. The validation of February data is in progress.</p>
Mannix	Total Hydrocarbon (THC), Non-Methane Hydrocarbon (NMHC) & Methane (CH ₄)	<p>The total hydrocarbon (THC)/non-methane hydrocarbon (NMHC)/methane (CH₄) analyzer at the Mannix AMS operated less than 90% of January 2025, which is a contravention of the Air Monitoring Directive (AMD) (2016, as amended), Chapter 6, Clause DQ 4-C. This incident was reported to Alberta Environment and Protected Areas (AB EPA) on February 21, 2025 (reference number 437900).</p> <p>During the daily system check on January 23, it was noted that the daily span of the THC/NMHC/CH₄ analyzer did not meet criteria. As a result, the analyzer was calibrated, the gas cylinder was replaced, and the span was adjusted that day. However, the issue was unresolved and additional troubleshooting was required. On February 13, the internal pump was replaced, performance was verified, and normal operation of the analyzer was restored. During the data validation process, 130 hours of data were invalidated, resulting in an 82% operational time for the month of January.</p>
Bertha Ganter – Fort McKay	Ammonia (NH ₃)	<p>The ammonia (NH₃) analyzer at the Bertha Ganter - Fort McKay AMS operated less than 90% of January 2025, which is a contravention of the Air Monitoring Directive (AMD) (2016, as amended), Chapter 6, Clause DQ 4-C. This incident was reported to Alberta Environment and Protected Areas (AB EPA) on February 25, 2025 (reference number 438082).</p>



During the daily system check on January 22, it was noted that the daily span was low, and an assessment was needed. Various maintenance activities were completed on January 22 and 23 including analyzer, converter, and pump replacement. Subsequently, a period of stabilization and adjustment was needed to ensure optimal performance of the analyzer. Data for the period was invalidated, resulting in an operational time of 62% for the month of January.

3.2 Intermittent Monitoring

The results for time-integrated sampling of dustfall, precipitation, PAH, TSP, VOC, PM_{2.5} ECOC, PM_{2.5}, and PM₁₀ will be submitted in the 2024 Annual Report.

3.3 General Network Notes

The Ammonia (NH₃) analyzer currently operates on a 0 to 2500 ppb operating range with a detection level of 5 ppb in the WBEA network. In data processing, values less than five ppb have been considered below detection levels and are reported as zero.

Total hydrocarbon (THC), non-methane hydrocarbon (NMHC), and methane (CH₄) measurements are collected at some air monitoring stations in the WBEA network using the Thermo Environmental model 55i direct THC/CH₄/NMHC analyzer. This analyzer uses a Gas Chromatography (GC) based system, which resets the baseline value at the start of every run. This may cause the ambient background to indicate a response below the expected 1.8 ppm background level. When all measurable criteria indicate valid data during the QAQC and validation process, the data is reported without any additional flags. However, a response below the expected 1.8 ppm triggers an investigation of the analyzer to determine if there is an issue.

Monitoring notes, including changes to monitoring locations, methods, or equipment, and any reporting or monitoring irregularities, for the continuous monitoring stations, are provided on a station-by-station basis. Notes of each interrupted event are provided in chronological order, and meteorological parameters are mentioned last.

In December 2024, the Wood Buffalo Environmental Association began reporting the new Alberta Ambient Air Quality Guideline for Total Reduced Sulfur (TRS) which is a 30-minute average limit of 5 ppb to be used for odour management.

Please note that the WBEA was unable to submit the 30-minute TRS (Total Reduced Sulfur) data for January 2025 to the Alberta Air Data Warehouse by the required deadline of February 28, 2025, as outlined in Chapter 9, Clause 13.1.1, of Alberta's Air Monitoring Directive (AMD). This delay is due to programming issues encountered during the compilation of the XML file for submission. We are actively working to resolve these technical challenges. A separate XML file containing the 30-minute TRS data will be submitted by March 7, 2025. Despite this delay, the 1-hour TRS data was submitted on time by February 28, 2025.



Station 1, Bertha Ganter – Fort McKay

The NH₃ analyzer required additional time to stabilize to levels below ambient concentrations following the automated daily spans and routine monthly multipoint calibrations. Additional time is required for stabilization after exposure to high concentrations of NH₃ gas, and this is an inherent behavior in the NH₃ analyzer operations due to the properties of the NH₃ gas. Data for 1 hour following the daily spans have been reported as invalid for a total of 19 hours this month.

Analyzer failure due to sample pump failure of the NH₃ analyzer from January 17 through 22 resulted in 126 hours of invalid data. Subsequent maintenance to replace the sample pump and stabilization period resulted in additional 27 hours of downtime.

Station operator activities on January 22 interrupted the normal operations of the NO_x/NO/NO₂ analyzer for 1 hour.

Unstable operations of the NH₃ analyzer due to analyzers span response being outside of the AMD criteria from January 25 to 28 resulted in 79 hours of invalid data. Subsequent maintenance to adjust the span response and validate the linearity of the NH₃ on January 28 and 29 resulted in additional 33 hours of downtime.

Cleaning of the manifold on January 30 interrupted the normal operations of all gaseous analyzers, except the H₂S and TRS analyzers, for 1 hour.

Unstable operation due to excessive baseline drift in the output signal of the PM_{2.5} analyzer on January 31 resulted in 1 hour of invalid data.

Intermittent flatlines in the output signal of the wind sensor throughout the month resulted in 9 hours of invalid data.

Station 2, Mildred Lake

Unstable operation due to flatline in analyzer output signal of the H₂S analyzer throughout the month resulted in 24 hours of invalid data.

Unstable operation due to excessive baseline noise of the THC/NMHC/CH₄ analyzer on throughout the month resulted in 14 hours of invalid data.

Station 3, Lower Camp – Meteorology

Failure to record data of the relative humidity and temperature sensor at 20-meter elevation throughout the month resulted in 28 hours of invalid data.

Flatline in the output signal of the wind sensor at 100-meter elevation on January 19 resulted in 2 hours of invalid data.

Flatlines in the output signal of the wind sensor at 163-meter elevation throughout the month resulted in 29 hours of invalid data.



Station 4, Buffalo Viewpoint

Unstable operation due to AMD noncompliance of the THC/NMHC/CH₄ analyzer on January 18 to 21 resulted in 68 hours of invalid data.

Maintenance to replace support gas cylinder of the THC/NMHC/CH₄ analyzer on January 28 resulted in 2 hours of downtime.

Flatlines in the output signal of the wind sensor on January 1 and 2 resulted in 3 hours of invalid data.

Station 5, Mannix

Cleaning of the manifold on January 24 interrupted the normal operations of all gaseous analyzers except for THC/NMHC/CH₄ analyzer for 2 hours.

Unstable operation due to excessive baseline drift and failing internal pump of the THC/NMHC/CH₄ analyzer on January 18 to 23 resulted in 130 hours of invalid data. Subsequent maintenance on January 24 to replace the support gas cylinder resulted in additional 3 hours of downtime.

Failure to record data of all meteorological sensors on January 29 resulted in 1 hour of invalid data.

The relative humidity sensor at 20-meter elevation operated out of range throughout the month resulting in 8 hours of invalid data.

The relative humidity sensor at 75-meter elevation operated out of range throughout the month resulting in 13 hours of invalid data.

Flatlines in the output signal of the wind sensor at 45-meter elevation throughout the month resulted in 7 hours of invalid data.

Flatlines in the output signal of the wind sensor at 75-meter elevation throughout the month resulted in 11 hours of invalid data.

Flatlines in the output signal of the wind sensor at 90-meter elevation throughout the month resulted in 23 hours of invalid data.

Station 6, Patricia McInnes

The NH₃ analyzer required additional time to stabilize to levels below ambient concentrations following the automated daily spans and routine monthly multipoint calibrations. NH₃ analyzers require additional time for stabilization after being exposed to high concentrations, this is due to the physical properties of the NH₃ gas. Data for 1 hour following each daily span has been reported as invalid for a total of 36 hours this month.

Maintenance to replace the calibration and support gas cylinder for the THC/NMHC/CH₄ analyzer on January 10 resulted in 4 hours of downtime.



Unstable operation of the NO_x/NO/NO₂ analyzer on January 14 to 15 due to AMD noncompliance resulted in 34 hours of invalid data. Subsequent maintenance to replace the sample pump for the NO_x/NO/NO₂ analyzer on January 15 resulted in additional 5 hours of downtime.

Cleaning of the manifold on January 15 interrupted the normal operations of all gaseous analyzers except for NO_x/NO/NO₂ analyzer for 2 hours.

Maintenance to replace the calibration and support gas cylinder for the THC/NMHC/CH₄ analyzer on January 10 resulted in 4 hours of downtime.

Maintenance to verify daily QA response for the THC/NMHC/CH₄ analyzer on January 31 resulted in 3 hours of downtime.

Station 7, Athabasca Valley

Cleaning of the manifold on January 24 interrupted the normal operations of all gaseous analyzers for 2 hours.

Unstable operation due to excessive baseline noise of the THC/NMHC/CH₄ analyzer all through the first two weeks of the month resulted in 46 hours of invalid data. Subsequent maintenance to replace the THC/NMHC/CH₄ analyzer on January 13 resulted in additional 2 hours of downtime.

Station 8, Fort Chipewyan

Relative humidity and temperatures can affect the performance of the SOX scrubbers in the H₂S and TRS analyzer. During these events, the sulfur concentrations take a longer period to stabilize during the daily span checks. Therefore, the H₂S and TRS span was outside of the 10% AMD criteria on January 20.

Unstable operation due to flatline in the analyzer output signal of the SO₂ analyzer on January 1 to 2 resulted in 35 hours of invalid data.

Unstable operation due to flatline in the analyzer output signal of the O₃ analyzer on January 1 to 8 January 1 resulted in 177 hours of invalid data.

Maintenance due to station operator activities on January 9 interrupted the normal operations of the CO₂ analyzer for 1 hour.

Maintenance to reset logger/modem on January 10 interrupted the normal operations of all air quality analyzers for 1 hour.

The station power failure on January 27 to 28 interrupted the normal operations of all air quality analyzers for 3 hours.

Analyzer failure due to inoperable converter of the TRS analyzer on January 28 to February 1 resulted in 95 hours of invalid data.

Flatlines in the output signal of the wind sensor on January 27 and 30 resulted in 4 hours of invalid data.



Station 9, Barge Landing

Unstable operation due to AMD noncompliance of the THC/NMHC/CH₄ analyzer on January 7 resulted in 10 hours of downtime.

Unstable operation due to flatline in the output signal of the relative humidity and temperature sensor on January 4, 5 and 6 resulted in 15 hours of downtime.

Maintenance due to operator activities interrupted the normal operation of the relative humidity and temperature sensor on January 7 for 2 hours.

Flatlines in the output signal of the wind sensor at 10-meter elevation throughout the month resulted in 15 hours of invalid data.

Flatline in the output signal of the wind sensor at 20-meter elevation on January 1 resulted in 1 hour of invalid data.

Station 11, Lower Camp

Cleaning of the manifold on January 23 interrupted the normal operations of the H₂S analyzer for 1 hour.

Unstable operation due to excessive baseline noise of the THC/NMHC/CH₄ analyzer on January 21 resulted in 2 hours of invalid data.

Maintenance to reinitiate daily QA check on January 28 and 30 resulted in 2 hours of downtime.

Flatline in the output signal of the wind sensor on January 1 and 2 resulted in 2 hours of invalid data.

Station 13, Fort McKay South

Maintenance to replace the NO₂ analyzer on January 15 to 16 resulted in 25 hours of downtime.

Daily QA span checks of the TRS analyzer on January 19 and 20 were outside of compliance due to extreme cold temperatures.

Flatlines in the output signal due to frozen wind sensor throughout the month resulted in 26 hours of invalid data.

Station 14, Anzac

Analyzer failure due to inconsistent response of the THC/NMHC/CH₄ analyzer on January 3 resulted in 9 hours of downtime. Subsequent maintenance to troubleshoot and replace the analyzer on January 3 resulted in an additional 6 hours of downtime.

A flatline in the output signal of the wind sensor on January 10 through 13 resulted in 68 hours of invalid data. Subsequent maintenance to lower the tower to re-ice the wind sensor on January 13 resulted in an additional 5 hours of downtime.



Unstable operation due to misalignment of wind direction sensor from January 13 through 16 resulted in 67 hours of invalid data. Subsequent maintenance to re-align the wind direction sensor on January 16 resulted in an additional 1 hour of downtime.

Analyzer failure of the wind sensor due to wind direction sensor's vane being disconnected from January 24 through 27 resulted in 75 hours of invalid data. Subsequent maintenance to repair the wind direction sensor on January 27 resulted in an additional 1 hour of downtime.

The daily span check for the TRS analyzer was outside the 10% AMD criteria on January 20 due to extreme cold weather conditions.

Station 17, Wapasu

Unstable operation due to excessive baseline drift of the THC analyzer on January 6 and 7 resulted in 4 hours of invalid data.

A flatline in the output signal of the wind sensor on January 2 and 11 resulted in 3 hours of invalid data.

Station 18, Stony Mountain

An internal audit on January 15 and 22 interrupted the normal operations of all air quality analyzers for 1 to 3 hours.

The surface leaf wetness sensor operated out of range on January 10 resulting in 5 hours of invalid data.

A flatline in the output signal of the wind sensor at the 10-meter elevation on January 11 and 12 resulted in 29 hours of invalid data.

A flatline in the output signal of the wind sensor at the 20-meter elevation on January 11 and 12 resulted in 37 hours of invalid data.

Station 19, Firebag

Unstable operation due to flatline in the output signal of THC/NMHC/CH₄ analyzer on January 7 to 8 resulted in 18 hours of downtime. Subsequent maintenance to reboot the analyzer on January 8 resulted in additional 4 hours of downtime.

Flatlines in the output signal of the wind sensor on January 2, 11 and 31 resulted in 3 hours of invalid data.

Station 20, MacKay River

Maintenance to replace the zero-air generator on January 6 interrupted the normal operation of the THC analyzer for 1 hour.

Maintenance to verify daily QA response of the NO_x/NO/NO₂ analyzer on January 6 resulted in 1 hour of downtime.



Cleaning of the manifold on January 10 interrupted the normal operations of H₂S and NO_x/NO/NO₂ analyzers for 1 hour.

Flatlines in the output signal of the wind sensor frozen throughout the month resulted in 8 hours of invalid data.

Station 21, Conklin

Unstable operations of the THC/NMHC/CH₄ analyzer due to low support gas cylinder pressure on January 20 and 21 resulted in 31 hours of invalid data.

A flatline in the output signal of the wind sensor on January 10 through 14 resulted in 86 hours of invalid data.

Station 22, Janvier

Maintenance to replace the support gas cylinder for THC/NMHC/CH₄ analyzer on January 6 resulted in 2 hours of downtime.

Unstable operation due to excessive baseline drift of the O₃ analyzer on January 27 resulted in 1 hour of invalid data.

A flatline in the output signal of the wind sensor on January 3, 6, and 9 resulted in 12 hours of invalid data.

Station 23, Fort Hills

Cleaning of the manifold on January 16 interrupted the normal operations of all gaseous analyzers for 1 hour.

Failure to record data of all parameters on January 24 resulted in 1 hour of invalid data.

Unstable operation of the THC/NMHC/CH₄ analyzer due to AMD noncompliance on January 13 resulted in 31 hours of invalid data.

Maintenance to replace zero-air generator interrupted the normal operation of the THC/NMHC/CH₄ analyzer on January 14 resulted in 1 hour of downtime.

Intermittent flatlines in the output signal of the wind sensor throughout the month resulted in 9 hours of invalid data.

Station 25, Waskōw ohci Pimâtisiwin

Intermittent flatlines in the output signal of the wind sensor throughout the month resulted in 49 hours of invalid data. Subsequent maintenance to de-ice the sensor on January 2 resulted in additional 1 hour of downtime.



Station 27, Jackfish 2/3

Cleaning of the manifold on January 24 interrupted the normal operations of NO_x/NO/NO₂ and SO₂ analyzers for 2 hours.

A flatline in the output signal of the wind sensor on January 11 resulted in 2 hours of invalid data.

Station 29, Surmont 2

Maintenance to remotely troubleshoot the THC analyzer on January 28 resulted in 1 hour of downtime.

A flatline in the output signal of the wind sensor on January 19 resulted in 1 hours of invalid data.

Station 30, Ells River

Maintenance to replace external pump and charcoal for the NO_x/NO/NO₂ analyzer on January 23 resulted in 18 hours of invalid data.

Intermittent flatlines in the output signal of the wind sensor due to being frozen throughout the month resulted in 33 hours of invalid data.

Station 31, Blackrod

Note: The Blackgod AMS portable commenced monitoring on January 1, 2025. Install calibrations were completed in November and December 2024 and files are included with routine monthly calibration files, in the monthly calibration report for January 2025.

Intermittent flatlines in the output signal of the wind sensor due to being frozen throughout the month resulted in 205 hours of invalid data.

Maintenance to lower the meteorological tower to de-ice the wind speed sensor on January 20 resulted in 1 hour of downtime.

Station 33, Monday Creek

Analyzer failure due to reaction chamber cell failure of the NO_x/NO/NO₂ analyzer on January 13 and 14 resulted in 33 hours of invalid data. A subsequent maintenance to replace the analyzer on January 14 resulted in additional 1 hour of downtime.

Maintenance to condition the ozonator bench of the in-situ calibrator followed by adjustment of the coefficient of the NO_x/NO/NO₂ analyzer on January 29 resulted in 6 hours of downtime.

Intermittent flatlines in the output signal of the wind sensor due to being frozen throughout the month resulted in 58 hours of invalid data.

The daily span check for the NO₂ channel of the NO_x/NO/NO₂ analyzer was outside the 10% AMD criteria on January 27 and 29 due to station calibrator configuration issues.



Station 506, Jackfish 1

Stabilization following the maintenance of the NO_x/NO/NO₂ analyzer on January 28 and 29 resulted in 22 hours of downtime.

A flatline in the output signal of the wind sensor on January 10 through 14 resulted in 87 hours of invalid data.

Station 508, Kirby North

A flatline in the output signal of the wind sensor on January 11, 12, and 13 resulted in 12 hours of invalid data.

Station 512, Hangingstone Expansion

A flatline in the output signal of the wind sensor on January 11, 12 and 19 resulted in 33 hours of invalid data.

If additional information is required, please contact the Wood Buffalo Environmental Association at (780) 799-4420.

Yours sincerely,

Wood Buffalo Environmental Association

The representative of the Person Responsible for this monitoring program is Emilie Briggs, Operations Manager, WBEA.

Level one (L1) data review was completed by the Field Technicians responsible for each respective air monitoring station. Level two (L2) data validation, report preparation, and submission were completed by Asad Hidayat and Denny Estador of WBEA. The WBEA has retained the services of Air Resource Specialists (ARS) to conduct Level three (L3) review on its behalf. Contact information for WBEA staff is included below.

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I certify that I have reviewed and verified this report, and that the information is complete, accurate and representative of the monitoring results, reporting timeframe, and the specified analysis, summarization, and reporting requirements.



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APPROVAL NUMBERS	REPORT DATE								
	MONTH	YEAR							
289664-00-00	1	2025							
241311-00-00	CONTINUOUS AMBIENT MONITORING								
20809-02-00									
149968-01-00									
237382-00-00									
48522-01-00									
240008-00-00	PARAMETER	STN. NO.	% TIME OPERATIONAL	30-MIN AVERAGE MAXIMUM CONCENTRATION	NO. READINGS > REGULATION	ONE-HOUR AVERAGE MAXIMUM CONCENTRATION	NO. READINGS > REGULATION	24-HOUR AVERAGE MAXIMUM CONCENTRATION	NO. READINGS > REGULATION
48263-01-00	SO2(ppb)	1	100	-	-	20	0	2.5	0
224816-00-00	SO2(ppb)	2	100	-	-	56.0	0	10.6	0
151469-01-00	SO2(ppb)	4	100	-	-	20.3	0	4.0	0
189942-00-00	SO2(ppb)	5	100	-	-	31.9	0	9.7	0
206355-00-00	SO2(ppb)	6	100	-	-	18.4	0	3.8	0
46586-00-00	SO2(ppb)	7	100	-	-	6.1	0	1.5	0
73203-02-00	SO2(ppb)	8	95	-	-	5.7	0	2.3	0
216466-01-00	SO2(ppb)	9	100	-	-	8.4	0	3.5	0
137467-01-00	SO2(ppb)	11	100	-	-	72.0	0	11.0	0
236394-00-00	SO2(ppb)	13	100	-	-	18.8	0	2.6	0
254465-00-00	SO2(ppb)	14	100	-	-	11.7	0	4.0	0
094-03-00	SO2(ppb)	17	100	-	-	21.2	0	5.5	0
80105-01-00	SO2(ppb)	18	100	-	-	5.6	0	3.3	0
305529-00-00	SO2(ppb)	19	100	-	-	24.1	0	6.9	0
318401-00-00	SO2(ppb)	20	100	-	-	22.6	0	5.2	0
026-03-00	SO2(ppb)	21	100	-	-	5.5	0	1.5	0
364232-00-00	SO2(ppb)	22	100	-	-	6.7	0	1.7	0
228044-00-00	SO2(ppb)	23	100	-	-	23.4	0	5.8	0
247548-00-00	SO2(ppb)	25	100	-	-	21.1	0	2.9	0
231302-00-00	SO2(ppb)	27	100	-	-	19.7	0	5.8	0
246984-01-00	SO2(ppb)	29	100	-	-	15.7	0	2.9	0
153125-01-00	SO2(ppb)	30	100	-	-	18.3	0	2.9	0
	SO2(ppb)	31	100	-	-	6.2	0	2.5	0
	SO2(ppb)	33	100	-	-	16.6	0	1.9	0
	SO2(ppb)	506	100	-	-	23.4	0	7.8	0
	SO2(ppb)	508	100	-	-	6.4	0	3.2	0
	SO2(ppb)	512	100	-	-	158.0	0	30.4	0
	H2S(ppb)	1	100	-	-	6.5	0	1.1	0
	H2S(ppb)	2	97	-	-	23.2	7	4.4	1
	H2S(ppb)	4	100	-	-	7.5	0	0.9	0
	H2S(ppb)	5	100	-	-	4.7	0	1.8	0
	H2S(ppb)	11	100	-	-	10.4	2	2.0	0
	H2S(ppb)	17	100	-	-	0.9	0	0.3	0
	H2S(ppb)	19	100	-	-	1.1	0	0.3	0
	H2S(ppb)	20	100	-	-	3.7	0	0.5	0
	H2S(ppb)	25	100	-	-	5.4	0	1.1	0
	H2S(ppb)	27	100	-	-	0.8	0	0.2	0
	H2S(ppb)	29	100	-	-	0.7	0	0.3	0
	H2S(ppb)	31	100	-	-	0.8	0	0.4	0
	H2S(ppb)	33	100	-	-	1.1	0	0.2	0
	H2S(ppb)	506	100	-	-	0.6	0	0.3	0
	H2S(ppb)	508	100	-	-	0.7	0	0.1	0
	H2S(ppb)	512	100	-	-	2.0	0	0.7	0
	TRS(ppb)	1	100	8.5	4	7.2	0	1.5	0
	TRS(ppb)	6	100	1.7	0	1.3	0	0.7	0
	TRS(ppb)	7	100	1.4	0	1.3	0	0.6	0
	TRS(ppb)	8	87	0.7	0	0.7	0	0.3	0
	TRS(ppb)	9	100	5.1	1	3.5	0	1.4	0
	TRS(ppb)	13	100	10.7	2	8.5	0	1.5	0
	TRS(ppb)	14	100	5.1	1	2.6	0	0.3	0
	TRS(ppb)	18	100	0.9	0	0.8	0	0.5	0
	TRS(ppb)	21	100	0.6	0	0.6	0	0.4	0
	TRS(ppb)	22	100	0.6	0	0.6	0	0.3	0
	TRS(ppb)	23	100	6.1	2	5.9	0	1.4	0
	TRS(ppb)	30	100	17.0	25	16.5	0	4.1	0
	THC(ppm)	1	100	-	-	4.1	-	2.6	-
	THC(ppm)	2	98	-	-	3.1	-	2.4	-
	THC(ppm)	4	91	-	-	2.8	-	2.3	-
	THC(ppm)	5	82	-	-	2.8	-	2.2	-
	THC(ppm)	6	94	-	-	2.6	-	2.3	-
	THC(ppm)	7	93	-	-	2.4	-	2.1	-
	THC(ppm)	9	99	-	-	3.1	-	2.3	-

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289664-00-00	1	2025							
241311-00-00	CONTINUOUS AMBIENT MONITORING								
20809-02-00				30-MIN AVERAGE		ONE-HOUR AVERAGE		24-HOUR AVERAGE	
149968-01-00	PARAMETER	STN. NO.	% TIME OPERATIONAL			MAXIMUM CONCENTRATION	NO. READINGS > REGULATION	MAXIMUM CONCENTRATION	NO. READINGS > REGULATION
237382-00-00	THC(ppm)	11	100	-	-	3.2	-	2.3	-
48522-01-00	THC(ppm)	13	100	-	-	3.6	-	2.7	-
240008-00-00	THC(ppm)	14	98	-	-	2.4	-	2.1	-
48263-01-00	THC(ppm)	17	99	-	-	2.8	-	2.4	-
224816-00-00	THC(ppm)	18	100	-	-	2.3	-	2.2	-
151469-01-00	THC(ppm)	19	97	-	-	2.7	-	2.3	-
189942-00-00	THC(ppm)	20	100	-	-	3.1	-	2.7	-
206355-00-00	THC(ppm)	21	96	-	-	2.3	-	2.2	-
46586-00-00	THC(ppm)	22	100	-	-	2.2	-	2.1	-
73203-02-00	THC(ppm)	23	95	-	-	6.3	-	3.7	-
216466-01-00	THC(ppm)	29	100	-	-	2.8	-	2.5	-
137467-01-00	THC(ppm)	30	100	-	-	3.2	-	2.6	-
236394-00-00	THC(ppm)	508	100	-	-	2.6	-	2.5	-
254465-00-00	O3(ppb)	1	100	-	-	43.7	0	37.8	-
094-03-00	O3(ppb)	4	100	-	-	45.0	0	38.6	-
80105-01-00	O3(ppb)	6	100	-	-	49.8	0	41.9	-
305529-00-00	O3(ppb)	7	100	-	-	48.8	0	40.2	-
318401-00-00	O3(ppb)	8	76	-	-	44.0	0	39.6	-
026-03-00	O3(ppb)	13	100	-	-	44.0	0	38.5	-
364232-00-00	O3(ppb)	14	100	-	-	46.5	0	41.2	-
228044-00-00	O3(ppb)	17	100	-	-	49.9	0	40.2	-
247548-00-00	O3(ppb)	18	100	-	-	44.7	0	41.5	-
231302-00-00	O3(ppb)	21	100	-	-	49.0	0	44.6	-
246984-01-00	O3(ppb)	22	100	-	-	51.6	0	46.4	-
153125-01-00	NO2(ppb)	1	100	-	-	37.5	0	26.2	-
	NO2(ppb)	4	100	-	-	40.5	0	24.5	-
	NO2(ppb)	6	95	-	-	40.7	0	19.8	-
	NO2(ppb)	7	100	-	-	38.2	0	20.3	-
	NO2(ppb)	8	99	-	-	23.5	0	7.8	-
	NO2(ppb)	9	100	-	-	51.5	0	34.2	-
	NO2(ppb)	13	97	-	-	33.6	0	24.8	-
	NO2(ppb)	14	100	-	-	24.9	0	10.4	-
	NO2(ppb)	17	100	-	-	28.3	0	12.7	-
	NO2(ppb)	18	100	-	-	11.0	0	6.4	-
	NO2(ppb)	19	100	-	-	50.8	0	13.6	-
	NO2(ppb)	20	100	-	-	32.4	0	16.6	-
	NO2(ppb)	21	100	-	-	18.9	0	7.8	-
	NO2(ppb)	22	100	-	-	12.2	0	6.0	-
	NO2(ppb)	23	100	-	-	56.2	0	38.4	-
	NO2(ppb)	27	100	-	-	17.7	0	6.7	-
	NO2(ppb)	29	100	-	-	23.8	0	7.9	-
	NO2(ppb)	30	98	-	-	39.1	0	21.7	-
	NO2(ppb)	31	100	-	-	46.1	0	15.9	-
	NO2(ppb)	33	95	-	-	35.0	0	8.0	-
	NO2(ppb)	506	97	-	-	31.4	0	9.0	-
	NO2(ppb)	508	100	-	-	10.7	0	7.8	-
	NO2(ppb)	512	100	-	-	22.3	0	10.1	-
	CO(ppm)	1	100	-	-	0.6	0	0.3	-
	CO(ppm)	7	100	-	-	0.5	0	0.2	-
	CO(ppm)	8	99	-	-	0.3	0	0.1	-
	CO(ppm)	18	100	-	-	0.3	0	0.2	-
	CO2(ppm)	1	100	-	-	475.6	-	461.3	-
	CO2(ppm)	8	99	-	-	448.1	-	442.4	-
	CO2(ppm)	18	100	-	-	458.7	-	450.4	-
	NH3(ppb)	1	62	-	-	0.0	0	0.0	-
	NH3(ppb)	6	95	-	-	0.0	0	0.0	-
	PM2.5(ug/m3)	1	100	-	-	44.5	0	13.5	0
	PM2.5(ug/m3)	4	100	-	-	22.9	0	11.0	0
	PM2.5(ug/m3)	6	100	-	-	31.6	0	15.9	0
	PM2.5(ug/m3)	7	100	-	-	32.5	0	12.0	0
	PM2.5(ug/m3)	8	99	-	-	20.2	0	7.3	0
	PM2.5(ug/m3)	9	100	-	-	57.6	0	15.4	0

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289664-00-00	1	2025							
241311-00-00	CONTINUOUS AMBIENT MONITORING								
20809-02-00				30-MIN AVERAGE		ONE-HOUR AVERAGE		24-HOUR AVERAGE	
149968-01-00	PARAMETER	STN. NO.	% TIME OPERATIONAL			MAXIMUM CONCENTRATION	NO. READINGS > REGULATION	MAXIMUM CONCENTRATION	NO. READINGS > REGULATION
237382-00-00	PM2.5(ug/m3)	13	100	-	-	21.4	0	11.1	0
48522-01-00	PM2.5(ug/m3)	14	100	-	-	125.7	1	18.6	0
240008-00-00	PM2.5(ug/m3)	17	100	-	-	14	0	6.3	0
48263-01-00	PM2.5(ug/m3)	18	100	-	-	27.9	0	14.8	0
224816-00-00	PM2.5(ug/m3)	21	100	-	-	55.9	0	15.2	0
151469-01-00	PM2.5(ug/m3)	22	100	-	-	72	0	18.7	0
189942-00-00	PM2.5(ug/m3)	23	100	-	-	32.3	0	11.1	0
206355-00-00	PM2.5(ug/m3)	29	100	-	-	114.5	1	16.6	0
46586-00-00	PM2.5(ug/m3)	30	100	-	-	22.7	0	9.7	0
73203-02-00	WS(km/h)	1	99	-	-	-	-	-	-
216466-01-00	WS(km/h)	2	100	-	-	-	-	-	-
137467-01-00	WS(km/h)	4	100	-	-	-	-	-	-
236394-00-00	WS(km/h)	5	100	-	-	-	-	-	-
254465-00-00	WS(km/h)	6	100	-	-	-	-	-	-
094-03-00	WS(km/h)	7	100	-	-	-	-	-	-
80105-01-00	WS(km/h)	8	99	-	-	-	-	-	-
305529-00-00	WS(km/h)	9	100	-	-	-	-	-	-
318401-00-00	WS(km/h)	11	100	-	-	-	-	-	-
026-03-00	WS(km/h)	13	97	-	-	-	-	-	-
364232-00-00	WS(km/h)	14	71	-	-	-	-	-	-
228044-00-00	WS(km/h)	17	100	-	-	-	-	-	-
247548-00-00	WS(km/h)	18	95	-	-	-	-	-	-
231302-00-00	WS(km/h)	19	100	-	-	-	-	-	-
246984-01-00	WS(km/h)	20	99	-	-	-	-	-	-
153125-01-00	WS(km/h)	21	88	-	-	-	-	-	-
	WS(km/h)	22	99	-	-	-	-	-	-
	WS(km/h)	23	99	-	-	-	-	-	-
	WS(km/h)	25	93	-	-	-	-	-	-
	WS(km/h)	27	100	-	-	-	-	-	-
	WS(km/h)	29	100	-	-	-	-	-	-
	WS(km/h)	30	96	-	-	-	-	-	-
	WS(km/h)	31	72	-	-	-	-	-	-
	WS(km/h)	33	92	-	-	-	-	-	-
	WS(km/h)	506	88	-	-	-	-	-	-
	WS(km/h)	508	98	-	-	-	-	-	-
	WS(km/h)	512	96	-	-	-	-	-	-
									
SIGNATURE OF ASSOCIATION REPRESENTATIVE							FOR ALBERTA ENVIRONMENT USE ONLY		



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS01 BERTHA GANTER - FORT MCKAY JANUARY 2025

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

February 28, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - FORT McKAY - BERTHA GANTER (AMS01)
JANUARY 2025

MONTHLY SUMMARY

Parameter	Hours of Data	Hours of Calibration	Hours without Data	Operational Time	Maximum 30-Min Value	30-Min Exceedances	Maximum 1-Hour Value	1-Hour Exceedances	Maximum 24-Hour Value	24-Hour Exceedances
SO2(ppb) Average	708	35	36	99.87	-	-	19.9	0	2.5	0
H2S(ppb) Average	707	37	37	100	-	-	6.5	0	1.1	0
TRS(ppb) Average	707	37	37	100	8.5	4	7.2	0	1.5	0
THC(ppm) Average	708	35	36	99.87	-	-	4.1	-	2.6	-
NMHC(ppm) Average	708	35	36	99.87	-	-	0.841	-	0.152	-
CH4(ppm) Average	708	35	36	99.87	-	-	3.8	-	2.5	-
O3 (ppb) Average	708	35	36	99.87	-	-	43.7	0	37.8	-
NO2 (ppb) Average	705	37	39	99.73	-	-	37.5	0	26.2	-
NO (ppb) Average	705	37	39	99.73	-	-	83.2	-	33.7	-
NOX (ppb) Average	705	37	39	99.73	-	-	111.2	-	54.8	-
NH3 (ppb) Average	418	41	326	61.69	-	-	0	0	0	-
PM2.5 (ug/m3) Average	740	3	4	99.87	-	-	44.5	0	13.5	0
CO(ppm) Average	708	35	36	99.87	-	-	0.6	0	0.3	0
CO2(ppm) Average	708	35	36	99.87	-	-	475.6	0	461.3	0
Temperature 2 m (C) Average	744	0	0	100	-	-	8.3	-	2.6	-
Temperature 10 m (C) Average	744	0	0	100	-	-	8.6	-	2.8	-
Relative Humidity (%) Average	744	0	0	100	-	-	93.6	-	86.3	-
Wind Speed 10 m (km/h) Average	735	0	9	98.79	-	-	34	-	18	-
Wind Direction 10 m (deg) Average	735	0	9	98.79	-	-	-	-	-	-
Precipitation (mm) Total	744	0	0	100	-	-	2.4	-	13	-
Leaf Wetness (% of range) Average	744	0	0	100	-	-	25.3	-	6.9	-
Global Solar Radiation (W/m2) Average	744	0	0	100	-	-	306.6	-	67.8	-

Note : Operational time includes periods of data collection and instrument calibration

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - BERTHA GANTER FORT MCKAY (AMS01)
 JANUARY 2025

MONTHLY SUMMARY FOR AIR QUALITY/ METEOROLOGICAL MONITORING MEASUREMENTS

Parameter	Number	Mean	StnDev	Total	Percentile						
					Min	P10	Q1	Median	Q3	P90	Max
SO2 (ppb) Average	708	0.57	1.5	-	0	0	0	0.1	0.4	1.7	19.9
H2S (ppb) Average	707	0.37	0.5	-	0	0	0.1	0.2	0.5	0.9	6.5
TRS (ppb) Average	707	0.68	0.5	-	0.3	0.4	0.4	0.5	0.7	1.2	7.2
THC (ppm) Average	708	2.15	0.2	-	1.9	2	2	2.1	2.2	2.4	4.1
NMHC(ppm) Average	708	0.039	0.079	-	0	0	0	0	0	0.1	0.841
CH4(ppm) Average	708	2.11	0.2	-	1.9	2	2	2.1	2.2	2.3	
O3 (ppb) Average	708	19.15	11.7	-	0	1.3	9.8	20.3	28.9	33.4	43.7
NO2 (ppb) Average	705	11.05	8.9	-	0	0.5	3.4	9.5	17.1	24.4	37.5
NO (ppb) Average	705	4.82	12.2	-	0	0	0	0.5	3.1	11.9	83.2
NOX (ppb) Average	705	15.86	18.5	-	0	0.8	3.8	10.2	20.3	36.4	111.2
NH3 (ppb) Average	418	0	0	-	0	0	0	0	0	0	0
PM2.5 (ug/m3) Average	740	5.62	4.8	-	0.2	0.9	2.8	4.2	7.4	11.8	44.5
CO(ppm) Average	708	0.22	0	-	0.1	0.2	0.2	0.2	0.2	0.3	0.6
CO2(ppm) Average	708	449.82	6.8	-	436.7	442.4	444.9	448	454.3	459.2	475.6
Temperature 2 m (C) Average	744	-13.02	11.3	-	-38.2	-29.5	-22	-12.1	-3.3	1.1	8.3
Temperature 10 m (C) Average	744	-12.84	11.3	-	-37.1	-29.2	-22	-12.3	-3.2	1.9	8.6
Relative Humidity (%) Average	744	74.33	9.5	-	37.1	63.9	70	74.9	80.3	85.5	93.6
Wind Speed 10 m (km/h) Average	735	8.1	6	-	0	2	4	7	10	16	34
Wind Direction 10 m (deg) Average	735	-	-	-	-	-	-	-	-	-	-
Precipitation (mm) Total	744	-	-	29.98	-	-	-	-	-	-	-
Leaf Wetness (% of range) Average	744	3.75	2.1	-	1.8	2.5	2.8	3.5	4	4.9	25.3
Global Solar Radiation (W/m2) Average	744	21.9	50.5	-	0	0	0	0	13.3	81.3	306.6

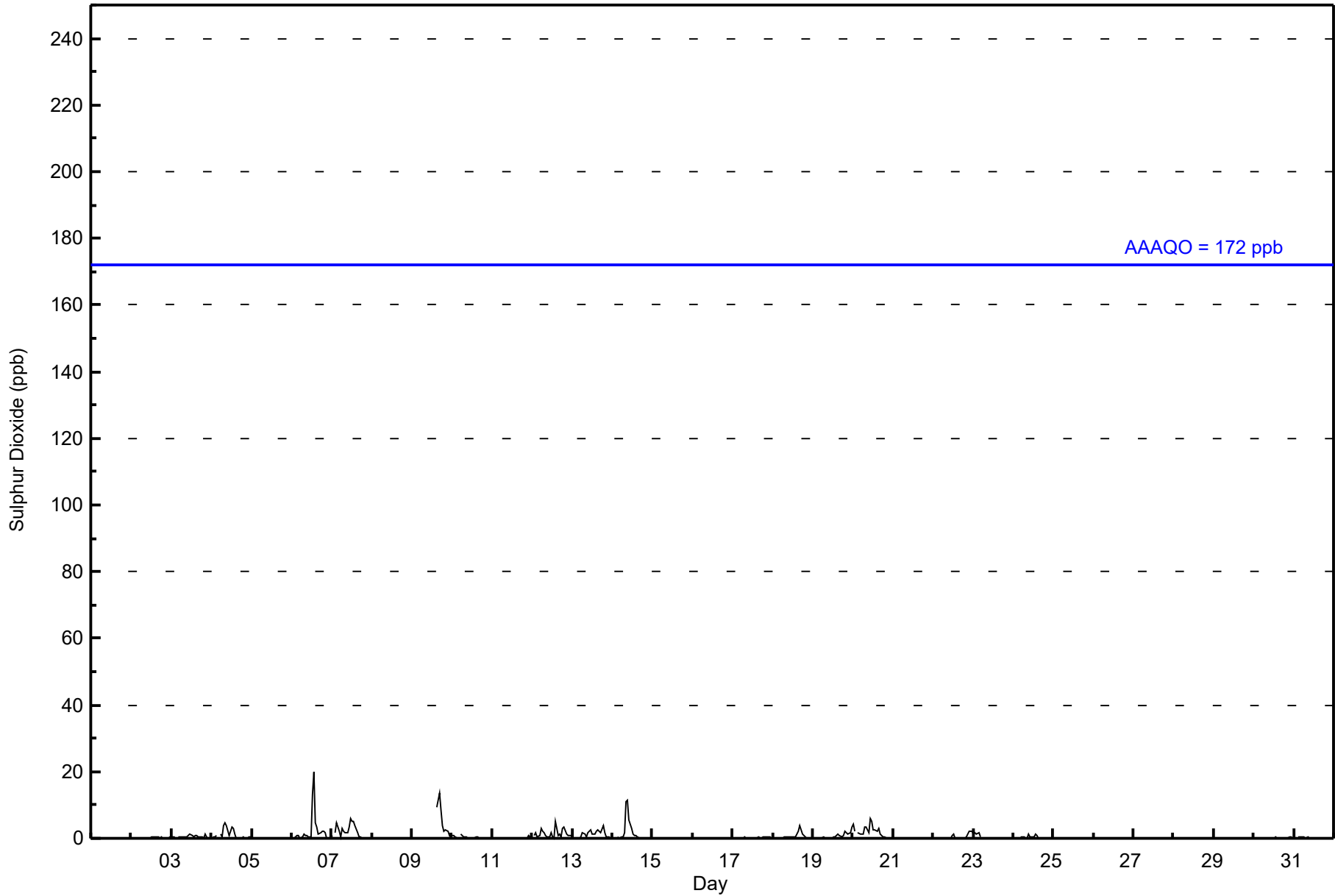
WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - BERTHA GANTER FORT MCKAY (AMS01)
JANUARY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
All Gaseous Analyzers (except TRS, H2S)	30 Jan 2025 17:00	30 Jan 2025 17:00	1	Maintenance - sample manifold cleaned
NO2	22 Jan 2025 14:00	22 Jan 2025 14:00	1	Maintenance - station operator activities
NH3	01 Jan 2025 06:00	31 Jan 2025 06:00	19	Stabilization after daily QA check
NH3	17 Jan 2025 04:00	22 Jan 2025 09:00	126	Analyzer Failure - sample pump failure
NH3	22 Jan 2025 10:00	23 Jan 2025 12:00	27	Maintenance - sample pump replaced
NH3	25 Jan 2025 06:00	28 Jan 2025 12:00	79	Unstable Operation - span outside AMD criteria
NH3	28 Jan 2025 13:00	29 Jan 2025 21:00	33	Maintenance - analyzer response adjusted
PM2.5	31 Jan 2025 16:00	31 Jan 2025 16:00	1	Unstable Operation - excessive baseline drift
Wind Speed, Wind Direction	01 Jan 2025 02:00	01 Jan 2025 02:00	1	Flat line in sensor output signal - Sensor frozen
Wind Speed, Wind Direction	01 Jan 2025 04:00	01 Jan 2025 04:00	1	Flat line in sensor output signal - Sensor frozen
Wind Speed, Wind Direction	01 Jan 2025 08:00	01 Jan 2025 08:00	1	Flat line in sensor output signal - Sensor frozen
Wind Speed, Wind Direction	02 Jan 2025 06:00	02 Jan 2025 06:00	1	Flat line in sensor output signal - Sensor frozen
Wind Speed, Wind Direction	10 Jan 2025 08:00	10 Jan 2025 08:00	1	Flat line in sensor output signal - Sensor frozen
Wind Speed, Wind Direction	19 Jan 2025 21:00	19 Jan 2025 21:00	1	Flat line in sensor output signal - Sensor frozen
Wind Speed, Wind Direction	29 Jan 2025 05:00	29 Jan 2025 05:00	1	Flat line in sensor output signal - Sensor frozen
Wind Speed, Wind Direction	31 Jan 2025 00:00	31 Jan 2025 00:00	1	Flat line in sensor output signal - Sensor frozen
Wind Speed, Wind Direction	31 Jan 2025 02:00	31 Jan 2025 02:00	1	Flat line in sensor output signal - Sensor frozen



Number of Exceedences (AAAQO):		1-hr: 0	24-hr: 0	Hours in Service: 744																	744						
Maximum Value: 19.9 ppb on Jan 6 14:00		Maximum Daily Average: 2.5 ppb on Jan 6																	Hours of Data: 708								
Minimum Value: 0.0 ppb on Jan 1 17:00		Minimum Daily Average: 0.0 ppb on Jan 8																	Hours of Missing Data: 36								
Maximum Diurnal Average: 1.2 ppb at hour 14		Minimum Diurnal Average: 0.3 ppb at hour 22																	Hours of Calibration: 35								
Monthly Average: 0.57 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.4 P ₉₀ = 1.7 P ₉₉ = 5.9																	Percent Operational Time: 99.9								
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	
2-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.2	0.2	0.6	0.5	0.3	0.2	0.2	0.0	0.0	0.0	0.1	0.2	0.1	0.2	
3-Jan	0.4	0.3	0.1	Z	0.3	0.4	0.4	0.5	0.5	0.3	1.0	1.1	0.7	0.5	0.8	0.7	0.5	0.4	0.3	0.1	1.1	0.2	0.0	0.0	0.5	1.1	
4-Jan	0.0	0.2	0.6	1.0	Z	1.2	0.5	3.7	4.5	3.9	0.8	2.0	3.5	2.9	1.1	0.2	0.0	0.1	0.2	0.4	0.2	0.1	0.5	0.5	1.2	4.5	
5-Jan	0.3	0.2	0.1	0.1	0.1	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	
6-Jan	Z	0.0	0.4	1.0	0.8	0.0	0.5	1.4	0.9	0.7	0.6	0.5	13.1	19.9	4.8	3.2	1.2	1.5	2.2	2.2	1.7	0.0	0.0	0.0	2.5	19.9	
7-Jan	0.9	Z	1.5	4.7	2.1	0.5	2.8	2.0	1.8	1.5	3.2	5.9	5.3	5.1	3.8	1.8	0.6	0.3	0.2	0.1	0.0	0.0	0.0	0.0	1.9	5.9	
8-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
9-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C	C	C	C	9.2	13.6	8.3	3.7	2.1	2.5	2.1	1.0	1.3	2.3	13.6	
10-Jan	0.8	1.0	0.3	0.0	Z	1.2	1.0	0.6	0.4	0.0	0.0	0.0	0.0	0.1	0.4	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.2	
11-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.2	0.0	0.8	
12-Jan	Z	0.8	1.7	0.4	0.8	3.2	2.2	1.5	0.9	0.4	0.4	1.7	0.2	0.2	5.0	0.8	1.3	0.6	3.1	3.2	1.2	0.6	0.9	1.0	1.4	5.0	
13-Jan	0.5	Z	0.2	0.1	0.0	0.4	1.6	1.1	0.6	1.7	2.1	2.3	1.3	1.2	2.1	2.6	2.0	1.7	3.7	1.8	0.4	0.3	0.2	0.1	1.2	3.7	
14-Jan	0.1	0.2	Z	0.3	0.2	0.2	0.6	1.7	10.9	11.5	5.7	3.0	1.2	0.7	0.7	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0	1.6	11.5	
15-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
16-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.2	
17-Jan	0.1	0.1	0.1	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.4	0.3	0.1	0.2	0.4
18-Jan	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.4	0.5	0.5	0.3	0.4	1.2	2.0	3.7	2.4	1.2	0.5	0.1	0.0	0.0	0.0	0.6	3.7	
19-Jan	0.0	Z	0.0	0.1	0.0	0.0	0.3	0.1	0.0	0.0	0.1	0.2	0.3	0.4	0.7	1.5	0.9	0.5	0.9	2.1	1.8	1.3	1.9	3.5	0.7	3.5	
20-Jan	4.3	2.0	Z	1.5	1.1	1.2	1.2	3.4	3.4	1.8	5.9	4.9	2.4	2.4	2.2	2.9	1.3	1.0	0.5	0.3	0.2	0.1	0.1	0.0	1.9	5.9	
21-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.1	0.2	0.0	0.0	0.0	0.9	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	2.3	2.2	1.9	0.4	2.3	
23-Jan	1.2	1.8	1.4	1.7	0.6	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.8	
24-Jan	Z	0.1	0.1	0.0	0.2	0.5	0.4	0.2	0.1	1.1	0.6	0.6	0.6	1.2	0.7	0.2	0.2	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.3	1.2	
25-Jan	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	
26-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
27-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
28-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.1	M	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.2	
31-Jan	0.3	Z	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.3	
																								Diurnal Average			
																								Diurnal Maximum			
0.3 0.3 0.3 0.5 0.3 0.4 0.4 0.6 0.8 0.8 0.7 0.8 1.0 1.2 0.8 0.9 0.9 0.6 0.5 0.4 0.3 0.3 0.3 0.3 0.3																											
4.3 2.0 1.7 4.7 2.1 3.2 2.8 3.7 10.9 11.5 5.9 5.9 13.1 19.9 5.0 9.2 13.6 8.3 3.7 3.2 2.5 2.3 2.2 3.5																											
Z - zerospan C - Calibration M - Maintenance																											
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb																											





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Fort McKay - Bertha Ganter - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	703	99.29	99.29
11 - 20	5	0.71	100.00
21 - 60	0	0.00	100.00
61 - 110	0	0.00	100.00
111 - 172	0	0.00	100.00
> 172	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Fort McKay - Bertha Ganter - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 10	95	63	7	5	6	2	6	54	171	38	30	46	48	54	39	32	696
11 - 20	0	0	0	0	0	0	0	1	4	0	0	0	0	0	0	0	5
21 - 60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61 - 110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111 - 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	95	63	7	5	6	2	6	55	175	38	30	46	48	54	39	32	701

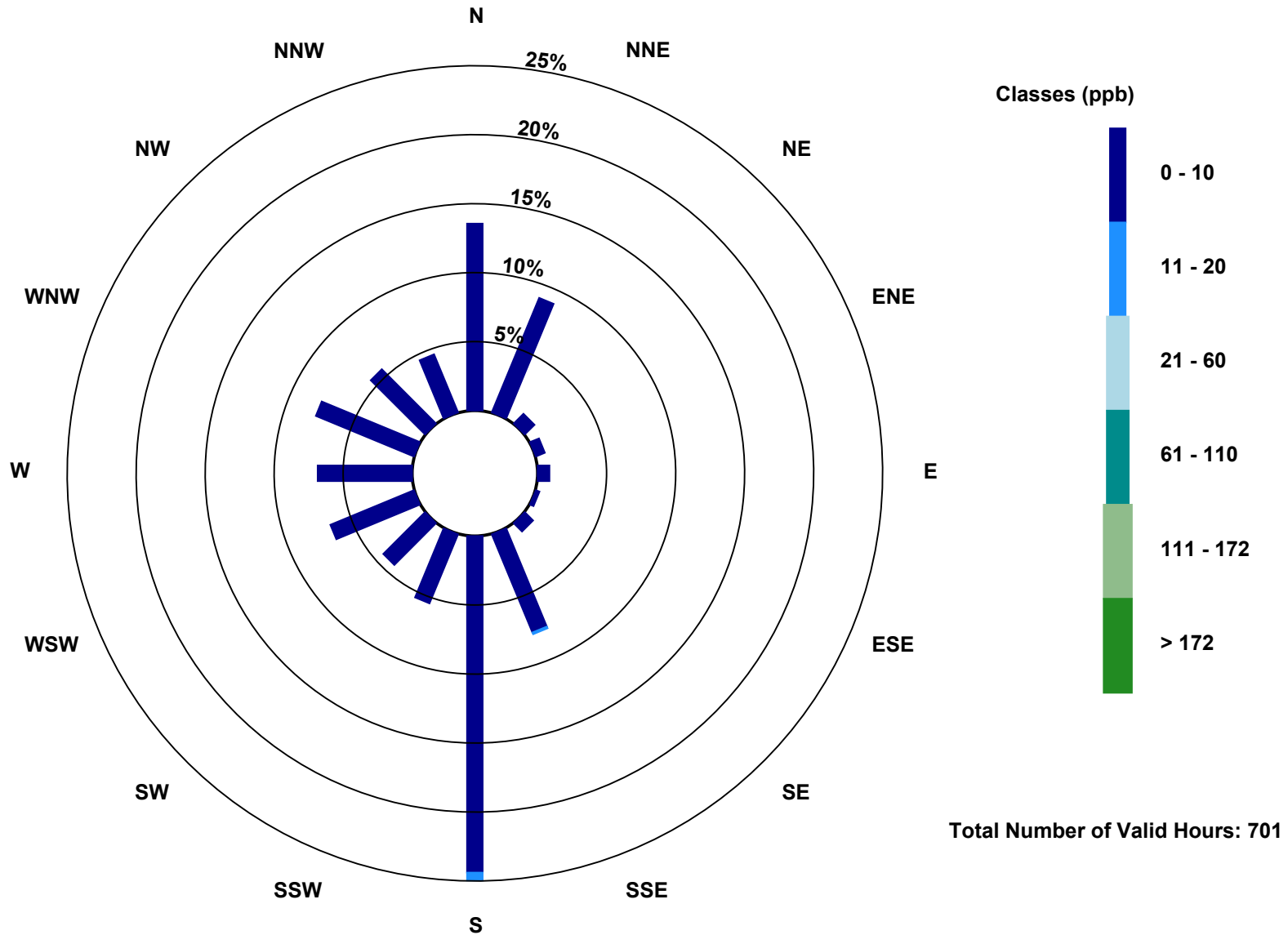
Total Number of Valid Hours: 701

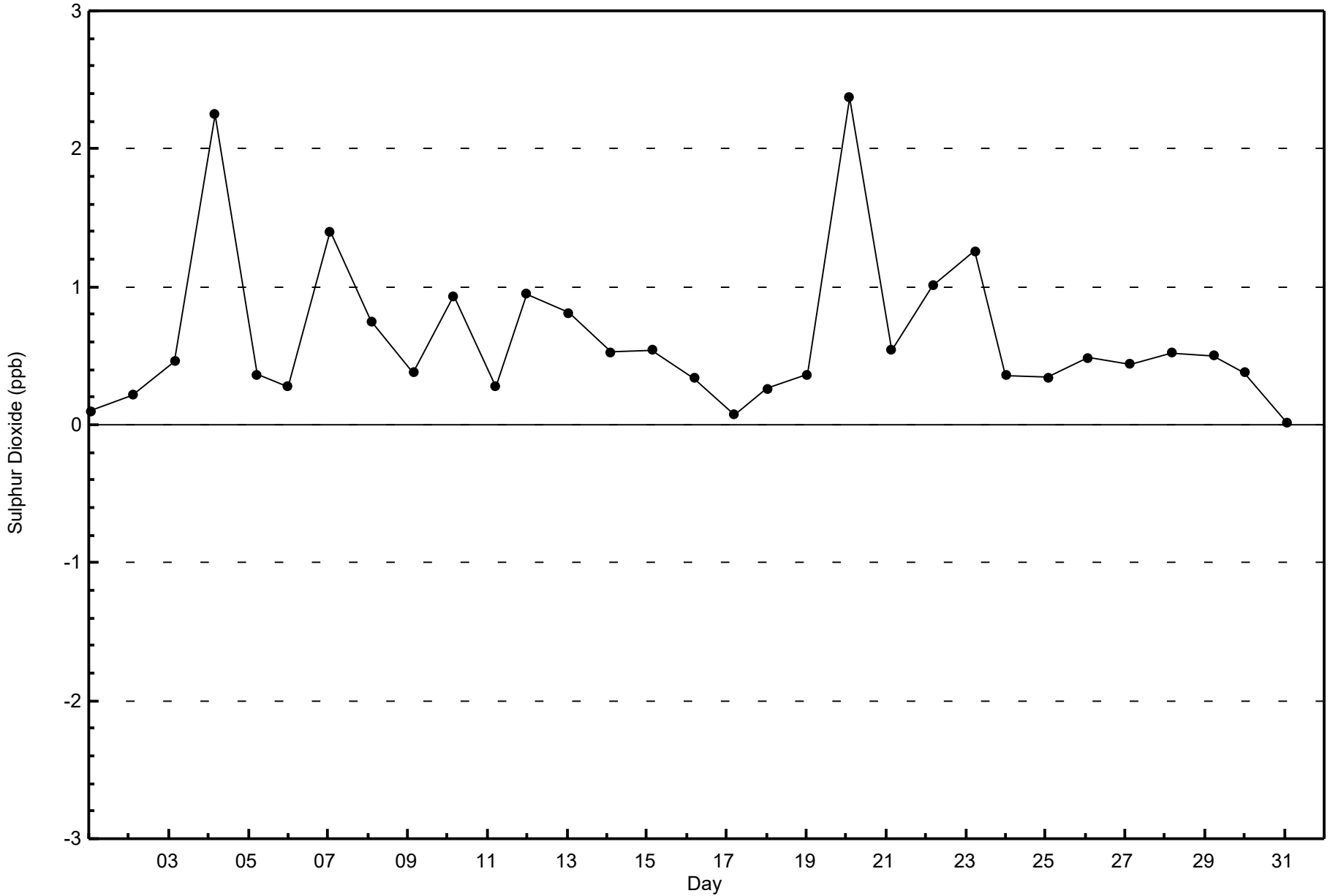
Total Number of Hours: 744

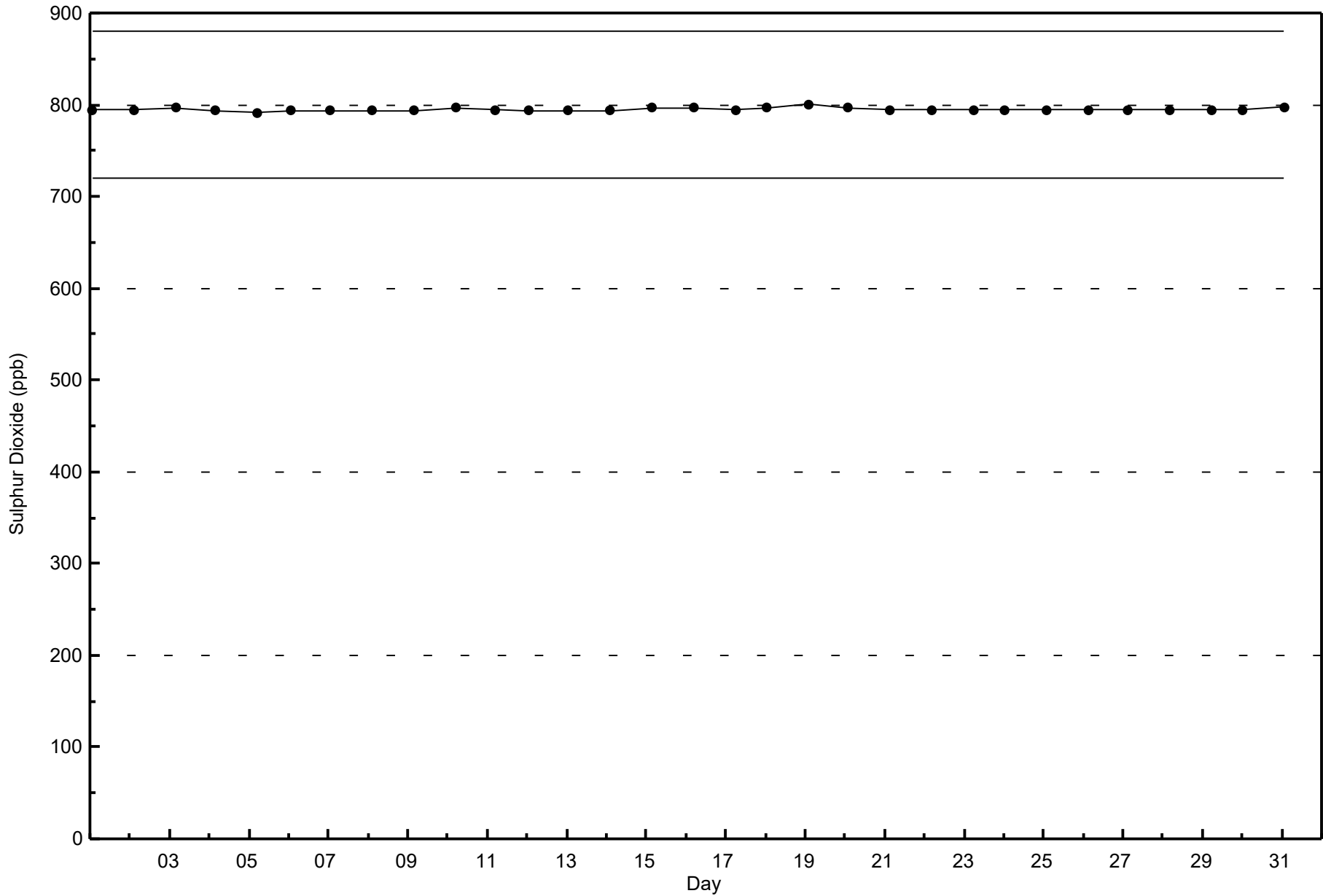


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Sulphur Dioxide (SO₂) - ppb
Fort McKay - Bertha Ganter









Wood Buffalo Environmental Association

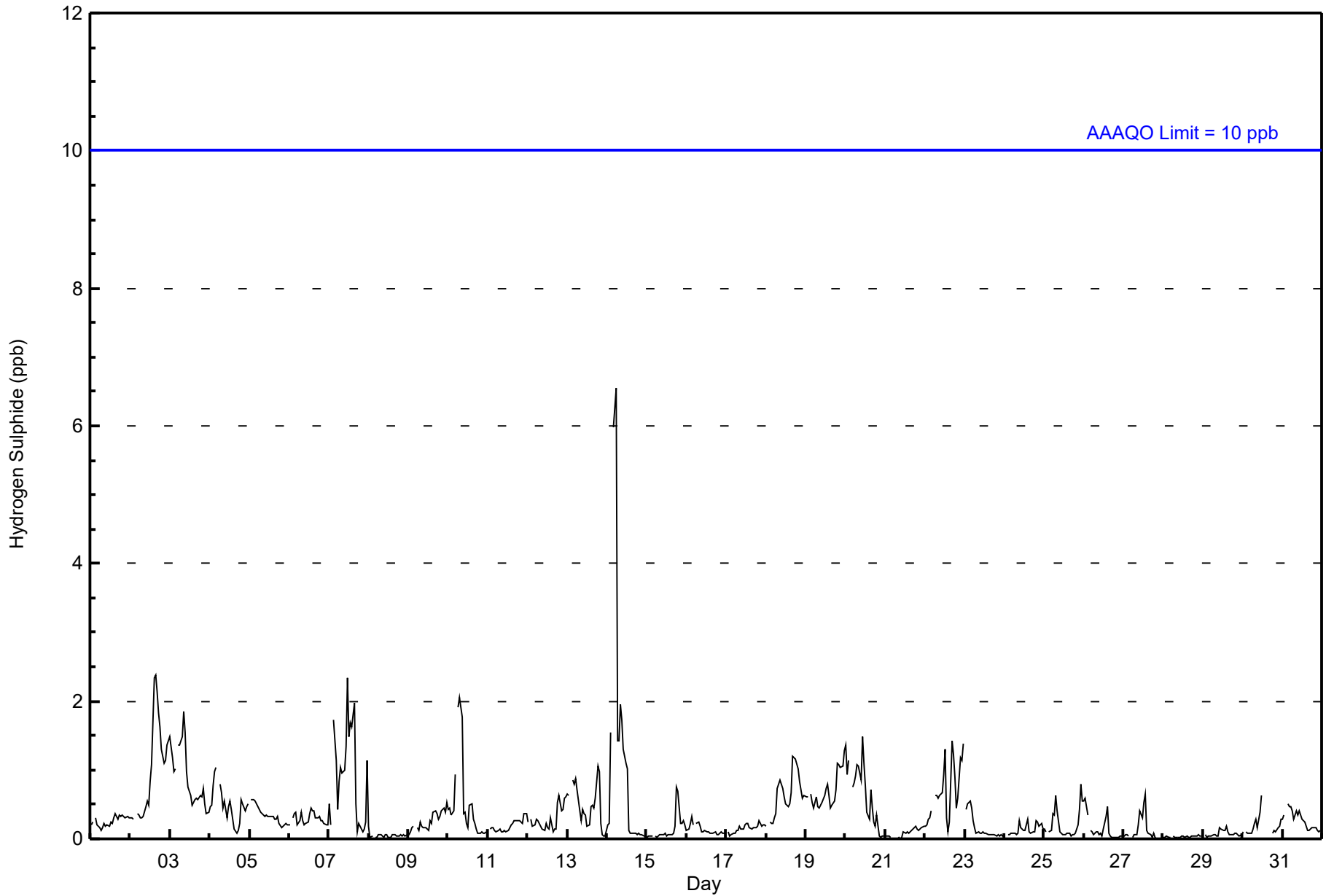
Summary of Hour Averages

Hydrogen Sulphide (H₂S) - ppb

Fort McKay - Bertha Ganter - January 2025

Number of Exceedences (AAAQO):		1-hr: 0	24-hr: 0			Hours in Service:	744																													
Maximum Value: 6.5 ppb on Jan 14 06:00		Maximum Daily Average: 1.1 ppb on Jan 14				Hours of Data:	707																													
Minimum Value: 0.0 ppb on Jan 21 08:00		Minimum Daily Average: 0.0 ppb on Jan 28				Hours of Missing Data:	37																													
Maximum Diurnal Average: 0.6 ppb at hour 5		Minimum Diurnal Average: 0.3 ppb at hour 21				Hours of Calibration:	37																													
Monthly Average: 0.37 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.5 P ₉₀ = 0.9 P ₉₉ = 2.0				Percent Operational Time:	100.0																													
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum										
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24												
1-Jan	0.2	0.2	Z	0.3	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.4						
2-Jan	0.3	0.3	0.3	Z	0.4	0.3	0.3	0.3	0.3	0.5	0.5	0.5	0.8	1.1	2.3	2.4	2.1	1.8	1.6	1.3	1.1	1.1	1.4	1.4							1.0	2.4				
3-Jan	1.5	1.2	1.0	1.0	Z	1.4	1.4	1.5	1.9	1.5	1.0	0.8	0.6	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.5	0.4	0.4							0.9	1.9				
4-Jan	0.5	0.5	0.8	1.0	1.0	Z	0.8	0.7	0.5	0.5	0.3	0.5	0.4	0.3	0.1	0.1	0.1	0.2	0.6	0.5	0.4	0.5	0.5								0.5	1.0				
5-Jan	Z	0.6	0.6	0.5	0.5	0.5	0.4	0.4	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2								0.3	0.6				
6-Jan	0.2	Z	0.3	0.4	0.4	0.2	0.3	0.4	0.3	0.2	0.2	0.2	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2							0.3	0.4			
7-Jan	0.5	0.2	Z	1.7	1.1	0.4	0.8	1.0	0.9	1.0	1.3	2.3	1.5	1.7	1.6	2.0	0.5	0.1	0.2	0.2	0.1	0.1	0.3	1.1									0.9	2.3		
8-Jan	0.2	0.0	0.0	Z	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1							0.0	0.2		
9-Jan	0.1	0.1	0.2	0.2	Z	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.3	0.2	0.4	0.4	0.4	0.3	0.3	0.4	0.4	0.4	0.5										0.3	0.5	
10-Jan	0.4	0.5	0.3	0.4	0.9	Z	1.9	2.1	1.8	0.4	0.4	0.2	0.2	0.5	0.5	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1										0.5	2.1	
11-Jan	Z	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.4	0.4									0.2	0.4	
12-Jan	0.3	Z	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.3	0.1	0.1	0.1	0.1	0.5	0.6	0.4	0.4	0.6	0.6										0.3	0.6
13-Jan	0.6	0.6	Z	0.9	0.8	0.9	0.7	0.4	0.3	0.4	0.4	0.3	0.2	0.2	0.5	0.5	0.4	0.6	1.1	1.0	0.2	0.1	0.0	0.0										0.5	1.1	
14-Jan	0.2	0.2	1.5	Z	6.0	6.5	1.4	1.4	2.0	1.7	1.3	1.1	1.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0										1.1	6.5
15-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.7	0.7	0.2	0.3	0.2										0.1	0.7
16-Jan	0.1	0.1	0.2	0.3	0.2	Z	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1											0.1	0.3
17-Jan	Z	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2										0.2	0.3
18-Jan	0.2	Z	0.2	0.2	0.2	0.3	0.4	0.7	0.9	0.8	0.7	0.6	0.5	0.5	0.5	0.7	1.2	1.2	1.2	1.0	0.8	0.7	0.6	0.6											0.6	1.2
19-Jan	0.6	0.6	Z	0.6	0.5	0.4	0.6	0.5	0.5	0.5	0.5	0.6	0.7	0.8	0.6	0.4	0.5	0.6	0.7	1.1	1.1	1.0	1.1	1.3											0.7	1.3
20-Jan	1.4	0.9	1.1	Z	0.8	0.8	0.9	1.1	1.1	0.8	1.5	1.1	0.8	0.4	0.3	0.7	0.4	0.3	0.2	0.4	0.0	0.0	0.0	0.0											0.7	1.5
21-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.2											0.1	0.2
22-Jan	0.2	0.2	0.3	0.3	0.4	Z	0.6	0.6	0.6	0.6	0.7	0.9	1.3	0.3	0.1	0.2	1.4	1.2	0.9	0.5	0.6	1.2	1.1	1.4											0.7	1.4
23-Jan	Z	0.4	0.5	0.6	0.5	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.0										0.2	0.6
24-Jan	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.1	0.1	0.2	0.3	0.1	0.1	0.1	0.1	0.3	0.2	0.2	0.2	0.1										0.1	0.3
25-Jan	0.1	0.1	Z	0.1	0.1	0.1	0.4	0.3	0.6	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.4	0.8	0.6									0.2	0.8
26-Jan	0.6	0.6	0.3	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.3	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0											0.1	0.6
27-Jan	0.0	0.1	0.1	0.0	Z	0.0	0.1	0.1	0.1	0.1	0.2	0.4	0.3	0.5	0.6	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0											0.1	0.6
28-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0										0.0	0.1
29-Jan	Z	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1											0.1	0.2
30-Jan	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.4	0.6	C	C	C	C	C	C	C	0.1	0.1	0.1	0.2	0.2	0.3										--	0.6
31-Jan	0.3	0.4	Z	0.5	0.5	0.5	0.4	0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1										0.3	0.5
	0.3	0.3	0.3	0.4	0.6	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4												Diurnal Average
	1.5	1.2	1.5	1.7	6.0	6.5	1.9	2.1	2.0	1.7	1.5	2.3	1.5	1.7	2.3	2.4	2.1	1.8	1.6	1.3	1.1	1.2	1.4	1.4												Diurnal Maximum

Z - zerospan C - Calibration
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Hydrogen Sulphide (H₂S) - ppb
Fort McKay - Bertha Ganter - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	705	99.72	99.72
3 - 4	0	0.00	99.72
5 - 7	2	0.28	100.00
8 - 11	0	0.00	100.00
> 11	0	0.00	100.00

Total Number of Valid Hours: 707

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Hydrogen Sulphide (H₂S) - ppb
Fort McKay - Bertha Ganter - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2	94	64	3	6	6	2	8	55	177	38	27	49	45	53	39	30	696
3 - 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 - 7	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
8 - 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	94	64	3	6	6	2	8	55	179	38	27	49	45	53	39	30	698

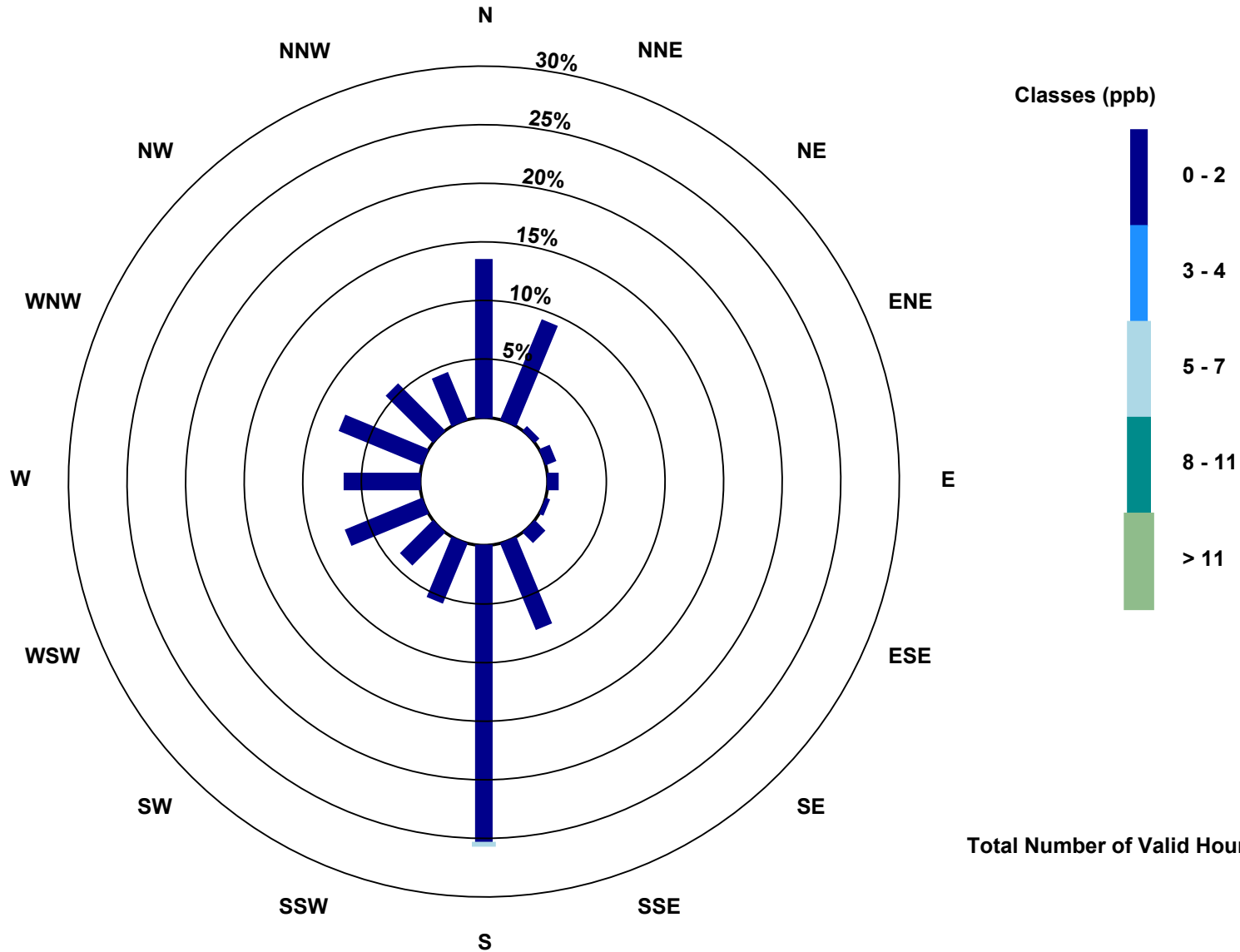
Total Number of Valid Hours: 698

Total Number of Hours: 744

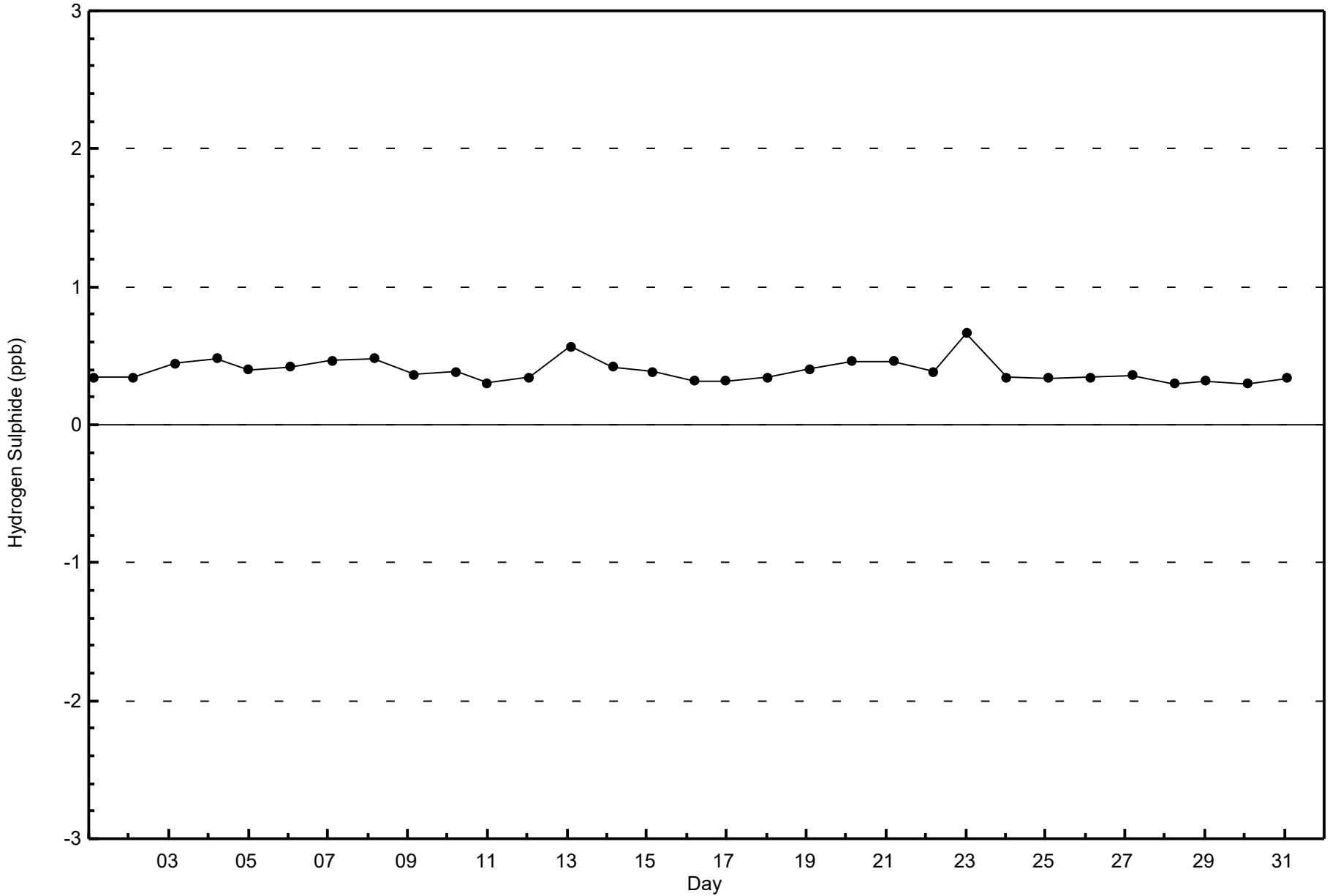


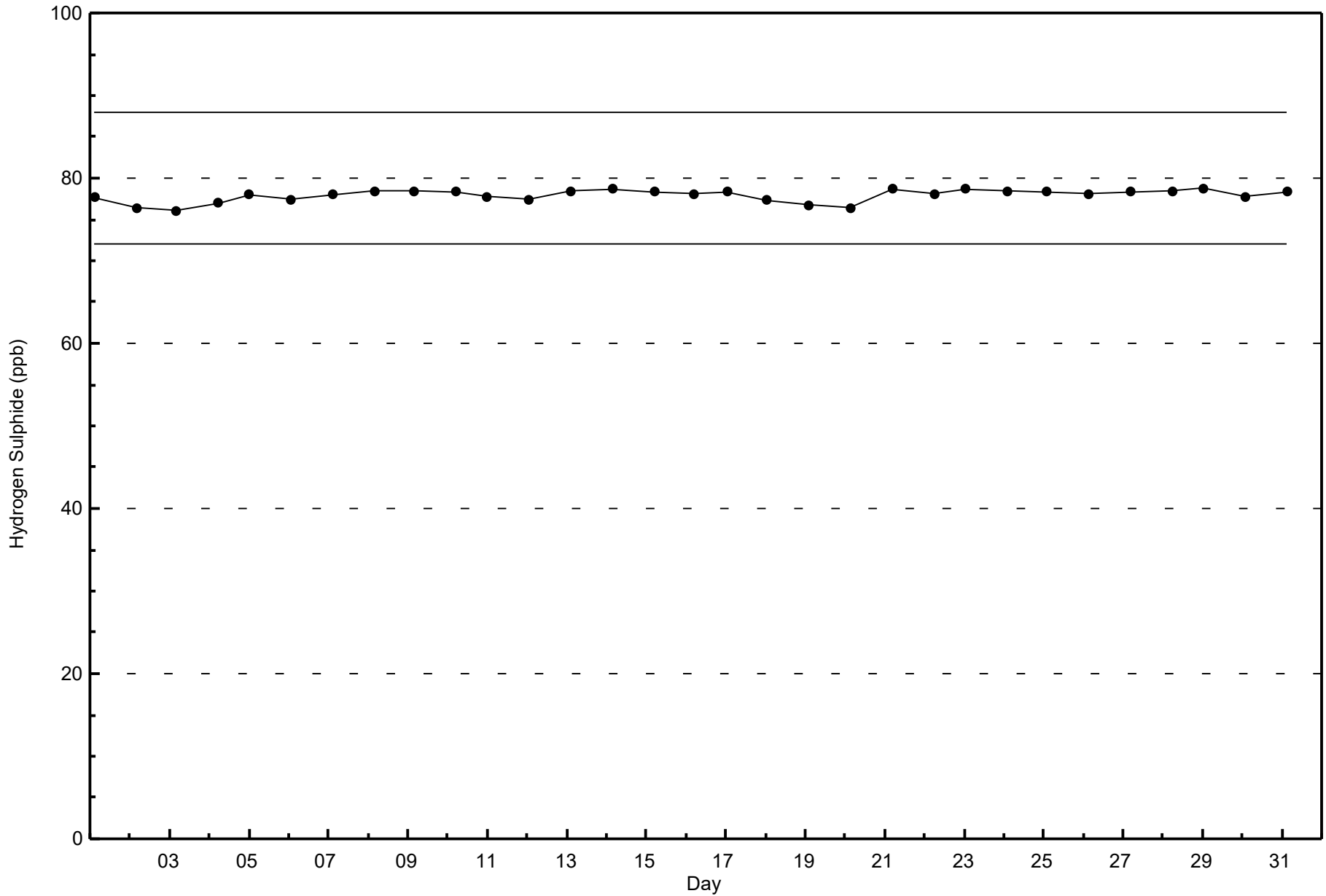
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Hydrogen Sulphide (H₂S) - ppb
Fort McKay - Bertha Ganter



Total Number of Valid Hours: 698







Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 7.2 ppb on Jan 14 06:00	Maximum Daily Average: 1.5 ppb on Jan 14		Hours of Data:	707
Minimum Value: 0.3 ppb on Jan 23 15:00	Minimum Daily Average: 0.4 ppb on Jan 8		Hours of Missing Data:	37
Maximum Diurnal Average: 0.9 ppb at hour 5	Minimum Diurnal Average: 0.6 ppb at hour 21		Hours of Calibration:	37
Monthly Average: 0.68 ppb	Percentiles: P ₁ = 0.3 P ₁₀ = 0.4 Q ₁ = 0.4 Median = 0.5 Q ₃ = 0.7 P ₉₀ = 1.2 P ₉₉ = 2.3		Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	0.4	0.5	Z	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.5	0.5	0.5	0.6	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.6	
2-Jan	0.6	0.6	0.5	Z	0.6	0.6	0.5	0.5	0.6	0.6	0.7	0.6	0.8	1.1	2.2	2.4	2.2	2.0	1.8	1.5	1.3	1.3	1.5	1.4	1.1	2.4	
3-Jan	1.3	1.1	1.0	1.0	Z	1.3	1.2	1.3	1.7	1.4	1.2	1.1	0.9	0.7	0.8	0.9	0.9	0.8	0.9	0.9	1.0	0.8	0.7	0.7	1.0	1.7	
4-Jan	0.8	0.7	1.0	1.2	1.2	Z	1.0	1.0	0.8	0.9	0.6	0.8	0.9	0.7	0.6	0.4	0.4	0.4	0.5	0.7	0.7	0.6	0.7	0.8	0.8	1.2	
5-Jan	Z	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.6	0.5	0.4	0.5	0.5	0.5	0.5	0.6	0.8	
6-Jan	0.5	Z	0.6	0.7	0.7	0.5	0.6	0.7	0.6	0.5	0.5	0.5	0.6	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.6	0.7	
7-Jan	0.9	0.5	Z	2.4	1.7	0.8	1.3	1.5	1.4	1.4	1.9	2.9	1.9	2.2	2.0	2.3	0.8	0.4	0.5	0.5	0.4	0.4	0.6	1.5	1.3	2.9	
8-Jan	0.6	0.4	0.4	Z	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.3	0.3	0.3	0.4	0.6	
9-Jan	0.4	0.4	0.4	0.4	Z	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.6	0.5	0.7	0.7	0.7	0.6	0.6	0.7	0.7	0.7	0.9	0.9	
10-Jan	0.7	0.8	0.7	0.7	1.1	Z	2.0	2.3	2.0	0.7	0.6	0.5	0.5	0.8	0.8	0.6	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.8	2.3	
11-Jan	Z	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.7	0.6	0.4	0.7
12-Jan	0.5	Z	0.6	0.5	0.5	0.6	0.5	0.5	0.5	0.4	0.5	0.6	0.5	0.4	0.6	0.4	0.5	0.5	1.0	1.1	0.8	0.8	1.0	1.1	0.6	1.1	
13-Jan	1.1	1.1	Z	1.3	1.2	1.2	1.1	0.8	0.6	0.8	0.7	0.7	0.6	0.6	0.9	0.9	0.9	1.0	1.6	1.4	0.6	0.4	0.4	0.4	0.9	1.6	
14-Jan	0.5	0.5	2.3	Z	6.5	7.2	1.9	1.9	2.5	2.2	1.9	1.5	1.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	1.5	7.2	
15-Jan	0.4	0.4	0.4	0.4	Z	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	1.0	1.1	0.5	0.6	0.6	0.5	0.5	1.1	
16-Jan	0.5	0.5	0.5	0.6	0.6	Z	0.6	0.6	0.5	0.5	0.5	0.4	0.5	0.4	0.4	0.4	0.5	0.5	0.4	0.4	0.5	0.5	0.4	0.4	0.5	0.6	
17-Jan	Z	0.4	0.4	0.4	0.5	0.4	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.6	
18-Jan	0.5	Z	0.5	0.5	0.5	0.5	0.5	0.8	0.8	0.9	0.9	0.9	0.8	0.8	0.9	1.1	1.9	1.8	1.8	1.6	1.3	1.1	1.0	0.9	1.0	1.9	
19-Jan	0.9	0.8	Z	0.8	0.7	0.6	0.9	0.7	0.6	0.7	0.7	0.7	0.7	0.8	0.8	0.7	0.7	0.8	0.9	1.3	1.4	1.4	1.4	1.6	0.9	1.6	
20-Jan	1.8	1.3	1.6	Z	1.0	1.0	1.2	1.5	1.5	1.1	1.9	1.6	1.2	0.7	0.6	1.2	0.8	0.6	0.5	0.7	0.4	0.4	0.4	0.4	1.0	1.9	
21-Jan	0.4	0.4	0.4	0.4	Z	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.5	
22-Jan	0.5	0.5	0.6	0.7	0.8	Z	1.1	1.1	1.0	1.0	1.0	1.3	1.7	0.6	0.4	0.4	1.6	1.5	1.2	0.7	0.9	1.6	1.5	1.7	1.0	1.7	
23-Jan	Z	0.6	0.8	0.8	0.7	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.8	
24-Jan	0.3	Z	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.6	0.5	0.5	0.5	0.6	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.5	0.5	0.5	0.6	
25-Jan	0.5	0.5	Z	0.4	0.5	0.7	0.7	1.0	0.7	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.8	1.2	0.9	1.2	
26-Jan	0.9	0.9	0.7	Z	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.7	0.8	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.5	0.9	
27-Jan	0.4	0.4	0.4	0.4	Z	0.4	0.4	0.4	0.4	0.5	0.7	0.6	0.8	1.0	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.5	1.0	
28-Jan	0.4	0.4	0.4	0.3	0.4	Z	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	
29-Jan	Z	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.4	0.5	
30-Jan	0.4	Z	0.3	0.4	0.4	0.4	0.4	0.5	0.6	0.5	0.7	0.9	Z	Z	Z	Z	Z	Z	Z	Z	Z	0.4	0.4	0.4	0.5	0.5	0.5
31-Jan	0.6	0.7	Z	0.8	0.7	0.7	0.6	0.5	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.5	0.8	

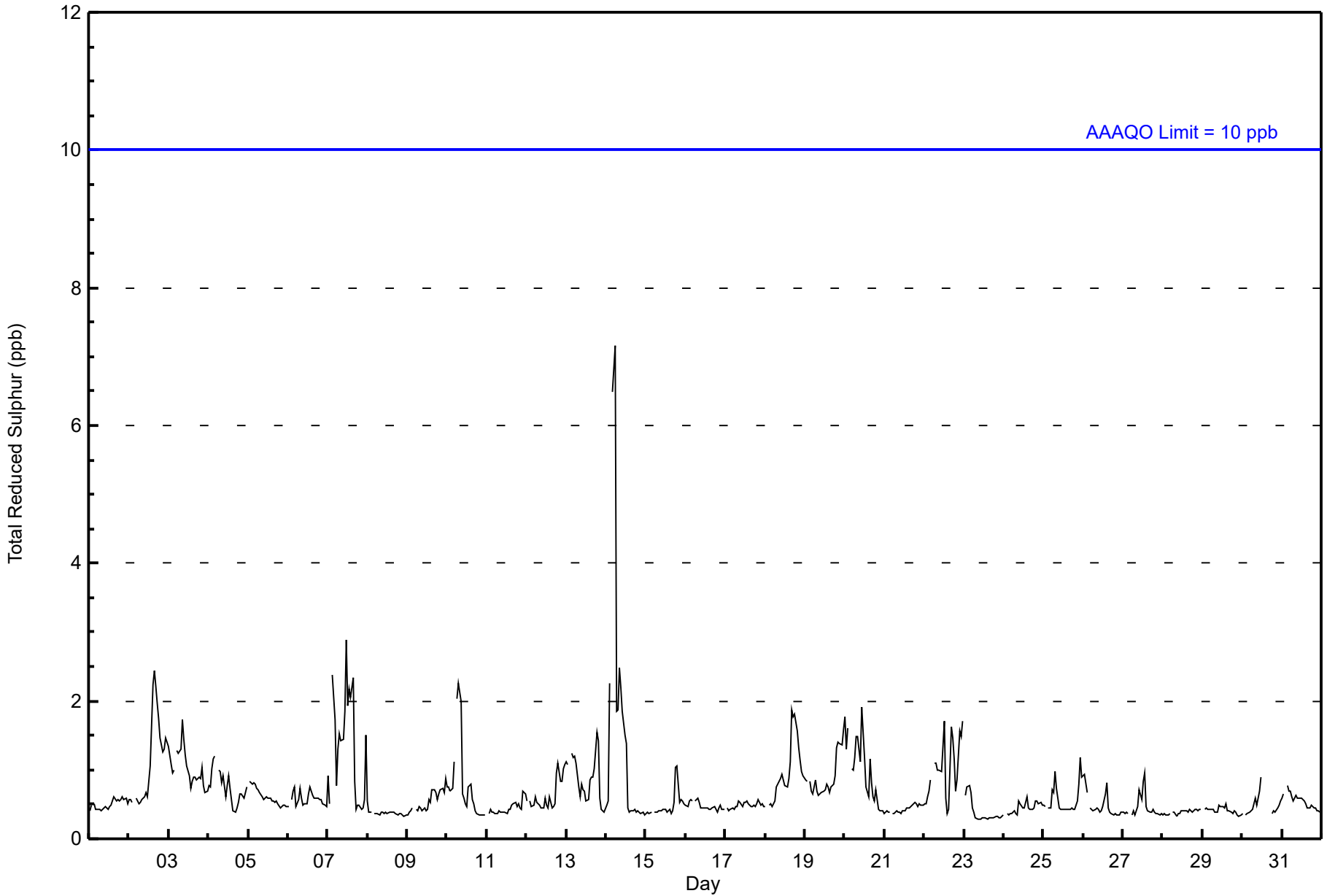
0.6	0.6	0.7	0.7	0.9	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.7	0.7	0.7	0.6	0.7	0.7	0.6	0.6	0.6	0.7	Diurnal Average	
1.8	1.3	2.3	2.4	6.5	7.2	2.0	2.3	2.5	2.2	1.9	2.9	1.9	2.2	2.2	2.4	2.2	2.0	1.8	1.6	1.4	1.6	1.5	1.7	Diurnal Maximum		

Z - zerospan C - Calibration
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb



Wood Buffalo Environmental Association
Hourly Averages

Total Reduced Sulphur (TRS) - ppb
Fort McKay - Bertha Ganter - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Total Reduced Sulphur (TRS) - ppb
Fort McKay - Bertha Ganter - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	704	99.58	99.58
3 - 4	1	0.14	99.72
5 - 7	2	0.28	100.00
8 - 11	0	0.00	100.00
> 11	0	0.00	100.00

Total Number of Valid Hours: 707

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Total Reduced Sulphur (TRS) - ppb
Fort McKay - Bertha Ganter - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2	94	64	3	6	6	2	8	55	176	38	27	49	45	53	39	30	695
3 - 4	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
5 - 7	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
8 - 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	94	64	3	6	6	2	8	55	179	38	27	49	45	53	39	30	698

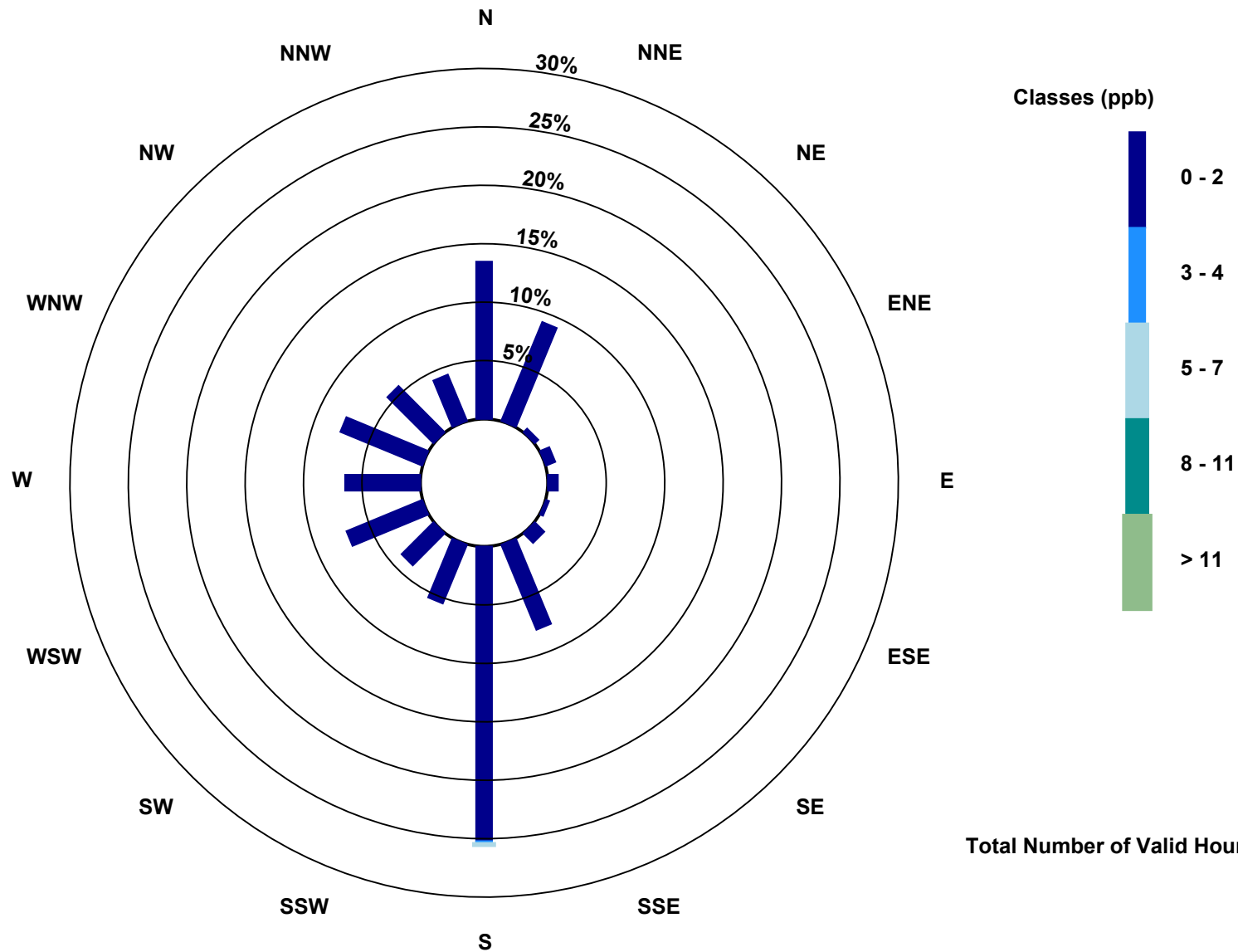
Total Number of Valid Hours: 698

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Total Reduced Sulphur (TRS) - ppb
Fort McKay - Bertha Ganter

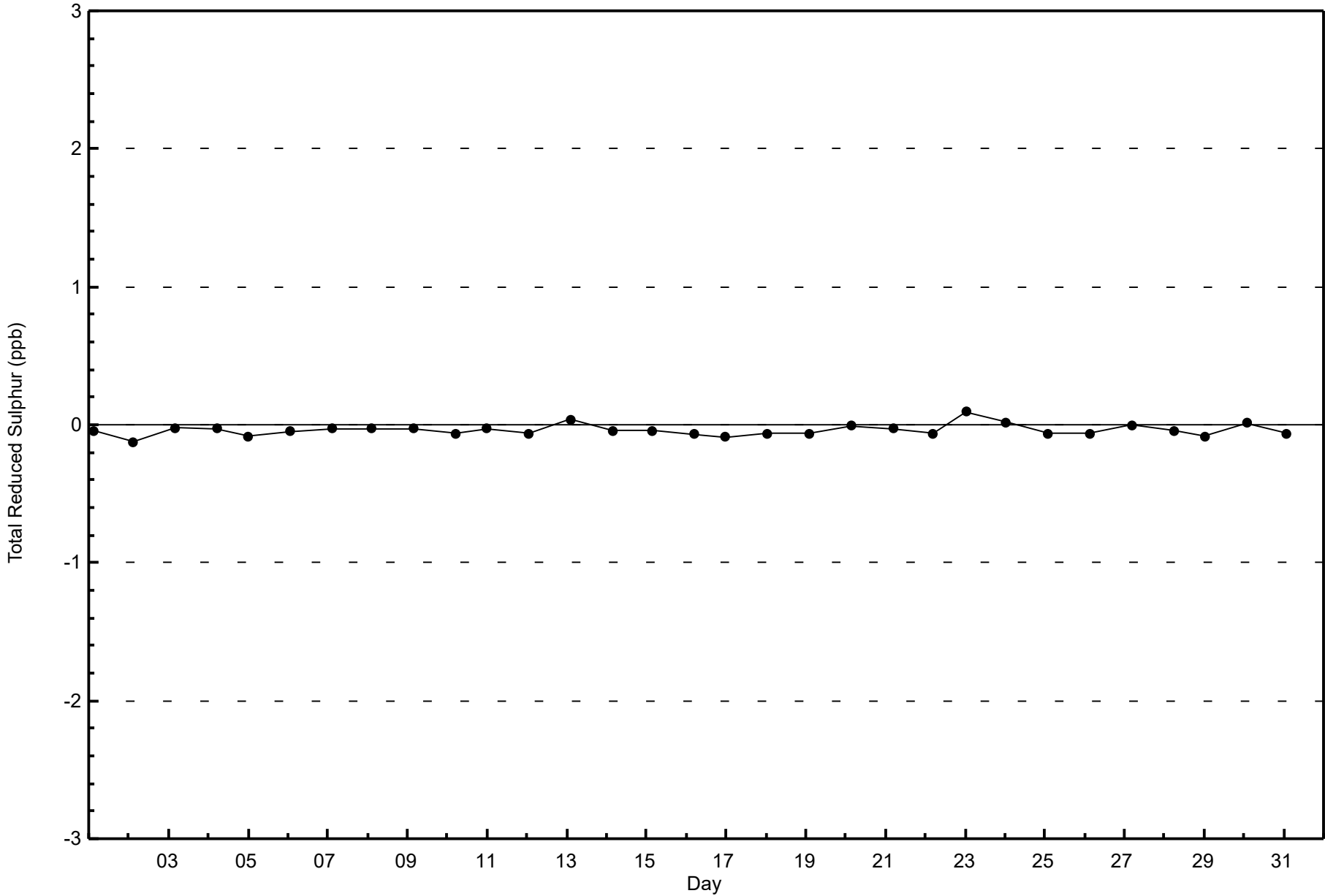


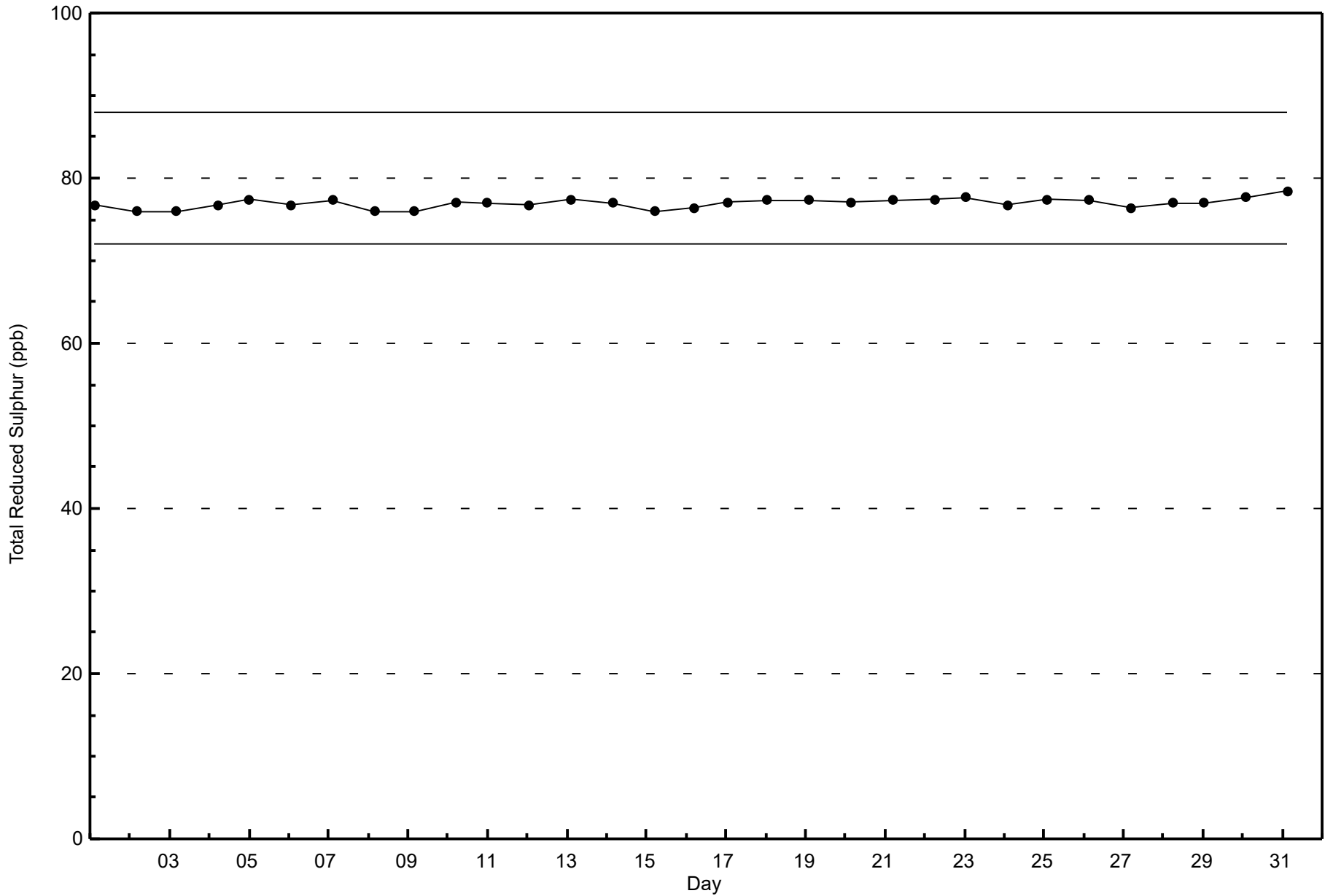
Total Number of Valid Hours: 698



Wood Buffalo Environmental Association
Zero Responses

Total Reduced Sulphur (TRS) - ppb
Fort McKay - Bertha Ganter - January 2025





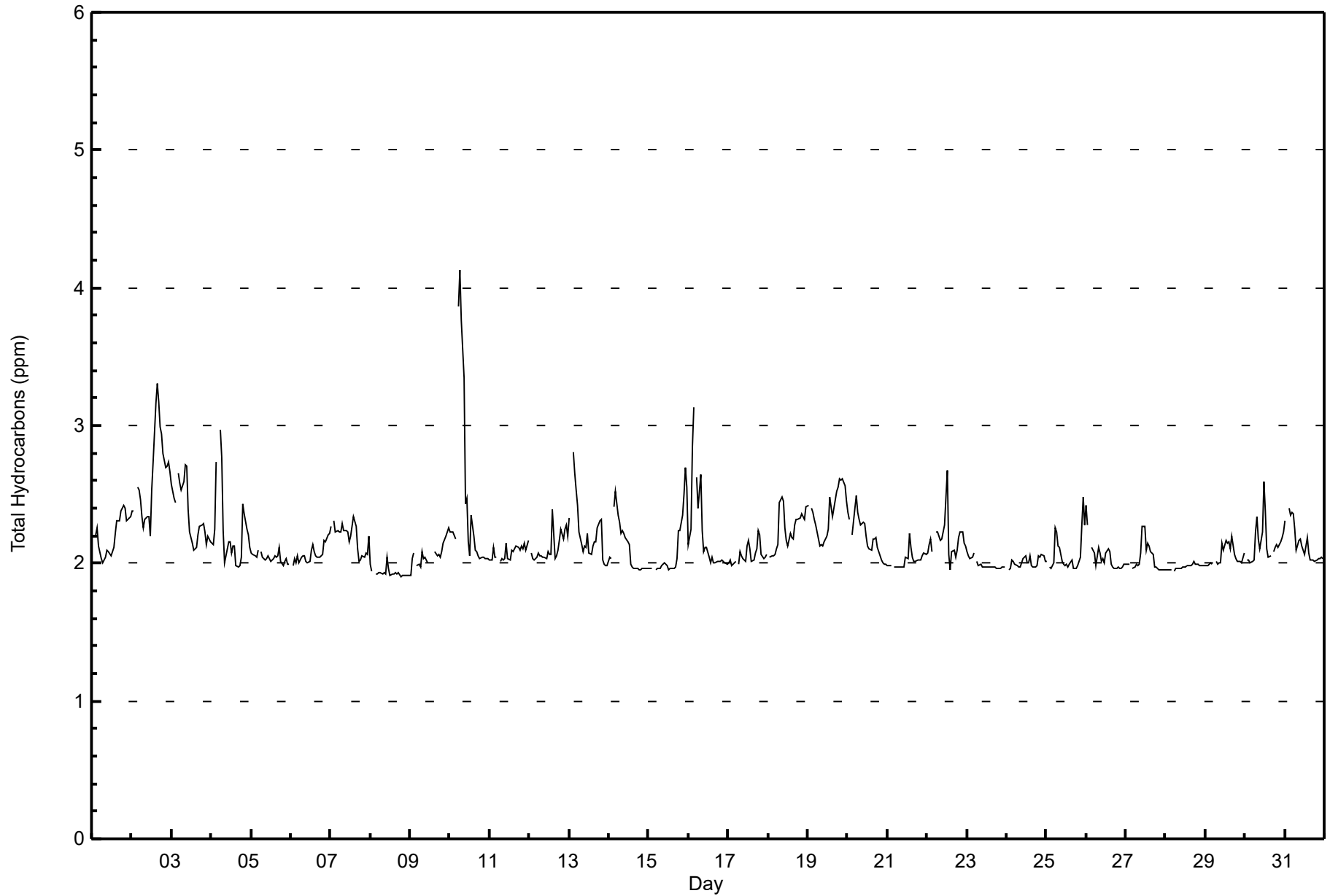


Maximum Value: 4.1 ppm on Jan 10 07:00		Maximum Daily Average: 2.6 ppm on Jan 2		Hours in Service: 744																							
Minimum Value: 1.9 ppm on Jan 8 19:00		Minimum Daily Average: 1.9 ppm on Jan 8		Hours of Data: 708																							
Maximum Diurnal Average: 2.3 ppm at hour 6		Minimum Diurnal Average: 2.1 ppm at hour 2		Hours of Missing Data: 36																							
Monthly Average: 2.15 ppm		Percentiles: P ₁ = 1.9 P ₁₀ = 2.0 Q ₁ = 2.0 Median = 2.1 Q ₃ = 2.2 P ₉₀ = 2.4 P ₉₉ = 3.1		Hours of Calibration: 35																							
				Percent Operational Time: 99.9																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	2.1	Z	2.2	2.3	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.3	2.4	2.4	2.4	2.4	2.3	2.3	2.3	2.2	2.4	
2-Jan	2.4	2.4	Z	2.5	2.5	2.5	2.3	2.3	2.3	2.3	2.3	2.2	2.5	2.7	3.2	3.3	3.2	3.0	2.9	2.8	2.7	2.7	2.7	2.7	2.6	3.3	
3-Jan	2.6	2.5	2.4	Z	2.7	2.6	2.5	2.6	2.7	2.7	2.4	2.2	2.1	2.1	2.1	2.1	2.2	2.3	2.3	2.3	2.2	2.1	2.2	2.2	2.4	2.7	
4-Jan	2.1	2.1	2.3	2.7	Z	3.0	2.8	2.2	2.0	2.1	2.2	2.2	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.4	2.4	2.2	2.2	2.1	2.2	3.0	
5-Jan	2.1	2.1	2.1	2.0	2.1	Z	2.1	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.1	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	
6-Jan	Z	2.0	2.0	2.0	2.1	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.0	2.0	2.1	2.1	2.2	2.2	2.2	2.2	2.1	2.2	
7-Jan	2.3	Z	2.3	2.2	2.2	2.2	2.2	2.3	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.1	2.0	2.0	2.1	2.0	2.1	2.1	2.2	2.2	2.3	
8-Jan	2.0	1.9	Z	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	
9-Jan	1.9	2.0	2.1	Z	2.0	2.0	2.0	2.1	2.0	2.0	2.0	C	C	C	C	2.1	2.1	2.1	2.0	2.1	2.2	2.2	2.2	2.3	2.1	2.3	
10-Jan	2.2	2.2	2.2	2.2	Z	3.9	4.1	3.8	3.3	2.4	2.5	2.2	2.1	2.3	2.2	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.4	4.1	
11-Jan	2.0	2.0	2.1	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.2	2.1	2.2	
12-Jan	Z	2.1	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.4	2.0	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.3	2.2	2.1	2.4
13-Jan	2.3	Z	2.8	2.7	2.5	2.4	2.2	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.2	2.2	2.3	2.3	2.3	2.0	2.0	2.0	2.0	2.2	2.8	
14-Jan	2.0	2.0	Z	2.4	2.5	2.4	2.3	2.2	2.2	2.2	2.2	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.5	
15-Jan	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.2	2.3	2.5	2.7	2.5	2.1	2.7	
16-Jan	2.1	2.3	2.8	3.1	Z	2.6	2.4	2.6	2.2	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	3.1	
17-Jan	2.0	2.0	2.0	2.0	2.0	Z	2.0	2.1	2.1	2.0	2.0	2.1	2.2	2.1	2.0	2.0	2.1	2.1	2.2	2.2	2.1	2.0	2.0	2.1	2.1	2.2	
18-Jan	Z	2.0	2.1	2.1	2.1	2.1	2.1	2.4	2.5	2.5	2.3	2.2	2.1	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.4	2.3	2.3	2.4	2.2	2.5	
19-Jan	2.4	Z	2.4	2.4	2.3	2.3	2.2	2.1	2.1	2.1	2.2	2.2	2.2	2.5	2.4	2.3	2.4	2.5	2.6	2.6	2.6	2.6	2.6	2.5	2.4	2.6	
20-Jan	2.4	2.3	Z	2.2	2.4	2.5	2.4	2.3	2.3	2.3	2.3	2.2	2.1	2.1	2.1	2.2	2.2	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.2	2.5	
21-Jan	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.0	2.2	
22-Jan	2.1	2.1	2.2	2.1	Z	2.2	2.2	2.2	2.2	2.2	2.3	2.5	2.7	2.1	2.0	2.1	2.1	2.0	2.1	2.2	2.2	2.2	2.1	2.1	2.2	2.7	
23-Jan	2.1	2.1	2.0	2.0	2.1	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	
24-Jan	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.1	2.0	2.1	2.1	2.0	2.0	2.1	
25-Jan	2.0	Z	2.0	2.0	2.0	2.3	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.5	2.3	2.1	2.5	
26-Jan	2.4	2.3	Z	2.1	2.1	2.1	2.0	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.4	
27-Jan	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.1	2.3	2.3	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.3	
28-Jan	2.0	2.0	2.0	2.0	Z	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
29-Jan	2.0	2.0	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.2	2.2	2.1	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.2	
30-Jan	Z	2.0	2.0	2.0	2.0	2.0	2.2	2.3	2.2	2.1	2.2	2.6	2.4	2.1	2.0	2.1	M	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.6	
31-Jan	2.3	Z	2.4	2.3	2.4	2.4	2.2	2.1	2.2	2.2	2.1	2.1	2.1	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.4	
																								Diurnal Average			
																								Diurnal Maximum			
Z - zerospan C - Calibration M - Maintenance																											



Wood Buffalo Environmental Association
Hourly Averages

Total Hydrocarbons (THC) - ppm
Fort McKay - Bertha Ganter - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Hydrocarbons (THC) - ppm
Fort McKay - Bertha Ganter - January 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	310	43.79	43.79
2.1 - 3.0	390	55.08	98.87
3.1 - 10.0	8	1.13	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Total Hydrocarbons (THC) - ppm
Fort McKay - Bertha Ganter - January 2025

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2.0	55	25	3	2	2	0	1	11	30	22	16	26	34	38	25	18	308
2.1 - 3.0	38	37	4	3	4	2	5	43	143	16	14	20	14	16	14	13	386
3.1 - 10.0	2	1	0	0	0	0	0	1	2	0	0	0	0	0	0	1	7
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	95	63	7	5	6	2	6	55	175	38	30	46	48	54	39	32	701

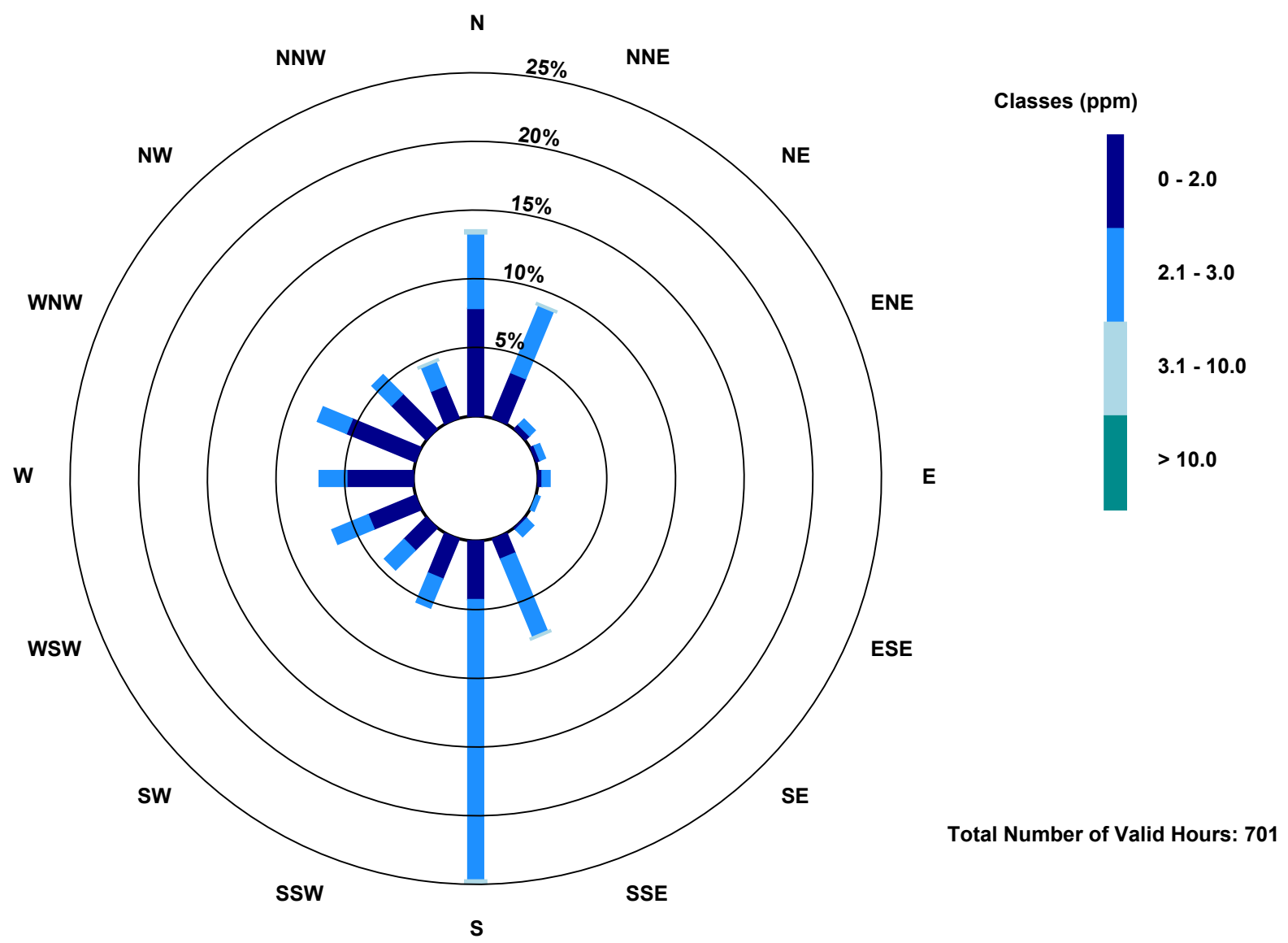
Total Number of Valid Hours: 701

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Total Hydrocarbons (THC) - ppm
Fort McKay - Bertha Ganter



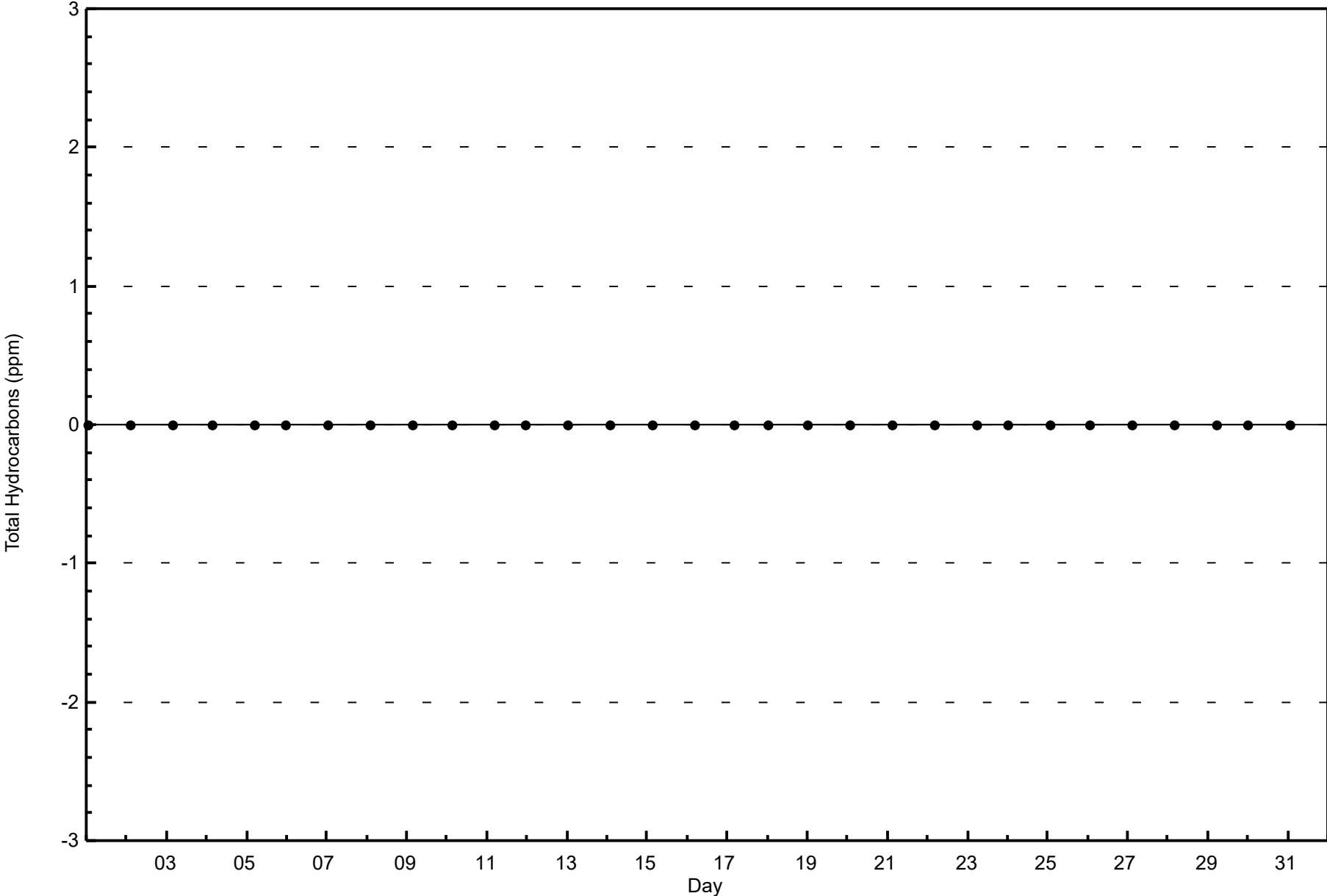


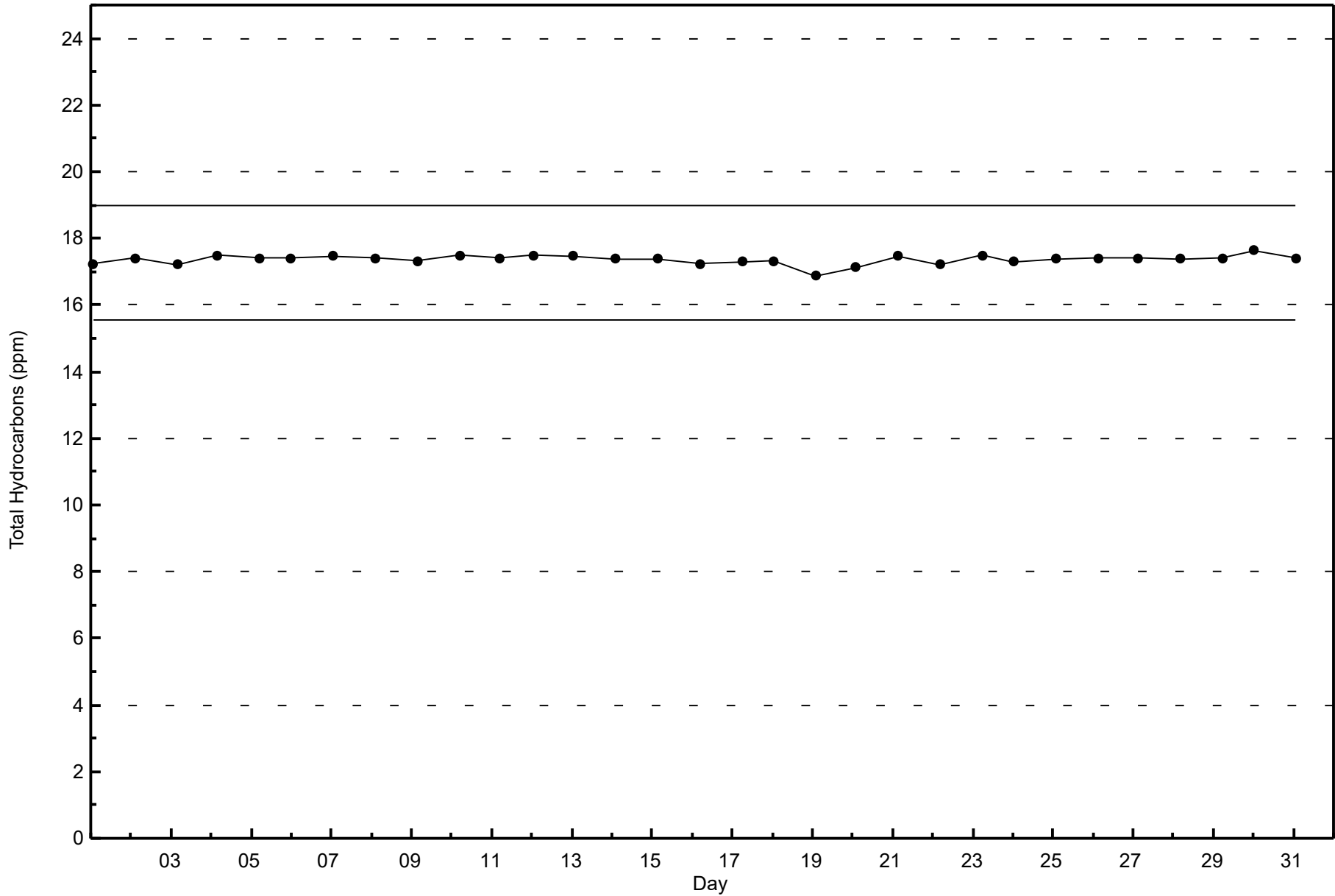
Wood Buffalo Environmental Association

Zero Responses

Total Hydrocarbons (THC) - ppm

Fort McKay - Bertha Ganter - January 2025







Wood Buffalo Environmental Association
Summary of Hour Averages

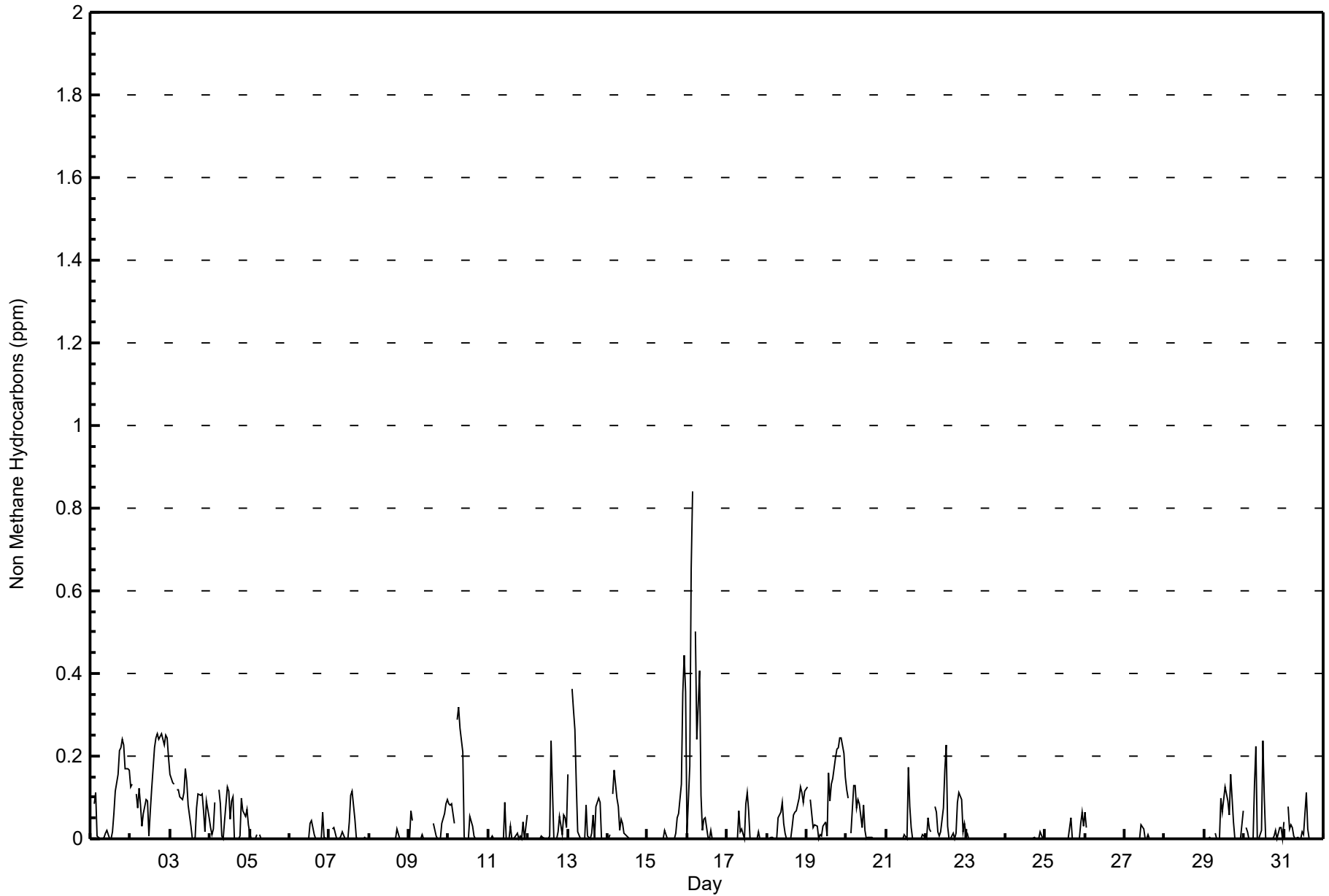
Non Methane Hydrocarbons (NMHC) - ppm
Fort McKay - Bertha Ganter - January 2025

Maximum Value: 0.841 ppm on Jan 16 04:00		Maximum Daily Average: 0.152 ppm on Jan 2		Hours in Service: 744																							
Minimum Value: 0.000 ppm on Jan 1 01:00		Minimum Daily Average: 0.000 ppm on Jan 28		Hours of Data: 708																							
Maximum Diurnal Average: 0.068 ppm at hour 4		Minimum Diurnal Average: 0.018 ppm at hour 10		Hours of Missing Data: 36																							
Monthly Average: 0.039 ppm		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.1 P ₉₉ = 0.4		Hours of Calibration: 35																							
				Percent Operational Time: 99.9																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	0.000	Z	0.084	0.112	0.006	0.000	0.000	0.000	0.003	0.014	0.021	0.000	0.000	0.018	0.060	0.115	0.156	0.214	0.220	0.242	0.228	0.170	0.170	0.166	0.087	0.242	
2-Jan	0.126	0.132	Z	0.109	0.075	0.124	0.081	0.032	0.060	0.094	0.092	0.007	0.066	0.121	0.219	0.245	0.255	0.241	0.247	0.255	0.228	0.252	0.245	0.197	0.152	0.255	
3-Jan	0.156	0.134	0.131	Z	0.118	0.120	0.102	0.094	0.113	0.168	0.139	0.082	0.032	0.000	0.000	0.002	0.076	0.107	0.106	0.107	0.069	0.017	0.092	0.052	0.088	0.168	
4-Jan	0.027	0.009	0.024	0.088	Z	0.117	0.084	0.007	0.000	0.045	0.126	0.116	0.046	0.091	0.101	0.000	0.000	0.000	0.000	0.008	0.098	0.068	0.056	0.071	0.035	0.053	0.126
5-Jan	0.012	0.001	0.001	0.000	0.011	Z	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.012	
6-Jan	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.039	0.045	0.027	0.011	0.000	0.000	0.000	0.000	0.064	0.003	0.000	0.000	0.008	0.064	
7-Jan	0.000	Z	0.025	0.026	0.000	0.000	0.000	0.008	0.018	0.000	0.000	0.002	0.042	0.105	0.114	0.047	0.004	0.000	0.000	0.000	0.000	0.003	0.000	0.001	0.017	0.114	
8-Jan	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.022	
9-Jan	0.000	0.068	0.045	Z	0.000	0.000	0.000	0.000	0.009	0.000	0.000	C	C	C	C	0.039	0.007	0.000	0.000	0.000	0.038	0.060	0.086	0.096	0.024	0.096	
10-Jan	0.085	0.081	0.084	0.038	Z	0.290	0.319	0.268	0.211	0.003	0.000	0.000	0.000	0.054	0.031	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.064	0.319	
11-Jan	0.000	0.000	0.006	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.089	0.000	0.000	0.031	0.000	0.002	0.003	0.014	0.001	0.005	0.000	0.040	0.000	0.056	0.011	0.089	
12-Jan	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.003	0.000	0.000	0.000	0.006	0.239	0.000	0.000	0.000	0.015	0.056	0.010	0.058	0.051	0.029	0.021	0.239	
13-Jan	0.155	Z	0.364	0.312	0.264	0.131	0.016	0.000	0.000	0.000	0.080	0.006	0.000	0.015	0.056	0.000	0.079	0.097	0.088	0.000	0.000	0.000	0.000	0.000	0.072	0.364	
14-Jan	0.000	0.010	Z	0.109	0.166	0.100	0.079	0.022	0.047	0.039	0.015	0.008	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.026	0.166	
15-Jan	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.022	0.009	0.000	0.000	0.000	0.000	0.000	0.014	0.052	0.061	0.132	0.353	0.446	0.355	0.063	0.446	
16-Jan	0.014	0.177	0.655	0.841	Z	0.503	0.242	0.407	0.106	0.019	0.047	0.050	0.004	0.000	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.134	0.841	
17-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.069	0.018	0.024	0.000	0.085	0.112	0.069	0.001	0.000	0.000	0.000	0.000	0.016	0.000	0.000	0.000	0.000	0.017	0.112	
18-Jan	Z	0.000	0.003	0.003	0.000	0.001	0.000	0.050	0.063	0.087	0.038	0.014	0.000	0.001	0.001	0.028	0.056	0.064	0.067	0.098	0.124	0.113	0.089	0.117	0.044	0.124	
19-Jan	0.126	Z	0.095	0.060	0.029	0.033	0.031	0.002	0.011	0.008	0.031	0.041	0.008	0.158	0.091	0.131	0.145	0.196	0.217	0.219	0.243	0.244	0.208	0.150	0.108	0.244	
20-Jan	0.119	0.098	Z	0.015	0.127	0.130	0.074	0.096	0.084	0.026	0.081	0.019	0.000	0.002	0.003	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.038	0.130	
21-Jan	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.009	0.000	0.173	0.077	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.009	0.003	0.013	0.173	
22-Jan	0.000	0.051	0.025	0.018	Z	0.079	0.063	0.017	0.008	0.018	0.076	0.165	0.227	0.032	0.000	0.000	0.015	0.001	0.013	0.090	0.111	0.095	0.017	0.039	0.050	0.227	
23-Jan	0.014	0.013	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.014	
24-Jan	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.000	0.000	0.000	0.017	0.001	0.000	0.000	0.001	0.017	
25-Jan	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.050	0.000	0.000	0.000	0.000	0.000	0.038	0.065	0.031	0.008	0.065		
26-Jan	0.066	0.029	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.066	
27-Jan	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.034	0.023	0.000	0.000	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.034	
28-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
29-Jan	0.000	0.000	0.000	0.002	0.000	Z	0.013	0.000	0.000	0.000	0.099	0.065	0.127	0.109	0.093	0.059	0.157	0.041	0.001	0.000	0.000	0.000	0.000	0.067	0.036	0.157	
30-Jan	Z	0.028	0.018	0.000	0.000	0.000	0.132	0.223	0.000	0.000	0.019	0.238	0.097	0.000	0.000	0.000	M	0.000	0.007	0.021	0.000	0.026	0.028	0.000	0.038	0.238	
31-Jan	0.040	Z	0.077	0.024	0.032	0.028	0.008	0.000	0.002	0.000	0.001	0.016	0.009	0.112	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.016	0.112	
																								Diurnal Average			
																								Diurnal Maximum			
Z - zerospan C - Calibration M - Maintenance																											



Wood Buffalo Environmental Association
Hourly Averages

Non Methane Hydrocarbons (NMHC) - ppm
Fort McKay - Bertha Ganter - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Non Methane Hydrocarbons (NMHC) - ppm
Fort McKay - Bertha Ganter - January 2025**

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 0.005	413	58.33	58.33
0.006 - 0.05	127	17.94	76.27
0.06 - 0.1	115	16.24	92.51
> 0.1	53	7.49	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Non Methane Hydrocarbons (NMHC) - ppm
Fort McKay - Bertha Ganter - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 0.005	64	25	6	3	3	1	1	30	82	25	18	30	37	38	27	20	410
0.006 - 0.05	15	15	0	1	2	0	3	13	46	4	2	5	0	9	5	7	127
0.06 - 0.1	9	16	1	1	0	1	2	8	34	8	8	7	7	3	4	4	113
> 0.1	7	7	0	0	1	0	0	4	13	1	2	4	4	4	3	1	51
Totals	95	63	7	5	6	2	6	55	175	38	30	46	48	54	39	32	701

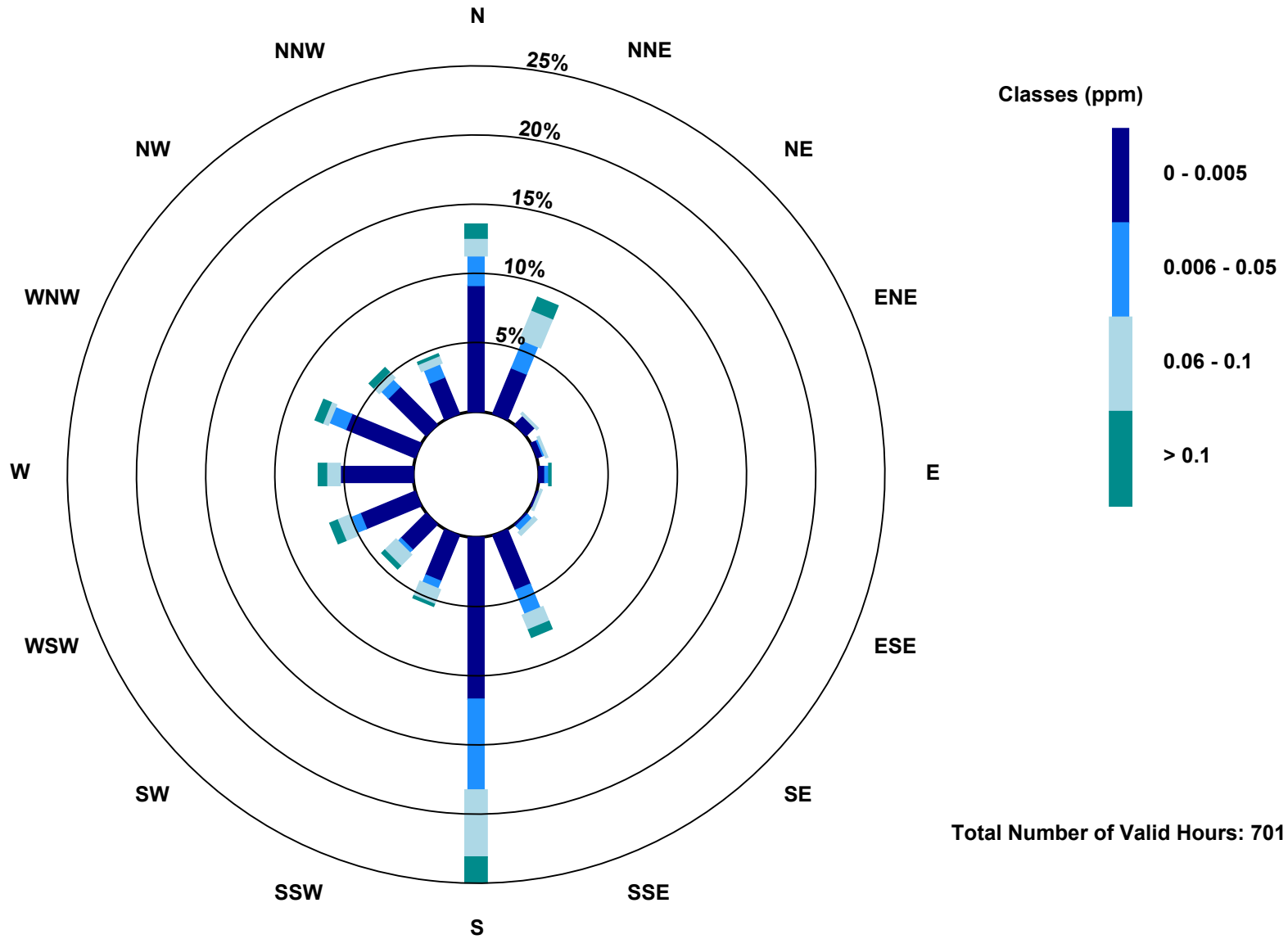
Total Number of Valid Hours: 701

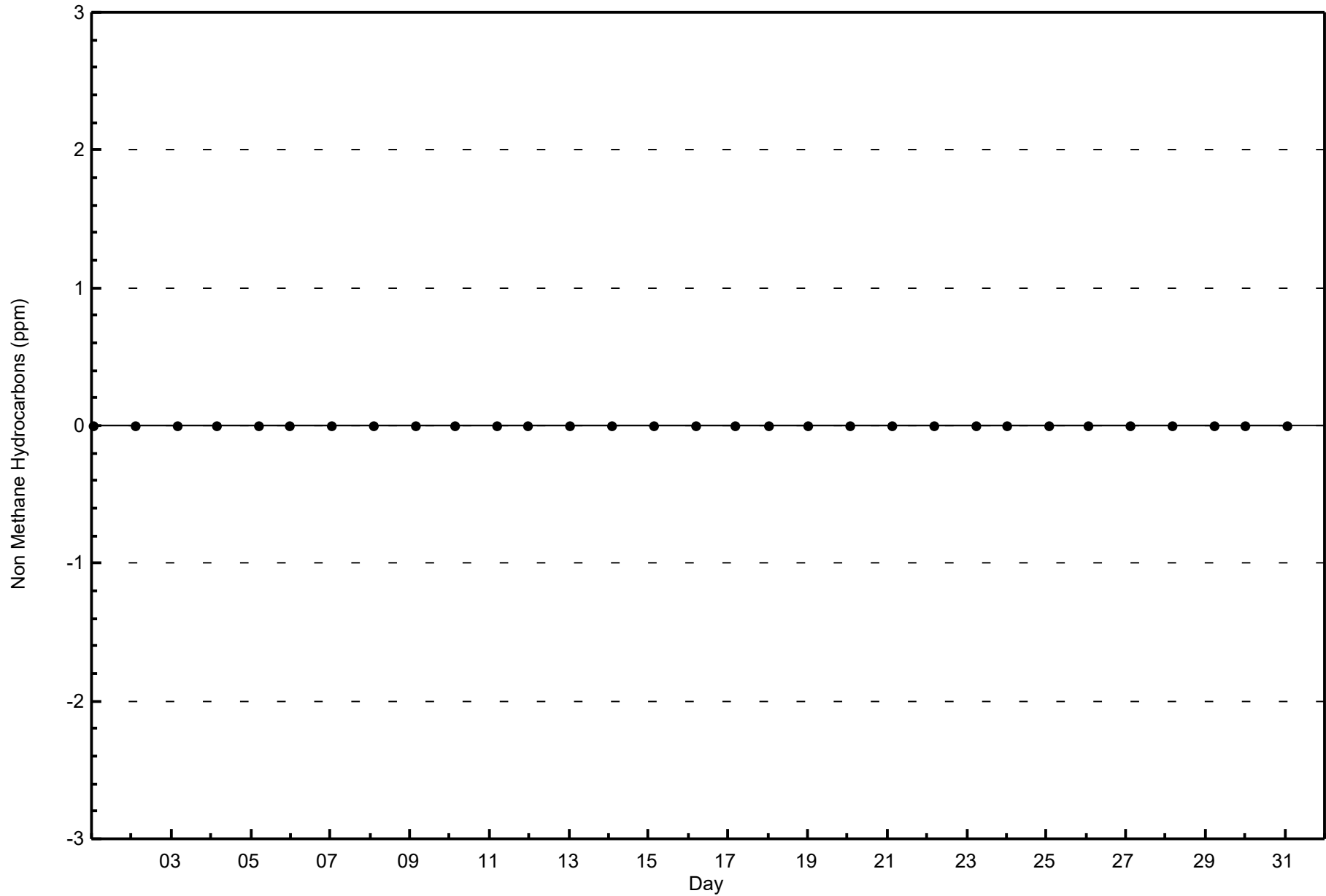
Total Number of Hours: 744

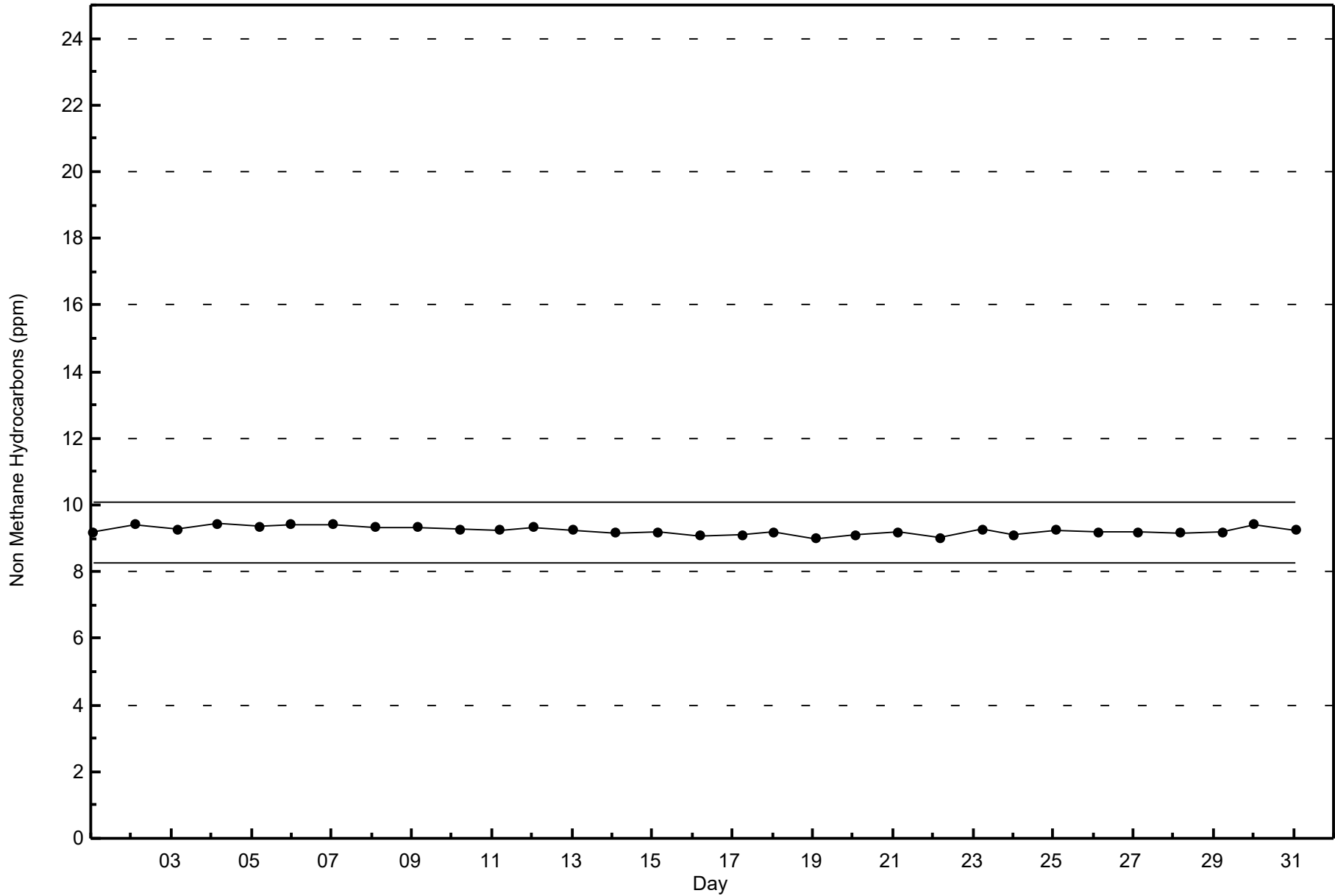


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Non Methane Hydrocarbons (NMHC) - ppm
Fort McKay - Bertha Ganter

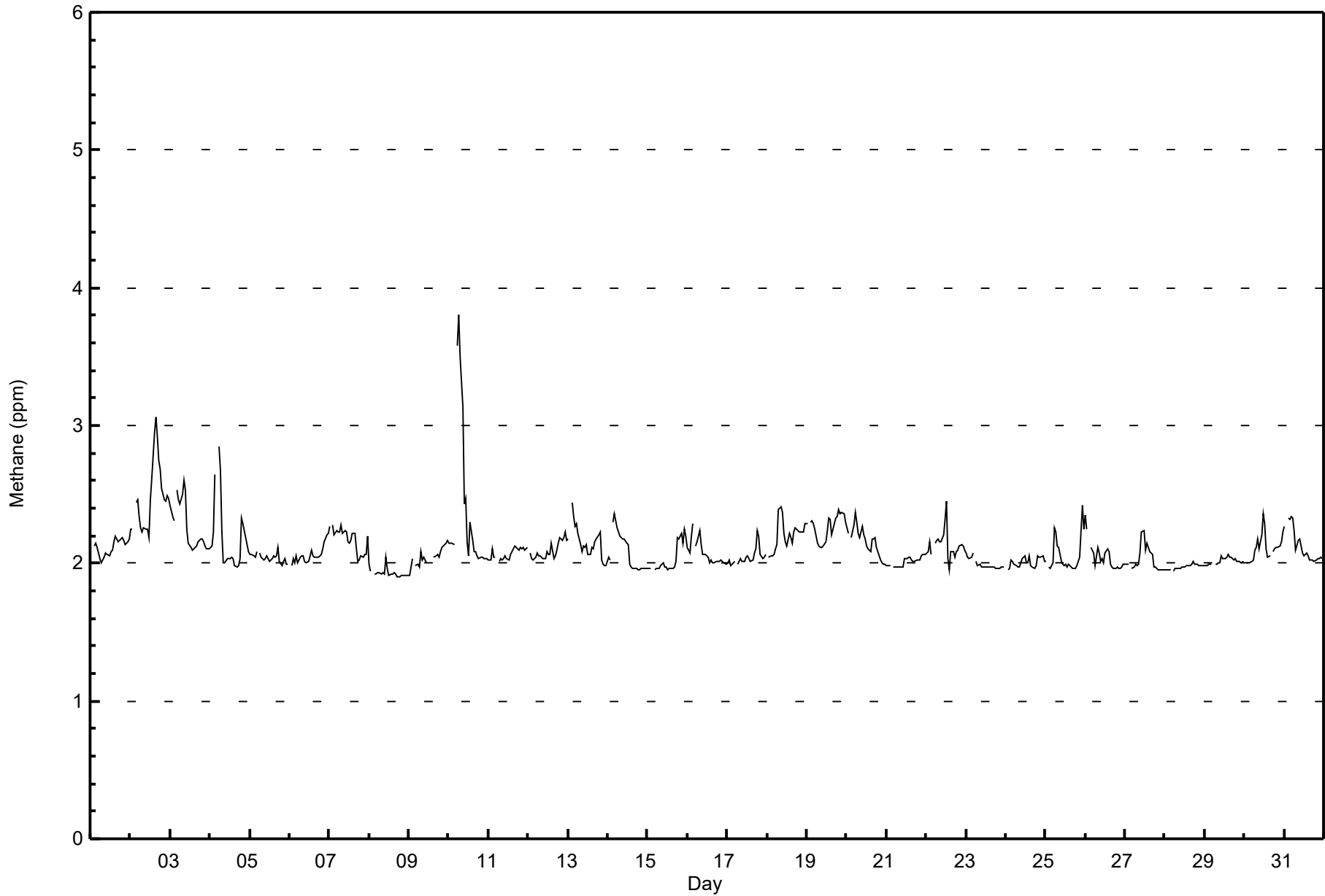








Number of Exceedences (AAAQO):		1-hr: 0		24-hr: 0		Hours in Service:		744																																										
Maximum Value: 3.8 ppm on Jan 10 07:00		Maximum Daily Average: 2.5 ppm on Jan 2				Hours of Data:		708																																										
Minimum Value: 1.9 ppm on Jan 8 19:00		Minimum Daily Average: 1.9 ppm on Jan 8				Hours of Missing Data:		36																																										
Maximum Diurnal Average: 2.2 ppm at hour 6		Minimum Diurnal Average: 2.1 ppm at hour 2				Hours of Calibration:		35																																										
Monthly Average: 2.11 ppm		Percentiles: P ₁ = 1.9 P ₁₀ = 2.0 Q ₁ = 2.0 Median = 2.1 Q ₃ = 2.2 P ₉₀ = 2.3 P ₉₉ = 2.8				Percent Operational Time:		99.9																																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																										
1-Jan	2.1	Z	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.2	2.2	2.1	2.2	2.2	2.1	2.2																					
2-Jan	2.2	2.3	Z	2.4	2.5	2.3	2.3	2.2	2.3	2.2	2.2	2.2	2.5	2.6	2.9	3.1	2.9	2.7	2.7	2.5	2.5	2.4	2.5	2.5	2.2	2.5	2.5	2.5	2.5																					
3-Jan	2.4	2.3	2.3	Z	2.5	2.5	2.4	2.5	2.6	2.5	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1																					
4-Jan	2.1	2.1	2.2	2.6	Z	2.8	2.7	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1																					
5-Jan	2.1	2.1	2.1	2.0	2.1	Z	2.1	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.1	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0																					
6-Jan	Z	2.0	2.0	2.0	2.1	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.1	2.2	2.2																					
7-Jan	2.3	Z	2.3	2.2	2.2	2.2	2.2	2.3	2.2	2.2	2.2	2.2	2.1	2.2	2.2	2.2	2.1	2.0	2.0	2.1	2.0	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2																					
8-Jan	2.0	1.9	Z	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9																					
9-Jan	1.9	2.0	2.0	Z	2.0	2.0	2.0	2.1	2.0	2.0	2.0	C	C	C	C	2.0	2.0	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.0	2.2	2.2																					
10-Jan	2.1	2.1	2.1	2.1	Z	3.6	3.8	3.5	3.1	2.4	2.5	2.2	2.1	2.3	2.2	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0																					
11-Jan	2.0	2.0	2.1	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1																					
12-Jan	Z	2.1	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.0	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2																					
13-Jan	2.2	Z	2.4	2.3	2.3	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.4																					
14-Jan	2.0	2.0	Z	2.3	2.4	2.3	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0																					
15-Jan	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.2	2.2	2.2	2.2	2.1	2.3	2.2	2.0	2.3	2.3																					
16-Jan	2.1	2.1	2.2	2.3	Z	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.3																					
17-Jan	2.0	2.0	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.2	2.1	2.0	2.0	2.1	2.0	2.0	2.1	2.0	2.2																					
18-Jan	Z	2.0	2.1	2.1	2.1	2.1	2.1	2.4	2.4	2.4	2.2	2.2	2.1	2.2	2.2	2.1	2.2	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.2	2.4																					
19-Jan	2.3	Z	2.3	2.3	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.3	2.2	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.4																					
20-Jan	2.3	2.2	Z	2.2	2.3	2.4	2.3	2.2	2.2	2.3	2.2	2.2	2.1	2.1	2.1	2.2	2.2	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.4																				
21-Jan	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.0	2.1	2.1	2.1																					
22-Jan	2.1	2.1	2.2	2.1	Z	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.4	2.0	2.0	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1																					
23-Jan	2.1	2.0	2.0	2.0	2.1	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0																					
24-Jan	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.1	2.0	2.1	2.0	2.0	2.1																					
25-Jan	2.0	Z	2.0	2.0	2.0	2.0	2.3	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.4	2.3	2.1	2.0	2.0	2.4																					
26-Jan	2.4	2.3	Z	2.1	2.1	2.1	2.0	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.4																					
27-Jan	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2																					
28-Jan	2.0	2.0	2.0	2.0	Z	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0																					
29-Jan	2.0	2.0	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1																					
30-Jan	Z	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.1	2.2	2.4	2.3	2.1	2.0	2.1	M	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2																					
31-Jan	2.3	Z	2.3	2.3	2.3	2.3	2.2	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.3																				
																								2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	Diurnal Average	
																								2.4	2.3	2.4	2.6	2.5	3.6	3.8	3.5	3.1	2.5	2.5	2.4	2.5	2.6	2.9	3.1	2.9	2.7	2.7	2.5	2.5	2.4	2.5	2.5	2.4	Diurnal Maximum	
Z - zerospan																								C - Calibration			M - Maintenance																							





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Methane (CH₄) - ppm
Fort McKay - Bertha Ganter - January 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	338	47.74	47.74
2.1 - 3.0	365	51.55	99.29
3.1 - 10.0	5	0.71	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Methane (CH₄) - ppm
Fort McKay - Bertha Ganter - January 2025

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2.0	56	40	3	2	2	0	1	14	37	22	17	27	34	38	25	18	336
2.1 - 3.0	37	23	4	3	4	2	5	40	137	16	13	19	14	16	14	14	361
3.1 - 10.0	2	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	4
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	95	63	7	5	6	2	6	55	175	38	30	46	48	54	39	32	701

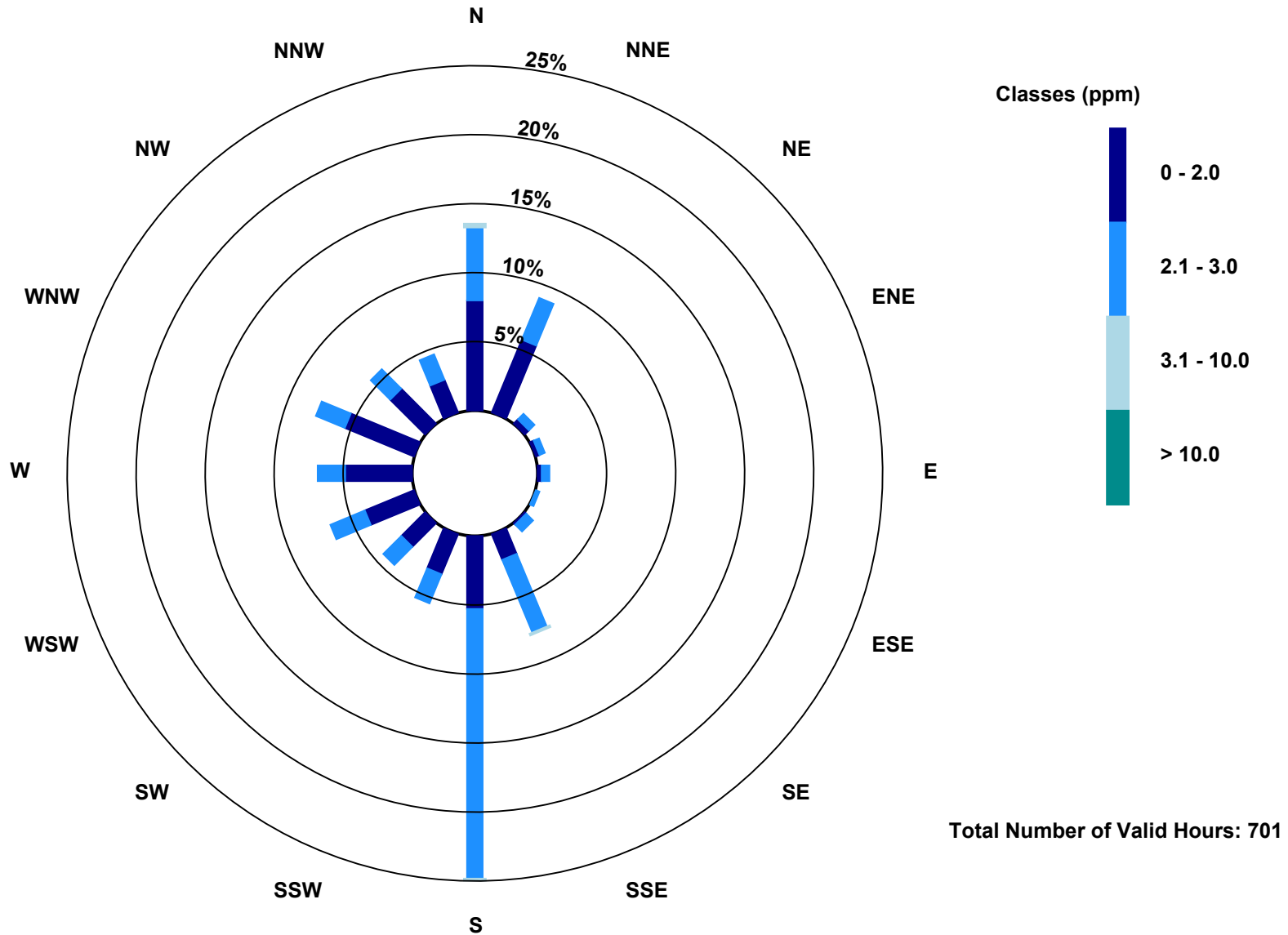
Total Number of Valid Hours: 701

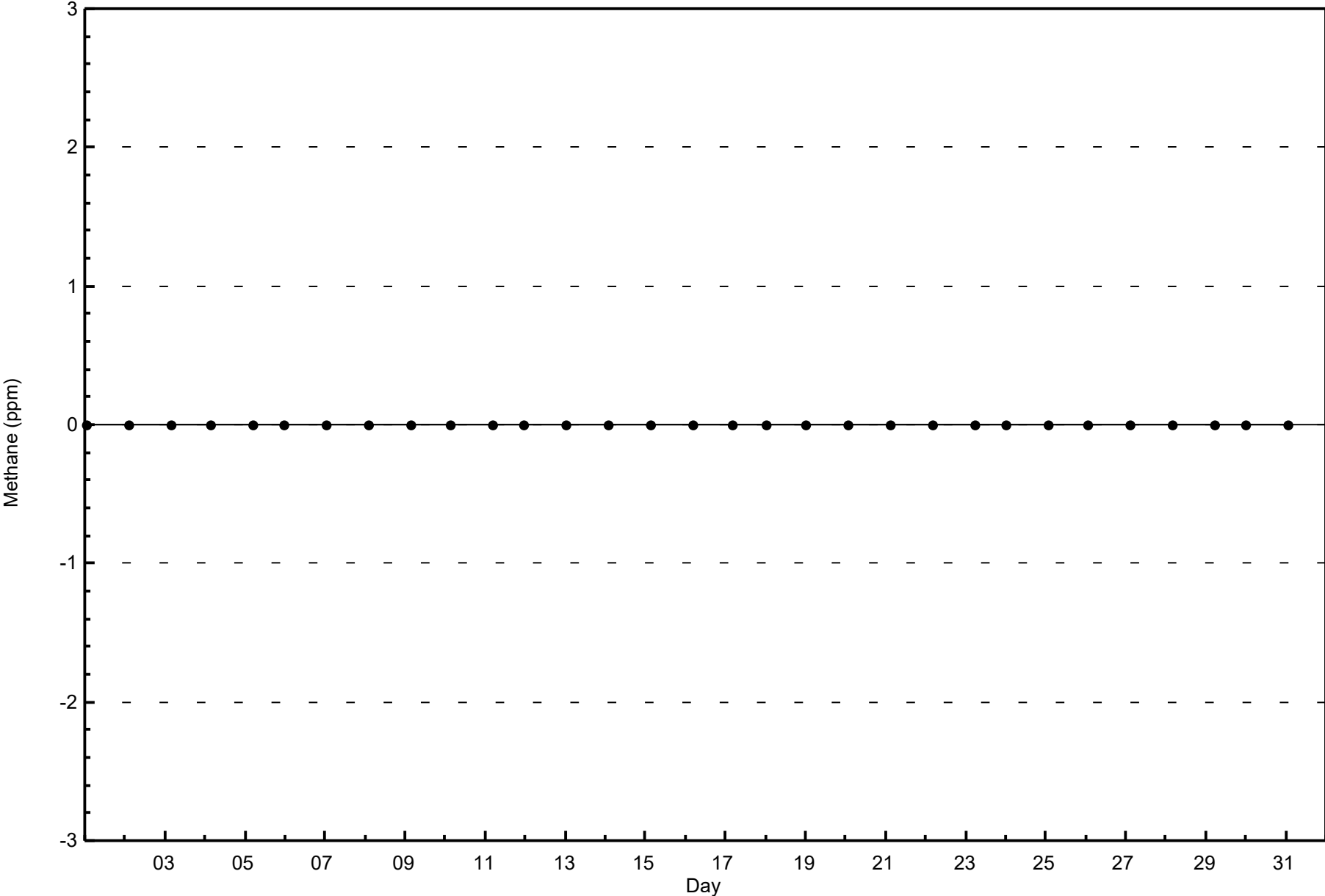
Total Number of Hours: 744

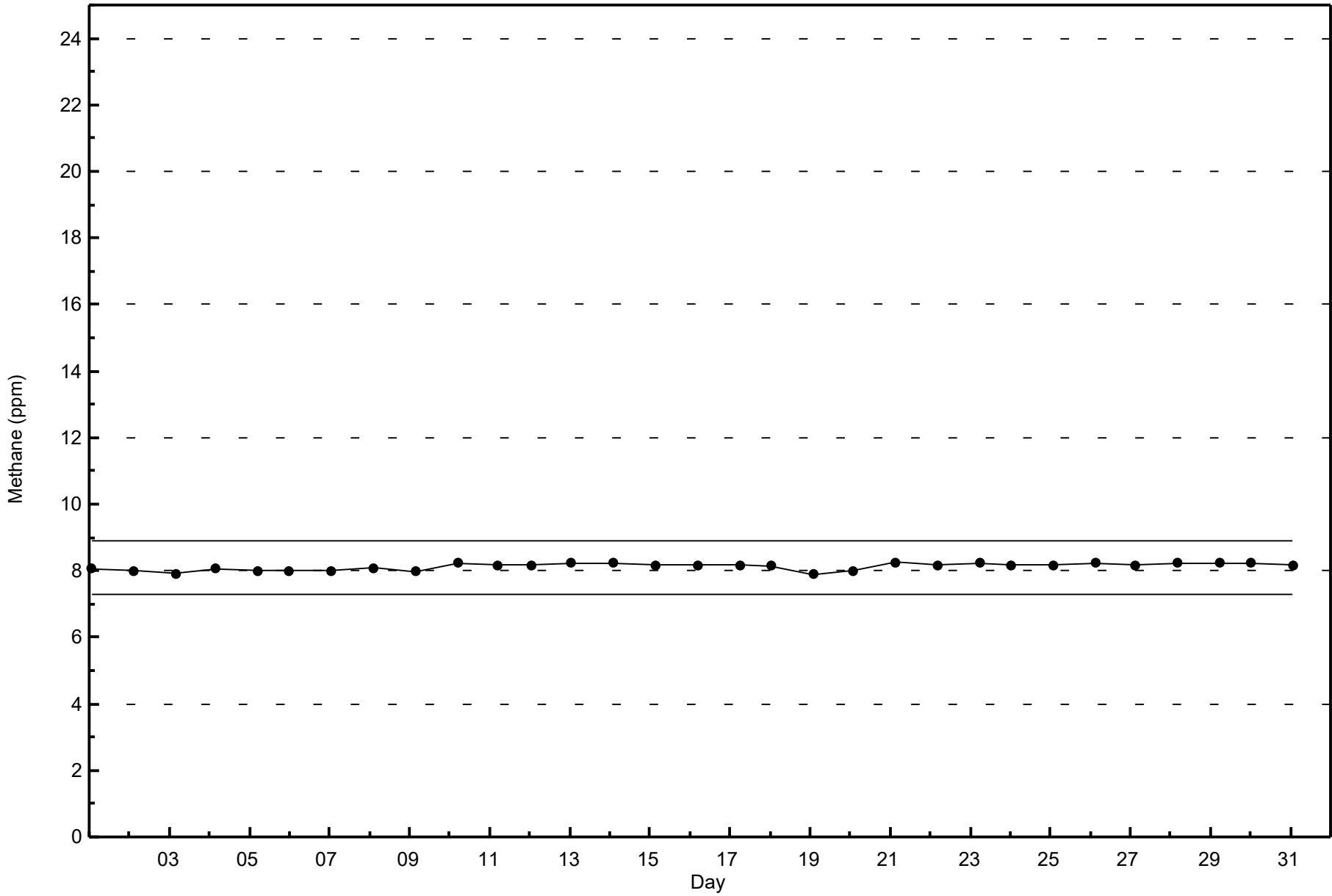


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Methane (CH₄) - ppm
Fort McKay - Bertha Ganter

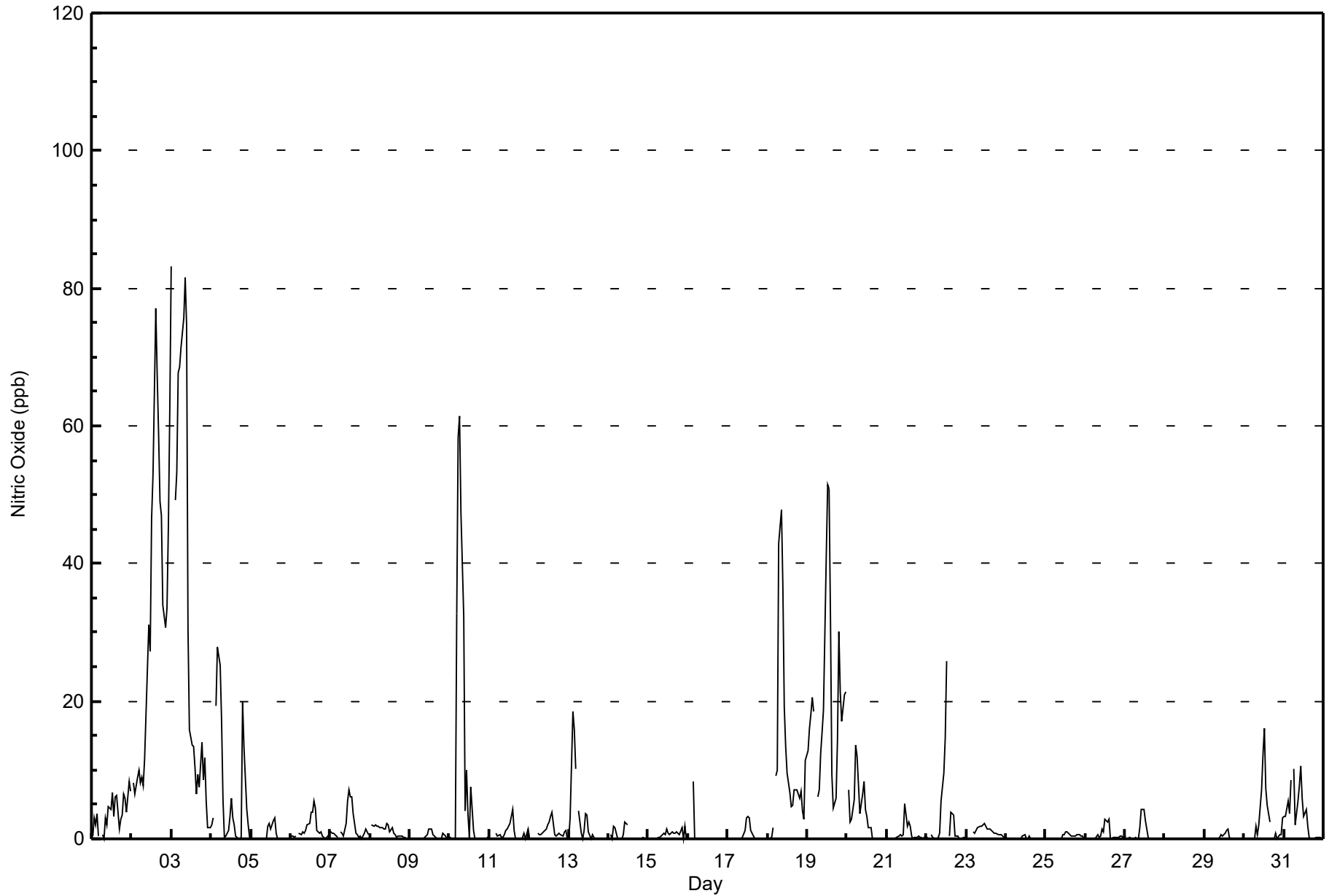








Maximum Value: 83.2 ppb on Jan 3 01:00																				Maximum Daily Average: 33.7 ppb on Jan 3					Hours in Service: 744	
Minimum Value: 0.0 ppb on Jan 4 17:00																				Minimum Daily Average: 0.0 ppb on Jan 28					Hours of Data: 705	
Maximum Diurnal Average: 7.5 ppb at hour 6																				Minimum Diurnal Average: 1.9 ppb at hour 2					Hours of Missing Data: 39	
Monthly Average: 4.82 ppb																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.5 Q ₃ = 3.1 P ₉₀ = 11.9 P ₉₉ = 67.7					Hours of Calibration: 37	
																									Percent Operational Time: 99.7	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0.5	3.0	1.9	3.6	0.4	Z	0.6	0.1	3.0	2.0	4.6	4.3	6.7	3.4	6.1	6.4	1.4	2.8	3.5	6.6	5.8	3.9	8.3	6.9	3.7	8.3
2-Jan	Z	8.1	6.6	8.9	10.0	8.1	8.9	7.8	11.6	24.6	31.0	27.3	46.6	52.8	77.2	67.3	58.7	49.0	46.9	34.0	30.7	33.7	45.6	62.3	33.0	77.2
3-Jan	83.2	Z	49.2	53.4	67.7	68.6	71.5	75.6	81.5	74.7	30.6	15.9	13.7	13.4	10.3	6.6	9.4	7.6	14.0	8.5	11.8	5.4	1.7	1.5	33.7	83.2
4-Jan	2.1	3.1	Z	19.2	27.9	25.2	17.2	5.7	0.3	0.5	1.2	3.2	5.8	3.1	2.0	0.4	0.0	0.0	0.2	19.9	13.2	4.2	1.9	0.2	6.8	27.9
5-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	1.9	2.3	1.5	2.7	3.1	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.5	3.1
6-Jan	0.4	0.4	0.2	0.4	Z	0.7	0.7	1.0	0.9	1.3	2.0	2.3	3.8	3.8	5.6	4.4	1.1	0.8	1.1	0.5	0.2	0.1	0.5	0.9	1.4	5.6
7-Jan	1.0	0.9	0.8	0.6	0.3	Z	1.1	0.8	0.4	2.2	5.5	7.0	6.1	6.2	3.6	0.9	0.5	0.2	0.3	0.0	0.9	1.5	1.1	0.6	1.9	7.0
8-Jan	Z	2.0	1.9	1.9	1.9	1.8	1.6	1.5	1.5	1.4	2.2	2.1	1.1	1.7	0.8	0.6	0.2	0.3	0.4	0.3	0.2	0.2	0.1	0.0	1.1	2.2
9-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.6	1.4	1.3	1.4	0.6	0.3	0.0	0.0	0.0	0.1	0.8	0.3	0.0	0.0	0.3	1.4
10-Jan	0.1	0.2	Z	0.0	32.7	58.3	61.5	47.3	32.4	4.1	10.0	3.7	0.2	7.6	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	11.3	61.5
11-Jan	0.0	0.0	0.0	Z	0.9	0.3	0.7	0.3	0.2	0.6	1.2	1.4	2.1	3.3	4.3	1.3	0.0	0.0	0.0	0.0	0.2	0.7	0.0	1.5	0.8	4.3
12-Jan	0.0	0.0	0.0	0.0	Z	0.8	0.6	0.6	0.8	0.9	1.4	2.0	2.5	3.2	3.8	0.5	0.3	0.5	0.7	0.5	0.3	1.1	1.2	0.1	1.0	3.8
13-Jan	0.0	3.1	18.5	15.9	10.2	Z	4.1	0.8	0.1	1.2	3.6	3.4	1.0	0.0	0.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	18.5
14-Jan	Z	0.5	0.0	1.9	1.7	0.0	0.0	0.0	0.0	0.6	2.4	2.1	C	C	C	C	C	C	0.0	0.0	0.1	0.0	0.0	0.0	--	2.4
15-Jan	0.0	Z	0.0	0.0	0.1	0.0	0.1	0.3	0.4	0.8	0.5	1.4	0.7	0.7	1.1	0.8	0.9	1.0	0.9	0.6	1.6	0.0	1.9	0.0	0.6	1.9
16-Jan	0.0	0.0	Z	8.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	8.4
17-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.3	1.2	3.1	3.3	3.1	1.2	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	3.3
18-Jan	0.0	0.0	0.2	1.6	Z	9.1	10.1	42.9	47.7	36.6	19.1	13.4	9.6	6.8	4.6	5.0	7.1	7.2	7.1	5.9	6.9	4.0	2.9	11.4	11.3	47.7
19-Jan	12.8	16.1	18.0	20.5	18.6	Z	6.2	7.2	12.5	15.4	18.7	41.0	51.4	50.8	32.1	9.3	4.5	5.9	14.3	30.2	21.4	17.2	21.0	21.3	20.3	51.4
20-Jan	Z	7.0	2.4	2.8	5.7	13.7	11.9	8.0	3.7	6.6	8.4	4.2	3.2	1.6	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	13.7
21-Jan	0.0	Z	0.0	0.0	0.0	0.1	0.2	0.3	0.5	0.4	0.5	5.0	1.7	2.5	1.8	0.4	0.1	0.2	0.2	0.3	0.3	0.3	0.1	0.3	0.7	5.0
22-Jan	0.2	0.1	Z	0.6	0.2	0.0	0.0	0.1	0.7	5.4	9.6	14.6	25.8	M	0.4	4.0	3.4	0.3	0.4	0.4	0.0	0.0	0.2	0.1	3.0	25.8
23-Jan	0.0	0.0	0.0	Z	1.1	0.9	1.2	1.7	1.8	1.8	2.1	2.3	1.8	1.5	1.3	1.1	1.1	0.9	0.9	0.7	0.7	0.5	0.4	0.2	1.0	2.3
24-Jan	0.2	0.1	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.3	0.5	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.5
25-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.6	0.6	1.0	1.0	0.8	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.4	0.1	0.3	1.0
26-Jan	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.6	0.1	0.4	1.5	1.1	2.9	2.5	2.8	0.0	0.1	0.2	0.1	0.2	0.3	0.3	0.4	0.3	0.6	2.9
27-Jan	0.5	Z	0.3	0.1	0.1	0.1	0.2	0.0	0.0	1.7	4.3	4.3	2.6	1.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	4.3
28-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.3	0.7	0.3	0.9	1.3	1.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.4
30-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	1.8	0.6	2.1	7.1	12.1	16.1	7.4	4.9	2.4	M	0.0	0.0	0.8	0.0	0.7	0.6	3.0	2.7	16.1
31-Jan	3.3	3.2	5.5	3.6	8.6	Z	10.2	2.0	5.5	7.7	10.6	5.9	3.2	4.3	1.9	0.2	0.0	0.0	0.0	0.1	0.2	0.2	0.3	0.0	3.3	10.6
4.0 1.9 4.1 5.5 7.2 7.5 6.7 6.7 6.7 6.2 5.9 6.1 7.2 6.5 5.9 3.8 3.1 2.6 3.0 3.6 3.1 2.4 2.9 3.6																								Diurnal Average		
83.2 16.1 49.2 53.4 67.7 68.6 71.5 75.6 81.5 74.7 31.0 41.0 51.4 52.8 77.2 67.3 58.7 49.0 46.9 34.0 30.7 33.7 45.6 62.3																								Diurnal Maximum		
Z - zerospan C - Calibration M - Maintenance																										





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitric Oxide (NO) - ppb
Fort McKay - Bertha Ganter - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	660	93.62	93.62
21 - 40	19	2.70	96.31
41 - 80	24	3.40	99.72
81 - 159	2	0.28	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 705

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitric Oxide (NO) - ppb
Fort McKay - Bertha Ganter - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	90	64	7	6	6	2	8	45	168	37	22	37	43	54	37	27	653
21 - 40	2	1	0	0	0	0	0	4	6	1	1	0	2	1	0	0	18
11 - 80	2	0	0	0	0	0	0	6	2	1	5	4	0	1	1	1	23
81 - 159	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	94	65	7	6	6	2	8	55	176	39	28	42	46	56	38	28	696

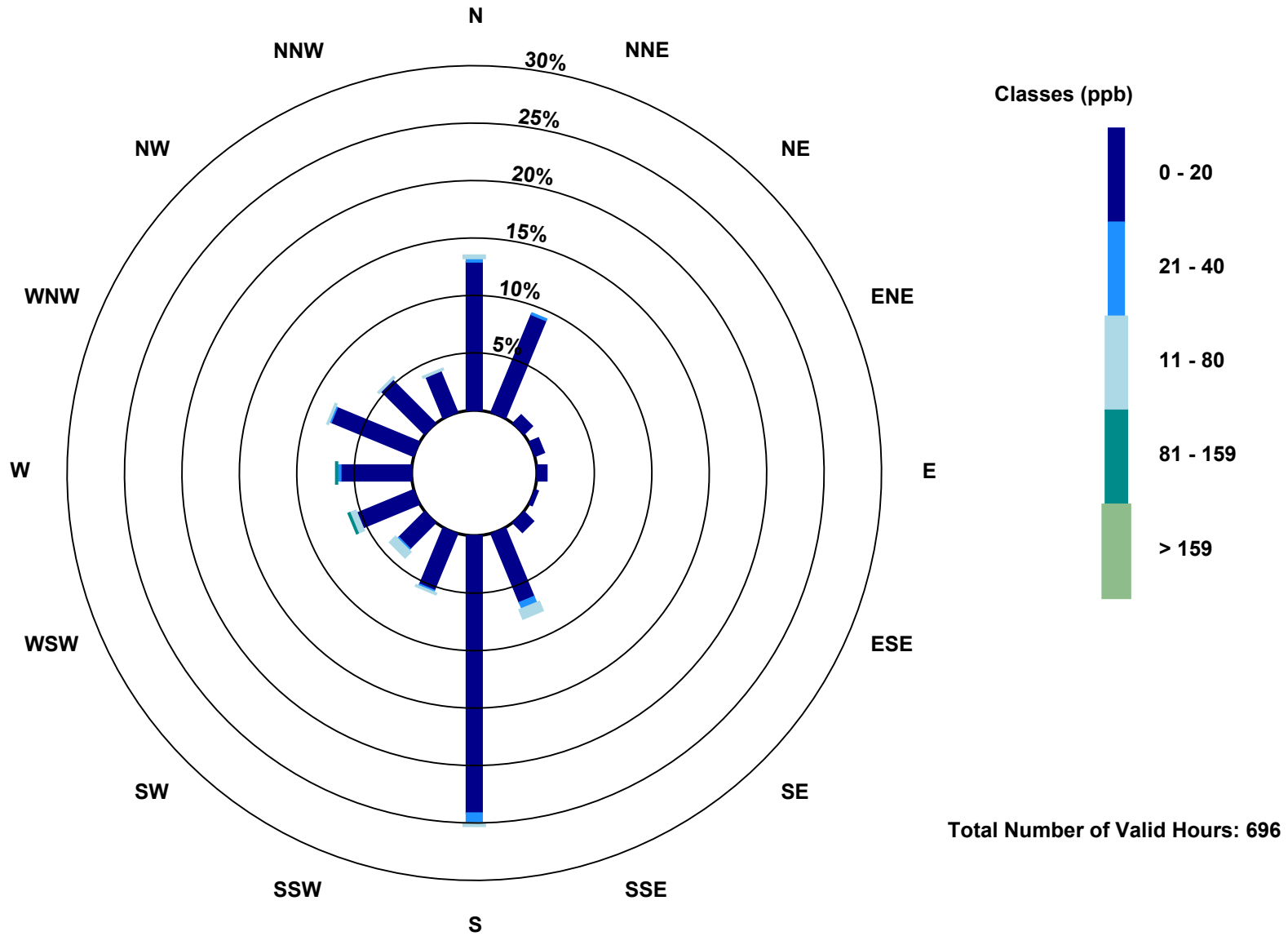
Total Number of Valid Hours: 696

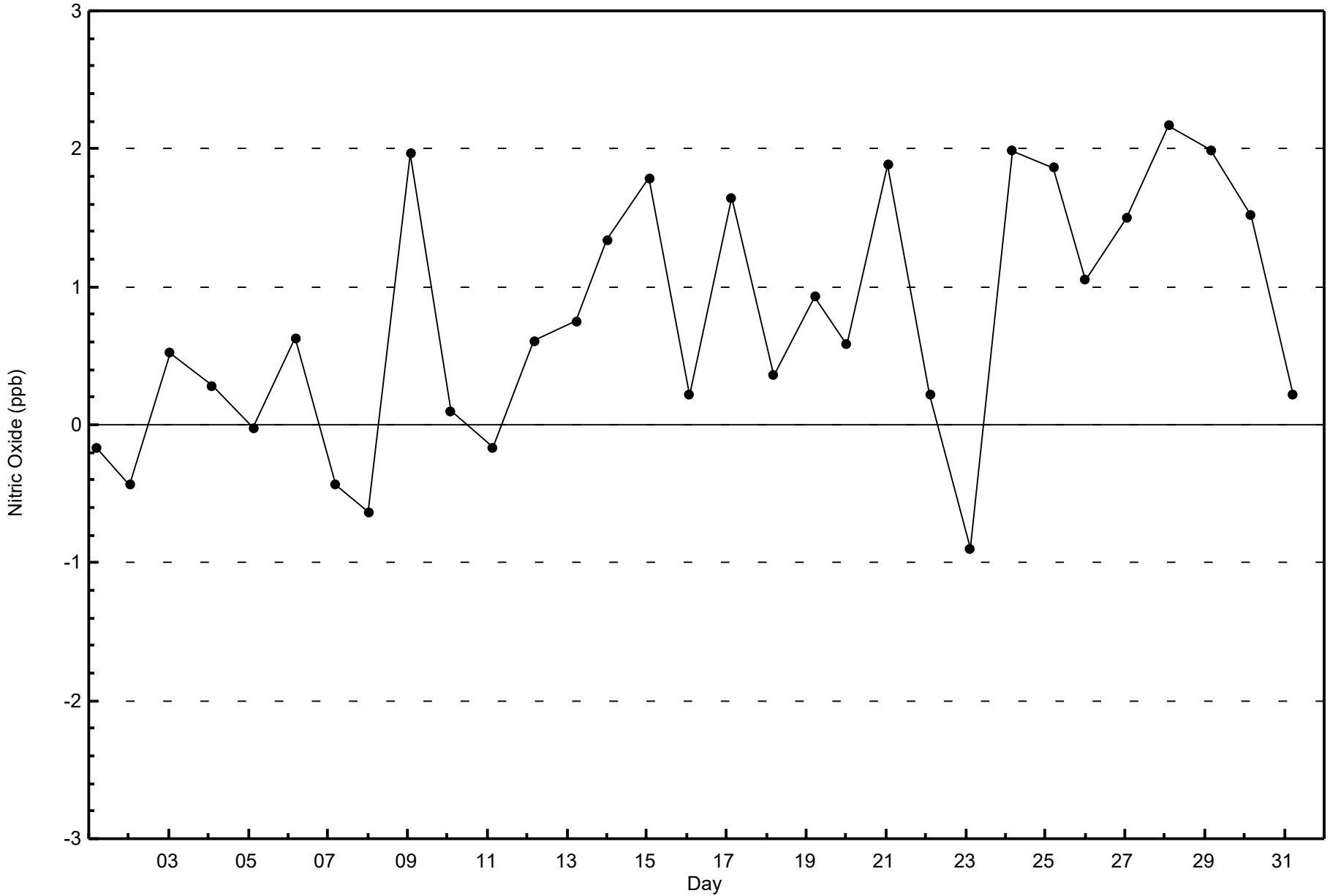
Total Number of Hours: 744

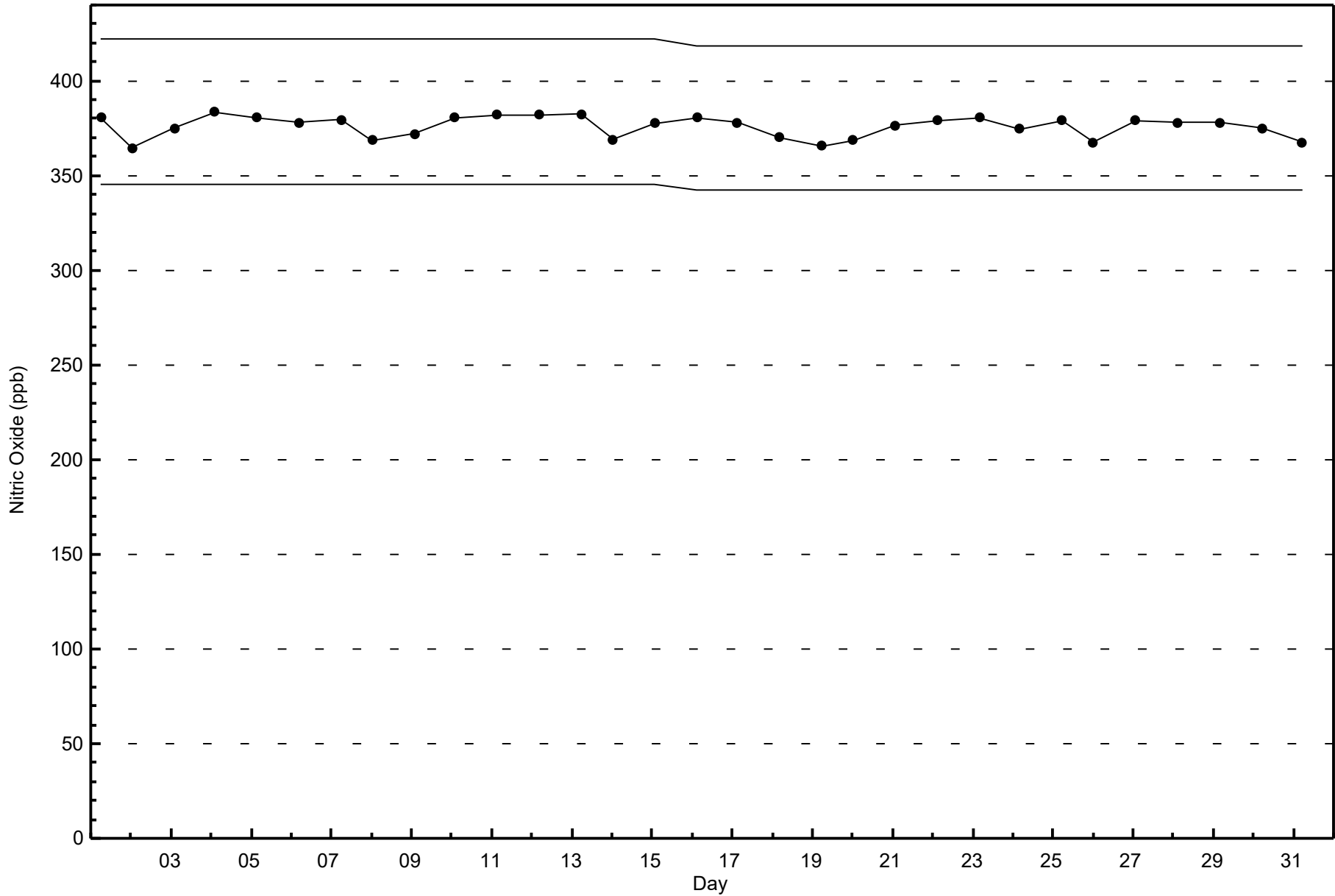


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitric Oxide (NO) - ppb
Fort McKay - Bertha Ganter









Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Dioxide (NO₂) - ppb

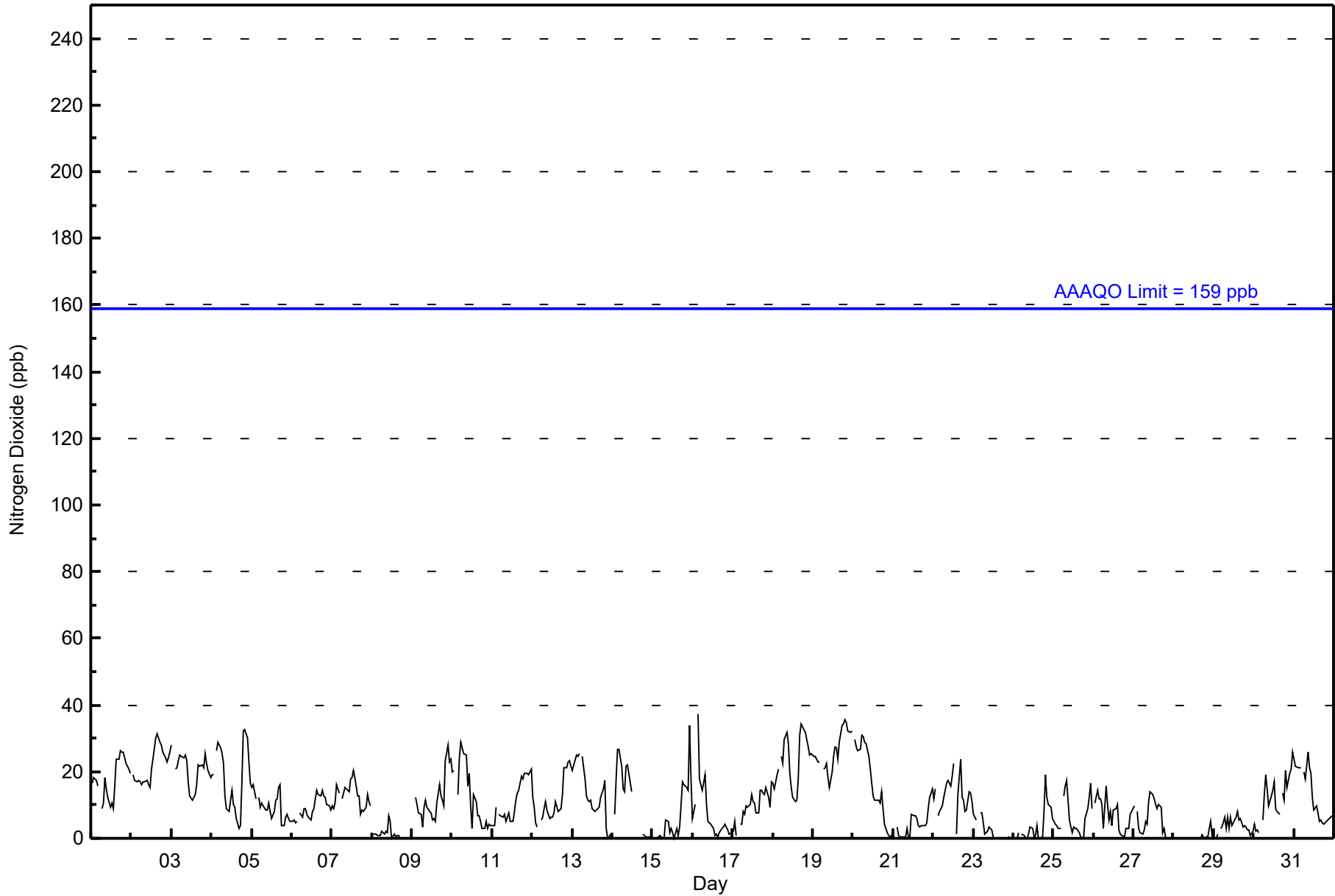
Fort McKay - Bertha Ganter - January 2025

Number of Exceedences (AAAQO):		1-hr: 0	24-hr: 0	Hours in Service: 744																	744																												
Maximum Value: 37.5 ppb on Jan 16 04:00		Maximum Daily Average: 26.2 ppb on Jan 19																	Hours of Data: 705																														
Minimum Value: 0.0 ppb on Jan 8 23:00		Minimum Daily Average: 0.5 ppb on Jan 28																	Hours of Missing Data: 39																														
Maximum Diurnal Average: 13.1 ppb at hour 4		Minimum Diurnal Average: 8.7 ppb at hour 14																	Hours of Calibration: 37																														
Monthly Average: 11.05 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.5 Q ₁ = 3.4 Median = 9.5 Q ₃ = 17.1 P ₉₀ = 24.4 P ₉₉ = 33.4																	Percent Operational Time: 99.7																														
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	16.4	18.2	17.6	17.2	15.5	Z	8.7	10.4	18.2	14.8	12.1	9.4	10.6	8.9	15.7	23.8	23.6	26.1	25.9	25.7	24.3	22.4	20.9	19.3	17.6	26.1																							
2-Jan	Z	18.9	17.3	17.1	17.5	17.1	16.3	17.1	17.1	17.3	15.9	15.2	20.9	23.9	30.1	31.3	30.0	29.0	27.8	26.0	24.0	23.0	24.2	25.8	21.9	31.3																							
3-Jan	28.0	Z	20.7	21.3	23.5	24.8	24.4	24.2	24.9	23.1	17.1	12.8	11.6	12.2	13.1	16.3	21.9	21.6	22.2	21.0	25.4	22.4	20.3	18.1	20.5	28.0																							
4-Jan	19.2	19.2	Z	26.1	28.7	27.1	25.4	22.5	12.9	8.9	7.9	11.5	14.3	10.0	9.5	6.1	2.8	3.9	16.4	32.1	32.6	29.9	22.8	16.7	17.7	32.6																							
5-Jan	15.4	16.2	11.7	Z	12.4	9.5	10.7	9.7	8.4	8.5	10.6	8.2	6.1	8.2	11.5	11.9	15.2	15.9	3.7	4.0	6.4	7.2	5.9	5.2	9.7	16.2																							
6-Jan	5.0	5.7	4.8	5.0	Z	7.6	6.5	8.7	8.9	7.4	6.5	5.6	8.0	8.7	11.7	14.4	13.2	12.7	14.4	12.5	12.2	10.2	9.6	8.5	9.0	14.4																							
7-Jan	9.8	8.9	10.7	16.3	13.6	Z	11.7	13.7	15.3	14.3	13.8	17.8	18.4	20.3	18.2	12.8	12.8	7.3	8.3	8.2	9.2	13.1	11.0	9.8	12.8	20.3																							
8-Jan	Z	1.4	1.1	0.9	0.8	0.8	2.1	1.3	2.2	1.5	6.7	5.0	0.2	1.2	0.4	0.8	1.0	0.2	0.2	0.1	0.1	0.2	0.0	0.0	1.2	6.7																							
9-Jan	0.1	Z	12.3	10.2	7.6	7.3	3.4	9.5	11.6	9.3	7.9	7.6	5.6	6.0	4.9	10.4	15.9	12.5	11.6	9.8	23.5	28.1	22.9	23.9	11.4	28.1																							
10-Jan	20.0	20.2	Z	13.0	24.0	28.7	27.3	25.6	25.0	15.5	19.7	9.8	3.1	13.2	10.9	6.8	6.7	5.0	2.9	2.8	5.0	3.1	4.1	3.9	12.9	28.7																							
11-Jan	3.8	3.9	9.4	Z	7.2	6.9	6.5	7.3	5.0	6.3	7.8	5.1	5.2	8.2	11.4	13.5	14.5	18.6	17.8	19.5	19.3	19.6	19.1	20.6	11.2	20.6																							
12-Jan	12.4	9.5	4.5	3.3	Z	5.4	6.2	9.1	11.2	8.3	6.1	6.4	6.4	7.6	11.1	7.9	8.3	8.9	13.1	21.0	21.0	22.7	23.3	21.8	11.1	23.3																							
13-Jan	20.3	22.1	24.8	24.5	25.3	Z	24.5	17.6	12.5	11.6	11.1	11.3	8.9	8.2	8.4	9.1	9.5	12.2	14.7	17.3	2.8	0.0	0.4	1.2	13.0	25.3																							
14-Jan	Z	7.2	17.7	26.9	26.9	21.5	15.0	13.8	21.8	21.9	19.3	13.8	C	C	C	C	C	C	1.2	0.7	0.4	0.6	0.3	0.0	--	26.9																							
15-Jan	0.1	Z	0.0	0.3	0.9	0.4	0.0	0.2	5.3	4.9	1.8	3.1	1.5	0.2	2.8	0.9	3.5	10.2	16.9	16.1	15.3	14.6	33.8	18.4	6.6	33.8																							
16-Jan	6.0	10.1	Z	37.5	17.8	15.9	14.2	18.9	10.2	5.2	4.8	4.4	2.9	0.8	1.4	0.6	1.5	3.0	3.3	4.2	3.4	2.4	1.1	1.7	7.4	37.5																							
17-Jan	2.2	5.1	0.8	Z	4.2	4.1	8.1	7.0	9.9	9.5	10.0	13.0	11.0	10.4	7.5	7.7	14.3	14.4	13.7	13.1	15.3	12.2	9.4	16.8	9.6	16.8																							
18-Jan	16.7	14.9	19.2	20.8	Z	24.4	22.5	29.5	31.9	28.5	19.7	15.2	12.4	11.2	11.4	18.1	30.9	34.3	33.4	31.6	29.7	27.6	24.8	25.5	23.2	34.3																							
19-Jan	24.7	24.6	23.9	22.9	22.8	Z	20.9	21.0	22.4	18.3	15.2	20.1	24.7	27.4	27.2	23.6	28.7	33.8	34.3	35.8	34.6	32.1	31.9	32.2	26.2	35.8																							
20-Jan	Z	29.8	27.5	26.2	26.9	30.8	30.4	28.8	28.2	24.4	20.7	16.6	12.9	11.4	11.4	11.5	10.4	14.1	9.0	4.2	1.5	0.7	0.6	0.7	16.5	30.8																							
21-Jan	1.5	Z	3.5	0.7	0.6	0.5	0.6	0.5	3.0	0.6	0.4	7.2	6.6	6.9	6.0	3.9	3.2	3.7	4.0	4.0	4.7	9.1	12.1	14.7	4.3	14.7																							
22-Jan	11.7	14.8	Z	6.7	8.0	9.6	12.4	14.2	16.4	17.3	15.6	18.5	22.5	M	1.4	13.2	23.6	12.1	11.3	8.2	8.6	14.1	13.6	10.9	12.9	23.6																							
23-Jan	7.3	6.2	5.4	Z	7.5	7.6	4.6	1.4	2.0	3.2	2.8	2.5	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.0	0.0	2.2	7.6																							
24-Jan	0.0	0.0	0.0	1.8	Z	1.3	0.7	0.0	0.0	1.3	3.2	3.0	0.6	0.9	3.8	0.0	0.2	0.6	7.9	18.9	12.3	10.2	9.5	5.8	3.6	18.9																							
25-Jan	5.1	4.2	3.7	2.9	3.0	Z	12.5	15.8	17.3	5.3	3.4	1.6	3.4	3.0	2.8	1.5	0.5	0.0	0.0	5.9	8.9	12.4	16.4	8.9	6.0	17.3																							
26-Jan	Z	10.5	14.6	12.0	11.7	10.1	3.0	15.5	10.2	5.6	7.9	3.7	8.6	8.7	10.1	2.5	1.3	0.8	0.6	2.8	2.9	2.8	7.1	8.1	7.0	15.5																							
27-Jan	9.7	Z	8.0	3.1	1.5	1.4	2.6	5.0	4.4	10.7	14.0	13.1	11.7	10.1	8.7	10.2	9.4	1.7	2.9	0.6	0.0	0.0	0.0	0.0	5.6	14.0																							
28-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.5	0.6	3.1	5.2	0.7	0.5	5.2																							
29-Jan	0.0	0.1	1.3	Z	3.0	3.5	6.2	3.1	6.5	2.8	6.3	3.8	5.7	6.5	8.0	5.6	6.0	3.3	3.8	3.4	2.7	2.4	0.8	2.1	3.8	8.0																							
30-Jan	4.3	2.1	2.4	1.9	Z	5.4	13.1	18.9	15.0	9.9	12.8	14.6	17.0	9.1	8.1	7.3	M	13.4	11.3	20.2	15.2	19.6	20.9	25.8	12.2	25.8																							
31-Jan	23.6	21.8	21.3	21.3	21.3	Z	19.9	17.6	25.7	21.1	19.6	12.3	8.3	9.8	7.6	5.2	5.3	4.6	4.3	5.2	5.7	5.8	6.5	6.7	13.1	25.7																							
																								10.1	11.4	10.9	13.1	12.8	10.9	11.6	12.5	13.0	10.9	10.3	9.4	9.0	8.7	9.2	9.2	10.8	10.8	10.9	12.1	11.9	12.0	12.2	11.4	Diurnal Average	
																								28.0	29.8	27.5	37.5	28.7	30.8	30.4	29.5	31.9	28.5	20.7	20.1	24.7	27.4	30.1	31.3	30.9	34.3	34.3	35.8	34.6	32.1	33.8	32.2	Diurnal Maximum	
Z - zerospan C - Calibration M - Maintenance																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb																																																	



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
Fort McKay - Bertha Ganter - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Nitrogen Dioxide (NO₂) - ppb
Fort McKay - Bertha Ganter - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	579	82.13	82.13
21 - 40	126	17.87	100.00
41 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 705

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Fort McKay - Bertha Ganter - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	82	62	7	6	6	1	7	45	140	32	20	29	37	45	31	24	574
21 - 40	12	3	0	0	0	1	1	10	36	7	8	13	9	11	7	4	122
11 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	94	65	7	6	6	2	8	55	176	39	28	42	46	56	38	28	696

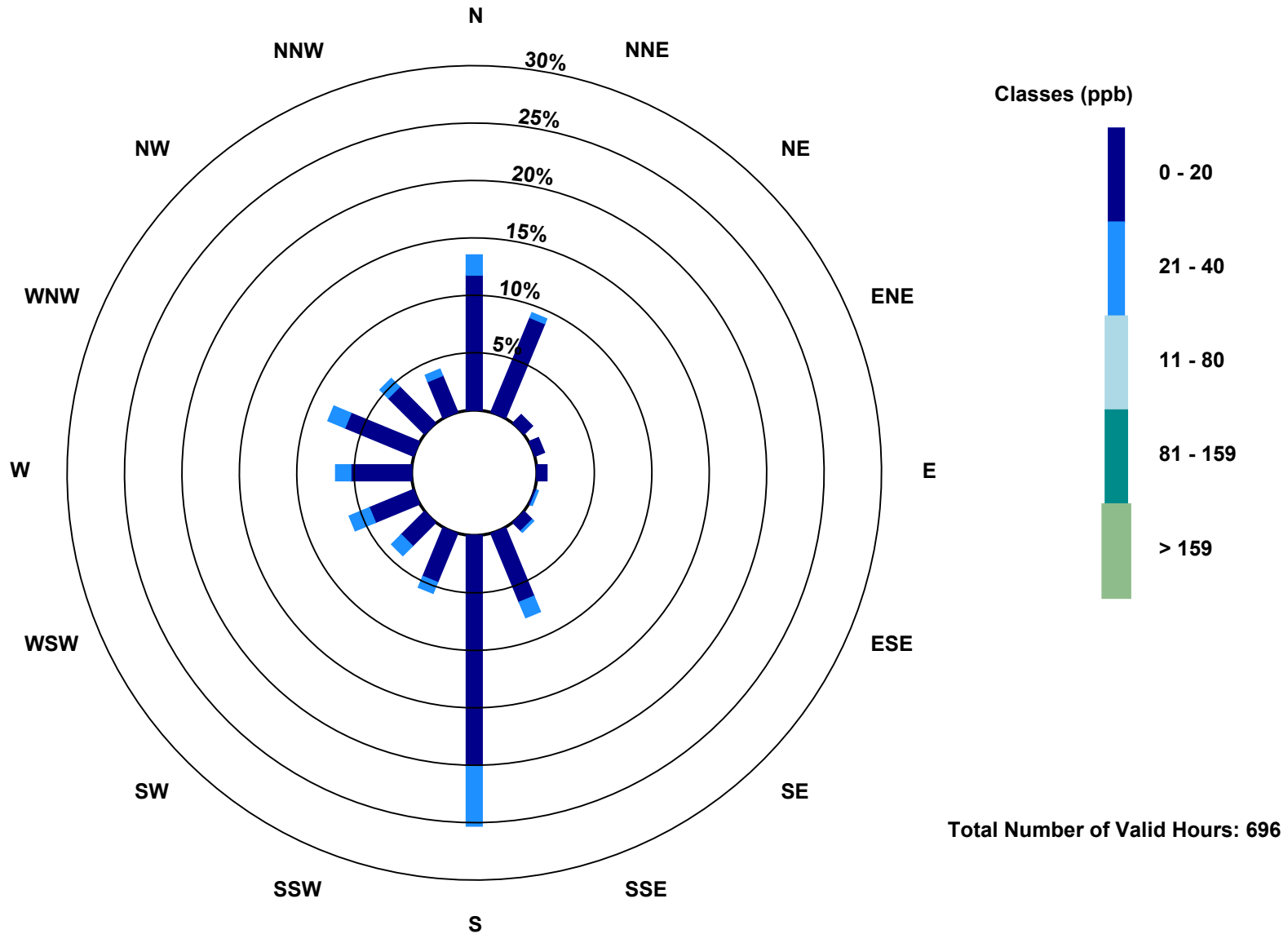
Total Number of Valid Hours: 696

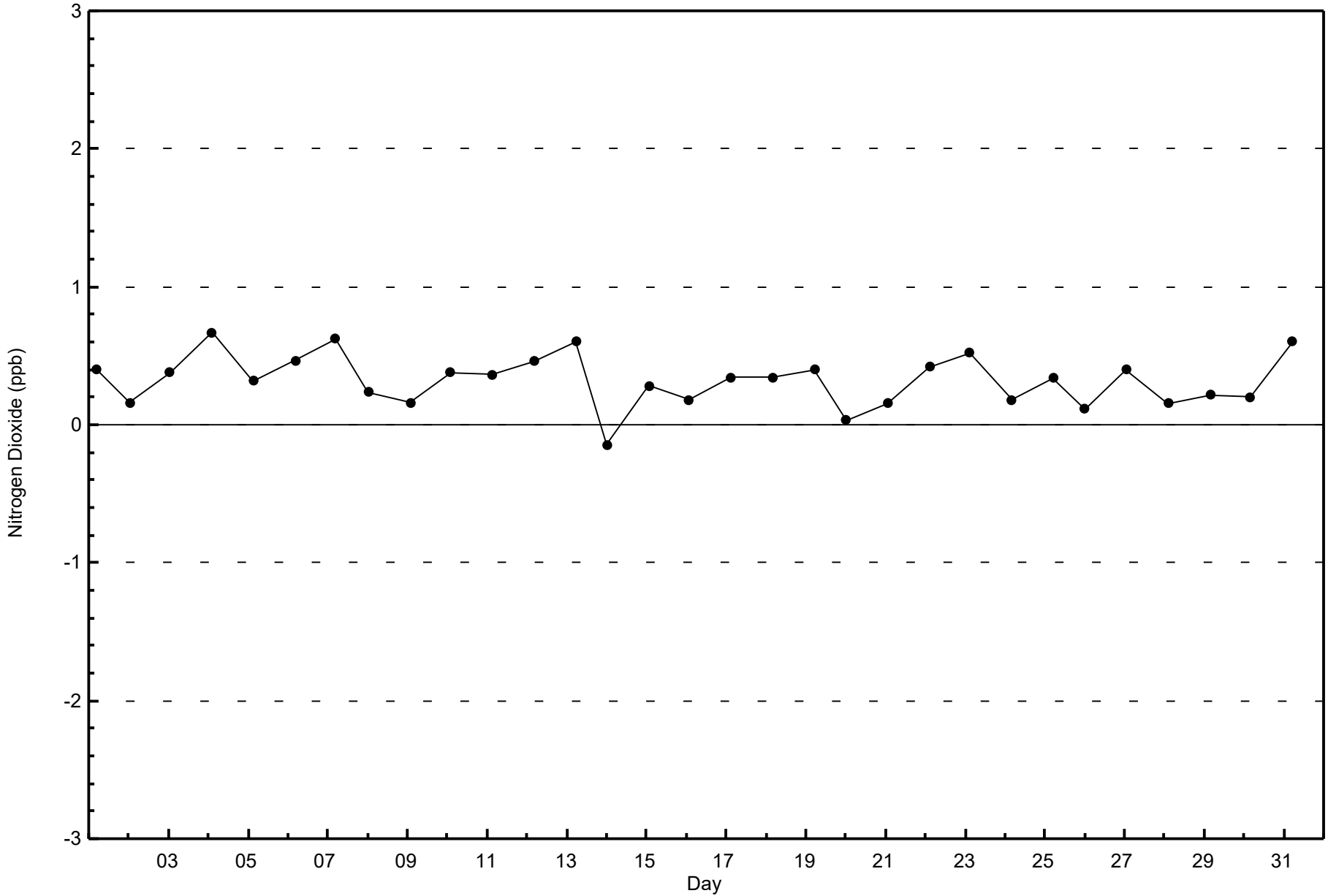
Total Number of Hours: 744

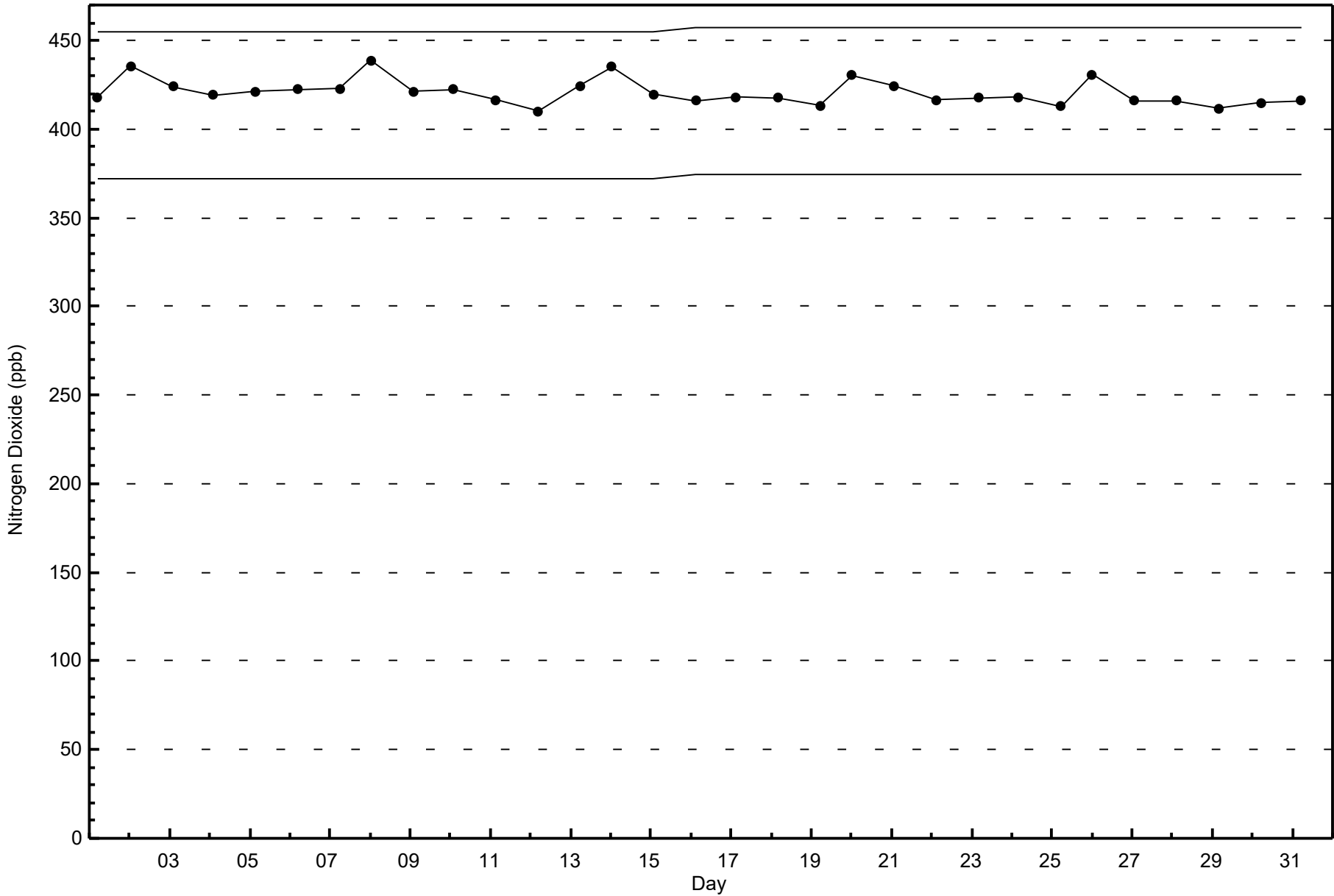


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Dioxide (NO₂) - ppb
Fort McKay - Bertha Ganter





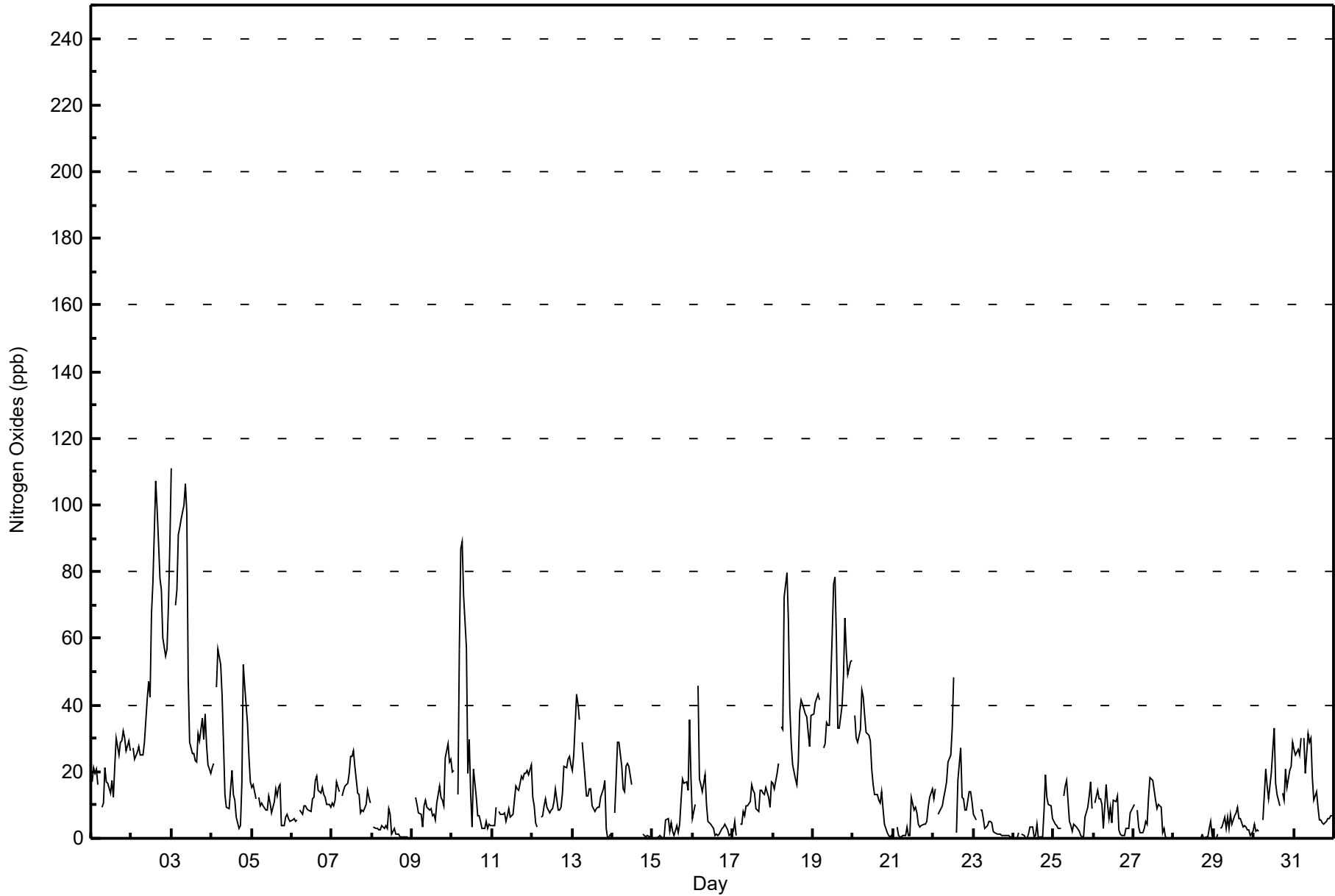




Wood Buffalo Environmental Association
Summary of Hour Averages

Nitrogen Oxides (NO_x) - ppb
Fort McKay - Bertha Ganter - January 2025

Maximum Value: 111.2 ppb on Jan 3 01:00 Maximum Daily Average: 54.8 ppb on Jan 2																						Hours in Service: 744 Hours of Data: 705					
Minimum Value: 0.0 ppb on Jan 9 00:00 Minimum Daily Average: 0.5 ppb on Jan 28 Maximum Diurnal Average: 20.0 ppb at hour 5 Minimum Diurnal Average: 13.0 ppb at hour 16 Monthly Average: 15.86 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.8 Q ₁ = 3.8 Median = 10.2 Q ₃ = 20.3 P ₉₀ = 36.4 P ₉₉ = 93.3																						Hours of Missing Data: 39 Hours of Calibration: 37 Percent Operational Time: 99.7					
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	16.9	21.2	19.5	20.8	15.9	Z	9.3	10.5	21.2	16.8	16.7	13.7	17.3	12.3	21.8	30.2	25.0	28.9	29.4	32.3	30.1	26.3	29.2	26.2	21.4	32.3	
2-Jan	Z	27.0	23.9	26.0	27.5	25.2	25.2	24.9	28.7	41.9	46.9	42.5	67.5	76.7	107.3	98.6	88.7	78.0	74.7	60.0	54.7	56.7	69.8	88.1	54.8	107.3	
3-Jan	111.2	Z	69.9	74.7	91.2	93.4	95.9	99.8	106.4	97.8	47.7	28.7	25.3	25.6	23.4	22.9	31.3	29.2	36.2	29.5	37.2	27.8	22.0	19.6	54.2	111.2	
4-Jan	21.3	22.3	Z	45.3	56.6	52.3	42.6	28.2	13.2	9.4	9.1	14.7	20.1	13.1	11.5	6.5	2.8	3.9	16.6	52.0	45.8	34.1	24.7	16.9	24.5	56.6	
5-Jan	15.4	16.2	11.7	Z	12.4	9.5	10.7	9.7	8.4	8.5	12.5	10.5	7.6	10.9	14.6	12.7	15.2	15.9	3.7	4.0	6.4	7.2	5.9	5.3	10.2	16.2	
6-Jan	5.4	6.1	5.0	5.4	Z	8.3	7.2	9.7	9.8	8.7	8.5	7.9	11.8	12.5	17.3	18.8	14.3	13.5	15.5	13.0	12.4	10.3	10.1	9.4	10.5	18.8	
7-Jan	10.8	9.8	11.5	16.9	13.9	Z	12.8	14.5	15.7	16.5	19.3	24.8	24.5	26.5	21.8	13.7	13.3	7.5	8.6	8.2	10.1	14.6	12.1	10.4	14.7	26.5	
8-Jan	Z	3.4	3.0	2.8	2.7	2.6	3.7	2.8	3.7	2.9	8.9	7.1	1.3	2.9	1.2	1.4	1.2	0.5	0.6	0.4	0.3	0.4	0.1	0.0	2.4	8.9	
9-Jan	0.1	Z	12.3	10.2	7.6	7.3	3.4	9.5	11.6	9.5	8.5	9.0	6.9	7.4	5.5	10.7	15.9	12.5	11.6	9.9	24.3	28.4	22.9	23.9	11.7	28.4	
10-Jan	20.1	20.4	Z	13.0	56.7	87.0	88.8	72.9	57.4	19.6	29.7	13.5	3.3	20.8	12.2	6.8	6.7	5.0	2.9	2.8	5.0	3.1	4.1	4.0	24.2	88.8	
11-Jan	3.8	3.9	9.4	Z	8.1	7.2	7.2	7.6	5.2	6.9	9.0	6.5	7.3	11.5	15.7	14.8	14.5	18.6	17.8	19.5	19.5	20.3	19.1	22.1	12.0	22.1	
12-Jan	12.4	9.5	4.5	3.3	Z	6.2	6.8	9.7	12.0	9.2	7.5	8.4	8.9	10.8	14.9	8.4	8.6	9.4	13.8	21.5	21.3	23.8	24.5	21.9	12.1	24.5	
13-Jan	20.3	25.2	43.3	40.4	35.5	Z	28.6	18.4	12.6	12.8	14.7	14.7	9.9	8.2	9.0	9.3	9.5	12.2	14.7	17.3	2.8	0.0	0.4	1.2	15.7	43.3	
14-Jan	Z	7.7	17.7	28.8	28.6	21.5	15.0	13.8	21.8	22.5	21.7	15.9	Z	Z	Z	Z	Z	Z	1.2	0.7	0.4	0.7	0.3	0.0	--	28.8	
15-Jan	0.1	Z	0.0	0.3	1.0	0.4	0.1	0.5	5.7	5.7	2.3	4.5	2.2	0.9	3.9	1.7	4.4	11.2	17.8	16.7	16.9	14.6	35.7	18.4	7.2	35.7	
16-Jan	6.0	10.1	Z	45.9	17.8	15.9	14.2	18.9	10.2	5.2	4.8	4.4	2.9	0.8	1.4	0.6	1.5	3.0	3.3	4.2	3.4	2.4	1.1	1.7	7.8	45.9	
17-Jan	2.2	5.1	0.8	Z	4.2	4.1	8.1	7.0	9.9	9.8	11.2	16.1	14.3	13.5	8.7	8.2	14.3	14.4	13.7	13.1	15.3	12.2	9.4	16.8	10.1	16.8	
18-Jan	16.7	14.9	19.4	22.4	Z	33.5	32.6	72.4	79.6	65.1	38.8	28.6	22.0	18.0	16.0	23.1	38.0	41.5	40.5	37.5	36.6	31.6	27.7	36.9	34.5	79.6	
19-Jan	37.5	40.7	41.9	43.4	41.4	Z	27.1	28.2	34.9	33.7	33.9	61.1	76.1	78.2	59.3	32.9	33.2	39.7	48.6	66.0	56.0	49.3	52.9	53.5	46.5	78.2	
20-Jan	Z	36.8	29.9	29.0	32.6	44.5	42.3	36.8	31.9	31.0	29.1	20.8	16.1	13.0	13.0	11.5	10.4	14.1	9.0	4.2	1.5	0.7	0.6	0.7	20.0	44.5	
21-Jan	1.5	Z	3.5	0.7	0.6	0.6	0.8	0.8	3.5	1.0	0.9	12.2	8.3	9.4	7.8	4.3	3.3	3.9	4.2	4.3	5.0	9.4	12.2	15.0	4.9	15.0	
22-Jan	11.9	14.9	Z	7.3	8.2	9.6	12.4	14.3	17.1	22.7	25.2	33.1	48.3	Z	1.8	17.2	27.0	12.4	11.7	8.6	8.6	14.1	13.8	11.0	16.0	48.3	
23-Jan	7.3	6.2	5.4	Z	8.6	8.5	5.8	3.1	3.8	5.0	4.9	4.8	2.1	1.7	1.3	1.1	1.1	0.9	0.9	0.7	0.9	0.8	0.4	0.2	3.3	8.6	
24-Jan	0.2	0.1	0.0	1.8	Z	1.3	0.7	0.0	0.0	1.3	3.5	3.5	0.6	0.9	4.3	0.0	0.2	0.6	7.9	18.9	12.3	10.2	9.5	5.8	3.6	18.9	
25-Jan	5.1	4.2	3.7	2.9	3.0	Z	12.5	15.8	17.3	5.3	4.0	2.2	4.4	4.0	3.6	2.0	0.9	0.4	0.5	6.4	9.4	12.9	16.8	9.0	6.4	17.3	
26-Jan	Z	10.6	14.6	12.0	11.7	10.1	3.0	16.1	10.3	6.0	9.4	4.8	11.5	11.2	12.9	2.5	1.4	1.0	0.7	3.0	3.2	3.1	7.5	8.4	7.6	16.1	
27-Jan	10.2	Z	8.3	3.2	1.6	1.5	2.8	5.0	4.4	12.4	18.3	17.4	14.3	11.6	8.9	10.2	9.4	1.7	2.9	0.6	0.0	0.0	0.0	0.0	6.3	18.3	
28-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.5	0.6	3.1	5.2	0.7	0.5	5.2
29-Jan	0.0	0.1	1.3	Z	3.0	3.5	6.2	3.1	6.6	3.1	7.0	4.1	6.6	7.8	9.4	5.8	6.0	3.3	3.8	3.4	2.7	2.4	0.8	2.1	4.0	9.4	
30-Jan	4.3	2.1	2.4	1.9	Z	5.4	13.1	20.7	15.6	12.0	19.9	26.7	33.1	16.5	13.0	9.7	Z	13.4	11.3	21.0	15.2	20.3	21.5	28.8	14.9	33.1	
31-Jan	26.9	25.0	26.8	24.9	29.9	Z	30.1	19.6	31.2	28.8	30.2	18.2	11.5	14.1	9.5	5.4	5.3	4.6	4.3	5.3	5.9	6.0	6.8	6.7	16.4	31.2	
14.1 13.2 15.0 18.6 20.0 18.4 18.4 19.2 19.7 17.1 16.3 15.5 16.2 15.2 15.0 13.0 13.9 13.4 13.8 15.6 15.0 14.4 15.1 15.0																								Diurnal Average			
111.2 40.7 69.9 74.7 91.2 93.4 95.9 99.8 106.4 97.8 47.7 61.1 76.1 78.2 107.3 98.6 88.7 78.0 74.7 66.0 56.0 56.7 69.8 88.1																								Diurnal Maximum			
Z - zerospan C - Calibration M - Maintenance																											





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Fort McKay - Bertha Ganter - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	530	75.18	75.18
21 - 40	116	16.45	91.63
41 - 80	46	6.52	98.16
81 - 159	13	1.84	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 705

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Oxides (NO_x) - ppb
Fort McKay - Bertha Ganter - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	79	60	6	5	4	1	6	36	125	30	19	26	36	44	29	22	528
21 - 40	8	3	1	1	2	0	2	9	39	7	1	9	7	9	8	5	111
11 - 80	5	2	0	0	0	1	0	9	11	2	4	4	2	3	1	0	44
81 - 159	2	0	0	0	0	0	0	1	1	0	4	3	1	0	0	1	13
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	94	65	7	6	6	2	8	55	176	39	28	42	46	56	38	28	696

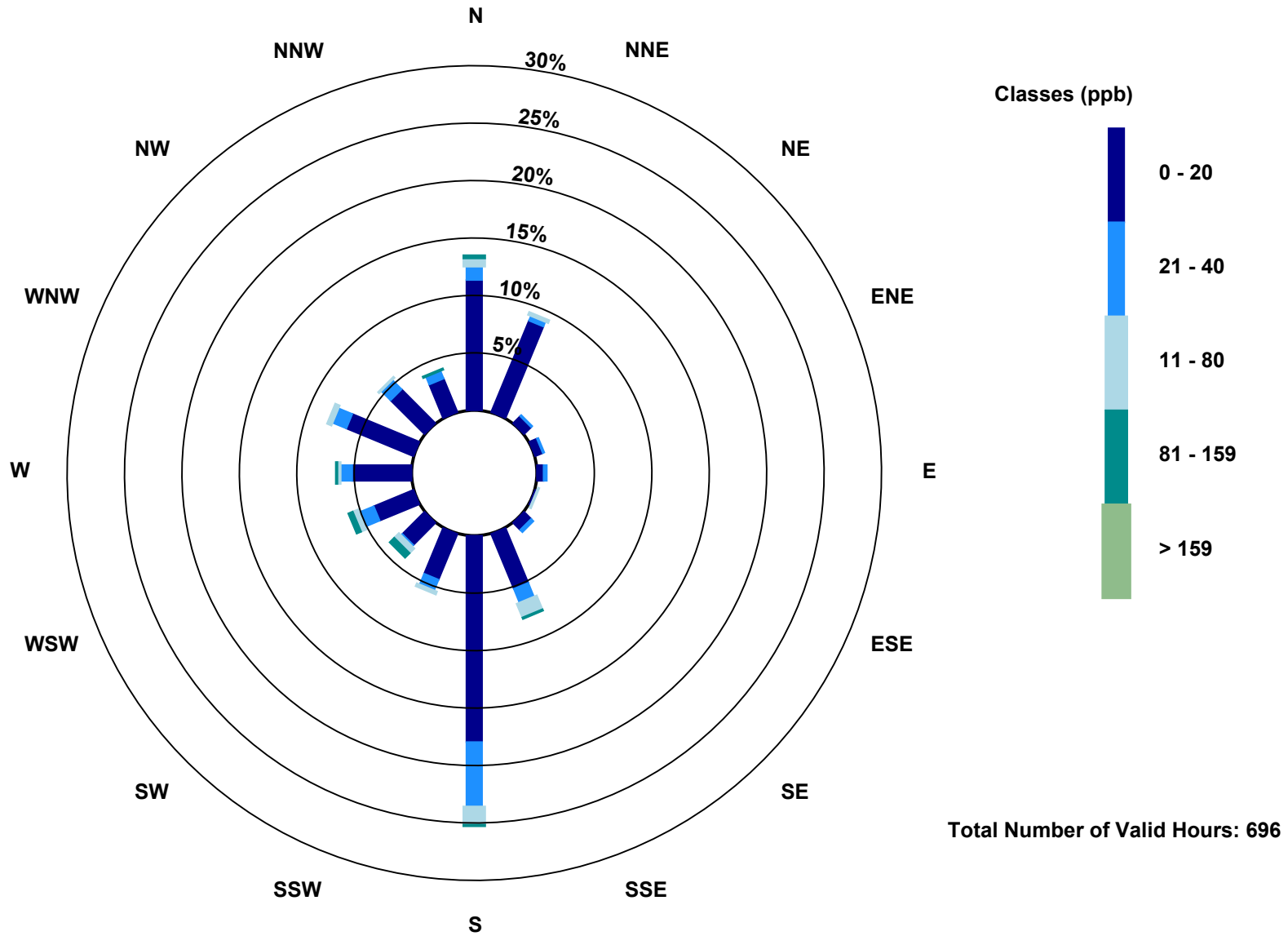
Total Number of Valid Hours: 696

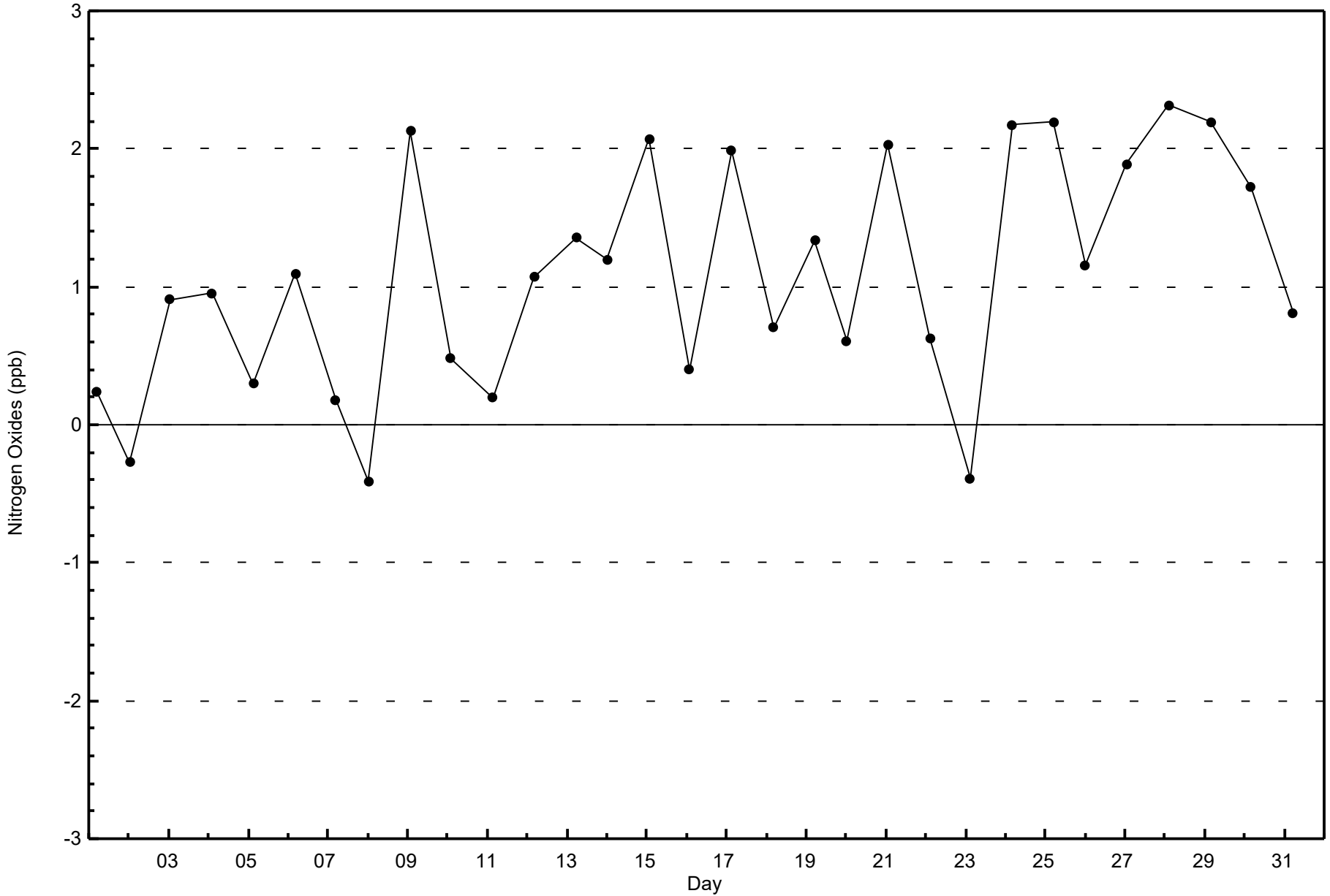
Total Number of Hours: 744

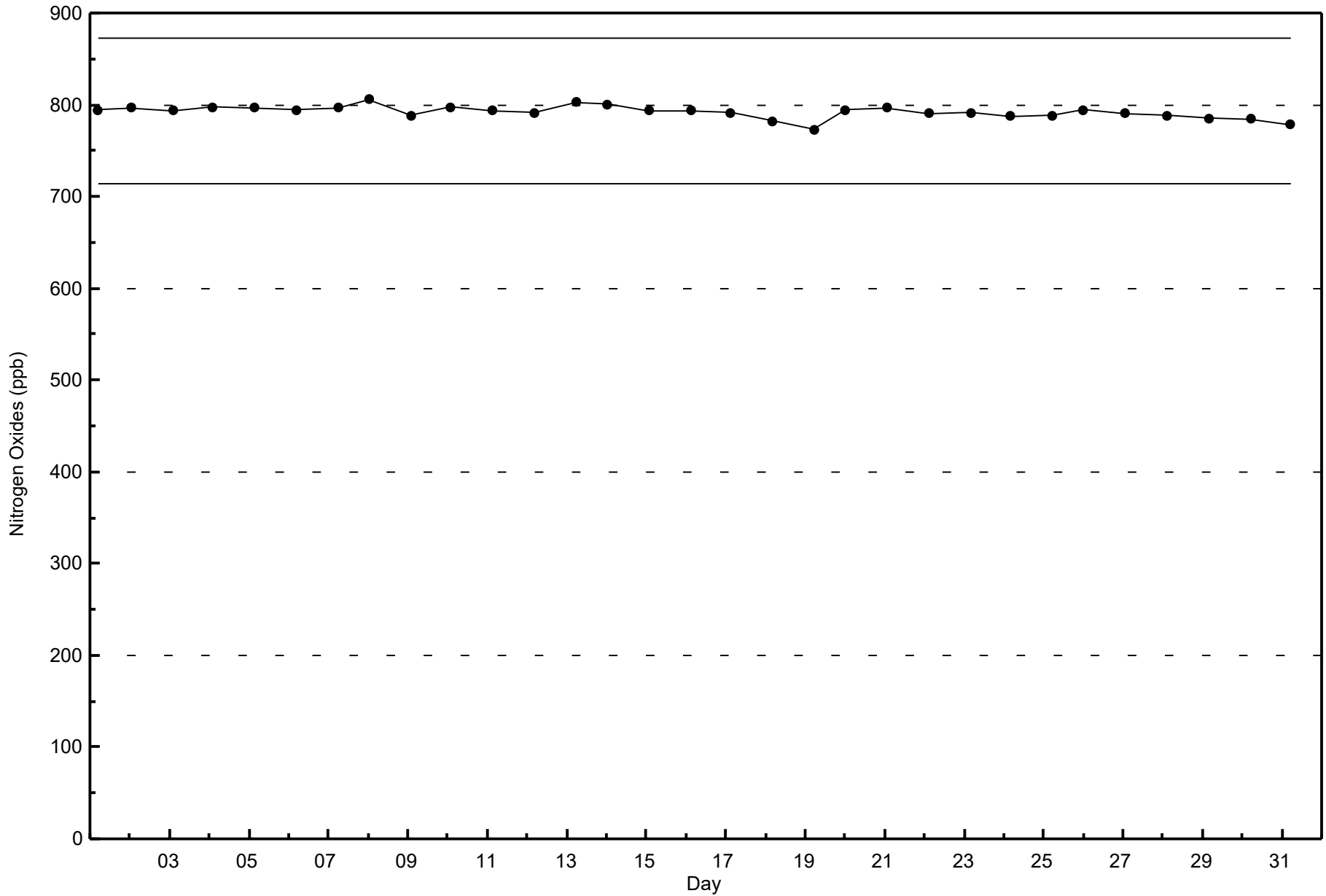


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Oxides (NO_x) - ppb
Fort McKay - Bertha Ganter









Summary of Hour Averages

Fort McKay - Bertha Ganter - January 2025

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 43.7 ppb on Jan 27 21:00	Maximum Daily Average: 37.8 ppb on Jan 28		Hours of Data:	708
Minimum Value: 0.0 ppb on Jan 1 23:00	Minimum Daily Average: 1.7 ppb on Jan 2		Hours of Missing Data:	36
Maximum Diurnal Average: 23.2 ppb at hour 15	Minimum Diurnal Average: 15.8 ppb at hour 3		Hours of Calibration:	35
Monthly Average: 19.15 ppb	Percentiles: P ₁ = 0.1 P ₁₀ = 1.3 Q ₁ = 9.8 Median = 20.3 Q ₃ = 28.9 P ₉₀ = 33.4 P ₉₉ = 41.6		Percent Operational Time:	99.9

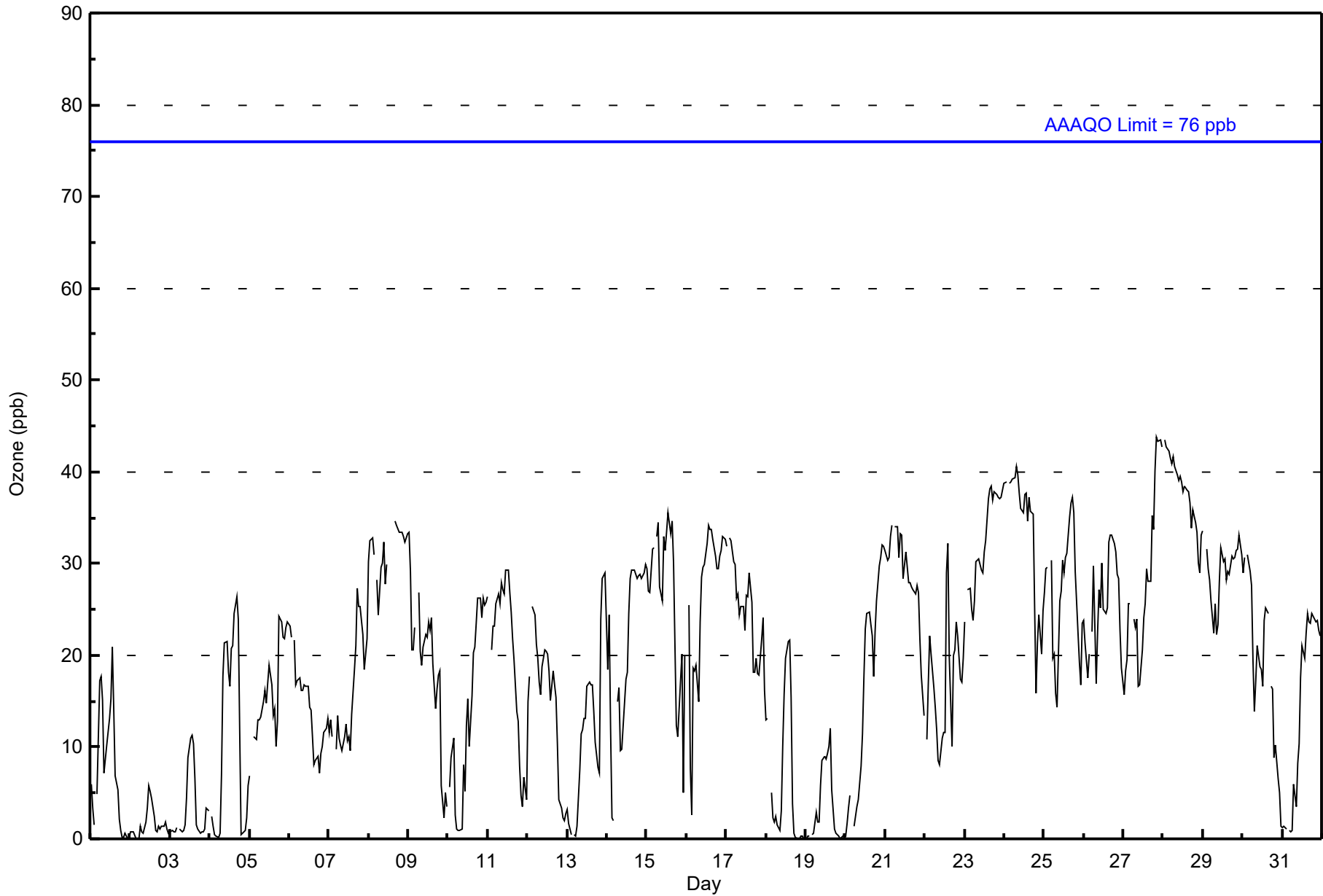
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	6.0	3.3	1.6	Z	4.8	17.2	17.7	15.1	7.2	8.8	10.3	13.2	15.2	20.9	14.1	6.9	5.3	2.1	1.0	0.2	0.1	0.7	0.0	0.1	7.5	20.9																							
2-Jan	0.7	0.8	0.8	0.0	Z	0.0	1.3	0.8	0.7	1.8	3.4	5.7	5.2	4.4	2.4	0.9	0.8	1.4	1.1	1.4	1.3	1.9	1.0	0.6	1.7	5.7																							
3-Jan	0.8	0.9	0.8	0.7	1.2	Z	1.1	0.7	0.9	1.5	4.5	8.9	11.0	11.3	10.4	6.5	1.6	1.1	0.5	0.7	0.8	1.1	3.4	3.1	3.2	11.3																							
4-Jan	Z	2.4	1.3	0.4	0.3	0.1	0.6	7.0	17.7	21.3	21.6	18.2	16.7	20.7	21.1	24.5	26.3	23.9	11.7	0.4	0.6	1.0	2.3	5.8	10.7	26.3																							
5-Jan	6.9	Z	11.1	11.1	10.8	12.9	12.9	13.3	15.0	16.2	14.8	16.9	19.0	16.8	13.4	14.2	10.1	12.7	24.3	23.7	22.0	21.8	23.0	23.7	15.9	24.3																							
6-Jan	23.1	22.0	Z	21.7	16.8	17.3	17.6	16.1	16.2	16.7	16.7	16.6	14.3	14.1	11.2	8.0	8.6	9.1	7.2	9.4	10.0	11.6	12.0	13.1	14.3	23.1																							
7-Jan	11.6	12.9	11.1	Z	9.7	13.5	11.1	10.2	9.6	11.2	12.5	10.7	11.1	9.6	13.5	18.5	21.1	27.4	25.3	25.3	22.3	18.4	20.2	21.8	15.6	27.4																							
8-Jan	30.2	32.5	32.8	30.9	Z	28.1	24.5	29.6	30.0	32.3	27.7	30.0	C	C	C	C	34.6	34.1	33.4	33.3	33.5	32.9	32.4	33.2	31.4	34.6																							
9-Jan	33.4	29.2	20.7	20.6	23.1	Z	26.9	20.5	18.9	20.8	22.3	22.0	23.7	22.8	24.1	19.0	14.2	16.4	17.9	18.3	5.7	2.3	5.0	3.6	18.8	33.4																							
10-Jan	Z	5.7	8.9	11.0	2.6	1.0	0.9	0.9	1.1	8.1	5.2	12.3	15.2	10.0	15.6	20.2	20.9	23.5	26.3	26.3	24.1	26.2	25.5	25.7	13.8	26.3																							
11-Jan	26.4	Z	20.6	23.1	23.3	25.7	26.7	25.7	28.0	27.1	26.7	29.3	29.2	26.8	24.7	21.7	19.6	13.9	12.8	7.9	4.7	3.5	6.7	4.2	19.9	29.3																							
12-Jan	15.0	17.7	Z	25.3	24.3	21.2	19.7	17.1	15.7	18.8	20.7	20.4	20.2	18.3	15.1	18.4	16.8	15.5	10.4	4.3	3.3	2.2	1.9	2.8	15.0	25.3																							
13-Jan	3.3	1.6	0.5	Z	0.4	0.3	1.4	7.4	11.4	11.9	13.2	13.1	16.6	17.0	16.8	16.8	13.8	10.6	7.7	7.1	23.9	28.4	28.6	28.9	12.2	28.9																							
14-Jan	18.4	24.4	12.1	2.4	2.0	Z	14.9	16.4	9.5	9.8	12.3	17.4	18.1	24.5	28.4	29.3	29.3	28.9	28.4	28.6	28.8	28.3	28.9	29.9	20.5	29.9																							
15-Jan	29.4	27.0	26.8	31.6	31.8	Z	33.0	34.4	27.4	25.9	32.9	31.4	33.4	35.5	33.2	34.7	30.0	21.0	12.3	11.1	17.2	20.2	5.0	19.9	26.3	35.5																							
16-Jan	Z	25.5	7.6	2.6	18.6	18.3	19.0	15.0	23.7	28.6	29.5	30.0	32.2	34.1	33.7	33.7	32.7	30.8	29.5	29.4	30.8	31.5	33.0	32.6	26.2	34.1																							
17-Jan	31.9	Z	32.8	32.5	30.2	29.9	26.2	26.7	24.5	25.3	25.3	22.8	26.5	26.4	29.0	25.8	18.2	18.2	19.7	18.0	17.8	21.9	24.1	16.2	24.8	32.8																							
18-Jan	13.0	13.2	Z	5.0	2.3	1.8	2.4	1.6	1.0	3.1	10.0	15.8	19.7	21.4	21.7	15.4	3.9	0.6	0.1	0.0	0.0	0.2	0.3	0.0	6.6	21.7																							
19-Jan	0.0	0.3	0.3	Z	0.4	0.5	2.9	1.9	1.8	5.8	8.5	9.0	8.7	9.3	10.0	12.1	5.4	1.0	0.6	0.5	0.3	0.1	0.3	0.5	3.5	12.1																							
20-Jan	0.3	1.6	3.4	4.7	Z	1.4	2.4	3.5	4.3	7.9	11.5	17.6	22.8	24.5	24.7	23.4	22.1	17.7	22.6	26.0	29.8	30.7	32.0	31.8	15.9	32.0																							
21-Jan	31.5	30.4	30.7	33.0	34.1	Z	34.0	34.0	30.7	33.3	33.1	28.3	31.3	29.7	27.9	27.9	27.4	27.2	26.6	27.7	26.9	21.8	17.8	13.5	28.6	34.1																							
22-Jan	Z	10.8	16.8	22.1	20.1	16.5	14.3	11.9	8.5	8.1	11.0	11.6	11.6	28.9	32.2	19.9	10.1	19.9	20.6	23.6	22.1	17.4	17.1	19.6	17.2	32.2																							
23-Jan	23.7	Z	27.1	27.3	25.0	23.8	25.9	30.3	30.4	29.8	29.2	29.0	31.2	32.6	37.1	38.1	38.4	37.0	37.9	37.6	37.2	37.0	37.2	38.0	32.2	38.4																							
24-Jan	38.7	38.9	Z	38.7	38.9	39.2	39.3	40.6	39.7	37.6	36.0	35.6	37.5	37.6	34.7	37.2	35.7	35.3	35.2	15.9	21.4	24.4	20.1	24.8	33.6	40.6																							
25-Jan	26.9	29.4	29.6	Z	30.3	19.7	20.1	15.9	14.4	26.0	27.1	30.4	28.9	30.6	31.0	35.1	36.6	37.2	35.5	29.2	22.5	19.2	16.7	23.5	26.8	37.2																							
26-Jan	23.8	21.4	17.6	20.1	Z	22.5	29.7	17.0	22.5	27.2	25.1	30.1	24.9	24.6	25.1	32.4	33.1	33.0	32.2	31.3	28.9	28.3	22.7	18.7	25.7	33.1																							
27-Jan	15.7	18.2	19.6	25.6	25.6	Z	23.9	23.0	24.0	16.6	16.8	20.6	24.1	25.6	29.5	28.1	28.1	35.3	33.7	40.1	43.7	43.4	43.4	42.7	28.1	43.7																							
28-Jan	Z	43.5	42.7	42.3	41.5	40.8	41.6	40.5	39.7	39.1	39.5	38.8	37.8	38.5	38.0	37.9	36.6	33.9	35.8	34.5	33.3	30.0	28.9	33.1	37.8	43.5																							
29-Jan	33.6	Z	31.5	29.4	28.3	26.0	22.4	25.7	22.2	23.4	28.1	31.8	30.3	30.6	28.1	29.2	28.9	30.9	30.5	30.7	31.5	31.5	33.1	30.9	29.1	33.6																							
30-Jan	29.0	30.6	Z	31.0	29.2	27.6	19.5	13.9	17.2	21.1	18.8	18.4	16.7	23.8	25.1	24.5	M	16.6	16.3	8.8	10.2	6.5	5.0	1.4	18.7	31.0																							
31-Jan	1.2	1.4	1.1	Z	1.0	0.8	0.9	5.9	3.5	8.3	10.3	17.5	21.1	19.6	22.5	24.6	23.6	23.6	24.5	23.9	23.6	23.9	22.7	22.1	14.2	24.6																							
																								18.2	17.1	15.8	19.7	17.7	16.3	17.3	16.9	16.7	18.5	19.5	21.1	21.8	23.0	23.2	22.8	21.1	20.6	19.7	18.5	18.7	18.3	17.8	18.2	Diurnal Average	
																								38.7	43.5	42.7	42.3	41.5	40.8	41.6	40.6	39.7	39.1	39.5	38.8	37.8	38.5	38.0	38.1	38.4	37.2	37.9	40.1	43.7	43.4	43.4	42.7	Diurnal Maximum	

Z - zerospan C - Calibration M - Maintenance
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 76 ppb



Wood Buffalo Environmental Association
Hourly Averages

Ozone (O₃) - ppb
Fort McKay - Bertha Ganter - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ozone (O₃) - ppb
Fort McKay - Bertha Ganter - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	355	50.14	50.14
21 - 50	353	49.86	100.00
51 - 82	0	0.00	100.00
> 83	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Ozone (O₃) - ppb
Fort McKay - Bertha Ganter - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	41	17	2	1	3	2	4	41	130	15	12	22	15	16	13	14	348
21 - 50	55	47	5	5	2	0	3	15	48	22	17	26	30	38	22	17	352
51 - 82	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	96	64	7	6	5	2	7	56	178	37	29	48	45	54	35	31	700

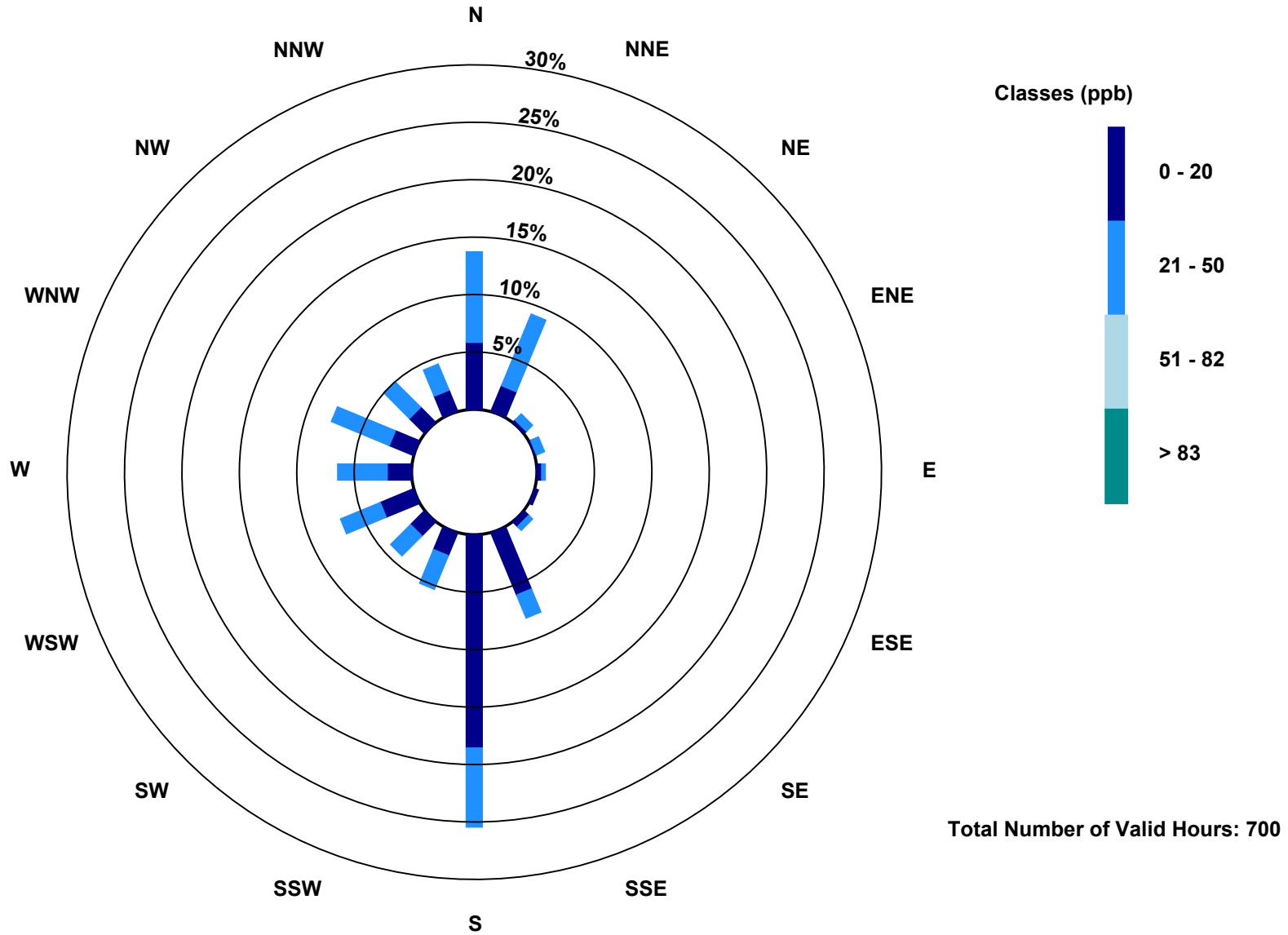
Total Number of Valid Hours: 700

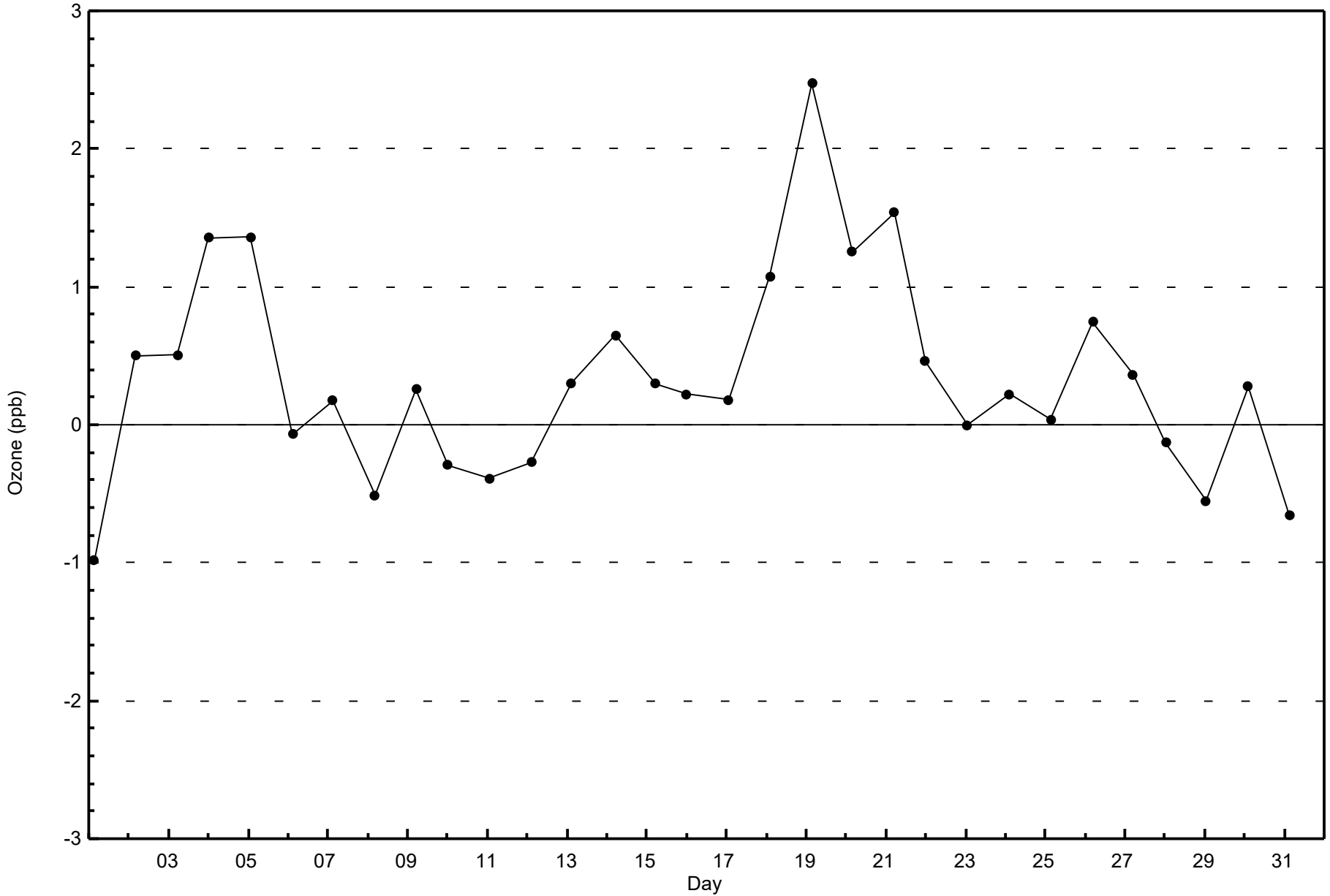
Total Number of Hours: 744

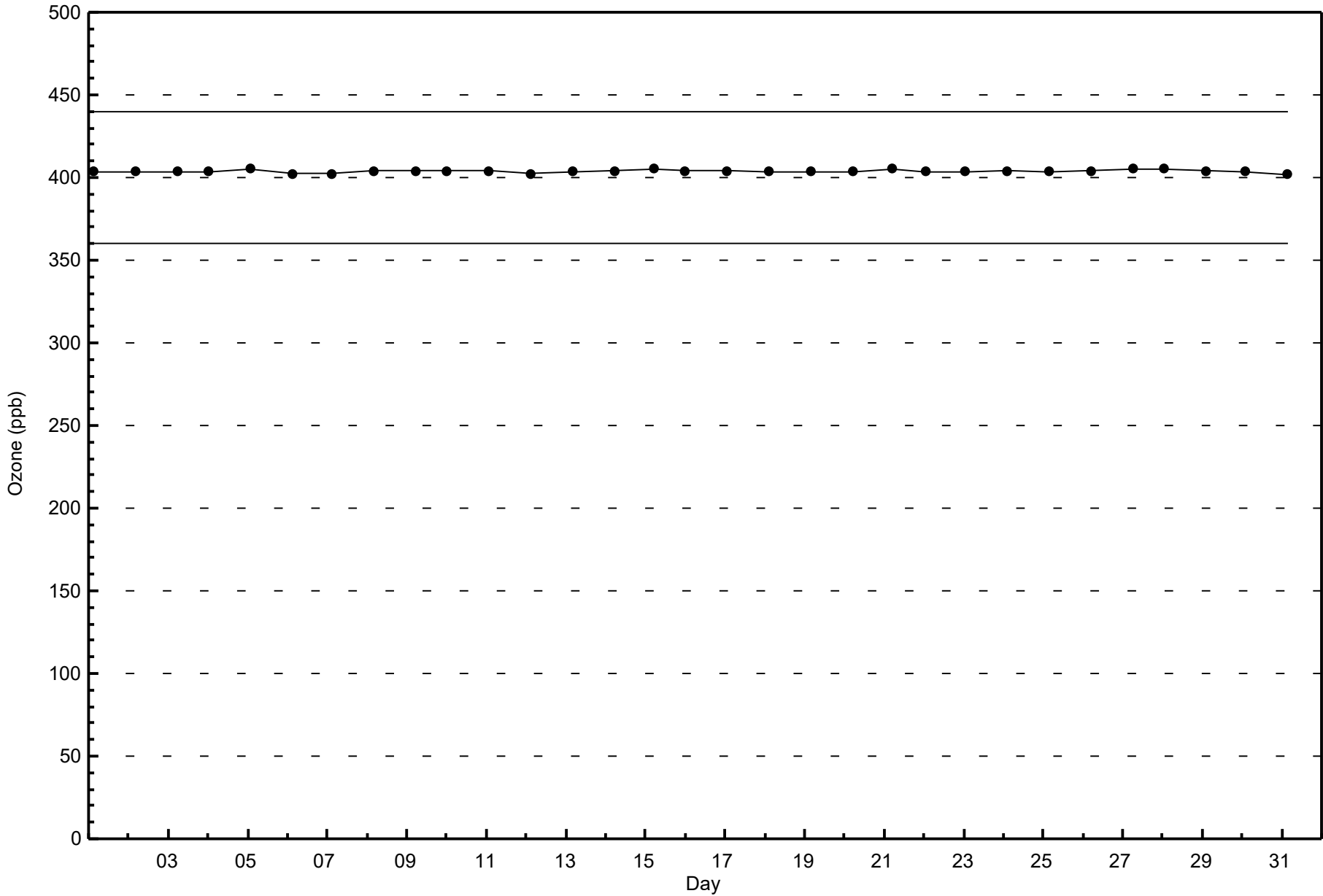


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Ozone (O₃) - ppb
Fort McKay - Bertha Ganter









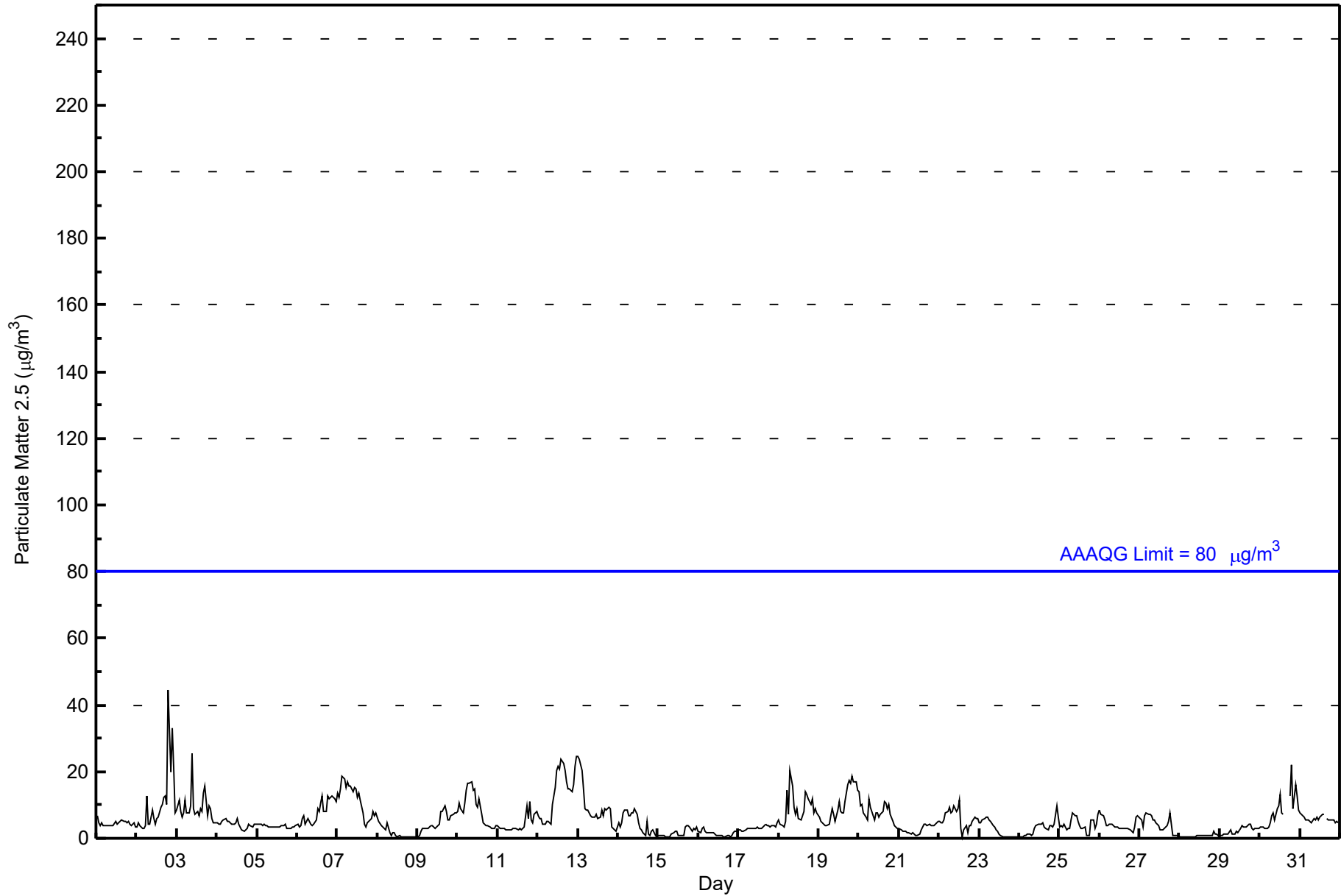
Wood Buffalo Environmental Association

Summary of Hour Averages

Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Fort McKay - Bertha Ganter - January 2025

Number of Exceedences (AAAQO):		1-hr: 0		24-hr: 0		Hours in Service: 744														Daily Average		Daily Maximum																										
Maximum Value: 44.5 µg/m ³ on Jan 2 20:00		Maximum Daily Average: 13.5 µg/m ³ on Jan 12		Hours of Data: 740														Hours of Missing Data: 4		Hours of Calibration: 3																												
Minimum Value: 0.2 µg/m ³ on Jan 22 15:00		Minimum Daily Average: 0.8 µg/m ³ on Jan 28		Hours of Calibration: 3														Percent Operational Time: 99.9																														
Maximum Diurnal Average: 7.3 µg/m ³ at hour 20		Minimum Diurnal Average: 4.9 µg/m ³ at hour 5		Percentiles: P ₁ = 0.4 P ₁₀ = 0.9 Q ₁ = 2.8 Median = 4.2 Q ₃ = 7.4 P ₉₀ = 11.8 P ₉₉ = 22.3																																												
Monthly Average: 5.62 µg/m ³																																																
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Jan	6.7	4.5	3.7	4.7	3.8	4.0	3.9	4.0	4.0	3.9	3.7	5.0	4.3	4.6	4.9	5.5	5.3	4.9	4.8	5.0	4.3	4.0	4.5	3.5	4.5	6.7																						
2-Jan	3.4	4.6	3.7	3.0	3.1	3.8	12.8	4.4	4.2	8.4	6.1	4.3	6.1	6.4	9.3	10.3	12.2	12.7	10.3	44.5	19.9	33.1	21.0	7.6	10.6	44.5																						
3-Jan	8.4	11.6	8.3	6.4	7.5	11.5	7.6	7.6	9.9	25.4	9.1	7.2	8.0	7.0	8.7	7.9	13.7	15.8	6.7	9.7	8.9	5.9	4.7	4.7	9.3	25.4																						
4-Jan	4.6	4.3	4.4	4.9	5.7	5.9	5.1	5.0	4.5	4.4	4.2	4.8	5.8	4.3	3.4	2.6	2.3	2.6	3.1	4.2	3.7	3.5	4.2	4.4	4.3	5.9																						
5-Jan	4.2	4.1	4.0	3.9	4.2	4.0	3.7	3.5	3.5	3.4	3.5	3.5	3.4	3.5	3.6	3.7	3.9	4.0	3.1	3.1	3.1	3.4	3.3	3.8	3.6	4.2																						
6-Jan	4.1	3.5	3.9	5.9	6.6	4.1	5.8	5.2	4.3	3.9	4.3	5.5	8.8	8.2	10.7	12.7	7.8	8.1	12.7	11.9	12.1	12.9	12.1	10.8	7.8	12.9																						
7-Jan	13.5	12.2	15.0	18.5	17.8	15.4	17.1	15.8	15.6	13.9	15.1	14.7	12.5	13.5	11.2	7.5	4.2	3.3	4.6	4.9	5.9	7.9	6.6	7.7	11.4	18.5																						
8-Jan	6.3	5.0	4.0	3.4	2.9	2.7	4.6	1.6	0.8	1.5	1.8	0.9	0.4	0.7	0.4	0.4	0.4	0.3	0.3	0.4	0.5	0.6	0.6	0.5	1.7	6.3																						
9-Jan	0.5	0.7	2.3	2.8	3.0	3.1	3.0	3.3	3.8	3.8	3.2	3.3	4.0	4.2	7.9	8.0	9.9	7.9	5.6	5.6	6.7	7.4	7.6	7.6	4.8	9.9																						
10-Jan	8.0	10.6	8.9	7.4	10.4	14.6	16.7	16.4	17.1	14.3	14.9	10.3	9.3	11.9	7.4	4.7	4.1	3.8	3.6	3.4	3.2	3.1	3.0	3.6	8.8	17.1																						
11-Jan	3.6	3.1	3.0	2.9	2.9	2.7	2.6	2.7	2.7	3.1	3.2	2.8	2.7	2.9	2.7	3.0	3.3	9.6	5.8	11.0	5.5	4.6	7.1	8.0	4.2	11.0																						
12-Jan	6.9	5.8	6.0	4.3	4.2	5.1	5.0	4.6	4.2	10.2	15.5	20.5	21.7	20.6	23.7	22.4	20.4	16.8	15.0	14.8	13.9	15.9	21.8	24.5	13.5	24.5																						
13-Jan	24.4	23.6	20.1	14.8	9.0	8.4	8.6	6.9	6.3	6.3	6.4	7.2	6.1	6.5	8.3	7.0	9.1	8.4	9.2	8.8	3.5	2.8	2.4	2.3	9.0	24.4																						
14-Jan	4.7	3.2	4.6	7.7	8.3	8.3	6.7	6.8	7.6	7.7	8.7	7.0	4.6	3.0	2.5	1.6	1.0	5.0	1.4	0.9	1.9	2.4	0.8	0.8	4.5	8.7																						
15-Jan	1.0	1.0	0.8	0.7	0.5	0.4	0.4	0.5	1.5	1.8	1.9	2.3	0.8	0.7	1.0	0.8	3.3	3.7	3.7	3.6	2.3	2.8	2.4	3.4	1.7	3.7																						
16-Jan	2.2	1.9	3.1	3.3	2.1	1.9	1.5	1.7	1.7	1.5	1.4	1.0	0.9	0.9	1.0	0.5	0.5	0.7	0.7	0.6	1.0	1.6	2.0	2.2	1.5	3.3																						
17-Jan	2.5	2.6	2.2	2.2	2.7	2.8	2.8	2.8	2.8	2.9	3.1	3.2	3.0	2.9	3.0	3.7	4.4	3.9	3.7	3.5	3.7	3.6	3.5	4.9	3.2	4.9																						
18-Jan	5.5	4.1	3.6	3.2	5.0	14.5	7.2	20.5	15.6	9.1	7.3	8.8	6.1	5.6	6.6	8.2	13.8	13.0	11.8	10.2	11.8	7.8	8.8	7.6	9.0	20.5																						
19-Jan	6.3	5.0	4.6	4.0	3.8	3.6	4.4	6.6	9.1	7.4	5.1	8.5	10.9	8.1	7.7	7.7	10.8	16.3	17.2	16.4	18.6	16.9	16.9	14.5	9.6	18.6																						
20-Jan	13.9	9.6	10.0	7.6	6.6	5.4	11.9	9.5	7.9	5.7	7.5	7.5	6.5	7.1	8.0	10.8	10.4	9.0	10.2	7.3	5.1	4.0	3.3	3.0	7.8	13.9																						
21-Jan	2.8	2.5	2.0	2.3	2.2	1.8	1.7	1.5	1.8	1.2	1.0	1.0	1.4	2.4	3.3	4.4	4.4	3.9	4.1	4.0	3.8	3.9	4.2	5.0	2.8	5.0																						
22-Jan	5.0	4.5	4.5	5.5	7.7	8.0	9.3	7.7	8.2	9.8	8.0	9.1	11.4	3.0	0.2	2.7	3.6	1.6	3.9	3.8	4.9	6.4	5.9	5.8	5.9	11.4																						
23-Jan	4.6	4.8	5.5	5.9	6.5	6.5	5.5	4.9	4.0	3.5	2.7	2.2	1.2	0.7	0.4	0.4	0.5	0.4	0.4	0.4	0.5	0.4	0.5	0.5	2.6	6.5																						
24-Jan	0.5	0.5	0.5	0.8	1.1	1.4	1.3	0.9	1.5	3.0	3.9	4.3	4.1	4.3	4.7	3.4	2.9	2.6	3.6	3.8	3.5	4.1	9.7	6.6	3.0	9.7																						
25-Jan	3.2	4.0	3.5	4.4	2.4	2.8	3.1	5.4	7.5	6.8	6.8	4.9	3.7	2.9	2.8	3.3	0.7	0.7	0.7	5.6	5.3	3.1	4.1	7.2	4.0	7.5																						
26-Jan	8.6	7.3	7.0	5.5	3.9	4.0	4.1	4.1	4.0	3.6	3.5	3.5	3.0	3.0	2.9	2.8	3.2	2.8	2.5	2.2	1.9	3.4	6.2	6.7	4.2	8.6																						
27-Jan	5.9	5.7	3.4	6.7	7.7	7.3	7.0	6.7	5.6	5.4	4.6	3.9	2.5	2.5	2.6	3.0	3.7	5.1	7.8	4.1	1.0	1.0	0.9	0.7	4.4	7.8																						
28-Jan	0.5	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.7	0.8	0.9	0.7	0.7	0.8	0.8	1.0	0.9	1.0	2.0	1.3	1.2	1.0	0.8	2.0																						
29-Jan	1.0	1.0	1.2	1.2	1.3	1.2	2.7	1.5	1.2	1.3	2.0	1.8	3.0	3.9	3.5	3.3	3.5	4.2	4.2	3.0	2.7	3.1	2.9	2.8	2.4	4.2																						
30-Jan	3.3	3.4	3.2	3.0	3.2	3.3	4.7	6.8	7.8	5.4	9.0	9.9	13.1	7.4	7.4	C	C	C	12.8	22.1	8.7	16.2	12.6	8.5	8.2	22.1																						
31-Jan	7.6	7.4	6.4	5.5	5.6	5.7	5.0	4.6	5.8	5.5	6.2	5.5	6.2	7.4	7.4	UO	5.9	5.7	5.5	5.5	5.4	4.8	5.0	4.7	5.8	7.6																						
																								5.6	5.2	5.0	4.9	4.9	5.3	5.7	5.6	5.6	6.0	5.6	5.6	5.7	5.2	5.4	5.3	5.7	5.9	5.8	7.3	5.6	6.2	6.1	5.6	Diurnal Average
																								24.4	23.6	20.1	18.5	17.8	15.4	17.1	20.5	17.1	25.4	15.5	20.5	21.7	20.6	23.7	22.4	20.4	16.8	17.2	44.5	19.9	33.1	21.8	24.5	Diurnal Maximum
C - Calibration																								UO - Unstable Operation																								
Alberta Ambient Air Quality Guideline/Objectives: 1-hr 80 µg/m ³ 24-hr 29 µg/m ³																																																





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Fort McKay - Bertha Ganter - January 2025

Concentration Ranges ($\mu\text{g}/\text{m}^3$)	Number of Hours	%	Cumulative %
0 - 5	462	62.43	62.43
6 - 15	241	32.57	95.00
16 - 25	35	4.73	99.73
26 - 80	2	0.27	100.00
> 81.0	0	0.00	100.00

Total Number of Valid Hours: 740

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - μg/m³
Fort McKay - Bertha Ganter - January 2025

Concentration Ranges (μg/m ³)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	85	61	3	6	4	1	5	20	53	23	19	32	41	49	31	24	457
6 - 15	12	6	3	0	2	1	3	34	111	14	9	17	7	5	8	7	239
16 - 25	1	0	0	0	0	0	0	3	21	2	1	1	1	2	1	0	33
26 - 80	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2
> 81.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	98	67	6	6	6	2	8	57	185	39	30	50	49	57	40	31	731

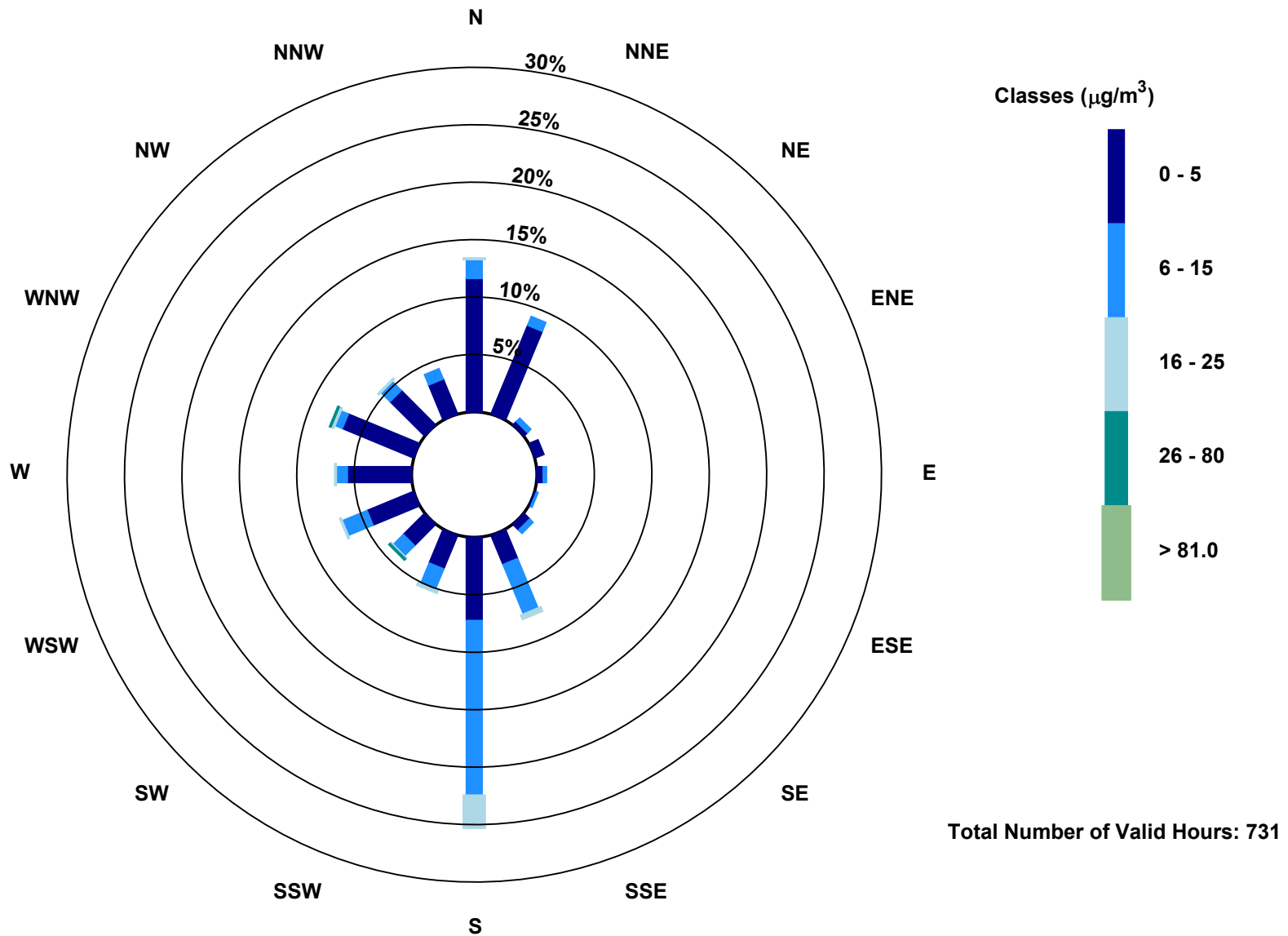
Total Number of Valid Hours: 731

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Fort McKay - Bertha Ganter



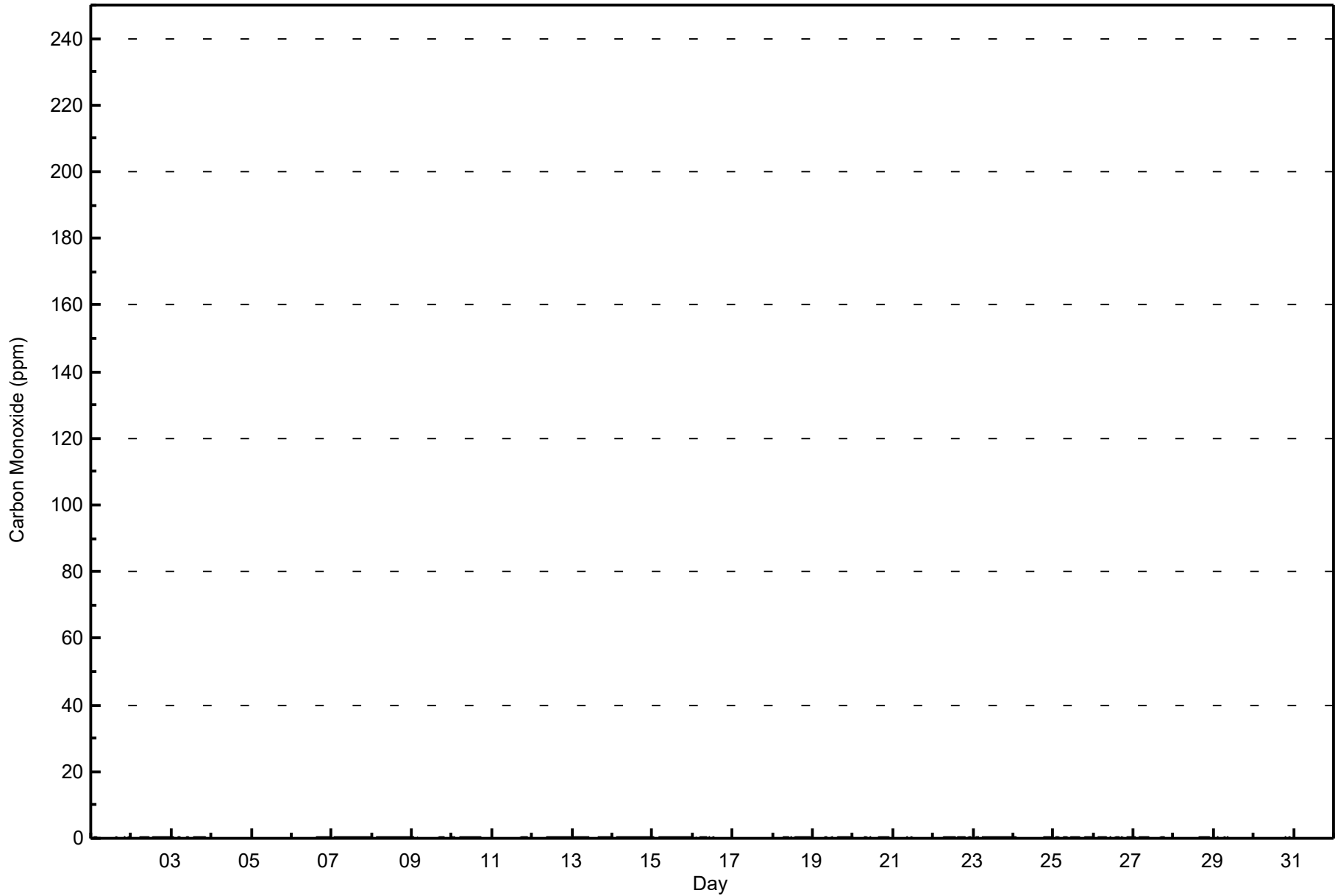


Number of Exceedences (AAAQO):		1-hr: 0	24-hr: 0																		Hours in Service:	744				
Maximum Value: 0.6 ppm on Jan 2 06:00		Maximum Daily Average: 0.3 ppm on Jan 2																	Hours of Data:	708						
Minimum Value: 0.1 ppm on Jan 31 06:00		Minimum Daily Average: 0.1 ppm on Jan 31																	Hours of Missing Data:	36						
Maximum Diurnal Average: 0.2 ppm at hour 18		Minimum Diurnal Average: 0.2 ppm at hour 5																	Hours of Calibration:	35						
Monthly Average: 0.22 ppm		Percentiles: P ₁ = 0.1 P ₁₀ = 0.2 Q ₁ = 0.2 Median = 0.2 Q ₃ = 0.2 P ₉₀ = 0.3 P ₉₉ = 0.4																	Percent Operational Time:	99.9						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	Z	0.2	0.3	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.4
2-Jan	0.1	Z	0.2	0.2	0.1	0.6	0.3	0.4	0.5	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.6
3-Jan	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.4
4-Jan	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
5-Jan	0.2	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
6-Jan	0.2	0.2	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.3
7-Jan	Z	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
8-Jan	0.3	Z	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3
9-Jan	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
10-Jan	0.2	0.2	0.2	Z	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3
11-Jan	0.2	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.4	0.2	0.2	0.2	0.3	0.2	0.4
12-Jan	0.2	0.2	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
13-Jan	Z	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	C	C	C	C	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3
14-Jan	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
15-Jan	0.3	0.2	Z	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3
16-Jan	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
17-Jan	0.2	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
18-Jan	0.2	0.2	0.2	0.2	0.2	Z	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.2	0.3
19-Jan	Z	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.3	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.3	0.3	0.3	0.3	0.4	0.2	0.2	0.4
20-Jan	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3
21-Jan	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
22-Jan	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3
23-Jan	0.2	0.2	0.2	0.2	Z	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3
24-Jan	0.2	0.2	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.3	0.2	0.2	0.4
25-Jan	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.3
26-Jan	0.2	Z	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3
27-Jan	0.3	0.2	Z	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3
28-Jan	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
29-Jan	0.2	0.2	0.3	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3
30-Jan	0.2	0.2	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	M	0.2	0.2	0.3	0.2	0.2	0.2	0.1	0.2	0.3
31-Jan	Z	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
																								Diurnal Average		
																								Diurnal Maximum		
Z - zerospan C - Calibration M - Maintenance																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 13 ppm																										



Wood Buffalo Environmental Association
Hourly Averages

Carbon Monoxide (CO) - ppm
Fort McKay - Bertha Ganter - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Carbon Monoxide (CO) - ppm
Fort McKay - Bertha Ganter - January 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 0.3	699	98.73	98.73
0.4 - 0.5	8	1.13	99.86
0.6 - 0.7	1	0.14	100.00
0.8 - 1.4	0	0.00	100.00
1.5 - 10	0	0.00	100.00
> 10	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Carbon Monoxide (CO) - ppm
Fort McKay - Bertha Ganter - January 2025

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 0.3	94	65	7	6	6	2	7	52	175	34	25	49	47	54	39	31	693
0.4 - 0.5	0	0	0	0	0	0	0	0	3	1	2	1	0	0	0	0	7
0.6 - 0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.8 - 1.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.5 - 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	94	65	7	6	6	2	7	52	178	35	27	50	47	54	39	31	700

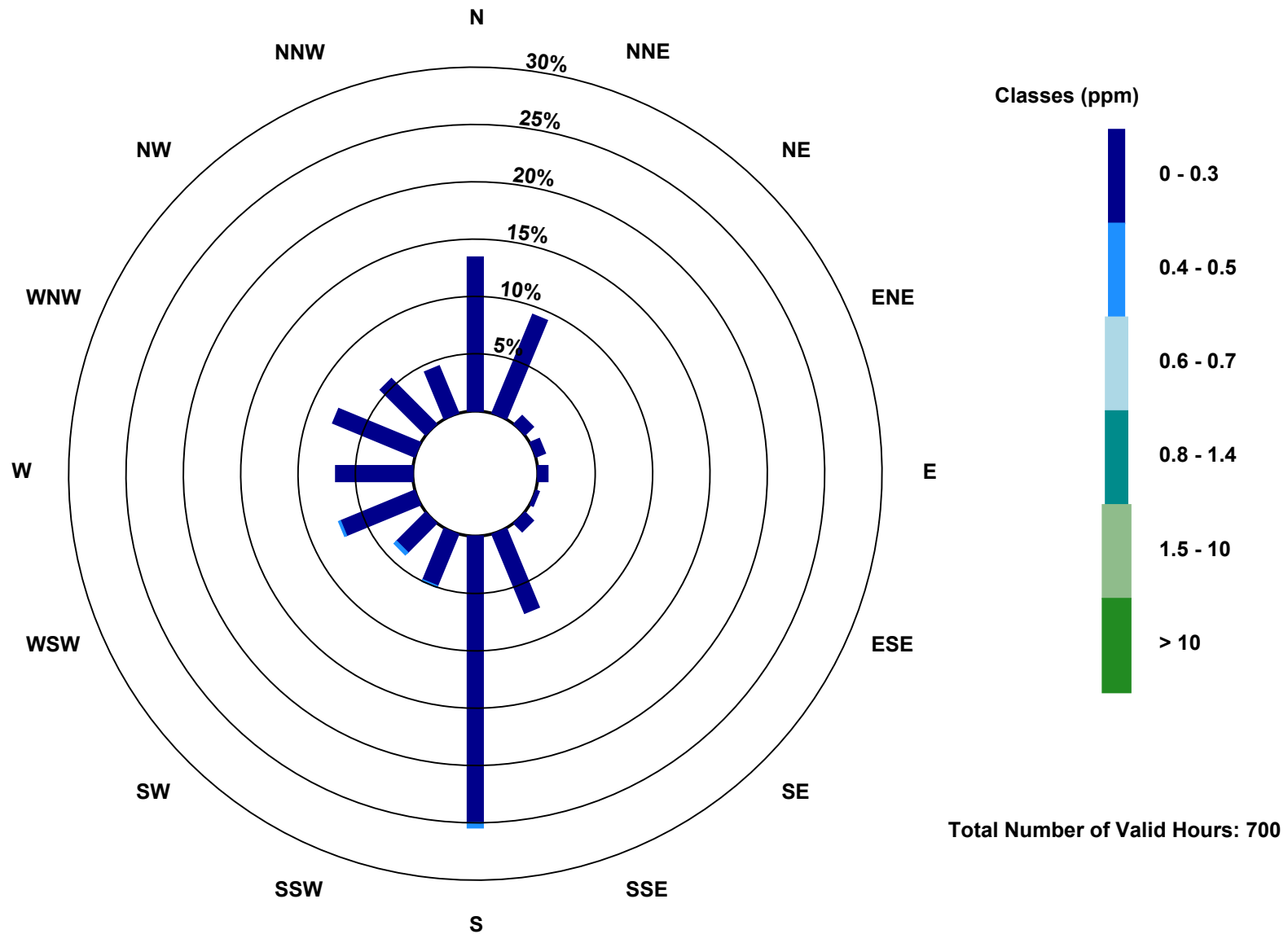
Total Number of Valid Hours: 700

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Carbon Monoxide (CO) - ppm
Fort McKay - Bertha Ganter





Wood Buffalo Environmental Association

Summary of Hour Averages

Carbon Dioxide (CO₂) - ppm

Fort McKay - Bertha Ganter - January 2025

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 475.6 ppm on Jan 7 14:00	Maximum Daily Average: 461.3 ppm on Jan 3		Hours of Data:	708
Minimum Value: 436.7 ppm on Jan 17 09:00	Minimum Daily Average: 438.8 ppm on Jan 17		Hours of Missing Data:	36
Maximum Diurnal Average: 451.8 ppm at hour 9	Minimum Diurnal Average: 448.4 ppm at hour 17		Hours of Calibration:	35
Monthly Average: 449.82 ppm	Percentiles: P ₁ = 438.0 P ₁₀ = 442.4 Q ₁ = 444.9 Median = 448.0 Q ₃ = 454.3 P ₉₀ = 459.2 P ₉₉ = 468.1		Percent Operational Time:	99.9

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	Z	452.5	454.3	459.8	450.5	444.1	443.1	444.5	451.7	449.8	450.4	447.9	446.7	444.6	444.5	450.2	446.8	448.4	451.1	453.7	452.4	452.1	458.3	458.8	450.3	459.8
2-Jan	453.2	Z	457.2	454.2	452.7	460.5	462.8	460.4	464.9	470.0	464.7	457.3	458.6	457.1	457.5	458.9	458.8	460.2	462.5	458.2	459.4	462.1	463.3	463.6	459.9	470.0
3-Jan	466.2	464.7	Z	464.0	468.1	467.0	466.1	465.4	465.3	468.1	461.5	457.9	457.1	455.0	453.9	456.0	463.5	461.9	464.8	462.0	458.8	455.8	452.2	454.4	461.3	468.1
4-Jan	454.7	454.6	452.5	Z	452.7	455.0	453.6	452.1	446.5	445.9	443.1	445.4	446.3	444.8	443.1	441.9	441.4	442.1	444.2	448.9	448.1	447.2	442.2	452.3	448.2	455.0
5-Jan	450.6	448.8	448.6	446.4	Z	444.2	443.9	443.3	444.4	443.3	442.9	444.2	445.5	444.7	445.2	444.9	441.5	440.0	440.2	442.1	442.4	440.1	439.8	443.9	443.9	450.6
6-Jan	440.3	440.5	441.1	442.0	443.9	Z	447.2	448.4	447.5	447.4	448.6	448.5	452.3	453.3	464.2	466.5	459.1	458.8	463.9	460.2	458.5	453.9	453.1	452.2	451.8	466.5
7-Jan	Z	453.9	455.3	459.4	458.0	456.0	457.2	457.1	457.2	457.9	461.1	469.9	473.2	475.6	465.6	454.2	448.6	447.0	448.1	448.4	450.4	453.2	450.5	450.4	456.9	475.6
8-Jan	447.2	Z	445.5	445.2	445.4	445.3	447.9	445.9	448.0	445.6	445.4	444.1	443.0	443.0	442.8	442.4	440.9	440.7	440.6	440.6	440.5	440.8	440.5	440.3	443.5	448.0
9-Jan	440.6	441.2	Z	442.9	441.8	442.5	443.1	442.3	442.2	443.3	443.0	444.8	446.3	446.4	446.8	450.5	454.3	452.0	449.1	449.4	450.4	451.7	451.6	453.2	446.5	454.3
10-Jan	454.3	456.5	454.8	Z	461.5	465.8	467.0	467.0	466.5	457.2	458.0	455.4	454.4	457.0	455.5	452.8	453.8	450.4	448.6	448.1	448.2	448.1	449.3	447.6	455.6	467.0
11-Jan	446.3	445.9	445.6	444.9	Z	443.8	444.1	444.0	442.0	441.8	441.3	440.8	441.6	442.4	442.2	442.5	444.8	453.1	453.4	458.3	457.7	459.5	453.9	460.8	447.4	460.8
12-Jan	449.1	448.2	448.1	447.1	447.9	Z	451.4	453.4	456.6	454.4	451.1	452.0	453.2	458.4	470.3	459.2	457.4	456.8	457.8	458.6	459.7	459.1	460.2	459.3	455.2	470.3
13-Jan	Z	461.7	461.9	461.1	458.8	458.5	457.6	455.9	456.0	456.2	456.3	461.5	457.5	455.7	456.5	456.6	455.2	457.6	459.2	460.9	448.2	445.4	445.5	445.3	456.0	461.9
14-Jan	453.8	Z	451.9	457.9	457.8	454.3	452.5	452.9	460.0	460.9	460.6	457.8	451.9	447.8	446.1	445.1	444.8	445.9	444.3	444.1	444.3	444.9	444.4	444.0	450.8	460.9
15-Jan	444.2	444.3	Z	443.6	444.0	443.3	442.6	442.6	445.8	447.3	444.4	444.9	442.6	443.5	444.5	443.9	447.4	450.4	451.4	452.6	447.8	447.8	447.7	445.5	445.7	452.6
16-Jan	444.0	445.2	447.4	Z	451.3	450.6	450.7	452.7	449.5	447.7	447.3	446.6	446.8	446.5	445.5	445.3	445.5	446.9	444.2	443.1	442.3	442.1	441.0	441.4	446.2	452.7
17-Jan	440.9	440.1	439.5	439.4	Z	439.2	440.0	437.9	436.7	437.2	438.0	439.9	C	C	C	C	438.0	440.3	437.6	437.8	439.2	438.2	437.1	439.9	438.8	440.9
18-Jan	444.9	444.4	445.7	448.8	451.6	Z	454.0	462.4	461.5	459.9	453.3	449.4	445.5	442.5	443.1	445.7	450.3	450.9	452.3	454.9	458.6	454.7	455.2	455.5	451.5	462.4
19-Jan	Z	457.1	456.6	458.0	456.7	451.3	454.2	457.7	459.8	456.5	459.1	466.1	455.2	452.3	449.3	448.2	449.2	458.6	459.0	462.7	467.2	468.4	467.9	462.5	458.0	468.4
20-Jan	460.8	Z	456.8	456.3	457.6	458.8	459.0	463.9	465.8	456.7	463.7	457.5	455.1	454.2	456.7	453.8	453.4	452.8	453.6	451.5	448.4	447.8	447.4	447.1	455.6	465.8
21-Jan	447.1	447.0	Z	446.6	446.9	446.9	447.0	447.0	448.7	446.4	446.4	447.7	449.7	446.6	446.4	447.3	446.5	445.4	444.7	443.9	445.0	445.2	445.7	449.7	446.7	449.7
22-Jan	451.2	448.9	449.4	Z	446.1	447.8	449.6	450.3	451.6	452.5	452.8	454.7	456.9	444.6	440.0	441.7	443.1	441.7	442.5	443.5	445.1	449.1	449.8	449.3	447.9	456.9
23-Jan	447.8	449.5	449.1	449.4	Z	447.4	446.7	445.0	445.6	445.0	445.2	447.0	446.7	446.4	445.4	444.9	445.9	445.2	443.3	443.4	443.8	444.1	443.7	443.5	445.8	449.5
24-Jan	443.5	443.5	443.4	443.1	442.7	Z	442.2	441.1	441.2	442.4	442.5	442.4	441.8	442.3	442.6	440.9	441.6	441.8	446.1	447.2	447.1	450.9	450.3	448.0	443.9	450.9
25-Jan	Z	445.4	445.7	443.6	443.7	446.4	446.9	447.7	447.9	445.6	445.4	444.8	445.3	444.7	445.6	444.7	443.3	442.8	443.1	449.9	452.4	449.1	449.3	447.3	446.1	452.4
26-Jan	447.7	Z	449.9	448.9	449.3	448.6	445.9	450.2	449.4	447.0	447.4	446.6	448.4	449.6	449.1	446.5	446.0	446.0	445.7	448.0	448.7	448.5	452.4	455.5	448.5	455.5
27-Jan	458.0	453.3	Z	448.2	448.2	448.0	450.2	451.8	451.4	457.1	452.4	452.1	450.2	449.7	448.7	449.4	449.4	447.8	449.5	446.2	444.3	444.0	443.7	443.5	449.4	458.0
28-Jan	443.3	443.3	443.3	Z	443.5	443.8	444.1	444.4	444.5	444.7	444.9	445.2	445.5	445.9	445.4	445.1	445.0	445.3	445.1	446.1	447.4	448.0	447.8	447.2	445.2	448.0
29-Jan	446.9	447.7	450.1	451.0	Z	453.3	458.1	453.5	458.6	455.0	447.5	446.8	447.5	447.7	447.9	447.7	447.3	445.8	445.6	446.1	445.5	445.1	444.8	444.8	448.9	458.6
30-Jan	444.6	444.4	444.7	443.8	444.3	Z	445.0	445.4	447.8	447.5	447.3	448.0	449.6	451.4	448.3	445.0	M	448.0	446.3	454.1	447.7	451.5	450.0	448.9	447.4	454.1
31-Jan	Z	454.3	458.4	453.7	456.3	456.0	455.2	449.9	449.4	448.9	449.5	447.0	446.2	447.1	446.2	445.0	445.3	446.3	446.5	447.2	446.7	447.4	448.6	449.2	449.6	458.4

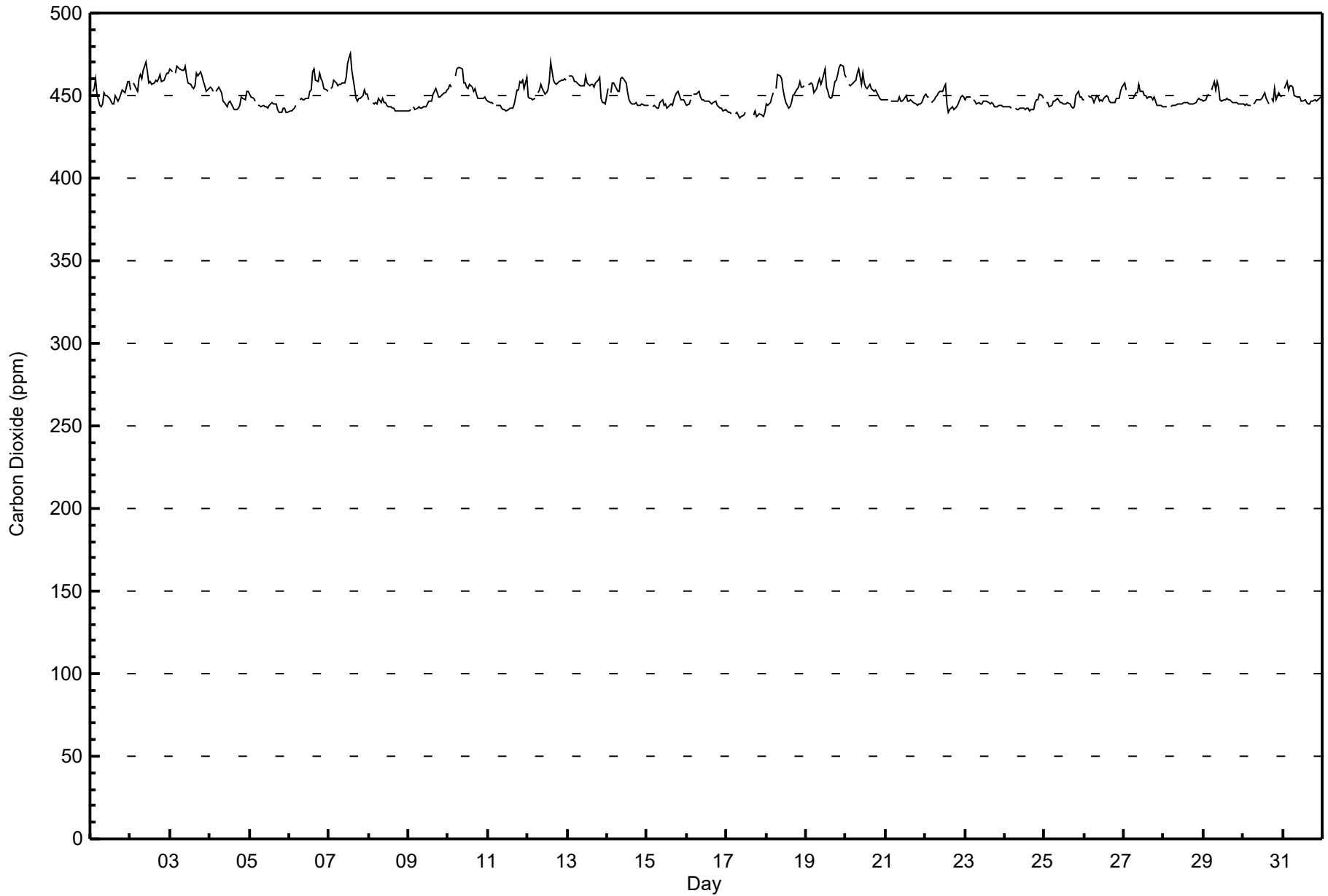
448.8	449.1	449.9	450.0	450.8	450.7	450.6	450.8	451.8	450.9	450.2	450.1	450.0	449.4	449.3	448.6	448.4	448.8	449.2	450.0	449.5	449.6	449.6	449.7	449.7	449.7	449.7	Diurnal Average
466.2	464.7	461.9	464.0	468.1	467.0	467.0	467.0	466.5	470.0	464.7	469.9	473.2	475.6	470.3	466.5	463.5	461.9	464.8	462.7	467.2	468.4	467.9	463.6	463.6	463.6	463.6	Diurnal Maximum

Z - zerospan C - Calibration M - Maintenance



Wood Buffalo Environmental Association
Hourly Averages

Carbon Dioxide (CO₂) - ppm
Fort McKay - Bertha Ganter - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Carbon Dioxide (CO₂) - ppm
Fort McKay - Bertha Ganter - January 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
400 - 420	0	0.00	0.00
420 - 440	26	3.67	3.67
440 - 460	626	88.42	92.09
460 - 480	56	7.91	100.00
480 - 500	0	0.00	100.00
> 500	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Carbon Dioxide (CO₂) - ppm
Fort McKay - Bertha Ganter - January 2025

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
400 - 420	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
420 - 440	10	3	0	2	0	0	1	1	1	2	0	0	0	3	0	3	26
440 - 460	79	60	7	4	6	2	6	50	153	26	22	44	45	49	39	28	620
460 - 480	3	0	0	0	0	0	0	3	26	7	5	6	2	2	0	0	54
480 - 500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	92	63	7	6	6	2	7	54	180	35	27	50	47	54	39	31	700

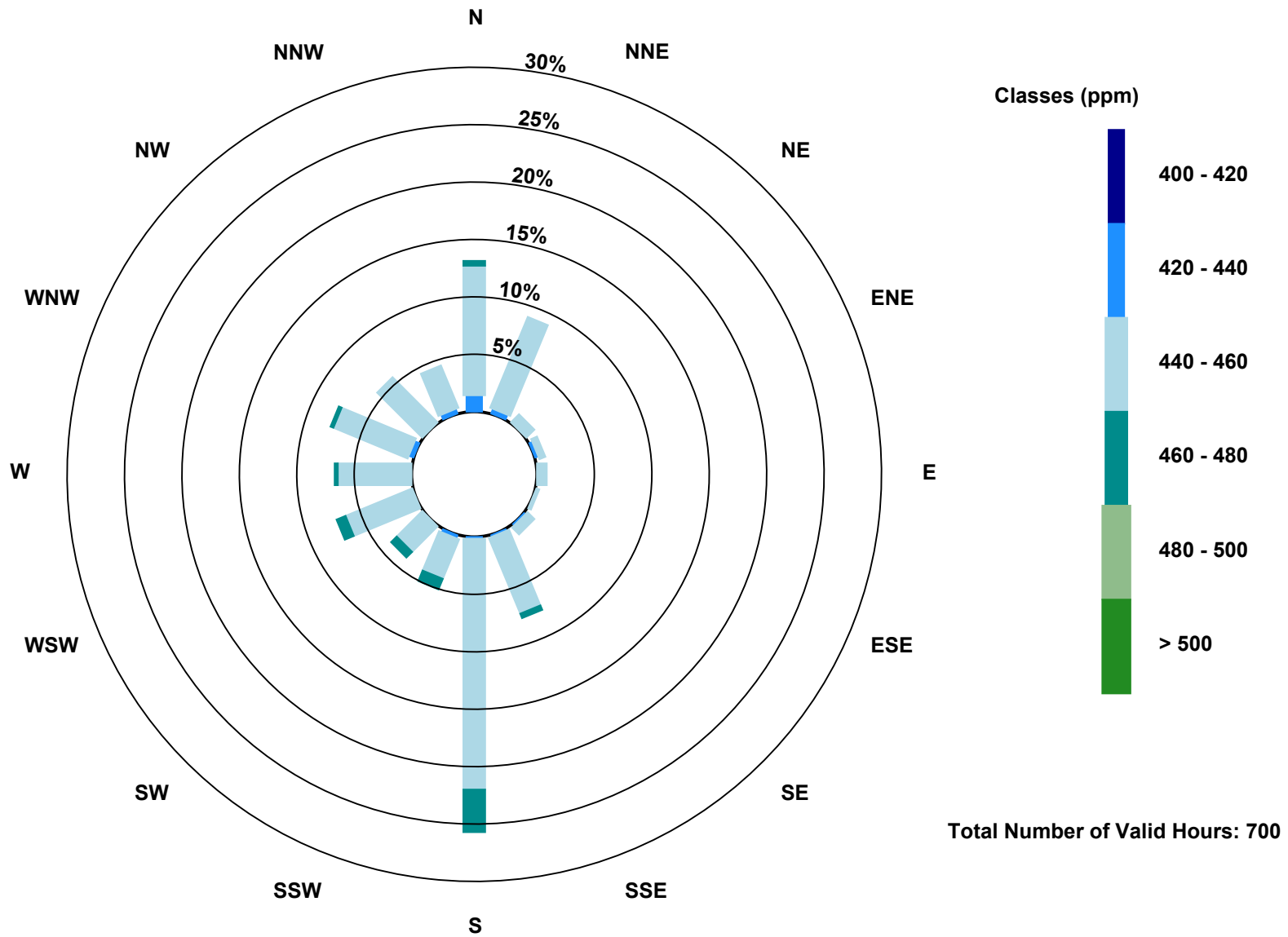
Total Number of Valid Hours: 700

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Carbon Dioxide (CO₂) - ppm
Fort McKay - Bertha Ganter





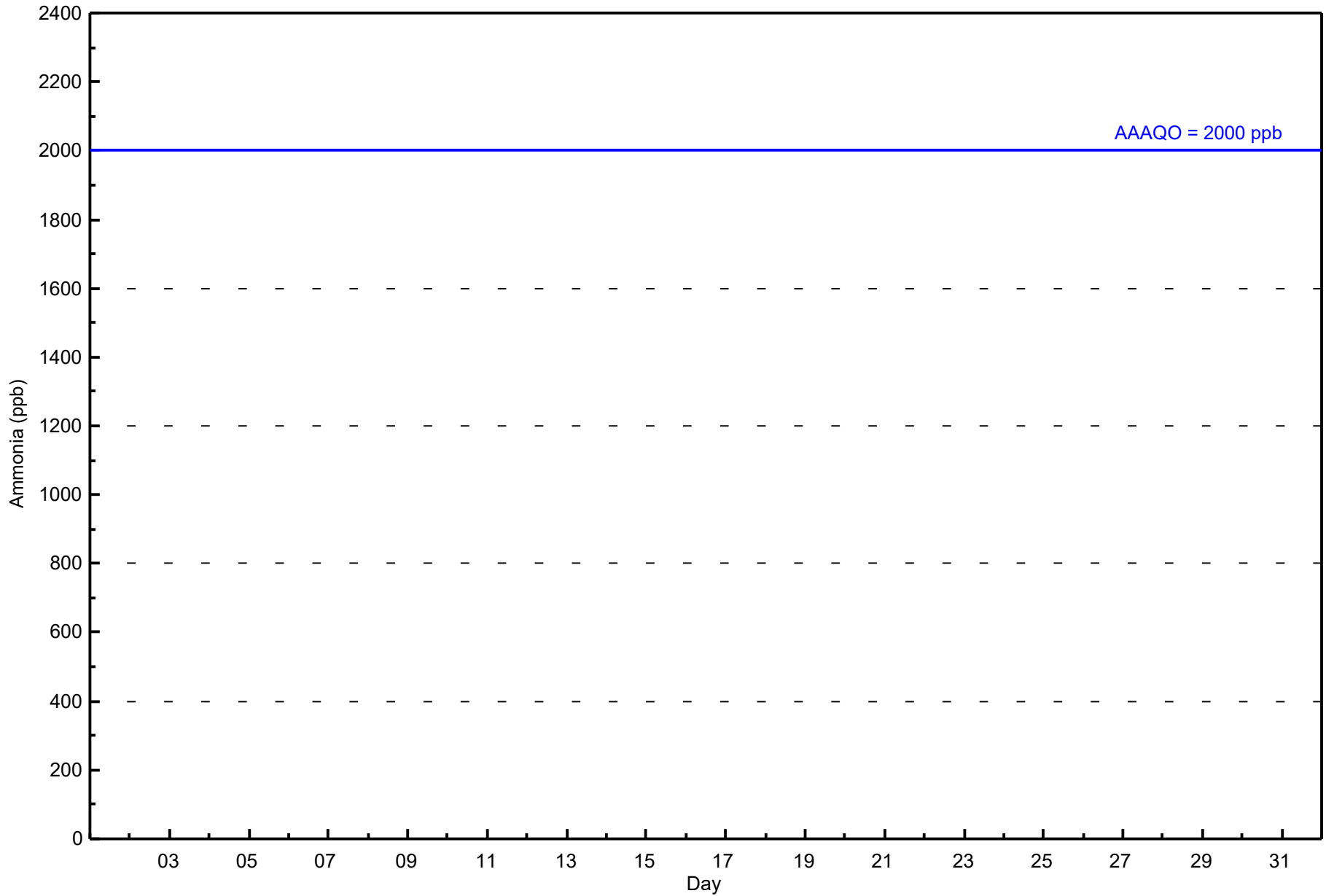
Number of Exceedences (AAAQO): 1-hr: 0		Maximum Value: 0.0 ppb on Jan 1 01:00		Maximum Daily Average: 0.0 ppb on Jan 1		Hours in Service: 744		Hours of Data: 418																					
Minimum Value: 0.0 ppb on Jan 1 01:00		Minimum Daily Average: 0.0 ppb on Jan 1		Minimum Diurnal Average: 0.0 ppb at hour 1		Hours of Missing Data: 326		Hours of Calibration: 41																					
Maximum Diurnal Average: 0.0 ppb at hour 1		Minimum Diurnal Average: 0.0 ppb at hour 1		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.0 P ₉₉ = 0.0		Percent Operational Time: 61.7																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
1-Jan	0.0	0.0	0.0	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2-Jan	0.0	0.0	0.0	0.0	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3-Jan	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4-Jan	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5-Jan	0.0	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Jan	0.0	0.0	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Jan	0.0	0.0	0.0	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Jan	0.0	0.0	0.0	0.0	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9-Jan	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Jan	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11-Jan	0.0	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12-Jan	0.0	0.0	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13-Jan	0.0	0.0	0.0	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15-Jan	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C	C	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16-Jan	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C	C	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17-Jan	0.0	0.0	Z	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF
18-Jan	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF
19-Jan	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF
20-Jan	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF
21-Jan	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF
22-Jan	AF	AF	AF	AF	AF	AF	AF	AF	AF	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
23-Jan	M	M	M	M	M	M	M	M	M	M	M	M	C	C	C	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24-Jan	0.0	0.0	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25-Jan	0.0	0.0	0.0	0.0	Z	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO
26-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO
27-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO
28-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
29-Jan	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
30-Jan	0.0	0.0	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31-Jan	0.0	0.0	0.0	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
																								Diurnal Average		Diurnal Maximum			
																								0.0		0.0			
																								0.0		0.0			

Z - zerospan C - Calibration M - Maintenance AF - Analyzer Failure UO - Unstable Operation RE - Recovery
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 2000 ppb



Wood Buffalo Environmental Association
Hourly Averages

Ammonia (NH₃) - ppb
Fort McKay - Bertha Ganter - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ammonia (NH₃) - ppb
Fort McKay - Bertha Ganter - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 5	418	100.00	100.00
6 - 10	0	0.00	100.00
11 - 15	0	0.00	100.00
16 - 20	0	0.00	100.00
21 - 25	0	0.00	100.00
> 26	0	0.00	100.00

Total Number of Valid Hours: 418

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Ammonia (NH₃) - ppb
Fort McKay - Bertha Ganter - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	73	38	7	6	6	2	8	33	102	13	10	25	28	26	19	16	412
6 - 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 - 15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16 - 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 - 25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	73	38	7	6	6	2	8	33	102	13	10	25	28	26	19	16	412

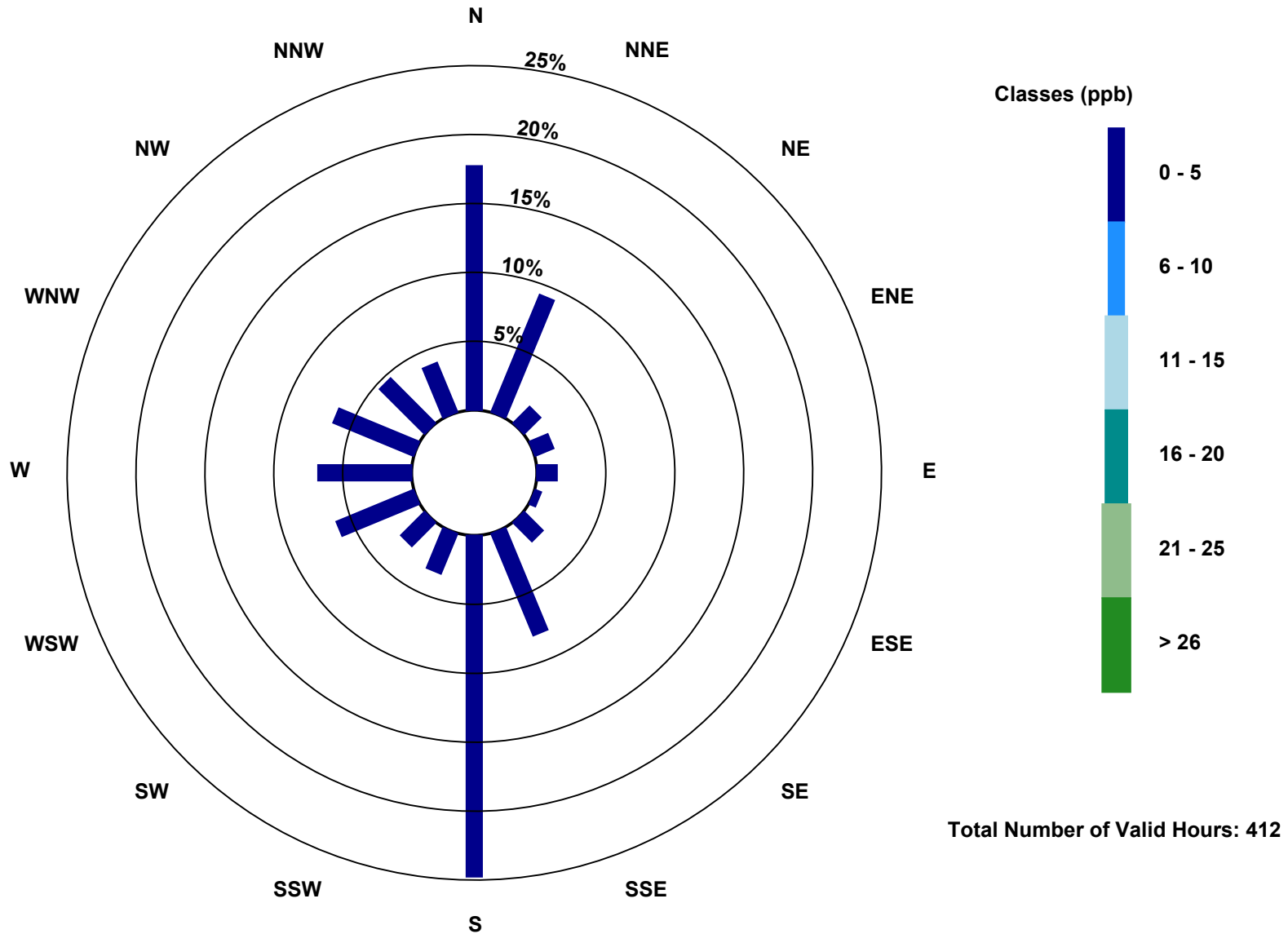
Total Number of Valid Hours: 412

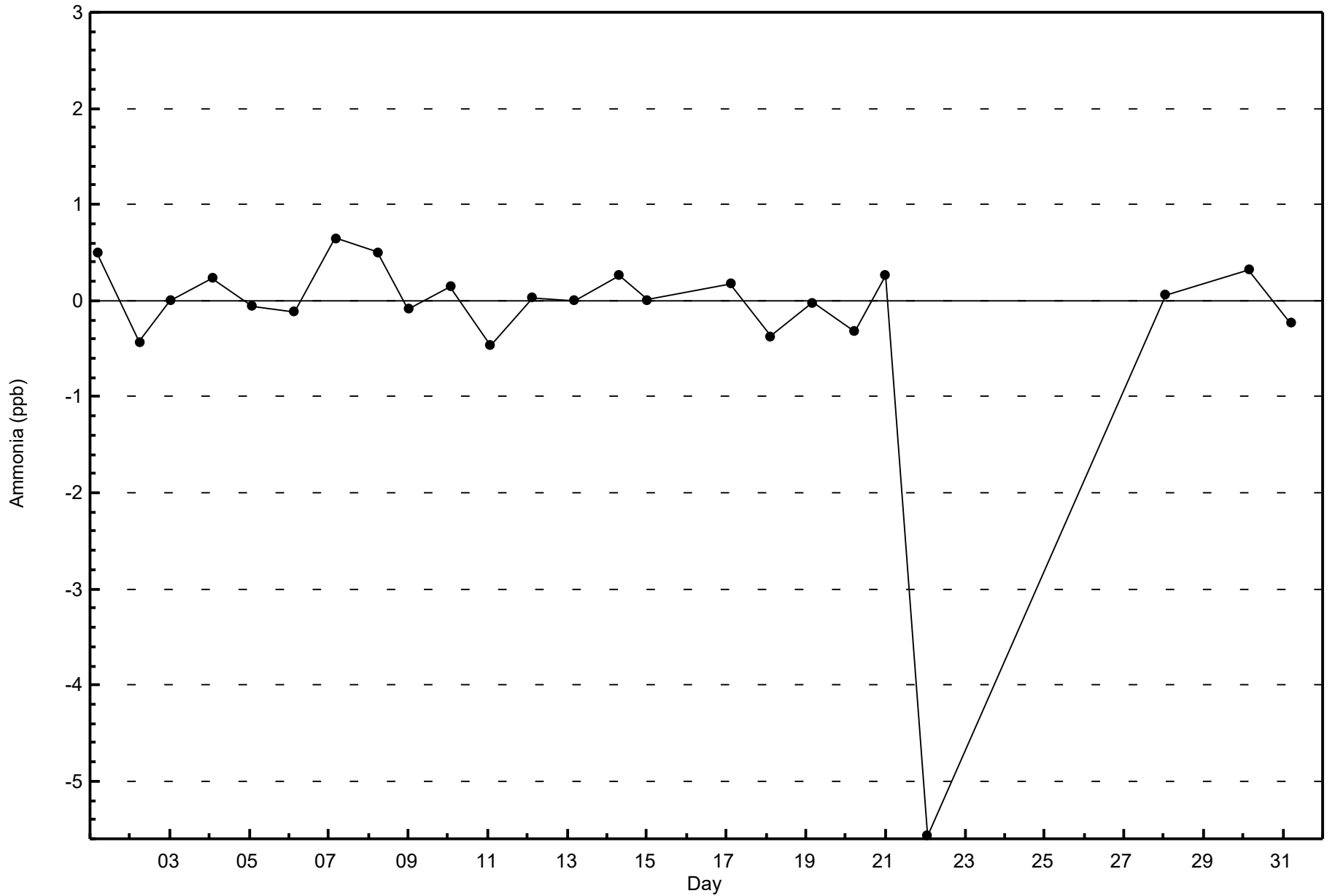
Total Number of Hours: 744

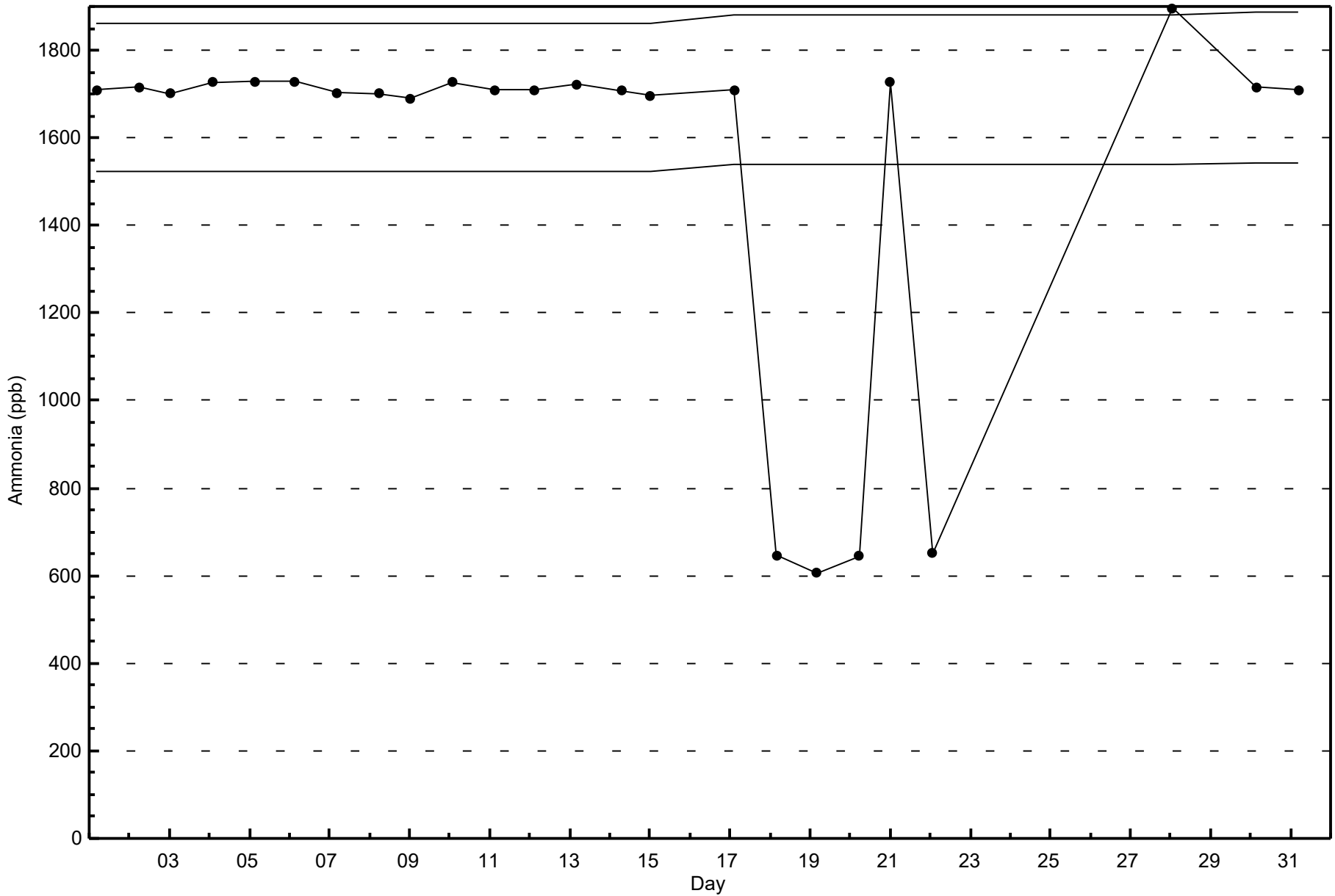


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Ammonia (NH₃) - ppb
Fort McKay - Bertha Ganter





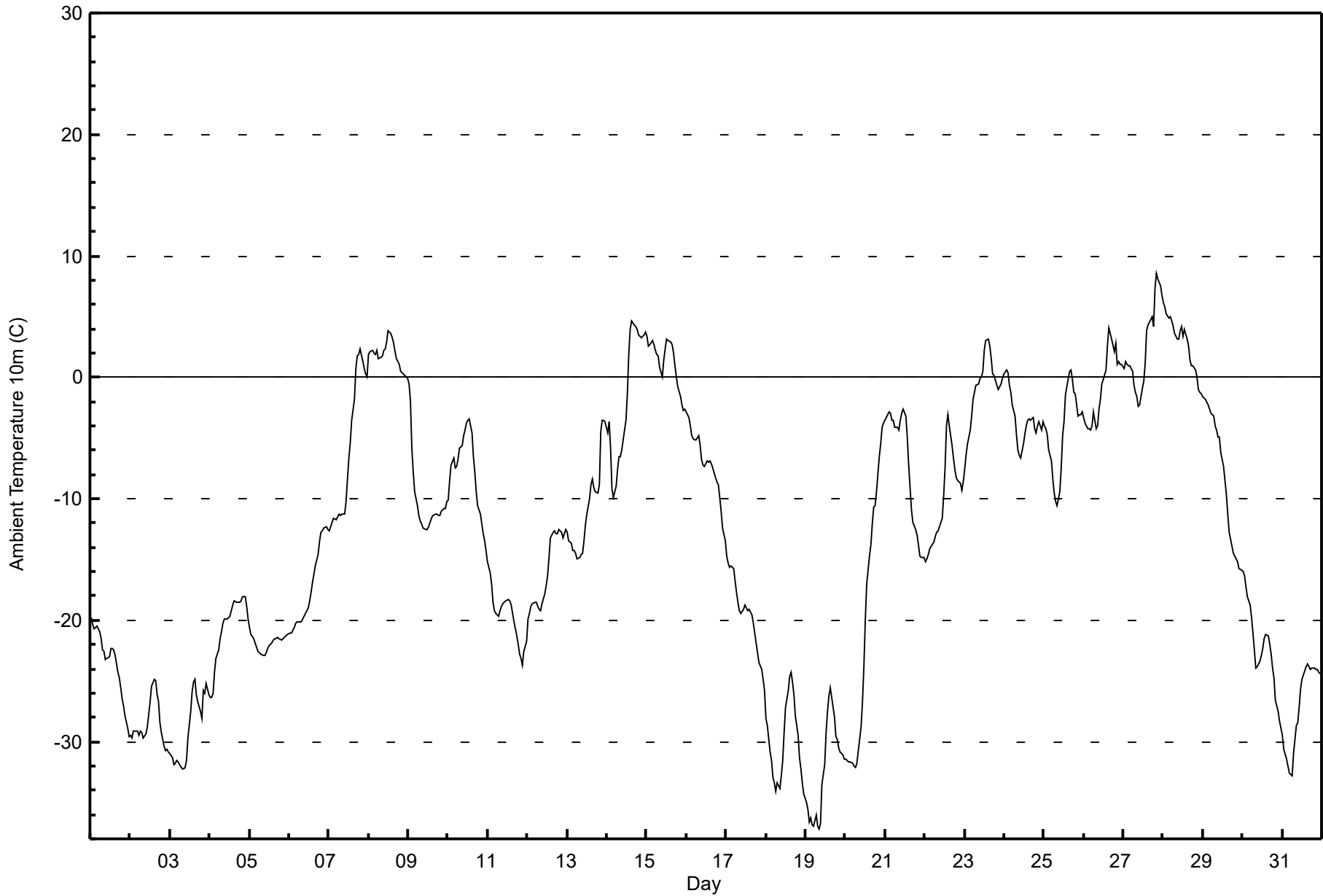




Wood Buffalo Environmental Association
Summary of Hour Averages

Ambient Temperature 10m (AT10) - C
Fort McKay - Bertha Ganter - January 2025

Maximum Value: 8.6 C on Jan 27 21:00 Minimum Value: -37.1 C on Jan 19 09:00 Maximum Diurnal Average: -10.6 C at hour 15 Monthly Average: -12.84 C		Maximum Daily Average: 2.8 C on Jan 28 Minimum Daily Average: -32.3 C on Jan 19 Minimum Diurnal Average: -14.6 C at hour 9 Percentiles: P ₁ = -35.9 P ₁₀ = -29.2 Q ₁ = -22.0 Median = -12.3 Q ₃ = -3.2 P ₉₀ = 1.9 P ₉₉ = 5.1		Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	-19.8	-20.4	-20.7	-20.6	-20.5	-20.9	-21.5	-22.5	-22.6	-23.3	-23.1	-23.0	-22.4	-22.3	-22.5	-22.9	-24.2	-24.7	-25.6	-26.4	-27.1	-27.9	-28.9	-29.6	-23.5	-19.8
2-Jan	-29.4	-29.7	-29.2	-29.1	-29.1	-29.4	-29.1	-29.3	-29.7	-29.3	-28.8	-27.8	-26.7	-25.4	-24.8	-24.9	-26.1	-26.7	-28.4	-29.2	-30.4	-30.7	-30.7	-30.8	-28.5	-24.8
3-Jan	-30.9	-31.3	-31.9	-31.7	-31.6	-31.6	-31.9	-32.2	-32.2	-32.1	-31.5	-29.7	-27.5	-25.9	-25.1	-24.9	-26.1	-26.7	-27.5	-28.1	-25.8	-26.0	-25.3	-26.1	-28.9	-24.9
4-Jan	-26.4	-26.4	-26.0	-24.3	-23.1	-22.4	-21.5	-21.0	-20.2	-19.9	-19.9	-19.8	-19.7	-19.2	-18.8	-18.5	-18.5	-18.5	-18.4	-18.1	-18.1	-18.1	-18.9	-19.9	-20.7	-18.1
5-Jan	-20.5	-21.2	-21.5	-21.8	-22.2	-22.5	-22.7	-22.8	-23.0	-22.9	-22.6	-22.3	-22.1	-21.8	-21.7	-21.5	-21.5	-21.4	-21.6	-21.6	-21.5	-21.4	-21.3	-21.2	-21.9	-20.5
6-Jan	-21.1	-21.0	-20.9	-20.6	-20.2	-20.2	-20.1	-20.1	-19.9	-19.7	-19.4	-19.0	-18.4	-17.7	-16.9	-16.2	-15.5	-14.6	-13.6	-12.7	-12.6	-12.4	-12.3	-12.6	-17.4	-12.3
7-Jan	-12.6	-12.3	-11.9	-11.6	-11.7	-11.5	-11.3	-11.3	-11.3	-11.3	-10.3	-8.3	-6.7	-5.4	-3.5	-1.9	0.8	1.8	1.9	2.3	1.3	0.8	0.3	0.0	-6.0	2.3
8-Jan	1.9	2.2	2.2	2.1	1.9	2.2	1.5	1.6	1.7	2.2	2.3	2.9	3.9	3.6	3.3	2.7	2.1	1.5	1.1	0.5	0.4	0.3	0.1	0.0	1.8	3.9
9-Jan	-0.6	-1.9	-5.9	-7.8	-9.5	-10.6	-11.4	-11.8	-12.1	-12.4	-12.5	-12.5	-12.3	-11.9	-11.6	-11.4	-11.3	-11.3	-11.4	-11.3	-11.1	-10.8	-10.7	-10.2	-10.2	-0.6
10-Jan	-10.1	-8.5	-7.2	-6.6	-7.4	-7.3	-6.7	-5.9	-5.6	-4.8	-4.3	-3.7	-3.6	-3.5	-4.6	-6.6	-7.8	-9.4	-10.6	-11.3	-12.1	-12.9	-13.4	-14.2	-7.8	-3.5
11-Jan	-15.2	-16.1	-17.1	-18.5	-19.2	-19.4	-19.6	-19.2	-18.8	-18.6	-18.5	-18.5	-18.2	-18.4	-18.8	-19.4	-20.2	-21.2	-22.0	-22.8	-23.1	-23.7	-22.5	-21.7	-19.6	-15.2
12-Jan	-19.9	-19.4	-18.9	-18.6	-18.5	-18.5	-18.9	-19.1	-19.2	-18.6	-17.9	-17.1	-16.3	-14.9	-13.2	-12.8	-12.7	-12.9	-12.9	-12.5	-12.8	-13.2	-12.9	-12.5	-16.0	-12.5
13-Jan	-12.8	-13.4	-13.7	-14.2	-14.3	-14.4	-14.9	-14.8	-14.6	-14.5	-13.5	-12.1	-11.2	-10.0	-8.8	-8.3	-9.1	-9.4	-9.6	-8.8	-4.5	-3.5	-3.6	-3.7	-10.7	-3.5
14-Jan	-4.6	-3.7	-5.9	-9.2	-9.9	-9.0	-7.6	-6.6	-6.5	-6.0	-5.1	-3.5	-1.3	1.9	4.0	4.6	4.3	4.1	4.0	3.5	3.3	3.2	3.4	3.7	-1.6	4.6
15-Jan	3.4	2.5	2.7	3.0	2.7	2.2	1.9	1.8	0.9	0.1	1.4	2.3	3.1	3.0	2.9	2.7	2.0	1.0	0.0	-0.8	-1.6	-2.2	-2.7	-2.6	1.2	3.4
16-Jan	-2.8	-3.3	-4.0	-4.8	-5.1	-5.2	-5.1	-4.9	-5.6	-6.8	-7.2	-7.3	-6.9	-7.0	-6.8	-7.1	-7.4	-8.2	-8.6	-8.9	-9.8	-11.0	-12.5	-13.4	-7.1	-2.8
17-Jan	-14.7	-15.4	-15.7	-15.6	-15.8	-16.8	-17.8	-18.5	-19.2	-19.4	-19.1	-18.8	-19.0	-19.2	-19.1	-19.5	-20.2	-21.0	-21.9	-22.6	-23.5	-24.0	-24.8	-25.8	-19.5	-14.7
18-Jan	-28.1	-28.7	-30.9	-31.5	-32.9	-33.4	-34.1	-33.4	-33.9	-32.8	-31.5	-29.3	-27.2	-25.8	-24.6	-24.3	-25.1	-26.1	-27.8	-29.5	-31.3	-32.2	-33.4	-34.3	-30.1	-24.3
19-Jan	-35.0	-35.6	-36.6	-36.3	-36.8	-37.0	-36.0	-36.9	-37.1	-36.7	-33.5	-31.9	-29.2	-27.6	-26.3	-25.6	-26.4	-27.9	-29.5	-29.8	-30.5	-30.9	-31.1	-31.4	-32.3	-25.6
20-Jan	-31.5	-31.6	-31.6	-31.6	-31.8	-32.0	-32.1	-31.8	-30.7	-28.7	-26.7	-23.8	-20.0	-17.0	-14.7	-13.7	-12.0	-10.6	-10.5	-9.4	-6.6	-5.5	-4.1	-3.8	-20.5	-3.8
21-Jan	-3.5	-3.1	-2.9	-3.0	-3.5	-3.6	-4.2	-4.2	-4.3	-3.6	-2.9	-2.7	-3.2	-5.0	-7.2	-9.1	-11.0	-11.9	-12.5	-13.0	-13.8	-14.7	-14.8	-14.8	-7.2	-2.7
22-Jan	-15.2	-15.0	-14.6	-14.2	-13.9	-13.5	-13.1	-12.8	-12.6	-12.3	-11.6	-9.8	-7.5	-4.0	-3.0	-3.9	-5.6	-6.7	-7.6	-8.3	-8.5	-8.7	-9.3	-8.6	-10.0	-3.0
23-Jan	-7.6	-6.4	-5.5	-4.4	-3.2	-1.8	-1.2	-0.6	-0.5	-0.1	0.0	0.5	2.2	3.0	3.1	2.6	1.5	0.3	0.2	-0.6	-0.9	-0.8	-0.6	-0.1	-0.9	3.1
24-Jan	0.3	0.6	0.4	-0.6	-1.3	-2.3	-3.2	-4.6	-6.0	-6.5	-6.6	-5.4	-4.7	-4.1	-3.5	-3.5	-3.5	-3.3	-4.2	-4.6	-4.0	-3.6	-4.4	-3.7	-3.4	0.6
25-Jan	-4.0	-4.2	-4.7	-6.0	-6.8	-8.3	-9.5	-10.3	-10.5	-9.4	-7.5	-4.8	-3.6	-1.5	-0.7	0.5	0.6	-0.1	-1.2	-1.3	-3.2	-3.0	-3.1	-2.8	-4.4	0.6
26-Jan	-3.3	-3.8	-4.2	-4.3	-4.4	-4.0	-2.8	-4.2	-4.0	-2.7	-1.8	-0.5	-0.2	0.6	2.6	4.0	3.7	3.1	2.2	2.7	1.0	1.3	1.1	1.0	-0.7	4.0
27-Jan	0.7	1.3	1.0	1.0	0.9	0.4	-0.6	-1.3	-1.6	-2.4	-2.3	-0.9	-0.3	1.1	3.8	4.3	4.7	5.0	4.2	7.3	8.6	8.1	7.5	6.7	2.4	8.6
28-Jan	6.1	5.8	5.2	4.9	5.0	4.6	4.2	3.6	3.1	3.1	3.8	4.2	3.4	4.0	3.2	2.6	1.4	1.0	1.0	0.6	0.0	-1.0	-1.2	-1.3	2.8	6.1
29-Jan	-1.6	-1.8	-2.1	-2.3	-2.6	-2.9	-3.2	-4.0	-4.4	-4.9	-4.9	-6.1	-7.3	-8.5	-9.7	-11.3	-12.8	-14.0	-14.4	-14.7	-14.9	-15.2	-15.7	-15.9	-8.1	-1.6
30-Jan	-16.0	-16.4	-17.2	-18.0	-18.8	-19.8	-21.0	-22.4	-23.9	-23.8	-23.4	-22.9	-22.3	-21.5	-21.2	-21.2	-21.9	-22.8	-23.9	-24.7	-26.5	-27.5	-28.3	-28.9	-22.3	-16.0
31-Jan	-29.5	-30.6	-31.4	-32.0	-32.5	-32.7	-32.8	-31.0	-28.7	-28.4	-27.2	-25.7	-24.9	-24.2	-23.8	-23.6	-23.9	-24.1	-23.9	-23.9	-24.0	-24.1	-24.3	-24.4	-27.2	-23.6
	-13.0	-13.2	-13.6	-13.8	-14.1	-14.2	-14.4	-14.5	-14.6	-14.4	-13.8	-12.8	-11.9	-11.1	-10.6	-10.6	-11.0	-11.5	-12.0	-12.2	-12.4	-12.6	-12.9	-13.0	Diurnal Average	
	6.1	5.8	5.2	4.9	5.0	4.6	4.2	3.6	3.1	3.1	3.8	4.2	3.9	4.0	4.0	4.6	4.7	5.0	4.2	7.3	8.6	8.1	7.5	6.7	Diurnal Maximum	





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Ambient Temperature 10m (AT10) - C
Fort McKay - Bertha Ganter - January 2025**

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	231	31.05	31.05
-20 - 0	391	52.55	83.60
0 - 10	122	16.40	100.00
10 - 20	0	0.00	100.00
> 20	0	0.00	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

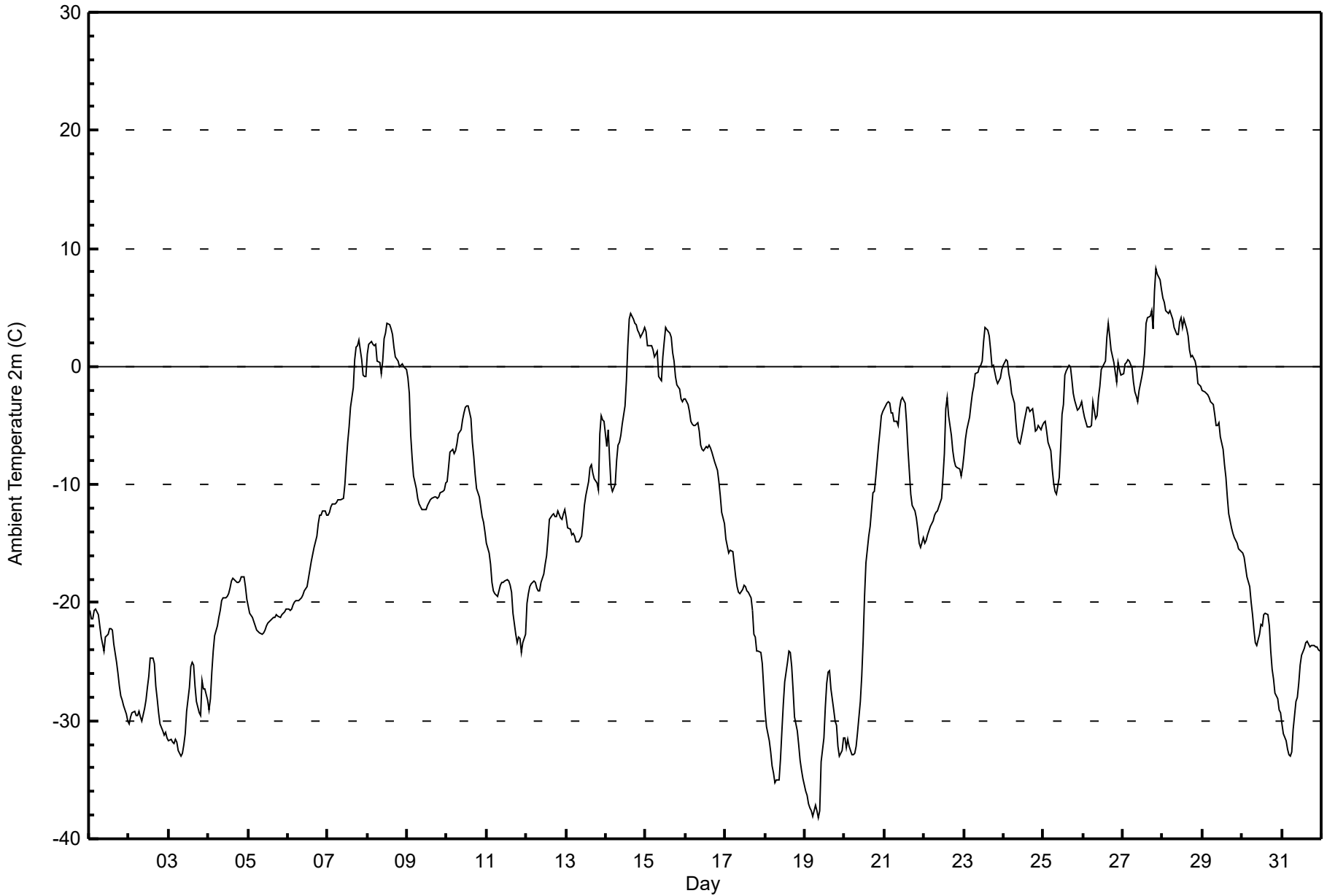
Ambient Temperature 2m (AT2) - C
Fort McKay - Bertha Ganter - January 2025

Maximum Value: 8.3 C on Jan 27 21:00 Minimum Value: -38.2 C on Jan 19 09:00 Maximum Diurnal Average: -10.4 C at hour 15 Monthly Average: -13.02 C		Maximum Daily Average: 2.6 C on Jan 28 Minimum Daily Average: -33.0 C on Jan 19 Minimum Diurnal Average: -14.9 C at hour 9 Percentiles: P ₁ = -36.7 P ₁₀ = -29.5 Q ₁ = -22.0 Median = -12.1 Q ₃ = -3.3 P ₉₀ = 1.1 P ₉₉ = 4.7		Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	-20.6	-21.4	-21.4	-20.6	-20.5	-21.0	-21.9	-22.9	-23.5	-24.1	-22.9	-22.7	-22.2	-22.2	-22.3	-23.5	-25.0	-25.9	-27.1	-27.9	-28.2	-28.8	-29.4	-30.0	-24.0	-20.5
2-Jan	-30.2	-29.7	-29.3	-29.2	-29.5	-29.6	-29.2	-29.6	-30.1	-29.0	-28.2	-27.2	-26.3	-24.7	-24.6	-25.2	-27.1	-28.2	-29.3	-30.2	-30.9	-31.2	-31.0	-31.4	-28.8	-24.6
3-Jan	-31.7	-31.6	-31.8	-31.9	-31.6	-31.9	-32.5	-33.0	-32.8	-32.1	-31.1	-29.1	-27.1	-25.4	-25.0	-25.3	-27.0	-28.4	-29.3	-29.6	-26.6	-27.3	-27.3	-28.2	-29.5	-25.0
4-Jan	-29.0	-28.1	-25.9	-24.1	-22.8	-22.0	-21.2	-20.7	-19.9	-19.6	-19.6	-19.4	-19.2	-18.8	-18.2	-17.9	-18.2	-18.3	-18.3	-18.2	-17.9	-17.9	-18.6	-19.7	-20.6	-17.9
5-Jan	-20.3	-20.9	-21.3	-21.6	-22.0	-22.3	-22.4	-22.6	-22.7	-22.6	-22.0	-21.8	-21.5	-21.3	-21.3	-21.2	-21.1	-21.2	-21.2	-21.1	-20.9	-20.8	-20.5	-21.5	-20.3	
6-Jan	-20.5	-20.7	-20.5	-20.2	-19.9	-19.9	-19.8	-19.8	-19.6	-19.3	-19.0	-18.6	-17.9	-17.3	-16.5	-15.9	-15.3	-14.4	-13.4	-12.6	-12.6	-12.3	-12.3	-12.6	-17.1	-12.3
7-Jan	-12.6	-12.4	-11.9	-11.6	-11.7	-11.6	-11.3	-11.3	-11.2	-11.2	-10.0	-8.1	-6.5	-5.2	-3.4	-1.8	0.5	1.7	1.7	2.2	0.6	-0.7	-0.8	-0.8	-6.1	2.2
8-Jan	1.0	1.9	2.1	1.9	1.7	1.9	0.4	0.4	-0.6	0.5	2.4	2.8	3.6	3.6	3.2	2.7	1.6	0.8	0.5	0.0	0.1	0.2	0.0	-0.3	1.4	3.6
9-Jan	-1.0	-2.3	-5.8	-7.7	-9.2	-10.4	-11.2	-11.6	-11.9	-12.1	-12.1	-12.1	-11.8	-11.5	-11.3	-11.1	-11.0	-11.0	-11.1	-11.1	-10.8	-10.5	-10.5	-9.9	-10.0	-1.0
10-Jan	-9.8	-8.5	-7.3	-7.0	-7.4	-7.1	-6.5	-5.8	-5.3	-4.5	-3.9	-3.4	-3.3	-3.3	-4.4	-6.4	-7.6	-9.2	-10.4	-11.1	-11.8	-12.7	-13.2	-14.0	-7.7	-3.3
11-Jan	-14.9	-15.8	-16.8	-18.3	-19.0	-19.2	-19.5	-19.0	-18.6	-18.3	-18.3	-18.2	-18.0	-18.2	-18.5	-19.2	-20.9	-22.7	-23.4	-22.9	-23.0	-24.2	-23.3	-22.7	-19.7	-14.9
12-Jan	-20.1	-19.2	-18.6	-18.4	-18.2	-18.3	-18.8	-19.1	-19.0	-18.3	-17.5	-16.8	-16.0	-14.6	-13.0	-12.6	-12.5	-12.7	-12.7	-12.3	-12.8	-13.0	-12.5	-12.1	-15.8	-12.1
13-Jan	-12.8	-13.6	-13.8	-14.3	-14.2	-14.4	-14.8	-14.8	-14.7	-14.4	-13.2	-11.8	-11.0	-9.7	-8.6	-8.3	-9.1	-9.6	-9.8	-10.5	-5.7	-4.2	-4.6	-4.6	-10.9	-4.2
14-Jan	-6.8	-5.3	-7.9	-10.0	-10.6	-10.0	-8.0	-6.7	-6.4	-5.9	-4.9	-3.4	-1.2	1.8	4.0	4.4	4.1	3.7	3.6	3.1	2.9	2.5	2.9	3.3	-2.1	4.4
15-Jan	2.9	1.8	1.8	1.8	1.4	0.9	1.1	1.3	0.8	-1.2	0.9	2.1	3.3	3.1	2.8	2.5	1.2	0.5	-0.9	-1.6	-1.9	-2.7	-3.0	-2.8	0.6	3.3
16-Jan	-2.8	-3.2	-3.8	-4.6	-4.9	-5.0	-5.0	-4.7	-5.5	-6.6	-7.1	-7.1	-6.8	-6.8	-6.7	-6.9	-7.3	-8.1	-8.5	-8.8	-9.8	-10.9	-12.4	-13.3	-6.9	-2.8
17-Jan	-14.6	-15.2	-15.7	-15.6	-15.7	-16.8	-17.9	-18.7	-19.1	-19.2	-18.9	-18.5	-18.7	-19.0	-19.1	-19.6	-20.6	-22.7	-22.9	-24.1	-24.1	-24.2	-25.1	-27.2	-19.7	-14.6
18-Jan	-29.3	-30.5	-31.7	-32.7	-33.8	-34.4	-35.2	-35.0	-35.0	-33.2	-30.8	-28.6	-26.7	-25.0	-24.1	-24.2	-25.4	-27.5	-29.7	-30.9	-32.1	-33.3	-34.2	-34.9	-30.8	-24.1
19-Jan	-35.9	-36.3	-37.1	-37.4	-37.6	-38.2	-37.2	-37.6	-38.2	-37.6	-33.5	-31.4	-28.8	-26.8	-25.9	-25.7	-27.3	-29.1	-30.0	-30.4	-32.2	-33.0	-32.5	-31.4	-33.0	-25.7
20-Jan	-31.5	-32.3	-31.6	-32.2	-32.9	-32.9	-32.8	-32.2	-31.0	-28.3	-26.2	-23.3	-19.5	-16.6	-14.4	-13.5	-12.1	-10.7	-10.5	-9.4	-6.7	-5.5	-4.2	-3.8	-20.6	-3.8
21-Jan	-3.6	-3.1	-3.0	-3.1	-3.9	-3.9	-4.6	-4.6	-5.0	-3.6	-2.9	-2.6	-3.1	-4.8	-7.0	-8.9	-10.8	-11.7	-12.3	-12.8	-13.7	-14.9	-15.4	-14.5	-7.2	-2.6
22-Jan	-15.0	-14.7	-14.3	-13.9	-13.6	-13.0	-12.6	-12.4	-12.2	-11.9	-11.2	-9.4	-7.4	-3.6	-2.6	-4.2	-5.8	-7.1	-8.0	-8.5	-8.6	-8.7	-9.3	-8.5	-9.9	-2.6
23-Jan	-7.5	-6.2	-5.3	-4.3	-3.3	-2.3	-1.7	-0.6	-0.5	-0.1	0.1	0.4	2.1	3.3	3.1	2.6	1.4	0.0	0.1	-1.0	-1.4	-1.2	-1.0	-0.3	-1.0	3.3
24-Jan	0.1	0.5	0.4	-0.6	-1.2	-2.2	-3.1	-4.6	-6.0	-6.5	-6.5	-5.4	-4.7	-4.0	-3.5	-3.5	-3.8	-3.6	-4.4	-5.5	-5.3	-5.0	-5.4	-5.0	-3.7	0.5
25-Jan	-4.8	-4.6	-5.5	-6.5	-7.1	-8.7	-9.8	-10.5	-10.8	-9.3	-6.8	-4.0	-3.3	-0.8	-0.4	0.1	0.0	-1.1	-2.3	-2.9	-3.7	-3.6	-3.3	-3.0	-4.7	0.1
26-Jan	-3.7	-4.2	-5.1	-5.1	-5.1	-5.0	-3.0	-4.4	-4.2	-2.6	-1.7	-0.3	0.0	0.4	2.5	3.6	2.5	1.4	0.3	-0.6	-1.3	0.3	-0.2	-0.8	-1.5	3.6
27-Jan	-0.6	0.2	0.4	0.6	0.5	-0.1	-1.4	-2.2	-2.5	-3.0	-2.0	-0.8	-0.2	1.2	3.7	4.1	4.3	4.7	3.2	6.4	8.3	7.8	7.3	6.5	1.9	8.3
28-Jan	5.8	5.5	4.7	4.5	4.7	4.4	4.0	3.3	2.7	2.7	3.7	4.2	3.4	4.0	3.2	2.6	1.4	0.8	0.9	0.4	-0.1	-1.5	-1.6	-1.7	2.6	5.8
29-Jan	-2.0	-2.2	-2.3	-2.4	-2.7	-3.0	-3.2	-4.1	-5.0	-5.1	-4.7	-5.9	-7.0	-8.3	-9.4	-11.1	-12.5	-13.7	-14.2	-14.5	-14.7	-14.9	-15.5	-15.7	-8.1	-2.0
30-Jan	-15.7	-16.1	-17.0	-17.8	-18.7	-19.9	-21.0	-22.3	-23.4	-23.7	-22.7	-21.9	-22.0	-21.0	-20.9	-21.0	-22.0	-24.1	-25.7	-26.5	-27.6	-28.2	-29.0	-29.3	-22.4	-15.7
31-Jan	-30.3	-31.1	-31.7	-32.4	-32.9	-33.0	-32.7	-30.7	-28.4	-28.0	-26.9	-25.3	-24.5	-23.8	-23.4	-23.3	-23.6	-23.8	-23.7	-23.7	-23.7	-23.8	-23.9	-24.1	-27.0	-23.3
																								Diurnal Average		
																								Diurnal Maximum		
-13.5 -13.5 -13.8 -14.0 -14.2 -14.5 -14.6 -14.7 -14.9 -14.5 -13.5 -12.5 -11.7 -10.8 -10.4 -10.6 -11.3 -12.0 -12.5 -12.8 -12.8 -13.0 -13.2 -13.3																								5.8 5.5 4.7 4.5 4.7 4.4 4.0 3.3 2.7 2.7 3.7 4.2 3.6 4.0 4.0 4.4 4.3 4.7 3.6 6.4 8.3 7.8 7.3 6.5		



Wood Buffalo Environmental Association
Hourly Averages

Ambient Temperature 2m (AT2) - C
Fort McKay - Bertha Ganter - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Ambient Temperature 2m (AT2) - C
Fort McKay - Bertha Ganter - January 2025**

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	227	30.51	30.51
-20 - 0	407	54.70	85.22
0 - 10	110	14.78	100.00
10 - 20	0	0.00	100.00
> 20	0	0.00	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

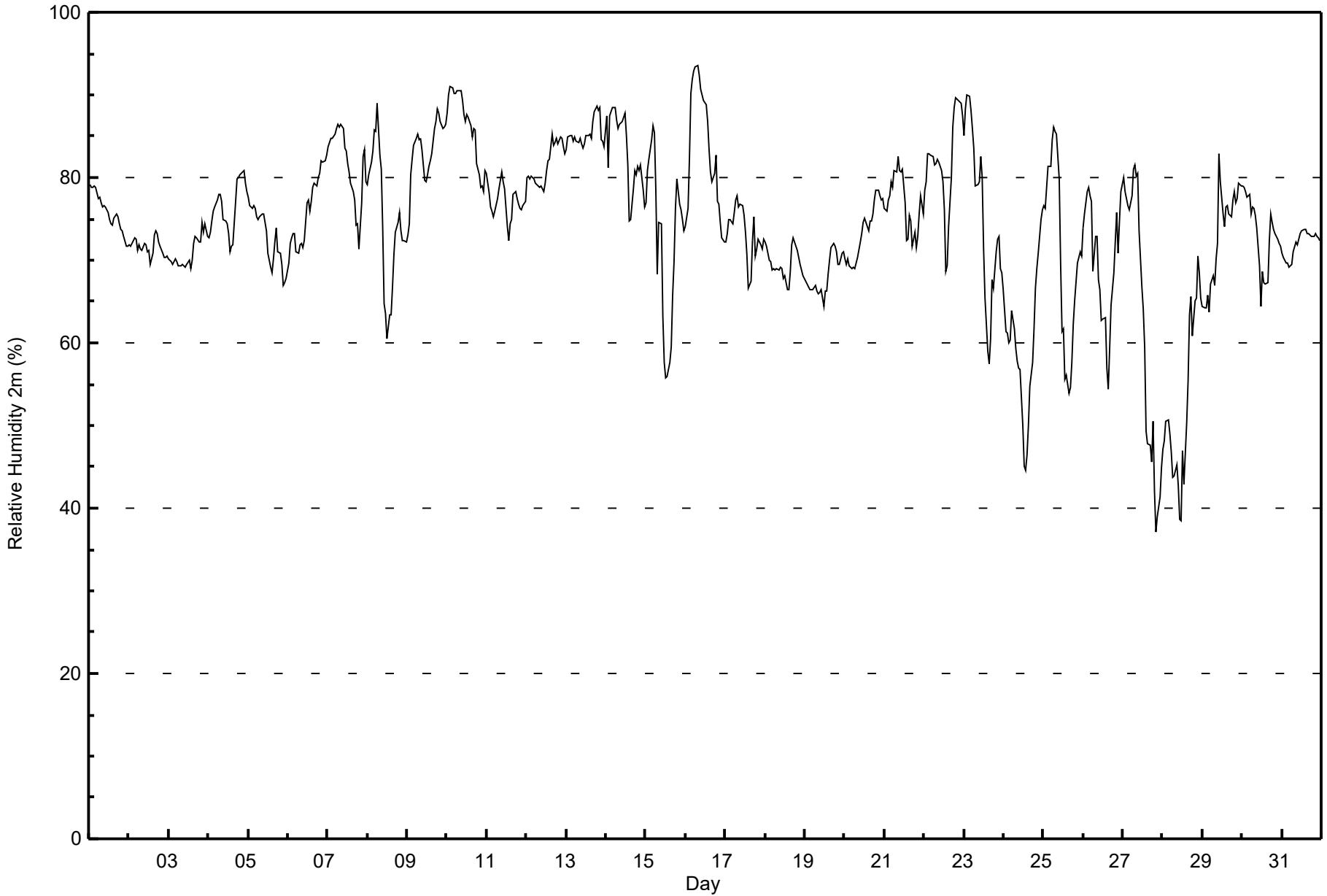
Relative Humidity 2m (RH2) - %
Fort McKay - Bertha Ganter - January 2025

Maximum Value: 93.6 % on Jan 16 08:00 Maximum Daily Average: 86.3 % on Jan 10																						Hours in Service: 744 Hours of Data: 744					
Minimum Value: 37.1 % on Jan 27 21:00 Minimum Daily Average: 52.7 % on Jan 28 Maximum Diurnal Average: 76.9 % at hour 6 Minimum Diurnal Average: 69.4 % at hour 15 Monthly Average: 74.33 % Percentiles: P ₁ = 43.3 P ₁₀ = 63.9 Q ₁ = 70.0 Median = 74.9 Q ₃ = 80.3 P ₉₀ = 85.5 P ₉₉ = 90.6																						Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0					
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	79.2	78.8	78.8	78.9	78.8	77.5	77.7	76.9	76.4	76.5	76.4	75.7	75.0	74.4	74.3	75.1	75.6	75.3	74.4	73.8	73.6	72.9	71.8	71.8	75.8	79.2	
2-Jan	71.8	71.8	72.1	72.7	72.5	71.3	71.9	71.3	71.1	72.0	71.9	71.0	71.1	69.4	70.9	73.0	73.5	73.2	72.2	71.6	70.9	70.4	70.4	70.5	71.6	73.5	
3-Jan	70.2	69.8	69.5	69.9	70.1	69.8	69.4	69.3	69.4	69.3	69.2	69.5	69.9	69.0	70.0	72.0	72.8	72.7	72.2	72.1	74.5	73.5	74.3	72.9	70.9	74.5	
4-Jan	72.7	73.3	74.8	75.9	76.5	77.3	78.0	78.0	77.1	74.9	74.8	74.5	73.3	71.0	71.6	71.8	77.1	79.9	80.1	80.4	80.5	80.8	79.3	78.3	76.3	80.8	
5-Jan	77.6	76.6	76.2	76.5	76.2	75.3	74.9	75.3	75.6	75.5	74.6	73.5	70.9	69.2	68.4	70.1	72.2	73.8	71.1	70.8	69.4	66.9	67.3	67.8	72.7	77.6	
6-Jan	69.6	72.1	72.7	73.2	73.3	71.0	70.9	71.9	72.1	71.5	72.4	76.9	77.2	75.9	77.1	78.9	79.3	78.9	80.0	80.6	82.0	81.9	82.0	82.7	76.0	82.7	
7-Jan	83.8	84.2	84.7	84.8	85.2	86.0	86.5	86.1	86.4	86.0	83.6	83.3	81.7	80.7	79.3	78.3	77.4	74.3	74.4	71.4	76.9	82.5	83.4	79.5	81.7	86.5	
8-Jan	79.2	80.3	81.8	83.3	85.8	85.6	89.0	82.7	81.0	73.9	64.7	63.6	60.5	63.4	63.3	66.8	70.7	73.3	74.5	75.7	73.5	72.3	72.3	72.3	74.6	89.0	
9-Jan	73.1	74.4	80.3	82.2	83.9	84.8	85.2	84.6	84.7	83.4	79.6	79.4	80.3	81.4	82.1	82.9	85.9	86.8	88.3	87.9	86.7	85.9	86.1	86.5	83.2	88.3	
10-Jan	87.8	90.0	91.0	90.9	90.2	90.2	90.4	90.6	90.5	89.3	87.6	86.8	87.6	87.3	86.3	84.9	86.0	85.8	81.7	80.3	78.8	79.0	78.3	80.9	86.3	91.0	
11-Jan	80.4	78.1	76.5	75.9	75.2	76.0	77.4	78.7	79.6	80.7	79.5	78.6	74.1	72.4	74.4	74.9	77.9	78.3	77.5	76.8	76.3	76.2	76.7	77.1	77.0	80.7	
12-Jan	80.0	80.1	79.9	80.2	79.9	79.3	79.2	79.0	78.8	78.9	78.4	79.4	80.9	82.0	82.3	85.3	84.0	84.2	84.7	84.1	84.9	84.8	83.8	82.9	81.5	85.3	
13-Jan	83.4	84.9	85.1	85.0	84.5	84.9	84.4	84.3	84.7	84.0	83.5	84.1	85.0	85.1	85.3	84.7	86.7	87.9	88.6	88.2	88.5	84.5	84.4	83.7	85.2	88.6	
14-Jan	87.4	81.2	87.4	88.0	88.5	88.4	87.0	85.9	86.4	86.7	86.8	87.8	85.0	81.6	74.8	75.0	78.7	80.8	80.3	81.4	80.9	81.5	78.4	76.4	83.2	88.5	
15-Jan	77.0	80.9	82.3	84.6	86.2	85.4	87.4	68.4	74.6	74.4	63.3	57.6	55.8	56.0	57.6	59.5	65.8	69.8	76.2	79.8	76.8	76.2	74.9	73.6	72.3	86.2	
16-Jan	74.1	76.2	82.4	90.2	91.9	92.8	93.4	93.6	92.4	90.7	90.0	89.2	88.8	86.8	83.3	80.7	79.5	80.5	82.7	77.1	76.7	74.6	72.6	72.2	83.9	93.6	
17-Jan	72.3	73.3	75.0	74.9	74.4	75.7	77.3	77.8	76.4	76.8	76.6	75.5	73.4	70.6	66.5	67.5	72.3	75.2	70.4	71.3	72.6	71.8	71.4	72.6	73.4	77.8	
18-Jan	72.2	71.6	70.1	69.8	68.8	69.0	68.9	69.0	68.9	69.1	68.9	67.7	68.2	66.4	66.4	68.7	71.8	72.6	72.2	71.1	70.4	69.5	68.8	68.2	69.5	72.6	
19-Jan	67.5	67.2	66.8	66.5	66.4	66.5	67.0	66.3	65.9	66.1	66.4	64.4	66.2	66.3	68.3	70.0	71.5	72.0	71.7	71.1	69.5	69.5	70.9	70.9	68.1	72.0	
20-Jan	70.2	69.4	70.1	69.2	69.0	69.2	68.9	69.6	70.3	72.1	73.3	74.6	75.1	74.6	73.5	74.7	74.8	75.6	77.3	78.4	78.5	77.9	77.3	77.4	73.4	78.5	
21-Jan	76.3	76.0	77.3	77.8	79.6	78.9	80.9	80.8	82.5	80.9	80.7	81.1	77.0	72.3	72.5	75.5	74.7	71.6	73.5	71.6	72.9	75.6	77.7	75.6	76.8	82.5	
22-Jan	78.5	79.5	82.8	82.8	82.7	82.5	81.6	81.7	82.2	81.8	80.9	79.5	76.1	68.6	69.2	74.1	80.0	86.1	88.5	89.6	89.5	89.1	89.0	87.4	81.8	89.6	
23-Jan	85.1	88.2	90.0	89.8	88.2	85.9	83.6	79.0	79.1	79.6	82.5	80.0	71.3	65.4	59.0	57.4	60.6	67.5	66.7	71.0	72.5	72.8	68.9	68.5	75.5	90.0	
24-Jan	66.4	61.4	61.2	60.1	60.3	63.8	61.7	59.3	57.8	56.9	56.8	50.1	45.1	44.6	46.4	50.1	54.8	57.7	61.7	66.7	69.0	70.9	75.0	76.1	59.7	76.1	
25-Jan	76.5	76.3	78.8	81.3	81.4	84.6	86.1	85.6	85.3	79.8	69.6	61.4	61.7	55.5	56.1	53.9	54.6	57.6	62.3	65.1	69.7	70.3	71.0	70.6	70.6	86.1	
26-Jan	73.9	75.5	78.3	78.8	77.8	77.1	68.6	72.9	72.8	67.7	66.4	62.6	63.0	63.1	56.9	54.3	59.3	64.6	68.4	72.1	75.8	70.8	74.7	78.3	69.7	78.8	
27-Jan	79.9	78.4	77.4	76.5	76.1	77.8	81.0	81.5	80.1	80.5	73.5	66.8	64.2	59.6	49.3	47.8	47.7	45.6	50.5	42.0	37.1	39.0	41.4	44.9	62.4	81.5	
28-Jan	47.2	48.1	50.5	50.7	49.0	46.9	43.7	44.0	45.3	42.8	38.7	38.4	46.9	42.9	50.3	55.4	63.4	65.5	60.8	65.0	65.4	70.4	68.5	65.4	52.7	70.4	
29-Jan	64.5	64.3	64.3	65.7	63.6	67.1	68.1	67.0	70.1	72.1	82.8	79.5	75.6	74.1	76.4	76.6	75.6	75.2	77.4	78.2	77.0	77.4	79.4	79.0	73.0	82.8	
30-Jan	79.0	78.9	78.2	77.6	78.0	75.5	76.4	76.3	75.4	73.8	69.3	64.5	68.6	67.3	67.1	67.4	72.3	75.6	74.6	73.7	73.2	72.5	72.0	71.7	73.3	79.0	
31-Jan	70.9	70.4	69.7	69.6	69.1	69.3	69.5	71.0	72.2	71.9	72.6	73.3	73.6	73.7	73.7	73.3	73.3	73.3	73.1	72.8	72.8	73.1	72.9	72.8	72.4	72.0	73.7
	75.1	75.2	76.3	76.9	76.9	76.9	76.7	76.1	76.3	75.5	74.0	72.6	71.7	70.0	69.4	70.3	72.6	73.9	74.4	74.6	74.7	74.6	74.7	74.4		Diurnal Average	
	87.8	90.0	91.0	90.9	91.9	92.8	93.4	93.6	92.4	90.7	90.0	89.2	88.8	87.3	86.3	85.3	86.7	87.9	88.6	89.6	89.5	89.1	89.0	87.4		Diurnal Maximum	



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 2m (RH2) - %
Fort McKay - Bertha Ganter - January 2025



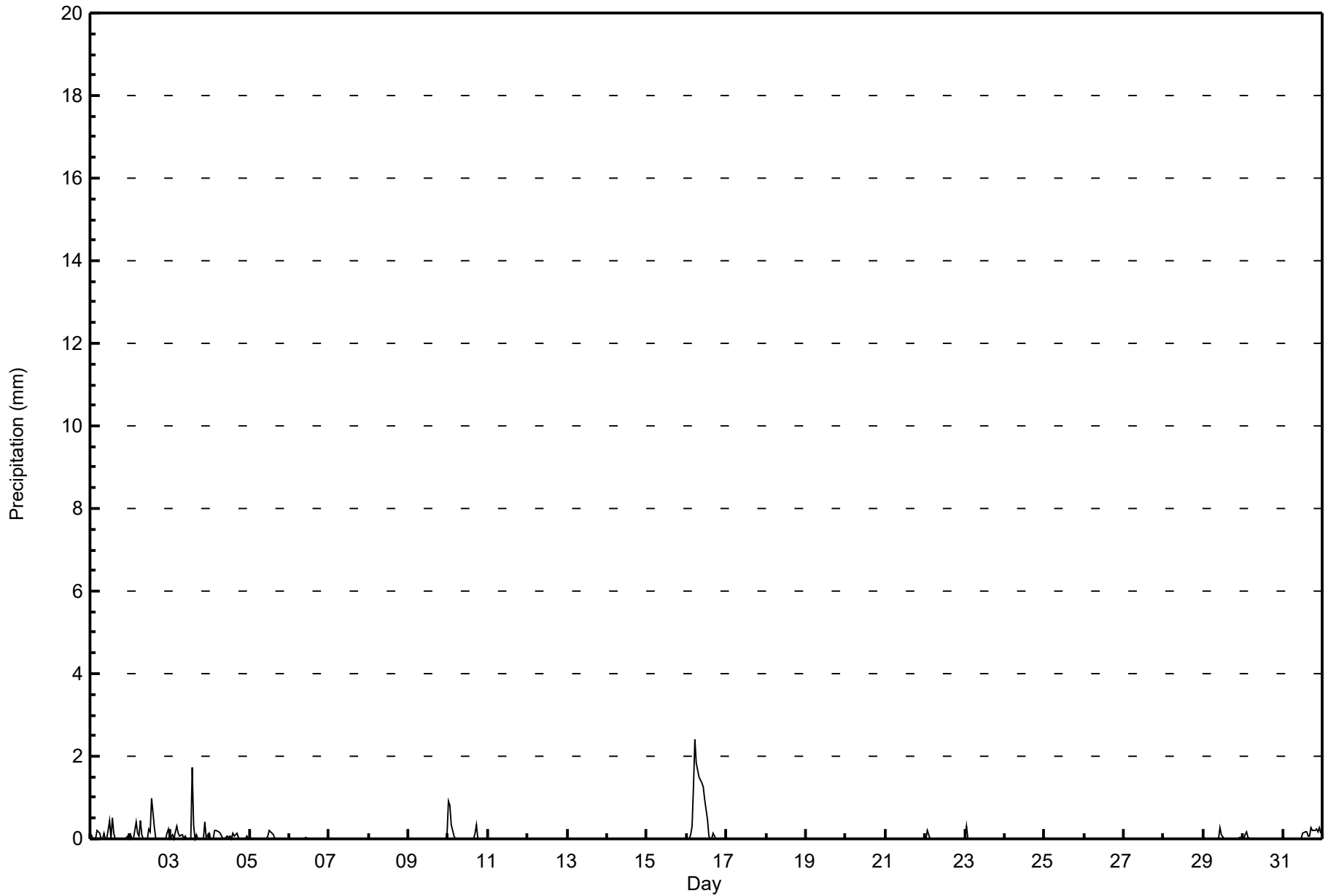


Maximum Value: 2.4 mm on Jan 16 06:00		Maximum Daily Total: 13.0 mm on Jan 16		Hours in Service: 744																																													
Minimum Value: 0.0 mm on Jan 1 02:00		Minimum Daily Total: 0.0 mm on Jan 7		Hours of Data: 744																																													
Maximum Diurnal Total: 3.7 mm at hour 14		Minimum Diurnal Total: 0.1 mm at hour 16		Hours of Missing Data: 0																																													
Monthly Total: 29.98 mm		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.1 P ₉₉ = 1.1		Hours of Calibration: 0																																													
				Percent Operational Time: 100.0																																													
Day	Hourly Period Ending At (MST)																								Daily Total	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	0.1	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.1	0.0	0.0	0.4	0.0	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	1.8	0.5																							
2-Jan	0.1	0.0	0.0	0.4	0.1	0.1	0.4	0.1	0.0	0.0	0.0	0.3	0.2	1.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	3.3	1.0																							
3-Jan	0.0	0.1	0.0	0.2	0.3	0.2	0.1	0.1	0.0	0.1	0.0	0.0	0.0	1.7	0.4	0.0	0.1	0.0	0.0	0.0	0.0	0.4	0.0	0.1	3.7	1.7																							
4-Jan	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	1.5	0.2																							
5-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.2																							
6-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1																							
7-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
8-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
9-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1																						
10-Jan	0.9	0.8	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.9																							
11-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
12-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
13-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
14-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
15-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
16-Jan	0.0	0.0	0.1	0.3	1.3	2.4	1.8	1.5	1.4	1.4	1.3	1.0	0.5	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.0	2.4																							
17-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
18-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
19-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
20-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
21-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
22-Jan	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2																							
23-Jan	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3																							
24-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
25-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
26-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
27-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
28-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
29-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.5	0.3																							
30-Jan	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2																							
31-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.3	0.2	0.2	0.2	0.2	0.3	0.1	2.1	0.3																							
																								1.1	1.5	0.7	1.2	2.1	2.9	2.5	1.8	1.6	1.4	1.6	1.9	1.1	3.7	1.2	0.1	0.6	0.7	0.2	0.2	0.2	0.6	0.6	0.6	Diurnal Average	
																								0.9	0.8	0.4	0.4	1.3	2.4	1.8	1.5	1.4	1.4	1.3	1.0	0.5	1.7	0.4	0.1	0.1	0.3	0.2	0.2	0.2	0.4	0.3	0.2	Diurnal Maximum	



Wood Buffalo Environmental Association
Hourly Averages

Precipitation (PC) - mm
Fort McKay - Bertha Ganter - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Precipitation (PC) - mm
Fort McKay - Bertha Ganter - January 2025

Concentration Ranges (mm)	Number of Hours	%	Cumulative %
0 - 0.3	726	97.58	97.58
0.4 - 0.5	6	0.81	98.39
0.6 - 0.7	0	0.00	98.39
0.8 - 1.4	8	1.08	99.46
1.5 - 10	4	0.54	100.00
> 10	0	0.00	100.00

Total Number of Valid Hours: 744

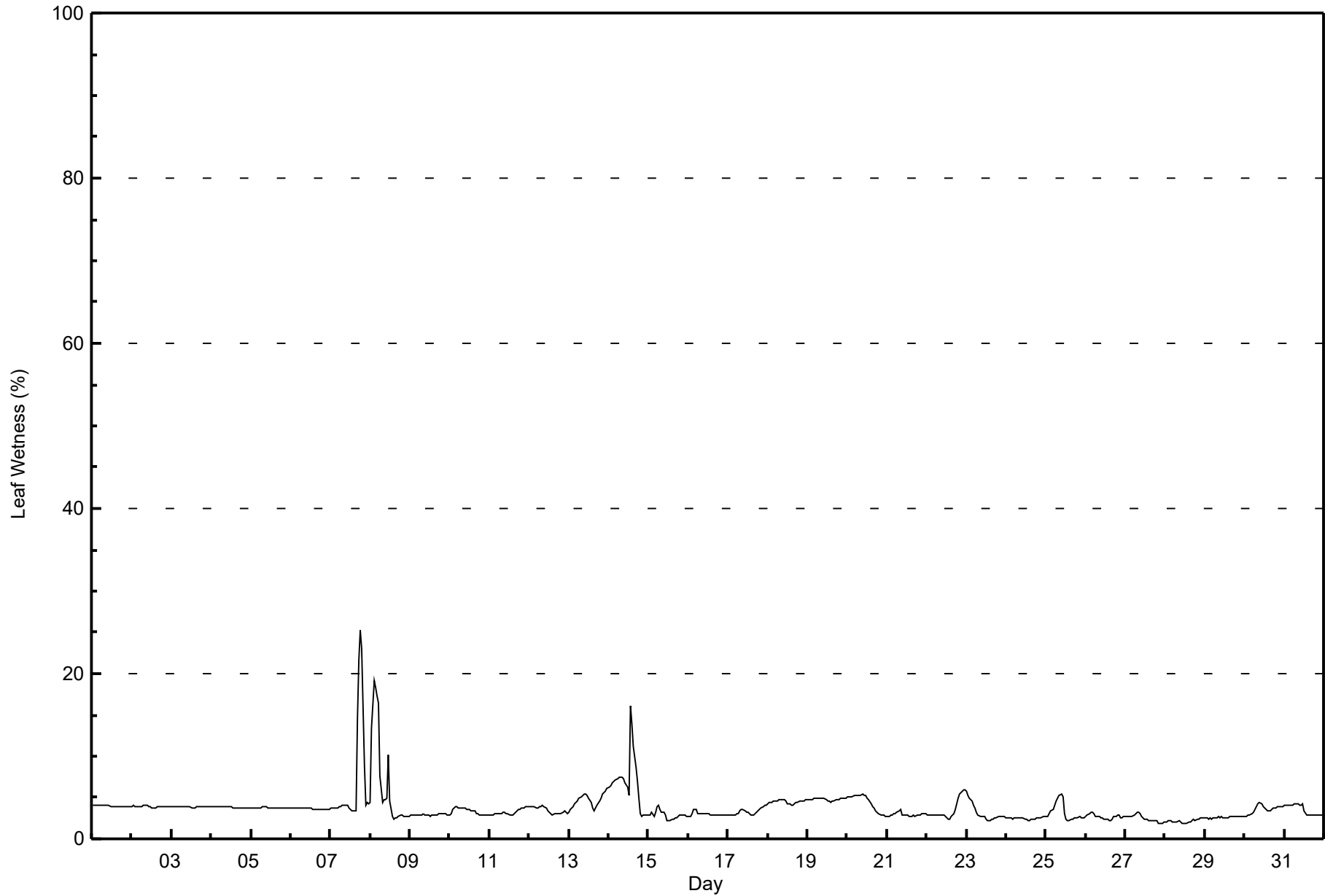
Total Number of Hours: 744



Summary of Hour Averages

Fort McKay - Bertha Ganter - January 2025

Maximum Value: 25.3 % on Jan 7 19:00																				Maximum Daily Average: 6.9 % on Jan 7					Hours in Service: 744						
Minimum Value: 1.8 % on Jan 28 12:00																				Minimum Daily Average: 2.1 % on Jan 28					Hours of Data: 744						
Maximum Diurnal Average: 4.1 % at hour 6																				Minimum Diurnal Average: 3.4 % at hour 16					Hours of Missing Data: 0						
Monthly Average: 3.75 %																				Percentiles: P ₁ = 2.0 P ₁₀ = 2.5 Q ₁ = 2.8 Median = 3.5 Q ₃ = 4.0 P ₉₀ = 4.9 P ₉₉ = 15.4					Hours of Calibration: 0						
																									Percent Operational Time: 100.0						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
1-Jan	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.1	4.0	4.0	3.8	3.9	3.8	3.9	3.9	3.9	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9	4.0	4.1	
2-Jan	4.0	4.0	4.0	3.9	4.0	4.0	4.0	4.0	4.0	4.0	3.9	3.9	3.8	3.8	3.8	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	4.0
3-Jan	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.8	3.7	3.7	3.8	3.8	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
4-Jan	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
5-Jan	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.7	3.7	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
6-Jan	3.8	3.8	3.8	3.8	3.8	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.8
7-Jan	3.7	3.7	3.8	3.8	3.8	3.9	3.9	4.0	4.0	4.1	4.0	3.7	3.5	3.5	3.4	3.4	14.6	21.8	25.3	23.1	8.7	4.1	4.4	4.3	6.9	25.3	6.9	25.3	6.9	25.3	
8-Jan	4.4	13.4	19.1	18.2	17.3	16.4	7.6	4.4	4.7	4.7	5.0	10.2	4.5	2.7	2.4	2.5	2.6	2.8	2.9	2.9	2.7	2.7	2.7	2.7	6.7	19.1	6.7	19.1	6.7	19.1	
9-Jan	2.8	2.9	2.9	2.9	2.9	2.9	3.0	3.0	3.0	3.0	2.9	2.8	2.8	2.8	2.8	2.9	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	3.0
10-Jan	2.9	3.0	3.6	3.9	3.8	3.8	3.8	3.8	3.7	3.7	3.6	3.6	3.5	3.4	3.4	3.3	3.1	3.0	2.9	2.9	2.9	2.9	2.9	2.9	3.4	3.9	3.4	3.9	3.4	3.9	
11-Jan	3.0	3.0	2.9	3.0	3.0	3.0	3.0	3.1	3.2	3.2	3.1	3.0	2.9	2.9	2.9	3.1	3.3	3.5	3.6	3.7	3.7	3.8	3.9	3.9	3.2	3.9	3.2	3.9	3.2	3.9	
12-Jan	3.9	3.9	3.9	3.8	3.8	3.8	3.8	3.9	4.0	3.9	3.7	3.5	3.2	3.0	2.9	3.0	3.0	3.1	3.0	3.0	3.2	3.3	3.1	3.0	3.5	4.0	3.5	4.0	3.5	4.0	
13-Jan	3.1	3.5	3.8	4.2	4.4	4.7	4.9	5.1	5.3	5.4	5.5	5.3	4.9	4.4	3.7	3.4	3.7	4.1	4.6	5.0	5.4	5.6	5.8	6.1	4.7	6.1	4.7	6.1	4.7	6.1	
14-Jan	6.3	6.5	6.7	6.9	7.2	7.4	7.5	7.5	7.4	7.2	6.8	6.3	5.3	16.1	13.9	11.2	8.7	7.0	4.9	3.1	2.8	2.9	2.9	2.8	6.9	16.1	6.9	16.1	6.9	16.1	
15-Jan	2.9	3.0	3.2	2.6	3.2	3.9	4.1	3.5	3.3	3.2	2.8	2.2	2.2	2.3	2.4	2.5	2.6	2.8	2.8	2.9	2.9	2.8	2.8	2.9	2.9	2.9	2.8	2.8	2.8	2.8	4.1
16-Jan	2.7	2.7	3.0	3.6	3.6	3.5	3.1	3.1	3.1	3.1	3.0	3.0	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	3.0	3.6	3.0	3.6	3.0	3.6	
17-Jan	2.9	2.9	3.0	2.9	2.9	3.0	3.1	3.4	3.5	3.5	3.4	3.2	3.2	3.0	2.9	2.9	3.1	3.3	3.4	3.6	3.7	3.9	4.0	4.1	3.3	4.1	3.3	4.1	3.3	4.1	
18-Jan	4.2	4.4	4.5	4.5	4.6	4.6	4.6	4.7	4.7	4.7	4.7	4.5	4.3	4.2	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.6	4.7	4.7	4.5	4.7	4.5	4.7	4.5	4.7	
19-Jan	4.7	4.7	4.8	4.8	4.8	4.9	4.9	5.0	5.0	5.0	5.0	4.7	4.6	4.5	4.4	4.5	4.6	4.7	4.8	4.8	4.9	4.9	5.0	5.0	4.8	5.0	4.8	5.0	4.8	5.0	
20-Jan	5.0	5.1	5.1	5.2	5.2	5.2	5.2	5.3	5.3	5.3	5.3	5.2	5.0	4.7	4.2	3.9	3.7	3.4	3.2	3.0	2.9	2.8	2.8	2.8	4.4	5.3	4.4	5.3	4.4	5.3	
21-Jan	2.8	2.8	2.8	2.9	3.1	3.1	3.3	3.4	3.5	3.0	2.8	2.9	2.8	2.6	2.7	2.8	2.8	2.8	2.8	2.8	2.9	3.0	3.1	3.0	2.9	3.5	2.9	3.5	2.9	3.5	
22-Jan	3.0	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.7	2.5	2.4	2.4	2.7	3.0	3.6	4.2	4.9	5.4	5.7	5.9	6.0	3.5	6.0	3.5	6.0	3.5	6.0	
23-Jan	5.8	5.3	5.0	4.6	4.1	3.7	3.2	2.8	2.8	2.8	2.8	2.7	2.4	2.3	2.2	2.3	2.4	2.6	2.6	2.7	2.8	2.7	2.7	2.6	3.2	5.8	3.2	5.8	3.2	5.8	
24-Jan	2.6	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.3	2.3	2.2	2.2	2.3	2.4	2.4	2.5	2.6	2.6	2.6	2.6	2.7	2.5	2.7	2.5	2.7	2.5	2.7	
25-Jan	2.7	2.7	3.0	3.4	3.6	4.0	4.5	4.9	5.3	5.5	5.1	3.1	2.4	2.2	2.2	2.3	2.4	2.5	2.6	2.6	2.6	2.6	2.6	3.2	5.5	3.2	5.5	3.2	5.5		
26-Jan	2.7	2.8	3.0	3.2	3.2	3.1	2.7	2.7	2.7	2.6	2.5	2.4	2.3	2.4	2.2	2.2	2.4	2.6	2.7	2.8	2.9	2.6	2.6	2.6	2.7	3.2	2.7	3.2	2.7	3.2	
27-Jan	2.7	2.8	2.7	2.7	2.7	2.9	3.0	3.1	3.3	3.1	2.7	2.4	2.4	2.3	2.2	2.2	2.2	2.2	2.3	2.2	1.9	1.9	1.9	2.0	2.5	3.3	2.5	3.3	2.5	3.3	
28-Jan	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	1.9	1.8	1.9	1.9	2.0	2.1	2.2	2.3	2.3	2.3	2.3	2.5	2.5	2.5	2.1	2.5	2.1	2.5	2.1	2.5	
29-Jan	2.5	2.5	2.5	2.5	2.4	2.5	2.5	2.5	2.7	2.6	2.6	2.6	2.6	2.6	2.6	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.8	2.6	2.8	2.6	2.8	2.6	2.8	
30-Jan	2.8	2.8	2.8	2.8	3.0	3.3	3.5	3.9	4.2	4.4	4.3	3.9	3.7	3.6	3.4	3.4	3.5	3.7	3.7	3.8	3.8	3.9	3.9	4.0	3.6	4.4	3.6	4.4	3.6	4.4	
31-Jan	4.0	4.0	4.1	4.1	4.1	4.1	4.2	4.2	4.2	4.1	4.2	4.2	3.4	2.9	2.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	3.5	4.2	3.5	4.2	3.5	4.2	3.5	4.2
																								Diurnal Average							
																								Diurnal Maximum							





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Leaf Wetness (LW) - %
Fort McKay - Bertha Ganter - January 2025

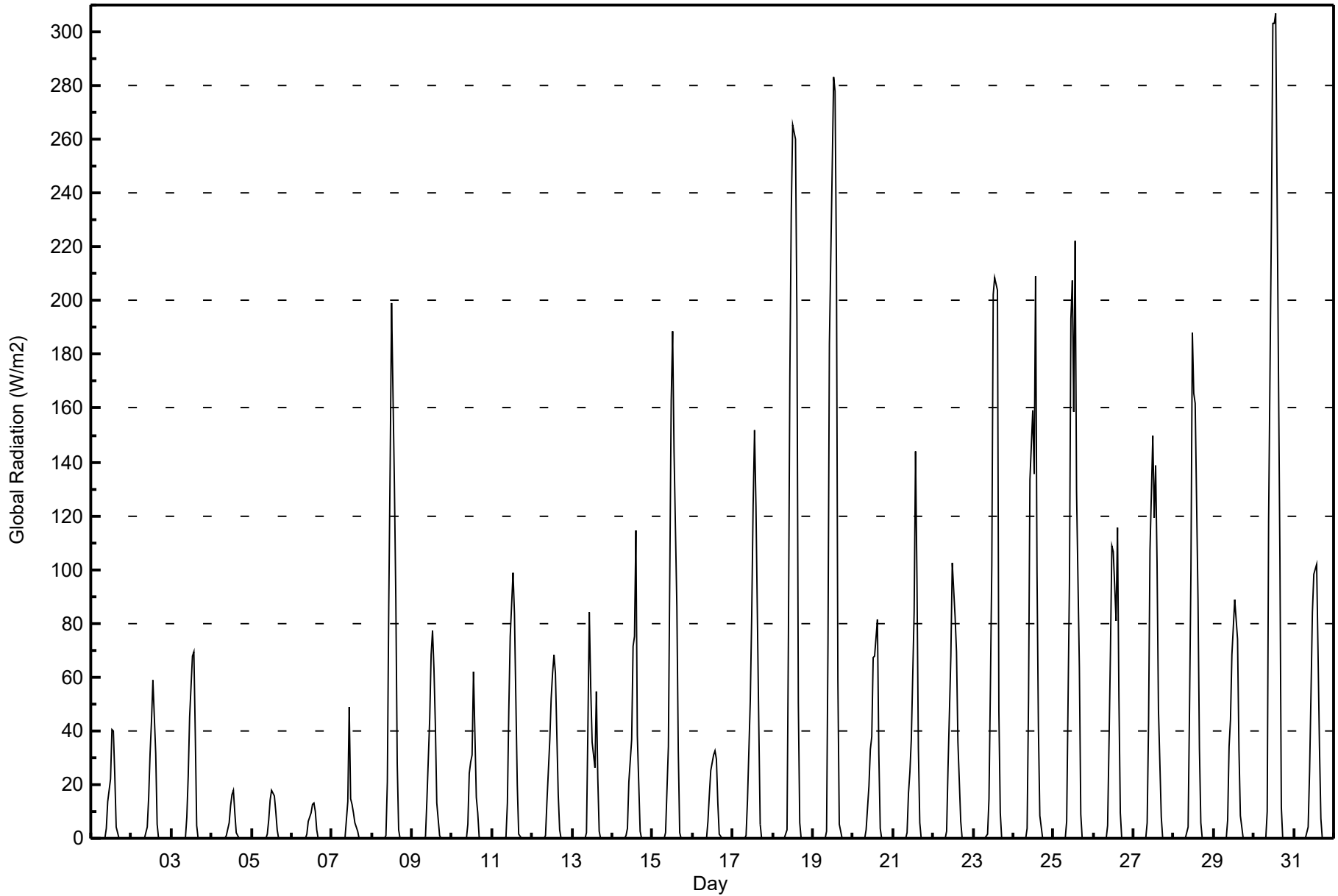
Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 0.3	0	0.00	0.00
0.4 - 0.5	0	0.00	0.00
0.6 - 0.7	0	0.00	0.00
0.8 - 1.4	0	0.00	0.00
1.5 - 10	731	98.25	98.25
> 10	13	1.75	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Maximum Value: 306.6 W/m2 on Jan 30 14:00 Maximum Daily Average: 67.8 W/m2 on Jan 30																						Hours in Service:	744			
Minimum Value: 0.0 W/m2 on Jan 1 01:00 Minimum Daily Average: 2.4 W/m2 on Jan 6																						Hours of Data:	744			
Maximum Diurnal Average: 109.9 W/m2 at hour 14 Minimum Diurnal Average: 0.0 W/m2 at hour 22																						Hours of Missing Data:	0			
Monthly Average: 21.90 W/m2 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 13.3 P ₉₀ = 81.3 P ₉₉ = 245.4																						Hours of Calibration:	0			
																						Percent Operational Time:	100.0			
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	13.6	22.0	40.2	39.7	23.4	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.1	40.2
2-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	15.3	31.6	43.7	58.7	31.7	5.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.9	58.7
3-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	7.8	23.2	45.0	67.6	69.3	38.8	4.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.7	69.3
4-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	5.8	12.0	16.3	17.9	9.6	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	17.9
5-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	7.0	14.2	17.8	15.6	10.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	17.8
6-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	6.3	9.5	12.6	13.3	10.2	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	13.3
7-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	13.7	49.0	14.6	12.8	9.3	6.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5	49.0
8-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	21.2	86.9	139.0	199.0	131.4	89.3	27.6	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.1	199.0
9-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	14.0	44.9	68.1	77.0	63.2	42.2	13.1	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.5	77.0
10-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	5.2	24.2	28.5	31.0	61.7	15.1	9.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.3	61.7
11-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	13.3	47.7	75.2	98.8	83.5	51.7	20.2	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.4	98.8
12-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	13.5	36.4	52.1	61.5	68.4	61.6	16.5	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.1	68.4
13-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	41.0	83.9	56.0	35.6	26.3	54.4	22.5	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.5	83.9
14-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	3.7	21.2	36.8	71.4	75.0	114.3	38.1	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.2	114.3
15-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	34.2	98.8	162.9	188.8	143.7	86.2	32.6	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.3	188.8
16-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	6.2	16.4	25.4	30.8	32.6	29.6	13.4	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.5	32.6
17-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	14.3	51.5	83.0	124.3	151.8	123.5	42.6	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.9	151.8
18-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	76.1	172.0	232.7	265.6	260.1	194.1	50.2	5.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.5	265.6
19-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	72.6	184.1	249.6	283.4	277.7	212.2	59.0	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.1	283.4
20-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	19.5	33.2	38.0	67.1	67.6	81.4	31.6	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.4	81.4
21-Jan	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	2.1	16.7	24.6	36.6	84.2	144.1	96.1	33.6	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.5	144.1
22-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	26.5	67.9	102.3	92.4	82.5	69.5	35.5	6.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.2	102.3
23-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	14.6	56.2	101.2	202.5	208.9	203.7	47.1	9.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.2	208.9
24-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	51.3	133.6	159.3	135.3	209.0	99.6	41.2	8.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.1	209.0
25-Jan	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	6.1	96.9	193.3	207.5	158.8	222.1	129.1	63.4	9.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.3	222.1
26-Jan	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	4.8	35.7	69.4	108.7	106.5	81.1	115.7	52.3	9.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.3	115.7
27-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.6	43.0	106.9	149.8	119.1	138.7	102.3	48.0	7.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	30.1	149.8
28-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	48.6	99.8	187.9	165.6	161.9	88.9	33.4	5.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.2	187.9
29-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	34.1	44.2	68.3	88.8	81.7	74.0	33.2	8.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.3	88.8
30-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	118.1	230.8	303.0	303.3	306.6	239.8	104.6	11.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	67.8	306.6
31-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.2	24.9	53.6	84.2	98.1	102.0	68.7	34.2	7.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.9	102.0
																								Diurnal Average		
																								Diurnal Maximum		





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Global Radiation (GR) - W/m2
Fort McKay - Bertha Ganter - January 2025

Concentration Ranges (W/m2)	Number of Hours	%	Cumulative %
0 - 20	579	77.82	77.82
21 - 100	111	14.92	92.74
101 - 300	51	6.85	99.60
301 - 600	3	0.40	100.00
601 - 900	0	0.00	100.00
> 900	0	0.00	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744

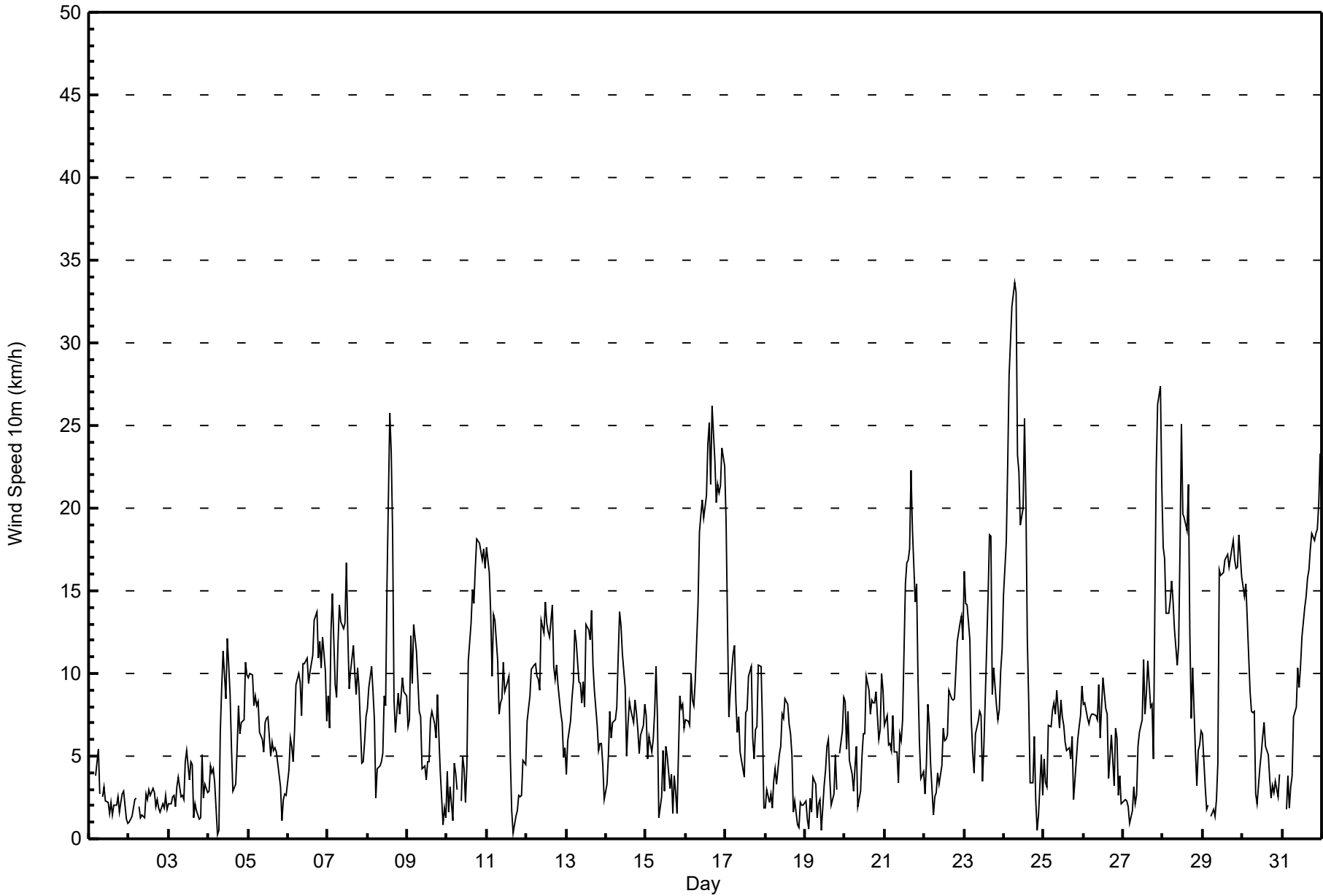


Maximum Speed: 34 km/h on Jan 24 07:00	Maximum Daily Speed Average: 17.4 km/h on Jan 16	Hours in Service: 744
Minimum Speed Value: 0 km/h on Jan 4 06:00	Minimum Daily Speed Average: 0.7 km/h on Jan 4	Hours of Data: 735
Maximum Diurnal Speed Average: 2.9 km/h at hour 23	Minimum Diurnal Speed Average: 0.6 km/h at hour 13	Hours of Missing Data: 9
Monthly Average Velocity: 1.4 km/h 304.7 deg	Percentiles: P ₁ = 1 P ₁₀ = 2 Q ₁ = 4 Median = 7 Q ₃ = 10 P ₉₀ = 16 P ₉₉ = 26	Percent Operational Time: 98.8

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	W2	UO	W0	UO	NNW4	NNW5	NNW3	UO	W3	WNW3	WNW2	W2	E2	ENE2	ENE1	WSW2	NW2	NW3	W2	WNW2	W3	WNW3	WSW1	WSW1	NW1.6	NNW5
2-Jan	W1	SW1	NW1	NNW2	NW2	UO	SSW2	WSW1	SSW1	S1	SSE3	SSE2	SSE3	SSE3	S3	SSE3	NNW2	NW2	WNW2	WNW2	W2	SW2	WSW3	WSW2	SW1.0	S3
3-Jan	W2	WSW2	SW3	WSW3	SW2	SW3	SW4	WSW3	WSW3	SW2	S5	S5	SSE4	SSE5	S4	S1	SSW2	WNW2	W1	SSE1	S5	SE2	SE3	SE3	SSW2.2	S5
4-Jan	E3	N4	N4	N4	N3	NNE0	ESE0	SSE6	S9	S11	S9	S12	S11	SSE9	S5	SSE3	NNE3	N5	N8	N6	N7	N7	N11	N10	E0.7	S12
5-Jan	N10	N10	N10	N8	NNE9	NNE8	NNE8	N6	N6	N5	N7	N7	N7	NNE5	N6	NNE5	NNE6	NE5	ENE5	ENE3	E1	SSE2	SE3	SSW3	NNE5.3	N10
6-Jan	S4	SSE6	SSE6	SSE5	SSE7	SSE9	S10	S9	S7	S11	S11	S11	S9	S10	S11	S11	S13	S14	S11	S12	S10	S12	S10	S7	S9.4	S14
7-Jan	S9	S7	S13	S15	S9	S9	S12	S14	S13	S13	S13	S17	S12	S9	S10	S12	SSW10	S9	S10	S9	SSW5	SSE5	S6	S7	S10.2	S17
8-Jan	WSW8	W9	W10	W9	WSW7	SW2	SSW4	W4	WSW5	SW5	SSW9	W8WNW16	NW26	NW23	NW18	WNW8	WNW6	WNW9	WNW8	WNW9	W10	WNW9	WNW9	WNW8.5	NW26	
9-Jan	W7	NNW7	N12	NNE9	NNE13	NNE11	NNE10	NNE8	NNE7	NE4	E4	ENE4	SE5	SE5	S7	SSE8	SSE7	S6	SSE9	SSE6	SSE4	NW1	NNE2	NNW1	ENE2.2	NNE13
10-Jan	SE4	SW2	N3	SE1	N5	N4	N3	UO	S2	S5	S4	NW2	N4	NNE11	NNE13	N15	NNE14	NNE16	NNE18	NNE18	N17	N17	N18	N16	N7.7	NNE18
11-Jan	N18	N16	NNE14	NNE10	N14	N13	N11	NNE8	NNE8	N9	NNE11	N9	N10	N10	NNE5	NE2	W0	SSW1	WSW2	S3	SSE3	S3	SSW5	S4	N6.0	N18
12-Jan	S7	SSE8	S9	S10	S11	S11	S10	S10	S9	S13	S12	SSE14	SSE13	S13	S12	S14	S10	SSE10	S10	S9	S8	S7	S5	S6	S10.0	SSE14
13-Jan	S4	S6	S7	S8	S10	SSE13	S12	S10	S9	S8	SSE9	S8	SSE13	SSE13	S12	S14	S10	S9	S7	SSW5	WSW6	W6	W5	W2	S7.8	S14
14-Jan	S3	SSW5	S8	S6	S7	S7	S8	S11	S14	S13	S11	S9	WSW5	SW7	WSW8	W8	W7	WSW8	WSW8	WSW7	WSW5	WSW6	W7	W8	SSW6.1	S14
15-Jan	W7	NW5	NW6	WNW5	W6	W8WNW10	NW7	WSW1	W3	WNW5	WSW3	SW6	W5	W3	W4	WSW2	S4	SSW3	NNW2	N9	N8	N8	NNE7	WNW3.6	WNW10	
16-Jan	NNE7	NNE7	NNE7	NNE10	NNE8	N8	N10	N14	N19	N20	N20	N19	N21	N24	N25	N21	N26	N23	N20	N21	N21	N21	N24	N23	N17.4	N26
17-Jan	N19	N13	NNW7	N9	N11	N12	N8	NNE6	NNE7	N5	N4	NNE4	NNE8	NNE8	N10	N10	NNW6	WNW5	NNW7	N7	N10	N10	N7	NNW2	N7.8	N19
18-Jan	WSW2	W3	WSW2	WSW3	SW2	SSW3	S4	SSW3	S5	S6	S8	SSE7	SSE8	S8	S7	S6	S5	WSW2	NW2	WNW1	WSW1	NW2	W2	W2	SSW3.1	SSE8
19-Jan	WNW2	WSW1	SW1	W2	WNW2	NW4	WNW3	W1	W2	NNW2	WSW0	SSE3	SSE4	SSE6	SSE6	S4	S2	S3	S5	SSW3	UO	S5	S7	S9	SSW2.1	S9
20-Jan	S8	SSW5	S8	S5	SSW4	SW3	S4	S6	SSW2	WSW3	S5	S6	S6	S10	S9	S8	S8	S8	S8	S9	SW6	WSW7	W10	WSW9	SSW5.7	W10
21-Jan	WSW7	WSW7	SW6	SSW6	SW5	W7	W5	W5	SW3	W6	WNW6	NNW7	NNE15	NNE17	NNE17	NNE18	NNE22	NNE19	NNE14	NNE15	N10	N6	NW4	SW4	N5.7	NNE22
22-Jan	S3	SSE5	S8	S7	SSE5	WSW1	SSW3	SSE3	S4	S3	SSE4	SSE7	SSE6	WSW6	SSW6	SSE9	S8	S8	S8	S10	S12	S13	S13	S12	S6.6	S13
23-Jan	S16	S14	SSE14	S12	SSE7	S5	S4	SSW6	S7	SSW8	S7	SSE3	WSW6	W9WNW15	NW18	NW18	WNW9WNW10	WNW8	W7	W8WNW10WNW11	WSW5.3	NW18				
24-Jan	WNW15WNW18	NW23	NW28	NNW30	NNW32	NNW34	NNW33	NNW23	NNW22	NW19	NNW20	NNW25	NNW20	NW12	NW8	WNW3	WSW3	S6	SSE2	S1	SW1	S5	WSW3	NNW14.2	NNW34	
25-Jan	S5	SSE3	SSW3	SSW7	SSW7	S8	S8	S8	S9	SW7	WSW8	SW7	SSW7	SW6	S5	NW5	W5	WNW6	NW2	S4	S6	S7	S7	S9	SSW5.0	S9
26-Jan	S8	S8	S7	S7	S7	SW8	SSW8	SSE7	S7	SSW9	SSW6	SSW8	S10	SSE8	S8	WSW4	WNW5	W6	NNW3	WNW7	W6	WSW3	SSW4	SSW2	SSW4.9	S10
27-Jan	SW2	WSW2	SSW2	WSW2	NW1	W2	SW3	SW2	SSW3	S6	S6	SSE7	SSE11	S8	S9	S11	SSW8	SSW8	SSE5	NW14	NW22	NW26WNW27WNW21	WSW4.4	WNW27		
28-Jan	WNW18WNW17WNW14WNW14WNW14WNW16	NW14WNW13WNW11WNW12	NW18	NW25	NW20	NW19	NW19	NW19	NW21	NNW12	NNW7	NW10	W5	SW3	WSW5	W6	WNW6	WNW12.7	NW25							
29-Jan	WNW6	WNW3	SSW2	S2	UO	S1	SW2	WNW1	WNW2	NNW5	NNE16	NNE16	NNE16	NNE17	NNE17	NNE17	NNE16	NNE18	NNE18	N17	NNE16	N16	N18	NNE16	NNE10.1	N18
30-Jan	NNE15	NNE15	N15	N13	N9	N8	NNE8	NNE8	ESE3	ENE2	E4	E5	NE6	NE7	NE6	NE5	NE4	NNW2	NNW3	WNW3	NW4	NW3	NW4	UO	NNE5.5	NNE15
31-Jan	NW3	UO	W2	NNW4	NNW2	NNW3	N4	N7	N8	N10	N9	N10	NNE12	N14	N15	N16	N16	N18	N18	N18	N18	N19	N20	N23	N11.5	N23

W1.8WNW2.0	W1.4	W1.3	NW1.5	NW1.8NNW1.4	W0.9	SW1.1	SW1.6	SW1.2SSW0.6	NW0.6NNW1.6	NW1.5	NW1.9NNW2.0	NW1.6NNW1.5	NW1.9NNW2.6	NW2.7	NW2.9	NW2.6								Diurnal Average					
N19WNW18	NW23	NNW28	NNW30	NNW32	NNW34	NNW33	NNW23	NNW22	N20	NW25	NNW25	NW26	NNE25	NW21	N26	N23	N20	N21	NW22	NW26WNW27	N23								Diurnal Maximum

UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 10m (WS10) - km/h
Fort McKay - Bertha Ganter - January 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	278	37.82	37.82
6 - 11	301	40.95	78.78
12 - 19	119	16.19	94.97
20 - 28	33	4.49	99.46
29 - 38	4	0.54	100.00
> 38	0	0.00	100.00

Total Number of Valid Hours: 735

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Wind Speed 10m (WS10) - km/h
Fort McKay - Bertha Ganter - January 2025

Wind Speed Ranges (km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	14	7	5	6	6	2	8	25	41	24	22	34	28	23	18	15	278
6 - 11	44	26	3	0	0	0	0	26	112	15	8	16	21	20	4	6	301
12 - 19	28	30	0	0	0	0	0	6	32	0	0	0	0	12	10	1	119
20 - 28	13	4	0	0	0	0	0	0	0	0	0	0	0	2	8	6	33
29 - 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	99	67	8	6	6	2	8	57	185	39	30	50	49	57	40	32	735

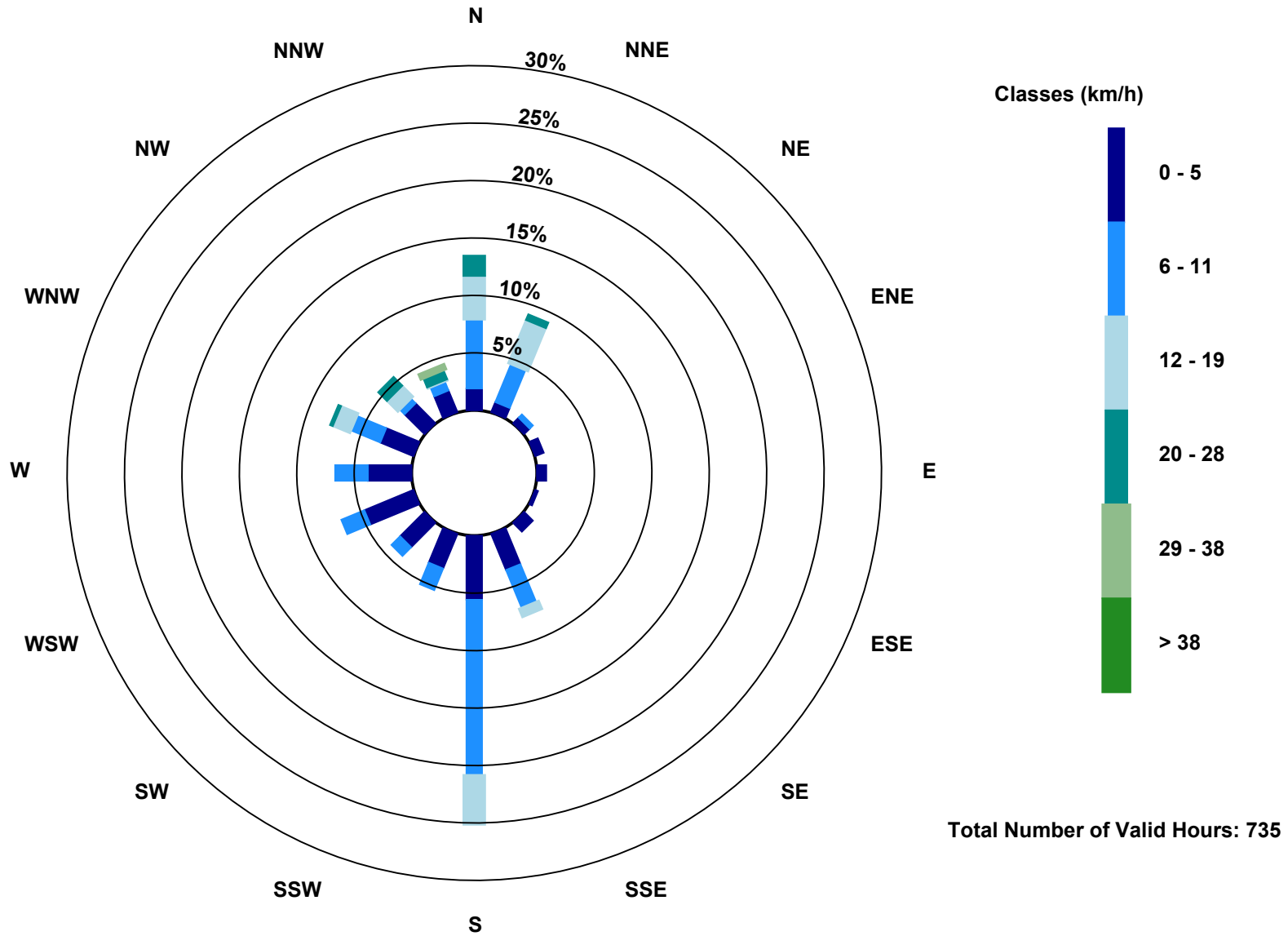
Total Number of Valid Hours: 735

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Wind Speed 10m (WS10) - km/h
Fort McKay - Bertha Ganter





Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Speed 10m (WS10) - km/h
Fort McKay - Bertha Ganter - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 9 km/h on Jan 24 07:00 Minimum Value: 0 km/h on Jan 2 04:00 Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 1 Median = 2 Q ₃ = 3 P ₉₀ = 4 P ₉₉ = 7														Hours in Service: 744 Hours of Data: 735 Hours of Missing Data: 9 Hours of Calibration: 0 Percent Operational Time: 98.8											
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	1	UO	1	UO	2	1	0	UO	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2
2-Jan	2	1	1	0	1	UO	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	2
3-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	2	1	1	1	1	2	1	1	2
4-Jan	1	1	1	1	1	1	1	3	2	3	2	3	2	2	1	2	1	1	1	1	1	1	3	2	3
5-Jan	2	2	2	2	3	2	2	2	1	1	1	2	2	2	1	1	1	1	2	1	1	1	1	1	3
6-Jan	1	1	1	1	2	2	2	2	2	2	2	3	3	2	2	2	3	3	3	2	2	2	2	2	3
7-Jan	2	2	3	3	3	2	3	3	3	2	4	4	3	3	4	3	3	2	2	3	2	1	2	3	4
8-Jan	4	4	4	3	3	2	1	2	2	1	2	4	5	7	6	4	2	2	3	3	3	3	3	3	7
9-Jan	2	4	4	3	3	3	2	2	2	2	1	1	2	2	1	2	1	1	2	2	2	1	1	1	4
10-Jan	2	2	1	3	2	1	2	UO	1	2	1	2	2	3	4	4	4	4	5	4	4	4	4	5	5
11-Jan	5	5	4	3	3	3	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	2	5
12-Jan	1	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	2	2	2	2	2	2	1	2	3
13-Jan	1	2	1	3	2	2	2	3	2	2	2	2	4	3	3	2	2	1	2	3	2	2	2	2	4
14-Jan	1	3	1	1	1	2	2	3	3	2	2	3	2	3	3	3	3	3	3	3	2	2	3	3	3
15-Jan	3	1	3	2	2	2	3	4	3	2	3	3	2	2	2	2	1	1	3	2	1	2	1	4	4
16-Jan	2	2	2	2	2	2	2	2	4	4	4	4	4	5	6	5	6	7	5	5	5	6	6	6	7
17-Jan	5	5	2	2	3	3	2	2	1	1	1	1	2	2	2	2	1	2	2	1	2	2	2	2	5
18-Jan	2	2	1	1	1	2	1	1	2	1	2	1	1	2	1	1	1	2	1	1	2	1	1	1	2
19-Jan	2	1	1	1	1	1	1	1	2	1	1	1	1	1	2	1	1	1	1	2	UO	2	1	2	2
20-Jan	3	1	2	1	1	1	1	1	1	2	2	2	1	3	2	2	2	2	2	2	2	3	4	5	5
21-Jan	4	3	2	2	2	3	2	3	2	2	2	4	4	4	5	5	5	4	4	4	3	1	2	1	5
22-Jan	1	1	2	2	1	1	1	1	1	1	1	2	1	3	2	2	1	2	1	2	2	3	3	3	3
23-Jan	3	3	2	2	2	1	2	2	2	3	2	3	4	5	5	6	3	5	4	3	3	4	4	6	6
24-Jan	6	5	7	6	7	7	9	8	4	5	4	6	5	5	3	2	2	2	1	1	1	1	2	1	9
25-Jan	2	2	2	1	1	1	1	2	1	3	4	3	2	2	1	3	2	2	2	1	2	1	1	2	4
26-Jan	1	2	1	1	2	2	3	2	2	3	3	3	2	2	3	2	2	2	1	2	2	2	2	2	3
27-Jan	1	2	2	2	1	2	2	1	1	2	2	2	2	2	3	3	2	2	2	8	7	9	8	7	9
28-Jan	6	5	5	4	4	5	4	4	4	4	5	8	7	6	6	5	7	3	2	2	1	2	2	2	8
29-Jan	2	2	1	2	UO	2	1	1	1	4	4	4	5	4	5	4	4	4	5	3	4	4	4	5	5
30-Jan	4	4	4	3	2	1	2	2	1	2	1	1	2	2	1	1	1	1	1	1	1	1	1	UO	4
31-Jan	2	UO	1	1	2	1	1	2	2	2	2	3	3	3	3	3	3	4	4	4	4	4	4	5	5
Diurnal Maximum																									
6 5 7 6 7 7 9 8 4 5 5 8 7 7 6 5 7 7 5 8 7 9 8 7																									
UO - Unstable Operation																									



Wood Buffalo Environmental Association
Summary of Hour Averages

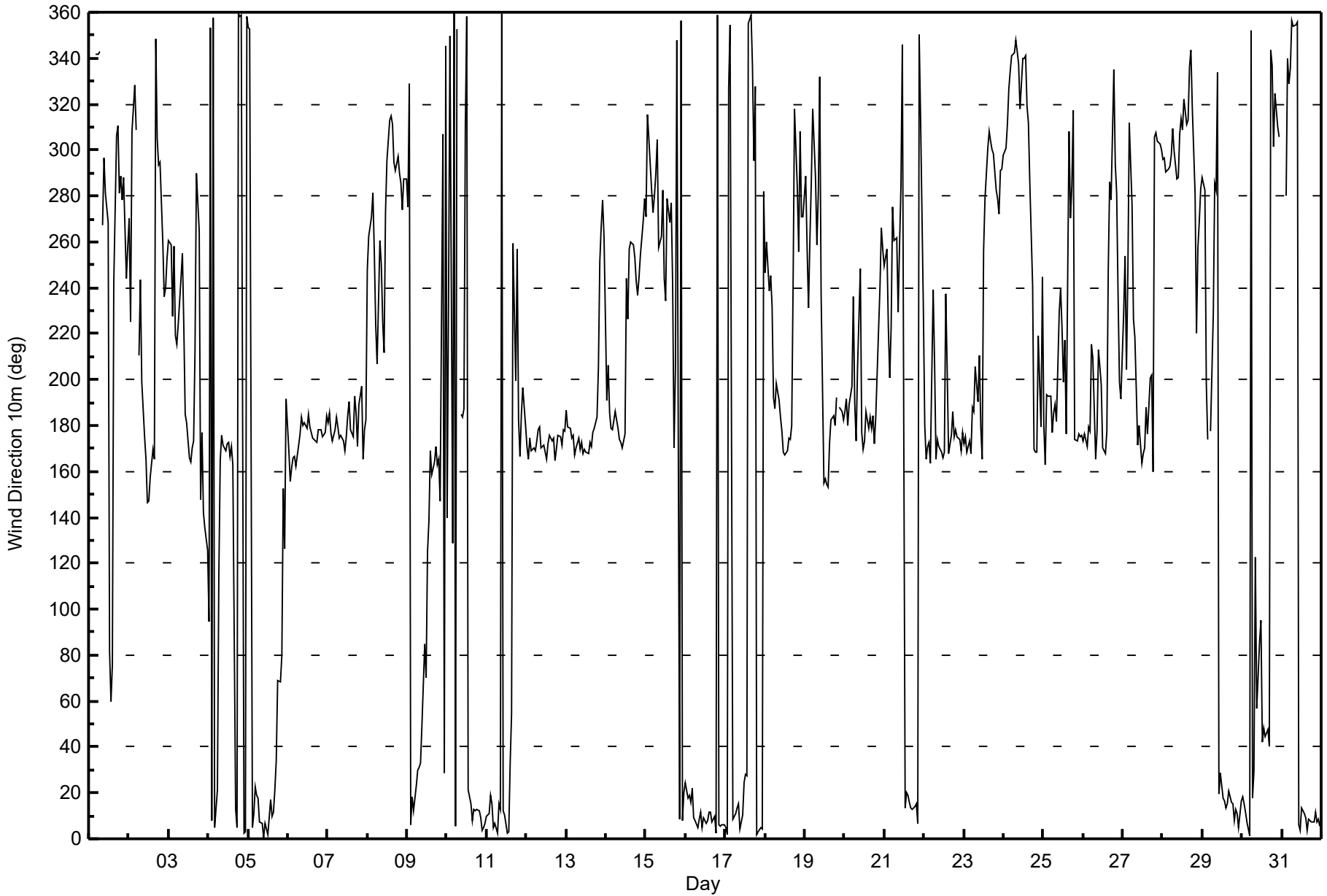
Wind Direction 10m (WD10) - deg
Fort McKay - Bertha Ganter - January 2025

Direction of Maximum Speed: 342 deg on Jan 24 07:00	Hours in Service: 744
Direction of Maximum Daily Speed Average: 8.3 deg on Jan 16	Hours of Data: 735
Direction of Minimum Speed: 21 deg on Jan 4 06:00	Direction of Minimum Daily Speed Average: 0.7 deg on Jan 4
Direction of Minimum Daily Speed Average: 0.7 deg on Jan 4	Hours of Missing Data: 9
Monthly Average Direction: 304.7 deg	Percent Operational Time: 98.8

Day	Hourly Period Ending At (MST)																								Daily Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	277	UO	269	UO	342	341	343	UO	267	296	282	268	82	60	76	242	306	311	281	288	278	288	244	258	304.3
2-Jan	270	225	308	328	309	UO	210	243	199	175	165	147	147	157	169	166	348	305	294	295	260	236	240	252	226.5
3-Jan	261	258	228	258	219	215	224	244	255	223	185	181	166	164	170	173	213	290	265	148	177	142	136	125	196.7
4-Jan	95	353	8	358	5	21	114	165	176	171	169	172	172	167	171	163	13	5	359	358	359	2	3	358	91.1
5-Jan	353	353	5	11	23	19	18	7	7	1	7	4	2	17	9	12	22	34	69	69	80	153	127	192	14.4
6-Jan	169	156	162	166	166	163	172	176	184	180	181	179	185	180	177	174	174	173	178	178	178	175	177	184	175.3
7-Jan	181	185	177	173	178	184	180	175	175	174	169	175	184	190	178	175	193	185	171	189	197	166	178	183	178.9
8-Jan	248	262	271	281	256	224	207	261	250	225	212	272	295	313	315	311	295	291	297	290	285	274	287	288	284.4
9-Jan	275	329	6	18	12	23	30	31	33	49	85	70	125	138	169	158	164	171	163	166	147	307	29	345	57.3
10-Jan	140	234	349	129	360	5	353	UO	185	184	187	310	358	22	15	8	13	12	13	12	9	4	5	6	9.7
11-Jan	10	11	19	15	5	7	3	15	13	360	12	10	3	3	33	55	259	200	257	182	166	185	197	180	10.2
12-Jan	171	165	175	169	170	169	173	178	179	170	172	168	165	172	176	173	175	165	169	175	175	171	178	178	171.8
13-Jan	186	179	179	174	176	167	170	174	170	173	168	170	168	168	173	171	177	179	183	205	252	266	278	263	179.3
14-Jan	191	206	186	179	178	186	183	179	174	173	170	176	244	226	257	260	259	253	243	237	245	254	269	279	211.5
15-Jan	271	315	305	282	273	280	290	304	257	262	282	244	234	279	268	277	241	170	205	348	8	356	8	20	297.6
16-Jan	25	18	19	16	22	9	8	5	8	11	5	9	7	8	11	11	7	10	3	359	6	6	6	6	8.3
17-Jan	5	2	327	355	8	10	11	14	15	5	10	24	28	28	355	358	336	296	328	2	3	5	4	282	1.4
18-Jan	247	260	239	245	232	192	187	198	191	183	177	168	167	169	174	174	180	242	318	284	255	308	271	271	193.8
19-Jan	289	258	231	261	286	318	288	259	281	332	237	155	157	154	153	172	182	184	180	192	UO	188	186	183	194.5
20-Jan	186	192	180	189	197	236	190	173	205	249	177	169	173	186	179	183	179	185	172	184	222	240	266	257	195.8
21-Jan	249	257	223	201	224	275	260	262	230	259	284	346	13	20	19	16	14	13	14	15	7	350	314	231	348.8
22-Jan	180	165	171	173	164	239	207	165	174	171	168	166	168	237	205	168	176	186	175	178	175	174	169	177	177.1
23-Jan	172	175	168	173	168	188	186	205	190	211	180	165	256	279	301	308	304	300	298	283	279	272	291	291	245.1
24-Jan	298	301	311	326	334	341	342	348	343	337	318	340	340	341	319	312	286	241	169	168	169	219	180	245	329.2
25-Jan	180	163	194	193	193	177	185	189	182	229	240	222	199	217	176	308	271	284	318	174	173	177	175	176	199.9
26-Jan	173	176	171	180	178	216	209	165	178	213	206	198	170	168	178	248	286	278	335	294	281	237	199	192	200.4
27-Jan	229	254	204	246	312	276	227	219	196	172	180	163	168	170	188	176	201	202	160	305	308	304	303	300	256.6
28-Jan	296	297	290	292	293	298	309	300	287	288	307	314	309	322	311	313	336	343	319	281	220	258	269	283	303.3
29-Jan	288	283	198	174	UO	177	229	286	282	334	20	29	18	16	13	16	21	16	15	8	13	11	5	16	11.3
30-Jan	18	15	11	7	1	352	18	29	122	57	85	95	42	48	44	48	41	344	337	301	324	310	306	UO	18.4
31-Jan	304	UO	280	340	329	335	357	354	354	356	6	4	14	11	9	4	8	8	7	7	11	7	8	5	4.5

278.9 288.7 272.8 280.3 311.6 310.6 289.1 272.6 216.9 231.0 218.9 204.0 326.0 342.7 325.3 323.7 331.6 325.6 339.3 323.0 327.5 314.9 316.2 308.3
 Diurnal Average

UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods





Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg
Fort McKay - Bertha Ganter - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 99 deg on Jan 4 07:00 Minimum Value: 8 deg on Jan 25 23:00 Percentiles: P ₁ = 11 P ₁₀ = 13 Q ₁ = 15 Median = 19 Q ₃ = 33 P ₉₀ = 49 P ₉₉ = 85																		Hours in Service: 744 Hours of Data: 735 Hours of Missing Data: 9 Hours of Calibration: 0 Percent Operational Time: 98.8							
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	35	UO	60	UO	34	15	16	UO	16	14	34	21	65	32	48	33	26	24	29	17	22	17	19	49	65
2-Jan	60	45	35	17	18	UO	22	36	49	23	47	22	18	33	16	12	63	37	36	34	40	38	25	27	63
3-Jan	24	23	19	37	30	14	20	21	21	23	14	15	20	15	21	66	35	40	57	84	22	66	11	57	84
4-Jan	33	27	17	16	18	90	99	17	14	14	14	13	13	16	37	13	16	12	12	13	13	15	16	99	
5-Jan	15	15	14	16	17	15	16	15	13	14	15	18	19	26	19	17	16	29	35	30	61	35	27	33	61
6-Jan	19	14	13	18	16	12	14	14	18	15	15	16	22	15	14	13	14	13	14	13	12	12	12	16	22
7-Jan	14	14	14	11	12	13	13	11	11	11	11	12	15	20	17	14	19	19	12	22	22	18	16	18	22
8-Jan	40	40	37	27	37	85	46	48	32	23	20	38	19	15	12	11	15	17	17	21	27	30	23	23	85
9-Jan	27	47	20	17	17	20	17	18	20	35	27	29	27	40	15	12	14	15	13	17	40	64	38	69	69
10-Jan	42	47	43	83	19	21	38	UO	57	25	36	75	39	17	21	17	17	17	17	15	17	18	18	17	83
11-Jan	17	17	18	19	17	17	17	16	19	18	19	19	21	21	33	34	92	66	54	38	33	44	21	23	92
12-Jan	13	13	12	12	12	12	12	13	14	12	14	13	11	13	15	14	13	13	12	15	19	17	22	19	22
13-Jan	19	14	16	17	14	10	11	18	13	15	16	18	12	18	16	11	16	16	12	36	53	35	33	72	72
14-Jan	48	45	12	14	11	13	16	14	13	12	12	30	39	39	41	45	46	38	42	41	41	30	35	33	48
15-Jan	32	41	31	24	17	15	16	80	82	66	62	60	36	42	45	28	65	30	66	98	18	16	18	13	98
16-Jan	15	16	17	15	16	16	15	16	15	16	17	19	17	16	17	17	18	17	17	18	17	17	19	18	19
17-Jan	18	19	19	19	18	16	14	15	14	16	21	45	18	17	17	18	25	20	18	26	14	16	23	57	57
18-Jan	44	12	42	13	40	25	24	17	14	15	12	12	13	13	12	14	16	56	32	67	89	59	57	39	89
19-Jan	34	42	72	42	82	21	29	37	31	52	86	26	17	16	12	27	20	24	14	20	UO	11	9	13	86
20-Jan	14	13	14	13	23	28	21	13	71	51	26	19	20	16	14	19	14	15	13	16	33	51	42	46	71
21-Jan	54	45	42	33	41	39	43	72	72	46	31	45	18	17	18	18	17	17	16	18	18	21	16	17	72
22-Jan	37	13	13	13	23	76	43	29	19	22	16	21	14	53	28	11	11	12	11	13	12	13	12	17	76
23-Jan	12	13	11	11	14	20	40	27	21	28	24	52	58	36	19	14	14	17	28	28	26	30	20	24	58
24-Jan	18	15	17	13	17	16	18	21	17	16	12	20	16	21	20	14	23	47	11	50	96	35	18	42	96
25-Jan	31	43	70	16	16	10	11	14	14	57	33	32	27	44	19	56	31	18	80	22	11	12	8	9	80
26-Jan	11	13	12	14	11	31	39	13	25	31	41	33	12	10	21	52	32	23	66	18	18	56	38	68	68
27-Jan	55	53	63	64	62	68	55	64	35	18	16	15	11	14	23	15	24	22	44	66	16	17	16	17	68
28-Jan	19	17	20	20	18	16	16	19	23	23	18	16	18	17	16	14	22	29	14	24	32	23	26	19	32
29-Jan	14	29	39	52	UO	64	42	36	16	42	18	19	22	20	20	21	20	19	20	24	20	22	20	21	64
30-Jan	19	20	21	21	22	20	23	17	37	48	28	28	25	26	24	21	21	41	26	42	28	46	36	UO	48
31-Jan	27	UO	36	40	76	36	29	20	19	21	22	20	18	19	19	21	17	17	18	18	17	18	17	18	76
Diurnal Maximum																									
60 53 72 83 82 90 99 80 82 66 86 75 65 53 48 66 92 66 80 98 96 66 57 72																									
UO - Unstable Operation																									



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS02 MILDRED LAKE JANUARY 2025

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

February 28, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - MILDRED LAKE (AMS02)
JANUARY 2025

MONTHLY SUMMARY

Parameter	Hours of Data	Hours of Calibration	Hours without Data	Operational Time	Maximum 1-Hour Value	1-Hour Exceedances	Maximum 24-Hour Value	24-Hour Exceedances
SO2 (ppb) Average	708	36	36	100	56	0	10.6	0
H2S (ppb) Average	685	35	59	96.77	23.2	7	4.4	1
THC (ppm) Average	694	36	50	98.12	3.1	-	2.4	-
NMHC(ppm) Average	694	36	50	98.12	0.016	-	0.001	-
CH4(ppm) Average	694	36	50	98.12	3.1	-	2.4	-
Temperature (C) Average	744	0	0	100	6.9	-	2.4	-
Relative Humidity (%) Average	744	0	0	100	95.9	-	89.3	-
Wind Speed 10 m (km/h) Average	744	0	0	100	37	-	16	-
Wind Direction 10 m (deg) Average	744	0	0	100	-	-	-	-

Note : Operational time includes periods of data collection and instrument calibration

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - MILDRED LAKE (AMS02)
 JANUARY 2025

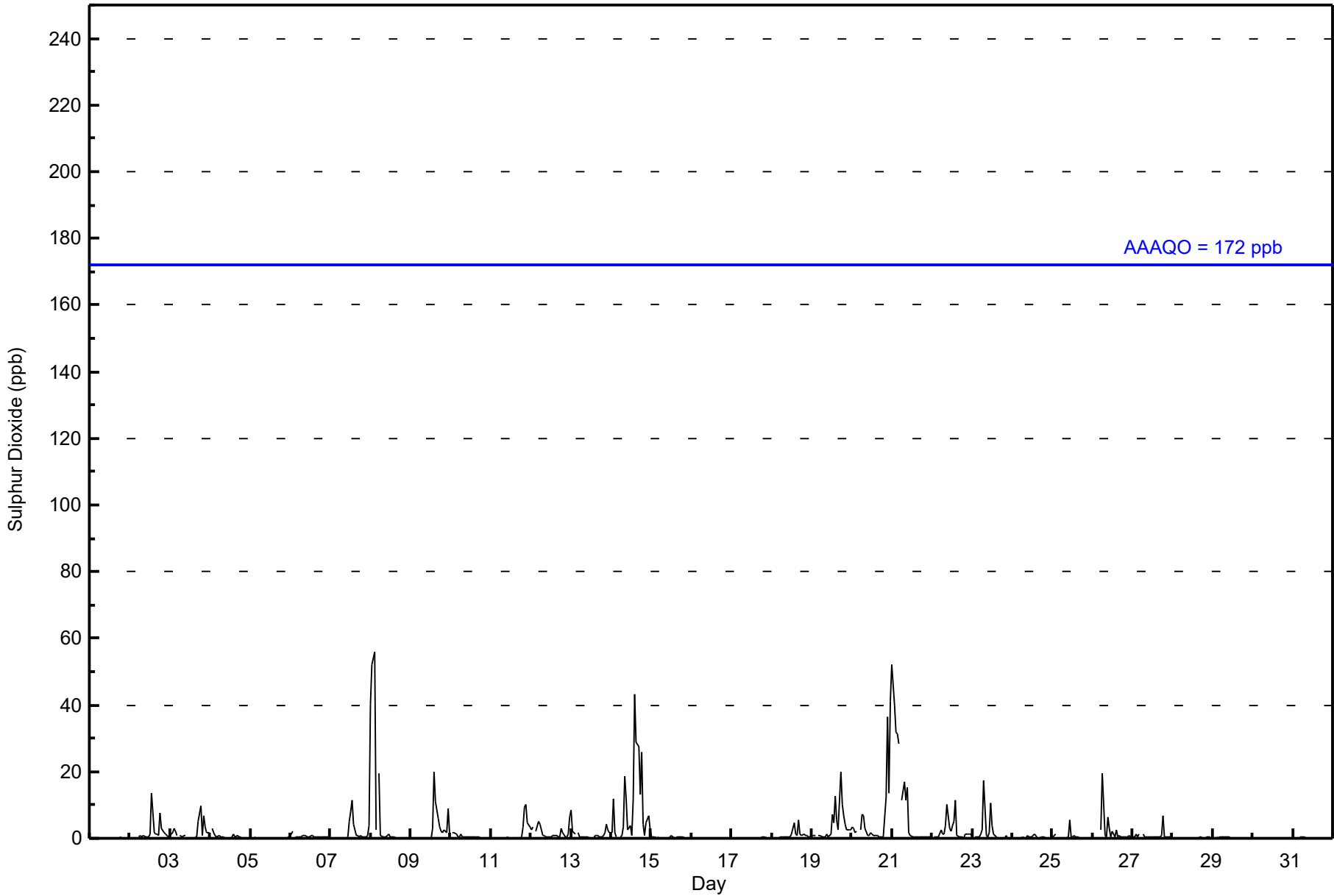
MONTHLY SUMMARY FOR AIR QUALITY/ METEOROLOGICAL MONITORING MEASUREMENTS

Parameter	Number	Mean	StnDev	Total	Percentile						
					Min	P10	Q1	Median	Q3	P90	Max
SO2 (ppb) Average	708	2.02	6	-	0	0	0.1	0.3	0.9	4	56
H2S (ppb) Average	685	0.66	1.8	-	0	0.1	0.1	0.2	0.5	1.3	23.2
THC (ppm) Average	694	2.14	0.2	-	1.9	2	2	2.1	2.2	2.4	3.1
NMHC(ppm) Average	694	0	0.001	-	0	0	0	0	0	0	0.016
CH4(ppm) Average	694	2.14	0.2	-	1.9	2	2	2.1	2.2	2.4	3.1
Temperature 2 m (C) Average	744	-12.22	11	-	-35.4	-27.5	-21.6	-11.7	-2.8	2	6.9
Relative Humidity (%) Average	744	76.11	9.6	-	41.4	63.7	72.6	76.5	82.1	87.6	95.9
Wind Speed 10 m (km/h) Average	744	9.9	5	-	0	4	6	9	13	17	37
Wind Direction 10 m (deg) Average	744	-	-	-	-	-	-	-	-	-	-

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - MILDRED LAKE (AMS02)
JANUARY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
H2S	18 Jan 2025 18:00	19 Jan 2025 00:00	7	Unstable Operation - flatline in analyzer output signal
H2S	24 Jan 2025 17:00	24 Jan 2025 23:00	7	Unstable Operation - flatline in analyzer output signal
H2S	25 Jan 2025 23:00	26 Jan 2025 05:00	7	Unstable Operation - flatline in analyzer output signal
H2S	28 Jan 2025 09:00	28 Jan 2025 10:00	2	Unstable Operation - flatline in analyzer output signal
H2S	28 Jan 2025 22:00	28 Jan 2025 22:00	1	Unstable Operation - flatline in analyzer output signal
THC/NMHC/CH4	20 Jan 2025 12:00	20 Jan 2025 15:00	4	Unstable Operation - excessive baseline noise
THC/NMHC/CH4	22 Jan 2025 13:00	22 Jan 2025 14:00	2	Unstable Operation - excessive baseline noise
THC/NMHC/CH4	26 Jan 2025 11:00	26 Jan 2025 16:00	6	Unstable Operation - excessive baseline noise
THC/NMHC/CH4	31 Jan 2025 23:00	01 Feb 2025 00:00	2	Unstable Operation - excessive baseline noise





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Sulphur Dioxide (SO₂) - ppb
Mildred Lake - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	673	95.06	95.06
11 - 20	21	2.97	98.02
21 - 60	14	1.98	100.00
61 - 110	0	0.00	100.00
111 - 172	0	0.00	100.00
> 172	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



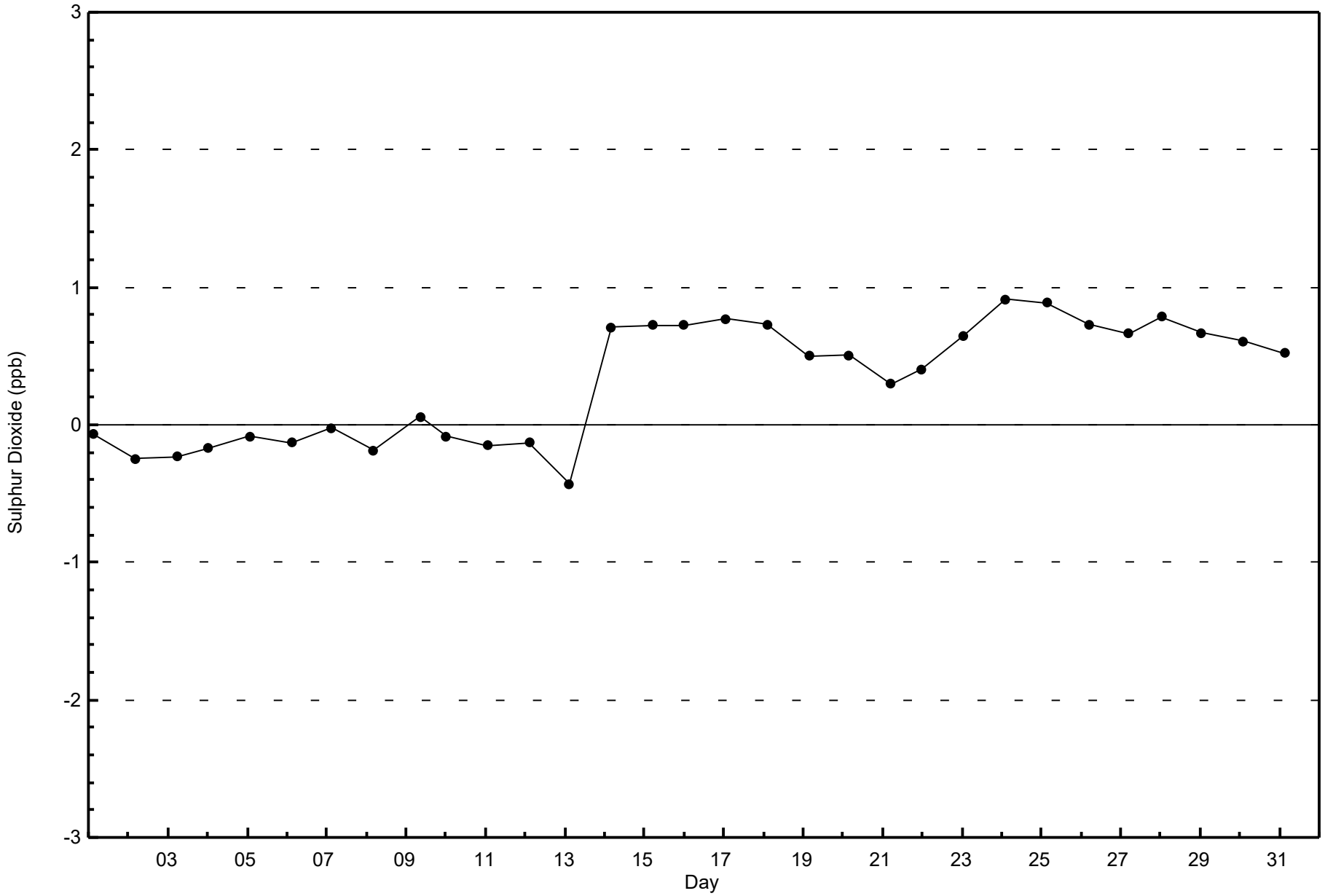
**Wood Buffalo Environmental Association
Frequency Distribution**

**Sulphur Dioxide (SO₂) - ppb
Mildred Lake - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 10	139	50	9	7	9	8	40	110	56	57	33	14	27	63	22	29	673
11 - 20	0	0	0	0	0	1	4	3	0	0	0	7	5	1	0	0	21
21 - 60	0	0	0	0	0	0	0	0	0	0	0	6	8	0	0	0	14
61 - 110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111 - 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	139	50	9	7	9	9	44	113	56	57	33	27	40	64	22	29	708

Total Number of Valid Hours: 708

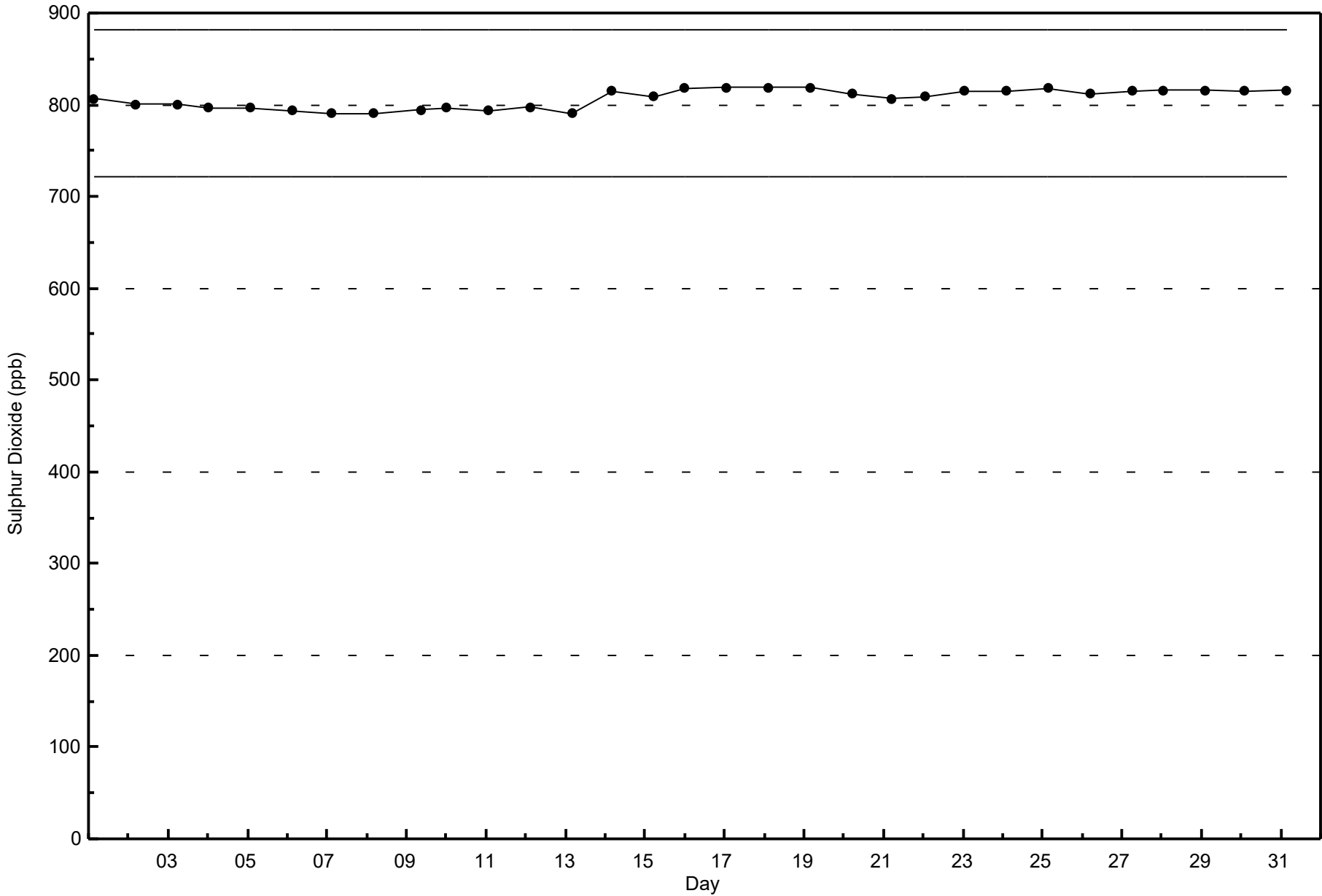
Total Number of Hours: 744

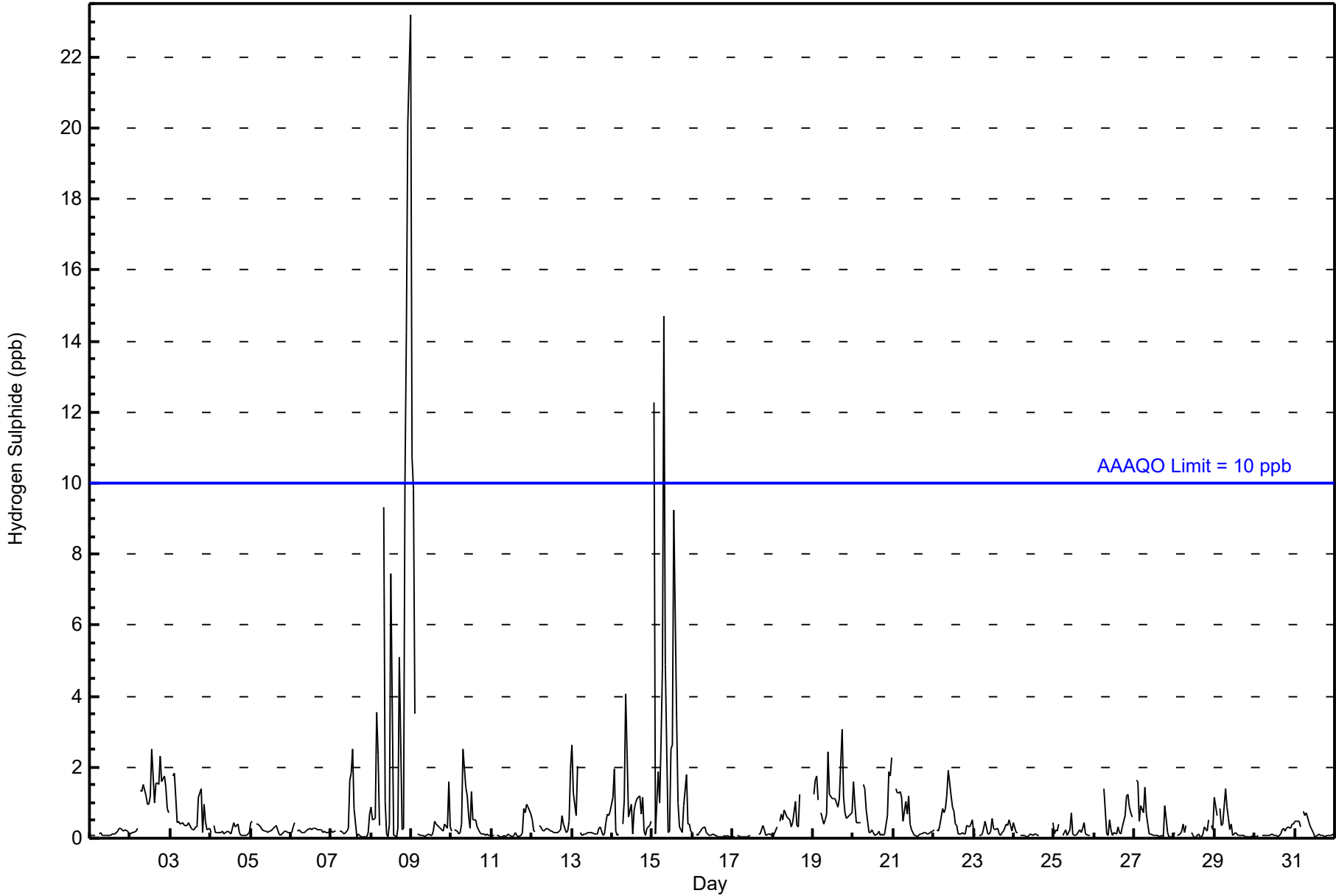




Wood Buffalo Environmental Association
Span Responses

Sulphur Dioxide (SO₂) - ppb
Mildred Lake - January 2025







Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Hydrogen Sulphide (H₂S) - ppb
Mildred Lake - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	661	96.50	96.50
3 - 4	10	1.46	97.96
5 - 7	4	0.58	98.54
8 - 11	4	0.58	99.12
> 11	6	0.88	100.00

Total Number of Valid Hours: 685

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Hydrogen Sulphide (H₂S) - ppb
Mildred Lake - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2	137	52	9	6	8	7	41	115	56	48	30	27	37	47	20	21	661
3 - 4	0	0	0	0	0	1	2	1	0	0	1	0	2	2	0	1	10
5 - 7	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	1	4
8 - 11	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4
> 11	0	0	0	0	0	0	0	0	0	0	0	0	1	5	0	0	6
Totals	137	52	9	6	8	8	43	116	56	48	31	27	40	61	20	23	685

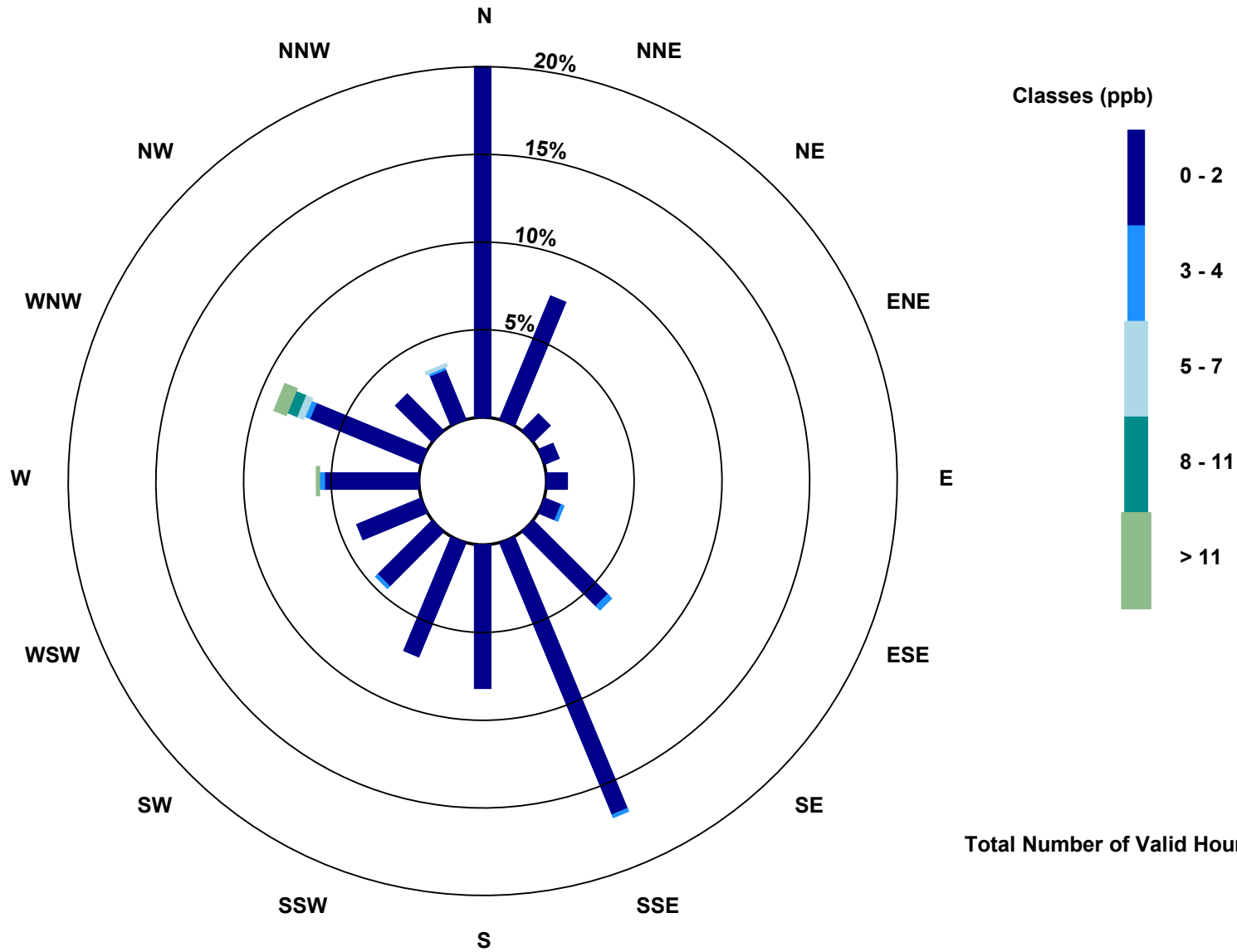
Total Number of Valid Hours: 685

Total Number of Hours: 744

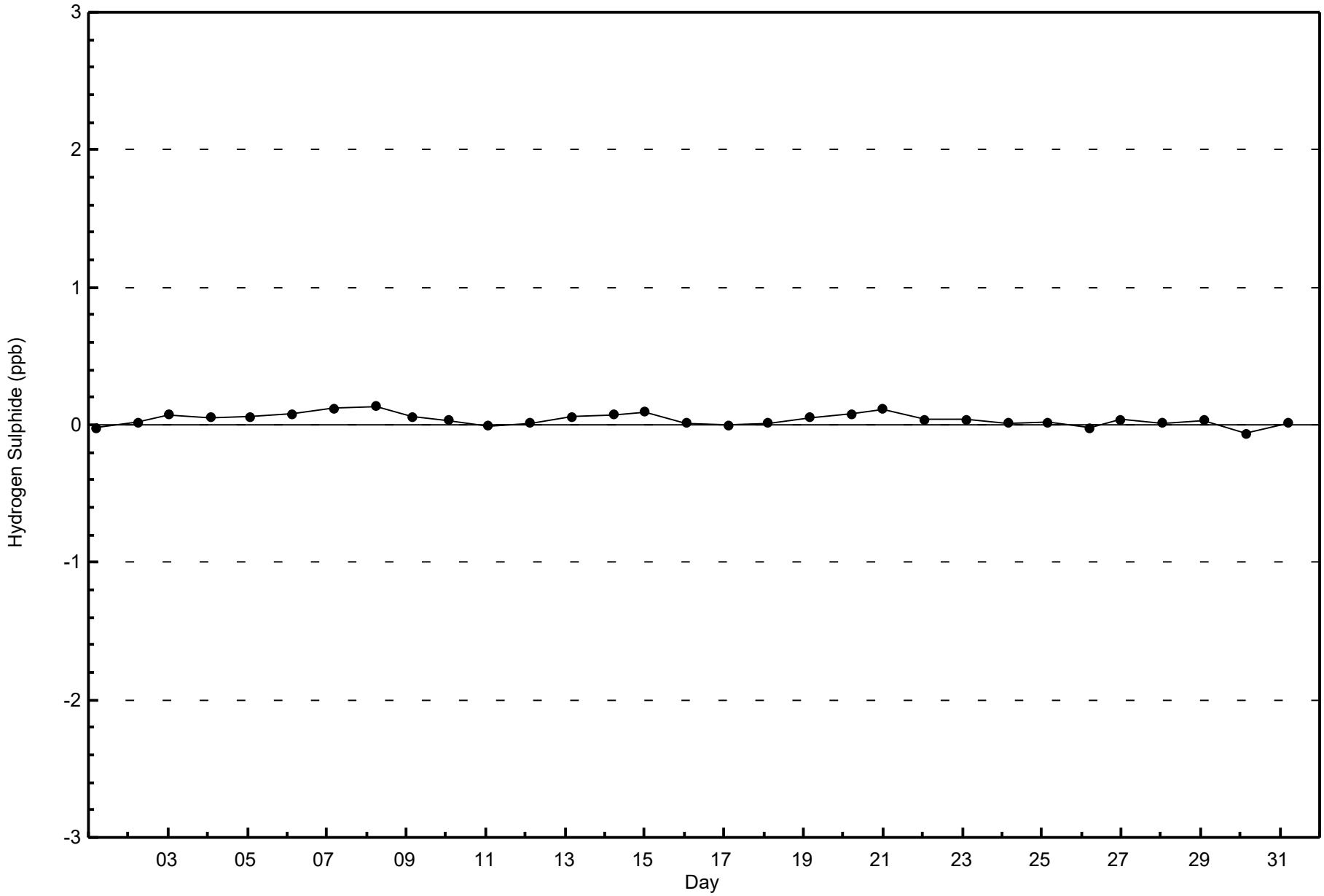


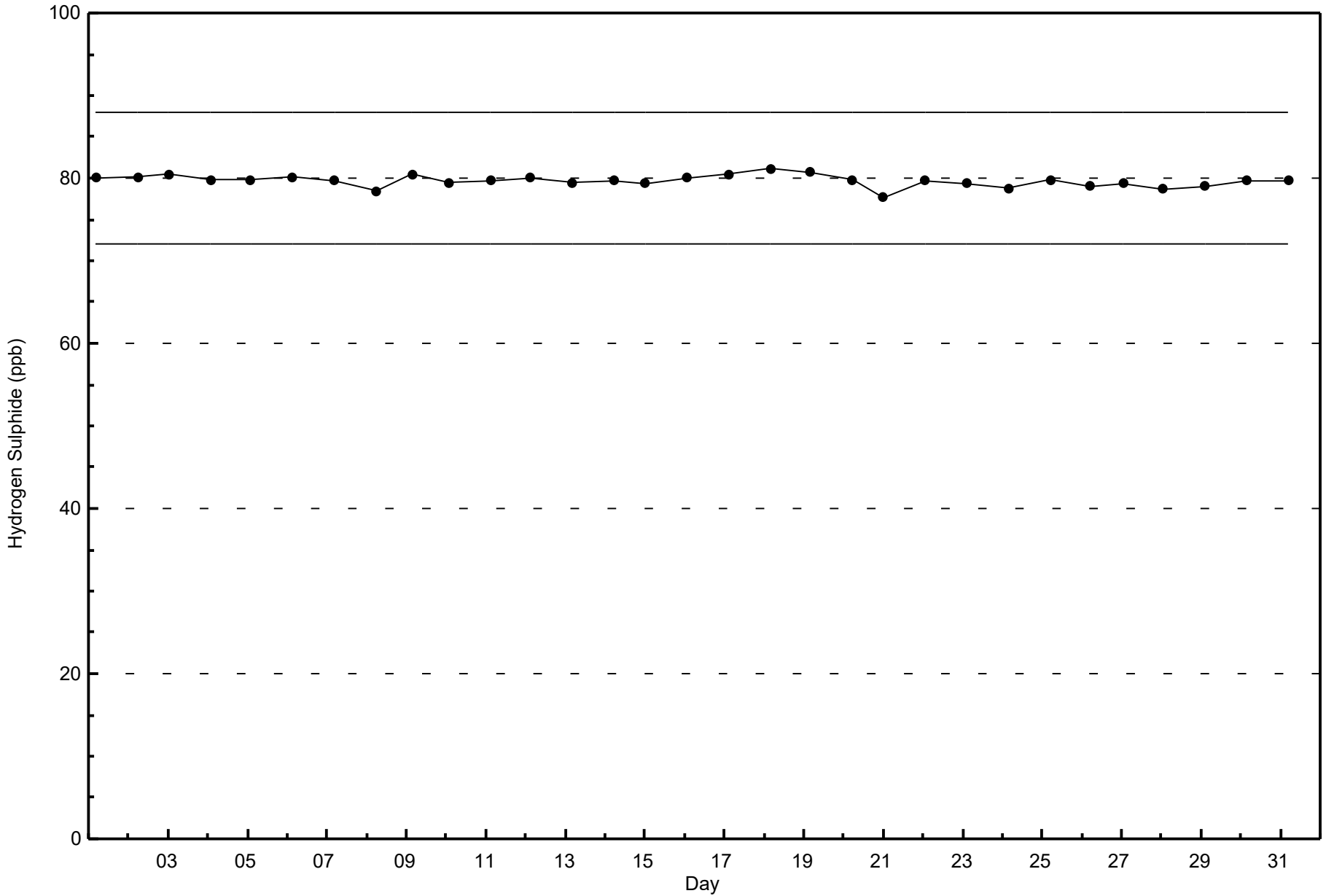
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Hydrogen Sulphide (H₂S) - ppb
Mildred Lake



Total Number of Valid Hours: 685







Wood Buffalo Environmental Association
Summary of Hour Averages

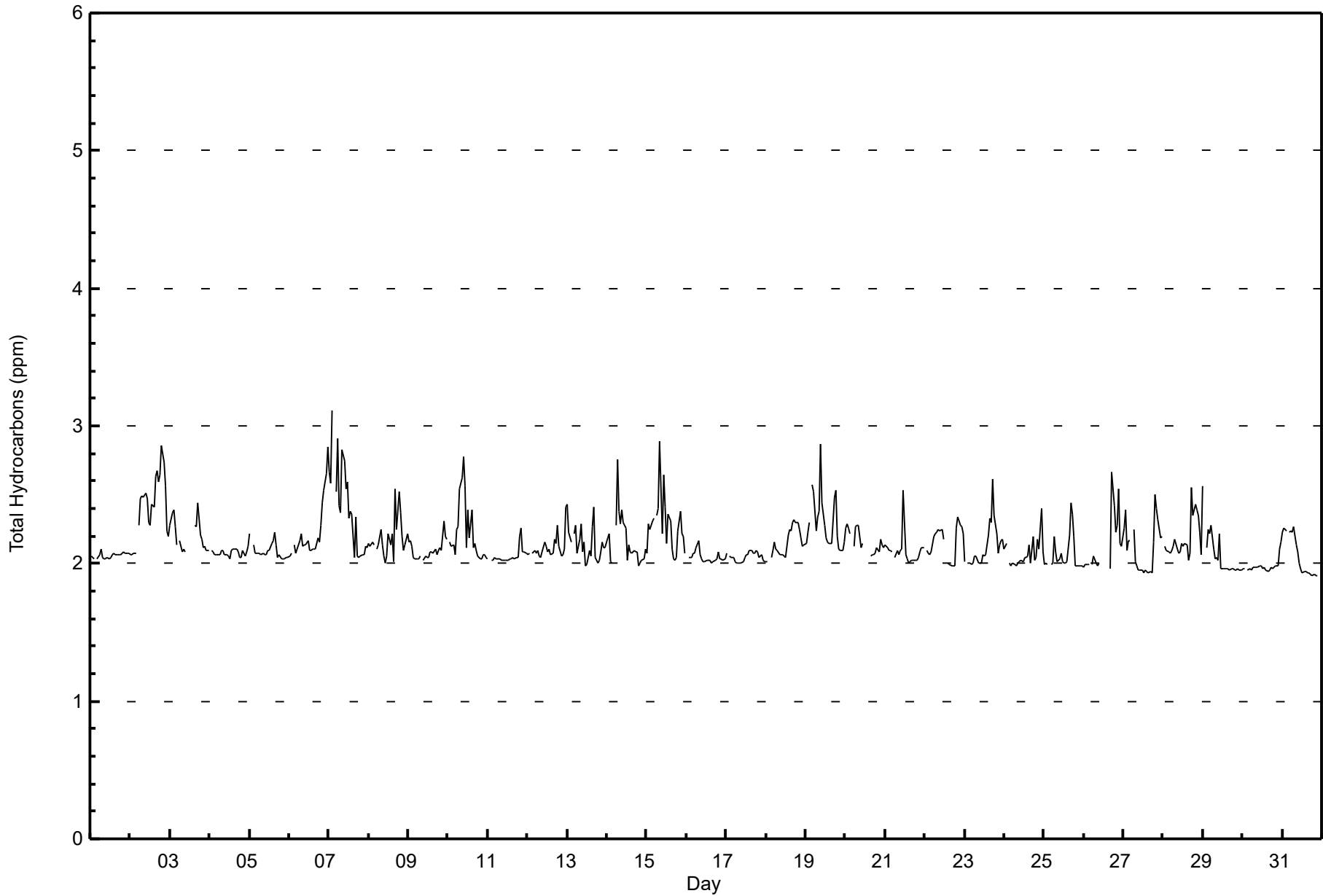
Total Hydrocarbons (THC) - ppm
Mildred Lake - January 2025

Maximum Value: 3.1 ppm on Jan 7 03:00		Maximum Daily Average: 2.4 ppm on Jan 2		Hours in Service: 744																								
Minimum Value: 1.9 ppm on Jan 31 22:00		Minimum Daily Average: 2.0 ppm on Jan 30		Hours of Data: 694																								
Maximum Diurnal Average: 2.2 ppm at hour 9		Minimum Diurnal Average: 2.1 ppm at hour 13		Hours of Missing Data: 50																								
Monthly Average: 2.14 ppm		Percentiles: P ₁ = 1.9 P ₁₀ = 2.0 Q ₁ = 2.0 Median = 2.1 Q ₃ = 2.2 P ₉₀ = 2.4 P ₉₉ = 2.8		Hours of Calibration: 36																								
				Percent Operational Time: 98.1																								
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24				
1-Jan	2.1	2.0	2.0	Z	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	
2-Jan	2.1	2.1	2.1	2.1	Z	2.3	2.5	2.5	2.5	2.5	2.5	2.3	2.3	2.4	2.4	2.6	2.7	2.6	2.6	2.9	2.7	2.6	2.2	2.2	2.4	2.9	2.4	2.9
3-Jan	2.3	2.4	2.4	2.3	2.1	Z	2.2	2.1	2.1	2.1	C	C	C	C	C	2.3	2.3	2.4	2.2	2.2	2.1	2.1	2.1	2.1	2.2	2.4	2.4	
4-Jan	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
5-Jan	2.2	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.2	2.2
6-Jan	2.1	2.1	Z	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.4	2.5	2.7	2.9	2.2	2.9	2.2	2.9
7-Jan	2.7	2.6	3.1	Z	2.5	2.9	2.4	2.4	2.8	2.7	2.5	2.6	2.3	2.4	2.4	2.0	2.3	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.4	2.1	2.4	3.1
8-Jan	2.1	2.1	2.2	2.1	Z	2.1	2.1	2.2	2.1	2.1	2.0	2.1	2.2	2.1	2.2	2.0	2.5	2.2	2.5	2.4	2.2	2.1	2.1	2.2	2.2	2.2	2.5	2.5
9-Jan	2.2	2.2	2.1	2.0	2.0	2.0	2.0	2.1	Z	2.0	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.2	2.2	2.1	2.3	2.3	2.3
10-Jan	Z	2.2	2.1	2.1	2.1	2.2	2.3	2.5	2.6	2.8	2.6	2.1	2.4	2.2	2.4	2.1	2.1	2.1	2.1	2.0	2.0	2.1	2.1	2.0	2.2	2.8	2.2	2.8
11-Jan	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.3
12-Jan	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.3	2.1	2.1	2.1	2.1	2.4	2.1	2.4	2.1	2.4
13-Jan	2.4	2.2	2.2	Z	2.2	2.3	2.1	2.2	2.3	2.1	2.2	2.0	2.0	2.1	2.1	2.3	2.4	2.0	2.0	2.0	2.1	2.2	2.1	2.1	2.1	2.4	2.1	2.4
14-Jan	2.2	2.2	2.0	2.0	Z	2.3	2.8	2.4	2.3	2.4	2.3	2.3	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.2	2.8	2.2	2.8
15-Jan	2.1	2.3	2.2	2.3	2.3	Z	2.4	2.4	2.9	2.2	2.6	2.4	2.1	2.4	2.3	2.1	2.0	2.0	2.0	2.2	2.4	2.2	2.2	2.1	2.1	2.3	2.3	2.9
16-Jan	Z	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.2	2.2	2.2
17-Jan	2.1	Z	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.0	2.0	2.0	2.0	2.1	2.1
18-Jan	2.0	2.0	Z	2.0	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.3	2.3
19-Jan	2.1	2.2	2.3	Z	2.6	2.5	2.2	2.3	2.4	2.9	2.4	2.3	2.2	2.2	2.2	2.2	2.1	2.5	2.5	2.2	2.1	2.1	2.1	2.2	2.3	2.3	2.9	2.9
20-Jan	2.3	2.3	2.3	2.2	Z	2.1	2.3	2.3	2.3	2.1	2.2	M	M	M	M	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.2	2.3	2.3	2.3
21-Jan	2.1	2.1	2.1	2.1	2.1	Z	2.0	2.1	2.1	2.1	2.1	2.5	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.5	2.5
22-Jan	Z	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.3	2.2	2.2	2.2	M	M	2.0	2.0	2.0	2.0	2.0	2.3	2.3	2.3	2.3	2.2	2.2	2.3	2.3	2.3
23-Jan	2.0	Z	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.1	2.2	2.3	2.3	2.6	2.4	2.2	2.1	2.1	2.2	2.2	2.1	2.6	2.6
24-Jan	2.1	2.1	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.2	2.0	2.0	2.2	2.1	2.4	2.1	2.1	2.4	2.1	2.4
25-Jan	2.0	2.0	2.0	Z	2.0	2.0	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.4	2.4	2.2	2.0	2.0	2.0	2.0	2.0	2.1	2.4	2.1	2.4
26-Jan	2.0	2.0	2.0	2.0	Z	2.0	2.1	2.0	2.0	2.0	M	M	M	M	M	M	2.0	2.7	2.4	2.2	2.3	2.5	2.1	2.1	--	2.7	2.7	
27-Jan	2.3	2.4	2.1	2.2	2.2	Z	2.2	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.2	2.5	2.4	2.3	2.2	2.2	2.1	2.5	2.5
28-Jan	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.6	2.3	2.4	2.4	2.3	2.2	2.1	2.2	2.2	2.6	2.6
29-Jan	2.6	Z	2.1	2.2	2.2	2.3	2.1	2.0	2.0	2.0	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.6	2.6
30-Jan	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.0	2.2
31-Jan	2.2	2.3	2.2	Z	2.2	2.2	2.2	2.3	2.1	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.3	2.3
																								Diurnal Average				
																								Diurnal Maximum				
Z - zerospan				C - Calibration				M - Maintenance				UO - Unstable Operation																



Wood Buffalo Environmental Association
Hourly Averages

Total Hydrocarbons (THC) - ppm
Mildred Lake - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Hydrocarbons (THC) - ppm
Mildred Lake - January 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	223	32.13	32.13
2.1 - 3.0	470	67.72	99.86
3.1 - 10.0	1	0.14	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 694

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Total Hydrocarbons (THC) - ppm
Mildred Lake - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2.0	83	35	3	3	1	1	2	6	9	26	26	9	2	0	6	11	223
2.1 - 3.0	54	15	6	4	8	8	42	101	46	27	7	17	37	64	16	18	470
3.1 - 10.0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	137	50	9	7	9	9	44	108	55	53	33	26	39	64	22	29	694

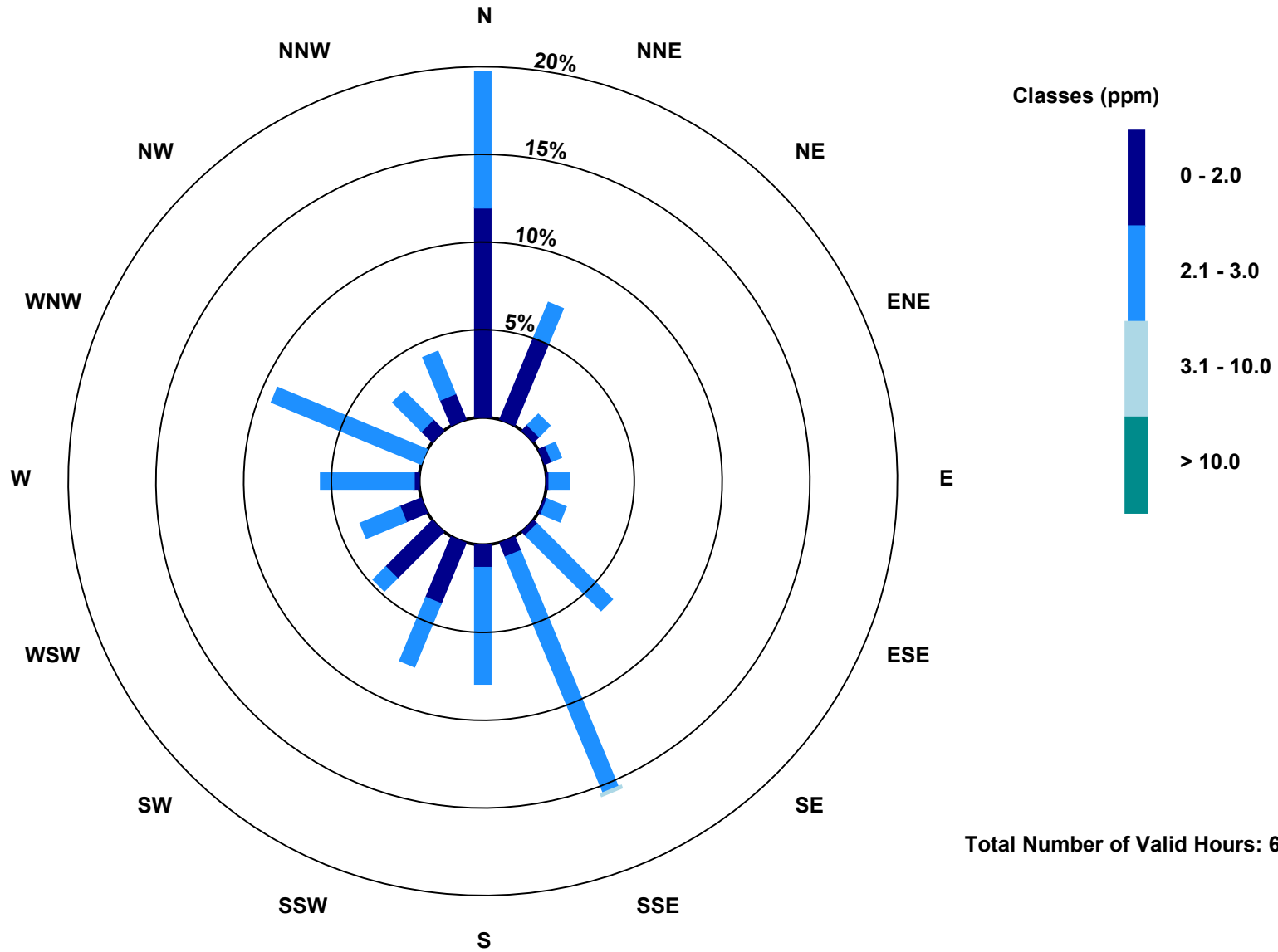
Total Number of Valid Hours: 694

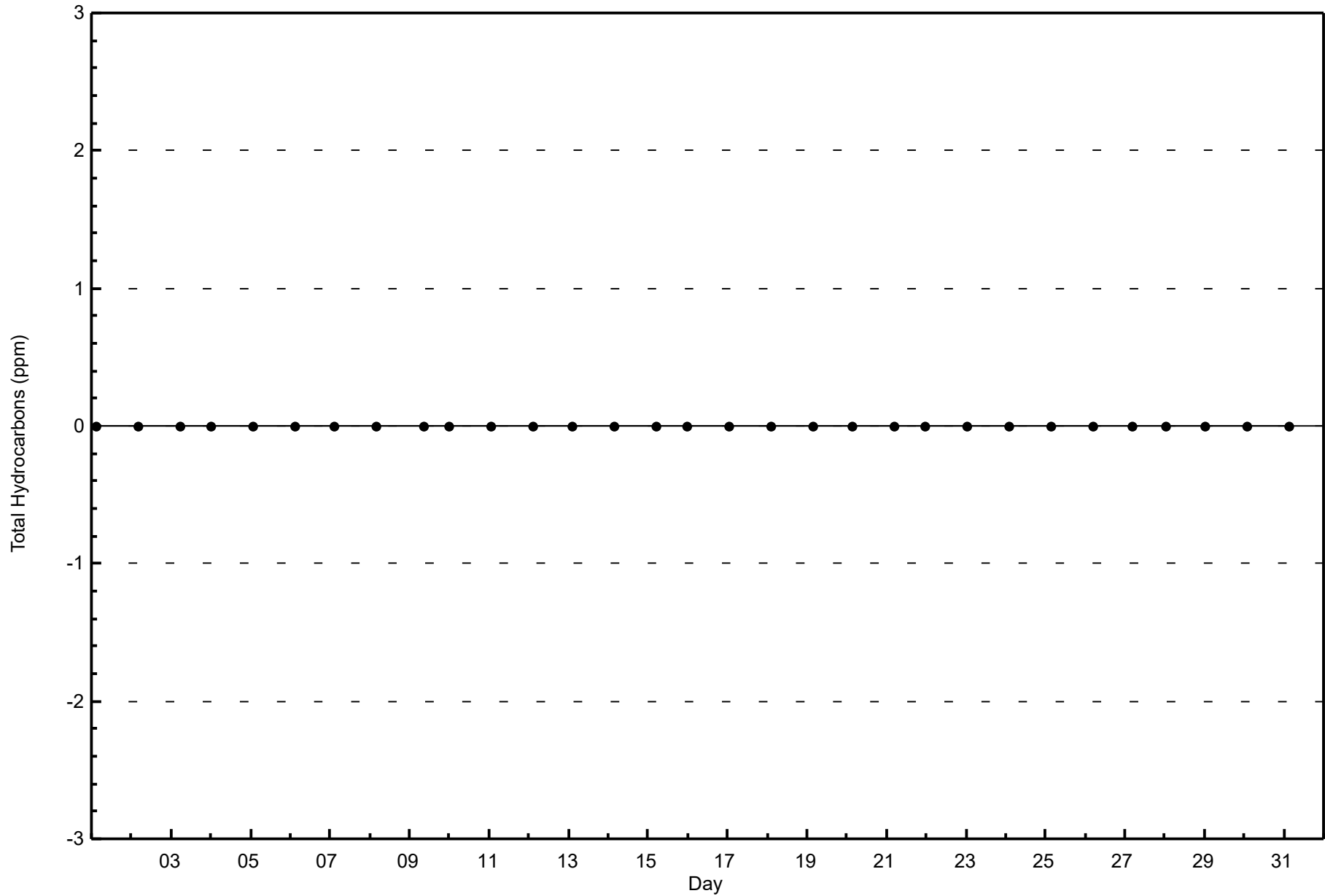
Total Number of Hours: 744

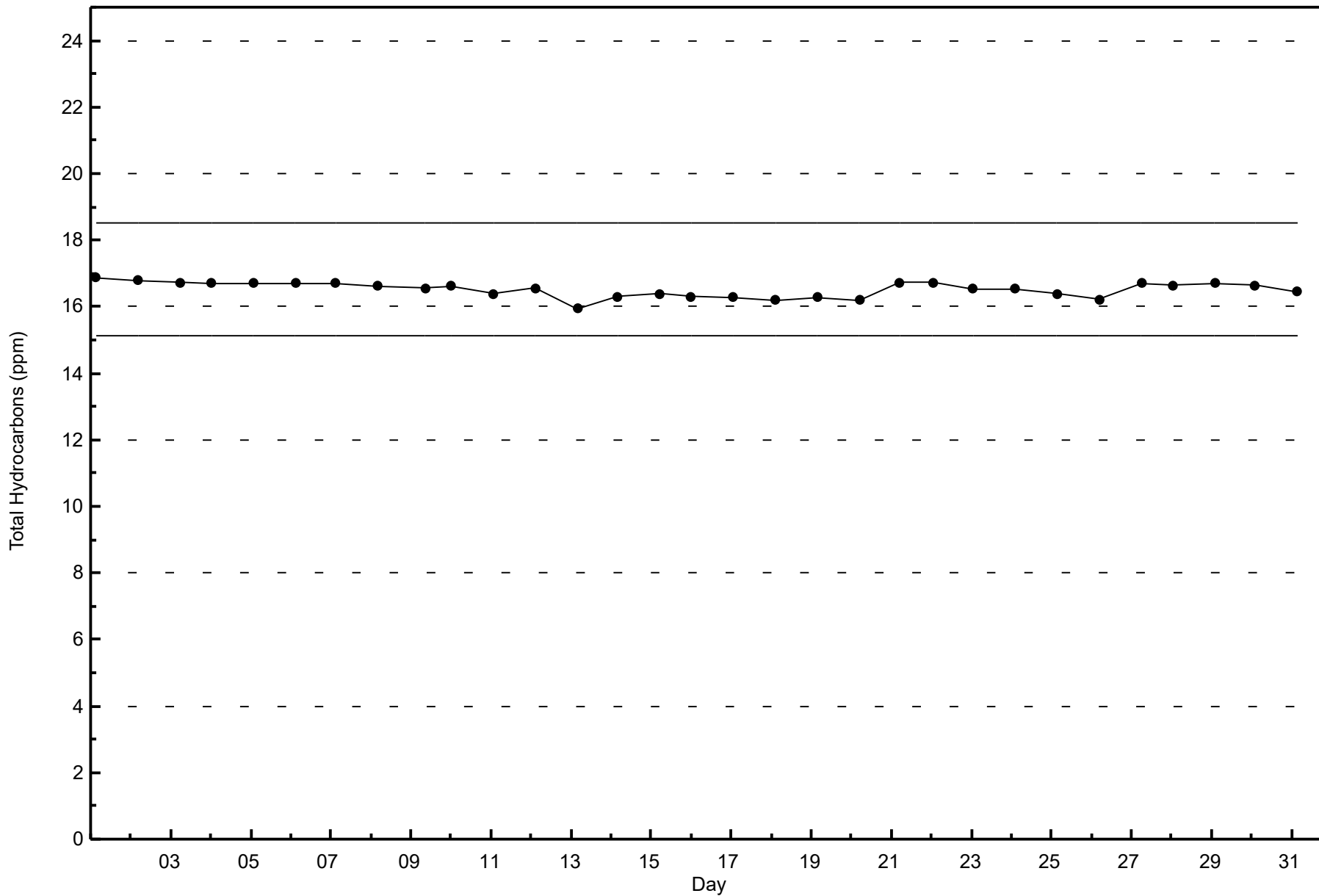


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Total Hydrocarbons (THC) - ppm
Mildred Lake









Wood Buffalo Environmental Association
Summary of Hour Averages

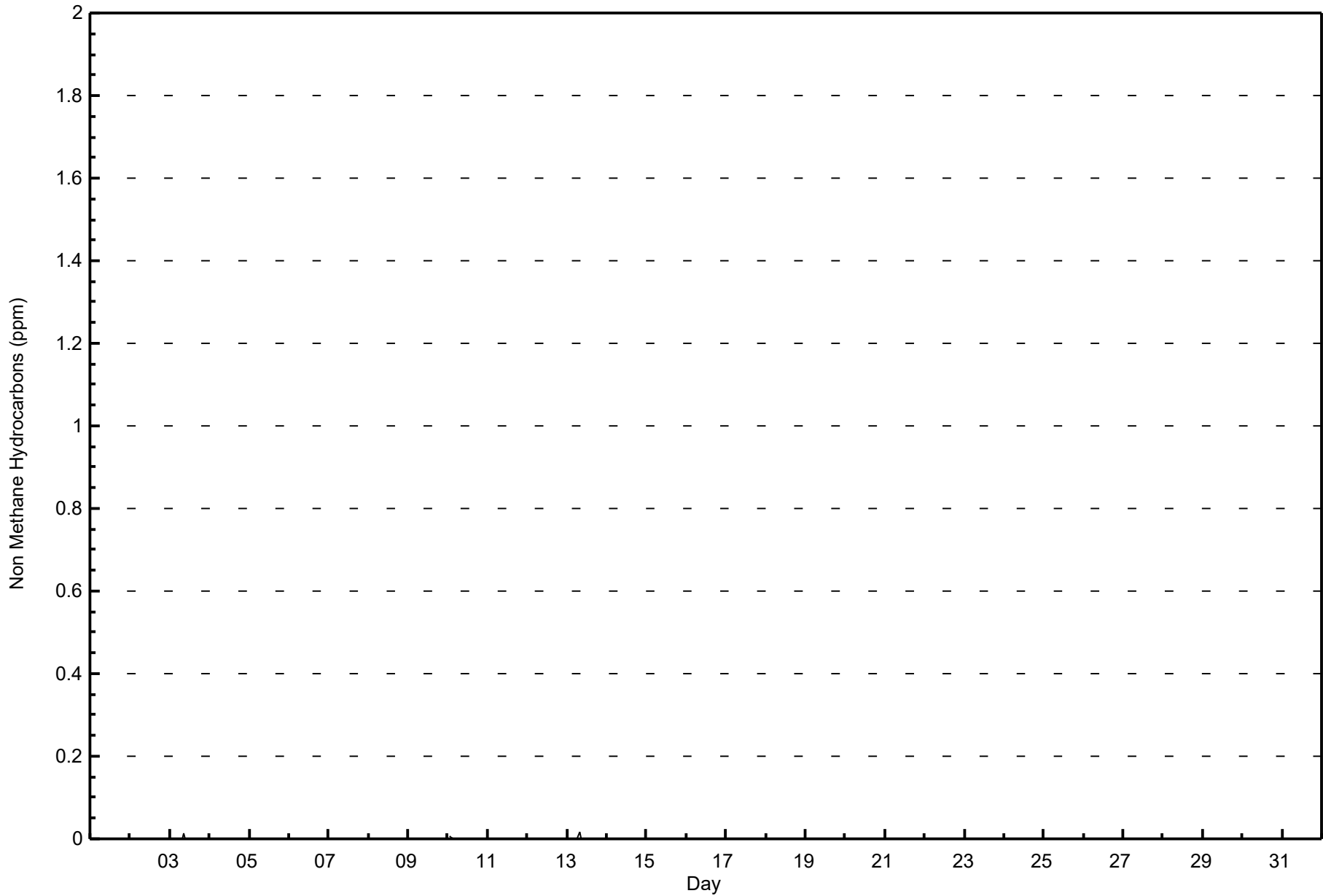
Non Methane Hydrocarbons (NMHC) - ppm
Mildred Lake - January 2025

Maximum Value: 0.016 ppm on Jan 13 08:00																Maximum Daily Average: 0.001 ppm on Jan 3																Hours in Service: 744	
Minimum Value: 0.000 ppm on Jan 1 01:00																Minimum Daily Average: 0.000 ppm on Jan 1																Hours of Data: 694	
Maximum Diurnal Average: 0.001 ppm at hour 8																Minimum Diurnal Average: 0.000 ppm at hour 1																Hours of Missing Data: 50	
Monthly Average: 0.000 ppm																Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.0 P ₉₉ = 0.0																Hours of Calibration: 36	
																																Percent Operational Time: 98.1	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24									
1-Jan	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
3-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.015	0.000	C	C	C	C	C	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.015	
4-Jan	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
5-Jan	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
6-Jan	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
7-Jan	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
8-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
9-Jan	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
10-Jan	Z	0.008	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.008			
11-Jan	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
12-Jan	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
13-Jan	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.016		
14-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
15-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
16-Jan	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
17-Jan	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
18-Jan	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
19-Jan	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
20-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	M	M	M	M	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
21-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
22-Jan	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	M	M	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
23-Jan	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
24-Jan	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
25-Jan	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
26-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	M	M	M	M	M	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	--		
27-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
28-Jan	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
29-Jan	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
30-Jan	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
31-Jan	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Diurnal Average		
	0.000	0.008	0.005	0.000	0.000	0.000	0.000	0.016	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Diurnal Maximum		
Z - zerospan				C - Calibration				M - Maintenance				UO - Unstable Operation																					



Wood Buffalo Environmental Association
Hourly Averages

Non Methane Hydrocarbons (NMHC) - ppm
Mildred Lake - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Non Methane Hydrocarbons (NMHC) - ppm
Mildred Lake - January 2025**

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 0.005	691	99.57	99.57
0.006 - 0.05	3	0.43	100.00
0.06 - 0.1	0	0.00	100.00
> 0.1	0	0.00	100.00

Total Number of Valid Hours: 694

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Non Methane Hydrocarbons (NMHC) - ppm
Mildred Lake - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 0.005	137	50	9	7	9	9	43	107	54	53	33	26	39	64	22	29	691
0.006 - 0.05	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	3
0.06 - 0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	137	50	9	7	9	9	44	108	55	53	33	26	39	64	22	29	694

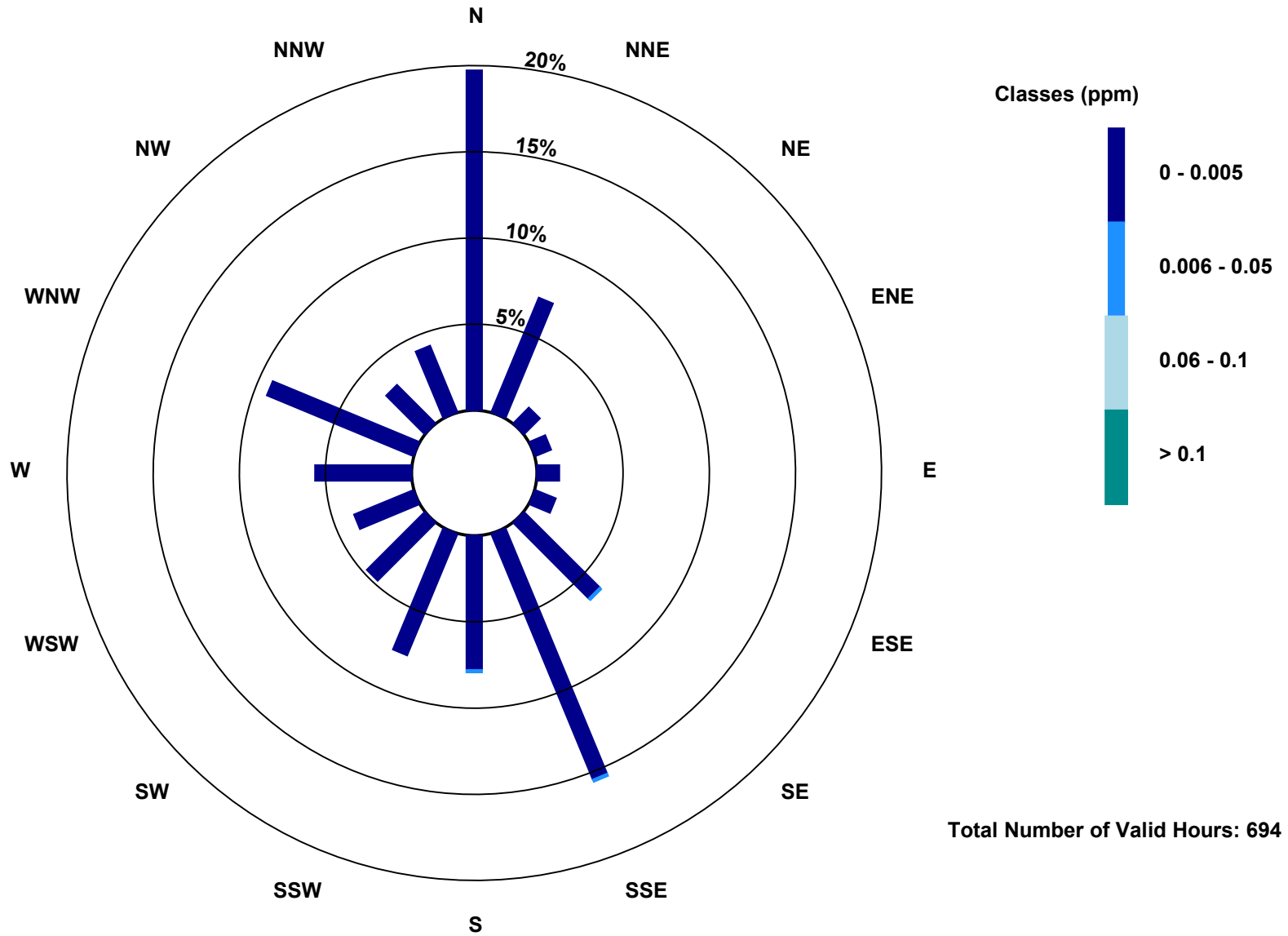
Total Number of Valid Hours: 694

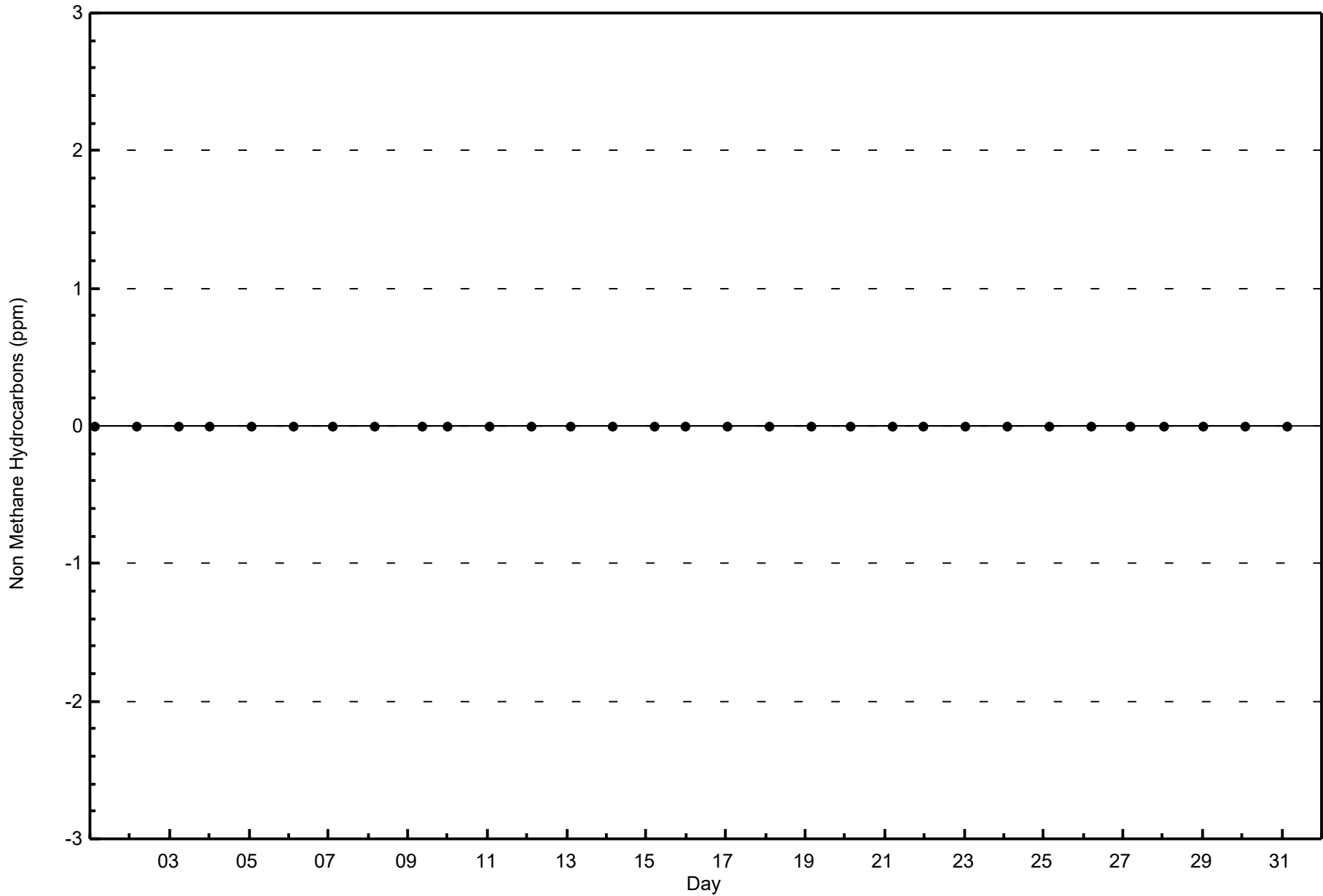
Total Number of Hours: 744

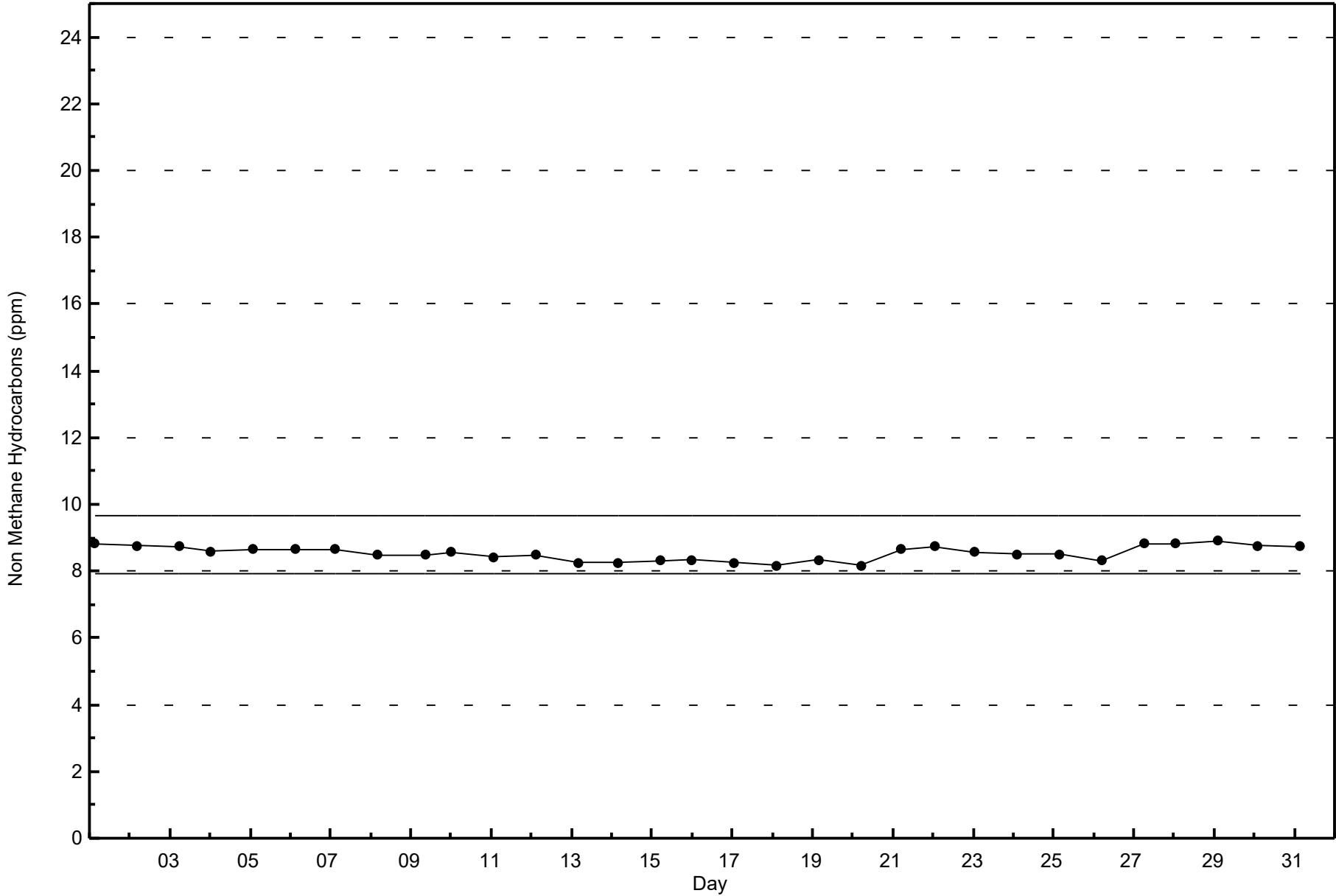


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Non Methane Hydrocarbons (NMHC) - ppm
Mildred Lake



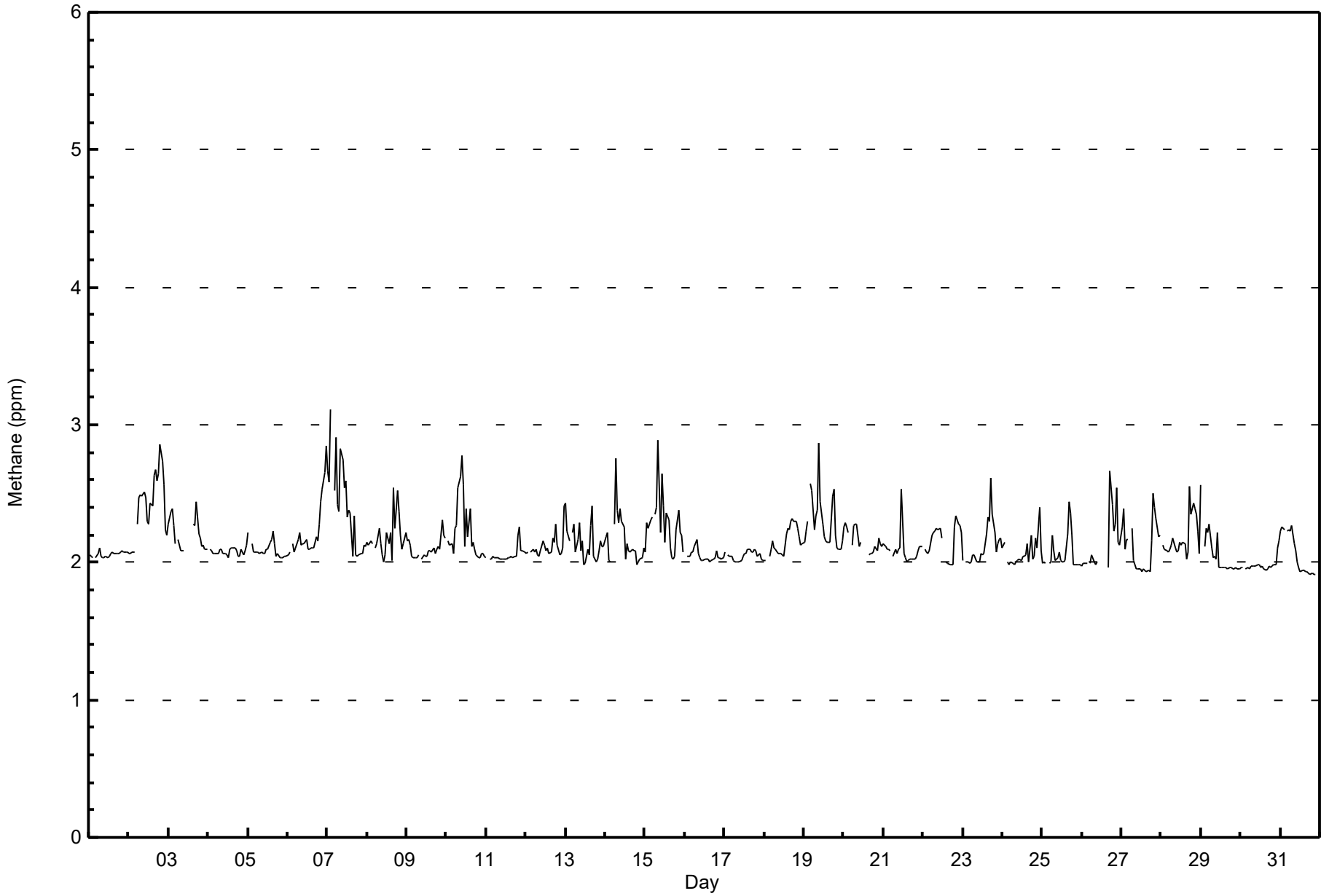






Wood Buffalo Environmental Association
Hourly Averages

Methane (CH₄) - ppm
Mildred Lake - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Methane (CH₄) - ppm
Mildred Lake - January 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	223	32.13	32.13
2.1 - 3.0	470	67.72	99.86
3.1 - 10.0	1	0.14	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 694

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Methane (CH₄) - ppm
Mildred Lake - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2.0	83	35	3	3	1	1	2	6	9	26	26	9	2	0	6	11	223
2.1 - 3.0	54	15	6	4	8	8	42	101	46	27	7	17	37	64	16	18	470
3.1 - 10.0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	137	50	9	7	9	9	44	108	55	53	33	26	39	64	22	29	694

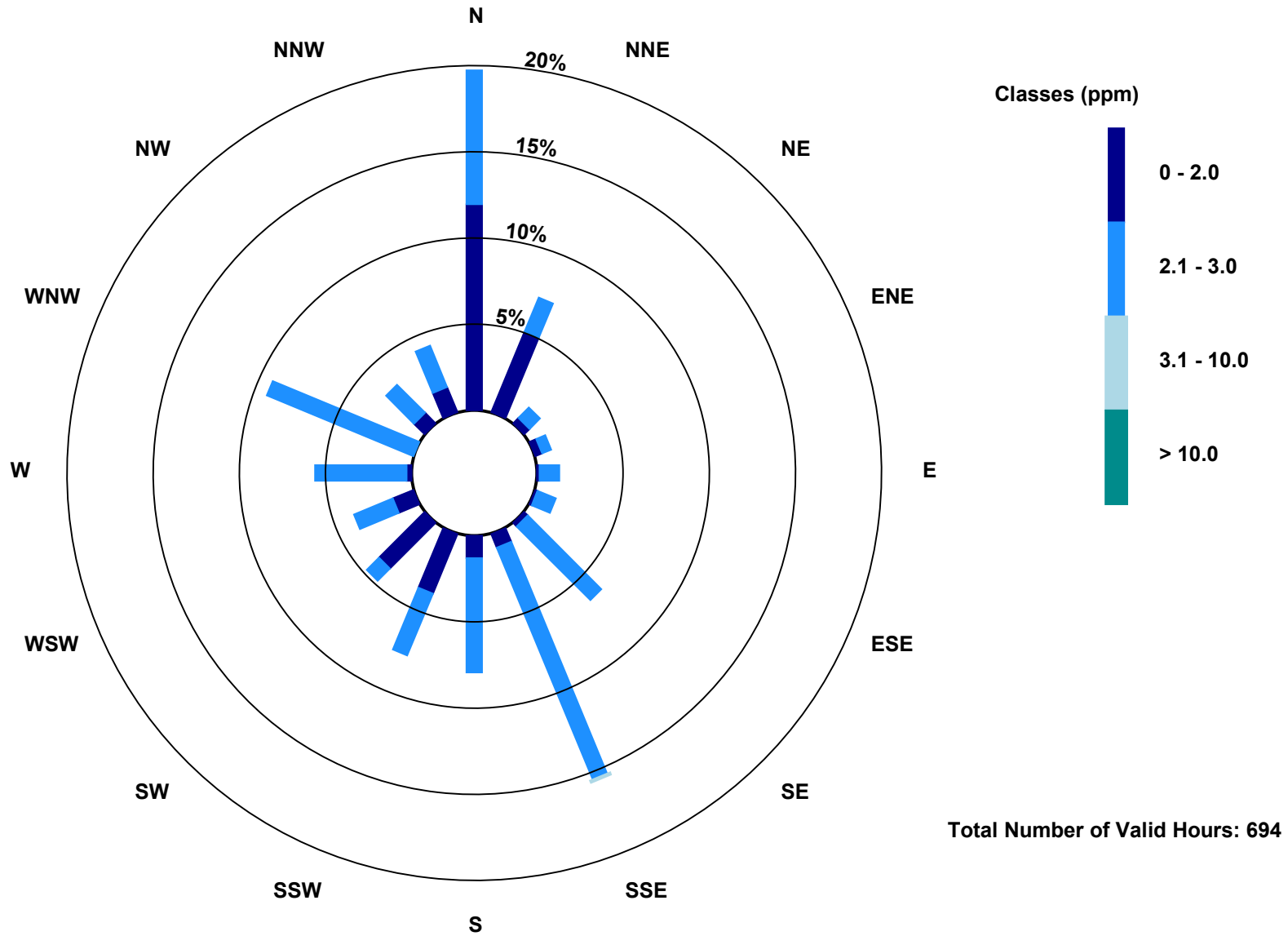
Total Number of Valid Hours: 694

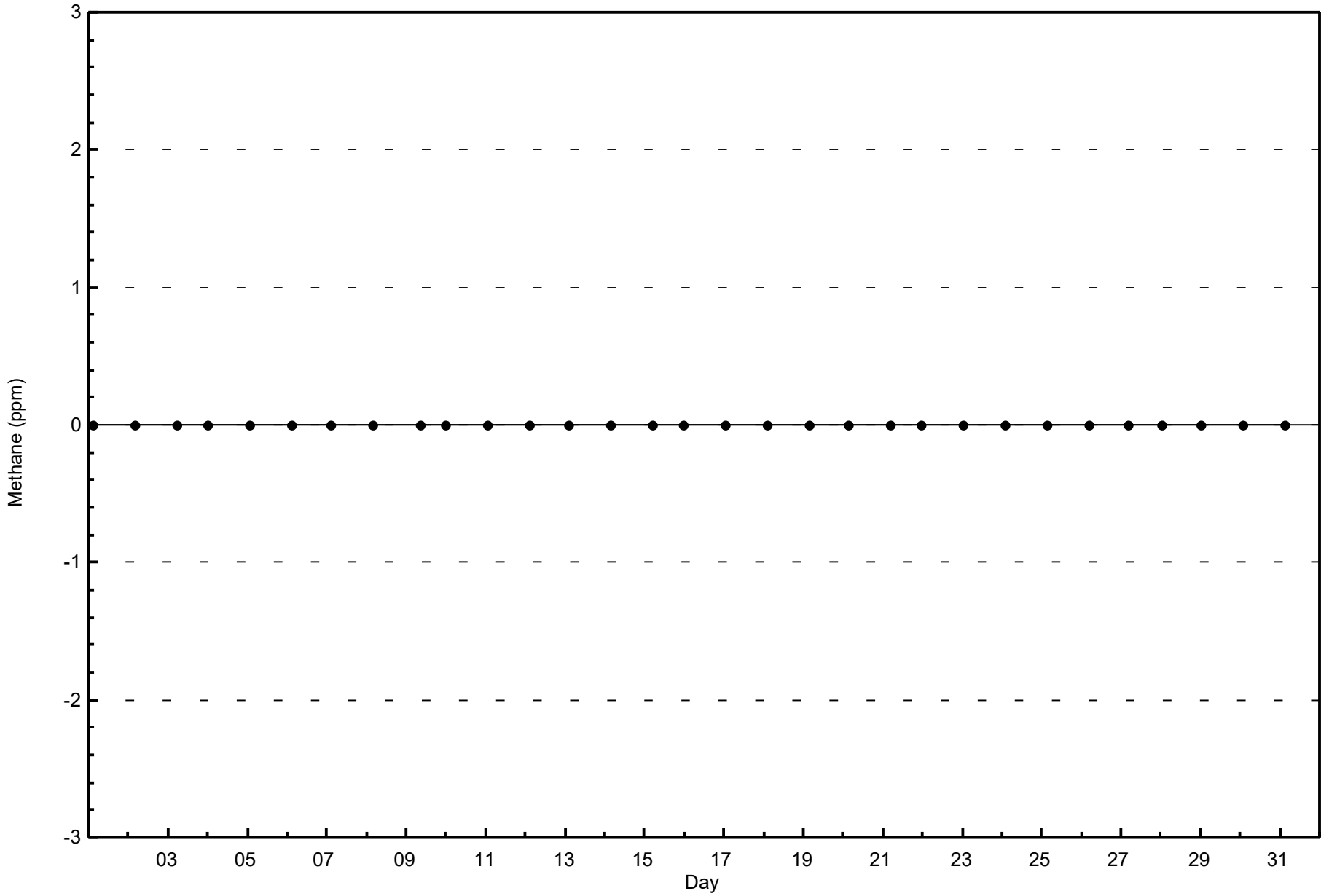
Total Number of Hours: 744

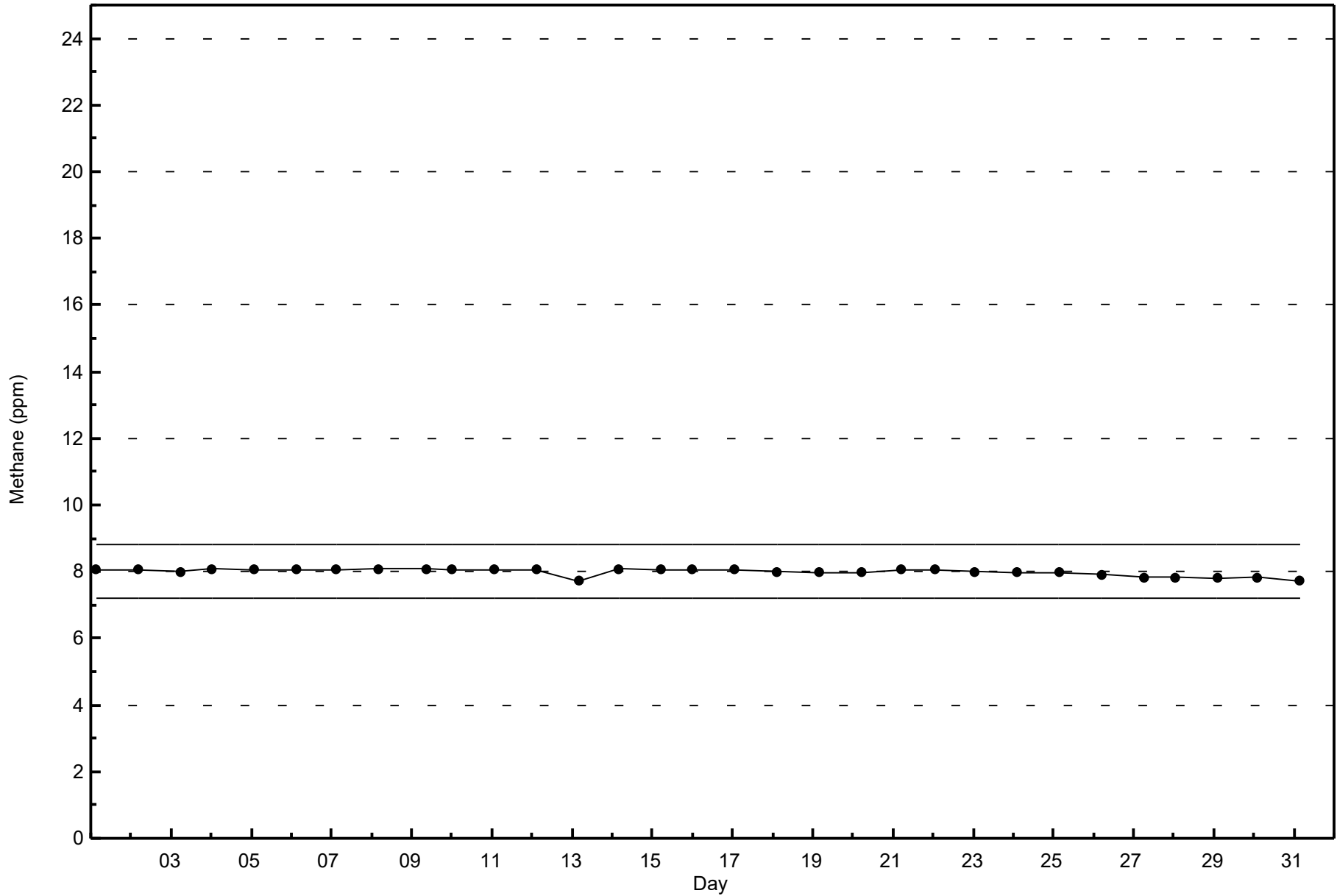


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Methane (CH₄) - ppm
Mildred Lake







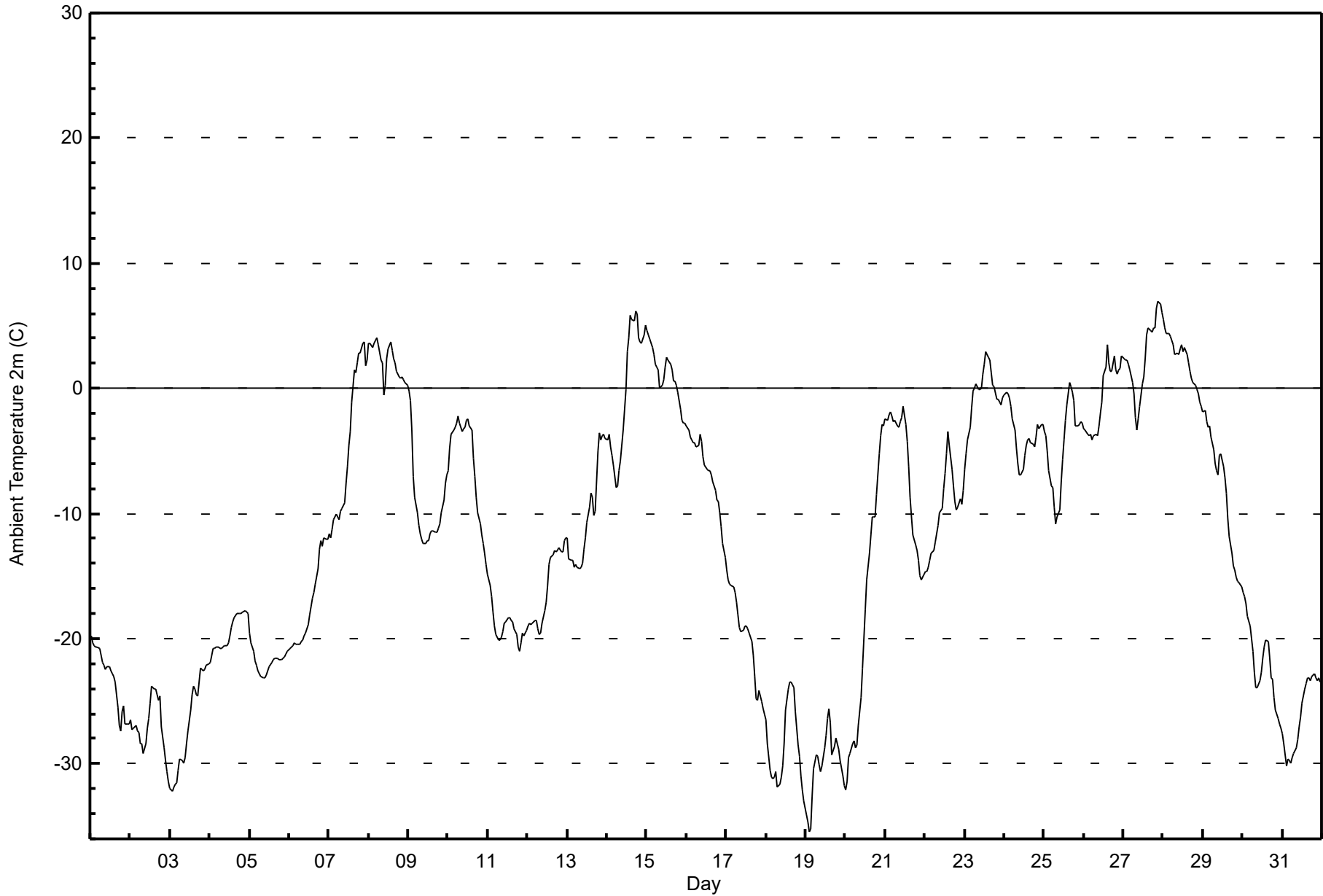


Maximum Value: 6.9 C on Jan 27 22:00		Maximum Daily Average: 2.4 C on Jan 27		Hours in Service: 744																						
Minimum Value: -35.4 C on Jan 19 03:00		Minimum Daily Average: -30.1 C on Jan 19		Hours of Data: 744																						
Maximum Diurnal Average: -10.2 C at hour 15		Minimum Diurnal Average: -14.0 C at hour 9		Hours of Missing Data: 0																						
Monthly Average: -12.22 C		Percentiles: P ₁ = -32.1 P ₁₀ = -27.5 Q ₁ = -21.6 Median = -11.7 Q ₃ = -2.8 P ₉₀ = 2.0 P ₉₉ = 5.5		Hours of Calibration: 0																						
				Percent Operational Time: 100.0																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	-19.7	-20.3	-20.5	-20.7	-20.6	-20.8	-21.4	-21.9	-22.1	-22.5	-22.3	-22.5	-22.8	-23.0	-23.5	-25.5	-26.9	-27.3	-25.8	-25.3	-26.8	-26.8	-26.8	-23.3	-19.7	
2-Jan	-26.5	-27.3	-27.2	-26.9	-27.4	-27.5	-28.4	-28.4	-29.2	-28.3	-27.2	-26.3	-25.1	-23.8	-24.0	-24.1	-24.5	-24.9	-24.6	-27.1	-28.7	-29.7	-30.6	-31.4	-27.0	-23.8
3-Jan	-32.0	-32.2	-31.9	-31.7	-31.5	-30.6	-29.6	-29.7	-29.9	-29.5	-28.4	-27.4	-25.7	-24.5	-23.8	-24.0	-24.5	-24.6	-22.4	-22.5	-22.5	-22.4	-22.2	-22.0	-26.9	-22.0
4-Jan	-21.9	-21.4	-20.7	-20.8	-20.6	-20.7	-20.8	-20.7	-20.7	-20.6	-20.6	-20.4	-19.8	-19.1	-18.6	-18.3	-17.9	-18.0	-18.0	-17.9	-17.8	-17.9	-18.0	-18.0	-19.5	-17.8
5-Jan	-19.5	-20.4	-21.0	-21.8	-22.1	-22.6	-22.8	-23.0	-23.1	-23.1	-22.9	-22.2	-21.9	-21.7	-21.6	-21.6	-21.6	-21.7	-21.7	-21.6	-21.4	-21.3	-21.0	-21.8	-19.5	-19.5
6-Jan	-20.8	-20.7	-20.5	-20.4	-20.4	-20.4	-20.4	-20.2	-20.1	-19.8	-19.5	-18.9	-18.1	-17.4	-16.8	-16.3	-15.6	-14.4	-12.9	-12.2	-12.6	-12.0	-12.0	-12.1	-17.3	-12.0
7-Jan	-11.6	-12.0	-11.2	-10.5	-10.1	-10.2	-10.5	-9.8	-9.5	-9.2	-7.6	-6.2	-4.6	-3.5	-1.1	1.5	1.2	2.0	2.8	2.8	3.6	3.8	1.8	2.2	-4.4	3.8
8-Jan	3.6	3.6	3.3	3.6	3.8	4.1	3.5	2.3	2.1	-0.6	0.3	2.3	3.1	3.7	3.0	2.4	2.0	1.4	0.9	0.8	0.9	0.7	0.5	0.2	2.1	4.1
9-Jan	-0.2	-1.0	-3.3	-7.0	-8.7	-10.0	-10.9	-11.6	-12.1	-12.4	-12.3	-12.2	-12.1	-11.7	-11.4	-11.3	-11.5	-11.5	-11.2	-10.9	-9.9	-8.9	-7.6	-6.9	-9.4	-0.2
10-Jan	-6.6	-4.8	-3.7	-3.3	-3.1	-2.8	-2.3	-2.8	-3.5	-3.2	-3.1	-2.6	-2.5	-3.0	-3.4	-5.6	-7.0	-8.7	-10.0	-10.9	-11.7	-12.4	-13.1	-14.0	-6.0	-2.3
11-Jan	-14.8	-15.8	-16.6	-17.9	-19.1	-19.7	-20.1	-20.1	-19.9	-19.4	-18.8	-18.7	-18.4	-18.3	-18.5	-18.7	-19.2	-19.7	-20.6	-21.0	-20.3	-19.5	-19.8	-19.4	-18.9	-14.8
12-Jan	-19.0	-18.8	-18.9	-18.7	-18.6	-18.5	-19.2	-19.6	-19.5	-18.8	-17.8	-17.0	-15.7	-14.1	-13.6	-13.3	-12.9	-13.0	-12.9	-12.8	-13.1	-13.1	-12.2	-11.9	-16.0	-11.9
13-Jan	-12.0	-13.7	-13.8	-13.7	-14.3	-14.1	-14.3	-14.4	-14.3	-14.0	-12.8	-11.9	-10.8	-9.5	-8.4	-8.6	-10.1	-9.9	-5.0	-3.6	-4.1	-3.8	-3.7	-4.0	-10.2	-3.6
14-Jan	-4.1	-3.7	-4.7	-5.3	-6.1	-7.9	-7.9	-6.5	-5.8	-4.6	-3.3	-0.1	3.0	4.0	5.8	5.5	5.4	6.2	5.9	4.1	3.7	3.6	4.2	5.0	-0.1	6.2
15-Jan	4.6	4.3	4.0	3.3	2.7	1.9	1.6	1.5	0.0	0.2	0.7	1.7	2.5	2.3	1.9	1.5	0.6	0.6	0.2	-0.3	-1.7	-2.5	-2.8	-2.7	1.1	4.6
16-Jan	-3.0	-3.3	-3.9	-4.1	-4.3	-4.3	-4.7	-4.5	-3.7	-4.2	-5.4	-6.1	-6.4	-6.6	-6.5	-6.9	-7.4	-8.1	-8.9	-9.1	-9.9	-11.1	-12.4	-13.5	-6.6	-3.0
17-Jan	-14.6	-15.3	-15.6	-15.8	-15.8	-16.3	-17.1	-18.1	-19.1	-19.5	-19.3	-19.0	-19.0	-19.2	-19.5	-20.2	-21.3	-23.1	-24.8	-24.9	-24.2	-25.0	-25.6	-26.1	-19.9	-14.6
18-Jan	-26.5	-28.4	-30.5	-31.0	-31.2	-31.1	-30.7	-31.9	-31.6	-31.1	-30.2	-28.4	-25.7	-24.0	-23.5	-23.5	-23.7	-23.9	-25.8	-28.5	-29.4	-31.0	-32.1	-33.0	-28.6	-23.5
19-Jan	-34.1	-34.7	-35.4	-35.3	-32.7	-30.4	-29.3	-29.3	-30.0	-30.7	-30.2	-28.8	-27.7	-26.4	-25.6	-26.8	-29.3	-28.6	-28.0	-28.4	-28.9	-29.7	-31.0	-31.7	-30.1	-25.6
20-Jan	-32.1	-31.4	-29.5	-29.1	-28.3	-28.2	-28.7	-28.6	-27.0	-24.7	-22.3	-20.0	-17.7	-15.3	-13.2	-11.7	-10.3	-10.3	-10.2	-8.5	-5.3	-3.8	-2.9	-3.1	-18.4	-2.9
21-Jan	-2.5	-2.5	-2.1	-1.8	-2.2	-2.6	-2.5	-3.1	-3.2	-2.7	-2.4	-1.5	-2.8	-4.2	-6.3	-8.7	-10.3	-11.7	-12.5	-13.0	-13.8	-15.0	-15.4	-14.8	-6.6	-1.5
22-Jan	-14.6	-14.7	-14.4	-13.7	-13.2	-13.0	-12.2	-11.6	-11.0	-10.0	-9.6	-8.0	-6.7	-5.2	-3.5	-4.6	-6.5	-7.8	-9.1	-9.8	-9.4	-8.8	-9.3	-8.1	-9.8	-3.5
23-Jan	-6.5	-5.3	-4.2	-3.1	-1.5	-0.2	0.0	0.4	-0.1	-0.1	0.0	1.1	2.0	2.9	2.5	2.2	1.2	0.3	0.1	-0.8	-0.9	-1.1	-1.3	-0.8	-0.6	2.9
24-Jan	-0.5	-0.4	-0.5	-0.8	-1.4	-2.5	-3.3	-4.8	-6.0	-6.9	-6.9	-6.4	-5.4	-4.6	-4.1	-4.0	-4.3	-4.5	-4.6	-3.9	-2.9	-3.3	-2.9	-2.9	-3.6	-0.4
25-Jan	-3.4	-3.7	-5.0	-6.5	-7.8	-7.9	-9.5	-10.9	-10.3	-9.7	-7.5	-5.7	-4.2	-2.5	-1.3	0.5	0.2	-0.4	-1.0	-3.0	-3.0	-2.9	-2.7	-2.8	-4.6	0.5
26-Jan	-3.2	-3.4	-3.7	-3.8	-3.7	-4.2	-3.7	-3.7	-3.8	-3.0	-2.0	-1.1	1.1	1.7	3.5	2.0	1.4	1.3	2.6	1.5	1.1	1.4	1.6	2.6	-0.7	3.5
27-Jan	2.3	2.2	2.2	2.0	1.4	0.5	-0.4	-2.3	-3.3	-2.4	-1.4	0.3	0.9	2.3	4.2	4.8	4.6	4.5	4.8	4.8	6.4	6.9	6.7	6.1	2.4	6.9
28-Jan	5.5	4.9	4.4	4.4	4.2	3.8	3.5	2.7	2.8	2.8	3.1	3.5	2.9	3.2	2.7	2.0	1.3	0.8	0.5	0.2	-0.1	-0.5	-1.0	-1.4	2.3	5.5
29-Jan	-1.9	-1.8	-2.7	-3.1	-3.0	-3.8	-4.9	-6.0	-6.6	-7.0	-5.3	-5.3	-6.2	-7.2	-8.3	-10.3	-11.9	-13.2	-14.2	-14.5	-15.1	-15.4	-15.5	-15.9	-8.3	-1.8
30-Jan	-16.3	-16.6	-17.2	-18.2	-19.0	-20.0	-21.0	-22.7	-23.9	-23.9	-23.4	-22.7	-21.6	-20.7	-20.2	-20.3	-21.5	-23.1	-23.3	-24.7	-25.8	-26.4	-26.8	-27.1	-21.9	-16.3
31-Jan	-27.6	-28.4	-30.1	-29.6	-29.7	-30.0	-29.5	-29.2	-28.7	-28.0	-27.0	-26.3	-25.2	-24.1	-23.6	-23.1	-23.1	-23.3	-23.0	-22.8	-23.1	-23.3	-23.2	-23.5	-26.1	-22.8
																								Diurnal Average		
																								Diurnal Maximum		



Wood Buffalo Environmental Association
Hourly Averages

Ambient Temperature 2m (AT2) - C
Mildred Lake - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Ambient Temperature 2m (AT2) - C
Mildred Lake - January 2025**

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	231	31.05	31.05
-20 - 0	388	52.15	83.20
0 - 10	125	16.80	100.00
10 - 20	0	0.00	100.00
> 20	0	0.00	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

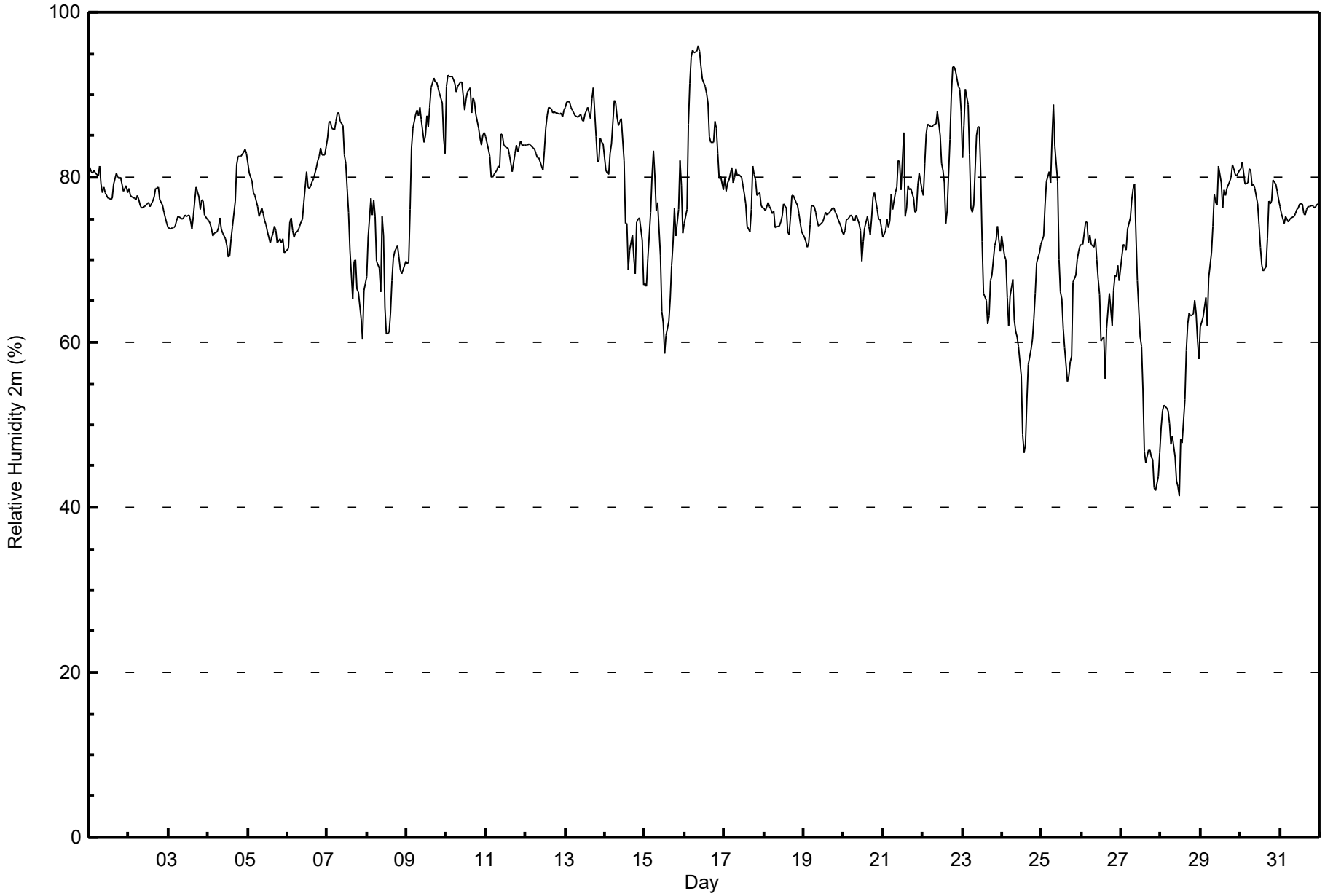
Relative Humidity 2m (RH2) - %
Mildred Lake - January 2025

Maximum Value: 95.9 % on Jan 16 09:00		Maximum Daily Average: 89.3 % on Jan 10		Hours in Service: 744																							
Minimum Value: 41.4 % on Jan 28 12:00		Minimum Daily Average: 53.5 % on Jan 28		Hours of Data: 744																							
Maximum Diurnal Average: 78.4 % at hour 6		Minimum Diurnal Average: 72.4 % at hour 15		Hours of Missing Data: 0																							
Monthly Average: 76.11 %		Percentiles: P ₁ = 45.9 P ₁₀ = 63.7 Q ₁ = 72.6 Median = 76.5 Q ₃ = 82.1 P ₉₀ = 87.6 P ₉₉ = 93.3		Hours of Calibration: 0																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	81.3	80.7	80.5	80.8	80.5	80.2	81.3	79.2	78.2	78.8	78.2	77.5	77.5	77.3	77.5	79.2	80.5	79.9	79.9	80.0	79.1	78.2	78.9	78.1	79.3	81.3	
2-Jan	78.7	77.7	77.6	77.5	77.3	77.7	77.4	76.5	76.3	76.5	76.6	76.8	77.0	76.5	77.1	77.7	78.6	78.6	78.9	77.3	76.5	75.7	75.1	74.4	77.1	78.9	
3-Jan	73.9	73.7	73.8	73.9	74.1	74.7	75.3	75.0	75.0	75.1	75.4	75.3	75.5	74.8	73.7	75.3	77.1	78.8	77.6	76.1	77.3	77.2	75.4	74.9	75.4	78.8	
4-Jan	74.7	74.3	73.7	72.9	73.2	73.3	73.8	75.0	73.7	73.2	72.6	71.7	70.3	70.5	72.6	74.1	77.1	81.6	82.6	82.5	82.6	83.0	83.4	82.9	76.1	83.4	
5-Jan	81.6	80.5	79.4	78.2	77.7	77.2	76.5	75.3	76.3	75.5	74.7	74.2	73.3	72.1	72.7	73.2	74.2	73.6	72.1	72.6	72.1	72.5	70.9	71.0	74.9	81.6	
6-Jan	71.3	74.6	75.1	73.5	72.7	73.3	73.6	74.1	74.6	74.8	76.9	80.6	78.8	78.6	78.9	79.4	79.8	81.1	82.1	82.6	83.6	82.8	82.7	83.8	77.9	83.8	
7-Jan	84.7	86.6	86.8	85.9	85.8	86.9	87.9	87.8	86.7	86.2	82.6	81.8	78.6	75.8	71.2	65.2	69.8	70.0	66.4	66.2	62.8	60.4	66.4	67.2	77.1	87.9	
8-Jan	68.1	72.7	77.5	75.3	77.3	75.2	69.9	69.0	66.1	75.2	72.9	64.3	61.1	61.1	63.5	67.5	70.1	71.1	71.6	70.4	68.8	68.2	68.8	69.8	69.8	77.5	
9-Jan	69.5	69.8	76.1	83.6	85.9	87.6	88.2	87.4	88.4	87.0	84.3	85.1	87.5	86.0	88.5	90.9	92.0	91.5	91.5	90.8	90.3	89.0	84.8	82.9	85.8	92.0	
10-Jan	91.0	92.3	92.3	92.1	91.9	91.4	90.3	91.0	91.6	91.5	89.9	88.2	89.5	90.3	90.9	87.8	89.6	89.2	87.6	86.0	84.7	83.9	85.1	85.5	89.3	92.3	
11-Jan	84.9	83.4	82.5	80.0	80.0	80.4	80.9	81.3	81.1	85.3	85.1	83.9	83.6	83.6	82.7	81.7	80.6	82.8	83.9	83.1	83.7	84.5	83.9	83.8	82.8	85.3	
12-Jan	83.9	83.9	84.0	83.9	83.6	83.4	82.9	82.4	82.4	81.9	80.9	83.1	85.9	87.5	88.5	88.3	87.9	88.0	87.8	87.8	87.6	87.8	87.3	88.1	85.4	88.5	
13-Jan	88.5	89.1	89.1	88.5	88.2	87.8	87.5	87.3	87.5	87.7	87.0	86.7	87.6	88.4	87.8	87.2	89.5	90.9	85.0	81.9	82.1	84.8	84.2	84.1	87.0	90.9	
14-Jan	80.8	80.5	80.4	83.0	84.2	89.3	89.1	87.3	86.3	86.8	87.2	82.0	74.3	74.4	68.8	71.2	73.0	70.1	68.3	74.6	74.9	75.1	72.4	67.0	78.4	89.3	
15-Jan	67.2	66.8	70.2	75.7	80.2	83.3	80.1	76.0	77.0	70.5	63.7	62.3	58.7	60.9	62.6	65.3	69.3	72.1	76.3	72.8	76.1	82.1	79.0	73.2	71.7	83.3	
16-Jan	74.3	76.1	86.5	91.4	94.5	95.4	95.0	95.3	95.9	95.2	93.3	91.9	91.0	90.2	89.1	84.9	84.3	84.3	86.7	85.9	82.9	79.8	80.1	78.5	87.6	95.9	
17-Jan	79.8	78.3	79.4	79.6	81.3	79.4	80.0	81.0	80.2	80.4	80.0	79.0	78.0	76.7	74.1	73.4	76.0	81.3	80.3	79.7	77.7	78.1	76.6	76.2	78.6	81.3	
18-Jan	76.3	75.9	77.0	76.4	76.0	75.6	75.9	73.9	74.0	74.1	74.5	75.3	76.9	76.3	73.3	73.0	75.2	77.8	77.7	77.0	76.6	75.6	74.5	73.4	75.5	77.8	
19-Jan	72.7	72.2	71.6	72.0	74.3	76.6	76.5	75.7	74.7	74.1	74.2	74.5	75.0	75.7	75.4	75.6	75.8	76.4	76.3	75.7	75.5	74.9	74.0	73.4	74.7	76.6	
20-Jan	73.1	73.6	74.9	74.9	75.4	75.3	74.8	74.8	75.4	74.4	73.5	69.9	72.2	74.0	75.2	74.1	73.0	75.0	77.6	78.1	76.1	74.9	74.9	73.9	74.5	78.1	
21-Jan	72.7	73.6	74.9	73.8	74.8	78.0	76.1	78.1	78.7	82.0	81.9	78.5	85.4	75.2	76.2	78.9	78.5	78.7	77.4	75.7	76.0	79.0	80.5	78.4	77.6	85.4	
22-Jan	77.9	81.7	85.2	86.4	86.3	86.1	86.2	86.4	86.5	88.0	85.1	81.7	80.8	79.4	74.4	76.0	84.6	90.0	93.3	93.4	92.9	91.0	90.7	88.0	85.5	93.4	
23-Jan	82.4	86.3	90.7	88.9	82.6	76.3	75.7	76.7	85.1	86.1	86.2	80.5	72.2	65.9	65.0	62.1	63.3	67.4	68.1	71.6	72.4	74.1	72.4	71.0	76.0	90.7	
24-Jan	72.9	70.5	70.0	65.5	62.0	65.6	67.6	62.6	61.4	60.7	59.5	55.9	48.8	46.6	47.6	52.8	57.3	59.2	60.4	62.9	66.0	69.6	70.9	71.9	62.0	72.9	
25-Jan	72.4	72.9	76.6	79.5	80.7	79.3	84.8	88.8	83.7	79.5	70.1	66.1	65.2	61.7	59.4	55.3	55.9	57.7	58.2	67.2	68.1	70.1	71.0	71.7	70.7	88.8	
26-Jan	71.8	71.9	74.6	74.6	72.0	73.1	71.8	71.6	72.5	70.1	67.7	65.8	60.2	60.7	55.7	61.7	63.8	65.9	62.0	66.3	68.2	68.0	69.3	67.5	67.8	74.6	
27-Jan	70.5	71.9	71.8	71.2	73.8	75.0	77.3	78.6	79.1	73.1	67.5	60.7	59.4	54.2	46.8	45.5	46.9	46.9	46.1	45.8	42.4	42.0	43.7	46.6	59.9	79.1	
28-Jan	49.7	51.6	52.3	52.0	51.8	50.2	47.7	48.6	46.0	43.3	42.5	41.4	48.3	47.9	53.1	58.9	62.2	63.6	63.2	63.3	65.1	63.6	60.4	57.9	53.5	65.1	
29-Jan	61.8	63.1	64.2	65.4	62.0	67.8	70.9	74.1	77.9	77.0	76.6	81.4	79.4	76.3	78.5	77.8	78.7	79.5	80.0	81.6	80.9	80.3	80.2	80.8	74.8	81.6	
30-Jan	81.0	81.9	80.5	79.1	79.3	81.0	80.9	78.9	79.2	78.6	76.8	74.2	71.5	69.3	68.7	69.1	72.5	77.2	76.8	77.2	79.7	79.1	78.3	77.2	77.0	81.9	
31-Jan	76.4	75.7	74.5	75.2	74.9	74.6	74.9	75.0	75.3	75.6	76.2	76.4	76.8	76.7	75.6	75.4	76.0	76.5	76.4	76.7	76.5	76.3	76.6	76.7	75.9	76.8	
		75.7	76.2	77.5	77.8	77.9	78.4	78.4	78.2	78.3	78.0	76.6	75.1	74.2	73.1	72.4	72.9	74.6	76.0	75.9	76.2	76.1	76.2	75.9	75.2	Diurnal Average	
		91.0	92.3	92.3	92.1	94.5	95.4	95.0	95.3	95.9	95.2	93.3	91.9	91.0	90.3	90.9	90.9	92.0	91.5	93.3	93.4	92.9	91.0	90.7	88.1	Diurnal Maximum	



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 2m (RH2) - %
Mildred Lake - January 2025





Maximum Speed: 37 km/h on Jan 24 06:00	Maximum Daily Speed Average: 16.0 km/h on Jan 28	Hours in Service: 744
Minimum Speed Value: 0 km/h on Jan 5 22:00	Minimum Daily Speed Average: 0.6 km/h on Jan 19	Hours of Data: 744
Maximum Diurnal Speed Average: 3.2 km/h at hour 22	Minimum Diurnal Speed Average: 0.9 km/h at hour 8	Hours of Missing Data: 0
Monthly Average Velocity: 1.6 km/h 285.1 deg	Percentiles: P ₁ = 1 P ₁₀ = 4 Q ₁ = 6 Median = 9 Q ₃ = 13 P ₉₀ = 17 P ₉₉ = 25	Percent Operational Time: 100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	N5	N6	N5	NNE4	N6	N8	N5	N8	N8	N7	N8	N9	NNE6	NNE5	NNE2	SSE1	ENE3	NE2	NW1	NNE6	NNE5	N4	N6	N4	N5.0	N9
2-Jan	N4	NW1	NW1	NNW3	N4	SSW1	S2	SSW2	S2	S2	SE2	S3	ESE2	ESE5	E6	E4	E3	ESE2	ESE3	S3	ESE3	SSE3	S2	S1	SE1.2	E6
3-Jan	SE2	SE1	S2	SSW5	SSW4	S6	S8	S6	S8	S7	S7	SSE9	SSE9	SSE8	SSE6	S6	SSE7	SSE7	SSE15	SSE17	SE16	SE15	SE18	SE20	SSE8.3	SE20
4-Jan	SE20	SE20	SSE18	SE22	SE17	SSE19	SE16	SE15	SSE20	SSE18	SSE18	SE16	SSE16	SSE12	ESE8	E6	E5	NE4	NE5	ENE4	NE4	NNE4	N5	N7	SE10.4	SE22
5-Jan	N13	N12	N10	N10	N10	N11	N10	N9	N7	N7	N8	N9	N8	N8	N9	N7	NNE6	NNE7	NNE8	NNE5	N3	WSW0	SE3	SE1	N7.1	N13
6-Jan	SSE4	SE5	SE6	SSE8	SSE10	SSE10	SSE10	SSE11	SSE12	SSE10	SSE12	SSE11	S13	SSE10	SSE12	SSE11	SSE14	SSE14	SSE13	SSE14	SSE12	SSE14	SE14	SSE13	SSE10.9	SSE14
7-Jan	SSE14	SSE8	SSE10	SSE15	SSE15	SSE12	SSE9	SSE11	SSE15	SE17	SSE15	SE14	SE11	SE8	SSW9	SSW10	S8	SSW7	SSW11	SSW15	WSW15	SW14	SSW9	SSW12	S9.9	SE17
8-Jan	WSW16	W21	W14	WNW14	W15	WNW11	WNW11	WNW10	WNW12	SSW7	WSW9	W12	WNW14	NW22	NW20	NW12	WNW13	WNW9	WNW10	WNW10	WNW11	W14	WNW12	WNW12	WNW12.0	NW22
9-Jan	WNW13	WNW13	NNW14	N14	NNE10	N13	NNE12	NNE11	NNE10	N7	NE6	NNE2	E5	SE7	SSE8	SSE8	SSE8	S9	SSE13	SSE12	SSE12	SSE8	SE14	SSE15	E2.2	SSE15
10-Jan	SE15	SE22	SE19	SSE14	SSE12	SSE12	SSE7	SW4	WSW2	SSW3	S5	SSW4	N7	N7	N12	N16	N15	N15	N14	N14	N14	N14	N14	N14	NE3.3	SE22
11-Jan	N12	N12	N11	N12	N12	N11	N8	N9	N8	N9	N9	NNE10	N9	NNE8	NE7	N6	ENE4	ENE2	ESE2	SSE3	SSE6	S9	S7	SSW5	NNE5.3	N12
12-Jan	SSE7	SSE10	SSE9	SSE10	SSE10	SSE9	SSE10	SSE8	S9	SSE10	SSE15	SSE14	SSE12	SSE14	SSE13	SSE10	SSE13	SSE8	SE7	S6	S9	S7	SSE4	SE4	SSE9.4	SSE15
13-Jan	SSE4	SSE5	S7	SSE6	S8	SSE14	SSE12	SSE11	SSE11	S10	SSE11	S9	SSE10	SSE13	SSE11	SSE11	SSE10	S9	SW10	SW8	SSW7	WSW5	SW2	SSE3	S7.9	SSE14
14-Jan	SSW5	WSW7	SSW7	SSW7	S7	SSE8	SSE8	SE10	SE10	SE9	SE8	S8	SW15	WSW15	W25	WSW16	WSW14	W18	WSW19	WSW13	WSW13	WSW11	WSW11	W18	SW8.5	W25
15-Jan	W16	WNW13	NW17	WNW15	WNW13	W10	W11	WNW12	NNW7	NW11	NNW8	W4	W7	WNW7	WNW6	SE2	SSE4	S5	SW5	W6	NNW8	N8	N9	NNE9	WNW6.9	NW17
16-Jan	NNE6	NNE7	NNE9	NNE6	NNE6	NNE7	NNE9	NNE8	NE10	NNE14	N15	NNE16	N17	N20	N21	N19	N20	N19	N17	N15	N18	N24	N22	N18	N14.1	N24
17-Jan	N16	N16	NNW11	NNW10	N10	N12	NNE7	NNE7	NNE9	N8	N7	N8	NNW10	N11	NNW11	N10	NNW8	NNW6	NNW4	N6	N8	N6	N6	N7	N8.7	N16
18-Jan	N7	N5	S2	SSW4	SSW5	SSW4	SSW5	S5	S6	SSW5	S6	S5	SSE5	SE6	SE7	SSE7	SE4	ESE2	E2	SE2	S2	S2	S1	ENE2	SSE2.8	SE7
19-Jan	NE1	ENE2	NNE2	NNW5	NNW5	NNW5	NNW8	N6	NW3	W3	WSW3	SSW4	SSW3	SSW3	SSE3	E3	SSE3	SE5	SSE6	S4	SSW5	S5	S5	S4	SSW0.6	NNW8
20-Jan	SSE4	S4	SSE8	SSE8	SSE9	SSE8	SE7	SE9	SE13	SSE14	SSE15	SSE20	SSE20	SSE17	SSE12	S9	S10	S11	S9	SSW10	WSW14	W16	W18	W25	S8.6	W25
21-Jan	W17	WSW14	WSW12	W17	W20	W19	W15	WSW10	W13	W13	W12	NW13	N14	N16	N18	NNE15	N19	N17	N14	N14	N14	N7	N5	WNW2	NW9.2	W20
22-Jan	S3	S5	SSE6	SSE4	ESE4	ENE5	E1	SE2	SSE3	S4	S5	S5	WSW3	W10	WSW7	SSW9	SSW8	S8	S7	SSE5	SE9	SSE9	SE8	SE12	S4.3	SE12
23-Jan	SSE12	SSE13	SSE12	S10	S6	SW9	SW8	WSW9	SW13	SW11	SSW7	W7	W14	WNW15	WNW14	WNW18	NW18	WNW13	WNW14	WNW13	W19	W17	WNW15	WNW16	W8.7	W19
24-Jan	WNW18	WNW18	WNW17	NNW28	NNW32	NNW37	NNW32	NNW28	NNW21	NNW18	NW17	NW19	NNW17	NNW16	NW10	NW10	NW4	SW4	SSW4	NW1	NNW10	NNW7	WNW7	SW5	NW14.5	NNW37
25-Jan	SW8	SW7	SW5	SW8	SSW10	SSW12	S8	SSW9	SSW13	SW9	SW6	SW11	SW12	SW9	SW4	NW6	NW7	WNW8	WNW4	SSW7	SSW7	SW8	SSW9	SSW9	SW6.9	SSW13
26-Jan	SSW9	SSW11	SSW8	SW11	SSW12	SW10	WSW9	SSW8	S7	SW10	S13	SW9	SSW8	SSW10	SSW5	SSE5	WSW5	WNW9	WNW12	W13	W9	W8	W7	W9	SW7.3	S13
27-Jan	W6	WSW7	W7	W8	W7	W6	W7	SW6	SSW6	SW8	SSW8	SW9	SSW11	SSW13	SW12	SW13	SW13	SW11	W6	W8	NW17	WNW23	WNW27	WNW26	WSW8.7	WNW27
28-Jan	WNW25	WNW21	WNW19	WNW19	WNW17	WNW18	WNW17	WNW15	WNW18	WNW19	WNW22	WNW22	NW22	WNW15	WNW22	NW19	NW13	WNW8	WNW8	WNW8	W8	WNW11	W10	WNW12	WNW16.0	WNW25
29-Jan	WNW8	WNW6	W6	WSW4	WNW4	SE1	SSW4	S2	SSW4	NNW1	NNE9	NNE16	NNE16	NNE15	N14	N17	N16	N18	N16	N17	N17	N16	N16	NNE14	N8.5	N18
30-Jan	NNE11	N12	NNE12	NNE10	N9	NNE7	NNE8	NNE8	N6	N7	N9	N8	N8	NE7	NNE7	NNE7	N5	NNE5	NE7	NNE5	NNE6	N6	NNW8	N8	NNE7.5	NNE12
31-Jan	N7	N6	N5	N8	N8	N8	N11	N10	N9	N12	N12	N12	N13	N14	N13	N13	N15	N16	N16	N13	N15	N15	N16	N15	N11.7	N16

W2.6	W2.4	W1.7	W1.9	W2.0	W1.3	WNW1.3	W0.9	SSW1.1	SW1.3	SSW1.1	WSW0.9	WNW1.0	NW1.4	NW2.3	NW2.1	NW1.6	NW1.7	WNW1.3	WNW1.8	WNW2.7	WNW3.2	WNW2.8	WNW2.8	Diurnal Average
WNW25	SE22	SE19	NNW28	NNW32	NNW37	NNW32	NNW28	NNW21	NNW18	NNW17	NNW17	NNW16	NW10	NW4	SW4	SSW4	NW1	NNW10	NNW7	WNW7	SW5	SSW9	SSW9	Diurnal Maximum

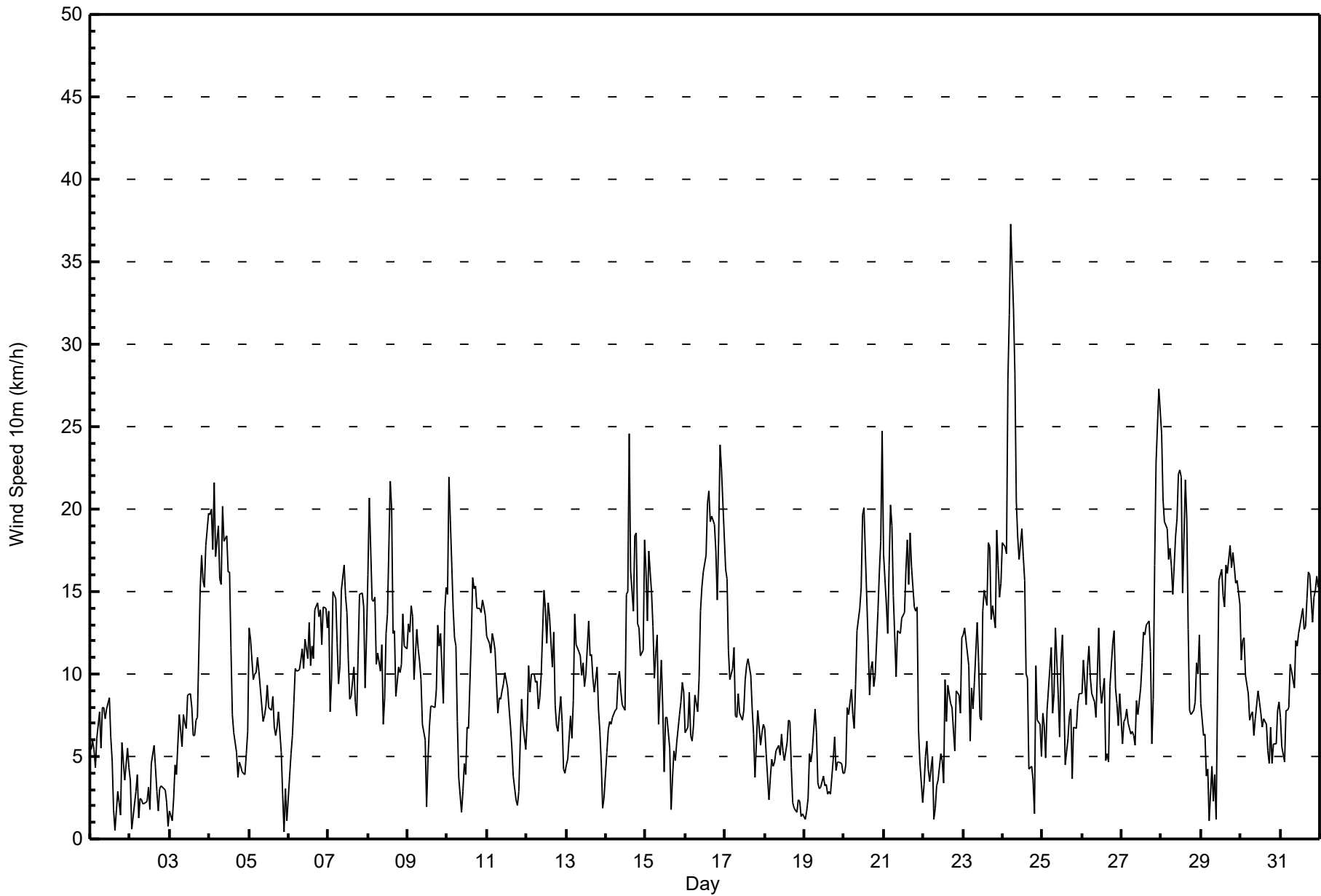
All monthly, daily, and diurnal averages have been calculated using vector methods



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Speed 10m (WS10) - km/h
Mildred Lake - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 11 km/h on Jan 24 05:00 Minimum Value: 1 km/h on Jan 3 01:00 Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 2 Median = 2 Q ₃ = 4 P ₉₀ = 5 P ₉₉ = 7																	Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0									
Day	Hourly Period Ending At (MST)																								Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	1	1	1	1	1	2	1	2	2	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	2
2-Jan	2	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
3-Jan	1	1	1	1	1	1	1	2	2	2	2	3	2	2	1	2	1	3	3	3	4	3	3	4	4	
4-Jan	4	4	3	4	4	3	4	4	4	4	4	3	3	3	2	1	1	1	1	1	1	1	1	1	3	
5-Jan	2	2	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	3	
6-Jan	1	1	2	2	2	2	2	2	2	2	3	3	3	3	3	2	3	4	3	3	2	2	2	2	4	
7-Jan	3	2	2	3	3	2	2	3	3	3	2	3	3	2	4	3	2	3	3	4	4	4	4	3	5	
8-Jan	6	7	5	5	5	4	3	2	3	2	3	4	5	6	5	3	3	2	3	3	3	4	3	3	7	
9-Jan	4	4	4	4	3	3	3	3	3	2	2	1	1	2	2	2	2	2	2	2	3	3	3	4	4	
10-Jan	5	5	5	4	2	3	5	1	1	1	2	1	3	2	4	4	4	4	4	4	3	4	5	4	5	
11-Jan	3	3	3	3	3	3	2	3	2	2	4	3	3	3	2	2	1	1	1	1	2	2	2	1	4	
12-Jan	1	2	2	2	2	2	2	1	2	3	3	3	2	3	3	2	2	2	3	1	1	2	2	1	3	
13-Jan	1	1	1	2	2	3	4	3	3	2	3	2	3	3	3	3	3	2	3	2	2	2	2	2	4	
14-Jan	2	2	2	2	2	1	2	2	2	3	2	4	4	5	7	6	4	5	7	4	4	3	4	5	7	
15-Jan	5	3	5	4	3	2	3	3	3	2	3	2	3	2	2	1	2	1	1	2	3	1	2	3	5	
16-Jan	2	2	3	2	2	2	2	2	2	4	4	4	4	5	5	5	5	5	5	4	5	7	7	5	7	
17-Jan	5	4	2	2	3	4	2	2	2	2	2	2	2	2	3	2	1	1	1	2	2	1	2	1	5	
18-Jan	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	2	1	1	1	1	1	1	1	2	
19-Jan	1	1	1	1	1	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	
20-Jan	1	1	2	2	2	1	2	3	3	3	4	4	4	3	2	3	2	2	2	3	6	6	6	7	7	
21-Jan	6	5	4	7	6	6	5	4	4	4	4	4	4	4	5	5	6	4	4	4	4	3	2	1	7	
22-Jan	1	1	1	1	1	1	1	1	1	2	1	1	3	4	3	2	2	2	1	1	3	2	2	3	4	
23-Jan	3	3	4	3	3	4	3	4	4	4	3	4	4	5	4	5	4	3	4	4	5	5	4	4	5	
24-Jan	5	5	5	5	11	8	8	8	6	6	6	4	4	4	2	3	2	2	2	2	2	2	2	2	11	
25-Jan	3	2	3	3	2	2	2	3	3	2	2	3	4	3	2	3	3	2	2	1	2	2	2	2	4	
26-Jan	2	3	2	4	3	3	4	3	2	3	3	3	3	3	2	2	2	4	3	3	2	2	2	2	4	
27-Jan	2	2	2	2	2	3	2	2	1	3	2	3	2	3	4	4	4	4	4	3	2	5	7	7	7	
28-Jan	6	6	5	5	5	5	4	4	5	5	6	6	6	4	6	6	4	2	2	2	2	3	3	3	6	
29-Jan	2	2	2	3	3	2	1	1	2	1	4	4	5	4	4	4	5	5	4	5	4	5	4	4	5	
30-Jan	3	4	4	3	2	2	3	2	2	2	2	2	2	2	2	2	1	1	2	1	2	1	1	1	4	
31-Jan	1	1	2	1	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4	3	4	3	4	3	4	
Diurnal Maximum																										





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 10m (WS10) - km/h
Mildred Lake - January 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	159	21.37	21.37
6 - 11	325	43.68	65.05
12 - 19	226	30.38	95.43
20 - 28	31	4.17	99.60
29 - 38	3	0.40	100.00
> 38	0	0.00	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Wind Speed 10m (WS10) - km/h
Mildred Lake - January 2025**

Wind Speed Ranges (km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	12	11	5	7	7	8	13	17	27	21	7	7	2	3	6	6	159
6 - 11	66	33	4	0	2	1	15	54	32	31	20	9	18	21	5	14	325
12 - 19	61	10	0	0	0	0	14	48	2	6	7	11	20	35	8	4	226
20 - 28	5	0	0	0	0	0	5	3	0	0	0	0	4	8	3	3	31
29 - 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	144	54	9	7	9	9	47	122	61	58	34	27	44	67	22	30	744

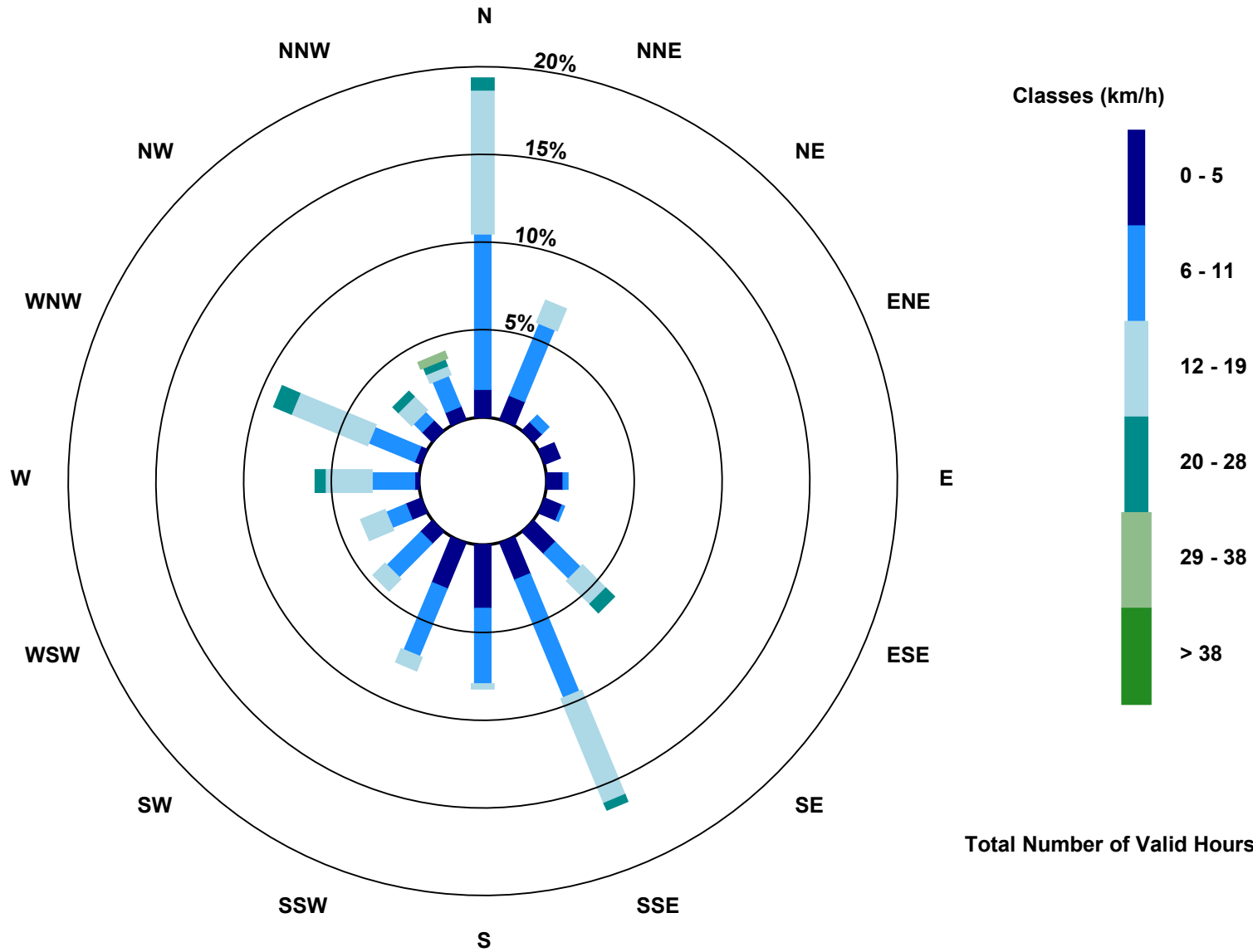
Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Wind Speed 10m (WS10) - km/h
Mildred Lake





Wood Buffalo Environmental Association
Summary of Hour Averages

Wind Direction 10m (WD10) - deg
Mildred Lake - January 2025

Direction of Maximum Speed: 333 deg on Jan 24 06:00		Hours in Service:	744
Direction of Maximum Daily Speed Average: 293.5 deg on Jan 28		Hours of Data:	744
Direction of Minimum Speed: 256 deg on Jan 5 22:00		Hours of Missing Data:	0
Direction of Minimum Daily Speed Average: 0.6 deg on Jan 19		Percent Operational Time:	100.0
Monthly Average Direction: 285.1 deg			

Day	Hourly Period Ending At (MST)																								Daily Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	2	9	9	13	4	3	10	7	356	358	10	11	13	32	30	159	62	34	311	19	19	360	7	2	9.7	
2-Jan	357	323	326	348	351	192	191	203	177	191	137	176	122	119	93	84	83	121	122	177	113	168	188	181	128.8	
3-Jan	139	128	179	202	192	179	191	181	184	181	171	160	167	161	150	177	164	153	150	151	140	144	146	145	159.0	
4-Jan	142	143	147	146	144	151	141	140	147	147	148	146	150	150	114	100	96	39	53	62	49	12	4	357	136.9	
5-Jan	351	359	8	5	6	5	3	3	1	1	5	3	349	349	349	2	20	24	25	26	354	256	140	126	4.4	
6-Jan	165	130	139	157	165	163	151	155	155	161	157	159	176	167	163	165	155	159	158	153	154	150	146	148	156.9	
7-Jan	151	164	151	148	149	154	160	156	148	145	149	143	140	134	200	210	185	202	199	213	241	236	202	213	172.8	
8-Jan	254	267	266	286	274	283	285	288	284	205	239	274	292	313	315	318	296	298	294	302	296	278	285	287	285.2	
9-Jan	285	286	346	8	29	9	15	21	15	11	50	19	94	146	167	166	155	169	148	151	147	149	144	151	93.2	
10-Jan	141	141	142	158	156	149	160	236	246	193	171	209	6	353	2	3	1	360	5	6	1	4	2	360	42.7	
11-Jan	4	360	8	358	1	8	8	3	7	6	8	17	9	15	35	8	57	69	123	155	163	178	187	192	12.6	
12-Jan	164	154	157	150	152	150	147	153	174	161	151	151	150	155	157	163	156	158	143	173	182	175	154	141	156.6	
13-Jan	162	164	170	156	186	155	156	164	155	170	167	175	161	156	168	151	167	172	219	229	206	247	232	147	171.2	
14-Jan	198	251	202	194	176	165	148	141	135	141	144	169	231	241	262	254	252	265	256	245	239	246	258	275	230.2	
15-Jan	280	287	312	298	287	281	281	283	327	316	331	263	270	301	286	136	166	188	226	264	343	356	1	20	298.9	
16-Jan	14	21	25	23	29	24	24	21	35	19	11	14	11	8	11	8	6	4	2	353	356	357	0	356	8.6	
17-Jan	357	357	337	338	0	3	20	12	13	7	1	355	347	352	346	349	338	334	343	360	2	7	9	11	356.0	
18-Jan	11	9	179	192	204	195	194	190	191	199	186	184	162	146	145	151	131	104	93	142	187	181	171	60	168.0	
19-Jan	48	69	16	346	329	348	348	353	304	276	243	199	198	201	166	99	147	144	148	184	195	178	175	171	202.5	
20-Jan	168	176	157	153	160	162	146	145	140	147	150	148	149	153	158	187	191	184	180	197	250	259	263	264	179.9	
21-Jan	263	252	256	262	268	269	280	257	276	272	280	306	6	8	3	15	6	9	5	1	360	350	350	283	313.1	
22-Jan	181	176	167	152	105	76	81	139	148	182	187	178	248	279	249	200	195	186	188	147	143	149	143	138	171.9	
23-Jan	167	159	161	176	191	221	221	241	225	214	210	271	281	285	288	302	308	300	300	300	285	274	275	286	285	260.5
24-Jan	284	288	296	328	327	333	336	343	346	332	315	326	338	329	314	316	311	231	197	306	327	329	289	222	322.2	
25-Jan	228	230	230	216	203	202	188	199	206	215	215	219	224	220	223	313	311	301	294	303	208	221	212	192	220.6	
26-Jan	199	206	210	226	209	229	241	212	185	217	190	214	203	203	201	164	257	302	285	281	278	263	270	279	230.5	
27-Jan	261	258	269	269	264	273	260	215	203	222	211	220	195	209	222	224	227	221	281	273	304	302	302	300	258.5	
28-Jan	295	291	288	288	286	287	293	294	290	291	295	303	305	297	295	308	308	297	298	292	281	282	278	283	293.5	
29-Jan	287	286	259	257	289	146	202	190	210	338	13	24	25	21	9	7	7	4	6	3	7	8	5	14	2.1	
30-Jan	22	10	12	22	10	12	30	23	2	8	9	2	4	34	25	15	11	33	41	18	13	350	348	355	13.4	
31-Jan	3	7	353	354	356	356	357	0	360	3	1	355	7	7	6	3	5	3	6	9	7	4	1	360	2.3	

272.6 265.5 262.8 271.9 267.3 277.1 289.2 274.3 213.2 223.9 197.9 252.1 295.3 307.2 308.3 322.1 323.0 311.0 302.6 282.4 300.4 291.9 301.2 291.6
 Diurnal Average

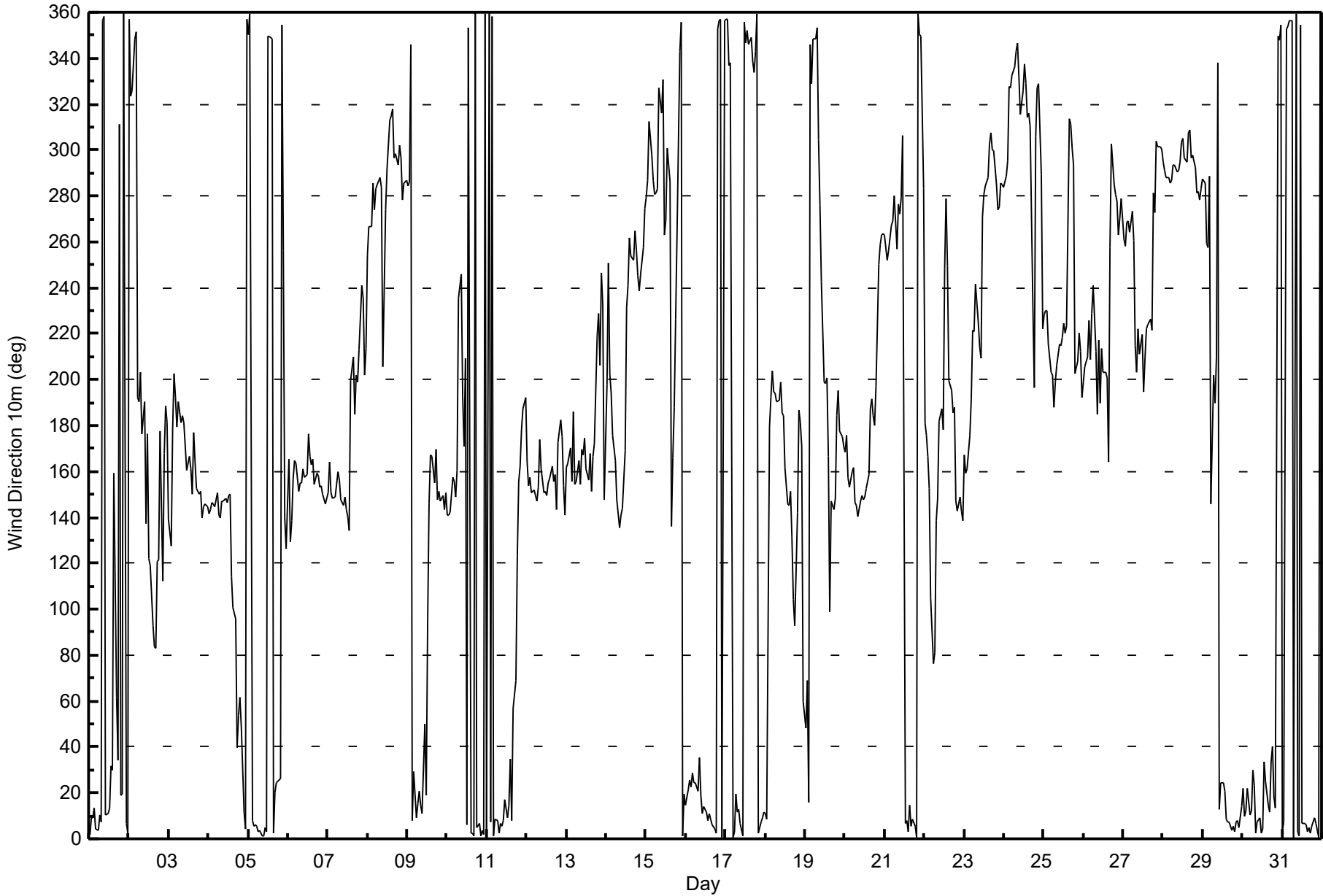
All monthly, daily, and diurnal averages have been calculated using vector methods



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg
Mildred Lake - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 99 deg on Jan 24 20:00		Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0																							
Minimum Value: 8 deg on Jan 19 22:00																									
Percentiles: P ₁ = 10 P ₁₀ = 12 Q ₁ = 15 Median = 18 Q ₃ = 22 P ₉₀ = 31 P ₉₉ = 75																									
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	12	15	13	18	14	13	14	15	13	16	15	15	19	22	29	82	12	8	52	14	15	13	12	11	82
2-Jan	44	73	36	13	13	63	12	8	23	18	26	25	48	27	11	12	11	53	18	14	25	29	20	81	81
3-Jan	24	57	27	12	23	13	11	13	14	17	18	17	15	17	17	18	13	18	12	12	13	11	11	12	57
4-Jan	13	13	12	12	14	12	15	15	12	11	12	13	11	15	19	14	16	25	18	16	20	19	16	23	25
5-Jan	12	14	18	17	17	17	17	18	16	16	18	18	18	17	17	18	21	19	18	22	38	93	30	74	93
6-Jan	26	21	22	15	16	14	14	14	14	16	14	16	14	21	16	16	12	15	14	12	11	11	10	10	26
7-Jan	10	12	14	11	11	13	12	14	12	11	11	12	17	15	45	22	24	38	18	21	21	22	38	31	45
8-Jan	24	21	24	24	21	28	20	16	15	35	27	21	20	17	14	12	17	18	16	16	21	19	18	17	35
9-Jan	18	17	30	21	23	18	21	19	20	20	24	72	22	17	15	17	15	16	13	16	13	18	14	12	72
10-Jan	14	14	13	16	13	12	40	28	76	42	30	38	30	24	16	16	17	16	20	18	17	17	18	16	76
11-Jan	17	17	17	16	16	17	19	18	18	18	21	21	21	26	21	21	17	27	35	39	20	14	21	21	39
12-Jan	18	13	14	12	13	11	14	15	18	19	14	12	12	15	14	15	13	20	17	15	14	14	44	27	44
13-Jan	17	13	16	16	14	13	15	17	14	19	18	17	17	15	19	15	14	12	27	23	27	53	82	88	88
14-Jan	43	26	21	14	15	18	16	13	15	16	15	39	22	26	19	20	21	20	20	21	23	23	24	19	43
15-Jan	18	16	15	17	16	17	16	16	22	13	17	43	32	22	36	76	35	26	22	54	33	12	15	18	76
16-Jan	18	17	17	19	23	19	19	17	18	17	17	19	19	18	20	19	19	18	18	16	18	17	18	18	23
17-Jan	16	16	13	14	17	17	19	16	17	17	19	17	14	15	14	15	10	10	36	12	15	16	16	14	36
18-Jan	14	14	34	17	11	17	23	16	15	18	22	23	23	16	18	15	19	28	27	58	22	47	50	53	58
19-Jan	68	29	28	15	14	16	12	12	29	30	21	19	23	21	26	16	15	12	17	17	17	8	10	15	68
20-Jan	16	17	12	15	15	11	21	20	16	12	12	11	12	12	15	24	20	15	17	28	30	24	24	20	30
21-Jan	22	20	23	25	21	20	21	31	21	22	18	20	19	18	19	19	18	19	18	17	15	15	22	49	49
22-Jan	27	18	15	18	24	14	59	52	40	28	29	23	59	24	41	14	16	18	17	15	11	14	19	17	59
23-Jan	17	17	20	18	50	31	32	32	22	25	33	53	21	20	18	15	15	15	16	18	19	18	20	18	53
24-Jan	18	18	18	12	12	11	13	15	15	13	15	11	14	14	16	14	21	37	66	99	13	13	21	40	99
25-Jan	26	24	43	32	17	16	17	12	17	20	23	23	23	23	51	31	37	23	63	16	21	25	20	21	63
26-Jan	24	18	16	19	20	24	28	24	26	27	30	23	24	23	42	33	53	35	15	14	14	17	18	16	53
27-Jan	24	19	22	21	17	29	16	28	16	21	25	27	18	20	21	24	21	27	42	17	16	16	16	16	42
28-Jan	16	17	17	17	17	18	17	18	18	17	17	15	16	17	17	17	14	16	16	16	14	15	21	16	21
29-Jan	19	29	25	37	68	66	11	27	12	61	18	20	21	21	21	20	19	18	19	18	18	20	18	20	68
30-Jan	21	20	19	19	19	17	20	20	17	19	18	22	30	33	29	18	13	14	14	13	15	20	10	10	33
31-Jan	14	12	21	10	15	12	13	14	15	16	17	16	17	17	17	16	16	17	17	19	18	16	16	14	21
68 73 43 37 68 66 59 52 76 61 33 72 59 33 51 82 53 53 66 99 38 93 82 88																									
Diurnal Maximum																									





WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS03 LOWER CAMP METEOROLOGY JANUARY 2025

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

February 28, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - LOWER CAMP MET TOWER (AMS03)
JANUARY 2025

MONTHLY SUMMARY for
AMD SECTION III.B.1(c)

Parameter	Hours of Data	Hours of Calibration	Hours without Data	Operational Time	Maximum 1-Hour Value	1-Hour Exceedances	Maximum 24-Hour Value	24-Hour Exceedances
Temperature 20 m (C) Average	716	0	28	96.24	7.9	-	3.1	-
Temperature 45 m (C) Average	744	0	0	100	8	-	3.2	-
Temperature 100 m (C) Average	744	0	0	100	7.8	-	3.3	-
Temperature 163 m (C) Average	744	0	0	100	7.6	-	3.3	-
Relative Humidity 20 m (%) Average	716	0	28	96.24	89.8	-	85.2	-
Relative Humidity 45 m (%) Average	744	0	0	100	95	-	89.7	-
Relative Humidity 100 m (%) Average	744	0	0	100	95.8	-	87.8	-
Relative Humidity 163 m (%) Average	744	0	0	100	94.3	-	88.4	-
Wind Speed 20 m (km/h) Average	744	0	0	100	25	-	18.0	-
Wind Speed 45 m (km/h) Average	744	0	0	100	38	-	23.0	-
Wind Speed 100 m (km/h) Average	742	0	2	99.73	51	-	31.0	-
Wind Speed 163 m (km/h) Average	715	0	29	96.1	59	-	37.0	-
Wind Direction 20 m (deg) Average	744	0	0	100	-	-	-	-
Wind Direction 45 m (deg) Average	744	0	0	100	-	-	-	-
Wind Direction 100 m (deg) Average	742	0	2	99.73	-	-	-	-
Wind Direction 163 m (deg) Average	715	0	29	96.1	-	-	-	-
Vertical Wind Speed 20 m (km/h) Average	744	0	0	100	0.8	-	0.0	-
Vertical Wind Speed 45 m (km/h) Average	744	0	0	100	1.3	-	0.5	-
Vertical Wind Speed 100 m (km/h) Average	742	0	2	99.73	2.8	-	0.8	-
Vertical Wind Speed 163 m (km/h) Average	715	0	29	96.1	4.8	-	2.3	-

Note : Operational time includes periods of data collection and instrument calibration

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - LOWER CAMP MET TOWER (AMS03)
 JANUARY 2025

MONTHLY SUMMARY FOR AIR QUALITY/ METEOROLOGICAL MONITORING MEASUREMENTS

Parameter	Number	Mean	StnDev	Total	Percentile						
					Min	P10	Q1	Median	Q3	P90	Max
Temperature 20 m (C) Average	716	-12.41	11.4	-	-37.2	-29	-21.1	-12.4	-2.6	2.1	7.9
Temperature 45 m (C) Average	744	-11.84	11.1	-	-35.2	-27.2	-21.1	-11.5	-2.5	2.5	8
Temperature 100 m (C) Average	744	-11.37	10.7	-	-30.7	-25.6	-21.3	-11.1	-2.4	2.8	7.8
Temperature 163 m (C) Average	744	-11.28	10.6	-	-28.7	-25	-21.3	-10.6	-1.9	2.7	7.6
Relative Humidity 20 m (%) Average	716	73.2	9.8	-	37.2	61	69.8	74.5	79.3	85	89.8
Relative Humidity 45 m (%) Average	744	72.9	10.5	-	35.9	59.7	69	74.3	79.2	85.5	95
Relative Humidity 100 m (%) Average	744	73.49	10.9	-	35.3	58.7	68.4	75.4	79.8	86.3	95.8
Relative Humidity 163 m (%) Average	744	71.89	11.3	-	34.5	56.8	65.7	74	79	86.1	94.3
Wind Speed 20 m (km/h) Average	744	10.1	6	-	0	2	5	9	15	19	25
Wind Speed 45 m (km/h) Average	744	14.2	8	-	0	4	8	13	21	27	38
Wind Speed 100 m (km/h) Average	742	18.6	11	-	0	6	11	17	26	34	51
Wind Speed 163 m (km/h) Average	715	22.6	12	-	1	9	14	21	29	40	59
Wind Direction 20 m (deg) Average	744	-	-	-	-	-	-	-	-	-	-
Wind Direction 45 m (deg) Average	744	-	-	-	-	-	-	-	-	-	-
Wind Direction 100 m (deg) Average	742	-	-	-	-	-	-	-	-	-	-
Wind Direction 163 m (deg) Average	715	-	-	-	-	-	-	-	-	-	-
Vertical Wind Speed 20 m (km/h) Average	744	-0.23	0.3	-	-1.3	-0.7	-0.4	-0.2	0	0.1	0.8
Vertical Wind Speed 45 m (km/h) Average	744	0.16	0.3	-	-1.2	-0.2	0	0.2	0.3	0.5	1.3
Vertical Wind Speed 100 m (km/h) Average	742	0.02	0.6	-	-2.1	-0.7	-0.2	0	0.2	0.7	2.8
Vertical Wind Speed 163 m (km/h) Average	715	0.67	1	-	-1.6	-0.2	0	0.4	1.1	2.1	4.8

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - LOWER CAMP MET TOWER (AMS03)
 JANUARY 2025

OPERATIONAL NOTES

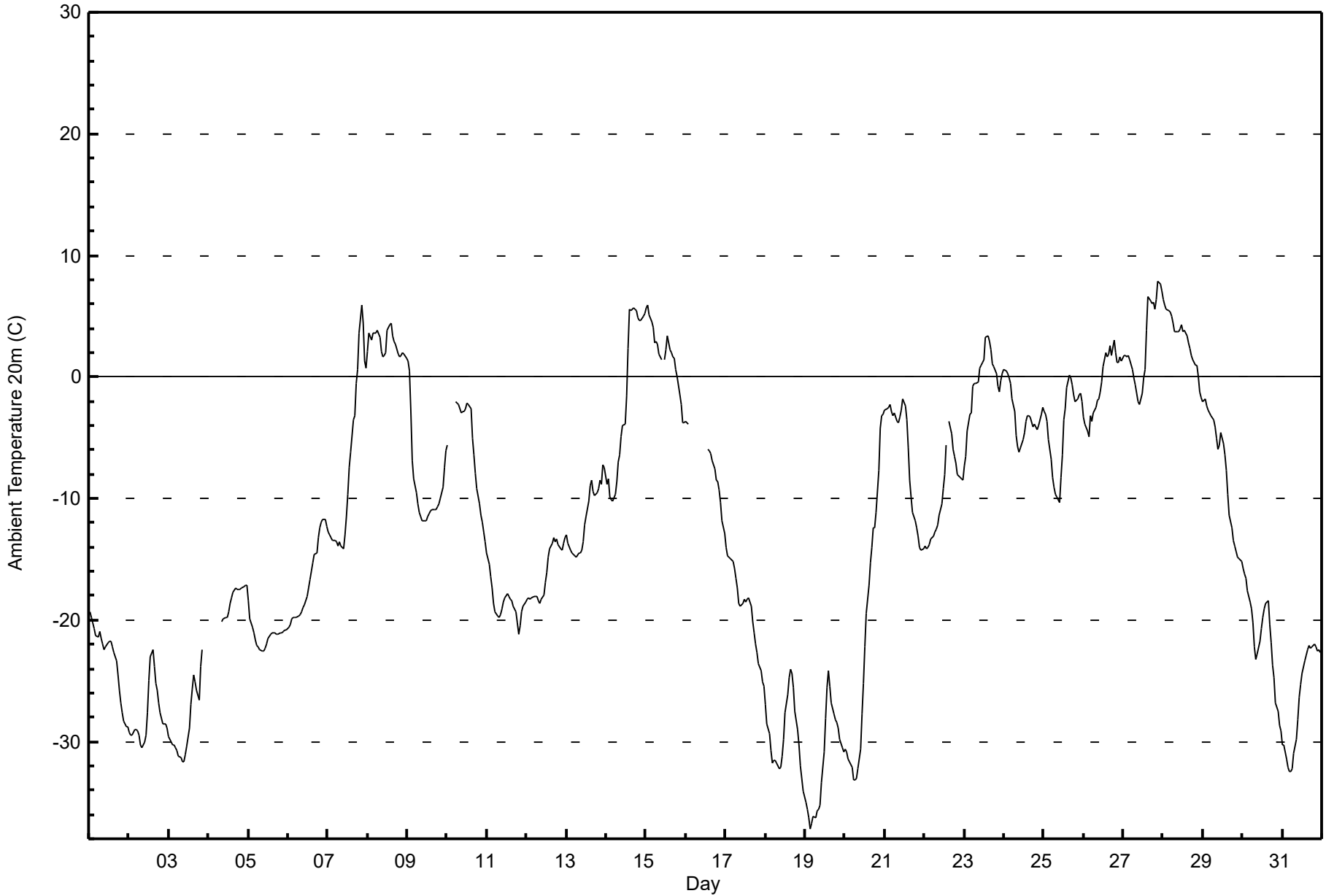
Parameter	Period Start	Period End	Duration (Hours)	Notes
Relative Humidity, Temperature, 20m	03 Jan 2025 22:00	04 Jan 2025 08:00	11	DAS Failure - data not recorded
Relative Humidity, Temperature, 20m	10 Jan 2025 02:00	10 Jan 2025 05:00	4	DAS Failure - data not recorded
Relative Humidity, Temperature, 20m	15 Jan 2025 11:00	15 Jan 2025 11:00	1	DAS Failure - data not recorded
Relative Humidity, Temperature, 20m	16 Jan 2025 03:00	16 Jan 2025 13:00	11	DAS Failure - data not recorded
Relative Humidity, Temperature, 20m	22 Jan 2025 15:00	22 Jan 2025 15:00	1	DAS Failure - data not recorded
Wind Speed, Wind Direction, Vertical Wind Speed, 100m	19 Jan 2025 09:00	19 Jan 2025 10:00	2	Flat line in sensor output signal
Wind Speed, Wind Direction, Vertical Wind Speed, 163m	11 Jan 2025 23:00	12 Jan 2025 06:00	8	Flat line in sensor output signal
Wind Speed, Wind Direction, Vertical Wind Speed, 163m	12 Jan 2025 21:00	13 Jan 2025 03:00	7	Flat line in sensor output signal
Wind Speed, Wind Direction, Vertical Wind Speed, 163m	13 Jan 2025 09:00	13 Jan 2025 11:00	3	Flat line in sensor output signal
Wind Speed, Wind Direction, Vertical Wind Speed, 163m	19 Jan 2025 07:00	19 Jan 2025 17:00	11	Flat line in sensor output signal



Wood Buffalo Environmental Association
Summary of Hour Averages

Ambient Temperature 20m (AT20) - C
Lower Camp Met Tower - January 2025

Maximum Value: 7.9 C on Jan 27 22:00		Maximum Daily Average: 3.1 C on Jan 28		Hours in Service: 744																																														
Minimum Value: -37.2 C on Jan 19 04:00		Minimum Daily Average: -31.6 C on Jan 19		Hours of Data: 716																																														
Maximum Diurnal Average: -10.2 C at hour 16		Minimum Diurnal Average: -14.6 C at hour 9		Hours of Missing Data: 28																																														
Monthly Average: -12.41 C		Percentiles: P ₁ = -35.6 P ₁₀ = -29.0 Q ₁ = -21.1 Median = -12.4 Q ₃ = -2.6 P ₉₀ = 2.1 P ₉₉ = 6.1		Hours of Calibration: 0																																														
				Percent Operational Time: 96.2																																														
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																										
1-Jan	-19.3	-19.8	-20.3	-20.8	-21.3	-21.4	-20.9	-21.5	-22.0	-22.4	-22.2	-21.8	-21.7	-21.8	-22.2	-22.6	-23.4	-24.5	-25.8	-26.8	-27.6	-28.4	-28.7	-28.8	-23.2	-19.3																								
2-Jan	-29.2	-29.4	-29.4	-29.0	-29.0	-29.2	-29.4	-30.2	-30.5	-30.0	-29.5	-27.6	-25.0	-23.0	-22.4	-23.8	-25.2	-25.8	-26.8	-27.6	-28.6	-28.5	-28.6	-28.8	-27.8	-22.4																								
3-Jan	-29.6	-30.0	-30.3	-30.3	-30.5	-30.7	-31.2	-31.3	-31.6	-31.7	-31.1	-30.3	-28.9	-27.0	-25.6	-24.5	-25.1	-25.8	-26.6	-23.9	-22.5	DF	DF	DF	-28.5	-22.5																								
4-Jan	DF	DF	DF	DF	DF	DF	DF	DF	DF	-20.1	-19.9	-19.8	-19.8	-19.3	-18.6	-18.2	-17.7	-17.4	-17.5	-17.5	-17.4	-17.4	-17.2	-17.2	-17.1	--	-17.1																							
5-Jan	-18.4	-19.9	-20.6	-21.1	-21.6	-22.1	-22.2	-22.4	-22.6	-22.6	-22.3	-21.9	-21.5	-21.2	-21.0	-21.1	-21.1	-21.1	-21.1	-21.1	-21.1	-21.0	-20.9	-20.8	-21.3	-18.4																								
6-Jan	-20.6	-20.4	-19.9	-19.8	-19.8	-19.8	-19.7	-19.5	-19.3	-19.0	-18.8	-18.1	-17.3	-16.6	-16.0	-15.2	-14.6	-14.4	-13.3	-12.4	-11.9	-11.7	-11.8	-12.3	-16.8	-11.7																								
7-Jan	-12.8	-13.0	-13.2	-13.5	-13.5	-13.5	-13.9	-13.5	-13.9	-14.2	-13.0	-11.5	-9.6	-7.5	-6.2	-3.6	-3.2	-0.5	0.7	3.6	5.9	4.4	1.3	0.7	-7.2	5.9																								
8-Jan	2.1	3.6	3.0	3.6	3.6	3.6	3.9	3.2	2.1	1.6	1.7	2.0	3.9	4.3	4.4	3.4	2.9	2.7	1.9	1.7	1.8	2.0	1.9	1.5	2.8	4.4																								
9-Jan	1.3	0.5	-2.8	-6.9	-8.3	-9.5	-10.5	-11.2	-11.5	-11.8	-11.9	-11.5	-11.2	-11.0	-10.9	-10.9	-10.9	-10.7	-10.4	-10.0	-9.0	-7.5	-6.0	-8.9	1.3	1.3																								
10-Jan	-5.6	DF	DF	DF	DF	-2.0	-2.2	-2.3	-2.9	-2.9	-2.8	-2.6	-2.2	-2.3	-2.6	-5.0	-6.5	-7.9	-9.2	-10.4	-11.4	-12.0	-12.8	-13.6	-6.0	-2.0																								
11-Jan	-14.5	-15.4	-16.4	-17.3	-18.6	-19.4	-19.7	-19.7	-19.5	-19.1	-18.5	-18.1	-17.9	-18.1	-18.3	-18.5	-18.8	-19.3	-20.3	-21.2	-20.5	-19.3	-18.9	-18.6	-18.6	-14.5																								
12-Jan	-18.3	-18.2	-18.3	-18.1	-18.1	-18.0	-18.0	-18.5	-18.7	-18.3	-17.9	-16.9	-16.1	-14.9	-14.2	-13.7	-13.3	-13.5	-13.3	-13.8	-14.2	-14.3	-13.7	-13.2	-16.1	-13.2																								
13-Jan	-13.0	-13.7	-14.3	-14.5	-14.6	-14.7	-14.8	-14.5	-14.4	-14.3	-13.6	-12.2	-11.5	-10.2	-8.9	-8.5	-9.4	-9.8	-9.5	-9.2	-8.5	-8.8	-7.2	-7.5	-11.6	-7.2																								
14-Jan	-8.8	-8.4	-9.9	-10.1	-10.2	-9.7	-8.6	-7.0	-6.4	-4.9	-4.0	-3.9	-1.6	2.4	5.5	5.5	5.6	5.6	5.4	4.9	4.7	4.6	5.0	5.2	-1.6	5.6																								
15-Jan	5.7	5.9	5.1	4.5	4.1	2.8	3.0	2.6	1.9	1.4	DF	1.4	2.2	3.4	2.3	2.0	1.6	1.6	0.6	0.0	-1.4	-2.2	-3.8	-3.7	1.8	5.9																								
16-Jan	-3.6	-3.8	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	-5.9	-6.0	-6.3	-6.8	-7.6	-8.5	-8.7	-9.3	-10.4	-11.8	-12.8	--	-3.6																								
17-Jan	-14.0	-14.8	-14.8	-15.0	-15.1	-15.7	-16.5	-17.4	-18.6	-18.9	-18.7	-18.3	-18.5	-18.3	-18.2	-18.9	-20.2	-21.1	-22.0	-22.7	-23.6	-24.2	-25.0	-25.5	-19.0	-14.0																								
18-Jan	-26.9	-28.5	-29.4	-30.7	-31.8	-31.6	-31.5	-31.7	-32.2	-32.2	-31.2	-29.8	-27.7	-26.2	-24.7	-24.0	-24.4	-25.6	-27.5	-29.0	-30.3	-32.0	-33.1	-34.1	-29.4	-24.0																								
19-Jan	-35.0	-35.6	-36.2	-37.2	-36.7	-36.1	-36.2	-35.7	-35.6	-35.3	-33.3	-30.9	-28.1	-25.6	-24.2	-25.4	-26.8	-27.8	-28.2	-28.5	-28.9	-29.8	-30.5	-30.8	-31.6	-24.2																								
20-Jan	-30.6	-30.9	-31.5	-31.7	-32.2	-33.1	-33.2	-33.1	-32.2	-30.6	-27.7	-25.2	-22.2	-19.4	-17.1	-15.3	-14.1	-12.4	-12.4	-11.1	-7.7	-4.2	-3.2	-3.1	-21.4	-3.1																								
21-Jan	-2.7	-2.7	-2.6	-2.3	-2.9	-3.1	-3.0	-3.6	-3.7	-3.4	-2.7	-1.8	-2.4	-3.5	-5.9	-8.5	-9.9	-11.2	-11.9	-12.4	-13.1	-14.0	-14.3	-14.2	-6.5	-1.8																								
22-Jan	-13.9	-14.1	-14.0	-13.8	-13.3	-13.1	-12.8	-12.5	-12.2	-11.4	-10.4	-9.2	-8.1	-5.6	DF	-3.7	-4.7	-6.0	-6.6	-7.1	-8.0	-8.3	-8.3	-8.5	-9.8	-3.7																								
23-Jan	-7.3	-6.5	-4.5	-3.0	-2.9	-0.8	-0.5	-0.5	0.8	0.9	1.2	1.4	3.2	3.4	2.9	2.2	1.1	0.8	0.3	-0.8	-1.2	-0.3	0.3	-0.4	3.4																									
24-Jan	0.6	0.5	0.3	0.0	-0.6	-1.9	-2.9	-4.8	-5.7	-6.2	-5.8	-5.2	-4.6	-3.7	-3.2	-3.2	-3.4	-4.1	-3.9	-4.1	-4.3	-4.0	-3.1	-2.5	-3.2	0.6																								
25-Jan	-2.8	-3.1	-3.6	-5.1	-6.8	-8.2	-9.0	-9.7	-9.9	-10.3	-8.3	-6.4	-3.6	-2.6	-0.9	0.1	0.0	-0.6	-1.5	-2.0	-1.8	-1.5	-1.3	-2.1	-4.2	0.1																								
26-Jan	-3.3	-3.9	-4.5	-5.0	-3.2	-3.7	-3.0	-2.5	-1.9	-1.8	-1.2	-0.4	0.8	2.0	1.7	1.8	2.6	1.8	3.0	2.0	1.2	1.1	1.6	1.3	-0.6	3.0																								
27-Jan	1.7	1.7	1.7	1.8	1.4	0.6	-0.1	-0.7	-1.4	-2.0	-2.3	-1.3	-0.1	0.7	3.8	6.6	6.2	6.0	6.2	5.6	6.4	7.9	7.7	7.1	2.7	7.9																								
28-Jan	6.4	5.9	5.6	5.5	5.4	5.0	4.4	3.8	3.7	3.7	3.9	4.3	3.8	3.8	3.4	2.9	2.3	1.7	1.4	1.0	0.9	0.0	-1.3	-1.7	3.1	6.4																								
29-Jan	-2.0	-1.8	-2.4	-2.7	-3.0	-3.2	-3.5	-4.1	-5.0	-6.0	-5.7	-4.5	-5.5	-6.4	-7.7	-9.7	-11.4	-12.4	-13.4	-13.9	-14.4	-14.8	-14.9	-15.2	-7.7	-1.8																								
30-Jan	-15.8	-16.2	-16.6	-17.6	-18.6	-19.1	-20.3	-22.2	-23.2	-22.8	-21.8	-20.7	-19.8	-19.1	-18.6	-18.4	-20.4	-21.9	-23.7	-24.8	-26.8	-27.5	-28.6	-29.1	-21.4	-15.8																								
31-Jan	-30.2	-30.3	-31.4	-32.1	-32.4	-32.5	-32.2	-30.9	-29.8	-28.2	-26.3	-25.3	-24.4	-23.4	-22.9	-22.5	-22.1	-22.3	-22.2	-22.0	-22.2	-22.6	-22.5	-22.7	-26.4	-22.0																								
																								-12.0	-12.5	-13.3	-13.7	-13.9	-13.8	-13.9	-14.2	-14.6	-14.4	-14.3	-12.9	-11.9	-10.7	-10.4	-10.2	-10.6	-11.1	-11.5	-11.7	-11.8	-11.6	-11.7	-11.9	Diurnal Average		
																								6.4	5.9	5.6	5.5	5.4	5.0	4.4	3.8	3.7	3.7	3.9	4.3	3.9	4.3	3.9	4.3	5.5	6.6	6.2	6.0	6.2	5.6	6.4	7.9	7.7	7.1	Diurnal Maximum
DF - DAS Failure																																																		





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Ambient Temperature 20m (AT20) - C
Lower Camp Met Tower - January 2025**

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	202	28.21	28.21
-20 - 0	386	53.91	82.12
0 - 10	128	17.88	100.00
10 - 20	0	0.00	100.00
> 20	0	0.00	100.00

Total Number of Valid Hours: 716

Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

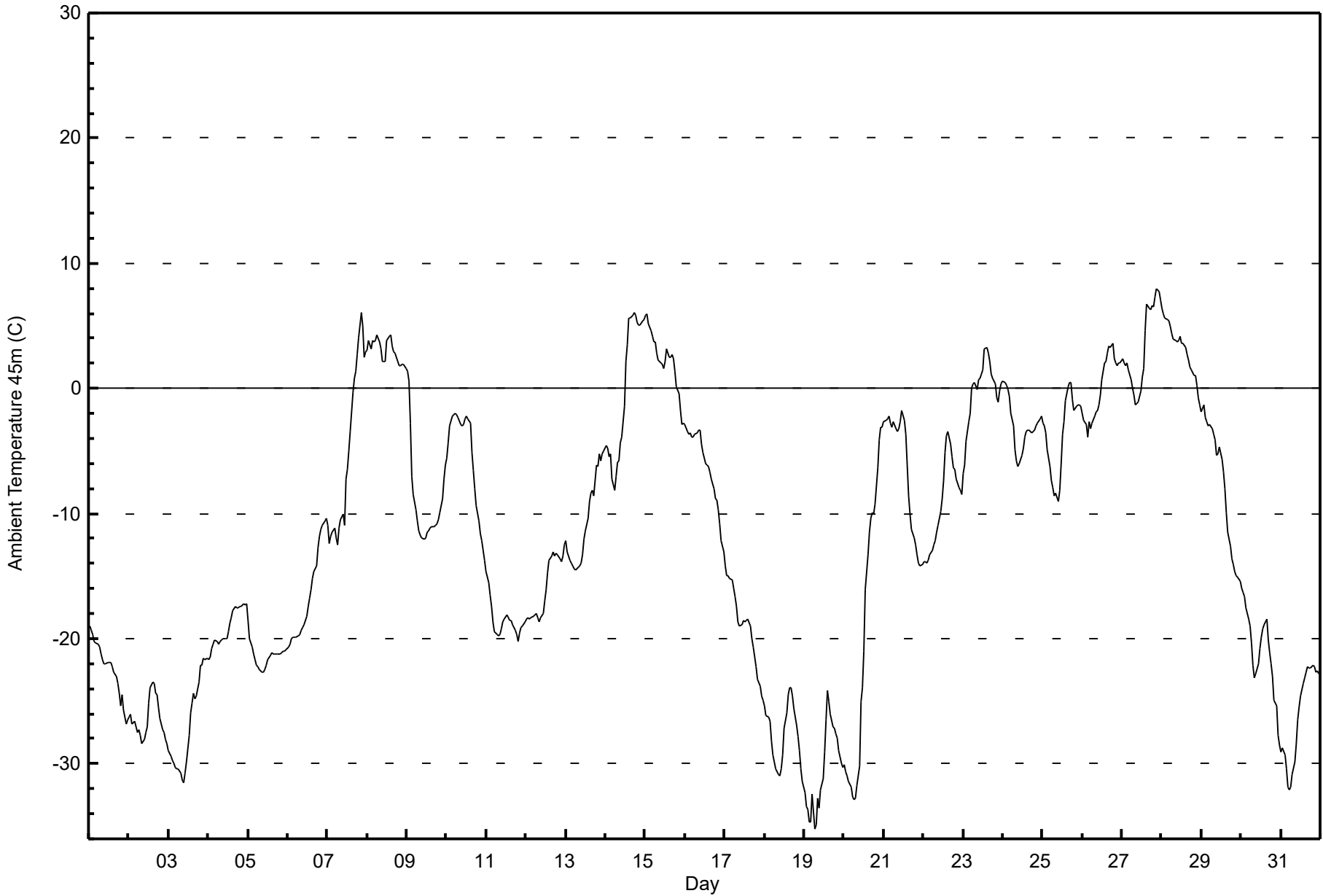
Ambient Temperature 45m (AT45) - C
Lower Camp Met Tower - January 2025

Maximum Value: 8.0 C on Jan 27 22:00		Maximum Daily Average: 3.2 C on Jan 28		Hours in Service: 744																																												
Minimum Value: -35.2 C on Jan 19 07:00		Minimum Daily Average: -30.4 C on Jan 19		Hours of Data: 744																																												
Maximum Diurnal Average: -9.9 C at hour 16		Minimum Diurnal Average: -13.7 C at hour 9		Hours of Missing Data: 0																																												
Monthly Average: -11.84 C		Percentiles: P ₁ = -32.8 P ₁₀ = -27.2 Q ₁ = -21.1 Median = -11.5 Q ₃ = -2.5 P ₉₀ = 2.5 P ₉₉ = 6.4		Hours of Calibration: 0																																												
				Percent Operational Time: 100.0																																												
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Jan	-19.0	-19.3	-19.7	-20.2	-20.3	-20.4	-20.7	-21.3	-21.7	-22.1	-22.0	-21.9	-21.9	-21.9	-22.3	-22.7	-23.0	-23.6	-24.3	-25.3	-24.4	-25.7	-26.8	-26.5	-22.4	-19.0																						
2-Jan	-26.3	-26.0	-26.9	-26.6	-27.0	-27.4	-27.2	-27.8	-28.3	-28.1	-27.5	-27.1	-25.2	-23.9	-23.5	-23.6	-24.4	-24.5	-25.5	-26.3	-27.3	-27.5	-28.1	-28.3	-26.4	-23.5																						
3-Jan	-29.0	-29.4	-29.8	-30.0	-30.3	-30.4	-30.4	-30.7	-31.2	-31.5	-30.8	-29.9	-27.8	-26.0	-25.2	-24.4	-24.8	-24.6	-23.4	-22.1	-22.1	-21.6	-21.7	-21.6	-27.0	-21.6																						
4-Jan	-21.7	-21.5	-20.8	-20.4	-20.1	-20.2	-20.4	-20.2	-20.1	-20.1	-20.0	-20.0	-19.4	-18.8	-18.3	-17.7	-17.4	-17.5	-17.6	-17.5	-17.4	-17.3	-17.3	-17.2	-19.1	-17.2																						
5-Jan	-18.6	-20.0	-20.7	-21.2	-21.7	-22.2	-22.3	-22.5	-22.7	-22.7	-22.4	-22.1	-21.7	-21.3	-21.2	-21.2	-21.3	-21.2	-21.2	-21.2	-21.0	-21.0	-20.9	-21.4	-18.6	-18.6																						
6-Jan	-20.7	-20.5	-20.0	-19.9	-19.9	-19.8	-19.8	-19.6	-19.4	-19.1	-18.9	-18.2	-17.5	-16.8	-16.1	-15.2	-14.6	-14.2	-12.8	-11.8	-11.3	-11.0	-10.6	-10.4	-16.6	-10.4																						
7-Jan	-10.9	-12.4	-11.9	-11.5	-11.1	-11.9	-12.5	-11.1	-10.5	-10.1	-10.9	-7.2	-6.5	-5.0	-3.5	-0.3	0.8	1.4	2.7	4.0	6.1	4.9	2.5	2.9	-5.1	6.1																						
8-Jan	3.0	3.8	3.1	3.8	3.7	3.8	4.3	3.7	3.2	2.1	2.2	2.2	3.8	4.2	4.2	3.4	3.0	2.8	2.2	1.8	1.8	1.9	1.9	1.6	3.0	4.3																						
9-Jan	1.4	0.6	-2.8	-7.0	-8.5	-9.7	-10.7	-11.3	-11.7	-12.0	-12.0	-12.0	-11.5	-11.4	-11.1	-11.0	-11.0	-10.9	-10.8	-10.5	-10.0	-8.8	-7.3	-6.1	-9.0	1.4																						
10-Jan	-5.6	-4.3	-3.0	-2.3	-2.1	-2.0	-2.1	-2.3	-2.9	-3.0	-2.9	-2.5	-2.2	-2.4	-2.8	-5.2	-6.6	-8.0	-9.4	-10.6	-11.6	-12.2	-12.9	-13.7	-5.5	-2.0																						
11-Jan	-14.7	-15.5	-16.6	-17.5	-18.7	-19.5	-19.7	-19.8	-19.7	-19.2	-18.7	-18.4	-18.1	-18.4	-18.5	-18.6	-18.9	-19.3	-19.6	-20.2	-19.5	-19.1	-19.0	-18.7	-18.6	-14.7																						
12-Jan	-18.4	-18.4	-18.4	-18.3	-18.2	-18.1	-18.0	-18.3	-18.6	-18.3	-18.0	-16.9	-16.1	-14.8	-13.8	-13.4	-13.1	-13.4	-13.2	-13.3	-13.6	-13.9	-13.4	-12.5	-15.9	-12.5																						
13-Jan	-12.2	-13.0	-13.8	-13.9	-14.2	-14.4	-14.5	-14.3	-14.2	-13.9	-13.3	-12.1	-11.4	-10.3	-9.0	-8.4	-8.2	-8.6	-6.1	-6.2	-5.3	-5.8	-5.2	-5.0	-10.6	-5.0																						
14-Jan	-4.6	-4.8	-5.5	-5.3	-7.2	-8.1	-7.0	-5.9	-5.8	-4.3	-3.9	-1.5	2.1	3.5	5.6	5.6	5.9	6.0	5.8	5.3	5.0	5.0	5.4	5.5	-0.1	6.0																						
15-Jan	5.8	6.0	5.1	4.6	4.2	3.8	3.7	2.8	2.3	2.0	1.9	1.6	2.1	3.2	2.5	2.4	2.7	2.4	1.4	0.1	-0.4	-1.8	-2.9	-2.8	2.2	6.0																						
16-Jan	-2.9	-3.5	-3.7	-3.6	-3.9	-3.9	-3.7	-3.6	-3.3	-3.3	-4.5	-5.1	-6.0	-6.1	-6.2	-6.7	-7.3	-8.0	-8.8	-9.0	-9.7	-10.8	-12.2	-13.1	-6.2	-2.9																						
17-Jan	-14.2	-15.0	-15.0	-15.1	-15.3	-15.9	-16.7	-17.4	-18.7	-19.0	-18.8	-18.5	-18.7	-18.5	-18.5	-19.0	-20.0	-20.7	-21.4	-22.2	-23.3	-23.8	-24.5	-24.9	-19.0	-14.2																						
18-Jan	-25.4	-26.1	-26.3	-26.6	-28.1	-29.3	-29.9	-30.4	-30.8	-31.0	-30.4	-29.3	-27.1	-26.0	-24.5	-23.9	-23.9	-24.6	-25.6	-26.9	-27.8	-29.0	-30.4	-31.4	-27.7	-23.9																						
19-Jan	-32.3	-33.4	-33.6	-34.7	-34.7	-32.4	-35.2	-34.9	-32.7	-33.5	-32.0	-31.1	-29.0	-26.5	-24.1	-25.0	-26.1	-27.0	-27.2	-27.6	-28.0	-29.0	-29.9	-30.3	-30.4	-24.1																						
20-Jan	-30.1	-30.6	-31.0	-31.4	-31.8	-32.7	-32.9	-32.7	-31.8	-30.1	-25.0	-23.9	-21.0	-16.1	-13.3	-11.5	-10.4	-9.9	-10.0	-9.2	-6.4	-4.1	-3.1	-3.1	-20.1	-3.1																						
21-Jan	-2.7	-2.5	-2.4	-2.2	-2.8	-3.1	-2.7	-3.2	-3.5	-3.3	-2.7	-1.8	-2.5	-3.7	-6.1	-8.6	-10.0	-11.3	-12.0	-12.5	-13.2	-14.0	-14.2	-14.1	-6.5	-1.8																						
22-Jan	-13.8	-13.9	-14.0	-13.8	-13.3	-12.9	-12.6	-12.2	-11.5	-10.9	-9.8	-8.8	-7.4	-5.2	-3.8	-3.5	-4.5	-5.5	-6.4	-6.4	-7.2	-7.9	-8.1	-8.5	-9.2	-3.5																						
23-Jan	-6.8	-6.2	-4.3	-2.7	-2.0	0.0	0.3	0.5	0.0	0.7	0.8	1.1	1.5	3.1	3.3	2.9	2.2	1.1	0.8	0.3	-0.7	-1.1	-0.2	0.3	-0.2	3.3																						
24-Jan	0.6	0.5	0.3	-0.1	-0.7	-2.0	-3.0	-4.9	-5.8	-6.3	-6.0	-5.4	-4.7	-3.9	-3.4	-3.3	-3.3	-3.6	-3.4	-3.3	-3.0	-2.8	-2.5	-2.2	-3.0	0.6																						
25-Jan	-2.7	-3.0	-3.6	-4.9	-6.3	-7.4	-8.0	-8.6	-8.4	-9.0	-8.1	-6.0	-3.7	-2.7	-1.0	0.1	0.4	0.5	-0.9	-1.7	-1.4	-1.3	-1.3	-1.5	-3.8	0.5																						
26-Jan	-2.0	-2.6	-2.9	-3.9	-2.7	-3.2	-2.8	-2.2	-1.8	-1.8	-1.3	-0.5	0.7	2.0	2.1	2.8	3.3	3.2	3.6	2.3	2.0	1.8	2.0	2.0	0.0	3.6																						
27-Jan	2.4	2.0	1.8	2.1	1.4	0.6	0.0	-0.6	-1.3	-1.2	-1.1	-0.2	0.9	1.5	4.6	6.7	6.3	6.2	6.6	6.5	7.3	8.0	7.7	7.1	3.1	8.0																						
28-Jan	6.4	6.0	5.6	5.5	5.4	5.0	4.4	3.9	3.8	3.7	3.8	4.2	3.6	3.6	3.3	2.7	2.2	1.7	1.4	1.0	1.0	0.3	-0.7	-1.3	3.2	6.4																						
29-Jan	-1.9	-1.4	-2.4	-2.7	-3.0	-2.8	-3.2	-3.6	-4.1	-5.3	-5.2	-4.7	-5.7	-6.7	-8.0	-9.9	-11.5	-12.6	-13.6	-14.0	-14.6	-15.0	-15.1	-15.4	-7.6	-1.4																						
30-Jan	-15.9	-16.3	-16.7	-17.6	-18.4	-19.0	-20.3	-22.2	-23.1	-22.8	-22.0	-20.8	-19.8	-19.2	-18.9	-18.4	-20.1	-21.2	-22.1	-23.1	-25.0	-25.3	-27.7	-28.5	-21.0	-15.9																						
31-Jan	-29.0	-28.7	-29.3	-30.4	-31.8	-32.1	-31.9	-30.9	-29.8	-28.4	-26.5	-25.5	-24.6	-23.6	-23.1	-22.6	-22.2	-22.4	-22.3	-22.1	-22.3	-22.7	-22.6	-22.8	-26.1	-22.1																						
																								-11.7	-11.9	-12.2	-12.5	-12.9	-13.1	-13.4	-13.6	-13.7	-13.6	-13.1	-12.3	-11.4	-10.6	-10.0	-9.9	-10.2	-10.6	-10.7	-11.0	-11.1	-11.3	-11.6	-11.7	Diurnal Average
																								6.4	6.0	5.6	5.5	5.4	5.0	4.4	3.9	3.8	3.7	3.8	4.2	3.8	4.2	5.6	6.7	6.3	6.2	6.6	6.5	7.3	8.0	7.7	7.1	Diurnal Maximum



Wood Buffalo Environmental Association
Hourly Averages

Ambient Temperature 45m (AT45) - C
Lower Camp Met Tower - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Ambient Temperature 45m (AT45) - C
Lower Camp Met Tower - January 2025**

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	213	28.63	28.63
-20 - 0	392	52.69	81.32
0 - 10	139	18.68	100.00
10 - 20	0	0.00	100.00
> 20	0	0.00	100.00

Total Number of Valid Hours: 744

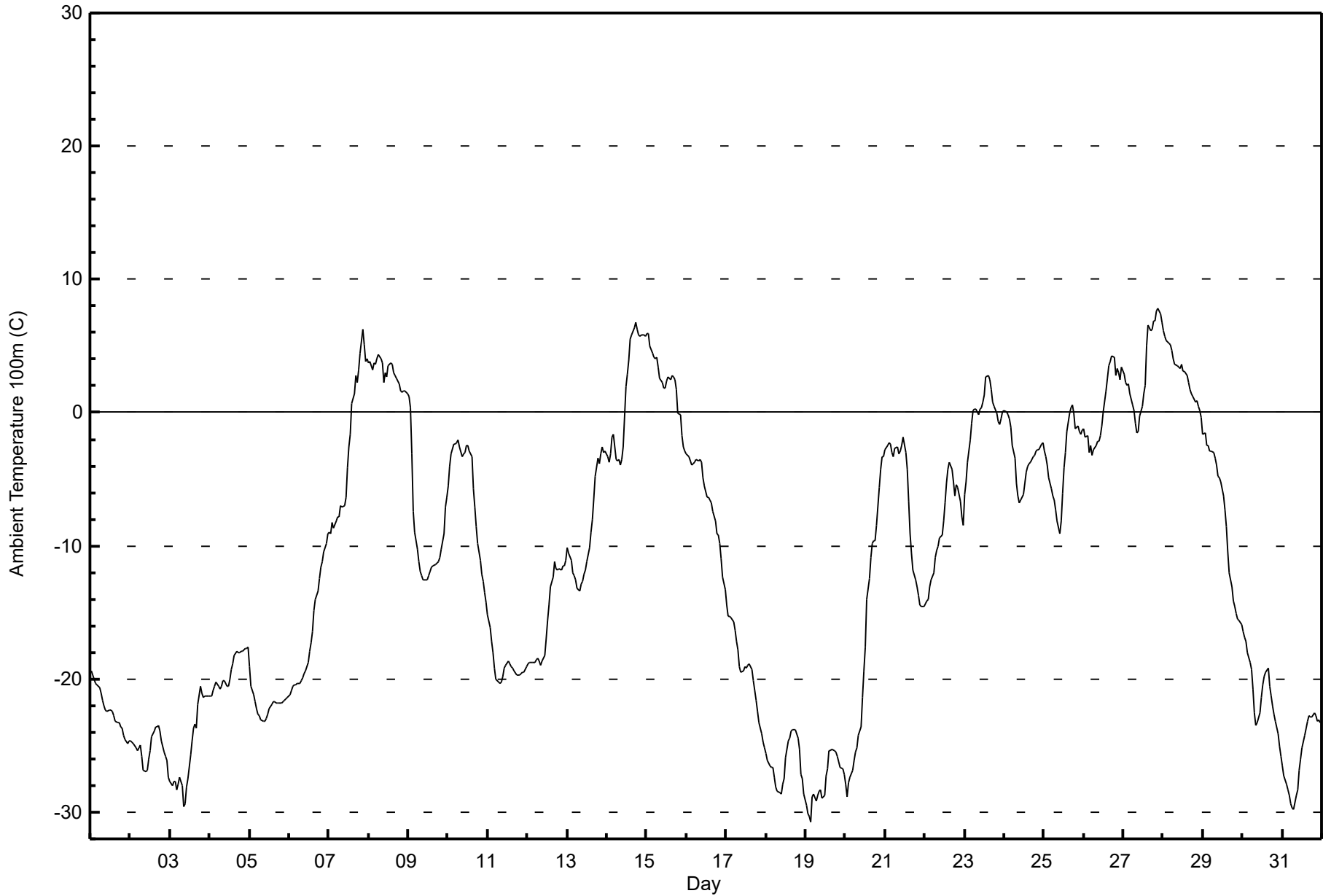
Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

Ambient Temperature 100m (AT100) - C
Lower Camp Met Tower - January 2025

Maximum Value: 7.8 C on Jan 27 22:00		Maximum Daily Average: 3.3 C on Jan 27		Hours in Service: 744																																														
Minimum Value: -30.7 C on Jan 19 04:00		Minimum Daily Average: -27.7 C on Jan 19		Hours of Data: 744																																														
Maximum Diurnal Average: -10.0 C at hour 16		Minimum Diurnal Average: -13.0 C at hour 10		Hours of Missing Data: 0																																														
Monthly Average: -11.37 C		Percentiles: P ₁ = -29.4 P ₁₀ = -25.6 Q ₁ = -21.3 Median = -11.1 Q ₃ = -2.4 P ₉₀ = 2.8 P ₉₉ = 6.5		Hours of Calibration: 0																																														
				Percent Operational Time: 100.0																																														
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																										
1-Jan	-19.4	-19.7	-20.0	-20.3	-20.5	-20.7	-21.1	-21.6	-22.0	-22.3	-22.4	-22.3	-22.4	-22.8	-23.1	-23.3	-23.2	-23.6	-23.8	-24.2	-24.5	-24.8	-24.7	-22.3	-19.4																									
2-Jan	-24.7	-24.7	-24.8	-25.2	-25.4	-25.1	-25.0	-25.8	-26.9	-27.0	-26.9	-26.0	-25.3	-24.3	-24.0	-23.6	-23.6	-23.5	-24.0	-24.6	-25.5	-25.7	-26.1	-27.4	-25.2	-23.5																								
3-Jan	-27.7	-28.1	-27.7	-27.7	-28.3	-27.9	-27.4	-28.0	-29.6	-29.4	-28.1	-27.5	-25.7	-24.7	-23.7	-23.4	-23.7	-22.0	-20.6	-21.0	-21.4	-21.3	-21.3	-25.3	-20.6																									
4-Jan	-21.3	-21.3	-20.9	-20.6	-20.2	-20.6	-20.8	-20.5	-20.1	-20.2	-20.6	-20.5	-20.0	-19.3	-18.8	-18.2	-17.9	-18.0	-18.0	-17.9	-17.7	-17.7	-17.6	-19.4	-17.6																									
5-Jan	-19.1	-20.6	-21.2	-21.8	-22.2	-22.7	-22.8	-23.1	-23.2	-23.2	-23.0	-22.2	-21.9	-21.7	-21.8	-21.8	-21.8	-21.8	-21.8	-21.7	-21.6	-21.5	-21.4	-21.9	-19.1																									
6-Jan	-21.2	-20.9	-20.5	-20.4	-20.5	-20.4	-20.3	-20.2	-19.9	-19.6	-19.4	-18.7	-17.9	-17.3	-16.4	-14.9	-14.0	-13.4	-12.4	-11.6	-11.2	-10.4	-9.8	-9.1	-16.7	-9.1																								
7-Jan	-9.0	-9.1	-8.2	-8.6	-8.2	-7.8	-7.9	-6.9	-7.1	-7.0	-6.3	-4.2	-2.6	-1.7	0.7	1.4	2.8	2.3	3.2	4.5	6.3	5.1	3.8	4.1	-2.5	6.3																								
8-Jan	3.7	3.9	3.2	3.7	3.6	4.1	4.4	4.1	3.8	2.3	3.0	2.7	3.5	3.7	3.6	3.0	2.8	2.6	2.1	1.6	1.6	1.6	1.4	3.0	4.4																									
9-Jan	1.2	0.4	-3.1	-7.5	-9.0	-10.3	-11.2	-11.9	-12.2	-12.5	-12.6	-12.5	-12.2	-12.0	-11.7	-11.5	-11.4	-11.3	-11.2	-10.9	-10.2	-9.0	-7.1	-6.4	-9.4	1.2																								
10-Jan	-5.5	-4.1	-3.1	-2.4	-2.4	-2.3	-2.0	-2.5	-3.3	-3.1	-3.0	-2.5	-2.4	-2.9	-3.3	-5.7	-7.1	-8.5	-9.9	-11.1	-12.1	-12.7	-13.5	-14.3	-5.8	-2.0																								
11-Jan	-15.2	-16.1	-17.1	-18.0	-19.2	-20.0	-20.2	-20.3	-20.2	-19.8	-19.2	-18.9	-18.7	-18.9	-19.1	-19.2	-19.4	-19.7	-19.8	-19.7	-19.6	-19.5	-19.4	-19.1	-19.0	-15.2																								
12-Jan	-18.8	-18.8	-18.8	-18.7	-18.7	-18.6	-18.4	-18.6	-19.0	-18.6	-18.2	-17.0	-15.6	-14.4	-13.1	-12.4	-11.1	-11.8	-11.8	-11.7	-11.8	-11.5	-11.6	-11.1	-15.4	-11.1																								
13-Jan	-10.2	-10.5	-11.1	-12.0	-12.2	-12.5	-13.2	-13.4	-12.9	-12.6	-12.2	-11.9	-11.2	-10.1	-9.0	-8.0	-6.5	-4.8	-3.4	-3.9	-3.2	-2.6	-3.0	-2.9	-8.9	-2.6																								
14-Jan	-3.3	-3.7	-3.1	-1.8	-1.6	-3.5	-3.6	-3.6	-4.0	-3.5	-2.6	2.0	2.9	3.9	5.5	5.9	6.4	6.8	6.3	5.9	5.7	5.8	5.9	5.7	1.4	6.8																								
15-Jan	5.9	5.9	5.0	4.4	4.1	4.1	4.2	3.4	2.5	2.2	1.8	1.8	2.3	2.7	2.4	2.8	2.7	2.5	1.7	0.0	-0.1	-1.7	-2.6	-2.9	2.3	5.9																								
16-Jan	-3.1	-3.3	-3.7	-3.9	-3.9	-3.7	-3.5	-3.6	-3.6	-3.7	-4.9	-5.5	-6.4	-6.4	-6.5	-6.8	-7.4	-8.2	-9.1	-9.1	-9.8	-10.9	-12.4	-13.3	-6.4	-3.1																								
17-Jan	-14.5	-15.3	-15.3	-15.4	-15.7	-16.4	-17.1	-17.8	-19.1	-19.5	-19.4	-19.0	-19.2	-19.0	-18.9	-19.3	-20.1	-20.9	-21.6	-22.4	-23.3	-24.1	-24.7	-25.2	-19.3	-14.5																								
18-Jan	-25.6	-26.1	-26.6	-26.7	-26.6	-27.4	-28.1	-28.4	-28.5	-28.6	-27.9	-27.5	-25.9	-24.6	-24.4	-23.9	-23.8	-23.8	-23.8	-24.4	-25.3	-27.2	-27.5	-28.6	-26.3	-23.8																								
19-Jan	-29.5	-30.1	-30.4	-30.7	-28.8	-28.7	-29.2	-28.8	-28.5	-28.3	-28.9	-28.7	-27.3	-26.8	-25.4	-25.4	-25.2	-25.4	-25.5	-25.7	-26.2	-26.7	-26.7	-27.1	-27.7	-25.2																								
20-Jan	-27.9	-28.8	-27.7	-27.4	-26.8	-26.1	-25.5	-25.2	-24.2	-23.6	-21.4	-19.4	-17.6	-14.0	-12.5	-10.9	-9.9	-9.6	-9.7	-8.4	-5.6	-4.2	-3.4	-3.4	-17.2	-3.4																								
21-Jan	-2.8	-2.5	-2.3	-2.3	-3.0	-3.3	-2.7	-2.6	-3.1	-2.9	-2.5	-1.8	-3.0	-4.3	-6.7	-9.1	-10.6	-11.8	-12.5	-13.1	-13.8	-14.4	-14.6	-14.5	-6.7	-1.8																								
22-Jan	-14.3	-14.2	-14.0	-13.1	-12.5	-12.1	-10.9	-10.3	-10.1	-9.4	-9.1	-8.2	-6.7	-5.3	-4.2	-3.7	-4.2	-5.2	-6.2	-5.5	-5.6	-6.7	-7.8	-8.5	-8.7	-3.7																								
23-Jan	-6.2	-5.2	-3.7	-2.1	-0.8	0.2	0.3	0.3	-0.1	0.3	0.4	0.8	1.3	2.7	2.8	2.4	1.8	0.8	0.4	0.0	-0.7	-0.9	-0.5	0.0	-0.2	2.8																								
24-Jan	0.2	0.1	-0.1	-0.5	-1.2	-2.4	-3.5	-5.3	-6.2	-6.8	-6.6	-6.1	-5.3	-4.5	-4.1	-3.8	-3.7	-3.3	-3.2	-2.9	-2.8	-2.7	-2.4	-2.2	-3.3	0.2																								
25-Jan	-2.9	-3.3	-3.9	-4.9	-5.7	-6.2	-6.6	-7.3	-8.2	-9.1	-8.1	-6.1	-4.2	-3.0	-1.4	0.0	0.4	0.6	-0.1	-1.2	-1.0	-1.4	-1.6	-1.3	-3.6	0.6																								
26-Jan	-1.3	-1.8	-1.7	-3.0	-2.4	-3.2	-2.8	-2.4	-2.1	-2.1	-1.7	-1.0	0.1	1.6	2.6	3.5	3.9	4.3	4.1	2.8	3.3	3.0	2.5	3.4	0.4	4.3																								
27-Jan	2.9	2.3	2.1	2.2	1.4	0.6	0.2	-0.7	-1.5	-1.4	-0.3	0.5	1.4	2.1	5.0	6.5	6.2	6.3	6.8	6.9	7.6	7.8	7.4	6.7	3.3	7.8																								
28-Jan	6.1	5.8	5.5	5.2	5.1	4.7	4.1	3.7	3.6	3.4	3.4	3.7	3.1	3.1	2.8	2.3	1.8	1.5	1.2	0.8	0.9	0.5	0.2	-0.4	3.0	6.1																								
29-Jan	-1.6	-1.5	-2.5	-2.5	-2.9	-2.9	-3.0	-3.4	-3.9	-4.8	-4.9	-5.2	-6.2	-7.3	-8.6	-10.5	-12.1	-13.1	-14.1	-14.6	-15.1	-15.5	-15.6	-15.9	-7.8	-1.5																								
30-Jan	-16.5	-16.8	-17.2	-18.0	-18.8	-19.3	-20.7	-22.6	-23.5	-23.3	-22.5	-21.4	-20.4	-19.8	-19.5	-19.1	-20.5	-21.3	-22.1	-22.6	-23.2	-24.2	-25.1	-25.8	-21.0	-16.5																								
31-Jan	-26.5	-27.3	-27.9	-28.3	-28.8	-29.3	-29.7	-29.8	-28.8	-28.4	-26.9	-26.0	-25.1	-24.2	-23.7	-23.2	-22.8	-22.8	-22.8	-22.6	-22.7	-23.2	-23.1	-23.3	-25.7	-22.6																								
																								-11.2	-11.5	-11.6	-11.9	-12.0	-12.2	-12.4	-12.7	-13.0	-13.0	-12.6	-11.9	-11.3	-10.6	-10.1	-10.0	-10.0	-10.2	-10.4	-10.6	-10.6	-10.9	-11.0	-11.2	Diurnal Average		
																								6.1	5.9	5.5	5.2	5.1	4.7	4.4	4.1	3.8	3.4	3.4	3.4	3.7	3.5	3.9	5.5	6.5	6.4	6.8	6.8	6.9	7.6	7.8	7.4	6.7	Diurnal Maximum	





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Ambient Temperature 100m (AT100) - C
Lower Camp Met Tower - January 2025**

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	223	29.97	29.97
-20 - 0	380	51.08	81.05
0 - 10	141	18.95	100.00
10 - 20	0	0.00	100.00
> 20	0	0.00	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

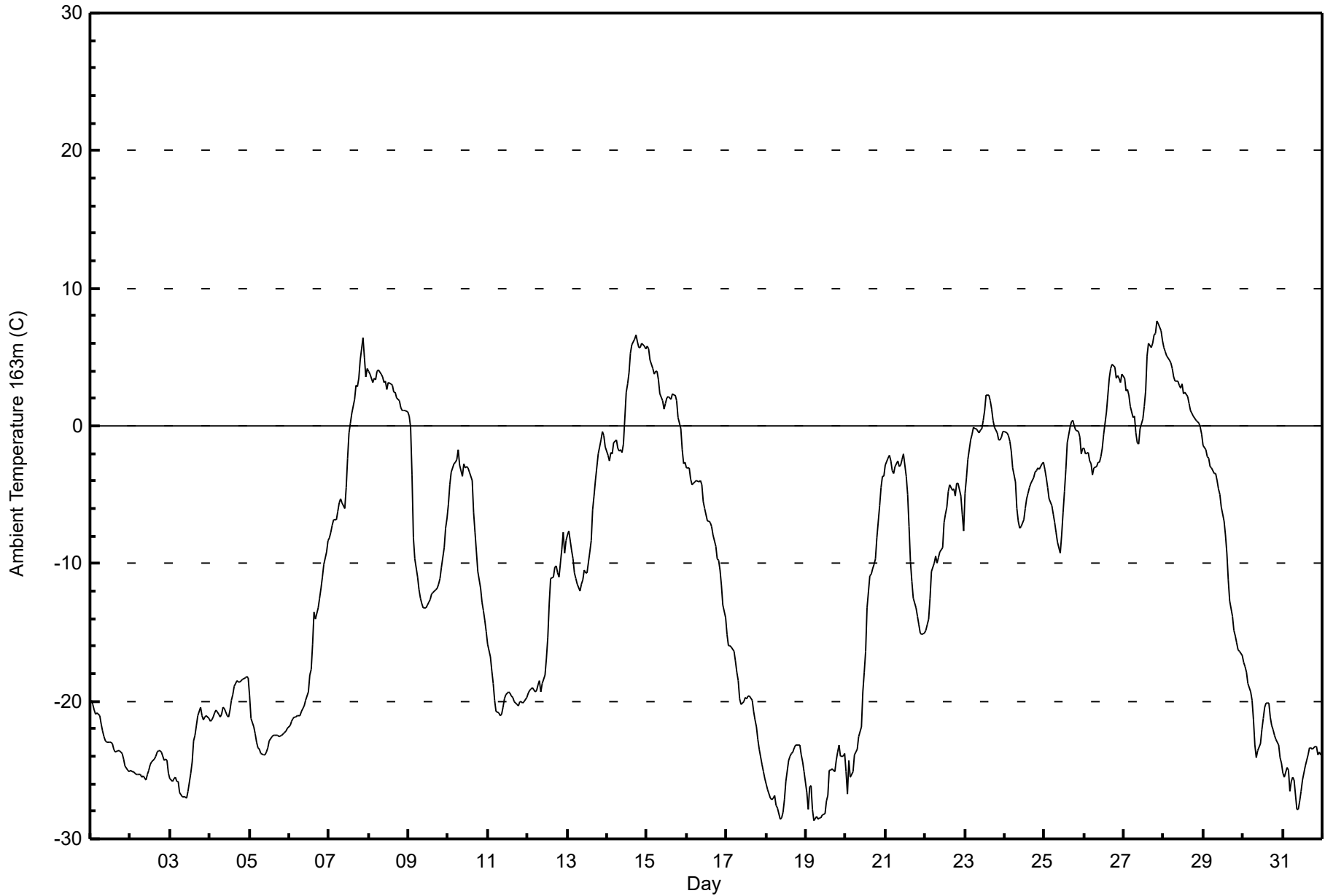
Ambient Temperature 163m (AT163) - C
Lower Camp Met Tower - January 2025

Maximum Value: 7.6 C on Jan 27 21:00		Maximum Daily Average: 3.3 C on Jan 27		Hours in Service: 744																																													
Minimum Value: -28.7 C on Jan 19 06:00		Minimum Daily Average: -26.3 C on Jan 19		Hours of Data: 744																																													
Maximum Diurnal Average: -10.2 C at hour 16		Minimum Diurnal Average: -12.9 C at hour 10		Hours of Missing Data: 0																																													
Monthly Average: -11.28 C		Percentiles: P ₁ = -28.2 P ₁₀ = -25.0 Q ₁ = -21.3 Median = -10.6 Q ₃ = -1.9 P ₉₀ = 2.7 P ₉₉ = 6.3		Hours of Calibration: 0																																													
				Percent Operational Time: 100.0																																													
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	-20.0	-20.3	-20.6	-20.9	-20.9	-21.1	-21.7	-22.2	-22.6	-22.9	-23.0	-23.0	-23.0	-23.1	-23.5	-23.7	-23.6	-23.6	-23.7	-23.8	-24.2	-24.7	-25.0	-25.1	-22.7	-20.0																							
2-Jan	-25.0	-25.1	-25.1	-25.3	-25.3	-25.4	-25.3	-25.5	-25.4	-25.7	-25.3	-25.0	-24.6	-24.4	-24.2	-24.0	-23.7	-23.6	-23.6	-23.7	-24.3	-24.2	-24.3	-25.2	-24.7	-23.6																							
3-Jan	-25.6	-25.9	-25.6	-25.6	-25.9	-25.8	-26.6	-26.9	-27.0	-27.0	-27.1	-26.5	-25.2	-24.4	-22.9	-22.4	-21.7	-21.0	-20.4	-21.0	-21.3	-21.1	-21.1	-21.2	-24.1	-20.4																							
4-Jan	-21.5	-21.3	-21.1	-20.9	-20.6	-20.9	-21.2	-20.9	-20.5	-20.6	-21.1	-21.1	-20.6	-19.9	-19.5	-18.9	-18.5	-18.6	-18.6	-18.5	-18.3	-18.3	-18.3	-18.3	-19.9	-18.3																							
5-Jan	-19.6	-21.2	-21.9	-22.4	-22.9	-23.4	-23.5	-23.8	-23.9	-23.9	-23.7	-23.4	-22.9	-22.6	-22.4	-22.4	-22.5	-22.5	-22.5	-22.4	-22.2	-22.2	-22.0	-22.6	-19.6	-19.6																							
6-Jan	-21.8	-21.5	-21.2	-21.1	-21.2	-21.1	-21.0	-20.7	-20.6	-20.3	-20.0	-19.3	-18.1	-17.7	-15.9	-13.6	-14.0	-13.3	-12.5	-11.8	-11.0	-10.1	-9.2	-8.4	-16.9	-8.4																							
7-Jan	-8.1	-7.7	-7.2	-6.8	-6.8	-6.2	-5.6	-5.3	-5.6	-6.0	-4.5	-2.4	-0.5	0.2	1.0	1.9	3.0	2.8	3.5	4.8	6.4	5.0	3.5	4.2	-1.5	6.4																							
8-Jan	4.0	3.8	3.1	3.5	3.4	4.0	4.1	3.8	3.6	3.1	3.2	2.7	3.1	3.1	2.9	2.4	2.4	2.1	1.9	1.3	1.1	1.2	1.2	1.0	2.7	4.1																							
9-Jan	0.7	-0.1	-3.6	-8.1	-9.7	-11.0	-11.9	-12.6	-12.9	-13.2	-13.3	-13.1	-12.8	-12.6	-12.2	-12.1	-11.9	-11.8	-11.5	-11.1	-10.3	-8.9	-7.4	-6.7	-9.9	0.7																							
10-Jan	-5.7	-4.2	-3.4	-2.7	-2.7	-2.4	-1.7	-2.8	-3.6	-2.8	-3.1	-3.0	-3.1	-3.4	-3.9	-6.3	-7.8	-9.2	-10.5	-11.8	-12.8	-13.4	-14.1	-15.0	-6.2	-1.7																							
11-Jan	-15.9	-16.8	-17.8	-18.7	-19.9	-20.7	-20.9	-21.0	-20.9	-20.4	-19.8	-19.6	-19.3	-19.4	-19.6	-19.8	-20.0	-20.2	-20.3	-20.1	-20.0	-20.1	-20.1	-19.7	-19.6	-15.9																							
12-Jan	-19.4	-19.3	-19.2	-19.1	-19.3	-19.2	-18.8	-18.6	-19.3	-18.7	-18.2	-16.9	-15.4	-13.0	-11.1	-11.0	-10.3	-10.2	-10.6	-10.9	-9.0	-7.8	-9.2	-8.4	-14.7	-7.8																							
13-Jan	-8.0	-7.6	-9.0	-9.7	-10.7	-11.1	-11.5	-12.0	-11.5	-11.2	-10.5	-10.7	-10.7	-9.1	-8.4	-6.1	-5.0	-3.9	-2.1	-1.6	-1.1	-0.4	-0.7	-1.5	-7.3	-0.4																							
14-Jan	-2.2	-2.5	-1.9	-2.0	-1.3	-1.0	-1.7	-1.8	-1.7	-1.9	-1.3	2.5	3.0	3.9	5.3	5.9	6.3	6.6	6.1	5.7	5.7	6.0	5.8	5.6	2.0	6.6																							
15-Jan	5.7	5.6	4.7	4.2	3.8	3.9	3.9	3.4	2.3	1.8	1.3	1.6	2.0	2.2	1.9	2.4	2.2	2.3	1.8	0.6	-0.2	-1.7	-2.7	-2.6	2.1	5.7																							
16-Jan	-3.1	-3.1	-3.8	-4.3	-4.1	-4.0	-4.0	-4.1	-4.0	-4.3	-5.4	-6.0	-6.9	-6.9	-7.1	-7.3	-7.9	-8.8	-9.7	-9.7	-10.5	-11.6	-13.0	-14.0	-6.8	-3.1																							
17-Jan	-15.1	-15.9	-15.9	-16.0	-16.4	-17.1	-17.8	-18.5	-19.8	-20.2	-20.1	-19.7	-19.8	-19.6	-19.6	-19.9	-20.8	-21.3	-21.9	-22.8	-23.5	-24.6	-25.1	-25.6	-19.9	-15.1																							
18-Jan	-26.1	-26.4	-27.1	-27.2	-27.1	-26.8	-27.5	-27.7	-28.6	-28.5	-28.1	-27.2	-25.8	-24.3	-24.0	-23.8	-23.7	-23.4	-23.2	-23.2	-23.1	-23.9	-24.4	-25.1	-25.7	-23.1																							
19-Jan	-26.6	-27.9	-26.2	-26.1	-27.9	-28.7	-28.4	-28.6	-28.5	-28.4	-28.2	-28.2	-27.2	-26.9	-25.0	-25.0	-24.9	-25.1	-24.3	-23.7	-23.2	-24.0	-24.0	-23.8	-26.3	-23.2																							
20-Jan	-25.1	-26.7	-24.3	-25.5	-25.1	-23.9	-23.7	-23.5	-22.6	-21.9	-19.3	-17.9	-16.3	-13.2	-10.9	-10.7	-10.4	-10.0	-9.6	-8.2	-5.8	-4.5	-3.7	-3.7	-16.1	-3.7																							
21-Jan	-2.9	-2.3	-2.2	-2.6	-3.3	-3.4	-2.9	-2.6	-3.0	-2.8	-2.4	-2.1	-3.7	-5.0	-7.4	-9.8	-11.3	-12.6	-13.2	-13.8	-14.5	-15.1	-15.2	-15.0	-7.0	-2.1																							
22-Jan	-14.8	-14.4	-14.0	-12.5	-10.6	-10.0	-9.5	-10.0	-9.6	-9.2	-8.8	-7.0	-6.4	-5.8	-4.8	-4.3	-4.7	-4.6	-5.0	-4.2	-4.2	-5.1	-6.4	-7.6	-8.1	-4.2																							
23-Jan	-4.9	-3.8	-2.4	-1.0	-0.6	-0.1	-0.2	-0.2	-0.6	-0.3	-0.3	0.4	1.1	2.2	2.3	1.9	1.2	0.5	-0.1	-0.5	-1.1	-1.0	-0.8	-0.4	-0.4	2.3																							
24-Jan	-0.4	-0.5	-0.7	-1.1	-1.8	-3.1	-4.1	-6.0	-6.9	-7.4	-7.3	-6.8	-6.0	-5.3	-4.8	-4.4	-4.2	-3.7	-3.3	-3.2	-3.0	-3.1	-2.7	-2.6	-3.9	-0.4																							
25-Jan	-3.1	-3.8	-4.5	-5.3	-5.8	-6.4	-7.1	-7.7	-8.5	-9.2	-7.9	-6.3	-4.7	-3.2	-1.2	-0.1	0.3	0.4	0.0	-0.3	-0.4	-0.8	-2.0	-1.6	-3.7	0.4																							
26-Jan	-1.7	-2.1	-1.9	-2.5	-2.7	-3.6	-3.0	-2.9	-2.7	-2.6	-2.3	-1.6	-0.6	-0.6	1.0	2.2	3.5	4.1	4.5	4.3	3.4	3.6	3.5	3.1	3.7	0.3	4.5																						
27-Jan	3.4	2.6	2.6	2.3	1.4	0.7	0.8	-0.5	-1.2	-1.4	-0.3	0.5	1.4	2.6	5.1	6.0	5.7	6.0	6.6	6.7	7.6	7.4	6.9	6.2	3.3	7.6																							
28-Jan	5.7	5.4	5.1	4.8	4.6	4.2	3.6	3.2	3.2	2.9	2.8	3.0	2.4	2.5	2.2	1.6	1.1	0.9	0.7	0.4	0.3	0.2	-0.1	-0.6	2.5	5.7																							
29-Jan	-1.5	-1.7	-2.2	-2.3	-2.9	-3.0	-3.5	-3.5	-4.0	-4.6	-5.0	-5.9	-6.9	-8.0	-9.2	-11.2	-12.7	-13.8	-14.8	-15.2	-15.8	-16.2	-16.3	-16.7	-8.2	-1.5																							
30-Jan	-17.2	-17.5	-17.9	-18.7	-19.3	-19.9	-21.4	-23.2	-24.1	-23.6	-23.1	-22.0	-21.2	-20.4	-20.2	-20.2	-21.1	-21.7	-22.0	-22.5	-22.8	-23.2	-24.1	-24.5	-21.3	-17.2																							
31-Jan	-25.2	-25.6	-24.8	-25.0	-26.6	-25.9	-25.6	-25.7	-27.8	-27.9	-27.3	-26.5	-25.7	-24.8	-24.3	-23.9	-23.4	-23.4	-23.5	-23.2	-23.3	-23.9	-23.7	-23.9	-25.0	-23.2																							
																								-11.0	-11.2	-11.3	-11.6	-11.9	-12.0	-12.2	-12.5	-12.8	-12.9	-12.6	-11.9	-11.4	-10.8	-10.3	-10.2	-10.3	-10.3	-10.4	-10.5	-10.4	-10.5	-10.8	-10.9	Diurnal Average	
																								5.7	5.6	5.1	4.8	4.6	4.2	4.1	3.8	3.6	3.1	3.2	3.0	3.1	3.9	5.3	6.0	6.3	6.6	6.6	6.7	7.6	7.4	6.9	6.2	Diurnal Maximum	



Wood Buffalo Environmental Association
Hourly Averages

Ambient Temperature 163m (AT163) - C
Lower Camp Met Tower - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Ambient Temperature 163m (AT163) - C
Lower Camp Met Tower - January 2025**

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	239	32.12	32.12
-20 - 0	373	50.13	82.26
0 - 10	132	17.74	100.00
10 - 20	0	0.00	100.00
> 20	0	0.00	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

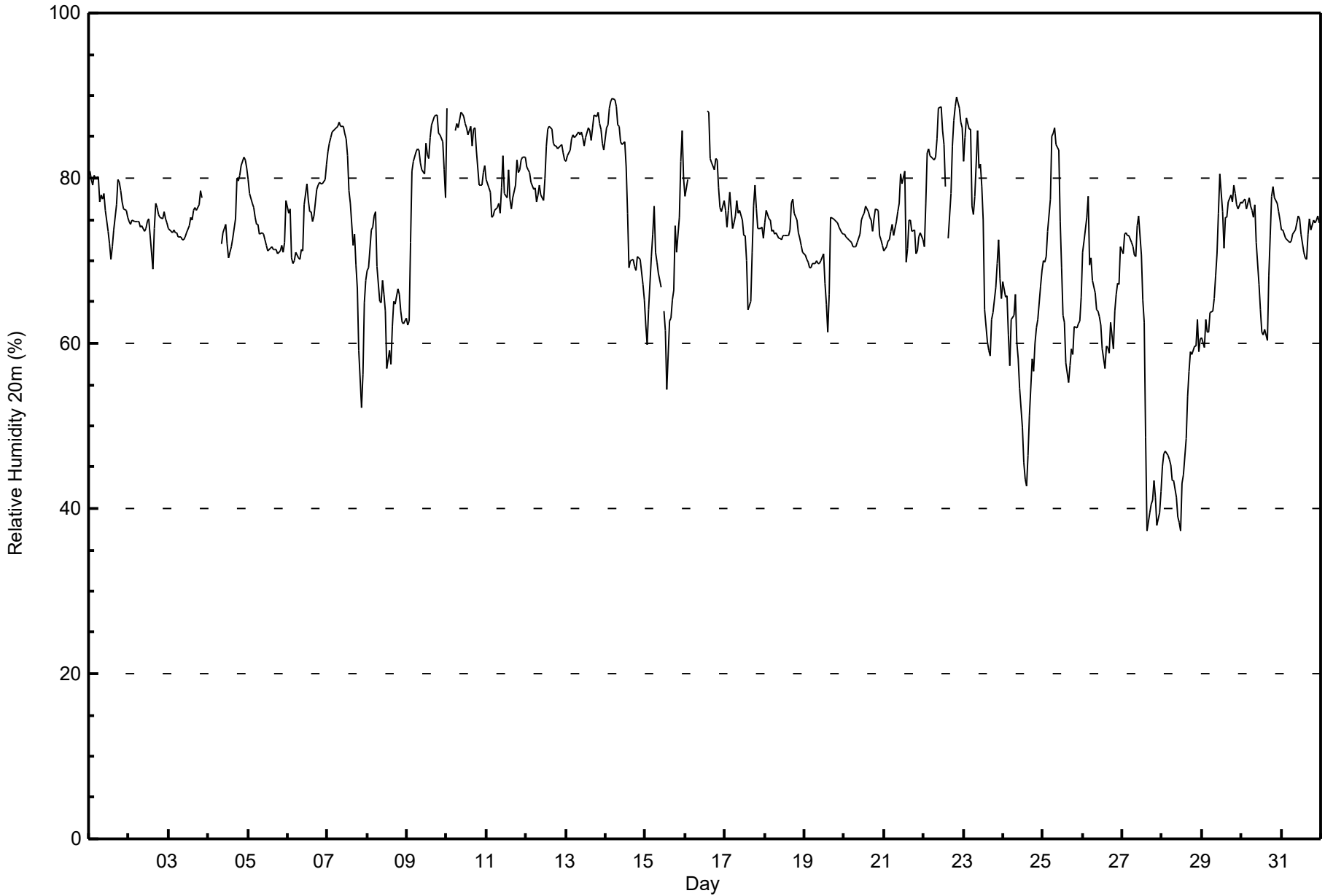
Relative Humidity 20m (RH20) - %
Lower Camp Met Tower - January 2025

Maximum Value: 89.8 % on Jan 22 21:00		Maximum Daily Average: 85.2 % on Jan 13		Hours in Service: 744																																												
Minimum Value: 37.2 % on Jan 27 16:00		Minimum Daily Average: 49.3 % on Jan 28		Hours of Data: 716																																												
Maximum Diurnal Average: 75.2 % at hour 6		Minimum Diurnal Average: 69.3 % at hour 15		Hours of Missing Data: 28																																												
Monthly Average: 73.20 %		Percentiles: P ₁ = 40.6 P ₁₀ = 61.0 Q ₁ = 69.8 Median = 74.5 Q ₃ = 79.3 P ₉₀ = 85.0 P ₉₉ = 88.5		Hours of Calibration: 0																																												
				Percent Operational Time: 96.2																																												
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Jan	80.8	79.8	79.2	80.3	79.9	80.2	77.1	78.0	77.5	78.2	76.1	73.5	72.1	70.2	71.7	73.8	76.7	79.9	79.5	78.5	77.2	76.2	76.2	75.3	77.0	80.8																						
2-Jan	74.7	74.3	74.8	74.8	74.8	74.8	74.8	74.1	74.2	73.6	73.9	74.7	75.1	73.1	69.0	74.0	77.0	76.4	75.6	75.3	75.1	75.9	75.0	74.6	74.6	77.0																						
3-Jan	73.9	73.6	73.3	73.7	73.4	73.3	72.9	72.9	72.6	72.6	72.9	73.3	74.3	75.3	74.9	76.1	76.4	76.1	76.7	78.4	77.7	DF	DF	DF	74.5	78.4																						
4-Jan	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	--	82.5																						
5-Jan	79.8	78.1	77.0	76.4	75.2	74.5	74.3	73.3	73.4	73.3	72.5	71.8	71.2	71.6	71.6	71.4	71.4	71.4	70.8	71.1	71.8	71.1	72.2	77.3	73.4	79.8																						
6-Jan	75.8	76.3	70.4	69.7	69.9	71.1	70.3	70.2	71.3	71.2	76.8	79.3	77.3	76.0	75.9	74.7	75.5	78.6	79.2	79.5	79.2	79.4	79.9	81.6	75.4	81.6																						
7-Jan	83.2	84.3	85.0	85.6	86.0	86.2	86.3	86.8	86.3	86.3	85.5	84.8	82.6	78.4	77.0	71.8	73.1	69.4	66.5	59.2	52.3	56.3	64.9	67.6	76.9	86.8																						
8-Jan	68.9	69.2	73.8	74.1	75.4	76.0	69.3	65.1	64.8	67.7	65.9	63.8	57.0	59.1	57.5	62.0	65.1	64.8	66.7	65.9	63.9	62.5	62.4	63.1	66.0	76.0																						
9-Jan	62.2	62.7	72.2	80.8	82.1	83.2	83.6	83.4	81.8	81.0	80.5	84.2	82.9	82.3	84.9	86.5	87.4	87.6	87.6	85.4	85.2	84.5	81.0	77.7	81.3	87.6																						
10-Jan	88.5	DF	DF	DF	DF	85.8	86.6	86.2	87.9	87.8	87.5	86.6	86.1	85.3	86.2	83.8	85.9	86.2	83.4	79.2	79.1	79.2	80.8	81.5	84.7	88.5																						
11-Jan	79.8	78.7	78.2	75.3	75.5	76.1	76.5	76.9	75.7	78.8	82.7	78.1	77.6	81.0	77.5	76.3	77.6	79.1	82.1	80.6	81.1	82.2	82.5	82.6	78.9	82.7																						
12-Jan	81.4	81.0	80.6	79.4	78.7	78.7	77.2	78.0	79.2	78.0	77.3	80.0	84.0	85.9	86.3	85.9	84.2	84.0	83.9	83.6	83.8	84.1	83.0	82.1	81.7	86.3																						
13-Jan	82.0	82.8	83.3	84.7	85.2	84.9	85.2	85.6	85.3	85.7	84.9	83.9	85.0	86.1	85.8	84.6	86.1	87.6	87.4	87.9	86.6	86.0	84.2	83.4	85.2	87.9																						
14-Jan	86.1	86.5	88.5	89.3	89.7	89.5	88.7	86.4	86.3	84.4	84.2	84.4	81.4	75.8	69.1	70.1	70.2	69.2	68.8	70.5	70.3	70.2	67.1	65.2	78.8	89.7																						
15-Jan	62.2	59.9	64.0	70.5	73.3	76.6	71.1	69.8	68.4	66.7	DF	63.8	61.5	54.4	62.7	63.1	65.3	66.5	74.2	71.0	75.3	82.0	85.8	80.0	69.0	85.8																						
16-Jan	77.9	79.8	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	88.1	87.9	82.4	81.9	81.1	82.4	82.3	78.8	76.4	75.9	77.2	--	88.1																						
17-Jan	76.1	74.0	76.1	78.2	74.0	74.5	75.5	77.3	75.7	76.0	74.9	73.0	73.0	70.0	64.1	65.1	71.1	76.6	79.2	76.3	73.8	73.9	74.1	72.7	74.0	79.2																						
18-Jan	74.6	76.1	75.0	75.0	73.5	73.7	73.2	73.4	72.8	72.6	72.6	73.1	73.1	73.0	73.0	73.7	77.0	77.4	75.7	74.9	73.3	72.8	71.9	71.1	73.9	77.4																						
19-Jan	70.6	70.2	69.8	69.1	69.2	69.7	69.7	70.0	69.7	69.6	70.0	70.8	67.3	64.7	61.3	65.9	75.3	75.0	75.0	74.7	74.6	74.0	73.4	73.3	70.5	75.3																						
20-Jan	73.3	73.0	72.7	72.6	72.2	71.6	71.6	71.7	72.2	73.3	74.9	75.4	75.7	76.5	75.9	75.3	75.0	73.6	75.1	76.2	76.1	73.1	72.6	71.9	73.8	76.5																						
21-Jan	71.2	71.7	72.4	72.5	73.5	74.4	73.1	74.7	75.9	76.9	80.5	79.3	80.8	69.8	71.6	74.8	74.9	73.6	73.7	70.9	71.1	72.9	73.4	72.5	74.0	80.8																						
22-Jan	71.7	76.9	83.0	83.6	82.7	82.4	82.3	82.5	84.8	88.5	88.6	85.7	84.1	78.9	DF	72.8	78.1	84.0	87.0	88.6	89.8	88.5	86.8	86.1	83.4	89.8																						
23-Jan	82.0	84.9	87.3	85.9	85.9	76.6	75.6	77.9	85.8	81.2	81.7	78.9	74.9	64.1	60.2	59.1	58.4	62.9	63.7	66.7	69.7	72.5	67.8	65.5	73.7	87.3																						
24-Jan	67.5	65.5	65.7	61.0	57.3	62.8	63.4	65.9	60.2	58.1	54.5	49.9	45.5	43.5	42.6	46.4	51.2	58.1	56.7	60.1	61.9	62.9	66.9	68.8	58.2	68.8																						
25-Jan	70.0	69.8	70.5	73.5	77.5	85.1	85.5	86.1	84.1	83.5	74.7	69.2	63.4	62.5	57.7	55.3	57.2	59.3	58.6	62.0	61.8	62.4	62.7	65.6	69.1	86.1																						
26-Jan	71.1	72.4	75.3	77.8	69.5	70.4	67.7	66.1	64.0	64.0	63.2	62.2	59.3	56.9	59.6	59.4	58.7	62.5	59.4	63.9	66.0	67.2	67.2	71.6	65.6	77.8																						
27-Jan	70.9	73.3	73.5	73.0	73.1	72.2	71.6	70.8	70.5	74.2	75.5	70.7	65.2	62.5	48.7	37.2	39.5	40.5	41.1	43.5	41.3	38.0	39.5	42.1	58.7	75.5																						
28-Jan	45.0	46.7	47.0	46.4	46.0	45.2	43.3	43.3	41.4	39.0	38.2	37.3	43.0	44.1	48.5	53.5	56.7	58.9	58.7	59.6	59.6	62.8	59.0	60.5	49.3	62.8																						
29-Jan	60.6	59.4	62.9	61.3	61.4	63.8	63.9	65.4	68.1	70.8	75.8	80.5	75.9	71.6	75.3	75.2	77.1	78.0	77.2	79.2	78.1	76.7	76.2	77.1	71.3	80.5																						
30-Jan	76.9	77.3	77.5	76.3	77.7	76.7	76.1	75.3	76.8	72.3	67.1	64.0	61.4	61.0	61.8	60.3	68.2	73.0	77.7	78.9	77.7	76.9	75.9	74.9	72.6	78.9																						
31-Jan	73.7	73.8	72.8	72.6	72.3	72.2	72.4	73.1	73.7	74.6	75.4	75.0	73.2	71.1	70.4	70.1	73.3	75.0	73.7	74.9	74.6	74.9	75.4	74.6	73.5	75.4																						
																								73.7	73.5	74.4	74.8	74.5	75.2	74.4	74.5	74.4	74.4	74.6	73.3	71.8	70.4	69.3	69.5	71.6	73.1	73.4	73.5	73.2	73.3	73.2	73.3	Diurnal Average
																								88.5	86.5	88.5	89.3	89.7	89.5	88.7	86.8	87.9	88.5	88.6	86.6	86.1	88.1	87.9	86.5	87.4	87.6	87.6	88.6	89.8	88.5	86.8	86.1	Diurnal Maximum
DF - DAS Failure																																																



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 20m (RH20) - %
Lower Camp Met Tower - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Relative Humidity 20m (RH20) - %
Lower Camp Met Tower - January 2025

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	7	0.98	0.98
40 - 60	58	8.10	9.08
60 - 80	488	68.16	77.23
80 - 100	163	22.77	100.00

Total Number of Valid Hours: 716

Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

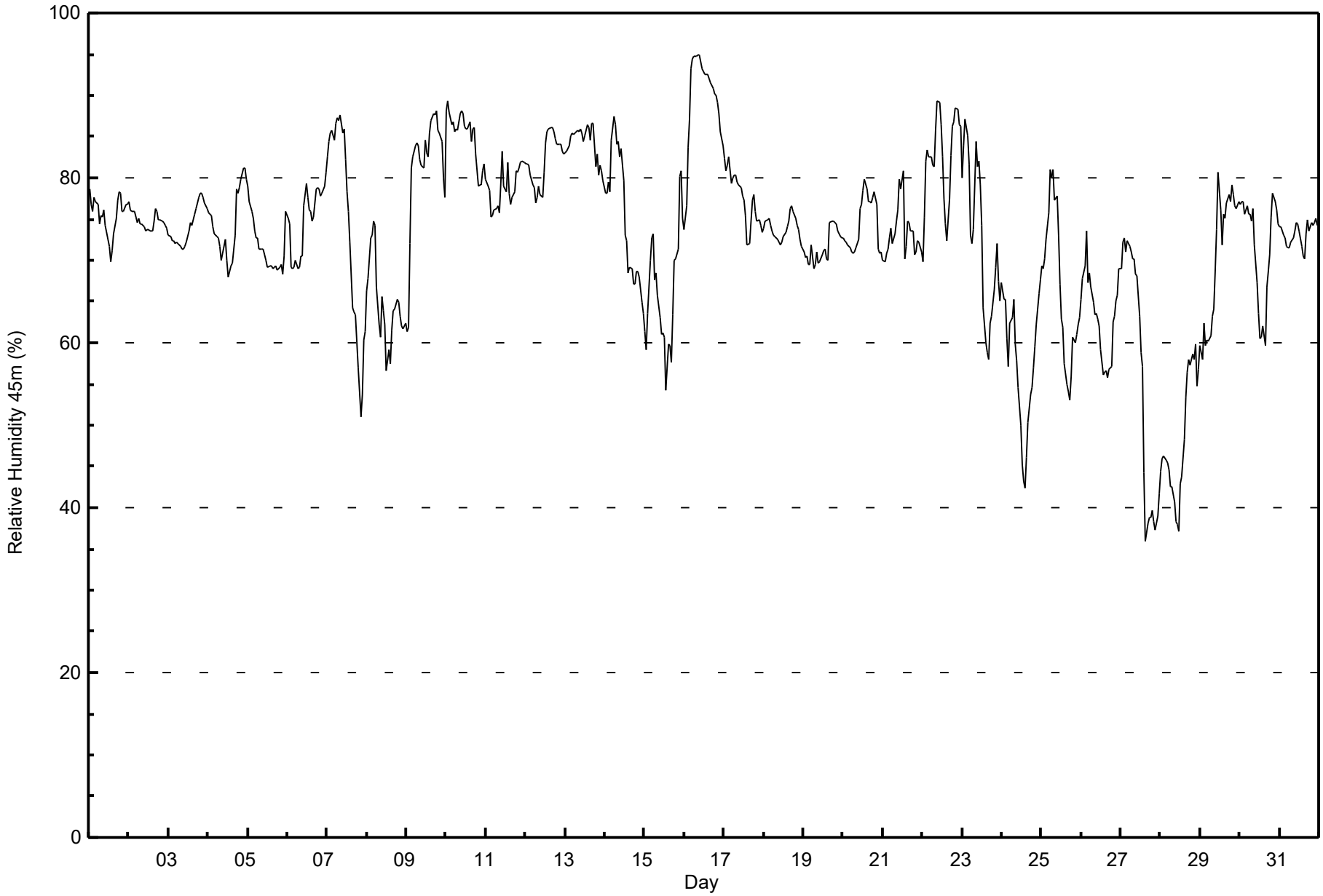
Relative Humidity 45m (RH45) - %
Lower Camp Met Tower - January 2025

Maximum Value: 95.0 % on Jan 16 09:00 Maximum Daily Average: 89.7 % on Jan 16																						Hours in Service: 744 Hours of Data: 744				
Minimum Value: 35.9 % on Jan 27 16:00 Minimum Daily Average: 48.3 % on Jan 28 Maximum Diurnal Average: 75.0 % at hour 6 Minimum Diurnal Average: 69.5 % at hour 16 Monthly Average: 72.90 % Percentiles: P ₁ = 38.8 P ₁₀ = 59.7 Q ₁ = 69.0 Median = 74.3 Q ₃ = 79.2 P ₉₀ = 85.5 P ₉₉ = 93.0																						Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0				
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	78.6	76.8	75.9	77.6	77.1	76.8	74.3	75.4	75.3	76.1	74.3	72.6	71.6	69.8	71.1	73.2	75.1	77.4	78.3	78.1	76.0	75.9	76.7	76.8	75.4	78.6
2-Jan	77.1	76.2	75.9	76.0	75.2	74.6	75.0	74.5	74.4	74.1	73.6	73.7	73.8	73.6	73.6	74.8	76.3	76.0	74.9	75.0	74.7	74.5	74.2	73.8	74.8	77.1
3-Jan	73.1	72.8	72.4	72.4	72.1	72.2	72.0	71.7	71.3	71.3	71.7	72.3	73.6	74.5	74.3	74.9	75.6	76.3	77.7	78.2	78.2	77.6	77.0	76.2	74.1	78.2
4-Jan	75.8	75.7	75.5	74.1	73.2	73.0	72.7	71.6	70.0	70.8	72.5	69.9	67.9	68.6	69.3	69.7	73.1	78.6	78.2	78.9	79.8	81.3	81.3	79.9	74.2	81.3
5-Jan	79.0	77.0	75.8	75.1	73.6	72.7	72.7	71.4	71.3	71.3	70.7	70.0	69.2	69.4	69.3	69.1	69.2	69.4	68.8	69.2	69.5	68.3	70.5	76.0	71.6	79.0
6-Jan	75.1	74.4	69.1	68.9	69.1	70.1	69.0	69.2	70.5	70.6	76.6	79.3	77.6	76.2	76.0	74.8	75.2	78.7	78.8	78.6	77.7	78.1	79.0	80.6	74.7	80.6
7-Jan	82.6	84.4	85.5	85.8	84.6	86.6	87.3	87.0	87.6	85.4	85.9	82.2	78.4	76.0	72.3	64.3	63.7	63.3	60.2	57.0	51.0	53.7	60.3	61.4	74.4	87.6
8-Jan	66.3	67.8	72.7	73.1	74.7	74.3	66.8	62.2	60.7	65.6	63.8	62.2	56.6	59.1	57.4	61.5	63.9	64.0	65.3	64.8	63.2	62.1	61.7	62.4	64.7	74.7
9-Jan	61.3	61.9	72.1	81.2	82.6	83.9	84.2	83.9	82.3	81.5	81.2	84.6	83.0	82.5	85.4	86.9	87.8	87.7	88.1	85.8	85.5	84.3	80.0	77.6	81.5	88.1
10-Jan	88.1	89.3	88.1	86.5	86.8	85.7	86.0	85.8	87.8	88.2	87.9	86.3	85.9	85.9	86.8	84.4	86.0	86.1	82.9	79.0	79.2	79.2	80.9	81.7	85.2	89.3
11-Jan	79.9	78.9	78.4	75.3	75.5	76.1	76.2	76.6	75.8	79.2	83.3	79.0	78.4	81.9	78.2	76.8	77.6	78.4	80.9	80.7	81.2	81.9	82.0	81.9	78.9	83.3
12-Jan	81.7	81.8	81.5	80.3	79.1	78.7	76.9	77.7	79.1	78.0	77.6	80.7	84.2	85.6	85.9	86.1	86.1	85.5	84.7	84.1	84.1	84.1	83.3	82.9	82.1	86.1
13-Jan	83.0	83.3	84.0	85.1	85.5	85.3	85.4	85.8	85.5	85.9	85.4	84.4	85.1	86.4	86.2	84.6	86.6	86.7	81.3	82.8	80.3	81.5	80.9	79.6	84.2	86.7
14-Jan	78.2	78.1	79.4	78.2	84.5	87.5	86.4	84.1	84.4	82.6	83.6	79.6	73.1	72.4	68.5	69.2	68.9	67.1	67.1	68.7	68.6	68.0	64.9	63.6	75.3	87.5
15-Jan	61.4	59.1	63.6	70.0	72.8	73.3	67.6	68.5	65.8	63.0	61.0	61.1	60.6	54.2	59.8	59.7	57.7	63.3	70.0	70.2	71.3	80.1	80.8	75.0	66.2	80.8
16-Jan	73.7	76.5	83.7	87.2	93.3	94.4	94.7	94.8	95.0	95.0	94.0	93.3	92.6	92.6	92.5	92.0	91.5	90.8	90.2	90.0	89.2	87.7	85.6	84.0	89.7	95.0
17-Jan	82.3	80.8	81.5	82.6	79.3	80.0	80.4	80.3	79.5	79.2	78.8	77.8	77.4	75.4	71.8	72.0	74.7	77.2	78.0	75.9	74.7	74.9	74.3	73.5	77.6	82.6
18-Jan	73.9	74.7	74.8	75.2	74.3	73.5	73.1	72.8	72.6	72.2	71.9	72.2	72.9	73.4	74.0	74.7	76.2	76.6	75.9	75.1	74.2	73.7	72.5	71.7	73.8	76.6
19-Jan	71.0	70.3	70.5	69.5	69.6	71.9	68.9	69.6	71.0	69.6	69.9	70.7	71.3	71.4	70.2	70.0	74.7	74.7	74.8	74.5	74.3	73.5	72.9	72.7	71.5	74.8
20-Jan	72.7	72.4	72.2	71.9	71.6	71.0	70.9	71.0	71.5	72.6	76.3	76.7	78.5	79.9	78.6	77.2	77.1	76.9	77.7	78.4	76.8	71.4	70.8	71.0	74.4	79.9
21-Jan	70.0	69.8	70.9	71.3	72.6	73.9	72.0	73.2	74.7	76.0	79.8	78.6	80.8	70.2	71.7	74.8	74.5	73.5	73.5	70.8	71.0	72.4	72.2	71.0	73.3	80.8
22-Jan	69.7	75.2	82.1	83.5	82.6	82.5	81.6	81.3	85.8	89.4	89.2	86.4	82.6	77.5	74.5	72.4	77.4	82.7	86.3	86.9	88.5	88.3	86.5	86.2	82.5	89.4
23-Jan	80.0	83.8	87.1	85.1	81.8	73.0	72.1	73.7	84.4	81.4	82.0	79.1	74.3	64.2	60.0	58.8	57.9	62.4	63.3	66.5	69.1	72.0	67.4	65.1	72.7	87.1
24-Jan	67.3	65.2	65.3	60.6	57.1	62.4	63.1	65.3	59.8	57.8	54.6	50.0	45.2	43.3	42.4	46.1	50.3	53.7	54.6	57.0	59.6	62.1	65.9	67.6	57.3	67.6
25-Jan	69.3	69.0	70.1	72.6	75.8	81.1	80.0	81.0	77.4	77.9	73.1	67.1	62.9	61.8	57.4	54.9	54.1	53.0	56.0	60.6	60.1	61.1	62.2	63.1	66.7	81.1
26-Jan	65.2	67.8	69.4	73.6	67.3	68.5	66.7	64.9	63.4	63.6	62.9	62.0	59.2	56.2	56.5	56.6	55.8	56.8	57.2	62.6	63.2	65.1	65.8	69.0	63.3	73.6
27-Jan	69.0	72.1	72.8	71.0	72.5	71.7	71.0	70.2	70.1	68.3	68.1	63.2	58.8	57.2	44.3	35.9	38.2	38.9	38.8	39.7	38.3	37.2	39.0	41.7	56.2	72.8
28-Jan	44.5	45.9	46.3	45.8	45.4	44.6	42.6	42.5	40.6	38.3	37.9	37.0	42.9	43.8	48.3	53.4	56.4	57.9	57.3	58.7	58.0	59.9	54.7	56.8	48.3	59.9
29-Jan	59.6	57.9	62.3	59.7	60.4	60.2	60.9	63.2	64.1	68.6	73.8	80.7	76.2	71.9	75.6	75.1	77.0	78.0	77.1	79.1	78.0	76.7	76.2	77.0	70.4	80.7
30-Jan	76.8	77.1	77.1	75.6	76.7	75.7	75.6	74.8	76.3	71.9	67.3	63.6	60.5	60.7	62.1	59.6	66.8	68.7	70.7	75.2	78.2	77.2	76.0	74.4	71.6	78.2
31-Jan	74.0	74.0	73.0	72.7	71.7	71.4	71.6	72.2	72.7	73.6	74.5	74.5	73.6	71.7	70.5	70.2	73.2	74.8	73.5	74.6	74.3	74.5	75.1	74.3	73.2	75.1
72.9 73.2 74.5 74.7 74.8 75.0 74.1 74.1 74.2 74.2 74.3 73.2 71.9 70.5 69.8 69.5 70.9 72.1 72.3 72.8 72.5 72.8 72.6 72.5																								Diurnal Average		
88.1 89.3 88.1 87.2 93.3 94.4 94.7 94.8 95.0 95.0 94.0 93.3 92.6 92.6 92.5 92.0 91.5 90.8 90.2 90.0 89.2 88.3 86.5 86.2																								Diurnal Maximum		



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 45m (RH45) - %
Lower Camp Met Tower - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Relative Humidity 45m (RH45) - %
Lower Camp Met Tower - January 2025**

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	11	1.48	1.48
40 - 60	69	9.27	10.75
60 - 80	492	66.13	76.88
80 - 100	172	23.12	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

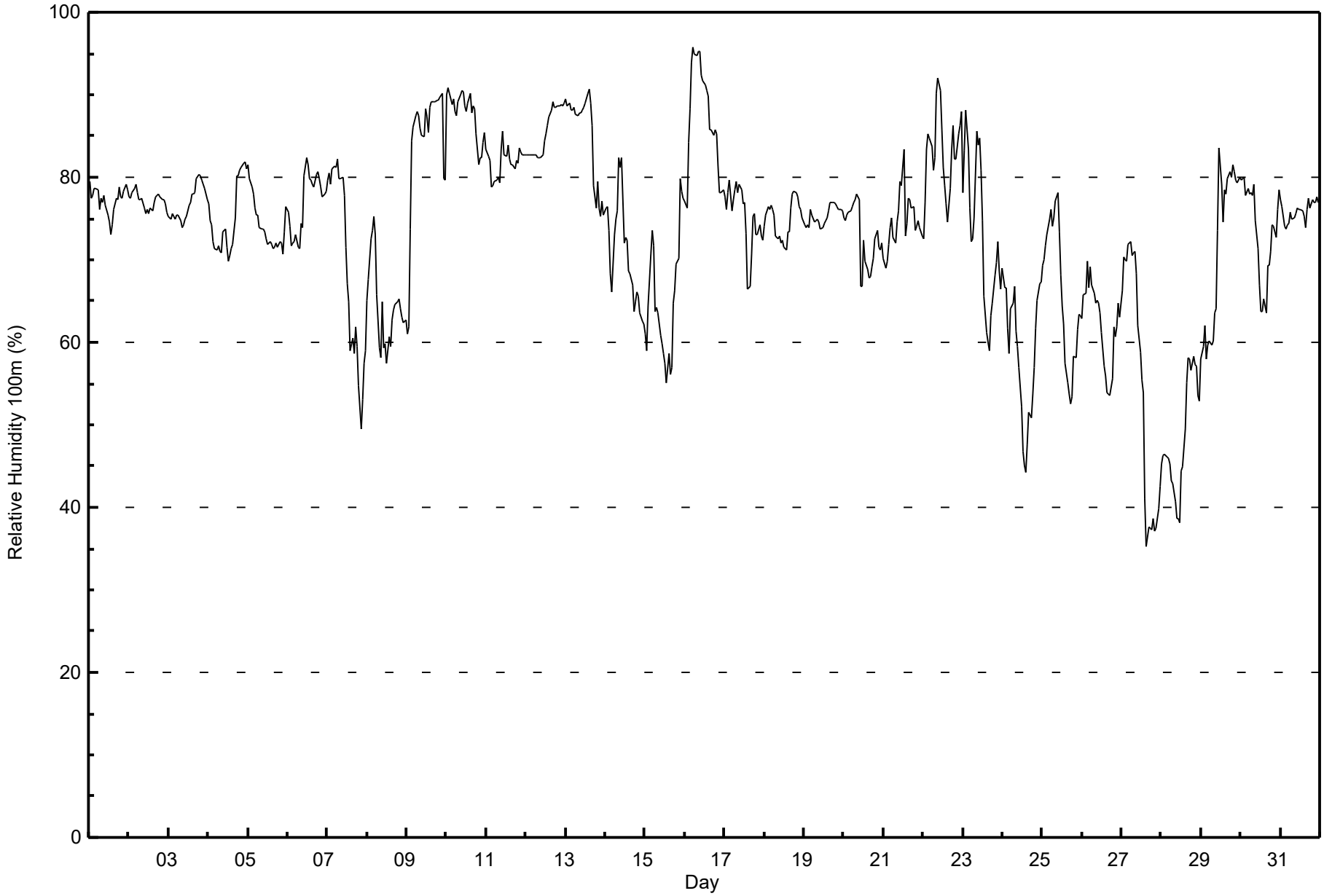
Relative Humidity 100m (RH100) - %
Lower Camp Met Tower - January 2025

Maximum Value: 95.8 % on Jan 16 06:00 Maximum Daily Average: 87.8 % on Jan 10																						Hours in Service: 744 Hours of Data: 744				
Minimum Value: 35.3 % on Jan 27 16:00 Minimum Daily Average: 48.5 % on Jan 28 Maximum Diurnal Average: 75.8 % at hour 6 Minimum Diurnal Average: 70.3 % at hour 16 Monthly Average: 73.49 % Percentiles: P ₁ = 38.7 P ₁₀ = 58.7 Q ₁ = 68.4 Median = 75.4 Q ₃ = 79.8 P ₉₀ = 86.3 P ₉₉ = 91.9																						Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0				
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	79.4	77.5	77.8	78.7	78.6	78.4	76.1	77.4	77.0	77.9	76.6	75.4	74.7	73.1	74.2	76.1	77.4	77.3	78.8	77.7	77.5	78.3	79.1	78.5	77.2	79.4
2-Jan	77.5	77.4	78.1	78.7	79.1	78.1	77.3	77.2	77.5	76.3	75.5	76.1	75.5	76.2	75.9	76.9	77.7	77.9	78.0	77.6	77.3	77.3	76.7	75.7	77.2	79.1
3-Jan	75.3	74.9	75.7	75.2	74.9	75.4	75.4	74.8	73.8	74.2	75.0	75.2	76.5	77.0	77.9	77.9	78.1	79.8	80.4	80.1	79.7	79.1	78.6	77.3	76.8	80.4
4-Jan	76.7	74.7	74.3	72.3	71.4	71.1	71.7	71.0	70.9	73.3	73.8	71.5	69.8	70.5	71.3	71.9	75.1	80.2	80.1	80.9	81.2	81.7	81.8	81.0	74.9	81.8
5-Jan	81.6	79.8	78.7	77.9	76.3	75.5	75.4	74.0	73.8	73.7	73.3	72.5	71.8	72.1	71.9	71.4	71.6	72.0	71.5	72.2	72.0	70.7	73.4	76.5	74.2	81.6
6-Jan	75.8	74.1	71.7	72.1	72.1	73.1	71.6	71.4	74.4	73.9	80.1	82.4	81.5	79.9	79.7	79.1	78.9	80.4	80.7	79.9	78.8	77.6	78.0	78.3	76.9	82.4
7-Jan	79.6	80.6	79.2	81.1	81.4	81.2	82.2	79.8	79.8	80.0	77.8	71.5	67.1	64.9	59.0	60.5	58.6	61.9	59.5	54.8	49.5	53.0	57.5	58.9	69.1	82.2
8-Jan	65.1	67.7	72.6	73.6	75.2	73.0	65.7	59.3	58.2	64.9	59.4	59.8	57.5	60.6	59.5	62.7	63.9	64.6	64.9	65.3	64.1	63.1	62.4	62.8	64.4	75.2
9-Jan	61.1	61.9	73.8	84.5	86.1	87.5	88.1	87.5	85.9	85.0	84.9	88.3	87.2	85.4	88.5	89.2	89.2	89.1	89.4	89.3	89.7	90.1	79.9	79.6	84.2	90.1
10-Jan	90.0	90.9	90.2	88.8	89.5	88.0	87.4	89.2	90.0	90.5	90.4	88.7	88.0	88.9	90.3	87.8	88.6	88.4	85.3	81.5	82.3	82.4	84.2	85.4	87.8	90.9
11-Jan	83.3	82.6	82.0	78.8	79.0	79.6	79.6	80.0	79.3	83.4	85.6	82.7	82.6	83.9	82.1	81.5	81.5	81.0	82.1	81.8	83.5	83.1	82.7	82.6	81.8	85.6
12-Jan	82.7	82.7	82.7	82.7	82.7	82.7	82.7	82.3	82.3	82.4	82.7	84.3	85.3	86.4	87.3	88.1	89.1	88.5	88.5	88.6	88.6	88.8	88.7	89.0	85.4	89.1
13-Jan	89.5	88.7	89.0	88.2	88.1	88.4	87.6	87.5	87.8	87.8	88.1	88.4	89.0	90.2	90.7	89.0	86.2	79.0	76.3	79.5	76.3	75.3	77.1	75.4	85.1	90.7
14-Jan	76.2	76.4	73.5	68.4	66.1	73.0	74.9	75.9	82.3	81.2	82.3	72.1	72.6	72.4	68.7	68.4	67.0	63.8	65.0	66.1	65.6	63.5	62.5	62.3	70.8	82.3
15-Jan	61.1	59.0	64.3	70.7	73.6	71.7	63.7	64.2	63.6	60.9	59.8	58.6	57.4	55.2	58.6	56.0	57.0	64.7	66.2	69.5	70.2	79.8	78.2	77.5	65.1	79.8
16-Jan	77.2	76.2	84.2	88.4	93.8	95.8	94.9	94.7	95.3	95.2	92.3	91.8	91.1	90.5	89.8	85.8	85.8	85.1	85.8	85.2	81.3	78.2	78.1	78.5	87.3	95.8
17-Jan	77.7	76.1	78.1	79.7	75.9	77.3	78.4	79.4	78.2	79.2	78.5	76.7	77.0	73.3	66.5	66.7	70.7	75.2	75.6	73.0	73.1	74.2	72.8	72.3	75.2	79.7
18-Jan	74.1	75.3	76.4	76.1	76.7	76.1	75.4	72.9	72.5	72.8	72.1	72.3	71.6	71.3	73.4	73.4	76.3	78.0	78.3	78.1	77.7	76.5	76.1	75.0	74.9	78.3
19-Jan	74.2	73.8	74.2	74.0	76.2	75.4	74.6	74.8	74.9	74.5	73.7	73.9	74.3	74.8	75.1	75.9	76.9	77.0	76.9	76.7	76.4	76.2	76.1	75.9	75.3	77.0
20-Jan	75.2	74.8	75.4	75.7	76.0	76.5	77.0	77.2	78.0	77.4	66.8	66.9	72.3	69.8	68.7	67.7	68.0	69.1	70.1	72.5	73.6	71.6	71.2	72.0	72.6	78.0
21-Jan	70.1	69.0	69.9	71.9	73.9	75.2	72.7	72.1	74.5	75.9	79.5	79.0	83.3	72.9	74.4	77.4	77.2	76.2	76.4	73.6	74.0	74.8	73.8	72.8	74.6	83.3
22-Jan	72.6	76.9	83.3	85.3	84.7	83.8	80.8	82.3	90.2	92.0	90.4	85.8	81.1	79.1	76.7	74.5	78.7	83.4	86.2	82.3	82.2	85.3	86.3	87.9	83.0	92.0
23-Jan	78.2	83.3	88.1	83.4	76.4	72.2	72.5	75.1	85.6	83.9	84.8	80.9	74.7	65.6	61.2	60.0	59.0	63.2	64.7	68.1	69.7	72.2	68.6	66.4	73.2	88.1
24-Jan	68.9	66.6	66.5	61.7	58.7	64.0	64.7	66.7	61.4	59.5	56.9	52.2	46.8	45.1	44.2	47.6	51.6	50.8	53.7	56.9	61.7	65.1	67.1	67.3	58.6	68.9
25-Jan	69.4	70.0	71.7	73.1	74.8	76.2	74.1	75.1	77.1	78.2	73.4	68.1	64.4	62.2	57.5	55.1	53.8	52.6	53.4	58.4	58.2	61.5	63.5	63.2	66.0	78.2
26-Jan	62.9	65.8	66.0	69.8	66.6	69.2	66.9	66.0	64.7	65.1	64.7	63.6	61.2	57.1	55.9	54.0	53.7	53.5	55.5	61.8	60.7	61.8	64.8	63.0	62.3	69.8
27-Jan	66.3	70.3	70.1	69.8	71.9	72.3	70.4	70.9	71.0	68.3	62.0	58.8	55.4	53.9	41.0	35.3	37.6	37.5	37.3	38.7	37.1	37.5	39.8	42.5	54.8	72.3
28-Jan	45.2	46.2	46.5	46.2	46.0	45.2	43.2	42.8	40.7	38.7	38.7	38.1	44.4	44.9	49.5	55.0	58.1	57.9	56.5	58.3	57.3	57.1	53.6	52.8	48.5	58.3
29-Jan	58.0	59.5	62.0	58.0	59.7	60.2	59.6	60.2	63.5	64.1	73.5	83.5	79.1	74.6	78.5	78.0	79.8	80.7	80.1	81.6	80.7	79.7	79.3	80.0	71.4	83.5
30-Jan	79.7	79.9	79.9	77.9	78.6	78.0	78.2	77.8	79.1	74.7	71.3	66.9	63.8	63.8	65.2	63.6	69.3	69.3	71.1	74.2	74.1	72.7	76.0	78.5	73.5	79.9
31-Jan	77.3	76.5	74.0	73.7	74.3	74.3	75.8	75.0	75.1	75.6	76.3	76.2	76.1	75.9	75.2	73.9	76.0	77.4	76.3	77.4	77.0	77.0	77.7	77.0	75.9	77.7
73.6 73.8 75.2 75.4 75.4 75.8 74.8 74.7 75.4 75.5 74.8 73.6 72.7 71.3 70.6 70.3 71.4 72.1 72.4 72.9 72.6 73.1 73.1 73.1																								Diurnal Average		
90.0 90.9 90.2 88.8 93.8 95.8 94.9 94.7 95.3 95.2 92.3 91.8 91.1 90.5 90.7 89.2 89.2 89.1 89.4 89.3 89.7 90.1 88.7 89.0																								Diurnal Maximum		



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 100m (RH100) - %
Lower Camp Met Tower - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Relative Humidity 100m (RH100) - %
Lower Camp Met Tower - January 2025**

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	11	1.48	1.48
40 - 60	79	10.62	12.10
60 - 80	478	64.25	76.34
80 - 100	176	23.66	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

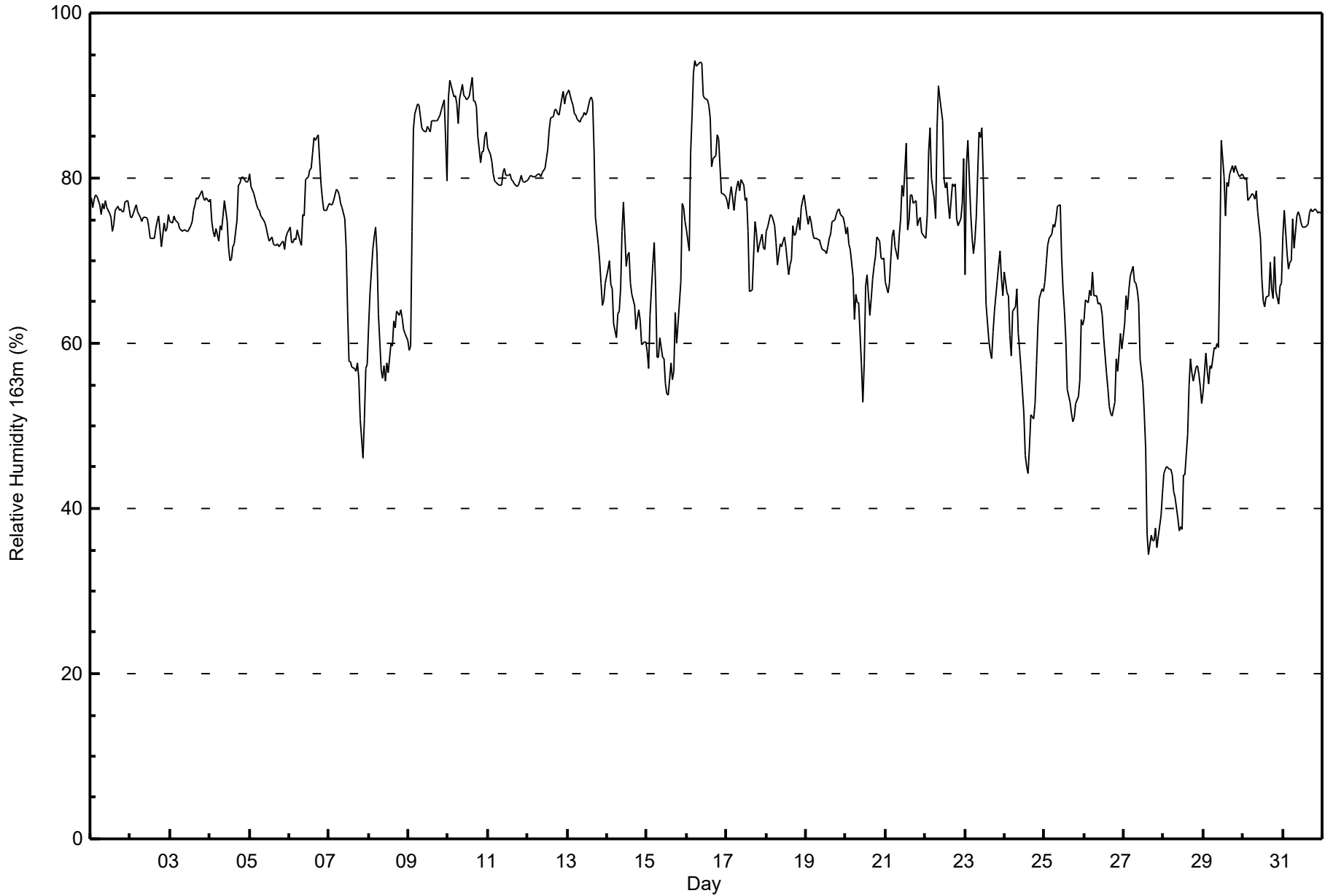
Relative Humidity 163m (RH163) - %
Lower Camp Met Tower - January 2025

Maximum Value: 94.3 % on Jan 16 06:00 Maximum Daily Average: 88.4 % on Jan 10																						Hours in Service: 744 Hours of Data: 744				
Minimum Value: 34.5 % on Jan 27 16:00 Minimum Daily Average: 47.6 % on Jan 28 Maximum Diurnal Average: 74.1 % at hour 4 Minimum Diurnal Average: 69.6 % at hour 15 Monthly Average: 71.89 % Percentiles: P ₁ = 37.3 P ₁₀ = 56.8 Q ₁ = 65.7 Median = 74.0 Q ₃ = 79.0 P ₉₀ = 86.1 P ₉₉ = 91.7																						Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0				
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	77.7	76.4	77.4	78.0	77.7	76.8	75.7	76.9	76.4	77.2	76.5	75.8	75.2	73.5	74.5	76.1	76.7	76.2	76.2	75.9	75.9	77.2	77.4	76.4	76.4	78.0
2-Jan	75.3	75.2	75.8	76.7	75.9	75.6	75.3	74.8	75.2	75.3	75.0	74.0	72.8	72.8	72.8	73.9	74.8	75.4	73.7	71.7	74.6	73.5	73.9	75.6	74.6	76.7
3-Jan	74.7	74.6	75.3	74.9	74.7	74.5	73.9	73.6	73.7	73.7	73.5	73.6	74.2	74.8	76.1	76.7	77.6	77.5	78.1	78.5	77.7	77.3	77.6	77.2	75.6	78.5
4-Jan	77.4	74.8	73.5	72.9	73.8	72.4	73.8	75.4	77.3	74.8	71.5	70.0	70.2	71.7	72.0	74.9	79.1	79.2	80.0	80.2	79.6	79.5	79.6	79.6	75.3	80.2
5-Jan	80.5	79.0	78.1	77.5	76.7	76.2	76.0	75.3	75.0	74.5	74.0	73.1	72.4	72.8	72.1	71.9	71.8	72.1	71.7	72.2	72.4	71.3	72.9	73.5	74.3	80.5
6-Jan	74.1	72.2	72.3	72.7	72.5	73.7	72.4	71.9	75.6	75.4	79.8	80.1	81.1	81.2	83.1	85.0	84.6	85.2	82.3	79.3	77.5	76.0	76.2	76.7	77.5	85.2
7-Jan	77.0	76.8	76.8	77.2	78.6	78.5	78.0	77.0	76.5	75.1	71.5	63.9	57.8	57.9	57.1	57.0	56.6	57.7	55.8	50.9	46.0	50.9	57.0	57.4	65.4	78.6
8-Jan	62.0	66.1	71.3	72.9	74.0	70.8	63.6	56.7	55.8	57.3	55.4	57.7	56.5	60.0	59.6	62.6	61.9	64.0	63.4	64.0	63.1	61.8	61.2	60.4	62.6	74.0
9-Jan	59.2	59.6	73.5	86.0	87.8	89.1	88.8	87.4	86.1	85.7	85.6	86.2	86.0	85.6	87.0	87.0	87.0	86.9	87.3	87.6	88.3	89.6	84.8	79.6	83.8	89.6
10-Jan	89.7	91.9	91.3	89.8	90.0	89.0	86.7	89.7	91.4	90.1	89.9	89.5	89.7	90.0	92.1	89.4	89.3	88.6	85.2	81.8	83.3	83.2	85.1	85.5	88.4	92.1
11-Jan	83.8	83.0	82.0	80.4	79.7	79.4	79.1	79.1	79.2	80.7	81.2	80.3	80.4	80.5	79.8	79.7	79.4	79.0	79.1	79.6	80.3	79.7	79.5	79.7	80.2	83.8
12-Jan	79.9	80.1	80.3	80.2	80.2	80.3	80.5	80.6	80.1	80.7	81.2	82.4	83.6	85.9	87.3	87.4	88.3	88.3	87.8	87.6	89.6	90.6	89.0	90.0	84.2	90.6
13-Jan	90.3	90.6	89.4	88.8	87.7	87.6	87.2	86.8	87.2	87.4	88.0	87.6	87.9	89.5	89.8	89.4	83.5	75.3	72.0	69.9	67.2	64.6	65.2	67.3	82.5	90.6
14-Jan	69.1	69.9	67.1	66.7	62.4	60.6	63.5	63.9	66.7	73.5	77.1	69.3	70.7	71.0	67.4	65.9	64.6	61.8	63.0	64.1	62.7	59.9	60.2	60.1	65.9	77.1
15-Jan	59.0	57.0	63.3	69.6	72.3	66.7	58.3	58.3	60.7	58.3	58.1	55.1	53.9	53.8	57.6	55.6	56.6	63.7	60.1	62.3	67.5	76.9	76.4	74.8	62.3	76.9
16-Jan	73.7	71.2	83.1	87.5	92.7	94.3	93.6	93.9	94.0	93.8	90.0	89.7	89.4	88.7	87.2	81.3	82.3	82.8	85.2	84.8	81.3	78.1	78.2	77.7	85.6	94.3
17-Jan	77.3	76.2	77.9	79.0	76.1	78.0	79.0	79.6	78.6	79.8	79.2	77.3	77.6	73.5	66.3	66.5	70.7	74.7	73.4	71.0	71.8	73.1	71.5	71.4	75.0	79.8
18-Jan	73.6	74.0	75.6	75.4	75.0	74.3	72.1	69.5	72.1	71.7	72.3	72.8	71.6	68.2	69.6	70.2	74.2	73.0	73.2	75.2	73.7	76.5	77.4	77.9	73.3	77.9
19-Jan	75.5	74.3	75.5	74.8	73.5	72.7	72.8	72.5	72.5	71.9	71.3	71.2	70.9	71.7	72.6	73.2	74.7	74.9	75.6	76.0	76.2	75.5	75.2	74.4	73.7	76.2
20-Jan	73.2	74.1	72.0	71.3	68.2	62.9	66.0	64.9	64.9	57.5	53.0	57.7	66.9	68.3	63.4	65.4	67.8	69.3	70.5	72.9	72.4	70.3	70.1	70.3	67.2	74.1
21-Jan	67.5	66.1	67.3	70.4	73.0	73.7	71.8	70.2	73.0	75.0	79.1	77.8	84.2	73.7	75.0	78.0	78.0	77.0	77.2	74.2	74.9	75.2	73.4	72.9	74.1	84.2
22-Jan	72.8	75.5	83.2	86.1	80.0	77.5	75.0	86.1	91.2	89.6	87.0	79.9	78.9	79.5	77.0	75.1	79.3	79.0	79.2	75.0	74.3	75.1	77.0	82.3	79.8	91.2
23-Jan	68.3	81.6	84.5	75.9	72.8	70.9	72.4	75.3	85.5	84.9	86.1	80.2	72.6	64.8	60.3	59.0	58.2	61.3	63.9	67.6	69.5	71.1	67.7	65.7	71.7	86.1
24-Jan	68.7	66.1	65.7	61.0	58.5	63.8	64.4	66.7	61.1	59.1	56.9	51.6	46.4	45.0	44.2	47.4	51.4	50.8	52.7	57.3	62.0	65.5	66.6	66.3	58.3	68.7
25-Jan	67.5	69.7	71.9	72.7	73.2	74.4	74.1	75.1	76.6	76.8	70.3	66.4	64.0	60.4	54.4	52.9	51.6	50.5	51.0	52.7	53.5	55.6	62.8	62.2	64.2	76.8
26-Jan	62.9	65.3	64.9	66.5	65.8	68.6	65.7	65.7	64.7	65.0	64.5	63.4	60.7	56.5	54.5	52.3	51.5	51.2	52.9	58.1	56.7	58.8	61.1	59.2	60.7	68.6
27-Jan	62.3	65.8	64.0	66.5	68.2	69.3	67.5	67.3	66.4	64.9	58.2	55.0	51.5	47.3	37.0	34.5	36.8	36.1	36.2	37.6	35.2	36.6	39.2	41.9	51.9	69.3
28-Jan	44.2	44.7	45.0	44.8	44.8	44.0	42.1	41.4	38.7	37.2	37.8	37.5	44.1	44.0	48.9	54.9	58.1	56.5	55.5	57.2	57.2	56.3	54.8	52.7	47.6	58.1
29-Jan	54.0	58.9	56.5	55.2	57.3	56.9	59.5	59.3	59.9	59.5	71.3	84.6	80.2	75.5	79.5	79.0	80.6	81.5	80.6	81.5	81.0	80.5	80.2	80.4	70.6	84.6
30-Jan	80.1	79.8	80.0	77.3	77.9	78.1	78.0	77.4	78.5	75.9	72.8	67.7	65.0	64.5	65.5	65.8	69.8	66.7	65.4	70.5	66.3	64.7	67.0	67.3	71.7	80.1
31-Jan	73.1	76.2	70.8	69.0	69.9	70.0	75.1	71.5	75.4	75.9	75.5	74.7	74.1	74.1	74.2	74.3	75.8	76.2	76.0	76.4	76.1	75.7	76.0	75.7	74.2	76.4
71.7 72.5 73.7 74.1 73.9 73.6 73.0 73.0 73.8 73.6 73.1 71.9 71.3 70.2 69.6 69.7 70.6 70.7 70.4 70.8 70.6 71.0 71.4 71.4																								Diurnal Average		
90.3 91.9 91.3 89.8 92.7 94.3 93.6 93.9 94.0 93.8 90.0 89.7 89.7 90.0 92.1 89.4 89.3 88.6 87.8 87.6 89.6 90.6 89.0 90.0																								Diurnal Maximum		



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 163m (RH163) - %
Lower Camp Met Tower - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Relative Humidity 163m (RH163) - %
Lower Camp Met Tower - January 2025**

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	13	1.75	1.75
40 - 60	104	13.98	15.73
60 - 80	478	64.25	79.97
80 - 100	149	20.03	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Speed 20m (WS20) - km/h

Lower Camp Met Tower - January 2025

Maximum Speed: 25 km/h on Jan 21 02:00	Maximum Daily Speed Average: 16.0 km/h on Jan 7	Hours in Service: 744
Minimum Speed Value: 0 km/h on Jan 22 06:00	Minimum Daily Speed Average: 1.2 km/h on Jan 2	Hours of Data: 744
Maximum Diurnal Speed Average: 2.1 km/h at hour 22	Minimum Diurnal Speed Average: 0.2 km/h at hour 6	Hours of Missing Data: 0
Monthly Average Velocity: 0.3 km/h 241.6 deg	Percentiles: $P_1 = 1$ $P_{10} = 2$ $Q_1 = 5$ Median = 9 $Q_3 = 15$ $P_{90} = 19$ $P_{99} = 24$	Percent Operational Time: 100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	NNW3	NNW6	NNW4	NW2	NNW4	NNW6	N8	NNW5	NNW4	NNW4	NNW6	N9	N6	NNW6	NNW4	WNW1	N1	WNW2	NW3	NW2	NNW4	NNW3	WNW3	NW3	NNW4.1	N9
2-Jan	NW4	NW3	NW3	NW3	NNW3	NW2	NW3	NW3	WNW2	NNW1	WNW1	SW0	SE1	N1	NNW2	NNW2	NW2	NNW2	NW2	NW2	NW1	SSE2	SE5	SSE3	NW1.2	SE5
3-Jan	S1	S1	SE2	SE6	SE6	SE7	SE10	SE8	SE9	SE7	SE8	SE8	SE6	SE4	SSE3	SE2	SSE2	E1	SE5	SE13	SE13	SE13	SE12	SE15	SE6.7	SE15
4-Jan	ESE16	SE15	SE14	SE15	SE14	SE13	SE12	SE15	SE21	SE15	SE10	SE13	SE9	SE6	ESE4	ESE2	E2	NE2	NE2	ESE2	N2	N2	NNW4	NNW3	SE7.7	SE21
5-Jan	NNW11	NNW12	N11	N11	N11	N12	N10	N9	NNW10	N7	N7	N9	NNW8	NNW6	NNW6	NNW8	N7	N6	NNE6	NNE3	NW3	NNW2	NE1	NE2	N7.2	N12
6-Jan	ENE1	ESE4	SSE8	SSE8	SSE8	SE12	SE12	SE11	SE14	SSE15	SE11	SE9	SSE15	SSE15	SSE18	SSE24	SSE19	SE20	SE22	SE22	SE22	SE22	SE21	SE19	SE14.4	SSE24
7-Jan	SE17	SE12	SE13	SE16	SE18	SE16	SE16	SE20	SE23	SE23	SE19	SE24	SE20	SE21	SE17	SE18	ESE20	ESE8	SE16	S12	SW20	SSE10	SE15	ESE14	SE16.0	SE24
8-Jan	SSW4	WSW20	WSW19	W10	SW9	SW8	WSW11	W15	WSW11	SW18	WSW21	WSW13	WNW10	NW15	NW10	NW11	WNW15	WNW12	NW11	WNW14	WNW14	W19	WNW18	WNW16	W11.9	WSW21
9-Jan	WNW19	WNW19	NNW17	N13	N12	N13	N12	N10	N7	N6	N5	NNW4	SW0	SE6	SSE8	SSE8	SSE8	SE7	SE13	SE6	E1	N1	ESE7	SE8	N2.1	WNW19
10-Jan	SE19	SE23	SE21	SE17	SSE8	SE7	SE8	ESE1	WSW4	WSW4	SE4	ESE3	N4	NW5	NNW13	NNW16	NNW14	NNW13	N14	N18	N17	N13	N12	N13	NE4.0	SE23
11-Jan	N13	N15	N14	N11	NNW12	N9	N5	N5	N10	NNW7	N9	N11	N10	N9	NNE7	NE4	NNE2	NE1	SSE2	SE2	SE5	S8	S11	SSW5	N5.0	N15
12-Jan	S12	SSE15	S16	SSE14	SE12	SE10	SE15	SE10	SE6	SE9	SE11	SE11	SE8	SE9	SE19	SE14	SE10	ESE7	SE7	SE11	SE11	SE9	SE10	SE11	SE10.8	SE19
13-Jan	SE12	SE13	SE13	SE8	SE10	SE12	SE6	SE6	SE7	SE8	SE8	SE6	SE9	SE8	SE8	SE13	SE16	SE16	SE19	ESE17	SE15	SE13	ESE8	SE13	SE10.9	SE19
14-Jan	SE19	SE15	SE18	SE21	SE18	SE15	SE16	SE16	SE13	SE15	ESE13	SE22	ESE12	SE3	WSW20	WSW21	WSW20	WSW18	WSW20	WSW22	WSW23	WSW23	WSW21	W18	S8.1	WSW23
15-Jan	W18	WNW17	NW17	WNW15	WNW14	W15	W18	W13	NW8	NNW5	SW3	WSW6	W8	WNW10	WSW7	SSE1	SSW0	S3	WSW3	NW3	W4	NW2	NNW5	NNW6	WNW7.4	W18
16-Jan	N6	NNW7	N7	NNW4	N7	N8	N8	N7	NNW5	N9	NNE12	N12	N14	N17	N19	N19	N19	N19	N16	NNW13	NNW19	NNW24	NNW20	N21	N12.9	NNW24
17-Jan	N18	N16	NNW9	NNW9	N14	N12	N7	N6	N8	NNW5	NNW6	NNW9	N11	NNW10	NNW11	NNW9	NNW5	NW5	NW4	NW5	NW8	NW5	NW5	NNW6	NNW8.1	N18
18-Jan	NNW5	WNW3	NW2	NNW1	SW0	SW3	SE4	SE11	SE11	SE12	SE12	SE11	SE11	SE8	SE5	ESE3	SSE1	W1	NNW1	NW1	NNW1	NNW2	NW3	NW2	SE2.8	SE12
19-Jan	NNW2	NNW2	NNW3	NNW3	NW3	NW5	WNW4	NW1	NNW2	NW2	NNW3	NNW3	WNW1	W2	W1	SSE3	SE5	ESE6	SE4	SE5	SE9	SE13	SE12	SE14	SE1.5	SE14
20-Jan	SE12	SE8	SE15	ESE13	SE14	SE17	SE16	SE17	SE15	SE16	SE24	SE19	ESE13	SE22	SE24	SE24	SE21	SE20	SE19	SE20	SSE10	WSW15	W16	W18	SE13.6	SE24
21-Jan	W21	WSW25	WSW22	WSW18	WSW18	W15	WSW9	WSW18	WSW17	WSW21	WSW16	NNW5	NNW14	N16	N17	N16	N18	N15	N13	NNW13	NNW14	NW7	NW5	W3	WNW9.8	WSW25
22-Jan	SSW2	SE3	SE7	SE9	ESE5	WSW0	ENE0	NNE0	ESE3	SE4	SE7	SE9	SE9	WSW6	SW9	S9	S9	SE10	ESE7	SE12	SE17	SE14	SE13	E6	SE6.0	SE17
23-Jan	SE17	SE12	SE17	SE14	ESE8	ESE5	SE7	SE9	SSE9	SW10	SSW9	SSW9	S4	W13	WNW17	WNW17	NW16	WNW14	WNW13	WNW13	W15	W14	WNW16	WNW20	WSW4.7	WNW20
24-Jan	WNW22	WNW23	WNW19	NW24	NW24	NNW25	NNW25	NNW22	NNW21	NNW12	NW14	NW12	NNW14	NNW12	NNW9	NW7	WNW3	WSW3	E2	SE5	ESE3	ESE2	SW2	SW5	NW10.8	NNW25
25-Jan	WSW5	SW7	SSW9	S5	SSE2	SE8	SE10	SE8	SE12	SE11	SSW11	SSE8	SW12	SW15	SW6	ESE2	SE3	SW6	WSW5	SSE3	SSE6	SSW12	SSE8	SE12	S5.6	SW15
26-Jan	SE15	SE15	SE18	SE16	SSW11	SSW8	SW11	SW9	SW14	SW12	SW11	SSW9	SSW9	S10	ESE11	SE5	WNW4	WNW4	NW3	W6	W7	WSW4	SW1	SSW3	S5.8	SE18
27-Jan	S2	WSW4	W3	WSW4	WSW4	WSW5	WSW5	SSE4	SSE3	SE6	SE12	SE12	SE12	SE16	S10	SW17	SW16	SW16	SW9	WSW11	WNW12	WNW21	NW24	NW23	SW4.9	NW24
28-Jan	WNW22	WNW21	WNW23	WNW23	WNW21	WNW16	NW11	WNW15	WNW18	WNW18	WNW19	WNW22	NW22	WNW16	WNW20	WNW18	NW11	WNW8	WNW7	WNW6	W8	WSW10	WSW15	WSW13	WNW15.5	WNW23
29-Jan	W3	W6	W3	W5	W3	SW4	SW4	SW2	WSW3	W2	NNW5	N13	N16	N14	N16	N17	N18	N16	N15	N15	N15	N15	N14	N13	NNW8.2	N18
30-Jan	N14	NNE11	N12	N11	N6	N11	NNE8	N8	NW5	NNW5	NNW8	NNW6	NNW8	NNW10	N9	N6	N6	N5	N4	NW4	NW4	NW4	NW4	NW5	N6.8	N14
31-Jan	NW2	NW3	NW4	NW4	NW5	NW4	NW4	NNW5	NNW6	NNW6	NW6	NNW8	NNW9	NNW12	NNW12	NNW13	NNW11	NNW11	NNW12	NNW10	NNW12	NNW11	NNW9	NNW10	NNW7.8	NNW13

WSW0.7	WSW1.6	SSW1.1	S0.7	W0.3	ENE0.2	SE0.8	SSE1.0	SSE1.3	S2.1	SSE1.7	ESE1.5	NE0.9	N1.1	NNW1.1	NNW0.9	NNW0.8	NNW1.0	NE0.7	WSW0.2	W1.3	W2.1	W1.5	WNW1.5	Diurnal Average
WNW22	WSW25	WNW23	NW24	NW24	NNW25	NNW25	NNW22	SE23	SE23	SE24	SE24	NW22	SE22	SE24	SSE24	SE21	SE20	SE22	WSW22	WSW23	NNW24	NW24	NW23	Diurnal Maximum

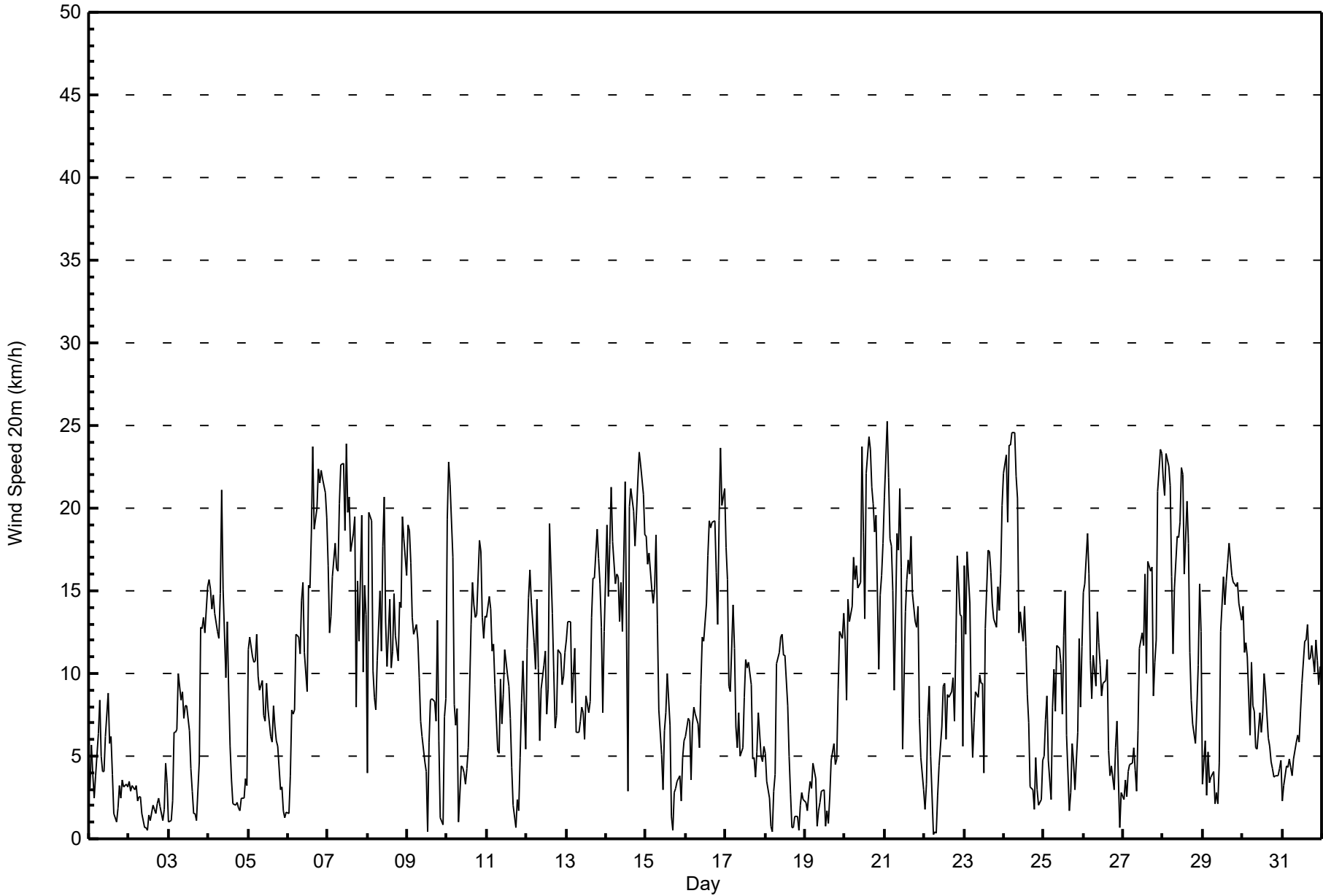
All monthly, daily, and diurnal averages have been calculated using vector methods



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Speed 20m (WS20) - km/h
Lower Camp Met Tower - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 10 km/h on Jan 24 06:00 Minimum Value: 1 km/h on Jan 6 00:00 Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 2 Median = 3 Q ₃ = 4 P ₉₀ = 6 P ₉₉ = 8																	Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0								
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	1	2	1	1	2	2	3	2	2	2	2	2	2	2	2	1	1	1	1	1	2	1	1	1	3
2-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3-Jan	1	1	1	1	1	1	2	2	2	2	1	2	1	1	1	1	1	1	2	3	5	5	5	5	5
4-Jan	5	5	5	5	5	5	5	5	6	6	4	4	3	2	2	2	2	1	1	1	1	1	1	2	6
5-Jan	4	3	4	3	4	4	3	3	3	2	2	3	2	2	2	3	3	2	2	2	1	1	1	1	4
6-Jan	1	2	2	2	2	3	4	4	4	4	4	3	5	4	6	3	4	3	3	3	2	2	3	3	6
7-Jan	4	3	5	5	5	4	4	4	4	4	5	4	5	3	4	4	3	5	3	5	6	4	3	3	6
8-Jan	3	6	6	4	3	4	4	4	3	4	4	4	5	7	4	3	4	4	4	4	5	6	6	5	7
9-Jan	6	6	5	4	5	5	4	4	3	3	2	2	1	2	2	2	2	3	5	4	2	1	5	6	6
10-Jan	5	6	7	7	4	4	6	1	1	1	2	2	4	2	5	4	5	5	5	6	5	4	4	6	7
11-Jan	6	4	4	4	4	3	2	2	3	3	3	4	3	3	3	2	1	1	1	2	1	3	2	2	6
12-Jan	3	3	2	4	3	3	4	4	3	3	4	3	3	5	3	6	5	3	2	2	3	3	2	2	6
13-Jan	2	2	2	2	2	3	2	4	2	2	2	4	3	4	5	3	4	3	3	3	3	4	3	4	5
14-Jan	3	3	2	2	2	2	3	3	3	6	3	5	7	4	6	6	6	5	5	5	6	6	4	5	7
15-Jan	6	5	6	6	5	4	5	7	3	4	2	3	3	4	3	1	2	1	2	3	2	2	2	3	7
16-Jan	2	2	2	2	2	3	3	2	2	4	4	4	4	6	6	7	6	6	5	6	7	9	7	8	9
17-Jan	5	5	4	3	4	4	2	2	3	2	3	4	3	3	4	3	2	1	1	2	2	1	2	2	5
18-Jan	2	2	2	1	1	2	3	2	2	2	3	2	2	3	1	1	1	1	1	1	1	1	1	1	3
19-Jan	1	1	1	1	1	2	1	1	2	1	1	1	1	1	1	1	1	2	1	2	2	2	2	3	3
20-Jan	3	3	4	2	3	4	5	4	3	3	6	7	7	4	3	3	2	2	3	2	5	5	5	6	7
21-Jan	6	7	5	4	5	5	4	6	7	5	6	2	5	5	6	6	6	5	5	5	4	2	2	1	7
22-Jan	1	1	2	3	3	1	1	1	1	2	2	2	3	4	3	2	2	3	3	2	3	2	4	3	4
23-Jan	7	4	5	3	3	3	2	2	3	3	4	2	3	5	6	5	5	4	6	5	6	5	6	6	7
24-Jan	7	7	6	8	9	10	9	7	9	5	5	6	4	4	3	2	3	1	2	2	1	2	4	10	7
25-Jan	3	3	3	2	2	2	1	3	2	2	5	2	4	3	4	1	2	3	3	2	2	2	2	3	5
26-Jan	2	2	2	2	5	3	2	3	3	4	5	2	3	2	2	4	3	5	3	3	4	3	2	2	5
27-Jan	2	2	2	2	3	4	3	2	2	2	3	3	5	3	5	4	3	4	5	3	5	7	8	7	8
28-Jan	7	6	7	8	7	6	4	6	6	6	7	7	8	6	8	7	4	2	2	2	2	4	5	5	8
29-Jan	3	2	2	3	2	1	1	1	2	1	3	5	6	5	5	6	5	5	5	5	5	5	5	4	6
30-Jan	5	4	5	4	3	3	3	3	2	2	3	3	3	3	3	2	1	2	2	2	1	2	1	1	5
31-Jan	1	2	1	1	1	1	2	2	2	2	2	3	4	4	3	4	4	4	4	3	4	4	4	4	4
Diurnal Maximum																									





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 20m (WS20) - km/h
Lower Camp Met Tower - January 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	216	29.03	29.03
6 - 11	225	30.24	59.27
12 - 19	239	32.12	91.40
20 - 28	64	8.60	100.00
29 - 38	0	0.00	100.00
> 38	0	0.00	100.00

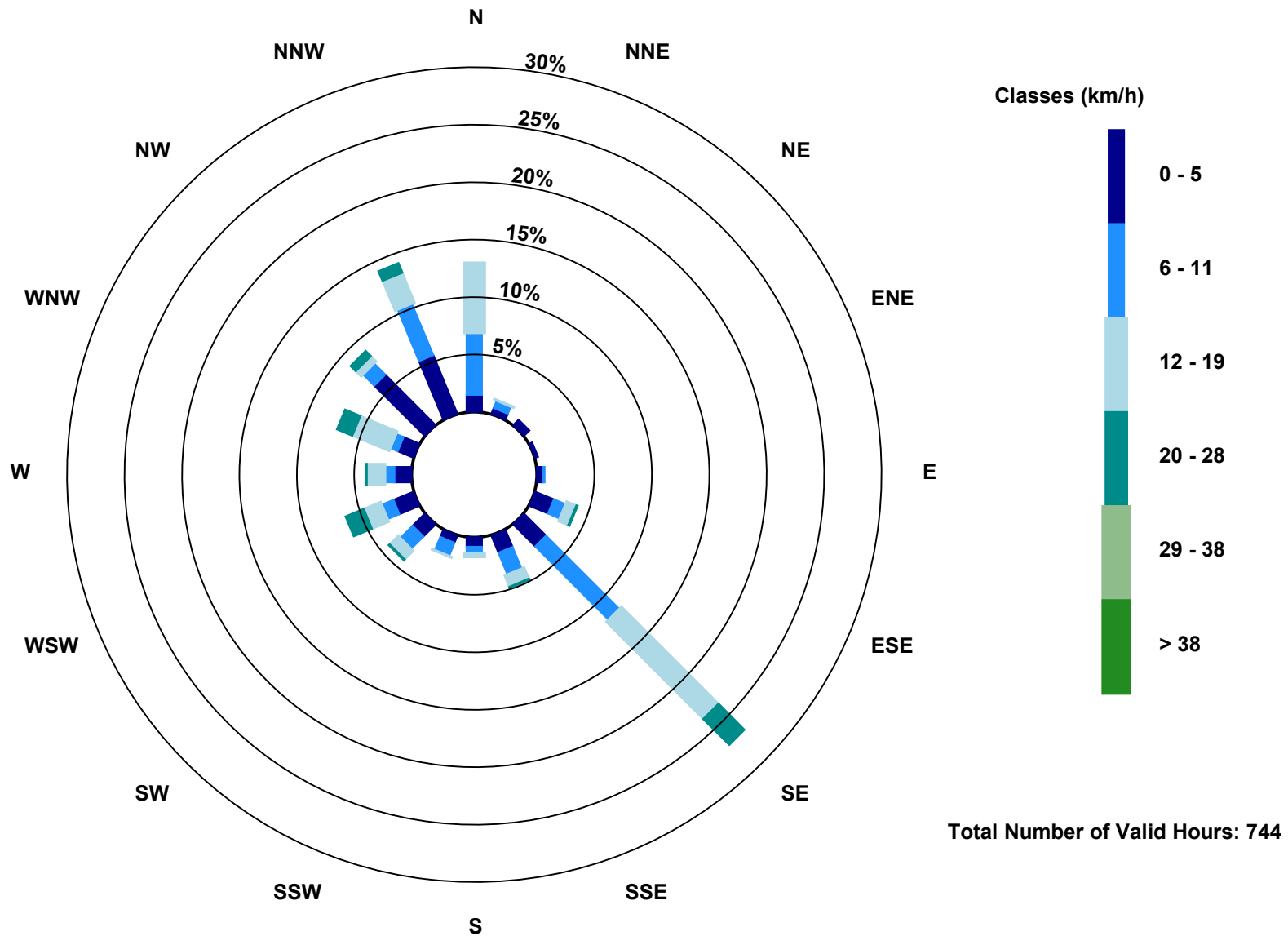
Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Wind Speed 20m (WS20) - km/h
Lower Camp Met Tower





Maximum Speed: 38 km/h on Jan 24 06:00	Maximum Daily Speed Average: 22.6 km/h on Jan 28	Hours in Service: 744
Minimum Speed Value: 0 km/h on Jan 2 20:00	Minimum Daily Speed Average: 0.7 km/h on Jan 2	Hours of Data: 744
Maximum Diurnal Speed Average: 3.8 km/h at hour 22	Minimum Diurnal Speed Average: 0.6 km/h at hour 8	Hours of Missing Data: 0
Monthly Average Velocity: 1.2 km/h 303.5 deg	Percentiles: P ₁ = 1 P ₁₀ = 4 Q ₁ = 8 Median = 13 Q ₃ = 21 P ₉₀ = 27 P ₉₉ = 34	Percent Operational Time: 100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	NNW7	N11	NNW8	NNW6	NNW9	NNW12	N14	NNW10	NNW8	NNW7	NNW10	N13	N10	N9	NNW6	NNW2	N2	NNW2	NW5	NNW7	NNW7	NW4	NNW5	NNW5	NNW7.3	N14
2-Jan	NNW7	NW5	NW5	NNW6	NNW7	NNW4	NW2	WNW4	NW3	SW2	SE2	SE4	SE3	ENE2	ENE2	NE2	ESE2	WNW0	E1	NNW0	SE1	SE5	SE6	SE6	N0.7	NNW7
3-Jan	ESE4	SE4	SE5	SE8	SE6	ESE7	SE11	ESE9	ESE10	SE10	SE8	SE9	ESE6	SE6	ESE6	SE4	SE3	SE6	SE16	SE21	SE26	ESE26	ESE25	ESE27	SE11.0	ESE27
4-Jan	ESE29	ESE29	SE23	ESE26	SE25	SE20	SE19	SE22	SE34	SE28	SE19	SE17	SE11	SE8	ESE5	ESE3	ESE3	ENE4	ENE3	ESE3	NNE3	N4	N6	N6	ESE13.3	SE34
5-Jan	NNW17	NNW17	N16	N16	N18	N19	N15	N14	NNW14	N12	N10	N14	N10	NNW8	NNW9	N11	N11	N9	NNE8	NNE4	NW4	NNW2	NE2	NNE2	N10.7	N19
6-Jan	ENE2	ESE6	SE9	SSE8	SSE8	SE14	SE16	SE14	SE19	SE19	SE15	SE11	SSE17	SSE16	SSE22	SSE27	SSE22	SE23	SE26	SE25	SSE26	SE23	SE23	SE22	SE17.0	SSE27
7-Jan	SE22	SE19	SE24	SE26	SE24	SE23	SE24	SE28	SE27	SE27	SE26	SE30	SE28	SE22	SE19	SE19	SE17	ESE10	SE14	SSW18	SW26	S13	SE20	SE11	SE20.1	SE30
8-Jan	WSW11	WSW30	WSW29	W14	WSW10	SW12	W16	W23	W17	SW23	SW28	WSW20	NNW16	NW21	NW15	NW16	NNW23	NNW19	NNW18	NNW22	NNW20	W28	WNW27	WNW25	W17.9	WSW30
9-Jan	WNW29	WNW28	NNW25	N22	N22	N20	N19	N15	N11	NNE9	N7	NNW5	ENE1	SE7	SSE9	SSE9	SSE10	SE9	SE19	SE10	ESE5	SSE4	ESE16	SE13	N3.7	WNW29
10-Jan	SE31	SE36	SE35	SE28	SE11	SE12	SE12	ESE2	WSW4	WSW5	SE5	SE4	N7	NW8	NNW19	NNW22	NNW22	NNW20	N22	N27	N27	N21	N19	N21	NE6.7	SE36
11-Jan	N22	N22	N21	N17	NNW17	N15	N9	N8	N14	NNW10	N12	N16	N14	N14	NNE11	NE7	NNE3	NNE2	SE3	SSE3	SSE6	SSW11	S12	SSW6	N8.0	N22
12-Jan	S13	SSE16	S18	SSE16	SE14	SE15	SE19	SE15	SE8	SE13	SE15	SE14	SE11	SE14	SE22	SE19	SE18	ESE10	ESE8	SE11	SE14	ESE14	ESE11	SE12	SE13.8	SE22
13-Jan	SE13	SE14	SE15	SE11	SE12	SE16	SE9	SE10	SE11	SE11	SE9	SE8	ESE10	SE14	SE11	SE17	SE19	SE22	SE14	SE15	SSE9	S8	SSW5	S6	SE11.6	SE22
14-Jan	SSE8	SSE7	SE13	SE14	SE19	SE19	SE22	SE23	SE21	SE22	ESE17	SE23	SSE6	SW5	WSW31	WSW33	WSW30	WSW27	WSW30	WSW32	WSW34	WSW34	WSW29	W27	SSW12.0	WSW34
15-Jan	W26	WNW25	NNW25	NNW23	NNW22	W21	W27	W21	NW13	NNW10	W3	WSW9	W13	WNW15	WSW8	SW1	SSW3	SSW6	SW9	WNW5	NW6	NW6	NNW8	N9	WNW11.6	W27
16-Jan	NNW8	NNW11	N10	NNE5	NNE8	N10	NE10	N8	N8	N14	NNE18	N17	N22	N28	N30	N29	N30	N30	N25	NNW20	N29	NNW34	NNW29	N33	N19.1	NNW34
17-Jan	N27	N25	NNW15	NNW15	N22	N18	N10	N9	N11	NNW8	NNW8	NNW12	N16	NNW15	NNW16	NNW15	NNW11	NNW10	NNW8	NNW10	NNW14	NNW9	NNW9	NNW11	NNW13.3	N27
18-Jan	NNW10	NNW8	WNW3	SW1	SSW4	SE3	SE8	SE12	SE13	ESE13	SE15	ESE13	ESE12	ESE10	SE7	ESE5	E4	N1	NW1	WNW2	SW1	SSW2	W2	NW3	ESE3.8	SE15
19-Jan	WNW2	NNW1	WNW3	NW5	NW3	NW8	NNW8	WNW1	NW3	NNW4	WNW4	WNW5	W3	W3	WNW1	SSE2	SE8	SE10	SE11	SE10	SE12	SE14	SE14	SE16	ESE2.0	SE16
20-Jan	ESE13	ESE13	SE17	SE16	ESE17	SE23	SE22	SE22	SE20	SE19	SE29	SE22	SE18	SE28	SE27	SSE21	SSE14	SSE16	SE19	SE19	SSW10	WSW22	WSW25	W25	SE14.9	SE29
21-Jan	W30	WSW37	WSW30	WSW25	WSW26	W22	W13	WSW27	WSW25	WSW30	WSW24	NNW9	N20	N23	N25	N25	N28	N22	N19	NNW19	NNW20	NW12	NNW9	WNW5	WNW14.1	WSW37
22-Jan	WSW2	SSE5	SE10	SE12	ESE8	E2	SE3	SSE2	SE6	SE7	SE8	SE10	SE7	WSW11	SW11	SSW11	S12	SE13	ESE9	SE15	SE22	SE17	SE17	ESE11	SE7.8	SE22
23-Jan	SE23	SE21	SSE24	SSE18	SE10	S5	S6	S6	S10	SW13	SW12	SW11	SW5	W18	NNW25	NNW24	NW23	NNW21	NNW19	NNW19	WSW23	W21	NNW23	NNW30	WSW8.6	WNW30
24-Jan	WNW31	WNW33	WNW28	NW35	NW35	NNW38	NNW37	N33	NNW31	NNW20	NW19	NW18	NNW21	NNW16	NNW14	NW10	WNW5	SW6	SSW3	S4	NNE1	NNW4	W7	WSW11	NW16.8	NNW38
25-Jan	WSW11	SW12	SW11	SSW7	S3	SE9	SE11	SSE12	SSE14	SE10	SW15	S9	SW15	SW19	SW9	SSW2	ESE4	WSW7	WSW8	SSW5	S8	SW17	S9	SSE11	SSW7.8	SW19
26-Jan	SSE14	SE12	SSE13	SE15	SW15	SW13	SW16	SW13	SW17	SW15	SW13	SSW10	SSW11	S11	SE11	S6	WSW7	WNW11	WNW8	W9	W12	WSW9	SW4	SW7	SSW8.4	SW17
27-Jan	SW6	WSW8	WSW6	WSW8	WSW7	WSW7	WSW8	SSW5	S5	SE6	SE10	SE11	SSE9	SE15	SSW13	SW21	SW21	SW22	WSW13	WSW17	WNW20	WNW30	NW33	WNW32	WSW8.6	NW33
28-Jan	WNW31	WNW31	WNW34	NNW33	NNW30	NNW23	NNW17	NNW22	NNW26	NNW26	NNW26	NNW30	NW30	NNW22	NNW29	NNW25	NW16	NNW13	NNW13	NNW11	WNW14	WSW15	WSW22	WSW20	WNW22.6	WNW34
29-Jan	W6	WNW9	WNW5	W10	W5	SW2	SW6	SSW3	SW3	WSW1	NNW8	N19	N24	N22	N25	N27	N26	N25	N24	N23	N23	N25	N23	N21	N12.8	N27
30-Jan	N22	N17	N19	N19	N11	N19	NNE13	N12	NNW8	NNW9	NNW11	NNW9	NNW10	NNW12	N12	N8	NNE10	N9	N8	N6	NNW8	NNW7	NNW7	NNW7	N11.1	N22
31-Jan	NNW7	N7	NNW7	NNW9	NNW9	NNW9	NNW8	NNW8	NNW8	NNW10	NNW10	NNW12	NNW14	N17	N17	N18	N17	NNW17	N18	N15	N17	NNW16	NNW14	NNW16	NNW12.4	N18

WNW2.5	W2.8	WSW1.2	NNW0.7	NW1.3	N1.4	E1.0	SE0.6	SSE1.0	S1.9	SSE1.6	E0.9	N2.2	NNW2.4	NNW2.7	NW2.4	NW2.3	NW2.3	NNW1.4	NNW1.4	NNW3.0	W3.8	NNW2.8	NNW3.4		Diurnal Average
WNW31	WSW37	SE35	NW35	NW35	NNW38	NNW37	N33	SE34	WSW30	SE29	NNW30	NW30	SE28	WSW31	WSW33	WSW30	N30	WSW30	WSW32	WSW34	NNW34	NW33	N33		Diurnal Maximum

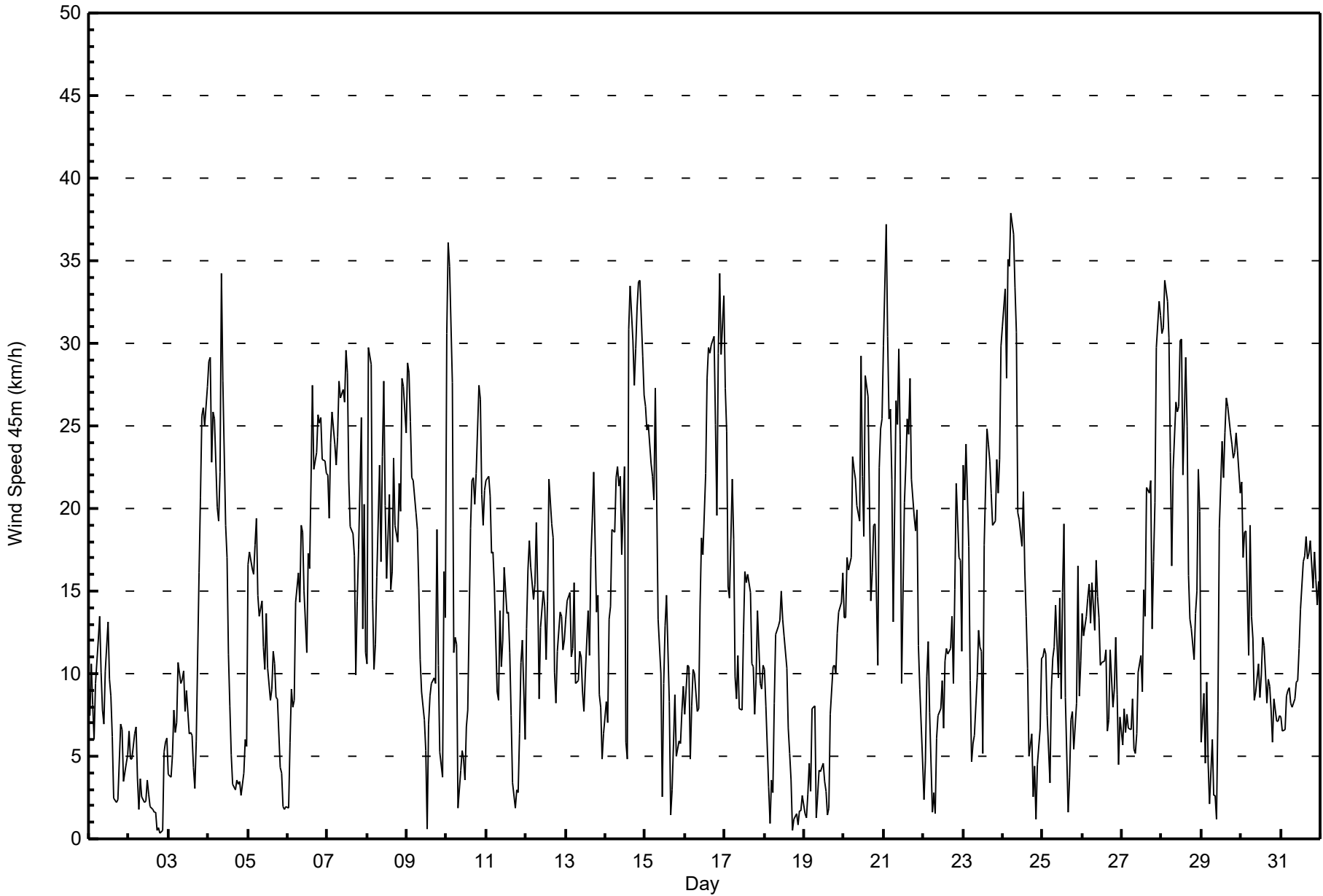
All monthly, daily, and diurnal averages have been calculated using vector methods



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Speed 45m (WS45) - km/h
Lower Camp Met Tower - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 11 km/h on Jan 24 06:00 Minimum Value: 1 km/h on Jan 1 17:00 Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 2 Median = 3 Q ₃ = 4 P ₉₀ = 6 P ₉₉ = 9																	Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0								
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	1	1	2	2	1	1	3	2	2	1	2	2	2	2	2	1	1	1	1	2	1	2	1	1	3
2-Jan	1	1	1	1	1	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	2
3-Jan	1	1	2	1	1	1	2	2	1	2	1	1	1	2	2	2	2	4	3	3	7	6	4	4	7
4-Jan	4	5	4	4	5	4	5	4	4	5	5	4	3	3	2	2	2	2	2	2	1	1	1	2	5
5-Jan	3	3	3	3	5	5	3	4	3	2	2	3	2	2	2	3	2	2	2	2	1	1	1	1	5
6-Jan	1	2	2	2	2	4	3	4	4	4	5	4	6	5	6	3	4	3	3	3	3	2	1	1	6
7-Jan	2	3	2	2	5	4	2	1	2	2	2	2	2	3	3	5	4	4	3	6	6	4	2	4	6
8-Jan	5	5	5	5	4	4	5	4	3	4	3	4	6	8	5	3	4	4	5	3	5	6	5	5	8
9-Jan	5	5	4	4	4	4	4	4	3	3	2	2	1	2	2	3	2	3	4	5	3	3	7	8	8
10-Jan	5	4	6	7	4	5	8	2	1	2	2	2	5	3	5	3	4	5	6	5	5	4	4	6	8
11-Jan	7	4	4	5	4	3	2	2	3	3	3	3	3	4	2	2	1	1	2	2	2	2	2	3	7
12-Jan	3	3	2	4	3	3	3	5	3	5	5	3	3	5	2	5	5	3	1	2	3	2	2	2	5
13-Jan	2	2	2	2	2	3	2	4	3	2	2	4	3	5	5	3	2	2	4	4	3	3	3	3	5
14-Jan	2	2	4	2	3	3	4	2	2	5	3	6	3	7	6	5	4	4	4	4	4	4	4	5	7
15-Jan	6	5	6	6	5	3	4	8	4	6	2	3	4	4	2	1	2	2	2	3	2	2	2	2	8
16-Jan	1	2	3	2	2	3	2	2	2	5	4	4	4	6	6	6	6	6	6	7	7	9	7	7	9
17-Jan	6	6	5	4	4	4	2	2	3	2	3	4	3	3	4	3	2	1	1	2	3	2	2	2	6
18-Jan	2	2	2	1	2	3	3	1	1	1	3	2	1	3	1	1	1	1	1	1	1	1	1	2	3
19-Jan	1	1	1	1	2	4	2	1	2	1	1	1	1	1	1	1	2	2	1	2	2	2	1	1	4
20-Jan	3	3	2	3	2	3	3	3	2	3	3	6	7	3	2	4	2	1	2	2	5	4	5	6	7
21-Jan	6	5	4	3	4	5	5	5	7	3	5	4	5	5	5	5	5	5	5	4	4	2	2	1	7
22-Jan	1	1	1	2	3	1	1	1	2	2	2	3	3	6	3	2	3	3	3	2	2	2	4	4	6
23-Jan	8	4	4	3	3	3	3	3	4	3	4	2	5	5	6	5	6	4	6	6	5	4	7	6	8
24-Jan	7	6	6	8	10	11	9	7	9	6	6	5	6	4	5	3	2	3	2	2	2	2	4	5	11
25-Jan	5	4	4	3	2	2	1	2	2	2	5	3	4	3	5	2	1	3	3	2	3	3	2	2	5
26-Jan	2	3	3	2	5	4	2	4	4	5	6	3	4	3	1	2	5	9	5	4	4	4	2	3	9
27-Jan	2	2	3	2	3	4	3	3	3	2	2	3	4	4	7	4	3	4	5	3	5	6	8	7	8
28-Jan	7	7	7	7	7	7	5	7	7	7	7	7	9	6	9	7	5	2	3	3	2	3	4	5	9
29-Jan	4	3	3	3	3	1	1	1	1	1	5	6	5	5	4	5	5	5	5	4	4	4	5	4	6
30-Jan	5	4	5	3	4	4	3	3	2	2	3	2	2	3	3	3	1	1	2	2	2	2	2	1	5
31-Jan	1	1	1	2	2	2	2	2	2	2	3	3	4	4	3	3	3	3	3	3	3	4	4	3	4
Diurnal Maximum																									





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Wind Speed 45m (WS45) - km/h
Lower Camp Met Tower - January 2025**

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	118	15.86	15.86
6 - 11	225	30.24	46.10
12 - 19	199	26.75	72.85
20 - 28	151	20.30	93.15
29 - 38	51	6.85	100.00
> 38	0	0.00	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Speed 100m (WS100) - km/h

Lower Camp Met Tower - January 2025

Maximum Speed: 51 km/h on Jan 24 06:00	Maximum Daily Speed Average: 30.8 km/h on Jan 28	Hours in Service: 744
Minimum Speed Value: 0 km/h on Jan 6 01:00	Minimum Daily Speed Average: 1.1 km/h on Jan 19	Hours of Data: 742
Maximum Diurnal Speed Average: 6.7 km/h at hour 22	Minimum Diurnal Speed Average: 1.6 km/h at hour 7	Hours of Missing Data: 2
Monthly Average Velocity: 3.6 km/h 271.0 deg	Percentiles: P ₁ = 2 P ₁₀ = 6 Q ₁ = 11 Median = 17 Q ₃ = 26 P ₉₀ = 34 P ₉₉ = 45	Percent Operational Time: 99.7

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	N11	N15	N12	N11	N14	N16	N17	N12	N13	N12	N13	N14	N11	N8	N7	N4	N5	NNE7	N9	NNE14	NNE11	N9	NNW10	N12	N11.0	N17
2-Jan	N15	N11	N8	NW5	W3	WSW5	W3	WSW7	WSW7	SSW4	SE2	SE3	SE3	ESE7	ESE5	SE4	ESE8	SE7	SE7	SE6	SE8	SSE9	SSE10	SE8	SE1.9	N15
3-Jan	SSE3	SSE6	SSE9	SSE9	SSE10	SSE10	SSE9	SSE7	S9	SSE11	SSE11	SSE13	SSE11	SSE8	SSE15	S10	SE14	SE26	SE37	SE31	SE38	SE38	SE36	SE37	SE16.4	SE38
4-Jan	SE38	SE39	SE31	SE33	SE33	SE27	SE27	SE30	SE39	SE33	SE24	SE21	SE14	SE11	ESE7	ESE5	ESE6	E6	E6	ESE7	ENE3	NE4	NNE8	NNE7	SE18.0	SE39
5-Jan	NNW19	N20	N18	N17	N19	N21	N17	N15	N16	N13	N12	N15	N11	NNW9	NNW11	N13	N12	N10	NNE9	NNE5	NW4	NW2	NE1	NW2	N11.9	N21
6-Jan	S0	SE8	SE10	SSE9	SSE10	SE15	SE19	SE19	SE21	SE22	SE19	SE15	SSE21	SSE20	SSE27	SSE32	SSE30	SSE32	SSE33	SSE31	SSE31	SSE30	SSE30	SSE29	SSE21.3	SSE33
7-Jan	SSE31	SSE25	SSE28	SSE34	SSE33	SSE30	SSE28	SSE35	SSE34	SSE34	SSE32	SSE35	SSE31	SSE22	S20	S14	S20	S10	S16	SSW31	SW38	SSW19	SE13	SW9	SSE23.9	SW38
8-Jan	WSW26	WSW41	WSW38	W21	W16	WSW18	W21	WNW32	WNW24	WSW27	WSW33	W27	WNW23	NW28	NW21	NW22	WNW32	WNW26	WNW28	WNW30	WNW28	WNW35	WNW36	WNW34	W25.8	WSW41
9-Jan	WNW38	WNW39	NNW27	N24	N24	N22	N21	NNE17	N12	NNE10	N8	N5	E2	SE8	S9	S10	SSE12	SSE11	SE23	SE17	SE14	SE11	SE29	SE21	NNE3.3	WNW39
10-Jan	SE35	SE44	SE43	SE34	SE16	SE16	SE15	SSW3	S1	SW7	SE5	SSW5	NNW8	NNW10	N21	N24	N26	N24	N26	N31	N29	N24	N22	N24	NE6.6	SE44
11-Jan	N25	N23	N22	N19	N20	N17	N11	N10	N16	N13	N14	N18	N15	NNE14	NNE12	NNE9	NNE5	NNE3	SE3	SSE6	SSW10	SSW13	S14	SSW8	N8.8	N25
12-Jan	S14	SSE18	S20	SSE19	SSE16	SE16	SE22	SSE19	SSE12	SE17	SE19	SSE18	SSE17	SE20	SSE24	SSE21	SSE23	SSE15	SE17	SSE11	SSE15	SSE14	SE10	SE15	SSE16.9	SSE24
13-Jan	SSE11	SE17	SE17	SE23	SE20	SE18	SE15	SSE18	SE18	SE13	SSE13	SSE10	SSE13	SE18	SSE16	SSE19	SSE21	S16	SW17	SW14	WSW19	WSW27	WSW25	WSW19	S12.3	WSW27
14-Jan	SW19	WSW16	SW11	SW16	S17	SSE16	SSE21	SSE23	SE21	SE26	SSE22	S22	SW15	WSW18	WSW43	WSW46	WSW42	WSW39	WSW42	WSW44	WSW45	WSW43	WSW36	W37	SW21.6	WSW46
15-Jan	W36	WNW35	NW36	WNW33	WNW33	WNW29	WNW37	WNW29	NNW20	NNW16	NW6	W13	W20	WNW20	W10	W4	SW4	SW11	WSW17	W11	NNW12	NNW11	NNW14	NNE11	WNW17.3	WNW37
16-Jan	NNE7	NE9	NE12	NE8	E11	ENE9	E12	ENE8	NE10	NNE17	NNE22	NNE20	N25	N32	NNE35	N34	N35	N34	N30	N25	N35	NNW42	N36	N40	N21.0	NNW42
17-Jan	N33	N31	NNW21	NNW21	N26	N21	N12	N11	N14	N11	N10	NNW14	N16	NNW17	NNW20	N19	NNW17	NNW12	N11	N16	N20	N14	N15	N15	N17.2	N33
18-Jan	N13	N12	N5	NNE3	SSW4	SSW9	S7	SSW9	SSW10	SSW10	SSW10	SSW8	SSE7	SSE8	SE11	SE7	ESE6	ESE5	ESE2	SE5	SE5	SE10	S4	SSE2	SSE3.7	N13
19-Jan	ESE2	SSE1	NNW4	NNW9	NW11	NNW17	NNW18	NNW18	UO	UO	W9	WSW9	SW4	WSW6	NNW2	ENE3	SE7	SE11	SSE15	S14	S10	SSE10	SSE12	SSE16	SSW1.1	NNW18
20-Jan	SSE17	SE18	SSE25	SSE28	SSE28	SSE26	SE28	SE27	SE26	SSE24	SSE39	SSE35	SSE34	SSE39	SSE33	S23	S18	S19	S19	S17	WSW22	WSW33	WSW34	W37	S21.2	SSE39
21-Jan	WSW40	WSW46	WSW39	WSW34	WSW36	W31	W21	WSW36	W31	W34	W29	NW15	N24	N26	N27	N28	N31	N25	N22	N22	N23	NNW15	NNW12	NNW7	WNW18.2	WSW46
22-Jan	W2	S4	SSE9	S8	S3	E3	NNE2	NNE4	E2	ESE4	S5	S6	SW7	WSW17	WSW16	SSW15	SSW20	S20	S11	SSE19	SSE23	SSE23	SE21	SE20	S8.3	SSE23
23-Jan	SSE30	SSE28	S33	S29	SSW18	SW12	SW10	SW10	SW16	SW18	SW16	WSW15	W13	W24	WNW32	WNW31	NW32	WNW29	WNW26	WNW27	W31	W29	WNW32	WNW39	WSW16.2	WNW39
24-Jan	WNW41	WNW42	WNW36	NW46	NW46	NNW51	NNW46	N40	NNW39	NNW29	NW26	NNW24	NNW28	NNW19	NNW17	NW16	NW9	WSW11	SW10	WSW9	NW10	NW12	W14	WSW19	NW23.5	NNW51
25-Jan	WSW21	WSW18	SW16	SW16	SSW8	S9	S13	S14	SSW14	SW11	SW25	SW16	SW20	WSW25	SW15	WSW8	N2	WNW9	WSW16	SW15	SW16	SW22	SW13	SSW13	SW13.6	SW25
26-Jan	SSW16	SSW13	SSW15	SSW15	SW26	SW22	WSW25	SW19	SW23	SW20	SW18	SW15	SSW14	S10	SW14	WSW15	WNW25	WNW22	WNW16	W21	W18	WSW13	W15	WSW15.5	SW26	
27-Jan	W12	WSW14	WSW19	W11	WSW11	W10	WSW16	SW13	SW15	SSW7	SSW9	SSW8	SW12	SSW11	SW24	SW28	SW29	WSW31	WSW18	W21	WNW30	WNW39	NW43	WNW41	WSW16.3	WNW43
28-Jan	WNW41	WNW42	WNW45	WNW44	WNW40	WNW33	WNW25	WNW32	WNW37	WNW36	WNW35	WNW37	NW38	WNW28	WNW38	NW33	NW21	WNW19	NW19	WNW19	WNW19	W20	W24	W24	WNW30.8	WNW45
29-Jan	WNW13	WNW10	W11	WSW15	WNW6	N3	SW3	SSW3	S3	WNW1	N12	NNE22	NNE27	N23	N26	N28	N28	N28	N27	N27	N27	N28	N27	N24	N14.8	N28
30-Jan	N26	NNE20	N21	N22	N17	N25	NNE18	N16	N10	NNW12	N13	NNW10	N10	N12	N12	N9	NNE12	NNE12	NNE11	NNE8	NNE9	NNE7	N8	NNW13	N13.5	N26
31-Jan	N13	NE7	N4	N5	N9	N10	NNW14	NNW13	NNW12	N15	N14	NNW14	N16	N17	N17	N19	N20	N22	N21	N17	N19	N19	N18	N19	N14.7	N22

W6.1 W5.3WSW4.6WSW3.4 W3.4NNW2.4 W1.6WSW2.5 SW2.6 SW3.2 SW3.1WSW2.4WNW2.6WNW3.0WNW3.8WNW4.0WNW3.3WNW3.8 W3.1 W4.1 W5.8 W6.7 W5.5WNW6.2	Diurnal Average
WNW41WSW46WNW45 NW46 NW46NNW51NNW46 N40 NNW39WNW36 SSE39WNW37 NW38 SSE39WSW43WSW46WSW42WSW39WSW42WSW44WSW45WSW43WNW43WNW41	Diurnal Maximum

UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

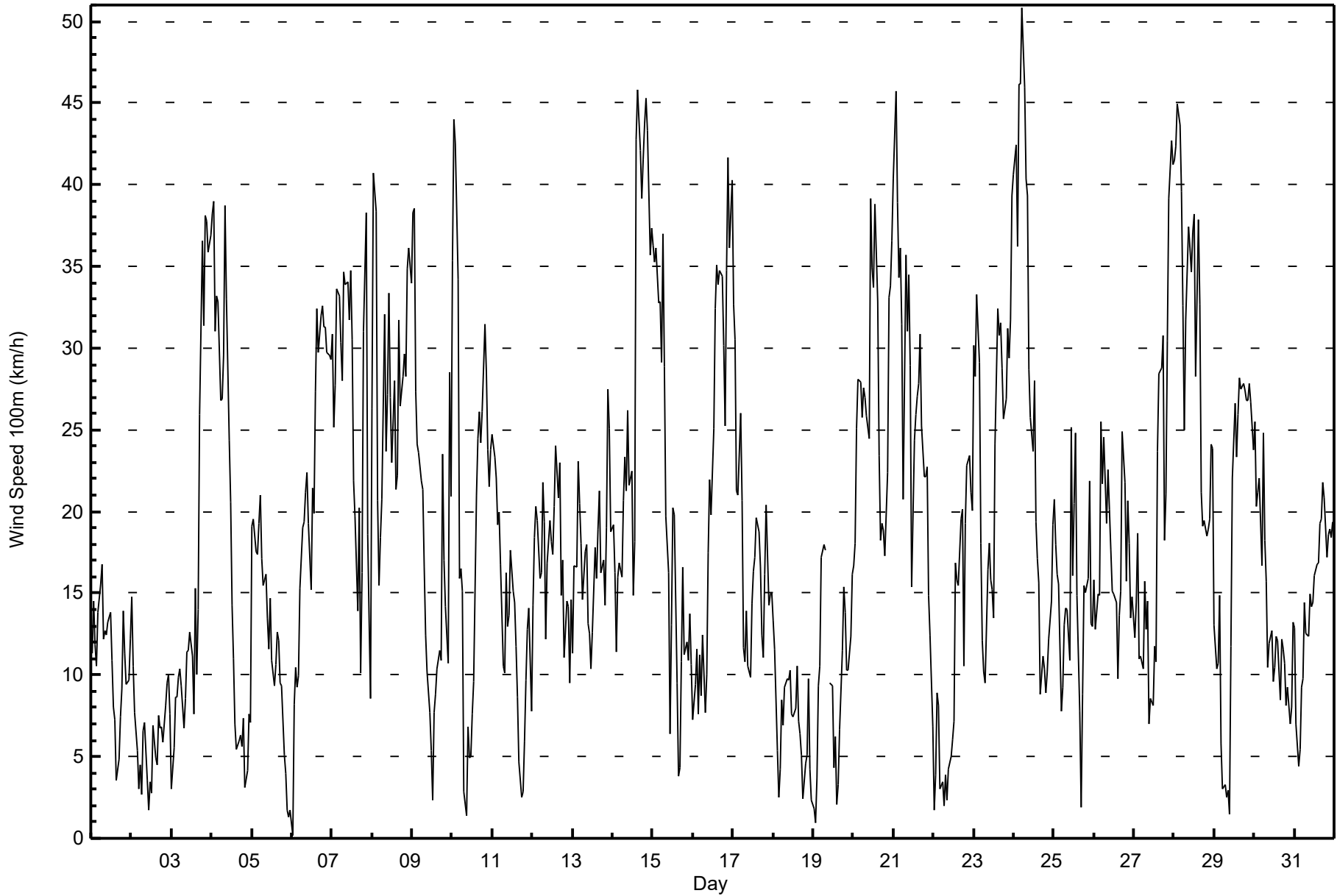
Wind Speed 100m (WS100) - km/h
Lower Camp Met Tower - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 12 km/h on Jan 24 06:00 Minimum Value: 0 km/h on Jan 19 02:00 Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 2 Median = 3 Q ₃ = 4 P ₉₀ = 6 P ₉₉ = 9																	Hours in Service: 744 Hours of Data: 742 Hours of Missing Data: 2 Hours of Calibration: 0 Percent Operational Time: 99.7								
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	2	1	2	2	2	1	3	1	2	1	1	2	3	2	2	1	0	1	2	2	2	2	1	1	3
2-Jan	1	1	1	1	1	1	2	2	1	2	1	1	1	1	1	1	1	1	1	2	2	1	2	2	2
3-Jan	2	2	2	2	2	2	1	2	3	2	1	2	1	2	3	3	3	8	4	3	6	6	2	2	8
4-Jan	2	2	3	3	3	3	4	4	3	2	3	3	3	3	2	3	2	2	2	2	1	1	1	2	4
5-Jan	2	1	2	2	4	4	2	4	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	4
6-Jan	1	3	2	2	3	4	2	4	3	3	4	4	6	6	6	2	3	3	3	3	2	2	1	1	6
7-Jan	2	2	2	3	5	2	3	1	2	2	3	2	3	1	2	3	3	6	5	6	6	8	3	3	8
8-Jan	5	3	5	6	6	5	6	6	6	5	2	4	6	9	6	3	4	4	5	4	5	6	4	5	9
9-Jan	4	4	5	3	3	3	4	4	3	3	2	2	1	2	2	2	2	3	5	5	3	4	4	7	7
10-Jan	5	4	5	7	5	5	9	2	1	2	2	2	6	2	5	2	4	4	5	5	4	4	3	6	9
11-Jan	7	4	4	4	3	2	2	2	2	3	3	3	2	3	2	2	2	1	1	2	2	1	2	3	7
12-Jan	2	3	2	3	3	3	4	4	3	5	4	3	3	3	3	3	4	3	3	3	4	2	5	1	5
13-Jan	2	2	2	2	2	5	4	5	3	4	3	3	3	5	3	3	2	2	5	4	6	3	4	2	6
14-Jan	4	6	3	2	4	2	3	2	2	4	2	3	6	9	3	3	2	2	2	2	2	2	4	5	9
15-Jan	7	5	7	6	5	3	5	6	4	7	4	3	3	4	2	3	2	3	3	5	4	1	3	2	7
16-Jan	1	3	5	3	3	2	3	4	3	6	5	5	4	5	6	6	6	6	6	7	7	7	6	8	8
17-Jan	6	5	5	4	4	5	2	3	4	2	3	5	3	3	4	2	1	1	2	3	4	3	2	2	6
18-Jan	2	2	2	1	3	2	2	2	1	1	1	1	1	2	1	2	1	1	1	1	2	1	2	1	3
19-Jan	1	0	2	1	2	3	1	3	UO	UO	2	3	1	2	1	1	3	1	1	3	2	1	1	2	3
20-Jan	2	3	3	3	2	2	2	3	3	4	4	4	6	3	3	3	2	2	2	3	7	3	4	6	7
21-Jan	5	3	4	2	3	5	5	3	5	2	4	4	4	4	5	4	5	5	5	4	3	2	1	2	5
22-Jan	1	1	1	2	2	1	1	2	2	1	1	1	2	5	3	1	2	3	4	3	2	2	3	5	5
23-Jan	7	4	4	4	6	5	4	4	6	3	4	3	6	5	6	5	5	4	6	6	4	5	8	5	8
24-Jan	7	5	6	8	11	12	10	6	9	6	7	6	6	5	5	3	3	2	2	4	2	5	4	12	12
25-Jan	5	4	3	3	6	2	1	1	3	3	5	5	4	2	5	3	2	3	3	3	4	2	4	3	6
26-Jan	2	3	3	4	4	4	2	3	3	6	7	3	4	3	2	4	6	11	10	5	3	2	3	2	11
27-Jan	2	5	4	5	2	4	2	5	6	3	2	2	4	4	8	4	4	3	6	3	7	6	7	7	8
28-Jan	7	7	6	5	6	7	6	8	6	7	7	6	9	6	9	8	4	2	2	2	1	3	2	4	9
29-Jan	4	3	4	5	3	2	2	1	2	1	6	6	5	4	3	4	3	4	4	4	4	4	4	4	6
30-Jan	5	4	5	3	4	3	3	3	3	2	2	2	3	2	3	2	1	1	1	1	1	2	1	2	5
31-Jan	2	2	2	2	2	2	1	2	1	2	2	2	3	3	2	2	2	2	2	2	3	3	3	2	3
Diurnal Maximum																									
UO - Unstable Operation																									



Wood Buffalo Environmental Association
Hourly Averages

Wind Speed 100m (WS100) - km/h
Lower Camp Met Tower - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 100m (WS100) - km/h
Lower Camp Met Tower - January 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	65	8.76	8.76
6 - 11	156	21.02	29.78
12 - 19	223	30.05	59.84
20 - 28	155	20.89	80.73
29 - 38	105	14.15	94.88
> 38	38	5.12	100.00

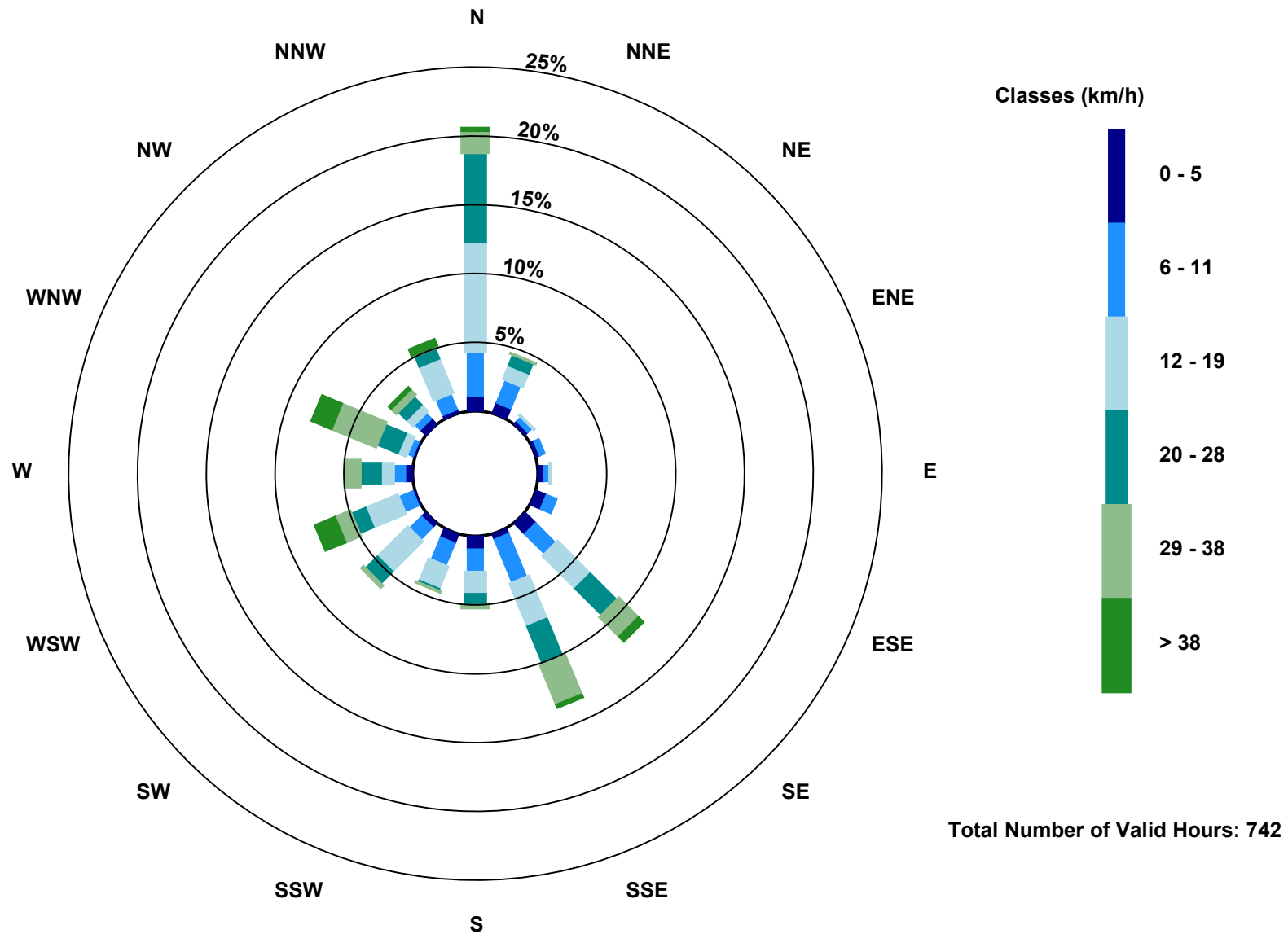
Total Number of Valid Hours: 742

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Wind Speed 100m (WS100) - km/h
Lower Camp Met Tower





Maximum Speed: 59 km/h on Jan 24 06:00	Maximum Daily Speed Average: 37.1 km/h on Jan 28	Hours in Service: 744
Minimum Speed Value: 1 km/h on Jan 29 07:00	Minimum Daily Speed Average: 3.1 km/h on Jan 2	Hours of Data: 715
Maximum Diurnal Speed Average: 9.8 km/h at hour 1	Minimum Diurnal Speed Average: 3.2 km/h at hour 7	Hours of Missing Data: 29
Monthly Average Velocity: 6.3 km/h 280.7 deg	Percentiles: P ₁ = 3 P ₁₀ = 9 Q ₁ = 14 Median = 21 Q ₃ = 29 P ₉₀ = 40 P ₉₉ = 53	Percent Operational Time: 96.1

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	NNE17	NNE19	NNE16	NNE15	N20	N20	N19	NNE15	NNE18	NNE17	NNE16	NNE15	N11	NNE9	NNE8	N6	NNE8	NNE11	NNE17	NNE22	NNE20	NNE18	N18	N16	NNE15.3	NNE22
2-Jan	NNE18	NNE13	N8	NNW7	NNW10	NNW7	N4	N3	W1	SW4	SSW4	S5	SSE6	SE8	SE8	SSE7	SE7	SE9	SSE10	S13	SSE11	S19	SSE20	SSE14	SE3.1	SSE20
3-Jan	SSE12	SSE14	SSE19	SSE20	SSE22	SSE17	SSE13	SE12	SSE17	SSE20	SE20	SE16	SE14	SSE15	SE21	SSE17	SE26	SE37	SE36	SE30	SE40	SE36	SE36	SE37	SE22.7	SE40
4-Jan	SE38	SE40	SE32	SE35	SE32	SE29	SE30	SE31	SE36	SE31	SE25	SE22	SE17	SE14	ESE9	SE9	SE9	ESE10	ESE10	SE11	ESE4	ENE4	NE7	NE8	SE19.6	SE40
5-Jan	N17	N19	N17	N16	N19	N21	N17	N16	N16	N14	N11	N15	N11	NNW10	N11	N13	NNE13	NNE10	NNE9	NNE5	NNW3	WNW1	SSW1	W4	N11.6	N21
6-Jan	SW4	SE10	SSE11	SSE11	SSE14	SSE16	SE20	SE23	SSE20	SSE21	SE20	SE18	SSE23	SSE23	S32	S34	S32	S38	S39	S34	S31	S29	S26	SSW22	SSE21.9	S39
7-Jan	S22	S20	S23	S26	S26	S22	S25	S25	S25	S31	S28	S28	S26	SSW20	SSW20	SW20	SSW25	SSW24	SSW28	SW43	SW49	SW26	SSW10	SSW20	SSW23.8	SW49
8-Jan	WSW39	W49	W42	WNW28	W25	W25	WNW26	WNW38	WNW29	W26	W31	WNW30	WNW31	NW33	NW26	NW26	NW38	WNW31	WNW36	WNW37	WNW36	WNW42	WNW41	WNW41	WNW31.9	W49
9-Jan	WNW42	WNW44	NNW29	N25	N24	N23	NNE23	NNE17	NNE12	NNE10	NNE7	NNE4	E3	SE7	S9	S11	SSE11	SSE12	SE21	SE20	SE21	SE21	SE34	SE28	NE3.3	WNW44
10-Jan	SSE36	SE46	SE44	SSE36	SSE22	SSE18	SSE19	SSW7	S3	SSW7	S6	SW10	NNW7	N11	N20	N24	N26	N25	N29	N34	N30	N25	N21	N25	ENE5.7	SE46
11-Jan	N26	N23	NNE22	N19	N20	N18	N12	N12	N18	N15	N14	N17	N15	NNE14	NNE12	NNE9	NNE6	N4	SE1	S6	SSW10	SSW11	UO	UO	N11.2	N26
12-Jan	UO	UO	UO	UO	UO	UO	S21	SSE22	SSE16	SSE19	SSE16	SSE18	SSE24	SSE21	S30	SSE28	S28	S21	SSE10	S9	UO	UO	UO	UO	---	S30
13-Jan	UO	UO	UO	SSE21	SSE17	SSE15	SSE15	SSE16	UO	UO	UO	S13	S17	SSE23	SSE22	S16	SSW20	SW22	WSW32	WSW32	W32	W37	W35	W29	SW16.1	W37
14-Jan	WSW26	WSW29	WSW23	SW22	SSW15	SSW18	SSW18	SSW21	S25	S30	S28	SSW28	WSW27	WSW30	W48	W53	W47	W47	W48	W48	W48	W46	W40	W45	WSW29.5	W53
15-Jan	WNW42	WNW43	NW45	NW41	WNW40	WNW36	WNW42	WNW37	NW24	NW21	NW11	WNW16	W21	WNW25	WNW11	WNW7	WSW5	WSW13	W22	W20	NNW17	NNE11	NNE15	ENE17	WNW21.2	NW45
16-Jan	ENE12	ENE11	ENE12	ENE11	ESE18	E12	E16	E12	ENE13	NE23	NE27	NNE24	NNE30	NNE37	NNE41	NNE40	NNE39	N37	N34	N30	N38	N46	N40	N44	NNE23.1	N46
17-Jan	N37	N36	N26	N25	N28	N22	N14	NNE13	NNE18	N13	N12	N15	N16	N18	N22	N20	N20	N17	N18	N27	N29	NNE22	N23	NNE23	N21.2	N37
18-Jan	NNE19	NNE18	NNE10	NE6	SSE1	SSW12	SW12	SW13	SW15	SW16	SW15	WSW17	SW10	SSW6	SSE6	S7	SSE8	S7	S6	S5	SW5	SW4	W6	NW10	SW4.3	NNE19
19-Jan	NW13	NNW13	NNW15	NNW15	NNE16	NNE24	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	SSE11	SSE17	S23	S20	SSW15	S17	SSW21	---	NNE24
20-Jan	S22	SSE26	S28	S36	S38	S39	SSE37	SSE40	SSE39	SSE38	S55	SSE52	SSE47	S43	S33	SSW27	SSW21	SSW22	SSW20	SW20	WSW32	WSW40	W37	W47	S28.7	S55
21-Jan	W48	W50	W44	W39	W44	W42	W30	W40	W37	W37	W31	NW22	N26	N27	NNE28	N30	N32	N27	N24	N23	N23	N16	N17	N12	WNW21.3	W50
22-Jan	N4	SSE3	SSW10	SW12	W14	NNW12	N11	NNE13	NNE11	NNE4	SSW5	WSW12	WSW16	W21	WSW18	SW17	SW20	SSW24	SSW25	SSW25	SSW24	S26	S27	SSE29	SW9.9	SSE29
23-Jan	S40	S39	SSW42	SSW37	SW28	WSW19	WSW16	WSW16	SW24	WSW23	SW19	WSW19	W22	W30	WNW38	WNW38	NW39	NW37	WNW34	WNW35	W35	W35	WNW40	WNW47	W23.6	WNW47
24-Jan	WNW46	WNW48	WNW42	NNW54	NNW54	NNW59	NNW52	N45	N44	NNW35	NW30	NNW30	NNW32	NNW22	NNW18	NW19	NW13	W12	W14	W13	NW19	NW20	WNW20	W23	NW28.7	NNW59
25-Jan	WSW24	WSW21	WSW18	SW20	SW13	SW11	SW13	SW15	SW18	WSW23	WSW27	WSW24	WSW25	WSW27	W16	WNW13	NW12	WNW19	W18	W13	WSW13	WSW18	SW20	SW19	WSW16.9	WSW27
26-Jan	SW20	SW21	SW19	SW21	WSW32	WSW29	WSW30	WSW26	WSW25	WSW24	WSW23	SW21	SW20	SW18	SW13	WSW17	W18	WNW32	WNW32	WNW21	WNW25	WNW21	WNW19	WNW17	WSW19.8	WNW32
27-Jan	WNW17	W19	W22	W18	W15	W16	W17	WSW18	WSW21	SW19	SW17	SW16	SW20	WSW23	WSW33	SW34	SW34	WSW35	W23	WNW27	NW41	NW49	NW52	NW51	W22.9	NW52
28-Jan	WNW53	WNW53	WNW53	WNW52	WNW48	WNW41	WNW34	WNW41	WNW48	WNW46	WNW44	NW43	NW44	WNW33	WNW45	NW37	NW25	NW23	NW23	NW22	NW21	WNW20	WNW23	WNW26	WNW37.1	WNW53
29-Jan	WNW23	WNW17	W16	W14	NW10	NNW7	NNE1	ESE2	SW5	WSW4	NNE13	NNE25	NNE28	NNE24	NNE25	NNE28	N27	N29	N29	N29	N29	N30	N28	N25	N16.2	N30
30-Jan	NNE29	NNE23	NNE23	NNE25	N21	NNE27	NNE22	NNE22	N14	NNE14	N15	N10	N10	N12	NNE11	NNE8	NE12	NE13	NE15	NE12	ENE12	ENE10	NE10	NNE7	NNE15.2	NNE29
31-Jan	NNE12	NE16	ENE13	ENE14	ENE10	ENE9	NE18	NE23	NNE18	NNE20	N16	N15	N16	N16	N16	N19	NNE21	NNE24	NNE23	NNE20	NNE20	N20	N20	N20	NNE16.5	NNE24

WNW9.8	W9.0	W7.8	W6.2	W5.8	NNW5.4	W3.2	W3.6	W4.1	WSW4.8	WSW4.9	W5.0	W4.7	WNW4.8	NNW5.7	NNW6.4	NNW5.7	NNW6.2	NNW6.4	NNW7.2	NNW9.3	NNW9.5	NNW8.7	NNW9.7		Diurnal Average
WNW53	WNW53	WNW53	NNW54	NNW54	NNW59	NNW52	N45	WNW48	WNW46	S55	SSE52	SSE47	S43	W48	W53	W47	W47	W48	W48	SW49	NW49	NW52	NW51		Diurnal Maximum

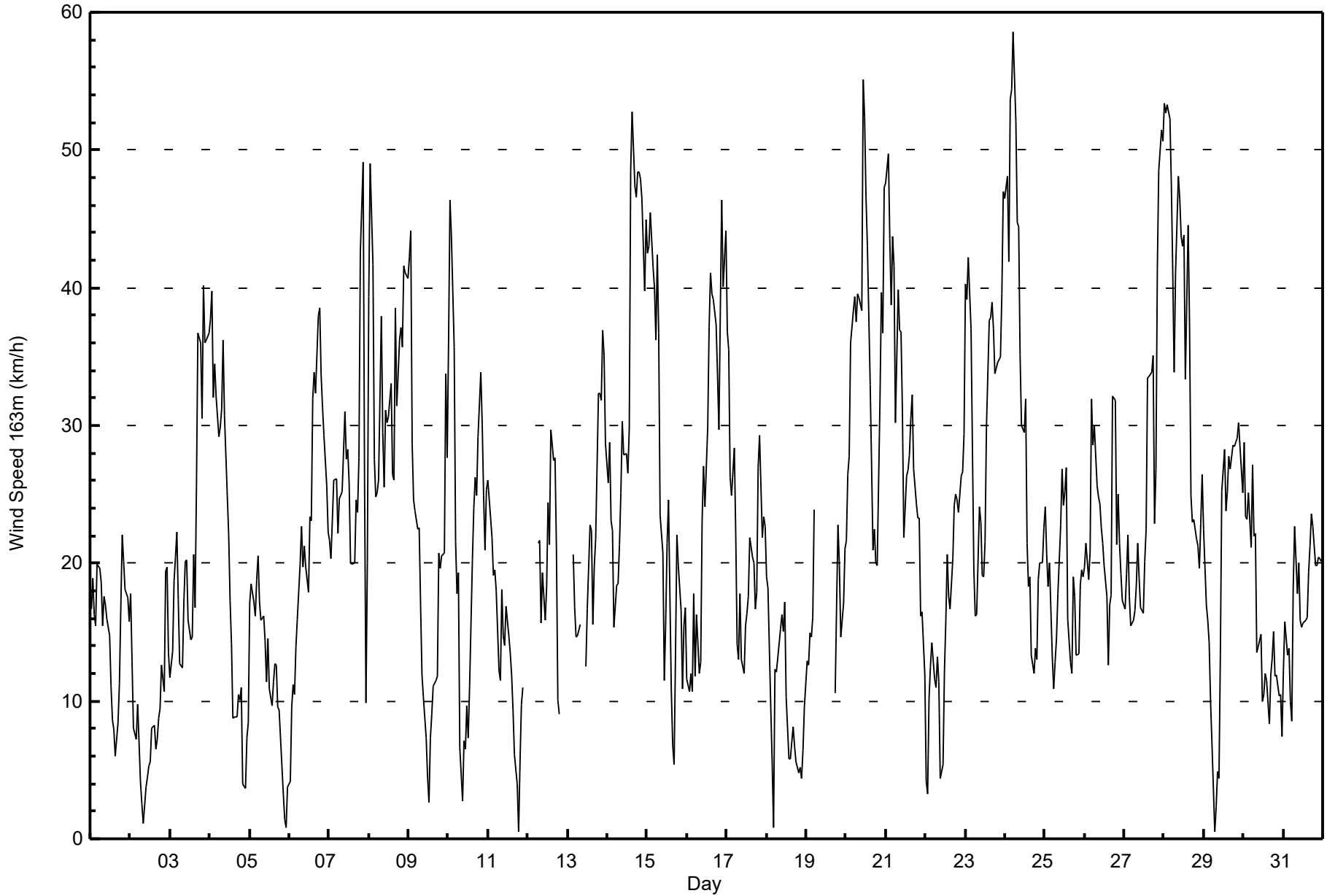
UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Speed 163m (WS163) - km/h
Lower Camp Met Tower - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 12 km/h on Jan 7 22:00 Minimum Value: 0 km/h on Jan 2 09:00 Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 2 Median = 3 Q ₃ = 4 P ₉₀ = 6 P ₉₉ = 9																		Hours in Service: 744 Hours of Data: 715 Hours of Missing Data: 29 Hours of Calibration: 0 Percent Operational Time: 96.1							
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	1	1	2	3	2	1	3	2	2	2	2	3	3	2	1	1	1	2	1	3	1	1	2	3	
2-Jan	1	1	1	1	1	2	1	1	0	1	1	1	1	1	2	1	1	1	1	2	2	4	2	4	
3-Jan	2	2	3	2	2	2	2	1	3	2	3	2	2	3	2	3	3	5	4	5	5	3	3	5	
4-Jan	3	3	5	3	3	2	2	3	2	3	2	3	3	2	3	3	2	2	2	2	1	2	2	5	
5-Jan	3	1	2	2	3	4	3	4	2	2	1	2	2	2	1	2	3	2	2	2	1	1	1	4	
6-Jan	1	3	2	2	3	3	3	3	3	3	3	4	4	6	3	2	2	3	2	2	2	1	2	1	6
7-Jan	2	2	2	2	3	2	2	2	3	3	3	3	3	3	4	3	10	6	5	5	12	3	6	12	
8-Jan	4	2	6	6	8	6	7	7	6	3	2	3	6	10	6	4	4	4	4	5	5	3	3	10	
9-Jan	3	3	6	3	4	3	4	5	3	3	2	1	1	2	3	2	2	3	4	3	2	4	4	7	7
10-Jan	4	5	5	7	5	4	6	2	2	2	2	2	5	2	4	2	3	5	6	5	5	5	6	7	7
11-Jan	7	4	3	4	2	3	3	2	2	3	3	2	2	3	4	3	3	5	4	3	2	2	UO	UO	7
12-Jan	UO	UO	UO	UO	UO	UO	4	4	5	7	4	5	6	5	3	5	5	5	2	3	UO	UO	UO	UO	7
13-Jan	UO	UO	UO	4	5	4	3	4	UO	UO	UO	4	4	5	4	2	2	4	3	1	3	2	2	5	5
14-Jan	4	4	3	2	2	2	1	2	2	3	3	3	6	8	3	2	2	3	2	2	2	3	5	8	
15-Jan	6	4	7	6	4	2	3	5	5	7	4	4	2	3	4	2	1	4	2	4	2	2	3	7	7
16-Jan	3	3	5	4	4	3	5	5	4	7	6	6	5	6	6	7	6	6	7	6	7	7	6	7	7
17-Jan	6	6	5	4	5	5	3	3	4	2	3	4	2	3	3	2	1	2	3	4	4	4	3	3	6
18-Jan	2	2	2	2	2	3	2	2	1	1	2	3	2	2	2	1	1	1	2	1	1	1	1	3	3
19-Jan	1	1	1	1	3	3	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	2	2	1	3	1	2	1	3
20-Jan	2	3	2	3	3	2	3	4	5	5	1	6	3	4	2	3	2	2	2	3	6	3	4	4	6
21-Jan	3	2	5	2	3	3	5	2	4	2	3	4	5	4	5	5	5	5	5	4	3	2	2	5	5
22-Jan	2	2	2	1	1	2	1	1	2	3	3	1	2	4	3	1	2	1	3	2	2	1	2	6	6
23-Jan	7	2	2	3	5	5	4	4	5	3	3	3	6	4	6	5	5	3	6	6	5	6	8	4	8
24-Jan	6	4	5	8	9	11	10	6	8	6	7	5	6	5	5	3	3	2	2	3	4	2	5	3	11
25-Jan	4	2	3	3	6	2	2	2	2	4	2	3	3	2	2	3	5	4	2	3	4	2	3	3	6
26-Jan	2	3	2	5	3	4	2	2	3	6	6	3	3	3	2	3	3	10	10	3	2	3	3	2	10
27-Jan	3	2	2	4	3	4	4	7	3	3	2	3	3	4	6	4	4	4	5	4	7	7	8	7	8
28-Jan	8	5	4	4	5	7	6	7	5	6	8	7	9	6	8	8	5	2	2	2	2	2	4	3	9
29-Jan	4	2	4	5	4	2	1	1	4	2	8	6	6	5	3	4	4	4	4	4	4	4	4	5	8
30-Jan	5	3	5	4	4	2	2	5	4	2	3	2	2	2	3	3	2	1	2	1	2	2	2	1	5
31-Jan	2	2	1	3	1	2	3	2	2	1	3	2	2	3	3	3	3	3	3	3	3	3	3	2	3
Diurnal Maximum																									
UO - Unstable Operation																									





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Wind Speed 163m (WS163) - km/h
Lower Camp Met Tower - January 2025**

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	32	4.48	4.48
6 - 11	88	12.31	16.78
12 - 19	195	27.27	44.06
20 - 28	208	29.09	73.15
29 - 38	107	14.97	88.11
> 38	85	11.89	100.00

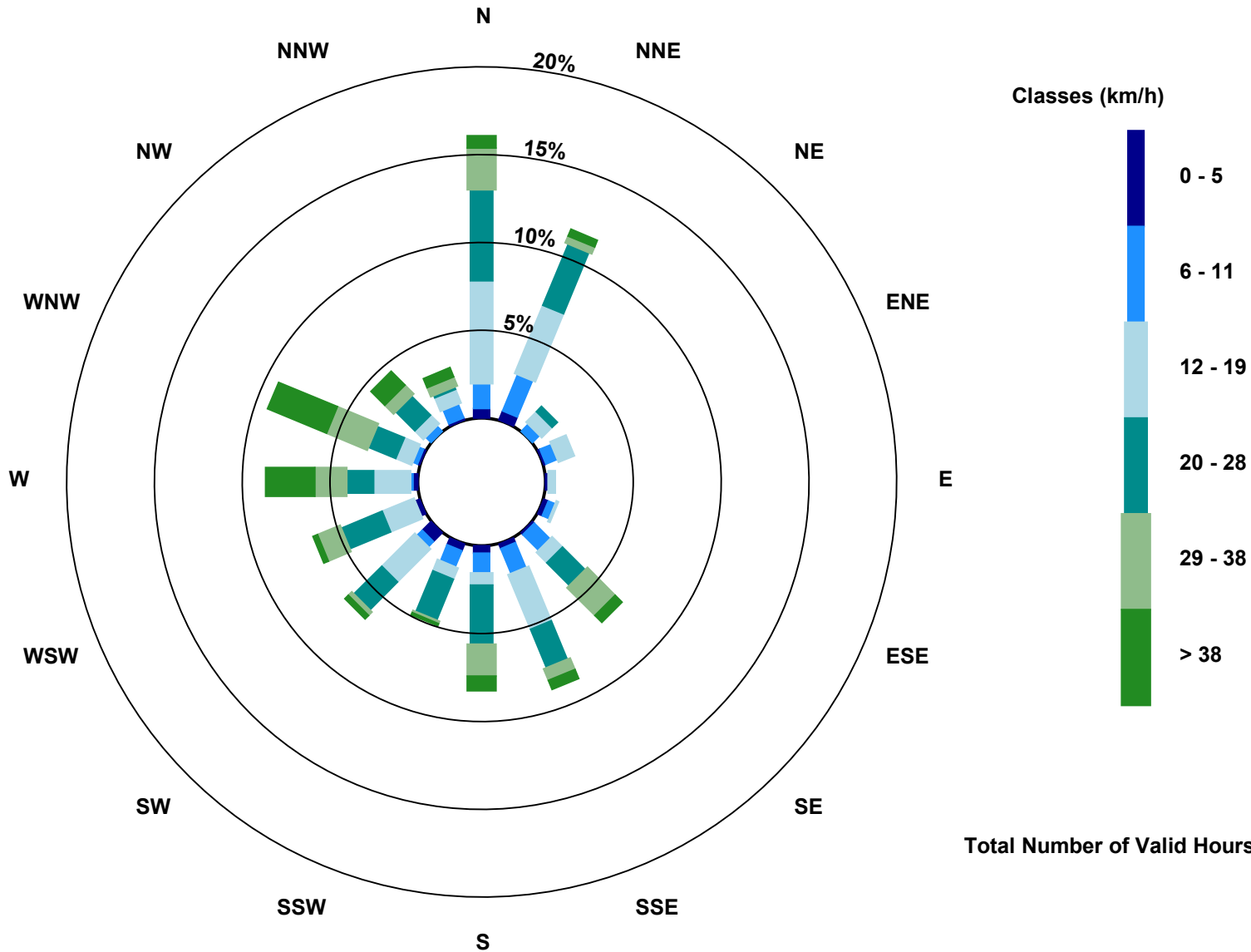
Total Number of Valid Hours: 715

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Wind Speed 163m (WS163) - km/h
Lower Camp Met Tower





Wood Buffalo Environmental Association
Summary of Hour Averages

Wind Direction 20m (WD20) - deg
Lower Camp Met Tower - January 2025

Direction of Maximum Speed: 255 deg on Jan 21 02:00	Hours in Service: 744
Direction of Maximum Daily Speed Average: 133.9 deg on Jan 7	Hours of Data: 744
Direction of Minimum Speed: 249 deg on Jan 22 06:00	Hours of Missing Data: 0
Direction of Minimum Daily Speed Average: 1.2 deg on Jan 2	Percent Operational Time: 100.0
Monthly Average Direction: 241.6 deg	

Day	Hourly Period Ending At (MST)																								Daily Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	336	344	339	317	340	348	349	340	341	340	345	359	353	346	341	301	1	301	324	305	339	333	303	318	339.5
2-Jan	320	323	313	319	330	325	319	321	303	334	289	214	134	8	345	331	317	331	307	324	310	167	142	158	318.3
3-Jan	178	176	140	143	139	139	135	136	131	141	141	140	137	137	149	139	166	94	141	138	130	128	128	124	135.1
4-Jan	122	126	132	127	130	133	133	134	133	135	132	142	140	129	108	112	88	45	56	121	349	350	346	341	127.3
5-Jan	338	345	352	349	358	354	349	352	344	350	354	353	348	339	339	345	2	10	16	25	311	338	54	40	351.2
6-Jan	69	116	149	160	147	146	139	146	146	151	144	145	168	162	158	163	160	136	139	139	140	135	134	133	145.8
7-Jan	131	126	129	129	128	126	130	130	129	129	131	130	132	132	132	127	122	120	132	176	216	162	130	123	133.9
8-Jan	205	253	254	264	226	229	258	270	257	228	239	252	296	315	324	307	294	298	307	303	301	281	289	289	274.0
9-Jan	284	287	341	354	1	4	7	4	358	9	8	332	230	139	160	168	158	144	137	134	86	354	120	142	1.5
10-Jan	129	124	126	126	149	130	131	119	248	243	137	122	6	319	345	345	346	345	356	358	354	358	359	2	36.7
11-Jan	4	356	0	355	342	356	352	349	349	342	352	353	350	11	22	35	21	34	154	146	132	191	185	195	357.5
12-Jan	172	167	172	163	142	131	140	138	140	141	134	141	128	127	136	138	131	111	134	138	128	124	133	134	141.3
13-Jan	138	137	136	134	136	135	134	127	131	133	135	136	130	124	143	131	135	133	128	121	125	128	122	129	131.4
14-Jan	125	127	129	128	128	128	133	132	130	128	121	131	116	141	255	258	254	251	252	252	251	251	246	260	187.8
15-Jan	271	287	305	294	288	259	268	273	322	342	232	246	261	288	243	165	207	176	257	306	268	316	345	345	282.0
16-Jan	351	343	353	342	5	353	9	349	347	2	13	353	356	0	5	5	359	356	354	343	347	344	345	349	354.4
17-Jan	352	351	337	328	349	357	356	353	359	335	340	342	349	343	340	340	330	325	323	319	324	321	306	333	341.8
18-Jan	342	287	311	339	222	236	146	138	137	135	131	132	131	125	137	117	155	264	327	309	334	327	325	324	134.3
19-Jan	334	329	327	328	323	326	301	310	339	317	338	330	293	275	278	155	143	122	124	134	140	137	139	137	132.2
20-Jan	134	130	133	123	129	132	131	135	137	140	131	126	123	129	131	130	128	131	131	132	156	257	260	268	138.0
21-Jan	262	255	250	250	255	263	251	249	251	251	252	340	347	349	10	7	1	350	356	344	344	319	322	274	292.9
22-Jan	213	145	131	127	118	249	72	30	123	132	125	127	128	238	233	181	169	131	105	132	132	131	128	80	137.8
23-Jan	131	126	142	144	109	108	135	132	160	224	210	211	176	273	292	302	307	303	298	287	260	260	283	290	246.8
24-Jan	288	288	292	321	323	329	340	348	340	327	316	325	331	343	331	309	287	237	98	126	111	109	218	233	320.1
25-Jan	251	224	205	184	167	126	128	137	136	127	207	154	222	234	227	123	130	231	253	163	160	212	160	135	180.1
26-Jan	134	129	132	135	208	198	224	218	216	221	225	208	206	179	122	129	283	289	319	279	266	250	215	201	187.6
27-Jan	187	243	276	252	247	247	247	161	159	128	131	126	131	132	188	218	215	230	234	250	288	301	306	304	234.2
28-Jan	298	292	290	291	292	292	305	297	297	298	300	302	306	295	292	303	304	299	293	303	278	248	247	252	292.2
29-Jan	278	274	273	268	267	232	221	222	242	266	339	6	9	2	357	1	351	351	355	349	354	1	360	357	347.7
30-Jan	8	13	8	360	3	1	22	349	325	333	341	341	343	343	360	350	7	355	349	324	323	321	304	304	351.9
31-Jan	324	322	323	320	323	314	313	336	342	330	326	330	340	346	348	348	347	340	344	347	344	343	339	339	338.7

253.2 258.1 201.3 169.7 280.3 59.2 133.7 152.3 158.7 171.7 167.7 117.9 45.8 353.7 333.0 334.0 334.2 328.6 34.1 240.0 270.8 267.0 263.7 287.8
 Diurnal Average

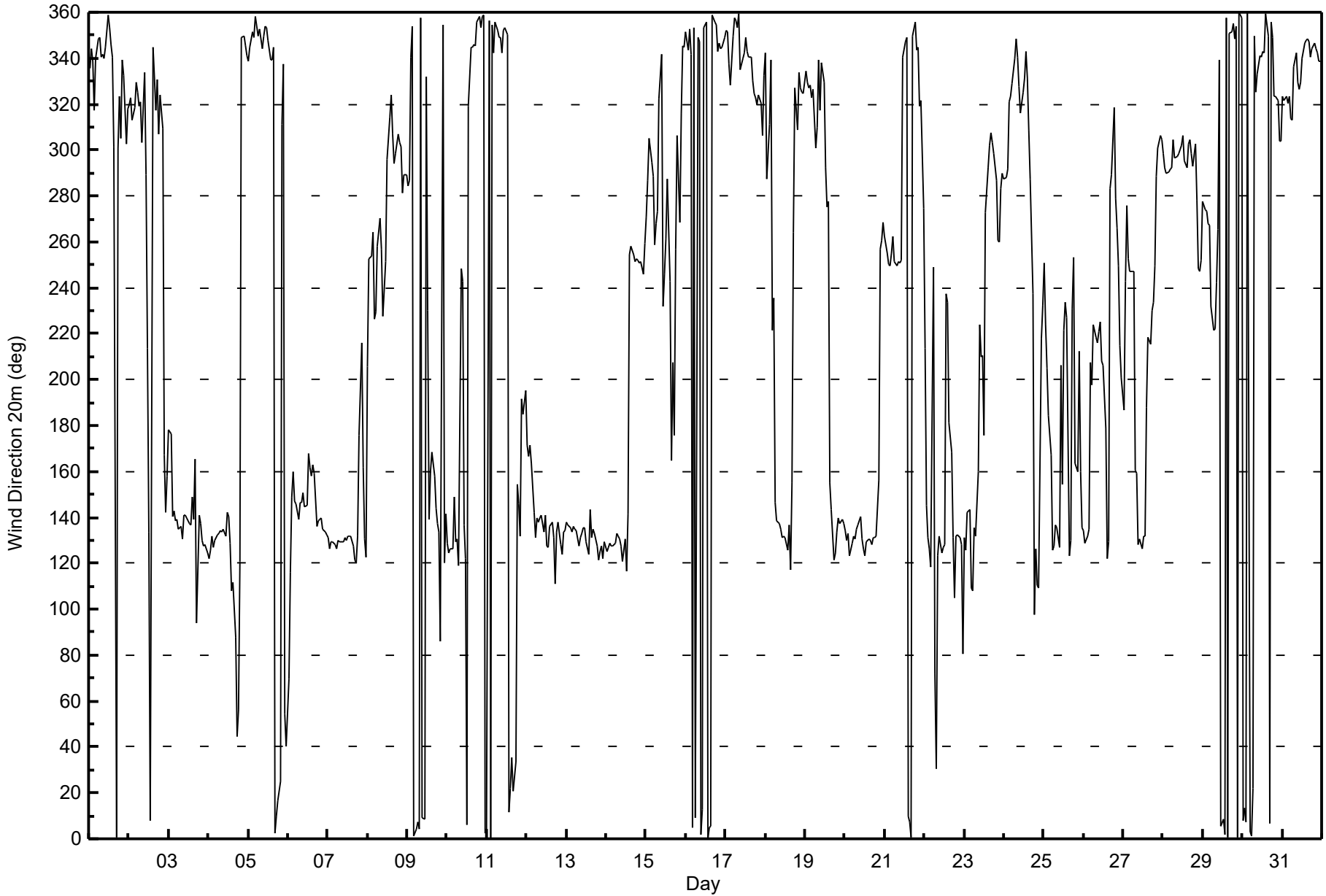
All monthly, daily, and diurnal averages have been calculated using vector methods



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Direction 20m (WD20) - deg
Lower Camp Met Tower - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 103 deg on Jan 22 08:00																	Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0								
Minimum Value: 3 deg on Jan 14 04:00																									
Percentiles: P ₁ = 5 P ₁₀ = 9 Q ₁ = 14 Median = 17 Q ₃ = 26 P ₉₀ = 52 P ₉₉ = 92																									
Day	Hourly Period Ending At (MST)																							Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		24
1-Jan	19	12	16	28	22	8	13	18	16	17	14	15	20	16	16	31	48	25	22	25	31	18	15	19	48
2-Jan	15	20	14	17	14	20	22	39	41	76	82	92	57	60	19	25	29	25	26	25	58	32	12	22	92
3-Jan	45	69	62	11	12	10	6	7	10	14	9	9	11	18	37	74	47	74	26	8	19	20	20	17	74
4-Jan	17	20	20	20	20	18	19	16	14	18	24	15	17	24	31	69	64	45	53	62	23	22	20	33	69
5-Jan	16	14	16	18	19	17	17	18	15	18	20	17	17	17	21	16	24	20	23	36	23	38	57	31	57
6-Jan	36	19	15	14	18	11	13	16	13	11	17	18	14	12	13	7	11	7	7	7	6	4	5	6	36
7-Jan	9	13	17	15	12	11	12	8	7	9	11	8	12	7	9	9	5	60	9	32	11	45	9	11	60
8-Jan	48	14	14	29	29	26	22	18	15	9	9	13	32	24	20	12	15	19	19	14	15	16	16	17	48
9-Jan	15	16	26	15	21	19	18	19	19	21	36	26	95	16	20	24	15	17	19	65	100	88	73	59	100
10-Jan	15	13	15	18	21	19	64	69	19	25	52	28	53	26	16	13	15	16	20	17	14	17	18	19	69
11-Jan	18	18	18	19	14	16	17	19	15	19	16	17	17	21	22	28	38	90	28	59	21	13	14	18	90
12-Jan	11	9	7	13	12	16	12	20	28	19	22	15	26	26	8	26	27	24	11	7	9	14	10	7	28
13-Jan	6	6	7	10	7	9	14	38	19	13	15	47	13	40	40	12	15	10	9	9	11	37	11	47	
14-Jan	6	9	4	3	3	6	8	7	13	17	11	8	21	61	16	15	14	13	12	12	12	13	10	14	61
15-Jan	16	16	17	21	17	16	16	30	20	51	66	28	23	21	27	73	89	38	58	58	44	33	17	14	89
16-Jan	11	11	17	27	16	12	21	17	27	21	21	21	17	16	17	17	16	16	17	16	17	15	16	18	27
17-Jan	16	17	19	19	15	19	19	14	23	24	20	18	14	16	17	17	15	12	12	13	12	17	30	18	30
18-Jan	14	36	51	69	97	29	32	8	8	8	7	9	8	12	11	18	58	76	86	59	87	40	29	17	97
19-Jan	20	30	17	20	24	27	22	74	86	45	35	22	86	62	92	23	18	12	10	34	7	6	8	8	92
20-Jan	9	25	10	9	10	11	13	10	11	9	8	12	21	7	5	4	5	4	5	5	40	18	18	20	40
21-Jan	17	13	11	12	13	16	16	12	18	11	17	26	17	18	16	18	17	17	17	17	15	14	18	31	31
22-Jan	40	43	8	10	26	93	79	103	35	30	14	10	8	56	19	20	20	14	19	8	7	7	14	55	103
23-Jan	37	17	14	13	23	51	31	25	34	14	21	14	48	23	17	15	15	14	15	21	19	17	19	17	51
24-Jan	17	15	18	16	17	17	17	15	14	19	20	21	18	16	19	19	45	73	75	36	59	37	61	56	75
25-Jan	54	35	21	35	65	9	7	26	13	8	35	30	22	11	37	64	39	36	41	60	20	12	20	7	65
26-Jan	6	6	4	6	36	29	11	13	11	20	24	17	17	30	11	69	53	80	92	59	31	71	96	59	96
27-Jan	53	50	74	59	47	74	38	45	62	23	7	10	14	9	49	12	10	11	22	15	23	15	16	15	74
28-Jan	17	17	16	16	17	21	18	17	17	18	18	15	16	18	17	20	16	16	20	25	16	16	13	18	25
29-Jan	72	27	80	43	58	14	15	30	42	28	33	21	19	18	17	18	14	15	17	16	16	17	17	16	80
30-Jan	18	19	18	17	16	15	20	20	19	19	17	20	19	15	22	19	13	16	34	31	37	31	16	16	37
31-Jan	33	25	20	22	20	22	27	22	16	19	22	17	18	15	15	14	18	17	18	17	14	19	18	17	33
	72	69	80	69	97	93	79	103	86	76	82	92	95	62	92	74	89	90	92	65	100	88	96	59	
	Diurnal Maximum																								





Wood Buffalo Environmental Association
Summary of Hour Averages

Wind Direction 45m (WD45) - deg
Lower Camp Met Tower - January 2025

Direction of Maximum Speed: 329 deg on Jan 24 06:00		Hours in Service:	744
Direction of Maximum Daily Speed Average: 291.0 deg on Jan 28		Hours of Data:	744
Direction of Minimum Speed: 348 deg on Jan 2 20:00		Hours of Missing Data:	0
Direction of Minimum Daily Speed Average: 0.7 deg on Jan 2		Percent Operational Time:	100.0
Monthly Average Direction: 303.5 deg			

Day	Hourly Period Ending At (MST)																								Daily Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	338	351	346	340	346	344	349	344	338	332	348	1	359	352	344	337	1	330	307	339	344	323	328	336	344.3
2-Jan	331	326	323	333	329	328	311	286	321	230	127	135	127	74	72	40	105	283	97	348	131	133	124	133	4.0
3-Jan	123	137	132	129	127	123	125	122	120	130	127	128	119	128	121	124	137	124	131	131	124	123	122	122	125.5
4-Jan	123	123	125	122	126	126	128	128	131	129	127	136	131	125	107	102	102	61	75	118	22	10	352	351	122.4
5-Jan	338	348	354	352	358	355	354	355	348	354	355	356	351	340	342	349	5	9	14	31	315	329	47	23	353.4
6-Jan	70	117	144	159	148	142	135	137	137	142	137	138	166	162	159	159	159	140	144	145	147	142	139	139	145.8
7-Jan	135	125	128	132	134	128	127	133	135	136	130	134	129	134	137	133	143	119	138	192	219	170	126	134	137.8
8-Jan	242	251	251	267	239	235	260	273	271	226	236	252	295	314	323	309	295	297	302	299	297	281	288	288	274.9
9-Jan	285	287	340	356	1	4	7	5	359	13	7	338	72	134	163	165	154	144	131	124	113	157	123	133	9.1
10-Jan	128	126	127	124	137	127	127	119	244	245	128	126	3	324	347	347	348	348	359	359	356	359	358	2	40.8
11-Jan	4	358	1	356	346	357	358	353	351	347	353	356	351	10	20	37	23	12	132	155	160	197	186	197	358.8
12-Jan	172	166	170	163	143	133	140	140	135	135	129	138	128	130	138	136	132	119	122	128	126	123	121	127	138.5
13-Jan	128	127	130	125	128	129	127	130	126	126	126	128	122	124	139	133	139	130	143	131	155	177	211	181	134.1
14-Jan	157	168	130	144	131	126	131	129	125	126	123	140	150	215	252	254	251	250	250	249	247	248	242	260	208.6
15-Jan	271	287	305	296	287	271	273	275	318	333	281	255	261	289	253	215	193	203	231	294	310	322	332	350	284.9
16-Jan	346	346	5	15	27	6	35	5	5	9	16	358	0	1	6	6	360	358	356	346	349	346	347	350	358.6
17-Jan	355	355	342	332	353	360	358	355	0	341	345	344	349	346	342	345	337	328	330	337	337	336	332	341	345.8
18-Jan	342	346	300	236	197	141	131	125	124	123	127	122	117	121	126	121	84	360	319	299	225	207	259	323	119.4
19-Jan	300	327	303	326	315	325	342	296	308	331	302	283	259	277	300	160	129	124	125	128	128	127	126	126	122.6
20-Jan	121	123	126	126	120	124	124	127	128	129	134	125	127	141	144	151	159	156	138	140	209	254	257	265	144.3
21-Jan	259	252	248	249	255	261	260	247	251	250	251	334	350	351	8	5	1	352	357	346	346	325	328	298	294.2
22-Jan	237	167	133	126	119	85	134	151	136	139	129	124	136	250	236	195	184	144	121	132	132	130	124	110	142.9
23-Jan	139	134	147	157	138	171	176	174	191	228	215	220	228	273	291	300	308	303	298	287	258	260	283	289	252.3
24-Jan	287	287	291	322	325	329	340	351	342	330	317	325	333	340	330	311	302	232	196	171	22	333	263	239	318.8
25-Jan	246	231	216	211	178	137	145	147	153	143	220	187	222	234	227	193	122	241	254	199	188	217	178	152	198.3
26-Jan	157	145	152	146	223	220	229	223	221	224	226	213	212	190	127	175	251	287	298	281	262	241	233	234	213.1
27-Jan	234	246	255	257	242	256	242	194	191	144	136	134	150	139	212	218	217	231	238	248	289	300	305	302	246.5
28-Jan	296	292	289	289	290	292	302	295	295	294	297	302	305	295	292	303	307	299	295	295	282	255	246	252	291.0
29-Jan	281	284	282	260	277	218	225	199	223	244	341	7	9	3	360	2	353	355	357	352	356	0	0	359	351.0
30-Jan	7	10	5	1	3	2	23	357	333	334	345	340	347	347	3	355	15	8	6	349	344	337	341	334	357.4
31-Jan	344	351	338	340	342	348	345	340	336	336	333	332	344	350	351	352	351	346	349	351	349	348	344	344	345.4

283.9 274.0 248.7 283.9 324.5 8.0 83.6 144.5 150.6 169.3 164.6 84.2 0.6 340.2 327.8 325.7 323.9 320.0 337.9 293.4 289.7 276.9 284.9 297.2
 Diurnal Average

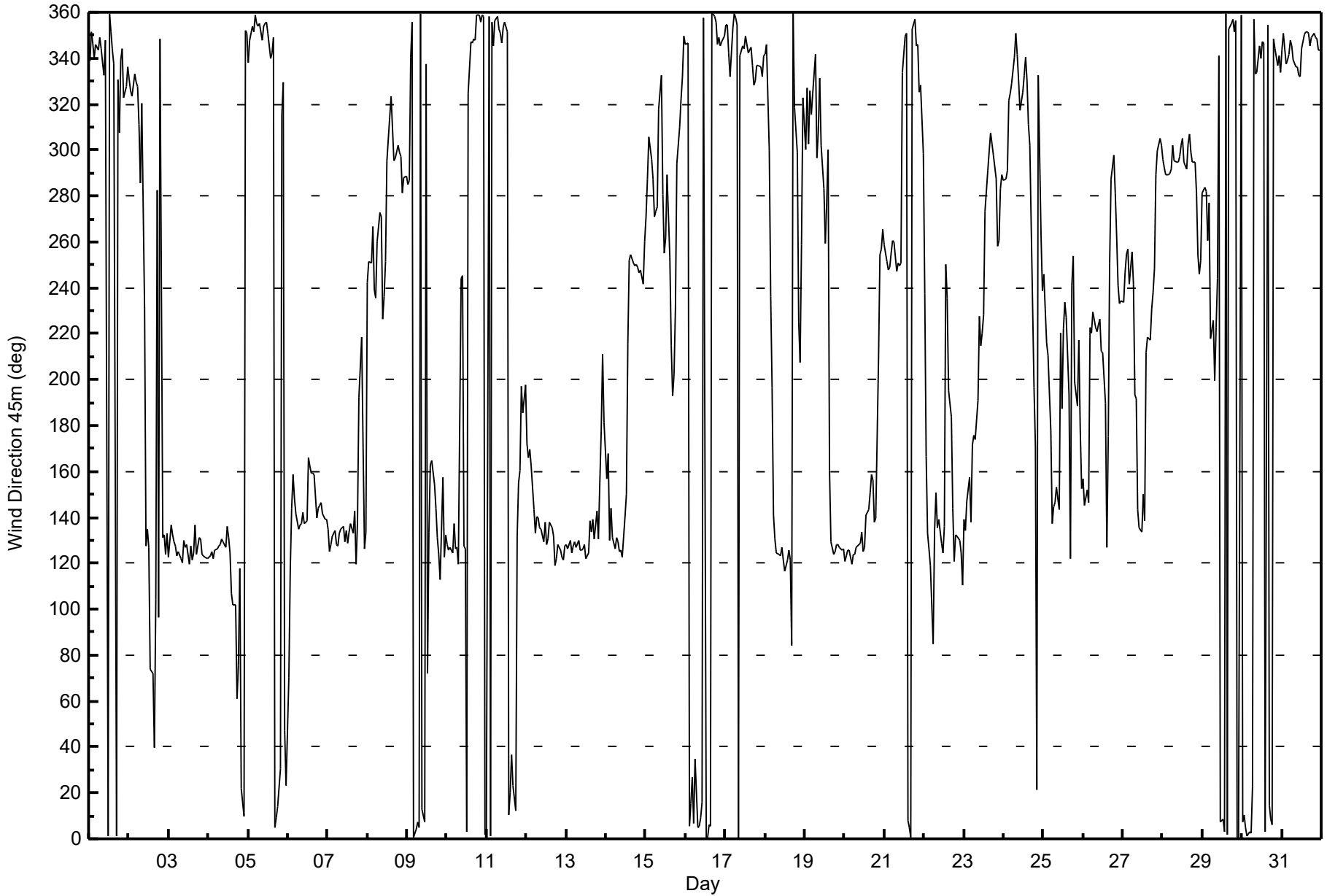
All monthly, daily, and diurnal averages have been calculated using vector methods



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Direction 45m (WD45) - deg
Lower Camp Met Tower - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 88 deg on Jan 15 16:00 Minimum Value: 3 deg on Jan 20 00:00 Percentiles: P ₁ = 4 P ₁₀ = 6 Q ₁ = 9 Median = 11 Q ₃ = 18 P ₉₀ = 36 P ₉₉ = 76		Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0																								
Day	Hourly Period Ending At (MST)																								Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	7	6	10	12	7	5	9	8	9	9	8	8	13	9	10	14	23	32	19	11	12	22	25	13	32	
2-Jan	17	13	15	5	4	18	36	32	25	44	40	12	31	27	27	28	64	62	77	87	80	13	10	9	87	
3-Jan	15	12	13	7	9	8	4	5	7	8	8	6	10	7	12	18	55	26	9	5	7	8	7	6	55	
4-Jan	6	7	9	8	8	10	10	9	5	8	10	10	13	17	22	36	55	33	39	39	58	19	16	24	58	
5-Jan	11	8	8	10	9	7	10	10	8	10	12	10	9	12	12	9	15	12	14	26	14	28	38	27	38	
6-Jan	30	15	12	14	16	10	9	13	9	9	13	16	14	11	11	6	8	7	7	7	6	6	6	4	30	
7-Jan	7	4	5	5	13	8	3	4	5	7	5	4	5	6	12	11	15	31	17	20	10	45	4	17	45	
8-Jan	30	7	7	25	23	11	17	16	13	7	4	8	24	21	15	8	9	13	13	8	11	11	9	11	30	
9-Jan	8	9	25	8	10	11	11	11	13	12	26	17	83	14	20	24	14	13	14	25	36	60	18	29	83	
10-Jan	7	4	7	9	16	9	57	53	21	23	49	30	45	15	11	8	9	9	12	9	8	9	11	10	57	
11-Jan	9	10	11	13	8	8	11	14	8	11	9	11	10	14	12	16	26	36	26	50	24	11	12	15	50	
12-Jan	11	8	6	11	9	10	8	14	17	17	16	12	15	17	5	12	11	14	8	5	8	7	7	6	17	
13-Jan	4	3	8	7	6	6	11	22	11	8	10	36	9	17	27	9	6	4	17	13	27	35	53	31	53	
14-Jan	23	26	10	8	9	8	5	4	4	10	5	15	52	71	8	7	7	6	6	6	6	5	10	10	71	
15-Jan	11	10	14	16	11	10	10	18	13	34	69	27	16	14	19	88	22	22	18	50	29	12	7	8	88	
16-Jan	11	6	15	26	24	16	24	25	22	16	16	16	10	9	10	10	9	9	9	9	11	10	10	12	26	
17-Jan	8	10	13	13	8	11	13	12	17	12	13	13	9	9	12	11	7	6	7	10	7	9	11	9	17	
18-Jan	8	19	46	75	47	77	11	5	5	4	4	6	4	5	7	9	11	67	34	45	67	58	37	40	77	
19-Jan	42	35	16	20	36	18	6	75	50	20	27	25	19	25	42	66	9	4	3	6	4	3	3	3	75	
20-Jan	6	7	4	6	5	3	4	5	6	4	6	10	14	8	4	7	9	8	6	8	36	11	10	14	36	
21-Jan	10	5	5	7	8	12	13	7	11	5	9	23	11	14	10	11	10	11	11	11	10	8	11	35	35	
22-Jan	24	32	4	6	11	41	22	45	17	15	16	9	27	31	17	16	19	10	18	8	4	7	9	27	45	
23-Jan	25	10	10	10	31	55	38	42	31	12	16	12	47	18	11	11	11	9	11	15	12	11	15	10	55	
24-Jan	11	9	11	11	12	12	13	9	9	13	15	13	12	13	13	35	22	59	30	79	12	26	21	79		
25-Jan	23	26	14	24	58	9	8	14	9	16	25	26	13	7	27	88	38	29	29	34	17	9	24	13	88	
26-Jan	9	14	10	10	27	17	9	10	10	16	17	15	16	27	12	35	49	26	69	38	17	32	40	30	69	
27-Jan	23	18	37	19	26	40	26	46	52	23	14	15	31	12	39	10	8	8	11	12	21	10	12	11	52	
28-Jan	12	11	10	10	11	15	14	12	12	12	14	12	12	14	13	16	12	11	11	13	8	15	6	8	16	
29-Jan	52	16	60	18	46	35	9	21	41	44	44	16	11	11	9	10	8	8	9	9	9	9	10	9	60	
30-Jan	11	12	10	8	10	7	13	13	15	11	10	12	12	10	15	12	9	11	8	12	13	14	14	8	15	
31-Jan	10	16	18	13	10	6	10	10	8	11	14	11	11	8	8	8	9	9	9	9	8	12	11	9	18	
		52	35	60	75	58	77	57	75	52	44	69	36	83	71	42	88	64	67	77	87	80	60	53	40	
		Diurnal Maximum																								





Wood Buffalo Environmental Association
Summary of Hour Averages

Wind Direction 100m (WD100) - deg
Lower Camp Met Tower - January 2025

Direction of Maximum Speed: 330 deg on Jan 24 06:00		Hours in Service:	744
Direction of Maximum Daily Speed Average: 293.6 deg on Jan 28		Hours of Data:	742
Direction of Minimum Speed: 191 deg on Jan 6 01:00		Hours of Missing Data:	2
Direction of Minimum Daily Speed Average: 1.1 deg on Jan 19		Percent Operational Time:	99.7
Monthly Average Direction: 271.0 deg			

Day	Hourly Period Ending At (MST)																								Daily Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	358	3	0	359	0	356	355	360	356	355	2	7	6	4	359	1	5	15	354	14	19	3	343	351	0.8
2-Jan	357	6	354	326	279	250	274	252	242	207	134	139	137	121	115	135	118	130	126	141	128	150	156	143	134.5
3-Jan	160	148	162	161	166	159	165	162	175	166	149	156	159	161	148	169	135	132	132	135	128	128	129	130	141.3
4-Jan	130	128	130	127	130	129	131	132	136	136	129	136	131	126	115	113	121	92	97	120	76	48	14	17	126.4
5-Jan	343	350	354	354	359	358	358	359	353	356	355	357	350	342	344	352	6	11	22	27	325	312	53	322	355.3
6-Jan	191	132	143	159	162	145	137	136	140	142	138	141	161	162	165	160	155	156	156	155	155	156	154	158	152.4
7-Jan	154	160	154	152	154	155	160	164	161	156	156	153	149	156	173	180	189	182	187	208	225	205	144	218	167.5
8-Jan	248	254	254	276	259	257	273	284	284	241	252	265	294	314	324	314	301	295	294	297	293	283	287	287	279.8
9-Jan	286	288	338	359	4	6	11	12	2	15	11	349	80	136	169	170	154	154	134	133	126	141	127	136	28.3
10-Jan	138	134	135	135	141	132	134	204	169	233	142	206	344	341	353	350	352	352	1	1	359	1	0	3	48.9
11-Jan	5	1	5	356	351	359	2	355	355	352	355	357	355	13	18	31	21	18	136	151	194	201	189	201	359.7
12-Jan	177	168	171	166	151	144	146	152	147	143	139	147	150	145	154	149	149	154	129	148	162	166	144	136	151.6
13-Jan	148	136	142	129	137	143	142	147	141	146	153	157	149	140	156	147	155	185	231	229	243	252	252	250	170.0
14-Jan	236	244	222	215	176	168	154	150	144	149	186	231	238	253	255	256	258	254	253	251	255	254	265	265	232.7
15-Jan	275	287	308	299	288	286	285	288	315	325	326	273	264	291	273	278	222	225	243	261	328	335	348	25	291.3
16-Jan	28	34	43	56	84	73	83	68	46	26	27	13	10	9	13	10	4	1	358	350	351	348	350	352	10.0
17-Jan	358	357	347	342	357	3	2	4	5	355	352	347	349	348	345	349	347	343	350	360	359	357	357	1	353.9
18-Jan	359	10	359	26	210	192	189	203	206	198	197	192	155	152	131	142	123	118	113	136	145	131	173	168	161.4
19-Jan	118	155	331	342	326	347	338	347	UO	UO	275	247	226	246	337	74	125	146	151	171	169	162	156	155	202.7
20-Jan	152	145	154	156	154	151	144	146	146	153	150	148	149	153	159	179	191	185	170	182	240	253	258	262	170.6
21-Jan	256	253	254	252	255	261	268	255	260	259	263	319	353	357	11	7	3	356	359	351	351	338	345	331	295.4
22-Jan	276	177	166	179	186	86	13	17	92	120	176	190	231	255	242	209	201	175	170	168	157	152	141	132	175.3
23-Jan	161	162	169	184	202	224	227	220	219	232	223	238	260	274	290	299	308	302	297	289	263	268	285	288	254.5
24-Jan	287	288	293	324	326	330	341	351	345	333	320	328	335	338	327	314	314	242	233	237	309	313	277	244	317.1
25-Jan	245	239	227	228	206	187	185	188	196	216	235	227	228	240	236	251	3	296	254	232	218	231	214	203	226.7
26-Jan	208	213	204	197	236	232	239	230	229	231	232	224	222	210	178	217	243	291	292	282	278	261	257	266	239.3
27-Jan	261	253	247	271	253	265	251	230	228	206	211	195	216	203	232	223	224	237	254	270	300	301	304	302	258.6
28-Jan	296	292	289	289	288	290	298	294	293	294	297	301	306	297	294	304	309	301	304	301	292	274	267	274	293.6
29-Jan	286	299	263	255	300	1	228	211	188	294	2	15	14	8	4	5	357	358	0	356	0	4	3	2	354.1
30-Jan	11	12	8	6	5	6	25	10	350	345	353	348	352	354	9	9	26	27	21	27	22	21	3	340	7.1
31-Jan	354	34	4	9	351	355	347	348	348	353	349	344	353	357	357	357	360	357	358	1	359	355	352	352	355.2

270.7 263.0 248.2 252.9 264.1 287.1 268.4 248.9 233.8 220.5 222.9 246.1 293.9 295.9 293.0 294.7 297.2 286.5 278.7 267.6 278.3 273.7 280.6 286.2
 Diurnal Average

UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods



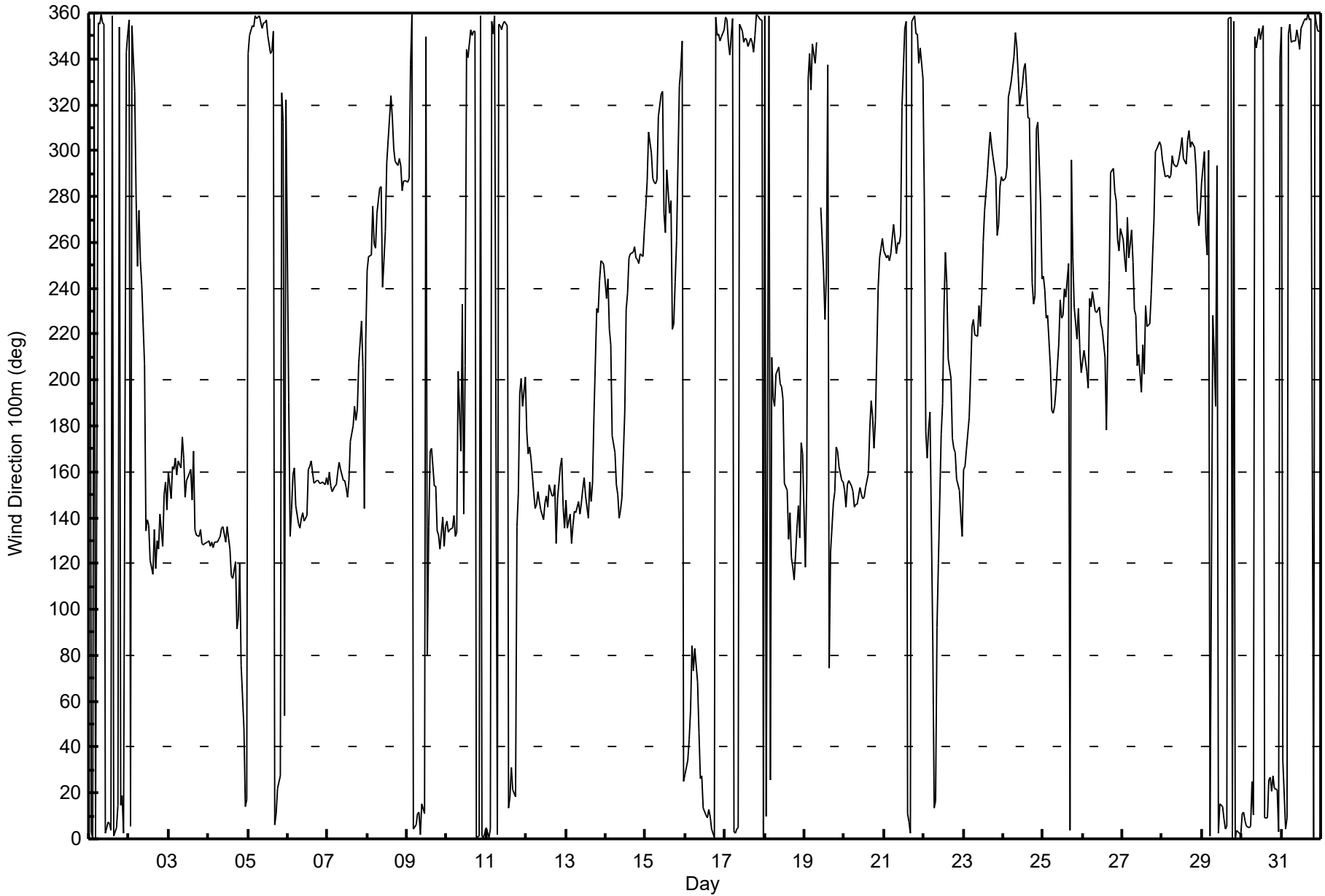
Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Direction 100m (WD100) - deg
Lower Camp Met Tower - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 97 deg on Jan 6 01:00	Hours in Service: 744 Hours of Data: 742 Hours of Missing Data: 2 Hours of Calibration: 0 Percent Operational Time: 99.7
Minimum Value: 2 deg on Jan 4 02:00	
Percentiles: P ₁ = 2 P ₁₀ = 5 Q ₁ = 7 Median = 9 Q ₃ = 13 P ₉₀ = 21 P ₉₉ = 52	

Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	5	6	8	8	7	5	7	6	7	7	7	6	7	10	9	8	10	8	11	8	11	9	6	4	11
2-Jan	3	3	5	14	23	14	50	7	5	37	49	26	42	6	7	8	8	16	11	13	6	11	13	13	50
3-Jan	16	18	9	8	13	8	6	11	17	12	7	7	8	12	8	14	11	7	3	4	3	2	2	3	18
4-Jan	4	2	4	3	4	5	5	5	3	3	4	5	8	11	15	28	23	17	23	14	32	18	17	24	32
5-Jan	9	4	5	6	5	5	8	7	6	7	9	9	6	8	8	5	11	10	12	21	16	30	41	51	51
6-Jan	97	9	9	12	14	9	7	8	7	7	8	12	11	10	9	6	4	4	5	4	4	4	3	3	97
7-Jan	2	3	5	2	4	3	3	3	2	3	3	4	3	9	10	20	10	48	17	9	7	33	15	27	48
8-Jan	6	3	3	18	19	8	11	9	7	8	4	11	15	18	11	5	6	9	8	6	8	7	5	5	19
9-Jan	4	5	25	7	8	8	9	9	10	11	19	21	36	15	18	21	11	12	9	11	11	13	3	13	36
10-Jan	6	4	5	6	11	6	53	36	57	27	27	22	41	10	7	5	6	6	8	7	6	6	8	8	57
11-Jan	7	8	8	9	5	7	9	13	6	8	7	8	9	11	10	10	18	25	26	12	15	7	10	13	26
12-Jan	7	7	5	8	8	9	6	10	16	16	8	11	10	11	4	5	5	9	6	11	9	7	32	6	32
13-Jan	8	6	6	4	4	8	13	19	7	12	15	13	15	12	20	7	10	15	15	18	13	6	5	8	20
14-Jan	7	7	11	7	15	14	6	7	5	10	9	16	20	30	3	3	2	4	2	2	3	3	3	5	30
15-Jan	8	6	11	11	5	5	4	8	8	27	41	20	13	8	13	45	18	19	6	35	15	5	10	14	45
16-Jan	20	15	11	15	20	11	11	29	20	12	15	14	9	8	9	8	8	7	7	7	8	6	8	9	29
17-Jan	7	7	9	10	6	9	10	11	13	11	12	10	7	7	9	8	3	5	6	8	8	9	7	8	13
18-Jan	8	9	24	38	64	11	22	8	7	14	12	19	12	11	4	8	11	9	29	18	22	6	30	31	64
19-Jan	33	52	31	7	7	10	5	8	UO	UO	15	14	18	10	41	20	14	8	5	10	7	7	5	3	52
20-Jan	10	8	4	5	4	3	3	4	5	6	5	5	7	4	4	12	6	8	8	14	12	5	5	9	14
21-Jan	6	3	4	4	4	7	9	4	5	3	5	19	9	11	8	8	8	9	8	8	7	6	8	31	31
22-Jan	60	31	15	14	45	19	38	27	37	22	16	17	22	11	13	12	10	8	19	9	8	7	14	14	60
23-Jan	12	8	9	8	19	29	18	21	19	8	13	9	16	15	8	8	7	7	9	11	8	8	12	6	29
24-Jan	8	6	9	8	8	8	10	6	7	10	13	12	8	12	10	9	26	12	17	19	24	8	19	7	26
25-Jan	9	12	8	10	42	12	7	11	11	18	7	10	8	5	11	36	68	20	16	13	8	6	18	11	68
26-Jan	12	12	9	16	6	6	5	7	7	12	13	11	11	13	15	19	15	11	33	16	6	13	15	8	33
27-Jan	18	18	9	12	9	18	12	20	21	27	15	20	24	31	11	7	7	6	12	11	13	8	10	8	31
28-Jan	9	7	6	7	7	10	10	9	8	9	11	9	9	11	9	12	9	6	5	6	5	11	5	7	12
29-Jan	16	9	27	13	44	25	21	26	56	52	12	12	9	9	7	7	6	6	7	6	8	8	8	7	56
30-Jan	9	10	8	7	7	5	9	11	14	7	9	11	12	10	12	11	11	6	5	10	13	21	11	5	21
31-Jan	8	12	25	18	8	12	5	8	7	7	7	8	7	7	8	6	7	6	7	8	7	7	7	5	25
	97	52	31	38	64	29	53	36	57	52	49	26	42	31	41	45	68	48	33	35	32	33	41	51	
	Diurnal Maximum																								

UO - Unstable Operation





Wood Buffalo Environmental Association
Summary of Hour Averages

Wind Direction 163m (WD163) - deg
Lower Camp Met Tower - January 2025

Direction of Maximum Speed: 335 deg on Jan 24 06:00																				Hours in Service: 744							
Direction of Maximum Daily Speed Average: 298.7 deg on Jan 28																				Hours of Data: 715							
Direction of Minimum Speed: 16 deg on Jan 29 07:00										Direction of Minimum Daily Speed Average: 3.1 deg on Jan 2										Hours of Missing Data: 29							
Monthly Average Direction: 280.7 deg																								Percent Operational Time: 96.1			
Day	Hourly Period Ending At (MST)																								Daily Average		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	16	17	15	17	10	7	9	13	16	16	16	12	10	17	12	7	18	22	20	28	25	15	10	7	15.2		
2-Jan	14	14	353	335	345	346	8	359	263	222	211	183	152	133	134	154	144	145	156	176	166	170	158	154	143.9		
3-Jan	151	152	157	151	151	148	147	143	159	152	144	138	143	155	145	152	139	137	139	141	137	138	140	141	144.1		
4-Jan	141	138	139	137	139	138	140	139	143	145	133	136	134	131	123	124	136	113	114	127	110	71	38	42	134.1		
5-Jan	355	360	359	1	4	6	6	7	3	2	2	1	353	346	351	360	13	17	31	31	329	283	210	263	1.7		
6-Jan	221	145	147	159	165	150	141	139	149	149	145	145	154	158	179	187	173	176	173	172	179	182	185	192	167.0		
7-Jan	175	187	183	171	176	183	184	187	179	177	185	187	188	194	209	220	213	212	209	222	235	229	196	237	198.8		
8-Jan	252	260	264	283	270	271	287	293	293	268	274	283	297	316	326	321	310	299	294	298	294	288	290	294	287.7		
9-Jan	293	296	338	7	11	11	18	21	12	25	25	16	84	144	175	173	150	164	144	142	132	135	133	142	50.9		
10-Jan	147	142	144	147	153	150	159	196	182	212	189	234	332	358	2	360	360	2	8	7	4	8	7	7	62.2		
11-Jan	8	7	12	1	0	6	9	1	4	0	1	3	4	18	18	26	15	2	145	176	199	196	UO	UO	6.3		
12-Jan	UO	UO	UO	UO	UO	UO	169	167	166	165	162	167	168	164	171	168	170	170	166	170	UO	UO	UO	UO	--		
13-Jan	UO	UO	UO	166	166	164	165	162	UO	UO	UO	169	171	166	168	181	194	230	249	252	263	268	271	268	217.9		
14-Jan	254	258	241	236	212	206	201	193	176	179	184	208	238	246	259	262	265	266	261	263	263	268	267	273	246.4		
15-Jan	282	290	315	305	297	299	296	297	315	323	321	287	274	294	288	297	256	246	264	278	328	27	25	59	300.1		
16-Jan	71	74	67	76	105	97	98	93	71	42	40	31	23	19	21	18	13	8	5	357	356	354	355	359	22.4		
17-Jan	4	3	354	354	5	9	11	18	14	10	2	353	352	354	352	355	354	349	359	11	11	12	11	13	3.0		
18-Jan	15	26	28	44	149	209	225	230	235	234	235	243	230	210	154	171	152	182	190	171	214	228	275	309	231.1		
19-Jan	321	328	334	348	18	12	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	161	163	179	191	204	188	194	--
20-Jan	181	166	180	175	172	171	161	159	156	156	173	167	163	172	191	204	206	205	207	224	250	257	265	263	187.9		
21-Jan	263	266	267	260	260	266	273	267	272	273	281	313	1	5	15	11	8	5	6	359	359	354	2	1	303.0		
22-Jan	11	168	206	235	267	331	3	15	24	23	212	256	251	259	250	219	215	206	205	210	200	187	180	159	217.9		
23-Jan	188	190	194	207	217	237	241	240	230	239	233	254	267	279	293	303	312	307	302	293	276	280	290	292	261.3		
24-Jan	289	293	300	328	330	335	344	354	350	338	326	335	340	340	330	320	315	265	259	270	308	308	286	260	321.0		
25-Jan	255	250	238	234	219	223	214	220	225	239	248	237	238	255	269	284	312	303	274	273	250	251	232	225	247.4		
26-Jan	229	231	227	233	243	242	248	239	238	242	242	234	234	222	218	242	273	303	301	298	299	290	293	298	256.0		
27-Jan	291	271	267	281	270	276	275	247	247	236	231	231	229	238	237	230	233	248	271	287	308	306	307	305	268.8		
28-Jan	299	296	293	293	292	291	299	297	296	297	299	304	308	301	299	308	313	308	314	314	304	291	282	290	298.7		
29-Jan	298	302	275	275	308	345	16	121	216	247	15	23	22	17	13	13	8	7	8	6	9	11	10	10	359.7		
30-Jan	16	17	14	13	11	13	30	24	11	12	11	2	2	9	22	29	41	44	43	47	63	63	46	28	22.9		
31-Jan	32	52	67	61	65	67	44	42	27	19	11	5	8	11	10	7	13	13	12	14	16	6	5	6	22.0		
284.2 279.4 273.8 273.3 275.8 292.8 273.4 264.3 264.9 249.2 247.5 259.3 275.4 283.6 286.1 290.4 296.5 283.3 281.8 281.3 289.5 288.0 294.6 292.2																								Diurnal Average			
UO - Unstable Operation All monthly, daily, and diurnal averages have been calculated using vector methods																											



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

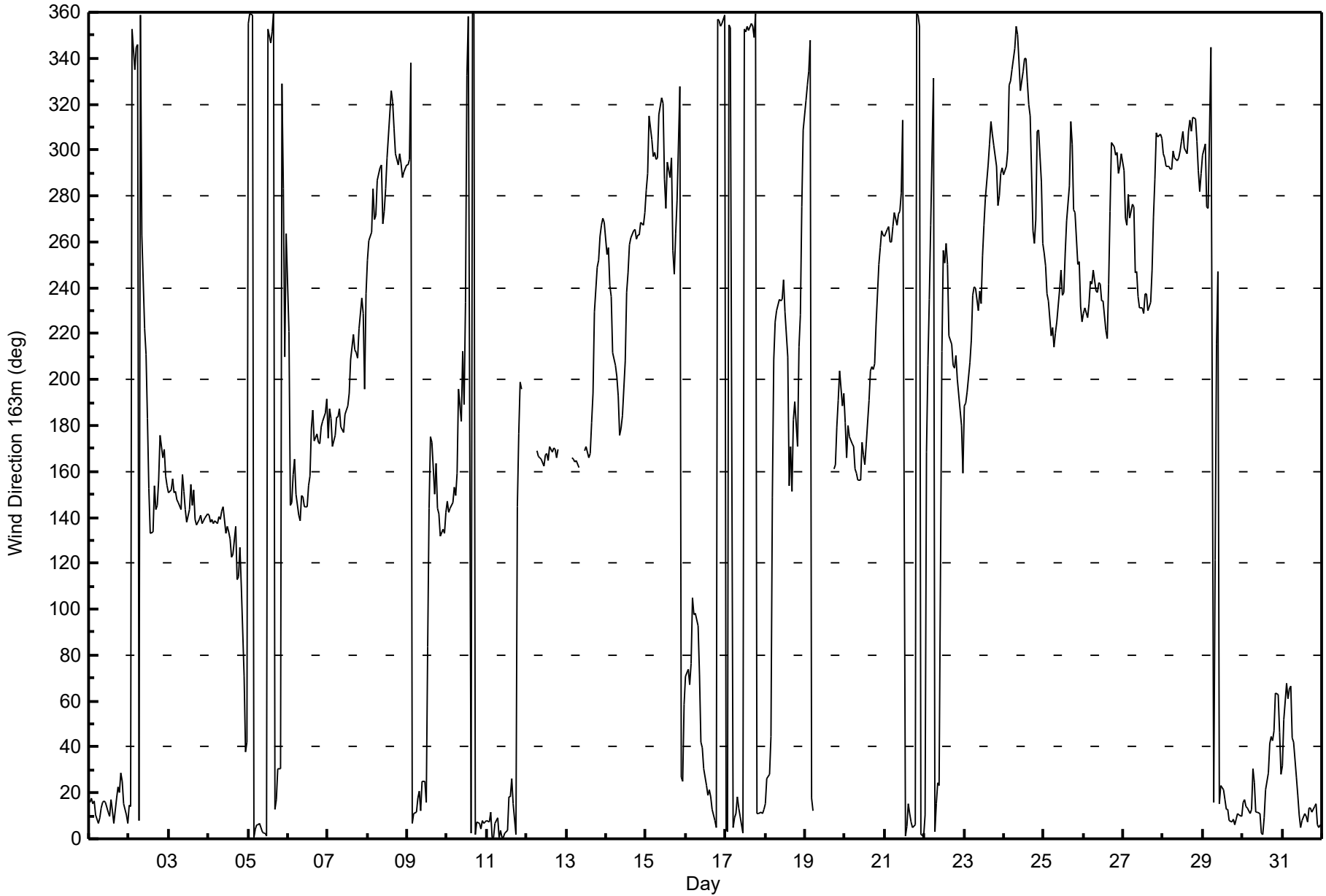
Wind Direction 163m (WD163) - deg
Lower Camp Met Tower - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 92 deg on Jan 11 19:00	Hours of Data: 715
Minimum Value: 2 deg on Jan 14 16:00	Hours of Missing Data: 29
Percentiles: P ₁ = 2 P ₁₀ = 4 Q ₁ = 5 Median = 7 Q ₃ = 10 P ₉₀ = 15 P ₉₉ = 45	Hours of Calibration: 0
	Percent Operational Time: 96.1

Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	3	3	7	5	3	4	4	5	5	5	5	5	8	10	8	6	5	3	4	3	5	4	3	4	10
2-Jan	3	3	13	6	4	9	25	19	40	13	27	9	17	8	4	8	13	13	7	5	11	3	7	6	40
3-Jan	7	7	5	4	4	5	5	4	6	4	7	3	5	5	5	6	4	2	3	4	3	3	3	4	7
4-Jan	4	3	5	4	5	5	5	4	3	4	5	5	6	9	10	14	16	9	10	8	22	15	13	21	22
5-Jan	6	4	4	6	6	6	8	7	6	7	8	8	7	11	7	5	9	8	11	17	20	32	78	12	78
6-Jan	24	11	7	12	10	7	8	6	8	8	9	9	9	11	15	6	5	5	4	4	4	3	3	5	24
7-Jan	5	6	7	4	9	6	5	4	7	5	5	6	5	9	12	10	7	16	7	7	5	16	27	12	27
8-Jan	4	2	3	13	21	8	11	7	6	6	4	9	11	15	9	5	5	8	5	6	6	5	4	4	21
9-Jan	4	5	24	6	6	6	6	9	11	12	18	27	16	15	14	15	10	11	10	8	5	5	3	9	27
10-Jan	5	4	6	7	9	8	15	20	41	18	26	11	46	10	8	6	5	6	7	5	6	6	7	7	46
11-Jan	6	6	7	6	6	8	8	11	6	8	9	8	10	9	9	10	21	20	92	57	30	25	UO	UO	92
12-Jan	UO	UO	UO	UO	UO	UO	4	5	11	8	10	8	6	7	4	2	2	3	9	15	UO	UO	UO	UO	15
13-Jan	UO	UO	UO	7	5	11	8	12	UO	UO	UO	4	4	6	12	13	15	12	4	3	3	3	3	5	15
14-Jan	9	7	6	7	9	10	9	6	10	10	9	7	10	9	3	2	3	4	2	2	4	3	4	6	10
15-Jan	6	4	8	8	3	3	2	5	11	15	16	21	12	5	13	18	27	18	7	13	14	12	11	11	27
16-Jan	7	6	9	11	7	7	7	16	13	10	12	13	7	7	8	8	8	7	7	6	7	6	7	9	16
17-Jan	6	6	7	9	7	9	8	11	10	9	12	8	5	6	7	6	3	3	8	4	6	7	4	5	12
18-Jan	6	5	15	13	76	3	10	9	4	4	10	7	12	15	10	8	10	11	21	26	7	22	7	12	76
19-Jan	7	3	3	14	5	6	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	6	5	3	8	3	7	5	14
20-Jan	11	4	7	5	5	4	9	5	6	5	4	5	5	6	4	7	5	6	6	12	6	4	3	4	12
21-Jan	3	2	3	3	2	4	6	3	3	4	7	15	9	10	8	7	7	8	9	9	7	5	6	19	19
22-Jan	28	72	18	9	12	17	6	9	7	74	36	9	5	9	10	11	7	6	7	7	7	9	16	10	74
23-Jan	12	7	6	6	6	15	11	13	8	7	10	9	9	13	6	6	6	5	6	8	8	7	9	4	15
24-Jan	6	4	8	6	6	6	8	6	6	9	11	10	6	10	8	7	15	11	13	20	12	6	14	7	20
25-Jan	8	10	8	6	18	13	9	12	8	7	4	6	5	9	13	16	17	9	11	12	10	8	7	6	18
26-Jan	11	8	7	8	5	5	3	5	6	11	10	8	6	10	9	14	10	5	8	5	5	9	8	9	14
27-Jan	6	12	4	8	6	10	12	14	7	9	8	9	14	12	5	7	6	8	13	8	6	6	8	7	14
28-Jan	7	5	4	4	5	7	8	6	5	7	8	8	7	9	7	10	7	4	5	5	7	9	8	7	10
29-Jan	5	6	21	12	27	9	79	16	31	31	16	10	7	9	7	6	7	7	7	7	8	7	7	7	79
30-Jan	8	8	8	5	6	6	6	7	13	6	8	13	13	12	13	16	9	4	3	2	6	5	9	8	16
31-Jan	7	8	4	6	4	8	4	2	7	4	5	6	6	8	8	7	7	5	7	8	8	7	7	6	8
	28	72	24	14	76	17	79	20	41	74	36	27	46	15	15	18	27	20	92	57	30	32	78	21	

Diurnal Maximum

UO - Unstable Operation





Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Vertical Wind Speed 20m (VW20) - km/h
Lower Camp Met Tower - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 744					
Maximum Value: 5.0 km/h on Jan 24 06:00																				Hours of Data: 744					
Minimum Value: 0.1 km/h on Jan 1 17:00																				Hours of Missing Data: 0					
Percentiles: P ₁ = 0.1 P ₁₀ = 0.3 Q ₁ = 0.8 Median = 1.4 Q ₃ = 2.2 P ₉₀ = 3.0 P ₉₉ = 4.1																				Hours of Calibration: 0					
																				Percent Operational Time: 100.0					
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	0.4	0.7	0.6	0.4	0.5	0.6	1.2	0.7	0.7	0.6	1.0	1.3	1.2	1.1	0.8	0.2	0.1	0.1	0.5	0.3	0.5	0.3	0.3	0.2	1.3
2-Jan	0.1	0.2	0.2	0.2	0.3	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.4	0.4	0.3	0.1	0.2	0.1	0.2	0.1	0.1	0.3	0.3	0.3	0.4
3-Jan	0.2	0.1	0.3	0.5	0.6	0.7	0.7	0.7	1.1	1.0	0.8	0.7	0.6	0.5	0.6	0.5	0.3	0.5	0.7	1.0	2.6	2.8	2.7	3.0	3.0
4-Jan	3.2	3.3	2.8	3.2	3.2	2.7	2.6	2.9	3.7	3.2	2.7	2.1	1.6	1.4	1.0	0.8	0.7	0.7	0.6	0.7	0.5	0.4	0.7	0.7	3.7
5-Jan	2.0	1.8	2.0	2.0	2.2	2.3	1.8	1.8	1.6	1.5	1.4	1.8	1.4	1.3	1.3	1.3	1.4	1.2	1.2	0.9	0.7	0.5	0.5	0.4	2.3
6-Jan	0.4	0.7	1.0	1.0	1.4	1.5	1.8	1.8	2.0	1.9	2.0	1.5	1.8	1.8	2.2	1.7	1.6	1.8	1.9	1.7	1.6	1.3	1.5	1.6	2.2
7-Jan	1.7	1.9	2.4	2.3	2.3	2.2	2.3	2.2	2.3	2.3	2.4	2.7	2.9	2.1	1.9	1.4	0.9	0.9	1.1	2.2	2.7	1.9	1.5	1.3	2.9
8-Jan	1.3	3.1	3.1	1.8	1.2	1.1	1.6	2.2	1.4	1.5	2.0	2.0	2.4	2.9	2.1	1.6	2.5	2.2	2.0	2.2	2.3	3.2	3.2	2.9	3.2
9-Jan	3.3	3.3	2.7	2.5	2.7	2.5	2.4	2.1	1.4	1.4	1.2	1.0	0.7	0.9	1.1	1.2	1.0	1.0	2.3	1.7	1.0	0.6	2.1	2.1	3.3
10-Jan	3.4	3.8	4.0	3.7	1.6	1.4	1.4	0.4	0.6	0.6	0.6	0.5	1.1	1.0	2.1	2.4	2.6	2.4	2.8	3.2	3.0	2.5	2.4	2.7	4.0
11-Jan	2.7	2.6	2.5	2.2	2.1	1.7	1.0	1.0	1.6	1.4	1.5	2.0	1.8	1.8	1.5	1.0	0.6	0.2	0.1	0.2	0.5	1.0	1.1	0.7	2.7
12-Jan	1.0	1.3	1.2	1.5	1.6	1.9	1.8	1.7	1.0	1.9	2.2	1.7	1.4	1.9	2.0	2.0	2.3	1.4	0.8	0.9	1.0	1.0	0.9	0.9	2.3
13-Jan	0.9	1.0	1.0	0.8	0.8	1.2	0.9	1.4	1.2	1.0	0.8	0.7	1.1	1.9	1.6	1.7	1.8	1.7	1.9	1.7	1.8	1.9	1.4	1.5	1.9
14-Jan	1.9	1.6	1.1	1.0	0.9	0.9	1.4	1.3	2.0	2.1	1.7	2.2	1.3	1.5	3.5	3.9	3.3	2.7	2.9	3.1	3.3	3.3	2.5	2.9	3.9
15-Jan	3.2	2.8	2.9	2.6	2.7	1.9	2.7	2.4	1.2	1.1	0.5	1.0	1.7	2.0	0.8	0.3	0.2	0.4	0.9	1.2	0.4	0.3	0.7	0.6	3.2
16-Jan	0.7	0.9	1.1	0.6	1.0	1.2	1.5	1.1	1.3	1.9	2.5	2.3	2.8	3.3	3.8	3.7	3.4	3.5	3.0	2.3	3.5	4.0	3.6	3.9	4.0
17-Jan	3.1	2.9	1.9	1.8	2.5	2.3	1.2	0.9	1.5	1.1	1.2	1.6	1.7	1.8	2.1	1.5	0.8	0.6	0.3	0.6	1.0	0.7	0.6	0.6	3.1
18-Jan	0.5	0.4	0.6	0.2	0.1	0.3	0.4	0.7	0.8	1.1	1.3	1.2	1.4	1.2	0.5	0.4	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.4
19-Jan	0.1	0.1	0.1	0.2	0.3	0.6	0.4	0.3	0.2	0.3	0.6	0.5	0.4	0.6	0.4	0.2	0.2	0.4	0.4	0.6	0.6	0.9	1.3	1.1	1.3
20-Jan	1.3	1.8	1.5	1.7	1.9	2.6	2.6	2.0	1.7	1.6	2.6	2.3	2.2	2.1	2.0	1.6	1.5	1.3	1.2	1.4	1.8	2.8	3.0	3.6	3.6
21-Jan	3.6	3.7	2.9	2.6	2.8	2.7	1.3	2.3	2.4	2.8	2.5	1.0	2.4	2.7	3.1	3.1	3.3	2.7	2.5	2.4	2.3	1.1	0.7	0.5	3.7
22-Jan	0.3	0.3	0.8	1.2	0.7	0.1	0.1	0.2	0.3	0.6	0.8	1.0	0.9	1.4	1.3	0.8	0.8	1.1	1.3	1.0	1.3	1.1	1.5	1.8	1.8
23-Jan	2.4	2.3	2.5	1.8	1.3	1.0	1.2	1.2	1.6	1.4	1.3	1.1	1.3	2.5	3.3	2.9	2.8	2.3	2.3	2.6	2.7	2.7	3.0	3.6	3.6
24-Jan	3.9	4.1	3.5	4.6	4.7	5.0	4.8	3.7	3.8	2.7	2.7	2.7	2.9	2.1	2.0	1.4	0.6	0.6	0.6	0.7	0.8	0.4	0.7	1.4	5.0
25-Jan	1.7	1.4	1.0	1.0	0.7	0.5	0.5	0.8	0.8	0.9	1.7	1.4	1.8	1.7	1.4	0.6	0.5	0.6	0.9	1.0	0.9	1.2	1.0	0.8	1.8
26-Jan	1.0	1.1	1.1	1.0	1.7	1.3	1.2	1.0	1.6	1.5	1.7	1.4	1.5	1.4	0.9	0.7	0.9	1.4	1.3	1.3	1.5	1.2	0.9	0.9	1.7
27-Jan	0.8	0.9	1.2	0.8	1.0	1.0	1.3	1.3	1.3	1.0	0.9	1.2	1.3	1.8	2.1	2.0	2.0	2.0	1.0	1.4	2.1	3.7	4.2	4.1	4.2
28-Jan	3.7	3.7	4.1	4.1	3.9	3.2	2.3	2.8	3.4	3.5	3.6	3.8	4.1	2.9	3.6	3.4	2.0	1.3	1.2	1.2	1.2	1.3	1.9	2.0	4.1
29-Jan	1.2	0.9	1.0	1.2	1.1	0.3	0.4	0.2	0.3	0.3	0.8	2.6	3.0	2.8	2.9	3.2	2.9	2.7	2.9	2.7	2.7	3.1	2.8	2.6	3.2
30-Jan	2.8	2.2	2.4	2.1	1.1	1.9	1.5	1.6	1.0	1.1	1.5	1.5	1.6	1.7	1.7	1.0	0.7	0.5	0.4	0.3	0.4	0.3	0.2	0.4	2.8
31-Jan	0.2	0.2	0.3	0.4	0.6	0.6	0.7	0.9	1.0	1.4	1.4	1.7	2.0	2.0	2.1	2.2	2.0	2.1	2.2	1.9	2.0	2.1	1.9	2.0	2.2
3.9 4.1 4.1 4.6 4.7 5.0 4.8 3.7 3.8 3.5 3.6 3.8 4.1 3.3 3.8 3.9 3.4 3.5 3.0 3.2 3.5 4.0 4.2 4.1																									
Diurnal Maximum																									



Maximum Value: 1.3 km/h on Jan 13 20:00		Maximum Daily Average: 0.5 km/h on Jan 7		Hours in Service: 744																																		
Minimum Value: -1.2 km/h on Jan 28 00:00		Minimum Daily Average: -0.4 km/h on Jan 28		Hours of Data: 744																																		
Maximum Diurnal Average: 0.3 km/h at hour 10		Minimum Diurnal Average: 0.1 km/h at hour 2		Hours of Missing Data: 0																																		
Monthly Average: 0.16 km/h		Percentiles: $P_1 = -0.8$ $P_{10} = -0.2$ $Q_1 = 0.0$ Median = 0.2 $Q_3 = 0.3$ $P_{90} = 0.5$ $P_{99} = 1.0$		Hours of Calibration: 0																																		
				Percent Operational Time: 100.0																																		
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum												
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24														
1-Jan	0.0	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.0	0.2	0.3	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
2-Jan	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.0	0.1	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.3	0.4	0.5	0.2	0.2	0.5	0.2	0.2	0.5	0.2	0.2	0.5	0.2	0.2	0.5	0.2	
3-Jan	0.3	0.3	0.3	0.3	0.1	0.2	0.5	0.0	0.1	0.3	0.4	0.3	0.3	0.1	0.5	0.0	0.2	0.4	0.6	0.2	0.0	0.2	0.3	0.1	0.2	0.6	0.2	0.6	0.2	0.6	0.2	0.6	0.2	0.6	0.2	0.6	0.2	
4-Jan	0.3	0.5	0.4	0.6	0.7	0.5	0.3	0.2	0.7	1.2	0.9	0.8	0.4	0.4	0.2	0.1	0.2	0.1	0.1	0.3	0.1	0.1	0.1	0.2	0.4	0.1	0.1	0.1	0.2	0.4	0.1	0.1	0.2	0.4	0.1	0.2	0.4	
5-Jan	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	0.2	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.2	0.3	0.0	0.2	0.2	0.2	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	
6-Jan	0.0	0.1	0.4	0.0	0.1	0.2	0.3	0.5	0.9	0.6	0.4	0.4	0.6	-0.2	0.6	-0.1	0.8	0.3	0.2	0.3	0.5	0.3	0.7	1.1	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
7-Jan	1.0	-0.3	0.7	0.9	0.7	0.1	-0.3	0.7	0.9	0.9	0.5	0.9	0.4	0.2	1.0	0.3	0.3	0.5	0.2	0.2	0.6	0.4	0.2	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
8-Jan	0.2	-0.1	-0.1	-0.1	0.1	0.1	0.1	0.0	0.0	0.7	0.3	0.0	-0.2	-0.5	-0.1	-0.4	-0.5	-0.3	-0.2	-0.7	-0.5	-0.3	-0.4	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	
9-Jan	-0.5	-0.2	-0.1	0.3	0.4	0.3	0.5	0.3	0.4	0.2	0.3	0.0	0.4	0.1	0.1	0.3	0.3	0.2	0.4	0.3	0.4	0.5	0.7	0.8	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
10-Jan	0.5	0.3	0.8	0.8	0.1	0.5	0.6	0.3	0.0	0.2	0.3	0.3	0.3	0.0	0.1	-0.1	0.3	0.1	0.4	0.0	0.3	0.3	0.5	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
11-Jan	0.3	0.0	0.1	0.2	0.1	0.2	0.3	0.1	0.1	0.2	0.0	0.1	0.0	0.3	0.3	0.2	0.1	0.1	0.3	0.3	0.4	0.4	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
12-Jan	0.0	0.2	-0.5	0.1	0.2	0.4	0.5	0.3	-0.2	0.2	-0.2	-0.2	-0.1	0.5	0.3	0.6	0.8	-0.2	0.1	0.3	0.2	-0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
13-Jan	0.3	0.1	0.3	0.1	0.1	0.0	-0.1	-0.1	-0.1	-0.2	0.0	0.2	-0.1	0.0	0.2	0.3	0.9	1.2	0.8	1.3	0.3	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
14-Jan	0.3	0.2	0.9	0.6	0.5	0.4	0.5	0.3	0.0	0.0	-0.2	0.6	0.4	0.1	0.0	-0.1	0.2	0.1	-0.2	-0.2	-0.2	-0.2	-0.1	-0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
15-Jan	-0.4	-0.4	-0.5	-0.2	-0.1	0.0	-0.2	0.1	-0.2	0.0	0.0	0.2	0.4	-0.1	0.1	0.1	0.1	0.3	0.8	0.2	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
16-Jan	0.0	0.0	0.2	0.1	0.0	-0.1	0.2	-0.3	0.1	0.3	0.3	0.2	0.0	0.5	0.3	0.3	0.1	0.2	0.2	0.1	0.0	-0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
17-Jan	0.2	0.5	0.3	0.0	0.3	0.4	0.1	0.2	-0.1	0.1	0.1	-0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	-0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
18-Jan	0.1	0.2	0.2	0.1	0.3	0.2	0.5	0.9	1.0	0.9	0.9	0.5	0.1	0.0	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	
19-Jan	0.1	0.1	0.1	0.2	0.2	0.1	0.0	0.2	0.2	0.3	0.1	-0.1	0.0	0.1	0.1	0.2	0.6	0.6	0.6	0.9	0.7	0.5	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	
20-Jan	-0.3	0.1	0.2	-0.4	-0.4	-0.5	-0.4	0.2	0.5	0.7	0.6	0.0	0.3	0.5	0.7	0.6	-0.1	0.1	0.7	0.5	0.3	-0.2	-0.2	-0.7	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
21-Jan	-0.5	-0.1	-0.4	-0.2	-0.4	-0.7	-0.1	-0.2	0.2	-0.1	0.3	0.3	0.1	0.1	0.3	0.4	0.2	0.3	0.2	-0.1	-0.2	-0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
22-Jan	0.1	0.3	0.1	0.2	0.5	0.1	0.2	0.2	0.4	0.3	0.5	0.2	0.2	0.2	0.3	0.3	0.3	0.8	-0.1	0.6	0.3	-0.3	-0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
23-Jan	0.5	0.3	0.7	0.4	1.0	0.1	0.3	0.0	0.8	0.3	0.0	-0.1	0.2	-0.4	-0.4	-0.6	-0.3	-0.6	-0.3	-0.6	-0.3	-0.1	0.0	0.2	-0.3	-0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
24-Jan	-0.4	-1.0	-0.7	-0.8	-0.3	-0.2	0.0	0.5	0.0	0.0	-0.4	-0.1	-0.1	0.1	0.1	0.0	0.1	0.2	0.2	0.3	0.1	0.1	0.2	0.8	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
25-Jan	0.9	0.5	0.4	0.5	0.4	0.7	0.8	0.5	0.3	0.6	1.3	0.7	0.5	0.5	0.3	0.2	0.3	0.2	0.0	0.0	0.0	0.5	-0.1	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	
26-Jan	0.2	0.4	0.2	0.4	1.3	0.8	0.4	0.2	0.1	-0.1	0.0	0.3	0.3	0.2	0.1	0.3	0.4	0.4	0.2	-0.4	-0.1	-0.4	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
27-Jan	0.1	0.0	0.0	0.1	-0.1	-0.1	-0.8	0.3	0.1	0.3	0.4	0.1	0.4	0.5	0.5	0.3	0.1	0.3	0.3	0.3	-0.2	-0.8	-0.9	-1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
28-Jan	-0.5	-0.6	-0.7	-0.8	-0.8	-0.1	-0.3	-0.6	-0.6	-0.5	-0.2	-1.1	-1.0	-0.2	-0.4	-0.6	-0.3	-0.3	-0.1	0.1	0.0	0.3	0.3	0.4	-0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	
29-Jan	0.0	-0.4	0.1	0.0	-0.2	0.1	0.3	0.2	0.3	0.2	0.2	0.5	0.4	0.5	0.2	0.4	0.1	0.4	0.3	0.1	0.3	0.2	0.4	0.6	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
30-Jan	0.4	0.3	0.4	0.3	0.2	0.3	0.3	0.2	0.0	0.4	-0.1	-0.1	-0.2	-0.2	0.0	0.1	0.4	0.3	0.3	0.2	0.2	0.1	0.1	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
31-Jan	0.2	0.1	0.2	0.1	0.0	0.1	0.0	0.0	-0.1	0.0	0.2	0.0	0.2	0.1	0.0	0.0	0.4	0.2	0.2	0.2	0.1	0.2	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
																												Diurnal Average										
																												Diurnal Maximum										



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Vertical Wind Speed 45m (VW45) - km/h
Lower Camp Met Tower - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 744					
Maximum Value: 5.6 km/h on Jan 24 06:00																				Hours of Data: 744					
Minimum Value: 0.1 km/h on Jan 2 18:00																				Hours of Missing Data: 0					
Percentiles: P ₁ = 0.2 P ₁₀ = 0.4 Q ₁ = 0.7 Median = 1.3 Q ₃ = 2.0 P ₉₀ = 2.6 P ₉₉ = 4.1																				Hours of Calibration: 0					
																				Percent Operational Time: 100.0					
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	0.5	0.8	0.8	0.5	0.6	0.5	0.9	0.6	0.8	0.7	0.7	0.9	0.9	0.8	0.6	0.2	0.1	0.2	0.9	0.5	0.9	0.5	0.4	0.4	0.9
2-Jan	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.1	0.2	0.5	0.4	0.2	0.2	0.3	0.1	0.2	0.1	0.2	0.3	0.3	0.4	0.5
3-Jan	0.2	0.2	0.3	0.4	0.4	0.4	0.5	0.4	0.5	0.7	0.6	0.5	0.4	0.6	0.8	0.7	0.4	1.0	1.3	1.4	2.1	2.4	2.2	2.1	2.4
4-Jan	2.2	2.5	2.4	2.4	2.7	2.4	2.3	2.3	2.0	2.4	2.4	1.7	1.5	1.3	1.1	0.9	0.9	0.9	0.8	0.5	0.4	0.6	0.7	2.7	
5-Jan	1.6	1.5	1.3	1.4	1.7	1.5	1.7	1.4	1.2	1.1	1.2	1.4	1.1	1.2	1.2	1.0	1.1	1.1	1.1	0.9	0.7	0.5	0.5	1.7	
6-Jan	0.5	0.6	1.0	1.3	1.7	1.5	1.6	1.9	1.7	2.0	1.9	1.6	2.1	2.1	2.5	1.8	1.8	1.6	1.8	1.7	1.8	1.3	1.0	0.9	2.5
7-Jan	0.8	0.9	0.9	1.0	1.4	1.0	0.9	0.8	0.9	1.1	1.0	1.0	1.0	1.1	1.1	1.3	1.0	1.4	1.5	2.9	3.3	2.3	1.1	1.4	3.3
8-Jan	1.8	2.5	2.4	1.9	1.4	1.1	1.7	1.9	1.2	1.4	1.3	1.6	2.8	3.2	2.5	1.6	2.0	2.2	2.2	1.9	2.6	3.1	2.8	2.7	3.2
9-Jan	2.7	2.8	1.9	1.7	2.0	2.0	2.2	1.8	1.4	1.3	1.1	0.9	0.8	0.8	1.4	1.4	1.2	1.3	2.1	2.0	1.4	1.0	2.0	2.2	2.8
10-Jan	2.4	2.1	3.0	2.9	1.8	1.0	0.9	0.5	0.5	0.6	0.5	0.5	0.7	1.0	1.6	1.8	2.2	2.0	2.4	2.6	2.2	2.1	1.9	2.2	3.0
11-Jan	2.0	1.9	2.0	1.6	1.6	1.4	0.9	0.9	1.2	1.2	1.2	1.6	1.5	1.4	1.2	1.0	0.5	0.3	0.2	0.4	0.7	1.1	1.4	0.9	2.0
12-Jan	1.1	1.4	1.2	1.7	1.5	1.5	1.5	1.7	1.3	1.9	2.1	1.9	1.4	1.9	1.0	1.5	1.7	1.4	0.6	0.6	0.6	0.9	0.6	0.5	2.1
13-Jan	0.4	0.5	0.8	0.9	0.8	1.1	1.2	1.6	1.1	1.0	0.8	0.7	1.0	1.7	1.7	1.1	0.9	1.0	1.9	1.8	1.7	2.1	1.9	1.3	2.1
14-Jan	1.7	1.5	1.0	1.0	0.8	0.9	0.7	0.9	1.0	1.5	1.1	1.3	1.5	2.0	3.1	3.3	2.6	2.4	2.4	2.5	2.6	2.6	1.7	2.8	3.3
15-Jan	3.3	2.7	3.0	2.6	2.6	1.5	2.1	2.2	1.2	1.2	0.5	0.9	1.8	1.9	0.7	0.4	0.3	0.6	1.0	1.5	0.6	0.5	0.6	0.5	3.3
16-Jan	0.4	0.5	0.9	0.8	0.8	1.0	1.7	1.3	1.4	1.8	2.6	2.2	2.3	2.8	3.6	3.4	3.1	2.9	2.5	2.0	2.9	3.4	3.3	3.5	3.6
17-Jan	2.7	2.7	1.8	1.9	1.9	1.9	1.2	1.0	1.4	1.2	1.2	1.4	1.2	1.6	2.0	1.5	0.8	0.5	0.4	0.9	1.0	0.9	0.8	0.8	2.7
18-Jan	0.7	0.6	0.8	0.4	0.3	0.4	0.4	0.6	0.5	0.6	0.6	0.6	0.6	0.5	0.3	0.3	0.2	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.8
19-Jan	0.2	0.2	0.2	0.3	0.6	1.0	0.4	0.6	0.4	0.6	0.8	0.6	0.4	0.8	0.4	0.2	0.2	0.4	0.4	0.7	0.4	0.4	0.6	0.7	1.0
20-Jan	0.8	1.4	1.0	1.2	1.1	1.1	1.4	0.8	0.9	0.8	1.4	1.5	1.7	1.6	1.1	1.1	1.1	1.0	0.8	1.3	2.1	2.7	2.8	4.2	4.2
21-Jan	3.5	2.5	2.0	2.0	2.5	3.1	1.5	1.8	1.8	1.8	1.8	1.1	2.1	2.6	2.6	2.6	2.5	2.5	2.2	2.2	1.9	1.1	0.7	0.6	3.5
22-Jan	0.4	0.4	0.4	0.8	0.5	0.2	0.2	0.4	0.5	0.6	0.7	0.5	0.6	1.5	1.2	0.9	1.1	1.1	1.6	1.1	1.0	1.3	1.6	2.1	2.1
23-Jan	2.2	2.2	2.4	1.9	1.8	1.3	1.5	1.5	2.1	1.8	1.7	1.3	1.5	2.7	3.0	2.9	3.1	2.1	2.3	2.7	2.6	3.1	3.3	3.3	3.3
24-Jan	3.8	3.6	3.2	4.7	5.2	5.6	4.6	3.2	3.5	3.1	2.9	3.0	3.1	2.1	2.1	1.6	0.7	0.7	1.0	0.8	1.0	0.5	1.0	1.6	5.6
25-Jan	1.9	1.4	1.2	1.3	1.0	0.5	0.6	0.9	1.0	1.3	2.0	1.7	2.0	1.4	1.4	0.8	0.7	0.7	1.0	1.4	1.3	1.2	1.2	1.1	2.0
26-Jan	1.1	1.4	1.0	1.1	2.0	1.5	1.3	1.3	1.7	1.6	1.8	1.7	1.9	1.7	1.0	0.9	1.1	1.9	1.9	1.7	1.8	1.7	1.4	1.3	2.0
27-Jan	1.1	1.1	1.6	1.0	1.2	1.2	1.6	1.8	2.0	1.3	0.7	0.7	1.3	1.9	2.2	2.3	2.1	2.1	1.2	1.3	2.1	3.8	4.6	4.2	4.6
28-Jan	4.3	3.7	4.0	3.8	3.7	3.8	2.8	2.9	3.4	3.8	4.0	3.9	4.0	3.2	3.8	3.6	2.0	1.1	1.1	1.3	1.0	0.9	1.2	1.5	4.3
29-Jan	1.4	0.9	1.5	1.6	1.6	0.4	0.5	0.4	0.5	0.3	0.7	2.6	2.7	2.5	2.2	2.6	2.1	2.2	2.5	2.2	2.2	2.5	2.4	2.2	2.7
30-Jan	2.4	2.0	2.2	1.6	1.1	1.5	1.5	1.5	1.0	1.2	1.2	1.6	1.3	1.2	1.4	0.9	0.6	0.4	0.4	0.2	0.2	0.3	0.3	0.4	2.4
31-Jan	0.2	0.3	0.2	0.4	0.5	0.6	0.7	0.8	0.7	1.2	1.4	1.6	1.7	1.5	1.5	1.6	1.7	1.9	1.9	1.6	1.5	1.9	1.7	1.7	1.9
Diurnal Maximum																									
4.3 3.7 4.0 4.7 5.2 5.6 4.6 3.2 3.5 3.8 4.0 3.9 4.0 3.2 3.8 3.6 3.1 2.9 2.5 2.9 3.3 3.8 4.6 4.2																									



Maximum Value: 2.8 km/h on Jan 7 04:00		Maximum Daily Average: 0.8 km/h on Jan 7		Hours in Service: 744																						
Minimum Value: -2.1 km/h on Jan 27 07:00		Minimum Daily Average: -1.0 km/h on Jan 28		Hours of Data: 742																						
Maximum Diurnal Average: 0.1 km/h at hour 11		Minimum Diurnal Average: -0.1 km/h at hour 22		Hours of Missing Data: 2																						
Monthly Average: 0.02 km/h		Percentiles: P ₁ = -1.6 P ₁₀ = -0.7 Q ₁ = -0.2 Median = 0.0 Q ₃ = 0.2 P ₉₀ = 0.7 P ₉₉ = 2.0		Hours of Calibration: 0																						
				Percent Operational Time: 99.7																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	-0.2	-0.2	-0.2	-0.1	-0.2	-0.1	-0.4	-0.1	0.2	0.1	0.1	-0.2	0.2	0.0	-0.1	-0.1	0.0	0.3	-0.1	0.1	-0.1	-0.1	-0.1	0.0	0.0	0.3
2-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.2	0.0	0.2	0.1	0.1	0.1	0.0	0.2	0.0	0.2
3-Jan	0.0	0.0	0.0	-0.2	-0.4	-0.2	-0.4	-0.3	-0.3	0.0	0.3	-0.1	-0.2	-0.2	0.6	-0.1	0.1	0.9	1.1	0.4	0.3	0.6	0.7	0.4	0.1	1.1
4-Jan	0.6	0.5	0.8	0.6	0.8	1.0	0.7	0.7	1.1	2.4	1.6	1.8	1.1	0.8	0.5	0.2	0.1	-0.2	0.1	0.3	0.1	-0.1	0.0	0.2	0.7	2.4
5-Jan	-0.2	-0.2	-0.3	-0.2	-0.3	-0.4	0.2	-0.1	-0.3	-0.1	0.0	-0.3	-0.5	-0.3	0.2	-0.1	0.2	-0.2	-0.1	0.1	-0.1	-0.2	0.0	-0.3	-0.2	0.2
6-Jan	-0.1	0.0	0.4	-0.4	-0.6	0.1	0.3	1.8	1.8	1.6	1.1	0.7	1.2	-0.2	1.8	0.2	0.9	0.0	-0.2	-0.1	0.0	0.0	0.6	0.9	0.5	1.8
7-Jan	1.9	0.4	2.1	2.8	2.3	2.1	0.9	0.1	0.6	1.1	1.0	1.3	1.6	0.6	0.2	-0.5	-0.5	-0.3	-0.6	0.9	1.0	0.6	0.3	-0.2	0.8	2.8
8-Jan	-0.1	-0.1	-0.3	-0.5	-0.2	-0.2	0.0	-0.7	-0.5	0.1	-0.2	-0.5	-0.7	-0.7	-0.6	-0.7	-1.2	-1.0	-0.6	-1.3	-1.3	-0.8	-1.1	-0.5	-0.6	0.1
9-Jan	-1.2	-1.1	-0.4	0.1	0.2	-0.1	0.1	0.0	0.5	0.0	0.2	-0.3	0.1	0.0	0.2	0.1	0.4	0.0	1.1	1.3	1.5	0.5	1.4	2.6	0.3	2.6
10-Jan	1.3	0.1	1.3	1.7	1.4	0.5	0.3	0.3	-0.1	0.2	0.0	-0.1	-0.1	-0.1	0.0	-0.2	0.1	0.2	0.4	-0.7	0.0	0.1	0.6	0.0	0.3	1.7
11-Jan	-0.1	-0.3	-0.2	-0.2	-0.1	0.0	0.3	-0.1	-0.1	0.3	-0.2	-0.1	-0.2	-0.1	0.1	0.1	0.0	0.0	0.0	0.2	0.1	0.1	-0.1	-0.1	0.0	0.3
12-Jan	-0.3	0.6	-1.0	0.1	0.6	0.6	0.8	1.9	0.4	0.6	-0.1	-0.6	-0.1	1.1	0.9	1.8	2.0	0.2	-0.1	0.1	0.1	-0.5	0.1	0.4	0.4	2.0
13-Jan	0.2	0.4	0.5	-0.2	0.2	0.3	-0.4	-0.1	0.0	-0.4	-0.1	-0.2	-0.2	0.4	0.3	0.7	1.1	-0.2	0.0	0.3	0.1	0.5	0.4	0.0	0.1	1.1
14-Jan	-0.3	-0.1	-0.1	-0.2	-0.3	-0.1	0.4	0.3	0.6	0.0	-0.8	-0.5	0.1	0.1	0.3	0.4	0.2	-0.1	-0.3	-0.3	-0.5	-0.1	-0.4	-1.0	-0.1	0.6
15-Jan	-0.8	-1.1	-1.3	-0.9	-0.7	-0.8	-0.9	0.0	-0.7	-0.5	-0.2	0.2	0.5	-0.4	-0.2	0.0	0.0	0.1	1.1	0.7	-0.3	0.0	0.0	0.1	-0.3	1.1
16-Jan	0.0	0.1	-0.2	-0.2	0.0	0.0	0.3	-0.3	0.2	0.3	0.4	0.4	0.2	0.7	0.3	0.1	-0.1	-0.1	-0.1	0.0	0.3	-0.8	-0.1	-0.3	0.1	0.7
17-Jan	-0.1	0.3	0.2	-0.3	0.2	0.1	-0.1	0.1	-0.5	-0.2	0.0	-0.4	-0.2	-0.2	-0.4	0.1	0.0	-0.1	-0.2	-0.3	-0.4	-0.2	-0.2	-0.3	-0.1	0.3
18-Jan	-0.2	0.0	0.0	-0.1	0.0	-0.2	-0.1	-0.1	-0.1	0.0	-0.3	0.0	0.1	-0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.3	0.0	0.0	0.0	0.3
19-Jan	0.0	0.0	0.0	0.0	-0.2	-0.2	-0.3	0.0	UO	UO	0.1	0.0	-0.1	-0.3	-0.2	0.0	0.2	0.4	0.3	0.3	-0.1	0.0	0.1	0.3	0.0	0.4
20-Jan	-0.5	0.6	0.7	-1.0	-0.9	0.2	0.6	1.0	0.9	0.7	1.2	0.6	0.9	0.4	0.0	0.0	-0.1	-0.3	-0.4	-0.3	0.4	-0.2	-0.2	-0.9	0.1	1.2
21-Jan	-0.8	-0.3	-0.6	-0.8	-1.1	-1.1	-0.4	-0.5	0.0	-0.4	0.3	-0.3	-0.4	-0.1	-0.2	-0.1	-0.3	0.3	-0.3	-0.3	-0.4	-0.3	-0.2	0.0	-0.3	0.3
22-Jan	-0.1	0.1	-0.1	-0.2	0.0	0.0	0.0	-0.1	0.0	0.0	-0.1	-0.2	-0.1	0.2	0.2	0.3	1.0	0.8	-0.1	-0.2	-0.3	-1.0	-1.0	1.7	0.0	1.7
23-Jan	1.5	0.9	1.0	0.9	1.5	0.0	0.0	-0.3	1.0	0.3	-0.3	-0.5	0.1	-0.4	-1.1	-1.3	-0.9	-1.1	-0.8	-0.2	0.2	-0.1	-0.6	-1.3	0.0	1.5
24-Jan	-1.5	-1.6	-1.6	-1.2	-0.9	-1.0	0.1	0.5	-0.2	-0.5	-0.8	0.0	-0.7	-0.2	-0.6	-0.5	-0.2	0.1	0.0	-0.1	-0.4	-0.4	0.1	1.5	-0.4	1.5
25-Jan	2.4	0.8	0.6	1.1	0.1	-0.1	0.0	0.1	-0.3	0.2	2.2	1.1	0.9	0.7	0.4	0.3	0.3	0.2	0.2	-0.5	-0.4	0.2	-0.4	0.4	0.4	2.4
26-Jan	0.3	-0.1	0.0	0.2	1.7	1.1	0.2	-0.1	-0.1	-0.1	0.1	0.5	0.3	0.3	-0.4	-0.1	0.5	0.3	0.8	-0.8	-1.1	-0.7	-0.7	0.3	0.1	1.7
27-Jan	-0.1	0.0	0.1	0.1	-0.4	-0.5	-2.1	0.8	0.0	-0.3	0.0	-0.1	0.1	0.3	0.4	0.2	0.0	0.1	0.0	-0.1	-1.0	-1.5	-1.7	-2.0	-0.3	0.8
28-Jan	-1.2	-1.6	-1.5	-1.6	-1.1	-0.5	-0.7	-1.5	-1.4	-1.3	-0.9	-1.8	-1.6	-1.0	-1.0	-1.4	-0.9	-0.7	-0.6	-0.1	-0.3	0.0	0.0	0.0	-1.0	0.0
29-Jan	0.8	-0.8	-0.2	0.4	-0.5	-0.1	0.1	0.0	0.1	0.0	-0.1	0.7	0.0	0.1	-0.1	0.2	0.0	0.2	0.1	-0.1	0.3	0.0	0.0	0.4	0.1	0.8
30-Jan	0.0	0.2	0.4	-0.1	-0.1	0.0	0.4	0.3	-0.1	-0.1	-0.3	-0.6	-0.8	-0.3	-0.3	0.1	0.2	0.0	0.2	0.0	0.2	0.0	0.0	-0.2	0.0	0.4
31-Jan	0.0	-0.1	0.0	0.0	-0.2	-0.1	-0.3	-0.2	-0.2	-0.2	0.0	-0.1	0.1	0.0	-0.1	-0.1	0.3	0.3	0.2	0.3	0.1	0.2	0.1	0.0	0.0	0.3
																								Diurnal Average		
																								Diurnal Maximum		
																								UO - Unstable Operation		



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Vertical Wind Speed 100m (VW100) - km/h
Lower Camp Met Tower - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																				Hours in Service: 744					
Maximum Value: 5.4 km/h on Jan 24 06:00																				Hours of Data: 742					
Minimum Value: 0.1 km/h on Jan 2 02:00																				Hours of Missing Data: 2					
Percentiles: P ₁ = 0.2 P ₁₀ = 0.4 Q ₁ = 0.9 Median = 1.3 Q ₃ = 1.9 P ₉₀ = 2.7 P ₉₉ = 4.1																				Hours of Calibration: 0					
																				Percent Operational Time: 99.7					
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	0.7	0.9	1.1	1.0	0.9	0.5	0.7	0.7	1.0	0.8	0.9	1.1	0.9	0.9	0.7	0.2	0.1	0.3	0.9	0.9	1.4	0.6	0.5	0.4	1.4
2-Jan	0.2	0.1	0.2	0.3	0.5	0.3	0.2	0.4	0.2	0.3	0.2	0.2	0.4	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.5	0.6	0.6
3-Jan	0.3	0.5	0.4	0.5	0.6	0.6	0.6	0.5	0.7	0.7	1.0	0.7	0.6	0.8	1.1	0.9	1.1	1.6	1.2	1.4	1.2	1.4	1.1	1.3	1.6
4-Jan	1.4	1.0	1.8	1.5	1.7	1.8	1.8	1.8	1.7	1.8	1.5	1.3	1.5	1.2	1.1	1.4	1.1	1.2	1.1	0.6	0.4	0.4	0.7	1.8	
5-Jan	1.2	1.0	0.9	1.0	1.4	1.4	1.6	1.3	0.9	1.1	1.2	1.3	1.0	1.4	1.3	0.8	1.3	1.2	1.2	1.1	0.7	0.5	0.5	0.4	1.6
6-Jan	0.5	0.7	1.0	1.4	2.0	1.8	1.6	2.0	2.0	2.2	2.1	1.9	2.1	2.3	2.2	1.3	1.6	2.0	2.2	1.7	1.5	1.3	1.2	1.0	2.3
7-Jan	1.1	1.0	1.2	1.0	1.3	1.1	1.1	0.8	1.0	1.3	1.2	1.3	1.0	1.0	1.7	1.8	1.2	2.2	2.1	3.1	2.8	2.6	2.0	1.9	3.1
8-Jan	1.6	1.7	1.1	2.1	1.7	1.4	2.4	1.8	1.5	1.1	1.0	1.5	3.3	3.4	2.9	1.4	1.8	2.0	1.9	1.7	2.7	3.0	2.3	2.3	3.4
9-Jan	1.9	2.2	1.7	1.8	1.8	2.2	2.4	1.9	1.4	1.7	1.4	0.8	0.8	0.8	1.5	1.5	1.3	1.6	1.9	1.9	1.8	1.5	1.7	2.6	2.6
10-Jan	2.4	1.6	3.1	2.9	2.1	1.0	1.4	0.6	0.6	0.8	0.7	0.7	0.5	0.9	1.3	1.5	1.7	1.7	2.5	2.4	2.4	2.2	2.0	2.5	3.1
11-Jan	2.0	2.0	2.1	1.5	1.4	1.5	1.2	0.9	1.2	1.4	1.3	1.7	1.5	1.4	1.4	1.1	0.5	0.2	0.2	0.6	0.9	1.2	1.4	1.0	2.1
12-Jan	1.0	1.2	1.1	1.9	1.4	1.7	1.7	2.0	2.1	2.1	2.1	1.9	1.9	1.6	1.2	1.4	1.4	1.5	1.0	0.7	0.9	1.2	0.6	0.5	2.1
13-Jan	0.6	0.4	0.7	1.0	1.0	1.1	1.4	2.1	1.2	1.1	1.0	1.0	1.2	1.3	2.1	1.2	1.5	1.1	1.6	2.1	1.9	1.7	1.6	1.0	2.1
14-Jan	1.4	1.2	1.0	0.7	0.6	0.9	1.2	1.0	1.0	1.9	1.6	1.5	2.2	2.5	1.8	1.5	1.1	1.4	1.1	1.0	1.0	0.9	1.0	2.0	2.5
15-Jan	2.8	2.4	2.6	2.6	1.9	1.6	1.5	2.1	1.1	1.2	0.8	1.1	1.2	2.0	1.0	0.6	0.4	0.6	1.0	2.3	0.8	0.4	0.5	1.0	2.8
16-Jan	0.9	0.7	0.9	1.2	1.0	0.8	1.5	1.8	1.9	2.2	3.4	2.7	2.8	3.4	4.2	3.9	3.5	3.4	3.0	2.0	3.3	3.4	3.1	3.1	4.2
17-Jan	2.9	2.8	1.8	1.8	2.2	2.3	1.4	1.4	1.9	1.5	1.4	1.3	1.2	1.5	1.9	1.3	0.6	0.4	0.7	1.5	1.1	1.4	1.2	1.2	2.9
18-Jan	1.1	1.0	1.1	0.6	0.3	0.6	0.4	0.6	0.6	0.6	0.6	0.6	0.9	0.8	0.3	0.5	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.2	1.1
19-Jan	0.2	0.2	0.2	0.4	0.8	1.4	0.7	0.7	UO	UO	1.3	0.8	0.3	0.7	0.4	0.2	0.2	0.5	0.7	1.0	0.7	0.7	0.4	0.6	1.4
20-Jan	0.9	1.5	1.4	1.4	1.4	1.2	1.0	1.4	1.4	1.6	1.9	2.2	2.4	2.0	1.5	1.3	1.1	1.1	1.3	1.5	2.0	1.8	2.1	4.1	4.1
21-Jan	2.6	1.2	1.0	1.3	1.8	2.7	1.7	0.8	1.3	0.6	1.2	1.4	2.3	2.9	2.8	2.9	2.9	2.7	2.6	2.5	1.9	1.0	0.8	0.7	2.9
22-Jan	0.5	0.3	0.4	0.8	0.6	0.3	0.3	0.5	0.4	0.4	0.6	0.5	0.4	1.4	0.8	0.8	1.1	1.3	1.9	1.6	1.6	1.7	1.7	2.4	2.4
23-Jan	2.7	2.3	2.3	1.9	2.5	1.6	1.7	1.8	2.3	1.9	1.9	1.3	1.8	2.8	3.0	3.0	2.9	1.9	2.6	3.1	2.3	2.7	3.1	3.0	3.1
24-Jan	3.6	3.0	2.8	4.0	4.8	5.4	4.9	3.4	3.4	3.1	2.9	3.2	3.1	2.4	2.1	1.4	0.8	0.8	1.3	1.3	1.6	0.9	1.1	1.4	5.4
25-Jan	1.4	1.0	1.0	1.4	1.2	0.8	0.7	1.0	1.3	1.9	1.6	1.9	2.0	0.9	1.2	1.1	1.3	1.5	0.9	1.5	1.3	0.9	1.4	1.4	2.0
26-Jan	1.2	1.5	1.2	1.3	1.9	1.3	1.1	1.6	1.6	1.7	2.1	1.8	1.9	1.7	1.2	1.0	1.3	1.5	1.7	1.7	1.3	1.0	1.3	1.1	2.1
27-Jan	0.9	1.2	2.2	1.2	0.9	1.5	1.6	2.4	2.6	1.8	1.1	1.0	1.4	2.0	2.4	2.3	2.0	1.6	1.3	1.9	2.6	4.0	4.6	4.4	4.6
28-Jan	4.9	3.6	3.4	3.4	3.6	3.6	3.4	3.1	3.5	4.0	4.7	4.1	4.0	3.1	3.7	3.0	2.2	0.9	1.0	1.1	0.8	0.8	0.9	1.1	4.9
29-Jan	1.6	1.3	2.1	2.0	2.1	0.3	0.3	0.3	0.8	0.4	1.0	3.2	3.2	2.6	2.4	2.8	2.0	2.3	2.7	2.4	2.6	2.7	2.9	2.5	3.2
30-Jan	2.7	2.2	2.4	1.7	1.3	1.3	1.6	1.9	1.4	0.9	1.1	1.5	1.3	1.4	1.4	1.0	0.6	0.5	0.6	0.3	0.4	0.3	0.3	0.2	2.7
31-Jan	0.2	0.4	0.3	0.5	0.3	0.5	0.5	0.3	0.4	0.8	1.2	1.4	1.3	1.3	1.5	1.6	1.5	1.4	1.7	1.5	1.6	1.7	1.5	1.4	1.7
4.9 3.6 3.4 4.0 4.8 5.4 4.9 3.4 3.5 4.0 4.7 4.1 4.0 3.4 4.2 3.9 3.5 3.4 3.0 3.1 3.3 4.0 4.6 4.4																									
Diurnal Maximum																									
UO - Unstable Operation																									



Maximum Value: 4.8 km/h on Jan 13 04:00																				Maximum Daily Average: 2.3 km/h on Jan 13					Hours in Service:	744							
Minimum Value: -1.6 km/h on Jan 20 05:00																				Minimum Daily Average: -0.1 km/h on Jan 17					Hours of Data:	715							
Maximum Diurnal Average: 0.8 km/h at hour 1																				Minimum Diurnal Average: 0.5 km/h at hour 6					Hours of Missing Data:	29							
Monthly Average: 0.67 km/h																				Percentiles: P ₁ = -0.9 P ₁₀ = -0.2 Q ₁ = 0.0 Median = 0.4 Q ₃ = 1.1 P ₉₀ = 2.1 P ₉₉ = 3.9					Hours of Calibration:	0							
																									Percent Operational Time:	96.1							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24									
1-Jan	-0.1	0.2	0.0	0.1	-0.2	-0.3	-0.6	0.0	0.4	0.5	0.3	-0.1	0.2	0.2	0.1	0.0	0.1	0.5	0.6	0.2	-0.1	-0.1	-0.3	-0.1	0.1	0.6							
2-Jan	0.1	0.0	0.1	0.3	0.3	0.2	0.0	0.2	0.2	0.3	0.2	0.1	0.2	0.2	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.5	0.5	0.2	0.5							
3-Jan	0.6	0.8	0.7	0.7	0.4	0.5	0.4	0.6	0.6	1.0	0.8	0.8	0.5	0.4	1.9	0.9	1.7	2.0	1.6	1.2	1.5	1.5	1.6	1.1	1.0	2.0							
4-Jan	2.0	1.5	1.4	1.2	1.5	1.9	1.7	1.5	1.8	2.9	2.3	2.8	1.9	1.2	0.8	0.6	0.5	-0.2	0.2	0.4	0.3	0.0	0.0	0.1	1.2	2.9							
5-Jan	0.0	-0.1	-0.2	-0.1	-0.4	-0.6	0.2	0.0	-0.3	0.0	0.1	-0.3	-0.6	-0.3	0.3	0.1	0.1	0.1	0.1	0.2	0.0	0.0	0.3	0.0	-0.1	0.3							
6-Jan	0.2	0.3	0.8	0.0	-0.3	0.5	0.6	2.8	2.2	2.1	1.8	1.6	2.9	1.1	4.5	0.2	0.7	0.2	0.1	0.0	0.0	0.2	0.6	1.0	1.0	4.5							
7-Jan	1.0	0.5	1.4	2.1	1.6	1.0	0.7	0.5	0.8	0.7	0.5	0.4	0.6	1.1	1.0	0.6	0.5	0.5	0.4	3.5	3.7	2.7	0.4	0.8	1.1	3.7							
8-Jan	2.3	2.4	1.4	0.5	1.1	0.9	1.1	0.5	0.5	1.4	1.3	0.7	0.3	-0.1	-0.2	-0.1	0.0	0.1	0.9	-0.1	-0.1	0.6	0.4	0.8	0.7	2.4							
9-Jan	0.3	0.1	0.2	-0.1	0.3	-0.2	-0.3	0.2	0.8	0.3	0.1	-0.1	0.2	0.3	0.6	0.2	1.0	0.5	2.2	3.0	3.0	2.1	1.4	3.9	0.8	3.9							
10-Jan	2.0	0.8	2.2	2.4	2.6	1.1	1.0	0.5	0.3	0.6	0.3	0.4	0.1	0.1	-0.1	0.0	0.0	0.4	0.0	-1.1	-0.3	-0.2	0.8	-0.3	0.6	2.6							
11-Jan	-0.2	-0.5	-0.3	-0.3	0.0	-0.1	0.2	0.1	-0.2	0.3	0.1	0.2	0.4	0.3	1.0	0.8	0.7	0.8	1.0	0.9	1.0	1.7	UO	UO	0.4	1.7							
12-Jan	UO	UO	UO	UO	UO	UO	2.2	4.6	2.3	2.0	1.8	0.8	2.4	3.2	2.9	3.8	3.8	2.2	1.6	1.6	UO	UO	UO	UO	--	4.6							
13-Jan	UO	UO	UO	4.8	3.5	2.8	2.5	3.2	UO	UO	UO	2.0	1.9	3.1	1.1	0.6	0.9	0.9	1.6	2.8	2.3	3.0	2.9	1.8	2.3	4.8							
14-Jan	1.1	1.9	1.1	0.8	0.4	0.5	0.6	-0.1	0.3	0.0	-0.9	0.6	1.9	2.1	3.0	2.6	1.9	1.7	1.8	1.5	1.7	1.6	1.1	1.0	1.2	3.0							
15-Jan	0.8	0.5	-0.4	0.2	0.6	0.4	0.7	1.6	0.3	0.1	0.1	0.8	1.7	0.4	0.4	0.2	0.4	1.0	2.7	2.9	0.1	0.1	0.2	-0.3	0.6	2.9							
16-Jan	-0.1	0.1	-0.4	-0.4	-0.3	0.1	0.0	-0.2	0.3	0.2	-0.1	0.4	0.3	0.5	0.1	-0.2	-0.4	-0.2	-0.4	-0.1	0.3	-0.8	0.1	-0.5	-0.1	0.5							
17-Jan	0.0	0.0	0.4	-0.1	0.1	-0.1	-0.2	0.2	-0.6	-0.2	0.2	-0.1	-0.1	-0.1	-0.2	0.2	0.1	0.0	-0.2	-0.5	-0.5	-0.5	-0.3	-0.2	-0.1	0.4							
18-Jan	-0.1	0.3	0.0	0.0	0.1	0.4	0.7	0.7	0.7	0.7	0.3	0.7	0.4	0.1	0.4	0.2	0.3	0.1	0.2	0.2	0.3	0.3	0.3	0.2	0.3	0.7							
19-Jan	0.1	0.1	0.4	0.2	0.2	-0.2	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	0.4	0.4	0.5	0.2	0.3	0.0	0.5	--	0.5							
20-Jan	-0.6	0.6	0.5	-1.6	-1.6	-1.0	0.2	0.9	1.2	1.6	3.6	2.4	1.7	0.0	0.5	1.1	0.8	0.7	0.6	0.9	2.2	2.1	1.7	1.5	0.8	3.6							
21-Jan	1.2	1.5	1.0	1.2	1.0	0.7	0.6	1.3	1.7	1.1	1.5	0.2	-0.4	-0.1	-0.3	-0.6	-0.7	-0.1	-0.7	0.0	-0.4	-0.1	-0.4	0.1	0.4	1.7							
22-Jan	0.1	0.2	0.4	0.6	0.5	0.1	-0.1	0.1	0.2	0.1	0.4	0.5	0.6	1.3	1.4	1.2	2.1	2.6	1.1	0.9	0.1	-1.1	-1.0	3.9	0.7	3.9							
23-Jan	4.0	2.8	3.5	3.6	3.1	1.2	0.9	0.6	3.1	1.4	0.5	0.4	1.4	1.2	0.2	-0.2	-0.1	0.2	0.1	0.9	1.9	1.8	0.9	0.1	1.4	4.0							
24-Jan	0.4	0.1	-0.1	0.2	-0.1	-0.1	0.8	0.4	-0.2	0.1	0.3	0.6	0.0	0.4	-0.2	0.1	0.2	0.9	0.8	0.6	0.3	0.1	1.3	3.2	0.4	3.2							
25-Jan	4.5	2.3	1.6	2.6	0.8	0.4	0.6	0.8	0.5	1.6	4.1	3.0	2.8	2.4	1.6	1.2	0.5	0.3	1.3	0.3	0.5	0.8	0.4	1.8	1.5	4.5							
26-Jan	1.4	0.9	0.9	1.7	3.4	2.9	1.5	0.7	0.8	1.1	0.9	1.6	1.6	1.4	0.3	0.7	1.6	1.3	2.5	0.3	-0.2	0.3	0.1	0.6	1.2	3.4							
27-Jan	0.7	1.6	1.5	1.0	0.4	0.1	-1.2	2.8	1.0	-0.1	0.8	0.5	1.2	2.1	2.4	1.6	1.6	1.7	0.9	0.8	0.1	-0.4	-0.2	-0.2	0.9	2.8							
28-Jan	0.3	0.2	0.5	0.3	0.9	1.2	0.4	-0.3	0.2	0.2	0.2	-0.5	-0.2	0.3	0.2	-0.1	-0.1	0.1	0.0	0.5	0.3	0.8	0.8	1.2	0.3	1.2							
29-Jan	2.6	-0.3	1.2	1.6	0.3	0.2	0.2	0.1	0.5	0.4	0.0	0.6	-0.4	-0.1	-0.2	0.0	-0.1	-0.1	-0.3	-0.4	-0.1	-0.5	-0.1	0.4	0.2	2.6							
30-Jan	-0.3	0.0	0.3	-0.2	-0.1	-0.4	0.6	0.7	-0.2	0.0	-0.1	-0.5	-0.6	-0.1	-0.1	0.4	0.0	-0.3	-0.3	-0.2	-0.4	-0.4	-0.1	0.1	-0.1	0.7							
31-Jan	0.2	-0.5	-0.5	-0.6	-0.4	-0.2	-0.5	-0.6	0.2	0.0	0.0	0.1	0.0	0.1	0.0	-0.1	0.4	0.3	0.4	0.4	0.3	0.2	0.3	0.0	0.0	0.4							
																								Diurnal Average					Diurnal Maximum				
																								0.8 0.6 0.7 0.8 0.7 0.5 0.5 0.8 0.7 0.7 0.7 0.7 0.8 0.8 0.8 0.5 0.6 0.6 0.7 0.7 0.6 0.5 0.5 0.8					4.5 2.8 3.5 4.8 3.5 2.9 2.5 4.6 3.1 2.9 4.1 3.0 2.9 3.2 4.5 3.8 3.8 2.6 2.7 3.5 3.7 3.0 2.9 3.9				
UO - Unstable Operation																																	



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Vertical Wind Speed 163m (VW163) - km/h
Lower Camp Met Tower - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																			Hours in Service: 744						
Maximum Value: 5.1 km/h on Jan 27 23:00																			Hours of Data: 715						
Minimum Value: 0.1 km/h on Jan 2 09:00																			Hours of Missing Data: 29						
Percentiles: P ₁ = 0.2 P ₁₀ = 0.5 Q ₁ = 0.9 Median = 1.4 Q ₃ = 2.0 P ₉₀ = 2.7 P ₉₉ = 4.1																			Hours of Calibration: 0						
																			Percent Operational Time: 96.1						
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	0.7	0.7	1.2	1.0	0.9	0.4	0.5	0.9	1.1	1.1	1.1	1.1	0.9	1.2	0.7	0.3	0.2	0.2	0.8	0.6	1.3	0.5	0.5	0.6	1.3
2-Jan	0.4	0.3	0.3	0.2	0.3	0.4	0.3	0.2	0.1	0.2	0.2	0.2	0.3	0.4	0.3	0.4	0.3	0.3	0.6	0.3	0.8	0.4	0.5	0.6	0.8
3-Jan	0.7	0.6	0.6	0.7	0.7	0.7	0.6	0.6	0.5	0.8	1.1	0.7	0.8	0.7	1.2	0.8	0.8	1.1	2.2	2.4	2.0	2.3	2.2	2.5	2.5
4-Jan	2.3	1.9	2.3	2.1	2.3	2.1	2.0	2.0	2.1	2.1	1.8	1.5	1.4	1.4	1.2	1.4	1.5	1.1	1.2	0.9	0.6	0.4	0.4	0.6	2.3
5-Jan	0.8	0.9	0.9	1.0	1.3	1.6	1.8	1.5	1.0	1.2	1.3	1.5	1.3	1.4	1.0	0.9	1.2	1.2	1.2	1.2	0.6	0.3	0.5	0.4	1.8
6-Jan	0.6	0.7	1.0	1.5	2.0	1.8	1.9	2.1	2.2	2.4	2.3	2.1	2.0	3.0	1.6	0.5	1.1	1.5	1.5	1.2	0.6	0.6	0.6	0.8	3.0
7-Jan	1.0	0.8	1.4	1.1	1.6	1.3	1.1	0.8	1.1	0.9	1.0	1.3	1.1	1.3	2.3	2.2	1.5	2.4	1.9	2.5	2.5	2.9	2.3	2.4	2.9
8-Jan	1.7	1.6	1.3	2.4	1.8	1.6	3.2	1.9	1.7	1.4	1.3	1.9	3.6	3.4	3.0	1.6	1.3	2.0	1.6	1.4	2.3	2.3	2.0	1.8	3.6
9-Jan	1.5	1.6	2.0	2.1	1.8	2.2	2.3	1.9	1.4	1.7	1.3	0.7	0.7	0.8	1.4	1.3	1.1	1.5	1.9	1.9	1.4	1.5	1.7	2.9	2.9
10-Jan	3.1	2.6	3.9	3.3	2.6	1.5	1.7	0.7	0.6	0.9	0.9	1.0	0.6	1.0	1.4	1.4	1.7	1.8	2.5	2.3	2.6	2.2	1.9	2.5	3.9
11-Jan	2.1	1.9	2.1	1.5	1.5	1.5	1.2	0.9	1.4	1.4	1.4	1.7	1.7	1.7	2.7	1.8	1.4	2.4	2.2	1.7	1.8	2.4	UO	UO	2.7
12-Jan	UO	UO	UO	UO	UO	UO	1.4	2.1	2.1	2.5	2.1	1.9	2.2	1.5	1.3	1.7	1.7	1.5	1.1	0.9	UO	UO	UO	UO	2.5
13-Jan	UO	UO	UO	1.5	1.6	1.5	1.2	1.9	UO	UO	UO	1.0	1.5	1.7	2.2	1.4	1.6	1.2	1.3	1.0	0.9	0.9	0.7	0.9	2.2
14-Jan	0.9	0.9	0.8	0.8	0.8	0.8	1.0	0.9	1.1	1.4	1.3	1.7	2.2	2.2	1.7	1.2	1.1	1.9	1.6	1.4	1.3	1.2	1.5	1.7	2.2
15-Jan	2.4	2.0	2.5	2.3	1.3	1.0	1.0	1.8	1.4	1.3	1.3	1.5	1.1	1.5	1.4	1.0	0.6	0.6	1.0	2.1	0.8	0.5	0.5	0.9	2.5
16-Jan	0.9	0.9	1.0	1.2	0.9	0.7	1.4	2.0	2.1	2.2	3.1	3.1	2.9	3.6	4.1	4.1	3.9	3.8	3.3	2.3	3.5	3.2	3.2	2.7	4.1
17-Jan	2.8	2.8	1.7	1.7	2.4	2.4	1.5	1.8	2.2	1.7	1.5	1.4	1.1	1.3	1.8	1.4	0.5	0.5	0.7	1.5	1.0	1.7	1.3	1.3	2.8
18-Jan	1.2	1.0	1.4	0.9	0.4	0.4	0.4	0.4	0.5	0.6	0.5	0.7	0.8	0.6	0.6	0.3	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.3	1.4
19-Jan	0.4	0.4	0.4	0.7	0.9	2.1	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	0.5	0.5	0.6	0.5	0.3	0.5	0.5	2.1
20-Jan	1.0	1.9	1.3	1.3	1.4	1.1	1.9	1.3	1.9	2.2	1.1	1.7	2.0	1.3	1.1	1.4	1.2	1.5	1.4	1.8	1.9	1.6	1.7	2.6	2.6
21-Jan	1.9	1.2	1.0	1.1	1.4	1.6	2.0	1.1	1.2	0.9	1.4	1.7	2.3	3.1	2.9	2.9	2.9	3.0	2.9	2.8	2.1	1.0	0.9	0.8	3.1
22-Jan	0.5	0.5	0.6	0.5	0.5	0.4	0.5	0.8	0.7	0.6	0.8	0.7	0.5	1.4	0.7	0.9	1.0	1.0	2.6	1.8	1.4	1.2	1.7	2.8	2.8
23-Jan	2.0	1.5	1.3	1.5	2.3	2.1	1.9	2.0	2.3	2.1	2.0	1.4	2.1	2.7	2.6	2.7	2.6	1.4	2.4	3.1	2.1	2.7	2.8	2.3	3.1
24-Jan	3.2	2.2	2.5	3.7	4.4	4.6	4.6	3.4	3.3	2.5	2.7	2.9	2.6	2.5	2.0	1.5	1.0	1.3	1.4	1.9	1.7	1.1	1.2	1.4	4.6
25-Jan	1.1	0.8	1.0	1.4	1.5	1.4	1.0	1.3	1.2	1.9	1.3	1.4	1.5	0.9	1.2	1.8	1.8	1.9	1.2	1.0	0.9	0.7	1.1	1.5	1.9
26-Jan	1.3	1.6	1.4	1.5	1.9	1.4	1.2	1.6	1.5	2.0	2.2	1.9	1.4	1.6	1.1	1.1	1.6	1.3	1.4	1.3	1.2	1.0	0.9	0.8	2.2
27-Jan	0.7	1.0	2.1	1.2	0.7	1.2	1.4	2.7	2.4	2.3	1.2	1.4	1.6	2.0	2.3	2.6	2.3	1.6	1.8	2.4	2.6	4.1	5.1	4.3	5.1
28-Jan	4.7	2.8	2.6	2.6	3.0	3.4	3.2	2.6	2.8	3.6	4.6	4.1	3.6	2.9	3.1	2.8	2.6	1.0	0.8	1.1	1.0	1.1	1.1	1.4	4.7
29-Jan	1.4	1.0	2.0	1.6	2.0	0.4	0.2	0.2	0.8	0.5	1.0	3.5	3.1	2.7	2.6	2.9	2.3	2.4	3.0	2.6	3.0	3.0	3.2	2.8	3.5
30-Jan	2.5	2.3	2.4	1.5	1.3	1.0	1.3	1.8	1.7	0.6	1.1	1.3	1.4	1.6	1.6	1.2	0.5	0.5	0.4	0.2	0.4	0.4	0.3	0.2	2.5
31-Jan	0.3	0.5	0.5	0.6	0.5	0.4	0.3	0.4	0.4	0.5	0.8	0.9	1.1	1.4	1.5	1.6	1.8	1.6	2.1	1.8	2.0	1.7	1.6	1.5	2.1
Diurnal Maximum																									
4.7 2.8 3.9 3.7 4.4 4.6 4.6 3.4 3.3 3.6 4.6 4.1 3.6 3.6 4.1 4.1 3.9 3.8 3.3 3.1 3.5 4.1 5.1 4.3																									
UO - Unstable Operation																									



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS04 BUFFALO VIEWPOINT JANUARY 2025

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

February 28, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - BUFFALO VIEWPOINT (AMS04)

JANUARY 2025

MONTHLY SUMMARY

Parameter	Hours of Data	Hours of Calibration	Hours without Data	Operational Time	Maximum 1-Hour Value	1-Hour Exceedances	Maximum 24-Hour Value	24-Hour Exceedances
SO2 (ppb) Average	709	35	35	100	20.3	0	4	0
H2S (ppb) Average	709	35	35	100	7.5	0	0.9	0
THC (ppm) Average	641	33	103	90.59	2.8	-	2.3	-
NMHC(ppm) Average	641	33	103	90.59	0.017	-	0.001	-
CH4(ppm) Average	641	33	103	90.59	2.8	-	2.3	-
O3(ppb) Average	710	34	34	100	45	0	38.6	-
NO2(ppb) Average	708	36	36	100	40.5	0	24.5	-
NO(ppb) Average	708	36	36	100	98.4	-	15.6	-
NOX(ppb) Average	708	36	36	100	138.9	-	40.1	-
PM2.5(ug/m3) Average	743	1	1	100	22.9	0	11	0
Temperature (C) Average	744	0	0	100	6.5	-	2.9	-
Relative Humidity (%) Average	744	0	0	100	94.8	-	89.5	-
Wind Speed 10 m (km/h) Average	741	0	3	99.6	34	-	18	-
Wind Direction 10 m (deg) Average	741	0	3	99.6	-	-	-	-

Note : Operational time includes periods of data collection and instrument calibration

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - BUFFALO VIEWPOINT (AMS04)
 JANUARY 2025

MONTHLY SUMMARY FOR AIR QUALITY/ METEOROLOGICAL MONITORING MEASUREMENTS

Parameter	Number	Mean	StnDev	Total	Percentile						
					Min	P10	Q1	Median	Q3	P90	Max
SO2 (ppb) Average	709	0.52	1.7	-	0	0	0	0.1	0.3	0.8	20.3
H2S (ppb) Average	709	0.24	0.5	-	0	0	0.1	0.1	0.2	0.5	7.5
THC (ppm) Average	641	2.12	0.1	-	2	2	2.1	2.1	2.2	2.2	2.8
NMHC(ppm) Average	641	0	0.001	-	0	0	0	0	0	0	0.017
CH4(ppm) Average	641	2.12	0.1	-	2	2	2.1	2.1	2.2	2.2	2.8
O3(ppb) Average	710	26.25	10	-	1.2	11.4	20.4	27.8	34.6	37.1	45
NO2(ppb) Average	708	6.27	7	-	0	0.7	1.4	3.9	7.8	16.7	40.5
NO(ppb) Average	708	1.41	5.8	-	0	0	0	0.2	0.6	3	98.4
NOX(ppb) Average	708	7.68	11.3	-	0	0.8	1.5	4.2	8.6	19.2	138.9
PM2.5(ug/m3) Average	743	3.42	2.9	-	0.2	0.6	1.6	2.9	4.1	6.5	22.9
Temperature 2 m (C) Average	744	-12.24	11.1	-	-35.7	-27.4	-21.5	-11.7	-2.5	2.3	6.5
Relative Humidity (%) Average	744	75.09	10.2	-	37.9	62.2	70.6	75.7	81.6	87.6	94.8
Wind Speed 10 m (km/h) Average	741	10	6	-	0	4	6	8	13	19	34
Wind Direction 10 m (deg) Average	741	-	-	-	-	-	-	-	-	-	-

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - BUFFALO VIEWPOINT (AMS04)
 JANUARY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
THC/NMHC/CH4	18 Jan 2025 07:00	21 Jan 2025 02:00	68	Unstable Operation - AMD noncompliance
THC/NMHC/CH4	28 Jan 2025 10:00	28 Jan 2025 11:00	2	Maintenance - replaced support gas cylinder
Wind Speed, Wind Direction	01 Jan 2025 16:00	01 Jan 2025 16:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	01 Jan 2025 18:00	01 Jan 2025 18:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	02 Jan 2025 11:00	02 Jan 2025 11:00	1	Flat line in sensor output signal



Wood Buffalo Environmental Association

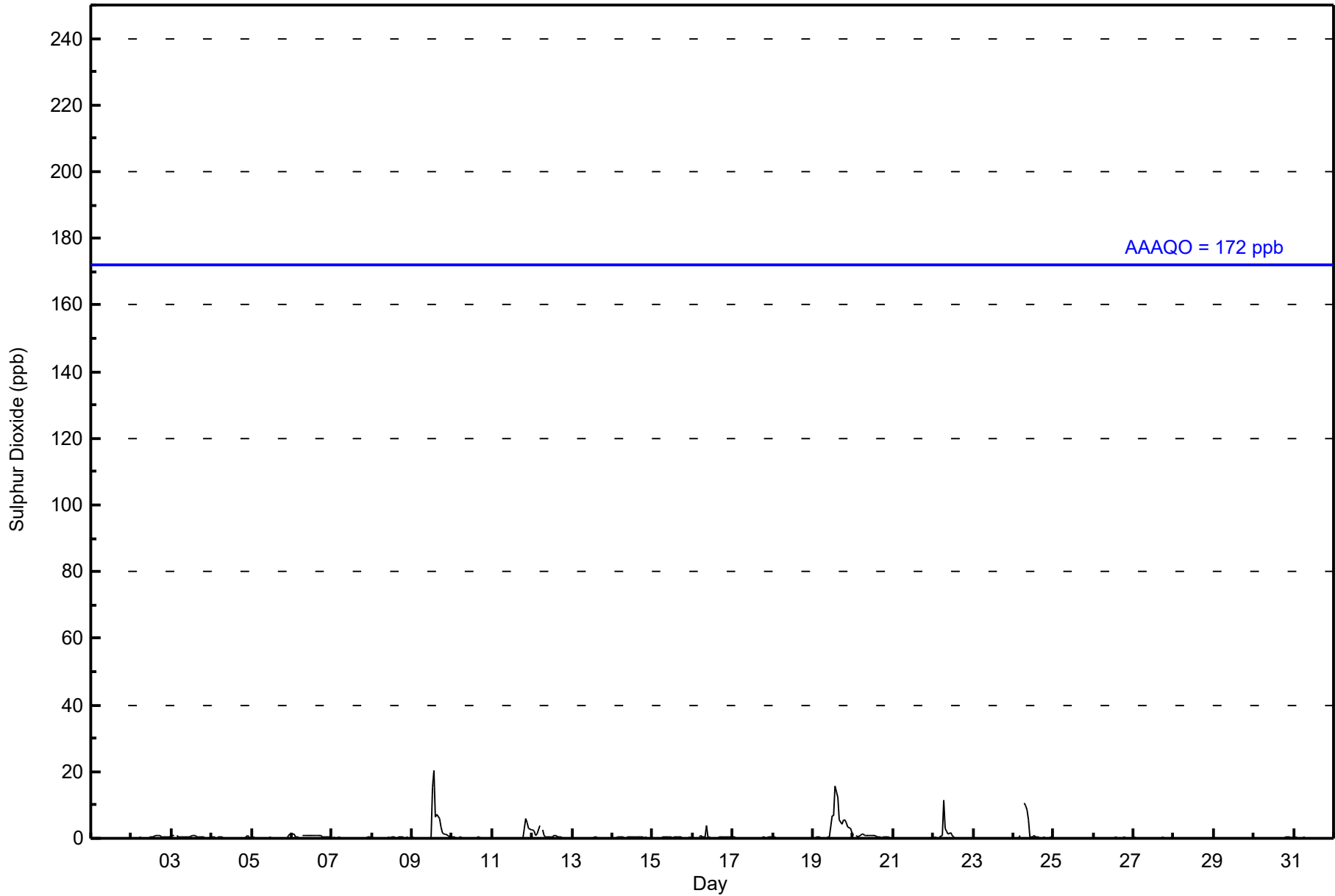
Summary of Hour Averages

Sulphur Dioxide (SO₂) - ppb

Buffalo Viewpoint - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																		Hours in Service: 744																		
Maximum Value: 20.3 ppb on Jan 9 14:00																		Maximum Daily Average: 4.0 ppb on Jan 19																		
Minimum Value: 0.0 ppb on Jan 1 08:00																		Hours of Data: 709																		
Maximum Diurnal Average: 1.4 ppb at hour 14																		Hours of Missing Data: 35																		
Monthly Average: 0.52 ppb																		Hours of Calibration: 35																		
Minimum Daily Average: 0.0 ppb on Jan 28																		Percent Operational Time: 100.0																		
Minimum Diurnal Average: 0.2 ppb at hour 3																																				
Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.3 P ₉₀ = 0.8 P ₉₉ = 9.5																																				
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum										
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24												
1-Jan	Z	0.1	0.1	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.0
2-Jan	0.0	Z	0.0	0.0	0.2	0.2	0.1	0.0	0.0	0.1	0.2	0.3	0.4	0.6	0.9	0.6	0.8	1.0	0.6	0.5	0.4	0.5	0.3	0.6	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	1.0
3-Jan	1.0	0.9	Z	0.6	0.4	0.4	0.4	0.4	0.3	0.3	0.4	0.6	0.8	0.9	0.7	0.5	0.4	0.2	0.2	0.3	0.1	0.0	0.1	0.2	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	1.0	
4-Jan	0.2	0.2	0.3	Z	0.3	0.3	0.3	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.8	
5-Jan	0.2	0.2	0.2	0.1	Z	0.1	0.0	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	1.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	1.3	
6-Jan	1.5	1.1	0.3	0.2	0.4	Z	0.9	0.8	0.9	0.8	0.8	0.8	0.9	1.0	0.8	0.8	0.7	0.7	0.6	0.5	0.3	0.2	0.3	0.3	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	1.5		
7-Jan	Z	0.4	0.1	0.2	0.2	0.1	0.0	0.1	0.1	0.2	0.2	0.0	0.1	0.2	0.1	0.0	0.2	0.0	0.1	0.2	0.2	0.2	0.3	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4		
8-Jan	0.2	Z	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.2	0.2	0.3	0.2	0.1	0.0	0.2	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3		
9-Jan	0.2	0.2	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	15.3	20.3	6.2	7.1	6.0	3.6	1.8	1.4	1.2	1.1	0.5	0.5	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	20.3		
10-Jan	0.5	0.5	0.4	Z	0.4	0.3	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5		
11-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.8	5.8	4.7	3.1	2.5	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	5.8			
12-Jan	2.5	2.1	1.0	1.1	3.7	Z	2.4	0.9	0.5	0.3	0.2	0.2	0.3	0.7	0.6	0.4	0.4	0.3	0.1	0.1	0.1	0.1	0.0	0.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	3.7		
13-Jan	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.4	0.3	0.2	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.4			
14-Jan	0.0	Z	0.2	0.3	0.3	0.3	0.3	0.2	0.1	0.2	0.4	0.5	0.5	0.5	0.4	0.4	0.5	0.3	0.3	0.2	0.2	0.1	0.1	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.5		
15-Jan	0.1	0.1	Z	0.1	0.2	0.0	0.4	0.4	0.2	0.3	0.3	0.3	0.2	0.3	0.3	0.2	0.3	0.2	0.2	0.1	0.1	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4		
16-Jan	0.0	0.1	0.0	Z	0.3	0.7	0.6	0.3	3.6	0.5	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	3.6		
17-Jan	0.3	0.4	0.1	0.2	Z	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.1	0.6	0.2	0.1	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.6		
18-Jan	0.3	0.3	0.1	0.1	0.1	Z	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3			
19-Jan	Z	0.0	0.3	0.5	0.5	0.2	0.0	0.0	0.2	0.3	0.5	6.8	6.7	15.6	13.9	12.3	5.6	4.2	5.6	5.4	4.6	3.4	2.9	1.8	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	15.6			
20-Jan	1.0	Z	0.7	0.6	1.0	1.4	1.1	1.0	0.8	0.7	0.8	1.1	0.9	0.8	0.6	0.5	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.4			
21-Jan	0.0	0.0	Z	0.1	0.1	0.1	0.0	C	C	C	C	0.0	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2			
22-Jan	0.2	0.3	0.2	Z	0.3	1.0	11.3	3.1	2.0	1.5	1.8	1.0	0.5	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	11.3			
23-Jan	0.0	0.0	0.0	0.0	Z	0.1	0.0	0.1	0.2	0.1	0.1	0.0	0.1	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2			
24-Jan	0.0	0.0	0.0	0.0	0.7	Z	10.5	9.6	8.3	5.6	0.5	0.5	1.0	0.4	0.3	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.2	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	10.5			
25-Jan	Z	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2			
26-Jan	0.0	Z	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2			
27-Jan	0.2	0.1	Z	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2			
28-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1			
29-Jan	0.1	0.0	0.0	0.1	Z	0.2	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2			
30-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.2	0.0	0.1	0.2	0.2	0.2	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3			
31-Jan	Z	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.1	0.0	0.0	0.2	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3			
																								Diurnal Average			Diurnal Maximum									
																								0.3			2.5									
																								0.3			2.1									
																								0.2			1.0									
																								0.2			1.1									
																								0.4			3.7									
																								0.2			1.4									
																								0.9			11.3									
																								0.6			9.6									
																								0.6			8.3									
																								0.4			5.6									
																								0.2			1.8									
																								0.4			6.8									
																								0.9			15.3									
																								1.4			20.3									
																								0.9			13.9									
																								0.8			12.3									
																								0.6			6.0									
																								0.4			4.2									
																								0.4			5.6									
																								0.4			5.4									
																								0.5			5.8									
																								0.4			4.7									
																								0.4			3.1									
																								0.3			2.5									
																								0.1			0.1									

Z - zerspan C - Calibration
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Buffalo Viewpoint - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	702	99.01	99.01
11 - 20	7	0.99	100.00
21 - 60	0	0.00	100.00
61 - 110	0	0.00	100.00
111 - 172	0	0.00	100.00
> 172	0	0.00	100.00

Total Number of Valid Hours: 709

Total Number of Hours: 744



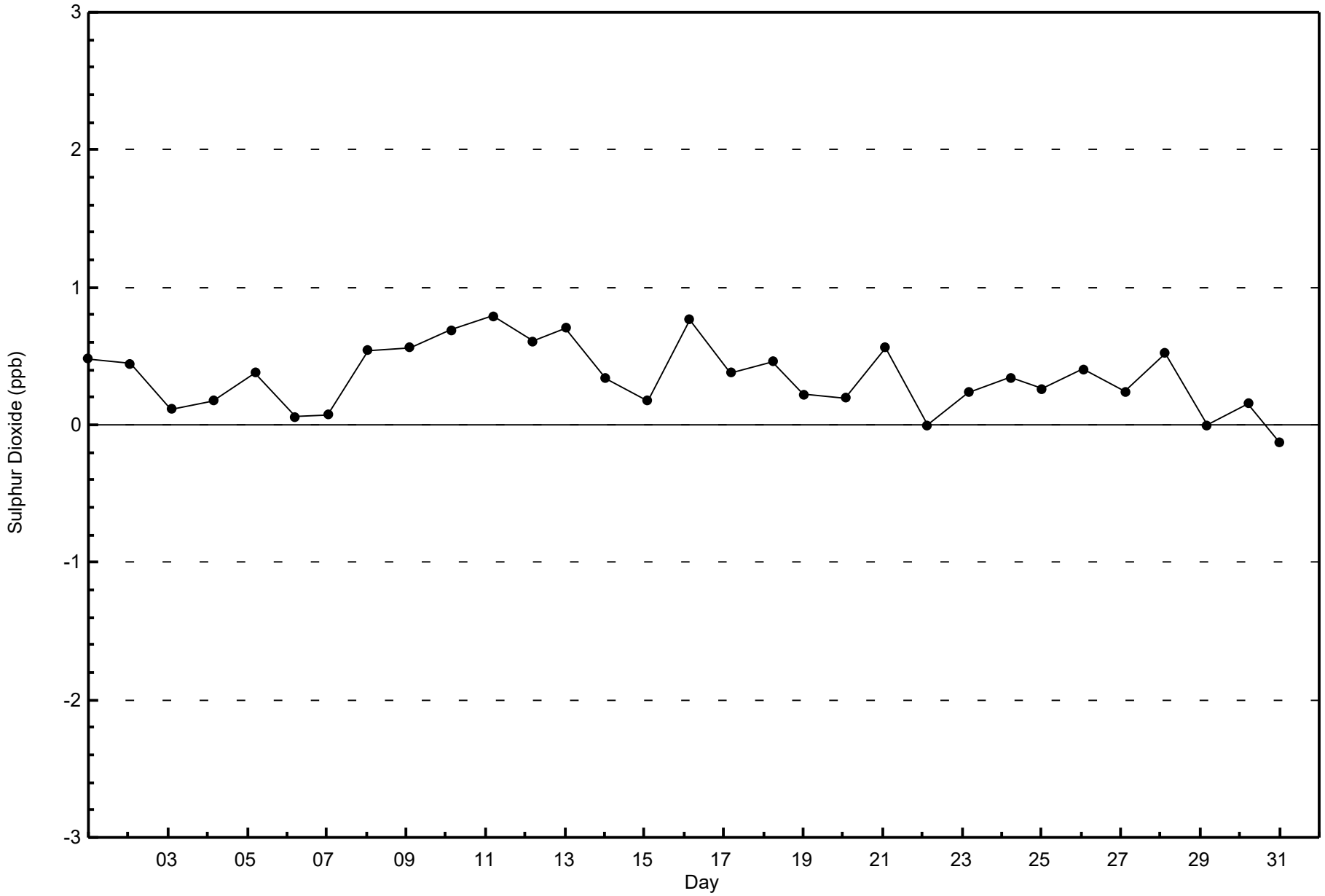
Wood Buffalo Environmental Association
Frequency Distribution

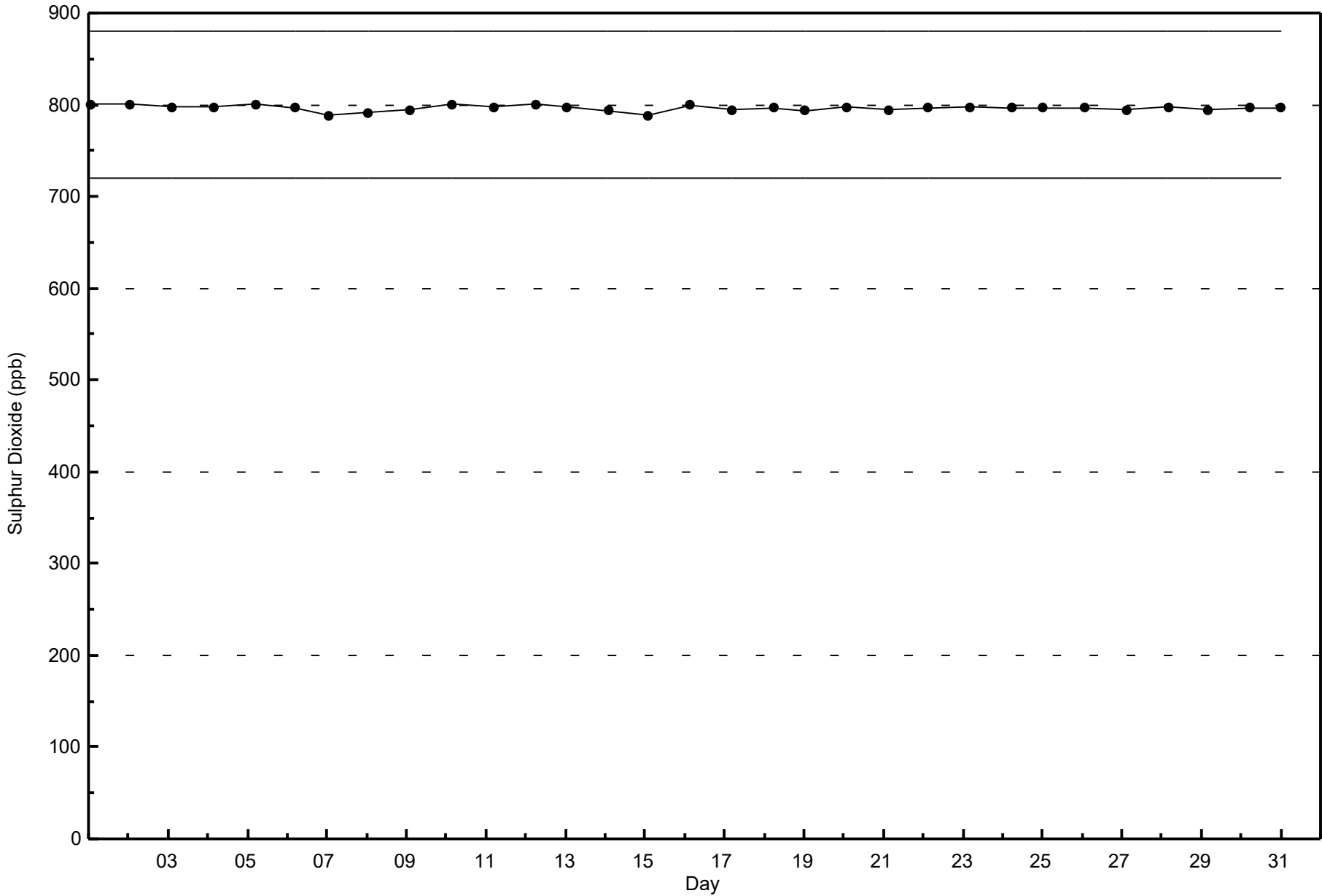
Sulphur Dioxide (SO₂) - ppb
Buffalo Viewpoint - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 10	142	48	7	6	4	6	50	150	31	22	31	51	53	43	38	17	699
11 - 20	0	0	1	1	0	0	2	0	1	0	0	0	0	1	0	1	7
21 - 60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61 - 110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111 - 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	142	48	8	7	4	6	52	150	32	22	31	51	53	44	38	18	706

Total Number of Valid Hours: 706

Total Number of Hours: 744







Wood Buffalo Environmental Association

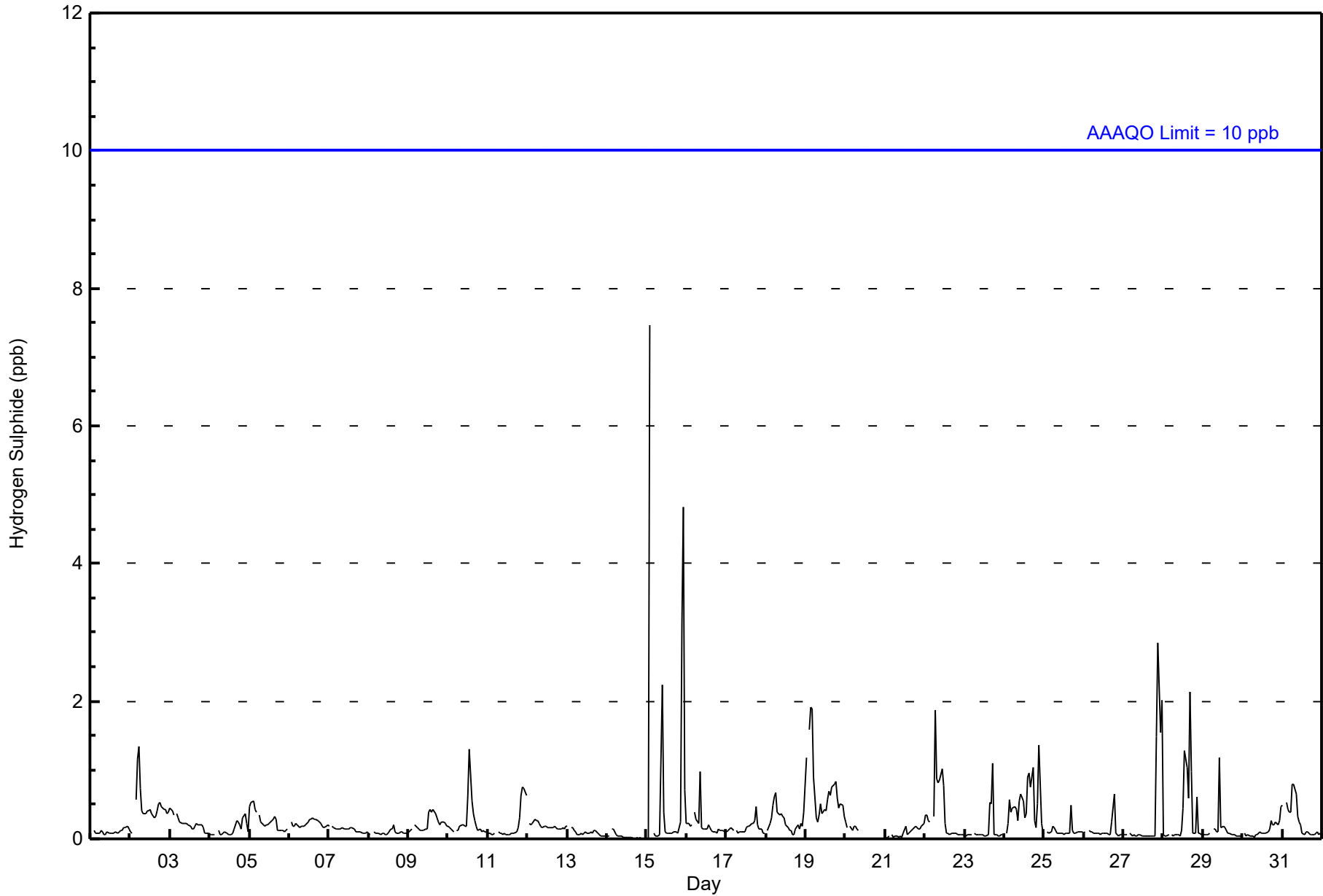
Summary of Hour Averages

Hydrogen Sulphide (H₂S) - ppb

Buffalo Viewpoint - January 2025

Number of Exceedences (AAAQO):		1-hr: 0		24-hr: 0		Hours in Service:		744																		
Maximum Value: 7.5 ppb on Jan 15 03:00		Maximum Daily Average: 0.9 ppb on Jan 15		Minimum Value: 0.0 ppb on Jan 14 18:00		Minimum Daily Average: 0.0 ppb on Jan 14		Hours of Data: 709																		
Maximum Diurnal Average: 0.5 ppb at hour 3		Minimum Diurnal Average: 0.1 ppb at hour 2		Hours of Missing Data: 35		Hours of Calibration: 35		Percent Operational Time: 100.0																		
Monthly Average: 0.24 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.1 Q ₃ = 0.2 P ₉₀ = 0.5 P ₉₉ = 1.9																								
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.2
2-Jan	0.1	0.1	Z	0.6	1.2	1.3	0.7	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.4	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.5	1.3
3-Jan	0.5	0.4	0.4	Z	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.5
4-Jan	0.1	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.3	0.2	0.2	0.1	0.3	0.4	0.2	0.1	0.4
5-Jan	0.5	0.5	0.6	0.4	0.4	Z	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.6
6-Jan	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3
7-Jan	0.2	Z	0.2	0.2	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
8-Jan	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
9-Jan	0.1	0.1	0.1	Z	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.4	0.4	0.4	0.4	0.4	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.4	0.4
10-Jan	0.2	0.2	0.1	0.1	Z	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.6	1.3	0.5	0.4	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	1.3
11-Jan	0.1	0.1	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.6	0.8	0.7	0.6	0.8	0.8
12-Jan	Z	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.3
13-Jan	0.2	Z	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.2
14-Jan	0.0	0.0	Z	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
15-Jan	0.0	0.0	7.5	Z	0.1	0.0	0.0	0.0	0.0	0.1	2.2	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	3.2	4.8	0.7	7.5	7.5
16-Jan	0.2	0.2	0.2	0.2	Z	0.4	0.3	0.2	1.0	0.2	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	1.0
17-Jan	0.1	0.1	0.1	0.2	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.5	0.2	0.1	0.1	0.1	0.1	0.5	0.5
18-Jan	Z	0.1	0.2	0.3	0.5	0.6	0.7	0.4	0.3	0.4	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.4	0.7	0.7
19-Jan	1.2	Z	1.6	1.9	1.9	0.9	0.3	0.2	0.4	0.5	0.4	0.4	0.4	0.6	0.7	0.6	0.8	0.8	0.8	0.6	0.5	0.5	0.5	0.3	1.9	1.9
20-Jan	0.2	0.2	Z	0.2	0.1	0.2	0.2	0.2	0.1	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2
21-Jan	0.0	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2
22-Jan	0.3	0.4	0.3	0.2	Z	0.3	1.9	0.9	0.8	0.9	1.0	0.8	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.4	1.9
23-Jan	0.0	0.0	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.5	0.5	1.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	1.1	1.1
24-Jan	Z	0.1	0.2	0.6	0.4	0.5	0.5	0.4	0.3	0.5	0.7	0.6	0.3	0.4	0.9	1.0	0.7	1.0	0.3	0.2	0.5	1.4	0.2	0.1	1.4	1.4
25-Jan	0.1	Z	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5
26-Jan	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.7	0.1	0.1	0.1	0.1	0.1	0.1	0.7
27-Jan	0.1	0.1	0.1	Z	0.1	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	2.8	1.5	2.0	2.8	2.8
28-Jan	0.1	0.0	0.0	0.1	Z	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.4	1.3	1.0	0.6	2.1	1.0	0.1	0.1	0.6	0.1	0.1	0.1	2.1	2.1
29-Jan	0.1	0.1	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	1.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	1.2	1.2
30-Jan	Z	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.2	0.2	0.2	0.3	0.5	0.5
31-Jan	0.5	Z	0.5	0.4	0.4	0.4	0.8	0.8	0.7	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.8
																								Diurnal Average		
																								Diurnal Maximum		
																								0.2		
																								1.2		

Z - zerospan C - Calibration
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Hydrogen Sulphide (H₂S) - ppb
Buffalo Viewpoint - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	705	99.44	99.44
3 - 4	2	0.28	99.72
5 - 7	2	0.28	100.00
8 - 11	0	0.00	100.00
> 11	0	0.00	100.00

Total Number of Valid Hours: 709

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Hydrogen Sulphide (H₂S) - ppb
Buffalo Viewpoint - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2	142	47	8	7	4	6	53	146	31	23	31	53	55	43	38	15	702
3 - 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
5 - 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
8 - 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	142	47	8	7	4	6	53	146	31	23	31	53	55	43	41	16	706

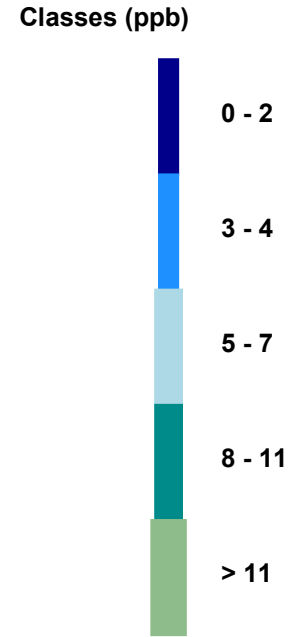
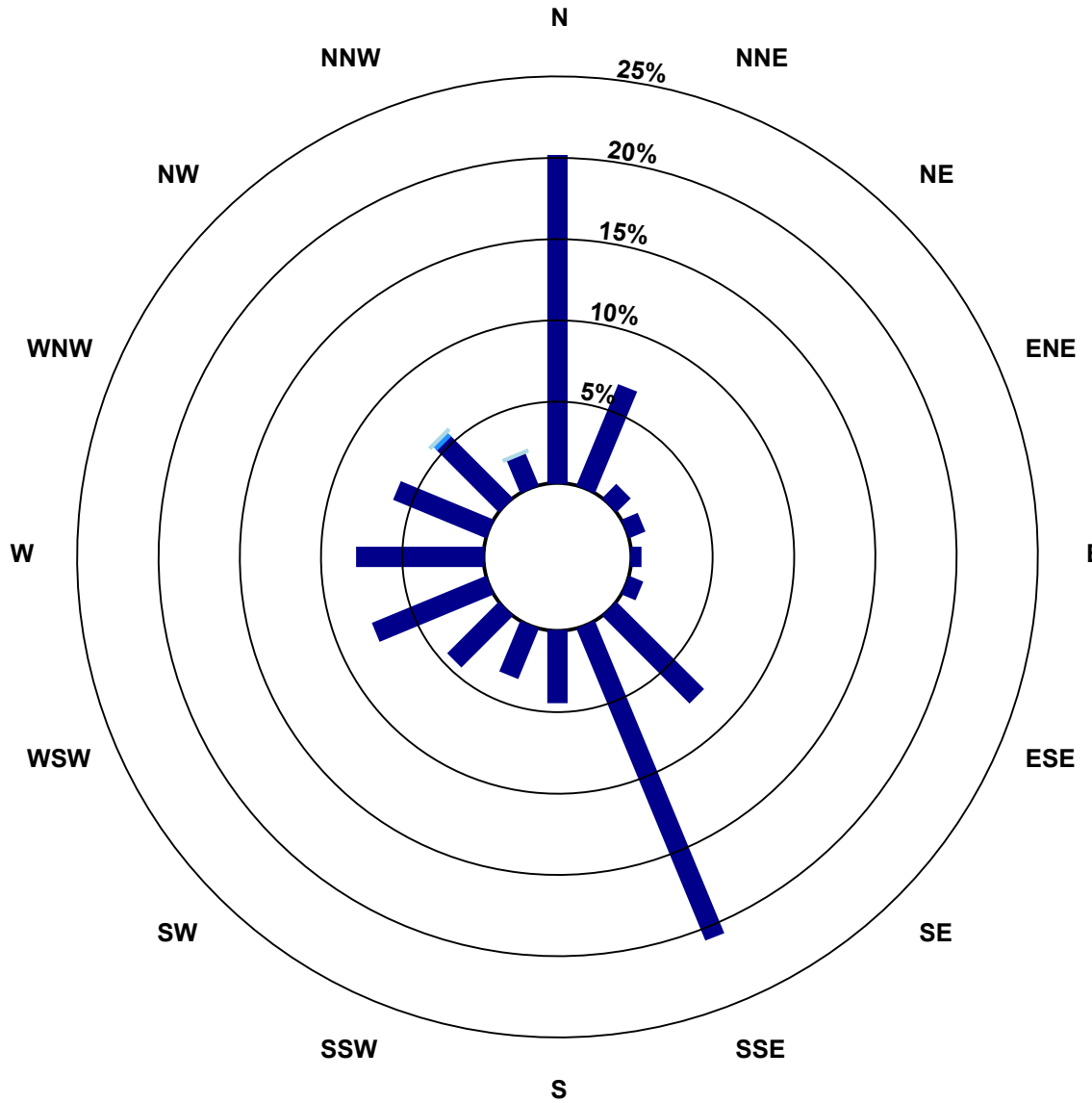
Total Number of Valid Hours: 706

Total Number of Hours: 744

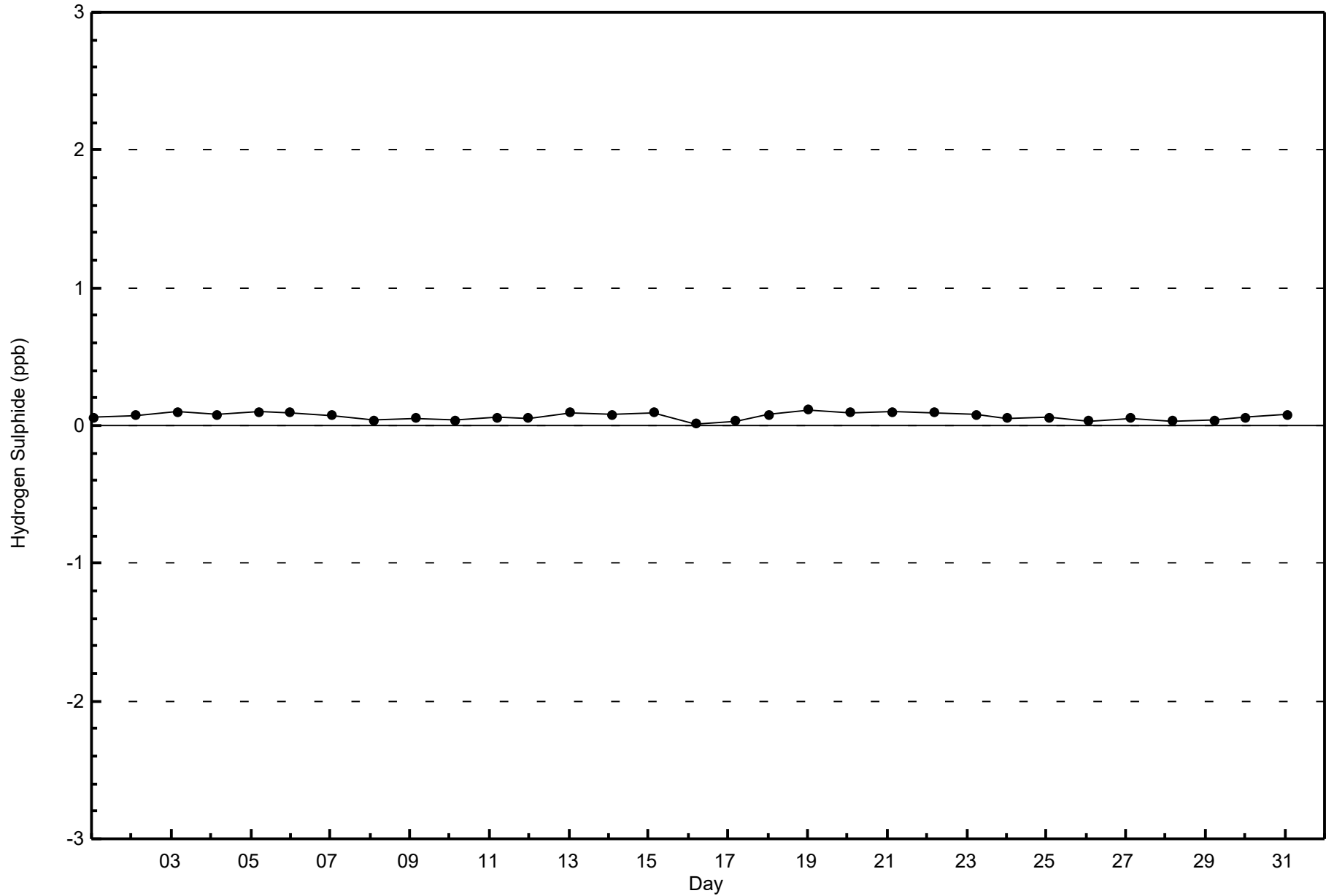


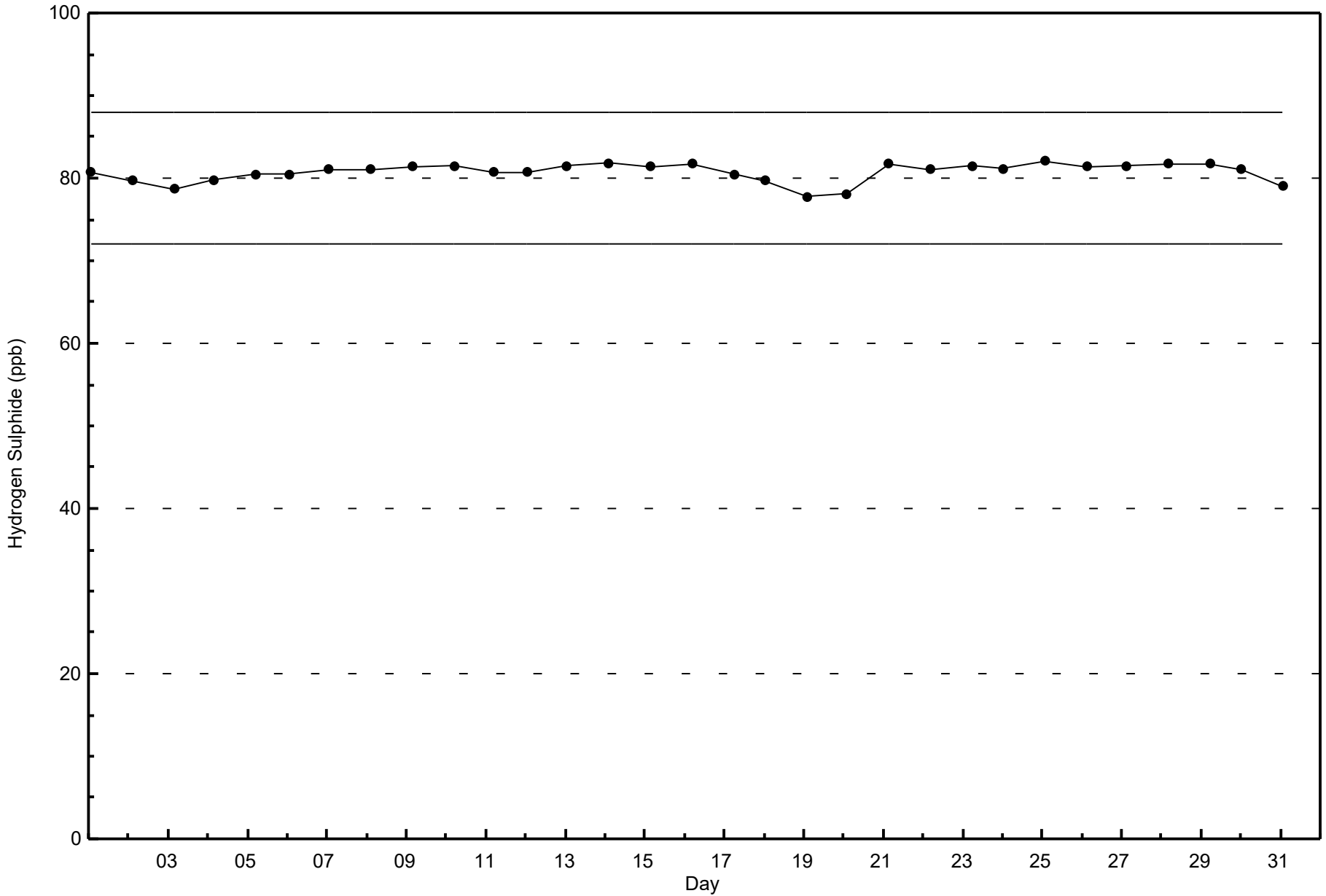
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Hydrogen Sulphide (H₂S) - ppb
Buffalo Viewpoint



Total Number of Valid Hours: 706

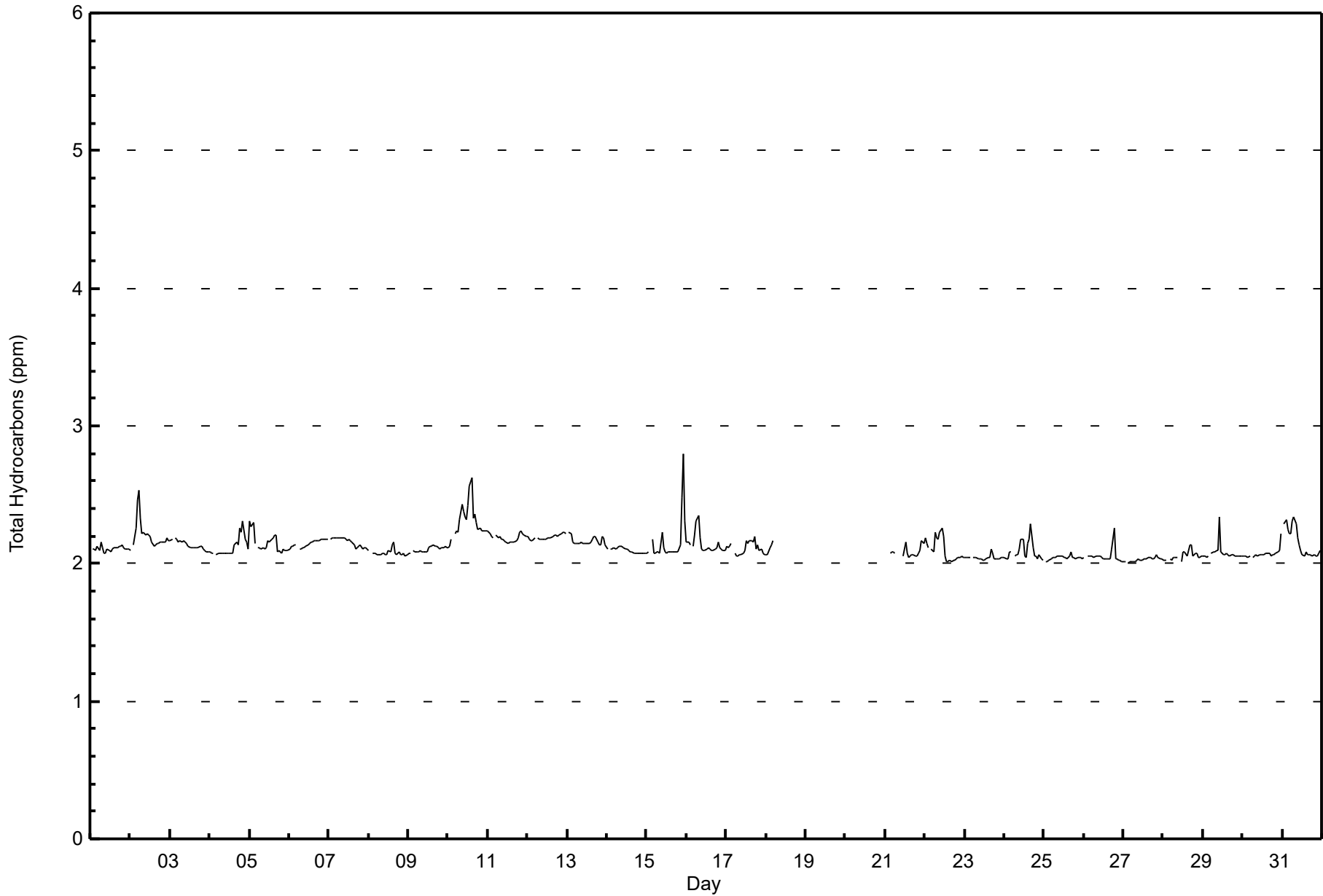






Wood Buffalo Environmental Association
Hourly Averages

Total Hydrocarbons (THC) - ppm
Buffalo Viewpoint - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Total Hydrocarbons (THC) - ppm
Buffalo Viewpoint - January 2025**

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	111	17.32	17.32
2.1 - 3.0	530	82.68	100.00
3.1 - 10.0	0	0.00	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 641

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Total Hydrocarbons (THC) - ppm
Buffalo Viewpoint - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2.0	1	4	0	0	0	0	3	11	1	8	17	22	21	16	7	0	111
2.1 - 3.0	137	44	8	6	4	6	38	113	27	11	13	23	31	23	30	13	527
3.1 - 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	138	48	8	6	4	6	41	124	28	19	30	45	52	39	37	13	638

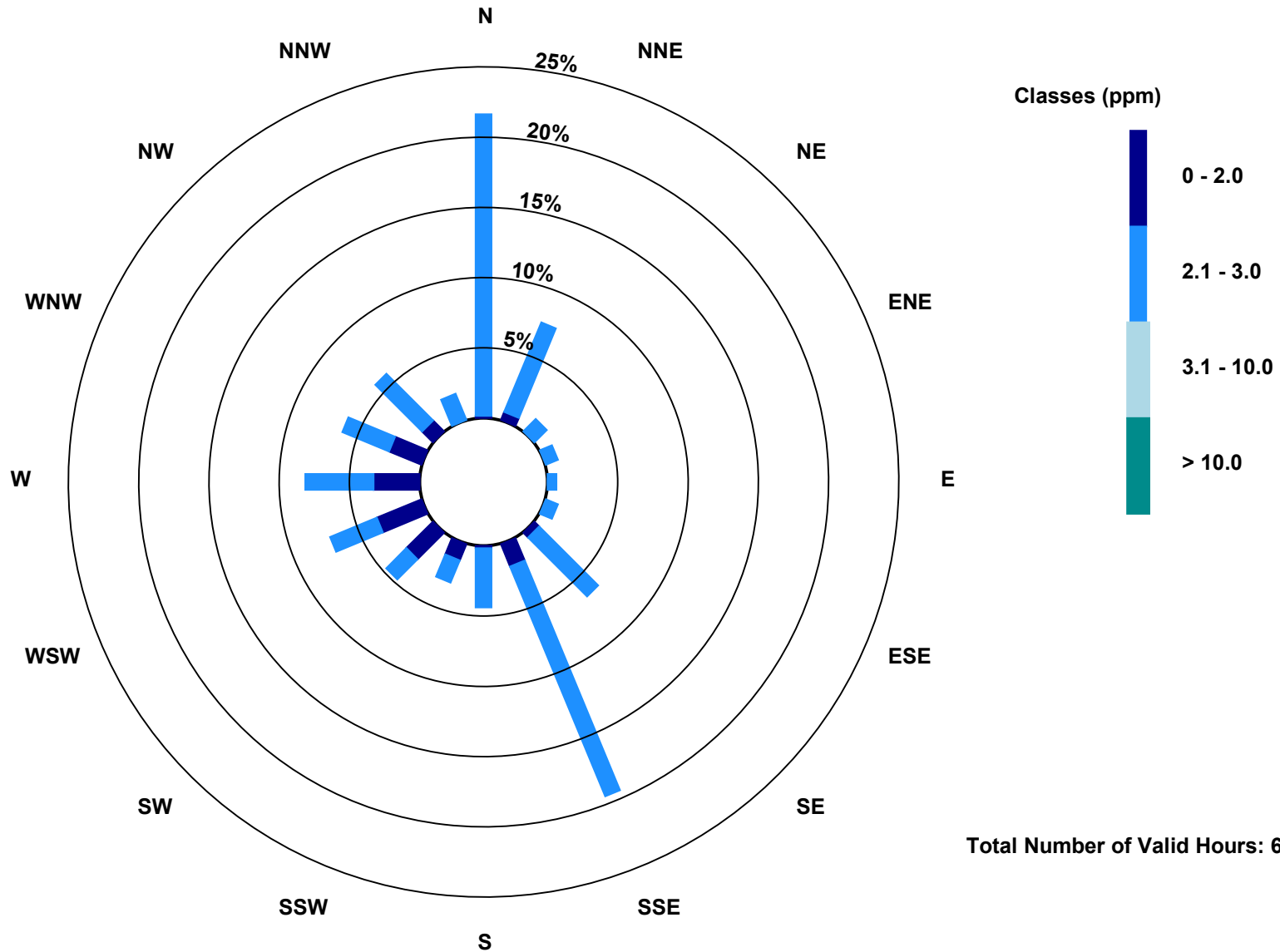
Total Number of Valid Hours: 638

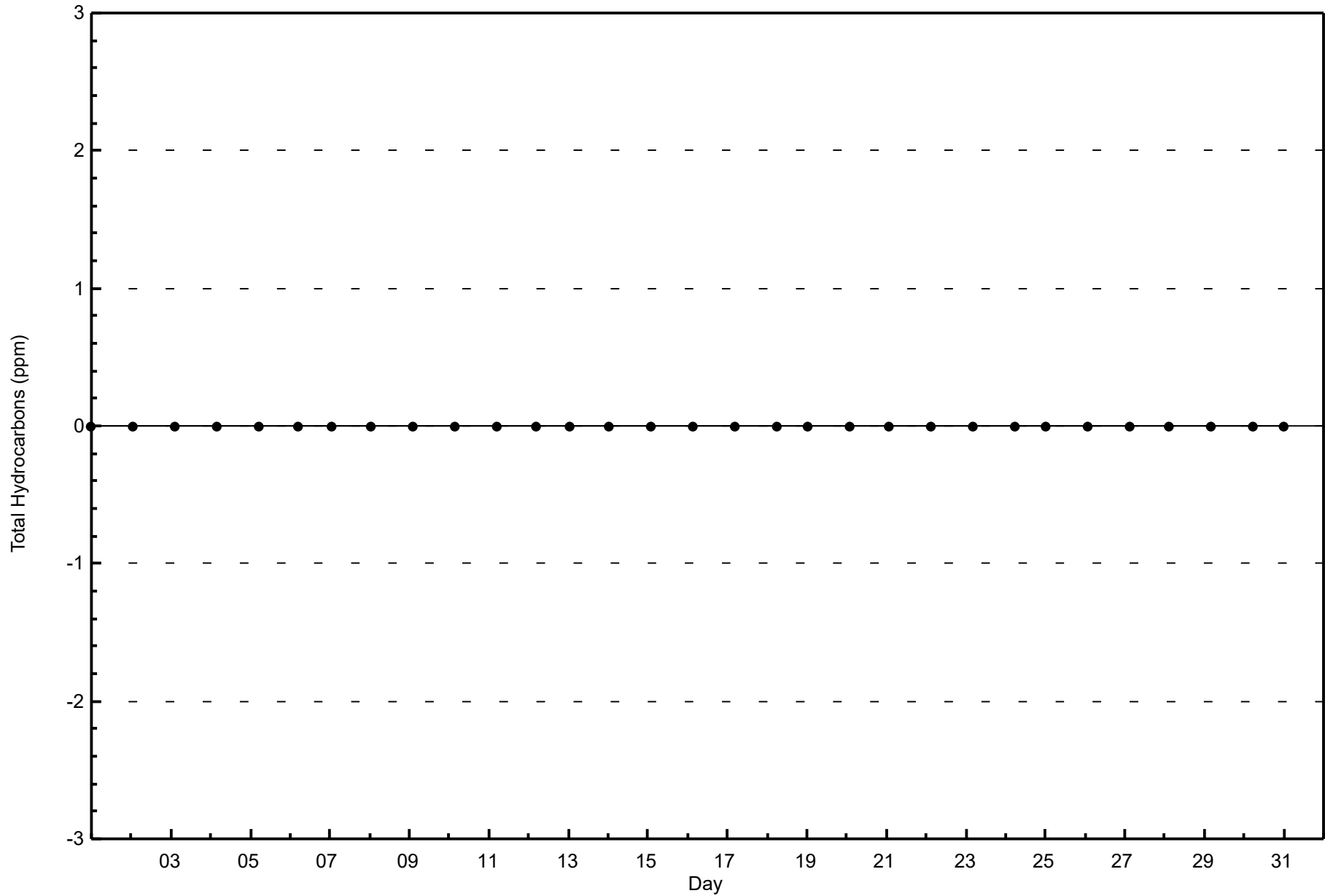
Total Number of Hours: 744

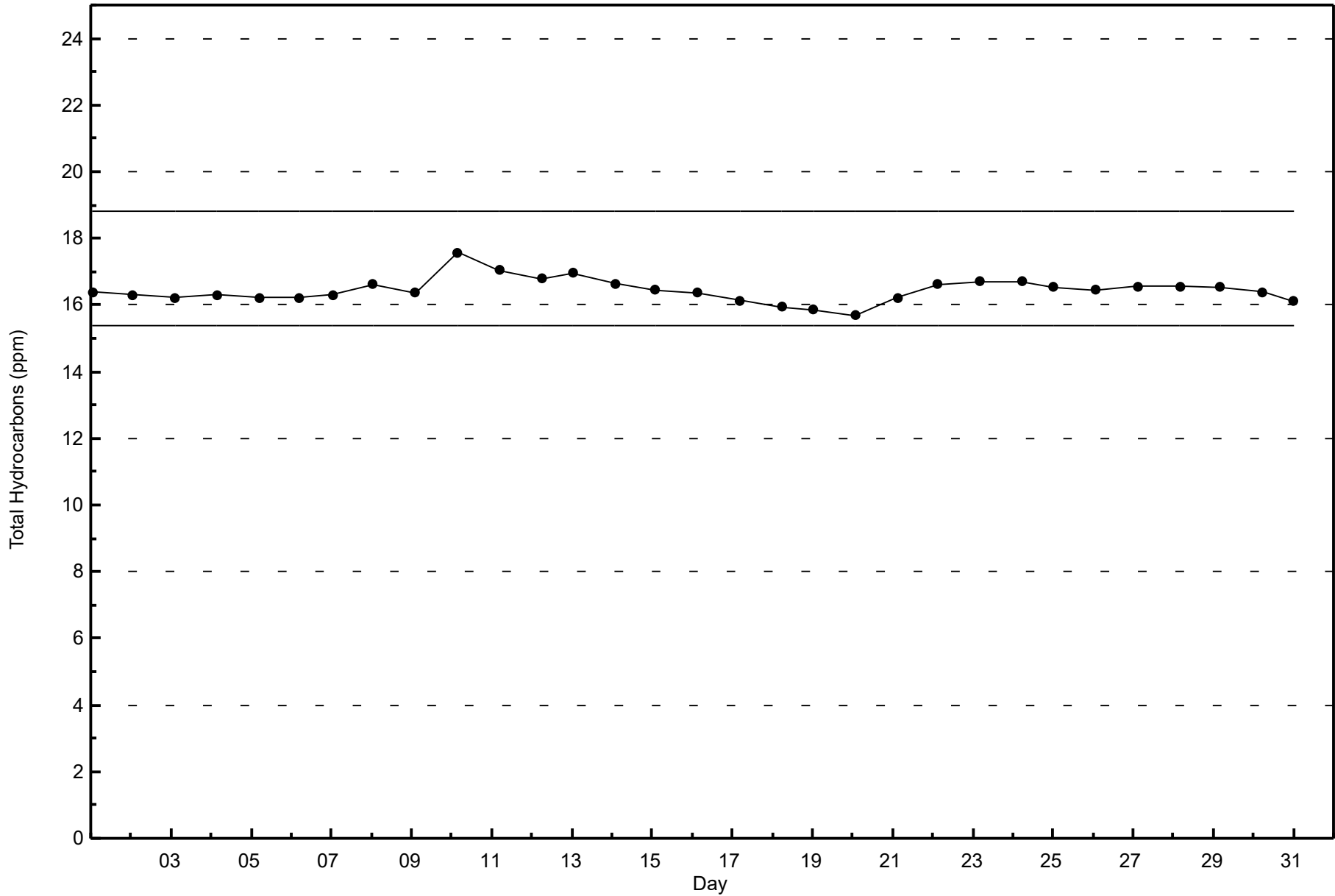


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Total Hydrocarbons (THC) - ppm
Buffalo Viewpoint



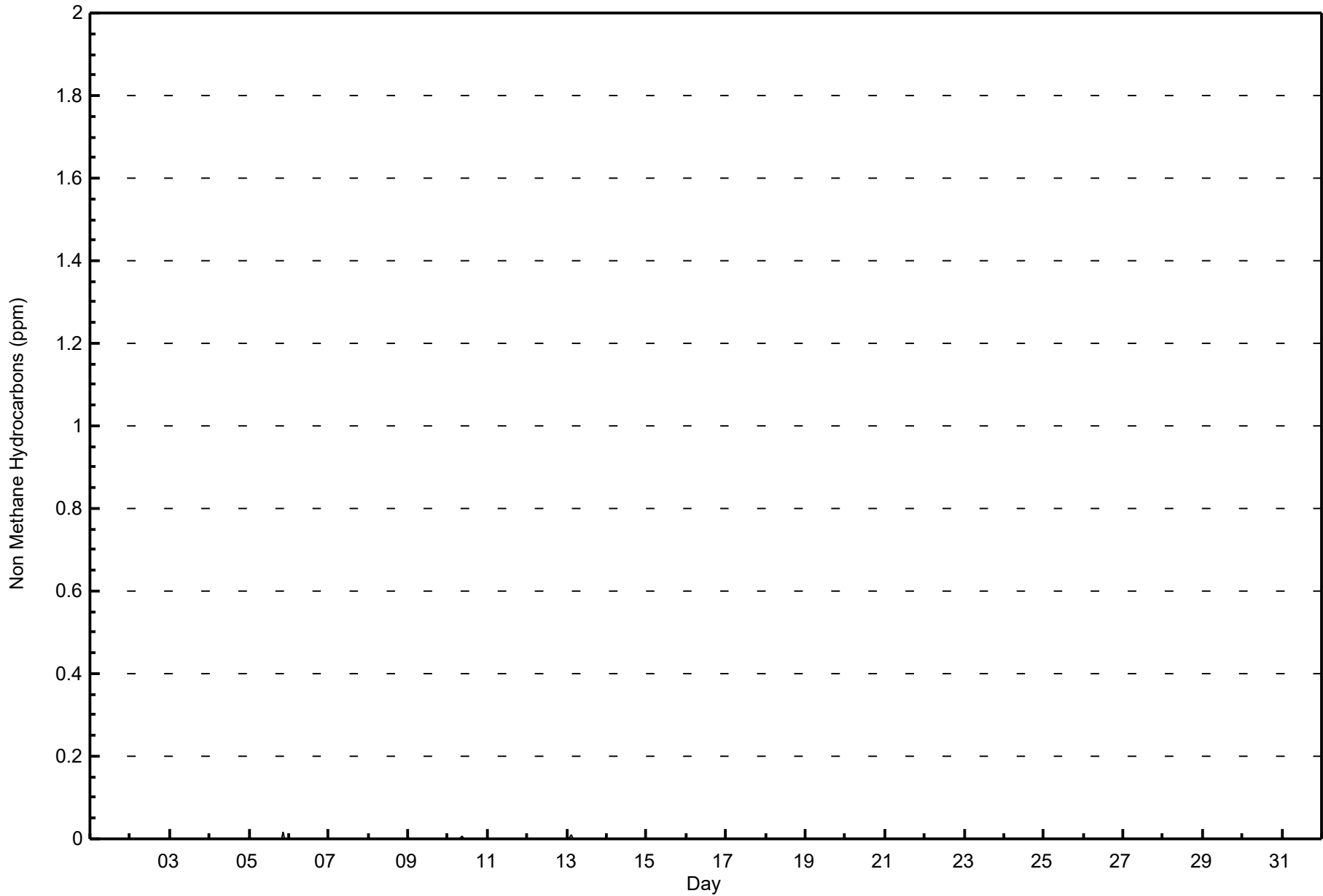






Wood Buffalo Environmental Association
Hourly Averages

Non Methane Hydrocarbons (NMHC) - ppm
Buffalo Viewpoint - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Non Methane Hydrocarbons (NMHC) - ppm
Buffalo Viewpoint - January 2025**

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 0.005	639	99.69	99.69
0.006 - 0.05	2	0.31	100.00
0.06 - 0.1	0	0.00	100.00
> 0.1	0	0.00	100.00

Total Number of Valid Hours: 641

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Non Methane Hydrocarbons (NMHC) - ppm
Buffalo Viewpoint - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 0.005	138	48	8	6	4	6	41	123	28	19	30	45	52	39	36	13	636
0.006 - 0.05	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	2
0.06 - 0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	138	48	8	6	4	6	41	124	28	19	30	45	52	39	37	13	638

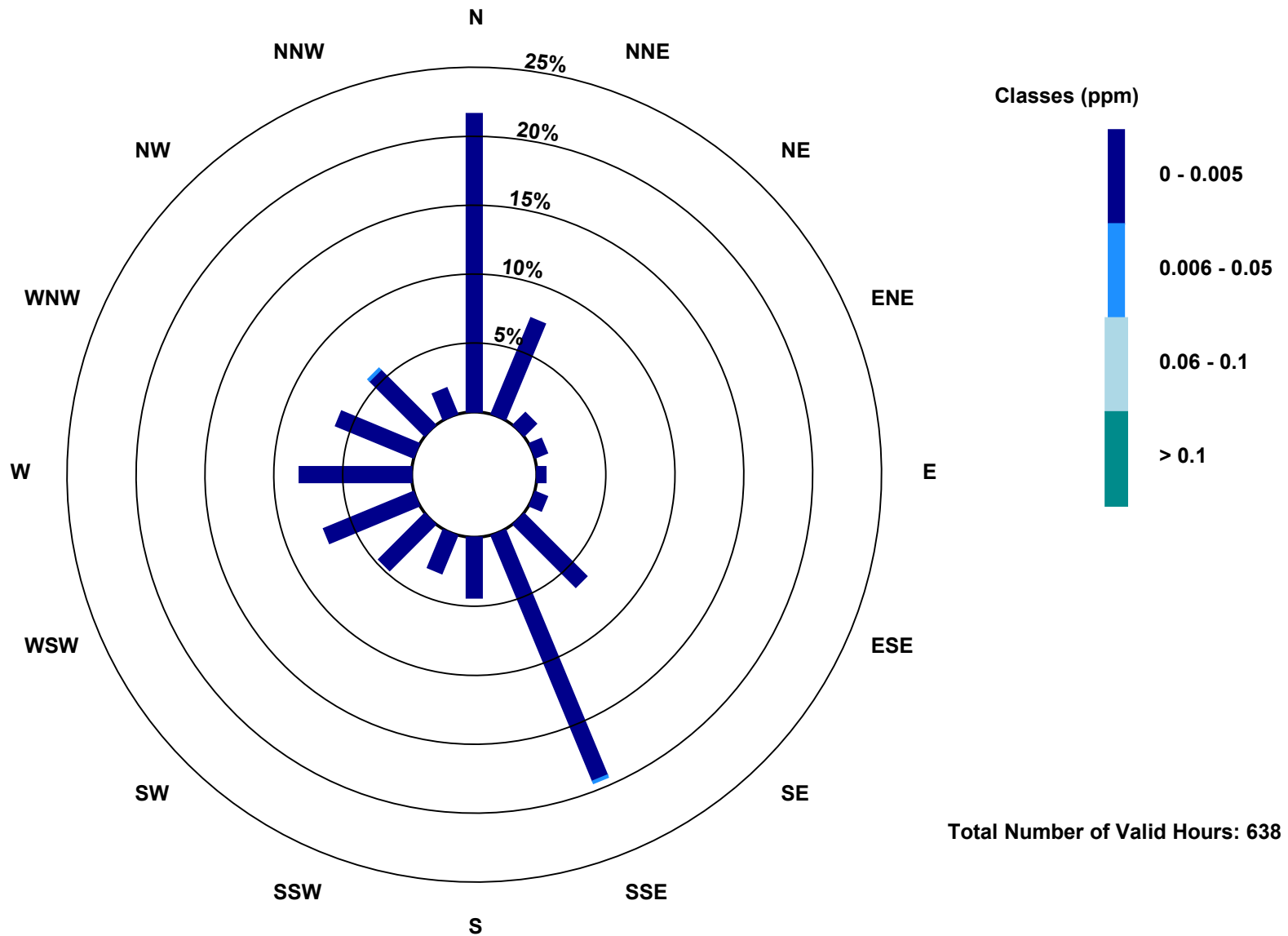
Total Number of Valid Hours: 638

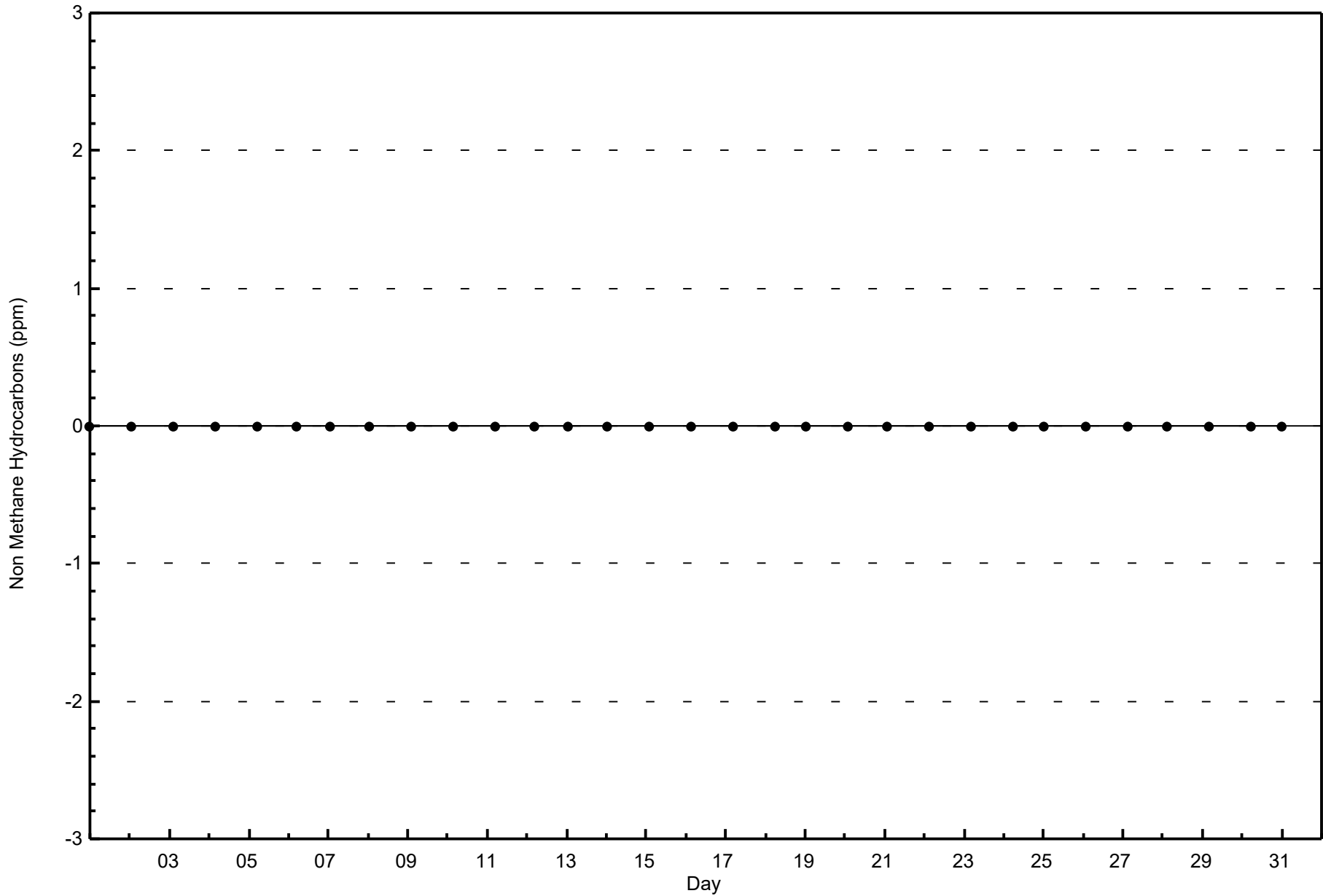
Total Number of Hours: 744

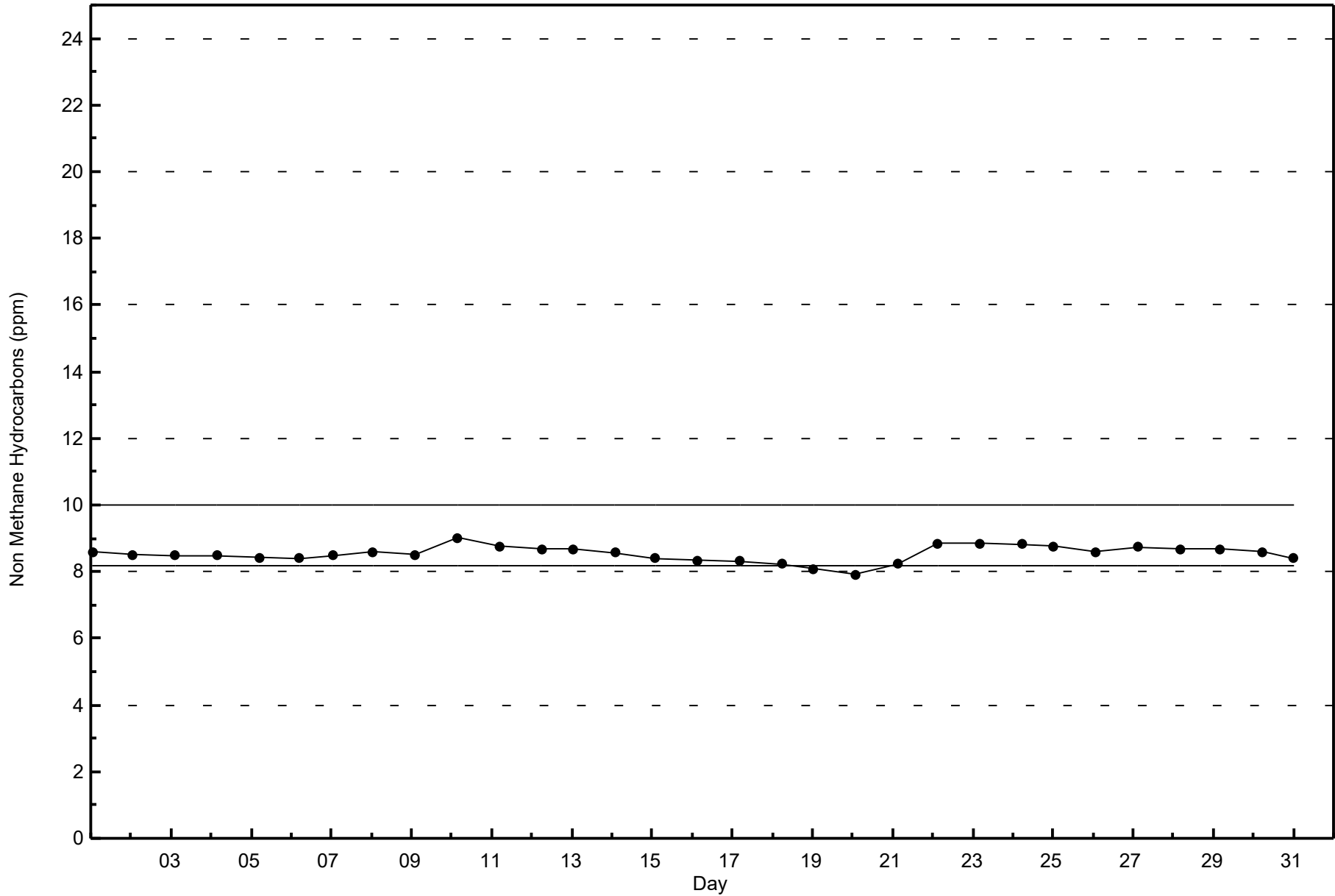


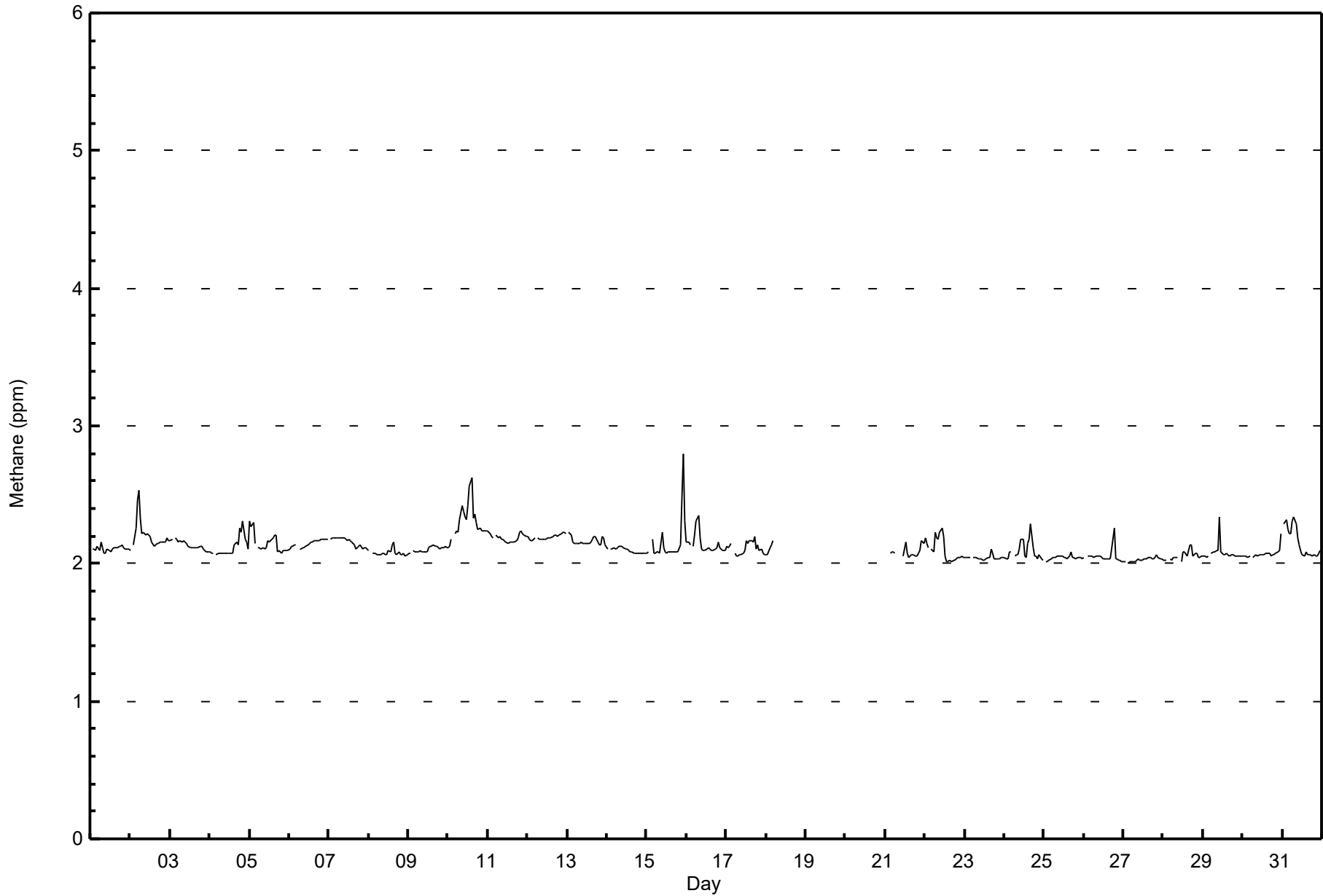
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Non Methane Hydrocarbons (NMHC) - ppm
Buffalo Viewpoint











**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Methane (CH₄) - ppm
Buffalo Viewpoint - January 2025**

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	111	17.32	17.32
2.1 - 3.0	530	82.68	100.00
3.1 - 10.0	0	0.00	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 641

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Methane (CH₄) - ppm
Buffalo Viewpoint - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2.0	1	4	0	0	0	0	3	11	1	8	17	22	21	16	7	0	111
2.1 - 3.0	137	44	8	6	4	6	38	113	27	11	13	23	31	23	30	13	527
3.1 - 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	138	48	8	6	4	6	41	124	28	19	30	45	52	39	37	13	638

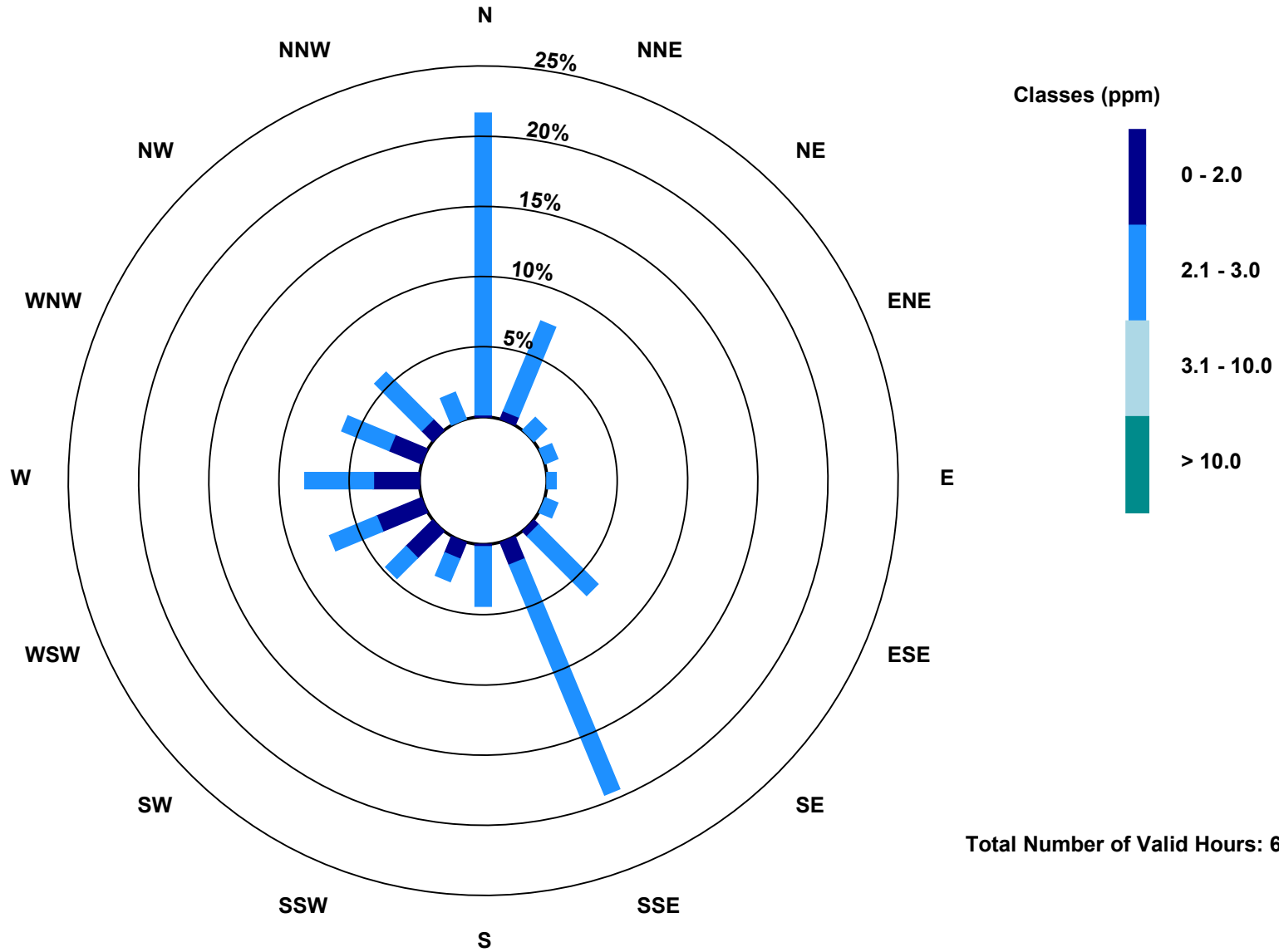
Total Number of Valid Hours: 638

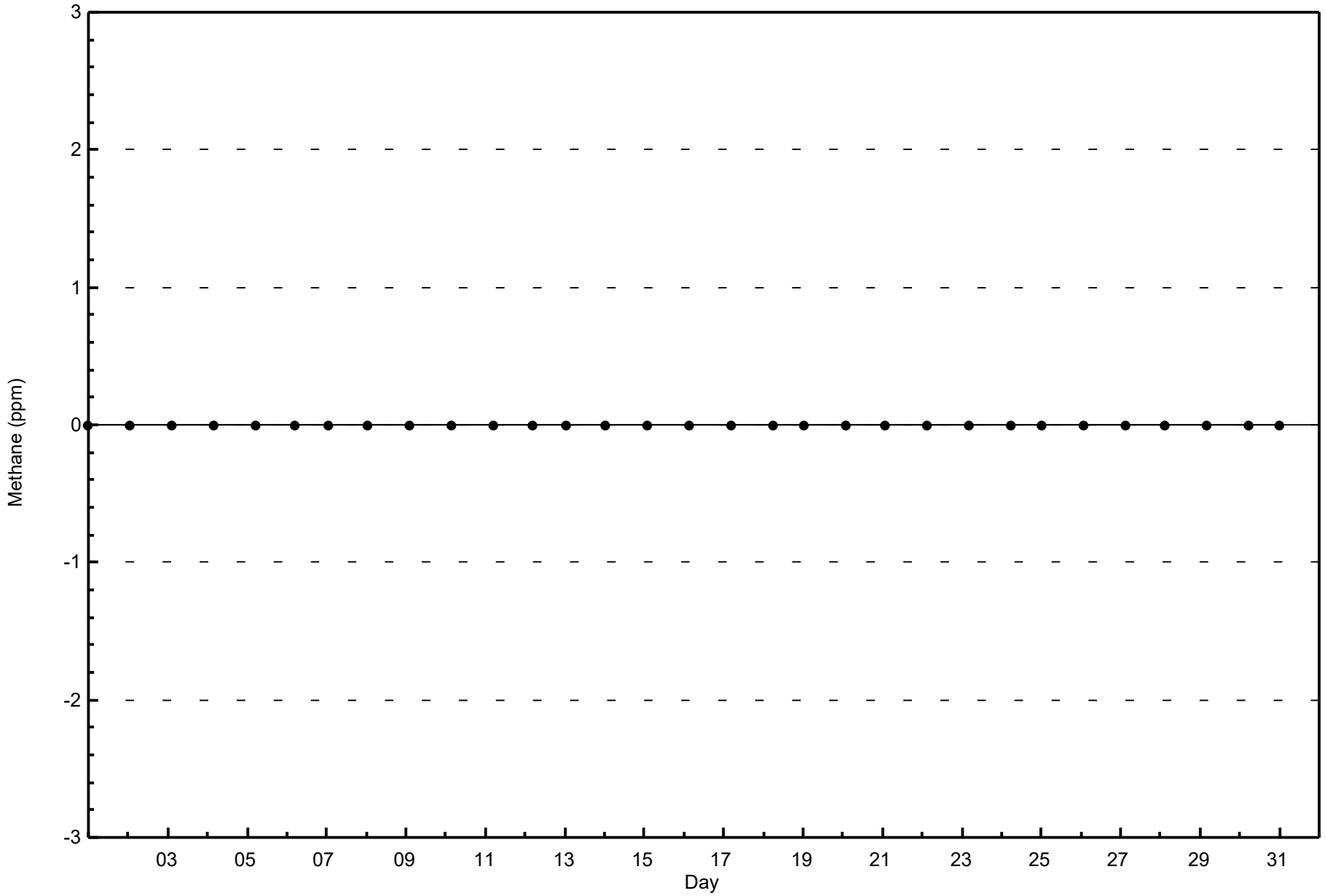
Total Number of Hours: 744

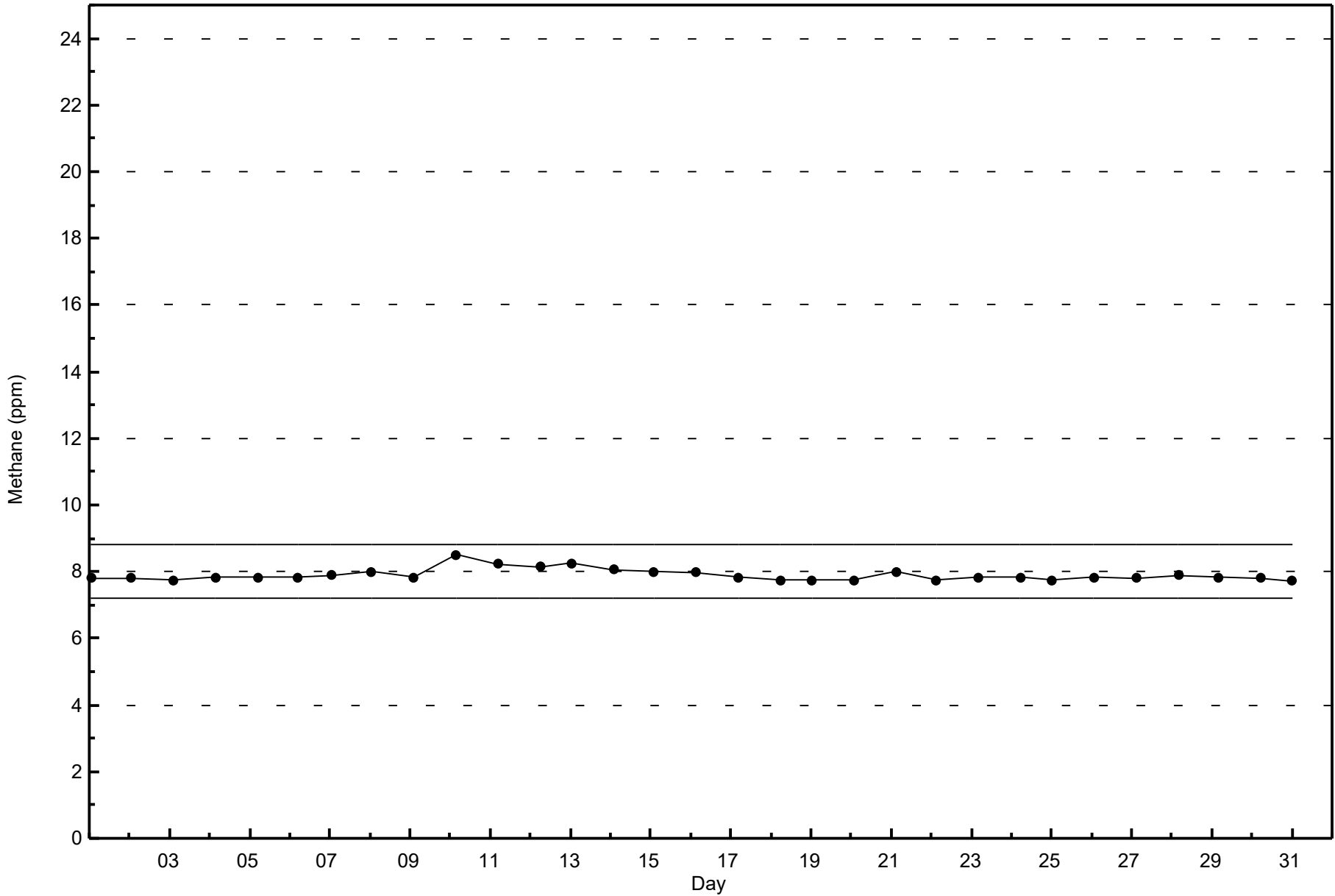


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Methane (CH₄) - ppm
Buffalo Viewpoint







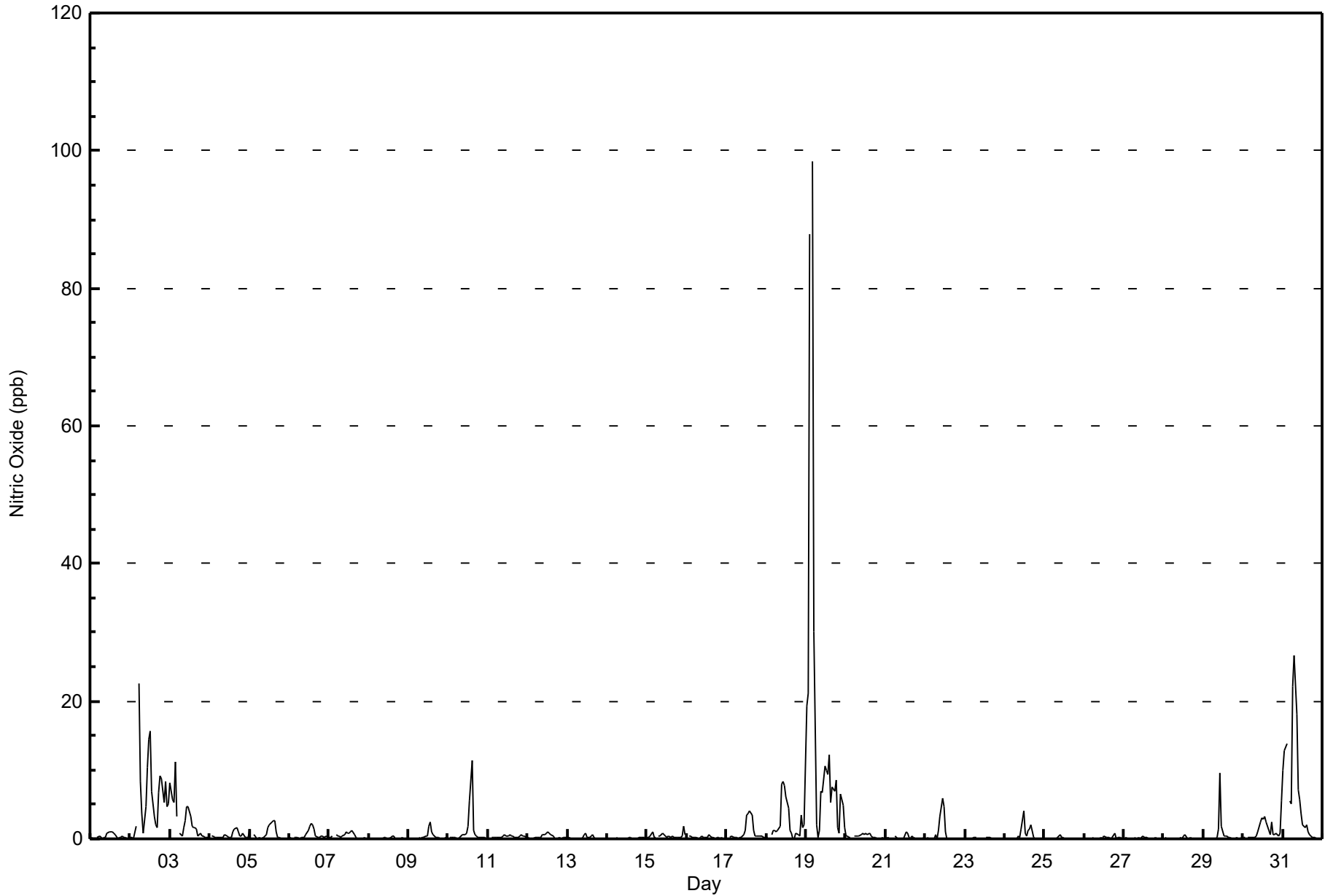


Maximum Value: 98.4 ppb on Jan 19 05:00		Maximum Daily Average: 15.6 ppb on Jan 19		Hours in Service:	744																																											
Minimum Value: 0.0 ppb on Jan 1 03:00		Minimum Daily Average: 0.1 ppb on Jan 14		Hours of Data:	708																																											
Maximum Diurnal Average: 4.3 ppb at hour 5		Minimum Diurnal Average: 0.4 ppb at hour 21		Hours of Missing Data:	36																																											
Monthly Average: 1.41 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.2 Q ₃ = 0.6 P ₉₀ = 3.0 P ₉₉ = 19.2		Hours of Calibration:	36																																											
				Percent Operational Time:	100.0																																											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Jan	0.2	0.0	0.0	Z	0.2	0.3	0.2	0.0	0.2	0.2	0.9	1.0	0.9	0.9	0.5	0.0	0.2	0.2	0.3	0.3	0.1	0.1	0.3	0.3	0.3																							
2-Jan	0.2	0.1	0.0	1.9	Z	22.5	8.4	3.7	0.8	4.7	10.3	14.3	15.6	7.0	3.3	2.0	1.6	6.6	9.2	8.7	5.4	8.3	4.8	5.0	6.3	22.5																						
3-Jan	8.1	5.7	5.2	11.1	3.2	Z	0.8	0.5	1.5	2.6	4.7	4.7	3.3	1.8	1.7	1.6	1.4	0.5	0.9	0.5	0.3	0.2	0.3	0.2	2.6	11.1																						
4-Jan	Z	0.4	0.4	0.1	0.1	0.1	0.1	0.2	0.2	0.6	0.3	0.3	0.2	0.3	1.1	1.4	1.6	0.9	0.4	0.3	0.8	0.3	0.2	0.1	0.5	1.6																						
5-Jan	1.4	Z	0.6	0.3	0.1	0.1	0.2	0.1	0.2	0.5	0.7	1.7	2.1	2.4	2.6	2.6	1.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.7	2.6																						
6-Jan	0.1	0.0	Z	0.3	0.1	0.1	0.0	0.2	0.1	0.2	0.7	1.1	1.8	2.3	2.1	1.5	0.4	0.2	0.2	0.3	0.4	0.2	0.3	0.3	0.6	2.3																						
7-Jan	0.2	0.2	0.3	Z	0.5	0.4	0.3	0.2	0.3	0.5	1.0	0.9	0.8	1.1	1.2	0.6	0.2	0.0	0.0	0.1	0.0	0.2	0.0	0.0	0.4	1.2																						
8-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.1	0.0	0.0	0.2	0.1	0.1	0.0	0.1	0.3	0.4	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.4																						
9-Jan	0.0	0.0	0.1	0.1	0.0	Z	0.2	0.1	0.2	0.2	0.3	0.4	1.9	2.4	1.0	0.6	0.3	0.2	0.1	0.1	0.0	0.1	0.2	0.1	0.4	2.4																						
10-Jan	Z	0.2	0.2	0.1	0.2	0.0	0.0	0.2	0.6	0.6	0.6	0.9	1.9	5.6	11.3	1.2	0.6	0.4	0.3	0.2	0.1	0.2	0.3	0.0	1.1	11.3																						
11-Jan	0.1	Z	0.2	0.3	0.2	0.2	0.1	0.2	0.1	0.3	0.7	0.3	0.3	0.6	0.4	0.4	0.2	0.1	0.3	0.3	0.5	0.4	0.4	0.3	0.3	0.7																						
12-Jan	0.2	0.0	Z	0.1	0.2	0.2	0.3	0.2	0.2	0.5	0.6	0.7	0.9	0.7	0.7	0.4	0.1	0.0	0.0	0.1	0.0	0.2	0.1	0.1	0.3	0.9																						
13-Jan	0.1	0.2	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.2	0.6	0.7	0.2	0.2	0.3	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.7																						
14-Jan	0.0	0.0	0.0	0.0	Z	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.0	0.0	0.1	0.2																						
15-Jan	0.2	0.2	0.5	1.1	0.1	0.2	Z	0.5	0.4	0.8	0.6	0.5	0.3	0.3	0.3	0.3	0.2	0.3	0.1	0.2	0.1	0.5	1.9	0.6	0.4	1.9																						
16-Jan	Z	0.4	0.4	0.2	0.2	0.3	0.2	0.1	0.3	0.3	0.2	0.3	0.2	0.6	0.4	0.1	0.1	0.1	0.1	0.2	0.0	0.1	0.0	0.0	0.2	0.6																						
17-Jan	0.0	Z	0.2	0.3	0.3	0.1	0.1	0.1	0.1	0.2	0.7	1.3	3.4	3.6	4.0	3.5	1.2	0.5	0.3	0.5	0.5	0.3	0.2	0.1	0.9	4.0																						
18-Jan	0.1	0.1	Z	0.6	1.2	1.3	0.9	1.1	1.7	7.9	8.4	7.7	6.2	4.4	1.3	0.8	0.0	0.0	0.9	0.6	0.4	3.5	1.5	2.0	2.3	8.4																						
19-Jan	19.3	21.1	87.9	Z	98.4	30.0	2.0	0.1	1.2	6.9	6.6	10.5	10.0	9.4	12.2	5.2	7.5	7.0	8.5	1.6	0.9	6.5	4.9	1.6	15.6	98.4																						
20-Jan	0.5	0.3	0.2	0.2	Z	0.4	0.5	0.3	0.3	0.6	0.8	0.6	0.9	0.6	0.8	0.4	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.0	0.4	0.9																						
21-Jan	0.0	0.3	0.0	0.0	0.1	Z	0.3	0.1	0.1	0.1	0.1	0.0	1.0	0.9	0.2	0.0	0.5	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.2	1.0																						
22-Jan	Z	0.1	0.0	0.0	0.0	0.0	0.7	0.1	1.3	3.2	5.9	4.7	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	5.9																						
23-Jan	0.0	Z	0.0	0.0	0.0	0.1	0.2	0.2	C	C	C	C	C	0.3	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3																						
24-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.4	0.3	1.4	4.0	0.8	0.4	1.1	1.5	2.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.5	4.0																						
25-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.6	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.6																						
26-Jan	0.1	0.0	0.0	0.1	Z	0.2	0.0	0.1	0.1	0.1	0.3	0.1	0.4	0.2	0.2	0.2	0.1	0.2	0.8	0.0	0.1	0.1	0.2	0.0	0.2	0.8																						
27-Jan	0.0	0.1	0.0	0.1	0.0	Z	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.1	0.2	0.1	0.0	0.0	0.1	0.2	0.0	0.0	0.1	0.1	0.1	0.3																						
28-Jan	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.4	0.5	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.5																						
29-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.5	9.5	1.8	0.4	0.4	0.5	0.2	0.3	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.7	9.5																						
30-Jan	0.3	0.3	Z	0.2	0.1	0.2	0.1	0.3	0.5	1.1	2.5	3.0	2.8	3.3	2.5	1.1	0.7	2.4	0.6	0.5	0.7	0.3	0.8	5.4	1.3	5.4																						
31-Jan	10.0	12.7	13.9	Z	5.5	5.0	22.2	26.7	18.0	7.2	5.7	3.7	2.0	1.5	2.1	1.1	0.6	0.3	0.2	0.1	0.0	0.0	0.0	0.1	6.0	26.7																						
																								1.6	1.6	4.2	0.7	4.3	2.3	1.3	1.1	1.0	1.4	2.2	2.2	2.0	1.7	1.7	0.9	0.7	0.7	0.8	0.5	0.4	0.7	0.5	0.5	Diurnal Average
																								19.3	21.1	87.9	11.1	98.4	30.0	22.2	26.7	18.0	7.9	10.3	14.3	15.6	9.4	12.2	5.2	7.5	7.0	9.2	8.7	5.4	8.3	4.9	5.4	Diurnal Maximum
Z - zerospan																								C - Calibration																								



Wood Buffalo Environmental Association
Hourly Averages

Nitric Oxide (NO) - ppb
Buffalo Viewpoint - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Nitric Oxide (NO) - ppb
Buffalo Viewpoint - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	701	99.01	99.01
21 - 40	5	0.71	99.72
41 - 80	0	0.00	99.72
81 - 159	2	0.28	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitric Oxide (NO) - ppb
Buffalo Viewpoint - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	141	45	9	7	4	6	50	151	31	24	27	53	54	41	41	14	698
21 - 40	1	2	0	0	0	0	0	0	0	0	0	0	0	1	0	1	5
11 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	142	47	9	7	4	6	50	151	31	24	27	53	54	42	41	17	705

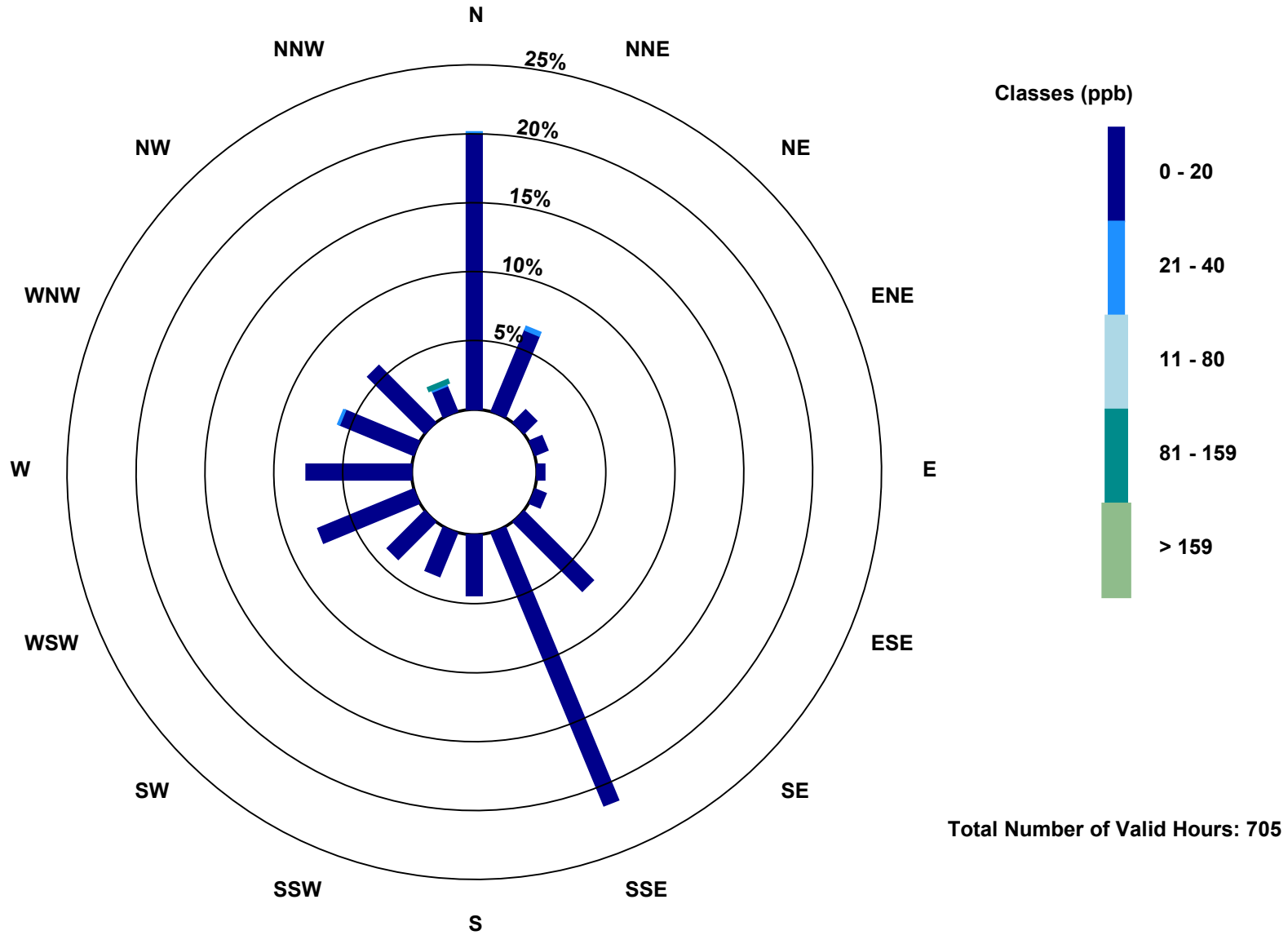
Total Number of Valid Hours: 705

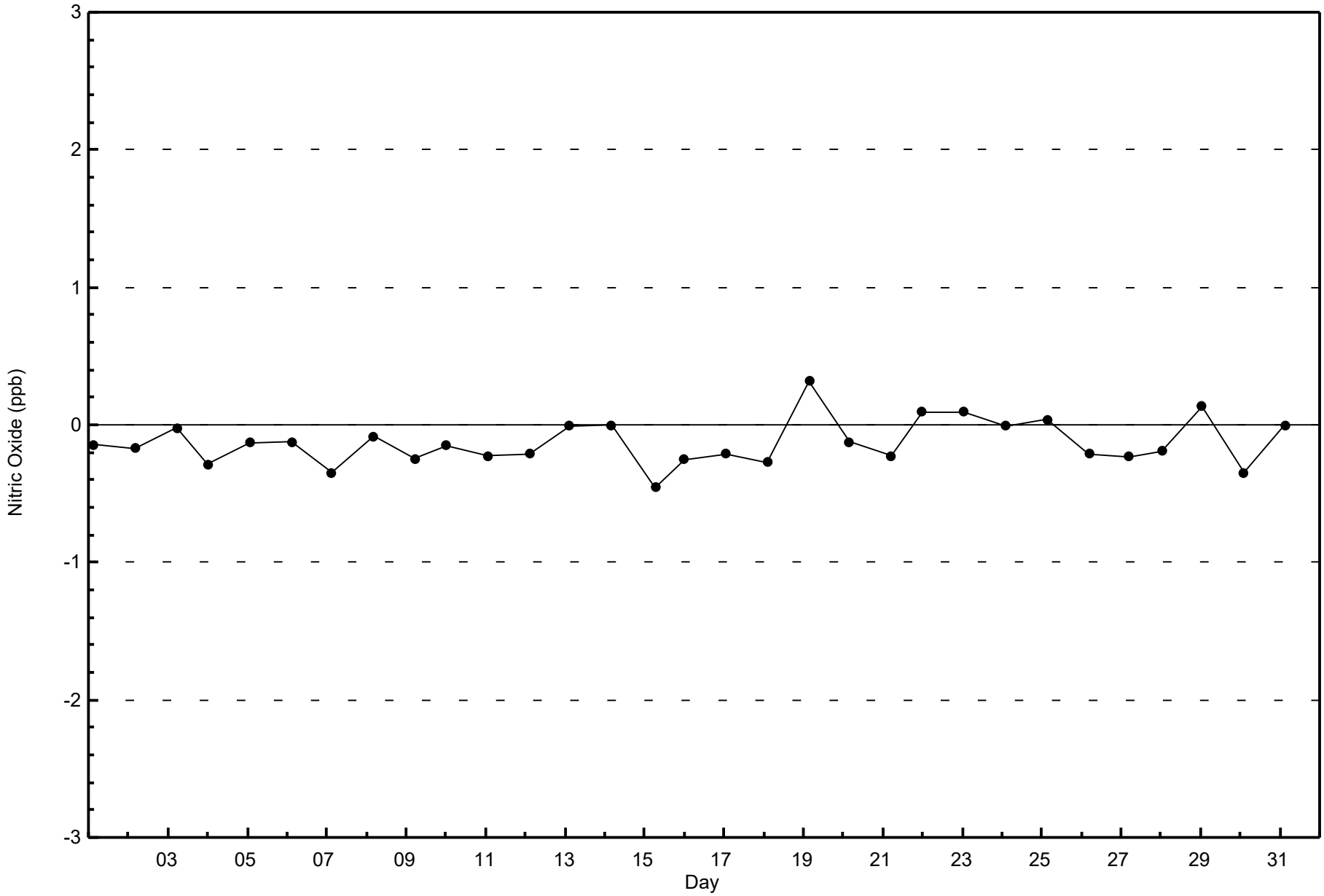
Total Number of Hours: 744

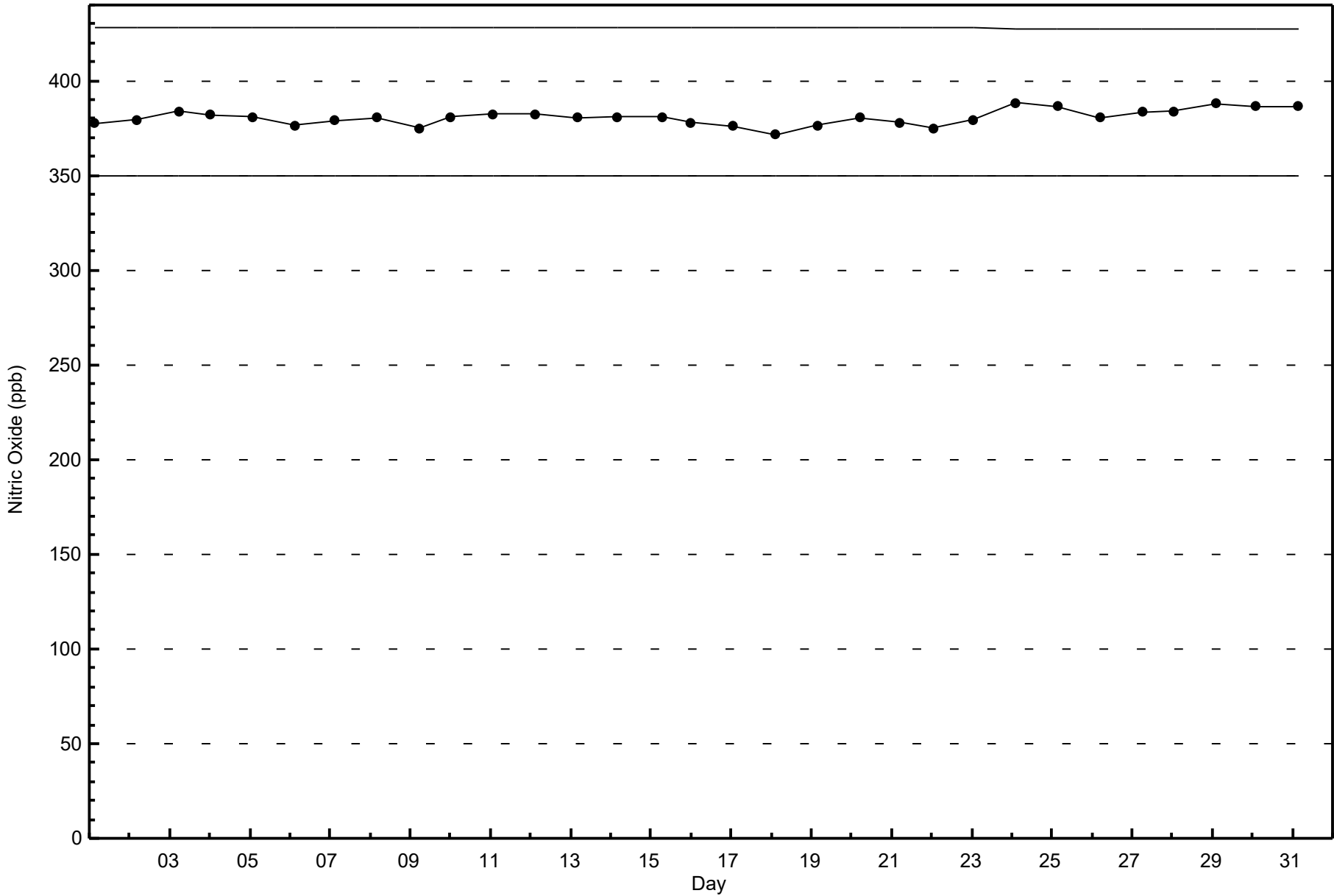


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitric Oxide (NO) - ppb
Buffalo Viewpoint









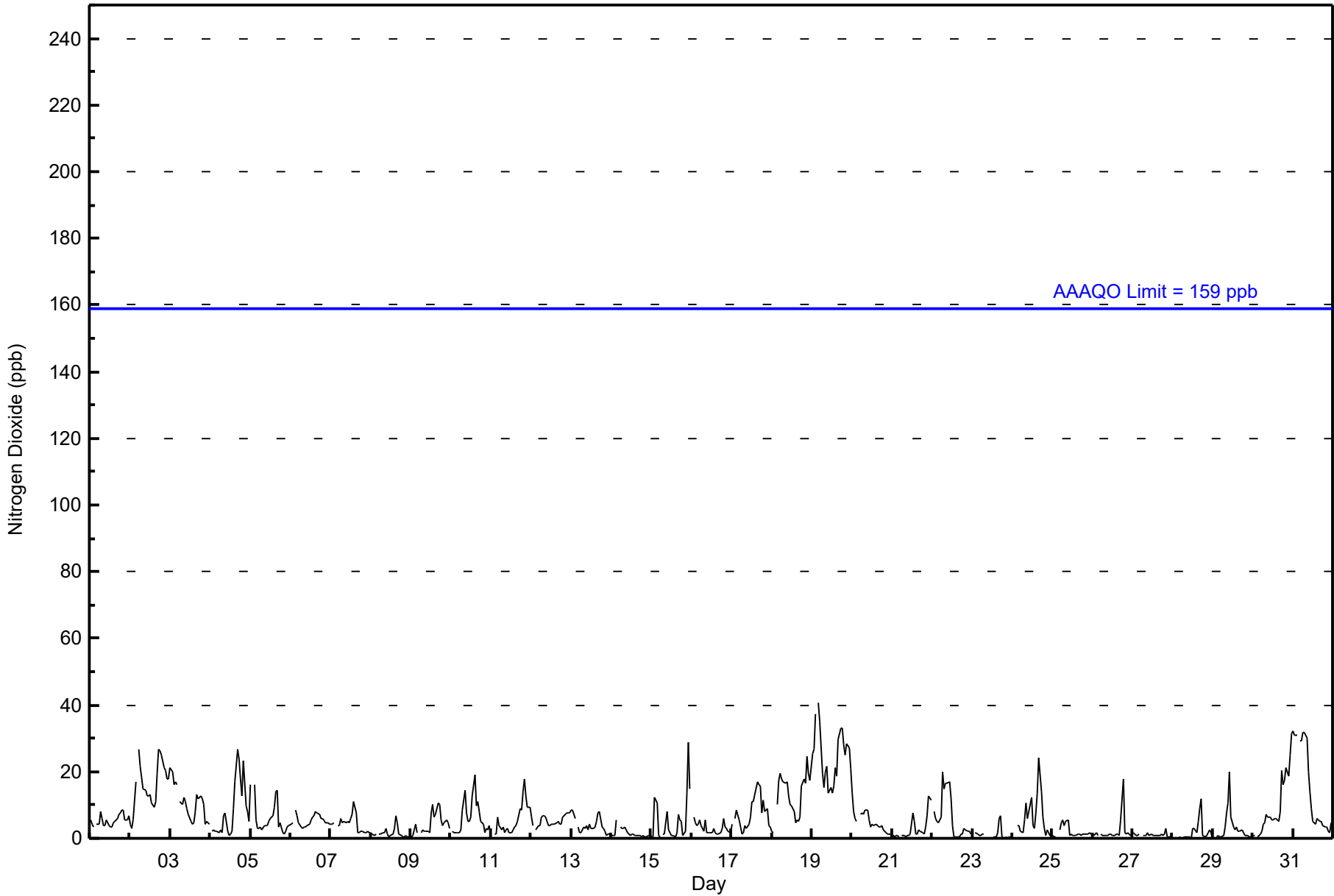
Wood Buffalo Environmental Association
Summary of Hour Averages

Nitrogen Dioxide (NO₂) - ppb
Buffalo Viewpoint - January 2025

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 40.5 ppb on Jan 19 05:00	Maximum Daily Average: 24.5 ppb on Jan 19		Hours of Data:	708
Minimum Value: 0.0 ppb on Jan 23 22:00	Minimum Daily Average: 1.1 ppb on Jan 27		Hours of Missing Data:	36
Maximum Diurnal Average: 8.4 ppb at hour 18	Minimum Diurnal Average: 4.7 ppb at hour 14		Hours of Calibration:	36
Monthly Average: 6.27 ppb	Percentiles: P ₁ = 0.1 P ₁₀ = 0.7 Q ₁ = 1.4 Median = 3.9 Q ₃ = 7.8 P ₉₀ = 16.7 P ₉₉ = 31.9		Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	5.5	4.1	3.4	Z	4.4	4.1	8.2	6.1	3.9	3.9	5.4	4.0	3.5	3.5	4.5	5.0	6.1	7.0	7.6	8.6	8.4	5.7	5.5	6.6	5.4	8.6																							
2-Jan	4.1	2.8	5.6	16.9	Z	26.7	21.6	18.4	15.0	14.5	12.7	12.5	13.2	10.4	9.3	11.1	19.3	26.7	26.4	24.8	21.3	20.3	17.8	17.9	16.1	26.7																							
3-Jan	21.3	20.1	15.9	17.1	15.9	Z	10.9	10.3	12.4	10.9	9.0	7.3	5.2	4.1	4.6	8.0	13.2	11.9	12.8	11.8	10.2	4.4	5.1	4.2	10.7	21.3																							
4-Jan	Z	2.2	2.5	2.2	2.2	1.9	2.4	1.7	6.6	7.7	2.1	1.0	1.2	2.0	8.8	17.1	26.8	23.7	17.8	12.5	23.2	9.8	8.0	5.2	8.2	26.8																							
5-Jan	16.2	Z	16.0	5.7	2.8	2.9	3.3	2.7	3.7	3.9	3.8	5.2	6.0	6.8	9.2	14.1	14.6	3.2	4.7	1.8	1.4	2.0	3.3	3.9	6.0	16.2																							
6-Jan	4.1	4.5	Z	8.5	6.6	4.8	3.4	3.0	3.4	3.6	3.8	4.1	5.3	6.3	6.7	8.2	7.6	7.2	6.1	5.9	5.5	4.7	4.7	4.3	5.3	8.5																							
7-Jan	4.2	4.2	4.6	Z	3.8	3.8	5.8	4.5	5.0	4.8	5.1	4.7	5.8	7.4	10.9	7.8	1.8	1.7	2.1	2.0	1.7	1.8	2.1	1.9	4.2	10.9																							
8-Jan	1.6	1.2	1.0	1.1	Z	1.2	1.1	1.5	1.8	3.1	1.2	0.5	0.7	1.1	3.0	6.7	4.5	1.4	0.9	0.4	0.6	0.8	0.4	0.6	1.6	6.7																							
9-Jan	0.4	0.7	2.4	4.1	1.5	Z	1.8	2.6	2.3	2.0	2.3	1.9	7.6	10.1	6.5	7.3	10.6	10.2	5.6	3.7	4.6	5.5	4.8	2.9	4.4	10.6																							
10-Jan	Z	2.3	1.8	1.8	1.7	1.5	2.6	8.6	14.6	7.5	5.0	5.1	6.3	12.8	18.9	9.6	11.1	8.2	4.9	4.2	1.8	2.8	2.6	3.7	6.1	18.9																							
11-Jan	1.2	Z	1.4	1.2	6.2	3.8	2.4	3.2	1.9	2.7	2.8	1.5	1.5	2.5	3.2	3.9	4.9	9.1	8.3	14.0	17.7	12.8	9.2	9.4	5.4	17.7																							
12-Jan	6.5	4.0	Z	2.6	3.7	4.0	6.2	6.8	6.6	6.3	3.9	3.9	4.4	4.2	4.2	4.7	5.0	4.4	4.1	6.2	7.2	7.6	7.7	7.5	5.3	7.7																							
13-Jan	8.3	8.4	6.0	Z	3.6	1.9	1.9	3.2	3.0	3.7	2.7	4.1	2.9	2.9	3.4	4.9	7.8	8.2	3.6	3.1	2.0	0.9	1.1	1.1	3.9	8.4																							
14-Jan	0.8	0.7	0.8	5.4	Z	3.5	3.0	3.1	3.3	2.4	1.5	0.9	1.3	1.2	1.0	0.9	0.9	0.9	0.5	0.7	0.6	0.4	1.0	0.7	1.5	5.4																							
15-Jan	0.4	0.3	12.2	10.8	0.9	0.5	Z	1.1	1.1	8.2	2.7	1.5	0.7	0.7	0.6	1.9	7.2	5.4	4.9	1.0	2.3	13.4	28.8	14.7	5.3	28.8																							
16-Jan	Z	6.4	4.8	4.0	4.2	5.3	4.0	2.0	5.4	1.6	1.6	1.7	1.7	2.8	1.7	1.4	1.1	1.9	2.9	6.1	3.6	2.9	2.2	1.9	3.1	6.4																							
17-Jan	4.1	Z	5.9	8.3	5.4	3.5	1.2	1.8	4.0	3.1	4.3	6.3	11.2	11.2	13.0	16.9	16.3	15.7	7.7	11.5	7.9	8.9	4.0	3.2	7.6	16.9																							
18-Jan	2.0	1.8	Z	10.0	17.3	19.6	17.7	16.9	16.7	17.1	12.5	10.1	9.6	8.2	4.7	5.5	5.2	6.2	15.6	17.7	16.7	24.4	19.5	17.3	12.7	24.4																							
19-Jan	25.5	26.7	37.2	Z	40.5	35.0	19.4	15.1	20.1	21.6	13.6	15.4	13.7	15.5	21.0	18.6	29.7	33.2	32.9	28.0	25.0	28.3	27.2	20.8	24.5	40.5																							
20-Jan	13.7	8.1	6.1	5.0	Z	7.0	7.8	7.4	8.4	8.3	5.4	3.6	4.1	3.9	4.1	3.9	3.5	3.5	3.7	2.6	1.6	1.3	1.2	1.2	5.0	13.7																							
21-Jan	1.1	0.6	0.8	0.9	0.6	Z	0.7	0.8	0.6	0.7	0.9	1.2	7.5	4.9	1.4	1.4	2.7	2.3	1.7	1.2	3.5	6.6	12.5	11.5	2.9	12.5																							
22-Jan	Z	8.1	6.0	5.2	4.8	6.2	19.8	14.8	16.4	16.7	16.8	11.9	3.8	0.3	0.6	0.3	0.5	1.1	1.4	3.1	2.7	2.3	2.0	1.3	6.4	19.8																							
23-Jan	1.6	Z	1.7	1.4	0.8	1.0	1.1	1.2	C	C	C	C	C	0.3	0.6	1.6	5.9	6.7	0.3	0.2	0.3	0.0	0.4	0.4	1.4	6.7																							
24-Jan	0.0	0.0	Z	4.0	3.7	2.3	1.6	5.3	10.6	6.1	8.2	12.3	4.0	2.9	7.6	13.7	24.1	14.0	6.5	3.1	0.9	2.6	0.7	0.3	5.8	24.1																							
25-Jan	0.7	0.5	0.6	Z	2.5	4.5	5.4	3.9	5.1	5.7	1.0	1.2	0.7	0.7	1.0	1.2	1.2	0.7	1.1	1.1	1.4	1.1	1.5	1.1	1.9	5.7																							
26-Jan	1.1	1.0	1.7	1.0	Z	1.2	1.0	0.9	0.9	0.9	1.2	1.2	0.9	1.0	1.4	1.1	0.7	5.5	17.6	1.8	1.3	1.5	1.3	1.0	2.1	17.6																							
27-Jan	1.5	1.1	0.9	1.0	1.3	Z	0.8	0.9	0.9	1.9	0.9	1.1	0.7	0.8	1.0	0.8	1.0	1.3	0.9	1.3	3.1	0.6	0.3	0.7	1.1	3.1																							
28-Jan	Z	0.0	0.0	0.1	0.6	0.1	0.2	0.5	0.6	0.5	0.6	0.1	2.8	3.0	1.7	5.0	8.9	12.0	0.9	0.4	0.7	1.8	2.6	1.6	1.9	12.0																							
29-Jan	0.2	Z	0.5	0.8	0.6	0.3	0.9	3.4	7.6	10.4	20.1	6.3	3.3	2.5	3.3	2.1	2.3	2.5	1.7	0.9	1.0	0.8	0.5	0.5	3.2	20.1																							
30-Jan	0.8	0.7	Z	0.6	1.2	2.2	4.1	4.7	7.3	6.2	6.3	5.6	5.3	6.0	6.1	5.1	8.0	20.3	15.9	17.4	21.1	18.7	25.1	31.3	9.6	31.3																							
31-Jan	32.0	31.1	31.0	Z	29.2	29.1	31.9	31.9	30.1	19.8	14.0	8.9	4.9	4.2	6.1	5.6	5.0	5.0	3.7	3.3	3.2	2.3	1.9	4.5	14.7	32.0																							
																								6.1	5.4	6.6	4.8	6.4	6.6	6.4	6.1	7.3	6.9	5.7	4.8	4.7	4.7	5.5	6.3	8.3	8.4	7.3	6.5	6.5	6.4	6.6	5.9	Diurnal Average	
																								32.0	31.1	37.2	17.1	40.5	35.0	31.9	31.9	30.1	21.6	20.1	15.4	13.7	15.5	21.0	18.6	29.7	33.2	32.9	28.0	25.0	28.3	28.8	31.3	Diurnal Maximum	

Z - zerospan C - Calibration
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Nitrogen Dioxide (NO₂) - ppb
Buffalo Viewpoint - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	669	94.49	94.49
21 - 40	38	5.37	99.86
41 - 80	1	0.14	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Dioxide (NO₂) - ppb
Buffalo Viewpoint - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	135	41	9	6	2	6	46	141	31	24	27	52	54	40	39	13	666
21 - 40	7	6	0	1	2	0	4	10	0	0	0	1	0	2	2	3	38
11 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	142	47	9	7	4	6	50	151	31	24	27	53	54	42	41	17	705

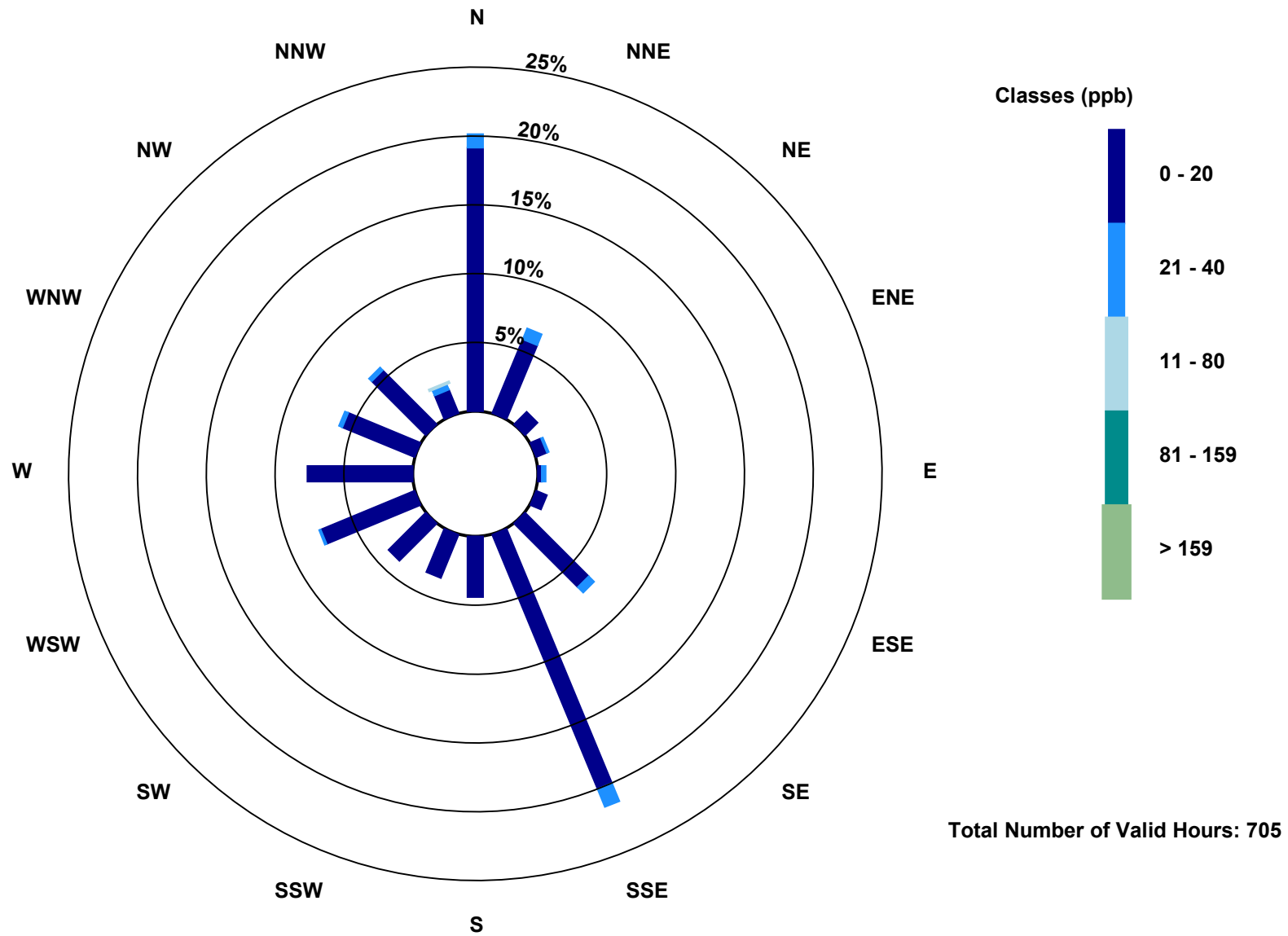
Total Number of Valid Hours: 705

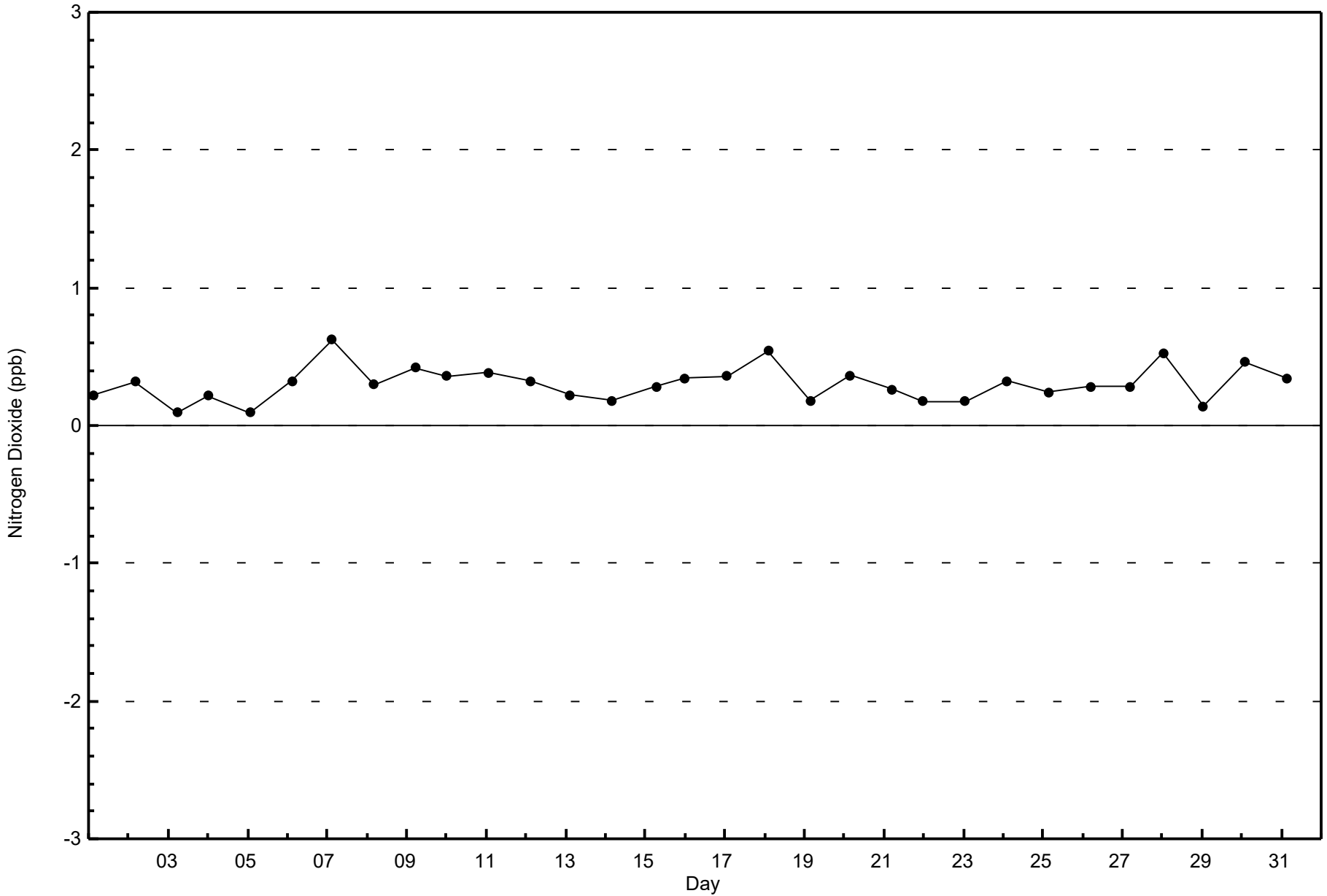
Total Number of Hours: 744

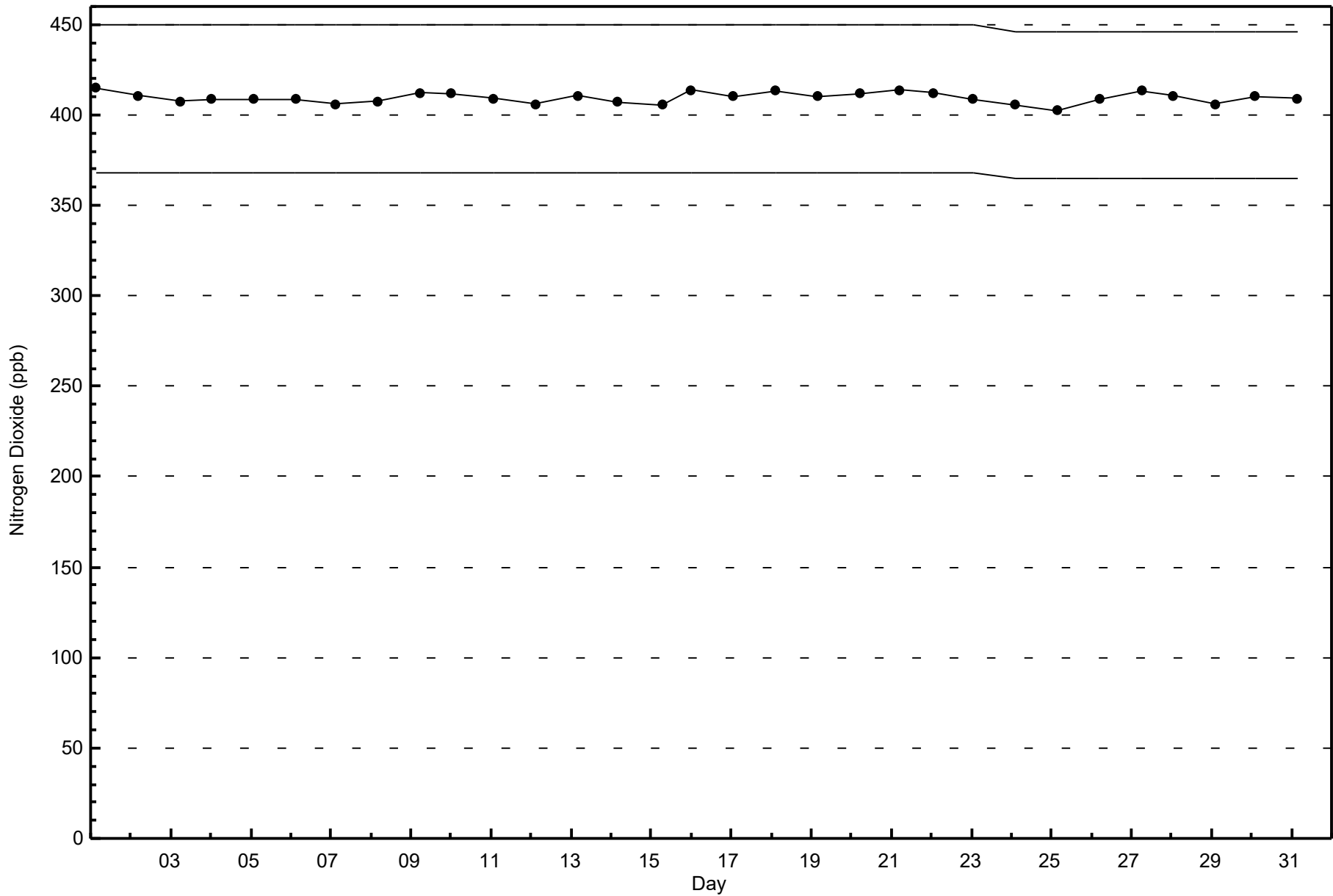


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Dioxide (NO₂) - ppb
Buffalo Viewpoint









Wood Buffalo Environmental Association
Summary of Hour Averages

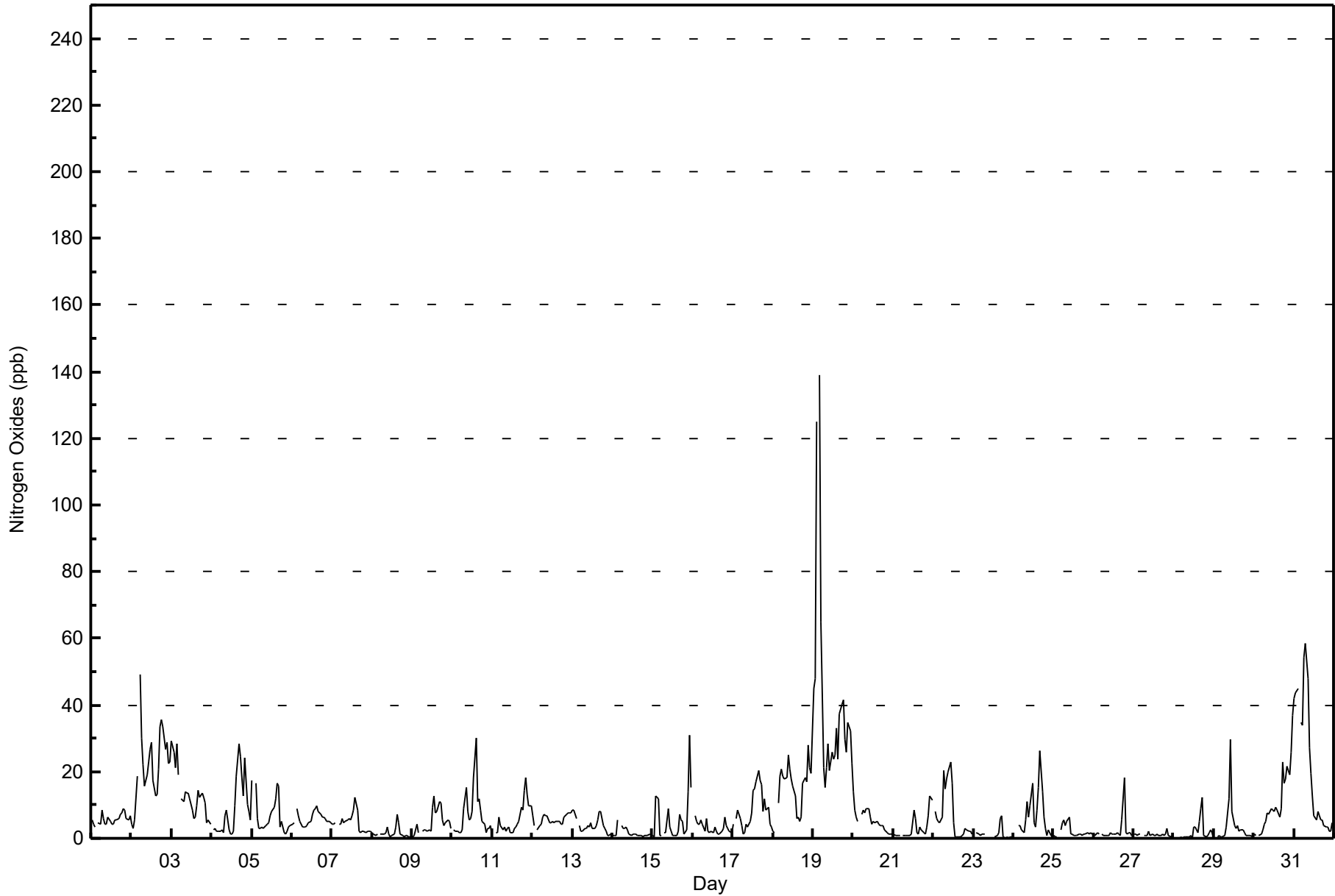
Nitrogen Oxides (NO_x) - ppb
Buffalo Viewpoint - January 2025

Number of Exceedences (AAAQO):		1-hr: 0	24-hr: 0																		Hours in Service:	744																											
Maximum Value: 138.9 ppb on Jan 19 05:00		Maximum Daily Average: 40.1 ppb on Jan 19																	Hours of Data:	708																													
Minimum Value: 0.0 ppb on Jan 23 22:00		Minimum Daily Average: 1.2 ppb on Jan 27																	Hours of Missing Data:	36																													
Maximum Diurnal Average: 10.8 ppb at hour 3		Minimum Diurnal Average: 5.5 ppb at hour 4																	Hours of Calibration:	36																													
Monthly Average: 7.68 ppb		Percentiles: P ₁ = 0.1 P ₁₀ = 0.8 Q ₁ = 1.5 Median = 4.2 Q ₃ = 8.6 P ₉₀ = 19.2 P ₉₉ = 47.6																	Percent Operational Time:	100.0																													
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	5.7	4.1	3.4	Z	4.6	4.4	8.4	6.1	4.1	4.1	6.3	5.0	4.4	4.4	5.4	5.5	6.1	7.2	7.8	8.9	8.7	5.8	5.6	6.9	5.8	8.9																							
2-Jan	4.3	2.9	5.6	18.8	Z	49.2	30.0	22.1	15.8	19.2	23.0	26.8	28.8	17.4	12.6	13.1	20.9	33.3	35.6	33.5	26.7	28.6	22.6	22.9	22.3	49.2																							
3-Jan	29.4	25.8	21.1	28.2	19.1	Z	11.7	10.8	13.9	13.5	13.7	12.0	8.5	5.9	6.3	9.6	14.6	12.4	13.7	12.3	10.5	4.6	5.4	4.4	13.4	29.4																							
4-Jan	Z	2.6	2.9	2.3	2.3	2.0	2.5	1.9	6.8	8.3	2.4	1.3	1.4	2.3	9.9	18.5	28.4	24.6	18.2	12.8	24.0	10.1	8.2	5.3	8.6	28.4																							
5-Jan	17.6	Z	16.6	6.0	2.9	3.0	3.5	2.8	3.9	4.4	4.5	6.9	8.1	9.2	11.8	16.7	15.7	3.3	4.9	1.8	1.4	2.0	3.3	3.9	6.7	17.6																							
6-Jan	4.2	4.5	Z	8.8	6.7	4.9	3.4	3.2	3.5	3.8	4.5	5.2	7.1	8.6	8.8	9.7	8.0	7.4	6.3	6.2	5.9	4.9	5.0	4.6	5.9	9.7																							
7-Jan	4.4	4.4	4.9	Z	4.3	4.2	6.1	4.7	5.3	5.3	6.1	5.6	6.6	8.5	12.1	8.4	2.0	1.7	2.1	2.1	1.7	2.0	2.1	1.9	4.6	12.1																							
8-Jan	1.6	1.2	1.0	1.1	Z	1.2	1.2	1.5	1.8	3.3	1.3	0.6	0.7	1.2	3.3	7.1	4.5	1.4	0.9	0.4	0.7	0.8	0.5	0.6	1.7	7.1																							
9-Jan	0.4	0.7	2.5	4.2	1.5	Z	2.0	2.7	2.5	2.2	2.6	2.3	9.5	12.5	7.5	7.9	10.9	10.4	5.7	3.8	4.6	5.6	5.0	3.0	4.8	12.5																							
10-Jan	Z	2.5	2.0	1.9	1.9	1.5	2.6	8.8	15.2	8.1	5.6	6.0	8.2	18.4	30.2	10.8	11.7	8.6	5.2	4.4	1.9	3.0	2.9	3.7	7.2	30.2																							
11-Jan	1.3	Z	1.6	1.5	6.4	4.0	2.5	3.4	2.0	3.0	3.5	1.8	1.8	3.1	3.6	4.3	5.1	9.2	8.6	14.3	18.2	13.2	9.6	9.7	5.7	18.2																							
12-Jan	6.7	4.0	Z	2.7	3.9	4.2	6.5	7.0	6.8	6.8	4.5	4.6	5.3	4.9	4.9	5.1	5.1	4.4	4.1	6.3	7.2	7.8	7.8	7.6	5.6	7.8																							
13-Jan	8.4	8.6	6.0	Z	3.6	1.9	1.9	3.2	3.0	3.9	3.3	4.8	3.1	3.1	3.7	5.5	7.9	8.2	3.6	3.1	2.0	0.9	1.1	1.1	4.0	8.6																							
14-Jan	0.8	0.7	0.8	5.4	Z	3.7	3.1	3.1	3.3	2.4	1.5	0.9	1.3	1.3	1.2	1.0	0.9	0.9	0.5	0.8	0.8	0.6	1.2	0.7	1.6	5.4																							
15-Jan	0.6	0.5	12.7	11.9	1.0	0.7	Z	1.6	1.5	9.0	3.3	2.0	1.0	1.0	0.9	2.2	7.4	5.7	5.0	1.2	2.4	13.9	30.7	15.3	5.7	30.7																							
16-Jan	Z	6.8	5.2	4.2	4.4	5.6	4.2	2.1	5.7	1.9	1.8	2.0	1.9	3.4	2.1	1.5	1.2	2.0	3.0	6.3	3.6	3.0	2.2	1.9	3.3	6.8																							
17-Jan	4.1	Z	6.1	8.6	5.7	3.6	1.3	1.9	4.1	3.3	5.0	7.6	14.6	14.8	17.0	20.4	17.5	16.2	8.0	12.0	8.4	9.2	4.2	3.3	8.6	20.4																							
18-Jan	2.1	1.9	Z	10.6	18.5	20.9	18.6	18.0	18.4	25.0	20.9	17.8	15.8	12.6	6.0	6.3	5.2	6.2	16.5	18.3	17.1	27.9	21.0	19.3	15.0	27.9																							
19-Jan	44.8	47.8	125.1	Z	138.9	65.0	21.4	15.2	21.3	28.5	20.2	25.9	23.7	24.9	33.2	23.8	37.2	40.2	41.4	29.6	25.9	34.8	32.1	22.4	40.1	138.9																							
20-Jan	14.2	8.4	6.3	5.2	Z	7.4	8.3	7.7	8.7	8.9	6.2	4.2	5.0	4.5	4.9	4.3	3.7	3.7	3.9	2.7	1.7	1.4	1.4	1.2	5.4	14.2																							
21-Jan	1.1	0.9	0.8	0.9	0.7	Z	1.0	0.9	0.7	0.8	1.0	1.2	8.5	5.8	1.6	1.4	3.2	2.4	1.7	1.2	3.5	6.6	12.6	11.6	3.0	12.6																							
22-Jan	Z	8.2	6.0	5.2	4.8	6.2	20.5	14.9	17.7	19.9	22.7	16.6	4.8	0.3	0.6	0.3	0.5	1.1	1.4	3.1	2.7	2.3	2.0	1.3	7.1	22.7																							
23-Jan	1.6	Z	1.7	1.4	0.8	1.1	1.3	1.4	C	C	C	C	C	0.6	0.8	1.7	6.0	6.8	0.3	0.2	0.3	0.0	0.4	0.4	1.5	6.8																							
24-Jan	0.0	0.0	Z	4.0	3.7	2.3	1.6	5.4	11.0	6.4	9.6	16.3	4.8	3.3	8.7	15.2	26.1	14.2	6.5	3.1	0.9	2.6	0.7	0.3	6.4	26.1																							
25-Jan	0.7	0.5	0.6	Z	2.5	4.5	5.4	3.9	5.2	6.3	1.2	1.4	0.7	0.7	1.0	1.2	1.2	0.7	1.1	1.1	1.5	1.2	1.5	1.1	2.0	6.3																							
26-Jan	1.2	1.0	1.7	1.1	Z	1.4	1.0	1.0	1.0	1.0	1.5	1.3	1.3	1.2	1.6	1.3	0.8	5.7	18.4	1.8	1.4	1.6	1.5	1.0	2.2	18.4																							
27-Jan	1.5	1.2	0.9	1.1	1.3	Z	0.9	1.0	1.0	2.0	1.0	1.4	0.9	0.9	1.2	0.9	1.0	1.3	1.0	1.5	3.1	0.6	0.4	0.8	1.2	3.1																							
28-Jan	Z	0.1	0.0	0.1	0.6	0.1	0.2	0.5	0.6	0.5	0.7	0.1	3.2	3.5	1.7	5.1	9.0	12.1	0.9	0.4	0.7	1.8	2.6	1.6	2.0	12.1																							
29-Jan	0.2	Z	0.5	0.8	0.6	0.3	0.9	3.4	7.7	11.9	29.6	8.1	3.7	2.9	3.8	2.3	2.6	2.5	1.7	1.0	1.1	0.8	0.6	0.6	3.8	29.6																							
30-Jan	1.1	1.0	Z	0.8	1.3	2.4	4.2	5.0	7.8	7.3	8.8	8.6	8.1	9.3	8.6	6.2	8.7	22.7	16.5	17.9	21.8	19.0	25.9	36.7	10.9	36.7																							
31-Jan	42.0	43.8	44.9	Z	34.7	34.1	54.1	58.6	48.1	27.0	19.7	12.6	6.9	5.7	8.2	6.7	5.6	5.3	3.9	3.4	3.2	2.3	1.9	4.6	20.8	58.6																							
																								7.7	7.1	10.8	5.5	10.6	8.9	7.7	7.2	8.3	8.3	7.9	7.0	6.7	6.3	7.2	7.2	9.0	9.1	8.0	7.0	6.9	7.1	7.2	6.4	Diurnal Average	
																								44.8	47.8	125.1	28.2	138.9	65.0	54.1	58.6	48.1	28.5	29.6	26.8	28.8	24.9	33.2	23.8	37.2	40.2	41.4	33.5	26.7	34.8	32.1	36.7	Diurnal Maximum	
Z - zerospan																								C - Calibration																									



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Buffalo Viewpoint - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Nitrogen Oxides (NO_x) - ppb
Buffalo Viewpoint - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	642	90.68	90.68
21 - 40	53	7.49	98.16
41 - 80	11	1.55	99.72
81 - 159	2	0.28	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Oxides (NO_x) - ppb
Buffalo Viewpoint - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	131	41	7	6	2	6	40	132	30	24	27	51	54	39	38	12	640
21 - 40	7	3	2	1	2	0	10	18	1	0	0	2	0	2	2	2	52
11 - 80	4	3	0	0	0	0	0	1	0	0	0	0	0	1	1	1	11
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	142	47	9	7	4	6	50	151	31	24	27	53	54	42	41	17	705

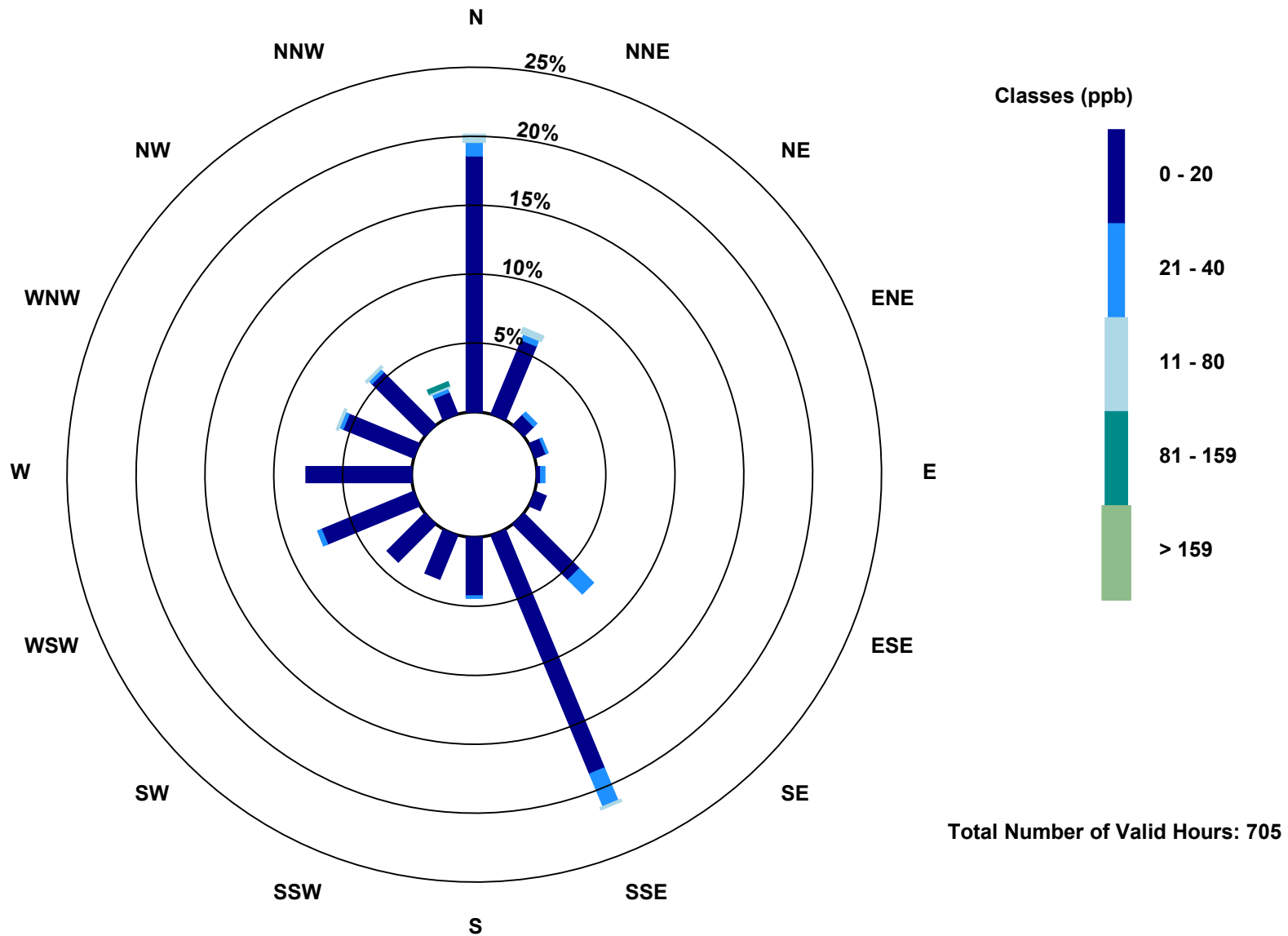
Total Number of Valid Hours: 705

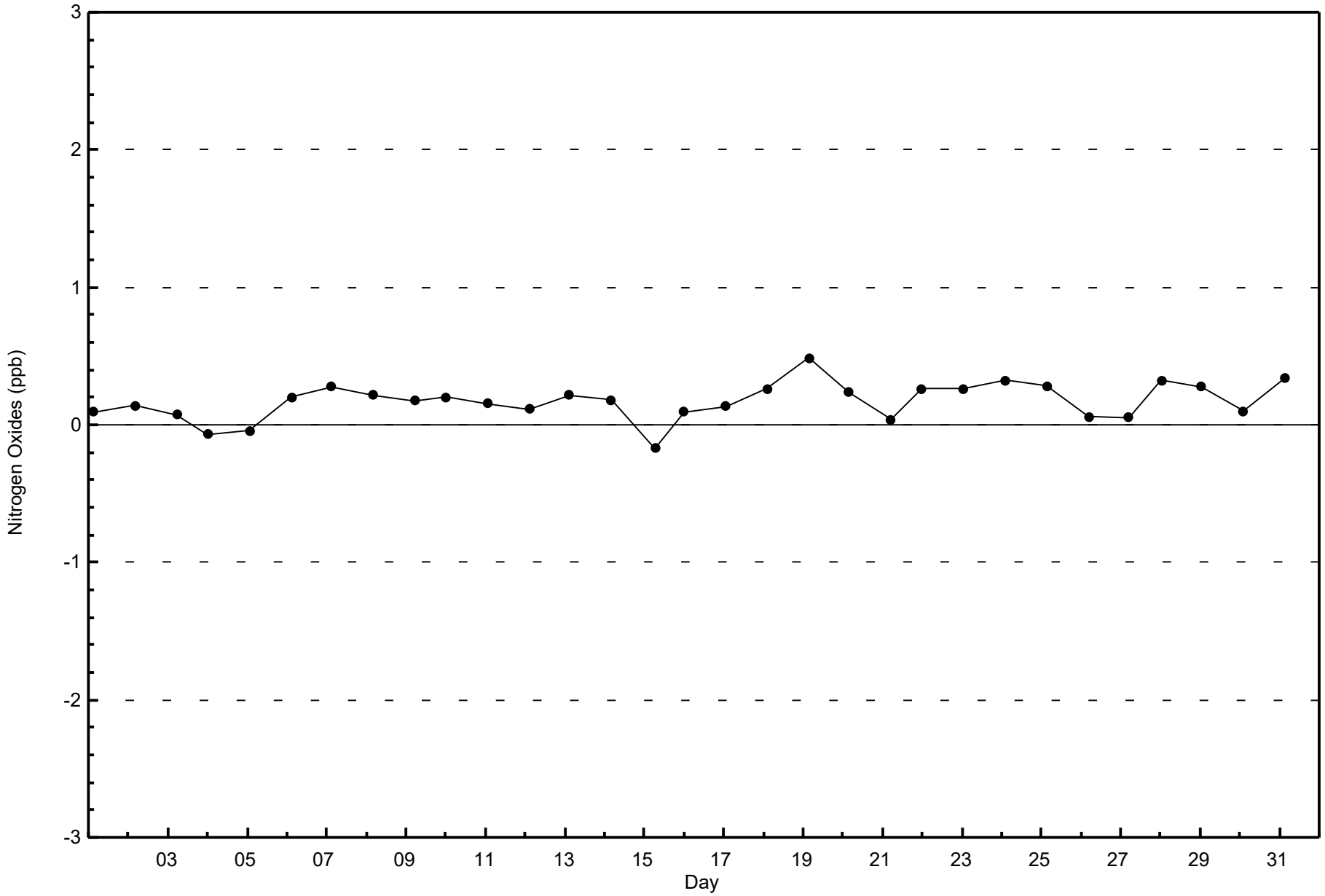
Total Number of Hours: 744

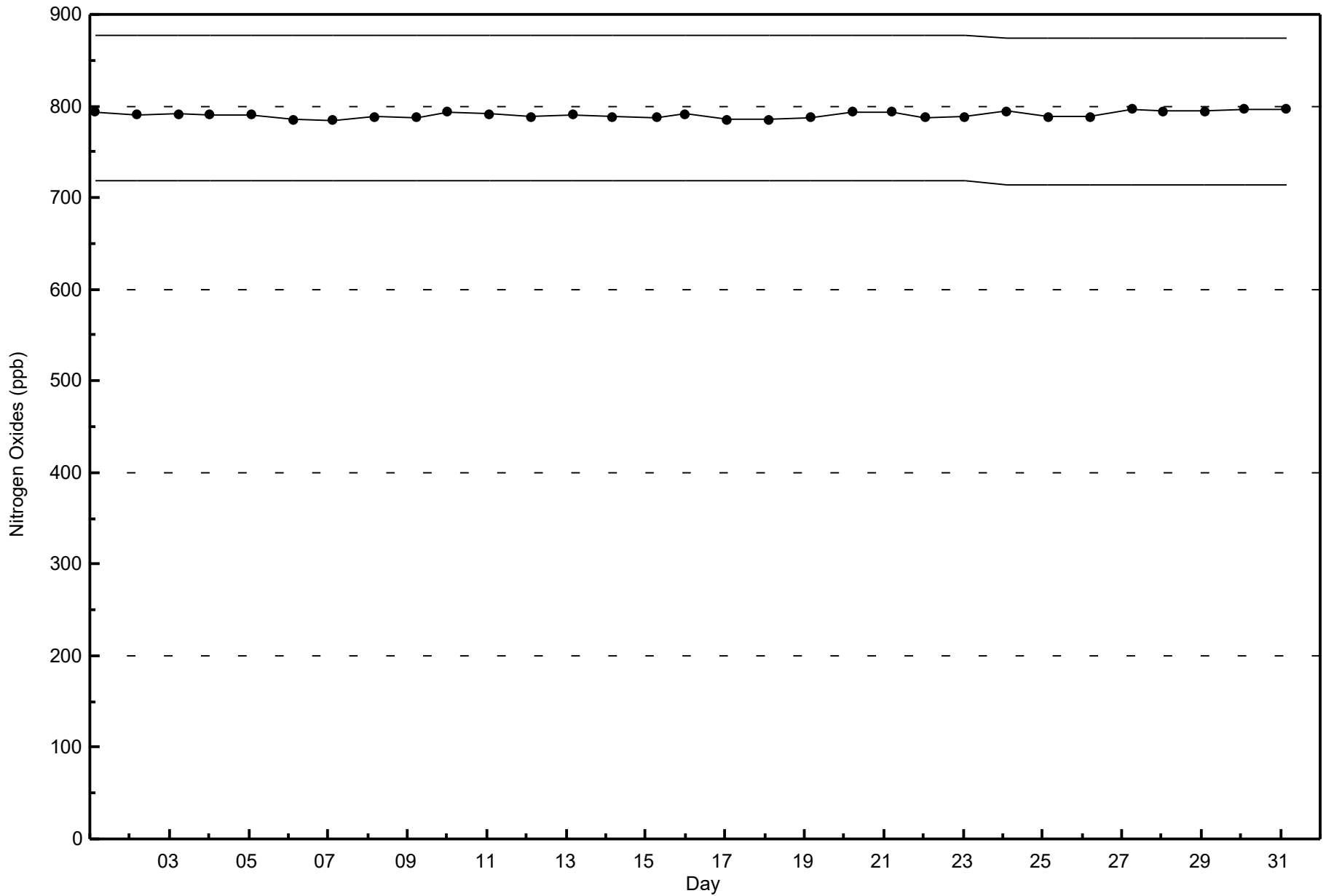


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Oxides (NO_x) - ppb
Buffalo Viewpoint









Wood Buffalo Environmental Association

Summary of Hour Averages

Ozone (O₃) - ppb

Buffalo Viewpoint - January 2025

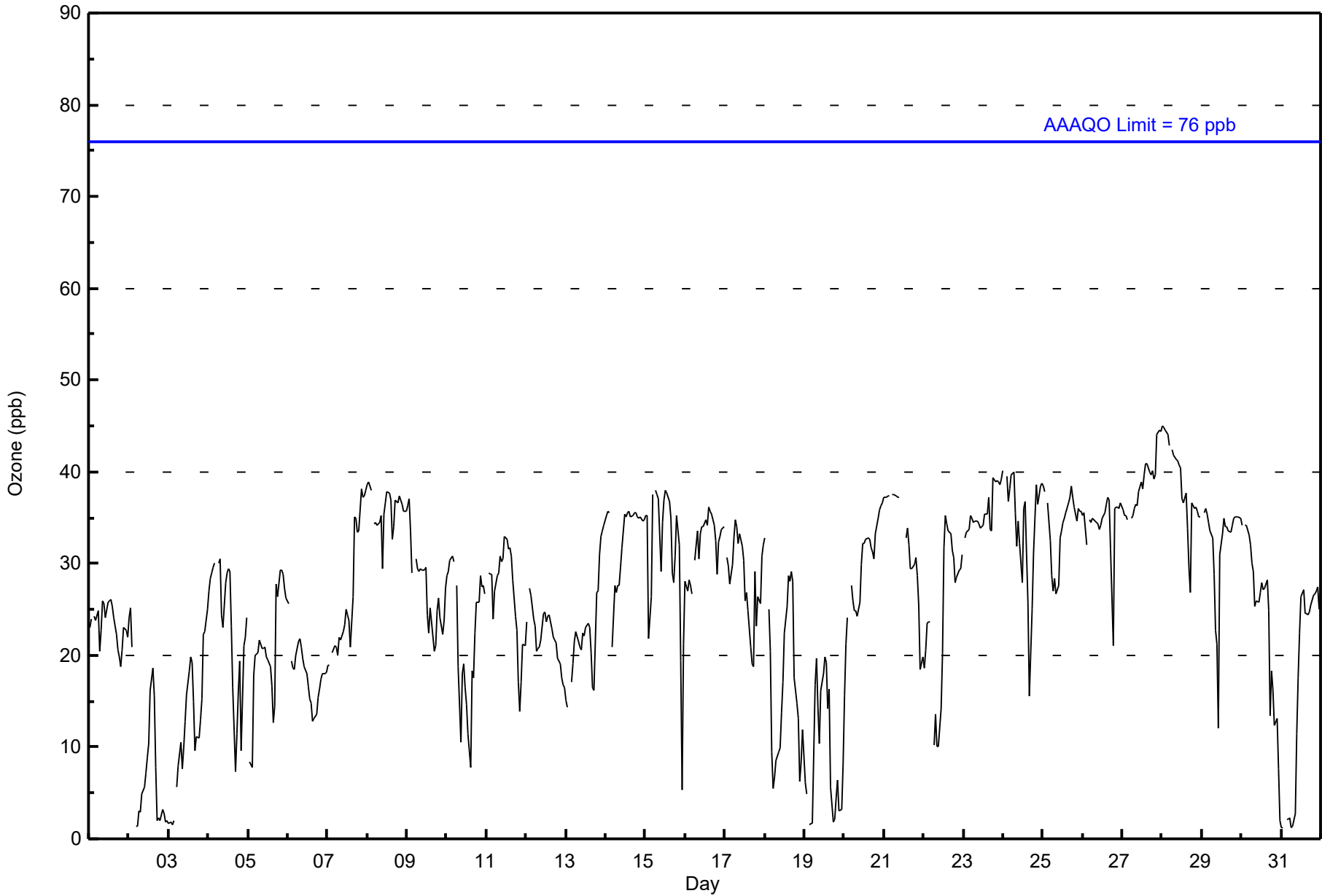
Number of Exceedences (AAAQO):		1-hr: 0	24-hr: 0																			Hours in Service:	744																										
Maximum Value: 45.0 ppb on Jan 28 01:00		Maximum Daily Average: 38.6 ppb on Jan 27																				Hours of Data:	710																										
Minimum Value: 1.2 ppb on Jan 31 07:00		Minimum Daily Average: 8.3 ppb on Jan 2																				Hours of Missing Data:	34																										
Maximum Diurnal Average: 28.7 ppb at hour 3		Minimum Diurnal Average: 24.1 ppb at hour 6																				Hours of Calibration:	34																										
Monthly Average: 26.25 ppb		Percentiles: P ₁ = 1.6 P ₁₀ = 11.4 Q ₁ = 20.4 Median = 27.8 Q ₃ = 34.6 P ₉₀ = 37.1 P ₉₉ = 42.8																				Percent Operational Time:	100.0																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	23.0	24.0	Z	24.3	23.8	24.9	20.4	22.7	26.0	25.6	24.1	25.8	26.0	26.1	25.3	24.1	22.3	20.6	19.9	18.8	20.6	23.0	22.8	21.9	23.3	26.1																							
2-Jan	24.1	25.2	20.8	Z	1.4	1.4	3.1	3.0	4.9	5.6	7.2	8.8	10.3	16.1	18.6	15.6	7.8	2.0	2.4	2.0	3.2	2.8	1.9	2.0	8.3	25.2																							
3-Jan	1.8	1.9	1.6	1.9	Z	5.6	7.9	10.5	7.6	10.0	12.8	15.7	18.3	19.8	19.3	15.0	9.6	11.1	11.0	13.0	15.3	22.2	22.6	25.1	12.2	25.1																							
4-Jan	27.0	28.4	29.0	29.6	30.0	Z	30.1	30.5	24.3	23.1	28.0	29.0	29.4	29.2	23.2	16.4	7.3	11.5	15.9	19.3	9.6	21.0	22.0	24.1	23.4	30.5																							
5-Jan	Z	8.5	7.8	17.8	20.0	20.2	20.3	21.7	20.8	20.8	20.9	19.8	19.6	18.7	16.6	12.7	14.5	27.8	26.4	29.3	29.2	28.8	27.4	26.3	20.7	29.3																							
6-Jan	25.6	Z	19.3	18.6	18.5	20.0	21.6	21.8	20.8	19.7	18.7	18.1	16.7	15.3	14.7	12.9	13.2	13.5	15.4	16.4	17.3	18.1	18.0	18.2	17.9	25.6																							
7-Jan	18.9	18.9	Z	20.3	21.1	20.9	20.0	22.0	21.7	22.6	23.3	24.9	24.4	23.7	20.9	26.5	35.1	34.9	33.4	33.6	38.1	37.2	37.4	38.0	26.9	38.1																							
8-Jan	38.6	38.9	38.0	Z	34.4	34.5	34.2	34.5	35.2	29.4	35.3	36.6	37.9	37.7	36.9	32.7	34.0	36.9	36.6	37.4	36.9	36.5	35.7	35.7	35.9	38.9																							
9-Jan	36.3	37.1	33.5	29.0	Z	30.5	29.5	29.1	29.4	29.3	29.2	29.7	24.3	22.4	25.1	23.7	20.4	21.0	24.8	26.2	24.1	22.2	23.9	27.2	27.3	37.1																							
10-Jan	28.7	29.2	30.4	30.9	30.2	Z	27.6	18.7	10.6	18.0	19.1	16.5	14.6	11.4	7.7	18.3	17.6	22.4	25.8	25.8	28.7	27.5	27.6	26.7	22.4	30.9																							
11-Jan	Z	29.0	28.9	28.9	24.0	27.1	28.6	28.9	30.8	30.3	30.5	33.0	32.6	31.6	31.8	30.9	28.1	24.3	22.7	17.1	13.9	17.1	21.2	21.1	26.6	33.0																							
12-Jan	23.7	Z	27.3	26.5	24.0	23.2	20.5	20.8	21.0	21.7	24.6	24.7	23.7	24.3	24.4	22.8	21.9	21.6	21.4	19.6	19.0	17.6	16.8	16.4	22.1	27.3																							
13-Jan	15.1	14.4	Z	17.1	19.0	21.4	22.5	21.5	20.9	20.5	22.4	22.1	23.1	23.6	23.0	20.3	16.5	16.2	26.9	27.1	30.9	33.0	33.6	34.1	22.8	34.1																							
14-Jan	35.2	35.6	35.5	Z	20.9	27.6	26.8	27.5	27.7	29.7	31.7	35.4	35.1	35.6	35.7	35.1	35.2	35.5	35.6	35.0	34.9	35.2	34.6	34.8	32.9	35.7																							
15-Jan	35.2	35.2	21.8	26.5	37.5	Z	38.0	37.5	37.1	29.2	34.5	37.0	38.0	37.7	36.8	34.9	29.0	27.8	30.8	35.2	32.1	19.4	5.4	21.2	31.2	38.0																							
16-Jan	28.0	27.0	28.2	27.6	26.7	Z	30.4	33.6	30.6	33.3	34.1	33.9	34.8	34.2	36.1	35.8	35.4	34.1	32.6	28.8	32.3	33.0	33.7	34.0	32.1	36.1																							
17-Jan	Z	30.7	29.8	27.8	30.0	32.8	34.7	34.0	32.2	33.2	31.9	30.3	26.0	26.8	24.9	20.9	19.0	18.7	29.1	23.3	26.4	25.7	30.9	32.0	28.3	34.7																							
18-Jan	32.8	Z	25.1	20.4	9.5	5.5	6.7	8.5	9.5	9.9	13.7	17.2	22.4	25.4	28.7	28.1	29.2	28.0	17.6	14.8	13.0	6.2	8.4	11.9	17.1	32.8																							
19-Jan	6.2	4.9	Z	1.5	1.7	1.6	16.8	19.7	14.3	10.4	16.2	18.1	19.9	19.2	14.1	16.3	5.7	1.8	2.2	4.4	6.4	3.0	3.2	8.2	9.4	19.9																							
20-Jan	15.5	21.2	24.2	Z	27.7	26.0	24.8	24.9	24.3	25.8	29.9	32.2	32.2	32.7	32.7	32.6	31.8	31.3	30.5	33.2	34.9	35.8	36.3	36.6	29.4	36.6																							
21-Jan	37.2	37.3	37.4	37.4	Z	37.6	37.6	37.4	37.2	37.2	C	C	C	32.8	33.8	32.1	29.5	29.4	29.9	30.6	28.6	25.5	18.5	19.8	32.3	37.6																							
22-Jan	18.6	20.6	23.5	23.7	23.6	Z	10.2	13.5	10.0	10.0	14.2	20.3	31.8	35.3	34.3	33.5	33.3	31.5	30.6	27.9	28.5	29.3	29.5	31.0	24.6	35.3																							
23-Jan	Z	32.8	33.3	33.7	35.3	35.0	34.5	34.6	34.7	34.3	33.9	34.0	34.2	35.4	35.4	37.2	33.8	33.6	39.3	38.9	39.0	38.9	38.6	39.2	35.6	39.3																							
24-Jan	40.1	Z	39.5	36.8	38.1	39.7	40.0	35.6	31.8	34.6	32.1	27.9	36.0	36.8	31.1	25.8	15.6	25.0	31.1	35.0	38.5	36.4	38.4	38.8	34.1	40.1																							
25-Jan	38.5	37.8	Z	36.7	32.6	28.7	27.0	28.3	26.7	27.5	32.9	33.6	34.4	34.9	35.5	36.6	37.3	38.4	37.2	36.2	34.6	35.9	35.7	35.7	34.0	38.5																							
26-Jan	35.3	35.5	32.1	Z	34.8	34.4	34.9	34.6	34.4	34.2	33.7	34.2	35.0	35.6	36.5	37.2	37.0	31.6	21.1	36.0	36.2	36.1	36.0	36.6	34.5	37.2																							
27-Jan	35.8	35.2	35.3	34.7	Z	35.0	35.2	36.1	36.4	36.3	37.8	38.8	38.2	39.7	40.9	40.9	40.0	39.7	40.2	39.3	39.7	44.1	44.6	44.3	38.6	44.6																							
28-Jan	45.0	44.8	44.5	44.1	42.9	Z	42.4	41.8	41.3	41.2	40.7	40.4	37.1	36.7	37.7	33.9	29.7	26.9	36.6	36.0	36.2	35.7	35.0	35.0	38.5	45.0																							
29-Jan	Z	35.6	35.9	35.4	34.5	33.6	32.8	28.8	22.7	21.2	12.1	30.9	33.2	35.0	34.0	34.0	33.5	33.4	34.2	35.0	35.2	35.1	35.1	35.0	32.0	35.9																							
30-Jan	34.2	Z	34.1	34.1	33.0	32.1	30.0	29.1	25.3	25.9	25.7	26.9	27.9	27.2	27.3	28.3	24.8	13.3	18.3	16.1	12.3	13.2	7.6	2.0	23.9	34.2																							
31-Jan	1.3	1.2	Z	2.1	2.1	2.3	1.2	1.3	2.8	11.4	17.6	22.5	26.4	27.1	24.5	24.5	24.4	24.7	25.5	26.5	26.7	27.0	27.5	25.0	16.3	27.5																							
																								27.0	26.6	28.7	25.7	25.1	24.1	25.5	25.6	24.3	24.6	25.6	27.3	28.1	28.7	28.0	27.1	24.9	24.8	26.0	26.4	26.5	26.5	26.1	27.0	Diurnal Average	
																								45.0	44.8	44.5	44.1	42.9	39.7	42.4	41.8	41.3	41.2	40.7	40.4	38.2	39.7	40.9	40.9	40.0	39.7	40.2	39.3	39.7	44.1	44.6	44.3	Diurnal Maximum	

Z - zerospan C - Calibration
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 76 ppb



Wood Buffalo Environmental Association
Hourly Averages

Ozone (O₃) - ppb
Buffalo Viewpoint - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Ozone (O₃) - ppb
Buffalo Viewpoint - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	182	25.63	25.63
21 - 50	528	74.37	100.00
51 - 82	0	0.00	100.00
> 83	0	0.00	100.00

Total Number of Valid Hours: 710

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Ozone (O₃) - ppb
Buffalo Viewpoint - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	30	11	2	3	3	1	23	73	10	0	1	3	0	7	5	9	181
21 - 50	109	38	6	4	1	5	27	80	21	23	29	52	51	36	36	8	526
51 - 82	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	139	49	8	7	4	6	50	153	31	23	30	55	51	43	41	17	707

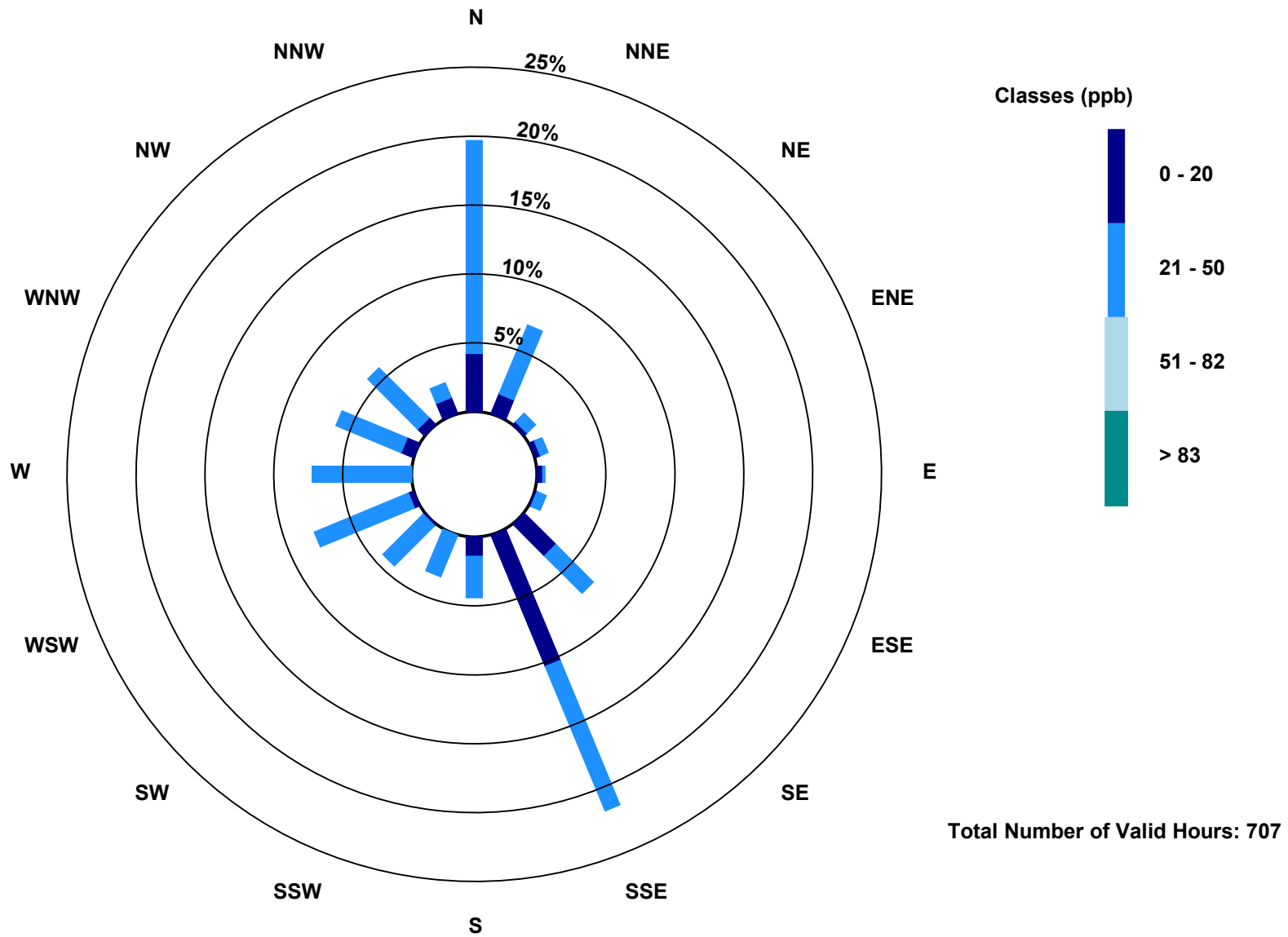
Total Number of Valid Hours: 707

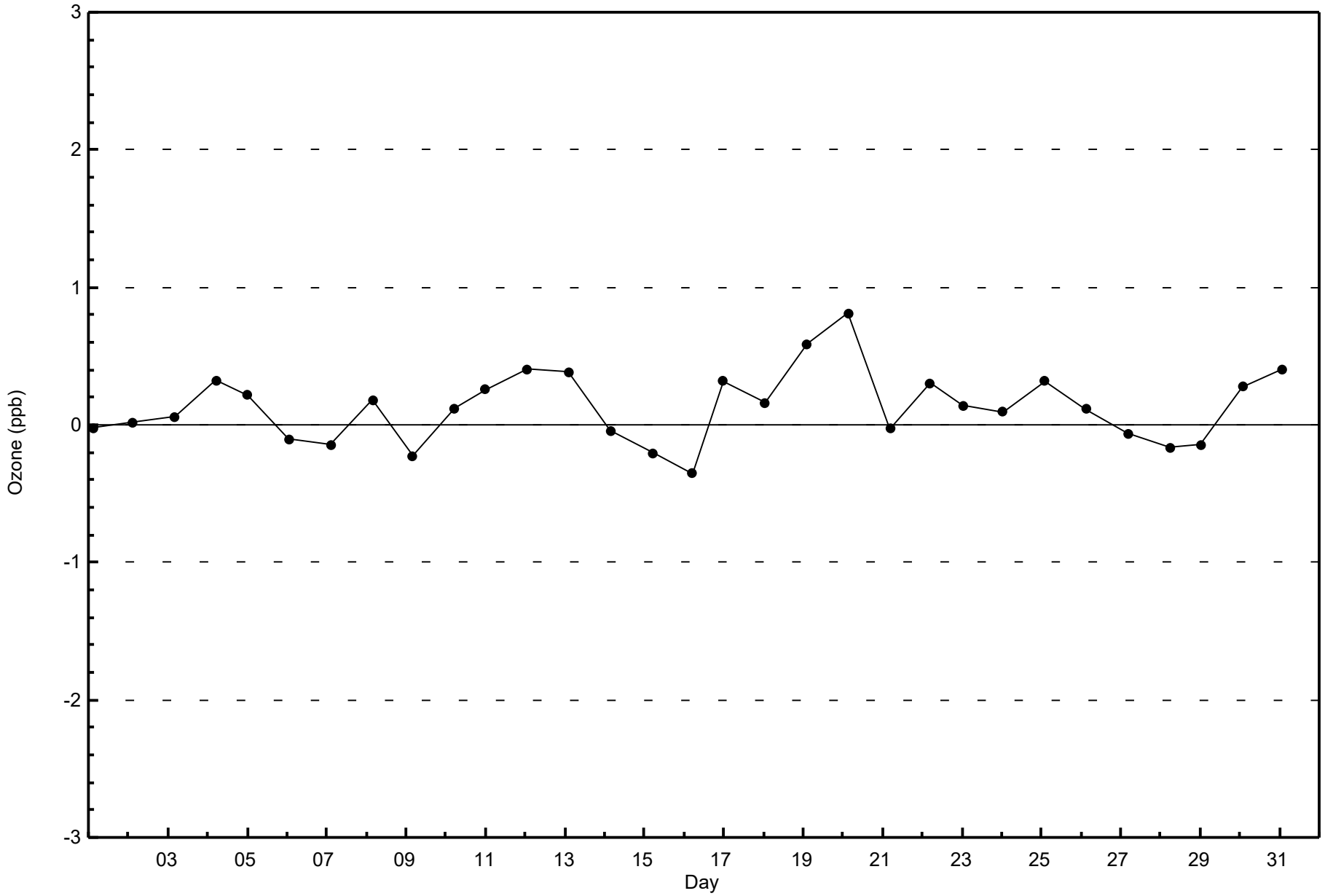
Total Number of Hours: 744

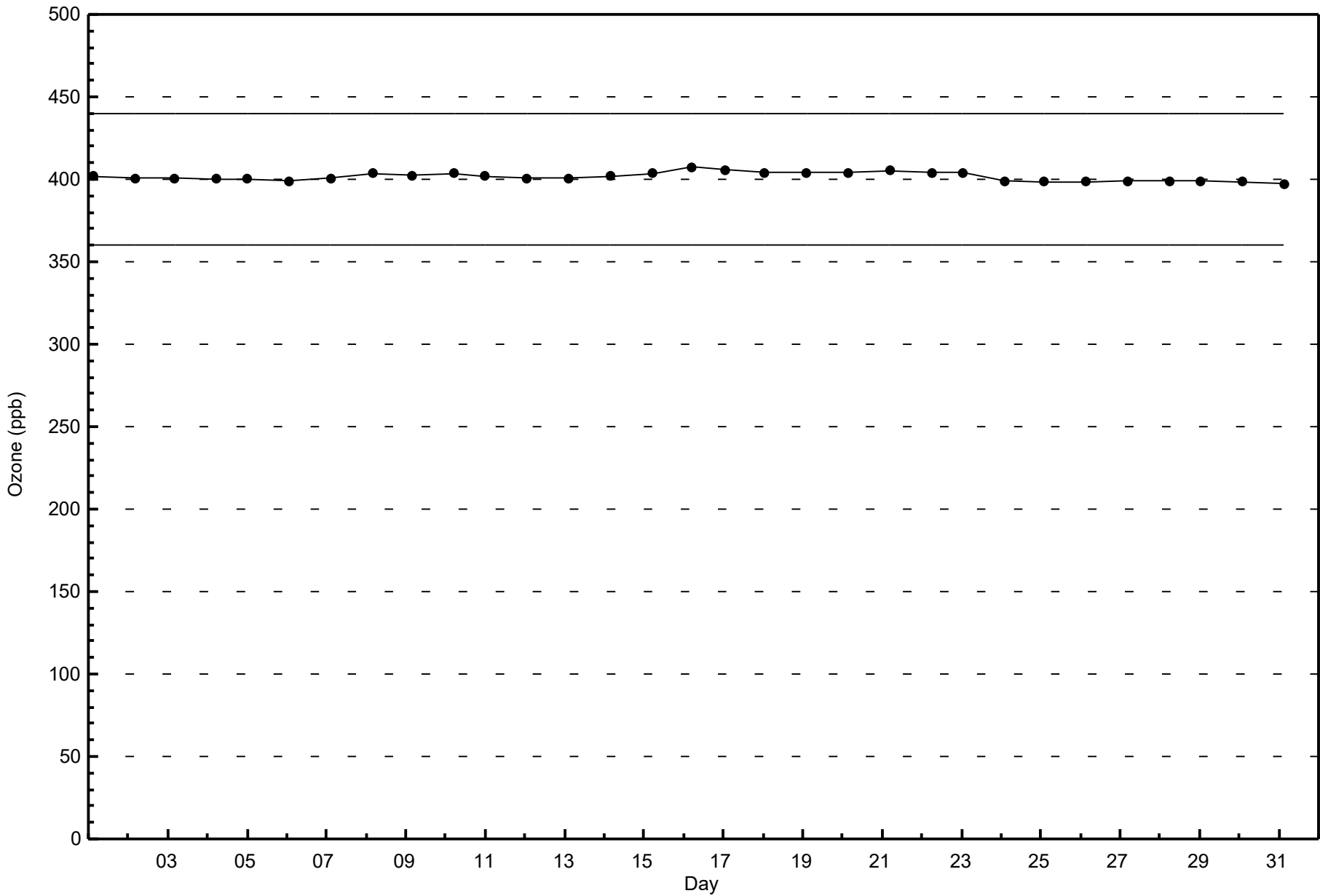


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Ozone (O₃) - ppb
Buffalo Viewpoint









Wood Buffalo Environmental Association

Summary of Hour Averages

Particulate Matter 2.5 (PM_{2.5}) - µg/m³

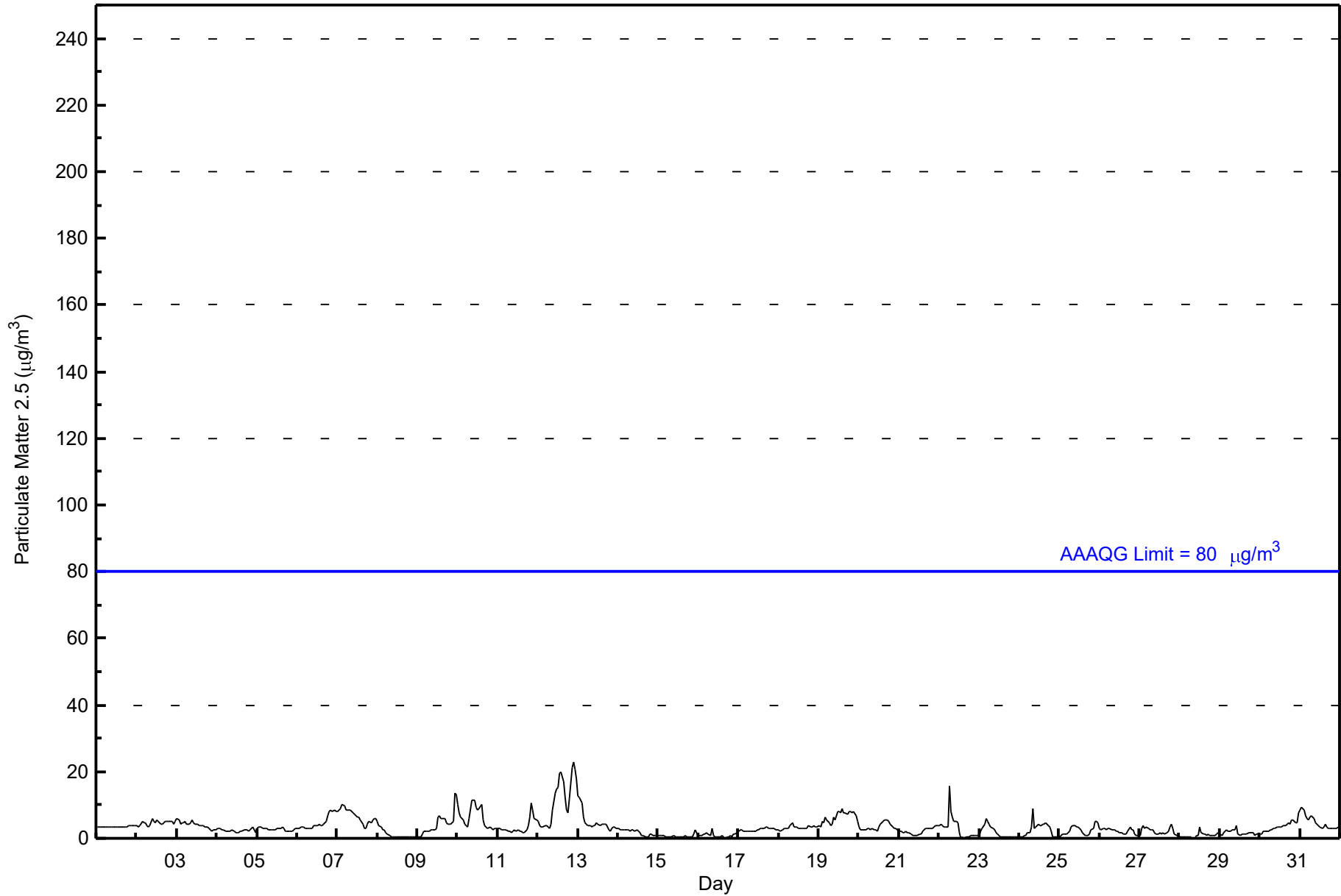
Buffalo Viewpoint - January 2025

Number of Exceedences (AAAQO):		1-hr: 0		24-hr: 0		Hours in Service: 744															744					
Maximum Value: 22.9 µg/m ³ on Jan 12 22:00				Maximum Daily Average: 11.0 µg/m ³ on Jan 12		Hours of Data: 743															743					
Minimum Value: 0.2 µg/m ³ on Jan 16 17:00				Minimum Daily Average: 0.7 µg/m ³ on Jan 15		Hours of Missing Data: 1															1					
Maximum Diurnal Average: 3.9 µg/m ³ at hour 23				Minimum Diurnal Average: 3.0 µg/m ³ at hour 18		Hours of Calibration: 1															1					
Monthly Average: 3.42 µg/m ³				Percentiles: P ₁ = 0.3 P ₁₀ = 0.6 Q ₁ = 1.6 Median = 2.9 Q ₃ = 4.1 P ₉₀ = 6.5 P ₉₉ = 15.5		Percent Operational Time: 100.0															100.0					
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	3.4	3.3	3.3	3.4	3.4	3.4	3.6	3.4	3.3	3.3	3.4	3.4	3.4	3.4	3.5	3.5	3.5	3.4	3.5	3.6	3.7	3.7	3.7	3.7	3.5	3.7
2-Jan	3.6	3.6	3.9	5.0	4.8	4.7	4.0	3.4	3.7	6.0	5.2	4.6	5.6	5.2	4.4	4.4	4.8	5.3	5.2	5.3	5.1	5.1	4.4	4.9	4.7	6.0
3-Jan	5.8	5.3	4.4	4.5	4.5	5.1	4.1	4.1	4.6	5.7	4.8	4.4	4.2	4.0	3.8	3.8	3.9	3.5	3.4	3.1	2.6	2.2	2.5	2.6	4.0	5.8
4-Jan	2.9	3.1	3.0	2.7	2.5	2.2	2.1	2.0	2.2	2.5	2.0	1.8	1.7	1.7	2.0	2.2	2.8	2.6	2.6	2.3	2.7	3.3	2.6	1.7	2.4	3.3
5-Jan	3.0	3.2	3.2	2.9	2.8	2.8	2.8	2.7	2.6	2.6	2.6	2.7	2.8	3.0	3.0	3.2	3.1	2.3	2.3	2.1	2.2	2.3	2.6	2.8	2.7	3.2
6-Jan	2.9	3.0	3.2	3.4	3.2	3.1	2.9	3.0	2.9	3.2	3.6	3.9	4.0	4.0	4.0	3.9	4.0	5.1	6.7	7.8	8.5	8.3	8.3	8.2	4.6	8.5
7-Jan	8.2	8.7	8.9	10.0	9.7	8.6	8.3	8.4	8.4	7.7	7.2	6.8	6.5	6.2	5.3	4.4	2.8	3.2	4.4	5.0	4.7	5.5	6.1	6.0	6.7	10.0
8-Jan	5.0	3.9	3.3	2.7	2.5	1.9	1.3	0.8	0.5	0.5	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.3	1.1	5.0
9-Jan	0.4	0.4	0.6	1.5	2.0	2.1	2.2	2.3	2.4	2.4	2.5	2.8	6.5	6.8	5.7	6.1	5.8	4.8	4.4	4.0	4.1	5.0	13.7	13.3	4.2	13.7
10-Jan	10.0	7.6	6.5	5.4	4.3	3.7	3.6	6.0	11.3	11.3	11.3	9.2	8.4	9.1	10.3	5.3	4.0	3.3	3.1	3.2	2.8	2.6	3.1	3.0	6.2	11.3
11-Jan	3.1	2.9	2.7	2.4	2.5	2.5	2.3	2.1	1.8	2.1	2.6	2.3	2.4	2.2	2.1	1.8	1.8	2.7	3.7	6.2	10.6	8.4	5.8	5.3	3.4	10.6
12-Jan	5.1	3.9	3.2	3.2	3.7	3.7	3.6	3.0	4.4	8.4	13.5	15.0	15.4	19.4	19.9	17.0	12.2	8.4	7.6	11.8	21.3	22.9	20.8	17.7	11.0	22.9
13-Jan	12.9	12.4	10.8	6.5	4.8	4.1	3.8	3.7	3.5	3.7	3.9	4.6	4.3	3.9	4.0	4.0	4.4	4.2	2.4	2.3	2.9	3.2	3.4	3.1	4.9	12.9
14-Jan	2.8	2.7	2.6	2.6	2.7	2.6	2.5	2.3	2.5	2.4	2.2	2.5	2.3	1.5	1.0	0.8	0.6	0.4	0.6	1.2	1.1	0.8	0.8	1.0	1.8	2.8
15-Jan	0.8	0.7	1.0	0.8	0.4	0.4	0.3	0.4	0.3	1.0	0.5	0.4	0.4	0.4	0.4	0.5	0.7	0.6	0.5	0.5	0.4	1.1	2.7	1.7	0.7	2.7
16-Jan	0.8	1.0	1.0	1.2	1.1	1.6	1.3	0.9	3.2	0.8	0.5	0.6	0.6	0.5	0.8	0.3	0.2	0.3	0.5	0.7	0.6	1.1	1.3	1.6	0.9	3.2
17-Jan	2.0	2.4	2.5	2.0	2.2	2.2	2.1	2.1	2.1	2.2	2.2	2.4	2.7	2.9	2.9	3.1	3.4	3.5	3.2	3.0	2.9	2.9	2.6	2.4	2.6	3.5
18-Jan	2.4	2.3	2.6	2.8	3.1	3.1	3.0	3.7	4.7	3.6	3.4	3.3	2.9	3.1	3.1	3.1	2.9	3.1	3.6	3.5	3.3	4.0	3.2	3.5	3.2	4.7
19-Jan	3.9	3.6	5.2	4.9	6.5	5.6	4.8	3.9	4.1	6.2	5.5	7.9	8.1	7.5	9.1	7.5	7.8	7.3	8.0	7.9	7.6	7.9	6.8	5.1	6.4	9.1
20-Jan	3.6	2.7	2.4	2.4	2.5	2.8	2.9	2.6	2.8	2.8	2.3	2.3	3.3	4.2	5.2	5.7	5.7	5.6	5.3	4.1	3.2	2.8	2.9	2.6	3.4	5.7
21-Jan	2.3	2.1	1.7	1.6	2.2	1.9	1.6	1.3	1.1	0.8	0.7	0.6	1.1	1.1	2.0	2.7	3.1	3.1	3.1	3.0	3.1	3.4	3.7	3.7	2.1	3.7
22-Jan	3.8	4.3	3.7	3.4	3.5	3.5	15.6	8.1	6.5	5.2	5.3	4.7	1.7	0.2	0.2	0.2	0.3	0.5	0.6	0.9	0.9	0.8	0.8	0.8	3.1	15.6
23-Jan	0.9	2.1	3.1	4.4	6.0	5.3	4.3	3.6	2.9	2.5	1.7	1.1	0.8	0.5	0.4	0.4	0.5	0.5	0.3	0.3	0.3	0.3	0.3	0.3	1.8	6.0
24-Jan	0.5	0.6	0.5	0.7	0.8	1.8	1.7	3.4	9.1	2.8	3.2	4.2	3.8	3.7	4.1	4.3	4.5	3.7	3.4	2.3	0.6	0.6	0.4	0.4	2.5	9.1
25-Jan	0.6	0.9	1.2	1.2	1.4	1.5	2.0	3.3	4.0	3.8	3.5	3.4	3.1	2.7	1.8	0.9	0.7	0.7	1.3	2.6	2.8	4.9	5.1	4.7	2.4	5.1
26-Jan	3.0	2.8	3.1	2.8	2.7	2.9	2.8	2.7	2.5	2.4	2.3	1.9	1.7	1.6	1.3	1.1	1.3	2.2	3.3	2.5	2.4	1.3	0.8	0.7	2.2	3.3
27-Jan	0.7	2.8	3.9	3.0	3.5	3.1	2.7	2.4	2.3	1.9	1.1	1.2	1.5	1.4	1.5	1.4	1.5	2.2	3.5	4.2	3.2	1.1	0.9	0.8	2.2	4.2
28-Jan	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.5	C	0.6	0.7	0.6	3.4	1.7	1.1	1.2	1.0	1.2	0.7	0.7	0.7	0.8	1.2	1.6	0.9	3.4
29-Jan	1.2	1.1	1.6	1.9	2.4	2.3	2.3	2.7	2.5	2.8	3.8	1.3	0.9	1.1	1.2	1.4	1.3	1.6	1.6	1.7	1.5	1.0	1.1	1.2	1.7	3.8
30-Jan	1.3	1.4	1.9	2.0	2.0	2.2	2.3	2.6	2.8	3.0	3.2	3.3	3.3	3.4	3.7	3.9	4.4	4.5	4.1	5.3	5.7	4.7	4.8	7.8	3.5	7.8
31-Jan	8.6	9.4	8.3	6.9	5.9	5.6	6.5	6.9	5.9	4.6	4.3	3.9	3.5	3.1	3.4	4.1	3.4	3.1	3.0	3.1	3.1	3.1	2.9	3.3	4.8	9.4
																								Diurnal Average		
																								Diurnal Maximum		
																								3.4 3.4 3.3 3.2 3.2 3.1 3.3 3.2 3.7 3.5 3.5 3.5 3.6 3.5 3.6 3.3 3.1 3.0 3.1 3.4 3.7 3.7 3.9 3.7		
																								12.9 12.4 10.8 10.0 9.7 8.6 15.6 8.4 11.3 11.3 13.5 15.0 15.4 19.4 19.9 17.0 12.2 8.4 8.0 11.8 21.3 22.9 20.8 17.7		
C - Calibration																										
Alberta Ambient Air Quality Guideline/Objectives: 1-hr 80 µg/m ³ 24-hr 29 µg/m ³																										



Wood Buffalo Environmental Association
Hourly Averages

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Buffalo Viewpoint - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Buffalo Viewpoint - January 2025**

Concentration Ranges ($\mu\text{g}/\text{m}^3$)	Number of Hours	%	Cumulative %
0 - 5	641	86.27	86.27
6 - 15	94	12.65	98.92
16 - 25	8	1.08	100.00
26 - 80	0	0.00	100.00
> 81.0	0	0.00	100.00

Total Number of Valid Hours: 743

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - μg/m³
Buffalo Viewpoint - January 2025

Concentration Ranges (μg/m ³)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	139	43	8	6	3	6	39	116	22	19	29	54	57	40	40	17	638
6 - 15	9	6	0	1	1	0	14	36	10	5	2	2	0	5	1	2	94
16 - 25	0	0	1	0	0	0	1	6	0	0	0	0	0	0	0	0	8
26 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 81.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	148	49	9	7	4	6	54	158	32	24	31	56	57	45	41	19	740

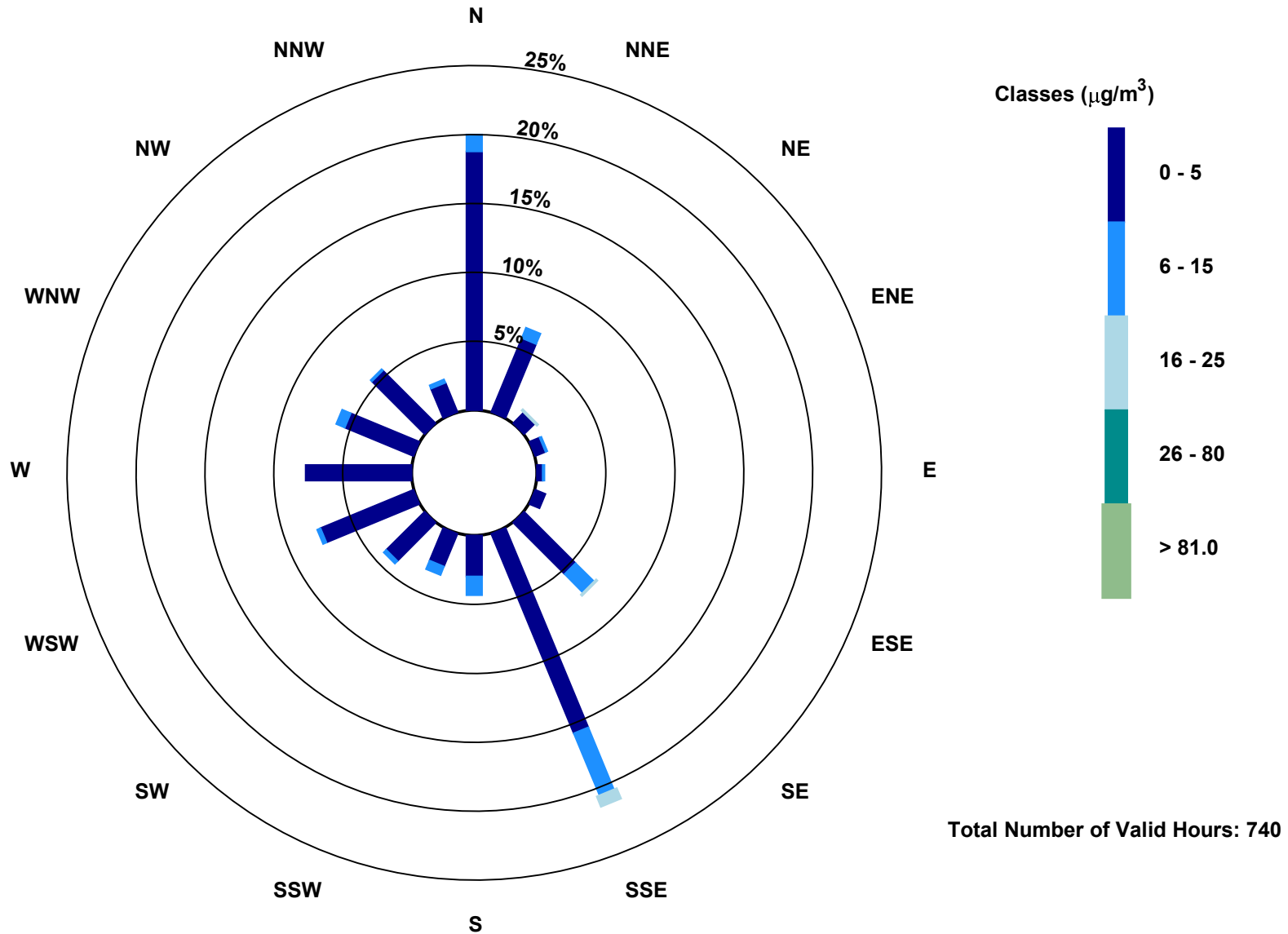
Total Number of Valid Hours: 740

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Buffalo Viewpoint

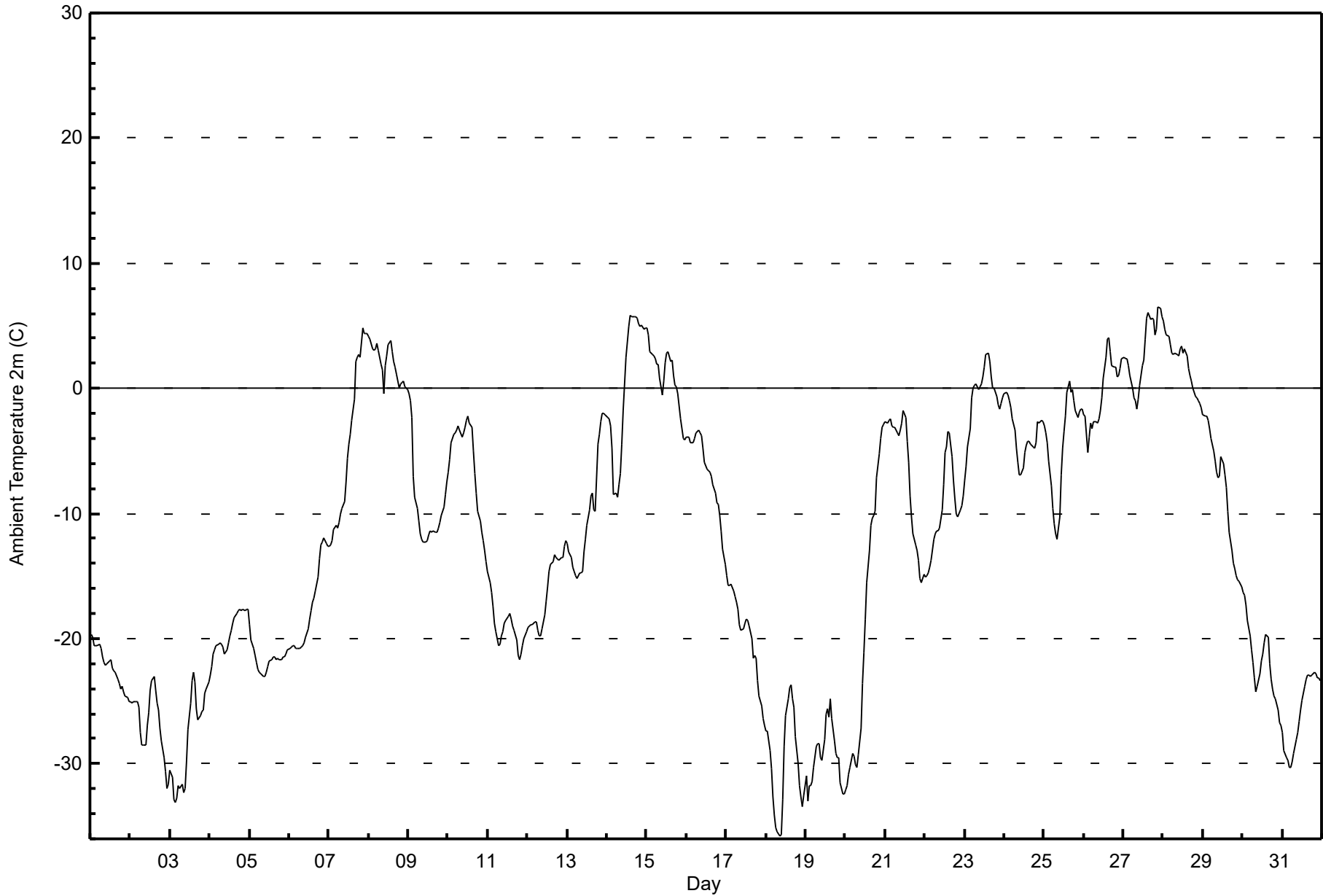




Wood Buffalo Environmental Association
Summary of Hour Averages

Ambient Temperature 2m (AT2) - C
Buffalo Viewpoint - January 2025

Maximum Value: 6.5 C on Jan 27 22:00		Maximum Daily Average: 2.9 C on Jan 27		Hours in Service: 744																						
Minimum Value: -35.7 C on Jan 18 09:00		Minimum Daily Average: -30.0 C on Jan 18		Hours of Data: 744																						
Maximum Diurnal Average: -10.0 C at hour 15		Minimum Diurnal Average: -14.2 C at hour 9		Hours of Missing Data: 0																						
Monthly Average: -12.24 C		Percentiles: P ₁ = -32.9 P ₁₀ = -27.4 Q ₁ = -21.5 Median = -11.7 Q ₃ = -2.5 P ₉₀ = 2.3 P ₉₉ = 5.7		Hours of Calibration: 0																						
				Percent Operational Time: 100.0																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	-19.6	-19.8	-20.6	-20.6	-20.5	-20.5	-20.8	-21.5	-21.9	-22.1	-22.0	-21.8	-21.7	-22.3	-22.5	-22.7	-23.3	-23.5	-24.0	-23.8	-24.2	-24.5	-24.7	-25.0	-22.2	-19.6
2-Jan	-25.0	-25.1	-25.0	-25.1	-25.0	-25.5	-27.5	-28.5	-28.5	-28.5	-27.0	-25.9	-24.1	-23.4	-23.0	-24.1	-25.1	-25.7	-27.1	-28.2	-29.5	-30.7	-31.9	-31.6	-26.7	-23.0
3-Jan	-30.5	-31.0	-32.8	-33.1	-32.7	-31.7	-32.0	-31.6	-32.3	-31.9	-29.9	-27.3	-25.1	-23.4	-22.7	-23.5	-25.6	-26.4	-26.1	-25.9	-25.7	-24.3	-24.0	-23.5	-28.0	-22.7
4-Jan	-23.0	-22.2	-21.3	-20.9	-20.6	-20.4	-20.3	-20.4	-20.7	-21.2	-20.9	-20.4	-19.7	-19.3	-18.8	-18.3	-18.0	-17.8	-17.6	-17.8	-17.6	-17.8	-17.7	-17.6	-19.6	-17.6
5-Jan	-18.9	-20.1	-20.7	-21.3	-21.9	-22.4	-22.7	-22.8	-23.0	-23.0	-22.7	-22.2	-21.8	-21.7	-21.5	-21.5	-21.7	-21.6	-21.7	-21.6	-21.4	-21.5	-21.2	-20.9	-21.7	-18.9
6-Jan	-20.8	-20.6	-20.6	-20.6	-20.8	-20.8	-20.8	-20.7	-20.5	-20.3	-19.9	-19.2	-18.4	-17.7	-17.1	-16.7	-16.1	-15.1	-13.6	-12.5	-12.2	-12.0	-12.4	-12.6	-17.6	-12.0
7-Jan	-12.6	-12.5	-12.2	-11.3	-10.9	-11.2	-10.7	-10.0	-9.7	-9.0	-7.4	-5.5	-4.5	-3.6	-2.6	-0.9	2.1	2.5	2.7	2.5	4.9	4.3	4.4	4.3	-4.5	4.9
8-Jan	4.2	4.0	3.1	3.0	3.2	3.6	3.1	1.9	1.5	-0.4	1.8	2.6	3.5	3.8	3.0	2.2	1.7	1.1	0.1	0.4	0.5	0.6	0.1	-0.1	2.0	4.2
9-Jan	-0.4	-0.9	-2.3	-7.1	-8.7	-9.6	-10.6	-11.7	-12.1	-12.3	-12.3	-12.1	-11.7	-11.4	-11.5	-11.4	-11.4	-11.5	-11.2	-10.7	-10.2	-9.5	-8.5	-7.4	-9.4	-0.4
10-Jan	-6.7	-5.7	-4.4	-3.7	-3.5	-3.3	-3.0	-3.3	-4.0	-3.6	-3.1	-2.5	-2.2	-2.8	-3.1	-5.1	-6.8	-8.4	-9.8	-10.6	-11.4	-12.2	-12.9	-13.8	-6.1	-2.2
11-Jan	-14.6	-15.6	-16.3	-17.5	-18.8	-19.5	-20.5	-20.4	-19.8	-19.4	-18.7	-18.6	-18.2	-18.0	-18.5	-19.0	-19.4	-20.1	-21.3	-21.7	-21.2	-20.5	-20.0	-19.5	-19.0	-14.6
12-Jan	-19.1	-18.9	-18.9	-18.9	-18.7	-18.7	-19.3	-19.8	-19.8	-19.3	-18.1	-17.0	-15.8	-14.6	-14.0	-13.8	-13.3	-13.5	-13.6	-13.7	-13.5	-13.5	-12.6	-12.2	-16.3	-12.2
13-Jan	-12.4	-13.0	-13.5	-14.3	-14.6	-15.0	-15.1	-14.7	-14.8	-14.6	-13.1	-12.0	-10.9	-9.7	-8.6	-8.4	-9.7	-9.8	-4.4	-3.7	-2.7	-2.0	-2.0	-2.1	-10.0	-2.0
14-Jan	-2.3	-2.5	-3.0	-4.8	-8.5	-8.4	-8.7	-7.7	-6.8	-4.5	-1.8	2.5	3.7	4.9	5.9	5.7	5.8	5.7	5.6	5.2	4.9	5.1	4.7	4.9	0.2	5.9
15-Jan	4.9	4.2	3.0	2.7	2.6	2.4	2.0	2.0	0.8	-0.5	0.6	2.0	2.8	3.0	2.2	2.3	1.0	0.3	0.2	-0.4	-2.5	-3.2	-4.0	-4.1	1.0	4.9
16-Jan	-3.9	-3.9	-4.3	-4.4	-4.4	-4.0	-3.6	-3.4	-3.5	-3.8	-4.8	-5.9	-6.4	-6.6	-6.7	-7.1	-7.7	-8.3	-9.1	-9.3	-10.1	-11.4	-12.8	-14.0	-6.6	-3.4
17-Jan	-15.0	-15.7	-15.7	-15.6	-16.2	-16.6	-17.1	-17.7	-18.8	-19.4	-19.3	-18.8	-18.5	-18.5	-19.0	-20.0	-21.5	-21.4	-21.6	-23.4	-24.5	-25.4	-26.4	-26.9	-19.7	-15.0
18-Jan	-27.4	-27.4	-29.0	-30.4	-32.7	-34.1	-35.1	-35.5	-35.7	-35.7	-32.8	-28.6	-26.1	-24.8	-23.9	-23.8	-24.8	-25.4	-27.9	-29.9	-31.8	-32.6	-33.4	-32.5	-30.0	-23.8
19-Jan	-31.0	-33.0	-31.8	-31.7	-31.4	-30.3	-28.6	-28.4	-28.4	-29.5	-29.7	-28.1	-26.1	-25.6	-26.3	-24.9	-26.4	-28.2	-29.2	-29.6	-29.6	-31.5	-32.4	-32.4	-29.3	-24.9
20-Jan	-32.1	-31.7	-30.9	-30.3	-29.2	-29.5	-30.1	-30.3	-29.3	-27.2	-23.6	-21.1	-18.4	-15.5	-12.9	-11.0	-10.4	-10.2	-9.8	-7.2	-5.3	-4.0	-3.1	-2.9	-19.0	-2.9
21-Jan	-2.7	-2.8	-2.6	-2.5	-3.0	-3.1	-3.1	-3.5	-3.8	-3.3	-2.7	-1.8	-2.4	-4.2	-5.9	-8.6	-10.3	-11.6	-12.5	-13.0	-13.8	-15.2	-15.6	-14.9	-6.8	-1.8
22-Jan	-15.1	-15.0	-14.7	-14.3	-13.8	-12.0	-11.6	-11.4	-11.4	-11.2	-9.7	-7.7	-5.1	-4.6	-3.4	-3.5	-5.4	-7.4	-8.8	-10.1	-10.2	-9.7	-9.4	-8.5	-9.8	-3.4
23-Jan	-7.3	-6.2	-4.7	-3.3	-0.8	0.1	0.2	0.3	-0.1	0.2	0.4	1.0	1.7	2.7	2.8	2.2	0.9	0.0	0.0	-0.7	-1.3	-1.6	-1.3	-0.7	-0.6	2.8
24-Jan	-0.4	-0.3	-0.5	-1.0	-1.5	-2.5	-3.3	-4.8	-5.9	-6.9	-6.9	-6.4	-5.1	-4.6	-4.2	-4.2	-4.4	-4.7	-4.8	-4.4	-2.7	-2.7	-2.5	-2.7	-3.6	-0.3
25-Jan	-3.0	-3.6	-4.4	-5.7	-7.8	-9.6	-10.9	-11.6	-12.1	-10.3	-6.9	-4.8	-3.5	-2.2	-0.3	0.6	-0.3	-0.1	-1.0	-1.8	-2.3	-1.9	-1.6	-1.6	-4.4	0.6
26-Jan	-2.1	-2.2	-5.1	-3.9	-2.7	-3.2	-2.7	-2.6	-2.8	-2.4	-1.8	-0.7	0.8	2.4	3.9	4.1	2.9	1.8	1.7	1.6	0.9	1.0	1.6	2.3	-0.3	4.1
27-Jan	2.4	2.4	2.3	1.8	1.1	0.0	-0.7	-1.0	-1.7	-0.9	0.3	1.8	2.2	3.9	5.6	6.0	5.5	5.6	5.5	4.3	4.7	6.5	6.4	5.7	2.9	6.5
28-Jan	5.4	4.8	4.3	4.2	3.5	2.8	2.7	2.9	2.7	2.6	3.1	3.4	2.8	3.1	2.6	1.6	1.1	0.5	0.0	-0.6	-0.7	-1.0	-1.2	-1.5	2.0	5.4
29-Jan	-2.1	-2.3	-2.2	-2.6	-3.2	-4.0	-5.0	-5.8	-6.6	-7.1	-7.0	-5.4	-6.1	-6.9	-7.9	-9.8	-11.5	-13.0	-14.0	-14.4	-14.9	-15.3	-15.5	-15.8	-8.3	-2.1
30-Jan	-16.3	-16.6	-17.3	-18.5	-19.8	-20.8	-21.9	-23.1	-24.3	-23.8	-22.8	-21.8	-21.2	-20.3	-19.6	-19.9	-22.0	-23.2	-24.0	-24.6	-24.8	-25.8	-26.7	-27.0	-21.9	-16.3
31-Jan	-27.5	-29.0	-29.5	-29.7	-30.3	-30.3	-29.8	-29.2	-28.0	-27.5	-26.6	-25.7	-24.9	-23.9	-23.2	-22.9	-22.9	-23.1	-23.0	-22.7	-22.8	-23.2	-23.1	-23.3	-25.9	-22.7
																								Diurnal Average		
																								Diurnal Maximum		





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Ambient Temperature 2m (AT2) - C
Buffalo Viewpoint - January 2025**

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	232	31.18	31.18
-20 - 0	389	52.28	83.47
0 - 10	123	16.53	100.00
10 - 20	0	0.00	100.00
> 20	0	0.00	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

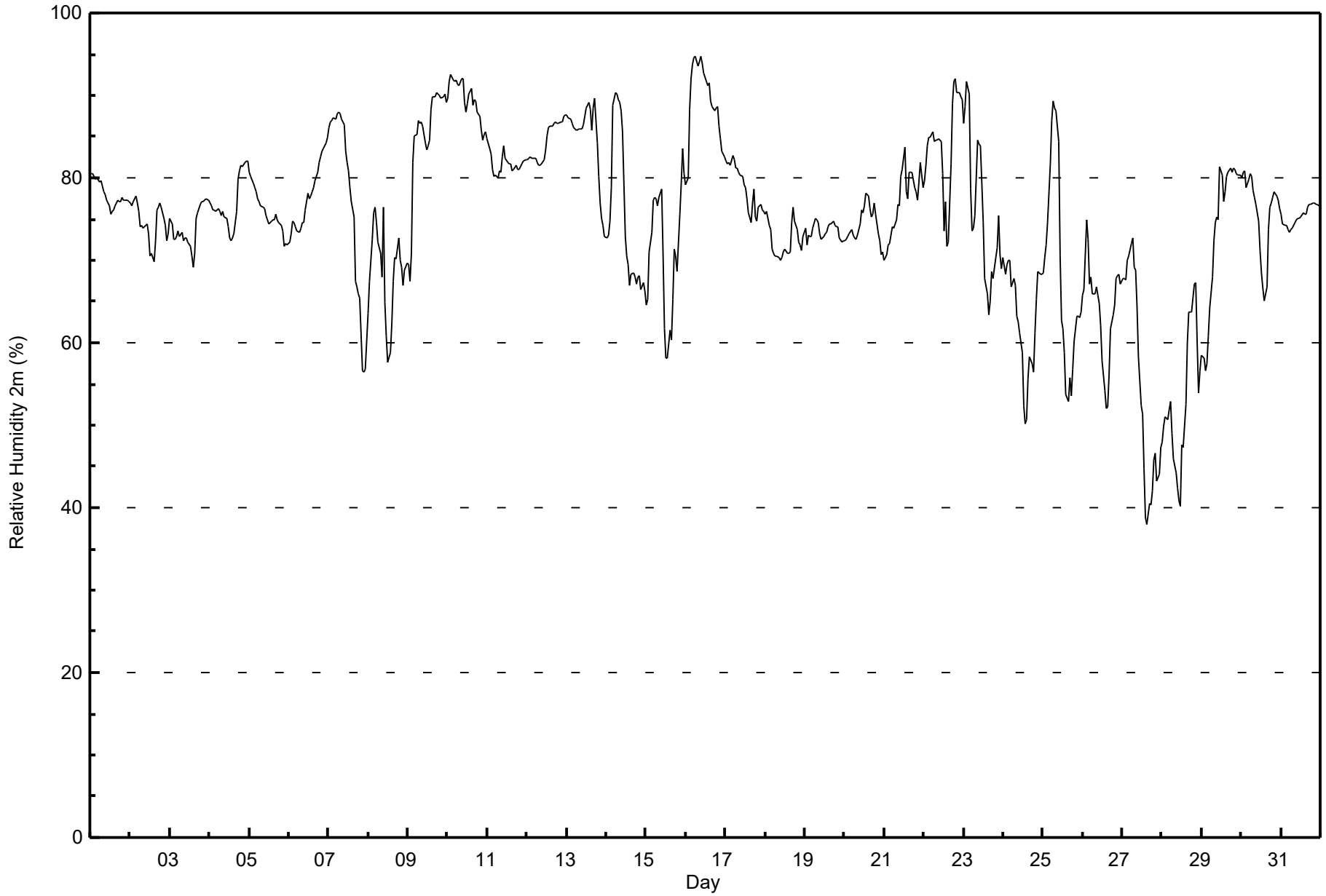
Relative Humidity 2m (RH2) - %
Buffalo Viewpoint - January 2025

Maximum Value: 94.8 % on Jan 16 10:00 Maximum Daily Average: 89.5 % on Jan 10																						Hours in Service: 744 Hours of Data: 744																										
Minimum Value: 37.9 % on Jan 27 16:00 Minimum Daily Average: 52.9 % on Jan 28 Maximum Diurnal Average: 77.6 % at hour 6 Minimum Diurnal Average: 71.5 % at hour 15 Monthly Average: 75.09 % Percentiles: P ₁ = 42.8 P ₁₀ = 62.2 Q ₁ = 70.6 Median = 75.7 Q ₃ = 81.6 P ₉₀ = 87.6 P ₉₉ = 92.6																						Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Jan	80.5	80.5	80.2	79.8	80.0	79.5	79.7	79.0	78.2	78.0	77.4	76.6	75.6	75.9	76.1	76.7	77.2	77.0	77.0	77.6	77.4	77.2	77.3	77.1	78.0	80.5																						
2-Jan	76.9	76.7	77.1	77.7	76.9	75.9	74.0	74.3	73.8	74.2	74.4	73.2	70.4	70.9	69.9	72.4	76.0	76.4	77.0	76.5	75.1	74.2	72.4	73.2	74.6	77.7																						
3-Jan	75.0	74.5	72.5	72.5	72.8	73.6	72.8	73.4	72.4	72.7	72.2	71.8	70.5	69.2	70.8	75.0	75.7	76.8	77.1	77.1	77.3	77.4	77.3	77.3	73.9	77.4																						
4-Jan	77.0	76.6	76.2	76.2	75.9	76.2	76.0	75.5	75.9	75.2	75.2	74.1	72.7	72.4	72.7	73.2	75.9	79.8	80.9	81.5	81.4	81.9	82.0	82.0	76.9	82.0																						
5-Jan	80.7	80.1	79.4	78.8	78.3	77.4	77.1	76.7	76.5	76.2	75.5	75.0	74.4	74.8	75.0	74.9	75.6	74.9	74.5	74.3	73.5	71.7	72.1	71.8	75.8	80.7																						
6-Jan	72.1	73.2	74.8	74.6	74.1	73.6	73.4	73.8	74.6	74.6	76.2	78.2	77.5	77.8	78.3	78.8	79.6	80.7	81.9	82.6	83.2	83.5	84.2	84.8	77.8	84.8																						
7-Jan	86.1	86.7	87.0	87.2	87.1	87.9	88.0	87.7	87.2	86.5	83.2	81.9	80.8	78.8	77.1	75.2	67.5	66.8	66.0	65.5	56.6	56.4	56.7	60.1	76.8	88.0																						
8-Jan	63.5	67.5	72.5	75.8	76.4	74.6	72.2	70.9	67.9	76.4	65.0	60.8	57.7	58.8	62.3	67.5	70.4	70.2	72.8	69.9	69.2	66.9	68.8	69.6	68.7	76.4																						
9-Jan	69.6	67.4	70.8	81.9	85.1	85.3	87.0	86.7	86.8	86.3	84.2	83.4	83.8	84.6	88.3	89.8	89.8	90.3	90.1	90.1	89.7	89.8	90.2	89.1	85.0	90.3																						
10-Jan	89.7	91.7	92.5	91.9	91.7	91.9	91.3	91.2	92.1	92.0	89.1	88.0	88.9	90.2	90.8	88.9	89.5	89.4	87.9	87.5	85.7	84.6	85.3	85.6	89.5	92.5																						
11-Jan	84.7	83.6	82.9	81.1	80.2	80.3	80.0	80.8	80.6	82.5	83.9	82.4	81.8	81.7	81.7	80.9	81.1	81.6	81.1	81.1	81.4	81.8	82.1	82.2	81.7	84.7																						
12-Jan	82.2	82.4	82.5	82.4	82.4	82.3	81.9	81.5	81.5	81.7	82.2	83.4	85.1	86.1	86.3	86.2	86.6	86.7	86.7	86.6	86.7	86.8	87.4	87.7	84.4	87.7																						
13-Jan	87.6	87.3	87.0	86.6	86.2	85.9	85.7	86.0	85.9	86.0	86.5	87.5	88.5	89.1	88.3	85.7	88.6	89.6	84.2	80.2	76.9	75.1	74.3	72.9	84.6	89.6																						
14-Jan	72.8	73.1	74.7	78.9	88.7	90.3	90.2	89.4	89.2	88.1	85.6	72.9	70.5	69.5	66.9	68.3	68.5	67.9	67.0	67.9	68.1	66.5	67.3	66.2	75.4	90.3																						
15-Jan	64.6	65.3	71.0	73.4	77.4	77.6	77.5	76.6	77.6	78.6	70.7	61.7	58.2	61.6	60.4	65.3	71.3	70.5	68.7	75.6	79.3	83.5	80.6	71.0	83.5																							
16-Jan	79.1	80.0	88.3	92.0	93.7	94.5	94.7	93.6	94.1	94.8	93.9	92.7	91.8	91.2	91.5	89.3	88.6	88.1	88.5	88.6	86.2	84.7	83.3	82.5	89.4	94.8																						
17-Jan	82.1	81.7	81.8	81.4	82.7	82.3	81.2	81.1	80.7	80.3	80.1	79.2	78.8	77.5	75.7	74.6	77.0	78.6	75.2	74.7	76.4	76.8	76.2	76.0	78.8	82.7																						
18-Jan	75.7	75.9	74.3	73.7	71.4	70.9	70.5	70.5	70.3	70.1	70.4	70.9	71.3	70.9	70.8	71.1	74.5	76.5	74.8	73.8	72.3	71.8	71.2	72.9	72.4	76.5																						
19-Jan	74.0	71.9	73.0	72.8	72.9	73.8	75.1	74.9	74.7	73.2	72.5	72.9	73.2	73.3	74.1	74.4	74.4	74.7	74.2	74.1	74.1	72.8	72.2	72.3	73.6	75.1																						
20-Jan	72.4	72.5	72.9	73.1	73.7	73.1	72.6	72.5	73.1	74.4	76.1	75.8	76.6	78.1	77.7	76.3	75.2	75.6	77.0	75.5	73.3	72.3	70.6	71.1	74.2	78.1																						
21-Jan	70.0	70.6	71.9	72.0	73.1	74.1	74.0	74.9	76.7	76.6	80.1	81.0	83.7	78.3	77.5	80.7	80.7	80.7	78.9	78.4	77.3	79.5	81.9	78.8	77.1	83.7																						
22-Jan	79.7	81.6	83.9	84.9	85.0	85.6	84.4	84.6	84.5	84.7	84.3	80.5	73.5	77.1	71.7	72.2	81.7	88.9	91.7	92.0	90.4	90.3	89.8	89.5	83.9	92.0																						
23-Jan	86.6	88.7	91.7	90.2	78.6	73.5	74.0	75.4	84.5	84.1	83.9	79.4	74.6	67.8	65.9	63.4	65.1	68.6	67.8	70.3	71.6	75.4	70.7	69.0	75.9	91.7																						
24-Jan	70.4	68.3	69.4	70.1	69.9	66.8	67.7	67.0	63.2	62.6	61.2	58.8	52.4	50.2	50.6	55.7	58.2	57.4	56.5	61.1	65.3	68.7	68.3	68.3	62.8	70.4																						
25-Jan	68.5	70.3	71.8	74.6	81.7	87.0	89.3	88.5	88.2	84.4	70.5	62.7	61.7	58.8	53.7	52.9	55.8	53.6	56.8	60.2	63.2	63.2	63.1	63.8	68.5	89.3																						
26-Jan	65.8	66.4	75.0	72.5	67.1	68.0	65.9	65.9	66.9	65.7	64.8	62.1	57.8	54.2	52.0	52.2	56.1	61.7	63.4	64.6	67.8	68.2	68.4	67.2	64.2	75.0																						
27-Jan	67.8	67.8	67.6	70.1	70.4	72.1	72.8	69.2	68.8	64.3	58.3	52.4	51.4	44.7	38.9	37.9	40.4	40.3	42.1	45.8	46.5	43.3	44.1	47.2	55.2	72.8																						
28-Jan	48.0	49.8	50.9	50.7	51.9	52.9	49.0	45.9	44.3	42.4	40.8	40.2	47.6	47.4	52.5	60.0	63.8	63.7	63.7	67.1	67.3	60.1	53.9	56.7	52.9	67.3																						
29-Jan	58.4	58.1	56.5	57.5	60.8	64.2	67.9	72.3	74.5	75.3	74.9	81.4	80.3	77.1	78.4	80.1	80.6	81.2	80.6	81.2	81.0	80.5	80.3	80.3	73.5	81.4																						
30-Jan	80.0	80.6	80.9	78.8	79.8	80.4	80.1	78.4	77.7	76.8	74.7	71.3	68.4	66.6	65.0	66.7	73.8	76.5	77.0	77.6	78.3	77.9	77.2	76.3	75.9	80.9																						
31-Jan	75.6	74.3	74.2	74.3	73.8	73.4	73.7	74.0	74.7	74.8	75.0	75.1	75.3	75.7	75.5	75.6	76.5	76.8	76.8	76.9	76.9	76.9	76.8	76.6	75.4	76.9																						
																								74.7	75.0	76.3	77.0	77.4	77.6	77.4	77.2	77.3	77.2	75.6	73.8	72.8	71.9	71.5	72.0	73.8	74.9	74.8	75.1	75.0	74.7	74.5	74.5	Diurnal Average
																								89.7	91.7	92.5	92.0	93.7	94.5	94.7	93.6	94.1	94.8	93.9	92.7	91.8	91.2	91.5	89.8	89.8	90.3	91.7	92.0	90.4	90.3	90.2	89.5	Diurnal Maximum



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 2m (RH2) - %
Buffalo Viewpoint - January 2025





Wood Buffalo Environmental Association
Summary of Hour Averages

Wind Speed 10m (WS10) - km/h
Buffalo Viewpoint - January 2025

Maximum Speed: 34 km/h on Jan 24 07:00	Maximum Daily Speed Average: 15.3 km/h on Jan 28	Hours in Service: 744
Minimum Speed Value: 0 km/h on Jan 2 12:00	Minimum Daily Speed Average: 0.3 km/h on Jan 19	Hours of Data: 741
Maximum Diurnal Speed Average: 4.9 km/h at hour 24	Minimum Diurnal Speed Average: 1.0 km/h at hour 9	Hours of Missing Data: 3
Monthly Average Velocity: 2.8 km/h 292.5 deg	Percentiles: P ₁ = 2 P ₁₀ = 4 Q ₁ = 6 Median = 8 Q ₃ = 13 P ₉₀ = 19 P ₉₉ = 28	Percent Operational Time: 99.6

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	N5	N3	N3	N3	N4	N5	N4	N5	N6	N5	N4	N4	N5	NNE5	NNE4	UO	E2	UO	NW3	N2	NNE4	N3	N4	N3	N3.8	N6
2-Jan	N3	NNE3	NNW2	WNW4	NW2	WNW2	WSW1	S2	SW1	S1	UO	SSE0	SE1	SE3	SE3	SE4	SE4	SE5	SSE4	SSE5	SSE5	SSE5	SSE5	SE5	SE1.6	SE5
3-Jan	SE5	SE5	SSE5	SSE5	SE6	SE7	SSE5	SE5	SSE5	SSE5	SE5	SSE5	SSE5	SSE4	SSE4	SE3	SE5	SSE3	SSE4	SSE4	SSE4	SSE6	SSE6	SSE7	SSE4.8	SSE7
4-Jan	SSE8	SSE8	SSE7	SE7	SSE5	SE6	SSE7	SSE6	SE8	ESE10	SE7	SE6	SE5	ESE6	ESE6	ESE5	E5	E4	ENE4	ENE4	NNE2	NE4	NNE4	N4	SE4.6	ESE10
5-Jan	N8	N9	N9	N8	N8	N10	N9	N9	N8	N7	N6	N7	N7	N6	N4	N5	NNE5	NNE6	NNE4	NW2	W2	S2	WSW1	N5.7	N10	
6-Jan	S2	SE4	SE5	SSE5	SSE6	SSE7	SSE8	SSE7	SSE8	SSE7	SSE8	S9	S9	SSE9	SSE8	SSE9	SSE8	SSE9	SSE10	SSE8	SSE7	SSE7	SSE5	SSE5	SSE7.0	SSE10
7-Jan	SSE6	SSE6	SSE6	SSE7	SE7	SSE6	SSE7	SSE8	SSE8	SSE9	SSE8	SE9	SE7	SE10	ESE9	SSE8	SSW13	SSW13	SSW11	SSW13	SW19	SW16	SW13	SW14	S7.8	SW19
8-Jan	WSW21	WSW26	WSW25	W19	W19	W17	W13	W10	WSW11	SSW8	WSW11	W14	NNW17	NW20	NW23	NW13	NW13	WNW8	WNW8	WNW10	NNW12	W16	W17	WNW14	W13.9	WSW26
9-Jan	WNW14	WNW15	NW13	N12	N12	N14	N13	NNE13	NNE11	NNE8	NE5	NE2	SE4	S6	S7	SE6	SE6	SSE8	SSE9	SSE9	SE9	SE7	SE8	SSE10	NE1.5	WNW15
10-Jan	SSE12	SE14	SSE14	SSE11	SSE8	SE5	S4	WNW3	WNW2	WSW2	SSE2	S2	N3	N10	N12	N15	N15	N16	N17	N12	N16	N17	N16	N17	N4.2	N17
11-Jan	N16	N14	N12	N15	N13	N13	N9	N9	N12	N12	N9	NNE11	N10	N7	NNE7	NE4	NE1	ESE2	SSE4	SSE6	S5	S4	SSW5	SW4	N6.0	N16
12-Jan	SSE5	SSE7	SSE6	SSE7	SSE7	SSE7	SSE8	SSE7	S9	SSE10	SSE11	SSE10	SSE10	SSE11	SSE10	SSE9	S7	S8	S9	S8	SSE9	SSE10	SSE9	SE8	SSE8.3	SSE11
13-Jan	SSE9	SSE8	SSE9	SSE10	SSE9	SSE10	SSE9	S10	SSE9	SSE9	SSE9	S9	SSE8	SSE9	S9	SSE8	SSE8	SSE8	SSW3	WSW9	WSW13	W17	W18	W19	S7.2	W19
14-Jan	W20	W14	SSW7	S6	SE10	SSE9	SSE8	SSE7	SE7	SSE8	S8	SSW14	WSW11	WSW17	W26	W26	W20	W19	WSW22	WSW22	WSW22	WSW21	WSW16	W22	WSW11.8	W26
15-Jan	W19	WNW13	NW12	WNW13	WNW14	W11	WNW12	W14	NNW11	WNW7	W8	W9	W11	W9	W9	SSW3	SSE5	SSW6	SW5	WNW8	NW7	NW5	NNW6	NNE9	WNW7.8	W19
16-Jan	NNE4	NE5	NE10	NE5	NE5	NE6	ENE8	ENE12	ENE11	NNE15	NNE17	NNE18	NNE20	NNE27	NNE27	NNE26	N24	N22	N20	N17	N22	N24	N22	N22	NNE15.2	NNE27
17-Jan	N22	N20	N17	N16	N12	N13	NNE10	NNE9	NNE8	N5	NNE6	N5	N8	N9	N9	N9	NNW7	NNW10	NNW13	N10	N12	N11	N10	N8	N10.6	N22
18-Jan	N7	NNW3	SSE2	SSE3	SSE6	SSE5	SE7	SSE9	SSE8	SSE9	SSE8	SSE5	SE7	SE7	SE7	SE6	SE6	S3	SSE4	SSE4	SSE6	SSE6	SE4	N2	SSE4.5	SSE9
19-Jan	NW5	NNW3	NNW5	NNW5	NNW6	N7	NNW12	N8	N5	WNW4	WNW3	WSW2	NW2	WNW2	ENE2	SE3	SE7	SE7	SSE6	SSE6	SSE6	SSE7	SSE7	SSE8	N0.3	NNW12
20-Jan	SE9	SSE8	SSE6	SSE7	SSE8	S7	SSE9	SSE8	SSE9	SSE9	SSE9	SSE10	SSE11	SSE9	S7	SSW7	SSW9	SSW9	S7	SW12	WSW20	WSW26	WSW34	W30	SSW8.1	WSW34
21-Jan	WSW25	WSW22	WSW20	WSW24	WSW29	WSW30	W25	WSW18	W17	WSW19	W17	WNW12	N16	N17	N20	NNE19	N19	N18	N17	N16	N14	N8	NNW4	WNW2	WNW11.2	WSW30
22-Jan	S4	S5	SSE8	SE8	SSE4	N3	NE3	E2	SSE4	S5	SSE6	SSE5	WSW9	W13	WSW8	SW9	S7	SSE8	SSE9	SE11	SSE10	SSE10	SSE9	SSE10	S5.0	W13
23-Jan	SSE10	SE11	SSE10	SSE8	SSW11	WSW9	W7	WSW11	SW14	SW13	SW8	WSW16	W18	W16	WNW14	NW20	NW20	WNW13	WNW17	WNW16	W19	W16	WNW18	WNW20	W10.2	NW20
24-Jan	WNW23	WNW23	WNW19	NW25	NNW25	NNW34	NNW34	NNW32	NNW24	NW19	NW17	NW13	NW15	NW16	NW9	NW9	NW4	SSE6	SSE6	WSW5	WNW11	NW9	W5	WSW10	NW14.3	NNW34
25-Jan	WSW11	W12	SW6	WSW6	SSE5	SSE6	SE8	SSE7	S6	SW5	W13	WSW10	WSW12	WSW13	WSW8	WSW5	NW7	W13	WSW10	SSW7	SSW7	SW10	WSW9	SSW6	SW6.8	W13
26-Jan	SW7	SSW7	SE8	SSW10	SW13	WSW13	WSW13	SW12	SW11	SW10	SW13	WSW13	WSW11	SW11	WSW11	SW7	SSW6	NW8	WNW10	W10	W8	WSW5	W8	W10	WSW8.5	SW13
27-Jan	W7	W13	W9	WNW7	W9	W10	W9	SW4	SSW2	SW7	SW7	SW10	SW9	SW10	SW16	SW16	SW16	WSW13	WSW6	SSW6	NW10	NW24	NW30	NW28	W9.4	NW30
28-Jan	WNW28	NW22	WNW19	WNW17	W15	W18	W15	WNW19	WNW18	WNW21	WNW24	NW23	NW23	NW17	NW20	NW17	NW11	NW8	NW7	NW6	WNW5	WSW7	WSW9	W13	WNW15.3	WNW28
29-Jan	W9	W7	W9	W4	WNW5	NNW3	SW3	SSE4	S4	N2	N7	NNE17	NNE17	NNE16	N16	N18	N17	N19	N17	N19	N20	N19	N18	N18	N9.7	N20
30-Jan	N15	N13	N13	NNE13	N10	N10	NNE8	NNE9	N7	NNE10	NNE8	N6	N6	N5	N5	N4	N5	NE6	NNE4	NNE4	NNE4	NNE5	N5	N7	N7.5	NNE15
31-Jan	N5	N4	N5	NNE8	NNE6	N6	NNE8	NNE8	N9	N13	N11	N13	N14	N15	N13	N15	N16	N16	N17	N17	N16	N16	N15	N15	N11.6	N17

WNW4.7	W4.0	W2.6	NNW2.3	W2.7	NNW2.9	NNW2.1	NNW1.3	W1.0	W1.2	W1.8	W2.4	NW3.1	NW3.2	NW3.3	NW2.8	NW2.2	NNW2.0	NW2.2	NNW2.5	NNW3.7	NNW4.3	NNW4.7	NNW4.9		Diurnal Average
WNW28	WSW26	WSW25	NW25	WSW29	NNW34	NNW34	NNW32	NNW24	WNW21	WNW24	NW23	NW23	NNE27	NNE27	NNE26	N24	N22	WSW22	WSW22	N22	WSW26	WSW34	W30		Diurnal Maximum

UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

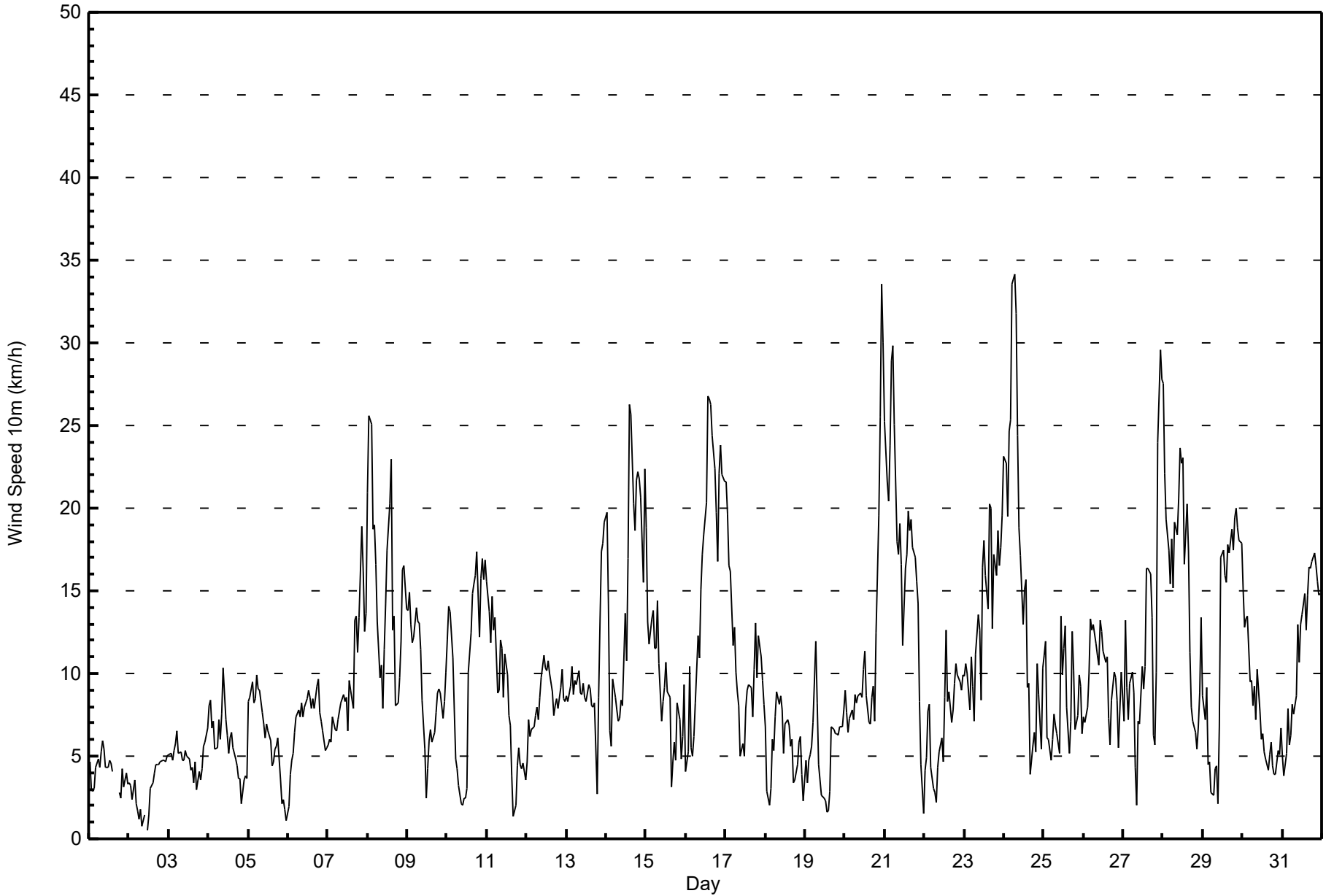
Wind Speed 10m (WS10) - km/h
Buffalo Viewpoint - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 10 km/h on Jan 24 07:00 Minimum Value: 0 km/h on Jan 2 19:00 Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 2 Median = 2 Q ₃ = 4 P ₉₀ = 5 P ₉₉ = 8																	Hours in Service: 744 Hours of Data: 741 Hours of Missing Data: 3 Hours of Calibration: 0 Percent Operational Time: 99.6								
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	1	1	2	1	1	1	1	2	1	1	2	2	1	1	1	UO	1	UO	1	1	1	2	1	1	2
2-Jan	1	1	1	1	1	1	1	1	1	1	UO	1	2	1	1	1	1	1	0	1	0	0	0	1	2
3-Jan	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	2	2	2	2	2
4-Jan	2	3	2	3	2	2	3	2	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	3
5-Jan	2	2	2	2	3	3	2	2	2	2	2	2	2	1	1	1	2	2	2	1	1	1	1	1	3
6-Jan	1	1	1	2	2	2	3	2	3	2	3	3	3	3	3	3	3	3	3	2	2	2	2	2	3
7-Jan	2	1	2	2	2	2	2	2	2	3	2	3	2	1	2	2	4	3	3	4	5	4	4	5	5
8-Jan	5	6	6	4	3	4	4	3	3	2	3	4	5	6	7	3	4	3	2	3	4	5	4	4	7
9-Jan	5	4	4	3	3	3	4	4	3	3	2	1	2	2	2	2	2	2	3	3	3	2	3	3	5
10-Jan	4	5	5	4	3	1	2	1	1	1	1	2	4	3	4	3	4	4	4	3	4	4	4	4	5
11-Jan	4	3	3	3	3	3	2	2	3	3	3	3	2	2	2	2	1	1	1	1	1	1	1	1	4
12-Jan	1	2	2	2	2	2	2	2	2	3	3	3	3	4	3	3	2	3	2	2	2	2	2	2	4
13-Jan	1	2	2	2	2	2	2	3	2	2	2	2	2	3	2	2	2	2	3	2	3	4	4	4	4
14-Jan	4	7	2	2	2	2	2	2	2	3	3	4	4	7	6	6	5	5	5	5	5	5	5	5	7
15-Jan	5	4	3	4	4	2	3	4	4	2	2	3	3	3	3	2	1	1	2	2	3	1	2	2	5
16-Jan	3	2	4	3	2	2	2	3	3	4	5	5	5	7	7	6	6	6	6	5	6	5	6	5	7
17-Jan	5	5	4	3	3	4	3	3	3	2	2	2	2	2	2	2	2	3	4	3	2	3	2	2	5
18-Jan	2	2	2	1	1	1	2	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	2
19-Jan	1	1	2	1	1	1	3	3	2	1	1	2	1	1	1	1	2	1	1	1	1	1	1	1	3
20-Jan	1	1	1	2	2	2	3	3	3	3	3	3	4	3	2	3	2	2	3	4	5	8	6	6	8
21-Jan	6	5	5	5	6	6	5	5	4	4	4	3	5	4	5	5	5	5	5	4	4	3	1	1	6
22-Jan	1	1	1	1	1	1	2	1	1	1	2	2	4	4	2	2	1	1	2	2	2	2	2	3	4
23-Jan	3	3	3	2	3	3	4	3	4	4	4	5	4	4	4	6	5	4	5	4	5	4	5	5	6
24-Jan	6	6	5	7	8	9	10	9	9	6	4	3	4	4	4	3	3	2	1	2	2	3	3	2	10
25-Jan	3	3	3	2	2	2	1	1	1	4	4	3	4	4	4	2	3	2	2	3	2	2	3	2	4
26-Jan	3	3	2	3	4	4	4	5	4	3	4	4	4	3	3	3	1	4	3	2	2	2	2	2	5
27-Jan	2	3	3	2	3	3	3	2	2	3	2	3	3	4	4	4	4	4	5	2	9	7	8	7	9
28-Jan	7	6	5	5	4	3	4	6	5	6	7	7	7	5	6	7	4	2	2	1	1	2	3	3	7
29-Jan	3	2	3	3	2	1	0	1	1	1	2	5	4	5	4	5	4	5	4	5	5	5	5	5	5
30-Jan	4	4	3	3	3	2	2	2	2	2	2	2	2	1	1	1	1	1	2	1	1	1	1	1	4
31-Jan	1	1	2	1	1	1	2	2	2	3	3	3	3	3	3	4	3	3	4	4	4	4	3	3	4
Diurnal Maximum																									
UO - Unstable Operation																									



Wood Buffalo Environmental Association
Hourly Averages

Wind Speed 10m (WS10) - km/h
Buffalo Viewpoint - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 10m (WS10) - km/h
Buffalo Viewpoint - January 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	181	24.43	24.43
6 - 11	334	45.07	69.50
12 - 19	165	22.27	91.77
20 - 28	53	7.15	98.92
29 - 38	8	1.08	100.00
> 38	0	0.00	100.00

Total Number of Valid Hours: 741

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Wind Speed 10m (WS10) - km/h
Buffalo Viewpoint - January 2025**

Wind Speed Ranges (km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	34	16	6	4	4	2	20	38	13	4	5	8	3	10	6	8	181
6 - 11	43	19	3	2	0	4	33	118	19	16	13	20	19	9	12	4	334
12 - 19	60	10	0	1	0	0	1	2	0	4	13	12	28	21	11	2	165
20 - 28	11	4	0	0	0	0	0	0	0	0	0	13	6	6	11	2	53
29 - 38	0	0	0	0	0	0	0	0	0	0	0	3	1	0	1	3	8
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	148	49	9	7	4	6	54	158	32	24	31	56	57	46	41	19	741

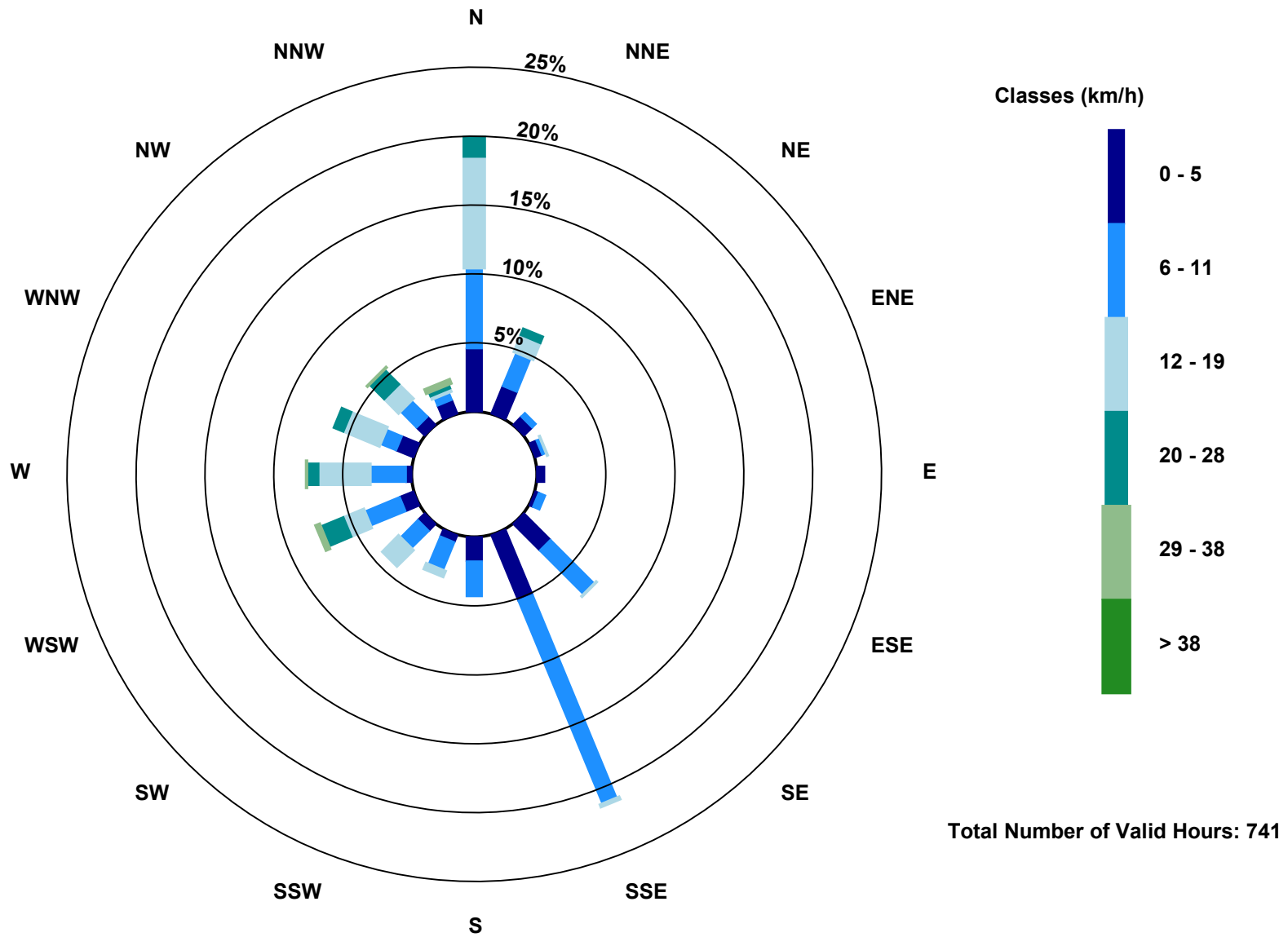
Total Number of Valid Hours: 741

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Wind Speed 10m (WS10) - km/h
Buffalo Viewpoint





Wood Buffalo Environmental Association
Summary of Hour Averages

Wind Direction 10m (WD10) - deg
Buffalo Viewpoint - January 2025

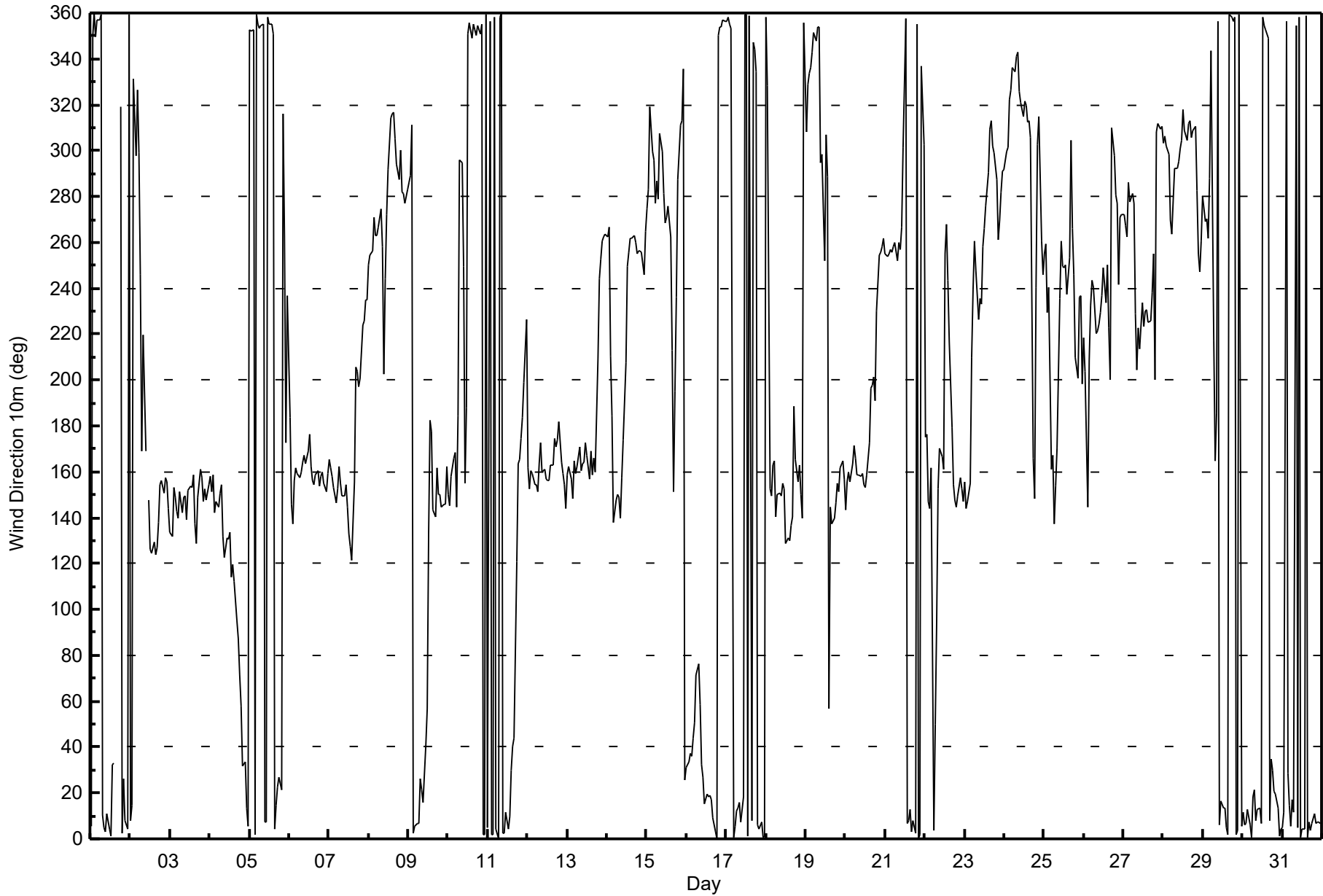
Direction of Maximum Speed: 334 deg on Jan 24 07:00																				Hours in Service: 744							
Direction of Maximum Daily Speed Average: 295.9 deg on Jan 28																				Hours of Data: 741							
Direction of Minimum Speed: 148 deg on Jan 2 12:00										Direction of Minimum Daily Speed Average: 0.3 deg on Jan 19										Hours of Missing Data: 3							
Monthly Average Direction: 292.5 deg																								Percent Operational Time: 99.6			
Day	Hourly Period Ending At (MST)																								Daily Average		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	6	349	360	349	357	357	360	10	5	3	11	4	1	32	33	UO	90	UO	319	3	26	8	4	359	6.2		
2-Jan	8	15	332	298	326	299	246	169	220	169	UO	148	126	125	129	124	127	138	154	156	151	158	156	144	142.8		
3-Jan	134	132	153	149	143	140	151	142	149	149	139	152	154	153	158	137	129	149	161	157	147	152	148	155	147.0		
4-Jan	158	151	159	142	147	145	151	154	132	123	131	131	133	114	120	113	95	87	71	58	32	34	13	5	124.9		
5-Jan	353	352	352	2	359	355	354	354	355	7	7	358	355	355	351	4	14	22	27	21	316	263	173	237	358.4		
6-Jan	184	146	137	156	162	159	157	160	164	167	164	169	176	162	156	155	159	161	154	158	160	155	151	160	159.8		
7-Jan	165	162	158	153	146	152	163	155	149	150	154	145	133	128	122	156	206	204	197	201	224	226	235	235	181.2		
8-Jan	250	255	256	271	263	263	267	275	258	202	244	272	291	315	316	317	305	294	288	300	282	281	277	283	276.5		
9-Jan	286	289	311	3	6	7	7	26	21	16	41	56	133	182	178	144	140	162	150	150	145	146	146	162	42.6		
10-Jan	150	145	158	166	168	145	185	296	295	250	155	188	351	356	349	355	353	350	354	351	355	2	2	360	3.5		
11-Jan	5	356	2	2	358	5	0	358	360	2	3	12	4	10	30	40	44	121	163	166	175	184	199	227	5.6		
12-Jan	162	153	160	160	154	155	152	163	172	160	161	157	156	156	163	163	175	171	174	182	164	159	155	144	161.1		
13-Jan	158	163	157	148	165	159	163	171	161	164	164	173	167	157	169	159	166	160	209	244	253	260	262	263	189.0		
14-Jan	262	267	210	184	138	148	150	149	140	157	174	208	249	256	262	262	263	260	255	256	256	255	246	265	243.4		
15-Jan	275	283	319	300	296	277	287	279	307	300	281	268	271	276	262	213	152	195	236	287	311	313	336	26	286.6		
16-Jan	31	34	37	36	44	51	71	76	58	33	27	15	19	18	19	17	9	3	0	350	354	354	357	357	15.7		
17-Jan	356	358	355	353	1	5	12	14	16	7	18	359	360	1	359	8	347	344	335	6	4	7	1	1	359.9		
18-Jan	358	328	153	150	163	164	141	150	151	150	155	152	129	131	130	137	140	189	165	156	163	150	140	356	146.4		
19-Jan	308	329	334	336	343	351	348	354	354	295	298	252	307	289	57	144	137	140	147	155	151	162	165	157	5.9		
20-Jan	143	156	160	155	163	172	166	159	158	158	159	154	153	159	172	197	198	202	191	230	254	256	258	262	204.2		
21-Jan	255	254	255	257	256	258	260	252	260	257	267	301	358	7	8	13	3	8	2	355	0	2	337	303	296.4		
22-Jan	175	176	147	144	161	4	50	95	152	170	167	161	255	268	243	217	179	155	148	145	150	157	153	147	170.3		
23-Jan	156	144	147	155	210	239	260	248	227	235	233	258	266	276	290	309	313	302	299	287	261	269	282	291	265.6		
24-Jan	291	299	301	322	327	336	334	341	343	326	321	315	322	320	312	313	305	166	149	241	303	315	260	246	318.1		
25-Jan	255	259	229	241	161	167	137	154	170	235	260	250	249	250	237	253	304	266	246	210	201	236	237	198	234.9		
26-Jan	219	204	145	209	233	243	240	221	221	225	229	237	249	234	250	223	200	310	298	280	277	242	271	272	239.9		
27-Jan	272	267	262	286	277	281	277	229	204	223	214	233	224	230	231	225	226	238	255	200	308	312	310	311	265.3		
28-Jan	303	306	302	298	270	263	278	293	292	295	301	305	318	308	304	312	313	306	309	311	283	255	247	260	295.9		
29-Jan	280	269	270	262	288	344	217	165	185	356	6	17	14	14	5	2	359	358	356	358	2	3	360	5	355.2		
30-Jan	11	6	7	13	6	1	18	21	8	13	13	6	358	355	353	349	8	35	30	21	20	14	1	4	9.6		
31-Jan	5	11	356	28	15	6	17	12	355	5	358	0	4	4	359	1	7	3	6	11	7	7	7	7	5.9		
282.1 277.8 279.8 292.6 274.1 293.1 294.3 294.5 281.1 265.6 264.2 281.2 309.8 317.1 311.5 320.3 319.7 303.3 305.2 286.6 290.8 288.6 287.0 290.6																											
Diurnal Average																											
UO - Unstable Operation																											
All monthly, daily, and diurnal averages have been calculated using vector methods																											



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg
Buffalo Viewpoint - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 90 deg on Jan 18 03:00 Minimum Value: 8 deg on Jan 18 08:00 Percentiles: P ₁ = 9 P ₁₀ = 13 Q ₁ = 17 Median = 21 Q ₃ = 26 P ₉₀ = 32 P ₉₉ = 69		Hours in Service: 744 Hours of Data: 741 Hours of Missing Data: 3 Hours of Calibration: 0 Percent Operational Time: 99.6																							
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	14	14	16	17	16	17	20	17	17	15	21	24	22	22	22	UO	12	UO	17	25	18	25	17	16	25
2-Jan	19	13	30	19	15	26	49	15	51	54	UO	74	42	21	20	14	8	11	9	8	9	8	8	10	74
3-Jan	10	11	12	17	15	15	13	14	14	17	18	24	25	28	29	27	17	25	29	32	33	30	34	30	34
4-Jan	29	31	33	30	29	29	30	33	35	23	26	29	28	21	23	25	19	19	18	16	35	22	21	31	35
5-Jan	20	20	20	22	21	20	21	20	19	22	24	21	19	19	22	21	22	20	23	25	27	27	31	68	68
6-Jan	36	28	27	28	28	29	28	29	30	27	30	27	26	30	29	29	32	31	29	30	29	30	31	26	36
7-Jan	22	17	21	23	27	21	20	23	29	30	28	30	26	9	10	30	17	16	17	19	16	17	21	23	30
8-Jan	16	13	13	16	12	13	20	22	25	28	17	19	22	21	22	19	18	21	17	21	21	21	17	19	28
9-Jan	20	19	38	18	19	20	21	19	20	20	28	62	42	33	32	33	28	29	30	29	30	30	31	30	62
10-Jan	29	29	30	30	26	31	46	15	44	51	36	65	82	23	20	21	19	20	21	21	20	21	21	22	82
11-Jan	21	20	21	19	17	18	15	17	19	19	21	20	20	26	20	26	37	59	27	11	25	22	24	31	59
12-Jan	27	27	24	25	24	24	22	23	23	24	24	25	24	30	30	27	30	29	27	23	20	19	21	18	30
13-Jan	12	19	17	17	18	19	23	25	24	23	23	23	24	26	27	32	34	23	87	17	17	12	13	13	87
14-Jan	13	29	27	44	11	15	19	20	20	27	25	20	26	19	12	11	14	14	14	14	14	14	17	14	44
15-Jan	16	20	17	20	19	17	18	19	32	33	18	17	20	21	10	39	33	23	49	17	35	29	20	21	49
16-Jan	38	19	18	23	20	17	21	14	17	21	20	20	21	20	21	20	21	21	22	20	23	22	21	20	38
17-Jan	21	21	19	20	18	19	20	19	20	34	20	23	20	16	18	18	17	18	16	21	16	19	14	15	34
18-Jan	14	36	90	24	12	13	15	8	8	10	11	21	13	17	17	15	13	22	21	16	9	12	18	54	90
19-Jan	18	13	11	16	13	12	18	20	30	14	13	43	38	68	30	22	11	12	16	10	10	11	10	10	68
20-Jan	10	15	17	20	29	29	30	30	29	27	34	30	27	29	30	38	18	17	24	26	17	14	11	13	38
21-Jan	15	15	15	12	12	11	11	16	13	12	14	23	26	21	20	22	22	21	22	22	22	20	17	62	62
22-Jan	18	18	16	14	27	64	34	57	28	21	21	42	29	17	24	15	23	16	13	16	17	17	22	26	64
23-Jan	35	25	26	26	17	28	46	25	17	19	30	18	14	19	21	19	19	20	21	22	11	14	19	20	46
24-Jan	21	21	21	20	20	19	21	20	19	18	19	18	17	19	20	40	40	24	17	50	23	20	45	26	50
25-Jan	15	14	53	26	48	33	14	13	19	54	18	18	21	17	22	40	26	12	19	29	29	18	20	23	54
26-Jan	26	37	23	25	20	23	22	22	27	23	20	20	21	21	16	31	32	31	23	18	12	32	28	12	37
27-Jan	21	16	24	21	16	18	25	52	76	29	22	19	21	24	18	17	15	19	70	40	84	20	22	21	84
28-Jan	21	21	20	21	21	11	20	22	21	21	21	22	20	23	21	21	19	17	19	16	23	15	19	13	23
29-Jan	19	17	19	58	29	27	42	13	9	90	16	21	21	22	20	22	21	22	23	22	21	22	22	22	90
30-Jan	19	21	21	19	16	13	22	18	16	16	18	19	17	17	17	15	26	13	16	17	13	14	10	9	26
31-Jan	11	21	23	11	13	12	13	17	17	16	19	18	18	19	23	21	19	19	18	17	18	19	17	18	23
Diurnal Maximum																									
UO - Unstable Operation																									





WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS05 MANNIX DECEMBER 2025

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

February 28, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - MANNIX (AMS05)
JANUARY 2025

MONTHLY SUMMARY

Parameter	Hours of Data	Hours of Calibration	Hours without Data	Operational Time	Maximum 1-Hour Value	1-Hour Exceedances	Maximum 24-Hour Value	24-Hour Exceedances
SO2 (ppb) Average	707	36	37	99.87	31.9	0	9.7	0
H2S (ppb) Average	707	36	37	99.87	5	0	1.8	0
THC (ppm) Average	581	30	163	82.12	2.8	-	2.2	-
NMHC(ppm) Average	581	30	163	82.12	0.292	-	0.041	-
CH4(ppm) Average	581	30	163	82.12	2.8	-	2.2	-
Temperature 2 m (C) Average	743	0	1	99.87	5.7	-	1.6	-
Temperature 20 m (C) Average	743	0	1	99.87	6.7	-	2.6	-
Temperature 45 m (C) Average	743	0	1	99.87	6.8	-	3	-
Temperature 75 m (C) Average	743	0	1	99.87	6.9	-	3.1	-
Temperature 90 m (C) Average	743	0	1	99.87	7	-	3.3	-
Relative Humidity 2 m (%) Average	743	0	1	99.87	94	-	88	-
Relative Humidity 20 m (%) Average	735	0	9	98.79	97	-	91	-
Relative Humidity 45 m (%) Average	743	0	1	99.87	95	-	89	-
Relative Humidity 75 m (%) Average	730	0	14	98.12	99	-	95	-
Relative Humidity 90 m (%) Average	743	0	1	99.87	99	-	92	-
Wind Speed 20 m (km/h) Average	743	0	1	99.87	37	-	21	-
Wind Speed 45 m (km/h) Average	736	0	8	98.92	49	-	28	-
Wind Speed 75 m (km/h) Average	732	0	12	98.39	57	-	32	-
Wind Speed 90 m (km/h) Average	720	0	24	96.77	61	-	34	-
Wind Direction 20 m (deg) Average	743	0	1	99.87	-	-	-	-
Wind Direction 45 m (deg) Average	736	0	8	98.92	-	-	-	-
Wind Direction 75 m (deg) Average	732	0	12	98.39	-	-	-	-
Wind Direction 90 m (deg) Average	720	0	24	96.77	-	-	-	-
Vertical Wind Speed 20 m (km/h) Average	743	0	1	99.87	1.1	-	0.6	-
Vertical Wind Speed 45 m (km/h) Average	736	0	8	98.92	1.7	-	0.5	-
Vertical Wind Speed 75 m (km/h) Average	732	0	12	98.39	1.9	-	0.5	-
Vertical Wind Speed 90 m (km/h) Average	720	0	24	96.77	2.6	-	1	-

Note : Operational time includes periods of data collection and instrument calibration

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - MANNIX (AMS05)
JANUARY 2025

MONTHLY SUMMARY FOR AIR QUALITY/ METEOROLOGICAL MONITORING MEASUREMENTS

Parameter	Number	Mean	StnDev	Total	Percentile						
					Min	P10	Q1	Median	Q3	P90	Max
SO2 (ppb) Average	707	1.71	3.8	-	0	0.1	0.1	0.3	1.2	4.8	31.9
H2S (ppb) Average	707	0.41	0.6	-	0	0.1	0.1	0.3	0.4	0.8	4.7
THC (ppm) Average	581	2.07	0.1	-	1.9	2	2	2	2.1	2.2	2.8
NMHC(ppm) Average	581	0.012	0.026	-	0	0	0	0	0	0	0.292
CH4(ppm) Average	581	2.06	0.1	-	1.9	2	2	2	2.1	2.1	2.8
Temperature 2 m (C) Average	743	-12.49	10.4	-	-32.2	-26.8	-21.3	-11.9	-3.2	1	5.7
Temperature 20 m (C) Average	743	-11.91	10.6	-	-30.8	-26.1	-21.6	-11.7	-2.7	2.1	6.7
Temperature 45 m (C) Average	743	-11.75	10.6	-	-28.9	-25.5	-21.8	-11.7	-2.5	2.3	6.8
Temperature 75 m (C) Average	743	-11.52	10.5	-	-28.9	-25	-21.9	-11.1	-2.2	2.4	6.9
Temperature 90 m (C) Average	743	-11.47	10.6	-	-28.8	-24.9	-22.1	-10.8	-2	2.5	7
Relative Humidity 2 m (%) Average	743	76.6	9	-	43	67	73	77	82	88	94
Relative Humidity 20 m (%) Average	735	74.5	10	-	39	61	70	75	81	87	97
Relative Humidity 45 m (%) Average	743	74.4	11	-	37	59	69	76	81	88	95
Relative Humidity 75 m (%) Average	730	74.5	12	-	37	58	68	76	81	90	99
Relative Humidity 90 m (%) Average	743	74.3	12	-	36	58	68	76	81	89	99
Wind Speed 20 m (km/h) Average	743	13	7	-	1	5	8	12	17	23	37
Wind Speed 45 m (km/h) Average	736	17.9	9	-	0	7	11	17	24	30	49
Wind Speed 75 m (km/h) Average	732	20.8	10	-	1	8	13	20	28	35	57
Wind Speed 90 m (km/h) Average	720	21.7	11	-	1	9	14	20	29	37	61
Wind Direction 20 m (deg) Average	743	-	-	-	-	-	-	-	-	-	-
Wind Direction 45 m (deg) Average	736	-	-	-	-	-	-	-	-	-	-
Wind Direction 75 m (deg) Average	732	-	-	-	-	-	-	-	-	-	-
Wind Direction 90 m (deg) Average	720	-	-	-	-	-	-	-	-	-	-
Vertical Wind Speed 20 m (km/h) Average	743	-0.04	0.4	-	-1.2	-0.6	-0.3	-0.1	0.3	0.5	1.1
Vertical Wind Speed 45 m (km/h) Average	736	-0.21	0.6	-	-2.1	-0.9	-0.6	-0.2	0.2	0.5	1.7
Vertical Wind Speed 75 m (km/h) Average	732	0.12	0.4	-	-1.3	-0.4	-0.1	0.1	0.3	0.6	1.9
Vertical Wind Speed 90 m (km/h) Average	720	-0.02	0.7	-	-1.6	-0.7	-0.5	-0.1	0.4	0.9	2.6

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - MANNIX (AMS05)
JANUARY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
ALL GASEOUS ANALYZERS	24 Jan 2025 14:00	24 Jan 2025 14:00	1	Maintenance - sample manifold cleaned
ALL METEOROLOGICAL SENSORS	29 Jan 2025 12:00	29 Jan 2025 12:00	1	DAS Failure - data not recorded
THC/NMHC/CH4	18 Jan 2025 03:00	23 Jan 2025 12:00	130	Unstable Operation - excessive baseline drift
THC/NMHC/CH4	24 Jan 2025 12:00	24 Jan 2025 14:00	3	Maintenance - replaced support gas cylinder
Relative Humidity, 20m	10 Jan 2025 03:00	10 Jan 2025 03:00	1	Sensor operated out of range
Relative Humidity, 20m	16 Jan 2025 05:00	16 Jan 2025 11:00	7	Sensor operated out of range
Relative Humidity, 75m	10 Jan 2025 02:00	10 Jan 2025 04:00	3	Sensor operated out of range
Relative Humidity, 75m	10 Jan 2025 15:00	10 Jan 2025 16:00	2	Sensor operated out of range
Relative Humidity, 75m	13 Jan 2025 17:00	13 Jan 2025 18:00	2	Sensor operated out of range
Relative Humidity, 75m	16 Jan 2025 05:00	16 Jan 2025 10:00	6	Sensor operated out of range
Wind Speed, Wind Direction, Vertical Wind Speed, 45m	12 Jan 2025 14:00	12 Jan 2025 15:00	2	Flat line in sensor output signal
Wind Speed, Wind Direction, Vertical Wind Speed, 45m	13 Jan 2025 07:00	13 Jan 2025 08:00	2	Flat line in sensor output signal
Wind Speed, Wind Direction, Vertical Wind Speed, 45m	13 Jan 2025 12:00	13 Jan 2025 14:00	3	Flat line in sensor output signal
Wind Speed, Wind Direction, Vertical Wind Speed, 75m	12 Jan 2025 02:00	12 Jan 2025 02:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction, Vertical Wind Speed, 75m	12 Jan 2025 13:00	12 Jan 2025 18:00	6	Flat line in sensor output signal
Wind Speed, Wind Direction, Vertical Wind Speed, 75m	13 Jan 2025 06:00	13 Jan 2025 06:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction, Vertical Wind Speed, 75m	13 Jan 2025 14:00	13 Jan 2025 14:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction, Vertical Wind Speed, 75m	19 Jan 2025 10:00	19 Jan 2025 11:00	2	Flat line in sensor output signal
Wind Speed, Wind Direction, Vertical Wind Speed, 90m	09 Jan 2025 18:00	09 Jan 2025 18:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction, Vertical Wind Speed, 90m	12 Jan 2025 01:00	12 Jan 2025 02:00	2	Flat line in sensor output signal
Wind Speed, Wind Direction, Vertical Wind Speed, 90m	12 Jan 2025 05:00	12 Jan 2025 05:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction, Vertical Wind Speed, 90m	12 Jan 2025 18:00	13 Jan 2025 01:00	8	Flat line in sensor output signal
Wind Speed, Wind Direction, Vertical Wind Speed, 90m	13 Jan 2025 04:00	13 Jan 2025 14:00	11	Flat line in sensor output signal



Wood Buffalo Environmental Association

Summary of Hour Averages

Sulphur Dioxide (SO₂) - ppb

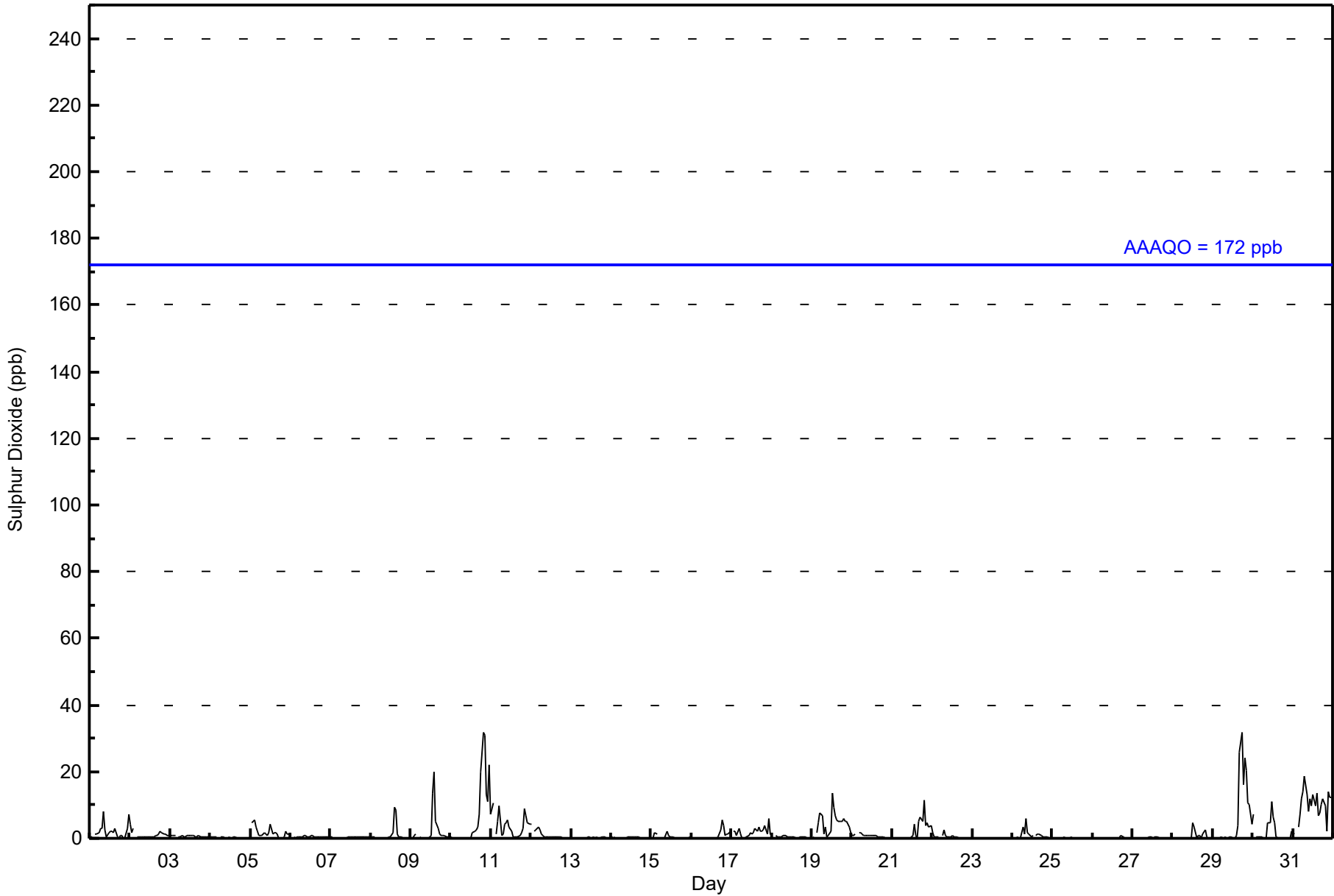
Mannix - January 2025

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 31.9 ppb on Jan 29 18:00	Maximum Daily Average: 9.7 ppb on Jan 31		Hours of Data:	707
Minimum Value: 0.0 ppb on Jan 15 19:00	Minimum Daily Average: 0.1 ppb on Jan 23		Hours of Missing Data:	37
Maximum Diurnal Average: 3.3 ppb at hour 20	Minimum Diurnal Average: 0.8 ppb at hour 4		Hours of Calibration:	36
Monthly Average: 1.71 ppb	Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.1 Median = 0.3 Q ₃ = 1.2 P ₉₀ = 4.8 P ₉₉ = 20.0		Percent Operational Time:	99.9

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0.5	0.3	Z	1.2	1.3	1.7	3.0	2.8	8.0	2.4	0.6	1.9	2.1	2.1	1.6	3.1	0.3	0.1	0.8	0.9	0.2	0.1	3.0	7.1	2.0	8.0
2-Jan	4.4	1.8	2.9	Z	0.5	0.4	0.4	0.5	0.5	0.4	0.5	0.4	0.6	0.5	0.6	0.7	0.9	1.4	1.9	1.8	1.4	1.3	1.0	1.0	1.1	4.4
3-Jan	1.0	0.8	0.8	0.6	Z	0.5	0.5	0.7	0.5	0.6	0.7	0.7	0.8	0.9	0.7	0.6	0.6	0.7	0.6	0.3	0.3	0.3	0.3	0.3	0.6	1.0
4-Jan	0.4	0.4	0.5	0.4	0.4	Z	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.5
5-Jan	Z	4.8	5.6	3.5	2.0	0.7	0.9	0.9	1.8	1.1	1.0	1.6	4.4	1.3	1.5	1.8	1.2	0.1	0.1	0.1	0.2	2.2	1.4	1.4	1.7	5.6
6-Jan	0.9	Z	0.3	0.2	0.3	0.4	0.4	0.6	0.8	0.7	0.6	0.6	0.7	0.7	0.6	0.5	0.6	0.6	0.5	0.4	0.4	0.4	0.3	0.2	0.5	0.9
7-Jan	0.3	0.2	Z	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.5	0.4	0.4	0.3	0.3	0.2	0.3	0.5
8-Jan	0.2	0.3	0.2	Z	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.3	1.5	9.2	8.4	1.2	0.4	0.2	0.2	0.1	0.2	0.2	0.1	1.0	9.2
9-Jan	0.1	0.1	0.7	1.1	Z	0.3	0.0	0.1	0.1	0.1	0.0	0.6	0.9	13.7	20.0	5.0	2.8	1.5	1.0	0.7	0.8	0.6	0.4	0.4	2.2	20.0
10-Jan	0.2	0.2	0.2	0.2	0.2	Z	0.2	0.1	0.2	0.1	0.1	0.1	0.1	1.7	2.1	2.6	3.4	7.3	19.9	31.9	31.1	13.2	11.2	21.9	6.4	31.9
11-Jan	7.4	10.6	Z	1.1	5.3	9.6	1.0	1.4	4.2	4.5	5.6	3.2	2.1	0.4	0.4	0.5	0.3	0.7	1.8	3.0	8.7	6.8	4.6	4.4	3.8	10.6
12-Jan	4.2	Z	2.1	2.6	3.6	2.7	1.4	0.7	0.5	0.4	0.4	0.3	0.5	0.6	0.5	0.4	0.3	0.2	0.3	0.2	0.1	0.1	0.1	0.1	1.0	4.2
13-Jan	0.5	0.2	Z	0.2	0.0	0.0	0.0	0.0	0.2	0.1	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.1	0.1	0.1	0.2	0.5
14-Jan	0.2	0.2	0.3	Z	0.2	0.2	0.2	0.1	0.2	0.1	0.3	0.2	0.2	0.3	0.5	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.5
15-Jan	0.1	0.0	1.8	1.1	Z	0.1	0.1	0.0	0.1	2.1	1.0	0.5	0.3	0.3	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	2.1
16-Jan	0.1	0.1	0.1	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	2.4	5.5	3.8	0.9	1.1	1.1	2.1	0.8	5.5
17-Jan	Z	2.2	2.0	0.8	2.8	1.3	0.2	0.1	0.1	0.4	0.8	1.8	1.2	1.5	3.0	2.3	3.6	1.9	1.9	2.7	3.6	1.4	6.1	1.4	1.9	6.1
18-Jan	0.7	Z	0.7	0.5	0.4	0.4	0.5	0.8	0.8	0.5	0.4	0.3	0.2	0.2	0.2	0.1	0.2	0.3	0.4	0.6	0.2	0.2	0.1	0.0	0.4	0.8
19-Jan	0.1	0.3	Z	1.8	4.6	7.8	6.6	1.1	3.5	0.6	0.7	2.2	13.5	9.3	6.6	5.7	5.1	5.1	5.0	6.0	5.1	5.0	3.3	1.7	4.4	13.5
20-Jan	0.8	0.8	1.1	Z	1.9	1.5	1.2	0.9	0.8	0.7	0.7	0.8	0.8	0.8	0.8	0.6	0.5	0.3	0.2	0.3	0.1	0.2	0.2	0.2	0.7	1.9
21-Jan	0.1	0.1	0.0	0.1	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	4.3	1.0	0.2	5.1	6.5	5.3	11.3	3.8	4.5	3.5	3.9	2.2	11.3
22-Jan	1.7	0.6	0.5	0.6	0.4	Z	0.8	2.7	1.0	0.4	0.5	0.6	0.8	0.5	0.3	0.2	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.5	2.7
23-Jan	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.1	C	C	C	C	C	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.2
24-Jan	0.1	Z	0.1	0.5	0.1	0.2	3.5	1.3	5.8	1.8	1.1	0.6	0.8	M	0.9	1.1	1.5	0.8	0.4	0.3	0.3	0.3	0.2	0.1	1.0	5.8
25-Jan	0.1	0.1	Z	0.2	0.1	0.1	0.1	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.3
26-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.1	0.1	0.1	1.0	0.3	0.1	0.1	0.0	0.1	0.1	1.0
27-Jan	0.1	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.1	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.3
28-Jan	0.1	0.1	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.2	0.1	0.1	4.5	3.3	0.2	1.0	0.9	0.2	1.1	2.7	0.3	0.2	0.1	0.1	0.7	4.5
29-Jan	Z	0.0	0.0	0.0	0.0	0.4	0.2	0.3	0.1	0.2	0.5	0.5	0.1	0.1	0.9	3.8	25.8	31.9	16.3	24.4	20.4	10.7	10.0	4.2	6.6	31.9
30-Jan	7.0	Z	0.4	0.3	0.2	0.5	0.2	0.1	0.2	4.7	4.8	11.1	6.6	4.5	0.3	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	2.0	1.9	11.1
31-Jan	1.5	1.3	Z	3.3	7.3	11.7	14.1	18.7	13.0	8.0	11.7	9.7	13.3	9.6	13.6	6.8	7.8	10.0	11.8	9.6	2.0	13.8	12.5	12.3	9.7	18.7

1.2	1.0	0.8	0.8	1.2	1.6	1.2	1.1	1.4	1.0	1.1	1.3	1.9	2.0	2.2	1.6	2.1	2.4	2.5	3.3	2.6	2.0	1.9	2.1	Diurnal Average	
7.4	10.6	5.6	3.5	7.3	11.7	14.1	18.7	13.0	8.0	11.7	11.1	13.5	13.7	20.0	8.4	25.8	31.9	19.9	31.9	31.1	13.8	12.5	21.9	Diurnal Maximum	

Z - zerospan C - Calibration M - Maintenance
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Mannix - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	678	95.90	95.90
11 - 20	23	3.25	99.15
21 - 60	6	0.85	100.00
61 - 110	0	0.00	100.00
111 - 172	0	0.00	100.00
> 172	0	0.00	100.00

Total Number of Valid Hours: 707

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Mannix - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 10	80	52	14	3	5	8	39	172	31	31	32	37	62	50	21	40	677
11 - 20	17	1	0	0	0	0	0	0	2	0	0	0	1	0	0	2	23
21 - 60	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
61 - 110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111 - 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	103	53	14	3	5	8	39	172	33	31	32	37	63	50	21	42	706

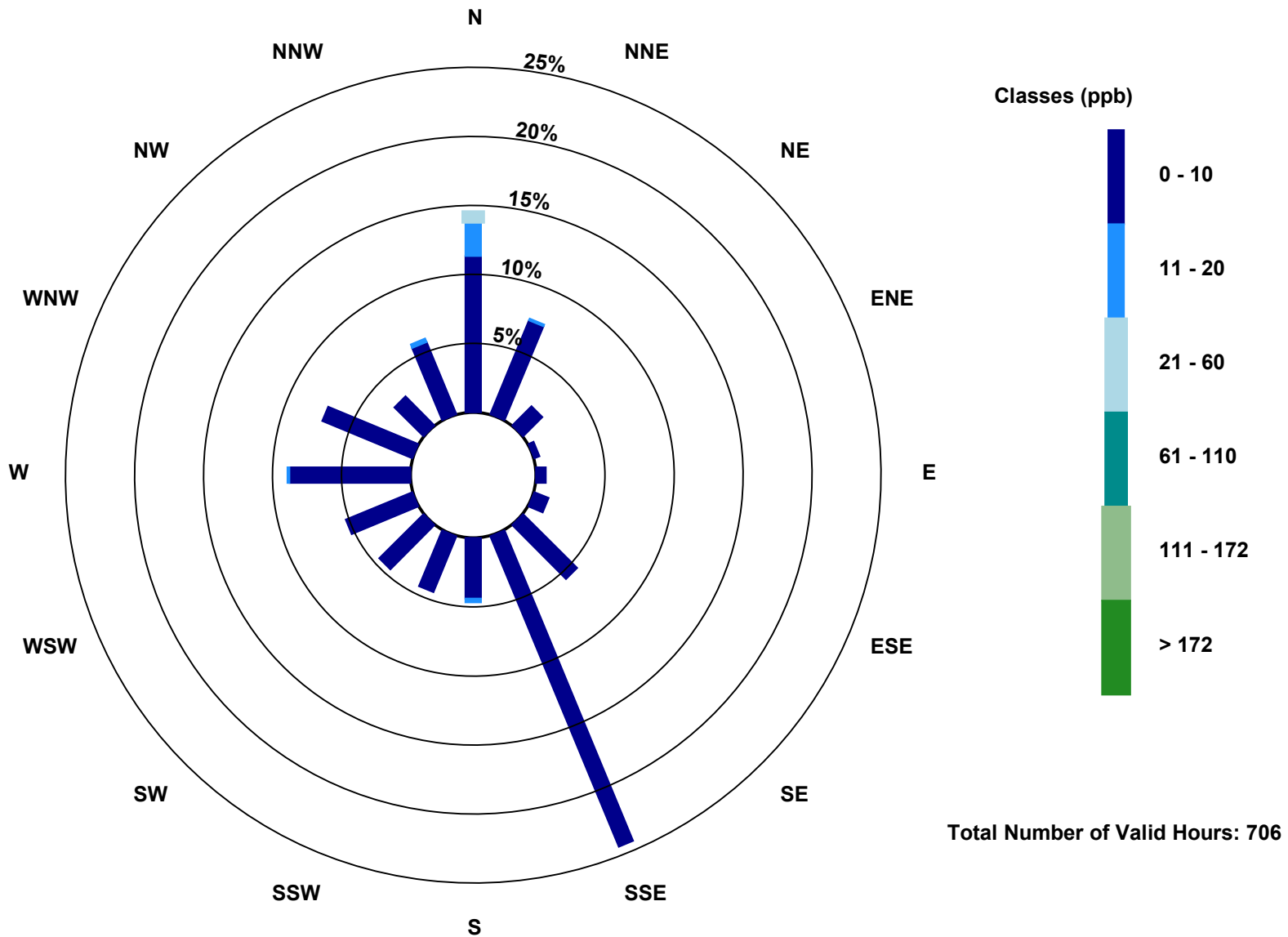
Total Number of Valid Hours: 706

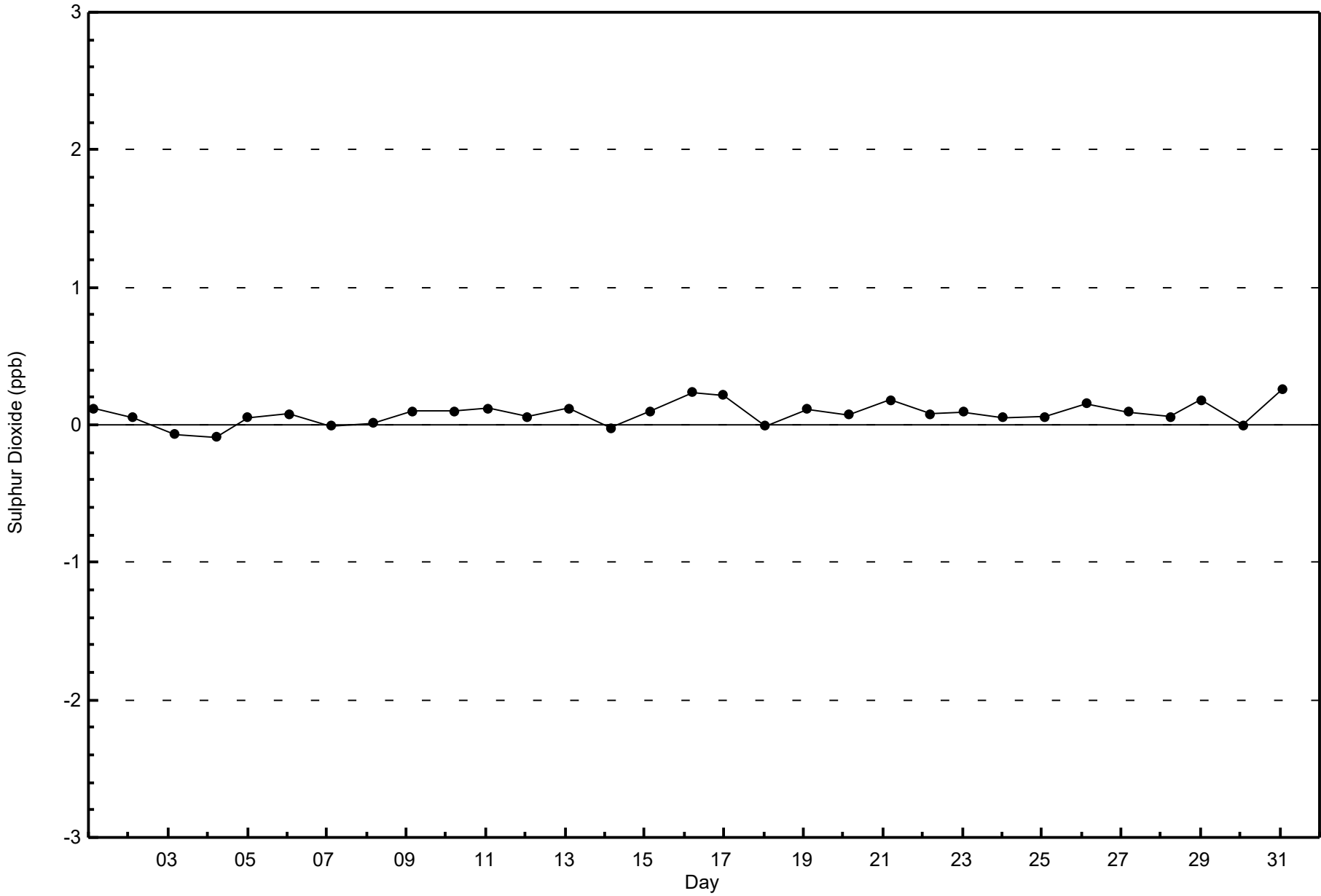
Total Number of Hours: 744

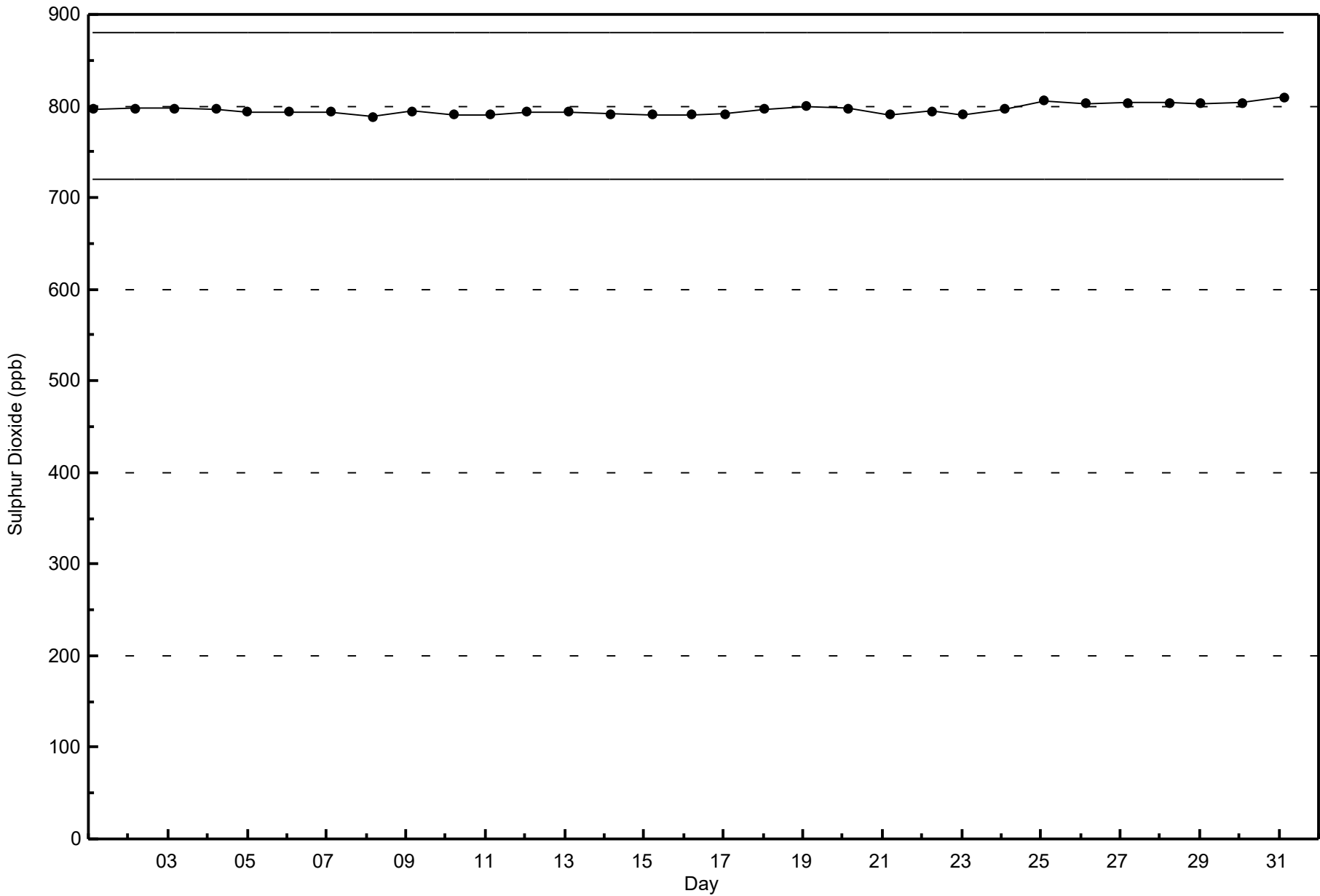


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Sulphur Dioxide (SO₂) - ppb
Mannix







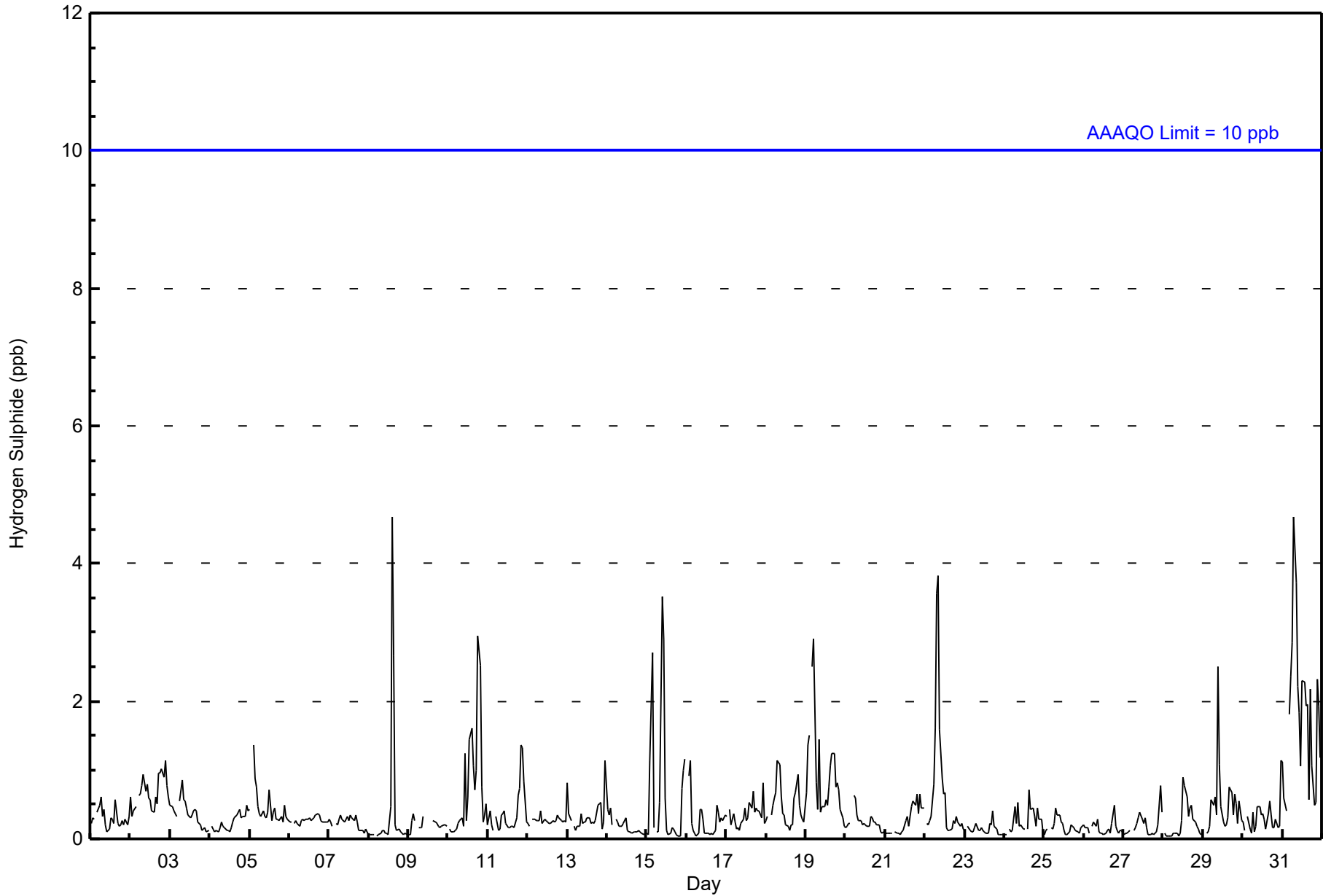


Wood Buffalo Environmental Association Summary of Hour Averages

Hydrogen Sulphide (H₂S) - ppb Mannix - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0		Hours in Service: 744																										
Maximum Value: 4.7 ppb on Jan 8 15:00		Maximum Daily Average: 1.8 ppb on Jan 31																										
Minimum Value: 0.0 ppb on Jan 15 20:00		Hours of Data: 707																										
Maximum Diurnal Average: 0.6 ppb at hour 9		Hours of Missing Data: 37																										
Monthly Average: 0.41 ppb		Hours of Calibration: 36																										
		Percent Operational Time: 99.9																										
		Minimum Daily Average: 0.1 ppb on Jan 23																										
		Minimum Diurnal Average: 0.3 ppb at hour 2																										
		Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.1 Median = 0.3 Q ₃ = 0.4 P ₉₀ = 0.8 P ₉₉ = 2.9																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24				
1-Jan	0.2	0.3	0.3	Z	0.4	0.5	0.6	0.3	0.4	0.2	0.1	0.1	0.3	0.3	0.2	0.6	0.2	0.2	0.2	0.3	0.2	0.3	0.2	0.3	0.3	0.6	0.7	1.1
2-Jan	0.6	0.3	0.4	0.5	Z	0.6	0.7	0.8	0.9	0.7	0.8	0.6	0.6	0.4	0.4	0.6	0.5	1.0	1.0	1.0	0.9	1.1	0.8	0.6	0.4	0.9	1.1	1.1
3-Jan	0.5	0.5	0.4	0.4	0.3	Z	0.6	0.9	0.6	0.5	0.4	0.3	0.3	0.4	0.4	0.4	0.4	0.3	0.2	0.1	0.1	0.2	0.1	0.1	0.4	0.9	1.1	1.1
4-Jan	Z	0.2	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.5	0.4	0.2	0.5	0.4	0.5
5-Jan	0.4	Z	1.4	0.9	0.7	0.5	0.4	0.3	0.4	0.3	0.3	0.4	0.7	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.2	0.5	0.3	0.3	0.4	0.4	0.4	1.4
6-Jan	0.2	0.2	Z	0.2	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.4	0.4	0.4
7-Jan	0.3	0.2	0.2	Z	0.2	0.2	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.4	0.3	0.3	0.4	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.4	0.4
8-Jan	0.1	0.1	0.1	0.1	Z	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	4.7	2.7	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.4	4.7	4.7	4.7
9-Jan	0.1	0.1	0.3	0.4	0.3	Z	0.2	0.2	0.2	0.3	C	C	C	C	C	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.4
10-Jan	Z	0.2	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.2	1.2	0.3	0.6	1.4	1.6	1.1	0.7	1.0	2.9	2.5	0.8	0.2	0.3	0.5	0.7	2.9	2.9	2.9
11-Jan	0.2	0.4	0.2	0.1	Z	0.3	0.1	0.1	0.4	0.4	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.6	0.7	1.4	1.3	0.8	0.3	0.4	1.4	1.4	1.4
12-Jan	0.2	0.2	Z	0.3	0.3	0.3	0.3	0.3	0.4	0.2	0.3	0.3	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.3	0.3	0.4	0.4
13-Jan	0.8	0.4	0.3	Z	0.2	0.1	0.2	0.2	0.4	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.3	0.5	0.5	0.5	0.1	0.2	1.1	0.3	1.1	1.1	1.1
14-Jan	0.4	0.3	0.4	0.2	Z	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.4	0.4	0.4
15-Jan	0.1	0.1	1.1	2.7	0.2	Z	0.1	0.1	0.5	3.5	2.9	0.6	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.7	1.0	1.2	0.7	3.5	3.5	3.5
16-Jan	Z	0.9	1.1	0.2	0.1	0.1	0.0	0.1	0.4	0.4	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.4	0.2	0.3	0.3	0.4	0.3	1.1	1.1	1.1
17-Jan	0.3	Z	0.4	0.2	0.4	0.2	0.1	0.2	0.1	0.2	0.3	0.4	0.3	0.3	0.5	0.4	0.7	0.4	0.5	0.4	0.4	0.3	0.8	0.2	0.4	0.8	0.8	0.8
18-Jan	0.3	0.3	Z	0.3	0.5	0.6	0.7	1.1	1.1	0.6	0.4	0.4	0.2	0.2	0.1	0.2	0.2	0.6	0.7	0.9	0.5	0.4	0.3	0.2	0.5	1.1	1.1	1.1
19-Jan	0.7	1.4	1.5	Z	2.5	2.9	0.8	0.4	1.5	0.4	0.5	0.5	0.6	0.5	0.7	1.1	1.2	1.2	0.8	0.8	0.7	0.4	0.3	0.2	0.9	2.9	2.9	2.9
20-Jan	0.2	0.2	0.2	0.2	Z	0.6	0.6	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.6	0.6	0.6
21-Jan	0.1	0.1	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.2	0.3	0.5	0.5	0.5	0.6	0.4	0.6	0.5	0.4	0.3	0.6	0.6	0.6
22-Jan	Z	0.2	0.2	0.3	0.3	0.8	1.6	3.6	3.8	1.6	0.9	0.6	0.7	0.2	0.1	0.1	0.1	0.3	0.2	0.3	0.2	0.2	0.2	0.1	0.7	3.8	3.8	3.8
23-Jan	0.1	Z	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.4	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.4	0.4	0.4
24-Jan	0.1	0.1	Z	0.2	0.1	0.1	0.5	0.2	0.5	0.2	0.2	0.1	0.1	M	0.1	0.7	0.4	0.5	0.3	0.2	0.5	0.3	0.3	0.1	0.3	0.7	0.7	0.7
25-Jan	0.1	0.1	0.1	Z	0.2	0.1	0.2	0.4	0.3	0.4	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.4	0.4	0.4
26-Jan	0.2	0.2	0.2	0.1	Z	0.2	0.2	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.5	0.2	0.1	0.1	0.1	0.1	0.2	0.5	0.5	0.5
27-Jan	0.1	0.1	0.1	0.1	0.1	Z	0.1	0.2	0.2	0.3	0.4	0.3	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.8	0.4	0.2	0.8	0.8	0.8
28-Jan	Z	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.3	0.9	0.8	0.6	0.3	0.5	0.5	0.3	0.2	0.2	0.1	0.1	0.1	0.2	0.9	0.9	0.9
29-Jan	0.1	Z	0.1	0.1	0.2	0.6	0.5	0.6	0.3	2.5	1.1	0.5	0.2	0.2	0.2	0.3	0.8	0.7	0.3	0.6	0.5	0.2	0.5	0.3	0.5	2.5	2.5	2.5
30-Jan	0.2	0.1	Z	0.3	0.1	0.1	0.4	0.1	0.2	0.5	0.5	0.4	0.4	0.3	0.1	0.4	0.5	0.3	0.2	0.2	0.3	0.2	0.2	1.1	0.3	1.1	1.1	1.1
31-Jan	1.1	0.6	0.4	Z	1.8	2.4	2.9	4.7	3.7	2.2	1.8	1.1	2.3	2.3	1.9	1.9	0.6	2.2	1.1	0.5	0.5	2.3	1.9	1.2	1.8	4.7	4.7	4.7
																								Diurnal Average				
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Z - zerospan C - Calibration M - Maintenance
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Hydrogen Sulphide (H₂S) - ppb
Mannix - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	693	98.02	98.02
3 - 4	12	1.70	99.72
5 - 7	2	0.28	100.00
8 - 11	0	0.00	100.00
> 11	0	0.00	100.00

Total Number of Valid Hours: 707

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Hydrogen Sulphide (H₂S) - ppb
Mannix - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2	99	53	12	2	5	8	40	171	31	31	32	35	68	47	19	39	692
3 - 4	4	1	0	1	0	0	0	0	0	0	0	0	0	3	3	0	12
5 - 7	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
8 - 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	104	54	12	3	5	8	40	171	31	31	32	35	68	50	23	39	706

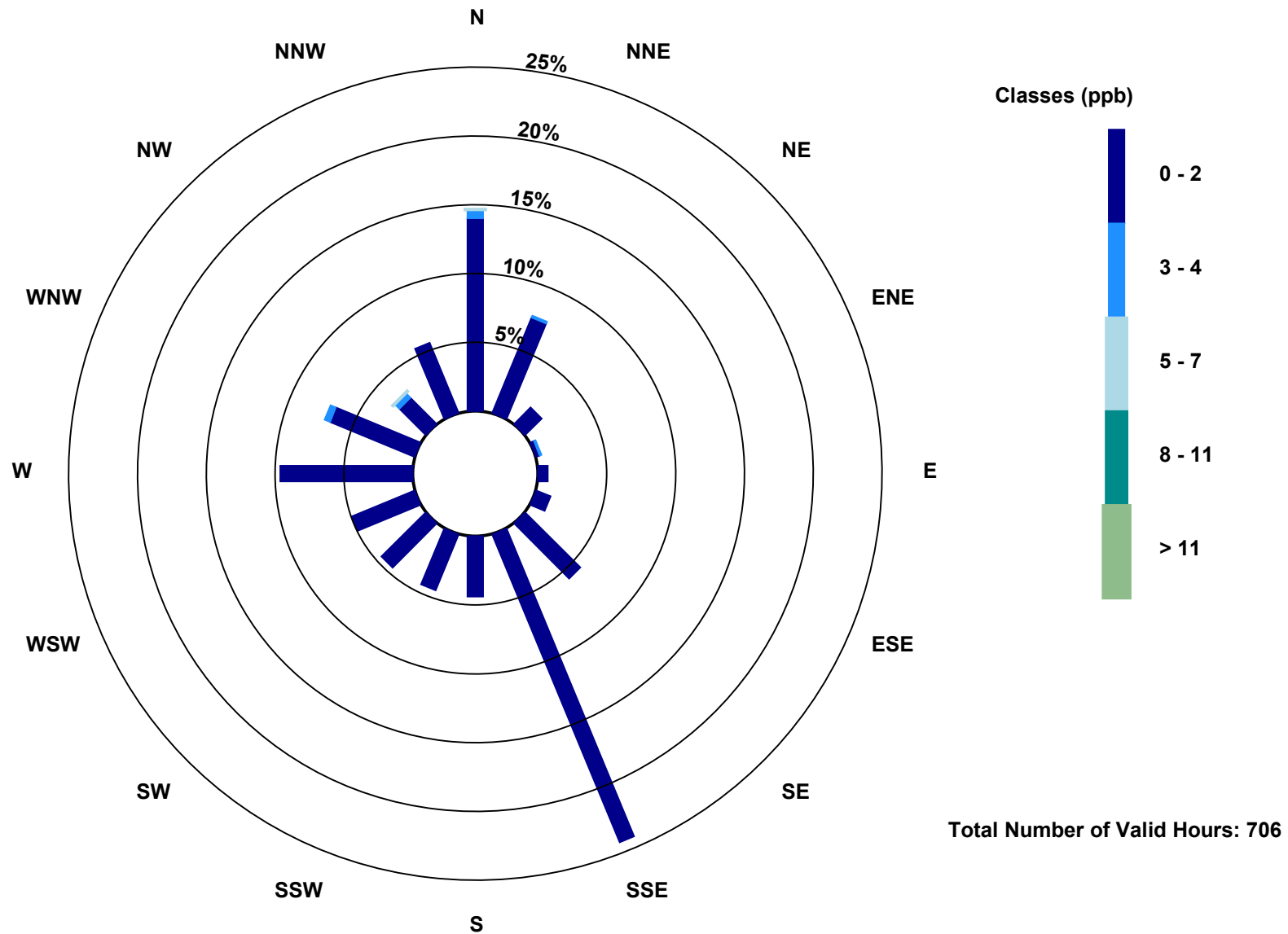
Total Number of Valid Hours: 706

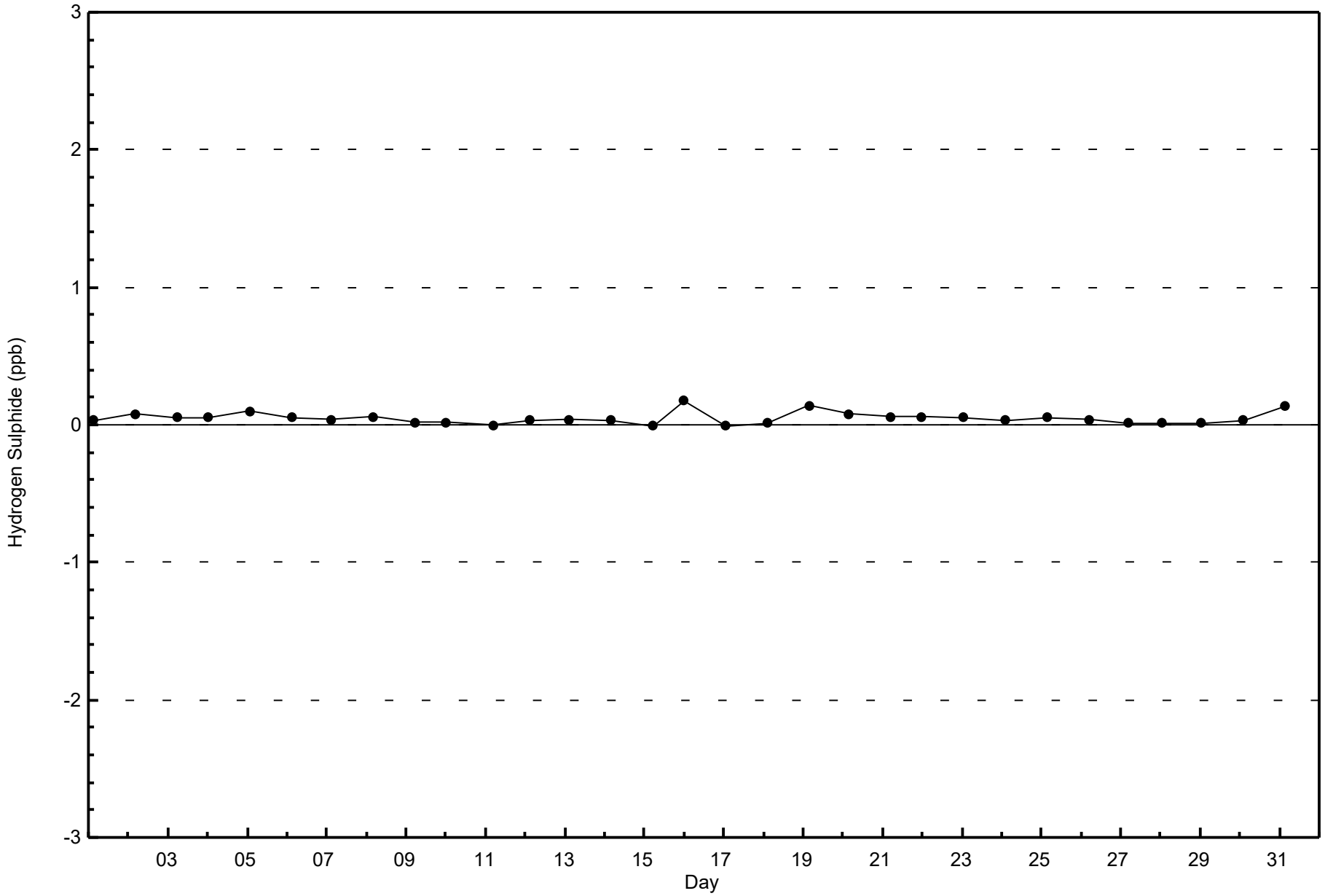
Total Number of Hours: 744

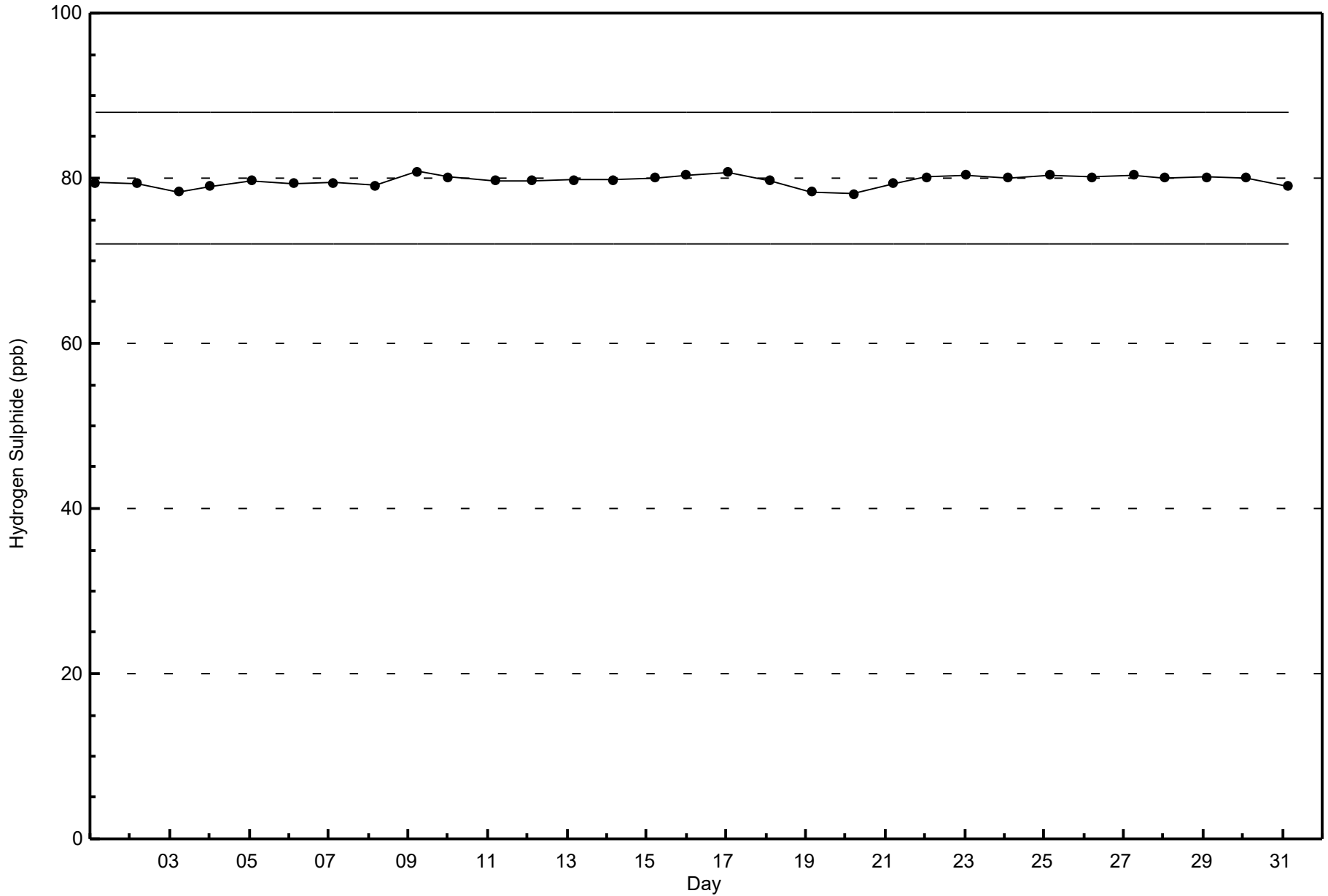


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Hydrogen Sulphide (H₂S) - ppb
Mannix









Wood Buffalo Environmental Association

Summary of Hour Averages

Total Hydrocarbons (THC) - ppm

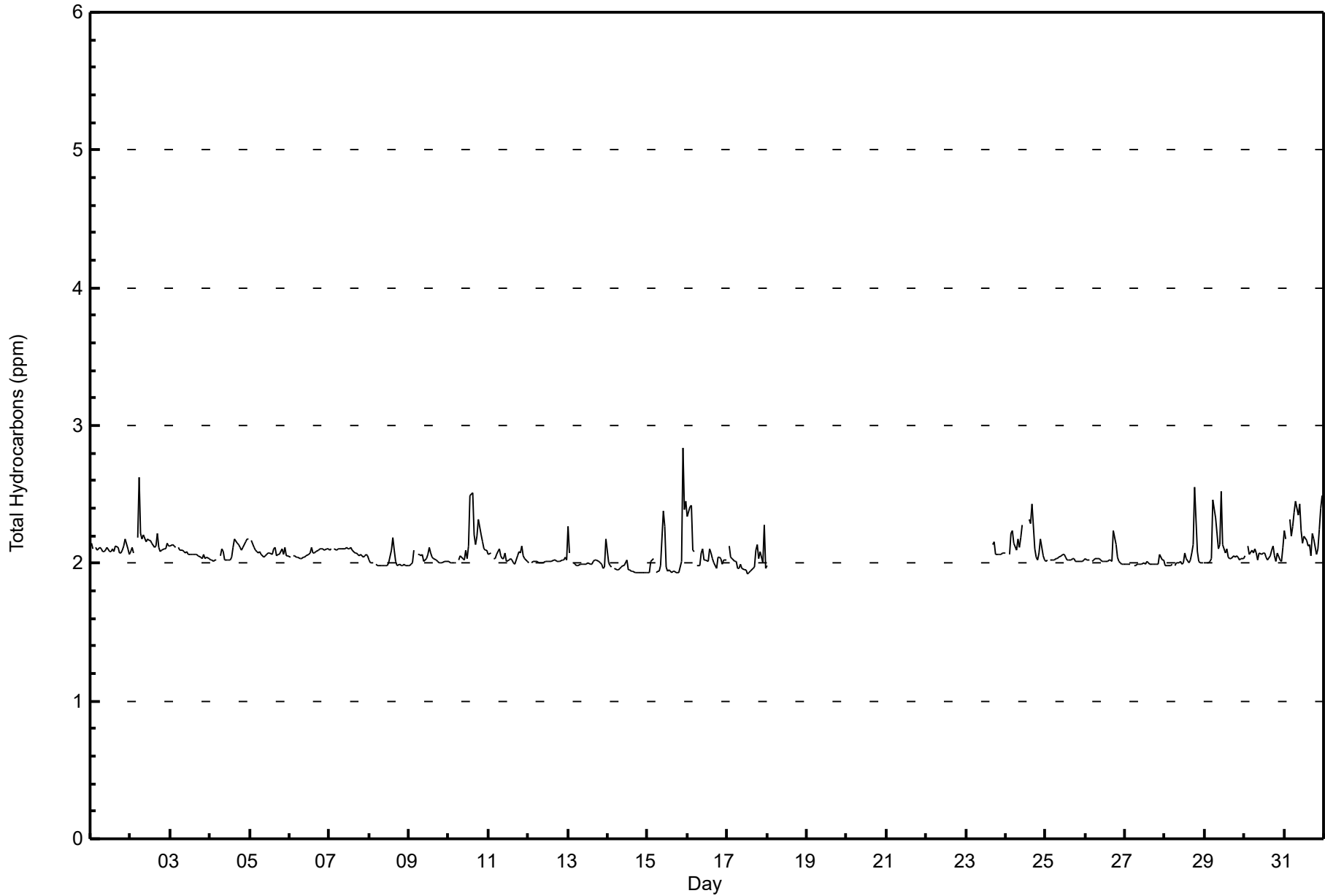
Mannix - January 2025

Maximum Value: 2.8 ppm on Jan 15 22:00																				Maximum Daily Average: 2.2 ppm on Jan 31					Hours in Service: 744					
Minimum Value: 1.9 ppm on Jan 17 13:00																				Minimum Daily Average: 2.0 ppm on Jan 14					Hours of Data: 581					
Maximum Diurnal Average: 2.1 ppm at hour 6																				Minimum Diurnal Average: 2.0 ppm at hour 20					Hours of Missing Data: 163					
Monthly Average: 2.07 ppm																				Percentiles: P ₁ = 1.9 P ₁₀ = 2.0 Q ₁ = 2.0 Median = 2.0 Q ₃ = 2.1 P ₉₀ = 2.2 P ₉₉ = 2.5					Hours of Calibration: 30					
																				Percent Operational Time: 82.1										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24						
1-Jan	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2
2-Jan	2.1	2.1	2.1	Z	2.2	2.6	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.6
3-Jan	2.1	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.1	2.1
4-Jan	2.0	2.0	2.0	2.0	2.0	Z	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.1	2.2	2.2	2.2	2.1	2.2
5-Jan	Z	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2
6-Jan	2.0	Z	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
7-Jan	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.0	2.1	2.1	2.0	2.1	2.1	2.1
8-Jan	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2
9-Jan	2.0	2.0	2.0	2.1	Z	2.1	2.1	2.1	2.1	2.0	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1
10-Jan	2.0	2.0	2.0	2.0	2.0	Z	2.0	2.1	2.0	2.0	2.1	2.0	2.1	2.5	2.5	2.2	2.1	2.2	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.5
11-Jan	2.1	2.1	Z	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1
12-Jan	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
13-Jan	2.3	2.1	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.0	2.3	2.0
14-Jan	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0
15-Jan	1.9	1.9	2.0	2.0	Z	1.9	1.9	1.9	2.0	2.4	2.3	2.0	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.8	2.4	2.5	2.1	2.1	2.1	2.1	2.1	2.8
16-Jan	2.3	2.4	2.4	2.1	2.1	Z	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.4
17-Jan	Z	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	2.0	2.0	2.1	2.1	2.0	2.1	2.0	2.3	2.0	2.0	2.0	2.0	2.0	2.0	2.3
18-Jan	2.0	Z	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO
19-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO
20-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO
21-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO
22-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO
23-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO
24-Jan	2.1	Z	2.1	2.2	2.2	2.1	2.1	2.2	2.1	2.2	2.3	M	M	M	2.3	2.3	2.4	2.1	2.0	2.0	2.1	2.2	2.1	2.0	2.1	2.2	2.1	2.0	2.2	2.4
25-Jan	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
26-Jan	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2
27-Jan	2.0	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1
28-Jan	2.0	2.0	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.1	2.1	2.6	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.6
29-Jan	Z	2.0	2.0	2.0	2.0	2.5	2.3	2.2	2.1	2.1	2.5	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.5
30-Jan	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.0	2.1	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.1	2.1
31-Jan	2.2	2.2	Z	2.3	2.2	2.3	2.4	2.4	2.3	2.4	2.2	2.1	2.2	2.2	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.3	2.4	2.5	2.2	2.2	2.2	2.2	2.2	2.5
2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.0 2.0 2.1 2.1 2.1 2.1 2.1 2.1 2.0 2.1 2.1 2.1 2.1 2.1 2.1																								Diurnal Average						
2.3 2.4 2.4 2.3 2.2 2.6 2.4 2.4 2.3 2.4 2.5 2.2 2.2 2.5 2.5 2.3 2.4 2.2 2.6 2.2 2.2 2.8 2.4 2.5																								Diurnal Maximum						
Z - zerospan			C - Calibration					M - Maintenance					UO - Unstable Operation																	



Wood Buffalo Environmental Association
Hourly Averages

Total Hydrocarbons (THC) - ppm
Mannix - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Hydrocarbons (THC) - ppm
Mannix - January 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	304	52.32	52.32
2.1 - 3.0	277	47.68	100.00
3.1 - 10.0	0	0.00	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 581

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Total Hydrocarbons (THC) - ppm
Mannix - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2.0	32	10	4	0	2	0	29	69	13	13	20	31	37	28	2	14	304
2.1 - 3.0	65	33	9	2	2	8	10	62	6	8	3	2	11	19	11	25	276
3.1 - 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	97	43	13	2	4	8	39	131	19	21	23	33	48	47	13	39	580

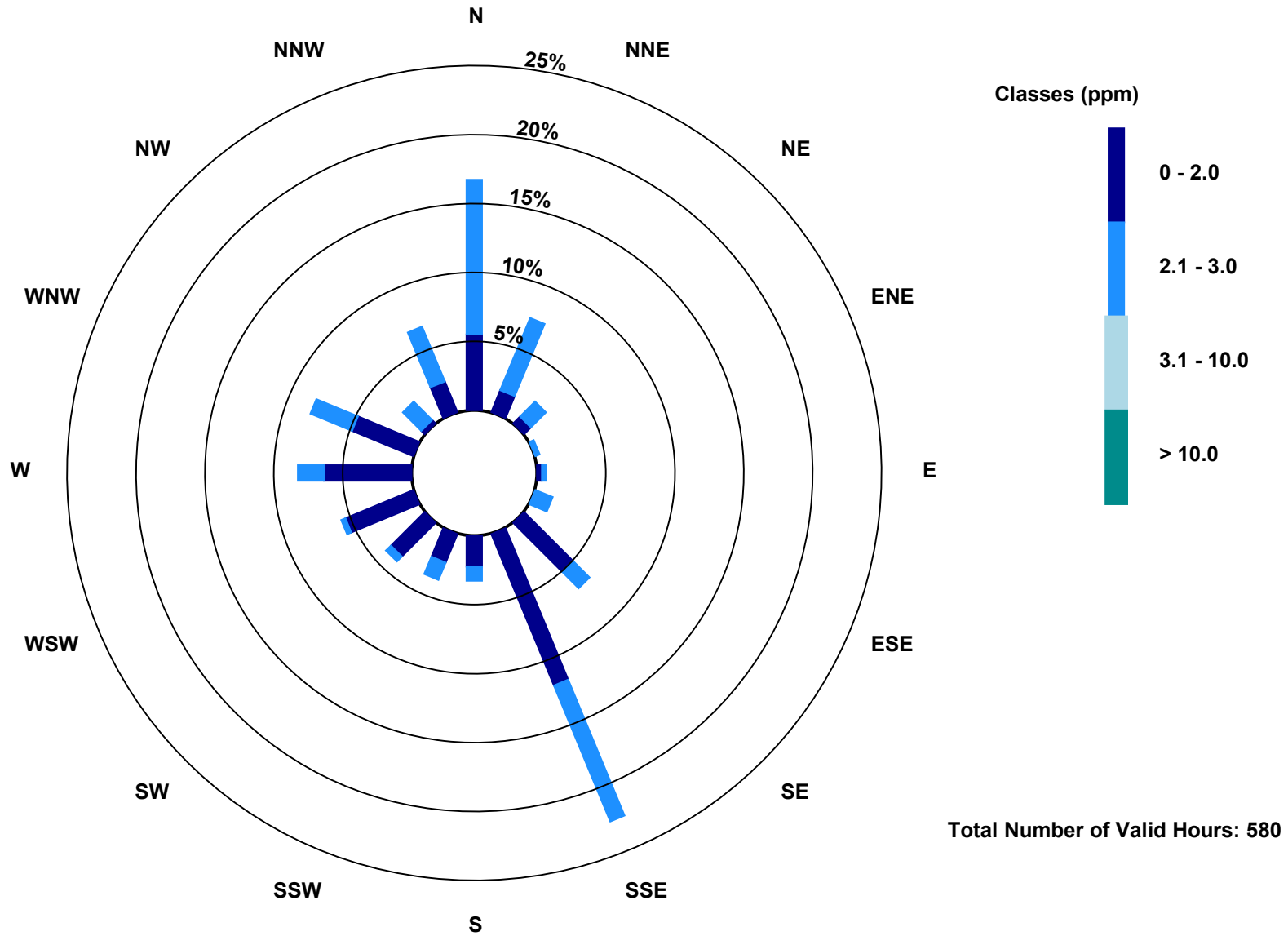
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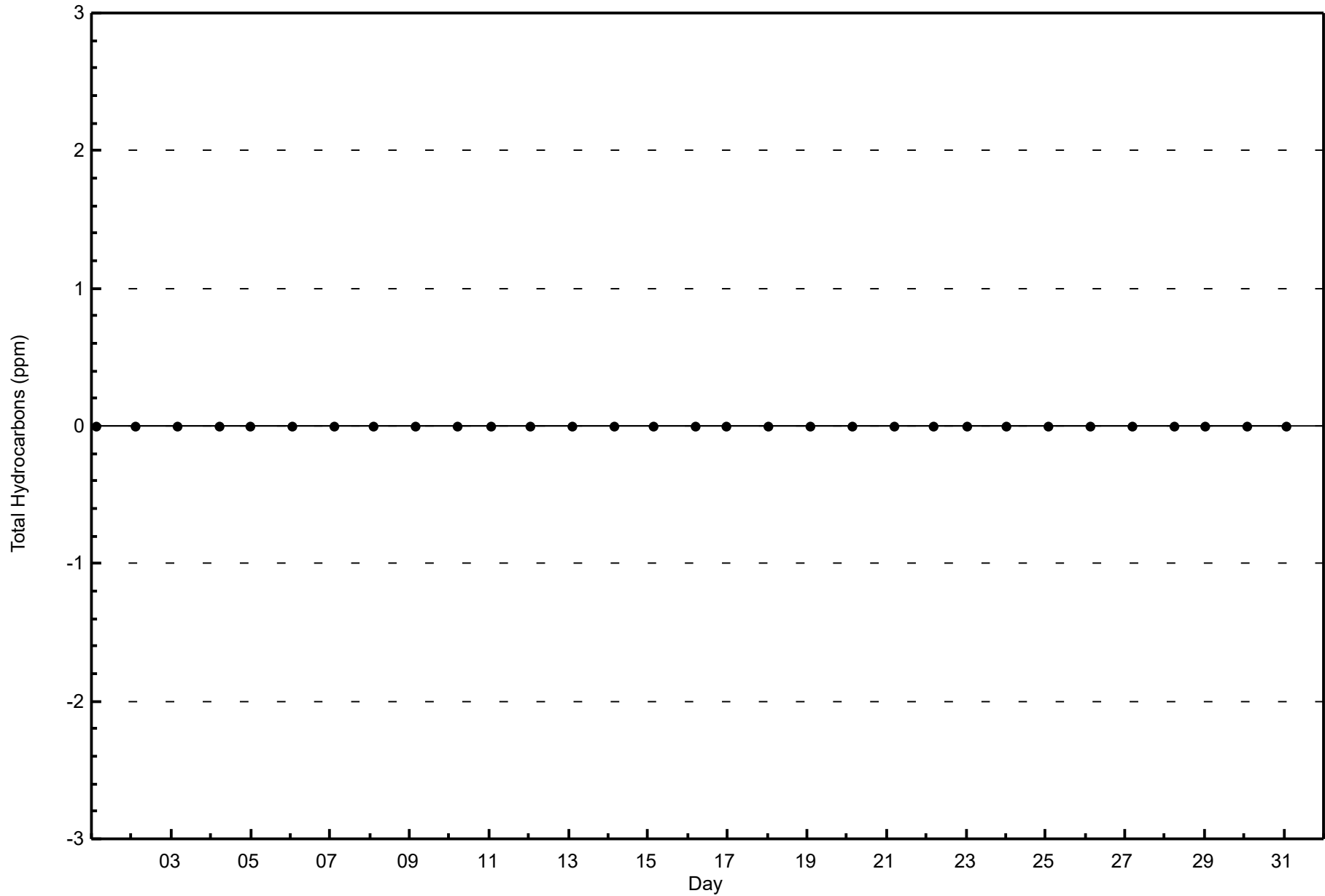
Total Number of Hours: 744

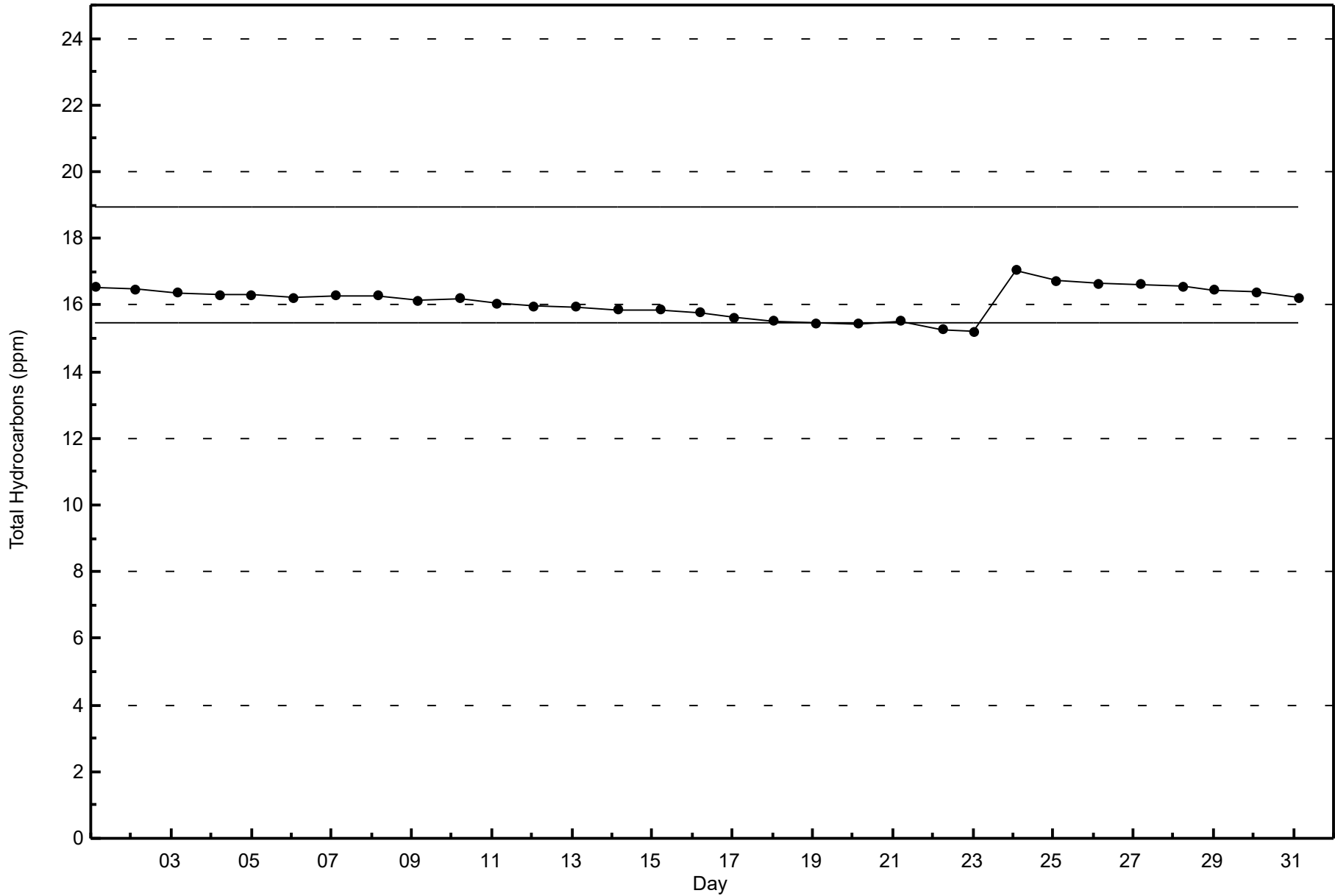


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Total Hydrocarbons (THC) - ppm
Mannix





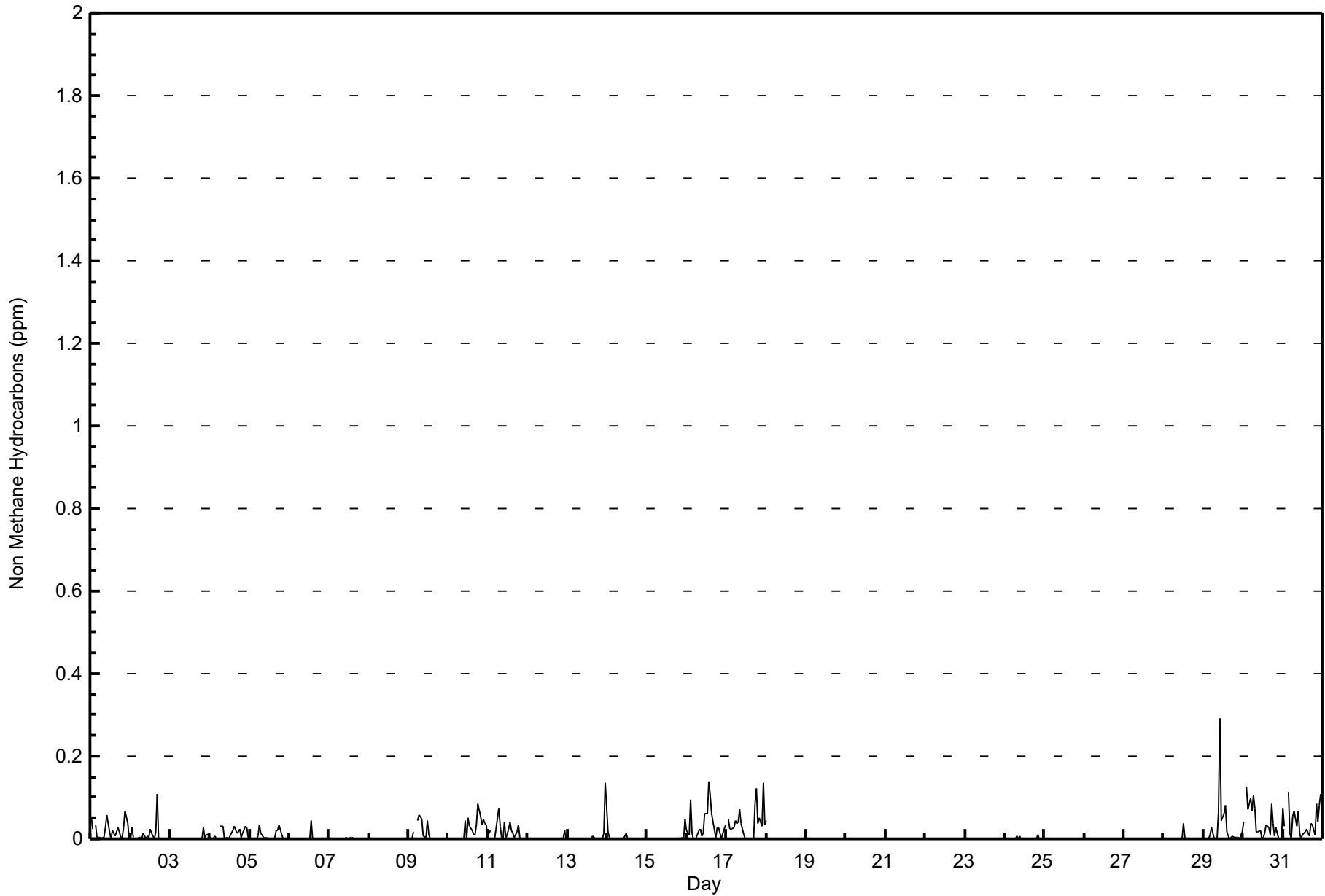




Summary of Hour Averages

Mannix - January 2025

Maximum Value: 0.292 ppm on Jan 29 11:00		Maximum Daily Average: 0.041 ppm on Jan 31		Hours in Service: 744																																													
Minimum Value: 0.000 ppm on Jan 1 07:00		Minimum Daily Average: 0.000 ppm on Jan 25		Hours of Data: 581																																													
Maximum Diurnal Average: 0.020 ppm at hour 11		Minimum Diurnal Average: 0.006 ppm at hour 20		Hours of Missing Data: 163																																													
Monthly Average: 0.012 ppm		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.0 P ₉₉ = 0.1		Hours of Calibration: 30																																													
				Percent Operational Time: 82.1																																													
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	0.050	0.025	Z	0.033	0.002	0.002	0.000	0.004	0.004	0.029	0.056	0.018	0.000	0.020	0.012	0.006	0.028	0.016	0.002	0.004	0.026	0.069	0.038	0.001	0.019	0.069																							
2-Jan	0.000	0.027	0.004	Z	0.000	0.004	0.004	0.000	0.013	0.001	0.008	0.004	0.022	0.013	0.000	0.015	0.110	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.110																							
3-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.027	0.002	0.011	0.010	0.002	0.027																							
4-Jan	0.000	0.000	0.000	0.007	0.005	Z	0.030	0.032	0.030	0.000	0.002	0.001	0.007	0.013	0.020	0.029	0.015	0.017	0.022	0.002	0.012	0.030	0.026	0.002	0.013	0.032																							
5-Jan	Z	0.000	0.000	0.000	0.000	0.006	0.033	0.015	0.003	0.000	0.003	0.000	0.000	0.000	0.000	0.003	0.019	0.021	0.036	0.010	0.000	0.000	0.000	0.006	0.036																								
6-Jan	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.043	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.043																								
7-Jan	0.000	0.000	Z	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.004	0.001	0.000	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.004																							
8-Jan	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																							
9-Jan	0.000	0.000	0.001	0.018	Z	0.043	0.057	0.055	0.048	0.006	0.005	0.044	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.013	0.057																							
10-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.002	0.000	0.000	0.000	0.044	0.001	0.052	0.029	0.021	0.011	0.011	0.035	0.085	0.053	0.035	0.047	0.038	0.033	0.022	0.085																							
11-Jan	0.008	0.019	Z	0.000	0.000	0.025	0.075	0.031	0.003	0.001	0.041	0.001	0.023	0.039	0.019	0.013	0.003	0.016	0.033	0.002	0.000	0.000	0.000	0.000	0.015	0.075																							
12-Jan	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.020	0.000	0.001	0.020																								
13-Jan	0.001	0.001	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.003	0.000	0.000	0.000	0.000	0.000	0.012	0.134	0.007	0.134																							
14-Jan	0.018	0.003	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.018																							
15-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.001	0.046	0.002	0.046																							
16-Jan	0.021	0.010	0.095	0.013	0.001	Z	0.003	0.021	0.024	0.008	0.013	0.063	0.059	0.139	0.105	0.061	0.040	0.004	0.029	0.026	0.013	0.001	0.013	0.035	0.035	0.139																							
17-Jan	Z	0.049	0.025	0.025	0.027	0.043	0.037	0.042	0.072	0.039	0.009	0.000	0.001	0.000	0.000	0.000	0.000	0.086	0.120	0.036	0.049	0.030	0.134	0.036	0.037	0.134																							
18-Jan	0.043	Z	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	0.043																						
19-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	--																						
20-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	--																						
21-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	--																						
22-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	--																						
23-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	0.000																						
24-Jan	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.008	0.000	0.007	0.000	M	M	M	0.000	0.000	0.000	0.000	0.000	0.000	0.012	0.000	0.000	0.000	0.001	0.012																							
25-Jan	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																						
26-Jan	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.001																							
27-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.002	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002																						
28-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.038	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.038																							
29-Jan	Z	0.000	0.000	0.000	0.011	0.028	0.001	0.000	0.000	0.065	0.292	0.044	0.060	0.080	0.018	0.008	0.001	0.008	0.004	0.002	0.004	0.005	0.000	0.017	0.028	0.292																							
30-Jan	0.042	Z	0.125	0.071	0.098	0.068	0.105	0.075	0.017	0.016	0.021	0.001	0.002	0.013	0.034	0.028	0.010	0.086	0.037	0.005	0.026	0.000	0.000	0.000	0.038	0.125																							
31-Jan	0.075	0.032	Z	0.112	0.012	0.001	0.054	0.067	0.030	0.069	0.015	0.001	0.009	0.017	0.022	0.013	0.008	0.039	0.034	0.009	0.084	0.042	0.080	0.109	0.041	0.112																							
																								0.011	0.008	0.013	0.013	0.007	0.010	0.016	0.014	0.010	0.010	0.020	0.008	0.012	0.017	0.010	0.008	0.010	0.013	0.015	0.006	0.011	0.009	0.014	0.016	Diurnal Average	
																								0.075	0.049	0.125	0.112	0.098	0.068	0.105	0.075	0.072	0.069	0.292	0.063	0.060	0.139	0.105	0.061	0.110	0.086	0.120	0.053	0.084	0.069	0.134	0.134	Diurnal Maximum	
Z - zerospan				C - Calibration				M - Maintenance				UO - Unstable Operation																																					





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Non Methane Hydrocarbons (NMHC) - ppm
Mannix - January 2025**

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 0.005	405	69.71	69.71
0.006 - 0.05	140	24.10	93.80
0.06 - 0.1	35	6.02	99.83
> 0.1	1	0.17	100.00

Total Number of Valid Hours: 581

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Non Methane Hydrocarbons (NMHC) - ppm
Mannix - January 2025

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 0.005	29	1	1	0	1	1	25	125	18	20	23	32	45	46	12	26	405
0.006 - 0.05	59	20	11	2	3	7	13	6	1	1	0	0	3	1	1	11	139
0.06 - 0.1	9	21	1	0	0	0	1	0	0	0	0	1	0	0	0	2	35
> 0.1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Totals	97	43	13	2	4	8	39	131	19	21	23	33	48	47	13	39	580

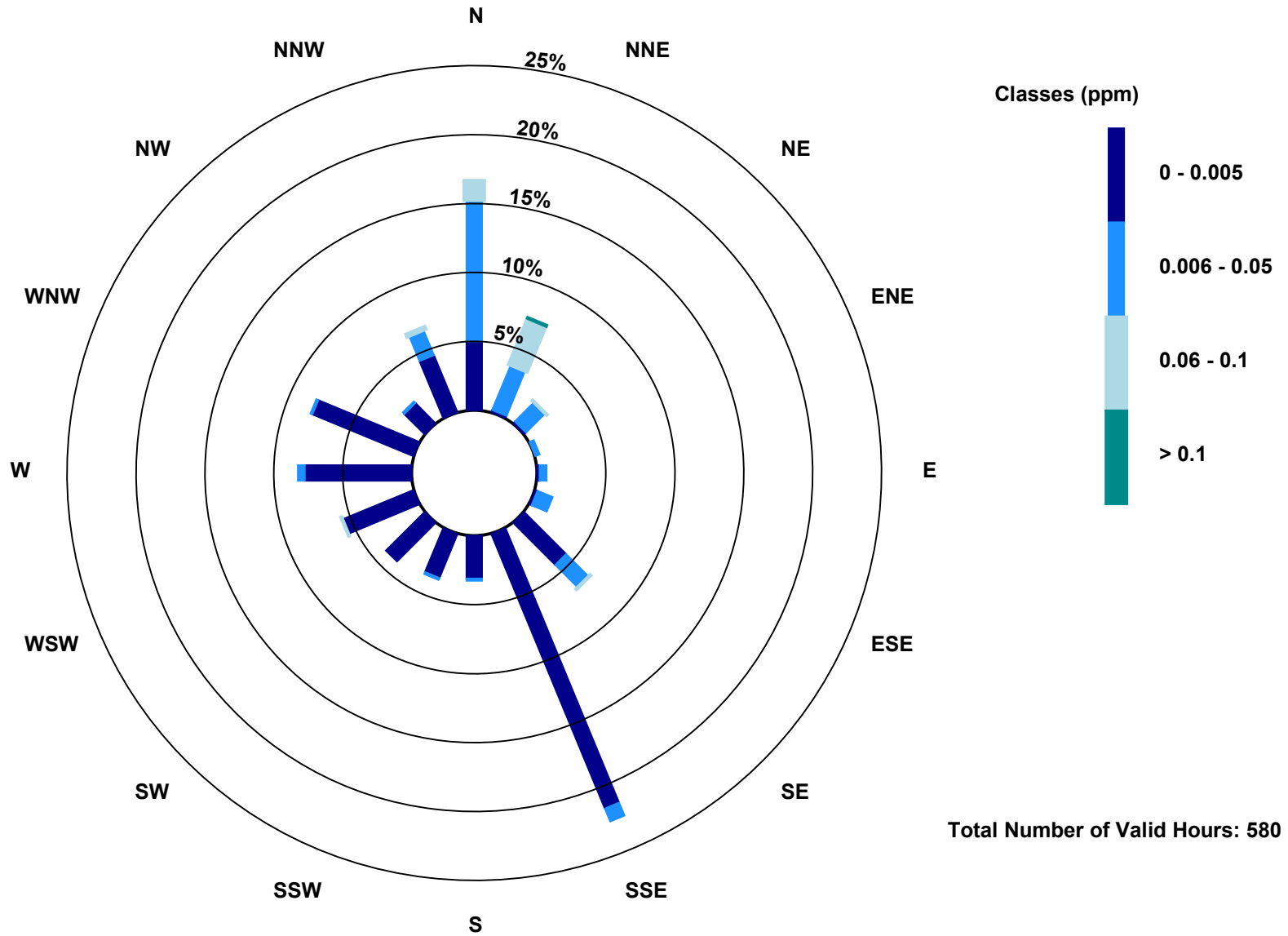
Total Number of Valid Hours: 580

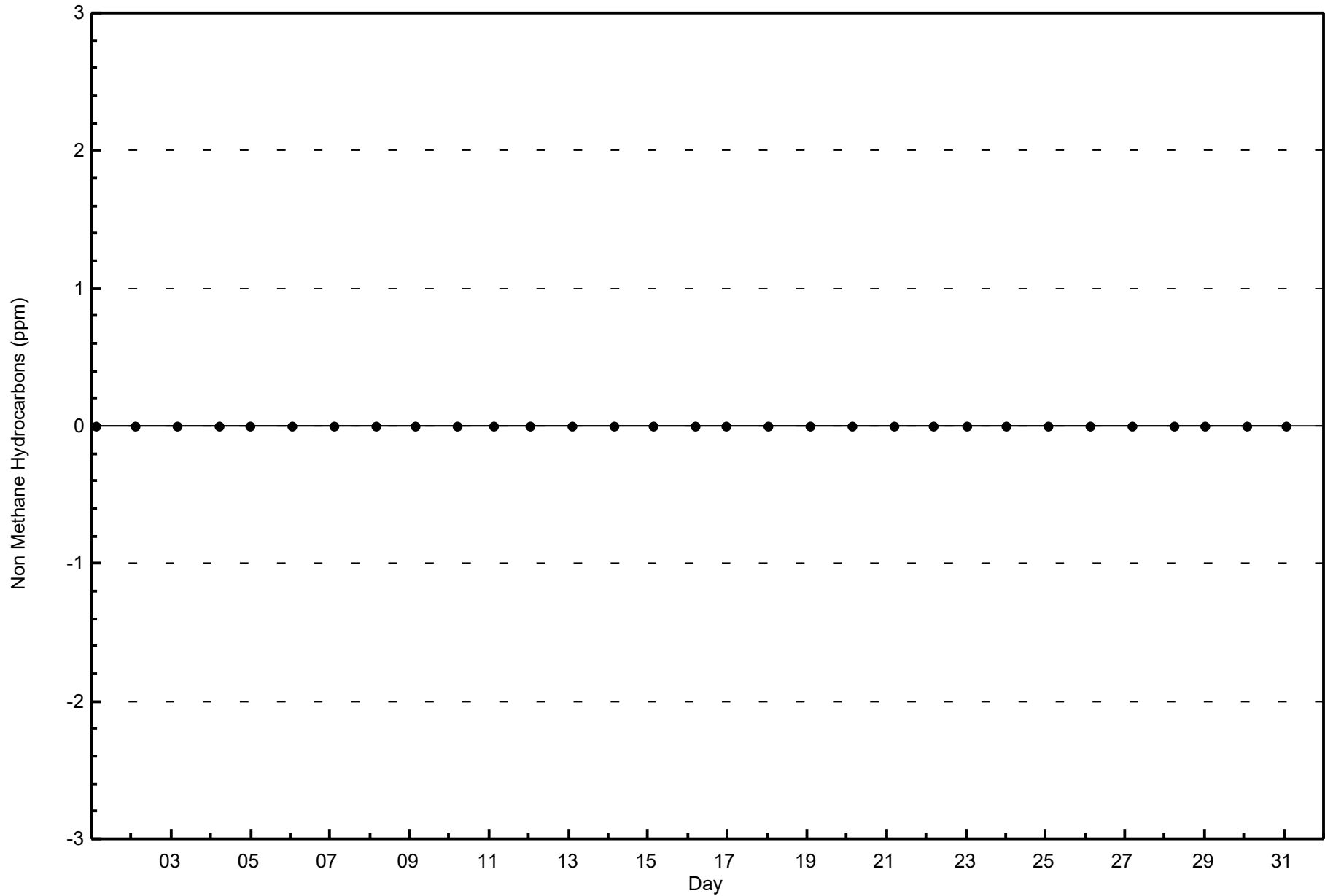
Total Number of Hours: 744

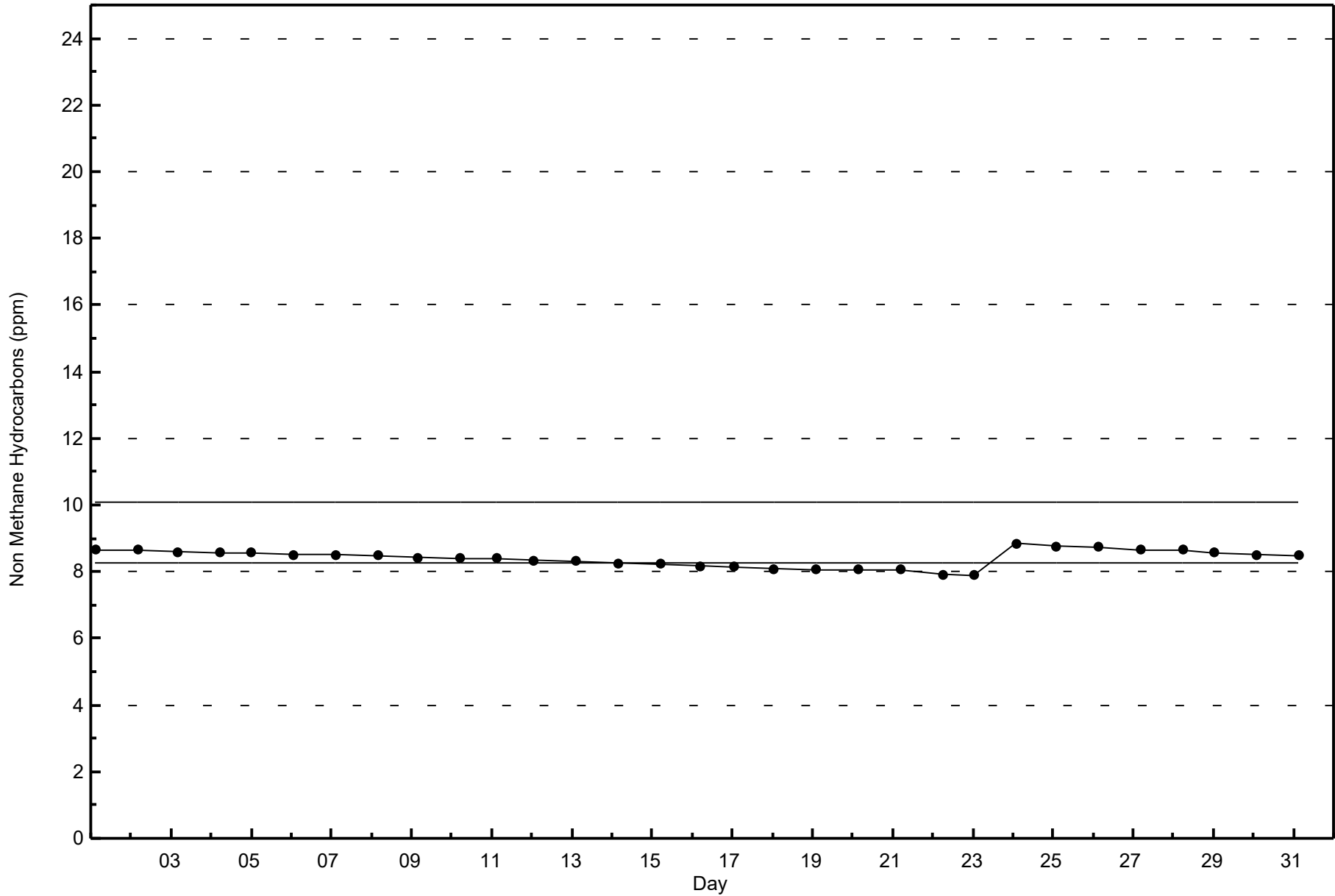


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Non Methane Hydrocarbons (NMHC) - ppm
Mannix









Wood Buffalo Environmental Association

Summary of Hour Averages

Methane (CH₄) - ppm

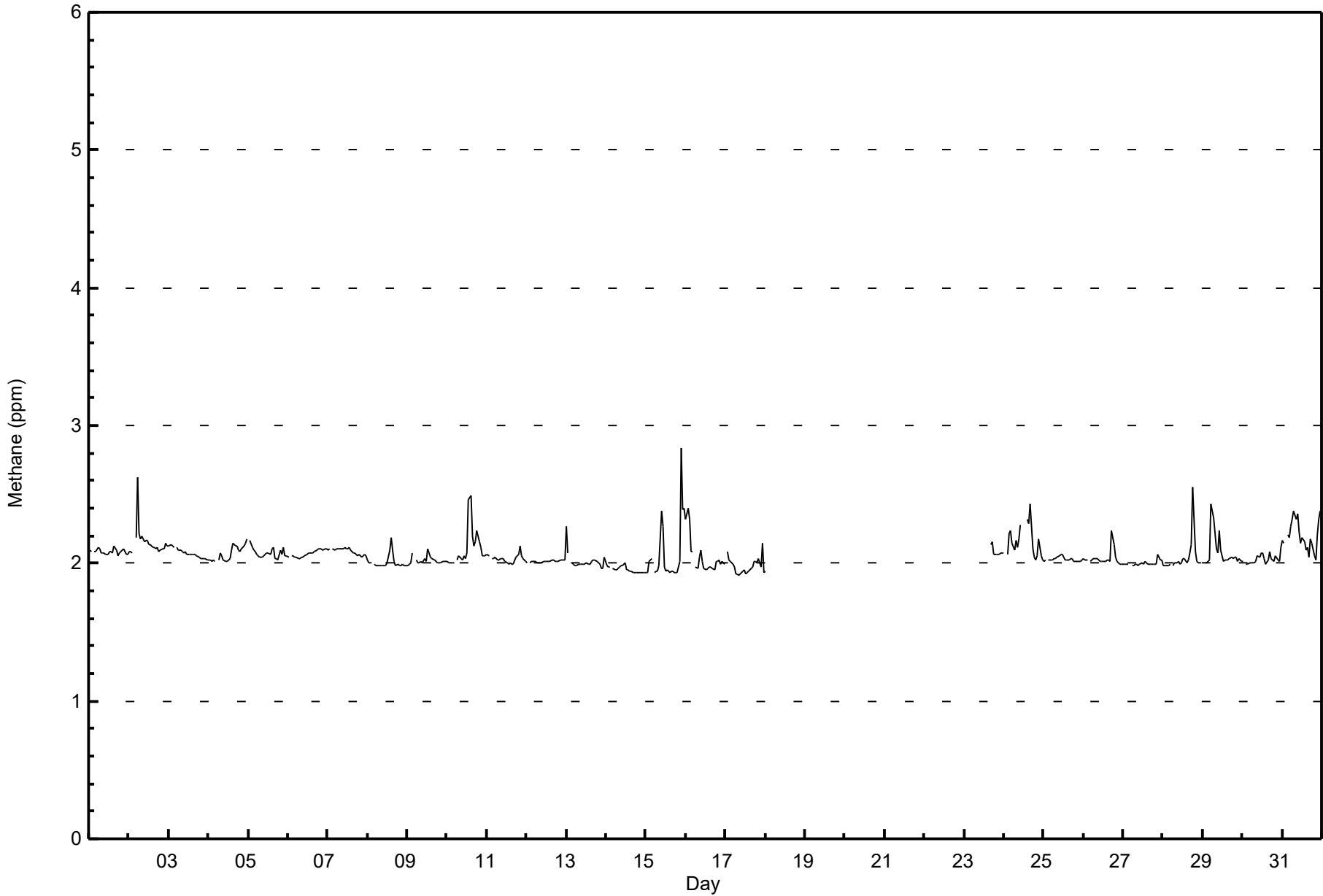
Mannix - January 2025

Number of Exceedences (AAAQO):		1-hr: 0	24-hr: 0	Hours in Service:	744																								
Maximum Value: 2.8 ppm on Jan 15 22:00		Maximum Daily Average: 2.2 ppm on Jan 31																											
Minimum Value: 1.9 ppm on Jan 17 09:00		Minimum Daily Average: 2.0 ppm on Jan 14																											
Maximum Diurnal Average: 2.1 ppm at hour 6		Minimum Diurnal Average: 2.0 ppm at hour 12																											
Monthly Average: 2.06 ppm		Percentiles: P ₁ = 1.9 P ₁₀ = 2.0 Q ₁ = 2.0 Median = 2.0 Q ₃ = 2.1 P ₉₀ = 2.1 P ₉₉ = 2.4																											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
1-Jan	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1		
2-Jan	2.1	2.1	2.1	Z	2.2	2.6	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.6
3-Jan	2.1	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	
4-Jan	2.0	2.0	2.0	2.0	2.0	Z	2.1	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.2	
5-Jan	Z	2.2	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2
6-Jan	2.0	Z	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
7-Jan	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.0	2.1	2.1	2.1	2.1
8-Jan	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2
9-Jan	2.0	2.0	2.0	2.1	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1
10-Jan	2.0	2.0	2.0	2.0	2.0	Z	2.0	2.1	2.0	2.0	2.1	2.0	2.1	2.5	2.5	2.2	2.1	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.5
11-Jan	2.1	2.1	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.1
12-Jan	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
13-Jan	2.3	2.1	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.3
14-Jan	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0
15-Jan	1.9	1.9	2.0	2.0	Z	1.9	1.9	1.9	2.0	2.4	2.3	2.0	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.8	2.4	2.4	2.1	2.1	2.8	2.8
16-Jan	2.3	2.4	2.3	2.1	2.1	Z	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.4
17-Jan	Z	2.1	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	1.9	2.0	2.0	2.1	2.1	
18-Jan	1.9	Z	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	1.9
19-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--
20-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--
21-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--
22-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--
23-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	C	C	C	C	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2
24-Jan	2.1	Z	2.1	2.2	2.2	2.1	2.1	2.2	2.1	2.2	2.3	M	M	M	2.3	2.3	2.4	2.1	2.0	2.0	2.0	2.1	2.2	2.1	2.0	2.0	2.0	2.2	2.4
25-Jan	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
26-Jan	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2
27-Jan	2.0	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1
28-Jan	2.0	2.0	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.6	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.6
29-Jan	Z	2.0	2.0	2.0	2.0	2.4	2.3	2.2	2.1	2.1	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.4
30-Jan	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.1	2.1	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.1	2.0	2.0	2.0	2.1
31-Jan	2.2	2.1	Z	2.2	2.2	2.3	2.3	2.4	2.3	2.4	2.2	2.1	2.2	2.2	2.1	2.1	2.0	2.2	2.1	2.1	2.0	2.2	2.3	2.4	2.2	2.2	2.2	2.4	2.4
	2.1	2.1	2.0	2.1	2.1	2.1	2.0	2.1	2.0	2.1	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	Diurnal Average
	2.3	2.4	2.3	2.2	2.2	2.6	2.3	2.4	2.3	2.4	2.3	2.2	2.2	2.5	2.5	2.3	2.4	2.2	2.6	2.2	2.1	2.8	2.4	2.4	2.4	2.4	2.4	2.4	Diurnal Maximum
Z - zerospan			C - Calibration				M - Maintenance				UO - Unstable Operation																		



Wood Buffalo Environmental Association
Hourly Averages

Methane (CH₄) - ppm
Mannix - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Methane (CH₄) - ppm
Mannix - January 2025**

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	344	59.21	59.21
2.1 - 3.0	237	40.79	100.00
3.1 - 10.0	0	0.00	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 581

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Methane (CH₄) - ppm
Mannix - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2.0	41	31	6	1	2	0	32	69	13	13	20	32	37	28	3	16	344
2.1 - 3.0	56	12	7	1	2	8	7	62	6	8	3	1	11	19	10	23	236
3.1 - 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	97	43	13	2	4	8	39	131	19	21	23	33	48	47	13	39	580

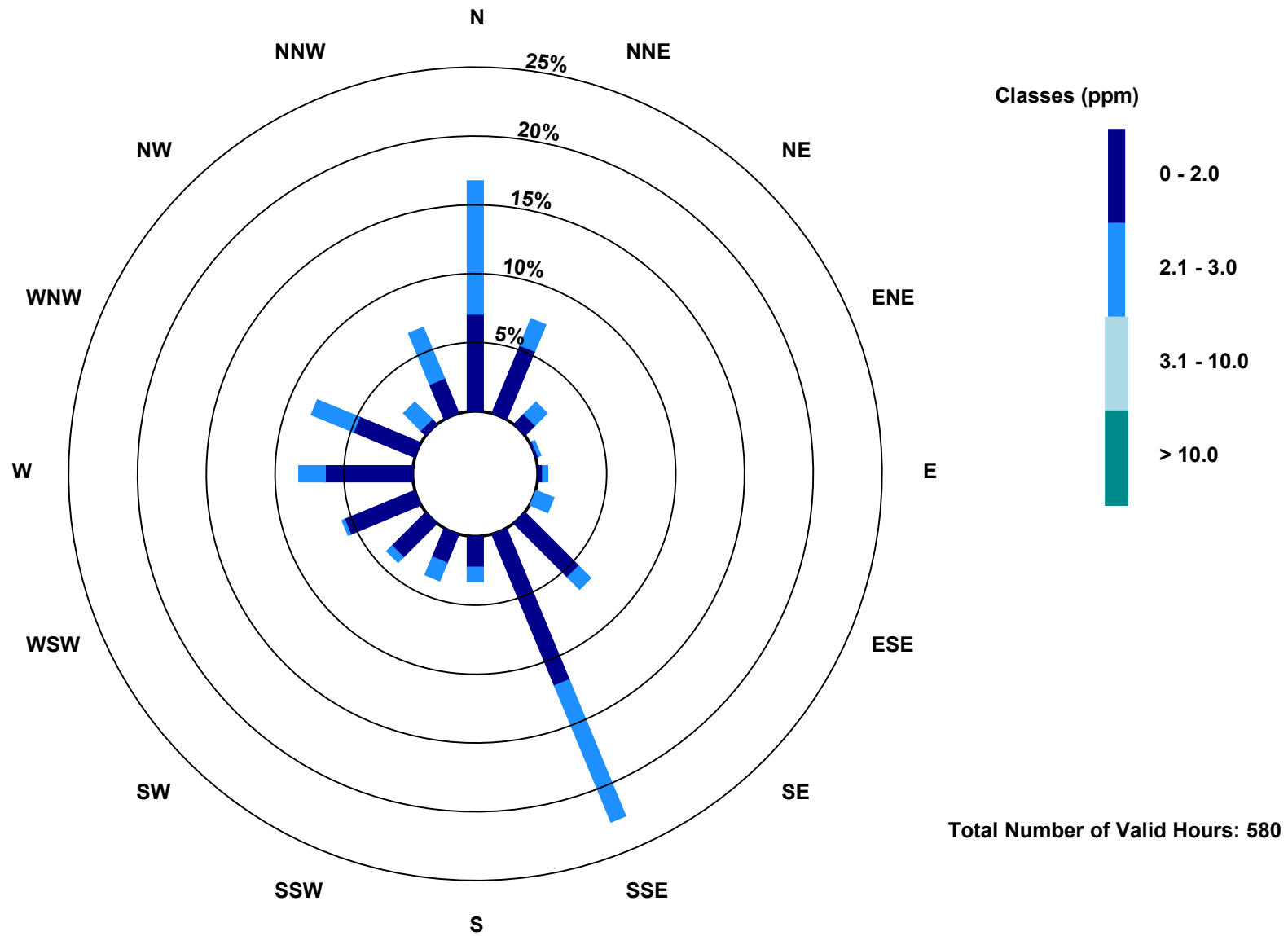
Total Number of Valid Hours: 580

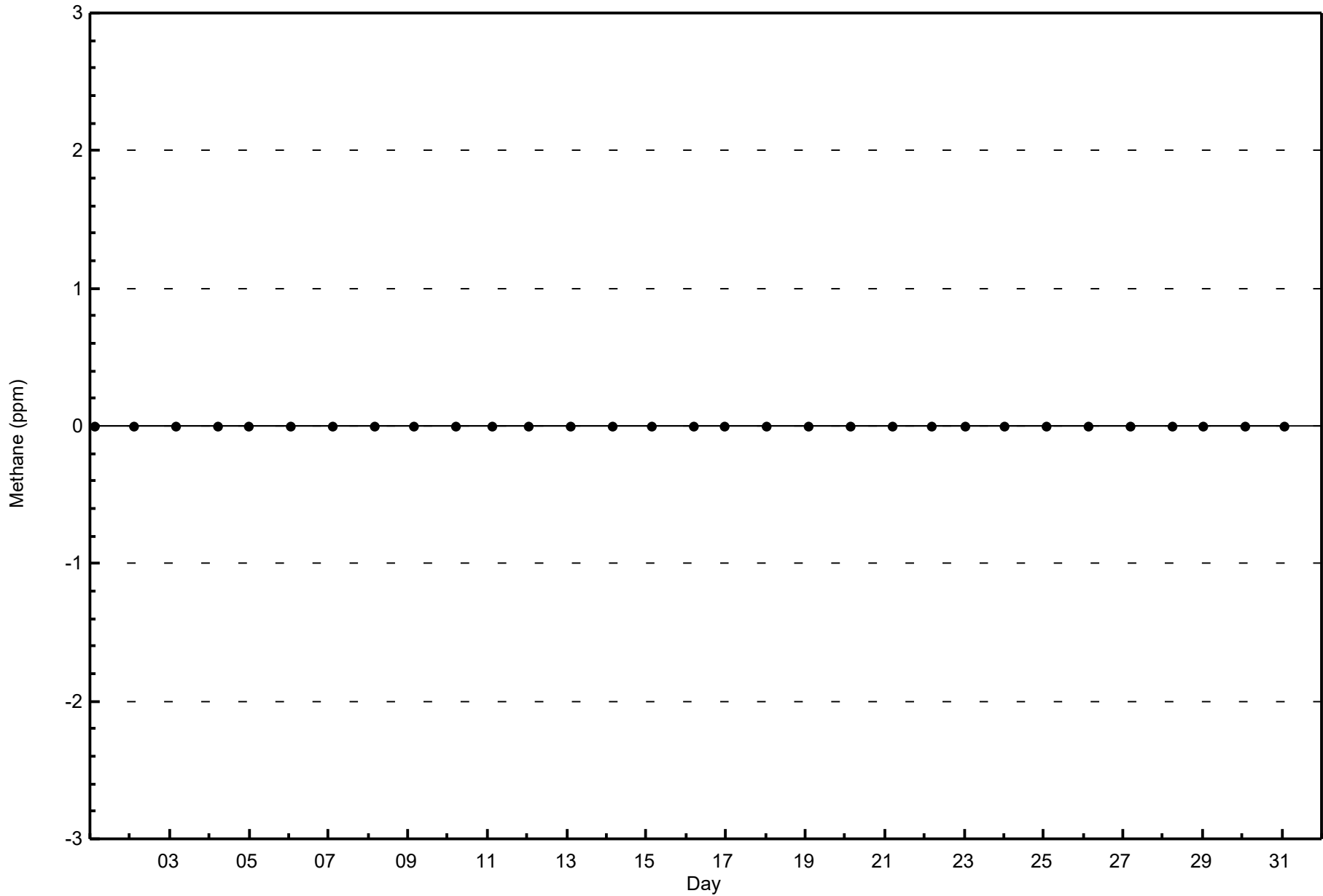
Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Methane (CH₄) - ppm
Mannix

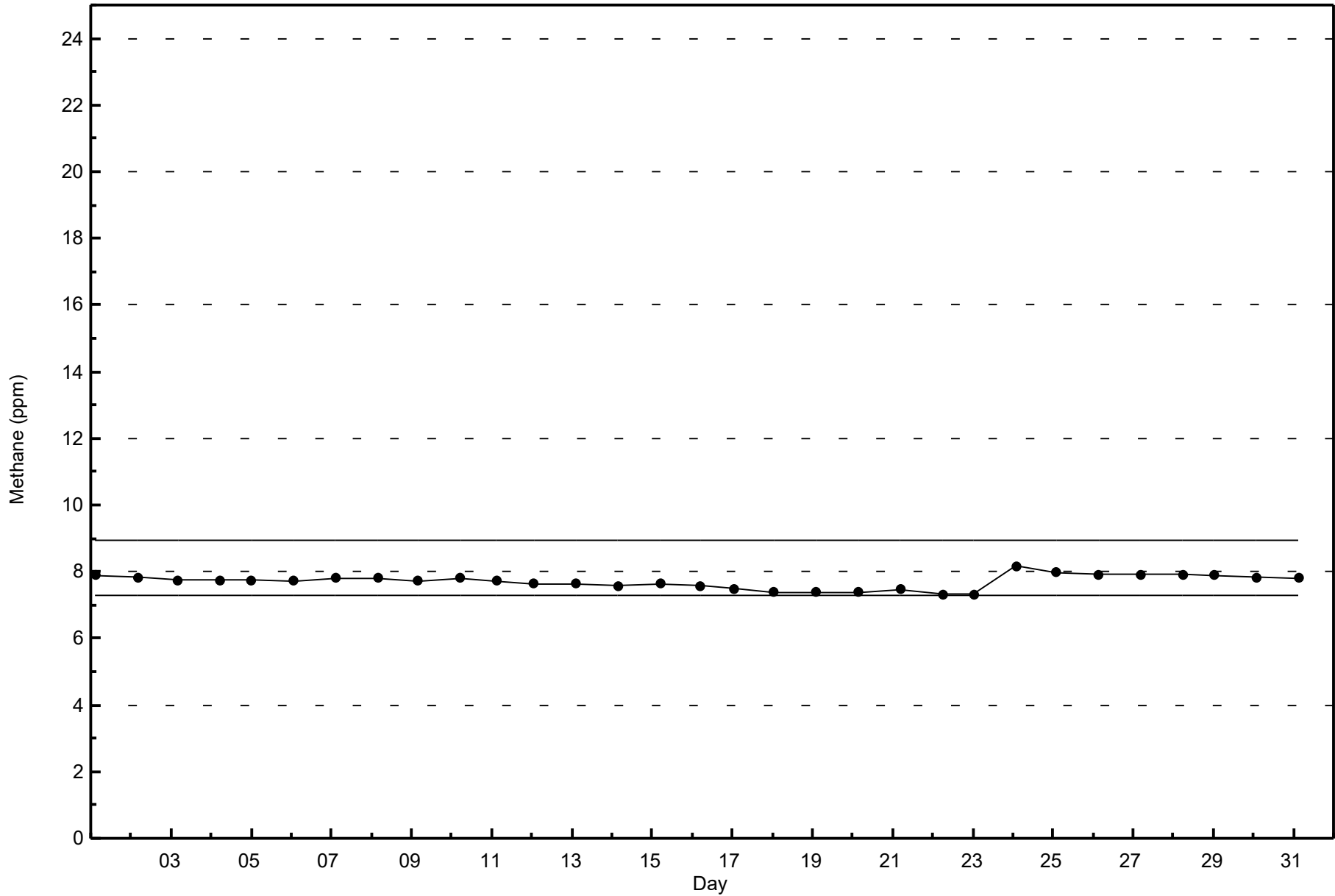






Wood Buffalo Environmental Association
Span Responses

Methane (CH₄) - ppm
Mannix - January 2025

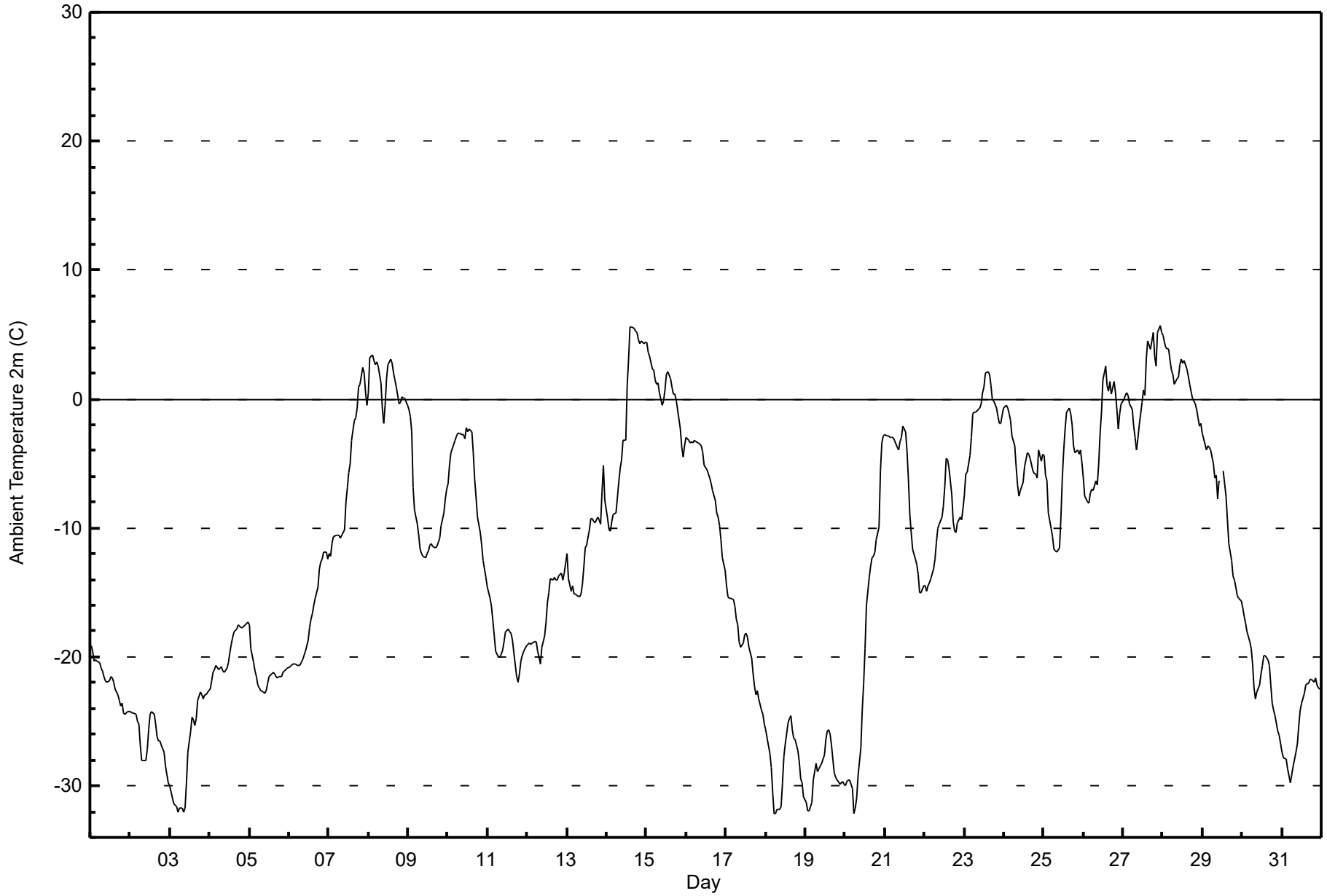




Wood Buffalo Environmental Association
Summary of Hour Averages

Ambient Temperature 2m (AT2) - C
Mannix - January 2025

Maximum Value: 5.7 C on Jan 27 23:00		Maximum Daily Average: 1.6 C on Jan 28		Hours in Service: 744																																													
Minimum Value: -32.2 C on Jan 18 06:00		Minimum Daily Average: -29.0 C on Jan 19		Hours of Data: 743																																													
Maximum Diurnal Average: -10.4 C at hour 15		Minimum Diurnal Average: -14.3 C at hour 9		Hours of Missing Data: 1																																													
Monthly Average: -12.49 C		Percentiles: P ₁ = -31.8 P ₁₀ = -26.8 Q ₁ = -21.3 Median = -11.9 Q ₃ = -3.2 P ₉₀ = 1.0 P ₉₉ = 5.1		Hours of Calibration: 0																																													
				Percent Operational Time: 99.9																																													
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	-19.2	-19.5	-20.3	-20.2	-20.3	-20.4	-20.8	-21.1	-21.6	-21.9	-21.8	-21.5	-21.7	-22.0	-22.5	-22.9	-23.3	-23.8	-23.6	-24.3	-24.5	-24.3	-24.3	-22.0	-19.2																								
2-Jan	-24.2	-24.3	-24.4	-24.5	-25.0	-25.2	-26.9	-28.0	-28.0	-28.0	-27.1	-25.6	-24.4	-24.3	-24.4	-25.2	-26.2	-26.5	-26.5	-26.8	-27.4	-28.4	-29.1	-29.8	-26.3	-24.2																							
3-Jan	-30.0	-30.9	-31.4	-31.6	-31.6	-32.1	-31.7	-31.7	-32.0	-31.7	-29.8	-27.3	-25.7	-24.7	-24.9	-25.3	-24.7	-23.3	-22.7	-22.9	-23.3	-23.0	-22.9	-22.6	-27.4	-22.6																							
4-Jan	-22.5	-21.8	-21.2	-21.0	-20.6	-20.9	-20.8	-20.8	-21.1	-21.2	-20.9	-20.4	-19.7	-19.1	-18.5	-18.1	-17.8	-17.6	-17.6	-17.8	-17.8	-17.6	-17.4	-17.3	-19.6	-17.3																							
5-Jan	-17.5	-19.4	-20.4	-21.0	-21.6	-22.1	-22.4	-22.6	-22.7	-22.8	-22.6	-22.0	-21.6	-21.3	-21.2	-21.3	-21.5	-21.6	-21.6	-21.5	-21.2	-21.1	-21.0	-20.8	-21.4	-17.5																							
6-Jan	-20.7	-20.6	-20.6	-20.6	-20.6	-20.6	-20.6	-20.4	-20.2	-19.9	-19.6	-18.8	-17.7	-17.1	-16.6	-16.0	-15.4	-14.6	-13.2	-12.6	-12.4	-11.9	-11.9	-12.4	-17.3	-11.9																							
7-Jan	-11.9	-12.2	-11.2	-10.7	-10.6	-10.6	-10.5	-10.8	-10.6	-10.1	-8.0	-6.9	-5.7	-5.0	-3.2	-1.7	-1.4	-0.7	0.9	1.1	2.5	2.0	0.5	-0.5	-5.6	2.5																							
8-Jan	0.5	3.2	3.4	3.0	2.7	2.8	2.6	1.3	-0.7	-1.9	-0.4	1.5	2.7	3.1	2.7	2.0	1.4	0.9	-0.3	-0.2	0.2	0.1	0.0	-0.5	1.3	3.4																							
9-Jan	-0.8	-1.3	-2.5	-6.8	-8.7	-9.7	-10.6	-11.6	-12.0	-12.2	-12.3	-12.0	-11.8	-11.4	-11.2	-11.5	-11.5	-11.4	-11.2	-10.8	-9.9	-8.8	-7.7	-7.0	-9.4	-0.8																							
10-Jan	-6.6	-5.1	-4.2	-3.6	-3.2	-2.9	-2.6	-2.6	-2.8	-2.8	-3.1	-2.2	-2.5	-2.3	-2.5	-4.2	-6.2	-7.7	-9.2	-10.4	-11.4	-12.5	-13.2	-13.8	-5.7	-2.2																							
11-Jan	-14.6	-15.5	-16.1	-17.2	-18.3	-19.6	-20.0	-20.1	-19.8	-19.5	-18.8	-18.1	-17.9	-18.1	-18.2	-18.7	-19.7	-21.5	-21.9	-21.3	-20.3	-19.9	-19.6	-19.2	-18.9	-14.6																							
12-Jan	-19.0	-18.9	-19.1	-18.9	-18.8	-18.8	-19.6	-20.0	-20.6	-19.2	-18.4	-17.3	-15.8	-15.0	-13.9	-14.0	-13.8	-14.1	-14.0	-13.8	-13.5	-14.0	-13.5	-12.7	-16.5	-12.7																							
13-Jan	-11.9	-13.9	-14.9	-14.4	-15.1	-15.1	-15.2	-15.4	-15.1	-14.4	-13.0	-11.5	-11.3	-10.1	-9.3	-9.3	-9.5	-9.6	-9.1	-9.4	-9.7	-7.2	-5.1	-7.9	-11.6	-5.1																							
14-Jan	-9.3	-10.1	-10.2	-9.5	-8.9	-8.8	-7.7	-6.5	-5.4	-4.7	-3.2	-3.2	1.1	3.0	5.6	5.6	5.5	5.2	5.2	4.6	4.3	4.5	4.3	4.5	-1.4	5.6																							
15-Jan	4.4	3.7	3.3	2.3	2.3	1.5	1.1	1.3	0.5	-0.4	-0.2	0.7	1.9	2.2	1.6	0.9	0.4	0.3	0.0	-0.8	-2.3	-3.7	-4.5	-3.6	0.5	4.4																							
16-Jan	-3.0	-3.2	-3.4	-3.3	-3.4	-3.2	-3.3	-3.4	-3.5	-3.6	-4.2	-5.1	-5.5	-5.8	-6.1	-6.5	-7.1	-7.9	-8.8	-9.1	-9.8	-10.9	-12.4	-13.3	-6.1	-3.0																							
17-Jan	-14.5	-15.3	-15.4	-15.4	-15.6	-16.1	-17.1	-17.5	-18.8	-19.2	-19.0	-18.2	-18.2	-18.4	-19.2	-20.1	-21.3	-22.3	-22.9	-22.6	-23.2	-24.2	-24.5	-25.2	-19.4	-14.5																							
18-Jan	-25.7	-26.3	-27.5	-28.5	-30.5	-32.2	-32.1	-31.8	-31.9	-31.6	-29.8	-27.7	-26.7	-25.2	-24.7	-24.6	-25.7	-26.2	-26.4	-27.3	-28.1	-29.4	-29.8	-30.9	-28.4	-24.6																							
19-Jan	-31.3	-31.9	-31.9	-31.7	-31.3	-29.5	-28.2	-28.9	-28.6	-28.4	-28.2	-27.6	-26.4	-25.8	-25.6	-26.0	-26.8	-29.1	-29.4	-29.5	-29.6	-29.9	-29.7	-29.9	-29.0	-25.6																							
20-Jan	-30.0	-29.7	-29.5	-29.5	-30.2	-32.1	-31.7	-31.0	-29.3	-27.1	-24.2	-22.1	-19.3	-16.0	-13.8	-13.0	-12.3	-12.2	-11.9	-10.9	-9.9	-5.5	-3.4	-2.8	-19.9	-2.8																							
21-Jan	-2.8	-2.9	-2.9	-2.9	-3.0	-2.9	-3.2	-3.8	-3.9	-3.3	-2.9	-2.1	-2.6	-4.1	-6.2	-9.0	-10.3	-11.7	-12.4	-12.8	-13.6	-15.1	-15.0	-14.4	-6.8	-2.1																							
22-Jan	-14.5	-14.9	-14.5	-14.3	-13.9	-13.2	-12.4	-11.1	-10.0	-9.7	-9.1	-8.2	-6.7	-4.6	-4.7	-5.4	-7.5	-9.5	-10.3	-10.3	-9.6	-9.1	-9.3	-8.5	-10.1	-4.6																							
23-Jan	-7.4	-5.8	-5.7	-4.4	-3.0	-1.2	-1.0	-1.1	-0.8	-0.7	-0.3	0.5	1.0	2.0	2.1	1.9	1.0	0.0	-0.1	-0.7	-1.3	-1.9	-1.9	-1.2	-1.2	2.1																							
24-Jan	-0.7	-0.5	-0.7	-1.1	-1.7	-2.9	-3.6	-5.2	-6.6	-7.5	-7.1	-6.4	-5.3	-4.7	-4.2	-4.3	-4.6	-5.6	-5.7	-5.8	-6.1	-4.0	-4.8	-4.2	-4.3	-0.5																							
25-Jan	-4.4	-5.9	-6.3	-8.8	-10.0	-10.7	-11.6	-11.8	-11.9	-11.6	-9.2	-6.2	-3.9	-2.4	-1.0	-0.7	-1.2	-2.0	-3.6	-4.2	-3.9	-4.3	-4.0	-4.9	-6.0	-0.7																							
26-Jan	-6.1	-7.5	-8.0	-8.1	-7.3	-7.0	-7.0	-6.4	-6.6	-5.0	-2.6	-1.0	1.4	2.6	1.1	0.6	1.4	0.4	1.4	0.5	-0.9	-2.4	-1.1	-0.4	-2.8	2.6																							
27-Jan	0.0	0.3	0.5	0.2	-0.3	-0.8	-2.1	-2.9	-3.9	-3.1	-2.0	-0.3	0.7	0.3	3.1	4.6	3.8	4.5	5.1	3.3	2.6	5.2	5.7	5.1	1.2	5.7																							
28-Jan	4.9	4.4	3.9	3.8	3.0	2.3	1.9	1.1	1.6	1.7	2.6	3.1	2.7	2.9	2.3	1.8	1.1	0.6	0.1	-0.4	-0.8	-1.5	-2.1	-1.9	1.6	4.9																							
29-Jan	-2.6	-3.5	-3.9	-3.6	-3.8	-4.0	-5.1	-6.1	-5.9	-7.7	-6.4	DF	-5.6	-6.5	-7.5	-9.4	-11.3	-12.6	-13.7	-14.0	-14.6	-15.3	-15.5	-15.7	-8.4	-2.6																							
30-Jan	-16.2	-16.9	-17.4	-18.0	-18.8	-19.3	-20.5	-22.4	-23.3	-22.7	-22.1	-21.3	-20.7	-19.8	-20.0	-20.3	-20.7	-22.2	-23.5	-24.2	-24.6	-25.7	-26.1	-26.7	-21.4	-16.2																							
31-Jan	-27.4	-27.8	-27.9	-28.7	-29.3	-29.7	-29.1	-28.4	-27.4	-26.7	-25.3	-24.1	-23.6	-22.9	-22.1	-22.1	-22.0	-21.7	-21.8	-21.9	-21.6	-22.2	-22.4	-22.5	-24.9	-21.6																							
																								-12.4	-12.7	-12.9	-13.2	-13.5	-13.7	-13.9	-14.2	-14.3	-14.1	-13.2	-12.4	-11.2	-10.6	-10.4	-10.7	-11.2	-11.7	-11.9	-12.1	-12.3	-12.3	-12.4	Diurnal Average		
																								4.9	4.4	3.9	3.8	3.0	2.8	2.6	1.3	1.6	1.7	2.6	3.1	2.7	3.1	5.6	5.6	5.5	5.2	5.2	4.6	4.3	5.2	5.7	5.1	Diurnal Maximum	
DF - DAS Failure																																																	





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ambient Temperature 2m (AT2) - C
Mannix - January 2025

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	229	30.82	30.82
-20 - 0	415	55.85	86.68
0 - 10	99	13.32	100.00
10 - 20	0	0.00	100.00
> 20	0	0.00	100.00

Total Number of Valid Hours: 743

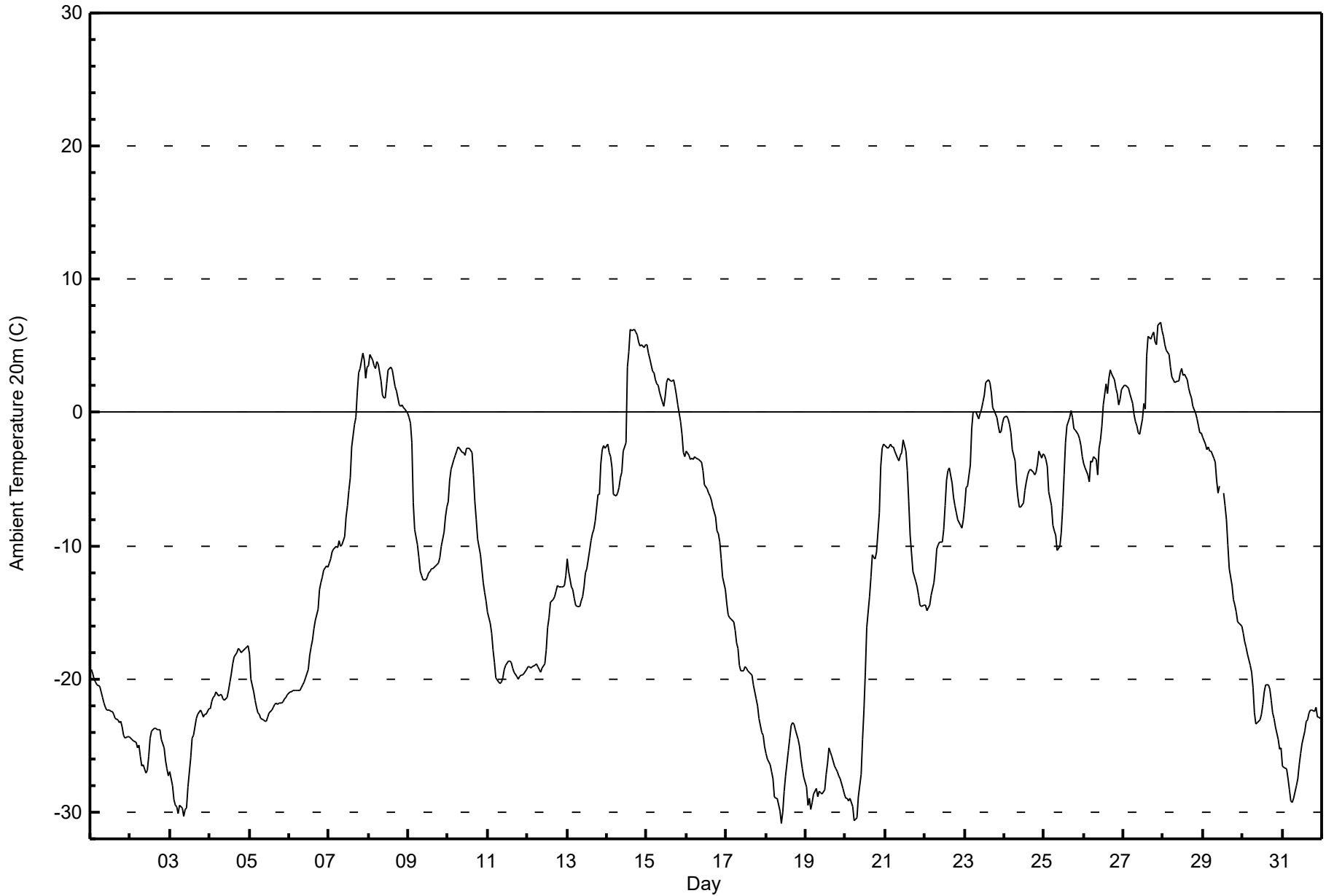
Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

Ambient Temperature 20m (AT20) - C
Mannix - January 2025

Maximum Value: 6.7 C on Jan 27 23:00		Maximum Daily Average: 2.6 C on Jan 27		Hours in Service: 744																						
Minimum Value: -30.8 C on Jan 18 10:00		Minimum Daily Average: -27.8 C on Jan 19		Hours of Data: 743																						
Maximum Diurnal Average: -10.4 C at hour 16		Minimum Diurnal Average: -13.7 C at hour 9		Hours of Missing Data: 1																						
Monthly Average: -11.91 C		Percentiles: P ₁ = -29.9 P ₁₀ = -26.1 Q ₁ = -21.6 Median = -11.7 Q ₃ = -2.7 P ₉₀ = 2.1 P ₉₉ = 6.0		Hours of Calibration: 0																						
				Percent Operational Time: 99.9																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	-19.3	-19.6	-20.0	-20.2	-20.4	-20.5	-21.0	-21.3	-21.8	-22.1	-22.3	-22.4	-22.5	-22.5	-22.6	-22.9	-23.0	-23.2	-23.2	-23.6	-24.3	-24.5	-24.3	-24.4	-22.2	-19.3
2-Jan	-24.4	-24.5	-24.6	-24.7	-25.2	-24.9	-25.8	-26.6	-26.4	-27.1	-26.8	-25.8	-24.4	-23.9	-23.7	-23.7	-23.8	-23.8	-23.8	-24.5	-25.2	-26.1	-26.8	-27.3	-25.2	-23.7
3-Jan	-26.9	-28.0	-29.0	-29.5	-29.5	-30.1	-29.5	-29.7	-30.3	-29.8	-29.7	-28.1	-25.9	-24.5	-24.2	-23.6	-22.9	-22.6	-22.3	-22.5	-22.9	-22.7	-22.6	-22.3	-26.2	-22.3
4-Jan	-22.2	-21.7	-21.4	-21.2	-20.9	-21.3	-21.1	-21.2	-21.5	-21.6	-21.4	-20.9	-20.3	-19.5	-18.8	-18.3	-18.0	-17.7	-17.8	-18.0	-18.0	-17.7	-17.6	-17.5	-19.8	-17.5
5-Jan	-18.1	-20.0	-21.0	-21.6	-22.1	-22.6	-22.7	-23.0	-23.1	-23.2	-23.2	-22.8	-22.4	-22.1	-21.9	-21.9	-21.9	-21.8	-21.8	-21.7	-21.5	-21.4	-21.2	-21.9	-18.1	-18.1
6-Jan	-21.0	-20.9	-20.8	-20.8	-20.9	-20.9	-20.9	-20.7	-20.5	-20.2	-19.9	-19.2	-18.3	-17.6	-17.1	-16.3	-15.6	-14.7	-13.3	-12.7	-12.3	-11.8	-11.5	-11.6	-17.5	-11.5
7-Jan	-11.3	-11.0	-10.5	-10.2	-10.1	-10.1	-9.6	-10.0	-9.9	-9.3	-7.9	-7.0	-5.8	-4.9	-2.6	-0.9	-0.3	1.5	3.0	3.3	4.5	4.0	2.5	3.4	-4.5	4.5
8-Jan	3.5	4.4	3.9	3.5	3.3	3.8	3.6	2.4	1.3	1.1	1.1	2.2	3.2	3.4	3.2	2.5	2.0	1.6	0.6	0.5	0.6	0.4	0.3	0.0	2.2	4.4
9-Jan	-0.4	-0.8	-2.2	-6.8	-8.8	-10.0	-10.9	-11.9	-12.2	-12.5	-12.6	-12.3	-12.1	-11.9	-11.7	-11.7	-11.6	-11.5	-11.2	-10.8	-10.0	-9.0	-7.8	-7.1	-9.5	-0.4
10-Jan	-6.6	-5.1	-4.2	-3.6	-3.2	-2.9	-2.6	-2.6	-2.9	-3.0	-3.2	-2.7	-2.7	-3.0	-4.7	-6.6	-8.0	-9.5	-10.7	-11.7	-12.8	-13.5	-14.1	-5.9	-2.6	
11-Jan	-15.0	-15.8	-16.6	-17.8	-18.8	-19.9	-20.2	-20.4	-20.3	-19.9	-19.2	-18.9	-18.6	-18.6	-18.8	-19.2	-19.5	-19.8	-20.0	-19.9	-19.7	-19.7	-19.6	-19.2	-19.0	-15.0
12-Jan	-19.1	-19.1	-19.1	-19.1	-19.0	-18.9	-19.1	-19.3	-19.5	-19.2	-18.9	-17.8	-16.2	-15.4	-14.2	-14.0	-13.8	-13.4	-13.0	-13.1	-13.1	-13.1	-13.0	-12.3	-16.4	-12.3
13-Jan	-10.9	-11.9	-13.1	-13.2	-13.9	-14.5	-14.5	-14.5	-14.2	-13.8	-13.1	-12.0	-11.7	-10.4	-9.6	-9.1	-8.7	-8.1	-6.2	-6.2	-3.8	-2.8	-2.5	-2.7	-10.1	-2.5
14-Jan	-2.4	-3.0	-3.3	-4.1	-6.1	-6.2	-6.0	-5.7	-4.9	-4.4	-2.9	-2.2	3.4	4.5	6.3	6.1	6.2	6.0	5.9	5.3	5.0	5.1	4.9	5.1	0.5	6.3
15-Jan	5.1	4.5	4.1	3.1	3.0	2.5	2.1	2.0	1.5	0.8	0.5	1.2	2.3	2.5	2.4	2.4	2.5	1.9	1.3	0.6	-0.7	-1.6	-3.0	-3.3	1.6	5.1
16-Jan	-2.9	-3.2	-3.5	-3.4	-3.5	-3.3	-3.4	-3.5	-3.6	-3.7	-4.4	-5.4	-5.7	-6.0	-6.2	-6.6	-7.1	-7.9	-8.9	-9.1	-9.8	-10.9	-12.3	-13.3	-6.2	-2.9
17-Jan	-14.4	-15.2	-15.4	-15.5	-15.7	-16.3	-17.3	-17.7	-19.0	-19.4	-19.4	-19.1	-19.2	-19.4	-19.5	-19.7	-20.4	-21.0	-21.5	-22.1	-22.9	-24.0	-24.3	-25.1	-19.3	-14.4
18-Jan	-25.6	-26.0	-26.5	-27.0	-27.5	-28.9	-29.0	-29.0	-29.9	-30.8	-30.0	-28.4	-27.3	-25.3	-24.4	-23.5	-23.3	-23.4	-23.8	-24.5	-25.1	-26.1	-26.8	-27.4	-26.6	-23.3
19-Jan	-28.1	-29.5	-29.0	-29.7	-29.3	-28.6	-28.3	-28.9	-28.4	-28.6	-28.6	-28.3	-27.1	-26.4	-25.2	-25.5	-25.8	-26.6	-26.7	-26.9	-27.3	-27.5	-28.2	-28.6	-27.8	-25.2
20-Jan	-29.0	-29.0	-29.1	-29.0	-29.6	-30.6	-30.6	-30.4	-28.8	-27.1	-24.5	-22.3	-19.5	-16.1	-13.9	-12.3	-10.6	-10.9	-11.0	-10.5	-7.5	-4.0	-2.7	-2.4	-19.2	-2.4
21-Jan	-2.5	-2.7	-2.6	-2.4	-2.5	-2.6	-2.9	-3.4	-3.7	-3.2	-3.0	-2.1	-2.8	-4.3	-6.6	-9.2	-10.5	-11.9	-12.6	-13.0	-13.8	-14.4	-14.6	-14.5	-6.7	-2.1
22-Jan	-14.5	-14.9	-14.7	-14.4	-13.8	-12.8	-11.7	-10.2	-9.9	-9.8	-9.7	-8.7	-7.0	-5.1	-4.4	-4.2	-5.4	-6.4	-7.0	-7.5	-8.0	-8.5	-8.6	-8.0	-9.4	-4.2
23-Jan	-7.0	-5.6	-5.5	-4.0	-1.2	0.1	0.0	0.1	-0.5	-0.1	0.2	0.8	1.3	2.2	2.5	2.3	1.5	0.4	0.2	-0.4	-1.0	-1.5	-1.4	-0.8	-0.7	2.5
24-Jan	-0.4	-0.2	-0.4	-0.9	-1.5	-2.8	-3.6	-5.3	-6.4	-7.1	-7.1	-6.7	-5.8	-5.2	-4.7	-4.4	-4.3	-4.5	-4.7	-4.5	-3.9	-2.9	-3.5	-3.1	-3.9	-0.2
25-Jan	-3.2	-3.6	-4.1	-5.9	-7.0	-8.5	-8.9	-9.2	-10.3	-10.1	-9.0	-7.1	-4.6	-2.3	-1.0	-0.3	0.2	-0.4	-1.2	-1.4	-1.7	-2.0	-2.5	-3.3	-4.5	0.2
26-Jan	-3.8	-4.1	-4.7	-5.2	-3.6	-3.7	-3.3	-3.5	-4.6	-2.7	-2.0	-1.0	0.6	2.1	1.4	2.5	3.2	2.9	2.5	1.8	1.4	0.6	1.0	1.7	-0.9	3.2
27-Jan	2.0	2.0	2.0	1.9	1.4	0.7	-0.2	-0.7	-1.0	-1.5	-1.6	-0.5	0.7	0.3	4.2	5.7	5.6	5.9	6.1	5.3	5.1	6.6	6.7	6.1	2.6	6.7
28-Jan	5.7	5.1	4.7	4.4	3.4	2.7	2.5	2.3	2.4	2.4	3.0	3.3	2.8	2.8	2.4	1.9	1.4	1.1	0.5	0.0	-0.4	-1.0	-1.6	-1.6	2.1	5.7
29-Jan	-1.9	-2.4	-2.8	-2.6	-2.9	-2.9	-3.4	-3.8	-5.1	-6.0	-5.5	DF	-6.0	-7.0	-8.1	-9.9	-11.7	-12.9	-14.1	-14.4	-15.0	-15.7	-15.9	-16.1	-8.1	-1.9
30-Jan	-16.6	-17.2	-17.6	-18.2	-19.0	-19.5	-20.7	-22.5	-23.4	-23.2	-23.1	-22.7	-21.9	-21.0	-20.4	-20.4	-20.8	-21.6	-22.6	-23.0	-23.6	-24.6	-25.2	-25.2	-21.4	-16.6
31-Jan	-26.6	-26.6	-26.7	-27.5	-28.3	-29.1	-29.3	-29.0	-28.0	-27.4	-26.4	-25.6	-24.9	-23.9	-23.2	-23.1	-22.6	-22.3	-22.3	-22.4	-22.1	-22.8	-22.9	-23.0	-25.3	-22.1
																								Diurnal Average		
																								Diurnal Maximum		
DF - DAS Failure																										





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Ambient Temperature 20m (AT20) - C
Mannix - January 2025**

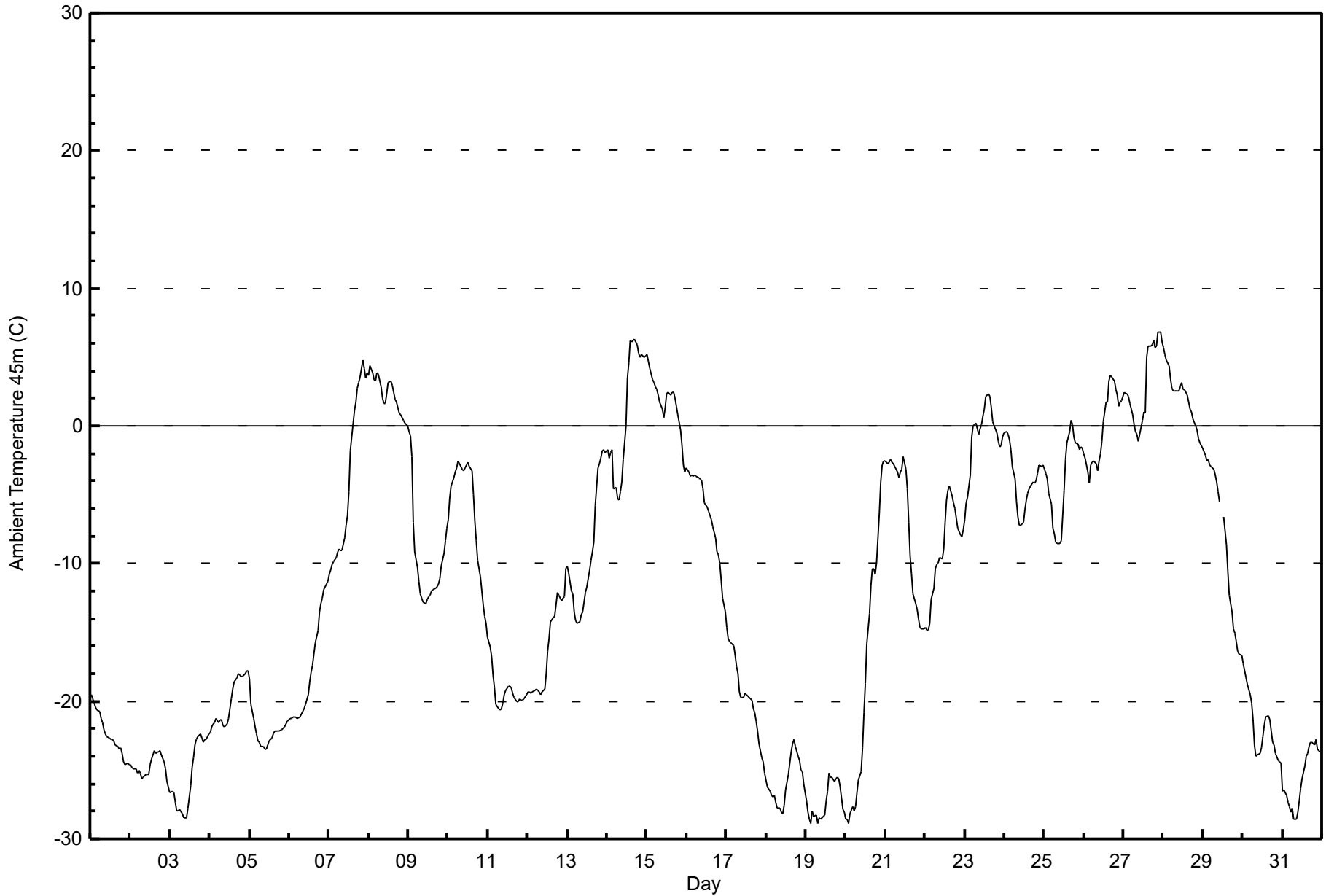
Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	229	30.82	30.82
-20 - 0	390	52.49	83.31
0 - 10	124	16.69	100.00
10 - 20	0	0.00	100.00
> 20	0	0.00	100.00

Total Number of Valid Hours: 743

Total Number of Hours: 744



Maximum Value: 6.8 C on Jan 27 22:00		Maximum Daily Average: 3.0 C on Jan 27		Hours in Service: 744																							
Minimum Value: -28.9 C on Jan 19 04:00		Minimum Daily Average: -27.3 C on Jan 19		Hours of Data: 743																							
Maximum Diurnal Average: -10.4 C at hour 16		Minimum Diurnal Average: -13.4 C at hour 9		Hours of Missing Data: 1																							
Monthly Average: -11.75 C		Percentiles: P ₁ = -28.6 P ₁₀ = -25.5 Q ₁ = -21.8 Median = -11.7 Q ₃ = -2.5 P ₉₀ = 2.3 P ₉₉ = 6.0		Hours of Calibration: 0																							
				Percent Operational Time: 99.9																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	-19.5	-19.8	-20.2	-20.4	-20.6	-20.7	-21.2	-21.6	-22.0	-22.3	-22.6	-22.7	-22.8	-22.7	-22.9	-23.2	-23.3	-23.5	-23.4	-23.8	-24.4	-24.6	-24.5	-24.6	-22.4	-19.5	
2-Jan	-24.6	-24.8	-24.9	-24.9	-25.2	-25.0	-25.2	-25.7	-25.5	-25.4	-25.3	-24.7	-24.2	-23.6	-23.8	-23.7	-23.7	-23.6	-23.9	-24.4	-24.9	-25.8	-26.2	-24.8	-23.6	-24.8	-23.6
3-Jan	-26.6	-26.5	-26.6	-27.4	-28.0	-27.9	-27.8	-28.1	-28.5	-28.4	-28.5	-27.8	-26.1	-24.8	-24.1	-23.2	-22.8	-22.6	-22.4	-22.7	-23.0	-22.8	-22.8	-22.4	-25.5	-22.4	
4-Jan	-22.3	-21.8	-21.6	-21.5	-21.2	-21.6	-21.4	-21.4	-21.7	-21.9	-21.7	-21.2	-20.6	-19.8	-19.1	-18.6	-18.3	-18.0	-18.1	-18.2	-18.2	-18.0	-17.8	-17.8	-20.1	-17.8	
5-Jan	-18.4	-20.3	-21.2	-21.9	-22.3	-22.9	-23.0	-23.3	-23.3	-23.5	-23.5	-23.1	-22.9	-22.7	-22.4	-22.2	-22.1	-22.2	-22.1	-22.1	-21.9	-21.8	-21.7	-21.5	-22.2	-18.4	
6-Jan	-21.3	-21.2	-21.1	-21.1	-21.2	-21.2	-21.2	-21.0	-20.8	-20.5	-20.2	-19.6	-18.6	-17.9	-17.4	-16.5	-15.8	-14.9	-13.5	-12.9	-12.5	-11.9	-11.5	-11.3	-17.7	-11.3	
7-Jan	-10.8	-10.5	-10.1	-9.9	-9.5	-9.2	-8.9	-9.1	-9.1	-8.1	-7.3	-6.6	-4.8	-1.9	-0.8	1.1	1.7	2.8	3.2	3.5	4.8	4.1	3.4	3.9	-3.7	4.8	
8-Jan	3.7	4.4	3.8	3.4	3.2	3.8	3.7	2.8	2.1	1.6	1.6	2.3	3.1	3.3	3.0	2.4	2.0	1.8	0.9	0.8	0.6	0.4	0.2	0.0	2.3	4.4	
9-Jan	-0.4	-0.7	-2.3	-7.0	-9.1	-10.3	-11.2	-12.2	-12.5	-12.8	-12.9	-12.6	-12.5	-12.3	-12.0	-11.9	-11.8	-11.7	-11.5	-11.1	-10.2	-9.2	-8.3	-7.4	-9.7	-0.4	
10-Jan	-6.8	-5.3	-4.4	-3.8	-3.3	-3.0	-2.6	-2.7	-3.2	-3.2	-3.1	-2.8	-2.7	-3.0	-3.3	-5.0	-6.9	-8.3	-9.7	-11.0	-12.0	-13.1	-13.8	-14.4	-6.1	-2.6	
11-Jan	-15.3	-16.1	-16.8	-18.1	-19.1	-20.2	-20.5	-20.7	-20.6	-20.1	-19.5	-19.2	-18.9	-18.9	-19.1	-19.4	-19.7	-20.0	-20.1	-19.9	-19.9	-19.9	-19.8	-19.5	-19.2	-15.3	
12-Jan	-19.4	-19.3	-19.4	-19.3	-19.3	-19.2	-19.2	-19.3	-19.5	-19.3	-19.1	-18.0	-16.4	-15.4	-14.3	-13.9	-13.9	-13.0	-12.1	-12.3	-12.8	-12.5	-12.4	-10.4	-16.2	-10.4	
13-Jan	-10.2	-10.7	-12.0	-12.2	-13.5	-14.1	-14.3	-14.2	-13.7	-13.5	-12.8	-12.1	-11.7	-10.5	-9.7	-9.2	-8.5	-5.8	-3.0	-2.7	-2.3	-1.8	-1.7	-1.9	-9.3	-1.7	
14-Jan	-1.7	-2.4	-1.9	-1.7	-4.6	-4.4	-5.2	-5.4	-4.8	-4.0	-2.4	0.0	3.5	4.6	6.2	6.1	6.3	6.1	5.9	5.2	5.0	5.2	5.1	1.1	6.3	1.1	
15-Jan	5.2	4.6	4.2	3.3	3.2	2.9	2.7	2.3	1.7	1.2	0.6	1.3	2.3	2.4	2.3	2.5	2.5	2.0	1.4	0.8	-0.3	-1.4	-2.8	-3.3	1.7	5.2	
16-Jan	-3.1	-3.4	-3.7	-3.6	-3.7	-3.5	-3.6	-3.8	-3.9	-4.0	-4.6	-5.6	-5.9	-6.3	-6.5	-6.8	-7.4	-8.1	-9.1	-9.4	-10.0	-11.2	-12.5	-13.5	-6.4	-3.1	
17-Jan	-14.6	-15.5	-15.7	-15.7	-16.0	-16.6	-17.5	-18.0	-19.3	-19.7	-19.7	-19.4	-19.5	-19.6	-19.8	-20.0	-20.5	-20.9	-21.4	-22.2	-23.1	-24.1	-24.4	-25.2	-19.5	-14.6	
18-Jan	-25.7	-26.2	-26.6	-26.9	-27.0	-26.9	-27.3	-27.8	-27.8	-28.0	-28.2	-27.5	-26.5	-25.3	-24.5	-23.7	-23.1	-22.8	-23.2	-24.0	-24.3	-25.1	-25.2	-26.1	-25.8	-22.8	
19-Jan	-27.3	-28.1	-28.6	-28.9	-28.0	-28.4	-28.3	-28.9	-28.5	-28.6	-28.5	-28.2	-27.3	-26.6	-25.2	-25.5	-25.5	-25.8	-25.7	-25.6	-25.7	-26.3	-27.8	-28.1	-27.3	-25.2	
20-Jan	-28.6	-28.6	-28.9	-28.2	-27.6	-27.9	-27.7	-26.6	-25.7	-25.1	-23.4	-20.8	-18.7	-15.9	-13.6	-11.5	-10.4	-10.4	-10.8	-10.0	-6.3	-4.0	-2.8	-2.5	-18.2	-2.5	
21-Jan	-2.6	-2.7	-2.7	-2.4	-2.6	-2.7	-3.0	-3.4	-3.8	-3.4	-3.1	-2.2	-3.1	-4.6	-7.0	-9.5	-10.8	-12.2	-12.9	-13.3	-14.0	-14.6	-14.8	-14.7	-6.9	-2.2	
22-Jan	-14.6	-14.8	-14.9	-14.3	-12.7	-11.8	-10.4	-10.0	-10.0	-9.6	-9.7	-8.9	-7.0	-5.4	-4.6	-4.4	-5.1	-5.5	-6.0	-6.7	-7.4	-8.0	-8.0	-7.6	-9.1	-4.4	
23-Jan	-6.8	-5.6	-5.2	-3.5	-0.8	0.0	0.2	0.2	-0.6	-0.2	0.1	0.7	1.3	2.2	2.4	2.2	1.4	0.3	0.0	-0.5	-1.1	-1.6	-1.4	-0.8	-0.7	2.4	
24-Jan	-0.5	-0.4	-0.6	-1.0	-1.7	-3.0	-3.8	-5.5	-6.6	-7.3	-7.3	-7.0	-6.1	-5.4	-4.9	-4.6	-4.3	-4.0	-4.2	-4.0	-3.5	-2.8	-2.9	-2.9	-3.9	-0.4	
25-Jan	-3.1	-3.4	-3.9	-4.9	-5.7	-7.5	-7.8	-8.4	-8.6	-8.5	-8.3	-6.5	-4.7	-2.5	-1.2	-0.4	0.4	0.1	-0.8	-1.3	-1.3	-1.7	-1.5	-1.7	-3.9	0.4	
26-Jan	-2.0	-2.4	-3.3	-4.2	-2.8	-2.7	-2.6	-2.7	-3.2	-2.5	-2.0	-1.1	0.3	1.7	1.8	3.2	3.7	3.6	3.2	2.6	2.3	1.5	1.8	1.8	-0.2	3.7	
27-Jan	2.4	2.4	2.3	2.2	1.7	0.8	0.1	-0.4	-0.6	-1.1	-0.6	0.4	1.0	1.0	5.0	5.8	5.7	5.9	6.2	5.7	5.8	6.8	6.8	6.1	3.0	6.8	
28-Jan	5.7	5.2	4.7	4.4	3.5	2.7	2.6	2.5	2.5	2.5	2.9	3.2	2.6	2.7	2.3	1.7	1.2	1.0	0.5	0.0	-0.3	-0.9	-1.2	-1.4	2.1	5.7	
29-Jan	-1.6	-2.1	-2.6	-2.5	-2.9	-3.0	-3.2	-3.5	-4.0	-4.8	-5.4	DF	-6.6	-7.6	-8.6	-10.5	-12.3	-13.5	-14.7	-15.0	-15.6	-16.3	-16.5	-16.7	-8.2	-1.6	
30-Jan	-17.2	-17.8	-18.3	-18.8	-19.6	-20.1	-21.4	-23.2	-24.0	-23.9	-23.8	-23.4	-22.6	-21.7	-21.1	-21.1	-21.4	-22.2	-23.0	-23.1	-23.8	-24.3	-24.5	-24.5	-21.9	-17.2	
31-Jan	-26.5	-26.4	-26.9	-27.3	-27.7	-28.1	-27.7	-28.6	-28.5	-28.1	-27.2	-26.4	-25.6	-24.7	-24.0	-23.8	-23.3	-23.0	-23.0	-23.1	-22.7	-23.5	-23.6	-23.7	-25.6	-22.7	
																								Diurnal Average			
																								Diurnal Maximum			
DF - DAS Failure																											





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Ambient Temperature 45m (AT45) - C
Mannix - January 2025**

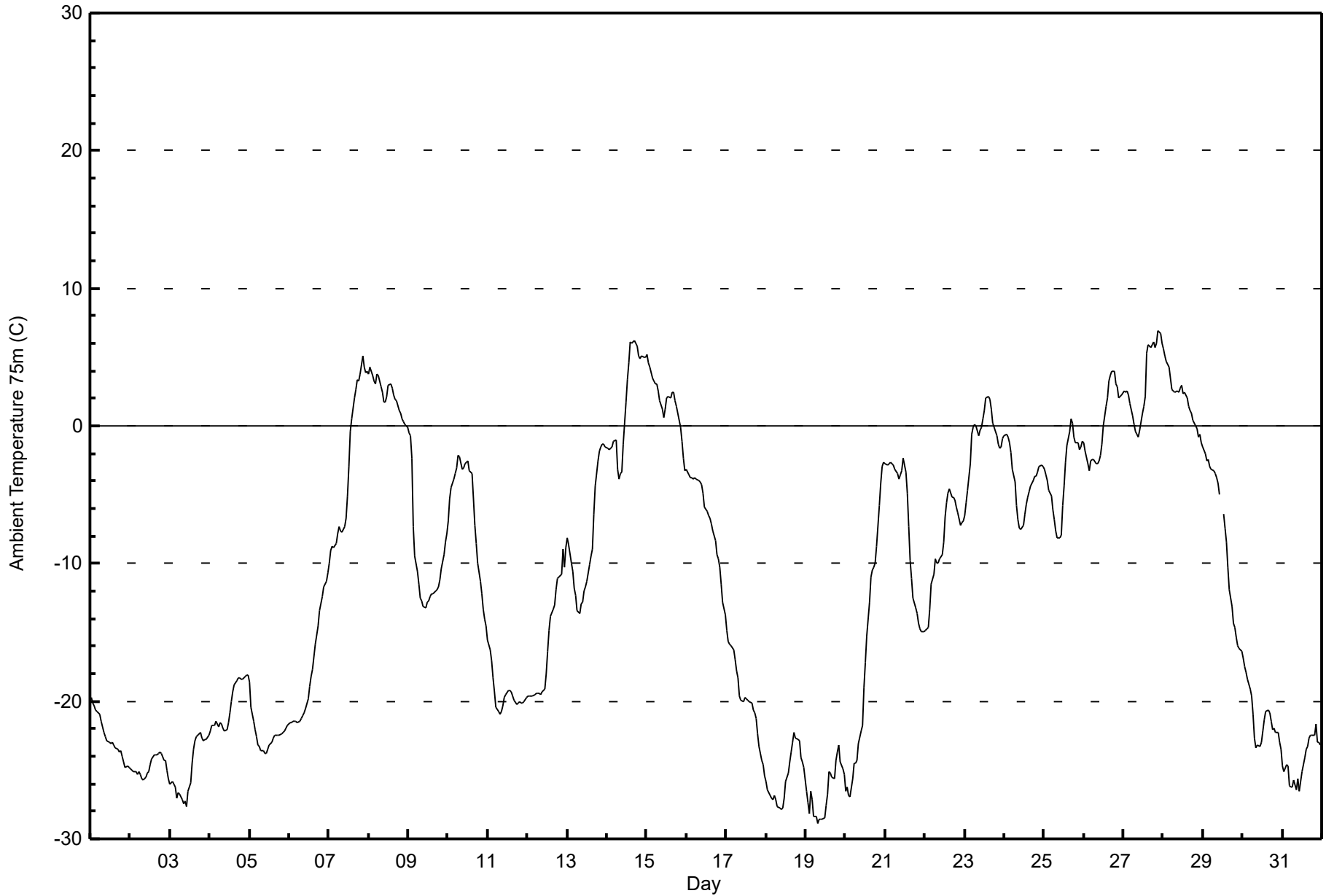
Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	235	31.63	31.63
-20 - 0	377	50.74	82.37
0 - 10	131	17.63	100.00
10 - 20	0	0.00	100.00
> 20	0	0.00	100.00

Total Number of Valid Hours: 743

Total Number of Hours: 744



Maximum Value: 6.9 C on Jan 27 22:00		Maximum Daily Average: 3.1 C on Jan 27		Hours in Service: 744																							
Minimum Value: -28.9 C on Jan 19 08:00		Minimum Daily Average: -26.5 C on Jan 19		Hours of Data: 743																							
Maximum Diurnal Average: -10.4 C at hour 17		Minimum Diurnal Average: -13.1 C at hour 9		Hours of Missing Data: 1																							
Monthly Average: -11.52 C		Percentiles: P ₁ = -28.0 P ₁₀ = -25.0 Q ₁ = -21.9 Median = -11.1 Q ₃ = -2.2 P ₉₀ = 2.4 P ₉₉ = 6.0		Hours of Calibration: 0																							
				Percent Operational Time: 99.9																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	-19.8	-20.1	-20.4	-20.7	-20.8	-20.9	-21.5	-21.9	-22.3	-22.6	-22.9	-23.0	-23.0	-23.0	-23.2	-23.4	-23.5	-23.7	-23.6	-24.0	-24.4	-24.8	-24.7	-24.8	-22.6	-19.8	
2-Jan	-24.9	-25.0	-25.1	-25.1	-25.3	-25.2	-25.3	-25.7	-25.7	-25.5	-25.3	-25.1	-24.7	-24.2	-23.9	-23.9	-23.8	-23.8	-23.7	-23.8	-24.3	-24.4	-25.0	-25.6	-24.8	-23.7	
3-Jan	-26.0	-25.8	-26.1	-26.2	-27.1	-26.7	-26.8	-27.2	-27.4	-27.3	-27.6	-26.5	-25.9	-24.5	-23.5	-22.9	-22.6	-22.5	-22.3	-22.7	-22.9	-22.7	-22.8	-22.4	-24.9	-22.3	
4-Jan	-22.2	-21.8	-21.8	-21.8	-21.5	-21.9	-21.6	-21.6	-22.0	-22.1	-22.0	-21.5	-20.9	-20.1	-19.3	-18.9	-18.5	-18.3	-18.3	-18.4	-18.4	-18.2	-18.1	-18.1	-20.3	-18.1	
5-Jan	-18.6	-20.5	-21.5	-22.1	-22.6	-23.1	-23.3	-23.6	-23.6	-23.8	-23.8	-23.4	-23.2	-22.9	-22.7	-22.5	-22.4	-22.5	-22.5	-22.4	-22.2	-22.1	-22.0	-21.8	-22.5	-18.6	
6-Jan	-21.6	-21.5	-21.4	-21.4	-21.5	-21.5	-21.5	-21.3	-21.1	-20.8	-20.5	-19.8	-18.9	-18.2	-17.7	-16.8	-15.9	-14.6	-13.5	-12.9	-12.4	-11.7	-11.2	-10.7	-17.8	-10.7	
7-Jan	-10.0	-9.0	-8.7	-8.8	-8.6	-7.9	-7.3	-7.7	-7.7	-7.4	-6.7	-5.1	-2.9	-0.4	0.5	2.0	2.6	3.3	3.3	3.7	5.1	4.3	3.8	4.0	-2.7	5.1	
8-Jan	3.8	4.3	3.7	3.2	3.1	3.7	3.6	2.8	2.4	1.7	1.7	2.2	3.0	3.1	2.8	2.3	1.9	1.8	1.1	1.0	0.5	0.3	0.1	-0.1	2.2	4.3	
9-Jan	-0.5	-0.7	-2.4	-7.3	-9.4	-10.6	-11.5	-12.5	-12.8	-13.1	-13.2	-12.8	-12.7	-12.5	-12.2	-12.2	-12.0	-11.9	-11.7	-11.2	-10.3	-9.3	-8.5	-7.8	-10.0	-0.5	
10-Jan	-6.9	-5.3	-4.5	-3.8	-3.4	-3.1	-2.2	-2.2	-3.1	-3.1	-2.7	-2.7	-2.6	-3.2	-3.5	-5.3	-7.2	-8.6	-10.0	-11.3	-12.2	-13.3	-14.0	-14.5	-6.2	-2.2	
11-Jan	-15.5	-16.3	-17.1	-18.3	-19.3	-20.5	-20.8	-20.9	-20.8	-20.3	-19.7	-19.5	-19.2	-19.2	-19.3	-19.6	-20.0	-20.3	-20.1	-20.1	-20.1	-20.2	-20.1	-19.7	-19.5	-15.5	
12-Jan	-19.6	-19.6	-19.7	-19.6	-19.5	-19.4	-19.4	-19.4	-19.5	-19.3	-19.2	-18.0	-16.4	-14.9	-13.8	-13.3	-13.0	-11.9	-11.1	-10.9	-10.8	-8.9	-10.3	-8.9	-15.7	-8.9	
13-Jan	-8.1	-8.7	-9.9	-10.6	-11.8	-12.3	-13.4	-13.6	-13.0	-12.8	-12.0	-11.7	-11.3	-10.1	-9.4	-8.9	-6.4	-4.4	-2.6	-1.9	-1.5	-1.3	-1.3	-1.5	-8.3	-1.3	
14-Jan	-1.6	-1.7	-1.6	-1.5	-1.2	-1.0	-3.1	-3.8	-3.4	-3.3	-1.4	1.7	3.4	4.6	6.1	6.0	6.2	6.0	5.8	5.1	4.9	5.1	4.9	5.0	1.7	6.2	
15-Jan	5.1	4.6	4.3	3.4	3.2	3.1	3.1	2.5	1.8	1.3	0.7	1.2	2.1	2.2	2.1	2.4	2.4	1.8	1.5	0.9	-0.1	-1.2	-2.4	-3.2	1.8	5.1	
16-Jan	-3.2	-3.5	-3.8	-3.8	-3.9	-3.7	-3.8	-4.0	-4.1	-4.2	-4.9	-5.9	-6.2	-6.5	-6.7	-7.1	-7.6	-8.4	-9.4	-9.6	-10.3	-11.5	-12.8	-13.8	-6.6	-3.2	
17-Jan	-14.8	-15.7	-15.9	-16.0	-16.3	-16.9	-17.8	-18.3	-19.6	-20.0	-20.0	-19.7	-19.8	-19.9	-20.0	-20.2	-20.6	-20.8	-21.3	-22.4	-23.3	-24.3	-24.6	-25.4	-19.7	-14.8	
18-Jan	-25.9	-26.5	-26.8	-27.1	-27.1	-26.8	-27.2	-27.7	-27.8	-27.9	-27.8	-27.0	-25.8	-25.2	-24.4	-23.7	-23.0	-22.3	-22.7	-22.8	-22.9	-24.1	-24.4	-24.8	-25.5	-22.3	
19-Jan	-26.6	-27.4	-28.2	-26.5	-27.2	-28.3	-28.4	-28.9	-28.6	-28.6	-28.6	-28.4	-27.5	-26.8	-25.1	-25.3	-25.5	-25.6	-24.3	-23.7	-23.2	-24.4	-24.9	-25.3	-26.5	-23.2	
20-Jan	-26.5	-26.3	-26.9	-27.0	-25.7	-24.5	-24.5	-24.3	-23.1	-22.2	-21.7	-19.0	-17.2	-15.2	-12.8	-11.0	-10.5	-10.2	-10.0	-8.7	-5.8	-4.1	-2.9	-2.7	-16.8	-2.7	
21-Jan	-2.7	-2.9	-2.8	-2.6	-2.8	-2.9	-3.1	-3.5	-3.9	-3.6	-3.3	-2.4	-3.4	-4.9	-7.3	-9.8	-11.1	-12.5	-13.2	-13.6	-14.3	-14.7	-14.9	-15.0	-7.1	-2.4	
22-Jan	-14.8	-14.8	-14.6	-13.3	-11.5	-10.8	-9.7	-10.0	-9.9	-9.6	-9.3	-8.4	-6.6	-5.6	-4.9	-4.6	-5.1	-5.2	-5.4	-5.9	-6.3	-7.2	-7.0	-6.9	-8.6	-4.6	
23-Jan	-6.5	-5.6	-4.7	-2.8	-0.6	-0.1	0.1	0.0	-0.8	-0.3	-0.1	0.5	1.1	2.0	2.2	2.0	1.2	0.2	-0.1	-0.7	-1.3	-1.7	-1.5	-1.0	-0.8	2.2	
24-Jan	-0.7	-0.6	-0.8	-1.2	-1.9	-3.2	-4.1	-5.8	-6.9	-7.5	-7.5	-7.5	-7.3	-6.4	-5.7	-5.2	-4.8	-4.4	-4.0	-3.7	-3.7	-3.3	-2.9	-2.8	-2.9	-4.0	-0.6
25-Jan	-3.2	-3.5	-4.0	-4.7	-5.1	-6.1	-6.8	-7.6	-8.1	-8.1	-7.9	-5.8	-4.4	-2.7	-1.5	-0.5	0.5	0.2	-0.8	-1.3	-1.3	-1.7	-1.5	-1.2	-3.6	0.5	
26-Jan	-1.2	-1.8	-2.7	-3.3	-2.6	-2.4	-2.5	-2.7	-2.8	-2.6	-2.1	-1.3	0.0	1.5	2.0	3.3	3.7	3.9	4.0	3.0	2.8	2.1	2.1	2.2	0.1	4.0	
27-Jan	2.6	2.5	2.5	2.2	1.7	0.7	0.1	-0.4	-0.6	-0.8	-0.3	0.9	1.4	2.2	5.3	5.9	5.7	5.9	6.1	5.7	6.0	6.9	6.7	6.0	3.1	6.9	
28-Jan	5.6	5.1	4.7	4.3	3.4	2.7	2.5	2.5	2.5	2.5	2.7	3.0	2.4	2.4	2.1	1.5	1.1	1.0	0.4	0.0	-0.2	-0.8	-0.7	-1.3	2.1	5.6	
29-Jan	-1.5	-2.1	-2.5	-2.5	-2.9	-3.2	-3.3	-3.5	-3.8	-4.2	-5.0	DF	-6.4	-7.5	-8.5	-10.3	-11.9	-13.2	-14.4	-14.7	-15.3	-16.0	-16.2	-16.4	-8.0	-1.5	
30-Jan	-16.9	-17.5	-17.9	-18.4	-19.1	-19.6	-21.0	-22.7	-23.4	-23.2	-23.3	-23.0	-22.2	-21.3	-20.8	-20.7	-20.9	-21.5	-22.1	-21.9	-22.3	-22.3	-23.0	-23.5	-21.2	-16.9	
31-Jan	-24.7	-25.1	-24.6	-24.7	-26.1	-26.2	-26.2	-25.7	-26.4	-25.6	-26.5	-25.8	-25.1	-24.1	-23.5	-23.3	-22.6	-22.5	-22.5	-22.5	-21.7	-22.9	-23.0	-23.2	-24.4	-21.7	
																								Diurnal Average			
																								Diurnal Maximum			
DF - DAS Failure																											





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Ambient Temperature 75m (AT75) - C
Mannix - January 2025**

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	241	32.44	32.44
-20 - 0	374	50.34	82.77
0 - 10	128	17.23	100.00
10 - 20	0	0.00	100.00
> 20	0	0.00	100.00

Total Number of Valid Hours: 743

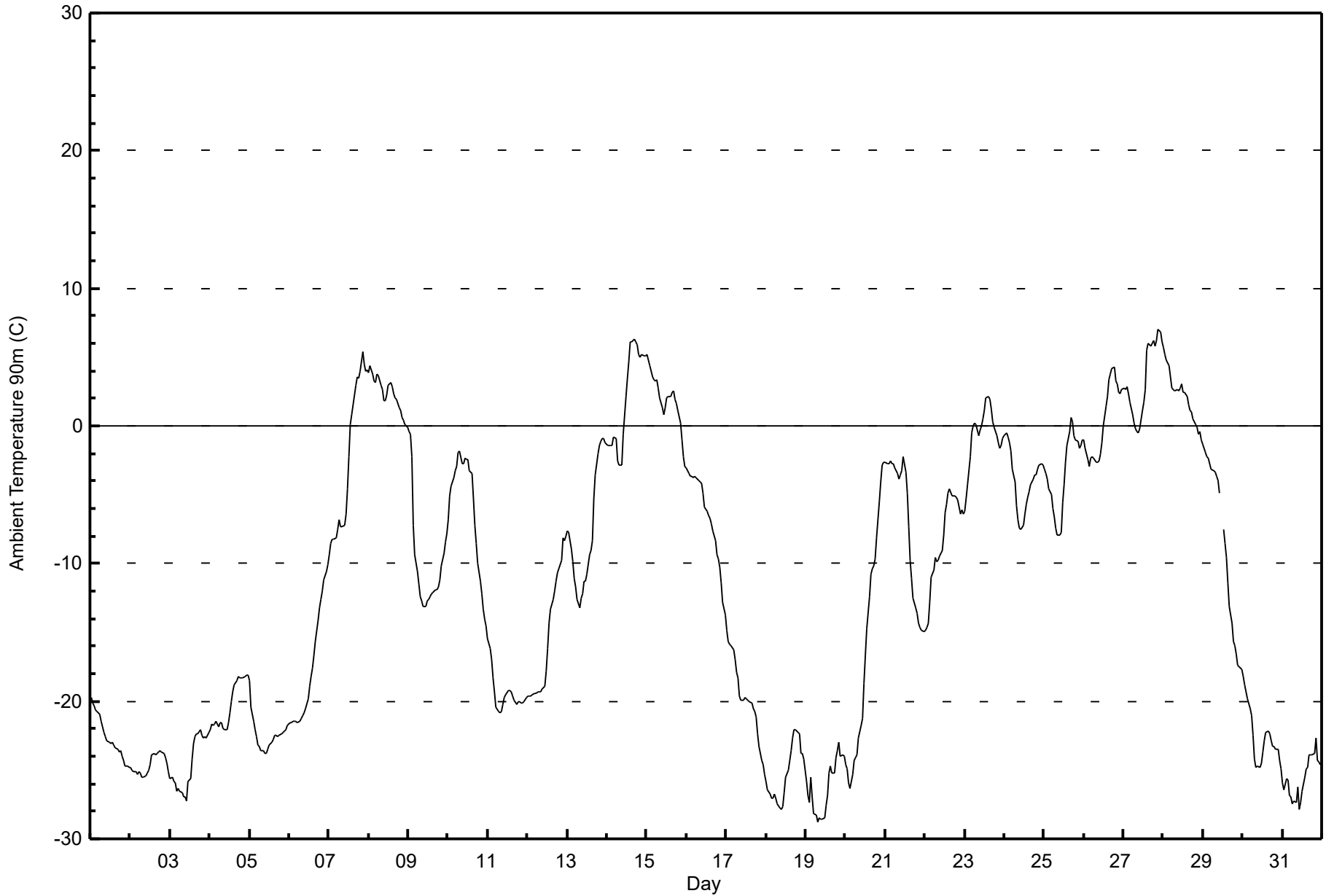
Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

Ambient Temperature 90m (AT90) - C
Mannix - January 2025

Maximum Value: 7.0 C on Jan 27 22:00		Maximum Daily Average: 3.3 C on Jan 27		Hours in Service: 744																						
Minimum Value: -28.8 C on Jan 19 08:00		Minimum Daily Average: -26.2 C on Jan 19		Hours of Data: 743																						
Maximum Diurnal Average: -10.4 C at hour 17		Minimum Diurnal Average: -13.0 C at hour 9		Hours of Missing Data: 1																						
Monthly Average: -11.47 C		Percentiles: P ₁ = -27.9 P ₁₀ = -24.9 Q ₁ = -22.1 Median = -10.8 Q ₃ = -2.0 P ₉₀ = 2.5 P ₉₉ = 6.1		Hours of Calibration: 0																						
				Percent Operational Time: 99.9																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	-19.7	-20.1	-20.4	-20.6	-20.8	-20.9	-21.5	-21.8	-22.2	-22.6	-22.9	-23.0	-23.0	-23.0	-23.2	-23.4	-23.5	-23.7	-23.6	-24.0	-24.3	-24.7	-24.8	-22.6	-19.7	
2-Jan	-24.9	-25.0	-25.1	-25.1	-25.3	-25.1	-25.2	-25.5	-25.6	-25.5	-25.2	-25.1	-24.7	-23.9	-23.8	-23.9	-23.8	-23.7	-23.6	-23.7	-23.8	-24.1	-24.5	-25.1	-24.6	-23.6
3-Jan	-25.7	-25.5	-25.8	-26.0	-26.6	-26.4	-26.5	-26.7	-26.9	-26.9	-27.3	-25.8	-25.6	-24.2	-23.1	-22.6	-22.4	-22.3	-22.1	-22.5	-22.7	-22.6	-22.7	-22.3	-24.6	-22.1
4-Jan	-22.1	-21.6	-21.7	-21.7	-21.5	-21.9	-21.5	-21.6	-22.0	-22.1	-22.0	-21.5	-20.8	-20.1	-19.3	-18.8	-18.5	-18.3	-18.3	-18.4	-18.3	-18.2	-18.1	-18.1	-20.3	-18.1
5-Jan	-18.5	-20.4	-21.5	-22.1	-22.6	-23.1	-23.3	-23.6	-23.6	-23.8	-23.8	-23.5	-23.2	-23.0	-22.7	-22.5	-22.5	-22.5	-22.5	-22.4	-22.2	-22.2	-22.0	-21.8	-22.5	-18.5
6-Jan	-21.6	-21.5	-21.5	-21.4	-21.5	-21.5	-21.5	-21.2	-21.1	-20.8	-20.5	-19.8	-18.9	-18.2	-17.6	-16.7	-15.7	-14.2	-13.2	-12.6	-12.0	-11.2	-10.6	-10.1	-17.7	-10.1
7-Jan	-9.4	-8.5	-8.2	-8.3	-8.2	-7.5	-6.8	-7.3	-7.3	-7.2	-6.4	-4.5	-2.3	0.1	0.8	2.2	2.9	3.5	3.4	4.0	5.4	4.4	4.0	4.1	-2.4	5.4
8-Jan	3.9	4.4	3.8	3.3	3.2	3.8	3.7	2.9	2.6	1.8	1.9	2.2	3.0	3.1	2.8	2.3	2.0	1.9	1.3	1.1	0.6	0.4	0.2	-0.1	2.3	4.4
9-Jan	-0.4	-0.6	-2.3	-7.2	-9.4	-10.6	-11.5	-12.5	-12.7	-13.1	-13.1	-12.7	-12.6	-12.4	-12.2	-12.1	-11.9	-11.9	-11.7	-11.1	-10.2	-9.2	-8.4	-7.8	-9.9	-0.4
10-Jan	-6.8	-5.1	-4.3	-3.7	-3.3	-3.0	-2.0	-1.9	-2.7	-2.8	-2.4	-2.5	-2.4	-3.2	-3.5	-5.3	-7.2	-8.6	-10.0	-11.3	-12.2	-13.3	-14.0	-14.5	-6.1	-1.9
11-Jan	-15.5	-16.2	-17.0	-18.3	-19.3	-20.4	-20.8	-20.9	-20.7	-20.3	-19.7	-19.5	-19.2	-19.2	-19.3	-19.6	-19.9	-20.3	-20.0	-20.1	-20.1	-20.1	-20.0	-19.7	-19.4	-15.5
12-Jan	-19.6	-19.6	-19.6	-19.5	-19.5	-19.4	-19.3	-19.3	-19.3	-19.1	-18.9	-17.8	-16.1	-14.3	-13.3	-12.7	-12.0	-11.3	-10.7	-10.4	-9.8	-8.1	-8.3	-8.0	-15.2	-8.0
13-Jan	-7.6	-7.7	-8.9	-9.9	-11.1	-11.7	-12.7	-13.2	-12.6	-12.2	-11.3	-11.3	-10.8	-9.3	-9.0	-8.3	-5.3	-3.5	-2.0	-1.4	-1.1	-0.9	-0.9	-1.3	-7.7	-0.9
14-Jan	-1.4	-1.4	-1.5	-1.4	-0.8	-0.9	-2.6	-2.9	-2.9	-2.9	-0.6	2.1	3.5	4.7	6.1	6.1	6.3	6.1	5.9	5.2	5.0	5.2	5.0	5.1	2.0	6.3
15-Jan	5.2	4.7	4.4	3.6	3.4	3.2	3.4	2.8	2.0	1.4	0.8	1.3	2.1	2.2	2.1	2.5	2.5	1.9	1.6	1.2	0.2	-1.0	-2.2	-3.0	1.9	5.2
16-Jan	-3.1	-3.4	-3.7	-3.7	-3.8	-3.7	-3.8	-4.0	-4.1	-4.2	-4.9	-5.9	-6.2	-6.5	-6.7	-7.1	-7.6	-8.4	-9.4	-9.6	-10.3	-11.4	-12.8	-13.8	-6.6	-3.1
17-Jan	-14.8	-15.7	-15.8	-16.0	-16.3	-17.0	-17.9	-18.3	-19.6	-19.9	-20.0	-19.7	-19.8	-19.9	-20.0	-20.1	-20.5	-20.7	-21.2	-22.3	-23.3	-24.3	-24.6	-25.4	-19.7	-14.8
18-Jan	-25.8	-26.4	-26.8	-27.0	-27.1	-26.7	-27.0	-27.4	-27.7	-27.8	-27.7	-26.7	-25.5	-25.0	-24.3	-23.6	-22.7	-22.0	-22.1	-22.3	-22.4	-23.8	-23.8	-24.2	-25.3	-22.0
19-Jan	-25.9	-26.8	-27.3	-25.5	-27.0	-28.2	-28.3	-28.8	-28.5	-28.5	-28.6	-28.4	-27.5	-26.8	-25.2	-24.7	-25.3	-25.3	-24.1	-23.6	-22.9	-24.0	-23.9	-24.0	-26.2	-22.9
20-Jan	-24.6	-24.9	-26.0	-26.3	-25.4	-24.3	-24.1	-23.9	-22.6	-21.8	-21.3	-18.8	-16.6	-14.8	-12.4	-10.8	-10.4	-10.1	-9.6	-8.1	-5.5	-4.1	-2.9	-2.6	-16.3	-2.6
21-Jan	-2.6	-2.8	-2.7	-2.5	-2.7	-2.8	-3.1	-3.4	-3.8	-3.5	-3.2	-2.3	-3.4	-4.9	-7.3	-9.8	-11.1	-12.5	-13.2	-13.6	-14.3	-14.6	-14.9	-15.0	-7.1	-2.3
22-Jan	-14.8	-14.6	-14.3	-12.8	-11.0	-10.5	-9.5	-9.8	-9.7	-9.5	-9.1	-7.9	-6.3	-5.6	-4.9	-4.6	-5.1	-5.0	-5.1	-5.2	-5.4	-6.4	-6.1	-6.4	-8.3	-4.6
23-Jan	-6.2	-5.3	-4.3	-2.2	-0.5	0.0	0.2	0.1	-0.7	-0.3	0.0	0.5	1.1	2.0	2.2	2.0	1.2	0.3	-0.1	-0.7	-1.2	-1.6	-1.4	-0.9	-0.7	2.2
24-Jan	-0.7	-0.5	-0.8	-1.2	-1.8	-3.2	-4.1	-5.8	-6.8	-7.5	-7.5	-7.2	-6.4	-5.7	-5.2	-4.7	-4.3	-3.9	-3.5	-3.5	-3.2	-2.9	-2.7	-2.9	-4.0	-0.5
25-Jan	-3.1	-3.5	-3.9	-4.6	-4.9	-6.0	-6.6	-7.4	-8.0	-7.9	-7.7	-5.6	-4.3	-2.7	-1.5	-0.4	0.6	0.3	-0.7	-1.0	-1.1	-1.6	-1.4	-1.1	-3.5	0.6
26-Jan	-1.0	-1.6	-2.5	-2.9	-2.4	-2.2	-2.3	-2.6	-2.6	-2.5	-2.0	-1.3	0.0	1.5	2.2	3.4	3.8	4.2	4.3	3.3	3.1	2.4	2.4	2.6	0.3	4.3
27-Jan	2.7	2.7	2.8	2.4	1.8	0.8	0.2	-0.2	-0.4	-0.6	-0.2	1.1	1.7	2.7	5.5	6.0	5.8	6.0	6.2	5.8	6.2	7.0	6.8	6.1	3.3	7.0
28-Jan	5.7	5.2	4.8	4.4	3.5	2.8	2.6	2.6	2.6	2.5	2.8	3.0	2.4	2.5	2.1	1.5	1.1	1.0	0.5	0.1	-0.1	-0.6	-0.4	-1.0	2.1	5.7
29-Jan	-1.3	-1.9	-2.3	-2.3	-2.7	-3.1	-3.2	-3.4	-3.6	-4.0	-4.9	DF	-7.5	-8.6	-9.6	-11.4	-13.1	-14.4	-15.6	-15.9	-16.6	-17.3	-17.5	-17.7	-8.6	-1.3
30-Jan	-18.2	-18.8	-19.3	-19.8	-20.5	-21.0	-22.4	-24.2	-24.8	-24.7	-24.8	-24.5	-23.7	-22.9	-22.3	-22.2	-22.4	-22.9	-23.3	-23.2	-23.5	-23.5	-24.3	-24.9	-22.6	-18.2
31-Jan	-25.9	-26.5	-25.6	-25.7	-26.9	-26.9	-27.5	-27.3	-27.4	-26.2	-27.9	-27.3	-26.5	-25.5	-24.9	-24.8	-23.9	-23.9	-23.9	-23.7	-22.7	-24.3	-24.4	-24.7	-25.6	-22.7
																								Diurnal Average		
																								Diurnal Maximum		
DF - DAS Failure																										





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Ambient Temperature 90m (AT90) - C
Mannix - January 2025**

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	243	32.71	32.71
-20 - 0	369	49.66	82.37
0 - 10	131	17.63	100.00
10 - 20	0	0.00	100.00
> 20	0	0.00	100.00

Total Number of Valid Hours: 743

Total Number of Hours: 744



Wood Buffalo Environmental Association

Summary of Hour Averages

Relative Humidity (RH) - %

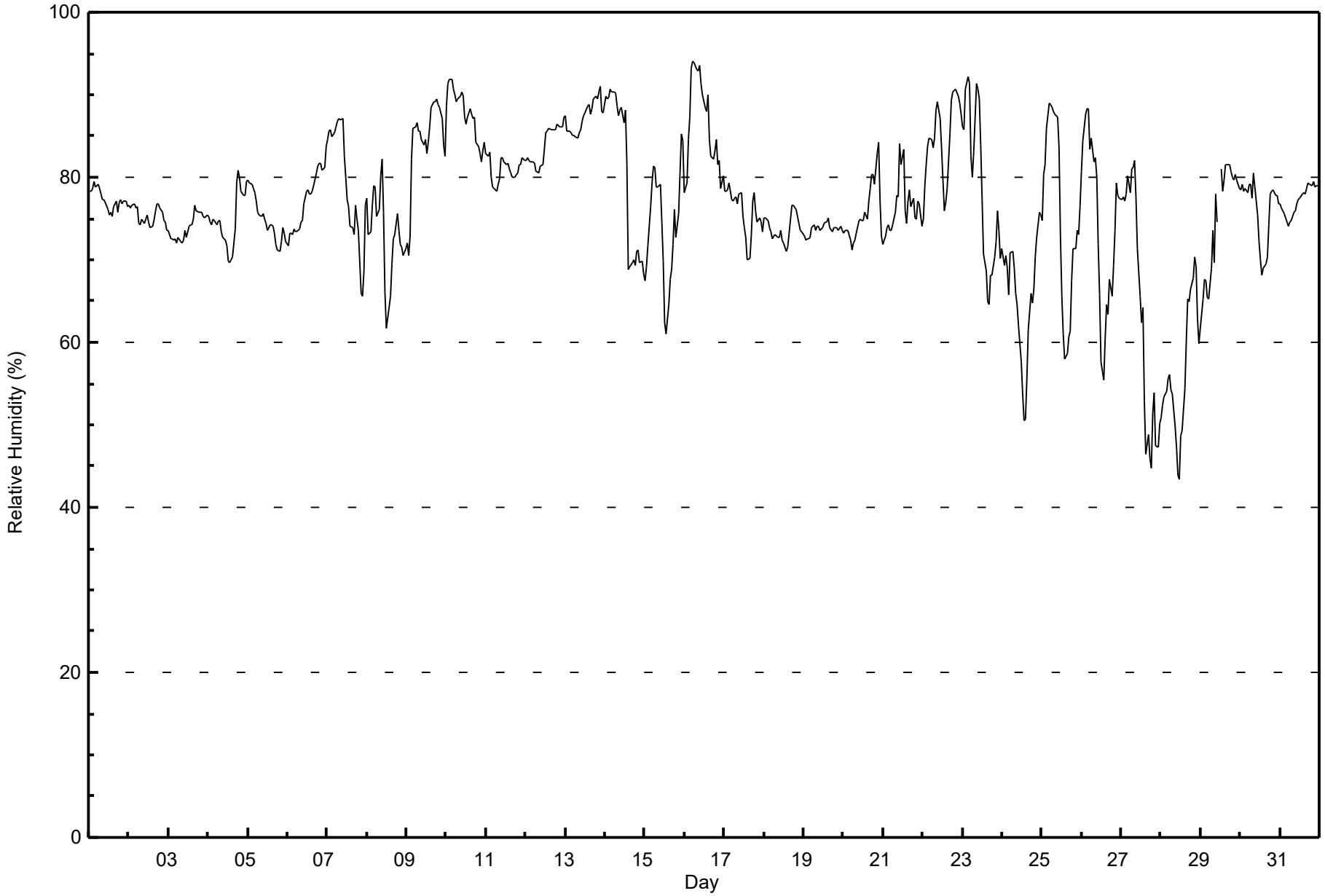
Mannix - January 2025

Maximum Value: 94 % on Jan 16 06:00																		Maximum Daily Average: 87.7 % on Jan 10						Hours in Service: 744																			
Minimum Value: 43 % on Jan 28 12:00																		Minimum Daily Average: 56.4 % on Jan 28						Hours of Data: 743																			
Maximum Diurnal Average: 79.0 % at hour 10																		Minimum Diurnal Average: 72.7 % at hour 15						Hours of Missing Data: 1																			
Monthly Average: 76.6 %																		Percentiles: P ₁ = 48 P ₁₀ = 67 Q ₁ = 73 Median = 77 Q ₃ = 82 P ₉₀ = 88 P ₉₉ = 92						Hours of Calibration: 0																			
																		Percent Operational Time: 99.9																									
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																			
1-Jan	78	78	79	79	79	79	79	78	77	77	77	76	75	76	75	76	77	76	77	77	77	77	77	76	77.3	79																	
2-Jan	77	76	77	77	76	76	74	74	75	74	75	75	75	74	74	75	76	77	77	76	76	75	75	74	75.4	77																	
3-Jan	74	73	72	72	73	72	73	72	72	72	74	73	74	74	74	75	77	76	76	76	76	75	75	75	73.9	77																	
4-Jan	75	75	74	75	75	74	75	75	73	73	72	72	70	70	70	74	79	81	80	78	78	78	79	74.8	81																		
5-Jan	80	79	79	79	78	77	76	75	75	76	75	74	73	74	74	74	73	72	71	71	72	74	73	72	74.9	80																	
6-Jan	72	73	73	73	74	73	74	74	75	75	77	78	79	78	78	79	80	81	82	82	81	81	84	77.2	84																		
7-Jan	85	86	86	85	85	86	87	87	87	87	83	80	77	76	74	74	73	77	75	74	66	66	69	77	79.1	87																	
8-Jan	77	73	73	77	79	79	75	76	80	82	76	66	62	64	66	69	73	73	76	74	72	71	71	71	73.1	82																	
9-Jan	72	70	73	82	86	86	87	86	86	85	84	85	83	84	86	88	89	89	89	89	88	87	84	83	84.2	89																	
10-Jan	89	91	92	92	91	90	89	89	90	90	90	87	86	87	88	88	87	87	84	84	83	82	83	84	87.7	92																	
11-Jan	83	82	83	80	79	79	78	79	80	82	82	82	82	81	80	80	80	80	81	82	82	82	82	82	80.9	83																	
12-Jan	82	82	82	82	82	82	81	81	80	81	81	83	85	86	86	86	86	86	86	86	86	86	86	87	83.8	87																	
13-Jan	88	86	86	85	85	85	85	85	85	86	87	87	88	89	89	88	88	89	90	90	90	91	88	88	87.4	91																	
14-Jan	90	90	90	91	90	90	90	89	88	88	88	87	88	82	69	69	70	70	69	71	71	70	70	68	80.7	91																	
15-Jan	67	69	72	76	79	81	81	79	79	79	75	70	62	61	65	68	69	72	76	73	76	80	85	84	74.1	85																	
16-Jan	78	79	85	87	93	94	94	93	93	94	91	90	88	88	90	85	83	82	83	85	82	82	79	80	86.5	94																	
17-Jan	78	78	78	79	77	77	78	78	77	78	78	75	74	73	70	70	73	77	78	76	75	75	73	73	75.9	79																	
18-Jan	75	75	75	74	73	73	73	73	73	73	73	72	72	71	72	73	75	77	77	76	75	74	74	73	73.8	77																	
19-Jan	73	72	72	72	73	74	74	74	74	74	74	74	74	75	75	75	74	73	74	74	74	74	74	74	73.7	75																	
20-Jan	73	74	74	74	72	71	72	72	73	75	75	75	75	76	75	77	79	80	80	79	83	84	77	73	75.7	84																	
21-Jan	72	73	74	74	74	73	74	76	78	78	84	82	83	76	74	77	78	76	77	75	75	77	77	74	76.3	84																	
22-Jan	75	79	82	84	85	85	84	85	88	89	87	84	80	76	77	79	85	89	90	91	91	90	89	88	84.5	91																	
23-Jan	86	86	91	92	91	83	80	83	91	91	90	84	77	71	69	65	65	68	68	70	72	76	73	70	78.8	92																	
24-Jan	71	69	70	69	66	71	71	69	66	64	62	58	54	50	51	56	62	66	65	66	70	73	76	76	65.4	76																	
25-Jan	75	80	82	86	89	89	88	88	88	87	84	73	66	61	58	59	61	61	67	71	71	73	73	76	75.3	89																	
26-Jan	81	84	88	88	88	83	85	82	82	80	72	66	58	55	61	65	63	68	66	69	74	79	78	77	74.7	88																	
27-Jan	77	78	77	78	80	78	81	81	82	78	71	66	62	64	53	46	49	46	45	51	54	47	47	50	64.3	82																	
28-Jan	51	52	53	54	56	56	54	54	50	47	44	43	49	49	54	60	65	65	66	68	70	69	63	60	56.4	70																	
29-Jan	62	65	68	67	65	65	69	74	70	78	75	DF	81	78	80	82	82	82	81	80	80	80	80	79	74.8	82																	
30-Jan	78	79	78	79	78	79	79	77	81	79	75	72	70	68	69	70	70	74	78	78	78	78	77	77	76.0	81																	
31-Jan	77	76	76	75	75	74	75	75	76	76	77	77	77	78	78	78	79	79	79	79	79	79	79	79	77.1	79																	
																		76.4	76.9	77.8	78.6	78.9	78.6	78.5	78.4	78.8	79.0	77.6	75.5	74.2	73.1	72.7	73.4	74.6	75.7	76.2	76.5	76.7	76.9	76.4	76.3	Diurnal Average	
																		90	91	92	92	93	94	94	93	93	94	91	90	88	89	90	88	89	89	90	91	91	91	89	88	Diurnal Maximum	
DF - DAS Failure																																											



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity (RH) - %
Mannix - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Relative Humidity (RH) - %
Mannix - January 2025**

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	0	0.00	0.00
40 - 60	35	4.71	4.71
60 - 80	466	62.72	67.43
80 - 100	242	32.57	100.00

Total Number of Valid Hours: 743

Total Number of Hours: 744

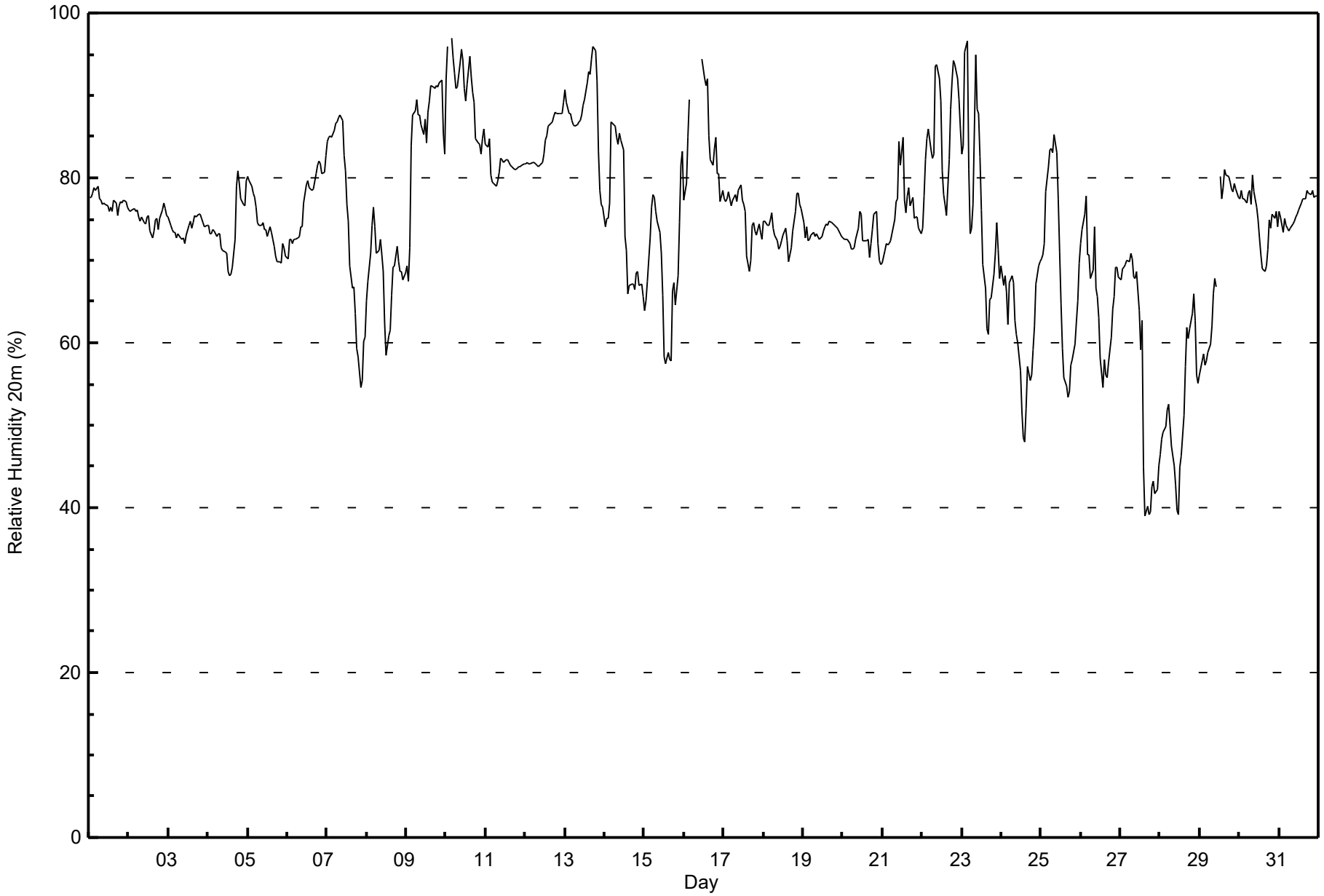


Maximum Value: 97 % on Jan 10 04:00														Maximum Daily Average: 90.5 % on Jan 10														Hours in Service: 744	
Minimum Value: 39 % on Jan 27 16:00														Minimum Daily Average: 52.1 % on Jan 28														Hours of Data: 735	
Maximum Diurnal Average: 77.0 % at hour 9														Minimum Diurnal Average: 71.6 % at hour 16														Hours of Missing Data: 9	
Monthly Average: 74.5 %														Percentiles: P ₁ = 42 P ₁₀ = 61 Q ₁ = 70 Median = 75 Q ₃ = 81 P ₉₀ = 87 P ₉₉ = 95														Hours of Calibration: 0	
																												Percent Operational Time: 98.8	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
1-Jan	78	78	78	79	78	79	77	77	77	77	77	76	76	76	77	77	75	77	77	77	77	77	76	76	77.1	79			
2-Jan	76	76	76	76	76	76	75	75	75	75	74	75	75	73	73	74	75	75	74	75	76	77	76	75	75.2	77			
3-Jan	75	74	74	73	73	73	73	73	72	73	72	73	74	75	74	75	75	76	76	75	75	74	74	74	74.0	76			
4-Jan	74	73	73	74	74	73	73	73	71	71	71	69	68	68	69	72	79	81	79	77	77	77	80	73.7	81				
5-Jan	80	80	79	78	78	76	75	74	74	75	74	73	74	73	73	72	70	70	70	70	72	71	71	73.9	80				
6-Jan	70	73	72	72	72	73	73	73	74	74	77	79	80	79	79	78	79	80	81	82	82	81	81	83	76.9	83			
7-Jan	84	85	85	85	86	87	87	87	88	87	83	81	77	75	69	67	67	64	59	58	55	55	60	61	74.6	88			
8-Jan	65	67	71	74	76	74	71	71	73	71	69	62	58	61	62	66	69	69	72	70	69	69	68	68	68.5	76			
9-Jan	69	67	72	84	88	88	89	88	88	86	85	87	84	88	89	91	91	91	91	91	92	92	85	83	85.8	92			
10-Jan	92	96	OR	97	95	93	91	91	94	96	94	91	89	91	95	92	90	89	85	84	84	83	85	86	90.5	97			
11-Jan	84	84	85	80	80	79	79	80	81	82	82	82	82	82	82	82	81	81	81	81	81	81	81	82	81.5	85			
12-Jan	82	82	82	82	82	82	82	82	81	82	82	83	84	85	86	87	87	87	88	88	88	88	88	89	84.4	89			
13-Jan	91	89	88	88	87	86	86	86	87	87	88	89	89	92	93	93	94	96	95	92	83	78	77	76	87.9	96			
14-Jan	74	75	75	77	87	86	86	85	84	85	85	83	73	71	66	67	67	66	68	69	67	67	66	66	74.9	87			
15-Jan	64	65	67	73	77	78	78	76	75	73	71	66	58	57	59	58	58	66	67	65	68	75	82	83	69.1	83			
16-Jan	77	79	85	90	OR	OR	OR	OR	OR	OR	OR	94	92	91	92	85	82	82	84	85	81	80	77	79	--	94			
17-Jan	78	77	78	78	77	77	78	78	77	79	79	77	77	76	71	69	70	74	75	74	73	74	73	73	75.4	79			
18-Jan	75	75	74	74	75	76	74	73	72	71	72	72	73	74	72	70	71	72	74	76	78	78	77	76	73.9	78			
19-Jan	75	73	74	72	73	73	73	73	73	73	73	73	73	74	74	74	75	75	74	74	74	74	73	73	73.6	75			
20-Jan	73	73	73	73	72	71	71	71	73	74	76	76	72	72	72	72	70	72	74	76	76	72	70	69	72.6	76			
21-Jan	70	71	72	72	72	72	73	75	77	77	84	82	85	77	76	78	79	77	78	75	75	75	74	73	75.8	85			
22-Jan	74	78	82	85	86	83	82	83	94	94	92	89	81	78	77	75	82	88	92	94	94	92	90	86	85.4	94			
23-Jan	83	84	95	97	81	73	74	77	95	88	88	83	76	69	67	62	61	65	65	68	71	75	71	68	76.5	97			
24-Jan	69	67	68	66	62	67	68	67	63	61	60	57	52	48	48	52	57	55	56	59	62	67	69	70	61.3	70			
25-Jan	70	71	72	78	81	83	84	83	85	83	78	71	65	59	56	55	53	54	57	58	60	62	65	70	68.9	85			
26-Jan	72	74	76	78	71	71	68	69	74	67	66	63	58	55	58	56	56	58	61	64	66	69	69	68	66.0	78			
27-Jan	68	69	69	69	70	70	71	70	68	68	69	64	59	63	45	39	40	39	40	43	43	42	42	45	56.8	71			
28-Jan	46	48	49	50	52	53	50	48	45	43	40	39	45	46	51	57	62	61	62	64	66	63	56	55	52.1	66			
29-Jan	56	58	59	57	58	59	60	62	66	68	67	DF	80	77	79	81	80	80	80	79	78	79	79	78	70.4	81			
30-Jan	78	78	77	77	77	78	78	77	80	78	77	75	73	71	69	69	69	71	75	74	76	75	76	74	75.1	80			
31-Jan	76	75	73	75	74	74	74	74	74	75	75	76	76	77	77	77	78	78	78	78	79	78	78	78	76.1	79			
														74.1 74.6 75.1 76.9 76.2 76.1 75.8 75.7 77.0 76.4 75.9 75.4 73.6 72.8 71.9 71.6 72.3 73.1 73.8 74.1 74.1 74.3 73.8 73.8														Diurnal Average	
														92 96 95 97 95 93 91 91 95 96 94 94 92 92 95 93 94 96 95 94 94 92 90 89														Diurnal Maximum	
DF - DAS Failure			OR - Out of Range																										



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 20m (RH20) - %
Mannix - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Relative Humidity 20m (RH20) - %
Mannix - January 2025**

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	5	0.68	0.68
40 - 60	65	8.84	9.52
60 - 80	470	63.95	73.47
80 - 100	195	26.53	100.00

Total Number of Valid Hours: 735

Total Number of Hours: 744

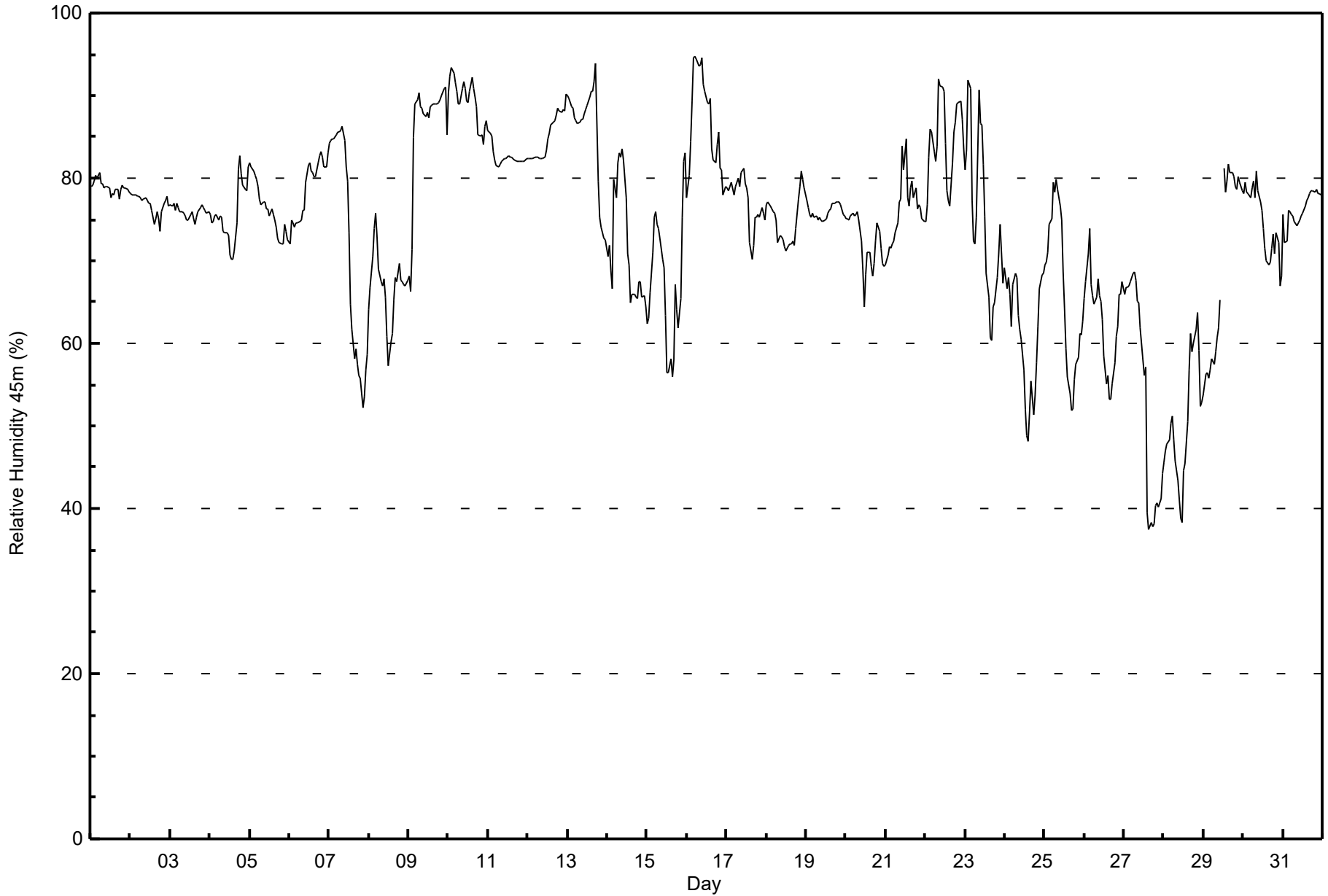


Maximum Value: 95 % on Jan 16 06:00																		Maximum Daily Average: 89.4 % on Jan 10																		Hours in Service: 744							
Minimum Value: 37 % on Jan 27 16:00																		Minimum Daily Average: 50.6 % on Jan 28																		Hours of Data: 743							
Maximum Diurnal Average: 77.1 % at hour 9																		Minimum Diurnal Average: 71.2 % at hour 16																		Hours of Missing Data: 1							
Monthly Average: 74.4 %																		Percentiles: P ₁ = 40 P ₁₀ = 59 Q ₁ = 69 Median = 76 Q ₃ = 81 P ₉₀ = 88 P ₉₉ = 93																		Hours of Calibration: 0							
																																				Percent Operational Time: 99.9							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																			
1-Jan	79	79	80	80	80	81	79	79	79	79	79	79	78	78	78	79	79	77	79	79	79	79	79	78	78.9	81																	
2-Jan	78	78	78	78	78	78	78	77	78	78	77	77	77	76	74	75	76	75	73	76	77	77	78	77	76.8	78																	
3-Jan	77	77	77	76	77	76	76	76	76	75	75	75	76	76	75	74	75	76	76	77	77	76	76	76	75.9	77																	
4-Jan	76	75	75	75	76	75	75	75	73	73	73	73	71	70	71	75	81	83	81	79	79	78	81	75.6	83																		
5-Jan	82	81	81	80	80	79	77	77	77	77	76	76	75	76	75	74	73	72	72	72	74	74	73	76.3	82																		
6-Jan	72	75	75	74	75	75	75	75	76	76	79	81	82	81	81	80	80	82	83	83	82	81	81	83	78.6	83																	
7-Jan	84	85	85	85	85	86	86	86	86	85	81	80	73	65	62	58	59	58	56	56	52	54	57	59	71.7	86																	
8-Jan	64	67	70	74	76	73	69	68	67	68	66	61	57	60	61	65	68	67	70	68	67	67	68	67.0	76																		
9-Jan	68	66	71	85	89	89	90	89	88	88	87	88	87	89	89	89	89	89	89	90	91	91	85	86.1	91																		
10-Jan	90	92	93	93	92	90	89	89	91	92	91	89	89	91	92	91	90	89	85	85	85	84	86	87	89.4	93																	
11-Jan	86	85	85	83	82	82	81	82	82	82	82	82	83	83	83	82	82	82	82	82	82	82	82	82	82.6	86																	
12-Jan	82	82	82	82	82	83	83	82	82	82	83	83	85	85	86	87	87	88	89	88	88	88	88	90	85.0	90																	
13-Jan	90	90	89	89	87	87	87	87	87	88	88	89	90	91	91	92	94	80	75	74	73	73	72	85.3	94																		
14-Jan	71	72	69	67	80	78	82	83	83	84	82	78	71	69	65	66	66	65	68	68	66	66	64	71.9	84																		
15-Jan	62	63	66	71	75	76	74	74	73	70	69	63	56	56	58	56	58	67	64	62	66	75	82	67.5	83																		
16-Jan	78	80	84	89	95	95	94	94	94	95	91	91	89	89	90	84	82	82	84	86	81	81	78	79	86.8	95																	
17-Jan	79	78	79	79	78	79	80	80	79	81	81	79	79	78	72	70	72	75	75	76	75	76	76	75	77.1	81																	
18-Jan	77	77	77	76	76	76	75	72	73	73	73	72	71	72	72	72	72	72	74	77	79	81	80	79	74.9	81																	
19-Jan	77	77	76	75	76	75	75	75	75	75	75	75	75	76	76	76	77	77	77	77	77	77	76	76	75.9	77																	
20-Jan	75	75	75	75	76	75	76	76	75	72	69	64	68	71	71	69	68	70	72	75	74	72	70	69	72.2	76																	
21-Jan	69	71	72	72	72	72	73	75	77	77	84	81	85	78	77	79	80	78	79	76	77	76	75	75	76.2	85																	
22-Jan	75	77	82	86	86	83	82	84	92	91	91	90	84	78	77	77	82	86	87	89	89	89	87	84	84.5	92																	
23-Jan	81	83	92	91	77	72	72	75	91	87	86	82	75	68	66	61	60	64	65	68	71	74	71	67	75.0	92																	
24-Jan	69	67	68	66	62	67	68	68	63	62	61	57	52	49	48	51	55	51	54	58	62	67	68	68	60.9	69																	
25-Jan	69	70	71	74	75	79	78	80	79	77	75	69	64	59	56	54	52	52	56	57	58	61	61	63	66.3	80																	
26-Jan	65	67	71	74	67	66	65	66	68	66	65	63	58	55	56	53	53	55	58	61	62	66	66	67	63.1	74																	
27-Jan	66	67	67	67	68	68	69	68	65	65	62	58	56	57	40	37	38	38	38	40	41	40	41	44	54.1	69																	
28-Jan	46	47	48	48	50	51	48	46	43	41	39	38	45	45	50	57	61	59	60	62	64	59	52	53	50.6	64																	
29-Jan	54	56	56	56	57	58	57	59	61	62	65	DF	81	78	80	82	81	81	80	79	79	80	79	79	69.6	82																	
30-Jan	78	80	78	78	78	79	80	78	81	78	77	76	74	72	70	70	70	71	73	71	73	72	67	68	74.6	81																	
31-Jan	76	72	72	76	76	76	75	75	74	75	75	75	76	77	77	78	78	78	78	78	79	78	78	78	76.3	79																	
																		74.0	74.5	75.6	76.6	76.8	76.7	76.4	76.3	77.1	76.5	76.1	74.8	73.6	72.5	71.5	71.2	72.0	72.7	72.8	73.2	73.5	74.1	73.6	73.6	Diurnal Average	
																		90	92	93	93	95	95	94	94	94	95	91	91	89	91	92	91	92	94	89	89	90	91	91	90	Diurnal Maximum	
DF - DAS Failure																																											



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 45m (RH45) - %
Mannix - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Relative Humidity 45m (RH45) - %
Mannix - January 2025

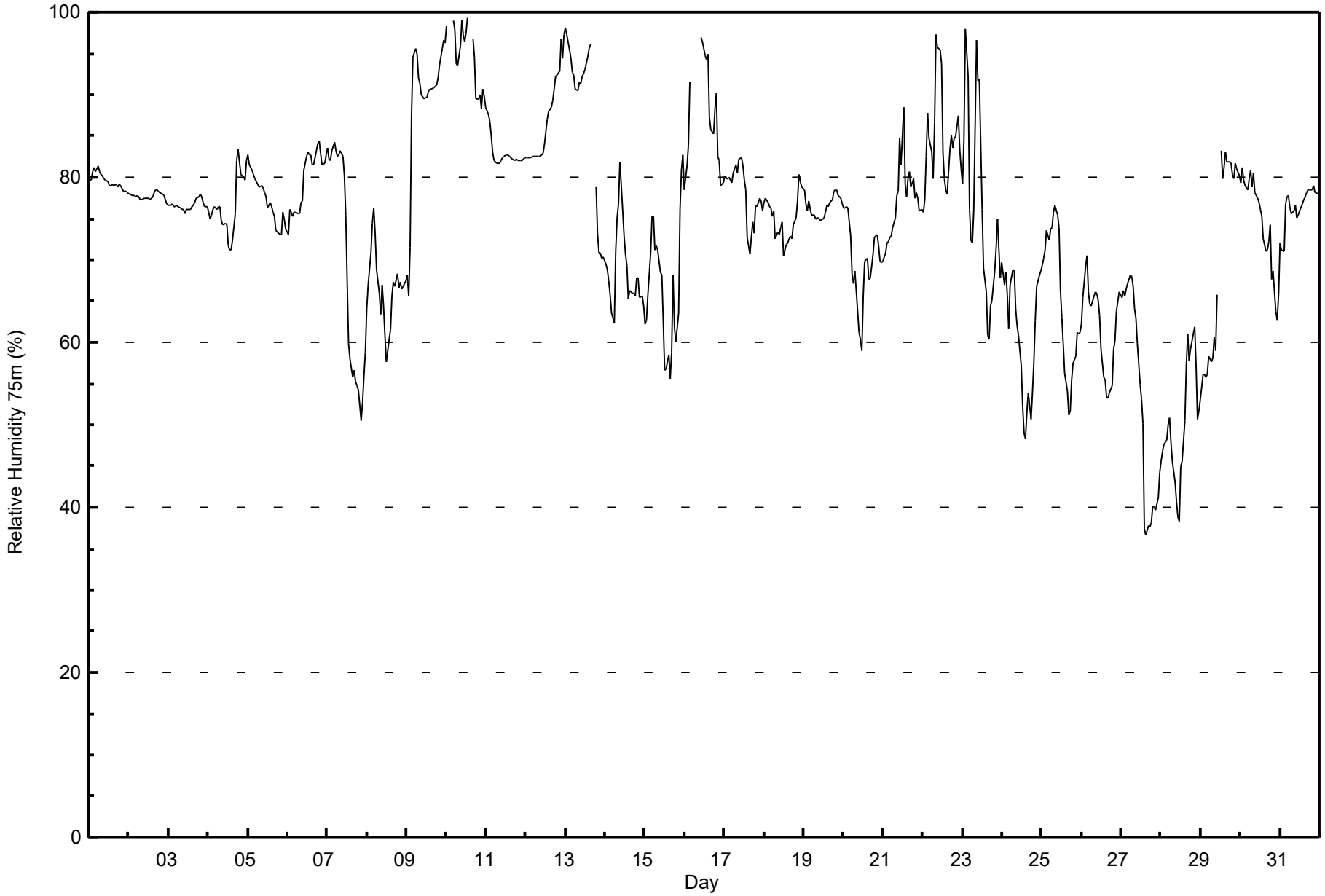
Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	7	0.94	0.94
40 - 60	73	9.83	10.77
60 - 80	450	60.57	71.33
80 - 100	213	28.67	100.00

Total Number of Valid Hours: 743

Total Number of Hours: 744



Maximum Value: 99 % on Jan 10 14:00														Maximum Daily Average: 94.6 % on Jan 10														Hours in Service: 744	
Minimum Value: 37 % on Jan 27 16:00														Minimum Daily Average: 50.1 % on Jan 28														Hours of Data: 730	
Maximum Diurnal Average: 76.8 % at hour 11														Minimum Diurnal Average: 71.4 % at hour 16														Hours of Missing Data: 14	
Monthly Average: 74.5 %														Percentiles: P ₁ = 40 P ₁₀ = 58 Q ₁ = 68 Median = 76 Q ₃ = 81 P ₉₀ = 90 P ₉₉ = 97														Hours of Calibration: 0	
																												Percent Operational Time: 98.1	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
1-Jan	80	80	81	81	81	81	81	80	80	80	80	80	79	79	79	79	79	79	79	79	79	78	78	78	79.5	81			
2-Jan	78	78	78	78	78	78	78	77	77	77	77	77	78	77	78	78	79	78	78	78	78	78	77	77	77.7	79			
3-Jan	77	77	77	76	76	77	77	76	76	76	76	76	76	76	76	77	77	78	78	78	78	77	77	76	76.6	78			
4-Jan	76	75	75	76	77	76	77	76	75	74	74	74	72	71	71	72	76	82	83	82	80	80	80	82	76.5	83			
5-Jan	83	82	81	80	80	79	79	79	79	79	78	78	76	77	76	76	75	74	73	73	73	76	75	74	77.3	83			
6-Jan	73	76	76	75	76	76	76	76	77	77	81	83	83	83	83	81	82	83	84	84	83	82	82	83	79.7	84			
7-Jan	84	82	82	83	84	83	83	83	83	83	80	76	67	60	58	56	57	55	55	54	50	53	56	59	69.4	84			
8-Jan	64	67	71	74	76	73	69	66	63	67	64	61	58	60	62	66	67	67	68	67	67	66	67	68	66.6	76			
9-Jan	68	66	71	88	95	96	95	92	91	90	90	90	90	90	91	91	91	91	91	92	94	96	97	96	89.1	97			
10-Jan	98	OR	OR	OR	99	98	94	94	96	99	97	96	97	99	OR	OR	97	95	90	89	90	88	91	90	94.6	99			
11-Jan	88	88	87	85	83	82	82	82	82	82	82	82	83	83	83	82	82	82	82	82	82	82	82	82	83.0	88			
12-Jan	82	82	82	82	82	83	83	83	83	83	83	84	85	87	88	89	89	91	92	92	93	97	94	97	86.9	97			
13-Jan	98	97	95	94	93	92	91	91	92	91	92	93	93	95	96	96	OR	OR	79	73	71	71	70	70	87.9	98			
14-Jan	69	69	68	66	64	62	71	75	77	82	79	73	71	69	65	66	66	66	66	68	68	66	66	64	68.9	82			
15-Jan	62	63	66	71	75	75	71	72	71	68	68	63	57	57	58	56	59	68	62	60	64	76	81	83	66.9	83			
16-Jan	79	81	84	92	OR	OR	OR	OR	OR	OR	97	96	95	94	95	87	86	85	88	90	83	82	79	79	87.4	97			
17-Jan	80	80	80	80	79	80	81	81	81	82	82	81	80	79	73	71	73	74	73	77	76	77	77	76	78.1	82			
18-Jan	77	78	77	76	76	75	76	73	73	73	74	75	71	72	72	73	73	72	74	75	77	80	80	79	75.0	80			
19-Jan	79	77	76	77	76	75	75	75	75	75	75	75	75	76	77	76	77	77	78	79	79	78	77	77	76.5	79			
20-Jan	76	76	76	76	73	68	67	69	66	61	60	59	66	70	70	68	68	69	71	73	73	72	70	70	69.5	76			
21-Jan	70	71	72	72	73	73	74	75	78	78	85	82	88	79	78	80	81	79	80	78	78	78	76	76	77.2	88			
22-Jan	76	77	83	88	85	83	80	87	97	96	95	94	83	80	79	78	83	85	84	85	85	87	83	81	84.7	97			
23-Jan	79	85	98	92	76	72	72	76	97	92	92	84	76	69	66	61	60	64	65	69	71	75	71	68	76.3	98			
24-Jan	70	67	68	66	62	67	69	69	64	62	61	57	52	49	48	52	54	51	54	58	63	67	68	69	61.0	70			
25-Jan	69	70	71	74	72	74	74	76	77	75	74	66	63	60	56	54	51	52	55	57	58	61	61	61	65.1	77			
26-Jan	62	65	69	71	66	65	64	66	66	66	65	63	59	56	55	53	53	54	55	59	60	64	65	66	62.0	71			
27-Jan	65	66	66	66	67	68	68	67	64	63	60	55	53	50	37	37	38	38	38	40	40	40	41	44	53.0	68			
28-Jan	46	47	48	48	50	51	48	46	43	41	39	38	45	46	51	57	61	58	59	61	62	57	51	52	50.1	62			
29-Jan	53	56	56	56	56	58	58	58	61	59	66	DF	83	80	81	83	82	82	82	80	80	82	81	80	70.1	83			
30-Jan	79	81	80	79	79	80	81	79	81	78	77	77	76	75	73	71	71	72	74	68	69	64	63	66	74.6	81			
31-Jan	72	71	71	77	78	78	76	76	76	77	75	75	76	77	77	78	78	79	78	78	79	78	78	78	76.5	79			
																												Diurnal Average	
74.6														74.3														98	
75.5														76.7														98	
76.2														76.0														98	
75.5														75.7														95	
75.7														76.7														94	
76.7														76.2														97	
76.2														76.8														99	
75.4														75.4														96	
74.4														73.3														97	
71.7														71.4														96	
72.1														72.6														97	
72.6														73.2														92	
73.2														73.5														92	
73.5														73.6														94	
74.4														74.0														97	
74.0														74.2														97	
																												Diurnal Maximum	
DF - DAS Failure														OR - Out of Range															





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Relative Humidity 75m (RH75) - %
Mannix - January 2025

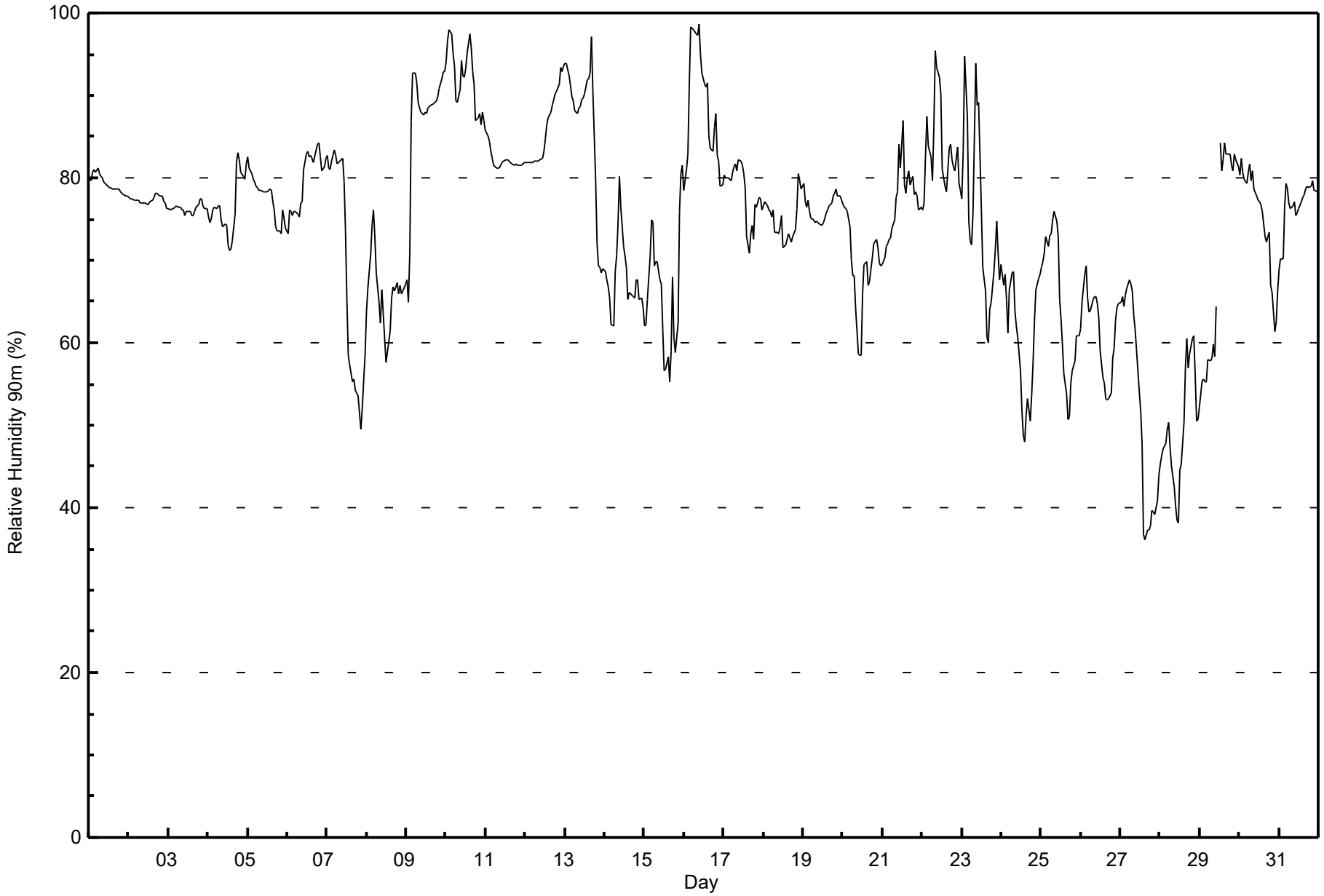
Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	8	1.10	1.10
40 - 60	79	10.82	11.92
60 - 80	428	58.63	70.55
80 - 100	215	29.45	100.00

Total Number of Valid Hours: 730

Total Number of Hours: 744



Maximum Value: 99 % on Jan 16 10:00														Maximum Daily Average: 92.2 % on Jan 10														Hours in Service: 744											
Minimum Value: 36 % on Jan 27 16:00														Minimum Daily Average: 49.6 % on Jan 28														Hours of Data: 743											
Maximum Diurnal Average: 76.7 % at hour 4														Minimum Diurnal Average: 71.9 % at hour 16														Hours of Missing Data: 1											
Monthly Average: 74.3 %														Percentiles: P ₁ = 39 P ₁₀ = 58 Q ₁ = 68 Median = 76 Q ₃ = 81 P ₉₀ = 89 P ₉₉ = 97														Hours of Calibration: 0											
																												Percent Operational Time: 99.9											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24															
1-Jan	80	80	81	81	81	81	81	80	80	80	79	79	79	79	79	79	79	79	79	78	78	78	78	78	79.3	81													
2-Jan	78	78	77	77	77	77	77	77	77	77	77	77	77	77	77	78	78	78	78	78	78	77	77	76	77.3	78													
3-Jan	76	76	76	76	76	77	76	76	76	76	75	76	76	76	75	75	76	77	77	77	77	77	76	76	76.3	77													
4-Jan	75	75	75	76	76	76	77	77	77	75	74	74	72	71	71	72	76	82	83	82	81	80	80	82	76.5	83													
5-Jan	83	81	81	80	79	79	79	79	79	78	78	78	78	79	78	77	76	74	74	74	73	76	75	74	77.5	83													
6-Jan	73	76	76	75	76	76	76	75	77	77	81	83	83	83	83	82	82	83	84	84	83	81	81	82	79.7	84													
7-Jan	83	81	81	82	83	83	82	82	82	82	79	74	65	59	57	55	56	54	54	54	49	52	55	59	68.5	83													
8-Jan	64	67	71	74	76	73	68	65	62	66	64	61	58	60	62	65	67	66	67	66	67	66	66	67	66.2	76													
9-Jan	68	65	71	87	93	93	91	89	88	88	88	88	88	88	89	89	89	89	89	90	91	92	93	93	87.0	93													
10-Jan	94	97	98	97	95	93	89	89	91	94	92	92	93	95	97	96	93	91	87	87	88	86	88	87	92.2	98													
11-Jan	86	85	84	83	82	82	81	81	81	82	82	82	82	82	82	82	82	81	82	82	82	81	82	82	82.2	86													
12-Jan	82	82	82	82	82	82	82	82	82	82	82	83	85	86	87	88	89	89	90	91	91	93	93	93	85.9	93													
13-Jan	94	94	92	91	90	89	88	88	89	89	90	90	90	92	92	93	97	90	80	72	69	69	68	69	86.0	97													
14-Jan	69	68	67	65	62	62	69	70	74	80	76	72	71	69	65	66	66	66	65	68	68	65	65	64	68.0	80													
15-Jan	62	62	65	71	75	75	69	70	70	68	67	62	57	57	58	55	59	68	61	59	62	76	81	82	66.2	82													
16-Jan	78	81	83	91	98	98	98	97	97	99	95	93	91	91	92	85	84	83	86	88	83	82	79	79	88.8	99													
17-Jan	80	80	80	80	80	81	81	82	81	82	82	81	80	79	73	71	73	74	73	77	76	78	77	76	78.2	82													
18-Jan	77	77	77	76	76	75	76	73	73	73	74	75	72	72	73	73	73	72	73	74	76	80	80	79	75.0	80													
19-Jan	79	77	77	77	76	75	75	75	75	75	74	74	75	75	76	76	77	77	78	78	79	78	78	77	76.3	79													
20-Jan	77	76	76	76	74	70	68	68	64	59	59	59	66	70	70	67	68	69	70	72	73	72	70	69	69.2	77													
21-Jan	69	70	72	72	73	73	74	75	78	78	84	81	87	79	78	80	81	79	80	78	78	78	76	76	77.1	87													
22-Jan	76	77	82	87	84	82	80	86	95	93	92	90	81	80	79	78	84	84	82	81	81	84	79	78	83.2	95													
23-Jan	77	83	95	87	75	72	72	76	94	89	89	83	76	69	66	61	60	64	65	69	71	75	71	68	75.3	95													
24-Jan	70	67	68	65	61	66	69	69	64	62	61	57	52	49	48	51	53	51	54	58	63	66	68	68	60.8	70													
25-Jan	69	70	71	73	72	73	73	75	76	75	73	65	63	60	56	54	51	51	55	57	58	61	61	61	64.6	76													
26-Jan	62	65	68	69	65	64	64	65	66	66	65	63	59	56	55	53	53	53	54	58	59	63	64	65	61.4	69													
27-Jan	65	66	64	66	67	68	67	66	63	62	59	54	52	48	37	36	37	37	38	40	40	39	41	44	52.3	68													
28-Jan	45	46	47	48	49	50	47	45	43	40	38	38	45	45	50	57	60	57	59	61	61	56	51	51	49.6	61													
29-Jan	52	55	56	55	55	58	58	58	60	58	64	DF	84	81	82	84	83	83	83	81	81	83	82	81	70.4	84													
30-Jan	80	82	81	80	79	81	82	80	81	79	78	77	77	77	76	73	72	73	73	67	66	61	62	66	75.1	82													
31-Jan	69	70	70	77	79	79	77	76	77	77	75	76	76	77	78	78	79	79	79	79	80	78	79	78	76.7	80													
														73.9	74.5	75.6	76.7	76.4	76.2	75.7	75.7	76.4	76.1	75.8	74.6	73.8	72.9	72.3	71.9	72.6	72.7	72.6	72.8	72.9	73.7	73.4	73.6	Diurnal Average	
														94	97	98	97	98	98	98	97	97	99	95	93	93	95	97	96	97	91	90	91	91	93	93	93	Diurnal Maximum	
DF - DAS Failure																																							





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Relative Humidity 90m (RH90) - %
Mannix - January 2025

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	10	1.35	1.35
40 - 60	82	11.04	12.38
60 - 80	418	56.26	68.64
80 - 100	233	31.36	100.00

Total Number of Valid Hours: 743

Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

Wind Speed 20m (WS20) - km/h
Mannix - January 2025

Maximum Speed: 37 km/h on Jan 24 06:00	Maximum Daily Speed Average: 20.2 km/h on Jan 28	Hours in Service: 744
Minimum Speed Value: 1 km/h on Jan 19 02:00	Minimum Daily Speed Average: 1.7 km/h on Jan 19	Hours of Data: 743
Maximum Diurnal Speed Average: 3.9 km/h at hour 22	Minimum Diurnal Speed Average: 1.2 km/h at hour 8	Hours of Missing Data: 1
Monthly Average Velocity: 2.0 km/h 263.5 deg	Percentiles: P ₁ = 2 P ₁₀ = 5 Q ₁ = 8 Median = 12 Q ₃ = 17 P ₉₀ = 23 P ₉₉ = 31	Percent Operational Time: 99.9

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	NNE12	N11	N8	N9	N12	N8	NNW7	N11	N9	N11	NNE9	N8	NNW8	N7	N6	NNW4	NNE6	NNE5	N8	N8	N9	N11	N14	N11	N8.7	N14
2-Jan	N8	N10	N5	NW4	WNW4	NNW4	W2	W6	W6	W4	S1	SSE3	SSE3	SSE6	SSE7	SSE7	SE5	SSE7	SSE8	SSE7	SSE8	SSE10	SSE10	SSE12	SSE2.3	SSE12
3-Jan	SSE11	SSE10	SSE12	SSE13	SSE13	SSE10	S9	SSE10	S8	S10	SSE12	SSE9	SSE9	SSE9	SSE10	SSE9	SE12	SE16	SE18	SE19	SE20	SE20	SE21	SE19	SSE12.4	SE21
4-Jan	SE17	SE21	SE20	SE19	SE18	SE18	SE17	SE17	SE20	SE20	SE18	SE17	SE16	SE16	SE13	ESE12	ESE10	ESE7	ESE6	SE10	ESE6	E4	NE2	NNE4	SE13.3	SE21
5-Jan	NNW8	NNW11	NNW9	NNW11	NNW10	N12	N13	N12	N10	N7	N8	N8	NNW8	NW8	NNW7	NNW7	NNE8	NNE8	NE7	NE5	NW3	W4	SSW3	SW3	N6.9	N13
6-Jan	S4	SE8	SSE8	SSE10	SSE12	SSE12	SSE12	SSE13	SSE12	SSE13	SSE11	SSE11	SSE16	SSE16	SSE14	SSE15	SSE14	SSE16	SSE17	SSE15	SSE16	SSE16	SSE15	SSE13	SSE12.8	SSE17
7-Jan	SSE14	SSE14	SSE16	SSE19	SSE17	SSE17	SSE18	SSE17	SSE17	SSE17	SSE18	SSE17	SSE17	SSE13	SSE13	SSE11	SSE16	SSW15	SSW15	SSW18	SW25	SW17	SSE10	SSW12	SSE14.4	SW25
8-Jan	SW13	WSW21	W24	W19	WSW13	WSW11	WSW15	W20	WSW13	SW15	WSW17	W14	W19	WNW23	NW23	WNW19	WNW22	WNW17	WNW13	WNW17	WNW21	WNW26	WNW22	WNW20	W16.8	WNW26
9-Jan	W23	WNW26	NW17	N14	NNE15	NNE16	NNE16	NNE15	NNE12	NE9	NE6	NE2	ESE3	S7	S8	SSE9	SSE10	SSE11	SE14	SE14	SE15	SE17	SE22	SE16	E2.0	WNW26
10-Jan	SE18	SE27	SE22	SE21	SSE17	SE9	SE10	SSE6	SSW4	W3	SE3	S4	NE2	N8	NNW10	N13	N14	N14	N16	N15	N17	NNE15	N17	N20	ENE4.1	SE27
11-Jan	N18	N15	N13	NNW16	NNW11	N14	NNE12	N9	N13	N14	N9	NNW10	N10	NNE10	N8	N6	N4	NNE3	SE2	SSW4	SSW5	S6	S8	SSW8	N6.7	N18
12-Jan	SSE9	SSE11	SSE11	SSE10	SSE11	SSE11	SSE12	SSE12	SSE11	SSE13	SSE13	SSE13	SSE12	SSE12	SSE14	SSE13	SSE14	SSE11	SSE10	SSE8	SSE10	SSE8	SE4	SSE7	SSE10.9	SSE14
13-Jan	SSE8	SSE10	SSE11	SSE13	SSE13	SSE15	SSE14	SSE12	SE14	SSE13	SSE12	SSE7	SSE10	SSE14	SSE12	SSE12	SSE14	SSE12	SSE11	S10	WSW8	W14	W12	WSW4	SSE9.6	SSE15
14-Jan	SSW6	S4	S6	SSE13	SSE14	SSE15	SSE14	SSE15	SSE15	SSE16	SSE16	SSE8	SW20	WSW16	W28	W33	W30	W27	W25	W23	W24	W29	W25	W28	SW13.1	W33
15-Jan	W28	WNW22	WNW20	WNW19	WNW20	W18	W23	WNW19	NW13	NW10	WNW8	W9	W14	WNW13	W8	WNW4	SW5	SW6	WSW7	W11	WNW8	NW5	NW7	NE9	WNW11.6	W28
16-Jan	ENE6	E5	NE13	ESE7	ESE10	ESE15	E12	E16	ENE15	NE16	NE17	NNE16	NNE18	NNE25	NNE26	NNE29	N28	N31	N25	N19	NNW26	NNW25	NNW26	N26	NNE15.3	N31
17-Jan	N17	NNW20	NNW16	NNW15	N15	N16	NNE14	NNE10	NNE17	NNE16	N10	N7	NNW13	NNW14	NNW14	NNW13	NNW12	NNW12	NNW12	N14	N17	N16	N18	N18	N13.9	NNW20
18-Jan	N14	NNE6	N3	NW3	SW7	SW10	SSW8	S7	SSE9	SSE10	SSE7	SSE7	SSE8	SSE8	SSE8	SSE6	SSE6	S4	SSW3	S2	SW4	SSE3	SSW3	NNE1	S3.4	N14
19-Jan	NNE2	NNW1	NW5	NNW3	NW6	NW6	NW7	NW6	NW6	WNW4	WNW6	W4	W3	W4	NE1	E3	SSE6	SSE11	SSE12	S10	SSE9	SSE11	SSE11	SSE12	SSW1.7	SSE12
20-Jan	SSE12	SSE16	SSE16	SSE18	SSE15	SSE13	SSE18	SSE17	SSE18	SSE17	SSE18	SSE20	SSE20	SSE20	SSE20	S12	SSW11	S10	S13	SSE12	SSW7	WSW15	W25	W29	S12.9	W29
21-Jan	W29	W27	WSW20	W16	W21	W29	W24	W23	W21	W20	W20	WNW15	N19	NNE22	NNE23	NNE26	NNE25	NNE26	NNE24	N20	N17	NNW10	N9	N5	NW12.2	W29
22-Jan	WSW1	SSW5	S7	SSE7	SSE5	ENE3	NNE1	NNE1	ENE3	SSW2	SSW4	S3	SW3	W16	WSW10	SSW9	S9	S11	S12	SSE12	SSE16	SSE17	SSE18	SSE24	S6.5	SSE24
23-Jan	SSE20	S20	SSE20	SSE15	SSW14	SW10	S5	SW7	SW13	SW9	SW7	WSW8	W12	W21	W24	WNW25	WNW24	WNW19	WNW19	WNW22	W25	W20	W21	W25	WSW11.9	W25
24-Jan	WNW30	WNW29	WNW26	NW26	NW31	NNW37	NNW31	NNW30	NNW25	NNW18	NW26	NW24	NW16	NW13	NW13	WNW9	WNW8	SSW8	SSW6	S5	W3	WNW9	WSW8	WSW10	NW15.7	NNW37
25-Jan	SW5	SSW5	SSW5	SSE7	SSE10	SSE11	SSE13	SSE14	SSE10	SSE6	SSW6	SW8	WSW12	WSW9	WSW5	W10	W13	SSW6	SW11	SW13	SW8	S9	SSE11	SSW7.0	SSE14	
26-Jan	SSE12	S11	SSE12	S11	SSW11	SSW10	SSW7	SSE10	S9	SW9	SW12	SW11	SW10	SSW9	SSE9	SW11	WSW14	WNW15	WNW18	W16	W13	WSW10	WSW4	WSW7	SW8.0	WNW18
27-Jan	WSW8	WSW11	WSW11	WSW8	WSW4	WSW5	WSW8	SW8	SW9	SSW7	SSE9	S8	S9	SSE11	SW13	SSW12	SW12	WSW17	W21	WSW16	WSW17	WNW25	WNW32	WNW31	WSW10.0	WNW32
28-Jan	WNW33	WNW30	W30	W26	WSW22	W22	W18	W16	W21	W22	WNW29	WNW26	NW33	WNW26	WNW27	WNW24	WNW16	WNW15	NW10	WNW10	WNW9	WSW7	WSW12	W14	WNW20.2	WNW33
29-Jan	W14	WSW9	WSW6	W5	WNW4	N2	W3	SSE2	SW6	N1	NNE5	DF	NNE21	NNE18	N18	N21	N22	N25	N25	N24	N25	N23	N23	N20	N11.3	N25
30-Jan	NNE21	NNE18	NNE20	NNE16	NNE15	N17	NNE14	NNE16	N10	N12	N13	NNW10	NNW7	NNW8	NNE9	NE8	NE9	NNE8	NNE8	N8	NNE9	N9	N10	N7	NNE11.5	NNE21
31-Jan	NNE7	NNE9	NNE5	NNE8	NNE7	N7	N9	N8	N5	N13	NNW7	NNW8	N9	N11	N10	N11	N15	N15	N15	N16	NNE18	N18	N16	N13	N10.6	NNE18

W3.6WSW3.2WSW2.6 SW1.8 SW2.2WSW1.4 SW1.2SSW1.2SSW1.4SSW1.3SSW1.7WSW2.1 W1.8WNW2.5WNW2.8WNW2.6 NW2.2WNW2.1WNW1.7 W2.1 W3.2 W3.9WNW3.4WNW3.4	Diurnal Average
WNW33WNW30WNW30 W26 NW31 NNW37 NNW31 NNW30 NNW25 W22WNW29WNW26 NW33WNW26 W28 W33 W30 N31 W25 N24 NNW26 W29WNW32WNW31	Diurnal Maximum

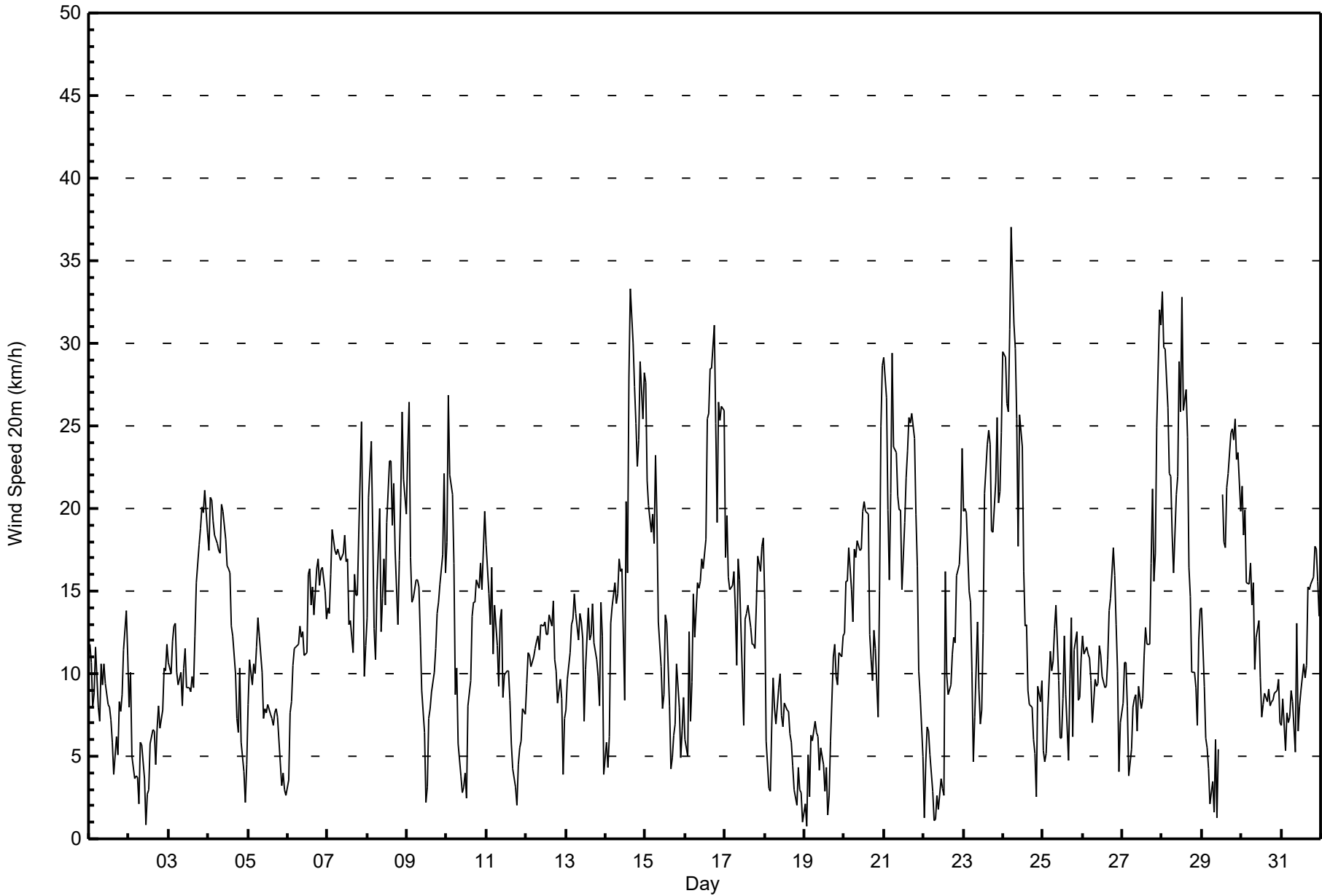
DF - DAS Failure
 All monthly, daily, and diurnal averages have been calculated using vector methods



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Speed 20m (WS20) - km/h
Mannix - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 10 km/h on Jan 24 06:00																	Hours in Service: 744 Hours of Data: 743 Hours of Missing Data: 1 Hours of Calibration: 0 Percent Operational Time: 99.9								
Minimum Value: 1 km/h on Jan 2 10:00																									
Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 2 Median = 3 Q ₃ = 4 P ₉₀ = 5 P ₉₉ = 8																									
Day	Hourly Period Ending At (MST)																							Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		24
1-Jan	3	3	3	2	3	3	2	4	2	2	3	3	2	2	2	1	2	1	2	3	2	2	3	3	4
2-Jan	2	2	2	2	1	1	2	1	1	1	1	1	2	2	1	1	2	2	1	1	1	1	2	1	2
3-Jan	1	1	1	2	2	2	2	2	2	2	2	3	2	2	2	2	3	4	4	4	5	5	5	5	5
4-Jan	4	5	6	5	5	4	5	4	5	5	5	4	4	5	5	4	3	3	3	3	2	1	1	1	1
5-Jan	4	3	3	3	3	4	4	4	4	3	3	2	2	3	2	2	2	2	2	2	1	1	1	1	1
6-Jan	1	2	2	2	2	2	3	3	3	3	3	3	3	4	3	3	3	4	4	3	3	3	3	2	4
7-Jan	3	2	3	3	3	3	3	3	3	3	3	3	4	2	3	3	2	4	4	6	6	7	3	3	7
8-Jan	4	6	5	7	3	4	4	2	2	2	2	3	4	7	5	5	4	4	2	3	4	5	4	4	7
9-Jan	4	5	5	5	4	4	5	4	4	3	3	2	2	2	3	3	2	3	4	4	4	4	5	5	5
10-Jan	6	6	6	5	4	4	3	2	2	2	2	2	3	3	3	4	4	4	4	7	6	5	5	5	7
11-Jan	5	5	4	4	3	5	3	2	4	5	4	3	3	3	2	2	1	1	1	1	2	2	2	3	5
12-Jan	2	3	3	2	2	3	3	2	2	4	3	3	3	3	3	3	3	3	2	2	3	3	2	1	4
13-Jan	1	1	3	3	2	3	3	4	3	3	3	3	3	4	4	3	3	1	2	2	2	4	5	3	5
14-Jan	1	2	1	3	2	2	3	3	3	3	3	4	5	4	6	5	5	4	4	4	5	4	4	4	6
15-Jan	5	4	5	4	3	2	3	4	3	5	3	1	3	3	2	2	1	2	1	1	2	2	1	2	5
16-Jan	2	1	4	4	4	4	4	4	3	4	5	4	5	6	6	7	7	8	7	6	7	7	7	8	8
17-Jan	5	5	4	4	5	5	4	3	6	4	3	2	4	3	4	3	4	3	3	4	5	4	5	4	6
18-Jan	3	3	2	1	2	1	2	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	1	1	3
19-Jan	1	1	1	1	1	3	3	2	2	1	1	2	1	1	1	1	3	1	2	2	1	1	2	2	3
20-Jan	2	3	4	3	2	2	3	3	3	3	4	3	4	4	4	3	3	2	3	2	3	5	6	5	6
21-Jan	6	6	5	4	5	6	6	4	4	3	3	4	5	6	6	6	6	7	6	6	5	3	3	2	7
22-Jan	2	1	2	1	1	1	1	1	1	2	1	1	2	4	3	2	2	2	1	2	3	4	4	3	4
23-Jan	4	5	4	3	4	4	2	3	4	3	3	3	6	4	5	6	5	5	5	4	6	5	5	4	6
24-Jan	6	6	6	7	9	10	9	8	8	6	6	7	4	4	3	2	3	2	2	3	3	3	2	2	10
25-Jan	2	2	2	2	1	1	1	1	2	2	2	3	2	3	2	3	7	4	1	3	2	2	3	2	7
26-Jan	2	2	2	2	3	2	2	1	2	3	3	3	3	3	2	3	3	5	3	2	2	1	2	3	5
27-Jan	2	1	2	2	2	4	2	3	1	2	2	2	2	2	5	5	4	5	6	3	3	6	8	7	8
28-Jan	7	6	5	5	5	4	3	4	5	5	7	6	8	6	7	7	4	3	3	2	2	2	2	2	8
29-Jan	2	2	2	2	2	2	1	1	1	1	1	DF	5	5	4	5	5	6	5	6	6	6	6	5	6
30-Jan	5	5	5	5	5	4	4	3	3	3	4	3	3	3	3	2	2	2	1	2	2	1	2	1	5
31-Jan	2	2	2	2	2	2	2	2	3	3	2	2	3	3	3	4	5	4	5	4	4	4	4	4	5
																	Diurnal Maximum								
DF - DAS Failure																									





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Wind Speed 20m (WS20) - km/h
Mannix - January 2025**

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	90	12.11	12.11
6 - 11	261	35.13	47.24
12 - 19	263	35.40	82.64
20 - 28	108	14.54	97.17
29 - 38	21	2.83	100.00
> 38	0	0.00	100.00

Total Number of Valid Hours: 743

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Wind Speed 20m (WS20) - km/h
Mannix - January 2025**

Wind Speed Ranges (km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	7	9	5	2	3	1	4	5	9	11	5	6	10	4	5	4	90
6 - 11	42	15	6	1	0	6	4	74	21	15	17	18	6	8	8	20	261
12 - 19	42	21	3	1	2	2	23	93	3	6	8	12	17	14	5	11	263
20 - 28	14	11	0	0	0	0	11	7	1	0	2	3	31	19	4	5	108
29 - 38	1	1	0	0	0	0	0	0	0	0	0	0	6	8	2	3	21
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	106	57	14	4	5	9	42	179	34	32	32	39	70	53	24	43	743

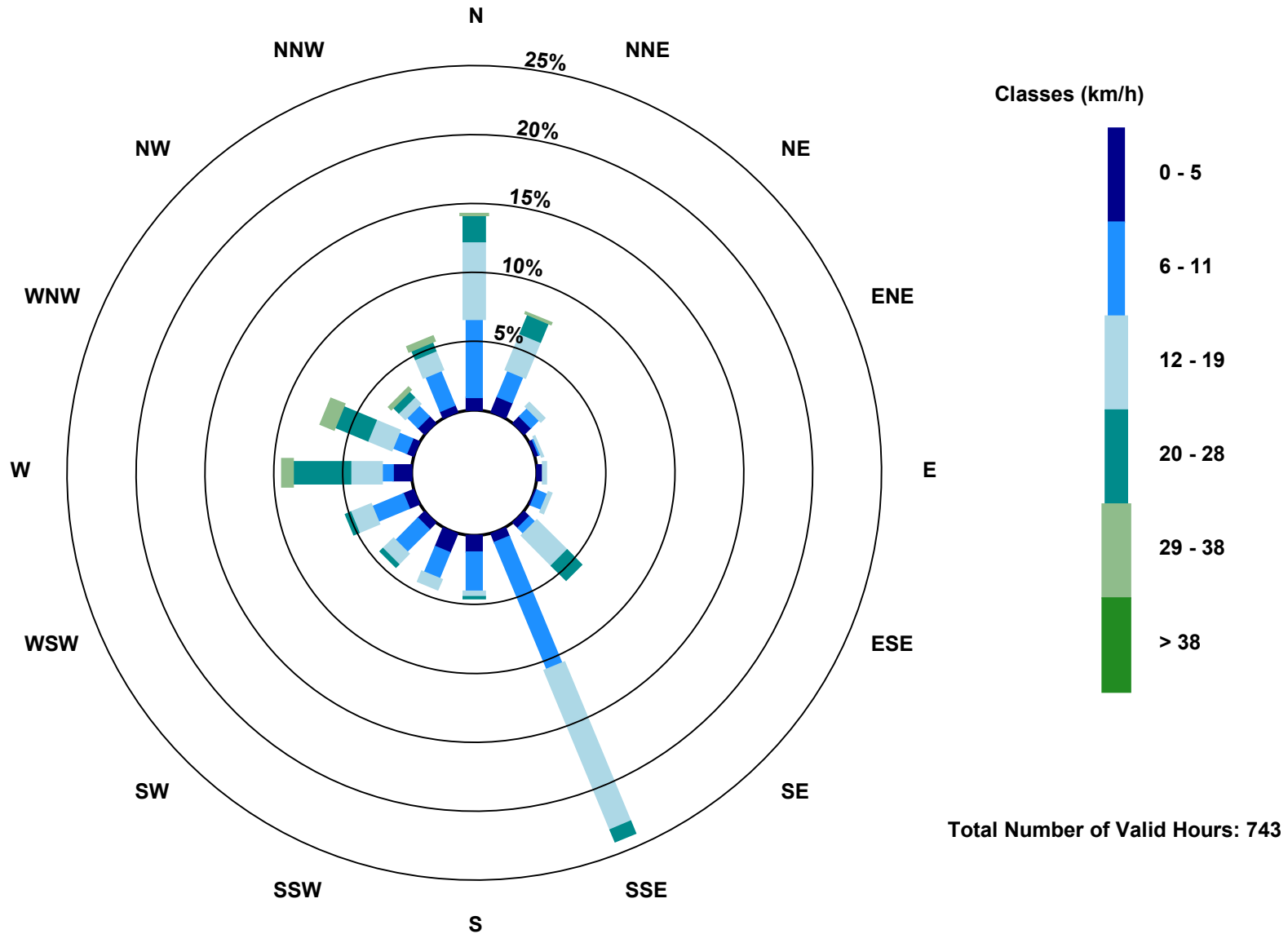
Total Number of Valid Hours: 743

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Wind Speed 20m (WS20) - km/h
Mannix





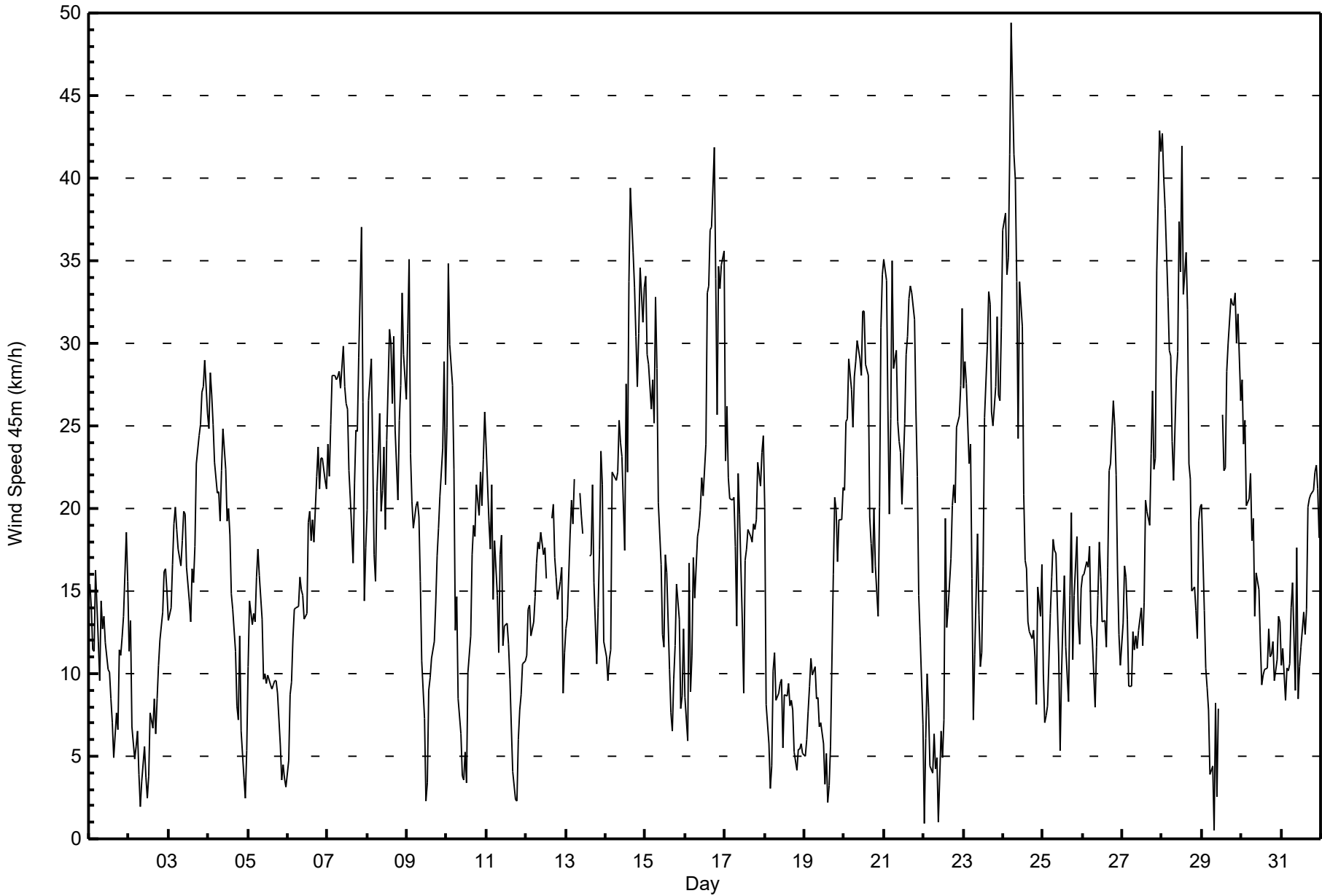
Maximum Speed: 49 km/h on Jan 24 06:00 Maximum Daily Speed Average: 27.2 km/h on Jan 28		Hours in Service: 744 Hours of Data: 736 Hours of Missing Data: 8 Percent Operational Time: 98.9																								
Minimum Speed Value: 0 km/h on Jan 29 08:00 Minimum Daily Speed Average: 1.9 km/h on Jan 19 Maximum Diurnal Speed Average: 5.4 km/h at hour 22 Minimum Diurnal Speed Average: 1.0 km/h at hour 8 Monthly Average Velocity: 3.1 km/h 264.2 deg Percentiles: P ₁ = 2 P ₁₀ = 7 Q ₁ = 11 Median = 17 Q ₃ = 24 P ₉₀ = 30 P ₉₉ = 41																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	NNE15	N14	N11	N11	N16	N12	N10	N14	N13	N13	NNE12	N10	NNW10	N8	N7	N5	NNE8	NNE7	N11	N11	NNE12	NNE13	N19	N16	N11.5	N19
2-Jan	N11	N13	N7	NW5	NW6	NNW7	NNE4	W2	W3	SW6	SSW4	SSE2	SSE4	SE8	SE7	SE8	SE6	SSE8	SSE11	SSE12	SSE14	SSE16	SSE16	SE15	SSE3.4	SSE16
3-Jan	SSE13	SSE14	SSE17	SSE19	SSE20	SSE19	SSE18	SSE17	SSE18	SSE20	SSE20	SSE16	SSE14	SSE13	SSE16	SSE16	SE18	SE23	SE24	SE25	SE27	SE27	SE29	SE26	SE19.2	SE29
4-Jan	SE25	SE28	SE27	SE25	SE23	SE21	SE21	SE19	SE22	SE25	SE22	SE19	SE20	SE18	ESE15	ESE14	ESE11	ESE8	ESE7	SE12	ESE7	ESE4	NE2	NNE5	SE16.2	SE28
5-Jan	NNW10	NNW14	NNW13	NNW14	N13	N16	N18	N16	N13	N10	N10	N9	NNW10	NNW9	NNW9	N9	NNE10	NNE10	NNE9	NE6	NW4	W4	SSW4	SW3	N9.0	N18
6-Jan	S5	SE9	SSE9	SSE12	SSE14	SSE14	SSE14	SE16	SE15	SSE15	SSE13	SSE14	SSE19	SSE20	SSE18	SSE19	SSE18	SSE22	SSE24	SSE21	SSE23	SSE23	SSE22	SSE21	SSE16.5	SSE24
7-Jan	SSE24	SSE22	SSE25	SSE28	SSE28	SSE28	SSE28	SSE28	SSE27	SSE30	SSE27	SSE26	SSE26	SSE22	SSE21	S17	S22	SSW25	SSW25	SSW29	SW37	SW26	S14	SW18	S22.7	SW37
8-Jan	SW20	WSW27	W29	W23	W17	W16	W21	W26	WSW20	WSW21	WSW24	W19	W24	WNW31	NW30	WNW26	WNW30	WNW25	WNW21	WNW25	WNW27	W33	WNW29	WNW27	W23.1	W33
9-Jan	W31	WNW35	NW23	N20	NNE19	NNE20	NNE20	NNE19	NNE16	NE11	NE7	NNE2	ESE3	SSE9	S10	SSE11	SSE12	SSE14	SE17	SE19	SE21	SE24	SE29	SE21	E2.6	WNW35
10-Jan	SE25	SE35	SE30	SE27	SE22	SE13	SE15	SSE8	S6	WSW4	SE4	S5	N3	N10	NNW12	N17	N19	N18	N21	N20	N22	NNE20	N23	N26	ENE5.8	SE35
11-Jan	N24	N19	N18	NNW21	NNW14	N18	NNE15	N11	N17	N18	N12	NNW13	N13	NNE12	N10	N7	NNE4	NNE2	SE2	SSW6	SSW8	S9	S11	SSW11	N8.4	N24
12-Jan	SSE11	SSE14	SSE14	SSE12	SSE13	SSE15	SSE17	SSE18	SSE18	SSE19	SSE17	SSE18	SSE16	UO	UO	SSE19	SSE20	SSE17	SE16	SSE15	SSE16	SSE16	SSE9	SE11	SSE15.4	SSE20
13-Jan	SE13	SE13	SE18	SE21	SSE19	SE22	UO	UO	SE21	SSE20	SSE18	UO	UO	UO	SSE17	SSE17	SSE21	S16	SW11	SW14	WSW18	W23	W21	W12	S11.9	W23
14-Jan	WSW11	WSW10	SW11	S11	SSE22	S22	SSE22	SSE22	SSE25	SSE24	SSE23	S17	SW28	WSW22	WSW34	W39	W35	W33	W30	W27	W31	W35	W31	W33	SW18.2	W39
15-Jan	W34	W29	WNW29	WNW26	WNW28	W25	WNW33	WNW28	WNW20	NW17	WNW12	W12	W17	WNW16	W10	WNW8	WSW6	WSW10	WSW12	W15	WNW13	NNW8	NW9	NE13	WNW16.4	W34
16-Jan	ENE9	E6	NE17	ESE9	ESE11	ESE17	E15	E18	ENE19	NE20	NE22	NNE21	NNE24	NNE33	NNE33	NNE37	N37	N42	N34	N26	NNW35	NNW33	NNW35	N36	NNE20.2	N42
17-Jan	N23	N26	NNW22	NNW21	N20	N21	NNE18	NNE13	NNE22	NNE20	N13	N9	NNW17	NNW18	NNW19	NNW18	NNW18	NNW19	NNW19	N19	N23	N21	N23	N24	N18.8	N26
18-Jan	N20	NNE8	NNE6	N3	SW4	SSW10	SW11	SSW8	SSW9	SSW9	SSW10	S6	SE9	SE9	SSE9	SSE8	SE8	S8	SSE5	SSE4	SSW5	S5	SW6	NW5	S3.6	N20
19-Jan	NW5	NW6	NNW8	NNW9	N11	N10	NNW10	NNW8	NNW9	NW7	NW7	WNW6	WSW3	W5	NNW2	E3	SE6	SSE16	SSE21	S20	SSE17	SSE19	SSE19	SSE21	S1.9	SSE21
20-Jan	SSE21	SSE25	SSE25	SSE29	SSE27	SSE25	SSE28	SE29	SSE30	SSE29	SSE28	SSE32	SSE32	SSE29	SSE28	S20	SSW18	S16	S20	SSE16	SW14	WSW20	W31	W34	S20.5	W34
21-Jan	W35	W34	WSW26	W20	W25	W35	W28	W30	W25	W24	W23	WNW20	N25	NNE29	NNE30	NNE33	NNE33	NNE33	NNE31	N26	N22	NNW15	N12	N7	NW15.3	W35
22-Jan	WSW1	SSW6	S10	SSE8	SW4	N4	N6	N4	NE5	SE1	S7	S5	WSW7	W19	WSW13	SW14	SSW17	S20	S21	SSE20	SSE25	SSE26	SSE27	SSE32	S9.5	SSE32
23-Jan	SSE27	S29	SSE28	S23	SSW24	SW16	SSW7	SW11	SW18	SW14	SW10	WSW11	W17	W26	W30	WNW33	WNW32	WNW26	WNW25	W27	W32	W27	W27	W31	WSW16.7	WNW33
24-Jan	WNW37	WNW38	WNW34	NW35	NW41	NNW49	NNW41	NNW40	NNW34	NNW24	NW34	NW31	NW21	NW17	NW16	WNW13	NW13	SW12	SSW13	SSW11	WNW8	WNW15	W13	W17	NW21.6	NNW49
25-Jan	WSW10	SW7	SW7	SSW8	S14	S16	S18	S17	S17	SSW11	SSW5	SW10	SW13	WSW16	WSW12	WSW8	WNW15	W20	WSW11	WSW15	SW18	SW13	SSW12	S15	SW10.6	W20
26-Jan	S16	SSW16	S17	S16	SW18	SW13	WSW12	S8	SSW12	SW15	SW18	SW16	SW13	SSW13	S12	SW16	WSW22	WNW23	WNW27	W25	WNW22	W16	W12	W10	WSW13.0	WNW27
27-Jan	W13	W17	W16	W13	W9	W9	WSW13	SW11	WSW12	SW11	S13	SSW14	S12	S14	SW20	SW20	SW19	WSW23	W27	WSW22	WSW23	WNW34	WNW43	WNW42	WSW15.7	WNW43
28-Jan	WNW43	WNW40	W38	W33	W30	W29	W24	W22	W28	W30	WNW37	WNW34	WNW42	WNW33	WNW36	WNW32	WNW23	WNW22	NW15	WNW15	WNW14	WSW12	WSW19	W20	WNW27.2	WNW43
29-Jan	W20	W14	W10	W9	WNW8	NNW4	W4	SW0	SW8	WSW3	NNE8	DF	NNE26	NNE22	N22	N28	N30	N33	N32	N32	N33	N30	N32	N26	N15.3	N33
30-Jan	N28	NNE24	NNE25	NNE20	NNE21	N22	NNE18	N19	N13	N16	N15	NNW12	N9	NNW10	NNE10	NNE10	NE13	NNE11	NNE11	NNE12	NNE10	NNE11	NNE13	N13	NNE15.0	N28
31-Jan	NNE11	NE12	NE8	NE10	NE10	NNE11	NNE14	N16	N9	N18	NNW8	NNW10	N12	N14	N12	N14	N20	N21	N21	N21	N22	N23	N21	N18	N14.3	N23
W5.1WSW4.6WSW3.5 SW2.4 SW3.0WSW1.9WSW1.4 SW1.0SSW2.0SSW2.4 SW2.8WSW3.5 W2.8WNW4.1WNW4.1WNW3.8WNW3.4WNW3.5WNW3.0 W3.7 W5.0 W5.4 W5.0WNW4.8																								Diurnal Average		
WNN43WNW40WNW38 NW35 NW41 NNW49 NNW41 NNW40 NNW34 SSE30WNW37WNW34WNW42 NNE33WNW36 W39 N37 N42 N34 N32 SW37 W35WNW43WNW42																								Diurnal Maximum		
DF - DAS Failure UO - Unstable Operation All monthly, daily, and diurnal averages have been calculated using vector methods																										



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Speed 45m (WS45) - km/h
Mannix - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 11 km/h on Jan 24 06:00 Minimum Value: 1 km/h on Jan 3 01:00 Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 2 Median = 3 Q ₃ = 4 P ₉₀ = 5 P ₉₉ = 8																	Hours in Service: 744 Hours of Data: 736 Hours of Missing Data: 8 Hours of Calibration: 0 Percent Operational Time: 98.9								
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	2	2	3	2	2	3	2	4	2	2	3	3	2	2	1	1	2	2	3	3	3	2	3	4	4
2-Jan	2	2	3	2	1	1	1	1	1	1	1	1	2	1	1	1	2	1	1	1	1	1	2	1	3
3-Jan	1	1	2	1	1	1	1	1	1	2	1	2	2	2	2	1	4	4	4	4	5	4	5	5	5
4-Jan	3	5	7	4	4	4	4	4	6	5	4	4	4	4	5	4	3	3	3	3	3	1	2	1	7
5-Jan	5	3	3	2	3	4	4	4	3	3	2	2	2	2	2	2	2	2	2	2	1	1	1	1	5
6-Jan	1	2	2	2	2	2	2	2	3	3	2	2	3	3	3	3	2	4	4	3	3	3	2	2	4
7-Jan	2	2	3	2	3	2	2	3	3	2	3	3	3	2	3	3	2	4	3	5	5	7	3	2	7
8-Jan	4	5	5	6	3	4	4	2	2	2	2	3	4	6	4	4	3	3	2	3	3	4	4	4	6
9-Jan	3	4	5	5	4	4	5	5	5	3	3	2	2	2	2	2	3	3	4	4	3	4	5	5	5
10-Jan	7	5	7	5	3	4	3	2	2	2	2	2	5	3	3	3	4	4	8	7	5	5	6	5	8
11-Jan	5	6	4	4	3	5	3	3	4	5	4	3	3	3	2	2	1	1	1	2	2	2	2	3	6
12-Jan	2	2	2	2	2	2	2	2	2	3	3	3	3	UO	UO	3	3	3	2	2	2	4	3	2	4
13-Jan	1	2	3	3	2	2	UO	UO	3	3	2	UO	UO	UO	4	4	2	3	3	3	3	3	4	5	5
14-Jan	2	2	3	4	2	2	2	3	3	3	3	6	5	4	6	5	4	4	4	4	4	4	4	4	6
15-Jan	4	4	4	4	3	3	2	4	3	7	2	1	3	2	2	2	1	2	1	2	3	2	2	2	7
16-Jan	3	1	5	4	4	3	4	4	3	4	5	4	5	6	5	6	7	6	8	7	7	7	7	8	8
17-Jan	5	5	4	4	5	6	4	4	6	3	2	3	3	3	3	3	4	3	3	5	5	4	5	3	6
18-Jan	3	3	2	1	3	1	2	2	1	1	2	2	2	2	1	2	2	2	1	1	1	2	1	1	3
19-Jan	2	2	1	2	4	5	4	2	3	1	1	2	2	1	2	2	3	3	1	2	1	1	2	2	5
20-Jan	3	2	4	3	2	2	2	2	2	3	3	3	4	3	3	4	4	2	3	2	4	5	6	5	6
21-Jan	5	6	5	4	6	6	6	5	4	3	3	3	5	6	6	6	6	8	5	6	6	3	3	3	8
22-Jan	2	1	1	1	1	2	1	1	1	2	1	2	2	4	3	2	1	1	1	2	3	3	3	2	4
23-Jan	3	4	3	2	3	5	2	3	4	4	4	3	6	4	5	5	5	5	5	4	5	4	5	4	6
24-Jan	5	6	5	8	9	11	9	7	8	7	6	7	4	4	3	2	3	2	2	4	6	3	2	2	11
25-Jan	3	3	3	2	2	2	2	1	2	2	2	4	2	3	3	4	6	2	2	3	2	2	1	2	6
26-Jan	2	2	1	3	6	4	4	2	2	4	3	3	4	2	2	4	3	7	4	2	2	2	3	4	7
27-Jan	2	1	2	2	3	4	2	4	1	3	3	2	2	2	5	4	4	5	6	2	3	6	7	7	7
28-Jan	6	5	5	5	4	3	3	5	6	4	6	6	7	5	7	7	4	2	4	2	2	2	2	3	7
29-Jan	2	2	1	1	3	2	1	1	3	3	3	DF	4	4	4	4	4	4	4	4	4	5	4	5	5
30-Jan	5	6	5	5	4	4	4	3	3	3	3	2	2	2	3	2	3	2	1	1	1	2	1	1	6
31-Jan	2	2	2	1	1	1	2	2	3	3	2	2	3	3	3	4	5	3	4	3	3	3	3	3	5
Diurnal Maximum																									
DF - DAS Failure UO - Unstable Operation																									





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 45m (WS45) - km/h
Mannix - January 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	49	6.66	6.66
6 - 11	151	20.52	27.17
12 - 19	238	32.34	59.51
20 - 28	200	27.17	86.68
29 - 38	87	11.82	98.51
> 38	11	1.49	100.00

Total Number of Valid Hours: 736

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Wind Speed 45m (WS45) - km/h
Mannix - January 2025

Wind Speed Ranges (km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	5	5	2	0	1	2	3	4	4	4	4	4	5	0	4	2	49
6 - 11	25	16	6	1	1	6	10	11	10	13	13	9	6	4	5	15	151
12 - 19	39	15	4	1	2	3	15	58	17	8	19	12	17	8	4	16	238
20 - 28	32	13	2	0	0	0	25	51	8	3	5	12	24	19	2	4	200
29 - 38	10	9	0	0	0	0	5	8	1	1	1	1	25	18	4	4	87
> 38	1	0	0	0	0	0	0	0	0	0	0	0	1	5	1	3	11
Totals	112	58	14	2	4	11	58	132	40	29	42	38	78	54	20	44	736

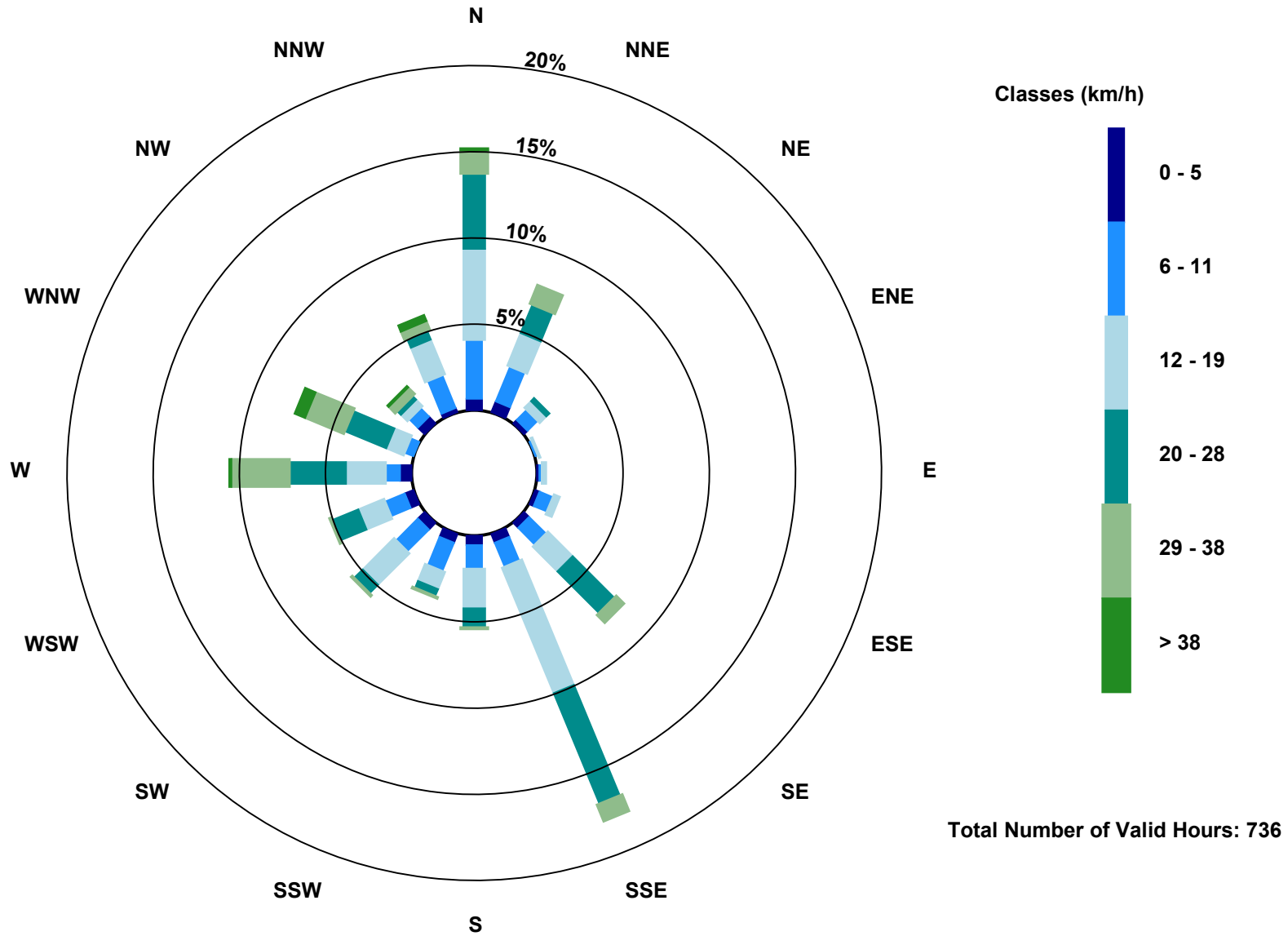
Total Number of Valid Hours: 736

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Wind Speed 45m (WS45) - km/h
Mannix





Maximum Speed: 57 km/h on Jan 24 06:00	Maximum Daily Speed Average: 31.2 km/h on Jan 28	Hours in Service: 744
Minimum Speed Value: 1 km/h on Jan 22 01:00	Minimum Daily Speed Average: 1.4 km/h on Jan 19	Hours of Data: 732
Maximum Diurnal Speed Average: 6.8 km/h at hour 22	Minimum Diurnal Speed Average: 1.6 km/h at hour 8	Hours of Missing Data: 12
Monthly Average Velocity: 4.1 km/h 270.0 deg	Percentiles: P ₁ = 2 P ₁₀ = 8 Q ₁ = 13 Median = 20 Q ₃ = 28 P ₉₀ = 35 P ₉₉ = 45	Percent Operational Time: 98.4

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	NNE17	NNE16	N13	NNE13	N17	N13	N11	N16	N14	NNE14	NNE13	N11	NNW10	N9	N7	NNE6	NNE9	NNE9	N14	NNE13	NNE17	NNE16	NNE21	NNE18	NNE13.1	NNE21
2-Jan	N14	NNE15	N8	NNW5	NNW6	N7	NNE7	NNE2	WNW1	SW3	SSW3	S5	SSE6	SE6	SE7	SSE10	SE8	SSE9	SSE12	SSE13	SSE15	SSE19	SSE21	SE19	SE4.2	SSE21
3-Jan	SE18	SE18	SE18	SE21	SE20	SE20	SE21	SE20	SSE23	SE26	SE22	SE21	SSE20	SSE18	SE19	SE18	SE19	SE28	SE29	SE30	SE30	SE32	SE34	SE31	SE23.1	SE34
4-Jan	SE31	SE33	SE31	SE29	SE23	SE18	SE21	SE16	SE16	SE26	SE22	SE20	SE17	SE13	SE11	ESE10	ESE9	ESE7	ESE6	SE8	SE5	ESE3	NE2	NE6	SE15.4	SE33
5-Jan	NNW11	N17	N15	NNW15	N15	N17	N20	N18	N15	N11	N11	N10	NNW10	NNW9	NNW9	N10	NNE10	NNE11	NE10	NE6	NW3	W4	SSW4	SW3	N9.8	N20
6-Jan	S5	SE9	SSE10	SSE13	SSE15	SSE15	SSE16	SSE19	SSE17	SSE17	SSE16	SSE16	SSE21	SSE21	SSE20	SSE23	SSE22	SSE29	SSE31	SSE28	SSE30	SSE30	SSE28	SSE28	SSE19.8	SSE31
7-Jan	SSE31	S26	S30	SSE35	SSE34	S30	S33	S34	S35	S35	S34	SSE33	S30	S21	S19	SSW19	SSW25	SW32	SSW31	SW37	SW44	SW33	SSW18	SW21	S27.6	SW44
8-Jan	WSW25	WSW32	W34	W27	W21	W20	W24	W29	W22	WSW24	WSW28	W22	NNW27	NW34	NW33	NW30	NNW35	NNW29	NNW26	NNW30	NNW31	NNW37	NNW34	NNW31	W27.0	NNW37
9-Jan	WNW34	WNW40	NW27	N23	NNE21	NNE22	NNE23	NNE22	NNE17	NE12	NE7	NE2	ESE3	S9	S10	SSE11	SSE13	SSE15	SE19	SE23	SE23	SE28	SE30	SSE26	E3.0	WNW40
10-Jan	SE31	SE40	SE35	SE33	SSE28	SE15	SSE19	SSE13	SSE9	SW5	SSE4	S5	NNW5	N11	N14	N19	N21	N21	N25	N22	N25	NNE23	N25	N28	ENE6.6	SE40
11-Jan	N27	N21	N19	NNW24	N16	NNE20	NNE16	N12	N19	N20	N13	N14	N14	NNE12	N10	N7	NNE3	NNE1	S3	SW7	SSW8	SSW9	S11	SSW10	N9.1	N27
12-Jan	SSE10	UO	SSE15	SSE13	SSE14	SSE15	SSE20	SSE22	SSE22	SSE25	SSE22	SSE22	UO	UO	UO	UO	UO	UO	SE16	SE19	SE21	SSE22	S15	SSE8	---	SSE25
13-Jan	SSE11	SE19	SE23	SE25	SE24	UO	SE30	SSE27	SE25	SE26	SE24	SSE18	SSE21	UO	SSE23	SSE21	S25	SW16	WSW18	WSW23	W27	W31	W28	W19	S14.8	W31
14-Jan	WSW17	W18	WSW15	SSW9	S17	SSW19	S22	S27	SSE29	S31	S31	SSW27	SW31	WSW27	W38	W43	W39	W37	W34	W31	W35	W39	W36	W38	WSW23.3	W43
15-Jan	W38	WNW34	NW34	NNW32	NNW33	NNW30	NNW39	NNW35	NNW24	NNW19	NNW14	W14	W18	WNW17	W12	WNW10	WSW8	WSW13	W17	W20	WNW17	NNW9	N10	NE17	WNW19.4	WNW39
16-Jan	E10	E6	ENE20	ESE9	ESE14	ESE13	E19	ENE22	NE23	NE25	NNE24	NNE27	NNE37	NNE38	NNE41	NNE41	N46	N38	N29	N39	N38	N39	N41	NNE22.7	NNE46	
17-Jan	N26	N29	NNW25	NNW24	N23	NNE23	NNE20	NNE15	NNE25	NNE21	N14	N10	NNW18	NNW19	NNW22	NNW22	N23	N23	N24	N21	N26	N24	N26	NNE27	N21.7	N29
18-Jan	NNE23	NNE11	NNE7	NNE4	SW2	SSW10	SW11	SW11	SW10	SW9	SW10	WSW6	SSE6	SSE9	SSE10	SSE10	SSE11	SSW8	SSW7	SSW4	W7	WSW6	W7	WNW11	SW3.3	NNE23
19-Jan	NW11	NW9	NNW13	N18	N17	N16	N16	N12	NNW13	UO	UO	NW6	WSW4	W6	NW3	ESE2	SSE6	SSE15	SSE19	S23	SSW19	S14	S21	S23	WSW1.4	S23
20-Jan	S28	S32	SSE34	SSE37	SSE37	SSE34	SSE36	SSE37	SSE40	SSE41	SSE38	SSE42	SSE43	SSE38	S33	SSW23	SSW22	SSW21	SSW24	SSW19	WSW19	WSW24	W35	W38	S26.6	SSE43
21-Jan	W39	W39	W30	W23	W29	W40	W32	W34	W29	W27	W27	WNW24	N28	NNE32	NNE34	NNE37	NNE38	NNE37	NNE35	N29	N25	N18	N15	N8	NW17.2	W40
22-Jan	NNE1	S5	S11	SW8	W12	NW10	N11	NNE7	NNE8	ENE2	SSW5	WSW8	W12	W21	WSW14	SW16	SSW19	S22	SSW22	S23	S28	S30	S32	S37	SSW10.3	S37
23-Jan	S35	S36	S34	S31	SW29	SW20	SW10	WSW14	SW22	SW17	SW13	WSW14	W20	W28	NNW32	NNW36	NNW36	NNW30	NNW28	NNW30	W35	W31	W30	WNW34	WSW20.1	WNW36
24-Jan	WNW40	WNW41	WNW38	NW41	NNW48	NNW57	NNW47	N45	NNW39	NNW27	NNW38	NW34	NNW23	NNW19	NW18	NW15	NW16	SW15	SW14	SW12	NNW13	WNW19	W18	W21	NW25.5	NNW57
25-Jan	WSW14	WSW10	SW10	SW8	SSW14	SSW17	SSW14	SSW13	SSW16	SSW12	WSW9	WSW17	WSW18	WSW18	WSW15	W11	WNW19	W24	WSW15	WSW18	WSW21	WSW16	SW14	SSW13	WSW17.3	W24
26-Jan	SW17	SW18	SSW18	SW20	WSW23	WSW18	WSW17	SW9	SW15	SW18	WSW22	SW19	SW15	SW15	SSW11	WSW19	WSW26	NNW28	NNW33	NNW32	NNW28	W22	W18	W16	WSW17.1	WNW33
27-Jan	W17	W21	W20	W17	W12	W12	W17	WSW14	WSW16	WSW17	SW14	SW18	SSW14	SSW15	WSW26	SW25	SW23	WSW28	W31	W25	W25	NNW40	WNW48	WNW47	W19.9	WNW48
28-Jan	WNW48	WNW45	WNW43	WNW37	W34	W34	W28	NNW25	NNW32	NNW34	NNW41	NNW38	NW45	NNW36	NNW39	NNW35	NNW26	NNW26	NW18	NNW19	NNW17	W16	W25	W25	WNW31.2	WNW48
29-Jan	WNW25	W18	W13	W12	WNW12	NNW5	NNW6	W3	SSW7	WSW6	NNE10	DF	NNE28	NNE25	NNE25	NNE31	N33	NNE36	NNE35	N36	NNE36	NNE33	N35	NNE29	N17.0	NNE36
30-Jan	NNE31	NNE27	NNE30	NNE24	NNE25	NNE26	NNE22	NNE23	NNE17	NNE20	N16	N12	N10	N10	NNE11	NE12	NE15	NE14	NE14	NE14	ENE13	ENE17	NE15	NNE15	NNE17.4	NNE31
31-Jan	NNE15	NE16	ENE12	ENE13	ENE10	ENE9	NE13	NE15	NNE14	NNE21	N11	N12	N14	N15	N14	N16	NNE23	N23	N25	NNE26	NNE25	N25	N24	N21	NNE16.2	NNE26

W6.3	W6.3	WSW4.4	WSW3.2	WSW3.6	W3.6	SW1.6	SW1.6	SW1.8	SSW3.2	SW3.6	SW4.8	W3.4	NNW4.9	NNW4.8	NNW5.1	NNW5.2	NNW5.8	NNW4.8	W5.1	W6.4	W6.8	W6.4	NNW6.2	Diurnal Average
WNW48	WNW45	WNW43	NW41	NNW48	NNW57	NNW47	N45	SSE40	SSE41	WNW41	SSE42	NW45	SSE38	NNW39	W43	NNE41	NNE46	N38	SW37	SW44	NNW40	NNW48	WNW47	Diurnal Maximum

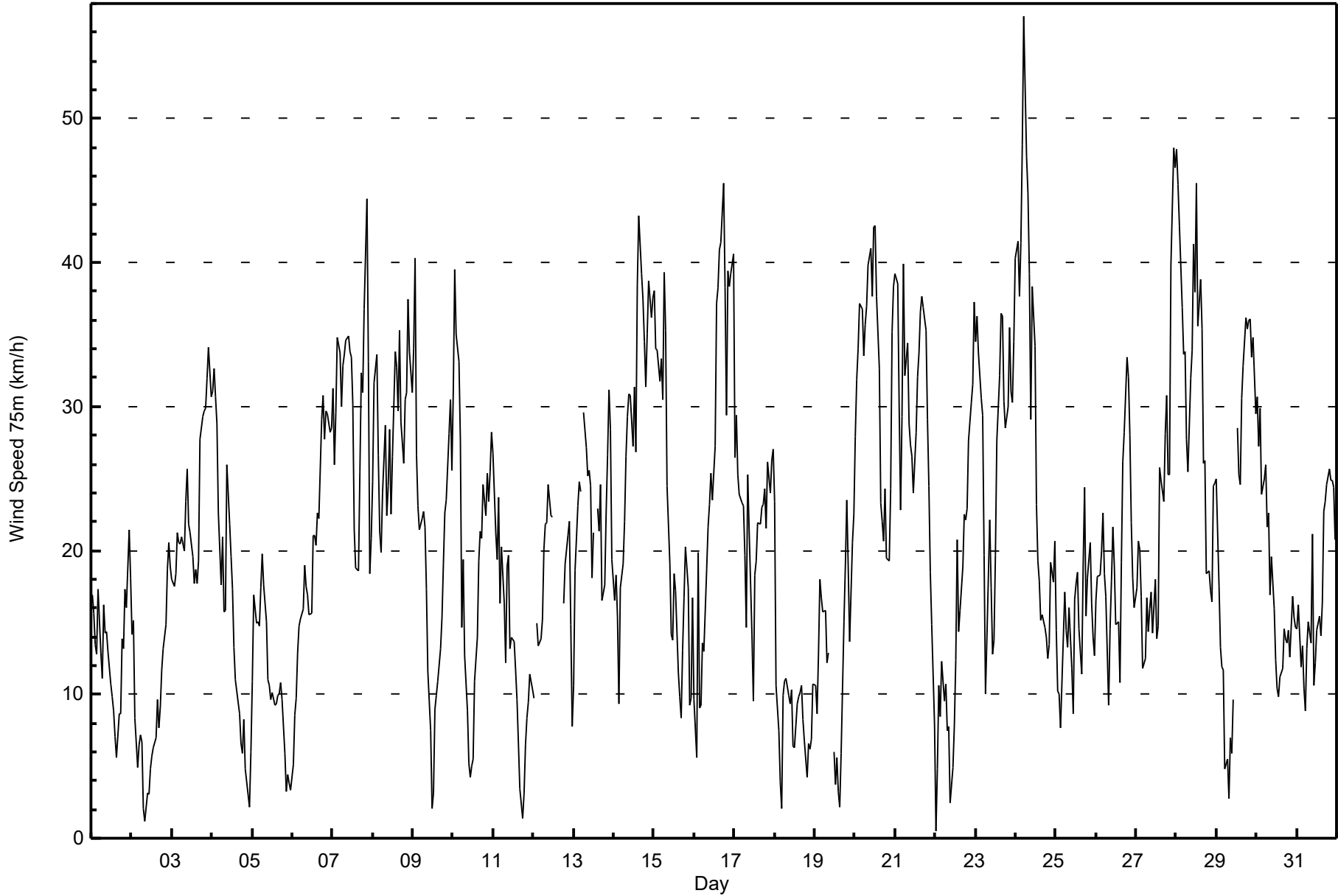
DF - DAS Failure UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Speed 75m (WS75) - km/h
Mannix - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 11 km/h on Jan 24 06:00 Minimum Value: 1 km/h on Jan 2 16:00 Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 2 Median = 3 Q ₃ = 4 P ₉₀ = 5 P ₉₉ = 8																		Hours in Service: 744 Hours of Data: 732 Hours of Missing Data: 12 Hours of Calibration: 0 Percent Operational Time: 98.4							
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	2	2	3	3	2	3	2	4	2	2	3	2	2	2	1	1	2	2	3	3	4	2	3	3	4
2-Jan	2	2	3	2	2	2	1	1	1	1	1	1	1	2	2	1	2	1	1	1	1	1	1	1	2
3-Jan	1	2	2	2	2	2	2	2	2	3	3	3	2	2	1	2	5	4	3	3	6	4	5	4	
4-Jan	3	5	7	5	6	6	6	6	6	6	6	5	5	5	5	3	3	3	2	3	2	1	2	1	
5-Jan	5	2	2	2	2	4	4	4	4	3	2	2	2	2	2	3	2	2	2	2	1	1	1	1	
6-Jan	2	2	2	2	2	2	3	2	3	3	2	2	3	3	3	3	2	4	4	3	3	2	2	2	
7-Jan	1	2	1	1	3	1	1	1	2	2	3	2	2	3	3	3	3	5	3	6	5	8	4	3	
8-Jan	5	6	6	6	3	4	4	2	3	2	3	3	4	7	4	4	3	4	2	3	3	4	3	3	
9-Jan	3	4	6	4	3	3	5	5	5	3	3	2	2	2	2	2	3	3	4	4	4	3	5	5	
10-Jan	7	5	6	4	3	4	3	2	1	1	2	2	5	3	3	3	4	5	8	7	5	4	6	5	
11-Jan	5	5	4	4	3	5	3	3	3	5	5	3	3	2	1	2	1	1	1	1	2	2	3	3	
12-Jan	4	UO	3	2	2	3	2	3	2	3	3	3	UO	UO	UO	UO	UO	UO	4	2	2	2	3	3	
13-Jan	3	1	3	3	2	UO	2	4	3	4	2	3	2	UO	5	4	3	2	4	3	3	3	4	5	
14-Jan	2	3	4	2	1	2	3	3	3	2	3	5	5	5	7	5	5	4	5	5	4	5	4	4	
15-Jan	4	4	4	5	3	3	2	4	4	7	3	2	3	2	2	2	2	2	1	2	3	5	4	3	
16-Jan	4	2	5	5	3	4	4	5	4	4	4	4	5	5	5	5	6	5	7	7	6	7	7	8	
17-Jan	5	5	5	4	5	6	4	4	7	3	3	2	3	3	3	2	3	3	2	5	6	4	5	3	
18-Jan	3	4	2	1	2	2	2	2	2	1	1	3	2	2	3	3	1	1	1	1	1	1	1	1	
19-Jan	2	2	3	2	4	5	5	3	4	UO	UO	3	2	2	3	1	2	2	1	1	3	1	3	1	
20-Jan	1	2	3	2	1	1	3	2	3	3	2	2	3	3	2	3	3	2	2	3	5	6	5	6	
21-Jan	5	6	5	4	6	6	6	5	4	4	3	3	5	6	5	5	6	7	5	6	6	4	3	4	
22-Jan	1	2	2	1	2	2	2	2	2	1	2	3	2	4	3	2	2	1	1	2	2	1	2	2	
23-Jan	3	3	2	2	3	5	3	4	4	4	4	3	6	4	5	6	5	5	4	4	4	4	5	4	
24-Jan	5	6	5	8	9	11	9	7	8	7	5	7	4	4	3	2	3	1	1	3	7	3	2	2	
25-Jan	3	4	3	2	3	2	2	2	2	3	2	3	2	3	3	4	6	2	3	3	2	2	2	2	
26-Jan	2	2	2	5	6	4	4	2	4	3	4	3	3	2	3	6	3	8	4	2	2	2	3	3	
27-Jan	2	1	1	3	3	3	2	4	2	3	2	2	3	3	4	4	4	6	7	2	3	6	7	7	
28-Jan	6	5	5	5	3	3	3	5	6	5	6	6	8	5	6	7	4	2	4	2	2	2	2	2	
29-Jan	2	3	2	2	4	2	1	1	2	2	4	DF	4	4	4	3	4	3	3	3	4	4	3	5	
30-Jan	4	5	5	4	3	3	3	3	3	3	2	3	3	2	3	2	3	2	1	1	2	1	1	1	
31-Jan	1	1	3	3	2	2	1	1	3	2	3	2	2	2	2	4	4	3	3	2	3	2	2	3	
Diurnal Maximum																									
DF - DAS Failure UO - Unstable Operation																									





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 75m (WS75) - km/h
Mannix - January 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	35	4.78	4.78
6 - 11	116	15.85	20.63
12 - 19	214	29.23	49.86
20 - 28	189	25.82	75.68
29 - 38	141	19.26	94.95
> 38	37	5.05	100.00

Total Number of Valid Hours: 732

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Wind Speed 75m (WS75) - km/h
Mannix - January 2025**

Wind Speed Ranges (km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	0	5	2	1	0	3	1	1	5	4	4	1	2	1	2	3	35
6 - 11	20	12	4	2	2	6	5	16	4	9	11	8	3	3	4	7	116
12 - 19	36	19	11	4	1	2	17	26	3	15	18	22	20	6	8	6	214
20 - 28	27	30	2	2	0	0	24	24	12	7	6	12	25	11	1	6	189
29 - 38	8	16	0	0	0	0	15	17	19	1	5	1	24	28	6	1	141
> 38	4	3	0	0	0	0	1	4	0	0	1	0	6	12	2	4	37
Totals	95	85	19	9	3	11	63	88	43	36	45	44	80	61	23	27	732

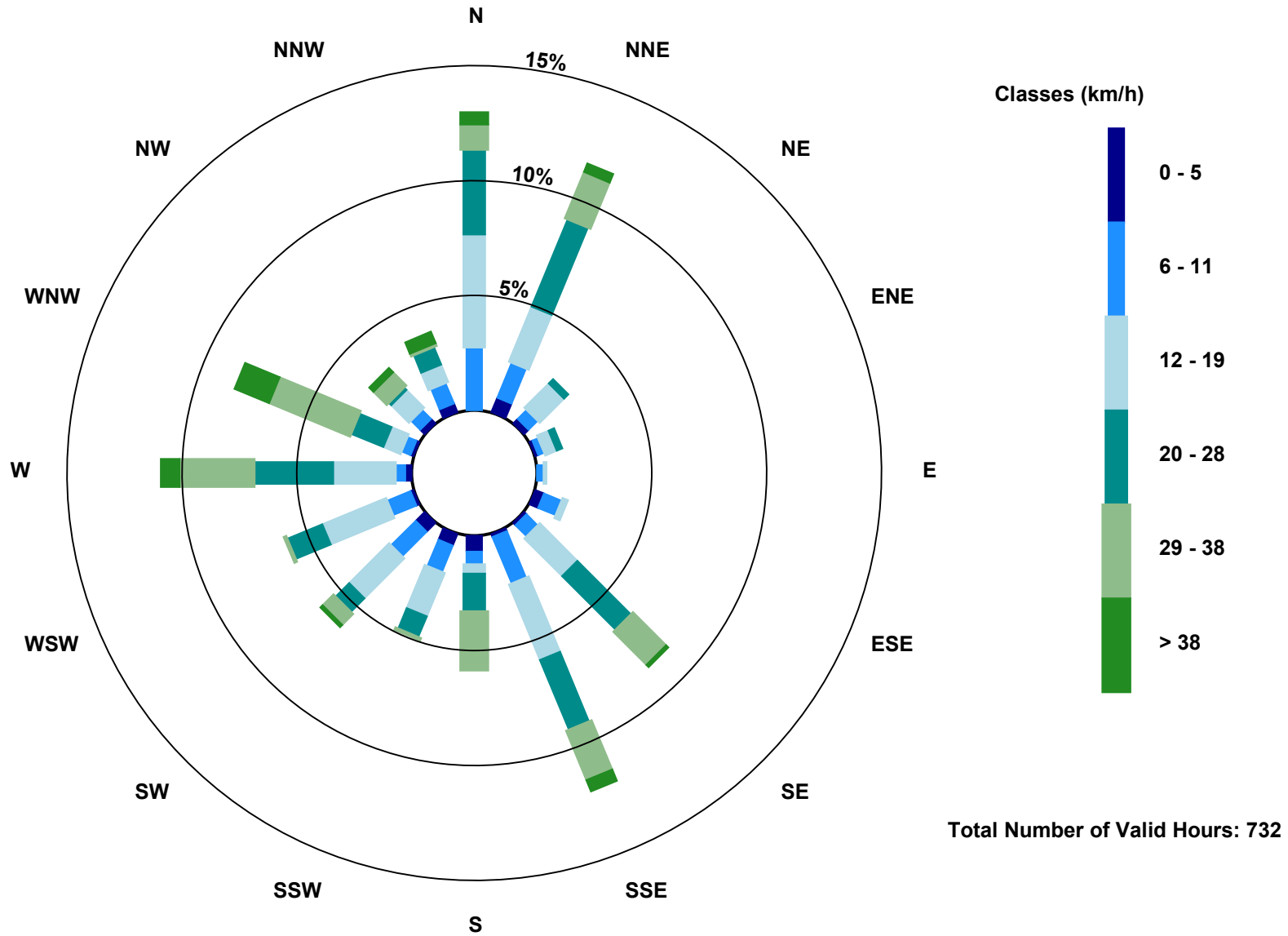
Total Number of Valid Hours: 732

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Wind Speed 75m (WS75) - km/h
Mannix





Maximum Speed: 61 km/h on Jan 24 06:00	Maximum Daily Speed Average: 32.9 km/h on Jan 28	Hours in Service: 744
Minimum Speed Value: 1 km/h on Jan 22 01:00	Minimum Daily Speed Average: 2.5 km/h on Jan 9	Hours of Data: 720
Maximum Diurnal Speed Average: 9.9 km/h at hour 22	Minimum Diurnal Speed Average: 3.1 km/h at hour 9	Hours of Missing Data: 24
Monthly Average Velocity: 6.4 km/h 307.7 deg	Percentiles: P ₁ = 2 P ₁₀ = 9 Q ₁ = 14 Median = 20 Q ₃ = 29 P ₉₀ = 37 P ₉₉ = 48	Percent Operational Time: 96.8

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	NE17	NE16	NE14	NE13	NNE17	NNE13	NNE12	NNE17	NE15	NE15	NE13	NNE11	NNE10	NNE9	NE7	NE6	NE9	ENE10	NE15	NE15	NE20	NE18	NE22	NE19	NE13.8	NE22
2-Jan	NNE15	NE16	NNE9	N6	N7	NE8	ENE7	NE3	N1	WSW2	WSW2	SSW4	S5	SSE6	S8	S10	S7	S9	S12	SSW12	S17	S19	S23	S20	SSE4.1	S23
3-Jan	S18	S19	S19	S22	S23	SSE22	S21	S21	S24	S26	SSE21	SSE21	S21	S19	SSE18	SSE19	SSE22	SSE31	SSE32	S31	SSE33	SSE35	SSE37	SSE33	SSE24.5	SSE37
4-Jan	SSE33	SSE35	SSE32	SSE31	SSE24	SSE20	SSE23	SSE19	SSE20	SSE27	SSE27	SSE23	SSE20	SSE18	SSE16	SSE14	SE11	SSE8	SE7	SSE9	SSE5	SE4	ENE2	ENE6	SSE17.1	SSE35
5-Jan	NNE11	NNE18	NNE16	NNE16	NNE15	NNE18	NE20	NNE18	NNE16	NNE12	NNE11	NNE10	N11	N10	N10	NNE10	NE10	NE11	ENE10	ENE6	N3	WNW4	SW4	WSW3	NNE10.3	NE20
6-Jan	SW5	S9	S10	S13	S15	S15	S17	S20	S19	S18	S16	S16	SSW21	SSW21	SSW21	SSW24	S24	SSW32	SSW33	SSW30	SSW30	SSW30	SSW29	SSW29	S20.5	SSW33
7-Jan	SSW30	SSW23	SSW27	SSW33	SSW32	SSW27	SSW30	SSW33	SSW34	SSW34	SSW34	SSW34	SSW29	SW21	SW18	WSW20	WSW27	WSW35	WSW33	WSW39	WSW47	WSW35	WSW20	W23	SW27.8	WSW47
8-Jan	W27	WNW33	WNW35	NW28	WNW23	WNW21	WNW25	NW30	WNW23	W25	WNW30	WNW24	NW28	NNW36	NNW35	NNW31	NNW38	NW31	NW28	NW33	NW33	NW39	NW36	NW33	NW28.6	NW39
9-Jan	NW36	NW42	NNW29	NNE24	NE22	NE22	NE23	NE22	NE18	ENE11	ENE7	ENE2	SSE3	SSW8	SSW9	SSW10	S10	UO	SSE17	S21	SSE23	S25	SSE31	S27	E2.5	NW42
10-Jan	S33	SSE42	S37	S35	S29	S17	S20	S13	S10	WSW6	SSW5	WSW5	N7	NNE12	NNE15	NNE21	NNE22	NNE22	NNE25	NNE23	NNE26	NE24	NE26	NE29	E6.1	SSE42
11-Jan	NNE28	NNE22	NNE20	NNE25	NNE18	NE21	NE17	NNE13	NNE20	NNE20	NE14	NNE15	NE14	NE12	NNE10	NE7	NE3	NNE2	SW3	WSW7	SW8	SW9	SSW11	SW12	NNE9.5	NNE28
12-Jan	UO	UO	SSW14	SSW12	UO	SSW13	SSW17	SSW19	SSW20	SSW22	S24	S22	SSW17	S15	S15	S18	S20	UO	UO	UO	UO	UO	UO	UO	---	S24
13-Jan	UO	S14	S21	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	SSW25	SSW21	SSW21	WSW19	W21	WNW26	WNW30	WNW34	WNW31	WNW22	---	WNW34
14-Jan	WNW19	WNW21	WNW17	WSW9	SW15	SW18	SW20	SSW23	SSW27	SSW33	SW33	WSW30	W33	W28	WNW39	WNW44	WNW40	WNW38	WNW36	WNW33	WNW36	WNW40	WNW38	WNW39	W24.9	WNW44
15-Jan	NW40	NW36	NNW37	NW34	NW36	NW33	NW42	NW38	NNW27	NNW20	NNW16	NW15	WNW19	NW18	WNW12	NNW11	WNW9	W14	WNW19	WNW23	NNW20	NNE10	NNE10	E18	NW20.9	NW42
16-Jan	ESE10	SE7	E20	SE11	SE13	SE21	SE18	ESE21	ESE22	E24	ENE26	NE24	NE28	NE38	NE39	NE42	NE43	NE47	NE39	NNE31	NNE42	NNE41	NNE42	NNE43	NE23.1	NE47
17-Jan	NNE28	NNE31	NNE27	N26	NNE25	NE24	NE20	NE15	NE26	NE22	NNE15	NNE10	N19	N20	N24	NNE23	NNE25	NNE25	NNE26	NNE22	NNE28	NNE25	NNE27	NE28	NNE22.9	NNE31
18-Jan	NE25	NE12	NE8	ENE5	W1	SW9	WSW11	W12	W11	W10	W11	WNW10	S4	S9	S10	S11	SSW9	WSW6	WSW6	W4	NW6	WNW7	NW8	NW13	W3.5	NE25
19-Jan	N13	N10	N17	NNE21	NE19	NNE19	NNE16	NNE13	NNE13	N11	N10	NNW6	W4	WNW6	NNW4	S1	SSW5	S13	S16	SSW21	SW18	SW13	SW16	SW17	NNW3.0	SSW21
20-Jan	SW25	SSW27	SSW32	SSW37	SSW36	SSW33	S36	S39	S42	S43	S40	S44	S45	SSW39	SSW32	SW24	WSW23	SW21	SW24	WSW20	W21	WNW25	WNW36	WNW40	SSW26.9	S45
21-Jan	WNW40	WNW40	WNW31	WNW24	WNW30	WNW41	WNW33	WNW36	WNW30	WNW28	NW26	NNE29	NE32	NE34	NE37	NE39	NE38	NE36	NE30	NNE25	NNE20	NNE16	NNE8	NNW18.9	WNW41	
22-Jan	NE1	SSW3	SW8	W10	WNW16	NNW12	NNE12	NE9	NE9	ENE3	WSW5	WNW10	WNW14	WNW21	W15	WSW16	SW19	SW22	WSW22	SW21	SW24	SSW29	SW31	SSW38	WSW10.3	SSW38
23-Jan	SSW37	SSW38	SSW35	SW32	WSW31	WSW21	W11	W15	WSW23	W19	W14	W15	WNW21	NW28	NNW33	NW38	NNW38	NW33	NW30	NW31	WNW36	WNW32	NW32	NW36	WNW21.5	NNW38
24-Jan	NW42	NW44	NW39	N45	N52	N61	N51	NNE47	NNE42	N32	N41	N36	N25	N21	NNW19	NNW16	NNW17	W15	W14	W12	NNW16	NNW21	NW19	WNW22	NNW27.8	N61
25-Jan	WNW16	W11	W11	W8	WSW14	WSW17	SW13	WSW13	WSW17	W13	WNW12	WNW19	W19	WNW19	WNW15	WNW13	NW21	NW26	WNW17	WNW19	W21	W17	WSW15	WSW13	W14.6	NW26
26-Jan	WSW17	WSW19	WSW19	WSW22	W25	W21	W19	WSW11	W16	W19	W23	W20	WSW15	WSW15	WSW11	W20	WNW27	NNW30	NW35	NW35	NW30	NW24	NW20	NW19	WNW18.6	NW35
27-Jan	NW19	WNW22	WNW22	NW18	WNW12	NW14	WNW18	WNW16	WNW18	W19	WSW15	W20	SW14	WSW16	W27	WSW26	WSW25	W29	WNW32	WNW26	WNW26	NNW43	NNW51	NNW49	WNW21.6	NNW51
28-Jan	NW51	NW48	NW45	NW39	WNW35	WNW35	WNW29	NW27	NW34	NW36	NW43	NW39	NNW48	NW37	NW40	NNW37	NNW28	NNW28	NNW20	NNW20	NW18	WNW18	WNW25	NW26	NW32.9	NW51
29-Jan	NW27	NW19	NW15	WNW13	NW14	N6	NW5	NW3	SW7	W6	NE9	DF	NNE29	NNE26	NNE25	N31	N33	N37	N36	N37	N37	N34	N35	NNE30	N19.7	N37
30-Jan	NNE31	NNE28	NNE31	NNE25	NNE26	NNE27	NNE23	NNE24	NNE19	N21	N16	N13	N11	N10	NNE11	NE12	NE14	NE14	NE14	NE14	ENE15	ENE18	NE16	NNE15	NNE17.9	NNE31
31-Jan	NNE14	NE16	ENE13	ENE14	E9	ENE8	NE12	NE14	NNE14	NNE19	N12	N14	N16	N17	N15	N18	NNE23	N24	N26	NNE26	NNE24	N26	N25	N22	NNE16.4	NNE26

NW9.2	WNW8.1	WNW6.0	WNW5.3	WNW5.7	NW5.0	NW3.8	WNW3.2	WNW3.1	W3.8	W4.8	W6.1	NW5.3	NW6.0	NW5.8	NW6.2	NW6.8	NW8.6	NW7.9	NW8.4	NW9.3	NW9.9	NW9.3	NW9.1	Diurnal Average
NW51	NW48	NW45	N45	N52	N61	N51	NNE47	NNE42	S43	NW43	S44	NNW48	SSW39	NW40	WNW44	NE43	NE47	NE39	WSW39	WSW47	NNW43	NNW51	NNW49	Diurnal Maximum

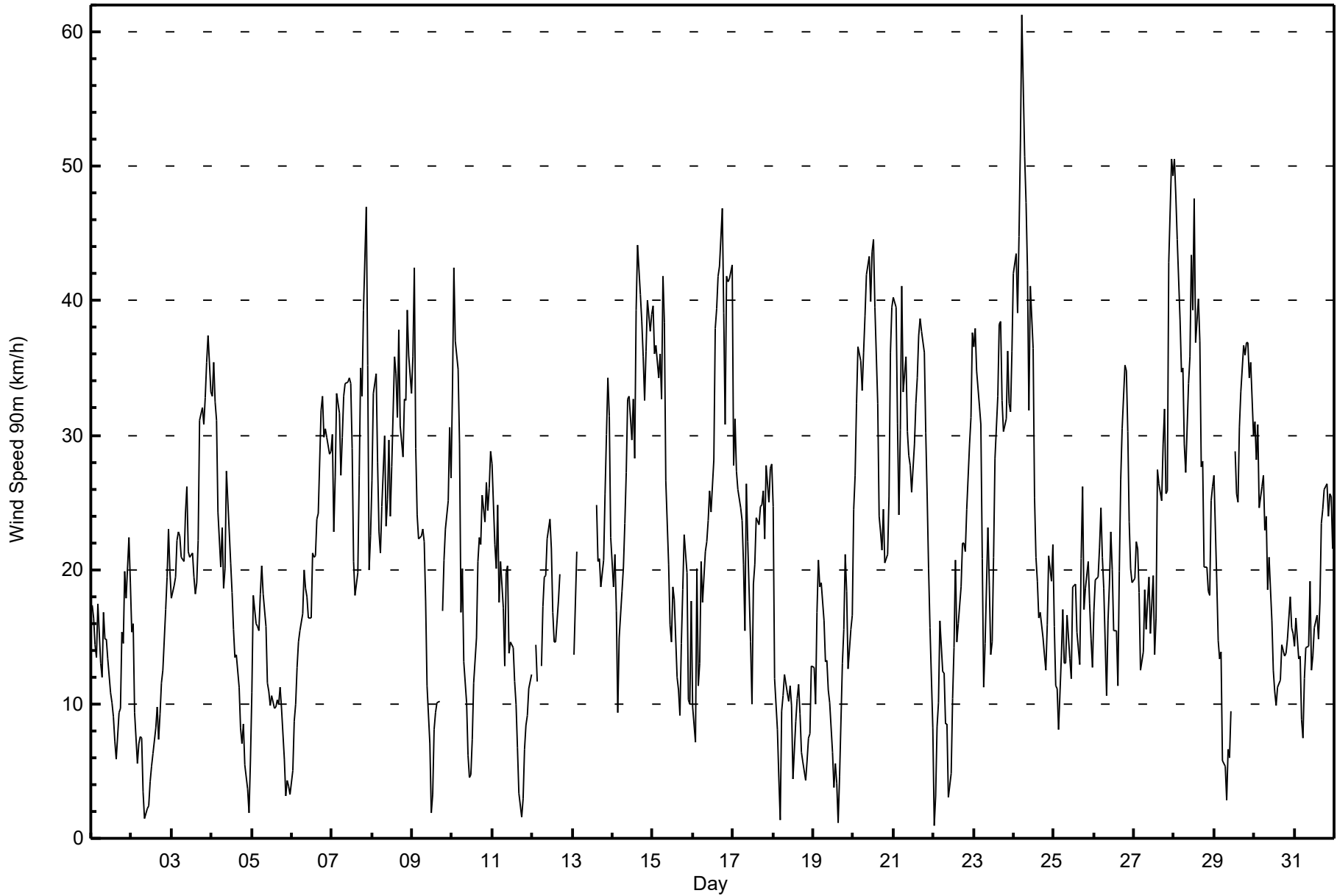
DF - DAS Failure UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Speed 90m (WS90) - km/h
Mannix - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 11 km/h on Jan 24 06:00 Minimum Value: 0 km/h on Jan 2 16:00 Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 2 Median = 3 Q ₃ = 4 P ₉₀ = 5 P ₉₉ = 8																	Hours in Service: 744 Hours of Data: 720 Hours of Missing Data: 24 Hours of Calibration: 0 Percent Operational Time: 96.8																								
Day	Hourly Period Ending At (MST)																								Daily Maximum																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																	
1-Jan	2	2	2	3	2	3	2	3	2	3	3	2	2	2	1	1	2	2	3	3	3	2	3	3	3																
2-Jan	3	2	3	2	2	2	1	1	0	1	1	1	1	1	2	0	1	1	1	1	2	1	2	2	3																
3-Jan	1	2	2	1	2	2	3	2	3	3	5	4	2	2	2	2	4	3	3	3	6	3	3	2	6																
4-Jan	2	4	7	3	5	4	4	4	4	5	5	4	4	3	4	3	3	3	2	2	2	1	1	1	7																
5-Jan	5	2	2	2	2	4	5	4	4	3	2	3	2	2	2	3	2	2	2	2	1	1	1	1	5																
6-Jan	2	2	2	2	2	2	2	2	3	3	2	2	3	3	3	3	3	3	3	3	2	1	1	1	3																
7-Jan	2	2	2	1	3	1	2	1	2	2	2	1	3	3	3	3	4	5	4	6	5	8	4	3	8																
8-Jan	5	6	5	6	3	5	4	3	3	2	3	3	4	7	5	4	3	3	2	3	3	3	3	3	7																
9-Jan	3	4	6	4	3	3	4	5	5	3	3	2	2	1	2	2	2	UO	3	4	3	2	4	4	6																
10-Jan	6	3	5	3	3	4	3	2	2	2	1	1	4	3	3	3	4	5	8	7	5	4	6	4	8																
11-Jan	4	5	4	4	4	5	3	3	3	4	5	3	3	2	1	2	1	1	1	1	2	2	2	2	5																
12-Jan	UO	UO	3	2	UO	2	2	2	2	3	3	2	3	4	4	3	3	UO	UO	UO	UO	UO	UO	UO	4																
13-Jan	UO	2	2	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	6	3	2	2	4	4	3	3	4	5	6																
14-Jan	2	3	4	2	2	3	2	3	3	2	3	4	5	5	7	5	5	5	5	5	4	5	4	4	7																
15-Jan	4	4	4	5	3	3	2	4	5	7	3	2	3	3	2	3	2	3	1	2	3	5	4	3	7																
16-Jan	4	2	5	5	5	3	4	5	4	4	4	4	5	5	5	5	6	5	7	7	6	7	7	8	8																
17-Jan	5	5	5	4	5	5	4	5	7	4	3	3	2	3	3	2	3	3	2	5	7	4	5	3	7																
18-Jan	3	4	2	1	2	2	2	1	2	1	2	3	2	2	2	2	2	1	1	1	1	1	2	1	4																
19-Jan	3	1	3	2	3	5	5	3	3	2	2	3	2	1	3	1	2	1	2	1	4	1	2	3	5																
20-Jan	1	2	1	2	1	1	3	2	3	2	1	2	3	3	2	3	3	2	2	3	4	6	5	6	6																
21-Jan	5	6	5	4	6	6	7	5	4	3	3	3	5	6	5	5	6	7	5	5	6	4	3	3	7																
22-Jan	1	2	2	2	2	3	2	3	2	2	3	3	2	3	2	2	2	1	1	1	2	1	2	2	3																
23-Jan	3	3	2	2	3	5	3	4	4	4	4	3	6	4	4	6	5	5	4	4	4	4	5	4	6																
24-Jan	5	6	5	8	9	11	9	7	8	7	4	7	5	4	4	3	3	1	2	2	7	3	2	2	11																
25-Jan	3	4	2	2	3	2	2	2	1	3	2	2	2	3	3	3	5	2	3	2	2	2	2	2	5																
26-Jan	3	2	3	5	5	4	3	3	4	3	4	3	3	2	4	6	2	9	4	2	2	2	3	2	9																
27-Jan	2	1	1	3	3	3	2	4	2	3	2	2	3	3	4	4	4	5	7	2	4	6	7	7	7																
28-Jan	6	5	5	6	3	3	3	6	7	5	7	6	8	5	6	7	3	2	4	2	1	3	1	2	8																
29-Jan	2	3	2	3	4	1	1	1	2	1	5	DF	3	4	3	3	3	3	3	3	3	4	2	5	5																
30-Jan	3	5	5	3	3	3	3	3	3	3	2	3	3	3	2	2	3	2	2	2	3	1	1	1	5																
31-Jan	1	1	3	2	2	1	1	1	2	2	4	2	2	2	2	4	3	3	3	2	2	3	2	3	4																
																	6	6	7	8	9	11	9	7	8	7	7	7	8	7	7	7	6	9	8	7	7	8	7	8	
Diurnal Maximum																																									
DF - DAS Failure UO - Unstable Operation																																									





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Wind Speed 90m (WS90) - km/h
Mannix - January 2025**

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	35	4.86	4.86
6 - 11	101	14.03	18.89
12 - 19	197	27.36	46.25
20 - 28	196	27.22	73.47
29 - 38	137	19.03	92.50
> 38	54	7.50	100.00

Total Number of Valid Hours: 720

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Wind Speed 90m (WS90) - km/h
Mannix - January 2025**

Wind Speed Ranges (km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	1	2	3	4	0	0	1	2	3	4	3	5	3	1	2	1	35
6 - 11	12	15	10	8	1	1	4	3	11	5	4	9	9	5	2	2	101
12 - 19	11	30	29	4	1	0	3	7	23	7	11	15	17	23	10	6	197
20 - 28	10	39	18	1	2	2	1	13	18	16	9	11	14	21	13	8	196
29 - 38	10	7	8	0	0	0	0	11	6	28	3	5	2	23	25	9	137
> 38	5	6	6	0	0	0	0	1	6	1	0	2	0	9	14	4	54
Totals	49	99	74	17	4	3	9	37	67	61	30	47	45	82	66	30	720

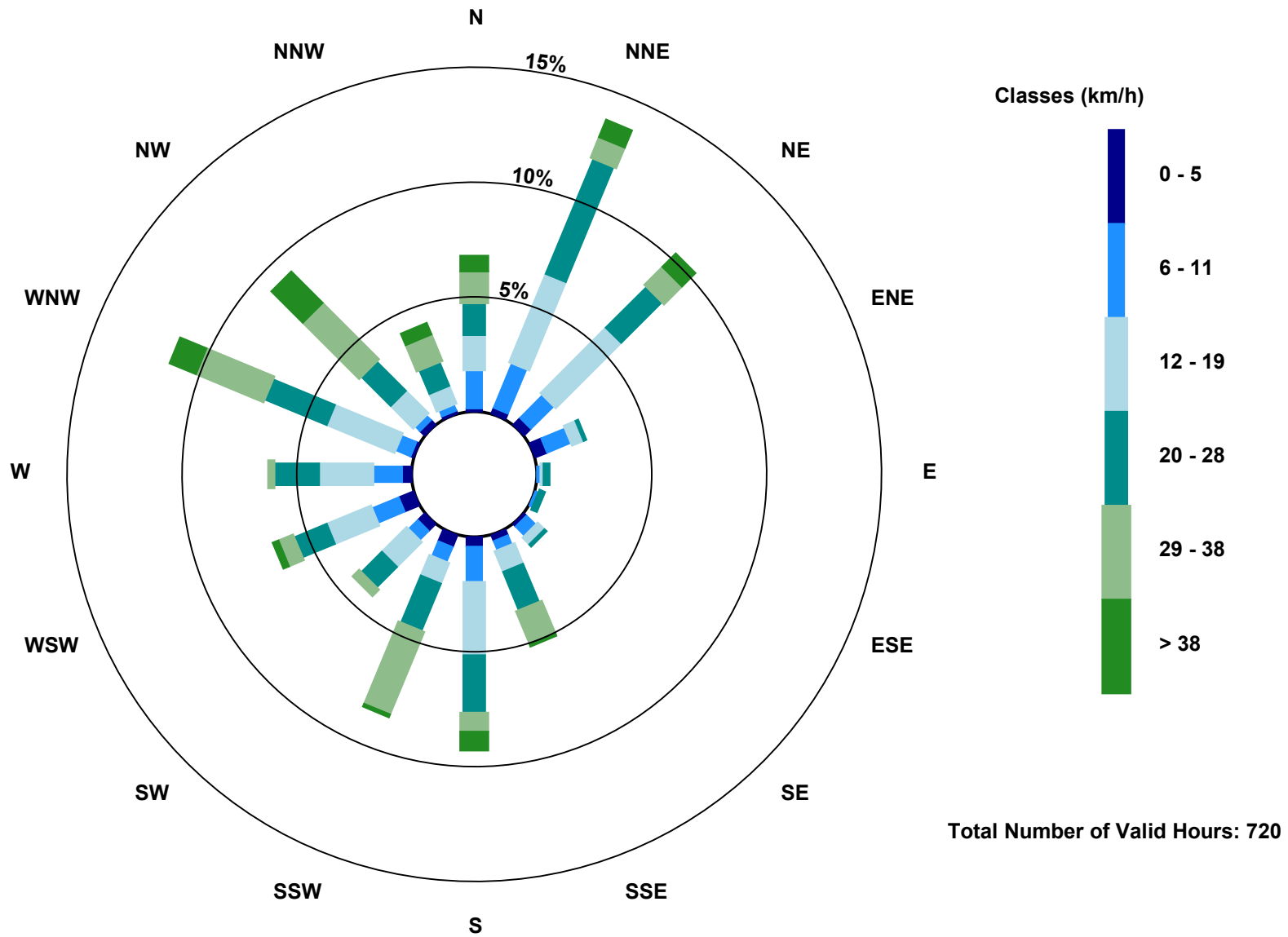
Total Number of Valid Hours: 720

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Wind Speed 90m (WS90) - km/h
Mannix





Wood Buffalo Environmental Association
Summary of Hour Averages

Wind Direction 20m (WD20) - deg
Mannix - January 2025

Direction of Maximum Speed: 329 deg on Jan 24 06:00	Hours in Service: 744
Direction of Maximum Daily Speed Average: 282.8 deg on Jan 28	Hours of Data: 743
Direction of Minimum Speed: 336 deg on Jan 19 02:00	Hours of Missing Data: 1
Direction of Minimum Daily Speed Average: 1.7 deg on Jan 19	Percent Operational Time: 99.9
Monthly Average Direction: 263.5 deg	

Day	Hourly Period Ending At (MST)																								Daily Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	13	11	3	10	7	353	342	4	5	10	13	6	331	359	1	346	21	26	358	5	9	11	9	5	4.9
2-Jan	1	9	359	316	284	329	275	266	274	265	189	164	153	156	151	156	139	155	151	167	159	160	150	162	167.0
3-Jan	163	161	163	160	155	167	172	165	181	171	158	168	161	165	163	162	139	143	140	140	134	136	135	136	151.6
4-Jan	140	140	142	135	134	131	130	131	132	137	136	139	134	133	126	110	118	116	104	132	122	100	35	24	130.6
5-Jan	335	343	338	337	347	357	6	355	359	355	351	349	343	326	333	348	16	33	34	38	315	265	212	219	350.4
6-Jan	187	144	151	161	162	154	151	150	148	154	154	157	165	164	167	163	161	157	159	155	158	154	153	151	157.1
7-Jan	150	155	155	153	153	154	158	158	153	153	156	150	147	152	153	152	163	194	205	211	220	220	168	209	168.5
8-Jan	222	255	262	280	258	253	257	262	243	230	238	269	280	303	309	302	290	287	285	286	284	282	288	288	274.4
9-Jan	279	284	310	357	15	13	16	22	19	37	43	35	115	172	169	163	152	153	139	143	142	145	139	143	92.0
10-Jan	141	137	138	141	148	146	145	166	194	259	127	178	37	354	340	352	356	355	5	6	5	13	9	9	60.5
11-Jan	0	3	354	342	345	10	16	0	351	359	4	346	5	17	357	4	11	18	134	207	200	188	173	193	358.2
12-Jan	164	153	159	154	153	158	159	160	163	155	152	155	161	164	159	152	148	156	154	161	161	159	146	154	156.9
13-Jan	152	150	153	147	155	150	151	159	146	152	162	163	156	154	160	151	153	153	163	170	242	262	263	247	163.8
14-Jan	207	185	181	161	157	162	156	154	152	157	158	156	231	240	259	261	264	262	265	263	261	266	263	269	233.6
15-Jan	276	282	300	283	284	280	281	286	304	305	295	269	282	262	296	231	231	249	260	294	310	306	40		283.2
16-Jan	68	81	47	104	114	102	101	87	65	48	34	20	20	15	14	13	10	7	7	353	343	343	344	353	20.3
17-Jan	356	348	339	332	359	11	16	19	16	13	2	351	341	342	331	338	340	338	347	7	3	9	4	11	356.3
18-Jan	11	20	0	315	228	229	208	177	165	163	162	155	153	153	157	162	149	171	195	173	216	168	199	15	172.9
19-Jan	21	336	319	347	306	322	308	308	317	299	290	274	263	267	42	98	154	154	157	170	150	151	148	152	192.1
20-Jan	153	153	148	152	155	166	158	161	159	161	157	155	155	158	159	170	194	177	170	152	210	251	263	265	173.1
21-Jan	264	261	258	259	265	265	267	261	269	265	267	285	7	14	19	18	14	18	17	7	6	344	3	359	312.1
22-Jan	240	200	170	152	155	72	25	18	59	204	198	175	235	261	246	213	188	172	172	157	158	159	161	161	176.9
23-Jan	164	171	163	167	206	215	178	217	219	226	215	242	262	274	280	295	297	292	289	282	262	260	270	278	251.5
24-Jan	283	286	286	316	324	329	340	347	341	334	319	315	321	326	310	301	301	209	200	186	278	300	244	255	312.1
25-Jan	226	194	193	168	162	158	160	160	167	164	159	201	220	253	248	241	276	271	213	227	224	215	173	160	199.4
26-Jan	161	169	160	174	213	194	212	157	173	215	228	226	219	208	165	227	249	286	282	279	280	243	254	239	220.9
27-Jan	253	253	256	257	251	250	237	214	225	194	166	178	170	161	231	213	220	244	271	247	243	292	297	296	249.8
28-Jan	288	285	281	277	258	259	265	275	278	281	287	293	304	291	286	294	298	300	306	288	282	250	252	263	282.8
29-Jan	278	252	244	259	288	359	265	165	224	9	21	DF	20	16	10	8	8	9	8	6	7	7	4	9	359.7
30-Jan	13	16	20	21	19	10	27	13	11	7	9	346	348	346	21	37	49	26	13	7	15	7	8	354	13.5
31-Jan	21	13	26	29	17	5	7	0	352	5	340	345	355	0	0	358	6	359	359	6	14	356	357	358	3.0

268.3 251.9 242.1 220.2 219.9 242.5 221.9 206.0 201.2 195.6 210.3 236.3 275.6 285.4 285.9 303.7 306.0 293.2 292.7 265.5 272.6 275.7 285.0 282.5
 Diurnal Average

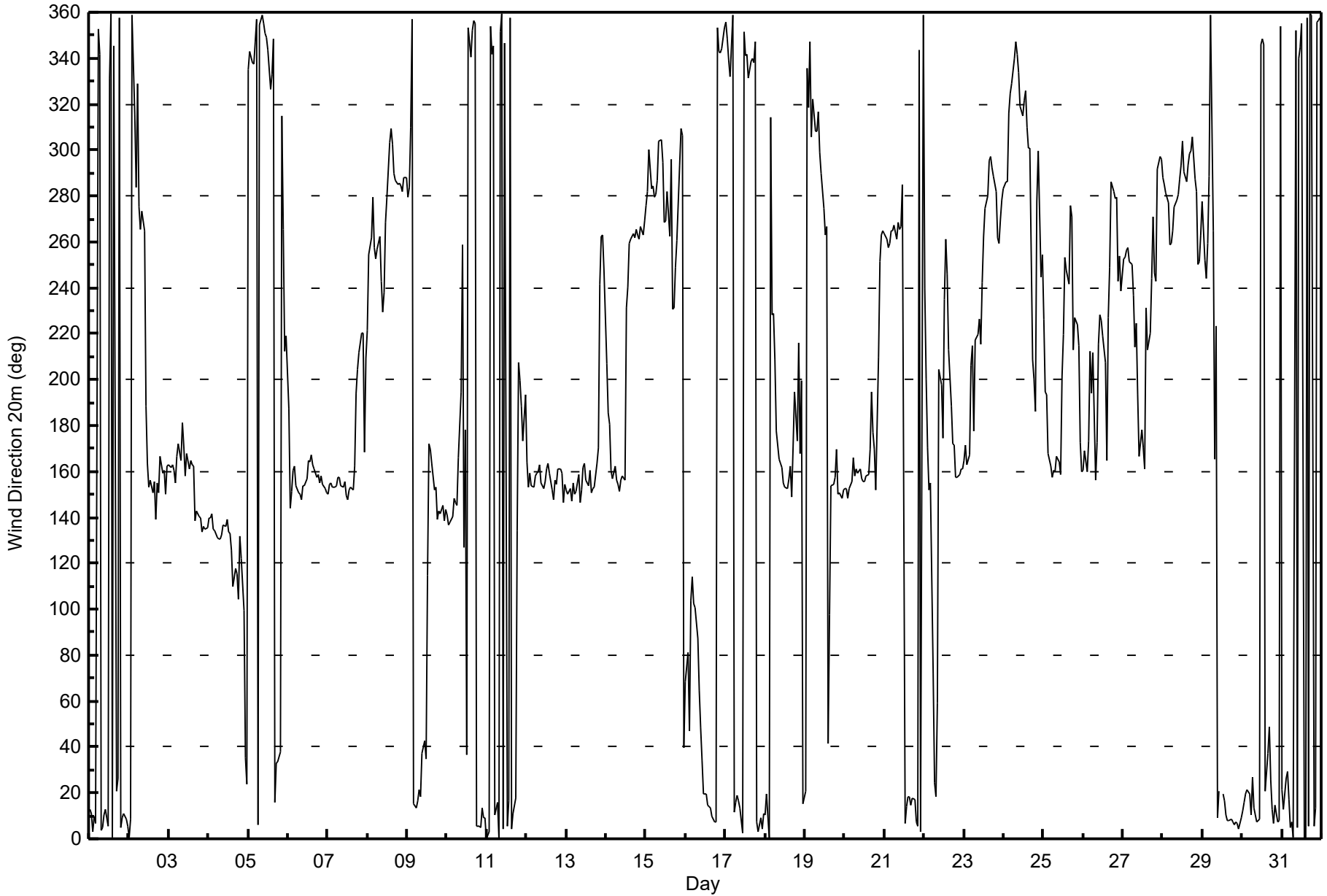
DF - DAS Failure
 All monthly, daily, and diurnal averages have been calculated using vector methods



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Direction 20m (WD20) - deg
Mannix - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 89 deg on Jan 19 02:00 Minimum Value: 4 deg on Jan 2 22:00 Percentiles: P ₁ = 5 P ₁₀ = 7 Q ₁ = 9 Median = 11 Q ₃ = 16 P ₉₀ = 25 P ₉₉ = 70																		Hours in Service: 744 Hours of Data: 743 Hours of Missing Data: 1 Hours of Calibration: 0 Percent Operational Time: 99.9									
Day	Hourly Period Ending At (MST)																								Daily Maximum		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	10	9	17	10	10	16	15	16	11	11	12	16	13	19	17	21	18	15	12	13	11	7	9	10	21		
2-Jan	13	10	14	28	20	22	78	16	9	8	69	31	27	11	10	8	20	9	7	10	8	4	9	5	78		
3-Jan	5	7	7	6	6	13	9	7	13	9	8	13	10	12	9	12	9	9	9	9	8	8	8	8	13		
4-Jan	8	8	10	8	9	8	7	7	9	9	8	9	8	8	16	13	15	19	21	10	19	20	49	23	49		
5-Jan	16	13	15	11	13	17	12	17	15	19	19	19	16	15	16	20	22	15	17	26	24	22	34	40	40		
6-Jan	26	13	11	10	9	9	9	9	10	8	10	9	8	8	10	9	9	8	9	9	7	7	8	7	26		
7-Jan	8	7	7	7	8	7	6	6	6	8	8	8	7	7	9	10	8	18	11	13	9	13	28	13	28		
8-Jan	15	14	10	14	13	16	13	7	14	6	5	16	14	15	10	11	8	10	8	9	11	8	9	9	16		
9-Jan	7	8	35	15	13	11	12	12	14	15	23	48	41	18	18	19	13	10	9	10	9	8	8	10	48		
10-Jan	9	7	9	9	8	18	9	19	18	56	40	38	74	29	20	13	14	15	15	15	13	13	11	10	74		
11-Jan	14	15	14	10	11	12	12	18	17	14	18	17	16	13	17	17	14	24	43	17	19	19	18	17	43		
12-Jan	11	10	10	9	8	9	10	9	7	12	12	11	11	13	12	9	8	14	10	11	12	12	53	13	53		
13-Jan	9	7	15	10	6	7	9	18	9	10	11	16	10	11	18	9	7	6	8	14	10	8	11	53	53		
14-Jan	22	26	26	6	7	7	8	8	8	8	10	35	12	13	11	8	8	7	8	9	9	8	7	8	35		
15-Jan	8	8	11	10	9	7	6	9	19	29	11	10	13	8	11	34	13	12	13	8	20	31	28	16	34		
16-Jan	17	22	13	31	17	9	12	12	14	14	14	12	13	9	10	10	11	10	12	20	13	12	12	15	31		
17-Jan	14	13	16	16	17	15	13	15	12	10	14	16	12	13	12	12	13	13	14	12	15	9	13	10	17		
18-Jan	10	20	53	42	9	6	21	9	7	6	12	8	7	9	8	10	9	28	30	43	5	32	45	74	74		
19-Jan	24	89	13	24	22	33	26	22	23	16	12	31	33	19	71	22	12	6	8	6	8	6	9	7	89		
20-Jan	7	8	9	7	6	7	6	9	7	7	8	7	8	7	7	13	20	20	10	9	39	11	10	9	39		
21-Jan	8	8	9	11	11	9	9	9	9	8	7	15	26	11	10	10	11	11	10	13	13	13	15	19	26		
22-Jan	85	15	11	9	7	21	62	69	29	70	24	42	48	10	18	14	15	9	6	5	6	7	7	6	85		
23-Jan	7	9	7	9	15	15	38	24	12	16	18	20	15	10	9	10	9	10	9	10	10	10	11	9	38		
24-Jan	9	9	9	16	11	12	13	12	13	14	11	9	16	16	10	13	20	22	19	27	70	13	20	9	70		
25-Jan	26	32	33	20	5	7	7	5	4	9	11	23	14	14	15	61	69	7	21	11	8	10	15	10	69		
26-Jan	6	10	11	24	28	22	29	8	25	17	12	16	16	19	22	30	8	19	9	7	11	9	51	26	51		
27-Jan	13	8	13	10	58	32	10	33	11	26	12	16	26	8	24	22	19	14	15	9	11	11	10	9	58		
28-Jan	9	9	8	10	9	9	8	9	12	10	10	10	10	12	10	10	16	10	14	12	11	11	9	11	16		
29-Jan	8	16	16	12	60	56	18	52	24	70	21	DF	10	10	12	10	10	10	10	11	10	11	11	11	70		
30-Jan	10	11	11	13	13	11	13	10	11	11	15	20	24	25	17	17	10	12	8	9	8	7	8	11	25		
31-Jan	15	10	16	10	12	11	11	11	23	11	22	13	13	14	15	16	12	10	11	11	10	10	11	13	23		
																		85 89 53 42 60 56 78 69 29 70 69 48 74 29 71 61 69 28 43 43 70 32 53 74									
																		Diurnal Maximum									
DF - DAS Failure																											





Wood Buffalo Environmental Association
Summary of Hour Averages

Wind Direction 45m (WD45) - deg
Mannix - January 2025

Direction of Maximum Speed: 329 deg on Jan 24 06:00																				Hours in Service: 744							
Direction of Maximum Daily Speed Average: 282.9 deg on Jan 28																				Hours of Data: 736							
Direction of Minimum Speed: 228 deg on Jan 29 08:00										Direction of Minimum Daily Speed Average: 1.9 deg on Jan 19										Hours of Missing Data: 8							
Monthly Average Direction: 264.2 deg																								Percent Operational Time: 98.9			
Day	Hourly Period Ending At (MST)																								Daily Average		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	12	10	5	11	6	358	352	5	7	11	13	5	335	2	2	3	23	27	0	6	17	16	10	5	6.9		
2-Jan	1	10	359	318	317	348	21	273	266	234	210	168	156	143	134	144	134	147	150	160	160	161	153	144	146.7		
3-Jan	154	151	152	147	150	150	154	150	162	154	148	155	160	164	156	149	131	137	136	138	130	132	132	133	144.8		
4-Jan	137	136	139	132	132	128	130	127	127	135	133	136	131	128	122	108	114	112	105	128	121	105	39	31	128.2		
5-Jan	338	347	340	340	350	360	7	358	359	356	354	352	344	328	334	351	15	30	31	36	315	262	211	217	352.2		
6-Jan	186	142	148	160	161	152	148	146	146	151	152	155	165	164	166	162	160	158	158	155	156	154	153	152	156.0		
7-Jan	152	157	157	155	155	157	158	161	159	159	162	154	155	165	161	174	179	207	207	212	222	223	190	219	174.2		
8-Jan	230	254	261	277	259	259	261	267	253	237	241	268	279	302	310	303	292	288	283	287	284	281	286	286	275.3		
9-Jan	279	284	308	358	14	13	18	20	18	34	38	29	114	168	169	163	149	152	138	141	140	144	136	143	88.1		
10-Jan	139	135	137	139	146	140	140	148	180	247	127	170	8	352	346	353	356	356	5	5	4	12	9	9	62.9		
11-Jan	0	4	357	342	346	10	14	0	352	0	6	348	6	16	358	7	16	22	133	209	200	191	173	195	358.1		
12-Jan	165	153	157	152	153	156	156	158	159	155	150	152	158	UO	UO	152	148	150	139	149	156	159	159	133	153.2		
13-Jan	141	131	142	134	149	146	UO	UO	143	149	155	UO	UO	UO	162	151	154	175	224	235	256	264	265	263	172.7		
14-Jan	239	249	233	175	161	174	160	156	153	164	167	186	232	242	258	261	263	262	263	262	261	266	262	268	232.5		
15-Jan	275	280	302	285	286	281	282	285	302	312	298	271	269	282	265	302	240	242	256	270	296	327	326	39	286.1		
16-Jan	66	83	50	103	110	103	100	88	65	48	34	22	21	15	15	13	10	7	7	353	345	344	345	354	19.6		
17-Jan	356	350	341	335	357	10	17	21	17	13	4	351	341	342	334	341	343	343	348	5	2	7	3	10	356.4		
18-Jan	9	19	15	359	228	212	222	212	200	193	192	174	138	144	149	152	146	169	168	162	195	172	229	309	180.7		
19-Jan	323	318	330	343	352	351	333	332	334	317	318	292	248	260	347	89	138	150	159	173	165	156	152	156	177.6		
20-Jan	157	155	152	157	161	159	147	143	149	155	158	153	153	157	161	180	202	191	177	166	236	252	261	263	170.4		
21-Jan	262	260	257	259	262	262	265	259	267	264	266	284	6	12	18	18	14	16	15	7	6	346	1	358	313.3		
22-Jan	246	200	171	163	221	10	356	9	40	126	187	188	245	259	246	216	192	175	178	163	162	163	165	164	182.0		
23-Jan	168	173	167	175	209	222	207	229	223	229	221	244	263	273	279	294	296	292	288	281	261	261	271	278	250.1		
24-Jan	282	285	285	316	325	329	339	348	342	333	320	315	322	326	311	302	304	221	209	205	296	302	270	259	311.0		
25-Jan	248	230	220	193	186	177	171	169	182	198	193	235	233	254	248	248	282	271	242	237	232	230	202	178	218.1		
26-Jan	185	196	179	189	230	231	239	184	202	222	232	229	221	210	176	234	251	292	285	281	283	264	269	264	237.3		
27-Jan	269	262	261	267	261	264	254	236	244	224	191	205	181	173	236	214	224	245	270	252	253	293	296	296	255.1		
28-Jan	288	285	281	277	260	259	266	277	280	281	287	292	303	290	286	294	298	299	304	292	284	257	256	264	282.9		
29-Jan	281	266	259	265	288	346	275	228	214	247	13	DF	16	14	7	5	5	5	5	4	5	5	2	7	354.6		
30-Jan	9	13	16	17	15	8	22	11	7	5	6	347	349	347	19	33	44	25	17	19	29	30	20	5	13.5		
31-Jan	14	34	41	48	38	26	16	7	354	2	345	347	354	1	358	358	4	359	359	4	11	356	356	356	5.7		
267.9 255.0 242.5 226.0 225.7 241.7 246.3 230.3 202.1 204.9 214.2 238.7 277.2 293.9 289.2 296.3 300.0 285.2 281.8 261.9 269.0 270.9 280.2 283.1																											
Diurnal Average																											
DF - DAS Failure UO - Unstable Operation																											
All monthly, daily, and diurnal averages have been calculated using vector methods																											



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Direction 45m (WD45) - deg
Mannix - January 2025

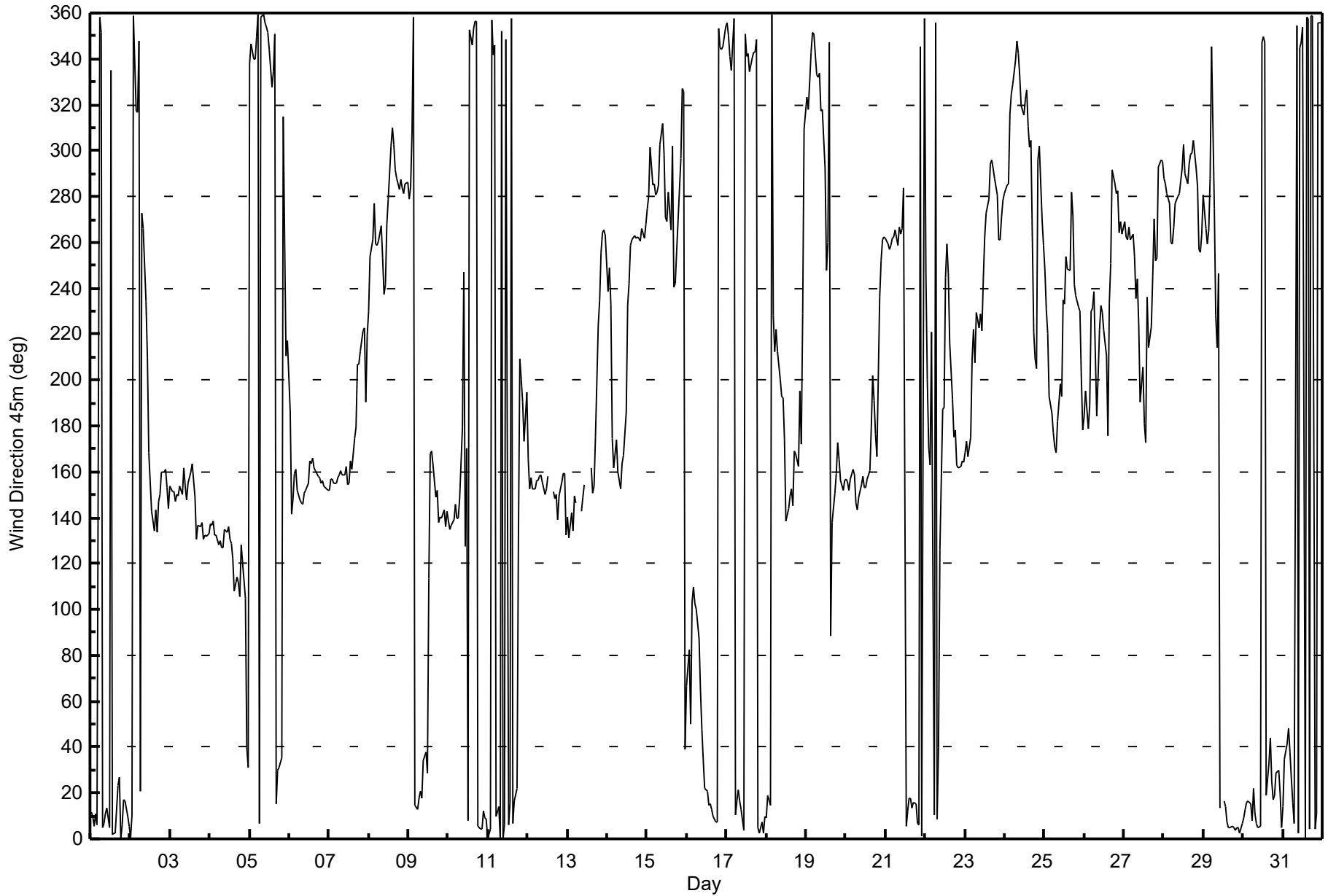
Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 95 deg on Jan 10 13:00	Hours of Data: 736
Minimum Value: 3 deg on Jan 3 11:00	Hours of Missing Data: 8
	Hours of Calibration: 0
	Percent Operational Time: 98.9
Percentiles: P ₁ = 3 P ₁₀ = 5 Q ₁ = 6 Median = 9 Q ₃ = 13 P ₉₀ = 19 P ₉₉ = 58	

Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	7	6	10	7	5	11	12	11	8	8	9	13	10	17	13	16	12	12	9	10	9	7	6	7	17
2-Jan	9	7	14	16	16	15	37	65	8	11	34	23	26	8	8	4	11	8	5	10	7	5	11	6	65
3-Jan	4	5	8	4	5	6	6	3	7	4	3	7	7	9	6	8	7	7	8	7	5	5	5	6	9
4-Jan	6	6	8	5	7	6	6	6	7	7	7	6	7	13	11	14	16	18	8	16	21	46	20	46	
5-Jan	19	9	11	8	10	13	9	13	11	14	14	13	12	12	16	18	10	12	21	22	19	27	30	30	
6-Jan	20	9	10	8	7	7	7	7	8	7	9	8	6	7	7	6	6	6	6	5	5	5	4	20	
7-Jan	5	4	4	4	4	3	4	4	3	4	5	4	4	5	7	12	10	9	6	9	6	8	23	10	23
8-Jan	11	11	9	12	9	11	10	5	10	4	3	13	11	13	7	8	5	9	5	7	8	6	6	6	13
9-Jan	5	6	36	11	9	7	8	9	9	11	20	65	41	13	13	17	11	7	7	8	7	6	7	8	65
10-Jan	7	5	7	7	6	15	7	14	15	36	34	30	95	25	16	11	11	12	11	12	10	9	8	8	95
11-Jan	11	11	11	7	9	10	9	16	14	10	12	12	11	9	12	14	13	29	24	13	14	14	16	10	29
12-Jan	10	8	8	8	6	7	7	6	5	10	9	9	8	UO	UO	5	5	7	7	7	6	6	21	5	21
13-Jan	6	5	5	6	4	4	UO	UO	6	8	7	UO	UO	UO	15	6	4	14	11	8	5	5	5	12	15
14-Jan	10	11	15	17	5	9	9	6	5	6	7	21	10	10	9	6	6	6	7	7	8	6	6	6	21
15-Jan	6	5	9	8	5	4	3	6	15	23	6	11	10	7	9	26	12	10	10	5	16	14	21	14	26
16-Jan	11	18	14	27	14	7	10	10	12	13	12	9	10	6	7	7	8	6	9	17	10	9	9	13	27
17-Jan	12	10	13	14	16	12	9	12	8	7	9	13	9	9	9	8	8	8	8	8	11	7	9	6	16
18-Jan	6	16	23	31	31	4	7	11	14	14	15	31	7	10	7	13	10	8	17	25	10	19	31	28	31
19-Jan	19	7	10	7	10	17	20	16	18	15	14	33	27	15	70	22	10	6	6	3	7	3	4	3	70
20-Jan	4	5	5	4	4	5	7	5	7	4	6	4	5	5	4	15	11	13	6	8	26	9	8	7	26
21-Jan	7	6	6	9	9	8	7	7	6	7	6	13	25	8	7	7	8	8	7	11	10	10	12	15	25
22-Jan	90	17	6	8	29	46	13	22	19	71	13	29	21	8	15	9	11	6	4	5	4	4	4	3	90
23-Jan	5	5	5	8	11	11	27	17	9	10	13	16	11	8	7	7	6	7	7	8	8	7	9	8	27
24-Jan	7	7	7	15	9	10	10	8	10	12	9	7	14	14	8	12	16	21	10	14	36	8	16	5	36
25-Jan	11	29	19	28	10	8	6	4	11	9	22	14	9	11	12	31	14	4	16	7	6	6	12	9	31
26-Jan	10	11	14	25	15	14	11	19	22	11	7	12	11	13	24	26	5	17	8	4	4	8	15	14	26
27-Jan	6	6	9	5	6	11	6	21	10	14	13	10	32	14	10	16	13	11	12	7	11	7	8	7	32
28-Jan	7	6	6	8	6	6	6	7	9	7	8	8	7	9	8	7	12	7	9	9	11	6	5	9	12
29-Jan	5	11	12	7	46	42	13	85	25	74	16	DF	7	8	9	6	5	6	6	6	6	6	5	7	85
30-Jan	6	8	8	10	8	7	9	7	8	7	9	15	20	22	13	13	8	8	6	5	9	6	9	3	22
31-Jan	15	6	8	10	8	6	8	5	14	6	17	10	10	9	10	11	8	6	8	8	7	5	6	7	17
	90	29	36	31	46	46	37	85	25	74	34	65	95	25	70	31	18	29	24	25	36	21	46	30	

Diurnal Maximum

DF - DAS Failure

UO - Unstable Operation





Wood Buffalo Environmental Association
Summary of Hour Averages

Wind Direction 75m (WD75) - deg
Mannix - January 2025

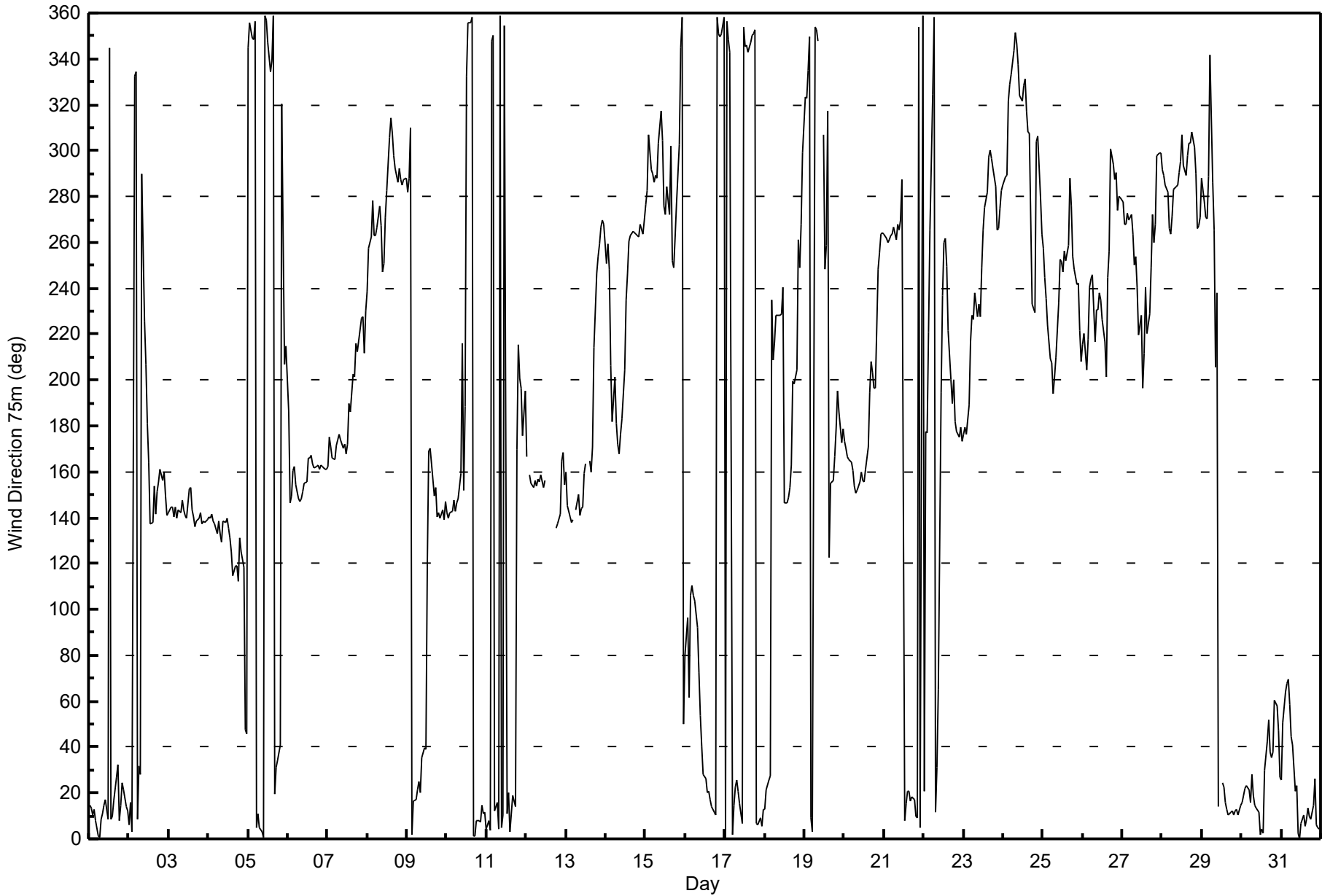
Direction of Maximum Speed: 333 deg on Jan 24 06:00																						Hours in Service: 744			
Direction of Maximum Daily Speed Average: 287.4 deg on Jan 28																						Hours of Data: 732			
Direction of Minimum Speed: 21 deg on Jan 22 01:00											Direction of Minimum Daily Speed Average: 1.4 deg on Jan 19											Hours of Missing Data: 12			
Monthly Average Direction: 270.0 deg																						Percent Operational Time: 98.4			
Day	Hourly Period Ending At (MST)																								Daily Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	15	13	10	13	8	1	1	9	11	15	17	9	345	9	10	17	27	32	8	15	24	22	14	12	12.5
2-Jan	6	16	3	332	334	9	32	28	290	226	207	181	164	137	138	154	141	151	156	161	156	160	150	141	136.2
3-Jan	142	144	145	141	145	140	143	142	148	144	141	140	152	153	143	140	136	139	139	142	137	138	138	139	141.7
4-Jan	140	139	142	139	137	133	138	133	129	139	138	140	136	131	125	115	119	119	112	131	125	118	48	46	133.8
5-Jan	345	356	349	348	357	5	11	5	3	1	359	357	347	334	339	359	19	31	34	41	320	262	207	215	358.6
6-Jan	186	146	149	161	162	155	148	147	148	152	155	155	166	166	167	163	162	162	163	161	163	162	161	161	159.7
7-Jan	162	175	171	166	165	171	174	177	174	170	172	168	172	190	186	203	201	216	212	217	227	228	212	230	188.1
8-Jan	239	257	263	278	263	263	267	276	268	247	251	271	282	306	314	307	298	292	286	292	288	285	287	288	279.6
9-Jan	282	288	310	2	17	17	22	25	20	35	40	39	120	169	170	163	149	153	140	142	140	144	139	147	88.6
10-Jan	142	140	142	143	147	143	147	148	159	216	152	189	333	356	356	358	1	1	8	8	7	15	11	11	72.8
11-Jan	4	8	4	348	350	12	16	4	359	5	10	355	11	20	3	11	19	14	170	216	200	196	176	195	2.5
12-Jan	167	UO	159	155	153	156	153	157	155	159	153	156	UO	UO	UO	UO	UO	UO	136	137	141	165	169	154	--
13-Jan	160	145	140	138	139	UO	143	150	141	144	144	159	164	UO	165	160	171	214	246	254	260	267	270	268	177.4
14-Jan	251	259	248	206	182	202	181	172	168	176	183	204	235	247	261	263	265	264	264	263	262	268	263	270	239.2
15-Jan	277	282	307	291	290	286	290	288	303	317	304	276	272	285	272	302	252	249	262	277	302	345	358	50	291.0
16-Jan	80	97	62	106	111	106	104	92	73	54	40	28	26	20	20	17	14	11	11	358	351	350	351	358	23.4
17-Jan	0	356	348	343	2	15	22	26	20	15	7	354	345	346	343	347	350	351	353	7	6	9	6	13	0.9
18-Jan	13	21	25	27	235	208	217	228	228	228	229	240	147	147	149	153	163	199	198	205	261	249	268	299	217.7
19-Jan	324	323	335	350	9	3	354	353	348	UO	UO	307	248	259	318	123	155	156	166	179	196	186	172	179	238.7
20-Jan	174	171	166	165	164	161	154	151	152	156	160	156	156	161	171	194	208	203	196	197	248	256	263	264	177.3
21-Jan	264	262	260	261	263	264	267	261	268	265	269	288	8	15	21	20	17	18	17	10	9	354	5	359	315.2
22-Jan	21	178	177	221	265	325	358	12	31	66	195	237	260	262	249	221	200	190	200	182	177	175	179	173	201.3
23-Jan	177	179	177	189	217	228	226	238	228	233	228	249	266	275	282	297	300	297	292	284	265	266	275	283	252.5
24-Jan	285	288	289	321	329	333	344	352	347	337	324	321	328	331	317	308	307	233	231	230	304	306	279	264	315.5
25-Jan	257	245	235	224	209	207	194	201	210	234	253	251	247	256	252	259	288	276	254	248	241	242	222	208	240.3
26-Jan	215	220	204	218	241	244	246	217	231	231	238	235	227	216	201	245	256	301	294	287	290	274	280	280	251.8
27-Jan	278	268	268	273	270	272	263	250	254	240	220	228	197	212	240	220	229	249	272	260	268	298	299	299	262.4
28-Jan	292	289	285	282	266	264	272	283	284	285	291	295	307	294	289	298	303	303	308	301	290	266	267	271	287.4
29-Jan	288	278	271	270	289	341	286	265	205	238	14	DF	25	22	16	13	11	12	12	11	12	13	10	15	359.7
30-Jan	16	19	22	23	21	16	28	19	14	13	11	2	4	2	30	43	52	38	35	38	60	58	47	27	25.3
31-Jan	26	51	64	68	69	58	45	41	21	23	3	0	7	11	6	8	14	10	8	15	26	6	5	4	20.6
270.3 262.2 248.4 243.7 243.7 276.9 234.8 218.8 217.0 201.9 219.7 234.6 273.9 296.5 293.0 301.8 302.1 291.8 286.0 269.6 276.3 275.8 281.0 284.6																									
Diurnal Average																									
DF - DAS Failure UO - Unstable Operation																									
All monthly, daily, and diurnal averages have been calculated using vector methods																									



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Direction 75m (WD75) - deg
Mannix - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 91 deg on Jan 22 01:00 Minimum Value: 2 deg on Jan 26 21:00 Percentiles: P ₁ = 2 P ₁₀ = 4 Q ₁ = 5 Median = 7 Q ₃ = 11 P ₉₀ = 16 P ₉₉ = 46																	Hours in Service: 744 Hours of Data: 732 Hours of Missing Data: 12 Hours of Calibration: 0 Percent Operational Time: 98.4								
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	6	5	7	7	4	7	11	7	6	7	8	11	11	12	10	12	9	9	8	10	6	7	5	5	12
2-Jan	7	6	14	12	16	14	10	39	36	18	23	9	14	8	9	6	7	9	4	7	4	3	5	3	39
3-Jan	3	3	6	2	4	3	4	2	4	2	3	3	5	7	5	5	4	3	3	4	3	2	2	3	7
4-Jan	3	3	5	3	7	8	7	9	10	5	5	6	7	9	13	14	14	17	18	11	16	19	51	18	51
5-Jan	23	7	10	7	8	11	8	11	9	10	11	11	10	11	12	13	16	9	10	20	22	18	26	24	26
6-Jan	17	9	10	7	6	6	6	6	6	6	7	6	5	7	7	5	5	4	4	4	3	3	3	3	17
7-Jan	4	5	3	3	3	2	3	2	2	3	4	3	5	7	11	13	9	5	4	8	5	6	14	9	14
8-Jan	10	9	8	11	9	10	9	6	10	5	3	12	11	13	7	8	4	9	4	7	6	5	5	6	13
9-Jan	4	5	36	9	7	6	6	7	8	10	20	57	37	13	11	16	8	7	5	5	5	4	5	7	57
10-Jan	4	3	5	4	4	12	7	7	10	32	20	28	50	20	13	10	9	10	9	10	8	8	6	7	50
11-Jan	9	9	9	6	8	9	8	15	14	8	11	10	9	8	10	13	16	65	20	12	12	11	15	11	65
12-Jan	16	UO	7	7	6	6	6	6	4	7	7	6	UO	UO	UO	UO	UO	UO	4	2	4	7	16	19	19
13-Jan	11	6	2	2	2	UO	3	9	5	5	6	6	UO	UO	13	5	12	13	8	4	4	4	3	6	13
14-Jan	8	6	7	22	10	8	14	9	6	5	5	12	10	10	9	6	6	6	7	7	7	6	5	6	22
15-Jan	6	5	10	8	4	3	2	4	12	17	5	12	10	7	11	23	14	8	9	6	17	18	9	15	23
16-Jan	12	16	15	23	15	10	12	10	10	12	10	8	8	5	6	6	7	5	7	14	8	8	8	11	23
17-Jan	10	8	10	13	14	12	8	11	7	7	8	13	7	7	6	5	5	5	5	8	9	6	8	5	14
18-Jan	5	12	13	23	52	6	9	9	9	9	12	36	8	8	10	12	15	6	19	26	5	12	7	8	52
19-Jan	15	8	7	9	7	13	15	13	13	UO	UO	34	23	16	73	33	13	9	3	4	5	7	4	4	73
20-Jan	3	4	3	2	3	3	3	3	4	4	4	2	2	4	3	13	9	8	5	12	13	9	8	7	13
21-Jan	6	5	6	9	8	7	7	6	6	7	6	12	23	7	6	6	6	6	5	10	8	6	10	15	23
22-Jan	91	19	11	13	10	30	6	11	12	52	26	22	6	7	14	9	11	6	3	6	4	3	3	3	91
23-Jan	5	4	4	8	8	11	20	14	7	8	11	16	11	8	7	6	6	6	6	8	7	6	9	8	20
24-Jan	6	6	7	15	7	8	9	7	8	10	7	6	12	13	8	13	17	17	10	16	16	6	12	4	17
25-Jan	7	23	11	27	10	8	6	8	12	9	12	7	6	9	10	14	8	3	12	6	5	4	8	10	27
26-Jan	10	6	10	17	7	8	8	22	12	9	6	9	10	12	21	19	6	14	7	2	2	8	6	4	22
27-Jan	4	6	10	5	4	9	6	10	6	7	14	8	32	20	5	13	10	10	11	6	13	6	7	6	32
28-Jan	7	6	5	8	5	5	6	7	8	7	7	7	7	9	7	7	11	5	8	8	13	6	4	7	13
29-Jan	4	8	8	8	32	35	8	34	18	21	27	DF	6	7	7	4	4	4	4	5	4	5	4	6	35
30-Jan	4	7	6	7	5	5	7	6	6	6	7	13	15	19	11	10	7	5	5	5	7	4	6	4	19
31-Jan	6	6	12	6	7	8	6	4	14	7	12	8	7	6	7	7	6	5	6	7	8	4	4	5	14
Diurnal Maximum																									
DF - DAS Failure UO - Unstable Operation																									

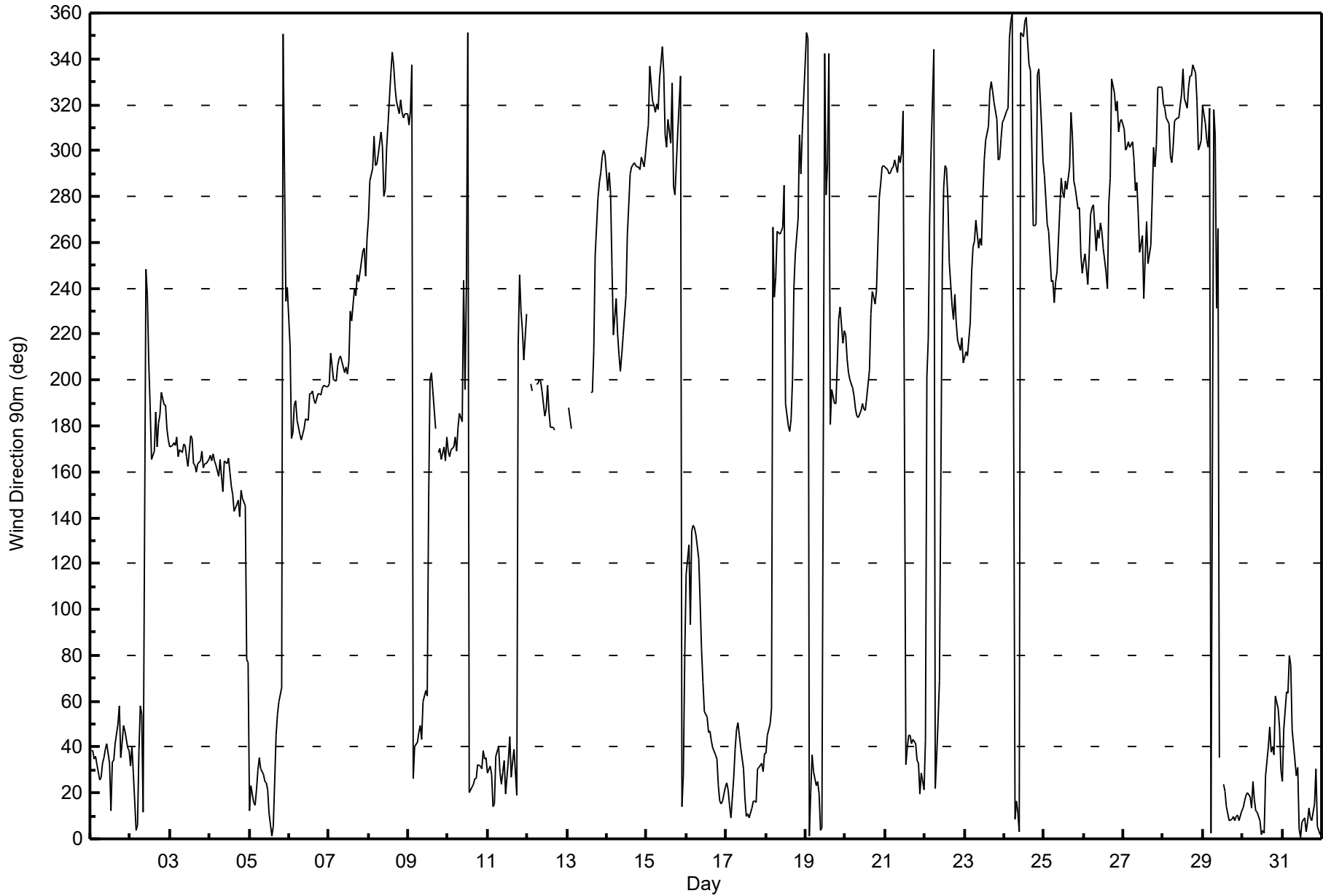




Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Direction 90m (WD90) - deg
Mannix - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 88 deg on Jan 22 01:00 Minimum Value: 2 deg on Jan 26 21:00 Percentiles: P ₁ = 2 P ₁₀ = 4 Q ₁ = 5 Median = 7 Q ₃ = 10 P ₉₀ = 15 P ₉₉ = 51																	Hours in Service: 744 Hours of Data: 720 Hours of Missing Data: 24 Hours of Calibration: 0 Percent Operational Time: 96.8								
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	6	5	7	7	4	6	10	6	6	7	7	11	10	10	9	12	9	8	7	11	6	6	5	5	12
2-Jan	6	6	12	9	14	12	9	13	23	32	21	8	13	9	8	4	8	11	3	8	6	4	4	2	32
3-Jan	2	3	5	2	6	3	4	4	5	3	7	5	4	6	5	4	4	3	4	3	3	2	2	3	7
4-Jan	3	3	6	3	7	7	7	9	8	6	6	6	7	8	10	10	11	14	13	10	13	17	54	19	54
5-Jan	25	6	8	6	8	10	8	10	8	9	11	10	9	8	10	12	16	9	12	20	23	19	25	25	25
6-Jan	16	10	10	7	6	5	5	5	6	5	7	6	5	7	7	4	5	4	4	4	4	3	3	3	16
7-Jan	5	5	2	3	3	2	2	3	3	3	3	3	6	7	11	11	8	4	4	7	5	6	11	10	11
8-Jan	9	9	8	10	8	10	9	6	10	5	3	11	11	12	6	7	4	9	4	6	6	5	4	5	12
9-Jan	4	5	33	8	7	6	6	6	8	11	21	60	37	13	12	18	9	UO	8	6	6	4	5	7	60
10-Jan	4	3	5	4	4	11	10	8	11	24	28	29	39	18	12	9	8	10	9	9	8	7	6	7	39
11-Jan	8	9	8	5	7	8	8	14	12	8	10	8	9	8	9	12	17	66	21	12	10	12	13	6	66
12-Jan	UO	UO	7	8	UO	5	5	4	4	8	6	5	8	14	12	11	8	UO	UO	UO	UO	UO	UO	UO	14
13-Jan	UO	8	3	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	12	5	14	12	7	4	4	4	3	5	14
14-Jan	8	5	6	21	9	7	14	11	5	5	6	9	10	10	9	6	6	6	7	7	7	6	5	6	21
15-Jan	5	4	9	8	4	3	2	3	10	13	5	11	10	7	11	20	15	7	8	5	16	20	8	16	20
16-Jan	10	12	15	19	11	6	9	9	11	13	10	8	8	5	6	6	7	5	7	13	7	7	7	10	19
17-Jan	9	8	9	11	12	11	8	11	7	6	8	11	6	5	5	4	4	4	5	8	9	7	8	4	12
18-Jan	4	11	12	19	65	7	14	10	8	8	13	14	27	8	8	10	15	8	10	19	8	6	7	5	65
19-Jan	13	6	5	9	6	10	14	12	12	10	9	30	26	16	56	74	17	8	4	4	7	6	7	5	74
20-Jan	4	6	2	4	4	3	4	3	4	4	4	2	3	5	3	11	7	6	4	11	10	9	8	7	11
21-Jan	6	5	6	8	8	7	7	6	6	7	6	11	22	8	6	5	6	6	5	9	9	6	9	15	22
22-Jan	88	24	18	14	7	24	8	9	13	70	32	14	5	7	15	9	9	5	3	9	6	4	3	5	88
23-Jan	5	3	4	7	6	12	17	14	7	8	11	16	10	8	6	6	5	6	6	7	7	6	8	7	17
24-Jan	6	6	7	13	6	6	8	6	6	9	6	5	10	12	7	12	17	16	11	17	11	6	10	4	17
25-Jan	7	20	10	22	9	8	7	8	10	11	9	7	6	8	10	11	7	3	11	8	6	4	7	10	22
26-Jan	10	6	8	13	6	8	8	20	10	8	7	9	9	11	15	16	6	13	6	2	2	7	5	4	20
27-Jan	4	5	11	5	4	7	5	9	6	6	12	7	29	18	6	11	9	10	11	6	13	6	7	6	29
28-Jan	6	5	5	7	5	5	6	6	7	7	7	7	7	8	6	6	10	5	8	8	14	6	3	6	14
29-Jan	4	7	7	9	25	29	7	34	14	22	27	DF	9	6	7	4	3	4	4	4	4	5	3	6	34
30-Jan	4	6	5	6	4	5	6	6	5	6	7	12	15	18	10	9	7	4	6	7	6	5	5	4	18
31-Jan	3	9	12	5	13	11	6	5	10	7	10	7	6	5	6	6	7	4	6	9	10	4	3	5	13
Diurnal Maximum																									
DF - DAS Failure UO - Unstable Operation																									





Maximum Value: 1.1 km/h on Jan 3 22:00 Minimum Value: -1.2 km/h on Jan 29 21:00 Maximum Diurnal Average: 0.1 km/h at hour 11 Monthly Average: -0.04 km/h		Maximum Daily Average: 0.6 km/h on Jan 4 Minimum Daily Average: -0.5 km/h on Jan 28 Minimum Diurnal Average: -0.1 km/h at hour 21 Percentiles: P ₁ = -1.0 P ₁₀ = -0.6 Q ₁ = -0.3 Median = -0.1 Q ₃ = 0.3 P ₉₀ = 0.5 P ₉₉ = 0.9		Hours in Service: 744 Hours of Data: 743 Hours of Missing Data: 1 Hours of Calibration: 0 Percent Operational Time: 99.9																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	0.0	-0.1	0.0	-0.1	0.1	0.1	-0.1	0.0	0.1	0.0	0.0	0.0	-0.2	0.0	-0.1	-0.3	-0.3	-0.3	-0.1	0.1
2-Jan	0.0	-0.1	-0.1	0.1	0.0	0.0	-0.1	-0.4	-0.2	-0.1	0.0	0.1	0.3	0.4	0.3	0.3	0.3	0.2	0.3	0.1	0.3	0.4	0.4	0.3	0.1	0.4
3-Jan	0.4	0.4	0.3	0.4	0.4	0.2	0.1	0.1	-0.1	0.1	0.3	0.2	0.2	0.1	0.2	0.1	0.4	0.5	0.6	0.6	0.7	1.1	1.0	0.7	0.4	1.1
4-Jan	0.6	0.7	0.7	0.9	0.7	0.4	0.4	0.5	0.6	0.5	0.6	0.4	0.4	0.5	1.1	0.9	0.9	0.6	0.5	0.6	0.5	0.4	0.2	0.2	0.6	1.1
5-Jan	0.0	-0.2	0.0	-0.1	-0.2	0.0	-0.3	-0.2	-0.2	0.1	-0.2	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.3	0.3	0.1	0.0	0.1	0.1	-0.1	0.0	0.3
6-Jan	0.0	0.6	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.5	0.4	0.5	0.3	0.5	0.5	0.5	0.7	0.6	0.7	0.8	0.7	0.5	0.5	0.8
7-Jan	0.7	0.6	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.9	0.7	0.6	0.7	0.4	0.4	0.3	0.3	-0.2	-0.4	-0.4	-0.7	-0.4	0.0	-0.4	0.3	0.9
8-Jan	-0.4	-0.4	-0.8	-0.4	-0.3	-0.2	-0.4	-0.6	-0.5	-0.4	-0.5	-0.3	-0.4	-0.5	-0.7	-0.5	-0.6	-0.4	-0.3	-0.4	-0.5	-0.6	-0.4	-0.4	-0.5	-0.2
9-Jan	-0.4	-0.7	-0.5	-0.3	-0.1	-0.2	0.0	0.1	0.1	0.2	0.2	0.1	0.4	0.2	0.2	0.2	0.3	0.5	0.5	0.5	0.5	0.6	0.7	0.6	0.2	0.7
10-Jan	0.5	0.7	0.7	0.6	0.5	0.2	0.3	0.1	-0.1	0.1	0.2	0.0	0.2	-0.2	-0.3	-0.5	-0.3	-0.4	-0.1	-0.2	-0.1	0.0	-0.2	-0.2	0.1	0.7
11-Jan	-0.3	-0.2	-0.1	-0.3	-0.2	-0.2	0.0	-0.2	-0.2	-0.2	0.1	0.0	0.1	0.1	-0.2	0.0	0.0	0.0	0.1	-0.1	-0.1	0.0	0.1	-0.1	-0.1	0.1
12-Jan	0.2	0.5	0.5	0.3	0.4	0.6	0.4	0.5	0.4	0.4	0.5	0.5	0.3	0.3	0.5	0.7	0.7	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.4	0.7
13-Jan	0.2	0.3	0.3	0.4	0.2	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.4	0.6	0.1	-0.2	-0.2	-0.2	-0.2	-0.1	0.1	0.2	0.6
14-Jan	-0.1	0.0	0.0	0.2	0.4	0.3	0.5	0.6	0.7	0.7	0.7	0.3	-0.4	-0.4	-0.7	-1.2	-0.9	-0.9	-0.6	-0.6	-0.7	-0.9	-0.7	-0.7	-0.2	0.7
15-Jan	-0.7	-0.5	-0.7	-0.4	-0.7	-0.5	-0.7	-0.6	-0.4	-0.3	-0.2	-0.1	-0.2	-0.3	-0.1	-0.2	-0.1	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	0.0	-0.3	0.0
16-Jan	0.4	0.2	0.1	0.5	0.8	0.6	0.6	0.5	0.6	0.1	0.3	0.0	0.0	-0.5	-0.4	-0.6	-0.7	-0.9	-0.2	-0.4	-0.6	-0.4	-0.7	-0.5	-0.1	0.8
17-Jan	0.0	-0.4	-0.3	-0.3	0.0	-0.2	-0.1	0.1	-0.1	-0.2	0.0	0.1	-0.3	-0.3	-0.4	-0.3	-0.1	-0.2	-0.2	-0.1	-0.4	-0.4	-0.2	-0.3	-0.2	0.1
18-Jan	-0.3	0.1	0.1	-0.1	-0.4	-0.6	-0.3	-0.1	-0.1	-0.1	0.0	0.1	0.3	0.3	0.1	0.1	0.3	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.3
19-Jan	0.1	0.0	0.0	0.0	-0.2	-0.1	-0.1	-0.1	-0.3	-0.2	0.0	0.0	0.0	-0.2	0.2	0.1	0.2	0.5	0.5	0.2	0.2	0.3	0.3	0.3	0.1	0.5
20-Jan	0.5	0.6	0.5	0.7	0.6	0.4	0.6	0.4	0.6	0.6	0.8	0.7	0.7	0.8	0.9	0.3	0.0	0.2	0.2	0.3	0.0	-0.4	-0.4	-0.5	0.4	0.9
21-Jan	-0.7	-0.6	-0.4	-0.5	-0.5	-0.6	-0.5	-0.6	-0.3	-0.3	-0.4	-0.1	-0.3	-0.3	-0.2	-0.3	0.0	-0.2	-0.4	-0.1	-0.3	-0.1	0.0	0.0	-0.3	0.0
22-Jan	0.0	-0.1	0.1	0.1	0.0	0.2	0.0	0.0	0.2	0.0	0.0	0.1	0.2	-0.4	-0.2	0.0	0.0	0.1	0.1	0.5	0.7	0.9	0.8	0.9	0.2	0.9
23-Jan	0.7	0.3	0.7	0.5	-0.3	-0.3	0.1	-0.2	-0.4	-0.1	-0.1	-0.1	-0.3	-0.3	-0.5	-0.6	-0.6	-0.6	-0.4	-0.4	-0.8	-0.4	-0.4	-0.5	-0.2	0.7
24-Jan	-0.5	-0.4	-0.4	-0.8	-1.0	-1.2	-0.9	-1.0	-0.8	-0.6	-0.8	-0.5	-0.3	-0.3	-0.3	-0.1	-0.1	-0.2	0.0	-0.1	0.0	0.0	-0.2	-0.2	-0.4	0.0
25-Jan	0.0	0.1	-0.1	0.1	0.2	0.3	0.3	0.4	0.1	0.1	-0.1	-0.2	-0.2	-0.3	-0.1	0.0	-0.1	-0.1	-0.1	-0.3	-0.3	-0.2	0.0	0.2	0.0	0.4
26-Jan	0.3	0.1	0.3	0.1	-0.2	-0.3	-0.2	0.1	0.0	-0.3	-0.2	-0.2	-0.3	0.0	0.2	-0.4	-0.5	-0.4	-0.4	-0.4	-0.3	-0.2	-0.1	-0.2	-0.1	0.3
27-Jan	-0.1	-0.4	-0.3	-0.1	0.0	-0.2	-0.3	-0.2	-0.2	-0.1	0.1	0.0	0.1	0.3	-0.3	-0.2	-0.2	-0.6	-0.6	-0.6	-0.8	-0.8	-1.0	-0.9	-0.3	0.3
28-Jan	-0.9	-0.6	-0.9	-0.6	-0.7	-0.7	-0.5	-0.2	-0.5	-0.4	-0.6	-0.5	-1.1	-0.8	-0.6	-0.7	-0.4	-0.4	-0.2	-0.2	-0.1	-0.2	-0.4	-0.3	-0.5	-0.1
29-Jan	-0.2	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	-0.2	0.1	-0.1	DF	-0.3	-0.3	-0.6	-0.8	-0.8	-0.9	-0.9	-0.9	-1.2	-0.8	-1.0	-0.6	-0.4	0.1
30-Jan	-0.8	-0.4	-0.6	-0.4	-0.4	-0.6	-0.2	-0.8	-0.5	-0.5	-0.3	-0.2	0.0	-0.1	0.0	0.0	0.2	-0.2	-0.4	-0.4	-0.2	-0.4	-0.5	-0.3	-0.3	0.2
31-Jan	-0.2	-0.3	-0.1	-0.2	-0.1	-0.3	-0.4	-0.4	-0.1	-0.5	0.0	-0.3	-0.3	-0.3	-0.3	-0.2	-0.4	-0.7	-0.7	-0.6	-0.6	-0.9	-0.6	-0.5	-0.4	0.0
																								Diurnal Average		
																								Diurnal Maximum		
DF - DAS Failure																										



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Vertical Wind Speed 20m (VW20) - km/h
Mannix - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 4.9 km/h on Jan 24 06:00		Hours in Service: 744 Hours of Data: 743 Hours of Missing Data: 1 Hours of Calibration: 0 Percent Operational Time: 99.9																							
Minimum Value: 0.1 km/h on Jan 18 23:00 Percentiles: P ₁ = 0.2 P ₁₀ = 0.5 Q ₁ = 0.7 Median = 1.2 Q ₃ = 1.9 P ₉₀ = 2.5 P ₉₉ = 3.5																									
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	1.4	1.2	0.9	1.0	1.5	1.1	1.1	1.4	1.2	1.4	1.3	1.2	1.1	1.0	1.0	0.5	0.8	0.8	1.0	1.2	0.9	1.0	1.6	1.5	1.6
2-Jan	1.2	1.3	0.8	0.5	0.4	0.5	0.4	0.4	0.3	0.2	0.2	0.4	0.6	0.7	0.6	0.4	0.5	0.3	0.3	0.3	0.3	0.3	0.7	0.4	1.3
3-Jan	0.4	0.4	0.5	0.6	0.7	0.6	0.6	0.5	0.7	0.9	0.8	1.0	1.0	0.9	0.7	0.7	1.5	1.9	1.9	1.9	2.3	2.2	2.4	2.1	2.4
4-Jan	2.1	2.2	2.3	2.3	2.1	2.0	1.7	1.8	2.4	2.3	2.1	1.8	2.0	1.8	1.6	1.5	1.3	1.1	1.2	0.9	0.7	0.5	0.7	0.7	2.4
5-Jan	1.1	1.4	1.4	1.3	1.4	1.7	1.8	1.7	1.5	1.2	1.2	1.3	1.0	1.1	1.1	1.2	1.2	1.3	0.9	0.6	0.6	0.6	0.6	0.6	1.8
6-Jan	0.7	1.0	1.0	1.0	1.1	1.1	1.2	1.4	1.4	1.2	1.2	1.1	1.4	1.4	1.4	1.3	1.2	1.4	1.6	1.5	1.5	1.6	1.4	1.1	1.6
7-Jan	1.4	1.0	1.3	1.6	1.6	1.3	1.2	1.2	1.3	1.4	1.5	1.7	1.7	1.1	1.0	1.0	1.0	1.8	2.0	2.3	2.8	2.3	1.4	1.4	2.8
8-Jan	1.7	2.7	2.5	1.9	1.6	1.7	1.7	1.2	1.0	0.8	1.0	1.3	1.9	2.6	2.5	2.0	2.1	1.5	1.0	1.5	1.8	2.1	2.2	1.9	2.7
9-Jan	1.8	2.3	2.3	2.0	2.0	2.0	2.2	2.2	1.7	1.3	1.1	0.7	0.9	1.1	1.1	1.1	1.1	1.2	1.6	1.7	1.8	2.0	2.4	1.9	2.4
10-Jan	2.2	2.7	2.6	2.4	1.8	1.3	1.0	0.8	0.6	0.6	0.6	0.8	0.6	1.1	1.3	2.0	2.0	2.1	2.5	2.3	2.5	2.2	2.3	2.3	2.7
11-Jan	2.3	1.9	1.9	2.0	1.5	1.9	1.6	1.2	1.6	1.8	1.4	1.5	1.6	1.4	1.0	0.7	0.3	0.1	0.2	0.5	0.7	0.9	1.1	1.2	2.3
12-Jan	0.9	1.1	1.1	1.1	1.0	1.1	1.0	1.1	0.9	1.4	1.4	1.5	1.3	1.4	1.4	1.2	1.5	1.1	0.8	0.8	0.9	0.9	0.6	0.6	1.5
13-Jan	0.5	0.5	0.9	1.1	0.9	1.1	1.2	1.3	1.2	1.2	1.1	0.9	1.1	1.4	1.4	1.1	1.2	0.6	0.4	0.5	0.5	1.1	1.1	0.6	1.4
14-Jan	0.5	0.5	0.4	0.4	0.7	0.6	1.0	1.2	1.6	1.4	1.3	1.3	2.1	1.9	2.9	2.9	2.5	2.4	2.2	2.2	2.4	2.4	2.1	2.2	2.9
15-Jan	2.3	1.8	2.0	1.6	1.9	1.1	1.5	1.9	1.5	1.1	0.8	0.5	1.1	1.1	0.7	0.6	0.4	0.5	0.5	0.7	0.6	0.5	0.5	1.0	2.3
16-Jan	0.9	0.7	1.5	1.1	1.6	1.9	1.8	2.1	2.1	2.1	2.4	2.2	2.6	3.0	3.1	3.3	3.3	3.9	3.4	2.8	3.5	3.5	3.5	3.6	3.9
17-Jan	2.7	2.9	2.3	2.1	2.3	2.2	1.9	1.8	2.3	1.8	1.4	1.2	1.7	1.8	1.8	1.7	1.6	1.5	1.4	1.8	2.3	1.9	2.2	2.1	2.9
18-Jan	1.7	1.1	0.7	0.3	0.3	0.3	0.3	0.2	0.3	0.5	0.6	0.6	0.7	0.9	0.6	0.6	0.5	0.2	0.2	0.2	0.1	0.2	0.1	0.1	1.7
19-Jan	0.2	0.2	0.2	0.3	0.5	1.4	1.4	0.9	0.8	0.5	0.6	0.7	0.8	0.6	0.6	0.3	0.4	0.5	0.6	0.6	0.6	0.8	1.2	1.1	1.4
20-Jan	1.1	1.4	1.7	1.6	0.9	0.7	1.1	1.1	1.2	1.3	1.5	1.6	1.8	1.7	1.6	1.2	1.7	1.1	1.1	1.0	1.2	2.1	2.6	2.7	2.7
21-Jan	2.6	2.6	2.3	1.7	2.4	2.8	2.2	2.3	1.6	1.7	1.5	1.4	2.4	2.7	2.9	3.2	3.2	3.1	2.9	2.7	2.3	1.5	1.3	0.8	3.2
22-Jan	0.4	0.5	0.7	0.5	0.3	0.3	0.2	0.3	0.5	0.4	0.8	0.5	0.7	1.6	1.3	1.1	1.0	0.7	0.7	0.6	1.1	1.3	1.3	1.6	1.6
23-Jan	1.5	2.2	1.5	1.1	1.9	1.5	0.9	1.1	1.7	1.4	1.2	1.2	1.6	1.9	2.2	2.6	2.6	2.0	2.0	2.0	2.3	2.0	1.8	2.0	2.6
24-Jan	2.8	3.0	2.6	3.3	3.9	4.9	4.3	4.1	3.5	2.5	2.7	2.6	2.0	1.9	1.4	0.9	0.8	0.6	0.7	0.7	0.7	1.0	0.6	1.0	4.9
25-Jan	0.8	0.6	0.5	0.4	0.4	0.5	0.4	0.4	0.6	0.5	0.4	0.8	1.0	1.6	1.2	0.6	0.7	0.6	0.6	0.5	0.7	0.5	0.5	0.5	1.6
26-Jan	0.5	0.6	0.6	0.9	0.9	0.7	0.7	0.6	0.8	1.0	1.5	1.5	1.5	1.6	1.0	1.1	1.3	1.2	1.3	1.0	0.7	0.5	0.7	0.6	1.6
27-Jan	0.4	0.7	0.6	0.6	0.6	0.7	0.6	0.5	0.4	0.7	0.6	0.9	0.9	1.0	1.6	1.8	1.8	2.3	2.2	1.3	1.5	2.8	3.5	3.5	3.5
28-Jan	3.4	3.3	2.6	2.2	2.3	2.1	1.6	1.5	2.0	2.3	3.1	2.9	3.4	2.6	2.8	2.7	1.7	1.5	1.0	0.9	0.7	0.7	1.1	1.2	3.4
29-Jan	0.8	0.6	0.4	0.4	0.5	0.5	0.3	0.2	0.3	0.4	0.4	DF	2.5	2.3	2.4	2.7	2.9	3.1	3.1	3.2	3.1	3.2	3.2	2.8	3.2
30-Jan	2.5	2.6	2.5	2.1	2.2	2.1	1.9	1.9	1.2	1.6	1.6	1.6	1.6	1.4	1.5	1.1	1.2	0.8	0.7	0.7	0.5	0.4	0.8	0.4	2.6
31-Jan	0.5	0.5	0.4	0.4	0.5	0.5	0.9	1.1	1.0	1.7	1.3	1.3	1.6	1.6	1.6	1.7	1.9	2.1	2.1	2.1	1.8	2.1	2.0	2.0	2.1
3.4 3.3 2.6 3.3 3.9 4.9 4.3 4.1 3.5 2.5 3.1 2.9 3.4 3.0 3.1 3.3 3.3 3.9 3.4 3.2 3.5 3.5 3.5 3.6																								Daily Maximum	
Diurnal Maximum																									
DF - DAS Failure																									



Maximum Value: 1.7 km/h on Jan 4 17:00		Maximum Daily Average: 0.5 km/h on Jan 4		Hours in Service: 744																						
Minimum Value: -2.1 km/h on Jan 29 21:00		Minimum Daily Average: -0.9 km/h on Jan 29		Hours of Data: 736																						
Maximum Diurnal Average: -0.1 km/h at hour 12		Minimum Diurnal Average: -0.4 km/h at hour 21		Hours of Missing Data: 8																						
Monthly Average: -0.21 km/h		Percentiles: $P_1 = -1.6$ $P_{10} = -0.9$ $Q_1 = -0.6$ Median = -0.2 $Q_3 = 0.2$ $P_{90} = 0.5$ $P_{99} = 0.9$		Hours of Calibration: 0																						
				Percent Operational Time: 98.9																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0.0	-0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.3	0.3	-0.1	0.2	0.3	0.0	-0.1	-0.2	-0.2	-0.1	0.0	-0.1	0.0	-0.3	0.0	0.3
2-Jan	0.1	0.0	-0.1	0.0	-0.2	0.0	0.0	-0.2	-0.2	-0.3	-0.1	0.0	0.2	0.4	0.1	0.1	0.2	0.2	0.2	0.0	0.1	0.1	0.4	0.3	0.1	0.4
3-Jan	0.2	0.4	0.4	0.7	0.4	0.4	0.2	0.1	-0.1	0.3	0.5	0.1	-0.2	-0.2	0.1	0.2	0.3	0.5	0.6	0.5	0.7	1.0	0.9	0.7	0.4	1.0
4-Jan	0.3	0.8	0.6	0.7	0.2	-0.3	0.0	0.1	-0.2	0.1	0.2	0.1	0.0	0.0	1.5	1.3	1.7	1.0	0.9	0.6	0.7	0.4	0.2	0.2	0.5	1.7
5-Jan	0.0	-0.1	-0.3	-0.1	-0.2	0.0	0.1	-0.1	0.0	0.2	-0.3	0.0	-0.1	-0.3	-0.4	-0.1	0.1	0.6	0.5	-0.1	-0.1	0.0	-0.1	-0.4	-0.1	0.6
6-Jan	-0.2	0.6	0.3	0.0	0.1	0.0	0.0	0.3	0.4	0.0	0.0	0.2	0.0	0.2	0.1	0.2	0.2	0.2	0.3	0.5	0.6	0.8	0.7	0.4	0.2	0.8
7-Jan	0.6	0.3	0.6	0.6	0.6	0.6	0.4	0.3	0.5	0.6	0.3	0.6	0.5	0.0	0.1	-0.3	-0.2	-1.0	-1.2	-1.3	-1.6	-1.0	-0.3	-0.9	0.0	0.6
8-Jan	-1.1	-0.7	-1.2	-0.6	-0.6	-0.5	-0.8	-0.9	-0.9	-1.2	-1.2	-0.6	-0.8	-0.5	-0.8	-0.6	-0.9	-0.7	-0.6	-0.9	-1.0	-1.1	-0.9	-1.0	-0.8	-0.5
9-Jan	-1.0	-1.2	-0.6	0.1	0.2	0.2	0.5	0.4	0.4	0.2	0.2	0.1	0.3	-0.1	0.2	-0.1	0.0	0.2	0.4	0.3	0.3	0.5	0.4	0.3	0.1	0.5
10-Jan	0.4	0.8	0.6	0.7	0.5	0.2	0.3	0.1	-0.2	-0.1	0.1	0.0	0.0	-0.3	-0.3	-0.2	-0.3	-0.3	0.3	0.4	0.5	0.3	0.2	0.0	0.1	0.8
11-Jan	0.0	0.2	0.2	-0.4	-0.4	0.2	0.4	-0.1	-0.3	-0.1	0.2	0.1	0.1	0.4	-0.2	-0.1	-0.1	0.0	0.0	-0.4	-0.3	-0.2	0.0	-0.2	0.0	0.4
12-Jan	0.0	0.4	0.5	0.2	0.3	0.6	0.6	0.6	0.6	0.7	0.6	0.6	0.8	UO	UO	0.4	0.7	0.3	0.5	0.4	0.2	0.4	0.0	0.1	0.4	0.8
13-Jan	0.3	0.4	0.9	0.9	0.5	0.6	UO	UO	0.5	0.6	0.4	UO	UO	UO	0.0	0.3	0.5	-0.5	-0.6	-0.7	-0.8	-0.7	-0.4	-0.3	0.1	0.9
14-Jan	-0.6	-0.6	-0.5	-0.2	0.0	-0.4	0.2	0.5	0.8	0.3	0.2	-0.1	-1.0	-1.0	-0.9	-1.4	-1.2	-1.2	-0.9	-0.9	-1.1	-1.0	-0.9	-0.9	-0.5	0.8
15-Jan	-0.9	-1.0	-0.7	-0.9	-1.0	-1.0	-1.2	-1.1	-0.6	-0.4	-0.3	-0.4	-0.4	-0.8	-0.4	-0.3	-0.4	-0.6	-0.6	-0.6	-0.5	-0.3	-0.2	0.3	-0.6	0.3
16-Jan	0.6	0.1	0.6	0.8	0.8	0.3	0.6	0.6	0.8	0.6	0.6	0.6	0.4	0.3	0.6	0.3	0.2	-0.2	0.6	0.0	-0.7	-0.6	-0.8	-0.5	0.3	0.8
17-Jan	0.7	0.0	-0.4	-0.4	0.5	0.4	0.1	0.5	0.5	0.2	-0.1	0.0	-0.5	-0.5	-0.5	-0.3	-0.1	-0.2	-0.3	0.3	-0.2	-0.1	0.4	-0.2	0.0	0.7
18-Jan	-0.1	0.2	0.1	-0.1	-0.3	-0.5	-0.4	-0.4	-0.4	-0.6	-0.5	-0.1	0.3	0.1	-0.2	-0.1	0.2	0.0	0.0	0.0	-0.2	0.0	-0.2	-0.3	-0.1	0.3
19-Jan	-0.2	-0.2	-0.2	-0.4	-0.3	-0.1	-0.1	-0.3	-0.4	-0.6	-0.3	-0.1	-0.1	-0.3	0.2	0.1	0.3	0.4	0.2	-0.3	-0.2	0.1	0.1	0.2	-0.1	0.4
20-Jan	0.3	0.6	0.6	0.6	0.1	0.3	0.8	0.7	0.5	0.4	0.3	0.4	0.5	0.4	0.4	-0.2	-0.5	-0.4	-0.3	-0.2	-0.7	-0.8	-0.7	-1.0	0.1	0.8
21-Jan	-1.1	-1.1	-1.0	-0.9	-0.7	-0.9	-0.7	-1.0	-0.8	-0.7	-0.7	-0.5	0.2	0.2	0.3	0.2	0.5	0.6	0.1	0.8	0.4	0.0	0.4	-0.1	-0.3	0.8
22-Jan	-0.1	-0.2	-0.1	-0.3	-0.3	-0.1	-0.2	-0.1	0.0	0.0	-0.2	-0.2	-0.2	-0.8	-0.6	-0.5	-0.4	-0.1	-0.2	0.1	0.3	0.5	0.4	0.2	-0.1	0.5
23-Jan	0.1	-0.2	0.0	-0.2	-1.0	-0.7	-0.1	-0.6	-0.8	-0.5	-0.4	-0.4	-0.5	-0.7	-0.9	-0.7	-0.8	-0.7	-0.7	-0.9	-1.2	-1.0	-0.8	-0.8	-0.6	0.1
24-Jan	-0.9	-0.9	-1.0	-0.8	-0.8	-1.3	-0.8	-1.0	-0.8	-0.6	-0.8	-0.7	-0.4	-0.3	-0.4	-0.4	-0.3	-0.6	-0.6	-0.6	-0.2	-0.1	-0.5	-0.6	-0.6	-0.1
25-Jan	-0.4	-0.3	-0.4	-0.2	-0.4	-0.3	-0.3	-0.3	-0.3	-0.5	-0.3	-0.5	-0.8	-0.8	-0.4	-0.3	-0.6	-0.6	-0.5	-0.8	-0.9	-0.6	-0.4	-0.3	-0.5	-0.2
26-Jan	-0.4	-0.5	-0.4	-0.4	-0.9	-0.7	-0.6	-0.2	-0.5	-0.7	-0.7	-0.7	-0.6	-0.4	-0.1	-0.9	-1.0	-0.7	-0.7	-0.8	-0.7	-0.6	-0.4	-0.6	-0.6	-0.1
27-Jan	-0.4	-0.7	-0.6	-0.4	-0.3	-0.4	-0.5	-0.5	-0.5	-0.6	-0.4	-0.5	-0.2	-0.1	-0.9	-0.7	-0.7	-1.0	-0.8	-1.1	-1.3	-0.8	-0.8	-1.2	-0.6	-0.1
28-Jan	-1.2	-0.9	-1.2	-0.9	-1.1	-1.1	-0.7	-0.5	-0.8	-0.7	-1.1	-0.7	-1.0	-1.2	-0.9	-0.9	-0.6	-0.6	-0.3	-0.4	-0.5	-0.5	-0.8	-0.8	-0.8	-0.3
29-Jan	-0.7	-0.4	-0.4	-0.2	-0.3	-0.1	-0.2	0.0	-0.3	-0.1	-0.2	DF	-1.1	-0.6	-1.1	-1.5	-1.5	-1.8	-1.9	-1.8	-2.1	-1.7	-2.0	-1.1	-0.9	0.0
30-Jan	-1.6	-0.9	-1.0	-0.9	-0.9	-0.9	-0.5	-1.1	-1.0	-0.9	-0.7	-0.2	0.1	-0.3	0.1	0.1	-0.1	-0.3	-0.4	-0.4	-0.3	-0.5	-0.6	-0.6	-0.6	0.1
31-Jan	-0.4	-0.3	-0.2	-0.3	0.0	-0.1	-0.6	-0.9	-0.4	-1.0	-0.2	-0.5	-0.5	-0.5	-0.5	-0.3	-0.9	-1.1	-1.1	-0.9	-1.1	-1.4	-1.0	-1.2	-0.6	0.0
																								Diurnal Average		
																								Diurnal Maximum		
DF - DAS Failure UO - Unstable Operation																										



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Vertical Wind Speed 45m (VW45) - km/h
Mannix - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 5.6 km/h on Jan 24 06:00 Minimum Value: 0.1 km/h on Jan 18 06:00 Percentiles: P ₁ = 0.2 P ₁₀ = 0.4 Q ₁ = 0.7 Median = 1.3 Q ₃ = 2.0 P ₉₀ = 2.5 P ₉₉ = 3.8																						Hours in Service: 744 Hours of Data: 736 Hours of Missing Data: 8 Hours of Calibration: 0 Percent Operational Time: 98.9			
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	1.4	1.1	1.0	1.0	1.1	1.0	1.4	1.3	1.3	1.4	1.5	1.4	1.2	1.3	1.4	0.7	1.0	1.0	1.2	1.3	1.3	1.1	1.5	1.4	1.5
2-Jan	1.4	1.2	0.8	0.5	0.5	0.6	0.4	0.3	0.2	0.2	0.2	0.3	0.7	0.9	0.9	0.5	0.7	0.4	0.2	0.3	0.2	0.2	0.6	0.3	1.4
3-Jan	0.2	0.3	0.4	0.3	0.3	0.4	0.4	0.3	0.6	0.6	0.5	0.7	1.0	0.8	0.6	0.7	1.6	2.0	1.8	1.9	2.0	2.1	2.3	2.0	2.3
4-Jan	1.9	2.1	2.3	2.3	2.2	2.0	1.9	2.0	2.6	2.5	2.1	2.1	1.7	2.2	2.4	2.1	1.9	1.5	1.3	1.2	1.0	0.9	0.6	0.8	2.6
5-Jan	1.2	1.5	1.6	1.5	1.5	1.8	2.0	1.8	1.6	1.4	1.2	1.5	1.5	1.2	1.1	1.2	1.3	1.4	1.4	1.1	0.7	0.8	0.8	0.7	2.0
6-Jan	0.8	1.5	1.4	1.1	1.1	1.2	1.4	1.6	1.8	1.4	1.5	1.4	1.4	1.5	1.3	1.3	1.1	1.3	1.7	1.6	1.4	1.6	1.4	0.9	1.8
7-Jan	1.1	0.9	1.1	1.3	1.3	0.9	1.1	1.1	1.0	1.0	1.3	1.4	1.0	0.7	1.0	1.2	1.2	1.7	1.5	2.3	2.7	2.3	1.7	1.5	2.7
8-Jan	2.1	3.2	3.1	2.4	1.9	1.8	1.7	1.0	0.5	0.8	0.9	1.5	2.0	3.0	2.5	2.0	1.9	1.2	0.7	1.2	1.6	2.1	2.1	1.9	3.2
9-Jan	1.6	2.0	1.9	2.0	2.2	1.9	2.1	2.1	1.8	1.5	1.3	0.8	1.0	1.3	1.4	1.3	1.4	1.3	1.9	1.9	1.8	2.2	2.5	2.1	2.5
10-Jan	2.4	2.8	2.7	2.6	1.8	1.2	1.0	0.8	0.4	0.3	0.4	0.6	0.5	1.2	1.4	2.0	2.0	2.4	2.6	2.8	2.6	2.2	2.0	2.0	2.8
11-Jan	2.2	1.8	2.0	2.0	1.6	2.0	1.8	1.2	1.7	1.5	1.5	1.7	1.8	1.7	1.0	0.7	0.3	0.2	0.3	0.6	0.9	0.9	1.0	0.8	2.2
12-Jan	0.8	1.2	1.2	1.0	0.9	1.0	0.8	0.8	0.7	1.3	1.4	1.5	1.2	UO	UO	1.1	1.4	1.0	0.7	0.8	0.6	0.6	0.7	0.6	1.5
13-Jan	0.6	0.6	0.8	0.8	0.7	1.0	UO	UO	1.2	1.0	0.8	UO	UO	UO	1.3	1.1	1.1	0.8	0.9	0.7	0.8	1.2	1.0	0.9	1.3
14-Jan	0.8	0.9	0.4	0.5	0.5	0.4	1.0	1.1	1.5	1.0	1.1	1.6	2.2	2.3	3.6	3.0	2.8	2.5	2.6	2.5	2.5	2.4	2.1	2.5	3.6
15-Jan	2.4	1.7	2.0	1.5	1.6	0.8	1.0	1.6	1.3	0.9	0.6	0.5	1.1	1.2	0.9	0.6	0.4	0.6	0.6	0.6	0.5	0.6	0.4	0.9	2.4
16-Jan	0.9	0.8	1.4	1.3	1.7	1.9	2.2	2.4	2.3	2.3	2.5	2.4	2.8	2.7	3.0	3.3	3.2	3.4	3.4	3.1	4.1	3.8	3.7	3.7	4.1
17-Jan	2.9	3.2	2.7	2.4	2.7	2.5	2.0	2.3	2.5	1.9	1.2	1.4	1.8	1.8	1.9	1.8	1.8	1.3	1.3	2.0	2.6	1.7	2.4	1.8	3.2
18-Jan	1.5	1.4	0.9	0.3	0.2	0.1	0.2	0.3	0.5	0.4	0.4	0.6	0.7	1.0	0.7	0.7	0.6	0.2	0.2	0.2	0.2	0.2	0.2	0.3	1.5
19-Jan	0.4	0.3	0.3	0.6	0.7	2.0	2.0	1.2	1.0	0.7	0.6	0.7	0.7	0.6	0.5	0.3	0.4	0.3	0.4	0.2	0.4	0.4	0.9	0.8	2.0
20-Jan	0.9	1.3	1.7	1.1	0.6	0.8	0.5	0.8	1.0	1.1	1.0	1.3	1.7	1.8	1.3	1.2	1.7	1.2	0.9	0.9	1.7	2.6	3.2	3.1	3.2
21-Jan	2.9	2.4	2.2	2.3	3.0	3.4	2.7	2.4	1.8	2.0	1.6	1.5	2.5	2.5	2.8	3.0	3.3	3.1	2.7	3.0	2.4	1.7	1.5	1.1	3.4
22-Jan	0.4	0.2	0.5	0.6	0.4	0.5	0.3	0.5	0.5	0.4	0.5	0.5	0.6	1.7	1.4	0.8	0.6	0.3	0.4	0.7	0.9	0.9	0.8	1.0	1.7
23-Jan	1.5	1.9	1.2	1.2	1.8	1.6	1.3	1.4	1.8	1.5	1.3	1.5	2.0	2.2	2.3	2.7	2.6	2.0	2.1	2.0	2.2	2.1	2.0	2.2	2.7
24-Jan	3.1	3.3	2.8	3.8	4.5	5.6	4.9	4.6	3.9	2.9	3.2	2.5	2.2	2.2	1.5	1.1	0.8	0.3	0.5	0.6	0.9	1.1	0.7	0.9	5.6
25-Jan	0.9	0.8	0.6	0.5	0.5	0.6	0.4	0.4	0.7	0.5	0.5	0.5	1.0	1.6	1.5	0.6	0.9	0.8	0.9	0.7	0.5	0.5	0.6	0.5	1.6
26-Jan	0.8	0.7	0.5	0.9	1.0	1.3	1.0	1.1	1.2	1.1	1.4	1.6	1.4	1.5	1.0	1.0	0.8	1.0	1.0	0.8	0.5	0.3	0.7	0.5	1.6
27-Jan	0.3	0.4	0.3	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.5	0.8	0.9	1.2	1.8	1.9	2.0	2.5	2.5	1.0	1.6	2.8	3.7	3.7	3.7
28-Jan	3.8	3.3	2.6	2.3	2.0	1.9	1.6	1.8	2.1	2.5	3.4	3.2	3.5	2.6	2.7	2.7	1.7	1.4	0.9	0.8	0.5	0.5	0.7	0.9	3.8
29-Jan	0.8	0.4	0.3	0.3	0.6	0.6	0.2	0.1	0.2	0.2	1.2	DF	2.3	2.4	2.1	1.9	2.1	2.5	2.5	2.7	2.5	2.5	2.4	2.5	2.7
30-Jan	2.1	2.5	2.8	1.9	2.1	1.8	2.0	1.9	1.4	1.4	1.9	1.8	1.9	1.6	1.7	1.3	1.1	0.8	0.8	0.8	0.5	0.5	0.4	0.3	2.8
31-Jan	0.6	0.5	0.5	0.5	0.4	0.4	0.6	0.8	0.9	1.2	1.3	1.4	1.6	1.5	1.5	1.8	1.7	1.7	1.9	1.9	1.8	1.8	1.8	1.8	1.9
3.8 3.3 3.1 3.8 4.5 5.6 4.9 4.6 3.9 2.9 3.4 3.2 3.5 3.0 3.6 3.3 3.3 3.4 3.4 3.1 4.1 3.8 3.7 3.7																									
Diurnal Maximum																									
DF - DAS Failure UO - Unstable Operation																									



Maximum Value: 1.9 km/h on Jan 4 17:00		Maximum Daily Average: 0.5 km/h on Jan 20		Hours in Service: 744																						
Minimum Value: -1.3 km/h on Jan 29 19:00		Minimum Daily Average: -0.4 km/h on Jan 30		Hours of Data: 732																						
Maximum Diurnal Average: 0.2 km/h at hour 12		Minimum Diurnal Average: 0.0 km/h at hour 6		Hours of Missing Data: 12																						
Monthly Average: 0.12 km/h		Percentiles: P ₁ = -1.1 P ₁₀ = -0.4 Q ₁ = -0.1 Median = 0.1 Q ₃ = 0.3 P ₉₀ = 0.6 P ₉₉ = 1.2		Hours of Calibration: 0																						
				Percent Operational Time: 98.4																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	-0.1	-0.3	0.2	0.1	-0.1	0.1	0.1	0.1	0.2	-0.1	0.3	0.4	0.2	0.3	0.6	0.1	-0.1	-0.3	-0.1	0.0	0.0	0.0	-0.1	-0.2	0.0	0.6
2-Jan	0.2	0.1	0.0	0.2	0.0	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.5	0.4	0.0	0.2	0.2	0.3	0.4	0.3	0.5	0.7	0.5	0.0	0.2	0.7
3-Jan	0.1	0.1	0.2	0.2	0.2	0.1	0.1	-0.1	0.1	0.1	0.1	0.0	0.1	0.2	0.1	0.0	-0.5	-0.3	0.0	0.0	-0.4	0.0	-0.4	-0.4	0.0	0.2
4-Jan	-0.4	-0.2	-0.2	-0.2	-0.6	-1.2	-0.6	-0.7	-0.9	-0.6	-0.7	-0.4	-1.0	-0.6	1.4	1.6	1.9	1.2	1.1	0.5	0.7	0.5	0.3	0.1	0.0	1.9
5-Jan	0.2	0.0	0.0	0.0	-0.1	0.1	0.3	0.0	0.1	0.3	0.0	0.2	0.0	-0.1	-0.2	0.1	0.2	0.4	0.5	-0.2	0.1	0.5	0.2	-0.3	0.1	0.5
6-Jan	0.1	0.5	0.2	0.2	0.4	0.1	0.0	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.7	0.6	0.6	0.7	0.7	1.0	1.2	1.1	0.7	0.5	1.2
7-Jan	1.0	0.4	0.6	0.7	0.9	0.5	0.7	0.9	0.7	0.8	0.7	0.7	0.5	0.3	0.3	0.0	0.0	-0.2	-0.3	-0.3	-0.2	0.1	0.3	-0.2	0.4	1.0
8-Jan	-0.2	0.2	-0.2	0.2	0.1	0.1	0.0	0.0	0.0	-0.3	-0.1	0.1	0.4	0.8	0.0	0.6	0.5	0.4	0.3	0.3	0.2	0.2	0.2	0.0	0.2	0.8
9-Jan	0.2	0.2	0.3	0.3	0.1	0.1	0.1	0.2	0.2	0.0	0.1	0.2	0.4	0.2	0.6	0.0	-0.1	0.1	-0.5	-0.6	-0.6	-0.7	-0.7	-0.2	0.0	0.6
10-Jan	-0.5	-0.4	-0.4	-0.3	0.1	0.1	0.1	0.3	0.2	0.1	0.1	0.2	0.1	-0.2	0.1	-0.1	-0.3	-0.1	0.2	0.8	0.6	0.2	0.0	0.0	0.0	0.8
11-Jan	0.0	0.1	0.6	-0.4	0.0	0.0	0.2	0.0	-0.2	-0.1	0.3	0.2	0.0	0.2	-0.1	0.0	0.0	0.1	0.1	-0.1	0.0	0.1	1.1	1.1	0.1	1.1
12-Jan	1.4	UO	0.2	0.0	0.0	0.5	0.3	0.5	0.6	0.9	0.2	0.4	UO	UO	UO	UO	UO	UO	0.6	1.0	1.0	0.6	0.4	0.4	-	1.4
13-Jan	0.4	0.6	0.5	0.4	0.3	UO	0.2	0.6	0.3	0.6	0.6	0.5	0.3	UO	0.5	0.5	0.6	-0.2	-0.1	0.2	0.1	0.2	0.7	0.5	0.4	0.7
14-Jan	-0.1	0.2	0.1	0.1	0.3	-0.1	0.4	0.7	1.0	0.7	0.5	0.4	0.2	0.0	0.4	0.0	0.0	0.1	0.3	0.1	0.0	0.3	0.2	0.3	0.3	1.0
15-Jan	0.3	0.2	0.4	0.2	0.2	-0.1	-0.1	0.0	0.4	0.1	0.3	0.1	0.4	-0.1	0.1	0.1	0.0	-0.1	0.0	0.0	0.1	0.1	0.2	0.1	0.1	0.4
16-Jan	0.5	0.0	0.2	0.8	0.6	-0.3	0.0	-0.3	0.3	0.0	-0.1	0.2	0.0	0.1	0.0	-0.2	-0.1	-1.0	0.4	0.4	-0.7	-0.5	-0.6	-0.8	0.0	0.8
17-Jan	1.1	0.3	-0.1	-0.2	0.9	0.3	-0.2	0.4	0.2	-0.1	-0.1	0.3	-0.5	-0.6	-0.4	-0.1	0.2	0.0	-0.1	0.5	-0.3	-0.5	0.6	-0.5	0.0	1.1
18-Jan	-0.1	0.1	0.1	0.0	0.0	-0.1	0.0	0.0	0.0	-0.1	-0.1	0.1	0.4	0.1	0.0	0.1	0.4	0.1	0.1	0.2	0.2	0.2	0.1	0.3	0.1	0.4
19-Jan	0.0	0.1	-0.2	-0.4	-0.2	0.0	-0.5	0.1	0.7	UO	UO	0.2	0.0	-0.2	0.4	0.1	0.3	0.5	0.5	0.7	0.2	0.2	0.3	0.5	0.2	0.7
20-Jan	0.7	1.2	1.7	1.8	1.1	0.9	0.4	0.1	0.1	0.5	0.8	0.6	0.7	0.7	0.6	0.2	0.1	0.1	0.0	-0.2	0.2	-0.1	0.6	0.4	0.5	1.8
21-Jan	0.1	0.3	-0.1	-0.2	0.4	0.6	0.4	0.2	0.0	0.1	0.2	0.3	0.3	0.1	0.1	-0.3	0.0	0.1	-0.1	0.6	0.6	0.4	0.8	0.0	0.2	0.8
22-Jan	0.1	0.2	0.2	0.0	0.2	0.1	0.0	0.0	-0.1	0.1	0.1	0.0	0.2	0.1	0.1	0.2	0.0	0.3	-0.1	0.5	0.8	1.0	0.8	0.5	0.2	1.0
23-Jan	0.6	0.5	0.5	0.1	-0.2	0.0	0.4	-0.1	0.2	0.2	0.2	0.2	0.6	0.2	0.2	0.7	0.5	0.4	0.3	0.4	0.0	0.0	0.1	0.5	0.3	0.7
24-Jan	0.6	0.7	0.4	-0.2	-0.4	-0.7	-0.6	-1.3	-0.7	-0.5	-0.3	0.0	0.1	0.1	0.1	0.1	0.1	-0.1	0.0	0.0	0.2	0.5	0.3	0.3	-0.1	0.7
25-Jan	0.3	0.1	0.0	0.2	-0.1	0.0	0.1	0.0	-0.1	0.0	0.1	0.0	0.0	0.2	0.3	0.3	0.1	0.3	0.1	-0.2	-0.2	0.0	0.2	0.0	0.1	0.3
26-Jan	0.0	0.1	-0.1	0.0	-0.1	-0.1	-0.1	-0.1	0.2	-0.1	0.1	0.0	0.1	0.0	0.2	-0.3	0.1	0.3	0.6	0.2	0.3	0.2	0.4	-0.1	0.1	0.6
27-Jan	0.2	0.0	0.0	0.2	0.3	0.1	0.2	0.1	0.1	0.0	-0.1	0.1	0.2	0.1	0.0	0.0	0.1	0.2	0.0	-0.1	0.0	0.8	0.6	0.7	0.2	0.8
28-Jan	0.6	0.5	0.3	0.4	0.1	0.0	0.3	0.4	0.4	0.4	0.5	0.9	0.4	0.2	0.5	0.5	0.3	0.4	0.4	0.4	0.2	0.1	0.1	0.1	0.4	0.9
29-Jan	0.2	0.3	0.2	0.3	0.2	0.0	0.1	0.2	0.2	0.2	0.1	DF	-0.6	-0.4	-0.6	-0.7	-0.7	-1.2	-1.3	-1.1	-1.3	-0.9	-1.3	-0.5	-0.4	0.3
30-Jan	-1.2	-0.3	-0.8	-0.9	-0.7	-0.2	-0.4	-0.8	-0.8	-0.6	-0.4	0.2	0.4	0.1	0.3	-0.2	-0.3	-0.3	-0.4	-0.4	-0.4	-0.8	-0.7	-0.3	-0.4	0.4
31-Jan	-0.3	-0.6	-0.4	-0.7	0.0	0.1	-0.3	-0.2	-0.1	-0.5	-0.1	-0.1	-0.2	-0.1	-0.2	-0.1	-0.4	-0.6	-0.4	-0.5	-0.8	-0.9	-0.4	-0.7	-0.3	0.1
																								Diurnal Average		
																								Diurnal Maximum		
DF - DAS Failure																										
UO - Unstable Operation																										



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Vertical Wind Speed 75m (VW75) - km/h
Mannix - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 5.0 km/h on Jan 24 06:00 Minimum Value: 0.1 km/h on Jan 18 06:00 Percentiles: P ₁ = 0.2 P ₁₀ = 0.4 Q ₁ = 0.7 Median = 1.2 Q ₃ = 1.9 P ₉₀ = 2.6 P ₉₉ = 3.9																						Hours in Service: 744 Hours of Data: 732 Hours of Missing Data: 12 Hours of Calibration: 0 Percent Operational Time: 98.4			
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	1.3	1.0	1.2	1.1	1.0	0.9	1.5	1.2	1.2	1.4	1.5	1.4	1.3	1.4	1.6	0.7	1.0	0.9	1.3	1.6	1.3	1.2	1.4	1.1	1.6
2-Jan	1.2	1.1	0.8	0.5	0.6	0.6	0.4	0.2	0.1	0.2	0.1	0.2	0.5	0.9	0.8	0.3	0.7	0.3	0.2	0.2	0.2	0.2	0.3	0.4	1.2
3-Jan	0.4	0.4	0.4	0.5	0.4	0.6	0.5	0.4	0.6	0.6	0.6	0.8	0.7	0.6	0.6	0.9	1.3	1.5	1.3	1.4	1.5	1.5	1.6	1.6	1.6
4-Jan	1.3	1.3	1.8	1.7	1.9	2.0	2.1	2.1	2.7	2.1	2.0	2.0	1.6	2.1	3.0	2.7	2.3	2.0	1.5	1.6	1.1	1.1	0.6	0.7	3.0
5-Jan	1.0	1.2	1.6	1.4	1.5	1.8	1.7	1.8	1.5	1.3	1.3	1.5	1.7	1.4	1.2	1.2	1.3	1.4	1.4	1.2	0.7	1.0	0.9	0.6	1.8
6-Jan	0.8	1.4	1.3	1.0	1.0	1.0	1.2	1.3	1.6	1.2	1.4	1.2	1.3	1.4	1.1	1.1	1.1	1.1	1.3	1.2	1.0	1.0	0.9	0.7	1.6
7-Jan	0.6	0.5	0.6	0.8	0.8	0.6	0.6	0.5	0.6	0.8	1.1	1.0	0.7	1.0	1.3	1.6	1.5	1.7	1.3	2.0	2.5	2.2	2.0	1.9	2.5
8-Jan	2.4	3.6	3.5	2.9	2.0	2.1	2.0	1.2	0.7	0.9	0.9	1.7	2.2	3.3	2.5	2.0	1.9	1.2	0.8	1.2	1.5	2.0	2.0	1.9	3.6
9-Jan	1.7	1.7	1.9	1.9	1.9	1.8	1.7	1.8	1.6	1.4	1.2	0.8	0.9	1.2	1.3	1.1	1.0	1.1	1.4	1.4	1.4	1.4	2.0	1.8	2.0
10-Jan	2.0	2.2	2.3	2.1	1.5	1.1	0.7	0.8	0.4	0.4	0.5	0.6	0.5	1.2	1.5	1.8	2.2	2.4	2.3	2.8	2.5	1.7	1.8	1.8	2.8
11-Jan	2.0	1.6	1.9	1.8	1.6	1.7	1.8	1.2	1.5	1.4	1.4	1.7	1.7	1.8	0.8	0.7	0.3	0.2	0.3	0.8	1.0	1.7	1.4	1.3	2.0
12-Jan	1.7	UO	1.2	0.8	0.9	1.1	0.8	1.4	0.8	1.4	1.2	1.2	UO	UO	UO	UO	UO	UO	1.1	1.2	0.8	0.9	1.0	0.5	1.7
13-Jan	0.5	0.5	0.6	0.9	0.7	UO	0.9	0.8	0.9	0.9	0.7	0.5	0.8	UO	0.9	0.7	1.1	1.1	1.3	0.9	1.0	1.2	1.1	1.1	1.3
14-Jan	0.9	1.0	0.5	0.6	0.5	0.4	0.8	0.9	0.8	0.9	1.2	1.8	2.4	2.7	4.2	3.2	2.9	2.7	3.0	2.9	2.6	2.6	2.3	2.8	4.2
15-Jan	2.7	1.7	2.0	1.6	1.6	0.8	0.8	1.3	1.3	1.0	0.7	0.6	1.3	1.3	1.1	0.8	0.5	0.7	0.6	0.7	0.6	0.7	0.4	0.7	2.7
16-Jan	0.9	1.2	1.2	1.8	2.4	3.1	3.2	2.9	2.5	2.4	2.5	2.3	2.6	2.2	2.8	3.0	2.8	3.1	3.5	3.0	3.7	3.8	3.7	3.1	3.8
17-Jan	3.1	3.4	2.5	2.4	2.8	2.3	2.0	2.4	2.2	1.7	1.2	1.6	1.5	1.6	1.7	1.3	1.4	0.8	0.7	2.2	2.6	1.9	2.6	1.6	3.4
18-Jan	1.3	1.6	1.1	0.5	0.2	0.1	0.2	0.4	0.6	0.4	0.4	0.4	0.6	0.7	0.6	0.6	0.4	0.2	0.3	0.2	0.2	0.3	0.2	0.4	1.6
19-Jan	0.4	0.3	0.4	0.7	0.9	2.2	3.1	1.7	2.5	UO	UO	0.9	0.6	0.5	0.7	0.3	0.4	0.3	0.3	0.3	0.4	0.7	0.5	0.5	3.1
20-Jan	0.6	1.2	1.8	1.5	0.7	0.6	0.5	0.8	1.0	1.0	0.8	0.9	1.2	1.4	0.8	1.5	1.8	1.4	0.7	1.3	2.2	2.9	3.5	3.3	3.5
21-Jan	3.0	2.4	2.3	2.6	3.2	3.6	2.9	2.4	2.2	2.1	1.6	1.4	2.3	2.2	2.2	2.6	2.9	2.8	2.5	2.8	2.3	1.7	1.6	1.2	3.6
22-Jan	0.5	0.3	0.6	0.6	0.5	0.6	0.4	0.6	0.6	0.4	0.4	0.4	0.7	1.7	1.5	0.9	0.4	0.4	0.3	0.6	0.6	0.6	0.6	0.9	1.7
23-Jan	1.5	1.5	1.0	1.2	1.6	1.7	1.6	1.7	1.8	1.6	1.5	1.9	2.4	2.5	2.4	2.9	2.7	2.1	2.1	2.2	2.3	2.1	2.3	2.4	2.9
24-Jan	3.3	3.3	2.9	3.7	3.9	5.0	4.9	4.2	3.7	2.4	2.7	2.3	2.1	2.4	1.4	1.2	0.6	0.3	0.7	0.7	1.1	1.1	0.7	0.8	5.0
25-Jan	0.9	1.0	0.8	0.6	0.7	0.9	0.6	0.8	0.9	0.6	0.8	0.5	1.0	1.5	1.4	0.8	1.1	0.8	1.0	0.7	0.5	0.5	0.8	0.7	1.5
26-Jan	1.1	0.9	0.7	0.9	1.2	1.5	1.3	1.5	1.4	1.3	1.5	1.6	1.5	1.6	1.1	1.1	0.6	1.0	1.0	0.7	0.4	0.3	0.5	0.5	1.6
27-Jan	0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.5	0.6	0.9	1.0	1.5	2.0	1.9	2.3	2.6	2.8	0.9	2.2	3.2	4.2	4.0	4.2
28-Jan	4.0	3.2	2.7	2.5	1.7	1.9	1.9	2.0	2.5	2.9	3.8	3.4	3.7	2.8	2.8	2.7	1.6	1.2	1.1	1.0	0.7	0.5	0.5	0.7	4.0
29-Jan	0.8	0.5	0.3	0.4	0.6	0.6	0.3	0.2	0.2	0.2	0.4	DF	2.0	2.1	1.6	1.3	1.6	1.9	2.0	2.2	2.3	2.1	1.9	2.2	2.3
30-Jan	1.8	2.3	2.3	1.6	1.8	1.6	1.6	1.9	1.4	1.2	1.8	1.8	2.0	1.8	1.8	1.3	0.7	0.5	0.7	0.6	0.4	0.5	0.3	0.3	2.3
31-Jan	0.4	0.3	0.4	0.4	0.3	0.3	0.4	0.5	0.8	1.0	1.2	1.4	1.2	1.3	1.3	1.5	1.3	1.3	1.7	1.4	1.4	1.4	1.3	1.5	1.7
4.0 3.6 3.5 3.7 3.9 5.0 4.9 4.2 3.7 2.9 3.8 3.4 3.7 3.3 4.2 3.2 2.9 3.1 3.5 3.0 3.7 3.8 4.2 4.0																									
Diurnal Maximum																									
DF - DAS Failure UO - Unstable Operation																									



Maximum Value: 2.6 km/h on Jan 17 01:00		Maximum Daily Average: 1.0 km/h on Jan 16		Hours in Service: 744																						
Minimum Value: -1.6 km/h on Jan 7 21:00		Minimum Daily Average: -0.9 km/h on Jan 7		Hours of Data: 720																						
Maximum Diurnal Average: 0.1 km/h at hour 7		Minimum Diurnal Average: -0.2 km/h at hour 24		Hours of Missing Data: 24																						
Monthly Average: -0.02 km/h		Percentiles: P ₁ = -1.2 P ₁₀ = -0.7 Q ₁ = -0.5 Median = -0.1 Q ₃ = 0.4 P ₉₀ = 0.9 P ₉₉ = 2.0		Hours of Calibration: 0																						
				Percent Operational Time: 96.8																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0.4	0.1	0.7	0.5	0.4	0.5	0.6	0.6	0.7	0.4	0.8	0.8	0.4	0.5	0.8	0.1	0.1	0.0	0.4	0.4	0.6	0.5	0.8	0.5	0.5	0.8
2-Jan	0.8	0.7	0.3	0.2	0.1	0.4	0.3	0.2	0.0	0.0	0.0	-0.1	0.2	0.2	0.0	-0.1	0.1	0.0	-0.1	-0.2	-0.1	-0.2	0.1	0.0	0.1	0.8
3-Jan	0.2	0.3	0.3	0.5	0.2	0.2	0.1	0.1	0.1	0.3	0.1	-0.3	-0.2	0.0	-0.1	-0.1	-0.6	-0.1	0.2	0.3	-0.3	0.4	0.1	0.0	0.1	0.5
4-Jan	0.0	0.2	0.0	0.0	-0.5	-1.3	-0.5	-0.8	-1.3	-0.5	-0.8	-0.5	-1.2	-0.9	1.1	1.5	1.9	1.2	1.3	0.4	0.7	0.5	0.3	0.2	0.0	1.9
5-Jan	0.5	0.7	0.6	0.4	0.4	0.8	1.1	0.8	0.8	0.8	0.4	0.5	0.2	0.0	-0.1	0.5	0.4	0.8	0.8	-0.1	0.0	0.3	-0.1	-0.6	0.4	1.1
6-Jan	-0.2	0.2	-0.1	-0.4	-0.2	-0.3	-0.2	0.0	-0.1	-0.1	-0.3	-0.2	-0.4	-0.3	-0.3	-0.2	-0.6	-0.5	-0.3	-0.4	-0.3	-0.3	-0.6	-0.3	-0.6	0.2
7-Jan	-0.4	-0.7	-0.8	-1.1	-0.8	-0.9	-0.9	-0.8	-1.0	-0.9	-1.0	-0.9	-1.0	-0.6	-0.6	-0.7	-0.9	-1.3	-1.4	-1.5	-1.6	-0.9	-0.5	-0.8	-0.9	-0.4
8-Jan	-1.0	-0.7	-1.1	-0.5	-0.5	-0.4	-0.7	-0.7	-0.6	-0.9	-0.8	-0.5	-0.3	0.3	-0.1	0.2	-0.7	-0.4	-0.3	-0.5	-0.7	-0.8	-0.6	-0.9	-0.5	0.3
9-Jan	-0.7	-0.7	0.3	1.4	0.9	0.9	0.9	1.1	0.8	0.4	0.3	0.1	0.3	-0.1	0.2	-0.3	0.5	UO	1.0	0.3	-0.1	0.3	-0.9	-0.4	0.3	1.4
10-Jan	-0.2	0.2	-0.2	0.0	-0.1	-0.2	-0.2	0.0	0.0	-0.2	-0.1	-0.1	0.1	-0.1	0.7	0.8	0.7	0.8	1.3	1.9	1.9	1.1	1.1	1.1	0.4	1.9
11-Jan	1.1	1.1	1.6	0.1	0.5	0.8	0.8	0.3	0.4	0.7	0.8	0.5	0.4	0.5	0.1	0.1	0.0	0.0	-0.1	-0.4	-0.5	-0.3	-0.3	-0.5	0.3	1.6
12-Jan	UO	UO	1.0	1.0	UO	1.2	2.0	2.1	2.1	2.4	0.6	0.7	0.8	1.3	2.1	0.3	1.1	UO	UO	UO	UO	UO	UO	UO	--	2.4
13-Jan	UO	0.4	1.8	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	-0.8	-0.6	-0.8	-0.9	-0.7	-0.6	-0.8	-0.5	0.1	0.0	--	1.8
14-Jan	-0.6	-0.3	-0.4	-0.3	-0.4	-0.7	-0.6	-0.5	-0.5	-0.8	-0.8	-0.5	-0.9	-0.9	-0.7	-0.9	-0.9	-0.8	-0.6	-0.6	-0.8	-0.6	-0.9	-0.5	-0.6	-0.3
15-Jan	-0.6	-0.6	0.0	-0.6	-0.7	-0.8	-1.1	-0.8	-0.2	0.1	-0.2	-0.3	-0.1	-0.6	-0.3	-0.1	-0.3	-0.5	-0.6	-0.6	-0.2	0.3	0.5	0.8	-0.3	0.8
16-Jan	1.0	0.1	1.1	1.1	1.0	0.3	0.5	0.8	1.2	0.9	1.2	1.0	1.1	1.5	1.4	1.3	1.7	0.8	2.1	1.8	0.7	0.8	0.9	0.7	1.0	2.1
17-Jan	2.6	1.6	0.8	0.5	2.1	1.2	0.5	1.0	1.0	0.6	0.4	0.6	-0.1	-0.2	0.2	0.8	1.1	0.9	0.8	1.3	0.6	0.4	1.9	0.5	0.9	2.6
18-Jan	0.8	0.5	0.3	0.1	-0.2	-0.3	-0.4	-0.3	-0.4	-0.4	-0.4	-0.2	0.1	0.0	0.0	-0.2	0.0	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	0.8
19-Jan	0.0	0.1	0.1	0.3	0.4	0.6	0.7	0.3	0.1	-0.5	-0.2	0.0	-0.3	-0.5	0.2	0.0	-0.1	0.0	-0.1	-0.7	-0.6	-0.5	-0.5	-0.5	-0.1	0.7
20-Jan	-0.6	-0.7	-0.7	-0.5	-0.6	-0.5	-0.3	-0.3	-0.5	-0.7	-0.5	-0.8	-0.6	-0.7	-1.0	-0.8	-0.5	-0.6	-0.8	-0.9	-0.4	-0.7	-0.3	-0.5	-0.6	-0.3
21-Jan	-1.0	-0.7	-1.0	-1.0	-0.5	-0.4	-0.3	-0.7	-0.8	-0.6	-0.6	-0.3	1.5	1.5	1.3	1.1	1.5	1.4	1.2	2.0	1.8	1.2	1.6	0.2	0.4	2.0
22-Jan	0.1	-0.1	-0.3	-0.2	-0.1	0.1	0.3	0.2	0.2	0.2	-0.1	-0.3	-0.2	-0.5	-0.3	-0.4	-0.6	-0.5	-0.7	-0.4	-0.5	-0.5	-0.7	-1.3	-0.3	0.3
23-Jan	-1.2	-1.3	-1.2	-1.1	-1.1	-0.6	0.0	-0.5	-0.6	-0.5	-0.3	-0.3	0.0	-0.4	-0.6	-0.4	-0.5	-0.5	-0.5	-0.3	-0.7	-0.7	-0.6	-0.3	-0.6	0.0
24-Jan	-0.3	-0.3	-0.6	0.2	0.5	0.7	1.0	0.2	0.7	0.1	0.2	0.0	0.2	0.5	0.1	0.0	0.0	-0.5	-0.4	-0.4	0.1	0.1	-0.2	-0.3	0.1	1.0
25-Jan	-0.1	-0.3	-0.3	-0.1	-0.5	-0.6	-0.5	-0.6	-0.6	-0.4	-0.3	-0.5	-0.5	-0.4	-0.3	-0.1	-0.4	-0.4	-0.3	-0.7	-0.7	-0.4	-0.3	-0.5	-0.4	-0.1
26-Jan	-0.6	-0.4	-0.6	-0.5	-0.8	-0.7	-0.6	-0.5	-0.3	-0.6	-0.5	-0.5	-0.4	-0.6	-0.3	-0.8	-0.6	-0.2	-0.3	-0.5	-0.5	-0.2	0.0	-0.6	-0.5	0.0
27-Jan	-0.3	-0.5	-0.6	-0.2	0.1	-0.2	-0.2	-0.4	-0.4	-0.4	-0.5	-0.4	-0.5	-0.5	-0.9	-0.7	-0.5	-0.5	-0.8	-0.8	-0.7	-0.4	-0.8	-0.7	-0.5	0.1
28-Jan	-0.8	-0.8	-0.7	-0.4	-0.7	-0.7	-0.3	-0.3	-0.3	-0.4	-0.7	-0.3	-0.4	-0.6	-0.6	-0.5	-0.1	-0.3	0.1	0.0	-0.3	-0.3	-0.5	-0.5	-0.4	0.1
29-Jan	-0.4	-0.2	-0.2	-0.1	-0.2	0.0	-0.1	0.0	-0.1	0.0	0.4	DF	0.7	0.5	0.2	0.1	0.1	-0.4	-0.5	-0.3	-0.3	0.0	-0.5	0.4	0.0	0.7
30-Jan	-0.3	0.5	0.3	-0.1	0.2	0.9	0.5	0.0	-0.3	0.0	0.1	0.6	0.9	0.5	0.9	0.4	0.3	0.3	0.1	0.2	0.2	-0.1	-0.1	0.3	0.3	0.9
31-Jan	0.3	0.2	0.2	0.0	0.4	0.4	0.3	0.4	0.5	0.3	0.3	0.4	0.4	0.4	0.2	0.5	0.5	0.2	0.3	0.4	0.1	-0.3	0.1	-0.2	0.3	0.5
																								Diurnal Average		
																								Diurnal Maximum		
-0.1 0.0 0.0 0.0 0.0 0.0 0.1 0.0 0.0 0.0 0.0 -0.1 -0.1 0.0 0.0 0.1 0.0 0.1 -0.1 0.0 0.0 -0.1 -0.1 0.0 -0.2																										
2.6 1.6 1.8 1.4 2.1 1.2 2.0 2.1 2.1 2.4 1.2 1.0 1.5 1.5 2.1 1.5 1.9 1.4 2.1 2.0 1.9 1.2 1.9 1.1																										
DF - DAS Failure																								UO - Unstable Operation		



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Vertical Wind Speed 90m (VW90) - km/h
Mannix - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 5.0 km/h on Jan 24 06:00 Minimum Value: 0.1 km/h on Jan 2 09:00 Percentiles: P ₁ = 0.2 P ₁₀ = 0.4 Q ₁ = 0.7 Median = 1.2 Q ₃ = 1.9 P ₉₀ = 2.7 P ₉₉ = 3.9		Hours in Service: 744 Hours of Data: 720 Hours of Missing Data: 24 Hours of Calibration: 0 Percent Operational Time: 96.8																							
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	1.1	1.0	1.2	1.0	1.1	0.9	1.5	1.2	1.2	1.4	1.5	1.5	1.4	1.4	1.6	0.7	1.0	0.9	1.3	1.5	1.2	1.1	1.4	1.0	1.6
2-Jan	1.2	1.1	0.7	0.6	0.6	0.8	0.4	0.2	0.1	0.2	0.2	0.1	0.5	0.7	0.7	0.2	0.6	0.3	0.1	0.2	0.2	0.1	0.4	0.4	1.2
3-Jan	0.4	0.4	0.5	0.6	0.2	0.4	0.5	0.5	0.7	0.7	0.6	0.7	0.6	0.6	0.7	0.7	1.0	1.1	0.9	1.1	1.2	1.0	0.9	1.0	1.2
4-Jan	0.9	0.9	1.5	1.2	1.7	1.7	1.9	1.9	2.6	1.9	1.8	1.8	1.4	2.1	3.0	2.4	2.3	2.0	1.5	1.6	1.0	1.2	0.6	0.7	3.0
5-Jan	1.0	1.1	1.4	1.4	1.4	1.8	1.7	1.7	1.5	1.3	1.2	1.5	1.8	1.5	1.2	1.3	1.3	1.5	1.5	1.4	0.7	1.1	1.0	0.7	1.8
6-Jan	0.8	1.4	1.3	1.0	1.0	1.0	1.1	1.3	1.4	1.1	1.4	1.2	1.3	1.3	1.1	1.1	1.2	1.1	1.2	1.1	0.8	0.8	0.7	0.6	1.4
7-Jan	0.5	0.4	0.4	0.5	0.5	0.5	0.4	0.4	0.4	0.7	0.8	0.8	0.6	1.1	1.4	1.8	1.6	1.7	1.3	2.2	2.6	2.2	2.2	2.1	2.6
8-Jan	2.5	3.8	3.6	3.1	2.1	2.2	2.1	1.4	0.8	0.9	0.8	1.9	2.5	3.5	2.5	1.9	1.6	1.1	0.8	1.1	1.6	2.1	1.9	1.9	3.8
9-Jan	1.7	1.8	1.9	1.9	1.9	1.7	1.5	1.8	1.5	1.4	1.1	0.7	0.9	1.2	1.4	1.1	1.1	UO	1.6	1.3	1.2	1.1	1.6	1.6	1.9
10-Jan	1.5	1.7	2.1	1.8	1.3	0.9	0.6	0.7	0.5	0.5	0.6	0.6	0.6	1.2	1.5	1.8	2.3	2.3	2.2	2.8	2.6	1.6	1.8	1.9	2.8
11-Jan	1.9	1.7	1.8	1.6	1.5	1.7	1.7	1.2	1.5	1.4	1.5	1.7	1.6	1.7	0.8	0.8	0.4	0.2	0.3	0.9	1.1	1.3	1.0	0.8	1.9
12-Jan	UO	UO	1.2	0.9	UO	1.1	1.0	0.9	0.9	1.3	1.2	1.2	1.6	2.0	2.4	2.2	1.9	UO	UO	UO	UO	UO	UO	UO	2.4
13-Jan	UO	0.7	0.7	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	0.8	0.6	1.0	1.2	1.5	1.0	0.9	1.1	1.3	1.3	1.5
14-Jan	0.9	1.1	0.5	0.7	0.6	0.4	0.8	0.9	0.6	0.7	1.0	1.9	2.5	2.7	4.3	3.4	3.1	2.8	3.3	3.1	2.8	2.7	2.4	3.0	4.3
15-Jan	2.8	1.9	1.8	1.5	1.5	0.8	0.7	1.2	1.2	1.0	0.7	0.6	1.3	1.4	1.2	0.9	0.6	0.8	0.7	0.8	0.6	0.7	0.4	0.8	2.8
16-Jan	0.8	1.1	1.3	1.6	2.0	2.0	2.8	2.8	2.7	2.5	2.8	2.4	2.7	2.4	2.7	3.0	2.9	3.2	3.7	3.2	3.6	3.6	3.7	3.1	3.7
17-Jan	3.2	3.4	2.6	2.5	2.9	2.4	1.9	2.4	2.1	1.7	1.2	1.8	1.4	1.6	1.5	1.2	1.2	0.7	0.8	2.3	2.5	2.0	2.6	1.6	3.4
18-Jan	1.3	1.7	1.1	0.5	0.3	0.2	0.2	0.5	0.7	0.4	0.4	0.4	0.5	0.7	0.7	0.6	0.2	0.2	0.3	0.1	0.1	0.2	0.2	0.3	1.7
19-Jan	0.4	0.4	0.5	0.8	0.9	2.3	2.8	1.5	1.2	1.1	0.9	1.0	0.6	0.6	0.8	0.3	0.3	0.3	0.2	0.2	0.4	0.6	0.6	0.5	2.8
20-Jan	0.3	0.4	0.7	1.4	0.6	0.6	0.5	0.9	1.2	1.1	0.7	0.8	1.2	1.3	0.7	1.6	1.9	1.4	0.7	1.5	2.3	3.0	3.5	3.5	3.5
21-Jan	3.2	2.4	2.4	2.9	3.6	3.7	3.0	2.5	2.3	2.2	1.8	1.5	2.3	2.3	2.2	2.5	2.9	2.8	2.5	2.8	2.5	1.8	1.6	1.3	3.7
22-Jan	0.6	0.4	0.7	0.7	0.5	0.6	0.5	0.6	0.5	0.4	0.4	0.5	0.7	1.7	1.5	0.9	0.4	0.3	0.4	0.6	0.6	0.5	0.5	0.8	1.7
23-Jan	1.4	1.3	0.9	1.1	1.9	1.8	1.8	1.8	1.9	1.6	1.6	2.1	2.6	2.6	2.9	2.5	1.9	2.2	2.4	2.3	2.2	2.3	2.7	2.9	2.9
24-Jan	3.4	3.5	2.9	3.5	4.0	5.0	4.9	4.2	3.7	2.3	2.5	2.1	2.1	2.5	1.4	1.2	0.5	0.4	0.8	0.9	1.1	1.1	0.8	0.9	5.0
25-Jan	0.9	1.1	0.8	0.7	0.8	1.0	0.7	0.9	0.9	0.6	0.8	0.6	1.1	1.6	1.4	0.9	1.2	0.9	1.0	0.7	0.5	0.5	0.9	0.9	1.6
26-Jan	1.2	1.0	0.8	1.1	1.2	1.5	1.3	1.6	1.5	1.3	1.5	1.7	1.6	1.7	1.2	1.1	0.6	0.8	0.6	0.7	0.3	0.2	0.5	0.6	1.7
27-Jan	0.4	0.4	0.4	0.5	0.5	0.6	0.5	0.5	0.6	0.5	0.7	0.9	1.0	1.7	2.0	2.1	2.2	2.6	2.7	0.9	2.4	3.0	4.2	3.9	4.2
28-Jan	4.1	3.2	2.8	2.7	1.7	1.8	2.0	2.2	2.7	3.2	3.8	3.4	3.5	2.8	2.8	2.6	1.5	1.0	1.0	0.9	0.6	0.6	0.5	0.8	4.1
29-Jan	0.7	0.6	0.3	0.5	0.7	0.7	0.3	0.2	0.2	0.2	0.5	DF	2.1	2.0	1.6	1.4	1.7	2.0	2.1	2.4	2.4	2.1	2.0	2.4	2.4
30-Jan	1.8	2.4	2.1	1.5	1.6	1.4	1.5	1.8	1.4	1.2	1.9	1.8	2.1	1.9	1.8	1.2	0.7	0.4	0.5	0.5	0.5	0.5	0.3	0.4	2.4
31-Jan	0.3	0.2	0.3	0.4	0.3	0.3	0.4	0.5	0.8	0.9	1.1	1.2	1.1	1.2	1.1	1.4	1.3	1.3	1.7	1.4	1.4	1.4	1.3	1.5	1.7
4.1 3.8 3.6 3.5 4.0 5.0 4.9 4.2 3.7 3.2 3.8 3.4 3.5 3.5 4.3 3.4 3.1 3.2 3.7 3.2 3.6 3.6 4.2 3.9																									
Diurnal Maximum																									
DF - DAS Failure UO - Unstable Operation																									



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS06
PATRICIA MCINNES
JANUARY 2025

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

February 28, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - PATRICIA McINNES (AMS06)
 JANUARY 2025

MONTHLY SUMMARY

Parameter	Hours of Data	Hours of Calibration	Hours without Data	Operational Time	Maximum 30-min Value	30-Min Exceedances	Maximum 1-Hour Value	1-Hour Exceedances	Maximum 24-Hour Value	24-Hour Exceedances
SO2 (ppb) Average	708	35	36	99.87	-	-	18.4	0	3.8	0
TRS (ppb) Average	706	37	38	99.87	1.7	0	1.3	0	0.7	0
THC (ppm) Average	670	33	74	94.49	-	-	2.6	-	2.3	-
NMHC(ppm) Average	670	33	74	94.49	-	-	0.131	-	0.012	-
CH4(ppm) Average	670	33	74	94.49	-	-	2.5	-	2.3	-
O3 (ppb) Average	708	35	36	99.87	-	-	49.8	0	41.9	-
NO2 (ppb) Average	669	36	75	94.76	-	-	40.7	0	19.8	-
NO (ppb) Average	669	36	75	94.76	-	-	41.1	-	9.6	-
NOX (ppb) Average	669	36	75	94.76	-	-	75.7	-	25.8	-
NH3 (ppb) Average	670	37	74	95.03	-	-	0	0	0	-
PM2.5 (ug/m3) Average	743	1	1	100	-	-	31.6	0	15.9	0
Temperature 2 m (C) Average	744	0	0	100	-	-	6.9	-	2.4	-
Relative Humidity (%) Average	744	0	0	100	-	-	95.8	-	88.9	-
Wind Speed 10 m (km/h) Average	744	0	0	100	-	-	43	-	20	-
Wind Direction 10 m (deg) Average	744	0	0	100	-	-	-	-	-	-

Note : Operational time includes periods of data collection and instrument calibration

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - PATRICIA McINNES (AMS06)
JANUARY 2025

MONTHLY SUMMARY FOR AIR QUALITY/ METEOROLOGICAL MONITORING MEASUREMENTS

Parameter	Number	Mean	StnDev	Total	Percentile						
					Min	P10	Q1	Median	Q3	P90	Max
SO2 (ppb) Average	708	0.94	1.7	-	0	0	0.1	0.3	0.8	3.2	18.4
TRS (ppb) Average	706	0.24	0.1	-	0	0.1	0.1	0.2	0.3	0.4	1.3
THC (ppm) Average	670	2.12	0.1	-	2	2	2.1	2.1	2.2	2.2	2.6
NMHC(ppm) Average	670	0.001	0.009	-	0	0	0	0	0	0	0.131
CH4(ppm) Average	670	2.12	0.1	-	2	2	2.1	2.1	2.2	2.2	2.5
O3 (ppb) Average	708	27.74	11.2	-	1.1	10.9	19.8	29.3	37	41	49.8
NO2 (ppb) Average	669	7.57	7.2	-	0	0.7	2.6	5	10.4	18.2	40.7
NO (ppb) Average	669	2.41	4.9	-	0	0	0.1	0.6	2.4	6.1	41.1
NOX (ppb) Average	669	9.97	11.3	-	0	0.7	3	6	12.7	25.2	75.7
NH3 (ppb) Average	670	0	0	-	0	0	0	0	0	0	0
PM2.5 (ug/m3) Average	743	4.09	4.1	-	0.2	0.7	1.8	3.2	4.9	7.4	31.6
Temperature 2 m (C) Average	744	-12.16	11.1	-	-37.4	-27	-21.3	-11	-2.6	1.9	6.9
Relative Humidity (%) Average	744	74.91	10.4	-	39.4	61.1	70.2	75.9	81.6	87.4	95.8
Wind Speed 10 m (km/h) Average	744	11.7	7	-	1	4	6	10	16	22	43
Wind Direction 10 m (deg) Average	744	-	-	-	-	-	-	-	-	-	-

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - PATRICIA MCINNES (AMS06)
JANUARY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
ALL GASEOUS ANALYZERS	15 Jan 2025 16:00	15 Jan 2025 16:00	2	Maintenance - sample manifold cleaned
NH3	01 Jan 2025 06:00	31 Jan 2025 06:00	36	Stabilization after daily QA check
NO2	14 Jan 2025 02:00	15 Jan 2025 11:00	34	Unstable Operation - AMD noncompliance
NO2	15 Jan 2025 12:00	15 Jan 2025 16:00	5	Maintenance - replaced sample pump
THC/NMHC/CH4	01 Jan 2025 03:00	02 Jan 2025 11:00	33	Unstable Operation - AMD noncompliance
THC/NMHC/CH4	10 Jan 2025 11:00	10 Jan 2025 14:00	4	Maintenance - calibration and support gas cylinder replaced
THC/NMHC/CH4	31 Jan 2025 12:00	31 Jan 2025 14:00	3	Maintenance - verify daily QA response



Wood Buffalo Environmental Association

Summary of Hour Averages

Sulphur Dioxide (SO₂) - ppb

Patricia McInnes - January 2025

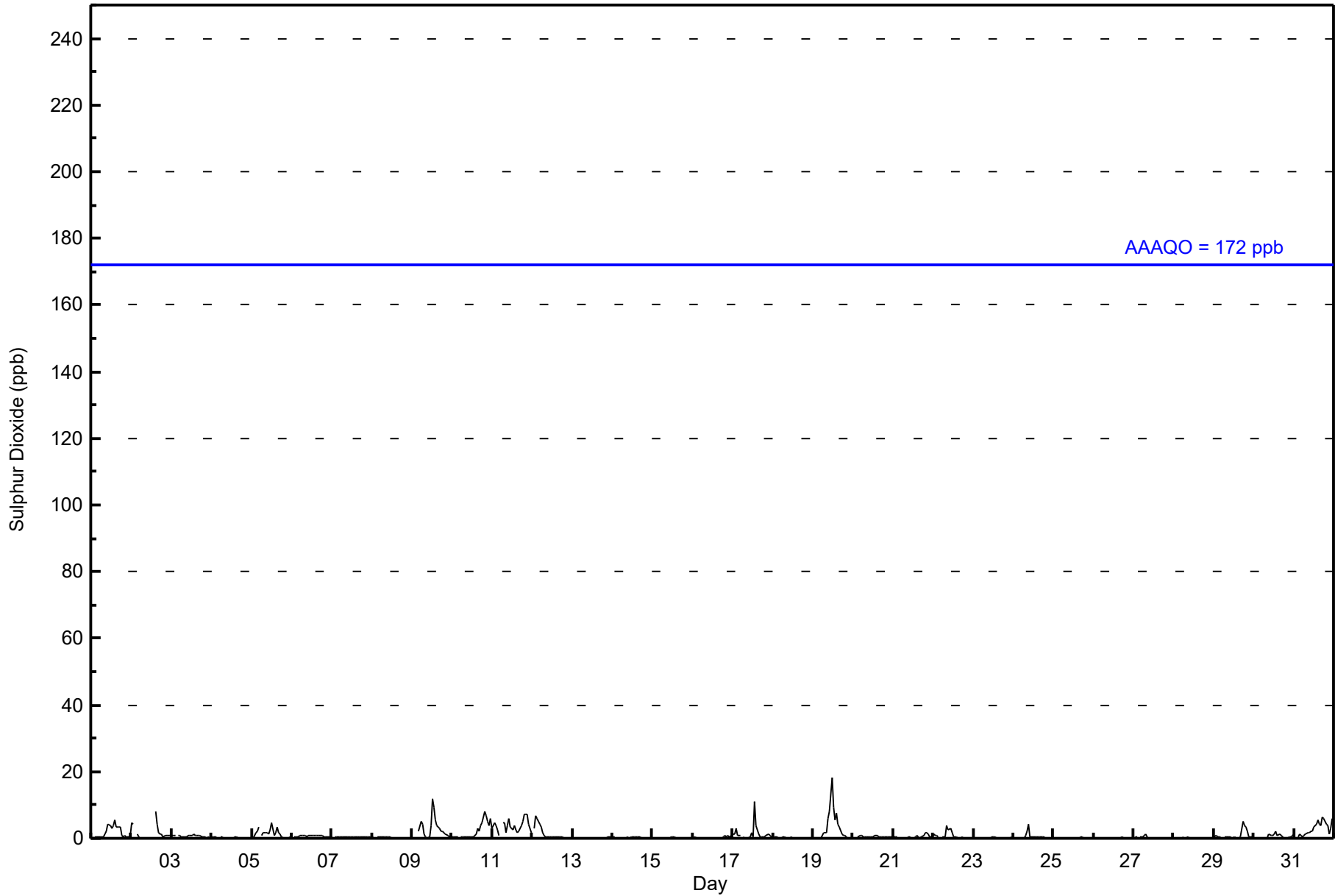
Number of Exceedences (AAAQO):		1-hr: 0	24-hr: 0	Hours in Service: 744																	Daily Average		Daily Maximum				
Maximum Value: 18.4 ppb on Jan 19 12:00		Maximum Daily Average: 3.8 ppb on Jan 11		Hours of Data: 708																	Hours of Missing Data: 36		Hours of Calibration: 35				
Minimum Value: 0.0 ppb on Jan 9 00:00		Minimum Daily Average: 0.1 ppb on Jan 26		Hours of Calibration: 35																	Percent Operational Time: 99.9						
Maximum Diurnal Average: 1.6 ppb at hour 14		Minimum Diurnal Average: 0.6 ppb at hour 23		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.3 Q ₃ = 0.8 P ₉₀ = 3.2 P ₉₉ = 7.9																							
Monthly Average: 0.94 ppb																											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	0.4	Z	0.6	0.3	0.2	0.5	0.6	0.6	1.3	2.2	4.3	4.0	3.0	3.6	5.7	3.2	3.3	3.6	0.8	0.6	0.9	0.4	0.3	0.8	1.8	5.7	
2-Jan	4.7	4.1	Z	1.2	0.6	0.2	0.1	0.1	0.1	0.1	C	C	C	C	7.9	4.2	1.9	1.4	1.1	0.5	0.7	0.7	0.7	0.6	1.6	7.9	
3-Jan	0.7	0.8	0.6	Z	0.8	0.7	0.6	0.6	0.5	0.6	0.8	1.0	1.0	1.2	0.9	0.7	0.8	0.8	0.5	0.3	0.2	0.2	0.3	0.2	0.6	1.2	
4-Jan	0.4	0.4	0.4	0.5	Z	0.4	0.3	0.2	0.2	0.2	0.1	0.2	0.1	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.5	
5-Jan	0.0	0.2	1.5	2.3	3.2	Z	0.7	1.8	1.7	1.8	1.5	2.5	4.5	0.9	1.8	3.2	1.9	1.4	0.2	0.2	0.2	0.2	0.2	0.3	1.4	4.5	
6-Jan	Z	0.5	0.5	0.5	0.5	0.7	0.7	0.7	0.7	0.6	0.8	0.9	1.0	1.0	0.9	0.9	0.9	0.9	0.8	0.6	0.6	0.5	0.5	0.4	0.7	1.0	
7-Jan	0.3	Z	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.5	0.6	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.6	
8-Jan	0.3	0.3	Z	0.5	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.3	0.2	0.2	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.2	0.5	
9-Jan	0.0	0.0	0.0	Z	2.0	5.2	4.1	1.1	0.3	0.2	0.2	3.7	11.8	9.4	5.5	3.9	3.0	2.3	2.2	1.6	1.2	0.7	0.5	0.4	2.6	11.8	
10-Jan	0.4	0.4	0.5	0.5	Z	0.5	0.5	0.4	0.4	0.4	0.5	0.4	0.5	0.5	1.1	3.1	2.1	3.9	4.8	8.1	6.7	5.1	3.9	6.0	2.2	8.1	
11-Jan	2.9	4.7	3.9	2.6	0.7	Z	4.9	4.8	1.7	3.8	5.8	3.5	2.4	3.7	2.4	1.9	2.2	3.8	4.9	7.2	7.0	7.1	4.4	1.7	3.8	7.2	
12-Jan	Z	2.8	6.6	6.0	4.1	3.5	1.6	0.8	0.6	0.5	0.4	0.4	0.3	0.5	0.6	0.5	0.3	0.3	0.3	0.2	0.2	0.2	0.1	0.2	1.3	6.6	
13-Jan	0.1	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.6	0.6	0.1	0.6	
14-Jan	0.3	0.4	Z	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.4	
15-Jan	0.1	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.4	0.3	0.1	M	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.4	
16-Jan	0.2	0.2	0.2	0.1	Z	0.1	0.1	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.5	0.7	0.5	0.7	0.4	0.8	0.2	0.8	
17-Jan	1.3	1.4	2.8	0.8	0.7	Z	0.3	0.2	0.2	0.2	0.4	1.6	0.4	10.8	4.0	1.4	0.4	0.4	0.4	0.5	0.9	1.2	0.8	0.6	1.4	10.8	
18-Jan	Z	0.3	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.0	0.1	0.2	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.3	
19-Jan	0.0	Z	0.0	0.0	0.0	0.2	1.8	1.5	1.6	5.8	8.1	18.4	9.1	5.5	7.7	4.4	3.3	1.3	1.0	0.6	0.4	0.1	0.0	0.0	3.1	18.4	
20-Jan	0.0	0.0	Z	0.6	0.8	0.7	0.5	0.4	0.2	0.2	0.3	0.4	0.6	0.7	0.7	0.6	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.4	0.4	0.8	
21-Jan	0.3	0.4	0.3	Z	0.2	0.2	0.2	0.1	0.1	0.3	0.3	0.1	0.1	0.6	0.7	0.6	0.2	0.4	0.8	1.9	1.8	1.2	0.2	0.2	0.5	1.9	
22-Jan	1.3	0.9	1.0	0.4	Z	0.4	0.2	0.3	3.9	2.7	3.1	1.6	0.3	0.5	0.4	0.1	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.8	3.9	
23-Jan	0.0	0.1	0.1	0.1	0.1	Z	0.1	0.2	0.1	0.1	0.1	0.2	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.1	0.3	
24-Jan	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.9	2.1	4.1	0.2	0.2	0.5	0.3	0.3	0.3	0.3	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.5	4.1	
25-Jan	0.3	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.2	0.2	0.3	0.3	0.2	0.1	0.0	0.1	0.0	0.0	0.1	0.3	
26-Jan	0.0	0.0	Z	0.1	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.2	
27-Jan	0.1	0.4	0.6	Z	0.6	0.3	0.7	1.1	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.1	0.0	0.0	0.0	0.3	1.1	
28-Jan	0.1	0.0	0.0	0.1	Z	0.3	0.2	0.1	0.2	0.2	0.1	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.2	0.0	0.2	0.1	0.3	
29-Jan	0.4	0.6	0.5	0.5	0.5	Z	0.3	0.3	0.2	0.3	0.3	0.2	0.3	0.1	0.1	0.1	0.4	5.3	4.0	3.3	2.2	0.4	0.4	0.4	0.9	5.3	
30-Jan	Z	0.1	0.0	0.0	0.0	0.0	0.2	0.0	0.0	1.5	0.8	0.8	1.4	2.3	1.0	1.2	0.9	0.4	0.2	0.1	0.2	0.6	0.4	0.7	0.5	2.3	
31-Jan	1.3	Z	0.4	1.1	1.0	0.6	0.9	1.2	1.7	1.8	2.3	2.0	3.4	4.3	5.3	4.3	3.9	6.3	6.1	4.3	3.6	1.4	3.2	5.8	2.9	6.3	
																								Diurnal Average		Diurnal Maximum	
																								0.6		4.7	
																								0.8		4.7	
																								0.8		6.6	
																								0.7		6.0	
																								0.6		4.1	
																								0.6		5.2	
																								0.7		4.9	
																								0.6		4.8	
																								0.6		3.9	
																								0.9		5.8	
																								1.1		8.1	
																								1.5		18.4	
																								1.4		11.8	
																								1.6		10.8	
																								1.6		7.9	
																								1.2		4.4	
																								0.9		3.9	
																								1.1		6.3	
																								1.0		6.1	
																								1.0		8.1	
																								0.9		7.0	
																								0.7		7.1	
																								0.6		4.4	
																								0.7		6.0	

Z - zerospan C - Calibration M - Maintenance
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb



Wood Buffalo Environmental Association
Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Patricia McInnes - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Patricia McInnes - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	705	99.58	99.58
11 - 20	3	0.42	100.00
21 - 60	0	0.00	100.00
61 - 110	0	0.00	100.00
111 - 172	0	0.00	100.00
> 172	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Patricia McInnes - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 10	102	32	4	2	5	19	80	52	34	31	60	80	66	58	32	48	705
11 - 20	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	3
21 - 60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61 - 110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111 - 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	103	32	4	3	5	19	80	52	34	31	60	81	66	58	32	48	708

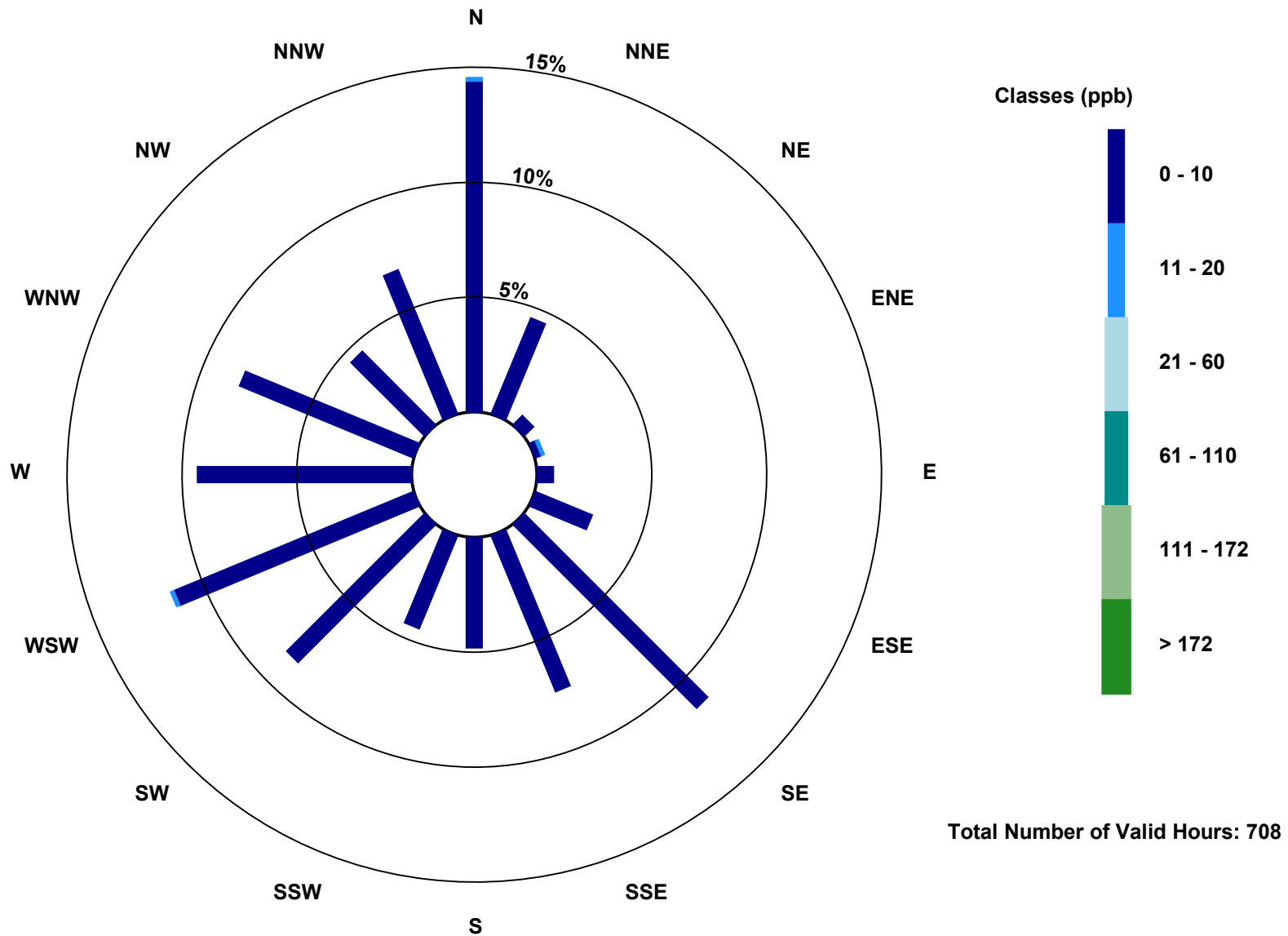
Total Number of Valid Hours: 708

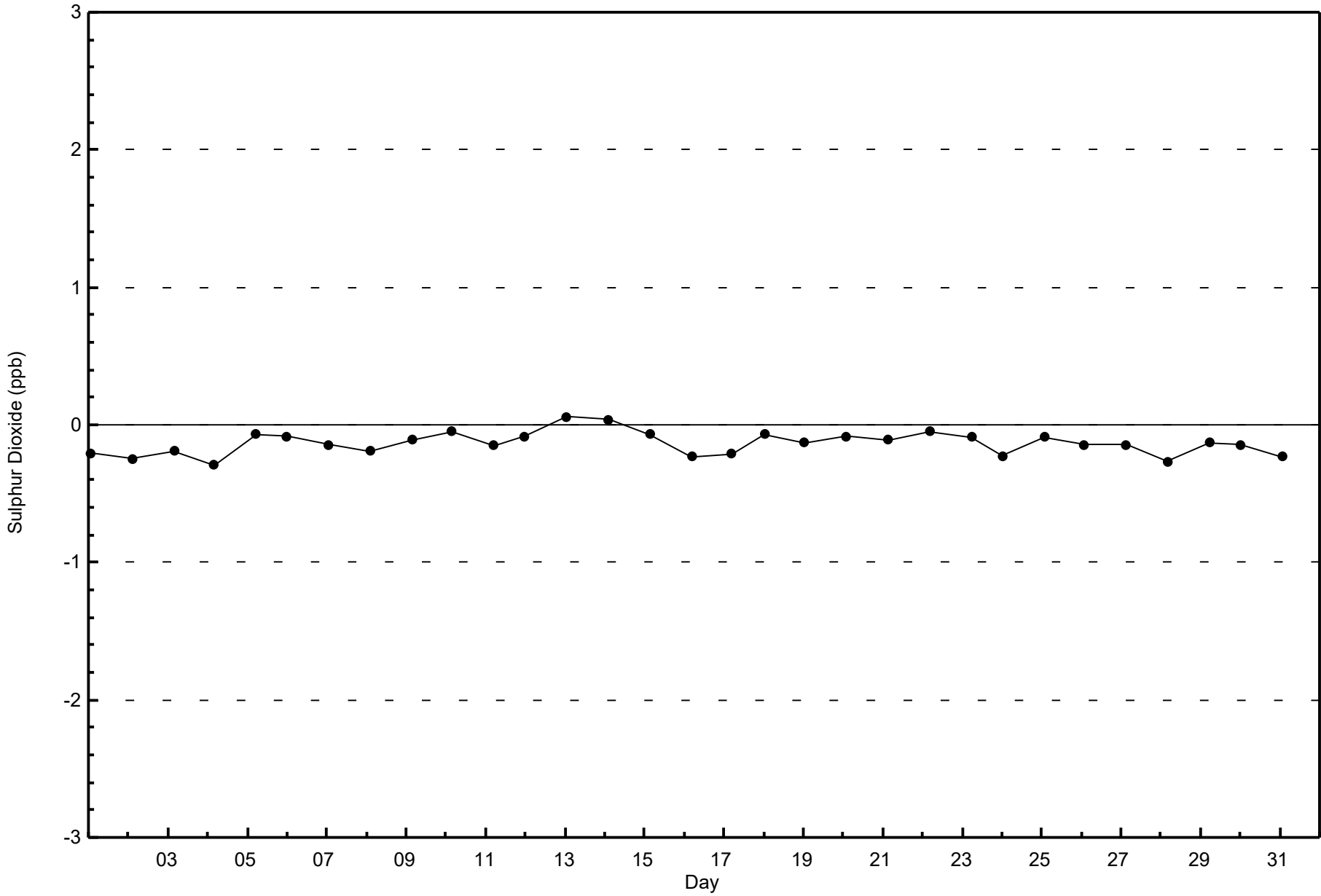
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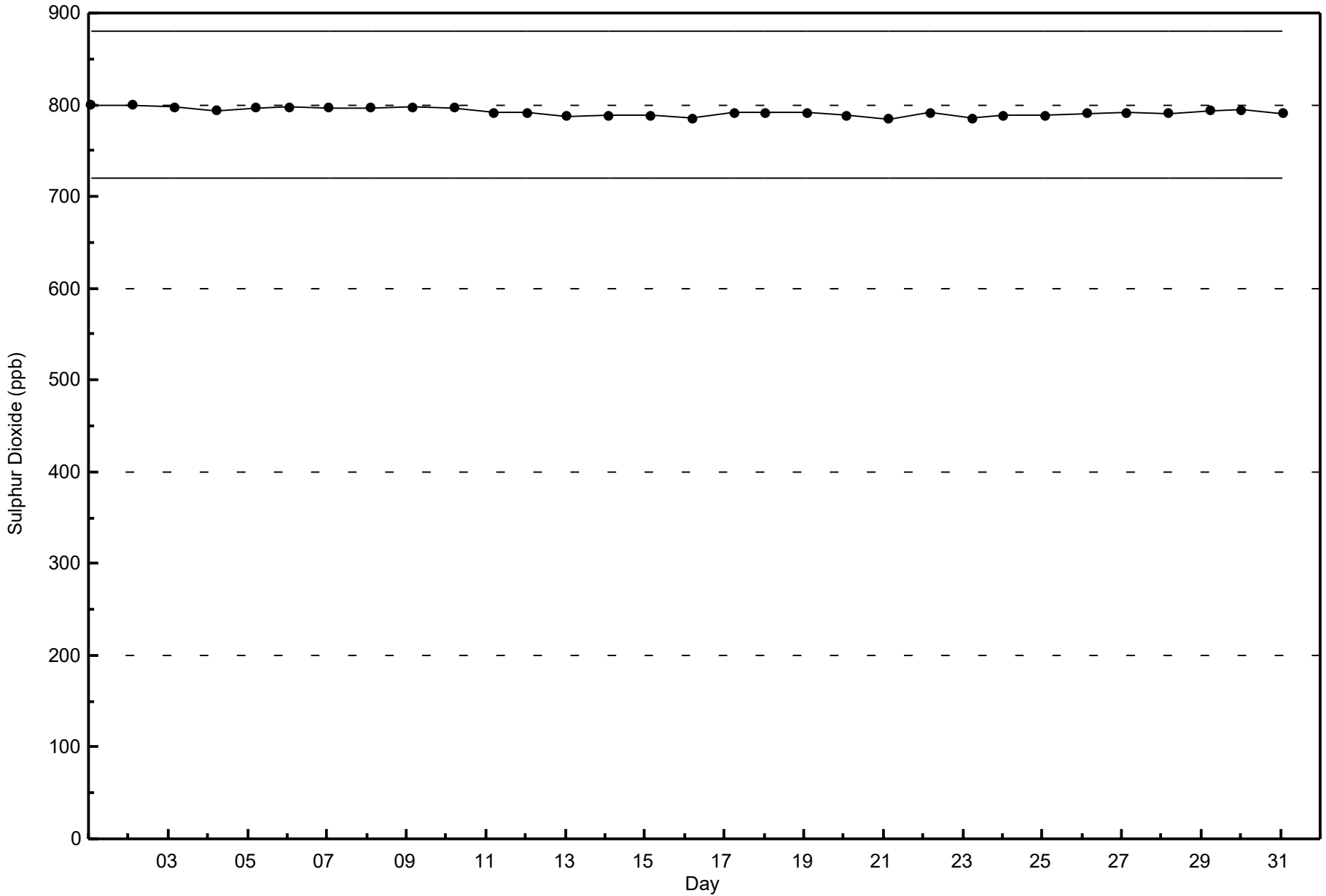


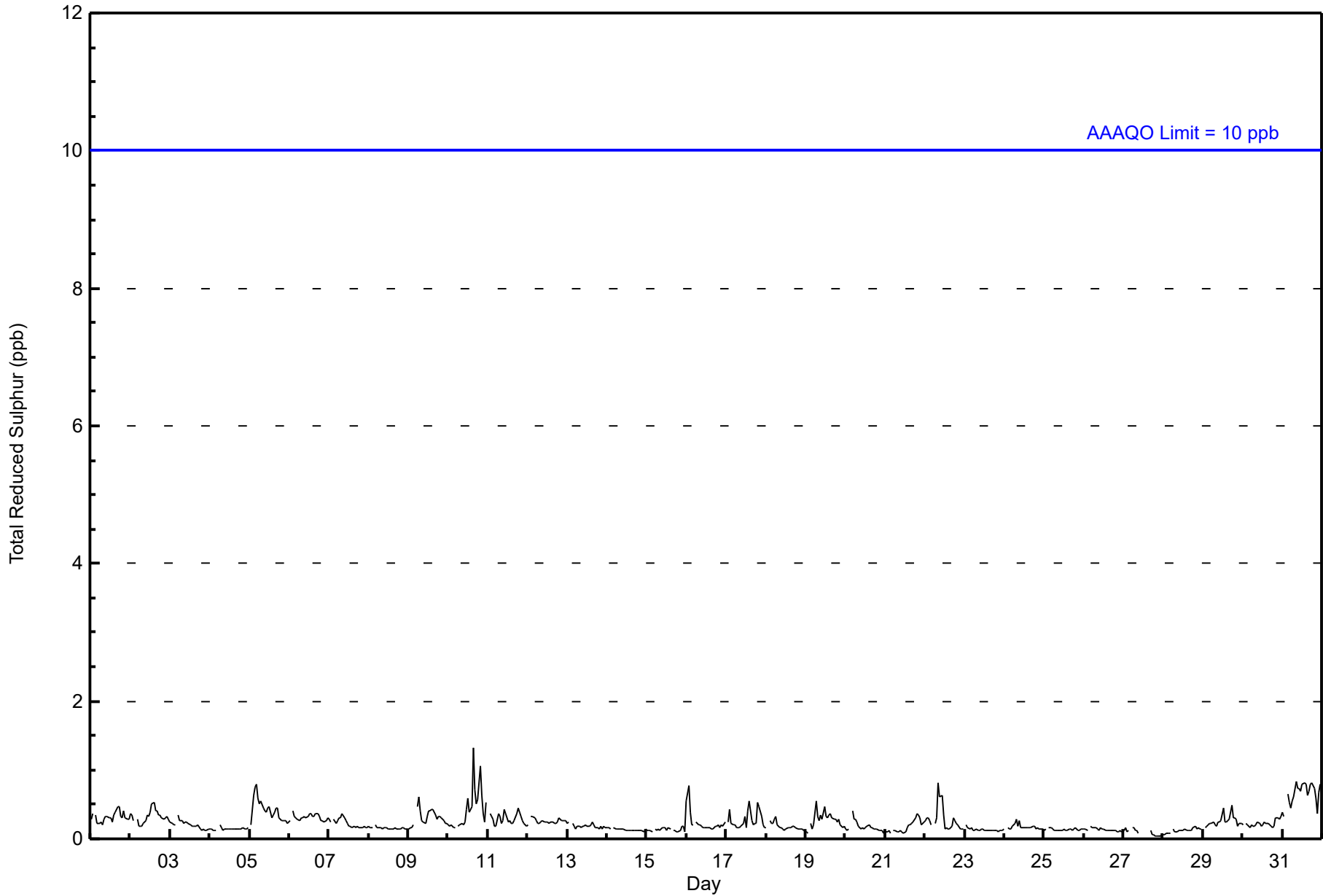
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Sulphur Dioxide (SO₂) - ppb
Patricia McInnes











Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Reduced Sulphur (TRS) - ppb
Patricia McInnes - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	706	100.00	100.00
3 - 4	0	0.00	100.00
5 - 7	0	0.00	100.00
8 - 11	0	0.00	100.00
> 11	0	0.00	100.00

Total Number of Valid Hours: 706

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Total Reduced Sulphur (TRS) - ppb
Patricia McInnes - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2	103	31	4	3	5	19	79	49	38	34	57	82	63	55	34	50	706
3 - 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 - 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 - 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	103	31	4	3	5	19	79	49	38	34	57	82	63	55	34	50	706

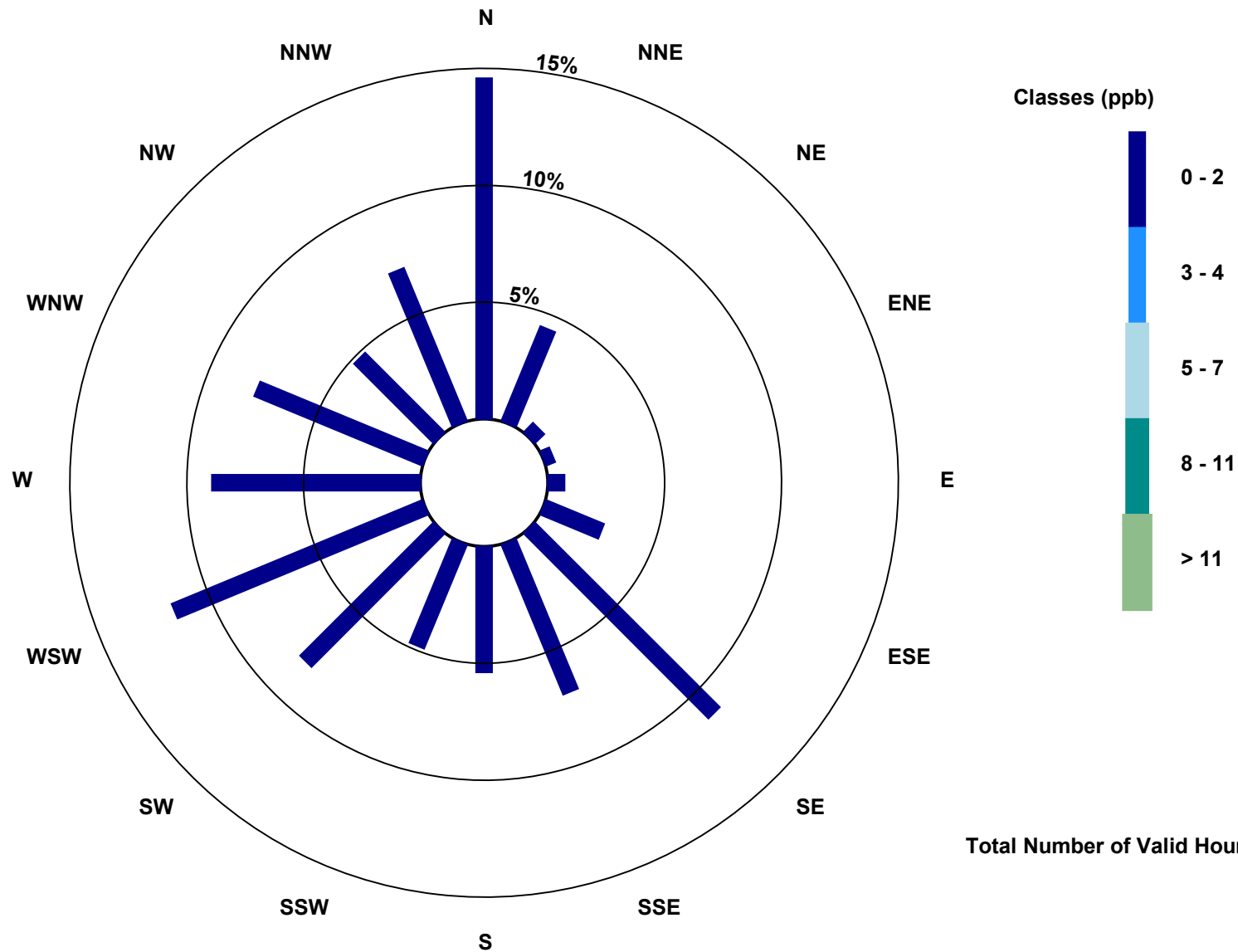
Total Number of Valid Hours: 706

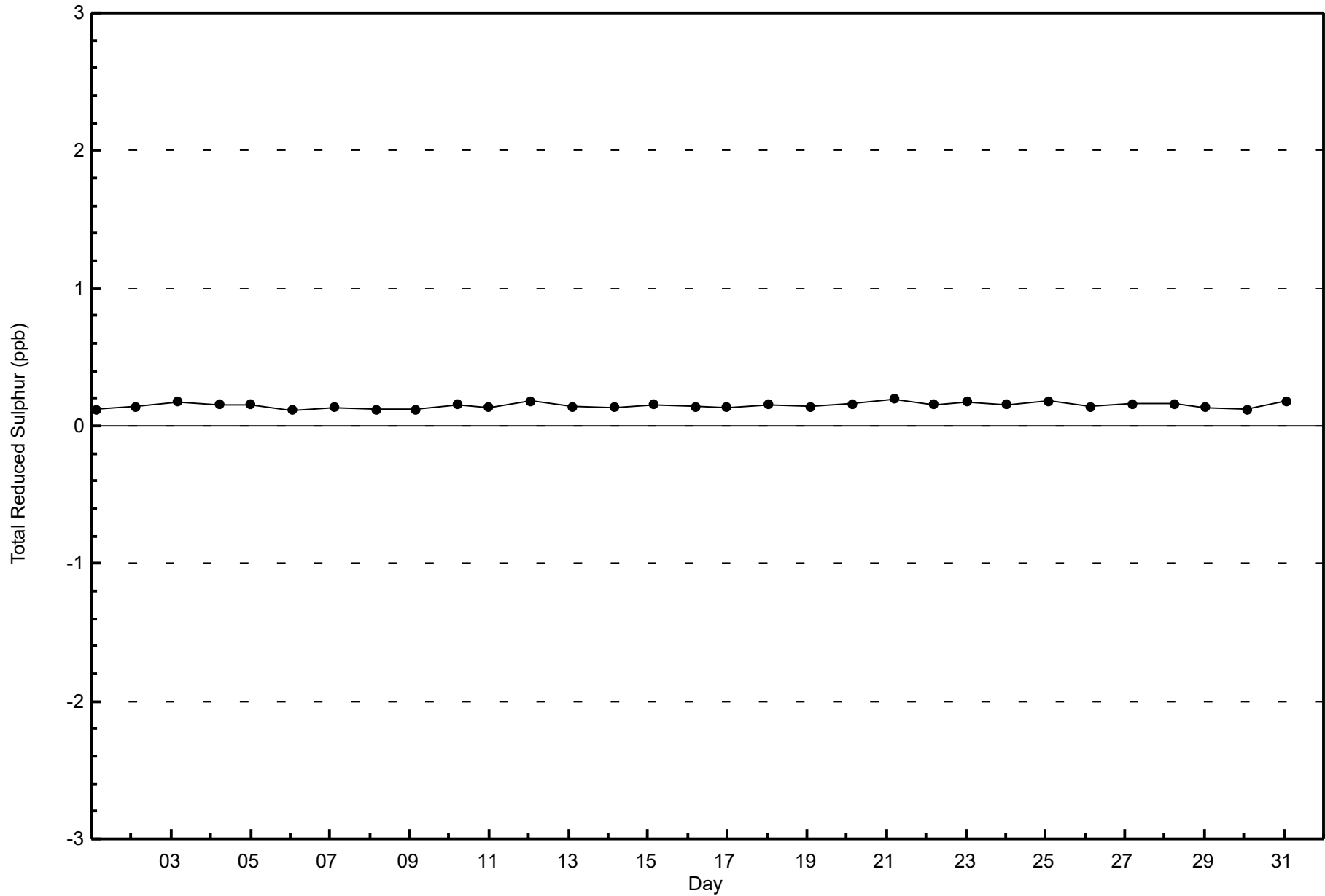
Total Number of Hours: 744

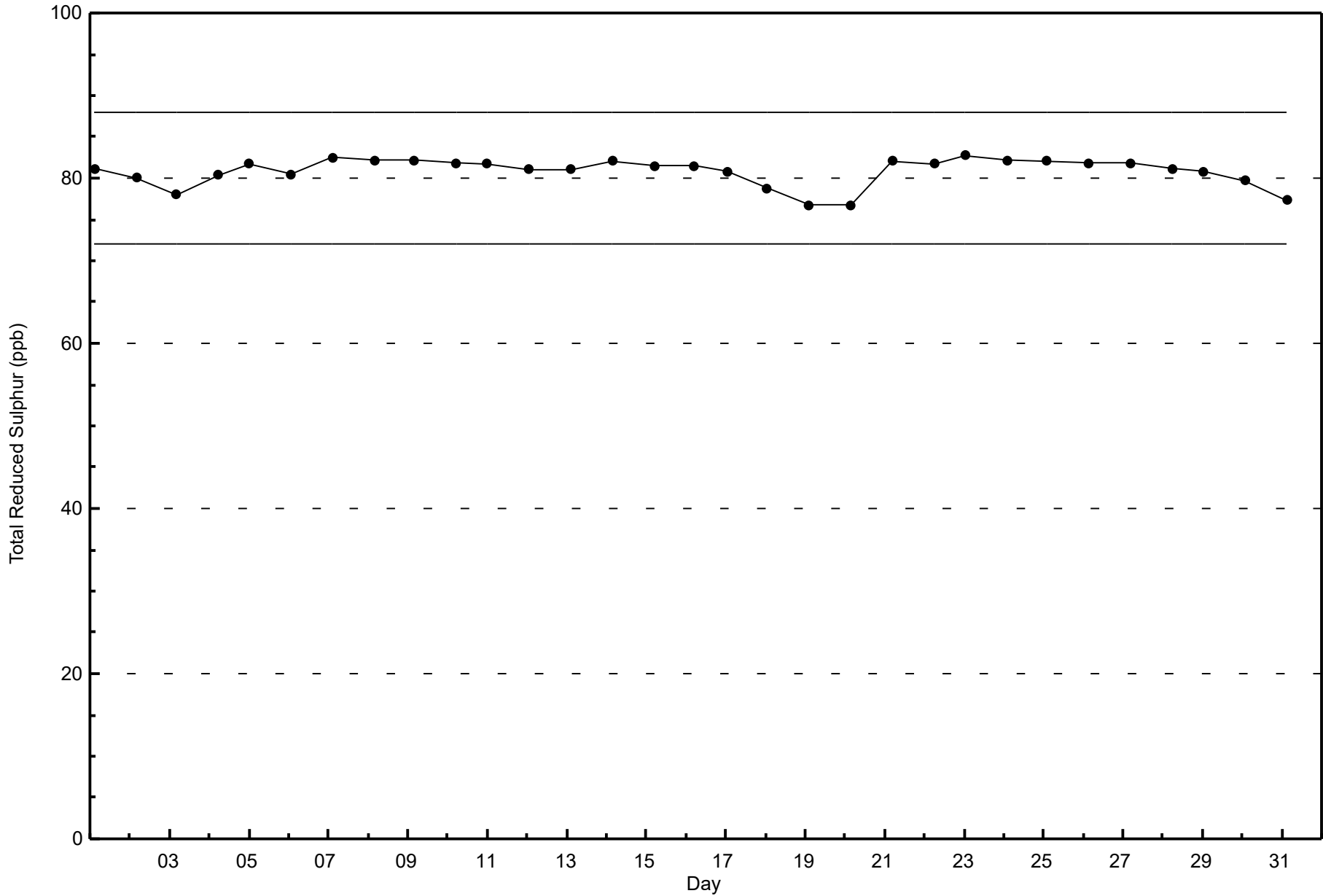


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Total Reduced Sulphur (TRS) - ppb
Patricia McInnes









Wood Buffalo Environmental Association
Summary of Hour Averages

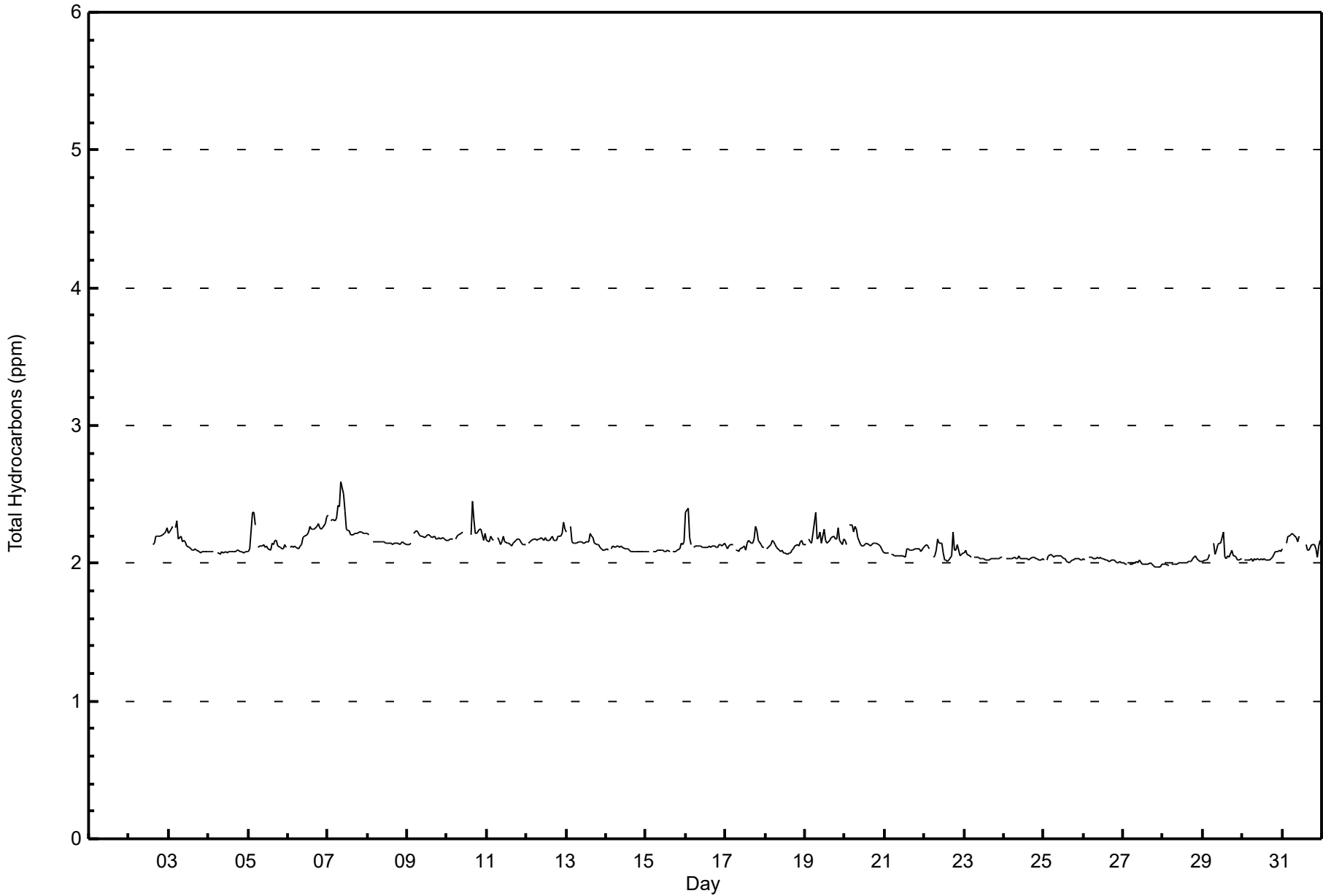
Total Hydrocarbons (THC) - ppm
Patricia McInnes - January 2025

Maximum Value: 2.6 ppm on Jan 7 09:00		Maximum Daily Average: 2.3 ppm on Jan 7		Hours in Service: 744																							
Minimum Value: 2.0 ppm on Jan 27 22:00		Minimum Daily Average: 2.0 ppm on Jan 27		Hours of Data: 670																							
Maximum Diurnal Average: 2.1 ppm at hour 5		Minimum Diurnal Average: 2.1 ppm at hour 14		Hours of Missing Data: 74																							
Monthly Average: 2.12 ppm		Percentiles: P ₁ = 2.0 P ₁₀ = 2.0 Q ₁ = 2.1 Median = 2.1 Q ₃ = 2.2 P ₉₀ = 2.2 P ₉₉ = 2.4		Hours of Calibration: 33																							
				Percent Operational Time: 94.5																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	2.0	Z	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	2.0	
2-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	C	C	C	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	--	2.3	
3-Jan	2.2	2.2	2.3	Z	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3
4-Jan	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
5-Jan	2.1	2.1	2.4	2.4	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.4	
6-Jan	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.3	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.3	
7-Jan	2.3	Z	2.3	2.3	2.3	2.3	2.4	2.4	2.6	2.5	2.4	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.6	
8-Jan	2.2	2.2	Z	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.2	2.2	
9-Jan	2.1	2.1	2.1	Z	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	
10-Jan	2.2	2.2	2.2	2.2	Z	2.2	2.2	2.2	2.2	2.2	M	M	M	M	2.2	2.5	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.5	
11-Jan	2.2	2.2	2.2	2.2	2.2	Z	2.2	2.2	2.1	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.2	2.2	
12-Jan	Z	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.2	2.3	
13-Jan	2.2	Z	2.3	2.2	2.1	2.1	2.1	2.2	2.2	2.2	2.1	2.1	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.3	
14-Jan	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	
15-Jan	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	M	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	
16-Jan	2.4	2.4	2.2	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.4	
17-Jan	2.1	2.1	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.2	2.2	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.3	
18-Jan	Z	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.2	
19-Jan	2.1	Z	2.2	2.2	2.1	2.2	2.4	2.2	2.2	2.2	2.1	2.2	2.2	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.2	2.1	2.2	2.2	2.4	
20-Jan	2.2	2.1	Z	2.3	2.3	2.2	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.3	
21-Jan	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	
22-Jan	2.1	2.1	2.1	2.1	Z	2.0	2.1	2.1	2.2	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	
23-Jan	2.1	2.1	2.1	2.1	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	
24-Jan	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
25-Jan	2.0	Z	2.0	2.0	2.1	2.1	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	
26-Jan	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
27-Jan	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
28-Jan	2.0	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.1	
29-Jan	2.0	2.0	2.0	2.0	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.0	2.0	2.1	2.0	2.1	2.0	2.1	2.0	2.0	2.0	2.0	2.1	2.2	
30-Jan	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.0	2.1	
31-Jan	2.1	Z	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	M	M	M	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.2	2.1	2.2	
2.1																								Diurnal Average			
2.4																								Diurnal Maximum			
Z - zerospan				C - Calibration				M - Maintenance				UO - Unstable Operation															



Wood Buffalo Environmental Association
Hourly Averages

Total Hydrocarbons (THC) - ppm
Patricia McInnes - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Hydrocarbons (THC) - ppm
Patricia McInnes - January 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	165	24.63	24.63
2.1 - 3.0	505	75.37	100.00
3.1 - 10.0	0	0.00	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 670

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Total Hydrocarbons (THC) - ppm
Patricia McInnes - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2.0	19	4	0	0	0	0	0	0	0	5	27	26	26	32	15	11	165
2.1 - 3.0	71	27	3	3	4	19	80	50	34	26	33	52	39	24	11	29	505
3.1 - 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	90	31	3	3	4	19	80	50	34	31	60	78	65	56	26	40	670

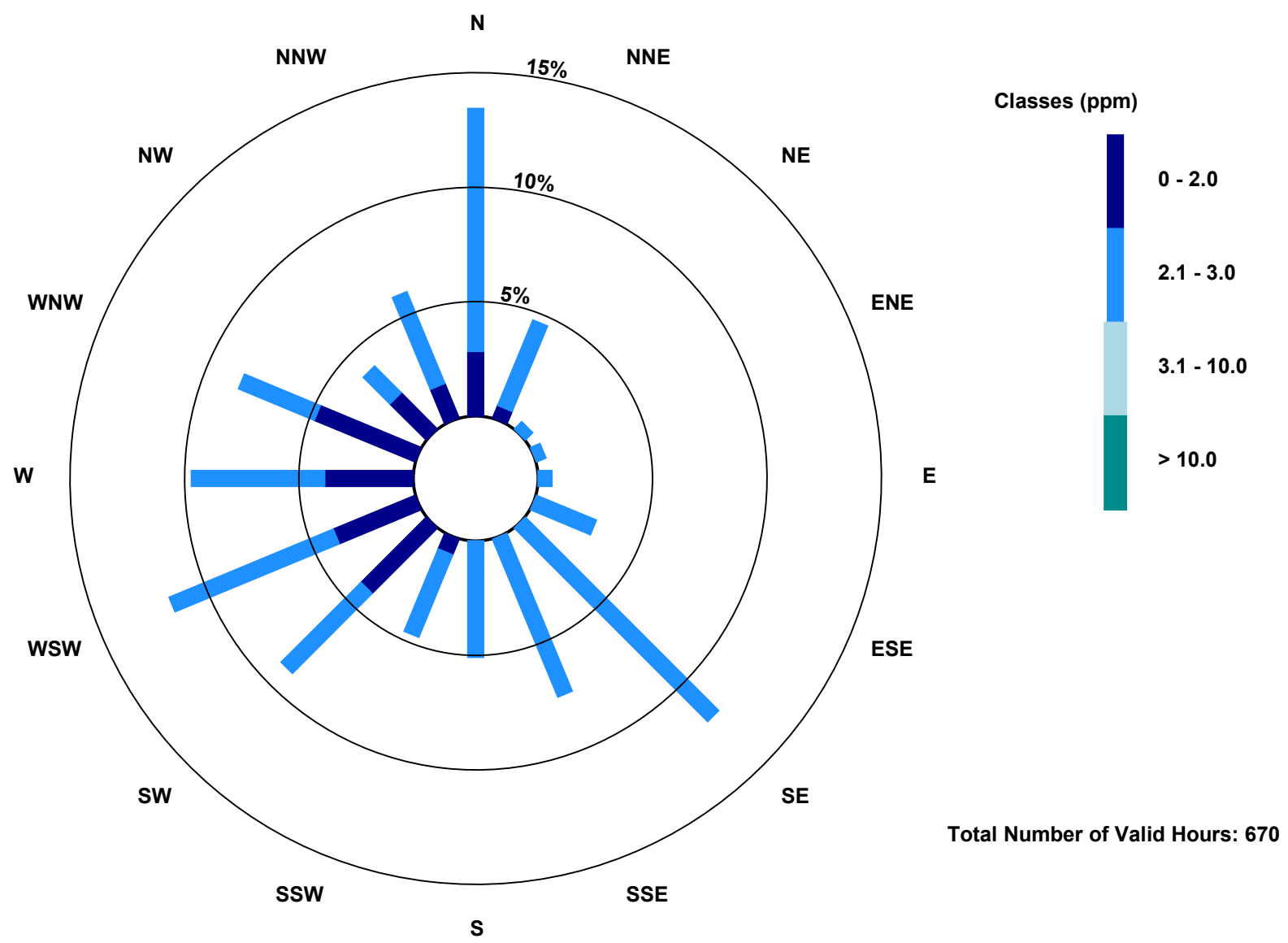
Total Number of Valid Hours: 670

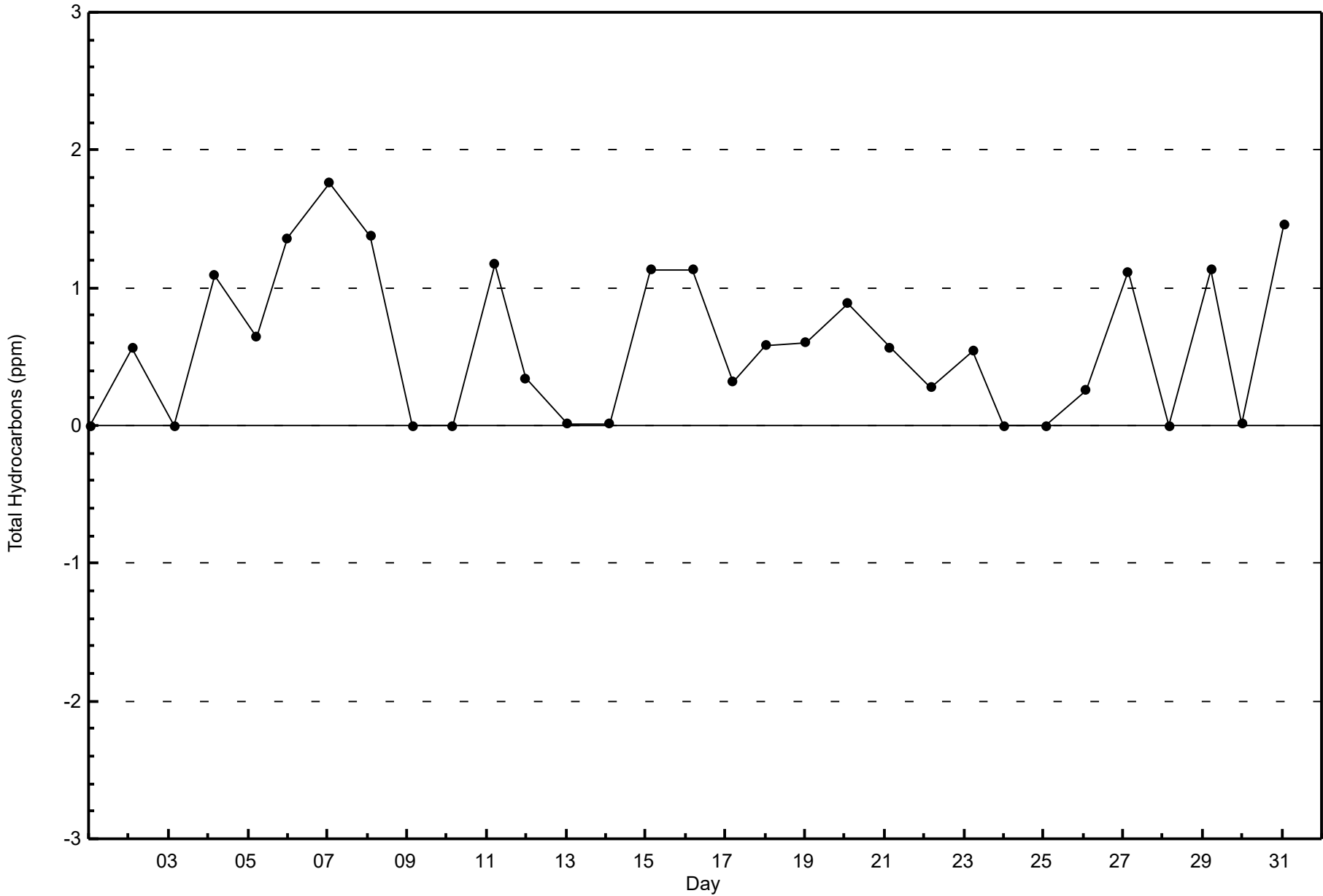
Total Number of Hours: 744

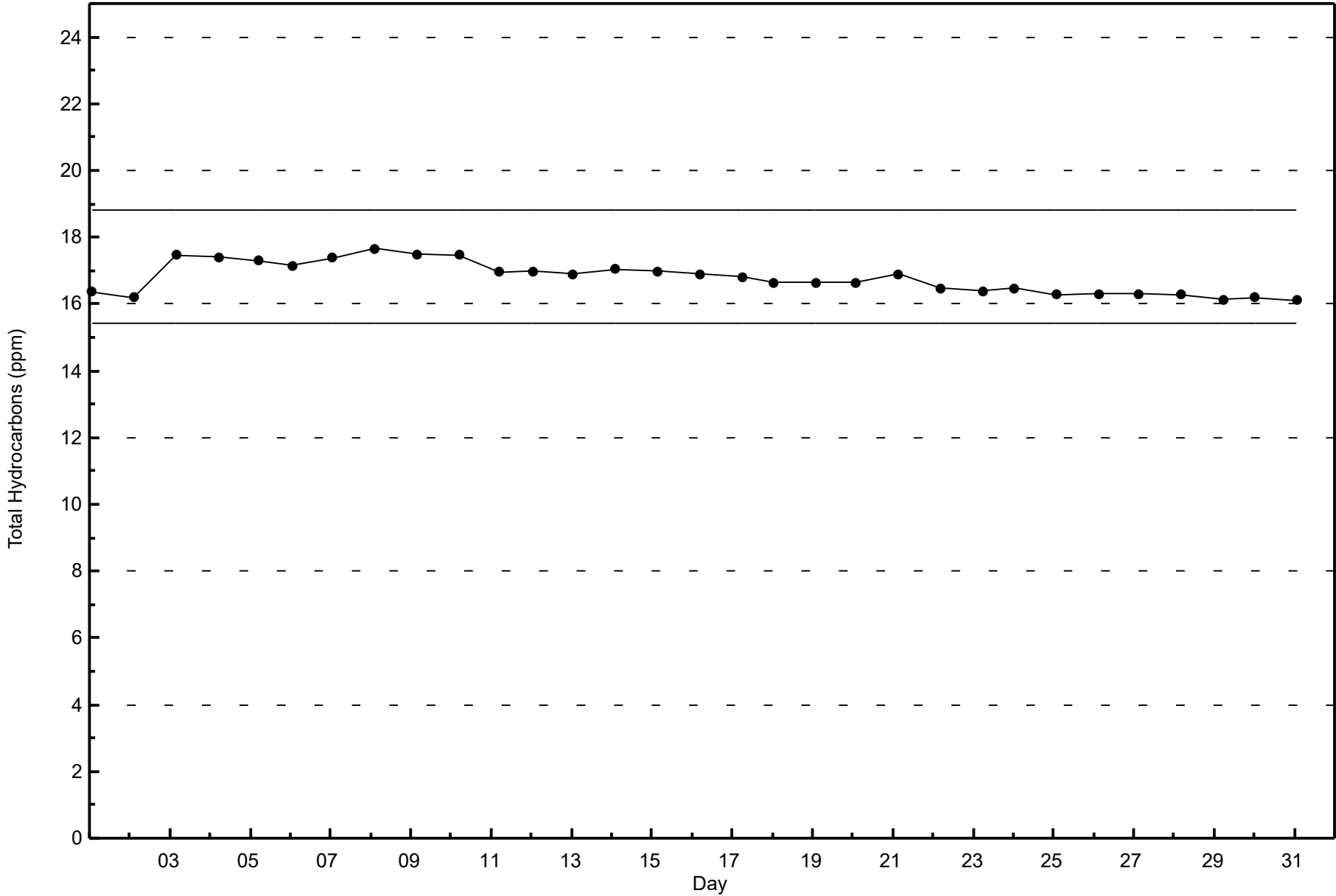


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Total Hydrocarbons (THC) - ppm
Patricia McInnes

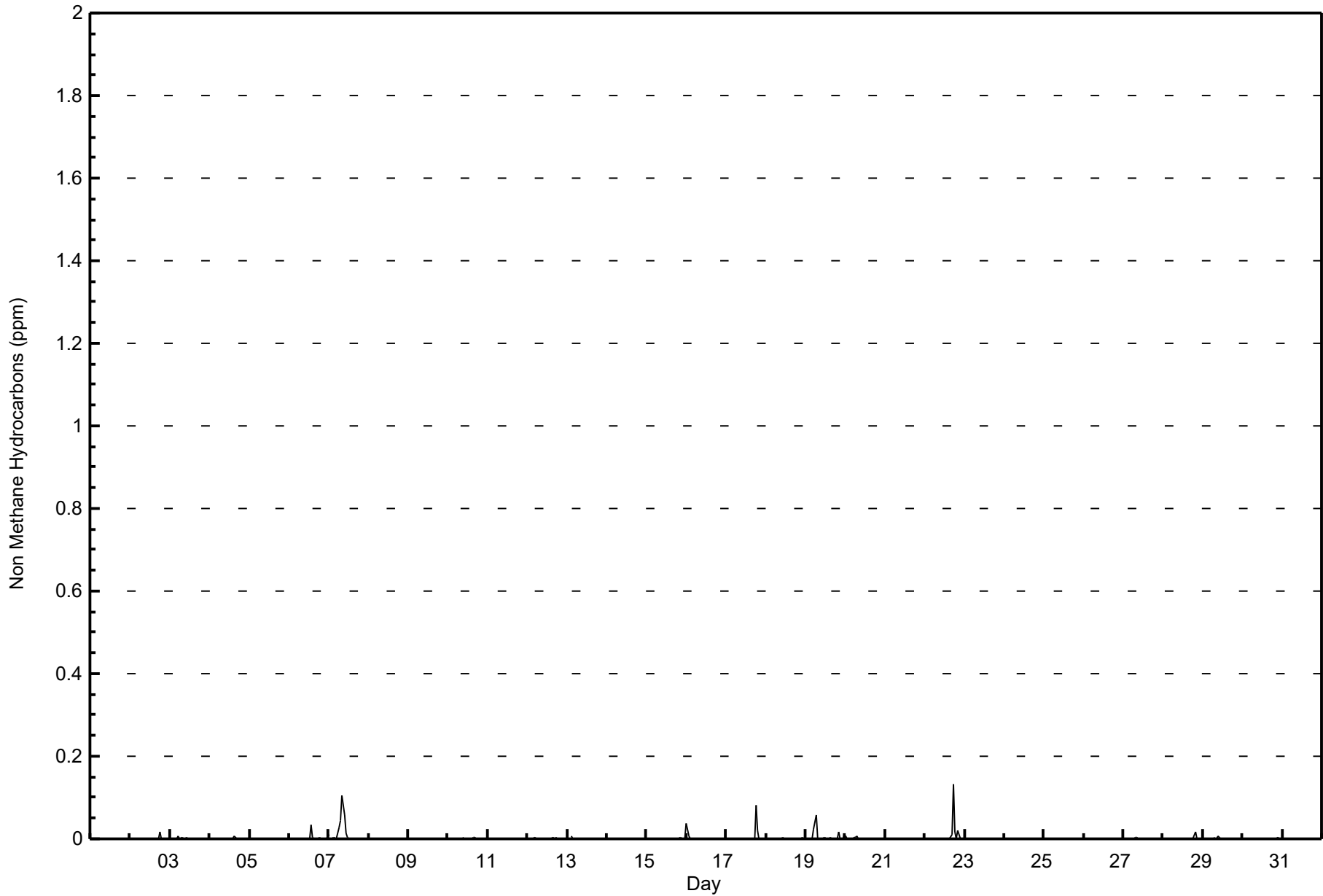








Maximum Value: 0.131 ppm on Jan 22 18:00		Maximum Daily Average: 0.012 ppm on Jan 7		Hours in Service: 744																																												
Minimum Value: 0.000 ppm on Jan 1 01:00		Minimum Daily Average: 0.000 ppm on Jan 5		Hours of Data: 670																																												
Maximum Diurnal Average: 0.005 ppm at hour 18		Minimum Diurnal Average: 0.000 ppm at hour 13		Hours of Missing Data: 74																																												
Monthly Average: 0.001 ppm		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.0 P ₉₉ = 0.0		Hours of Calibration: 33																																												
				Percent Operational Time: 94.5																																												
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Jan	0.000	Z	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	0.000																						
2-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	C	C	C	0.000	0.000	0.000	0.001	0.016	0.000	0.000	0.000	0.000	0.000	--	0.016																						
3-Jan	0.000	0.000	0.000	Z	0.000	0.008	0.000	0.002	0.000	0.000	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.008																						
4-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006																						
5-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																						
6-Jan	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.034	0.005	0.000	0.000	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.002	0.034																						
7-Jan	0.009	Z	0.000	0.004	0.000	0.013	0.028	0.045	0.106	0.056	0.012	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.012	0.106																						
8-Jan	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																						
9-Jan	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001																						
10-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.003	M	M	M	M	0.000	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.004																						
11-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																						
12-Jan	Z	0.000	0.000	0.000	0.002	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004																						
13-Jan	0.000	Z	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006																						
14-Jan	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																						
15-Jan	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	M	0.000	0.000	0.000	0.000	0.003	0.000	0.000	0.000	0.000	0.003																						
16-Jan	0.037	0.006	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.037																						
17-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.083	0.022	0.000	0.000	0.000	0.000	0.005	0.083																						
18-Jan	Z	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.003																						
19-Jan	0.000	Z	0.000	0.000	0.001	0.022	0.059	0.000	0.000	0.000	0.000	0.003	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.017	0.000	0.000	0.012	0.005	0.059																						
20-Jan	0.007	0.000	Z	0.000	0.001	0.004	0.002	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.007																						
21-Jan	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																						
22-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.011	0.131	0.016	0.000	0.021	0.000	0.000	0.000	0.008	0.131																						
23-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																						
24-Jan	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																						
25-Jan	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																						
26-Jan	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																						
27-Jan	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003																						
28-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.018	0.000	0.000	0.000	0.000	0.001	0.018																						
29-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.003	0.000	0.000	0.007	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.007																						
30-Jan	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.002																						
31-Jan	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	M	M	M	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001																						
																								0.002	0.000	0.000	0.000	0.000	0.002	0.003	0.002	0.004	0.002	0.001	0.000	0.000	0.001	0.000	0.001	0.000	0.005	0.004	0.001	0.001	0.000	0.000	0.001	Diurnal Average
																								0.037	0.006	0.006	0.004	0.002	0.022	0.059	0.045	0.106	0.056	0.012	0.003	0.000	0.034	0.005	0.006	0.011	0.131	0.083	0.022	0.021	0.002	0.002	0.012	Diurnal Maximum
Z - zerospan																								C - Calibration				M - Maintenance				UO - Unstable Operation																





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Non Methane Hydrocarbons (NMHC) - ppm
Patricia McInnes - January 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 0.005	643	95.97	95.97
0.006 - 0.05	22	3.28	99.25
0.06 - 0.1	5	0.75	100.00
> 0.1	0	0.00	100.00

Total Number of Valid Hours: 670

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Non Methane Hydrocarbons (NMHC) - ppm
Patricia McInnes - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 0.005	89	30	3	3	4	19	77	45	27	27	60	75	65	56	24	39	643
0.006 - 0.05	1	1	0	0	0	0	2	5	5	4	0	3	0	0	1	0	22
0.06 - 0.1	0	0	0	0	0	0	1	0	2	0	0	0	0	0	1	1	5
> 0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	90	31	3	3	4	19	80	50	34	31	60	78	65	56	26	40	670

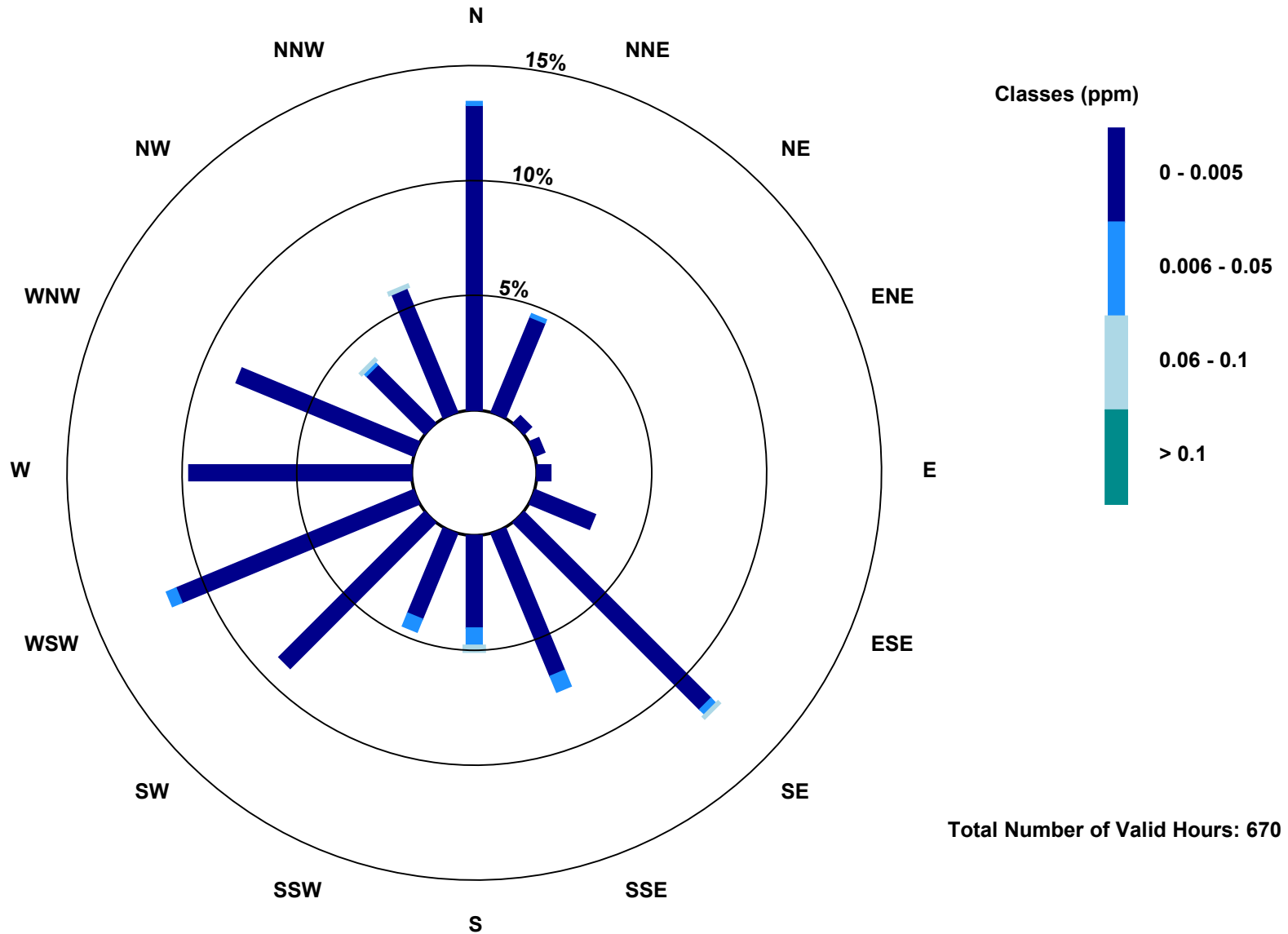
Total Number of Valid Hours: 670

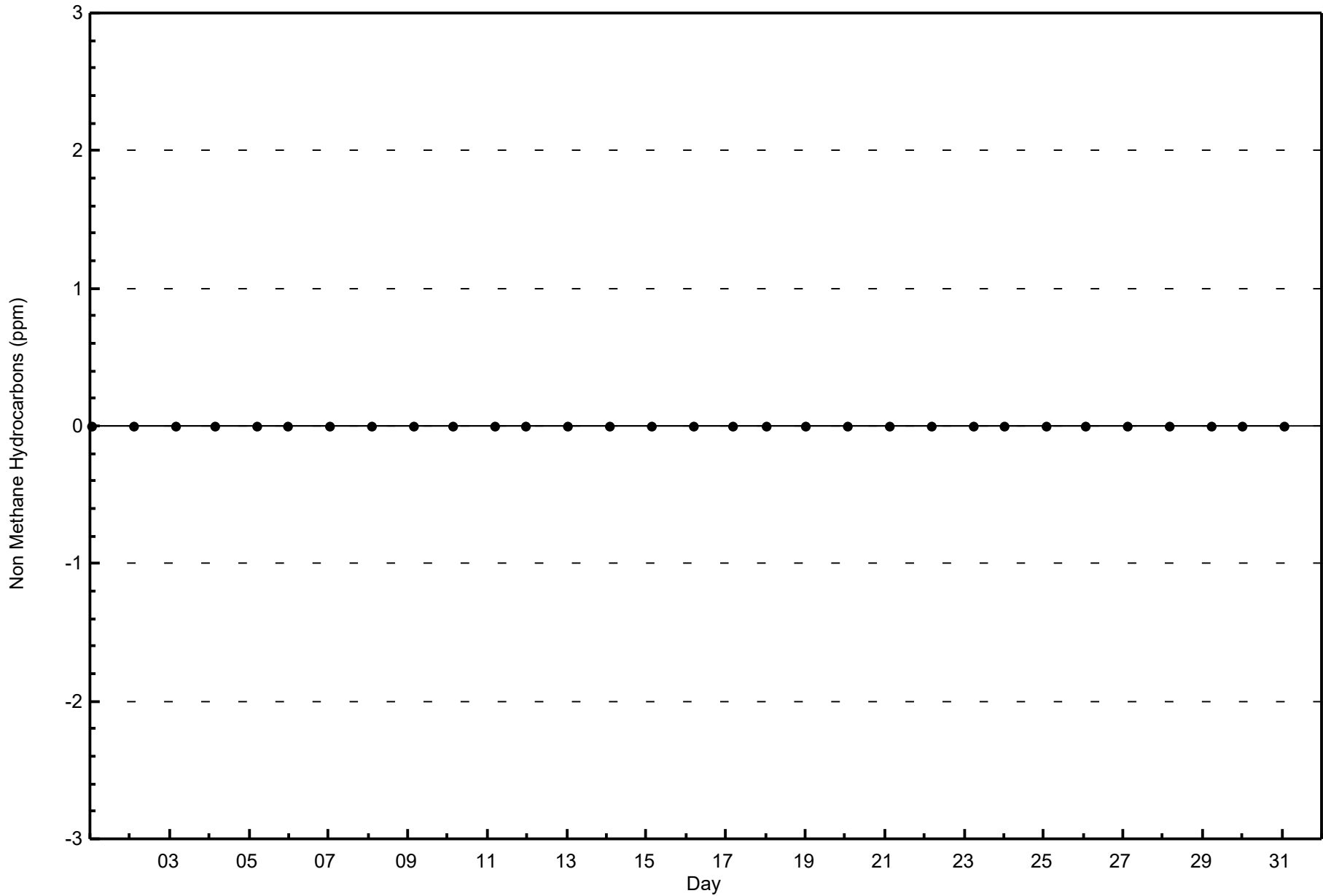
Total Number of Hours: 744

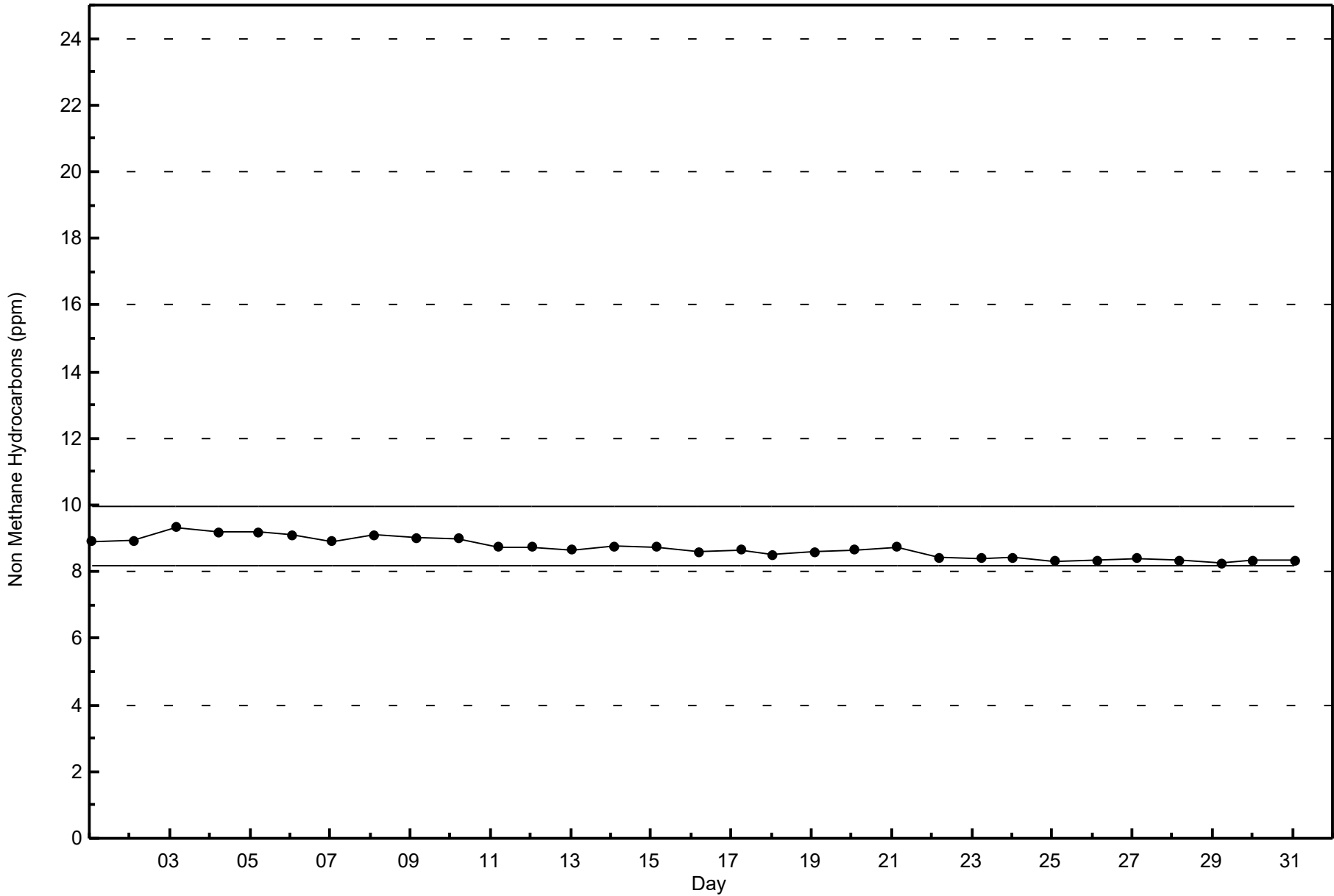


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Non Methane Hydrocarbons (NMHC) - ppm
Patricia McInnes

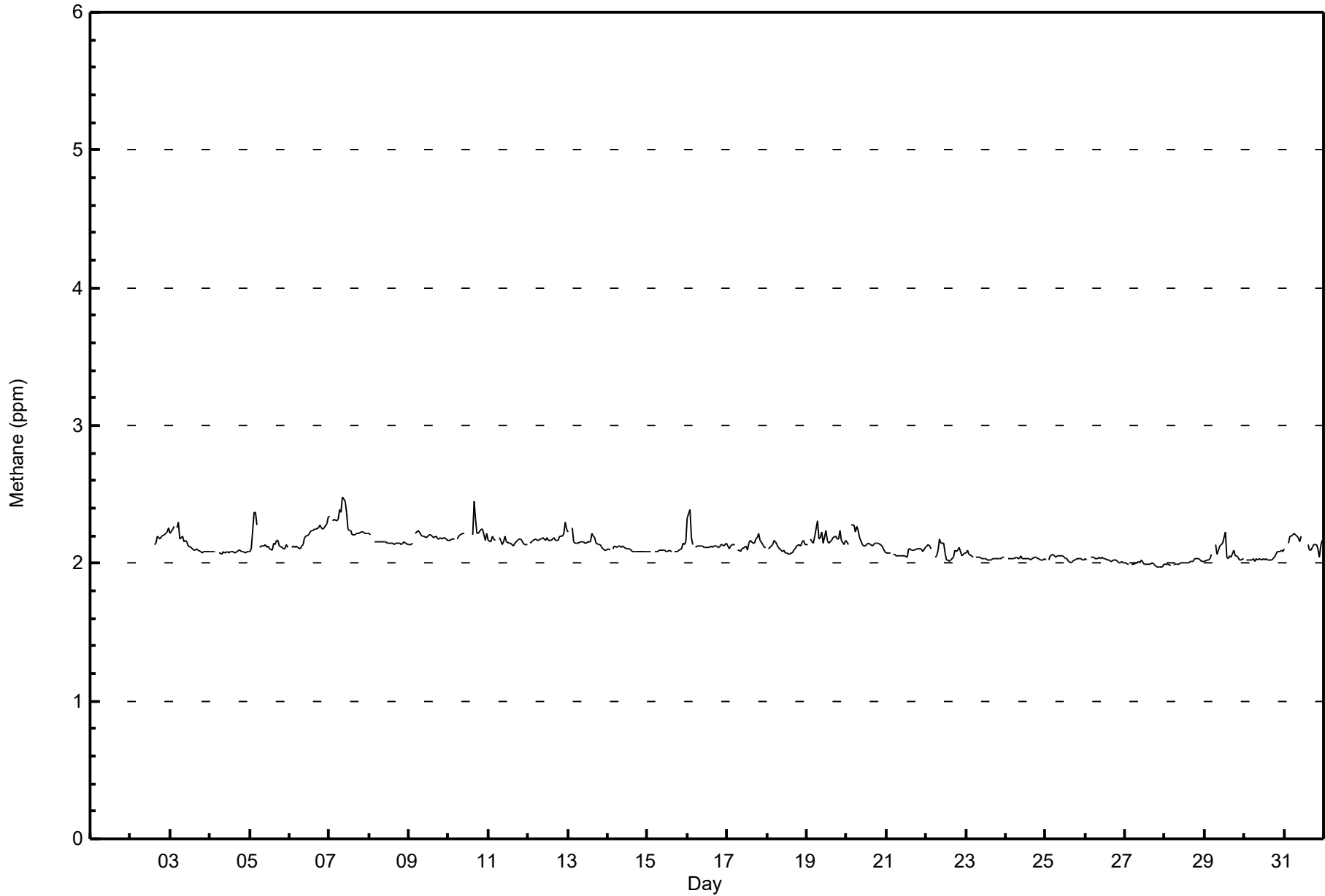








Number of Exceedences (AAAQO):		1-hr: 0		24-hr: 0		Hours in Service: 744														744						
Maximum Value: 2.5 ppm on Jan 7 09:00		Maximum Daily Average: 2.3 ppm on Jan 7		Hours of Data: 670														670								
Minimum Value: 2.0 ppm on Jan 27 22:00		Minimum Daily Average: 2.0 ppm on Jan 27		Hours of Missing Data: 74														74								
Maximum Diurnal Average: 2.1 ppm at hour 5		Minimum Diurnal Average: 2.1 ppm at hour 14		Hours of Calibration: 33														33								
Monthly Average: 2.12 ppm		Percentiles: P ₁ = 2.0 P ₁₀ = 2.0 Q ₁ = 2.1 Median = 2.1 Q ₃ = 2.2 P ₉₀ = 2.2 P ₉₉ = 2.4		Percent Operational Time: 94.5														94.5								
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	2.0	Z	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	2.0
2-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	C	C	C	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	--	2.3
3-Jan	2.2	2.2	2.3	Z	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3
4-Jan	2.1	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
5-Jan	2.1	2.1	2.4	2.4	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.4
6-Jan	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.3
7-Jan	2.3	Z	2.3	2.3	2.3	2.3	2.4	2.4	2.5	2.4	2.4	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.5
8-Jan	2.2	2.2	Z	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.2	2.2
9-Jan	2.1	2.1	2.1	Z	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
10-Jan	2.2	2.2	2.2	2.2	Z	2.2	2.2	2.2	2.2	2.2	M	M	M	M	2.2	2.4	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.4
11-Jan	2.2	2.2	2.2	2.2	2.2	Z	2.2	2.2	2.1	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.2	2.2
12-Jan	Z	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.2	2.3
13-Jan	2.2	Z	2.3	2.2	2.1	2.1	2.1	2.2	2.2	2.2	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.3
14-Jan	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
15-Jan	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	M	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.2
16-Jan	2.3	2.4	2.2	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.4
17-Jan	2.1	2.1	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.2
18-Jan	Z	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.2
19-Jan	2.1	Z	2.2	2.2	2.1	2.2	2.3	2.2	2.2	2.2	2.1	2.2	2.2	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.2	2.2	2.3
20-Jan	2.2	2.1	Z	2.3	2.3	2.2	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.3
21-Jan	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
22-Jan	2.1	2.1	2.1	2.1	Z	2.0	2.1	2.1	2.2	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2
23-Jan	2.1	2.1	2.1	2.1	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1
24-Jan	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
25-Jan	2.0	Z	2.0	2.0	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1
26-Jan	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
27-Jan	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
28-Jan	2.0	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
29-Jan	2.0	2.0	2.0	2.0	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.0	2.0	2.1	2.0	2.1	2.0	2.1	2.0	2.0	2.0	2.0	2.1	2.2
30-Jan	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.0	2.1
31-Jan	2.1	Z	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	M	M	M	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.2	2.1	2.2
2.1																								Diurnal Average		
2.3																								Diurnal Maximum		
Z - zerospan				C - Calibration				M - Maintenance				UO - Unstable Operation														





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Methane (CH₄) - ppm
Patricia McInnes - January 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	167	24.93	24.93
2.1 - 3.0	503	75.07	100.00
3.1 - 10.0	0	0.00	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 670

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Methane (CH₄) - ppm
Patricia McInnes - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2.0	19	4	0	0	0	0	0	0	0	6	27	27	26	32	15	11	167
2.1 - 3.0	71	27	3	3	4	19	80	50	34	25	33	51	39	24	11	29	503
3.1 - 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	90	31	3	3	4	19	80	50	34	31	60	78	65	56	26	40	670

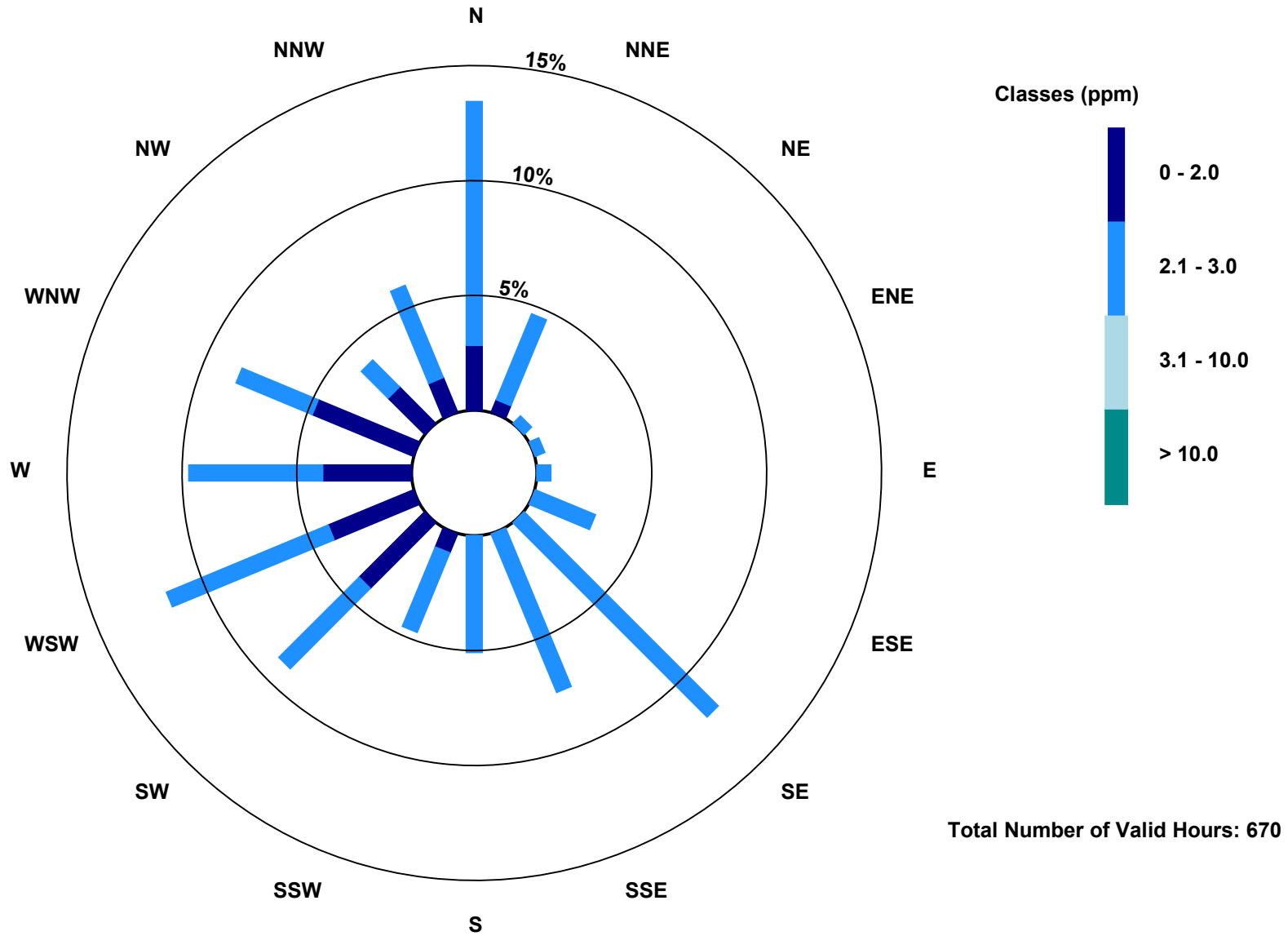
Total Number of Valid Hours: 670

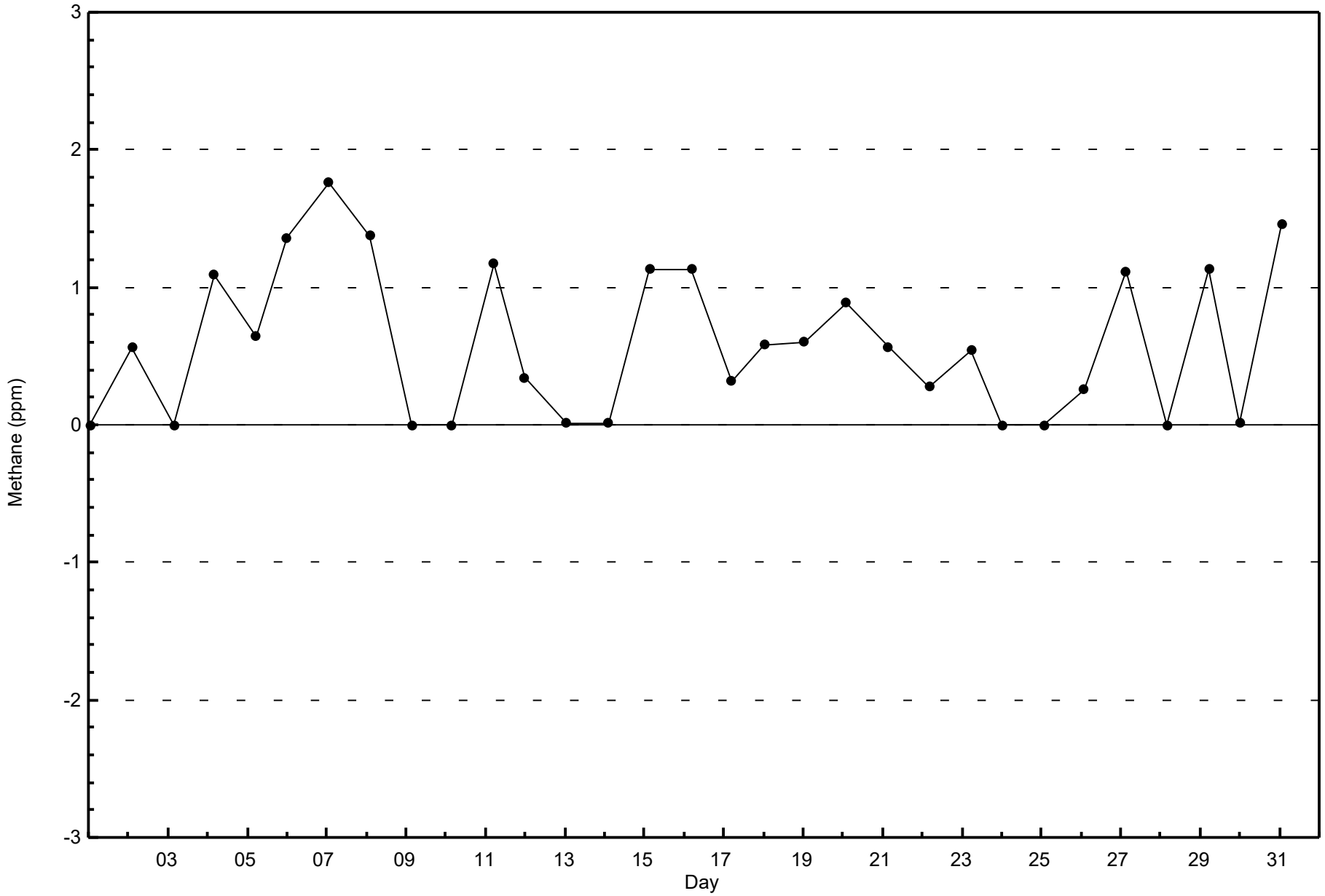
Total Number of Hours: 744

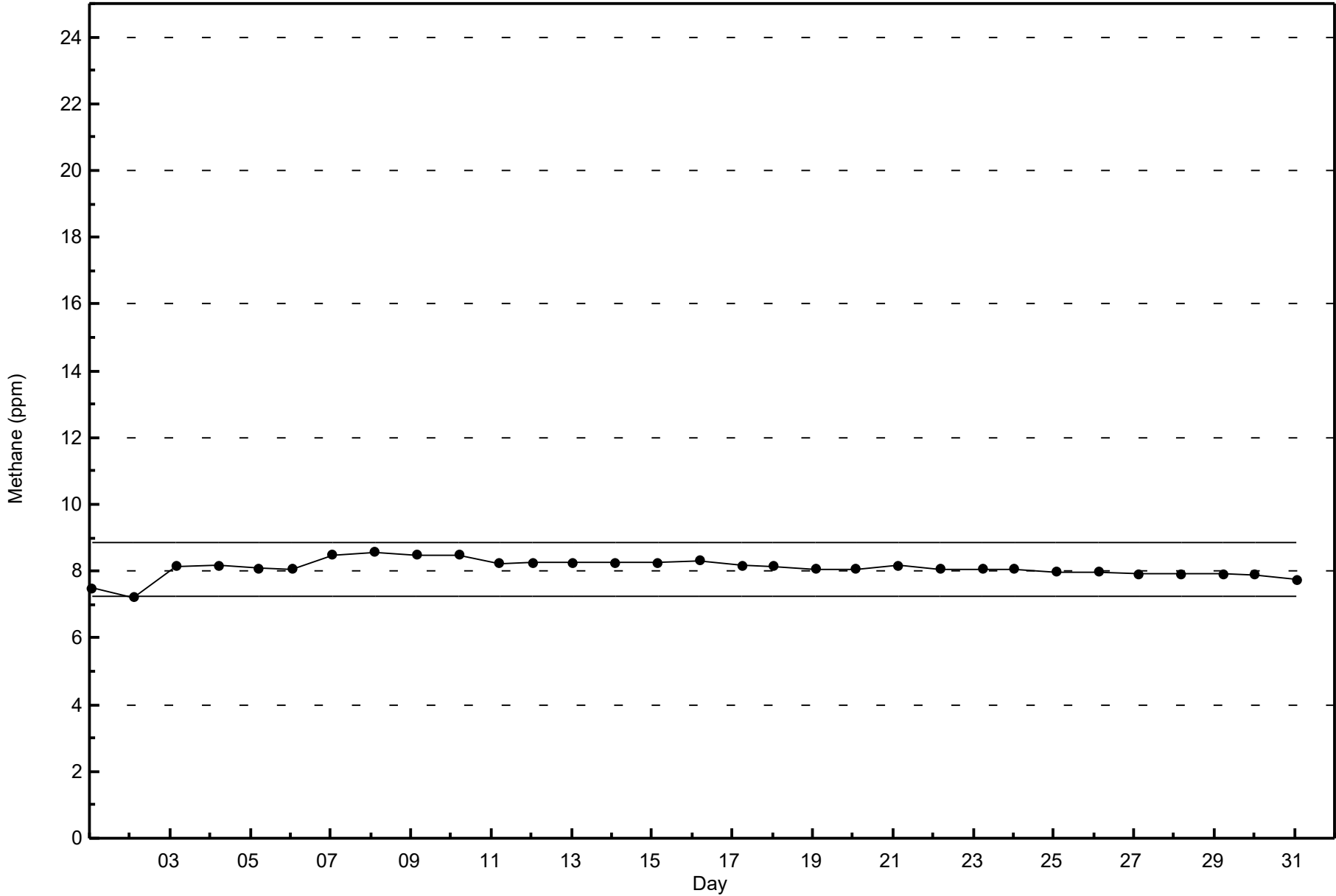


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Methane (CH₄) - ppm
Patricia McInnes









Wood Buffalo Environmental Association

Summary of Hour Averages

Ozone (O₃) - ppb

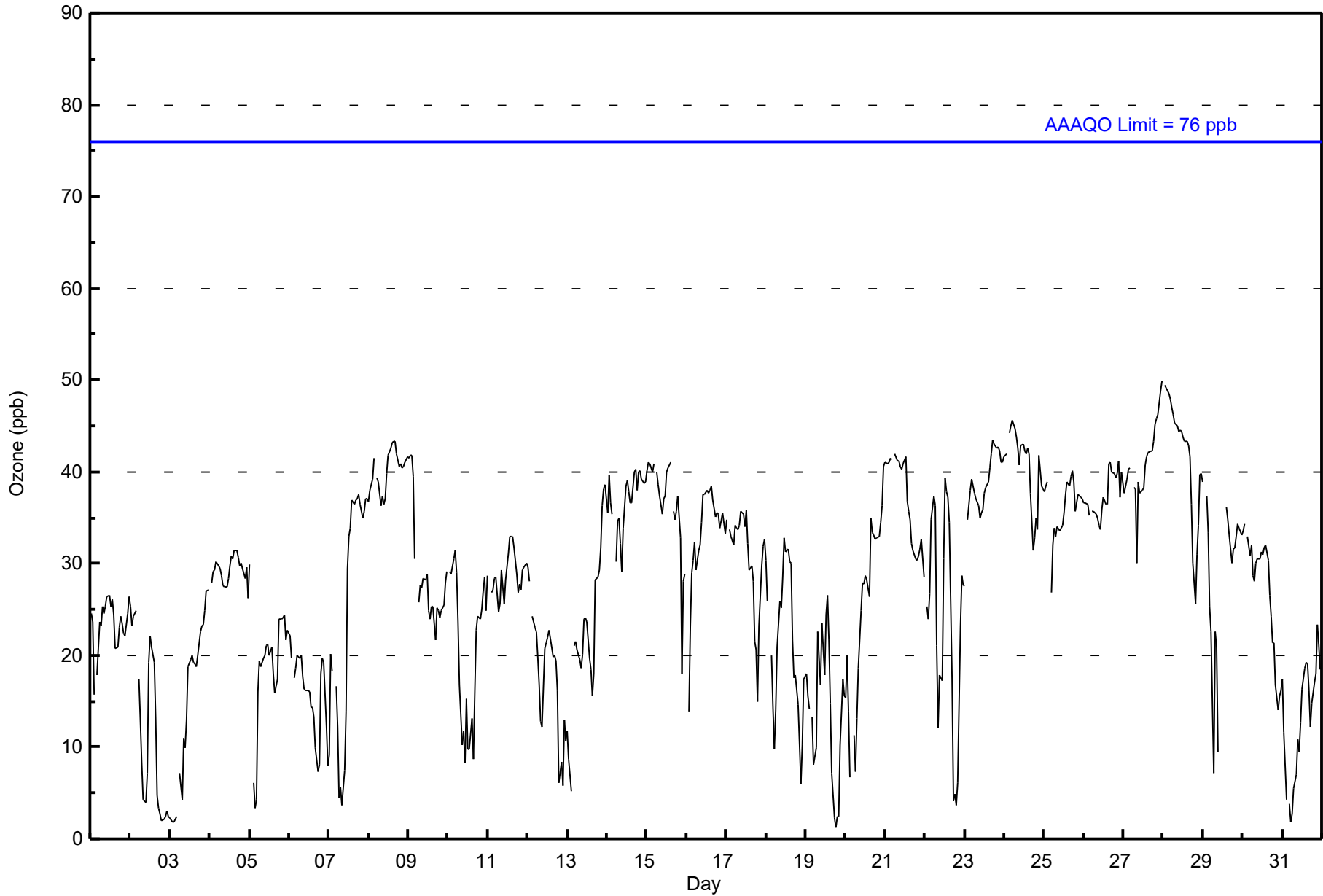
Patricia McInnes - January 2025

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 49.8 ppb on Jan 28 00:00	Maximum Daily Average: 41.9 ppb on Jan 28		Hours of Data:	708
Minimum Value: 1.1 ppb on Jan 19 19:00	Minimum Daily Average: 11.7 ppb on Jan 2		Hours of Missing Data:	36
Maximum Diurnal Average: 30.6 ppb at hour 13	Minimum Diurnal Average: 25.1 ppb at hour 9		Hours of Calibration:	35
Monthly Average: 27.74 ppb	Percentiles: P ₁ = 2.3 P ₁₀ = 10.9 Q ₁ = 19.8 Median = 29.3 Q ₃ = 37.0 P ₉₀ = 41.0 P ₉₉ = 46.3		Percent Operational Time:	99.9

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	24.5	23.6	15.7	Z	17.9	23.7	23.1	25.4	24.5	25.3	26.4	26.6	25.3	26.2	24.3	20.8	20.9	23.1	24.2	23.6	22.4	22.1	24.6	26.3	23.5	26.6
2-Jan	25.3	23.2	24.3	24.9	Z	17.3	12.9	8.3	4.2	4.0	7.2	19.2	22.2	20.9	19.2	12.9	4.7	3.3	2.8	2.0	2.2	2.5	3.0	2.4	11.7	25.3
3-Jan	2.3	1.8	1.8	2.2	2.4	Z	7.2	4.2	10.9	9.9	12.9	18.8	19.5	19.9	19.3	19.1	18.7	19.9	22.6	23.2	23.4	24.8	27.0	27.1	14.7	27.1
4-Jan	Z	27.9	29.2	29.3	30.1	29.7	29.5	28.7	27.6	27.4	27.5	28.4	29.8	30.8	30.5	31.4	31.4	30.7	29.8	30.1	29.4	28.3	29.5	26.2	29.3	31.4
5-Jan	29.8	Z	6.1	3.3	4.2	16.0	19.3	18.7	19.7	20.0	21.0	20.1	20.0	20.9	18.0	15.9	16.7	17.3	24.0	23.9	24.1	24.4	21.7	22.7	18.7	29.8
6-Jan	22.2	19.7	Z	17.5	18.6	20.0	19.7	20.1	17.6	16.3	16.1	16.1	16.0	14.4	14.3	13.2	10.0	7.3	8.1	18.0	19.6	19.1	12.2	7.9	15.8	22.2
7-Jan	9.1	20.1	18.3	Z	16.6	12.2	4.5	5.6	3.6	7.5	13.8	29.4	32.9	33.9	36.9	36.5	37.0	37.0	37.5	36.5	35.0	35.6	37.0	37.0	24.9	37.5
8-Jan	36.8	37.9	39.2	41.5	Z	39.4	38.8	36.3	37.3	36.5	37.0	39.8	41.9	42.5	43.2	43.3	43.4	42.0	40.6	40.9	40.4	40.6	41.1	41.6	40.1	43.4
9-Jan	41.4	41.8	41.8	39.4	30.5	Z	25.8	27.7	27.4	28.4	28.3	28.9	24.8	23.9	25.3	25.3	21.7	25.2	24.8	24.1	24.9	25.5	27.9	29.1	28.9	41.8
10-Jan	Z	29.2	28.8	30.4	31.5	29.1	23.7	16.7	10.3	11.7	8.3	15.2	9.7	9.8	13.2	8.6	16.0	22.8	24.2	23.9	25.0	27.0	28.5	24.9	20.4	31.5
11-Jan	28.7	Z	26.8	27.1	28.4	28.6	24.7	25.6	29.3	27.5	25.7	28.2	31.1	32.9	33.0	32.9	31.8	28.8	26.8	27.8	27.1	29.3	29.6	30.1	28.8	33.0
12-Jan	29.6	28.1	Z	24.3	23.0	22.6	19.8	16.8	12.7	12.2	20.7	21.4	22.0	22.7	21.8	19.8	20.0	19.3	16.1	6.2	8.4	5.7	13.0	10.7	18.1	29.6
13-Jan	11.7	8.7	5.1	Z	21.1	21.6	20.7	19.6	18.7	20.1	24.0	24.1	23.7	19.6	18.5	15.5	18.1	28.3	28.5	29.3	31.7	36.4	38.1	38.6	22.7	38.6
14-Jan	35.6	39.7	36.6	35.4	Z	30.2	34.6	35.0	32.2	29.1	33.9	38.4	39.1	37.9	36.5	36.6	40.0	40.3	38.0	40.0	40.1	39.2	38.8	38.9	36.8	40.3
15-Jan	40.1	41.0	40.9	40.0	40.8	Z	39.9	38.7	37.3	35.4	37.0	37.4	40.0	40.4	41.0	M	35.7	34.7	35.6	37.4	32.8	18.0	28.1	28.8	36.4	41.0
16-Jan	Z	13.9	23.2	29.0	30.4	32.4	29.3	31.4	32.0	34.4	37.5	37.5	38.0	37.7	37.9	38.4	36.9	35.1	35.5	35.4	33.9	34.6	35.5	33.2	33.2	38.4
17-Jan	34.8	Z	33.8	32.9	32.0	34.2	33.8	33.7	34.1	35.7	35.3	34.0	35.8	32.3	29.3	29.7	28.1	21.5	20.6	15.0	23.2	29.7	31.8	32.7	30.6	35.8
18-Jan	30.4	25.9	Z	20.0	14.5	9.7	14.0	20.8	26.0	25.1	28.5	32.8	31.2	31.6	30.2	30.1	21.7	17.5	17.9	14.6	10.3	5.9	10.2	17.4	21.2	32.8
19-Jan	17.9	15.5	14.1	Z	13.3	8.2	9.9	22.6	19.7	16.9	23.4	17.8	24.4	26.5	21.7	14.8	7.2	2.4	1.1	2.5	2.4	10.3	17.4	15.5	14.2	26.5
20-Jan	15.4	20.0	13.8	6.7	Z	11.3	7.4	13.1	18.6	24.9	28.0	27.8	28.6	28.3	26.5	35.0	33.4	33.1	32.6	32.9	32.9	34.4	36.2	40.5	25.3	40.5
21-Jan	41.0	40.9	41.1	41.5	41.4	Z	41.9	41.3	41.2	40.5	40.3	40.9	41.6	36.8	35.6	34.8	32.2	31.4	30.5	30.3	30.8	31.5	32.7	28.6	36.9	41.9
22-Jan	Z	25.4	23.9	26.7	34.8	37.4	36.3	21.1	12.0	17.8	17.2	30.5	39.3	37.8	37.3	34.5	17.4	4.2	4.8	3.6	6.1	23.2	28.7	27.6	23.8	39.3
23-Jan	27.6	Z	34.8	38.0	39.1	38.5	37.6	37.1	36.3	34.9	35.6	35.8	37.6	38.3	39.0	40.4	41.9	43.5	43.0	42.6	42.7	42.3	41.0	41.1	38.6	43.5
24-Jan	41.7	42.0	Z	44.3	45.0	45.5	44.7	43.8	42.6	40.7	42.9	42.9	42.3	41.9	42.5	41.9	37.7	31.4	32.8	34.9	33.7	41.8	38.4	38.1	40.6	45.5
25-Jan	37.8	38.5	38.8	Z	26.8	32.0	33.9	33.0	34.0	33.6	33.9	34.2	35.5	37.3	38.9	38.4	39.6	40.1	38.9	35.6	37.5	37.4	37.2	37.1	36.1	40.1
26-Jan	36.6	36.7	36.4	35.3	Z	35.7	35.7	35.5	34.9	34.2	33.7	35.9	37.2	36.5	36.5	41.0	41.1	40.0	39.8	39.3	39.8	41.2	37.2	40.0	37.4	41.2
27-Jan	37.7	38.5	39.2	40.3	40.4	Z	38.3	38.2	30.0	38.9	37.7	38.0	38.3	40.7	41.7	42.1	42.3	42.3	43.3	45.1	45.7	46.2	48.8	49.8	41.0	49.8
28-Jan	Z	49.4	49.1	48.6	47.9	47.0	46.3	45.2	45.0	44.4	44.5	44.3	43.7	43.3	43.3	42.8	41.7	36.5	30.0	25.6	31.0	34.1	39.6	39.8	41.9	49.4
29-Jan	39.0	Z	37.3	33.3	25.3	22.6	7.1	22.6	20.9	9.5	C	C	C	C	36.2	34.7	33.2	30.0	31.6	31.8	33.0	34.3	33.8	33.1	28.9	39.0
30-Jan	33.5	34.3	Z	32.9	30.8	32.0	28.6	28.1	30.0	30.5	30.5	31.2	30.9	31.7	32.0	30.4	26.6	24.3	21.4	21.3	16.8	14.0	15.5	16.2	27.1	34.3
31-Jan	17.4	11.7	4.3	Z	3.8	1.8	2.8	5.5	7.0	10.9	9.4	12.7	16.4	18.6	19.2	19.1	16.2	12.3	14.8	17.1	18.0	23.3	21.2	18.5	13.1	23.3

28.8	28.3	27.1	29.8	26.6	26.1	25.5	25.8	25.1	25.3	27.3	29.6	30.6	30.5	30.4	29.3	27.8	26.6	26.5	26.3	26.6	27.8	29.2	29.1	Diurnal Average	
41.7	49.4	49.1	48.6	47.9	47.0	46.3	45.2	45.0	44.4	44.5	44.3	43.7	43.3	43.3	43.3	43.4	43.5	43.3	45.1	45.7	46.2	48.8	49.8	Diurnal Maximum	

Z - zerospan C - Calibration M - Maintenance
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 76 ppb





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ozone (O₃) - ppb
Patricia McInnes - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	189	26.69	26.69
21 - 50	519	73.31	100.00
51 - 82	0	0.00	100.00
> 83	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Ozone (O₃) - ppb
Patricia McInnes - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	25	7	1	0	2	6	35	33	27	11	8	11	4	5	1	13	189
21 - 50	74	25	3	3	2	15	41	17	12	22	54	71	61	52	31	36	519
51 - 82	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	99	32	4	3	4	21	76	50	39	33	62	82	65	57	32	49	708

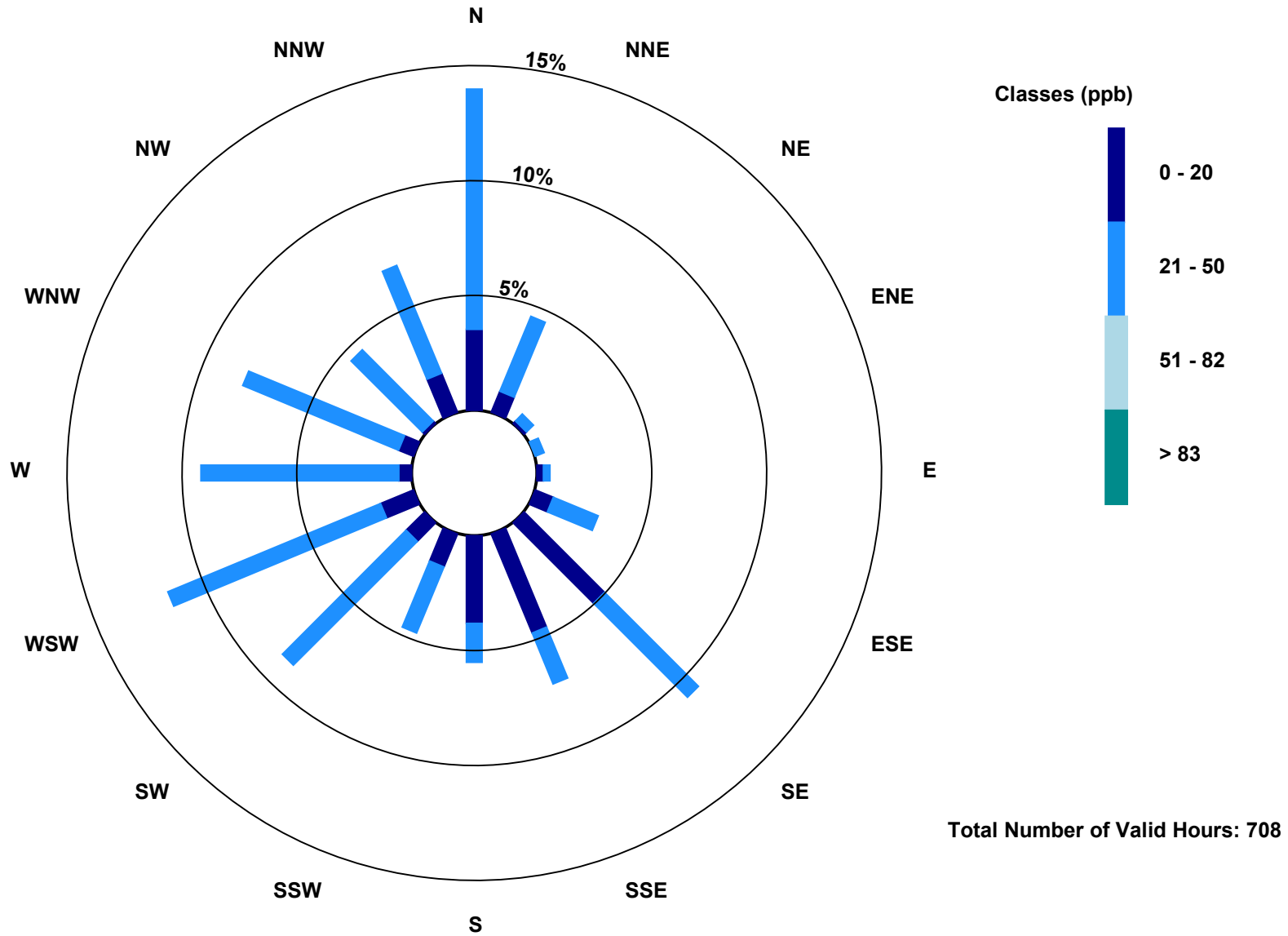
Total Number of Valid Hours: 708

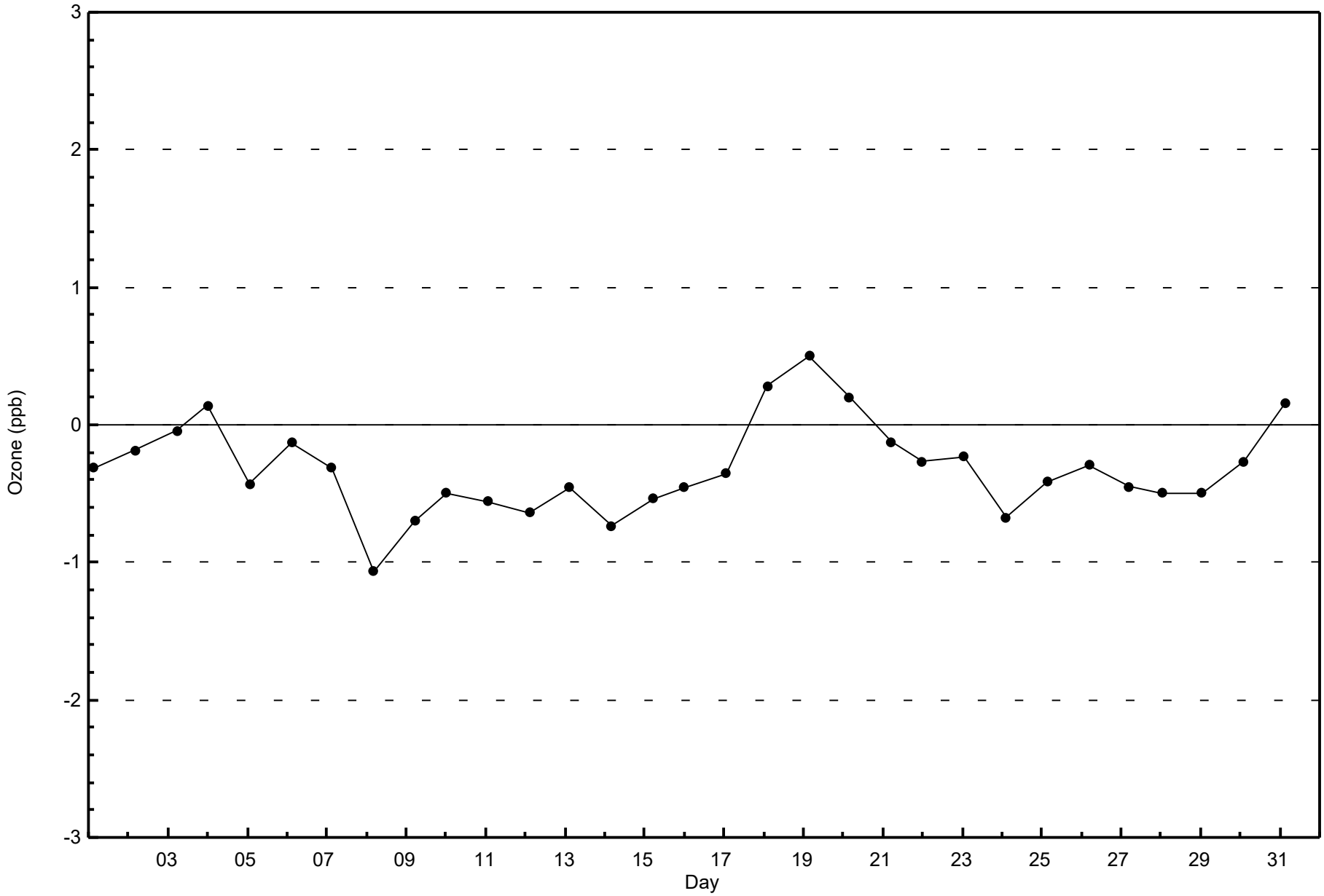
Total Number of Hours: 744

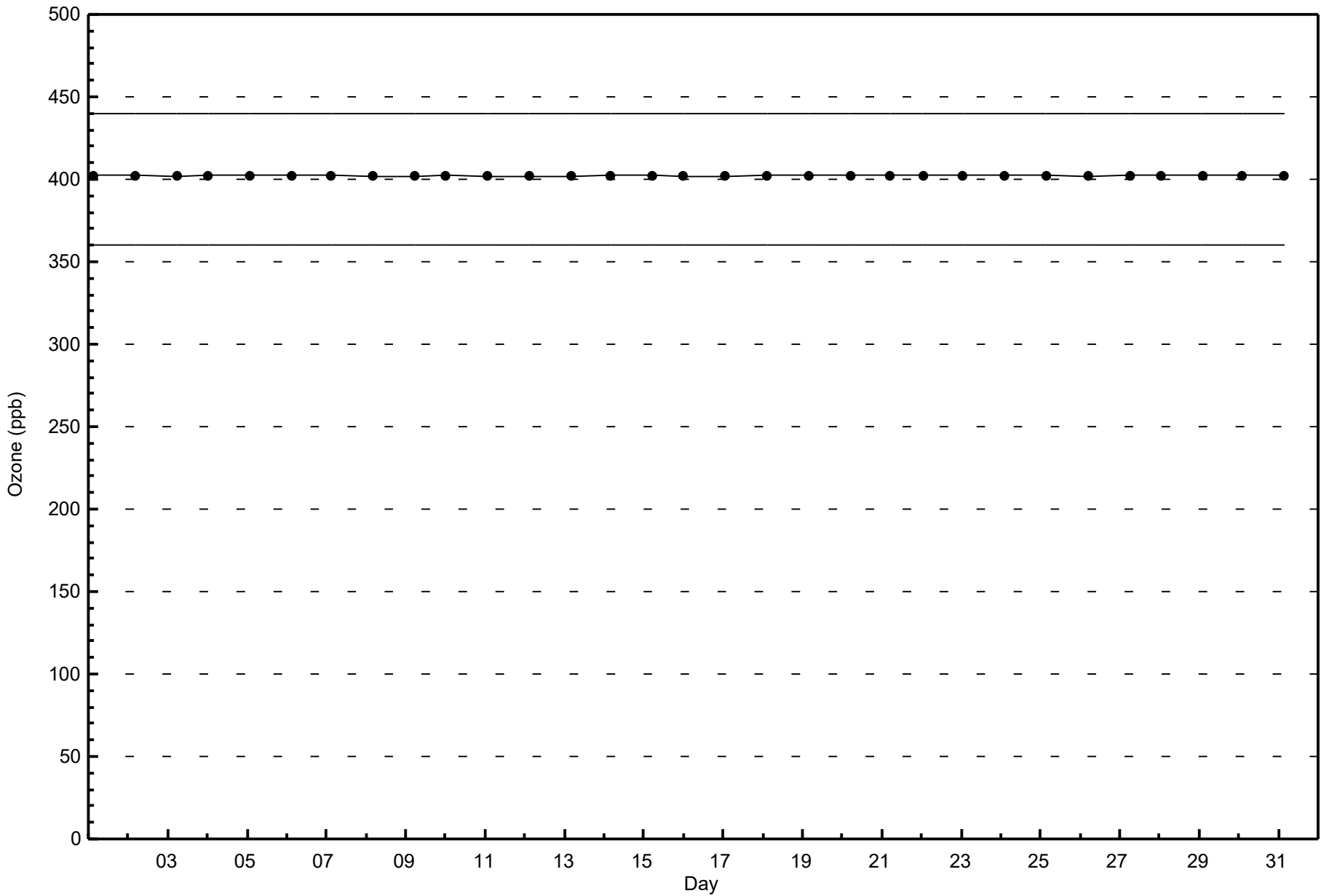


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Ozone (O₃) - ppb
Patricia McInnes







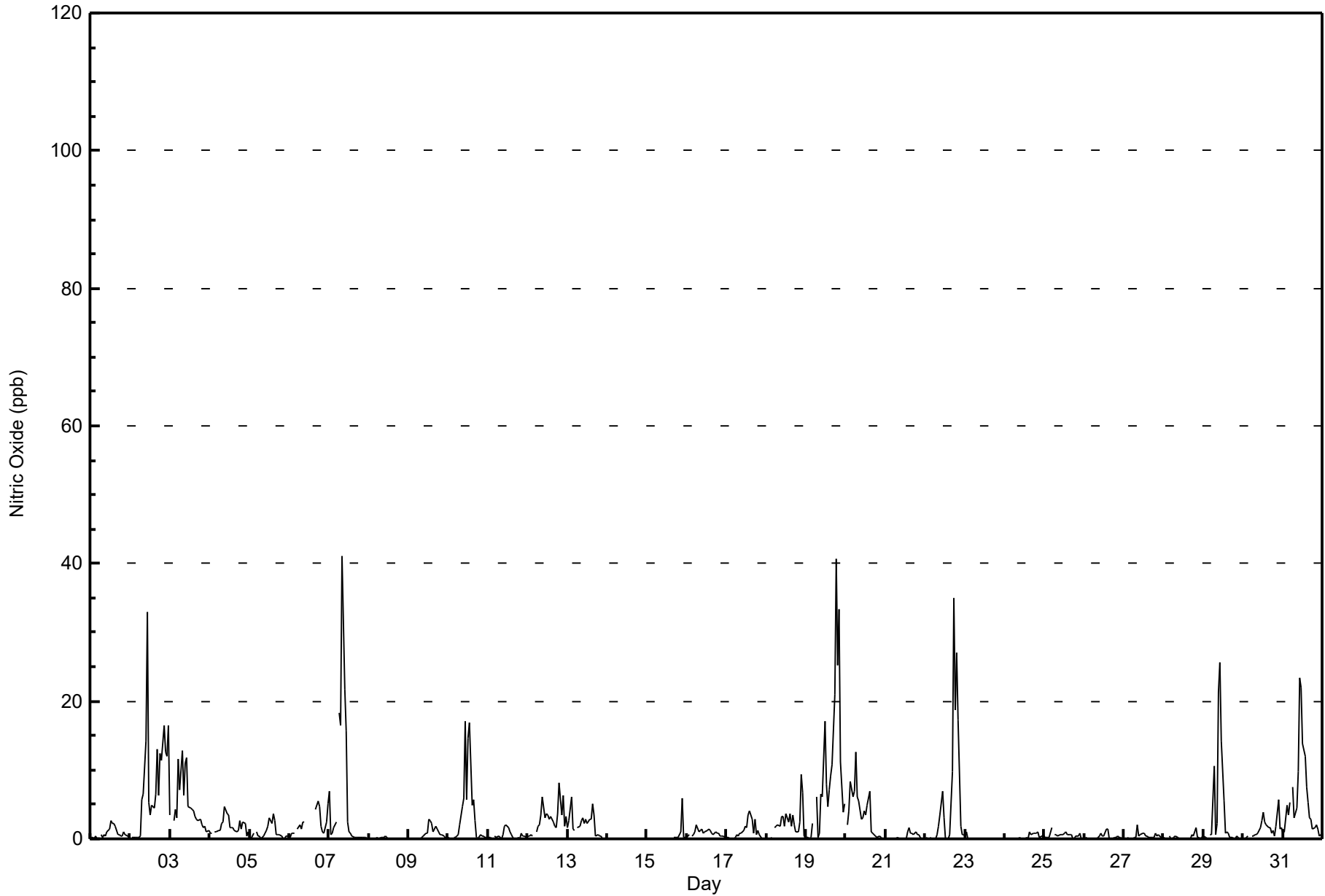


Maximum Value: 41.1 ppb on Jan 7 09:00		Maximum Daily Average: 9.6 ppb on Jan 19		Hours in Service: 744																							
Minimum Value: 0.0 ppb on Jan 5 01:00		Minimum Daily Average: 0.1 ppb on Jan 23		Hours of Data: 669																							
Maximum Diurnal Average: 5.9 ppb at hour 11		Minimum Diurnal Average: 0.5 ppb at hour 2		Hours of Missing Data: 75																							
Monthly Average: 2.41 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.6 Q ₃ = 2.4 P ₉₀ = 6.1 P ₉₉ = 25.4		Hours of Calibration: 36																							
				Percent Operational Time: 94.8																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	0.1	0.1	0.0	0.3	0.1	Z	0.6	0.1	0.5	0.4	1.0	1.5	2.7	2.2	2.2	1.8	0.6	0.6	0.4	0.4	0.9	0.6	0.4	0.2	0.8	2.7	
2-Jan	Z	0.2	0.2	0.1	0.1	0.2	0.5	5.7	6.5	14.3	32.9	5.4	3.5	5.0	4.4	6.5	13.0	6.3	12.3	11.4	16.4	12.7	12.0	16.4	8.1	32.9	
3-Jan	3.4	Z	2.6	4.2	3.0	11.7	7.1	12.8	6.2	11.1	11.8	4.6	4.4	4.2	4.1	3.2	2.7	2.7	2.8	1.9	1.7	1.8	1.1	1.3	4.8	12.8	
4-Jan	0.8	0.8	Z	0.9	1.0	1.1	1.3	2.3	2.5	4.7	3.6	3.4	1.6	1.7	1.3	1.1	1.2	2.6	1.5	2.5	2.2	0.3	0.9	1.8	4.7		
5-Jan	0.0	0.0	0.8	Z	1.0	0.3	0.4	0.1	0.4	0.8	1.3	1.9	3.0	2.3	3.7	2.6	0.7	0.7	0.6	0.4	0.1	0.1	0.4	0.3	0.9	3.7	
6-Jan	0.3	0.9	0.7	0.9	Z	1.4	2.0	1.4	2.5	2.5	C	C	C	C	C	C	4.2	5.5	4.7	1.9	0.9	0.9	2.5	5.1	--	5.5	
7-Jan	7.0	0.6	0.9	1.6	2.5	Z	18.3	16.6	41.1	21.9	15.6	2.5	1.0	0.8	0.4	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.1	0.0	5.8	41.1	
8-Jan	Z	0.0	0.0	0.0	0.1	0.1	0.1	0.3	0.2	0.1	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.5	
9-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.8	0.9	2.8	2.5	2.2	1.1	1.9	1.3	1.1	0.7	0.6	0.5	0.1	0.1	0.7	2.8	
10-Jan	0.1	0.0	Z	0.1	0.3	0.4	0.7	2.0	4.7	5.9	17.0	5.7	14.5	16.8	4.9	5.7	2.7	0.1	0.0	0.5	0.3	0.4	0.3	0.3	3.6	17.0	
11-Jan	0.1	0.1	0.0	Z	0.3	0.2	0.5	0.1	0.1	0.7	1.8	2.0	1.6	1.0	0.7	0.2	0.0	0.0	0.2	0.0	0.8	0.3	0.4	0.2	0.5	2.0	
12-Jan	0.4	0.4	0.5	0.4	Z	1.1	1.8	2.1	3.5	6.2	3.1	3.7	3.5	2.8	3.2	2.4	1.8	1.5	3.6	8.1	3.5	6.2	1.9	3.3	2.8	8.1	
13-Jan	1.6	2.7	6.1	1.4	1.1	Z	1.7	1.8	2.7	3.1	2.3	2.9	2.1	2.8	2.8	5.0	3.4	0.4	0.5	0.5	0.3	0.0	0.1	0.0	2.0	6.1	
14-Jan	Z	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	--
15-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	M	M	M	M	M	0.2	0.2	0.1	0.3	1.0	5.9	0.3	0.1	--	5.9	
16-Jan	0.1	0.6	Z	0.4	0.6	1.0	2.1	0.9	1.2	1.4	0.8	1.1	1.2	1.5	1.3	0.8	0.6	1.0	0.8	0.7	0.4	0.5	0.5	0.3	0.8	2.1	
17-Jan	0.1	0.1	0.1	Z	0.0	0.2	0.6	0.4	0.7	0.7	1.1	1.9	1.6	3.5	4.1	2.8	0.9	2.8	0.5	1.3	0.5	0.0	0.0	0.0	1.0	4.1	
18-Jan	0.2	0.0	0.0	0.2	Z	1.6	1.9	2.0	1.7	3.3	3.3	1.9	3.7	2.5	3.7	1.9	3.4	2.1	1.1	1.0	2.5	9.4	6.6	0.4	2.4	9.4	
19-Jan	0.2	0.2	0.1	0.2	2.3	Z	6.0	0.1	0.7	6.5	6.1	17.1	7.9	4.6	7.2	9.2	10.8	20.9	40.7	25.3	33.4	11.3	3.9	5.1	9.6	40.7	
20-Jan	Z	2.0	4.1	8.2	6.2	6.9	12.6	6.1	5.5	2.8	3.1	4.1	3.5	4.9	6.9	1.0	0.7	0.5	0.5	0.2	0.4	0.2	0.0	0.0	3.5	12.6	
21-Jan	0.0	Z	0.1	0.0	0.0	0.0	0.1	0.2	0.1	0.0	0.0	0.1	0.1	1.0	1.7	0.9	0.7	0.6	0.9	0.5	0.5	0.3	0.1	0.1	0.3	1.7	
22-Jan	0.0	0.1	Z	0.2	0.0	0.0	0.0	0.6	1.7	3.4	6.9	3.1	0.0	0.0	0.0	0.6	9.8	35.0	18.7	27.0	17.3	1.9	0.6	0.6	5.5	35.0	
23-Jan	0.4	0.9	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.9	
24-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	1.0	0.5	0.8	0.8	1.1	0.2	0.4	0.5	0.5	0.3	1.1	
25-Jan	0.3	0.3	0.2	0.2	1.7	Z	0.6	0.6	0.5	0.6	0.7	0.7	0.9	1.0	0.6	0.6	0.6	0.1	0.0	0.3	0.5	0.7	0.1	0.0	0.5	1.7	
26-Jan	Z	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.4	0.8	0.5	0.5	1.4	1.3	0.1	0.1	0.0	0.1	0.2	0.4	0.1	0.2	0.0	0.3	1.4	
27-Jan	0.0	Z	0.1	0.0	0.0	0.0	0.1	0.3	2.0	0.4	0.7	0.8	0.8	0.4	0.3	0.3	0.2	0.2	0.3	0.8	0.5	0.6	0.3	0.0	0.4	2.0	
28-Jan	0.1	0.1	Z	0.3	0.1	0.1	0.3	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.3	1.7	0.2	0.1	0.0	0.3	0.2	1.7	
29-Jan	0.5	0.2	0.1	Z	0.6	0.7	10.7	0.7	2.2	21.4	25.7	14.1	5.5	0.7	0.9	0.7	0.2	0.2	0.0	0.0	0.3	0.2	0.0	0.0	3.7	25.7	
30-Jan	0.0	0.0	0.1	0.4	Z	0.4	0.4	0.6	0.6	0.7	1.7	2.6	3.8	2.5	2.0	1.7	1.5	0.9	1.2	0.5	1.8	5.8	1.4	1.7	1.4	5.8	
31-Jan	0.8	1.0	4.8	3.5	5.2	Z	7.5	3.0	4.4	9.8	23.4	22.0	13.9	11.9	7.5	5.4	3.1	2.8	1.4	1.6	2.1	1.4	0.5	0.6	6.0	23.4	
		0.7	0.5	0.9	1.0	1.1	1.2	2.7	2.1	3.2	4.3	5.9	3.7	3.0	2.8	2.4	2.0	2.2	3.0	3.2	3.0	3.0	2.1	1.1	1.3	Diurnal Average	
		7.0	2.7	6.1	8.2	6.2	11.7	18.3	16.6	41.1	21.9	32.9	22.0	14.5	16.8	7.5	9.2	13.0	35.0	40.7	27.0	33.4	12.7	12.0	16.4	Diurnal Maximum	
Z - zerospan		C - Calibration					M - Maintenance					UO - Unstable Operation															



Wood Buffalo Environmental Association
Hourly Averages

Nitric Oxide (NO) - ppb
Patricia McInnes - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitric Oxide (NO) - ppb
Patricia McInnes - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	656	98.06	98.06
21 - 40	11	1.64	99.70
41 - 80	2	0.30	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 669

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitric Oxide (NO) - ppb
Patricia McInnes - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	105	30	3	3	4	20	71	52	31	26	54	69	57	54	31	46	656
21 - 40	2	0	0	0	1	0	0	0	5	1	2	0	0	0	0	0	11
11 - 80	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	107	30	3	3	5	20	72	52	36	28	56	69	57	54	31	46	669

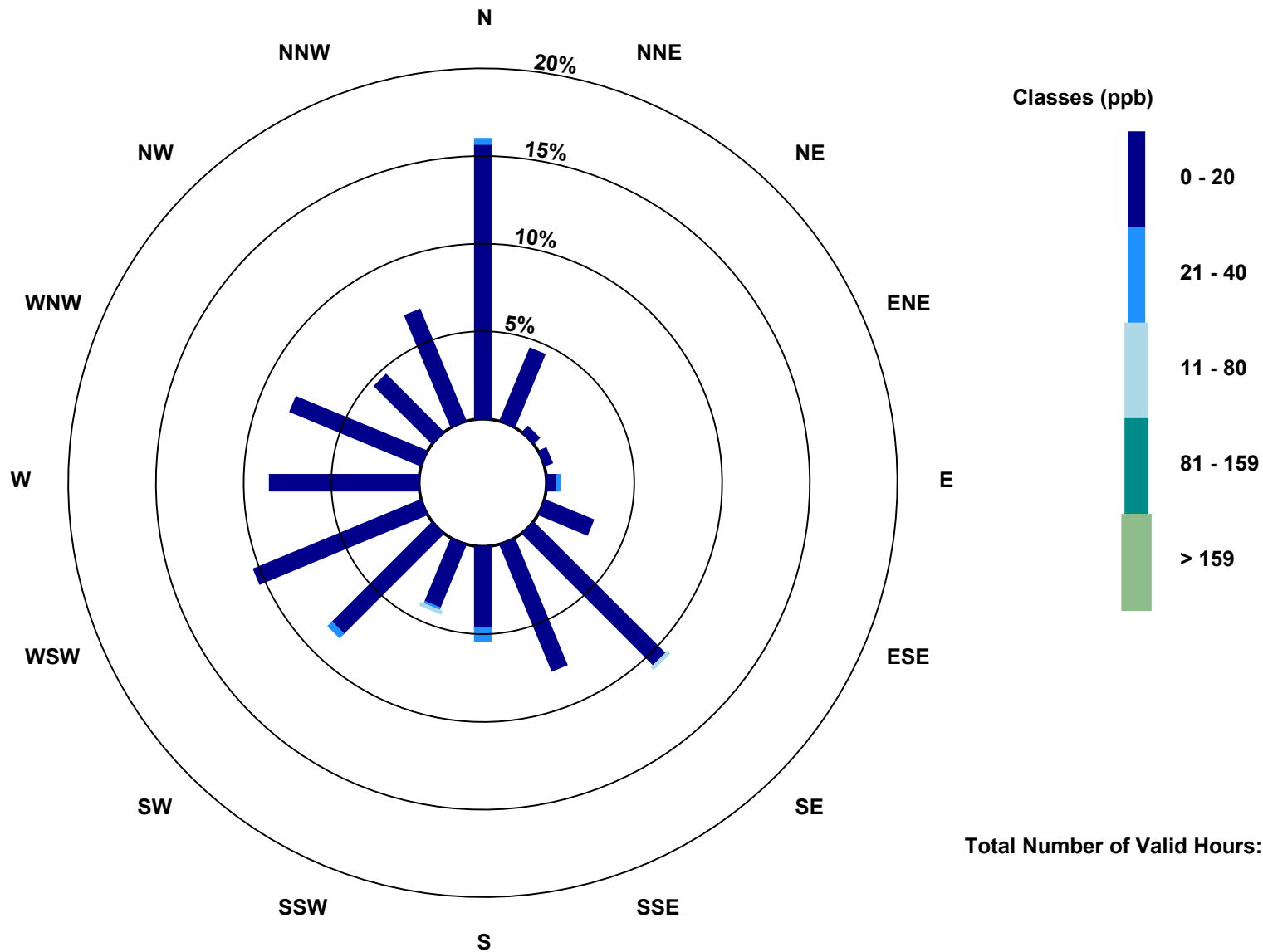
Total Number of Valid Hours: 669

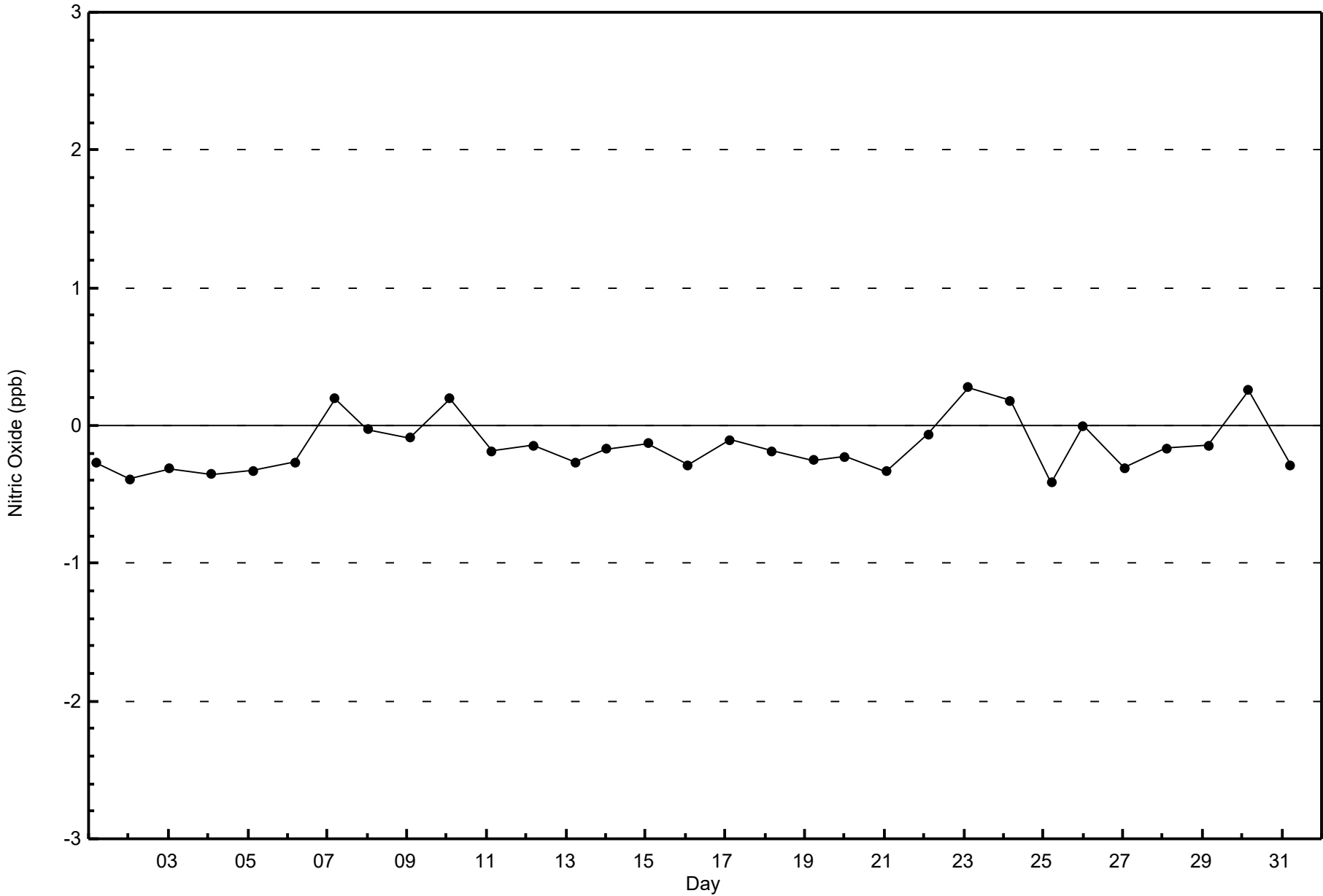
Total Number of Hours: 744

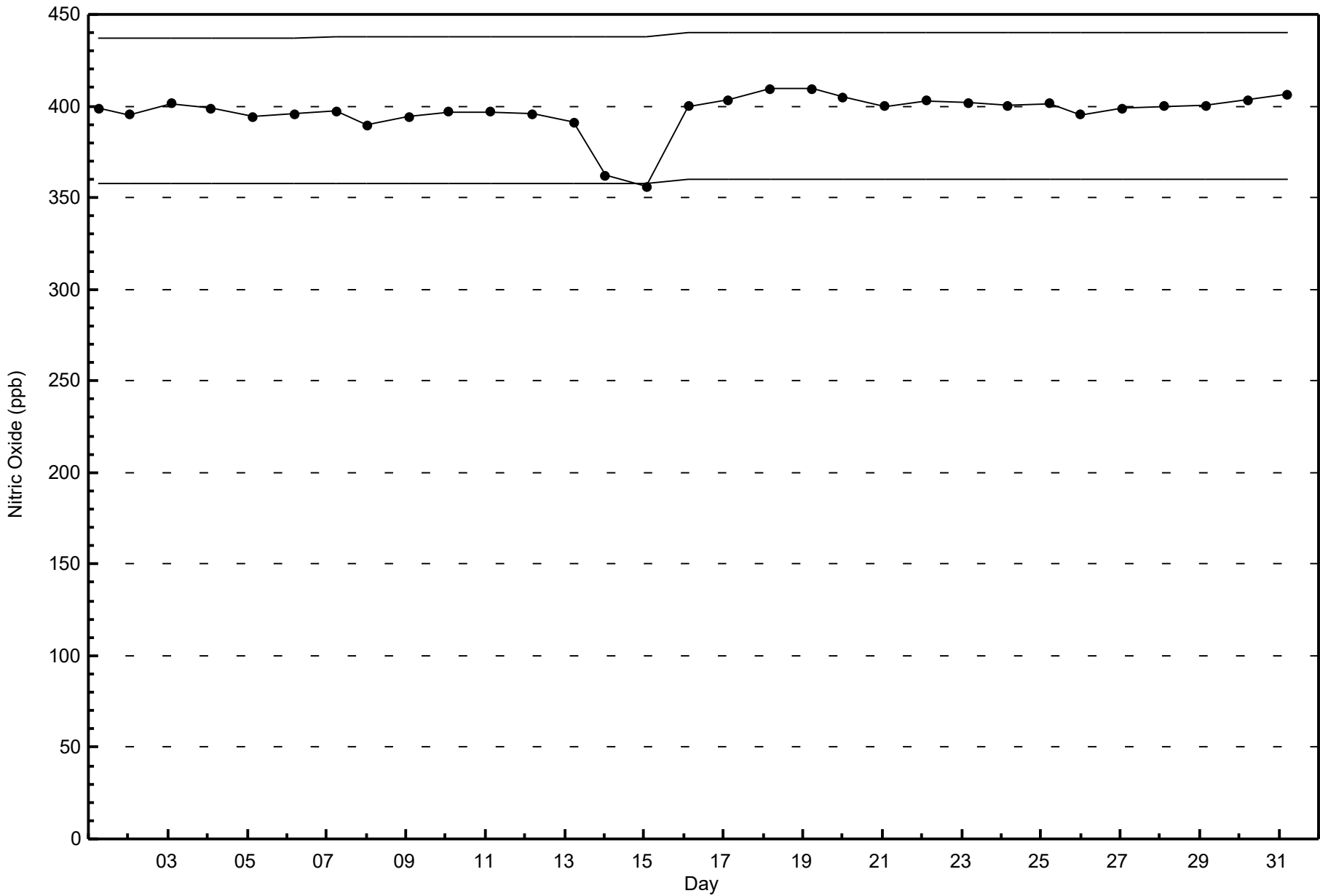


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitric Oxide (NO) - ppb
Patricia McInnes









Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Dioxide (NO₂) - ppb

Patricia McInnes - January 2025

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 40.7 ppb on Jan 22 18:00	Maximum Daily Average: 19.8 ppb on Jan 31		Hours of Data:	669
Minimum Value: 0.0 ppb on Jan 8 14:00	Minimum Daily Average: 1.1 ppb on Jan 8		Hours of Missing Data:	75
Maximum Diurnal Average: 9.7 ppb at hour 9	Minimum Diurnal Average: 5.5 ppb at hour 14		Hours of Calibration:	36
Monthly Average: 7.57 ppb	Percentiles: P ₁ = 0.0 P ₁₀ = 0.7 Q ₁ = 2.6 Median = 5.0 Q ₃ = 10.4 P ₉₀ = 18.2 P ₉₉ = 30.7		Percent Operational Time:	94.8

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	3.6	3.2	3.4	3.1	2.9	Z	4.6	4.6	5.4	4.3	4.4	4.3	5.9	5.2	6.9	10.6	10.2	7.3	5.6	6.2	8.1	8.2	5.4	3.7	5.5	10.6	
2-Jan	Z	5.3	5.0	4.0	3.4	3.2	4.4	8.7	11.8	13.2	16.2	8.1	5.9	8.0	9.5	15.8	25.8	21.7	23.4	19.5	19.8	16.9	18.2	17.7	12.4	25.8	
3-Jan	14.8	Z	12.5	11.9	11.5	14.9	16.2	21.0	13.6	15.5	11.7	5.5	4.8	5.1	6.0	6.9	8.2	7.2	4.9	4.1	4.0	4.1	2.8	2.7	9.1	21.0	
4-Jan	2.7	3.0	Z	3.5	2.9	3.0	2.5	2.9	4.5	3.7	3.9	3.2	2.6	3.6	5.1	4.9	4.3	4.4	4.4	3.8	4.3	5.5	4.3	7.5	3.9	7.5	
5-Jan	2.6	9.3	20.3	Z	20.1	8.0	4.6	5.5	5.7	5.6	4.7	4.5	6.0	5.0	8.2	10.6	10.4	11.1	7.9	8.8	8.1	7.5	10.3	8.4	8.4	20.3	
6-Jan	7.6	8.8	9.9	8.3	Z	6.8	7.1	6.3	7.9	7.7	C	C	C	C	C	C	12.7	16.6	17.2	8.0	6.3	7.1	15.2	20.0	--	20.0	
7-Jan	19.1	7.7	10.6	12.4	14.0	Z	28.1	28.8	32.1	28.1	22.3	6.6	4.2	3.7	3.4	3.6	3.6	3.8	3.5	3.6	3.5	3.2	3.1	2.8	10.9	32.1	
8-Jan	Z	2.3	1.4	0.8	0.7	0.9	1.0	3.6	2.6	2.2	2.1	1.0	0.4	0.0	0.4	0.0	1.2	1.8	1.1	0.7	0.4	0.0	0.0	1.1	3.6		
9-Jan	0.0	Z	0.0	0.6	4.7	7.3	7.9	6.0	6.5	5.7	5.9	5.2	10.0	10.7	9.5	8.8	12.9	8.8	8.1	7.7	6.4	5.9	3.7	2.9	6.3	12.9	
10-Jan	3.2	3.3	Z	3.6	3.6	6.2	11.3	18.0	24.4	22.6	27.1	17.6	24.7	25.0	17.6	16.9	12.7	7.1	7.7	8.6	7.8	5.8	3.9	7.4	12.4	27.1	
11-Jan	3.6	4.3	5.3	Z	3.5	3.1	7.3	6.5	3.7	6.2	8.3	6.2	4.6	3.8	3.5	3.7	5.5	8.0	9.6	8.6	9.4	7.0	5.9	3.9	5.7	9.6	
12-Jan	3.7	4.6	5.4	6.3	Z	8.9	11.4	14.4	19.5	18.5	10.4	9.5	8.3	6.7	7.7	9.7	9.3	10.7	13.6	24.1	20.1	22.8	11.7	14.9	11.8	24.1	
13-Jan	14.4	19.6	22.1	7.2	7.7	Z	6.8	7.5	8.5	7.3	4.0	4.4	5.4	8.5	7.0	9.9	9.3	1.8	2.5	2.0	1.6	0.8	1.0	1.3	7.0	22.1	
14-Jan	Z	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	--
15-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	M	M	M	M	M	6.9	7.1	4.7	3.4	7.9	21.6	8.3	3.1	--	21.6	
16-Jan	14.0	18.6	Z	5.1	4.1	4.0	8.3	5.8	5.8	4.1	2.6	3.6	3.3	4.8	4.2	2.9	3.8	4.2	3.2	3.4	4.1	3.6	2.7	4.8	5.3	18.6	
17-Jan	3.4	2.1	4.0	Z	5.7	4.2	4.7	4.8	4.7	3.6	4.0	5.5	3.9	8.0	10.0	10.0	10.7	17.7	13.7	18.0	12.8	5.0	3.2	3.0	7.1	18.0	
18-Jan	4.1	4.3	5.1	6.2	Z	13.2	11.2	8.4	6.7	8.9	6.8	3.1	5.1	3.9	6.5	7.4	17.8	17.5	13.2	12.9	16.1	18.9	14.2	5.2	9.4	18.9	
19-Jan	4.5	4.5	3.8	6.7	8.4	Z	26.8	12.8	15.2	19.2	12.4	18.3	10.6	6.8	11.8	18.2	26.2	26.8	25.1	23.3	24.2	18.7	12.9	16.2	15.4	26.8	
20-Jan	Z	11.2	17.6	28.2	25.2	24.6	29.4	23.5	17.5	10.6	9.2	10.5	10.4	11.0	15.8	5.0	5.0	4.7	4.7	4.0	3.8	2.6	1.5	0.8	12.0	29.4	
21-Jan	0.6	Z	0.5	0.4	0.3	0.3	0.3	0.9	0.6	0.7	0.7	0.2	0.2	5.2	5.8	3.4	4.0	3.6	4.0	4.1	3.8	3.0	1.4	4.9	2.1	5.8	
22-Jan	6.7	6.6	Z	5.3	0.5	0.0	2.2	14.0	24.3	16.4	18.9	7.5	0.1	0.8	0.3	3.1	22.5	40.7	33.0	35.4	31.0	12.2	7.8	9.6	13.0	40.7	
23-Jan	10.3	11.8	4.9	Z	1.2	0.9	1.3	0.9	0.9	1.8	0.9	1.5	0.1	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.6	11.8	
24-Jan	0.2	0.0	0.0	0.0	Z	0.4	0.7	0.9	2.2	3.6	0.6	0.2	0.7	0.9	0.4	1.4	5.0	11.2	9.5	7.4	8.9	0.6	4.0	3.9	2.7	11.2	
25-Jan	3.7	2.5	1.9	5.6	13.7	Z	4.1	4.8	2.5	2.3	1.5	1.3	1.3	1.8	1.7	2.3	2.2	1.5	2.1	5.3	3.4	3.3	2.3	1.9	3.2	13.7	
26-Jan	Z	1.8	1.5	2.3	1.3	1.5	1.4	1.3	2.3	2.9	3.2	1.9	1.5	2.5	3.9	1.3	1.0	1.3	0.9	1.4	1.5	0.6	4.6	0.7	1.9	4.6	
27-Jan	2.0	Z	0.9	0.7	0.8	1.2	2.3	2.9	12.1	2.8	2.2	2.5	2.7	1.5	1.3	1.6	1.5	1.6	1.8	0.9	0.9	1.7	0.6	0.0	2.0	12.1	
28-Jan	0.0	0.0	Z	0.3	0.2	0.3	0.3	0.7	0.4	0.8	0.5	0.1	0.0	0.0	0.2	0.9	5.4	12.1	16.3	7.6	5.0	0.4	0.2	2.2	16.3		
29-Jan	0.9	1.1	2.0	Z	13.1	16.5	31.1	11.3	8.9	26.7	26.6	19.6	14.4	3.8	3.6	5.5	4.7	7.3	5.6	5.4	4.7	3.6	3.4	3.9	9.7	31.1	
30-Jan	3.4	2.7	2.9	3.9	Z	4.8	8.4	8.8	5.6	3.8	3.9	3.9	4.2	3.4	3.4	4.8	8.5	11.0	14.5	12.9	17.6	19.8	12.5	14.5	7.8	19.8	
31-Jan	15.6	21.3	29.8	29.9	30.5	Z	31.3	27.0	26.3	23.0	25.6	21.5	17.0	15.3	13.6	14.5	16.0	19.3	15.7	14.0	14.8	10.6	10.0	12.4	19.8	31.3	

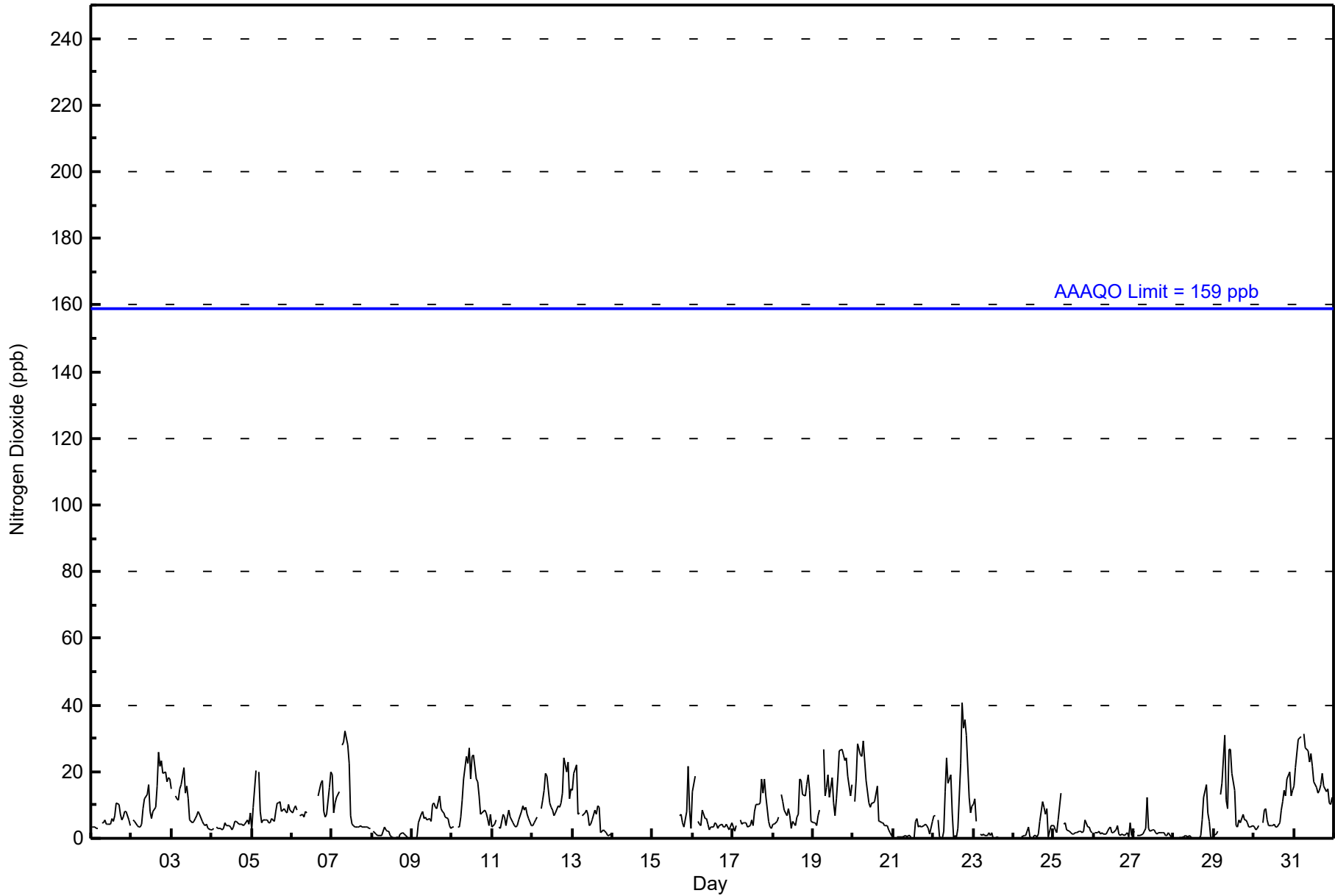
5.8	6.4	7.1	6.5	7.5	5.8	9.6	9.1	9.7	9.4	8.6	6.3	5.7	5.5	6.0	6.6	8.7	9.7	9.1	9.1	8.8	7.5	5.8	6.0	Diurnal Average	
19.1	21.3	29.8	29.9	30.5	24.6	31.3	28.8	32.1	28.1	27.1	21.5	24.7	25.0	17.6	18.2	26.2	40.7	33.0	35.4	31.0	22.8	18.2	20.0	Diurnal Maximum	

Z - zerospan C - Calibration M - Maintenance UO - Unstable Operation
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
Patricia McInnes - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Nitrogen Dioxide (NO₂) - ppb
Patricia McInnes - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	621	92.83	92.83
21 - 40	47	7.03	99.85
41 - 80	1	0.15	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 669

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Dioxide (NO₂) - ppb
Patricia McInnes - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	98	28	2	3	4	17	70	37	29	23	55	68	57	54	31	45	621
21 - 40	9	2	1	0	1	3	2	15	6	5	1	1	0	0	0	1	47
11 - 80	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	107	30	3	3	5	20	72	52	36	28	56	69	57	54	31	46	669

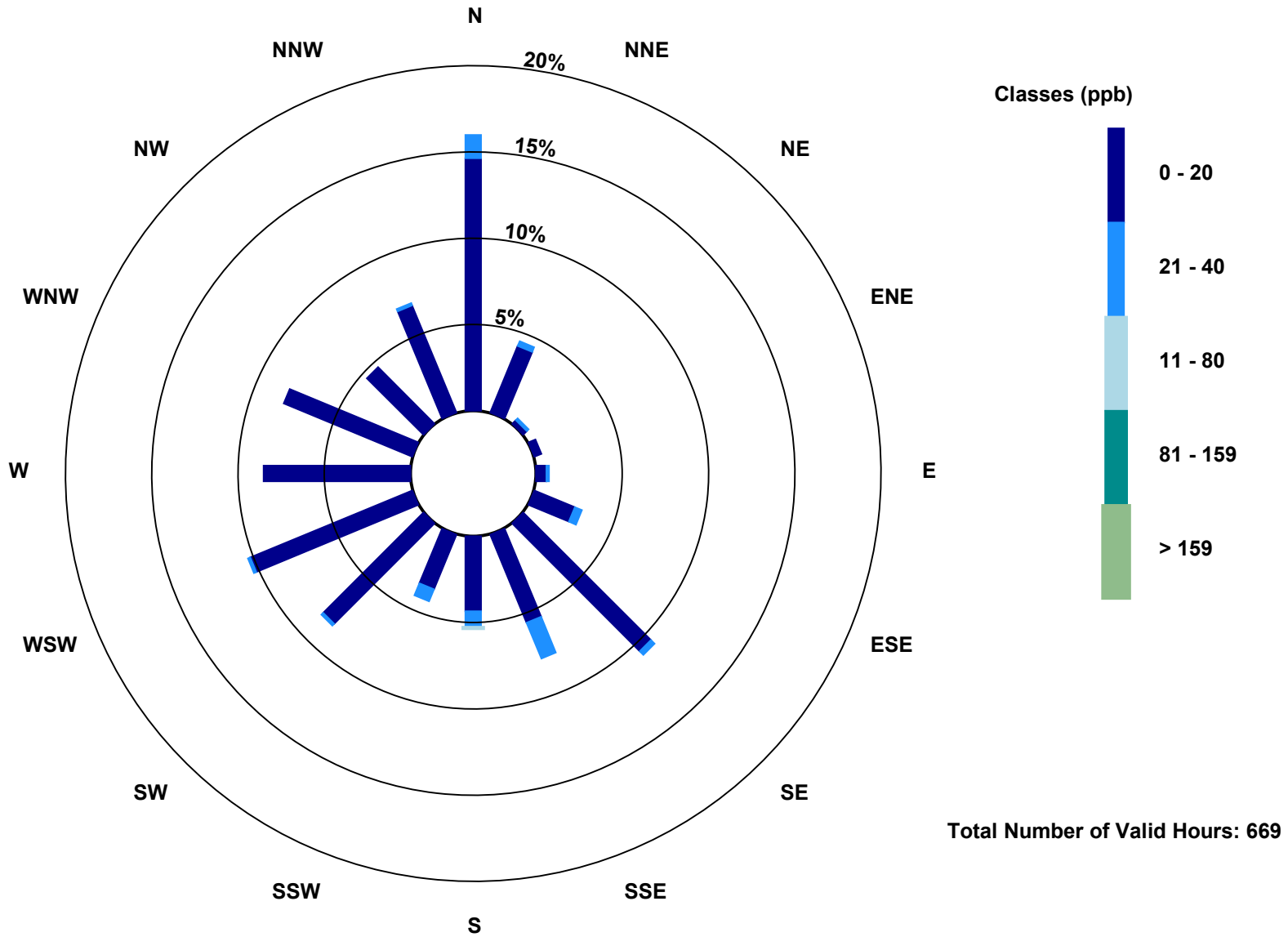
Total Number of Valid Hours: 669

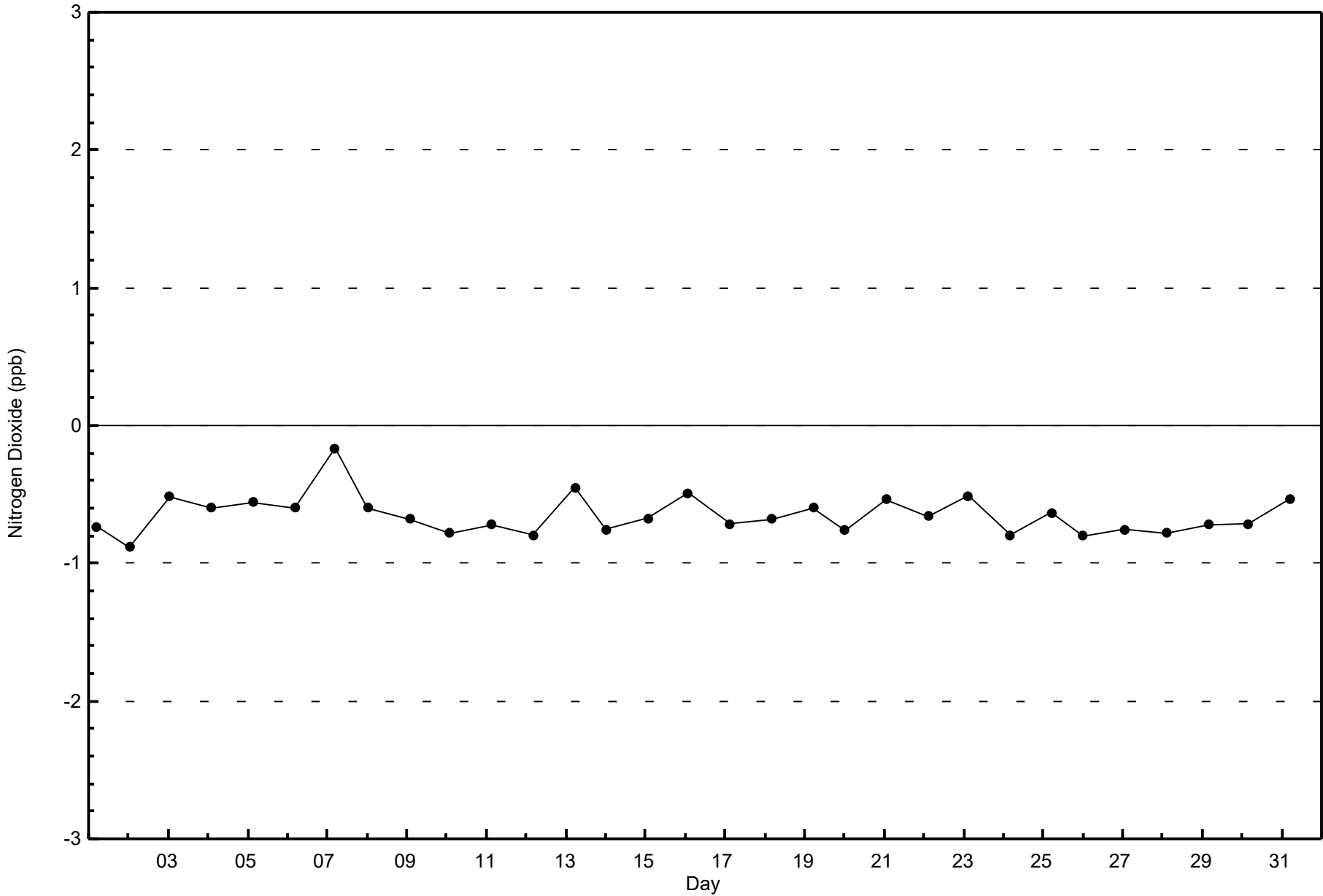
Total Number of Hours: 744

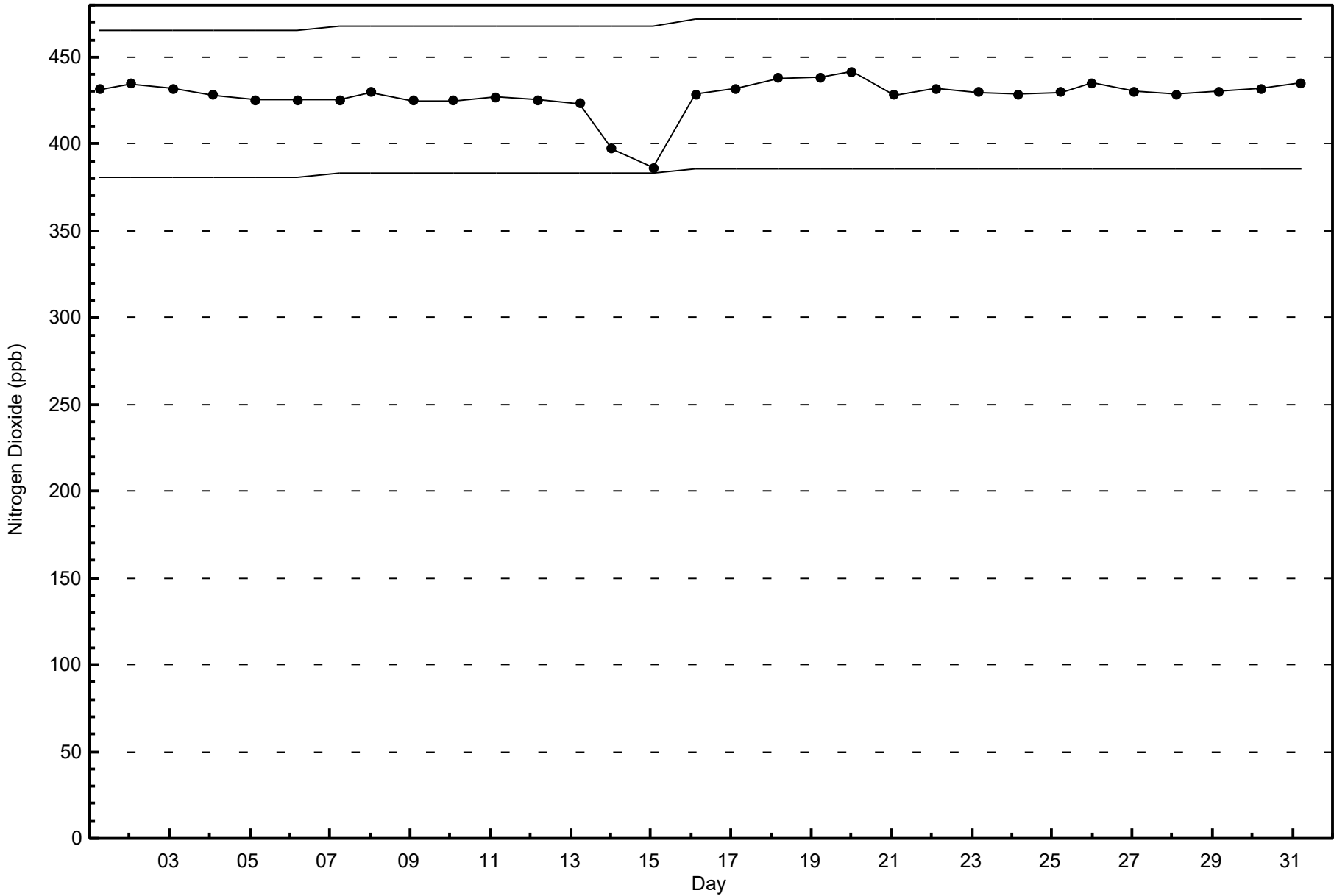


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Dioxide (NO₂) - ppb
Patricia McInnes









Wood Buffalo Environmental Association
Summary of Hour Averages

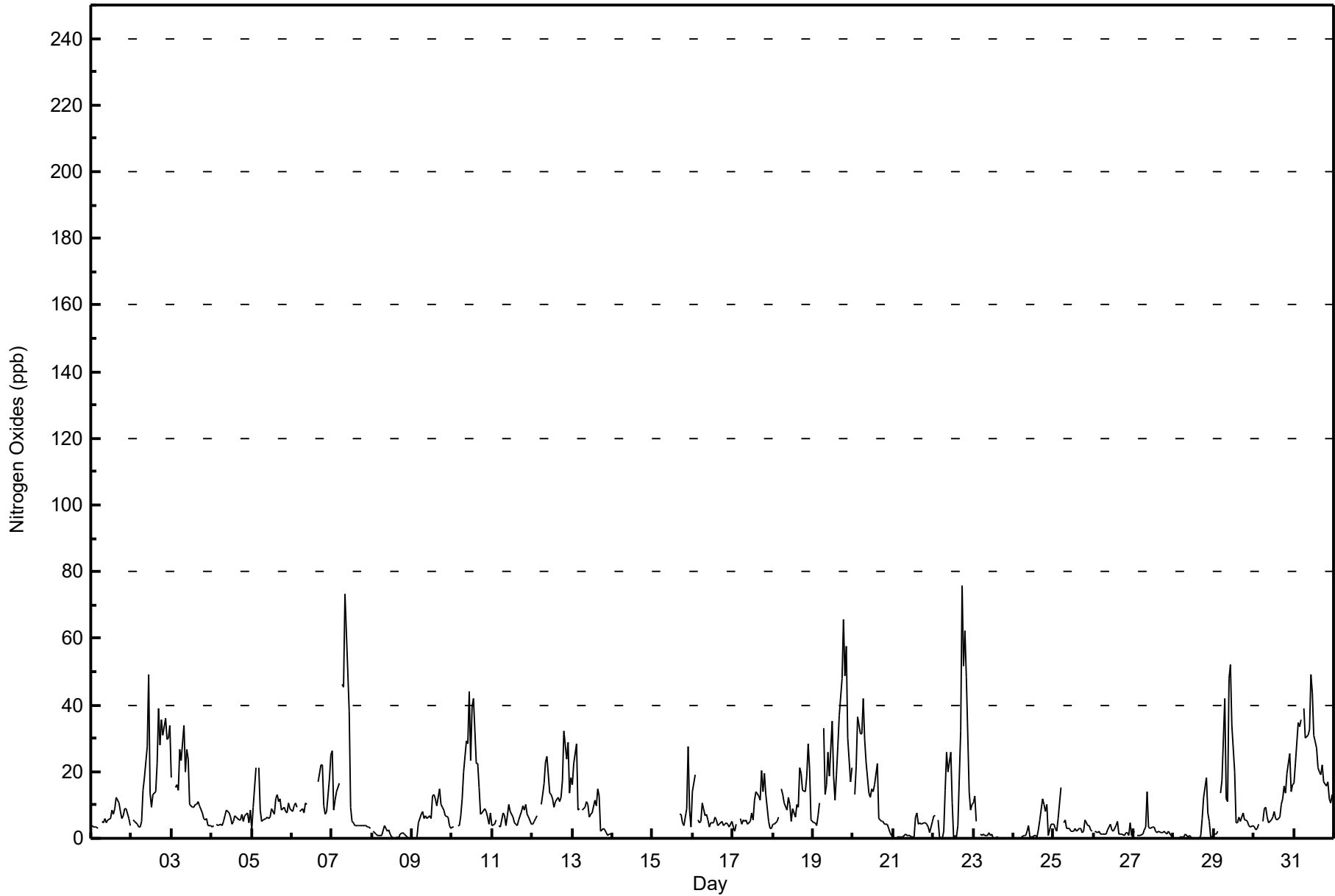
Nitrogen Oxides (NO_x) - ppb
Patricia McInnes - January 2025

Maximum Value: 75.7 ppb on Jan 22 18:00		Maximum Daily Average: 25.8 ppb on Jan 31		Hours in Service: 744																							
Minimum Value: 0.0 ppb on Jan 8 15:00		Minimum Daily Average: 1.1 ppb on Jan 8		Hours of Data: 669																							
Maximum Diurnal Average: 14.5 ppb at hour 11		Minimum Diurnal Average: 6.4 ppb at hour 1		Hours of Missing Data: 75																							
Monthly Average: 9.97 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.7 Q ₁ = 3.0 Median = 6.0 Q ₃ = 12.7 P ₉₀ = 25.2 P ₉₉ = 50.5		Hours of Calibration: 36																							
				Percent Operational Time: 94.8																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	3.7	3.3	3.4	3.4	3.0	Z	5.2	4.7	5.9	4.7	5.4	5.8	8.6	7.4	9.1	12.4	10.8	7.9	6.0	6.6	9.0	8.8	5.8	3.9	6.3	12.4	
2-Jan	Z	5.5	5.2	4.1	3.5	3.4	4.9	14.4	18.3	27.5	49.1	13.5	9.4	13.0	13.9	22.3	38.8	28.0	35.7	30.9	36.2	29.6	30.2	34.1	20.5	49.1	
3-Jan	18.2	Z	15.1	16.1	14.5	26.6	23.3	33.8	19.8	26.6	23.5	10.1	9.2	9.3	10.1	10.1	10.9	9.9	7.7	6.0	5.7	5.9	3.9	4.0	13.9	33.8	
4-Jan	3.5	3.8	Z	4.4	3.9	4.1	3.8	5.2	7.0	8.4	7.5	6.6	4.2	5.3	6.8	6.2	5.4	5.6	7.0	5.3	6.8	7.7	4.6	8.4	5.7	8.4	
5-Jan	2.6	9.3	21.1	Z	21.1	8.3	5.0	5.6	6.1	6.4	6.0	6.4	9.0	7.3	11.9	13.2	11.1	11.8	8.5	9.2	8.2	7.6	10.7	8.7	9.3	21.1	
6-Jan	7.9	9.7	10.6	9.2	Z	8.2	9.1	7.7	10.4	10.2	C	C	C	C	C	C	16.9	22.1	21.9	9.9	7.2	8.0	17.7	25.1	--	25.1	
7-Jan	26.1	8.3	11.5	14.0	16.5	Z	46.4	45.4	73.2	50.0	37.9	9.1	5.2	4.5	3.8	3.9	3.8	4.0	3.8	3.8	3.7	3.4	3.2	2.8	16.7	73.2	
8-Jan	Z	2.3	1.4	0.8	0.8	1.0	1.1	3.9	2.8	2.3	2.6	1.1	0.4	0.0	0.0	0.4	0.0	1.2	1.8	1.1	0.7	0.4	0.0	0.0	1.1	3.9	
9-Jan	0.0	Z	0.0	0.6	4.7	7.3	7.9	6.0	6.6	6.1	6.7	6.1	12.8	13.2	11.7	9.9	14.8	10.1	9.2	8.4	7.0	6.4	3.8	3.0	7.0	14.8	
10-Jan	3.3	3.3	Z	3.7	3.9	6.6	12.0	20.0	29.1	28.5	44.1	23.3	39.2	41.8	22.5	22.6	15.4	7.2	7.7	9.1	8.1	6.2	4.2	7.7	16.1	44.1	
11-Jan	3.7	4.4	5.3	Z	3.8	3.3	7.8	6.6	3.8	6.9	10.1	8.2	6.2	4.8	4.2	3.9	5.5	8.0	9.8	8.6	10.2	7.3	6.3	4.1	6.2	10.2	
12-Jan	4.1	5.0	5.9	6.7	Z	10.0	13.2	16.5	23.0	24.7	13.5	13.2	11.8	9.5	10.9	12.1	11.1	12.2	17.2	32.2	23.6	29.0	13.6	18.2	14.7	32.2	
13-Jan	16.0	22.3	28.2	8.6	8.8	Z	8.5	9.3	11.2	10.4	6.3	7.3	7.5	11.3	9.8	14.9	12.7	2.2	3.0	2.5	1.9	0.8	1.1	1.3	8.9	28.2	
14-Jan	Z	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	--
15-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	M	M	M	M	M	7.1	7.3	4.8	3.7	8.9	27.5	8.6	3.2	--	27.5	
16-Jan	14.1	19.2	Z	5.5	4.7	5.0	10.4	6.7	7.0	5.5	3.4	4.7	4.5	6.3	5.5	3.7	4.4	5.2	4.0	4.1	4.5	4.1	3.2	5.1	6.1	19.2	
17-Jan	3.5	2.2	4.1	Z	5.7	4.4	5.3	5.2	5.4	4.3	5.1	7.4	5.5	11.5	14.1	12.8	11.6	20.5	14.2	19.3	13.3	5.0	3.2	3.0	8.1	20.5	
18-Jan	4.3	4.3	5.1	6.4	Z	14.8	13.1	10.4	8.4	12.2	10.1	5.0	8.8	6.4	10.2	9.3	21.2	19.6	14.3	13.9	18.6	28.3	20.8	5.6	11.8	28.3	
19-Jan	4.7	4.7	3.9	6.9	10.7	Z	32.8	12.9	15.9	25.7	18.5	35.4	18.5	11.4	19.0	27.4	37.0	47.7	65.8	48.6	57.6	30.0	16.8	21.3	24.9	65.8	
20-Jan	Z	13.2	21.7	36.4	31.4	31.5	42.0	29.6	23.0	13.4	12.3	14.6	13.9	15.9	22.7	6.0	5.7	5.2	5.2	4.2	4.2	2.8	1.5	0.8	15.5	42.0	
21-Jan	0.6	Z	0.6	0.4	0.3	0.3	0.4	1.1	0.7	0.7	0.7	0.3	0.3	6.2	7.5	4.3	4.7	4.2	4.9	4.6	4.3	3.3	1.5	5.0	2.5	7.5	
22-Jan	6.7	6.7	Z	5.5	0.5	0.0	2.2	14.6	26.0	19.8	25.8	10.6	0.1	0.8	0.3	3.7	32.3	75.7	51.7	62.4	48.3	14.1	8.4	10.2	18.5	75.7	
23-Jan	10.7	12.7	4.9	Z	1.2	0.9	1.3	0.9	0.9	1.8	0.9	1.5	0.1	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.7	12.7	
24-Jan	0.2	0.0	0.0	0.0	Z	0.4	0.7	0.9	2.2	3.7	0.6	0.2	0.7	1.0	0.4	2.4	5.5	12.0	10.3	8.2	10.0	0.8	4.4	4.4	3.0	12.0	
25-Jan	4.0	2.8	2.1	5.8	15.4	Z	4.7	5.4	3.0	2.9	2.2	2.0	2.2	2.8	2.3	2.9	2.8	1.6	2.1	5.6	3.9	4.0	2.4	1.9	3.7	15.4	
26-Jan	Z	2.0	1.5	2.3	1.3	1.5	1.4	1.4	2.5	3.3	4.0	2.4	2.0	3.9	5.2	1.4	1.1	1.3	1.0	1.6	1.9	0.7	4.8	0.7	2.1	5.2	
27-Jan	2.0	Z	1.0	0.7	0.8	1.2	2.4	3.2	14.1	3.2	2.9	3.3	3.5	1.9	1.6	1.9	1.7	1.8	2.1	1.7	1.4	2.3	0.9	0.0	2.4	14.1	
28-Jan	0.1	0.1	Z	0.6	0.3	0.4	0.6	1.2	0.5	0.8	0.5	0.1	0.0	0.0	0.0	0.2	0.9	6.0	12.4	18.0	7.8	5.1	0.4	0.5	2.5	18.0	
29-Jan	1.4	1.3	2.1	Z	13.7	17.2	41.8	12.0	11.1	48.1	52.3	33.7	19.9	4.5	4.5	6.2	4.9	7.5	5.6	5.4	5.0	3.8	3.4	3.9	13.4	52.3	
30-Jan	3.4	2.7	3.0	4.3	Z	5.2	8.8	9.4	6.2	4.5	5.6	6.5	8.0	5.9	5.4	6.5	10.0	11.9	15.7	13.4	19.4	25.6	13.9	16.2	9.2	25.6	
31-Jan	16.4	22.3	34.6	33.4	35.7	Z	38.8	30.0	30.7	32.8	49.0	43.5	30.9	27.2	21.1	19.9	19.1	22.1	17.1	15.6	16.9	12.0	10.5	13.0	25.8	49.0	
6.4 6.9 8.0 7.5 8.6 7.0 12.2 11.2 12.9 13.6 14.5 10.1 8.7 8.3 8.4 8.6 10.9 12.7 12.3 12.1 11.8 9.7 7.0 7.2																								Diurnal Average			
26.1 22.3 34.6 36.4 35.7 31.5 46.4 45.4 73.2 50.0 52.3 43.5 39.2 41.8 22.7 27.4 38.8 75.7 65.8 62.4 57.6 30.0 30.2 34.1																								Diurnal Maximum			
Z - zerospan C - Calibration M - Maintenance UO - Unstable Operation																											



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Patricia McInnes - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Patricia McInnes - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	578	86.40	86.40
21 - 40	70	10.46	96.86
41 - 80	21	3.14	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 669

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Oxides (NO_x) - ppb
Patricia McInnes - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	92	28	2	3	3	17	63	28	23	21	52	64	57	53	31	41	578
21 - 40	13	2	0	0	1	2	8	21	7	3	2	5	0	1	0	5	70
11 - 80	2	0	1	0	1	1	1	3	6	4	2	0	0	0	0	0	21
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	107	30	3	3	5	20	72	52	36	28	56	69	57	54	31	46	669

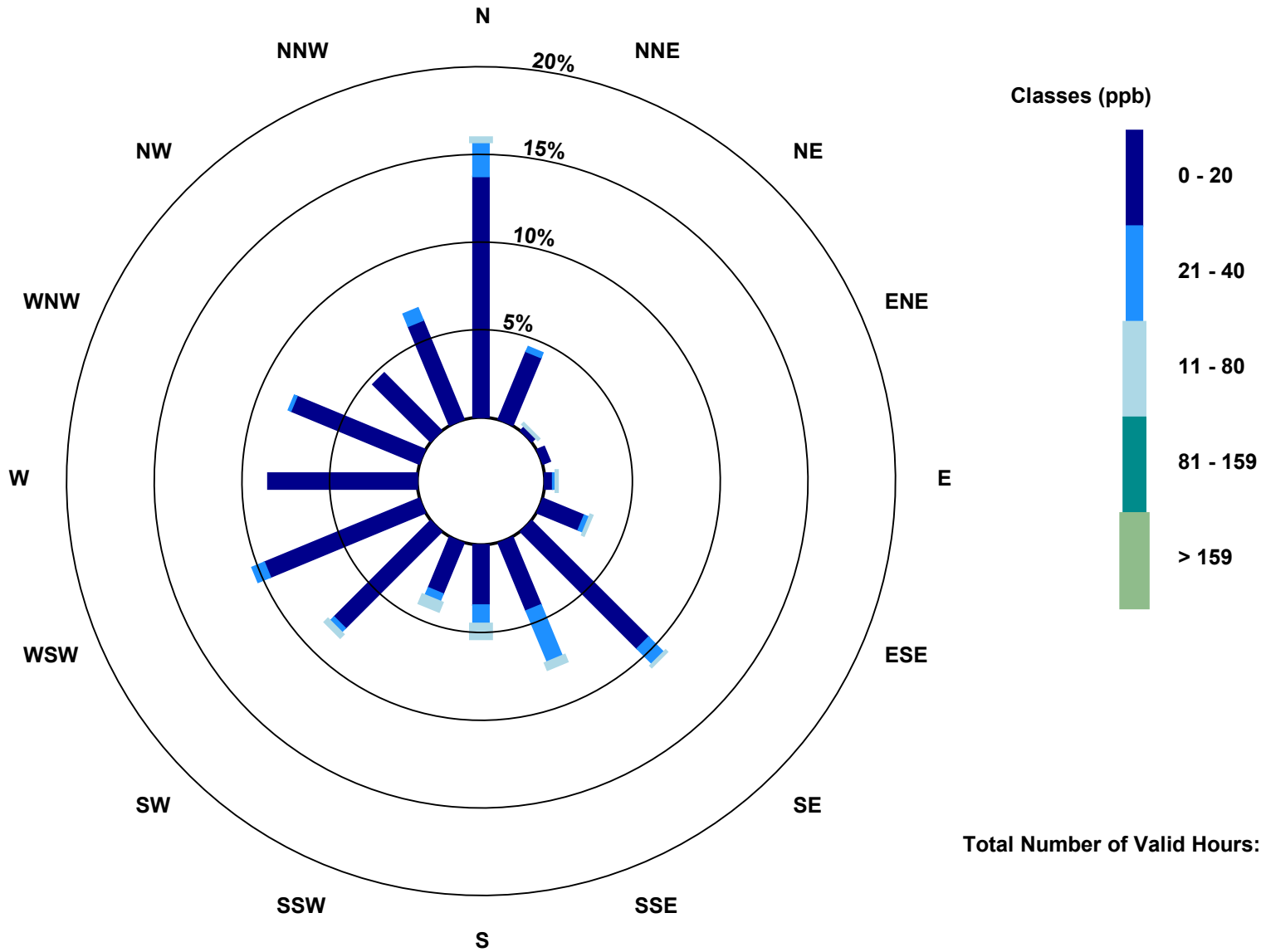
Total Number of Valid Hours: 669

Total Number of Hours: 744

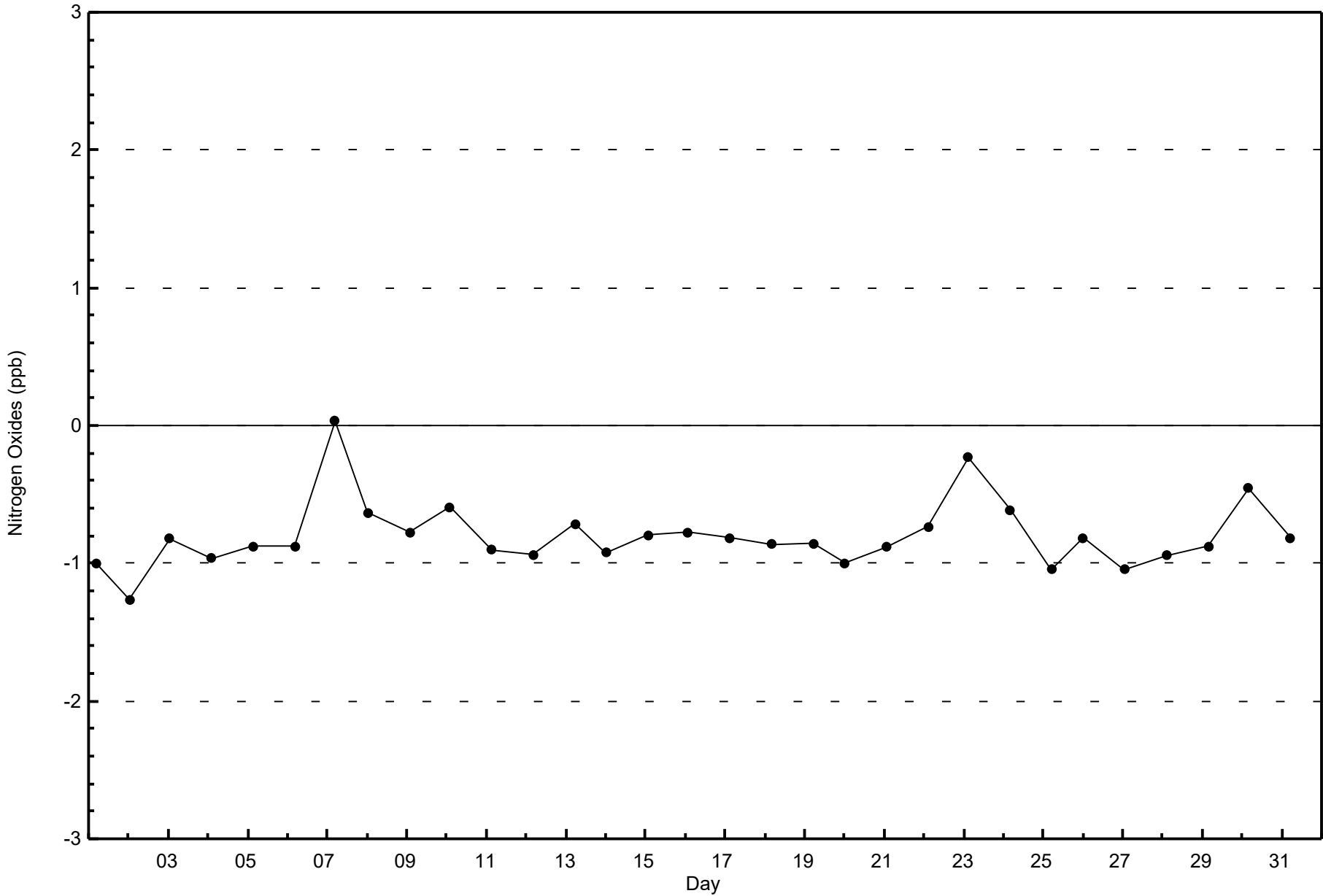


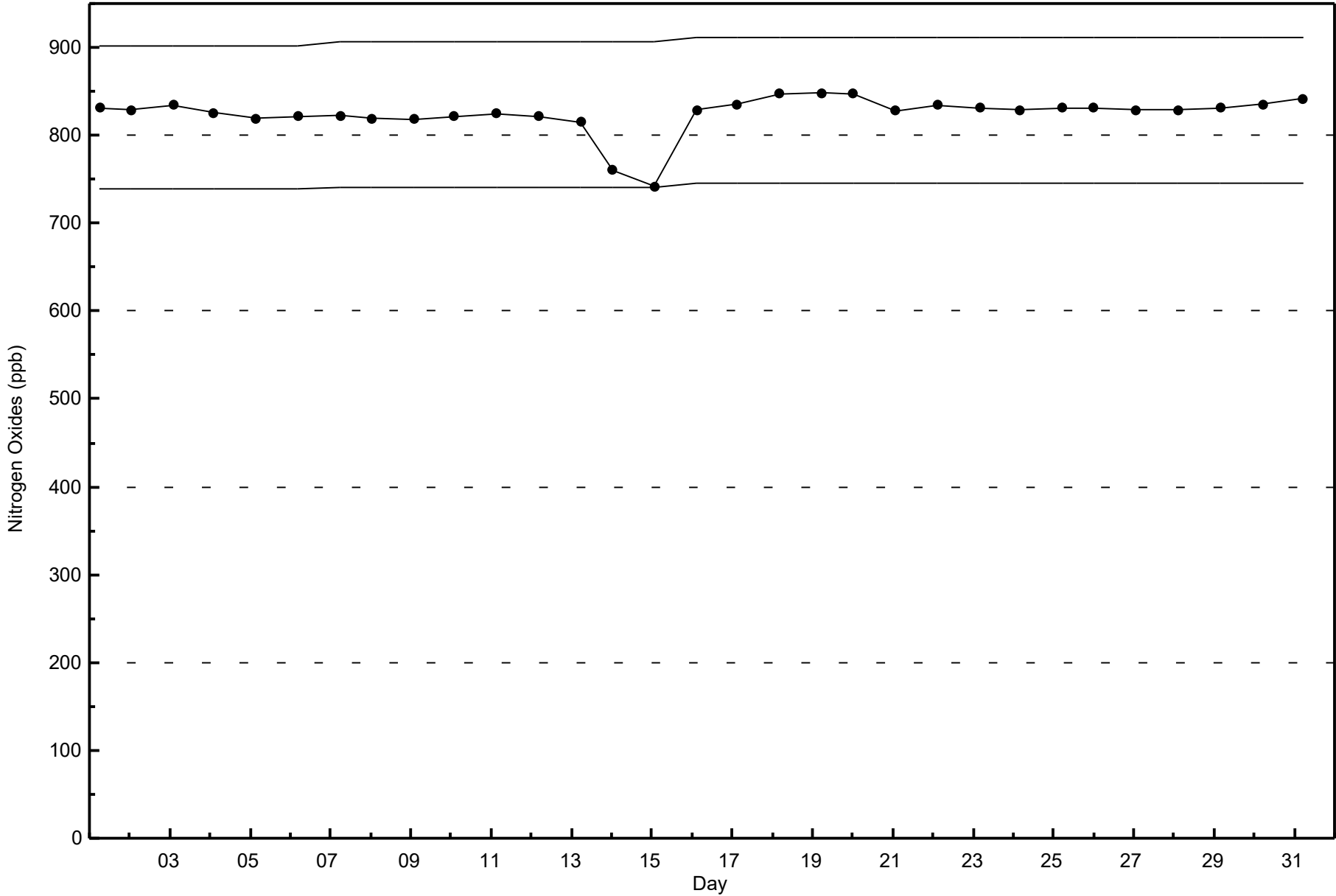
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Oxides (NO_x) - ppb
Patricia McInnes



Total Number of Valid Hours: 669







Wood Buffalo Environmental Association

Summary of Hour Averages

Ammonia (NH₃) - ppb

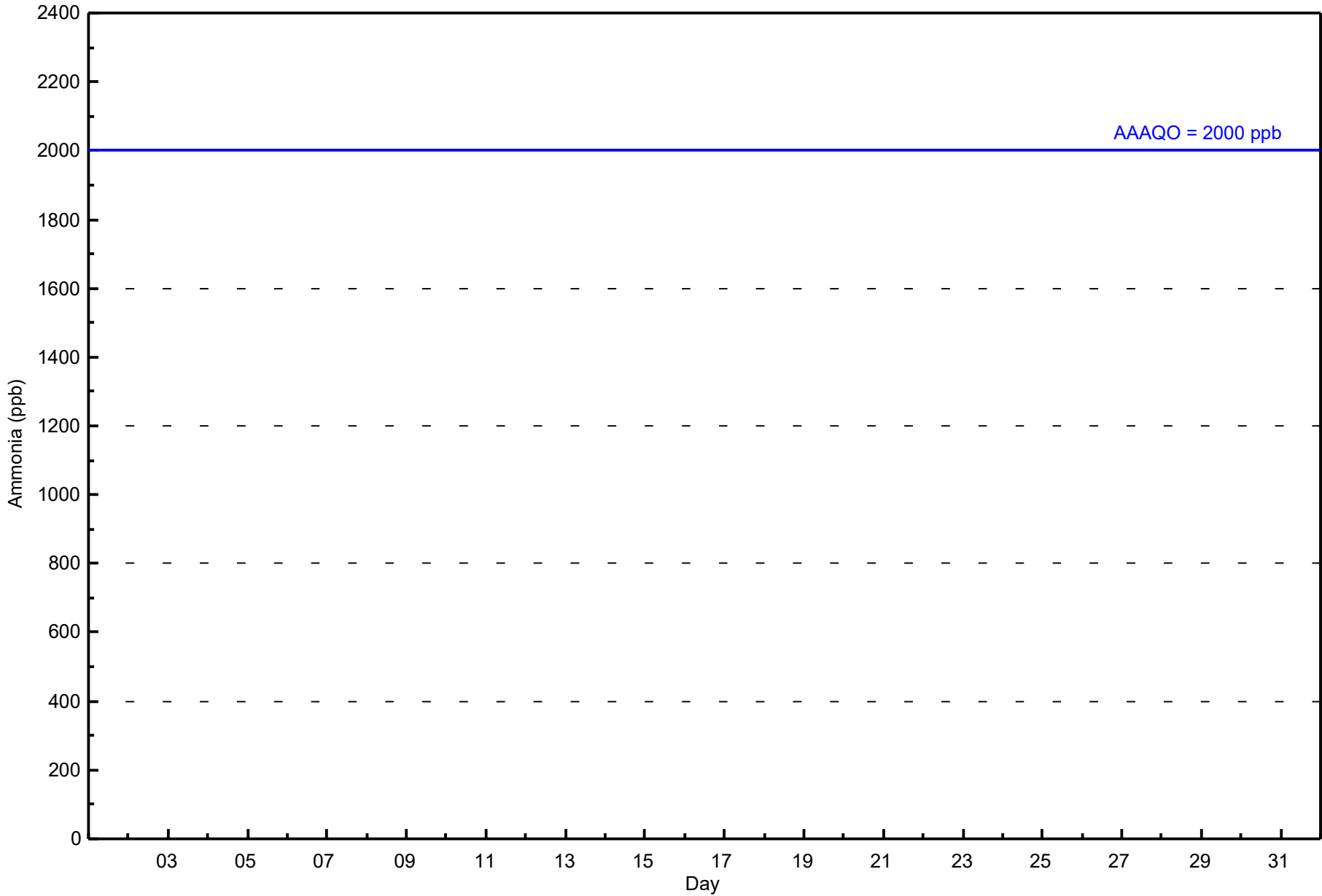
Patricia McInnes - January 2025

Number of Exceedences (AAAQO): 1-hr: 0		Hours in Service: 744																										
Maximum Value: 0.0 ppb on Jan 1 01:00		Maximum Daily Average: 0.0 ppb on Jan 1																										
Minimum Value: 0.0 ppb on Jan 1 01:00		Hours of Data: 670																										
Maximum Diurnal Average: 0.0 ppb at hour 1		Hours of Missing Data: 74																										
Monthly Average: 0.00 ppb		Hours of Calibration: 37																										
Minimum Daily Average: 0.0 ppb on Jan 1		Percent Operational Time: 95.0																										
Minimum Diurnal Average: 0.0 ppb at hour 1		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.0 P ₉₉ = 0.0																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24				
1-Jan	0.0	0.0	0.0	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2-Jan	0.0	0.0	0.0	0.0	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3-Jan	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4-Jan	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5-Jan	0.0	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Jan	0.0	0.0	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Jan	0.0	0.0	0.0	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Jan	0.0	0.0	0.0	0.0	0.0	Z	RE	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9-Jan	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Jan	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11-Jan	0.0	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12-Jan	0.0	0.0	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13-Jan	0.0	0.0	0.0	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14-Jan	0.0	0.0	0.0	0.0	0.0	Z	RE	RE	C	C	C	C	C	RE	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--
15-Jan	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16-Jan	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17-Jan	0.0	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18-Jan	0.0	0.0	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19-Jan	0.0	0.0	0.0	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20-Jan	0.0	0.0	0.0	0.0	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21-Jan	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22-Jan	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23-Jan	0.0	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24-Jan	0.0	0.0	0.0	Z	RE	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25-Jan	0.0	0.0	0.0	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26-Jan	0.0	0.0	0.0	0.0	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27-Jan	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28-Jan	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29-Jan	0.0	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30-Jan	0.0	0.0	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31-Jan	0.0	0.0	0.0	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
																								Diurnal Average				
																								Diurnal Maximum				
Z - zerospan C - Calibration M - Maintenance RE - Recovery																												
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 2000 ppb																												



Wood Buffalo Environmental Association
Hourly Averages

Ammonia (NH₃) - ppb
Patricia McInnes - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ammonia (NH₃) - ppb
Patricia McInnes - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 5	670	100.00	100.00
6 - 10	0	0.00	100.00
11 - 15	0	0.00	100.00
16 - 20	0	0.00	100.00
21 - 25	0	0.00	100.00
> 26	0	0.00	100.00

Total Number of Valid Hours: 670

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Ammonia (NH₃) - ppb
Patricia McInnes - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	104	28	3	3	5	20	74	50	32	30	57	70	64	54	32	44	670
6 - 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 - 15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16 - 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 - 25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	104	28	3	3	5	20	74	50	32	30	57	70	64	54	32	44	670

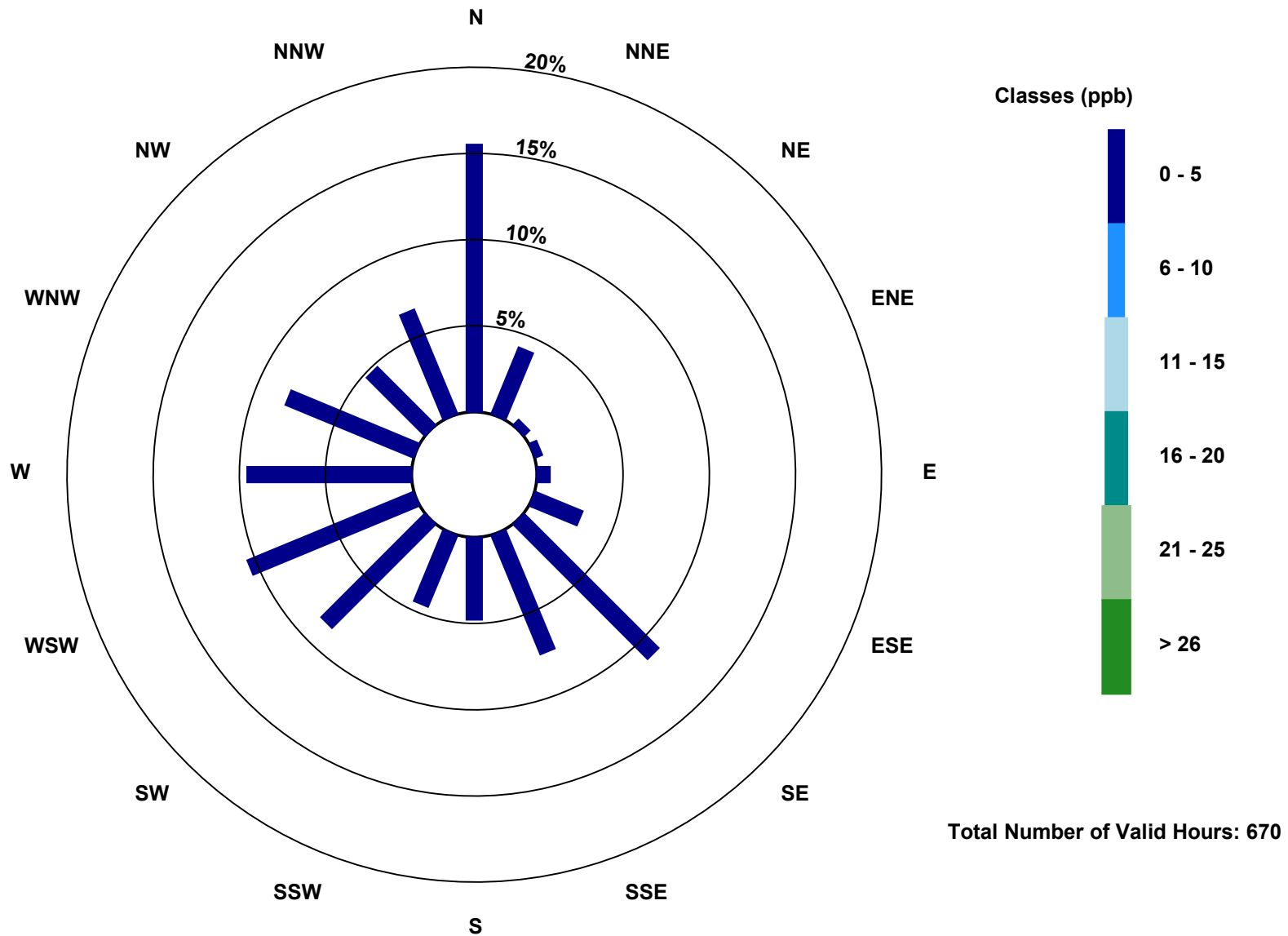
Total Number of Valid Hours: 670

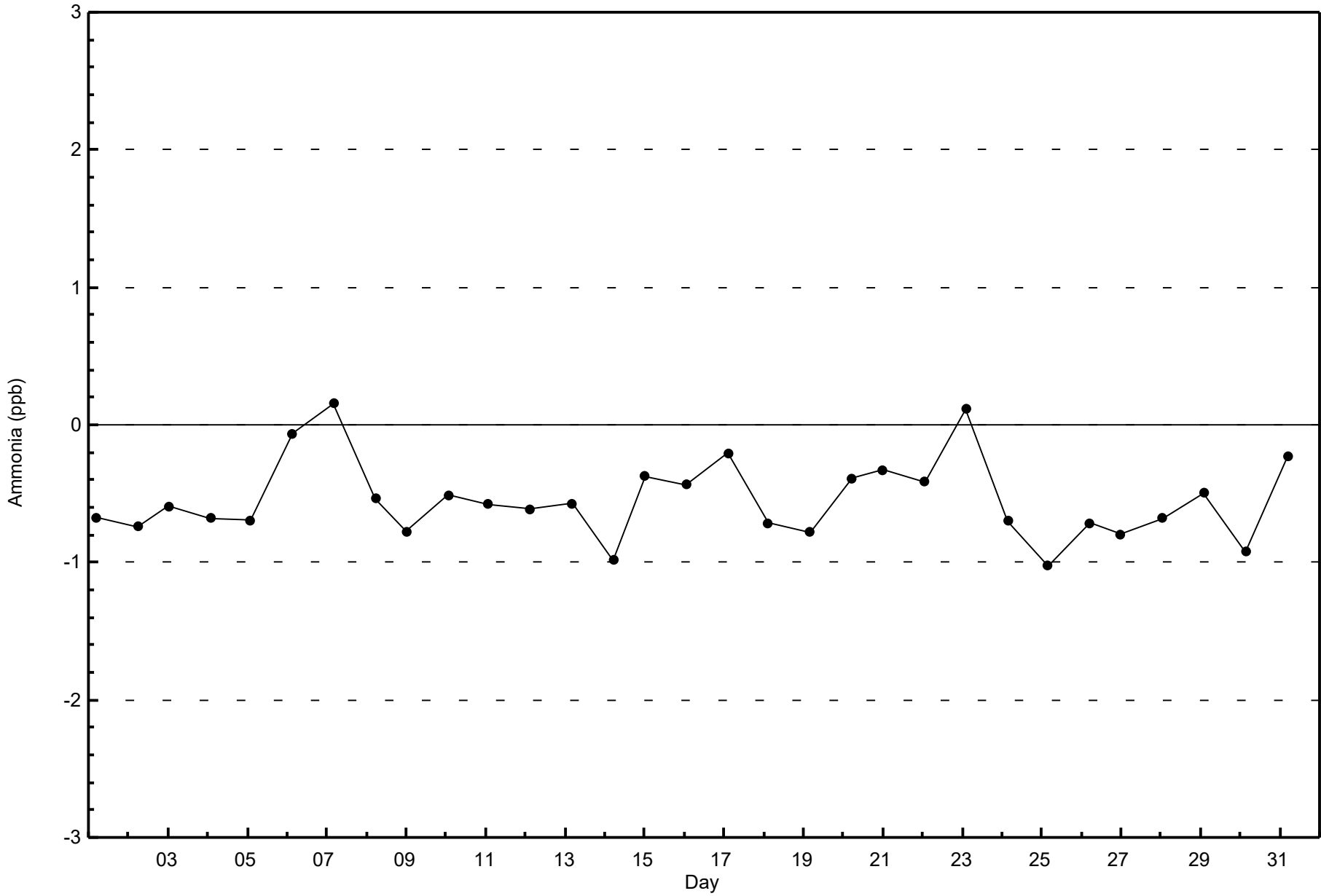
Total Number of Hours: 744

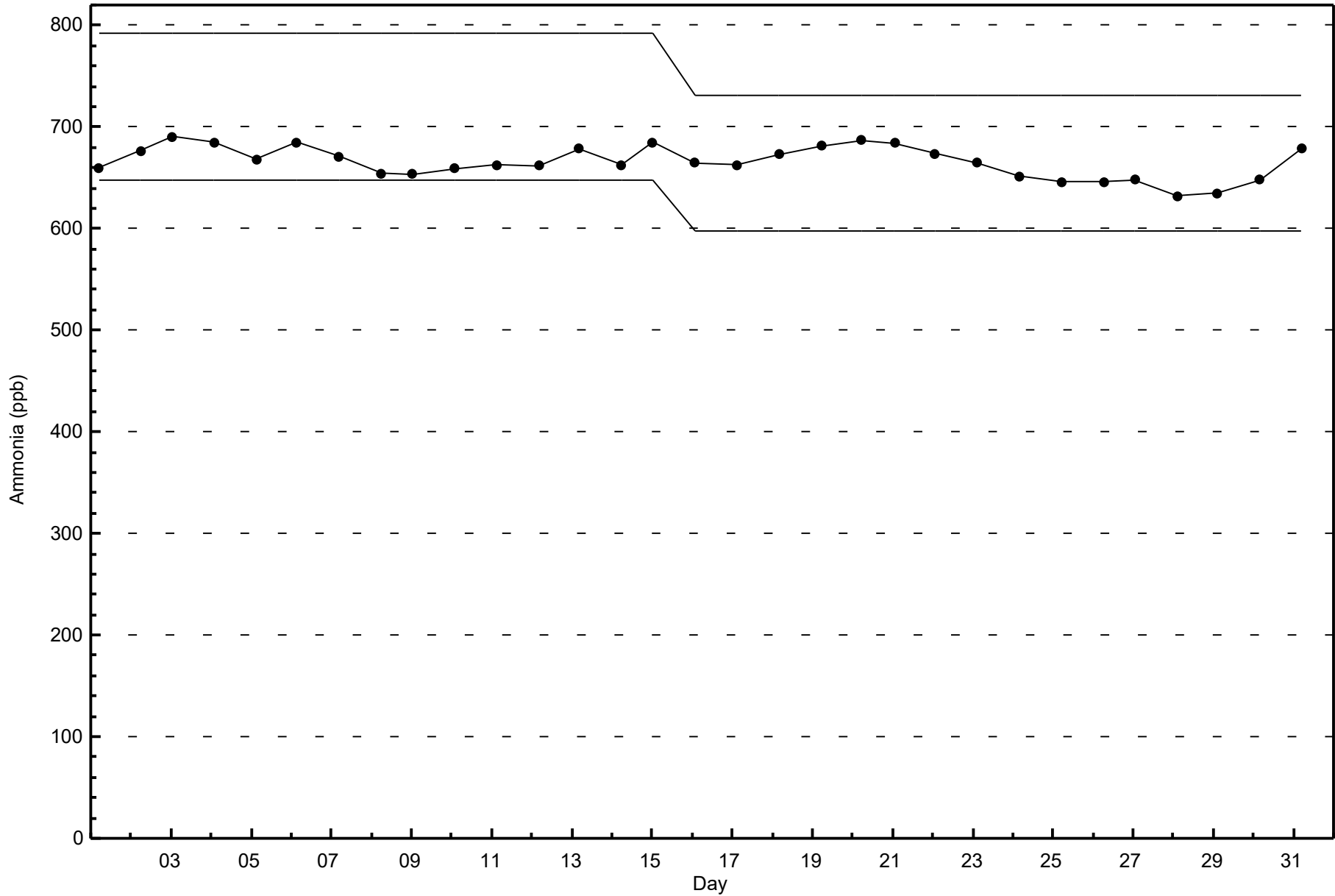


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Ammonia (NH₃) - ppb
Patricia McInnes









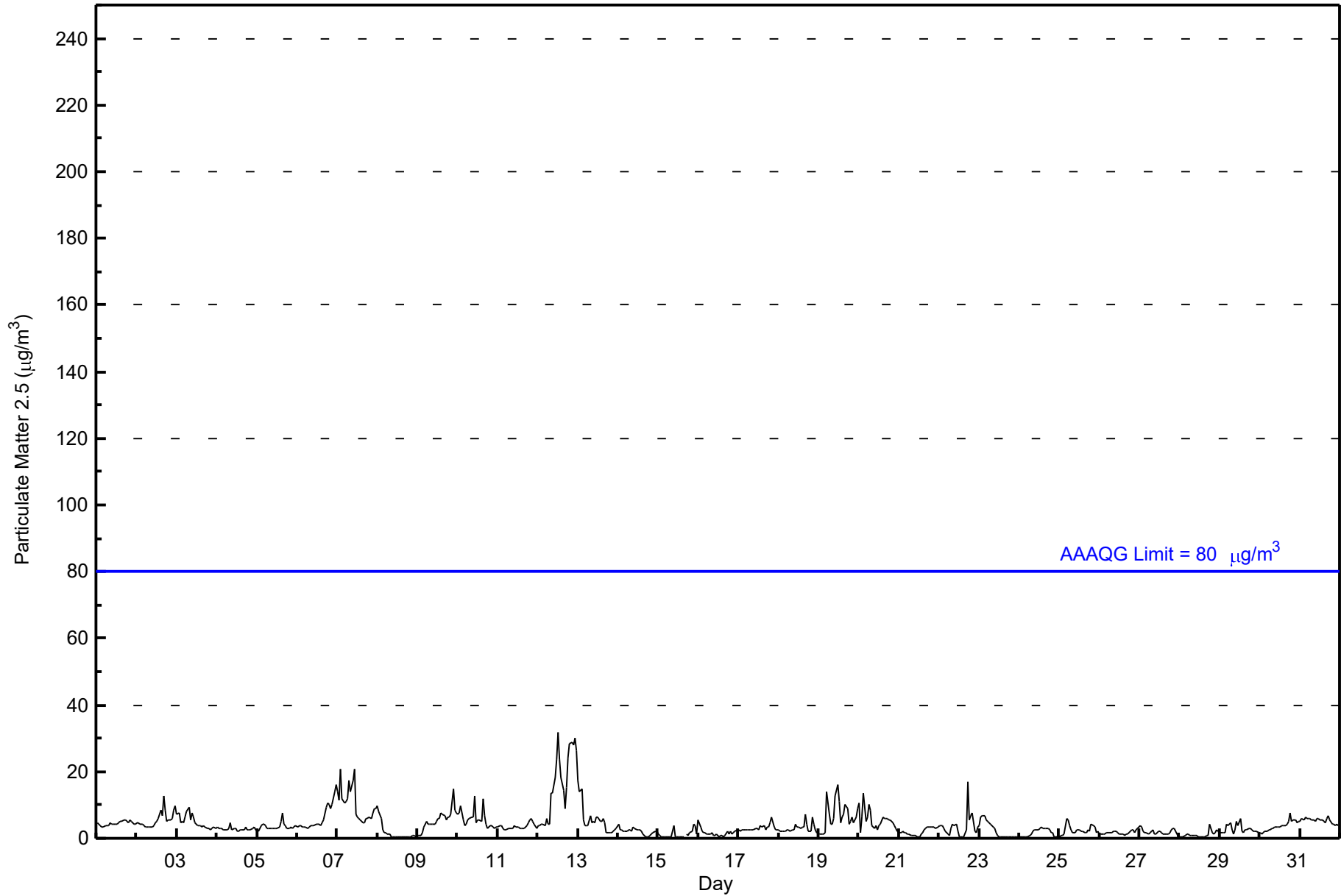
Summary of Hour Averages

Patricia McInnes - January 2025

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 31.6 µg/m ³ on Jan 12 13:00	Maximum Daily Average: 15.9 µg/m ³ on Jan 12		Hours of Data:	743
Minimum Value: 0.2 µg/m ³ on Jan 8 17:00	Minimum Daily Average: 1.1 µg/m ³ on Jan 28		Hours of Missing Data:	1
Maximum Diurnal Average: 4.7 µg/m ³ at hour 11	Minimum Diurnal Average: 3.3 µg/m ³ at hour 5		Hours of Calibration:	1
Monthly Average: 4.09 µg/m ³	Percentiles: P ₁ = 0.3 P ₁₀ = 0.7 Q ₁ = 1.8 Median = 3.2 Q ₃ = 4.9 P ₉₀ = 7.4 P ₉₉ = 23.7		Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Jan	4.5	4.3	4.0	3.6	3.5	3.9	3.9	3.9	4.5	4.3	4.3	4.4	4.2	4.5	5.1	5.2	5.4	5.5	5.0	4.8	5.3	5.0	4.4	4.1	4.5	5.5																						
2-Jan	4.5	4.8	4.3	4.2	3.9	3.4	3.4	3.4	3.3	3.4	3.8	4.8	5.0	5.9	8.6	6.6	12.8	8.4	5.1	5.4	5.5	6.1	8.6	9.9	5.6	12.8																						
3-Jan	7.1	7.5	4.7	4.9	4.8	6.3	8.0	9.1	5.7	7.5	6.4	4.7	3.9	3.8	3.8	3.6	3.8	3.5	3.0	2.8	2.7	2.8	3.2	3.0	4.9	9.1																						
4-Jan	3.2	3.2	2.9	2.8	2.5	2.4	2.4	2.8	4.8	2.6	2.9	3.1	2.3	2.2	2.5	2.6	2.7	3.3	2.4	2.4	2.5	3.0	3.2	2.5	2.8	4.8																						
5-Jan	2.0	2.1	3.8	4.0	4.1	3.6	3.0	3.1	3.0	3.0	3.0	3.0	3.2	3.3	4.9	7.4	4.1	3.7	3.1	3.2	3.2	3.1	3.5	4.0	3.5	7.4																						
6-Jan	3.6	3.6	3.7	3.4	3.6	3.3	3.0	3.5	3.8	3.8	3.9	4.2	4.2	4.1	4.0	4.6	5.5	9.5	10.7	10.3	8.9	10.4	14.2	15.9	6.1	15.9																						
7-Jan	14.0	11.6	20.7	11.7	10.6	10.9	11.9	17.3	14.1	17.5	20.7	7.4	6.3	6.1	5.5	4.7	4.8	5.8	5.7	6.4	5.9	7.7	8.9	9.0	10.2	20.7																						
8-Jan	9.6	7.9	5.8	2.7	1.9	1.5	1.2	1.2	0.6	0.6	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.4	0.4	0.5	0.6	0.7	0.6	1.6	9.6																						
9-Jan	0.8	0.7	0.7	1.5	3.3	4.9	4.1	4.2	4.1	4.3	4.4	4.9	5.8	6.0	7.5	7.0	7.0	5.6	6.2	6.2	7.2	15.0	8.4	7.6	5.3	15.0																						
10-Jan	7.4	7.5	9.9	5.7	4.0	4.0	5.4	5.8	6.4	6.2	12.6	4.7	5.5	5.4	5.1	11.7	6.7	4.1	3.2	3.6	3.6	3.5	2.8	3.4	5.8	12.6																						
11-Jan	3.3	3.8	3.7	3.1	2.7	2.6	2.9	2.9	3.0	2.9	3.6	3.3	3.3	3.1	3.0	2.9	2.8	3.7	4.8	5.6	6.1	5.1	4.2	3.2	3.6	6.1																						
12-Jan	3.6	3.9	4.1	4.3	3.9	6.1	4.3	4.4	13.6	13.6	18.3	23.7	31.6	23.6	18.4	14.6	9.1	15.4	24.1	28.2	28.6	28.1	30.2	26.2	15.9	31.6																						
13-Jan	17.5	13.9	15.0	5.4	3.7	3.6	3.9	6.9	4.6	4.9	4.5	6.6	6.4	5.1	5.2	5.8	4.6	1.8	1.8	1.7	1.7	2.0	2.7	2.9	5.5	17.5																						
14-Jan	4.3	2.6	2.6	2.2	2.1	2.2	2.5	2.6	2.2	3.5	2.9	2.6	2.6	2.6	2.1	1.2	0.4	0.4	0.6	1.3	1.7	2.1	2.1	2.0	2.1	4.3																						
15-Jan	1.2	1.0	0.6	0.5	0.4	0.4	0.4	0.4	0.5	3.6	0.4	0.4	0.4	0.4	0.4	0.6	C	1.2	0.9	1.7	2.2	4.4	3.6	1.1	1.2	4.4																						
16-Jan	5.4	3.3	2.2	1.7	1.6	1.4	1.5	1.4	1.8	1.0	0.8	1.1	0.6	0.7	0.7	0.5	0.8	1.9	1.5	2.2	1.5	1.8	2.3	2.7	1.7	5.4																						
17-Jan	2.6	2.1	2.6	2.7	2.5	2.6	2.5	2.6	2.5	2.6	2.9	2.9	2.5	3.7	3.5	3.8	2.5	3.2	3.4	4.9	6.2	3.3	2.7	2.6	3.1	6.2																						
18-Jan	2.5	2.3	2.2	2.3	2.2	2.4	2.5	2.2	2.4	2.4	4.4	3.6	3.3	3.1	3.3	3.3	7.3	4.1	2.1	2.0	6.3	4.4	2.7	1.5	3.1	7.3																						
19-Jan	1.4	1.3	1.3	1.5	1.9	14.0	7.4	4.0	4.1	5.9	12.6	16.2	11.1	4.6	6.2	7.2	10.2	8.9	4.4	4.9	6.4	4.5	6.5	8.9	6.5	16.2																						
20-Jan	10.4	1.6	6.3	13.7	5.2	6.4	10.0	8.4	3.7	2.8	4.0	2.7	3.6	4.1	6.3	5.7	5.9	5.9	5.7	5.3	4.8	4.0	3.1	2.1	5.5	13.7																						
21-Jan	1.9	1.8	2.0	1.8	1.6	1.4	1.2	1.0	0.8	0.7	0.7	0.5	0.4	1.3	1.5	2.6	3.1	3.6	3.4	3.3	3.4	3.6	3.0	3.3	2.0	3.6																						
22-Jan	3.7	3.8	3.8	3.0	2.0	1.4	0.9	3.1	4.3	3.9	4.0	2.1	0.2	0.2	0.3	0.4	2.7	16.8	5.6	6.6	7.8	2.0	1.8	3.6	3.5	16.8																						
23-Jan	4.0	6.4	6.8	6.9	5.6	5.0	4.7	4.2	3.5	3.0	1.7	1.0	0.6	0.5	0.4	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	2.4	6.9																						
24-Jan	0.3	0.3	0.3	0.3	0.3	0.5	0.7	1.3	2.2	2.7	2.3	2.7	3.0	3.3	3.0	2.9	2.9	3.1	2.5	1.7	1.9	0.4	0.5	0.6	1.7	3.3																						
25-Jan	0.6	0.7	0.7	1.4	6.1	5.6	3.7	2.7	1.7	1.8	2.5	2.4	2.3	2.1	1.9	1.5	1.8	2.7	2.3	4.2	3.8	3.4	1.7	2.3	2.5	6.1																						
26-Jan	1.2	1.1	1.1	1.1	1.6	1.7	1.7	1.8	2.1	2.2	2.0	1.7	1.4	1.2	1.4	0.9	1.2	1.3	2.1	2.6	2.5	1.9	2.5	3.0	1.7	3.0																						
27-Jan	3.7	3.5	2.0	1.9	1.6	1.2	1.5	2.1	2.4	1.3	1.3	2.2	2.1	1.8	1.3	1.3	1.4	1.4	1.7	2.5	3.1	2.8	1.2	0.5	1.9	3.7																						
28-Jan	0.4	0.4	0.4	0.8	1.2	1.1	0.9	0.8	0.8	0.9	0.7	0.5	0.6	0.6	0.6	0.6	0.7	0.8	4.4	1.7	1.2	1.8	2.6	2.2	1.1	4.4																						
29-Jan	1.9	1.7	1.5	1.6	4.1	3.7	4.8	2.4	1.2	2.5	5.2	3.8	5.7	2.2	1.8	2.4	2.6	2.8	3.0	2.5	2.2	2.2	2.3	1.6	2.7	5.7																						
30-Jan	1.6	1.4	1.7	1.9	2.1	2.6	2.7	3.1	3.1	3.3	3.4	3.5	3.4	3.7	3.8	3.8	4.2	5.1	7.5	5.2	5.6	5.6	4.5	4.9	3.7	7.5																						
31-Jan	5.3	5.8	5.6	6.2	6.1	6.0	5.7	5.4	5.5	5.1	6.1	5.8	5.4	5.7	5.0	4.8	5.9	6.7	5.6	4.3	4.1	3.8	4.4	3.9	5.3	6.7																						
																								4.3	3.7	4.1	3.5	3.3	3.7	3.6	3.8	3.8	4.0	4.7	4.2	4.2	3.7	3.8	3.9	4.1	4.5	4.3	4.4	4.7	4.7	4.6	4.5	Diurnal Average
																								17.5	13.9	20.7	13.7	10.6	14.0	11.9	17.3	14.1	17.5	20.7	23.7	31.6	23.6	18.4	14.6	12.8	16.8	24.1	28.2	28.6	28.1	30.2	26.2	Diurnal Maximum

C - Calibration
 Alberta Ambient Air Quality Guideline/Objectives: 1-hr 80 µg/m³ 24-hr 29 µg/m³





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Patricia McInnes - January 2025

Concentration Ranges ($\mu\text{g}/\text{m}^3$)	Number of Hours	%	Cumulative %
0 - 5	591	79.54	79.54
6 - 15	133	17.90	97.44
16 - 25	13	1.75	99.19
26 - 80	6	0.81	100.00
> 81.0	0	0.00	100.00

Total Number of Valid Hours: 743

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Patricia McInnes - January 2025

Concentration Ranges ($\mu\text{g}/\text{m}^3$)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	91	29	4	2	5	18	51	18	13	27	52	72	69	58	35	47	591
6 - 15	16	3	0	1	0	3	27	27	21	8	10	10	2	2	0	3	133
16 - 25	0	0	0	0	0	0	2	7	3	0	0	1	0	0	0	0	13
26 - 80	0	0	0	0	0	0	1	2	2	0	1	0	0	0	0	0	6
> 81.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	107	32	4	3	5	21	81	54	39	35	63	83	71	60	35	50	743

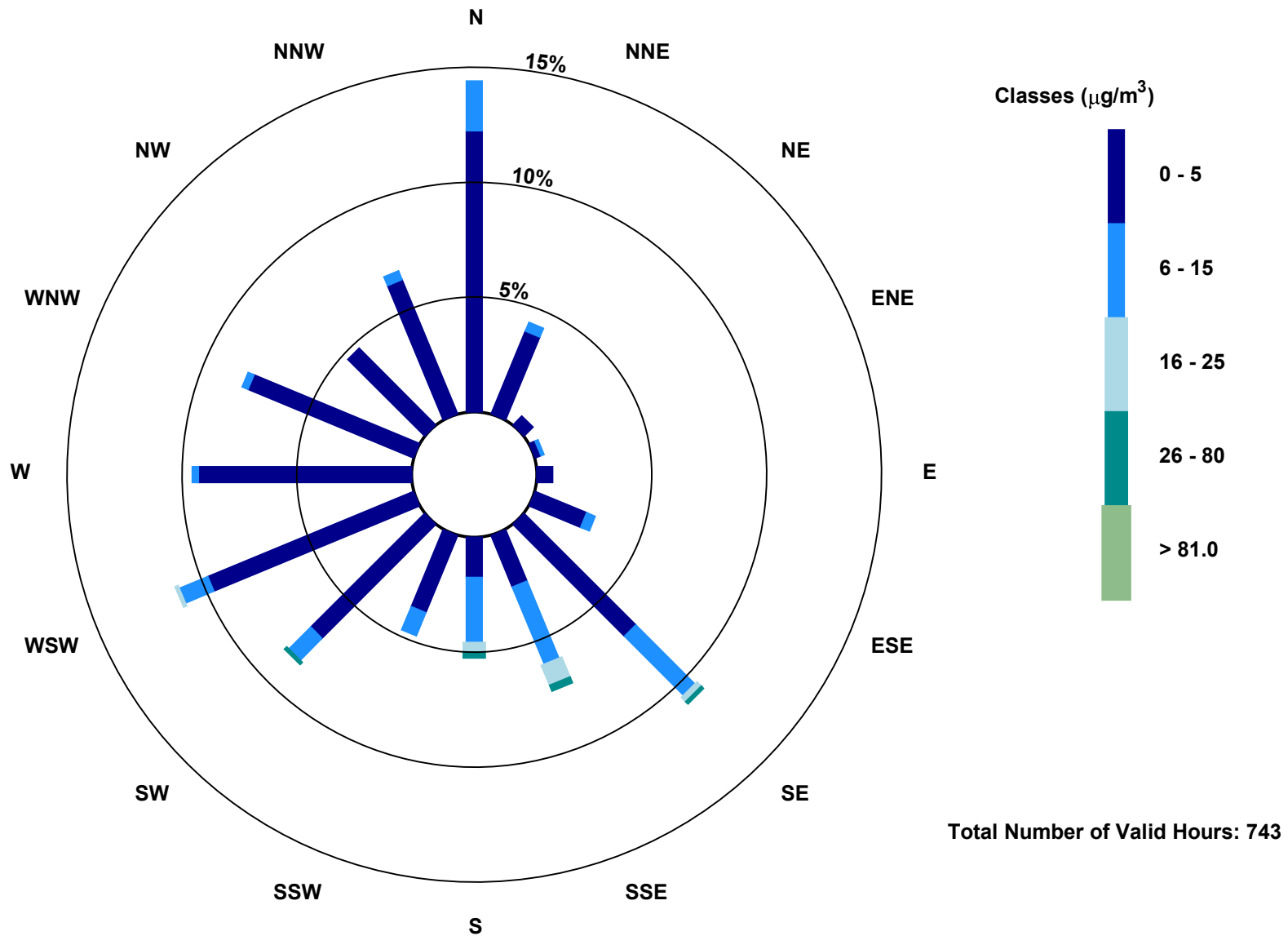
Total Number of Valid Hours: 743

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Particulate Matter 2.5 (PM_{2.5}) - μg/m³
Patricia McInnes



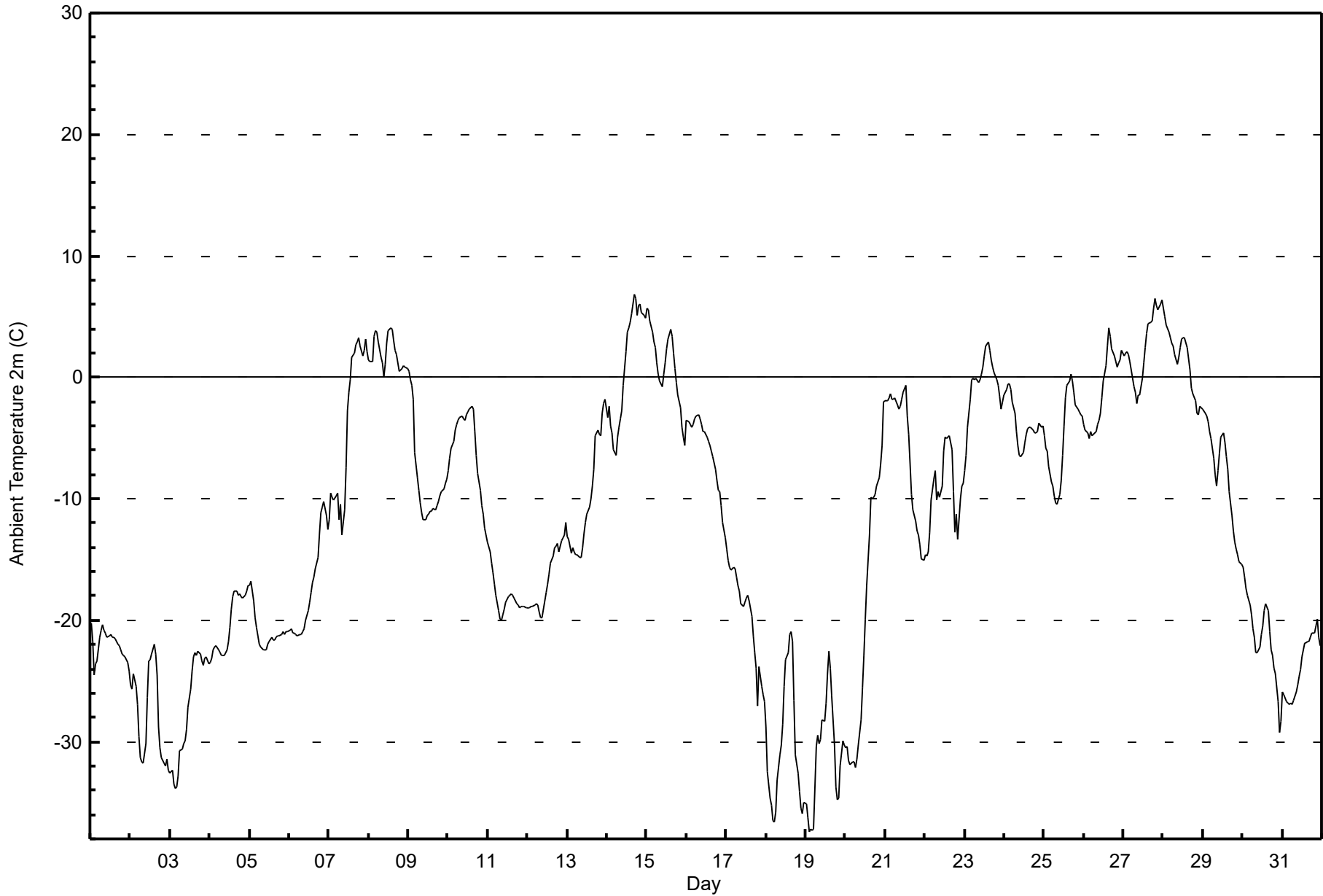


Maximum Value: 6.9 C on Jan 14 17:00		Maximum Daily Average: 2.4 C on Jan 27		Hours in Service: 744																						
Minimum Value: -37.4 C on Jan 19 03:00		Minimum Daily Average: -31.1 C on Jan 19		Hours of Data: 744																						
Maximum Diurnal Average: -9.5 C at hour 15		Minimum Diurnal Average: -14.1 C at hour 9		Hours of Missing Data: 0																						
Monthly Average: -12.16 C		Percentiles: P ₁ = -35.9 P ₁₀ = -27.0 Q ₁ = -21.3 Median = -11.0 Q ₃ = -2.6 P ₉₀ = 1.9 P ₉₉ = 5.8		Hours of Calibration: 0																						
				Percent Operational Time: 100.0																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	-20.3	-21.7	-24.5	-23.5	-23.4	-21.4	-20.8	-20.4	-20.9	-21.1	-21.4	-21.3	-21.2	-21.4	-21.4	-21.6	-22.0	-22.1	-22.5	-22.8	-22.9	-23.0	-23.5	-24.1	-22.0	-20.3
2-Jan	-25.3	-25.7	-24.4	-25.4	-27.0	-29.5	-31.4	-31.7	-31.8	-30.2	-26.4	-23.3	-23.2	-22.8	-21.9	-22.7	-24.5	-28.8	-30.6	-31.4	-31.8	-32.0	-31.4	-32.3	-27.7	-21.9
3-Jan	-32.6	-32.4	-33.5	-33.8	-33.7	-32.8	-30.8	-30.6	-30.1	-29.9	-29.0	-27.1	-25.6	-24.2	-23.0	-22.7	-22.9	-22.6	-22.8	-23.4	-23.7	-23.2	-23.1	-23.5	-27.4	-22.6
4-Jan	-23.5	-23.2	-22.5	-22.2	-22.1	-22.4	-22.7	-22.9	-22.9	-22.5	-21.7	-20.6	-19.2	-18.1	-17.6	-17.6	-17.9	-17.8	-18.1	-18.2	-17.9	-17.6	-17.2	-20.4	-17.2	
5-Jan	-17.1	-16.8	-18.4	-19.8	-20.6	-21.3	-22.0	-22.2	-22.4	-22.5	-22.4	-22.0	-21.8	-21.5	-21.6	-21.7	-21.4	-21.3	-21.2	-20.9	-21.2	-21.0	-20.9	-21.0	-16.8	
6-Jan	-20.8	-20.8	-21.0	-21.1	-21.1	-21.2	-21.2	-21.2	-20.9	-20.7	-20.1	-19.3	-18.6	-17.7	-17.0	-16.5	-15.8	-14.9	-12.9	-11.2	-10.6	-10.3	-11.4	-12.5	-17.4	-10.3
7-Jan	-11.7	-9.6	-9.9	-10.2	-9.8	-9.6	-11.7	-10.5	-13.0	-10.9	-7.5	-2.7	-1.3	-0.2	1.7	2.0	2.7	3.0	3.2	2.5	1.7	2.2	3.1	2.1	-3.9	3.2
8-Jan	1.4	1.3	1.3	3.3	3.8	3.7	2.9	1.7	1.2	0.0	1.0	2.8	3.8	4.1	3.9	3.0	2.2	1.8	0.5	0.6	0.8	1.0	0.9	0.8	2.0	4.1
9-Jan	0.5	-0.2	-0.7	-1.9	-6.1	-8.3	-9.3	-10.3	-11.1	-11.7	-11.7	-11.4	-11.2	-11.0	-11.1	-10.8	-10.9	-10.6	-10.2	-9.8	-9.5	-9.2	-8.8	-8.4	-8.5	0.5
10-Jan	-7.7	-6.7	-5.9	-5.3	-4.4	-3.9	-3.5	-3.3	-3.2	-3.4	-3.5	-3.1	-2.8	-2.7	-2.4	-2.6	-4.5	-6.4	-7.9	-9.2	-10.5	-11.3	-12.4	-12.9	-5.8	-2.4
11-Jan	-13.6	-14.4	-15.3	-16.2	-17.0	-18.0	-19.2	-19.9	-20.0	-19.6	-19.1	-18.5	-18.1	-17.9	-17.8	-17.9	-18.2	-18.6	-18.8	-18.9	-18.8	-18.9	-18.8	-18.9	-18.0	-13.6
12-Jan	-19.0	-19.0	-18.9	-18.8	-18.7	-18.6	-18.8	-19.3	-19.7	-19.8	-18.4	-17.8	-17.0	-16.3	-15.3	-14.8	-14.1	-13.9	-13.7	-14.4	-13.5	-13.2	-13.0	-11.9	-16.6	-11.9
13-Jan	-13.1	-13.3	-14.5	-14.1	-14.4	-14.7	-14.6	-14.8	-14.8	-14.0	-12.9	-11.9	-11.3	-10.7	-10.0	-8.9	-7.6	-4.8	-4.4	-4.7	-4.8	-2.9	-2.1	-1.9	-10.0	-1.9
14-Jan	-3.4	-2.3	-3.9	-4.5	-6.0	-6.4	-4.9	-4.1	-3.4	-2.7	-0.7	2.1	3.7	4.1	4.5	5.2	6.9	6.5	5.1	5.9	6.0	5.4	5.1	4.9	1.0	6.9
15-Jan	5.6	5.5	4.7	3.7	2.9	2.5	1.2	0.2	-0.3	-0.8	0.2	1.2	2.3	3.1	4.0	3.4	2.0	0.7	-0.4	-1.5	-2.5	-4.1	-5.0	-5.6	1.0	5.6
16-Jan	-3.5	-3.7	-3.9	-4.1	-3.9	-3.4	-3.1	-3.1	-3.5	-3.9	-4.4	-4.5	-4.9	-5.3	-5.6	-6.1	-6.5	-7.5	-8.4	-9.3	-9.5	-10.6	-11.9	-13.2	-6.0	-3.1
17-Jan	-14.2	-15.0	-15.6	-15.9	-15.6	-15.8	-16.4	-17.2	-17.6	-18.6	-18.9	-18.5	-18.2	-17.9	-18.4	-19.6	-21.3	-22.6	-23.9	-27.0	-23.9	-25.4	-26.1	-26.8	-19.6	-14.2
18-Jan	-28.8	-32.5	-34.7	-35.2	-36.5	-36.6	-35.8	-33.2	-31.1	-30.3	-28.5	-25.4	-23.3	-22.6	-21.1	-20.9	-21.8	-26.5	-31.0	-32.6	-34.1	-35.4	-35.9	-35.0	-30.4	-20.9
19-Jan	-35.1	-36.3	-37.4	-37.2	-37.3	-37.2	-30.4	-29.4	-30.2	-29.8	-28.2	-28.3	-26.8	-24.4	-22.6	-23.9	-26.2	-30.3	-33.8	-34.8	-34.6	-32.0	-29.9	-30.3	-31.1	-22.6
20-Jan	-30.5	-30.4	-31.5	-31.8	-31.6	-31.7	-32.1	-31.4	-30.2	-28.2	-25.5	-22.9	-20.0	-17.1	-12.9	-9.8	-10.0	-9.9	-9.6	-9.0	-8.3	-7.2	-5.6	-2.0	-20.0	-2.0
21-Jan	-1.9	-2.0	-1.7	-1.3	-1.8	-1.8	-1.7	-2.3	-2.6	-2.3	-1.8	-1.2	-0.6	-3.2	-4.7	-7.2	-9.7	-11.0	-11.9	-12.6	-13.0	-13.8	-15.0	-15.0	-5.8	-0.6
22-Jan	-14.6	-14.7	-14.4	-12.7	-10.1	-8.4	-7.7	-10.1	-9.5	-9.8	-9.0	-6.1	-4.9	-5.0	-4.9	-4.8	-6.0	-9.4	-12.8	-11.2	-13.3	-10.0	-8.9	-8.7	-9.5	-4.8
23-Jan	-7.7	-6.4	-4.1	-1.8	-0.2	-0.1	-0.2	-0.1	-0.4	-0.2	0.3	0.8	1.7	2.6	2.9	2.2	1.4	0.8	0.4	-0.2	-0.7	-1.6	-2.7	-2.0	-0.6	2.9
24-Jan	-1.5	-1.0	-0.5	-0.5	-1.0	-2.0	-2.9	-4.4	-5.6	-6.4	-6.6	-6.2	-5.4	-4.7	-4.2	-4.1	-4.2	-4.4	-4.6	-4.5	-4.5	-3.8	-4.1	-4.0	-3.8	-0.5
25-Jan	-4.8	-5.8	-6.1	-7.3	-8.6	-8.9	-9.8	-10.3	-10.4	-9.7	-8.5	-6.4	-4.0	-1.6	-0.6	-0.3	0.3	-0.4	-1.2	-2.3	-2.7	-2.8	-3.1	-3.2	-4.9	0.3
26-Jan	-3.9	-4.3	-4.6	-5.1	-4.5	-4.8	-4.7	-4.5	-3.9	-3.6	-2.9	-1.6	-0.3	1.0	2.6	4.1	3.3	2.4	1.7	1.4	0.9	1.2	1.4	2.2	-1.1	4.1
27-Jan	1.8	2.0	2.1	1.9	1.3	0.0	-0.8	-1.2	-2.2	-1.4	-1.4	-0.1	1.2	2.5	3.6	4.4	4.6	4.6	5.7	6.5	5.9	5.6	6.1	6.4	2.4	6.5
28-Jan	5.7	5.0	4.3	3.7	3.3	2.8	2.6	1.8	1.0	1.6	2.4	3.1	3.3	3.3	2.5	1.6	0.6	-0.9	-1.3	-1.9	-3.0	-3.1	-2.4	-2.5	1.4	5.7
29-Jan	-2.6	-2.9	-3.2	-3.6	-4.5	-5.0	-6.7	-8.1	-9.0	-7.7	-6.3	-4.9	-4.6	-5.4	-6.6	-7.6	-9.5	-11.3	-12.6	-13.6	-14.1	-14.6	-15.1	-15.4	-8.1	-2.6
30-Jan	-15.7	-16.5	-17.4	-18.0	-18.7	-19.6	-20.7	-21.4	-22.6	-22.6	-22.2	-21.1	-20.5	-19.3	-18.6	-19.2	-20.9	-22.5	-22.9	-23.9	-24.4	-26.7	-29.2	-28.4	-21.4	-15.7
31-Jan	-25.9	-26.2	-26.7	-26.9	-26.9	-26.9	-27.0	-26.6	-25.9	-25.3	-24.7	-24.0	-23.0	-21.8	-21.8	-21.8	-21.8	-21.4	-21.1	-21.0	-20.4	-20.0	-21.4	-22.1	-23.8	-20.0
																								Diurnal Average		
																								Diurnal Maximum		



Wood Buffalo Environmental Association
Hourly Averages

Ambient Temperature 2m (AT2) - C
Patricia McInnes - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ambient Temperature 2m (AT2) - C
Patricia McInnes - January 2025

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	222	29.84	29.84
-20 - 0	404	54.30	84.14
0 - 10	118	15.86	100.00
10 - 20	0	0.00	100.00
> 20	0	0.00	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

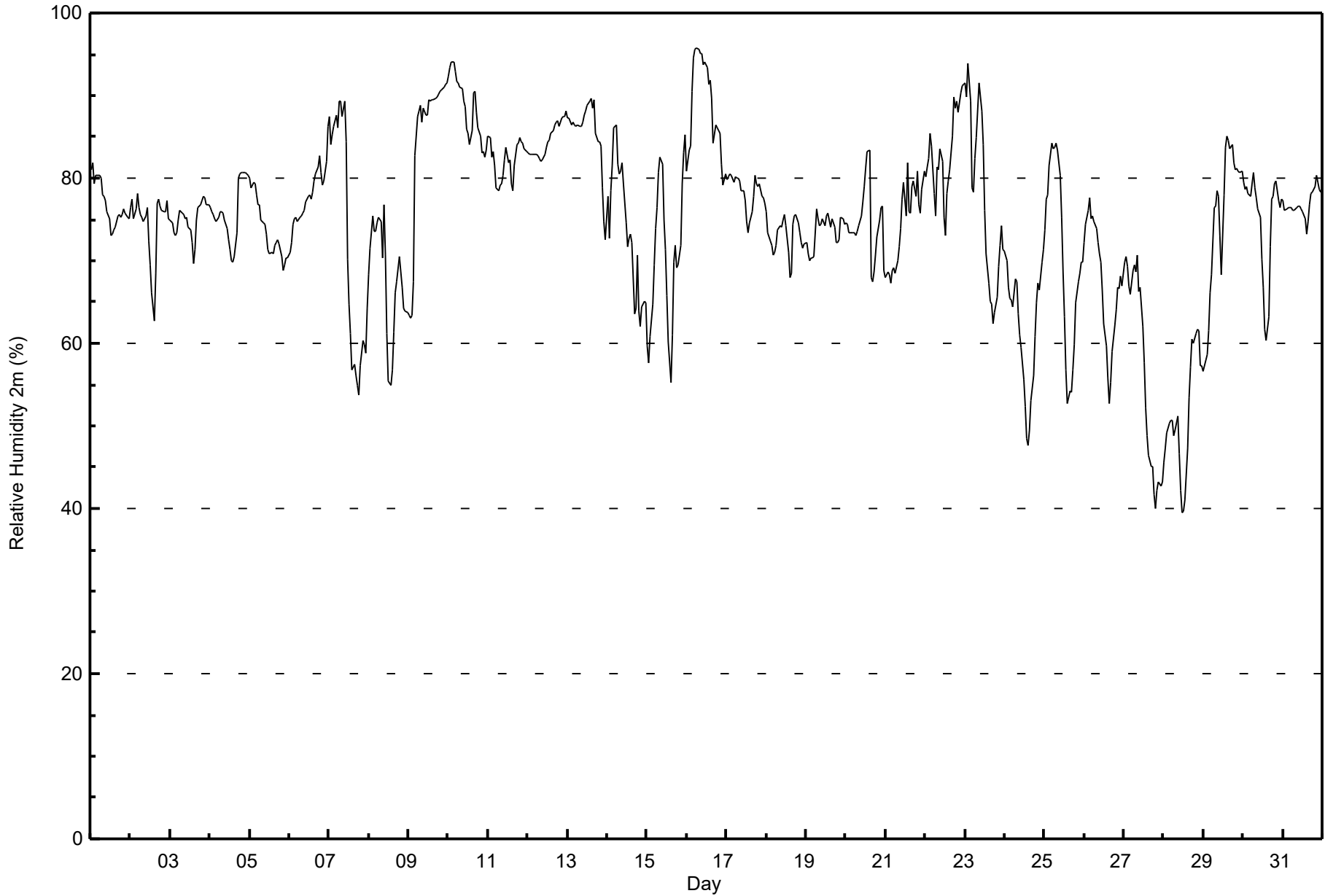
Relative Humidity 2m (RH2) - %
Patricia McInnes - January 2025

Maximum Value: 95.8 % on Jan 16 07:00 Maximum Daily Average: 88.9 % on Jan 16																						Hours in Service: 744 Hours of Data: 744																										
Minimum Value: 39.4 % on Jan 28 12:00 Minimum Daily Average: 51.2 % on Jan 28 Maximum Diurnal Average: 78.0 % at hour 8 Minimum Diurnal Average: 70.4 % at hour 15 Monthly Average: 74.91 % Percentiles: P ₁ = 42.9 P ₁₀ = 61.1 Q ₁ = 70.2 Median = 75.9 Q ₃ = 81.6 P ₉₀ = 87.4 P ₉₉ = 94.0																						Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Jan	81.1	81.8	79.3	80.4	80.3	80.4	80.0	78.0	77.8	77.4	76.0	75.0	73.0	73.3	73.8	74.1	75.4	75.5	75.3	75.6	76.2	75.8	75.3	75.0	76.9	81.8																						
2-Jan	76.4	77.5	75.1	76.3	78.1	76.5	75.7	75.3	74.7	75.3	76.4	72.3	69.4	66.1	62.7	68.5	77.0	77.4	76.7	76.1	75.9	75.9	77.3	75.1	74.5	78.1																						
3-Jan	74.9	74.5	73.4	73.1	73.5	74.9	76.2	75.7	75.7	75.1	75.2	74.0	73.8	72.2	69.7	71.3	74.9	76.4	76.7	77.2	77.8	77.6	76.9	76.8	74.9	77.8																						
4-Jan	76.4	75.9	75.5	75.1	74.8	75.3	75.9	76.0	75.8	74.8	74.0	72.5	71.3	70.0	69.9	70.6	73.4	80.0	80.5	80.7	80.7	80.7	80.5	80.3	75.9	80.7																						
5-Jan	79.9	78.9	79.4	79.3	78.0	76.8	76.7	74.9	74.7	74.4	73.3	71.3	70.9	71.0	70.8	71.9	72.3	72.6	72.0	70.5	68.7	69.5	70.4	70.3	73.7	79.9																						
6-Jan	71.0	72.2	74.4	75.1	75.3	74.8	75.3	75.5	75.8	76.0	77.2	77.8	78.1	77.4	78.3	79.6	80.5	81.3	82.6	80.6	79.2	79.6	82.0	86.3	77.7	86.3																						
7-Jan	87.5	84.1	85.2	86.2	87.6	86.2	89.4	89.3	87.5	89.3	84.5	70.2	64.8	61.3	56.8	57.5	56.1	54.9	53.7	57.3	60.3	59.8	58.8	64.3	72.2	89.4																						
8-Jan	68.3	71.5	75.5	73.6	73.6	74.5	75.2	74.7	70.3	76.7	70.7	61.1	55.4	54.9	56.8	61.3	66.0	67.4	70.5	68.7	66.8	64.3	63.9	63.7	67.7	76.7																						
9-Jan	63.5	63.0	63.4	67.5	82.7	87.4	88.1	88.8	86.7	88.5	87.6	87.6	89.5	89.3	89.6	89.6	89.6	89.9	90.1	90.5	90.7	91.0	91.3	91.5	84.9	91.5																						
10-Jan	92.3	93.3	94.0	94.1	92.8	91.8	91.5	91.0	90.9	89.3	88.7	86.0	85.5	84.1	85.7	90.4	90.6	87.9	86.1	85.1	83.0	83.3	82.5	83.4	88.5	94.1																						
11-Jan	85.0	84.9	82.6	83.2	81.6	78.8	78.6	79.2	79.2	80.3	82.3	83.7	81.9	82.1	79.4	78.5	81.5	84.0	84.3	84.9	84.4	84.3	83.6	83.3	82.1	85.0																						
12-Jan	83.1	82.8	82.8	82.8	82.9	82.9	82.7	82.5	82.1	82.2	82.9	83.8	84.4	84.7	85.3	85.8	86.5	86.7	86.9	86.3	87.2	87.4	87.5	88.2	84.6	88.2																						
13-Jan	87.4	87.2	86.4	86.9	86.4	86.3	86.4	86.3	86.3	86.7	87.6	88.1	88.8	89.3	89.7	88.4	89.5	85.4	84.5	83.9	78.8	74.7	72.5	85.5	89.7																							
14-Jan	77.7	72.7	78.4	81.6	86.1	86.4	81.8	80.5	80.8	81.9	79.3	74.5	71.7	72.7	73.3	72.2	63.5	64.3	70.6	63.9	62.0	64.4	65.0	64.9	73.8	86.4																						
15-Jan	59.7	57.7	60.8	64.8	69.6	73.9	76.4	80.6	82.6	81.8	74.9	71.4	65.8	60.2	55.3	61.1	69.9	71.8	69.1	69.5	71.9	79.4	83.1	85.2	70.7	85.2																						
16-Jan	80.8	83.3	83.9	90.4	94.5	95.6	95.8	95.6	95.1	95.0	93.8	94.0	93.5	91.3	91.8	89.7	84.3	86.5	86.1	85.7	85.4	81.7	79.1	80.5	88.9	95.8																						
17-Jan	79.8	80.2	80.4	80.4	79.5	80.1	80.1	80.1	79.7	78.4	78.4	77.2	74.7	73.3	74.6	75.9	77.8	80.4	79.2	79.0	79.3	77.8	77.6	76.9	78.4	80.4																						
18-Jan	75.9	73.5	72.4	71.9	70.7	71.0	71.9	73.8	74.3	74.0	74.9	75.6	74.3	71.1	67.9	68.4	74.4	75.5	75.7	74.5	73.4	72.2	71.6	72.1	73.0	75.9																						
19-Jan	72.1	70.8	70.0	70.3	70.3	70.5	76.2	75.1	74.3	74.4	75.0	74.3	75.4	75.7	74.9	74.1	75.1	74.1	72.3	72.2	72.5	75.2	75.1	74.5	73.5	76.2																						
20-Jan	74.5	74.4	73.5	73.4	73.5	73.3	73.0	73.5	74.3	75.4	77.1	79.0	81.2	83.2	83.4	68.0	67.5	68.7	70.6	72.9	74.9	76.5	76.7	68.8	74.5	83.4																						
21-Jan	67.9	68.6	68.3	67.2	68.7	69.1	68.4	70.0	71.7	73.8	77.5	79.4	75.5	81.9	76.0	75.8	79.0	79.7	77.9	80.8	76.7	75.8	78.7	80.9	74.6	81.9																						
22-Jan	80.2	81.4	82.4	85.5	83.8	78.1	75.5	81.3	81.0	83.5	82.0	75.3	73.0	78.1	79.6	81.1	85.0	89.9	88.4	89.4	87.9	90.4	91.2	91.4	83.1	91.4																						
23-Jan	91.5	89.8	93.9	89.2	78.8	78.3	82.4	84.9	91.6	89.8	88.1	84.0	76.1	70.9	67.3	65.1	64.7	62.5	63.8	65.6	69.4	71.9	74.2	71.4	77.7	93.9																						
24-Jan	71.2	69.9	66.8	65.5	65.2	64.4	67.7	67.4	63.5	61.1	59.6	55.5	52.4	48.5	47.6	49.5	53.0	56.2	60.9	64.9	67.4	66.4	69.9	71.3	61.9	71.3																						
25-Jan	73.7	77.4	77.9	81.5	84.3	83.6	83.7	84.3	83.4	80.3	75.3	68.6	63.3	56.8	52.7	54.2	54.1	56.8	59.9	64.9	67.4	68.5	69.8	69.9	70.5	84.3																						
26-Jan	72.2	74.4	76.1	77.7	75.1	75.4	74.7	73.9	72.2	70.9	69.8	66.5	62.3	59.6	55.8	52.7	55.3	59.0	62.2	64.1	66.7	66.6	68.2	66.9	67.4	77.7																						
27-Jan	69.9	70.5	69.4	67.0	65.9	68.8	69.5	68.7	70.6	66.2	66.7	62.0	57.5	52.3	48.9	46.4	45.2	45.1	41.7	39.9	42.2	43.2	42.7	43.3	56.8	70.6																						
28-Jan	45.6	47.3	49.2	50.3	50.7	50.7	48.8	49.5	51.2	46.7	42.3	39.4	39.6	40.9	47.3	53.4	57.1	60.6	60.0	61.2	61.7	61.6	57.2	57.3	51.2	61.7																						
29-Jan	56.6	58.0	58.6	61.4	66.2	68.3	76.5	76.7	78.5	77.8	73.0	68.3	78.0	83.7	85.0	84.6	83.5	84.0	81.9	81.0	81.2	80.8	80.6	80.9	75.2	85.0																						
30-Jan	79.4	78.6	79.0	78.1	77.8	79.3	80.6	78.9	77.6	76.2	75.2	70.2	66.8	61.7	60.4	63.2	71.6	77.5	77.8	79.3	79.7	77.3	76.4	77.4	75.0	80.6																						
31-Jan	77.3	76.2	76.3	76.4	76.4	76.4	76.1	76.2	76.5	76.7	76.6	76.3	75.9	75.1	73.2	74.8	76.8	78.1	78.3	78.9	80.3	79.5	78.6	78.4	76.9	80.3																						
																								75.2	75.2	75.6	76.3	76.9	77.1	77.8	78.0	77.9	77.7	76.6	74.0	72.4	71.4	70.4	70.9	72.6	73.9	74.1	74.4	74.7	74.7	74.8	74.9	Diurnal Average
																								92.3	93.3	94.0	94.1	94.5	95.6	95.8	95.6	95.1	95.0	93.8	94.0	93.5	91.3	91.8	90.4	90.6	89.9	90.1	90.5	90.7	91.0	91.3	91.5	Diurnal Maximum



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 2m (RH2) - %
Patricia McInnes - January 2025





Maximum Speed: 43 km/h on Jan 24 08:00	Maximum Daily Speed Average: 18.6 km/h on Jan 28	Hours in Service: 744
Minimum Speed Value: 1 km/h on Jan 19 04:00	Minimum Daily Speed Average: 1.2 km/h on Jan 2	Hours of Data: 744
Maximum Diurnal Speed Average: 5.5 km/h at hour 24	Minimum Diurnal Speed Average: 2.5 km/h at hour 9	Hours of Missing Data: 0
Monthly Average Velocity: 4.2 km/h 288.0 deg	Percentiles: P ₁ = 1 P ₁₀ = 4 Q ₁ = 6 Median = 10 Q ₃ = 16 P ₉₀ = 22 P ₉₉ = 30	Percent Operational Time: 100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	NNW5	NW6	WNW7	NW6	NW6	NNW4	NNW5	N8	N9	NNW9	N11	N10	NNW9	NNW9	N8	NNE9	N9	N8	NNW8	NNW8	N10	N10	N11	NNW9	NNW7.6	N11
2-Jan	NW7	NW5	NNW8	NW6	NW6	WNW5	W3	WSW3	WSW3	WSW3	SW2	S4	S5	SSW5	S4	SE4	SE3	ESE1	WSW2	SSW1	S3	SE2	SE5	SSE4	WSW1.2	NNW8
3-Jan	S4	SSE3	SSE2	SSE2	SSE1	SE3	SSE5	SSE5	SE7	SSE6	SE7	SE9	SE10	SE12	SE10	SE10	SE13	SE15	SE16	SE16	ESE16	SE16	SE18	SE16	SE9.0	ESE18
4-Jan	SE16	SE15	ESE19	SE15	ESE17	ESE19	SE18	SE15	SE13	ESE14	SE13	SE14	SE15	ESE13	ESE12	ESE13	ESE14	ESE11	SE9	SE10	SE9	ESE6	SE2	NNW1	SE12.6	ESE19
5-Jan	WNW3	NNW7	NNW12	NNW13	NNW14	NNW14	NNW15	N15	N12	NNW11	NNW11	N13	NNW11	NNW10	N7	N8	N8	NNE10	NNE8	NNW5	W3	S4	SSW5	NNW8.8	NNW15	
6-Jan	S4	SE7	SE9	SE9	SE9	SE10	ESE11	SE13	SE12	ESE11	SE10	SE10	SE9	SE8	SE8	SE8	SE6	SE8	SSE8	S11	S9	S10	SE6	SSE6	SE8.3	SE13
7-Jan	S7	SSW7	S7	SSE8	S8	S6	SSE8	SSE7	SE7	S10	SSE9	SSW13	SW18	SW20	SW19	SW20	SW20	SW22	SW17	WSW15	WSW17	WSW19	WSW19	WSW17	SW11.7	SW22
8-Jan	WSW18	WSW17	WSW22	W26	W17	WSW13	WSW14	WSW10	WSW10	WSW11	WSW15	WSW16	WNW24	WNW28	NW25	NW20	NW17	WNW16	W8	WNW12	WNW11	NW17	WNW20	WNW17	W15.4	WNW28
9-Jan	WNW20	WNW23	WNW20	NW16	N16	N14	N13	NNE14	NNE12	NNE11	N7	NNW5	ENE4	SSE5	SSE6	SE6	SE8	SE10	SE10	SE12	SE15	SE15	SE14	SE14	NNE2.5	WNW23
10-Jan	SE18	SE19	SE17	SE15	SE13	SE9	SE3	ESE3	SSE6	ESE4	SSE4	E3	SSE1	NE5	N8	N16	NNW19	N18	N19	N18	N20	N18	N19	N16	NE5.3	N20
11-Jan	N15	N16	N16	NNW20	N17	N16	N16	N14	N12	N13	N12	N13	N13	N11	NNW9	NNW9	NNW4	WNW4	W4	W4	S3	SSW6	SSW7	SW6	NNW8.8	NNW20
12-Jan	S6	SSE8	SSE7	SSE6	SSE7	SSE6	SE7	SE5	SSE4	SSE5	SSE8	SSE7	SE6	SE7	SSE6	SSE5	SSE7	SSE7	SSE6	S3	S3	SSE3	SW4	SSE2	SSE5.3	SSE8
13-Jan	SE3	SSE3	SSE4	SE6	SE6	SE7	SE8	SE7	SE7	SSE6	SE8	SE6	SSE7	S7	S9	S9	SSW11	WSW17	WSW14	WSW14	WSW14	W17	W14	W11	SSW5.9	WSW17
14-Jan	SW9	W15	SW12	SSW13	SSW8	SW11	SW14	SW13	SSW10	S9	SSW12	SW20	WSW26	WSW24	WSW20	WSW20	W28	W25	WSW19	W22	W28	W26	W26	W22	WSW16.6	W28
15-Jan	W24	WNW25	WNW20	NW17	WNW13	W12	WSW14	WSW14	W9	WSW11	W11	WSW12	W11	N11	NW6	W6	WSW9	WSW7	WSW9	WSW10	WSW7	SSE4	SW4	WNW5	W10.2	WNW25
16-Jan	NW6	NNE8	NE5	SE8	ESE10	ESE10	E11	E14	ENE14	ENE18	NE21	NE17	NNE16	NNE19	NNE23	NNE26	NNE23	N25	N23	N23	N18	N23	N26	N17	NNE13.9	N26
17-Jan	N15	N16	N14	NNW11	NNW11	N12	NNE14	NNE12	NNE13	N15	N12	N11	NNW12	N12	NNE12	N10	NNW8	NW8	NW5	N6	N9	NNW10	NW7	NW5	N10.3	N16
18-Jan	W7	W6	W6	W3	WSW3	SSW4	SW5	SW6	SW8	SW5	SSW5	SSW5	SE5	SSE6	SSE5	SSW6	SW5	SW3	S2	E1	W2	WSW4	WSW1	WSW2	SW3.5	SW8
19-Jan	WSW2	WNW4	WNW4	SSW1	SW2	WSW1	NNW9	WNW5	W6	WNW7	WNW6	WSW6	WSW5	WSW2	S2	SE3	SSE2	S3	SSW3	SW3	SSW4	SSW5	S6	S5	WSW2.4	NNW9
20-Jan	S5	SSW5	S5	SSE4	SSE5	SSE5	S5	SSE5	SSE7	SSE9	SE8	SSE7	SE6	SE8	S7	SW16	SW21	SW28	SW25	WSW23	WSW19	WSW21	WSW20	W29	SW9.2	W29
21-Jan	W31	W22	W18	W24	W29	W32	W30	W17	W19	W22	W21	WNW21	NW22	NNE18	NNE17	NNE22	NNE18	N21	N19	N16	N16	N13	NW7	WNW5	NW14.3	W32
22-Jan	WSW5	SW3	SSW5	SW8	WSW10	WNW12	NW11	NNE5	NNE3	SW3	SW4	W7	WNW13	WNW16	W13	WSW10	SSW6	S5	SSW6	S6	SSW6	SSW8	S7	SSE8	WSW4.8	WNW16
23-Jan	SSE8	SSE8	S8	SSW9	SW16	WSW15	WSW15	WSW16	WSW14	WSW17	WSW13	WSW12	W16	W17	WNW22	WNW23	WNW20	WNW22	WNW19	WNW21	WNW27	W22	WSW20	W23	W14.1	WNW27
24-Jan	W22	W22	WNW23	NW30	NW31	NNW36	NNW37	NNW43	N27	NNW24	NW22	NW22	NNW23	NW21	NW15	NW13	WNW5	SW8	SSW6	SSW6	NW2	WNW7	W6	SW10	NW16.4	NNW43
25-Jan	SSW8	SSW12	SW12	SW5	S6	SSW10	SW9	SW10	SW15	WSW17	WSW20	WSW15	SW12	WSW10	WSW10	WSW9	WNW11	W11	WSW11	SW7	SW11	SSW10	SSW10	SW11	SW10.1	WSW20
26-Jan	SW11	SW13	SW15	SW12	WSW16	WSW15	WSW16	SW16	SW12	SW11	SW11	WSW11	SW12	SW14	SW11	WSW12	W11	WNW9	WNW15	WNW10	WNW11	WNW12	W6	W10	WSW10.9	SW16
27-Jan	WSW9	WSW11	W12	W11	W8	W10	WSW11	WSW8	SW7	WSW14	SW15	SW10	SW10	WSW20	WSW24	SW21	SW22	SW20	W13	WNW23	WNW19	W17	WNW24	NW31	W13.6	NW31
28-Jan	WNW28	WNW27	WNW28	WNW25	WNW25	W25	WNW26	WNW21	W21	W22	WNW23	WNW29	NW28	NW24	NW30	NW17	NW8	W7	WNW4	SW4	W5	W9	W12	W13	WNW18.6	NW30
29-Jan	W13	WNW11	W7	WSW6	S3	SSW3	ESE2	WSW5	W5	S1	E1	N7	N14	N16	N17	N19	N21	N21	N23	N25	N23	N21	N22	N19	N10.2	N25
30-Jan	N17	N17	N15	NNE16	NNE15	N8	N7	NNE13	N10	NNW8	NNW11	N13	N13	NNW9	N8	NNW8	NNW7	N6	N7	N6	NNE4	NNW4	NNW5	N6	N9.6	N17
31-Jan	N8	N6	NNE6	N7	N7	NNE8	N9	N9	N10	N10	N10	N11	N13	N13	NNW12	N14	N13	N13	N13	NNE13	NNE10	NNE10	N12	N14	N10.4	N14

W5.2 W5.1 W4.6	NNW4.8	NNW3.8	NNW3.9	NNW3.9	NNW3.0	NNW2.5	W2.8	W3.1	NNW3.8	NNW4.7	NNW4.7	NNW4.7	NNW4.3	NNW4.7	NNW4.1	NNW4.2	NNW4.5	NNW4.8	NNW5.0	NNW5.5											Diurnal Average			
W31	WNW27	WNW28	NW30	NW31	NNW36	NNW37	NNW43	N27	NNW24	WNW23	WNW29	NW28	WNW28	NW30	NNE26	W28	SW28	SW25	N25	W28	W26	W26	NW31											Diurnal Maximum

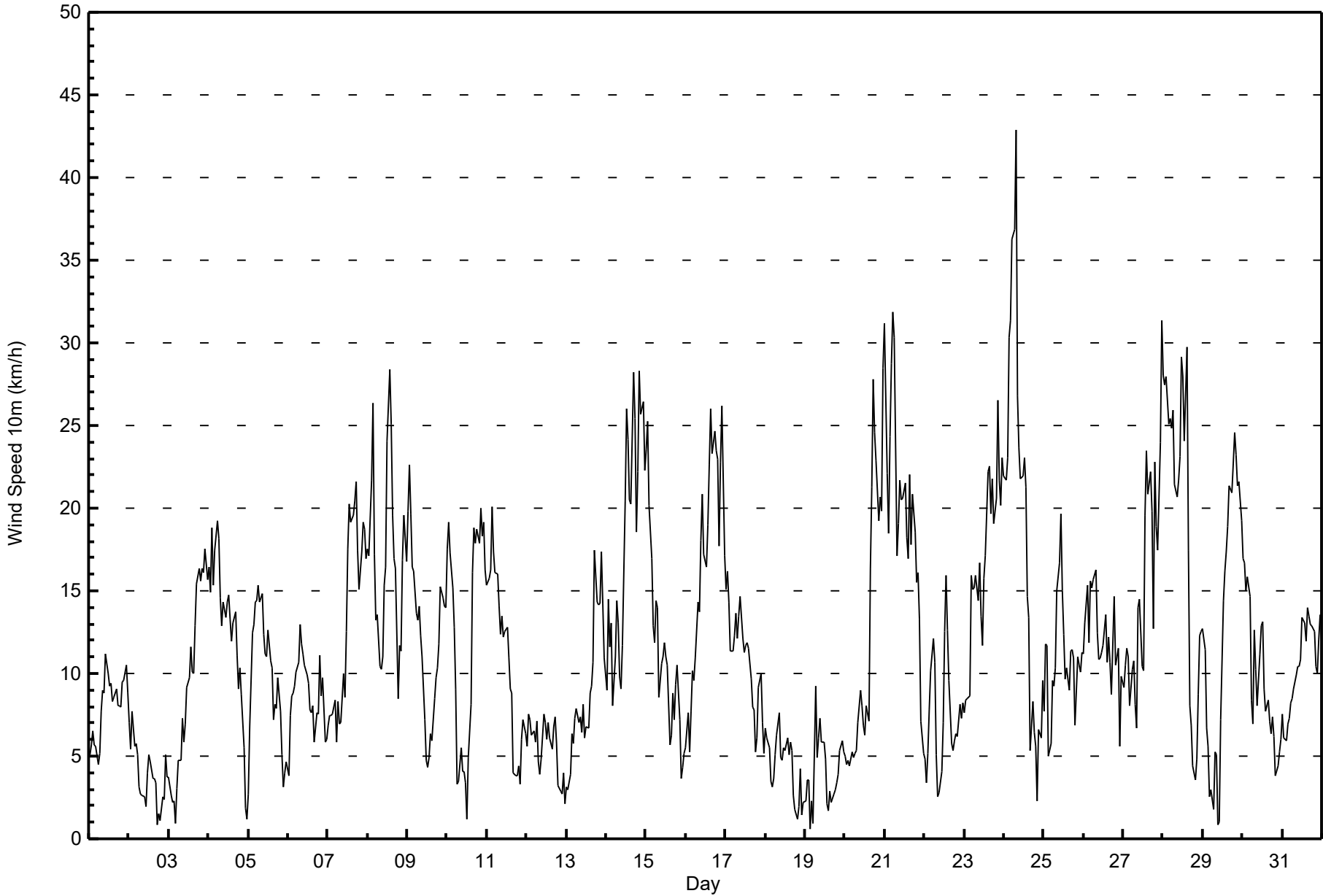
All monthly, daily, and diurnal averages have been calculated using vector methods



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Speed 10m (WS10) - km/h
Patricia McInnes - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 10 km/h on Jan 24 07:00 Minimum Value: 1 km/h on Jan 19 17:00 Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 2 Median = 2 Q ₃ = 3 P ₉₀ = 5 P ₉₉ = 6																	Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0								
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	1	1	1	1	1	1	1	2	1	2	2	2	1	2	1	2	2	2	1	2	2	2	2	2	2
2-Jan	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1
3-Jan	1	1	1	1	1	1	2	2	2	2	3	2	2	3	3	2	3	3	4	4	4	3	3	3	4
4-Jan	3	3	4	4	4	3	4	4	3	3	3	3	3	3	3	3	3	3	3	3	2	2	1	1	1
5-Jan	1	2	2	3	3	3	3	2	3	2	2	2	2	2	2	1	2	2	2	2	1	1	1	1	3
6-Jan	1	2	2	2	2	2	3	3	3	3	2	2	2	2	2	2	2	2	3	2	2	2	2	2	3
7-Jan	2	1	1	1	2	2	1	1	1	1	1	3	5	4	4	4	4	4	3	3	3	4	4	3	5
8-Jan	3	3	3	5	5	3	3	2	2	2	2	4	5	6	6	4	3	5	2	3	3	5	4	4	6
9-Jan	4	4	3	4	4	3	3	3	2	2	2	1	2	2	2	2	2	2	3	3	4	3	3	3	4
10-Jan	4	4	4	3	3	2	2	2	2	1	1	1	1	2	3	3	3	3	4	4	4	4	3	3	4
11-Jan	4	3	3	4	4	3	3	3	3	3	2	3	2	2	2	2	2	2	2	2	2	2	2	2	4
12-Jan	2	2	2	1	2	1	1	1	1	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	2
13-Jan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	3	3	2	2	2	2	2	3	3
14-Jan	3	3	2	2	1	3	3	3	3	2	4	5	5	5	4	5	5	4	4	4	5	4	4	4	5
15-Jan	4	5	5	4	3	2	2	2	4	2	3	2	3	3	2	4	1	1	1	1	2	2	1	2	5
16-Jan	1	5	2	3	2	2	3	3	3	4	4	4	3	4	5	5	5	5	6	5	5	6	6	5	6
17-Jan	4	3	3	2	2	3	3	3	3	3	2	2	2	2	2	1	1	2	2	2	1	2	1	4	4
18-Jan	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	2
19-Jan	1	1	1	1	1	1	3	2	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	3
20-Jan	1	1	1	1	1	1	1	2	2	2	2	2	1	2	4	5	6	5	5	5	4	4	3	6	6
21-Jan	5	5	4	5	5	5	7	5	4	4	4	4	4	5	4	4	5	4	4	3	4	3	1	1	7
22-Jan	1	1	1	2	1	3	3	2	1	1	1	4	2	4	3	3	1	1	1	1	2	1	1	1	4
23-Jan	1	2	2	2	4	3	3	3	2	4	5	3	4	4	5	5	4	4	4	5	6	3	3	5	6
24-Jan	4	4	5	7	7	8	10	9	7	5	4	5	4	4	3	3	2	2	2	2	1	1	2	10	10
25-Jan	2	3	2	2	1	2	2	2	2	3	3	4	3	3	2	2	4	3	3	2	2	2	2	2	4
26-Jan	2	2	2	2	3	3	3	3	2	2	2	2	3	3	2	4	3	2	3	2	2	2	1	2	4
27-Jan	2	1	2	2	3	2	1	2	1	3	3	3	2	5	4	4	4	4	6	6	4	3	8	8	8
28-Jan	5	5	5	4	5	4	5	4	4	4	4	6	6	6	6	5	3	3	3	1	1	2	2	2	6
29-Jan	2	1	2	2	1	2	1	2	2	2	1	3	3	4	3	3	4	4	5	5	4	4	4	4	5
30-Jan	3	4	3	4	3	5	2	4	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	5
31-Jan	2	1	1	2	2	2	2	2	2	2	2	2	3	2	2	3	3	2	2	2	2	2	2	2	3
																	Diurnal Maximum								





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 10m (WS10) - km/h
Patricia McInnes - January 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	140	18.82	18.82
6 - 11	277	37.23	56.05
12 - 19	214	28.76	84.81
20 - 28	100	13.44	98.25
29 - 38	12	1.61	99.87
> 38	1	0.13	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Wind Speed 10m (WS10) - km/h
Patricia McInnes - January 2025**

Wind Speed Ranges (km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	0	3	2	1	3	4	11	24	20	13	13	15	8	10	4	9	140
6 - 11	38	9	0	0	1	6	43	30	19	18	20	22	22	11	13	25	277
12 - 19	54	16	1	2	1	11	27	0	0	4	19	34	17	12	6	10	214
20 - 28	15	4	1	0	0	0	0	0	0	0	11	13	19	26	8	3	100
29 - 38	0	0	0	0	0	0	0	0	0	0	0	0	5	1	4	2	12
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Totals	107	32	4	3	5	21	81	54	39	35	63	84	71	60	35	50	744

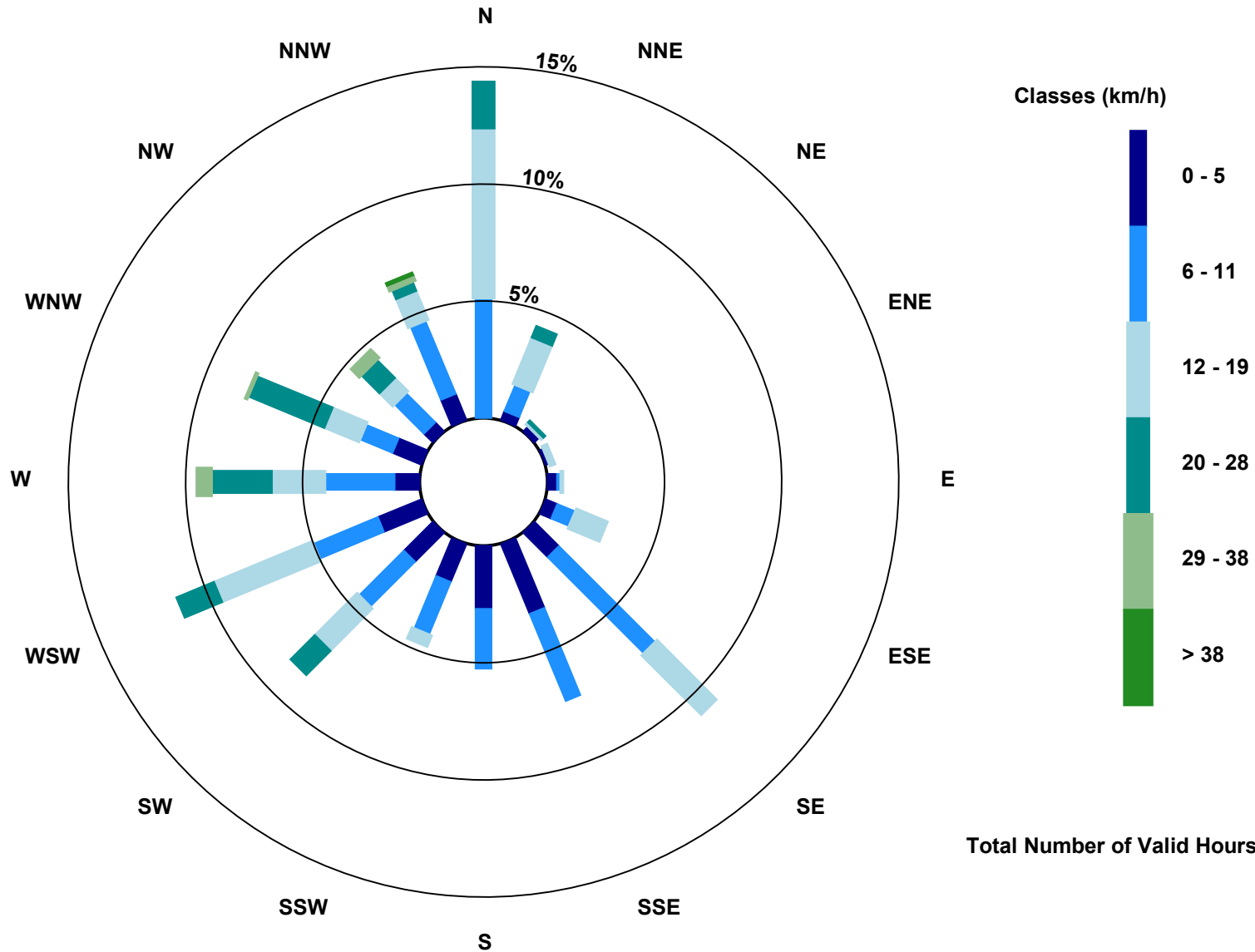
Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Wind Speed 10m (WS10) - km/h
Patricia McInnes





Wood Buffalo Environmental Association
Summary of Hour Averages

Wind Direction 10m (WD10) - deg
Patricia McInnes - January 2025

Direction of Maximum Speed: 346 deg on Jan 24 08:00	Hours in Service: 744
Direction of Maximum Daily Speed Average: 289.8 deg on Jan 28	Hours of Data: 744
Direction of Minimum Speed: 196 deg on Jan 19 04:00	Hours of Missing Data: 0
Direction of Minimum Daily Speed Average: 1.2 deg on Jan 2	Percent Operational Time: 100.0
Monthly Average Direction: 288.0 deg	

Day	Hourly Period Ending At (MST)																								Daily Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	336	318	294	311	322	330	335	350	357	344	350	3	340	346	10	12	10	360	344	344	358	357	360	344	348.0
2-Jan	323	319	342	318	304	298	267	249	254	246	235	173	185	195	176	135	131	118	253	206	174	143	141	149	243.6
3-Jan	171	158	150	163	168	142	151	153	143	153	143	139	138	137	136	131	125	124	125	128	122	124	124	130	132.9
4-Jan	125	124	120	125	123	123	128	127	126	122	124	126	130	121	117	119	121	121	127	127	126	122	127	333	123.8
5-Jan	291	336	344	347	342	344	345	341	350	350	346	346	349	346	348	350	353	3	15	13	333	272	183	201	346.1
6-Jan	170	130	129	135	125	127	123	126	133	122	130	129	140	139	133	137	133	139	157	179	182	169	137	167	139.5
7-Jan	172	200	177	168	177	174	162	163	146	169	162	208	220	228	232	235	232	228	230	239	238	238	240	242	217.0
8-Jan	243	244	253	276	277	254	257	253	256	243	244	257	286	301	318	318	304	291	275	284	293	308	292	293	279.0
9-Jan	292	300	296	306	353	352	3	15	15	18	3	344	66	156	168	128	128	134	128	126	126	130	124	128	25.8
10-Jan	126	125	130	127	132	142	142	102	168	109	158	94	166	44	359	350	348	352	355	1	355	0	6	359	37.8
11-Jan	4	1	353	347	2	350	355	350	349	353	357	7	1	349	340	335	328	295	274	279	183	205	197	215	347.6
12-Jan	173	158	167	163	155	153	140	140	154	157	153	153	141	140	151	164	151	155	157	183	169	168	235	157	157.0
13-Jan	133	161	157	134	145	138	145	144	136	151	144	146	157	174	183	186	203	242	237	242	252	262	265	259	202.8
14-Jan	229	263	226	202	197	221	223	221	200	183	208	225	239	243	248	255	275	262	247	259	267	263	265	263	245.3
15-Jan	278	289	302	311	302	281	252	252	265	255	264	258	272	281	317	268	239	249	247	252	251	152	226	284	272.7
16-Jan	324	24	55	137	112	105	85	80	60	57	54	47	27	24	18	22	13	2	3	4	352	355	356	0	25.5
17-Jan	359	11	360	331	343	6	19	21	21	11	355	351	346	354	12	359	331	318	319	357	349	338	314	319	355.4
18-Jan	278	275	262	264	258	210	225	222	223	214	195	211	145	165	163	200	215	219	187	100	259	240	243	244	220.7
19-Jan	245	287	296	196	223	253	340	302	271	286	288	248	247	251	169	129	159	174	207	217	206	195	190	182	246.0
20-Jan	177	192	172	158	161	163	173	162	152	150	146	148	130	132	182	225	228	236	236	238	238	247	252	270	219.0
21-Jan	270	265	263	272	271	272	273	278	269	266	277	296	314	14	19	13	12	8	7	8	358	352	319	300	304.0
22-Jan	248	222	197	236	254	297	324	28	27	235	220	279	287	282	271	242	194	182	210	185	194	197	180	156	245.4
23-Jan	163	162	180	201	230	239	243	251	251	240	253	256	267	278	285	291	300	302	299	297	292	272	257	274	266.9
24-Jan	278	277	290	310	324	341	342	346	352	344	323	325	333	325	319	308	287	229	209	208	309	294	271	235	318.9
25-Jan	209	212	216	214	186	208	219	221	234	241	246	243	234	251	249	245	292	268	254	230	219	209	200	220	232.4
26-Jan	223	225	228	221	238	239	243	231	233	230	225	237	230	219	218	256	266	296	288	286	288	300	270	280	245.9
27-Jan	246	256	276	274	277	263	252	251	232	248	228	231	219	239	243	229	235	230	265	290	289	278	301	309	260.0
28-Jan	299	294	291	285	284	281	285	284	269	278	284	294	304	309	311	321	318	268	301	236	274	262	266	266	289.8
29-Jan	281	286	275	246	172	201	116	237	267	185	86	8	359	4	6	3	2	353	360	358	4	2	358	6	351.1
30-Jan	6	5	7	15	13	4	2	14	350	334	348	359	3	348	352	348	346	355	355	350	16	328	332	5	359.3
31-Jan	8	358	19	8	10	13	0	355	2	357	4	4	11	358	348	359	1	7	354	13	26	21	357	1	4.2

274.3 278.3 276.2 281.6 288.2 285.8 290.9 299.6 287.8 278.3 273.7 283.6 295.7 299.4 304.1 305.3 298.0 286.1 290.5 293.0 292.0 284.3 282.3 283.0
 Diurnal Average

All monthly, daily, and diurnal averages have been calculated using vector methods



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

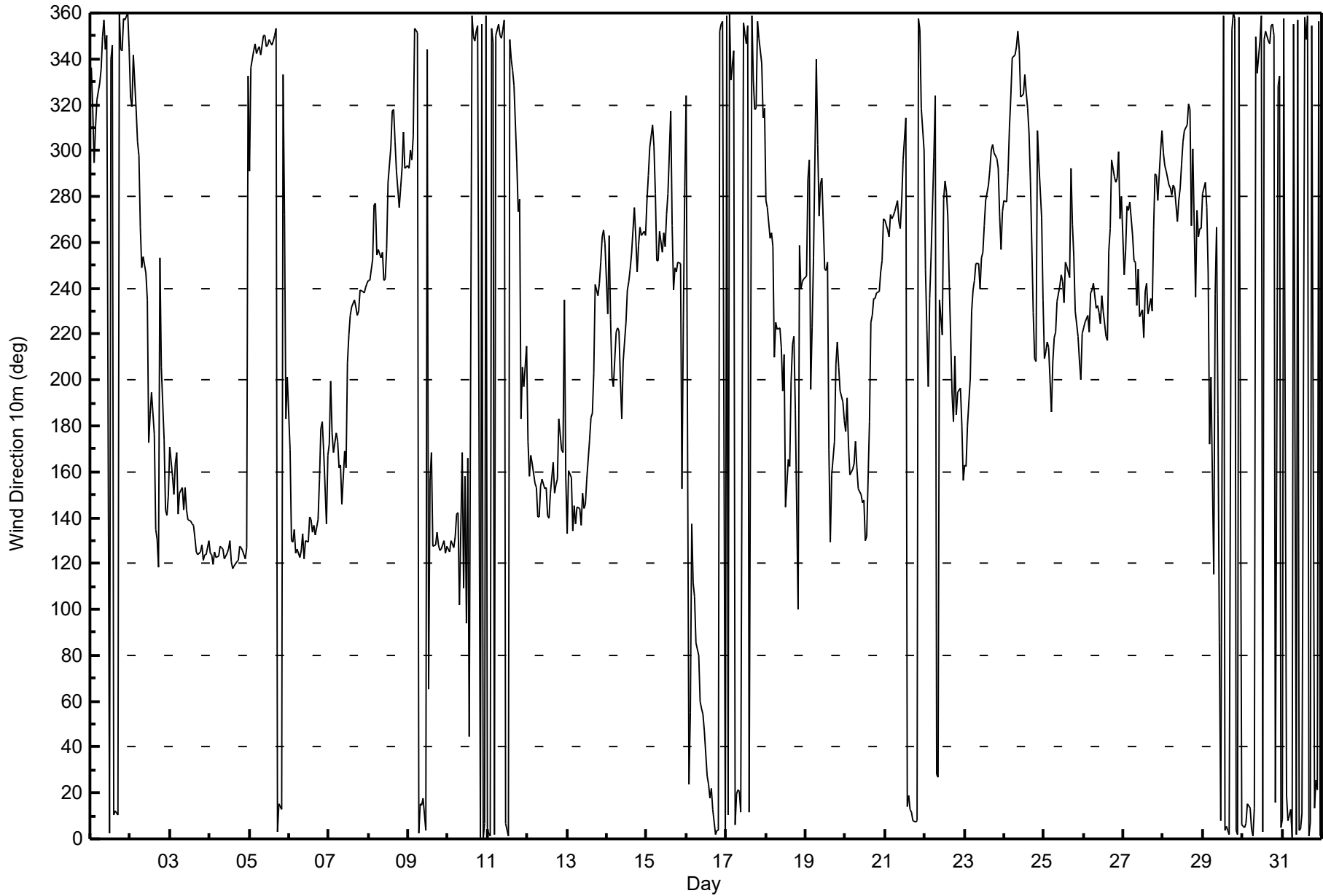
Wind Direction 10m (WD10) - deg
Patricia McInnes - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 86 deg on Jan 3 05:00	Hours of Data: 462
Minimum Value: 4 deg on Jan 2 05:00	Hours of Missing Data: 282
Percentiles: P ₁ = 7 P ₁₀ = 10 Q ₁ = 12 Median = 14 Q ₃ = 18 P ₉₀ = 28 P ₉₉ = 76	Hours of Calibration: 0
	Percent Operational Time: 62.1

Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	15	16	5	5	6	20	16	12	14	9	13	16	10	13	18	13	13	15	10	11	16	16	15	14	20
2-Jan	7	14	10	15	4	7	16	21	23	22	38	31	18	21	24	26	16	76	25	48	42	21	12	12	76
3-Jan	13	17	25	18	86	21	26	17	18	16	17	13	13	15	14	14	12	11	12	12	11	10	10	12	86
4-Jan	12	12	10	12	13	12	13	14	15	13	13	14	14	12	14	13	12	13	17	14	15	28	66	81	81
5-Jan	33	21	11	11	10	11	12	10	14	12	11	13	13	14	10	13	18	15	13	15	20	26	33	25	33
6-Jan	37	15	13	14	14	14	12	12	14	16	15	14	15	17	15	14	16	14	21	13	19	15	26	27	37
7-Jan	26	15	12	13	11	34	17	19	18	12	13	17	13	10	14	11	10	10	10	11	11	11	11	10	34
8-Jan	10	9	9	13	14	13	12	15	21	10	8	20	12	11	11	11	10	10	15	12	23	13	11	11	23
9-Jan	10	10	11	25	14	16	17	13	13	12	26	33	35	36	29	17	14	15	14	14	12	13	13	15	36
10-Jan	11	11	12	12	16	14	68	76	25	28	29	29	76	35	15	12	12	14	15	17	14	14	14	15	76
11-Jan	14	15	15	12	16	13	14	13	14	14	15	14	16	15	16	9	61	55	45	36	74	29	18	25	74
12-Jan	29	16	16	15	14	14	14	17	15	23	14	19	17	19	15	19	15	28	22	20	37	26	20	66	66
13-Jan	24	15	21	15	12	14	14	15	16	18	16	17	20	20	23	13	22	10	10	9	8	7	7	14	24
14-Jan	21	10	16	10	9	12	12	13	20	15	23	13	11	11	10	12	10	10	11	12	11	10	9	9	23
15-Jan	12	12	10	10	10	24	7	7	20	15	15	9	10	14	18	48	8	12	7	9	9	52	25	26	52
16-Jan	17	32	30	21	13	13	12	11	14	12	11	12	13	12	12	10	17	16	17	15	16	16	17	15	32
17-Jan	16	14	15	13	15	14	12	11	12	14	14	14	13	15	16	18	8	6	11	13	17	9	18	26	26
18-Jan	15	12	7	14	10	17	8	20	13	19	20	21	36	27	22	16	16	68	42	80	23	9	49	44	80
19-Jan	69	18	11	61	36	60	15	19	10	9	16	7	15	39	69	21	20	15	12	12	18	14	11	18	69
20-Jan	10	10	12	15	13	15	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	15
21-Jan	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	--
22-Jan	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	--
23-Jan	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	--
24-Jan	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	--
25-Jan	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	--
26-Jan	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	--
27-Jan	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	--
28-Jan	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	--
29-Jan	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	--
30-Jan	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	--
31-Jan	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	--
	69	32	30	61	86	60	68	76	25	28	38	33	76	39	69	48	61	76	45	80	74	52	66	81	

Diurnal Maximum

NF - Not Flagged





WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS07 ATHABASCA VALLEY JANUARY 2025

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

February 28, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - ATHABASCA VALLEY (AMS07)

JANUARY 2025

MONTHLY SUMMARY

Parameter	Hours of Data	Hours of Calibration	Hours without Data	Operational Time	Maximum 30-Min Value	30-Min Exceedances	Maximum 1-Hour Value	1-Hour Exceedances	Maximum 24-Hour Value	24-Hour Exceedances
SO2 (ppb) Average	706	36	38	99.73	-	-	6.1	0	1.5	0
TRS (ppb) Average	707	37	37	100	1.4	0	1.3	0	0.6	0
THC (ppm) Average	658	36	86	93.28	-	-	2.4	-	2.1	-
NMHC (ppm) Average	658	36	86	93.28	-	-	0.082	-	0.008	-
CH4(ppm) Average	658	36	86	93.28	-	-	2.4	-	2.1	-
O3 (ppb) Average	706	36	38	99.73	-	-	48.8	0	40.2	-
NO2 (ppb) Average	704	38	40	99.73	-	-	38.2	0	20.3	-
NO (ppb) Average	704	38	40	99.73	-	-	40.2	-	9.8	-
NOX (ppb) Average	704	38	40	99.73	-	-	71.6	-	30.1	-
PM2.5 (ug/m3) Average	742	2	2	100	-	-	32.5	0	12	0
CO(ppm) Average	706	36	38	99.73	-	-	0.5	0	0.2	-
Temperature 2 m (C) Average	744	0	0	100	-	-	7.5	-	2.4	-
Relative Humidity (%) Average	744	0	0	100	-	-	94.7	-	84.8	-
Barometric Pressure (inHg) Average	744	0	0	100	-	-	30	-	29.9	-
Wind Speed 10 m (km/h) Average	744	0	0	100	-	-	42	-	19	-
Wind Direction 10 m (deg) Average	744	0	0	100	-	-	-	-	-	-

Note : Operational time includes periods of data collection and instrument calibration

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - ATHABASCA VALLEY (AMS07)
 JANUARY 2025

MONTHLY SUMMARY FOR AIR QUALITY/ METEOROLOGICAL MONITORING MEASUREMENTS

Parameter	Number	Mean	StnDev	Total	Percentile						
					Min	P10	Q1	Median	Q3	P90	Max
SO2 (ppb) Average	706	0.38	0.7	-	0	0	0.1	0.2	0.3	0.8	6.1
TRS (ppb) Average	707	0.23	0.1	-	0	0.1	0.1	0.2	0.3	0.4	1.3
THC (ppm) Average	658	2.05	0.1	-	1.9	2	2	2	2.1	2.1	2.4
NMHC (ppm) Average	658	0.001	0.007	-	0	0	0	0	0	0	0.082
CH4(ppm) Average	658	2.05	0.1	-	1.9	2	2	2	2.1	2.1	2.4
O3 (ppb) Average	706	24.21	10.3	-	1.9	11.3	15.6	23.8	32.7	38.7	48.8
NO2 (ppb) Average	704	9.3	6.9	-	0.4	2.1	4.2	7.9	12.2	18.7	38.2
NO (ppb) Average	704	2.97	4.8	-	0	0	0.2	1.3	3.8	7.5	40.2
NOX (ppb) Average	704	12.27	10.9	-	0.4	2.2	4.7	9.3	15.9	24.7	71.6
PM2.5 (ug/m3) Average	742	4.41	3.2	-	0.4	1.4	2.7	3.9	5.2	7.7	32.5
CO(ppm) Average	706	0.16	0.1	-	0.1	0.1	0.1	0.1	0.2	0.2	0.5
Temperature 2 m (C) Average	744	-12.64	11.1	-	-37.5	-28.9	-20.7	-12.4	-3.7	1.8	7.5
Relative Humidity (%) Average	744	71.31	9.7	-	36.7	59.9	66.9	71.4	77.4	83.4	94.7
Barometric Pressure (inHg) Average	744	29.2	0.4	-	28.5	28.7	28.9	29.2	29.5	29.7	30
Wind Speed 10 m (km/h) Average	744	10.1	7	-	0	3	5	9	14	20	42
Wind Direction 10 m (deg) Average	744	-	-	-	-	-	-	-	-	-	-

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - ATHABASCA VALLEY (AMS07)
JANUARY 2025

OPERATIONAL NOTES

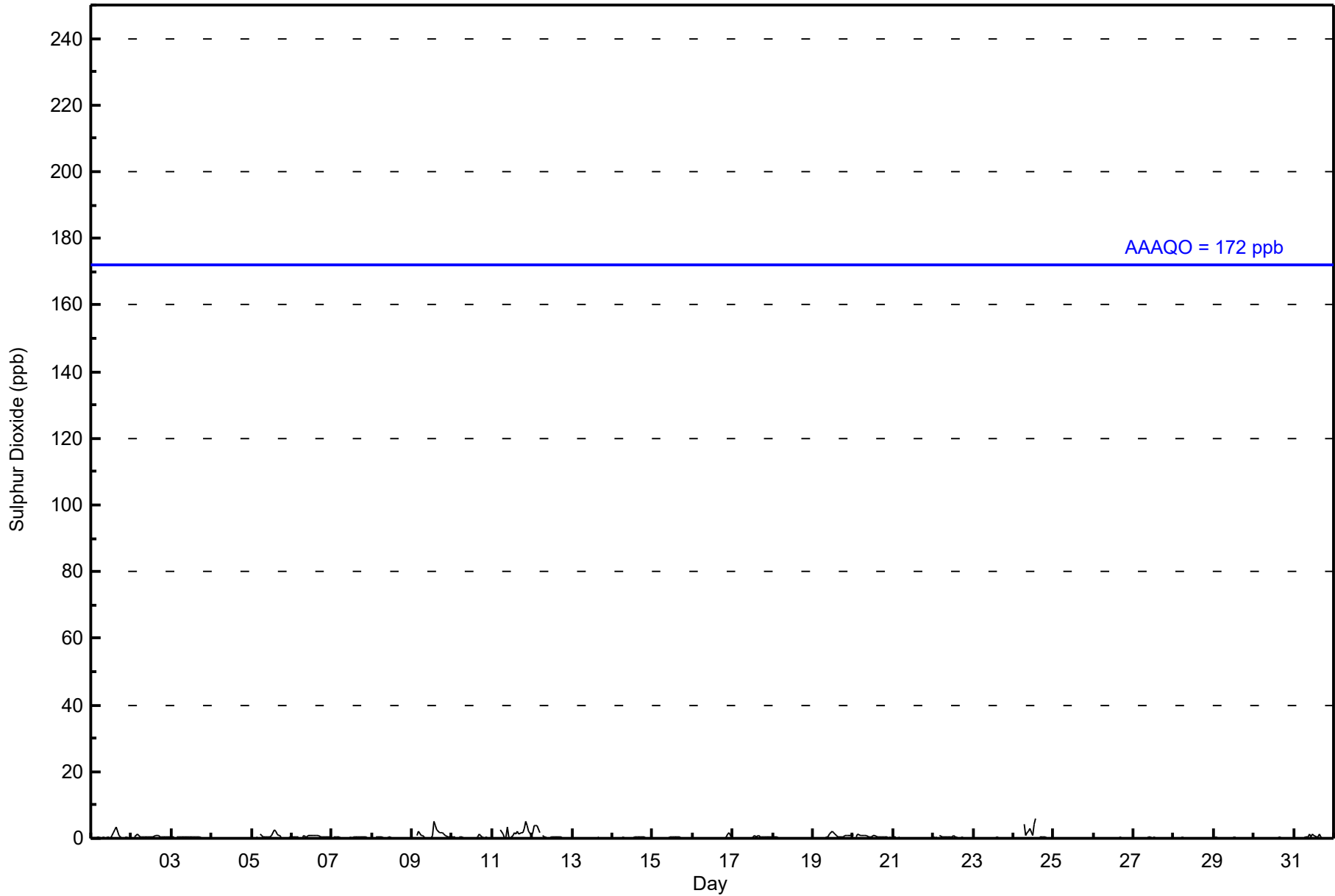
Parameter	Period Start	Period End	Duration (Hours)	Notes
ALL GASEOUS ANALYZERS	24 Jan 2025 15:00	24 Jan 2025 16:00	2	Maintenance - sample manifold cleaned
THC/NMHC/CH4	03 Jan 2025 13:00	03 Jan 2025 13:00	1	Unstable Operations - excessive baseline noise
THC/NMHC/CH4	03 Jan 2025 20:00	03 Jan 2025 21:00	2	Unstable Operations - excessive baseline noise
THC/NMHC/CH4	03 Jan 2025 23:00	03 Jan 2025 23:00	1	Unstable Operations - excessive baseline noise
THC/NMHC/CH4	04 Jan 2025 05:00	04 Jan 2025 07:00	3	Unstable Operations - excessive baseline noise
THC/NMHC/CH4	04 Jan 2025 09:00	04 Jan 2025 09:00	1	Unstable Operations - excessive baseline noise
THC/NMHC/CH4	04 Jan 2025 11:00	04 Jan 2025 13:00	3	Unstable Operations - excessive baseline noise
THC/NMHC/CH4	04 Jan 2025 15:00	04 Jan 2025 15:00	1	Unstable Operations - excessive baseline noise
THC/NMHC/CH4	04 Jan 2025 17:00	04 Jan 2025 19:00	3	Unstable Operations - excessive baseline noise
THC/NMHC/CH4	04 Jan 2025 21:00	05 Jan 2025 04:00	8	Unstable Operations - excessive baseline noise
THC/NMHC/CH4	05 Jan 2025 06:00	05 Jan 2025 06:00	1	Unstable Operations - excessive baseline noise
THC/NMHC/CH4	05 Jan 2025 08:00	05 Jan 2025 10:00	3	Unstable Operations - excessive baseline noise
THC/NMHC/CH4	11 Jan 2025 21:00	11 Jan 2025 21:00	1	Unstable Operations - excessive baseline noise
THC/NMHC/CH4	11 Jan 2025 23:00	11 Jan 2025 23:00	1	Unstable Operations - excessive baseline noise
THC/NMHC/CH4	12 Jan 2025 11:00	12 Jan 2025 11:00	1	Unstable Operations - excessive baseline noise
THC/NMHC/CH4	12 Jan 2025 15:00	12 Jan 2025 21:00	7	Unstable Operations - excessive baseline noise
THC/NMHC/CH4	12 Jan 2025 23:00	13 Jan 2025 00:00	2	Unstable Operations - excessive baseline noise
THC/NMHC/CH4	13 Jan 2025 02:00	13 Jan 2025 06:00	5	Unstable Operations - excessive baseline noise
THC/NMHC/CH4	13 Jan 2025 10:00	13 Jan 2025 11:00	2	Unstable Operations - excessive baseline noise
THC/NMHC/CH4	13 Jan 2025 12:00	13 Jan 2025 13:00	2	Maintenance - replaced analyzer



Wood Buffalo Environmental Association
Summary of Hour Averages

Sulphur Dioxide (SO₂) - ppb
Athabasca Valley - January 2025

Number of Exceedences (AAAQO):		1-hr: 0	24-hr: 0	Hours in Service: 744																	744					
Maximum Value: 6.1 ppb on Jan 24 14:00		Maximum Daily Average: 1.5 ppb on Jan 11																	Hours of Data: 706							
Minimum Value: 0.0 ppb on Jan 31 04:00		Minimum Daily Average: 0.0 ppb on Jan 30																	Hours of Missing Data: 38							
Maximum Diurnal Average: 0.8 ppb at hour 14		Minimum Diurnal Average: 0.2 ppb at hour 24																	Hours of Calibration: 36							
Monthly Average: 0.38 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.3 P ₉₀ = 0.8 P ₉₉ = 3.8																	Percent Operational Time: 99.7							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	Z	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.1	0.2	0.3	0.1	1.0	1.9	2.5	3.3	0.8	0.3	0.1	0.1	0.1	0.3	0.1	0.1	0.5	3.3
2-Jan	0.0	Z	0.4	1.2	0.8	0.5	0.3	0.3	0.2	0.3	0.3	0.4	0.6	0.6	0.9	1.0	0.7	0.5	0.4	0.4	0.4	0.4	0.5	0.5	0.5	1.2
3-Jan	0.5	0.5	Z	0.5	0.5	0.4	0.4	0.4	0.4	0.3	0.2	0.3	0.4	0.5	0.4	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.3	0.5
4-Jan	0.1	0.1	0.1	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2
5-Jan	0.0	0.0	0.2	0.5	Z	1.1	0.8	0.4	0.5	0.2	0.2	0.4	0.8	2.5	2.3	1.3	1.0	0.6	0.1	0.1	0.1	0.1	0.1	0.2	0.6	2.5
6-Jan	0.3	0.4	0.4	0.3	0.3	Z	0.5	0.6	0.6	0.6	0.7	0.9	0.7	0.7	0.7	0.7	0.7	0.6	0.5	0.5	0.6	0.5	0.5	0.4	0.6	0.9
7-Jan	Z	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.1	0.2	0.3
8-Jan	0.2	Z	0.3	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.4
9-Jan	0.1	0.1	Z	0.9	2.1	0.8	0.7	0.4	0.2	0.1	0.0	0.1	0.8	5.2	3.9	2.4	1.7	1.6	1.6	1.1	0.8	0.5	0.4	0.4	1.1	5.2
10-Jan	0.3	0.3	0.3	Z	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.3	1.3	1.0	0.3	0.1	0.5	0.1	0.1	0.0	0.3	1.3
11-Jan	0.0	0.0	0.0	0.1	Z	2.7	1.3	0.1	0.3	3.3	0.2	0.1	0.7	1.5	1.4	2.3	1.3	1.5	1.8	3.0	5.2	3.7	1.9	0.9	1.5	5.2
12-Jan	1.5	3.7	3.9	3.8	1.8	Z	0.7	0.3	0.2	0.2	0.2	0.3	0.3	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.8	3.9
13-Jan	Z	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	C	C	C	C	C	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
14-Jan	0.1	Z	0.2	0.1	0.2	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.2	0.3	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4
15-Jan	0.2	0.2	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.4	0.3	0.3	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.2	0.4
16-Jan	0.0	0.0	0.0	Z	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.1	1.8	0.1	0.2	1.8
17-Jan	0.1	0.0	0.0	0.2	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.8	0.6	1.0	0.5	0.3	0.4	0.6	0.6	0.3	0.3	0.3	0.3	1.0
18-Jan	0.3	0.3	0.2	0.2	0.2	Z	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3
19-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.5	1.3	2.1	1.9	1.3	0.8	0.5	0.3	0.3	0.5	0.8	0.7	0.8	1.0	1.1	0.6	2.1
20-Jan	0.7	Z	0.6	1.2	0.9	1.0	0.9	0.9	0.8	0.6	0.4	0.5	0.7	0.7	0.6	0.5	0.4	0.3	0.4	0.3	0.2	0.2	0.2	0.2	0.6	1.2
21-Jan	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.1	0.2
22-Jan	0.3	0.2	0.5	Z	0.6	0.5	0.4	0.4	0.3	0.3	0.4	0.5	0.7	0.4	0.2	0.1	0.2	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.3	0.7
23-Jan	0.2	0.2	0.2	0.1	Z	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.1	0.2
24-Jan	0.1	0.1	0.1	0.1	0.0	Z	4.0	1.0	1.6	2.3	3.1	0.9	4.1	6.1	M	M	0.4	0.3	0.3	0.3	0.1	0.2	0.1	0.1	1.2	6.1
25-Jan	Z	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
26-Jan	0.0	Z	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
27-Jan	0.1	0.1	Z	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.3
28-Jan	0.0	0.1	0.1	Z	0.1	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
29-Jan	0.1	0.2	0.2	0.2	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.3
30-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.2
31-Jan	Z	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.6	1.4	0.6	1.2	0.9	0.3	0.6	1.4	0.6	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.4	1.4
																								Diurnal Average		
																								Diurnal Maximum		
																								0.2 0.3 0.3 0.4 0.4 0.4 0.4 0.2 0.3 0.4 0.3 0.3 0.5 0.8 0.6 0.6 0.4 0.3 0.3 0.3 0.4 0.3 0.3 0.2		
																								1.5 3.7 3.9 3.8 2.1 2.7 4.0 1.0 1.6 3.3 3.1 2.1 4.1 6.1 3.9 3.3 1.7 1.6 1.8 3.0 5.2 3.7 1.9 1.1		
Z - zerospan C - Calibration M - Maintenance																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb																										





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Athabasca Valley - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	706	100.00	100.00
11 - 20	0	0.00	100.00
21 - 60	0	0.00	100.00
61 - 110	0	0.00	100.00
111 - 172	0	0.00	100.00
> 172	0	0.00	100.00

Total Number of Valid Hours: 706

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Sulphur Dioxide (SO₂) - ppb
Athabasca Valley - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 10	10	9	10	11	16	122	73	23	41	69	67	53	32	17	43	110	706
11 - 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 - 60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61 - 110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111 - 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	10	9	10	11	16	122	73	23	41	69	67	53	32	17	43	110	706

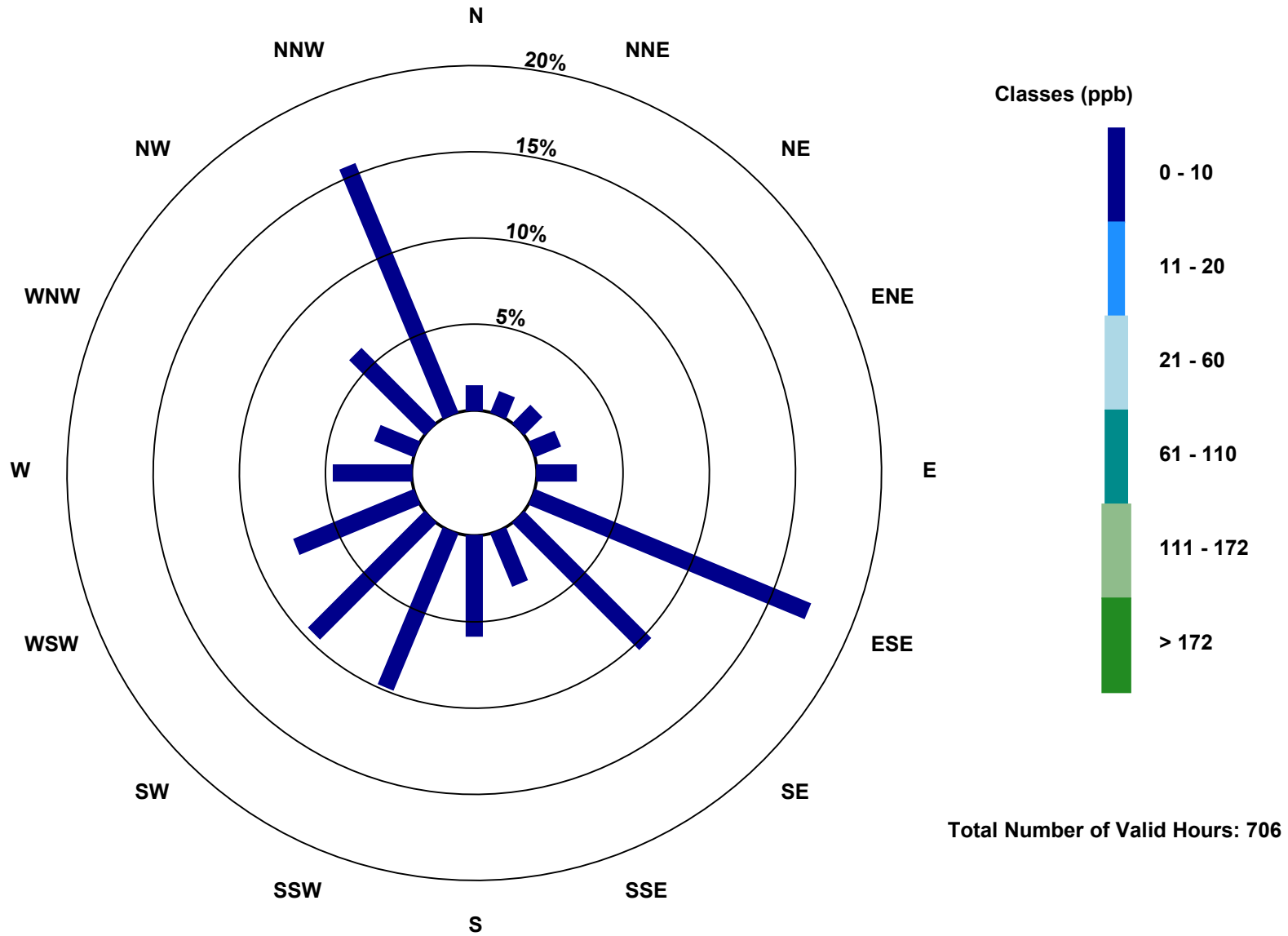
Total Number of Valid Hours: 706

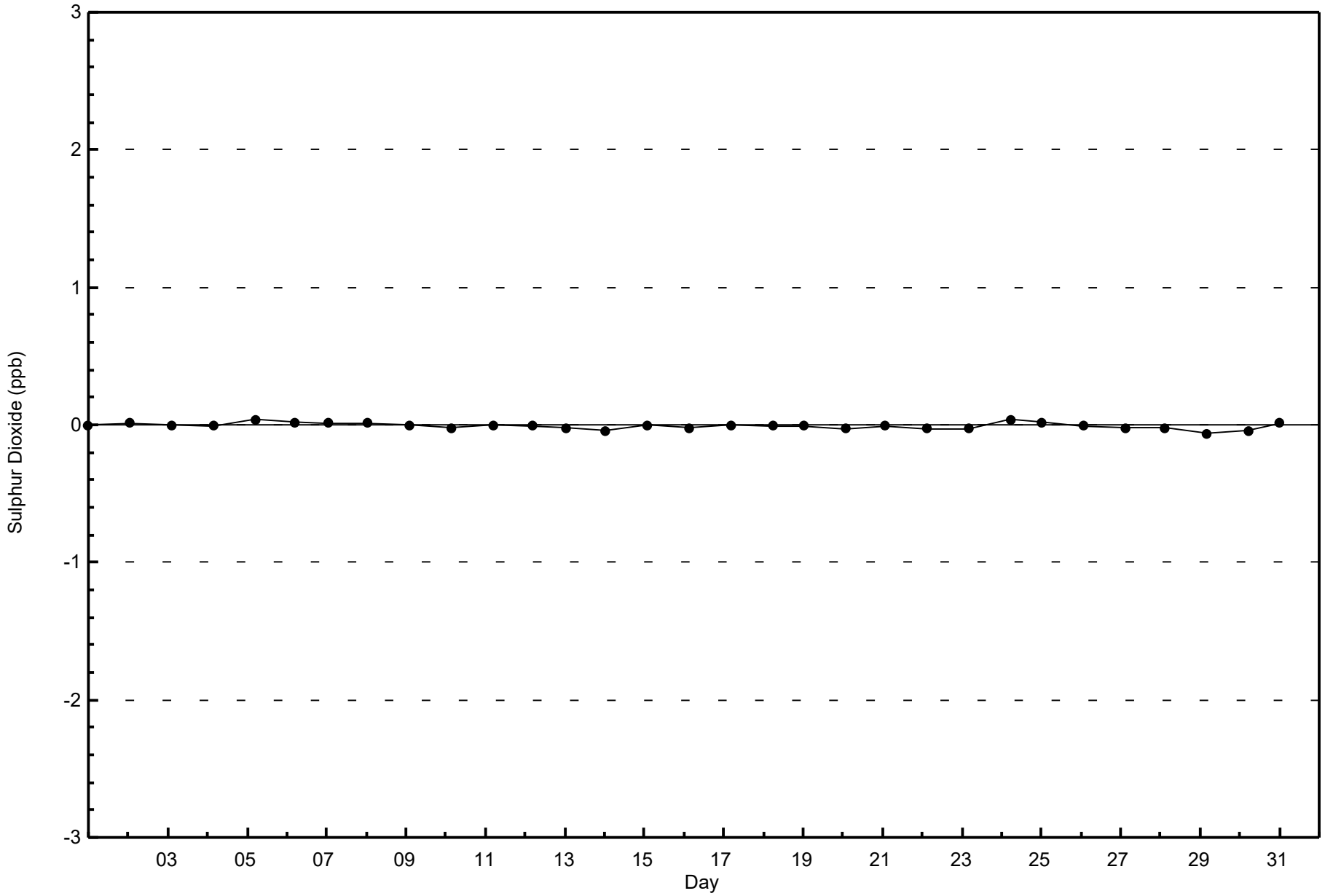
Total Number of Hours: 744

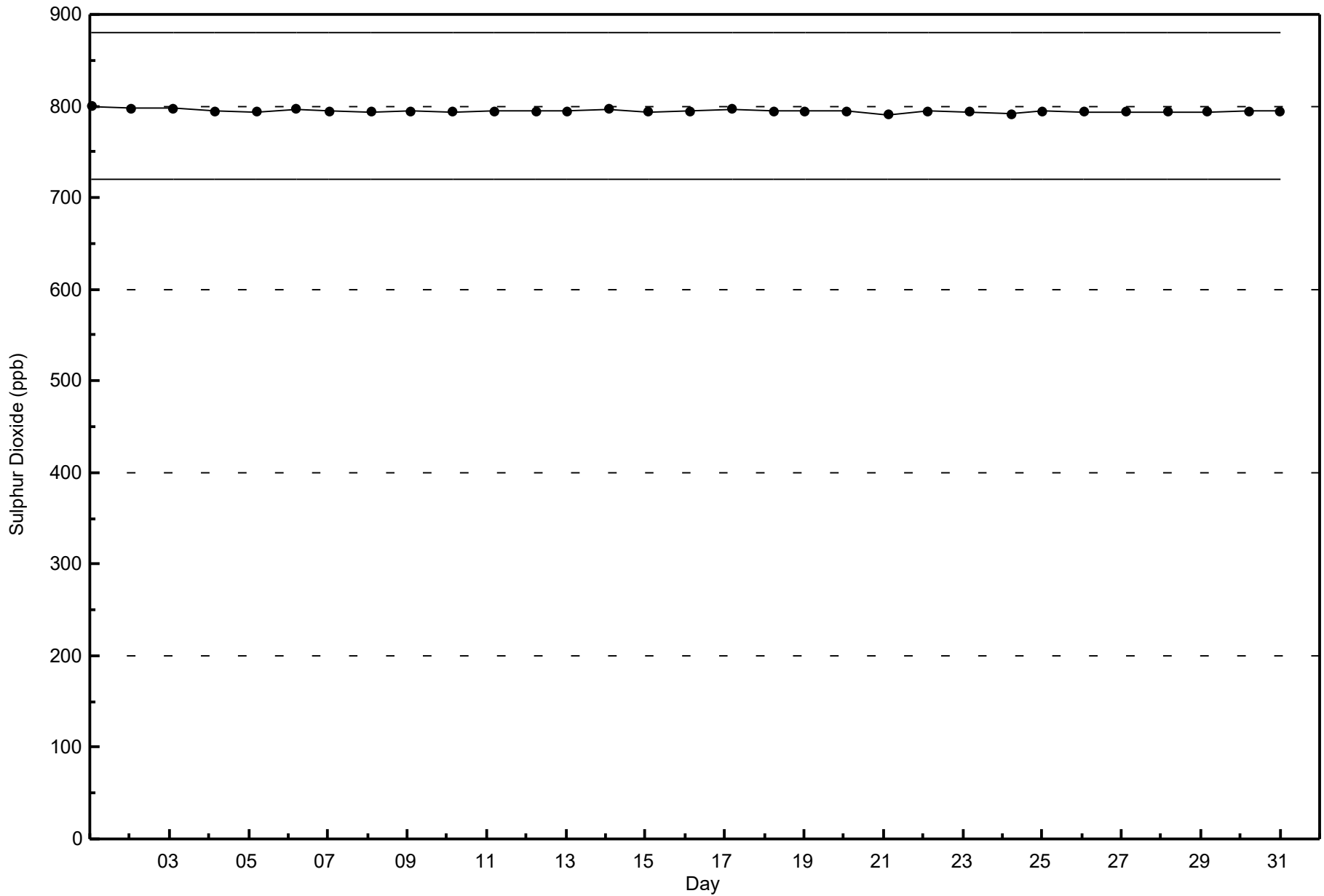


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Sulphur Dioxide (SO₂) - ppb
Athabasca Valley









Wood Buffalo Environmental Association
Summary of Hour Averages

Total Reduced Sulphur (TRS) - ppb
Athabasca Valley - January 2025

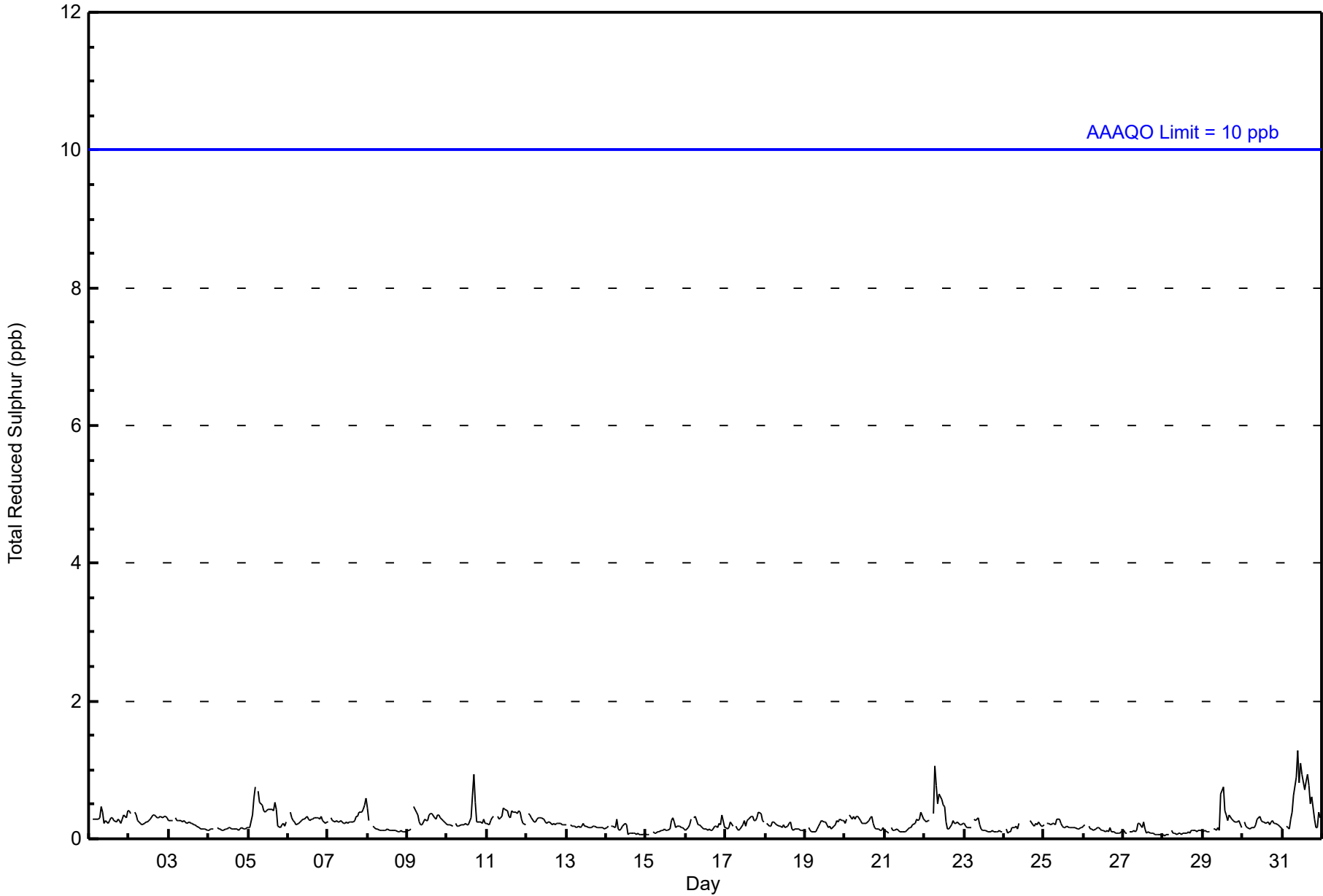
Number of Exceedences (AAAQO):		1-hr: 0	24-hr: 0	Hours in Service: 744																	Daily Average		Daily Maximum			
Maximum Value: 1.3 ppb on Jan 31 10:00		Maximum Daily Average: 0.6 ppb on Jan 31		Hours of Data: 707																						
Minimum Value: 0.0 ppb on Jan 28 02:00		Minimum Daily Average: 0.1 ppb on Jan 28		Hours of Missing Data: 37																						
Maximum Diurnal Average: 0.3 ppb at hour 12		Minimum Diurnal Average: 0.2 ppb at hour 1		Hours of Calibration: 37																						
Monthly Average: 0.23 ppb		Percentiles: P ₁ = 0.1 P ₁₀ = 0.1 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.3 P ₉₀ = 0.4 P ₉₉ = 0.8		Percent Operational Time: 100.0																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0.3	Z	0.3	0.3	0.3	0.3	0.3	0.5	0.4	0.2	0.3	0.2	0.3	0.3	0.3	0.2	0.3	0.3	0.2	0.3	0.3	0.3	0.4	0.3	0.5	
2-Jan	0.4	0.4	Z	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	
3-Jan	0.3	0.3	0.3	Z	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.3	
4-Jan	0.1	0.1	0.1	0.1	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.2	
5-Jan	0.2	0.2	0.3	0.6	0.8	Z	0.7	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.8	
6-Jan	Z	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.4	
7-Jan	0.2	Z	0.3	0.3	0.2	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.6	0.6	
8-Jan	0.5	0.3	Z	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	
9-Jan	0.1	0.1	0.1	Z	0.5	0.4	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.2	0.5	
10-Jan	0.2	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.6	0.9	0.5	0.2	0.2	0.2	0.2	0.3	0.2	0.9	
11-Jan	0.2	0.2	0.3	0.3	0.3	Z	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.2	0.2	0.4	
12-Jan	Z	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	
13-Jan	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	
14-Jan	0.2	0.2	Z	0.2	0.2	0.2	0.3	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	
15-Jan	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.3	
16-Jan	0.1	0.2	0.2	0.3	Z	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.4	0.2	0.4	
17-Jan	0.2	0.1	0.2	0.2	0.2	Z	0.2	0.1	0.1	0.1	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.2	0.2	0.4	
18-Jan	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	
19-Jan	0.1	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.3	0.3	
20-Jan	0.2	0.3	Z	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.3	
21-Jan	0.1	0.1	0.1	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.3	0.4	
22-Jan	0.3	0.2	0.3	0.3	Z	0.4	1.1	0.8	0.5	0.7	0.6	0.5	0.5	0.2	0.1	0.1	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	1.1	
23-Jan	0.2	0.2	0.2	0.2	0.2	Z	0.3	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	
24-Jan	Z	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	C	C	C	C	C	C	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	
25-Jan	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.3	
26-Jan	0.2	0.2	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	
27-Jan	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	
28-Jan	0.1	0.0	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
29-Jan	0.1	0.1	0.1	0.1	0.1	Z	0.2	0.1	0.1	0.2	0.1	0.7	0.8	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.2	0.8	
30-Jan	Z	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.3	
31-Jan	0.1	Z	0.2	0.2	0.1	0.3	0.4	0.6	0.9	1.3	0.8	1.1	0.9	0.7	0.8	0.9	0.8	0.5	0.6	0.3	0.2	0.2	0.4	0.3	1.3	
0.2																								Diurnal Average		
0.5																								Diurnal Maximum		

Z - zerospan C - Calibration
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb



Wood Buffalo Environmental Association
Hourly Averages

Total Reduced Sulphur (TRS) - ppb
Athabasca Valley - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Reduced Sulphur (TRS) - ppb
Athabasca Valley - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	707	100.00	100.00
3 - 4	0	0.00	100.00
5 - 7	0	0.00	100.00
8 - 11	0	0.00	100.00
> 11	0	0.00	100.00

Total Number of Valid Hours: 707

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Total Reduced Sulphur (TRS) - ppb
Athabasca Valley - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2	11	9	10	11	17	120	77	26	41	69	65	49	34	16	43	109	707
3 - 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 - 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 - 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	11	9	10	11	17	120	77	26	41	69	65	49	34	16	43	109	707

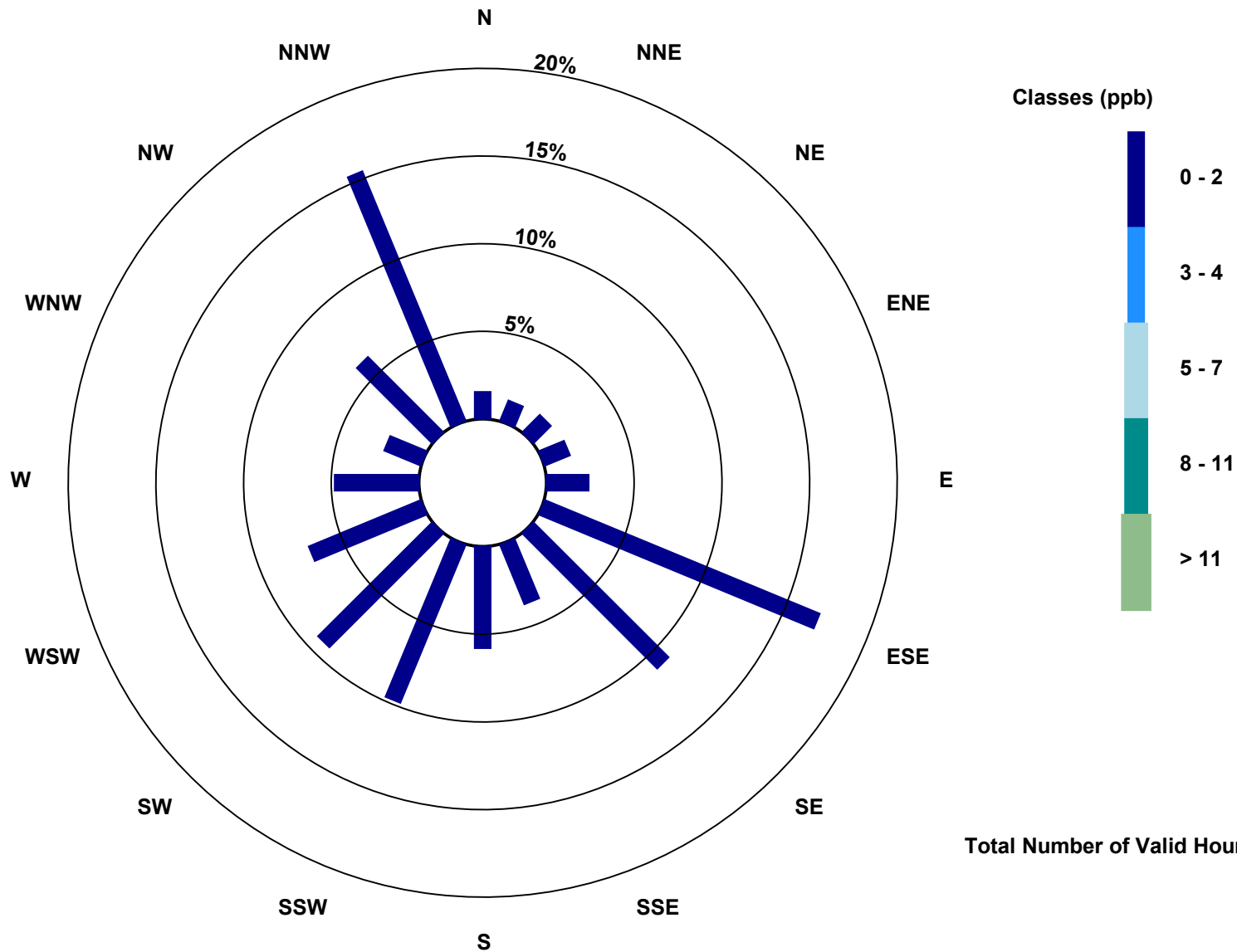
Total Number of Valid Hours: 707

Total Number of Hours: 744

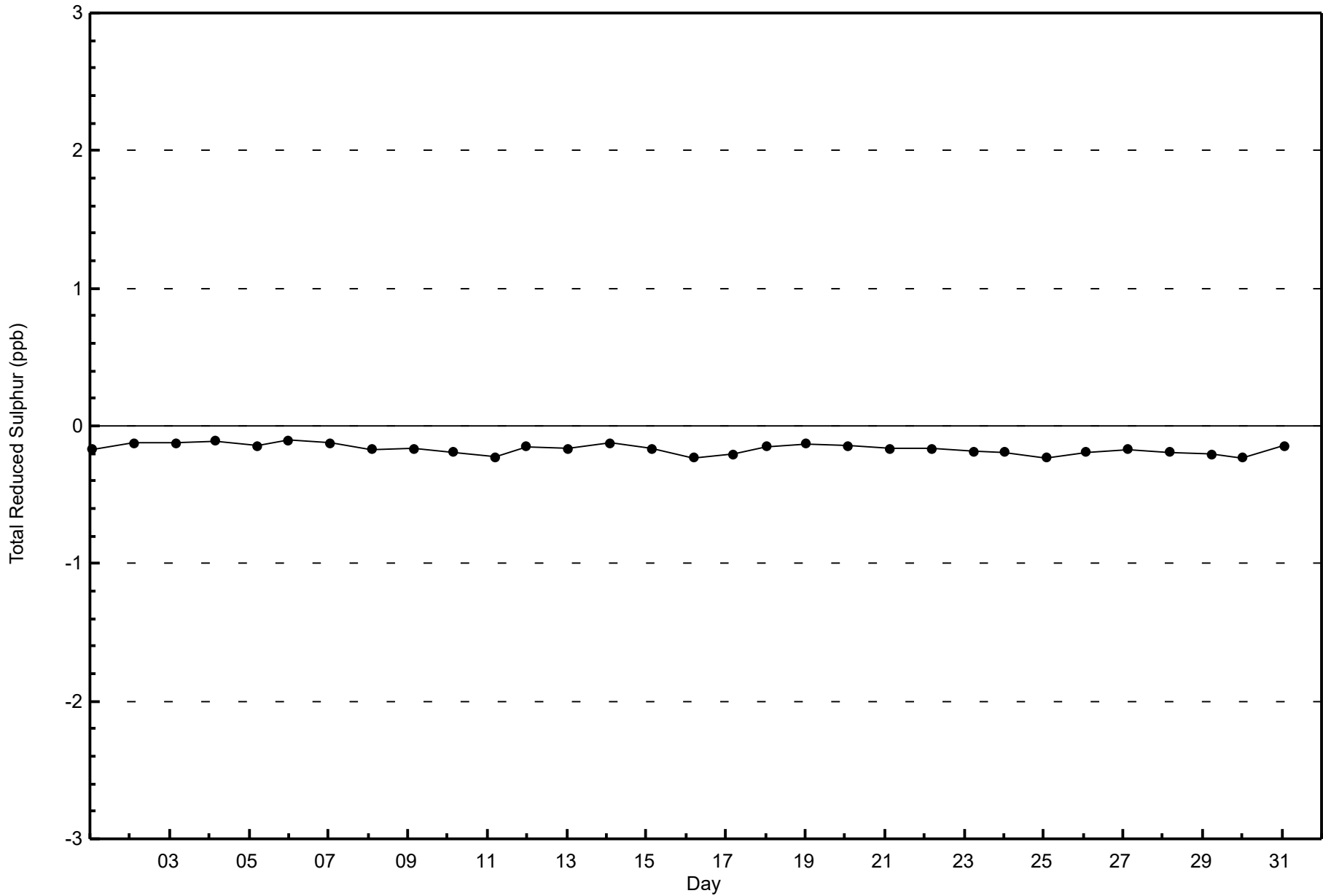


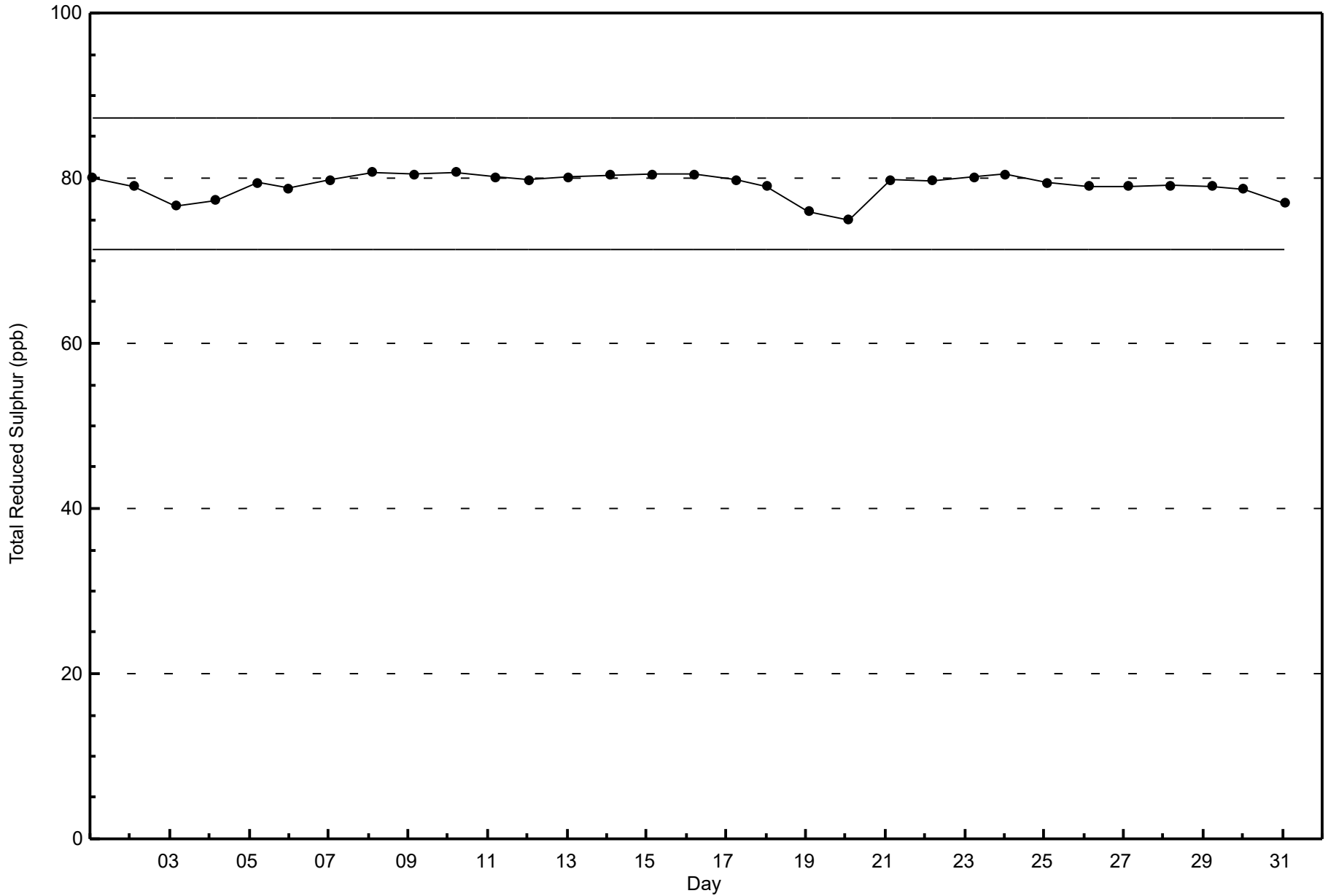
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Total Reduced Sulphur (TRS) - ppb
Athabasca Valley



Total Number of Valid Hours: 707







Wood Buffalo Environmental Association
Summary of Hour Averages

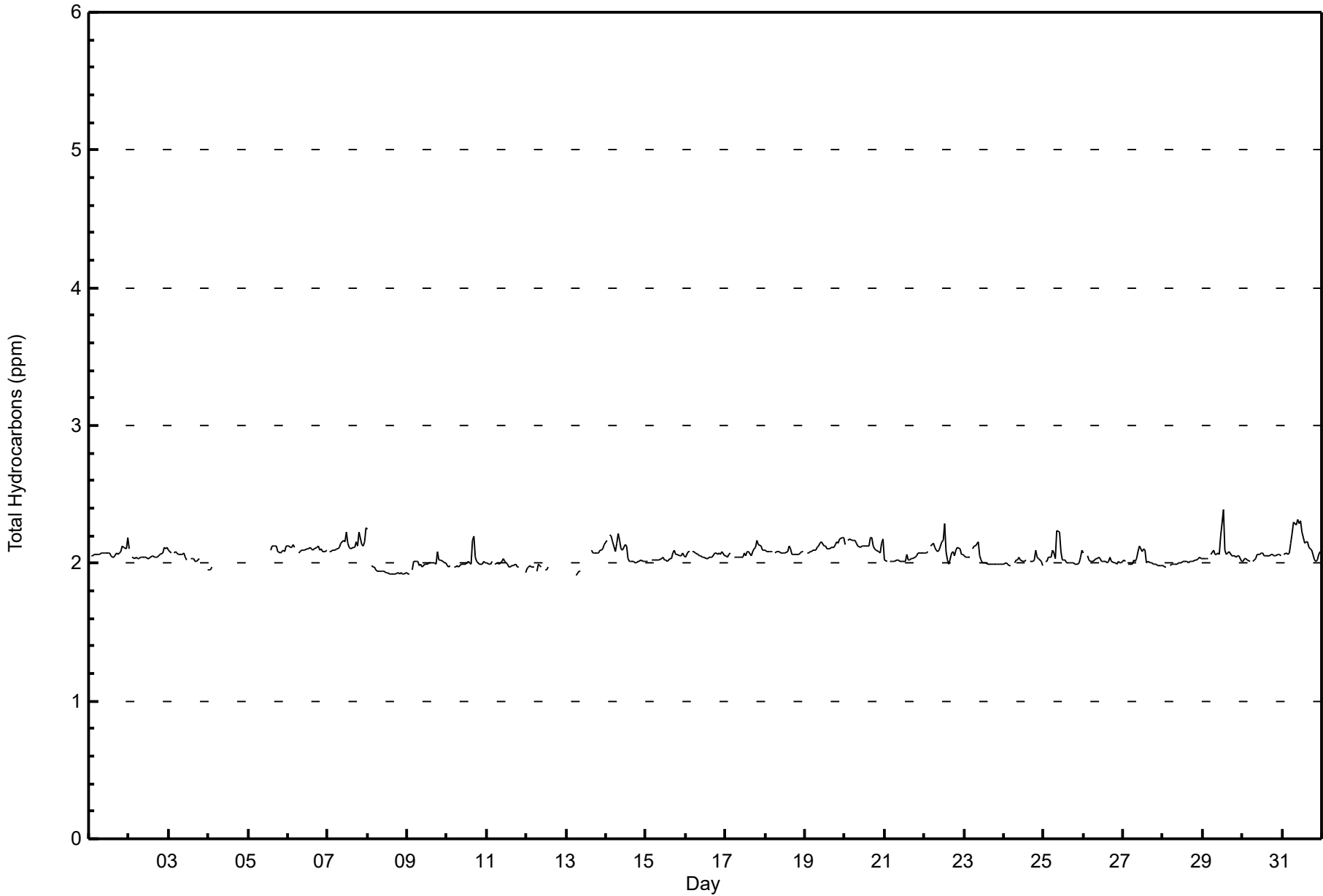
Total Hydrocarbons (THC) - ppm
Athabasca Valley - January 2025

Maximum Value: 2.4 ppm on Jan 29 13:00		Maximum Daily Average: 2.1 ppm on Jan 31																			Hours in Service: 744								
Minimum Value: 1.9 ppm on Jan 13 07:00		Minimum Daily Average: 2.0 ppm on Jan 8																			Hours of Data: 658								
Maximum Diurnal Average: 2.1 ppm at hour 13		Minimum Diurnal Average: 2.0 ppm at hour 2																			Hours of Missing Data: 86								
Monthly Average: 2.05 ppm		Percentiles: P ₁ = 1.9 P ₁₀ = 2.0 Q ₁ = 2.0 Median = 2.0 Q ₃ = 2.1 P ₉₀ = 2.1 P ₉₉ = 2.3																			Hours of Calibration: 36								
																					Percent Operational Time: 93.3								
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
1-Jan	Z	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.2			
2-Jan	2.1	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1		
3-Jan	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	UO	2.0	2.0	2.0	2.0	2.0	2.0	UO	UO	2.0	UO	2.0	2.0	2.0	2.1		
4-Jan	2.0	2.0	2.0	Z	UO	UO	UO	UO	2.0	UO	2.0	UO	UO	UO	2.0	UO	2.0	UO	UO	2.0	UO	UO	UO	UO	2.0	2.0			
5-Jan	UO	UO	UO	UO	Z	UO	2.0	UO	UO	UO	C	C	C	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1			
6-Jan	2.1	2.1	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1			
7-Jan	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.2	2.1	2.1	2.2	2.3	2.1	2.3			
8-Jan	2.3	Z	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.3		
9-Jan	1.9	1.9	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1		
10-Jan	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2		
11-Jan	2.0	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	UO	1.9	UO	1.9	2.0	2.0		
12-Jan	2.0	2.0	2.0	2.0	2.0	Z	1.9	2.0	2.0	2.0	2.0	UO	2.0	2.0	2.0	UO	UO	UO	UO	UO	UO	UO	2.0	UO	UO	--	2.0		
13-Jan	Z	UO	UO	UO	UO	UO	1.9	1.9	1.9	UO	UO	M	M	C	C	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	--	2.1		
14-Jan	2.2	Z	2.2	2.2	2.2	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2		
15-Jan	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1		
16-Jan	2.0	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1		
17-Jan	2.1	2.0	2.1	2.1	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.2		
18-Jan	2.1	2.1	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1		
19-Jan	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.2	2.2	2.2	2.2	2.1	2.2		
20-Jan	2.1	Z	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2		
21-Jan	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.0	2.1		
22-Jan	2.1	2.1	2.1	Z	2.1	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1		
23-Jan	2.1	2.0	2.0	2.0	Z	2.1	2.1	2.1	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2		
24-Jan	2.0	2.0	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	M	M	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.1		
25-Jan	Z	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.2	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.2		
26-Jan	2.1	Z	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1		
27-Jan	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1		
28-Jan	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		
29-Jan	2.0	2.0	2.0	2.0	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.4	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.0	2.4		
30-Jan	2.0	2.0	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1		
31-Jan	Z	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.3	2.3	2.3	2.3	2.2	2.1	2.2	2.2	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.3		
		2.0	2.0	2.1	2.0	2.0	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.1	2.1	Diurnal Average		
		2.3	2.1	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.4	2.1	2.2	2.2	2.2	2.2	2.2	2.1	2.2	2.1	2.2	2.2	2.3	2.3	2.3	Diurnal Maximum	
Z - zerospan		C - Calibration					M - Maintenance					UO - Unstable Operation																	



Wood Buffalo Environmental Association
Hourly Averages

Total Hydrocarbons (THC) - ppm
Athabasca Valley - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Total Hydrocarbons (THC) - ppm
Athabasca Valley - January 2025**

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	332	50.46	50.46
2.1 - 3.0	326	49.54	100.00
3.1 - 10.0	0	0.00	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 658

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Total Hydrocarbons (THC) - ppm
Athabasca Valley - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2.0	6	3	5	1	4	33	29	8	22	33	48	37	26	16	17	44	332
2.1 - 3.0	4	6	5	9	11	76	24	13	19	35	19	16	6	0	22	61	326
3.1 - 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	10	9	10	10	15	109	53	21	41	68	67	53	32	16	39	105	658

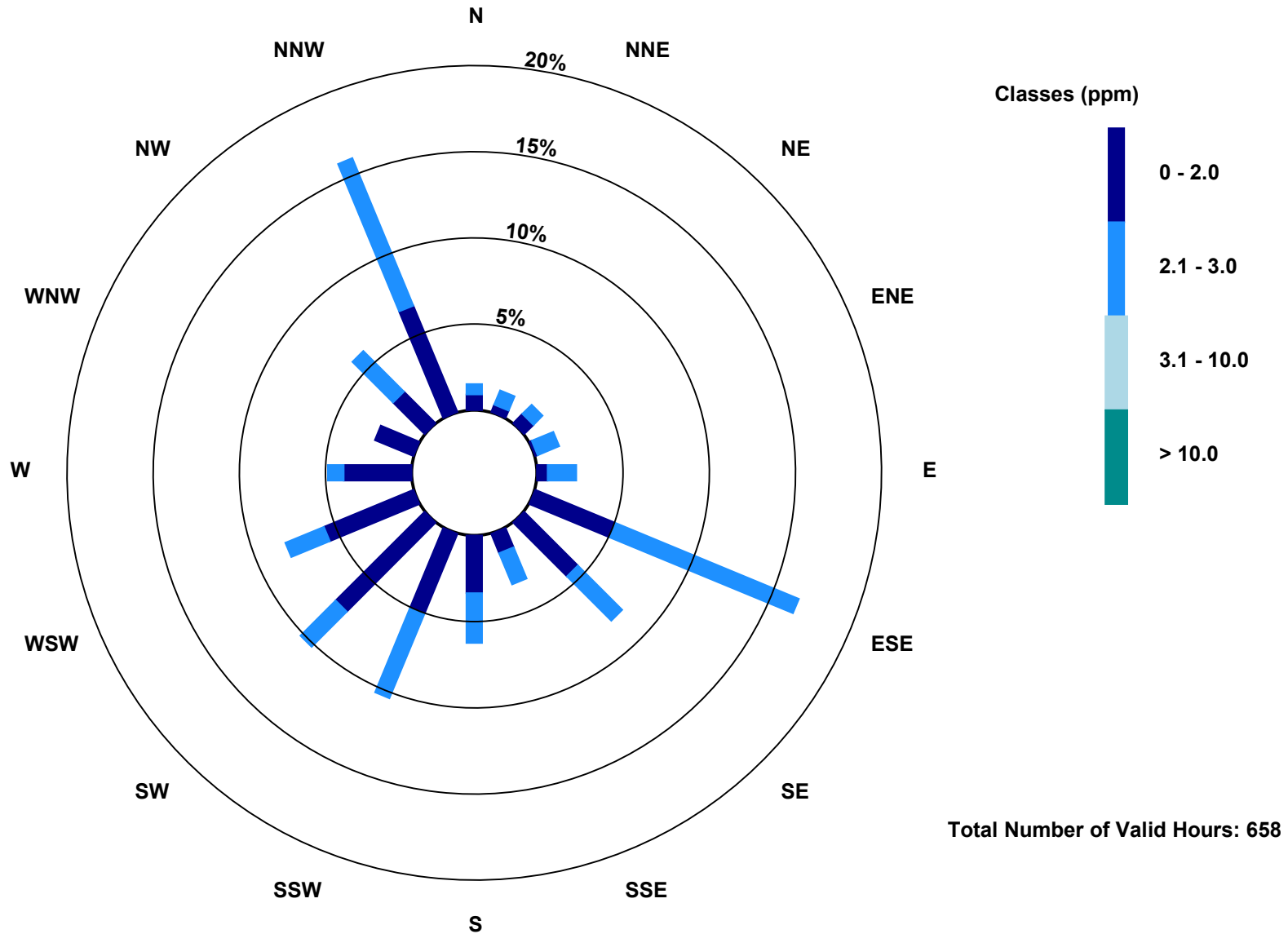
Total Number of Valid Hours: 658

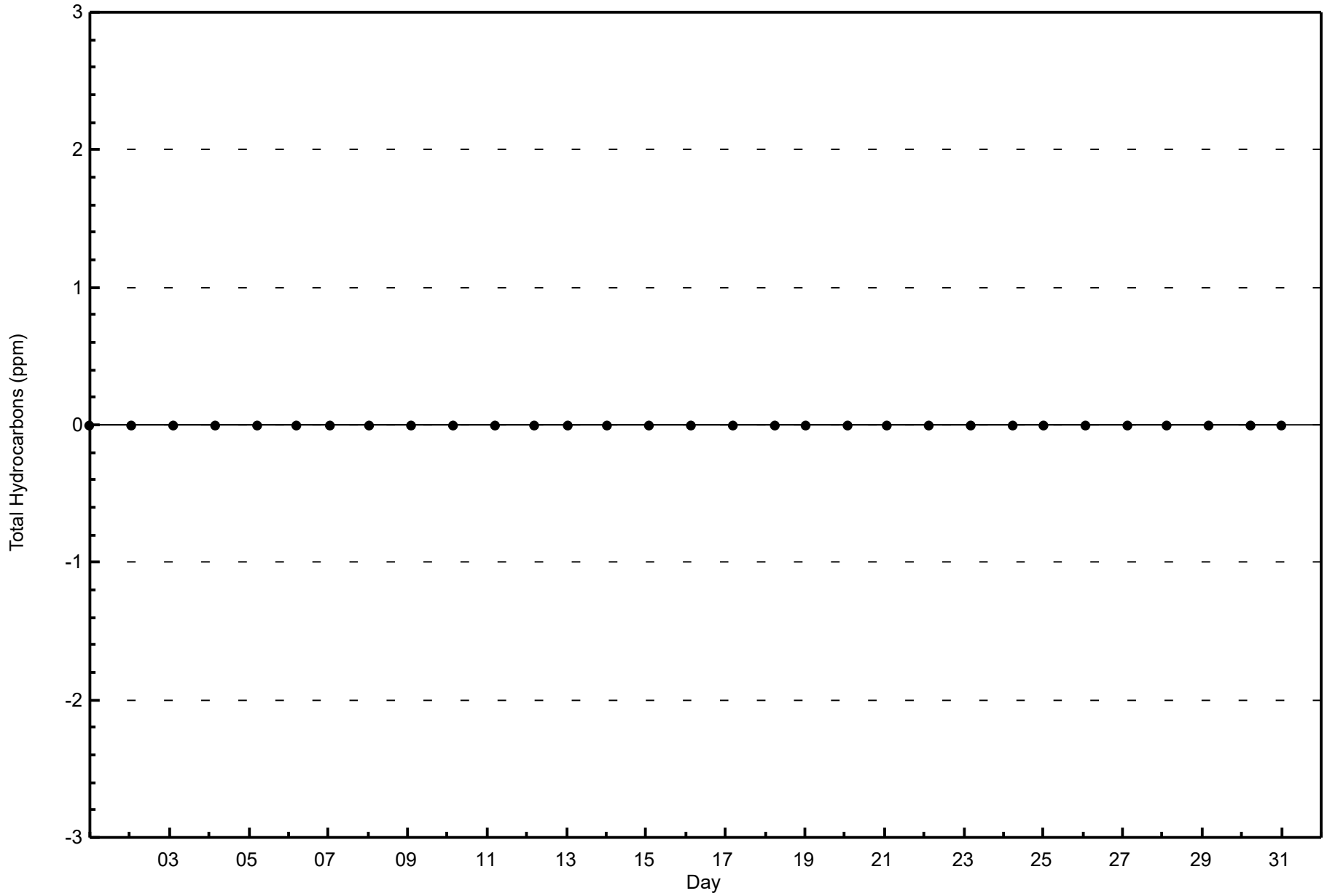
Total Number of Hours: 744

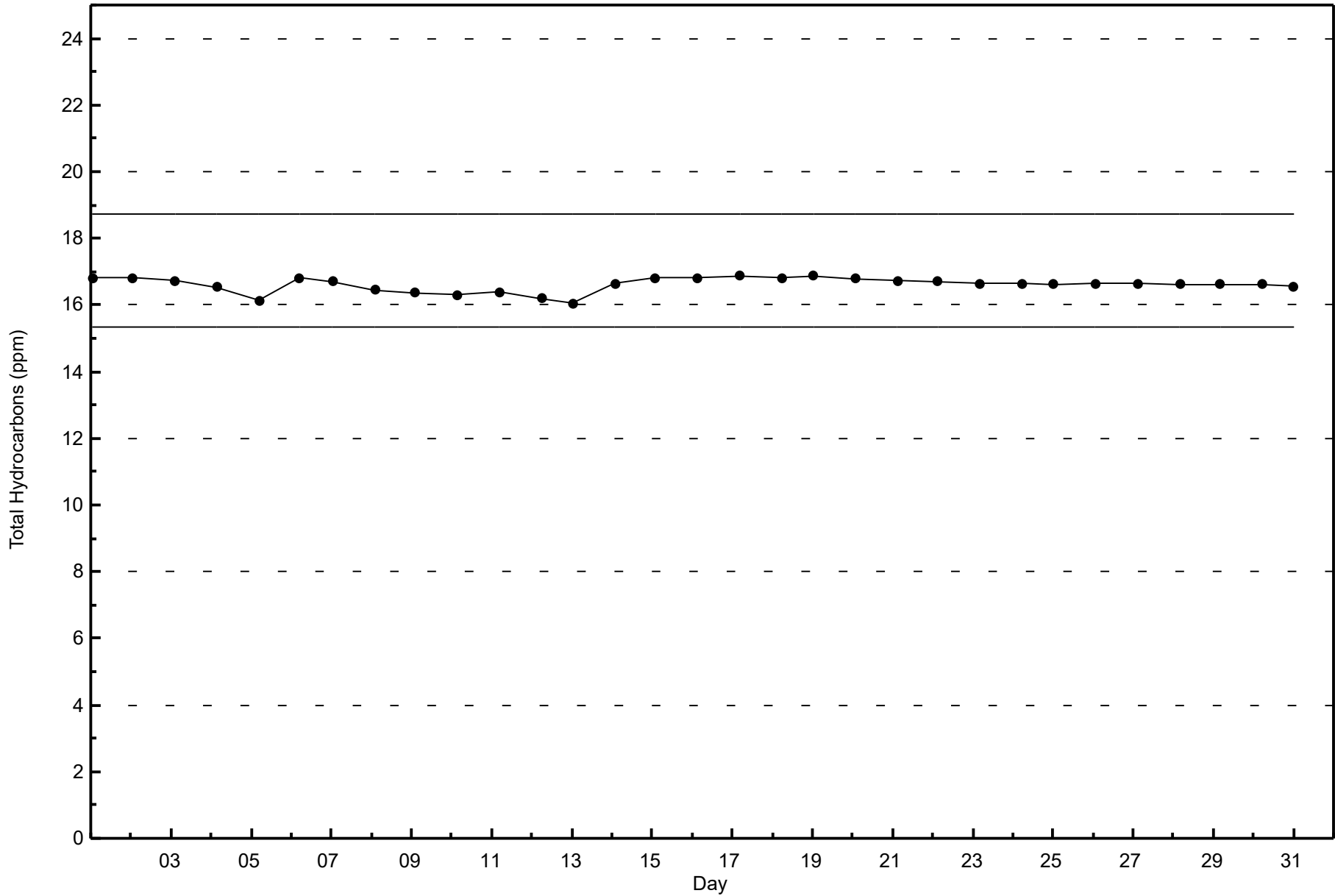


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Total Hydrocarbons (THC) - ppm
Athabasca Valley

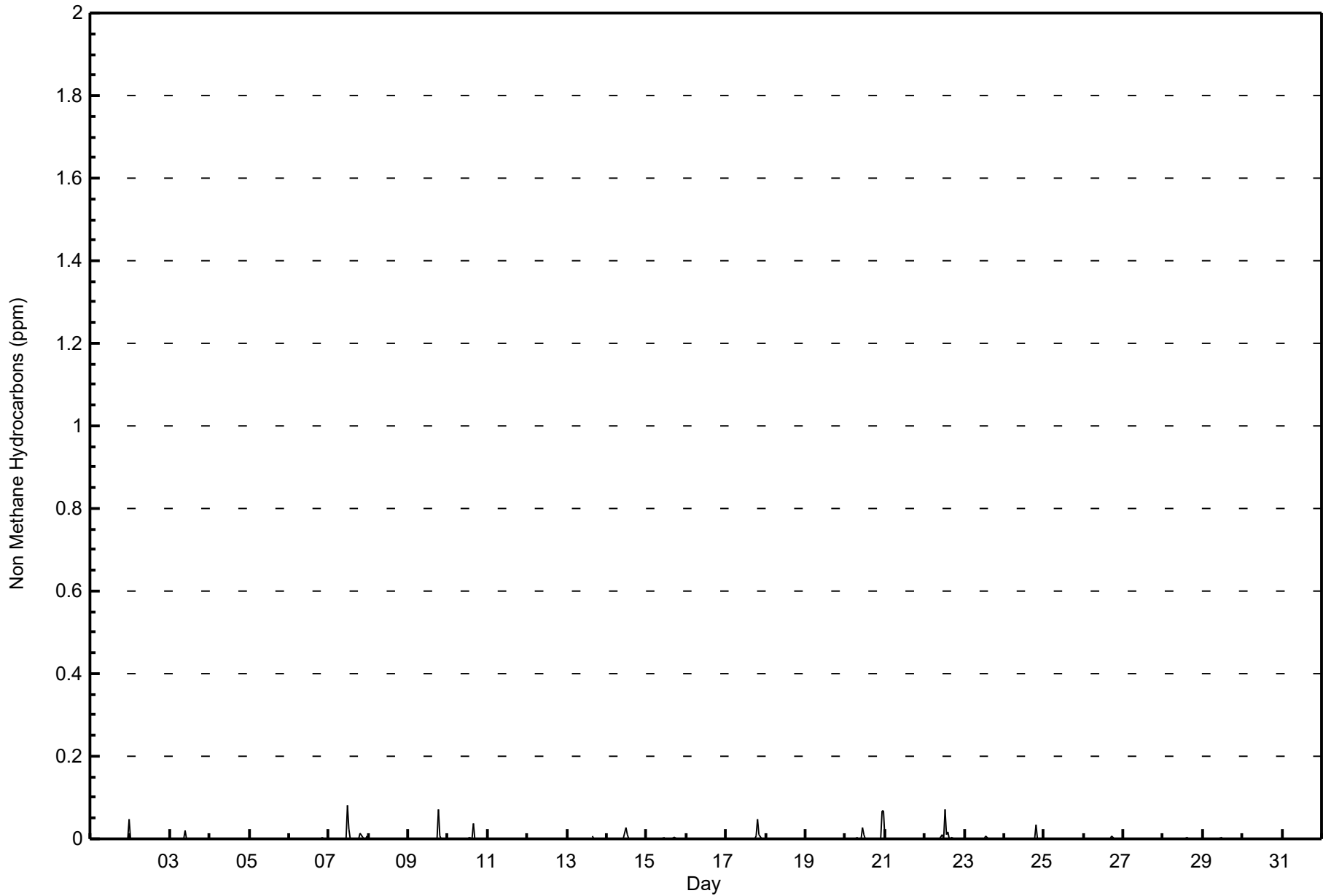








Maximum Value: 0.082 ppm on Jan 7 12:00																				Maximum Daily Average: 0.008 ppm on Jan 20					Hours in Service: 744				
Minimum Value: 0.000 ppm on Jan 1 02:00																				Minimum Daily Average: 0.000 ppm on Jan 11					Hours of Data: 658				
Maximum Diurnal Average: 0.004 ppm at hour 12																				Minimum Diurnal Average: 0.000 ppm at hour 2					Hours of Missing Data: 86				
Monthly Average: 0.001 ppm																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.0 P ₉₉ = 0.0					Hours of Calibration: 36				
																									Percent Operational Time: 93.3				
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
1-Jan	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.049	0.002	0.049			
2-Jan	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002		
3-Jan	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.019	0.000	0.000	UO	0.000	0.000	0.000	0.000	0.000	0.000	UO	UO	0.002	UO	0.000	0.001	0.019			
4-Jan	0.000	0.000	0.000	Z	UO	UO	UO	0.000	UO	0.000	UO	UO	UO	0.000	UO	0.000	UO	UO	UO	0.000	UO	UO	UO	UO	--	0.000			
5-Jan	UO	UO	UO	UO	Z	UO	0.000	UO	UO	UO	C	C	C	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	--	0.000				
6-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.002			
7-Jan	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.082	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.012	0.005	0.000	0.000	0.007	0.006	0.082		
8-Jan	0.003	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003		
9-Jan	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.071	0.006	0.000	0.000	0.000	0.003	0.071			
10-Jan	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.036	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.036			
11-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	UO	0.000	UO	0.000	0.000	0.000			
12-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	UO	0.000	0.000	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	0.000			
13-Jan	Z	UO	UO	UO	UO	UO	0.000	0.000	0.000	UO	UO	M	M	C	C	0.008	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	--	0.008			
14-Jan	0.001	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.026	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.026	0.026			
15-Jan	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.000	0.000	0.000	0.000	0.000	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.005			
16-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
17-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.046	0.009	0.000	0.000	0.003	0.046			
18-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
19-Jan	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
20-Jan	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.004	0.000	0.000	0.028	0.011	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.067	0.067	0.008	0.067			
21-Jan	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
22-Jan	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.000	0.071	0.009	0.017	0.000	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.071			
23-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007			
24-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.033	0.000	0.000	0.000	0.002	0.033				
25-Jan	Z	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001			
26-Jan	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005			
27-Jan	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
28-Jan	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002			
29-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004			
30-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
31-Jan	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
																								Diurnal Average					
																								Diurnal Maximum					
Z - zerospan																													
C - Calibration																													
M - Maintenance																													
UO - Unstable Operation																													





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Non Methane Hydrocarbons (NMHC) - ppm
Athabasca Valley - January 2025**

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 0.005	634	96.35	96.35
0.006 - 0.05	19	2.89	99.24
0.06 - 0.1	5	0.76	100.00
> 0.1	0	0.00	100.00

Total Number of Valid Hours: 658

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Non Methane Hydrocarbons (NMHC) - ppm
Athabasca Valley - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 0.005	10	9	10	8	11	104	50	20	41	67	67	49	30	16	38	104	634
0.006 - 0.05	0	0	0	1	3	3	3	0	0	1	0	4	2	0	1	1	19
0.06 - 0.1	0	0	0	1	1	2	0	1	0	0	0	0	0	0	0	0	5
> 0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	10	9	10	10	15	109	53	21	41	68	67	53	32	16	39	105	658

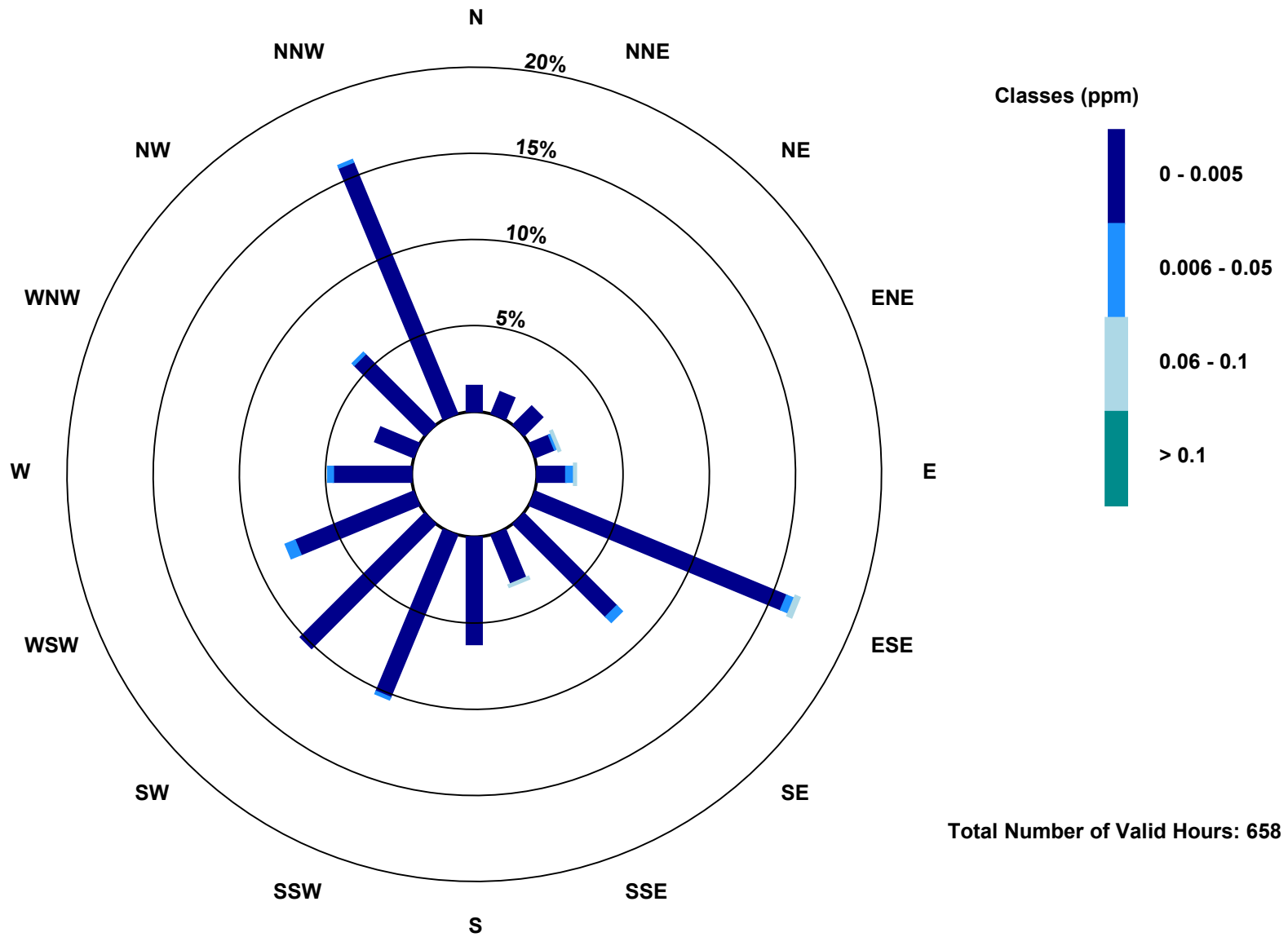
Total Number of Valid Hours: 658

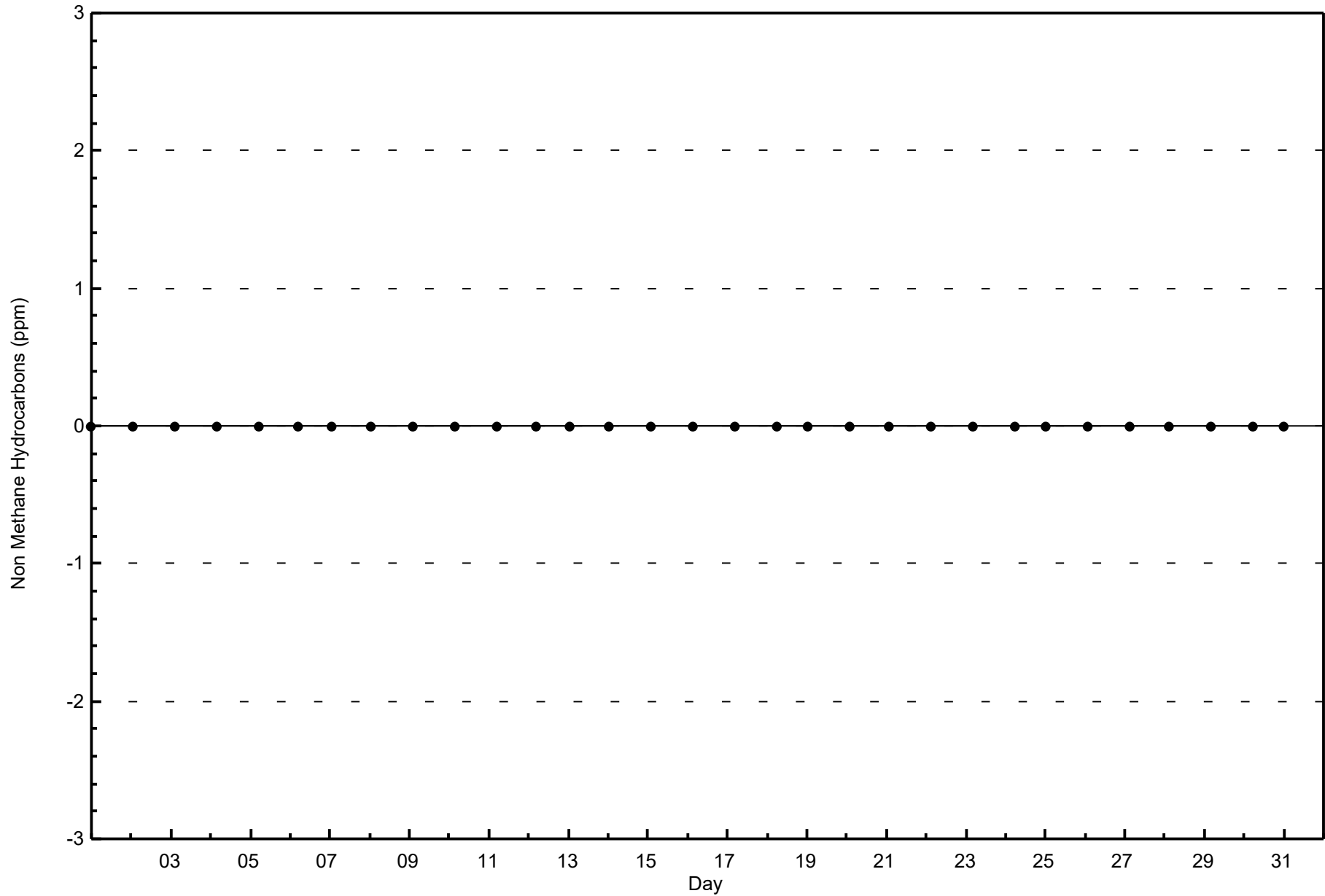
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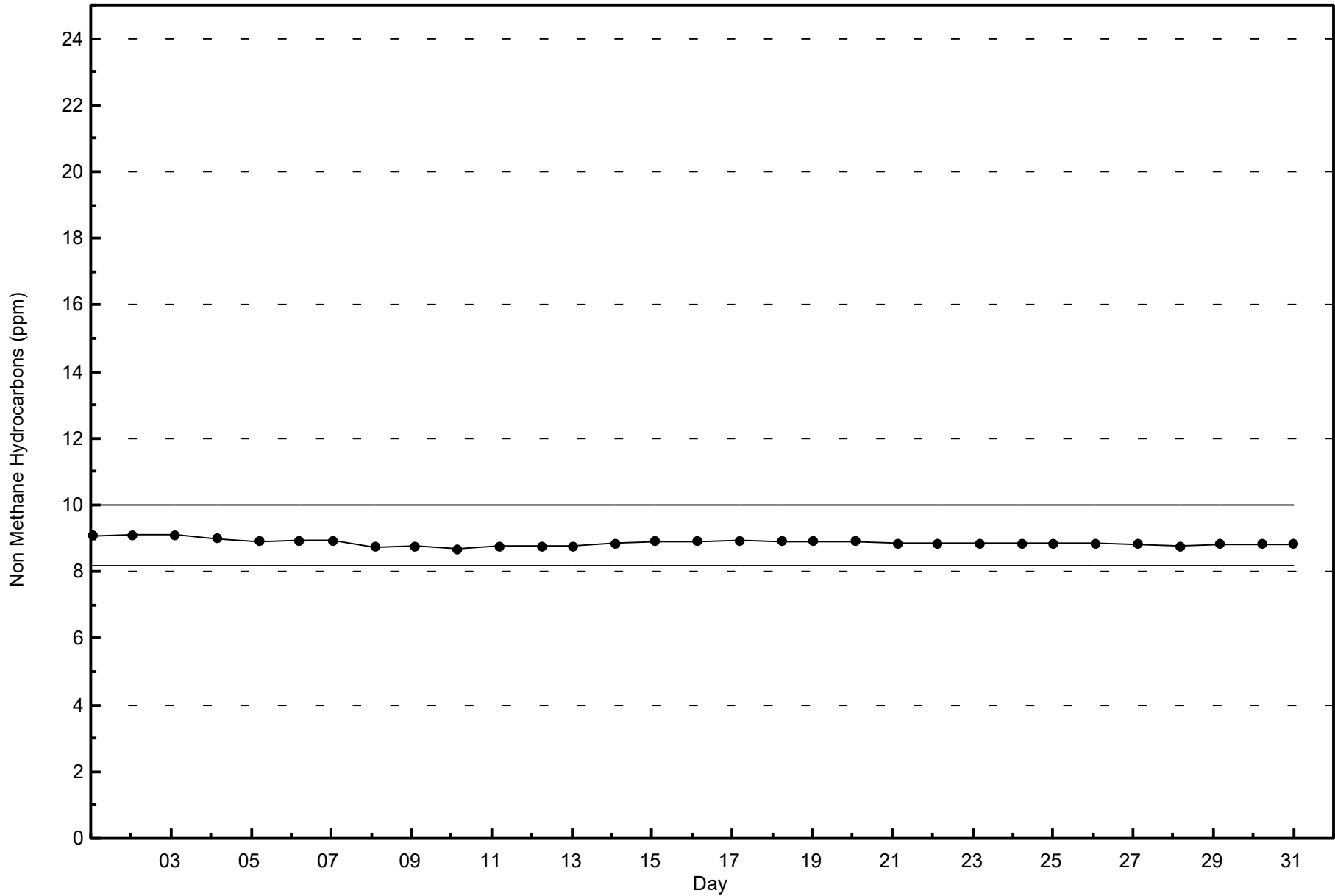


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Non Methane Hydrocarbons (NMHC) - ppm
Athabasca Valley



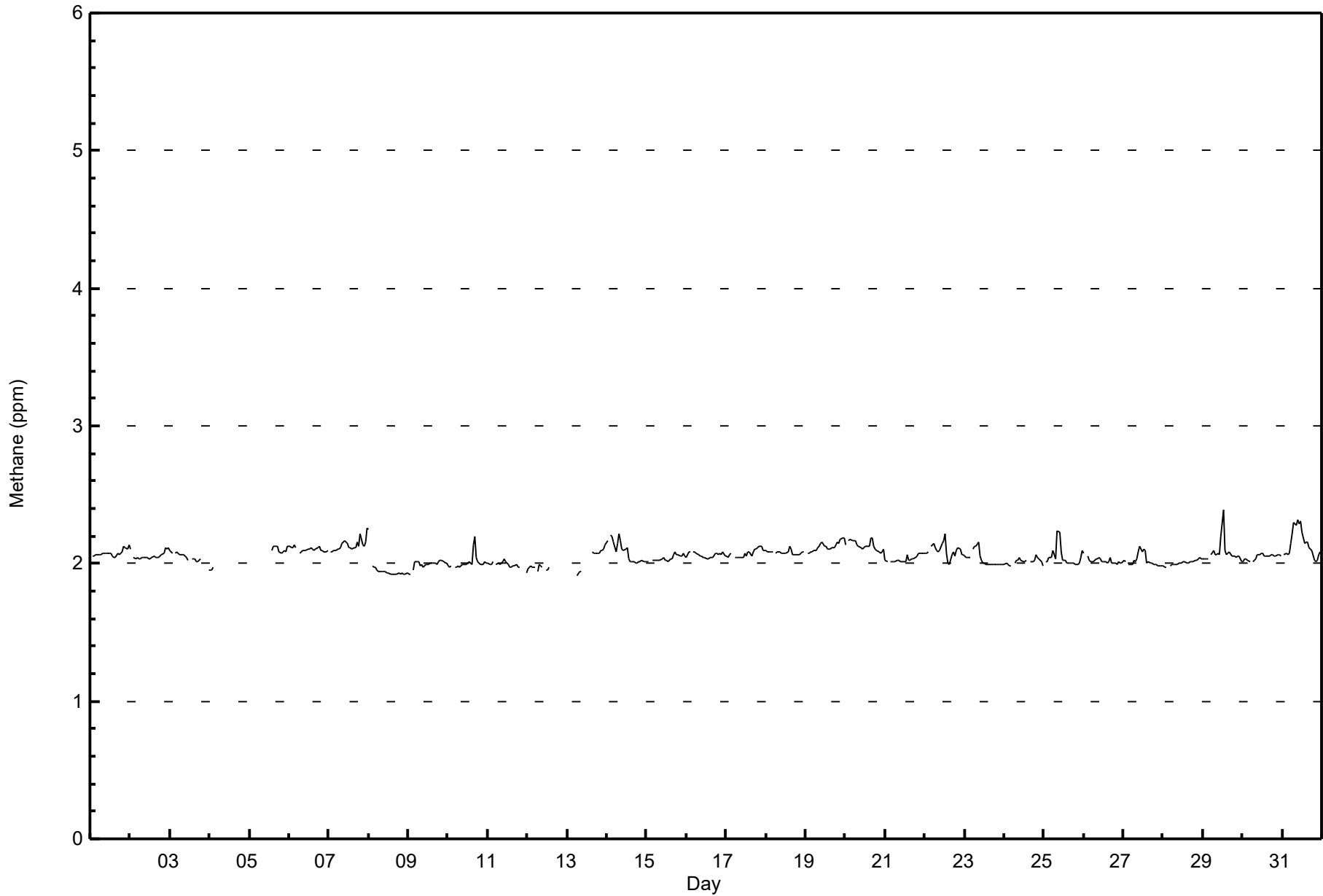






Wood Buffalo Environmental Association
Hourly Averages

Methane (CH₄) - ppm
Athabasca Valley - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Methane (CH₄) - ppm
Athabasca Valley - January 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	333	50.61	50.61
2.1 - 3.0	325	49.39	100.00
3.1 - 10.0	0	0.00	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 658

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Methane (CH₄) - ppm
Athabasca Valley - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2.0	6	3	5	1	4	34	29	8	22	33	48	37	26	16	17	44	333
2.1 - 3.0	4	6	5	9	11	75	24	13	19	35	19	16	6	0	22	61	325
3.1 - 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	10	9	10	10	15	109	53	21	41	68	67	53	32	16	39	105	658

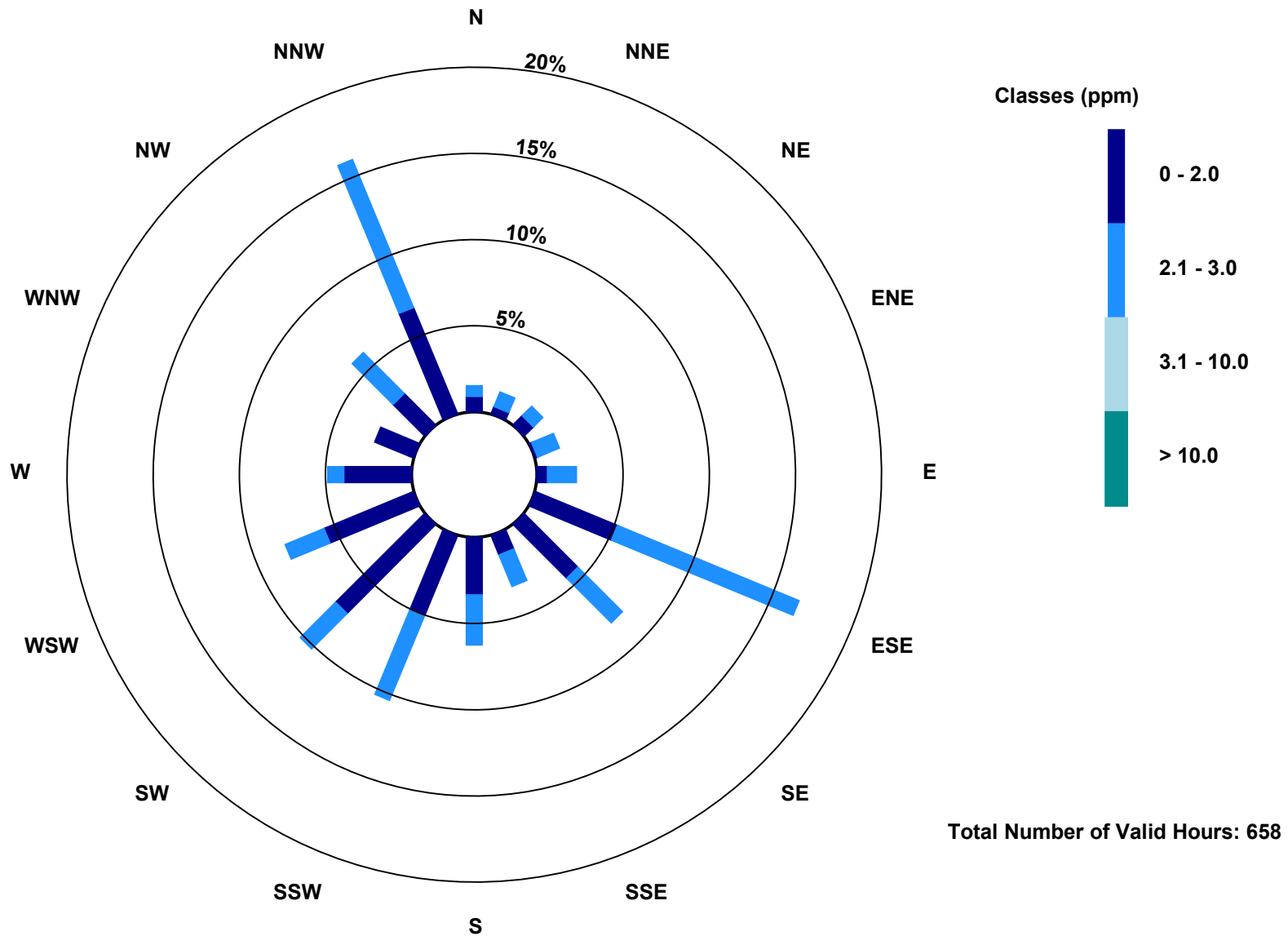
Total Number of Valid Hours: 658

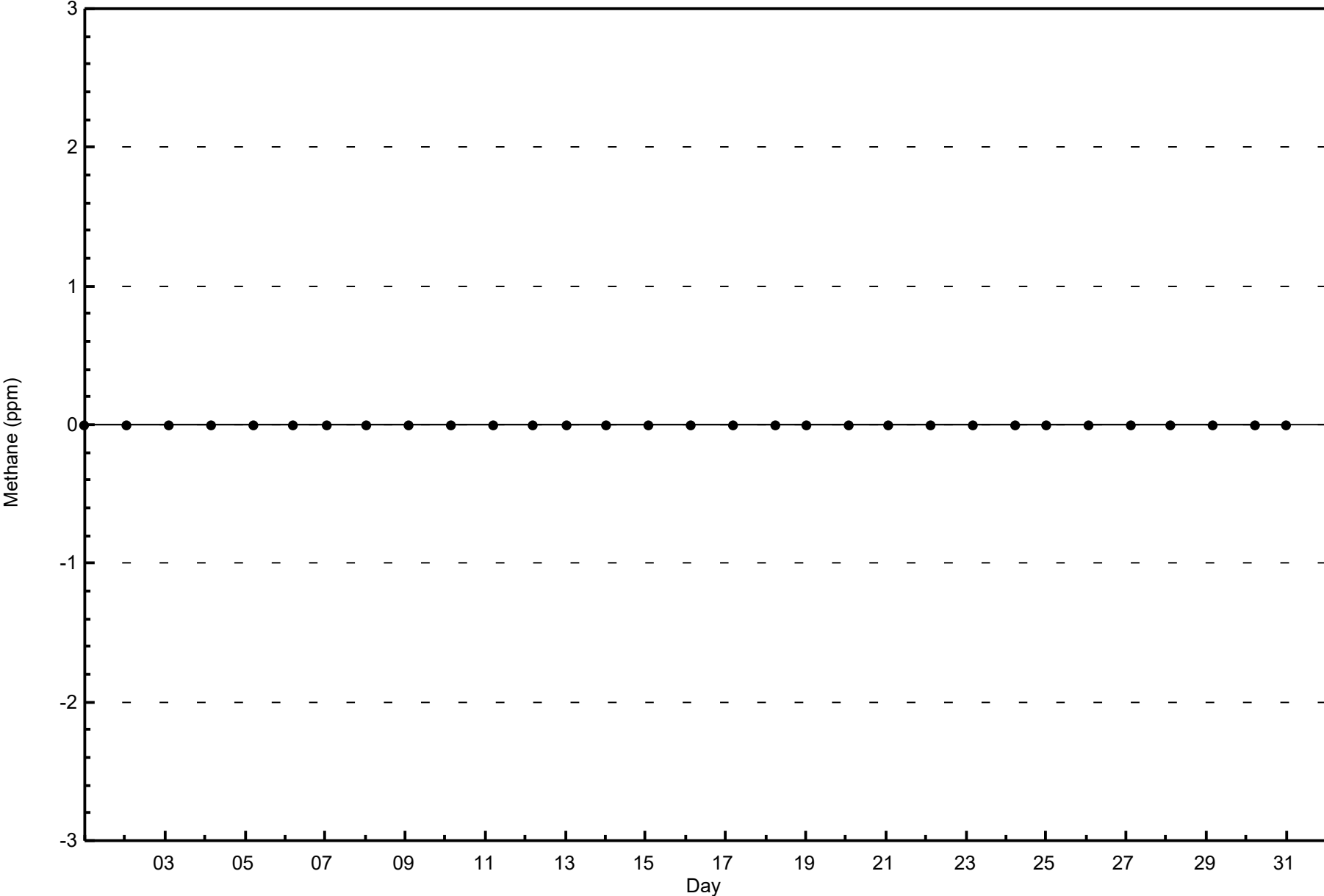
Total Number of Hours: 744

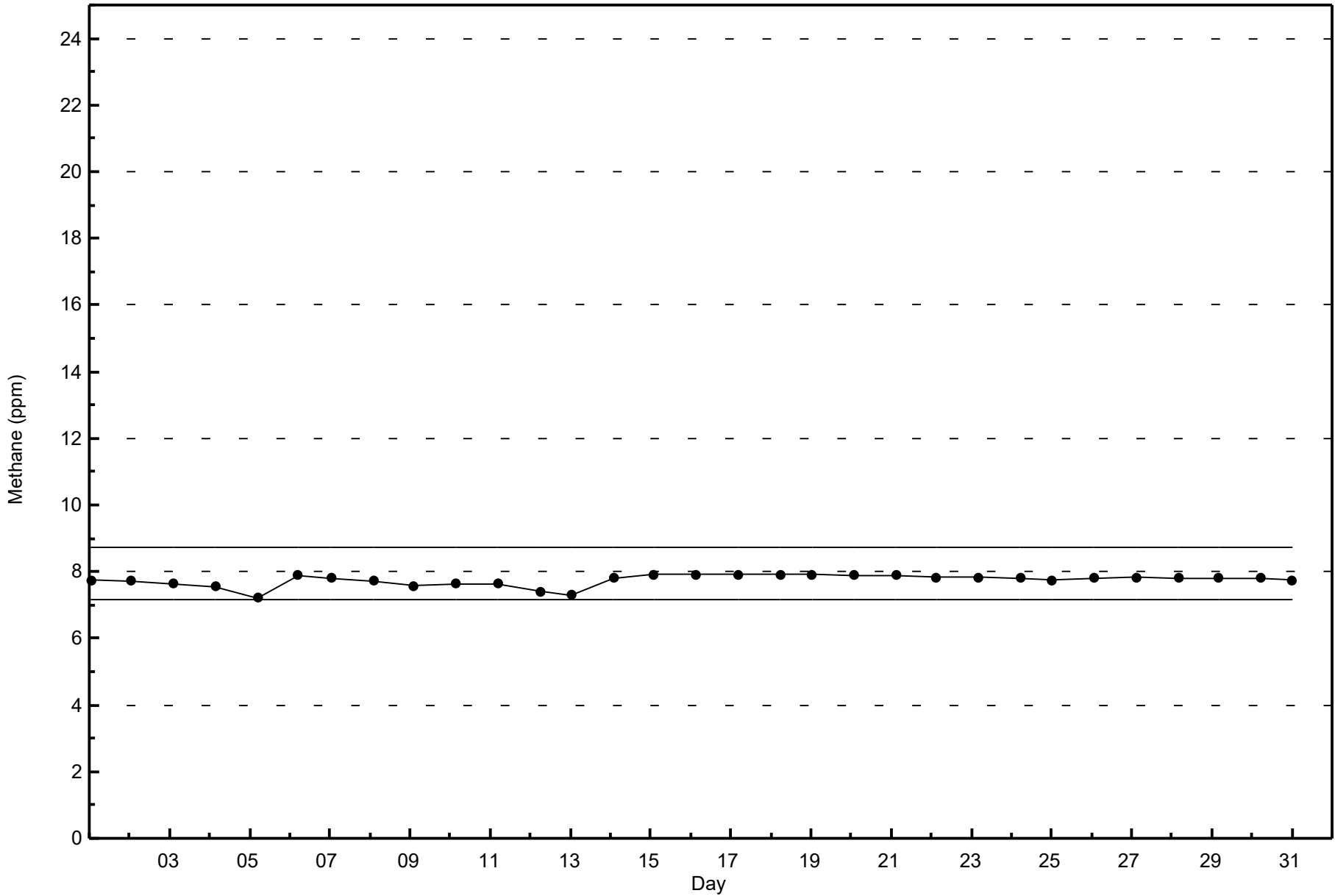


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Methane (CH₄) - ppm
Athabasca Valley









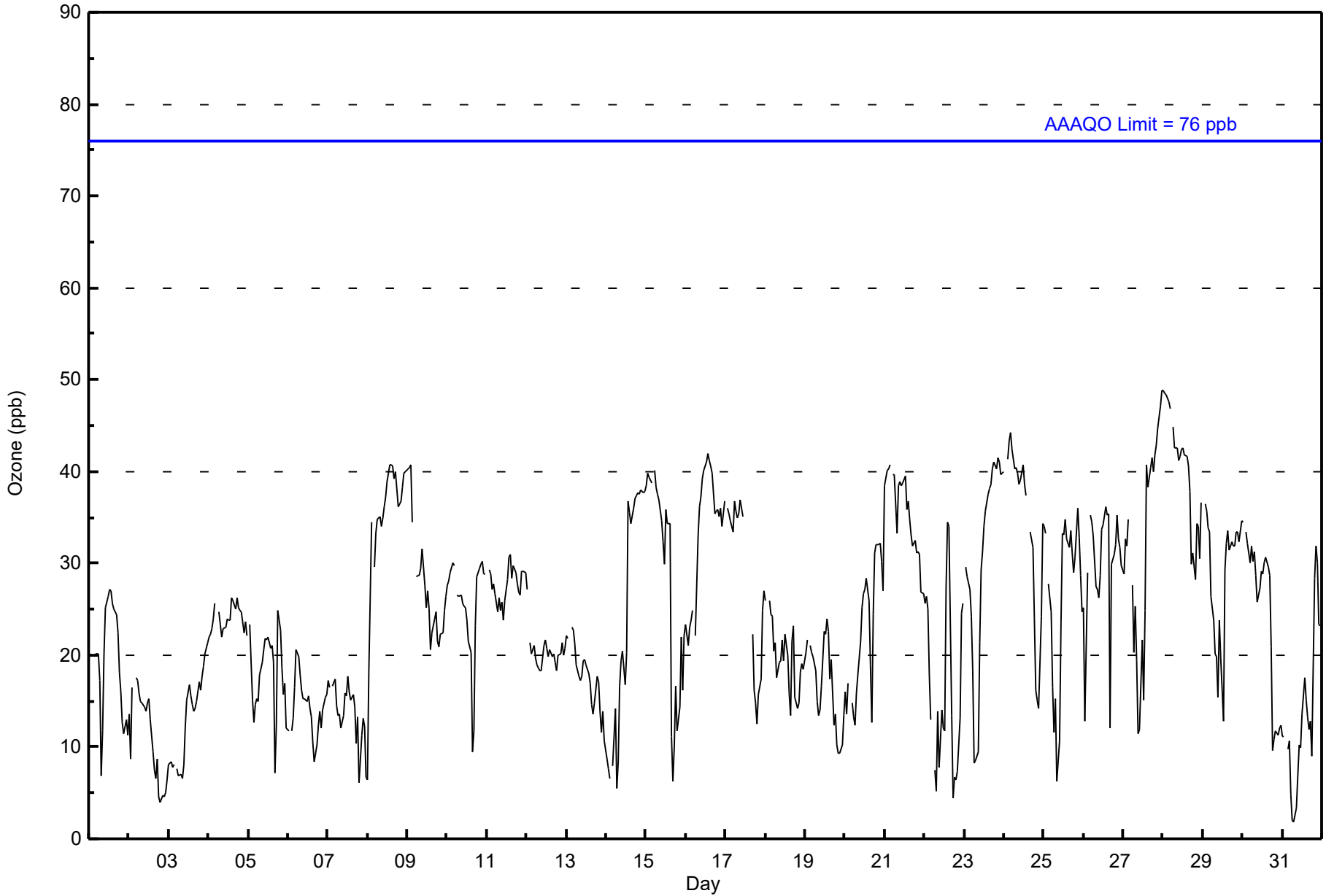
Wood Buffalo Environmental Association

Summary of Hour Averages

Ozone (O₃) - ppb

Athabasca Valley - January 2025

Number of Exceedences (AAAQO):		1-hr: 0		24-hr: 0		Hours in Service:		744																		
Maximum Value: 48.8 ppb on Jan 28 00:00		Maximum Daily Average: 40.2 ppb on Jan 28				Hours of Data:		706																		
Minimum Value: 1.9 ppb on Jan 31 08:00		Minimum Daily Average: 11.0 ppb on Jan 2				Hours of Missing Data:		38																		
Maximum Diurnal Average: 27.6 ppb at hour 3		Minimum Diurnal Average: 21.5 ppb at hour 8				Hours of Calibration:		36																		
Monthly Average: 24.21 ppb		Percentiles: P ₁ = 4.8 P ₁₀ = 11.3 Q ₁ = 15.6 Median = 23.8 Q ₃ = 32.7 P ₉₀ = 38.7 P ₉₉ = 44.8				Percent Operational Time:		99.7																		
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	20.1	19.8	Z	19.9	20.2	20.2	17.2	6.9	11.7	20.1	25.1	26.4	27.2	27.0	25.6	25.0	24.4	22.4	18.2	16.0	12.6	11.4	13.0	11.3	19.2	27.2
2-Jan	13.6	8.7	16.5	Z	17.5	17.3	15.9	15.0	14.9	14.4	13.9	14.8	15.3	12.9	9.5	7.4	6.5	8.7	4.6	4.0	4.8	4.5	5.0	6.5	11.0	17.5
3-Jan	8.0	8.3	7.8	8.1	Z	7.6	6.9	7.0	6.5	8.1	12.2	15.0	16.7	15.6	14.7	14.0	14.2	14.9	17.1	16.2	17.7	18.8	20.1	21.3	12.9	21.3
4-Jan	21.9	22.3	23.0	24.0	25.7	Z	24.7	23.4	22.0	22.8	23.1	23.9	23.9	26.3	25.9	25.0	26.3	25.1	24.8	24.7	22.4	23.6	22.1	23.9	23.9	26.3
5-Jan	Z	23.3	15.2	12.6	14.6	15.3	14.9	17.9	19.2	20.6	21.8	21.6	22.0	20.8	21.0	19.2	7.2	12.3	24.9	22.8	18.6	15.7	17.0	12.1	17.9	24.9
6-Jan	11.7	Z	11.8	13.1	16.5	20.5	19.8	17.8	16.2	15.2	15.3	15.0	15.6	14.1	13.2	10.5	8.4	10.2	12.4	14.0	12.1	14.0	15.4	15.7	14.3	20.5
7-Jan	17.2	16.5	Z	16.7	17.4	14.5	13.4	13.6	12.0	13.4	15.9	15.5	17.7	16.0	15.1	15.7	14.4	10.4	13.3	6.2	11.3	13.1	12.2	6.7	13.8	17.7
8-Jan	6.4	18.1	34.4	Z	29.5	33.3	34.8	35.0	33.9	34.9	36.1	37.2	38.9	40.7	40.7	40.6	39.2	40.0	36.2	36.4	36.7	38.3	39.8	40.1	34.8	40.7
9-Jan	40.3	40.4	40.8	34.5	Z	28.5	28.6	28.7	29.4	31.6	27.6	25.1	27.0	25.1	20.5	22.5	24.0	24.7	21.5	20.8	22.3	22.4	24.9	26.3	27.7	40.8
10-Jan	27.6	28.1	29.0	30.0	29.8	Z	26.5	26.3	26.5	25.7	25.3	25.1	23.8	21.5	20.3	9.5	11.8	23.1	28.5	29.5	29.9	30.3	28.8	28.8	25.5	30.3
11-Jan	Z	29.3	28.8	27.2	27.8	26.6	24.7	26.2	24.8	25.7	23.8	25.9	28.3	30.7	31.0	28.4	29.8	29.0	27.8	26.8	26.5	29.2	29.1	29.0	27.7	31.0
12-Jan	27.1	Z	21.4	20.2	21.0	19.6	18.9	18.7	18.4	18.3	21.0	21.7	20.8	19.8	20.5	19.9	20.2	19.3	18.3	20.0	20.2	21.3	20.0	20.7	20.3	27.1
13-Jan	22.1	21.7	Z	23.1	22.7	21.2	19.0	17.7	17.2	17.8	19.3	19.5	19.0	18.0	16.9	14.6	13.6	14.7	17.7	17.1	13.9	11.6	14.0	10.7	17.5	23.1
14-Jan	8.7	7.7	6.5	Z	7.9	14.2	5.4	8.3	16.6	19.3	20.5	16.8	20.3	36.7	35.5	34.4	36.0	37.1	37.3	37.7	37.5	37.9	37.7	37.9	24.3	37.9
15-Jan	38.4	39.8	39.3	38.8	Z	40.0	38.4	37.5	36.9	34.7	32.3	29.9	35.8	34.3	34.4	11.1	6.2	10.1	16.6	11.7	14.3	21.9	16.2	22.1	27.8	40.0
16-Jan	23.3	21.0	23.0	23.8	24.9	Z	22.1	33.0	36.2	37.2	39.2	40.2	41.0	42.0	41.2	40.5	39.9	35.3	35.7	35.9	35.0	36.0	34.0	36.7	33.8	42.0
17-Jan	Z	36.0	35.4	34.7	33.4	36.7	35.6	34.9	35.3	37.0	35.1	C	C	C	C	C	22.3	16.1	14.8	12.6	15.7	17.3	24.9	27.0	28.1	37.0
18-Jan	25.9	Z	26.0	24.4	24.2	20.4	21.4	17.6	19.2	19.3	21.7	19.4	22.3	20.0	15.8	13.4	21.5	23.2	15.4	14.1	14.7	18.2	19.1	18.5	19.8	26.0
19-Jan	20.3	21.7	Z	21.0	20.2	19.8	18.4	15.0	13.4	14.0	16.7	22.6	22.2	23.9	22.6	17.4	19.5	12.4	13.6	10.3	9.3	9.4	10.2	13.4	16.8	23.9
20-Jan	16.0	13.6	17.0	Z	14.8	13.3	12.3	15.9	17.9	21.6	25.2	26.7	27.2	28.4	25.9	18.9	12.7	24.4	31.2	32.0	32.0	32.2	30.3	27.1	22.5	32.2
21-Jan	38.4	40.2	40.3	40.7	Z	39.7	39.7	33.3	38.4	38.9	38.4	38.7	39.5	35.8	36.8	34.7	33.1	32.0	32.4	31.1	31.3	31.0	26.9	26.7	35.6	40.7
22-Jan	25.6	26.4	25.0	18.0	13.0	Z	7.5	5.2	13.9	7.7	14.0	12.1	11.8	27.4	34.4	34.0	13.5	4.4	6.7	6.4	7.3	13.1	24.5	25.6	16.4	34.4
23-Jan	Z	29.6	28.5	27.2	24.3	18.3	8.3	8.5	9.5	21.4	29.4	31.2	33.9	35.7	37.4	38.2	38.6	40.3	41.0	40.3	41.5	41.1	39.7	39.9	30.6	41.5
24-Jan	39.9	Z	41.4	43.3	44.2	42.4	40.3	40.4	39.9	38.6	39.0	40.8	38.5	37.3	M	M	33.4	31.7	24.0	16.1	15.1	14.2	24.2	34.4	34.2	44.2
25-Jan	34.1	33.3	Z	27.7	24.7	16.4	11.6	15.3	6.3	10.6	23.6	33.3	33.1	34.7	32.6	31.7	33.5	31.1	29.0	30.7	36.1	32.7	28.8	24.8	26.8	36.1
26-Jan	25.1	12.7	29.0	Z	35.2	34.5	32.9	27.5	27.2	26.3	28.7	33.8	34.1	36.1	35.3	35.4	12.0	29.9	31.0	32.1	35.2	32.7	31.8	29.7	29.9	36.1
27-Jan	28.9	32.7	31.9	34.7	Z	27.7	20.4	25.4	19.4	11.4	11.9	21.7	15.2	24.9	40.7	38.3	40.4	41.5	40.0	41.8	42.8	44.6	47.2	48.8	31.8	48.8
28-Jan	48.8	48.6	48.3	47.6	46.8	Z	44.8	42.5	42.6	41.1	41.6	42.3	42.5	41.9	41.7	40.6	37.9	29.9	31.1	28.1	34.4	34.0	30.5	36.5	40.2	48.8
29-Jan	Z	36.4	35.7	33.9	33.5	26.4	23.8	20.2	19.8	15.4	23.8	19.7	12.8	29.3	32.3	33.6	31.4	32.4	31.9	31.8	33.4	33.4	32.3	34.7	28.6	36.4
30-Jan	34.5	Z	33.4	32.2	30.1	31.9	30.2	31.3	28.7	25.8	27.4	29.2	28.8	30.0	30.6	29.6	28.7	20.8	9.7	10.8	11.8	11.3	12.0	12.3	24.8	34.5
31-Jan	11.1	11.1	Z	9.8	10.7	4.8	1.9	1.9	3.3	6.9	10.3	9.9	13.6	17.6	15.2	13.3	11.8	12.8	9.0	28.3	31.9	30.0	23.3	23.2	13.6	31.9
24.4 24.9 27.6 26.4 24.3 23.5 22.0 21.5 21.8 22.4 24.5 25.2 25.6 27.4 27.2 24.8 22.9 23.3 23.1 22.8 23.6 24.0 24.4 24.9																								Diurnal Average		
48.8 48.6 48.3 47.6 46.8 42.4 44.8 42.5 42.6 41.1 41.6 42.3 42.5 42.0 41.7 40.6 40.4 41.5 41.0 41.8 42.8 44.6 47.2 48.8																								Diurnal Maximum		
Z - zerospan C - Calibration M - Maintenance																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 76 ppb																										





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Ozone (O₃) - ppb
Athabasca Valley - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	284	40.23	40.23
21 - 50	422	59.77	100.00
51 - 82	0	0.00	100.00
> 83	0	0.00	100.00

Total Number of Valid Hours: 706

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Ozone (O₃) - ppb
Athabasca Valley - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	4	6	2	7	8	73	44	14	21	32	14	14	6	2	9	28	284
21 - 50	7	2	8	4	7	49	30	13	22	37	48	37	29	17	32	80	422
51 - 82	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	11	8	10	11	15	122	74	27	43	69	62	51	35	19	41	108	706

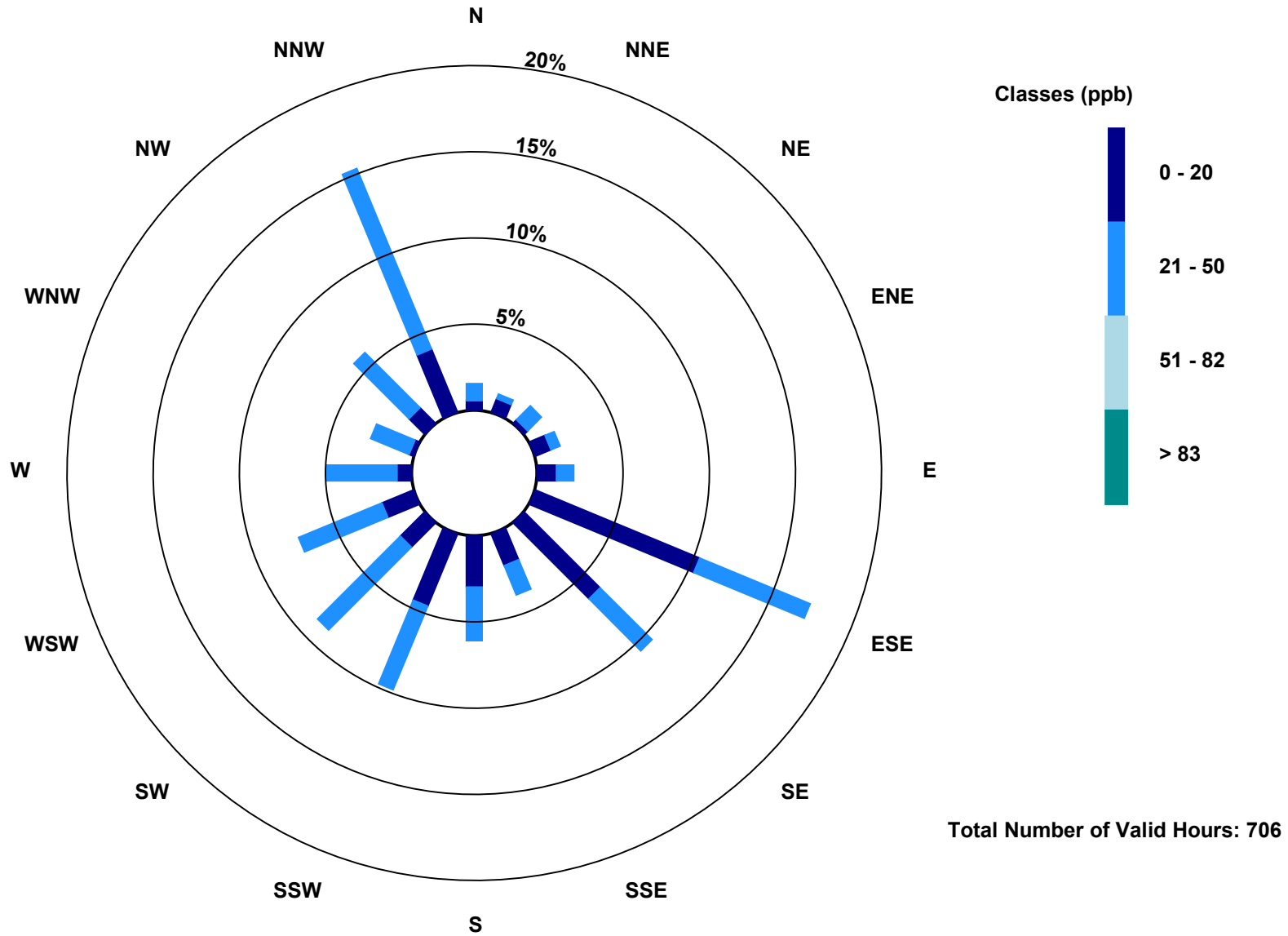
Total Number of Valid Hours: 706

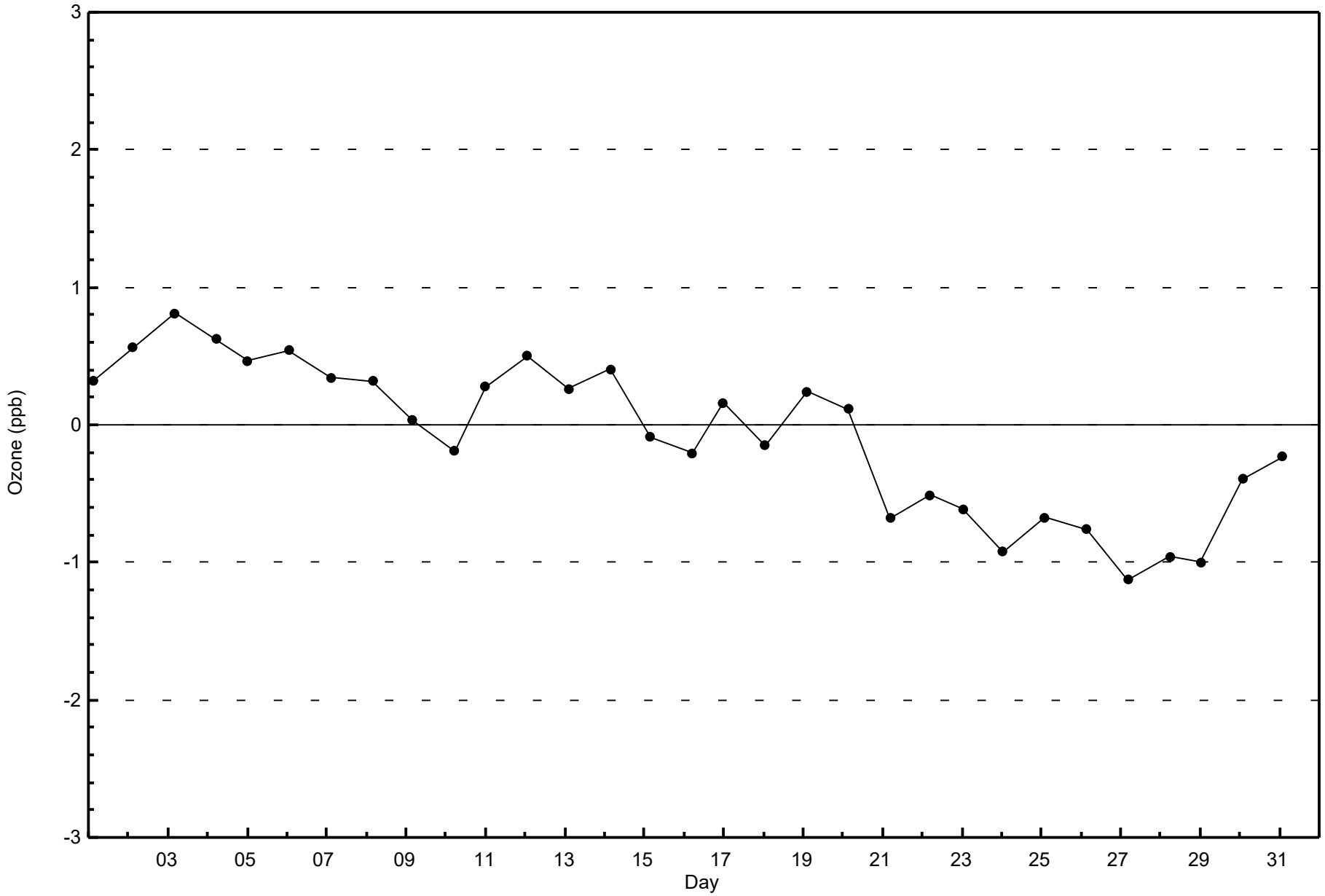
Total Number of Hours: 744

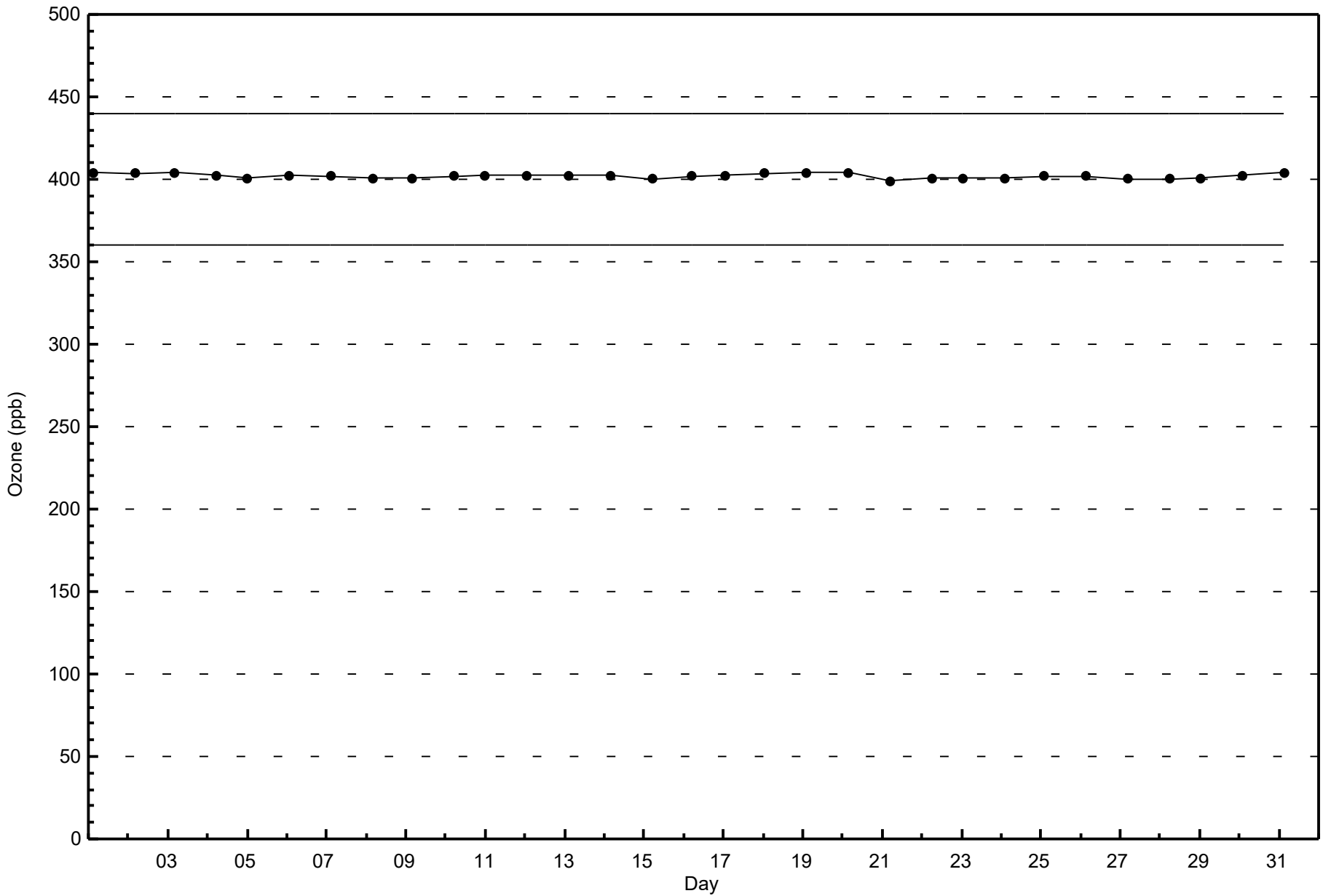


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Ozone (O₃) - ppb
Athabasca Valley









Wood Buffalo Environmental Association
Summary of Hour Averages

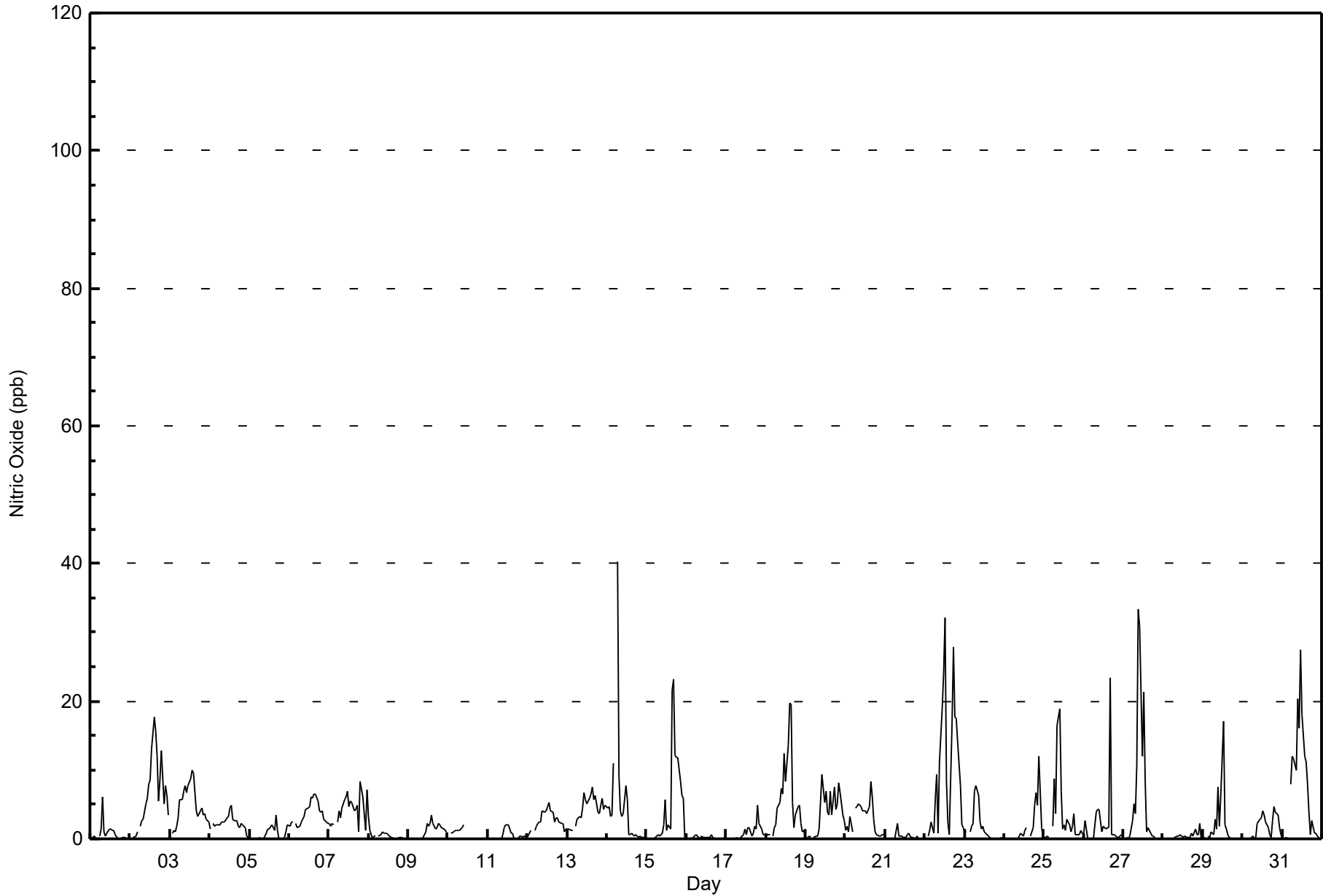
Nitric Oxide (NO) - ppb
Athabasca Valley - January 2025

Maximum Value: 40.2 ppb on Jan 14 07:00																				Maximum Daily Average: 9.8 ppb on Jan 22					Hours in Service: 744				
Minimum Value: 0.0 ppb on Jan 8 17:00																				Minimum Daily Average: 0.2 ppb on Jan 16					Hours of Data: 704				
Maximum Diurnal Average: 5.8 ppb at hour 13																				Minimum Diurnal Average: 0.7 ppb at hour 4					Hours of Missing Data: 40				
Monthly Average: 2.97 ppb																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.2 Median = 1.3 Q ₃ = 3.8 P ₉₀ = 7.5 P ₉₉ = 23.5					Hours of Calibration: 38				
																				Percent Operational Time: 99.7									
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
1-Jan	0.0	0.1	0.4	0.2	Z	0.4	1.4	6.1	1.0	0.5	0.8	1.4	1.4	1.2	1.1	0.5	0.1	0.0	0.1	0.3	0.2	0.2	0.1	0.1	0.8	6.1			
2-Jan	0.1	0.1	0.1	0.3	1.1	Z	1.9	2.6	2.8	5.0	5.8	8.0	8.5	13.0	17.6	15.6	12.0	5.5	8.5	12.9	5.0	7.8	6.2	3.4	6.2	17.6			
3-Jan	Z	0.7	1.2	1.0	1.8	3.0	5.7	5.7	7.0	7.7	6.7	7.8	8.7	9.9	9.6	6.6	4.0	3.2	4.1	4.5	3.5	3.6	2.8	2.4	4.8	9.9			
4-Jan	1.3	Z	2.3	1.8	1.9	2.0	2.1	2.4	2.4	2.5	3.1	3.3	4.6	4.8	2.9	2.6	2.6	1.9	1.6	2.3	2.0	1.7	0.4	0.2	2.3	4.8			
5-Jan	0.0	0.0	Z	0.0	0.0	0.1	0.2	0.0	0.0	0.3	0.8	1.4	1.5	2.0	1.6	1.2	3.6	1.2	0.0	0.0	0.2	0.9	2.1	0.7	3.6	3.6			
6-Jan	1.8	2.3	2.4	Z	2.2	1.6	1.9	2.4	2.9	3.2	4.3	4.5	4.6	6.1	5.9	6.4	6.4	5.6	4.1	3.8	4.1	2.9	2.4	2.2	3.7	6.4			
7-Jan	2.2	1.8	2.1	2.1	Z	2.4	4.2	3.1	4.4	5.8	6.1	7.0	4.6	5.4	5.3	4.0	4.2	5.0	1.0	8.4	6.1	3.7	1.2	7.0	4.2	8.4			
8-Jan	3.3	1.2	0.0	0.4	0.5	Z	0.3	0.6	1.0	0.8	0.9	0.7	0.5	0.2	0.2	0.1	0.0	0.0	0.1	0.2	0.1	0.0	0.0	0.0	0.5	3.3			
9-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.0	2.2	1.9	2.2	3.4	2.3	1.4	1.5	2.2	2.1	1.7	1.4	1.2	0.8	1.1	3.4			
10-Jan	0.9	Z	0.9	1.0	1.2	1.2	1.2	1.3	1.7	2.0	C	C	C	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	2.0			
11-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.5	1.7	2.1	1.9	1.4	0.9	0.9	0.1	0.0	0.1	0.4	0.3	0.3	0.4	0.2	0.5	2.1			
12-Jan	0.3	0.7	1.2	Z	1.2	1.9	2.1	2.5	2.5	4.0	4.0	4.1	4.6	5.3	4.1	3.8	2.4	3.0	3.0	2.4	2.2	2.2	1.1	1.4	2.6	5.3			
13-Jan	1.4	1.5	1.3	1.3	Z	1.7	2.9	3.2	3.0	4.5	6.7	5.6	5.1	5.9	6.5	7.5	5.7	6.2	3.8	3.6	4.8	5.8	4.3	4.9	4.2	7.5			
14-Jan	4.5	4.7	3.2	3.5	11.0	Z	40.2	9.1	4.1	3.3	3.6	7.6	5.6	0.6	0.8	0.4	0.6	0.3	0.3	0.3	0.2	0.1	0.1	0.1	4.6	40.2			
15-Jan	Z	0.0	0.0	0.0	0.1	0.1	0.3	0.5	0.4	0.7	2.0	5.7	1.2	2.1	1.4	21.6	23.3	12.1	11.8	11.9	8.4	6.3	5.9	0.3	5.1	23.3			
16-Jan	0.0	Z	0.2	0.0	0.2	0.4	0.6	0.3	0.1	0.5	0.3	0.2	0.3	0.2	0.2	0.5	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.2	0.6	0.6			
17-Jan	0.0	0.0	Z	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.7	1.5	0.7	1.5	1.6	0.4	0.9	1.8	1.5	4.9	2.2	1.4	0.7	0.6	0.9	4.9			
18-Jan	0.5	0.6	0.6	Z	0.4	1.7	2.0	4.5	5.3	7.2	6.4	12.5	8.4	13.7	19.6	19.5	5.3	1.6	3.5	4.7	4.8	2.2	1.0	1.2	5.5	19.6			
19-Jan	0.1	0.1	0.4	0.2	Z	0.2	0.4	0.5	1.4	5.4	9.4	5.2	6.9	3.9	3.5	6.8	3.4	7.5	4.2	5.1	8.2	6.7	3.5	2.7	3.7	9.4			
20-Jan	1.3	1.8	1.1	3.2	1.0	Z	4.5	4.6	5.0	4.7	4.1	4.1	4.0	3.7	4.7	8.4	6.0	2.8	1.1	0.6	0.3	0.3	0.6	0.7	3.0	8.4			
21-Jan	Z	0.0	0.0	0.0	0.0	0.1	0.0	2.3	0.5	0.4	0.4	0.2	0.2	0.6	0.8	0.4	0.3	0.1	0.0	0.5	0.0	0.0	0.1	0.1	0.3	2.3			
22-Jan	0.2	Z	0.4	1.2	2.5	0.8	5.7	9.4	0.8	11.3	19.2	24.2	32.2	8.4	2.4	0.7	16.9	27.8	17.8	17.5	14.0	7.8	2.0	1.6	9.8	32.2			
23-Jan	1.0	1.1	Z	1.1	1.9	2.2	6.9	7.8	6.3	2.3	1.4	1.8	1.1	0.8	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.2	0.1	1.6	7.8	7.8			
24-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.5	0.8	0.5	1.3	1.6	M	M	0.4	1.5	4.9	6.7	4.8	12.0	1.6	0.2	1.8	12.0			
25-Jan	0.1	0.2	0.5	0.3	Z	1.9	8.8	3.6	16.4	18.9	6.9	1.5	2.1	1.1	2.7	1.9	1.0	1.8	3.6	0.6	0.6	1.1	0.8	3.4	18.9	18.9			
26-Jan	0.6	2.7	0.1	0.0	0.0	Z	0.0	3.9	4.3	4.2	2.7	1.1	1.9	1.3	1.6	1.7	23.5	0.6	0.5	0.5	0.2	0.1	0.3	0.5	2.3	23.5			
27-Jan	Z	0.0	0.2	0.0	0.5	2.7	5.0	3.6	10.8	33.3	30.8	11.9	21.4	8.3	1.0	1.7	0.8	0.5	0.4	0.1	0.1	0.0	0.0	0.0	5.8	33.3			
28-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.4	0.6	0.3	0.2	0.3	0.2	0.2	0.2	0.8	0.4	1.4	0.6	0.5	2.1	0.1	0.4	2.1			
29-Jan	0.1	0.2	Z	0.4	0.1	1.1	0.7	2.8	1.5	7.6	1.9	6.3	17.2	2.1	1.4	0.7	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.0	1.9	17.2			
30-Jan	0.0	0.0	0.0	Z	0.0	0.1	0.3	0.1	0.3	2.3	2.9	3.1	4.1	3.4	2.5	1.7	0.6	0.2	2.7	4.7	3.8	3.5	1.5	0.5	1.7	4.7			
31-Jan	0.2	0.1	0.2	0.1	Z	7.9	11.9	11.6	9.9	20.3	16.1	27.4	18.2	12.0	11.1	7.9	3.9	0.6	2.5	0.7	0.8	0.3	0.1	0.1	7.1	27.4			
																								Diurnal Average					
																								Diurnal Maximum					
Z - zerospan C - Calibration M - Maintenance																													



Wood Buffalo Environmental Association
Hourly Averages

Nitric Oxide (NO) - ppb
Athabasca Valley - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitric Oxide (NO) - ppb
Athabasca Valley - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	693	98.44	98.44
21 - 40	11	1.56	100.00
41 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 704

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitric Oxide (NO) - ppb
Athabasca Valley - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	11	7	10	9	14	117	75	25	39	66	66	52	33	18	41	110	693
21 - 40	0	0	0	2	0	2	3	1	1	1	0	0	0	0	0	1	11
11 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	11	7	10	11	14	119	78	26	40	67	66	52	33	18	41	111	704

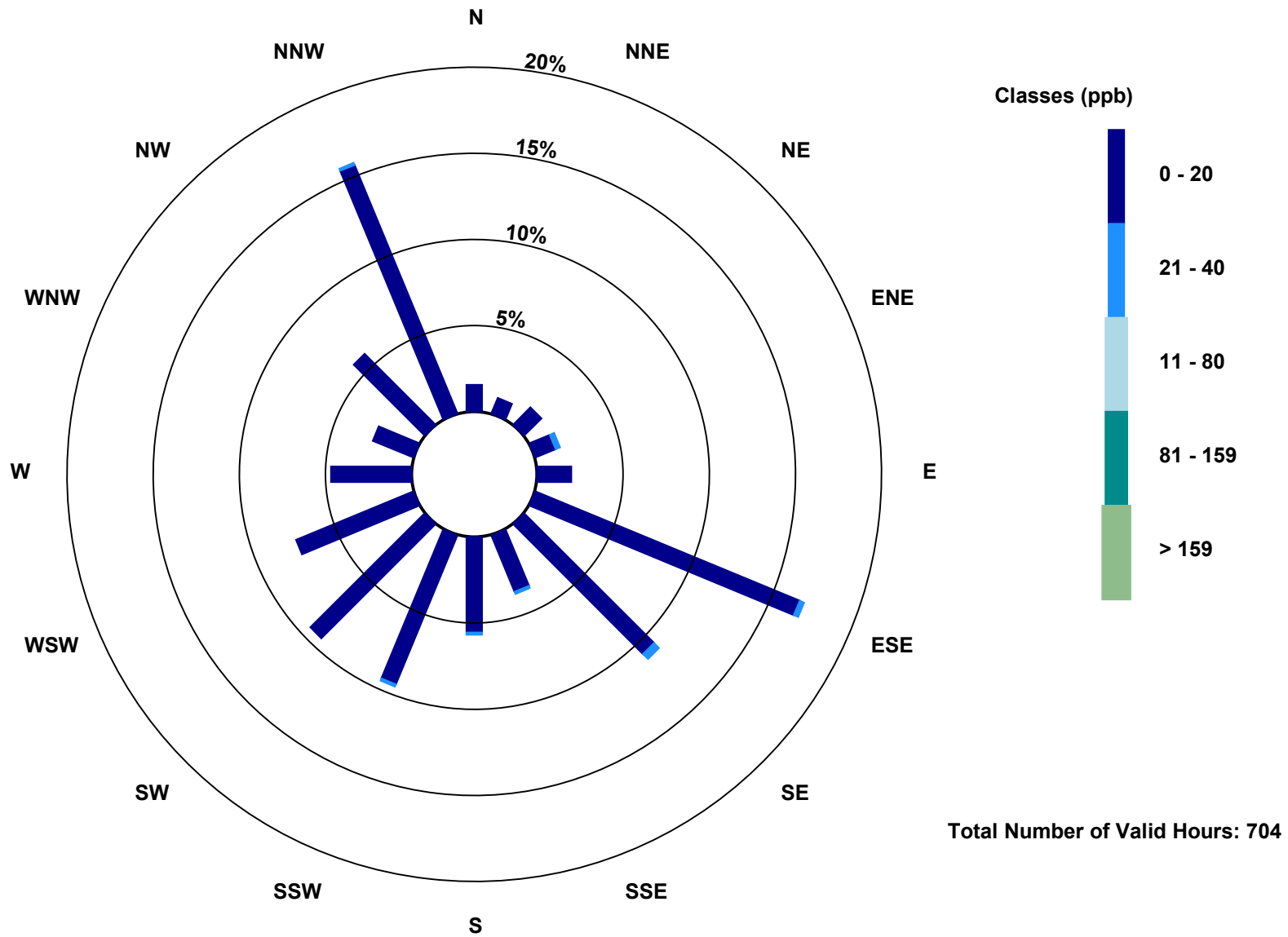
Total Number of Valid Hours: 704

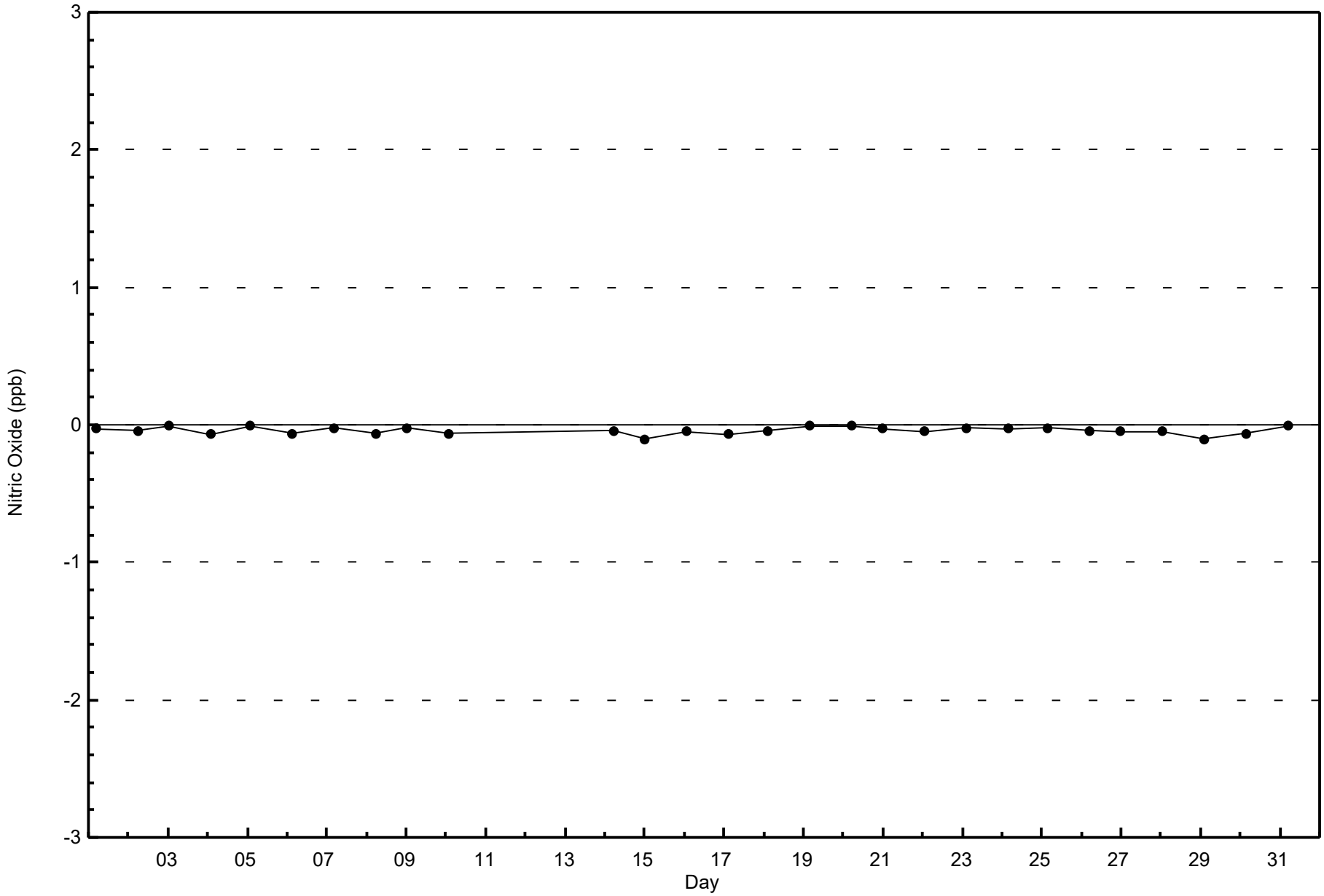
Total Number of Hours: 744

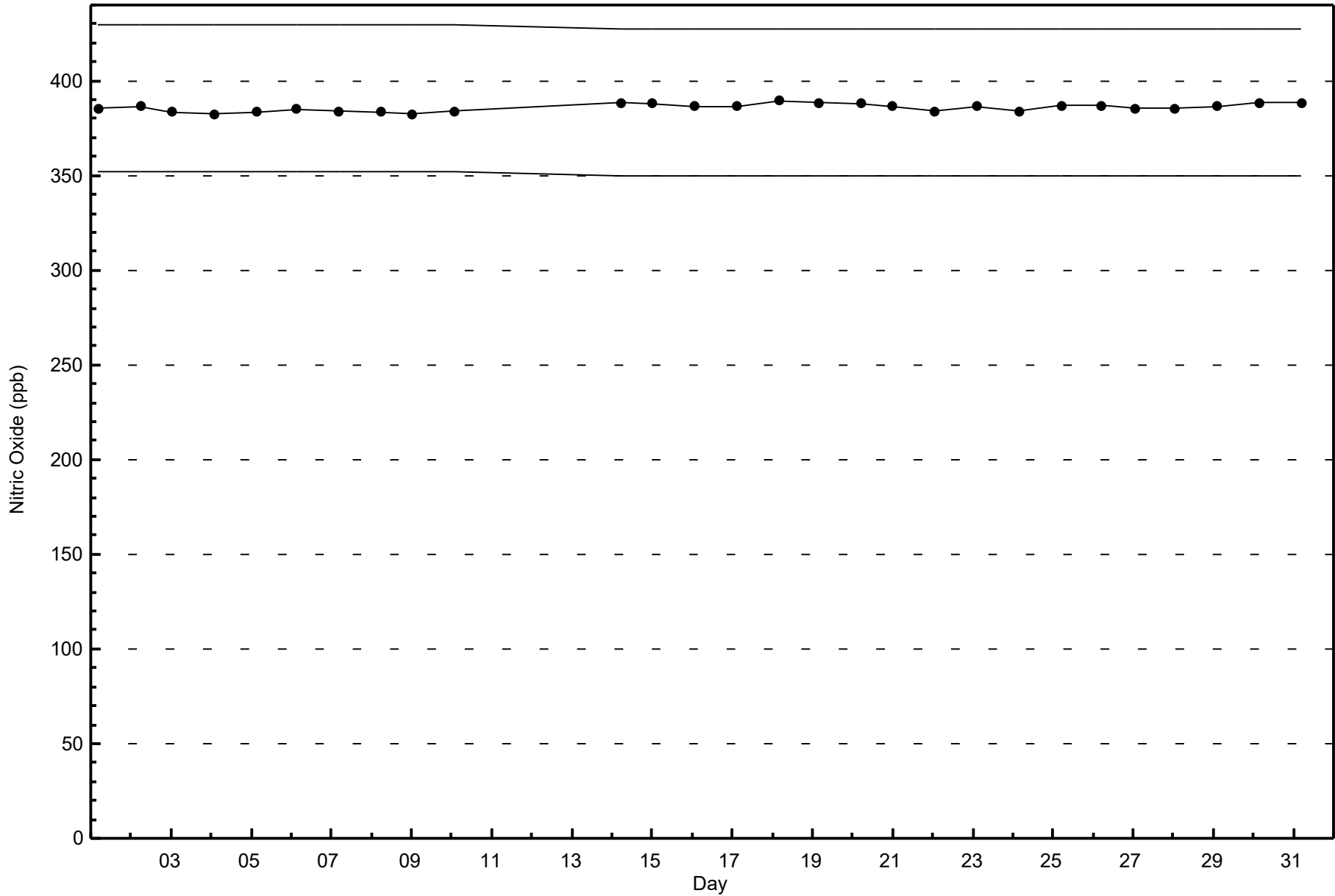


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitric Oxide (NO) - ppb
Athabasca Valley









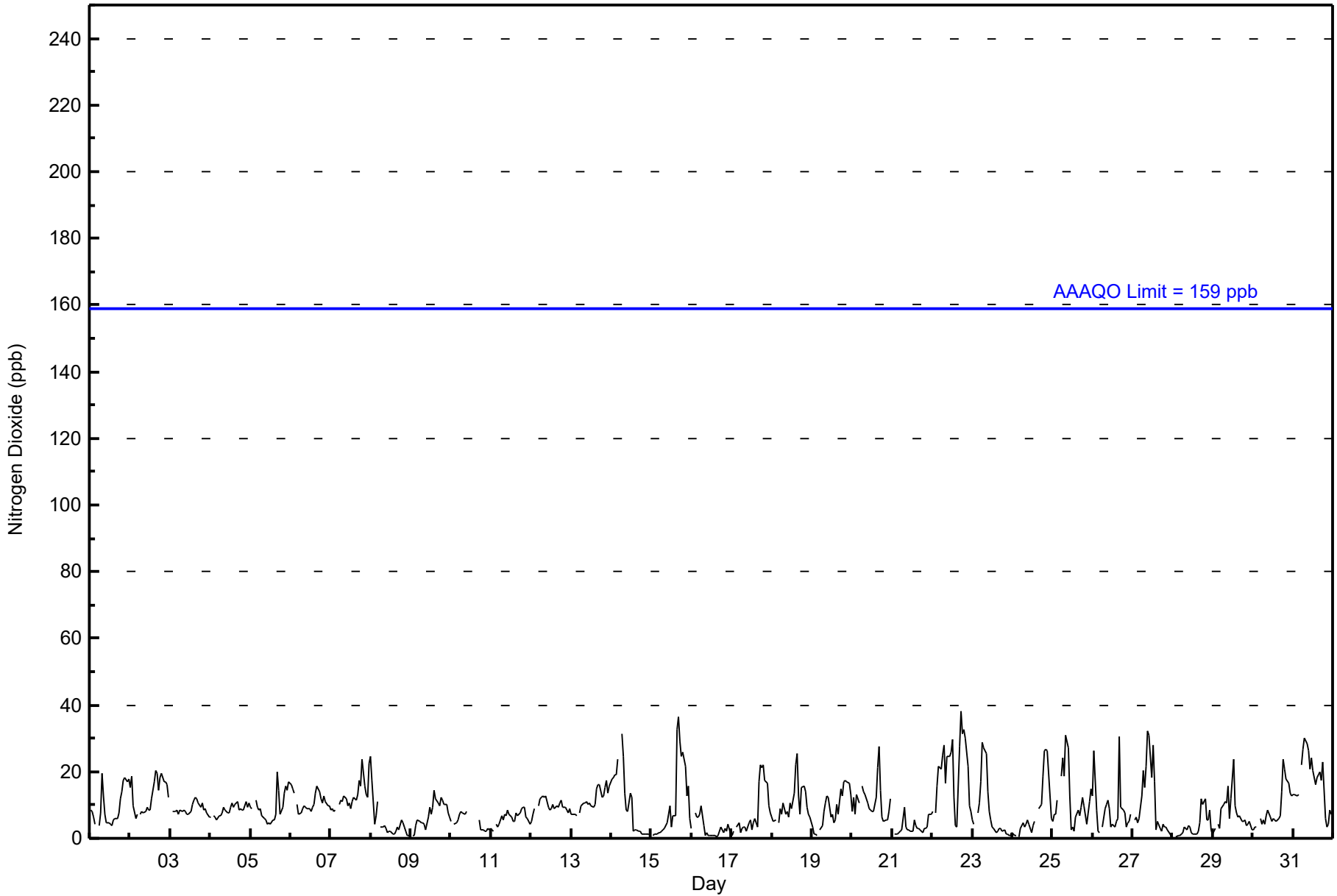
Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Dioxide (NO₂) - ppb

Athabasca Valley - January 2025

Number of Exceedences (AAAQO):		1-hr: 0	24-hr: 0	Hours in Service: 744																	744					
Maximum Value: 38.2 ppb on Jan 22 18:00		Maximum Daily Average: 20.3 ppb on Jan 22																	Hours of Data: 704							
Minimum Value: 0.4 ppb on Jan 28 01:00		Minimum Daily Average: 3.1 ppb on Jan 16																	Hours of Missing Data: 40							
Maximum Diurnal Average: 12.3 ppb at hour 17		Minimum Diurnal Average: 6.5 ppb at hour 3																	Hours of Calibration: 38							
Monthly Average: 9.30 ppb		Percentiles: P ₁ = 0.7 P ₁₀ = 2.1 Q ₁ = 4.2 Median = 7.9 Q ₃ = 12.2 P ₉₀ = 18.7 P ₉₉ = 31.1																	Percent Operational Time: 99.7							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	8.4	8.2	6.4	4.4	Z	3.7	7.5	19.7	12.6	7.4	4.7	4.8	4.3	4.0	5.5	6.0	6.0	7.7	11.8	13.9	17.2	18.4	16.8	17.9	9.4	19.7
2-Jan	15.1	18.6	9.8	6.1	7.1	Z	7.3	7.9	7.8	8.1	9.5	8.5	8.5	11.7	17.0	20.3	19.5	14.5	18.4	19.5	16.8	16.9	15.9	12.2	12.9	20.3
3-Jan	Z	8.2	8.0	8.1	8.3	7.2	8.3	8.2	8.4	8.0	7.0	7.3	8.0	10.0	11.5	12.3	11.9	10.8	9.3	10.4	8.6	8.7	7.6	6.5	8.8	12.3
4-Jan	6.2	Z	6.7	6.3	5.4	6.6	6.6	7.7	9.4	8.4	7.8	7.5	9.3	10.5	9.2	10.2	11.0	8.6	8.9	8.6	8.6	11.0	9.2	10.5	8.4	11.0
5-Jan	9.5	9.1	Z	11.4	9.3	8.6	9.1	6.7	5.9	5.4	4.1	4.5	4.2	5.4	5.2	7.3	20.1	14.4	7.1	9.2	13.4	15.7	14.4	16.8	9.4	20.1
6-Jan	16.3	14.9	13.5	Z	10.1	7.0	7.5	9.0	9.6	9.5	8.9	8.9	7.9	9.2	10.2	13.5	15.6	14.0	11.8	10.5	12.9	11.1	9.8	9.7	10.9	16.3
7-Jan	8.3	8.9	8.2	8.5	Z	10.2	11.6	10.9	12.8	11.9	9.8	10.8	8.7	10.9	12.1	11.6	13.2	17.2	15.8	23.7	15.6	13.2	12.1	22.3	12.5	23.7
8-Jan	24.7	17.2	4.4	6.7	10.9	Z	3.2	3.2	4.0	2.8	1.7	2.3	2.1	1.1	1.4	2.1	3.3	2.4	5.3	4.5	3.6	2.2	0.9	0.9	4.8	24.7
9-Jan	Z	0.8	0.9	3.9	5.4	5.0	4.8	4.8	4.4	2.6	6.5	9.2	7.1	9.5	14.4	12.0	10.7	9.9	12.2	11.5	10.1	10.3	7.8	6.5	7.4	14.4
10-Jan	5.0	Z	4.4	4.7	5.3	7.1	8.2	7.7	7.3	7.9	C	C	C	C	C	C	C	5.7	2.7	2.4	2.1	2.0	3.0	2.6	--	8.2
11-Jan	3.0	2.2	Z	4.1	3.6	4.4	6.7	5.5	7.1	6.9	8.6	7.2	6.4	5.1	4.9	7.8	6.7	7.7	8.7	9.5	9.4	6.3	5.9	4.2	6.2	9.5
12-Jan	5.0	7.1	8.9	Z	9.6	11.7	12.2	12.9	12.2	12.5	9.5	8.6	9.0	10.1	8.8	9.8	9.2	10.4	11.4	9.3	9.2	8.5	7.8	9.1	9.7	12.9
13-Jan	7.2	7.3	7.0	6.6	Z	7.7	9.8	10.4	10.7	11.2	10.1	10.4	9.8	9.3	10.1	15.0	16.3	15.9	12.2	12.6	15.2	17.4	13.7	15.8	11.4	17.4
14-Jan	17.6	18.4	19.2	19.2	23.8	Z	31.4	24.4	13.7	8.6	8.2	13.4	12.2	2.0	2.5	2.6	2.3	2.2	1.4	1.3	1.1	1.1	1.0	1.0	10.0	31.4
15-Jan	Z	0.9	1.3	1.3	1.7	1.8	2.3	2.6	3.1	4.8	7.1	9.9	3.5	6.6	6.7	32.5	36.3	29.4	24.5	25.9	21.5	12.5	15.6	5.9	11.2	36.3
16-Jan	3.1	Z	7.6	6.2	6.2	7.2	9.9	3.8	1.0	1.5	0.7	0.7	0.8	0.8	0.6	1.0	3.6	2.5	1.9	3.0	2.2	4.1	1.3	3.1	9.9	
17-Jan	0.9	2.1	Z	3.3	4.6	1.7	2.8	3.6	3.3	2.3	4.5	5.5	2.5	4.7	5.9	3.4	16.8	21.9	21.3	21.9	17.4	16.6	9.7	7.5	8.0	21.9
18-Jan	6.5	4.9	5.3	Z	4.7	8.8	7.4	10.6	7.2	8.2	6.5	10.6	8.7	13.5	22.2	25.4	12.9	7.2	15.2	15.8	14.0	9.3	7.1	6.4	10.4	25.4
19-Jan	3.5	1.3	1.4	1.0	Z	2.7	3.7	8.0	10.7	12.5	12.2	6.2	7.1	4.8	5.4	10.2	7.3	14.8	12.7	17.1	17.3	17.0	16.6	13.0	9.0	17.3
20-Jan	8.0	12.4	7.1	13.3	10.6	Z	15.7	14.1	13.2	10.8	8.8	8.6	8.2	8.0	12.1	21.1	27.6	14.5	6.4	5.1	5.5	5.6	7.9	11.8	11.1	27.6
21-Jan	Z	1.3	1.3	1.2	1.5	2.0	2.6	9.3	3.4	2.6	2.6	2.3	2.2	5.4	3.8	3.1	2.8	2.7	1.9	2.9	3.1	3.4	7.3	7.1	3.3	9.3
22-Jan	8.1	Z	7.7	15.8	21.5	20.7	25.2	27.9	16.7	24.5	24.5	26.0	29.8	12.2	3.8	3.6	27.4	38.2	31.3	32.5	30.1	21.7	9.8	8.1	20.3	38.2
23-Jan	5.7	4.4	Z	7.7	10.8	16.9	28.8	27.3	25.4	13.8	7.9	5.6	3.2	2.9	1.9	2.1	2.8	2.9	2.1	2.5	1.1	1.4	0.9	0.9	7.8	28.8
24-Jan	1.5	1.0	0.8	Z	0.6	3.1	4.7	3.5	4.2	5.4	4.3	1.6	3.7	4.9	M	M	8.9	10.3	18.7	26.2	26.8	26.2	12.7	6.0	8.3	26.8
25-Jan	5.1	7.3	7.4	11.5	Z	18.5	24.1	18.7	30.8	27.2	12.9	2.7	3.3	2.3	6.2	8.6	6.8	9.4	12.2	9.8	4.1	7.8	11.2	14.9	11.4	30.8
26-Jan	12.8	26.4	8.4	2.2	1.8	Z	3.3	8.9	10.0	11.6	8.7	3.6	4.2	3.4	4.9	6.0	30.4	9.2	8.6	7.6	3.3	4.6	5.2	7.4	8.4	30.4
27-Jan	Z	5.4	6.3	4.5	5.9	12.7	20.4	15.2	21.7	32.1	31.1	18.3	28.0	16.8	2.5	5.1	3.1	2.3	4.3	3.5	3.2	2.4	1.2	0.6	10.7	32.1
28-Jan	0.4	Z	0.6	0.7	0.8	1.3	1.6	3.3	2.6	4.0	3.3	1.9	1.1	1.4	1.4	2.1	4.7	12.0	10.0	11.8	5.3	5.3	8.6	2.4	3.8	12.0
29-Jan	1.3	2.8	Z	4.3	2.8	9.0	10.0	10.9	10.6	15.5	6.0	12.0	23.7	9.7	7.5	6.5	6.7	5.0	5.1	5.4	3.9	4.2	5.0	2.7	7.4	23.7
30-Jan	2.5	3.5	3.2	Z	6.1	4.2	5.6	4.4	6.6	8.5	6.2	5.0	5.9	5.3	4.9	5.8	6.8	13.9	23.9	20.7	17.6	16.5	13.7	12.9	8.9	23.9
31-Jan	13.0	13.1	12.6	13.3	Z	22.0	26.5	30.1	28.6	26.3	20.9	24.2	20.2	16.1	18.1	18.9	19.8	17.4	22.7	6.1	3.4	4.3	8.5	7.2	17.1	30.1
7.6 8.0 6.5 6.8 7.1 8.1 10.6 11.0 10.5 10.4 8.8 8.3 8.5 7.3 7.6 9.8 12.3 11.5 11.6 11.7 10.5 9.8 8.7 8.1																								Diurnal Average		
24.7 26.4 19.2 19.2 23.8 22.0 31.4 30.1 30.8 32.1 31.1 26.0 29.8 16.8 22.2 32.5 36.3 38.2 31.3 32.5 30.1 26.2 16.8 22.3																								Diurnal Maximum		
Z - zerospan C - Calibration M - Maintenance																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb																										





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Nitrogen Dioxide (NO₂) - ppb
Athabasca Valley - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	645	91.62	91.62
21 - 40	59	8.38	100.00
41 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 704

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Dioxide (NO₂) - ppb
Athabasca Valley - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	9	4	10	7	9	110	69	21	33	65	65	51	29	18	40	105	645
21 - 40	2	3	0	4	5	9	9	5	7	2	1	1	4	0	1	6	59
11 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	11	7	10	11	14	119	78	26	40	67	66	52	33	18	41	111	704

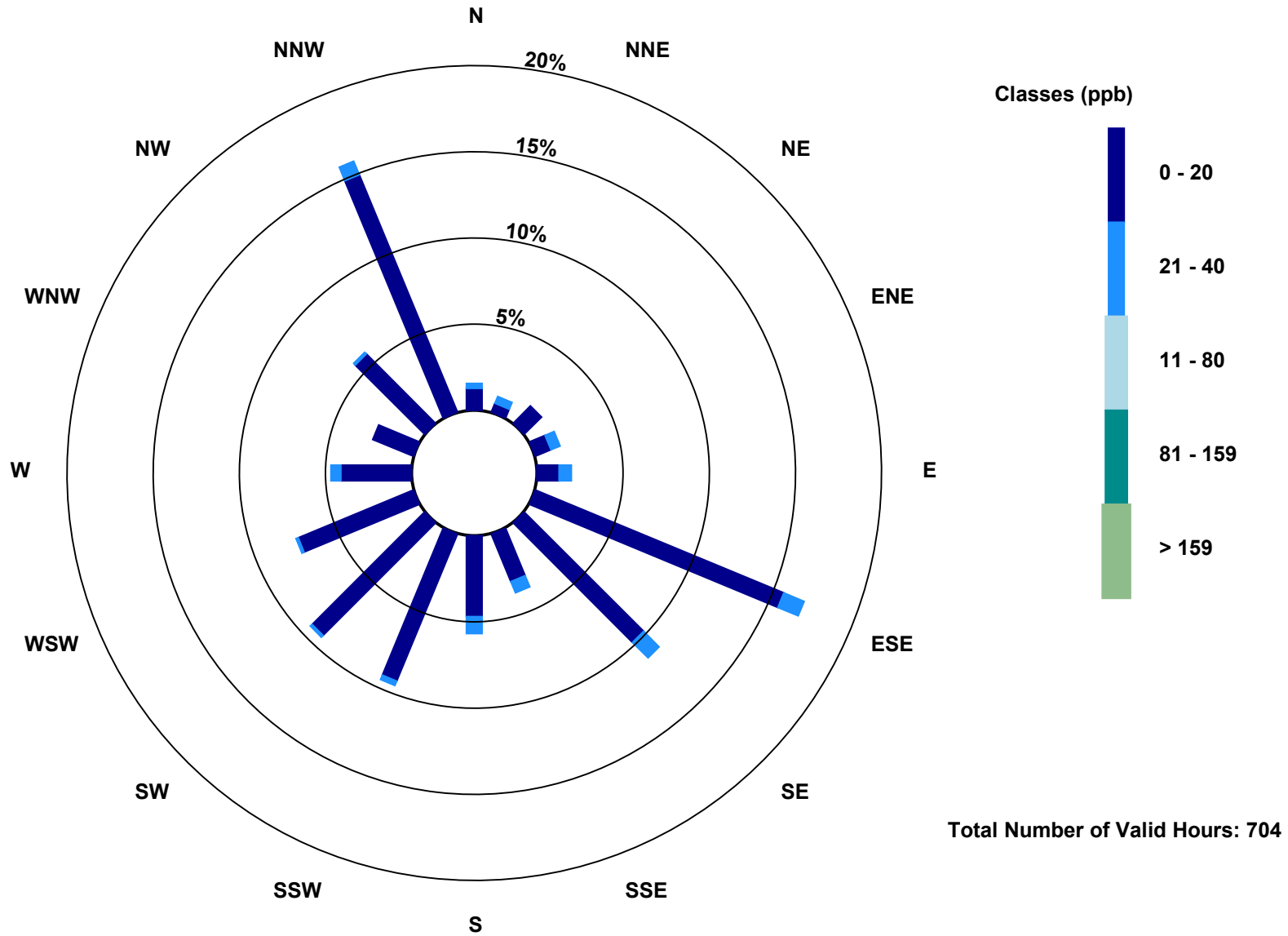
Total Number of Valid Hours: 704

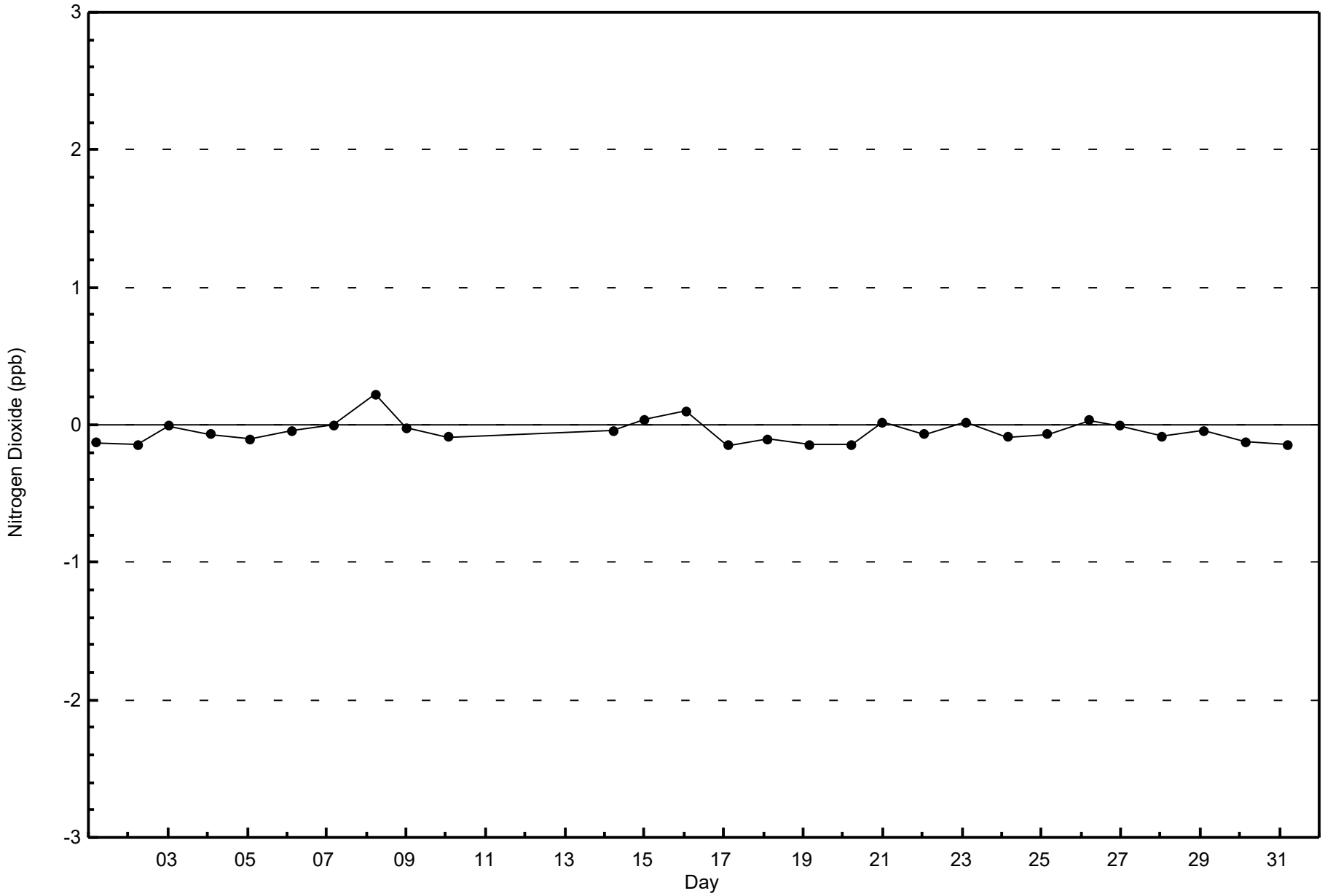
Total Number of Hours: 744

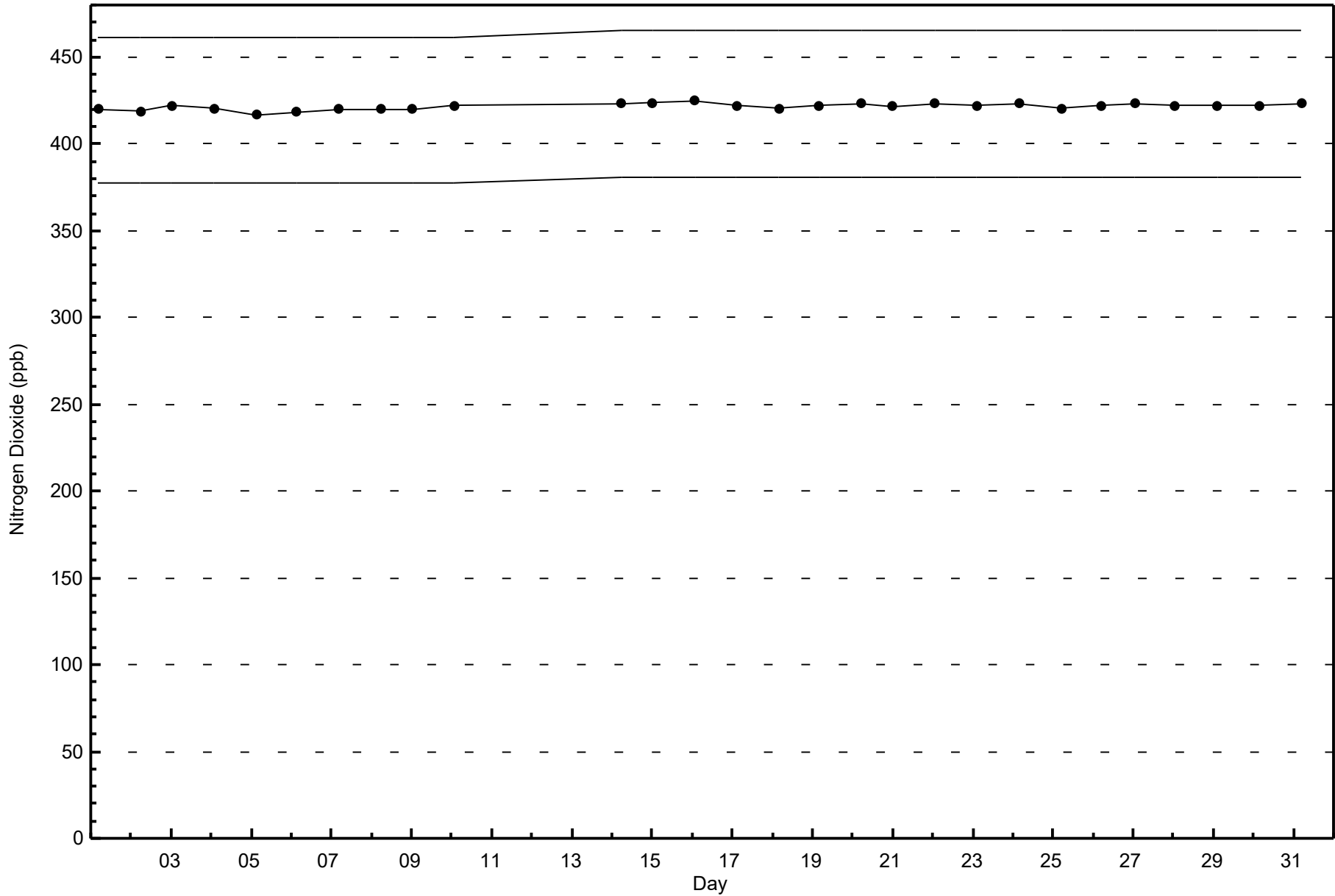


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Dioxide (NO₂) - ppb
Athabasca Valley









Wood Buffalo Environmental Association
Summary of Hour Averages

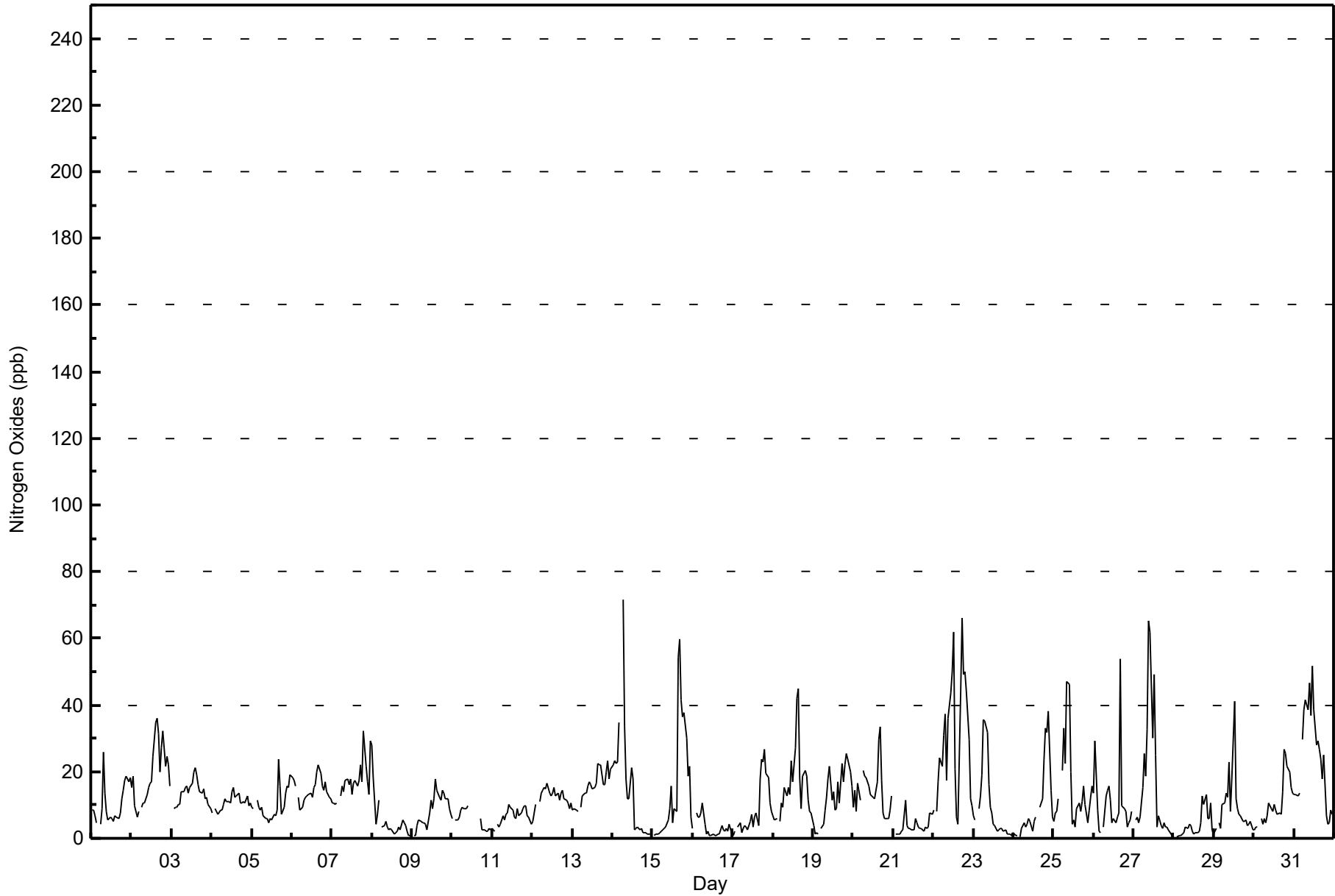
Nitrogen Oxides (NO_x) - ppb
Athabasca Valley - January 2025

Maximum Value: 71.6 ppb on Jan 14 07:00		Maximum Daily Average: 30.1 ppb on Jan 22		Hours in Service: 744																						
Minimum Value: 0.4 ppb on Jan 28 01:00		Minimum Daily Average: 3.3 ppb on Jan 16		Hours of Data: 704																						
Maximum Diurnal Average: 16.6 ppb at hour 17		Minimum Diurnal Average: 7.2 ppb at hour 3		Hours of Missing Data: 40																						
Monthly Average: 12.27 ppb		Percentiles: P ₁ = 0.8 P ₁₀ = 2.2 Q ₁ = 4.7 Median = 9.3 Q ₃ = 15.9 P ₉₀ = 24.7 P ₉₉ = 53.9		Hours of Calibration: 38																						
				Percent Operational Time: 99.7																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	8.4	8.3	6.8	4.6	Z	4.1	8.9	25.8	13.6	7.9	5.5	6.2	5.7	5.2	6.6	6.5	6.1	7.7	11.9	14.2	17.4	18.6	16.9	18.0	10.2	25.8
2-Jan	15.2	18.7	9.9	6.4	8.2	Z	9.2	10.5	10.6	13.1	15.3	16.5	17.0	24.7	34.6	35.9	31.5	20.0	26.9	32.4	21.8	24.7	22.1	15.6	19.2	35.9
3-Jan	Z	8.9	9.2	9.1	10.1	10.2	14.0	13.9	15.4	15.7	13.7	15.1	16.7	19.9	21.1	18.9	15.9	14.0	13.4	14.9	12.1	12.3	10.4	8.9	13.6	21.1
4-Jan	7.5	Z	9.0	8.1	7.3	8.6	8.7	10.1	11.8	10.9	10.9	10.8	13.9	15.3	12.1	12.8	13.6	10.5	10.5	10.9	10.6	12.7	9.6	10.7	10.7	15.3
5-Jan	9.5	9.1	Z	11.4	9.3	8.7	9.3	6.7	5.9	5.7	4.9	5.9	7.4	7.0	8.5	23.7	15.6	7.1	9.2	13.4	15.9	15.3	18.9	10.2	23.7	
6-Jan	18.1	17.2	15.9	Z	12.3	8.6	9.4	11.4	12.5	12.7	13.2	13.4	12.5	15.3	16.1	19.9	22.0	19.6	15.9	14.3	17.0	14.0	12.2	11.9	14.6	22.0
7-Jan	10.5	10.7	10.3	10.6	Z	12.6	15.8	14.0	17.2	17.7	15.9	17.8	13.3	16.3	17.4	15.6	17.4	22.2	16.8	32.1	21.7	16.9	13.3	29.3	16.8	32.1
8-Jan	28.0	18.4	4.4	7.1	11.4	Z	3.5	3.8	5.0	3.6	2.6	3.0	2.6	1.3	1.6	2.2	3.3	2.4	5.4	4.7	3.7	2.2	0.9	0.9	5.3	28.0
9-Jan	Z	0.8	0.9	3.9	5.4	5.0	4.8	4.8	4.4	2.7	7.5	11.4	9.0	11.7	17.8	14.3	12.1	11.4	14.4	13.6	11.8	11.7	9.0	7.3	8.5	17.8
10-Jan	5.9	Z	5.3	5.7	6.5	8.3	9.4	9.0	9.0	9.9	C	C	C	C	C	C	C	5.7	2.7	2.4	2.1	2.0	3.0	2.6	--	9.9
11-Jan	3.0	2.2	Z	4.1	3.6	4.4	6.7	5.5	7.2	7.4	10.3	9.3	8.3	6.5	5.8	8.7	6.8	7.7	8.8	9.9	9.7	6.6	6.3	4.4	6.7	10.3
12-Jan	5.3	7.8	10.1	Z	10.8	13.6	14.3	15.4	14.7	16.5	13.5	12.7	13.6	15.4	12.9	13.6	11.6	13.4	14.4	11.7	11.4	10.7	8.9	10.5	12.3	16.5
13-Jan	8.6	8.8	8.3	7.9	Z	9.4	12.7	13.6	13.7	15.7	16.8	16.0	14.9	15.2	16.6	22.5	22.0	22.1	16.0	16.2	20.0	23.2	18.0	20.7	15.6	23.2
14-Jan	22.1	23.1	22.4	22.7	34.8	Z	71.6	33.5	17.8	11.9	11.8	21.0	17.8	2.6	3.1	3.4	2.7	2.8	1.7	1.6	1.6	1.3	1.2	1.1	14.5	71.6
15-Jan	Z	0.9	1.3	1.3	1.8	1.9	2.6	3.1	3.5	5.5	9.1	15.6	4.7	8.7	8.1	54.1	59.6	41.5	36.3	37.8	29.9	18.8	21.5	6.2	16.3	59.6
16-Jan	3.1	Z	7.8	6.2	6.4	7.6	10.5	4.1	1.1	2.0	1.0	0.9	1.1	1.0	1.0	1.1	1.2	3.7	2.5	1.9	3.0	2.2	4.1	1.4	3.3	10.5
17-Jan	0.9	2.1	Z	3.3	4.6	1.8	2.9	3.7	3.4	2.5	5.2	7.0	3.2	6.2	7.5	3.8	17.7	23.7	22.8	26.8	19.6	18.0	10.4	8.1	8.9	26.8
18-Jan	7.0	5.5	5.9	Z	5.1	10.5	9.4	15.1	12.5	15.4	12.9	23.1	17.1	27.2	41.8	44.9	18.2	8.8	18.7	20.5	18.8	11.5	8.1	7.6	15.9	44.9
19-Jan	3.6	1.4	1.8	1.2	Z	2.9	4.1	8.5	12.1	17.9	21.6	11.4	14.0	8.7	8.9	17.0	10.7	22.3	16.9	22.2	25.5	23.7	20.1	15.7	12.7	25.5
20-Jan	9.3	14.2	8.2	16.5	11.6	Z	20.2	18.7	18.2	15.5	12.9	12.7	12.2	11.7	16.8	29.5	33.6	17.3	7.5	5.7	5.8	5.9	8.5	12.5	14.1	33.6
21-Jan	Z	1.3	1.3	1.2	1.5	2.1	2.6	11.6	3.9	3.0	3.0	2.5	2.4	6.0	4.6	3.5	3.1	2.8	1.9	3.4	3.1	3.4	7.4	7.2	3.6	11.6
22-Jan	8.3	Z	8.1	17.0	24.0	21.5	30.9	37.3	17.5	35.8	43.7	50.2	62.0	20.6	6.2	4.3	44.3	66.0	49.1	50.0	44.1	29.5	11.8	9.7	30.1	66.0
23-Jan	6.7	5.5	Z	8.8	12.7	19.1	35.7	35.1	31.7	16.1	9.3	7.4	4.3	3.7	2.2	2.3	2.9	2.9	2.1	2.5	1.1	1.4	1.1	1.0	9.4	35.7
24-Jan	1.5	1.0	0.8	Z	0.6	3.1	4.7	3.5	4.2	5.9	5.1	2.1	5.0	6.5	M	M	9.3	11.8	23.6	32.9	31.6	38.2	14.3	6.2	10.1	38.2
25-Jan	5.2	7.5	7.9	11.8	Z	20.4	32.9	22.3	47.2	46.1	19.8	4.2	5.4	3.4	8.9	10.5	7.8	11.2	15.8	10.4	4.7	8.4	12.3	15.7	14.8	47.2
26-Jan	13.4	29.1	8.5	2.2	1.8	Z	3.3	12.8	14.3	15.8	11.4	4.7	6.1	4.7	6.5	7.7	53.9	9.8	9.1	8.1	3.5	4.7	5.5	7.9	10.6	53.9
27-Jan	Z	5.4	6.5	4.5	6.4	15.4	25.4	18.8	32.5	65.4	61.9	30.2	49.4	25.1	3.5	6.8	3.9	2.8	4.7	3.6	3.3	2.4	1.2	0.6	16.5	65.4
28-Jan	0.4	Z	0.6	0.7	0.8	1.3	1.6	3.5	2.9	4.4	3.9	2.2	1.3	1.7	1.6	2.3	4.9	12.8	10.4	13.2	5.9	5.8	10.7	2.5	4.1	13.2
29-Jan	1.4	3.0	Z	4.7	2.9	10.1	10.7	13.7	12.1	23.1	7.9	18.3	40.9	11.8	8.9	7.2	7.0	5.1	5.2	5.5	3.9	4.2	5.0	2.7	9.4	40.9
30-Jan	2.5	3.5	3.2	Z	6.1	4.3	5.9	4.5	6.9	10.8	9.1	8.1	10.0	8.7	7.4	7.5	7.4	14.1	26.6	25.4	21.4	20.0	15.2	13.4	10.5	26.6
31-Jan	13.2	13.2	12.8	13.4	Z	29.9	38.4	41.7	38.5	46.6	37.0	51.6	38.4	28.1	29.2	26.8	23.7	18.0	25.2	6.8	4.2	4.6	8.6	7.3	24.2	51.6
8.4 8.8 7.2 7.5 8.2 9.4 14.2 14.1 13.6 15.6 13.9 13.7 14.3 11.4 11.6 14.2 16.6 14.5 14.3 15.0 13.0 12.1 10.1 9.2																								Diurnal Average		
28.0 29.1 22.4 22.7 34.8 29.9 71.6 41.7 47.2 65.4 61.9 51.6 62.0 28.1 41.8 54.1 59.6 66.0 49.1 50.0 44.1 38.2 22.1 29.3																								Diurnal Maximum		
Z - zerospan C - Calibration M - Maintenance																										



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Athabasca Valley - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Nitrogen Oxides (NO_x) - ppb
Athabasca Valley - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	599	85.09	85.09
21 - 40	81	11.51	96.59
41 - 80	24	3.41	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 704

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Oxides (NO_x) - ppb
Athabasca Valley - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	9	4	10	6	7	103	60	21	26	59	62	47	27	18	40	100	599
21 - 40	1	3	0	3	6	12	11	3	11	7	4	5	6	0	0	9	81
11 - 80	1	0	0	2	1	4	7	2	3	1	0	0	0	0	1	2	24
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	11	7	10	11	14	119	78	26	40	67	66	52	33	18	41	111	704

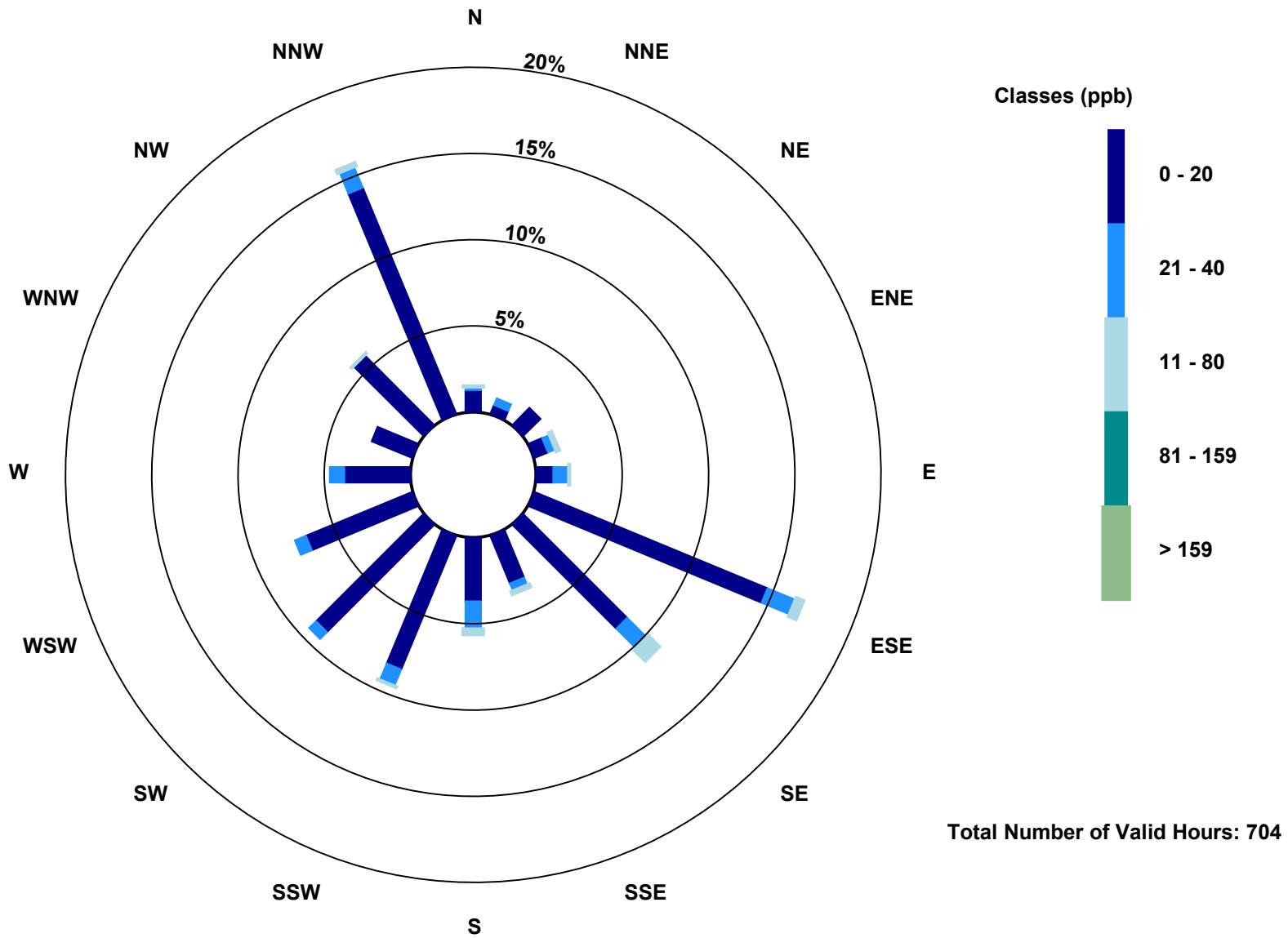
Total Number of Valid Hours: 704

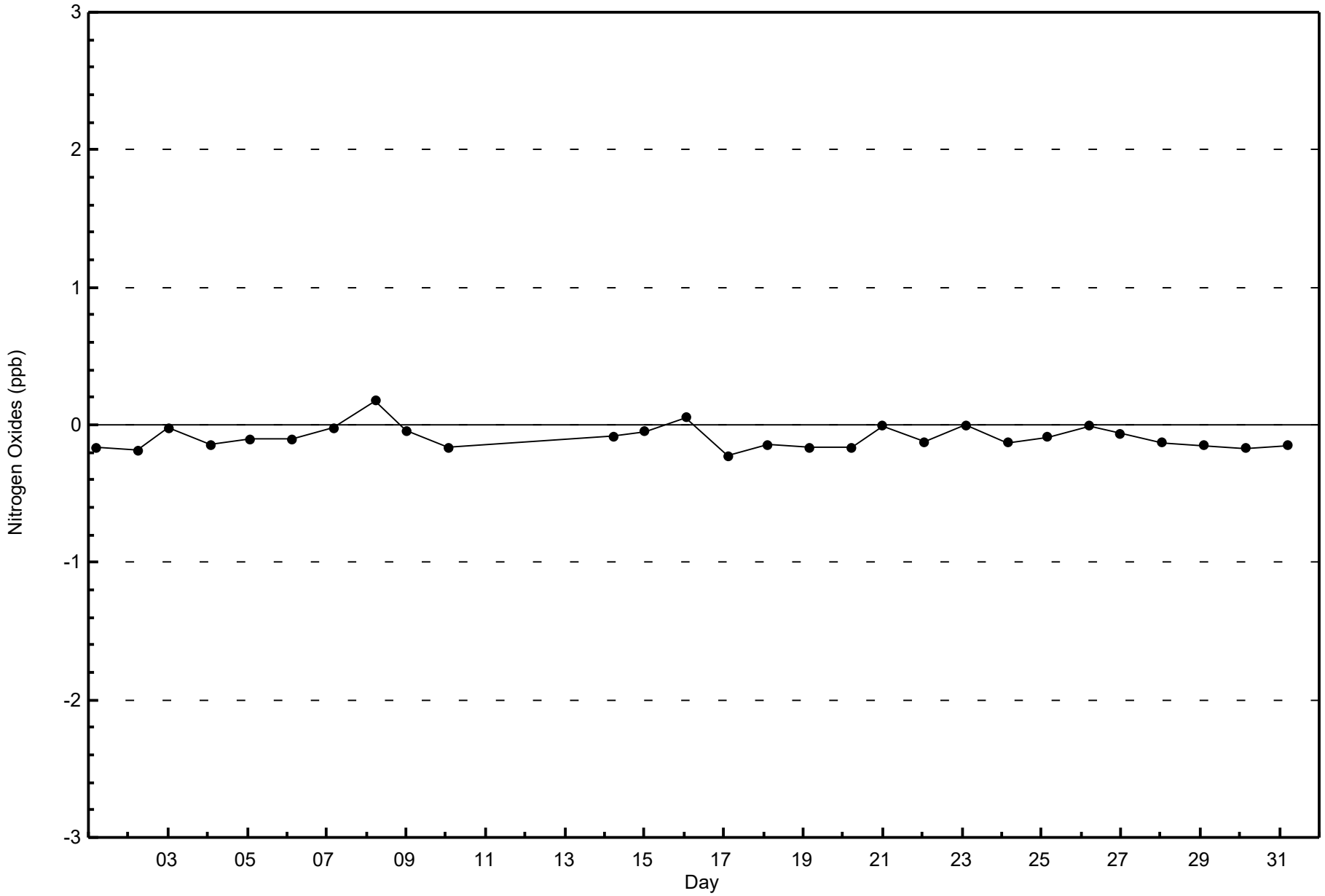
Total Number of Hours: 744

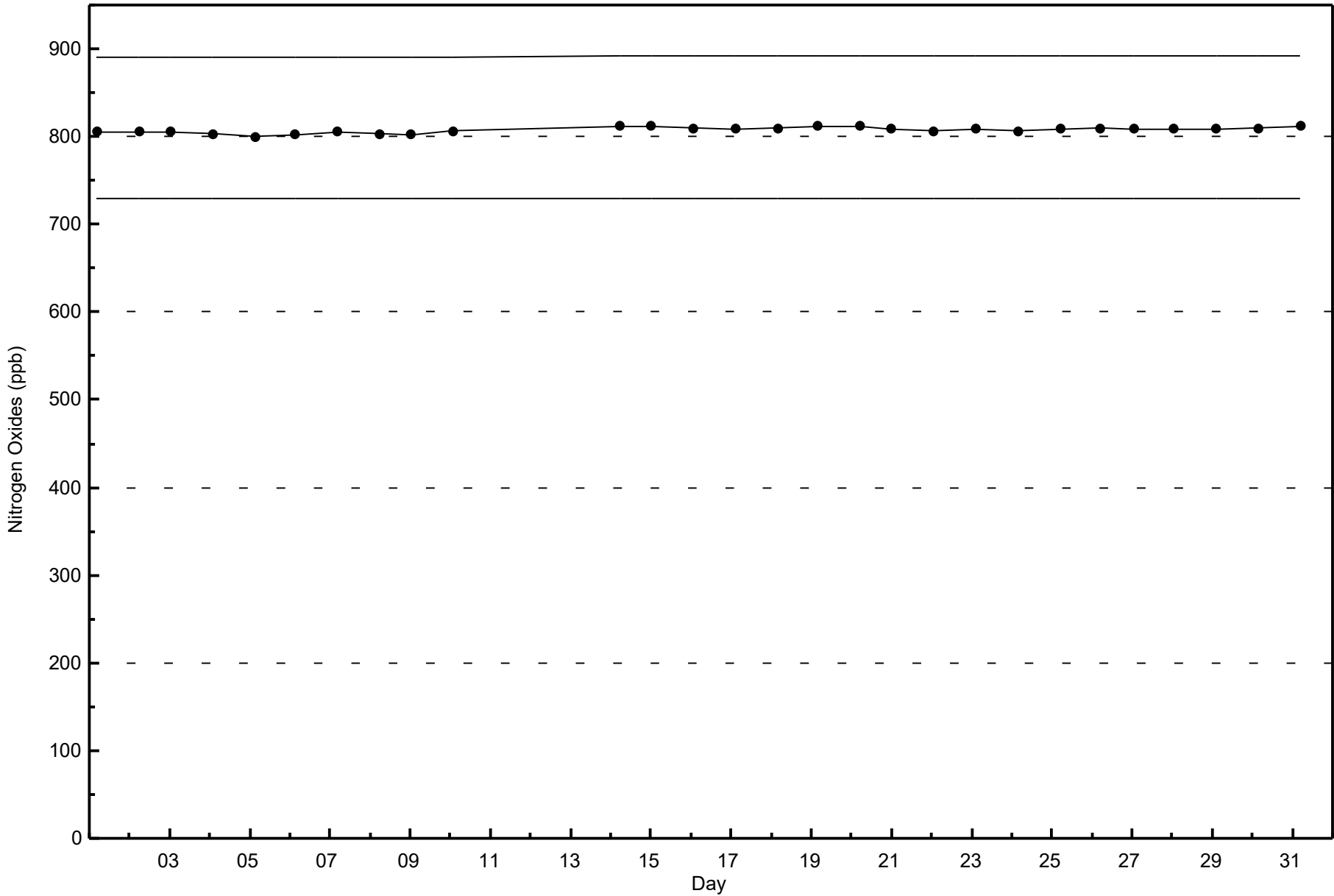


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Oxides (NO_x) - ppb
Athabasca Valley









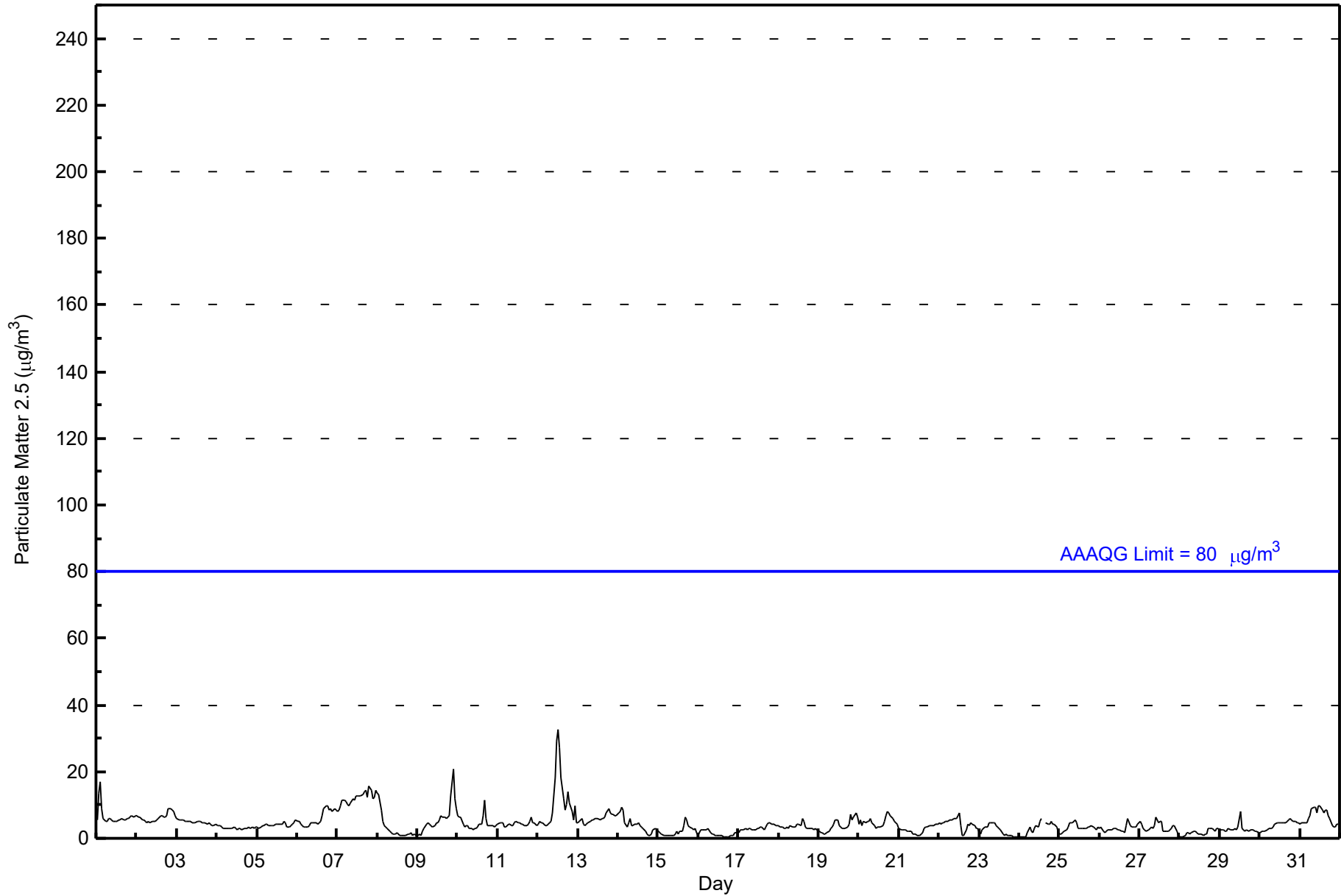
Wood Buffalo Environmental Association

Summary of Hour Averages

Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Athabasca Valley - January 2025

Number of Exceedences (AAAQO):		1-hr: 0	24-hr: 0	Hours in Service: 744																	742					
Maximum Value: 32.5 µg/m ³ on Jan 12 13:00		Maximum Daily Average: 12.0 µg/m ³ on Jan 7																	742							
Minimum Value: 0.4 µg/m ³ on Jan 23 23:00		Minimum Daily Average: 1.4 µg/m ³ on Jan 16																	Hours of Missing Data: 2							
Maximum Diurnal Average: 5.3 µg/m ³ at hour 13		Minimum Diurnal Average: 3.6 µg/m ³ at hour 5																	Hours of Calibration: 2							
Monthly Average: 4.41 µg/m ³		Percentiles: P ₁ = 0.5 P ₁₀ = 1.4 Q ₁ = 2.7 Median = 3.9 Q ₃ = 5.2 P ₉₀ = 7.7 P ₉₉ = 15.3																	Percent Operational Time: 100.0							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	5.4	13.7	17.0	8.9	6.0	5.2	5.2	6.0	6.1	5.5	5.3	4.9	5.2	5.4	5.4	5.8	5.4	5.6	5.8	5.9	6.4	6.6	6.2	6.9	6.7	17.0
2-Jan	6.8	6.5	6.2	5.7	5.5	5.0	4.9	4.9	4.9	4.9	5.3	5.2	5.4	5.8	6.9	7.0	6.5	6.2	7.0	8.9	8.8	8.4	7.9	6.7	6.3	8.9
3-Jan	5.9	5.6	5.5	5.5	5.5	5.0	5.1	5.0	5.0	4.9	4.7	4.7	4.9	4.9	4.9	4.8	4.7	4.5	4.3	4.5	4.1	3.9	4.0	4.1	4.8	5.9
4-Jan	3.8	4.0	3.7	3.4	3.1	3.0	2.8	3.0	2.9	3.0	3.3	3.0	2.7	2.9	3.0	2.7	3.0	2.9	3.0	3.3	3.2	3.3	3.1	3.3	3.1	4.0
5-Jan	3.4	3.1	3.5	3.9	3.8	4.4	4.4	3.9	3.9	3.8	3.9	4.1	4.2	4.3	4.4	4.4	5.0	4.8	3.4	3.3	3.6	4.1	4.5	5.3	4.1	5.3
6-Jan	5.2	5.0	4.3	3.9	3.6	3.5	3.5	3.8	4.5	4.6	4.8	4.8	4.4	4.5	5.0	6.7	8.7	9.9	9.9	8.3	8.7	8.1	8.8	8.6	6.0	9.9
7-Jan	8.2	8.5	9.7	11.2	11.3	10.8	10.2	9.9	10.8	11.7	11.5	12.8	12.7	12.7	12.6	13.2	13.8	14.3	12.2	15.8	14.6	11.7	12.3	14.6	12.0	15.8
8-Jan	13.7	13.2	8.6	5.2	3.9	3.2	2.8	2.2	1.8	1.4	1.1	1.3	1.5	0.8	0.7	1.0	0.8	1.5	1.3	1.6	1.0	1.1	1.0	3.0	13.7	
9-Jan	1.0	1.2	0.9	2.2	2.8	4.2	4.7	4.2	4.0	3.3	3.9	4.8	4.9	5.4	6.7	6.5	6.4	5.9	6.3	6.6	12.7	20.6	11.8	8.9	5.8	20.6
10-Jan	6.8	6.6	6.5	4.0	3.5	3.7	3.6	3.1	2.8	2.8	2.9	3.1	3.3	4.0	4.3	6.7	11.3	5.8	3.7	3.9	4.0	3.7	3.6	4.0	4.5	11.3
11-Jan	4.2	4.5	4.6	4.6	3.6	3.6	4.3	4.1	4.0	3.7	4.8	5.0	4.8	4.5	4.2	4.2	3.7	3.6	4.2	5.1	6.3	4.7	4.5	3.8	4.4	6.3
12-Jan	4.1	4.9	4.7	4.5	4.0	3.9	4.3	4.7	5.1	7.5	18.0	29.1	32.5	27.0	18.1	11.8	8.3	10.3	14.2	10.8	8.0	5.4	9.7	4.7	10.7	32.5
13-Jan	4.9	5.0	5.8	4.2	4.0	4.1	4.6	5.0	5.5	5.7	5.8	5.9	6.0	5.4	5.7	5.9	6.3	7.6	8.9	7.7	7.4	7.2	6.7	7.0	5.9	8.9
14-Jan	7.6	8.0	9.5	8.7	4.8	3.4	4.6	5.8	3.9	3.7	4.3	4.1	4.5	3.6	3.4	3.1	2.1	1.2	1.0	1.0	1.4	2.5	2.8	2.7	4.1	9.5
15-Jan	2.2	1.6	1.1	0.9	0.9	0.8	0.8	0.7	0.8	0.9	1.2	2.2	1.5	2.2	2.0	3.8	6.3	5.7	4.0	3.3	3.1	2.5	2.9	1.6	2.2	6.3
16-Jan	0.9	2.4	2.5	2.4	2.6	2.5	2.9	1.6	1.4	1.3	0.9	0.7	0.7	0.7	0.5	0.5	0.5	0.6	0.7	1.1	1.0	1.9	1.6	1.4	2.9	
17-Jan	1.9	2.3	2.6	2.7	2.9	2.6	2.8	2.8	2.7	2.7	3.1	2.8	3.3	3.5	2.7	3.5	4.1	4.5	4.7	4.3	4.1	3.9	3.7	3.2	4.7	
18-Jan	4.0	3.3	3.2	3.0	3.1	3.3	3.2	3.6	3.3	3.3	3.2	4.1	4.1	4.0	5.8	5.2	3.5	2.8	3.0	3.0	2.8	2.7	2.9	2.8	3.5	5.8
19-Jan	2.2	1.5	1.5	1.4	1.4	1.6	2.0	3.0	3.4	4.2	5.4	5.4	4.0	3.3	3.0	3.0	3.1	3.4	4.3	7.2	5.5	6.3	7.5	6.2	3.7	7.5
20-Jan	4.3	5.4	3.8	5.1	4.8	5.2	5.1	5.8	4.5	3.7	3.2	3.4	3.4	3.6	4.0	5.1	6.7	7.9	7.5	6.9	6.1	5.2	4.5	4.3	5.0	7.9
21-Jan	2.8	2.6	2.7	2.6	2.4	2.3	2.0	2.1	1.4	1.2	1.2	1.0	0.7	1.4	1.8	2.9	3.3	3.5	3.6	4.0	3.7	3.9	4.1	4.3	2.6	4.3
22-Jan	4.6	4.2	4.5	4.8	5.2	5.2	5.5	5.4	5.5	5.8	6.0	6.9	7.5	3.8	1.0	0.9	2.7	4.4	3.8	4.6	4.3	3.9	2.9	2.8	4.4	7.5
23-Jan	1.7	1.2	2.5	3.5	3.3	3.6	4.8	4.5	4.7	4.6	3.8	3.5	3.1	2.4	1.2	1.0	1.2	0.8	0.7	0.7	0.5	0.6	0.4	0.4	2.3	4.8
24-Jan	0.5	0.5	0.5	0.5	0.4	1.8	3.6	2.1	1.9	3.0	3.6	3.4	5.0	5.9	C	C	4.5	4.1	4.1	4.9	4.1	4.3	3.5	1.6	2.9	5.9
25-Jan	1.2	1.3	1.5	2.0	2.6	3.6	4.5	4.9	4.8	5.6	4.7	3.0	3.1	2.9	2.9	2.9	2.8	3.5	3.6	3.7	3.4	3.1	2.6	3.5	3.2	5.6
26-Jan	2.8	3.2	2.2	1.6	2.1	2.4	2.5	2.6	2.9	3.0	2.9	2.6	2.4	2.3	2.1	1.8	3.8	5.9	3.7	3.2	3.2	3.4	3.6	4.2	2.9	5.9
27-Jan	5.0	4.1	2.9	2.5	2.2	2.4	3.0	3.2	3.0	3.9	6.2	4.7	5.0	5.0	2.1	1.9	2.0	1.9	2.6	3.1	3.9	3.9	2.3	0.8	3.2	6.2
28-Jan	0.6	0.5	0.5	0.9	1.9	1.6	1.4	1.6	1.9	2.0	1.8	1.3	1.1	1.1	1.0	1.1	1.4	3.0	3.0	3.1	2.6	2.2	3.1	3.1	1.7	3.1
29-Jan	2.6	2.7	2.4	2.1	2.2	2.8	2.7	2.6	2.5	2.9	2.4	3.3	8.0	3.2	2.5	2.3	2.6	2.3	2.4	2.4	2.4	2.3	2.1	1.6	2.7	8.0
30-Jan	1.7	2.1	2.3	2.3	2.6	2.8	3.0	3.1	3.3	4.1	4.6	4.5	4.8	4.8	4.6	4.7	5.3	5.7	5.7	5.5	5.1	4.9	4.8	4.8	4.0	5.7
31-Jan	4.3	4.5	4.8	4.7	4.8	5.7	6.8	8.9	9.3	9.1	7.8	9.6	9.9	8.5	7.8	8.3	8.3	6.9	5.9	3.9	3.2	3.3	4.3	4.3	6.5	9.9
4.0 4.3 4.3 3.8 3.6 3.7 3.9 4.0 4.0 4.1 4.6 5.0 5.3 4.8 4.4 4.4 4.8 4.8 4.8 4.9 4.8 4.8 4.6 4.3																								Diurnal Average		
13.7 13.7 17.0 11.2 11.3 10.8 10.2 9.9 10.8 11.7 18.0 29.1 32.5 27.0 18.1 13.2 13.8 14.3 14.2 15.8 14.6 20.6 12.3 14.6																								Diurnal Maximum		
C - Calibration																										
Alberta Ambient Air Quality Guideline/Objectives: 1-hr 80 µg/m ³ 24-hr 29 µg/m ³																										





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Athabasca Valley - January 2025

Concentration Ranges ($\mu\text{g}/\text{m}^3$)	Number of Hours	%	Cumulative %
0 - 5	585	78.84	78.84
6 - 15	149	20.08	98.92
16 - 25	5	0.67	99.60
26 - 80	3	0.40	100.00
> 81.0	0	0.00	100.00

Total Number of Valid Hours: 742

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - μg/m³
Athabasca Valley - January 2025

Concentration Ranges (μg/m ³)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	9	8	10	5	11	84	49	22	39	60	57	52	32	17	38	92	585
6 - 15	2	1	1	6	5	44	24	6	5	10	9	3	3	2	7	21	149
16 - 25	0	0	0	0	1	0	3	0	0	0	1	0	0	0	0	0	5
26 - 80	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3
> 81.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	11	9	11	11	17	128	79	28	44	70	67	55	35	19	45	113	742

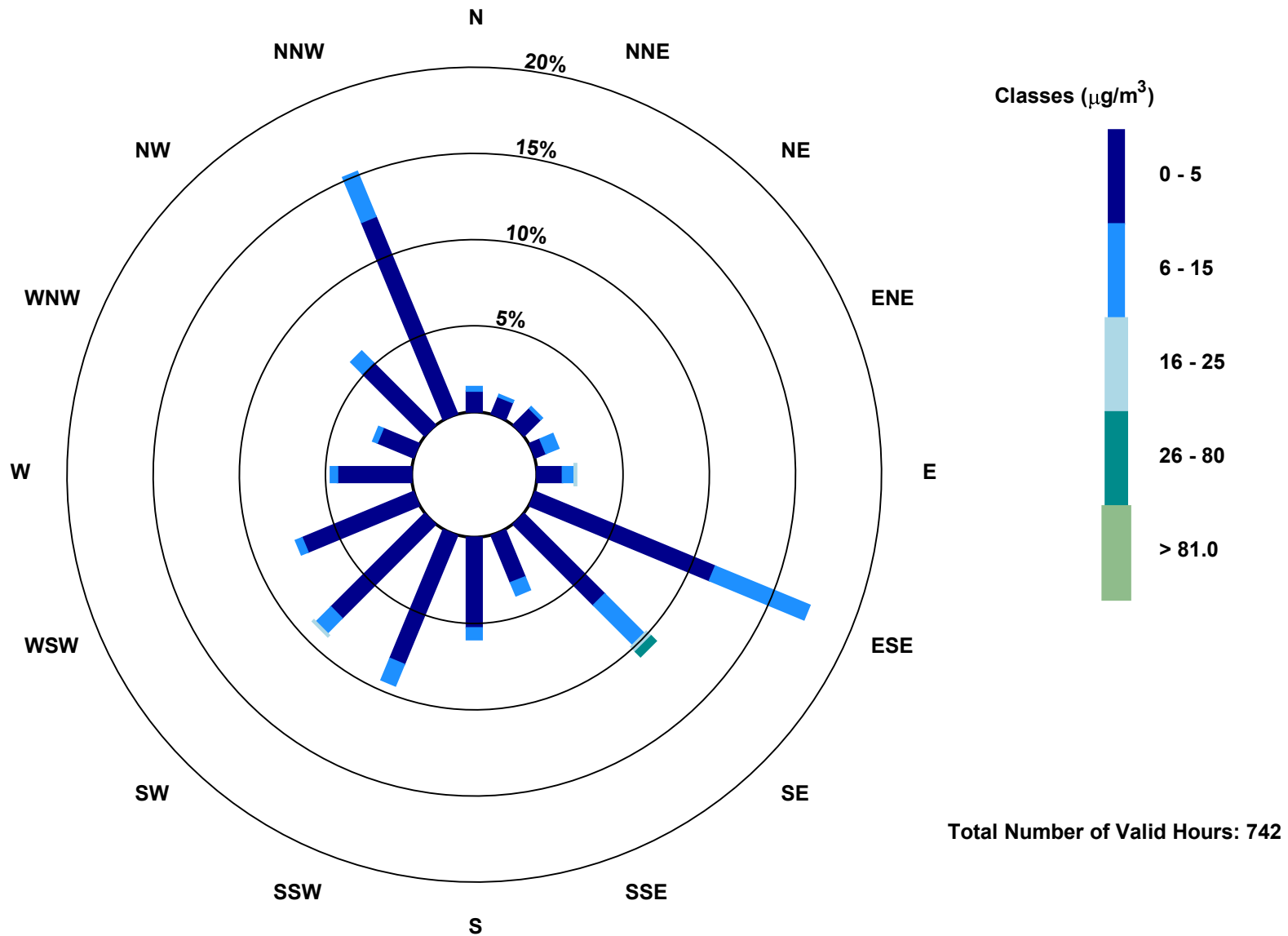
Total Number of Valid Hours: 742

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

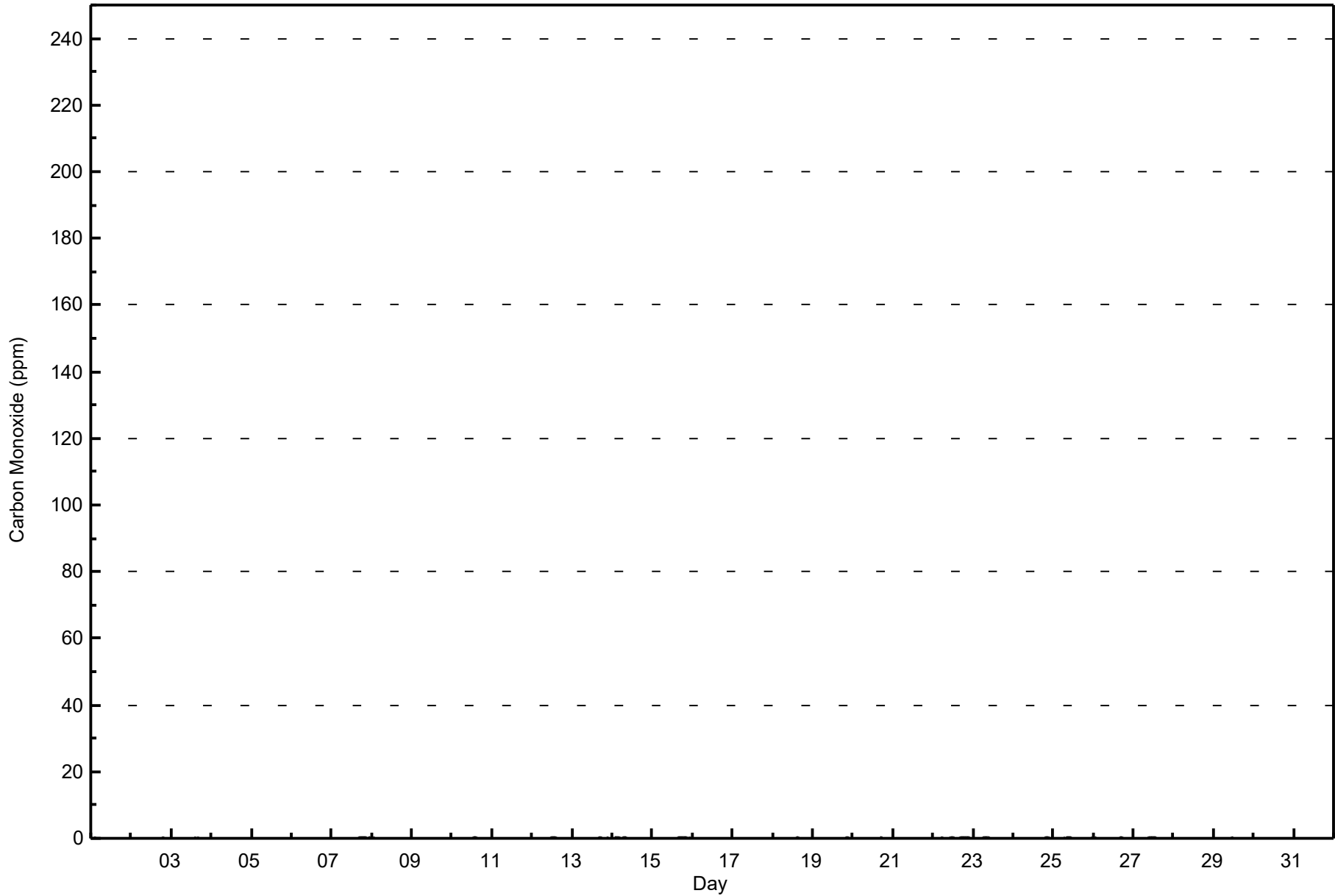
Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Athabasca Valley





Wood Buffalo Environmental Association
Hourly Averages

Carbon Monoxide (CO) - ppm
Athabasca Valley - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Carbon Monoxide (CO) - ppm
Athabasca Valley - January 2025**

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 0.3	696	98.58	98.58
0.4 - 0.5	10	1.42	100.00
0.6 - 0.7	0	0.00	100.00
0.8 - 1.4	0	0.00	100.00
1.5 - 10	0	0.00	100.00
> 10	0	0.00	100.00

Total Number of Valid Hours: 706

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Carbon Monoxide (CO) - ppm
Athabasca Valley - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 0.3	10	9	11	9	14	115	73	26	40	68	65	53	32	18	43	110	696
0.4 - 0.5	0	0	0	1	2	2	3	1	1	0	0	0	0	0	0	0	10
0.6 - 0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.8 - 1.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.5 - 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	10	9	11	10	16	117	76	27	41	68	65	53	32	18	43	110	706

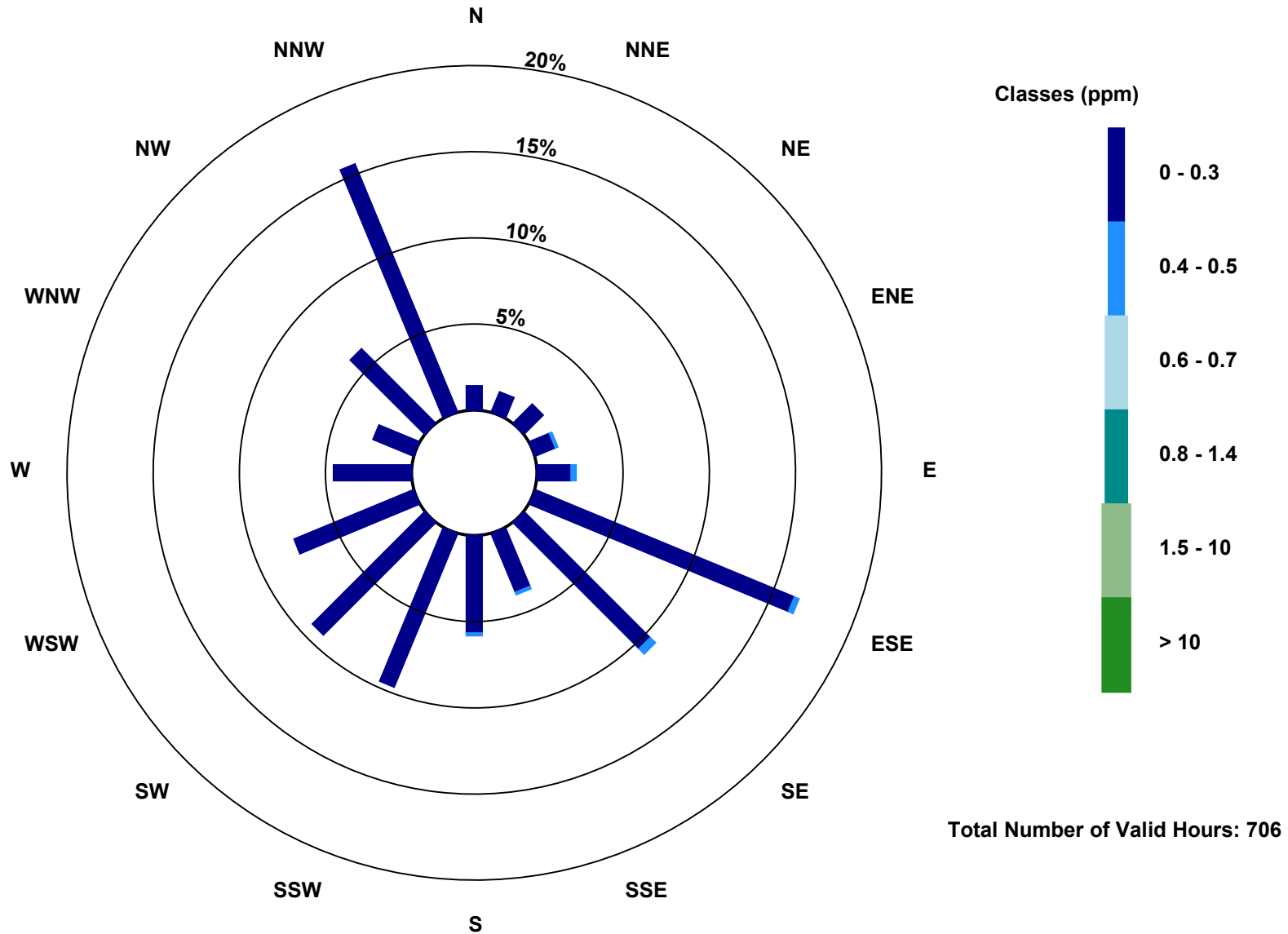
Total Number of Valid Hours: 706

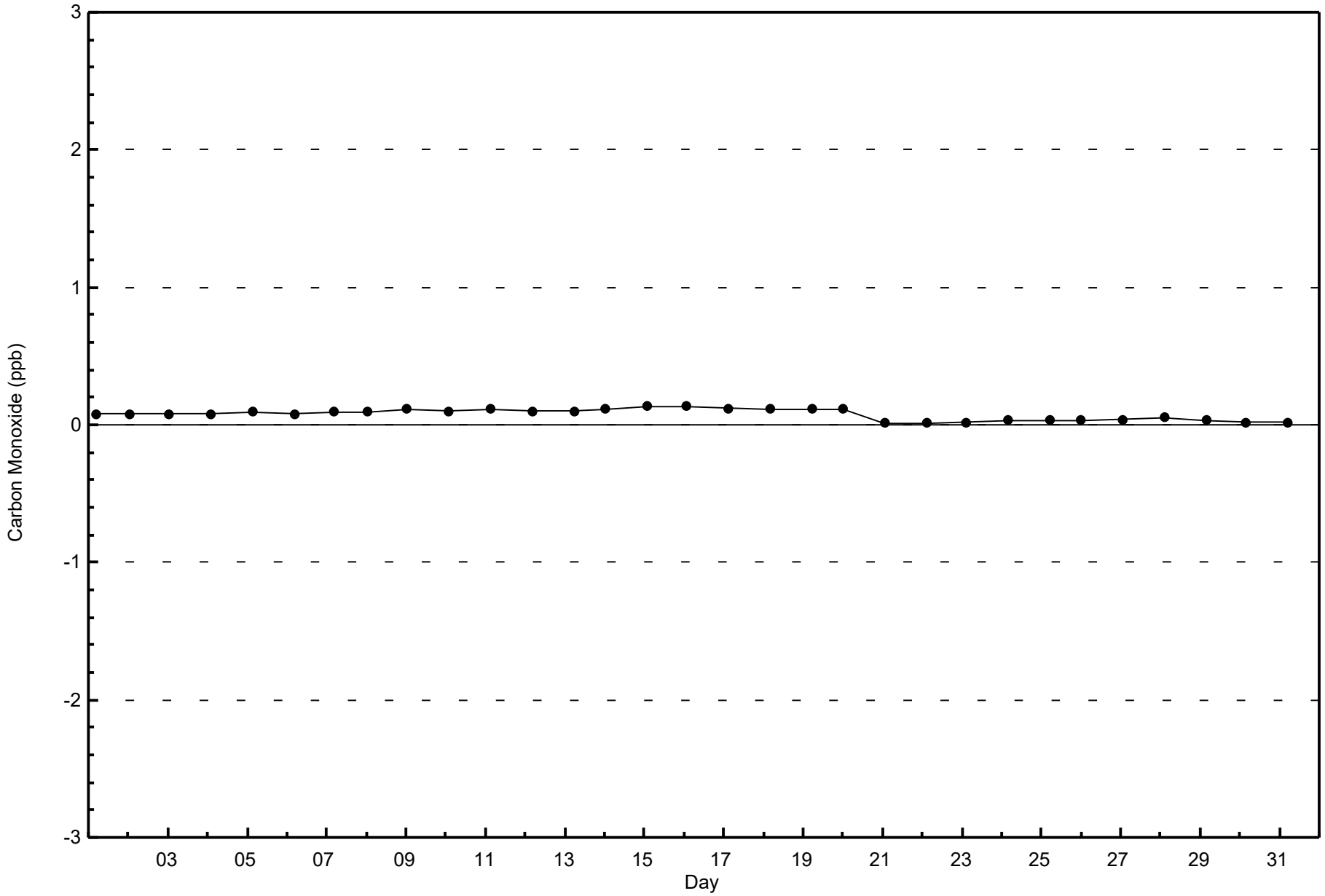
Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Carbon Monoxide (CO) - ppm
Athabasca Valley

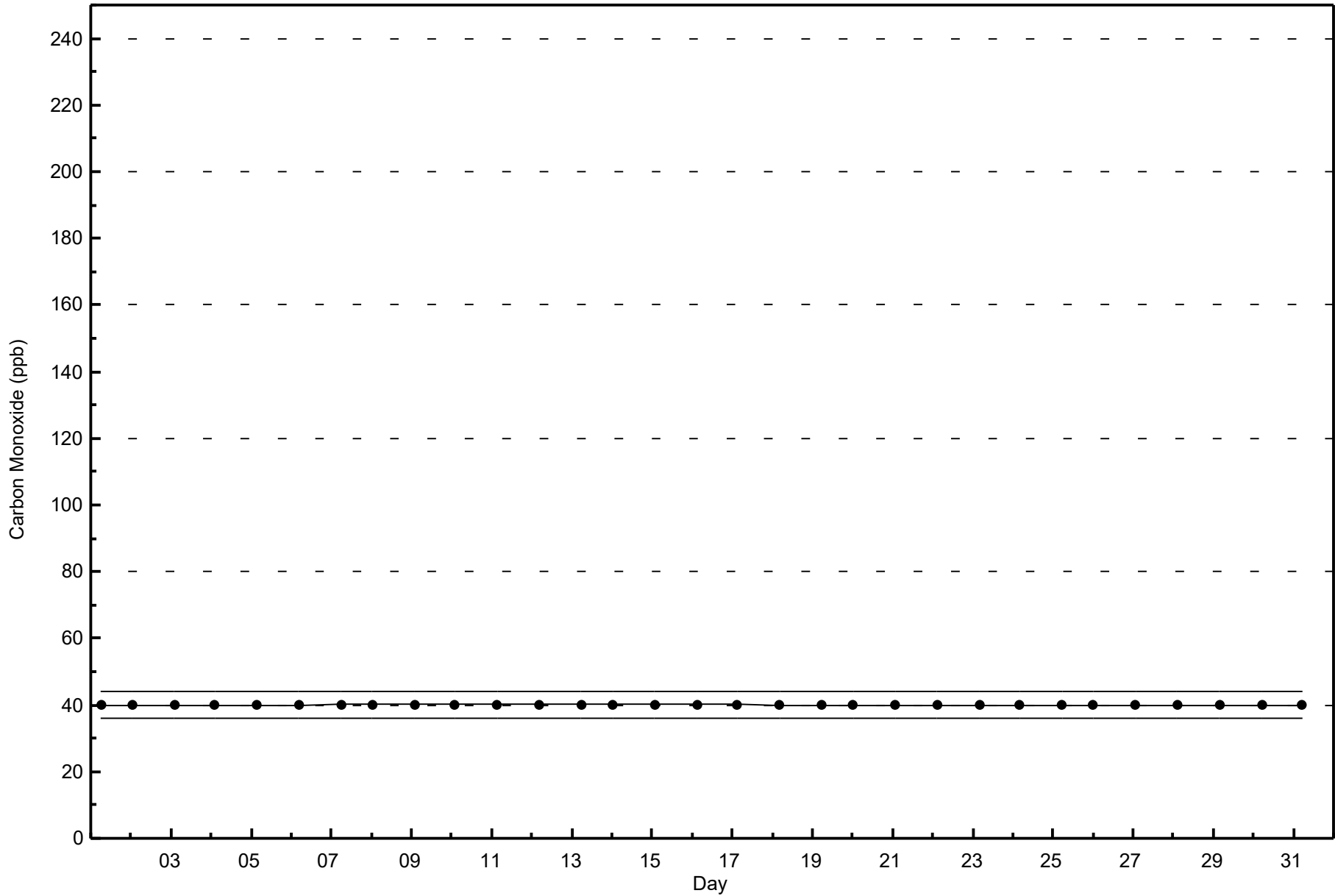






Wood Buffalo Environmental Association
Span Responses

Carbon Monoxide (CO) - ppb
Athabasca Valley - January 2025





Wood Buffalo Environmental Association
Summary of Hour Averages

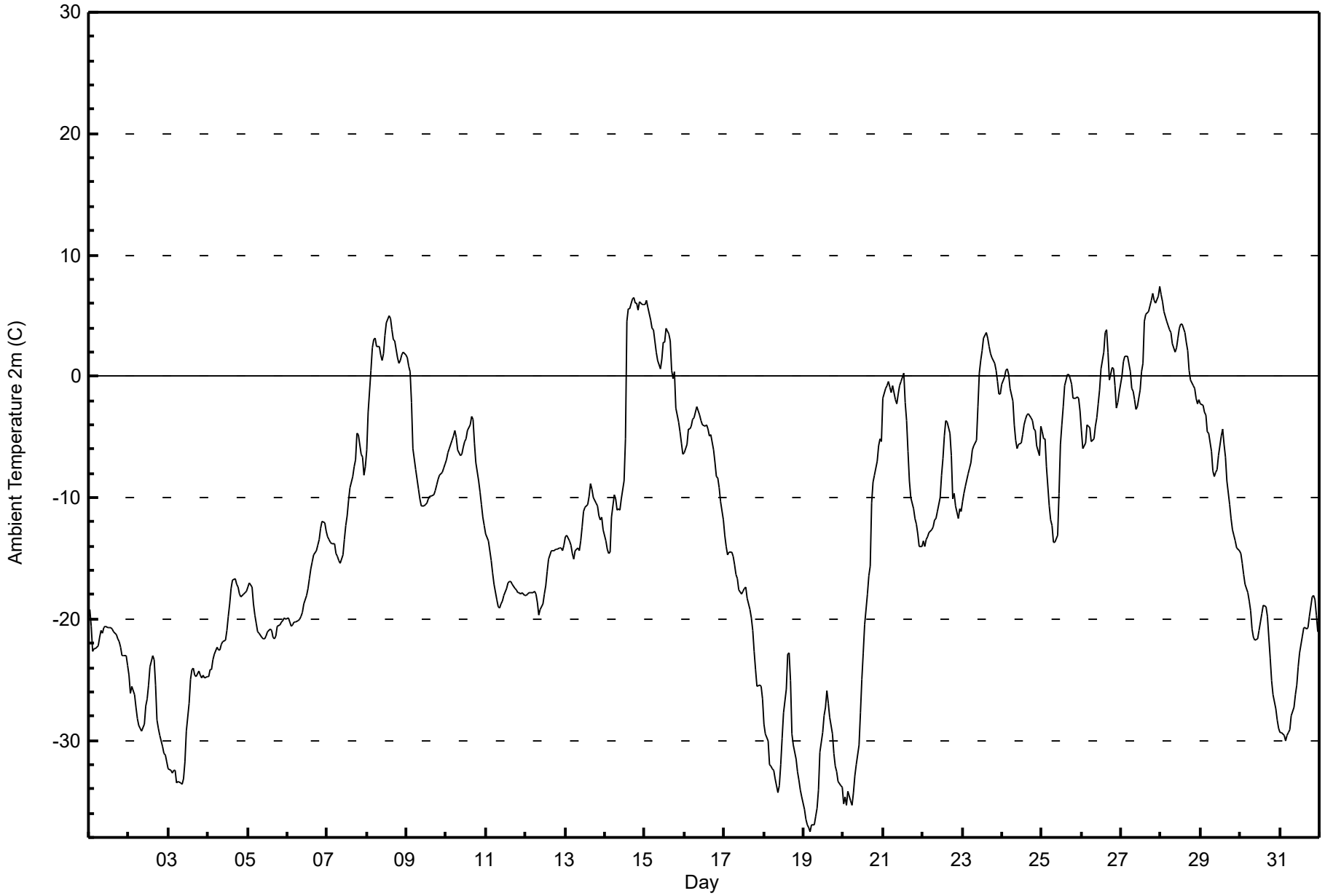
Ambient Temperature 2m (AT2) - C
Athabasca Valley - January 2025

Maximum Value: 7.5 C on Jan 28 00:00		Maximum Daily Average: 2.4 C on Jan 28		Hours in Service: 744																																												
Minimum Value: -37.5 C on Jan 19 05:00		Minimum Daily Average: -32.8 C on Jan 19		Hours of Data: 744																																												
Maximum Diurnal Average: -9.8 C at hour 15		Minimum Diurnal Average: -14.9 C at hour 9		Hours of Missing Data: 0																																												
Monthly Average: -12.64 C		Percentiles: P ₁ = -35.6 P ₁₀ = -28.9 Q ₁ = -20.7 Median = -12.4 Q ₃ = -3.7 P ₉₀ = 1.8 P ₉₉ = 6.3		Hours of Calibration: 0																																												
				Percent Operational Time: 100.0																																												
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Jan	-19.3	-20.6	-22.7	-22.4	-22.4	-22.2	-21.5	-21.0	-21.2	-20.7	-20.6	-20.7	-20.7	-20.7	-20.8	-21.1	-21.3	-21.6	-21.9	-22.3	-23.0	-23.0	-23.1	-23.8	-21.6	-19.3																						
2-Jan	-24.6	-26.1	-25.6	-26.2	-27.2	-28.2	-28.8	-29.0	-29.3	-28.7	-27.2	-26.6	-25.5	-24.0	-23.0	-23.3	-25.4	-28.3	-29.0	-29.6	-30.5	-31.1	-31.2	-31.8	-27.5	-23.0																						
3-Jan	-32.4	-32.4	-32.6	-32.5	-32.5	-33.5	-33.4	-33.5	-33.7	-33.2	-31.8	-29.2	-27.0	-25.0	-24.2	-24.1	-24.6	-24.8	-24.3	-24.6	-24.8	-24.7	-24.8	-24.7	-28.7	-24.1																						
4-Jan	-24.8	-24.2	-24.1	-23.4	-22.9	-22.3	-22.5	-22.5	-22.1	-21.9	-21.8	-20.9	-19.8	-18.7	-17.5	-16.8	-16.7	-17.1	-17.4	-17.9	-18.1	-18.0	-17.8	-17.7	-20.3	-16.7																						
5-Jan	-17.4	-17.1	-17.4	-18.8	-19.6	-20.4	-21.0	-21.2	-21.5	-21.6	-21.6	-21.4	-21.0	-20.8	-20.9	-21.5	-21.6	-21.4	-20.6	-20.5	-20.3	-20.1	-19.9	-20.0	-20.3	-17.1																						
6-Jan	-19.9	-20.3	-20.6	-20.5	-20.2	-20.2	-20.2	-20.0	-19.8	-19.5	-18.8	-18.1	-17.5	-16.7	-15.8	-15.3	-14.7	-14.4	-13.9	-13.5	-12.5	-12.0	-12.1	-12.7	-17.1	-12.0																						
7-Jan	-13.2	-13.5	-13.7	-13.8	-13.8	-14.6	-14.8	-15.2	-15.4	-14.8	-13.5	-12.3	-11.5	-10.2	-9.2	-8.2	-7.5	-6.9	-4.6	-4.8	-6.4	-6.6	-8.1	-7.4	-10.8	-4.6																						
8-Jan	-6.1	-2.9	0.5	2.3	3.0	3.2	2.4	2.5	1.7	1.3	1.9	3.3	4.4	5.0	4.7	3.9	3.1	3.0	1.6	1.0	1.3	1.8	2.0	1.8	1.9	5.0																						
9-Jan	1.5	0.9	0.4	-2.1	-6.0	-7.7	-8.5	-9.4	-10.1	-10.6	-10.7	-10.6	-10.4	-10.1	-9.8	-9.9	-9.7	-9.4	-9.0	-8.5	-8.2	-7.9	-7.5	-7.2	-7.5	1.5																						
10-Jan	-6.9	-6.3	-6.0	-5.3	-4.9	-4.5	-5.0	-6.1	-6.5	-6.4	-5.8	-5.4	-5.1	-4.5	-3.9	-3.3	-3.5	-5.5	-7.1	-8.6	-9.5	-10.6	-11.6	-12.3	-6.4	-3.3																						
11-Jan	-13.0	-13.6	-14.4	-15.2	-16.2	-17.1	-18.4	-19.0	-19.1	-18.8	-18.6	-18.1	-17.5	-17.0	-16.9	-16.9	-17.1	-17.5	-17.6	-17.8	-17.9	-17.9	-17.9	-18.0	-17.1	-13.0																						
12-Jan	-18.0	-17.9	-17.8	-17.8	-17.8	-17.7	-17.9	-18.7	-19.7	-19.2	-18.7	-18.0	-17.2	-16.1	-15.1	-14.4	-14.4	-14.3	-14.2	-14.3	-14.2	-14.1	-14.4	-13.9	-16.5	-13.9																						
13-Jan	-13.2	-13.1	-13.6	-13.9	-14.6	-15.1	-14.3	-14.1	-14.4	-13.6	-12.4	-11.2	-10.8	-10.5	-9.9	-8.8	-9.3	-10.0	-10.4	-10.7	-11.5	-11.8	-11.6	-12.7	-12.2	-8.8																						
14-Jan	-13.5	-14.3	-14.6	-14.5	-11.6	-9.8	-10.1	-11.1	-10.9	-11.1	-10.1	-8.6	-5.1	4.6	5.6	5.5	6.4	6.5	6.1	6.0	5.5	6.1	6.0	5.9	-3.4	6.5																						
15-Jan	5.9	6.3	5.7	4.6	3.9	3.8	2.9	2.0	1.3	0.6	1.4	2.8	4.0	3.5	2.9	0.5	0.5	-0.2	0.4	-2.6	-3.8	-4.6	-5.5	-6.4	1.3	6.3																						
16-Jan	-6.4	-5.6	-4.4	-4.4	-4.1	-3.5	-3.5	-2.5	-2.8	-3.2	-3.7	-3.9	-4.1	-4.0	-4.3	-4.9	-4.9	-6.0	-7.1	-8.3	-8.3	-9.2	-10.4	-11.8	-5.5	-2.5																						
17-Jan	-13.1	-14.1	-14.7	-14.5	-14.5	-14.8	-15.6	-16.3	-16.7	-17.6	-17.9	-17.7	-17.5	-17.4	-18.3	-19.2	-19.9	-20.9	-22.6	-24.1	-25.5	-25.4	-25.5	-26.6	-18.8	-13.1																						
18-Jan	-28.7	-29.4	-30.0	-32.0	-32.1	-32.3	-32.4	-33.2	-34.3	-33.8	-32.0	-29.8	-27.7	-25.8	-22.9	-22.7	-25.1	-29.5	-30.4	-31.6	-32.6	-33.3	-34.1	-34.6	-30.4	-22.7																						
19-Jan	-35.7	-36.5	-36.9	-37.2	-37.5	-37.0	-37.0	-36.3	-35.6	-34.0	-30.9	-29.4	-27.9	-27.3	-25.9	-27.0	-28.1	-29.5	-31.1	-32.1	-32.6	-33.4	-33.8	-33.8	-32.8	-25.9																						
20-Jan	-35.2	-34.6	-35.3	-34.2	-35.1	-35.3	-34.3	-33.0	-32.1	-30.4	-27.7	-25.0	-22.8	-20.4	-17.9	-16.4	-15.7	-10.5	-8.7	-8.1	-7.0	-5.8	-5.2	-5.4	-22.3	-5.2																						
21-Jan	-1.8	-1.0	-0.7	-0.4	-0.9	-1.4	-0.8	-1.9	-2.2	-1.5	-0.8	-0.4	0.3	-2.2	-3.6	-6.2	-8.6	-10.0	-11.0	-11.7	-12.2	-12.9	-14.1	-14.0	-5.0	0.3																						
22-Jan	-13.5	-14.0	-13.4	-13.2	-12.9	-12.7	-12.4	-11.9	-11.7	-11.1	-9.9	-8.1	-6.8	-4.9	-3.7	-3.8	-4.6	-6.5	-10.1	-9.7	-10.7	-11.8	-10.9	-11.1	-10.0	-3.7																						
23-Jan	-10.3	-9.7	-9.1	-8.0	-7.6	-7.1	-6.1	-5.7	-5.3	-2.5	0.3	1.3	2.2	3.1	3.6	3.2	2.4	1.8	1.5	1.1	0.5	-0.4	-1.5	-1.4	-2.2	3.6																						
24-Jan	-0.7	-0.1	0.4	0.6	0.1	-1.0	-2.0	-4.1	-5.3	-6.0	-5.7	-5.5	-4.8	-4.0	-3.5	-3.2	-3.1	-3.5	-3.7	-4.4	-4.5	-5.8	-6.5	-4.2	-3.3	0.6																						
25-Jan	-4.6	-5.1	-5.1	-7.5	-10.7	-11.8	-12.4	-13.6	-13.7	-13.1	-9.6	-5.6	-4.0	-2.5	-0.8	0.1	0.1	-0.2	-0.6	-1.8	-1.8	-1.7	-1.8	-2.8	-5.4	0.1																						
26-Jan	-4.4	-5.9	-5.5	-4.0	-4.2	-4.3	-5.4	-5.1	-4.2	-3.4	-2.2	-1.1	0.6	2.0	3.6	3.9	2.0	-0.3	0.7	0.6	-0.8	-2.6	-2.2	-1.3	-1.8	3.9																						
27-Jan	0.1	1.2	1.7	1.6	1.7	0.4	-1.0	-1.3	-1.9	-2.8	-2.5	-1.1	0.4	1.1	4.5	5.1	5.3	5.8	6.3	6.9	6.3	6.1	6.6	7.5	2.4	7.5																						
28-Jan	6.8	6.1	5.3	4.6	4.2	3.9	3.6	2.7	2.0	2.3	3.2	4.0	4.3	4.3	3.6	2.7	2.1	0.5	-0.3	-0.8	-1.0	-1.8	-2.3	-2.0	2.4	6.8																						
29-Jan	-2.2	-2.3	-2.9	-3.2	-4.6	-4.6	-6.2	-7.8	-8.3	-8.0	-7.7	-6.6	-4.9	-4.3	-5.6	-6.7	-8.6	-10.5	-11.7	-12.6	-13.1	-13.6	-14.2	-14.4	-7.7	-2.2																						
30-Jan	-14.6	-15.4	-16.3	-17.1	-17.8	-18.5	-19.4	-20.8	-21.5	-21.7	-21.6	-20.9	-20.3	-19.6	-18.9	-19.0	-19.8	-21.5	-23.2	-25.1	-26.3	-27.4	-28.3	-29.0	-21.0	-14.6																						
31-Jan	-29.4	-29.3	-29.6	-30.1	-29.6	-29.3	-29.1	-28.0	-27.3	-26.3	-25.4	-24.0	-22.8	-21.4	-20.7	-20.7	-20.8	-20.8	-19.8	-18.2	-18.1	-18.4	-19.6	-21.1	-24.1	-18.1																						
																								-13.2	-13.3	-13.3	-13.5	-13.8	-14.1	-14.4	-14.7	-14.9	-14.5	-13.6	-12.5	-11.5	-10.5	-9.8	-9.9	-10.4	-11.1	-11.4	-11.9	-12.3	-12.6	-13.0	-13.1	Diurnal Average
																								6.8	6.3	5.7	4.6	4.2	3.9	3.6	2.7	2.0	2.3	3.2	4.0	4.4	5.0	5.6	5.5	6.4	6.5	6.3	6.9	6.3	6.1	6.6	7.5	Diurnal Maximum



Wood Buffalo Environmental Association
Hourly Averages

Ambient Temperature 2m (AT2) - C
Athabasca Valley - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Ambient Temperature 2m (AT2) - C
Athabasca Valley - January 2025**

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	208	27.96	27.96
-20 - 0	422	56.72	84.68
0 - 10	114	15.32	100.00
10 - 20	0	0.00	100.00
> 20	0	0.00	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

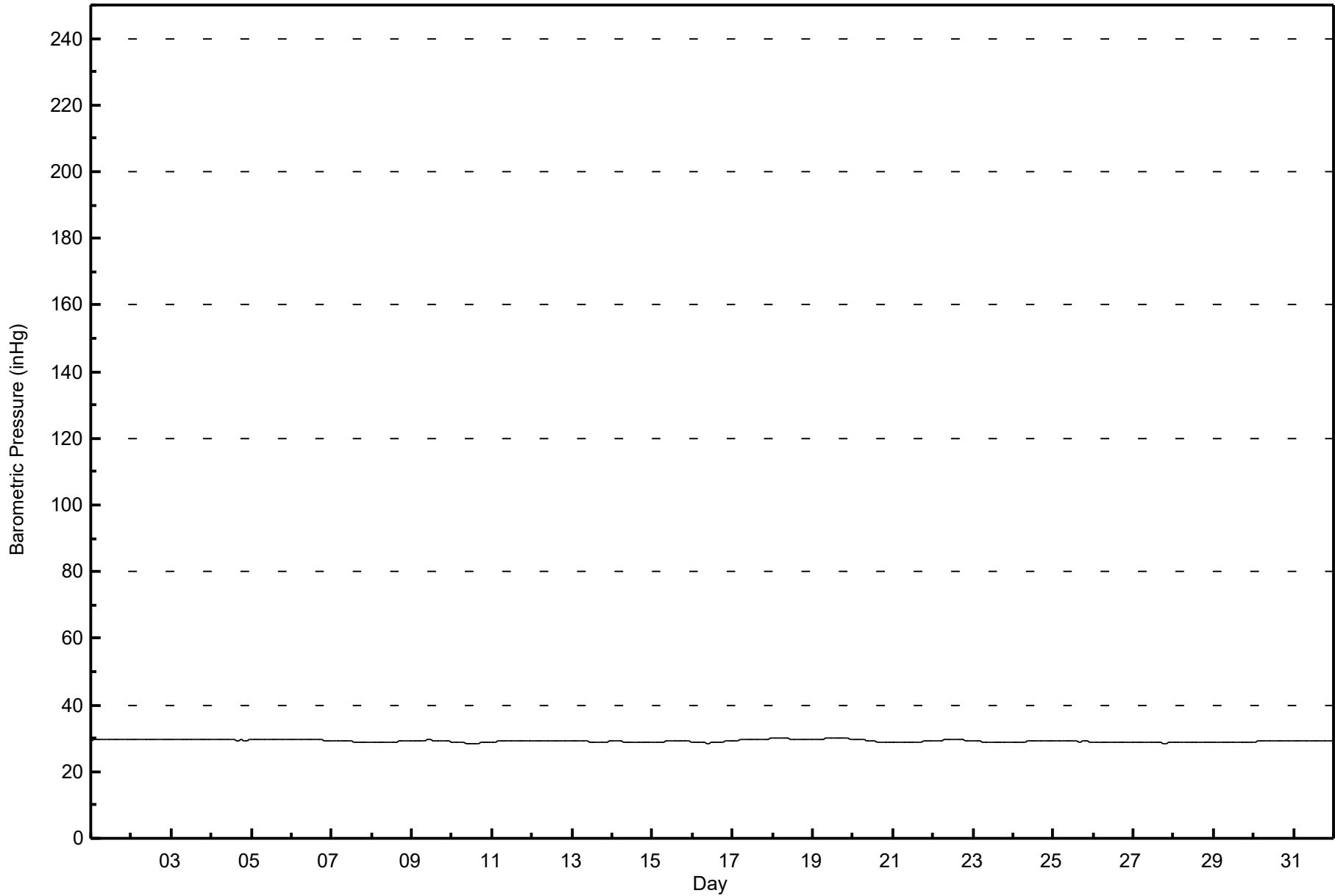
Barometric Pressure (BP) - inHg
Athabasca Valley - January 2025

Maximum Value: 30.0 inHg on Jan 19 15:00 Maximum Daily Average: 29.9 inHg on Jan 19																						Hours in Service: 744 Hours of Data: 744				
Minimum Value: 28.5 inHg on Jan 10 14:00 Minimum Daily Average: 28.7 inHg on Jan 10 Maximum Diurnal Average: 29.2 inHg at hour 1 Minimum Diurnal Average: 29.2 inHg at hour 15 Monthly Average: 29.20 inHg Percentiles: P ₁ = 28.6 P ₁₀ = 28.7 Q ₁ = 28.9 Median = 29.2 Q ₃ = 29.5 P ₉₀ = 29.7 P ₉₉ = 29.9																						Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0				
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	29.4	29.4	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.6	29.6	29.6	29.5	29.6
2-Jan	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.7	29.7	29.7	29.7	29.7	29.7	29.7	29.7	29.7	29.7	29.7	29.7	29.7	29.8	29.8	29.8	29.8	29.7	29.8
3-Jan	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.7	29.7	29.8	29.7	29.7	29.7	29.7	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.7	29.8
4-Jan	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.4	29.4	29.5	29.5	29.4	29.4	29.4	29.5	29.5	29.5	29.5
5-Jan	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.7	29.7	29.7	29.7	29.7	29.7	29.6	29.7
6-Jan	29.7	29.7	29.7	29.7	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.5	29.5	29.5	29.5	29.5	29.4	29.4	29.4	29.4	29.4	29.4	29.5	29.7
7-Jan	29.3	29.3	29.3	29.3	29.3	29.2	29.2	29.2	29.2	29.1	29.1	29.1	29.0	29.0	29.0	28.9	28.9	28.9	28.8	28.8	28.8	28.7	28.7	28.7	29.0	29.3
8-Jan	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.8	28.8	28.8	28.9	28.9	28.9	29.0	29.0	29.1	29.1	29.1	29.1	29.2	29.2	29.2	29.2	29.2	28.9	29.2
9-Jan	29.2	29.2	29.3	29.3	29.4	29.4	29.4	29.4	29.4	29.4	29.5	29.5	29.5	29.4	29.4	29.4	29.4	29.3	29.3	29.3	29.2	29.1	29.1	29.0	29.3	29.5
10-Jan	28.9	28.8	28.8	28.7	28.7	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.5	28.5	28.5	28.6	28.6	28.6	28.7	28.7	28.7	28.8	28.8	28.9	28.7	28.9
11-Jan	28.9	29.0	29.0	29.0	29.1	29.1	29.2	29.2	29.3	29.3	29.3	29.3	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.3	29.4
12-Jan	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.3	29.3	29.3	29.3	29.3	29.2	29.2	29.2	29.2	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.2	29.4
13-Jan	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.1
14-Jan	29.1	29.1	29.1	29.1	29.0	29.0	29.0	29.0	28.9	28.9	28.9	28.8	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.8	28.8	28.8	28.8	28.9	29.1
15-Jan	28.8	28.8	28.9	28.9	28.9	29.0	29.0	29.0	29.0	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.0	29.0	29.0	29.1
16-Jan	29.0	28.9	28.9	28.9	28.8	28.7	28.7	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.7	28.8	28.8	28.9	29.0	29.1	29.1	29.2	29.2	29.3	28.8	29.3
17-Jan	29.3	29.4	29.4	29.4	29.5	29.5	29.5	29.5	29.5	29.6	29.6	29.6	29.6	29.6	29.7	29.7	29.7	29.7	29.8	29.8	29.8	29.8	29.9	29.9	29.6	29.9
18-Jan	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.8	29.8	29.8	29.8	29.7	29.7	29.7	29.7	29.7	29.7	29.7	29.7	29.8	29.9
19-Jan	29.8	29.8	29.8	29.8	29.8	29.8	29.9	29.9	29.9	29.9	29.9	29.9	30.0	30.0	30.0	30.0	30.0	29.9	29.9	29.9	29.9	29.9	29.9	29.8	29.9	30.0
20-Jan	29.8	29.8	29.7	29.7	29.6	29.6	29.5	29.5	29.4	29.4	29.3	29.2	29.1	29.0	29.0	28.9	28.9	28.8	28.8	28.8	28.7	28.7	28.7	28.7	29.2	29.8
21-Jan	28.7	28.6	28.7	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.7	28.7	28.7	28.8	28.9	28.9	29.0	29.1	29.1	29.2	29.3	29.3	29.3	28.8	29.3
22-Jan	29.4	29.4	29.4	29.4	29.4	29.4	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.4	29.4	29.4	29.3	29.3	29.4
23-Jan	29.2	29.2	29.1	29.1	29.0	29.0	29.0	29.0	28.9	28.9	28.9	28.9	28.8	28.8	28.8	28.8	28.8	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	29.2
24-Jan	28.8	28.8	28.8	28.8	28.9	28.9	28.9	29.0	29.1	29.1	29.2	29.2	29.2	29.3	29.3	29.3	29.3	29.3	29.2	29.2	29.2	29.2	29.2	29.2	29.1	29.3
25-Jan	29.2	29.2	29.2	29.2	29.2	29.2	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.1	29.2
26-Jan	29.0	29.0	29.0	29.0	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.8	28.8	28.8	28.7	28.7	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.9	29.0
27-Jan	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.8	28.8	28.8	28.7	28.7	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.8	28.9
28-Jan	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8
29-Jan	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.7	28.7	28.7	28.7	28.7	28.7	28.8	28.8	28.8	28.8	28.9	28.9	28.8	28.9
30-Jan	29.0	29.0	29.0	29.1	29.1	29.1	29.2	29.2	29.2	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.4	29.4	29.4	29.4	29.4	29.4	29.3	29.4
31-Jan	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.3	29.3	29.3	29.3	29.3	29.2	29.2	29.2	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.3	29.4
29.2 29.2																								Diurnal Average		
29.9 29.9 29.9 29.9 29.9 29.9 29.9 29.9 29.9 29.9 29.9 30.0 30.0 30.0 30.0 30.0 30.0 29.9 29.9 29.9 29.9 29.9 29.9 29.9 29.9 29.9																								Diurnal Maximum		



Wood Buffalo Environmental Association
Hourly Averages

Barometric Pressure (BP) - inHg
Athabasca Valley - January 2025

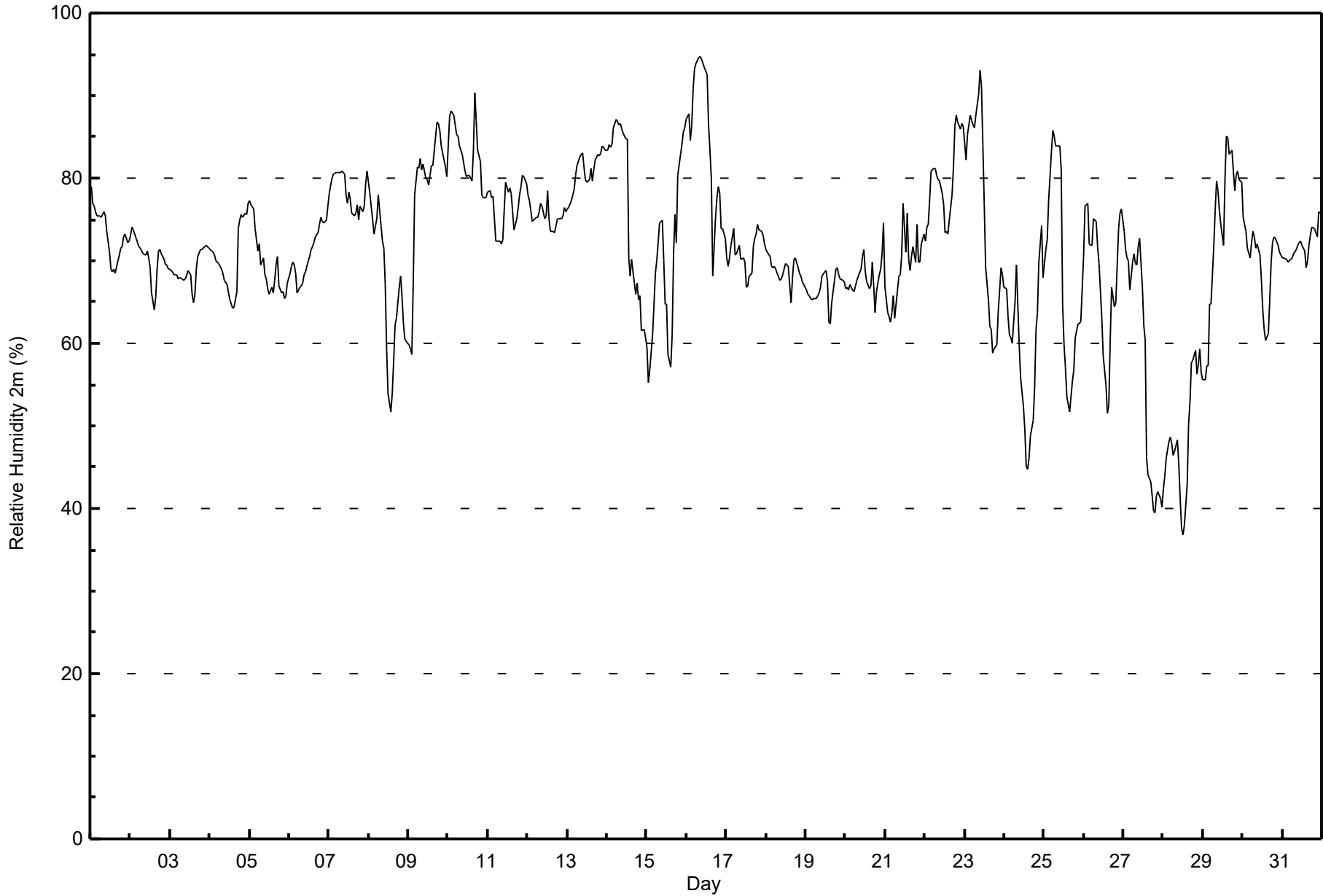




Wood Buffalo Environmental Association
Summary of Hour Averages

Relative Humidity 2m (RH2) - %
Athabasca Valley - January 2025

Maximum Value: 94.7 % on Jan 16 09:00 Maximum Daily Average: 84.8 % on Jan 16																						Hours in Service: 744 Hours of Data: 744				
Minimum Value: 36.7 % on Jan 28 13:00 Minimum Daily Average: 48.6 % on Jan 28 Maximum Diurnal Average: 74.1 % at hour 9 Minimum Diurnal Average: 66.4 % at hour 15 Monthly Average: 71.31 % Percentiles: P ₁ = 41.3 P ₁₀ = 59.9 Q ₁ = 66.9 Median = 71.4 Q ₃ = 77.4 P ₉₀ = 83.4 P ₉₉ = 92.8																						Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0				
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	79.0	76.9	76.7	76.0	75.4	75.4	75.3	75.6	75.9	75.5	73.5	71.1	69.0	68.7	68.9	68.4	70.0	70.7	71.5	71.6	72.8	73.2	72.1	72.4	73.2	79.0
2-Jan	73.1	74.1	73.7	72.7	72.2	71.7	71.5	71.2	70.8	70.7	71.1	70.3	69.1	66.0	64.1	65.6	68.9	71.3	71.4	70.8	70.2	69.6	69.5	69.0	70.4	74.1
3-Jan	68.9	68.6	68.3	68.3	68.4	67.8	68.0	67.9	67.6	67.8	68.1	68.8	68.3	65.9	65.0	66.0	69.0	70.5	71.3	71.4	71.6	71.7	71.9	71.4	68.9	71.9
4-Jan	71.3	71.2	71.0	70.7	70.0	69.6	69.4	69.0	68.6	67.7	67.1	66.1	65.2	64.7	64.3	64.4	66.3	73.9	74.9	75.5	75.2	75.8	75.6	77.0	70.2	77.0
5-Jan	77.4	76.7	76.3	74.0	72.5	71.2	72.0	69.5	70.3	68.3	67.8	66.7	66.0	66.8	66.1	67.7	69.5	70.4	66.9	66.1	66.3	65.5	65.8	67.2	69.5	77.4
6-Jan	68.5	69.4	69.8	69.6	68.4	66.0	66.7	66.9	67.2	68.3	68.6	69.9	70.5	71.3	71.7	72.2	72.8	73.4	74.5	75.3	74.8	74.5	75.0	76.6	70.9	76.6
7-Jan	78.2	79.2	80.0	80.5	80.7	80.7	80.8	80.6	80.8	80.5	78.0	76.9	78.3	77.5	75.8	75.4	75.8	76.8	74.9	76.6	75.9	76.5	79.4	80.8	78.4	80.8
8-Jan	79.5	78.1	74.9	73.2	74.2	75.1	78.0	74.3	72.3	71.6	67.2	59.1	53.9	51.8	53.9	57.8	62.2	63.1	66.7	68.1	65.7	62.4	60.5	60.1	66.8	79.5
9-Jan	59.9	59.4	58.6	67.3	78.0	81.3	81.3	82.4	81.1	81.7	79.9	79.9	79.2	80.4	81.5	81.5	85.1	86.8	86.7	85.8	83.9	82.3	81.4	80.1	78.6	86.8
10-Jan	83.9	87.5	88.2	87.7	86.4	85.3	85.1	83.9	82.8	81.9	80.9	80.1	80.3	80.3	79.6	83.3	90.3	86.9	83.5	82.0	77.9	77.6	77.6	77.6	82.9	90.3
11-Jan	78.3	78.5	77.7	77.8	75.1	72.4	72.3	72.4	72.0	72.5	76.2	79.4	78.3	78.9	78.2	76.0	73.8	75.1	76.5	77.9	79.0	80.3	80.1	79.3	76.6	80.3
12-Jan	77.9	77.4	76.2	74.8	75.0	75.2	75.3	76.0	76.9	76.6	75.1	75.4	78.4	75.0	73.5	73.5	73.4	74.3	75.1	75.1	75.2	75.4	76.4	76.0	75.5	78.4
13-Jan	76.3	76.5	77.4	77.9	78.6	80.3	81.6	82.5	82.9	83.1	81.4	79.9	79.5	79.8	81.3	79.6	81.1	82.3	82.8	82.8	83.0	84.0	83.8	83.4	80.9	84.0
14-Jan	83.5	84.0	83.8	84.1	86.0	87.1	86.8	86.5	86.5	85.9	85.5	84.7	84.8	70.3	68.2	70.2	67.2	65.9	67.2	65.3	65.7	61.5	61.6	60.7	76.4	87.1
15-Jan	59.4	55.3	56.7	61.0	64.5	68.5	70.0	72.2	74.6	75.0	70.1	64.8	64.7	58.7	57.2	61.0	70.6	75.7	72.2	80.3	82.9	84.1	85.6	86.2	69.6	86.2
16-Jan	87.1	87.7	84.7	86.4	90.8	93.3	94.0	94.7	94.7	94.5	93.9	93.4	92.5	86.5	83.4	80.0	68.2	75.2	77.6	79.0	78.1	73.9	73.9	72.7	84.8	94.7
17-Jan	70.3	69.4	70.3	71.9	73.8	70.7	70.9	71.4	71.8	70.2	70.4	69.8	66.8	66.9	68.2	68.5	71.6	72.7	73.3	74.4	73.8	73.5	73.0	72.0	71.1	74.4
18-Jan	71.3	71.1	70.5	69.4	69.2	69.2	68.9	68.5	67.7	67.8	68.3	69.0	69.7	69.4	66.9	64.9	68.0	70.1	70.3	69.2	68.5	68.2	67.5	67.1	68.8	71.3
19-Jan	66.5	66.0	65.7	65.5	65.3	65.5	65.4	65.8	66.1	66.9	68.1	68.6	68.9	67.5	62.5	62.4	64.9	67.7	68.9	69.2	68.3	67.7	67.6	67.4	66.6	69.2
20-Jan	66.6	66.8	66.4	67.1	66.5	66.3	66.9	67.6	68.1	69.0	70.4	71.3	68.6	67.4	66.6	67.0	69.9	67.0	63.8	66.3	68.3	68.9	70.8	74.5	68.0	74.5
21-Jan	67.0	63.8	63.3	62.6	63.8	65.7	63.0	66.4	68.1	68.4	70.7	76.9	71.0	75.7	70.1	68.8	70.5	71.7	69.9	74.5	69.8	69.7	72.0	73.3	69.0	76.9
22-Jan	72.4	74.1	74.3	77.5	80.8	81.3	81.2	80.3	79.8	79.7	78.2	76.7	73.4	73.6	73.3	74.8	78.0	81.4	86.2	87.7	86.8	85.9	86.6	86.2	79.6	87.7
23-Jan	84.3	82.2	85.3	87.6	87.0	86.4	86.1	87.6	90.2	93.0	91.2	84.1	76.8	69.2	65.2	62.1	61.7	58.8	59.3	59.8	63.9	66.5	69.1	68.3	76.1	93.0
24-Jan	66.8	66.7	63.3	61.0	60.7	60.0	65.0	69.5	64.6	59.7	55.8	52.4	49.5	45.1	44.7	46.2	48.7	50.7	54.8	61.7	63.8	69.8	74.2	67.9	59.3	74.2
25-Jan	69.7	71.4	72.6	77.3	83.2	85.8	85.0	83.9	83.9	83.8	81.1	64.7	59.8	57.1	53.6	51.7	53.5	55.3	56.9	60.7	62.3	62.4	62.7	66.6	68.5	85.8
26-Jan	70.7	76.5	76.9	72.0	71.9	71.8	75.1	74.7	71.7	69.6	66.4	63.0	58.4	54.8	51.6	52.6	60.3	66.7	64.5	64.9	69.4	73.9	75.7	76.3	67.9	76.9
27-Jan	73.6	71.4	70.4	70.0	66.4	69.8	70.9	69.6	69.6	71.7	72.6	66.8	62.1	60.4	46.1	44.0	43.1	41.5	39.7	39.5	41.5	42.1	41.1	40.1	57.7	73.6
28-Jan	42.4	43.9	46.1	48.1	48.6	47.8	46.4	46.9	48.4	45.5	41.2	37.6	36.7	37.9	42.8	50.2	52.8	57.6	58.0	59.1	56.2	57.5	59.3	56.4	48.6	59.3
29-Jan	55.7	55.6	57.3	57.3	64.8	64.7	71.6	76.1	79.6	78.4	76.0	74.5	71.9	79.9	85.1	84.9	82.9	83.4	80.9	78.5	80.3	80.8	79.8	79.6	74.2	85.1
30-Jan	75.2	74.4	73.5	71.6	70.3	72.2	73.6	72.9	71.5	72.1	70.8	67.9	64.0	61.7	60.3	61.2	65.3	69.8	72.2	72.9	72.8	71.8	71.1	70.6	70.0	75.2
31-Jan	70.4	70.3	70.2	69.9	70.1	70.2	70.3	70.9	71.3	71.8	72.3	72.3	71.9	71.3	69.2	70.0	71.9	73.0	74.0	73.9	73.3	72.9	76.0	75.7	71.8	76.0
71.8 71.7 71.6 72.0 72.9 73.2 73.8 74.1 74.1 73.8 72.8 71.0 69.3 67.8 66.4 66.8 68.6 70.3 70.5 71.5 71.5 71.6 72.2 72.0																								Diurnal Average		
87.1 87.7 88.2 87.7 90.8 93.3 94.0 94.7 94.7 94.5 93.9 93.4 92.5 86.5 85.1 84.9 90.3 86.9 86.7 87.7 86.8 85.9 86.6 86.2																								Diurnal Maximum		





Wood Buffalo Environmental Association
Summary of Hour Averages

Wind Speed 10m (WS10) - km/h
Athabasca Valley - January 2025

Maximum Speed: 42 km/h on Jan 24 06:00	Maximum Daily Speed Average: 18.2 km/h on Jan 28	Hours in Service: 744
Minimum Speed Value: 0 km/h on Jan 5 22:00	Minimum Daily Speed Average: 2.6 km/h on Jan 22	Hours of Data: 744
Maximum Diurnal Speed Average: 3.7 km/h at hour 15	Minimum Diurnal Speed Average: 0.4 km/h at hour 8	Hours of Missing Data: 0
Monthly Average Velocity: 1.9 km/h 258.1 deg	Percentiles: P ₁ = 1 P ₁₀ = 3 Q ₁ = 5 Median = 9 Q ₃ = 14 P ₉₀ = 20 P ₉₉ = 29	Percent Operational Time: 100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	W3	WSW4	SW6	SW6	SW7	SW6	SW5	W3	NW4	NNW8	NNW9	NNW11	NNW9	NNW8	NNW8	NNW8	NNW7	NW9	NNW7	NNW6	NNW6	NNW5	NNW7	NNW6	NNW5.0	NNW11	
2-Jan	NNW5	WNW3	WSW3	SW5	SW5	SW6	SSW5	SSW5	SSW6	SSW6	S2	SSW4	SW4	SW2	WSW2	SW3	SSW3	SSW5	S2	SSW1	SSW2	SSW3	S3	SSW4	SW3.1	SSW6	
3-Jan	SSW4	SW4	SSW4	SSW3	SSW3	SSW3	SSW5	SSW5	SSW5	SSW4	SE4	ESE6	SE9	SE8	SE8	ESE7	ESE7	ESE7	ESE11	SE10	ESE10	ESE11	ESE10	ESE10	SE5.4	ESE11	
4-Jan	ESE9	ESE9	ESE15	ESE13	ESE17	SE14	SE14	SE12	SE8	SE8	SE9	SE10	SE13	ESE12	ESE13	ESE10	ESE11	ESE10	ESE6	SE9	SE7	SE5	SSE2	SSW1	ESE9.7	ESE17	
5-Jan	E1	ENE1	NW10	NW12	NNW12	NNW14	NW13	NNW13	NNW12	NW14	NW13	NNW12	NNW11	NNW9	NNW7	NNW4	WSW2	NNW8	NW6	NW5	NNE0	SSE4	SSE6	NNW6.9	NW14		
6-Jan	ESE5	ESE8	ESE8	ESE7	ESE8	ESE12	ESE12	ESE12	ESE12	ESE10	ESE12	ESE11	ESE12	SE9	ESE9	SE9	ESE8	ESE12	ESE15	ESE16	ESE12	ESE13	ESE13	ESE14	ESE10.7	ESE16	
7-Jan	ESE16	ESE14	ESE16	ESE16	ESE15	ESE12	ESE13	ESE10	ESE10	SE13	ESE13	ESE13	ESE18	ESE16	ESE17	ESE18	ESE15	E9	ENE6	E8	ESE13	ESE11	ENE7	E5	ESE12.4	ESE18	
8-Jan	ENE6	NE2	SW7	SE7	SSE6	SSW5	SW11	SW15	SW14	SW15	SW19	SW14	WSW20	WNW27	WNW23	WNW19	W16	W19	WSW13	SW10	WSW11	W21	W27	W25	WSW12.0	W27	
9-Jan	W25	W20	W22	WNW15	NW20	NNW14	NNW14	NNW13	NNW13	NNW11	NW10	NW6	NW4	SW1	S3	ENE6	E6	ESE10	ESE9	ESE9	ESE11	SE9	SE9	SE9	WNW3.5	W25	
10-Jan	ESE13	ESE19	SE18	ESE20	ESE18	ESE12	ESE11	ESE11	ESE14	ESE12	ESE11	ESE10	ESE8	E6	NNE3	NW9	NW18	NNW19	NNW20	NW23	NW20	NW19	NW19	NNW18	NE3.9	NW23	
11-Jan	NW18	NW18	NW18	NNW19	NNW16	NNW15	NNW16	NNW14	NNW12	NNW12	NNW11	NNW12	NNW12	NNW10	NNW9	NNW7	NW9	WNW6	WNW4	SW7	WNW1	S3	SSE7	S5	NNW9.2	NNW19	
12-Jan	SSE8	SE7	ESE9	ESE8	SE7	SE8	ESE10	SE8	ESE6	ESE10	SE10	SE13	SE13	SE11	SE10	SE10	SE11	SE10	SE10	ESE9	ESE8	SE8	SE3	ESE6	SE8.9	SE13	
13-Jan	SE8	SE9	SE8	ESE10	ESE8	ESE8	SE11	SE10	SE9	ESE10	SE11	SE9	SSE8	SSE8	SSE9	SE9	SE10	SE10	SE13	SE12	ESE9	ESE9	ESE11	SE8	SE9.2	SE13	
14-Jan	SE7	ESE7	ESE6	ESE6	S4	S5	SE5	ESE8	ESE14	ESE20	ESE14	SE14	ESE5	SW19	SW12	SW15	SW19	SW22	SW20	SW20	SW20	SW22	WSW23	WSW21	SSW8.8	WSW23	
15-Jan	WSW19	W19	W14	W13	WSW15	WSW19	SW16	SW18	WSW18	WSW8	S3	SSW4	WSW11	WSW7	NW3	SSW1	SSE2	S2	SSE4	S2	S2	SSW5	S3	SW1	WSW7.7	WSW19	
16-Jan	SW0	NE3	E1	E1	ESE3	E3	N3	ENE5	NE8	NE9	NE8	NE11	NE13	NNE13	N14	N16	N15	NNW18	NNW20	NNW19	NW16	NNW24	NNW19	NNW18	N9.1	NNW24	
17-Jan	NNW17	NNW14	NNW12	NW13	NW11	NNW12	NNW11	NNW9	NNW10	NNW14	NW14	NW14	NW14	NNW10	NNW10	NNW11	NW4	W4	W4	WSW5	WSW6	WSW6	WSW6	WSW6	NNW8.8	NNW17	
18-Jan	SW7	SW7	SSW5	S1	SSW5	S4	S6	S5	SSW6	SSW6	SSW6	SSW3	S1	WSW2	SSE4	S4	SSW6	SW5	S1	SSW2	SSW1	SSW1	SE1	S1	SSW3.6	SW7	
19-Jan	WNW1	WSW5	SW6	WSW6	WSW6	WSW6	WSW5	NW1	NNW2	ENE3	E2	SSW7	SSW5	S9	SSW4	SW5	SSW7	SSW4	S3	SE1	S2	S3	SSW3	SSE4	SW3.2	SSW9	
20-Jan	SSW3	S5	S4	SE6	ESE4	E4	ESE3	SE10	ESE11	SE13	SE16	ESE16	ESE22	ESE20	ESE12	ESE11	E7	SSW8	SSW18	SW12	SSE1	SSW9	SSE4	E5	SE7.3	ESE22	
21-Jan	WSW17	WSW26	WSW20	WSW19	WSW15	WSW12	WSW11	SW9	SW11	WSW18	WSW17	W14	WNW23	NNW16	N13	N18	NNW17	NNW18	NNW21	NNW15	NNW16	NNW14	NW6	NW2	WNW10.7	WSW26	
22-Jan	SW4	SSE2	S5	SE5	SE4	NNE3	NNW4	NNE3	N1	W1	E3	ENE4	ENE2	W9	WSW10	SW8	SE5	SE6	SE2	ESE6	SE7	ESE6	ESE13	SE16	SE2.6	ESE16	
23-Jan	ESE16	ESE19	SE18	ESE13	ESE11	ESE9	ESE7	ESE7	E5	ESE4	S3	SW7	SW9	WSW12	W26	W22	W19	W18	W20	W13	W23	WSW24	SW24	SW17	SW6.5	W26	
24-Jan	WSW20	WSW24	W25	WNW32	WNW33	NW42	NNW30	NNW21	NNW21	NNW19	WNW22	WNW24	SW12	NW23	WNW17	WNW12	WSW8	SW8	S3	ENE3	S3	S1	S4	SSW5	WNW14.5	NW42	
25-Jan	SSE4	SSE6	SSE7	SE3	E1	SSE1	SSE2	S2	SE5	ESE5	ESE3	SSW11	SSW14	SSW10	SSW7	SSW8	SSW8	SSW7	SSW4	SSW10	S6	SE7	ESE5	S5.2	SSW14		
26-Jan	ESE4	SE5	ESE3	SE3	SSW6	S4	SW4	SSE3	SE4	SE4	SE3	S6	SSW7	SSW9	SSW6	SSW9	S3	SW7	WSW8	SSW6	SW8	SW6	SW5	S3	SSW4.3	SSW9	
27-Jan	SSE4	S4	S4	S4	S5	SSW5	SE4	SSE5	SSE5	SE4	ESE5	ENE5	ESE6	ESE3	SW22	SSW16	SW18	SW21	SW11	WSW20	WSW18	WSW19	W24	WNW34	SW7.9	WNW34	
28-Jan	W32	W32	W30	WSW27	WSW28	WSW28	W27	WSW18	WSW21	WSW22	W24	W26	WNW28	WNW26	WNW28	WNW17	W15	SW9	SW6	SSW5	SW5	S6	E1	SW5	W18.2	W32	
29-Jan	SW9	SSW4	S5	S6	SSE2	S3	SW1	SSE2	SW1	SW1	NW3	NNW6	NW13	NW19	NW17	NNW20	NW24	NNW23	NNW25	NNW24	NNW23	NNW22	NNW24	NNW17	NW10.1	NNW25	
30-Jan	NNW16	NNW15	NNW12	NNW13	NNW12	NNW6	N5	NNW9	NNW9	NNW9	NNW9	NNW9	NNW10	NNW12	NW11	NW9	NW9	NNW6	NW4	W3	SW3	WSW2	WSW3	SW3	NNW1	NNW7.3	NNW16
31-Jan	N2	NE3	NE2	NNE2	NNE3	N4	NNE4	N8	NNW8	NNW11	NNW11	NNW11	NNW16	NNW15	NNW14	NNW17	NNW17	NNW20	NNW12	NE10	NE9	NNE7	NNW12	NNW14	NNW8.9	NNW20	

WSW2.8	WSW2.9	WSW3.2	WSW2.0	WSW1.7	W1.7	W1.2	SSW0.4	SSW0.6	SSW0.5	SW0.6	WSW1.0	WNW2.0	WNW3.1	WNW3.7	WNW2.8	WNW2.5	W3.2	W2.7	W1.9	WSW2.0	WSW2.8	WSW2.6	WSW2.1		Diurnal Average
W32	W32	W30	WNW32	WNW33	NW42	NNW30	NNW21	NNW21	WSW22	W24	W26	WNW28	WNW27	WNW28	W22	NNW24	NNW23	NNW25	NNW24	W23	WSW24	W27	WNW34		Diurnal Maximum

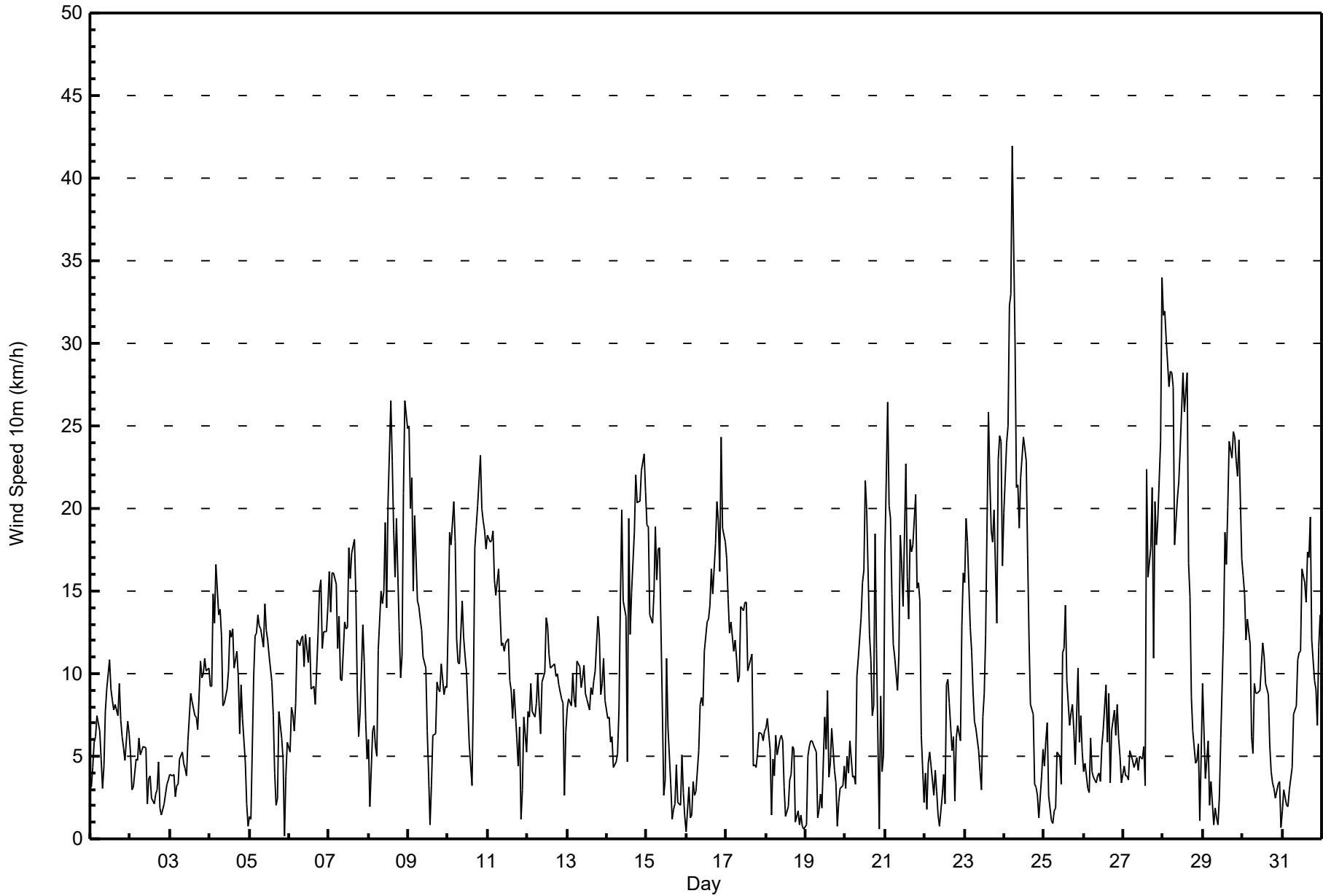
All monthly, daily, and diurnal averages have been calculated using vector methods



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Speed 10m (WS10) - km/h
Athabasca Valley - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 10 km/h on Jan 23 21:00 Minimum Value: 0 km/h on Jan 1 01:00 Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 2 Median = 2 Q ₃ = 3 P ₉₀ = 4 P ₉₉ = 7																		Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0								
Day	Hourly Period Ending At (MST)																								Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	1	1	1	1	2	1	2	2
2-Jan	2	1	1	1	1	2	2	2	3	3	2	1	1	1	1	1	2	2	2	1	1	2	2	2	2	3
3-Jan	2	2	2	2	1	2	2	2	2	3	3	2	3	2	2	2	2	3	3	2	2	3	3	3	3	3
4-Jan	3	2	3	5	4	3	3	4	2	2	2	3	3	2	2	3	3	3	2	2	3	1	1	1	1	5
5-Jan	1	1	6	3	4	3	2	3	3	3	3	2	3	2	2	2	1	1	2	1	1	2	1	1	6	
6-Jan	1	1	1	2	2	3	3	4	3	3	3	3	3	3	3	2	2	3	3	3	3	2	2	2	4	
7-Jan	3	2	2	3	3	3	3	3	3	3	3	4	3	3	3	3	4	3	3	1	3	3	2	2	4	
8-Jan	2	2	6	3	2	1	2	3	3	4	3	3	5	6	5	3	3	3	2	2	3	6	4	4	6	
9-Jan	4	4	4	5	4	3	4	3	3	2	1	1	1	2	2	2	2	3	3	2	3	2	2	3	5	
10-Jan	4	4	4	3	4	3	3	3	4	3	3	2	2	2	1	3	5	5	5	4	4	5	4	4	5	
11-Jan	4	4	4	4	4	3	3	3	3	3	2	3	3	2	2	2	2	2	2	2	2	2	2	2	4	
12-Jan	2	2	2	2	2	2	3	2	2	2	2	3	3	3	2	3	2	3	3	3	2	2	2	2	3	
13-Jan	2	2	2	3	3	2	3	3	3	3	3	3	2	4	2	3	3	3	2	3	2	2	3	2	4	
14-Jan	2	1	2	1	1	1	1	2	4	3	3	4	5	6	3	3	4	3	3	4	3	5	4	4	6	
15-Jan	4	5	3	4	3	3	3	4	4	5	2	2	2	2	3	1	1	2	2	1	1	3	1	1	5	
16-Jan	1	2	2	2	3	1	1	2	2	3	4	4	5	4	4	4	4	5	5	5	3	6	6	5	6	
17-Jan	5	4	3	3	3	3	3	3	3	4	3	3	3	3	2	2	2	1	1	1	1	1	1	2	5	
18-Jan	3	3	2	2	3	3	3	3	3	2	2	2	1	1	2	1	1	3	2	2	1	2	2	1	3	
19-Jan	1	1	1	1	1	2	1	1	1	1	1	3	3	2	2	2	2	2	2	2	2	2	2	3	3	
20-Jan	2	2	2	2	2	2	2	4	3	3	3	4	4	4	3	2	2	5	6	5	2	4	2	1	6	
21-Jan	9	5	4	4	5	7	7	3	4	4	4	5	4	4	4	5	4	4	5	4	4	3	3	1	9	
22-Jan	1	1	1	1	1	1	2	2	1	1	1	2	1	7	4	2	1	1	2	2	2	3	3	3	7	
23-Jan	3	3	2	3	2	2	1	2	2	3	2	2	3	5	4	4	3	3	3	5	10	5	4	5	10	
24-Jan	4	4	4	7	9	9	8	6	6	5	5	4	4	5	3	2	2	1	2	2	1	1	2	2	9	
25-Jan	2	2	1	2	1	1	1	1	1	1	2	3	2	2	2	2	2	2	2	1	3	2	1	2	3	
26-Jan	1	1	2	3	3	2	1	2	2	1	2	2	2	3	3	3	1	1	4	2	2	3	2	2	4	
27-Jan	2	2	2	2	1	2	1	1	2	1	2	2	2	3	7	6	6	5	6	6	3	2	8	5	8	
28-Jan	5	5	5	4	4	4	5	5	3	3	4	4	6	7	7	4	4	2	2	3	4	2	1	3	7	
29-Jan	2	4	2	1	3	3	1	1	2	1	1	2	2	3	3	4	4	5	5	4	5	4	5	4	5	
30-Jan	4	4	3	3	3	3	2	3	2	2	2	2	2	2	1	1	2	1	1	2	2	1	1	1	4	
31-Jan	1	2	1	1	1	1	1	2	2	3	2	3	3	3	3	4	3	3	3	4	4	2	3	4	4	
Diurnal Maximum																										





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Wind Speed 10m (WS10) - km/h
Athabasca Valley - January 2025**

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	223	29.97	29.97
6 - 11	258	34.68	64.65
12 - 19	186	25.00	89.65
20 - 28	69	9.27	98.92
29 - 38	7	0.94	99.87
> 38	1	0.13	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Wind Speed 10m (WS10) - km/h
Athabasca Valley - January 2025**

Wind Speed Ranges (km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	5	7	4	7	12	13	19	19	39	41	21	11	6	4	9	6	223
6 - 11	1	1	6	4	5	63	46	9	5	25	24	15	1	1	12	40	258
12 - 19	5	1	1	0	0	48	14	0	0	4	14	15	10	5	18	51	186
20 - 28	0	0	0	0	0	4	0	0	0	0	8	14	15	8	5	15	69
29 - 38	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	1	7
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Totals	11	9	11	11	17	128	79	28	44	70	67	55	35	21	45	113	744

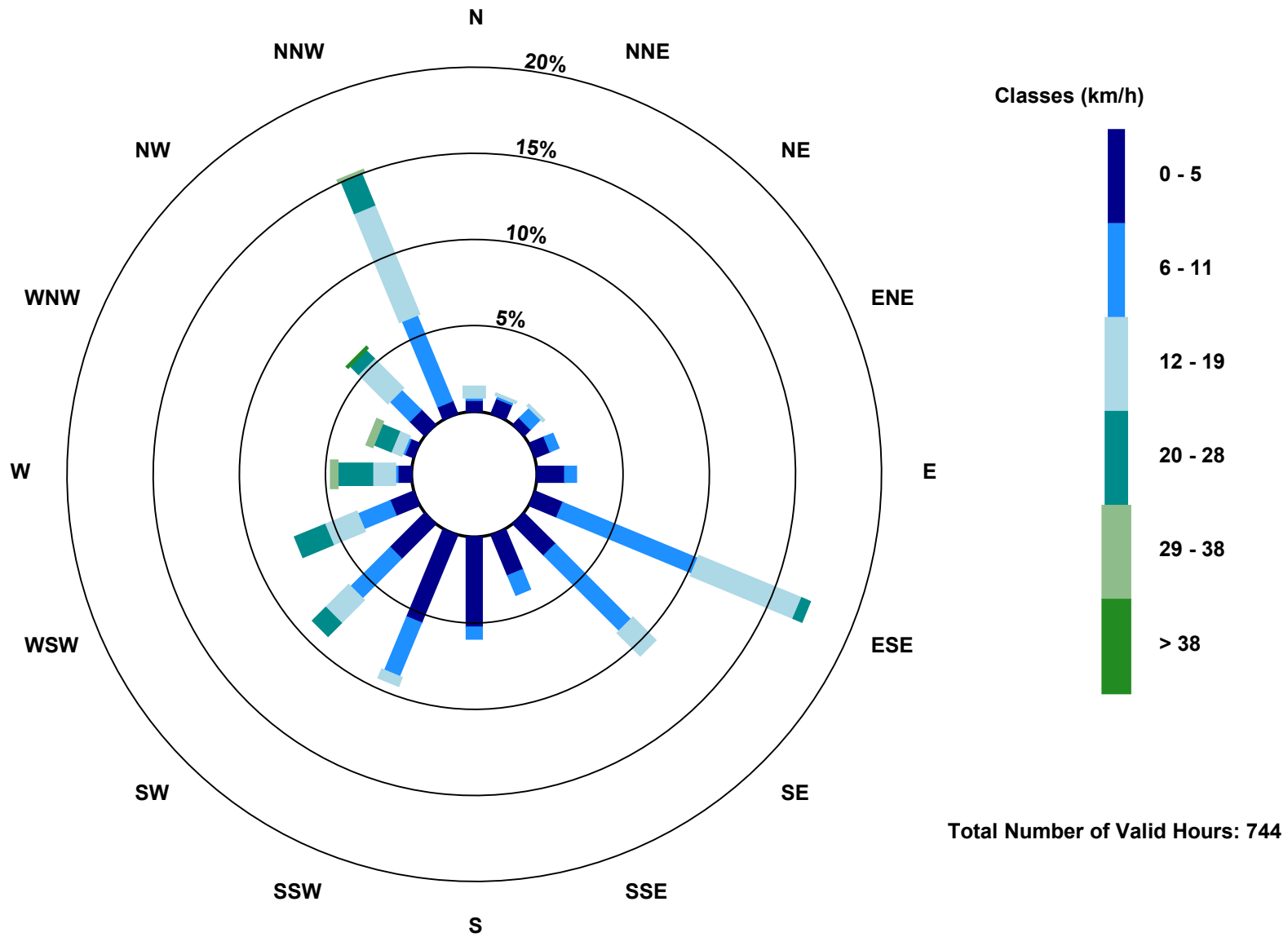
Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Wind Speed 10m (WS10) - km/h
Athabasca Valley





Wood Buffalo Environmental Association
Summary of Hour Averages

Wind Direction 10m (WD10) - deg
Athabasca Valley - January 2025

Direction of Maximum Speed: 316 deg on Jan 24 06:00	Hours in Service: 744
Direction of Maximum Daily Speed Average: 264.1 deg on Jan 28	Hours of Data: 744
Direction of Minimum Speed: 17 deg on Jan 5 22:00	Hours of Missing Data: 0
Direction of Minimum Daily Speed Average: 2.6 deg on Jan 22	Percent Operational Time: 100.0
Monthly Average Direction: 258.1 deg	

Day	Hourly Period Ending At (MST)																								Daily Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	267	245	229	227	222	230	232	263	313	335	329	328	335	329	333	332	335	325	329	345	346	344	333	344	313.6
2-Jan	334	302	244	226	224	214	209	196	194	195	169	209	221	226	251	233	211	206	189	203	199	199	189	205	215.0
3-Jan	210	215	204	206	203	198	209	197	202	206	140	121	130	129	136	122	116	109	122	132	120	123	119	118	141.1
4-Jan	104	113	119	115	121	127	126	131	133	134	136	133	128	120	110	111	116	110	112	124	125	127	157	207	121.9
5-Jan	80	69	320	323	331	328	325	328	332	326	324	328	334	334	337	331	244	256	332	323	306	17	156	158	326.4
6-Jan	120	122	116	120	111	111	114	109	114	106	113	117	122	124	122	134	121	121	119	119	118	111	112	112	116.6
7-Jan	114	110	114	112	112	108	114	112	118	124	122	118	121	118	115	116	117	89	75	86	114	111	77	86	111.7
8-Jan	71	41	234	125	160	204	228	230	227	227	225	235	255	284	296	294	271	267	249	234	256	273	263	260	255.3
9-Jan	259	263	264	284	326	328	329	335	332	327	320	325	318	233	172	75	98	117	111	116	118	130	124	137	303.6
10-Jan	114	115	125	121	121	117	113	110	118	114	113	117	114	101	18	321	326	330	327	325	326	325	325	329	51.4
11-Jan	325	326	324	328	334	333	331	328	333	331	334	329	330	341	334	339	322	302	296	231	295	178	167	174	325.2
12-Jan	157	139	123	123	138	128	121	131	112	123	130	127	137	138	130	131	126	125	125	122	121	124	137	118	128.5
13-Jan	127	131	136	121	117	111	124	127	125	128	130	137	151	166	164	139	137	124	127	124	113	115	119	128	129.5
14-Jan	128	120	121	122	176	181	145	104	115	122	120	124	123	224	232	227	236	229	232	230	227	236	240	238	201.8
15-Jan	245	260	270	278	247	249	236	235	239	239	178	208	239	242	324	209	162	185	165	188	191	202	171	216	241.8
16-Jan	227	37	99	91	106	87	10	59	45	38	51	47	37	20	356	1	356	332	329	328	324	328	332	342	356.3
17-Jan	334	338	331	313	318	341	347	334	336	333	324	323	326	336	332	327	312	263	266	251	246	255	247	239	319.6
18-Jan	229	216	210	177	199	169	182	182	205	204	202	205	189	244	161	175	204	214	179	194	192	192	145	169	199.0
19-Jan	301	254	236	246	246	246	256	310	338	71	99	195	201	191	206	214	210	198	184	145	187	189	193	166	214.1
20-Jan	197	174	174	124	112	80	123	126	123	127	125	122	123	120	111	114	87	192	213	214	166	208	147	83	137.3
21-Jan	247	240	238	248	252	240	247	224	232	237	254	274	293	346	350	349	345	345	327	333	332	328	312	311	286.1
22-Jan	227	153	176	144	130	16	346	30	0	281	93	73	77	262	250	226	125	129	135	120	124	114	123	124	139.8
23-Jan	120	122	128	120	110	103	104	106	87	102	176	215	233	252	261	267	269	277	269	267	270	248	232	236	230.3
24-Jan	250	252	264	285	301	316	327	342	333	331	303	312	311	297	289	254	216	185	70	169	171	181	201	201	297.7
25-Jan	159	164	167	131	100	158	159	169	134	107	115	203	200	213	208	199	205	206	198	204	211	184	126	121	183.6
26-Jan	109	126	117	143	203	191	214	148	136	139	141	189	194	196	206	212	183	230	238	212	219	221	217	186	193.5
27-Jan	168	177	172	174	187	195	137	160	167	141	123	78	120	119	222	212	221	229	220	257	250	242	263	289	229.2
28-Jan	273	267	264	255	256	254	260	256	243	251	259	272	287	289	290	293	281	230	231	210	216	190	88	233	264.1
29-Jan	229	211	187	188	167	174	221	168	229	234	314	336	323	323	326	327	326	328	328	327	328	328	328	335	321.4
30-Jan	334	329	335	333	343	348	3	337	331	333	339	331	329	306	313	320	338	318	278	231	252	248	235	333	326.8
31-Jan	358	48	36	14	13	5	14	352	347	329	339	336	333	327	333	332	327	327	334	35	47	20	343	336	343.4

240.9 228.5 223.3 235.1 244.7 268.7 261.0 204.7 203.8 203.1 220.1 257.6 282.6 281.4 283.7 291.2 282.4 266.5 267.9 260.4 256.5 251.5 249.3 254.9
 Diurnal Average

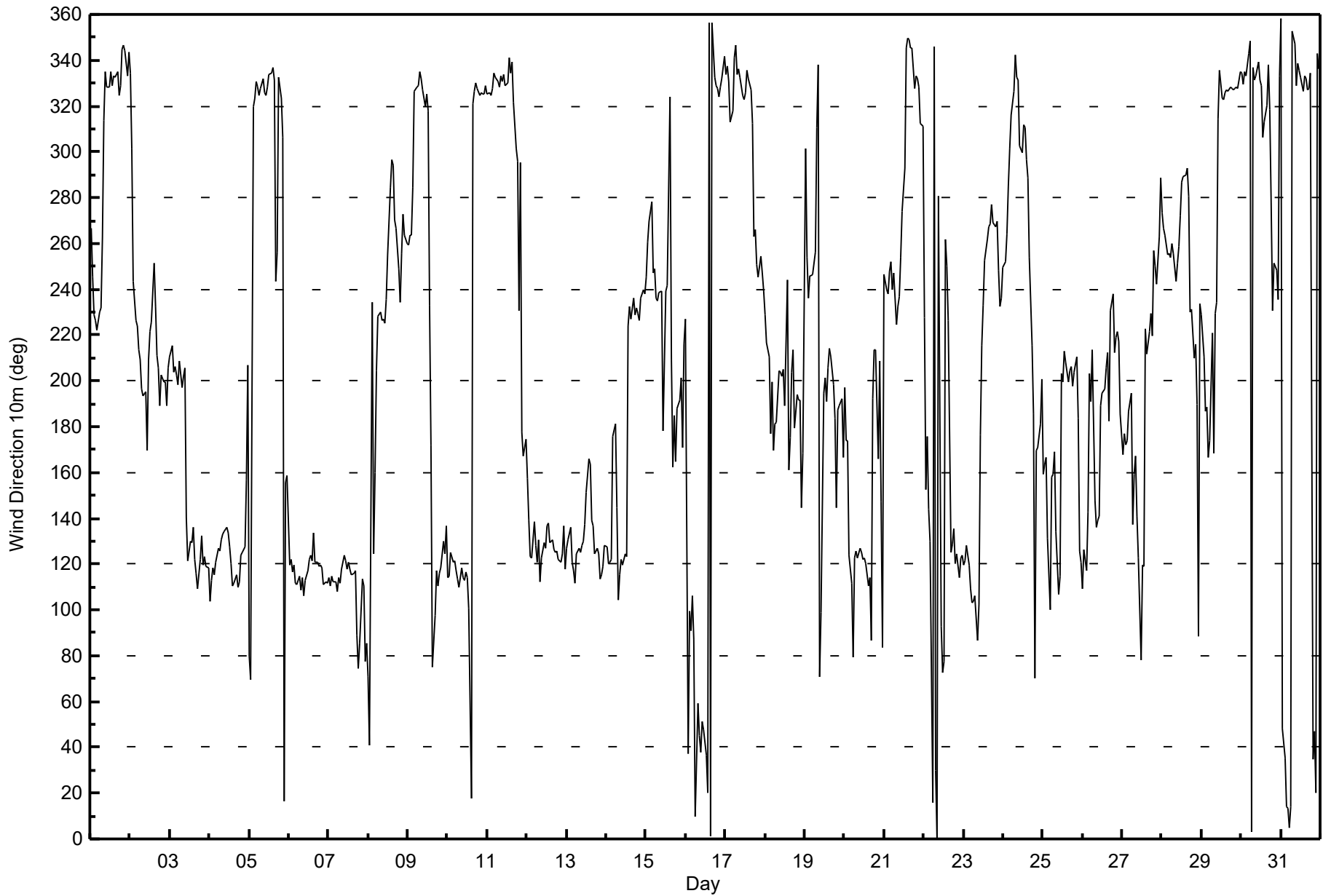
All monthly, daily, and diurnal averages have been calculated using vector methods



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg
Athabasca Valley - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 99 deg on Jan 20 21:00		Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0																								
Minimum Value: 7 deg on Jan 31 18:00 Percentiles: P ₁ = 8 P ₁₀ = 11 Q ₁ = 13 Median = 18 Q ₃ = 30 P ₉₀ = 65 P ₉₉ = 89																										
Day	Hourly Period Ending At (MST)																								Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	12	17	9	11	12	17	14	23	25	15	13	12	15	12	14	15	16	10	12	18	15	15	15	13	25	
2-Jan	10	17	21	16	18	12	28	23	34	48	68	30	14	21	22	13	19	12	65	55	64	31	54	27	68	
3-Jan	25	23	21	78	22	76	23	28	31	77	65	38	21	18	21	23	20	30	19	22	20	16	17	17	78	
4-Jan	17	16	11	15	13	14	13	19	23	19	17	13	14	10	15	15	19	35	16	22	25	59	84	84		
5-Jan	81	83	19	14	15	14	16	15	16	10	11	12	17	14	15	22	30	44	16	13	18	86	32	17	86	
6-Jan	25	16	16	19	17	14	17	16	18	21	15	20	17	19	19	17	19	14	12	11	15	13	11	11	25	
7-Jan	10	11	10	11	12	17	15	19	19	15	16	17	11	11	11	12	13	23	45	18	13	22	25	50	50	
8-Jan	26	98	81	38	34	26	11	10	8	8	8	24	12	14	12	11	12	9	9	10	21	10	8	8	98	
9-Jan	9	14	11	42	10	12	14	16	15	11	9	17	33	83	61	32	29	20	18	20	19	20	20	25	83	
10-Jan	17	14	13	10	11	16	17	17	12	13	15	13	19	37	35	16	12	14	12	9	11	12	11	13	37	
11-Jan	12	11	10	14	16	17	14	12	16	14	16	13	14	18	15	18	13	26	42	18	86	69	21	22	86	
12-Jan	14	24	18	18	22	18	15	19	26	17	17	17	15	16	19	18	17	25	24	21	18	24	79	24	79	
13-Jan	19	18	23	19	24	24	19	19	28	22	22	24	35	36	30	23	17	13	13	13	19	14	15	17	36	
14-Jan	18	13	22	22	29	27	29	22	14	12	13	19	65	13	19	11	13	9	10	10	10	10	10	10	65	
15-Jan	11	15	13	14	12	11	9	9	10	61	77	43	10	15	53	47	63	74	32	55	78	39	50	85	85	
16-Jan	94	69	88	83	66	58	41	28	23	24	40	20	20	21	17	15	18	17	14	13	12	13	18	19	94	
17-Jan	17	19	17	15	20	18	18	16	17	15	11	12	12	16	13	14	26	19	16	20	14	17	15	10	26	
18-Jan	28	22	19	80	31	71	32	29	14	18	27	58	89	25	32	17	10	13	79	68	92	85	86	83	92	
19-Jan	84	19	13	15	12	19	23	80	65	67	76	38	65	14	33	22	36	30	55	92	72	48	52	51	92	
20-Jan	75	39	45	33	54	42	64	30	23	15	14	14	12	11	17	14	23	74	18	30	99	41	57	32	99	
21-Jan	70	11	11	11	17	51	54	32	17	13	19	16	26	18	19	19	18	18	14	15	15	14	13	43	70	
22-Jan	16	61	24	20	19	52	33	59	47	85	73	70	73	70	27	18	21	14	74	21	18	41	13	11	85	
23-Jan	14	10	8	15	14	20	17	22	29	68	71	22	17	18	9	11	11	11	11	26	18	12	10	14	71	
24-Jan	10	9	12	14	11	13	14	19	16	16	12	11	9	11	9	12	21	13	61	54	52	77	36	19	77	
25-Jan	42	27	28	55	78	91	72	44	19	18	63	12	12	10	12	21	22	18	23	27	11	28	14	29	91	
26-Jan	30	18	60	83	55	55	23	58	45	42	43	37	28	23	39	30	37	12	73	30	16	31	40	58	83	
27-Jan	52	35	44	53	19	21	32	38	38	44	36	35	27	71	10	16	16	12	28	15	9	9	20	9	71	
28-Jan	12	9	10	9	9	9	9	16	10	9	9	14	12	10	12	10	13	15	17	70	87	23	96	73	96	
29-Jan	17	88	48	29	84	63	88	63	83	68	29	14	8	8	11	10	10	13	11	11	11	11	11	17	88	
30-Jan	16	14	16	16	18	19	17	18	16	13	14	13	12	14	18	15	17	12	29	73	66	32	47	78	78	
31-Jan	48	41	65	39	30	25	25	21	21	17	17	15	12	9	12	12	9	7	17	29	28	39	13	15	65	
		94	98	88	83	84	91	88	80	83	85	77	70	89	83	61	47	63	74	79	92	99	86	96	85	
		Diurnal Maximum																								





WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS08 FORT CHIPEWYAN JANUARY 2025

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

February 28, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - FORT CHIPEWYAN (AMS08)
 JANUARY 2025

MONTHLY SUMMARY

Parameter	Hours of Data	Hours of Calibration	Hours without Data	Operational Time	Maximum 30-Min Value	30-Min Exceedances	Maximum 1-Hour Value	1-Hour Exceedances	Maximum 24-Hour Value	24-Hour Exceedances
SO2(ppb) Average	671	34	73	94.76	-	-	5.7	0	2.3	0
TRS (ppb) Average	613	32	131	86.69	0.7	0	0.7	0	0.3	0
O3(ppb) Average	536	27	208	75.67	-	-	44	0	39.6	-
NO2(ppb) Average	702	38	42	99.46	-	-	23.5	0	7.8	-
NO(ppb) Average	702	38	42	99.46	-	-	13	-	0.9	-
NOX(ppb) Average	702	38	42	99.46	-	-	30.3	-	8.1	-
PM2.5(ug/m3) Average	738	2	6	99.46	-	-	20.2	0	7.3	0
CO(ppm) Average	704	36	40	99.46	-	-	0.3	0	0.1	-
CO2(ppm) Average	704	35	40	99.33	-	-	448.1	-	442.4	-
Temperature 2 m (C) Average	744	0	0	100	-	-	4.8	-	-0.6	-
Relative Humidity (%) Average	744	0	0	100	-	-	96.4	-	87.4	-
Wind Speed 10 m (km/h) Average	740	0	4	99.46	-	-	49	-	24	-
Wind Direction 10 m (deg) Average	740	0	4	99.46	-	-	-	-	-	-
PC(mm) Total	741	0	3	99.6	-	-	1	-	2.7	-
Leaf Wetness (% of range) Average	744	0	0	100	-	-	24.1	-	6.5	-
Global Solar Radiation (W/m2) Average	744	0	0	100	-	-	295.3	-	59.7	-

Note : Operational time includes periods of data collection and instrument calibration

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - FORT CHIPEWYAN (AMS08)
JANUARY 2025

MONTHLY SUMMARY FOR AIR QUALITY/ METEOROLOGICAL MONITORING MEASUREMENTS

Parameter	Number	Mean	StnDev	Total	Percentile						
					Min	P10	Q1	Median	Q3	P90	Max
SO2(ppb) Average	671	0.46	0.9	-	0	0	0	0	0.2	1.9	5.7
TRS (ppb) Average	613	0.19	0.1	-	0	0.1	0.1	0.2	0.2	0.3	0.7
O3(ppb) Average	536	33	5.6	-	9.7	26.4	29.8	34.5	36.9	38.7	44
NO2(ppb) Average	702	1.69	2.9	-	0	0.2	0.3	0.5	1.6	5.2	23.5
NO(ppb) Average	702	0.2	0.6	-	0	0	0	0	0.2	0.6	13
NOX(ppb) Average	702	1.88	3.2	-	0	0.2	0.3	0.6	1.9	5.5	30.3
PM2.5(ug/m3) Average	738	2.87	2.1	-	0.1	0.6	1.5	2.6	3.7	4.9	20.2
CO(ppm) Average	704	0.1	0	-	0	0	0.1	0.1	0.1	0.1	0.3
CO2(ppm) Average	704	429.78	6.2	-	415.5	420.1	426.9	430.1	433.3	437.5	448.1
Temperature 2 m (C) Average	744	-17.04	10.6	-	-36.1	-31.3	-26.3	-17.6	-7.2	-3	4.8
Relative Humidity (%) Average	744	77.14	6.8	-	51.4	70.5	72.6	75.3	81.8	88	96.4
Wind Speed 10 m (km/h) Average	740	13.4	7	-	0	5	8	12	18	21	49
Wind Direction 10 m (deg) Average	740	-	-	-	-	-	-	-	-	-	-
Precipitation (mm) Total	741	-	-	13.23	-	-	-	-	-	-	-
Leaf Wetness (% of range) Average	744	3.12	2.1	-	1.6	1.9	2	2.3	3.2	5.9	24.1
Global Solar Radiation (W/m2) Average	744	23.85	49.3	-	0	0	0	0	23.8	87.8	295.3

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - FORT CHIPEWYAN (AMS08)
JANUARY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
AIR QUALITY ANALYZERS	27 Jan 2025 23:00	28 Jan 2025 01:00	3	Station power failure
AIR QUALITY ANALYZERS	10 Jan 2025 10:00	10 Jan 2025 10:00	1	Maintenance - station logger/modem reset
CO2	09 Jan 2025 16:00	09 Jan 2025 16:00	1	Maintenance - station operator activities
O3	01 Jan 2025 01:00	08 Jan 2025 09:00	177	Unstable Operation - flatline in analyzer output signal
SO2	01 Jan 2025 01:00	02 Jan 2025 11:00	35	Unstable Operation - flatline in analyzer output signal
TRS	28 Jan 2025 02:00	01 Feb 2025 00:00	95	Analyzer Failure - converter failure
Wind Speed, Wind Direction	27 Jan 2025 06:00	27 Jan 2025 08:00	3	Flat line in sensor output signal
Wind Speed, Wind Direction	30 Jan 2025 07:00	30 Jan 2025 07:00	1	Flat line in sensor output signal



Wood Buffalo Environmental Association
Summary of Hour Averages

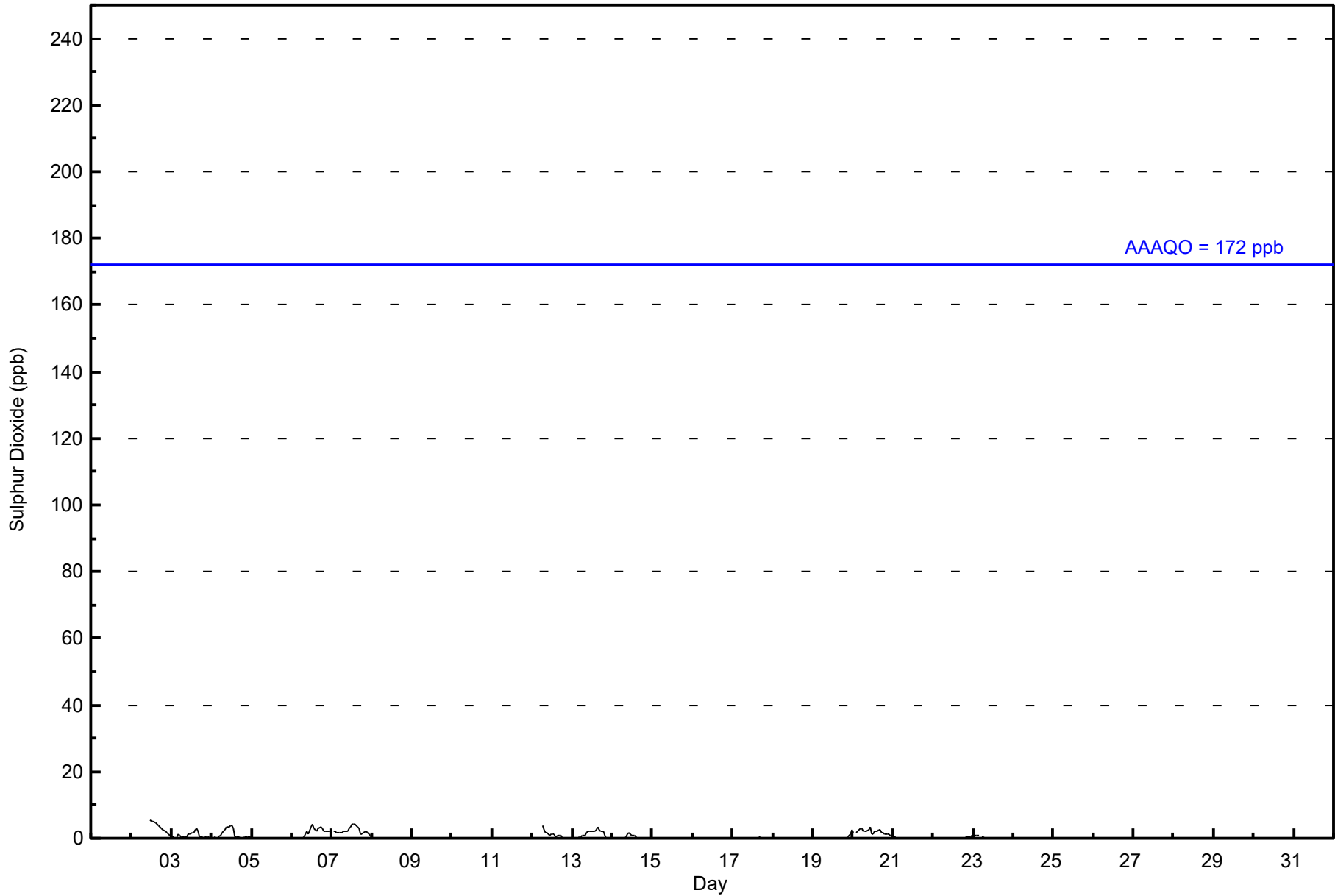
Sulphur Dioxide (SO₂) - ppb
Fort Chipewyan - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0		Hours in Service: 744																																														
Maximum Value: 5.7 ppb on Jan 2 12:00		Maximum Daily Average: 2.3 ppb on Jan 7																																														
Minimum Value: 0.0 ppb on Jan 6 02:00		Hours of Data: 671																																														
Maximum Diurnal Average: 0.9 ppb at hour 13		Hours of Missing Data: 73																																														
Monthly Average: 0.46 ppb		Hours of Calibration: 34																																														
Minimum Daily Average: 0.0 ppb on Jan 9		Percent Operational Time: 94.8																																														
Minimum Diurnal Average: 0.2 ppb at hour 2		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.2 P ₉₀ = 1.9 P ₉₉ = 4.1																																														
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	--																						
2-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	5.7	5.3	4.9	4.5	4.1	3.7	3.3	2.9	2.6	2.2	1.9	1.4	1.0	--	5.7																					
3-Jan	0.6	0.2	Z	0.6	1.1	0.8	0.5	0.4	0.4	0.6	1.1	1.4	1.7	1.8	2.6	2.9	2.3	0.4	0.2	0.2	0.3	0.4	0.3	0.2	0.9	2.9																						
4-Jan	0.2	0.2	0.2	Z	0.4	1.0	1.8	2.3	2.7	3.3	3.4	3.7	3.7	2.8	0.4	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	1.2	3.7																						
5-Jan	0.2	0.2	0.2	0.2	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2																						
6-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.4	1.2	2.2	1.4	3.2	4.2	2.8	2.3	2.1	2.8	3.4	3.1	2.3	2.1	2.3	2.1	1.9	1.7	4.2																						
7-Jan	Z	2.3	2.2	1.9	1.7	1.7	1.8	1.9	2.1	2.2	2.8	3.6	4.1	4.1	4.2	3.3	3.2	1.3	1.1	1.8	2.2	1.7	1.3	0.7	2.3	4.2																						
8-Jan	0.2	Z	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2																						
9-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
10-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.1	0.0	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1																						
11-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
12-Jan	0.0	0.0	0.0	0.0	0.0	Z	3.8	2.4	1.8	1.6	1.1	1.2	1.4	1.1	0.6	0.7	0.9	0.7	0.2	0.1	0.1	0.2	0.2	0.2	0.8	3.8																						
13-Jan	Z	0.0	0.0	0.0	0.4	0.6	0.8	1.0	1.5	1.9	2.0	2.2	2.3	2.2	2.6	3.2	2.7	2.2	2.1	0.9	0.1	0.0	0.0	0.0	1.3	3.2																						
14-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.2	1.6	0.9	0.8	0.7	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.6																						
15-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
16-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
17-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	C	C	C	C	C	0.4	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.4																						
18-Jan	0.0	0.0	0.0	0.0	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1																						
19-Jan	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	1.1	2.4	0.2	2.4																						
20-Jan	1.7	Z	1.7	1.9	3.0	3.1	2.2	2.0	2.1	2.7	3.3	1.5	1.4	1.9	2.3	2.4	2.5	1.9	1.5	1.3	1.4	1.3	1.0	0.7	2.0	3.3																						
21-Jan	0.6	0.2	Z	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.1	0.6																						
22-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.2	0.4	1.0	0.1	1.0																						
23-Jan	1.0	1.0	0.7	0.7	Z	0.6	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.0																						
24-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1																						
25-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
26-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
27-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
28-Jan	PF	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
29-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
30-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
31-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1																						
																								0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.4	0.6	0.6	0.8	0.9	0.8	0.7	0.7	0.6	0.5	0.4	0.3	0.3	0.3	0.3	0.3	Diurnal Average
																								1.7	2.3	2.2	1.9	3.0	3.1	3.8	2.4	2.7	3.3	3.4	5.7	5.3	4.9	4.5	4.1	3.7	3.4	3.1	2.6	2.2	2.3	2.1	2.4	Diurnal Maximum
Z - zerospan C - Calibration M - Maintenance UO - Unstable Operation PF - Power Failure																																																
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb																																																



Wood Buffalo Environmental Association
Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Fort Chipewyan - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Fort Chipewyan - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	671	100.00	100.00
11 - 20	0	0.00	100.00
21 - 60	0	0.00	100.00
61 - 110	0	0.00	100.00
111 - 172	0	0.00	100.00
> 172	0	0.00	100.00

Total Number of Valid Hours: 671

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Fort Chipewyan - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 10	10	18	28	27	125	20	7	16	26	18	13	25	123	79	85	47	667
11 - 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 - 60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61 - 110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111 - 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	10	18	28	27	125	20	7	16	26	18	13	25	123	79	85	47	667

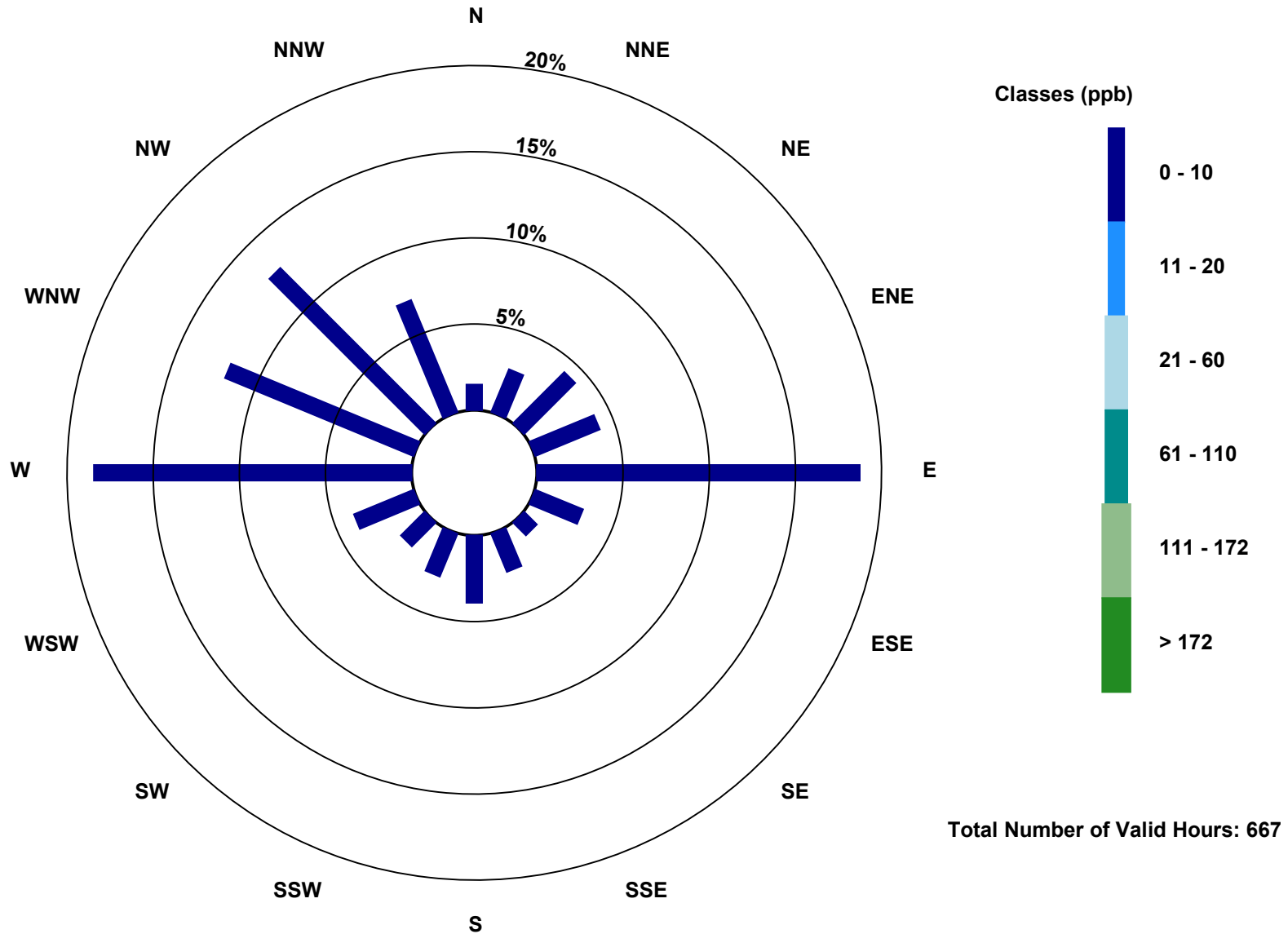
Total Number of Valid Hours: 667

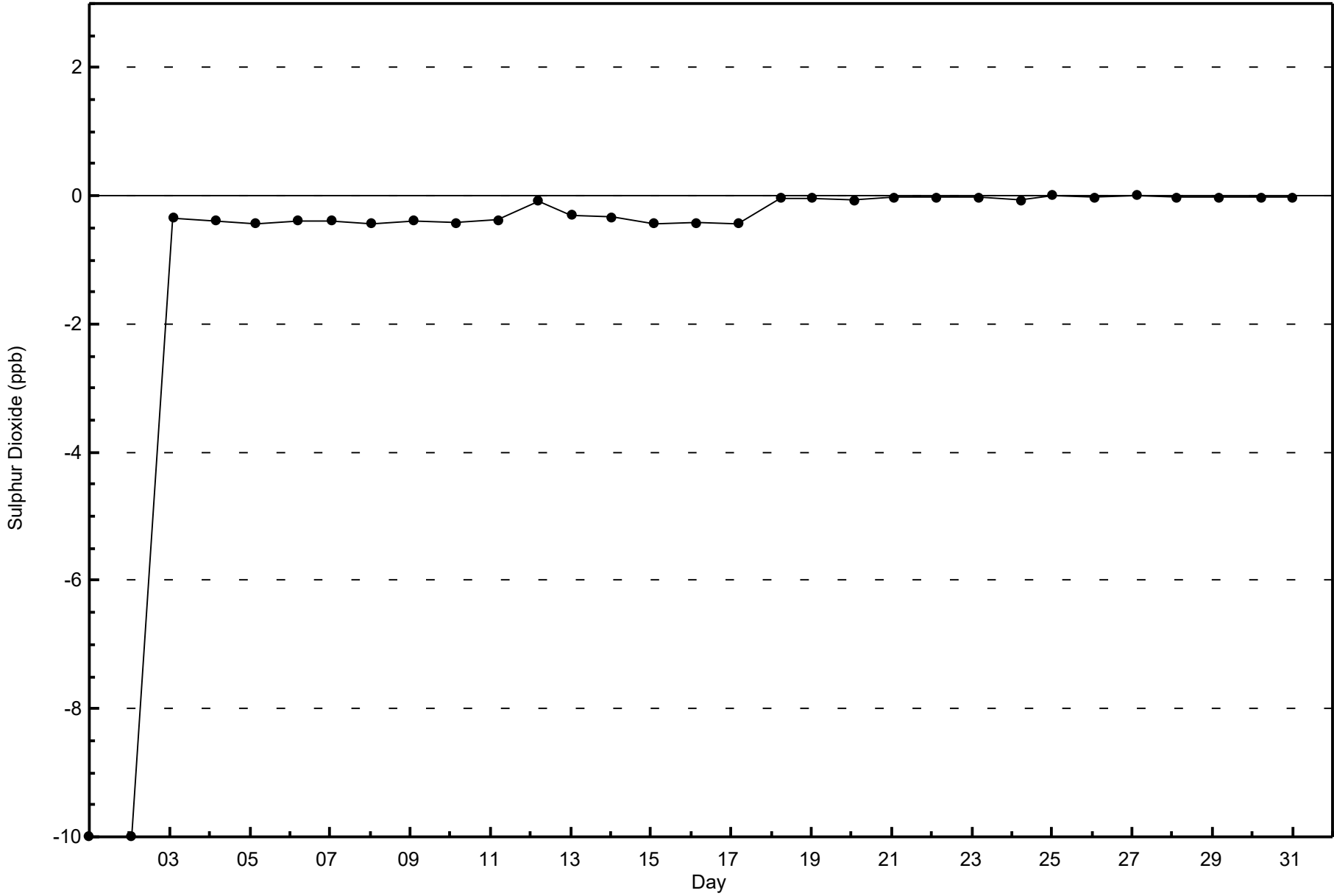
Total Number of Hours: 744

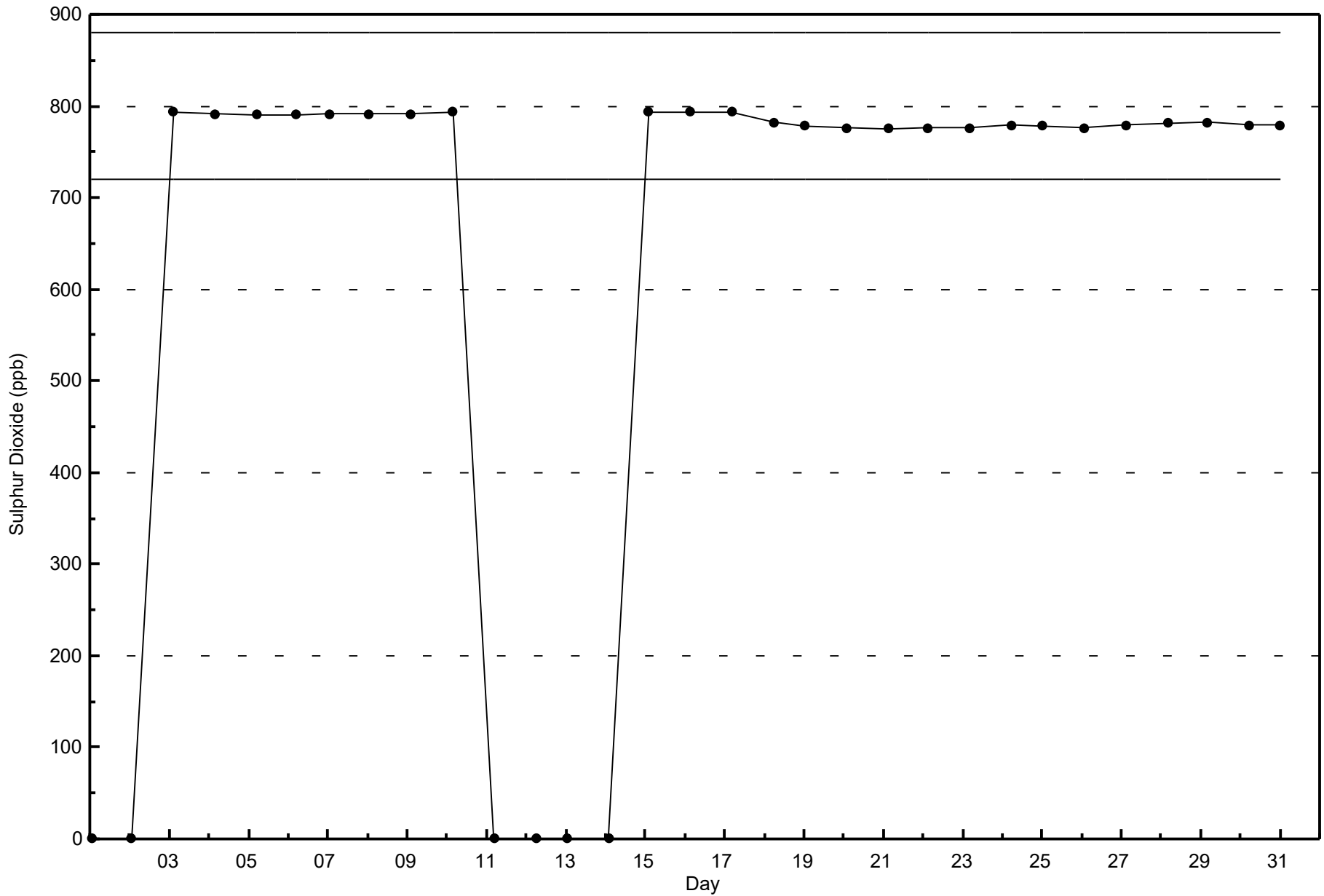


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Sulphur Dioxide (SO₂) - ppb
Fort Chipewyan



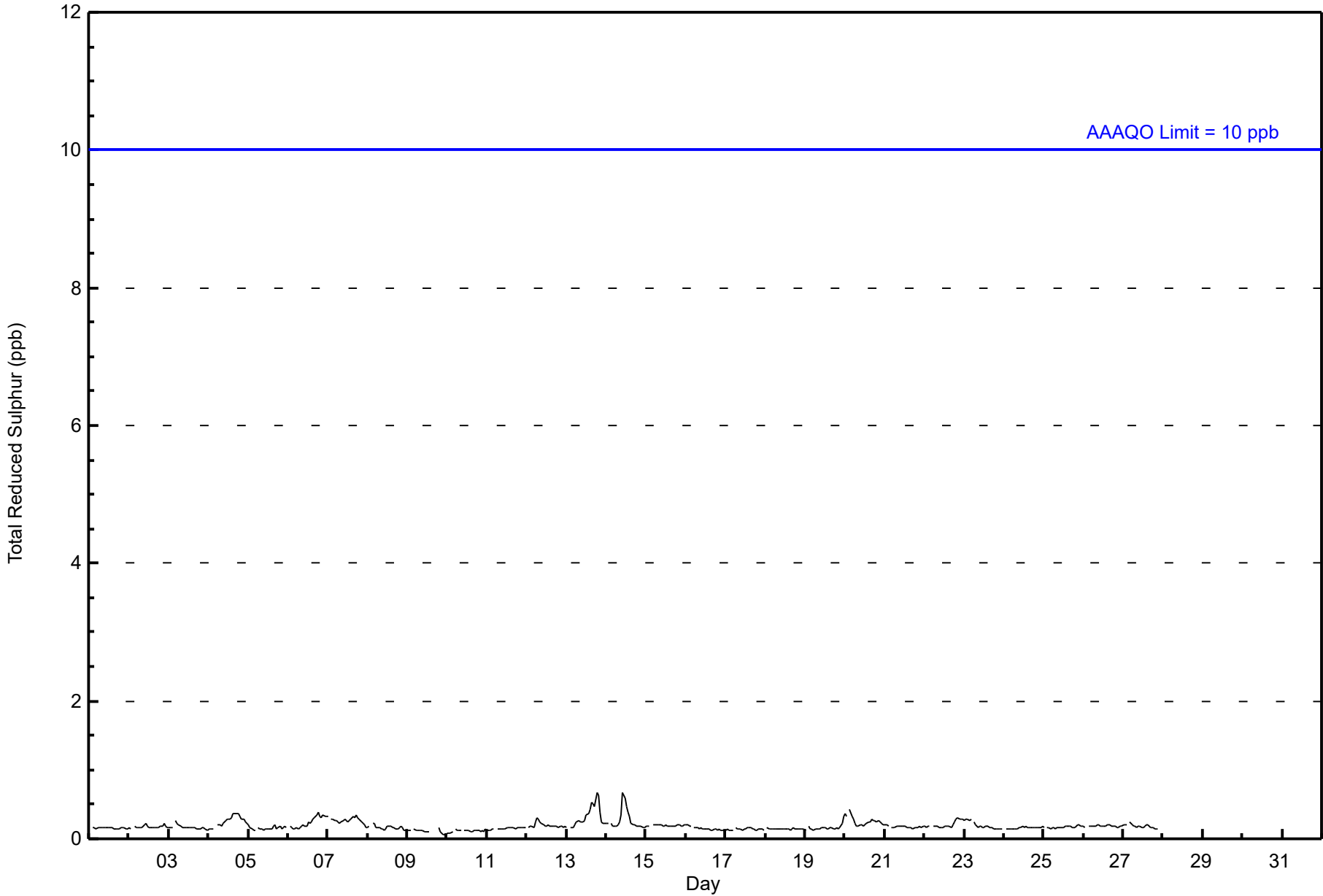






Wood Buffalo Environmental Association
Hourly Averages

Total Reduced Sulphur (TRS) - ppb
Fort Chipewyan - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Reduced Sulphur (TRS) - ppb
Fort Chipewyan - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	613	100.00	100.00
3 - 4	0	0.00	100.00
5 - 7	0	0.00	100.00
8 - 11	0	0.00	100.00
> 11	0	0.00	100.00

Total Number of Valid Hours: 613

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Total Reduced Sulphur (TRS) - ppb
Fort Chipewyan - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2	2	10	16	23	115	19	7	14	26	19	11	21	113	80	100	34	610
3 - 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 - 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 - 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	2	10	16	23	115	19	7	14	26	19	11	21	113	80	100	34	610

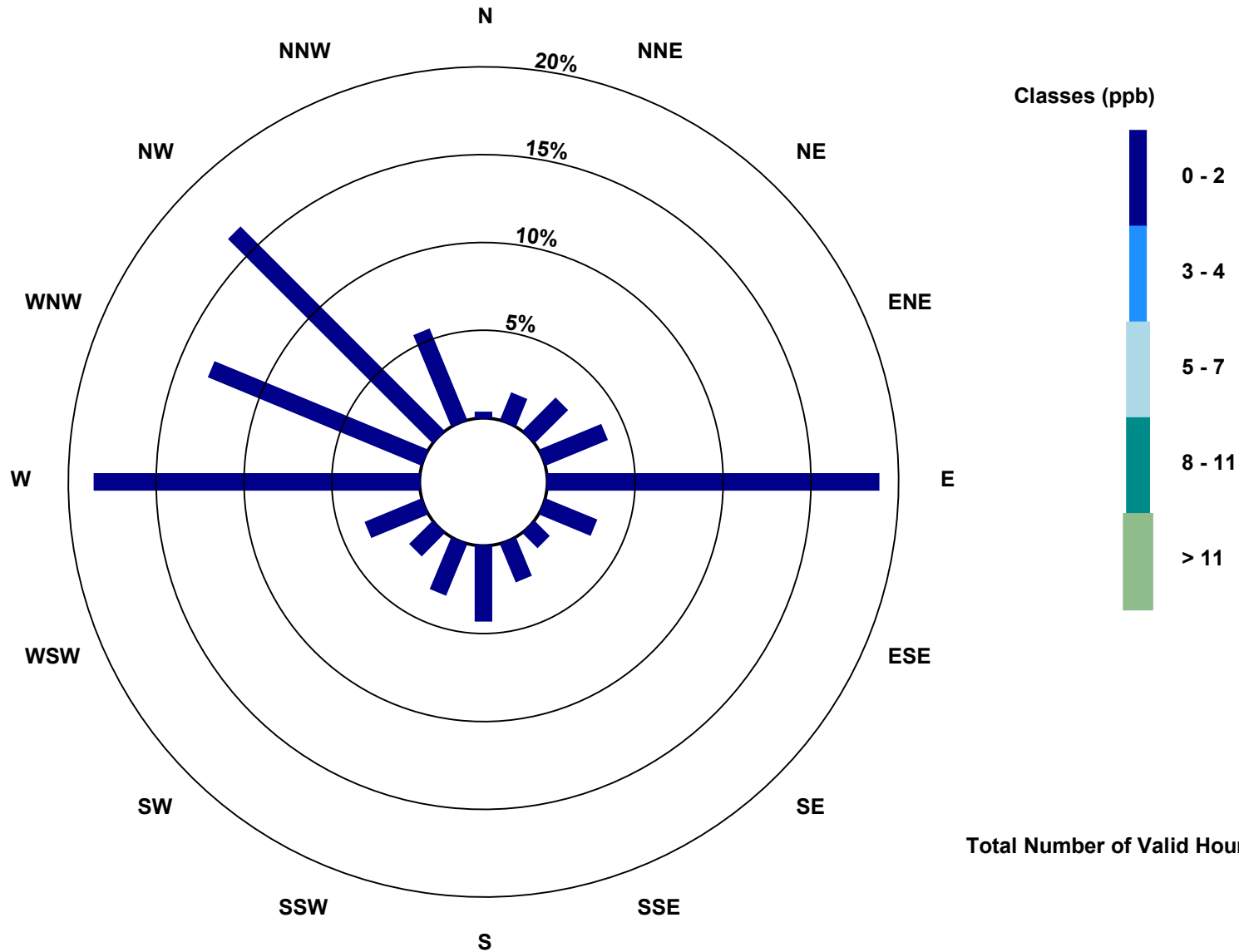
Total Number of Valid Hours: 610

Total Number of Hours: 744

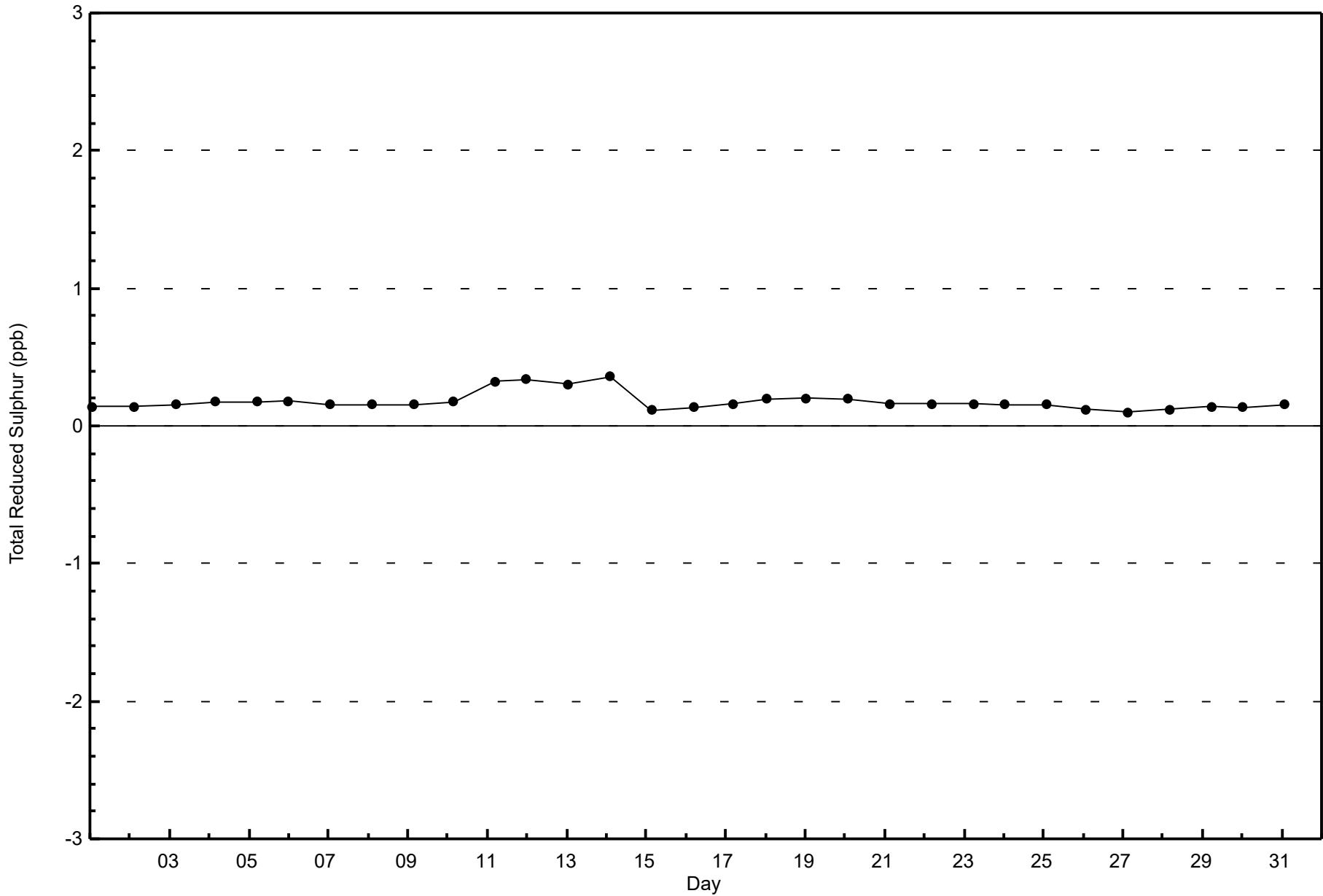


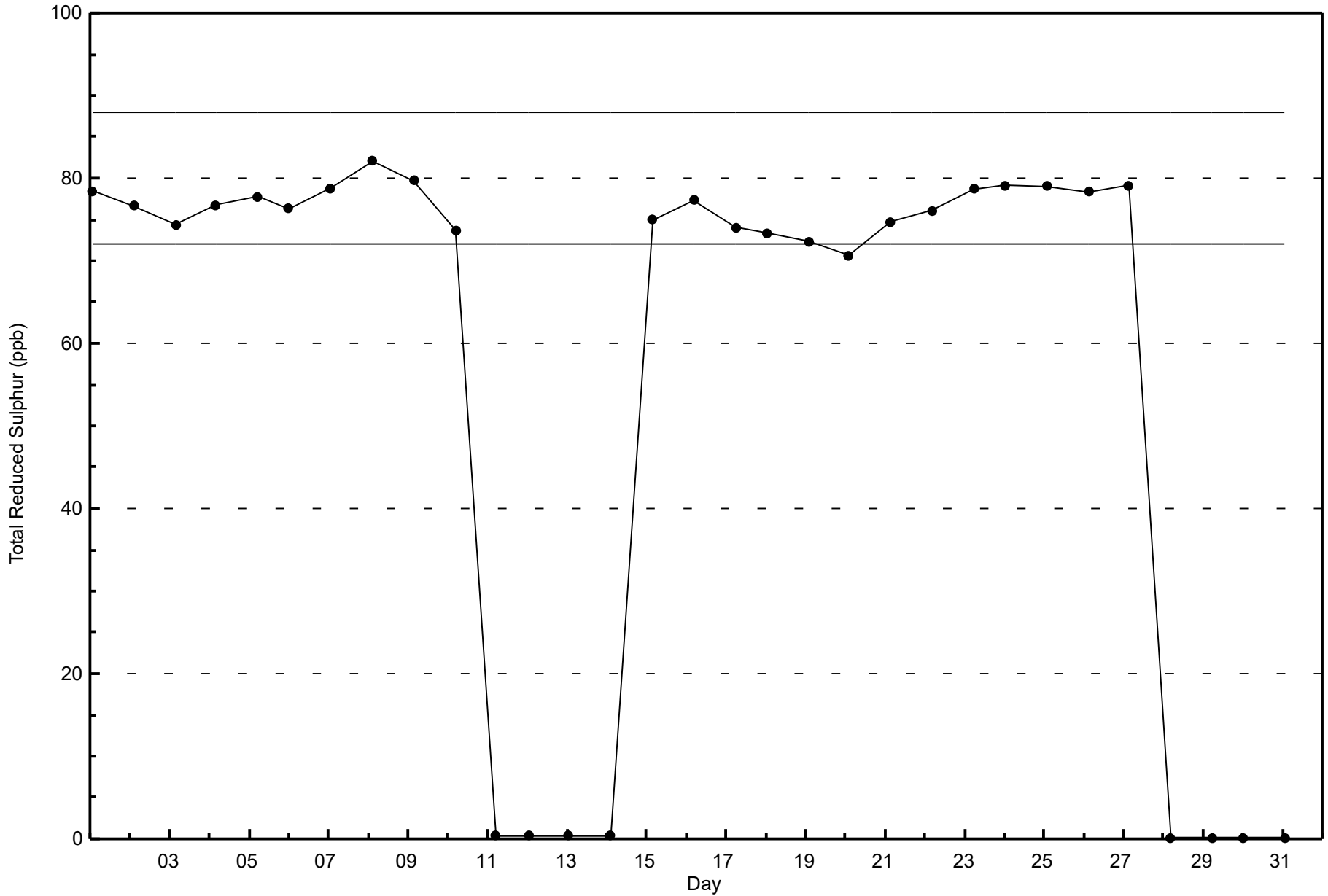
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Total Reduced Sulphur (TRS) - ppb
Fort Chipewyan



Total Number of Valid Hours: 610







Wood Buffalo Environmental Association
Summary of Hour Averages

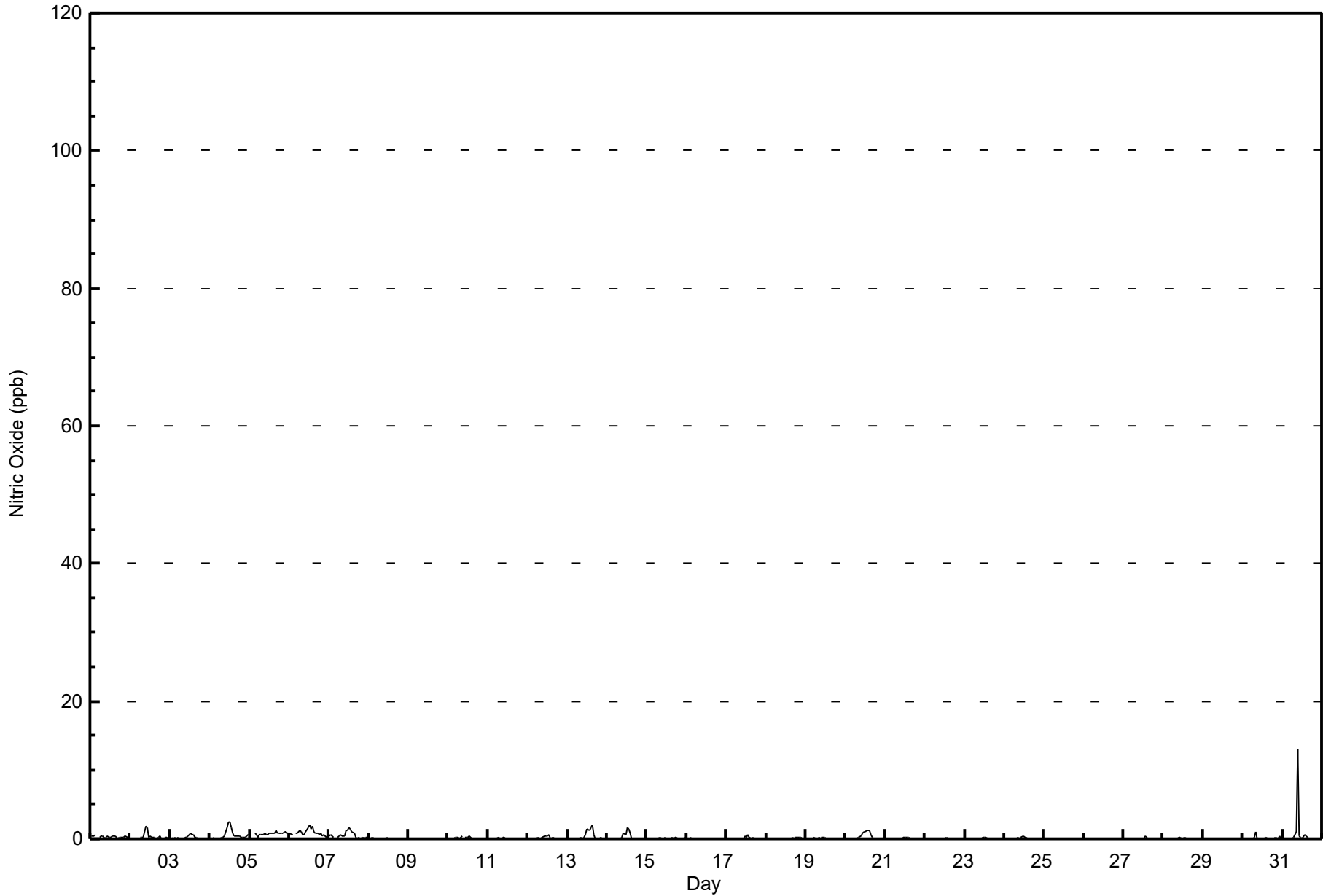
Nitric Oxide (NO) - ppb
Fort Chipewyan - January 2025

Maximum Value: 13.0 ppb on Jan 31 10:00		Maximum Daily Average: 0.9 ppb on Jan 6		Hours in Service: 744																						
Minimum Value: 0.0 ppb on Jan 2 01:00		Minimum Daily Average: 0.0 ppb on Jan 9		Hours of Data: 702																						
Maximum Diurnal Average: 0.6 ppb at hour 10		Minimum Diurnal Average: 0.1 ppb at hour 4		Hours of Missing Data: 42																						
Monthly Average: 0.20 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.2 P ₉₀ = 0.6 P ₉₉ = 1.7		Hours of Calibration: 38																						
				Percent Operational Time: 99.5																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0.5	0.4	0.4	0.5	Z	0.2	0.5	0.4	0.3	0.0	0.3	0.2	0.3	0.3	0.5	0.5	0.1	0.1	0.2	0.2	0.2	0.4	0.3	0.0	0.3	0.5
2-Jan	0.0	0.1	0.0	0.0	0.1	Z	0.2	0.2	0.2	1.9	1.6	0.1	0.4	0.2	0.2	0.0	0.0	0.2	0.4	0.0	0.0	0.2	0.1	0.0	0.3	1.9
3-Jan	Z	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.2	0.2	0.4	0.9	0.6	0.6	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.9
4-Jan	0.1	Z	0.2	0.0	0.0	0.0	0.0	0.1	0.2	0.4	1.6	2.5	2.5	1.7	0.8	0.4	0.3	0.4	0.3	0.3	0.2	0.5	0.5	0.6	2.5	2.5
5-Jan	0.5	0.5	Z	0.7	0.6	0.2	0.5	0.5	0.6	0.7	0.6	0.7	0.8	0.8	0.9	0.7	1.2	0.9	0.9	0.8	0.8	0.9	1.0	0.8	0.7	1.2
6-Jan	0.8	0.6	0.6	Z	0.8	0.7	1.2	1.0	0.6	0.5	1.0	1.7	2.0	1.4	1.7	1.1	0.8	0.7	0.6	0.8	0.3	0.6	0.2	0.7	0.9	2.0
7-Jan	0.3	0.6	0.4	0.2	Z	0.2	0.5	0.5	0.3	0.5	1.1	1.3	1.6	1.5	1.0	0.7	0.2	0.1	0.2	0.0	0.2	0.0	0.2	0.3	0.5	1.6
8-Jan	0.3	0.1	0.1	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
9-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
10-Jan	0.0	Z	0.0	0.0	0.2	0.1	0.1	0.0	0.3	M	0.1	0.2	0.3	0.3	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.3
11-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
12-Jan	0.0	0.0	0.0	Z	0.0	0.1	0.1	0.0	0.0	0.3	0.3	0.3	0.3	0.5	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.5
13-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.2	0.0	0.2	0.7	1.4	1.2	1.5	2.1	0.5	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.4	2.1
14-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.9	0.7	1.6	1.4	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.6
15-Jan	Z	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.1	0.0	0.0	0.2	0.0	0.2	0.1	0.0	0.1	0.1	0.0	0.3	0.1	0.3
16-Jan	0.0	Z	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	C	C	C	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	0.2
17-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.3	0.1	0.6	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.6
18-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.2
19-Jan	0.0	0.0	0.0	0.1	Z	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2
20-Jan	0.1	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.3	0.8	0.9	1.1	1.3	1.1	0.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.3
21-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.2
22-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
23-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
24-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.5	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.5
25-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
26-Jan	0.0	0.0	0.0	0.0	0.1	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
27-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
28-Jan	PF	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
29-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
30-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	1.0	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.4	0.1	0.1	1.0
31-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.2	1.1	13.0	0.3	0.1	0.1	0.7	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	13.0
																								Diurnal Average		
																								Diurnal Maximum		
																								Diurnal Average		
																								Diurnal Maximum		
Z - zerospan C - Calibration M - Maintenance PF - Power Failure																										



Wood Buffalo Environmental Association
Hourly Averages

Nitric Oxide (NO) - ppb
Fort Chipewyan - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitric Oxide (NO) - ppb
Fort Chipewyan - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	702	100.00	100.00
21 - 40	0	0.00	100.00
41 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 702

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitric Oxide (NO) - ppb
Fort Chipewyan - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	9	17	24	27	127	18	7	15	27	18	12	24	124	93	108	48	698
21 - 40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	9	17	24	27	127	18	7	15	27	18	12	24	124	93	108	48	698

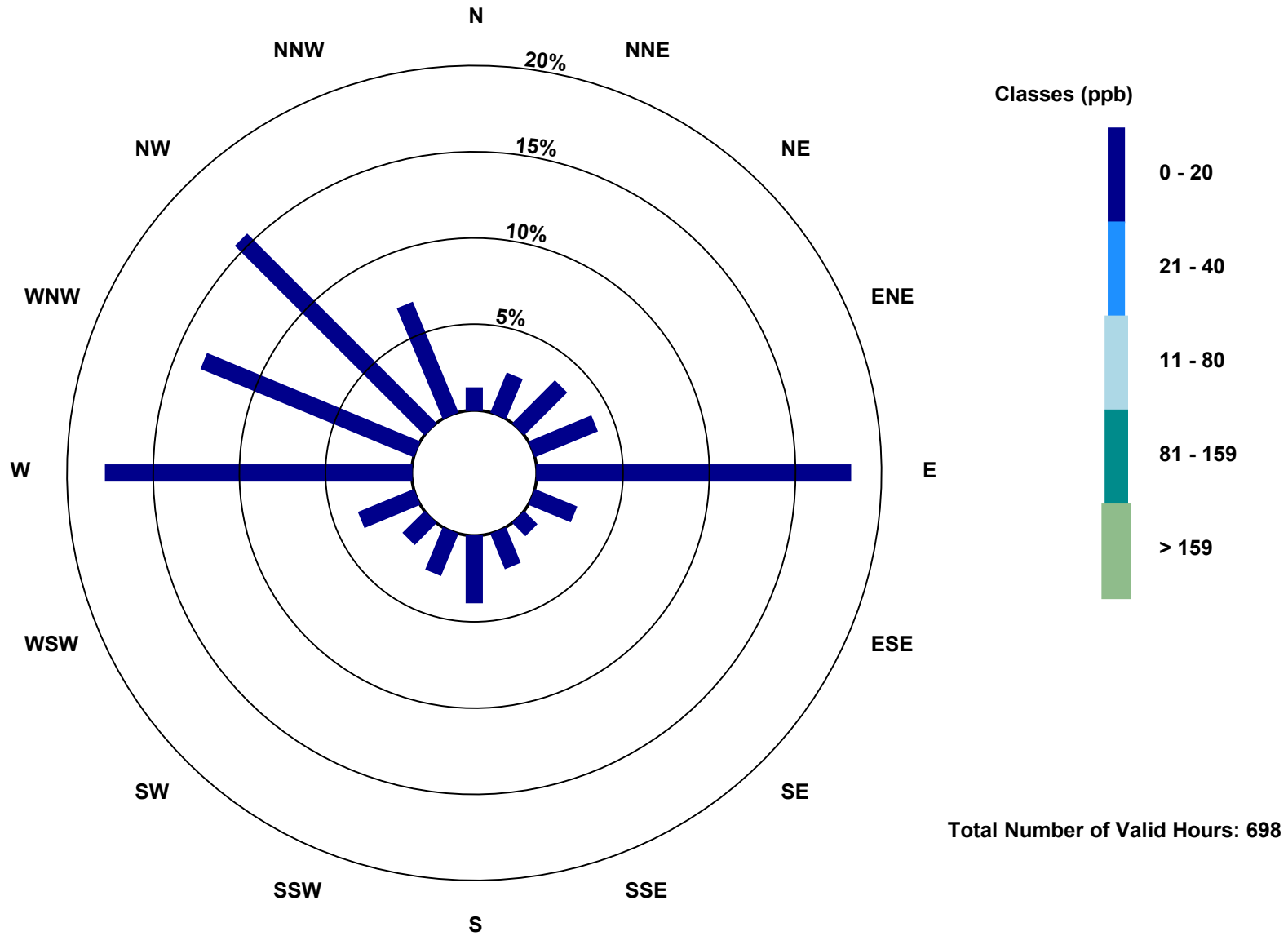
Total Number of Valid Hours: 698

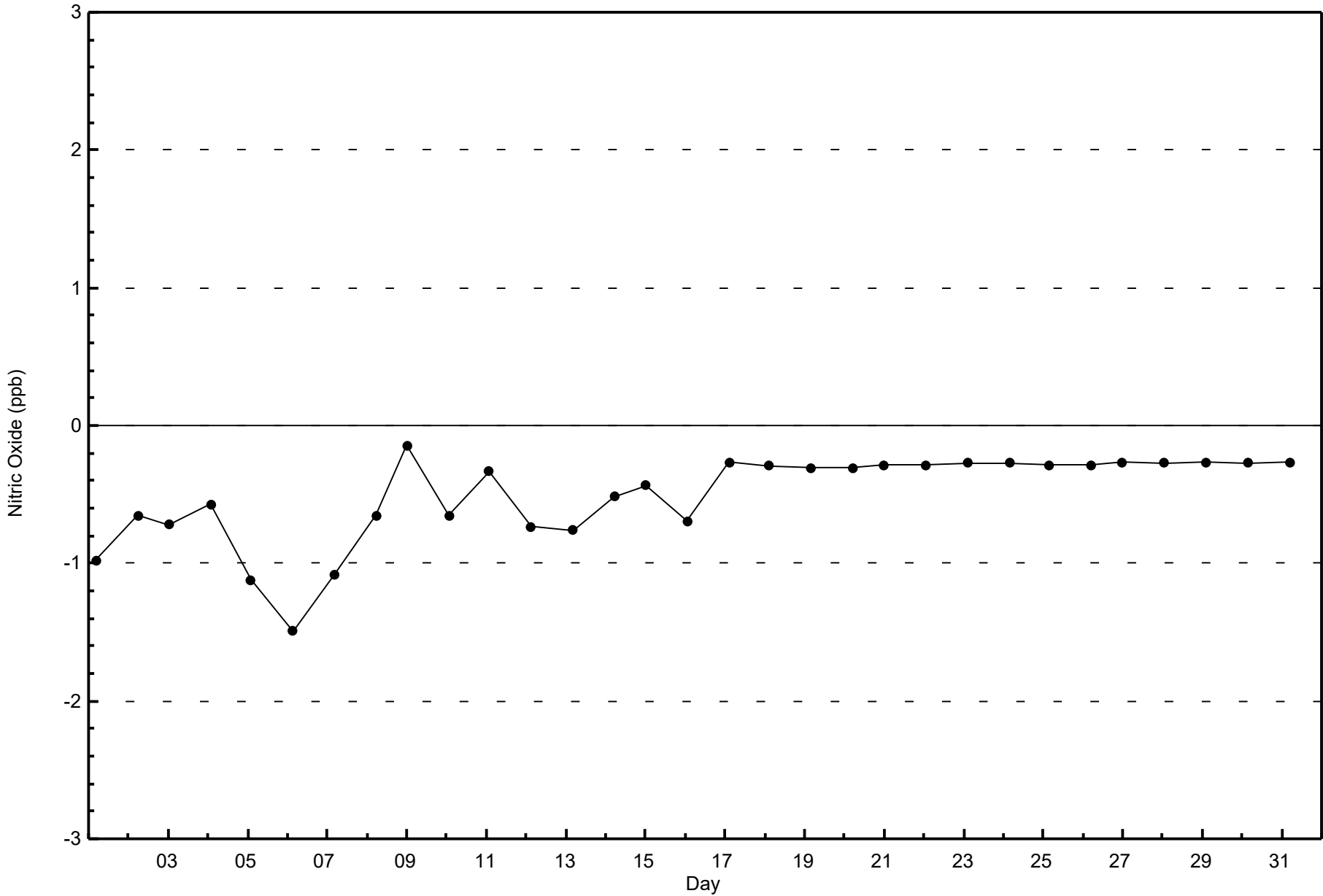
Total Number of Hours: 744

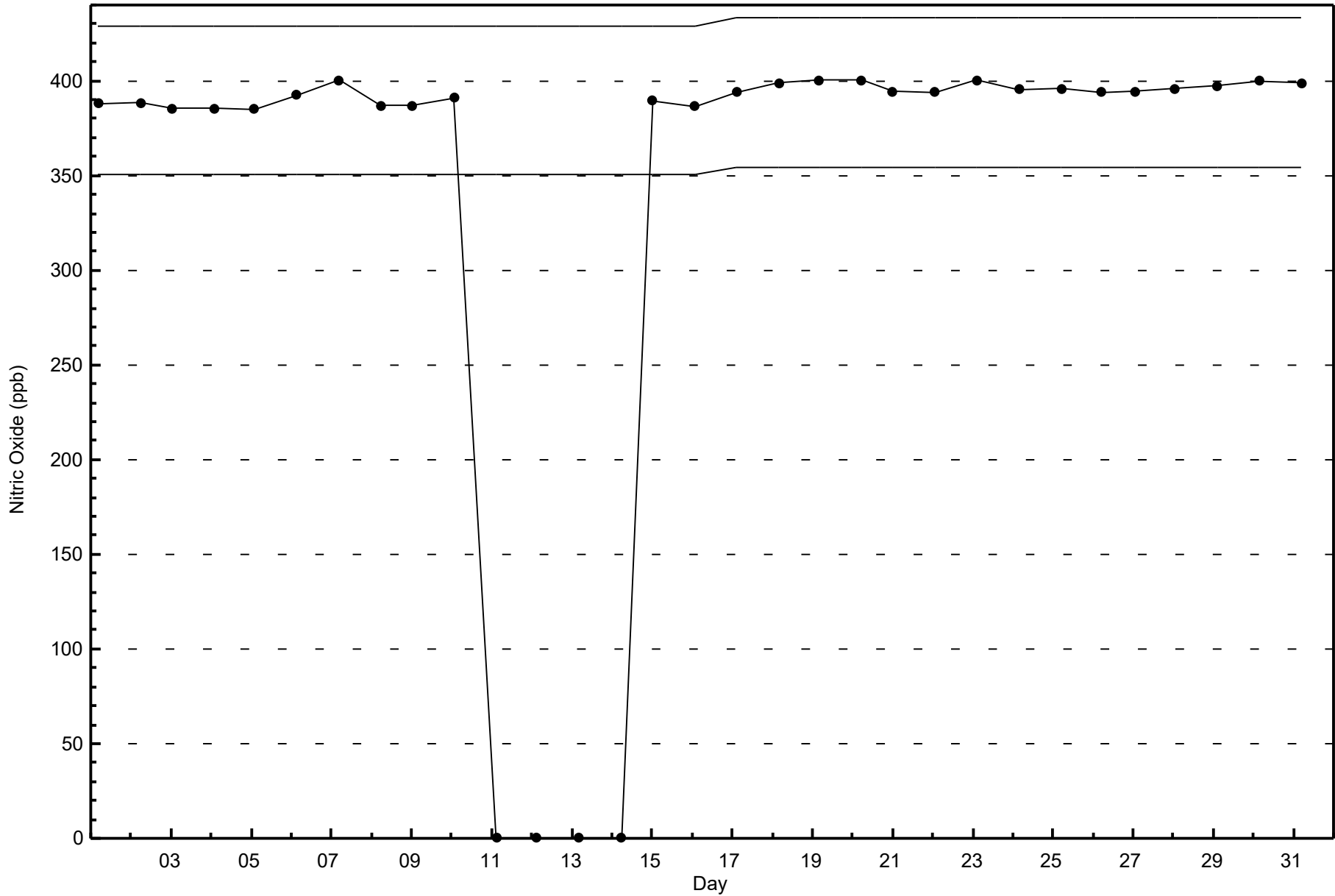


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitric Oxide (NO) - ppb
Fort Chipewyan









Wood Buffalo Environmental Association
Summary of Hour Averages

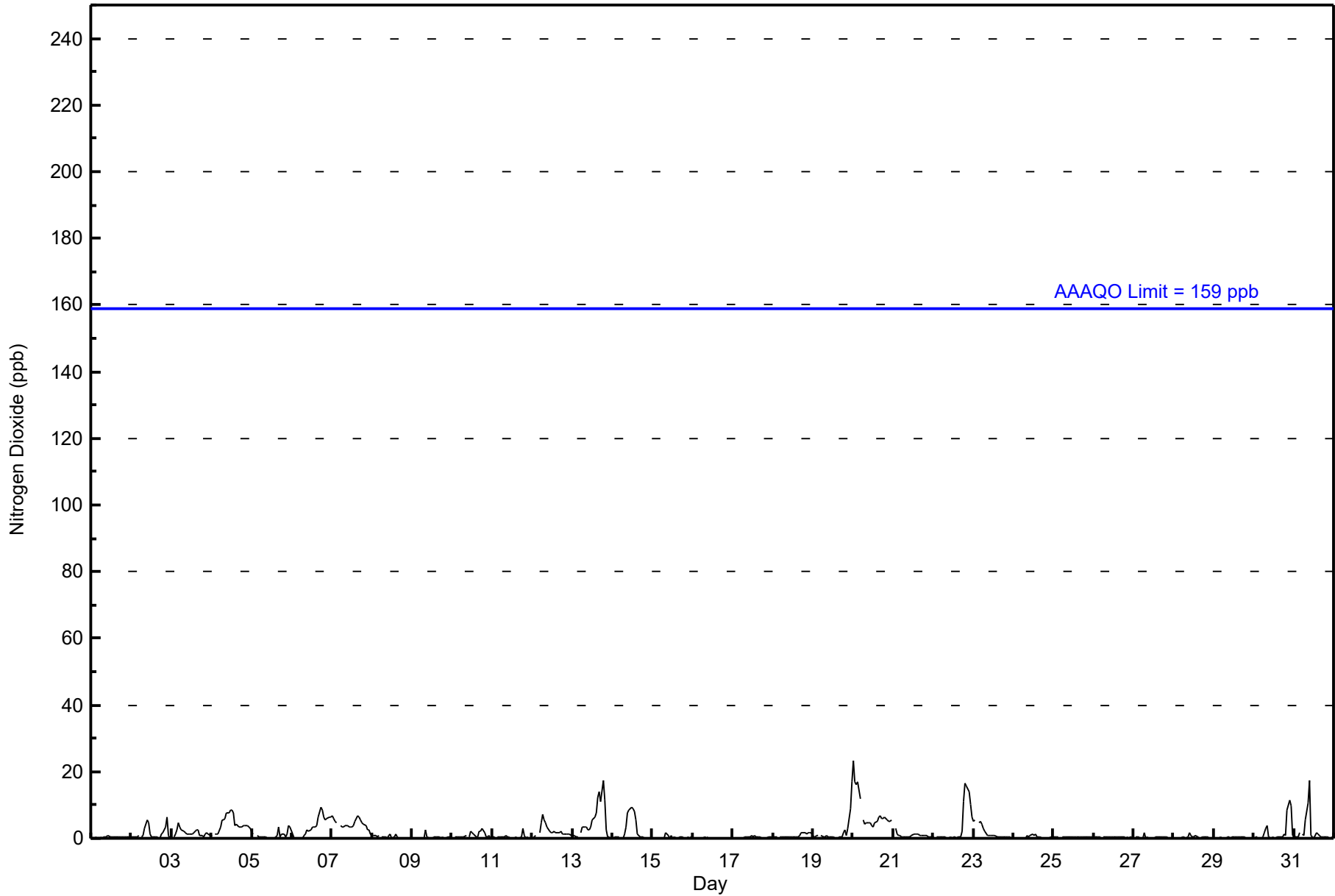
Nitrogen Dioxide (NO₂) - ppb
Fort Chipewyan - January 2025

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 23.5 ppb on Jan 20 01:00	Maximum Daily Average: 7.8 ppb on Jan 20		Hours of Data:	702
Minimum Value: 0.0 ppb on Jan 3 00:00	Minimum Daily Average: 0.3 ppb on Jan 29		Hours of Missing Data:	42
Maximum Diurnal Average: 2.3 ppb at hour 19	Minimum Diurnal Average: 1.1 ppb at hour 6		Hours of Calibration:	38
Monthly Average: 1.69 ppb	Percentiles: P ₁ = 0.0 P ₁₀ = 0.2 Q ₁ = 0.3 Median = 0.5 Q ₃ = 1.6 P ₉₀ = 5.2 P ₉₉ = 16.3		Percent Operational Time:	99.5

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	0.2	0.2	0.2	0.5	Z	0.3	0.2	0.4	0.5	0.5	0.7	0.5	0.3	0.4	0.3	0.4	0.4	0.6	0.4	0.4	0.4	0.3	0.4	0.6	0.4	0.7	
2-Jan	0.4	0.4	0.5	0.4	0.7	Z	0.6	0.8	3.1	5.6	4.6	1.3	0.4	0.3	0.3	0.5	0.2	0.2	1.3	1.5	3.2	6.4	1.0	0.0	1.5	6.4	
3-Jan	Z	0.5	1.4	2.5	4.6	3.4	2.4	2.0	1.5	1.3	1.3	1.2	1.4	1.7	2.3	2.5	2.6	1.0	0.7	0.5	1.1	1.5	1.2	0.9	1.7	4.6	
4-Jan	0.8	Z	1.3	1.2	1.3	3.4	5.5	5.8	5.8	7.6	7.8	8.5	8.3	7.7	3.9	4.4	3.5	3.5	3.6	3.7	3.7	3.7	3.2	2.9	4.4	8.5	
5-Jan	1.9	1.2	Z	0.8	0.6	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.1	0.2	0.4	1.0	3.2	0.4	1.2	1.3	0.5	1.2	4.0	3.3	1.0	4.0	
6-Jan	1.1	0.2	0.1	Z	0.1	0.0	0.1	0.9	1.3	2.4	2.2	2.4	3.6	3.2	3.4	3.8	6.5	9.4	8.5	6.2	5.6	6.1	6.4	6.3	3.5	9.4	
7-Jan	6.8	6.1	5.2	4.6	Z	4.0	3.3	3.5	3.9	3.7	3.6	3.6	3.6	3.9	4.9	6.6	6.5	5.5	4.7	4.4	3.8	2.7	2.4	1.3	4.3	6.8	
8-Jan	0.8	0.7	0.8	0.5	0.7	Z	0.6	0.4	0.3	0.2	0.9	1.2	0.1	0.5	1.1	0.4	0.2	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.4	1.2	
9-Jan	Z	0.0	0.0	0.1	0.0	0.0	0.2	0.2	2.4	0.3	0.2	0.2	0.1	0.4	0.3	0.3	0.4	0.2	0.3	0.2	0.2	0.3	0.3	0.3	0.3	2.4	
10-Jan	0.3	Z	0.5	0.5	0.6	0.5	0.5	0.5	0.8	M	0.6	2.1	1.8	1.2	0.4	0.6	2.1	2.2	2.9	1.9	0.3	0.3	0.7	0.2	1.0	2.9	
11-Jan	0.3	0.4	Z	0.3	0.4	0.4	0.5	0.5	0.8	0.5	0.6	0.1	0.1	0.1	0.4	0.1	0.1	0.5	2.9	0.9	0.1	0.3	0.2	0.1	0.5	2.9	
12-Jan	0.2	0.4	1.0	Z	1.5	4.7	7.2	5.7	4.6	3.6	2.3	1.8	1.9	2.2	1.7	1.8	1.7	2.2	1.1	1.1	1.1	1.3	1.1	1.0	2.2	7.2	
13-Jan	1.1	0.7	0.3	0.4	Z	1.9	3.4	3.3	3.3	2.6	2.4	3.5	5.5	6.3	7.8	12.4	14.1	11.0	17.5	11.6	2.5	0.5	0.3	0.2	4.9	17.5	
14-Jan	0.2	0.4	0.3	0.4	0.4	Z	0.2	1.2	3.2	7.6	8.4	9.2	9.0	8.0	5.4	1.4	0.4	0.3	0.3	0.2	0.0	0.0	0.0	0.0	2.5	9.2	
15-Jan	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.8	0.2	0.9	0.2	0.4	0.0	0.1	0.3	0.6	0.3	0.0	0.2	0.4	0.1	0.4	0.3	1.8	
16-Jan	0.5	Z	0.0	0.0	0.1	0.1	0.0	0.3	0.2	0.6	C	C	C	C	C	C	C	0.1	0.0	0.0	0.0	0.0	0.0	0.0	--	0.6	
17-Jan	0.1	0.1	Z	0.1	0.1	0.1	0.2	0.3	0.4	0.4	0.4	0.7	0.4	0.9	0.4	0.3	0.5	0.2	0.2	0.2	0.2	0.4	0.4	0.4	0.3	0.9	
18-Jan	0.3	0.4	0.3	Z	0.5	0.4	0.5	0.5	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.3	1.0	1.5	1.5	1.5	1.2	1.8	1.8	1.8	0.8	1.8	
19-Jan	0.6	0.6	0.8	0.8	Z	0.8	0.6	0.6	0.7	0.4	0.6	0.4	0.3	0.2	0.2	0.2	0.4	0.6	1.7	2.6	1.0	3.0	8.7	16.8	1.9	16.8	
20-Jan	23.5	16.9	16.3	17.0	11.8	Z	5.7	4.4	4.5	4.5	4.7	3.7	3.6	4.6	5.2	6.2	6.7	5.9	6.1	6.3	5.7	5.2	5.0	5.3	7.8	23.5	
21-Jan	Z	2.8	1.3	0.9	0.7	0.6	0.5	0.5	0.5	0.6	0.6	0.8	1.1	1.1	1.2	1.1	0.8	0.8	1.0	1.0	0.9	0.6	0.5	0.4	0.9	2.8	
22-Jan	0.4	Z	0.3	0.4	0.3	0.3	0.4	0.5	0.2	0.2	0.3	0.2	0.3	0.6	0.2	0.3	0.3	2.2	10.9	16.5	15.6	13.9	10.0	6.5	3.5	16.5	
23-Jan	5.2	5.4	Z	4.7	5.1	4.2	3.1	2.1	0.9	0.8	0.8	0.8	0.7	0.9	0.6	0.6	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.2	1.7	5.4	
24-Jan	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.7	0.6	0.8	1.1	0.7	1.1	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	1.1	
25-Jan	0.3	0.3	0.4	0.3	Z	0.3	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.5	
26-Jan	0.3	0.3	0.3	0.3	0.4	Z	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.5	0.4	0.4	0.4	0.2	0.3	0.2	0.3	0.4	0.4	0.5	
27-Jan	Z	0.3	0.3	0.3	0.2	0.2	1.7	0.2	0.6	0.2	0.1	0.2	0.2	0.6	0.5	0.5	0.5	0.5	0.3	0.3	0.3	0.3	0.2	PF	PF	0.4	1.7
28-Jan	PF	Z	0.2	0.1	0.2	0.5	0.6	0.2	0.5	1.5	0.8	0.3	0.3	0.7	0.4	0.2	0.2	0.3	0.4	0.3	0.3	0.2	0.2	0.2	0.4	1.5	
29-Jan	0.2	0.2	Z	0.2	0.3	0.2	0.1	0.1	0.3	0.3	0.2	0.3	0.3	0.4	0.3	0.6	0.4	0.3	0.4	0.2	0.2	0.2	0.2	0.1	0.3	0.6	
30-Jan	0.1	0.3	0.3	Z	0.2	0.3	1.6	3.0	3.7	0.5	0.2	0.3	0.2	0.2	0.3	0.3	0.4	0.5	1.4	0.8	8.4	11.4	9.7	1.0	2.0	11.4	
31-Jan	0.7	0.5	0.6	1.8	Z	1.2	0.9	5.6	10.7	17.3	1.0	0.4	0.2	1.5	1.2	1.0	0.4	0.4	0.3	0.4	0.3	0.2	0.2	0.3	2.0	17.3	

1.9	1.5	1.3	1.5	1.2	1.1	1.4	1.4	1.9	2.2	1.6	1.6	1.5	1.7	1.5	1.6	1.8	1.7	2.3	2.1	1.9	2.0	2.0	1.7	Diurnal Average	
23.5	16.9	16.3	17.0	11.8	4.7	7.2	5.7	10.7	17.3	8.4	9.2	9.0	8.0	7.8	12.4	14.1	11.0	17.5	16.5	15.6	13.9	10.0	16.8	Diurnal Maximum	

Z - zerospan C - Calibration M - Maintenance PF - Power Failure
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Nitrogen Dioxide (NO₂) - ppb
Fort Chipewyan - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	701	99.86	99.86
21 - 40	1	0.14	100.00
41 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 702

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Dioxide (NO₂) - ppb
Fort Chipewyan - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	9	17	24	27	126	18	7	15	27	18	12	24	124	93	108	48	697
21 - 40	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
11 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	9	17	24	27	127	18	7	15	27	18	12	24	124	93	108	48	698

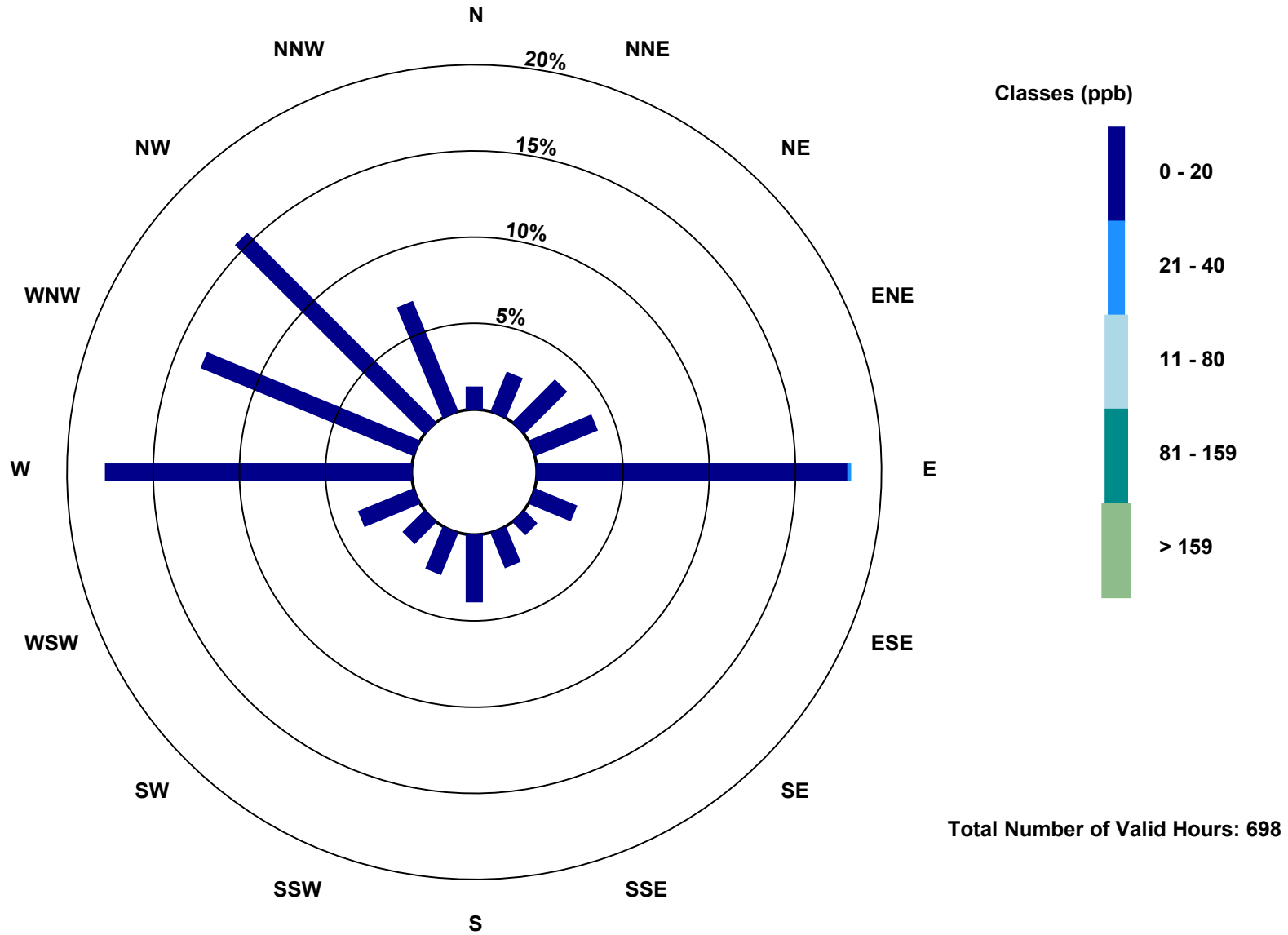
Total Number of Valid Hours: 698

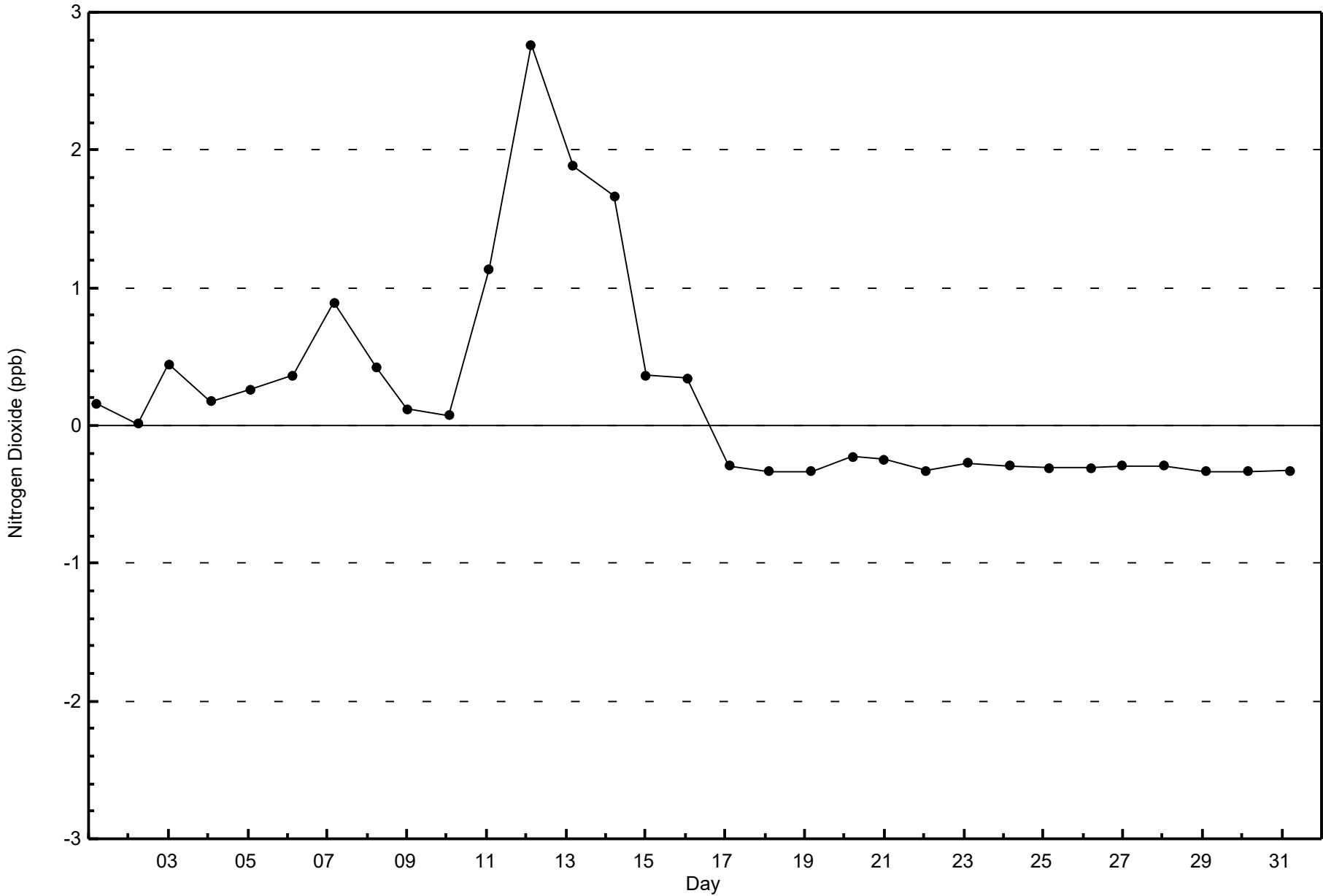
Total Number of Hours: 744

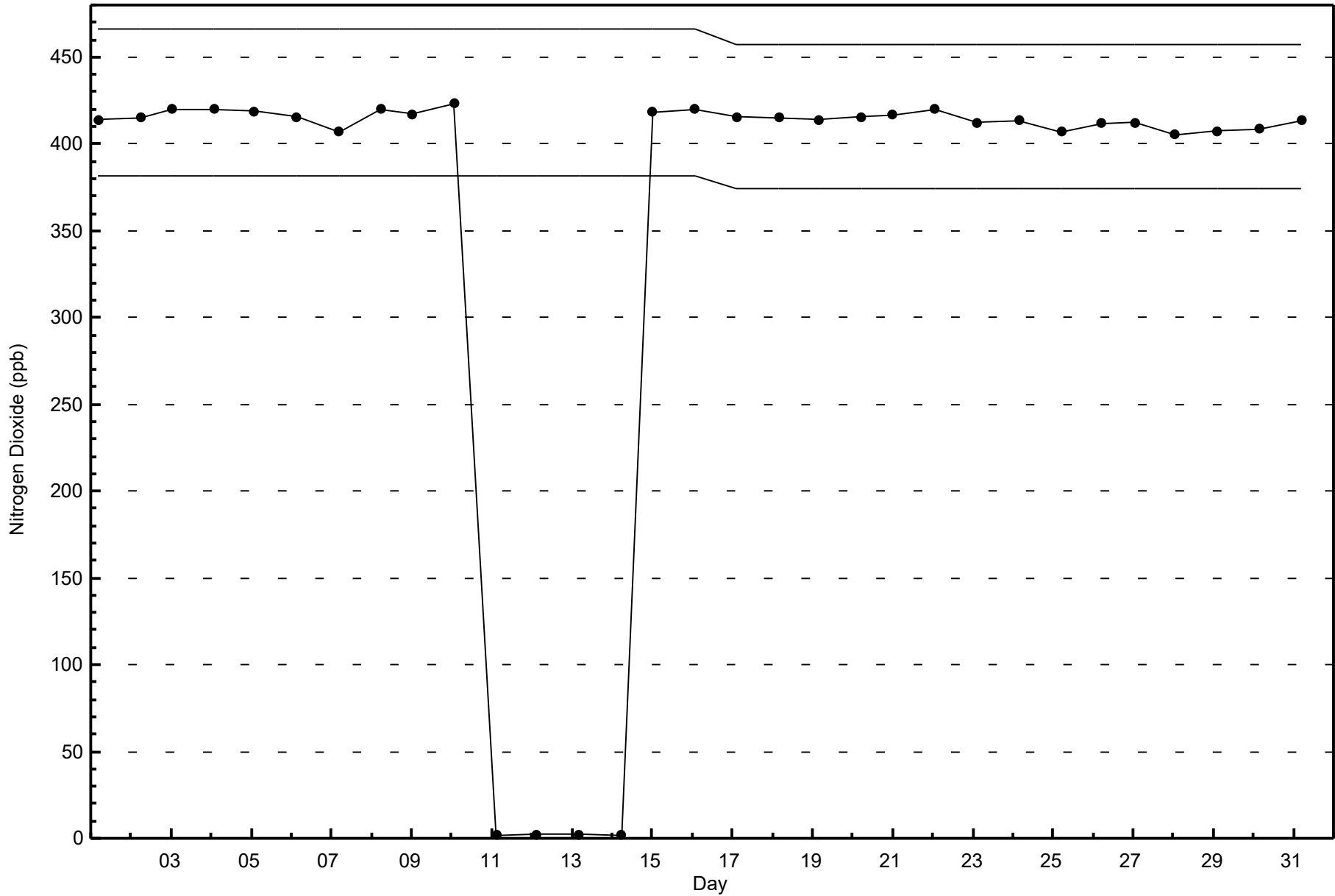


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Dioxide (NO₂) - ppb
Fort Chipewyan









Wood Buffalo Environmental Association
Summary of Hour Averages

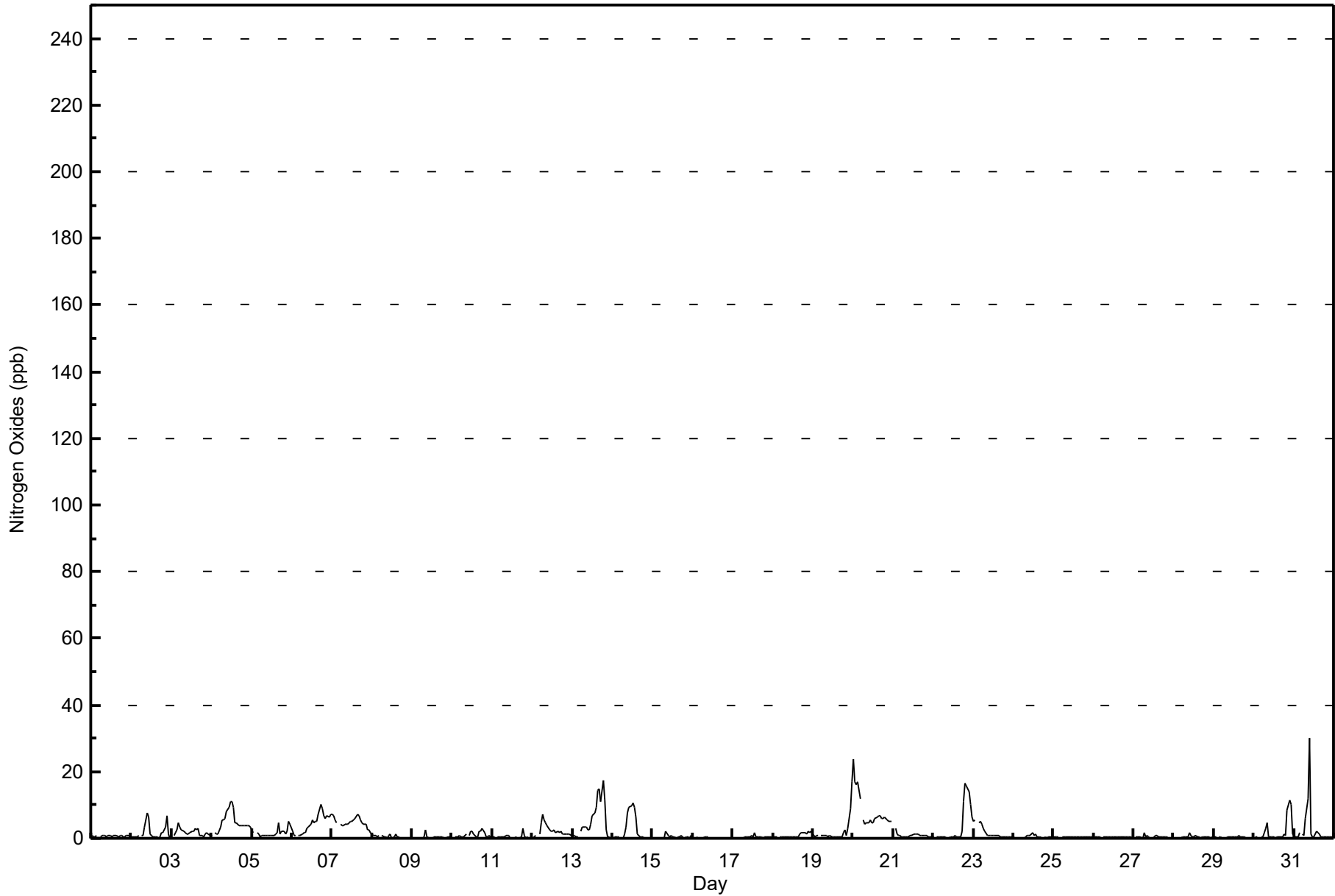
Nitrogen Oxides (NO_x) - ppb
Fort Chipewyan - January 2025

Maximum Value: 30.3 ppb on Jan 31 10:00		Maximum Daily Average: 8.1 ppb on Jan 20		Hours in Service: 744																						
Minimum Value: 0.0 ppb on Jan 8 18:00		Minimum Daily Average: 0.3 ppb on Jan 29		Hours of Data: 702																						
Maximum Diurnal Average: 2.8 ppb at hour 10		Minimum Diurnal Average: 1.2 ppb at hour 6		Hours of Missing Data: 42																						
Monthly Average: 1.88 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.2 Q ₁ = 0.3 Median = 0.6 Q ₃ = 1.9 P ₉₀ = 5.5 P ₉₉ = 16.3		Hours of Calibration: 38																						
				Percent Operational Time: 99.5																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0.7	0.6	0.6	1.0	Z	0.5	0.7	0.8	0.8	0.5	1.0	0.7	0.6	0.7	0.8	0.9	0.5	0.7	0.6	0.6	0.6	0.7	0.7	0.6	0.7	1.0
2-Jan	0.4	0.5	0.5	0.4	0.8	Z	0.8	1.0	3.3	7.5	6.2	1.4	0.8	0.5	0.5	0.5	0.2	0.4	1.7	1.5	3.2	6.6	1.1	0.0	1.7	7.5
3-Jan	Z	0.7	1.5	2.6	4.7	3.5	2.4	2.0	1.6	1.5	1.5	1.6	2.3	2.3	2.9	2.7	2.8	1.0	0.7	0.5	1.1	1.5	1.2	1.0	1.9	4.7
4-Jan	0.9	Z	1.5	1.2	1.3	3.4	5.5	5.6	6.0	8.0	9.4	11.0	10.8	9.4	4.7	4.8	3.8	3.9	3.9	4.0	4.0	3.9	3.7	3.4	5.0	11.0
5-Jan	2.4	1.7	Z	1.5	1.2	0.6	0.8	0.8	0.9	0.9	0.8	0.9	0.9	1.0	1.3	1.7	4.4	1.3	2.1	2.1	1.3	2.1	5.0	4.1	1.7	5.0
6-Jan	1.9	0.8	0.7	Z	0.9	0.7	1.3	1.9	1.9	2.9	3.2	4.1	5.6	4.6	5.1	4.9	7.3	10.1	9.1	7.0	5.9	6.7	6.6	7.0	4.4	10.1
7-Jan	7.1	6.7	5.6	4.8	Z	4.2	3.8	4.0	4.2	4.2	4.7	4.9	5.2	5.4	5.9	7.3	6.7	5.6	4.9	4.4	4.0	2.7	2.6	1.6	4.8	7.3
8-Jan	1.1	0.8	0.9	0.5	0.7	Z	0.7	0.4	0.3	0.2	0.9	1.4	0.1	0.6	1.1	0.4	0.2	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.5	1.4
9-Jan	Z	0.0	0.0	0.1	0.0	0.0	0.2	0.2	2.4	0.3	0.2	0.2	0.1	0.4	0.3	0.3	0.4	0.2	0.3	0.2	0.2	0.3	0.3	0.4	0.3	2.4
10-Jan	0.3	Z	0.5	0.5	0.8	0.6	0.6	0.5	1.1	M	0.7	2.3	2.1	1.5	0.4	0.6	2.2	2.2	3.0	1.9	0.3	0.3	0.7	0.2	1.1	3.0
11-Jan	0.3	0.4	Z	0.3	0.4	0.4	0.6	0.5	0.8	0.7	0.7	0.1	0.1	0.1	0.4	0.2	0.1	0.5	2.9	0.9	0.1	0.3	0.2	0.1	0.5	2.9
12-Jan	0.2	0.4	1.0	Z	1.5	4.8	7.3	5.7	4.6	3.9	2.6	2.1	2.2	2.7	1.8	1.9	1.7	2.2	1.1	1.2	1.2	1.3	1.1	1.0	2.3	7.3
13-Jan	1.1	0.7	0.3	0.4	Z	1.9	3.4	3.3	3.5	2.6	2.6	4.2	6.9	7.5	9.3	14.5	14.6	11.0	17.5	11.6	2.7	0.5	0.3	0.2	5.2	17.5
14-Jan	0.2	0.4	0.3	0.4	0.4	Z	0.2	1.2	3.2	7.7	9.3	9.9	10.6	9.4	6.2	1.4	0.4	0.3	0.3	0.2	0.0	0.0	0.0	0.0	2.7	10.6
15-Jan	Z	0.1	0.0	0.0	0.1	0.0	0.0	0.0	1.9	0.8	0.2	1.1	0.3	0.4	0.0	0.3	0.3	0.8	0.4	0.0	0.3	0.5	0.1	0.7	0.4	1.9
16-Jan	0.5	Z	0.2	0.1	0.1	0.1	0.0	0.3	0.2	0.6	C	C	C	C	C	C	C	0.1	0.0	0.0	0.0	0.0	0.0	0.0	--	0.6
17-Jan	0.1	0.1	Z	0.1	0.1	0.1	0.2	0.3	0.5	0.5	0.5	1.0	0.5	1.5	0.5	0.3	0.6	0.2	0.2	0.2	0.2	0.4	0.4	0.4	0.4	1.5
18-Jan	0.3	0.4	0.3	Z	0.5	0.4	0.5	0.6	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4	1.1	1.6	1.6	1.7	1.3	2.0	1.9	1.9	0.8	2.0
19-Jan	0.6	0.6	0.8	0.9	Z	0.9	0.7	0.7	0.9	0.5	0.7	0.5	0.4	0.3	0.2	0.3	0.4	0.6	1.7	2.6	1.0	3.0	8.7	16.8	1.9	16.8
20-Jan	23.6	16.9	16.3	17.0	11.8	Z	5.7	4.4	4.6	4.8	5.5	4.6	4.7	5.9	6.3	6.9	6.8	5.9	6.1	6.3	5.7	5.2	5.0	5.3	8.1	23.6
21-Jan	Z	2.8	1.3	0.9	0.7	0.6	0.5	0.5	0.5	0.6	0.7	0.9	1.2	1.2	1.4	1.2	0.9	0.8	1.0	1.0	0.9	0.6	0.6	0.4	0.9	2.8
22-Jan	0.4	Z	0.3	0.4	0.3	0.3	0.4	0.5	0.2	0.2	0.3	0.2	0.3	0.8	0.3	0.3	0.3	2.2	10.9	16.5	15.6	13.9	10.0	6.5	3.5	16.5
23-Jan	5.2	5.4	Z	4.7	5.1	4.2	3.1	2.1	0.9	0.8	0.9	0.9	0.8	1.0	0.7	0.7	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.2	1.7	5.4
24-Jan	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.8	0.7	1.0	1.6	1.0	1.4	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.5	1.6
25-Jan	0.3	0.3	0.4	0.3	Z	0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.5
26-Jan	0.3	0.3	0.3	0.3	0.5	Z	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.2	0.3	0.2	0.3	0.4	0.4	0.5
27-Jan	Z	0.3	0.3	0.3	0.2	0.2	1.7	0.2	0.6	0.2	0.1	0.2	0.2	1.1	0.7	0.5	0.5	0.3	0.3	0.3	0.3	0.2	PF	PF	0.4	1.7
28-Jan	PF	Z	0.2	0.1	0.2	0.5	0.6	0.2	0.5	1.7	0.9	0.3	0.3	0.9	0.4	0.2	0.2	0.3	0.4	0.3	0.3	0.2	0.2	0.2	0.4	1.7
29-Jan	0.2	0.2	Z	0.2	0.3	0.2	0.1	0.1	0.3	0.3	0.2	0.3	0.3	0.4	0.3	0.7	0.4	0.3	0.4	0.2	0.2	0.2	0.2	0.1	0.3	0.7
30-Jan	0.1	0.3	0.3	Z	0.2	0.3	1.6	3.1	4.7	0.6	0.2	0.3	0.3	0.2	0.4	0.3	0.4	0.5	1.4	0.8	8.5	11.4	10.1	1.1	2.0	11.4
31-Jan	0.7	0.5	0.6	1.8	Z	1.2	0.9	5.8	11.8	30.3	1.3	0.5	0.3	2.2	1.6	1.2	0.4	0.4	0.3	0.4	0.3	0.2	0.2	0.3	2.8	30.3
																								Diurnal Average		
																								Diurnal Maximum		
																								2.0 1.6 1.3 1.6 1.3 1.2 1.5 1.5 2.1 2.8 1.9 1.9 2.0 2.2 1.8 1.9 2.0 1.8 2.4 2.2 1.9 2.1 2.1 1.8		
																								23.6 16.9 16.3 17.0 11.8 4.8 7.3 5.8 11.8 30.3 9.4 11.0 10.8 9.4 9.3 14.5 14.6 11.0 17.5 16.5 15.6 13.9 10.1 16.8		
																								Z - zerospan C - Calibration M - Maintenance PF - Power Failure		



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Fort Chipewyan - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Nitrogen Oxides (NO_x) - ppb
Fort Chipewyan - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	700	99.72	99.72
21 - 40	2	0.28	100.00
41 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 702

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Fort Chipewyan - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	9	17	24	26	126	18	7	15	27	18	12	24	124	93	108	48	696
21 - 40	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
11 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	9	17	24	27	127	18	7	15	27	18	12	24	124	93	108	48	698

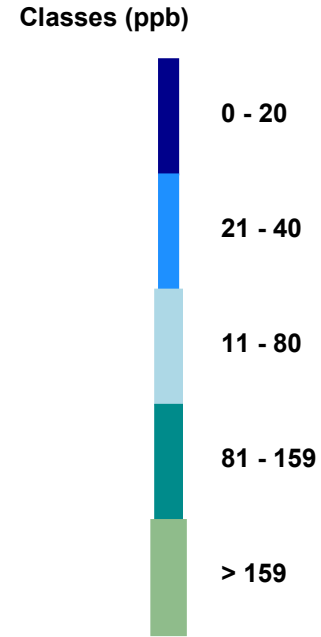
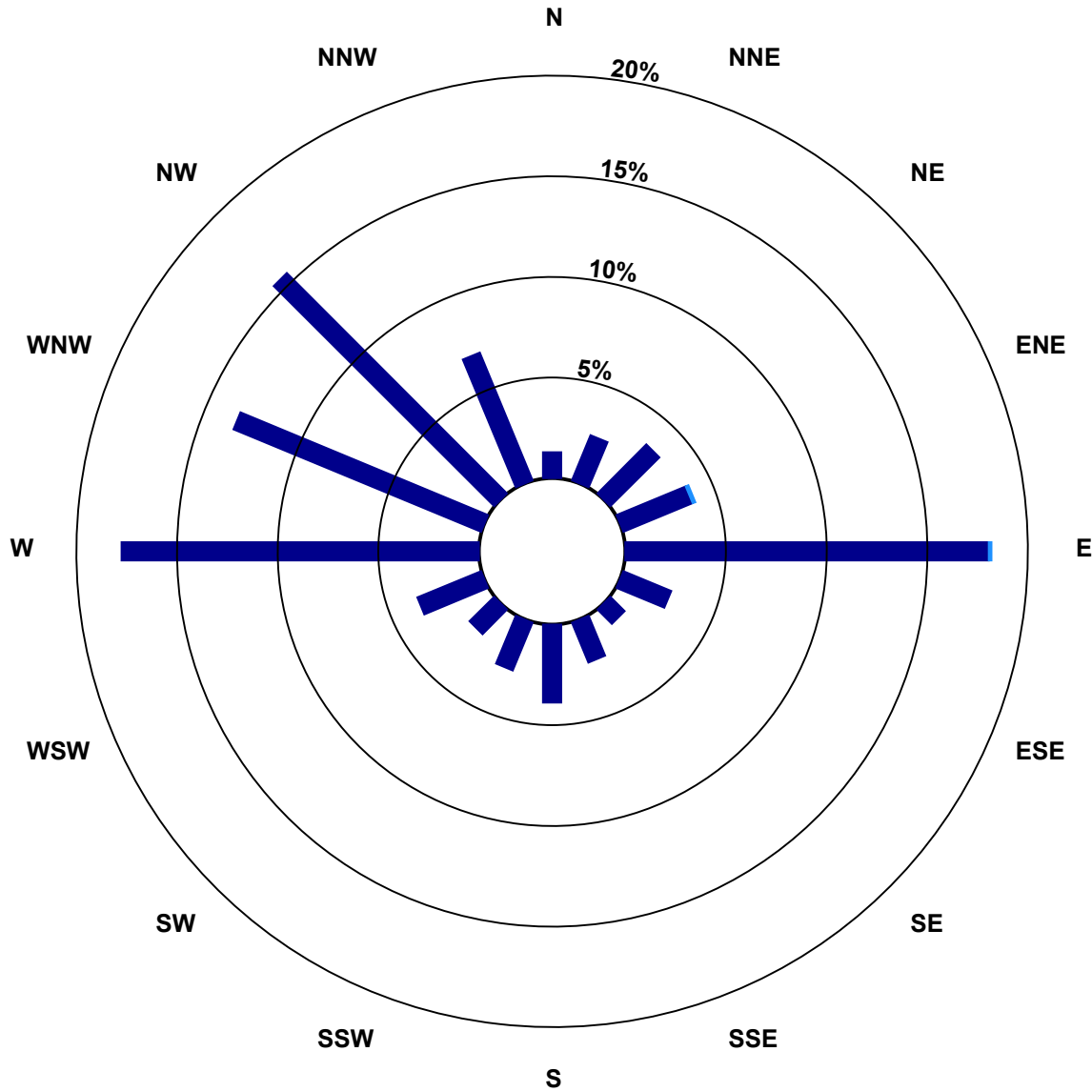
Total Number of Valid Hours: 698

Total Number of Hours: 744

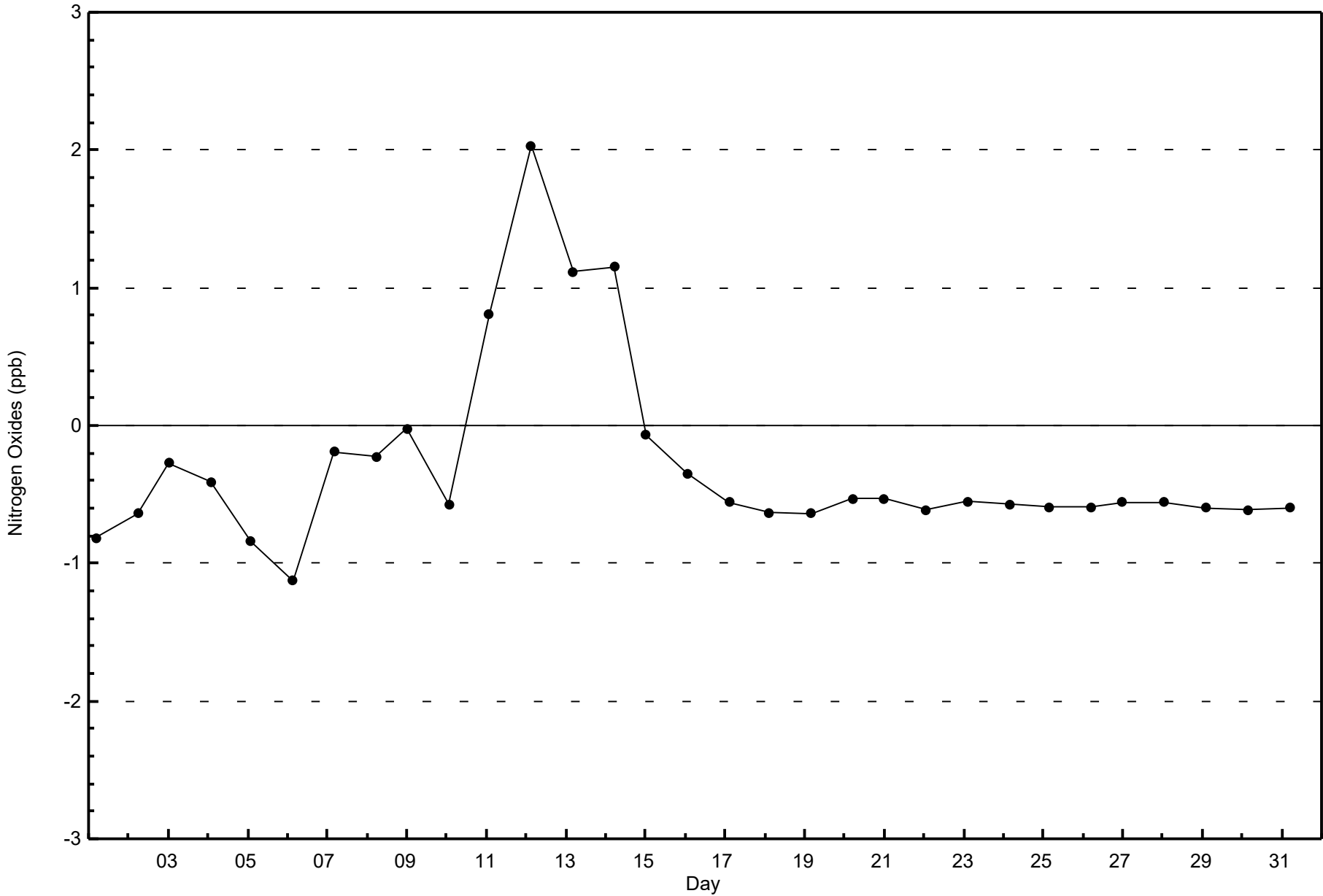


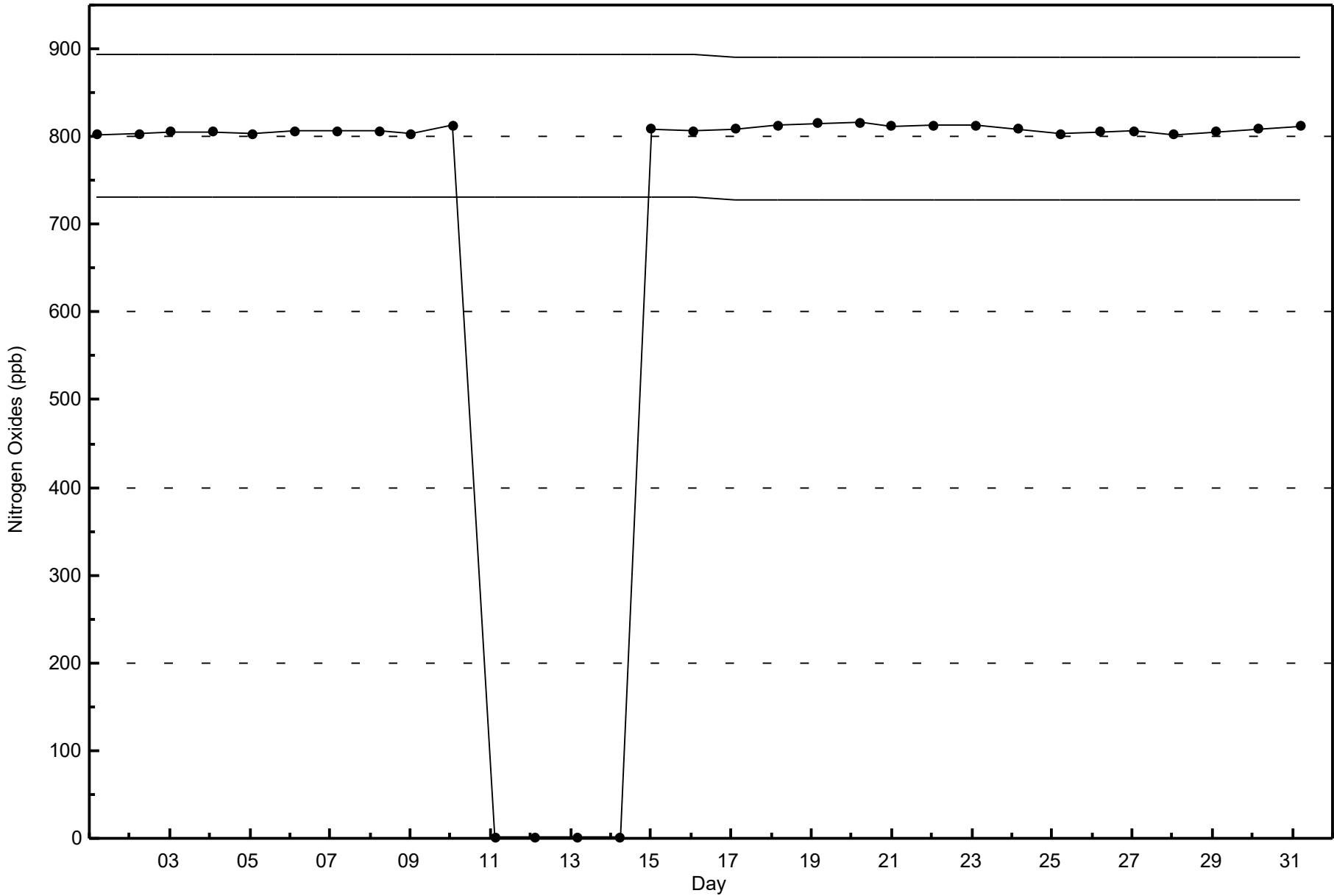
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Oxides (NO_x) - ppb
Fort Chipewyan



Total Number of Valid Hours: 698







Wood Buffalo Environmental Association

Summary of Hour Averages

Ozone (O₃) - ppb

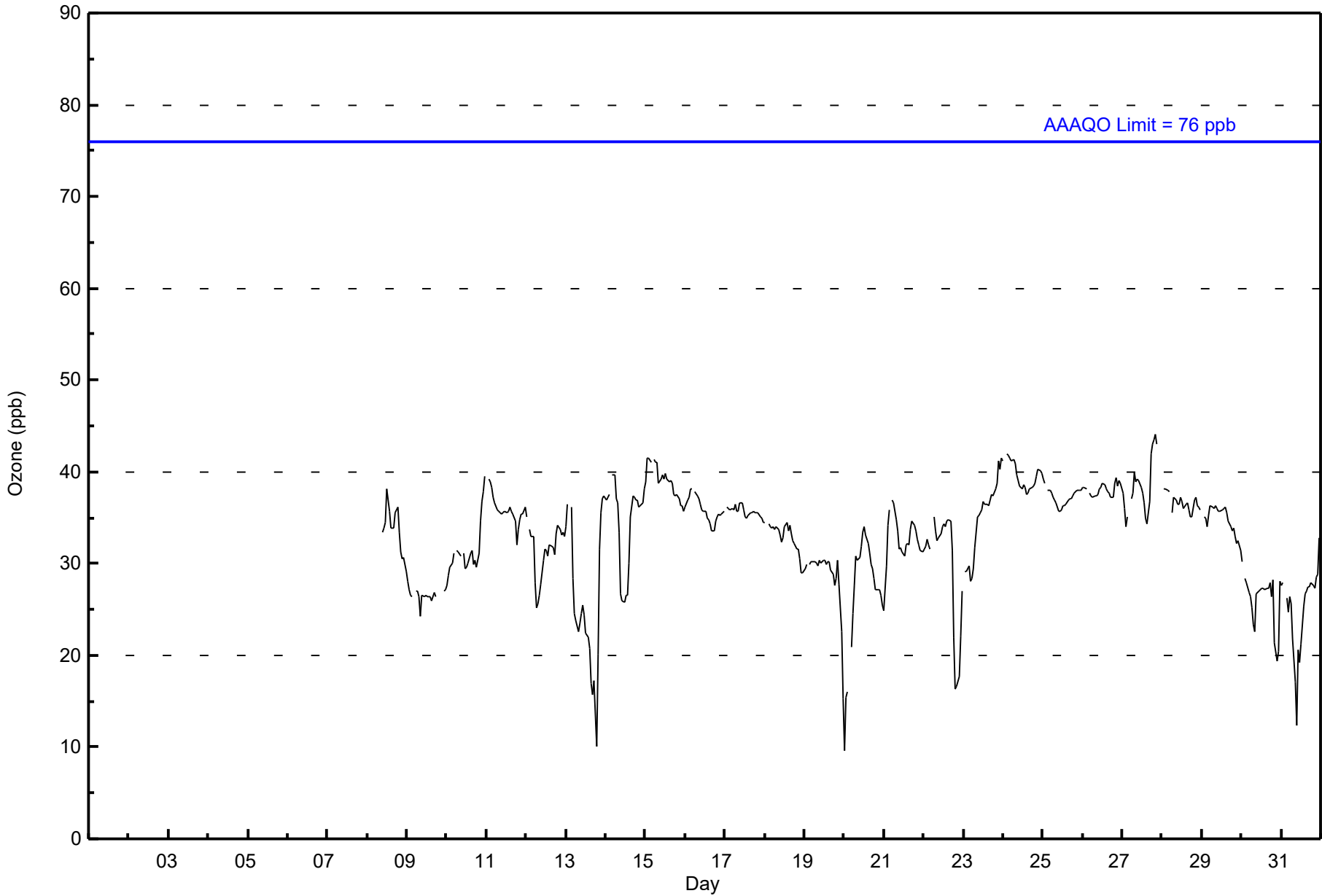
Fort Chipewyan - January 2025

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 44.0 ppb on Jan 27 21:00	Maximum Daily Average: 39.6 ppb on Jan 24		Hours of Data:	536
Minimum Value: 9.7 ppb on Jan 20 01:00	Minimum Daily Average: 25.1 ppb on Jan 31		Hours of Missing Data:	208
Maximum Diurnal Average: 34.1 ppb at hour 4	Minimum Diurnal Average: 32.3 ppb at hour 1		Hours of Calibration:	27
Monthly Average: 33.00 ppb	Percentiles: P ₁ = 15.8 P ₁₀ = 26.4 Q ₁ = 29.8 Median = 34.5 Q ₃ = 36.9 P ₉₀ = 38.7 P ₉₉ = 41.9		Percent Operational Time:	75.7

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	--	
2-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	--
3-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	--
4-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	--
5-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	--
6-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	--
7-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	--
8-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	33.3	33.9	34.4	38.1	35.7	33.8	33.9	33.9	35.5	36.1	33.4	31.2	30.6	30.6	29.1	--	38.1
9-Jan	28.1	27.2	26.5	26.4	Z	26.9	27.0	26.3	24.3	26.6	26.4	26.5	26.4	26.4	26.0	26.9	26.4	C	C	C	C	27.0	27.1	26.6	28.1		
10-Jan	27.6	28.7	29.6	30.0	31.1	Z	31.5	31.2	30.8	M	31.1	29.5	29.6	30.0	31.1	31.4	30.0	30.3	29.6	31.1	34.7	36.7	37.9	39.6	31.5	39.6	
11-Jan	Z	39.2	38.9	38.2	37.2	36.5	35.9	35.7	35.6	35.5	35.5	35.7	35.6	35.7	36.1	35.6	35.4	34.6	32.1	33.8	34.7	35.4	35.4	36.1	35.9	39.2	
12-Jan	35.1	Z	33.7	33.0	33.0	27.9	25.1	25.6	26.6	27.8	30.3	31.6	31.5	30.9	32.0	31.8	31.8	31.0	33.3	34.2	33.7	33.1	33.4	33.0	31.3	35.1	
13-Jan	34.0	36.4	Z	36.2	28.4	24.6	23.8	22.6	23.4	24.6	25.4	24.4	22.4	22.0	20.7	16.9	15.7	17.2	10.1	20.2	31.6	35.5	37.1	37.3	25.7	37.3	
14-Jan	36.9	37.2	37.6	Z	39.6	39.6	37.0	36.6	33.4	26.7	25.9	25.8	26.5	26.6	30.0	35.1	37.4	37.2	37.0	36.8	36.2	36.3	36.6	38.1	34.4	39.6	
15-Jan	38.8	41.5	41.5	41.0	Z	41.3	41.1	41.0	38.7	39.3	39.7	39.2	39.8	39.3	38.9	39.1	38.7	37.6	37.4	37.5	37.0	36.2	36.3	35.6	39.0	41.5	
16-Jan	36.1	37.0	37.2	38.1	38.2	Z	37.8	37.4	37.1	36.5	35.9	35.7	35.6	34.9	34.8	34.3	33.6	33.6	34.6	35.1	35.5	35.3	35.4	35.8	35.9	38.2	
17-Jan	Z	36.2	36.1	35.9	35.9	35.8	36.5	35.7	35.7	36.7	36.6	35.8	35.1	34.9	35.3	35.5	35.5	35.8	35.6	35.6	35.5	35.0	35.0	34.5	35.7	36.7	
18-Jan	34.4	Z	34.3	34.0	33.9	34.0	33.7	34.0	33.7	33.0	32.4	32.9	33.9	34.5	33.5	34.2	33.3	32.5	32.2	31.6	31.5	30.5	29.0	29.0	32.9	34.5	
19-Jan	29.5	29.9	Z	29.8	30.1	30.2	30.2	30.0	29.7	30.4	30.0	30.3	30.4	29.8	30.2	30.2	29.3	28.9	27.6	28.4	30.3	27.8	22.5	15.3	28.7	30.4	
20-Jan	9.7	15.4	15.9	Z	20.9	24.6	27.6	30.8	30.3	30.7	31.9	33.4	34.0	33.1	32.2	31.1	29.8	29.5	28.3	27.1	27.1	27.1	26.5	25.5	27.1	34.0	
21-Jan	24.9	29.8	34.2	35.8	Z	36.9	36.5	34.7	33.5	31.6	31.8	31.3	30.9	32.1	32.2	32.0	33.8	34.6	34.2	33.5	32.7	32.0	31.4	31.3	32.7	36.9	
22-Jan	31.6	31.9	32.6	32.0	31.6	Z	35.0	33.6	32.5	32.9	33.2	34.0	34.3	34.0	34.6	34.8	34.6	31.5	22.0	16.4	16.6	17.7	22.1	26.9	29.8	35.0	
23-Jan	Z	29.1	29.1	29.8	28.0	28.3	29.4	31.7	35.0	35.3	35.6	35.9	36.7	36.4	36.4	36.3	36.8	37.6	37.4	38.2	38.7	41.2	40.2	41.5	35.0	41.5	
24-Jan	41.1	Z	42.0	41.8	41.5	41.3	41.4	40.8	39.7	39.1	38.4	38.1	38.6	38.4	37.5	37.7	38.2	38.3	38.5	38.7	39.4	40.3	40.1	39.9	39.6	42.0	
25-Jan	39.3	38.7	Z	37.9	38.0	37.7	37.2	36.9	36.6	35.8	35.6	35.9	36.3	36.4	36.4	36.8	37.1	37.1	37.3	37.6	37.9	38.1	38.0	38.0	37.2	39.3	
26-Jan	38.3	38.3	38.2	Z	37.7	37.4	37.2	37.4	37.4	37.5	38.1	38.4	38.7	38.6	38.2	37.8	37.7	37.2	37.3	38.8	39.4	38.5	39.1	38.7	38.1	39.4	
27-Jan	37.7	35.9	34.0	35.1	Z	37.0	37.7	39.9	38.9	39.1	39.1	38.2	37.7	36.7	34.9	34.4	36.8	41.9	43.0	43.5	44.0	43.0	PF	PF	38.5	44.0	
28-Jan	PF	38.1	38.2	38.1	37.8	Z	35.5	37.1	36.9	36.4	36.5	37.2	36.7	36.1	36.4	36.5	35.8	35.1	35.0	37.0	37.2	36.3	36.2	35.8	36.6	38.2	
29-Jan	Z	35.1	34.9	34.1	35.2	36.2	36.2	36.0	36.3	36.0	35.7	35.7	35.9	36.0	36.1	35.5	34.6	34.0	33.6	33.9	32.9	32.2	32.5	31.4	34.8	36.3	
30-Jan	30.3	Z	28.4	27.8	26.9	26.3	25.1	23.3	22.6	26.7	26.9	27.2	27.3	27.4	27.2	27.3	27.3	27.9	26.4	28.2	21.3	19.3	20.5	28.0	26.1	30.3	
31-Jan	27.6	27.9	Z	26.2	24.7	26.4	25.6	21.7	17.1	12.3	20.6	19.2	21.1	25.3	26.8	27.0	27.5	27.4	27.9	27.7	27.3	28.5	28.8	32.8	25.1	32.8	

32.3	33.3	33.8	34.1	33.1	33.1	33.2	33.1	32.4	32.3	32.8	32.8	33.0	33.0	33.0	33.0	33.0	33.0	32.5	33.0	33.3	33.3	32.7	33.1	Diurnal Average	
41.1	41.5	42.0	41.8	41.5	41.3	41.4	41.0	39.7	39.3	39.7	39.2	39.8	39.3	38.9	39.1	38.7	41.9	43.0	43.5	44.0	43.0	40.2	41.5	Diurnal Maximum	

Z - zerospan C - Calibration M - Maintenance UO - Unstable Operation PF - Power Failure
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 76 ppb





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ozone (O₃) - ppb
Fort Chipewyan - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	17	3.17	3.17
21 - 50	519	96.83	100.00
51 - 82	0	0.00	100.00
> 83	0	0.00	100.00

Total Number of Valid Hours: 536

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Ozone (O₃) - ppb
Fort Chipewyan - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	1	0	0	2	4	3	0	2	1	0	2	1	0	1	0	0	17
21 - 50	8	17	27	20	65	13	4	2	19	15	7	21	112	71	73	41	515
51 - 82	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	9	17	27	22	69	16	4	4	20	15	9	22	112	72	73	41	532

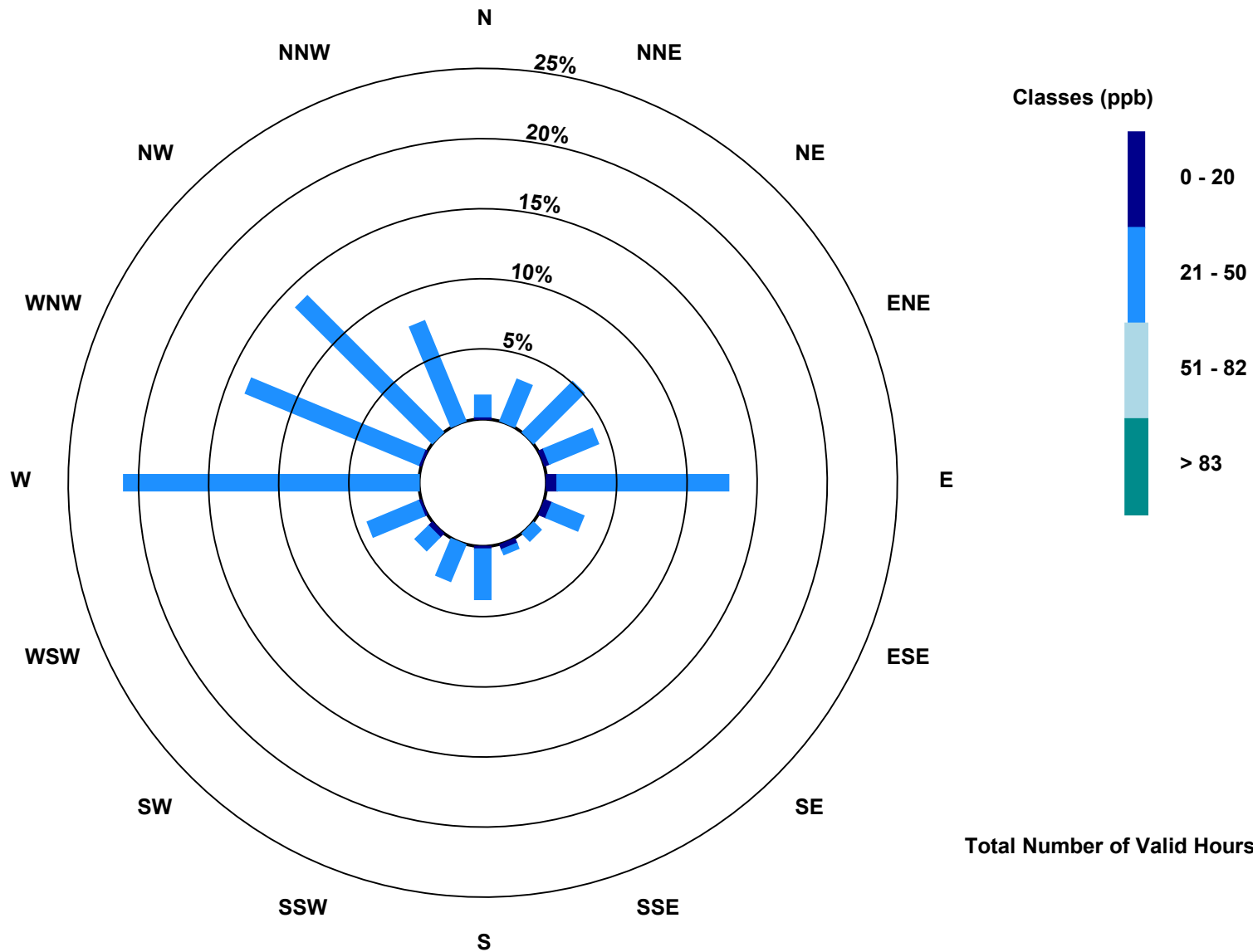
Total Number of Valid Hours: 532

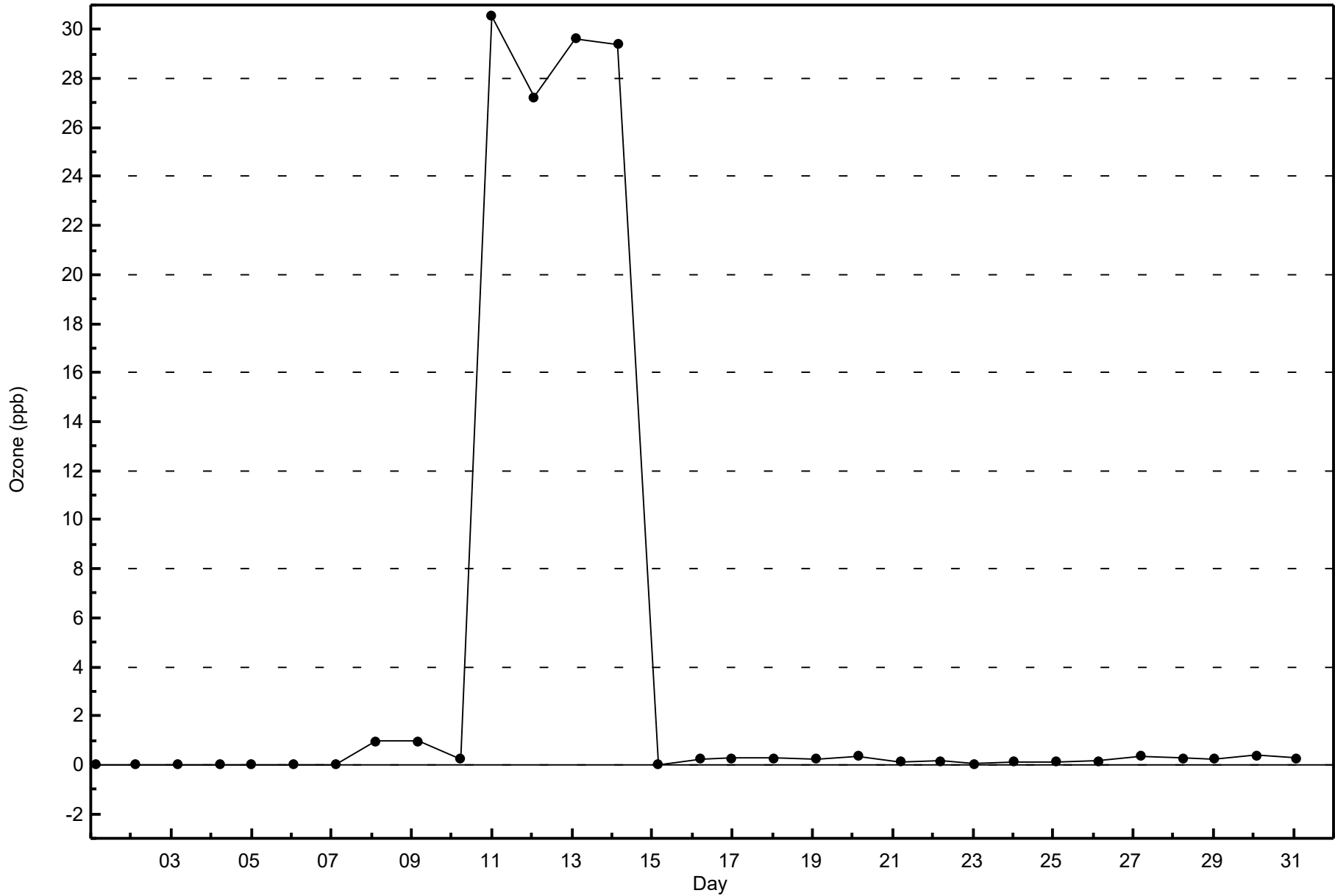
Total Number of Hours: 744

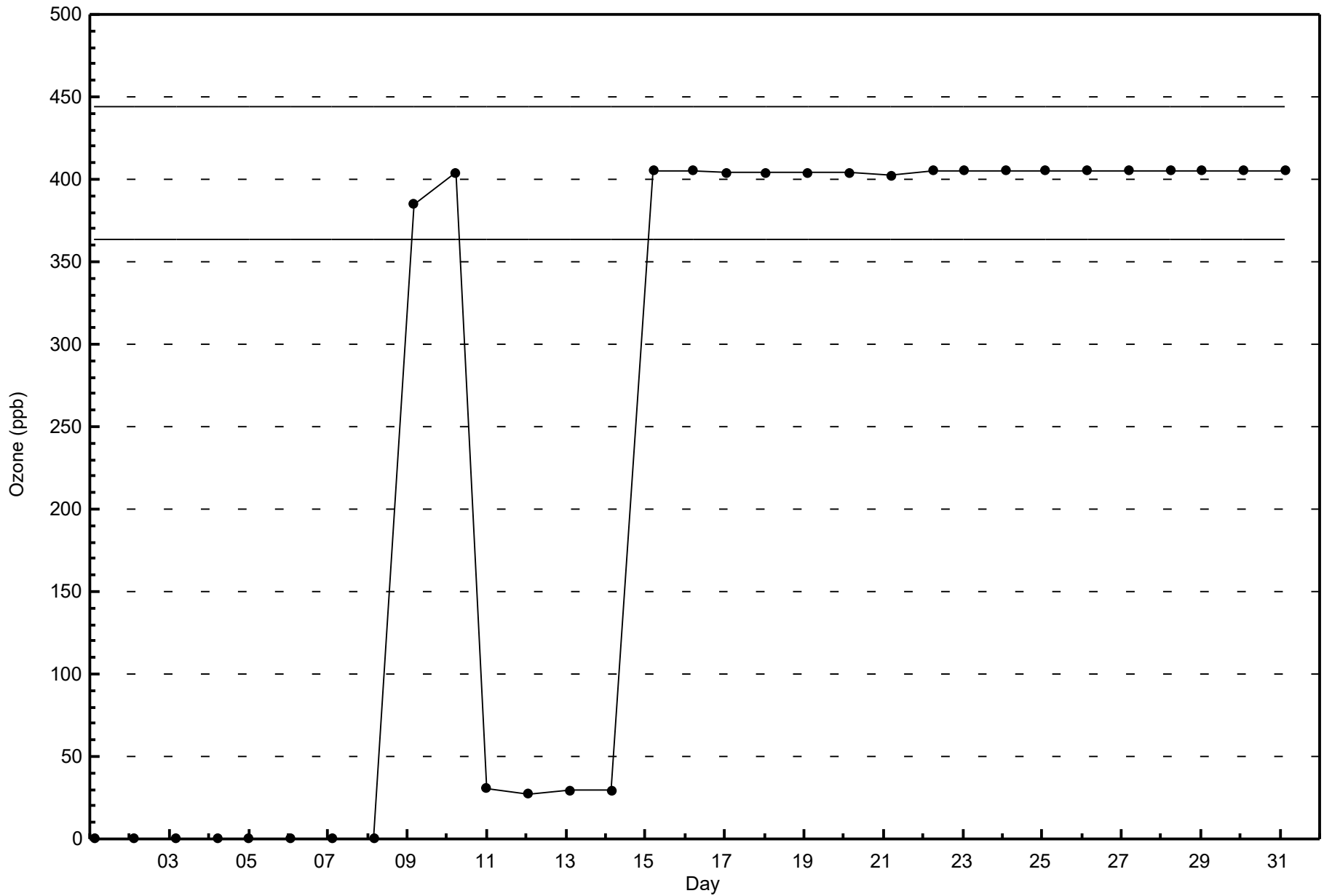


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Ozone (O₃) - ppb
Fort Chipewyan









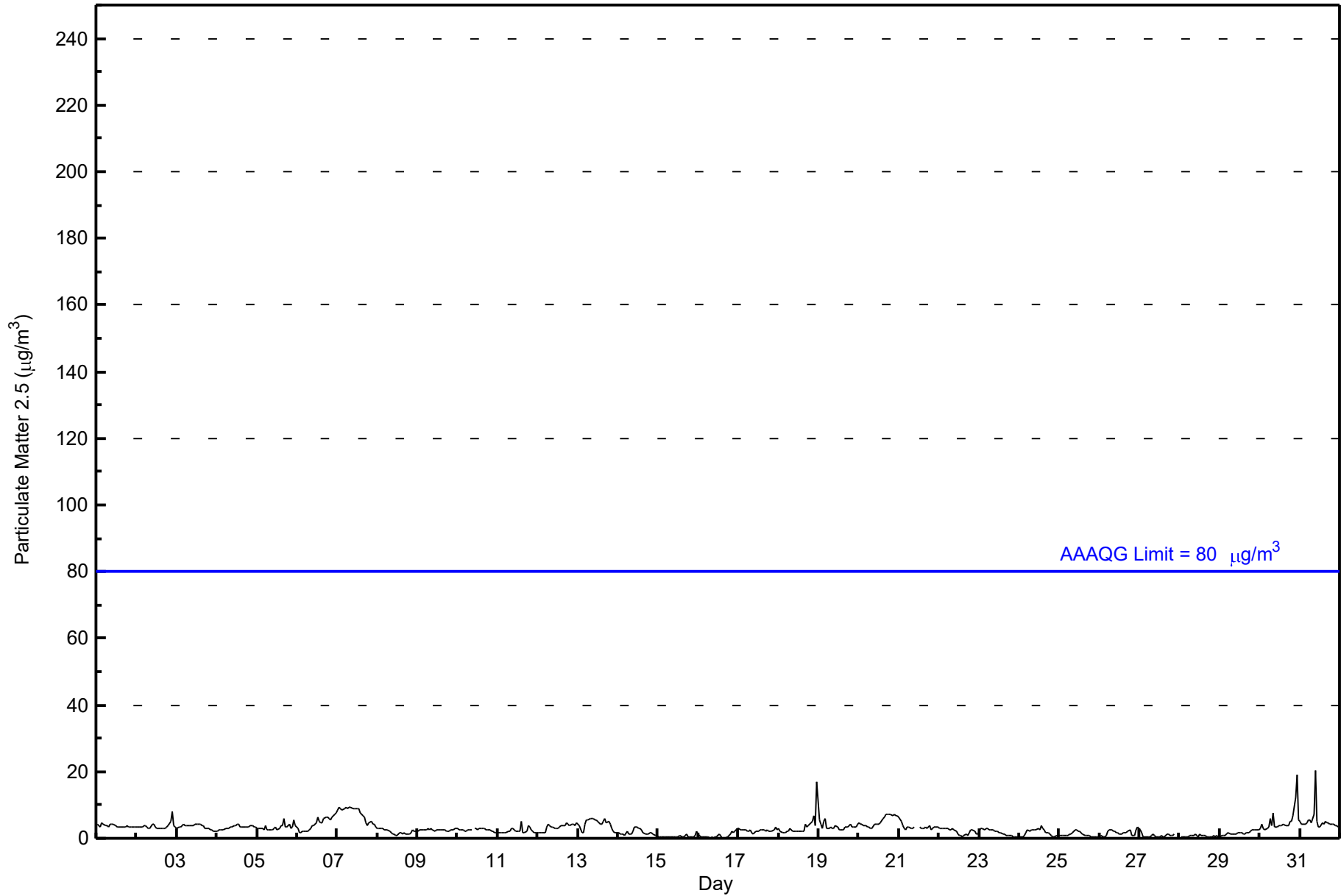
Wood Buffalo Environmental Association

Summary of Hour Averages

Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Fort Chipewyan - January 2025

Number of Exceedences (AAAQO):		1-hr: 0	24-hr: 0	Hours in Service: 744																	Daily Average		Daily Maximum																										
Maximum Value: 20.2 µg/m ³ on Jan 31 10:00		Maximum Daily Average: 7.3 µg/m ³ on Jan 7																	Hours of Data: 738		Hours of Missing Data: 6																												
Minimum Value: 0.1 µg/m ³ on Jan 16 17:00		Minimum Daily Average: 0.6 µg/m ³ on Jan 15																	Hours of Calibration: 2		Percent Operational Time: 99.5																												
Maximum Diurnal Average: 3.4 µg/m ³ at hour 10		Minimum Diurnal Average: 2.4 µg/m ³ at hour 3																																															
Monthly Average: 2.87 µg/m ³		Percentiles: P ₁ = 0.3 P ₁₀ = 0.6 Q ₁ = 1.5 Median = 2.6 Q ₃ = 3.7 P ₉₀ = 4.9 P ₉₉ = 9.1																																															
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	4.3	3.7	3.5	4.7	4.4	3.9	3.7	3.3	4.1	4.2	4.0	3.6	3.5	3.4	3.5	3.5	3.5	3.5	3.6	3.5	3.6	3.5	3.5	3.4	3.7	4.7																							
2-Jan	3.6	3.5	3.3	3.4	3.7	3.7	3.2	3.1	3.1	4.3	4.2	3.4	3.0	3.0	3.1	3.1	3.0	3.0	3.3	4.0	4.9	8.1	3.9	3.2	3.7	8.1																							
3-Jan	3.1	3.4	3.4	3.8	4.1	3.8	3.8	3.9	3.9	3.8	3.9	4.0	4.1	4.1	4.1	3.8	3.7	3.2	2.9	2.8	2.7	2.4	2.0	2.0	3.4	4.1																							
4-Jan	2.1	2.4	2.4	2.4	2.5	2.8	2.9	3.0	3.2	3.5	3.6	4.0	4.1	4.1	3.5	3.5	3.2	3.4	3.6	3.5	3.7	3.8	3.3	3.2	3.2	4.1																							
5-Jan	3.0	2.8	2.9	2.8	2.7	3.7	2.8	2.7	2.5	2.6	2.8	3.2	2.6	2.8	3.7	3.6	5.8	3.3	3.4	4.1	2.8	3.5	5.6	3.8	3.3	5.8																							
6-Jan	2.8	1.9	1.8	1.9	2.1	2.1	2.2	2.4	2.8	3.6	3.7	4.6	6.3	5.2	4.6	4.8	5.8	6.5	6.4	5.8	5.7	6.4	7.1	7.8	4.4	7.8																							
7-Jan	8.4	9.2	8.8	8.6	9.0	9.2	9.0	9.1	9.5	8.7	9.0	9.0	8.8	8.7	7.7	6.9	6.3	4.5	3.8	4.5	5.3	4.4	4.1	3.2	7.3	9.5																							
8-Jan	2.9	3.0	3.0	2.8	2.7	2.6	2.4	2.1	1.6	1.3	1.1	0.8	0.9	1.7	1.5	1.4	1.7	1.1	1.1	1.4	1.9	2.3	2.0	2.1	1.9	3.0																							
9-Jan	2.2	2.4	2.6	2.6	2.3	2.4	2.9	2.3	2.9	2.4	2.3	2.4	2.4	2.4	2.5	2.6	2.4	2.2	2.2	2.3	2.4	2.6	2.8	2.9	2.5	2.9																							
10-Jan	2.9	2.7	2.7	2.6	2.2	2.2	2.4	2.5	2.5	M	2.8	2.8	2.7	2.9	2.8	2.8	2.8	2.6	2.5	2.5	2.1	2.1	1.7	1.8	2.5	2.9																							
11-Jan	1.8	1.6	1.7	1.6	1.7	1.9	2.1	2.3	2.8	2.9	2.7	2.2	2.3	2.1	5.2	1.9	1.8	2.3	4.0	3.5	2.6	2.2	1.7	1.9	2.4	5.2																							
12-Jan	1.7	1.8	1.8	1.8	1.8	3.5	4.3	3.9	3.5	3.2	2.8	2.9	3.0	3.4	3.6	4.0	3.8	4.7	4.3	3.9	4.1	4.4	3.8	4.6	3.4	4.7																							
13-Jan	4.3	3.8	1.5	1.8	4.3	5.6	5.6	6.0	5.8	5.8	5.6	5.4	4.9	4.4	4.4	5.3	6.1	4.6	5.0	4.4	3.0	2.3	1.7	1.5	4.3	6.1																							
14-Jan	1.5	1.3	1.3	1.1	1.0	2.1	1.4	1.2	1.2	2.0	3.4	3.5	3.1	2.8	2.5	1.6	1.2	1.1	1.4	1.6	1.5	1.3	0.7	0.8	1.7	3.5																							
15-Jan	0.5	0.5	0.6	0.4	0.4	0.4	0.4	0.5	0.6	0.6	0.6	0.6	0.5	0.6	0.6	0.5	0.6	1.3	0.5	0.4	0.5	0.6	0.8	2.3	0.6	2.3																							
16-Jan	1.3	0.5	0.4	0.4	0.3	0.4	0.3	0.2	0.2	0.2	0.3	0.4	1.1	1.0	0.1	0.1	0.1	0.2	0.8	1.3	2.1	1.9	2.2	2.8	0.8	2.8																							
17-Jan	2.9	2.7	2.6	2.6	2.3	2.2	1.9	2.5	1.6	1.4	2.0	2.2	2.1	2.4	2.4	2.4	2.3	2.4	2.2	2.0	2.0	2.4	3.5	2.6	2.3	3.5																							
18-Jan	2.9	2.2	1.7	1.7	1.8	1.9	2.3	3.0	2.3	2.2	2.1	2.1	2.0	2.1	2.3	2.1	4.4	3.4	3.7	4.8	5.0	6.9	3.8	17.0	3.5	17.0																							
19-Jan	5.7	4.2	2.9	5.1	5.9	2.9	3.1	3.4	3.0	2.9	3.7	3.3	2.7	2.7	2.6	2.7	3.6	3.2	3.8	4.3	3.2	3.5	3.5	4.4	3.6	5.9																							
20-Jan	4.5	4.1	4.2	4.0	3.7	3.6	3.2	2.8	3.0	4.1	4.2	4.1	4.3	4.8	5.7	6.3	7.2	7.3	7.3	7.1	6.8	7.0	6.9	6.8	5.1	7.3																							
21-Jan	6.5	5.1	3.9	3.2	2.6	3.5	3.5	3.1	3.0	3.6	C	C	3.3	3.1	2.9	3.0	3.3	3.1	3.8	2.6	3.1	3.4	3.3	3.2	3.5	6.5																							
22-Jan	3.0	2.9	3.0	3.0	2.9	2.8	2.5	2.7	2.8	2.4	1.9	1.4	1.1	0.8	0.5	0.8	1.2	1.0	1.8	2.4	2.4	2.0	1.4	1.5	2.0	3.0																							
23-Jan	2.3	3.1	3.1	2.7	2.8	2.8	2.8	2.7	2.5	2.3	2.0	2.1	1.6	1.6	1.5	1.4	0.9	0.7	0.7	0.6	0.4	0.6	0.5	0.6	1.8	3.1																							
24-Jan	0.5	0.4	0.4	0.8	1.6	2.4	2.0	2.5	2.7	2.6	2.6	2.9	2.6	3.9	3.0	2.7	1.8	1.6	1.1	0.8	0.5	0.6	0.8	0.8	1.7	3.9																							
25-Jan	0.8	0.9	0.9	1.0	1.0	0.7	1.1	1.4	1.6	2.5	2.5	2.3	2.0	1.7	1.3	0.9	0.9	0.7	0.7	0.6	0.5	0.5	0.6	0.6	1.2	2.5																							
26-Jan	0.6	0.8	0.5	0.6	1.1	2.0	2.5	2.4	2.2	2.0	1.7	1.5	1.4	1.4	1.7	1.7	1.7	1.9	2.6	0.9	0.9	0.9	2.6	3.3	1.6	3.3																							
27-Jan	2.5	1.5	0.4	0.3	0.2	0.3	0.4	0.8	1.1	0.9	0.6	0.6	0.5	0.8	0.6	0.6	1.5	1.2	1.0	1.0	0.9	1.1	PF	PF	0.9	2.5																							
28-Jan	PF	0.5	0.4	0.5	0.5	0.6	1.0	0.6	0.6	1.1	1.0	0.6	1.2	0.8	0.9	0.7	0.6	0.6	0.6	0.5	0.6	0.6	0.7	0.5	0.7	1.2																							
29-Jan	0.5	0.8	0.8	1.0	1.2	1.5	1.3	1.4	1.4	1.3	1.4	1.6	1.6	1.6	1.5	1.4	1.8	1.7	2.2	2.4	2.5	2.5	2.6	2.6	1.6	2.6																							
30-Jan	3.1	4.4	3.0	2.7	2.8	3.2	6.1	3.9	7.6	3.2	3.3	3.7	3.9	4.0	4.1	3.7	3.7	3.9	5.0	5.1	6.9	12.4	18.9	5.4	5.2	18.9																							
31-Jan	5.1	4.2	4.1	4.3	4.8	5.4	5.5	4.7	7.2	20.2	5.0	3.5	3.5	4.6	4.4	4.9	4.6	4.5	4.4	4.3	4.1	3.8	3.7	3.2	5.2	20.2																							
																								2.9	2.7	2.4	2.5	2.6	2.8	2.9	2.8	3.0	3.4	2.9	2.8	2.8	2.9	2.9	2.7	2.9	2.7	2.9	2.9	3.2	3.3	3.3	Diurnal Average		
																								8.4	9.2	8.8	8.6	9.0	9.2	9.0	9.1	9.5	20.2	9.0	9.0	8.8	8.7	7.7	6.9	7.2	7.3	7.3	7.1	6.9	12.4	18.9	17.0	Diurnal Maximum	
C - Calibration M - Maintenance PF - Power Failure																																																	
Alberta Ambient Air Quality Guideline/Objectives: 1-hr 80 µg/m ³ 24-hr 29 µg/m ³																																																	





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Fort Chipewyan - January 2025

Concentration Ranges ($\mu\text{g}/\text{m}^3$)	Number of Hours	%	Cumulative %
0 - 5	679	92.01	92.01
6 - 15	56	7.59	99.59
16 - 25	3	0.41	100.00
26 - 80	0	0.00	100.00
> 81.0	0	0.00	100.00

Total Number of Valid Hours: 738

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Fort Chipewyan - January 2025

Concentration Ranges ($\mu\text{g}/\text{m}^3$)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	9	18	29	26	101	18	7	14	22	14	11	25	128	94	109	51	676
6 - 15	1	0	0	2	29	3	0	2	5	5	2	0	0	2	3	1	55
16 - 25	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	3
26 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 81.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	10	18	29	29	130	21	7	16	27	19	13	25	128	97	113	52	734

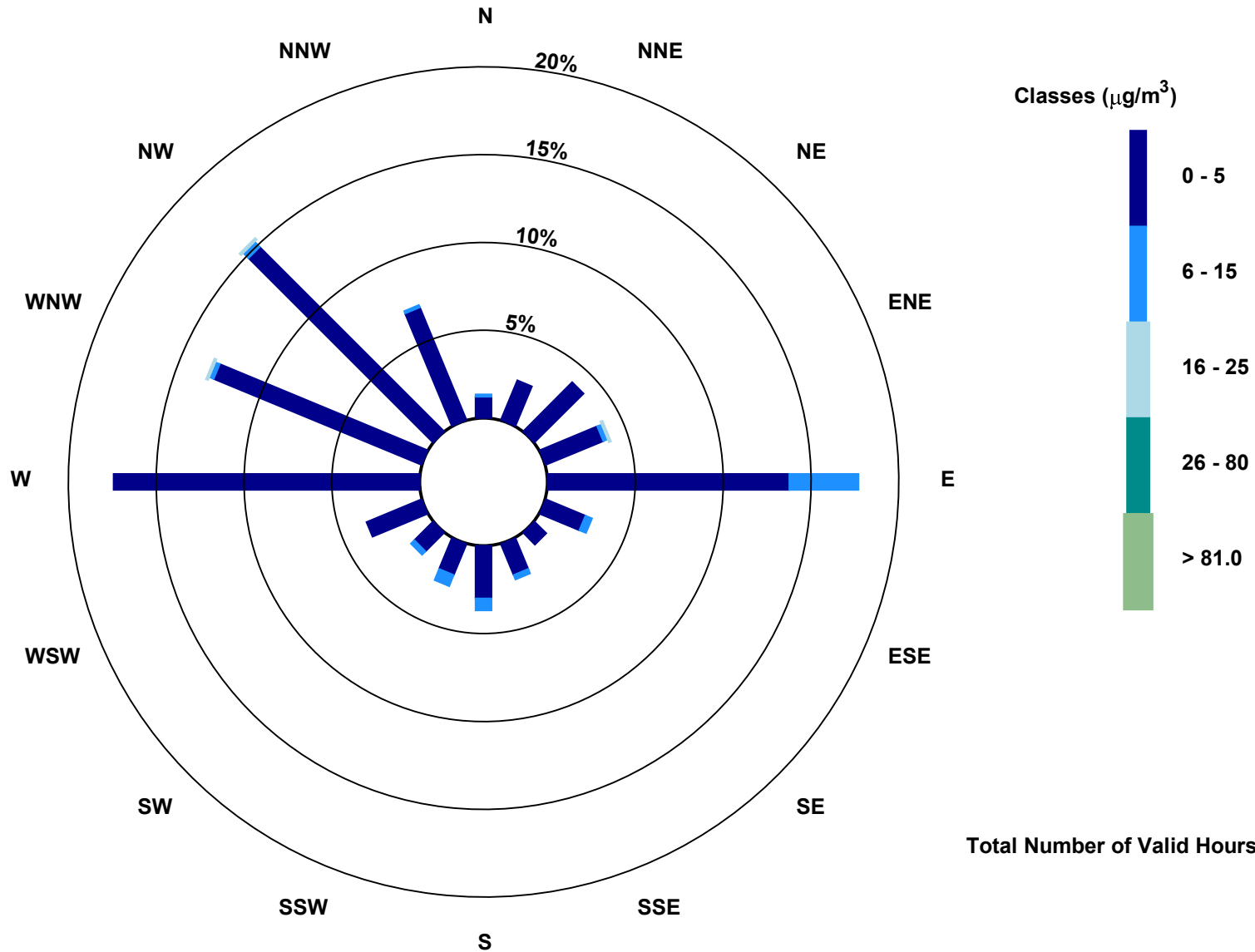
Total Number of Valid Hours: 734

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Fort Chipewyan

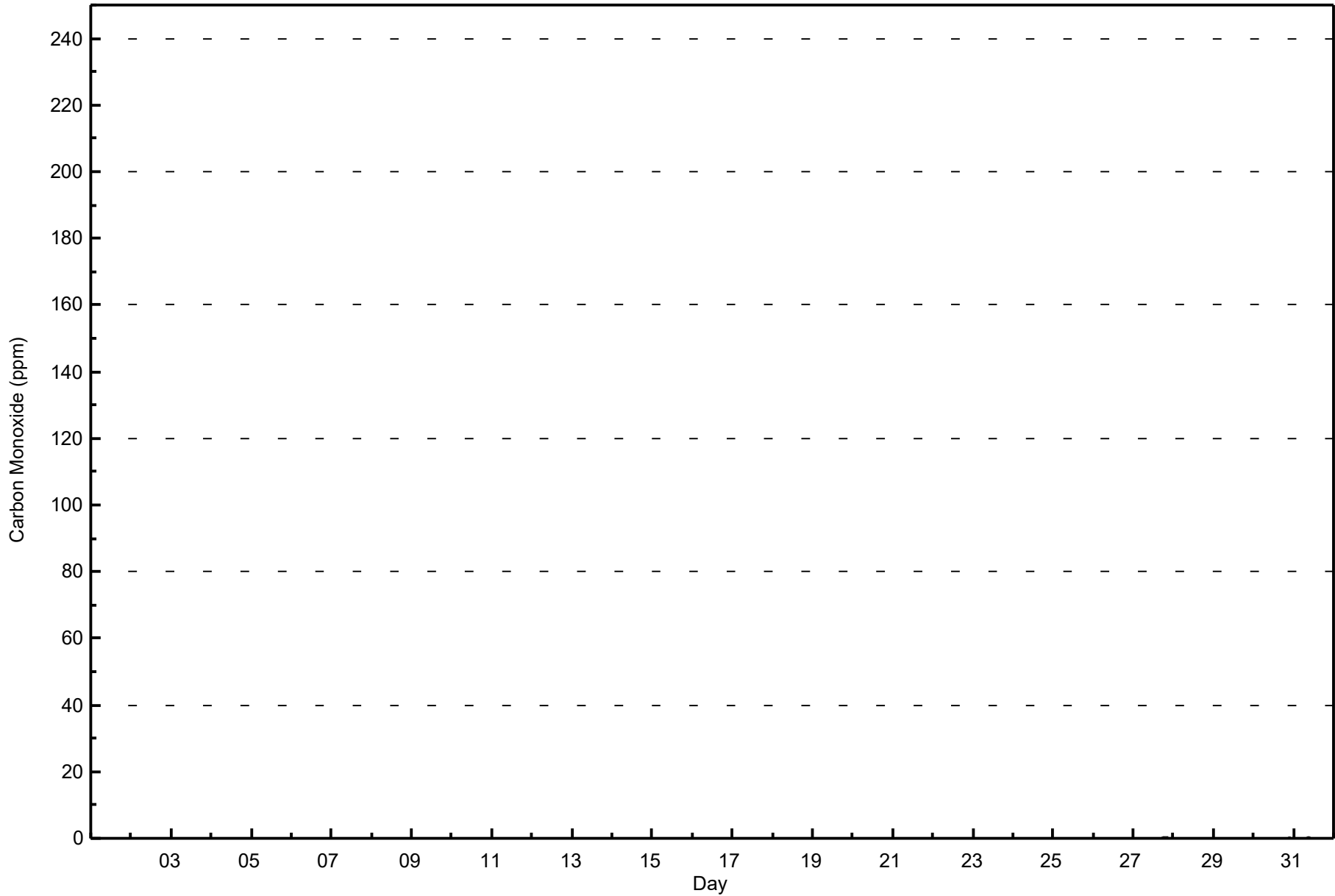


Total Number of Valid Hours: 734



Wood Buffalo Environmental Association
Hourly Averages

Carbon Monoxide (CO) - ppm
Fort Chipewyan - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Carbon Monoxide (CO) - ppm
Fort Chipewyan - January 2025**

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 0.3	704	100.00	100.00
0.4 - 0.5	0	0.00	100.00
0.6 - 0.7	0	0.00	100.00
0.8 - 1.4	0	0.00	100.00
1.5 - 10	0	0.00	100.00
> 10	0	0.00	100.00

Total Number of Valid Hours: 704

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Carbon Monoxide (CO) - ppm
Fort Chipewyan - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 0.3	10	17	28	27	123	21	6	15	26	17	12	24	123	94	111	46	700
0.4 - 0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.6 - 0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.8 - 1.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.5 - 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	10	17	28	27	123	21	6	15	26	17	12	24	123	94	111	46	700

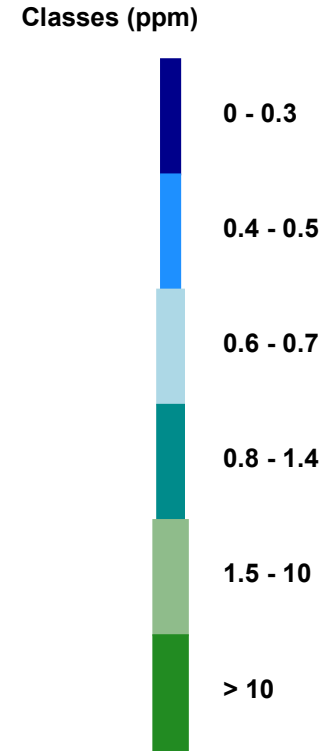
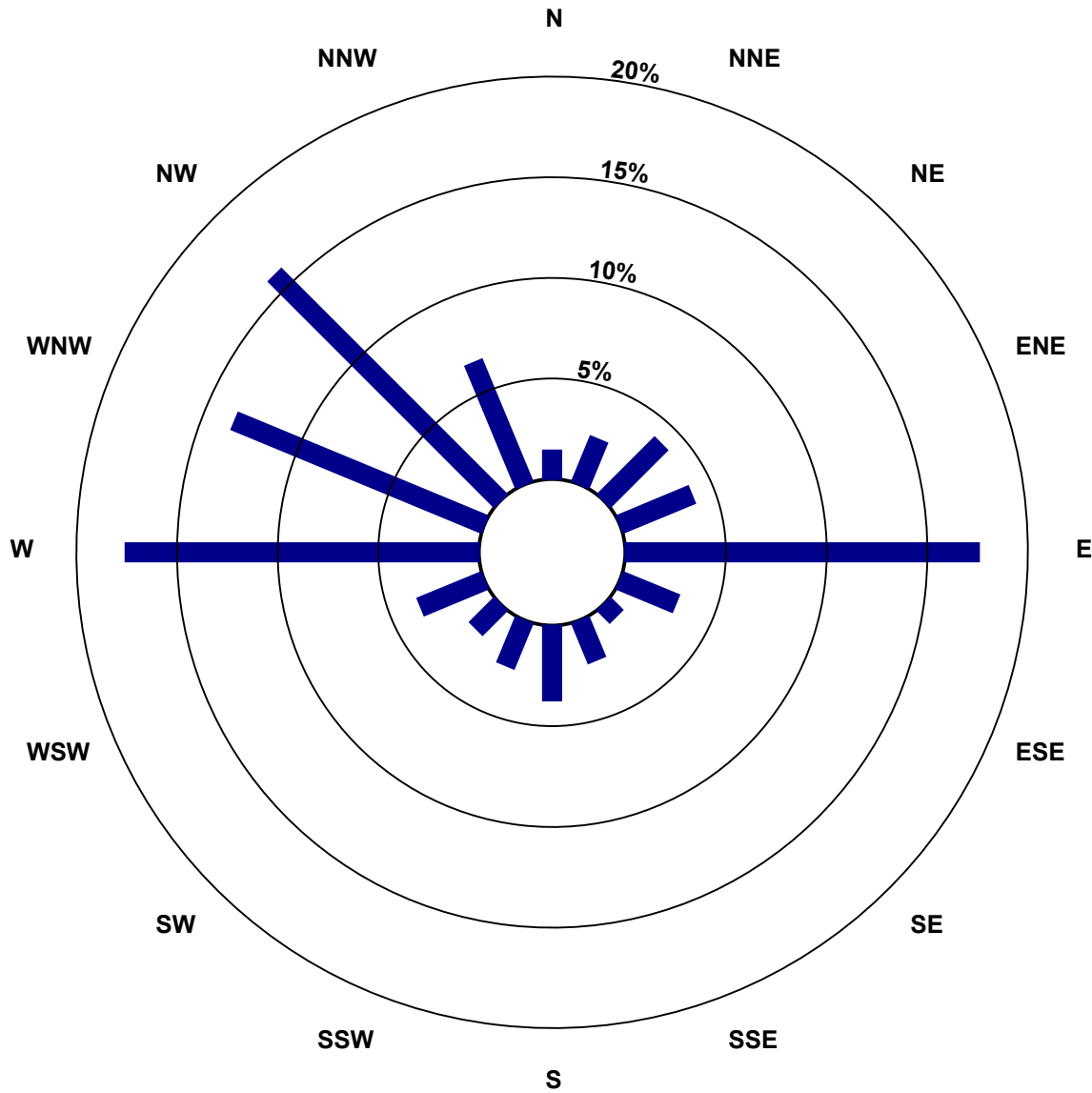
Total Number of Valid Hours: 700

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Carbon Monoxide (CO) - ppm
Fort Chipewyan



Total Number of Valid Hours: 700



Wood Buffalo Environmental Association

Summary of Hour Averages

Carbon Dioxide (CO₂) - ppm

Fort Chipewyan - January 2025

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 448.1 ppm on Jan 7 11:00	Maximum Daily Average: 442.4 ppm on Jan 7		Hours of Data:	704
Minimum Value: 415.5 ppm on Feb 1 00:00	Minimum Daily Average: 418.5 ppm on Jan 31		Hours of Missing Data:	40
Maximum Diurnal Average: 430.7 ppm at hour 11	Minimum Diurnal Average: 428.6 ppm at hour 2		Hours of Calibration:	35
Monthly Average: 429.78 ppm	Percentiles: P ₁ = 416.1 P ₁₀ = 420.1 Q ₁ = 426.9 Median = 430.1 Q ₃ = 433.3 P ₉₀ = 437.5 P ₉₉ = 443.8		Percent Operational Time:	99.3

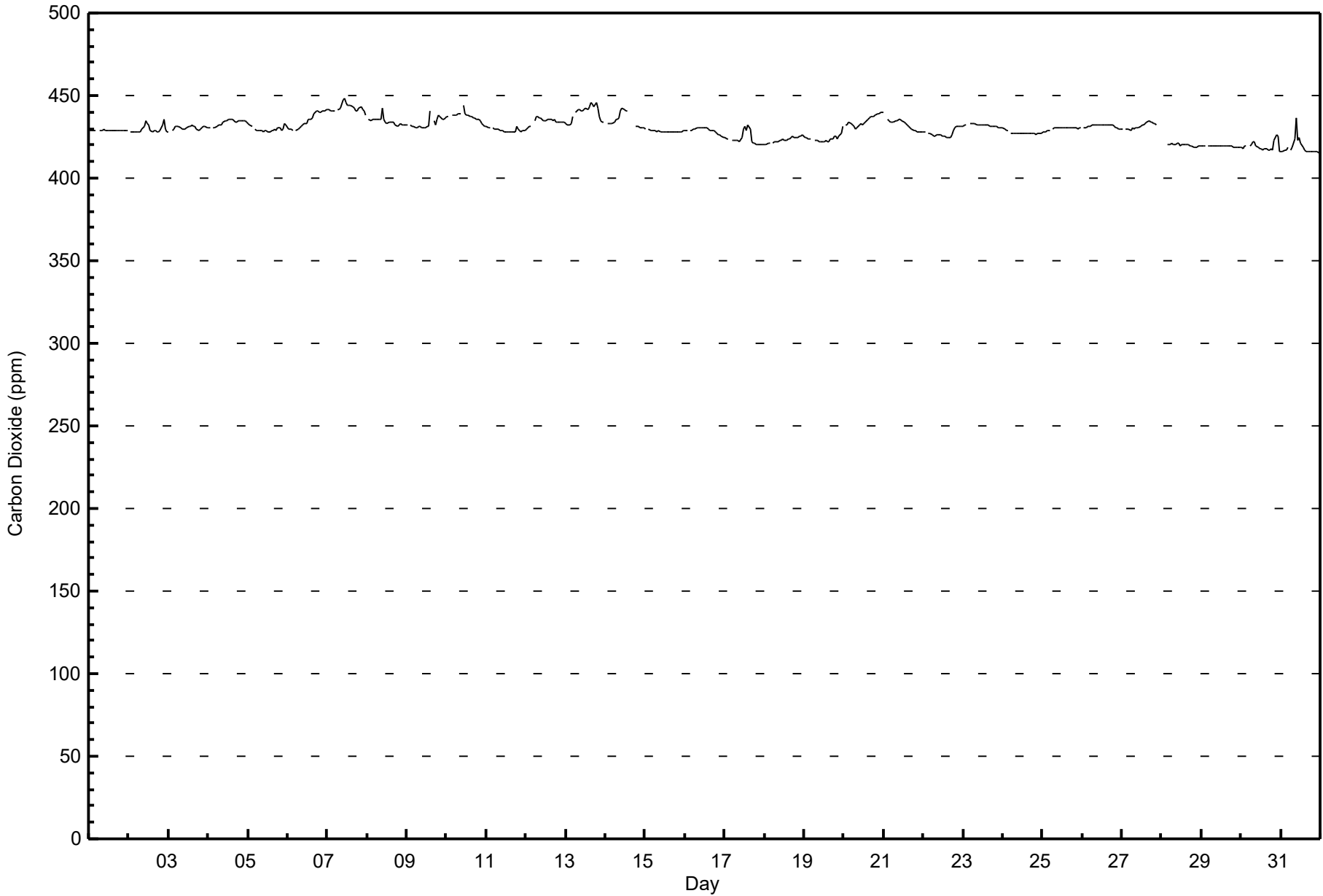
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24				
1-Jan	429.1	429.1	429.0	429.2	429.1	Z	429.1	429.1	429.2	429.2	429.1	429.1	429.1	429.2	428.9	428.9	429.1	429.1	429.1	429.2	429.0	429.1	429.1	429.1	429.1	429.1	429.6	429.2
2-Jan	Z	428.1	427.9	428.1	427.9	427.8	427.9	428.4	429.5	431.2	434.6	432.7	432.0	428.8	427.6	428.4	428.6	428.0	428.0	429.2	431.9	435.6	429.5	428.0	429.6	429.6	435.6	
3-Jan	428.2	Z	428.7	429.8	431.2	431.0	431.1	430.6	429.9	429.7	430.0	430.3	431.0	431.3	431.8	431.5	431.2	429.4	429.2	429.4	430.7	431.6	431.2	430.4	430.4	430.4	431.8	
4-Jan	430.6	430.7	Z	430.3	430.4	431.1	431.9	432.2	432.5	433.7	434.4	435.1	435.5	435.4	435.5	435.5	434.1	434.2	434.4	434.6	434.7	434.8	434.5	434.0	433.5	435.5	435.5	
5-Jan	433.2	432.4	431.6	Z	429.9	429.1	429.0	429.0	428.6	428.4	428.6	428.5	428.2	428.4	428.5	429.0	429.9	428.9	430.1	430.7	428.7	430.0	432.9	432.0	429.8	433.2	433.2	
6-Jan	429.7	429.3	429.9	429.2	Z	429.2	429.5	430.2	431.3	432.6	433.1	433.1	435.5	435.4	435.9	436.7	438.7	440.5	440.4	439.5	439.7	440.3	440.7	441.4	434.9	441.4	441.4	
7-Jan	441.9	441.4	440.5	440.5	440.8	Z	441.3	441.7	442.3	447.7	448.1	445.5	443.7	443.8	443.8	443.4	442.8	440.7	440.5	442.0	442.9	441.8	441.1	438.1	442.4	448.1	448.1	
8-Jan	Z	435.3	435.1	435.2	435.3	435.5	435.6	435.8	435.7	442.0	435.3	433.9	433.4	434.0	434.1	433.7	433.5	432.4	431.7	432.4	432.9	432.6	432.0	432.2	434.3	442.0	442.0	
9-Jan	432.1	Z	431.9	431.6	431.1	430.9	430.8	431.2	431.7	430.7	430.6	430.7	431.2	431.4	440.4	UO	434.6	432.4	435.7	438.2	437.3	435.9	435.9	436.4	433.3	440.4	440.4	
10-Jan	437.1	437.3	Z	437.9	437.9	438.0	438.3	438.6	439.0	M	444.0	438.6	438.3	438.0	437.4	437.0	436.8	436.2	436.0	435.6	434.5	433.2	432.2	431.6	437.0	444.0	444.0	
11-Jan	431.2	430.8	430.5	Z	430.2	429.7	429.7	429.7	429.2	428.9	428.8	428.2	428.3	428.2	428.1	427.8	427.7	428.3	431.0	429.3	428.6	428.4	428.6	428.6	429.1	431.2	431.2	
12-Jan	429.6	430.2	430.9	431.5	Z	435.0	437.1	436.9	436.5	436.3	435.1	434.5	435.1	435.8	435.3	435.2	434.9	435.4	434.2	433.8	433.8	434.1	433.5	434.0	434.3	437.1	437.1	
13-Jan	433.5	432.5	432.3	432.9	437.5	Z	440.0	441.4	441.1	440.7	440.7	441.5	442.0	441.6	442.9	445.4	444.9	443.0	446.1	442.0	436.9	434.8	433.9	433.6	439.2	446.1	446.1	
14-Jan	Z	433.3	433.2	433.0	433.3	433.7	435.4	435.8	436.8	440.7	442.1	441.2	440.9	440.4	C	C	C	C	431.0	431.1	431.1	430.9	430.5	430.3	435.0	442.1	442.1	
15-Jan	430.0	Z	429.3	429.1	428.9	428.6	428.4	428.2	428.5	428.2	428.3	428.4	428.1	428.1	428.2	427.8	428.1	428.0	427.8	427.6	427.9	428.4	428.4	429.1	428.4	430.0	430.0	
16-Jan	428.7	428.9	Z	428.9	429.2	429.5	430.0	430.3	430.4	430.5	430.7	430.6	430.1	430.2	429.4	429.2	429.2	428.9	428.2	427.4	426.7	426.1	425.4	424.7	428.8	430.7	430.7	
17-Jan	424.3	424.1	423.8	Z	423.2	423.1	422.8	423.0	422.9	422.4	425.0	429.7	431.3	428.7	432.0	429.3	422.4	421.5	421.1	420.6	420.4	420.5	420.4	420.5	424.1	432.0	432.0	
18-Jan	420.6	420.7	420.8	421.2	Z	421.5	421.7	421.9	422.1	422.7	423.2	423.3	423.0	422.9	423.7	423.6	424.3	425.1	424.9	424.8	424.6	425.5	425.7	426.1	423.2	426.1	426.1	
19-Jan	424.8	424.2	423.9	423.9	423.6	Z	422.7	422.6	422.6	421.9	422.1	422.1	422.2	422.5	422.3	422.4	423.4	424.0	425.3	425.5	423.8	425.1	427.4	431.3	423.9	431.3	431.3	
20-Jan	Z	431.9	432.2	434.2	433.0	432.4	431.1	430.0	430.5	432.3	432.7	431.9	432.8	434.2	435.7	436.8	437.4	437.3	437.7	438.4	438.9	439.4	439.5	439.4	434.8	439.5	439.5	
21-Jan	439.9	Z	435.5	434.7	434.1	434.2	434.2	434.8	434.9	435.3	435.2	434.4	433.9	432.9	432.2	431.5	430.4	429.5	429.2	428.7	428.4	428.2	428.3	427.9	432.5	439.9	439.9	
22-Jan	428.0	427.6	Z	426.9	426.7	426.2	425.3	425.7	426.0	425.9	425.9	425.3	425.0	425.1	424.8	424.5	424.7	426.3	428.6	430.2	431.6	431.5	431.5	431.4	427.2	431.6	431.6	
23-Jan	431.5	431.8	432.1	Z	433.3	433.4	433.1	432.8	431.9	431.8	431.8	431.9	432.2	432.1	431.9	431.8	431.5	431.3	431.3	431.1	431.0	430.4	430.8	430.3	431.8	433.4	433.4	
24-Jan	430.1	429.6	429.2	428.8	Z	427.5	427.1	427.2	427.2	426.9	427.0	427.0	426.8	427.4	427.3	427.2	426.8	426.9	426.9	426.8	426.6	426.8	427.0	427.3	427.5	430.1	430.1	
25-Jan	427.6	427.8	428.3	428.6	428.9	Z	429.3	430.1	430.6	430.8	430.8	430.8	430.8	430.9	430.9	430.9	430.8	430.6	430.4	430.2	430.1	430.1	430.3	430.2	430.0	430.9	430.9	
26-Jan	Z	430.4	430.7	431.1	431.4	431.6	431.8	431.9	432.0	432.2	432.1	432.0	432.0	432.2	432.4	432.4	432.2	432.1	432.1	432.1	432.1	430.4	430.3	429.3	431.4	432.4	432.4	
27-Jan	429.4	Z	429.8	429.3	429.2	429.2	430.2	430.1	430.7	430.6	430.9	431.6	432.3	432.4	433.5	434.0	434.8	434.2	433.6	433.3	432.7	432.4	PF	PF	431.6	434.8	434.8	
28-Jan	PF	422.9	Z	420.1	420.0	420.7	421.0	420.0	420.1	421.0	421.4	419.9	420.1	420.1	419.9	419.9	420.0	419.9	419.8	418.8	418.7	418.9	419.1	419.2	420.1	422.9	422.9	
29-Jan	419.2	419.6	419.7	Z	419.9	419.8	419.7	419.6	419.6	419.5	419.4	419.3	419.2	419.2	419.1	419.2	419.4	419.2	419.1	418.8	418.9	419.0	419.0	419.0	419.3	419.9	419.9	
30-Jan	418.7	417.9	419.2	419.3	Z	419.2	420.6	421.9	422.2	419.1	418.5	417.7	417.5	417.2	417.4	417.6	417.3	417.1	417.7	416.7	423.1	426.6	425.8	416.4	419.3	426.6	426.6	
31-Jan	416.4	416.1	416.7	417.2	418.6	Z	417.1	418.3	423.5	436.3	422.5	424.3	421.5	418.4	416.7	416.2	415.8	415.8	416.1	416.0	415.8	415.9	415.9	415.5	418.5	436.3	436.3	
	429.0	428.6	428.9	429.3	429.8	429.1	429.5	429.6	430.0	430.6	430.7	430.4	430.4	430.2	430.3	429.9	429.8	429.5	429.9	429.8	429.8	429.9	429.6	429.2		Diurnal Average		
	441.9	441.4	440.5	440.5	440.8	438.0	441.3	441.7	442.3	447.7	448.1	445.5	443.7	443.8	443.8	445.4	444.9	443.0	446.1	442.0	442.9	441.8	441.1	441.4		Diurnal Maximum		

Z - zerospan C - Calibration M - Maintenance UO - Unstable Operation PF - Power Failure



Wood Buffalo Environmental Association
Hourly Averages

Carbon Dioxide (CO₂) - ppm
Fort Chipewyan - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Carbon Dioxide (CO₂) - ppm
Fort Chipewyan - January 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
400 - 420	77	10.94	10.94
420 - 440	587	83.38	94.32
440 - 460	40	5.68	100.00
460 - 480	0	0.00	100.00
480 - 500	0	0.00	100.00
> 500	0	0.00	100.00

Total Number of Valid Hours: 704

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Carbon Dioxide (CO₂) - ppm
Fort Chipewyan - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
400 - 420	7	7	12	3	1	0	0	1	1	0	1	4	9	9	9	13	77
420 - 440	3	10	15	24	99	19	6	11	21	17	10	18	110	85	102	33	583
440 - 460	0	0	1	0	23	2	1	3	5	1	2	1	1	0	0	0	40
460 - 480	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
480 - 500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	10	17	28	27	123	21	7	15	27	18	13	23	120	94	111	46	700

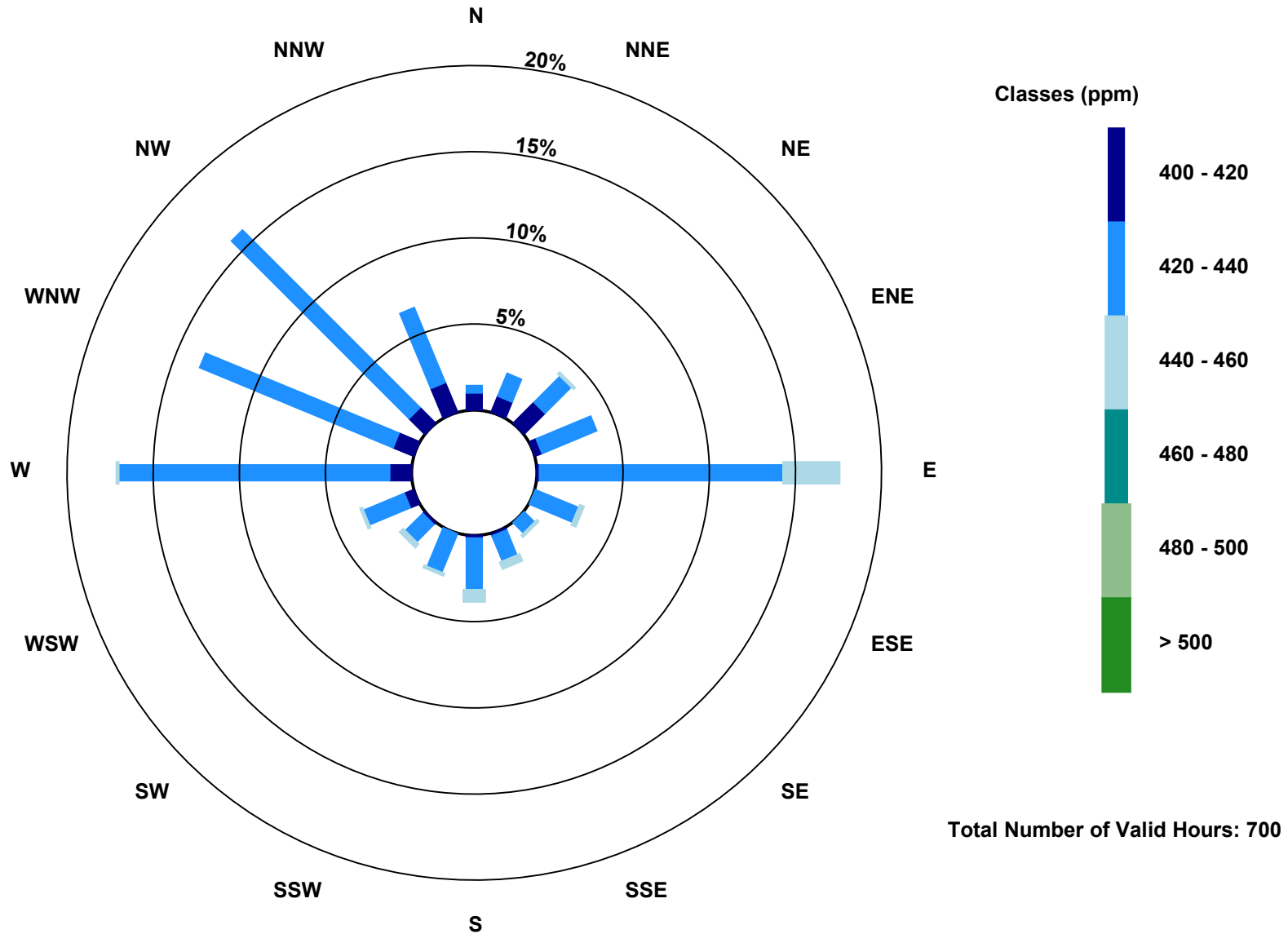
Total Number of Valid Hours: 700

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Carbon Dioxide (CO₂) - ppm
Fort Chipewyan

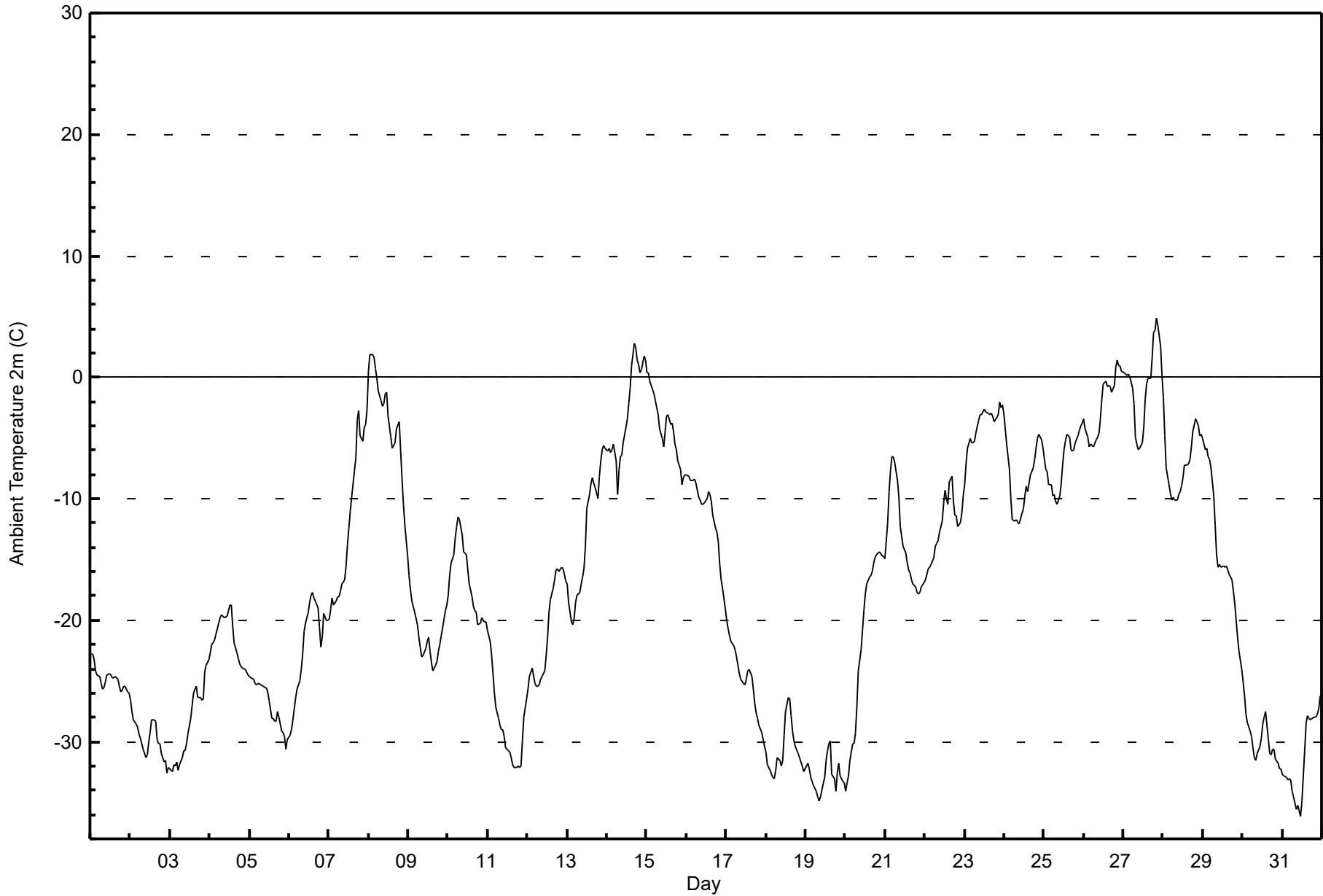




Wood Buffalo Environmental Association
Summary of Hour Averages

Ambient Temperature 2m (AT2) - C
Fort Chipewyan - January 2025

Maximum Value: 4.8 C on Jan 27 21:00 Maximum Daily Average: -0.6 C on Jan 27																						Hours in Service: 744 Hours of Data: 744				
Minimum Value: -36.1 C on Jan 31 12:00 Minimum Daily Average: -32.8 C on Jan 19 Maximum Diurnal Average: -16.0 C at hour 16 Minimum Diurnal Average: -18.3 C at hour 9 Monthly Average: -17.04 C Percentiles: P ₁ = -34.5 P ₁₀ = -31.3 Q ₁ = -26.3 Median = -17.6 Q ₃ = -7.2 P ₉₀ = -3.0 P ₉₉ = 1.9																						Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0				
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	-22.7	-22.8	-23.3	-24.1	-24.5	-24.7	-25.2	-25.6	-25.5	-25.1	-24.6	-24.4	-24.5	-24.7	-24.8	-24.6	-24.8	-25.4	-25.9	-25.8	-25.4	-25.9	-26.0	-24.8	-22.7	
2-Jan	-26.6	-27.6	-28.2	-28.5	-28.8	-29.4	-29.7	-30.1	-30.7	-31.3	-31.1	-30.0	-29.3	-28.2	-28.2	-28.3	-29.8	-30.2	-30.2	-31.0	-31.7	-31.6	-32.6	-32.2	-29.8	-26.6
3-Jan	-32.2	-32.4	-31.9	-32.0	-31.7	-32.4	-31.9	-31.3	-30.7	-30.7	-30.2	-29.3	-28.1	-27.0	-26.0	-25.6	-25.5	-26.3	-26.4	-26.6	-26.5	-24.3	-23.7	-23.3	-28.6	-23.3
4-Jan	-22.7	-22.0	-21.8	-21.6	-21.2	-20.3	-19.7	-19.6	-19.7	-19.8	-19.7	-19.3	-18.8	-18.7	-20.5	-21.9	-22.7	-23.1	-23.6	-23.8	-23.9	-24.0	-24.3	-24.5	-21.6	-18.7
5-Jan	-24.6	-24.7	-24.9	-25.2	-25.3	-25.3	-25.2	-25.3	-25.4	-25.5	-25.5	-25.3	-25.6	-28.0	-28.0	-28.3	-28.3	-27.6	-27.9	-29.1	-29.2	-29.6	-30.7	-29.8	-26.9	-24.6
6-Jan	-29.4	-29.0	-28.2	-27.3	-26.3	-25.7	-25.0	-24.1	-22.7	-21.0	-20.2	-19.3	-18.5	-18.0	-17.7	-18.1	-18.4	-19.0	-20.5	-22.2	-21.4	-19.5	-20.1	-20.0	-22.2	-17.7
7-Jan	-19.9	-19.1	-18.2	-18.8	-18.4	-18.0	-18.1	-17.6	-17.0	-16.7	-15.5	-13.7	-12.4	-11.1	-9.8	-7.7	-6.6	-3.6	-2.7	-4.8	-5.2	-4.1	-3.9	-2.6	-11.9	-2.6
8-Jan	0.5	1.9	1.8	1.6	0.8	0.0	-1.2	-1.9	-2.4	-2.1	-1.3	-1.2	-3.1	-5.0	-5.8	-5.7	-5.3	-4.2	-3.7	-6.1	-8.4	-10.4	-12.2	-14.7	-3.7	1.9
9-Jan	-16.3	-17.5	-18.4	-18.8	-19.3	-20.4	-21.4	-22.2	-23.0	-22.9	-22.4	-21.7	-21.4	-22.5	-23.5	-24.2	-23.7	-23.4	-22.5	-22.0	-21.3	-19.9	-19.3	-18.8	-21.1	-16.3
10-Jan	-18.0	-16.3	-15.3	-14.6	-13.2	-12.2	-11.5	-11.7	-13.0	-14.4	-14.5	-14.6	-15.9	-17.0	-18.1	-18.9	-19.2	-19.4	-20.3	-20.3	-19.8	-20.1	-20.1	-20.2	-16.6	-11.5
11-Jan	-20.9	-21.7	-22.9	-24.4	-26.0	-27.2	-28.1	-28.6	-29.0	-29.0	-29.6	-30.5	-30.7	-30.9	-31.3	-31.8	-32.1	-32.1	-32.0	-32.1	-32.1	-29.9	-28.0	-26.5	-28.6	-20.9
12-Jan	-25.6	-24.6	-24.2	-24.0	-25.2	-25.4	-25.5	-25.3	-24.9	-24.6	-24.1	-22.9	-21.4	-19.4	-18.3	-17.3	-16.7	-15.8	-15.8	-15.9	-15.7	-15.8	-16.2	-16.8	-20.9	-15.7
13-Jan	-17.1	-18.5	-20.1	-20.4	-19.8	-18.6	-17.9	-17.7	-17.0	-16.4	-15.7	-13.9	-10.8	-9.7	-8.7	-8.2	-8.8	-9.1	-10.0	-8.1	-6.9	-6.0	-5.6	-5.8	-12.9	-5.6
14-Jan	-6.1	-5.8	-6.2	-6.0	-5.5	-6.9	-9.6	-7.7	-6.6	-6.4	-5.4	-4.1	-3.4	-2.2	-0.9	0.9	2.8	2.4	1.4	1.0	0.4	0.6	1.7	1.4	-2.9	2.8
15-Jan	0.4	0.3	-0.3	-1.0	-1.3	-1.9	-2.5	-3.1	-4.2	-5.1	-5.7	-4.5	-3.2	-3.1	-3.9	-3.8	-4.5	-5.5	-5.9	-6.8	-7.5	-8.9	-8.2	-8.0	-4.1	0.4
16-Jan	-8.0	-8.2	-8.5	-8.5	-8.5	-8.4	-8.7	-9.9	-10.2	-10.4	-10.4	-10.3	-9.9	-9.4	-9.6	-10.2	-11.4	-12.5	-12.8	-13.6	-15.4	-16.7	-17.4	-19.1	-11.2	-8.0
17-Jan	-20.0	-20.7	-21.3	-21.7	-22.1	-22.4	-23.0	-23.7	-24.3	-24.9	-25.2	-25.3	-24.8	-24.2	-24.0	-24.6	-25.7	-26.8	-27.6	-28.1	-28.6	-29.3	-29.8	-30.4	-24.9	-20.0
18-Jan	-30.9	-31.9	-32.3	-32.7	-32.9	-33.0	-32.3	-31.3	-31.5	-32.0	-31.5	-29.5	-27.5	-26.4	-26.5	-27.8	-29.1	-29.9	-30.4	-31.0	-31.3	-31.7	-32.0	-32.4	-30.7	-26.4
19-Jan	-32.0	-31.8	-32.2	-33.0	-33.3	-33.6	-34.1	-34.5	-34.9	-34.6	-34.0	-32.9	-31.5	-30.7	-30.1	-29.9	-32.7	-33.0	-34.1	-32.6	-31.8	-32.8	-33.2	-33.4	-32.8	-29.9
20-Jan	-34.1	-33.3	-32.8	-31.6	-30.2	-30.2	-29.2	-27.1	-24.2	-22.4	-20.8	-19.2	-17.9	-17.1	-16.4	-16.3	-16.0	-15.3	-14.8	-14.6	-14.4	-14.5	-14.7	-14.7	-21.7	-14.4
21-Jan	-14.9	-12.0	-9.4	-7.7	-6.6	-6.5	-7.0	-8.5	-9.9	-12.3	-13.1	-13.9	-14.5	-15.3	-15.8	-16.1	-16.7	-17.0	-17.3	-17.7	-17.9	-17.7	-17.2	-17.0	-13.4	-6.5
22-Jan	-16.7	-16.2	-15.8	-15.6	-15.4	-14.8	-13.9	-13.7	-13.4	-12.8	-11.8	-10.3	-9.2	-10.0	-10.4	-8.6	-8.2	-10.2	-11.3	-11.4	-12.3	-12.0	-11.1	-9.8	-12.3	-8.2
23-Jan	-8.9	-7.1	-5.8	-5.0	-5.4	-5.3	-5.2	-4.6	-3.6	-3.1	-3.0	-2.9	-2.6	-2.8	-3.0	-3.0	-2.9	-3.2	-3.6	-3.3	-3.1	-2.1	-2.5	-2.3	-3.9	-2.1
24-Jan	-2.9	-5.4	-6.5	-7.5	-10.0	-11.8	-11.8	-11.7	-11.9	-12.1	-11.6	-10.8	-9.7	-8.9	-9.4	-8.8	-8.0	-7.5	-6.7	-5.8	-5.0	-4.7	-5.2	-5.8	-8.3	-2.9
25-Jan	-6.8	-7.5	-7.8	-8.9	-8.8	-9.7	-9.7	-10.3	-10.5	-9.7	-8.7	-7.3	-6.0	-5.2	-4.7	-5.0	-5.9	-6.1	-6.0	-5.4	-4.8	-4.4	-4.0	-3.8	-7.0	-3.8
26-Jan	-3.4	-4.2	-5.0	-5.7	-5.5	-5.6	-5.7	-5.1	-4.9	-4.6	-3.5	-1.9	-0.6	-0.3	-0.8	-0.7	-0.8	-1.3	-0.7	0.8	1.4	1.0	0.9	0.5	-2.3	1.4
27-Jan	0.3	0.2	0.1	0.2	0.0	-0.9	-2.2	-4.9	-5.5	-5.9	-5.9	-5.4	-4.1	-1.8	-0.6	-0.1	-0.1	1.6	3.7	3.8	4.8	4.3	2.5	0.2	-0.6	4.8
28-Jan	-1.6	-4.8	-7.4	-8.8	-9.6	-10.1	-9.8	-10.1	-10.1	-9.7	-9.4	-8.9	-8.3	-7.2	-7.2	-7.1	-6.7	-5.7	-4.5	-3.4	-3.6	-4.0	-4.8	-4.7	-7.0	-1.6
29-Jan	-5.0	-5.9	-5.9	-6.5	-6.8	-7.5	-9.8	-12.2	-14.6	-15.6	-15.5	-15.6	-15.6	-15.6	-15.6	-15.8	-16.2	-16.7	-17.6	-18.7	-20.0	-21.4	-22.6	-24.0	-14.2	-5.0
30-Jan	-25.1	-26.2	-27.8	-28.5	-29.1	-29.5	-30.6	-31.3	-31.5	-31.0	-30.4	-29.7	-28.5	-28.0	-27.5	-29.8	-30.9	-31.1	-30.6	-30.7	-31.4	-31.7	-32.2	-32.2	-29.8	-25.1
31-Jan	-32.7	-32.8	-32.9	-33.1	-33.0	-33.2	-34.1	-34.5	-35.6	-35.2	-35.7	-36.1	-34.9	-30.6	-28.5	-27.9	-28.1	-28.2	-28.1	-28.0	-28.0	-27.8	-27.3	-26.3	-31.4	-26.3
																								Diurnal Average		
																								Diurnal Maximum		





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Ambient Temperature 2m (AT2) - C
Fort Chipewyan - January 2025**

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	321	43.15	43.15
-20 - 0	390	52.42	95.56
0 - 10	33	4.44	100.00
10 - 20	0	0.00	100.00
> 20	0	0.00	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

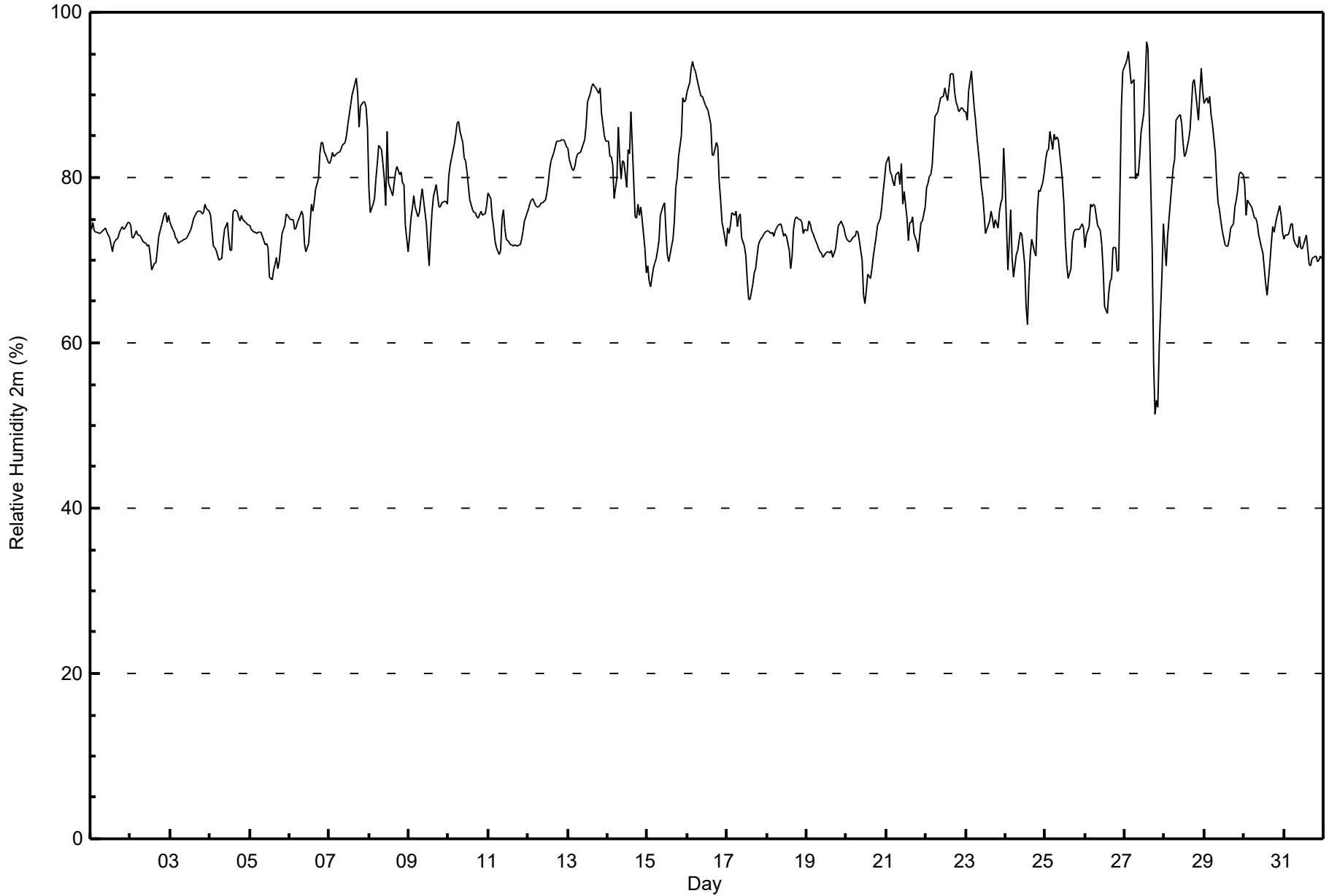
Relative Humidity 2m (RH2) - %
Fort Chipewyan - January 2025

Maximum Value: 96.4 % on Jan 27 14:00		Maximum Daily Average: 87.4 % on Jan 22		Hours in Service: 744																						
Minimum Value: 51.4 % on Jan 27 19:00		Minimum Daily Average: 71.6 % on Jan 31		Hours of Data: 744																						
Maximum Diurnal Average: 78.5 % at hour 4		Minimum Diurnal Average: 75.1 % at hour 14		Hours of Missing Data: 0																						
Monthly Average: 77.14 %		Percentiles: P ₁ = 64.4 P ₁₀ = 70.5 Q ₁ = 72.6 Median = 75.3 Q ₃ = 81.8 P ₉₀ = 88.0 P ₉₉ = 93.2		Hours of Calibration: 0																						
				Percent Operational Time: 100.0																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	73.7	74.5	73.6	73.5	73.5	73.2	73.4	73.5	73.7	73.9	73.4	72.7	71.9	71.0	72.1	72.3	72.7	73.4	73.8	74.0	73.8	73.9	74.5	74.5	73.4	74.5
2-Jan	74.3	72.8	72.7	73.6	73.0	73.1	72.8	72.5	72.2	72.1	71.7	71.9	70.6	68.9	69.6	69.7	71.1	72.9	73.5	74.2	75.6	75.8	74.6	75.4	72.7	75.8
3-Jan	74.7	73.8	73.3	72.7	72.6	72.0	72.1	72.3	72.6	72.5	72.6	73.0	73.8	74.4	75.1	75.4	75.7	75.9	75.6	75.8	76.7	76.4	75.9	74.2	74.2	76.7
4-Jan	75.5	73.6	71.6	71.5	71.2	70.1	70.2	70.1	72.4	73.8	74.5	72.6	71.1	71.3	75.7	76.1	75.9	75.3	74.7	75.5	75.0	74.5	74.3	74.2	73.4	76.1
5-Jan	74.2	73.7	73.4	73.4	73.3	73.4	73.4	73.4	72.4	71.9	72.0	71.4	68.0	67.6	68.7	69.4	70.4	68.9	69.8	73.2	73.7	74.3	75.7	75.5	72.1	75.7
6-Jan	75.0	74.9	74.9	73.7	73.9	74.5	75.5	76.0	75.5	72.1	71.0	72.1	74.3	76.8	75.9	77.1	78.6	79.8	83.0	84.2	84.2	83.3	82.3	81.9	77.1	84.2
7-Jan	81.8	82.3	83.1	82.5	82.9	83.0	83.1	83.4	83.9	84.2	85.1	86.5	87.6	88.7	90.0	91.4	92.0	90.1	86.0	88.6	89.2	89.2	88.6	85.9	86.2	92.0
8-Jan	78.7	75.8	76.7	77.5	79.8	81.7	83.9	83.4	81.7	79.8	76.6	85.5	79.4	78.4	77.7	79.4	80.8	81.3	80.3	80.7	79.4	79.2	74.3	71.0	79.3	85.5
9-Jan	72.9	75.0	76.2	77.7	76.4	75.2	75.7	77.3	78.6	77.2	74.4	71.7	69.4	72.9	75.7	77.7	79.2	77.8	76.4	76.4	76.9	77.1	77.1	76.8	75.9	79.2
10-Jan	80.1	81.6	82.3	84.1	85.3	86.6	86.8	85.5	84.2	82.4	82.0	80.7	78.9	77.4	76.0	75.7	75.7	75.3	75.2	75.9	75.4	75.5	75.6	76.7	79.8	86.8
11-Jan	78.1	77.5	75.2	74.0	72.4	71.5	70.7	71.2	75.2	76.1	73.9	72.5	72.2	71.9	71.9	71.8	71.8	71.8	71.9	72.5	73.6	74.7	75.8	73.3	78.1	
12-Jan	76.3	77.0	77.3	77.5	76.6	76.5	76.4	76.6	76.9	77.0	77.2	78.2	79.4	81.0	82.1	83.0	83.7	84.4	84.4	84.4	84.7	84.6	84.3	83.7	80.1	84.7
13-Jan	83.6	82.3	81.0	80.9	81.4	82.3	82.9	83.0	83.6	84.1	84.5	86.4	89.1	90.2	91.1	91.3	91.0	90.8	90.2	90.8	87.8	86.4	85.0	84.4	86.0	91.3
14-Jan	84.5	82.5	82.5	81.5	77.5	80.0	86.1	82.1	79.8	82.0	81.8	78.9	83.4	82.9	87.9	83.6	75.2	75.1	76.8	75.4	76.4	74.9	71.3	68.5	79.6	87.9
15-Jan	69.3	67.4	66.8	68.9	69.6	70.1	71.2	72.3	75.4	76.7	76.9	73.4	70.7	69.9	71.7	72.6	74.8	78.9	80.0	82.5	85.1	89.7	89.1	89.3	75.5	89.7
16-Jan	90.4	91.5	93.2	94.0	93.3	92.9	92.0	90.4	89.9	89.8	89.4	88.8	88.1	87.3	86.5	82.7	82.7	84.3	83.7	79.5	77.2	74.6	73.7	71.8	86.2	94.0
17-Jan	73.9	73.2	74.2	75.7	75.5	75.9	74.0	75.3	75.6	72.8	71.8	70.6	67.6	65.3	65.3	67.1	68.5	68.9	70.5	71.9	72.4	72.9	73.2	73.4	71.9	75.9
18-Jan	73.5	73.5	73.2	73.4	72.9	73.6	73.9	74.3	74.4	73.7	73.0	73.2	72.9	71.2	69.0	70.6	73.7	75.0	75.3	74.9	74.9	74.6	73.3	73.7	73.4	75.3
19-Jan	73.6	74.7	74.4	73.5	73.3	72.8	71.9	71.4	71.0	70.8	70.3	70.8	71.0	71.1	70.8	71.2	70.4	71.4	72.6	74.2	74.4	74.8	73.9	73.1	72.4	74.8
20-Jan	72.6	72.4	72.2	72.4	72.9	72.9	73.5	73.5	72.4	69.9	65.8	64.7	66.4	68.3	67.8	69.0	70.6	71.7	72.9	74.2	75.1	76.4	78.3	79.9	71.9	79.9
21-Jan	81.7	82.5	80.7	80.3	79.4	79.1	80.3	80.7	79.1	81.8	76.7	78.3	75.1	72.5	74.5	74.5	75.3	73.3	72.2	71.0	72.9	74.6	74.8	76.5	77.0	82.5
22-Jan	78.9	79.3	80.1	80.3	81.6	87.4	87.7	88.0	88.8	89.6	89.8	90.8	90.0	89.3	90.8	92.5	92.5	90.4	89.2	88.6	88.0	88.4	88.3	88.0	87.4	92.5
23-Jan	88.0	86.9	90.5	92.9	90.5	88.4	86.7	84.7	81.4	78.9	77.7	75.8	73.3	73.7	74.7	76.0	75.2	73.8	75.0	74.0	75.9	76.9	77.5	83.5	80.5	92.9
24-Jan	79.8	68.8	72.2	76.2	70.3	68.0	70.8	71.2	72.3	73.4	73.0	69.5	64.4	62.3	67.4	70.8	72.6	71.0	70.6	75.9	78.5	78.3	79.5	80.7	72.4	80.7
25-Jan	82.3	83.2	83.4	85.5	83.3	85.3	84.5	84.9	84.5	81.3	79.4	76.8	72.3	69.4	67.9	69.0	72.4	73.3	73.7	73.8	73.7	74.0	74.4	73.9	77.6	85.5
26-Jan	71.5	73.0	74.0	76.8	76.5	76.7	76.5	74.2	73.8	73.5	71.9	68.8	64.4	63.6	66.2	67.4	67.9	71.5	71.5	68.6	68.8	78.3	88.5	93.0	73.2	93.0
27-Jan	93.8	94.3	95.3	93.3	91.4	91.8	79.9	80.5	80.2	82.4	85.4	87.8	91.6	96.4	95.6	86.5	71.2	57.6	51.4	53.1	52.3	59.5	68.4	74.4	79.7	96.4
28-Jan	71.7	69.3	72.9	77.1	79.1	81.3	82.3	87.0	87.5	87.6	86.6	84.2	82.5	83.0	84.5	85.7	88.6	91.5	91.8	88.6	86.9	90.2	93.2	90.5	84.3	93.2
29-Jan	89.0	89.6	88.9	89.9	87.6	86.5	83.0	79.4	77.0	76.1	74.7	73.5	71.9	71.7	71.8	72.5	74.0	74.5	76.4	77.2	78.5	80.4	80.8	80.4	79.4	89.9
30-Jan	79.2	75.4	77.3	76.9	76.4	75.7	75.1	75.1	74.4	73.1	71.6	70.9	69.0	67.2	65.7	69.6	72.0	74.0	73.3	74.5	75.3	76.7	75.4	73.4	73.6	79.2
31-Jan	72.6	73.0	73.1	73.6	74.4	74.4	72.6	72.0	71.6	72.8	71.4	71.4	71.9	73.0	71.3	69.5	69.4	70.2	70.4	70.5	69.9	70.0	70.5	70.1	71.6	74.4
78.2 77.6 77.9 78.5 78.0 78.2 78.0 77.9 77.8 77.5 76.7 76.2 75.2 75.1 75.8 76.2 76.3 76.3 76.2 76.6 76.8 77.7 78.1 78.2																								Diurnal Average		
93.8 94.3 95.3 94.0 93.3 92.9 92.0 90.4 89.9 89.8 89.8 90.8 91.6 96.4 95.6 92.5 92.5 91.5 91.8 90.8 89.2 90.2 93.2 93.0																								Diurnal Maximum		



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 2m (RH2) - %
Fort Chipewyan - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Relative Humidity 2m (RH2) - %
Fort Chipewyan - January 2025

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	0	0.00	0.00
40 - 60	5	0.67	0.67
60 - 80	520	69.89	70.56
80 - 100	219	29.44	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association

Summary of Hour Averages

Leaf Wetness (LW) - %

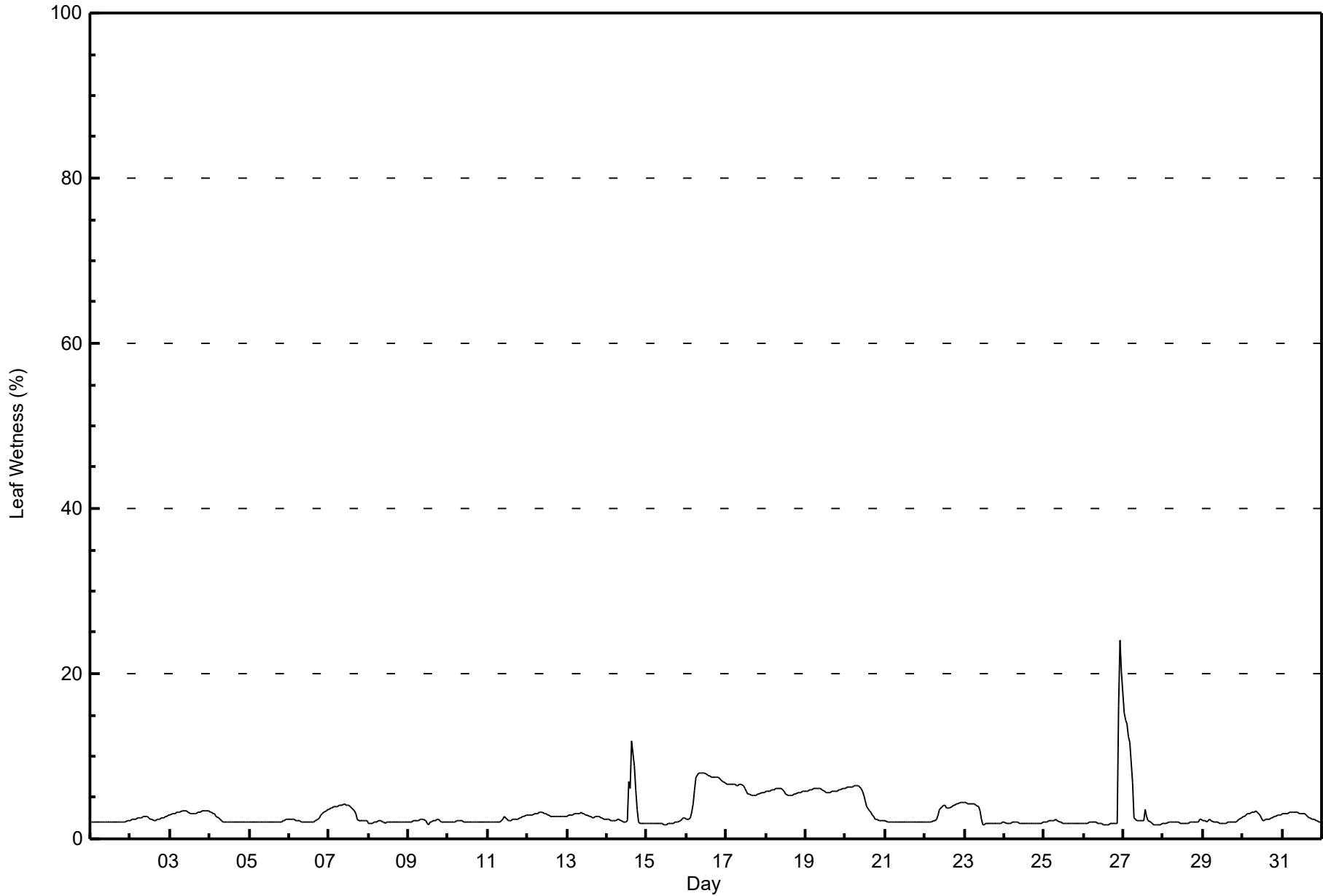
Fort Chipewyan - January 2025

Maximum Value: 24.1 % on Jan 26 23:00		Maximum Daily Average: 6.5 % on Jan 16		Hours in Service: 744																																													
Minimum Value: 1.6 % on Jan 15 13:00		Minimum Daily Average: 1.9 % on Jan 24		Hours of Data: 744																																													
Maximum Diurnal Average: 3.6 % at hour 23		Minimum Diurnal Average: 2.8 % at hour 20		Hours of Missing Data: 0																																													
Monthly Average: 3.12 %		Percentiles: P ₁ = 1.7 P ₁₀ = 1.9 Q ₁ = 2.0 Median = 2.3 Q ₃ = 3.2 P ₉₀ = 5.9 P ₉₉ = 11.7		Hours of Calibration: 0																																													
				Percent Operational Time: 100.0																																													
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.2																							
2-Jan	2.2	2.3	2.4	2.4	2.5	2.5	2.6	2.6	2.7	2.7	2.6	2.5	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.5	2.6	2.7	2.7	2.8	2.5	2.8																							
3-Jan	2.9	3.0	3.1	3.1	3.2	3.2	3.3	3.3	3.4	3.4	3.3	3.2	3.1	3.0	3.0	3.0	3.1	3.2	3.3	3.3	3.4	3.4	3.4	3.3	3.2	3.4																							
4-Jan	3.3	3.2	3.1	3.0	2.7	2.5	2.3	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3	3.3																							
5-Jan	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.4	2.1	2.4																						
6-Jan	2.4	2.4	2.4	2.3	2.3	2.2	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.0	2.1	2.1	2.3	2.6	2.8	3.1	3.2	3.3	3.5	2.4	3.5																							
7-Jan	3.6	3.7	3.8	3.9	3.9	4.0	4.0	4.1	4.1	4.2	4.1	4.1	4.0	3.8	3.7	3.4	3.0	2.5	2.2	2.2	2.1	2.2	2.3	2.1	3.4	4.2																							
8-Jan	1.8	1.9	1.9	2.0	2.0	2.0	2.1	2.1	2.1	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1																						
9-Jan	2.0	2.1	2.1	2.2	2.2	2.2	2.2	2.3	2.4	2.4	2.1	1.8	1.7	2.0	2.1	2.1	2.3	2.3	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.4	2.4																						
10-Jan	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1																						
11-Jan	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.4	2.6	2.5	2.3	2.2	2.3	2.3	2.3	2.4	2.4	2.5	2.6	2.7	2.8	2.8	2.3	2.8																							
12-Jan	2.9	2.9	2.9	2.9	3.0	3.0	3.1	3.2	3.2	3.2	3.1	3.0	2.9	2.8	2.8	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.7	2.7	2.9	3.2																							
13-Jan	2.8	2.8	2.9	2.9	3.0	3.0	3.1	3.1	3.1	3.1	3.0	2.9	2.8	2.7	2.6	2.6	2.6	2.6	2.7	2.7	2.6	2.5	2.4	2.3	2.8	3.1																							
14-Jan	2.4	2.3	2.3	2.3	2.2	2.3	2.4	2.4	2.2	2.1	2.0	2.2	6.9	6.1	11.8	8.7	5.9	3.5	2.0	1.9	1.9	1.9	1.9	1.8	3.4	11.8																							
15-Jan	1.9	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.7	1.7	1.6	1.8	1.8	1.9	1.9	2.0	2.0	2.1	2.2	2.4	2.5	2.5	2.0	2.5																							
16-Jan	2.5	2.4	2.5	3.2	4.3	5.9	7.4	8.0	8.0	8.0	8.0	7.9	7.8	7.6	7.5	7.5	7.4	7.5	7.5	7.4	7.3	7.1	6.9	6.8	6.5	8.0																							
17-Jan	6.7	6.6	6.6	6.6	6.6	6.6	6.5	6.5	6.6	6.5	6.4	6.2	5.7	5.5	5.4	5.3	5.3	5.3	5.3	5.4	5.5	5.5	5.6	5.7	6.0	6.7																							
18-Jan	5.7	5.8	5.8	5.9	5.9	6.0	6.0	6.1	6.1	6.1	6.0	5.7	5.4	5.3	5.3	5.3	5.3	5.4	5.5	5.5	5.6	5.6	5.7	5.7	5.7	6.1																							
19-Jan	5.8	5.8	5.9	5.9	6.0	6.1	6.1	6.1	6.2	6.1	5.9	5.8	5.6	5.6	5.6	5.6	5.7	5.7	5.8	5.8	5.9	6.0	6.0	6.1	5.9	6.2																							
20-Jan	6.2	6.2	6.3	6.3	6.4	6.4	6.4	6.5	6.4	6.2	5.8	5.2	4.5	3.9	3.5	3.2	2.9	2.7	2.5	2.3	2.2	2.2	2.2	2.1	4.5	6.5																							
21-Jan	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1																						
22-Jan	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.4	2.9	3.6	3.9	4.1	4.0	3.8	3.7	3.8	3.8	4.0	4.1	4.2	4.3	4.4	4.4	4.4	3.3	4.4																							
23-Jan	4.4	4.4	4.3	4.3	4.3	4.3	4.2	4.1	3.9	3.3	2.4	1.7	1.7	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.8	4.4																							
24-Jan	2.0	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	1.9	1.8	1.9	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	2.0																							
25-Jan	2.0	2.1	2.1	2.2	2.3	2.2	2.3	2.3	2.3	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.3																							
26-Jan	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.8	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.9	16.1	24.1	20.2	4.2	24.1																							
27-Jan	15.2	14.4	14.0	12.4	11.7	6.7	2.5	2.3	2.3	2.2	2.2	2.1	2.1	3.5	2.8	2.1	2.0	1.8	1.7	1.7	1.6	1.7	1.7	1.8	4.7	15.2																							
28-Jan	1.8	1.8	1.9	2.0	2.0	2.1	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.8	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.1	2.4	2.4	2.0	2.4																							
29-Jan	2.2	2.2	2.1	2.3	2.4	2.3	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.4	2.5	2.1	2.5																							
30-Jan	2.7	2.8	2.9	3.0	3.1	3.2	3.2	3.3	3.3	3.2	2.9	2.6	2.2	2.2	2.3	2.4	2.4	2.5	2.6	2.7	2.7	2.8	2.9	2.9	2.8	3.3																							
31-Jan	3.0	3.0	3.1	3.1	3.1	3.2	3.2	3.3	3.3	3.2	3.0	3.0	3.0	3.0	2.9	2.7	2.6	2.5	2.4	2.3	2.3	2.2	2.1	2.1	2.8	3.3																							
																								3.3	3.3	3.3	3.3	3.3	3.2	3.1	3.2	3.2	3.2	3.1	3.0	2.8	3.0	2.9	3.1	3.0	2.9	2.8	2.8	3.3	3.6	3.5	Diurnal Average		
																								15.2	14.4	14.0	12.4	11.7	6.7	7.4	8.0	8.0	8.0	8.0	7.9	7.8	7.6	7.5	11.8	8.7	7.5	7.5	7.4	7.3	16.1	24.1	20.2	Diurnal Maximum	



Wood Buffalo Environmental Association
Hourly Averages

Leaf Wetness (LW) - %
Fort Chipewyan - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Leaf Wetness (LW) - %
Fort Chipewyan - January 2025

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 0.3	0	0.00	0.00
0.4 - 0.5	0	0.00	0.00
0.6 - 0.7	0	0.00	0.00
0.8 - 1.4	0	0.00	0.00
1.5 - 10	735	98.79	98.79
> 10	9	1.21	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association

Summary of Hour Averages

Precipitation (PC) - mm

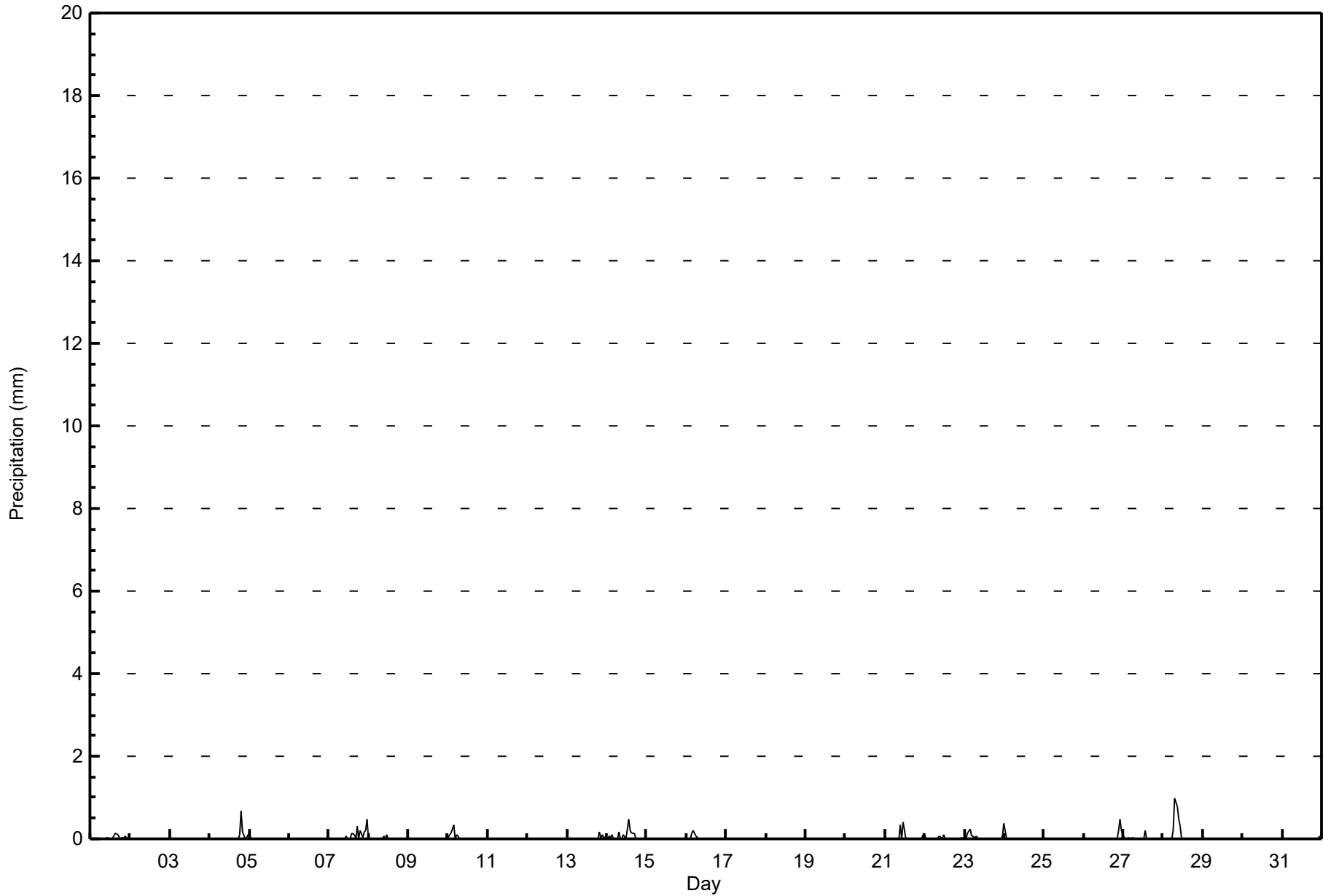
Fort Chipewyan - January 2025

Maximum Value: 1.0 mm on Jan 28 08:00		Maximum Daily Total: 2.7 mm on Jan 28		Hours in Service: 744																							
Minimum Value: 0.0 mm on Jan 1 01:00		Minimum Daily Total: 0.0 mm on Jan 2		Hours of Data: 741																							
Maximum Diurnal Total: 1.2 mm at hour 8		Minimum Diurnal Total: 0.1 mm at hour 19		Hours of Missing Data: 3																							
Monthly Total: 13.23 mm		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.1 P ₉₉ = 0.4		Hours of Calibration: 0																							
				Percent Operational Time: 99.6																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.6	0.1	
2-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.7	0.2	0.0	0.1	0.1	1.1	0.7	
5-Jan	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	
6-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.1	0.0	0.3	0.0	0.2	0.0	0.2	0.2	0.5	1.7	0.5	
8-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	
9-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Jan	0.1	0.1	0.2	0.3	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.3	
11-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.1	0.1	0.1	0.4	0.2	
14-Jan	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.2	0.5	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.5	
15-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16-Jan	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.2	
17-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.9	0.4	
22-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.3	0.1	
23-Jan	0.0	0.0	0.1	0.2	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.6	0.2	
24-Jan	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	
25-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.2	0.9	0.5	
27-Jan	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.2	
28-Jan	PF	0.0	0.0	0.0	0.0	0.0	0.2	1.0	0.8	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	1.0		
29-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1
																								Diurnal Average			
																								Diurnal Maximum			
PF - Power Failure																											



Wood Buffalo Environmental Association
Hourly Averages

Precipitation (PC) - mm
Fort Chipewyan - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Precipitation (PC) - mm
Fort Chipewyan - January 2025

Concentration Ranges (mm)	Number of Hours	%	Cumulative %
0 - 0.3	732	98.79	98.79
0.4 - 0.5	6	0.81	99.60
0.6 - 0.7	1	0.13	99.73
0.8 - 1.4	2	0.27	100.00
1.5 - 10	0	0.00	100.00
> 10	0	0.00	100.00

Total Number of Valid Hours: 741

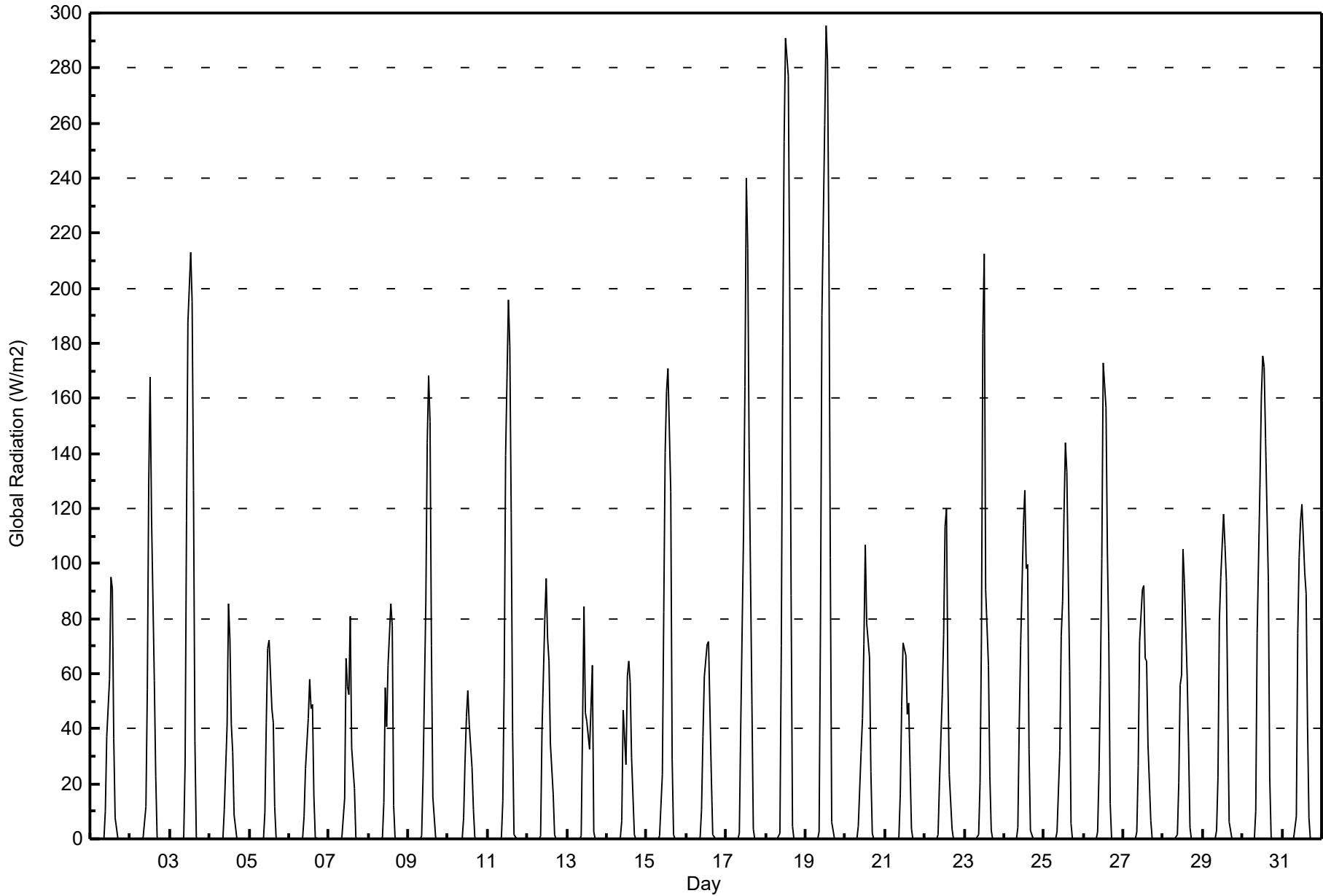
Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

Global Radiation (GR) - W/m2
Fort Chipewyan - January 2025

Maximum Value: 295.3 W/m2 on Jan 19 13:00		Maximum Daily Average: 59.7 W/m2 on Jan 19		Hours in Service: 744																						
Minimum Value: 0.0 W/m2 on Jan 1 01:00		Minimum Daily Average: 8.9 W/m2 on Jan 10		Hours of Data: 744																						
Maximum Diurnal Average: 128.2 W/m2 at hour 13		Minimum Diurnal Average: 0.0 W/m2 at hour 21		Hours of Missing Data: 0																						
Monthly Average: 23.85 W/m2		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 23.8 P ₉₀ = 87.8 P ₉₉ = 215.6		Hours of Calibration: 0																						
				Percent Operational Time: 100.0																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	10.3	37.2	57.7	95.3	91.1	36.7	7.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.0	95.3
2-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	11.7	54.5	129.0	167.7	117.2	57.4	22.7	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.4	167.7
3-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	27.3	115.5	187.5	213.0	195.3	126.8	35.4	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.6	213.0
4-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	10.5	41.0	85.2	72.6	41.8	31.3	8.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.1	85.2
5-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	9.5	42.2	69.3	72.4	47.4	42.2	11.6	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.3	72.4
6-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	8.3	25.7	43.8	57.8	47.1	48.9	15.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.3	57.8
7-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	14.7	65.4	55.3	52.5	80.7	33.1	18.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.4	80.7
8-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	13.3	55.0	40.4	63.0	85.5	77.3	12.4	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.5	85.5
9-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	22.3	86.1	144.1	168.4	151.5	70.0	15.3	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.5	168.4
10-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	7.8	28.0	44.2	53.8	41.9	26.0	10.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.9	53.8
11-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	13.5	58.2	139.4	195.7	178.9	118.7	38.9	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.1	195.7
12-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	39.4	79.7	94.4	72.8	64.8	34.8	16.4	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.9	94.4
13-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	41.8	84.4	45.8	42.5	32.6	47.7	62.9	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	84.4
14-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	6.8	46.6	26.7	59.2	64.4	56.7	29.4	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.2	64.4
15-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	23.6	82.3	140.4	162.8	171.0	126.1	29.2	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.7	171.0
16-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	10.7	37.0	58.8	70.5	71.5	47.0	22.4	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.3	71.5
17-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	40.5	111.0	164.1	239.8	214.8	141.3	48.6	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.2	239.8
18-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	70.3	179.1	253.0	290.8	277.2	200.7	88.3	4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.9	290.8
19-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	79.1	190.1	259.3	295.3	283.0	216.2	102.0	6.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	59.7	295.3
20-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	31.4	43.9	70.5	106.7	78.2	66.0	24.5	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.8	106.7
21-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	16.5	48.5	70.9	66.4	45.4	49.2	25.9	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.6	70.9
22-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	20.5	52.4	74.4	113.6	120.2	59.3	23.4	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.5	120.2
23-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	20.4	73.2	183.5	212.5	90.4	63.0	23.0	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.9	212.5
24-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	41.7	70.3	114.1	126.7	98.3	99.5	32.7	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.6	126.7
25-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	32.2	73.5	86.4	118.7	144.2	133.3	61.0	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.4	144.2
26-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	24.2	57.3	101.8	173.0	156.7	103.8	71.6	12.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.3	173.0
27-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	26.5	71.6	90.3	92.2	65.7	64.5	33.9	6.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.9	92.2
28-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	20.2	55.9	59.5	105.2	93.2	59.2	33.4	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.0	105.2
29-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1	22.6	79.2	95.2	117.8	106.6	93.5	47.7	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.8	117.8
30-Jan	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.1	10.2	74.9	128.6	160.4	175.2	171.6	145.4	93.8	22.0	0.3	0.1	0.1	0.0	0.1	0.1	0.2	41.0	175.2
31-Jan	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	7.9	74.6	102.4	115.6	121.6	96.6	89.0	41.3	7.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.4	121.6
																								Diurnal Average		
																								Diurnal Maximum		





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Global Radiation (GR) - W/m2
Fort Chipewyan - January 2025**

Concentration Ranges (W/m2)	Number of Hours	%	Cumulative %
0 - 20	549	73.79	73.79
21 - 100	135	18.15	91.94
101 - 300	60	8.06	100.00
301 - 600	0	0.00	100.00
601 - 900	0	0.00	100.00
> 900	0	0.00	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

Wind Speed 10m (WS10) - km/h
Fort Chipewyan - January 2025

Maximum Speed: 49 km/h on Jan 10 03:00	Maximum Daily Speed Average: 22.4 km/h on Jan 10	Hours in Service: 744
Minimum Speed Value: 0 km/h on Jan 31 07:00	Minimum Daily Speed Average: 2.6 km/h on Jan 30	Hours of Data: 740
Maximum Diurnal Speed Average: 4.7 km/h at hour 20	Minimum Diurnal Speed Average: 1.4 km/h at hour 11	Hours of Missing Data: 4
Monthly Average Velocity: 3.1 km/h 318.9 deg	Percentiles: P ₁ = 2 P ₁₀ = 5 Q ₁ = 8 Median = 12 Q ₃ = 18 P ₉₀ = 21 P ₉₉ = 34	Percent Operational Time: 99.5

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	NW14	WNW12	NW13	NW12	NW12	NW13	NW11	NW13	NW9	NW9	NW10	NW11	NW11	WNW11	WNW12	NW12	NW11	NW10	WNW9	NW11	WNW9	NW9	NW9	NW7	NW10.8	NW14
2-Jan	NW9	NW11	NW9	NW8	WNW8	WNW7	WNW8	WNW7	WNW7	WNW6	WNW5	WNW7	NW8	W4	W5	W4	SW5	SW4	W4	E4	ENE6	ENE8	E10	E11	NW3.6	E11
3-Jan	ENE11	ENE13	ENE13	E16	E17	E17	E18	E18	E20	E21	E21	E21	E22	E21	E19	E19	E21	E20	E15	SE15	SE20	SSE22	SSE18	E17.0	E22	
4-Jan	SSE18	SSE24	SSE15	S20	SSE20	S17	S15	SSW15	SSW12	SSW10	SSW7	SW7	SW4	WNW2	NNW9	NNW13	NNW12	NNW11	NNW8	NNW6	NW6	NNW9	NW8	NNW10	SSW3.9	SSE24
5-Jan	NNW11	NW10	NW11	NW10	NW9	NW9	NW9	NW10	NNW10	NW10	NW12	NW12	NW11	NW8	WNW6	WNW5	W5	W4	NW4	N3	NE3	E4	ENE4	NW7.1	NW12	
6-Jan	E7	E11	E16	ESE15	E17	E18	E19	E19	E20	SE18	SSE19	SSE19	SSE23	S22	SSE19	S15	S13	ESE7	E10	E10	E10	E10	E11	E9	ESE12.0	SSE23
7-Jan	E10	E13	E13	E14	E16	E15	E15	E15	E17	E18	E19	E17	E17	E15	E14	E11	ESE8	SSE6	ESE6	E8	E5	E8	SSE3	WSW9	E11.1	E19
8-Jan	W18	W22	W22	W22	W20	W17	WSW16	WSW18	W20	W22	W24	WNW24	NW27	NW24	WNW19	W20	W20	WNW21	NW17	NNW14	NNW14	NW17	NW19	NW18	WNW18.1	NW27
9-Jan	NW13	NNW9	NW8	NW8	WNW12	NW12	NW10	WNW7	WNW9	NW8	NW4	WNW3	SSW5	ESE7	E11	E14	E21	E21	E24	E31	E33	E35	E42	E44	ENE9.0	E44
10-Jan	E47	ENE47	ENE49	ENE43	ENE34	ENE34	ENE34	ENE31	ENE28	NE21	NE17	NNE9	NNE11	NNE12	NNE16	NNE17	NNE16	NNE13	NNE11	NE13	NE18	NE16	NE16	NE18	NE22.4	ENE49
11-Jan	NE19	NE14	NE16	NE16	NE15	NE11	NE12	ENE16	ENE15	ENE13	ENE11	E10	E13	ESE7	E6	E8	E7	E5	ENE7	E8	E11	E12	E13	E13	ENE10.8	NE19
12-Jan	E15	E20	E18	E20	E20	E18	E22	E20	E23	E21	E18	E19	E20	E19	E18	E17	E16	E10	E9	E8	E6	E6	E5	E6	E15.6	E23
13-Jan	E7	ESE7	E9	E11	E11	E10	E10	E11	E12	E12	E9	ESE8	S11	S11	S10	S8	SSE6	SW11	SW13	WSW13	W15	W18	W20	W17	SSE3.7	W20
14-Jan	W13	W19	W17	W17	W14	WSW5	E5	SE6	ESE8	E12	SE14	SSW9	S7	SW10	WSW13	W19	W24	W22	W18	W22	W20	W21	WNW21	WNW20	W10.4	W24
15-Jan	WNW21	WNW21	WNW22	W22	WNW20	WNW22	WNW19	WNW16	WNW15	WNW13	W15	WNW16	WNW15	WNW13	W11	NW12	NW8	WNW8	NW8	NW9	NW7	NW1	W1	NNE3	WNW12.8	WNW22
16-Jan	E6	ESE12	E13	E19	E26	E26	ENE29	ENE27	ENE27	NE24	NE23	NE25	NE15	NNE6	N14	NNW13	NNW12	NNW12	NNW15	NNW15	NNW19	NNW17	NW19	NNW24	NE12.3	ENE29
17-Jan	NW19	NNW19	NNW17	NW17	NW13	NW10	NW12	NW11	NW13	NW11	NW13	NW15	NW15	WNW13	NW14	NW14	NW11	NW14	NNW14	NW13	NW11	WNW10	WNW12	WNW13	NW13.3	NW19
18-Jan	WNW12	WNW13	W11	W10	W12	WNW15	WNW13	W13	W15	W12	W12	W14	W13	W11	WSW9	W11	W10	WNW7	WNW7	WNW7	WNW9	WNW5	W5	NW4	W10.2	WNW15
19-Jan	NNW5	NNW8	NW9	NW7	NW11	NW11	NW11	NW12	NW12	NW11	WNW8	WNW9	W8	W8	WSW6	W7	WSW8	WSW4	E5	SE4	S4	ESE7	E6	E9	NW4.5	NW12
20-Jan	E10	ESE10	E13	ESE12	ESE11	ESE12	ESE13	ESE13	SE17	S26	S30	S28	S32	S27	S18	S13	S14	SSW11	SSW9	SSW7	S7	SSW8	SSW10	SW14	SSE12.4	S32
21-Jan	SW12	WSW14	W18	W13	WNW15	NW16	NW14	NW13	NNW13	NNW13	NW18	NW14	NW20	NW19	NNW17	NNW14	NNW18	NW15	NW13	NW15	WNW12	WNW12	WNW12	WNW13	NW13.3	NW20
22-Jan	WNW13	WNW13	WNW12	WNW8	WNW7	WNW9	WNW8	WSW5	SSW5	SSW6	SSW6	SW7	WSW9	WSW11	WSW9	WSW5	S4	S8	SSW7	SSE7	ESE7	ESE8	SSE11	S15	WSW4.8	S15
23-Jan	S13	SSW16	SSW19	SSW20	SSW15	SW14	SW14	WSW13	W17	W22	W22	W20	W20	W16	W16	W18	W18	W20	W21	W23	W23	WNW23	W22	WNW21	WSW16.2	W23
24-Jan	NW26	NW26	NW26	NW26	NNW31	NNW24	NW15	NW17	NW18	WNW14	WNW13	WNW12	NW12	WNW9	WSW8	W10	W15	W16	W17	W18	W18	W18	W17	W17	WNW15.8	NNW31
25-Jan	W17	W16	W14	W10	W12	WNW14	W12	WSW13	W15	W19	W22	WSW20	W20	W20	W16	W15	W19	W18	W19	W19	W18	W18	W17	W19	W16.7	W22
26-Jan	W17	W13	W13	W15	W16	W18	W17	W18	W17	W20	W21	W16	W21	W21	W15	W17	WNW16	WNW14	WNW10	NW10	NW10	WNW11	NW12	NW11	W14.9	W21
27-Jan	NW10	W6	WNW10	NW9	NNW5	UO	UO	UO	ENE12	E20	E21	E12	E16	ESE11	S8	WSW7	W12	W24	W29	W27	WNW25	WNW29	NW35	NW27	WNW7.5	NW35
28-Jan	NW26	NW21	NNW13	NNW7	NW4	WNW3	WNW7	NW8	NW6	WNW4	NNW4	W4	WSW6	W7	WSW7	WSW10	W12	W11	WNW11	WNW13	WNW10	W11	W11	W14	WNW8.4	NW26
29-Jan	WNW13	WNW11	WNW8	NNW5	NW6	NNW9	NNW12	NNW13	NNW13	N9	N7	N8	N6	N6	NNE8	NE10	NNE8	NNE7	NNE10	N8	N7	NNW6	NNW6	NNW6	NNW7.1	WNW13
30-Jan	NNE5	NNE5	NNW4	NNW8	NNW7	NNW6	UO	WNW2	NW6	NW8	NNW7	NW7	WSW1	SSE3	S4	ENE7	E4	SW2	W4	WNW5	ESE1	NO	WNW3	NW3	NNW2.6	NW8
31-Jan	NNW1	W2	WNW2	NE2	NE1	NNE3	NW0	NNE3	ENE3	ENE5	E5	E4	E5	ENE8	ENE10	NE12	NE16	NE16	NE16	NE19	NE21	NE22	NE21	NE22	NE8.6	NE22

NW4.4	NW3.7	NNW4.0	NNW3.0	NNW3.2	NNW3.3	N3.2	N3.1	N2.9	N1.9	NW1.4	WNW2.4	WNW2.6	W2.9	WNW2.6	WNW3.2	WNW3.8	WNW4.6	NW4.5	NW4.7	NW3.9	NW3.8	NW4.1	NW4.1	Diurnal Average		
E47	ENE47	ENE49	ENE43	ENE34	ENE34	ENE34	ENE31	ENE28	S26	S30	S28	S32	S27	E21	W20	W24	W24	W24	W29	E31	E33	E35	E42	E44	Diurnal Maximum	

UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

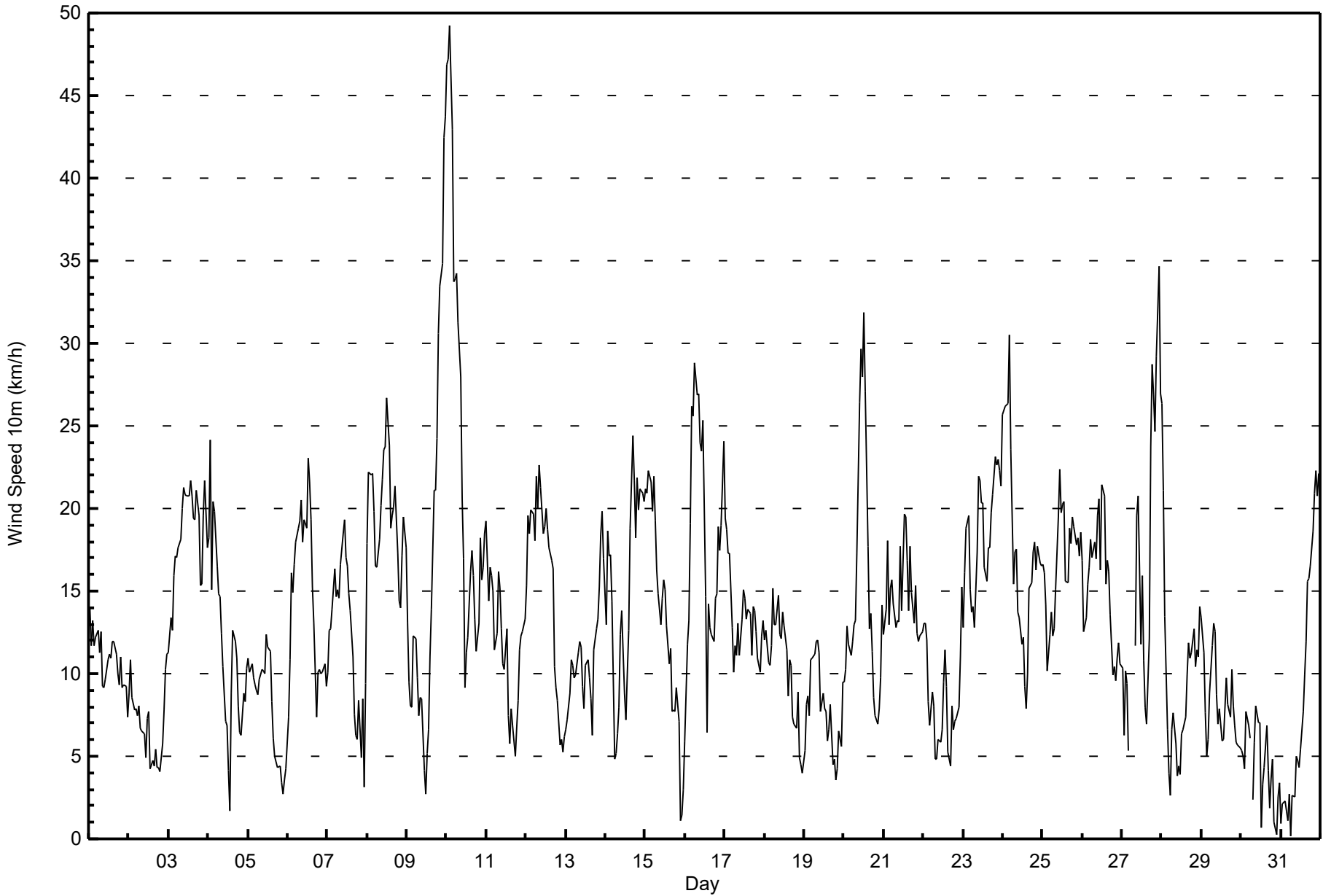
Wind Speed 10m (WS10) - km/h
Fort Chipewyan - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 11 km/h on Jan 27 23:00 Minimum Value: 0 km/h on Jan 3 00:00 Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 2 Median = 3 Q ₃ = 4 P ₉₀ = 5 P ₉₉ = 9																		Hours in Service: 744 Hours of Data: 740 Hours of Missing Data: 4 Hours of Calibration: 0 Percent Operational Time: 99.5								
Day	Hourly Period Ending At (MST)																								Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	4	3	4	3	3	3	3	4	3	2	3	3	3	3	3	3	3	2	2	3	2	2	2	2	4	4
2-Jan	3	3	2	2	2	2	2	1	1	1	1	2	2	2	1	1	1	1	2	1	1	1	2	0	3	3
3-Jan	1	1	2	1	2	2	1	1	2	2	1	2	2	2	1	1	2	2	2	2	3	3	4	4	4	4
4-Jan	6	4	4	4	3	2	2	3	2	2	1	1	1	1	2	4	4	4	3	3	3	3	3	4	6	6
5-Jan	4	3	3	3	3	3	3	3	4	4	3	3	4	3	2	1	1	1	1	1	2	1	1	1	4	4
6-Jan	2	1	1	1	2	2	2	2	2	2	3	3	4	3	3	3	4	2	1	2	1	1	1	1	4	4
7-Jan	1	1	1	2	2	2	2	2	2	2	2	2	2	2	1	2	2	1	2	2	2	2	2	4	4	4
8-Jan	5	5	5	5	4	3	3	4	5	5	5	7	9	7	6	4	4	6	6	5	5	7	7	7	9	9
9-Jan	4	3	2	3	3	4	3	2	2	4	2	2	3	2	1	3	2	2	2	4	3	4	4	4	4	4
10-Jan	4	4	5	5	4	3	4	4	4	4	4	3	4	4	5	5	4	3	3	4	4	4	4	4	5	5
11-Jan	4	3	4	4	4	3	3	3	2	3	1	2	2	2	1	3	1	1	1	2	2	2	2	2	4	4
12-Jan	3	2	2	2	2	2	3	2	2	2	2	2	3	2	2	1	2	2	1	3	2	2	1	3	3	3
13-Jan	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	3	2	3	2	3	4	4	4	5	5	5
14-Jan	4	4	4	3	3	3	3	3	2	2	4	3	2	2	3	6	6	5	4	5	4	4	5	5	6	6
15-Jan	5	5	5	5	5	6	6	4	3	3	3	4	4	4	3	3	2	2	3	2	2	1	1	1	6	6
16-Jan	3	2	2	4	3	3	4	4	4	4	4	5	4	3	5	4	4	4	5	5	7	7	8	7	8	8
17-Jan	6	7	6	6	5	4	4	3	4	4	4	4	4	4	4	5	4	4	5	5	4	3	4	3	7	7
18-Jan	2	2	2	2	4	3	3	3	3	3	3	3	3	2	2	3	1	1	2	2	2	1	2	1	4	4
19-Jan	2	2	2	2	2	2	3	3	2	3	2	2	2	2	1	2	2	2	2	1	1	1	2	2	3	3
20-Jan	2	1	2	1	2	2	1	2	3	6	4	4	5	5	3	2	2	2	2	2	1	1	2	2	6	6
21-Jan	2	4	4	3	4	4	5	4	5	5	5	5	6	6	7	6	7	6	5	5	3	3	3	3	7	7
22-Jan	3	3	3	2	2	2	2	2	2	1	1	1	2	2	2	1	2	1	1	2	1	1	3	2	3	3
23-Jan	2	3	3	3	2	2	2	2	4	5	5	5	4	3	4	4	4	5	5	5	5	5	6	6	6	6
24-Jan	8	10	10	9	11	10	6	6	5	4	3	4	4	3	2	3	3	3	3	4	4	4	4	3	11	11
25-Jan	3	3	2	2	2	2	2	2	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	4	4
26-Jan	4	3	2	3	3	3	4	4	4	5	4	4	5	5	3	4	3	2	2	2	2	2	3	3	5	5
27-Jan	2	2	2	3	2	UO	UO	UO	2	3	3	2	1	2	2	2	3	6	7	7	7	9	11	9	11	11
28-Jan	10	8	5	2	2	2	2	2	2	2	2	2	2	2	2	3	3	2	3	3	3	2	2	3	10	10
29-Jan	3	3	3	2	2	4	5	5	5	3	2	3	2	2	3	3	3	2	3	3	2	1	2	1	5	5
30-Jan	1	1	2	2	2	2	UO	2	1	3	3	3	2	1	2	1	1	2	1	2	1	1	2	2	3	3
31-Jan	1	1	2	1	1	2	1	1	2	1	1	1	1	1	2	2	3	4	3	3	4	4	4	4	4	4
Diurnal Maximum																										
10 10 10 9 11 10 6 6 5 6 5 7 9 7 7 6 7 6 7 7 7 7 9 11 9																										
UO - Unstable Operation																										



Wood Buffalo Environmental Association
Hourly Averages

Wind Speed 10m (WS10) - km/h
Fort Chipewyan - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Wind Speed 10m (WS10) - km/h
Fort Chipewyan - January 2025**

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	77	10.41	10.41
6 - 11	247	33.38	43.78
12 - 19	290	39.19	82.97
20 - 28	106	14.32	97.30
29 - 38	14	1.89	99.19
> 38	6	0.81	100.00

Total Number of Valid Hours: 740

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Wind Speed 10m (WS10) - km/h
Fort Chipewyan - January 2025**

Wind Speed Ranges (km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	2	5	3	3	11	1	1	2	3	2	4	5	11	12	6	6	77
6 - 11	7	8	2	8	39	14	1	4	8	11	4	12	16	36	58	19	247
12 - 19	1	5	18	6	49	6	4	6	9	5	5	7	66	36	43	24	290
20 - 28	0	0	7	4	25	0	1	4	5	1	0	1	34	12	10	2	106
29 - 38	0	0	0	5	3	0	0	0	2	0	0	0	1	1	1	1	14
> 38	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	6
Totals	10	18	30	29	130	21	7	16	27	19	13	25	128	97	118	52	740

Total Number of Valid Hours: 740

Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

Wind Direction 10m (WD10) - deg
Fort Chipewyan - January 2025

Direction of Maximum Speed: 69 deg on Jan 10 03:00	Hours in Service: 744
Direction of Maximum Daily Speed Average: 56.2 deg on Jan 10	Hours of Data: 740
Direction of Minimum Speed: 318 deg on Jan 31 07:00	Hours of Missing Data: 4
Direction of Minimum Daily Speed Average: 2.6 deg on Jan 30	Percent Operational Time: 99.5
Monthly Average Direction: 318.9 deg	

Day	Hourly Period Ending At (MST)																								Daily Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	304	300	304	304	309	314	318	319	312	310	310	310	305	300	301	312	310	306	298	305	299	304	307	308	307.1
2-Jan	313	312	309	306	295	296	295	293	287	284	293	302	315	268	272	262	229	221	279	79	76	72	83	81	306.6
3-Jan	76	78	76	79	84	87	93	90	88	89	90	90	88	85	87	84	81	79	85	99	130	143	149	147	94.7
4-Jan	151	151	160	170	163	174	182	194	205	213	209	217	226	301	334	337	340	335	331	327	323	329	326	327	200.9
5-Jan	328	326	321	318	313	315	319	322	327	324	314	311	313	310	310	297	286	274	280	324	1	55	97	67	318.4
6-Jan	83	83	89	104	93	89	82	81	90	126	150	163	168	173	167	173	175	118	95	91	83	92	91	90	118.3
7-Jan	88	85	85	84	81	81	80	82	84	89	87	87	89	90	88	97	102	166	114	81	101	80	149	238	89.8
8-Jan	264	266	268	266	272	261	251	257	265	277	281	290	315	308	293	277	276	297	311	329	330	319	325	323	287.5
9-Jan	317	331	316	304	298	306	309	303	293	316	318	285	210	121	92	86	85	84	85	85	82	82	82	81	66.0
10-Jan	81	73	69	72	71	72	73	68	59	46	43	19	22	19	18	21	28	24	24	35	44	35	36	44	56.2
11-Jan	45	40	39	43	50	50	53	59	62	66	69	86	98	106	101	92	100	87	76	82	95	90	88	99	69.0
12-Jan	99	91	85	87	86	85	86	90	94	95	91	86	87	83	83	88	87	82	85	83	80	84	97	93	88.0
13-Jan	93	105	91	90	93	98	96	90	95	94	99	117	169	177	184	181	165	217	219	253	265	267	264	264	167.2
14-Jan	269	270	265	270	269	238	96	129	112	98	131	197	183	218	238	261	268	269	272	279	277	281	289	289	262.5
15-Jan	283	285	287	281	287	299	297	295	294	282	269	288	300	283	272	306	306	286	318	324	312	304	274	13	291.3
16-Jan	91	113	97	84	81	88	69	60	58	56	54	51	49	24	354	345	332	332	332	330	328	331	326	328	36.0
17-Jan	325	329	333	326	323	320	320	311	311	320	313	313	311	302	312	317	325	325	329	325	320	303	303	294	317.8
18-Jan	286	282	273	277	277	285	286	281	275	281	277	278	277	275	250	267	281	293	296	296	288	298	277	315	280.4
19-Jan	333	327	325	324	317	314	318	315	314	313	294	285	275	274	238	260	251	243	89	133	170	109	101	99	303.8
20-Jan	87	106	96	110	122	103	105	111	144	169	172	174	180	180	181	170	183	194	203	199	186	202	212	219	163.1
21-Jan	225	252	264	279	291	304	318	317	332	333	315	322	318	322	328	327	329	324	311	314	303	286	289	289	306.1
22-Jan	282	288	300	302	291	293	301	253	213	207	213	221	258	258	257	242	185	178	196	163	113	123	158	177	238.1
23-Jan	189	197	202	202	212	226	230	252	267	269	268	279	278	277	274	262	266	272	272	270	282	278	287		258.5
24-Jan	310	320	315	321	328	332	321	318	309	295	289	302	311	287	242	259	266	268	265	267	267	266	274	272	297.5
25-Jan	273	273	276	266	273	282	266	253	264	263	260	257	261	267	274	262	268	269	271	267	259	264	269	273	266.9
26-Jan	275	267	277	275	273	270	263	265	259	261	263	262	268	269	280	275	285	285	288	315	309	286	306	309	275.4
27-Jan	305	281	290	308	334	UO	UO	UO	71	81	85	86	87	114	174	237	273	267	265	278	292	295	305	315	299.1
28-Jan	317	325	336	346	314	294	303	320	323	296	343	271	240	262	252	255	268	268	282	299	300	272	269	271	294.4
29-Jan	284	284	297	335	315	328	335	344	342	352	6	10	1	6	29	36	22	17	16	4	356	348	334	345	346.4
30-Jan	12	13	331	337	332	327	UO	301	308	326	332	325	251	148	174	73	93	214	267	295	115	0	301	311	332.0
31-Jan	330	264	300	35	43	16	318	26	60	77	81	84	83	62	59	50	46	43	42	47	45	43	42	44	47.2

318.1	321.1	328.2	337.2	339.5	344.4	2.8	358.4	0.3	351.4	313.0	297.5	286.4	274.2	285.0	299.4	297.8	294.1	305.6	319.1	323.0	319.3	316.9	321.0
Diurnal Average																							

UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods



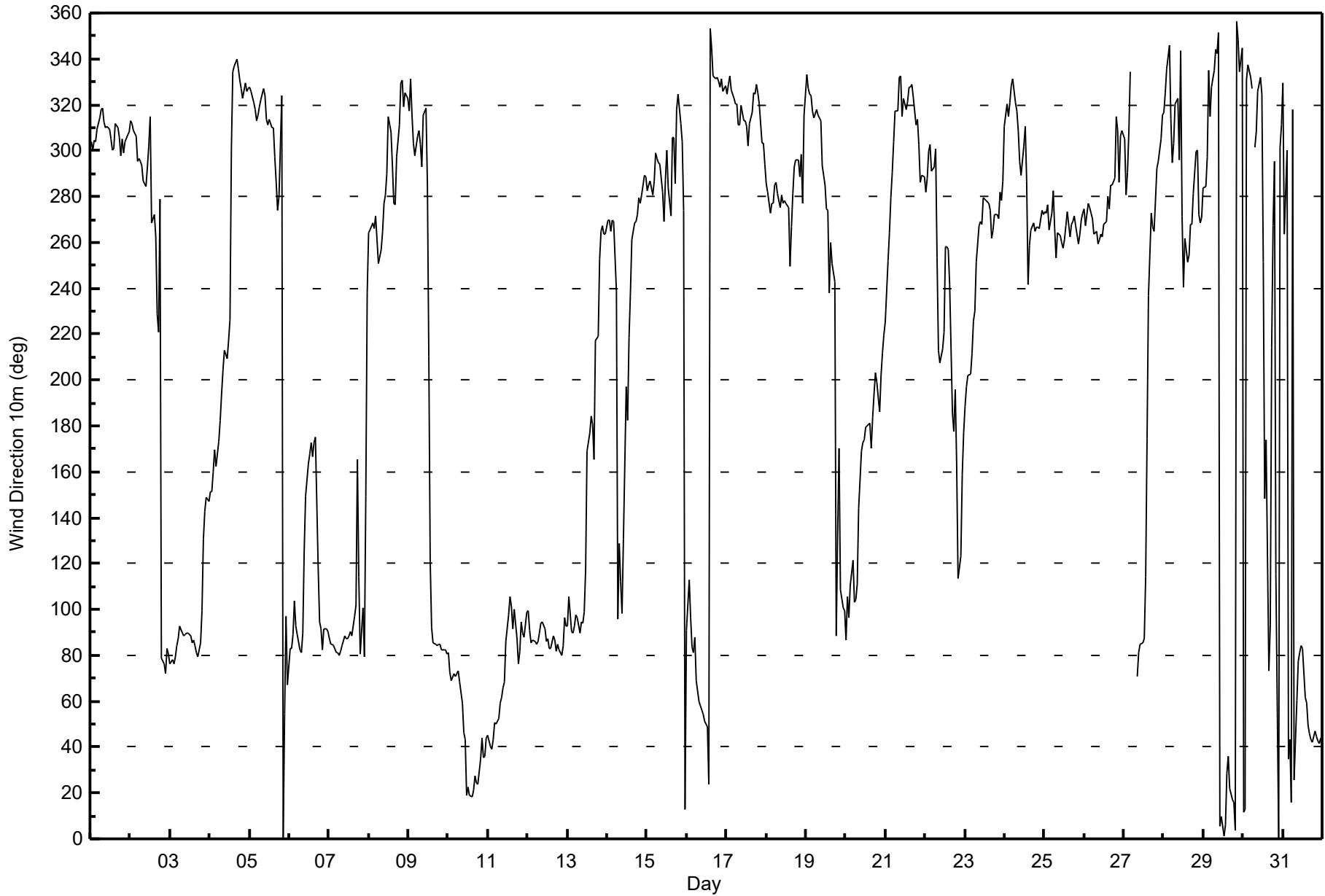
Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg
Fort Chipewyan - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 64 deg on Jan 7 23:00	Hours of Data: 222
Minimum Value: 3 deg on Jan 3 00:00	Hours of Missing Data: 522
Percentiles: P ₁ = 4 P ₁₀ = 5 Q ₁ = 6 Median = 14 Q ₃ = 18 P ₉₀ = 26 P ₉₉ = 63	Hours of Calibration: 0
	Percent Operational Time: 29.8

Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	15	15	16	15	16	18	20	19	19	17	16	18	15	17	16	19	18	15	15	13	14	15	13	13	20
2-Jan	19	16	15	15	15	13	14	11	11	10	16	12	18	44	23	16	9	8	27	42	7	8	6	3	44
3-Jan	5	4	7	5	6	5	6	5	5	5	5	5	5	5	4	4	4	5	6	8	13	9	10	10	13
4-Jan	10	10	16	11	9	10	9	10	11	10	10	14	27	63	21	20	23	29	35	60	47	33	41	26	63
5-Jan	23	26	20	22	20	21	24	25	25	25	17	18	19	14	15	15	11	14	13	34	38	45	27	17	45
6-Jan	7	6	6	5	4	6	4	6	11	14	11	10	8	9	10	8	16	16	8	7	5	4	6	6	16
7-Jan	7	5	6	6	5	5	5	6	6	4	6	5	6	6	8	9	13	22	37	17	43	14	64	26	64
8-Jan	14	15	14	14	12	16	12	15	14	13	13	19	19	18	16	15	14	17	24	23	25	25	25	24	25
9-Jan	21	25	18	20	16	18	18	15	11	36	37	63	38	15	11	5	3	4	4	4	4	5	4	5	63
10-Jan	4	5	6	5	6	6	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	6
11-Jan	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	--
12-Jan	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	--
13-Jan	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	--
14-Jan	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	--
15-Jan	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	--
16-Jan	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	--
17-Jan	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	--
18-Jan	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	--
19-Jan	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	--
20-Jan	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	--
21-Jan	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	--
22-Jan	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	--
23-Jan	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	--
24-Jan	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	--
25-Jan	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	--
26-Jan	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	--
27-Jan	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	--
28-Jan	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	--
29-Jan	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	--
30-Jan	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	--
31-Jan	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	--
	23	26	20	22	20	21	24	25	25	36	37	63	38	63	23	20	23	29	37	60	47	45	64	26	
	Diurnal Maximum																								

NF - Not Flagged





WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS09 BARGE LANDING JANUARY 2025

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

February 28, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - BARGE LANDING (AMS09)
JANUARY 2025

MONTHLY SUMMARY

Parameter	Hours of Data	Hours of Calibration	Hours without Data	Operational Time	Maximum 30-Min Value	30-Min Exceedances	Maximum 1-Hour Value	1-Hour Exceedances	Maximum 24-Hour Value	24-Hour Exceedances
SO2 (ppb) Average	709	35	35	100	-	-	8.4	0	3.5	0
TRS(ppb) Average	708	36	36	100	5.1	1	3.5	0	1.4	0
THC(ppm) Average	700	34	44	98.66	-	-	3.1	-	2.3	-
NMHC(ppm) Average	700	34	44	98.66	-	-	0.294	-	0.065	-
CH4(ppm) Average	700	34	44	98.66	-	-	3.1	-	2.3	-
NO2 (ppb) Average	708	36	36	100	-	-	51.5	0	34.2	-
NO (ppb) Average	708	36	36	100	-	-	147.7	-	58.7	-
NOX (ppb) Average	708	36	36	100	-	-	191.1	-	86.6	-
PM2.5(ug/m3) Average	743	1	1	100	-	-	57.6	0	15.4	0
Temperature (C) Average	727	0	17	97.72	-	-	7.7	-	2.6	-
Relative Humidity (%) Average	727	0	17	97.72	-	-	95.7	-	89.1	-
Barometric Pressure (inHg) Average	744	0	0	100	-	-	29.9	-	29.8	-
Wind Speed 10 m (km/h) Average	729	0	15	97.98	-	-	20	-	11	-
Wind Direction 10 m (deg) Average	729	0	15	97.98	-	-	-	-	-	-
Wind Speed 20 m (km/h) Average	743	0	1	99.87	-	-	36	-	21	-
Wind Direction 20 m (deg) Average	743	0	1	99.87	-	-	-	-	-	-

Note : Operational time includes periods of data collection and instrument calibration

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - BARGE LANDING (AMS09)
 JANUARY 2025

MONTHLY SUMMARY FOR AIR QUALITY/ METEOROLOGICAL MONITORING MEASUREMENTS

Parameter	Number	Mean	StnDev	Total	Min	P10	Percentile				
							Q1	Median	Q3	P90	Max
SO2 (ppb) Average	709	0.6	1.2	-	0	0	0	0.2	0.5	1.9	8.4
TRS(ppb) Average	708	0.6	0.4	-	0.2	0.3	0.3	0.4	0.7	1.2	3.5
THC(ppm) Average	700	2.04	0.2	-	1.8	1.9	1.9	2	2.1	2.2	3.1
NMHC(ppm) Average	700	0.01	0.033	-	0	0	0	0	0	0	0.294
CH4(ppm) Average	700	2.03	0.2	-	1.8	1.9	1.9	2	2.1	2.2	3.1
NO2 (ppb) Average	708	14.49	10.9	-	0.1	0.9	5.3	12.8	22.6	29.4	51.5
NO (ppb) Average	708	8.59	18.9	-	0	0	0.1	1	6	27.5	147.7
NOX (ppb) Average	708	23.07	27.5	-	0.1	0.9	5.9	14	29.4	55.7	191.1
PM2.5(ug/m3) Average	743	5.39	4.7	-	0.2	0.8	2.6	4.4	7.2	10.3	57.6
Temperature (C) Average	727	-12.61	11.3	-	-37.2	-29.3	-21.5	-11.5	-3.1	1.4	7.7
Relative Humidity (%) Average	727	76.04	10	-	40.2	64.5	71.6	76.2	82.2	88.6	95.7
Barometric Pressure (inHg) Average	744	29.1	0.4	-	28.4	28.6	28.8	29.1	29.4	29.6	29.9
Wind Speed 10 m (km/h) Average	729	5.8	3	-	0	2	3	5	8	10	20
Wind Direction 10 m (deg) Average	729	256.7	-	-	-	-	-	-	-	-	-
Wind Speed 20 m (km/h) Average	743	10.8	6	-	0	4	6	10	14	19	36
Wind Direction 20 m (deg) Average	743	259.3	-	-	-	-	-	-	-	-	-

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - BARGE LANDING (AMS09)
JANUARY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
THC/ NMHC/ CH4	07 Jan 2025 02:00	07 Jan 2025 11:00	10	Unstable Operation - AMD noncompliance
Relative Humidity, Temperature 2 m	04 Jan 2025 14:00	04 Jan 2025 19:00	6	Flat line in sensor output signal
Relative Humidity, Temperature 2 m	04 Jan 2025 23:00	05 Jan 2025 01:00	3	Flat line in sensor output signal
Relative Humidity, Temperature 2 m	06 Jan 2025 08:00	06 Jan 2025 13:00	6	Flat line in sensor output signal
Relative Humidity, Temperature 2 m	07 Jan 2025 11:00	07 Jan 2025 12:00	2	Maintenance - station operator activities
Wind Speed, Wind Direction 10m	01 Jan 2025 03:00	01 Jan 2025 03:00	1	Flat line in sensor output signal - Sensor frozen
Wind Speed, Wind Direction 10m	01 Jan 2025 19:00	01 Jan 2025 19:00	1	Flat line in sensor output signal - Sensor frozen
Wind Speed, Wind Direction 10m	02 Jan 2025 00:00	02 Jan 2025 00:00	1	Flat line in sensor output signal - Sensor frozen
Wind Speed, Wind Direction 10m	02 Jan 2025 02:00	02 Jan 2025 03:00	2	Flat line in sensor output signal - Sensor frozen
Wind Speed, Wind Direction 10m	02 Jan 2025 06:00	02 Jan 2025 06:00	1	Flat line in sensor output signal - Sensor frozen
Wind Speed, Wind Direction 10m	02 Jan 2025 08:00	02 Jan 2025 08:00	1	Flat line in sensor output signal - Sensor frozen
Wind Speed, Wind Direction 10m	02 Jan 2025 20:00	02 Jan 2025 20:00	1	Flat line in sensor output signal - Sensor frozen
Wind Speed, Wind Direction 10m	03 Jan 2025 01:00	03 Jan 2025 02:00	2	Flat line in sensor output signal - Sensor frozen
Wind Speed, Wind Direction 10m	19 Jan 2025 02:00	19 Jan 2025 02:00	1	Flat line in sensor output signal - Sensor frozen
Wind Speed, Wind Direction 10m	19 Jan 2025 04:00	19 Jan 2025 04:00	1	Flat line in sensor output signal - Sensor frozen
Wind Speed, Wind Direction 10m	19 Jan 2025 08:00	19 Jan 2025 09:00	2	Flat line in sensor output signal - Sensor frozen
Wind Speed, Wind Direction 10m	29 Jan 2025 08:00	29 Jan 2025 08:00	1	Flat line in sensor output signal - Sensor frozen
Wind Speed, Wind Direction 20m	01 Jan 2025 23:00	01 Jan 2025 23:00	1	Flat line in sensor output signal - Sensor frozen



Wood Buffalo Environmental Association

Summary of Hour Averages

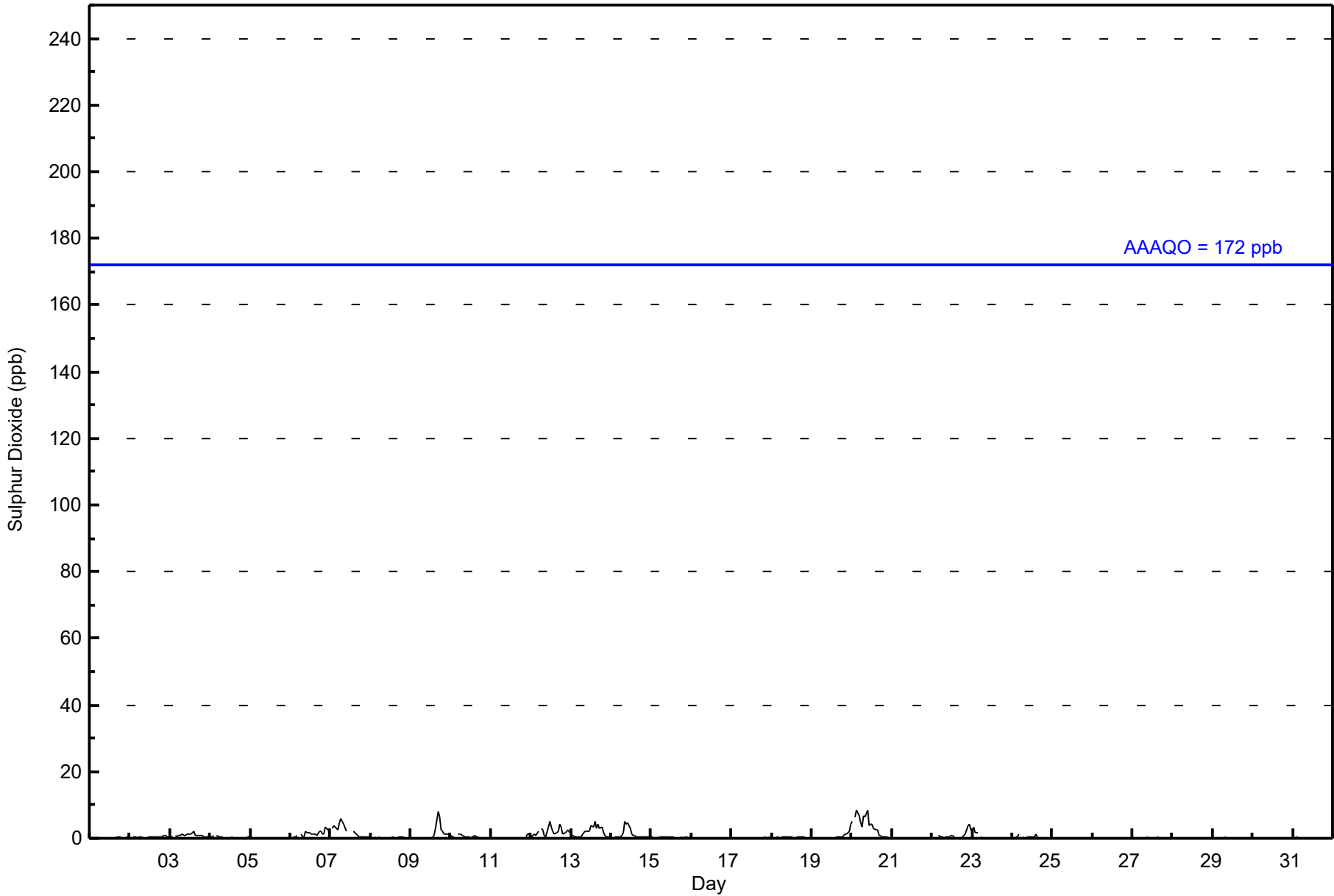
Sulphur Dioxide (SO₂) - ppb Barge Landing - January 2025

Number of Exceedences (AAAQO):		1-hr: 0	24-hr: 0	Hours in Service: 744																	Daily Average		Daily Maximum																										
Maximum Value: 8.4 ppb on Jan 20 04:00		Maximum Daily Average: 3.5 ppb on Jan 20		Hours of Data: 709																	0.1		0.3																										
Minimum Value: 0.0 ppb on Jan 1 03:00		Minimum Daily Average: 0.0 ppb on Jan 25		Hours of Missing Data: 35																	0.4		0.8																										
Maximum Diurnal Average: 0.8 ppb at hour 10		Minimum Diurnal Average: 0.4 ppb at hour 21		Hours of Calibration: 35																	0.8		0.8																										
Monthly Average: 0.60 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.2 Q ₃ = 0.5 P ₉₀ = 1.9 P ₉₉ = 6.2		Percent Operational Time: 100.0																	0.1		0.2																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.2	0.3	0.3	0.1	0.1	0.1	0.2	0.2	0.1	0.3																							
2-Jan	0.2	Z	0.3	0.3	0.2	0.3	0.3	0.3	0.2	0.2	0.1	0.3	0.3	0.4	0.5	0.4	0.6	0.5	0.6	0.6	0.8	0.7	0.6	0.6	0.4	0.8																							
3-Jan	0.6	0.5	Z	0.6	0.5	0.8	0.9	1.1	0.7	0.7	1.3	1.2	1.2	1.5	2.2	1.0	0.7	0.8	0.7	0.8	0.5	0.4	0.3	0.3	0.8	2.2																							
4-Jan	0.2	0.3	0.7	Z	0.8	0.3	0.6	0.2	0.1	0.0	0.1	0.1	0.1	0.3	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.2	0.3	0.2	0.8	0.8																							
5-Jan	0.2	0.0	0.1	0.2	Z	0.2	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2																							
6-Jan	0.0	0.1	0.5	0.5	0.8	Z	1.2	0.5	0.5	2.1	1.9	1.7	1.1	1.3	1.2	1.2	1.0	2.1	2.0	1.4	1.2	3.3	2.7	1.8	1.3	3.3																							
7-Jan	Z	3.1	3.9	3.4	2.6	4.7	6.0	5.0	4.1	2.2	C	C	C	C	2.1	1.1	0.8	0.6	0.5	0.6	0.3	0.3	0.2	0.2	2.2	6.0																							
8-Jan	0.2	Z	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.3	0.3	0.3	0.1	0.0	0.1	0.1	0.2	0.3																							
9-Jan	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.3	1.0	3.1	7.9	6.3	2.7	2.1	1.4	1.2	1.1	1.1	1.3	7.9																							
10-Jan	0.8	0.6	0.6	Z	1.2	1.4	1.3	0.7	0.5	0.4	0.4	0.4	0.2	0.5	0.6	0.5	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.5	1.4																							
11-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	1.2	1.1	0.1	1.2																							
12-Jan	0.5	0.9	1.4	0.8	2.2	Z	3.0	2.3	0.9	0.5	3.4	4.9	3.5	2.1	1.2	1.7	2.0	4.2	3.5	1.1	1.6	2.1	2.3	1.6	2.1	4.9																							
13-Jan	Z	0.7	0.6	0.6	0.5	0.5	0.4	1.6	2.0	2.1	2.3	2.0	3.6	3.6	4.9	2.9	4.2	3.0	3.4	1.9	0.8	0.6	0.5	0.4	1.9	4.9																							
14-Jan	0.4	Z	0.3	0.3	0.3	0.5	0.8	1.9	5.1	4.4	4.5	2.8	1.4	0.9	0.8	0.5	0.5	0.3	0.4	0.3	0.3	0.3	0.3	0.3	1.2	5.1																							
15-Jan	0.4	0.4	Z	0.3	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.1	0.2	0.3	0.4																							
16-Jan	0.0	0.1	0.1	Z	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1																							
17-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.2	0.2	0.1	0.0	0.3																							
18-Jan	0.2	0.1	0.2	0.3	0.2	Z	0.4	0.4	0.5	0.6	0.4	0.3	0.2	0.2	0.2	0.4	0.4	0.3	0.3	0.4	0.2	0.2	0.0	0.2	0.3	0.6																							
19-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.2	0.6	0.6	0.3	0.5	0.7	1.2	1.4	2.0	4.2	0.5	4.2																							
20-Jan	4.9	Z	6.2	8.4	6.7	4.7	3.6	6.8	6.3	8.3	3.8	4.2	4.4	3.1	2.8	2.5	0.7	0.8	0.6	0.4	0.4	0.3	0.1	0.0	3.5	8.4																							
21-Jan	0.1	0.1	Z	0.2	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.2																							
22-Jan	0.0	0.1	0.2	Z	0.8	0.5	0.2	0.2	0.4	0.4	0.4	0.7	0.6	0.3	0.2	0.0	0.0	0.0	0.4	0.7	1.4	3.8	4.4	2.5	0.8	4.4																							
23-Jan	2.2	3.3	1.8	1.8	Z	0.4	0.2	0.1	0.1	0.0	0.0	0.1	0.2	0.2	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	3.3																							
24-Jan	0.1	0.2	0.2	0.6	1.2	Z	0.3	0.2	0.2	0.3	0.5	0.4	0.3	0.4	1.2	0.3	0.2	0.2	0.1	0.0	0.0	0.1	0.0	0.0	0.3	1.2																							
25-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																							
26-Jan	0.1	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1																							
27-Jan	0.0	0.0	Z	0.1	0.1	0.2	0.1	0.2	0.2	0.3	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3																						
28-Jan	0.2	0.1	0.2	Z	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.2	0.1	0.0	0.1	0.1	0.2	0.1	0.1	0.2																							
29-Jan	0.2	0.1	0.1	0.1	Z	0.1	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2																							
30-Jan	0.0	0.1	0.0	0.0	0.0	Z	0.1	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.0	0.0	0.0	0.1	0.2																							
31-Jan	Z	0.2	0.3	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3																							
																								0.5	0.4	0.7	0.7	0.7	0.6	0.7	0.7	0.8	0.8	0.7	0.7	0.6	0.5	0.6	0.6	0.7	0.7	0.6	0.4	0.4	0.5	0.6	0.5	Diurnal Average	
																								4.9	3.3	6.2	8.4	6.7	4.7	6.0	6.8	6.3	8.3	4.5	4.9	4.4	3.6	4.9	3.1	7.9	6.3	3.5	2.1	1.6	3.8	4.4	4.2	Diurnal Maximum	
Z - zerospan C - Calibration																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb																																																	



Wood Buffalo Environmental Association
Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Barge Landing - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Barge Landing - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	709	100.00	100.00
11 - 20	0	0.00	100.00
21 - 60	0	0.00	100.00
61 - 110	0	0.00	100.00
111 - 172	0	0.00	100.00
> 172	0	0.00	100.00

Total Number of Valid Hours: 709

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Sulphur Dioxide (SO₂) - ppb
Barge Landing - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 10	82	79	23	10	9	8	16	131	80	51	37	35	45	40	23	39	708
11 - 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 - 60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61 - 110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111 - 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	82	79	23	10	9	8	16	131	80	51	37	35	45	40	23	39	708

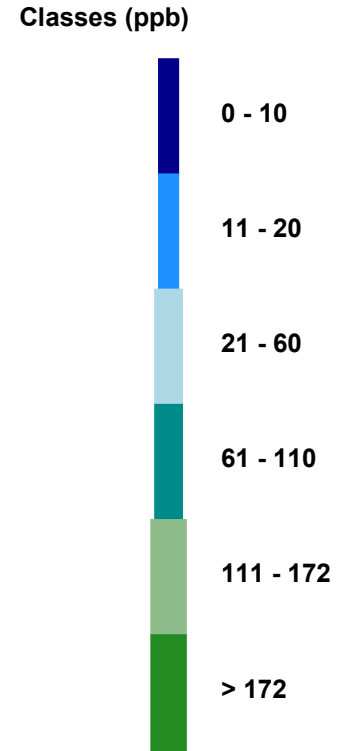
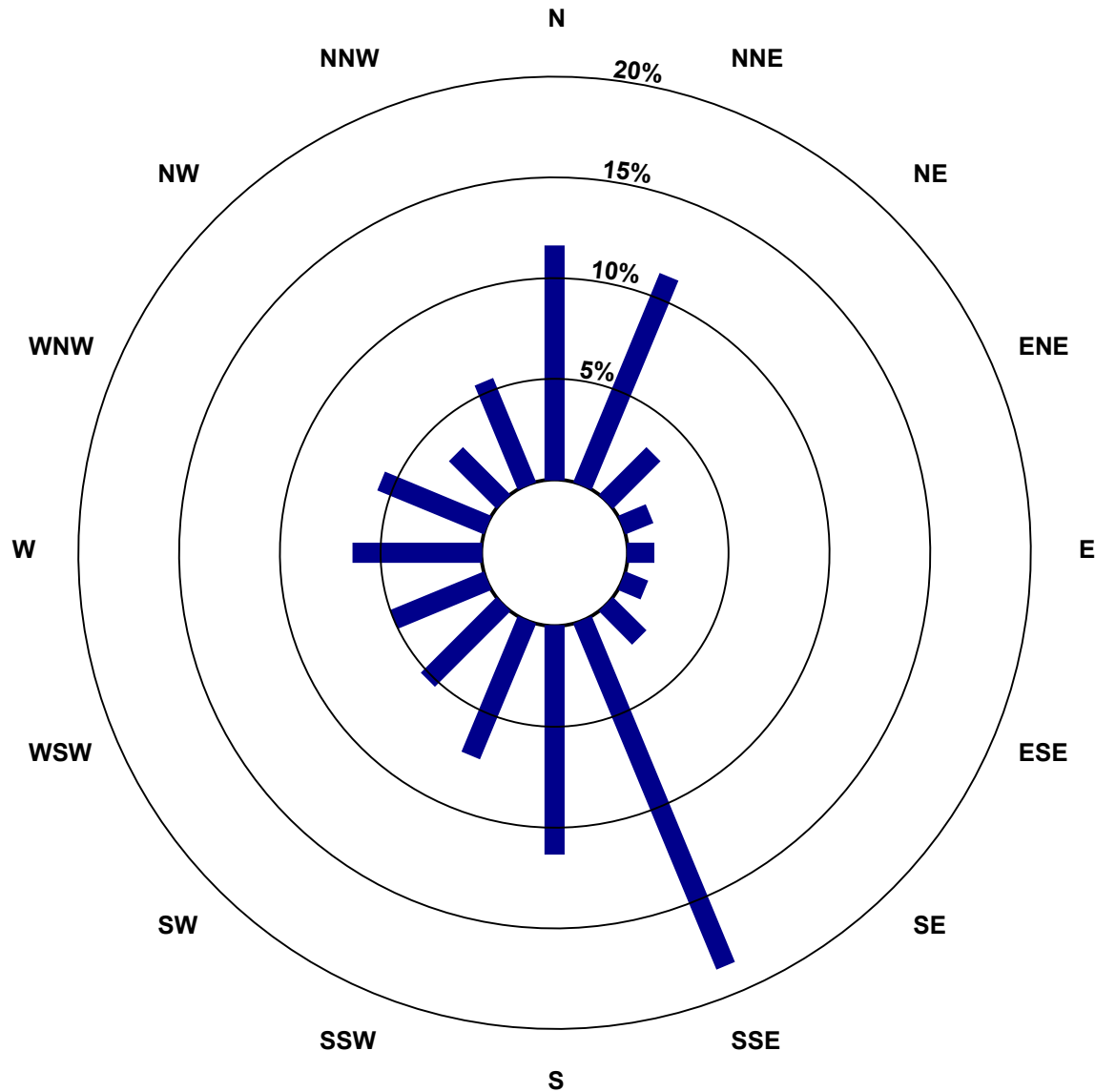
Total Number of Valid Hours: 708

Total Number of Hours: 744

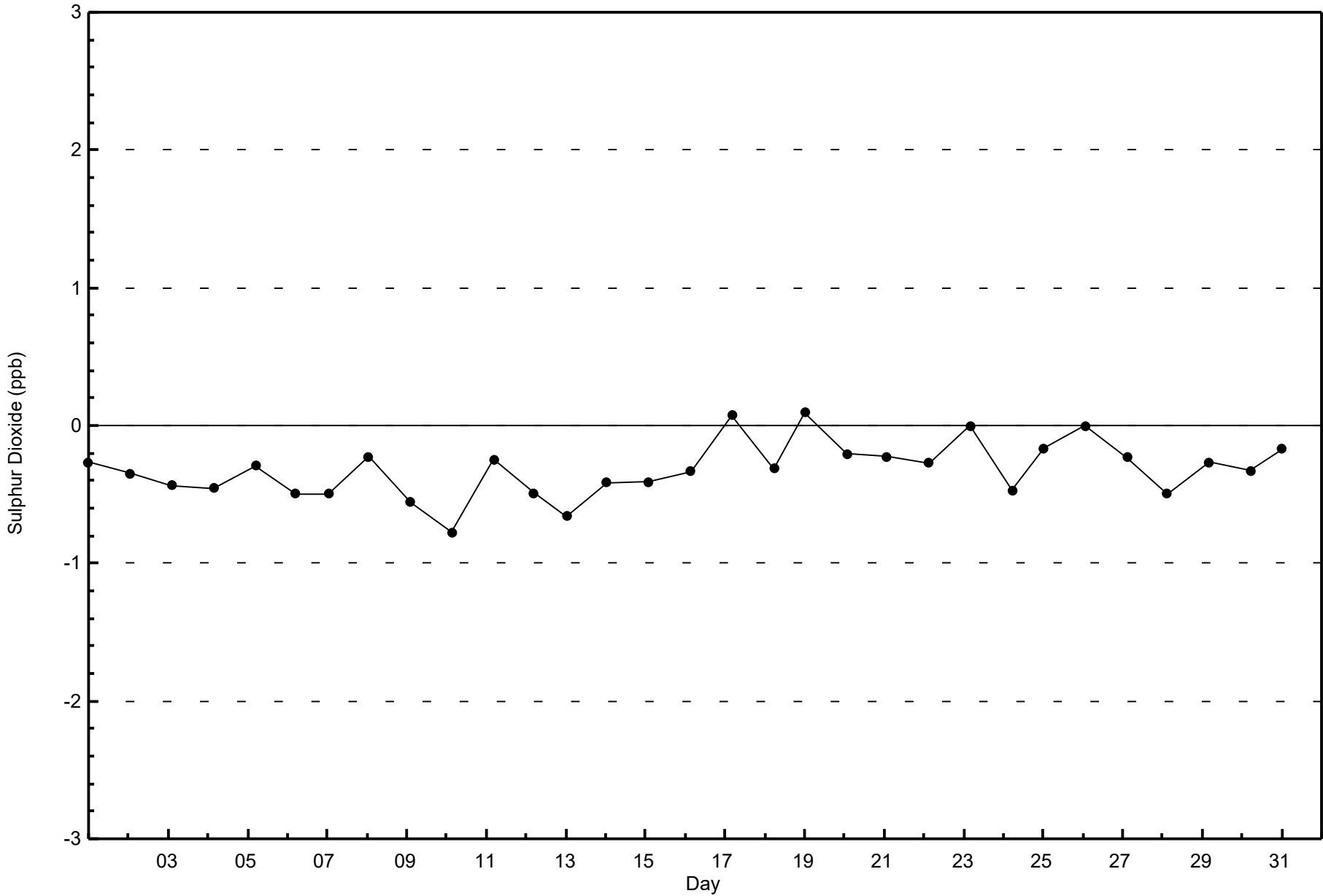


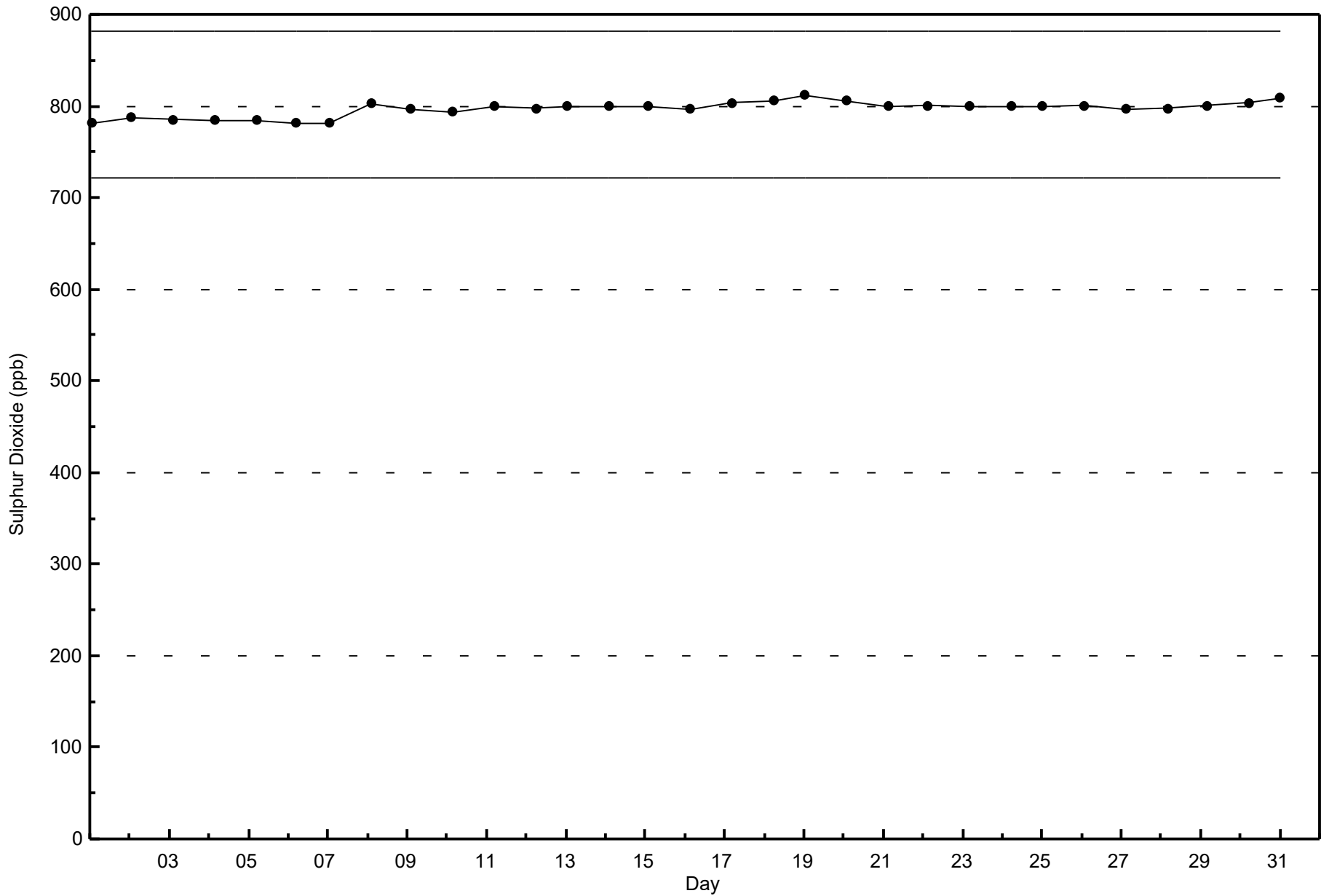
Wood Buffalo Environmental Association
Wind Rose Jan 2025

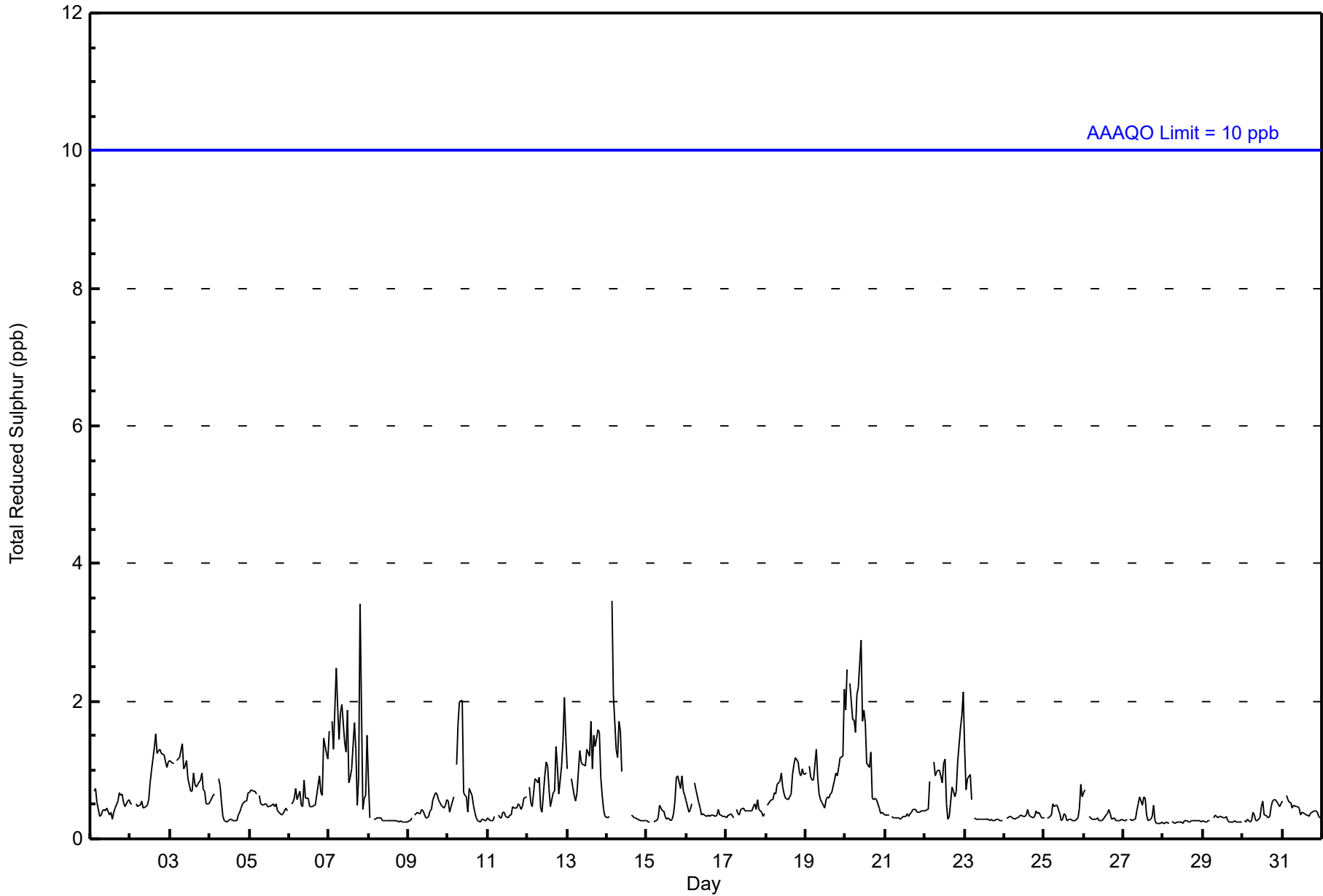
Sulphur Dioxide (SO₂) - ppb
Barge Landing



Total Number of Valid Hours: 708









**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Total Reduced Sulphur (TRS) - ppb
Barge Landing - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	705	99.58	99.58
3 - 4	3	0.42	100.00
5 - 7	0	0.00	100.00
8 - 11	0	0.00	100.00
> 11	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Total Reduced Sulphur (TRS) - ppb
Barge Landing - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2	85	76	22	10	9	6	15	131	83	50	36	36	43	40	23	39	704
3 - 4	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	3
5 - 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 - 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	85	76	22	10	9	6	15	132	84	51	36	36	43	40	23	39	707

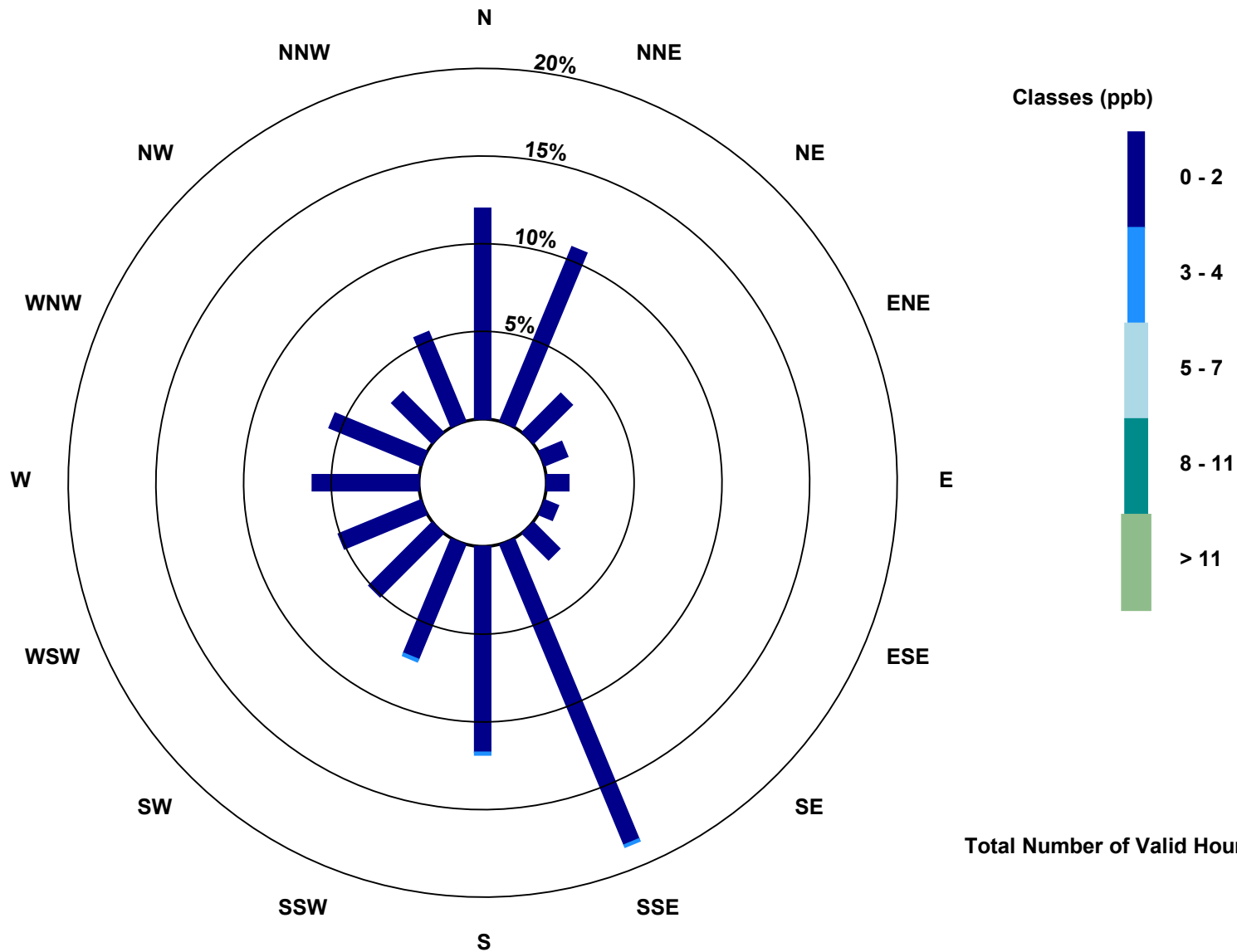
Total Number of Valid Hours: 707

Total Number of Hours: 744

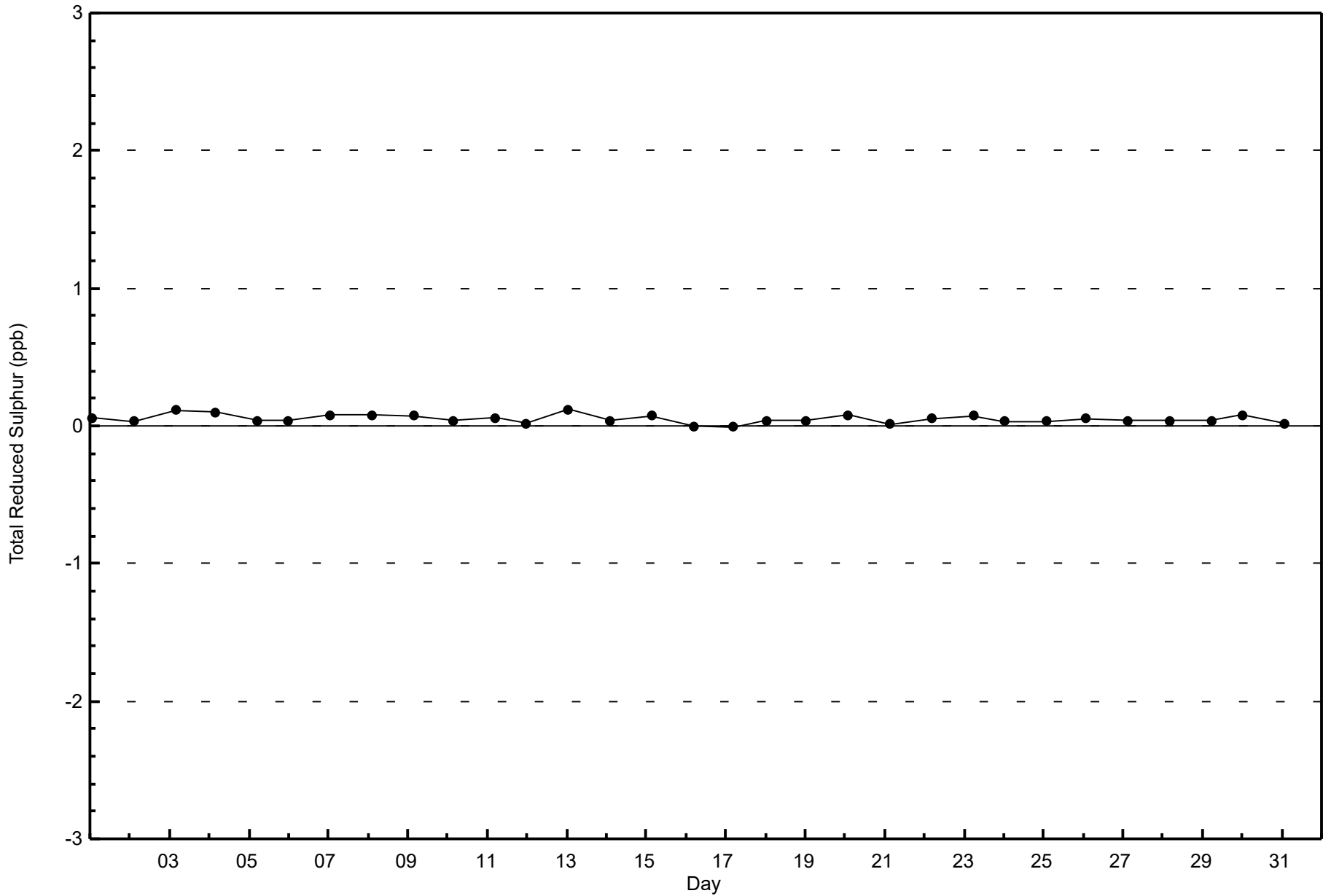


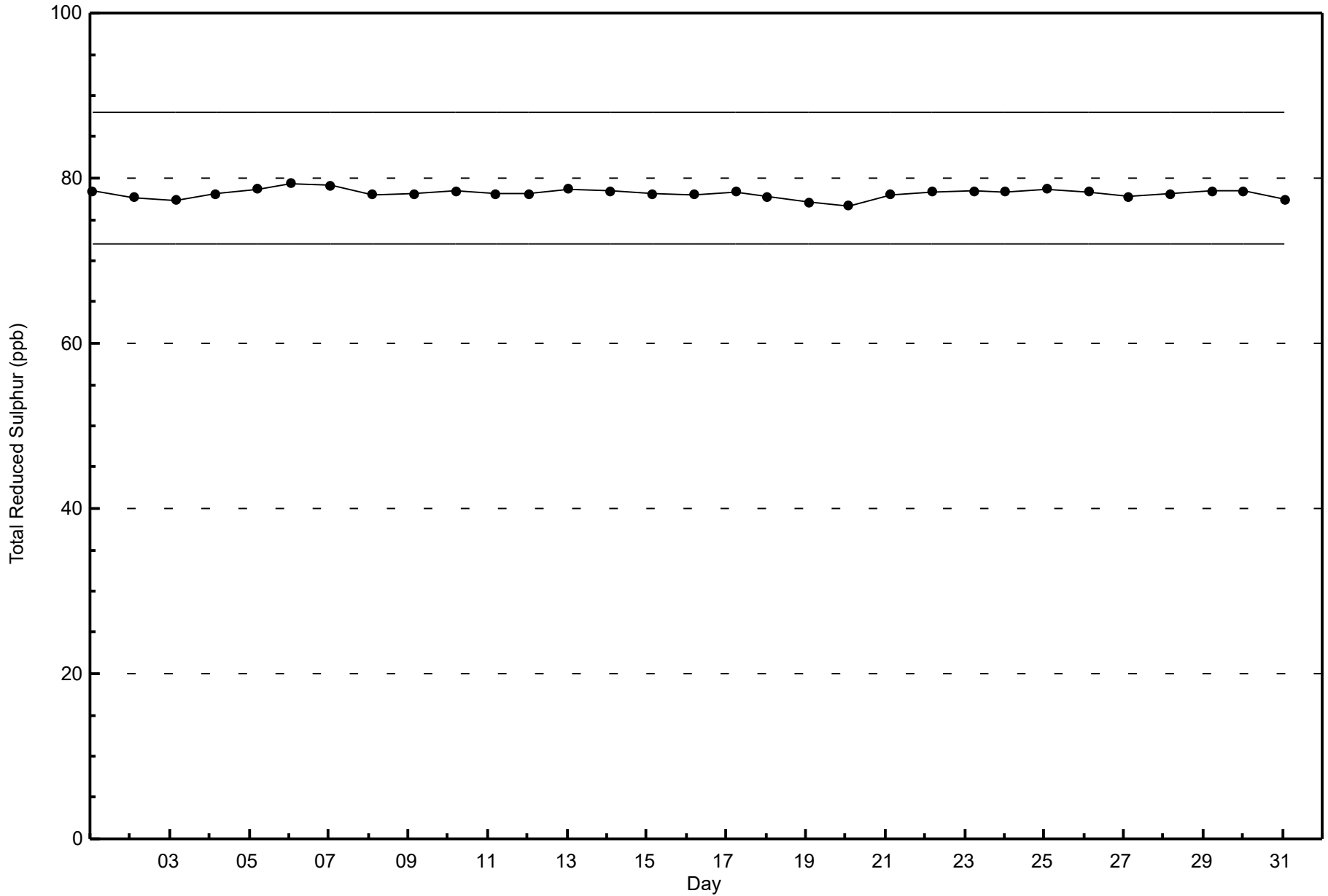
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Total Reduced Sulphur (TRS) - ppb
Barge Landing



Total Number of Valid Hours: 707







Wood Buffalo Environmental Association
Summary of Hour Averages

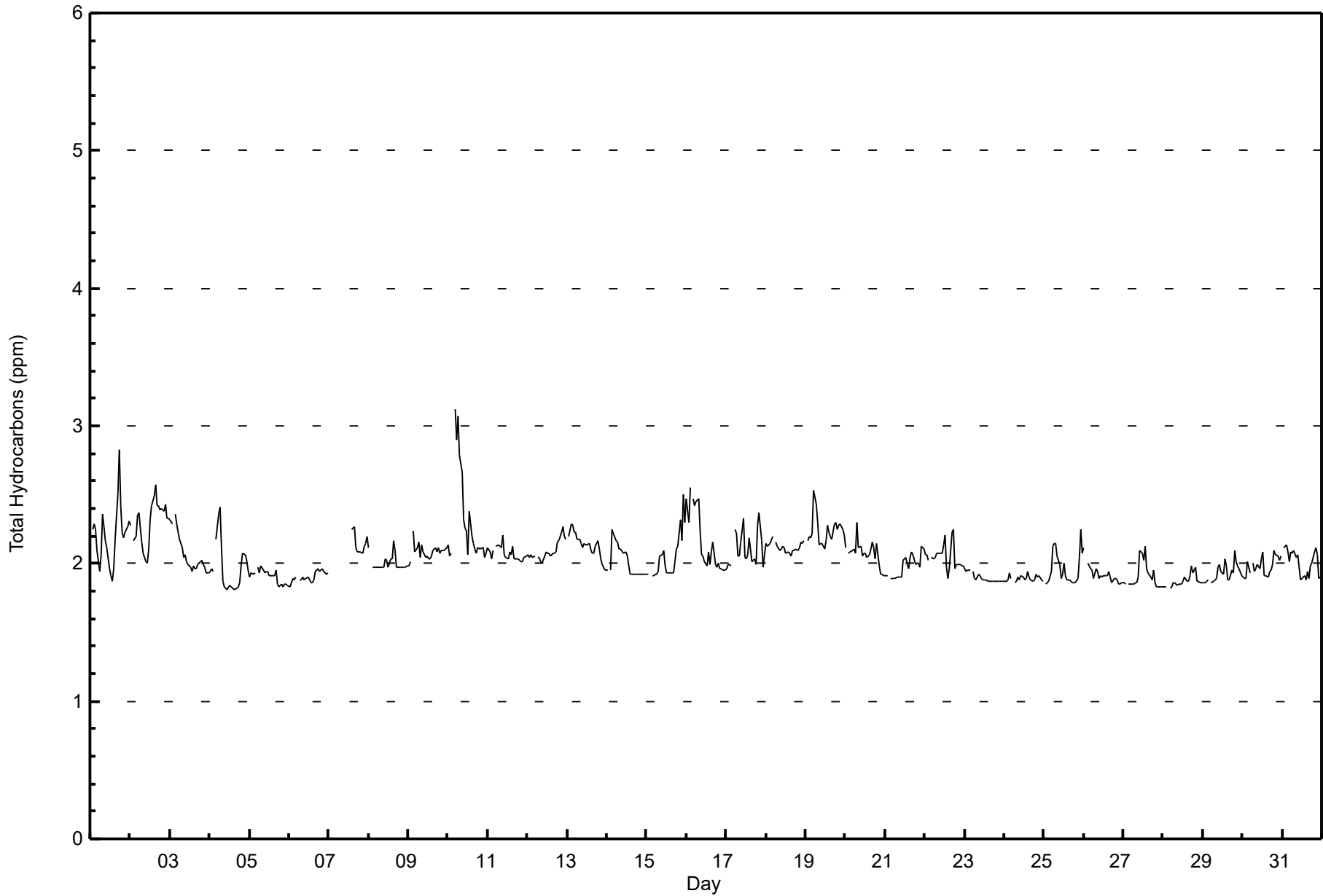
Total Hydrocarbons (THC) - ppm
Barge Landing - January 2025

Maximum Value: 3.1 ppm on Jan 10 05:00		Maximum Daily Average: 2.3 ppm on Jan 10		Hours in Service: 744																																														
Minimum Value: 1.8 ppm on Jan 4 16:00		Minimum Daily Average: 1.9 ppm on Jan 28		Hours of Data: 700																																														
Maximum Diurnal Average: 2.1 ppm at hour 6		Minimum Diurnal Average: 2.0 ppm at hour 13		Hours of Missing Data: 44																																														
Monthly Average: 2.04 ppm		Percentiles: P ₁ = 1.8 P ₁₀ = 1.9 Q ₁ = 1.9 Median = 2.0 Q ₃ = 2.1 P ₉₀ = 2.2 P ₉₉ = 2.6		Hours of Calibration: 34																																														
				Percent Operational Time: 98.7																																														
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																										
1-Jan	Z	2.3	2.3	2.2	2.1	1.9	2.1	2.4	2.3	2.2	2.1	2.0	1.9	1.9	2.0	2.2	2.5	2.8	2.4	2.2	2.2	2.2	2.3	2.3	2.2	2.8																								
2-Jan	2.3	Z	2.2	2.2	2.3	2.4	2.3	2.2	2.1	2.0	2.0	2.1	2.3	2.4	2.5	2.6	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.3	2.6																								
3-Jan	2.3	2.3	Z	2.4	2.3	2.2	2.2	2.1	2.0	2.1	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	2.1	2.4																								
4-Jan	1.9	2.0	1.9	Z	2.2	2.4	2.4	2.1	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	2.0	2.1	2.1	2.0	2.0	2.0	2.4																								
5-Jan	1.9	1.9	1.9	1.9	Z	2.0	1.9	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.9	2.0																								
6-Jan	1.8	1.9	1.9	1.9	1.9	Z	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	2.0	2.0	1.9	1.9	1.9	1.9	2.0																								
7-Jan	Z	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	C	C	C	2.2	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	--	2.3																								
8-Jan	2.1	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2																								
9-Jan	2.0	2.0	Z	2.2	2.1	2.1	2.2	2.0	2.1	2.1	2.0	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2																								
10-Jan	2.1	2.1	2.1	Z	3.1	2.9	3.1	2.8	2.7	2.3	2.3	2.2	2.1	2.4	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.3	3.1																								
11-Jan	2.1	2.1	2.0	2.1	Z	2.1	2.1	2.1	2.1	2.2	2.1	2.0	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.2																								
12-Jan	2.1	2.0	2.1	2.0	2.1	Z	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.3	2.2	2.2	2.1	2.3																								
13-Jan	Z	2.2	2.3	2.3	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.0	2.0	2.0	2.0	2.1	2.3																								
14-Jan	1.9	Z	2.0	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.2																								
15-Jan	1.9	1.9	Z	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.1	2.1	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.1	2.3	2.2	2.5	2.3	2.5																								
16-Jan	2.5	2.3	2.6	Z	2.5	2.4	2.5	2.5	2.2	2.1	2.1	2.0	2.0	2.1	2.0	2.1	2.2	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.2	2.6																								
17-Jan	2.0	2.0	2.0	2.0	Z	2.2	2.2	2.1	2.1	2.2	2.3	2.0	2.0	2.1	2.2	2.0	2.0	2.0	2.0	2.3	2.4	2.2	2.0	2.1	2.1	2.4																								
18-Jan	2.1	2.1	2.2	2.2	2.2	Z	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.2	2.1	2.2																								
19-Jan	Z	2.2	2.2	2.2	2.2	2.5	2.4	2.3	2.1	2.1	2.1	2.1	2.2	2.3	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.5																								
20-Jan	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.3	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.2	2.1	2.0	2.1	2.0	1.9	1.9	1.9	2.1	2.3																								
21-Jan	1.9	1.9	Z	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.1																								
22-Jan	2.1	2.1	2.0	Z	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.2	2.0	1.9	2.0	2.2	2.3	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.3																								
23-Jan	2.0	1.9	1.9	2.0	Z	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0																								
24-Jan	1.9	1.9	1.9	1.9	1.9	Z	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9																								
25-Jan	Z	1.9	1.9	1.9	1.9	2.1	2.1	2.1	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.3	2.1	2.0	2.3																								
26-Jan	2.1	Z	2.0	2.0	2.0	2.0	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.9	1.9	1.9	2.1																								
27-Jan	1.9	1.9	Z	1.8	1.9	1.8	1.8	1.9	1.9	1.9	2.1	2.1	2.0	2.1	2.0	1.9	1.9	1.9	2.0	1.9	1.8	1.8	1.8	1.8	1.9	2.1																								
28-Jan	1.8	1.8	1.8	Z	1.8	1.8	1.9	1.9	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	2.0	1.9	1.9	1.9	1.9	1.9	2.0																								
29-Jan	1.9	1.9	1.9	1.9	Z	1.9	1.9	1.9	1.9	2.0	2.0	1.9	1.9	2.0	2.0	1.9	1.9	2.0	1.9	2.1	2.0	2.0	2.0	1.9	1.9	2.1																								
30-Jan	1.9	1.9	1.9	2.0	1.9	Z	2.0	1.9	2.0	2.0	2.0	2.0	2.1	1.9	1.9	1.9	1.9	2.0	2.0	2.1	2.1	2.1	2.0	2.1	2.0	2.1																								
31-Jan	Z	2.1	2.1	2.1	2.0	2.1	2.1	2.1	2.0	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.1	2.1	2.1	1.9	1.9	2.0	2.1																								
																								2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	Diurnal Average	
																								2.5	2.3	2.6	2.4	3.1	2.9	3.1	2.8	2.7	2.3	2.3	2.2	2.3	2.4	2.5	2.6	2.5	2.8	2.4	2.4	2.4	2.4	2.5	2.3	2.0	2.1	Diurnal Maximum
Z - zerospan																								C - Calibration				UO - Unstable Operation																						



Wood Buffalo Environmental Association
Hourly Averages

Total Hydrocarbons (THC) - ppm
Barge Landing - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Total Hydrocarbons (THC) - ppm
Barge Landing - January 2025**

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	400	57.14	57.14
2.1 - 3.0	298	42.57	99.71
3.1 - 10.0	2	0.29	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 700

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Total Hydrocarbons (THC) - ppm
Barge Landing - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2.0	41	43	14	8	4	6	4	49	30	33	33	30	36	33	17	19	400
2.1 - 3.0	41	36	9	2	5	2	12	73	50	18	4	5	9	7	6	18	297
3.1 - 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	82	79	23	10	9	8	16	122	80	51	37	35	45	40	23	39	699

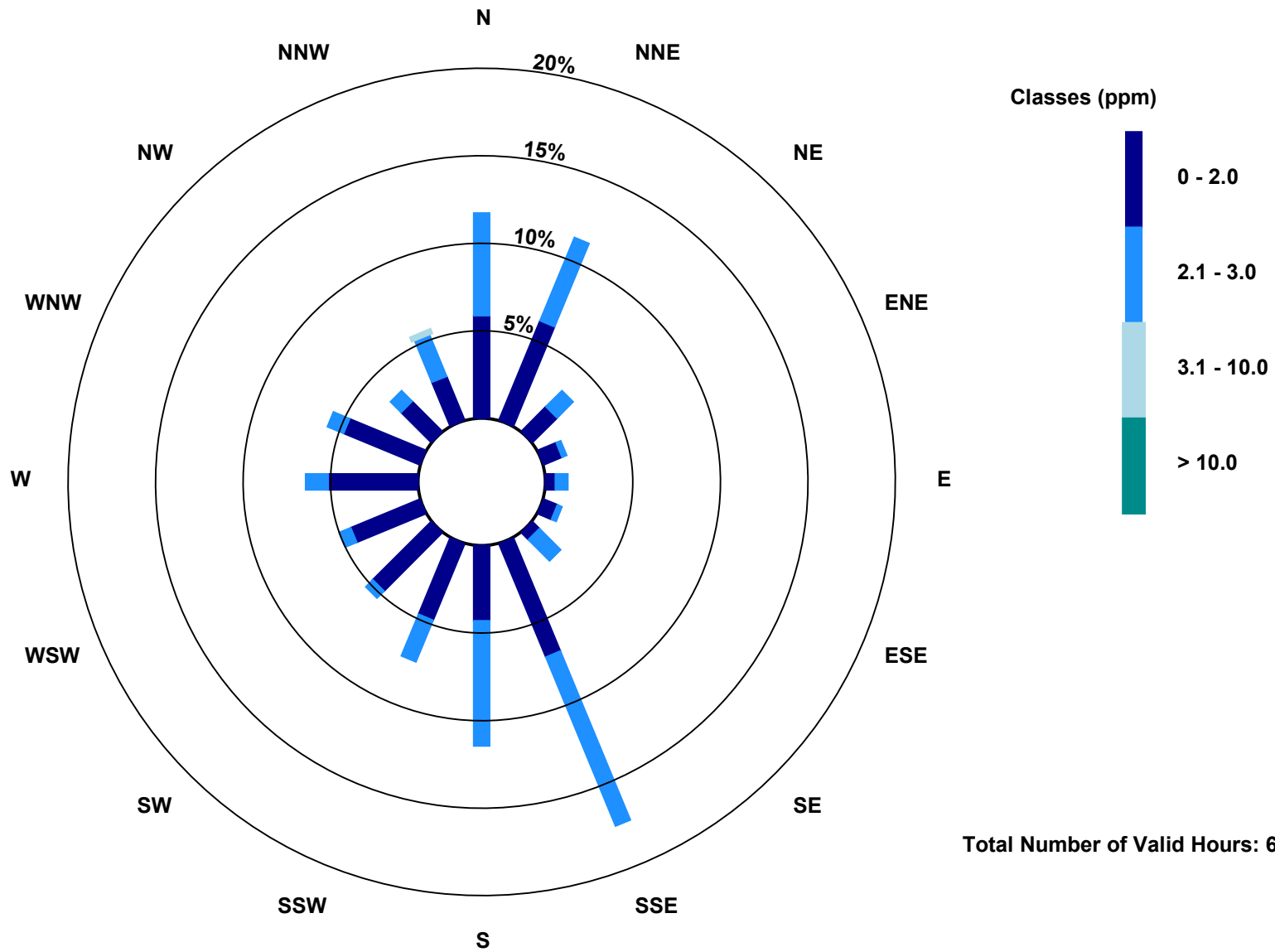
Total Number of Valid Hours: 699

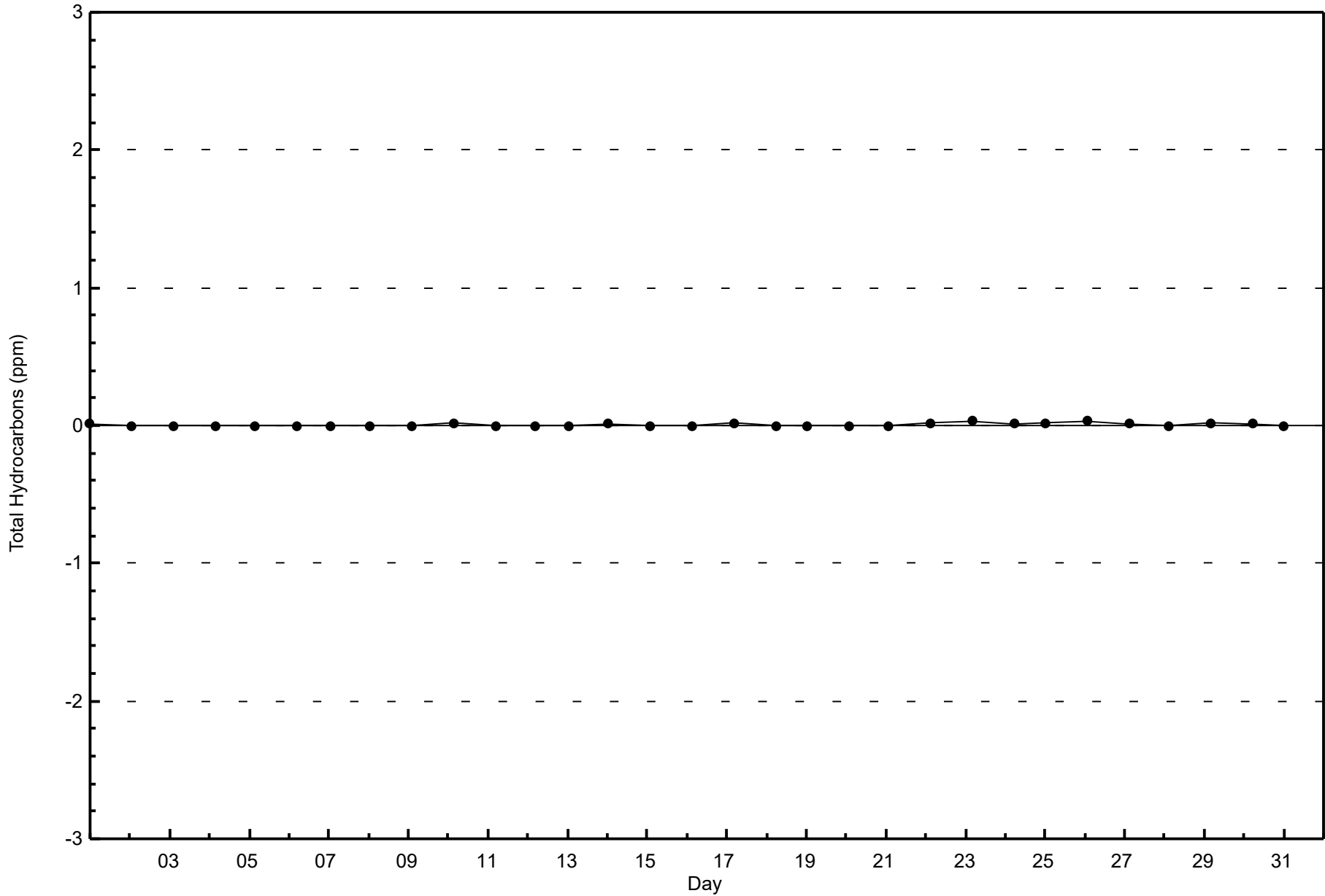
Total Number of Hours: 744

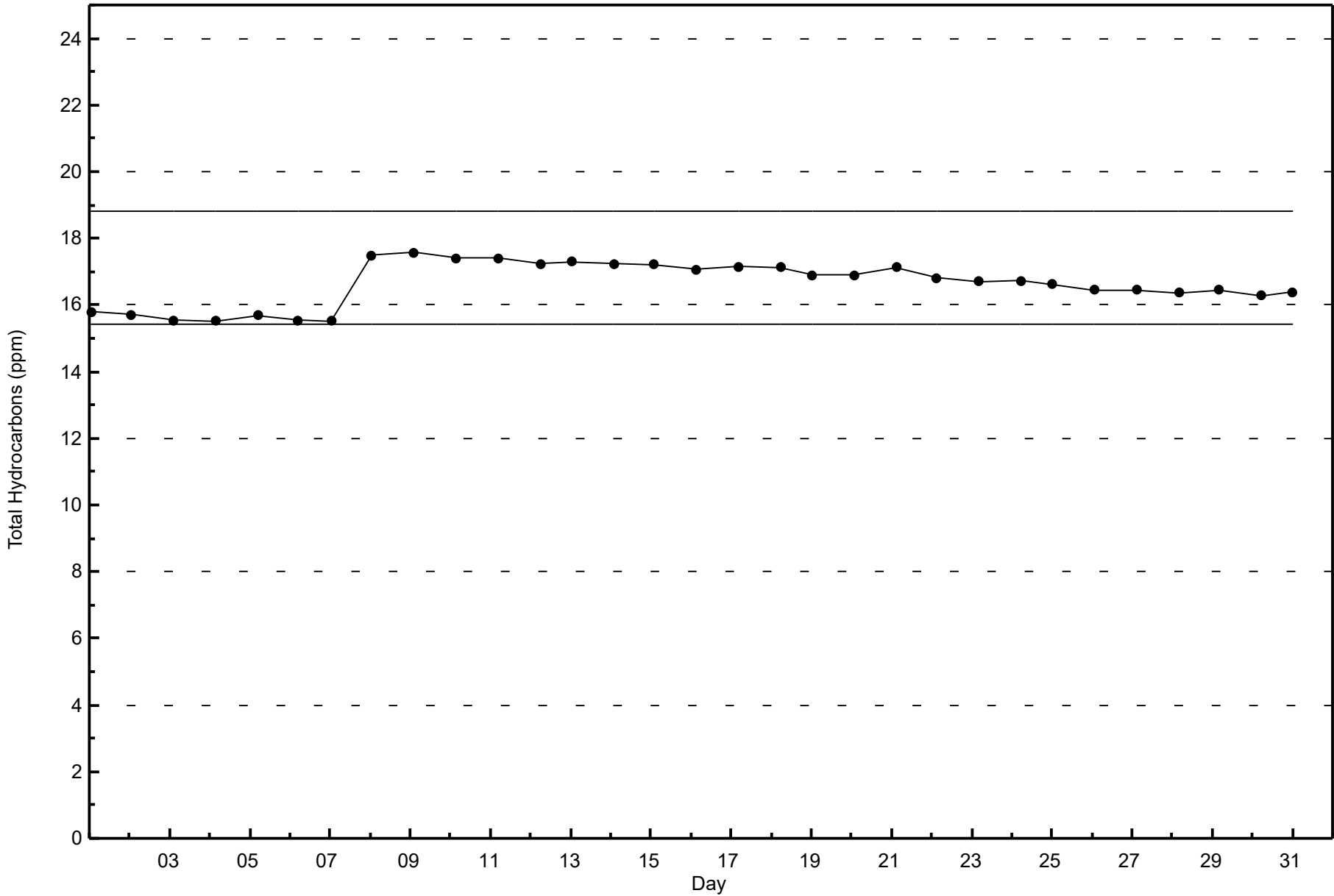


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Total Hydrocarbons (THC) - ppm
Barge Landing





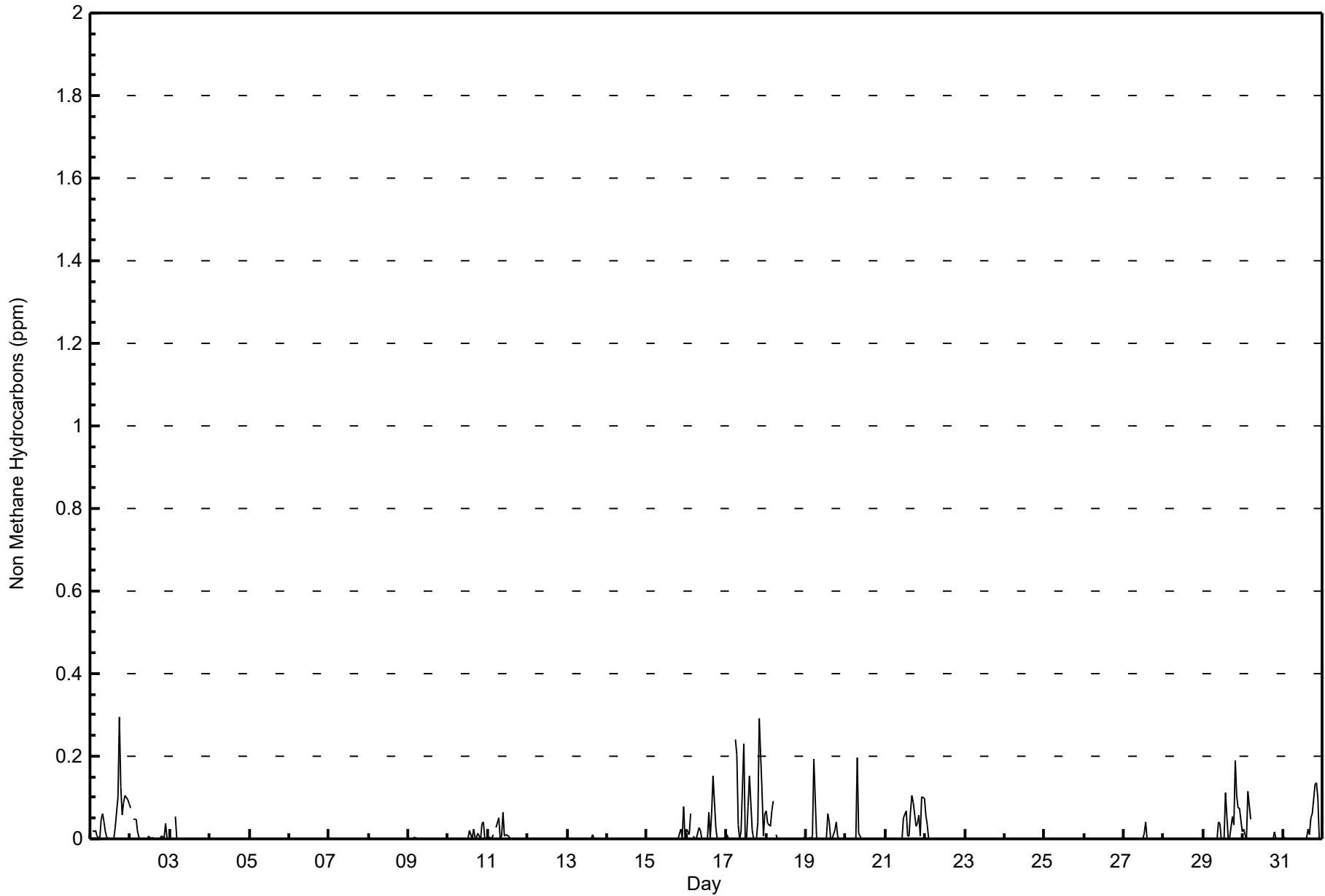




Summary of Hour Averages

Barge Landing - January 2025

Maximum Value: 0.294 ppm on Jan 1 18:00		Maximum Daily Average: 0.065 ppm on Jan 17		Hours in Service: 744																							
Minimum Value: 0.000 ppm on Jan 1 06:00		Minimum Daily Average: 0.000 ppm on Jan 4		Hours of Data: 700																							
Maximum Diurnal Average: 0.024 ppm at hour 21		Minimum Diurnal Average: 0.002 ppm at hour 12		Hours of Missing Data: 44																							
Monthly Average: 0.010 ppm		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.0 P ₉₉ = 0.2		Hours of Calibration: 34																							
				Percent Operational Time: 98.7																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	Z	0.021	0.018	0.021	0.007	0.000	0.047	0.061	0.041	0.018	0.003	0.000	0.000	0.000	0.000	0.026	0.101	0.294	0.127	0.057	0.089	0.106	0.095	0.086	0.053	0.294	
2-Jan	0.076	Z	0.048	0.047	0.018	0.005	0.001	0.000	0.000	0.000	0.000	0.008	0.000	0.003	0.001	0.001	0.001	0.001	0.000	0.006	0.004	0.037	0.002	0.001	0.011	0.076	
3-Jan	0.001	0.000	Z	0.054	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.054	
4-Jan	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
5-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
6-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	
7-Jan	Z	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	C	C	C	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
8-Jan	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
9-Jan	0.000	0.000	Z	0.005	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	
10-Jan	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.019	0.000	0.024	0.003	0.002	0.015	0.000	0.039	0.039	0.000	0.000	0.006	0.039	
11-Jan	0.004	0.004	0.000	0.010	Z	0.029	0.051	0.000	0.006	0.065	0.007	0.012	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008	0.065	
12-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
13-Jan	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	
14-Jan	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
15-Jan	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.022	0.003	0.079	0.000	0.005	0.079	
16-Jan	0.025	0.011	0.062	Z	0.006	0.000	0.000	0.027	0.022	0.000	0.000	0.000	0.000	0.064	0.005	0.060	0.153	0.027	0.000	0.000	0.000	0.000	0.000	0.002	0.020	0.153	
17-Jan	0.010	0.000	0.000	0.000	Z	0.241	0.204	0.035	0.000	0.018	0.231	0.000	0.003	0.077	0.152	0.019	0.000	0.000	0.000	0.040	0.291	0.114	0.007	0.062	0.065	0.291	
18-Jan	0.069	0.036	0.031	0.067	0.092	Z	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.013	0.092	0.092	
19-Jan	Z	0.000	0.003	0.000	0.005	0.194	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.060	0.040	0.000	0.000	0.020	0.041	0.006	0.000	0.000	0.000	0.016	0.194		
20-Jan	0.000	Z	0.000	0.001	0.000	0.001	0.000	0.196	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.009	0.196		
21-Jan	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.052	0.068	0.007	0.007	0.066	0.104	0.088	0.030	0.038	0.057	0.007	0.100	0.099	0.031	0.104	
22-Jan	0.057	0.034	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.057		
23-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
24-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
25-Jan	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
26-Jan	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
27-Jan	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.014	0.041	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.041	
28-Jan	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
29-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.040	0.038	0.000	0.000	0.112	0.055	0.000	0.003	0.056	0.033	0.189	0.105	0.073	0.075	0.016	0.035	0.189	
30-Jan	0.025	0.011	0.000	0.115	0.047	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.018	0.000	0.000	0.000	0.009	0.115		
31-Jan	Z	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.023	0.010	0.052	0.061	0.133	0.134	0.099	0.000	0.000	0.023	0.134	
		0.011	0.005	0.006	0.013	0.007	0.019	0.010	0.011	0.003	0.005	0.009	0.002	0.003	0.013	0.009	0.007	0.012	0.017	0.010	0.016	0.024	0.015	0.012	0.009	Diurnal Average	
		0.076	0.036	0.062	0.115	0.092	0.241	0.204	0.196	0.041	0.065	0.231	0.052	0.068	0.112	0.152	0.066	0.153	0.294	0.127	0.189	0.291	0.114	0.100	0.099	Diurnal Maximum	
Z - zerospan		C - Calibration					UO - Unstable Operation																				





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Non Methane Hydrocarbons (NMHC) - ppm
Barge Landing - January 2025**

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 0.005	583	83.29	83.29
0.006 - 0.05	68	9.71	93.00
0.06 - 0.1	39	5.57	98.57
> 0.1	10	1.43	100.00

Total Number of Valid Hours: 700

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Non Methane Hydrocarbons (NMHC) - ppm
Barge Landing - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 0.005	42	40	17	9	9	8	13	114	77	45	36	35	44	38	22	34	583
0.006 - 0.05	18	25	4	1	0	0	3	6	2	3	0	0	1	0	1	4	68
0.06 - 0.1	14	14	1	0	0	0	0	2	0	3	1	0	0	2	0	1	38
> 0.1	8	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	10
Totals	82	79	23	10	9	8	16	122	80	51	37	35	45	40	23	39	699

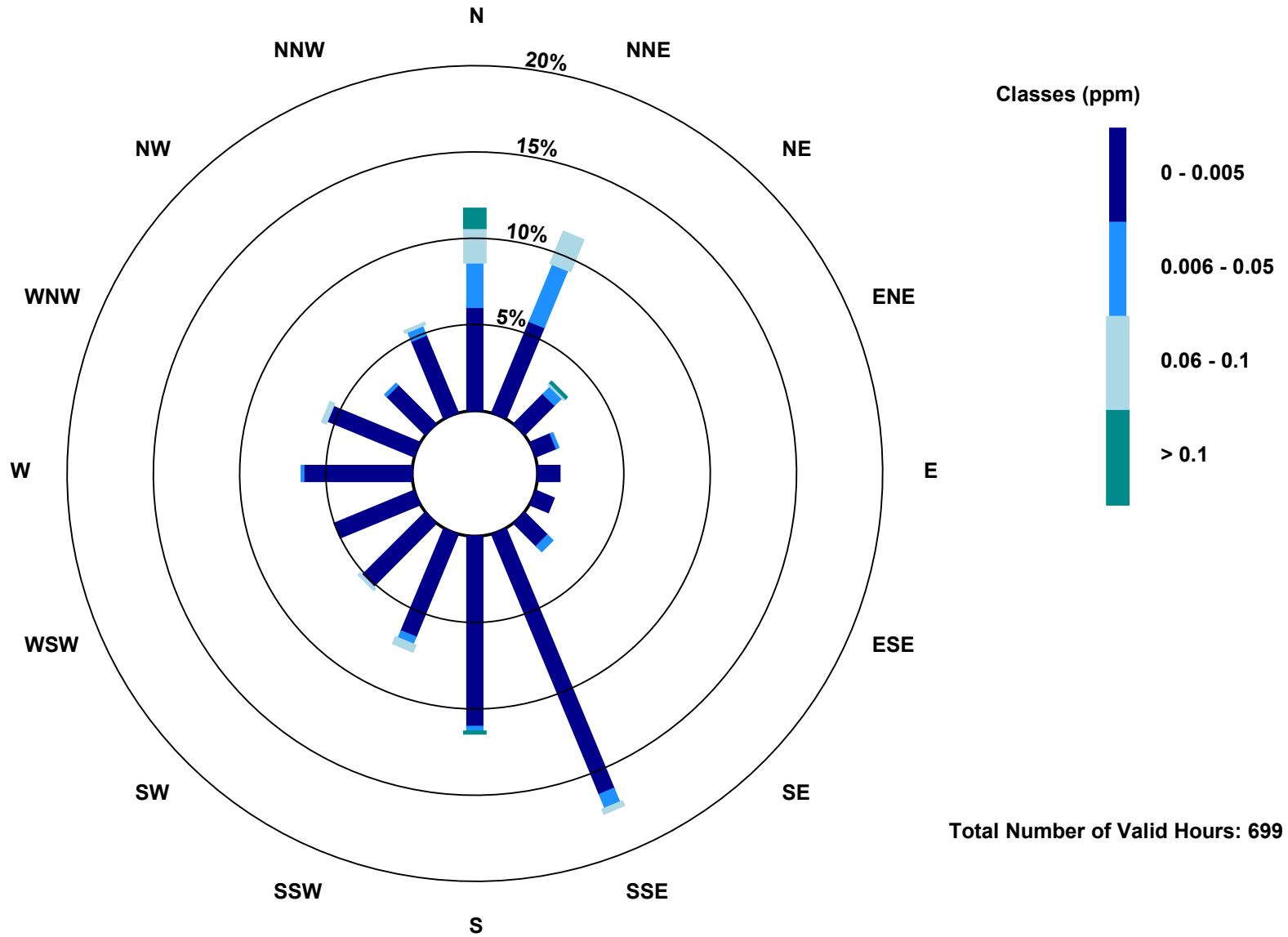
Total Number of Valid Hours: 699

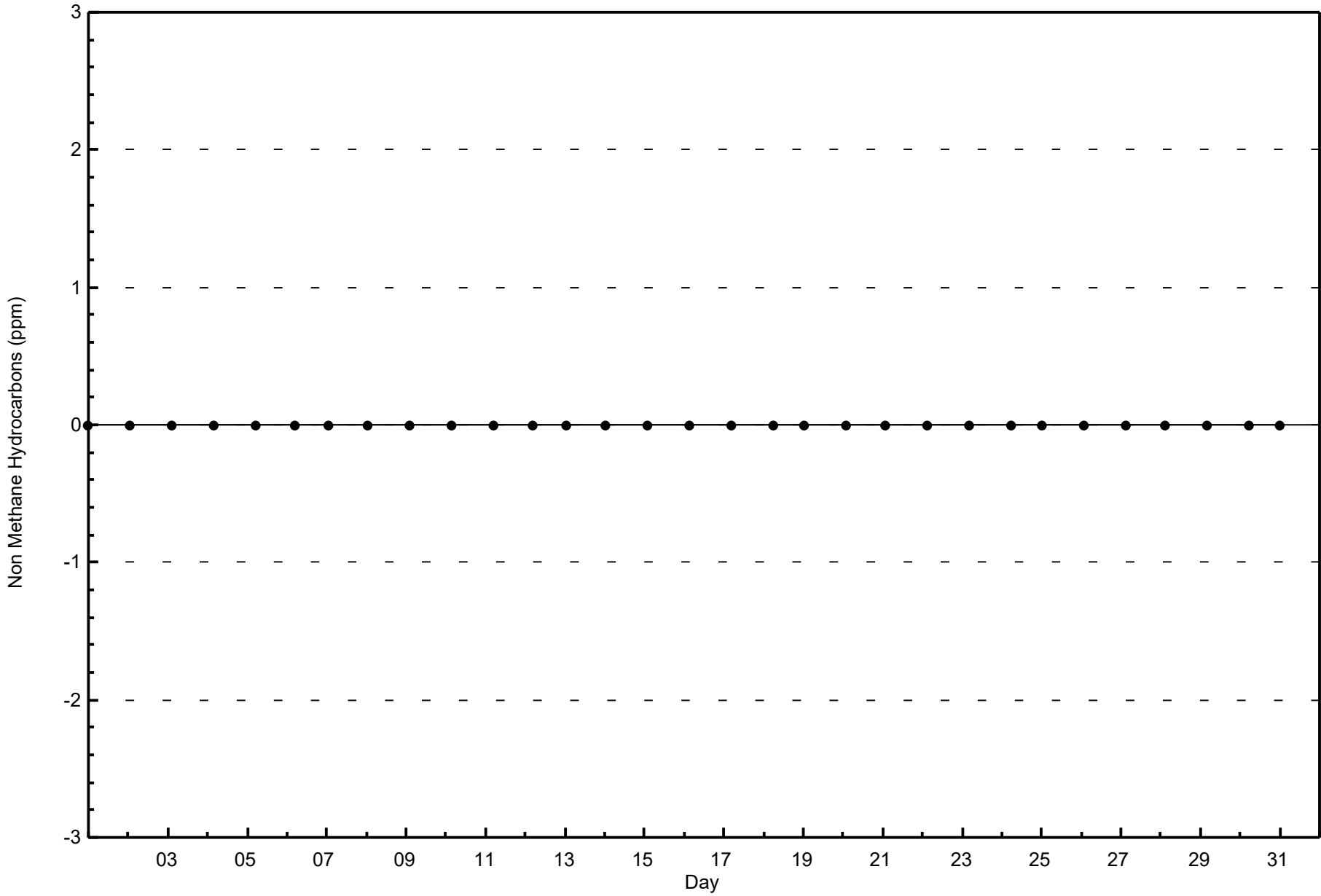
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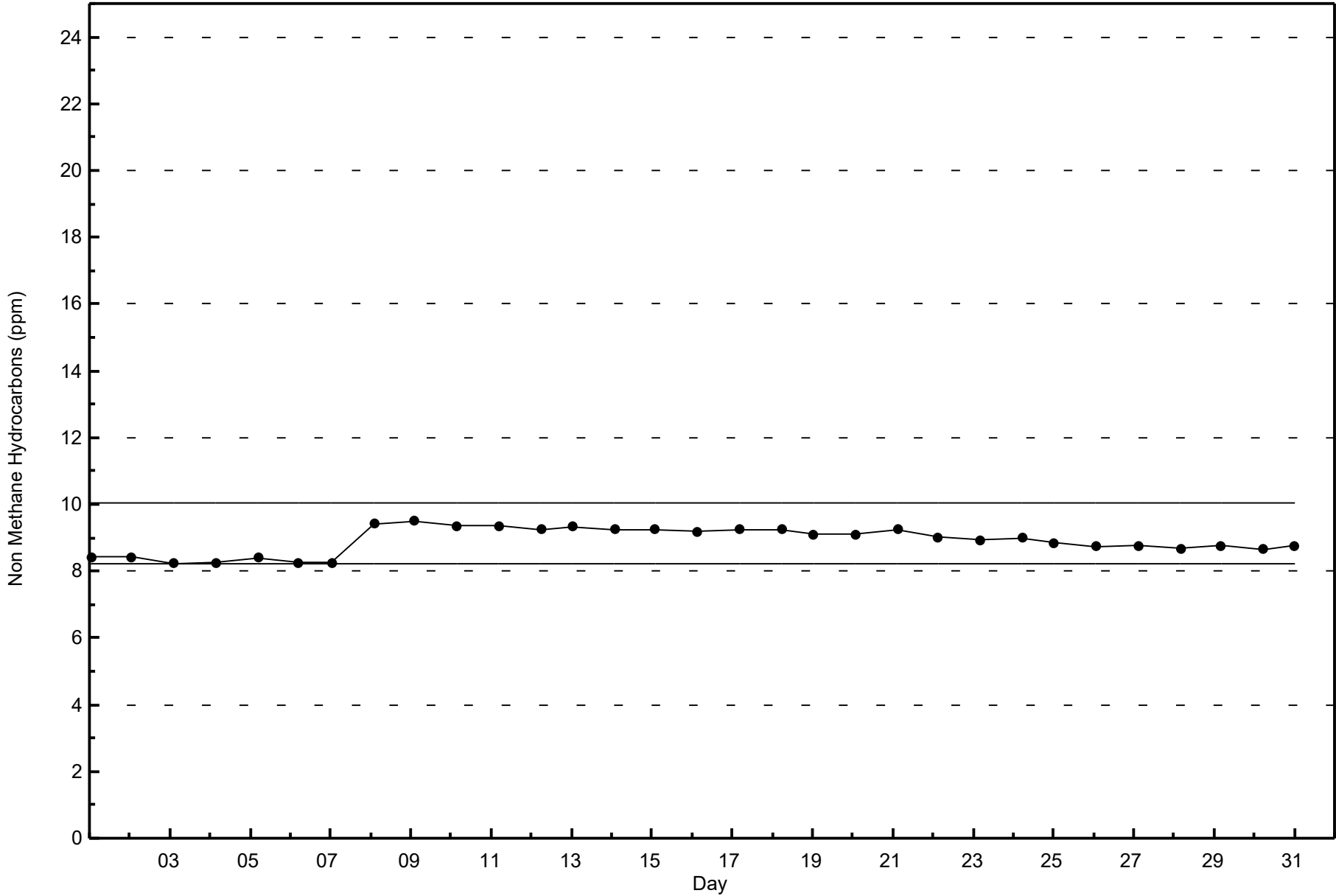


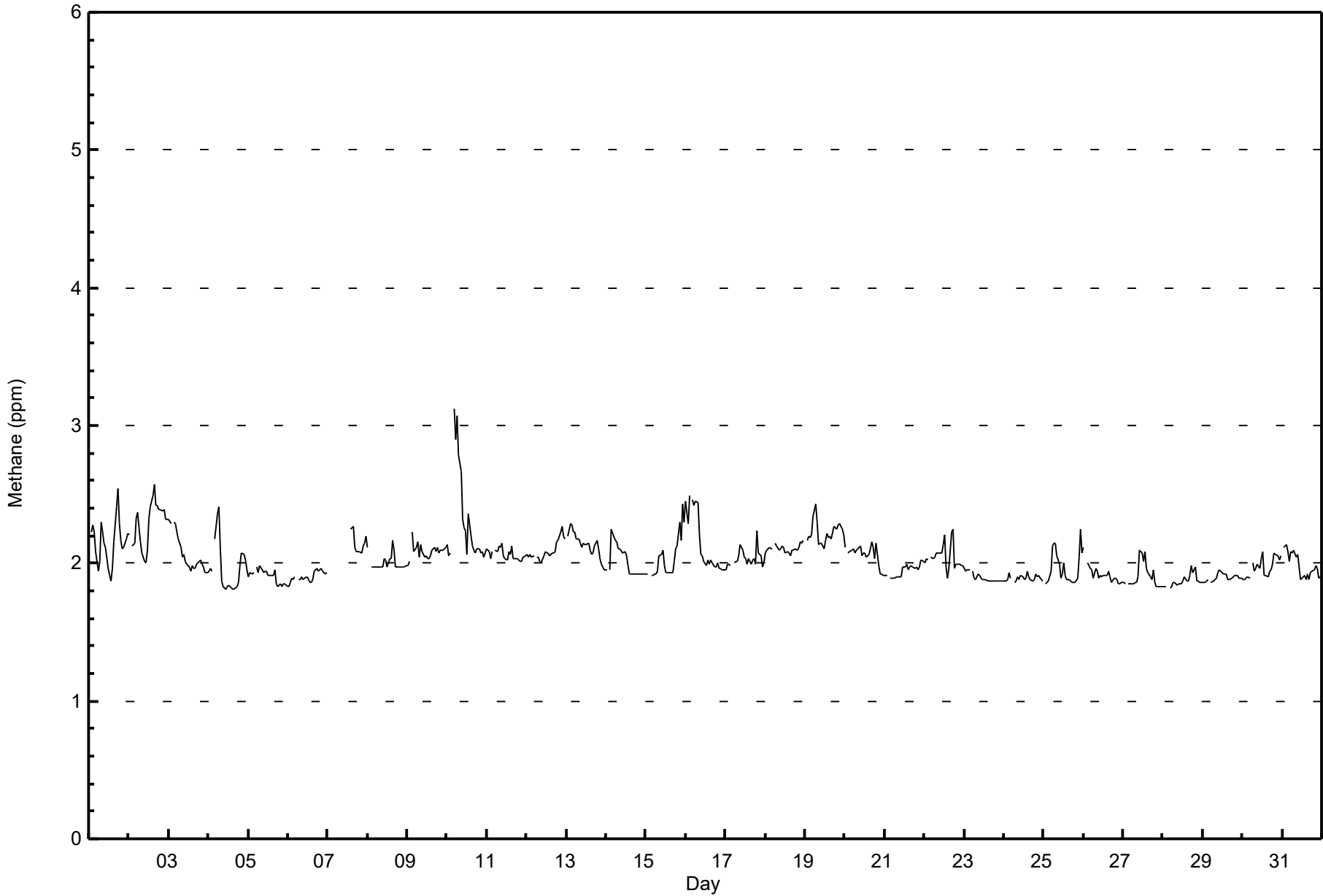
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Non Methane Hydrocarbons (NMHC) - ppm
Barge Landing











Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Methane (CH₄) - ppm
Barge Landing - January 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	419	59.86	59.86
2.1 - 3.0	279	39.86	99.71
3.1 - 10.0	2	0.29	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 700

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Methane (CH₄) - ppm
Barge Landing - January 2025

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2.0	51	48	14	8	4	6	4	51	30	34	33	30	36	33	17	20	419
2.1 - 3.0	31	31	9	2	5	2	12	71	50	17	4	5	9	7	6	17	278
3.1 - 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	82	79	23	10	9	8	16	122	80	51	37	35	45	40	23	39	699

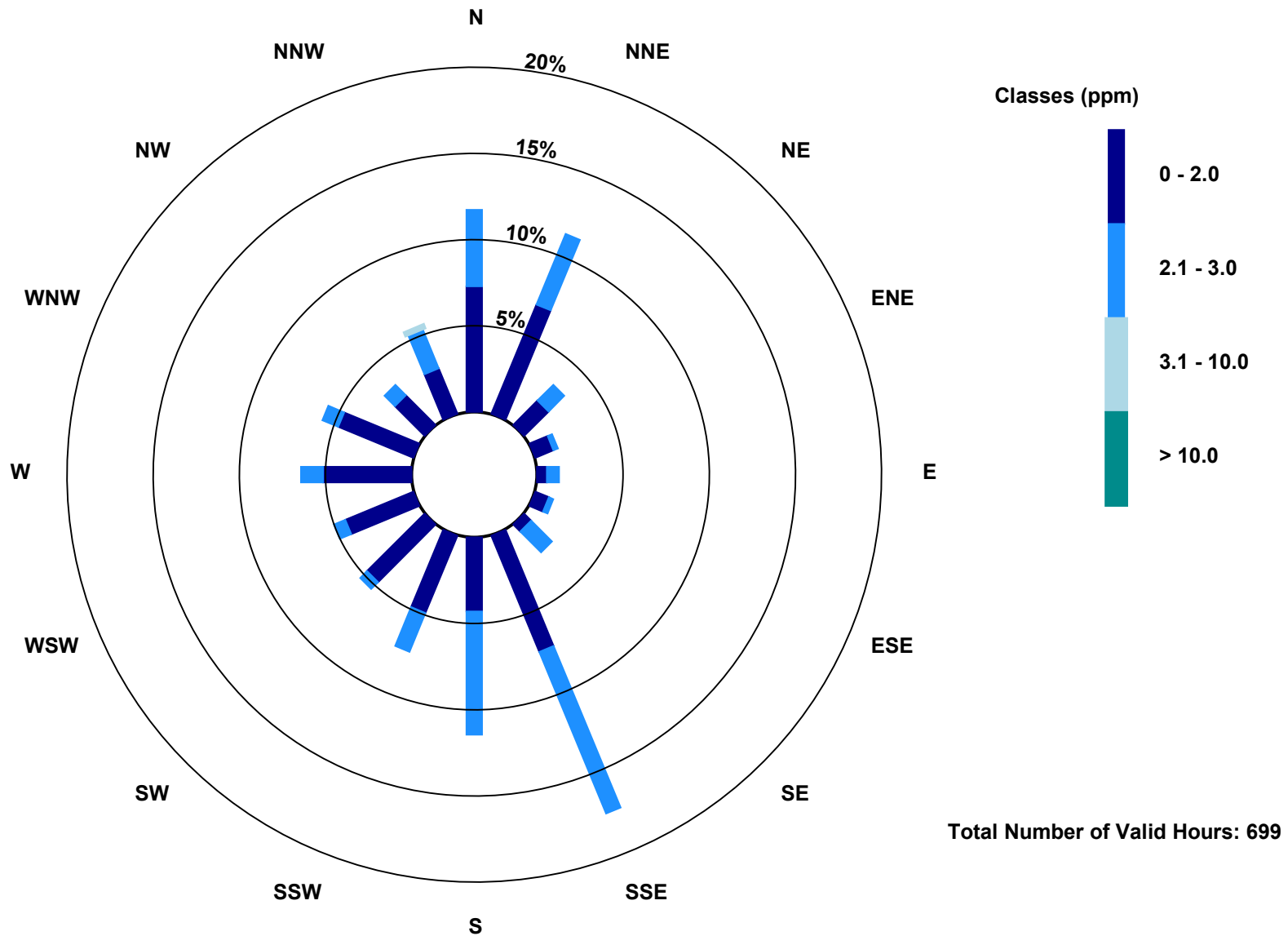
Total Number of Valid Hours: 699

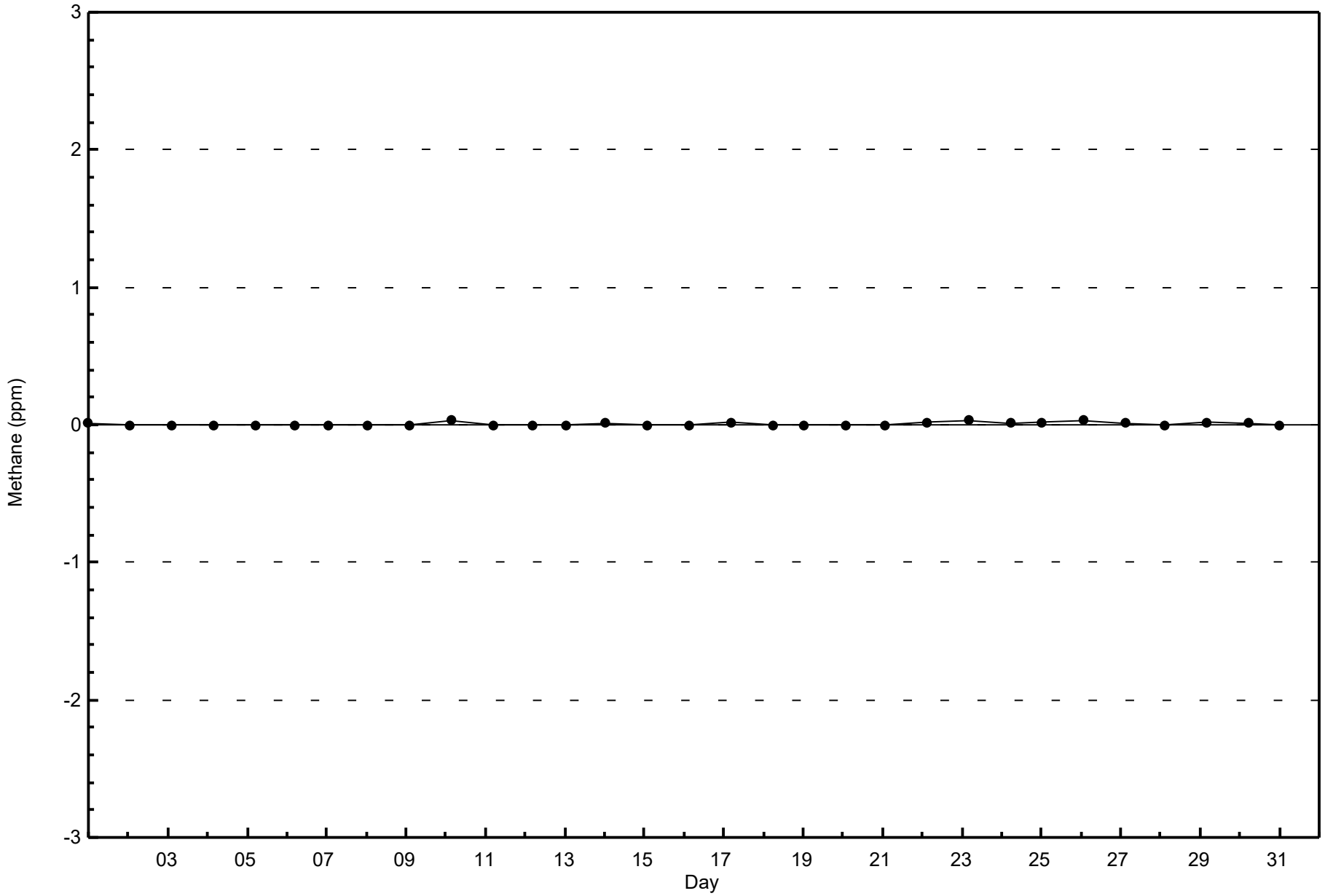
Total Number of Hours: 744

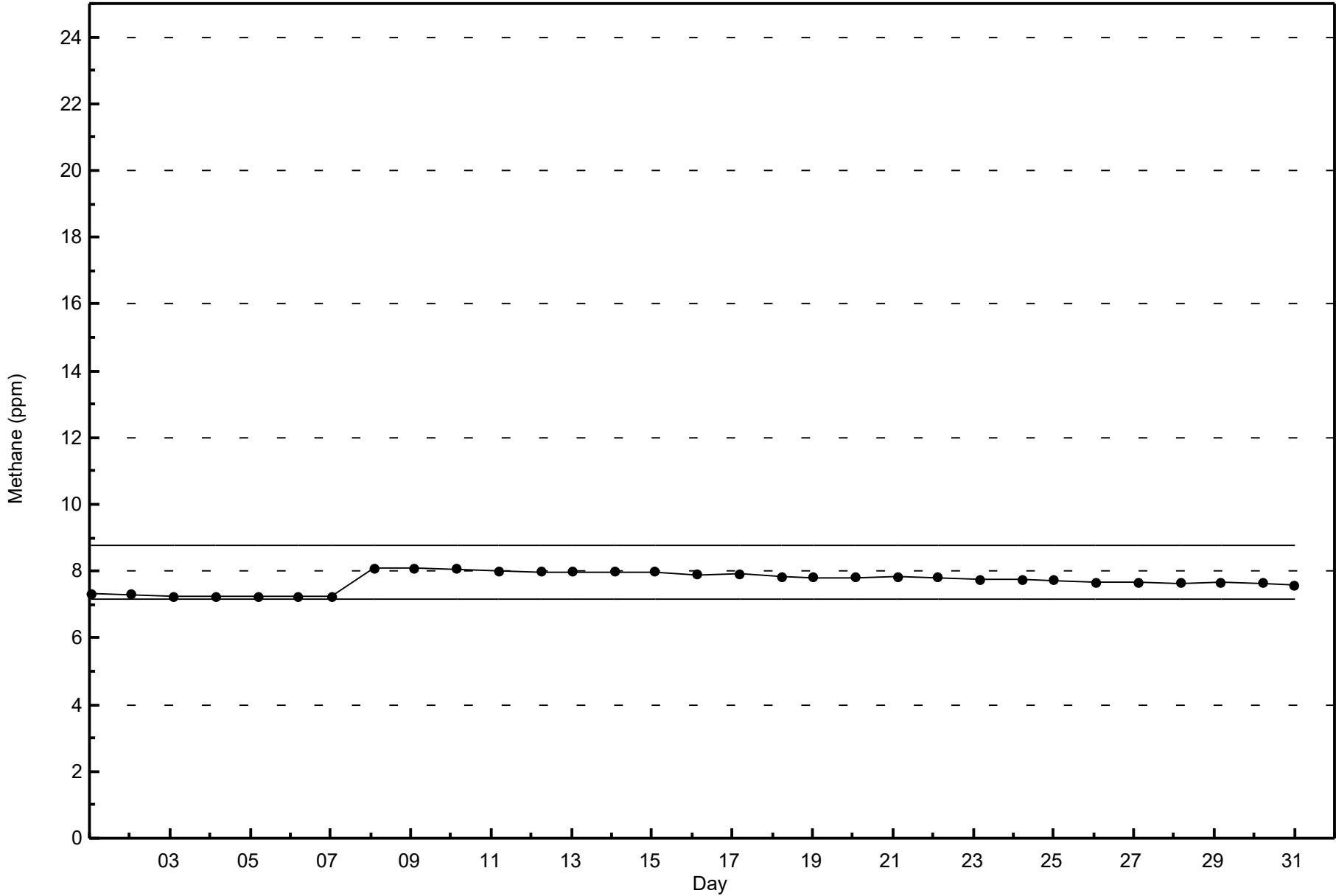


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Methane (CH₄) - ppm
Barge Landing





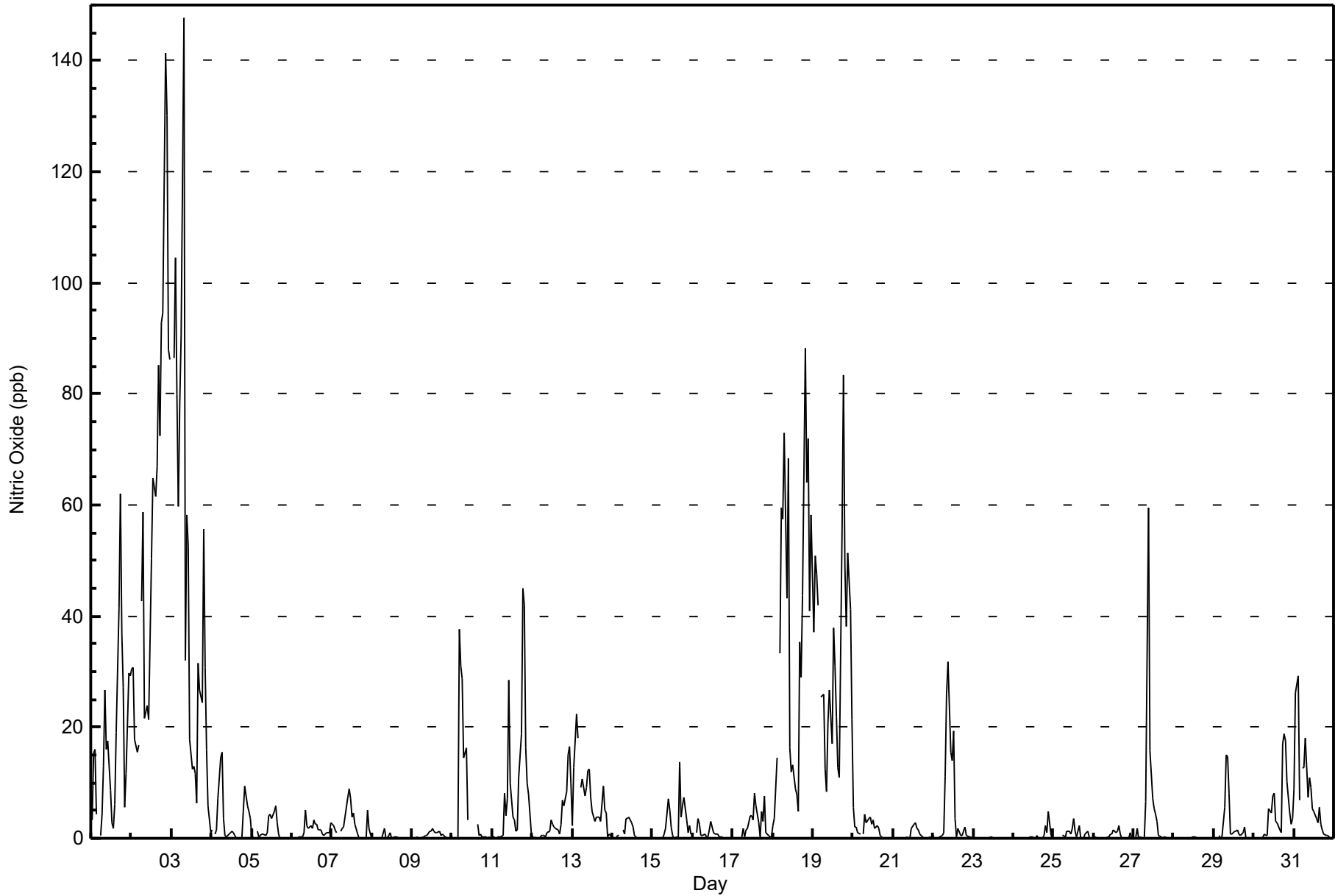




Wood Buffalo Environmental Association
Summary of Hour Averages

Nitric Oxide (NO) - ppb
Barge Landing - January 2025

Maximum Value: 147.7 ppb on Jan 3 08:00																				Maximum Daily Average: 58.7 ppb on Jan 2					Hours in Service: 744		
Minimum Value: 0.0 ppb on Jan 4 17:00																				Minimum Daily Average: 0.0 ppb on Jan 23					Hours of Data: 708		
Maximum Diurnal Average: 13.3 ppb at hour 20																				Minimum Diurnal Average: 3.7 ppb at hour 1					Hours of Missing Data: 36		
Monthly Average: 8.59 ppb																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 1.0 Q ₃ = 6.0 P ₉₀ = 27.5 P ₉₉ = 88.3					Hours of Calibration: 36		
																									Percent Operational Time: 100.0		
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	3.4	15.3	15.9	4.4	Z	0.5	4.3	13.1	26.6	15.9	17.6	8.6	2.8	1.7	6.1	19.1	41.4	62.0	36.8	27.1	5.7	11.8	29.8	29.1	17.4	62.0	
2-Jan	30.6	30.7	17.8	15.5	16.9	Z	42.7	58.7	21.6	23.9	21.3	35.9	50.3	64.9	61.4	67.0	85.1	72.6	92.8	94.6	141.5	130.1	88.0	86.3	58.7	141.5	
3-Jan	Z	86.4	104.4	79.7	59.8	78.1	90.4	147.7	32.2	58.3	52.5	17.7	12.5	13.0	11.8	6.3	31.6	26.6	24.3	55.6	30.7	16.0	5.9	1.1	45.3	147.7	
4-Jan	1.5	Z	0.9	1.5	7.1	14.4	15.6	3.5	0.6	0.3	0.7	1.0	1.2	1.1	0.5	0.1	0.0	0.0	0.0	4.8	9.4	5.9	4.8	3.7	3.4	15.6	
5-Jan	0.4	0.3	Z	1.3	0.2	0.4	0.7	0.9	0.6	1.1	4.1	4.4	3.6	4.7	5.8	2.8	0.6	0.1	0.1	0.1	0.0	0.0	0.1	0.0	1.4	5.8	
6-Jan	0.0	0.1	0.1	Z	0.1	0.2	0.3	1.0	5.0	2.4	1.7	2.2	1.8	3.2	2.4	2.6	1.6	1.6	0.7	0.6	0.8	0.9	1.0	2.9	1.4	5.0	
7-Jan	2.5	2.4	1.6	1.1	Z	1.1	1.8	2.0	3.9	7.4	8.8	7.1	3.9	4.5	2.5	0.7	0.1	0.0	0.0	0.0	0.1	5.0	1.9	0.8	2.6	8.8	
8-Jan	0.1	0.0	0.0	0.0	0.0	Z	0.0	1.7	0.0	0.0	0.6	0.9	0.0	0.1	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.7	
9-Jan	Z	0.0	0.0	0.3	0.1	0.1	0.3	0.3	0.6	0.5	1.2	1.3	1.7	1.3	1.0	1.0	1.2	0.4	0.7	0.4	0.3	0.1	0.1	0.1	0.6	1.7	
10-Jan	0.4	Z	0.1	0.1	37.7	30.9	28.7	14.5	16.2	3.3	C	C	C	C	C	2.4	0.5	0.8	0.2	0.2	0.2	0.1	0.1	0.1	7.6	37.7	
11-Jan	0.2	0.2	Z	0.2	0.4	0.3	0.6	8.1	4.0	7.0	28.5	9.9	3.8	3.4	1.3	1.5	10.9	18.9	44.9	42.0	16.3	9.9	8.0	0.8	9.6	44.9	
12-Jan	0.2	0.1	0.2	Z	0.1	0.4	0.4	0.4	0.3	0.9	1.4	3.3	2.6	1.9	1.8	1.4	0.9	2.6	6.9	5.9	8.4	14.9	16.6	9.9	3.5	16.6	
13-Jan	2.3	12.6	22.5	18.1	Z	9.2	10.7	7.7	9.2	12.3	12.5	7.4	4.8	3.0	3.8	3.8	3.8	3.0	9.5	5.2	4.7	0.3	0.8	0.6	7.3	22.5	
14-Jan	0.0	0.0	0.0	0.4	0.5	Z	1.4	0.7	3.6	3.5	3.8	2.7	1.9	0.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	3.8	
15-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.9	7.1	5.1	2.0	0.5	0.1	0.3	0.0	13.8	3.9	5.9	7.4	3.3	1.1	2.2	0.8	2.4	13.8	
16-Jan	0.7	Z	1.0	3.7	2.5	0.4	0.6	0.7	0.2	0.2	1.5	3.0	1.1	0.8	0.7	0.7	0.2	0.3	0.1	0.0	0.1	0.0	0.0	0.0	0.8	3.7	
17-Jan	0.1	0.1	Z	0.1	0.1	0.1	1.9	0.3	1.5	1.8	4.1	4.0	3.4	8.2	5.8	2.9	0.3	4.8	3.1	7.6	1.0	0.6	0.2	0.1	2.3	8.2	
18-Jan	2.2	3.6	14.5	Z	33.2	59.4	57.4	72.9	43.2	68.3	16.3	12.0	13.3	8.9	7.9	4.9	35.2	28.9	43.7	88.3	64.1	72.0	41.0	58.2	36.9	88.3	
19-Jan	37.2	50.9	47.6	42.0	Z	25.5	25.9	12.4	8.3	20.8	26.6	17.2	37.8	31.1	21.8	12.7	10.9	55.6	83.3	48.8	38.2	51.4	41.2	21.2	33.4	83.3	
20-Jan	5.5	2.1	2.1	1.1	0.9	Z	0.8	4.3	2.7	3.6	3.7	2.6	3.4	1.8	2.3	1.9	0.5	0.1	0.1	0.0	0.0	0.0	0.0	0.0	1.7	5.5	
21-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	1.8	2.6	2.9	1.7	1.6	0.8	0.6	0.1	0.1	0.0	0.1	0.2	0.0	0.5	2.9	
22-Jan	0.5	Z	0.1	0.1	0.1	0.5	1.1	11.2	25.9	31.8	15.6	13.9	19.3	3.5	0.2	1.7	0.6	0.5	1.3	2.0	0.5	0.4	0.3	0.1	5.7	31.8	
23-Jan	0.1	0.1	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
24-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.2	0.0	0.0	0.6	0.1	0.0	0.1	0.4	2.2	1.0	4.9	0.6	0.0	0.5	4.9	
25-Jan	0.0	0.0	0.0	0.0	Z	0.4	0.5	0.1	1.2	1.4	0.7	1.8	3.6	1.4	0.2	2.4	0.0	0.0	0.8	1.3	0.3	0.0	0.0	0.0	0.7	3.6	
26-Jan	0.1	0.2	0.1	0.0	0.0	Z	0.0	0.0	0.2	0.3	0.8	0.7	1.4	1.1	1.3	2.4	0.7	0.0	0.0	0.0	0.1	0.0	1.1	0.0	0.4	2.4	
27-Jan	Z	0.2	1.7	0.1	0.2	0.0	0.0	6.7	33.0	59.6	15.7	7.2	5.4	4.4	3.1	0.5	0.1	0.0	0.2	0.2	0.0	0.0	0.0	0.0	6.0	59.6	
28-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
29-Jan	0.0	0.0	Z	0.5	0.0	0.2	5.6	15.0	14.7	8.2	0.7	0.9	1.2	1.2	1.6	0.7	0.5	1.0	2.0	0.1	0.1	0.1	0.0	0.0	2.4	15.0	
30-Jan	0.0	0.0	0.0	Z	0.1	0.2	0.7	0.6	0.5	5.3	4.6	7.7	8.0	3.0	2.8	1.4	1.1	17.1	18.9	17.5	10.3	4.6	2.5	3.5	4.8	18.9	
31-Jan	8.8	26.1	29.3	6.8	Z	12.7	12.7	18.1	7.4	11.0	9.2	5.3	4.7	3.6	2.8	5.7	2.7	1.5	0.7	0.4	0.4	0.2	0.1	0.1	7.4	29.3	
																								Diurnal Average			
																								Diurnal Maximum			
Z - zerospan C - Calibration																											





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitric Oxide (NO) - ppb
Barge Landing - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	621	87.71	87.71
21 - 40	39	5.51	93.22
41 - 80	35	4.94	98.16
81 - 159	13	1.84	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitric Oxide (NO) - ppb
Barge Landing - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	80	76	21	10	5	5	12	112	69	42	36	28	39	38	20	28	621
21 - 40	5	1	1	0	0	0	0	9	4	5	3	3	0	3	1	3	38
11 - 80	1	1	1	0	1	3	3	8	6	3	0	2	2	0	2	2	35
81 - 159	0	0	0	0	3	0	0	2	5	1	0	0	0	0	0	2	13
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	86	78	23	10	9	8	15	131	84	51	39	33	41	41	23	35	707

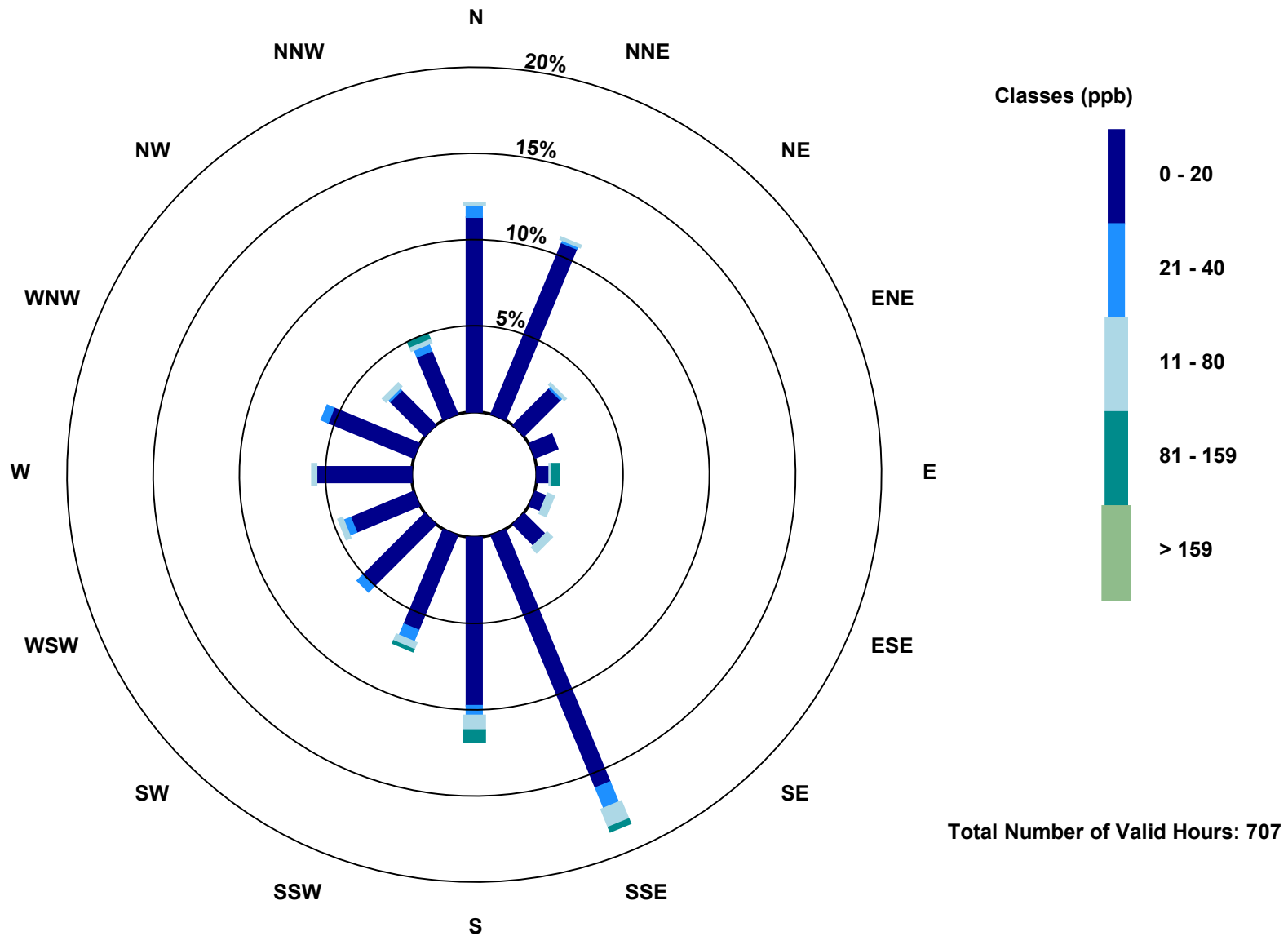
Total Number of Valid Hours: 707

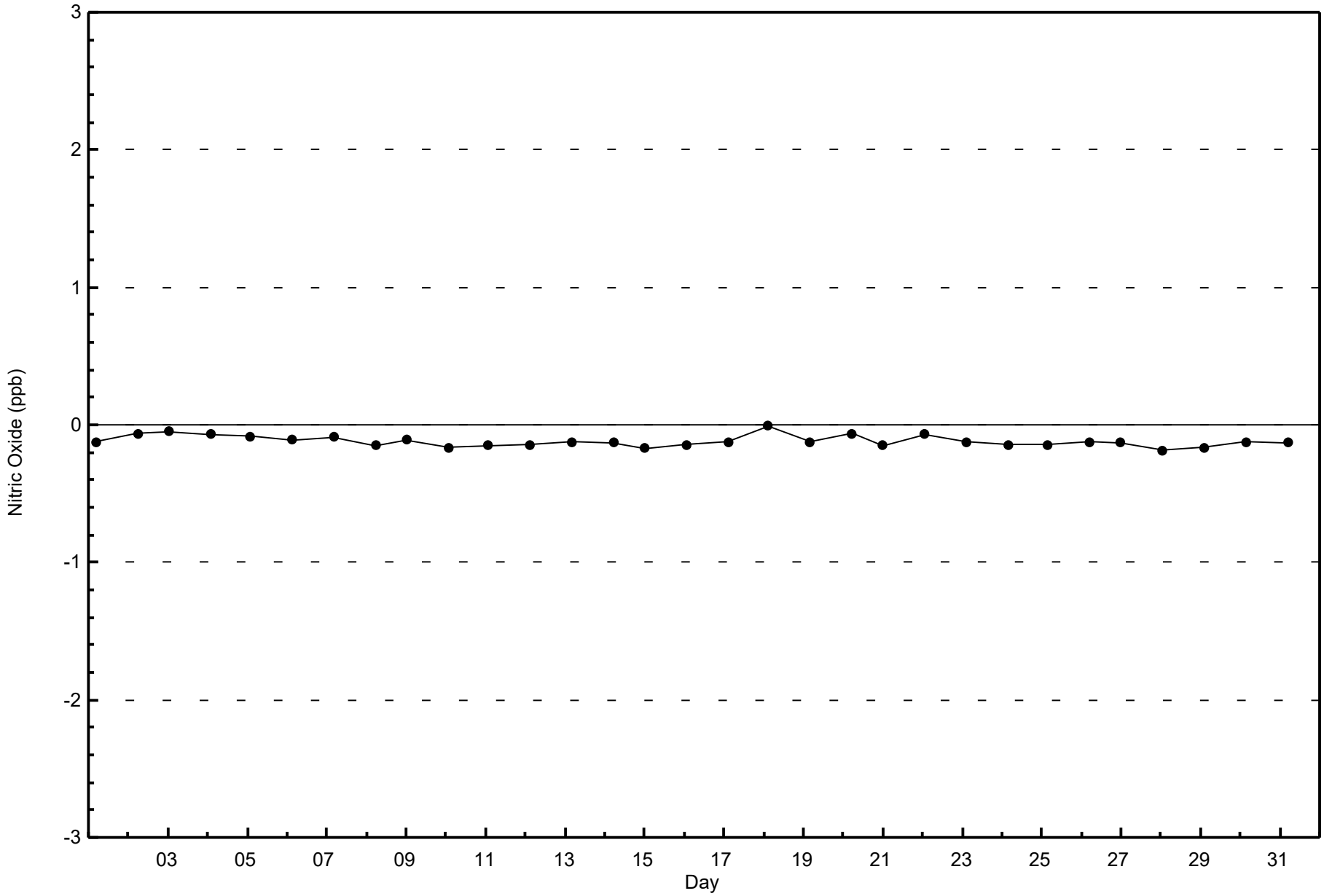
Total Number of Hours: 744

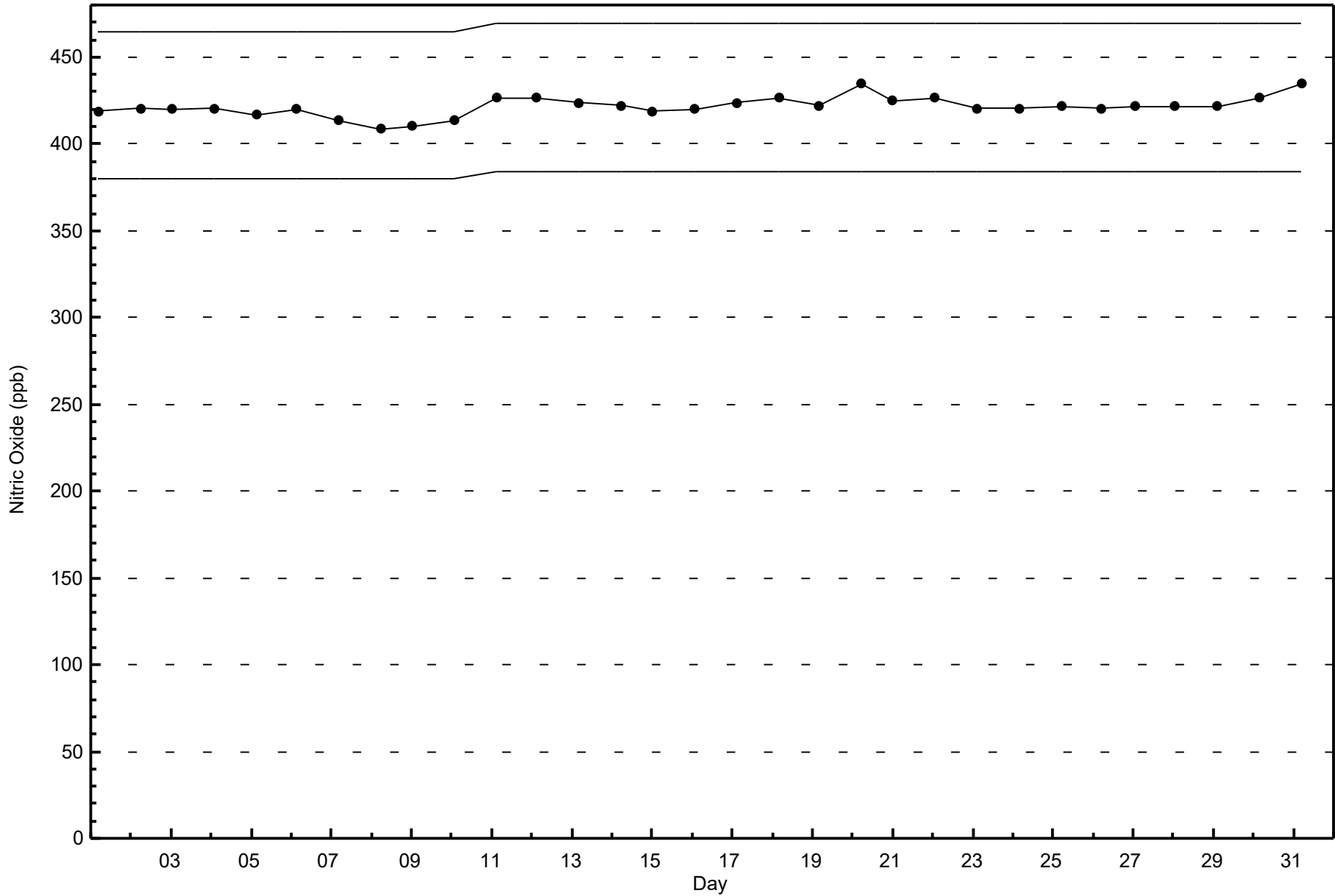


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitric Oxide (NO) - ppb
Barge Landing









Wood Buffalo Environmental Association
Summary of Hour Averages

Nitrogen Dioxide (NO₂) - ppb
Barge Landing - January 2025

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 51.5 ppb on Jan 19 19:00	Maximum Daily Average: 34.2 ppb on Jan 18		Hours of Data:	708
Minimum Value: 0.1 ppb on Jan 27 23:00	Minimum Daily Average: 1.3 ppb on Jan 28		Hours of Missing Data:	36
Maximum Diurnal Average: 18.7 ppb at hour 8	Minimum Diurnal Average: 9.4 ppb at hour 14		Hours of Calibration:	36
Monthly Average: 14.49 ppb	Percentiles: P ₁ = 0.2 P ₁₀ = 0.9 Q ₁ = 5.3 Median = 12.8 Q ₃ = 22.6 P ₉₀ = 29.4 P ₉₉ = 43.1		Percent Operational Time:	100.0

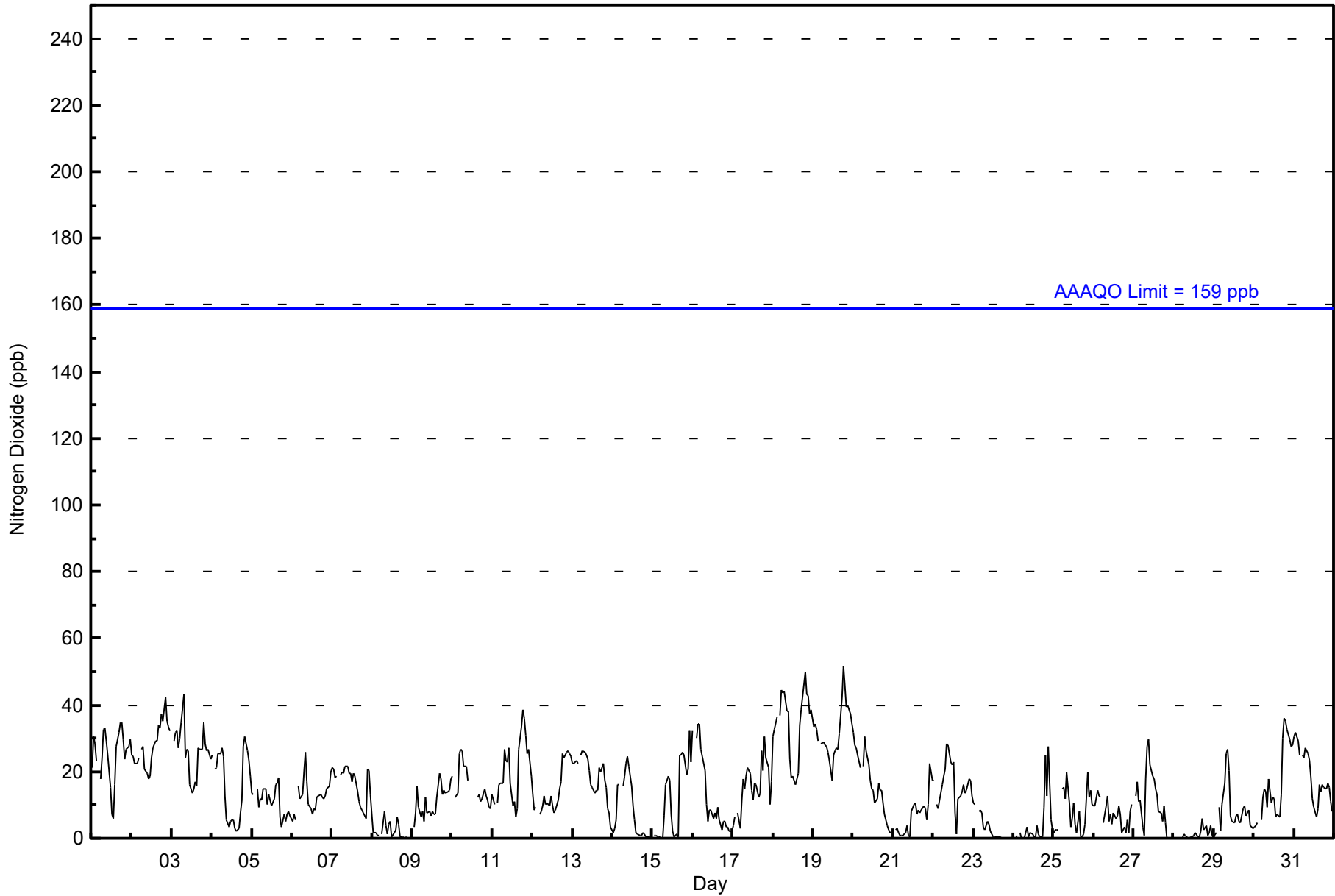
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Jan	21.0	30.6	28.3	23.3	Z	17.7	24.0	32.7	33.0	29.2	25.0	15.3	7.2	5.8	16.0	27.7	31.6	34.6	34.7	29.7	23.6	26.9	27.6	29.5	25.0	34.7																						
2-Jan	25.2	24.4	22.6	22.4	24.1	Z	26.6	27.5	20.7	19.4	18.0	18.8	24.1	27.3	29.2	29.4	34.0	33.0	37.4	35.1	42.2	35.1	33.4	32.2	27.9	42.2																						
3-Jan	Z	29.2	31.6	32.1	27.3	30.2	34.7	43.4	24.1	26.8	26.4	16.1	13.5	14.7	16.9	15.6	27.3	26.5	26.7	34.8	28.3	26.3	26.6	23.9	26.2	43.4																						
4-Jan	24.9	Z	20.9	21.2	25.4	25.4	27.1	24.4	12.5	5.7	3.4	5.2	5.3	5.6	3.1	2.3	3.1	7.5	11.3	27.5	30.7	26.4	23.5	18.5	15.7	30.7																						
5-Jan	13.6	13.3	Z	15.0	9.3	12.0	11.6	14.9	14.8	10.3	13.1	11.3	9.7	11.7	15.9	16.7	18.4	6.2	3.5	7.1	5.0	7.0	8.2	6.7	11.1	18.4																						
6-Jan	5.2	7.1	5.5	Z	15.6	11.7	13.1	19.9	25.8	17.1	10.2	9.1	7.1	8.7	8.6	12.2	12.9	13.3	12.1	11.8	12.7	14.8	15.5	19.8	12.6	25.8																						
7-Jan	21.2	20.7	18.3	18.5	Z	19.0	20.0	19.5	21.6	21.8	19.5	19.7	17.1	19.7	18.5	14.0	10.9	9.2	8.6	7.6	5.8	20.8	20.2	13.2	16.8	21.8																						
8-Jan	7.2	1.6	1.7	1.0	0.8	Z	1.2	7.9	3.9	1.2	4.1	5.1	0.4	1.9	2.7	6.2	4.1	0.3	0.4	0.2	0.3	0.2	0.2	0.2	2.3	7.9																						
9-Jan	Z	3.4	7.7	15.5	9.5	6.3	8.0	5.1	12.1	7.5	7.9	6.8	8.0	7.4	7.3	12.4	19.4	17.9	13.2	14.3	13.7	14.0	14.3	17.9	10.9	19.4																						
10-Jan	18.8	Z	12.1	13.7	25.3	26.5	26.4	21.7	21.8	17.5	C	C	C	C	C	12.4	13.1	10.9	12.0	14.7	12.5	11.4	9.3	9.1	16.1	26.5																						
11-Jan	13.0	10.3	Z	10.5	16.0	16.5	16.6	26.8	23.1	22.8	27.3	16.7	9.6	11.0	6.4	8.9	26.5	33.5	38.4	35.9	31.0	25.6	26.6	18.7	20.5	38.4																						
12-Jan	13.0	8.3	9.2	Z	7.2	8.0	9.7	12.6	10.1	10.5	9.8	12.7	9.8	7.7	8.3	11.4	14.8	17.1	25.3	24.1	26.0	26.2	25.5	24.4	14.4	26.2																						
13-Jan	22.6	22.5	23.4	22.5	Z	24.8	26.3	26.0	25.1	23.6	20.2	16.2	15.4	13.4	14.5	14.3	21.1	20.1	22.4	17.5	15.2	9.0	7.7	3.4	18.6	26.3																						
14-Jan	1.9	2.9	5.5	16.0	16.2	Z	15.6	18.7	22.3	24.5	21.6	15.8	9.7	5.3	1.8	1.1	0.9	0.7	1.8	1.4	0.6	0.6	0.4	0.4	8.1	24.5																						
15-Jan	Z	0.7	1.0	0.3	0.3	0.2	0.2	6.7	16.0	18.8	17.4	7.2	2.2	0.4	1.3	0.5	25.0	25.0	26.0	25.1	19.2	20.7	32.1	22.7	11.7	32.1																						
16-Jan	32.3	Z	30.1	34.3	34.4	26.5	24.4	20.5	10.3	4.9	8.3	8.4	6.1	7.6	6.0	9.5	5.3	2.5	4.9	5.2	3.2	3.2	2.2	2.1	12.7	34.4																						
17-Jan	3.9	6.2	Z	7.7	3.0	11.6	17.8	14.7	18.5	21.0	19.6	14.4	11.3	16.4	16.0	12.3	13.4	26.4	20.5	30.7	24.0	21.2	10.1	17.0	15.6	30.7																						
18-Jan	30.4	32.5	36.6	Z	36.9	44.6	43.7	44.0	38.1	38.0	23.7	18.4	18.8	15.9	17.8	19.6	34.1	38.7	42.4	49.8	43.1	42.9	37.3	38.6	34.2	49.8																						
19-Jan	33.4	34.2	32.8	29.3	Z	28.6	29.0	28.1	27.4	25.9	23.5	17.3	24.8	26.1	27.3	26.9	31.2	42.5	51.5	45.7	39.6	39.9	37.2	34.4	32.0	51.5																						
20-Jan	31.8	28.1	27.1	24.9	21.0	Z	21.7	30.3	26.3	22.0	17.5	15.0	14.3	10.6	11.8	16.4	14.5	14.4	10.8	7.2	4.0	2.5	1.6	1.5	16.3	31.8																						
21-Jan	Z	2.7	2.8	1.6	0.9	0.8	0.9	1.5	4.0	0.9	0.5	8.1	10.1	10.5	7.1	8.3	7.7	8.6	9.8	8.9	5.5	10.3	22.3	17.5	6.6	22.3																						
22-Jan	17.3	Z	10.2	9.0	11.5	16.0	18.5	20.8	28.2	28.1	22.9	22.0	23.0	7.5	1.4	11.9	12.8	13.8	16.0	13.6	14.6	18.0	17.4	12.6	16.0	28.2																						
23-Jan	10.8	10.1	Z	8.1	8.6	7.8	3.6	2.5	5.2	4.3	2.3	1.4	0.6	0.4	0.3	0.3	0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.2	3.0	10.8																						
24-Jan	0.2	0.2	0.7	Z	1.5	0.2	0.2	1.7	3.6	0.5	1.6	1.2	0.4	0.4	4.0	1.3	0.4	0.5	9.3	25.2	12.9	27.7	5.4	2.7	4.4	27.7																						
25-Jan	1.9	2.6	2.4	2.5	Z	15.0	15.2	11.7	20.0	10.5	3.5	5.8	10.6	4.2	1.8	8.2	0.5	0.3	1.2	4.4	20.0	12.1	14.2	10.1	7.8	20.0																						
26-Jan	9.7	9.9	14.2	12.8	12.1	Z	4.7	9.6	12.9	4.9	7.2	4.4	7.7	6.1	6.9	9.6	7.3	1.7	3.6	1.7	5.3	1.6	8.0	10.1	7.5	14.2																						
27-Jan	Z	12.9	17.0	11.1	11.5	3.4	0.8	17.9	27.4	29.7	21.9	18.8	17.6	15.0	13.2	7.9	7.8	5.0	9.9	4.5	0.2	0.2	0.1	0.1	11.0	29.7																						
28-Jan	0.1	Z	0.2	0.2	0.1	0.1	1.1	0.7	0.1	0.2	0.4	0.5	0.7	1.5	0.6	0.6	2.2	6.0	2.7	4.0	0.9	1.6	3.8	0.8	1.3	6.0																						
29-Jan	0.5	1.9	Z	9.4	2.2	10.0	16.7	25.5	26.7	20.2	6.7	5.1	4.8	6.7	7.1	5.0	4.7	8.7	9.7	6.7	7.8	8.4	3.7	3.1	8.8	26.7																						
30-Jan	3.3	3.7	4.7	Z	5.5	12.3	14.7	13.9	9.4	17.6	10.4	12.1	11.9	6.2	7.4	6.4	13.0	29.9	36.2	35.3	32.8	29.6	27.6	28.1	16.2	36.2																						
31-Jan	30.6	31.8	29.4	24.9	Z	25.2	24.1	27.1	25.3	23.4	18.3	11.8	9.4	6.4	9.0	16.0	14.0	16.2	15.4	15.0	16.5	15.4	11.1	8.2	18.5	31.8																						
																								15.1	13.5	15.2	14.9	13.0	15.4	16.1	18.7	18.4	16.4	13.7	11.4	10.4	9.4	9.6	11.1	14.0	15.2	16.7	17.6	16.0	16.1	15.3	13.8	Diurnal Average
																								33.4	34.2	36.6	34.3	36.9	44.6	43.7	44.0	38.1	38.0	27.3	22.0	24.8	27.3	29.2	29.4	34.1	42.5	51.5	49.8	43.1	42.9	37.3	38.6	Diurnal Maximum

Z - zerospan C - Calibration
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
Barge Landing - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Barge Landing - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	500	70.62	70.62
21 - 40	196	27.68	98.31
41 - 80	12	1.69	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Dioxide (NO₂) - ppb
Barge Landing - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	62	62	16	9	4	4	5	80	55	37	36	28	33	37	19	13	500
21 - 40	23	16	7	1	2	3	9	47	28	13	3	5	8	4	4	22	195
11 - 80	1	0	0	0	3	1	1	4	1	1	0	0	0	0	0	0	12
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	86	78	23	10	9	8	15	131	84	51	39	33	41	41	23	35	707

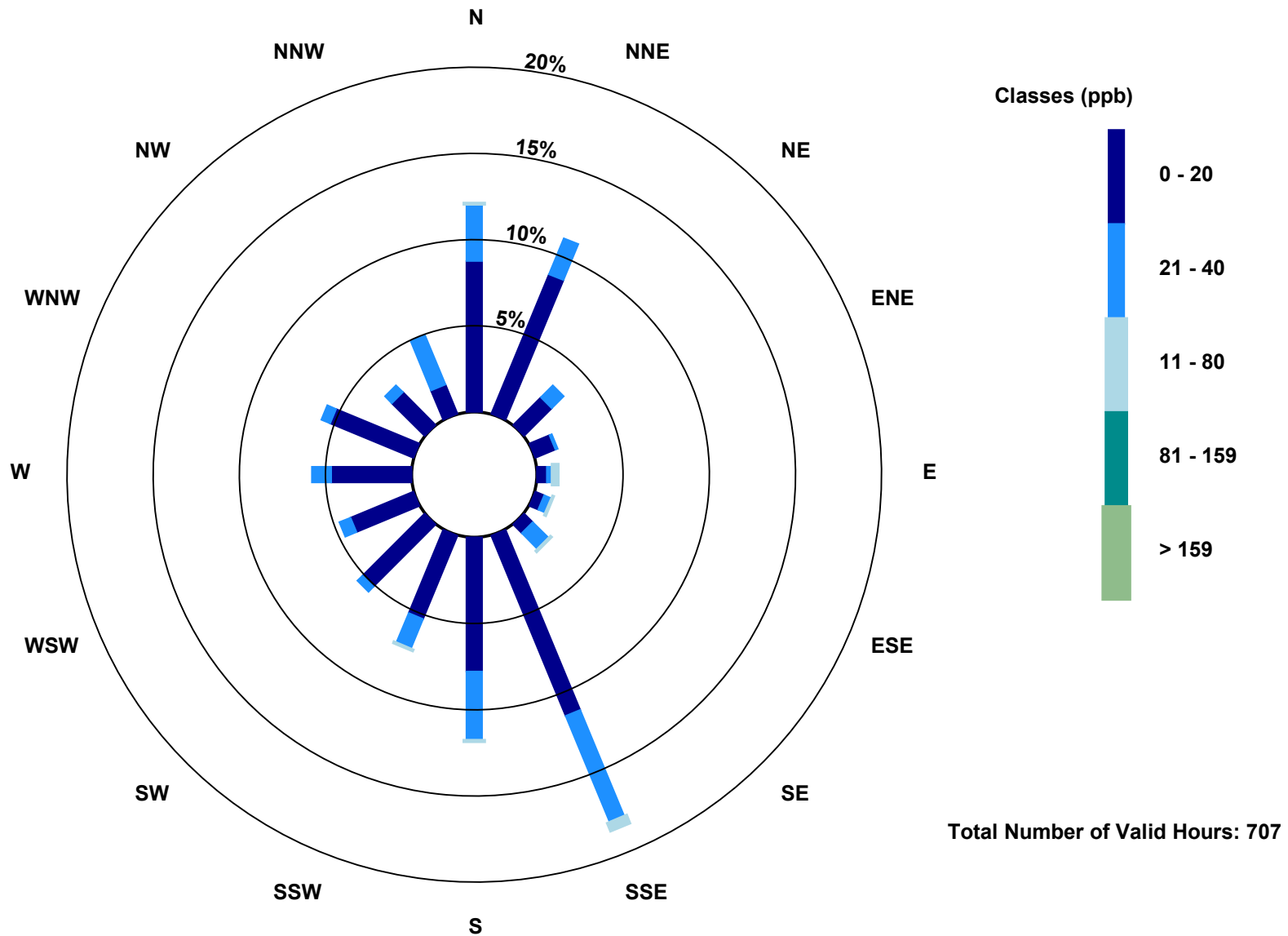
Total Number of Valid Hours: 707

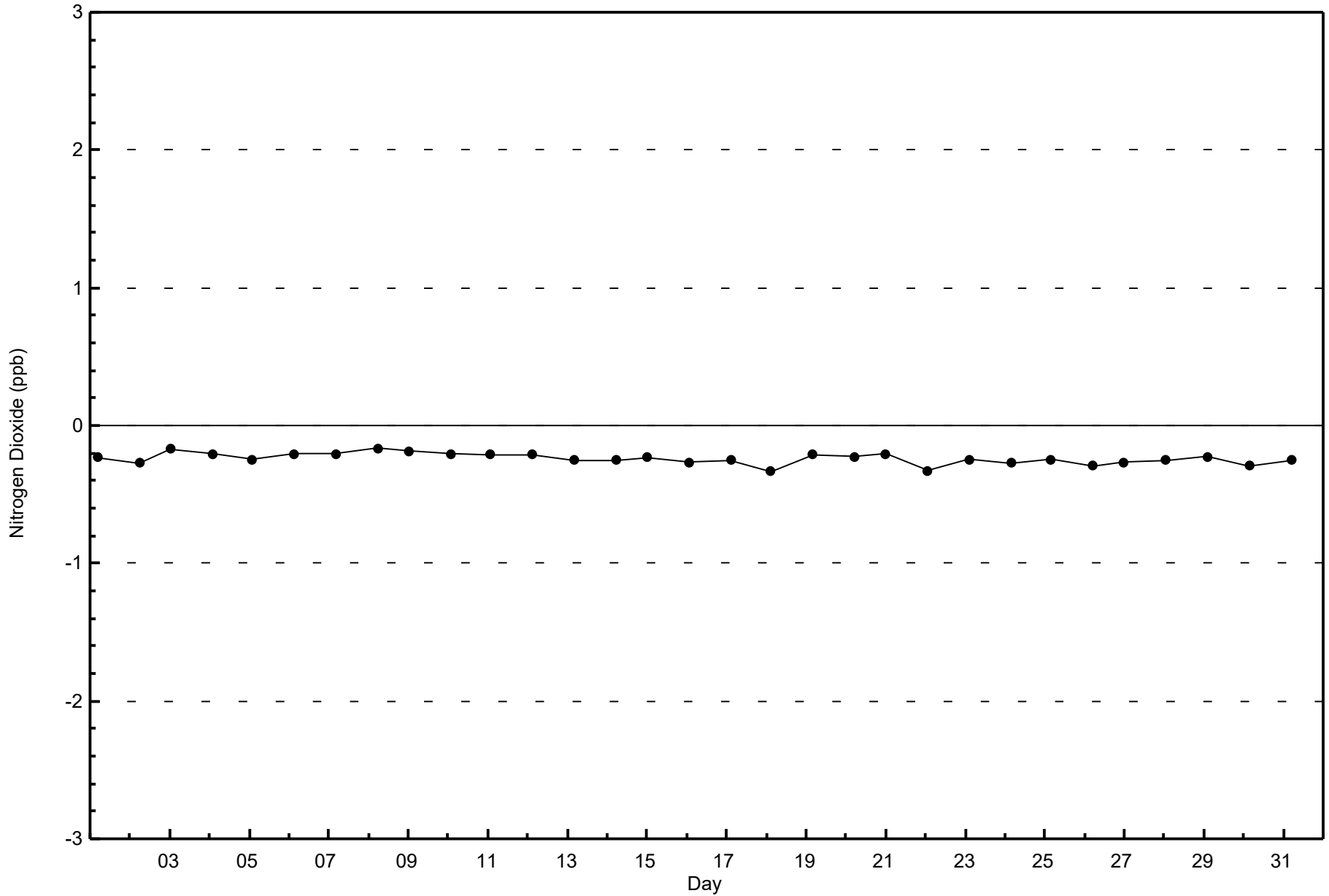
Total Number of Hours: 744

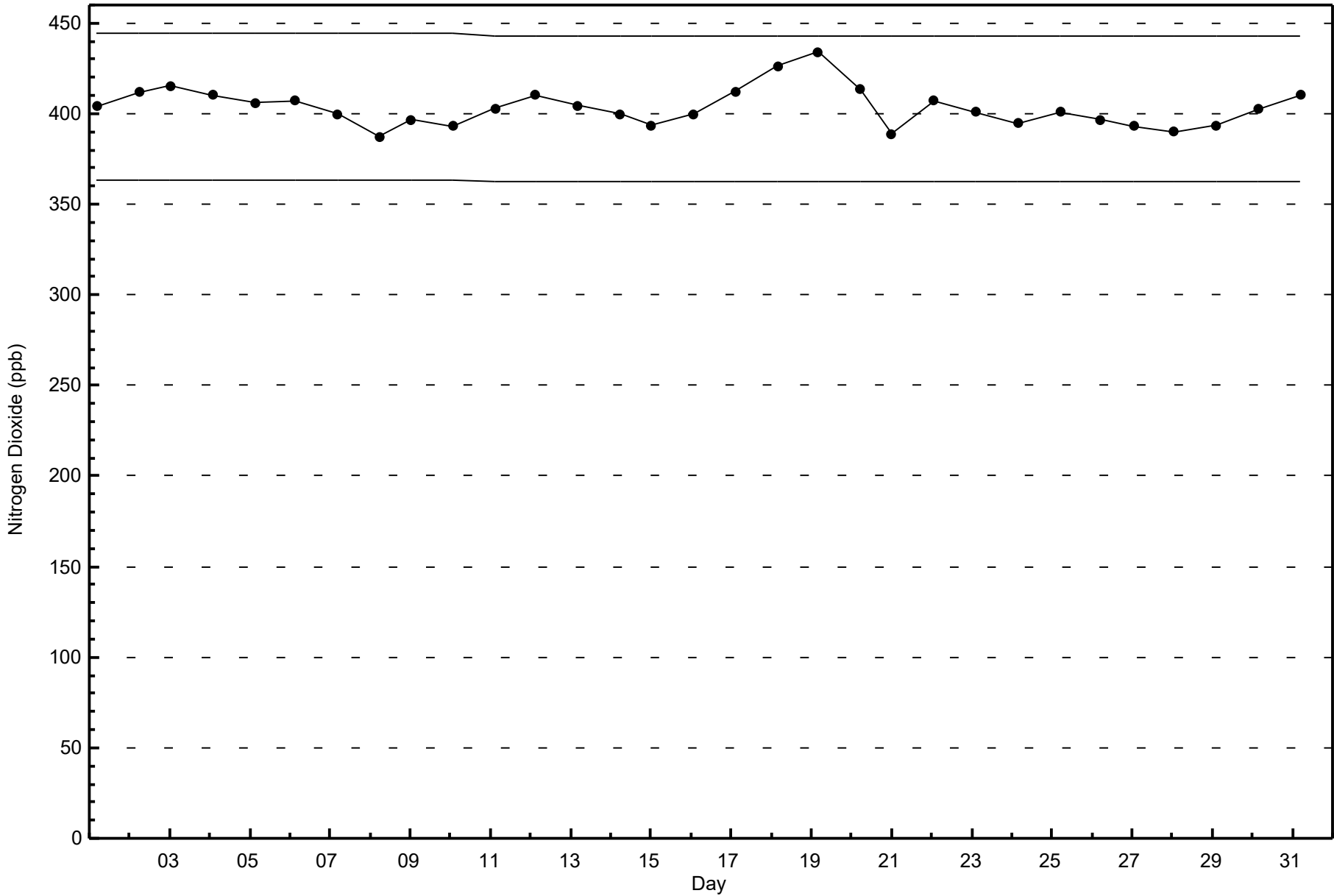


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Dioxide (NO₂) - ppb
Barge Landing









Wood Buffalo Environmental Association
Summary of Hour Averages

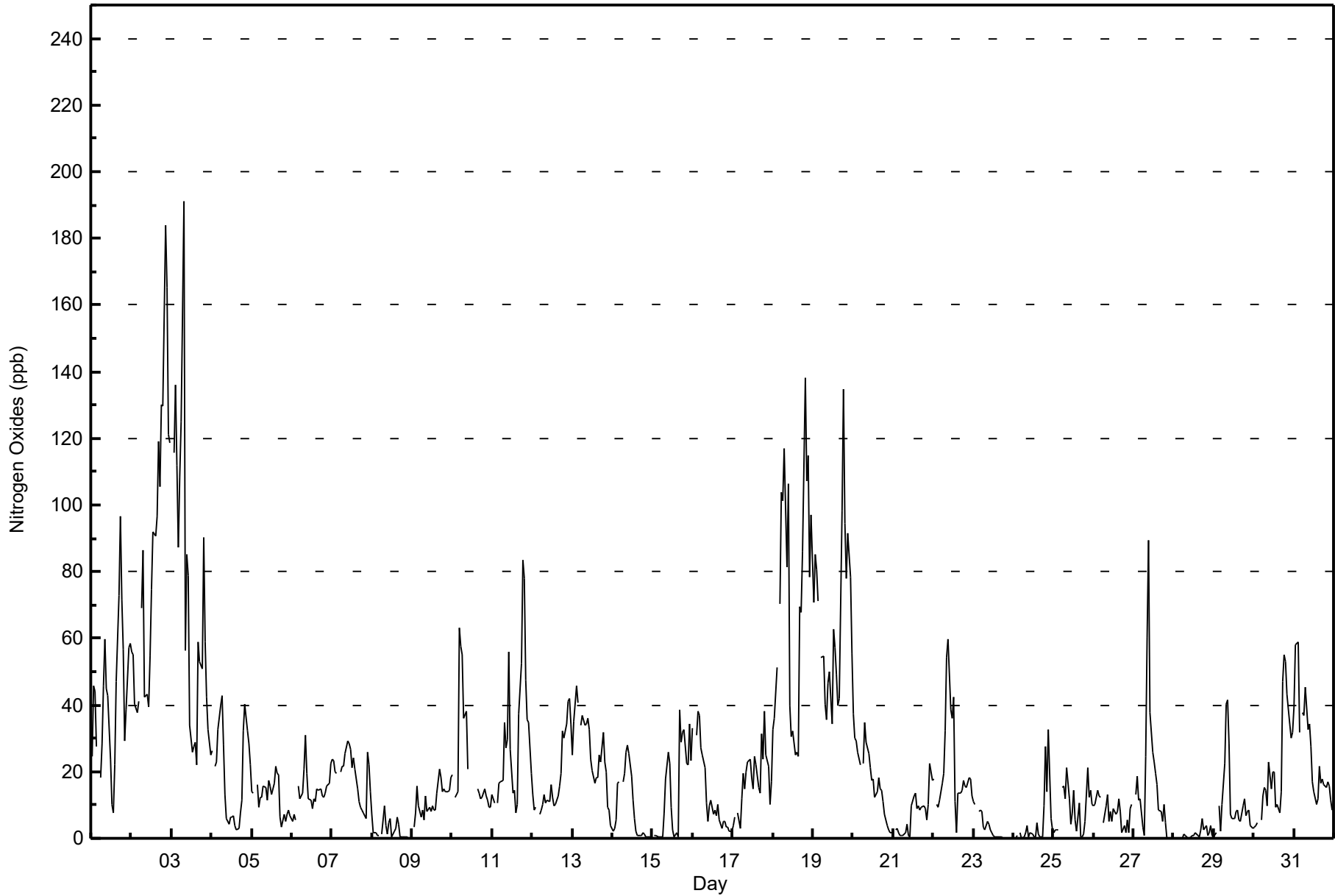
Nitrogen Oxides (NO_x) - ppb
Barge Landing - January 2025

Maximum Value: 191.1 ppb on Jan 3 08:00		Maximum Daily Average: 86.6 ppb on Jan 2		Hours in Service: 744																							
Minimum Value: 0.1 ppb on Jan 28 09:00		Minimum Daily Average: 1.3 ppb on Jan 28		Hours of Data: 708																							
Maximum Diurnal Average: 31.7 ppb at hour 8		Minimum Diurnal Average: 14.7 ppb at hour 15		Hours of Missing Data: 36																							
Monthly Average: 23.07 ppb		Percentiles: P ₁ = 0.2 P ₁₀ = 0.9 Q ₁ = 5.9 Median = 14.0 Q ₃ = 29.4 P ₉₀ = 55.7 P ₉₉ = 129.4		Hours of Calibration: 36																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	24.4	45.9	44.2	27.7	Z	18.2	28.3	45.8	59.6	45.1	42.6	23.9	10.0	7.5	22.1	46.8	73.0	96.6	71.5	56.8	29.3	38.7	57.4	58.6	42.4	96.6	
2-Jan	55.8	55.1	40.4	37.9	41.0	Z	69.3	86.2	42.3	43.3	39.3	54.7	74.4	92.2	90.6	96.4	119.1	105.6	130.2	129.7	183.7	165.2	121.4	118.5	86.6	183.7	
3-Jan	Z	115.6	136.0	111.8	87.1	108.3	125.1	191.1	56.3	85.1	78.9	33.8	26.0	27.7	28.7	21.9	58.9	53.1	51.0	90.4	59.0	42.3	32.5	25.0	71.5	191.1	
4-Jan	26.4	Z	21.8	22.7	32.5	39.8	42.7	27.9	13.1	6.0	4.1	6.2	6.5	6.7	3.6	2.4	3.1	7.5	11.3	32.3	40.1	32.3	28.3	22.2	19.1	42.7	
5-Jan	14.0	13.6	Z	16.3	9.5	12.4	12.3	15.8	15.4	11.4	17.2	15.7	13.3	16.4	21.7	19.5	19.0	6.3	3.6	7.2	5.0	7.0	8.3	6.7	12.5	21.7	
6-Jan	5.2	7.2	5.6	Z	15.7	11.9	13.4	20.9	30.8	19.5	11.9	11.3	8.9	11.9	11.0	14.8	14.5	14.9	12.8	12.4	13.5	15.7	16.5	22.7	14.0	30.8	
7-Jan	23.7	23.1	19.9	19.6	Z	20.1	21.8	21.5	25.5	29.2	28.3	26.8	21.0	24.2	21.0	14.7	11.0	9.2	8.6	7.6	5.9	25.8	22.1	14.0	19.3	29.2	
8-Jan	7.3	1.6	1.7	1.0	0.8	Z	1.2	9.6	3.9	1.2	4.7	6.0	0.4	2.0	2.9	6.5	4.1	0.3	0.4	0.2	0.3	0.2	0.2	0.2	2.5	9.6	
9-Jan	Z	3.4	7.7	15.8	9.6	6.4	8.3	5.4	12.7	8.0	9.1	8.1	9.7	8.7	8.3	13.4	20.6	18.3	13.9	14.7	14.0	14.1	14.4	18.0	11.4	20.6	
10-Jan	19.2	Z	12.2	13.8	63.0	57.4	55.1	36.2	38.0	20.8	C	C	C	C	C	14.8	13.6	11.7	12.2	14.9	12.7	11.5	9.4	9.2	23.6	63.0	
11-Jan	13.2	10.5	Z	10.7	16.4	16.8	17.2	34.9	27.1	29.8	55.8	26.6	13.4	14.4	7.7	10.4	37.4	52.4	83.3	77.9	47.3	35.5	34.6	19.5	30.1	83.3	
12-Jan	13.2	8.4	9.4	Z	7.3	8.4	10.1	13.0	10.4	11.4	11.2	16.0	12.4	9.6	10.1	12.8	15.7	19.7	32.2	30.0	34.4	41.1	42.1	34.3	18.0	42.1	
13-Jan	24.9	35.1	45.9	40.6	Z	34.0	37.0	33.7	34.3	35.9	32.7	23.6	20.2	16.4	18.3	18.1	24.9	23.1	31.9	22.7	19.9	9.3	8.5	4.0	25.9	45.9	
14-Jan	1.9	2.9	5.5	16.4	16.7	Z	17.0	19.4	25.9	28.0	25.4	18.5	11.6	5.9	2.0	1.1	0.9	0.7	1.8	1.4	0.6	0.6	0.4	0.4	8.9	28.0	
15-Jan	Z	0.7	1.0	0.3	0.3	0.2	0.2	7.5	17.9	25.9	22.5	9.2	2.7	0.5	1.6	0.5	38.8	28.9	31.9	32.5	22.5	21.8	34.3	23.5	14.1	38.8	
16-Jan	33.0	Z	31.1	38.0	36.9	26.9	25.0	21.2	10.5	5.1	9.8	11.4	7.2	8.4	6.7	10.2	5.5	2.8	5.0	5.2	3.3	3.2	2.2	2.1	13.5	38.0	
17-Jan	4.0	6.3	Z	7.8	3.1	11.7	19.7	15.0	20.0	22.8	23.7	18.4	14.7	24.6	21.8	15.2	13.7	31.2	23.6	38.3	25.0	21.8	10.3	17.1	17.8	38.3	
18-Jan	32.6	36.1	51.1	Z	70.1	104.0	101.1	116.9	81.3	106.3	40.0	30.4	32.1	24.8	25.7	24.5	69.3	67.6	86.1	138.1	107.2	114.9	78.3	96.8	71.1	138.1	
19-Jan	70.6	85.1	80.4	71.3	Z	54.1	54.9	40.5	35.7	46.7	50.1	34.5	62.6	57.2	49.1	39.6	42.1	98.1	134.8	94.5	77.8	91.3	78.4	55.6	65.4	134.8	
20-Jan	37.3	30.2	29.2	26.0	21.9	Z	22.5	34.6	29.0	25.6	21.2	17.6	17.7	12.4	14.1	18.3	15.0	14.5	10.9	7.2	4.0	2.5	1.6	1.5	18.0	37.3	
21-Jan	Z	2.7	2.8	1.6	0.9	0.8	0.9	1.5	4.1	0.9	0.5	9.9	12.7	13.4	8.8	9.9	8.5	9.2	9.9	9.0	5.5	10.4	22.5	17.5	7.1	22.5	
22-Jan	17.8	Z	10.3	9.1	11.6	16.5	19.6	32.0	54.1	59.9	38.5	35.9	42.3	11.0	1.6	13.6	13.4	14.3	17.3	15.6	15.1	18.4	17.7	12.7	21.7	59.9	
23-Jan	10.9	10.2	Z	8.2	8.6	7.8	3.6	2.5	5.2	4.4	2.5	1.6	0.7	0.4	0.3	0.3	0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.2	3.0	10.9	
24-Jan	0.2	0.2	0.7	Z	1.5	0.2	0.2	1.7	3.7	0.5	1.8	1.4	0.4	0.4	4.6	1.4	0.4	0.6	9.7	27.4	13.9	32.6	6.0	2.7	4.9	32.6	
25-Jan	1.9	2.6	2.4	2.5	Z	15.4	15.7	11.8	21.2	11.9	4.2	7.6	14.2	5.6	2.0	10.6	0.5	0.3	1.2	5.2	21.3	12.4	14.2	10.1	8.5	21.3	
26-Jan	9.8	10.1	14.3	12.8	12.1	Z	4.7	9.6	13.1	5.2	8.0	5.1	9.1	7.2	8.2	12.0	8.0	1.7	3.6	1.7	5.4	1.6	9.1	10.1	7.9	14.3	
27-Jan	Z	13.1	18.7	11.2	11.7	3.4	0.8	24.6	60.4	89.3	37.6	26.0	23.0	19.4	16.3	8.4	7.9	5.0	10.1	4.7	0.2	0.2	0.1	0.1	17.1	89.3	
28-Jan	0.1	Z	0.2	0.2	0.1	0.1	1.1	0.7	0.1	0.2	0.5	0.7	0.9	1.7	0.7	0.6	2.3	6.0	2.7	4.0	0.9	1.6	3.8	0.8	1.3	6.0	
29-Jan	0.5	1.9	Z	9.9	2.2	10.2	22.3	40.5	41.4	28.4	7.4	6.0	6.0	7.9	8.7	5.7	5.2	9.7	11.7	6.8	7.9	8.5	3.7	3.1	11.1	41.4	
30-Jan	3.3	3.7	4.7	Z	5.6	12.5	15.4	14.5	9.9	22.9	15.0	19.8	19.9	9.2	10.2	7.8	14.1	47.0	55.1	52.8	43.1	34.2	30.1	31.6	21.0	55.1	
31-Jan	39.4	57.9	58.7	31.7	Z	37.9	36.8	45.2	32.7	34.4	27.5	17.1	14.1	10.0	11.8	21.7	16.7	17.7	16.1	15.4	16.9	15.6	11.2	8.3	25.9	58.7	
	18.9	22.4	25.2	21.7	19.5	24.4	25.9	31.7	27.0	27.9	22.4	17.5	16.9	15.3	14.7	15.9	21.9	25.0	28.9	30.9	27.0	26.8	23.2	20.9		Diurnal Average	
	70.6	115.6	136.0	111.8	87.1	108.3	125.1	191.1	81.3	106.3	78.9	54.7	74.4	92.2	90.6	96.4	119.1	105.6	134.8	138.1	183.7	165.2	121.4	118.5		Diurnal Maximum	
Z - zerospan		C - Calibration																									



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Barge Landing - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Nitrogen Oxides (NO_x) - ppb
Barge Landing - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	448	63.28	63.28
21 - 40	151	21.33	84.60
41 - 80	70	9.89	94.49
81 - 159	35	4.94	99.44
> 159	3	0.42	99.86

Total Number of Valid Hours: 708

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Oxides (NO_x) - ppb
Barge Landing - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	56	58	14	8	4	4	4	66	39	32	35	28	33	36	19	12	448
21 - 40	21	17	3	1	1	0	6	42	30	8	1	0	5	2	0	14	151
11 - 80	8	3	5	1	0	1	3	16	4	7	3	4	2	3	3	6	69
81 - 159	1	0	1	0	3	3	2	5	10	4	0	1	1	0	1	3	35
> 159	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	3
Totals	86	78	23	10	9	8	15	130	84	51	39	33	41	41	23	35	706

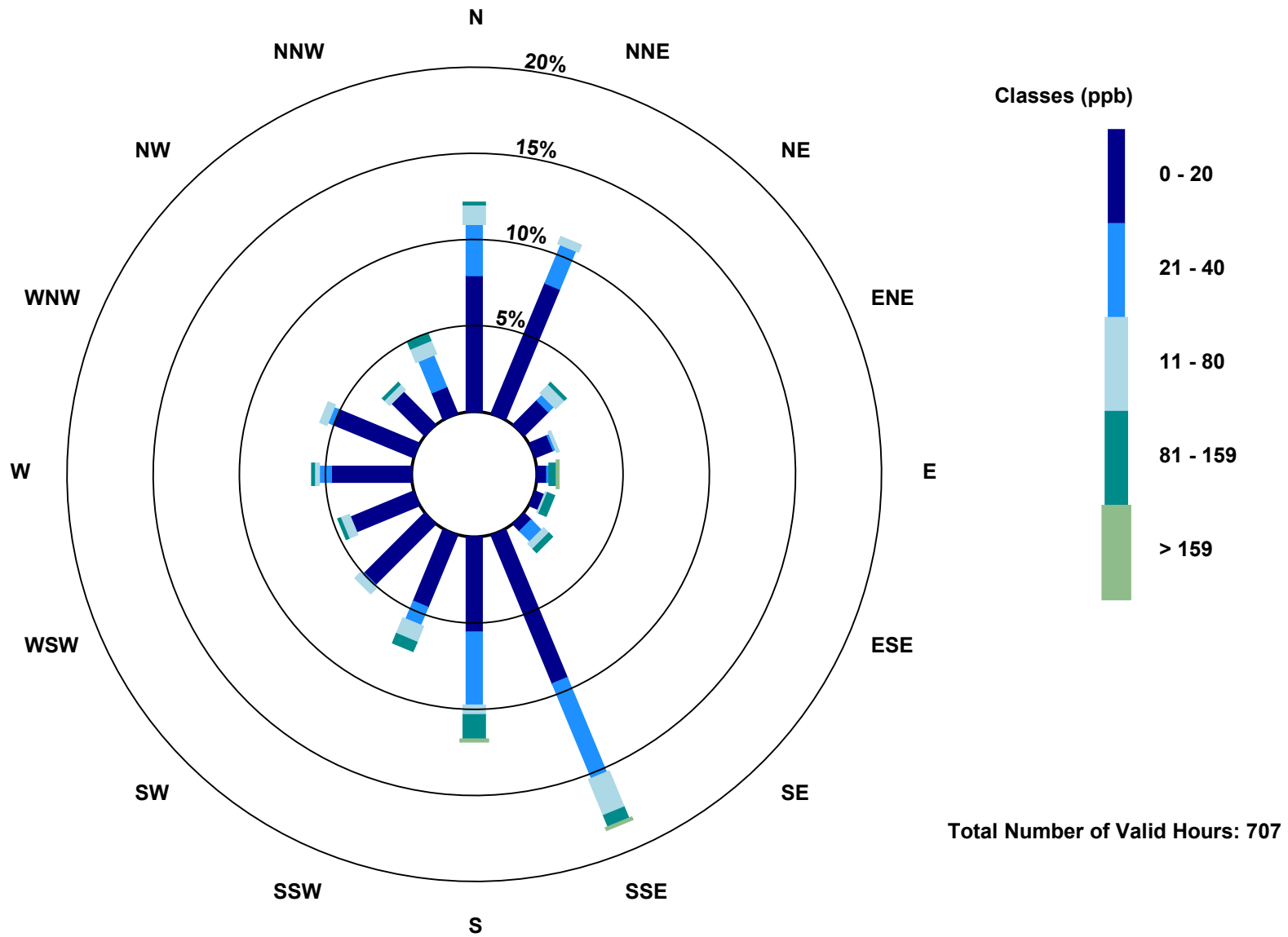
Total Number of Valid Hours: 707

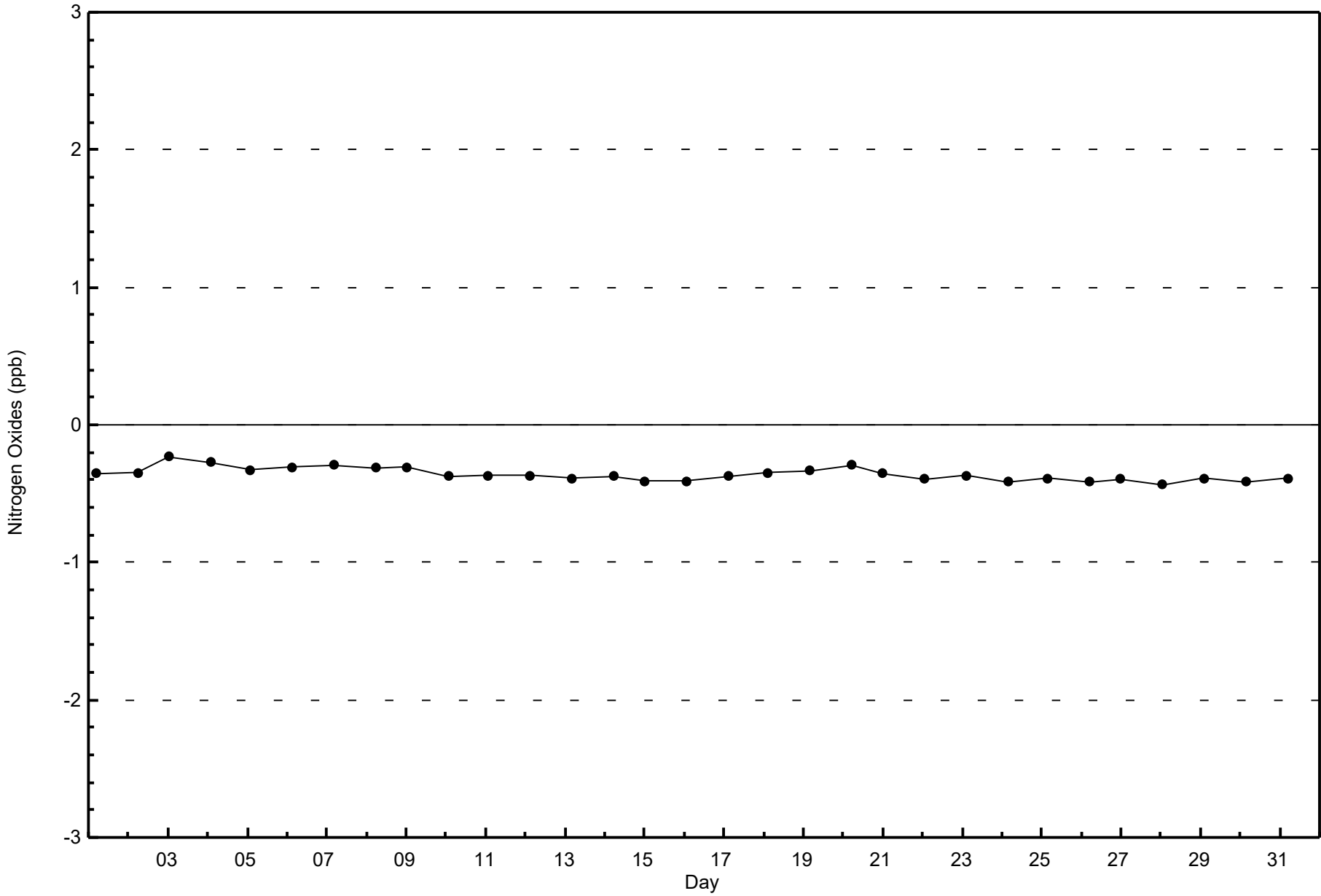
Total Number of Hours: 744

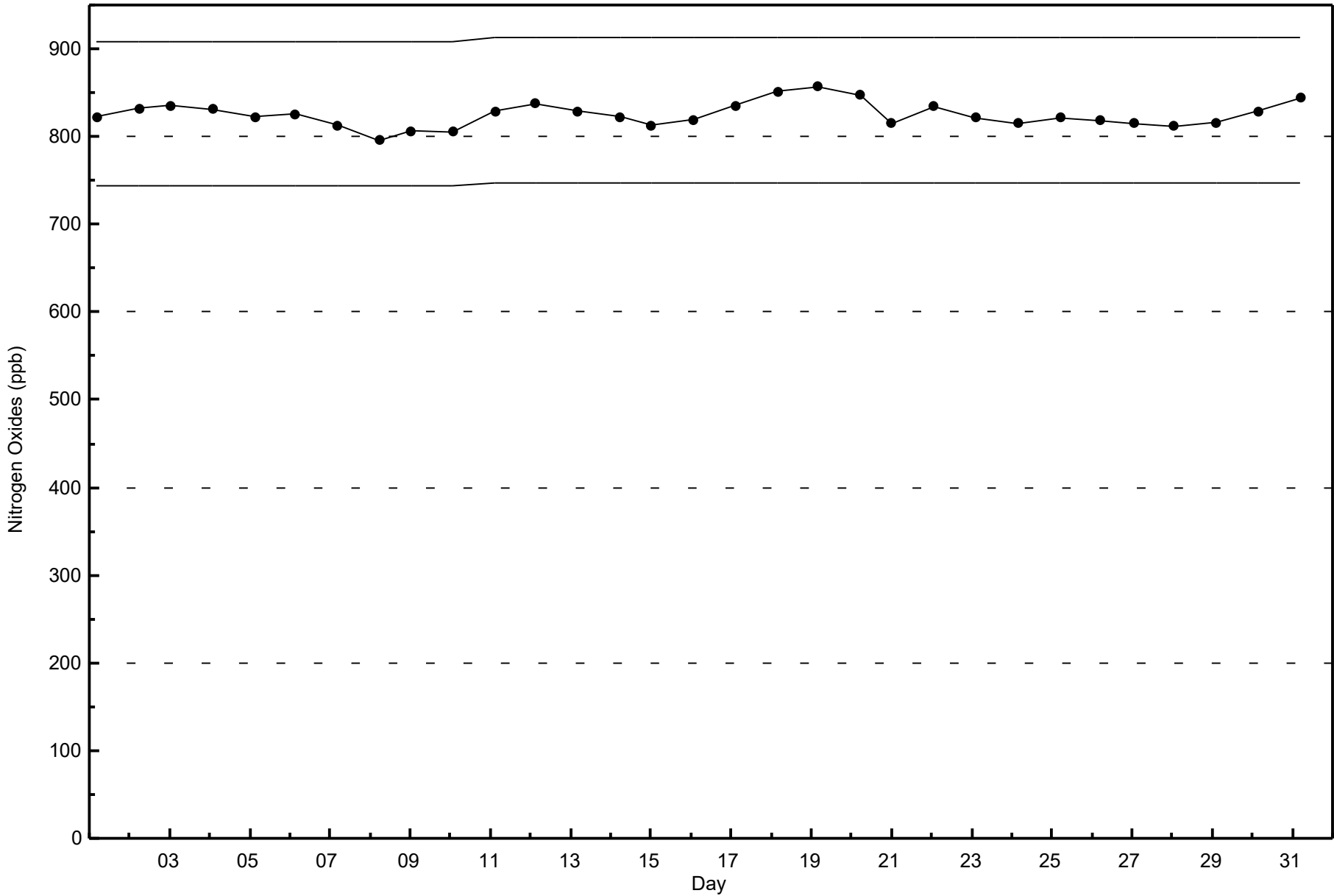


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Oxides (NO_x) - ppb
Barge Landing









Wood Buffalo Environmental Association

Summary of Hour Averages

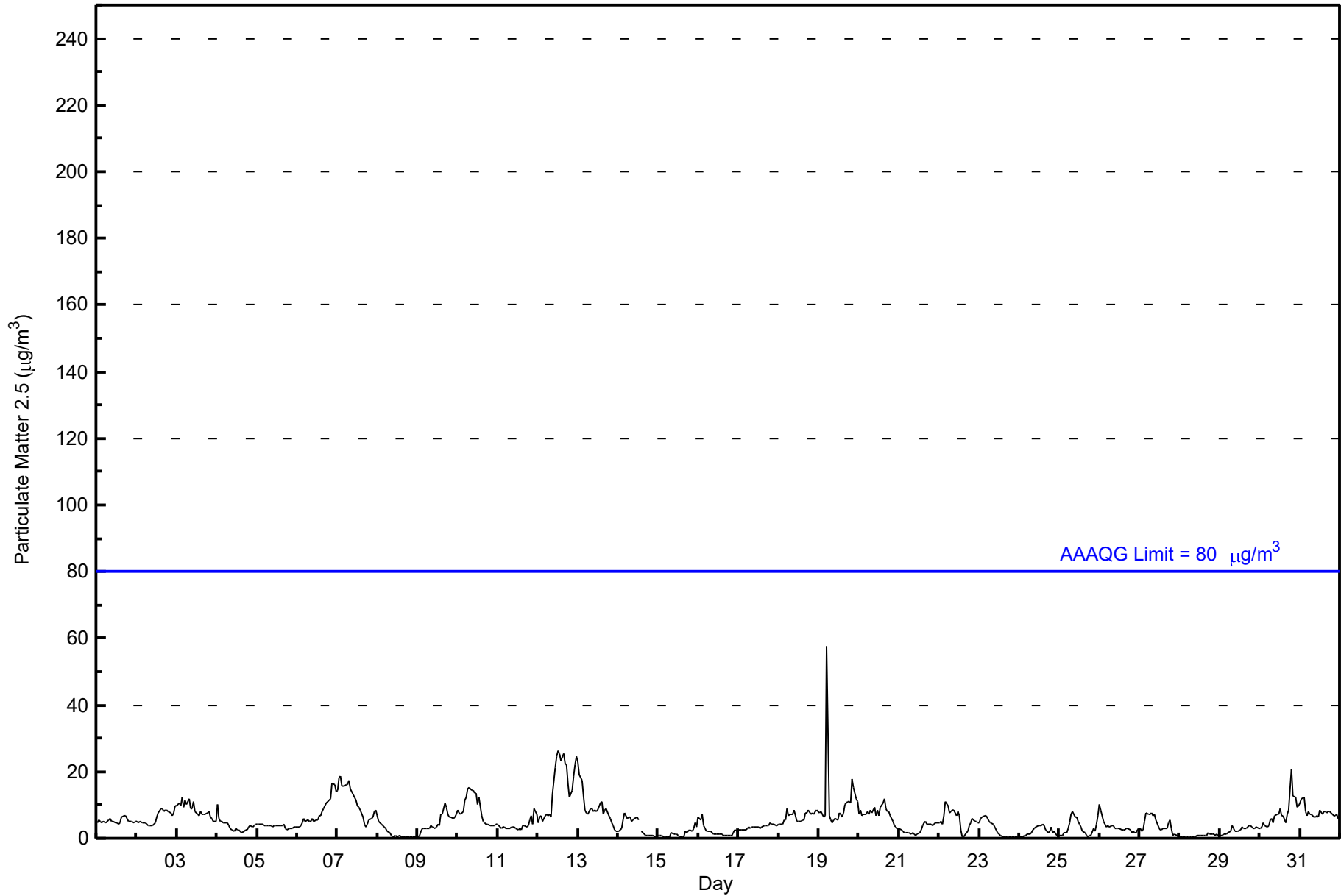
Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Barge Landing - January 2025

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 57.6 µg/m ³ on Jan 19 06:00	Maximum Daily Average: 15.4 µg/m ³ on Jan 12		Hours of Data:	743
Minimum Value: 0.2 µg/m ³ on Jan 22 15:00	Minimum Daily Average: 0.8 µg/m ³ on Jan 28		Hours of Missing Data:	1
Maximum Diurnal Average: 7.1 µg/m ³ at hour 6	Minimum Diurnal Average: 5.1 µg/m ³ at hour 16		Hours of Calibration:	1
Monthly Average: 5.39 µg/m ³	Percentiles: P ₁ = 0.4 P ₁₀ = 0.8 Q ₁ = 2.6 Median = 4.4 Q ₃ = 7.2 P ₉₀ = 10.3 P ₉₉ = 22.7		Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	4.7	5.5	5.0	4.7	5.0	4.7	5.1	5.6	5.9	5.3	5.3	4.8	4.6	4.2	4.9	6.4	6.6	6.8	5.9	5.0	5.0	5.0	4.6	4.9	5.2	6.8																							
2-Jan	5.1	4.7	4.9	4.6	4.9	4.5	4.2	4.0	4.0	3.9	4.4	4.7	6.5	7.6	9.1	9.0	8.0	8.3	8.4	8.1	7.5	6.6	7.8	9.6	6.3	9.6																							
3-Jan	9.9	10.7	9.6	12.5	9.5	11.3	10.2	11.9	8.8	8.8	11.0	8.2	7.0	6.7	8.0	7.3	7.2	7.1	7.5	7.9	6.2	5.9	4.9	5.1	8.5	12.5																							
4-Jan	10.1	6.1	5.0	4.9	4.8	4.5	4.8	3.8	2.9	2.5	2.3	2.8	2.5	2.6	1.9	1.7	1.9	2.5	2.7	3.5	3.7	3.2	4.0	4.3	3.7	10.1																							
5-Jan	4.1	4.0	4.2	4.1	3.8	3.9	3.8	3.8	3.9	3.4	3.9	4.0	3.8	3.8	4.0	3.9	4.0	3.2	2.7	3.0	2.9	3.1	3.4	3.3	3.7	4.2																							
6-Jan	3.2	3.4	3.7	4.6	5.8	5.1	5.5	5.0	5.2	6.0	5.1	5.6	5.6	6.8	6.6	8.0	8.7	10.5	11.2	11.5	11.9	16.7	15.9	14.1	7.7	16.7																							
7-Jan	14.4	18.3	18.5	15.6	15.6	16.0	16.3	17.2	14.7	13.3	12.4	11.6	9.7	9.5	8.5	6.4	4.2	3.5	4.3	5.6	5.8	6.5	7.8	8.3	11.0	18.5																							
8-Jan	6.8	5.0	4.4	3.8	3.2	2.8	2.3	1.6	0.8	0.4	0.4	0.7	0.4	0.8	0.4	0.6	0.6	0.3	0.3	0.4	0.4	0.6	0.5	0.5	1.6	6.8																							
9-Jan	0.4	0.7	2.1	3.1	3.0	3.1	3.2	3.1	3.7	3.5	3.2	3.4	4.1	3.7	7.2	7.4	10.5	9.2	7.1	6.2	6.3	5.7	6.2	7.2	4.7	10.5																							
10-Jan	8.4	7.5	7.3	7.9	11.5	12.4	14.9	15.2	14.6	14.6	13.5	13.7	10.3	12.1	6.6	5.0	4.5	4.2	4.3	4.0	3.7	3.9	3.6	4.2	8.7	15.2																							
11-Jan	4.4	3.5	3.1	3.2	3.3	3.1	2.8	2.9	3.2	3.6	3.6	2.9	2.7	2.8	2.5	3.8	3.7	3.5	3.7	5.6	6.8	4.3	8.8	7.3	4.0	8.8																							
12-Jan	4.8	6.4	6.7	5.0	6.8	7.3	6.8	7.3	6.2	13.3	21.1	24.7	26.1	25.6	23.2	25.5	22.5	22.1	16.5	12.2	14.5	18.6	21.9	24.6	15.4	26.1																							
13-Jan	22.9	19.2	17.3	12.5	8.4	7.5	7.4	8.8	8.7	7.9	8.3	8.0	8.4	10.4	11.1	7.2	8.5	8.8	6.7	5.8	4.6	3.7	2.7	2.2	9.0	22.9																							
14-Jan	2.0	2.4	2.8	5.4	7.7	6.0	6.5	6.2	5.0	5.5	5.8	6.5	5.5	C	2.3	1.6	1.0	0.8	0.7	0.7	1.0	0.6	0.7	3.4	7.7																								
15-Jan	0.9	0.9	0.9	0.6	0.5	0.4	0.4	0.6	1.7	1.4	1.5	1.3	0.7	0.5	0.6	0.6	2.1	1.9	2.3	2.3	2.2	2.9	4.5	3.5	1.5	4.5																							
16-Jan	6.2	5.3	7.0	4.0	2.8	2.1	2.0	1.9	1.7	1.4	1.4	1.1	1.1	1.1	1.1	0.9	0.7	0.8	0.8	0.6	1.0	1.8	2.3	2.3	2.1	7.0																							
17-Jan	2.7	2.7	2.7	2.7	2.6	3.0	3.3	3.1	3.3	3.5	3.3	3.4	3.2	3.0	3.4	3.7	3.9	3.8	3.6	4.5	4.2	4.3	3.6	3.7	3.4	4.5																							
18-Jan	4.1	4.2	4.1	5.6	5.6	9.1	7.0	7.0	7.1	8.3	6.7	5.0	4.9	5.1	5.4	5.6	7.7	7.6	8.3	7.2	7.8	7.3	8.2	8.3	6.5	9.1																							
19-Jan	7.8	7.9	7.2	6.5	6.7	57.6	7.0	5.6	4.6	5.3	5.8	5.6	7.5	7.3	6.4	7.6	10.3	11.2	11.2	10.7	17.8	15.2	11.9	11.1	10.7	57.6																							
20-Jan	7.3	8.5	7.0	7.3	7.3	8.2	7.3	8.4	7.8	9.2	7.0	8.3	6.8	9.4	10.5	11.7	8.7	8.3	8.2	6.7	4.9	3.9	3.3	2.9	7.4	11.7																							
21-Jan	2.8	2.5	1.9	1.6	1.8	1.7	1.7	1.5	1.5	1.3	0.9	1.2	1.5	2.7	3.6	4.8	5.0	4.4	4.4	4.1	3.9	4.1	4.6	4.5	2.8	5.0																							
22-Jan	4.6	5.0	4.4	6.7	11.1	9.6	7.8	7.9	8.6	8.6	6.6	7.9	6.8	2.7	0.2	0.6	1.6	1.9	3.9	4.8	6.1	5.2	5.1	4.7	5.5	11.1																							
23-Jan	4.6	6.1	6.2	6.7	6.6	6.1	5.0	4.5	4.1	3.5	2.5	1.7	1.2	0.7	0.5	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.5	2.7	6.7																								
24-Jan	0.5	0.5	0.5	1.0	0.8	1.2	1.2	1.6	2.4	2.8	3.5	3.9	3.9	4.0	4.4	3.8	2.6	1.6	2.0	3.2	1.8	2.2	1.0	0.7	2.1	4.4																							
25-Jan	0.8	0.7	0.9	1.7	1.8	2.8	4.5	7.1	7.9	6.5	6.2	5.0	4.3	3.4	2.0	1.9	0.9	0.6	0.7	0.7	3.0	2.2	4.2	6.8	3.2	7.9																							
26-Jan	10.1	8.5	5.0	4.2	3.5	3.8	3.6	3.9	3.7	3.1	3.1	2.8	2.8	2.6	2.6	2.6	2.9	2.9	2.4	1.6	2.3	1.6	1.5	2.5	3.5	10.1																							
27-Jan	2.9	2.3	2.6	5.2	7.5	7.1	7.3	7.8	6.7	7.3	5.5	3.4	2.7	2.7	2.8	2.8	2.9	4.5	5.4	3.0	1.0	1.1	1.0	0.6	4.0	7.8																							
28-Jan	0.5	0.5	0.5	0.4	0.5	0.5	0.6	0.6	0.5	0.6	0.7	0.8	1.0	1.0	0.8	0.8	0.9	1.5	1.1	1.2	1.1	1.1	1.1	1.0	0.8	1.5																							
29-Jan	1.0	0.9	1.1	1.1	1.2	1.5	2.3	3.7	3.1	2.3	2.0	1.9	2.6	3.6	3.1	2.8	2.9	3.8	3.8	3.2	3.1	3.1	3.2	3.1	2.5	3.8																							
30-Jan	3.1	3.5	4.5	4.0	3.5	4.0	5.3	5.8	4.5	6.7	7.1	7.4	8.8	6.8	6.8	4.8	7.1	8.6	14.8	20.6	12.8	12.3	9.3	9.9	7.6	20.6																							
31-Jan	10.7	11.7	12.4	8.2	6.6	8.1	7.4	7.1	6.2	6.4	6.9	6.5	8.4	7.3	7.8	7.9	7.5	8.1	8.1	7.0	6.7	6.6	7.0	6.1	7.8	12.4																							
																								5.5	5.5	5.3	5.1	5.3	7.1	5.4	5.6	5.3	5.5	5.5	5.4	5.3	5.3	5.1	5.1	5.2	5.2	5.3	5.2	5.2	5.3	5.4	Diurnal Average		
																								22.9	19.2	18.5	15.6	15.6	57.6	16.3	17.2	14.7	14.6	21.1	24.7	26.1	25.6	23.2	25.5	22.5	22.1	16.5	20.6	17.8	18.6	21.9	24.6	Diurnal Maximum	

C - Calibration
 Alberta Ambient Air Quality Guideline/Objectives: 1-hr 80 µg/m³ 24-hr 29 µg/m³





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Barge Landing - January 2025

Concentration Ranges ($\mu\text{g}/\text{m}^3$)	Number of Hours	%	Cumulative %
0 - 5	457	61.51	61.51
6 - 15	259	34.86	96.37
16 - 25	23	3.10	99.46
26 - 80	4	0.54	100.00
> 81.0	0	0.00	100.00

Total Number of Valid Hours: 743

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - μg/m³
Barge Landing - January 2025

Concentration Ranges (μg/m ³)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	70	70	15	7	4	5	8	34	23	33	35	35	38	41	18	20	456
6 - 15	16	13	7	3	5	3	6	86	58	22	4	2	7	1	6	20	259
16 - 25	0	0	1	0	0	0	2	16	4	0	0	0	0	0	0	0	23
26 - 80	1	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	4
> 81.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	87	83	23	10	9	8	16	138	86	55	39	37	45	42	24	40	742

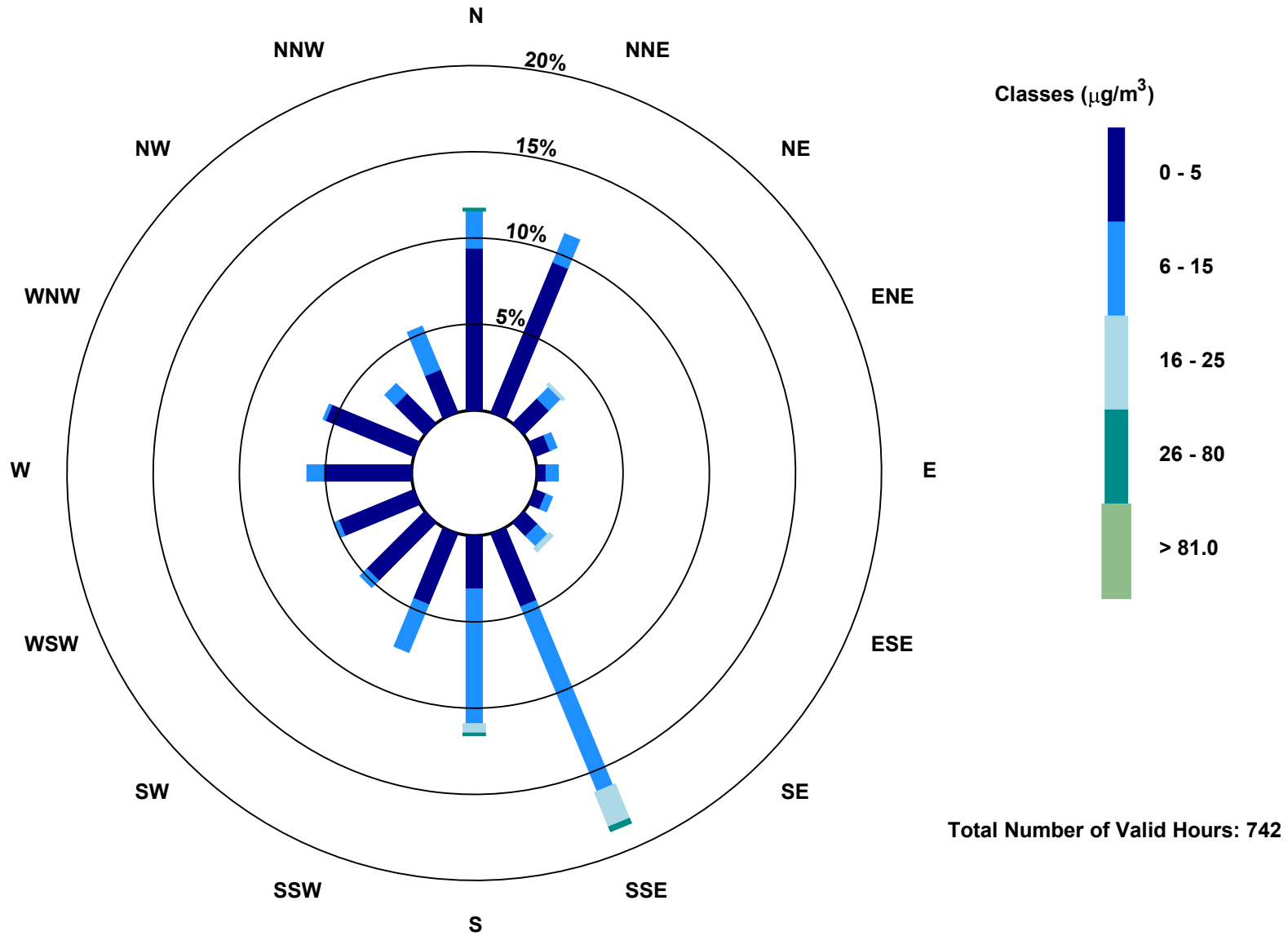
Total Number of Valid Hours: 742

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Barge Landing





Wood Buffalo Environmental Association
Summary of Hour Averages

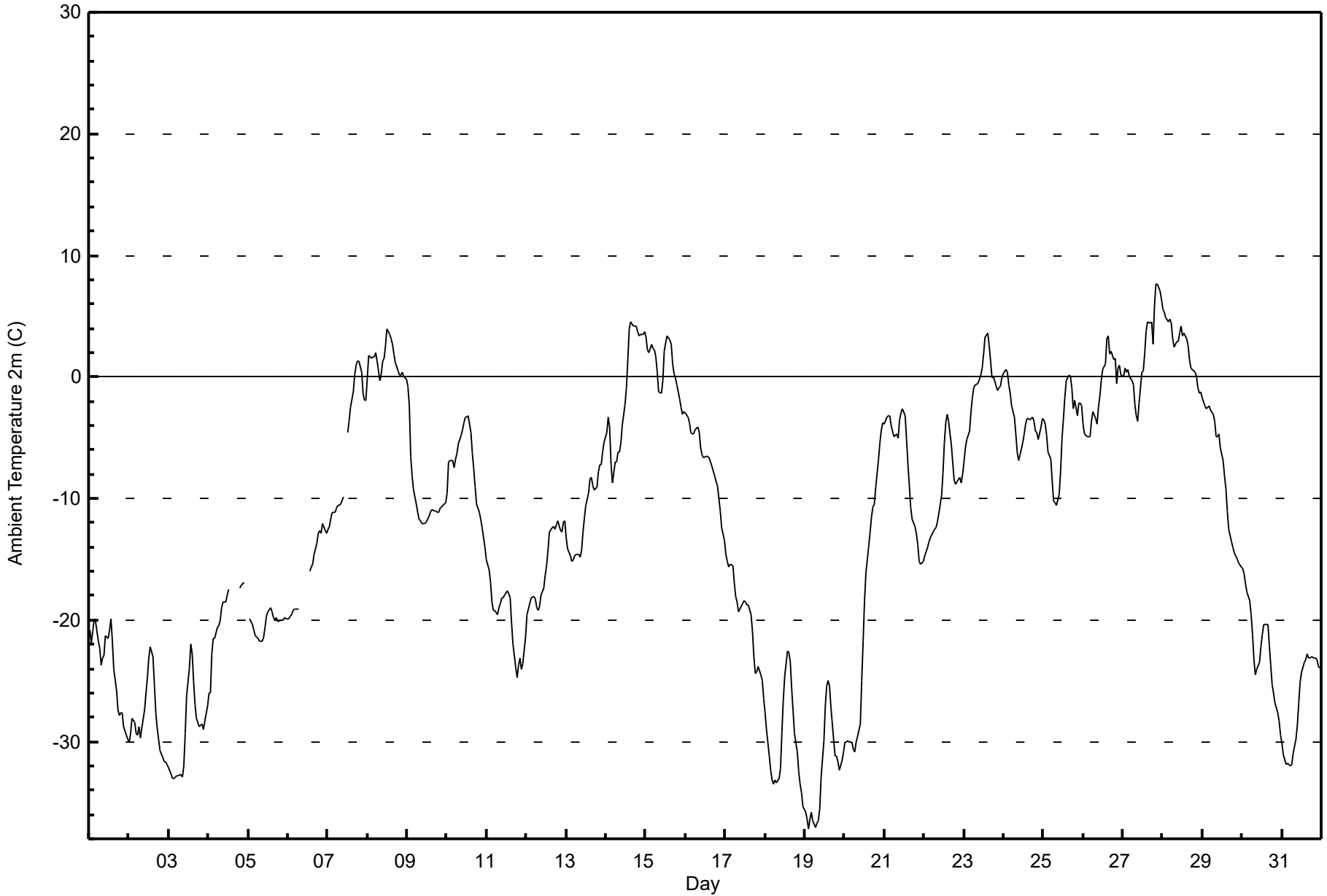
Ambient Temperature 2m (AT2) - C
Barge Landing - January 2025

Maximum Value: 7.7 C on Jan 27 21:00		Maximum Daily Average: 2.6 C on Jan 28		Hours in Service: 744																							
Minimum Value: -37.2 C on Jan 19 03:00		Minimum Daily Average: -32.3 C on Jan 19		Hours of Data: 727																							
Maximum Diurnal Average: -9.7 C at hour 15		Minimum Diurnal Average: -14.4 C at hour 9		Hours of Missing Data: 17																							
Monthly Average: -12.61 C		Percentiles: P ₁ = -35.8 P ₁₀ = -29.3 Q ₁ = -21.5 Median = -11.5 Q ₃ = -3.1 P ₉₀ = 1.4 P ₉₉ = 4.9		Hours of Calibration: 0																							
				Percent Operational Time: 97.7																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	-20.8	-21.9	-21.0	-19.9	-20.1	-21.8	-22.3	-23.7	-23.1	-22.9	-21.3	-21.6	-20.8	-19.9	-21.7	-24.0	-25.8	-27.4	-27.8	-27.6	-27.6	-28.7	-29.4	-29.8	-23.8	-19.9	
2-Jan	-30.0	-29.3	-28.1	-28.4	-29.3	-29.5	-28.8	-29.7	-28.8	-27.4	-26.1	-24.7	-23.1	-22.2	-23.0	-25.3	-27.6	-28.9	-29.8	-30.7	-31.3	-31.6	-31.6	-31.9	-28.2	-22.2	
3-Jan	-32.2	-32.7	-33.0	-33.1	-33.0	-32.8	-32.8	-32.7	-32.9	-32.0	-29.3	-26.3	-23.9	-22.0	-22.8	-25.1	-26.9	-28.1	-28.8	-28.6	-28.5	-29.0	-28.3	-27.1	-29.2	-22.0	
4-Jan	-26.0	-26.0	-22.8	-21.5	-21.5	-20.6	-20.5	-20.0	-19.0	-18.6	-18.5	-18.0	-17.5	UO	UO	UO	UO	UO	UO	-17.3	-17.2	-16.9	UO	UO	--	-16.9	
5-Jan	UO	-19.9	-20.4	-20.9	-21.3	-21.4	-21.6	-21.8	-21.8	-21.4	-20.6	-19.7	-19.4	-19.0	-19.4	-19.8	-20.0	-19.8	-20.1	-20.1	-20.0	-20.0	-19.8	-19.9	-20.3	-19.0	
6-Jan	-19.9	-19.7	-19.5	-19.2	-19.1	-19.1	-19.1	UO	UO	UO	UO	UO	UO	-16.0	-15.6	-15.4	-14.6	-13.7	-12.9	-12.6	-12.9	-12.1	-12.6	-12.8	-15.9	-12.1	
7-Jan	-12.5	-12.3	-11.6	-11.2	-11.1	-10.8	-10.6	-10.5	-10.5	-9.9	M	M	-4.6	-3.7	-2.6	-1.2	0.2	0.9	1.3	1.3	0.3	-1.3	-2.0	-2.0	-5.6	1.3	
8-Jan	-0.1	1.7	1.5	1.7	1.6	1.9	1.4	-0.3	0.2	1.3	1.6	2.5	3.9	3.5	3.1	2.6	1.9	1.2	0.6	0.1	0.1	0.3	0.1	-0.2	1.3	3.9	
9-Jan	-0.8	-2.4	-6.5	-8.2	-9.3	-10.5	-11.2	-11.7	-11.9	-12.1	-12.0	-11.9	-11.7	-11.5	-11.1	-11.0	-11.0	-11.1	-11.2	-11.1	-10.8	-10.6	-10.5	-10.3	-10.0	-0.8	
10-Jan	-9.5	-7.0	-6.9	-6.9	-7.4	-6.8	-6.3	-5.5	-4.8	-4.4	-3.7	-3.3	-3.3	-3.1	-4.6	-6.3	-7.6	-9.0	-10.4	-11.2	-11.8	-12.4	-13.2	-14.1	-7.5	-3.1	
11-Jan	-15.1	-15.9	-16.9	-18.5	-19.2	-19.2	-19.6	-19.0	-18.6	-18.2	-18.1	-17.9	-17.6	-17.9	-18.2	-20.2	-22.0	-24.0	-24.7	-23.7	-23.1	-24.0	-23.5	-21.4	-19.8	-15.1	
12-Jan	-19.6	-19.1	-18.7	-18.2	-18.1	-18.3	-19.0	-19.2	-18.8	-18.0	-17.3	-16.4	-15.5	-14.2	-12.8	-12.4	-12.3	-12.5	-12.1	-11.8	-12.6	-12.8	-11.9	-11.8	-15.6	-11.8	
13-Jan	-13.2	-14.2	-14.7	-15.1	-15.1	-14.8	-14.7	-14.6	-14.9	-14.2	-12.7	-11.5	-10.6	-9.5	-8.4	-8.2	-8.9	-9.3	-9.1	-7.8	-7.2	-7.2	-6.2	-5.3	-11.1	-5.3	
14-Jan	-4.6	-3.3	-4.1	-7.1	-8.8	-7.0	-7.0	-6.2	-6.2	-5.5	-4.0	-2.2	-0.9	1.5	3.9	4.6	4.2	4.1	4.1	3.7	3.3	3.4	3.5	3.8	-1.1	4.6	
15-Jan	3.2	3.3	2.0	2.6	2.4	2.3	1.6	0.3	-1.2	-1.3	-0.3	2.1	2.8	3.4	3.0	2.7	1.1	0.3	-0.1	-0.7	-1.8	-2.5	-3.1	-2.9	0.8	3.4	
16-Jan	-3.0	-3.3	-3.8	-4.5	-4.7	-4.7	-4.4	-4.1	-4.6	-5.9	-6.5	-6.7	-6.5	-6.5	-6.7	-7.0	-7.3	-8.2	-8.6	-9.0	-9.9	-11.1	-12.4	-13.4	-6.8	-3.0	
17-Jan	-14.7	-15.1	-15.7	-15.4	-15.6	-16.9	-18.1	-18.5	-19.4	-19.1	-18.6	-18.4	-18.5	-18.7	-18.8	-19.6	-21.0	-23.1	-24.4	-24.3	-23.8	-24.5	-25.0	-26.5	-19.7	-14.7	
18-Jan	-27.6	-29.1	-31.2	-32.3	-33.2	-33.5	-33.2	-33.3	-33.0	-32.2	-29.3	-26.6	-24.7	-22.6	-22.7	-23.5	-25.6	-27.5	-29.3	-30.9	-32.4	-33.5	-34.2	-35.3	-29.9	-22.6	
19-Jan	-35.8	-36.4	-37.2	-36.4	-35.8	-36.4	-37.1	-36.7	-36.5	-35.6	-33.0	-29.9	-27.1	-25.4	-25.0	-25.4	-27.1	-29.9	-31.2	-31.2	-31.6	-32.4	-31.6	-30.8	-32.3	-25.0	
20-Jan	-30.1	-30.1	-30.0	-30.1	-30.0	-30.6	-30.8	-30.0	-29.6	-28.5	-25.0	-21.7	-18.4	-16.1	-13.9	-12.8	-11.5	-10.7	-10.4	-9.1	-6.7	-5.4	-4.3	-3.7	-19.6	-3.7	
21-Jan	-3.9	-3.3	-3.2	-3.2	-4.0	-4.4	-4.9	-4.7	-5.0	-3.6	-3.0	-2.6	-3.2	-5.1	-7.2	-9.0	-10.8	-11.7	-12.3	-12.9	-13.8	-15.2	-15.4	-15.2	-7.4	-2.6	
22-Jan	-14.7	-14.4	-14.0	-13.6	-13.3	-12.8	-12.5	-12.4	-11.9	-11.3	-9.8	-7.9	-5.4	-3.8	-3.1	-3.7	-5.6	-7.1	-8.5	-8.8	-8.6	-8.3	-8.7	-8.1	-9.5	-3.1	
23-Jan	-7.0	-5.8	-5.1	-4.5	-2.9	-1.7	-0.9	-0.7	-0.5	-0.3	0.2	0.8	1.9	3.3	3.6	2.6	1.3	0.0	0.0	-0.8	-1.1	-0.8	-0.7	-0.1	-0.8	3.6	
24-Jan	0.3	0.6	0.3	-0.6	-1.3	-2.4	-3.3	-4.7	-6.2	-6.9	-6.4	-5.4	-4.7	-3.9	-3.4	-3.4	-3.5	-3.3	-3.7	-4.5	-4.6	-5.2	-4.1	-3.4	-3.5	0.6	
25-Jan	-3.5	-3.9	-4.8	-6.2	-6.8	-8.6	-10.3	-10.3	-10.6	-9.7	-7.6	-5.1	-3.5	-1.7	-0.3	0.2	0.1	-0.9	-2.7	-2.0	-3.2	-2.2	-2.1	-2.4	-4.5	0.2	
26-Jan	-3.9	-4.6	-4.9	-5.0	-5.0	-3.7	-2.9	-3.5	-3.8	-2.6	-1.6	-0.3	0.6	1.1	3.1	3.4	1.8	2.1	1.4	1.5	-0.6	0.7	0.9	0.1	-1.1	3.4	
27-Jan	0.0	0.7	0.4	0.6	0.1	-0.3	-0.6	-2.3	-3.2	-3.6	-2.1	0.4	0.5	1.9	3.7	4.5	4.5	4.5	4.5	2.7	5.8	7.7	7.6	7.1	6.4	1.9	7.7
28-Jan	5.6	5.3	4.9	4.6	4.8	4.4	3.2	2.5	2.9	2.9	3.7	4.2	3.3	3.6	3.2	2.5	1.4	0.7	0.6	0.4	0.0	-0.9	-1.3	-1.2	2.6	5.6	
29-Jan	-1.6	-2.4	-2.6	-2.5	-2.3	-2.8	-3.1	-3.7	-4.9	-4.9	-4.7	-5.8	-6.9	-8.1	-9.2	-11.1	-12.5	-13.6	-14.1	-14.4	-14.7	-15.0	-15.4	-15.6	-8.0	-1.6	
30-Jan	-15.8	-16.2	-17.0	-17.7	-18.4	-19.5	-21.2	-23.2	-24.5	-24.1	-23.4	-22.2	-21.2	-20.4	-20.4	-20.4	-22.1	-23.7	-25.4	-26.0	-26.8	-27.6	-28.3	-29.5	-22.3	-15.8	
31-Jan	-30.2	-31.0	-31.9	-31.7	-31.9	-32.0	-31.9	-31.0	-29.8	-28.6	-26.8	-25.1	-24.3	-23.4	-23.2	-22.8	-23.1	-23.1	-23.1	-23.2	-23.1	-23.2	-23.8	-24.0	-26.8	-22.8	
																								Diurnal Average			
																								Diurnal Maximum			
-12.9 -13.2 -13.4 -13.6 -13.9 -14.0 -14.3 -14.4 -14.4 -14.0 -13.0 -11.8 -10.7 -9.9 -9.7 -10.2 -11.0 -11.8 -12.3 -12.5 -12.7 -13.0 -12.9 -12.9 5.6 5.3 4.9 4.6 4.8 4.4 3.2 2.5 2.9 2.9 3.7 4.2 3.9 3.6 3.9 4.6 4.5 4.5 4.1 5.8 7.7 7.6 7.1 6.4																											
M - Maintenance												UO - Unstable Operation															



Wood Buffalo Environmental Association
Hourly Averages

Ambient Temperature 2m (AT2) - C
Barge Landing - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Ambient Temperature 2m (AT2) - C
Barge Landing - January 2025**

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	211	29.02	29.02
-20 - 0	403	55.43	84.46
0 - 10	113	15.54	100.00
10 - 20	0	0.00	100.00
> 20	0	0.00	100.00

Total Number of Valid Hours: 727

Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

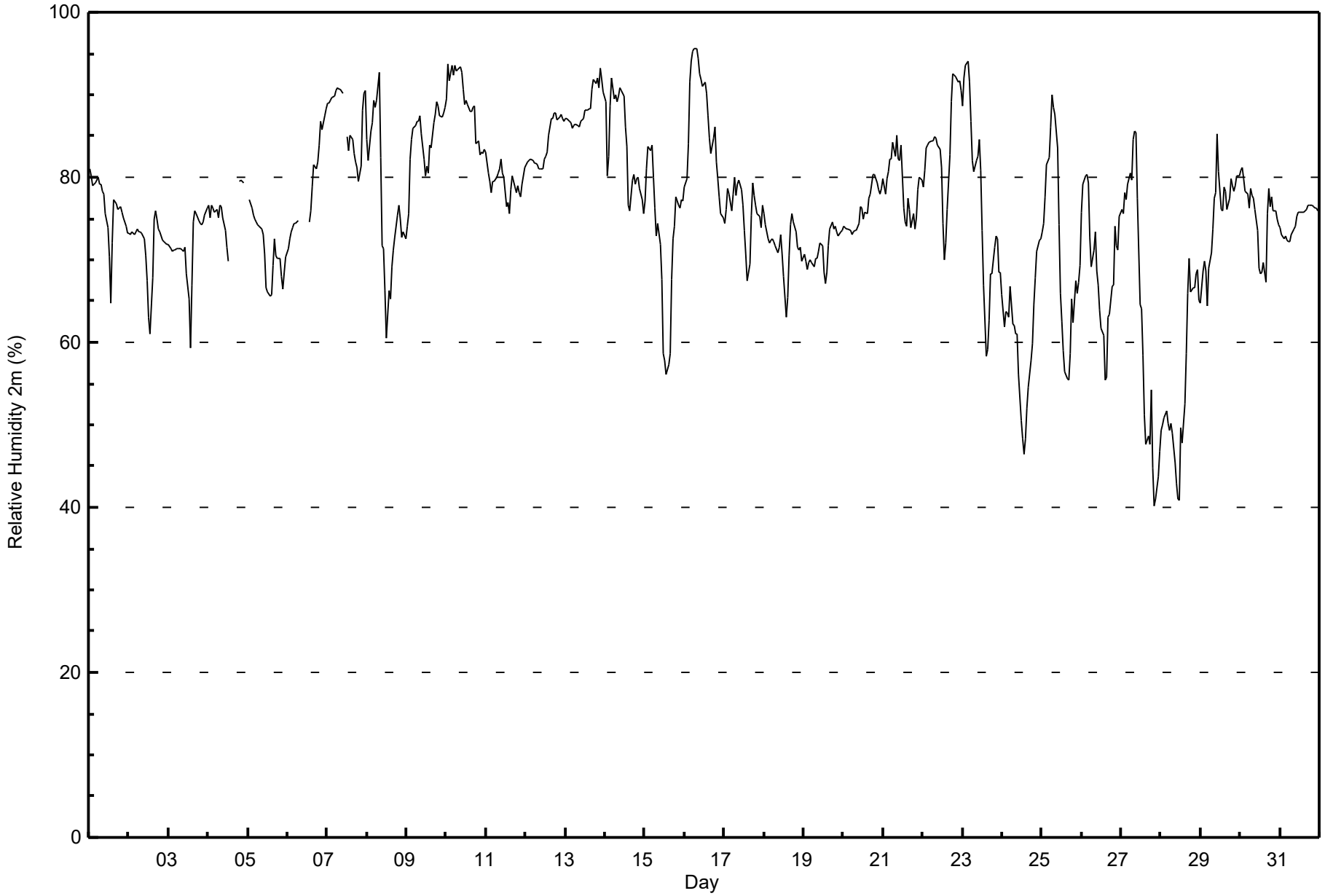
Relative Humidity 2m (RH2) - %
Barge Landing - January 2025

Maximum Value: 95.7 % on Jan 16 07:00		Maximum Daily Average: 89.1 % on Jan 10		Hours in Service: 744																							
Minimum Value: 40.2 % on Jan 27 21:00		Minimum Daily Average: 54.9 % on Jan 28		Hours of Data: 727																							
Maximum Diurnal Average: 78.8 % at hour 8		Minimum Diurnal Average: 70.1 % at hour 14		Hours of Missing Data: 17																							
Monthly Average: 76.04 %		Percentiles: P ₁ = 45.7 P ₁₀ = 64.5 Q ₁ = 71.6 Median = 76.2 Q ₃ = 82.2 P ₉₀ = 88.6 P ₉₉ = 93.6		Hours of Calibration: 0																							
				Percent Operational Time: 97.7																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	81.1	80.1	79.0	79.2	79.3	80.1	79.2	79.1	78.4	78.0	75.6	73.8	70.3	64.7	72.1	77.2	76.8	76.1	76.3	76.4	75.7	75.0	74.0	73.2	76.3	81.1	
2-Jan	73.2	73.1	73.5	73.1	73.4	73.7	73.4	73.5	73.3	72.5	70.6	67.5	63.0	61.1	67.7	74.9	76.0	74.9	73.8	73.3	72.3	72.1	72.1	71.9	71.8	76.0	
3-Jan	71.9	71.4	71.0	71.2	71.2	71.4	71.3	71.4	71.2	71.0	71.6	68.3	65.2	59.3	66.9	74.5	75.9	75.7	74.7	74.5	74.3	74.5	75.4	76.3	71.7	76.3	
4-Jan	76.7	75.2	76.7	76.3	75.7	76.0	75.0	76.6	76.5	75.1	73.6	71.6	69.8	UO	UO	UO	UO	UO	UO	UO	79.4	79.6	79.4	UO	UO	79.6	
5-Jan	UO	77.2	76.2	75.4	74.9	74.6	74.2	74.1	73.8	73.0	70.6	66.7	66.1	65.6	65.7	69.4	72.5	70.5	70.2	70.2	68.0	66.5	68.4	70.4	71.1	77.2	
6-Jan	71.3	72.6	73.3	73.9	74.4	74.5	74.8	UO	UO	UO	UO	UO	UO	74.6	75.9	78.8	81.6	81.1	81.8	83.9	86.8	85.8	87.5	88.3	78.9	88.3	
7-Jan	88.9	89.1	89.3	89.7	89.9	90.6	90.9	90.7	90.7	90.1	M	M	85.0	83.2	85.1	84.6	82.9	81.9	81.2	79.5	81.4	88.2	90.1	90.5	87.0	90.9	
8-Jan	84.5	82.0	85.6	86.6	89.3	88.5	89.4	92.6	82.3	71.8	71.3	66.3	60.5	66.3	65.2	69.2	71.2	72.7	75.5	76.7	74.9	72.7	73.4	72.5	76.7	92.6	
9-Jan	74.1	75.6	82.2	84.5	86.0	86.2	86.7	86.8	87.5	85.2	82.2	80.3	81.4	80.5	83.9	83.6	86.6	87.6	89.1	88.7	87.4	87.3	87.8	88.4	84.6	89.1	
10-Jan	89.5	93.8	91.7	93.5	92.3	93.5	93.0	93.0	93.4	92.7	90.6	88.9	89.4	88.8	88.1	87.9	88.4	88.6	84.2	84.3	82.7	83.0	82.9	83.4	89.1	93.8	
11-Jan	83.0	80.6	79.5	78.2	79.5	79.4	80.0	80.6	81.1	82.2	80.6	80.0	76.4	77.0	75.6	78.5	80.1	78.9	78.1	79.1	78.2	77.6	79.2	81.1	79.3	83.0	
12-Jan	81.6	81.8	82.0	82.2	82.0	81.6	81.7	81.6	81.1	81.0	81.1	82.1	82.6	83.1	85.1	87.1	87.1	87.8	87.8	87.0	87.3	87.7	87.1	86.8	84.0	87.8	
13-Jan	87.1	87.1	86.7	86.6	85.9	86.3	86.4	86.3	86.1	86.8	87.0	87.1	88.1	88.1	88.2	88.3	90.6	91.8	91.4	92.0	90.9	93.3	91.8	90.3	88.5	93.3	
14-Jan	89.2	80.2	82.6	88.6	92.0	89.5	90.0	89.1	89.9	90.9	90.6	89.9	86.1	83.7	76.7	75.9	79.7	80.4	79.2	79.9	79.9	78.7	77.2	75.6	84.0	92.0	
15-Jan	77.2	81.0	83.7	83.3	83.8	80.0	76.2	72.9	74.4	71.8	67.6	58.6	57.8	56.2	57.2	58.7	67.6	72.5	74.1	77.7	76.5	76.2	77.2	77.2	72.5	83.8	
16-Jan	78.8	79.9	84.1	91.4	94.1	95.3	95.7	95.5	94.4	92.5	91.8	91.1	91.4	90.1	87.5	84.7	82.8	84.8	86.1	81.9	79.8	77.6	75.6	75.1	86.8	95.7	
17-Jan	74.4	76.1	78.7	78.0	76.0	78.1	80.1	77.8	79.1	79.7	78.4	76.6	73.5	70.7	67.4	69.6	75.5	79.2	77.7	76.6	75.5	75.2	74.0	76.5	76.0	80.1	
18-Jan	75.7	74.3	72.6	72.0	72.4	72.5	72.3	71.7	70.8	71.5	73.0	70.7	68.0	63.1	65.4	70.5	74.3	75.6	74.5	73.3	71.6	71.2	71.6	69.9	71.6	75.7	
19-Jan	70.7	69.7	68.8	69.7	70.0	69.7	69.1	70.2	70.2	71.1	72.0	71.7	68.4	67.2	68.5	71.7	73.7	74.6	73.7	74.0	73.3	72.9	73.5	73.6	71.2	74.6	
20-Jan	74.0	73.8	73.7	73.7	73.5	73.1	73.4	73.5	73.6	74.3	76.4	76.3	74.8	75.7	75.6	77.4	78.0	79.2	80.4	80.3	79.3	78.5	77.9	78.6	76.0	80.4	
21-Jan	79.8	77.9	79.8	80.6	82.3	82.2	84.2	82.6	85.0	82.2	82.0	83.9	76.3	74.6	74.1	77.4	76.2	73.9	75.5	73.7	75.1	78.4	79.9	79.7	79.0	85.0	
22-Jan	78.8	80.9	83.5	84.0	84.3	84.5	84.3	84.9	84.7	84.0	83.3	81.2	74.4	70.1	72.1	76.0	82.8	89.2	92.5	92.3	92.1	91.5	91.8	90.5	83.9	92.5	
23-Jan	88.7	92.1	93.6	94.0	91.5	86.8	82.0	80.6	82.1	82.6	84.5	80.9	73.5	67.0	58.2	59.1	62.7	68.2	68.2	71.6	73.0	72.6	68.5	68.5	77.1	94.0	
24-Jan	65.7	61.8	63.7	63.5	63.1	66.7	62.3	62.0	61.1	60.9	56.1	50.5	48.3	46.4	48.3	52.1	54.6	57.8	59.9	64.6	67.8	71.0	72.4	72.5	60.5	72.5	
25-Jan	73.3	74.5	77.6	81.6	82.4	86.1	90.0	88.5	87.6	83.5	74.2	65.9	62.5	59.0	56.4	55.6	55.4	58.6	65.3	62.3	67.5	65.9	67.4	69.3	71.3	90.0	
26-Jan	75.8	79.2	80.1	80.4	79.3	72.7	69.2	71.2	73.4	68.7	66.9	63.9	61.6	60.9	55.5	55.8	63.0	63.3	66.8	66.9	74.1	71.7	71.2	75.2	69.5	80.4	
27-Jan	76.1	75.6	78.1	77.3	79.2	80.5	79.7	84.6	85.5	85.5	77.5	64.6	64.1	58.5	51.2	47.6	48.6	47.6	54.3	44.8	40.2	41.1	43.7	46.8	63.9	85.5	
28-Jan	49.3	50.0	50.9	51.8	50.1	49.2	50.2	49.0	45.4	42.9	41.1	40.8	49.7	47.8	52.6	58.7	65.9	70.1	66.1	66.6	66.7	68.4	68.8	65.1	54.9	70.1	
29-Jan	64.8	68.6	69.9	68.6	64.3	69.1	70.9	73.7	77.4	78.1	85.2	80.6	76.1	76.0	78.8	78.3	76.1	77.4	79.8	79.1	78.3	78.9	80.2	80.2	75.4	85.2	
30-Jan	80.8	81.2	79.9	78.3	78.0	76.3	78.6	77.9	77.5	76.2	73.5	69.0	68.3	68.5	69.7	67.3	75.5	78.6	76.4	77.6	75.9	75.9	75.0	74.3	75.4	81.2	
31-Jan	73.8	73.1	72.6	72.8	72.4	72.3	72.3	73.0	73.7	74.2	75.3	75.8	75.8	75.8	75.9	76.0	76.6	76.6	76.6	76.6	76.4	76.3	76.2	75.9	74.8	76.6	
		77.0	77.1	78.1	78.7	78.8	78.7	78.6	78.8	78.7	77.7	76.0	73.3	71.6	70.1	70.4	72.2	74.6	75.8	76.4	76.3	76.2	76.3	76.4	76.6	Diurnal Average	
		89.5	93.8	93.6	94.0	94.1	95.3	95.7	95.5	94.4	92.7	91.8	91.1	91.4	90.1	88.2	88.3	90.6	91.8	92.5	92.3	92.1	93.3	91.8	90.5	Diurnal Maximum	
M - Maintenance		UO - Unstable Operation																									



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 2m (RH2) - %
Barge Landing - January 2025



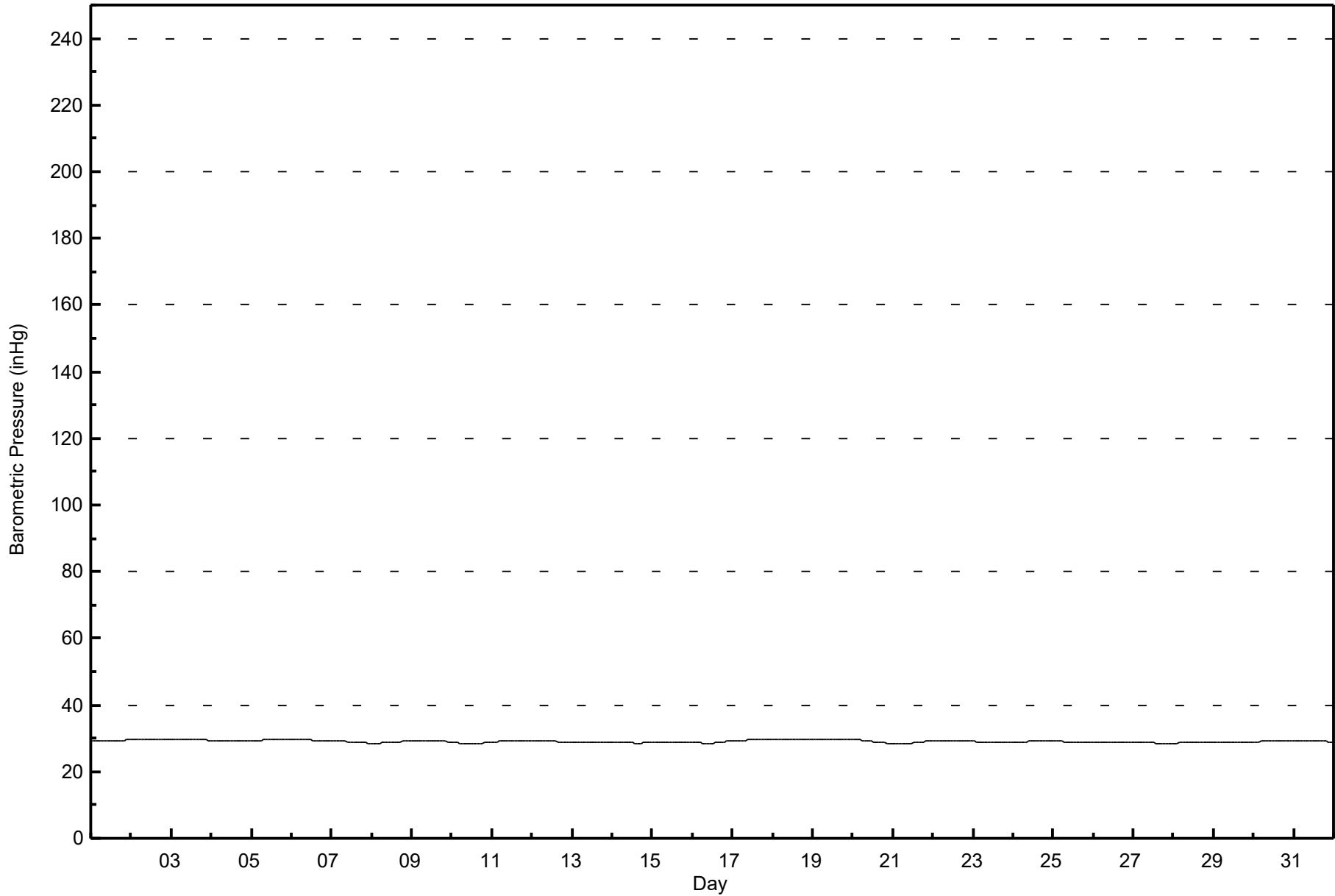


Maximum Value: 29.9 inHg on Jan 19 15:00 Maximum Daily Average: 29.8 inHg on Jan 19																						Hours in Service: 744																							
Minimum Value: 28.4 inHg on Jan 27 18:00 Minimum Daily Average: 28.6 inHg on Jan 10																						Hours of Data: 744																							
Maximum Diurnal Average: 29.1 inHg at hour 1 Minimum Diurnal Average: 29.1 inHg at hour 15																						Hours of Missing Data: 0																							
Monthly Average: 29.10 inHg Percentiles: P ₁ = 28.5 P ₁₀ = 28.6 Q ₁ = 28.8 Median = 29.1 Q ₃ = 29.4 P ₉₀ = 29.6 P ₉₉ = 29.8																						Hours of Calibration: 0																							
																						Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																					
1-Jan	29.4	29.3	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.5	29.5	29.5	29.4	29.5																				
2-Jan	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6																				
3-Jan	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.4	29.4	29.6																				
4-Jan	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4																				
5-Jan	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.6	29.6	29.6	29.6	29.6	29.5																				
6-Jan	29.6	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.4	29.4	29.4	29.4	29.4	29.3	29.3	29.3	29.3	29.2	29.2	29.4	29.6																				
7-Jan	29.2	29.2	29.2	29.2	29.1	29.1	29.1	29.1	29.0	29.0	29.0	28.9	28.9	28.8	28.8	28.8	28.7	28.7	28.7	28.6	28.6	28.6	28.6	28.6	28.9																				
8-Jan	28.6	28.5	28.5	28.6	28.6	28.6	28.6	28.6	28.7	28.7	28.7	28.8	28.8	28.8	28.9	28.9	29.0	29.0	29.0	29.0	29.1	29.1	29.1	29.1	28.8																				
9-Jan	29.1	29.2	29.2	29.3	29.3	29.3	29.3	29.3	29.3	29.4	29.4	29.4	29.3	29.3	29.3	29.3	29.2	29.2	29.1	29.1	29.0	29.0	28.9	28.9	29.2																				
10-Jan	28.8	28.7	28.7	28.6	28.6	28.6	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.6	28.6	28.6	28.7	28.7	28.8	28.8	28.6	28.8																				
11-Jan	28.8	28.9	28.9	29.0	29.0	29.1	29.1	29.1	29.2	29.2	29.2	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.2																				
12-Jan	29.3	29.3	29.3	29.3	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.1	29.1	29.1	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.1																				
13-Jan	29.0	29.0	29.0	29.0	29.0	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9																				
14-Jan	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.8	28.8	28.8	28.7	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.7	28.7	28.9																				
15-Jan	28.7	28.7	28.8	28.8	28.8	28.8	28.9	28.9	28.9	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	28.9	28.9	28.9	29.0																				
16-Jan	28.9	28.9	28.8	28.8	28.7	28.7	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.7	28.7	28.8	28.9	28.9	29.0	29.0	29.1	29.1	29.2	28.8	29.2																				
17-Jan	29.2	29.3	29.3	29.3	29.4	29.4	29.4	29.4	29.4	29.4	29.5	29.5	29.5	29.5	29.6	29.6	29.6	29.6	29.6	29.7	29.7	29.7	29.7	29.8	29.5																				
18-Jan	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.7	29.7	29.7	29.7	29.7	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.7																				
19-Jan	29.7	29.7	29.7	29.7	29.7	29.7	29.8	29.8	29.8	29.8	29.8	29.9	29.9	29.8	29.9	29.9	29.8	29.8	29.8	29.8	29.8	29.7	29.7	29.7	29.8																				
20-Jan	29.7	29.6	29.6	29.5	29.5	29.4	29.4	29.3	29.3	29.2	29.1	29.1	29.0	28.9	28.8	28.8	28.7	28.7	28.7	28.6	28.6	28.6	28.5	28.5	29.0																				
21-Jan	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.6	28.6	28.7	28.7	28.8	28.9	28.9	29.0	29.1	29.1	29.2	29.2	29.2	28.7																				
22-Jan	29.3	29.3	29.3	29.3	29.3	29.3	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.3	29.3	29.3	29.3	29.2	29.2	29.1	29.3																				
23-Jan	29.1	29.0	29.0	28.9	28.9	28.9	28.9	28.8	28.8	28.8	28.8	28.7	28.7	28.7	28.7	28.7	28.8	28.8	28.8	28.8	28.7	28.7	28.7	28.7	28.8																				
24-Jan	28.7	28.7	28.7	28.8	28.8	28.8	28.9	29.0	29.0	29.0	29.1	29.1	29.1	29.1	29.2	29.2	29.2	29.2	29.1	29.1	29.1	29.1	29.1	29.1	29.0																				
25-Jan	29.1	29.1	29.1	29.1	29.0	29.0	29.0	29.0	29.0	29.0	29.0	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	29.0																				
26-Jan	28.9	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.7	28.7	28.7	28.7	28.7	28.7	28.6	28.6	28.6	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7																				
27-Jan	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.7	28.7	28.6	28.6	28.5	28.5	28.5	28.4	28.5	28.5	28.5	28.5	28.5	28.5	28.6																				
28-Jan	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7																				
29-Jan	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.8	28.8	28.8	28.9	28.9	28.7																				
30-Jan	28.9	28.9	29.0	29.0	29.0	29.1	29.1	29.1	29.1	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.3	29.3	29.3	29.3	29.3	29.3	29.2																				
31-Jan	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.2	29.2	29.2	29.2	29.1	29.1	29.1	29.1	29.1	29.0	29.0	29.0	29.0	29.0	29.2																				
29.1																						29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	Diurnal Average
29.8																						29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.9	29.9	29.8	29.9	29.9	29.8	29.8	29.8	29.8	29.8	29.7	29.8	29.8	Diurnal Maximum



Wood Buffalo Environmental Association
Hourly Averages

Barometric Pressure (BP) - inHg
Barge Landing - January 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Speed 10m (WS10) - km/h

Barge Landing - January 2025

Maximum Speed: 20 km/h on Jan 24 07:00	Maximum Daily Speed Average: 10.9 km/h on Jan 16	Hours in Service: 744
Minimum Speed Value: 0 km/h on Jan 1 04:00	Minimum Daily Speed Average: 0.5 km/h on Jan 4	Hours of Data: 729
Maximum Diurnal Speed Average: 1.7 km/h at hour 22	Minimum Diurnal Speed Average: 0.3 km/h at hour 3	Hours of Missing Data: 15
Monthly Average Velocity: 0.5 km/h 279.3 deg	Percentiles: P ₁ = 0 P ₁₀ = 2 Q ₁ = 3 Median = 5 Q ₃ = 8 P ₉₀ = 10 P ₉₉ = 16	Percent Operational Time: 98.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	NNE2	NNE1	UO	SE0	NNW3	N3	NNE2	NNE2	N0	N2	N2	WNW1	E3	ENE3	ENE1	ENE1	ENE2	NNE1	UO	NE2	NNW2	WNW1	SE1	UO	NNE1.2	N3
2-Jan	NE0	UO	UO	NNW2	NW2	UO	SW1	UO	SW1	SW2	SSW2	SW2	SSE1	SW2	ESE3	SE1	NNE1	NNW1	NNE0	UO	ESE3	SE3	SE2	SE2	SSE0.6	ESE3
3-Jan	UO	UO	SSE2	S2	SE2	SSE2	S2	SSE1	S1	SSE2	SSE3	S4	S4	SSW4	S4	SW2	ESE3	SSE1	NW1	SE3	SE3	WSW3	SW1	SSW1	S1.9	SSW4
4-Jan	SSE2	NNW4	N3	N3	NNW2	S1	NW2	SE1	SSE2	SSE5	SSE7	SSE7	SE7	S5	SE6	S2	NNW2	NNW2	NNW3	NNW2	NNW3	N3	N5	N6	ESE0.5	SSE7
5-Jan	NNE5	N5	N5	NNE5	NNE6	NNE5	NNE5	NNE4	NNE3	NE2	NNE4	NNE4	NNE4	NNE3	N3	NNE3	ENE5	ENE4	ENE3	NE1	ESE1	SE2	SW2	NNE3.2	NNE6	
6-Jan	S3	SE4	SE3	SSE3	SSE4	SSE5	SSE6	SSE6	S4	S5	S6	SSW6	SSW8	S8	S7	S8	S9	S8	S8	S8	SSE8	SSE7	SSE6	SSE6	S5.9	S9
7-Jan	SSE6	SSE5	SSE8	SSE8	SSE7	S7	SSE7	SSE8	SSE9	SSE8	SSE9	SSE10	SSE8	S7	SSE7	S9	S9	S8	S10	S8	S5	SSE5	SE6	SE5	SSE7.2	S10
8-Jan	SW5	SW5	SE3	WSW3	SW6	WSW6	SW6	SW4	WSW6	WSW8	SW7	WSW6	NNW11	NW15	NW14	NW11	WNW8	WNW5	WNW6	WNW4	W7	WSW10	W7	W6	W5.6	NW15
9-Jan	W9	NW6	N8	NNE6	NNE7	NE8	NNE7	NE6	NE5	ENE3	E4	E4	E5	E3	S4	SSE5	SSE4	S4	SSE5	SSE4	SSE3	NNW2	NNW1	NW2	NE1.8	W9
10-Jan	SE5	SE6	NNW3	W2	NNW5	NNW3	NNW4	S0	SSE2	S3	SSW4	W3	NNW3	NNE8	NNE8	N7	NNE9	NNE9	NNE10	NNE9	N9	N9	N9	NNE9	N4.0	NNE10
11-Jan	NNE9	NNE8	NNE9	NNE7	NNE6	NNE7	N7	N6	N6	N5	NNE7	NNE5	N5	NNE5	NE4	ENE1	E2	ESE3	E2	SE3	ESE3	SE4	SSE3	S4	NNE3.7	NNE9
12-Jan	SSE5	SE6	SSE5	SSE6	SSE6	SSE7	SSE7	S7	S8	S8	S8	SSE8	S8	S8	S8	SSE7	SE8	SSE6	S6	SSE7	SE6	SSE4	SSW2	SSE6.3	S8	
13-Jan	S1	SE5	SE4	SE5	SSE5	SSE7	SSE7	S6	SSE7	SSE5	S7	S7	SSE8	SSE9	SSE8	SSE8	SSE7	SE6	SE5	S5	SSE4	SW3	SW3	S2	SSE5.2	SSE9
14-Jan	SW5	WSW10	SW8	SE5	SE5	S8	SE7	SSE8	SE8	SSE8	SSE8	SSE7	SW6	SW8	WSW11	WSW9	WSW9	WSW12	WSW12	WSW10	WSW12	WSW13	W13	W13	SW6.5	W13
15-Jan	WSW9	NNW3	W5	W9	W9	WNW8	WNW6	NE1	NNE2	NNE1	NNE1	WSW4	WSW8	WSW7	WSW3	WSW3	SE3	ESE4	SSW1	W2	NNE6	N5	N4	NNE4	WNW2.4	WSW9
16-Jan	NNE3	NNE5	NNE5	NNE7	NNE4	N4	NNE6	NNE9	NNE11	NNE12	NNE13	NNE13	NNE13	NNE15	NNE16	NNE14	N16	N13	N11	N13	N15	N15	N16	N14	NNE10.9	N16
17-Jan	N13	N9	NNW4	N6	N9	N6	N6	N6	N4	N4	N3	NE3	NE4	NNE5	N5	N6	NNW4	N2	NNE4	NNE5	N6	N6	N5	N1	N5.1	N13
18-Jan	NE1	ESE1	SSE2	S1	S3	SE4	SE4	SE3	SE4	SE3	SSE4	SSE4	SSE5	SSE4	SSE4	S2	SSE3	SE2	E1	ESE1	ESE1	NNW1	WNW0	SE0	SE2.2	SSE5
19-Jan	NW1	UO	SE1	UO	W1	NNW1	NW2	UO	UO	WSW1	WSW3	SW2	SW2	SSW4	SSE4	SE3	S1	SE2	SE5	SE3	SSW2	SSE3	SE5	SE6	SSE1.6	SE6
20-Jan	SSE6	S7	SSE7	S7	S6	SSW4	S5	S7	SSW4	SW5	S5	S8	S10	S9	S8	S7	SSE7	S7	S7	SSW9	SW9	SW9	SW8	SW9	S6.6	S10
21-Jan	SSW5	SSW5	SW5	SSW6	SW6	W3	WSW8	WSW5	SW6	WSW8	W4	N5	N10	NNE10	NNE11	NNE12	N13	NNE12	N10	NNE10	N6	N4	NNW1	SW3	NNW2.8	N13
22-Jan	SE2	SSE4	SSE5	SE4	ESE4	ESE2	S2	SE1	SSE3	SE2	SSE4	SE5	SSW5	WSW8	SW7	S6	S7	SSE6	SSE6	SSE6	SSE7	SSE6	SSE8	S7	SSE4.3	WSW8
23-Jan	SSE9	SSE8	SSE9	SSE7	S7	S5	SSW4	SSW6	SSW7	SSW7	SW7	SW7	WSW7	W11	NNW12	NNW11	NNW10	NW4	WNW5	WSW6	W8	W10	WNW9	NNW10	WSW4.6	WNW12
24-Jan	WNW12	NW13	NW14	NNW16	NNW16	NNW17	NNW20	N15	N14	NNW12	NNW11	NNW12	NNW11	NNW11	NW6	NW5	W4	W5	S3	SSE2	W1	SW2	SSW5	WSW5	NNW8.1	NNW20
25-Jan	SSW4	SW4	SW4	SSW6	SSW7	SSE5	SSE6	S7	S6	S5	SW8	SW7	SSW6	SW8	SW6	WNW1	WNW5	NW4	NW3	W1	SSE4	SSW6	SSW6	S6	SSW4.2	SW8
26-Jan	SSE5	SSE5	SSE6	S6	S6	SW12	SW11	SSW8	SSW7	SW10	SW9	SW9	S7	SSW7	SW7	SSW3	WSW4	W4	NW5	NW6	W3	W5	SW3	S2	SW4.9	SW12
27-Jan	SSW2	SW3	SSW2	SSW2	SW1	W4	WSW4	S3	SSE2	SE5	SSE5	S5	S7	SSE6	SSW7	SSW10	SSW10	SW9	SE4	NW8	NW13	NW18	NW18	NNW15	WSW3.3	NW18
28-Jan	WNW12	WNW13	WNW13	WNW11	NNW10	NW10	NNW6	NW8	NNW10	WNW9	NW13	NW15	NW15	NW10	NW12	NW12	NW8	NNW4	NW5	W4	SW5	SSW4	WSW5	WNW5	WNW8.3	NW15
29-Jan	WNW3	NE1	SW1	SW3	WSW3	ESE1	SW1	UO	NNW0	N2	NNE10	NNE10	NNE10	NNE10	NNE9	NNE11	NNE12	NNE10	NNE12	N12	NNE12	NNE11	N11	NNE11	NNE6.5	N12
30-Jan	NNE10	NNE9	NNE9	NNE7	N7	NNE6	NE5	NE4	ESE3	ENE3	ENE4	ENE5	NE6	NE6	NE5	ENE4	NNE2	NNE1	N1	NNE1	N2	NNW3	NNW3	N3	NNE4.1	NNE10
31-Jan	N2	N1	WNW1	NNW3	NNW3	NNW4	NNW5	NNW5	NNW4	N5	N6	NNE8	NNE8	NNE9	N10	NNE9	NNE10	NNE9	N9	N9	N10	N9	N9	N11	N6.3	N11

W0.8	W0.6	WSW0.3	W0.4	NNW0.8	NNW0.6	W0.5	SSE0.6	S0.9	SSW1.1	SSW0.9	S0.7	WSW0.4	NNW0.9	NNW0.8	NW0.7	NW0.8	NNW0.4	NNE0.5	NW0.5	NW1.0	NNW1.7	NNW1.4	NNW1.4	Diurnal Average
N13	NW13	NW14	NNW16	NNW16	NNW17	NNW20	N15	N14	NNE12	NNE13	NW15	NW15	NNE15	NNE16	NNE14	NNE16	N13	WSW12	N13	N15	NW18	NW18	NNW15	Diurnal Maximum

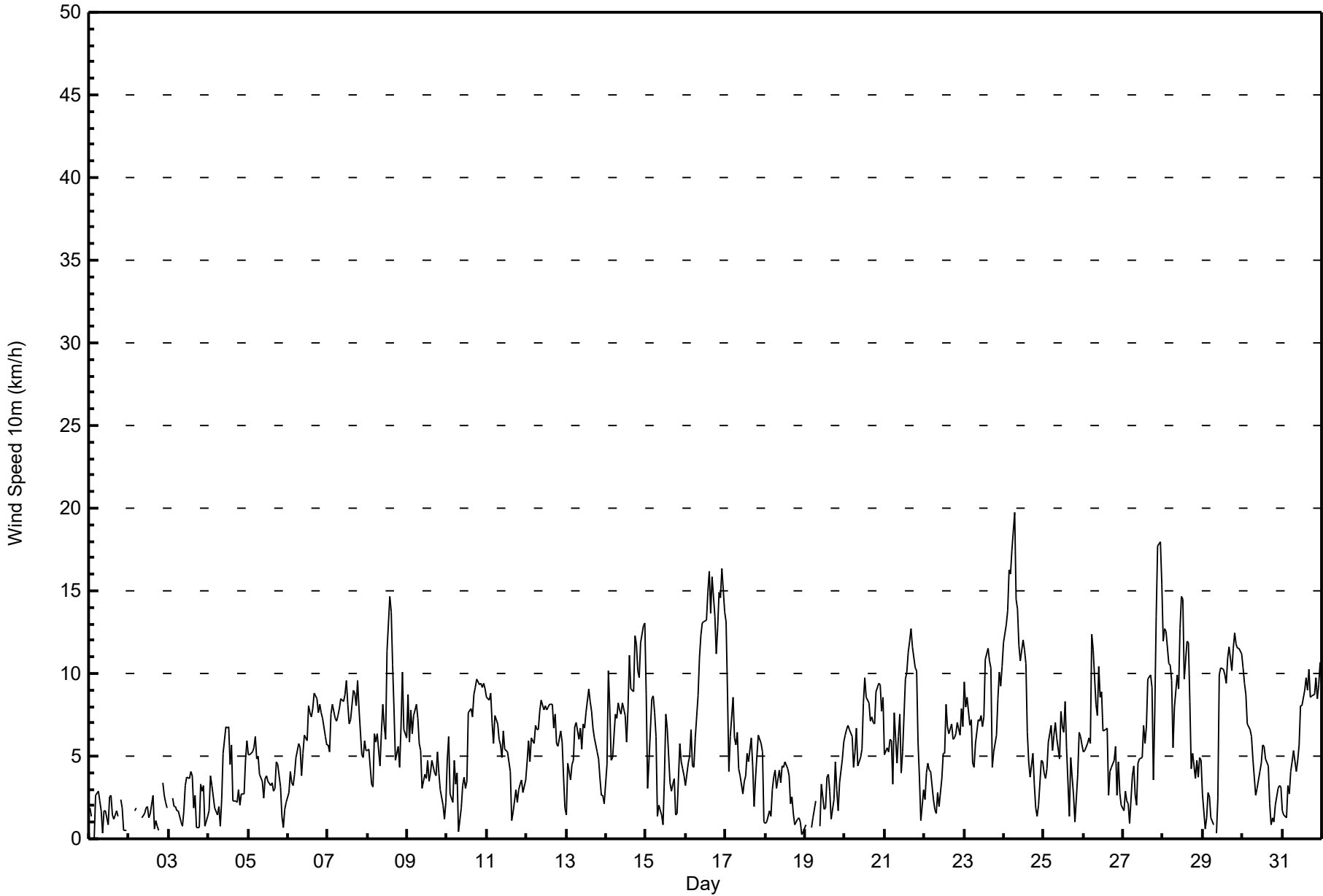
UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Speed 10m (WS10) - km/h
Barge Landing - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 7 km/h on Jan 27 23:00 Minimum Value: 1 km/h on Jan 1 04:00 Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 1 Median = 2 Q ₃ = 3 P ₉₀ = 4 P ₉₉ = 6																		Hours in Service: 744 Hours of Data: 729 Hours of Missing Data: 15 Hours of Calibration: 0 Percent Operational Time: 98.0							
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	1	1	UO	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	UO	1	1	1	1	UO	1
2-Jan	1	UO	UO	1	1	UO	1	UO	1	1	1	1	1	1	1	1	1	1	1	UO	1	1	1	1	1
3-Jan	UO	UO	1	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	2	2	1	1	1	1
4-Jan	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	1	1	1	1	1	1	1	2	2	2
5-Jan	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6-Jan	1	1	1	1	2	2	2	2	2	2	2	2	3	3	2	3	3	3	3	3	3	3	2	2	2
7-Jan	2	1	2	2	2	2	2	2	3	3	3	3	3	3	2	3	3	2	3	3	2	1	1	1	1
8-Jan	2	2	2	2	2	3	3	2	2	2	2	2	5	6	5	3	3	2	2	2	3	4	3	2	6
9-Jan	3	3	3	2	2	3	2	2	2	1	1	1	1	1	1	2	1	2	2	1	2	1	1	2	3
10-Jan	1	2	1	1	1	1	1	1	1	2	1	1	2	2	2	2	3	3	3	3	3	3	4	3	4
11-Jan	3	3	3	2	2	2	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	3
12-Jan	1	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	2	2	2	2	2	1	1	3
13-Jan	1	1	1	1	1	2	2	2	2	2	2	3	3	3	2	3	2	1	2	1	1	1	1	1	3
14-Jan	2	2	2	1	1	2	2	3	2	2	3	2	2	5	3	3	3	3	3	3	2	3	3	4	5
15-Jan	3	1	2	2	3	3	3	2	2	2	1	1	2	2	1	1	1	1	1	1	2	1	2	1	3
16-Jan	1	1	1	2	1	1	2	2	3	3	4	3	4	4	4	4	4	4	4	5	5	5	5	4	5
17-Jan	4	3	2	2	3	2	2	2	2	1	1	2	1	2	2	2	1	1	1	2	2	2	2	2	4
18-Jan	1	1	1	1	1	1	1	2	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	2
19-Jan	1	UO	1	UO	1	1	1	UO	UO	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	2
20-Jan	2	2	2	2	2	1	2	2	2	1	2	3	3	3	3	2	2	2	3	3	2	3	3	4	4
21-Jan	2	3	2	2	2	2	3	4	4	2	2	4	3	3	3	4	4	4	4	3	3	2	1	1	4
22-Jan	1	1	1	1	1	1	1	1	1	1	2	2	2	3	2	2	2	2	2	1	1	2	2	2	3
23-Jan	3	3	2	2	2	2	2	2	2	3	3	2	3	4	4	4	4	2	2	2	3	3	4	4	4
24-Jan	5	5	5	5	6	6	7	5	5	4	4	4	4	4	3	2	1	2	1	1	1	1	1	1	7
25-Jan	1	1	1	2	2	2	2	2	2	2	3	2	2	3	2	2	1	1	1	1	1	2	2	2	3
26-Jan	2	1	1	2	2	5	4	2	2	3	4	3	2	2	2	2	2	2	1	1	2	1	1	1	5
27-Jan	1	2	1	1	1	2	2	1	1	1	1	2	2	2	3	3	3	3	2	4	6	7	7	6	7
28-Jan	5	5	5	4	4	4	2	4	4	4	5	7	7	4	4	5	5	1	2	1	1	1	2	2	7
29-Jan	2	1	1	1	2	1	1	UO	1	3	3	3	3	3	3	3	3	3	3	4	4	3	3	3	4
30-Jan	3	3	3	2	2	2	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	3
31-Jan	1	1	1	1	1	1	1	2	1	1	2	3	3	3	3	2	3	3	3	2	3	3	3	3	3
Diurnal Maximum																									
UO - Unstable Operation																									





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Wind Speed 10m (WS10) - km/h
Barge Landing - January 2025**

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	379	51.99	51.99
6 - 11	296	40.60	92.59
12 - 19	53	7.27	99.86
20 - 28	1	0.14	100.00
29 - 38	0	0.00	100.00
> 38	0	0.00	100.00

Total Number of Valid Hours: 729

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Wind Speed 10m (WS10) - km/h
Barge Landing - January 2025

Wind Speed Ranges (km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	32	35	14	13	7	16	43	49	33	22	29	13	15	13	12	33	379
6 - 11	32	46	4	0	0	0	10	57	50	18	25	19	9	11	11	4	296
12 - 19	11	13	0	0	0	0	0	0	0	0	1	4	1	6	12	5	53
20 - 28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
29 - 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	75	94	18	13	7	16	53	106	83	40	55	36	25	30	35	43	729

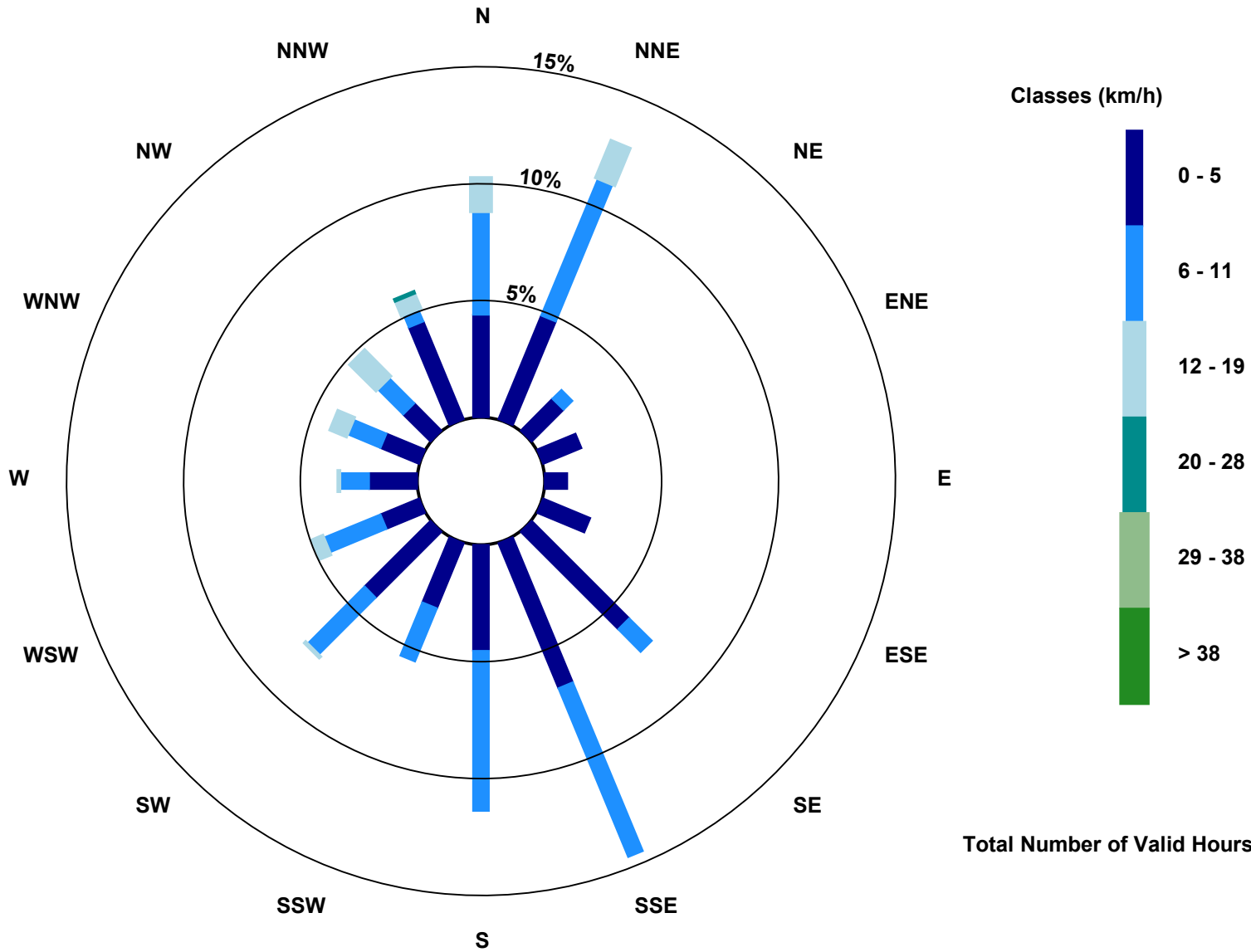
Total Number of Valid Hours: 729

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Wind Speed 10m (WS10) - km/h
Barge Landing





Wood Buffalo Environmental Association
Summary of Hour Averages

Wind Direction 10m (WD10) - deg
Barge Landing - January 2025

Direction of Maximum Speed: 343 deg on Jan 24 07:00		Hours in Service: 744
Direction of Maximum Daily Speed Average: 12.7 deg on Jan 16		Hours of Data: 729
Direction of Minimum Speed: 126 deg on Jan 1 04:00	Direction of Minimum Daily Speed Average: 0.5 deg on Jan 4	Hours of Missing Data: 15
Monthly Average Direction: 279.3 deg		Percent Operational Time: 98.0

Day	Hourly Period Ending At (MST)																								Daily Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	24	13	UO	126	334	355	19	25	354	4	358	297	87	71	57	74	64	31	UO	47	348	299	132	UO	25.6
2-Jan	41	UO	UO	330	325	UO	230	UO	217	217	202	233	150	223	122	134	27	337	31	UO	116	137	124	127	157.8
3-Jan	UO	UO	153	188	136	149	191	157	191	161	155	175	189	196	190	217	120	150	311	142	140	240	218	211	174.7
4-Jan	157	346	353	351	335	174	317	134	160	153	149	159	158	169	143	176	344	345	344	332	344	1	1	10	103.1
5-Jan	12	2	11	23	19	25	23	22	16	50	21	23	15	25	358	9	22	60	65	66	46	117	133	216	26.1
6-Jan	180	138	146	156	162	162	161	162	179	188	190	193	193	177	178	174	170	170	175	172	168	165	157	160	171.3
7-Jan	163	156	151	147	154	171	159	153	160	156	158	155	160	176	164	172	191	184	177	180	184	157	134	133	163.0
8-Jan	214	223	137	257	229	243	230	220	240	246	215	244	296	318	318	315	293	300	289	283	271	258	262	276	269.5
9-Jan	263	322	11	19	19	40	33	48	37	65	81	90	88	101	172	157	151	171	150	156	148	331	336	325	56.2
10-Jan	124	134	336	274	343	346	333	180	160	191	206	267	347	18	22	3	13	14	18	22	9	2	4	15	9.9
11-Jan	12	14	25	15	12	17	9	10	6	4	14	19	6	27	40	63	100	103	94	139	120	129	151	174	27.7
12-Jan	154	146	162	163	156	154	157	173	175	169	178	165	172	180	171	173	168	143	149	171	160	129	147	196	163.3
13-Jan	175	128	144	143	147	147	154	175	152	167	175	180	155	156	165	156	162	140	130	185	158	214	223	184	159.7
14-Jan	222	240	216	131	144	174	145	157	140	157	154	160	228	229	248	254	251	250	244	241	245	247	255	260	220.8
15-Jan	256	334	279	269	267	282	295	51	17	33	18	255	240	258	253	252	130	106	198	274	31	1	356	20	284.8
16-Jan	18	14	18	16	19	6	12	15	17	21	20	21	20	17	19	19	11	6	1	356	4	8	9	9	12.7
17-Jan	7	356	344	4	6	9	7	8	6	11	9	53	56	18	6	353	345	8	13	22	4	1	3	357	7.0
18-Jan	42	123	147	186	179	128	126	145	131	132	155	163	154	157	164	179	149	136	85	111	104	340	292	142	145.9
19-Jan	319	UO	135	UO	270	329	322	UO	UO	252	251	222	215	211	155	144	183	135	128	134	201	168	142	145	168.7
20-Jan	164	175	161	174	178	200	184	176	210	231	189	182	191	190	178	174	167	177	176	192	226	227	232	226	191.1
21-Jan	192	213	218	205	221	281	237	242	234	243	280	4	11	21	18	14	9	14	10	14	359	359	341	218	339.1
22-Jan	143	164	148	144	117	116	171	146	149	146	148	146	210	237	215	184	173	168	153	151	157	165	147	173	165.9
23-Jan	159	154	148	157	177	190	207	195	192	206	216	231	247	263	301	313	313	304	287	254	269	269	284	289	242.8
24-Jan	302	305	315	330	335	340	343	354	353	336	335	343	340	335	325	308	277	264	181	149	279	232	208	237	326.9
25-Jan	210	222	226	201	209	167	161	175	172	190	225	224	195	233	218	292	286	307	309	264	162	206	196	178	206.9
26-Jan	164	150	167	182	179	231	231	205	193	230	224	218	190	207	222	202	256	281	319	307	263	268	226	169	217.5
27-Jan	200	228	196	192	231	262	241	179	162	143	150	173	169	161	197	197	213	222	134	310	314	306	307	303	248.0
28-Jan	297	298	293	296	293	305	329	304	284	289	310	317	318	321	317	313	320	337	313	265	232	193	239	282	301.8
29-Jan	303	38	217	216	246	109	220	UO	292	356	24	28	22	14	19	19	17	16	15	11	15	14	8	25	15.1
30-Jan	20	23	15	16	11	20	43	39	104	69	70	63	38	41	47	70	21	26	4	28	5	337	339	355	29.2
31-Jan	1	4	286	342	348	340	336	336	339	349	4	22	20	16	7	16	17	12	8	8	10	3	360	359	4.0

261.1 276.9 244.3 264.6 281.3 290.9 275.2 157.9 178.1 205.8 193.8 189.3 239.9 288.8 298.6 315.8 324.7 347.4 22.6 324.1 320.9 292.1 302.6 296.5
 Diurnal Average

UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods



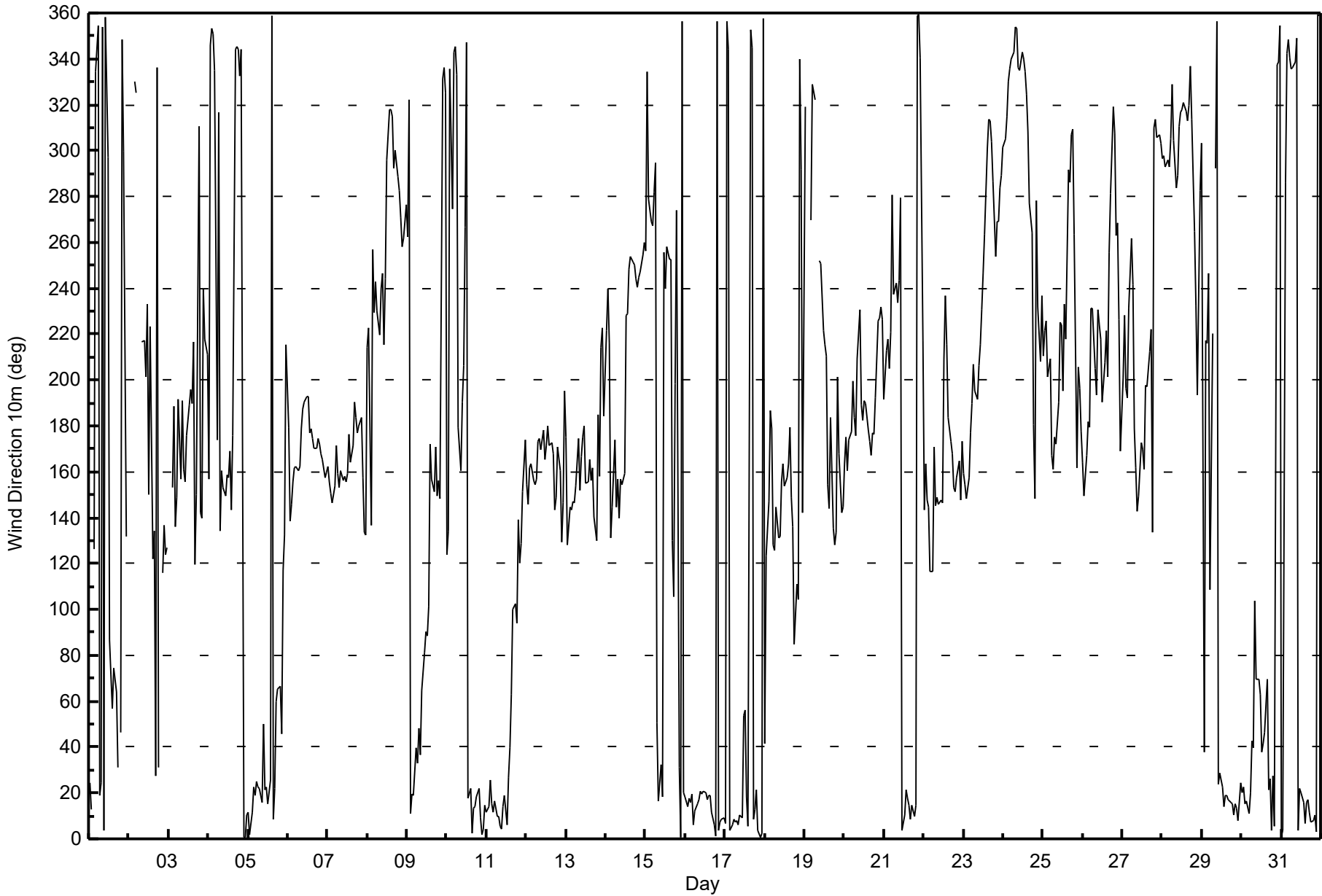
Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg
Barge Landing - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 98 deg on Jan 19 00:00	Hours of Data: 729
Minimum Value: 7 deg on Jan 19 19:00	Hours of Missing Data: 15
Percentiles: P ₁ = 12 P ₁₀ = 18 Q ₁ = 20 Median = 25 Q ₃ = 33 P ₉₀ = 51 P ₉₉ = 82	Hours of Calibration: 0
	Percent Operational Time: 98.0

Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	17	21	UO	75	16	14	24	21	85	21	24	51	34	22	18	42	28	20	UO	30	29	64	70	UO	85
2-Jan	60	UO	UO	23	21	UO	18	UO	40	27	29	32	60	62	13	79	51	44	55	UO	14	29	37	48	79
3-Jan	UO	UO	21	58	45	21	24	62	61	32	24	40	41	33	34	44	16	75	63	33	55	25	69	51	75
4-Jan	73	11	14	18	19	60	30	51	25	28	27	30	26	32	26	53	21	15	16	20	17	24	19	21	73
5-Jan	21	19	22	19	19	21	20	21	19	35	28	24	25	29	28	20	24	21	22	24	49	68	37	36	68
6-Jan	33	22	25	29	29	28	28	29	34	31	29	29	29	28	29	27	28	29	30	27	27	26	22	25	34
7-Jan	24	23	18	16	22	23	22	21	23	24	26	21	24	33	26	24	24	25	23	26	24	19	19	21	33
8-Jan	46	43	82	82	32	38	29	38	25	16	24	38	29	22	22	20	26	29	31	38	39	25	30	34	82
9-Jan	21	51	23	18	18	19	19	20	22	33	22	18	24	37	30	28	25	27	23	27	43	29	41	59	59
10-Jan	11	19	73	62	12	21	14	88	57	33	34	49	42	19	18	19	19	17	19	17	18	22	20	20	88
11-Jan	19	21	18	22	19	18	19	18	18	22	19	22	26	23	23	34	38	14	35	47	13	24	54	24	54
12-Jan	27	17	26	27	23	21	20	24	27	30	27	31	27	26	26	26	27	19	24	28	27	15	24	40	40
13-Jan	50	14	35	25	16	19	22	30	23	28	28	33	25	30	28	26	27	30	14	37	40	55	76	56	76
14-Jan	25	16	23	21	29	25	16	20	19	21	23	25	29	29	21	22	21	18	19	18	17	17	17	21	29
15-Jan	24	52	34	23	21	27	31	79	64	60	79	43	18	23	34	38	24	11	78	72	28	20	17	15	79
16-Jan	14	16	18	16	19	18	16	17	17	18	17	17	17	18	17	18	19	18	20	20	20	20	20	18	20
17-Jan	20	20	22	20	19	17	17	20	22	20	55	31	23	19	22	20	16	34	15	21	15	18	17	80	80
18-Jan	72	53	51	53	34	16	19	29	17	17	30	36	29	35	33	43	36	77	53	43	57	24	72	98	98
19-Jan	46	UO	83	UO	60	46	26	UO	UO	51	26	43	58	47	41	36	72	41	7	14	36	28	11	14	83
20-Jan	24	24	22	26	25	31	26	20	31	24	32	28	26	27	27	25	23	24	28	26	19	19	26	39	39
21-Jan	43	40	41	29	28	68	21	86	48	24	38	45	20	19	19	19	20	19	19	20	23	17	53	34	86
22-Jan	30	29	22	28	30	32	44	52	25	40	53	27	27	19	25	25	21	20	17	20	21	30	16	32	53
23-Jan	23	23	19	21	21	29	39	29	24	30	28	24	23	24	28	24	26	32	38	27	25	25	25	32	39
24-Jan	28	26	25	20	20	20	21	21	20	19	19	19	19	20	27	32	26	31	37	44	36	19	18	19	44
25-Jan	33	34	22	28	21	24	19	21	25	34	29	21	27	19	27	92	25	22	25	72	27	30	24	25	92
26-Jan	26	16	25	26	24	25	22	25	25	17	33	24	28	26	23	61	46	44	20	18	55	27	43	57	61
27-Jan	53	52	50	46	80	28	29	48	42	20	22	33	28	33	43	25	21	21	59	64	25	27	26	26	80
28-Jan	28	27	27	30	30	30	22	27	28	32	26	23	24	27	22	23	26	24	25	34	15	33	30	33	34
29-Jan	43	67	68	55	43	33	51	UO	92	31	19	19	18	18	17	18	19	18	18	18	18	17	18	17	92
30-Jan	20	18	21	20	18	18	21	27	33	30	23	26	21	22	25	25	18	18	44	46	25	23	19	11	46
31-Jan	27	36	56	25	28	12	22	20	24	19	27	20	20	19	19	19	18	21	20	19	21	21	20	20	56
	73	67	83	82	80	68	51	88	92	60	79	51	60	62	43	92	72	77	78	72	57	68	76	98	
	Diurnal Maximum																								

UO - Unstable Operation





Maximum Speed: 36 km/h on Jan 24 07:00	Maximum Daily Speed Average: 21.3 km/h on Jan 16	Hours in Service: 744
Minimum Speed Value: 0 km/h on Jan 29 09:00	Minimum Daily Speed Average: 1.0 km/h on Jan 2	Hours of Data: 743
Maximum Diurnal Speed Average: 3.2 km/h at hour 22	Minimum Diurnal Speed Average: 0.5 km/h at hour 13	Hours of Missing Data: 1
Monthly Average Velocity: 1.3 km/h 274.2 deg	Percentiles: P ₁ = 1 P ₁₀ = 4 Q ₁ = 6 Median = 10 Q ₃ = 14 P ₉₀ = 19 P ₉₉ = 29	Percent Operational Time: 99.9

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	NNE5	NE4	ENE4	NE3	NNW6	N6	NNE6	NNE6	N2	N5	N3	NNE2	E4	ENE4	NE3	NNW1	NNE2	NE7	N3	NE8	N4	WNW2	UO	SW2	NNE3.3	NE8
2-Jan	WNW1	WSW2	W3	NNW5	NW4	WSW2	WSW4	WSW4	WSW4	SW3	S2	SSW2	SE2	SSW1	SE3	ESE2	E1	NNW3	NNW3	NNW5	E4	SSE5	S6	S5	SW1.0	S6
3-Jan	S5	SSW3	S6	SSW6	S6	S6	S6	S4	SSW5	S5	SSE7	SSE7	S6	S6	S6	SSW5	SSE5	SSE4	SSW5	S9	SSE8	SSW8	S6	S6	S5.7	S9
4-Jan	SSE6	NNW6	NNW6	N4	N3	SE5	W2	SE2	SSE5	SSE9	SSE11	SSE12	SSE12	SSE8	SE9	SSE4	NNW4	N4	NNW6	NNW5	NNW5	N5	N8	N11	ESE1.2	SSE12
5-Jan	N10	N9	N10	NNE12	NNE13	NNE10	NNE10	NNE8	NNE6	NE4	NNE6	NNE7	NNE5	NNE5	N5	N5	NNW5	NE8	NE8	ENE5	NE2	ESE1	SE2	SSW3	NNE6.0	NNE13
6-Jan	S4	SE6	SSE5	SSE5	SSE6	SSE9	SSE10	SSE10	S6	S9	S9	S9	S13	S13	S12	S14	SSE16	SSE16	S14	SSE15	SSE15	SSE14	SSE13	SSE12	SSE10.5	SSE16
7-Jan	SSE12	SSE11	SSE15	SSE16	SSE15	SSE14	SSE15	SSE16	SSE18	SSE17	SSE16	SSE19	SSE16	S13	SSE15	S17	S16	S15	S18	S15	SSW11	S9	SSE11	SSE11	SSE14.4	SSE19
8-Jan	SW12	SW9	SSE4	W6	WSW11	WSW10	SW12	WSW9	WSW12	WSW14	SSW13	WSW10	NNW20	NW26	NW25	NW19	NNW14	NNW10	W11	W9	W13	W17	W11	W11	W11.1	NW26
9-Jan	W15	NW10	N16	NNE13	NNE14	NNE16	NNE15	NE11	NNE10	NE6	ENE6	E5	E7	ESE5	S6	SSE8	SSE7	SSE6	SSE9	SSE7	SSE5	NW3	N2	NW4	NE3.4	NNE16
10-Jan	SE7	SE11	NW3	SSW6	NNW6	N8	NNW8	SW3	SSE4	S6	SSW6	W5	NNW6	NNE14	NNE16	N13	N16	N17	NNE19	NNE20	N18	N16	N16	NNE18	N7.2	NNE20
11-Jan	N16	N16	NNE18	NNE14	N11	NNE14	N13	N11	N10	N9	N12	NNE10	N9	NNE8	NE7	ENE5	E4	ESE5	ESE6	SSE6	SSE8	SSE9	SSE9	S9	NNE6.3	NNE18
12-Jan	SSE8	SSE10	SSE8	SSE11	SSE10	SSE12	SSE12	SSE13	S14	SSE15	S13	SSE14	SSE14	S13	SSE14	SSE14	SSE13	SSE13	SSE11	SSE10	SSE12	SE10	SSE7	S4	SSE11.4	SSE15
13-Jan	S5	SE9	SSE8	SSE10	SSE10	SSE13	SSE13	S12	SSE12	SSE10	S12	S11	SSE13	SSE15	SSE15	SSE14	SE12	SSE11	SSW12	SW8	WSW9	WSW8	SW6	SSE9.9	SSE15	
14-Jan	SW10	SW18	SSW15	SSE9	SSE11	S16	SSE15	SSE17	SSE14	SSE15	SSE16	SSE14	SW10	SW14	WSW17	WSW14	WSW16	WSW20	WSW19	WSW16	WSW17	WSW20	WSW21	W22	SW11.8	W22
15-Jan	WSW15	NW6	NNW10	W16	W16	W15	NNW13	N2	N6	N4	NNW3	W6	WSW11	W10	W5	W5	S5	SE7	SSW5	W4	NE13	N9	N8	NNE9	WNW4.9	W16
16-Jan	NNE7	NNE9	NNE10	NNE13	NNE8	N8	NNE12	NNE18	NNE23	NNE26	NNE28	NNE28	NNE29	NNE30	NNE34	NNE28	N30	N24	N20	N22	N27	N26	N30	N24	NNE21.3	NNE34
17-Jan	N24	N15	NNW8	N11	N15	N11	N12	NNE13	NNE8	NNE7	N5	NE6	NE6	NNE9	N8	N11	NNW9	N7	N10	NNE13	N12	N11	N11	N4	N10.0	N24
18-Jan	NNE4	SE1	SE2	SSE4	SSW10	SSW6	SSE8	SSE8	SSE9	SSE8	SSE7	S6	SSE6	SSE6	SSE5	S4	SSE6	SSE5	E1	E3	ESE3	N3	NW3	W1	SSE3.9	SSW10
19-Jan	NW3	NW5	NNW4	W2	W5	N6	NNW5	W5	W5	NNW3	WSW5	S2	S2	SSW4	SSE5	SSE4	S3	SE6	SSE9	SSE7	S6	S9	SSE11	SSE12	SSW2.4	SSE12
20-Jan	SSE13	S12	SSE13	S12	S11	S9	S11	S12	SSW9	SSW9	S9	S13	S14	S13	S14	S14	SSE14	S13	S13	SSW16	SW16	SW14	SW11	SW13	S11.6	SSW16
21-Jan	SSW9	SW9	SW10	SSW11	SW11	W7	WSW13	WSW8	SW12	WSW12	W7	N11	N19	NNE21	NNE22	NNE23	N23	NNE22	N19	NNE20	N10	N8	NNW4	SW5	NNW5.8	N23
22-Jan	SSE5	SSE8	SSE8	SSE7	ESE7	E5	SSE3	SSE4	SSE5	S5	SSE7	SSE7	SSW7	SW11	SSW10	S11	S13	S13	SSE13	SSE14	SSE16	SSE13	SSE15	S14	SSE8.4	SSE16
23-Jan	SSE17	SSE15	SSE15	SSE14	S14	SSW9	SSW8	SSW10	SSW13	SSW12	SW12	SW10	WSW11	W17	NNW19	NNW19	NNW19	NNW9	NNW10	W10	W15	W18	W17	NNW18	WSW8.6	NNW19
24-Jan	WNW21	WNW22	NW25	NW28	NNW29	NNW31	NNW36	N26	N24	NNW21	NNW19	NNW21	NNW21	NNW19	NNW11	WNW9	W7	W10	SSW7	SSW4	W6	W6	SSW9	WSW8	NW14.8	NNW36
25-Jan	SSW8	SW7	SW7	SSW11	SSW12	S11	SSE13	S14	S12	SSW8	SW11	SW10	SSW9	SSW12	SSW9	WNW4	NNW10	WNW8	WNW8	W4	S9	SSW13	SSW11	S11	SSW8.0	S14
26-Jan	S11	S10	S12	S12	S12	SW21	SW19	SSW15	SSW14	SW16	SW13	SW14	S11	SSW12	SW11	SW6	W11	W10	NW11	NNW13	W9	W10	WSW6	WSW3	SW9.3	SW21
27-Jan	W5	WSW6	SSW5	SW5	W4	W8	WSW8	SSW6	SW5	S8	SSE10	S8	S13	S9	SSW13	SSW17	SSW18	SW17	SSE5	NNW16	NW24	NNW32	NNW33	NNW27	WSW7.9	NNW33
28-Jan	WNW21	WNW24	WNW22	NNW19	NNW18	NNW17	NW10	NNW15	W18	NNW16	NNW23	NW26	NW26	NW17	NW21	NNW20	NW15	NNW8	NW10	W7	SW8	SSW7	WSW8	W8	WNW15.0	NW26
29-Jan	NNW6	NW3	WSW3	SW5	WSW4	ESE2	SSW2	S1	SSE0	NNW6	NNE21	NNE21	NNE21	NNE18	NNE19	NNE22	NNE23	NNE20	NNE22	N23	NNE22	NNE22	N20	NNE24	NNE12.1	NNE24
30-Jan	NNE21	NNE20	NNE17	NNE14	N13	NNE13	NE10	NE8	ENE5	ENE5	ENE6	ENE6	NE9	NE8	NE7	ENE6	NNE5	NE3	NE4	NE4	N7	NNW8	NNW8	NNW8	NNE8.2	NNE21
31-Jan	N7	NNE4	NNW4	NNW8	NNW6	NNW9	NNW10	NNW10	NNW7	NNW8	N11	NNE16	NNE16	NNE17	N17	NNE17	NNE20	N16	N15	N15	N18	N15	N16	N19	N12.2	NNE20

W2.0 W1.6 W1.2 WSW1.1 W1.9 WNW1.4 W1.3 S1.2 SSW1.8 SSW2.2 SSW1.4 S0.6 WNW0.5 NW1.7 NW1.6 NW1.5 NW1.7 NNW0.7 NNW0.7 NW1.4 WNW2.1 WNW3.2 WNW3.0 WNW2.9	Diurnal Average
N24 WNW24 NW25 NW28 NNW29 NNW31 NNW36 N26 N24 NNE26 NNE28 NNE28 NNE29 NNE30 NNE34 NNE28 N30 N24 NNE22 N23 N27 WNW32 WNW33 WNW27	Diurnal Maximum

UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

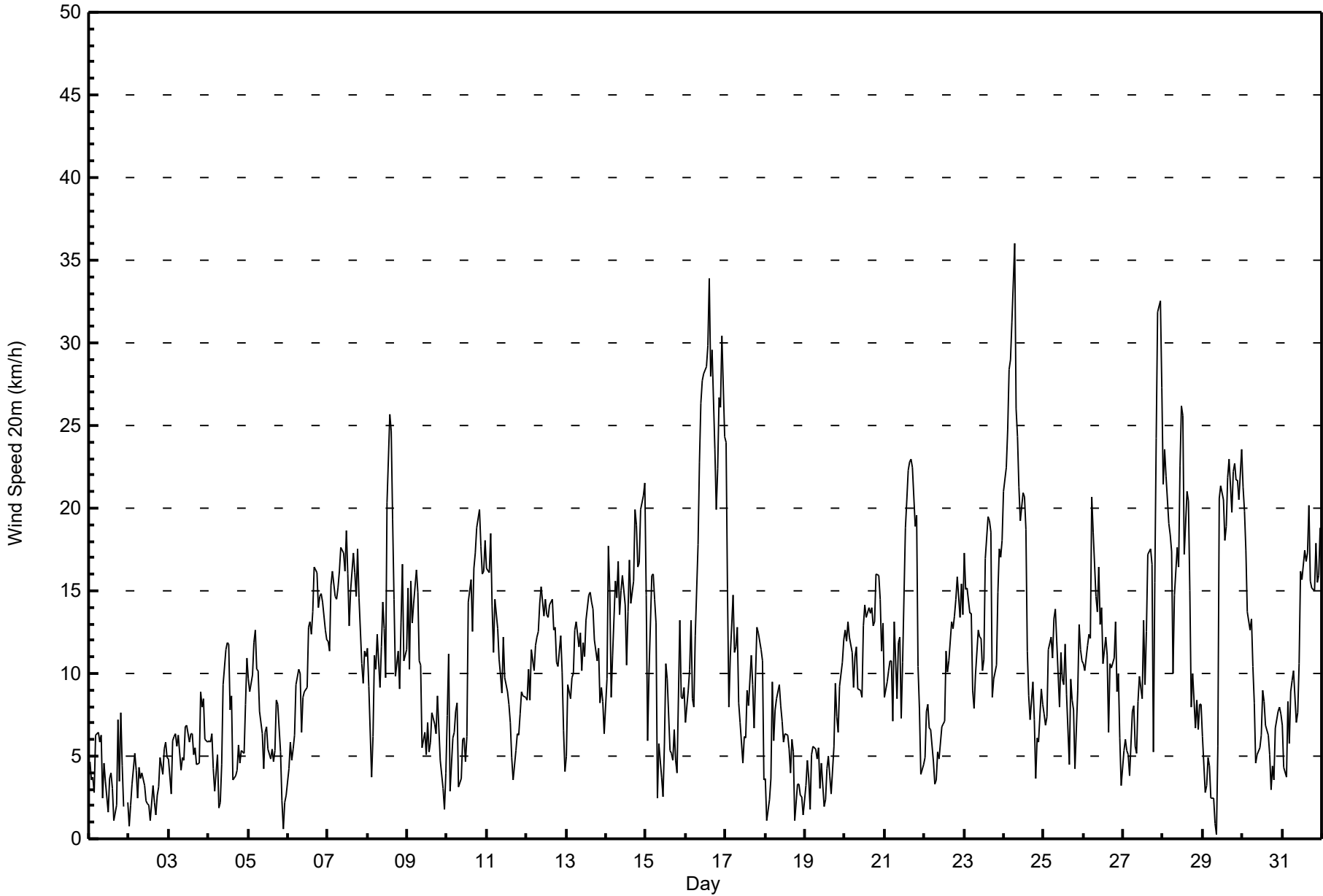
Wind Speed 20m (WS20) - km/h
Barge Landing - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 11 km/h on Jan 28 13:00 Minimum Value: 0 km/h on Jan 2 18:00 Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 2 Median = 2 Q ₃ = 3 P ₉₀ = 5 P ₉₉ = 8																	Hours in Service: 744 Hours of Data: 743 Hours of Missing Data: 1 Hours of Calibration: 0 Percent Operational Time: 99.9								
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	3	1	1	2	2	1	UO	1	1	3
2-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	0	1	1	1	1	1	1	1	2
3-Jan	1	1	1	1	1	1	1	1	1	2	1	2	2	2	1	1	1	1	4	4	1	1	1	1	4
4-Jan	2	3	2	2	1	2	1	1	1	3	3	3	3	2	3	2	1	1	1	1	1	2	3	3	3
5-Jan	2	2	3	3	3	3	3	2	2	1	2	2	2	1	1	2	2	2	2	1	1	1	1	1	3
6-Jan	1	1	1	2	2	2	2	2	2	2	2	2	4	3	3	3	3	3	3	3	3	2	2	2	4
7-Jan	2	2	3	2	3	2	3	2	3	3	3	3	3	3	3	3	3	3	3	4	2	1	2	3	4
8-Jan	3	3	3	4	3	3	4	2	3	2	3	3	6	8	7	5	3	3	3	2	5	4	3	3	8
9-Jan	3	4	4	3	4	4	4	3	3	2	2	1	1	2	1	2	1	2	2	2	2	1	2	2	4
10-Jan	2	2	3	3	2	2	2	1	1	1	2	2	3	5	4	4	4	5	5	4	4	6	6	5	6
11-Jan	5	4	5	4	3	4	4	3	3	3	3	2	3	3	2	1	1	1	1	2	1	2	2	2	5
12-Jan	1	2	2	2	2	2	2	3	3	3	3	4	3	3	3	3	3	2	2	2	2	2	2	1	4
13-Jan	1	1	2	1	2	2	2	2	2	2	3	3	3	4	3	3	3	2	1	3	2	2	3	3	4
14-Jan	3	3	2	2	3	2	2	3	2	3	3	3	5	4	4	4	3	4	4	3	3	3	4	4	5
15-Jan	4	2	4	3	3	3	3	4	3	4	2	2	2	2	2	1	1	2	2	4	2	2	2	2	4
16-Jan	1	2	3	3	2	2	3	4	5	6	6	6	7	7	8	7	7	6	6	7	7	7	8	7	8
17-Jan	7	5	2	4	5	3	3	4	3	2	2	3	2	3	3	3	2	2	1	3	3	3	3	2	7
18-Jan	2	1	1	2	2	1	1	2	1	1	2	2	2	2	1	1	2	2	2	2	1	1	1	1	2
19-Jan	2	1	1	1	1	1	1	2	1	2	2	1	1	1	1	1	1	2	1	1	1	2	1	1	2
20-Jan	2	2	2	2	2	2	2	2	2	2	3	4	4	3	3	2	3	2	3	3	3	3	3	5	5
21-Jan	3	3	3	2	2	4	4	7	6	3	2	7	5	5	6	6	6	6	5	5	3	2	2	3	7
22-Jan	1	1	2	1	2	1	1	1	1	1	3	2	2	3	2	2	2	2	2	2	2	3	2	3	3
23-Jan	4	4	3	2	3	2	2	3	3	4	4	3	4	4	6	6	6	2	3	3	4	4	5	5	6
24-Jan	7	6	7	8	9	9	11	8	7	6	4	6	5	5	4	2	2	2	2	1	1	2	2	2	11
25-Jan	1	2	2	2	2	2	2	2	2	3	3	3	2	3	2	3	2	2	2	1	2	3	2	2	3
26-Jan	2	1	2	3	2	6	5	3	2	3	4	4	3	2	3	3	2	3	3	2	3	1	2	1	6
27-Jan	2	2	2	2	2	2	2	1	2	2	2	3	3	3	4	4	3	3	3	7	9	10	10	8	10
28-Jan	6	7	6	6	6	6	3	5	5	5	6	10	11	6	6	7	7	2	3	2	2	1	2	3	11
29-Jan	2	1	2	2	2	1	1	1	1	5	5	5	5	5	5	5	6	5	5	6	6	5	5	6	6
30-Jan	6	5	5	4	3	3	2	2	1	1	1	2	2	2	2	1	1	1	1	2	1	2	1	1	6
31-Jan	2	2	2	2	2	2	2	3	2	2	5	4	5	4	4	4	5	5	5	4	5	5	5	5	5
Diurnal Maximum																								7	
UO - Unstable Operation																									



Wood Buffalo Environmental Association
Hourly Averages

Wind Speed 20m (WS20) - km/h
Barge Landing - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 20m (WS20) - km/h
Barge Landing - January 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	164	22.07	22.07
6 - 11	286	38.49	60.57
12 - 19	222	29.88	90.44
20 - 28	61	8.21	98.65
29 - 38	10	1.35	100.00
> 38	0	0.00	100.00

Total Number of Valid Hours: 743

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Wind Speed 20m (WS20) - km/h
Barge Landing - January 2025**

Wind Speed Ranges (km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	17	9	8	6	8	6	7	21	14	14	6	9	14	6	8	11	164
6 - 11	30	20	14	4	1	2	8	55	37	26	18	14	20	10	6	21	286
12 - 19	26	27	1	0	0	0	1	62	35	15	15	11	10	15	2	2	222
20 - 28	12	24	0	0	0	0	0	0	0	0	1	3	1	9	8	3	61
29 - 38	2	3	0	0	0	0	0	0	0	0	0	0	0	2	0	3	10
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	87	83	23	10	9	8	16	138	86	55	40	37	45	42	24	40	743

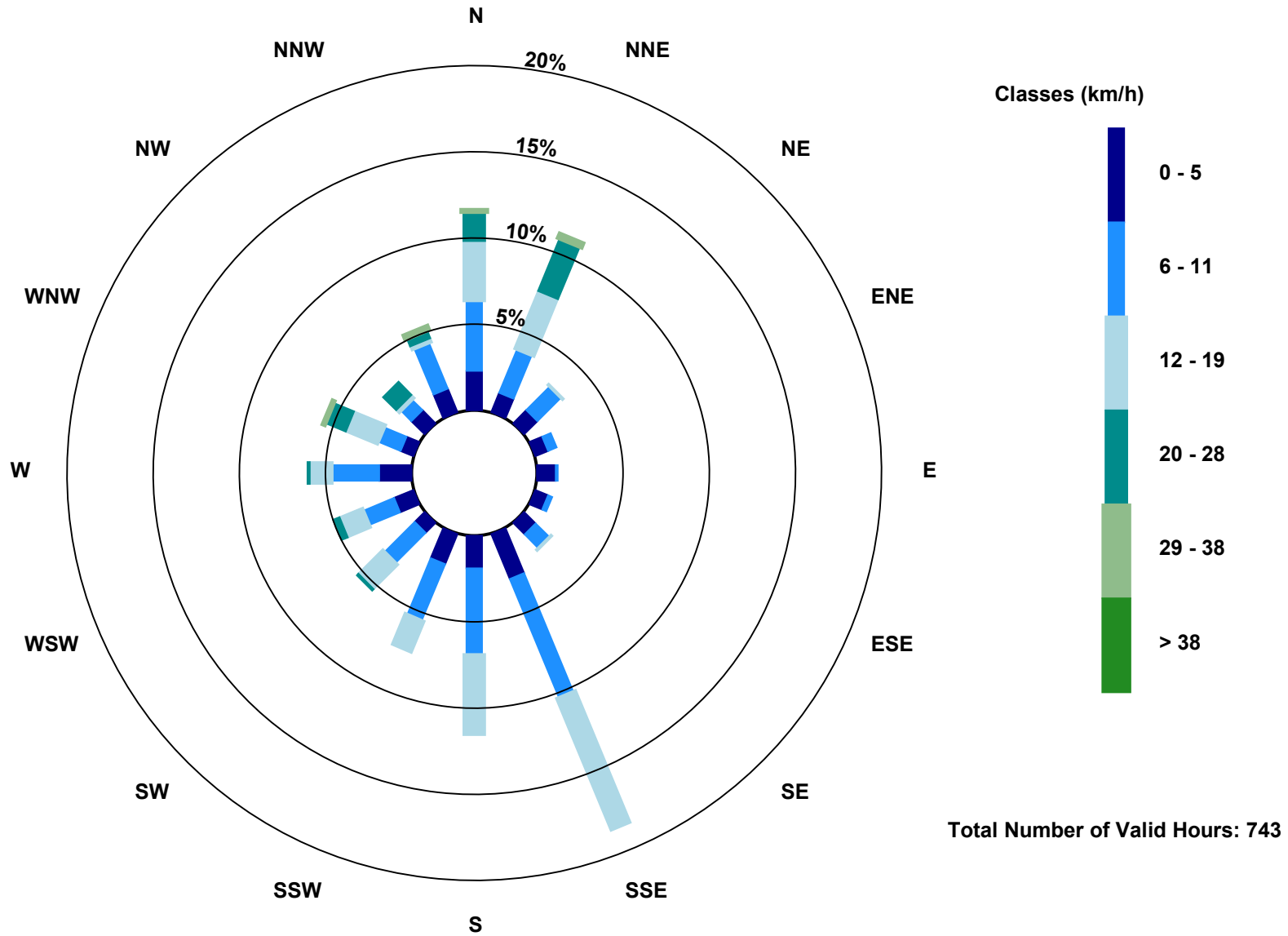
Total Number of Valid Hours: 743

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Wind Speed 20m (WS20) - km/h
Barge Landing





Wood Buffalo Environmental Association
Summary of Hour Averages

Wind Direction 20m (WD20) - deg
Barge Landing - January 2025

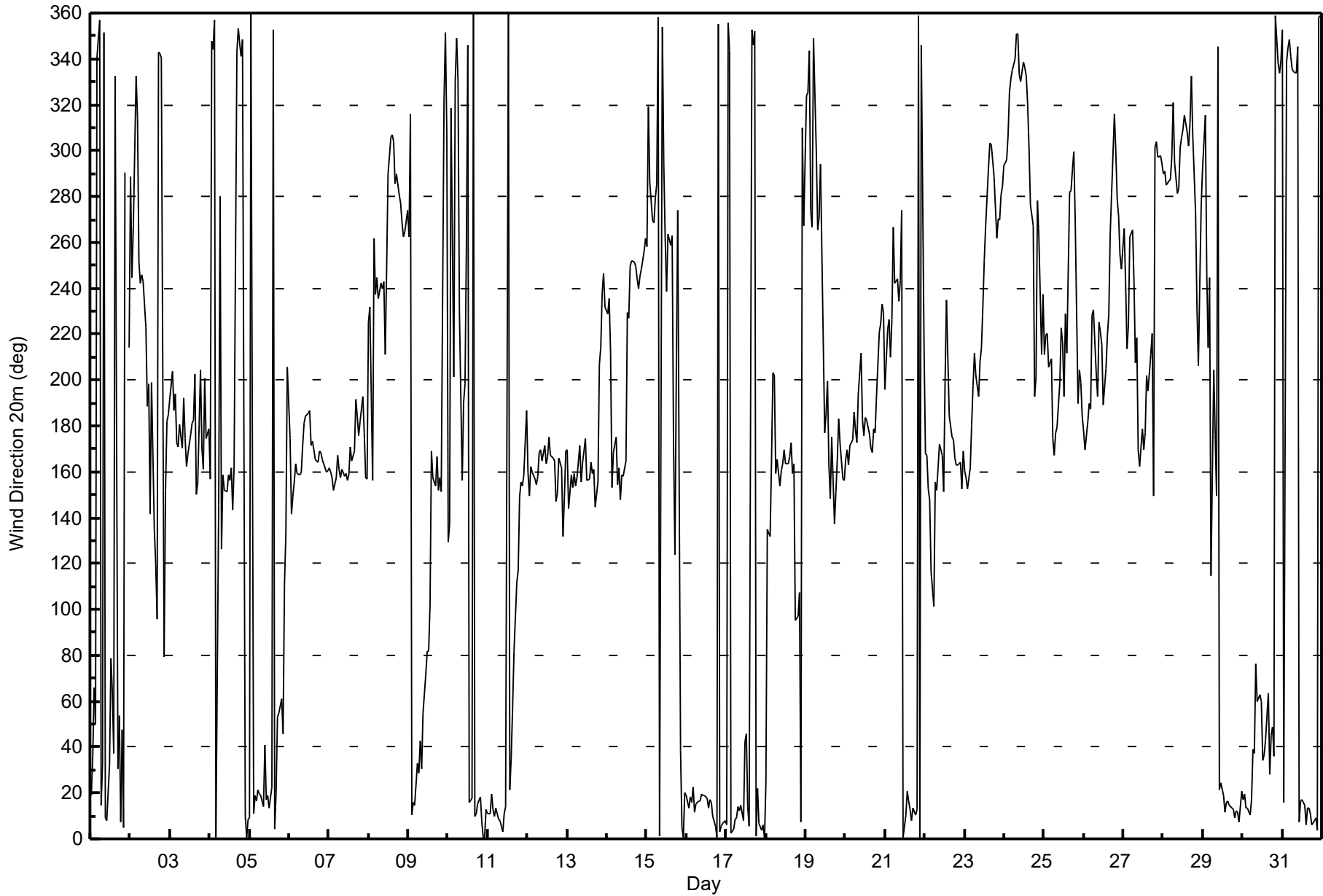
Direction of Maximum Speed: 340 deg on Jan 24 07:00																				Hours in Service: 744							
Direction of Maximum Daily Speed Average: 12.1 deg on Jan 16																				Hours of Data: 743							
Direction of Minimum Speed: 149 deg on Jan 29 09:00										Direction of Minimum Daily Speed Average: 1.0 deg on Jan 2										Hours of Missing Data: 1							
Monthly Average Direction: 274.2 deg																								Percent Operational Time: 99.9			
Day	Hourly Period Ending At (MST)																								Daily Average		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	19	36	66	50	340	357	15	33	351	9	8	32	79	64	37	332	31	53	8	47	5	291	UO	214	24.8		
2-Jan	289	244	267	332	314	251	242	246	243	222	189	198	142	199	135	120	96	343	342	340	80	152	182	185	227.3		
3-Jan	191	204	187	194	172	171	181	170	192	174	162	168	176	182	182	203	150	155	204	171	161	201	175	179	178.5		
4-Jan	157	348	344	357	0	145	280	126	158	152	151	159	156	162	143	162	343	353	347	341	348	10	1	8	103.5		
5-Jan	9	360	11	19	16	22	19	19	14	41	17	19	13	23	352	4	20	53	55	61	46	111	133	206	21.9		
6-Jan	175	142	149	155	163	159	159	160	172	181	184	186	187	171	173	169	165	164	169	168	165	164	160	160	167.4		
7-Jan	162	160	157	152	157	167	161	158	161	158	159	156	159	171	165	169	191	184	176	182	193	177	158	157	165.7		
8-Jan	225	232	156	262	237	244	236	242	240	243	211	249	290	306	307	304	285	290	281	277	269	263	265	274	267.6		
9-Jan	263	316	10	16	15	33	29	43	30	55	72	82	82	102	169	158	154	166	152	157	151	322	351	307	43.3		
10-Jan	129	137	319	201	330	349	331	230	156	191	198	259	346	16	18	360	10	11	15	18	7	1	0	13	7.7		
11-Jan	11	11	20	13	10	14	8	8	6	3	11	14	360	22	36	57	82	112	117	149	155	154	159	187	26.7		
12-Jan	160	149	162	160	157	155	158	168	170	165	172	163	167	175	167	166	165	147	151	166	162	132	149	169	161.4		
13-Jan	170	144	159	153	159	154	157	172	155	164	169	174	156	157	164	159	161	144	155	207	214	238	246	232	168.5		
14-Jan	229	235	212	153	168	175	155	162	147	159	158	164	229	227	249	252	252	250	244	240	245	248	257	262	218.1		
15-Jan	258	319	286	270	269	279	285	358	1	354	295	263	239	263	259	263	172	124	205	274	39	5	1	20	288.3		
16-Jan	19	14	18	16	22	11	15	16	16	19	19	19	18	14	17	16	10	5	0	355	3	6	7	8	12.1		
17-Jan	6	356	343	3	4	8	9	14	12	15	8	42	46	14	5	353	346	352	1	22	7	4	6	0	6.4		
18-Jan	25	135	132	165	203	202	159	165	154	160	164	170	163	163	166	173	159	164	95	97	107	7	310	267	163.1		
19-Jan	324	325	344	274	267	349	300	266	271	294	254	177	185	200	163	148	175	137	151	166	183	172	157	156	193.3		
20-Jan	165	170	163	171	174	186	178	173	194	212	182	176	183	182	176	170	168	179	177	193	221	224	233	230	186.3		
21-Jan	196	222	226	210	226	266	243	244	234	244	274	1	10	21	16	13	8	13	10	13	359	0	346	214	339.6		
22-Jan	168	167	153	148	117	101	155	152	162	172	167	151	199	235	209	184	175	174	166	163	163	164	152	169	168.1		
23-Jan	161	158	152	161	180	198	212	202	193	208	214	232	252	267	292	303	303	296	289	262	271	270	280	284	241.9		
24-Jan	294	296	307	325	331	335	340	351	351	333	330	339	336	333	320	301	277	268	193	201	278	263	211	237	320.8		
25-Jan	211	220	220	206	209	175	167	177	179	199	223	216	193	229	211	282	283	292	299	270	190	205	199	184	209.3		
26-Jan	177	170	182	190	187	228	231	203	193	225	221	215	189	205	220	229	263	281	316	300	279	272	255	248	223.7		
27-Jan	266	242	213	224	262	265	243	207	219	169	163	179	170	177	202	195	211	220	149	301	304	297	298	294	247.9		
28-Jan	290	291	285	287	287	297	321	295	281	284	301	306	309	315	308	302	312	332	306	273	231	206	242	276	294.5		
29-Jan	293	315	246	214	245	115	204	176	149	346	22	24	19	12	16	17	15	13	13	9	12	12	7	21	11.9		
30-Jan	17	19	14	13	11	17	39	37	76	60	63	60	34	36	43	64	28	45	49	36	359	338	334	339	23.3		
31-Jan	353	16	339	345	348	341	336	335	334	345	7	17	17	15	6	14	14	11	6	8	9	3	358	359	2.8		
260.8 267.4 262.9 251.9 264.6 282.4 263.9 187.6 195.0 208.3 194.8 183.1 293.7 307.8 307.0 308.0 307.4 335.3 344.1 307.2 300.8 283.3 289.2 285.3																								Diurnal Average			
UO - Unstable Operation																											
All monthly, daily, and diurnal averages have been calculated using vector methods																											



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Direction 20m (WD20) - deg
Barge Landing - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 88 deg on Jan 29 08:00		Hours in Service: 744 Hours of Data: 743 Hours of Missing Data: 1 Hours of Calibration: 0 Percent Operational Time: 99.9																							
Minimum Value: 5 deg on Jan 19 19:00 Percentiles: P ₁ = 8 P ₁₀ = 11 Q ₁ = 13 Median = 15 Q ₃ = 19 P ₉₀ = 31 P ₉₉ = 71																									
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	12	18	11	16	16	12	18	12	25	12	14	30	27	17	19	65	78	9	20	13	33	22	UO	18	78
2-Jan	64	40	28	10	14	24	9	17	8	16	16	33	35	59	15	38	57	23	11	10	42	21	16	17	64
3-Jan	8	13	8	13	22	7	10	17	11	12	10	17	23	20	22	21	11	9	22	17	17	20	11	16	23
4-Jan	12	61	12	27	52	18	68	13	14	14	14	12	12	15	16	46	16	13	14	14	12	21	17	15	68
5-Jan	14	15	15	11	13	14	14	14	14	22	20	16	25	20	24	14	18	15	14	16	31	64	26	34	64
6-Jan	22	14	14	15	18	13	13	13	19	18	18	17	17	14	16	14	12	13	14	13	11	11	10	11	22
7-Jan	10	10	9	8	10	11	11	9	10	11	13	10	10	19	11	12	13	15	12	14	11	14	17	14	19
8-Jan	26	27	82	65	20	18	15	25	26	11	16	30	16	16	14	13	15	15	14	18	18	15	17	15	82
9-Jan	11	51	16	12	13	13	13	14	15	24	16	15	20	41	20	16	14	15	14	16	31	30	42	59	59
10-Jan	8	12	79	46	26	8	11	58	51	21	25	40	39	14	12	16	14	15	16	11	15	19	18	15	79
11-Jan	15	16	12	16	15	14	15	15	15	16	14	16	21	17	16	15	11	17	10	23	10	13	24	13	24
12-Jan	19	10	13	12	12	11	9	12	14	14	15	15	15	15	14	13	13	12	12	14	16	11	12	20	20
13-Jan	24	8	21	15	9	10	12	19	12	16	18	21	13	18	16	13	12	11	10	17	21	12	29	25	29
14-Jan	16	11	11	14	16	13	10	11	12	11	11	17	20	18	15	14	13	12	12	12	11	11	11	12	20
15-Jan	14	37	19	13	12	13	16	79	51	61	78	33	17	18	29	25	30	15	49	55	18	16	14	10	79
16-Jan	10	10	14	12	14	14	12	11	11	12	12	11	13	14	14	14	16	18	18	17	18	17	18	16	18
17-Jan	17	17	17	16	17	13	12	15	16	14	48	29	16	13	19	16	12	15	13	14	13	13	14	45	48
18-Jan	19	60	39	47	7	11	13	11	10	9	15	21	17	19	18	21	15	28	69	30	40	40	18	55	69
19-Jan	15	10	28	24	26	19	22	12	12	36	11	37	41	40	28	30	37	28	5	8	14	11	5	7	41
20-Jan	11	12	9	12	13	14	13	10	15	10	19	16	17	17	15	12	11	13	13	16	12	13	18	32	32
21-Jan	35	22	19	16	15	47	16	72	27	14	23	38	17	14	14	14	16	14	16	14	18	12	24	69	72
22-Jan	21	16	11	14	21	13	33	24	12	16	37	18	20	18	18	15	11	11	8	9	9	17	8	20	37
23-Jan	12	11	9	12	11	17	23	17	14	18	19	17	18	14	17	16	15	16	24	18	14	13	14	17	24
24-Jan	16	15	18	15	15	15	18	17	16	13	14	14	15	21	19	13	21	20	45	14	14	14	13	45	45
25-Jan	23	19	17	13	12	16	7	11	13	24	20	18	18	16	17	51	17	10	11	50	10	13	12	14	51
26-Jan	16	12	14	14	11	15	14	17	16	12	23	16	18	15	15	32	11	24	11	12	20	20	24	57	57
27-Jan	18	21	34	21	21	12	13	40	12	16	13	16	14	23	22	14	13	12	65	50	15	16	15	16	65
28-Jan	16	15	15	16	17	17	15	16	15	17	16	15	16	20	15	16	22	21	15	22	10	24	31	17	31
29-Jan	26	44	62	45	17	54	29	88	88	31	12	13	12	14	12	13	14	14	14	15	14	13	15	12	88
30-Jan	14	13	16	15	14	13	14	15	25	21	19	19	15	17	18	18	12	17	7	26	15	10	13	9	26
31-Jan	13	20	27	10	16	9	15	11	20	14	21	12	14	13	14	14	13	17	18	16	16	17	17	18	27
Diurnal Maximum																									
UO - Unstable Operation																									





WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS11 LOWER CAMP JANUARY 2025

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

February 28, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - LOWER CAMP (AMS11)
JANUARY 2025

MONTHLY SUMMARY

Parameter	Hours of Data	Hours of Calibration	Hours without Data	Operational Time	Maximum 1-Hour Value	1-Hour Exceedances	Maximum 24-Hour Value	24-Hour Exceedances
SO2 (ppb) Average	709	35	35	100	72	0	11	0
H2S (ppb) Average	703	38	41	99.6	10.4	2	2	0
THC (ppm) Average	707	35	37	99.73	3.2	-	2.3	-
CH4(ppm) Average	707	35	37	99.73	3	-	2.2	-
NMHC(ppm) Average	707	35	37	99.73	0.173	-	0.079	-
Temperature (C) Average	744	0	0	100	7.6	-	3.1	-
Relative Humidity (%) Average	744	0	0	100	96.2	-	87.3	-
Barometric Pressure (inHg) Average	744	0	0	100	30.1	-	30	-
Wind Speed 10 m (km/h) Average	742	0	2	99.73	31	-	20	-
Wind Direction 10 m (deg) Average	742	0	2	99.73	-	-	-	-

Note : Operational time includes periods of data collection and instrument calibration

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - LOWER CAMP (AMS11)
JANUARY 2025

MONTHLY SUMMARY FOR AIR QUALITY/ METEOROLOGICAL MONITORING MEASUREMENTS

Parameter	Number	Mean	StnDev	Total	Percentile						
					Min	P10	Q1	Median	Q3	P90	Max
SO2 (ppb) Average	709	1.85	5.9	-	0	0	0.1	0.3	1	3.5	72
H2S (ppb) Average	703	0.58	1	-	0	0.1	0.1	0.3	0.6	1.2	10.4
THC (ppm) Average	707	2.01	0.2	-	1.7	1.9	1.9	2	2.1	2.2	3.2
CH4(ppm) Average	707	1.98	0.1	-	1.7	1.9	1.9	1.9	2	2.2	3
NMHC(ppm) Average	707	0.025	0.031	-	0	0	0	0	0	0.1	0.173
Temperature 2 m (C) Average	744	-12.74	11.4	-	-38	-30.1	-21.2	-12.5	-3	1.7	7.6
Relative Humidity (%) Average	744	76.5	9.3	-	41.6	66.3	72.9	76.8	82.8	87.5	96.2
Barometric Pressure (inHg) Average	744	29.3	0.4	-	28.6	28.8	29	29.3	29.6	29.8	30.1
Wind Speed 10 m (km/h) Average	742	10.6	7	-	0	2	5	10	15	20	31
Wind Direction 10 m (deg) Average	742	-	-	-	-	-	-	-	-	-	-

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - LOWER CAMP (AMS11)
 JANUARY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
H2S	23 Jan 2025 17:00	23 Jan 2025 17:00	1	Maintenance - sample manifold cleaned
H2S	28 Jan 2025 10:00	28 Jan 2025 10:00	1	Maintenance - reinitiated daily QA check
H2S	30 Jan 2025 10:00	30 Jan 2025 10:00	1	Maintenance - reinitiated daily QA check
THC/NMHC/CH4	21 Jan 2025 14:00	21 Jan 2025 14:00	1	Unstable Operation - excessive baseline noise
THC/NMHC/CH4	21 Jan 2025 17:00	21 Jan 2025 17:00	1	Unstable Operation - excessive baseline noise
Wind Speed, Wind Direction	01 Jan 2025 17:00	01 Jan 2025 17:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	02 Jan 2025 11:00	02 Jan 2025 11:00	1	Flat line in sensor output signal



Wood Buffalo Environmental Association
Summary of Hour Averages

Sulphur Dioxide (SO₂) - ppb
Lower Camp - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 72.0 ppb on Jan 25 22:00	Maximum Daily Average: 11.0 ppb on Jan 25
Minimum Value: 0.0 ppb on Jan 1 05:00	Hours of Data: 709
Maximum Diurnal Average: 3.8 ppb at hour 16	Hours of Missing Data: 35
Monthly Average: 1.85 ppb	Hours of Calibration: 35
Minimum Daily Average: 0.0 ppb on Jan 30	Percent Operational Time: 100.0
Minimum Diurnal Average: 0.9 ppb at hour 6	
Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.3 Q ₃ = 1.0 P ₉₀ = 3.5 P ₉₉ = 27.3	

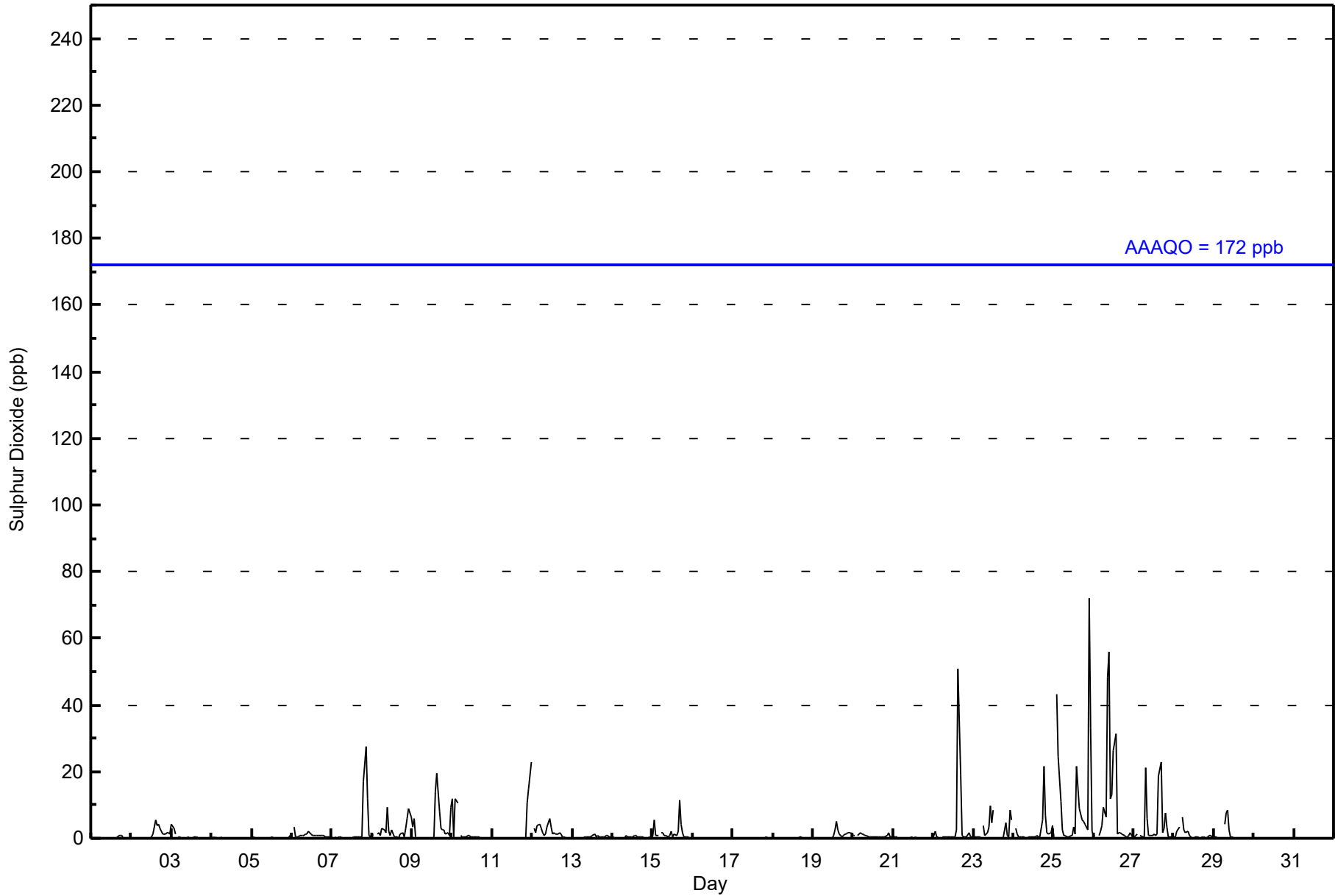
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
1-Jan	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.8	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.9	0.9	
2-Jan	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	1.3	5.4	4.0	4.3	2.9	2.2	1.4	1.2	1.8	1.8	1.3	1.2	5.4	1.2	5.4	
3-Jan	4.3	3.0	1.4	Z	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	4.3	0.5	
4-Jan	0.1	0.2	0.2	0.2	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.2	0.1	
5-Jan	0.2	0.2	0.1	0.1	0.2	Z	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.2	0.6	0.2	0.6	0.2	
6-Jan	Z	3.4	0.4	0.6	0.6	0.7	0.8	0.7	1.3	1.5	2.1	1.4	1.0	1.0	0.8	0.8	0.8	0.8	0.8	0.6	0.6	0.4	0.3	0.4	0.9	3.4	0.9	3.4	
7-Jan	0.3	Z	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.1	0.2	0.1	0.2	0.3	0.4	0.4	0.3	0.4	0.5	17.1	27.4	12.0	0.7	0.5	2.7	27.4	2.7	27.4	
8-Jan	1.2	1.0	Z	1.4	1.5	0.8	2.9	2.5	1.5	9.2	2.1	1.0	2.6	0.5	0.3	0.2	0.2	1.4	1.5	0.5	3.1	5.9	8.7	6.3	2.5	9.2	2.5	9.2	
9-Jan	3.5	5.8	0.3	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	14.0	19.4	8.0	2.9	2.6	2.5	1.4	1.6	0.7	9.5	3.2	19.4	3.2	19.4	
10-Jan	12.1	0.5	11.8	10.6	Z	1.0	0.5	0.4	0.5	0.7	0.9	0.5	0.6	0.4	0.5	0.6	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.8	12.1	1.8	12.1	
11-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	10.5	14.7	22.7	2.1	22.7	2.1	22.7	
12-Jan	Z	2.8	1.8	3.6	4.3	3.2	1.6	1.0	1.3	3.2	6.1	3.5	1.4	1.7	1.1	1.3	1.9	1.4	0.4	0.3	0.2	0.1	0.2	0.1	1.8	6.1	1.8	6.1	
13-Jan	0.1	Z	0.2	0.1	0.1	0.1	0.1	0.6	0.2	0.3	0.5	0.6	0.6	1.1	0.6	1.0	0.5	0.2	0.3	0.3	0.7	0.7	0.3	0.4	0.4	1.1	0.4	1.1	
14-Jan	0.3	0.2	Z	0.2	0.1	0.1	0.1	0.1	0.9	0.5	0.5	0.3	0.3	1.0	1.1	0.5	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	1.1	0.3	1.1
15-Jan	0.7	5.7	0.7	0.8	Z	1.6	1.8	0.9	0.8	0.4	0.7	2.1	0.6	1.2	1.0	2.0	11.4	4.3	1.9	0.5	0.3	0.2	0.2	0.1	1.7	11.4	1.7	11.4	
16-Jan	0.2	0.2	0.1	0.1	Z	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.2	
17-Jan	0.0	0.0	0.1	0.0	0.1	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	
18-Jan	Z	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.2	0.2	0.4	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.1	0.4	
19-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.2	0.9	2.5	5.0	2.6	1.1	0.5	0.9	1.4	1.3	1.7	1.7	1.5	0.9	5.0	0.9	5.0	
20-Jan	1.0	0.7	Z	1.0	1.5	1.2	1.3	0.8	0.7	0.4	0.3	0.3	0.4	0.5	0.5	0.4	0.3	0.4	0.3	0.3	0.7	1.6	0.5	0.4	0.7	1.6	0.7	1.6	
21-Jan	0.3	0.3	0.2	Z	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.5	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.5	0.2	0.5
22-Jan	0.8	2.0	0.4	0.5	Z	0.6	0.6	0.6	0.5	0.6	0.5	0.5	0.5	0.6	2.3	51.0	19.3	0.8	0.4	0.3	0.4	1.7	0.4	0.3	3.7	51.0	3.7	51.0	
23-Jan	0.4	0.3	0.4	0.4	0.5	Z	3.7	1.0	1.7	3.5	9.7	4.6	8.5	C	C	C	C	0.1	0.0	4.8	0.9	0.4	8.4	5.4	2.9	9.7	2.9	9.7	
24-Jan	Z	3.0	1.2	0.3	0.2	0.4	0.2	0.1	0.1	0.3	0.3	0.4	0.3	0.3	0.7	0.4	0.3	5.7	21.8	6.6	1.7	1.1	1.6	3.7	2.2	21.8	2.2	21.8	
25-Jan	0.6	Z	43.2	24.7	11.0	2.6	0.8	1.0	0.3	0.4	0.9	1.0	3.3	1.4	21.5	8.8	7.4	5.4	5.1	4.3	2.6	72.0	33.2	2.2	11.0	72.0	11.0	72.0	
26-Jan	0.9	0.8	Z	0.7	2.2	3.9	9.3	6.4	48.4	55.8	11.9	13.1	26.4	31.4	1.3	1.7	1.9	1.1	0.9	0.4	0.3	1.0	1.5	0.8	9.6	55.8	9.6	55.8	
27-Jan	0.6	0.7	1.2	Z	1.0	0.4	0.6	21.3	6.0	0.8	0.8	0.8	1.1	0.7	1.3	18.6	22.7	1.6	3.0	7.8	3.4	0.4	0.2	0.3	4.2	22.7	4.2	22.7	
28-Jan	0.2	0.5	2.3	3.4	Z	6.4	2.4	1.7	2.2	1.0	0.4	0.2	0.1	0.2	0.3	0.2	0.2	0.2	0.3	0.2	0.6	0.9	0.8	0.3	1.1	6.4	1.1	6.4	
29-Jan	0.3	0.2	0.1	0.1	0.1	Z	4.1	7.5	8.4	2.7	0.4	0.3	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	8.4	1.1	8.4	
30-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1.1 1.3 2.6 1.8 1.0 0.9 1.0 1.5 2.4 2.7 1.3 1.0 1.6 1.6 2.0 3.8 2.8 1.0 1.4 1.6 1.5 3.7 2.5 1.9																								Diurnal Average					
12.1 5.8 43.2 24.7 11.0 6.4 9.3 21.3 48.4 55.8 11.9 13.1 26.4 31.4 21.5 51.0 22.7 5.7 21.8 17.1 27.4 72.0 33.2 22.7																								Diurnal Maximum					

Z - zerospan C - Calibration
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb



Wood Buffalo Environmental Association
Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Lower Camp - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Sulphur Dioxide (SO₂) - ppb
Lower Camp - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	680	95.91	95.91
11 - 20	14	1.97	97.88
21 - 60	14	1.97	99.86
61 - 110	1	0.14	100.00
111 - 172	0	0.00	100.00
> 172	0	0.00	100.00

Total Number of Valid Hours: 709

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Lower Camp - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 10	76	17	4	3	2	27	211	15	7	4	7	33	42	98	65	67	678
11 - 20	0	0	0	0	0	0	3	6	1	1	2	0	0	1	0	0	14
21 - 60	0	0	1	0	0	0	0	4	1	5	3	0	0	0	0	0	14
61 - 110	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
111 - 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	76	17	5	3	2	27	214	25	9	10	13	33	42	99	65	67	707

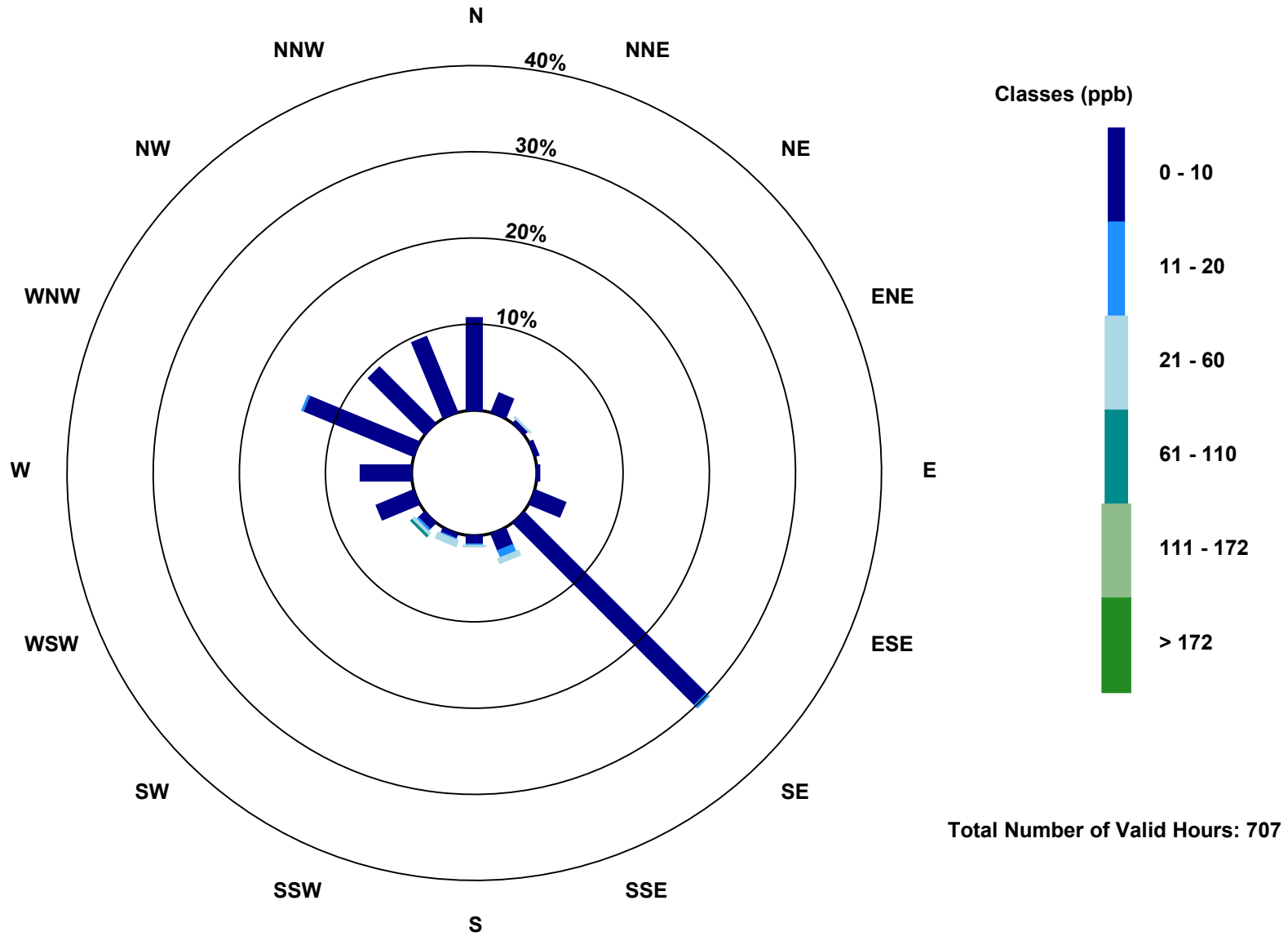
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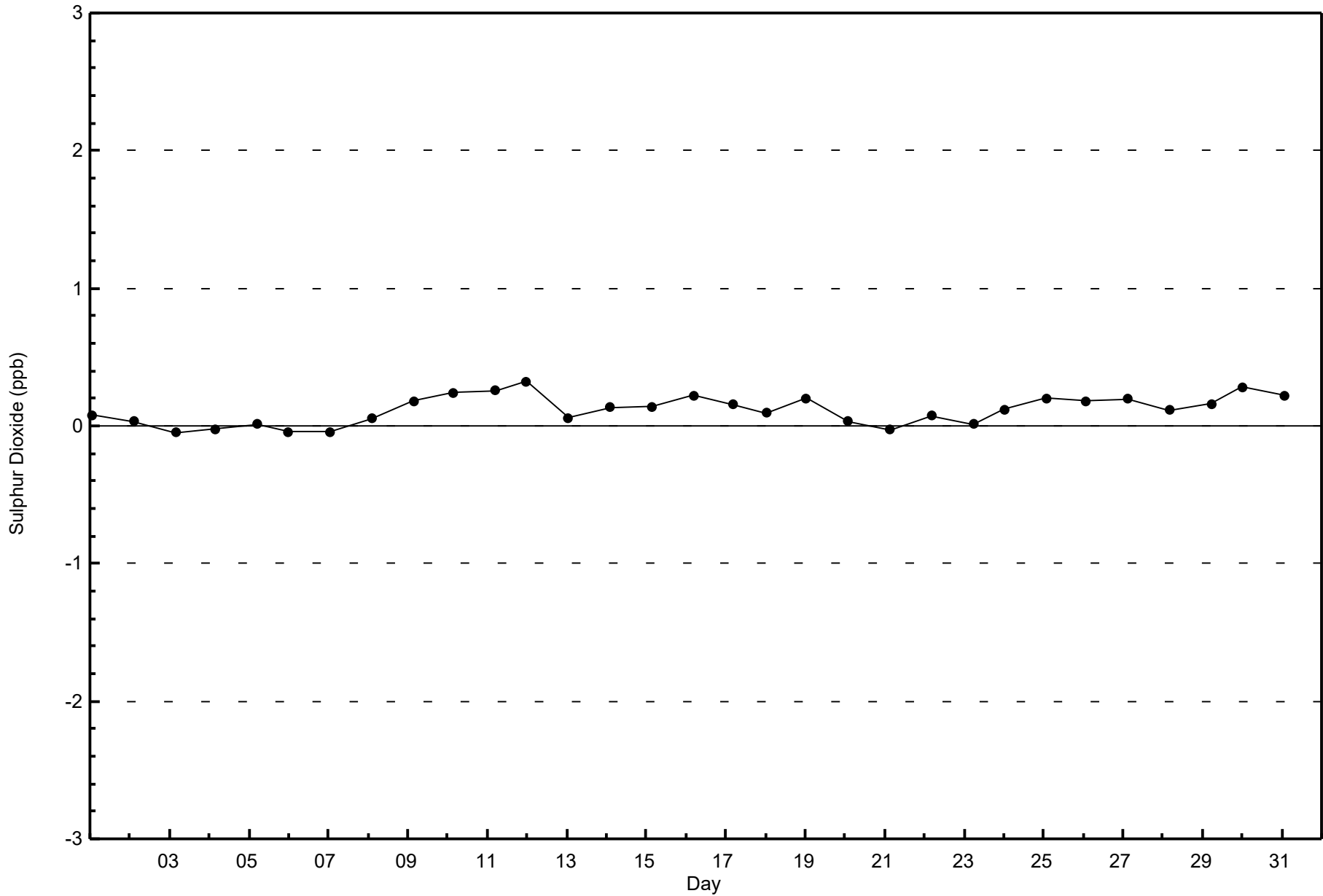
Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Sulphur Dioxide (SO₂) - ppb
Lower Camp

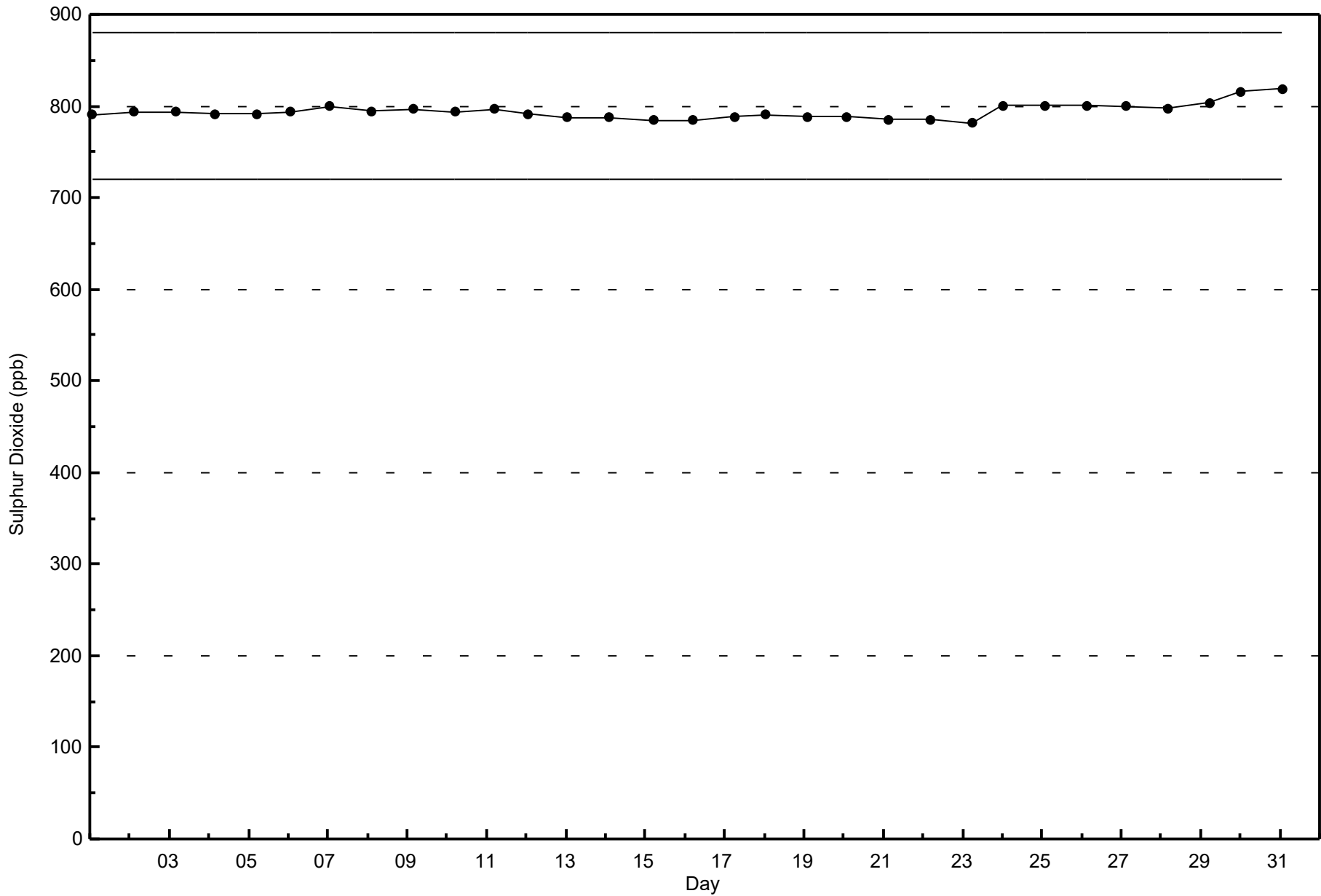


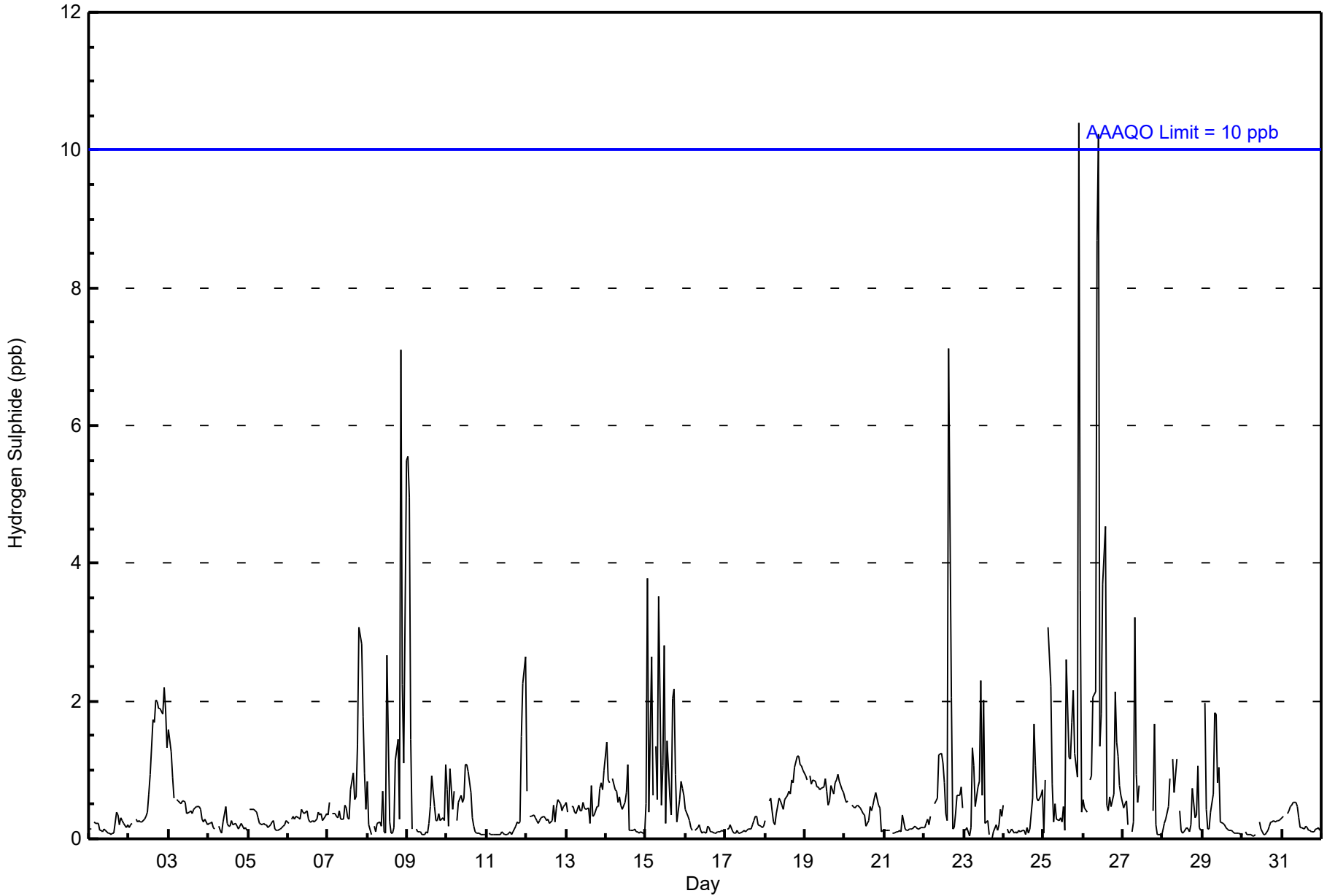




Wood Buffalo Environmental Association
Span Responses

Sulphur Dioxide (SO₂) - ppb
Lower Camp - January 2025







**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Hydrogen Sulphide (H₂S) - ppb
Lower Camp - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	681	96.87	96.87
3 - 4	13	1.85	98.72
5 - 7	6	0.85	99.57
8 - 11	3	0.43	100.00
> 11	0	0.00	100.00

Total Number of Valid Hours: 703

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Hydrogen Sulphide (H₂S) - ppb
Lower Camp - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2	78	16	5	4	2	27	211	19	7	5	9	31	40	96	63	66	679
3 - 4	0	0	0	0	0	0	0	4	0	2	2	1	1	3	0	0	13
5 - 7	0	0	0	0	0	0	0	1	1	0	0	0	1	3	0	0	6
8 - 11	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	3
> 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	78	16	5	4	2	27	211	24	8	9	12	32	42	102	63	66	701

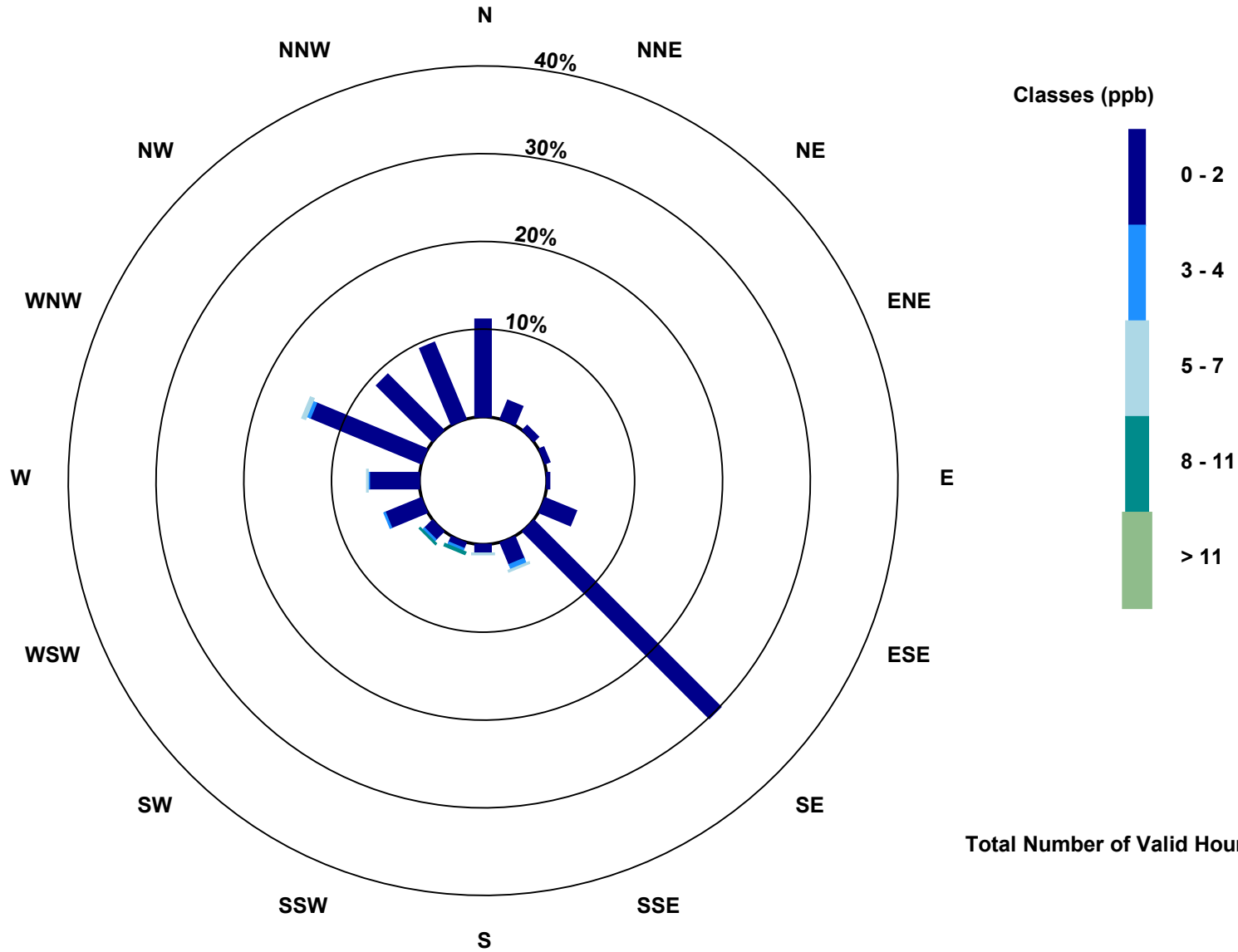
Total Number of Valid Hours: 701

Total Number of Hours: 744

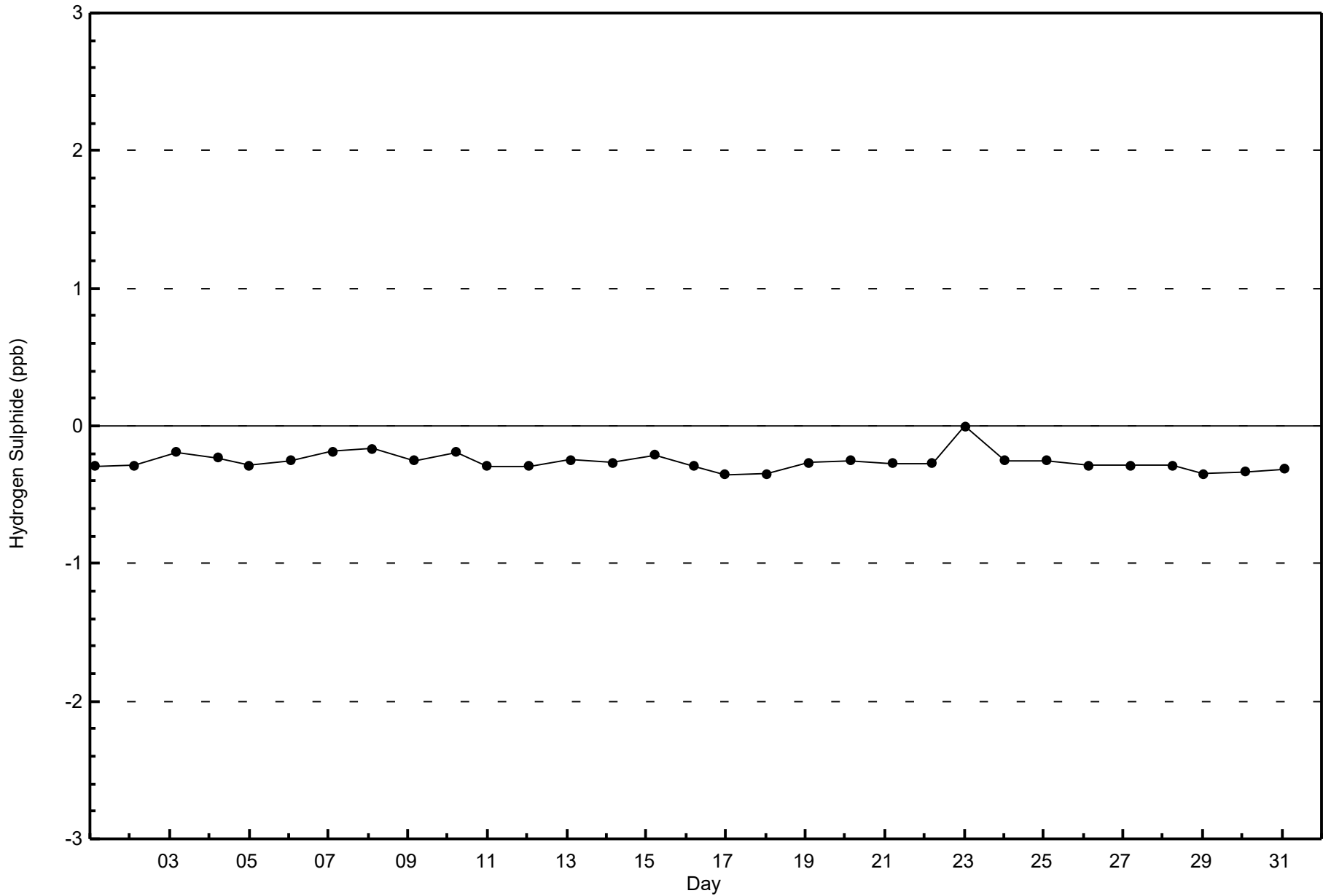


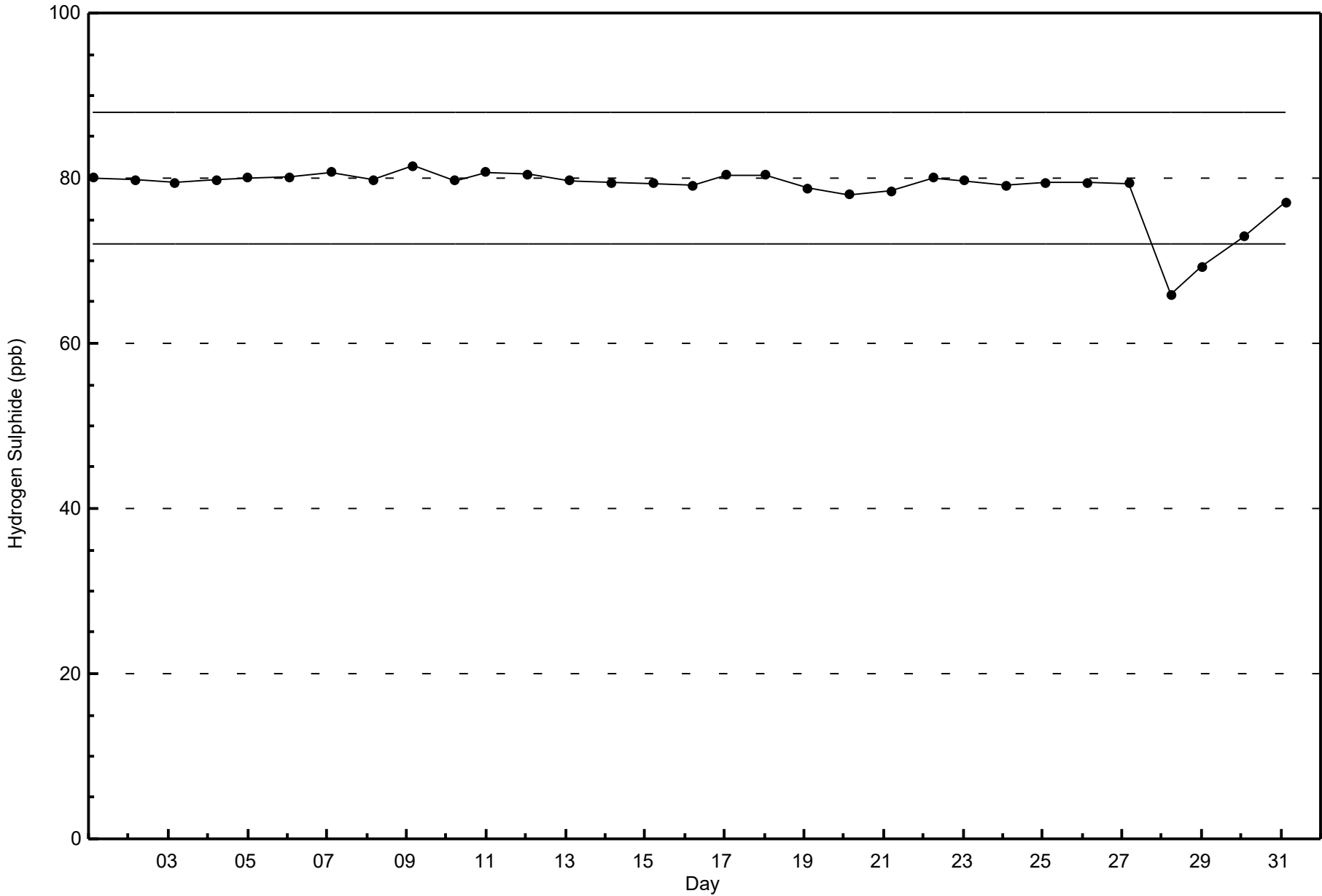
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Hydrogen Sulphide (H₂S) - ppb
Lower Camp



Total Number of Valid Hours: 701

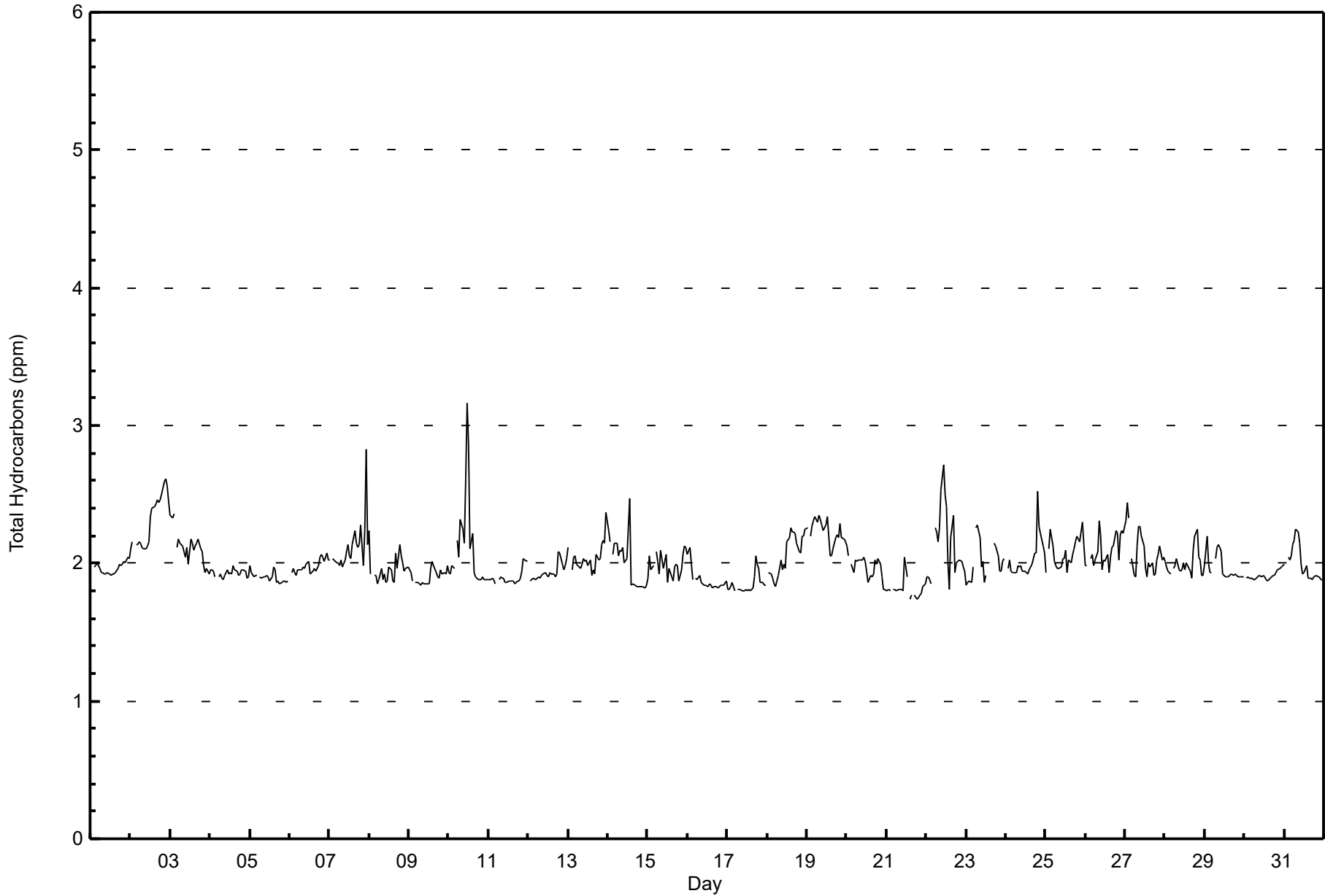






Wood Buffalo Environmental Association
Hourly Averages

Total Hydrocarbons (THC) - ppm
Lower Camp - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Hydrocarbons (THC) - ppm
Lower Camp - January 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	502	71.00	71.00
2.1 - 3.0	204	28.85	99.86
3.1 - 10.0	1	0.14	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 707

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Total Hydrocarbons (THC) - ppm
Lower Camp - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2.0	72	16	3	1	1	17	137	13	5	5	11	26	35	63	36	60	501
2.1 - 3.0	2	1	2	2	1	10	76	12	4	5	2	7	7	36	29	7	203
3.1 - 10.0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	74	17	5	3	2	27	214	25	9	10	13	33	42	99	65	67	705

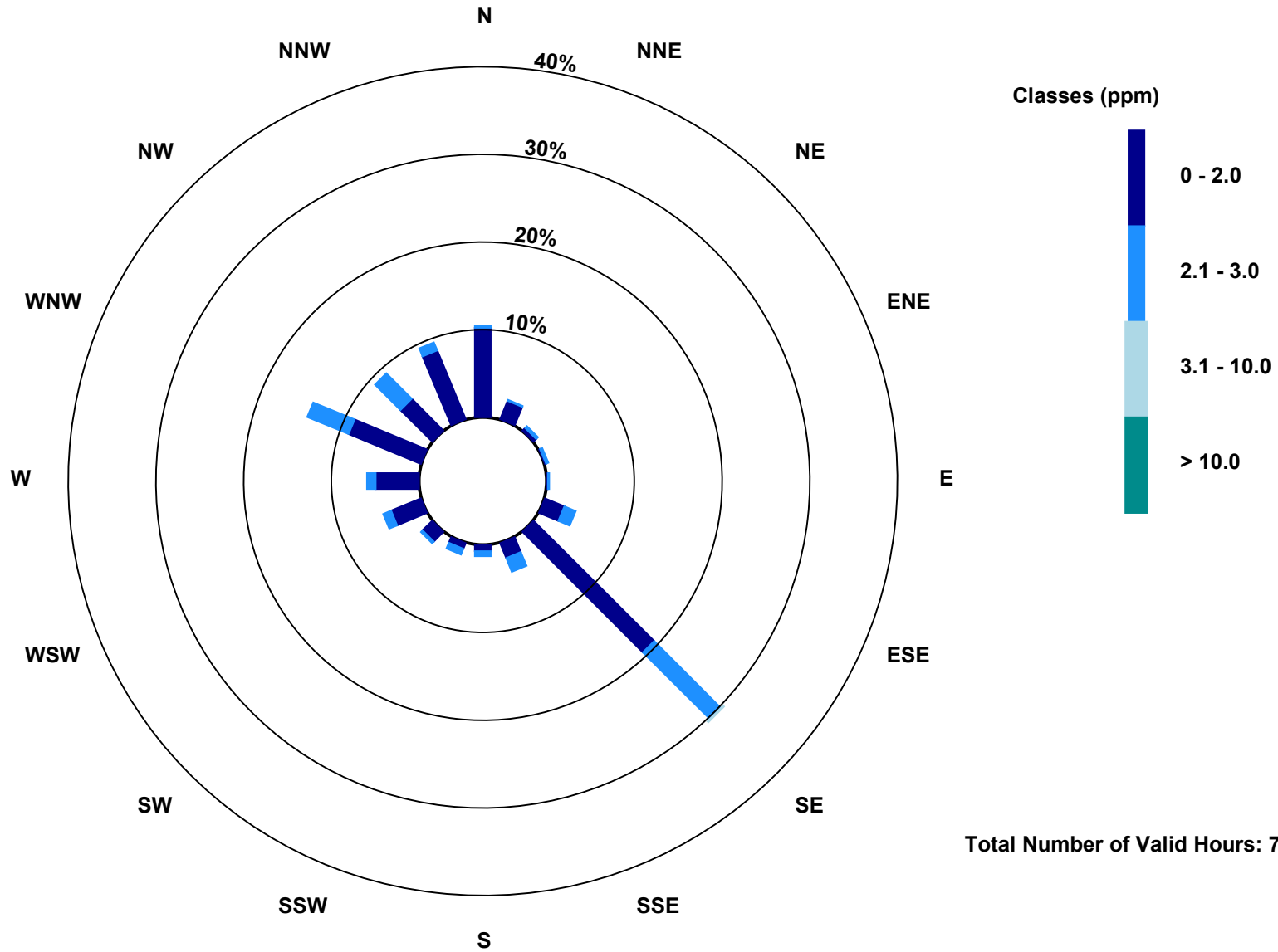
Total Number of Valid Hours: 705

Total Number of Hours: 744

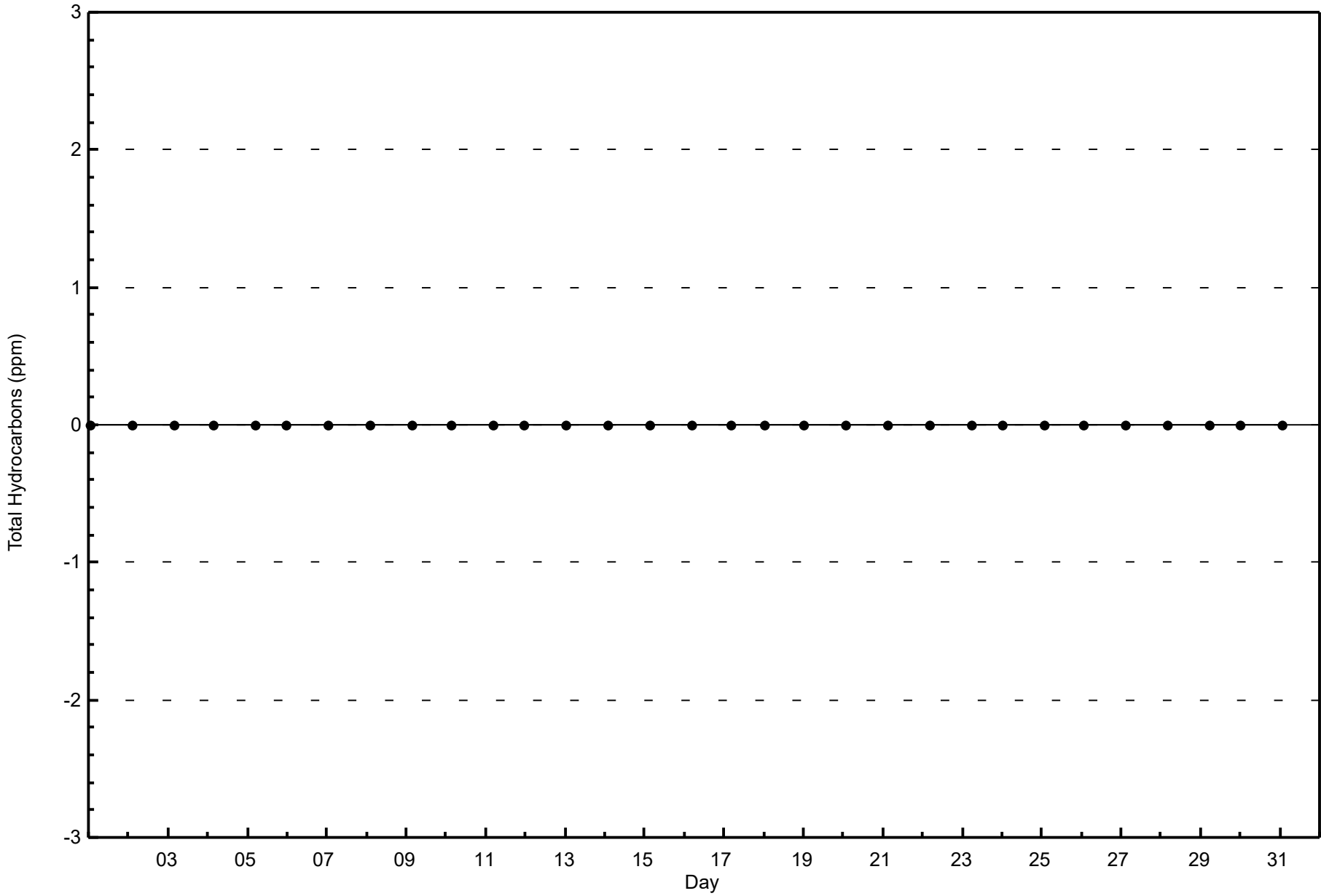


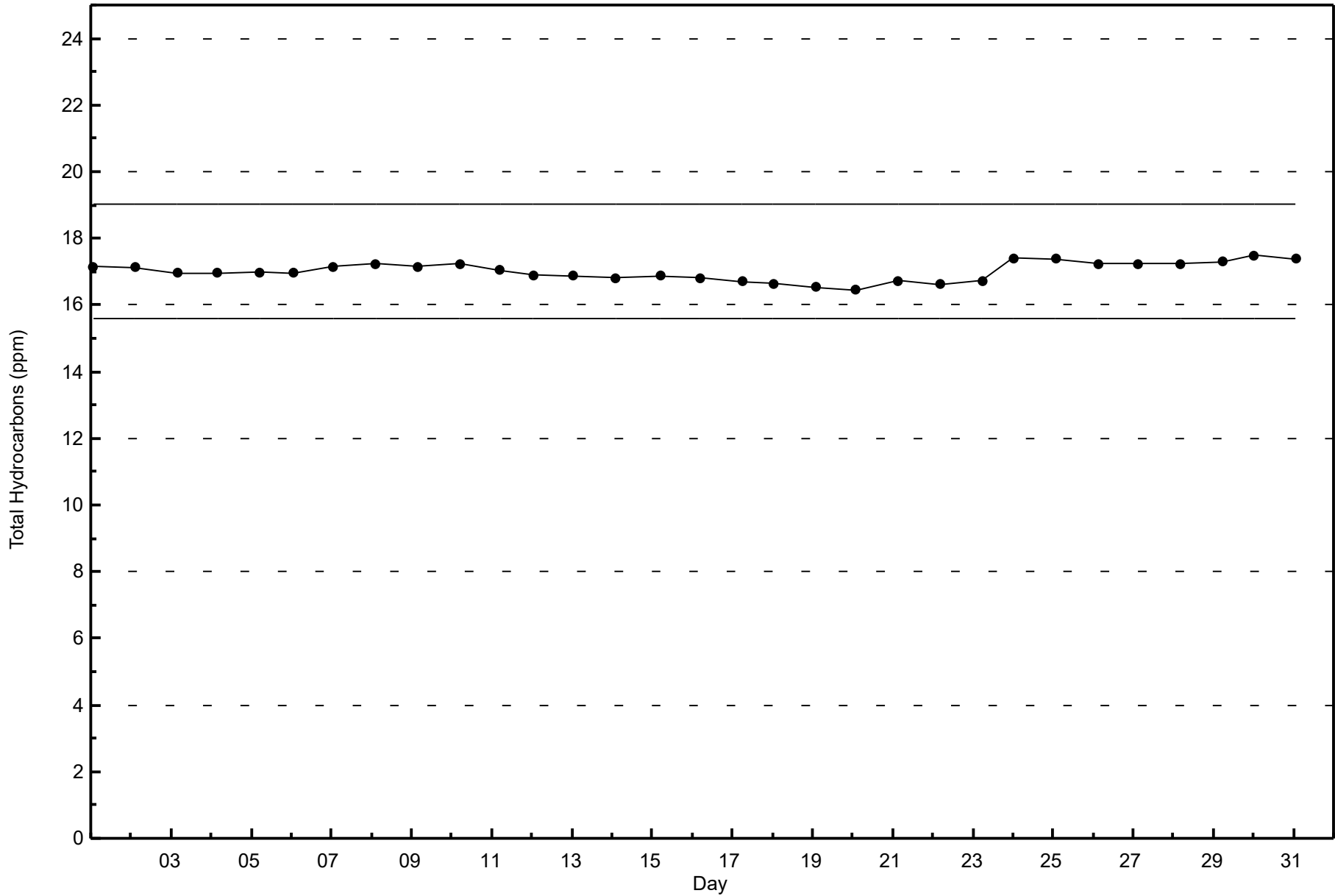
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Total Hydrocarbons (THC) - ppm
Lower Camp



Total Number of Valid Hours: 705

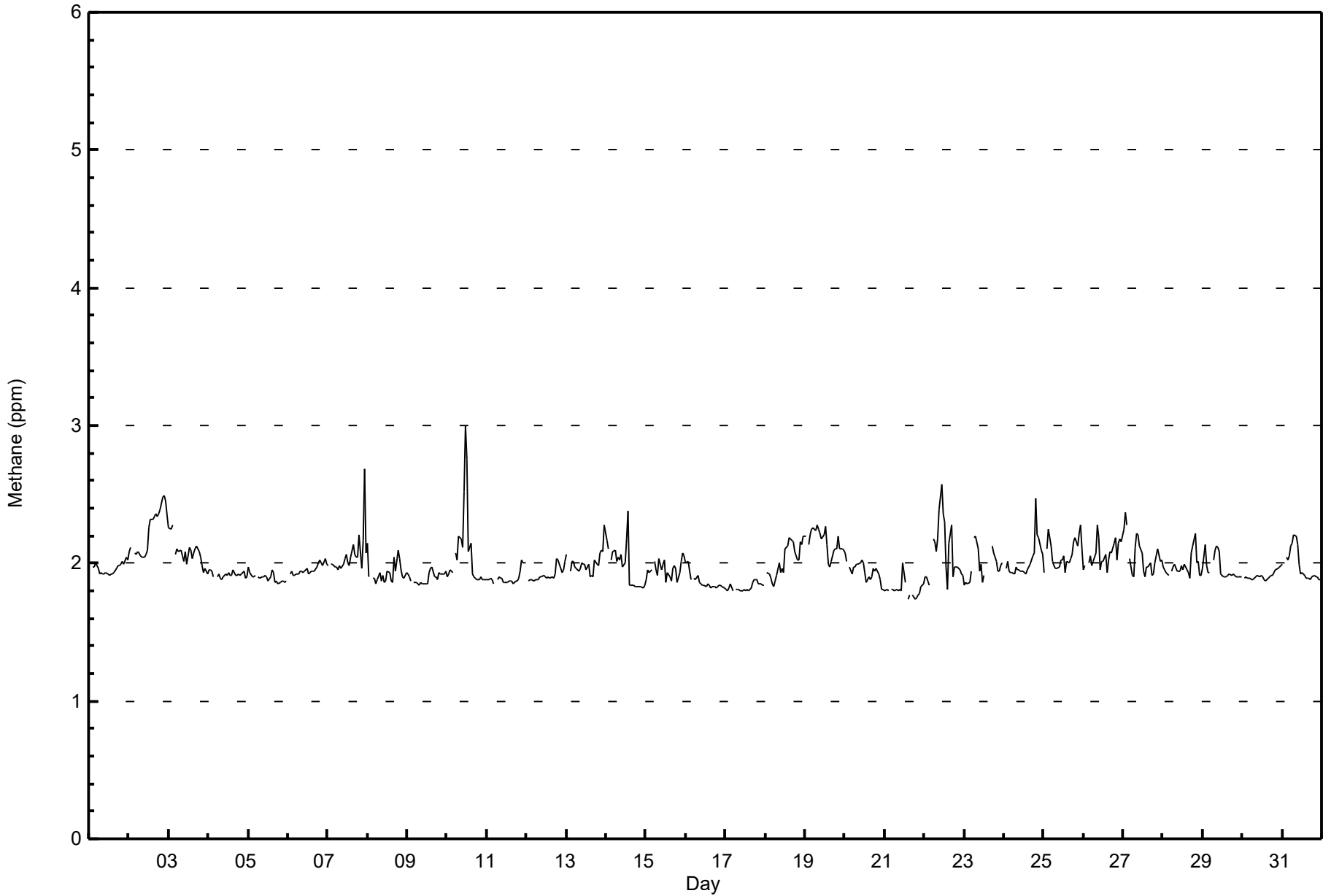






Wood Buffalo Environmental Association
Hourly Averages

Methane (CH₄) - ppm
Lower Camp - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Methane (CH₄) - ppm
Lower Camp - January 2025**

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	539	76.24	76.24
2.1 - 3.0	168	23.76	100.00
3.1 - 10.0	0	0.00	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 707

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Methane (CH₄) - ppm
Lower Camp - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2.0	72	16	3	1	1	17	156	14	6	5	11	27	38	69	41	61	538
2.1 - 3.0	2	1	2	2	1	10	58	11	3	5	2	6	4	30	24	6	167
3.1 - 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	74	17	5	3	2	27	214	25	9	10	13	33	42	99	65	67	705

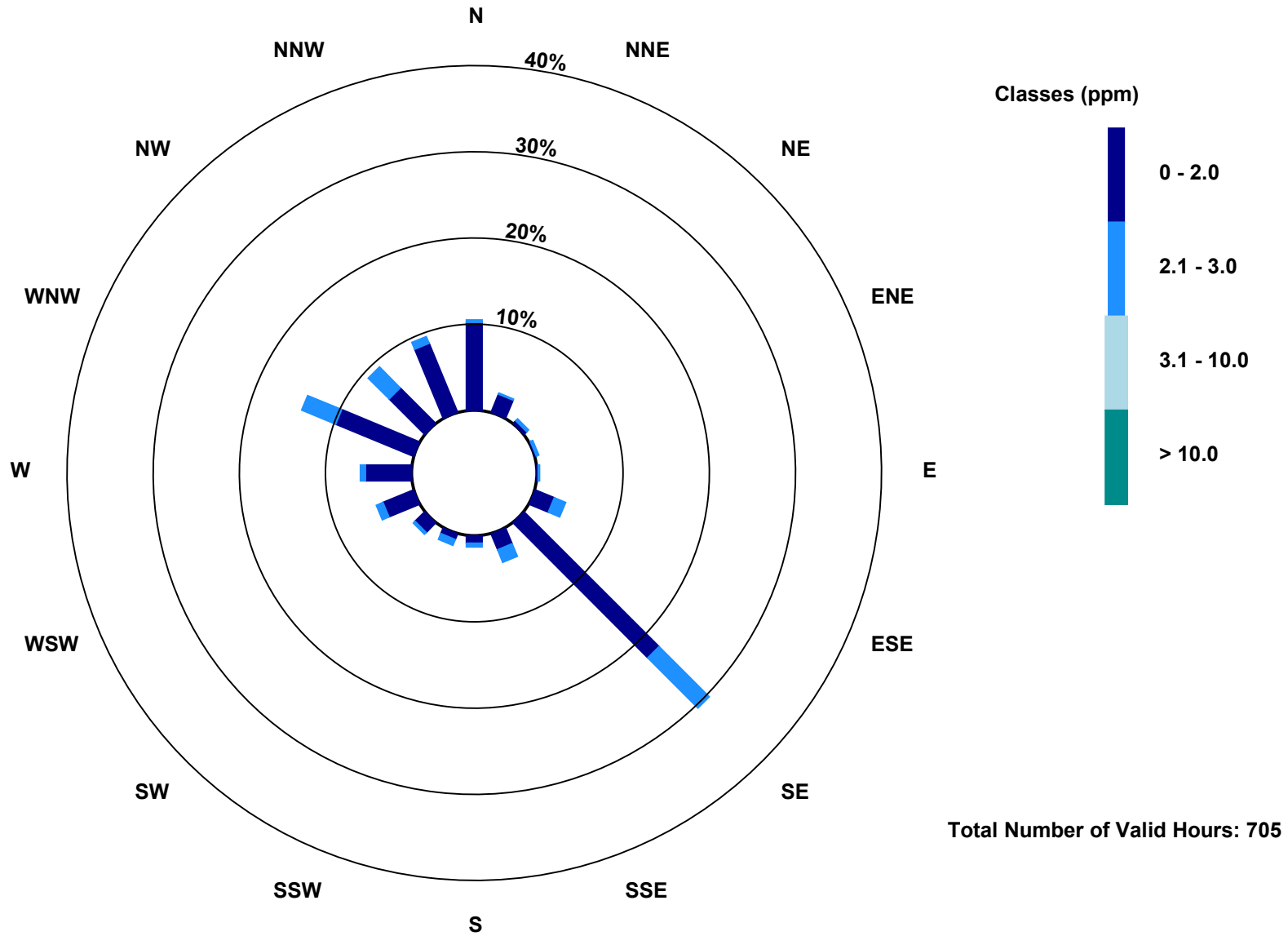
Total Number of Valid Hours: 705

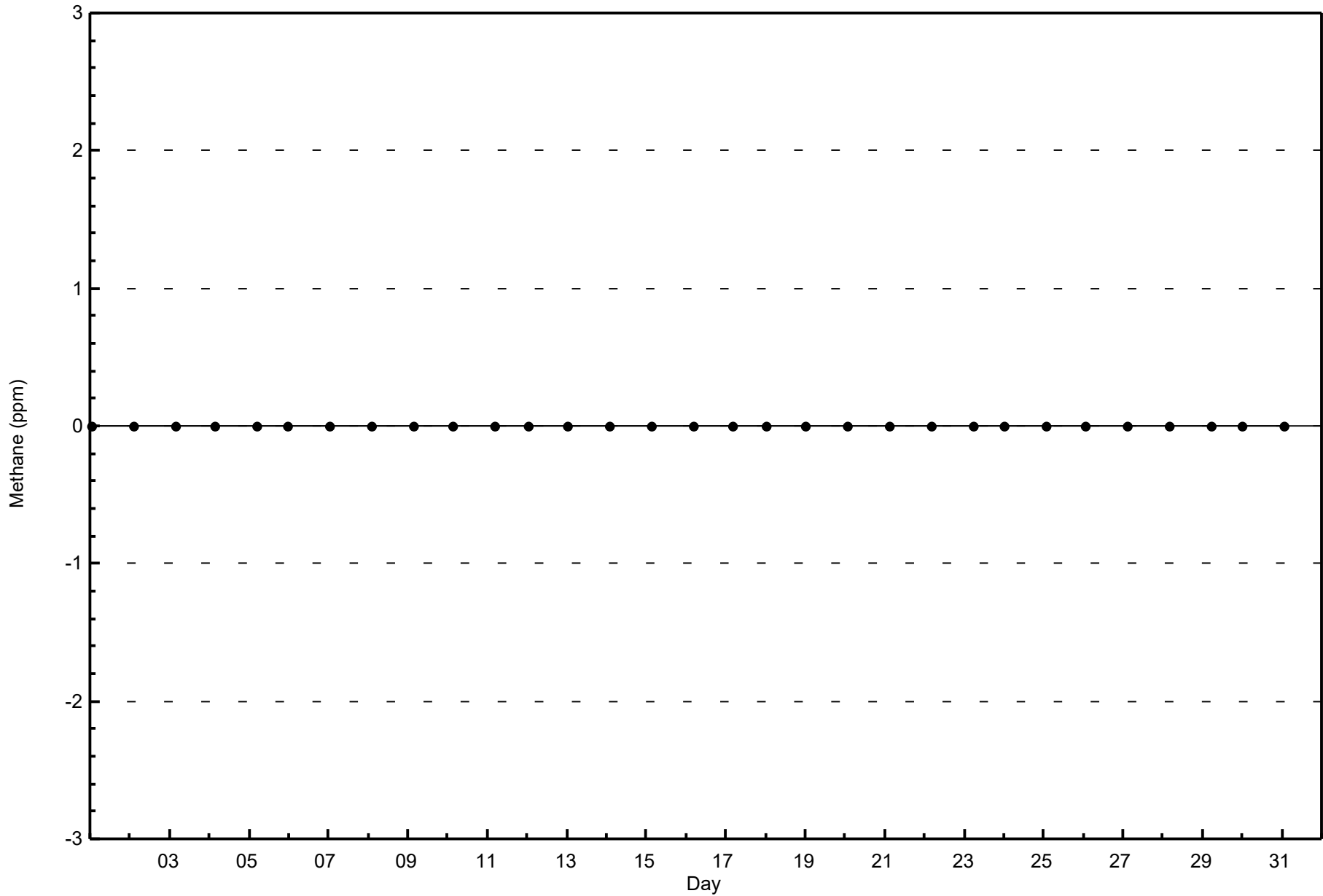
Total Number of Hours: 744

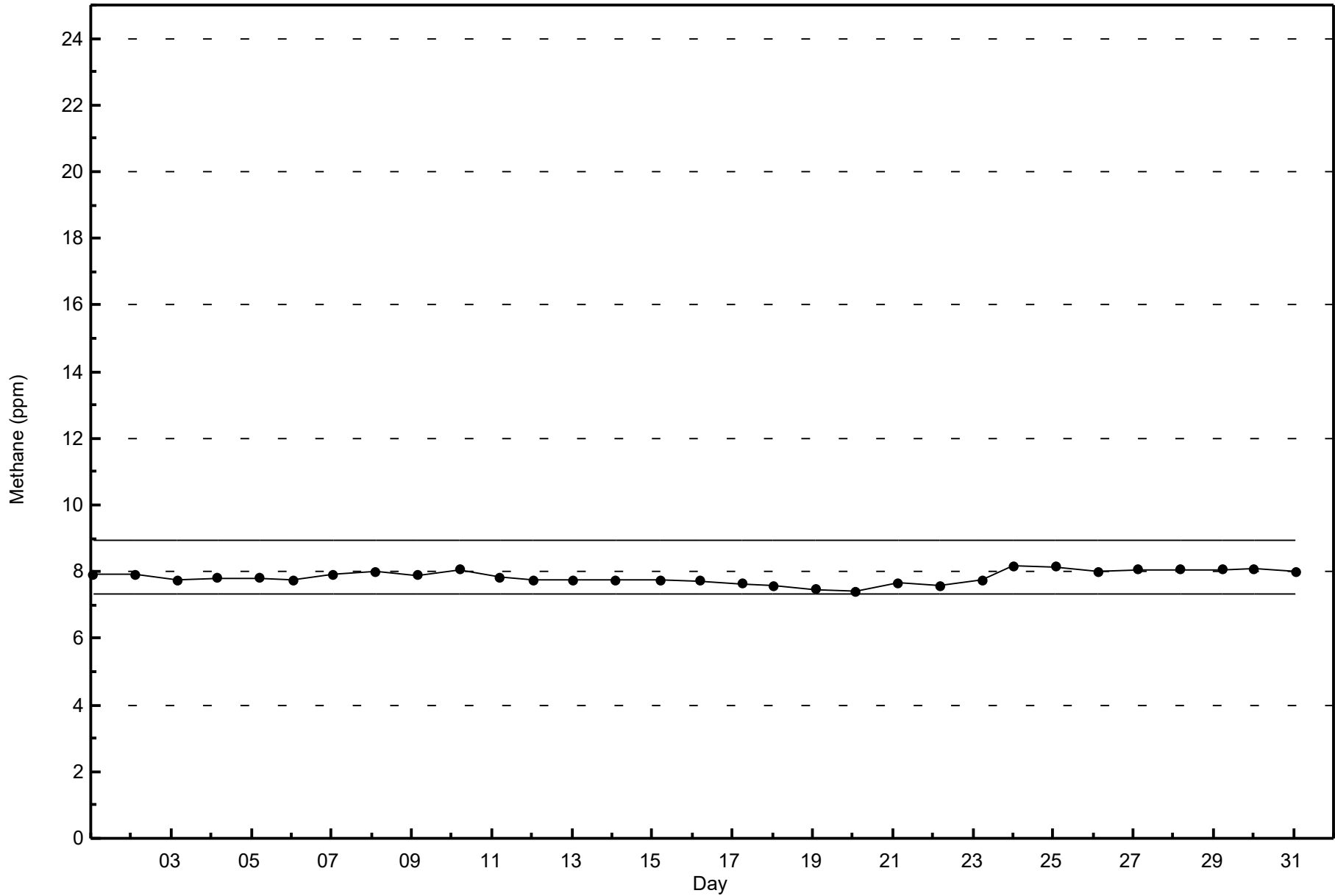


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Methane (CH₄) - ppm
Lower Camp

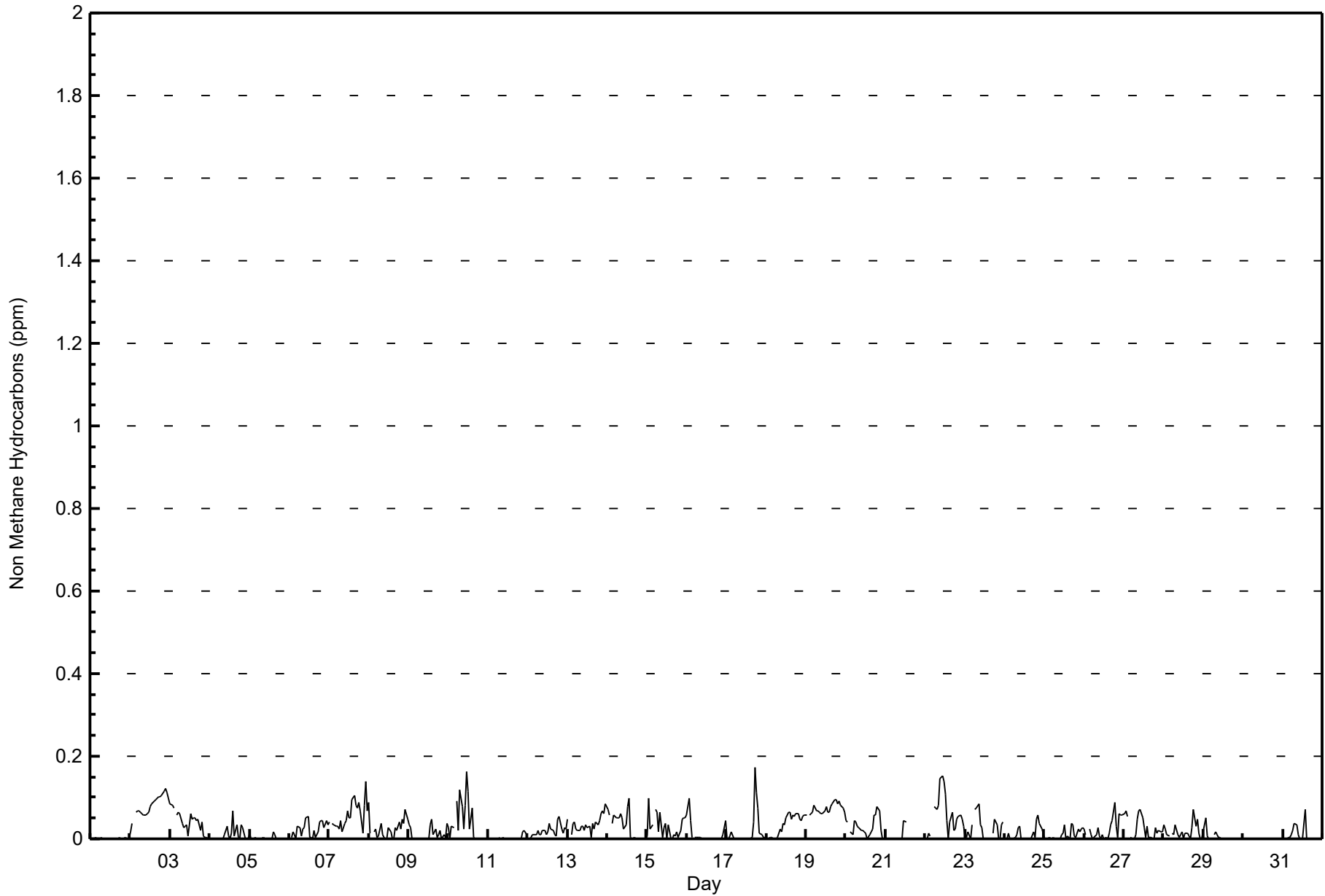








Maximum Value: 0.173 ppm on Jan 17 18:00		Maximum Daily Average: 0.079 ppm on Jan 2		Hours in Service: 744																							
Minimum Value: 0.000 ppm on Jan 1 03:00		Minimum Daily Average: 0.000 ppm on Jan 30		Hours of Data: 707																							
Maximum Diurnal Average: 0.031 ppm at hour 19		Minimum Diurnal Average: 0.016 ppm at hour 4		Hours of Missing Data: 37																							
Monthly Average: 0.025 ppm		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.1 P ₉₉ = 0.1		Hours of Calibration: 35																							
				Percent Operational Time: 99.7																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	0.001	Z	0.000	0.002	0.000	0.000	0.003	0.001	0.000	0.000	0.001	0.001	0.000	0.001	0.000	0.000	0.001	0.003	0.000	0.000	0.002	0.004	0.000	0.004	0.001	0.004	
2-Jan	0.018	0.038	Z	0.063	0.067	0.067	0.065	0.061	0.057	0.058	0.062	0.063	0.076	0.084	0.091	0.094	0.097	0.100	0.103	0.104	0.115	0.121	0.113	0.098	0.079	0.121	
3-Jan	0.086	0.081	0.076	Z	0.057	0.064	0.060	0.036	0.028	0.030	0.033	0.006	0.060	0.046	0.052	0.050	0.044	0.048	0.021	0.039	0.006	0.003	0.002	0.000	0.040	0.086	
4-Jan	0.000	0.001	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.011	0.031	0.008	0.000	0.014	0.067	0.006	0.033	0.004	0.000	0.032	0.027	0.000	0.000	0.000	0.010	0.067	
5-Jan	0.012	0.001	0.001	0.003	0.000	Z	0.001	0.001	0.002	0.002	0.000	0.001	0.001	0.000	0.018	0.012	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.018	
6-Jan	Z	0.003	0.017	0.011	0.000	0.029	0.006	0.025	0.026	0.049	0.054	0.004	0.004	0.001	0.020	0.003	0.017	0.040	0.043	0.044	0.028	0.044	0.036	0.023	0.054		
7-Jan	0.040	Z	0.037	0.035	0.029	0.030	0.022	0.043	0.018	0.038	0.045	0.068	0.052	0.053	0.093	0.104	0.083	0.076	0.088	0.067	0.014	0.083	0.140	0.067	0.058	0.140	
8-Jan	0.089	0.014	Z	0.016	0.023	0.004	0.007	0.039	0.010	0.005	0.000	0.000	0.028	0.018	0.000	0.000	0.027	0.019	0.039	0.022	0.048	0.036	0.070	0.046	0.024	0.089	
9-Jan	0.035	0.029	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.033	0.048	0.009	0.024	0.003	0.009	0.022	0.000	0.009	0.005	0.039	0.012	0.048	
10-Jan	0.027	0.000	0.030	0.026	Z	0.093	0.020	0.120	0.078	0.024	0.082	0.164	0.116	0.024	0.076	0.003	0.001	0.000	0.000	0.001	0.001	0.000	0.000	0.000	0.039	0.164	
11-Jan	0.000	0.001	0.001	0.001	0.000	Z	0.002	0.001	0.001	0.003	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.017	0.022	0.010	0.003	0.022	
12-Jan	Z	0.001	0.002	0.010	0.011	0.009	0.021	0.012	0.011	0.019	0.022	0.010	0.016	0.038	0.024	0.021	0.011	0.006	0.046	0.055	0.023	0.015	0.028	0.023	0.019	0.055	
13-Jan	0.047	Z	0.010	0.039	0.040	0.022	0.019	0.019	0.030	0.031	0.021	0.034	0.028	0.030	0.003	0.039	0.023	0.041	0.033	0.045	0.062	0.068	0.063	0.085	0.036	0.085	
14-Jan	0.072	0.057	Z	0.036	0.058	0.051	0.051	0.050	0.061	0.052	0.023	0.033	0.077	0.099	0.003	0.001	0.002	0.001	0.000	0.001	0.000	0.001	0.000	0.002	0.032	0.099	
15-Jan	0.008	0.099	0.025	0.034	Z	0.071	0.063	0.015	0.065	0.005	0.028	0.038	0.000	0.034	0.001	0.001	0.009	0.007	0.017	0.005	0.020	0.047	0.052	0.052	0.030	0.099	
16-Jan	0.058	0.100	0.046	0.003	Z	0.005	0.003	0.004	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.001	0.010	0.044	0.012	0.100	
17-Jan	0.000	0.001	0.008	0.018	0.000	Z	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.042	0.173	0.111	0.073	0.013	0.009	0.003	0.004	0.020	0.173		
18-Jan	Z	0.000	0.003	0.002	0.000	0.000	0.000	0.002	0.025	0.017	0.038	0.033	0.052	0.066	0.065	0.049	0.059	0.055	0.061	0.060	0.049	0.045	0.055	0.057	0.034	0.066	
19-Jan	0.058	Z	0.056	0.059	0.063	0.083	0.068	0.069	0.064	0.062	0.061	0.069	0.079	0.064	0.064	0.078	0.085	0.094	0.095	0.084	0.090	0.081	0.073	0.064	0.072	0.095	
20-Jan	0.045	0.040	Z	0.017	0.011	0.045	0.042	0.032	0.028	0.019	0.019	0.016	0.013	0.000	0.012	0.017	0.023	0.058	0.056	0.078	0.069	0.020	0.000	0.000	0.029	0.078	
21-Jan	0.000	0.000	0.000	Z	0.000	0.001	0.000	0.000	0.001	0.000	0.000	0.044	0.041	UO	0.000	0.000	UO	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.004	0.044	
22-Jan	0.001	0.000	0.014	0.006	Z	0.077	0.074	0.071	0.083	0.145	0.151	0.140	0.107	0.046	0.000	0.040	0.064	0.021	0.024	0.047	0.055	0.056	0.049	0.029	0.056	0.151	
23-Jan	0.003	0.003	0.016	0.001	0.035	Z	0.071	0.076	0.086	0.033	0.026	0.001	0.001	C	C	C	C	0.014	0.049	0.036	0.001	0.000	0.034	0.039	0.028	0.086	
24-Jan	Z	0.000	0.015	0.000	0.000	0.000	0.004	0.012	0.028	0.029	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.016	0.002	0.049	0.056	0.038	0.024	0.011	0.012	0.056	
25-Jan	0.000	Z	0.001	0.002	0.000	0.002	0.001	0.001	0.001	0.001	0.009	0.014	0.035	0.000	0.007	0.001	0.038	0.034	0.007	0.003	0.024	0.017	0.022	0.028	0.011	0.038	
26-Jan	0.024	0.009	Z	0.025	0.011	0.001	0.004	0.011	0.029	0.005	0.001	0.010	0.001	0.003	0.001	0.015	0.033	0.046	0.089	0.031	0.005	0.063	0.058	0.058	0.023	0.089	
27-Jan	0.060	0.069	0.054	Z	0.005	0.001	0.000	0.011	0.047	0.068	0.073	0.052	0.027	0.003	0.031	0.003	0.004	0.000	0.001	0.028	0.012	0.019	0.016	0.019	0.026	0.073	
28-Jan	0.035	0.023	0.012	0.006	Z	0.013	0.012	0.034	0.010	0.003	0.011	0.016	0.001	0.015	0.015	0.006	0.000	0.027	0.070	0.030	0.049	0.015	0.000	0.000	0.017	0.070	
29-Jan	0.018	0.051	0.006	0.000	0.000	Z	0.011	0.015	0.011	0.004	0.003	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.051	
30-Jan	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
31-Jan	0.001	Z	0.000	0.004	0.003	0.011	0.019	0.037	0.034	0.011	0.000	0.000	0.000	0.070	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008	0.070	
		0.028	0.025	0.017	0.016	0.017	0.026	0.022	0.025	0.027	0.023	0.025	0.028	0.026	0.026	0.022	0.019	0.024	0.028	0.031	0.031	0.025	0.026	0.028	0.026	Diurnal Average	
		0.089	0.100	0.076	0.063	0.067	0.093	0.074	0.120	0.086	0.145	0.151	0.164	0.116	0.099	0.093	0.104	0.097	0.173	0.111	0.104	0.115	0.121	0.140	0.098	Diurnal Maximum	
Z - zerospan		C - Calibration						UO - Unstable Operation																			





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Non Methane Hydrocarbons (NMHC) - ppm
Lower Camp - January 2025**

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 0.005	310	43.85	43.85
0.006 - 0.05	271	38.33	82.18
0.06 - 0.1	123	17.40	99.58
> 0.1	3	0.42	100.00

Total Number of Valid Hours: 707

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Non Methane Hydrocarbons (NMHC) - ppm
Lower Camp - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 0.005	69	15	3	1	1	13	27	10	2	4	8	20	18	36	31	51	309
0.006 - 0.05	4	1	2	0	0	6	134	11	5	6	4	10	19	44	15	10	271
0.06 - 0.1	1	1	0	2	1	8	51	4	2	0	1	3	5	18	19	6	122
> 0.1	0	0	0	0	0	0	2	0	0	0	0	0	0	1	0	0	3
Totals	74	17	5	3	2	27	214	25	9	10	13	33	42	99	65	67	705

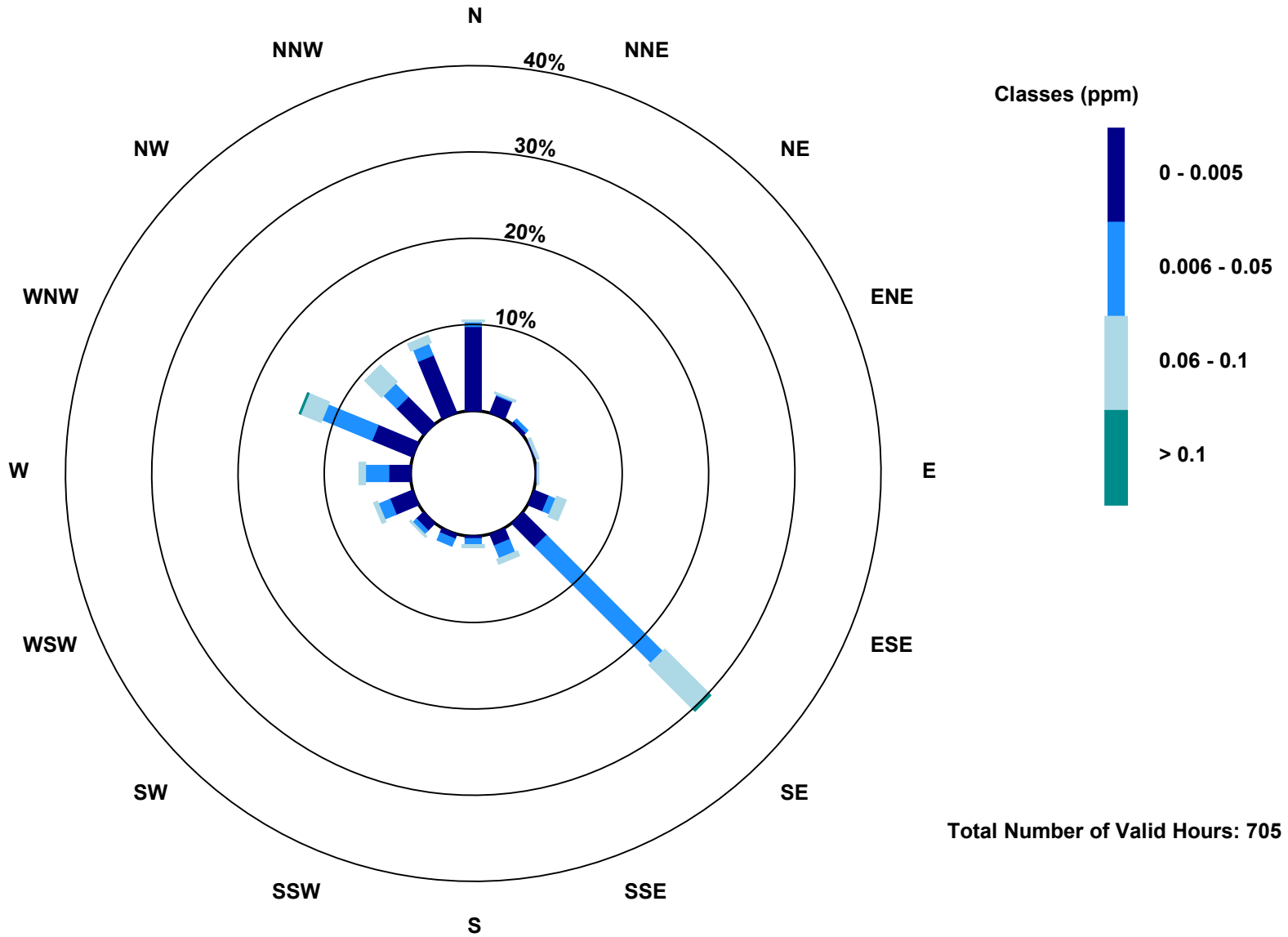
Total Number of Valid Hours: 705

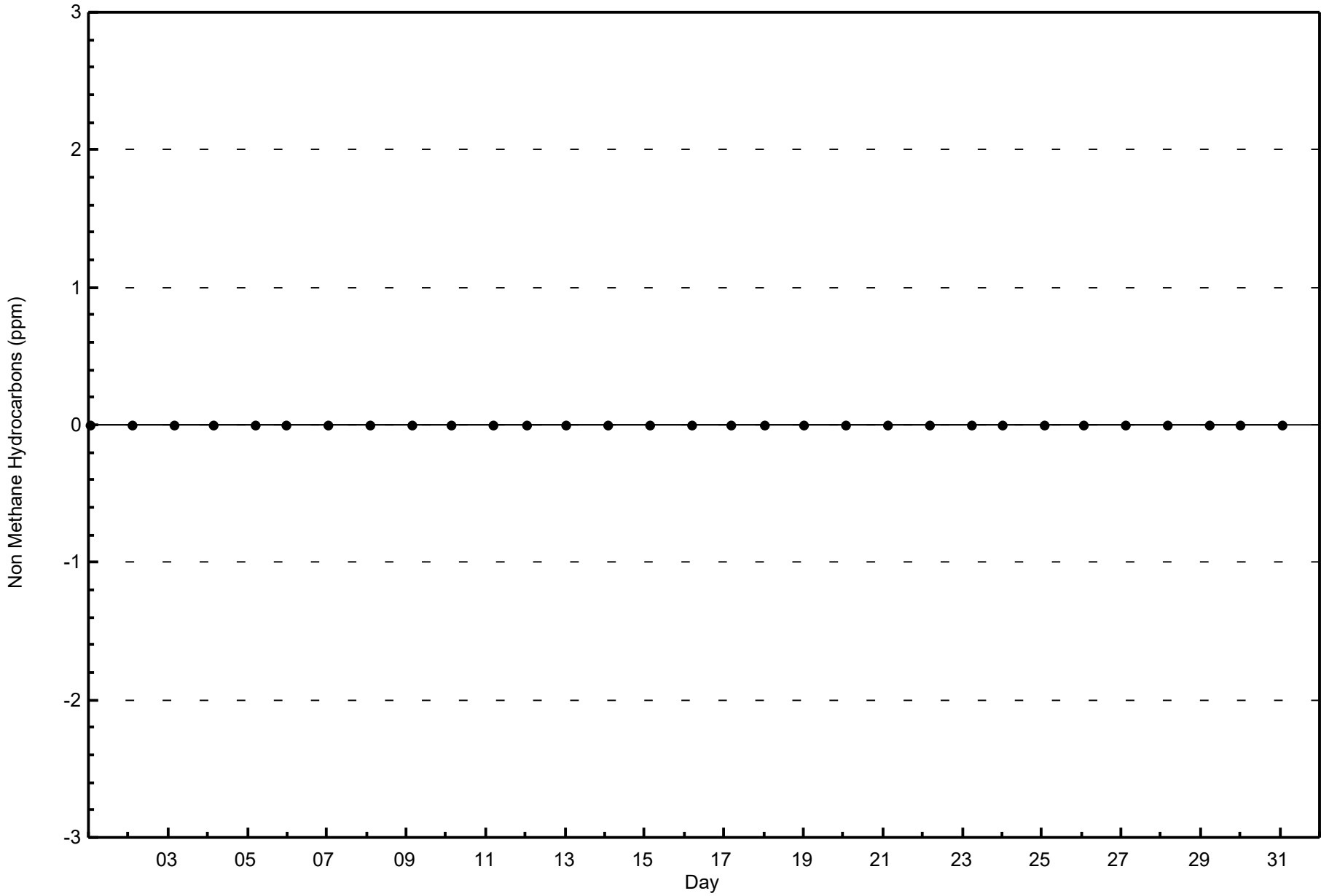
Total Number of Hours: 744

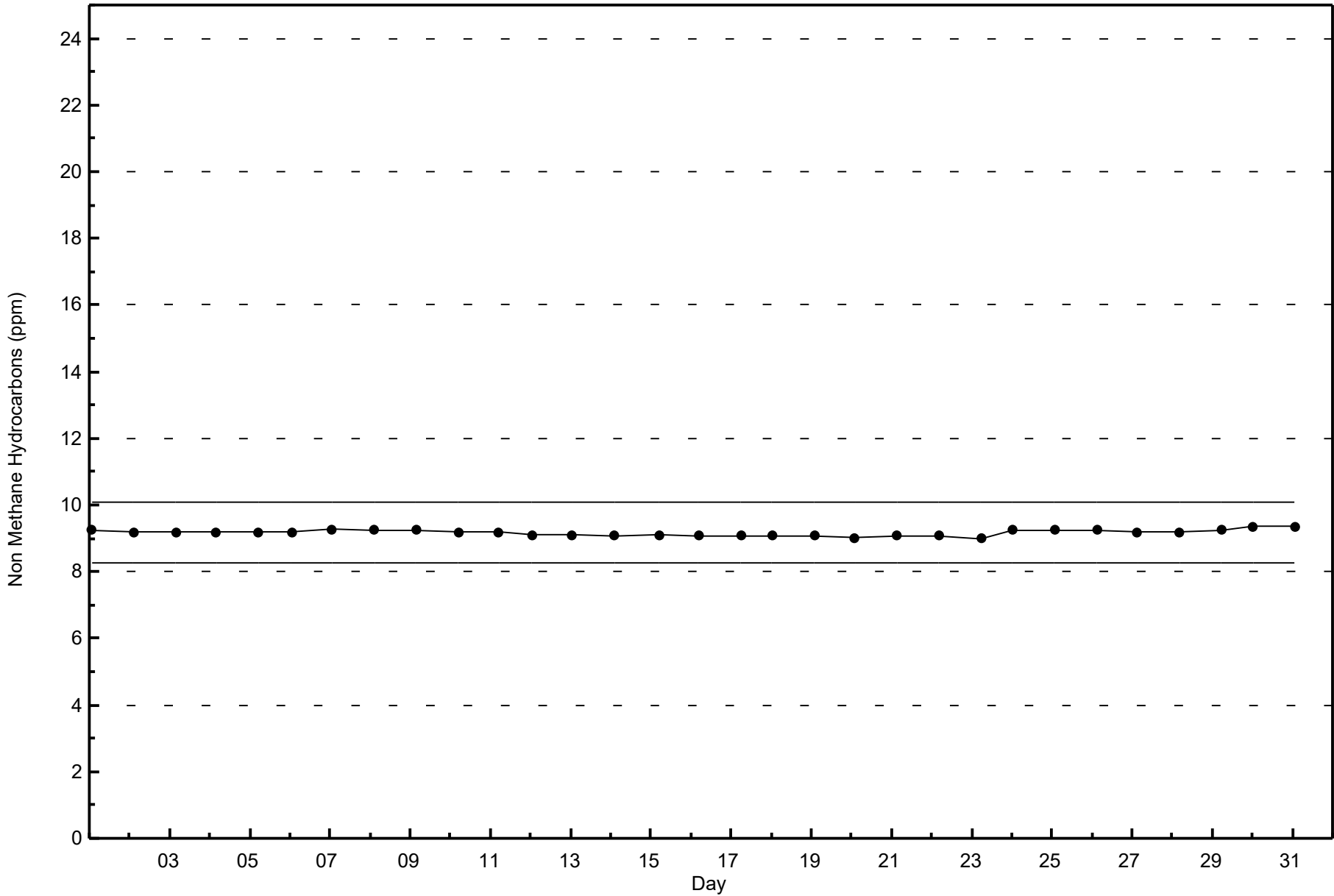


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Non Methane Hydrocarbons (NMHC) - ppm
Lower Camp





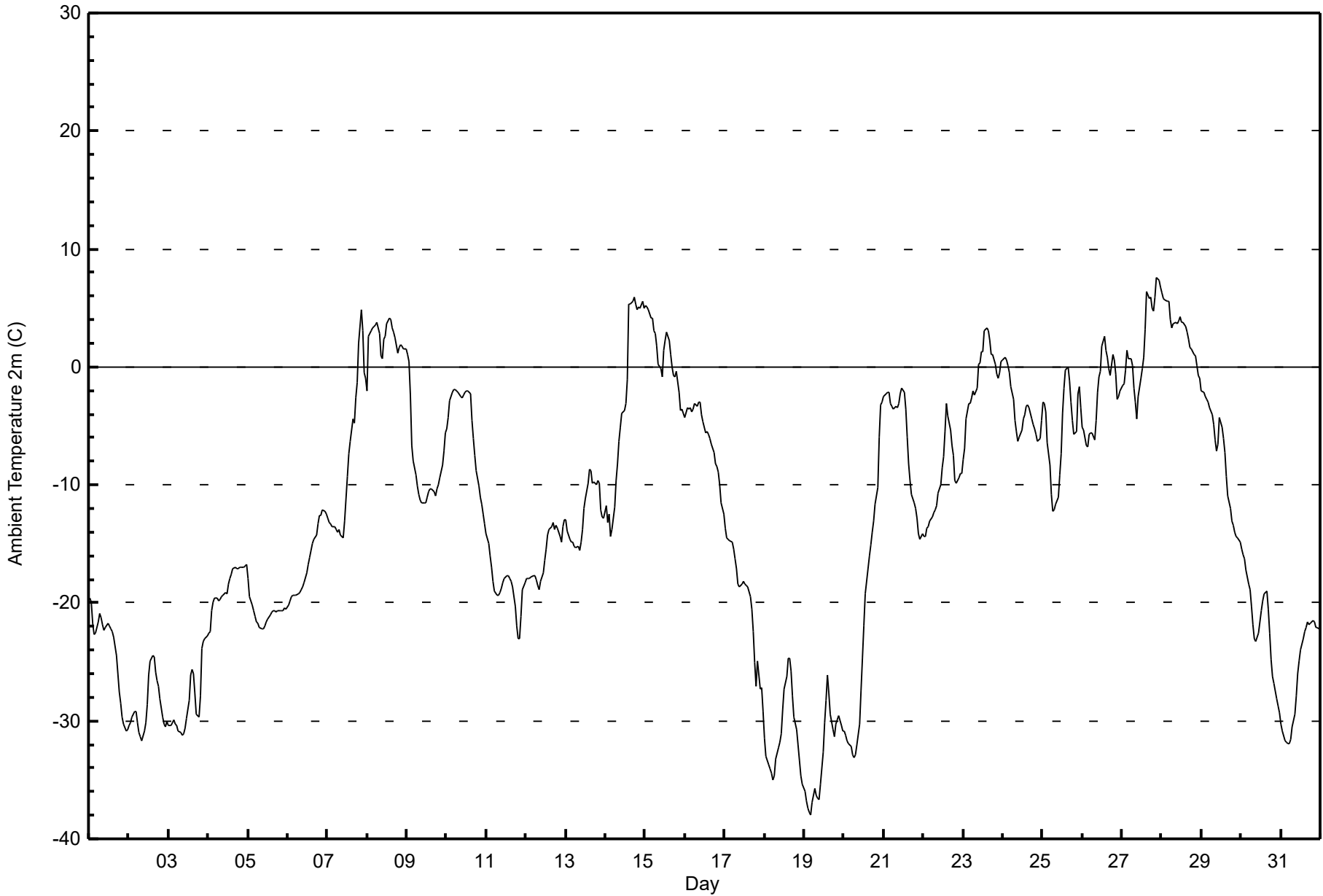




Wood Buffalo Environmental Association
Summary of Hour Averages

Ambient Temperature 2m (AT2) - C
Lower Camp - January 2025

Maximum Value: 7.6 C on Jan 27 22:00		Maximum Daily Average: 3.1 C on Jan 28		Hours in Service: 744																																												
Minimum Value: -38.0 C on Jan 19 05:00		Minimum Daily Average: -33.0 C on Jan 19		Hours of Data: 744																																												
Maximum Diurnal Average: -10.2 C at hour 15		Minimum Diurnal Average: -14.5 C at hour 9		Hours of Missing Data: 0																																												
Monthly Average: -12.74 C		Percentiles: P ₁ = -36.1 P ₁₀ = -30.1 Q ₁ = -21.2 Median = -12.5 Q ₃ = -3.0 P ₉₀ = 1.7 P ₉₉ = 5.9		Hours of Calibration: 0																																												
				Percent Operational Time: 100.0																																												
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Jan	-19.6	-20.0	-21.8	-22.7	-22.5	-21.7	-20.9	-21.3	-21.8	-22.3	-22.0	-21.8	-21.9	-22.2	-22.4	-22.9	-24.4	-26.0	-27.5	-28.5	-29.6	-30.3	-30.9	-30.7	-24.0	-19.6																						
2-Jan	-30.4	-30.1	-29.6	-29.3	-29.2	-30.1	-31.0	-31.3	-31.7	-30.8	-30.2	-28.6	-26.2	-24.9	-24.5	-24.6	-25.9	-26.6	-27.1	-28.2	-29.7	-30.3	-30.5	-30.1	-28.8	-24.5																						
3-Jan	-30.4	-30.4	-30.2	-29.9	-30.3	-30.4	-30.9	-31.0	-31.2	-31.2	-30.6	-29.8	-28.3	-26.1	-25.7	-26.0	-27.6	-29.5	-29.7	-27.9	-23.8	-23.2	-23.1	-22.8	-28.3	-22.8																						
4-Jan	-22.6	-22.4	-20.7	-20.0	-19.6	-19.6	-19.8	-19.7	-19.5	-19.3	-19.2	-19.2	-18.5	-17.9	-17.6	-17.1	-17.0	-17.1	-17.0	-16.9	-16.9	-16.9	-16.9	-16.7	-18.7	-16.7																						
5-Jan	-18.0	-19.5	-20.2	-20.7	-21.2	-21.7	-21.8	-22.1	-22.2	-22.2	-22.0	-21.6	-21.3	-21.0	-20.8	-20.7	-20.7	-20.7	-20.7	-20.7	-20.6	-20.5	-20.5	-20.9	-20.9	-18.0																						
6-Jan	-20.2	-19.9	-19.5	-19.3	-19.4	-19.3	-19.2	-19.1	-18.9	-18.7	-18.3	-17.4	-16.8	-16.1	-15.6	-14.9	-14.6	-14.2	-13.3	-12.6	-12.5	-12.1	-12.3	-12.5	-16.5	-12.1																						
7-Jan	-12.8	-13.2	-13.3	-13.5	-13.6	-13.8	-14.0	-13.8	-14.2	-14.5	-13.0	-11.2	-9.3	-7.4	-6.3	-4.4	-4.7	-2.6	-1.3	2.0	4.9	3.0	-0.4	-1.0	-7.9	4.9																						
8-Jan	-2.0	2.6	3.1	3.3	3.4	3.5	3.7	2.8	0.9	0.7	2.4	2.5	3.6	4.2	4.0	3.3	2.9	2.5	1.1	1.7	1.9	1.8	1.5	1.6	2.4	4.2																						
9-Jan	1.1	0.5	-2.4	-6.7	-8.0	-9.2	-10.1	-10.8	-11.2	-11.5	-11.5	-11.5	-11.1	-10.6	-10.4	-10.4	-10.6	-10.9	-10.4	-10.0	-9.3	-8.3	-7.1	-5.7	-8.6	1.1																						
10-Jan	-5.2	-4.3	-2.9	-2.2	-1.9	-1.9	-2.0	-2.1	-2.5	-2.6	-2.4	-2.2	-2.0	-2.0	-2.3	-4.6	-6.1	-7.5	-8.8	-10.0	-11.1	-11.7	-12.4	-13.3	-5.2	-1.9																						
11-Jan	-14.2	-15.0	-16.0	-17.0	-18.2	-19.0	-19.3	-19.4	-19.2	-18.8	-18.3	-17.9	-17.6	-17.7	-18.0	-18.2	-18.6	-20.3	-22.0	-23.1	-23.0	-21.1	-18.8	-18.3	-18.7	-14.2																						
12-Jan	-18.0	-17.9	-18.0	-17.8	-17.7	-17.6	-18.0	-18.5	-18.9	-18.2	-17.5	-16.4	-15.4	-14.3	-13.8	-13.5	-13.2	-13.7	-13.4	-13.7	-14.4	-14.8	-13.5	-12.9	-15.9	-12.9																						
13-Jan	-12.9	-14.0	-14.6	-14.9	-14.9	-15.2	-15.3	-15.2	-15.5	-14.8	-13.7	-12.0	-11.2	-9.8	-8.7	-8.8	-9.8	-9.8	-9.9	-9.7	-9.8	-12.1	-12.7	-12.8	-12.4	-8.7																						
14-Jan	-11.7	-13.2	-12.4	-14.3	-13.8	-11.9	-9.7	-8.2	-6.3	-5.1	-3.9	-3.7	-3.1	-1.0	5.4	5.4	5.6	5.9	5.3	4.9	5.1	5.0	5.6	4.9	-2.7	5.9																						
15-Jan	5.2	5.1	4.9	4.1	4.2	3.0	2.9	1.7	0.2	-0.2	-0.8	1.4	2.3	2.9	2.2	1.1	0.0	-0.7	-0.8	-0.4	-2.1	-3.7	-3.6	-4.0	1.0	5.2																						
16-Jan	-4.3	-3.5	-3.6	-3.4	-3.8	-3.6	-3.1	-3.3	-3.0	-3.0	-4.0	-4.7	-5.5	-5.5	-5.7	-6.0	-6.6	-7.3	-8.2	-8.4	-9.0	-10.0	-11.5	-12.5	-5.8	-3.0																						
17-Jan	-13.7	-14.5	-14.6	-14.7	-14.8	-15.4	-16.2	-17.2	-18.4	-18.6	-18.5	-18.2	-18.4	-18.5	-18.6	-19.4	-20.5	-22.4	-25.0	-27.1	-24.9	-27.3	-27.1	-29.2	-19.7	-13.7																						
18-Jan	-31.4	-33.0	-33.7	-34.1	-34.5	-35.0	-34.6	-33.3	-32.2	-31.8	-31.2	-29.1	-27.2	-26.2	-24.7	-24.7	-25.8	-27.9	-29.7	-30.7	-32.1	-33.4	-34.6	-35.3	-31.1	-24.7																						
19-Jan	-36.0	-36.8	-37.4	-37.7	-38.0	-36.9	-35.7	-36.3	-36.6	-36.7	-35.4	-32.7	-30.2	-28.2	-26.2	-27.7	-29.4	-30.8	-31.4	-30.3	-30.0	-29.6	-30.4	-30.8	-33.0	-26.2																						
20-Jan	-30.9	-31.3	-31.7	-31.9	-32.2	-32.8	-33.1	-32.8	-32.1	-30.3	-27.4	-24.7	-21.9	-19.2	-17.0	-16.0	-15.1	-14.1	-13.1	-11.6	-10.2	-6.0	-3.2	-2.9	-21.7	-2.9																						
21-Jan	-2.5	-2.3	-2.2	-2.2	-3.1	-3.3	-3.6	-3.3	-3.5	-3.1	-2.3	-1.8	-2.1	-3.5	-5.9	-8.2	-9.6	-10.8	-11.5	-12.0	-12.8	-14.1	-14.6	-14.2	-6.4	-1.8																						
22-Jan	-14.4	-14.3	-13.6	-13.5	-13.1	-12.7	-12.4	-12.1	-11.7	-10.7	-9.9	-8.6	-7.6	-5.5	-3.1	-4.2	-5.4	-6.7	-7.4	-9.6	-9.8	-9.4	-9.0	-9.0	-9.8	-3.1																						
23-Jan	-7.8	-6.9	-4.4	-3.1	-3.1	-2.6	-2.0	-2.4	-1.8	0.2	0.4	1.3	1.3	3.1	3.3	3.1	2.2	1.1	1.1	0.2	-0.6	-1.0	-0.5	0.5	-0.8	3.3																						
24-Jan	0.6	0.8	0.6	0.1	-0.4	-1.7	-2.7	-4.6	-5.5	-6.3	-6.0	-5.3	-4.4	-4.0	-3.3	-3.2	-3.4	-4.4	-4.9	-5.3	-5.8	-6.3	-6.0	-4.6	-3.6	0.8																						
25-Jan	-3.0	-3.1	-3.9	-6.4	-8.3	-10.8	-12.2	-12.1	-11.6	-11.0	-9.1	-7.4	-4.0	-1.8	-0.3	-0.1	-1.2	-2.9	-4.5	-5.7	-5.5	-2.3	-1.7	-3.5	-5.5	-0.1																						
26-Jan	-5.2	-5.4	-6.7	-6.7	-5.7	-5.6	-5.6	-6.2	-4.6	-2.1	-0.9	-0.4	1.8	2.5	1.4	0.8	-0.2	-0.7	1.1	0.6	-0.6	-2.7	-2.5	-2.1	-2.3	2.5																						
27-Jan	-1.6	-1.5	-0.3	1.4	0.7	0.7	0.1	-1.7	-3.0	-4.5	-2.6	-1.0	-0.1	0.8	3.2	6.3	5.8	5.9	5.0	4.8	5.9	7.6	7.3	6.8	1.9	7.6																						
28-Jan	6.3	5.9	5.6	5.6	5.5	4.0	3.3	3.7	3.8	3.7	3.9	4.3	3.7	3.7	3.5	2.9	2.3	1.7	1.5	1.1	0.9	0.1	-0.7	-1.0	3.1	6.3																						
29-Jan	-2.1	-2.1	-2.5	-2.7	-2.9	-3.5	-4.1	-4.9	-6.1	-7.1	-6.5	-4.3	-5.1	-6.1	-7.3	-9.3	-10.9	-11.9	-13.0	-13.4	-14.0	-14.4	-14.5	-14.8	-7.6	-2.1																						
30-Jan	-15.4	-15.9	-16.2	-17.2	-18.4	-18.8	-20.3	-21.8	-23.1	-23.3	-22.5	-21.6	-20.6	-19.8	-19.2	-19.0	-20.5	-22.6	-24.8	-26.3	-26.8	-28.1	-28.8	-29.3	-21.7	-15.4																						
31-Jan	-30.3	-30.9	-31.7	-31.8	-31.9	-31.9	-31.6	-30.5	-29.4	-27.9	-26.0	-24.9	-24.0	-23.0	-22.4	-22.1	-21.6	-21.8	-21.7	-21.5	-21.6	-22.1	-22.1	-22.2	-26.1	-21.5																						
																								-13.0	-13.1	-13.2	-13.5	-13.8	-14.0	-14.2	-14.4	-14.5	-14.3	-13.5	-12.5	-11.7	-10.8	-10.2	-10.4	-11.1	-11.8	-12.3	-12.5	-12.5	-12.7	-12.8	-12.9	Diurnal Average
																								6.3	5.9	5.6	5.6	5.5	4.0	3.7	3.7	3.8	3.7	3.9	4.3	3.7	4.2	5.4	6.3	5.8	5.9	5.3	4.9	5.9	7.6	7.3	6.8	Diurnal Maximum





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ambient Temperature 2m (AT2) - C
Lower Camp - January 2025

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	209	28.09	28.09
-20 - 0	424	56.99	85.08
0 - 10	111	14.92	100.00
10 - 20	0	0.00	100.00
> 20	0	0.00	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

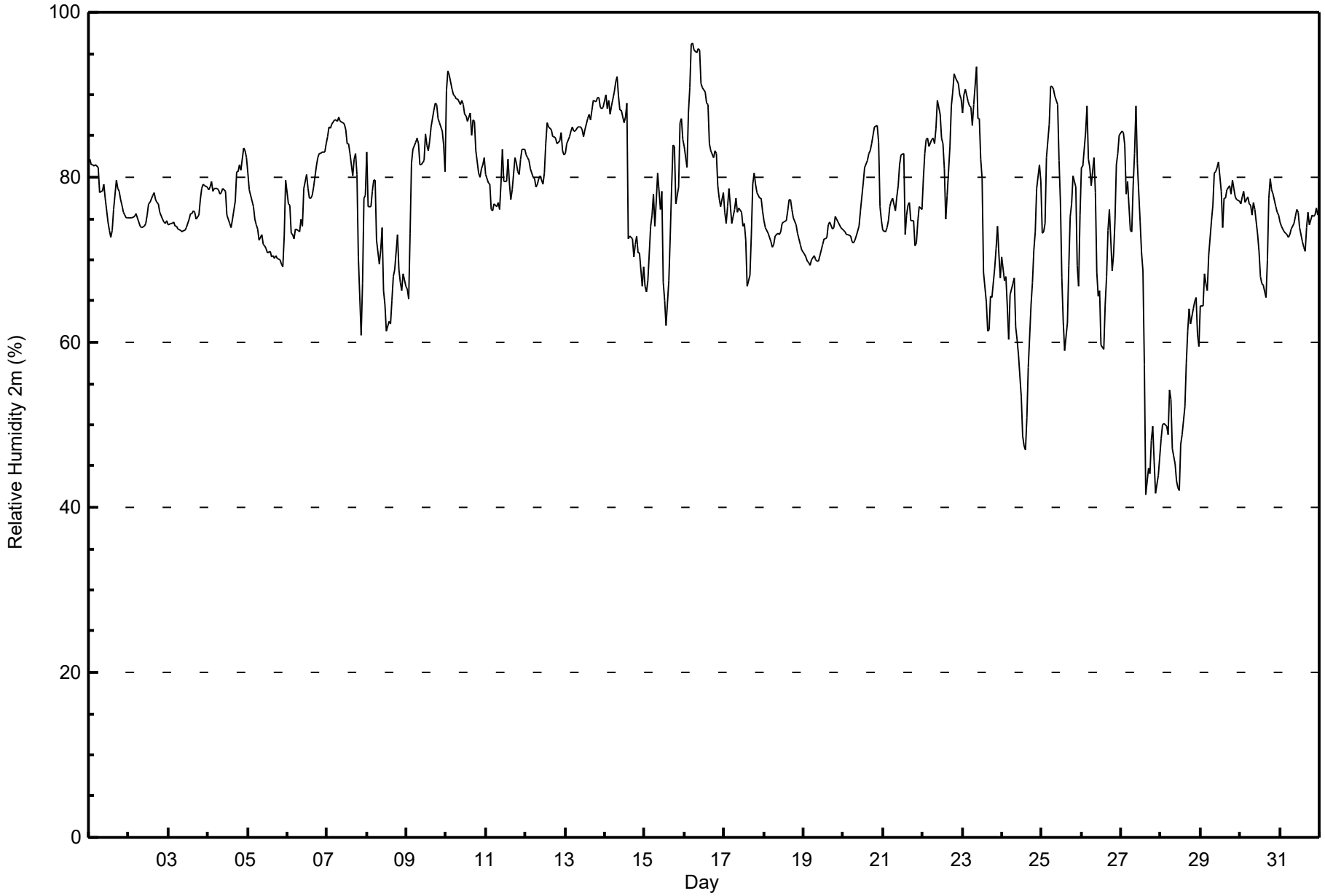
Relative Humidity 2m (RH2) - %
Lower Camp - January 2025

Maximum Value: 96.2 % on Jan 16 06:00 Maximum Daily Average: 87.3 % on Jan 16																						Hours in Service: 744 Hours of Data: 744				
Minimum Value: 41.6 % on Jan 27 16:00 Minimum Daily Average: 53.5 % on Jan 28 Maximum Diurnal Average: 78.4 % at hour 6 Minimum Diurnal Average: 72.8 % at hour 15 Monthly Average: 76.50 % Percentiles: P ₁ = 45.0 P ₁₀ = 66.3 Q ₁ = 72.9 Median = 76.8 Q ₃ = 82.8 P ₉₀ = 87.5 P ₉₉ = 92.7																						Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0				
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	82.2	81.4	81.4	81.4	81.5	81.2	78.2	78.3	78.3	79.2	77.5	74.5	73.6	72.6	73.5	76.0	79.6	78.6	78.3	77.2	76.5	75.8	75.1	75.2	77.8	82.2
2-Jan	75.1	75.1	75.1	75.2	75.6	75.0	74.7	74.0	74.0	74.1	74.4	75.5	76.7	76.9	77.9	78.1	77.3	76.9	76.7	75.8	74.9	74.6	74.4	74.8	75.5	78.1
3-Jan	74.3	74.3	74.5	74.5	74.1	74.0	73.6	73.6	73.4	73.5	73.5	73.9	75.0	75.7	75.5	76.0	75.7	74.9	75.5	77.3	78.6	79.1	79.0	78.8	75.3	79.1
4-Jan	78.4	78.8	79.5	78.3	78.6	78.6	78.5	77.9	78.1	78.7	78.3	75.5	74.9	74.4	73.9	74.9	77.1	80.7	80.7	81.5	80.8	83.5	83.3	82.3	78.6	83.5
5-Jan	80.4	78.5	77.0	76.5	74.9	74.2	73.7	72.3	73.0	71.9	71.7	71.4	70.9	71.1	70.4	70.5	70.2	70.5	70.2	70.0	69.5	69.1	72.9	79.6	72.9	80.4
6-Jan	76.7	76.6	73.2	73.0	72.5	73.8	73.6	73.4	75.0	74.0	78.7	80.4	78.6	77.5	77.5	77.8	78.7	81.4	82.3	82.8	82.9	83.1	83.1	84.1	77.9	84.1
7-Jan	84.9	86.2	86.0	86.5	86.9	87.0	86.8	87.3	86.7	86.7	86.5	85.7	84.1	84.1	82.9	80.3	82.3	82.9	80.4	70.3	60.9	67.1	77.4	77.9	82.0	87.3
8-Jan	83.1	76.4	76.5	78.4	79.7	79.6	72.4	69.4	71.2	73.9	66.2	64.6	61.3	62.6	62.3	65.1	68.0	68.8	73.0	68.9	67.3	66.3	68.3	66.8	70.4	83.1
9-Jan	66.4	65.3	73.2	81.6	83.5	84.3	84.7	84.1	81.5	81.5	82.1	85.2	83.8	83.2	84.4	86.1	88.1	89.0	88.8	87.2	86.6	85.5	83.8	80.8	82.5	89.0
10-Jan	90.5	92.9	92.4	90.6	90.0	89.8	89.5	89.5	88.8	89.3	88.9	87.6	87.5	86.8	87.9	85.1	87.0	86.8	83.3	80.5	80.1	81.1	81.5	82.4	87.1	92.9
11-Jan	80.3	79.4	79.2	76.0	75.9	76.7	76.4	76.9	76.1	79.4	83.3	79.4	79.5	82.2	79.2	77.3	78.5	82.4	81.7	80.7	80.3	82.3	83.4	83.5	79.6	83.5
12-Jan	82.7	82.3	82.1	81.0	80.0	79.8	78.8	79.2	79.8	80.1	79.2	80.5	84.0	86.5	86.1	85.8	84.9	85.0	84.7	84.1	84.4	85.4	83.3	82.7	82.6	86.5
13-Jan	82.9	84.1	85.0	85.5	86.1	85.6	85.7	86.1	86.1	86.1	85.8	85.0	85.7	87.1	87.6	86.9	88.2	89.3	89.2	89.7	89.6	88.5	88.3	88.5	86.8	89.7
14-Jan	90.0	88.3	89.3	87.7	88.6	90.4	91.6	92.2	89.8	88.2	88.1	86.7	87.2	88.9	72.6	72.9	72.5	70.4	71.9	72.8	70.8	70.8	66.8	69.1	81.6	92.2
15-Jan	66.7	66.0	67.5	74.0	75.4	78.0	74.0	77.1	80.4	76.1	78.3	67.3	65.1	62.1	67.5	72.9	78.8	83.9	83.7	76.7	78.7	86.6	87.1	84.6	75.4	87.1
16-Jan	83.7	81.1	87.8	90.8	96.1	96.2	95.4	95.1	95.7	95.5	91.3	90.8	90.3	89.0	88.9	84.0	83.3	82.3	83.1	83.0	79.0	77.5	76.4	78.2	87.3	96.2
17-Jan	75.8	74.4	76.5	78.6	74.3	75.2	76.1	77.5	75.8	76.2	75.7	74.1	74.5	72.4	66.7	68.1	73.0	79.1	80.5	79.1	78.2	77.4	77.5	76.0	75.5	80.5
18-Jan	74.7	73.8	73.2	72.7	72.2	71.5	71.8	72.9	73.2	73.1	73.4	74.4	74.6	74.8	75.9	77.3	77.3	76.1	75.1	74.3	73.3	72.6	71.8	71.2	73.8	77.3
19-Jan	70.7	70.3	69.8	69.7	69.3	70.0	70.6	70.1	69.8	69.9	70.5	71.8	72.6	72.5	72.7	74.3	74.6	73.8	73.8	75.2	74.8	74.5	73.9	73.7	72.0	75.2
20-Jan	73.6	73.3	73.0	73.1	72.8	72.3	72.1	72.4	72.9	74.1	75.9	77.6	79.3	81.1	82.0	82.8	83.3	84.0	85.0	86.2	86.3	84.2	76.4	74.8	77.9	86.3
21-Jan	73.6	73.5	73.9	74.7	76.5	77.2	77.4	76.0	77.6	79.1	81.5	82.7	82.9	73.0	75.4	76.7	77.0	74.8	74.8	71.7	72.0	74.5	76.4	76.1	76.2	82.9
22-Jan	79.8	82.9	84.6	84.7	83.8	84.6	84.7	84.1	85.9	89.4	87.6	84.7	84.1	81.0	74.9	77.8	83.8	88.7	90.3	92.5	92.0	91.4	90.0	89.4	85.5	92.5
23-Jan	87.8	90.0	90.6	89.2	88.6	88.4	86.2	88.8	93.4	87.2	82.2	79.9	68.5	65.0	61.4	61.6	65.6	65.4	69.0	71.4	74.1	70.6	67.8	78.3	93.4	
24-Jan	70.4	67.4	67.9	64.4	60.3	65.8	67.1	67.7	61.9	60.3	58.5	53.4	48.6	47.4	46.9	50.8	56.9	64.5	67.4	71.2	73.5	78.6	81.6	79.6	63.8	81.6
25-Jan	73.2	73.3	74.3	82.4	86.5	90.9	91.0	90.7	89.8	88.8	82.0	77.0	67.8	62.6	58.9	62.4	69.3	75.3	76.7	80.1	78.8	69.4	66.8	75.4	76.8	91.0
26-Jan	81.2	81.3	85.4	88.6	82.1	81.2	78.9	82.3	78.1	68.5	65.5	66.3	59.6	59.2	64.6	68.0	73.6	76.0	68.6	70.7	74.7	81.4	82.8	85.0	75.2	88.6
27-Jan	85.6	85.5	83.9	78.0	79.4	73.5	73.4	79.0	82.8	88.6	81.6	74.5	70.9	68.7	57.3	41.6	44.8	44.1	48.1	49.8	45.6	41.7	43.9	46.1	65.3	88.6
28-Jan	48.3	50.0	50.2	49.8	48.9	54.2	53.0	47.1	45.3	43.2	42.4	42.0	47.6	48.8	52.2	57.5	61.3	64.1	62.3	64.0	64.9	65.5	61.1	59.6	53.5	65.5
29-Jan	64.4	64.5	68.4	67.2	66.4	70.5	74.7	76.5	80.4	80.7	81.1	81.9	78.3	73.9	77.5	77.4	78.5	79.0	77.9	79.6	78.6	77.7	77.2	77.1	75.4	81.9
30-Jan	76.8	77.6	78.4	77.0	77.7	76.9	76.6	75.3	76.9	76.1	73.1	71.0	67.9	67.1	67.0	65.4	69.9	77.4	79.9	78.5	78.0	76.4	75.8	75.4	74.7	79.9
31-Jan	74.5	74.1	73.4	73.2	73.0	72.8	73.0	73.7	74.4	75.2	76.1	75.7	73.9	72.3	71.5	71.1	73.9	75.7	74.3	75.4	75.3	75.5	76.2	75.4	74.2	76.2
77.1 76.7 77.5 77.9 77.8 78.4 77.9 78.1 78.3 78.0 77.3 75.9 74.9 73.7 72.8 73.0 75.1 76.8 76.9 76.6 76.1 76.5 76.3 76.5																								Diurnal Average		
90.5 92.9 92.4 90.8 96.1 96.2 95.4 95.1 95.7 95.5 91.3 90.8 90.3 89.0 88.9 86.9 88.2 89.3 90.3 92.5 92.0 91.4 90.0 89.4																								Diurnal Maximum		



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 2m (RH2) - %
Lower Camp - January 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Barometric Pressure (BP) - inHg

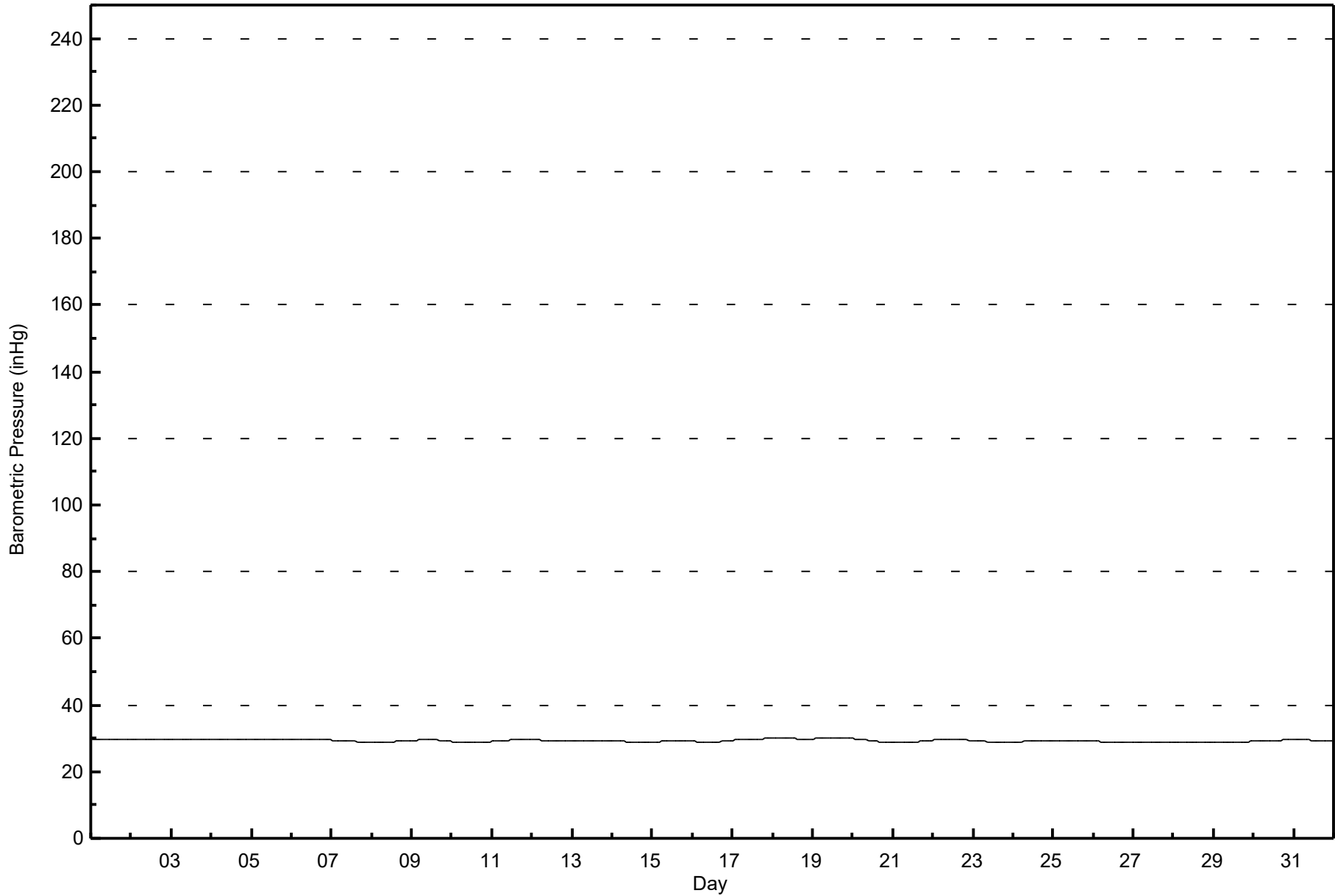
Lower Camp - January 2025

Maximum Value: 30.1 inHg on Jan 19 12:00		Maximum Daily Average: 30.0 inHg on Jan 19																				Hours in Service: 744					
Minimum Value: 28.6 inHg on Jan 10 14:00		Minimum Daily Average: 28.8 inHg on Jan 10																				Hours of Data: 744					
Maximum Diurnal Average: 29.3 inHg at hour 1		Minimum Diurnal Average: 29.3 inHg at hour 15																				Hours of Missing Data: 0					
Monthly Average: 29.30 inHg		Percentiles: P ₁ = 28.7 P ₁₀ = 28.8 Q ₁ = 29.0 Median = 29.3 Q ₃ = 29.6 P ₉₀ = 29.8 P ₉₉ = 30.0																				Hours of Calibration: 0					
		Percent Operational Time: 100.0																									
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.7	29.7	29.7	29.7	29.6	29.7	
2-Jan	29.7	29.7	29.7	29.7	29.7	29.7	29.7	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.9	29.9	29.9	29.9	29.8	29.9	
3-Jan	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.7	29.7	29.7	29.7	29.7	29.7	29.7	29.7	29.7	29.6	29.9	29.9	
4-Jan	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	
5-Jan	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.7	29.7	29.7	29.7	29.7	29.7	29.7	29.7	29.7	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.7	29.8	
6-Jan	29.8	29.8	29.8	29.7	29.7	29.7	29.7	29.7	29.7	29.7	29.7	29.7	29.6	29.6	29.6	29.6	29.6	29.6	29.5	29.5	29.5	29.5	29.5	29.4	29.6	29.8	
7-Jan	29.4	29.4	29.4	29.4	29.3	29.3	29.3	29.3	29.2	29.2	29.2	29.1	29.1	29.1	29.0	29.0	29.0	28.9	28.9	28.8	28.8	28.8	28.8	28.8	29.1	29.4	
8-Jan	28.8	28.7	28.7	28.8	28.8	28.8	28.8	28.8	28.9	28.9	28.9	29.0	29.0	29.0	29.1	29.1	29.2	29.2	29.2	29.2	29.3	29.3	29.3	29.3	29.0	29.3	
9-Jan	29.3	29.3	29.4	29.4	29.5	29.5	29.5	29.5	29.5	29.5	29.6	29.6	29.6	29.5	29.5	29.5	29.5	29.4	29.4	29.3	29.3	29.2	29.2	29.1	29.1	29.4	29.6
10-Jan	29.0	28.9	28.8	28.8	28.8	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.6	28.6	28.7	28.7	28.7	28.8	28.8	28.8	28.8	28.9	28.9	29.0	28.8	29.0	
11-Jan	29.0	29.1	29.1	29.2	29.2	29.3	29.3	29.3	29.4	29.4	29.4	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.4	29.5	
12-Jan	29.5	29.5	29.5	29.5	29.5	29.4	29.4	29.4	29.4	29.4	29.4	29.3	29.3	29.3	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.3	29.5	
13-Jan	29.2	29.2	29.2	29.2	29.2	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.2	
14-Jan	29.1	29.2	29.1	29.1	29.1	29.1	29.1	29.1	29.0	29.0	28.9	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.9	28.9	28.9	29.2	
15-Jan	28.9	28.9	29.0	29.0	29.0	29.0	29.1	29.1	29.1	29.1	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.1	29.1	29.1	29.1	29.2	
16-Jan	29.1	29.1	29.0	28.9	28.9	28.8	28.8	28.7	28.7	28.7	28.7	28.8	28.8	28.8	28.8	28.9	29.0	29.1	29.1	29.2	29.2	29.3	29.3	29.4	29.0	29.4	
17-Jan	29.4	29.5	29.5	29.5	29.6	29.6	29.6	29.6	29.7	29.7	29.7	29.7	29.7	29.7	29.8	29.8	29.8	29.8	29.9	29.9	29.9	30.0	30.0	30.0	29.7	30.0	
18-Jan	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	29.9	29.9	29.9	29.9	29.9	29.8	29.8	29.8	29.8	29.8	29.8	29.9	29.9	30.0	
19-Jan	29.9	29.9	29.9	29.9	29.9	29.9	30.0	30.0	30.0	30.0	30.0	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.0	30.0	30.0	30.0	29.9	29.9	30.0	30.1	
20-Jan	29.9	29.9	29.8	29.7	29.7	29.7	29.6	29.5	29.5	29.4	29.4	29.3	29.2	29.1	29.0	29.0	29.0	28.9	28.9	28.8	28.8	28.8	28.8	28.7	29.3	29.9	
21-Jan	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.8	28.8	28.9	28.9	29.0	29.1	29.1	29.2	29.3	29.3	29.4	29.4	29.4	28.9	29.4	
22-Jan	29.5	29.5	29.5	29.5	29.5	29.5	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.6	29.5	29.5	29.5	29.4	29.4	29.4	29.5	29.6	
23-Jan	29.3	29.3	29.2	29.2	29.1	29.1	29.1	29.0	29.0	29.0	29.0	28.9	28.9	28.9	28.9	28.9	29.0	29.0	29.0	29.0	29.0	28.9	28.9	28.9	29.0	29.3	
24-Jan	28.9	28.9	28.9	28.9	29.0	29.0	29.1	29.1	29.2	29.2	29.3	29.3	29.3	29.3	29.4	29.4	29.4	29.4	29.4	29.3	29.3	29.3	29.3	29.3	29.2	29.4	
25-Jan	29.3	29.3	29.3	29.3	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.2	29.3	
26-Jan	29.1	29.1	29.0	29.0	29.0	29.0	29.0	28.9	28.9	28.9	28.9	28.9	28.9	28.8	28.8	28.8	28.8	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	29.1	
27-Jan	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	28.9	28.9	28.9	28.9	28.8	28.7	28.7	28.7	28.6	28.6	28.7	28.7	28.7	28.7	28.7	28.8	29.0	
28-Jan	28.7	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	
29-Jan	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	29.0	29.0	29.0	29.0	29.1	28.9	29.1	
30-Jan	29.1	29.1	29.2	29.2	29.2	29.3	29.3	29.3	29.3	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.4	29.5	
31-Jan	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.4	29.4	29.4	29.4	29.3	29.3	29.3	29.3	29.2	29.2	29.2	29.2	29.2	29.2	29.4	29.5	
		29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	Diurnal Average
		30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.0	30.0	30.0	30.0	30.0	30.0	30.0	Diurnal Maximum



Wood Buffalo Environmental Association
Hourly Averages

Barometric Pressure (BP) - inHg
Lower Camp - January 2025





Maximum Speed: 31 km/h on Jan 28 01:00		Maximum Daily Speed Average: 19.7 km/h on Jan 28		Hours in Service: 744																						
Minimum Speed Value: 0 km/h on Jan 19 09:00		Minimum Daily Speed Average: 0.9 km/h on Jan 19		Hours of Data: 742																						
Maximum Diurnal Speed Average: 2.6 km/h at hour 22		Minimum Diurnal Speed Average: 0.2 km/h at hour 6		Hours of Missing Data: 2																						
Monthly Average Velocity: 0.6 km/h 286.2 deg		Percentiles: P ₁ = 1 P ₁₀ = 2 Q ₁ = 5 Median = 10 Q ₃ = 15 P ₉₀ = 20 P ₉₉ = 29		Percent Operational Time: 99.7																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	WNW4	WNW4	WNW4	NW2	WNW3	NW4	NNW7	NW5	WNW4	NW4	NW5	N10	N7	N6	NW5	WNW3	UO	NW3	WNW5	WNW3	NW4	WNW3	WNW4	WNW4	NW4.0	N10
2-Jan	WNW4	WNW3	WNW3	WNW3	WNW3	WNW2	NW2	NW2	NW2	NW1	UO	WNW2	E1	N2	NW2	WNW3	WNW3	WNW3	WNW2	WNW2	WNW1	W0	ESE1	S1	NW1.9	WNW4
3-Jan	NW0	NNW0	ESE1	SE5	SE5	SE6	SE7	SE6	SE7	SE6	SE6	SE6	SE4	SE5	SE6	ESE2	NW1	NE1	ESE2	SE7	SE9	ESE10	ESE10	ESE12	SE4.9	ESE12
4-Jan	ESE12	ESE12	ESE10	ESE12	SE13	SE12	SE14	SE15	SE21	SE20	SE17	SE14	SE13	SE12	ESE9	ESE6	NE2	NNE2	E2	ESE4	NNE2	NNW3	NNW4	NW4	SE8.6	SE21
5-Jan	NNW11	NNW10	NNW10	NNW10	N12	N12	N11	N10	NNW8	NNW9	N8	N10	NNW8	NNW7	NNW7	NNW7	N9	N7	NNE6	N5	NW4	NNW3	ENE3	NNE3	N7.6	N12
6-Jan	ENE2	ESE6	SE6	SE5	SE8	SE12	SE14	SE14	SE16	SE15	SE15	SE12	SSE10	SSE10	SSE12	SSE12	SSE9	SE16	SE17	SE16	SE14	SE14	SE14	SE15	SE11.6	SE17
7-Jan	SE15	SE17	SE21	SE21	SE20	SE22	SE23	SE23	SE22	SE22	SE23	SE25	SE23	SE21	SE18	SE15	SE18	SE6	SE10	SSE7	SW12	SSE8	SE13	SE12	SE16.9	SE25
8-Jan	SE7	W14	W19	W11	WSW8	WSW8	W12	W16	W11	SW13	WSW19	WSW15	NNW12	NW18	NW13	WNW14	WNW18	WNW15	WNW11	WNW17	WNW17	W23	W18	WNW18	W13.1	W23
9-Jan	W20	WNW22	NNW17	N15	N13	N15	N16	NNE12	NNE9	NNE8	N7	NNW6	NW1	SE7	SSE5	SSE6	SSE6	SE6	SE17	SE14	SE11	SSE4	ESE16	SE16	NE2.7	WNW22
10-Jan	SE24	ESE29	SE30	SE24	SE11	SE9	SE11	ESE2	WSW1	W5	SE6	SE6	ENE2	NW8	NNW12	NNW14	NNW14	N13	N17	N19	N19	N13	N14	N17	NE4.9	SE30
11-Jan	N17	N15	N15	N13	NNW11	N10	N7	N7	NNW10	NNW8	NNW9	N12	N11	NNE12	NNE10	NE7	N4	SW1	SSE2	SE1	ESE1	S4	S4	SSW4	N6.6	N17
12-Jan	S5	SSE6	S7	SSE8	SE10	SE14	SE13	SE11	SE9	SE13	SE18	SE15	SE14	SE18	SE19	SE16	SE19	SE13	SE11	SE10	SE12	SE12	SE10	SE11	SE12.1	SE19
13-Jan	SE11	SE12	SE12	SE15	SE12	SE15	SE13	SE12	SE16	SE14	SE10	SE9	SE13	SE17	SE13	SE15	SE18	SE20	SE18	SE18	SE14	SE14	SE15	SE15	SE14.1	SE20
14-Jan	SE15	SE13	SE14	SE13	SE12	SE11	SE13	SE16	SE16	SE18	SE18	SE18	SE14	SE7	W19	W22	W20	WSW20	W19	WSW22	WSW24	WSW25	WSW21	W18	SSW7.7	WSW25
15-Jan	W21	WNW18	WNW20	WNW18	WNW18	W15	W20	W16	W5	WNW5	WSW3	WSW7	W9	W9	WSW6	SW1	WNW1	SE2	N2	NNW5	W8	W5	NW4	NW4	W8.6	W21
16-Jan	NW3	NW5	NNW6	NNW4	N7	N8	NE8	N6	N6	N9	NNE14	N12	N14	N20	N21	N21	N22	N22	N19	NNW12	NNW21	NNW22	NNW20	N21	N13.0	N22
17-Jan	N18	N16	NNW11	NNW11	NNW14	N14	N7	N7	N8	NNW6	NNW5	NNW9	NNW11	NNW10	NNW11	NNW9	WNW7	WNW6	WNW4	WNW6	WNW9	WNW6	WNW6	WNW4	NNW8.3	N18
18-Jan	WNW3	NW4	NW2	NW2	NNW1	NNE1	ESE2	SE8	SE10	SE11	SE13	SE11	SE12	SE10	SE7	SSE3	WSW1	NNW1	NNW2	NW2	NNW2	NW3	NW3	NW3	SE2.4	SE13
19-Jan	NW2	NW2	NW3	WNW3	NW3	NW4	WNW5	NNW0	SW0	WNW2	NW3	NW3	WSW1	NW3	WNW2	SSE3	SE3	ESE2	ENE1	ESE4	SE6	SE10	SE12	SE14	SSE0.9	SE14
20-Jan	SE14	SE13	SE16	SE18	SE18	SE21	SE20	SE17	SE14	SE12	SE20	SE20	SE20	SE20	SE19	SE18	SE17	SE15	SE15	SE16	SE13	W9	W21	W23	SE13.2	W23
21-Jan	W22	WSW26	WSW22	W17	W16	W19	W12	WSW17	W17	WSW18	WSW19	NW6	NNW14	N16	NNE21	N20	N20	N17	N15	NNW13	NNW12	NW9	WNW5	W4	WNW10.9	WSW26
22-Jan	ESE1	SE3	SE8	SE12	SE8	S1	NNE1	NNW1	ESE3	SE6	SE8	SE10	SE10	WSW5	WSW8	S4	SSE6	SE10	SE7	ESE8	SE14	SE14	SE15	SE19	SE6.6	SE19
23-Jan	SE19	SE16	SE16	SE12	SE11	ESE5	SE7	SE10	SE8	SW5	SSW5	SW5	S2	W13	WNW18	WNW23	WNW21	WNW17	WNW18	WNW17	W19	W17	W20	WNW25	WSW5.8	WNW25
24-Jan	WNW24	WNW27	WNW23	NW29	NW31	NW31	NNW26	N25	NNW20	NW15	NNW17	NW15	NW16	NNW11	NNW11	WNW9	W5	WSW1	NE1	SE4	SE3	SSE3	SE4	WSW1	NW12.5	NW31
25-Jan	WNW3	SW4	SSW5	SSE3	SSE2	SE5	SE9	SE6	SE11	SE8	SE8	SE10	SSW6	SW10	SW6	SE2	S2	W3	SSE2	SE5	ESE4	SW9	SSE5	SE9	SSE4.2	SE11
26-Jan	SE11	SE12	SE13	SE10	SE9	SSE6	SSW5	SSW5	SSW7	SSW5	SW7	SSW5	SSW6	SSE6	SE13	SE4	N3	WNW6	NW3	NW9	WNW7	ESE3	SE4	SE7	SSE3.8	SE13
27-Jan	SE6	SE5	NW2	WNW5	WNW2	W7	W3	SSE5	SE6	SE7	SE10	SE13	SE12	SE15	S8	SW11	SW10	WSW13	WSW6	WSW11	WNW14	WNW25	WNW29	WNW28	WSW4.4	WNW29
28-Jan	WNW31	WNW28	WNW28	WNW27	WNW26	W15	WNW14	WNW20	WNW25	WNW26	WNW29	WNW27	WNW27	WNW20	WNW27	WNW22	WNW13	WNW10	WNW10	WNW9	W10	WSW11	WSW13	WSW15	WNW19.7	WNW31
29-Jan	WNW5	WNW7	NW5	WNW5	WNW5	WSW1	W1	W2	WSW2	WNW2	WNW4	N18	N19	N17	N18	N20	N17	N17	N19	N16	N17	N18	N17	N17	N10.4	N20
30-Jan	N17	NNE12	NNE13	N12	N7	N12	NNE9	NNW8	NW7	NW8	NW7	NNW8	NNW8	NNW9	N9	N6	N7	WNW3	NW3	NW4	WNW5	NW4	WNW5	WNW6	NNW7.0	N17
31-Jan	NW4	WNW5	WNW6	WNW6	WNW6	WNW6	WNW5	NW5	NW6	NW8	NW8	NW10	NNW10	NNW11	NNW11	NNW12	NNW10	NNW10	NNW10	NNW9	NNW10	NNW10	NW9	NNW10	NW7.7	NNW12
W1.4 W1.8WSW1.3WSW0.5WNW0.8NNW0.2 ESE1.0 SE0.8 SSE1.5 S1.7 SSE2.1 ESE1.1 ENE0.9NNE1.2NNW1.7NNW2.0NNW1.9 NW1.8 N1.2 NW1.2WNW2.0 W2.6 W1.8 W2.1																								Diurnal Average		
WNW31 ESE29 SE30 NW29 NW31 NW31NNW26 N25WNW25WNW26WNW29WNW27WNW27 SE21WNW27WNW23 N22 N22 W19WSW22WSW24WSW25WNW29WNW28																								Diurnal Maximum		
UO - Unstable Operation																										
All monthly, daily, and diurnal averages have been calculated using vector methods																										



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

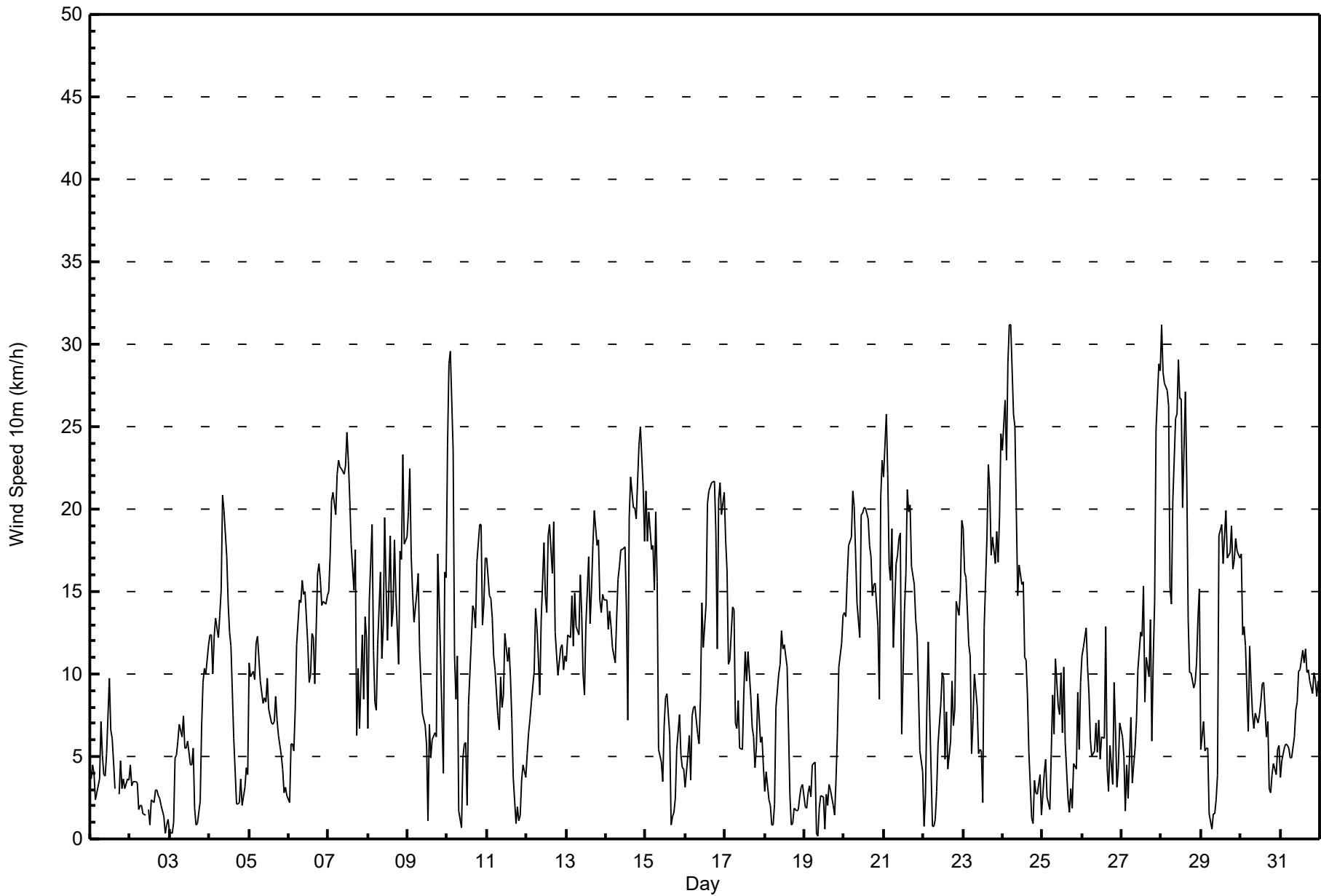
Wind Speed 10m (WS10) - km/h
Lower Camp - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 9 km/h on Jan 24 06:00 Minimum Value: 0 km/h on Jan 2 06:00 Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 2 Median = 2 Q ₃ = 3 P ₉₀ = 4 P ₉₉ = 6																	Hours in Service: 744 Hours of Data: 742 Hours of Missing Data: 2 Hours of Calibration: 0 Percent Operational Time: 99.7								
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	1	1	1	1	2	1	2	1	1	1	1	2	2	2	1	1	UO	1	1	1	1	1	1	1	2
2-Jan	1	2	1	1	1	0	1	1	1	1	UO	1	1	1	1	1	1	1	1	1	1	1	1	1	2
3-Jan	1	1	2	2	1	1	1	1	2	1	2	1	1	1	1	2	1	1	1	3	3	4	3	2	4
4-Jan	2	2	2	1	2	2	2	2	2	2	2	3	2	2	2	2	2	1	1	1	1	1	1	2	3
5-Jan	3	2	2	2	2	3	3	3	2	2	2	2	2	1	2	2	2	1	1	1	1	1	1	3	
6-Jan	1	2	2	2	3	3	3	3	4	4	4	4	4	4	4	4	3	3	3	3	2	2	2	4	
7-Jan	2	3	2	2	3	2	2	2	3	2	2	2	3	2	4	4	5	3	3	3	5	4	2	5	
8-Jan	2	5	4	5	3	4	4	3	3	6	4	3	4	8	4	2	3	3	4	3	4	4	3	8	
9-Jan	3	4	4	4	3	3	3	3	2	2	2	2	1	2	2	3	2	2	5	3	4	2	4	5	
10-Jan	3	3	5	6	4	5	4	2	1	2	2	1	2	2	4	4	3	3	4	4	5	3	4	6	
11-Jan	4	3	3	3	3	2	2	2	2	2	3	3	2	2	2	1	2	1	1	2	1	2	2	4	
12-Jan	2	2	3	3	3	3	3	3	3	7	5	4	3	3	3	3	3	5	2	2	2	3	2	7	
13-Jan	2	2	3	3	2	3	3	6	2	3	2	3	2	3	5	4	2	2	3	2	2	2	1	6	
14-Jan	2	1	2	2	3	4	5	2	3	3	3	4	3	4	3	4	5	4	4	4	4	5	4	5	
15-Jan	3	3	5	4	4	3	3	4	3	5	1	2	3	2	2	1	1	1	1	3	3	2	1	5	
16-Jan	1	1	2	2	3	2	1	2	2	4	4	3	3	4	4	5	5	5	5	5	6	5	5	6	
17-Jan	5	4	4	2	3	4	2	2	2	1	1	3	3	2	3	3	1	1	1	1	2	1	2	5	
18-Jan	1	1	1	1	1	1	2	2	2	3	3	2	2	2	1	2	1	1	2	1	1	1	1	3	
19-Jan	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	2	1	1	1	1	2	2	2	2	
20-Jan	2	2	2	2	2	3	2	3	4	3	3	2	2	2	2	2	2	2	2	2	3	4	4	4	
21-Jan	4	5	5	3	3	4	3	4	4	3	4	3	3	5	4	4	4	4	4	3	3	2	2	5	
22-Jan	2	1	2	2	3	1	1	1	1	2	2	2	2	4	2	1	2	3	2	2	3	2	3	4	
23-Jan	4	3	4	3	2	3	3	3	3	2	2	2	1	4	5	4	4	3	4	4	4	3	5	5	
24-Jan	5	6	4	6	6	9	7	6	6	4	4	4	5	3	3	2	1	2	2	2	3	1	1	9	
25-Jan	3	2	2	2	2	2	2	3	3	2	2	3	3	3	4	2	1	2	2	1	2	2	2	4	
26-Jan	2	2	2	4	3	2	2	2	3	2	4	2	2	4	2	3	1	6	3	3	2	2	1	6	
27-Jan	3	2	2	2	2	2	2	1	2	2	3	3	3	2	4	4	3	3	4	5	5	6	6	6	
28-Jan	6	5	5	5	5	4	6	5	5	5	5	5	8	4	6	6	3	1	2	2	1	2	3	8	
29-Jan	2	2	2	2	2	1	1	1	1	1	2	5	4	4	3	4	4	4	4	4	4	4	4	5	
30-Jan	4	2	4	2	3	3	2	2	2	1	2	2	2	2	3	2	1	1	1	2	1	2	1	4	
31-Jan	1	2	2	1	1	1	1	1	1	2	2	2	2	3	3	2	2	2	2	2	2	2	2	3	
Diurnal Maximum																									
UO - Unstable Operation																									



Wood Buffalo Environmental Association
Hourly Averages

Wind Speed 10m (WS10) - km/h
Lower Camp - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Wind Speed 10m (WS10) - km/h
Lower Camp - January 2025**

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	208	28.03	28.03
6 - 11	221	29.78	57.82
12 - 19	227	30.59	88.41
20 - 28	78	10.51	98.92
29 - 38	8	1.08	100.00
> 38	0	0.00	100.00

Total Number of Valid Hours: 742

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Wind Speed 10m (WS10) - km/h
Lower Camp - January 2025**

Wind Speed Ranges (km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	4	6	3	4	2	15	18	11	8	7	6	9	10	48	44	13	208
6 - 11	26	5	2	0	0	7	70	12	2	3	6	9	7	19	14	39	221
12 - 19	42	5	0	0	0	5	111	2	0	0	2	9	18	18	5	10	227
20 - 28	10	1	0	0	0	0	23	0	0	0	0	7	10	22	0	5	78
29 - 38	0	0	0	0	0	1	1	0	0	0	0	0	0	3	3	0	8
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	82	17	5	4	2	28	223	25	10	10	14	34	45	110	66	67	742

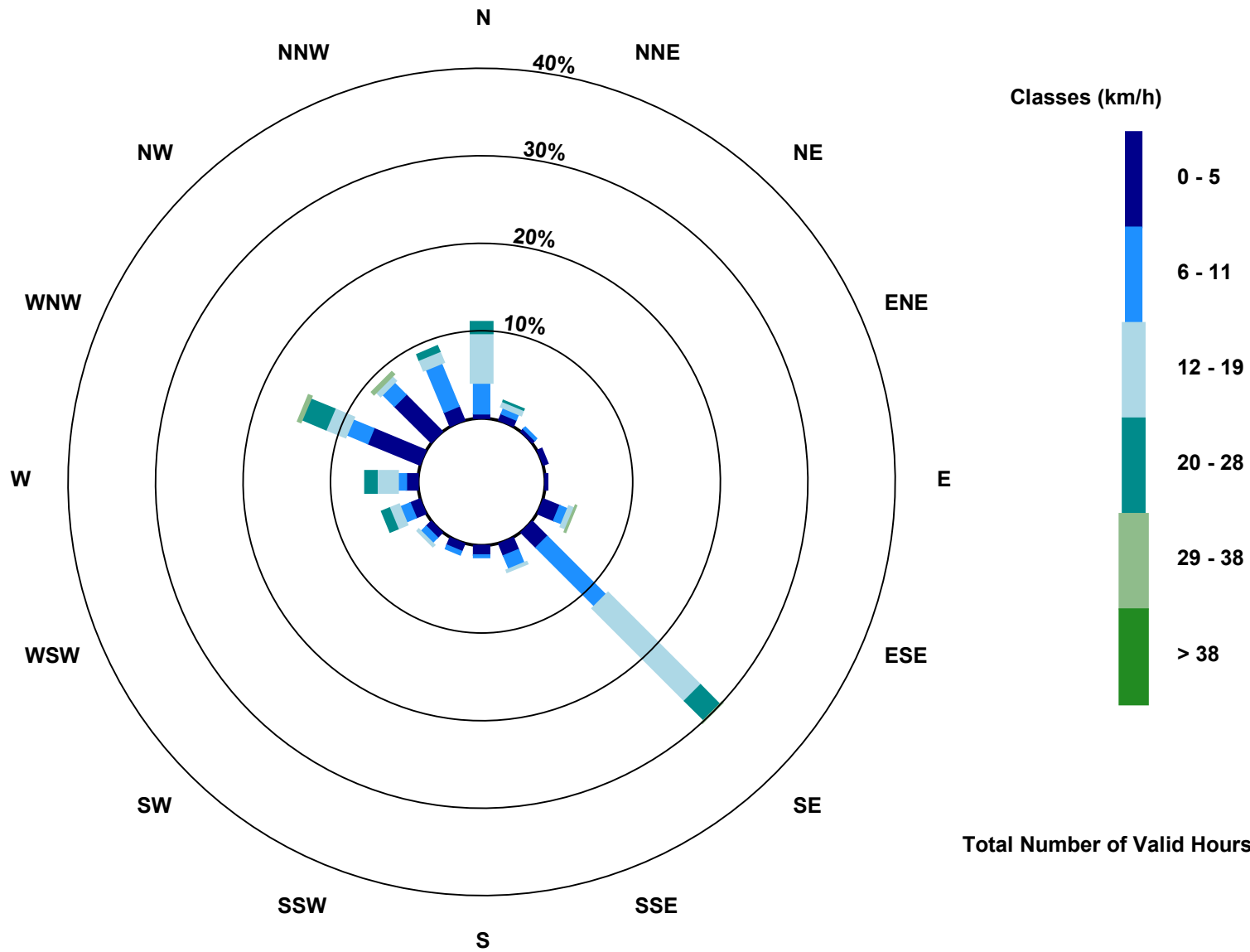
Total Number of Valid Hours: 742

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Wind Speed 10m (WS10) - km/h
Lower Camp





Wood Buffalo Environmental Association
Summary of Hour Averages

Wind Direction 10m (WD10) - deg
Lower Camp - January 2025

Direction of Maximum Speed: 293 deg on Jan 28 01:00	Hours in Service: 744
Direction of Maximum Daily Speed Average: 288.5 deg on Jan 28	Hours of Data: 742
Direction of Minimum Speed: 228 deg on Jan 19 09:00	Hours of Missing Data: 2
Direction of Minimum Daily Speed Average: 0.9 deg on Jan 19	Percent Operational Time: 99.7
Monthly Average Direction: 286.2 deg	

Day	Hourly Period Ending At (MST)																								Daily Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	296	303	298	304	300	311	338	317	302	311	322	359	350	351	322	282	UO	306	298	299	309	297	301	302	318.1
2-Jan	302	294	297	303	296	295	320	316	314	307	UO	303	88	8	318	298	299	303	301	295	294	262	115	180	304.1
3-Jan	322	340	118	139	141	135	137	135	136	136	143	140	143	138	132	106	322	35	112	137	128	121	122	120	130.7
4-Jan	120	121	121	120	126	127	127	127	131	134	134	140	132	127	117	114	54	19	80	113	32	336	336	324	123.8
5-Jan	331	340	347	344	353	349	350	350	334	346	353	349	339	337	334	343	3	11	24	11	313	339	66	18	348.9
6-Jan	67	121	145	144	129	133	133	137	136	140	136	132	168	163	156	168	156	135	136	137	140	138	141	141	141.0
7-Jan	140	134	136	137	138	134	136	135	134	136	136	136	137	130	134	135	130	132	135	159	220	154	134	136	137.7
8-Jan	133	263	263	259	248	242	259	266	268	226	240	254	288	307	314	293	287	294	287	298	295	277	281	283	274.5
9-Jan	281	285	332	358	8	359	6	18	12	25	10	329	323	130	151	149	147	138	127	125	126	159	119	131	37.4
10-Jan	127	122	127	124	136	134	133	119	254	264	126	129	65	308	340	344	347	349	357	357	356	11	9	360	56.1
11-Jan	2	354	355	357	338	355	355	352	346	340	347	352	360	12	21	36	11	225	157	128	108	179	174	209	357.6
12-Jan	174	166	179	162	142	131	138	144	134	133	133	128	130	133	136	138	135	128	134	139	134	133	139	135	137.7
13-Jan	140	138	136	134	138	135	134	133	133	131	136	133	131	127	128	133	138	136	136	137	135	130	133	130	133.9
14-Jan	134	129	133	130	130	132	136	128	136	133	128	136	133	146	262	264	260	256	259	258	255	256	250	269	199.7
15-Jan	276	282	296	288	287	261	265	274	266	293	245	251	262	266	247	215	303	139	350	327	260	273	310	311	277.3
16-Jan	316	314	346	330	2	350	37	358	349	6	19	1	353	3	9	10	1	357	356	339	348	341	347	349	356.2
17-Jan	350	350	333	318	348	2	355	353	355	332	330	330	347	342	336	333	300	298	291	303	299	294	288	301	333.4
18-Jan	300	306	305	324	330	19	123	139	139	141	137	136	133	128	131	147	251	327	331	326	327	323	311	311	136.0
19-Jan	319	318	316	294	320	313	288	331	228	302	325	305	251	315	290	154	138	121	65	122	145	138	139	139	152.1
20-Jan	136	131	131	127	128	131	130	135	137	141	137	133	134	135	137	136	136	136	134	135	135	267	273	280	139.9
21-Jan	271	258	255	260	268	275	272	256	262	258	255	317	348	357	13	8	4	356	357	343	343	305	301	272	300.4
22-Jan	122	124	133	131	135	176	33	339	121	129	132	134	133	244	239	181	160	144	125	115	131	125	132	132	136.8
23-Jan	136	134	143	145	134	121	141	133	134	229	213	221	177	273	287	296	300	298	292	285	259	259	280	289	253.7
24-Jan	284	288	289	316	318	322	341	352	337	319	303	316	323	339	323	300	280	250	37	129	138	147	129	241	315.9
25-Jan	289	215	209	162	157	135	133	136	138	139	146	140	194	236	232	129	173	268	149	128	119	218	153	137	164.0
26-Jan	136	135	134	138	146	160	213	213	211	201	233	197	211	163	136	128	11	289	309	312	303	115	127	129	165.4
27-Jan	132	128	308	291	287	279	266	151	141	132	133	135	137	133	178	224	223	238	241	252	282	292	298	296	241.7
28-Jan	293	293	290	291	289	274	284	294	296	296	295	294	297	292	289	297	296	294	284	290	273	245	246	253	288.5
29-Jan	300	297	313	296	286	243	262	271	256	291	300	7	6	6	3	2	352	355	358	351	357	2	3	359	351.9
30-Jan	6	17	14	359	356	356	26	341	318	318	324	335	332	348	1	4	6	294	317	310	294	313	287	295	346.9
31-Jan	306	296	300	302	299	285	288	304	323	311	309	315	336	346	345	345	342	327	332	337	337	334	325	327	324.7

278.2 264.1 254.8 257.3 302.3 346.3 116.6 140.5 148.7 171.4 166.5 117.3 64.7 27.0 337.3 330.1 328.0 314.3 351.7 310.5 285.0 272.1 269.7 279.7
 Diurnal Average

UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods



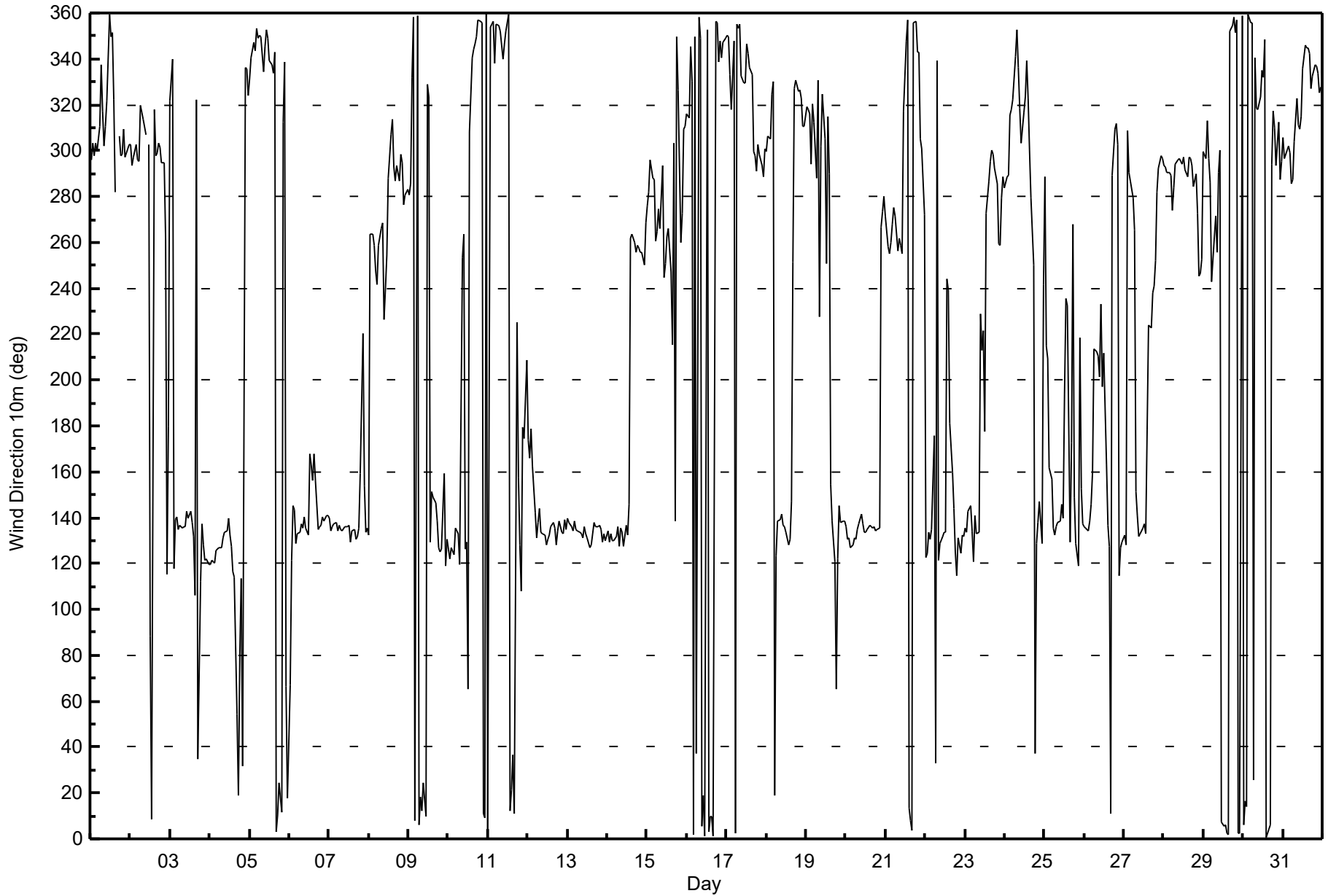
Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg
Lower Camp - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 101 deg on Jan 25 00:00	Hours of Data: 742
Minimum Value: 4 deg on Jan 13 23:00	Hours of Missing Data: 2
Percentiles: P ₁ = 5 P ₁₀ = 8 Q ₁ = 11 Median = 17 Q ₃ = 27 P ₉₀ = 52 P ₉₉ = 94	Hours of Calibration: 0
	Percent Operational Time: 99.7

Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	20	11	22	31	18	20	17	19	14	16	22	16	22	22	20	9	UO	22	11	26	29	24	25	20	31
2-Jan	14	24	14	9	12	24	28	44	31	13	UO	20	86	52	22	11	8	10	23	27	36	65	79	56	86
3-Jan	65	52	63	18	16	13	11	12	11	12	18	13	20	11	12	70	59	54	55	14	15	17	16	10	70
4-Jan	10	8	12	7	7	7	8	7	6	7	8	12	10	10	13	36	98	49	63	35	59	20	21	35	98
5-Jan	19	19	17	19	15	17	18	18	17	18	16	17	19	19	19	20	16	15	18	14	20	27	34	29	34
6-Jan	49	16	22	33	27	12	11	16	13	17	13	19	36	32	22	25	27	9	9	8	10	8	9	10	49
7-Jan	8	5	5	6	8	4	4	5	4	5	5	4	6	4	12	14	8	40	12	53	27	47	10	9	53
8-Jan	18	19	12	15	20	24	18	13	17	25	12	13	19	21	21	9	9	14	19	9	11	10	10	12	25
9-Jan	11	10	28	18	19	17	14	18	14	17	25	24	84	21	40	39	31	33	11	13	24	66	16	21	84
10-Jan	10	5	8	9	28	30	22	88	95	55	29	13	72	17	20	19	19	18	18	17	17	16	13	17	95
11-Jan	17	20	19	19	17	16	19	23	18	19	18	18	19	15	15	15	34	54	52	96	80	49	36	31	96
12-Jan	33	34	30	31	18	10	15	26	26	39	13	11	8	8	7	10	6	22	9	11	8	9	12	8	39
13-Jan	11	9	11	8	12	7	8	45	7	8	14	18	8	8	27	13	7	5	8	7	7	5	4	4	45
14-Jan	5	6	6	6	15	20	10	6	9	12	8	9	16	52	14	13	12	11	12	12	12	11	11	13	52
15-Jan	9	10	12	15	11	11	12	20	49	62	66	17	20	13	12	87	54	95	40	26	21	22	18	21	95
16-Jan	36	23	24	38	31	20	30	37	32	29	17	24	18	15	15	15	16	17	17	19	20	20	20	22	38
17-Jan	19	19	20	15	17	20	19	16	24	21	26	19	18	19	19	24	15	8	13	16	9	13	14	32	32
18-Jan	35	26	45	40	58	72	72	12	11	13	7	7	5	6	9	44	38	34	44	38	28	22	30	14	72
19-Jan	21	21	18	22	30	35	14	89	98	54	43	38	71	30	34	30	29	78	71	26	23	12	12	9	98
20-Jan	6	6	6	5	5	5	6	6	11	13	6	6	6	5	5	5	5	7	5	6	9	56	11	10	56
21-Jan	13	12	11	13	12	12	12	15	16	11	13	30	20	24	12	15	16	19	19	18	18	14	15	16	30
22-Jan	94	59	14	7	8	89	84	52	53	25	15	7	5	67	23	33	27	14	32	24	8	7	10	9	94
23-Jan	11	13	15	15	11	55	28	9	60	38	39	26	63	16	11	9	9	8	10	13	14	13	14	12	63
24-Jan	11	11	10	12	12	14	21	20	18	17	18	15	16	19	16	12	31	95	97	50	80	39	40	101	101
25-Jan	76	52	31	73	92	29	10	46	17	13	23	11	50	19	40	77	74	59	86	35	75	20	36	16	92
26-Jan	10	7	6	20	27	38	43	38	27	28	31	48	36	50	7	85	54	60	84	17	19	73	33	13	85
27-Jan	25	39	88	33	58	25	72	45	41	14	10	8	9	6	55	25	21	17	65	23	17	11	11	10	88
28-Jan	9	10	10	10	11	14	20	10	10	11	11	11	11	11	10	13	10	11	11	10	11	13	13	12	20
29-Jan	34	22	26	20	33	34	53	37	77	30	29	19	16	16	17	17	18	18	16	18	17	16	17	16	77
30-Jan	16	14	16	16	21	15	18	24	23	13	20	22	22	20	25	31	9	37	37	32	21	31	14	15	37
31-Jan	21	16	15	16	19	14	16	23	14	15	15	12	20	18	18	18	20	16	19	19	19	19	17	16	23
	94	59	88	73	92	89	84	89	98	62	66	48	86	67	55	87	98	95	97	96	80	73	79	101	
	Diurnal Maximum																								

UO - Unstable Operation





WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS13 FORT MCKAY SOUTH JANUARY 2025

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

February 28, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - FORT MCKAY SOUTH (AMS13)
JANUARY 2025

MONTHLY SUMMARY

Parameter	Hours of Data	Hours of Calibration	Hours without Data	Operational Time	Maximum 1-Hour Value	1-Hour Exceedances	Maximum 24-Hour Value	24-Hour Exceedances
SO2(ppb) Average	710	34	34	100	18.8	0	2.6	0
TRS(ppb) Average	708	36	36	100	8.5	0	1.5	0
THC(ppm) Average	709	35	35	100	3.6	-	2.7	-
NMHC(ppm) Average	709	35	35	100	0.2	-	0.065	-
CH4(ppm) Average	709	35	35	100	3.5	-	2.6	-
O3(ppb) Average	710	34	34	100	44	0	38.5	-
NO2(ppb) Average	686	33	58	96.64	33.6	0	24.8	-
NO(ppb) Average	686	33	58	96.64	105.4	-	41.5	-
NOX(ppb) Average	686	33	58	96.64	139	-	63.6	-
PM2.5(ug/m3) Average	743	1	1	100	21.4	0	11.1	0
ET(C) Average	744	0	0	100	8	-	3	-
RH(%) Average	744	0	0	100	95.1	-	87.9	-
WS(km/h) Average	718	0	26	96.51	34	-	17	-
WD(deg) Average	718	0	26	96.51	-	-	-	-

Note : Operational time includes periods of data collection and instrument calibration

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - FORT MCKAY SOUTH (AMS13)
JANUARY 2025

MONTHLY SUMMARY FOR AIR QUALITY/ METEOROLOGICAL MONITORING MEASUREMENTS

Parameter	Number	Mean	StnDev	Total	Percentile						
					Min	P10	Q1	Median	Q3	P90	Max
SO2(ppb) Average	710	0.82	1.5	-	0	0.1	0.2	0.4	0.9	1.7	18.8
TRS(ppb) Average	708	0.67	0.5	-	0.3	0.4	0.4	0.5	0.7	1.1	8.5
THC(ppm) Average	709	2.23	0.2	-	2	2.1	2.1	2.2	2.3	2.5	3.6
NMHC(ppm) Average	709	0.011	0.032	-	0	0	0	0	0	0	0.2
CH4(ppm) Average	709	2.22	0.2	-	2	2.1	2.1	2.2	2.3	2.4	3.5
O3(ppb) Average	710	19.25	11.5	-	0.7	2	10.4	19.5	28.4	34.4	44
NO2(ppb) Average	686	10.6	7.8	-	0	1.2	4.4	9.1	15.4	22.9	33.6
NO(ppb) Average	686	5.18	13.7	-	0	0	0	0.2	2.5	12.8	105.4
NOX(ppb) Average	686	15.78	19.4	-	0	1.2	4.8	9.9	17.4	34.9	139
PM2.5(ug/m3) Average	743	4.07	3.2	-	0.2	0.8	2.1	3.4	5.3	7.7	21.4
Temperature 2 m (C) Average	744	-13.26	11.8	-	-39.3	-31.1	-22.1	-12.4	-3.1	1.6	8
Relative Humidity (%) Average	744	75.95	9.8	-	37.4	63.5	72.2	76.4	82.1	87.3	95.1
Wind Speed 10 m (km/h) Average	718	7.9	5	-	0	2	4	7	11	15	34
Wind Direction 10 m (deg) Average	718	-	-	-	-	-	-	-	-	-	-

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - FORT MCKAY SOUTH (AMS13)
JANUARY 2025

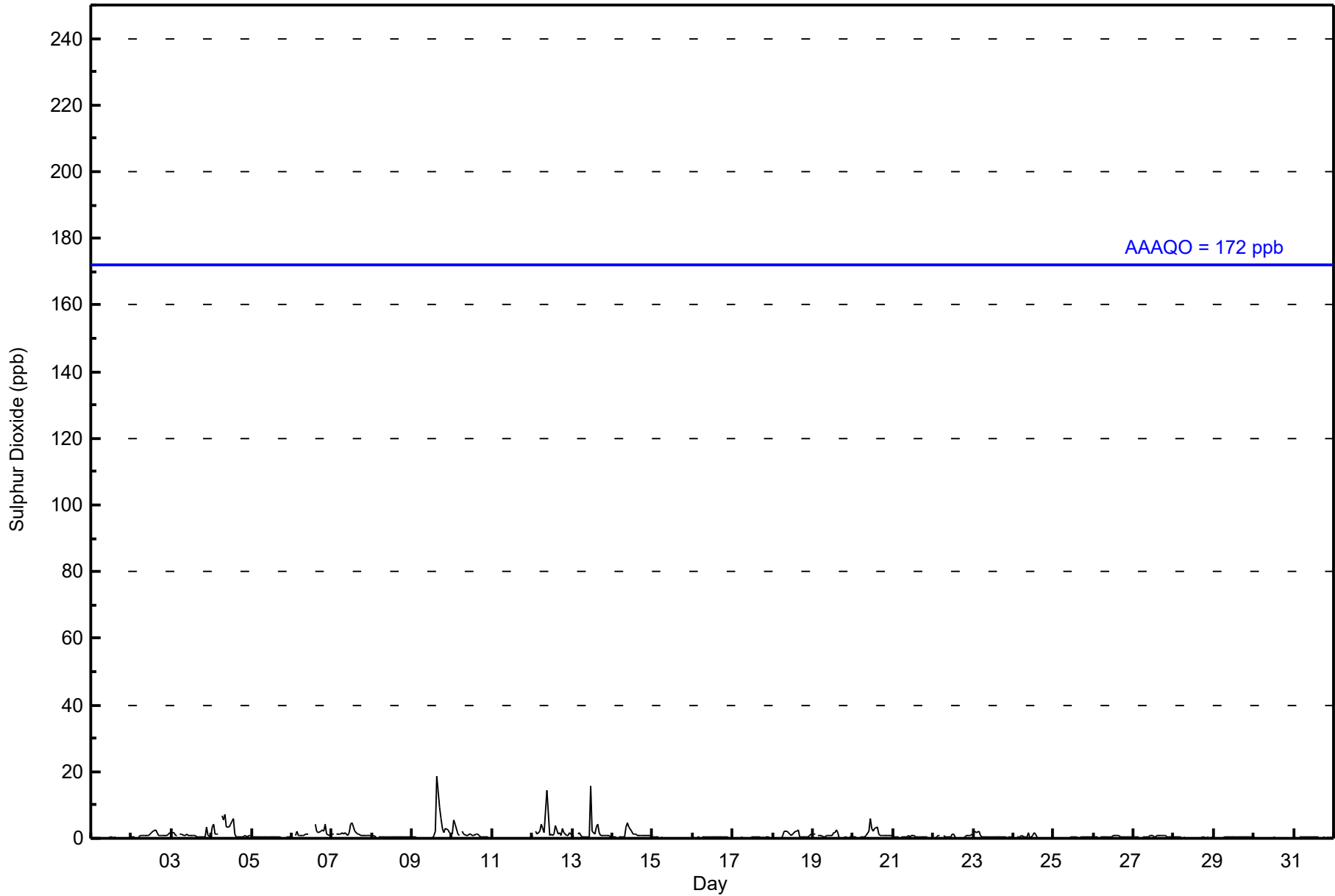
OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
NO2	15 Jan 2025 11:00	16 Jan 2025 11:00	25	Maintenance - station operator activities
WS	01 Jan 2025 01:00	01 Jan 2025 01:00	1	Unstable Operation - flatline in analyzer output signal
WS	01 Jan 2025 07:00	01 Jan 2025 07:00	1	Unstable Operation - flatline in analyzer output signal
WS	01 Jan 2025 17:00	01 Jan 2025 17:00	1	Unstable Operation - flatline in analyzer output signal
WS	01 Jan 2025 23:00	01 Jan 2025 23:00	1	Unstable Operation - flatline in analyzer output signal
WS	02 Jan 2025 01:00	02 Jan 2025 02:00	2	Unstable Operation - flatline in analyzer output signal
WS	02 Jan 2025 05:00	02 Jan 2025 06:00	2	Unstable Operation - flatline in analyzer output signal
WS	02 Jan 2025 08:00	02 Jan 2025 09:00	2	Unstable Operation - flatline in analyzer output signal
WS	02 Jan 2025 16:00	02 Jan 2025 16:00	1	Unstable Operation - flatline in analyzer output signal
WS	03 Jan 2025 02:00	03 Jan 2025 02:00	1	Unstable Operation - flatline in analyzer output signal
WS	03 Jan 2025 06:00	03 Jan 2025 07:00	2	Unstable Operation - flatline in analyzer output signal
WS	03 Jan 2025 12:00	03 Jan 2025 12:00	1	Unstable Operation - flatline in analyzer output signal
WS	03 Jan 2025 16:00	03 Jan 2025 16:00	1	Unstable Operation - flatline in analyzer output signal
WS	03 Jan 2025 18:00	03 Jan 2025 20:00	3	Unstable Operation - flatline in analyzer output signal
WS	09 Jan 2025 23:00	09 Jan 2025 23:00	1	Unstable Operation - flatline in analyzer output signal
WS	11 Jan 2025 17:00	11 Jan 2025 17:00	1	Unstable Operation - flatline in analyzer output signal
WS	19 Jan 2025 03:00	19 Jan 2025 03:00	1	Unstable Operation - flatline in analyzer output signal
WS	19 Jan 2025 07:00	19 Jan 2025 09:00	3	Unstable Operation - flatline in analyzer output signal
WS	19 Jan 2025 11:00	19 Jan 2025 11:00	1	Unstable Operation - flatline in analyzer output signal



Wood Buffalo Environmental Association
Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Fort McKay South - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Fort McKay South - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	707	99.58	99.58
11 - 20	3	0.42	100.00
21 - 60	0	0.00	100.00
61 - 110	0	0.00	100.00
111 - 172	0	0.00	100.00
> 172	0	0.00	100.00

Total Number of Valid Hours: 710

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Fort McKay South - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 10	86	80	10	4	2	2	10	55	140	38	40	60	57	39	37	22	682
11 - 20	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	3
21 - 60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61 - 110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111 - 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	86	80	10	4	2	2	10	57	141	38	40	60	57	39	37	22	685

Total Number of Valid Hours: 685

Total Number of Hours: 744

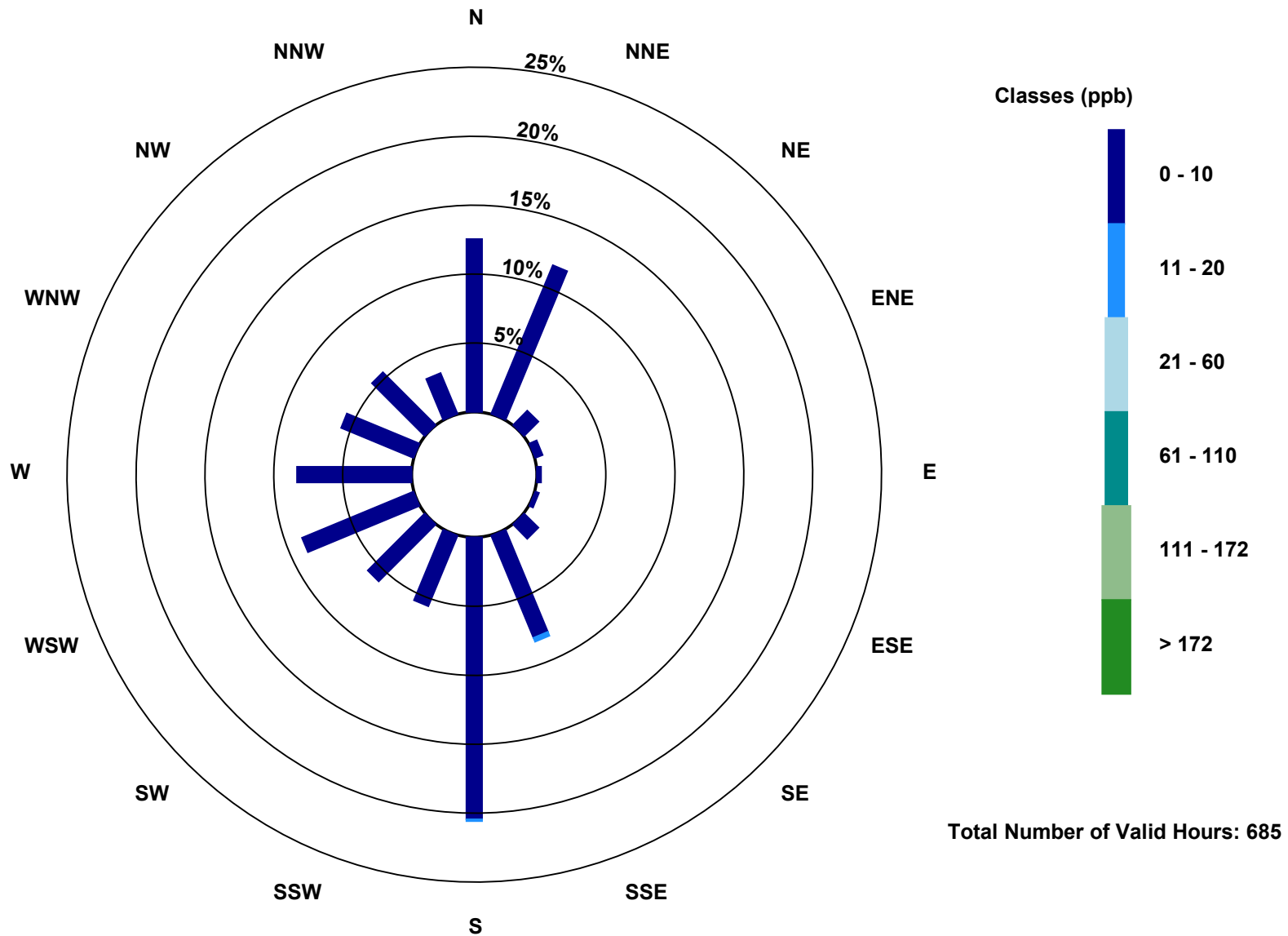


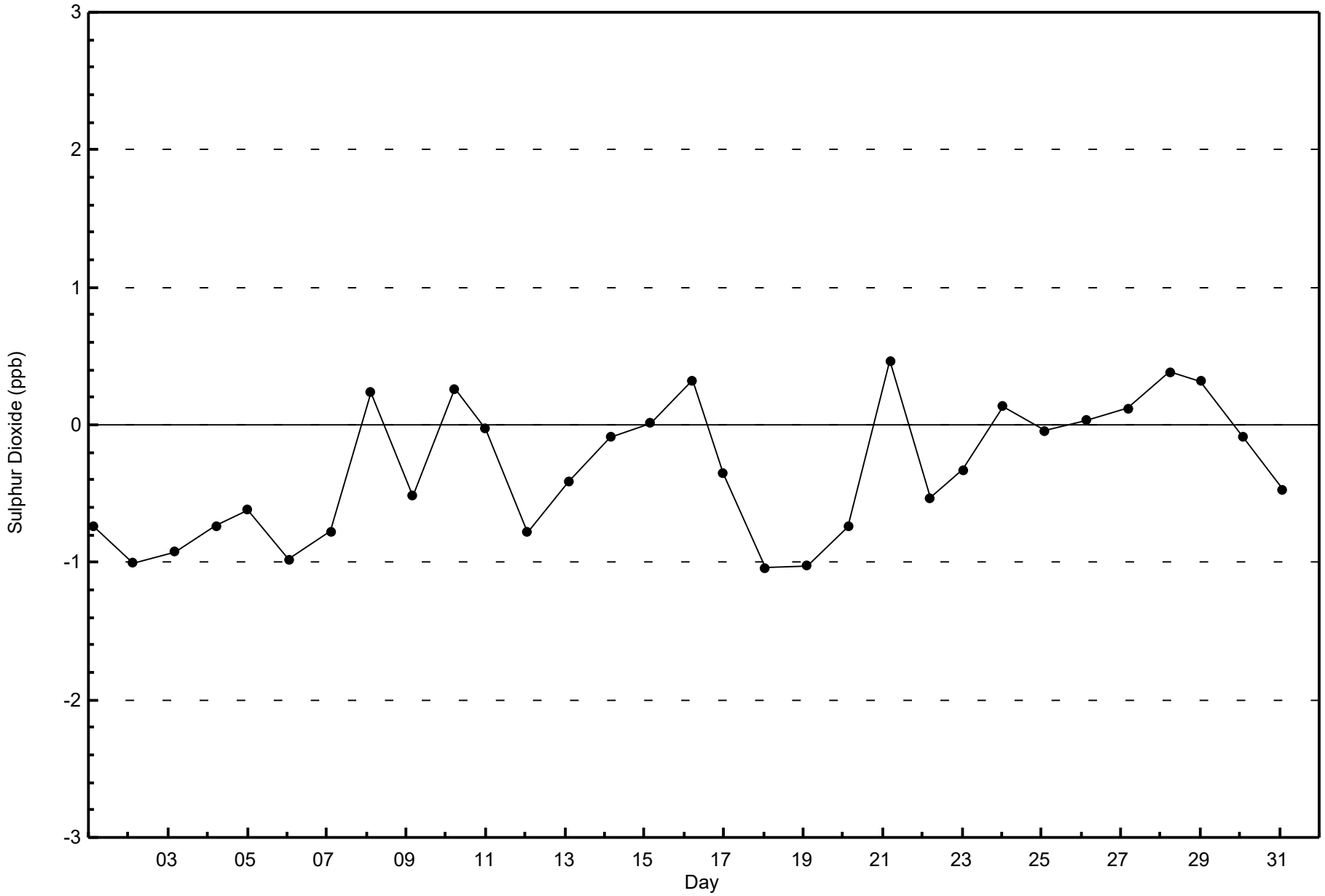
Wood Buffalo Environmental Association

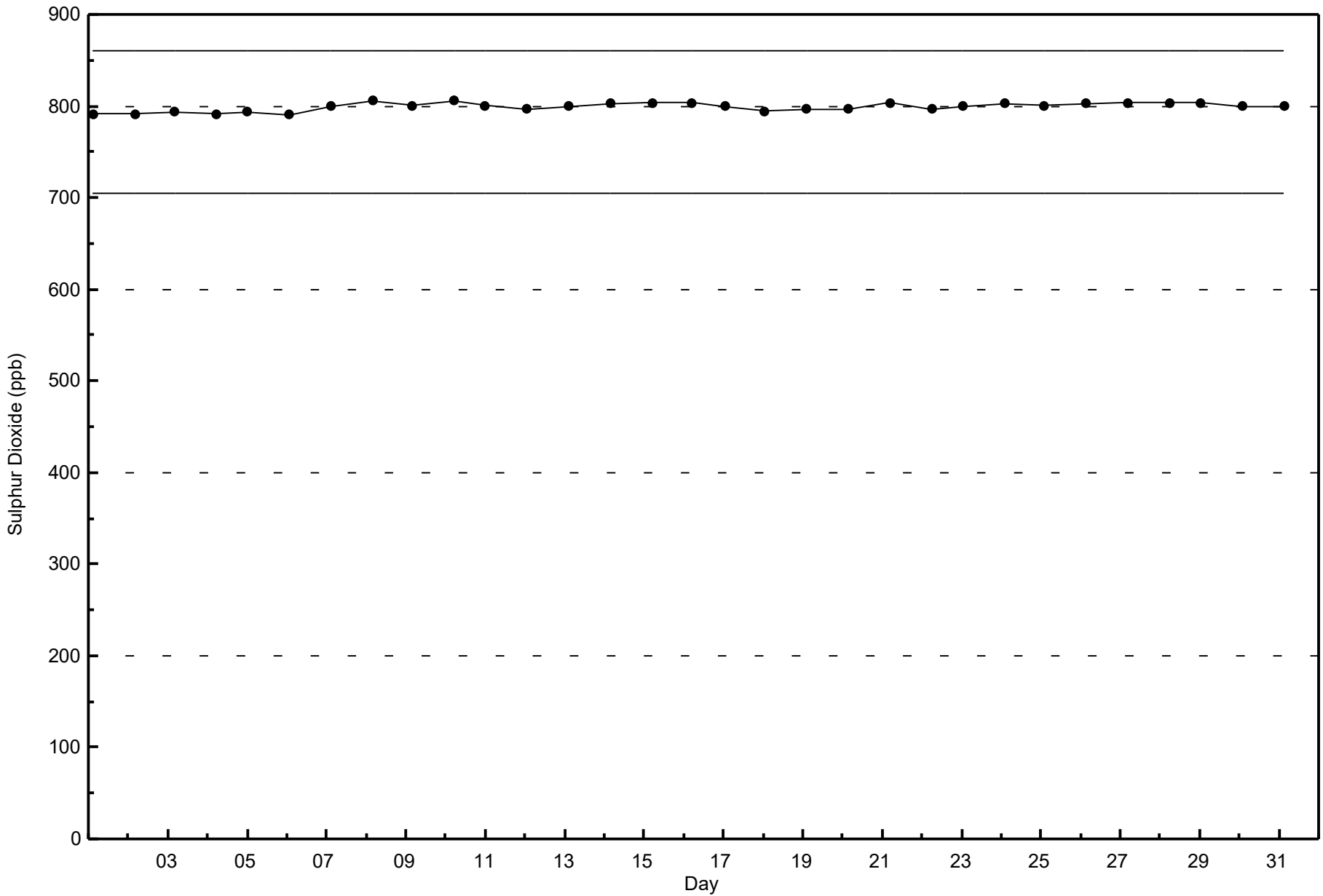
Wind Rose Jan 2025

Sulphur Dioxide (SO₂) - ppb

Fort McKay South









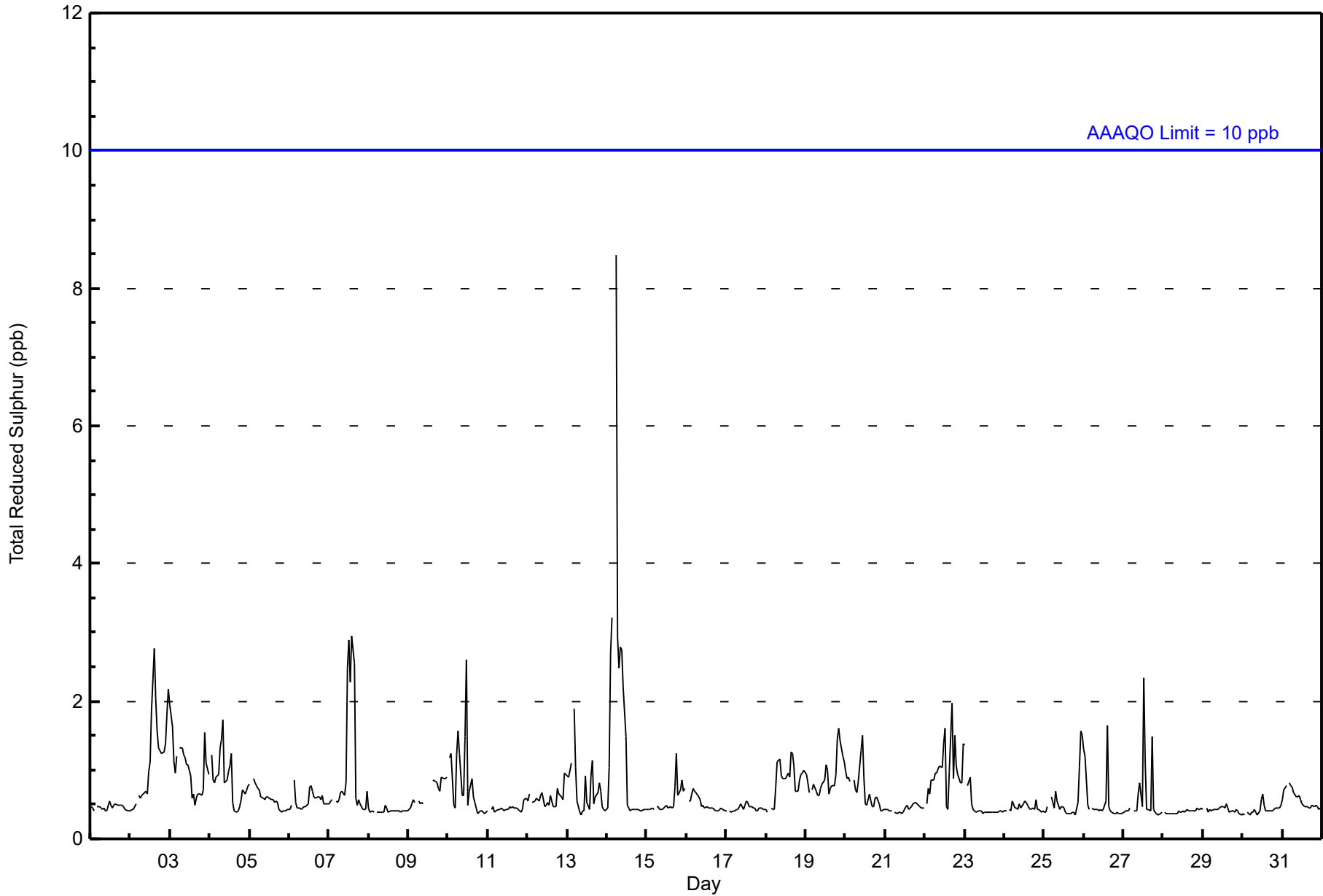
Wood Buffalo Environmental Association

Summary of Hour Averages

Total Reduced Sulphur (TRS) - ppb

Fort McKay South - January 2025

Number of Exceedences (AAAQO):		1-hr: 0	24-hr: 0	Hours in Service: 744																	Daily Average		Daily Maximum																										
Maximum Value: 8.5 ppb on Jan 14 06:00		Maximum Daily Average: 1.5 ppb on Jan 14		Hours of Data: 708																	0.5		0.6																										
Minimum Value: 0.3 ppb on Jan 25 20:00		Minimum Daily Average: 0.4 ppb on Jan 28		Hours of Missing Data: 36																	1.1		2.8																										
Maximum Diurnal Average: 0.9 ppb at hour 6		Minimum Diurnal Average: 0.6 ppb at hour 20		Hours of Calibration: 36																	1.0		1.9																										
Monthly Average: 0.67 ppb		Percentiles: P ₁ = 0.4 P ₁₀ = 0.4 Q ₁ = 0.4 Median = 0.5 Q ₃ = 0.7 P ₉₀ = 1.1 P ₉₉ = 2.7		Percent Operational Time: 100.0																	0.9		1.7																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	0.5	0.5	0.4	Z	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.6	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.5	0.6																							
2-Jan	0.4	0.4	0.4	0.5	Z	0.6	0.6	0.6	0.6	0.7	0.6	1.0	1.1	1.9	2.8	2.0	1.6	1.3	1.3	1.2	1.3	1.4	1.8	2.2	1.1	2.8																							
3-Jan	1.9	1.6	1.1	1.0	1.2	Z	1.3	1.3	1.2	1.2	1.1	1.1	0.9	0.6	0.6	0.5	0.6	0.6	0.7	0.6	0.7	1.6	1.1	0.9	1.0	1.9																							
4-Jan	Z	1.2	0.9	0.8	0.9	0.9	1.3	1.4	1.7	0.8	0.9	1.0	1.0	1.2	0.5	0.4	0.4	0.5	0.6	0.7	0.7	0.7	0.8	0.8	0.9	1.7																							
5-Jan	0.8	Z	0.9	0.8	0.8	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.6	0.9																							
6-Jan	0.4	0.5	Z	0.8	0.5	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.8	0.8	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.6	0.8																							
7-Jan	0.5	0.6	0.6	Z	0.6	0.5	0.6	0.7	0.7	0.6	0.8	2.5	2.9	2.3	2.9	2.5	0.6	0.5	0.6	0.5	0.4	0.4	0.4	0.7	1.0	2.9																							
8-Jan	0.4	0.4	0.4	0.4	Z	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5																							
9-Jan	0.4	0.4	0.5	0.6	0.5	Z	0.6	0.5	0.5	0.5	C	C	C	C	C	0.9	0.8	0.8	0.7	0.7	0.9	0.9	0.9	0.9	0.7	0.9																							
10-Jan	Z	1.2	1.2	0.5	0.4	1.2	1.6	1.2	0.6	0.6	1.5	2.6	0.5	0.7	0.9	0.6	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.8	2.6																							
11-Jan	0.4	Z	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.6	0.6	0.4	0.6																							
12-Jan	0.6	0.7	Z	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.7	0.6	0.6	0.6	0.9	0.9	0.6	0.9																						
13-Jan	0.9	0.9	1.1	Z	1.9	1.0	0.6	0.4	0.4	0.4	0.4	0.9	0.5	0.4	0.9	1.1	0.5	0.6	0.7	0.8	0.7	0.5	0.4	0.4	0.7	1.9																							
14-Jan	0.4	1.0	2.7	3.2	Z	8.5	2.9	2.5	2.8	2.7	2.2	1.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	1.5	8.5																							
15-Jan	0.4	0.4	0.4	0.4	0.4	Z	0.5	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.8	1.2	0.6	0.7	0.9	0.7	0.7	0.6	1.2																							
16-Jan	Z	0.5	0.5	0.6	0.7	0.7	0.7	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.7																							
17-Jan	0.4	Z	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.4	0.5	0.6	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.6																							
18-Jan	0.4	0.4	Z	0.4	0.4	0.4	0.7	1.1	1.2	0.9	0.9	0.9	0.9	1.0	0.9	1.3	1.2	1.1	0.7	0.7	0.9	0.9	1.0	1.0	0.8	1.3																							
19-Jan	0.9	0.8	0.7	Z	0.7	0.8	0.7	0.6	0.6	0.7	0.8	0.8	1.1	1.0	0.6	0.7	0.8	0.8	0.9	1.4	1.6	1.4	1.2	1.1	0.9	1.6																							
20-Jan	1.0	0.9	0.9	0.8	Z	0.8	0.7	0.7	0.8	1.3	1.5	0.9	0.5	0.5	0.7	0.5	0.5	0.5	0.6	0.6	0.5	0.4	0.4	0.4	0.7	1.5																							
21-Jan	0.4	0.4	0.4	0.4	0.4	Z	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.5																							
22-Jan	Z	0.5	0.7	0.7	0.9	0.9	1.0	1.0	1.0	1.1	1.0	1.4	1.6	0.5	0.4	1.0	2.0	0.9	1.5	1.0	0.9	0.8	0.8	1.4	1.0	2.0																							
23-Jan	1.4	Z	0.8	0.9	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	1.4																							
24-Jan	0.4	0.4	Z	0.4	0.4	0.5	0.4	0.5	0.4	0.5	0.4	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.6	0.4	0.4	0.4	0.4	0.5	0.6																							
25-Jan	0.4	0.4	0.5	Z	0.6	0.5	0.5	0.7	0.5	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.5	1.0	1.6	1.5	0.6	1.6																							
26-Jan	1.3	1.2	0.5	0.4	Z	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.6	1.6	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	1.6																							
27-Jan	0.4	0.4	0.4	0.4	0.4	Z	0.4	0.4	0.4	0.7	0.8	0.5	2.3	1.1	0.4	0.4	0.4	1.5	0.4	0.4	0.4	0.4	0.4	0.4	0.6	2.3																							
28-Jan	Z	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4																							
29-Jan	0.4	Z	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5																							
30-Jan	0.4	0.4	Z	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.6	0.7	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.7																							
31-Jan	0.6	0.7	0.8	Z	0.8	0.8	0.8	0.7	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.4	0.5	0.6	0.8																							
																								0.6	0.7	0.7	0.7	0.6	0.9	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.7	Diurnal Average		
																								1.9	1.6	2.7	3.2	1.9	8.5	2.9	2.5	2.8	2.7	2.2	2.6	2.9	2.3	2.9	2.5	2.0	1.5	1.5	1.4	1.6	1.6	1.8	2.2	Diurnal Maximum	
Z - zerospan C - Calibration																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																																																	





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Reduced Sulphur (TRS) - ppb
Fort McKay South - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	697	98.45	98.45
3 - 4	10	1.41	99.86
5 - 7	0	0.00	99.86
8 - 11	1	0.14	100.00
> 11	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Total Reduced Sulphur (TRS) - ppb
Fort McKay South - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2	88	82	10	3	2	2	10	50	134	38	39	61	58	40	35	21	673
3 - 4	0	0	0	0	0	0	0	3	6	0	0	0	0	0	1	0	10
5 - 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 - 11	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
> 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	88	82	10	3	2	2	10	53	141	38	39	61	58	40	36	21	684

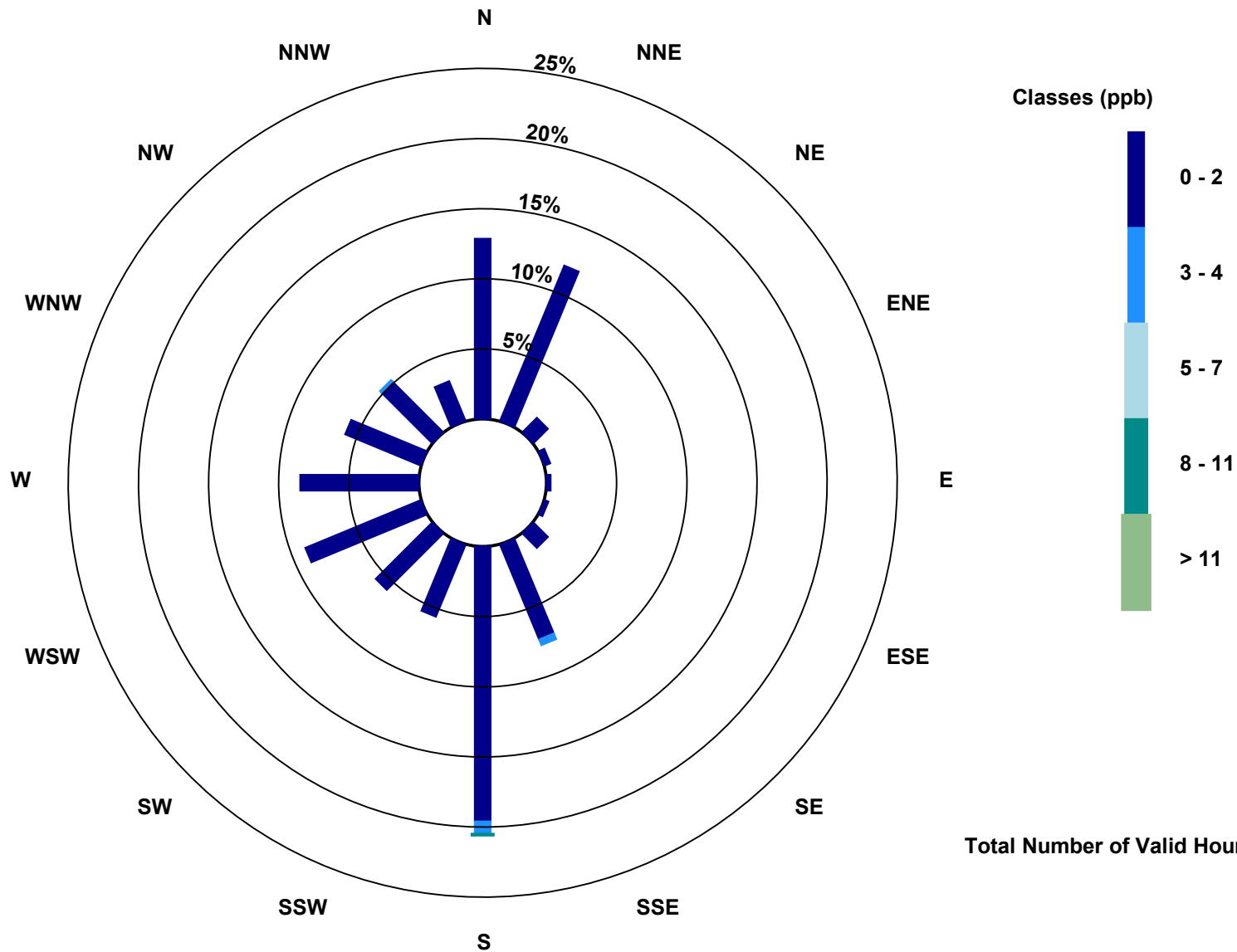
Total Number of Valid Hours: 684

Total Number of Hours: 744

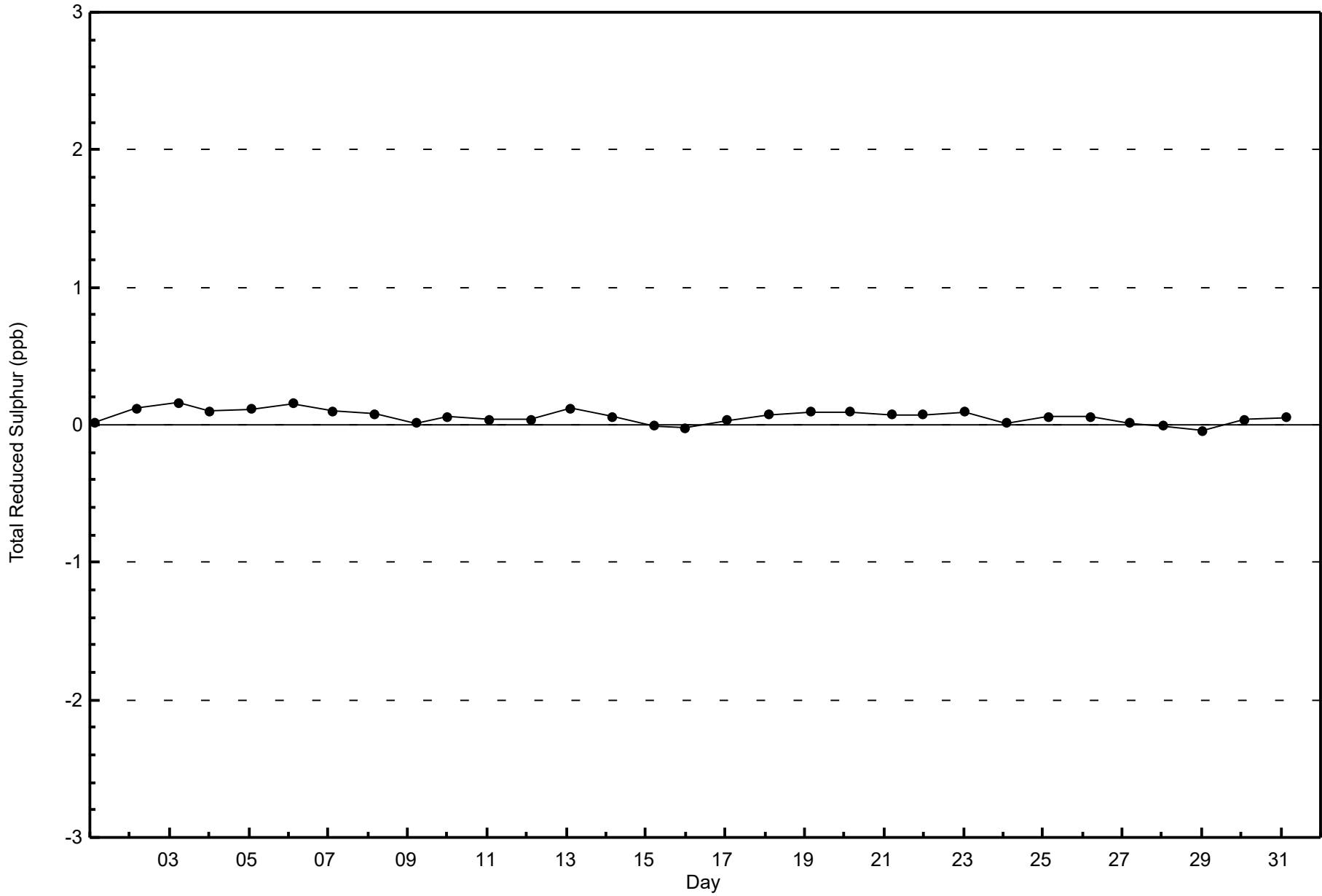


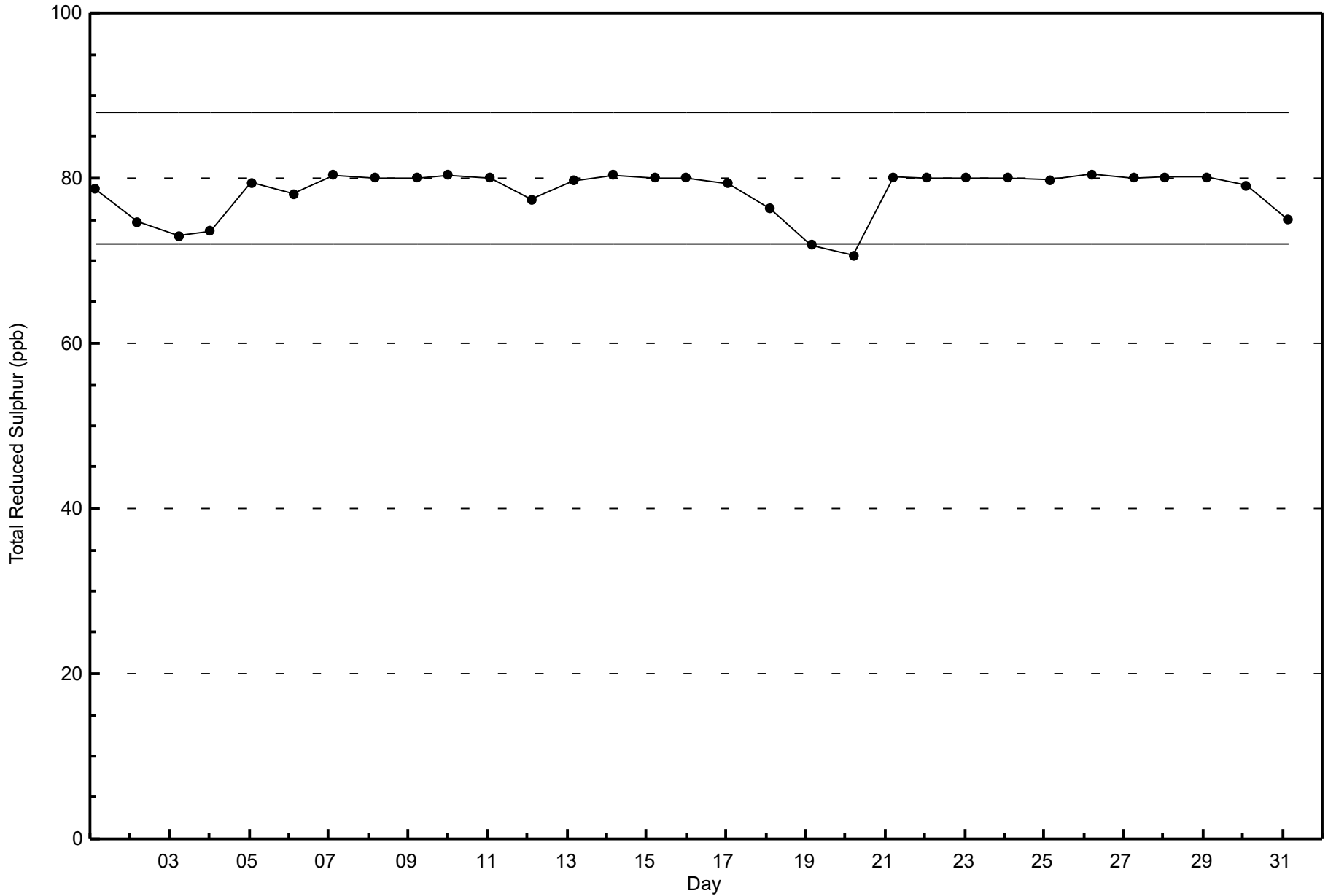
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Total Reduced Sulphur (TRS) - ppb
Fort McKay South



Total Number of Valid Hours: 684







Wood Buffalo Environmental Association
Summary of Hour Averages

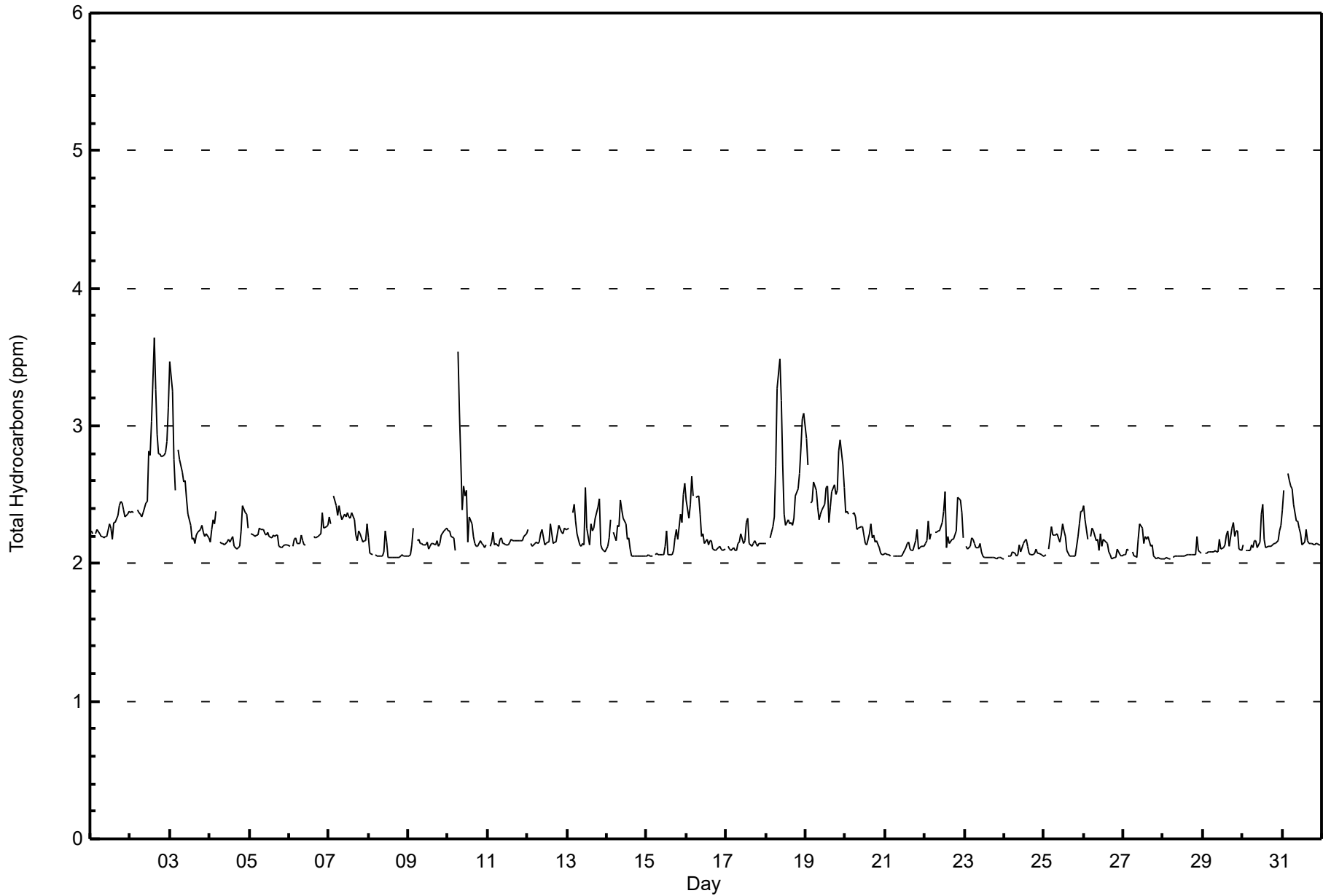
Total Hydrocarbons (THC) - ppm
Fort McKay South - January 2025

Maximum Value: 3.6 ppm on Jan 2 15:00		Maximum Daily Average: 2.7 ppm on Jan 2		Hours in Service: 744																						
Minimum Value: 2.0 ppm on Jan 28 01:00		Minimum Daily Average: 2.1 ppm on Jan 28		Hours of Data: 709																						
Maximum Diurnal Average: 2.3 ppm at hour 7		Minimum Diurnal Average: 2.2 ppm at hour 17		Hours of Missing Data: 35																						
Monthly Average: 2.23 ppm		Percentiles: P ₁ = 2.0 P ₁₀ = 2.1 Q ₁ = 2.1 Median = 2.2 Q ₃ = 2.3 P ₉₀ = 2.5 P ₉₉ = 3.2		Hours of Calibration: 35																						
				Percent Operational Time: 100.0																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	2.2	2.2	Z	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.2	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.3	2.4	2.4	2.3	2.4
2-Jan	2.4	2.4	2.4	Z	2.4	2.4	2.4	2.3	2.4	2.4	2.4	2.8	2.8	3.0	3.6	3.3	2.9	2.8	2.8	2.8	2.8	2.8	2.9	3.1	2.7	3.6
3-Jan	3.5	3.3	2.8	2.5	Z	2.8	2.8	2.7	2.6	2.6	2.5	2.4	2.3	2.2	2.2	2.1	2.2	2.2	2.2	2.3	2.2	2.2	2.2	2.2	2.5	3.5
4-Jan	2.2	2.2	2.3	2.3	2.4	Z	2.2	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.2	2.4	2.4	2.4	2.3	2.2	2.4
5-Jan	Z	2.2	2.2	2.2	2.2	2.2	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.3
6-Jan	2.1	Z	2.1	2.2	2.2	2.1	2.2	2.2	2.2	2.1	2.1	C	C	C	C	2.2	2.2	2.2	2.2	2.2	2.4	2.3	2.3	2.3	2.2	2.4
7-Jan	2.3	2.3	Z	2.5	2.4	2.4	2.4	2.4	2.3	2.4	2.3	2.4	2.3	2.3	2.4	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.5
8-Jan	2.2	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.2
9-Jan	2.1	2.1	2.1	2.3	Z	2.2	2.2	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.2	2.2	2.2	2.3	2.2	2.3
10-Jan	2.2	2.2	2.2	2.2	2.1	Z	3.5	3.1	2.4	2.6	2.5	2.5	2.2	2.3	2.3	2.2	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.3	3.5
11-Jan	Z	2.1	2.2	2.2	2.1	2.1	2.1	2.2	2.2	2.2	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
12-Jan	2.2	Z	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.3	2.1	2.1	2.2	2.2	2.3	2.1	2.2	2.2	2.2	2.3	2.2	2.2	2.3	2.3	2.2
13-Jan	2.2	2.3	Z	2.4	2.4	2.3	2.2	2.1	2.1	2.1	2.1	2.5	2.3	2.1	2.3	2.2	2.3	2.3	2.4	2.5	2.1	2.1	2.1	2.1	2.2	2.5
14-Jan	2.1	2.2	2.3	Z	2.2	2.2	2.3	2.3	2.5	2.4	2.3	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.5
15-Jan	2.1	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.4	2.3	2.5	2.6	2.2
16-Jan	2.5	2.3	2.4	2.6	2.5	Z	2.5	2.5	2.4	2.2	2.2	2.1	2.2	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2
17-Jan	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.1	2.2	2.3	2.3	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2
18-Jan	2.1	Z	2.2	2.2	2.3	2.3	2.7	3.3	3.5	3.2	2.7	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.5	2.5	2.7	2.8	3.1	3.1	
19-Jan	2.9	2.7	Z	2.4	2.4	2.6	2.5	2.4	2.3	2.4	2.4	2.4	2.5	2.6	2.3	2.4	2.5	2.6	2.5	2.5	2.8	2.9	2.7	2.6	2.5	
20-Jan	2.4	2.4	2.4	Z	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.2	2.1	2.1	2.2	2.3	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.2	2.4
21-Jan	2.1	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.2
22-Jan	2.1	2.2	2.3	2.2	2.2	Z	2.2	2.2	2.2	2.2	2.3	2.4	2.5	2.1	2.2	2.1	2.2	2.2	2.2	2.2	2.5	2.5	2.4	2.2	2.3	2.5
23-Jan	Z	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2
24-Jan	2.0	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.2
25-Jan	2.1	2.1	Z	2.1	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.0	2.2	2.3	2.4	2.4	2.2	2.4
26-Jan	2.4	2.3	2.2	Z	2.2	2.3	2.2	2.2	2.2	2.1	2.2	2.1	2.2	2.2	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.4
27-Jan	2.1	2.1	2.1	2.1	Z	2.1	2.0	2.0	2.0	2.2	2.3	2.3	2.1	2.2	2.2	2.2	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.3
28-Jan	2.0	2.0	2.0	2.0	2.0	Z	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.2
29-Jan	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.2	2.2	2.1	2.3	2.3	2.2	2.2	2.2	2.1	2.1	2.1	2.3
30-Jan	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.2	2.4	2.4	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.2	2.4
31-Jan	2.4	2.5	Z	2.7	2.6	2.6	2.5	2.4	2.3	2.3	2.3	2.2	2.1	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.7
																								Diurnal Average		
																								Diurnal Maximum		
Z - zerospan C - Calibration																										



Wood Buffalo Environmental Association
Hourly Averages

Total Hydrocarbons (THC) - ppm
Fort McKay South - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Hydrocarbons (THC) - ppm
Fort McKay South - January 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	39	5.50	5.50
2.1 - 3.0	658	92.81	98.31
3.1 - 10.0	12	1.69	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 709

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Total Hydrocarbons (THC) - ppm
Fort McKay South - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW		
0 - 2.0	0	0	0	0	0	0	0	0	0	0	0	1	3	7	15	13	0	39
2.1 - 3.0	85	80	10	4	2	2	10	55	140	38	37	54	49	24	23	22	0	635
3.1 - 10.0	1	0	0	0	0	0	0	2	0	0	2	3	1	0	1	0	0	10
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	86	80	10	4	2	2	10	57	140	38	40	60	57	39	37	22	0	684

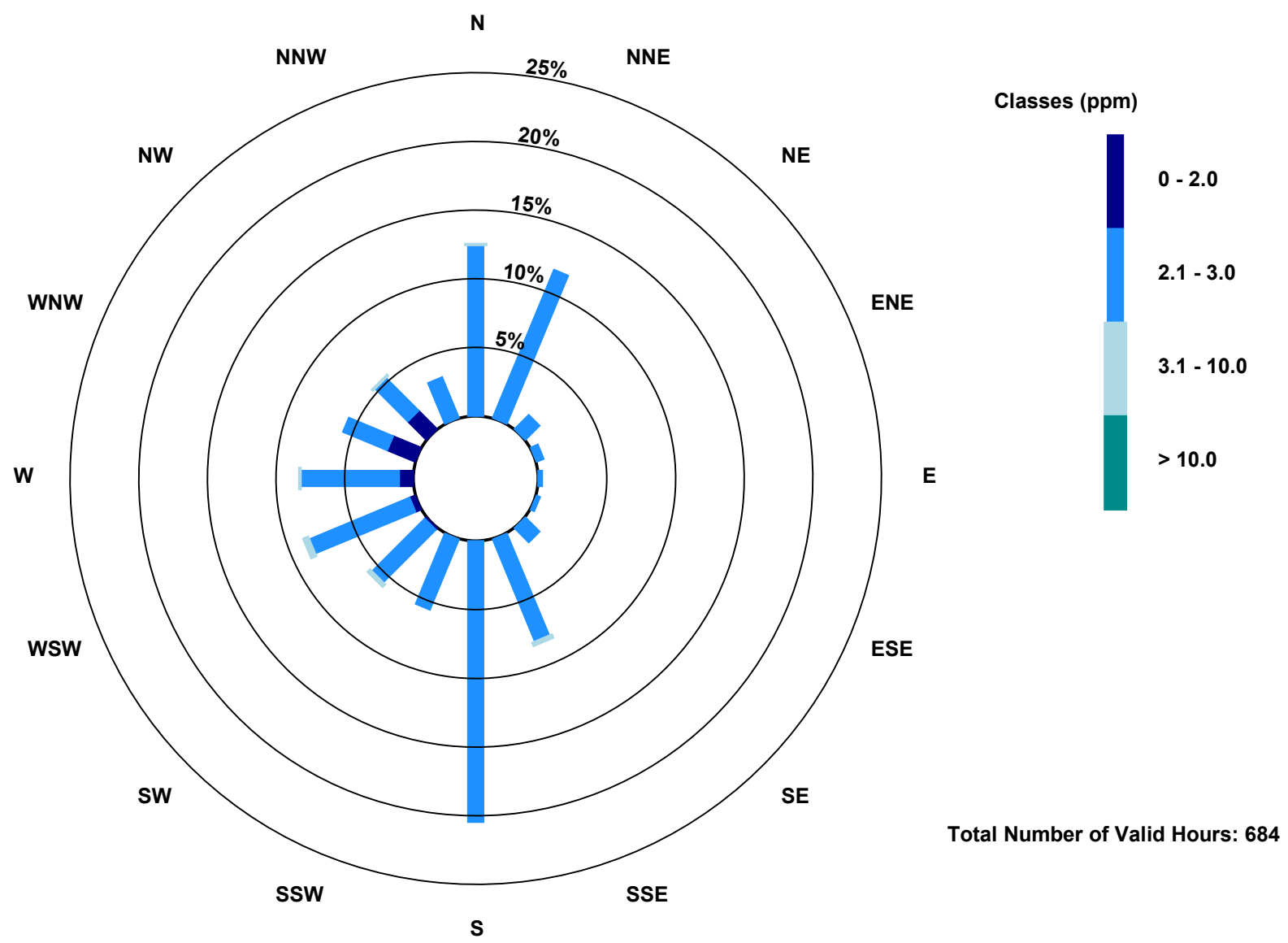
Total Number of Valid Hours: 684

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

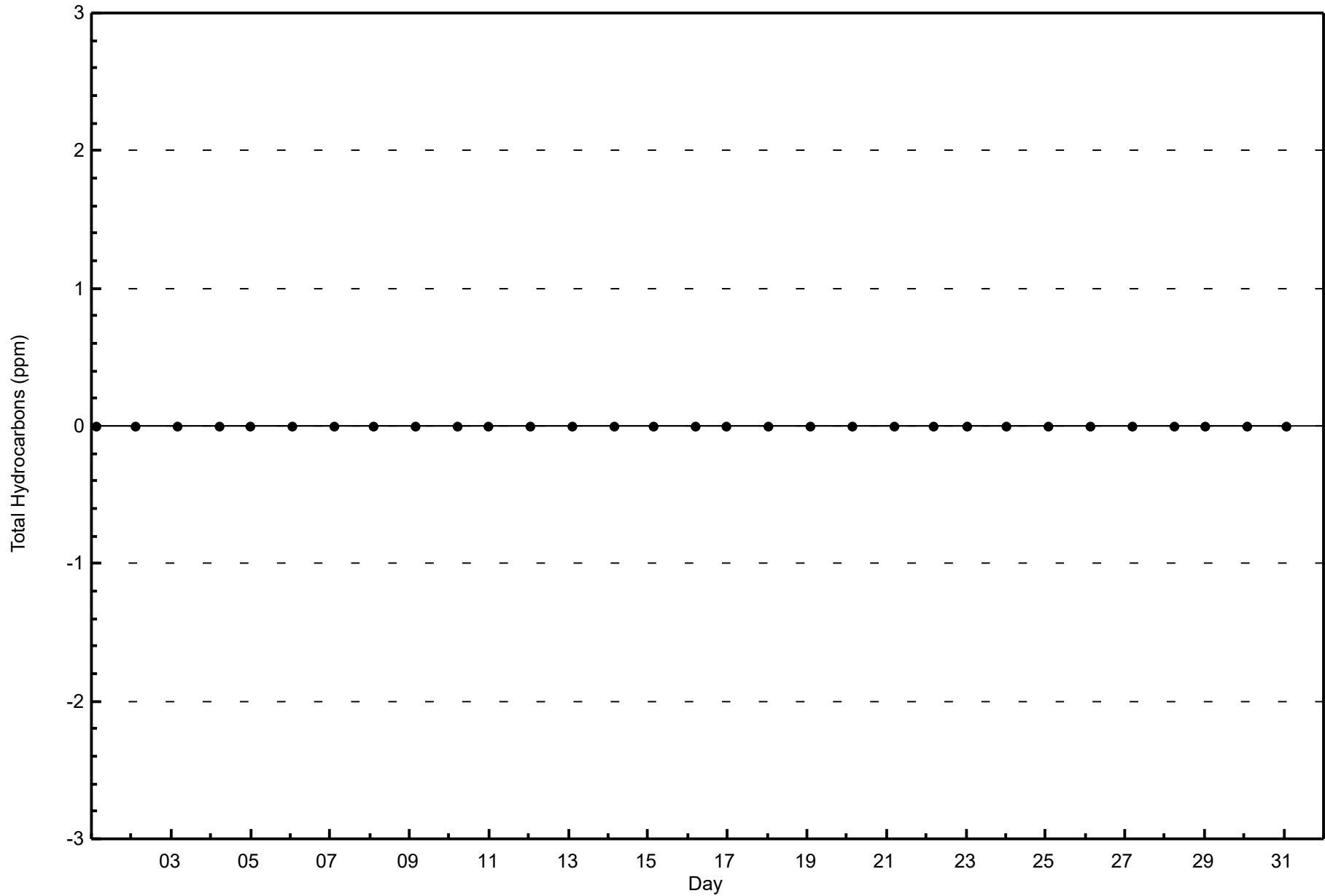
Total Hydrocarbons (THC) - ppm
Fort McKay South

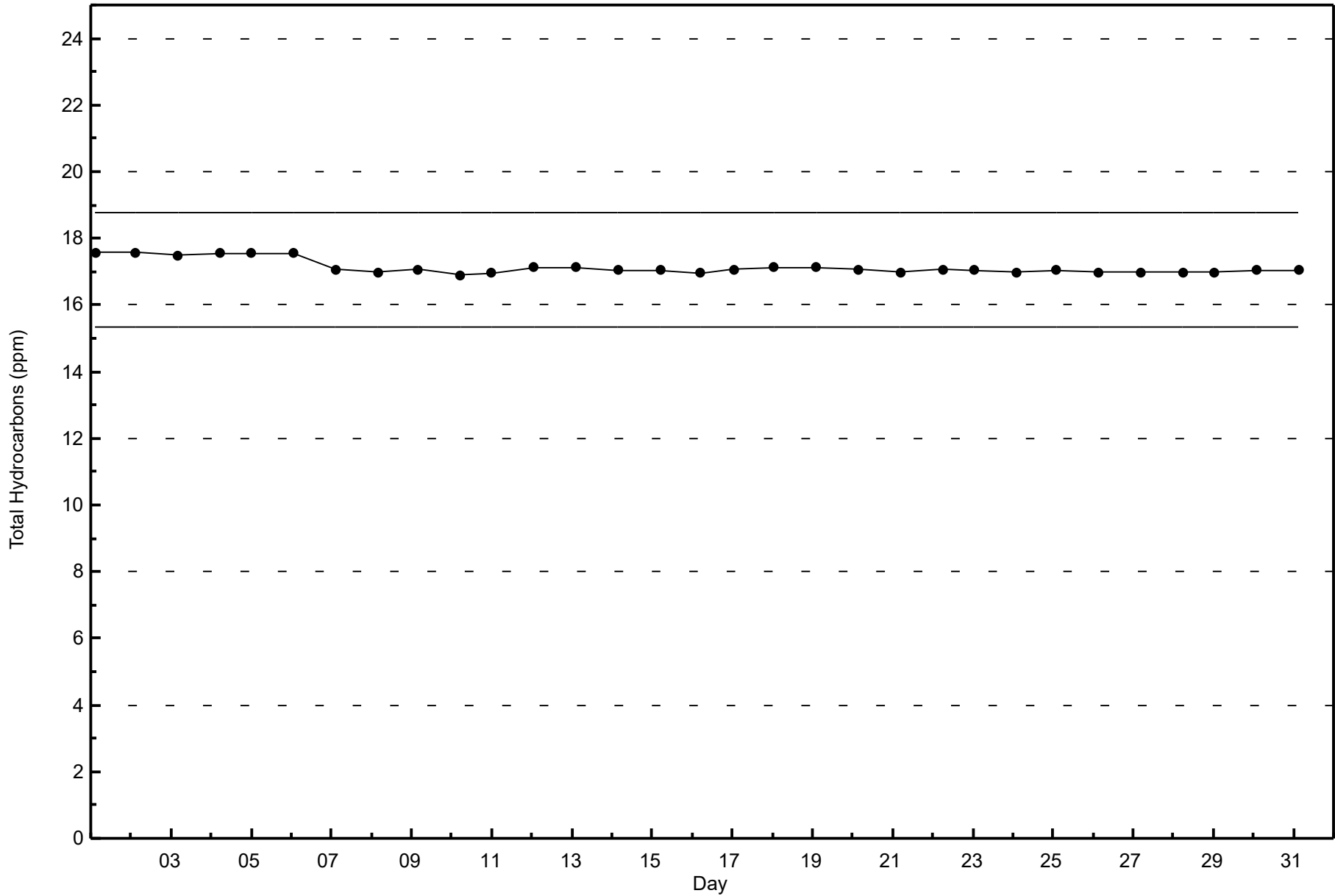




Wood Buffalo Environmental Association
Zero Responses

Total Hydrocarbons (THC) - ppm
Fort McKay South - January 2025







Summary of Hour Averages

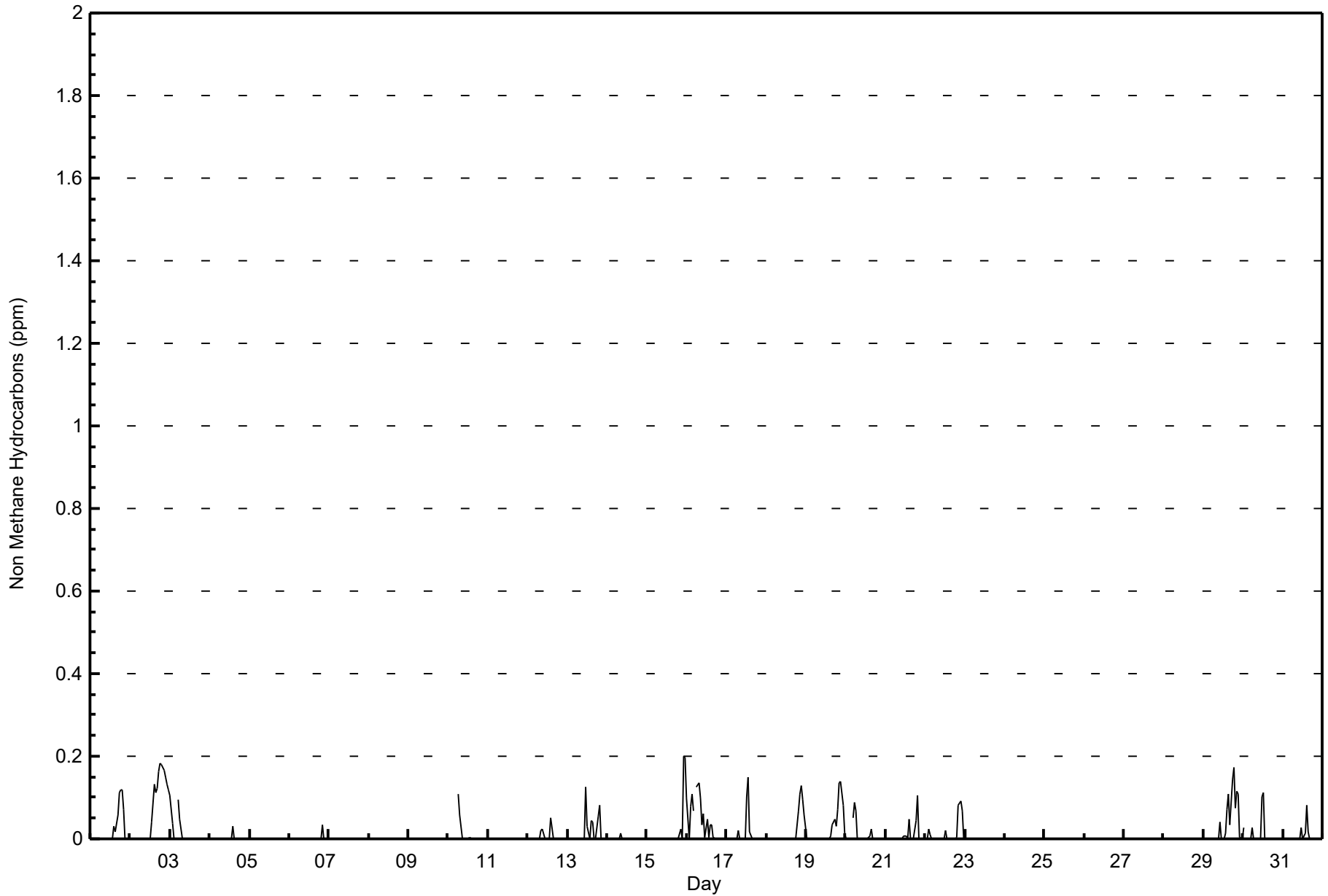
Fort McKay South - January 2025

Maximum Value: 0.200 ppm on Jan 15 23:00		Maximum Daily Average: 0.065 ppm on Jan 2		Hours in Service: 744																							
Minimum Value: 0.000 ppm on Jan 1 01:00		Minimum Daily Average: 0.000 ppm on Jan 5		Hours of Data: 709																							
Maximum Diurnal Average: 0.024 ppm at hour 21		Minimum Diurnal Average: 0.001 ppm at hour 2		Hours of Missing Data: 35																							
Monthly Average: 0.011 ppm		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.0 P ₉₉ = 0.2		Hours of Calibration: 35																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.031	0.018	0.057	0.110	0.119	0.119	0.071	0.000	0.000	0.000	0.023	0.119	
2-Jan	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.042	0.132	0.113	0.124	0.162	0.184	0.180	0.165	0.151	0.134	0.120	0.065	0.184	
3-Jan	0.105	0.037	0.000	0.000	Z	0.096	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.012	0.105	
4-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.030	
5-Jan	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
6-Jan	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	C	C	C	C	0.000	0.000	0.000	0.000	0.000	0.035	0.000	0.000	0.000	0.002	0.035	
7-Jan	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
8-Jan	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
9-Jan	0.000	0.000	0.002	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	
10-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.109	0.059	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.109	
11-Jan	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
12-Jan	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.021	0.025	0.000	0.000	0.000	0.000	0.051	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.051	
13-Jan	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.124	0.031	0.000	0.046	0.042	0.000	0.001	0.053	0.082	0.000	0.000	0.000	0.000	0.000	0.016	0.124	
14-Jan	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.014	
15-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.025	0.000	0.200	0.195	0.018	0.200		
16-Jan	0.098	0.000	0.078	0.107	0.067	Z	0.127	0.134	0.099	0.034	0.061	0.005	0.048	0.004	0.033	0.033	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.040	0.134	
17-Jan	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.021	0.000	0.000	0.000	0.000	0.102	0.150	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.013	0.150	
18-Jan	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.066	0.109	0.130	0.094	0.057	0.020	0.130	
19-Jan	0.001	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.034	0.046	0.030	0.073	0.135	0.139	0.081	0.014	0.024	0.139	
20-Jan	0.000	0.002	0.000	Z	0.050	0.089	0.068	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.089	
21-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.005	0.002	0.047	0.000	0.000	0.000	0.045	0.104	0.000	0.000	0.000	0.000	0.009	0.104	
22-Jan	0.000	0.000	0.025	0.011	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.080	0.090	0.067	0.000	0.013	0.090	
23-Jan	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
24-Jan	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
25-Jan	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
26-Jan	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
27-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
28-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
29-Jan	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.040	0.000	0.000	0.012	0.070	0.108	0.032	0.143	0.174	0.076	0.116	0.110	0.003	0.000	0.038	0.174	
30-Jan	0.025	Z	0.000	0.000	0.000	0.026	0.000	0.000	0.000	0.000	0.000	0.101	0.113	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.012	0.113	
31-Jan	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.026	0.000	0.015	0.080	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.080	
		0.009	0.001	0.004	0.005	0.005	0.008	0.011	0.007	0.004	0.002	0.003	0.009	0.011	0.008	0.018	0.012	0.008	0.015	0.020	0.023	0.024	0.020	0.019	0.012	Diurnal Average	
		0.105	0.037	0.078	0.107	0.067	0.096	0.127	0.134	0.099	0.034	0.061	0.124	0.113	0.150	0.132	0.113	0.124	0.162	0.184	0.180	0.165	0.151	0.200	0.195	Diurnal Maximum	
Z - zerospan		C - Calibration																									



Wood Buffalo Environmental Association
Hourly Averages

Non Methane Hydrocarbons (NMHC) - ppm
Fort McKay South - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Non Methane Hydrocarbons (NMHC) - ppm
Fort McKay South - January 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 0.005	607	85.61	85.61
0.006 - 0.05	44	6.21	91.82
0.06 - 0.1	49	6.91	98.73
> 0.1	9	1.27	100.00

Total Number of Valid Hours: 709

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Non Methane Hydrocarbons (NMHC) - ppm
Fort McKay South - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 0.005	73	53	9	4	2	2	10	46	126	34	36	50	47	39	36	20	587
0.006 - 0.05	6	12	0	0	0	0	0	7	10	3	1	1	1	0	0	1	42
0.06 - 0.1	6	13	1	0	0	0	0	4	4	1	2	7	7	0	1	0	46
> 0.1	1	2	0	0	0	0	0	0	0	0	1	2	2	0	0	1	9
Totals	86	80	10	4	2	2	10	57	140	38	40	60	57	39	37	22	684

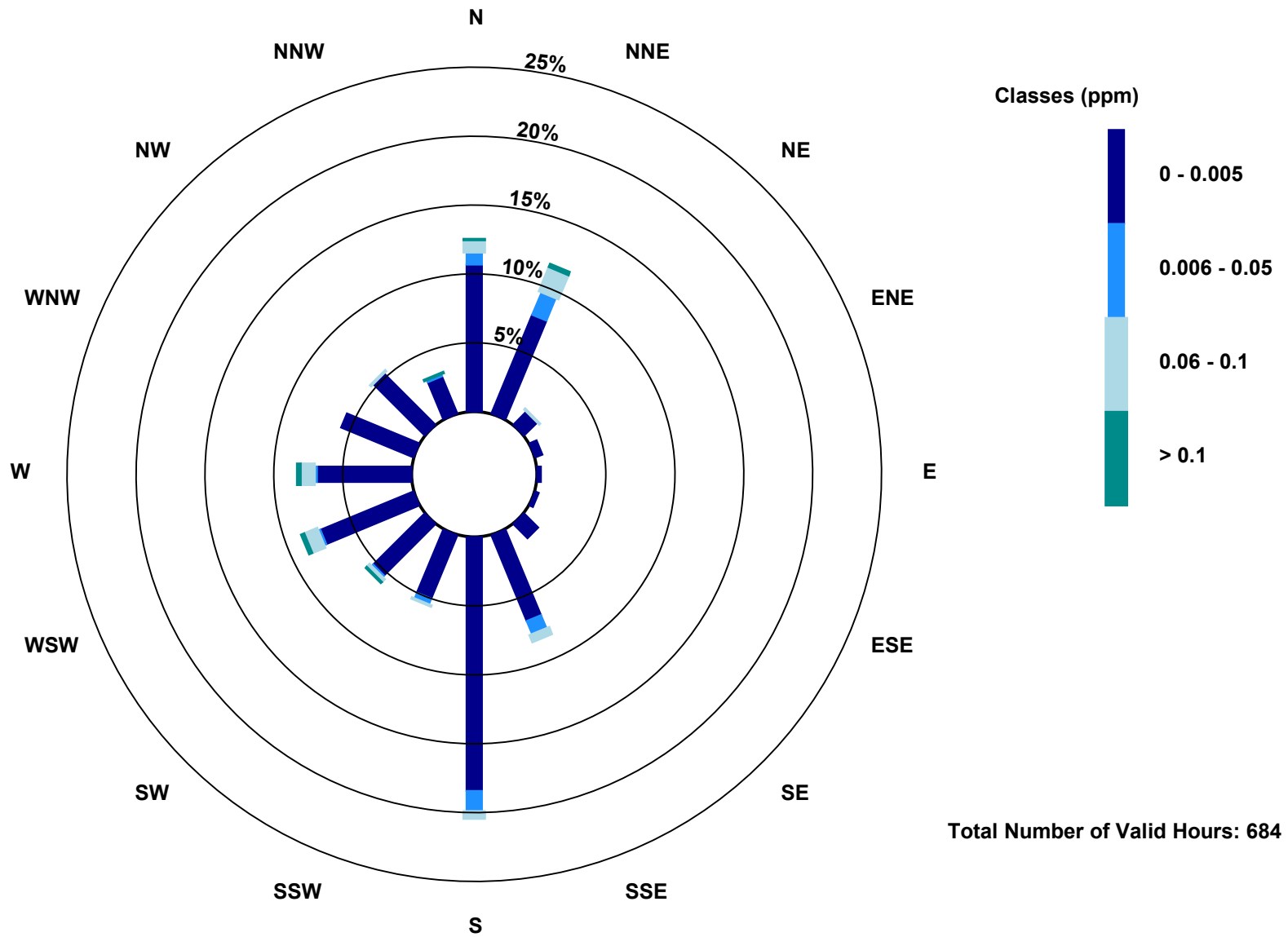
Total Number of Valid Hours: 684

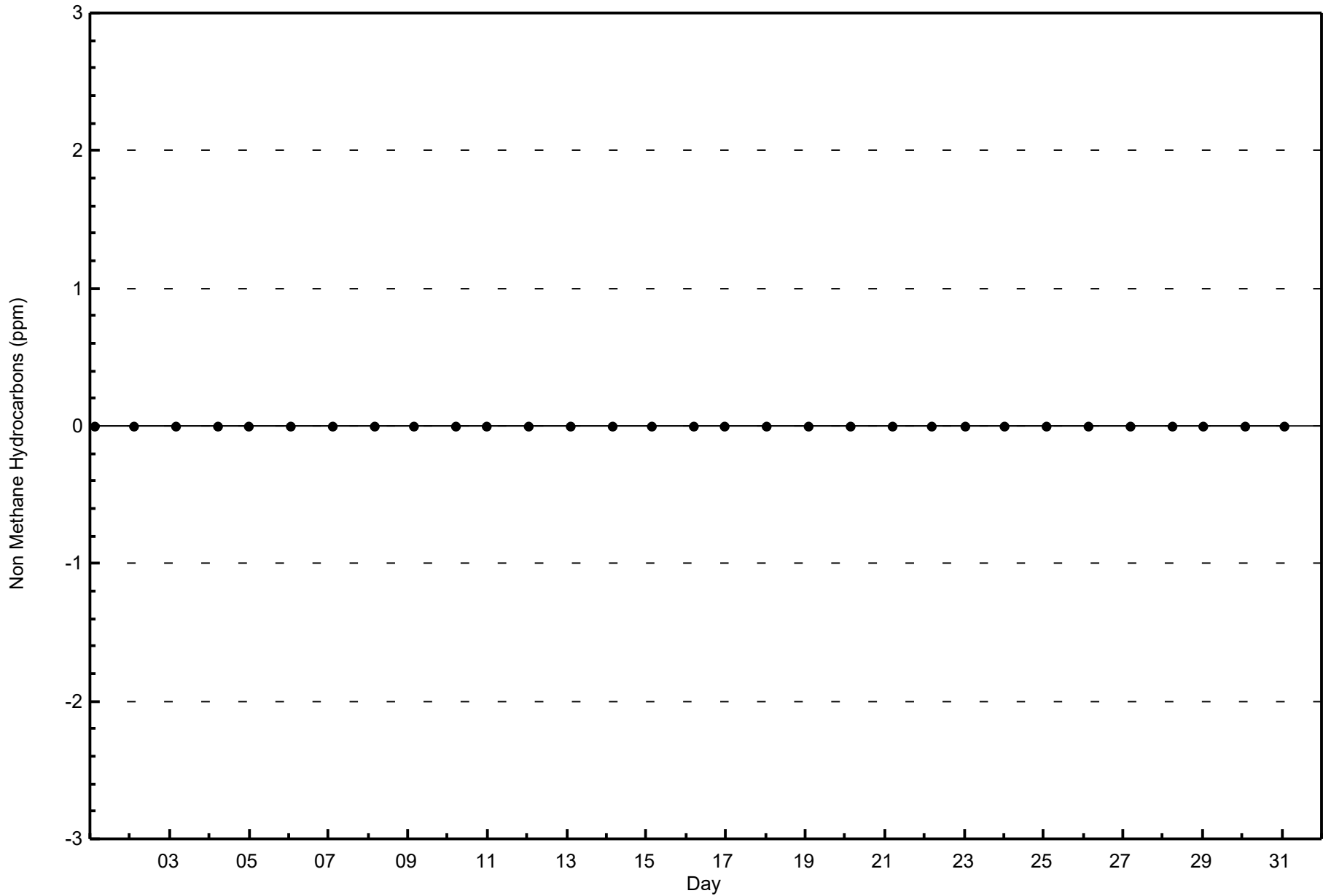
Total Number of Hours: 744

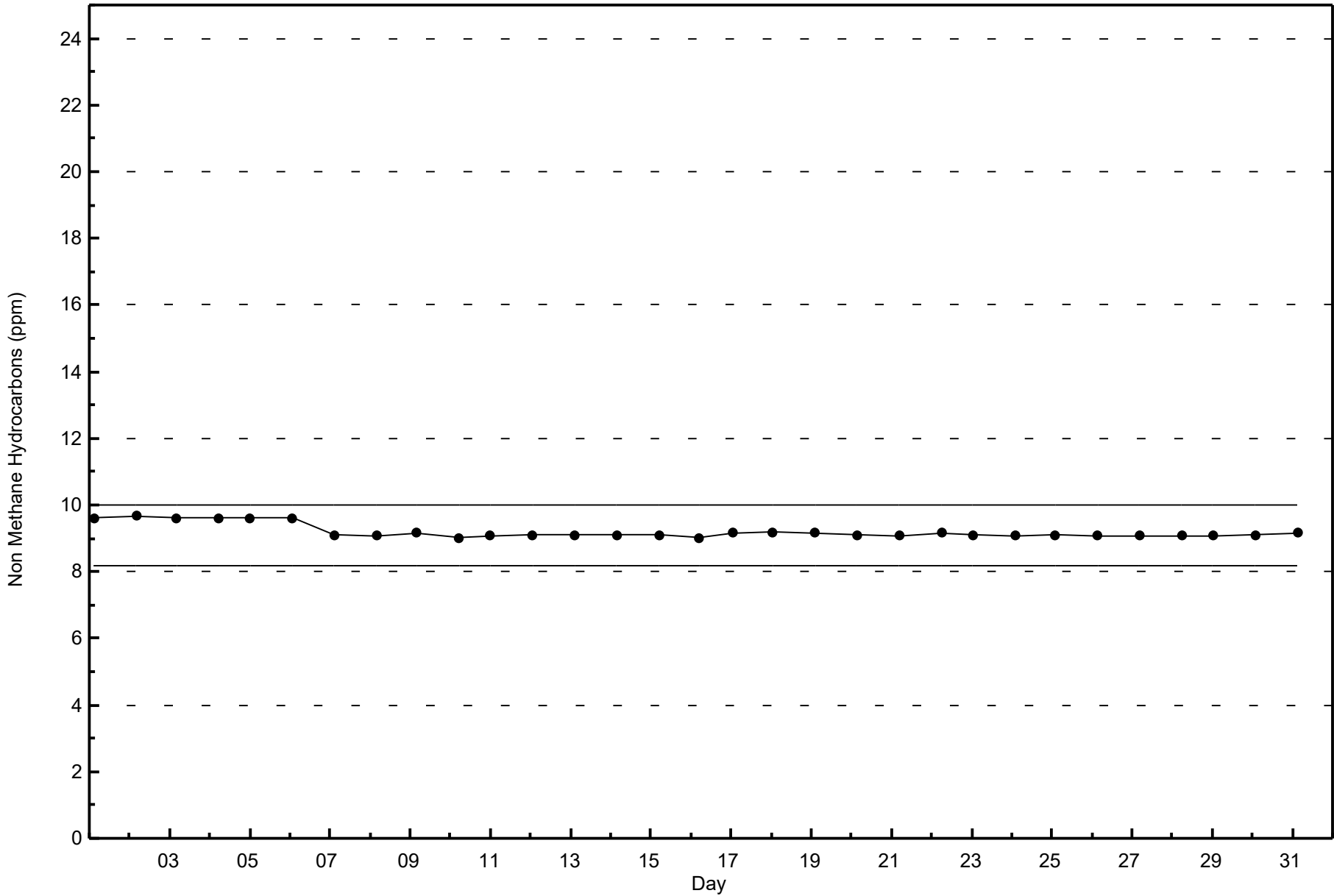


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Non Methane Hydrocarbons (NMHC) - ppm
Fort McKay South

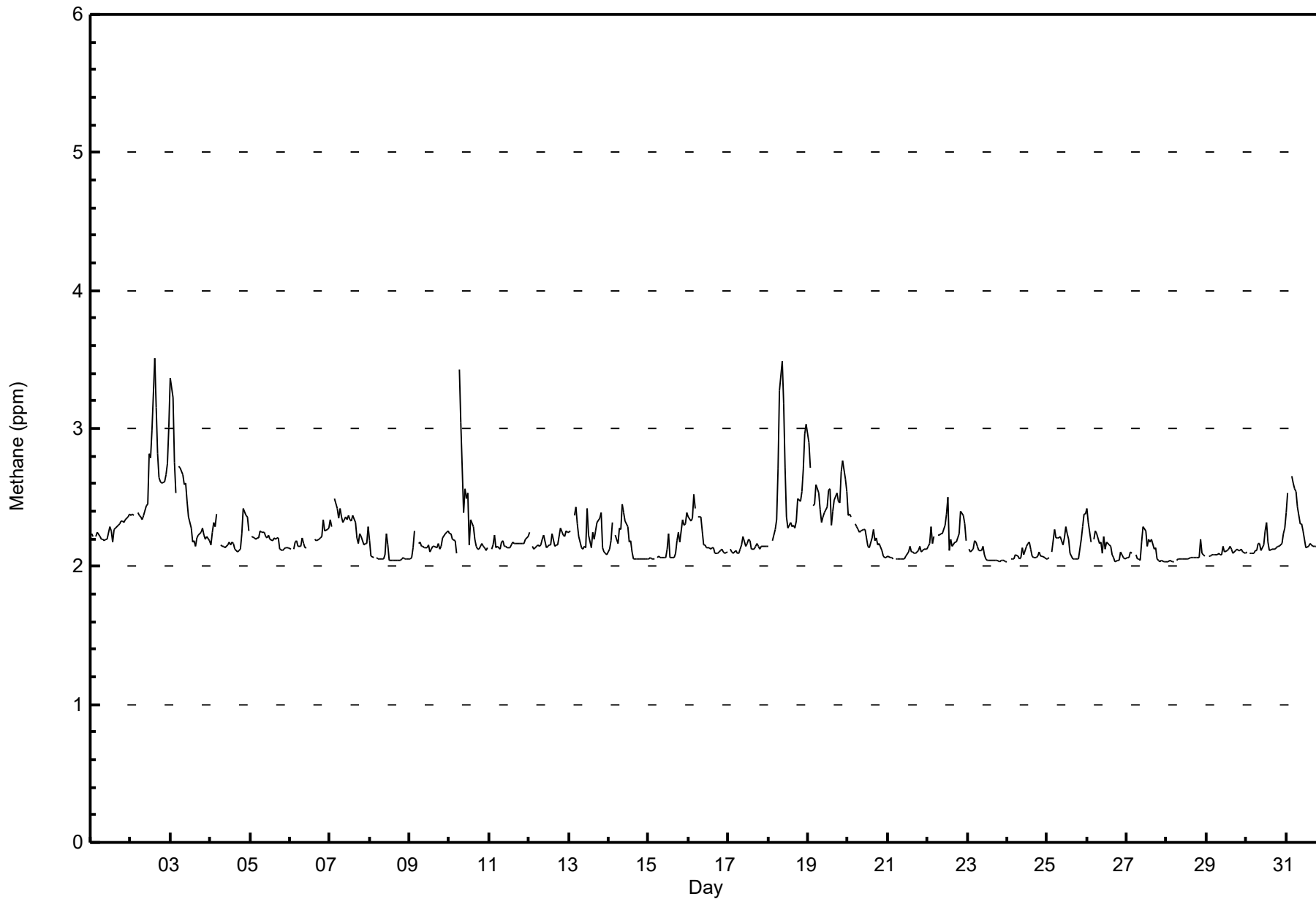








Number of Exceedences (AAAQO):		1-hr: 0		24-hr: 0		Hours in Service: 744														Daily Average		Daily Maximum																											
Maximum Value: 3.5 ppm on Jan 2 15:00		Maximum Daily Average: 2.6 ppm on Jan 2		Hours of Data: 709														Hours of Missing Data: 35		Hours of Calibration: 35																													
Minimum Value: 2.0 ppm on Jan 28 01:00		Minimum Daily Average: 2.1 ppm on Jan 28		Hours of Calibration: 35														Percent Operational Time: 100.0																															
Maximum Diurnal Average: 2.3 ppm at hour 7		Minimum Diurnal Average: 2.2 ppm at hour 17		Percentiles: P ₁ = 2.0 P ₁₀ = 2.1 Q ₁ = 2.1 Median = 2.2 Q ₃ = 2.3 P ₉₀ = 2.4 P ₉₉ = 3.1																																													
Monthly Average: 2.22 ppm																																																	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	2.2	2.2	Z	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.3	2.4																							
2-Jan	2.4	2.4	2.4	Z	2.4	2.4	2.4	2.3	2.4	2.4	2.4	2.8	2.8	3.0	3.5	3.1	2.8	2.6	2.6	2.6	2.6	2.7	2.7	3.0	2.6	3.5																							
3-Jan	3.4	3.2	2.8	2.5	Z	2.7	2.7	2.7	2.6	2.6	2.5	2.4	2.3	2.2	2.2	2.1	2.2	2.2	2.2	2.3	2.2	2.2	2.2	2.2	2.5	3.4																							
4-Jan	2.2	2.2	2.3	2.3	2.4	Z	2.2	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.2	2.4	2.4	2.4	2.3	2.2	2.4																							
5-Jan	Z	2.2	2.2	2.2	2.2	2.2	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.3																							
6-Jan	2.1	Z	2.1	2.2	2.2	2.1	2.2	2.2	2.2	2.1	2.1	C	C	C	C	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.2	2.3																							
7-Jan	2.3	2.3	Z	2.5	2.4	2.4	2.4	2.4	2.3	2.4	2.3	2.4	2.3	2.3	2.3	2.4	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.5																							
8-Jan	2.2	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.2																							
9-Jan	2.1	2.1	2.1	2.3	Z	2.2	2.2	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.2	2.2	2.2	2.3	2.2	2.3																							
10-Jan	2.2	2.2	2.2	2.2	2.1	Z	3.4	3.0	2.4	2.6	2.5	2.5	2.2	2.3	2.3	2.2	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.3	3.4																							
11-Jan	Z	2.1	2.2	2.2	2.1	2.1	2.1	2.2	2.2	2.2	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2																							
12-Jan	2.2	Z	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.2	2.2	2.2	2.1	2.2	2.2	2.2	2.3	2.2	2.2	2.3	2.3	2.2	2.3																							
13-Jan	2.2	2.3	Z	2.4	2.4	2.3	2.2	2.1	2.1	2.1	2.1	2.4	2.2	2.1	2.2	2.2	2.3	2.3	2.4	2.4	2.1	2.1	2.1	2.1	2.2	2.4																							
14-Jan	2.1	2.2	2.3	Z	2.2	2.2	2.3	2.3	2.4	2.4	2.3	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.4																							
15-Jan	2.1	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.3	2.3	2.3	2.4	2.1	2.4																							
16-Jan	2.4	2.3	2.3	2.5	2.4	Z	2.4	2.4	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.5																							
17-Jan	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.1	2.2	2.2	2.2	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2																							
18-Jan	2.1	Z	2.2	2.2	2.3	2.3	2.7	3.3	3.5	3.2	2.7	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.5	2.5	2.5	2.7	3.0	3.0	2.6	3.5																							
19-Jan	2.9	2.7	Z	2.4	2.4	2.6	2.5	2.4	2.3	2.4	2.4	2.4	2.5	2.6	2.3	2.4	2.5	2.5	2.5	2.5	2.7	2.8	2.6	2.5	2.5	2.9																							
20-Jan	2.4	2.4	2.4	Z	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1	2.1	2.2	2.3	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.2	2.4																							
21-Jan	2.1	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1																							
22-Jan	2.1	2.2	2.3	2.2	2.2	Z	2.2	2.2	2.2	2.2	2.3	2.4	2.5	2.1	2.2	2.1	2.2	2.2	2.2	2.2	2.4	2.4	2.3	2.2	2.2	2.5																							
23-Jan	Z	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2																							
24-Jan	2.0	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.2																							
25-Jan	2.1	2.1	Z	2.1	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.0	2.2	2.3	2.4	2.4	2.2	2.4																							
26-Jan	2.4	2.3	2.2	Z	2.2	2.3	2.2	2.2	2.2	2.1	2.2	2.1	2.2	2.2	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.4																							
27-Jan	2.1	2.1	2.1	2.1	Z	2.1	2.0	2.0	2.0	2.2	2.3	2.3	2.1	2.2	2.2	2.2	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.3																							
28-Jan	2.0	2.0	2.0	2.0	2.0	Z	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.2																							
29-Jan	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1																							
30-Jan	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.2	2.3	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.2	2.3																							
31-Jan	2.4	2.5	Z	2.7	2.6	2.6	2.5	2.4	2.3	2.3	2.3	2.2	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.7																							
2.3																								2.3	2.2	2.2	2.2	2.2	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	Diurnal Average	
3.4																								3.2	2.8	2.7	2.6	2.7	3.4	3.3	3.5	3.2	2.7	2.8	2.8	3.0	3.5	3.1	2.8	2.6	2.6	2.6	2.7	2.8	3.0	3.0	2.2	Diurnal Maximum	
Z - zerospan																								C - Calibration																									





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Methane (CH₄) - ppm
Fort McKay South - January 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	39	5.50	5.50
2.1 - 3.0	662	93.37	98.87
3.1 - 10.0	8	1.13	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 709

Total Number of Hours: 744



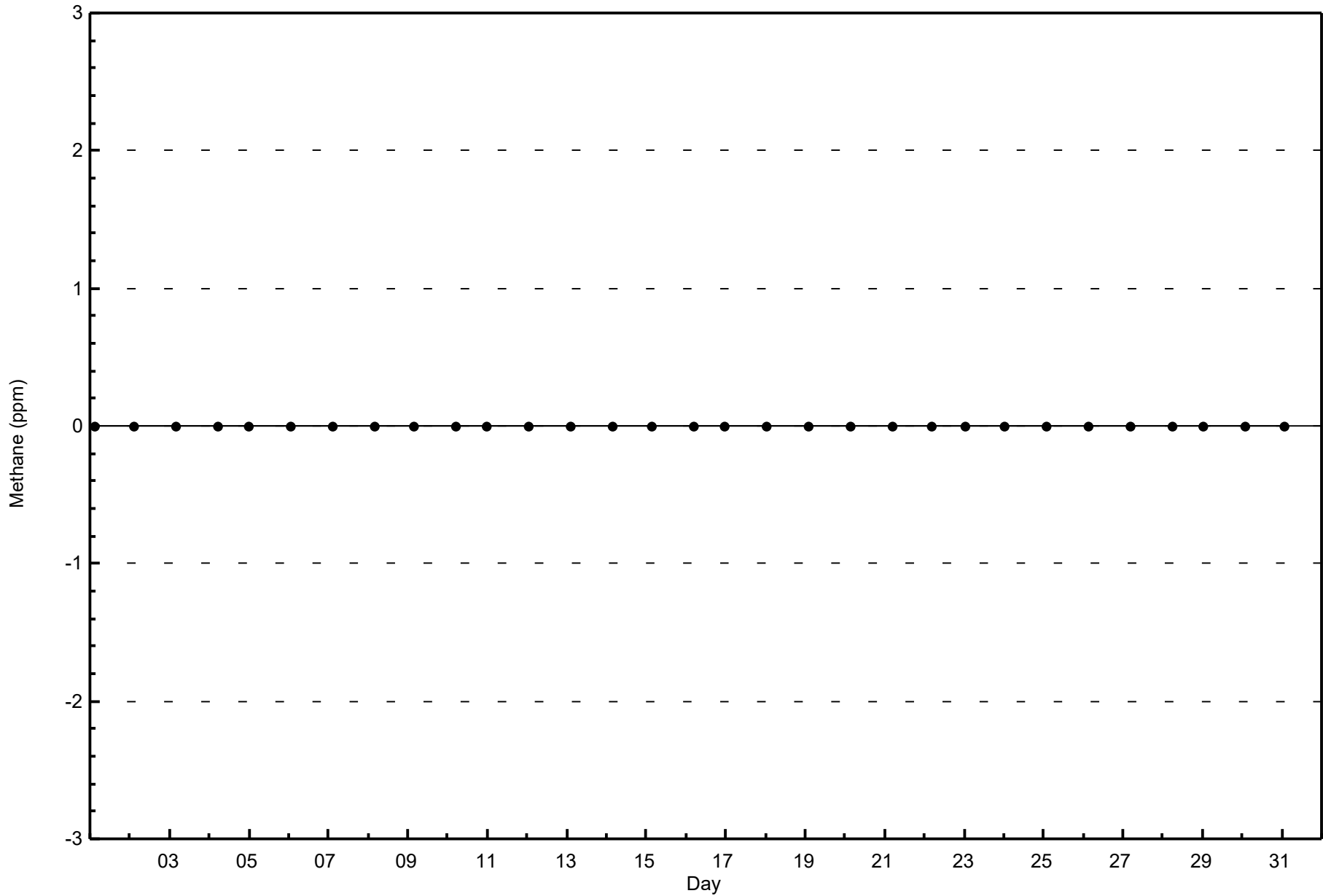
**Wood Buffalo Environmental Association
Frequency Distribution**

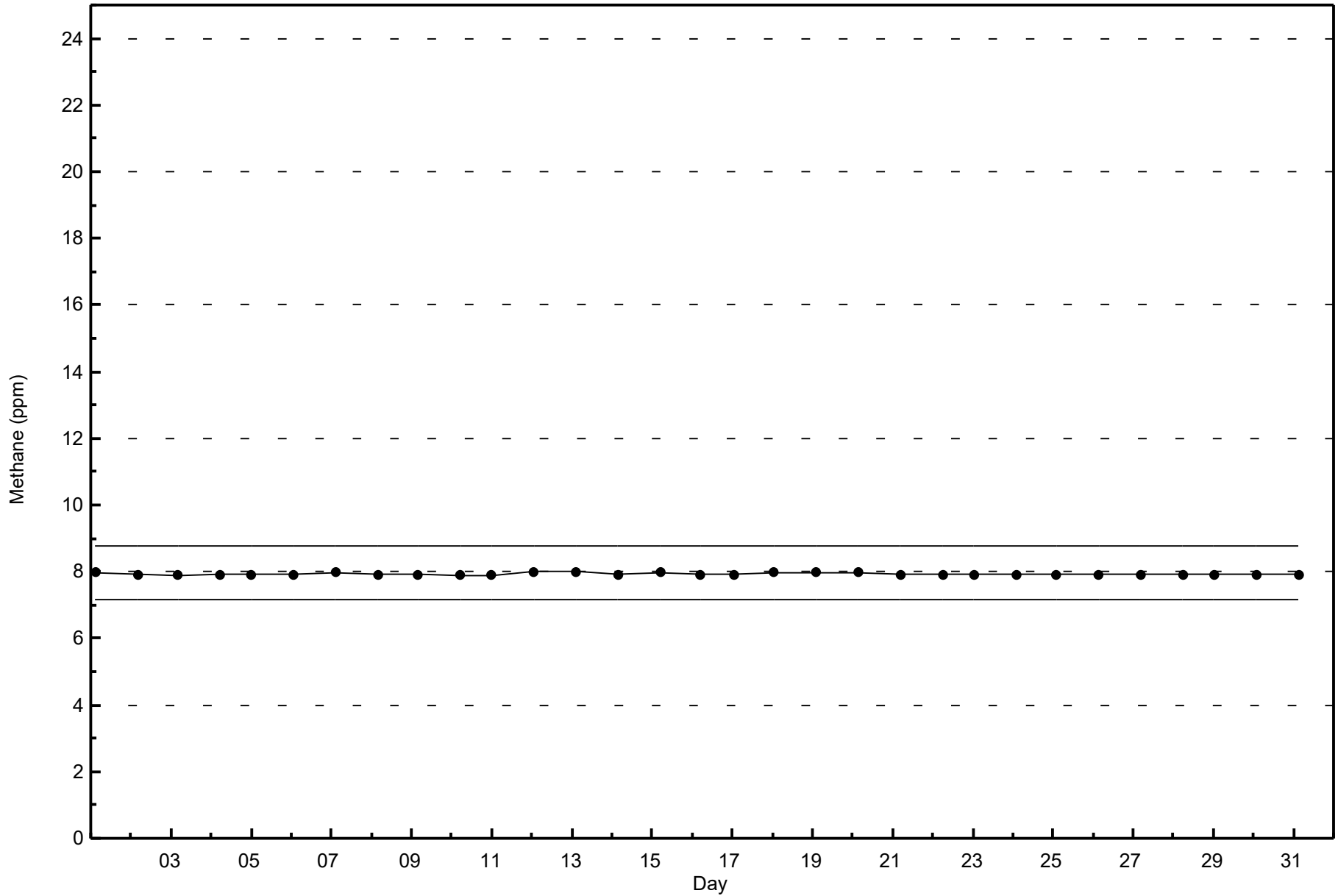
**Methane (CH₄) - ppm
Fort McKay South - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW		
0 - 2.0	0	0	0	0	0	0	0	0	0	0	0	1	3	7	15	13	0	39
2.1 - 3.0	85	80	10	4	2	2	10	56	140	38	37	55	50	24	24	22	0	639
3.1 - 10.0	1	0	0	0	0	0	0	1	0	0	2	2	0	0	0	0	0	6
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	86	80	10	4	2	2	10	57	140	38	40	60	57	39	37	22	0	684

Total Number of Valid Hours: 684

Total Number of Hours: 744







Wood Buffalo Environmental Association

Summary of Hour Averages

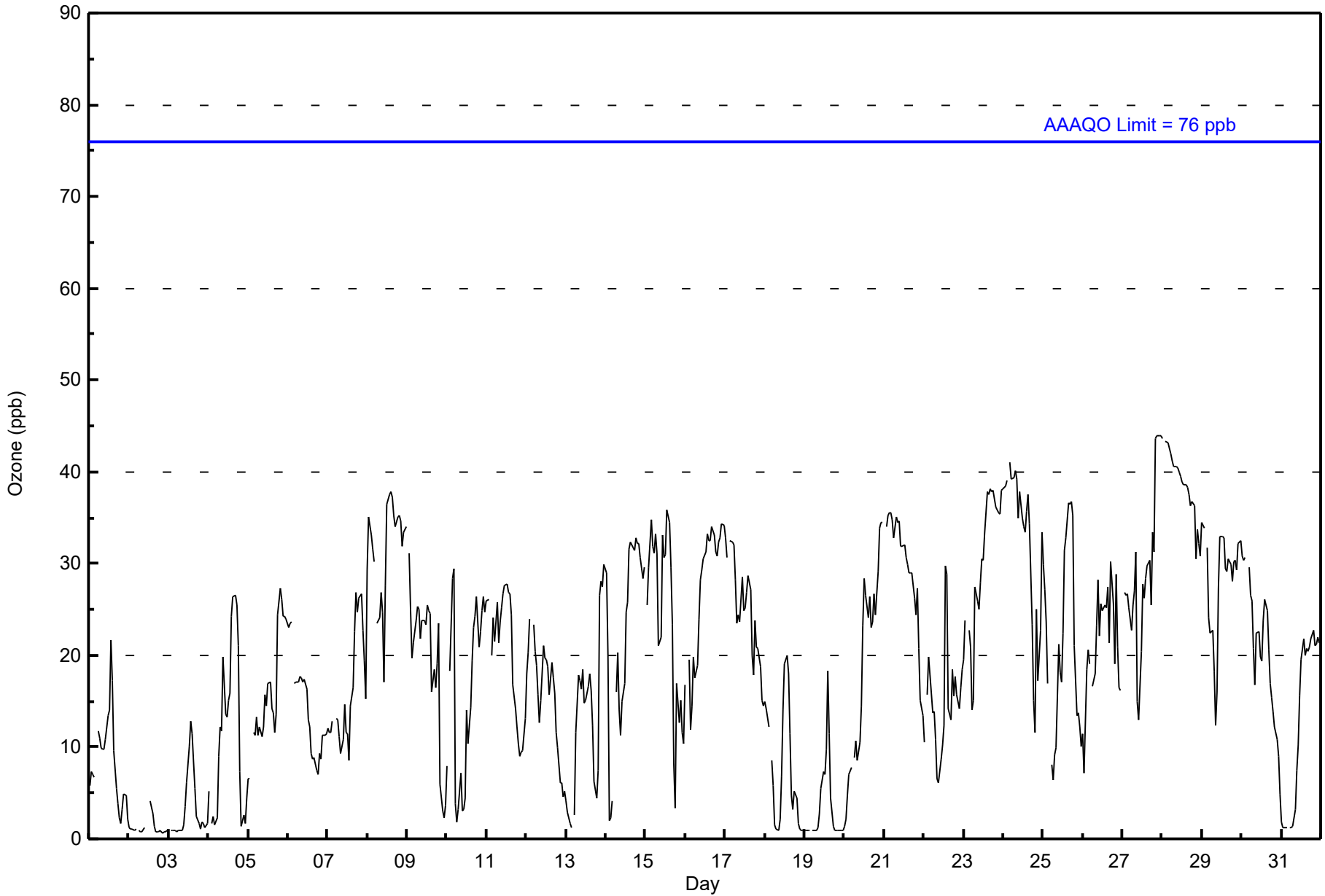
Ozone (O₃) - ppb

Fort McKay South - January 2025

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 44.0 ppb on Jan 27 23:00	Maximum Daily Average: 38.5 ppb on Jan 28		Hours of Data:	710
Minimum Value: 0.7 ppb on Jan 2 21:00	Minimum Daily Average: 1.2 ppb on Jan 2		Hours of Missing Data:	34
Maximum Diurnal Average: 24.2 ppb at hour 15	Minimum Diurnal Average: 16.4 ppb at hour 9		Hours of Calibration:	34
Monthly Average: 19.25 ppb	Percentiles: P ₁ = 0.8 P ₁₀ = 2.0 Q ₁ = 10.4 Median = 19.5 Q ₃ = 28.4 P ₉₀ = 34.4 P ₉₉ = 42.5		Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	5.8	7.3	7.1	6.8	Z	11.8	10.9	10.0	9.7	9.7	10.8	13.4	14.1	21.7	17.2	9.6	5.5	3.9	2.2	1.7	3.2	4.9	4.7	2.2	8.4	21.7																							
2-Jan	1.3	1.1	1.1	0.9	1.0	Z	0.9	0.7	0.7	1.3	C	C	C	4.1	2.8	1.3	0.8	0.8	0.8	0.9	0.7	0.7	0.8	0.8	1.2	4.1																							
3-Jan	Z	0.9	0.9	0.9	0.9	0.8	0.9	0.9	1.0	1.5	3.4	6.0	10.0	12.8	11.4	8.4	5.4	2.5	1.8	1.1	1.9	1.6	1.2	1.7	3.4	12.8																							
4-Jan	5.2	Z	1.7	2.5	1.5	2.3	9.0	12.2	11.7	19.8	13.6	13.3	15.0	15.9	24.2	26.4	26.6	25.5	21.0	7.3	1.3	2.6	1.7	4.4	11.5	26.6																							
5-Jan	6.5	6.6	Z	11.7	11.3	13.3	11.2	12.3	11.2	12.2	15.7	14.6	16.9	17.1	14.1	13.7	11.6	13.5	24.4	27.3	26.1	24.2	24.3	24.0	15.8	27.3																							
6-Jan	23.1	23.5	23.7	Z	17.0	17.0	17.1	17.6	17.6	17.2	17.4	16.4	13.0	12.2	9.3	8.7	8.9	7.5	7.0	9.3	8.6	11.3	11.3	11.5	14.2	23.7																							
7-Jan	12.1	11.7	11.5	12.8	Z	13.1	12.9	11.1	9.2	10.8	14.6	11.6	11.5	8.6	14.4	16.4	22.6	26.8	24.8	26.2	26.7	22.7	19.4	15.2	15.9	26.8																							
8-Jan	29.3	35.1	33.1	31.5	30.1	Z	23.5	24.1	26.8	24.8	17.1	27.6	36.4	37.5	37.9	37.1	35.2	34.1	35.1	35.2	34.6	31.9	33.3	34.1	31.5	37.9																							
9-Jan	Z	31.1	25.0	19.6	21.4	23.7	25.4	25.0	21.9	23.8	23.8	23.4	25.4	24.8	24.6	16.1	18.4	16.4	19.1	23.5	6.0	3.0	2.3	3.7	19.5	31.1																							
10-Jan	7.9	Z	18.4	28.3	29.4	3.7	1.9	3.2	7.2	3.1	3.1	4.4	14.1	10.4	14.3	19.3	23.0	24.3	26.4	21.0	22.6	24.9	26.4	24.7	15.7	29.4																							
11-Jan	25.9	26.0	Z	20.1	24.1	21.5	25.7	21.4	23.7	25.2	26.7	27.6	27.7	26.8	26.7	24.4	16.8	14.1	12.2	10.4	9.0	9.5	9.6	13.2	20.4	27.7																							
12-Jan	18.1	20.2	23.9	Z	23.4	20.5	19.0	15.7	12.7	15.0	21.0	19.7	19.5	18.8	15.7	19.1	17.5	15.9	11.6	10.0	6.0	6.0	4.5	5.3	15.6	23.9																							
13-Jan	4.2	2.9	1.7	1.2	Z	2.6	11.6	17.8	17.2	16.3	18.5	14.8	15.2	16.7	18.1	16.1	12.4	6.3	4.5	7.5	26.5	28.0	27.5	29.9	13.8	29.9																							
14-Jan	28.9	20.0	2.0	2.3	4.1	Z	16.0	20.3	14.1	11.3	15.0	16.9	24.7	25.7	31.5	32.3	31.7	31.4	32.8	32.2	30.7	28.4	29.7	22.4	32.8	29.7																							
15-Jan	Z	25.5	29.5	34.8	31.8	31.1	33.3	31.2	21.0	22.0	33.1	30.7	31.0	35.8	34.5	29.6	23.4	8.3	3.4	17.0	12.6	15.1	11.6	10.4	24.2	35.8																							
16-Jan	16.8	Z	19.5	11.9	14.6	19.8	17.6	18.9	24.0	28.1	29.3	30.4	31.3	33.3	32.6	32.5	34.0	33.2	31.2	30.8	32.3	32.7	34.3	34.2	27.1	34.3																							
17-Jan	32.8	30.6	Z	32.5	32.3	32.1	28.2	23.5	24.5	23.7	28.5	24.9	25.2	26.8	28.7	27.1	19.9	17.9	23.8	20.9	20.7	18.8	15.0	14.5	24.9	32.8																							
18-Jan	14.9	14.2	12.3	Z	8.5	5.7	1.6	1.0	0.9	2.1	6.9	14.1	19.1	20.0	18.1	11.4	4.8	3.1	5.2	4.4	1.6	1.0	0.8	0.9	7.5	20.0																							
19-Jan	0.9	0.9	0.9	0.9	Z	0.9	0.9	1.0	1.2	2.7	5.5	7.3	7.1	9.7	18.3	11.4	4.4	1.3	1.0	0.9	0.9	0.9	1.0	0.9	3.5	18.3																							
20-Jan	1.3	2.1	4.7	7.0	7.7	Z	8.9	10.7	8.6	10.5	14.5	23.2	28.4	26.6	24.2	26.5	23.1	23.7	26.7	24.4	29.1	33.9	34.5	34.4	18.9	34.5																							
21-Jan	Z	34.1	35.3	35.6	35.6	34.7	32.8	35.0	34.4	34.6	31.8	31.8	32.1	30.7	29.8	29.0	28.9	28.9	26.2	24.4	27.3	20.7	15.1	13.4	29.7	35.6																							
22-Jan	10.6	Z	15.7	19.8	17.9	13.8	13.8	10.8	6.6	6.0	8.6	10.2	12.3	29.8	28.9	14.2	13.0	18.5	15.6	17.8	15.7	14.2	16.4	18.4	15.2	29.8																							
23-Jan	19.5	23.8	Z	22.7	20.9	14.1	15.1	27.5	25.9	24.9	27.9	30.5	30.4	33.2	37.8	37.5	38.1	37.8	38.0	36.1	35.9	35.6	35.3	38.0	29.8	38.1																							
24-Jan	38.1	38.5	39.1	Z	41.0	39.1	39.3	40.1	39.2	35.0	37.8	34.9	34.1	33.4	35.6	37.6	34.3	33.3	23.3	15.1	11.6	25.0	17.3	22.7	33.5	32.4	41.0																						
25-Jan	30.0	27.1	23.7	17.0	Z	8.0	6.4	9.1	10.0	21.1	18.2	17.1	22.4	31.4	32.9	36.5	36.5	36.7	35.2	21.0	13.4	13.7	12.3	10.1	21.3	36.7																							
26-Jan	11.4	7.1	18.5	20.6	19.1	Z	16.6	17.9	23.1	28.2	22.1	25.6	24.9	25.5	25.2	27.5	21.3	30.2	25.7	19.1	28.9	20.9	16.4	16.1	21.4	30.2																							
27-Jan	Z	26.8	26.5	26.6	25.2	22.7	25.5	27.0	31.3	15.0	13.0	20.5	27.8	26.2	28.3	29.7	30.4	25.5	33.3	31.3	43.7	44.0	44.0	43.9	29.1	44.0																							
28-Jan	43.6	Z	43.3	43.1	42.6	41.9	41.2	40.6	40.5	40.4	39.9	39.5	38.8	38.5	38.6	38.3	37.6	36.4	36.8	36.2	30.5	33.8	32.2	30.7	38.5	43.6																							
29-Jan	34.5	33.8	Z	31.7	24.1	22.5	22.7	18.4	12.4	16.1	27.3	33.0	33.0	32.8	29.4	29.1	30.5	29.9	28.0	30.2	30.3	29.2	32.3	32.6	28.0	34.5																							
30-Jan	30.9	30.3	30.6	Z	29.6	26.5	26.0	20.7	16.8	22.4	22.6	19.9	19.4	23.8	26.1	24.9	20.6	17.0	15.4	13.8	12.3	10.8	9.0	4.8	20.6	30.9																							
31-Jan	1.8	1.2	1.1	1.2	Z	1.3	1.2	1.3	3.2	7.5	10.2	15.6	19.5	21.8	20.0	20.8	20.4	20.8	21.8	22.8	21.0	21.3	21.9	21.4	13.0	22.8																							
																								17.5	18.6	17.3	17.1	20.6	17.1	16.7	17.0	16.4	17.2	19.3	20.6	22.7	23.6	24.2	23.0	21.2	19.9	19.6	18.6	18.9	18.2	17.7	18.0	Diurnal Average	
																								43.6	38.5	43.3	43.1	42.6	41.9	41.2	40.6	40.5	40.4	39.9	39.5	38.8	38.5	38.6	38.3	38.1	37.8	38.0	36.2	43.7	44.0	44.0	43.9	Diurnal Maximum	

Z - zerospan C - Calibration
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 76 ppb





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ozone (O₃) - ppb
Fort McKay South - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	372	52.39	52.39
21 - 50	338	47.61	100.00
51 - 82	0	0.00	100.00
> 83	0	0.00	100.00

Total Number of Valid Hours: 710

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Ozone (O₃) - ppb
Fort McKay South - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	34	32	2	1	2	1	4	44	117	19	24	23	25	4	9	6	347
21 - 50	53	53	8	2	0	1	4	14	22	21	15	36	33	35	28	13	338
51 - 82	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	87	85	10	3	2	2	8	58	139	40	39	59	58	39	37	19	685

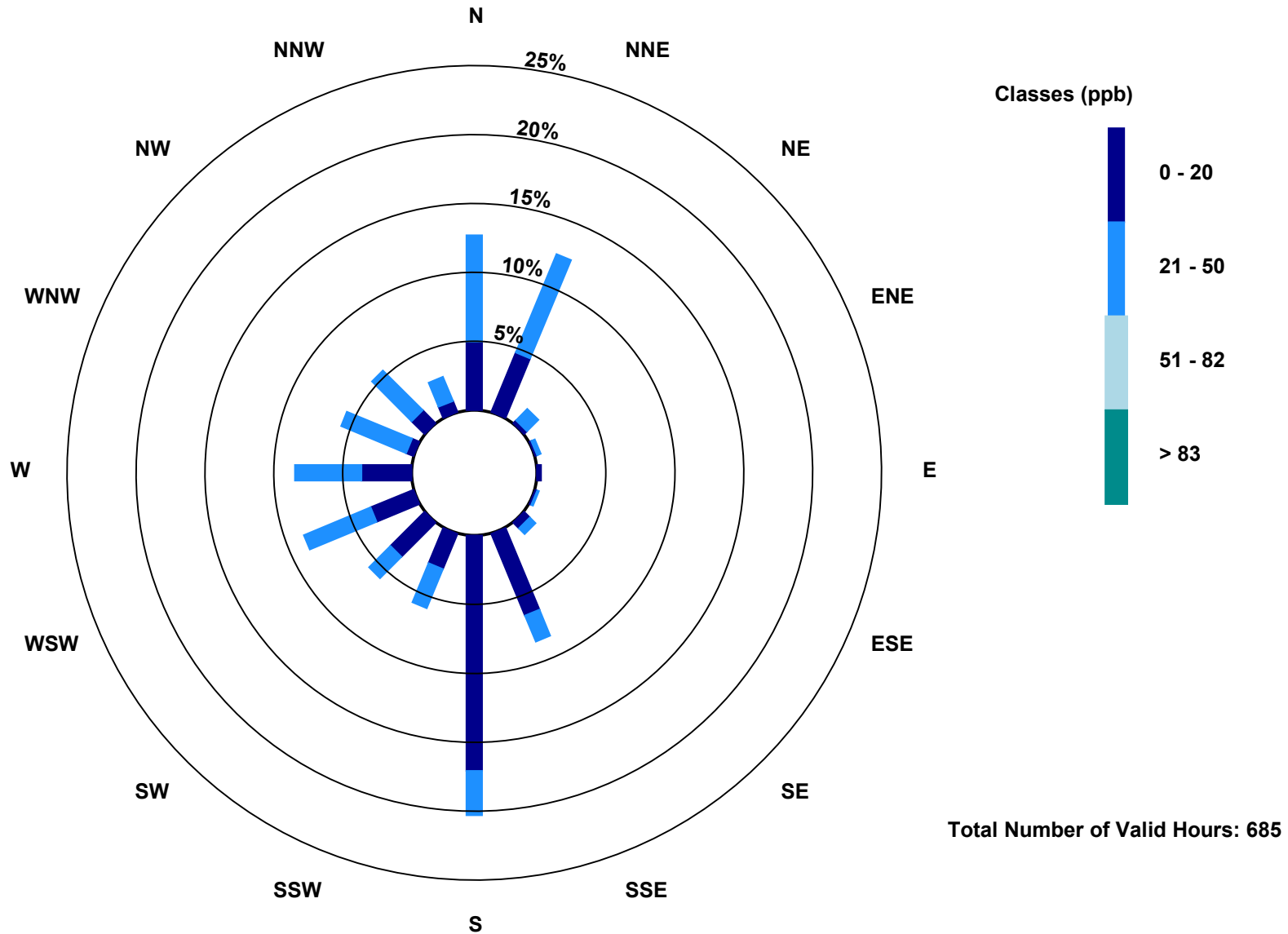
Total Number of Valid Hours: 685

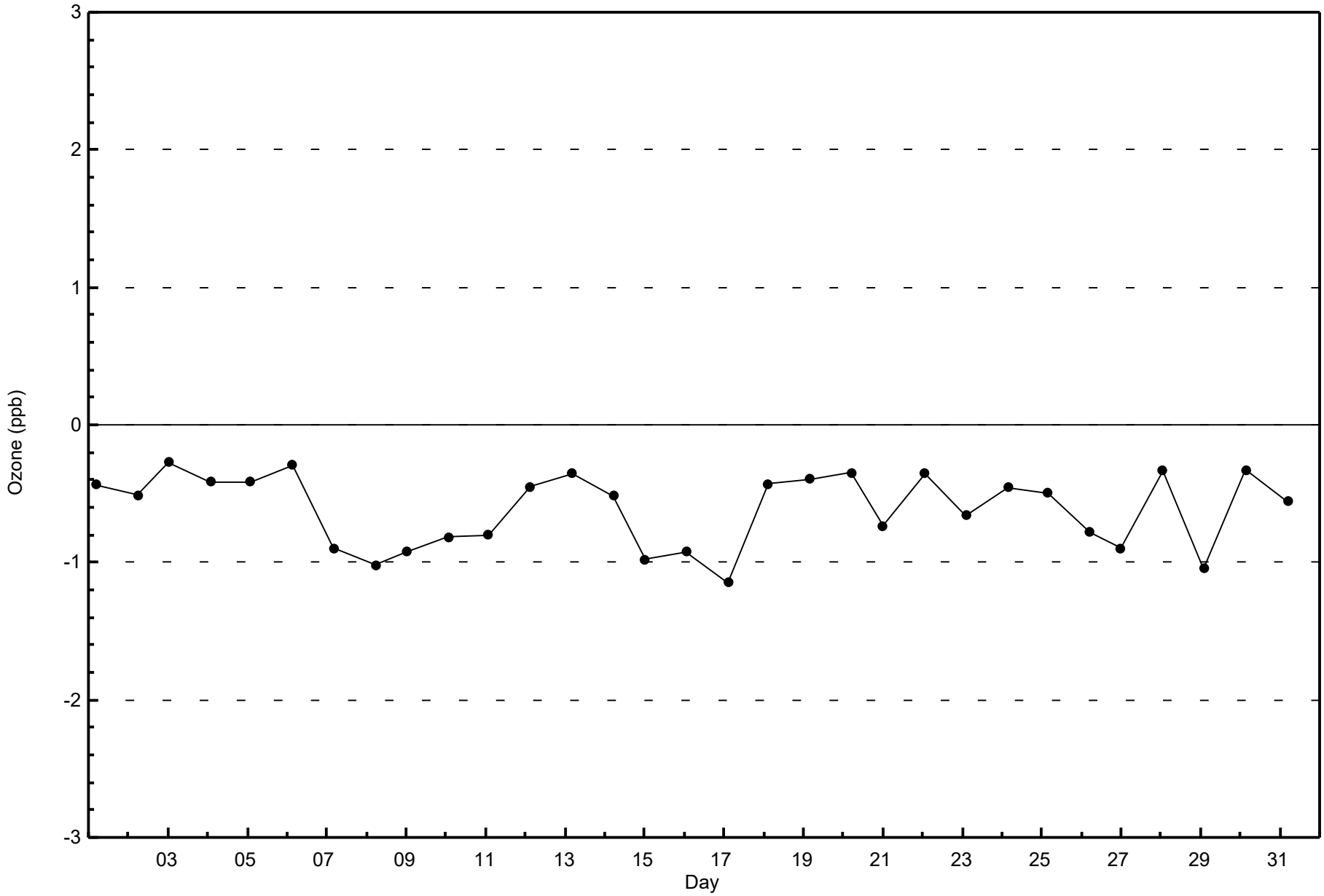
Total Number of Hours: 744

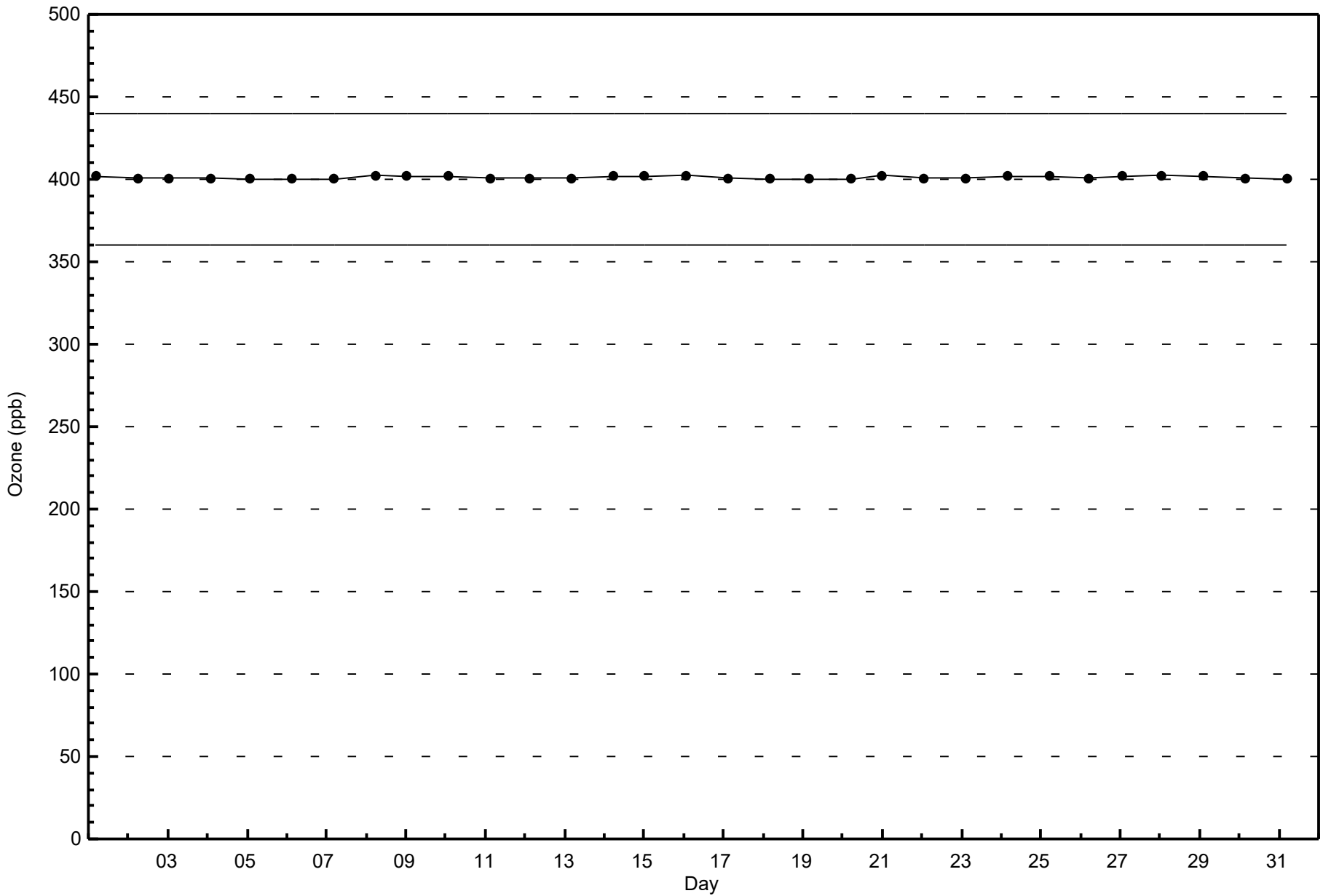


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Ozone (O₃) - ppb
Fort McKay South

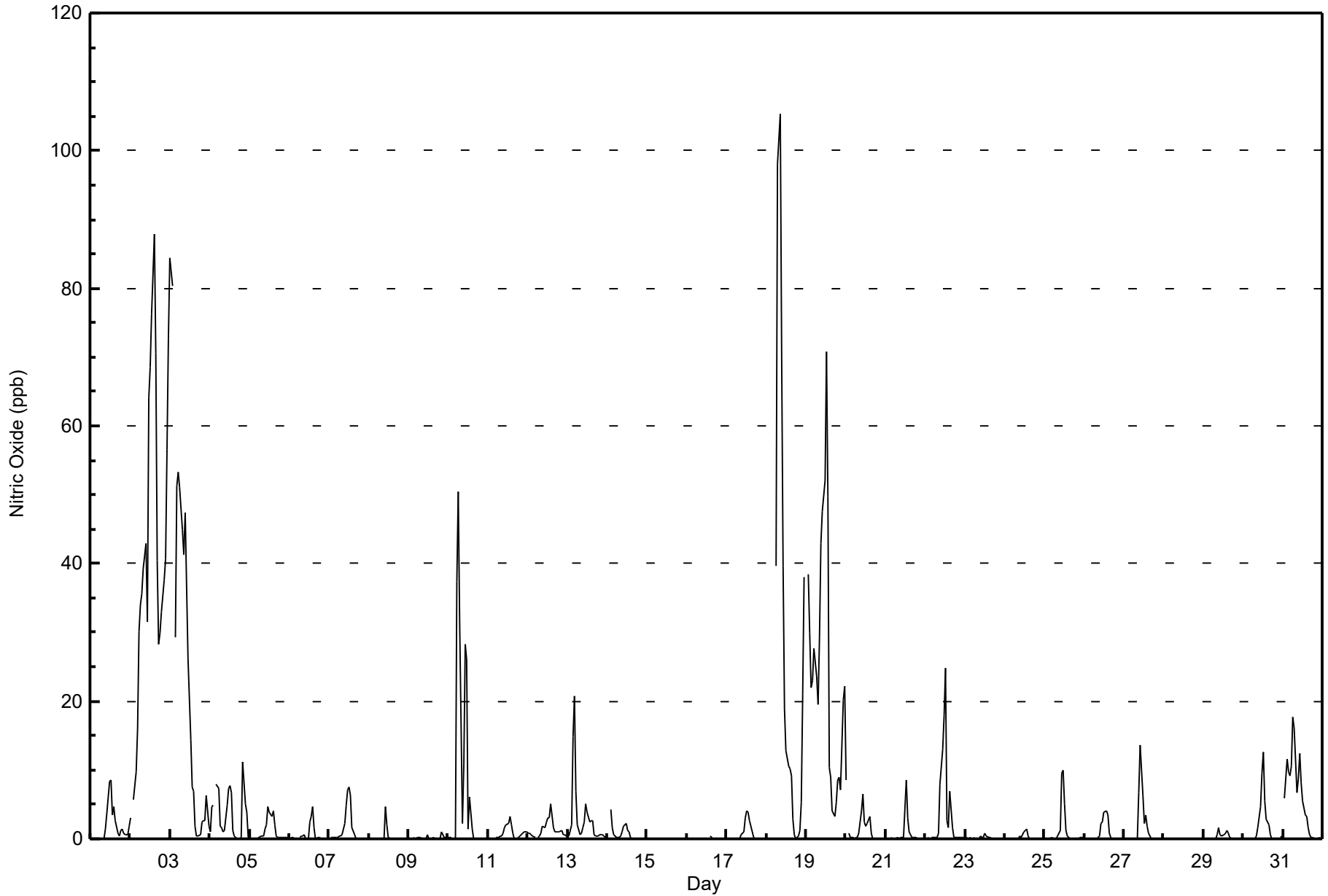








Maximum Value: 105.4 ppb on Jan 18 09:00		Maximum Daily Average: 41.5 ppb on Jan 2		Hours in Service: 744																							
Minimum Value: 0.0 ppb on Jan 1 02:00		Minimum Daily Average: 0.0 ppb on Jan 28		Hours of Data: 686																							
Maximum Diurnal Average: 10.0 ppb at hour 12		Minimum Diurnal Average: 1.2 ppb at hour 18		Hours of Missing Data: 58																							
Monthly Average: 5.18 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.2 Q ₃ = 2.5 P ₉₀ = 12.8 P ₉₉ = 71.1		Hours of Calibration: 33																							
				Percent Operational Time: 96.6																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	3.6	8.3	8.6	3.4	4.6	2.6	0.7	0.4	1.2	1.4	0.9	0.6	0.6	1.8	1.7	8.6	
2-Jan	3.0	Z	5.7	9.8	16.0	30.1	33.9	35.7	39.2	42.9	31.4	64.1	68.6	76.3	87.8	70.6	40.6	28.2	30.0	32.9	37.6	40.6	56.5	72.7	41.5	87.8	
3-Jan	84.4	80.2	Z	29.2	51.3	53.3	51.0	44.9	41.3	47.4	36.7	26.3	14.3	7.6	6.9	1.8	0.5	0.3	0.7	2.5	2.7	2.7	6.2	1.8	25.8	84.4	
4-Jan	0.9	4.6	5.0	Z	7.9	7.3	1.8	1.5	1.0	1.1	4.8	7.3	7.7	6.8	1.3	0.3	0.0	0.0	0.0	0.3	11.2	5.1	3.9	0.1	3.5	11.2	
5-Jan	0.0	0.0	0.0	0.0	Z	0.3	0.3	0.4	0.4	1.5	2.1	4.6	3.8	3.3	4.1	2.0	0.4	0.2	0.1	0.2	0.2	0.3	0.3	0.2	1.1	4.6	
6-Jan	0.0	0.2	0.2	0.1	0.0	Z	0.2	0.3	0.4	0.6	0.0	0.0	2.5	3.2	4.7	1.6	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.6	4.7	
7-Jan	Z	0.2	0.2	0.2	0.1	0.2	0.3	0.4	0.7	2.3	4.8	7.1	7.5	6.4	1.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	7.5	
8-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	4.6	2.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	4.6	
9-Jan	0.0	0.0	Z	0.1	0.1	0.1	0.1	0.2	0.0	0.0	0.1	0.6	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	1.1	0.2	0.2	0.0	0.1	1.1	
10-Jan	0.2	0.2	0.1	Z	0.0	37.5	50.4	31.8	2.1	11.0	28.3	26.0	1.4	6.1	1.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.5	50.4	
11-Jan	0.0	0.0	0.0	0.0	Z	0.2	0.2	0.4	0.4	0.8	1.6	2.1	2.3	3.2	2.1	0.7	0.0	0.1	0.3	0.5	0.5	0.9	0.9	1.0	0.8	3.2	
12-Jan	0.8	0.7	0.5	0.4	0.2	Z	0.3	0.5	0.8	1.8	1.5	2.5	3.1	3.1	5.0	1.5	1.0	1.0	1.1	1.1	1.2	0.5	0.6	0.4	1.3	5.0	
13-Jan	Z	0.3	2.0	14.8	20.8	6.9	2.1	0.6	0.7	1.7	2.4	5.1	3.9	2.4	2.6	2.6	0.7	0.4	0.4	0.6	0.6	0.5	0.4	0.2	3.2	20.8	
14-Jan	0.0	Z	4.2	1.5	0.5	0.2	0.3	0.3	0.5	1.0	1.9	2.2	1.2	1.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	4.2	
15-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	M	M	M	M	M	M	M	M	M	M	M	M	M	--	0.0	
16-Jan	M	M	M	M	M	M	M	M	M	M	M	C	C	C	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	0.4	
17-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.6	1.1	3.1	4.1	3.9	2.6	1.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	4.1	
18-Jan	0.0	0.0	0.0	0.0	0.0	Z	39.7	98.1	105.4	69.6	39.7	18.9	12.8	10.5	10.2	9.2	2.9	0.6	0.0	0.5	1.3	5.2	20.9	38.0	21.0	105.4	
19-Jan	Z	38.5	30.0	22.0	22.9	27.8	23.6	19.6	29.3	43.0	47.6	52.0	70.8	49.7	10.4	8.9	4.0	3.3	5.3	8.6	8.9	7.1	20.0	22.2	25.0	70.8	
20-Jan	8.6	Z	0.8	0.2	0.2	0.1	0.1	0.1	0.8	4.0	6.5	2.5	1.9	2.2	3.2	0.8	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	1.4	8.6	
21-Jan	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.2	8.5	3.1	1.0	0.6	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.7	8.5	
22-Jan	0.0	0.1	0.1	Z	0.2	0.1	0.1	0.2	0.8	7.9	13.0	18.0	24.8	2.6	1.6	6.9	1.7	0.3	0.3	0.2	0.2	0.2	0.1	0.1	3.5	24.8	
23-Jan	0.2	0.1	0.1	0.1	Z	0.1	0.1	0.0	0.1	0.3	0.3	0.3	0.7	0.3	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.7	
24-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.3	0.1	1.0	1.2	1.5	0.5	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.2	1.5	
25-Jan	Z	0.0	0.0	0.0	0.3	0.1	0.1	0.1	0.4	1.2	9.6	9.9	5.2	1.2	0.5	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.2	1.3	9.9	
26-Jan	0.2	Z	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.4	2.2	2.4	3.8	4.0	3.4	0.8	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.8	4.0	
27-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	6.6	13.6	6.4	2.2	3.4	1.8	0.8	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.5	13.6	
28-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29-Jan	0.0	0.0	0.0	0.0	Z	0.1	0.0	0.1	0.5	1.6	0.6	0.4	0.6	0.8	1.2	0.7	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.3	1.6	
30-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.4	1.6	4.6	9.5	12.7	5.5	2.9	2.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.7	12.7	
31-Jan	Z	6.0	11.5	9.7	9.1	10.6	17.6	16.1	6.8	8.8	12.3	8.1	5.4	3.4	3.3	1.7	0.6	0.2	0.1	0.1	0.1	0.1	0.1	0.1	5.7	17.6	
		4.1	5.3	2.4	3.4	5.2	7.0	7.4	8.4	7.7	8.7	9.5	10.0	9.6	7.4	5.5	4.0	1.8	1.2	1.3	1.6	2.2	2.1	3.7	4.6	Diurnal Average	
		84.4	80.2	30.0	29.2	51.3	53.3	51.0	98.1	105.4	69.6	47.6	64.1	70.8	76.3	87.8	70.6	40.6	28.2	30.0	32.9	37.6	40.6	56.5	72.7	Diurnal Maximum	
Z - zerospan		C - Calibration				M - Maintenance																					





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitric Oxide (NO) - ppb
Fort McKay South - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	629	91.69	91.69
21 - 40	30	4.37	96.06
41 - 80	23	3.35	99.42
81 - 159	4	0.58	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 686

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitric Oxide (NO) - ppb
Fort McKay South - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	73	74	10	4	1	2	7	52	137	35	27	53	52	39	33	18	617
21 - 40	2	1	0	0	0	0	0	2	4	1	3	4	3	0	2	1	23
11 - 80	2	1	0	0	1	0	4	1	2	0	2	1	3	0	0	1	18
81 - 159	0	0	0	0	0	0	0	1	0	0	1	2	0	0	0	0	4
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	77	76	10	4	2	2	11	56	143	36	33	60	58	39	35	20	662

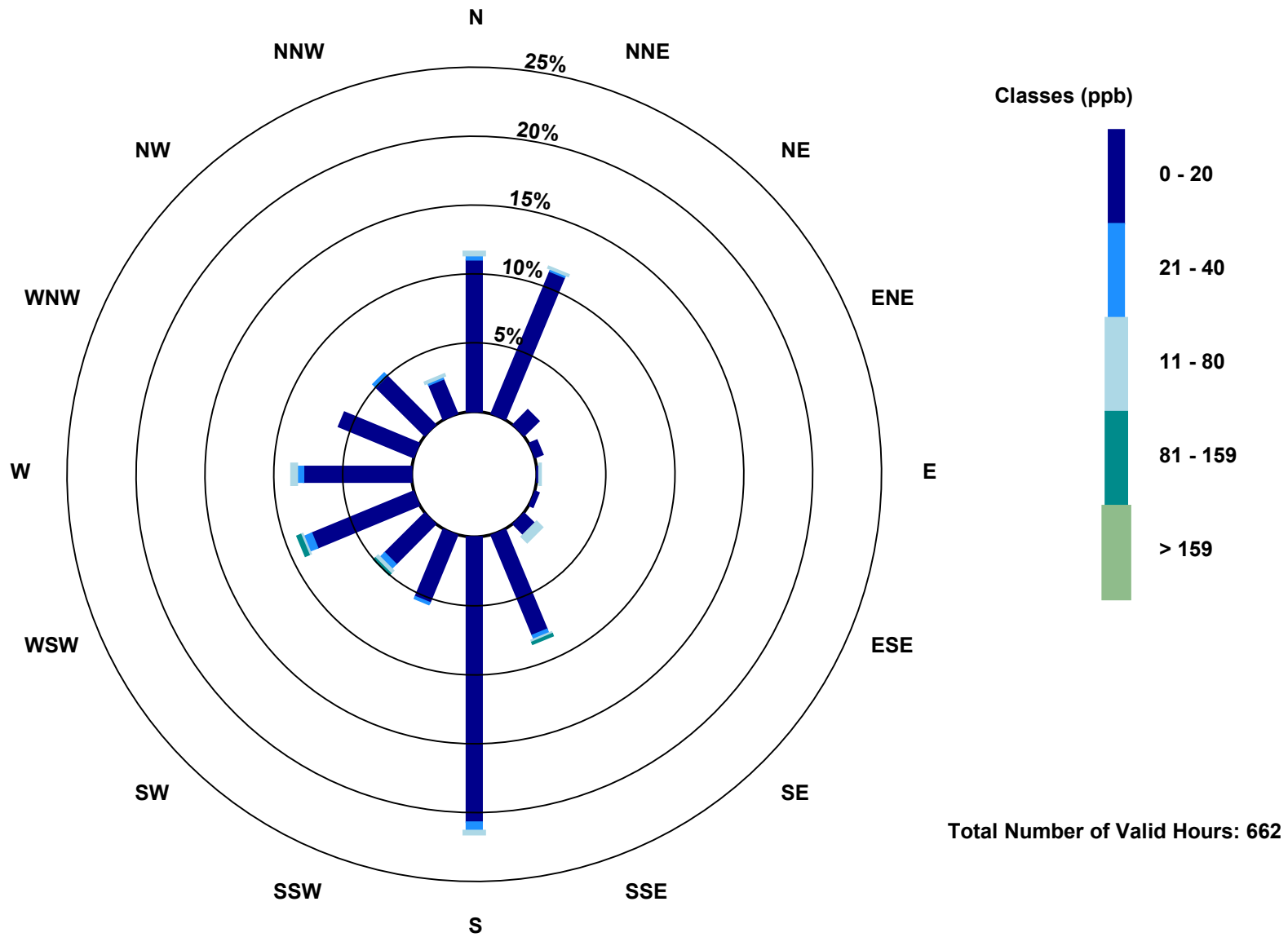
Total Number of Valid Hours: 662

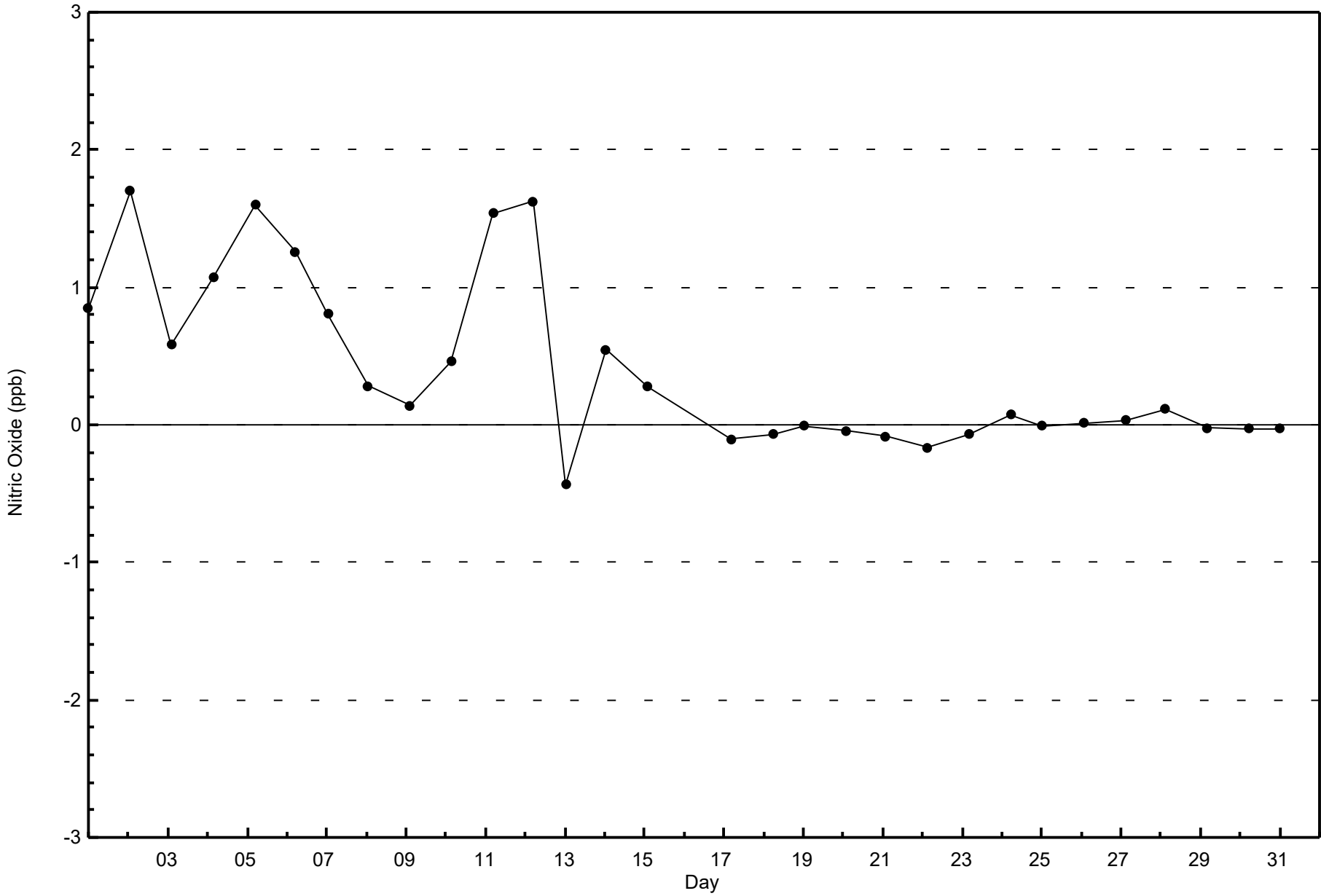
Total Number of Hours: 744

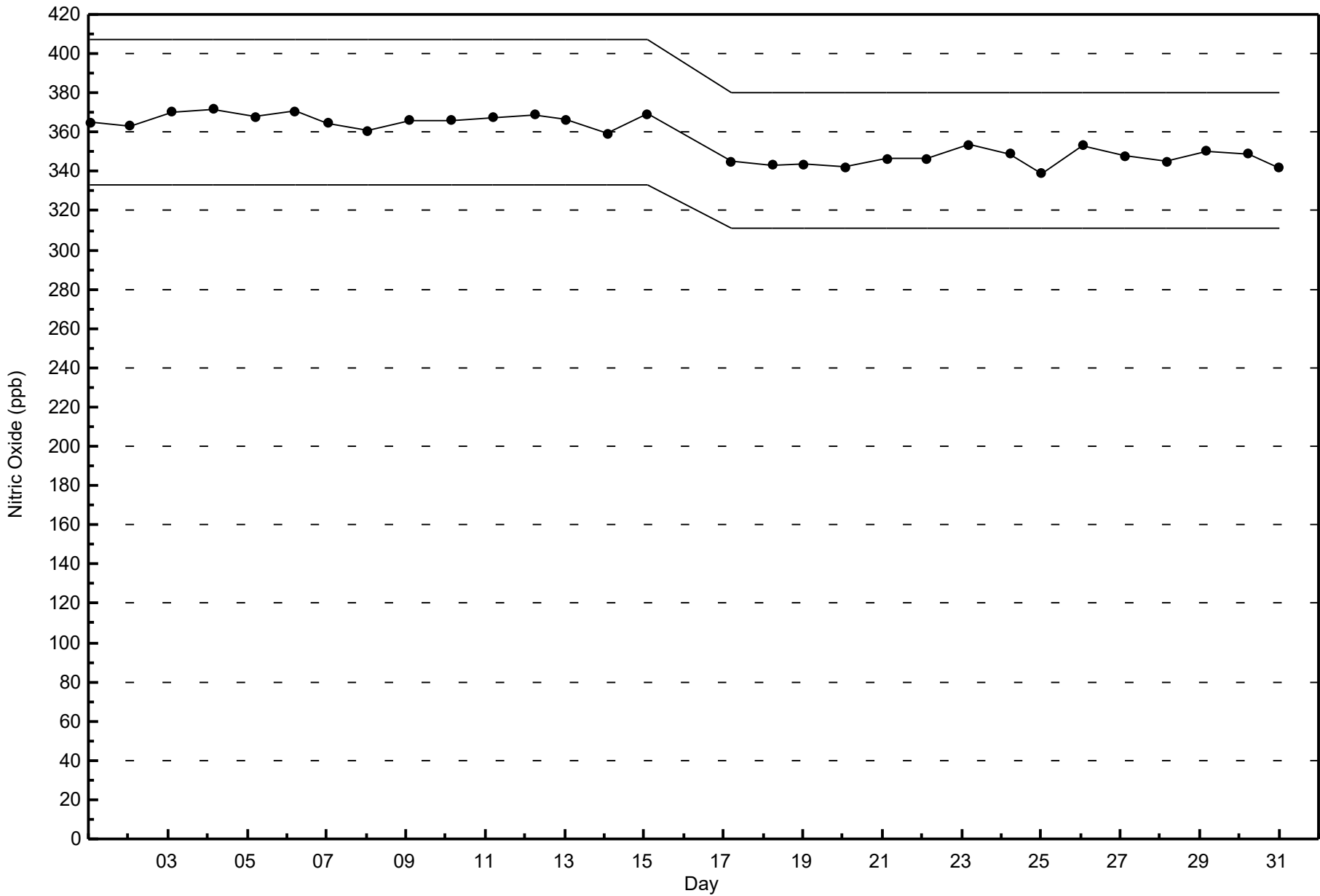


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitric Oxide (NO) - ppb
Fort McKay South









Wood Buffalo Environmental Association
Summary of Hour Averages

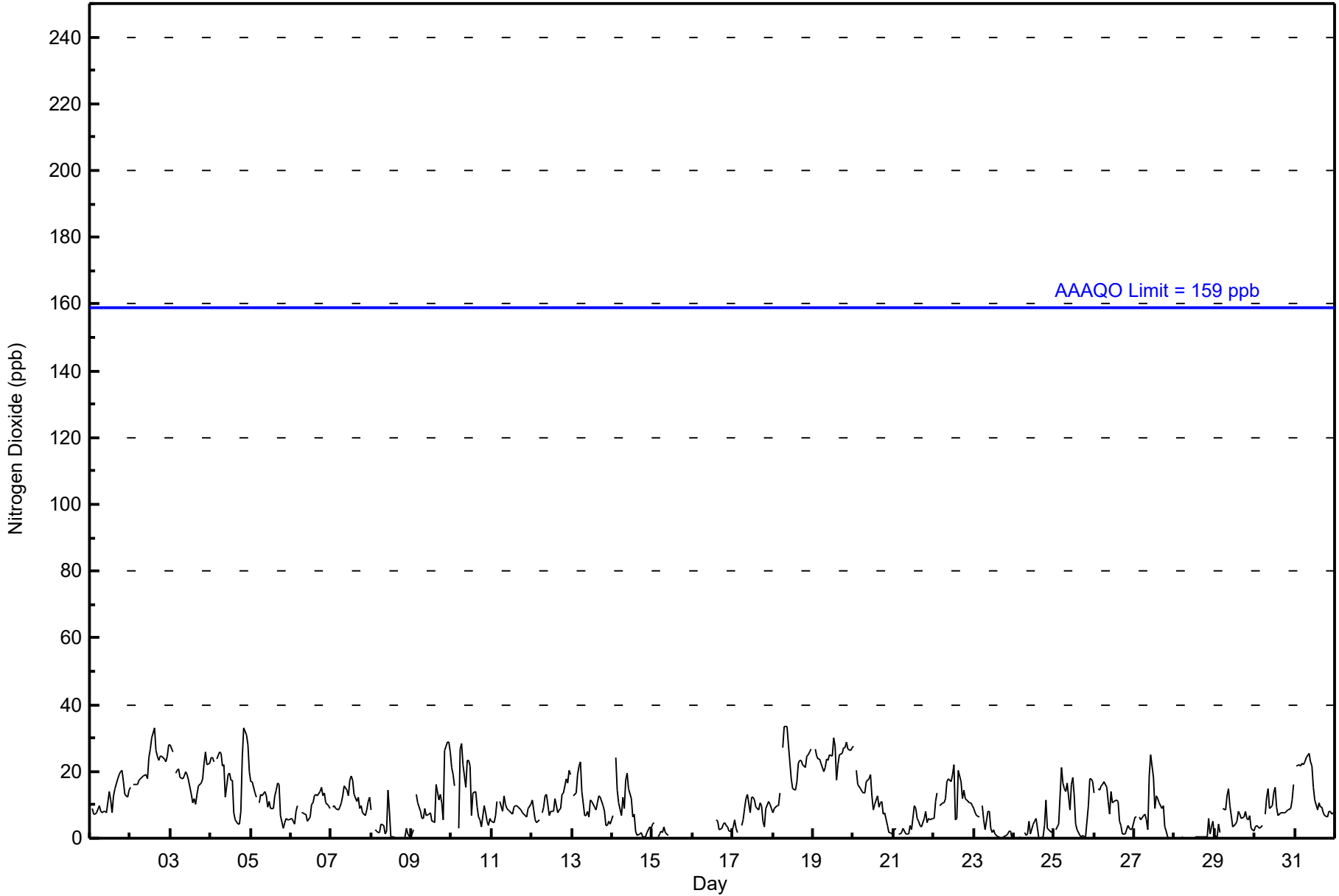
Nitrogen Dioxide (NO₂) - ppb
Fort McKay South - January 2025

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 33.6 ppb on Jan 18 08:00	Maximum Daily Average: 24.8 ppb on Jan 19		Hours of Data:	686
Minimum Value: 0.0 ppb on Jan 8 16:00	Minimum Daily Average: 0.9 ppb on Jan 28		Hours of Missing Data:	58
Maximum Diurnal Average: 12.6 ppb at hour 11	Minimum Diurnal Average: 8.8 ppb at hour 19		Hours of Calibration:	33
Monthly Average: 10.60 ppb	Percentiles: P ₁ = 0.2 P ₁₀ = 1.2 Q ₁ = 4.4 Median = 9.1 Q ₃ = 15.4 P ₉₀ = 22.9 P ₉₉ = 29.2		Percent Operational Time:	96.6

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	Z	8.9	7.4	7.1	7.5	9.6	7.9	7.7	8.0	8.2	7.5	13.8	11.4	7.6	12.8	15.0	17.6	19.2	20.0	20.3	17.1	13.0	12.1	14.6	11.9	20.3	
2-Jan	15.3	Z	16.2	16.2	15.9	17.3	17.7	18.4	18.5	19.1	18.0	24.1	26.8	30.1	32.9	26.1	24.6	23.2	24.4	24.5	23.7	22.9	24.5	27.9	22.1	32.9	
3-Jan	28.1	25.9	Z	19.5	20.5	20.6	18.3	17.9	18.6	19.8	19.2	17.3	13.3	10.6	11.7	10.0	13.1	15.7	16.6	18.0	22.6	25.9	22.0	22.3	18.6	28.1	
4-Jan	24.1	24.0	22.8	Z	23.6	25.8	25.4	21.8	21.9	12.3	19.1	19.5	17.5	17.2	7.5	5.4	4.1	4.2	8.2	24.1	33.1	31.1	28.1	19.9	19.2	33.1	
5-Jan	17.0	17.0	13.7	12.1	Z	10.4	13.1	12.6	13.9	12.8	9.5	11.0	8.8	8.7	12.5	14.4	16.7	16.3	6.8	3.0	4.6	6.1	5.7	5.6	11.0	17.0	
6-Jan	6.0	5.2	4.3	8.2	9.7	Z	7.8	7.8	7.4	7.1	5.2	6.2	10.2	10.5	12.9	13.1	12.6	14.1	15.1	12.9	13.6	10.7	9.8	9.1	9.5	15.1	
7-Jan	Z	9.5	9.9	9.1	8.5	9.5	10.4	12.5	15.7	14.2	12.8	17.4	18.8	17.5	13.2	11.2	12.1	8.8	9.8	7.5	6.7	8.6	11.2	12.2	11.6	18.8	
8-Jan	8.6	Z	2.6	2.0	1.9	1.7	4.1	4.0	1.4	2.2	14.5	8.1	0.3	0.3	0.1	0.0	0.0	0.1	0.1	0.1	0.4	2.8	1.1	0.2	2.5	14.5	
9-Jan	1.1	2.6	Z	13.2	10.7	7.9	6.1	6.0	8.9	6.8	7.2	7.7	5.1	5.0	4.8	16.3	11.6	13.3	10.8	5.6	26.3	29.0	29.0	26.0	11.3	29.0	
10-Jan	21.1	19.1	15.6	Z	2.8	26.6	28.4	22.2	15.1	23.2	23.4	21.4	6.6	13.4	13.9	9.4	6.3	5.5	3.6	9.7	7.8	5.2	3.8	5.8	13.5	28.4	
11-Jan	5.0	4.8	6.9	10.9	Z	11.2	8.1	12.6	10.2	8.8	8.6	8.2	7.4	9.2	9.6	9.8	9.3	8.3	7.7	7.1	6.6	6.5	9.1	10.2	8.5	12.6	
12-Jan	11.5	8.4	5.5	4.6	5.3	Z	7.5	9.3	12.7	13.3	6.6	8.1	8.0	8.0	11.8	7.7	8.5	9.1	13.0	13.5	17.9	16.6	20.5	19.0	10.7	20.5	
13-Jan	Z	12.8	13.5	19.2	21.8	23.0	13.9	6.7	6.8	8.2	6.3	11.6	11.1	9.5	8.6	10.6	12.6	12.2	9.9	7.9	3.8	3.8	5.2	4.1	10.6	23.0	
14-Jan	6.6	Z	24.1	14.3	10.4	6.7	12.4	8.9	17.3	19.5	14.9	11.7	6.3	7.4	2.0	0.9	1.4	1.8	0.4	0.4	0.4	1.8	3.4	3.0	7.7	24.1	
15-Jan	4.2	4.5	Z	0.4	1.2	2.2	1.7	3.4	1.8	0.7	M	M	M	M	M	M	M	M	M	M	M	M	M	M	--	4.5	
16-Jan	M	M	M	M	M	M	M	M	M	M	M	C	C	C	5.7	5.0	2.6	2.9	4.3	4.8	3.8	3.3	2.0	2.0	--	5.7	
17-Jan	3.3	5.6	3.0	1.5	Z	4.0	5.4	9.1	11.7	13.3	7.5	12.2	12.3	11.3	9.3	8.5	10.7	9.6	5.0	3.4	8.9	11.2	10.2	8.8	8.1	13.3	
18-Jan	7.5	8.8	9.8	9.8	13.5	Z	27.2	33.6	33.6	27.9	22.9	17.7	14.7	14.2	17.1	22.4	23.5	23.2	22.0	21.1	24.7	24.8	25.9	26.8	20.6	33.6	
19-Jan	Z	26.5	24.7	23.8	23.6	22.3	20.1	21.1	23.8	23.4	25.1	24.4	30.2	27.4	17.4	22.1	25.2	25.6	27.2	27.0	29.0	26.9	26.3	27.1	24.8	30.2	
20-Jan	27.5	Z	20.4	16.2	14.8	13.9	13.4	13.6	17.0	17.9	19.0	12.5	8.3	10.3	12.9	9.4	10.8	11.0	7.0	7.5	4.0	1.7	1.5	1.4	11.8	27.5	
21-Jan	2.1	2.8	Z	1.3	1.1	1.7	3.1	1.1	1.4	1.3	3.9	2.7	9.6	8.7	5.9	5.1	4.0	3.2	6.0	8.1	4.8	5.9	5.6	5.8	4.1	9.6	
22-Jan	6.0	11.2	13.5	Z	9.7	10.7	10.5	11.7	17.1	17.8	17.0	18.9	22.1	5.6	5.9	20.3	16.9	12.0	14.2	11.8	11.5	10.4	10.4	9.8	12.8	22.1	
23-Jan	9.1	7.8	6.8	6.4	Z	9.8	5.5	2.6	8.0	8.0	3.1	1.6	2.5	1.3	0.3	0.3	0.2	0.2	0.3	0.7	1.2	2.1	2.1	0.2	3.5	9.8	
24-Jan	0.2	0.2	0.1	0.2	0.5	Z	1.8	0.7	1.3	5.1	1.1	4.1	4.9	6.0	3.0	0.2	0.2	0.5	3.7	11.6	3.1	2.5	1.7	2.6	2.4	11.6	
25-Jan	Z	2.6	3.5	4.2	21.1	16.4	14.9	14.0	16.5	8.6	15.9	18.4	12.9	4.2	2.5	0.7	0.3	0.7	0.6	0.6	9.9	17.8	17.9	16.9	9.6	21.1	
26-Jan	13.5	Z	14.8	14.4	15.7	15.9	16.8	15.2	10.9	7.2	14.1	10.4	11.2	11.6	11.1	5.0	3.8	1.3	1.1	2.5	3.8	3.1	2.4	3.1	9.1	16.8	
27-Jan	6.5	6.2	Z	6.3	5.4	6.9	7.1	5.7	2.7	18.5	24.8	18.2	8.8	12.5	11.7	10.6	9.0	9.9	3.3	2.1	0.3	0.2	0.2	0.2	7.7	24.8	
28-Jan	0.2	0.2	0.2	Z	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.3	0.4	6.0	1.4	3.4	5.2	0.9	6.0
29-Jan	0.7	0.4	4.2	1.6	Z	8.8	8.5	12.6	14.7	9.9	6.9	3.6	4.2	5.1	7.9	7.3	5.8	6.5	8.2	5.8	5.7	6.8	3.0	2.1	6.1	14.7	
30-Jan	3.6	3.8	3.2	2.9	3.7	Z	7.0	12.3	14.8	8.7	9.7	13.4	15.1	9.3	6.7	7.5	7.7	7.7	7.6	8.2	8.5	9.1	11.5	16.3	8.6	16.3	
31-Jan	Z	21.7	22.2	21.7	22.3	22.0	22.9	24.3	25.4	22.8	21.4	15.4	11.4	8.4	10.8	9.5	9.4	7.7	6.9	6.4	8.2	7.9	7.2	7.5	14.9	25.4	

9.5	9.6	10.8	9.5	10.9	12.2	11.6	11.7	12.6	12.2	12.6	12.4	11.0	10.0	9.4	9.5	9.4	9.1	8.8	9.2	10.6	10.6	10.6	10.5	Diurnal Average	
28.1	26.5	24.7	23.8	23.6	26.6	28.4	33.6	33.6	27.9	25.1	24.4	30.2	30.1	32.9	26.1	25.2	25.6	27.2	27.0	33.1	31.1	29.0	27.9	Diurnal Maximum	

Z - zerospan C - Calibration M - Maintenance
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Nitrogen Dioxide (NO₂) - ppb
Fort McKay South - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	589	85.86	85.86
21 - 40	97	14.14	100.00
41 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 686

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Dioxide (NO₂) - ppb
Fort McKay South - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	63	72	10	2	1	2	6	45	130	29	26	49	50	38	32	18	573
21 - 40	14	4	0	2	1	0	5	11	13	7	7	11	8	1	3	2	89
11 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	77	76	10	4	2	2	11	56	143	36	33	60	58	39	35	20	662

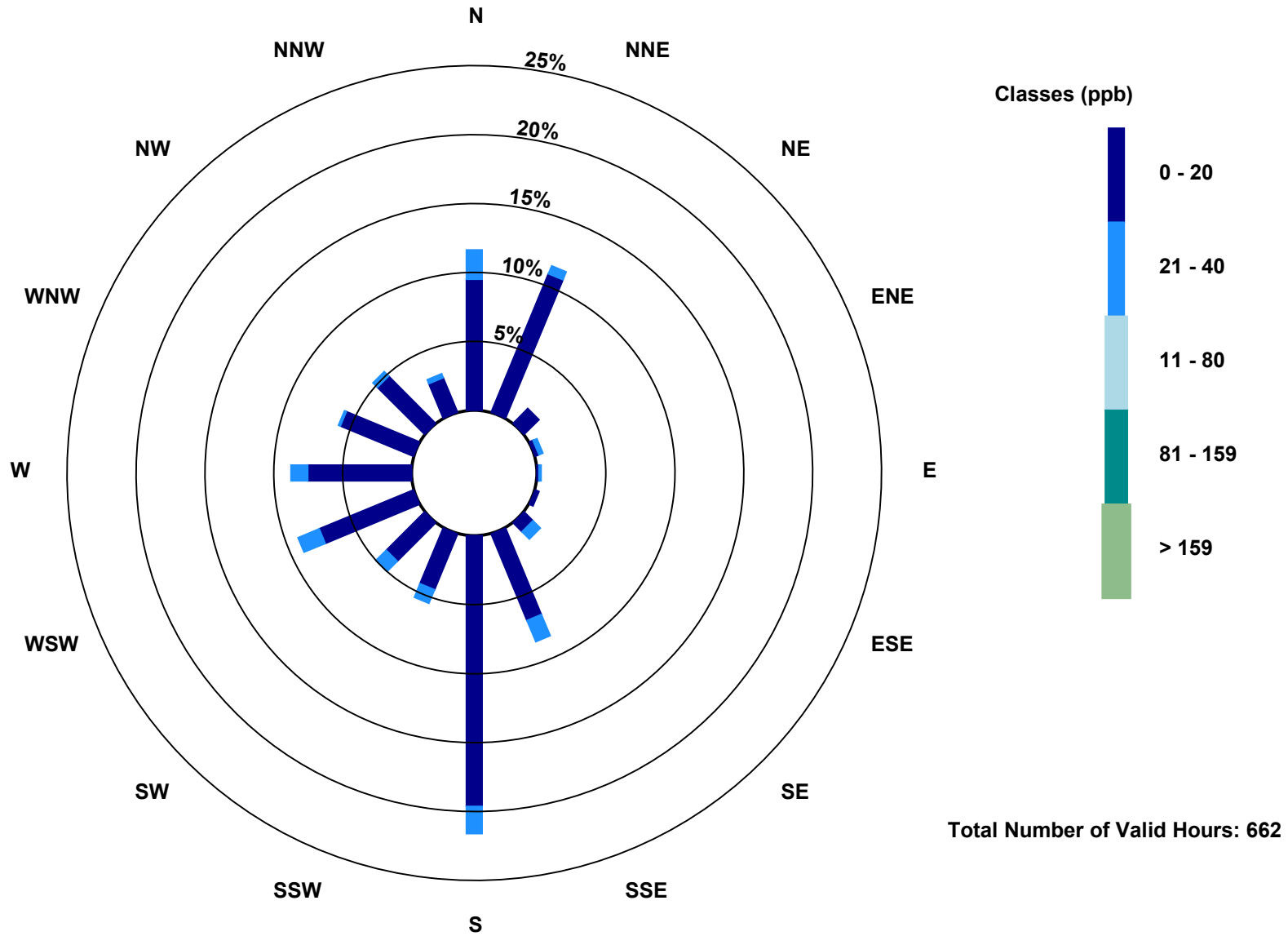
Total Number of Valid Hours: 662

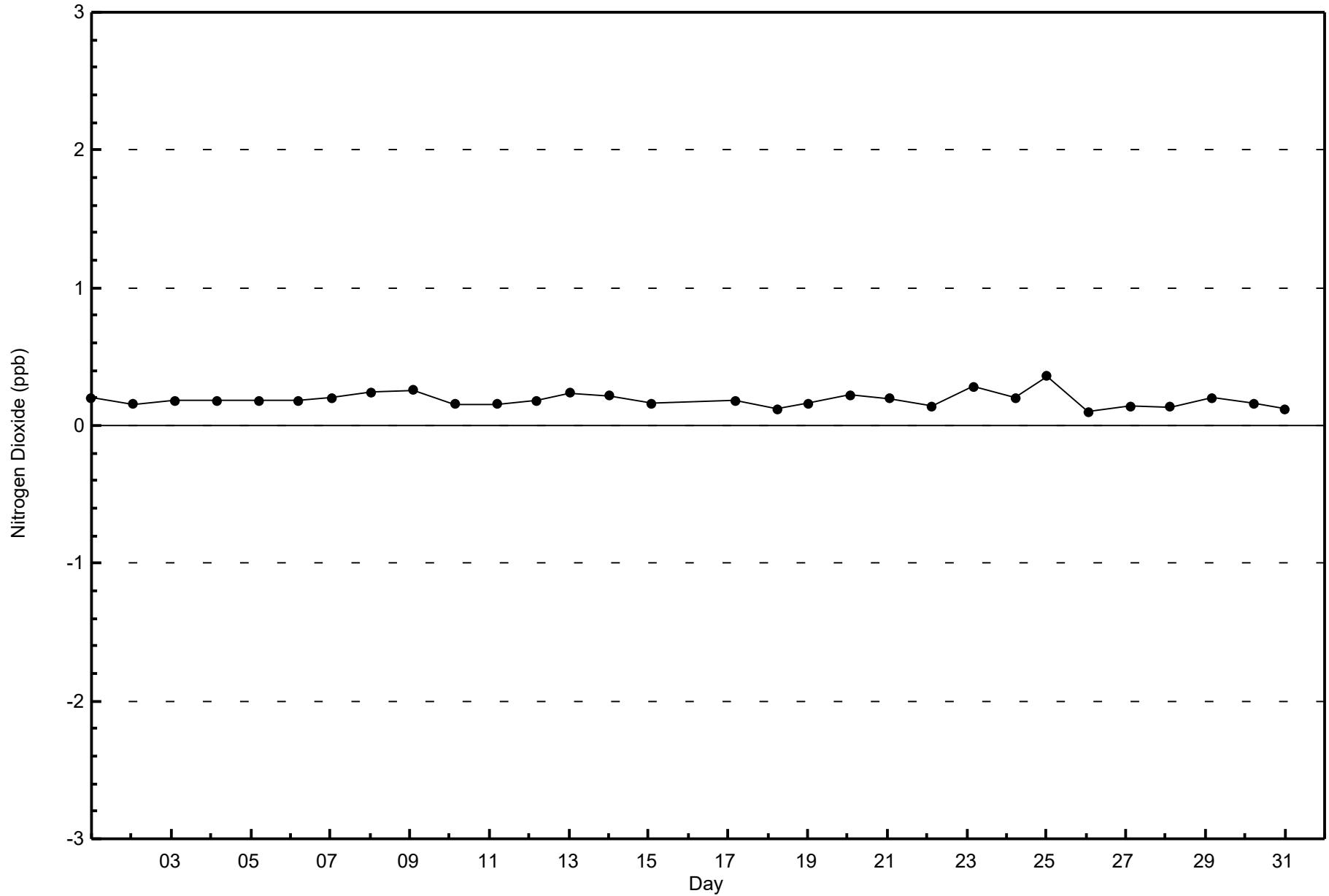
Total Number of Hours: 744

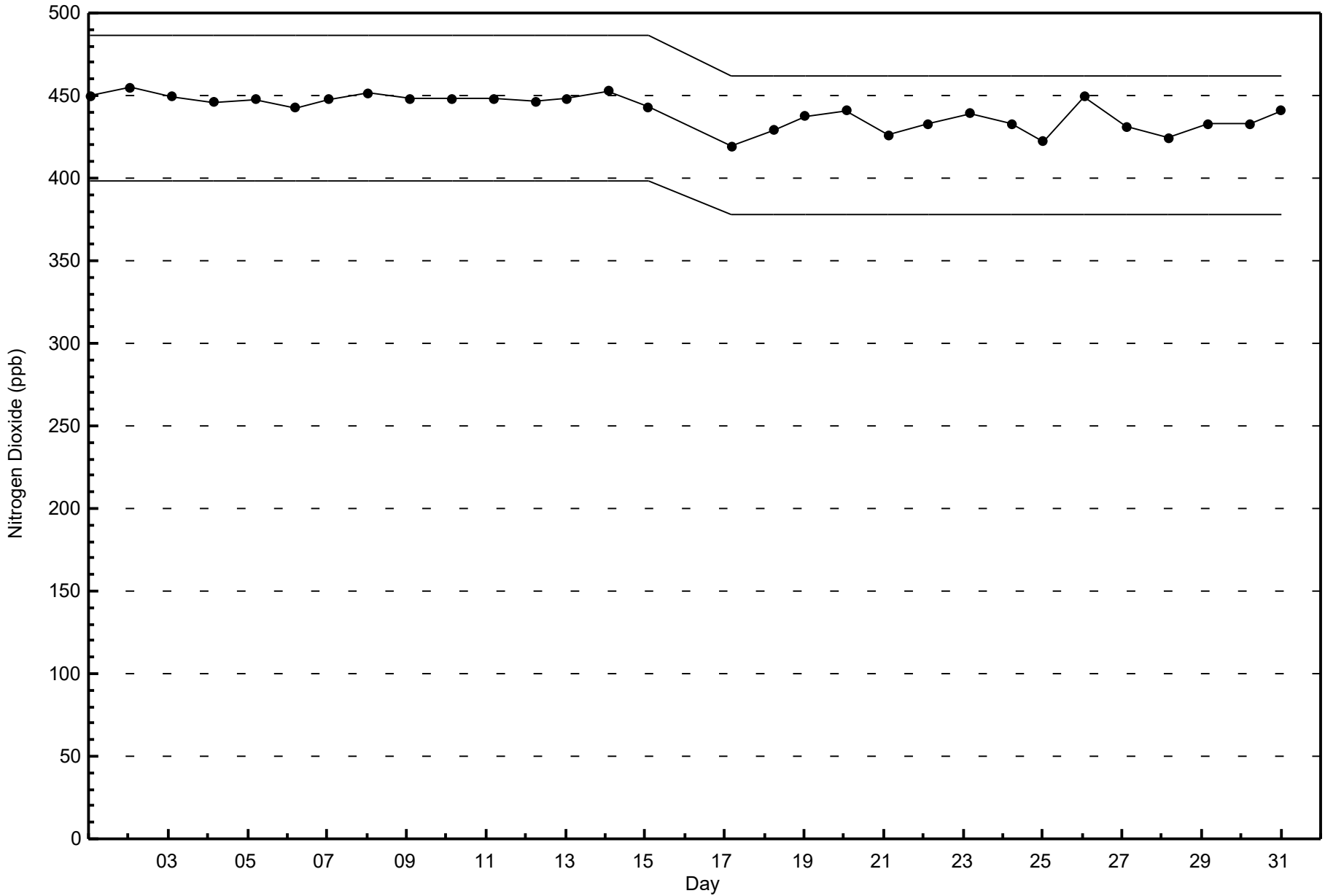


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Dioxide (NO₂) - ppb
Fort McKay South









Wood Buffalo Environmental Association
Summary of Hour Averages

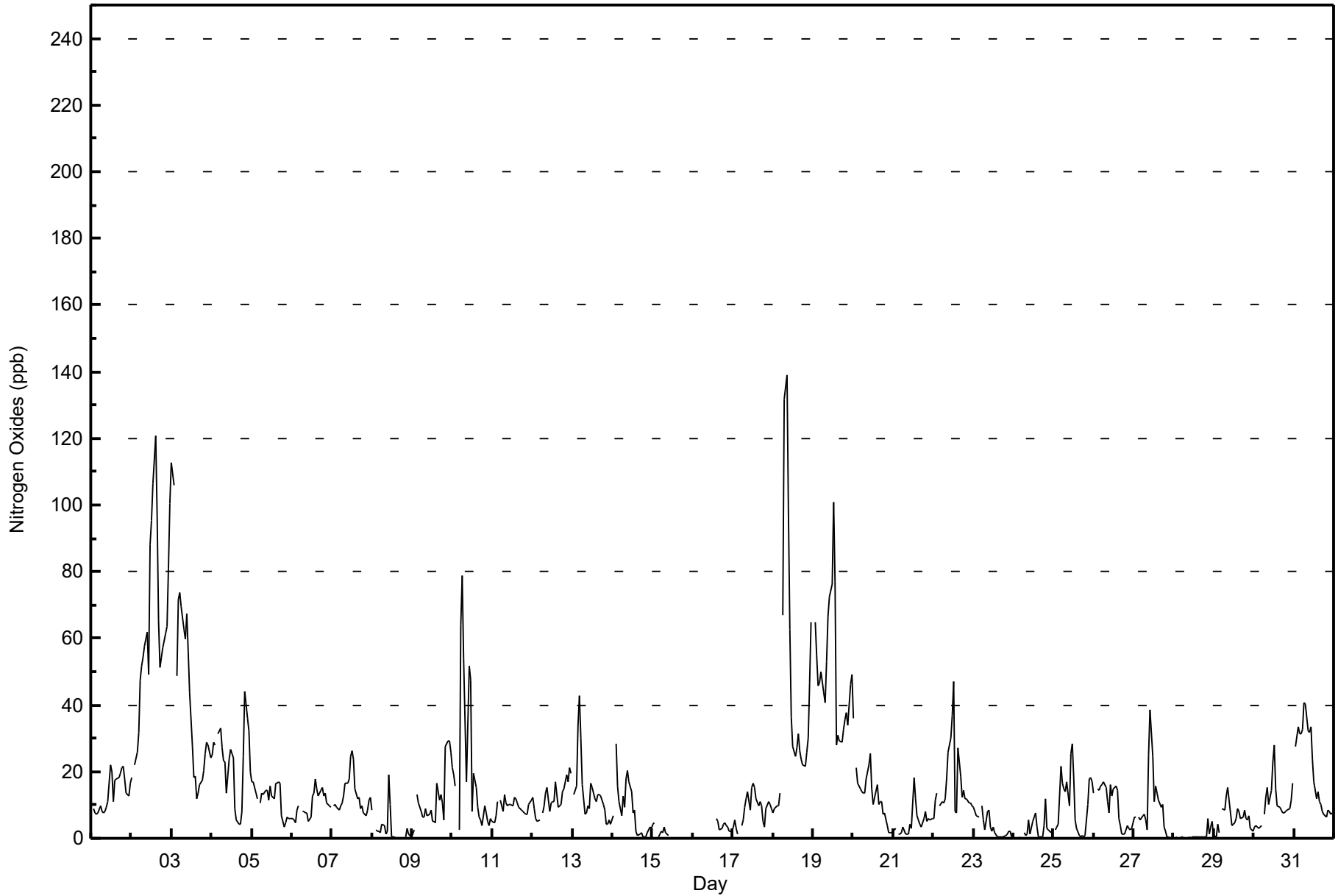
Nitrogen Oxides (NO_x) - ppb
Fort McKay South - January 2025

Maximum Value: 139.0 ppb on Jan 18 09:00		Maximum Daily Average: 63.6 ppb on Jan 2		Hours in Service: 744																							
Minimum Value: 0.0 ppb on Jan 8 17:00		Minimum Daily Average: 0.9 ppb on Jan 28		Hours of Data: 686																							
Maximum Diurnal Average: 22.4 ppb at hour 12		Minimum Diurnal Average: 10.1 ppb at hour 19		Hours of Missing Data: 58																							
Monthly Average: 15.78 ppb		Percentiles: P ₁ = 0.2 P ₁₀ = 1.2 Q ₁ = 4.8 Median = 9.9 Q ₃ = 17.4 P ₉₀ = 34.9 P ₉₉ = 100.7		Hours of Calibration: 33																							
				Percent Operational Time: 96.6																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	Z	8.9	7.4	7.1	7.5	9.6	7.9	7.7	8.0	9.5	11.1	22.1	20.0	11.0	17.4	17.6	18.3	19.6	21.2	21.7	18.0	13.6	12.7	16.4	13.7	22.1	
2-Jan	18.3	Z	21.9	26.0	31.9	47.4	51.6	54.1	57.7	62.0	49.4	88.2	95.4	106.4	120.7	96.7	65.2	51.4	54.4	57.4	61.3	63.5	81.0	100.6	63.6	120.7	
3-Jan	112.5	106.1	Z	48.7	71.8	73.9	69.3	62.8	59.9	67.2	55.9	43.6	27.6	18.2	18.6	11.8	13.6	16.0	17.3	20.5	25.3	28.6	28.2	24.1	44.4	112.5	
4-Jan	25.0	28.6	27.8	Z	31.5	33.1	27.2	23.3	22.9	13.4	23.9	26.8	25.2	24.0	8.8	5.7	4.1	4.2	8.2	24.4	44.3	36.2	32.0	20.0	22.6	44.3	
5-Jan	17.0	17.0	13.7	12.1	Z	10.7	13.4	13.0	14.3	14.3	11.6	15.6	12.6	12.0	16.6	16.4	17.1	16.5	6.9	3.2	4.8	6.4	6.0	5.8	12.0	17.1	
6-Jan	6.0	5.4	4.5	8.3	9.7	Z	8.0	8.1	7.8	7.7	5.2	6.2	12.7	13.7	17.6	14.7	12.6	14.3	15.2	12.9	13.6	10.7	9.8	9.2	10.2	17.6	
7-Jan	Z	9.7	10.1	9.3	8.6	9.7	10.7	12.9	16.4	16.5	17.6	24.5	26.3	23.9	14.7	11.7	12.1	8.8	9.8	7.5	6.7	8.6	11.2	12.2	13.0	26.3	
8-Jan	8.6	Z	2.6	2.0	1.9	1.7	4.1	4.0	1.4	2.3	19.1	10.1	0.4	0.3	0.1	0.0	0.0	0.1	0.1	0.1	0.4	2.8	1.1	0.2	2.8	19.1	
9-Jan	1.1	2.6	Z	13.3	10.8	8.0	6.2	6.2	8.9	6.8	7.3	8.3	5.1	5.0	4.8	16.6	11.6	13.3	10.8	5.6	27.4	29.2	29.2	26.0	11.5	29.2	
10-Jan	21.3	19.3	15.7	Z	2.8	64.1	78.8	54.0	17.2	34.2	51.7	47.4	8.0	19.5	15.3	9.5	6.3	5.5	3.6	9.7	7.8	5.2	3.8	5.8	22.0	78.8	
11-Jan	5.0	4.8	6.9	10.9	Z	11.4	8.3	13.0	10.6	9.6	10.2	10.3	9.7	12.4	11.7	10.5	9.3	8.4	8.0	7.6	7.1	7.4	10.0	11.2	9.3	13.0	
12-Jan	12.3	9.1	6.0	5.0	5.5	Z	7.8	9.8	13.5	15.1	8.1	10.6	11.1	11.1	16.8	9.2	9.5	10.1	14.1	14.6	19.1	17.1	21.1	19.4	12.0	21.1	
13-Jan	Z	13.1	15.5	34.0	42.6	29.9	16.0	7.3	7.5	9.9	8.7	16.7	15.0	11.9	11.2	13.2	13.3	12.6	10.3	8.5	4.4	4.3	5.6	4.3	13.7	42.6	
14-Jan	6.6	Z	28.3	15.8	10.9	6.9	12.7	9.2	17.8	20.5	16.8	13.9	7.5	8.4	2.2	0.9	1.4	1.8	0.4	0.4	0.4	1.8	3.4	3.0	8.3	28.3	
15-Jan	4.2	4.5	Z	0.4	1.2	2.2	1.7	3.4	1.8	0.7	M	M	M	M	M	M	M	M	M	M	M	M	M	M	--	4.5	
16-Jan	M	M	M	M	M	M	M	M	M	M	M	C	C	C	6.1	5.2	2.6	2.9	4.3	4.8	3.8	3.3	2.0	2.0	--	6.1	
17-Jan	3.3	5.6	3.0	1.5	Z	4.0	5.4	9.1	11.7	13.9	8.6	15.3	16.4	15.2	11.9	9.6	10.9	9.6	5.0	3.4	8.9	11.2	10.2	8.8	8.8	16.4	
18-Jan	7.5	8.8	9.8	9.8	13.5	Z	66.9	131.7	139.0	97.5	62.6	36.6	27.5	24.7	27.3	31.6	26.4	23.8	22.0	21.6	26.0	30.0	46.8	64.8	41.6	139.0	
19-Jan	Z	65.0	54.7	45.8	46.5	50.1	43.7	40.7	53.1	66.4	72.7	76.4	101.0	77.1	27.8	31.0	29.2	28.9	32.5	35.6	37.9	34.0	46.3	49.3	49.8	101.0	
20-Jan	36.1	Z	21.2	16.4	15.0	14.0	13.5	13.7	17.8	21.9	25.5	15.0	10.2	12.5	16.1	10.2	10.9	11.0	7.0	7.5	4.0	1.7	1.6	1.5	13.2	36.1	
21-Jan	2.2	2.9	Z	1.4	1.2	1.8	3.2	1.2	1.5	1.4	4.2	2.9	18.1	11.8	6.9	5.7	4.2	3.4	6.1	8.2	4.9	6.0	5.7	5.9	4.8	18.1	
22-Jan	6.0	11.3	13.6	Z	9.9	10.8	10.6	11.9	17.9	25.7	30.0	36.9	46.9	8.2	7.5	27.2	18.6	12.3	14.5	12.0	11.7	10.6	10.5	9.9	16.3	46.9	
23-Jan	9.3	7.9	6.9	6.5	Z	9.9	5.6	2.6	8.1	8.3	3.4	1.9	3.2	1.6	0.4	0.4	0.3	0.3	0.3	0.7	1.2	2.1	2.1	0.2	3.6	9.9	
24-Jan	0.2	0.2	0.1	0.2	0.5	Z	1.8	0.7	1.3	5.4	1.2	5.1	6.1	7.5	3.5	0.2	0.2	0.5	3.7	11.7	3.1	2.6	1.7	2.7	2.6	11.7	
25-Jan	Z	2.6	3.5	4.2	21.4	16.5	15.0	14.1	16.9	9.8	25.5	28.3	18.1	5.4	3.0	0.8	0.4	0.8	0.6	0.7	10.0	17.9	18.1	17.1	10.9	28.3	
26-Jan	13.7	Z	14.8	14.4	15.8	16.0	16.9	15.2	11.0	7.6	16.3	12.8	15.0	15.6	14.5	5.8	4.0	1.3	1.1	2.6	3.8	3.1	2.4	3.1	9.9	16.9	
27-Jan	6.5	6.2	Z	6.3	5.4	6.9	7.1	5.7	2.7	25.1	38.4	24.6	11.0	15.9	13.5	11.4	9.1	10.0	3.3	2.1	0.3	0.2	0.2	0.2	9.2	38.4	
28-Jan	0.2	0.2	0.2	Z	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.3	0.4	6.0	1.4	3.4	5.2	0.9	6.0
29-Jan	0.7	0.4	4.2	1.6	Z	8.9	8.5	12.7	15.2	11.5	7.5	4.0	4.8	5.9	9.1	8.0	6.0	6.6	8.3	5.8	5.7	6.8	3.0	2.1	6.4	15.2	
30-Jan	3.6	3.8	3.2	2.9	3.7	Z	7.0	12.3	15.2	10.3	14.3	22.9	27.8	14.8	9.6	9.5	8.3	7.7	7.6	8.2	8.5	9.1	11.5	16.6	10.4	27.8	
31-Jan	Z	27.7	33.7	31.4	31.4	32.6	40.5	40.4	32.2	31.6	33.7	23.5	16.8	11.8	14.1	11.2	10.0	7.9	7.0	6.5	8.3	8.0	7.3	7.6	20.7	40.5	
13.6 14.9 13.2 12.9 16.1 19.2 19.0 20.0 20.3 20.9 22.1 22.4 20.7 17.5 14.9 13.4 11.2 10.3 10.1 10.9 12.8 12.8 14.3 15.2																								Diurnal Average			
112.5 106.1 54.7 48.7 71.8 73.9 78.8 131.7 139.0 97.5 72.7 88.2 101.0 106.4 120.7 96.7 65.2 51.4 54.4 57.4 61.3 63.5 81.0 100.6																								Diurnal Maximum			
Z - zerospan C - Calibration M - Maintenance																											



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Fort McKay South - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Fort McKay South - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	540	78.72	78.72
21 - 40	85	12.39	91.11
41 - 80	48	7.00	98.11
81 - 159	12	1.75	99.85
> 159	0	0.00	99.85

Total Number of Valid Hours: 686

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Oxides (NO_x) - ppb
Fort McKay South - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	59	69	9	2	0	2	5	35	118	28	23	48	47	38	32	17	532
21 - 40	12	5	1	2	1	0	2	17	18	7	4	5	5	1	1	1	82
11 - 80	6	2	0	0	1	0	1	2	7	1	4	4	5	0	2	2	37
81 - 159	0	0	0	0	0	0	3	2	0	0	2	2	1	0	0	0	10
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	77	76	10	4	2	2	11	56	143	36	33	59	58	39	35	20	661

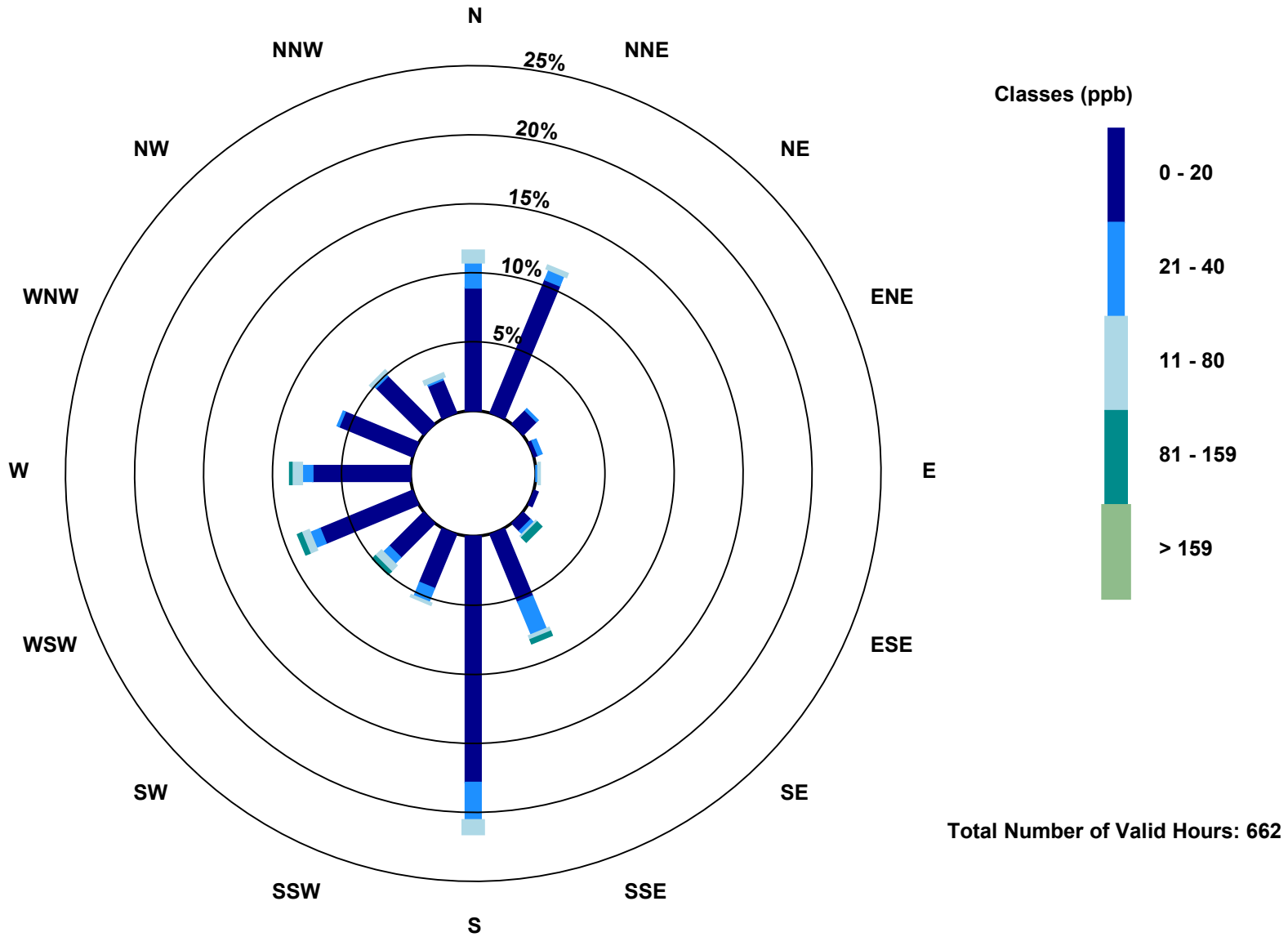
Total Number of Valid Hours: 662

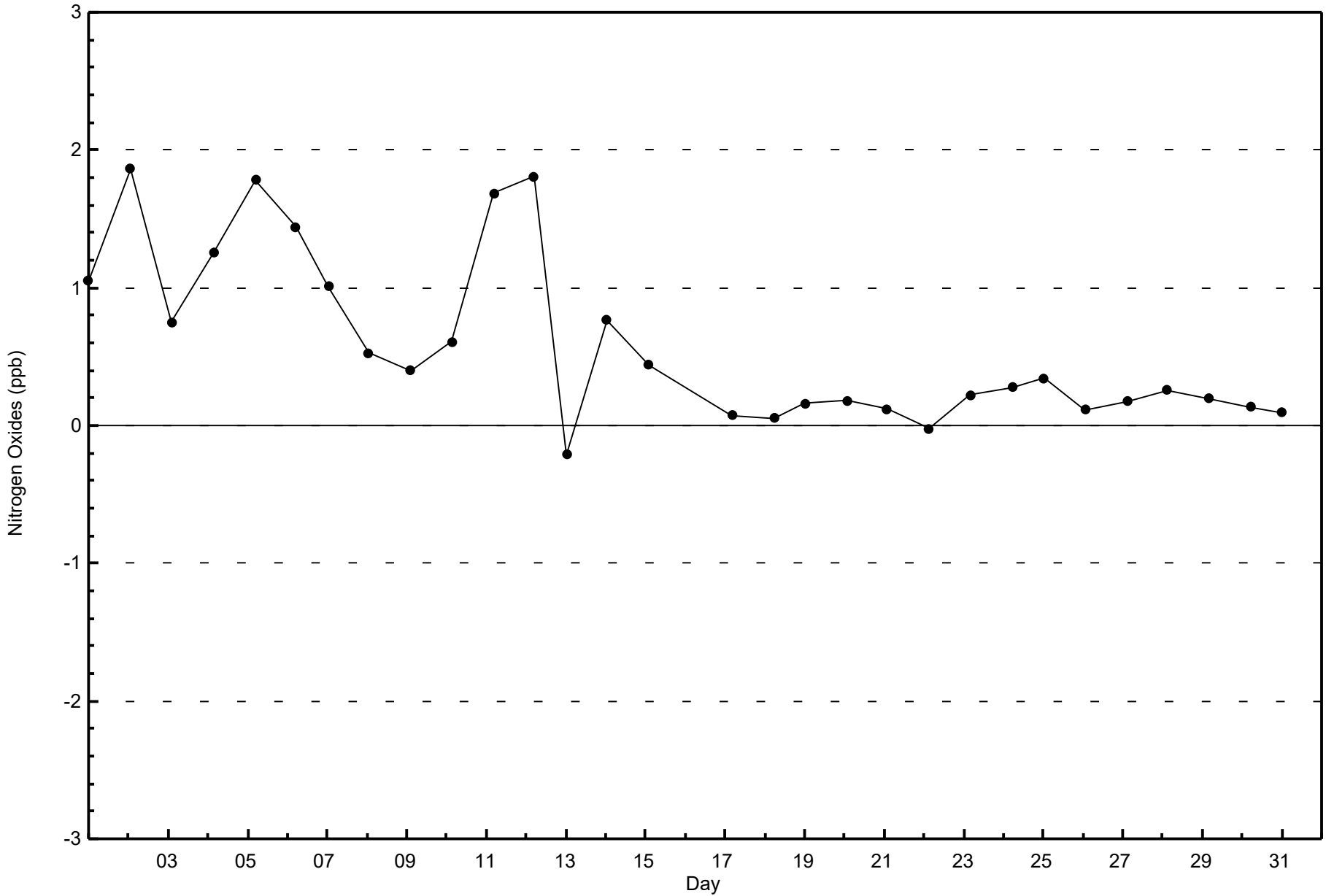
Total Number of Hours: 744

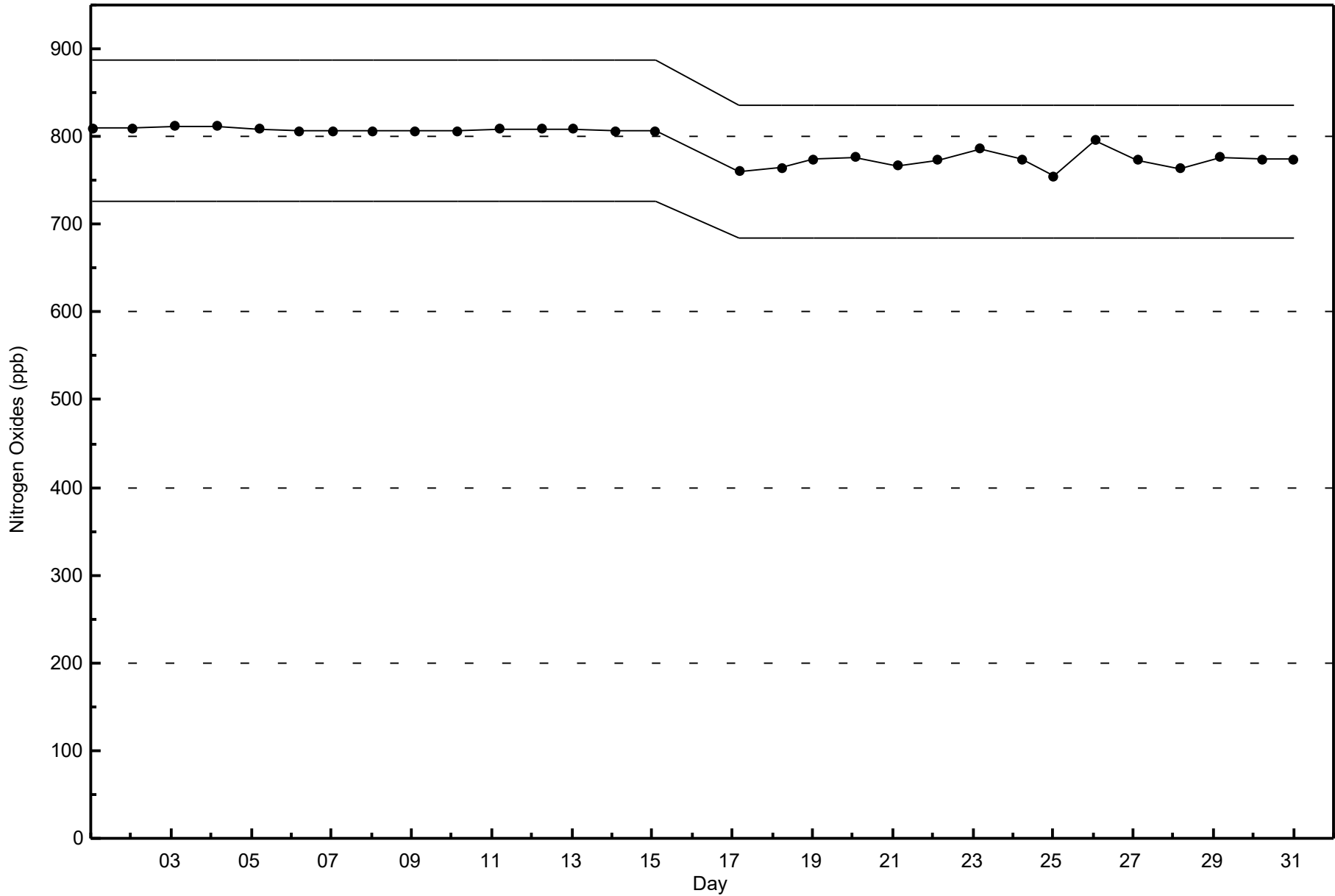


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Oxides (NO_x) - ppb
Fort McKay South









Wood Buffalo Environmental Association

Summary of Hour Averages

Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Fort McKay South - January 2025

Number of Exceedences (AAAQO):		1-hr: 0	24-hr: 0	Hours in Service: 744																	Daily Average		Daily Maximum			
Maximum Value: 21.4 µg/m ³ on Jan 12 15:00		Maximum Daily Average: 11.1 µg/m ³ on Jan 12																	Hours of Data: 743		Hours of Missing Data: 1					
Minimum Value: 0.2 µg/m ³ on Jan 8 18:00		Minimum Daily Average: 0.8 µg/m ³ on Jan 15																	Hours of Calibration: 1		Percent Operational Time: 100.0					
Maximum Diurnal Average: 5.1 µg/m ³ at hour 12		Minimum Diurnal Average: 3.5 µg/m ³ at hour 21																								
Monthly Average: 4.07 µg/m ³		Percentiles: P ₁ = 0.3 P ₁₀ = 0.8 Q ₁ = 2.1 Median = 3.4 Q ₃ = 5.3 P ₉₀ = 7.7 P ₉₉ = 17.4																								
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	2.6	2.6	2.5	2.4	2.5	3.3	3.0	2.7	2.7	2.8	2.8	4.0	3.8	4.0	4.2	3.8	3.5	3.4	3.3	3.1	2.8	2.5	2.5	2.4	3.0	4.2
2-Jan	2.3	2.3	2.3	2.4	2.3	2.4	2.5	2.6	2.8	3.3	3.5	4.8	5.5	7.5	9.1	6.6	5.8	5.9	5.9	5.7	5.2	5.2	5.8	6.7	4.5	9.1
3-Jan	6.0	5.1	4.2	3.8	4.1	4.9	4.1	4.2	4.4	4.7	5.3	5.8	5.9	4.8	5.1	3.7	4.2	4.3	3.9	3.4	4.1	7.3	4.8	4.5	4.7	7.3
4-Jan	5.7	5.9	4.0	4.4	4.5	4.6	6.0	5.5	5.6	3.5	4.3	4.8	4.3	5.9	3.0	1.9	1.8	1.9	2.5	3.0	3.3	3.0	3.2	3.7	4.0	6.0
5-Jan	3.6	3.4	3.4	3.4	3.4	3.2	3.3	3.3	3.2	3.1	3.0	3.1	3.1	3.0	3.2	3.2	3.2	3.4	2.6	2.4	2.6	2.6	2.7	2.7	3.1	3.6
6-Jan	2.8	2.8	2.8	4.8	3.8	3.4	3.2	2.9	3.3	3.2	3.8	4.2	7.2	5.8	8.0	5.9	5.7	6.6	8.6	8.6	10.4	9.2	8.6	8.4	5.6	10.4
7-Jan	8.9	9.5	10.5	10.9	11.4	11.3	10.4	9.9	9.6	9.1	9.8	14.5	12.8	12.1	8.1	5.2	3.2	2.9	3.6	4.8	5.0	5.0	5.7	5.7	8.3	14.5
8-Jan	4.9	4.1	3.5	3.1	2.7	2.2	1.8	1.0	0.4	0.3	0.6	0.9	0.3	0.4	0.3	0.3	0.3	0.2	0.3	0.3	0.4	0.5	0.5	0.4	1.2	4.9
9-Jan	0.4	0.5	1.6	2.5	2.8	2.5	2.6	2.6	2.9	2.8	2.8	3.5	3.2	4.1	5.4	8.2	6.8	6.4	5.1	4.3	5.8	6.1	6.1	6.7	4.0	8.2
10-Jan	9.1	10.5	6.8	5.6	4.9	8.5	11.4	11.4	11.3	13.1	13.2	12.3	7.6	10.1	6.5	4.6	3.8	3.4	3.4	3.4	3.1	3.0	2.9	3.5	7.2	13.2
11-Jan	3.4	3.1	2.8	2.8	2.7	2.8	2.4	2.4	2.5	2.8	2.9	2.7	2.5	2.5	2.5	2.2	2.1	1.9	1.8	1.6	1.5	1.7	2.4	2.8	2.4	3.4
12-Jan	3.2	4.9	4.4	3.5	3.6	4.2	4.2	3.7	3.9	10.3	13.2	17.3	19.1	17.4	21.4	19.6	16.2	12.5	11.8	10.6	9.7	11.8	18.8	20.8	11.1	21.4
13-Jan	20.4	18.4	16.8	17.0	14.7	7.8	5.1	4.3	4.4	4.1	4.2	7.6	5.5	4.5	4.7	5.1	4.7	4.8	4.3	4.0	2.8	2.5	2.4	1.8	7.2	20.4
14-Jan	1.6	2.7	3.6	2.4	2.2	3.2	4.4	3.5	7.3	8.8	8.2	5.9	2.8	2.2	1.5	0.9	0.6	0.5	0.4	0.5	0.5	0.5	0.6	0.8	2.7	8.8
15-Jan	1.0	1.0	0.7	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.6	0.4	0.4	0.4	0.5	1.4	1.1	0.9	1.5	1.7	2.3	2.8	0.8	2.8
16-Jan	3.6	3.1	3.4	3.8	2.0	1.6	1.4	1.4	1.3	1.1	1.0	0.8	0.8	0.6	0.9	0.4	0.4	0.6	0.6	0.5	0.7	1.2	1.6	1.7	1.4	3.8
17-Jan	2.1	2.4	1.9	1.8	2.3	2.5	2.4	2.5	2.7	2.8	2.8	2.9	2.9	2.8	2.7	3.0	3.2	2.8	2.5	2.3	2.8	2.9	2.5	2.3	2.6	3.2
18-Jan	2.1	2.2	2.1	1.9	2.1	2.1	3.5	4.0	3.5	2.8	4.0	5.5	5.7	6.3	6.0	7.6	6.7	5.3	3.8	3.7	4.3	4.2	4.1	4.0	4.1	7.6
19-Jan	3.3	2.8	2.5	2.3	2.3	3.1	2.6	2.5	2.9	3.8	5.7	6.0	7.8	6.5	6.5	10.7	9.4	8.0	8.2	8.6	9.3	7.9	7.2	6.8	5.7	10.7
20-Jan	6.0	5.1	4.6	3.9	4.2	4.2	3.6	3.5	4.1	5.2	5.6	5.0	4.1	5.9	6.4	7.0	6.7	6.3	6.3	5.5	4.0	3.1	2.8	2.6	4.8	7.0
21-Jan	2.5	2.0	1.5	1.4	1.5	1.5	1.5	1.2	1.0	0.9	0.8	0.6	1.1	1.9	2.8	3.6	3.9	3.5	3.5	3.6	3.4	3.2	2.9	2.9	2.2	3.9
22-Jan	2.9	3.1	4.0	4.4	5.9	5.3	5.3	5.4	5.8	6.1	5.9	6.8	7.8	0.8	0.4	0.9	1.0	0.9	1.4	2.4	3.2	3.8	3.4	4.5	3.8	7.8
23-Jan	4.1	4.0	4.4	4.8	4.5	4.5	4.0	3.5	3.3	2.9	2.0	1.2	C	0.6	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.5	0.4	2.1	4.8
24-Jan	0.5	0.5	0.4	0.7	0.7	1.3	1.4	1.0	1.9	3.7	4.1	5.0	5.7	6.2	5.3	3.8	3.0	2.9	2.9	3.2	1.4	1.6	0.9	0.9	2.5	6.2
25-Jan	0.9	0.9	1.3	1.9	3.1	2.8	2.8	5.3	8.2	9.3	9.1	7.3	5.9	3.3	2.6	1.3	0.9	0.9	0.9	0.8	1.4	3.2	5.3	7.3	3.6	9.3
26-Jan	9.0	7.2	5.5	5.1	4.8	4.8	5.0	5.0	4.6	4.1	4.2	3.4	3.6	3.2	2.9	2.7	2.9	3.2	2.9	2.9	2.5	2.1	1.4	1.2	3.9	9.0
27-Jan	1.2	1.8	5.0	8.6	6.4	6.1	7.5	6.9	5.7	5.5	4.8	3.2	2.6	2.8	3.2	3.4	3.4	4.3	9.0	7.0	1.3	1.2	1.1	0.9	4.3	9.0
28-Jan	0.6	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.9	0.9	1.1	0.9	0.8	0.9	1.0	1.0	1.0	1.0	1.4	1.2	1.4	1.6	0.9	1.6
29-Jan	1.4	1.4	1.6	1.3	1.8	1.9	2.0	2.8	3.1	3.1	2.2	1.6	2.6	3.3	3.8	3.1	3.4	4.0	4.1	3.9	3.6	3.5	3.6	2.8	2.7	4.1
30-Jan	3.1	3.4	3.6	3.4	3.3	3.9	3.9	5.2	6.5	4.6	5.1	7.8	8.8	7.7	7.5	6.1	4.8	4.6	4.7	4.4	4.5	5.5	6.3	6.6	5.2	8.8
31-Jan	6.5	6.5	6.8	6.0	5.9	5.8	7.3	7.6	6.7	6.9	8.3	6.9	6.9	6.2	6.4	6.4	6.0	5.5	5.6	5.5	5.9	5.1	4.7	4.7	6.3	8.3
4.1 4.0 3.9 3.9 3.8 3.8 3.8 3.8 4.1 4.4 4.7 5.1 5.1 4.6 4.6 4.3 3.9 3.7 3.7 3.6 3.5 3.6 3.8 4.0																								Diurnal Average		
20.4 18.4 16.8 17.0 14.7 11.3 11.4 11.4 11.3 13.1 13.2 17.3 19.1 17.4 21.4 19.6 16.2 12.5 11.8 10.6 10.4 11.8 18.8 20.8																								Diurnal Maximum		
C - Calibration																										
Alberta Ambient Air Quality Guideline/Objectives: 1-hr 80 µg/m ³ 24-hr 29 µg/m ³																										



Wood Buffalo Environmental Association
Hourly Averages

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Fort McKay South - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Fort McKay South - January 2025

Concentration Ranges ($\mu\text{g}/\text{m}^3$)	Number of Hours	%	Cumulative %
0 - 5	567	76.31	76.31
6 - 15	164	22.07	98.38
16 - 25	12	1.62	100.00
26 - 80	0	0.00	100.00
> 81.0	0	0.00	100.00

Total Number of Valid Hours: 743

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - μg/m³
Fort McKay South - January 2025

Concentration Ranges (μg/m ³)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	77	75	9	2	0	1	7	31	80	31	35	53	53	38	34	19	545
6 - 15	13	11	1	2	2	1	4	25	60	8	5	10	8	4	3	3	160
16 - 25	0	0	0	0	0	0	0	3	8	1	0	0	0	0	0	0	12
26 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 81.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	90	86	10	4	2	2	11	59	148	40	40	63	61	42	37	22	717

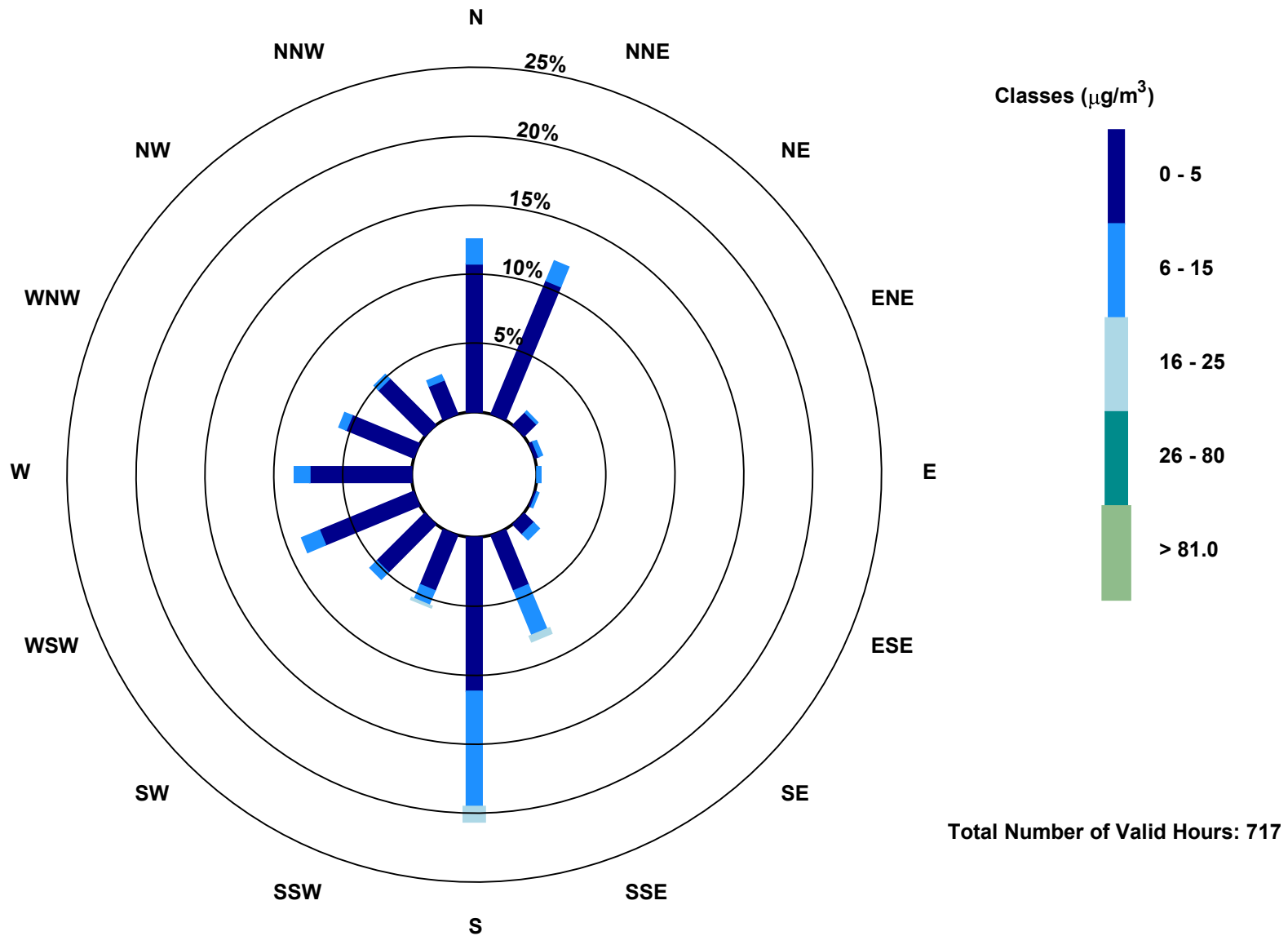
Total Number of Valid Hours: 717

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Fort McKay South

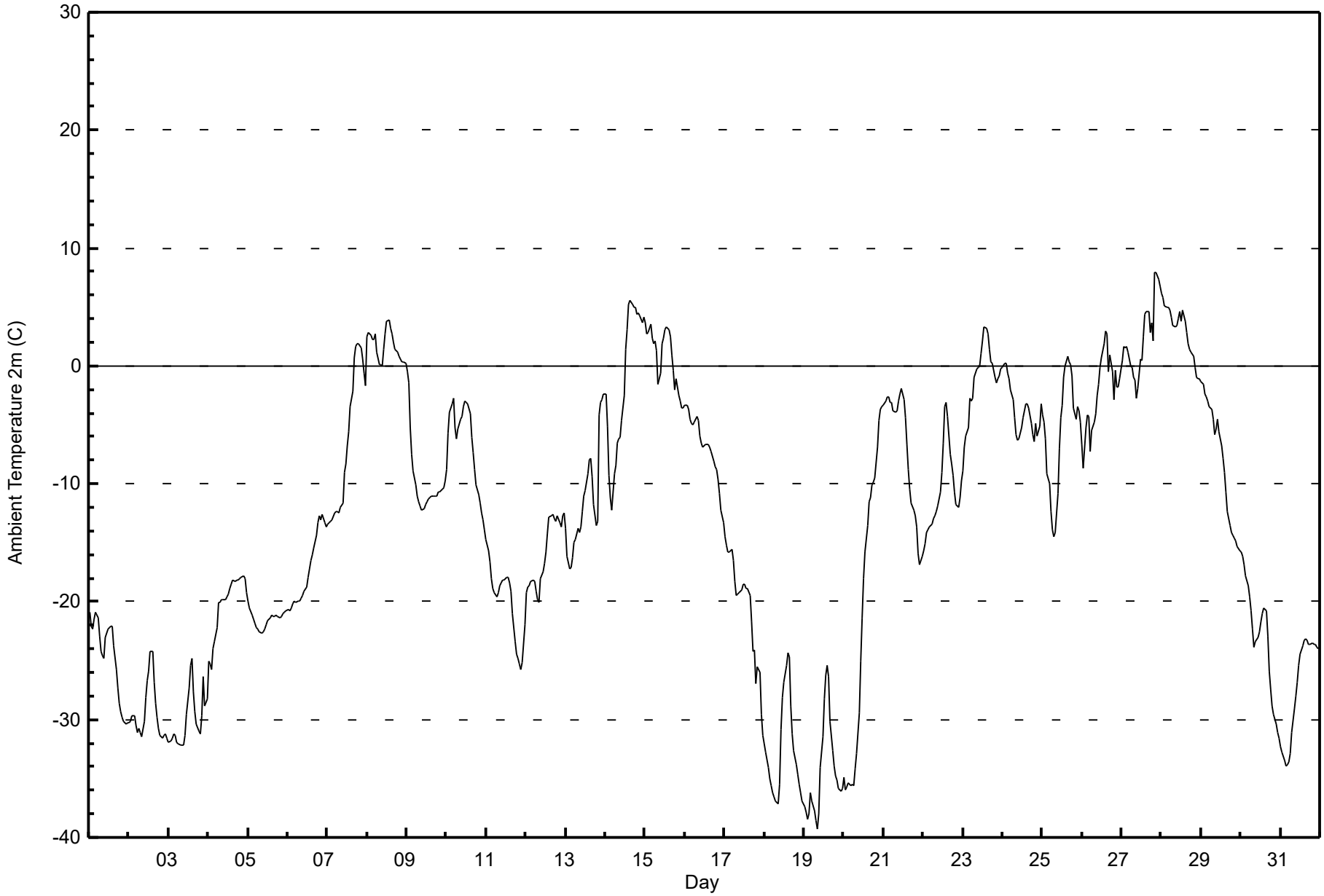




Wood Buffalo Environmental Association
Summary of Hour Averages

Ambient Temperature 2m (AT2) - C
Fort McKay South - January 2025

Maximum Value: 8.0 C on Jan 27 21:00		Maximum Daily Average: 3.0 C on Jan 28		Hours in Service: 744																						
Minimum Value: -39.3 C on Jan 19 09:00		Minimum Daily Average: -34.4 C on Jan 19		Hours of Data: 744																						
Maximum Diurnal Average: -10.1 C at hour 15		Minimum Diurnal Average: -15.1 C at hour 9		Hours of Missing Data: 0																						
Monthly Average: -13.26 C		Percentiles: P ₁ = -37.3 P ₁₀ = -31.1 Q ₁ = -22.1 Median = -12.4 Q ₃ = -3.1 P ₉₀ = 1.6 P ₉₉ = 5.2		Hours of Calibration: 0																						
				Percent Operational Time: 100.0																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	-20.9	-22.1	-22.3	-21.5	-20.9	-21.4	-22.9	-24.3	-24.6	-24.8	-23.1	-22.3	-22.2	-22.1	-22.1	-23.7	-25.7	-27.4	-28.6	-29.4	-29.7	-30.2	-30.4	-30.3	-24.7	-20.9
2-Jan	-30.2	-30.1	-29.6	-29.6	-30.5	-31.1	-30.7	-31.1	-31.4	-30.1	-28.1	-26.7	-25.9	-24.3	-24.3	-26.8	-28.6	-29.9	-30.8	-31.3	-31.6	-31.3	-31.2	-31.6	-29.5	-24.3
3-Jan	-31.9	-31.8	-31.6	-31.2	-31.4	-31.9	-32.1	-32.2	-32.1	-32.2	-31.3	-29.5	-27.3	-25.5	-24.8	-27.6	-29.4	-30.4	-31.0	-31.3	-29.7	-26.3	-28.9	-28.3	-30.0	-24.8
4-Jan	-25.0	-25.3	-25.8	-24.0	-23.3	-22.1	-20.1	-20.1	-19.9	-19.9	-19.8	-19.6	-19.3	-18.8	-18.5	-18.2	-18.2	-18.2	-18.2	-18.1	-17.9	-17.8	-18.1	-19.3	-20.2	-17.8
5-Jan	-19.9	-20.6	-21.1	-21.5	-21.8	-22.2	-22.3	-22.6	-22.6	-22.5	-22.3	-22.0	-21.7	-21.3	-21.2	-21.2	-21.2	-21.1	-21.3	-21.4	-21.2	-21.1	-20.9	-20.8	-21.5	-19.9
6-Jan	-20.7	-20.8	-20.5	-20.2	-20.0	-20.0	-20.0	-20.0	-19.7	-19.5	-19.2	-18.8	-17.9	-17.2	-16.5	-16.0	-15.4	-14.4	-13.3	-12.7	-13.1	-12.6	-13.3	-13.7	-17.3	-12.6
7-Jan	-13.5	-13.3	-13.1	-13.1	-12.5	-12.4	-12.4	-12.5	-12.1	-11.7	-9.0	-8.3	-6.8	-5.6	-3.5	-2.2	0.7	1.7	1.9	1.9	1.5	0.6	-0.6	-1.7	-6.5	1.9
8-Jan	2.5	2.9	2.5	2.3	2.2	2.7	1.1	0.2	0.2	0.0	1.4	2.7	3.8	3.9	3.2	2.7	2.0	1.4	1.2	0.8	0.6	0.4	0.3	0.3	1.7	3.9
9-Jan	-0.4	-1.4	-5.3	-7.5	-8.9	-10.1	-11.0	-11.5	-11.9	-12.2	-12.1	-11.7	-11.5	-11.3	-11.2	-11.0	-11.1	-11.1	-11.1	-10.7	-10.7	-10.5	-10.4	-9.8	-9.8	-0.4
10-Jan	-8.8	-5.8	-4.0	-3.2	-2.8	-5.2	-6.2	-5.3	-4.6	-4.3	-3.5	-3.0	-3.1	-3.2	-4.0	-6.0	-7.3	-8.8	-10.2	-10.9	-11.6	-12.5	-13.0	-13.9	-6.7	-2.8
11-Jan	-14.7	-15.6	-16.6	-18.0	-18.9	-19.2	-19.5	-19.2	-18.7	-18.4	-18.1	-18.2	-18.0	-18.0	-18.4	-19.1	-21.1	-23.4	-24.5	-24.8	-25.3	-25.8	-25.2	-22.0	-20.0	-14.7
12-Jan	-19.2	-18.7	-18.6	-18.3	-18.2	-18.3	-19.1	-19.9	-20.0	-18.0	-17.5	-16.7	-15.8	-14.3	-12.8	-12.7	-12.6	-13.0	-13.2	-12.7	-13.3	-13.6	-12.8	-12.5	-15.9	-12.5
13-Jan	-13.8	-16.1	-17.2	-17.1	-16.3	-14.9	-14.7	-13.8	-14.1	-13.6	-12.4	-11.0	-10.6	-9.2	-7.9	-7.8	-9.4	-11.7	-13.6	-13.2	-4.2	-3.1	-2.9	-2.3	-11.3	-2.3
14-Jan	-2.4	-5.1	-9.3	-11.2	-12.3	-9.1	-8.5	-6.6	-6.1	-6.1	-4.7	-2.5	1.4	3.1	5.3	5.6	5.2	5.0	4.4	4.4	4.4	4.2	3.6	4.2	-1.4	5.6
15-Jan	3.7	2.8	2.8	3.5	2.4	1.9	2.1	1.3	-1.5	-0.6	1.9	2.4	3.0	3.3	3.1	2.5	1.0	-0.4	-2.0	-1.1	-2.5	-3.0	-3.5	-3.6	0.8	3.7
16-Jan	-3.4	-3.4	-3.7	-4.5	-4.9	-5.0	-4.7	-4.3	-4.7	-6.0	-6.6	-6.9	-6.6	-6.7	-6.7	-6.9	-7.3	-8.1	-8.5	-8.8	-9.7	-10.8	-12.3	-13.2	-6.8	-3.4
17-Jan	-14.5	-15.2	-15.8	-15.7	-15.5	-16.5	-18.3	-19.4	-19.3	-19.2	-19.0	-18.5	-18.6	-18.9	-18.9	-19.4	-21.8	-24.2	-24.1	-26.9	-25.5	-26.0	-29.6	-31.3	-20.5	-14.5
18-Jan	-32.1	-32.8	-34.0	-35.1	-35.6	-36.2	-36.6	-36.9	-37.2	-35.5	-30.9	-28.1	-26.9	-25.4	-24.4	-24.7	-28.8	-31.3	-32.6	-33.8	-34.7	-35.5	-36.2	-36.9	-32.6	-24.4
19-Jan	-37.4	-37.9	-38.4	-38.0	-36.2	-36.9	-37.8	-38.6	-39.3	-38.0	-34.1	-31.5	-28.2	-26.2	-25.4	-26.3	-30.1	-32.7	-33.9	-34.7	-35.2	-35.9	-36.1	-35.8	-34.4	-25.4
20-Jan	-35.0	-36.0	-35.8	-35.4	-35.6	-35.5	-35.6	-34.2	-32.9	-29.4	-25.1	-21.4	-18.1	-15.8	-13.5	-11.6	-11.1	-10.1	-9.8	-9.5	-6.9	-4.7	-3.7	-3.4	-21.3	-3.4
21-Jan	-3.4	-2.9	-2.6	-2.6	-3.1	-3.1	-3.8	-3.9	-3.8	-3.0	-2.4	-1.9	-2.9	-4.5	-6.7	-8.7	-10.5	-11.6	-12.2	-12.7	-13.6	-15.9	-16.9	-16.1	-7.0	-1.9
22-Jan	-15.7	-15.1	-14.2	-13.9	-13.7	-13.5	-13.0	-12.7	-12.3	-11.8	-10.7	-9.0	-6.5	-3.5	-3.1	-4.3	-7.5	-8.3	-9.3	-10.6	-11.7	-12.0	-11.2	-9.8	-10.6	-3.1
23-Jan	-8.9	-6.9	-6.0	-5.3	-2.8	-2.9	-2.8	-1.0	-0.2	-0.2	0.0	1.1	2.1	3.3	3.2	2.7	1.5	0.4	0.3	-0.9	-1.4	-1.1	-0.9	-0.2	-1.1	3.3
24-Jan	-0.2	0.2	0.2	-0.6	-1.1	-2.1	-2.9	-4.4	-5.8	-6.3	-6.2	-5.3	-4.4	-3.8	-3.3	-3.2	-3.6	-4.9	-5.9	-6.4	-4.9	-6.0	-5.1	-3.2	-3.7	0.2
25-Jan	-4.1	-4.7	-6.2	-9.1	-9.9	-12.4	-14.0	-14.5	-14.2	-10.9	-7.1	-4.4	-3.4	-1.0	0.0	0.8	0.3	0.1	-0.8	-3.5	-4.5	-3.5	-3.8	-4.8	-5.6	0.8
26-Jan	-6.7	-8.7	-5.2	-4.1	-4.3	-7.3	-5.5	-4.8	-4.1	-2.5	-1.5	-0.2	0.7	1.8	2.9	2.7	-0.5	1.0	-0.5	-2.8	-0.4	-1.8	-1.8	-1.1	-2.3	2.9
27-Jan	0.4	1.7	1.5	1.6	1.2	0.0	-0.1	-0.9	-1.2	-2.7	-1.9	0.6	0.4	2.5	4.4	4.7	4.6	2.8	3.6	2.1	8.0	7.9	7.4	6.7	2.3	8.0
28-Jan	6.2	5.8	5.1	4.9	5.0	4.7	4.2	3.5	3.3	3.4	4.0	4.6	3.7	4.7	3.7	2.8	1.9	1.4	1.1	0.8	-0.2	-1.0	-1.1	-1.1	3.0	6.2
29-Jan	-1.3	-1.6	-2.3	-2.7	-3.0	-3.4	-3.7	-4.5	-5.8	-5.3	-4.6	-5.6	-6.7	-7.9	-9.0	-10.7	-12.3	-13.6	-14.2	-14.4	-14.6	-14.9	-15.3	-15.7	-8.0	-1.3
30-Jan	-15.7	-16.1	-16.9	-17.8	-18.6	-19.6	-20.8	-22.4	-23.9	-23.3	-23.0	-22.6	-21.8	-21.0	-20.6	-20.8	-22.9	-25.9	-27.5	-28.9	-29.6	-30.4	-31.1	-31.6	-23.0	-15.7
31-Jan	-32.3	-32.8	-33.4	-33.9	-33.9	-33.6	-32.9	-31.0	-29.1	-28.0	-26.8	-25.4	-24.4	-23.7	-23.3	-23.1	-23.3	-23.7	-23.6	-23.5	-23.6	-23.7	-23.8	-24.0	-27.4	-23.1
																								Diurnal Average		
																								Diurnal Maximum		





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Ambient Temperature 2m (AT2) - C
Fort McKay South - January 2025**

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	227	30.51	30.51
-20 - 0	403	54.17	84.68
0 - 10	114	15.32	100.00
10 - 20	0	0.00	100.00
> 20	0	0.00	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

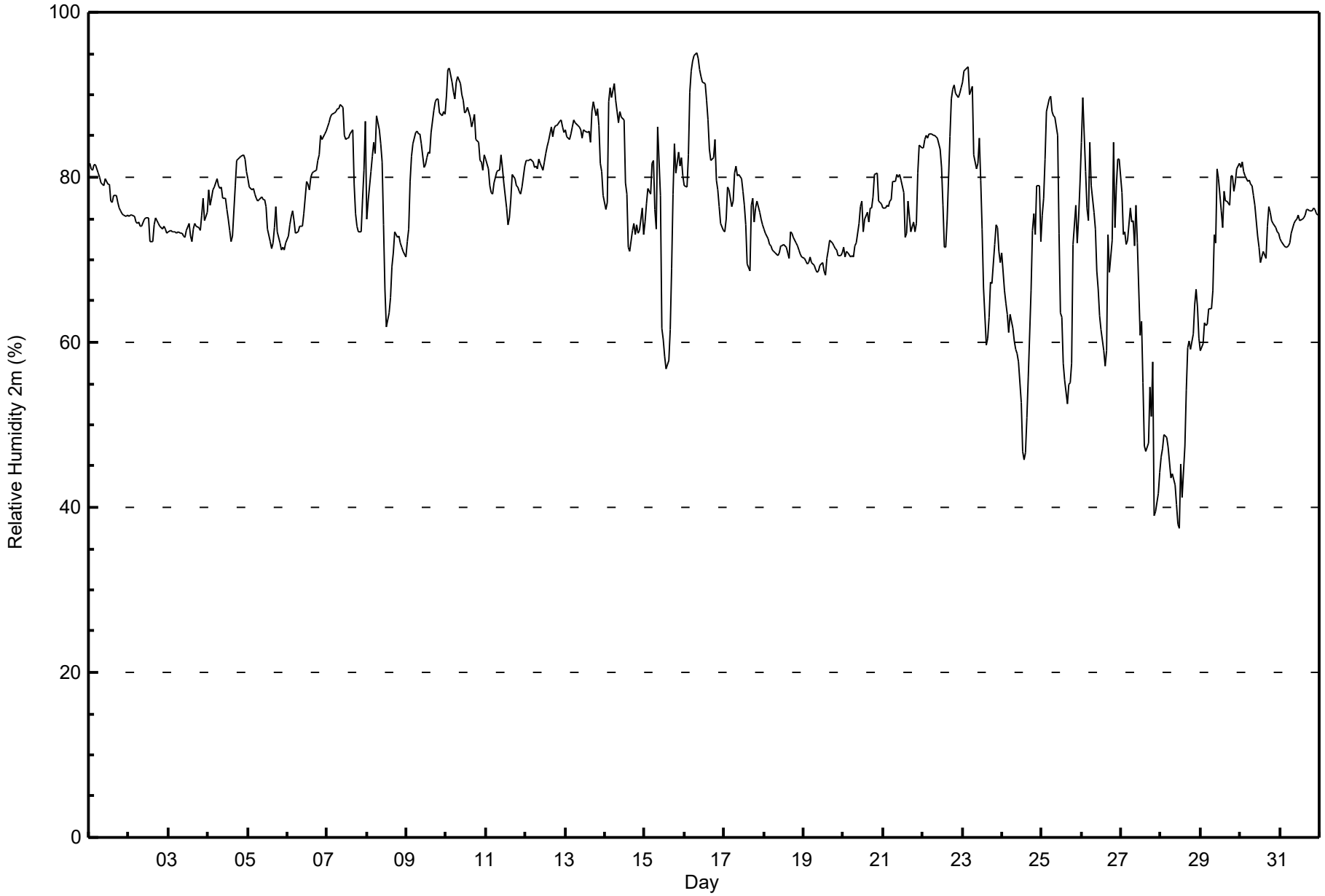
Relative Humidity 2m (RH2) - %
Fort McKay South - January 2025

Maximum Value: 95.1 % on Jan 16 08:00 Maximum Daily Average: 87.9 % on Jan 10																						Hours in Service: 744 Hours of Data: 744				
Minimum Value: 37.4 % on Jan 28 12:00 Minimum Daily Average: 50.5 % on Jan 28 Maximum Diurnal Average: 78.6 % at hour 6 Minimum Diurnal Average: 70.8 % at hour 15 Monthly Average: 75.95 % Percentiles: P ₁ = 43.1 P ₁₀ = 63.5 Q ₁ = 72.2 Median = 76.4 Q ₃ = 82.1 P ₉₀ = 87.3 P ₉₉ = 93.0																						Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0				
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	81.6	81.0	80.9	81.5	81.5	80.5	80.0	79.3	79.1	79.0	79.8	79.2	79.1	77.2	76.9	77.9	77.8	76.9	76.3	75.9	75.5	75.4	75.2	75.4	78.5	81.6
2-Jan	75.3	75.4	75.5	75.2	74.6	74.4	74.6	74.0	74.1	75.0	75.0	75.1	75.1	72.3	72.1	74.2	75.0	74.7	74.4	74.0	73.8	74.1	73.7	73.2	74.4	75.5
3-Jan	73.4	73.5	73.5	73.4	73.4	73.2	73.5	73.2	73.3	72.9	72.7	73.6	74.4	72.8	72.2	73.7	74.4	74.1	73.9	73.5	75.5	77.4	74.8	75.7	73.8	77.4
4-Jan	78.5	76.6	77.4	78.4	78.8	79.8	79.0	78.6	78.8	77.4	77.5	76.2	75.0	73.6	72.3	72.9	79.0	82.0	82.2	82.4	82.5	82.7	82.1	80.6	78.5	82.7
5-Jan	79.9	78.8	78.5	78.6	77.9	77.4	77.2	77.3	77.6	77.3	77.3	76.4	73.7	72.3	71.4	72.0	74.0	76.5	73.5	72.1	71.2	71.5	71.1	72.0	75.2	79.9
6-Jan	72.9	74.2	75.3	76.0	74.8	73.2	73.4	74.0	74.0	74.0	75.7	79.4	79.2	78.5	80.0	80.6	80.6	80.9	82.1	82.8	85.1	84.5	85.3	85.6	78.4	85.6
7-Jan	86.1	86.7	87.3	87.6	87.7	88.0	88.3	88.3	88.9	88.6	85.1	84.7	84.7	84.8	85.2	85.8	79.1	75.6	74.1	73.4	73.4	77.3	80.9	86.8	83.7	88.9
8-Jan	74.9	77.2	80.6	82.5	84.2	82.9	87.5	85.8	84.0	81.8	74.2	66.4	61.9	63.5	65.5	69.1	70.9	73.3	72.6	72.9	72.1	71.5	71.0	70.3	74.9	87.5
9-Jan	72.2	73.7	79.5	82.6	84.0	85.5	85.5	85.2	85.3	84.0	81.2	81.5	82.3	83.0	82.8	85.4	88.2	89.2	89.5	89.5	87.9	87.5	87.9	87.6	84.2	89.5
10-Jan	89.9	93.0	93.3	91.5	90.4	89.4	91.5	92.2	91.3	90.1	89.4	87.9	88.0	88.5	87.3	86.1	86.8	87.7	84.5	84.3	82.0	81.8	80.9	82.7	87.9	93.3
11-Jan	82.1	81.0	79.1	78.1	78.0	79.3	80.6	80.8	80.8	82.6	81.2	79.3	76.2	74.2	75.1	77.2	80.3	79.7	79.1	78.9	78.4	78.0	78.8	81.4	79.2	82.6
12-Jan	82.1	82.1	82.0	82.2	81.8	81.2	81.3	81.1	82.2	81.7	80.8	81.9	82.9	83.7	84.4	86.1	84.9	85.9	86.3	86.3	86.7	87.0	86.2	85.5	83.6	87.0
13-Jan	85.8	84.9	84.5	85.3	86.1	86.9	86.6	86.2	86.1	85.8	84.7	85.8	85.7	85.5	85.6	84.3	88.0	89.1	87.5	88.3	86.3	81.8	80.7	77.8	85.4	89.1
14-Jan	76.0	76.9	89.1	90.8	89.7	91.4	89.4	88.0	86.6	87.9	87.2	87.0	79.3	78.0	71.5	71.0	73.6	74.4	73.0	74.2	73.2	73.5	76.3	73.1	80.5	91.4
15-Jan	74.6	76.7	78.7	77.9	81.7	82.0	76.1	73.7	86.2	77.7	61.7	60.4	58.3	56.8	57.7	61.6	69.0	77.9	84.1	80.5	83.1	81.4	82.3	80.2	74.2	86.2
16-Jan	78.9	78.8	82.7	90.3	93.0	94.1	94.8	95.1	94.4	93.0	92.2	91.5	91.4	89.3	86.9	83.5	82.0	82.4	84.5	79.7	78.5	76.4	74.4	73.5	85.9	95.1
17-Jan	73.5	74.9	78.7	78.5	76.4	77.2	80.6	81.4	80.2	80.3	79.8	78.3	76.7	74.3	69.5	68.7	76.7	77.5	74.6	76.2	77.2	75.7	74.9	74.3	76.5	81.4
18-Jan	73.7	73.2	72.5	71.9	71.7	71.2	71.0	70.8	70.5	70.9	71.7	71.8	71.9	71.6	70.8	70.1	73.4	73.3	72.8	72.0	71.7	71.1	70.7	70.3	71.7	73.7
19-Jan	70.1	69.9	69.5	69.7	70.3	69.7	69.3	68.8	68.5	68.7	69.3	69.7	68.7	68.1	70.1	71.2	72.4	72.0	71.7	71.3	71.2	70.6	70.5	70.8	70.1	72.4
20-Jan	71.6	70.4	71.1	70.9	70.4	70.5	70.4	71.6	72.0	74.5	76.5	77.1	73.3	74.9	75.7	74.6	76.2	76.2	77.6	80.3	80.6	77.1	76.9	76.8	74.5	80.6
21-Jan	76.2	76.3	76.7	76.4	77.1	77.3	79.4	79.5	80.3	80.0	80.3	79.6	78.2	72.7	73.2	77.1	75.2	73.4	74.6	73.4	74.4	80.5	83.9	83.6	77.5	83.9
22-Jan	83.5	84.6	85.1	84.8	85.2	85.3	85.2	85.1	84.9	84.7	83.4	81.2	76.7	71.5	71.6	75.0	84.9	89.4	90.7	91.2	90.2	89.6	90.1	90.9	84.4	91.2
23-Jan	91.4	92.8	93.0	93.3	90.1	90.5	91.1	82.7	81.0	81.7	84.7	79.7	73.7	66.7	59.7	60.6	63.0	67.2	67.2	71.9	74.2	73.8	71.1	69.7	77.9	93.3
24-Jan	70.9	66.3	64.7	63.4	61.1	63.4	61.7	60.1	59.1	58.7	57.6	52.8	46.8	45.7	46.6	50.9	55.8	66.2	73.6	75.5	73.1	79.0	78.9	72.2	62.7	79.0
25-Jan	75.5	77.5	82.2	88.0	89.5	89.8	87.9	87.5	87.3	85.1	73.3	63.6	63.1	57.5	55.4	52.5	54.8	55.1	57.4	71.8	76.6	72.0	75.0	79.4	73.2	89.8
26-Jan	84.2	89.7	80.6	76.3	74.8	84.3	79.1	75.8	73.8	68.7	66.5	63.2	61.5	58.9	57.2	59.0	73.1	68.5	72.3	84.2	73.9	79.1	82.1	82.3	73.7	89.7
27-Jan	78.1	73.1	73.3	71.9	72.4	76.2	74.6	74.7	71.7	76.6	72.0	60.9	62.6	55.1	47.4	46.8	47.8	54.6	51.1	57.7	38.9	39.4	41.7	44.2	60.9	78.1
28-Jan	46.1	47.1	48.8	48.5	47.2	45.4	43.6	44.1	42.7	40.3	37.9	37.4	45.3	41.2	47.4	54.3	59.3	60.2	59.1	61.0	64.6	66.5	64.2	60.6	50.5	66.5
29-Jan	58.9	59.8	62.4	62.0	62.1	64.1	64.1	66.3	73.0	72.0	81.1	79.9	75.9	73.8	78.4	77.2	77.2	76.6	80.1	80.2	78.4	79.3	81.0	81.6	72.7	81.6
30-Jan	81.1	81.9	80.8	80.2	79.5	79.7	79.2	79.0	77.8	76.6	72.9	71.6	69.7	70.4	71.0	70.1	74.2	76.4	75.7	74.7	74.5	73.9	73.4	73.1	75.7	81.9
31-Jan	72.5	72.2	71.8	71.5	71.5	71.7	72.0	73.2	74.3	74.8	74.8	75.4	74.8	74.9	75.0	75.4	76.1	76.0	75.9	75.9	76.2	76.1	75.7	75.4	74.3	76.2
																								Diurnal Average		
																								Diurnal Maximum		



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 2m (RH2) - %
Fort McKay South - January 2025





Wood Buffalo Environmental Association
Summary of Hour Averages

Wind Speed 10m (WS10) - km/h
Fort McKay South - January 2025

Maximum Speed: 34 km/h on Jan 24 07:00	Maximum Daily Speed Average: 17.3 km/h on Jan 16	Hours in Service: 744
Minimum Speed Value: 0 km/h on Jan 3 10:00	Minimum Daily Speed Average: 1.1 km/h on Jan 1	Hours of Data: 718
Maximum Diurnal Speed Average: 3.4 km/h at hour 23	Minimum Diurnal Speed Average: 0.2 km/h at hour 12	Hours of Missing Data: 26
Monthly Average Velocity: 1.6 km/h 303.1 deg	Percentiles: P ₁ = 1 P ₁₀ = 2 Q ₁ = 4 Median = 7 Q ₃ = 11 P ₉₀ = 15 P ₉₉ = 24	Percent Operational Time: 96.5

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	UO	WSW2	WSW1	W1	WNW1	NNW4	UO	WNW1	W2	W2	NW1	N2	NE2	NNE3	NNE3	W1	UO	W2	WSW2	W1	W1	WSW2	UO	W1	WNW1.1	NNW4
2-Jan	UO	UO	N1	N2	UO	UO	W0	UO	UO	S2	S2	SE2	SE2	SSE2	SSE2	UO	W1	WSW3	WSW2	W1	SW2	W1	WSW1	W1	---	WSW3
3-Jan	WSW1	UO	SW2	W1	NNE1	UO	UO	SW1	NNW0	S0	NNE1	UO	E1	S4	S4	UO	SW2	UO	UO	UO	SSW4	S4	SSE1	S1	---	S4
4-Jan	S8	ENE1	N4	N4	N2	NNE2	SSE9	SSE8	S9	S11	S9	S9	S11	SSE8	SSE7	SE4	N3	N6	N6	N6	N5	N5	N8	N10	SE1.6	S11
5-Jan	N10	N10	N10	N10	NNE10	NNE8	NNE9	NNE7	NNE6	NNE5	NNE5	N7	NNE6	NNE6	N6	NNE6	NNE6	NNE6	NE6	NE5	NNE3	NNW1	ESE1	SE1	NNE6.1	N10
6-Jan	SSE2	SE5	SSE4	S5	S7	SSE10	S8	S9	S11	S11	S14	S12	S11	S9	S11	S12	S14	S14	S12	S11	S10	S9	S9	S9	S9.5	S14
7-Jan	S10	S10	S9	S9	S10	S10	S10	S9	S9	S10	SSE11	SSE10	SSE8	S5	S9	S9	SSW14	SSW12	S12	SSW13	SSW9	SW4	S6	S6	S9.1	SSW14
8-Jan	WSW10	WSW13	W14	W11	WSW11	W6	SW5	SSW5	WSW7	WSW7	SW8	W9	WNW13	NW17	NW15	NW12	WNW7	WNW6	WNW7	WNW7	WNW9	W12	W9	W8	W8.4	NW17
9-Jan	W9	WNW9	NNE15	NNE11	NNE13	NNE12	NNE10	NNE9	NE6	ENE5	ENE3	SE2	SSE4	SSE6	SSE6	SSE9	SSE7	S6	SSE10	S9	SE4	N2	UO	ENE1	ENE2.0	NNE15
10-Jan	SSE6	SSE12	S10	S12	S10	N0	N4	SSE2	SW2	SSW4	SSW3	NW1	NNE6	NNE11	NNE14	N15	NNE17	N18	NNE18	NNE13	NNE13	N16	N16	NNE16	NNE5.1	N18
11-Jan	NNE17	NNE15	NNE15	NNE12	N11	NNE9	N9	NNE8	N9	N9	N10	NNE11	NNE10	NNE9	NNE7	NNE3	UO	WSW1	WSW2	SSW2	SSW2	SW2	SW3	SSW6	N6.4	NNE17
12-Jan	S6	SSE8	S8	S9	S9	S11	S9	SSW5	S6	SSE11	S12	SSE13	SSE11	S11	S12	S15	S12	S8	SSE6	S7	S7	S3	SSE5	S4	S8.6	S15
13-Jan	SSW3	S4	S3	S5	S6	SSE7	SSE10	S10	S12	SSE8	SSE8	S9	SSE13	S13	S11	SSE10	S9	S3	WSW3	WSW5	WSW12	W13	W11	W10	SSW6.5	S13
14-Jan	WSW8	SW4	S6	S5	S6	S8	SSE6	S11	S10	S8	S9	SSW7	SSW6	SW9	WSW10	WSW10	WSW10	WSW11	WSW11	WSW10	WSW9	W9	WSW11	W13	SW7.1	W13
15-Jan	W9	W6	NW7	WNW8	W9	W10	W10	WNW4	NW4	WNW6	NW5	SW3	WSW7	WNW7	W5	W4	WSW5	S4	SW3	W5	N8	N7	NNW6	N6	WNW4.8	W10
16-Jan	NNE6	N8	NNE9	NNE12	NNE9	NNE9	N10	N11	N17	N18	N19	NNE20	NNE21	NNE22	NNE25	NNE23	N25	N26	N19	N18	N22	N22	N25	N22	N17.3	N26
17-Jan	N20	N15	NNW6	N8	N11	N10	N5	N5	NNE5	NE2	SSE2	NE3	NNE6	NNE8	N11	N10	NNW5	NW5	NW6	N3	N9	N5	W2	SW3	N6.3	N20
18-Jan	WSW4	WSW2	SW2	WSW3	WSW2	SW2	SW2	WSW2	SW2	SW1	S3	SE3	SSE8	SSE8	SSE6	SSE5	SSW2	WSW2	W1	WSW3	W1	W1	WSW1	NW1	SSW1.9	SSE8
19-Jan	NW1	SW1	UO	WSW1	NNW1	N2	UO	UO	UO	N1	UO	E1	SE2	SE3	SSE6	S5	SW2	SSW2	SSW3	WSW2	SW2	SSW3	S4	S6	S1.6	SSE6
20-Jan	S3	SSW5	S7	S4	SSW2	SW1	SSE2	S6	N2	N2	SSE5	SSE8	S10	SSE13	S11	S10	S9	S10	S11	S7	WSW7	WSW10	W14	WSW13	SSW5.7	W14
21-Jan	WSW12	WSW12	SW9	WSW7	WSW7	W11	W7	W6	WSW8	WSW10	W9	NNW7	NNE15	NNE17	NNE17	NNE17	N21	N19	NNE15	NNE15	N9	NW4	WNW2	WSW4	NNW5.9	N21
22-Jan	S3	S4	S6	SSE4	S4	W2	S2	SSE1	S4	S3	S3	SSE6	SSE5	WSW8	SSW7	S9	S9	S9	S8	SSE7	SSE7	S8	S7	SSW5	S5.2	S9
23-Jan	SSE4	SSE7	SE3	S6	S9	S3	S2	SSW6	SSW9	S5	SSW6	WSW6	W8	WNW12	NW12	NW13	NW13	NW7	NW8	WSW6	W8	W10	WNW10	WNW10	W4.6	NW13
24-Jan	WNW11	WNW11	NW15	NNW22	NNW25	NNW28	N34	N28	NNW19	NNW16	NW14	NNW12	NNW15	NNW13	NNW9	NW6	WNW3	S4	S4	SW1	NNW3	S3	SW5	W4	NNW11.1	N34
25-Jan	SSW2	SSW3	SSW2	S6	S4	S3	S5	S7	S7	WSW8	SW9	SW8	SSW7	SW8	SSW5	WNW6	WNW7	WNW8	WNW3	SW4	S7	S8	S5	S5	SSW4.4	SW9
26-Jan	S5	S6	S7	SSW8	SSW6	S6	SSW8	S9	S9	SW10	SW8	SSW8	S7	SSE6	SSE6	S1	WNW2	W8	WNW4	W7	W8	SW3	S4	SW4	SSW5.0	SW10
27-Jan	W6	W8	SW4	W7	WNW5	WNW4	W10	WSW6	WSW7	SSE3	S5	SSW7	S10	S7	SSW12	S12	SSW10	SSW7	WSW4	WNW4	NW16	NW20	NW21	NW19	WSW5.4	NW21
28-Jan	WNW16	WNW14	WNW12	WNW13	WNW13	WNW13	NW11	WNW10	WNW11	WNW12	NW16	NW17	NW18	NW11	NW18	NW14	NNW9	NNW7	NW6	WNW4	SW5	WSW8	W8	W7	WNW10.7	NW18
29-Jan	W6	W3	WSW4	SW2	SSW2	SW3	WSW5	WNW2	SW3	NNW3	NNE15	NNE17	NNE17	NNE17	NNE17	NNE19	NNE19	N21	NNE19	NNE19	NNE19	NNE18	N18	NNE16	N9.9	N21
30-Jan	NNE17	NNE14	NNE15	N12	N10	N8	NNE7	NE5	ESE2	NE4	NE5	NE5	NNE7	NNE6	N6	N7	N5	NW2	WSW2	W3	NW2	NW3	W2	NW1	NNE5.4	NNE17
31-Jan	W1	WSW1	W2	NNW2	WNW2	NW1	N3	N5	NNE5	NNE9	N11	NNE12	NNE15	NNE17	NNE18	N15	N15	N17	N17	N18	N20	N18	N19	N19	N10.6	N20

WNW2.6	W2.0	NNW1.8	NNW1.8	NNW1.5	NW1.8	NNW1.5	WSW0.8	SW1.4	WSW1.2	WSW1.0	W0.2	NNE0.8	N1.4	NNW1.5	NNW1.6	NW1.9	NW2.0	NW1.6	NW1.7	NW2.7	NW3.2	NW3.4	NNW3.2	Diurnal Average
N20	NNE15	NNE15	NNW22	NNW25	NNW28	N34	N28	NNW19	N18	N19	NNE20	NNE21	NNE22	NNE25	NNE23	N25	N26	N19	NNE19	N22	N22	N25	N22	Diurnal Maximum

UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Speed 10m (WS10) - km/h
Fort McKay South - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 8 km/h on Jan 24 06:00	Hours of Data: 718
Minimum Value: 1 km/h on Jan 11 23:00	Hours of Missing Data: 26
Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 1 Median = 2 Q ₃ = 3 P ₉₀ = 4 P ₉₉ = 7	Hours of Calibration: 0
	Percent Operational Time: 96.5

Day	Hourly Period Ending At (MST)																								Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	UO	1	1	1	1	1	UO	1	1	1	1	1	1	1	1	1	UO	2	1	1	1	1	UO	1	2	
2-Jan	UO	UO	1	1	UO	UO	1	UO	UO	1	1	1	1	1	1	UO	1	1	1	1	1	1	1	1	1	1
3-Jan	1	UO	1	1	1	UO	UO	1	1	1	1	UO	1	1	1	UO	1	UO	UO	UO	1	1	1	1	2	
4-Jan	3	3	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	3	2	
5-Jan	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	2	2	2	1	2	1	1	1	1	1	2
6-Jan	2	1	1	1	1	2	2	2	2	3	3	3	3	3	3	2	3	3	2	2	1	1	1	1	3	
7-Jan	1	1	1	1	2	1	1	1	1	2	1	2	1	3	2	2	3	3	2	3	3	3	2	1	1	3
8-Jan	4	4	5	4	4	3	2	2	2	1	2	3	4	5	4	3	2	2	3	2	3	4	3	2	5	
9-Jan	3	4	4	3	3	3	3	2	2	2	1	2	1	2	1	1	2	1	2	3	2	1	UO	2	4	
10-Jan	2	2	4	2	3	2	2	1	2	2	1	2	2	3	3	3	4	4	4	4	3	3	4	4	4	
11-Jan	4	4	4	4	4	2	2	2	2	2	2	2	2	2	2	1	UO	1	1	1	1	1	1	1	2	4
12-Jan	1	2	2	2	2	2	2	3	1	3	2	3	2	2	4	3	2	2	2	1	1	2	2	1	4	
13-Jan	1	1	1	1	1	1	3	3	3	2	2	2	3	3	2	2	2	1	2	4	3	3	4	4	4	
14-Jan	3	2	1	1	2	1	2	4	3	1	2	2	3	3	3	3	4	3	4	3	3	3	4	4	4	
15-Jan	3	2	3	3	2	2	3	3	2	2	4	2	3	2	2	1	2	2	1	2	2	1	1	1	4	
16-Jan	1	1	2	2	2	2	2	2	3	3	4	4	5	5	6	5	5	6	5	5	6	5	6	6	6	
17-Jan	5	5	2	3	3	4	1	2	1	1	1	1	2	2	2	3	2	3	1	1	2	2	1	1	5	
18-Jan	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	2	
19-Jan	1	1	UO	1	2	1	UO	UO	UO	1	UO	1	1	1	1	1	1	1	1	1	1	1	2	1	2	
20-Jan	1	2	1	2	2	1	1	3	1	1	3	3	3	3	2	2	1	2	2	3	3	4	5	5	5	
21-Jan	5	3	3	3	4	4	3	4	4	3	3	4	4	4	5	5	5	5	4	4	4	1	1	1	5	
22-Jan	1	1	1	2	1	1	1	2	1	1	2	1	1	3	2	2	1	1	2	1	1	2	2	3	3	
23-Jan	1	4	2	2	2	2	2	2	3	2	3	3	4	5	5	4	4	3	4	2	3	3	4	4	5	
24-Jan	4	4	7	7	7	8	8	8	7	4	4	4	5	4	3	2	1	2	1	2	2	1	2	2	8	
25-Jan	2	2	1	1	2	1	1	1	1	4	3	2	2	3	2	2	2	3	2	1	2	1	1	1	4	
26-Jan	1	1	2	2	2	1	2	2	2	4	4	2	2	1	2	1	2	3	2	2	2	2	1	2	4	
27-Jan	2	3	2	2	3	3	2	3	3	2	2	2	2	2	3	2	2	1	3	4	6	7	7	6	7	
28-Jan	6	5	4	4	4	5	4	4	4	5	6	6	8	5	6	5	4	2	2	2	1	2	2	2	8	
29-Jan	2	2	3	2	1	1	1	2	1	2	4	4	5	4	4	4	5	4	4	5	5	4	4	4	5	
30-Jan	5	4	4	3	3	2	2	1	1	2	1	1	2	2	2	1	1	1	2	1	1	1	1	1	5	
31-Jan	1	1	1	2	1	1	1	1	1	2	2	3	4	3	4	3	3	3	3	3	3	4	4	4	4	
	6	5	7	7	7	8	8	8	7	5	6	6	8	5	6	5	5	6	5	5	6	7	7	6		

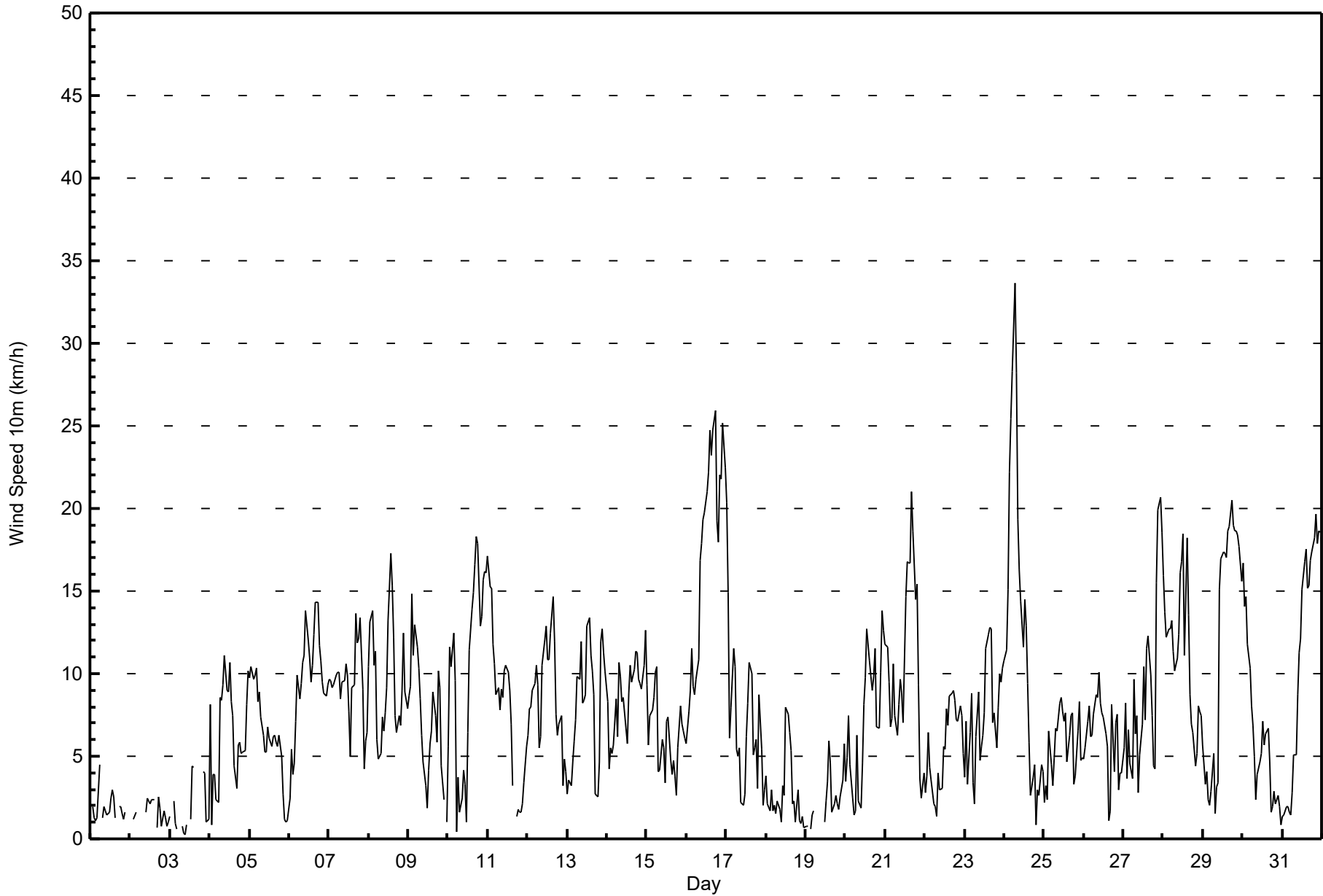
Diurnal Maximum

UO - Unstable Operation



Wood Buffalo Environmental Association
Hourly Averages

Wind Speed 10m (WS10) - km/h
Fort McKay South - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 10m (WS10) - km/h
Fort McKay South - January 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	267	37.19	37.19
6 - 11	307	42.76	79.94
12 - 19	122	16.99	96.94
20 - 28	21	2.92	99.86
29 - 38	1	0.14	100.00
> 38	0	0.00	100.00

Total Number of Valid Hours: 718

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Wind Speed 10m (WS10) - km/h
Fort McKay South - January 2025**

Wind Speed Ranges (km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	24	11	8	4	2	2	11	17	44	20	32	29	28	15	12	8	267
6 - 11	33	31	2	0	0	0	0	38	89	16	8	28	30	18	8	6	307
12 - 19	21	39	0	0	0	0	0	4	15	4	0	6	4	9	15	5	122
20 - 28	11	5	0	0	0	0	0	0	0	0	0	0	0	0	2	3	21
29 - 38	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	90	86	10	4	2	2	11	59	148	40	40	63	62	42	37	22	718

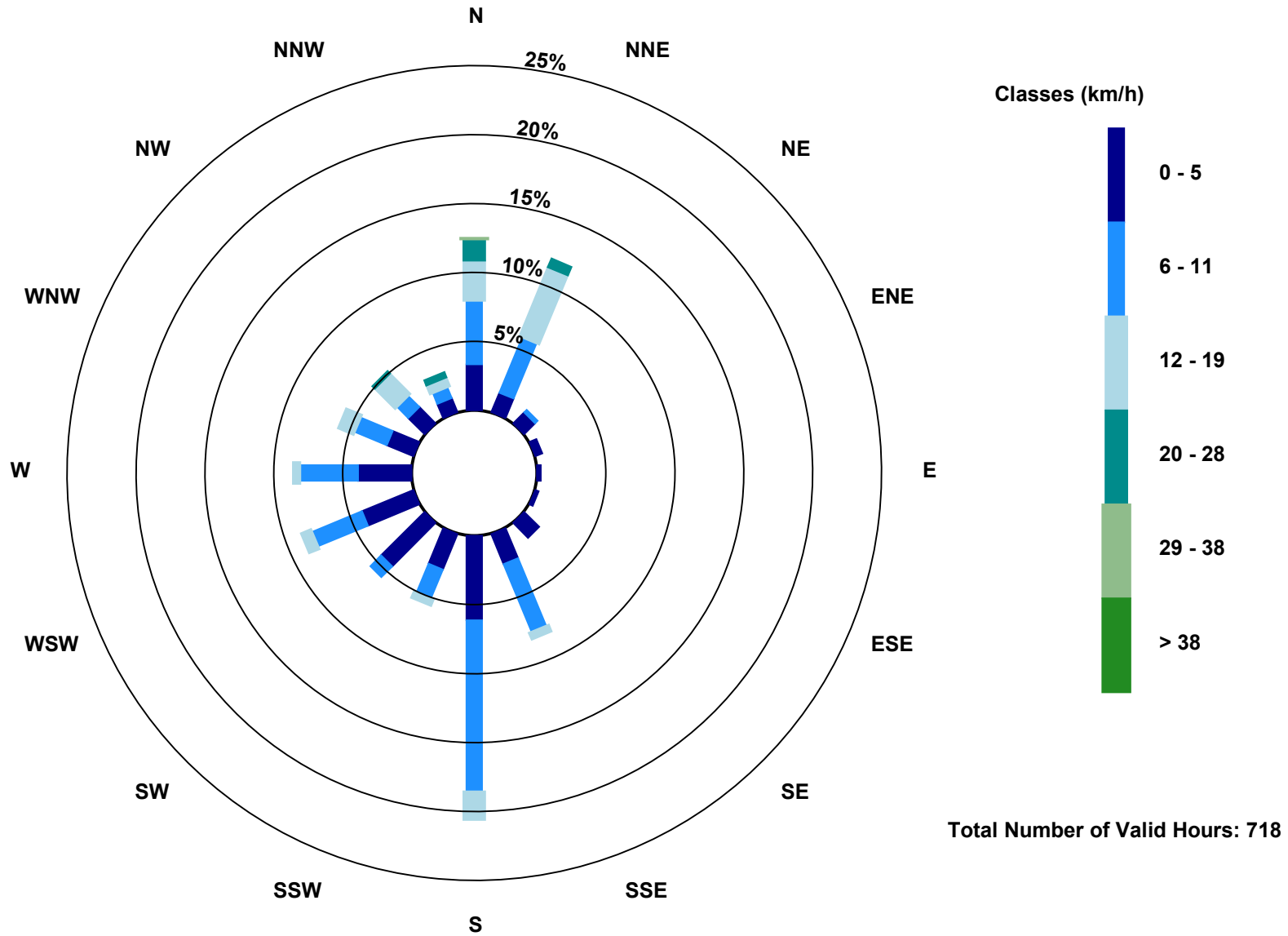
Total Number of Valid Hours: 718

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Wind Speed 10m (WS10) - km/h
Fort McKay South





Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Direction 10m (WD10) - deg

Fort McKay South - January 2025

Direction of Maximum Speed: 349 deg on Jan 24 07:00																					Hours in Service: 744				
Direction of Maximum Daily Speed Average: 9.5 deg on Jan 16																					Hours of Data: 718				
Direction of Minimum Speed: 176 deg on Jan 3 10:00										Direction of Minimum Daily Speed Average: 1.1 deg on Jan 1											Hours of Missing Data: 26				
Monthly Average Direction: 303.1 deg																					Percent Operational Time: 96.5				
Day	Hourly Period Ending At (MST)																								Daily Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	UO	255	248	269	303	338	UO	291	269	266	312	5	53	28	14	267	UO	264	257	266	267	252	UO	281	302.3
2-Jan	UO	UO	351	349	UO	UO	260	UO	UO	175	171	135	126	168	159	UO	266	258	256	260	235	259	253	261	--
3-Jan	258	UO	234	272	15	UO	UO	233	339	176	21	UO	92	178	174	UO	225	UO	UO	UO	193	177	164	185	--
4-Jan	173	61	358	1	8	13	165	154	170	174	185	178	170	154	155	143	6	10	1	357	352	357	9	1	141.1
5-Jan	4	359	8	11	14	17	14	14	12	15	33	11	21	14	9	25	18	25	42	36	19	347	118	135	16.0
6-Jan	159	146	163	171	172	168	171	176	176	174	179	183	186	178	169	175	171	170	172	175	171	180	183	186	174.5
7-Jan	186	182	185	183	185	184	185	185	185	180	162	153	164	177	177	198	194	184	197	213	226	172	191	184.2	
8-Jan	244	252	268	279	252	266	225	212	253	250	218	259	297	321	318	314	299	291	293	296	283	268	275	276	276.5
9-Jan	276	298	14	19	20	21	25	30	38	57	77	135	148	148	157	158	168	175	165	169	138	3	UO	74	62.7
10-Jan	151	162	175	175	170	349	6	166	232	196	199	314	12	12	13	10	12	10	12	19	12	4	9	15	19.1
11-Jan	14	13	19	12	3	12	6	15	10	6	10	12	13	20	16	14	UO	255	244	205	209	220	231	208	9.2
12-Jan	181	168	175	170	169	169	178	192	186	165	173	165	168	180	171	172	173	179	166	182	182	176	166	187	173.5
13-Jan	199	186	176	180	186	164	164	180	170	164	159	188	165	170	173	167	182	185	239	239	253	259	266	267	192.6
14-Jan	258	222	177	181	180	181	151	187	179	187	188	197	210	223	243	244	248	249	242	243	253	261	258	270	224.1
15-Jan	268	272	326	294	260	266	269	282	308	293	307	236	244	285	272	262	248	181	214	280	356	349	348	3	286.4
16-Jan	13	8	15	13	19	12	10	11	9	8	8	12	13	12	12	13	9	11	8	0	9	4	7	4	9.5
17-Jan	6	2	330	349	7	7	353	4	22	54	158	49	22	15	2	0	335	323	324	349	360	4	273	232	359.4
18-Jan	249	248	230	242	239	217	228	243	214	223	171	133	153	150	154	160	203	248	275	253	265	263	247	317	196.2
19-Jan	304	215	UO	241	335	357	UO	UO	UO	0	UO	85	137	139	161	174	227	207	193	242	235	210	189	190	187.4
20-Jan	190	192	189	181	192	215	165	184	349	3	155	167	169	168	173	174	177	187	183	189	238	251	260	253	195.7
21-Jan	246	238	232	241	248	280	278	269	255	257	271	335	14	17	20	15	9	11	14	12	11	326	286	240	331.1
22-Jan	181	179	177	162	172	264	181	167	171	173	174	155	168	239	195	182	181	187	177	157	163	181	188	199	181.1
23-Jan	157	167	144	171	182	177	179	207	201	186	196	239	275	284	307	317	312	309	309	248	271	265	289	288	259.7
24-Jan	293	299	319	335	339	346	349	353	345	339	325	345	344	339	329	321	293	183	181	236	341	188	230	279	334.1
25-Jan	201	200	202	177	172	182	189	178	176	241	232	215	198	230	203	301	295	285	295	221	186	180	177	177	212.0
26-Jan	182	171	189	201	192	178	213	178	177	236	224	201	175	166	164	188	293	276	286	264	262	220	184	220	206.5
27-Jan	268	264	233	262	283	301	262	251	250	154	180	195	172	187	203	189	197	193	244	291	321	312	312	309	257.5
28-Jan	302	302	290	292	295	297	310	303	289	297	307	320	318	325	324	315	332	334	315	284	235	250	263	275	303.0
29-Jan	279	275	256	219	208	220	254	284	234	331	16	23	18	17	12	16	15	11	12	12	17	15	10	13	8.5
30-Jan	16	20	15	9	2	360	33	41	107	42	47	53	14	20	8	3	353	311	255	260	325	306	278	306	12.3
31-Jan	269	258	279	343	289	308	352	10	15	15	9	15	17	13	12	7	7	6	6	9	9	5	6	8	7.2
285.1 272.2 288.5 292.0 290.9 312.3 299.7 252.2 234.7 249.5 236.3 263.8 14.3 348.8 346.2 341.8 322.8 321.6 321.6 306.2 317.7 303.9 306.2 302.3																									
Diurnal Average																									
UO - Unstable Operation																									
All monthly, daily, and diurnal averages have been calculated using vector methods																									



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg
Fort McKay South - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 98 deg on Jan 10 06:00	Hours of Data: 718
Minimum Value: 6 deg on Jan 7 06:00	Hours of Missing Data: 26
Percentiles: P ₁ = 8 P ₁₀ = 11 Q ₁ = 15 Median = 20 Q ₃ = 31 P ₉₀ = 51 P ₉₉ = 82	Hours of Calibration: 0
	Percent Operational Time: 96.5

Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	UO	11	49	40	53	15	UO	29	13	29	34	15	16	25	18	46	UO	17	53	31	44	51	UO	53	
2-Jan	UO	UO	8	7	UO	UO	67	UO	UO	18	16	29	34	20	16	UO	41	21	24	38	58	63	51	29	
3-Jan	31	UO	20	71	74	UO	UO	68	79	79	44	UO	63	15	21	UO	16	UO	UO	UO	21	22	79	81	
4-Jan	10	80	18	11	16	40	16	12	12	10	15	17	13	14	13	24	25	12	15	12	11	13	17	15	
5-Jan	14	14	15	15	15	15	16	15	16	17	17	21	22	24	19	15	15	22	20	23	36	83	50	59	
6-Jan	50	14	16	11	10	12	12	12	13	12	12	12	16	18	13	12	9	10	9	9	7	9	9	8	
7-Jan	8	8	9	8	8	6	8	8	8	11	12	11	8	23	13	12	14	15	12	16	23	61	25	22	
8-Jan	25	22	30	29	22	53	44	42	21	15	17	27	27	19	20	19	20	24	26	29	31	27	28	27	
9-Jan	25	37	15	16	16	18	18	17	21	25	47	71	26	21	14	10	12	13	12	12	33	51	UO	80	
10-Jan	23	13	17	12	15	98	16	64	67	51	35	92	17	16	15	16	15	16	14	16	17	15	17	16	
11-Jan	15	15	17	15	18	17	15	16	16	17	14	17	17	15	16	22	UO	54	35	67	40	28	16	18	
12-Jan	14	14	12	11	11	9	11	20	15	13	13	11	11	14	10	10	12	13	21	14	15	57	24	17	
13-Jan	24	15	24	18	13	11	9	12	11	15	16	17	12	16	16	14	12	56	36	30	17	19	28	32	
14-Jan	24	50	14	11	15	12	33	23	14	12	12	26	32	27	26	23	25	22	23	26	26	23	25	27	
15-Jan	26	40	24	31	13	15	21	84	80	18	62	63	33	31	28	30	44	51	37	42	15	13	11	10	
16-Jan	10	11	12	14	13	14	12	14	14	16	16	15	15	16	17	15	17	17	16	18	16	17	17	18	
17-Jan	17	17	17	17	15	16	20	27	16	53	54	45	19	20	15	17	14	24	27	30	13	17	38	31	
18-Jan	15	25	39	19	62	26	42	11	46	63	20	44	8	7	7	8	21	19	51	17	70	43	48	67	
19-Jan	36	67	UO	70	74	37	UO	UO	UO	35	UO	38	22	34	12	22	42	47	17	37	40	20	13	9	
20-Jan	13	13	7	13	27	48	88	15	70	49	44	18	20	11	10	10	10	11	11	16	28	28	30	28	
21-Jan	35	20	25	38	41	31	40	55	46	22	26	35	16	17	18	17	16	17	17	16	17	22	31	23	
22-Jan	16	22	11	16	17	56	49	61	13	32	49	17	29	28	21	11	10	10	10	10	11	22	15	30	
23-Jan	36	54	52	15	11	32	59	22	19	52	47	55	52	31	28	22	21	31	39	38	28	24	29	28	
24-Jan	28	25	25	18	19	19	19	18	19	17	20	21	20	19	20	24	46	20	15	82	48	59	26	53	
25-Jan	71	52	80	16	18	25	8	11	16	40	22	25	26	27	40	34	22	24	79	28	16	9	13	15	
26-Jan	15	25	19	18	17	15	18	9	22	30	36	33	23	17	26	96	80	18	55	11	14	49	24	39	
27-Jan	32	26	50	30	53	53	19	51	39	33	36	30	10	30	18	13	14	18	57	74	23	24	23	24	
28-Jan	27	26	27	27	26	28	26	30	27	30	27	25	24	36	21	26	21	18	24	45	21	13	21	24	
29-Jan	25	64	27	53	33	26	12	90	20	39	17	17	16	16	16	15	16	15	15	17	15	16	16	16	
30-Jan	16	17	16	14	15	17	23	20	39	32	21	28	23	26	25	14	11	31	35	25	44	31	30	59	
31-Jan	49	56	47	41	50	44	29	18	18	12	14	14	15	15	15	15	14	15	15	13	16	15	16	16	
	71	80	80	71	74	98	88	90	80	79	62	92	63	36	40	96	80	56	79	82	70	83	79	81	

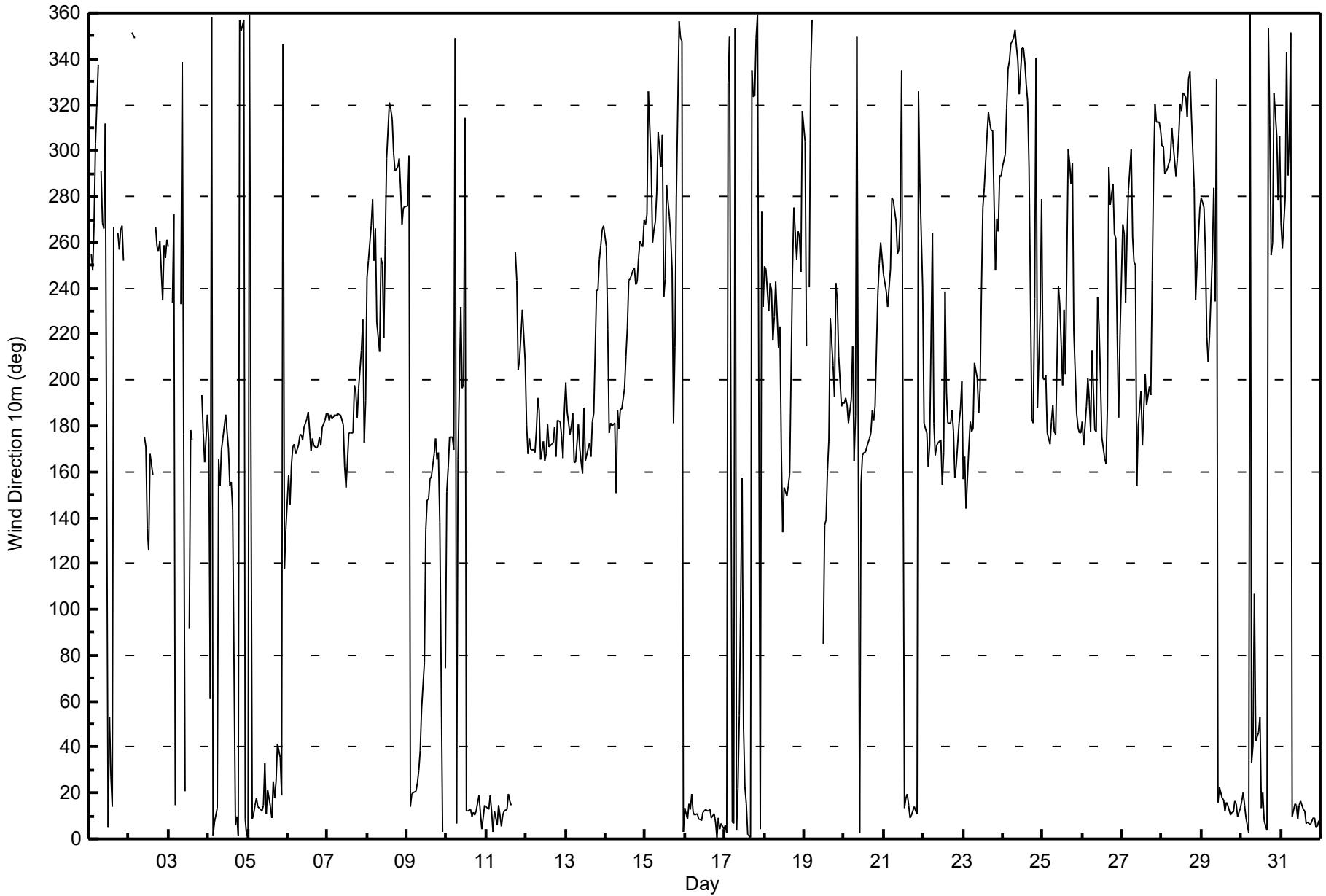
Diurnal Maximum

UO - Unstable Operation



Wood Buffalo Environmental Association
Hourly Averages

Wind Direction 10m (WD10) - deg
Fort McKay South - January 2025





WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

**AMS14
ANZAC
JANUARY 2025**

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

February 28, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - ANZAC (AMS14)
 JANUARY 2025

MONTHLY SUMMARY for
 AMD SECTION III.B.1(c)

Parameter	Hours of Data	Hours of Calibration	Hours without Data	Operational Time	Maximum 30-Min Value	30-Min Exceedances	Maximum 1-Hour Value	1-Hour Exceedances	Maximum 24-Hour Value	24-Hour Exceedances
SO2(ppb) Average	709	35	35	100	-	-	11.7	0	4	0
TRS(ppb) Average	707	37	37	100	5.1	1	2.6	0	0.3	0
THC(ppm) Average	688	38	56	97.58	-	-	2.4	-	2.1	-
NMHC(ppm) Average	688	38	56	97.58	-	-	0.109	-	0.013	-
CH4(ppm) Average	688	38	56	97.58	-	-	2.4	-	2.1	-
NO2(ppb) Average	708	36	36	100	-	-	24.9	0	10.4	-
NO(ppb) Average	708	36	36	100	-	-	29.8	-	2.9	-
NOX(ppb) Average	708	36	36	100	-	-	47.3	-	13.3	-
O3(ppb) Average	705	39	39	100	-	-	46.5	0	41.2	-
PM2.5(ug/m3) Average	742	2	2	100	-	-	125.7	1	18.6	0
AT 2m(C) Average	744	0	0	100	-	-	7.1	-	2.1	-
RH(%) Average	744	0	0	100	-	-	97.4	-	90.5	-
WS(km/h) Average	526	1	218	70.83	-	-	36	-	23	-
WD(deg) Average	526	1	218	70.83	-	-	-	-	-	-
Leaf Wetness (% of range) Average	744	0	0	100	-	-	59.8	-	5.3	-

Note : Operational time includes periods of data collection and instrument calibration

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - ANZAC (AMS14)
 JANUARY 2025

MONTHLY SUMMARY FOR AIR QUALITY/ METEOROLOGICAL MONITORING MEASUREMENTS

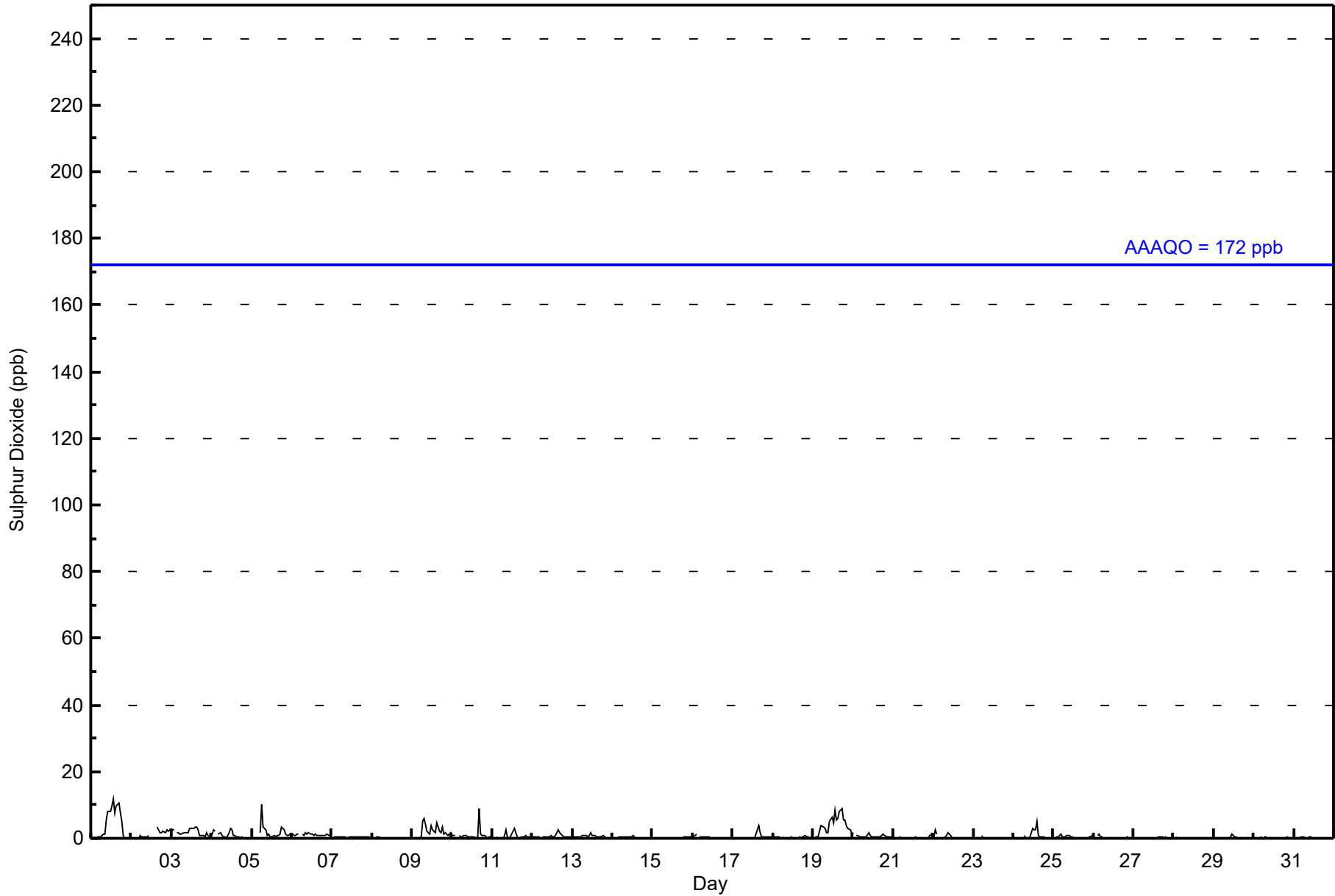
Parameter	Number	Mean	StnDev	Total	Percentile						
					Min	P10	Q1	Median	Q3	P90	Max
SO2(ppb) Average	709	0.79	1.5	-	0	0	0.1	0.3	0.7	1.9	11.7
TRS(ppb) Average	707	0.22	0.1	-	0.1	0.1	0.2	0.2	0.2	0.3	2.6
THC(ppm) Average	688	2.01	0.1	-	1.9	2	2	2	2	2.1	2.4
NMHC (ppm) Average	688	0	0.006	-	0	0	0	0	0	0	0.109
CH4(ppm) Average	688	2.01	0.1	-	1.9	2	2	2	2	2.1	2.4
NO2(ppb) Average	708	3.92	4	-	0.1	0.5	1	2.3	6	9.2	24.9
NO(ppb) Average	708	0.76	2	-	0	0	0	0.2	0.6	2.2	29.8
NOX(ppb) Average	708	4.68	5.3	-	0.1	0.6	1.1	2.6	7	11	47.3
O3(ppb) Average	705	29.33	9.4	-	0	15.4	21.8	31.5	37.5	39.5	46.5
PM2.5(ug/m3) Average	742	4.22	8.1	-	0.1	0.8	1.5	2.6	4.4	7	125.7
Temperature 2 m (C) Average	744	-11.84	10.8	-	-33.9	-26.4	-21.6	-10.6	-2.3	1.6	7.1
Relative Humidity (%) Average	744	75.93	11.1	-	40.1	59.8	71.4	77.7	83.1	88.7	97.4
Wind Speed 20 m (km/h) Average	526	13.3	7	-	1	6	8	12	18	23	36
Wind Direction 20 m (deg) Average	526	254	-	-	-	-	-	-	-	-	-
Leaf Wetness (% of range) Average	744	0.68	3.4	-	0	0	0	0	0.8	1.5	59.8

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - ANZAC (AMS14)
JANUARY 2025

Parameter	OPERATIONAL NOTES			
	Period Start	Period End	Duration (Hours)	Notes
THC/NMHC/CH4	03 Jan 2025 04:00	03 Jan 2025 12:00	9	Analyzer Failure - inconsistent response
THC/NMHC/CH4	03 Jan 2025 13:00	03 Jan 2025 18:00	6	Maintenance - field troubleshooting/analyzer replaced
THC/NMHC/CH4	30 Jan 2025 15:00	30 Jan 2025 17:00	3	Maintenance - replaced support gas cylinder
Wind Speed, Wind Direction	10 Jan 2025 17:00	13 Jan 2025 12:00	68	Flat line in sensor output signal - Sensor frozen
Wind Speed, Wind Direction	13 Jan 2025 13:00	13 Jan 2025 17:00	5	Maintenance - tower lowered to de-ice the sensor
Wind Speed, Wind Direction	13 Jan 2025 18:00	16 Jan 2025 12:00	67	Unstable Operation - wind direction sensor mis-aligned
Wind Speed, Wind Direction	16 Jan 2025 13:00	16 Jan 2025 13:00	1	Maintenance - wind sensor re-aligned
Wind Speed, Wind Direction	24 Jan 2025 09:00	27 Jan 2025 11:00	75	Analyzer Failure - inconsistent response
Wind Speed, Wind Direction	27 Jan 2025 12:00	27 Jan 2025 12:00	1	Maintenance - wind direction sensor repaired



Number of Exceedences (AAAQO):		1-hr: 0	24-hr: 0																		Hours in Service:	744																										
Maximum Value: 11.7 ppb on Jan 1 14:00		Maximum Daily Average: 4.0 ppb on Jan 19																	Hours of Data:	709																												
Minimum Value: 0.0 ppb on Jan 8 15:00		Minimum Daily Average: 0.1 ppb on Jan 8																	Hours of Missing Data:	35																												
Maximum Diurnal Average: 1.4 ppb at hour 17		Minimum Diurnal Average: 0.3 ppb at hour 4																	Hours of Calibration:	35																												
Monthly Average: 0.79 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.3 Q ₃ = 0.7 P ₉₀ = 1.9 P ₉₉ = 8.6																	Percent Operational Time:	100.0																												
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Jan	Z	0.2	0.1	0.1	0.4	0.4	0.7	1.2	1.3	5.5	8.0	8.2	9.6	11.7	7.5	9.5	10.8	7.7	5.0	0.8	0.2	0.1	0.1	0.2	3.9	11.7																						
2-Jan	0.2	Z	0.1	0.1	0.2	0.7	0.4	0.3	0.4	0.4	0.8	C	C	C	C	3.5	2.5	1.7	1.7	2.0	1.9	2.4	2.1	2.8	1.3	3.5																						
3-Jan	2.4	2.4	Z	1.7	1.6	1.5	1.4	1.5	1.7	1.8	1.7	3.0	2.9	2.8	3.5	3.6	2.4	0.9	0.8	0.7	0.3	1.6	0.8	0.5	1.8	3.6																						
4-Jan	1.5	2.4	1.9	Z	1.2	1.8	0.9	0.3	0.3	0.2	1.7	2.9	2.6	1.0	0.8	0.4	0.6	0.2	0.4	0.0	0.1	0.1	0.1	0.0	0.9	2.9																						
5-Jan	0.0	0.0	0.1	0.0	Z	1.8	10.0	3.5	2.7	0.9	1.2	0.3	0.3	0.6	0.6	1.0	0.7	1.4	3.2	2.4	1.3	1.0	1.0	1.2	1.5	10.0																						
6-Jan	1.1	0.8	0.8	1.2	1.1	Z	1.2	1.0	1.8	1.4	1.5	1.2	1.2	1.0	1.1	1.0	0.8	0.7	0.7	0.6	0.7	1.3	1.0	0.5	1.0	1.8																						
7-Jan	Z	0.5	0.3	0.3	0.2	0.6	0.4	0.3	0.2	0.2	0.4	0.4	0.6	0.5	0.4	0.5	0.5	0.4	0.5	0.3	0.4	0.6	0.3	0.2	0.4	0.6																						
8-Jan	0.1	Z	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.2																						
9-Jan	0.0	0.0	Z	0.0	0.0	0.6	5.1	5.9	4.2	2.0	1.3	3.8	2.7	2.1	1.7	4.8	2.3	1.7	3.4	1.2	1.6	0.7	1.5	1.7	2.1	5.9																						
10-Jan	0.7	0.8	0.7	Z	0.7	0.5	0.5	0.8	0.6	0.4	0.4	0.4	0.4	0.3	0.2	0.3	8.9	1.3	0.9	0.7	0.2	0.2	0.3	0.2	0.9	8.9																						
11-Jan	0.2	0.1	0.1	0.2	Z	0.1	0.2	1.0	2.6	0.4	0.2	0.5	2.0	2.8	1.8	0.5	0.2	0.2	0.3	0.6	1.0	0.6	0.5	0.5	0.7	2.8																						
12-Jan	0.3	0.4	0.3	0.3	0.4	Z	0.3	0.3	0.3	0.4	0.4	0.7	0.6	0.5	1.1	2.4	1.7	1.4	0.8	0.4	0.3	0.4	0.4	0.3	0.6	2.4																						
13-Jan	Z	0.3	0.3	0.3	0.3	0.4	0.9	1.0	0.8	0.4	0.8	1.8	0.9	0.7	0.5	0.4	0.3	0.4	0.6	0.3	0.2	0.1	0.1	0.1	0.5	1.8																						
14-Jan	0.1	Z	0.1	0.1	0.4	0.4	0.3	0.4	0.4	0.3	0.3	0.2	0.7	0.3	0.2	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.2	0.7																						
15-Jan	0.1	0.0	Z	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.3	0.5	0.3	0.4	0.1	0.5																					
16-Jan	0.5	0.8	1.4	Z	0.4	0.4	0.3	0.2	0.3	0.3	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.3	1.4																						
17-Jan	0.1	0.2	0.1	0.2	Z	0.2	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.0	1.2	3.6	1.8	0.3	0.3	0.6	0.5	0.5	0.4	0.4	0.5	3.6																						
18-Jan	0.4	0.3	0.6	0.4	0.4	Z	0.5	0.2	0.1	0.1	0.1	0.3	0.2	0.0	0.1	0.2	0.2	0.2	0.3	0.7	0.3	0.3	0.2	0.2	0.3	0.7																						
19-Jan	Z	0.4	0.4	0.3	2.1	3.9	3.4	2.9	1.8	1.7	5.2	6.4	4.7	8.6	5.5	5.9	8.2	8.8	5.7	5.7	3.7	2.9	2.8	1.3	4.0	8.8																						
20-Jan	1.7	Z	0.9	0.7	0.4	0.6	0.6	0.5	0.6	1.5	1.0	0.6	0.5	0.4	0.4	0.6	0.6	0.8	1.4	0.8	0.2	0.3	0.3	0.3	0.7	1.7																						
21-Jan	0.2	0.2	Z	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.8	1.2	0.2	1.2																						
22-Jan	0.5	2.6	1.3	Z	0.2	0.2	0.1	0.6	1.0	1.9	1.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.4	2.6																						
23-Jan	0.0	0.2	0.1	0.1	Z	0.7	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.7																						
24-Jan	0.0	0.0	0.1	0.1	0.1	Z	0.7	0.1	0.1	0.1	0.3	2.9	2.7	2.8	5.0	0.9	0.3	0.4	0.3	0.2	0.1	0.1	0.2	0.2	0.8	5.0																						
25-Jan	Z	0.2	0.3	0.5	1.1	0.4	0.3	0.3	0.8	0.7	0.3	0.3	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.5	0.3	0.7	0.3	1.1																						
26-Jan	0.8	Z	0.9	1.1	0.6	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.0	0.0	0.2	1.1																						
27-Jan	0.0	0.1	Z	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.2	0.1	0.1	0.2	0.3	0.3	0.4	0.2	0.3	0.1	0.1	0.2	0.1	0.1	0.4																						
28-Jan	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.2																						
29-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.6	1.2	0.6	0.2	0.1	0.2	0.2	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.2	1.2																						
30-Jan	0.1	0.1	0.1	0.2	0.3	Z	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.3																						
31-Jan	Z	0.1	0.0	0.1	0.2	0.3	0.5	0.1	0.0	0.4	0.5	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.5																						
																								Diurnal Average																								
																								Diurnal Maximum																								
																								0.4	0.5	0.4	0.3	0.5	0.6	1.0	0.8	0.7	0.7	0.9	1.2	1.1	1.2	1.1	1.3	1.4	1.0	0.9	0.6	0.5	0.5	0.5	0.4	0.4
																								2.4	2.6	1.9	1.7	2.1	3.9	10.0	5.9	4.2	5.5	8.0	8.2	9.6	11.7	7.5	9.5	10.8	8.8	5.7	5.7	3.7	2.9	2.8	2.8	2.8
Z - zerospan C - Calibration																																																
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb																																																





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Sulphur Dioxide (SO₂) - ppb
Anzac - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	707	99.72	99.72
11 - 20	2	0.28	100.00
21 - 60	0	0.00	100.00
61 - 110	0	0.00	100.00
111 - 172	0	0.00	100.00
> 172	0	0.00	100.00

Total Number of Valid Hours: 709

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Sulphur Dioxide (SO₂) - ppb
Anzac - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 10	17	7	6	4	10	30	57	28	16	13	14	11	46	131	69	39	498
11 - 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
21 - 60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61 - 110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111 - 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	17	7	6	4	10	30	57	28	16	13	14	11	46	131	71	39	500

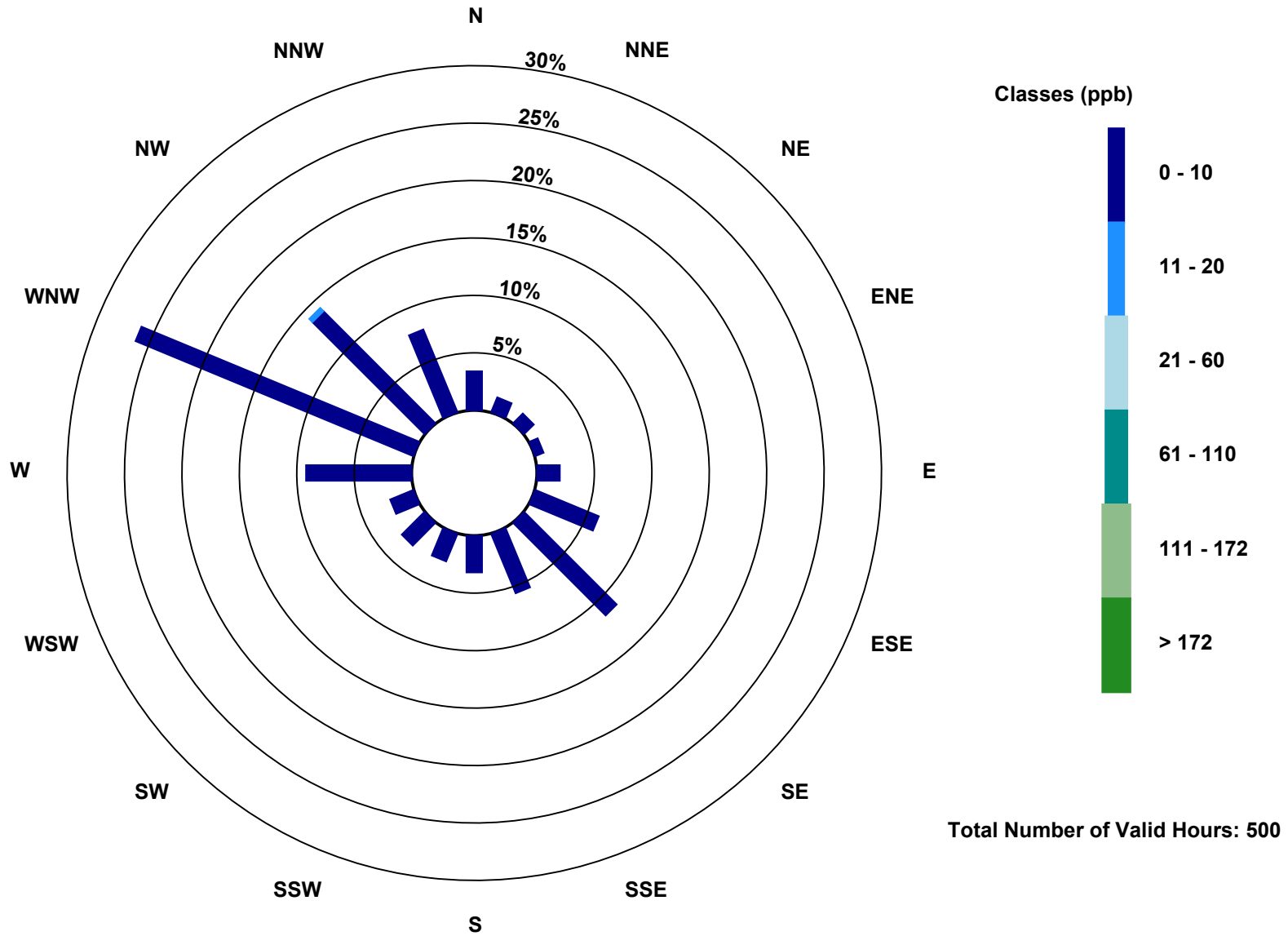
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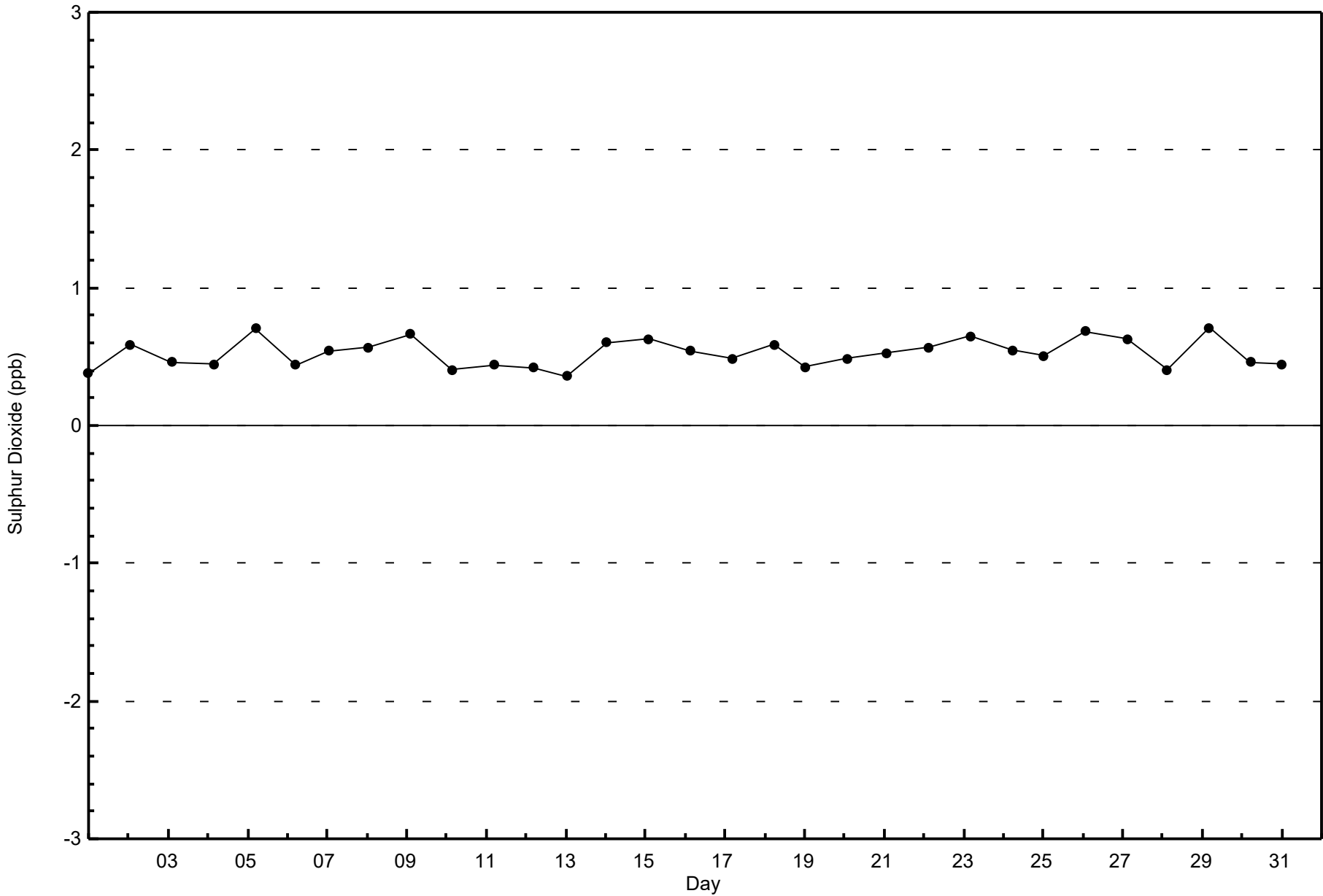
Total Number of Hours: 744

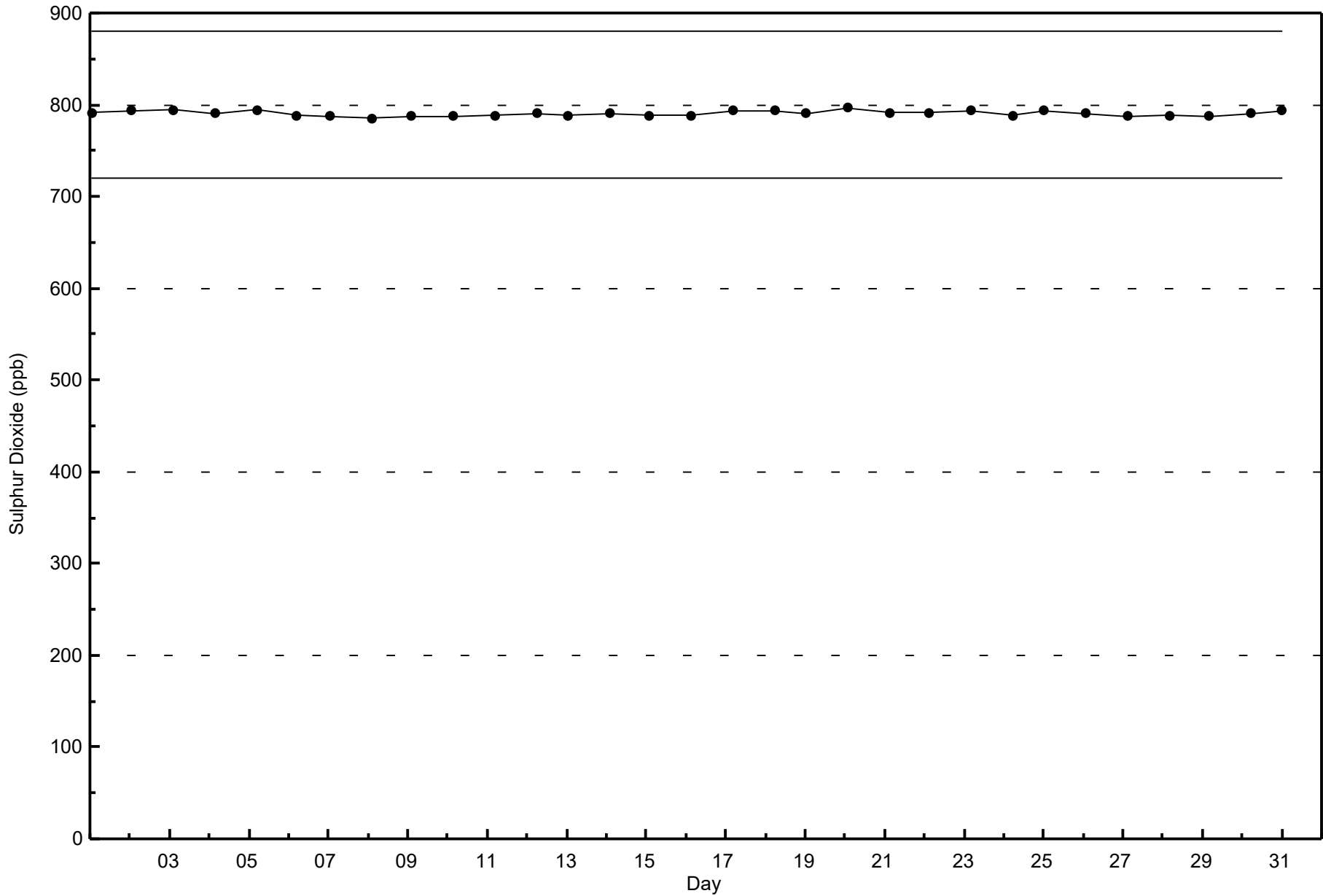


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Sulphur Dioxide (SO₂) - ppb
Anzac

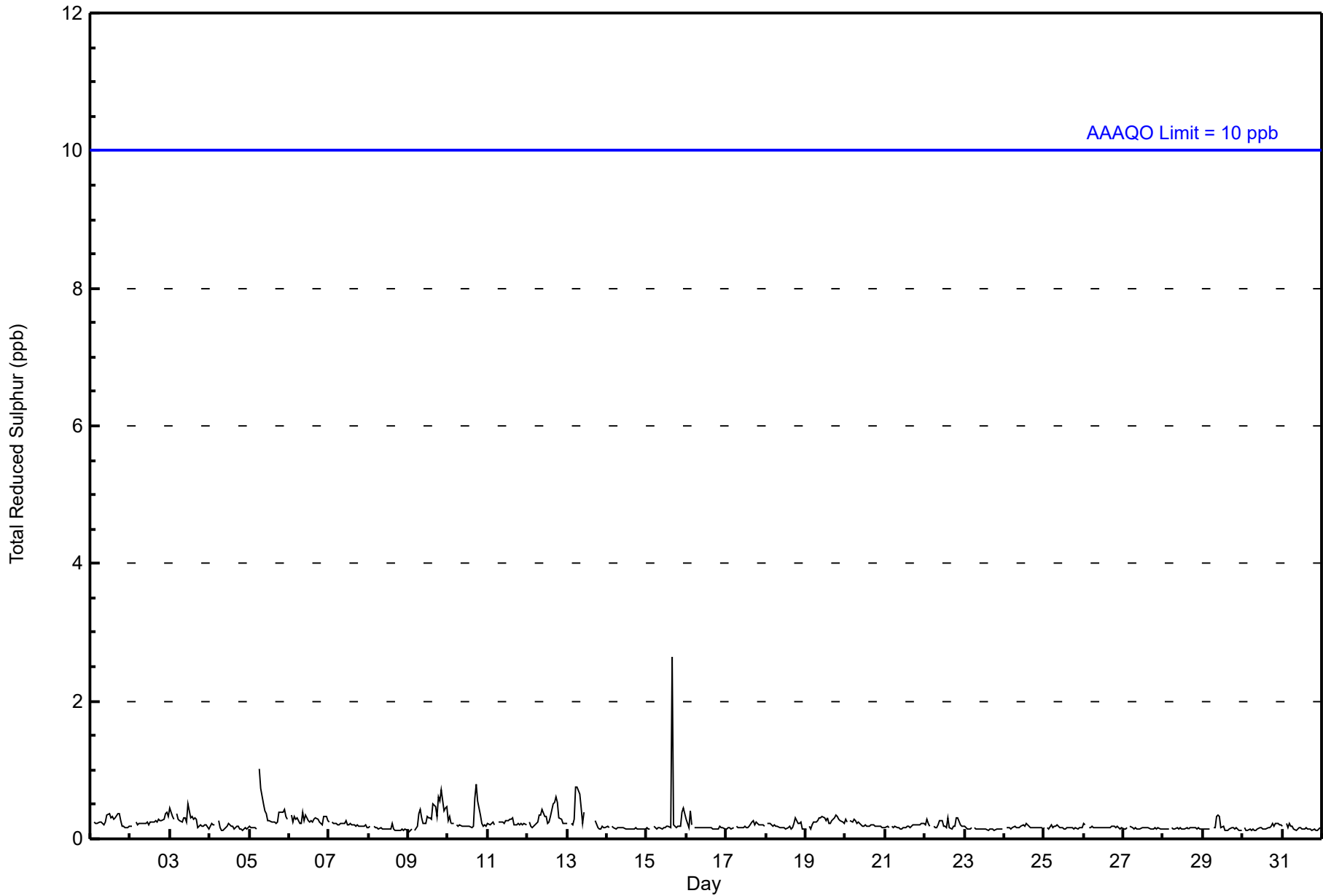








Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 2.6 ppb on Jan 15 16:00 Maximum Daily Average: 0.3 ppb on Jan 9		Hours in Service: 744 Hours of Data: 707 Hours of Missing Data: 37 Hours of Calibration: 37 Percent Operational Time: 100.0																								
Minimum Value: 0.1 ppb on Jan 9 01:00 Maximum Diurnal Average: 0.3 ppb at hour 16 Monthly Average: 0.22 ppb		Minimum Daily Average: 0.1 ppb on Jan 23 Minimum Diurnal Average: 0.2 ppb at hour 4 Percentiles: P ₁ = 0.1 P ₁₀ = 0.1 Q ₁ = 0.2 Median = 0.2 Q ₃ = 0.2 P ₉₀ = 0.3 P ₉₉ = 0.7																								
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0.2	Z	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.4
2-Jan	0.2	0.2	Z	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.4
3-Jan	0.4	0.3	0.3	Z	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.5	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.5
4-Jan	0.2	0.2	0.2	0.2	Z	0.3	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.2
5-Jan	0.2	0.2	0.2	0.2	0.1	Z	1.0	0.7	0.5	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.4	0.4	0.4	0.4	0.3	0.3	0.3	1.0
6-Jan	Z	0.4	0.2	0.3	0.3	0.3	0.2	0.2	0.4	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4
7-Jan	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3
8-Jan	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
9-Jan	0.1	0.1	0.1	Z	0.1	0.2	0.4	0.4	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.5	0.5	0.3	0.6	0.6	0.7	0.4	0.5	0.5	0.3	0.7
10-Jan	0.3	0.3	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.6	0.8	0.5	0.3	0.2	0.2	0.2	0.2	0.3	0.8
11-Jan	0.2	0.2	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3
12-Jan	Z	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.3	0.4	0.3	0.3	0.2	0.2	0.3	0.5	0.5	0.6	0.5	0.3	0.3	0.2	0.2	0.2	0.2	0.6
13-Jan	0.2	Z	0.2	0.2	0.3	0.8	0.7	0.7	0.4	0.2	0.4	C	C	C	C	C	C	0.3	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.8
14-Jan	0.2	0.2	Z	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
15-Jan	0.2	0.1	0.1	Z	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	2.6	0.2	0.2	0.2	0.2	0.2	0.4	0.4	0.4	0.3	2.6
16-Jan	0.3	0.2	0.4	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.4
17-Jan	0.1	0.2	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3
18-Jan	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.3
19-Jan	0.1	Z	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3
20-Jan	0.3	0.2	Z	0.3	0.2	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3
21-Jan	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
22-Jan	0.2	0.3	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.3	0.2	0.1	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.3
23-Jan	0.2	0.2	0.1	0.2	0.2	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
24-Jan	Z	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2
25-Jan	0.2	Z	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2
26-Jan	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2
27-Jan	0.1	0.1	0.2	Z	0.2	0.2	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.2	0.2	0.1	0.2	0.2
28-Jan	0.1	0.1	0.1	0.1	Z	0.2	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.2
29-Jan	0.1	0.1	0.1	0.1	0.1	Z	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.3
30-Jan	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
31-Jan	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2
																								Diurnal Average		
																								Diurnal Maximum		
																								0.2		
																								0.4		
Z - zerospan C - Calibration																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																										





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Total Reduced Sulphur (TRS) - ppb
Anzac - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	706	99.86	99.86
3 - 4	1	0.14	100.00
5 - 7	0	0.00	100.00
8 - 11	0	0.00	100.00
> 11	0	0.00	100.00

Total Number of Valid Hours: 707

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Total Reduced Sulphur (TRS) - ppb
Anzac - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2	18	7	6	4	10	30	58	28	16	12	15	10	46	132	73	39	504
3 - 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 - 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 - 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	18	7	6	4	10	30	58	28	16	12	15	10	46	132	73	39	504

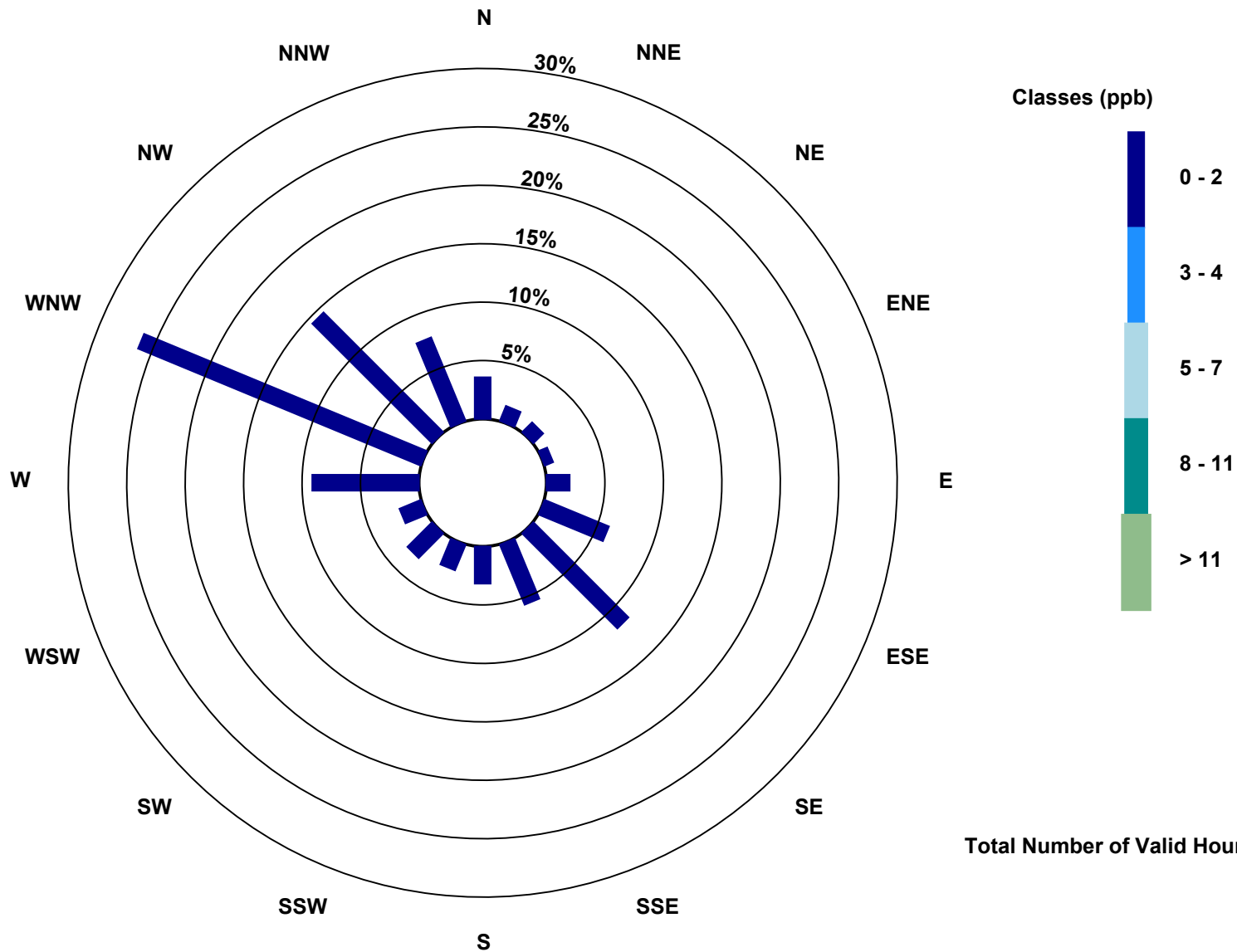
Total Number of Valid Hours: 504

Total Number of Hours: 744

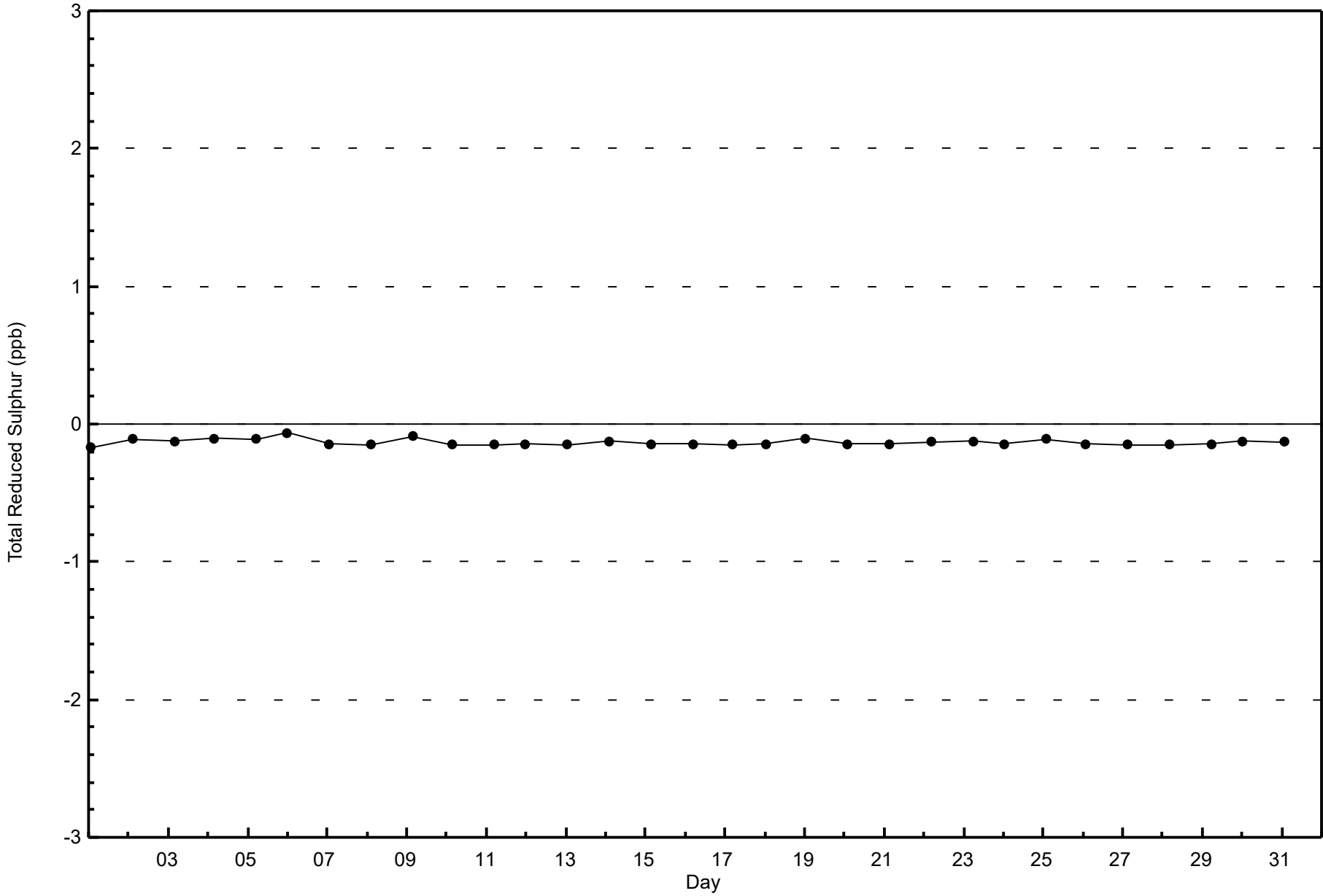


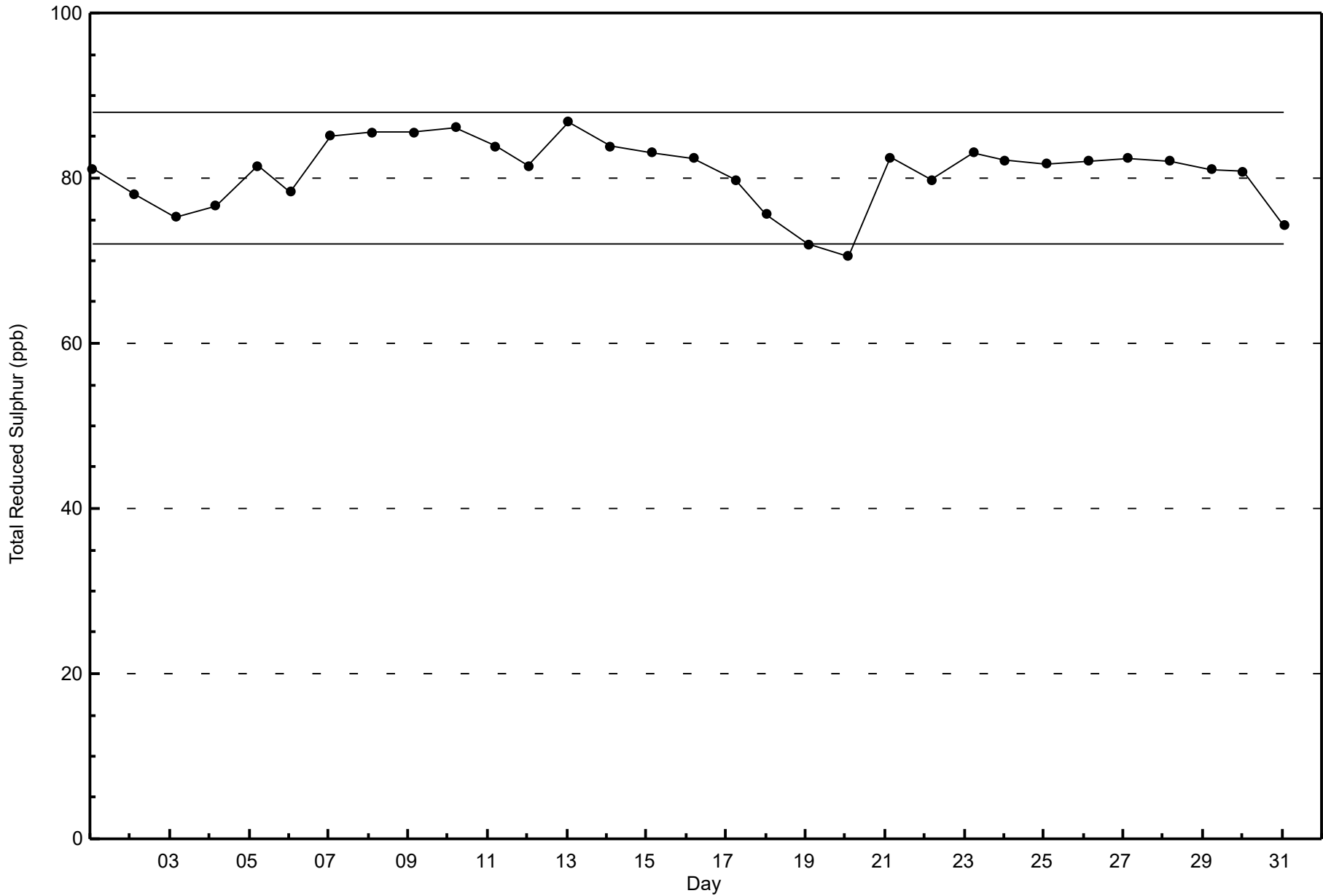
Wood Buffalo Environmental Association
Wind Rose Jan 2025

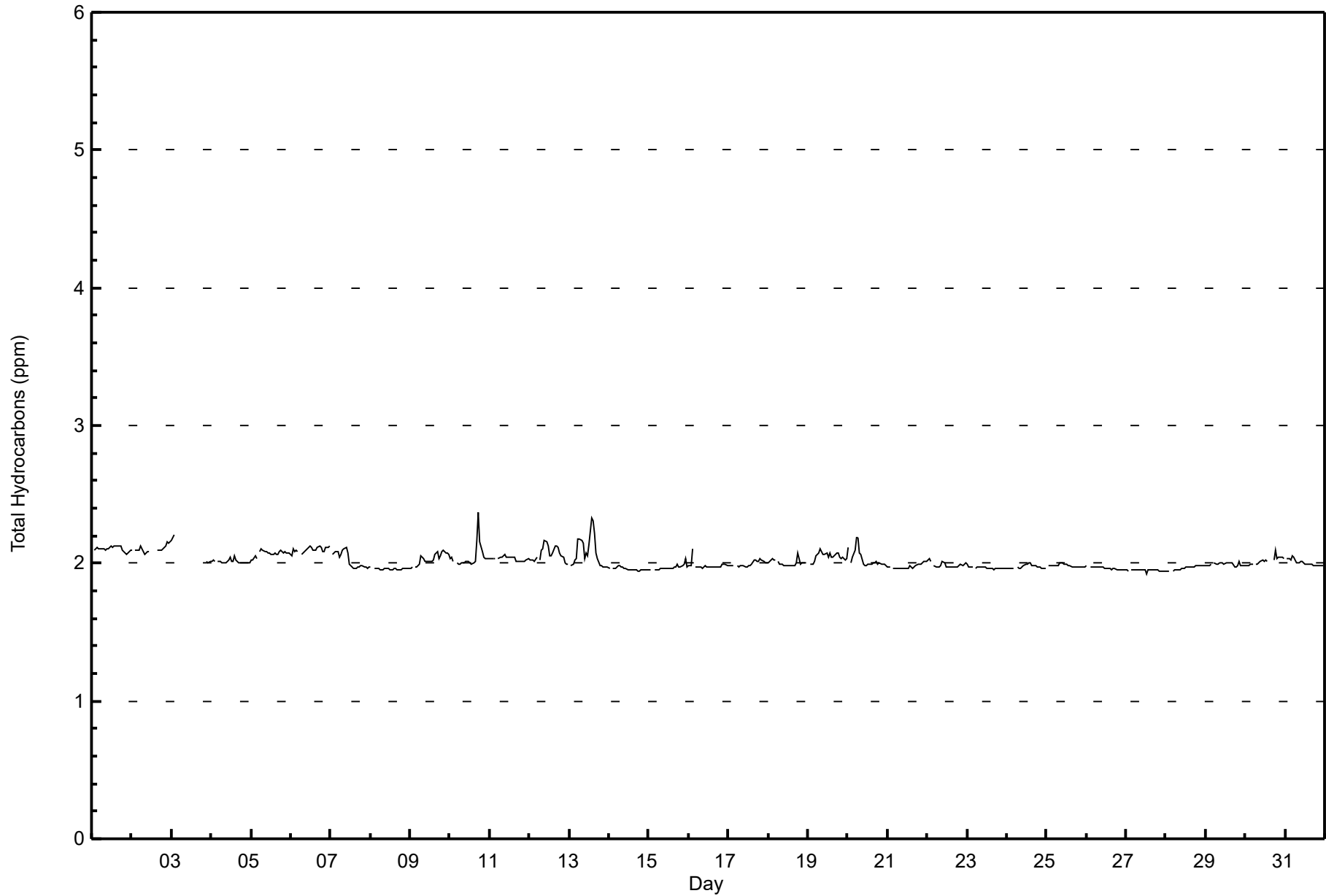
Total Reduced Sulphur (TRS) - ppb
Anzac



Total Number of Valid Hours: 504









Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Hydrocarbons (THC) - ppm
Anzac - January 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	532	77.33	77.33
2.1 - 3.0	156	22.67	100.00
3.1 - 10.0	0	0.00	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 688

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Total Hydrocarbons (THC) - ppm
Anzac - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2.0	16	6	6	2	8	25	18	6	12	10	13	10	40	105	42	34	353
2.1 - 3.0	0	1	0	2	2	2	30	16	4	3	1	1	6	25	28	5	126
3.1 - 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	16	7	6	4	10	27	48	22	16	13	14	11	46	130	70	39	479

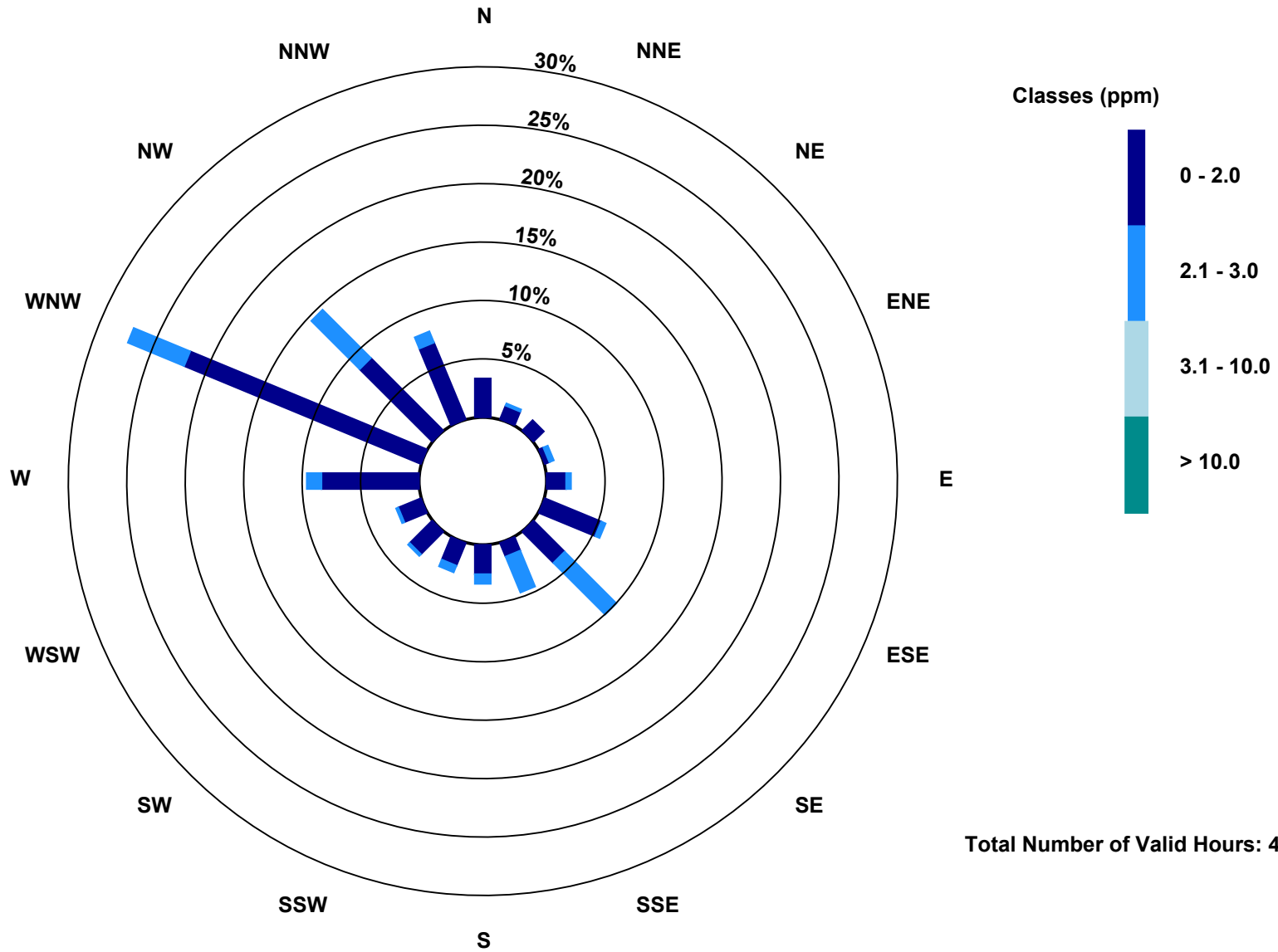
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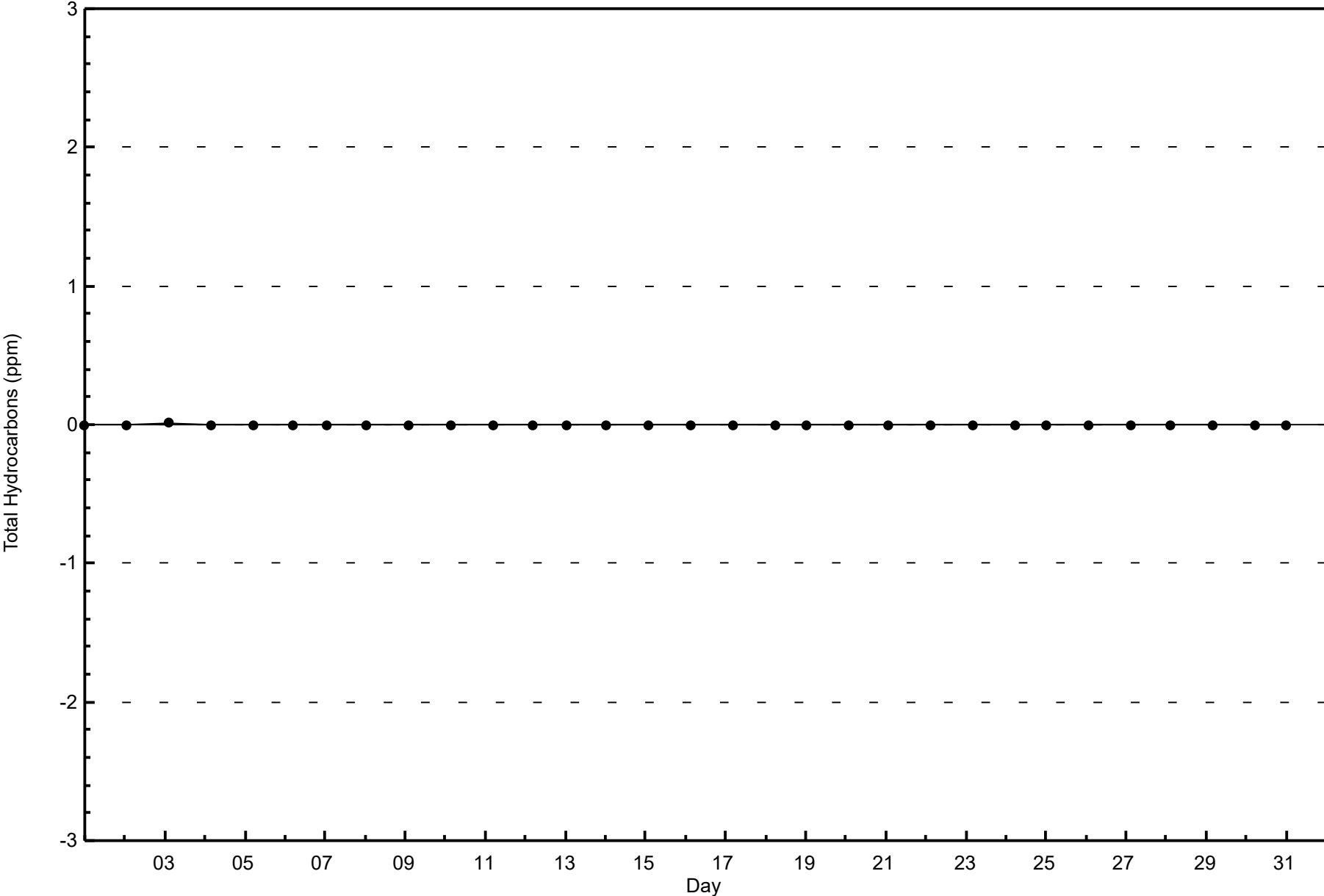
Total Number of Hours: 744

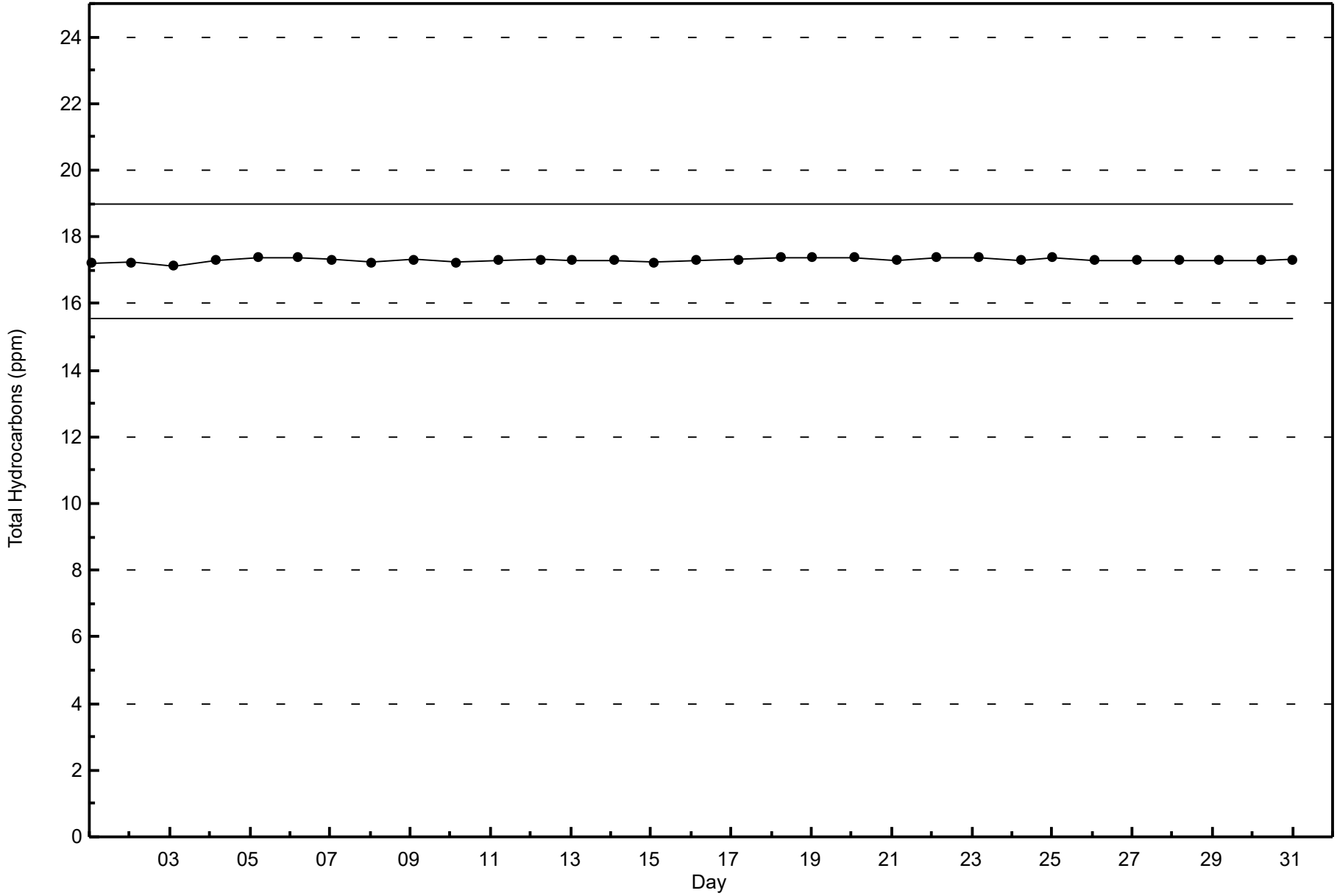


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Total Hydrocarbons (THC) - ppm
Anzac





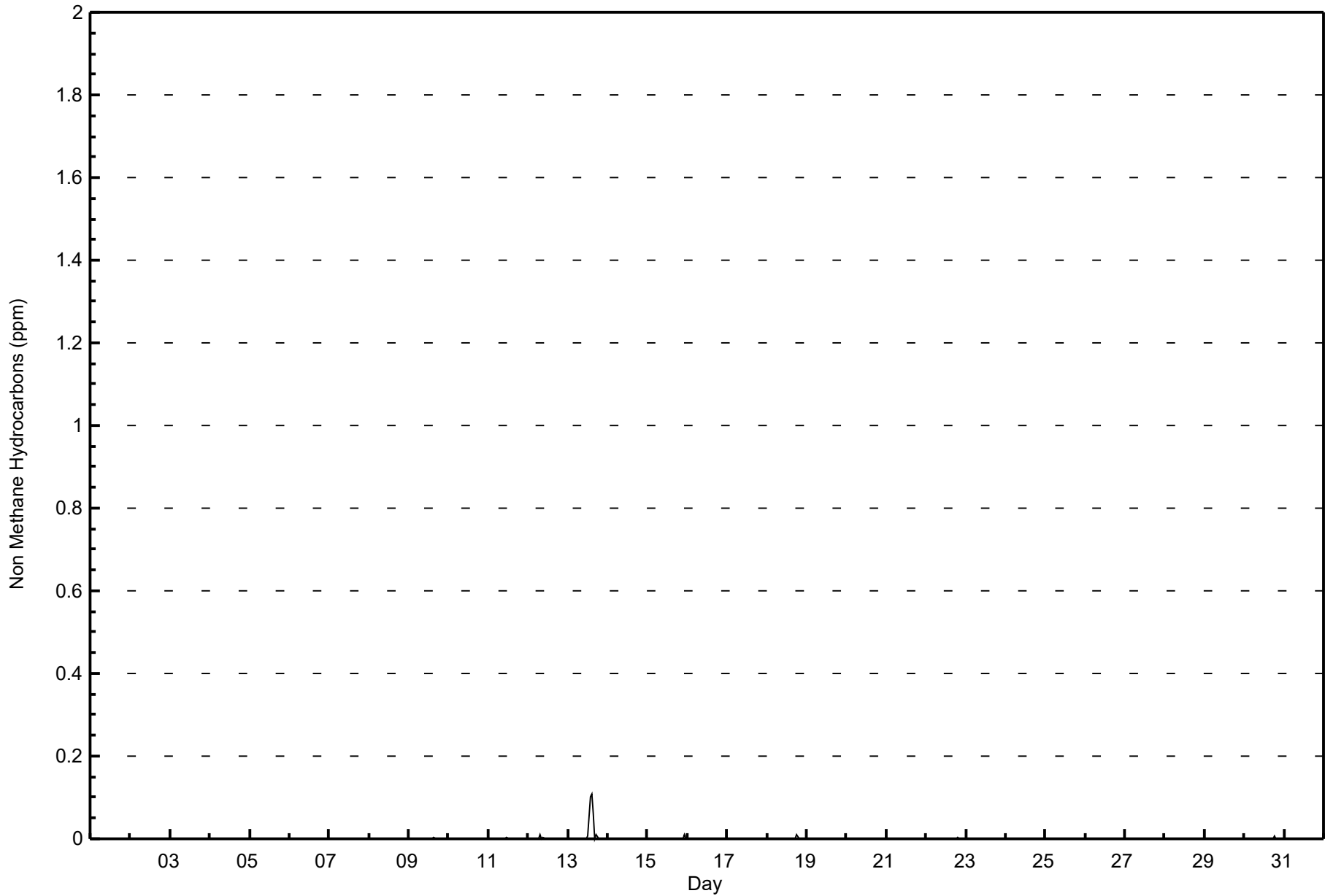




Summary of Hour Averages

Anzac - January 2025

Maximum Value: 0.109 ppm on Jan 13 15:00		Maximum Daily Average: 0.013 ppm on Jan 13		Hours in Service:	744																													
Minimum Value: 0.000 ppm on Jan 1 02:00		Minimum Daily Average: 0.000 ppm on Jan 1		Hours of Data:	688																													
Maximum Diurnal Average: 0.004 ppm at hour 15		Minimum Diurnal Average: 0.000 ppm at hour 2		Hours of Missing Data:	56																													
Monthly Average: 0.000 ppm		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.0 P ₉₉ = 0.0		Hours of Calibration:	38																													
				Percent Operational Time:	97.6																													
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24										
1-Jan	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2-Jan	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	C	C	C	C	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
3-Jan	0.000	0.000	Z	AF	AF	AF	AF	AF	AF	AF	AF	AF	M	M	M	M	M	M	C	C	C	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4-Jan	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
5-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
6-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
7-Jan	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
8-Jan	0.000	Z	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	
9-Jan	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	
10-Jan	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
11-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	
12-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.011	0.000	0.002	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.011		
13-Jan	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.103	0.109	0.060	0.000	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.013	0.109		
14-Jan	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
15-Jan	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.000	0.010		
16-Jan	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
17-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
18-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.011	
19-Jan	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
20-Jan	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
21-Jan	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
22-Jan	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	
23-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
24-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
25-Jan	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
26-Jan	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
27-Jan	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
28-Jan	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
29-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
30-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	M	M	M	0.000	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	
31-Jan	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
																								Diurnal Average										
																								Diurnal Maximum										
Z - zerospan																								C - Calibration		M - Maintenance		AF - Analyzer Failure						





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Non Methane Hydrocarbons (NMHC) - ppm
Anzac - January 2025**

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 0.005	679	98.69	98.69
0.006 - 0.05	6	0.87	99.56
0.06 - 0.1	3	0.44	100.00
> 0.1	0	0.00	100.00

Total Number of Valid Hours: 688

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Non Methane Hydrocarbons (NMHC) - ppm
Anzac - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 0.005	16	7	6	4	10	27	48	22	16	13	14	11	45	130	69	39	477
0.006 - 0.05	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2
0.06 - 0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	16	7	6	4	10	27	48	22	16	13	14	11	46	130	70	39	479

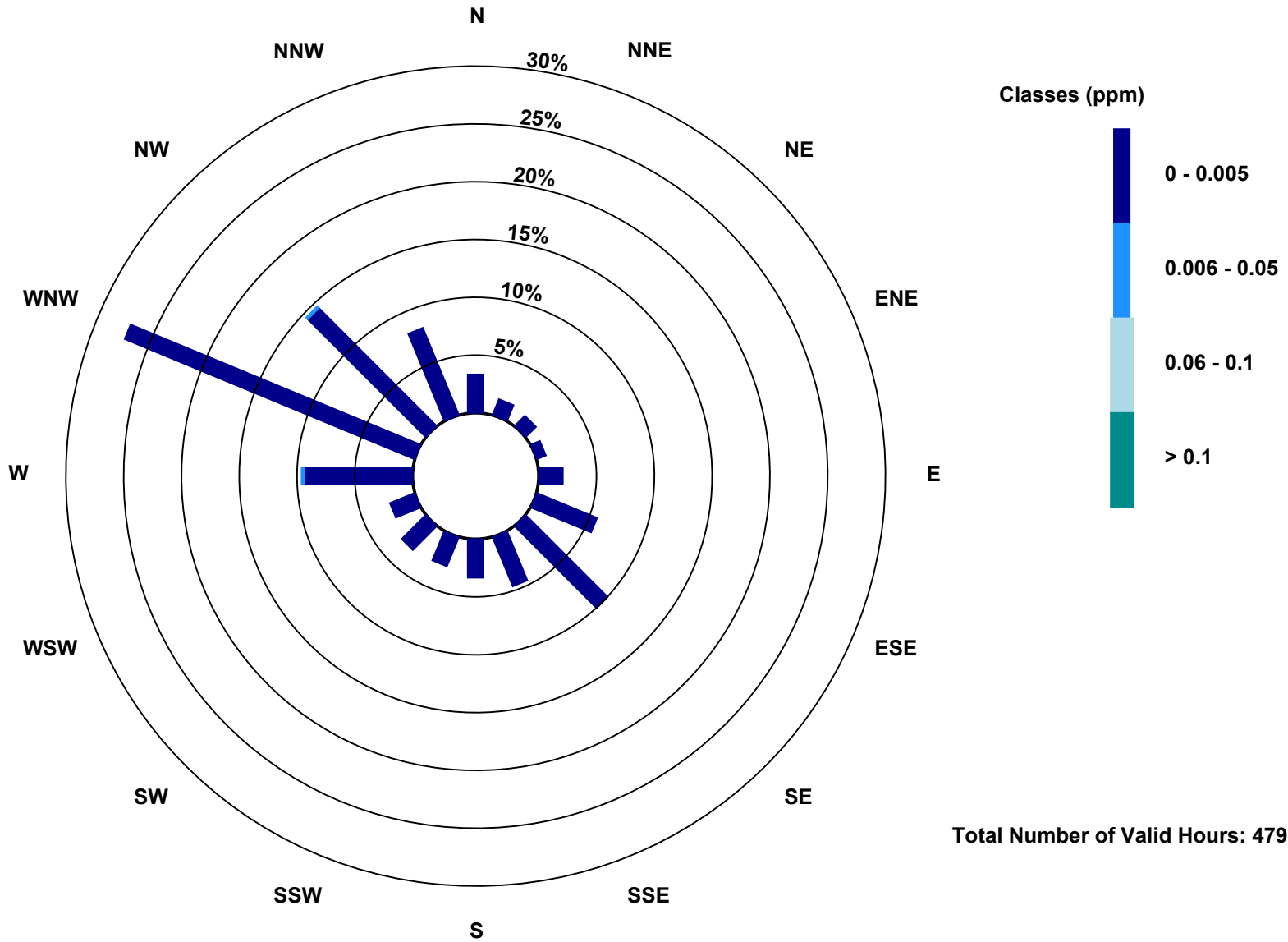
Total Number of Valid Hours: 479

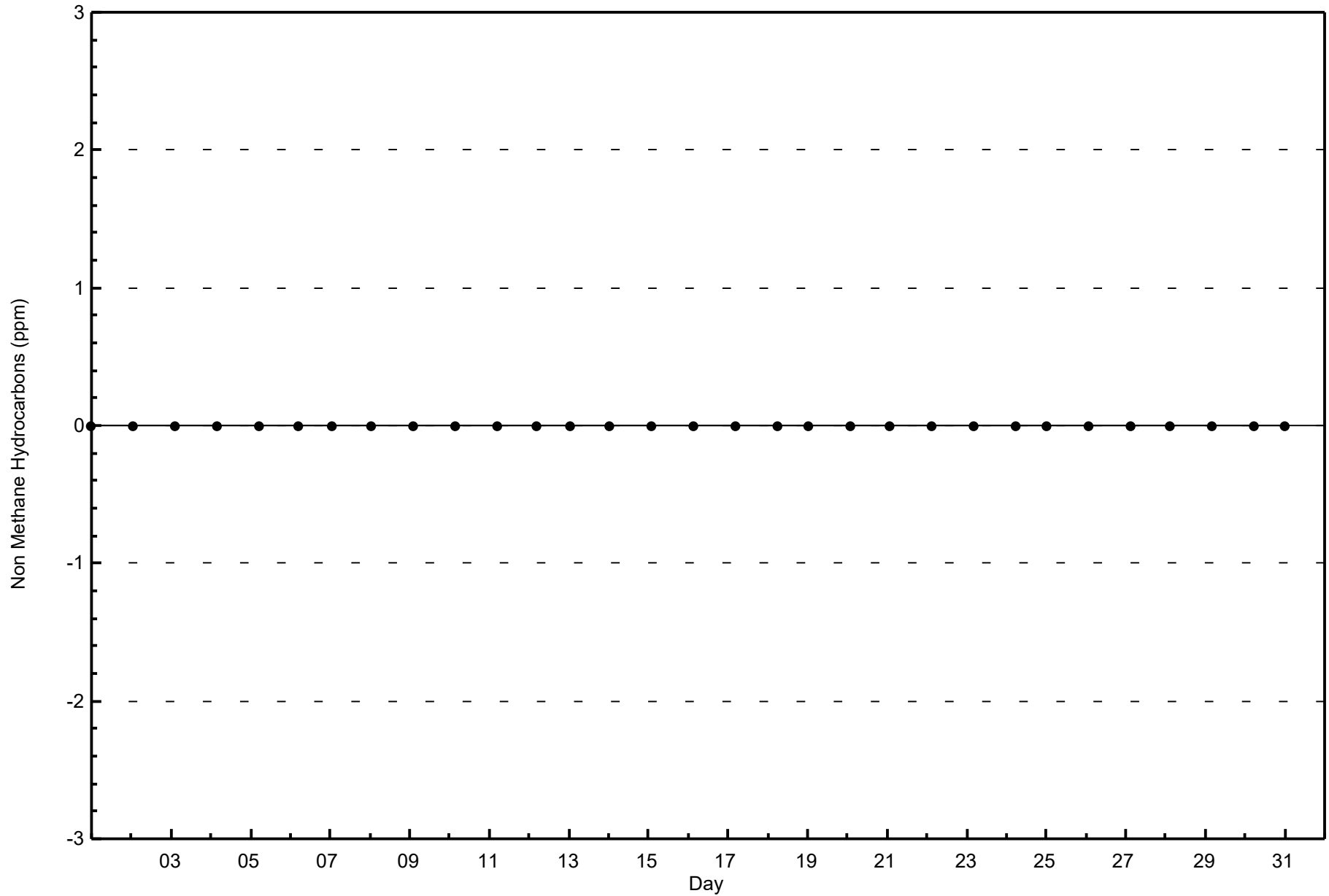
Total Number of Hours: 744

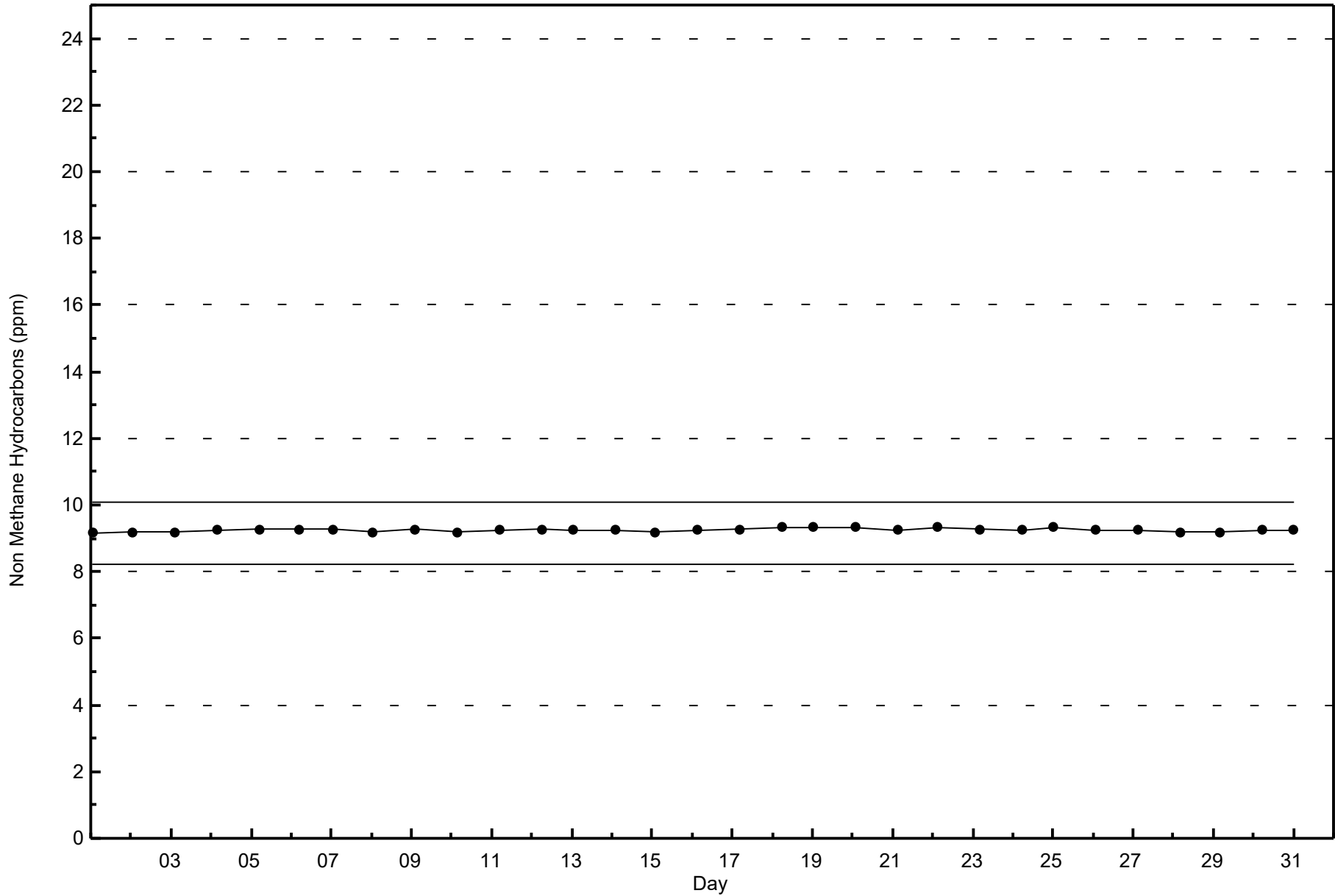


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Non Methane Hydrocarbons (NMHC) - ppm
Anzac



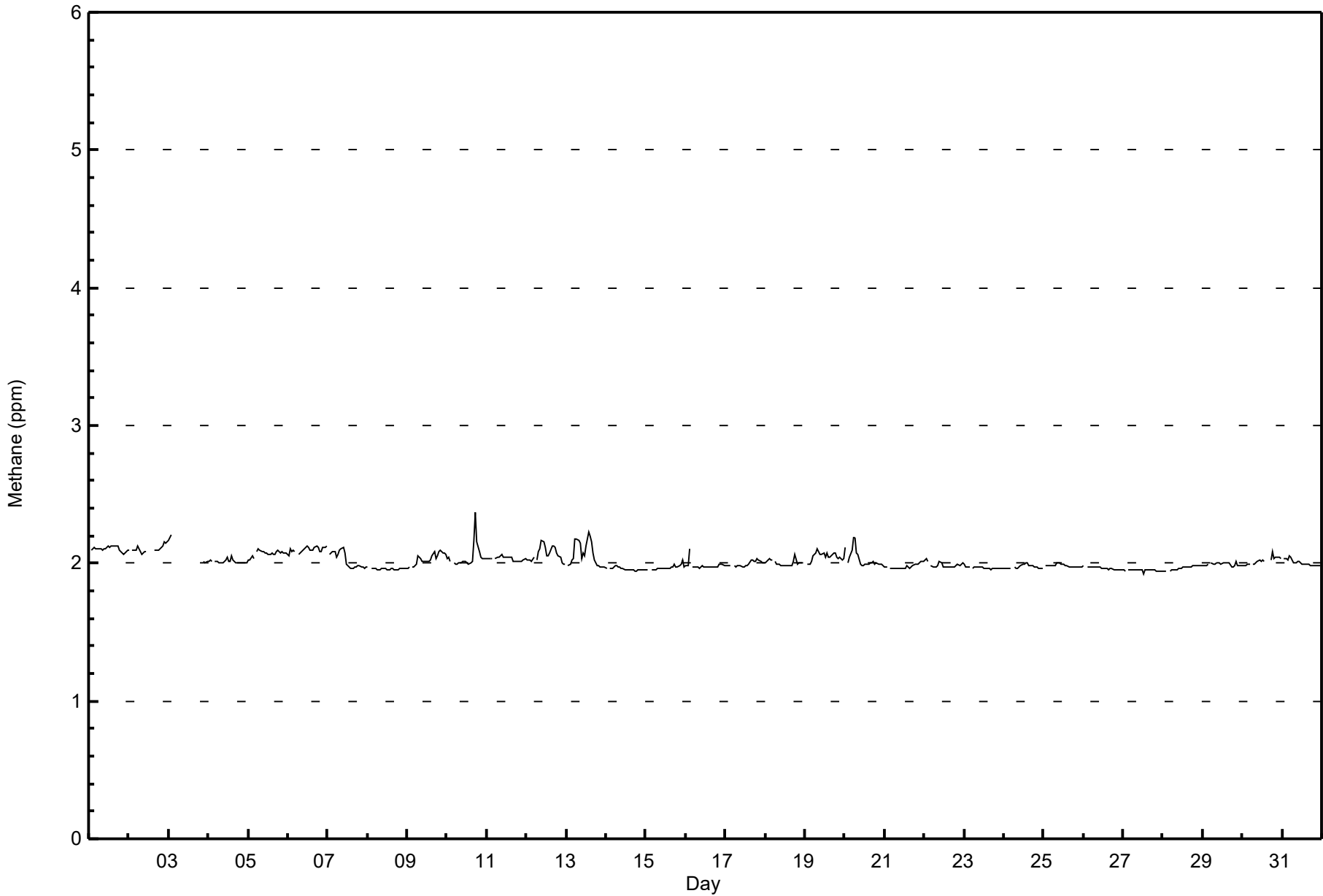






Wood Buffalo Environmental Association
Hourly Averages

Methane (CH₄) - ppm
Anzac - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Methane (CH₄) - ppm
Anzac - January 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	532	77.33	77.33
2.1 - 3.0	156	22.67	100.00
3.1 - 10.0	0	0.00	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 688

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Methane (CH₄) - ppm
Anzac - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2.0	16	6	6	2	8	25	18	6	12	10	13	10	40	105	42	34	353
2.1 - 3.0	0	1	0	2	2	2	30	16	4	3	1	1	6	25	28	5	126
3.1 - 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	16	7	6	4	10	27	48	22	16	13	14	11	46	130	70	39	479

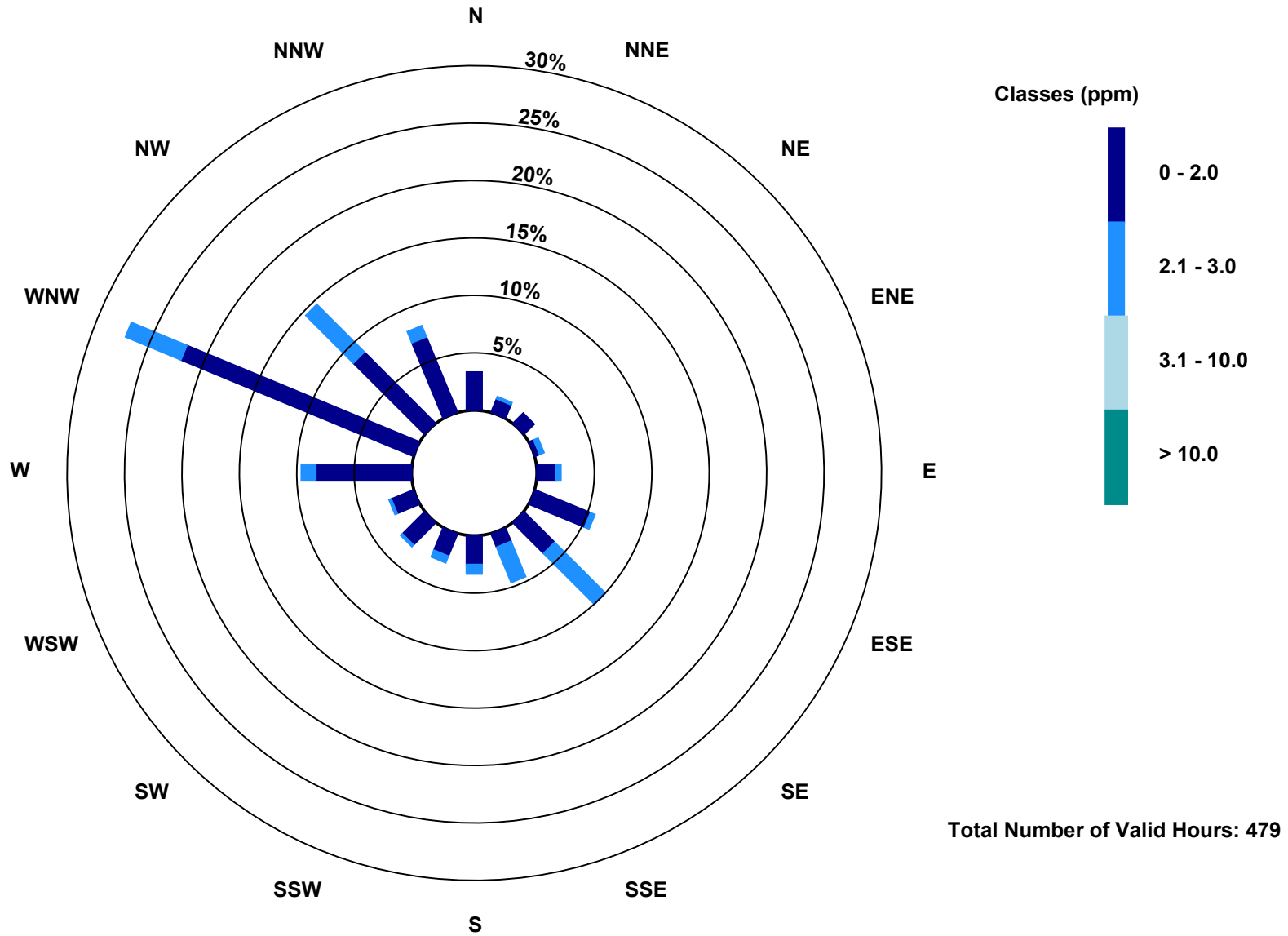
Total Number of Valid Hours: 479

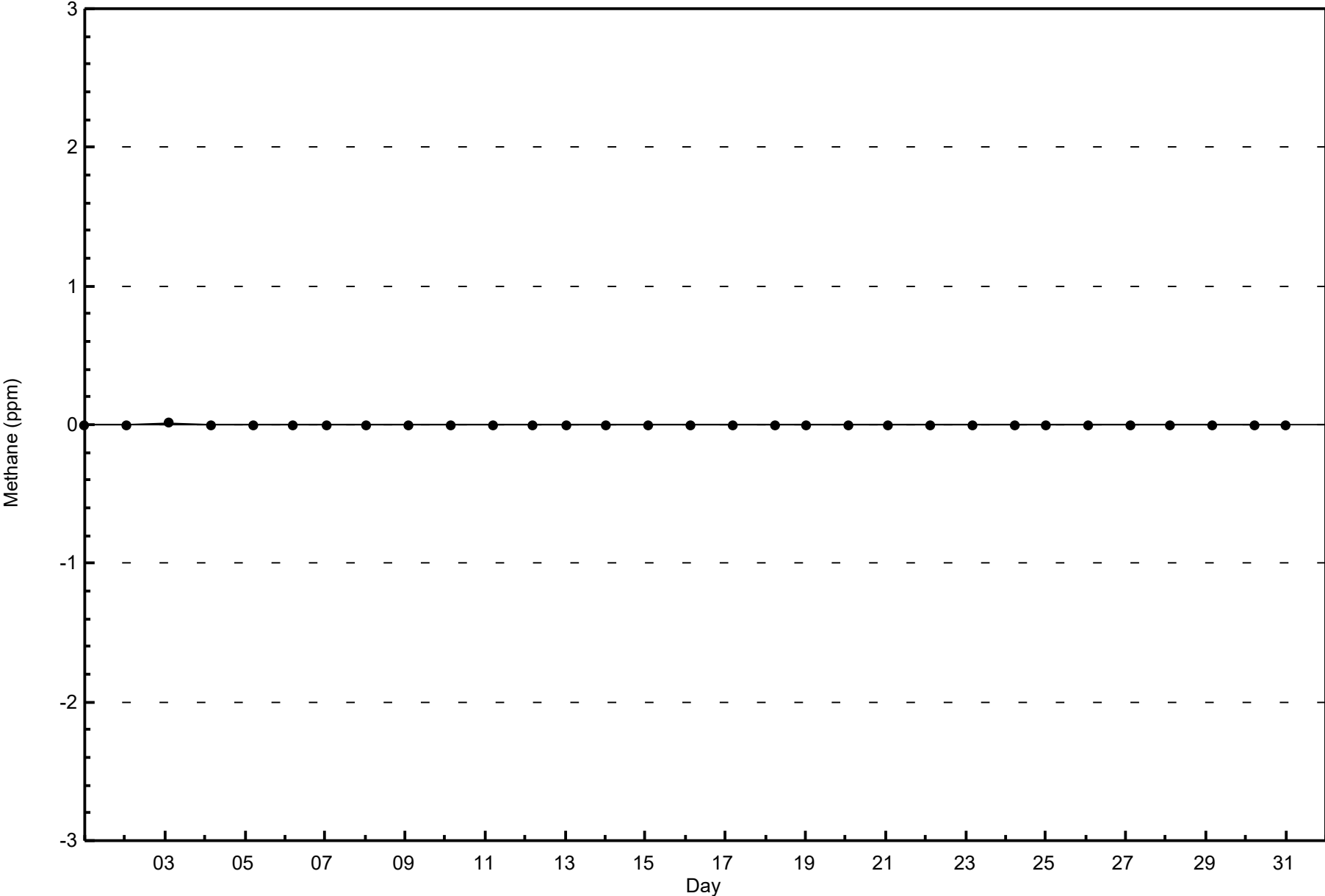
Total Number of Hours: 744

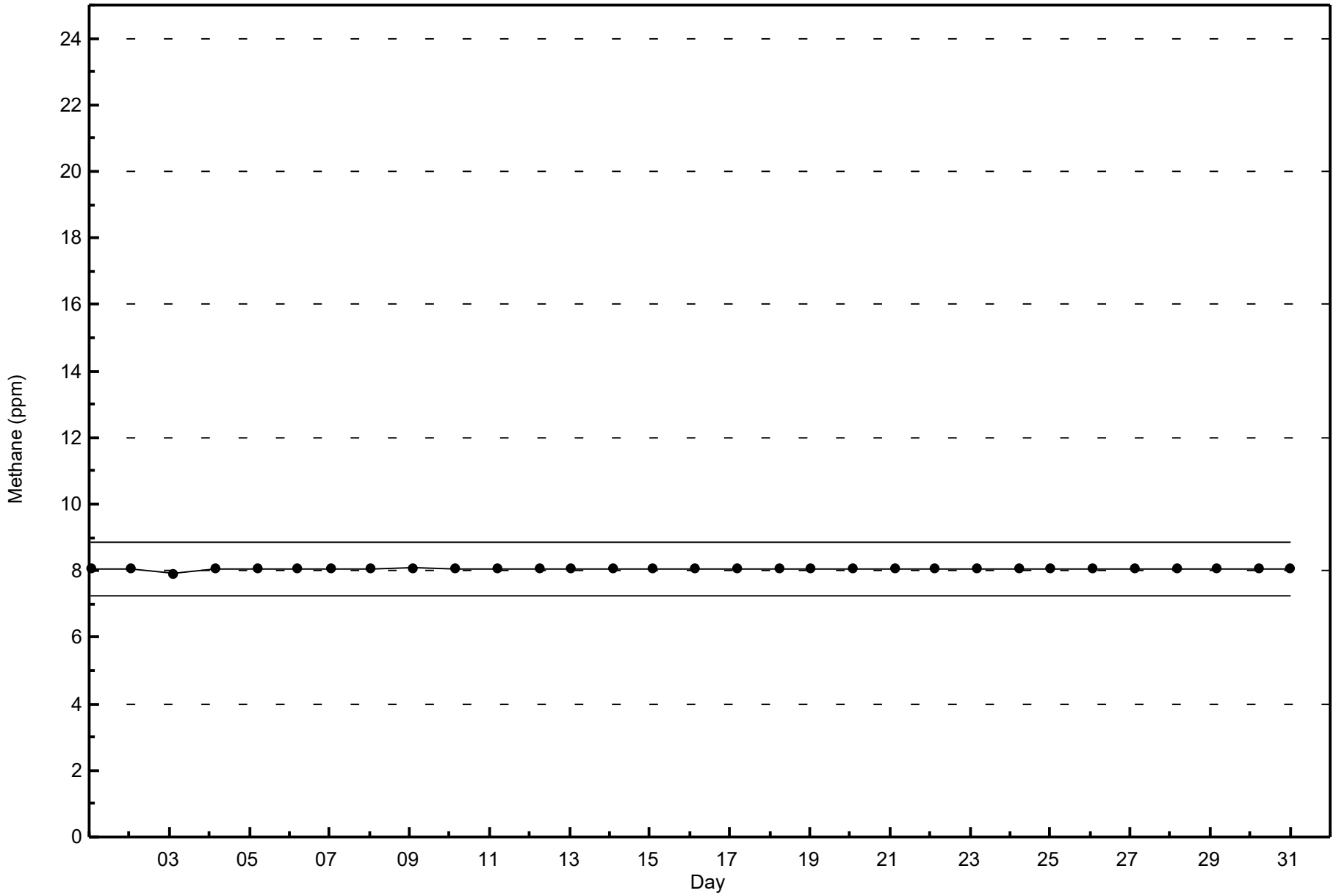


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Methane (CH₄) - ppm
Anzac









Wood Buffalo Environmental Association
Summary of Hour Averages

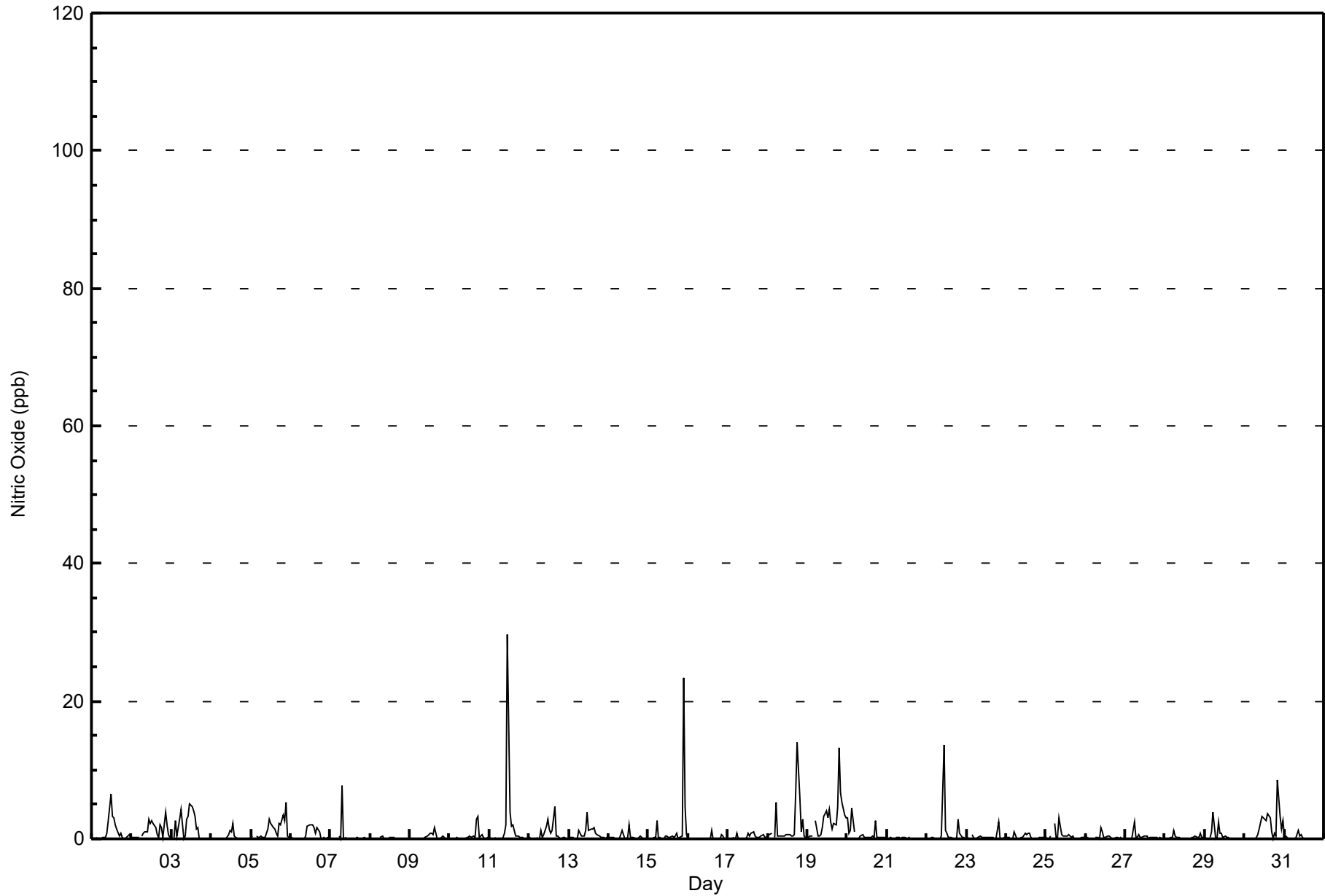
Nitric Oxide (NO) - ppb
Anzac - January 2025

Maximum Value: 29.8 ppb on Jan 11 12:00		Maximum Daily Average: 2.9 ppb on Jan 19		Hours in Service: 744																																													
Minimum Value: 0.0 ppb on Jan 4 00:00		Minimum Daily Average: 0.1 ppb on Jan 21		Hours of Data: 708																																													
Maximum Diurnal Average: 2.3 ppb at hour 12		Minimum Diurnal Average: 0.2 ppb at hour 2		Hours of Missing Data: 36																																													
Monthly Average: 0.76 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.2 Q ₃ = 0.6 P ₉₀ = 2.2 P ₉₉ = 6.7		Hours of Calibration: 36																																													
				Percent Operational Time: 100.0																																													
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	0.0	0.0	0.1	0.1	Z	0.0	0.2	0.2	0.1	0.9	2.6	6.5	3.2	3.0	2.1	1.4	0.5	0.8	0.2	0.0	0.0	0.2	0.6	0.5	1.0	6.5																							
2-Jan	0.2	0.2	0.2	0.2	0.2	Z	0.4	0.8	1.0	1.1	2.8	2.2	2.5	2.3	1.7	0.7	0.2	2.1	1.7	0.2	3.8	1.9	0.7	0.2	1.2	3.8																							
3-Jan	Z	0.2	2.7	0.4	1.5	2.8	4.3	0.1	0.4	2.8	3.2	5.1	4.8	4.0	3.3	1.5	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	5.1																							
4-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.7	1.3	0.9	2.2	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.2																							
5-Jan	0.2	0.3	Z	0.4	0.2	0.1	0.5	0.2	0.3	0.8	1.5	2.8	2.3	1.7	1.5	0.7	0.4	2.1	2.1	3.4	2.6	5.4	0.4	0.2	1.3	5.4																							
6-Jan	0.2	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.5	1.7	2.0	2.0	2.1	1.6	0.9	1.6	1.0	0.1	0.0	0.2	0.0	0.2	0.1	0.6	2.1																							
7-Jan	0.1	0.0	0.0	0.0	Z	0.4	0.0	7.8	0.1	0.3	C	C	C	C	C	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.5	7.8																							
8-Jan	0.0	0.0	0.1	0.1	0.0	Z	0.2	0.3	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3																							
9-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.6	0.8	0.9	0.7	1.7	0.1	0.0	0.0	0.2	0.5	0.0	0.1	0.1	0.3	1.7																							
10-Jan	0.0	Z	0.0	0.0	0.2	0.1	0.0	0.1	0.0	0.1	0.1	0.2	0.5	0.3	0.3	0.2	2.9	3.3	0.2	0.6	0.2	0.0	0.1	0.1	0.4	3.3																							
11-Jan	0.2	0.1	Z	0.2	0.0	0.0	0.1	0.1	0.2	0.8	2.0	29.8	3.9	1.9	2.0	1.3	0.3	0.3	0.1	0.1	0.2	0.0	0.1	0.2	1.9	29.8																							
12-Jan	0.3	0.0	0.0	Z	0.2	0.0	0.1	1.3	0.1	0.7	1.8	2.8	1.4	0.9	1.2	4.7	0.5	0.4	0.2	0.1	0.2	0.2	0.1	0.1	0.7	4.7																							
13-Jan	0.0	0.2	0.2	0.0	Z	0.0	1.1	0.4	0.4	0.4	1.3	3.8	1.2	1.4	1.5	1.6	0.8	0.7	0.4	0.1	0.2	0.1	0.0	0.2	0.7	3.8																							
14-Jan	0.2	0.2	0.2	0.3	0.0	Z	0.1	0.7	1.2	0.6	0.1	0.1	2.0	0.1	0.1	0.2	0.1	0.1	0.2	0.4	0.2	0.1	0.1	0.1	0.3	2.0																							
15-Jan	Z	0.1	0.0	0.1	0.2	2.6	0.0	0.1	0.0	0.0	0.4	0.4	0.3	0.2	0.3	0.3	0.5	0.8	0.0	0.1	0.4	23.4	4.7	0.7	1.6	23.4																							
16-Jan	0.1	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.5	0.4	0.0	0.1	0.1	1.3																							
17-Jan	0.0	0.0	Z	0.1	0.0	0.8	0.0	0.0	0.0	0.1	0.0	0.3	0.8	0.4	0.8	1.1	0.4	0.2	0.2	0.1	0.4	0.5	0.2	0.3	0.3	1.1																							
18-Jan	0.3	0.7	0.7	Z	0.3	5.4	0.4	0.3	0.4	0.4	0.4	0.6	0.6	0.5	0.4	0.4	0.6	6.8	14.0	5.9	1.1	2.8	0.4	0.2	1.9	14.0																							
19-Jan	0.3	0.4	0.4	0.4	Z	2.7	0.4	0.4	0.6	1.7	3.3	4.1	3.1	4.3	2.4	1.3	2.1	2.0	4.8	13.3	6.7	5.3	3.4	3.1	2.9	13.3																							
20-Jan	3.0	0.8	1.3	4.4	1.0	Z	0.1	0.1	0.5	0.6	0.3	0.2	0.3	0.2	0.2	0.4	0.3	2.6	0.2	0.2	0.1	0.1	0.1	0.2	0.7	4.4																							
21-Jan	Z	0.2	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2																							
22-Jan	0.1	Z	0.0	0.1	0.2	0.1	0.1	0.1	0.0	0.4	13.6	1.2	0.9	0.3	0.2	0.2	0.1	0.0	0.3	2.8	0.8	0.2	0.2	0.1	1.0	13.6																							
23-Jan	0.2	0.1	Z	0.5	0.3	0.0	0.1	0.1	0.4	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	2.4	0.1	0.1	0.0	0.1	0.3	2.4																							
24-Jan	0.2	0.2	0.1	Z	0.1	1.0	0.0	0.0	0.0	0.1	0.3	0.8	0.7	0.8	0.9	0.1	0.1	0.1	0.1	0.0	0.3	0.2	0.3	0.3	0.3	1.0																							
25-Jan	0.2	0.1	0.0	0.5	Z	2.1	0.1	0.2	3.0	0.5	0.4	0.4	0.5	0.3	0.7	0.2	0.4	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.4	3.0																							
26-Jan	0.5	0.2	0.0	0.0	0.0	Z	0.1	0.1	0.0	1.6	0.9	0.3	0.2	0.5	0.3	0.2	0.1	0.1	0.2	0.1	0.0	0.2	0.0	0.0	0.3	1.6																							
27-Jan	Z	0.1	0.1	0.1	0.1	2.5	0.1	0.2	0.6	0.1	0.2	0.4	0.3	0.4	0.1	0.2	0.2	0.1	0.2	0.1	0.1	0.2	0.0	0.0	0.3	2.5																							
28-Jan	0.0	Z	0.1	0.1	0.2	1.2	0.4	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.3	0.2	0.3	0.7	0.3	0.2	0.2	1.2																							
29-Jan	0.1	0.0	Z	0.1	1.1	3.8	0.0	0.2	2.5	0.8	0.8	0.3	0.3	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	3.8																							
30-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.2	0.5	1.3	3.4	3.1	2.9	2.7	3.6	3.0	1.0	0.1	0.9	0.4	8.5	3.3	1.4	2.6	1.7	8.5																							
31-Jan	0.5	0.3	0.1	0.0	Z	0.0	0.0	0.0	1.3	0.4	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.3																							
																								0.3	0.2	0.3	0.3	0.2	1.0	0.3	0.5	0.5	0.6	1.4	2.3	1.2	1.1	0.9	0.7	0.5	0.8	0.9	1.0	0.9	1.5	0.4	0.3	Diurnal Average	
																								3.0	0.8	2.7	4.4	1.5	5.4	4.3	7.8	3.0	2.8	13.6	29.8	4.8	4.3	3.6	4.7	2.9	6.8	14.0	13.3	8.5	23.4	4.7	3.1	Diurnal Maximum	
Z - zerospan																								C - Calibration																									



Wood Buffalo Environmental Association
Hourly Averages

Nitric Oxide (NO) - ppb
Anzac - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Nitric Oxide (NO) - ppb
Anzac - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	706	99.72	99.72
21 - 40	2	0.28	100.00
41 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitric Oxide (NO) - ppb
Anzac - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	18	7	6	4	10	29	56	29	17	13	11	9	47	130	72	41	499
21 - 40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	18	7	6	4	10	29	56	29	17	13	11	9	47	130	72	41	499

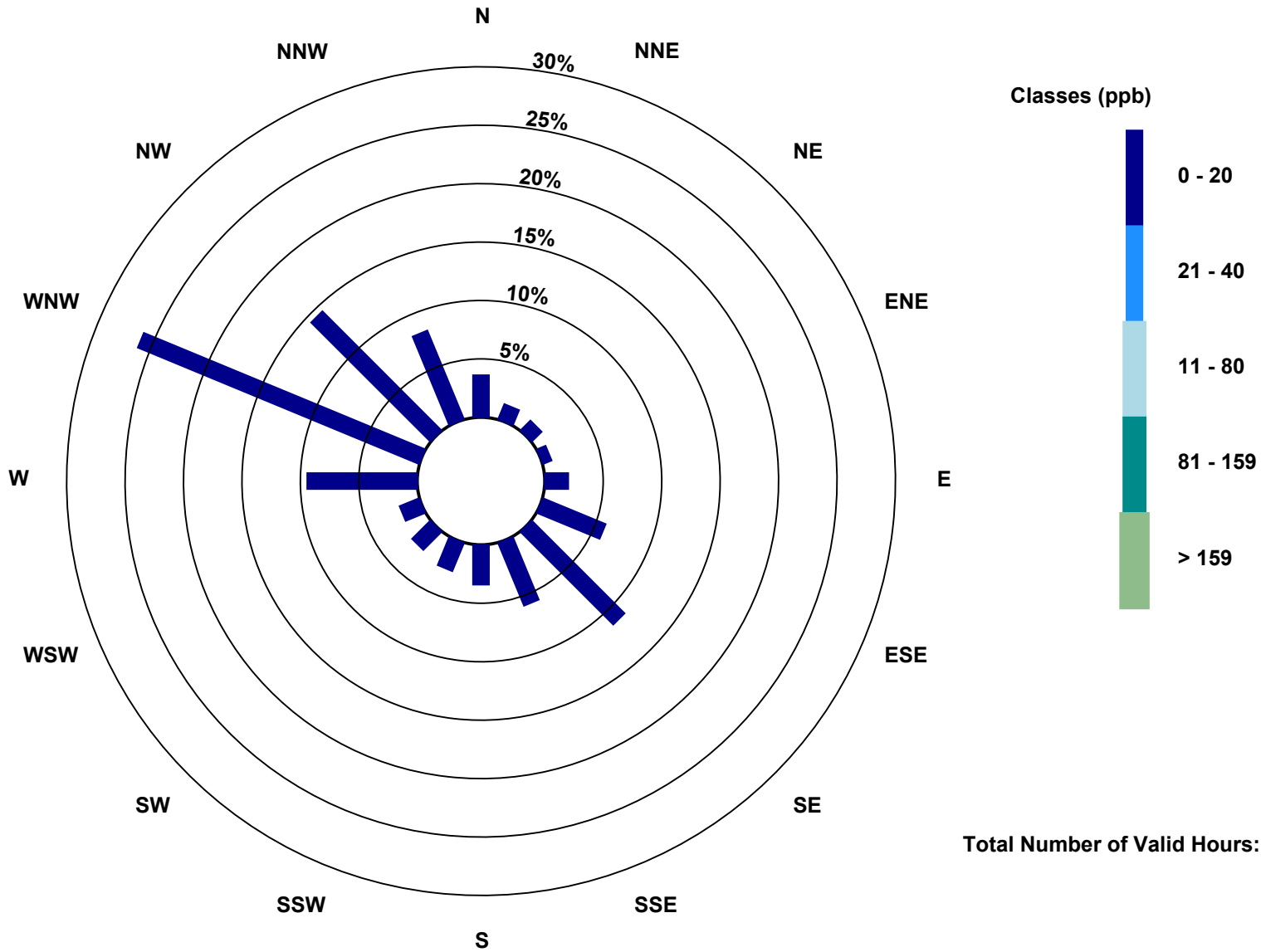
Total Number of Valid Hours: 499

Total Number of Hours: 744

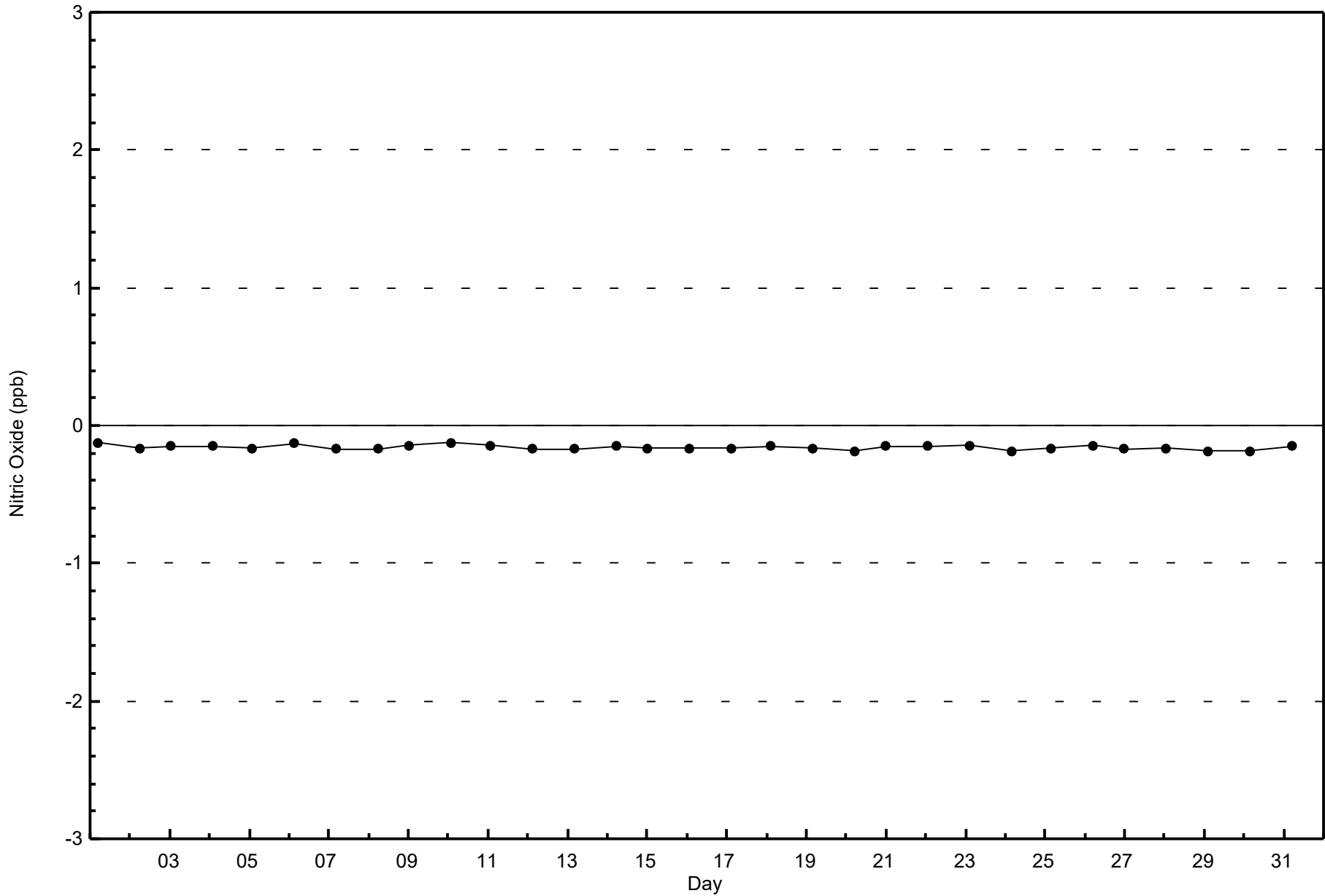


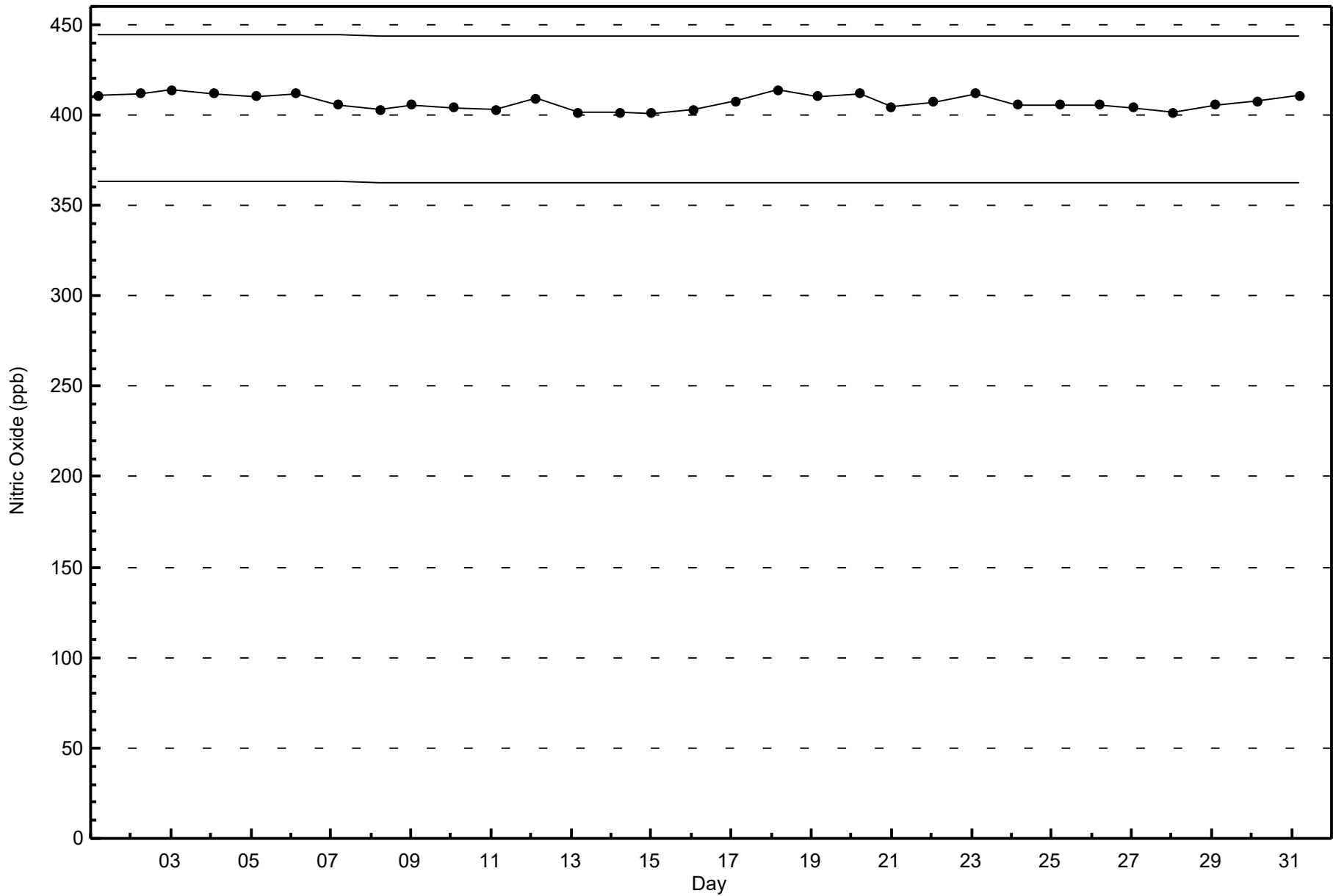
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitric Oxide (NO) - ppb
Anzac



Total Number of Valid Hours: 499







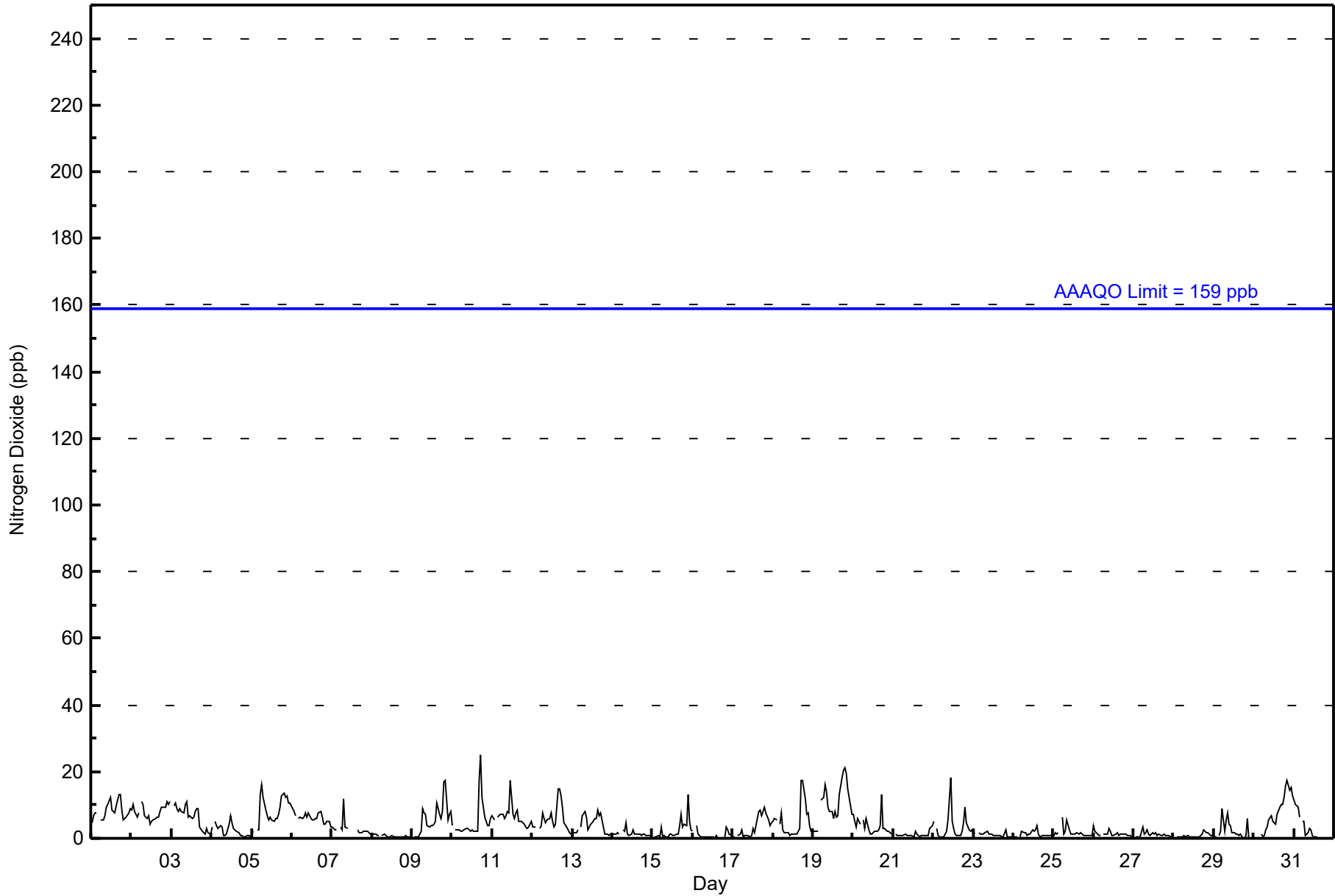
Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Dioxide (NO₂) - ppb

Anzac - January 2025

Number of Exceedences (AAAQO):		1-hr: 0	24-hr: 0																		Hours in Service:	744				
Maximum Value: 24.9 ppb on Jan 10 18:00		Maximum Daily Average: 10.4 ppb on Jan 19																	Hours of Data:	708						
Minimum Value: 0.1 ppb on Jan 16 16:00		Minimum Daily Average: 0.7 ppb on Jan 8																	Hours of Missing Data:	36						
Maximum Diurnal Average: 6.0 ppb at hour 18		Minimum Diurnal Average: 2.5 ppb at hour 5																	Hours of Calibration:	36						
Monthly Average: 3.92 ppb		Percentiles: P ₁ = 0.1 P ₁₀ = 0.5 Q ₁ = 1.0 Median = 2.3 Q ₃ = 6.0 P ₉₀ = 9.2 P ₉₉ = 17.4																	Percent Operational Time:	100.0						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	4.6	6.9	7.5	7.6	Z	5.3	5.4	5.4	6.6	9.4	10.1	12.3	8.3	8.2	7.7	9.6	13.2	13.2	8.3	5.6	5.9	6.4	7.8	9.1	8.0	13.2
2-Jan	8.4	10.2	7.9	6.5	7.7	Z	11.1	10.1	6.7	6.0	6.6	4.4	5.0	5.4	5.8	6.2	6.5	7.9	9.5	9.2	9.5	10.9	10.2	11.2	8.0	11.2
3-Jan	Z	9.6	10.8	8.8	8.2	8.8	8.1	7.5	10.2	11.2	6.2	6.9	5.8	6.3	8.1	9.0	9.0	3.6	2.3	1.8	1.4	3.1	1.6	1.1	6.5	11.2
4-Jan	3.2	Z	4.9	3.9	3.1	4.0	3.4	1.0	0.9	1.1	4.3	6.7	4.7	3.1	2.6	2.1	1.8	0.8	0.9	0.4	0.3	0.7	0.8	0.6	2.4	6.7
5-Jan	1.4	2.1	Z	2.4	2.6	13.0	16.0	12.1	8.6	6.9	5.5	6.5	5.6	4.9	5.8	5.9	7.0	9.5	12.7	13.4	12.2	12.8	10.7	10.4	8.2	16.0
6-Jan	8.7	8.0	6.6	Z	6.1	6.4	5.9	6.3	7.5	6.4	7.6	6.0	5.4	5.7	5.8	6.1	7.6	7.9	6.2	4.3	4.3	5.2	5.2	3.6	6.2	8.7
7-Jan	3.3	3.0	2.7	2.5	Z	3.4	2.5	12.0	3.4	2.9	C	C	C	C	C	2.7	1.9	1.8	1.9	2.3	2.2	2.2	1.5	1.4	3.0	12.0
8-Jan	1.4	1.3	1.1	1.0	0.9	Z	0.9	1.1	0.7	0.5	0.5	0.5	0.7	0.4	0.5	0.4	0.6	0.6	0.4	0.4	0.9	0.5	0.4	0.4	0.7	1.4
9-Jan	Z	0.5	0.5	0.4	0.4	2.1	9.1	7.8	7.2	3.8	3.4	3.7	3.9	4.3	4.9	10.6	7.3	5.9	8.2	17.1	17.4	5.3	7.2	7.9	6.0	17.4
10-Jan	4.0	Z	2.7	2.5	2.6	2.1	2.0	2.7	2.8	2.9	2.6	2.0	2.4	2.1	2.1	2.3	17.4	24.9	12.3	6.4	5.0	3.8	3.9	6.1	5.1	24.9
11-Jan	6.7	5.7	Z	6.4	6.8	7.1	7.2	6.1	6.9	8.0	7.5	17.5	7.2	6.1	7.5	8.4	5.1	5.1	4.7	4.2	3.5	3.1	3.4	5.0	6.5	17.5
12-Jan	3.6	3.5	3.4	Z	3.1	3.9	7.5	6.0	4.6	5.5	6.1	7.7	5.2	3.5	4.2	14.8	14.8	12.8	9.2	4.6	3.6	2.7	1.6	1.3	5.8	14.8
13-Jan	1.2	1.5	1.5	2.4	Z	3.4	6.9	8.0	6.2	2.5	3.4	4.2	4.8	6.1	5.8	8.3	6.9	7.5	3.2	1.3	1.2	1.1	1.0	1.1	3.9	8.3
14-Jan	1.2	1.3	1.2	1.5	1.3	Z	2.5	2.1	4.5	1.4	0.8	1.1	2.6	1.2	1.3	1.4	1.1	1.0	1.1	1.3	0.9	0.8	0.7	0.7	1.4	4.5
15-Jan	Z	0.6	0.5	0.8	0.6	3.3	0.5	0.7	0.6	0.6	1.4	1.2	1.0	0.8	1.1	1.4	4.0	7.1	3.3	4.1	4.0	13.1	5.2	2.5	2.5	13.1
16-Jan	2.1	Z	3.8	1.3	0.8	0.6	0.5	0.4	0.4	0.4	0.5	0.4	0.3	0.2	0.9	0.1	0.1	0.1	0.1	0.5	3.6	2.5	1.3	0.8	0.9	3.8
17-Jan	0.3	0.6	Z	0.7	1.2	2.6	0.5	0.9	0.9	0.8	0.5	1.0	2.8	1.6	3.7	8.1	8.5	6.8	8.1	9.4	7.7	5.6	3.7	4.6	3.5	9.4
18-Jan	5.1	5.8	5.3	Z	4.1	7.8	2.7	1.5	1.9	1.5	1.0	1.2	1.2	1.2	1.3	2.1	3.0	17.3	17.3	11.7	7.2	7.7	4.0	2.1	5.0	17.3
19-Jan	2.3	2.2	2.0	2.2	Z	11.4	12.2	16.1	13.8	9.3	8.2	8.0	6.1	8.1	6.2	6.6	13.0	18.2	20.4	21.3	19.7	14.8	9.7	7.3	10.4	21.3
20-Jan	7.4	4.9	3.4	5.8	4.1	Z	5.4	2.9	5.8	2.4	1.2	1.3	1.9	2.0	2.0	2.6	3.7	13.1	3.0	2.8	2.3	2.2	1.9	1.4	3.6	13.1
21-Jan	Z	1.1	1.0	0.8	0.8	0.7	0.8	1.2	0.7	0.9	0.8	0.7	0.6	2.2	1.2	0.7	0.6	0.7	1.0	0.7	1.0	1.0	2.8	3.9	1.1	3.9
22-Jan	5.2	Z	2.9	0.7	0.6	0.5	0.6	1.1	2.3	5.7	18.2	5.2	3.0	1.2	0.9	0.7	0.7	2.1	4.8	9.3	4.8	2.5	2.0	2.6	3.4	18.2
23-Jan	1.3	1.6	Z	1.5	1.1	1.2	1.1	1.5	2.0	1.3	1.4	1.3	0.9	0.9	0.8	0.8	0.9	0.6	0.6	2.6	0.3	0.5	0.4	0.6	1.1	2.6
24-Jan	0.5	0.4	0.5	Z	1.4	2.2	1.6	1.7	0.8	1.1	1.4	2.7	2.1	2.6	3.8	1.3	0.6	1.0	0.9	0.8	1.0	0.8	1.0	1.1	1.3	3.8
25-Jan	0.8	1.5	1.2	1.8	Z	6.5	1.3	2.1	5.7	2.6	1.3	1.2	1.3	1.1	1.8	1.1	1.5	1.1	0.9	0.9	0.9	0.9	0.8	1.0	1.7	6.5
26-Jan	3.8	2.1	1.1	1.0	1.0	Z	1.3	1.4	1.1	2.8	2.1	1.0	0.9	1.4	1.5	0.9	1.1	1.1	1.1	1.1	0.8	1.0	0.8	0.6	1.3	3.8
27-Jan	Z	0.5	0.5	0.6	0.6	3.4	1.4	1.7	2.7	1.1	1.0	1.6	1.3	1.6	0.8	1.2	1.0	1.0	1.2	1.0	0.8	0.8	0.5	0.4	1.2	3.4
28-Jan	0.3	Z	0.5	0.5	0.5	0.6	0.8	0.6	0.9	0.4	0.3	0.3	0.4	0.3	0.5	0.4	0.7	1.4	2.6	1.6	1.5	1.1	1.0	0.9	0.8	2.6
29-Jan	0.5	0.5	Z	1.0	2.0	8.8	2.1	5.7	7.7	4.3	3.8	1.8	1.8	1.4	1.1	0.9	1.1	0.2	0.1	0.7	5.8	0.1	0.1	0.1	2.2	8.8
30-Jan	0.1	0.1	0.1	Z	1.3	0.6	0.8	2.6	3.5	5.6	6.8	5.2	4.5	4.4	7.0	9.5	10.2	10.0	12.4	15.5	17.2	14.5	15.1	12.9	7.0	17.2
31-Jan	11.6	10.1	9.4	6.2	Z	4.9	4.9	1.0	1.9	3.1	2.5	0.8	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	2.6	11.6
3.4 3.3 3.2 2.7 2.5 4.4 4.1 4.2 4.2 3.6 3.9 3.8 3.1 3.0 3.2 4.1 4.9 6.0 5.1 5.0 4.7 4.1 3.4 3.3																								Diurnal Average		
11.6 10.2 10.8 8.8 8.2 13.0 16.0 16.1 13.8 11.2 18.2 17.5 8.3 8.2 8.1 14.8 17.4 24.9 20.4 21.3 19.7 14.8 15.1 12.9																								Diurnal Maximum		
Z - zerospan C - Calibration																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb																										





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Anzac - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	706	99.72	99.72
21 - 40	2	0.28	100.00
41 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Dioxide (NO₂) - ppb
Anzac - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	18	7	6	4	10	29	56	29	17	13	11	8	47	130	72	41	498
21 - 40	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
11 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	18	7	6	4	10	29	56	29	17	13	11	9	47	130	72	41	499

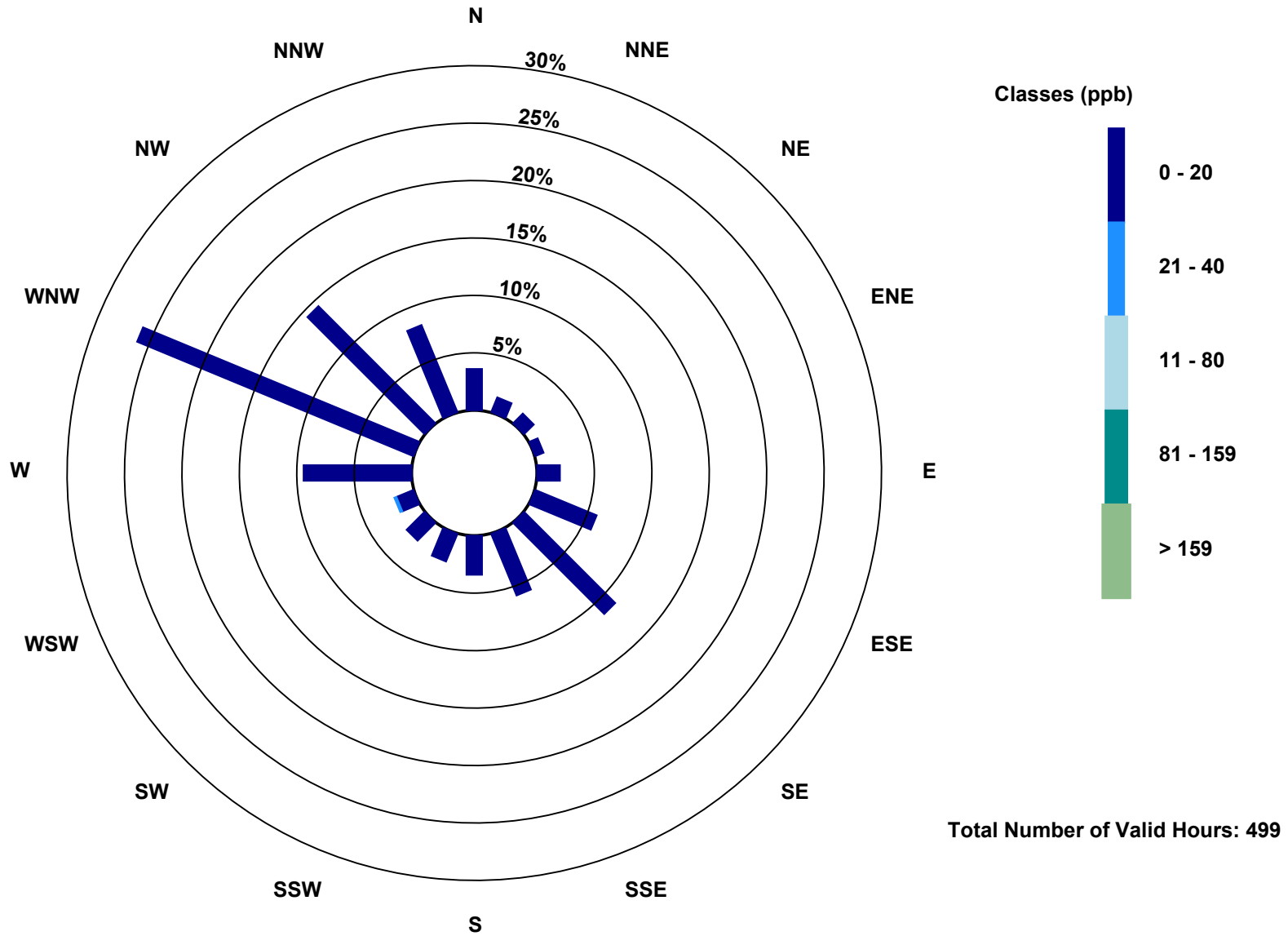
Total Number of Valid Hours: 499

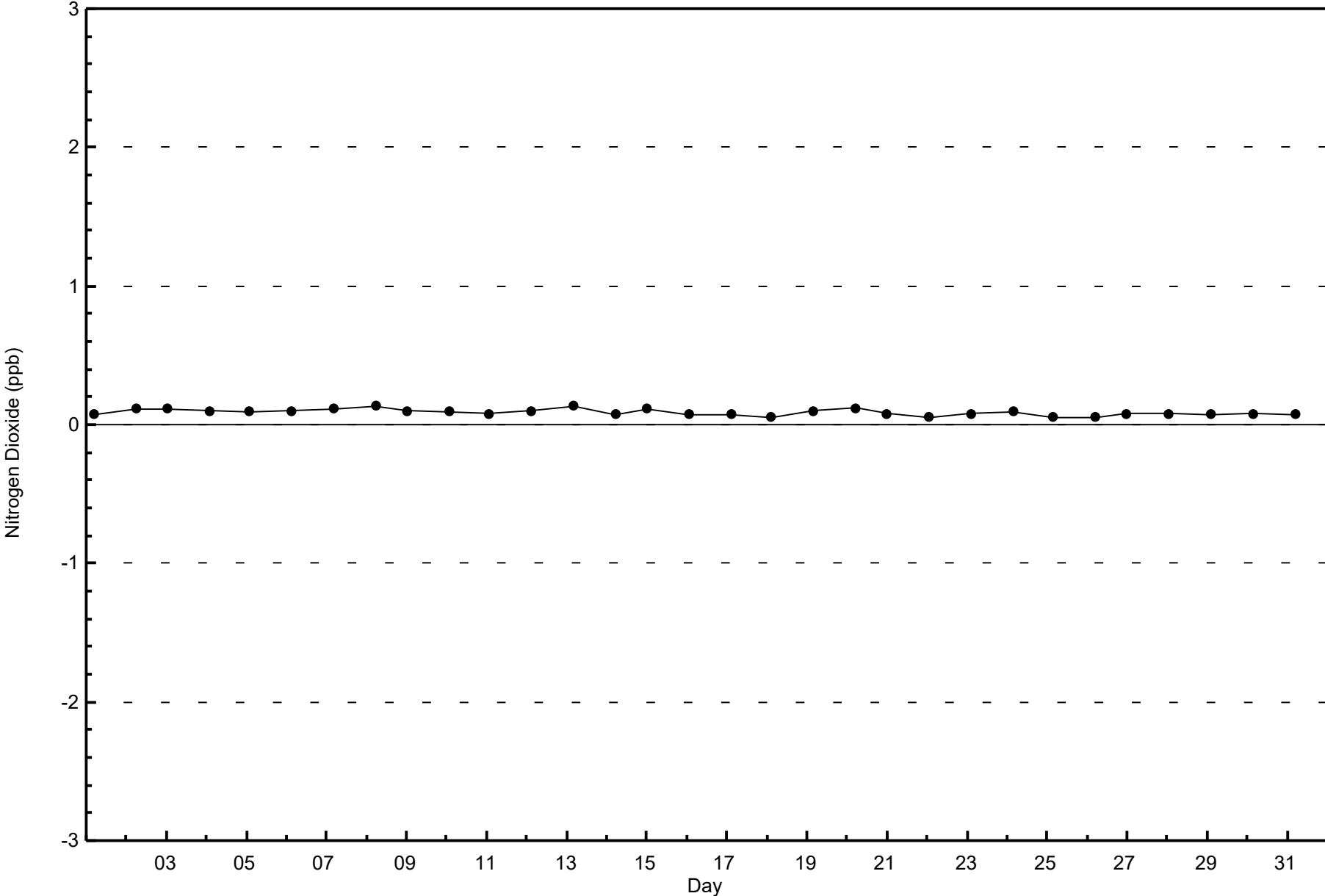
Total Number of Hours: 744

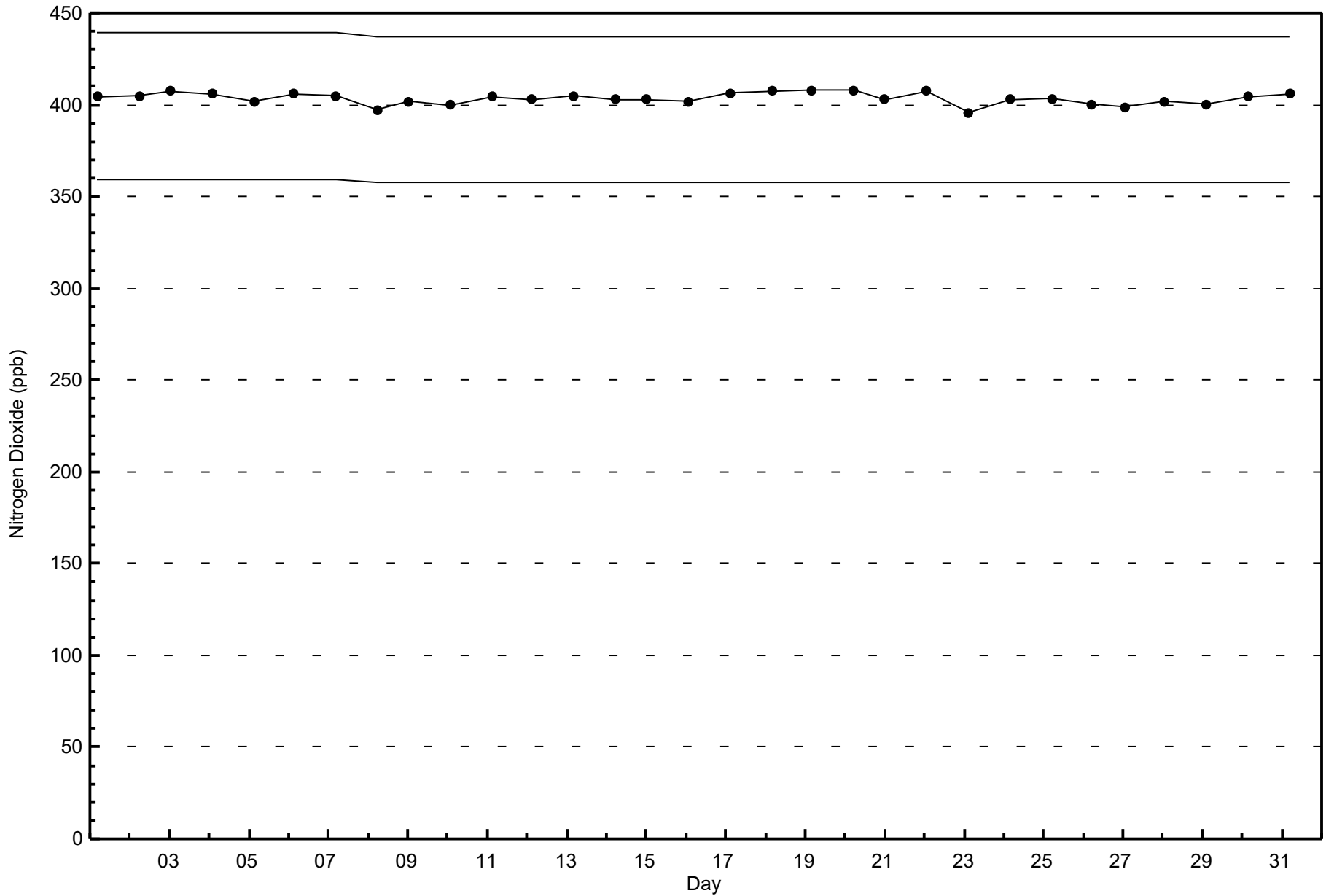


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Dioxide (NO₂) - ppb
Anzac









Wood Buffalo Environmental Association
Summary of Hour Averages

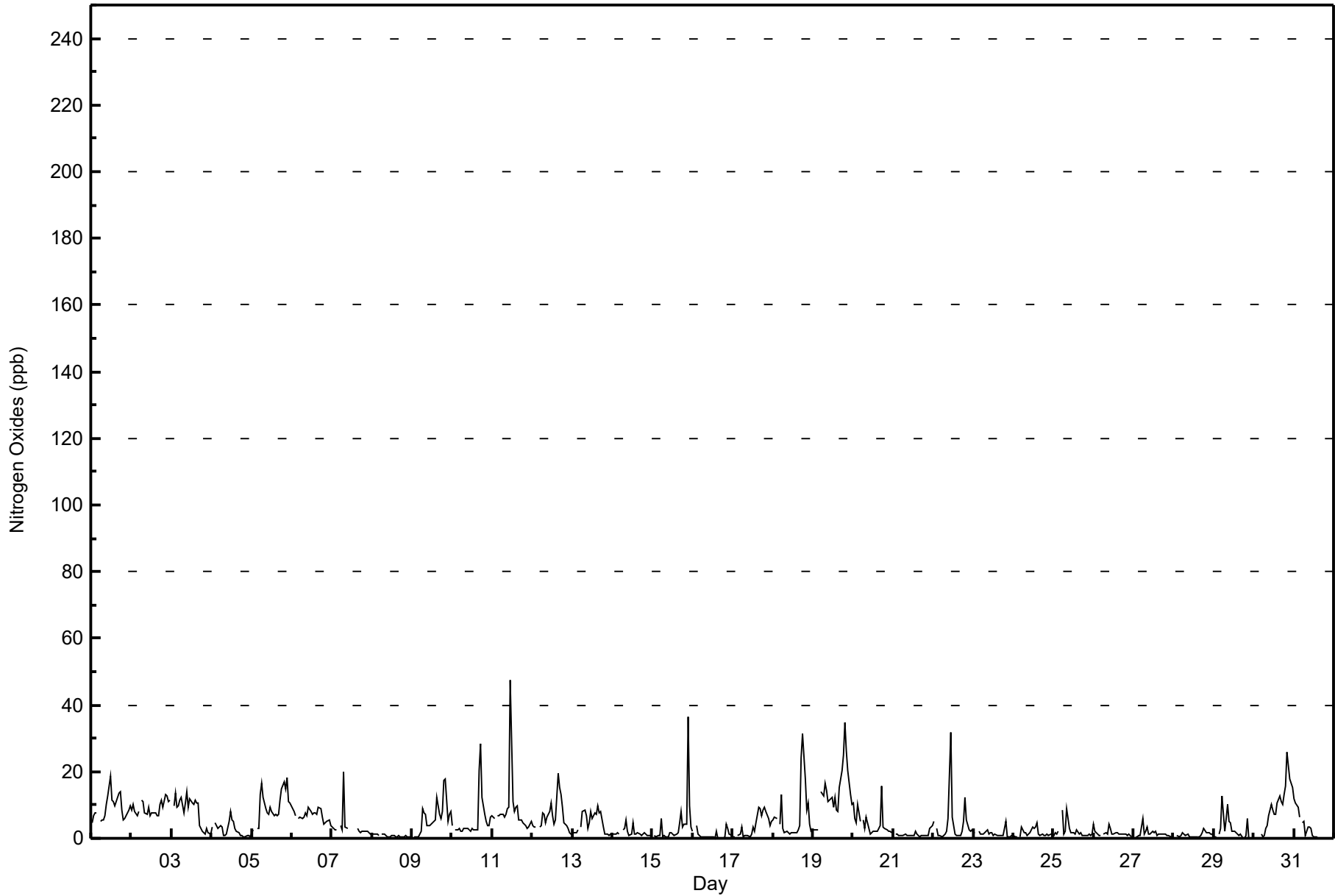
Nitrogen Oxides (NO_x) - ppb
Anzac - January 2025

Maximum Value: 47.3 ppb on Jan 11 12:00																					Maximum Daily Average: 13.3 ppb on Jan 19					Hours in Service: 744																							
Minimum Value: 0.1 ppb on Jan 16 18:00																					Minimum Daily Average: 0.8 ppb on Jan 8					Hours of Data: 708																							
Maximum Diurnal Average: 6.7 ppb at hour 18																					Minimum Diurnal Average: 2.7 ppb at hour 5					Hours of Missing Data: 36																							
Monthly Average: 4.68 ppb																					Percentiles: P ₁ = 0.1 P ₁₀ = 0.6 Q ₁ = 1.1 Median = 2.6 Q ₃ = 7.0 P ₉₀ = 11.0 P ₉₉ = 25.6					Hours of Calibration: 36																							
																										Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	4.6	6.9	7.6	7.7	Z	5.3	5.6	5.6	6.7	10.3	12.7	18.8	11.5	11.2	9.8	11.0	13.7	14.0	8.5	5.6	5.9	6.6	8.4	9.6	9.0	18.8																							
2-Jan	8.6	10.4	8.1	6.7	7.9	Z	11.5	10.9	7.7	7.1	9.4	6.6	7.5	7.7	7.5	6.9	6.7	10.0	11.2	9.4	13.3	12.8	10.9	11.4	9.1	13.3																							
3-Jan	Z	9.8	13.5	9.2	9.7	11.6	12.4	7.6	10.6	14.0	9.4	12.0	10.6	10.3	11.4	10.5	10.7	3.6	2.3	1.8	1.4	3.1	1.6	1.1	8.2	14.0																							
4-Jan	3.2	Z	4.9	3.9	3.1	4.0	3.4	1.0	0.9	1.2	5.0	8.0	5.6	5.3	2.9	2.2	1.8	0.8	0.9	0.4	0.3	0.7	0.8	0.6	2.7	8.0																							
5-Jan	1.6	2.4	Z	2.8	2.8	13.1	16.5	12.3	8.9	7.7	7.0	9.3	7.9	6.6	7.3	6.6	7.4	11.6	14.8	16.8	14.8	18.2	11.1	10.6	9.5	18.2																							
6-Jan	8.9	8.0	6.6	Z	6.1	6.4	5.9	6.3	7.6	6.9	9.3	8.0	7.4	7.8	7.4	7.0	9.2	8.9	6.3	4.3	4.5	5.2	5.4	3.7	6.8	9.3																							
7-Jan	3.4	3.0	2.7	2.5	Z	3.8	2.5	19.8	3.5	3.2	C	C	C	C	C	2.8	2.0	1.8	1.9	2.3	2.3	2.2	1.5	1.4	3.5	19.8																							
8-Jan	1.4	1.3	1.2	1.1	0.9	Z	1.1	1.4	0.8	0.6	0.6	0.6	0.9	0.6	0.6	0.5	0.7	0.6	0.4	0.4	0.9	0.5	0.4	0.4	0.8	1.4																							
9-Jan	Z	0.5	0.5	0.4	0.4	2.1	9.1	7.8	7.2	3.9	3.8	4.3	4.7	5.2	5.6	12.3	7.4	5.9	8.2	17.3	17.9	5.3	7.3	8.0	6.3	17.9																							
10-Jan	4.0	Z	2.7	2.5	2.8	2.2	2.0	2.8	2.8	3.0	2.7	2.2	2.9	2.4	2.4	2.5	20.3	28.2	12.5	7.0	5.2	3.8	4.0	6.2	5.5	28.2																							
11-Jan	6.9	5.8	Z	6.6	6.8	7.1	7.3	6.2	7.1	8.8	9.5	47.3	11.1	8.0	9.5	9.7	5.4	5.4	4.8	4.3	3.7	3.1	3.5	5.2	8.4	47.3																							
12-Jan	3.9	3.5	3.4	Z	3.3	3.9	7.6	7.3	4.7	6.2	7.9	10.5	6.6	4.4	5.4	19.5	15.3	13.2	9.4	4.7	3.8	2.9	1.7	1.4	6.6	19.5																							
13-Jan	1.2	1.7	1.7	2.4	Z	3.4	8.0	8.4	6.6	2.9	4.7	8.0	6.0	7.5	7.3	9.9	7.7	8.2	3.6	1.4	1.4	1.2	1.0	1.3	4.6	9.9																							
14-Jan	1.4	1.5	1.4	1.8	1.3	Z	2.6	2.8	5.7	2.0	0.9	1.2	4.6	1.3	1.4	1.6	1.2	1.1	1.3	1.7	1.1	0.9	0.8	0.8	1.8	5.7																							
15-Jan	Z	0.7	0.5	0.9	0.8	5.9	0.5	0.8	0.6	0.6	1.8	1.6	1.3	1.0	1.4	1.7	4.5	7.9	3.3	4.2	4.4	36.5	9.9	3.2	4.1	36.5																							
16-Jan	2.2	Z	3.8	1.3	0.8	0.6	0.5	0.4	0.4	0.4	0.5	0.4	0.3	0.2	2.2	0.1	0.1	0.1	0.1	0.5	4.1	2.9	1.3	0.9	1.0	4.1																							
17-Jan	0.3	0.6	Z	0.8	1.2	3.4	0.5	0.9	0.9	0.9	0.5	1.3	3.6	2.0	4.5	9.2	8.9	7.0	8.3	9.5	8.1	6.1	3.9	4.9	3.8	9.5																							
18-Jan	5.4	6.5	6.0	Z	4.4	13.2	3.1	1.8	2.3	1.9	1.4	1.8	1.8	1.7	1.7	2.5	3.6	24.1	31.3	17.6	8.3	10.5	4.4	2.3	6.9	31.3																							
19-Jan	2.6	2.6	2.4	2.6	Z	14.1	12.6	16.5	14.4	11.0	11.5	12.1	9.2	12.4	8.6	7.9	15.1	20.2	25.2	34.6	26.4	20.1	13.1	10.4	13.3	34.6																							
20-Jan	10.4	5.7	4.7	10.2	5.1	Z	5.5	3.0	6.3	3.0	1.5	1.5	2.2	2.2	2.2	3.0	4.0	15.7	3.2	3.0	2.4	2.3	2.0	1.6	4.4	15.7																							
21-Jan	Z	1.3	1.1	0.9	0.8	0.7	0.9	1.3	0.8	1.0	1.0	0.8	0.7	2.3	1.3	0.7	0.6	0.7	1.0	0.7	1.0	1.0	2.9	4.0	1.2	4.0																							
22-Jan	5.3	Z	2.9	0.8	0.8	0.6	0.7	1.2	2.3	6.1	31.8	6.4	3.9	1.5	1.1	0.9	0.8	2.1	5.1	12.1	5.6	2.7	2.2	2.7	4.3	31.8																							
23-Jan	1.5	1.7	Z	2.0	1.4	1.2	1.2	1.6	2.4	1.4	1.5	1.5	1.1	1.1	1.0	0.9	1.0	0.7	0.7	5.0	0.4	0.6	0.4	0.7	1.3	5.0																							
24-Jan	0.7	0.6	0.6	Z	0.5	3.2	1.6	1.7	0.8	1.2	1.7	3.5	2.8	3.4	4.7	1.4	0.7	1.1	1.0	0.8	1.3	1.0	1.3	1.4	1.6	4.7																							
25-Jan	1.0	1.6	1.2	2.3	Z	8.6	1.4	2.3	8.7	3.1	1.7	1.6	1.8	1.4	2.5	1.3	1.9	1.1	0.9	0.9	0.9	1.1	0.9	1.1	2.1	8.7																							
26-Jan	4.3	2.3	1.1	1.0	1.0	Z	1.4	1.5	1.1	4.4	3.0	1.3	1.1	1.9	1.8	1.1	1.2	1.2	1.3	1.2	0.8	1.2	0.8	0.6	1.6	4.4																							
27-Jan	Z	0.6	0.6	0.7	0.7	5.9	1.5	1.9	3.3	1.2	1.2	2.0	1.6	2.0	0.9	1.4	1.2	1.1	1.4	1.1	0.9	1.0	0.5	0.4	1.4	5.9																							
28-Jan	0.3	Z	0.6	0.6	0.7	1.8	1.2	0.7	1.2	0.4	0.3	0.3	0.4	0.3	0.5	0.5	0.8	1.7	2.9	1.8	1.8	1.8	1.3	1.1	1.0	2.9																							
29-Jan	0.6	0.5	Z	1.1	3.1	12.6	2.1	5.9	10.2	5.1	4.6	2.1	2.1	1.6	1.2	1.0	1.1	0.2	0.1	0.7	5.8	0.1	0.1	0.1	2.7	12.6																							
30-Jan	0.1	0.1	0.1	Z	1.3	0.6	0.8	2.8	4.0	6.9	10.2	8.3	7.4	7.1	10.6	12.5	11.2	10.1	13.3	15.9	25.7	17.8	16.5	15.5	8.6	25.7																							
31-Jan	12.1	10.4	9.5	6.2	Z	4.9	4.9	1.0	3.2	3.5	3.0	1.0	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	2.7	12.1																							
																								3.7	3.5	3.4	3.0	2.7	5.4	4.4	4.7	4.6	4.2	5.3	6.1	4.3	4.0	4.2	4.8	5.4	6.7	6.0	6.0	5.6	5.6	3.9	3.6	Diurnal Average	
																								12.1	10.4	13.5	10.2	9.7	14.1	16.5	19.8	14.4	14.0	31.8	47.3	11.5	12.4	11.4	19.5	20.3	28.2	31.3	34.6	26.4	36.5	16.5	15.5	Diurnal Maximum	
Z - zerospan																								C - Calibration																									



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Anzac - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Nitrogen Oxides (NO_x) - ppb
Anzac - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	698	98.59	98.59
21 - 40	9	1.27	99.86
41 - 80	1	0.14	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Oxides (NO_x) - ppb
Anzac - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	17	7	6	4	10	29	56	29	17	13	11	6	45	130	71	41	492
21 - 40	1	0	0	0	0	0	0	0	0	0	0	3	2	0	1	0	7
41 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	18	7	6	4	10	29	56	29	17	13	11	9	47	130	72	41	499

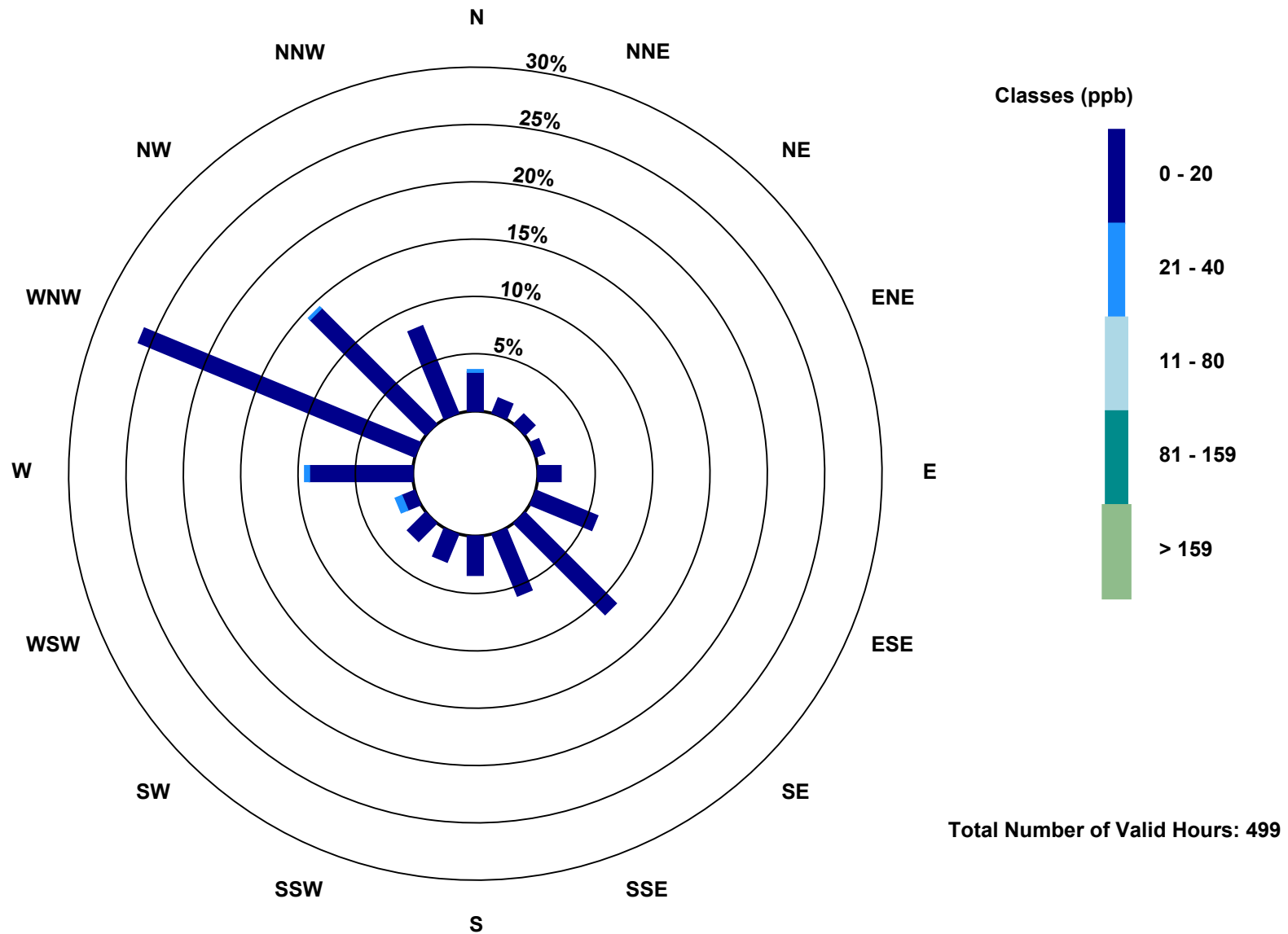
Total Number of Valid Hours: 499

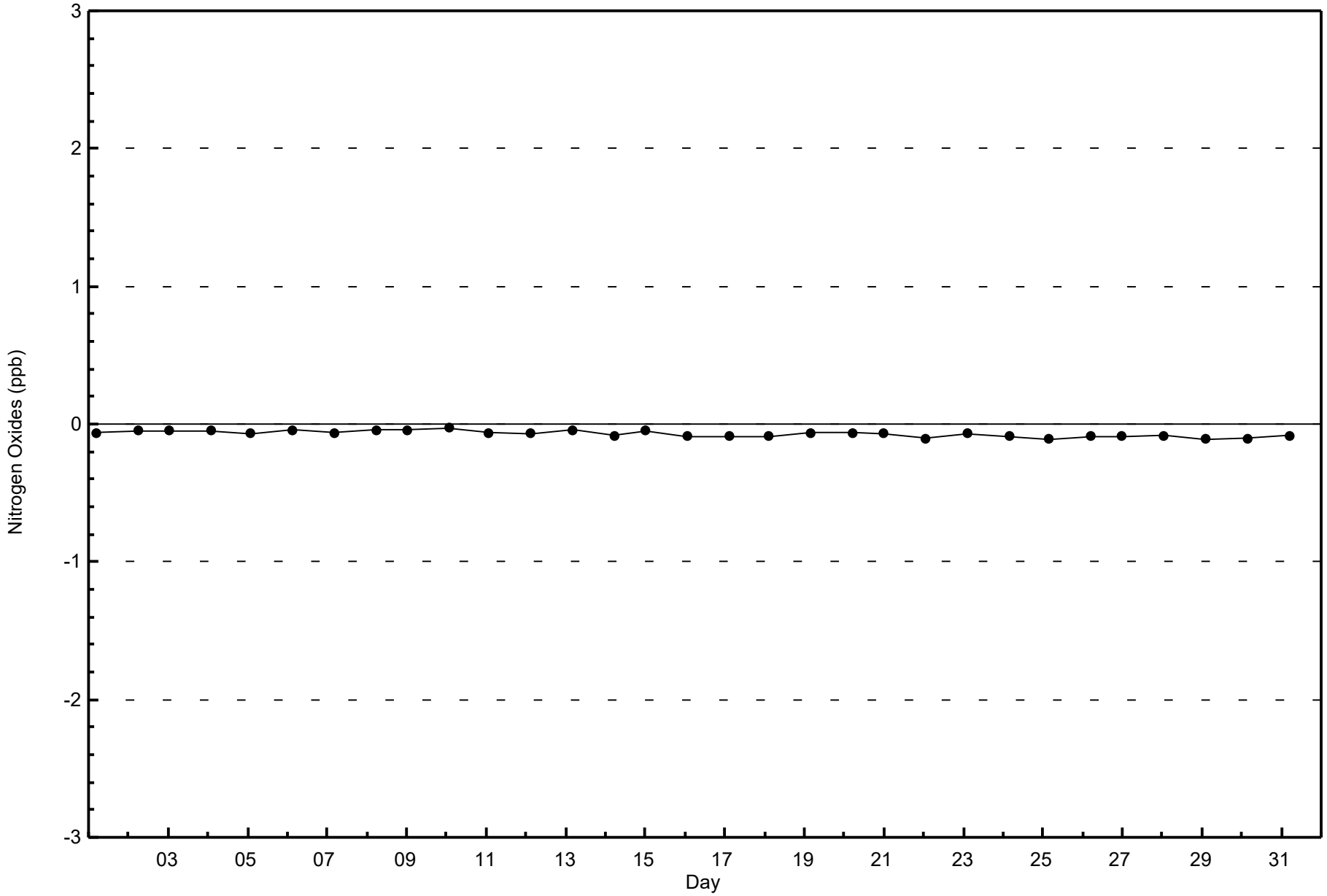
Total Number of Hours: 744

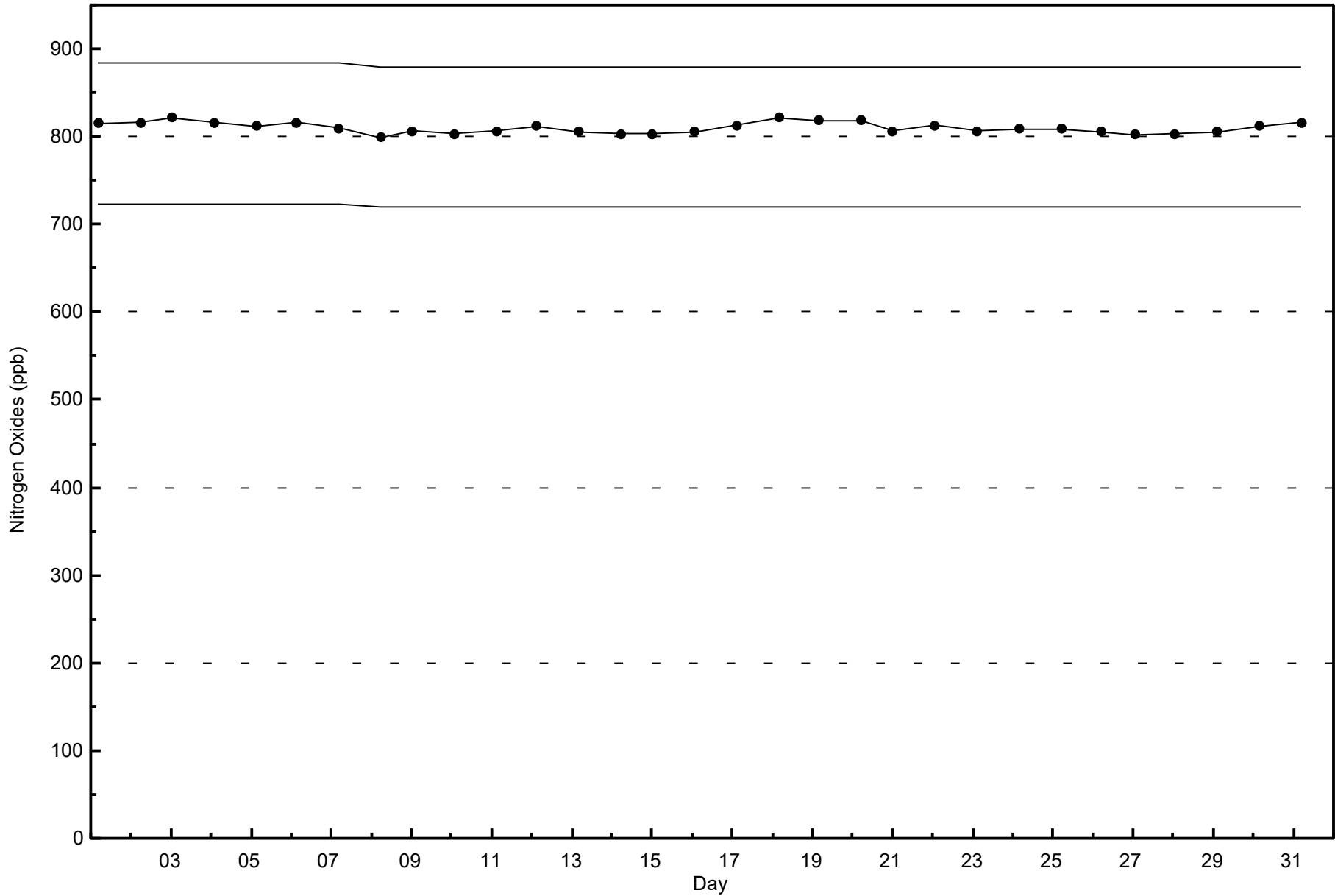


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Oxides (NO_x) - ppb
Anzac









Wood Buffalo Environmental Association

Summary of Hour Averages

Ozone (O₃) - ppb

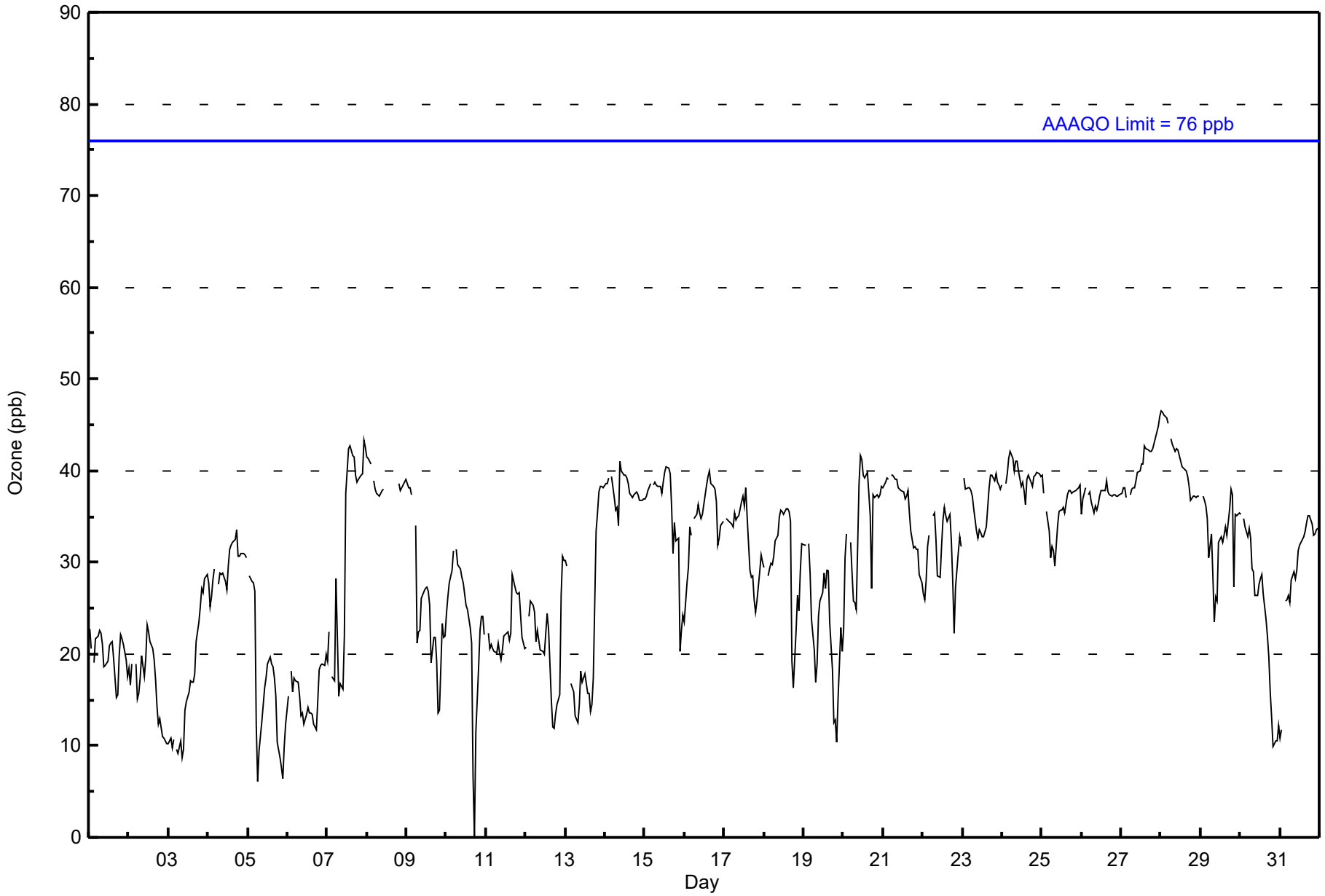
Anzac - January 2025

Number of Exceedences (AAAQO):		1-hr: 0	24-hr: 0	Hours in Service: 744																	744						
Maximum Value: 46.5 ppb on Jan 28 01:00		Maximum Daily Average: 41.2 ppb on Jan 28																	705								
Minimum Value: 0.0 ppb on Jan 10 18:00		Minimum Daily Average: 15.6 ppb on Jan 6																	39								
Maximum Diurnal Average: 31.7 ppb at hour 3		Minimum Diurnal Average: 27.3 ppb at hour 18																	39								
Monthly Average: 29.33 ppb		Percentiles: P ₁ = 9.2 P ₁₀ = 15.4 Q ₁ = 21.8 Median = 31.5 Q ₃ = 37.5 P ₉₀ = 39.5 P ₉₉ = 43.6																	100.0								
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	22.7	20.6	Z	19.1	21.6	22.0	22.5	22.2	21.0	18.7	18.8	19.3	21.0	21.1	21.3	19.5	15.2	15.5	19.8	22.1	21.6	21.1	19.4	17.5	20.2	22.7	
2-Jan	18.4	16.6	18.9	Z	18.9	15.1	15.7	17.4	19.8	17.6	19.5	23.2	22.4	21.3	20.7	19.4	17.3	14.4	12.4	12.9	11.0	10.9	10.5	10.3	16.7	23.2	
3-Jan	10.2	10.9	9.7	10.7	Z	9.6	9.2	10.5	8.7	9.6	13.8	14.8	15.9	17.2	16.9	17.0	17.8	21.4	23.4	25.1	27.2	26.7	28.3	28.7	16.7	28.7	
4-Jan	27.7	25.1	26.3	28.1	29.3	Z	27.7	28.8	28.6	28.9	27.9	27.1	29.6	31.4	31.8	32.2	32.4	33.6	30.7	30.6	30.9	31.0	30.8	30.5	29.6	33.6	
5-Jan	Z	28.5	28.0	27.7	26.8	12.2	6.1	9.4	12.6	14.6	16.4	17.3	18.9	19.6	18.8	18.6	17.4	15.4	10.4	8.7	7.6	6.4	9.9	12.4	15.8	28.5	
6-Jan	15.4	Z	18.1	15.9	17.4	17.1	17.0	15.5	13.3	13.6	12.3	13.4	14.2	13.6	13.5	12.4	11.7	14.9	18.4	18.8	19.0	18.8	20.0	15.6	20.0		
7-Jan	19.2	22.4	Z	17.6	17.0	28.2	21.8	15.4	16.8	16.2	21.9	37.5	40.0	42.4	42.7	41.7	41.5	39.5	38.7	39.0	39.6	39.7	43.2	42.6	31.5	43.2	
8-Jan	41.4	41.3	40.8	Z	38.8	38.0	37.5	37.3	37.6	37.9	38.0	C	C	C	C	C	C	C	C	38.6	37.8	38.2	38.5	39.0	--	41.4	
9-Jan	38.5	38.1	38.2	37.3	Z	34.0	21.2	22.4	22.6	26.2	26.8	27.1	27.3	26.8	25.3	19.1	21.8	21.7	19.3	13.6	13.9	23.4	21.9	21.9	25.6	38.5	
10-Jan	24.4	26.2	27.8	29.2	31.2	Z	31.5	29.8	29.3	28.3	27.8	26.6	25.4	24.9	22.9	21.2	6.8	0.0	11.5	18.7	22.5	24.2	24.0	22.1	23.3	31.5	
11-Jan	Z	22.2	20.5	21.1	20.6	20.3	20.1	21.2	20.1	19.4	20.5	21.9	22.2	22.5	21.4	22.3	28.7	27.4	26.7	26.6	26.7	24.3	21.8	20.6	22.6	28.7	
12-Jan	20.8	Z	24.1	25.8	25.3	24.5	21.4	22.6	21.6	20.5	20.3	19.9	22.3	24.4	22.8	14.9	12.0	11.9	13.4	14.4	15.5	26.4	30.6	30.3	21.1	30.6	
13-Jan	30.2	29.6	Z	16.7	16.3	15.8	13.2	12.4	14.6	18.1	17.0	17.3	17.8	15.7	15.6	13.8	14.5	17.4	33.4	35.4	37.7	38.3	38.3	38.2	22.5	38.3	
14-Jan	38.5	38.6	39.2	Z	39.4	37.0	35.7	36.0	34.0	41.1	40.0	39.5	39.5	39.2	38.5	37.5	37.1	37.4	37.5	37.7	37.4	36.8	36.7	36.9	37.9	41.1	
15-Jan	36.9	37.2	37.9	38.6	Z	38.5	38.7	38.5	38.2	38.2	37.5	38.7	39.8	40.4	40.3	39.7	36.0	30.9	34.3	32.3	32.6	20.4	22.6	24.2	35.3	40.4	
16-Jan	23.5	27.7	29.4	33.8	33.0	Z	34.8	35.2	36.2	35.4	34.7	35.2	37.4	38.5	39.4	39.9	38.6	38.4	38.0	36.6	31.8	32.7	34.0	34.4	34.7	39.9	
17-Jan	Z	34.7	34.6	34.5	34.1	33.8	35.4	34.6	34.9	35.1	36.6	37.2	36.2	38.2	34.9	29.1	28.4	28.5	25.9	24.6	25.8	28.9	30.9	30.0	32.5	38.2	
18-Jan	29.5	Z	28.6	29.3	29.9	29.8	30.6	32.3	33.0	35.0	35.7	35.5	35.3	35.8	35.9	35.6	34.5	19.3	16.3	22.6	26.3	24.7	29.0	32.0	30.3	35.9	
19-Jan	31.8	31.8	Z	32.0	28.9	23.8	20.5	17.0	18.8	24.1	25.8	26.6	28.9	27.2	29.1	29.1	23.5	18.2	12.5	12.8	10.3	15.2	22.9	20.3	23.1	32.0	
20-Jan	22.7	30.5	33.1	Z	32.2	28.9	25.8	25.7	24.9	38.7	41.6	41.2	39.6	39.1	39.8	37.6	35.0	27.2	37.4	37.0	37.4	37.1	37.3	38.2	34.3	41.6	
21-Jan	38.2	38.7	39.2	39.1	Z	39.4	39.5	39.1	39.1	38.1	37.9	37.8	37.6	36.9	37.1	37.8	35.4	33.4	31.6	31.8	31.4	31.4	28.7	27.8	36.0	39.5	
22-Jan	26.5	26.0	28.1	31.7	32.9	Z	35.0	35.5	32.5	28.5	28.4	31.7	34.7	36.0	35.0	34.4	35.3	32.3	28.0	22.3	27.2	31.2	32.7	31.7	31.2	36.0	
23-Jan	Z	39.2	38.0	38.1	38.2	37.8	37.3	35.9	33.3	32.7	33.5	33.2	32.8	32.8	33.8	36.1	38.2	39.6	39.5	38.9	39.6	38.8	38.5	37.9	36.7	39.6	
24-Jan	38.5	Z	38.6	39.7	41.3	42.0	41.3	40.0	41.1	41.0	39.9	38.3	38.7	37.8	36.3	39.0	39.5	38.8	38.3	39.4	39.5	39.8	39.7	39.3	39.5	42.0	
25-Jan	39.5	37.6	Z	35.5	33.4	30.5	31.7	31.3	29.5	34.0	35.6	35.6	35.7	35.9	35.4	37.4	37.8	37.8	37.6	37.8	37.9	38.0	38.2	38.4	35.7	39.5	
26-Jan	35.2	36.9	38.1	Z	37.4	37.7	36.6	35.5	36.2	35.7	36.2	37.3	37.9	37.9	37.8	38.9	37.7	37.4	37.3	37.3	37.4	37.2	37.2	37.4	37.1	38.9	
27-Jan	37.5	38.1	38.2	37.0	Z	37.3	37.9	38.2	38.1	38.9	39.8	40.0	40.7	40.8	42.7	42.4	42.2	42.2	42.2	42.5	43.0	43.7	44.9	45.9	40.6	45.9	
28-Jan	46.5	46.4	46.0	45.7	45.1	Z	43.5	42.9	42.2	42.4	42.3	41.7	41.1	40.4	40.1	40.0	39.4	38.3	36.7	37.3	37.2	37.1	37.2	37.3	41.2	46.5	
29-Jan	Z	37.2	36.7	36.1	34.7	30.6	33.1	28.5	23.5	26.3	25.8	32.2	32.8	32.1	32.9	33.8	33.0	35.9	38.0	37.3	27.4	35.3	35.1	35.4	32.8	38.0	
30-Jan	35.3	Z	34.7	33.9	32.8	33.7	32.7	29.3	29.0	26.3	26.4	27.6	28.3	28.6	26.5	23.8	22.0	19.6	15.8	13.1	10.0	10.5	10.5	12.2	24.5	35.3	
31-Jan	10.9	11.8	Z	25.8	26.0	26.4	25.7	28.0	29.0	28.2	29.1	31.3	31.9	32.5	32.9	33.3	34.3	35.1	35.2	34.2	32.9	33.1	33.6	33.8	29.3	35.2	
		29.2	30.5	31.7	30.0	30.1	28.6	28.4	28.0	27.7	28.7	29.3	30.2	30.9	31.0	30.8	30.0	28.9	27.3	27.9	28.4	28.3	29.1	29.9	29.9	Diurnal Average	
		46.5	46.4	46.0	45.7	45.1	42.0	43.5	42.9	42.2	42.4	42.3	41.7	41.1	42.4	42.7	42.4	42.2	42.2	42.2	42.5	43.0	43.7	44.9	45.9	Diurnal Maximum	
Z - zerospan		C - Calibration																									
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr 76 ppb																									



Wood Buffalo Environmental Association
Hourly Averages

Ozone (O₃) - ppb
Anzac - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ozone (O₃) - ppb
Anzac - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	151	21.42	21.42
21 - 50	554	78.58	100.00
51 - 82	0	0.00	100.00
> 83	0	0.00	100.00

Total Number of Valid Hours: 705

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Ozone (O₃) - ppb
Anzac - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	2	1	0	2	2	6	26	22	4	3	1	4	6	20	17	1	117
21 - 50	16	6	6	2	7	24	31	7	11	10	14	7	40	107	51	40	379
51 - 82	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	18	7	6	4	9	30	57	29	15	13	15	11	46	127	68	41	496

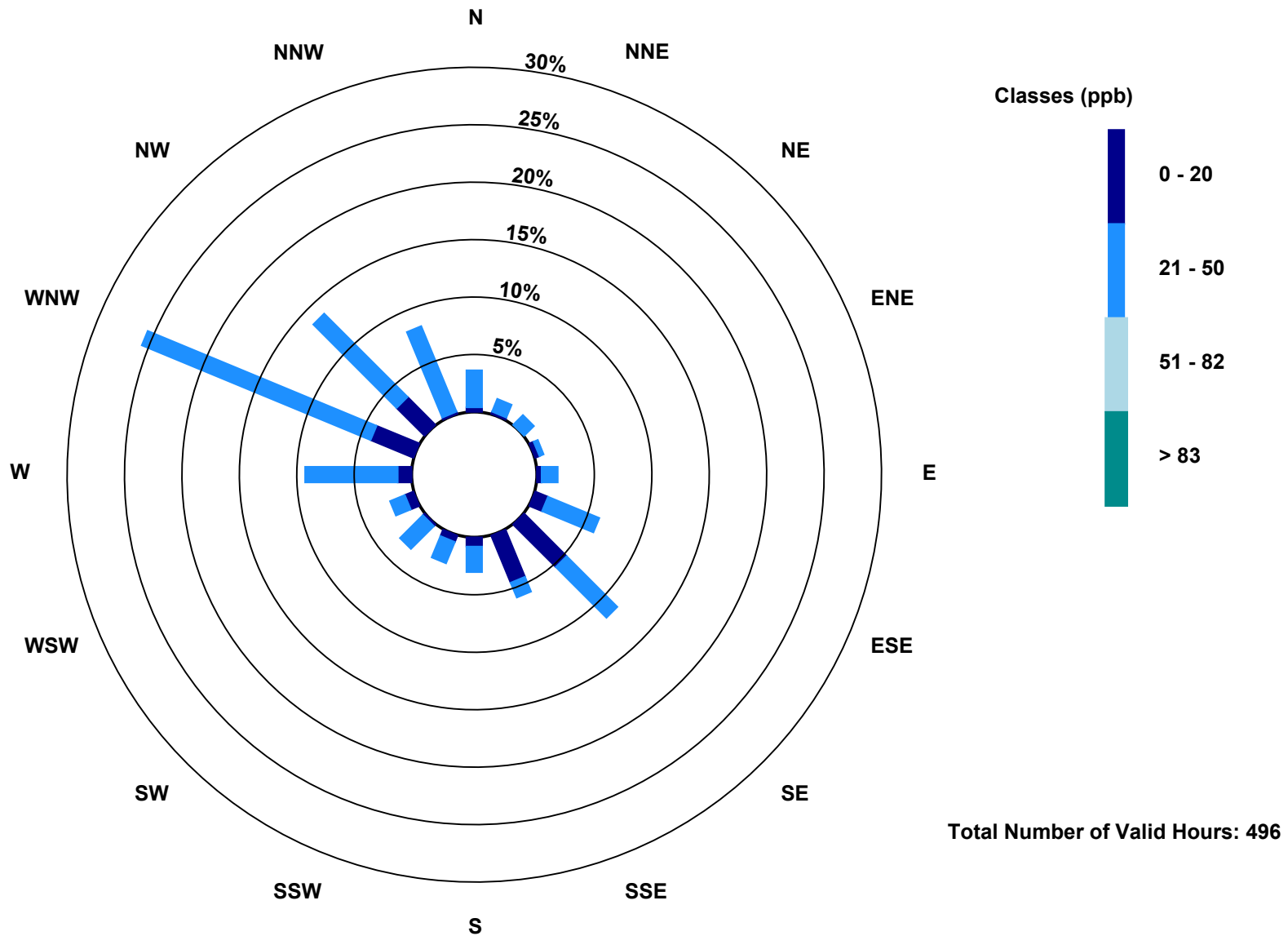
Total Number of Valid Hours: 496

Total Number of Hours: 744

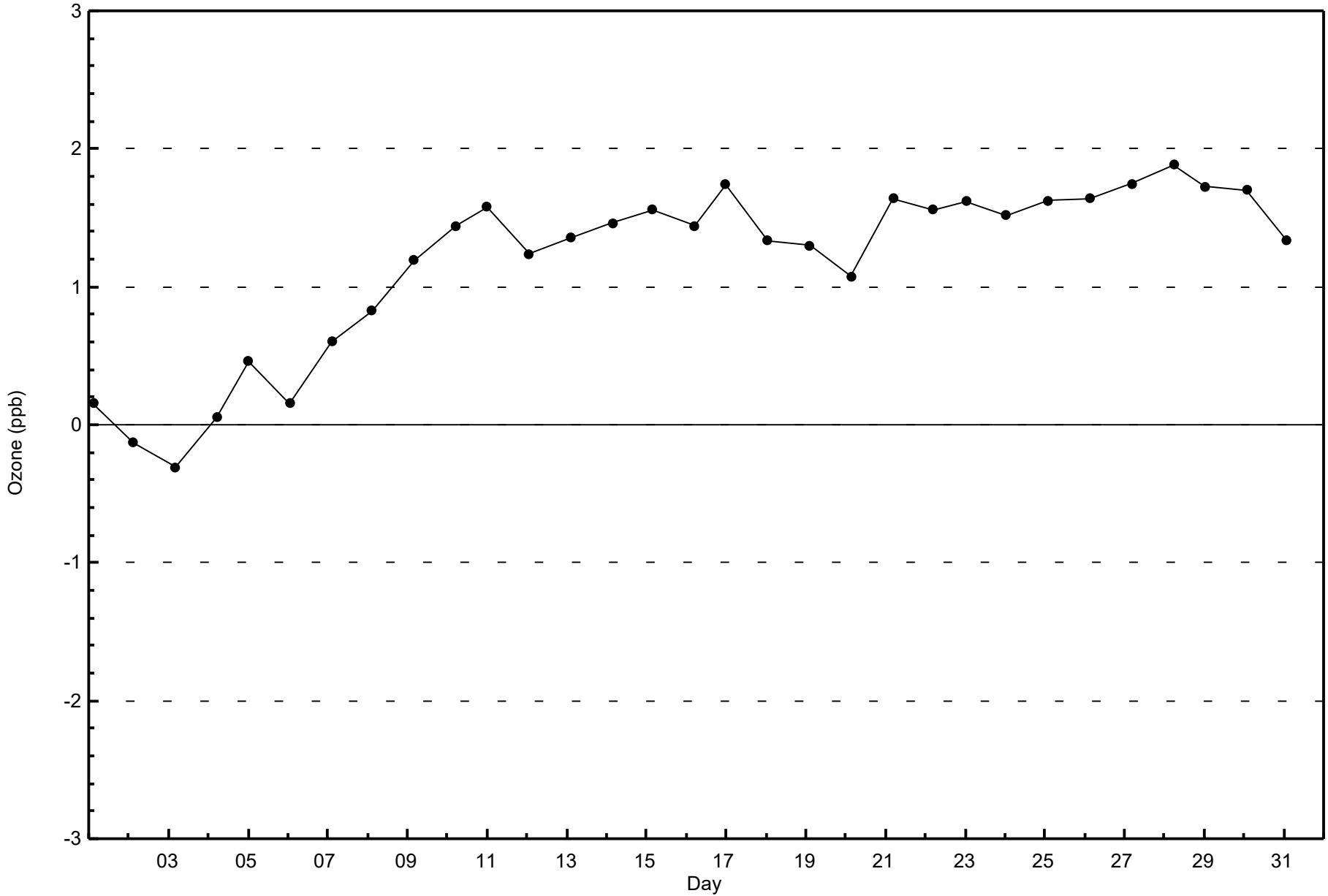


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Ozone (O₃) - ppb
Anzac



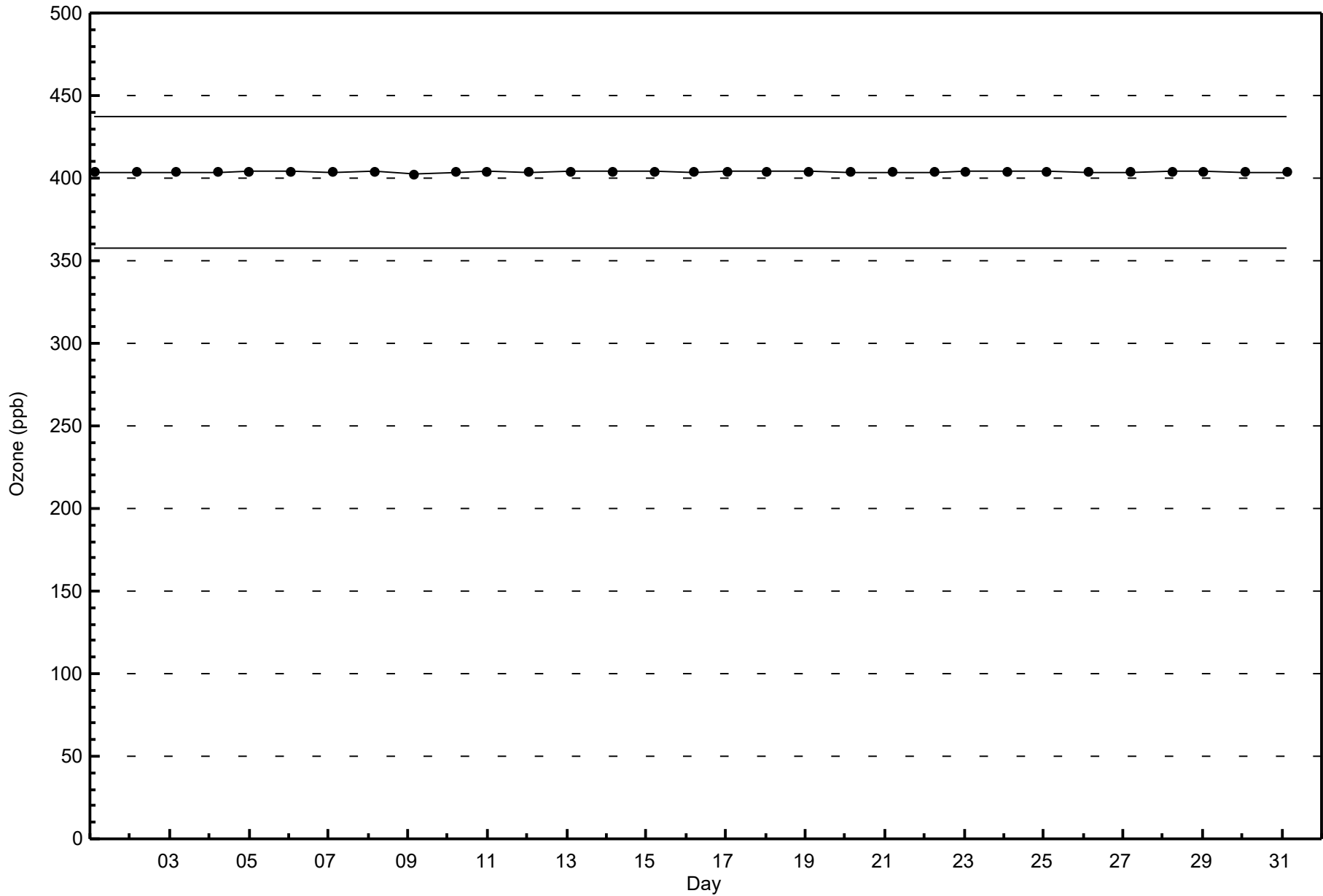
Total Number of Valid Hours: 496





Wood Buffalo Environmental Association
Span Responses

Ozone (O₃) - ppb
Anzac - January 2025

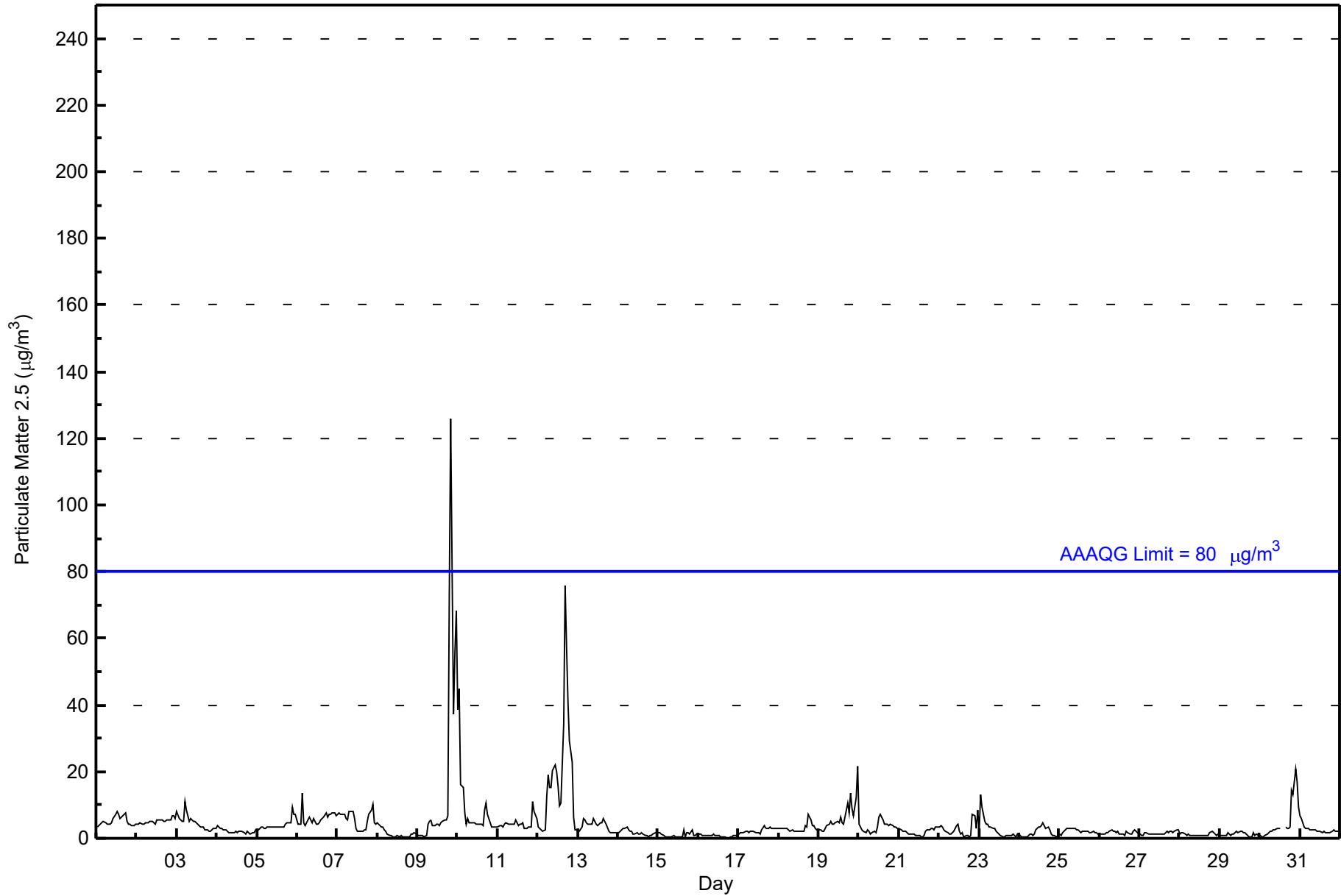




Summary of Hour Averages

Anzac - January 2025

Number of Exceedences (AAAQO):		1-hr: 1	24-hr: 0	Hours in Service: 744																	744					
Maximum Value: 125.7 µg/m ³ on Jan 9 21:00		Maximum Daily Average: 18.6 µg/m ³ on Jan 12																	Hours of Data: 742							
Minimum Value: 0.1 µg/m ³ on Jan 16 18:00		Minimum Daily Average: 0.7 µg/m ³ on Jan 16																	Hours of Missing Data: 2							
Maximum Diurnal Average: 8.1 µg/m ³ at hour 21		Minimum Diurnal Average: 2.9 µg/m ³ at hour 5																	Hours of Calibration: 2							
Monthly Average: 4.22 µg/m ³		Percentiles: P ₁ = 0.3 P ₁₀ = 0.8 Q ₁ = 1.5 Median = 2.6 Q ₃ = 4.4 P ₉₀ = 7.0 P ₉₉ = 40.1																	Percent Operational Time: 100.0							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	3.4	3.8	4.1	4.6	4.9	4.5	4.3	4.3	4.3	4.9	6.0	7.2	8.0	7.2	5.8	6.3	7.3	7.5	5.2	4.2	4.1	3.9	4.0	4.4	5.2	8.0
2-Jan	4.3	4.4	4.5	4.3	4.4	4.7	4.6	4.5	5.0	5.1	4.8	4.3	5.5	5.7	5.6	5.4	5.2	5.1	5.3	5.5	5.5	6.6	6.9	5.8	5.1	6.9
3-Jan	7.9	5.8	5.4	5.0	5.0	11.1	8.5	5.0	6.1	5.4	5.1	5.0	4.2	3.8	3.6	3.3	3.3	2.7	2.3	2.0	2.3	2.6	2.9	3.1	4.6	11.1
4-Jan	3.7	3.5	3.1	2.8	2.6	2.5	2.0	1.9	1.8	1.8	1.8	2.2	1.9	1.9	2.0	2.2	1.5	1.4	2.2	1.9	1.3	1.7	1.9	2.5	2.2	3.7
5-Jan	2.7	2.4	3.4	3.4	3.1	3.1	3.4	3.5	3.6	3.4	3.5	3.4	3.4	3.5	3.4	3.4	3.3	4.2	4.8	4.5	4.6	9.5	7.2	7.2	4.1	9.5
6-Jan	4.3	4.2	4.2	13.4	4.8	3.7	5.6	6.2	5.5	4.7	5.9	4.1	4.2	4.6	5.4	5.9	6.4	7.5	6.4	7.0	7.2	7.6	7.5	6.8	6.0	13.4
7-Jan	7.1	7.5	7.2	7.0	7.1	5.7	5.5	8.2	8.2	8.0	5.8	2.8	2.2	2.0	2.3	2.2	2.4	2.7	4.9	7.2	8.6	10.3	4.7	4.3	5.6	10.3
8-Jan	4.7	4.1	3.5	3.3	2.7	2.1	1.4	1.0	0.7	0.6	0.5	0.5	0.7	0.6	0.9	0.3	0.3	0.3	0.3	0.4	1.3	1.2	1.6	1.1	1.4	4.7
9-Jan	1.0	0.9	1.0	0.8	0.5	0.8	4.1	5.1	5.3	3.7	3.6	4.2	4.1	4.0	4.5	5.2	5.6	5.5	6.7	71.0	125.7	37.4	55.6	68.1	17.7	125.7
10-Jan	38.5	45.0	16.0	15.5	7.5	4.2	5.9	4.6	4.8	4.8	4.5	4.4	4.3	4.2	4.1	4.0	8.6	10.5	7.2	4.9	3.3	3.6	3.6	3.3	9.1	45.0
11-Jan	3.5	3.8	3.6	3.6	4.3	4.6	4.1	4.1	4.1	4.1	4.3	5.6	3.9	4.1	4.4	4.7	2.9	3.1	3.2	3.2	3.2	10.9	8.2	6.0	4.5	10.9
12-Jan	3.3	3.1	2.5	2.0	2.5	12.7	19.2	15.3	15.2	20.4	22.0	19.9	15.8	9.6	10.6	34.4	75.7	57.8	41.2	29.1	23.0	6.4	2.7	2.4	18.6	75.7
13-Jan	2.2	2.2	3.3	5.9	5.4	4.8	4.2	4.0	4.4	6.0	4.9	4.2	4.0	4.8	4.7	5.8	5.2	4.4	2.1	1.8	1.8	1.8	1.7	1.7	3.8	6.0
14-Jan	1.9	2.3	2.7	3.0	2.8	3.4	2.7	2.3	2.0	1.4	1.2	1.7	1.5	1.3	1.6	1.4	1.0	0.7	0.5	0.8	1.0	1.3	1.5	1.5	1.7	3.4
15-Jan	1.8	1.7	1.1	0.8	0.6	0.6	0.5	0.5	0.5	0.7	0.5	0.4	0.4	0.4	0.4	2.4	0.5	1.8	1.6	1.2	2.6	1.0	0.9	1.1	1.0	2.6
16-Jan	1.1	1.3	0.9	0.9	0.9	1.0	0.9	0.9	0.9	1.1	1.0	0.7	0.7	0.5	0.5	0.4	0.2	0.1	0.2	0.2	0.6	0.8	0.9	0.9	0.7	1.3
17-Jan	1.2	1.6	1.7	1.7	2.0	2.0	1.9	2.0	2.0	2.0	1.8	1.7	1.8	1.5	2.4	3.7	2.9	2.9	3.1	3.3	3.1	2.9	2.8	2.9	2.3	3.7
18-Jan	2.8	2.9	3.2	2.8	2.8	3.0	2.6	2.3	2.4	2.2	2.2	2.2	2.1	2.2	2.2	2.1	3.7	3.4	7.1	5.5	3.7	3.8	3.0	2.6	3.0	7.1
19-Jan	2.6	2.4	2.2	2.2	3.0	3.8	4.4	5.3	4.4	4.3	4.6	5.0	4.5	6.3	4.6	4.4	6.2	10.4	7.6	13.5	8.8	6.9	12.4	21.7	6.3	21.7
20-Jan	4.1	3.3	2.4	2.0	1.8	2.5	2.3	1.4	1.8	2.3	1.6	3.5	6.3	7.3	5.6	4.1	4.3	4.3	4.0	4.4	3.8	3.5	3.2	3.0	3.5	7.3
21-Jan	2.9	2.5	2.3	2.0	1.9	1.7	1.5	1.2	1.1	1.1	1.0	0.9	0.7	0.6	0.6	0.9	2.0	2.5	2.8	2.8	2.8	2.7	3.3	3.3	1.9	3.3
22-Jan	3.4	3.9	3.5	2.4	2.2	1.7	1.3	1.5	1.5	2.1	4.0	4.1	2.3	1.4	1.9	0.5	0.7	0.8	0.6	0.9	7.0	6.6	2.8	8.4	2.7	8.4
23-Jan	2.0	13.1	9.3	5.1	4.3	4.0	3.6	3.3	3.1	2.8	2.2	1.8	1.4	0.8	0.6	0.4	0.7	0.9	1.0	0.8	1.1	0.8	0.6	1.3	2.7	13.1
24-Jan	1.1	0.5	0.5	0.6	0.4	0.6	1.1	1.2	1.0	1.4	2.7	3.3	3.5	3.8	4.6	3.8	3.1	3.5	2.4	1.1	0.9	0.9	0.6	0.7	1.8	4.6
25-Jan	1.1	1.0	1.5	2.1	2.8	3.2	3.0	2.8	2.8	2.8	2.6	2.6	2.3	1.9	2.2	1.9	2.0	2.1	1.7	1.9	2.0	1.8	1.8	1.2	2.1	3.2
26-Jan	1.3	1.2	1.3	1.4	1.8	1.6	2.1	2.6	2.3	2.0	1.8	1.9	1.2	1.2	1.1	0.8	1.9	1.7	1.3	1.5	2.1	2.5	2.1	1.9	1.7	2.6
27-Jan	1.4	0.8	0.9	1.6	1.5	1.5	1.2	1.2	1.3	1.2	1.4	1.2	1.2	1.4	1.4	1.2	2.1	1.9	2.2	2.0	1.6	2.2	2.7	2.5	1.6	2.7
28-Jan	1.5	1.6	1.9	1.5	1.0	1.1	1.0	0.9	1.0	0.8	0.9	1.0	0.8	0.7	0.8	1.0	0.8	0.8	1.9	2.3	1.5	1.2	1.0	1.2	1.2	2.3
29-Jan	0.9	0.8	0.9	1.0	1.0	1.7	1.0	1.1	1.2	1.8	1.9	1.7	2.3	2.1	1.6	1.6	1.4	0.4	0.5	0.6	1.5	0.9	1.1	0.8	1.2	2.3
30-Jan	0.7	0.6	0.6	0.8	1.3	1.6	2.0	2.2	2.3	2.7	3.1	2.9	3.0	C	C	3.2	3.2	3.2	3.5	14.5	13.3	20.9	16.9	9.4	5.1	20.9
31-Jan	6.8	5.8	3.3	3.0	2.9	2.8	2.7	2.4	2.4	2.4	2.2	2.0	1.9	1.8	1.9	1.9	1.8	1.7	1.9	2.1	2.3	2.2	2.1	2.0	2.6	6.8
																								Diurnal Average		
																								Diurnal Maximum		
4.0 4.4 3.3 3.4 2.9 3.3 3.5 3.3 3.3 3.5 3.5 3.4 3.2 3.0 3.0 3.8 5.4 5.0 4.4 6.5 8.1 5.4 5.4 5.9																										
38.5 45.0 16.0 15.5 7.5 12.7 19.2 15.3 15.2 20.4 22.0 19.9 15.8 9.6 10.6 34.4 75.7 57.8 41.2 71.0 125.7 37.4 55.6 68.1																										
C - Calibration																										
Alberta Ambient Air Quality Guideline/Objectives: 1-hr 80 µg/m ³ 24-hr 29 µg/m ³																										





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Anzac - January 2025

Concentration Ranges ($\mu\text{g}/\text{m}^3$)	Number of Hours	%	Cumulative %
0 - 5	628	84.64	84.64
6 - 15	92	12.40	97.04
16 - 25	10	1.35	98.38
26 - 80	11	1.48	99.87
> 81.0	1	0.13	100.00

Total Number of Valid Hours: 742

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - µg/m³
Anzac - January 2025

Concentration Ranges (µg/m ³)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	17	7	6	3	8	28	42	12	10	4	8	7	46	133	65	41	437
6 - 15	2	0	0	1	2	3	10	17	6	8	7	4	3	3	9	1	76
16 - 25	0	0	0	0	0	0	0	2	1	1	0	0	0	0	0	0	4
26 - 80	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	6
> 81.0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Totals	19	7	6	4	10	31	59	31	17	13	15	11	49	136	74	42	524

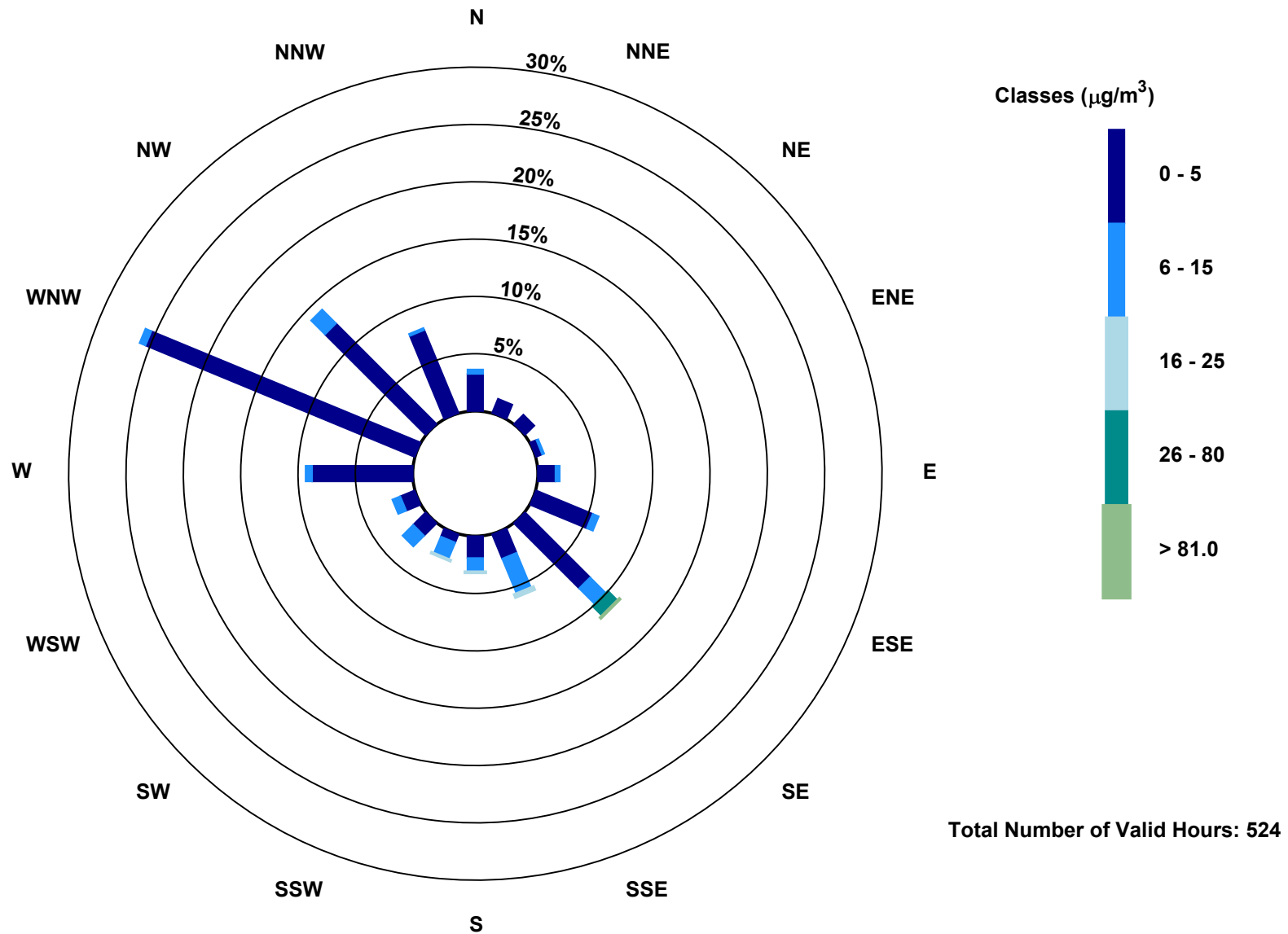
Total Number of Valid Hours: 524

Total Number of Hours: 744



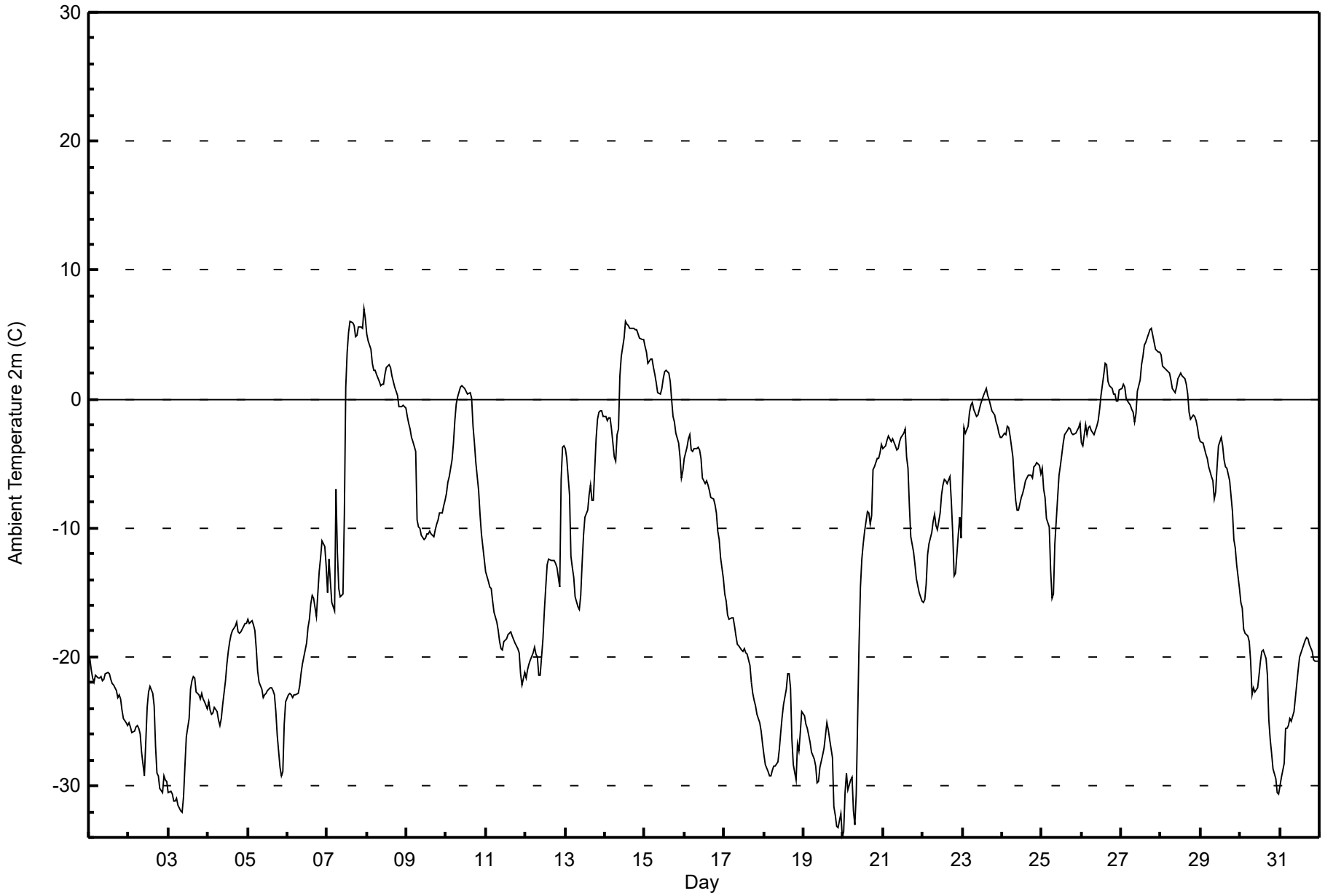
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Anzac





Maximum Value: 7.1 C on Jan 7 23:00		Maximum Daily Average: 2.1 C on Jan 14		Hours in Service: 744																							
Minimum Value: -33.9 C on Jan 20 00:00		Minimum Daily Average: -28.4 C on Jan 19		Hours of Data: 744																							
Maximum Diurnal Average: -9.4 C at hour 15		Minimum Diurnal Average: -14.0 C at hour 9		Hours of Missing Data: 0																							
Monthly Average: -11.84 C		Percentiles: P ₁ = -32.0 P ₁₀ = -26.4 Q ₁ = -21.6 Median = -10.6 Q ₃ = -2.3 P ₉₀ = 1.6 P ₉₉ = 5.6		Hours of Calibration: 0																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	-20.1	-21.0	-21.7	-22.0	-21.4	-21.6	-21.7	-21.6	-21.8	-21.7	-21.4	-21.2	-21.4	-21.7	-22.1	-22.2	-22.7	-23.2	-22.9	-23.3	-24.2	-24.8	-25.1	-25.3	-22.3	-20.1	
2-Jan	-25.1	-25.5	-25.8	-25.8	-25.5	-25.4	-25.5	-26.0	-27.4	-29.2	-26.6	-23.9	-22.7	-22.3	-22.9	-23.9	-27.0	-29.0	-29.3	-30.2	-30.5	-29.2	-29.5	-29.6	-26.6	-22.3	
3-Jan	-30.6	-30.4	-30.6	-31.1	-31.2	-30.9	-31.5	-31.9	-32.0	-30.9	-28.5	-26.2	-24.8	-22.5	-21.8	-21.5	-21.7	-22.7	-23.0	-23.2	-22.9	-23.3	-23.5	-24.0	-26.7	-21.5	
4-Jan	-23.5	-24.1	-24.5	-24.4	-23.9	-24.3	-24.9	-25.3	-24.8	-23.7	-21.8	-20.6	-19.6	-18.9	-18.3	-18.0	-17.6	-17.2	-18.0	-18.2	-18.0	-17.6	-17.4	-17.4	-20.9	-17.2	
5-Jan	-17.1	-17.4	-17.2	-17.5	-17.9	-19.3	-21.0	-22.0	-22.6	-23.1	-23.0	-22.8	-22.6	-22.4	-22.4	-22.6	-22.9	-24.2	-26.1	-28.5	-29.2	-28.9	-25.2	-23.5	-22.5	-17.1	
6-Jan	-22.9	-22.8	-22.9	-23.2	-23.0	-22.9	-22.8	-22.3	-21.3	-20.5	-20.0	-18.9	-17.7	-17.1	-15.9	-15.3	-15.5	-16.9	-15.2	-13.4	-12.3	-11.0	-11.4	-12.9	-18.3	-11.0	
7-Jan	-15.0	-12.4	-14.2	-15.8	-16.5	-7.0	-11.9	-14.7	-15.4	-15.1	-9.0	1.0	3.7	5.2	6.0	5.9	5.7	4.8	4.9	5.6	5.5	5.5	7.1	6.3	-3.3	7.1	
8-Jan	5.1	4.5	3.9	2.8	2.3	2.2	1.9	1.4	1.0	1.1	1.1	1.9	2.4	2.7	2.4	1.8	1.4	0.9	0.3	-0.6	-0.6	-0.6	-0.5	-0.7	1.6	5.1	
9-Jan	-1.3	-1.9	-2.4	-3.0	-3.3	-4.0	-9.4	-9.9	-10.0	-10.6	-10.9	-10.7	-10.5	-10.4	-10.3	-10.5	-10.7	-10.2	-9.7	-9.3	-8.8	-8.8	-8.3	-7.9	-8.0	-1.3	
10-Jan	-7.3	-6.4	-6.0	-4.7	-3.4	-1.7	-0.4	0.2	0.9	1.0	1.0	0.8	0.6	0.4	0.5	0.0	-2.2	-3.4	-4.9	-7.1	-8.9	-10.5	-11.5	-12.4	-3.6	1.0	
11-Jan	-13.4	-14.2	-14.6	-14.7	-15.6	-16.6	-17.3	-18.0	-18.8	-19.4	-19.4	-18.9	-18.6	-18.3	-18.1	-18.1	-18.4	-18.9	-19.2	-19.3	-19.7	-21.3	-22.2	-21.2	-18.1	-13.4	
12-Jan	-21.6	-21.0	-20.6	-20.3	-19.7	-19.3	-19.8	-20.0	-21.4	-21.4	-18.6	-16.4	-14.6	-12.8	-12.4	-12.5	-12.5	-12.5	-12.8	-13.1	-14.5	-6.2	-3.8	-3.7	-15.5	-3.7	
13-Jan	-3.8	-4.6	-7.4	-12.2	-13.1	-13.8	-15.3	-16.1	-16.4	-15.3	-12.8	-10.6	-9.2	-8.6	-7.4	-6.7	-7.8	-7.9	-3.1	-1.6	-1.1	-0.9	-1.0	-1.3	-8.2	-0.9	
14-Jan	-1.4	-1.7	-1.5	-1.5	-2.3	-4.5	-4.8	-2.7	-2.3	1.8	3.3	4.7	6.0	5.8	5.7	5.5	5.5	5.4	5.3	5.4	5.1	4.7	4.6	4.6	2.1	6.0	
15-Jan	4.1	3.7	2.8	3.2	3.1	2.4	1.9	1.3	0.5	0.4	0.9	1.6	2.1	2.3	2.0	1.3	0.0	-1.4	-1.8	-2.7	-3.4	-4.5	-6.1	-5.5	0.3	4.1	
16-Jan	-4.6	-3.7	-3.0	-2.7	-3.9	-4.0	-3.8	-3.8	-3.8	-3.9	-4.6	-6.1	-6.6	-6.4	-6.7	-7.1	-7.6	-7.7	-8.2	-8.8	-10.2	-10.9	-12.3	-14.0	-6.4	-2.7	
17-Jan	-15.1	-15.7	-16.7	-17.1	-16.9	-17.0	-17.6	-18.4	-19.1	-19.2	-19.4	-19.6	-19.4	-19.7	-19.8	-20.6	-22.0	-22.9	-23.3	-23.8	-24.5	-25.1	-25.8	-26.7	-20.2	-15.1	
18-Jan	-27.6	-28.3	-28.9	-29.3	-29.3	-28.8	-28.4	-28.4	-28.1	-27.2	-25.8	-24.7	-23.7	-22.5	-21.3	-21.3	-22.4	-26.4	-28.4	-29.6	-26.8	-27.3	-25.9	-24.2	-26.4	-21.3	
19-Jan	-24.6	-25.2	-25.5	-26.1	-26.6	-27.3	-27.9	-28.5	-29.8	-29.7	-28.6	-27.6	-27.0	-26.1	-25.1	-25.6	-26.4	-27.8	-31.6	-32.2	-33.1	-33.2	-32.2	-33.9	-28.4	-24.6	
20-Jan	-33.5	-30.6	-29.1	-30.3	-29.5	-29.4	-31.9	-33.0	-30.6	-19.0	-14.6	-12.4	-11.3	-10.3	-8.8	-8.8	-9.7	-9.1	-5.5	-5.2	-4.6	-4.6	-4.2	-3.5	-17.1	-3.5	
21-Jan	-3.8	-3.6	-3.1	-2.9	-3.1	-3.3	-3.1	-3.6	-4.0	-3.8	-3.3	-3.0	-2.6	-2.3	-4.5	-5.4	-8.3	-10.7	-11.8	-12.9	-13.9	-14.5	-15.0	-15.6	-6.6	-2.3	
22-Jan	-15.7	-15.6	-14.3	-12.1	-11.2	-10.3	-9.5	-9.0	-9.8	-10.2	-8.9	-7.4	-6.6	-6.3	-6.3	-6.6	-6.1	-8.0	-10.5	-13.8	-13.5	-10.4	-9.2	-10.8	-10.1	-6.1	
23-Jan	-6.6	-2.2	-2.6	-2.1	-1.0	-0.4	-0.3	-0.9	-1.3	-1.3	-0.8	-0.4	-0.1	0.3	0.8	0.3	0.0	-0.5	-0.9	-1.3	-1.7	-2.1	-2.7	-3.0	-1.3	0.8	
24-Jan	-3.0	-2.7	-2.8	-2.1	-2.3	-2.9	-4.5	-6.3	-7.8	-8.6	-8.6	-7.6	-7.4	-6.8	-6.4	-6.1	-6.0	-6.0	-6.1	-5.3	-5.1	-4.9	-5.2	-5.8	-5.4	-2.1	
25-Jan	-5.4	-7.0	-7.6	-9.3	-9.9	-13.3	-15.4	-15.1	-11.2	-7.6	-5.9	-5.1	-4.2	-3.4	-2.8	-2.5	-2.2	-2.3	-2.7	-2.8	-2.6	-2.4	-2.2	-1.9	-6.0	-1.9	
26-Jan	-3.4	-3.6	-2.0	-2.7	-2.2	-2.1	-2.5	-2.8	-2.4	-2.1	-1.7	-0.8	0.3	1.9	2.7	2.7	1.3	1.0	0.8	0.4	0.4	-0.2	-0.1	0.8	-0.7	2.7	
27-Jan	0.8	1.1	1.0	0.0	-0.1	-0.5	-0.9	-1.1	-1.7	-1.2	0.6	1.5	2.6	3.4	4.2	4.4	5.1	5.4	5.5	4.9	4.4	3.8	3.6	3.6	2.1	5.5	
28-Jan	3.4	2.6	2.5	2.2	2.1	2.0	1.5	0.8	0.5	1.0	1.6	1.8	2.1	1.8	1.6	1.2	0.4	-1.0	-1.5	-1.3	-1.4	-1.6	-2.3	-3.0	0.7	3.4	
29-Jan	-3.3	-3.4	-3.8	-4.3	-4.6	-5.3	-6.0	-6.3	-7.8	-7.3	-5.3	-3.7	-3.0	-3.7	-4.7	-5.2	-5.4	-6.3	-7.6	-8.8	-10.9	-11.5	-12.9	-14.7	-6.5	-3.0	
30-Jan	-15.7	-16.3	-17.8	-18.1	-18.4	-18.8	-20.3	-22.9	-22.4	-22.7	-22.4	-21.4	-20.3	-19.6	-19.4	-20.1	-21.5	-24.9	-26.4	-27.5	-28.7	-29.4	-30.5	-30.6	-22.3	-15.7	
31-Jan	-30.0	-29.3	-28.3	-25.5	-25.6	-25.3	-24.8	-25.0	-24.2	-23.1	-22.0	-20.9	-20.1	-19.4	-19.0	-18.7	-18.5	-18.6	-19.0	-19.6	-20.2	-20.4	-20.3	-20.3	-22.4	-18.5	
		-12.3	-12.2	-12.4	-12.7	-12.7	-12.7	-13.5	-13.9	-14.0	-13.3	-12.1	-10.9	-10.1	-9.6	-9.4	-9.5	-10.2	-11.0	-11.4	-11.8	-12.1	-12.0	-12.2	Diurnal Average		
		5.1	4.5	3.9	3.2	3.1	2.4	1.9	1.4	1.0	1.8	3.3	4.7	6.0	5.8	6.0	5.9	5.7	5.4	5.5	5.6	5.5	5.5	7.1	6.3	Diurnal Maximum	





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Ambient Temperature 2m (AT2) - C
Anzac - January 2025**

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	221	29.70	29.70
-20 - 0	402	54.03	83.74
0 - 10	121	16.26	100.00
10 - 20	0	0.00	100.00
> 20	0	0.00	100.00

Total Number of Valid Hours: 744

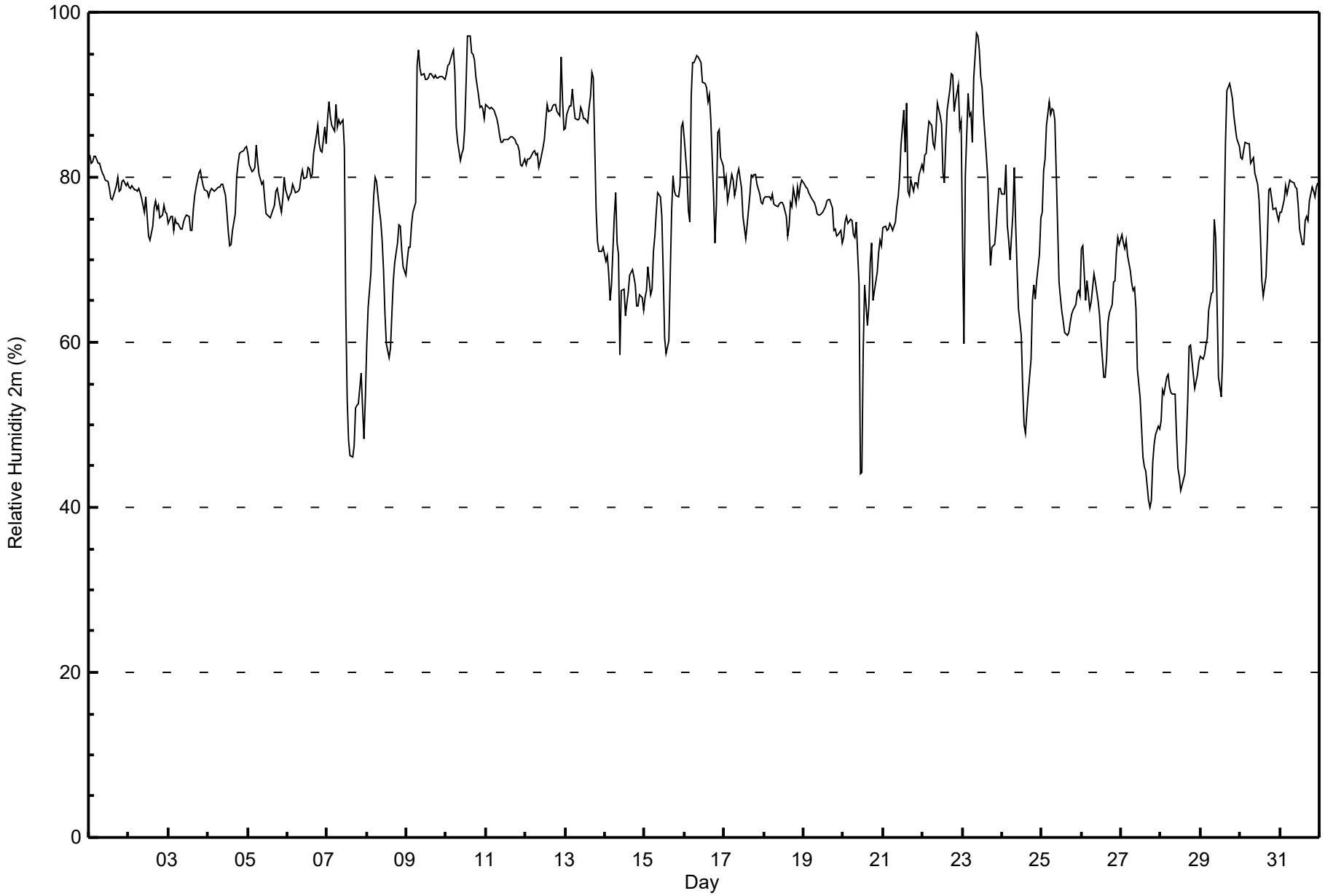
Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

Relative Humidity 2m (RH2) - %
Anzac - January 2025

Maximum Value: 97.4 % on Jan 23 09:00 Maximum Daily Average: 90.5 % on Jan 10 Minimum Value: 40.1 % on Jan 27 18:00 Minimum Daily Average: 52.2 % on Jan 28 Maximum Diurnal Average: 79.2 % at hour 9 Minimum Diurnal Average: 71.5 % at hour 14 Monthly Average: 75.93 % Percentiles: P ₁ = 44.1 P ₁₀ = 59.8 Q ₁ = 71.4 Median = 77.7 Q ₃ = 83.1 P ₉₀ = 88.7 P ₉₉ = 95.0																						Hours in Service:	744																								
																						Hours of Data:	744																								
																						Hours of Missing Data:	0																								
																						Hours of Calibration:	0																								
																						Percent Operational Time:	100.0																								
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																							
1-Jan	82.7	81.7	81.9	82.5	82.5	81.8	81.6	81.0	80.5	80.2	79.7	79.5	78.7	77.4	77.2	77.8	78.9	80.0	78.3	78.4	79.5	79.6	79.0	79.2	80.0	82.7																					
2-Jan	78.8	78.6	79.0	78.6	78.4	78.3	78.7	78.1	77.5	75.8	77.6	75.2	72.8	72.5	74.1	76.3	77.1	76.1	76.7	75.1	75.4	76.6	75.7	75.6	76.6	79.0																					
3-Jan	74.4	75.2	75.2	73.5	74.8	74.4	74.3	73.8	73.8	74.6	75.1	75.5	75.2	73.6	73.6	76.1	77.8	78.8	80.6	80.9	79.8	79.1	78.5	78.3	76.1	80.9																					
4-Jan	77.7	78.3	78.7	78.4	78.3	78.6	78.8	78.7	79.2	79.2	77.8	75.7	73.4	71.7	71.9	73.5	75.6	80.0	81.8	82.8	83.0	83.3	83.5	83.7	78.5	83.7																					
5-Jan	82.9	81.6	80.7	80.9	81.1	83.9	81.9	80.4	79.2	79.4	77.5	75.6	75.4	75.1	75.6	76.1	76.6	78.4	78.6	76.7	75.8	77.4	80.0	78.5	78.7	83.9																					
6-Jan	77.4	77.8	78.1	79.1	78.6	78.2	78.3	78.7	79.9	80.8	79.8	80.0	81.1	81.1	80.1	80.3	82.9	85.2	86.3	84.1	83.2	83.0	86.1	84.0	81.0	86.3																					
7-Jan	87.2	89.1	87.2	86.3	85.6	88.9	86.1	87.0	86.4	87.0	83.6	64.3	53.2	48.1	46.2	46.1	47.5	52.1	52.5	56.2	52.3	48.2	53.2	67.8	89.1																						
8-Jan	59.7	64.2	68.4	74.0	77.8	79.9	79.5	76.1	74.7	72.4	68.8	63.5	59.8	58.1	59.3	63.5	67.5	69.7	72.0	74.3	74.1	71.3	69.2	68.1	69.4	79.9																					
9-Jan	70.0	71.5	71.5	74.3	75.7	77.0	93.6	95.4	93.1	92.3	92.5	91.9	91.8	92.1	92.5	92.5	92.0	92.5	92.0	92.0	92.1	92.1	92.1	91.9	87.7	95.4																					
10-Jan	92.5	93.5	93.8	94.9	95.4	92.8	86.1	84.3	82.0	82.9	83.5	85.8	91.1	97.1	97.2	95.0	94.9	94.3	92.2	89.8	88.4	88.6	88.4	87.2	90.5	97.2																					
11-Jan	88.9	88.5	88.3	88.5	88.3	88.1	87.1	86.2	85.1	84.2	84.2	84.5	84.6	84.6	84.7	85.0	84.9	84.6	84.1	83.9	83.3	81.5	81.3	82.2	85.3	88.9																					
12-Jan	81.5	82.2	82.2	82.4	83.0	83.2	82.7	82.9	81.2	81.8	83.5	84.6	86.8	88.8	88.0	88.2	88.7	88.8	88.9	88.1	87.4	94.6	89.3	85.7	85.6	94.6																					
13-Jan	85.9	87.6	88.7	88.6	90.6	88.7	87.2	86.9	87.1	88.4	88.1	87.2	87.1	86.7	88.5	89.8	92.7	92.0	76.1	72.3	71.1	71.0	71.0	71.6	84.4	92.7																					
14-Jan	69.9	70.5	68.2	65.2	67.0	75.2	78.2	72.1	70.6	58.5	66.2	66.5	63.2	64.7	66.1	68.1	68.8	67.9	66.9	64.4	64.5	65.7	65.4	63.8	67.4	78.2																					
15-Jan	65.5	66.3	69.1	65.8	66.4	71.0	72.9	75.8	78.1	77.7	75.3	68.4	60.4	58.6	60.2	68.1	75.9	80.1	78.3	77.8	77.6	79.0	86.0	86.7	72.5	86.7																					
16-Jan	84.8	80.3	76.0	74.5	89.8	93.9	94.0	94.7	94.6	94.2	93.9	91.6	91.4	90.9	89.1	90.0	86.9	77.8	72.1	76.6	85.4	85.8	82.3	81.3	86.3	94.7																					
17-Jan	79.0	79.9	77.1	78.1	80.4	79.7	77.7	78.7	80.4	81.0	78.6	75.3	73.9	72.6	74.2	78.0	80.3	80.1	80.3	80.3	79.1	78.0	77.0	76.8	78.2	81.0																					
18-Jan	77.5	77.6	77.6	77.5	77.2	78.0	76.8	76.7	76.5	76.8	77.0	77.0	76.7	75.3	72.9	74.0	76.9	76.4	78.7	76.7	78.8	77.7	79.0	79.7	77.1	79.7																					
19-Jan	79.2	78.8	78.6	78.1	77.9	77.4	76.9	76.5	75.5	75.4	75.4	75.7	76.0	76.4	77.1	77.3	77.3	76.2	73.5	73.7	72.8	73.0	73.6	72.0	76.0	79.2																					
20-Jan	72.7	74.5	75.2	74.4	75.0	74.8	73.0	72.7	74.7	67.2	44.1	44.2	59.1	67.0	62.1	64.4	69.6	72.0	65.1	66.3	68.5	70.8	72.4	71.7	68.0	75.2																					
21-Jan	73.9	74.0	73.5	73.7	74.3	74.0	73.6	74.5	76.5	77.7	80.0	83.9	88.1	83.1	89.0	78.3	77.8	79.7	78.3	79.4	79.3	78.7	80.4	81.5	78.5	89.0																					
22-Jan	80.9	82.7	83.0	85.1	86.8	86.3	84.1	83.6	85.6	88.9	87.5	86.5	80.6	79.2	84.3	88.1	90.7	92.5	92.3	88.0	89.3	91.1	86.0	86.8	86.2	92.5																					
23-Jan	71.8	59.8	80.2	90.3	87.4	87.8	84.3	92.0	97.4	97.2	95.4	92.2	90.9	87.6	82.7	80.0	74.3	69.3	71.5	71.9	73.9	76.4	78.6	78.7	82.1	97.4																					
24-Jan	78.0	77.9	81.5	74.3	72.3	70.1	75.5	81.2	74.3	68.9	64.1	60.9	54.5	50.0	49.0	51.5	53.9	58.0	65.0	66.9	65.3	67.5	70.7	75.1	66.9	81.5																					
25-Jan	75.7	80.9	82.2	86.4	89.1	87.7	88.4	88.1	87.0	74.1	67.3	65.5	63.7	62.5	61.2	60.9	61.2	62.3	63.5	64.0	64.5	65.9	66.2	65.7	72.3	89.1																					
26-Jan	71.4	71.7	65.2	67.5	65.7	64.1	64.9	68.3	67.3	66.0	65.0	63.2	60.3	55.8	55.8	58.0	62.5	63.6	64.6	67.2	67.5	70.9	72.6	71.9	65.5	72.6																					
27-Jan	73.1	72.1	71.4	72.4	70.5	68.6	67.2	66.3	66.5	64.1	56.8	53.3	49.7	46.1	44.9	44.4	40.9	40.1	40.8	45.5	47.5	48.9	49.8	49.5	56.3	73.1																					
28-Jan	50.6	54.2	53.7	55.7	56.2	54.6	53.9	53.8	53.8	48.8	44.8	43.8	42.0	42.7	44.0	48.0	52.9	59.5	59.7	56.1	54.5	55.2	56.1	57.6	52.2	59.7																					
29-Jan	58.3	57.9	58.4	59.7	60.6	63.8	65.9	66.1	74.9	72.7	64.6	55.8	53.3	58.3	73.5	84.2	90.5	91.3	90.4	89.4	87.5	86.1	84.8	83.8	72.2	91.3																					
30-Jan	82.3	82.2	83.3	84.3	84.1	84.1	81.7	82.0	82.3	80.6	79.1	77.4	72.9	67.5	65.6	68.0	72.7	78.5	78.7	77.4	76.0	76.3	75.4	74.7	77.8	84.3																					
31-Jan	75.7	75.8	77.3	79.0	78.0	78.8	79.6	79.5	79.3	78.9	78.6	76.5	73.7	71.8	71.9	74.7	75.3	74.8	77.1	78.8	78.2	77.6	78.8	79.3	77.0	79.6																					
																						76.1	76.4	76.9	77.5	78.4	78.8	78.9	79.1	79.2	77.7	75.6	73.6	72.3	71.5	72.0	73.4	75.0	75.9	75.4	75.2	75.5	76.0	76.0	76.0	Diurnal Average	
																						92.5	93.5	93.8	94.9	95.4	93.9	94.0	95.4	97.4	97.2	95.4	92.2	91.8	97.1	97.2	95.0	94.9	94.3	92.3	92.0	92.1	94.6	92.1	91.9	Diurnal Maximum	





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Relative Humidity 2m (RH2) - %
Anzac - January 2025

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	0	0.00	0.00
40 - 60	76	10.22	10.22
60 - 80	407	54.70	64.92
80 - 100	261	35.08	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

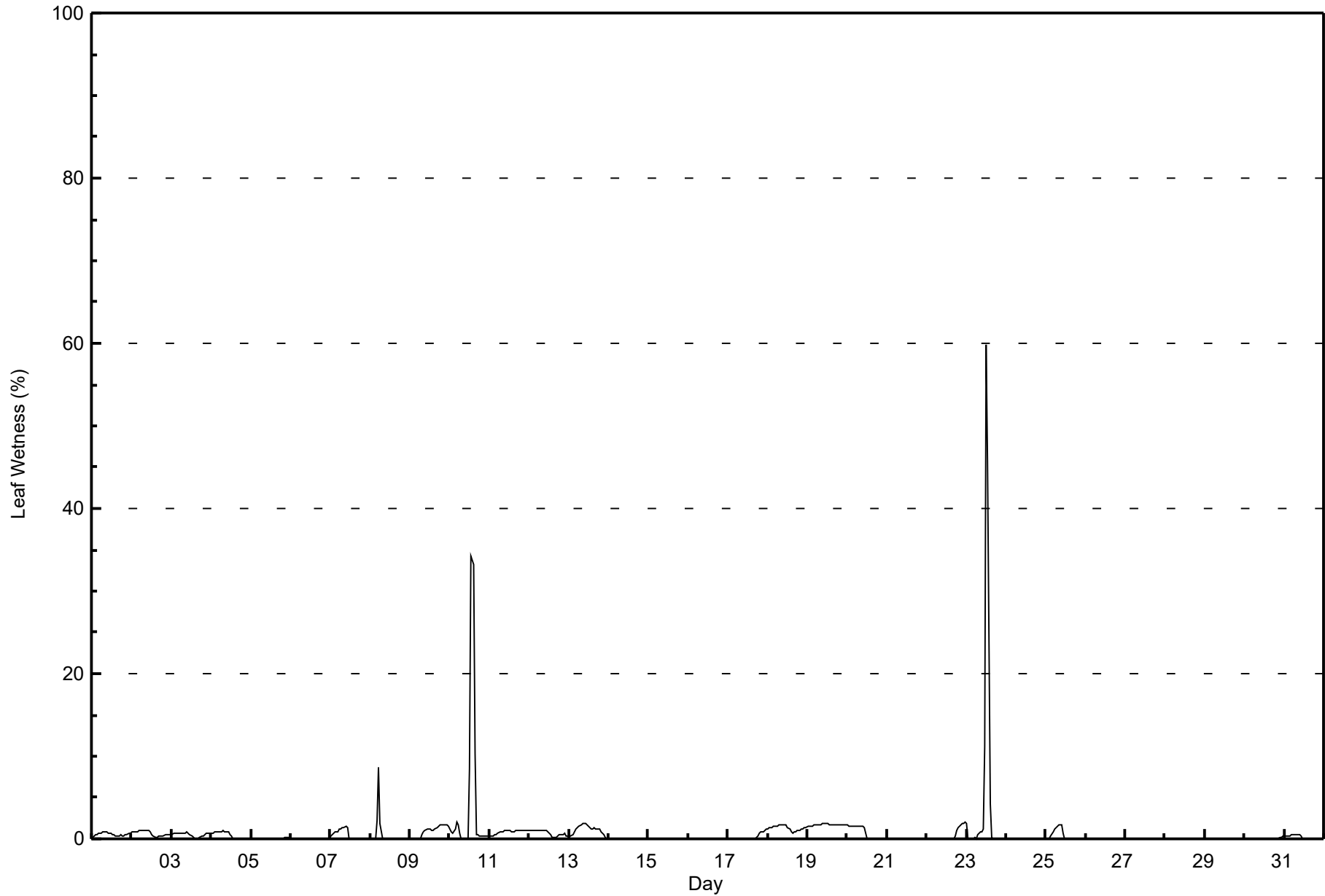
Leaf Wetness (LW) - %
Anzac - January 2025

Maximum Value: 59.8 % on Jan 23 13:00 Maximum Daily Average: 5.3 % on Jan 23		Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0																									
Minimum Value: 0.0 % on Jan 3 15:00 Maximum Diurnal Average: 2.8 % at hour 14 Monthly Average: 0.68 %		Minimum Daily Average: 0.0 % on Jan 14 Minimum Diurnal Average: 0.2 % at hour 17 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.8 P ₉₀ = 1.5 P ₉₉ = 6.7																									
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	0.2	0.3	0.4	0.6	0.6	0.7	0.8	0.8	0.8	0.8	0.7	0.7	0.6	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.6	0.7	0.6	0.8	
2-Jan	0.8	0.8	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	0.8	0.5	0.3	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.7	1.0	
3-Jan	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.8	0.7	0.6	0.4	0.2	0.0	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.7	0.5	0.8	
4-Jan	0.7	0.7	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.9	
5-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.1	0.0	0.2
6-Jan	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	
7-Jan	0.3	0.5	0.7	0.8	0.9	1.1	1.2	1.3	1.4	1.5	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	1.5	
8-Jan	0.0	0.0	0.0	0.0	2.2	8.7	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	8.7	
9-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.6	0.9	1.0	1.1	1.2	1.1	1.1	1.1	1.2	1.3	1.5	1.6	1.7	1.7	1.7	1.6	1.5	0.9	1.7	
10-Jan	1.2	0.9	0.6	1.2	2.0	1.6	0.7	0.0	0.0	0.0	0.0	0.0	8.5	34.2	33.3	10.3	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.3	4.1	34.2	
11-Jan	0.3	0.4	0.4	0.4	0.5	0.7	0.8	0.9	0.9	0.9	1.0	1.0	1.0	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.8	1.0	
12-Jan	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.8	0.7	0.5	0.2	0.2	0.3	0.3	0.4	0.4	0.6	0.7	0.4	0.3	0.7	1.0	
13-Jan	0.2	0.3	0.5	0.8	1.1	1.4	1.6	1.7	1.8	1.9	1.9	1.7	1.5	1.2	1.2	1.3	1.2	1.2	1.1	0.9	0.6	0.4	0.2	0.0	1.1	1.9	
14-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.6	0.8	0.9	1.0	1.1	0.2	1.1	
18-Jan	1.2	1.3	1.4	1.4	1.5	1.6	1.6	1.7	1.7	1.7	1.7	1.7	1.6	1.4	1.1	0.8	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.3	1.4	1.3	1.7
19-Jan	1.5	1.5	1.6	1.6	1.6	1.7	1.7	1.7	1.8	1.9	1.9	1.9	1.8	1.8	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.9	
20-Jan	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.3	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.6	
21-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.0	1.3	1.6	1.8	1.9	2.0	0.4	2.0	
23-Jan	1.8	0.0	0.0	0.0	0.0	0.1	0.0	0.5	0.9	0.8	1.1	11.2	59.8	45.8	4.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.3	59.8	
24-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25-Jan	0.0	0.0	0.1	0.4	0.8	1.1	1.3	1.5	1.7	1.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.7	
26-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.3	0.0	0.3	
31-Jan	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.5	
																								Diurnal Average			
																								Diurnal Maximum			



Wood Buffalo Environmental Association
Hourly Averages

Leaf Wetness (LW) - %
Anzac - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Leaf Wetness (LW) - %
Anzac - January 2025

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 0.3	469	63.04	63.04
0.4 - 0.5	46	6.18	69.22
0.6 - 0.7	38	5.11	74.33
0.8 - 1.4	113	15.19	89.52
1.5 - 10	67	9.01	98.52
> 10	6	0.81	99.33

Total Number of Valid Hours: 744

Total Number of Hours: 744



Maximum Speed: 36 km/h on Jan 24 07:00	Maximum Daily Speed Average: 22.4 km/h on Jan 8	Hours in Service: 744
Minimum Speed Value: 1 km/h on Jan 9 14:00	Minimum Daily Speed Average: 2.2 km/h on Jan 2	Hours of Data: 526
Maximum Diurnal Speed Average: 7.8 km/h at hour 7	Minimum Diurnal Speed Average: 4.0 km/h at hour 18	Hours of Missing Data: 218
Monthly Average Velocity: 6.2 km/h 292.2 deg	Percentiles: P ₁ = 2 P ₁₀ = 6 Q ₁ = 8 Median = 12 Q ₃ = 18 P ₉₀ = 23 P ₉₉ = 30	Percent Operational Time: 70.8

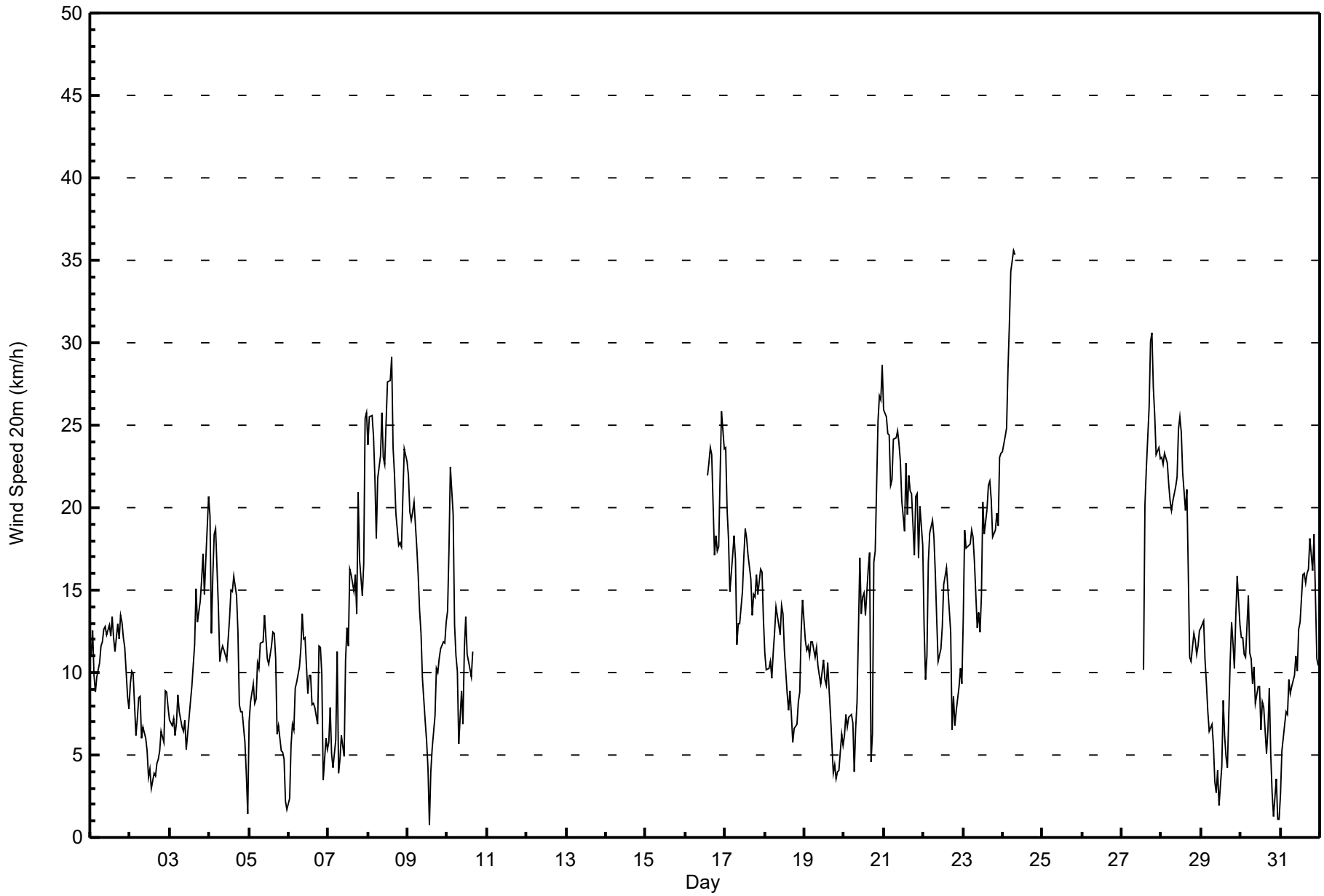
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	NW11	NNW13	NW10	NW9	NW10	NW11	NW12	NW12	NW13	NW13	NW12	NW13	NW12	NW13	NW12	NW11	NW13	NW12	NW14	NNW13	NNW12	NW11	NW9	WNW8	NW11.4	NW14	
2-Jan	WNW9	WNW10	WNW10	WNW6	WNW7	WNW8	WNW9	WNW6	W7	WNW6	W5	W4	WNW4	NNW3	N4	NNE4	ENE4	E5	SSE5	SE6	SE6	SSE9	SSE9	SE8	WNW2.2	WNW10	
3-Jan	SE7	SSE7	SSE7	SSE6	SSE7	SSE9	SSE8	SE7	SE6	SSE7	SE5	ESE6	ESE8	SE9	ESE10	SE12	SE15	SE13	SE14	SE16	SE17	SE15	SE17	SSE21	SE10.2	SSE21	
4-Jan	SE19	ESE12	SE16	SE18	SE19	SE14	ESE11	E11	E12	ESE11	ESE11	SE12	SE13	SE15	SE15	SE16	SE15	SE12	E8	E8	E8	ESE6	ESE4	NE1	SE11.5	SE19	
5-Jan	NW7	NW8	WNW9	NW8	NW8	NNW11	NW10	NW12	WNW12	NW13	NW12	WNW11	WNW11	NW12	NW12	NW12	NW11	WNW6	WNW7	WNW5	W5	WSW5	SSW2	SSE2	NW8.3	NW13	
6-Jan	SSE2	SE6	SE7	SE6	SE9	SE9	SE10	SE11	SE14	SE12	SE12	SE9	SE10	SSE10	SE8	SSE8	SSE8	SSE7	SSE12	SSE11	SSE10	ENE3	S6	SSW5	SE8.3	SE14	
7-Jan	SSE6	SSW8	E5	SE4	SSE6	SSW11	SE4	ESE5	S6	S5	SW11	SW13	SW12	WSW16	WSW16	WSW15	SW16	SW14	SW21	SW17	SW15	WSW17	W25	W26	SW10.0	W26	
8-Jan	W24	W25	W26	W24	WNW22	W18	W22	WNW23	WNW26	WNW23	WNW23	W25	WNW28	WNW28	NW29	NW24	NW22	NW20	WNW18	WNW18	WNW18	NW21	WNW24	NW23	WNW22.4	NW29	
9-Jan	WNW22	WNW20	WNW19	WNW20	WNW20	NW18	NNW16	NNW14	NNW12	NNW10	NNW7	NW6	WNW4	NNW1	SE4	SE5	SE7	SE10	SE10	SE11	SE11	SE12	SE12	SE13	WNW3.5	WNW22	
10-Jan	SE14	SE17	SSE22	SSE20	SSE13	S11	SW10	W6	NW9	WNW7	WNW11	WNW13	WNW11	W11	WNW10	NW11	UO	UO	UO	UO	UO	UO	UO	UO	---	SSE22	
11-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	---	---	
12-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	---	---	
13-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	M	M	M	M	M	UO	UO	UO	UO	UO	UO	---	---	
14-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	---	---	
15-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	---	---	
16-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	M	ENE22	NE23	NE24	NE23	NNE17	N18	NNW17	NW18	NW22	NNW26	NNW24	---	NNW26	
17-Jan	NNW24	NNW20	NNW18	NW15	NNW17	NNW18	NNW17	N12	NNW13	NNW13	NNW15	NNW17	NW19	NW18	NNW17	NNW16	NW14	NW15	NW15	NW16	NW15	NW16	NW16	NW13	NNW15.9	NNW24	
18-Jan	NW11	WNW10	WNW10	WNW11	NW10	NW11	WNW12	WNW14	WNW13	WNW12	WNW14	WNW14	WNW11	W9	WNW8	WNW9	WNW7	WSW6	W7	WNW7	WNW8	WNW9	WNW12	WNW14	WNW10.2	WNW14	
19-Jan	WNW12	WNW11	WNW12	WNW11	WNW12	WNW12	WNW11	WNW11	WNW10	WNW10	WNW9	WNW11	NW10	NW9	WNW11	WNW9	WNW7	W4	W4	WSW4	WSW4	SW4	S6	S6	WNW7.8	WNW12	
20-Jan	S6	S7	S7	SSE7	SSE7	SSE7	SE4	SE7	SE8	S17	S14	SSW15	SSW15	S13	SSW16	SW17	SSE5	WSW6	W17	W17	W25	W27	W27	W29	SW8.9	W29	
21-Jan	W26	W26	W24	W24	W21	WNW22	W24	W24	W25	WNW24	WNW23	WNW20	WNW19	NW23	N20	N22	N21	NNW21	NNW17	NNW21	NNW21	NNW17	NW20	NW18	NW18.7	W26	
22-Jan	NW13	NW10	WNW11	WNW17	WNW18	WNW19	NW18	NW16	NNW13	NNW11	NW11	WNW13	WNW15	WNW16	WNW16	W15	W12	SSW6	S9	SSW7	SSW8	SSW9	SSW10	S9	WNW9.3	WNW19	
23-Jan	S13	SW19	SW18	SW18	SW18	WSW19	W18	W17	W13	W14	WSW12	W15	W20	W18	WNW20	WNW21	WNW22	WNW21	WNW18	WNW19	WNW20	WNW19	W23	WNW23	W15.9	WNW23	
24-Jan	WNW23	WNW24	WNW25	WNW28	NW31	NNW34	NNW36	NNW35	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	---	NNW36	
25-Jan	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	---	---	
26-Jan	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	---	---	
27-Jan	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	M	C	W10	WNW20	WNW22	W26	W30	W31	WNW27	WNW26	WNW23	WNW24	---	W31
28-Jan	WNW23	WNW23	WNW23	WNW23	WNW21	WNW20	WNW20	WNW20	WNW21	WNW22	WNW25	WNW26	NW25	NW22	NW20	NW21	NW16	NW11	WNW11	WNW12	WNW12	WNW11	WNW12	WNW13	WNW18.6	WNW26	
29-Jan	WNW13	WNW13	WNW11	WNW9	WNW8	W6	WNW7	WNW6	W3	S3	S4	E2	NNW4	N8	NE6	ENE5	NE4	NNE11	NNE13	N12	N10	NNE13	NNE16	NNE13	NNW5.4	NNE16	
30-Jan	N12	N12	N11	N11	N15	N11	N11	NNW9	NW10	WNW8	WNW9	NNW9	NW7	WNW8	WNW8	NW5	N7	N9	NW5	WNW3	N1	SSW4	SSE1	E1	NNW6.4	N15	
31-Jan	ESE3	ESE5	ESE7	ESE8	ESE7	ESE10	ESE9	ESE9	ESE10	SE11	SE10	ESE13	ESE13	ESE16	ESE16	ESE15	ESE16	ESE16	ESE18	ESE16	ESE18	ESE15	ESE11	E10	ESE11.7	ESE18	

WNW7.3	WNW7.4	W7.0	W7.2	WNW7.0	WNW7.4	WNW7.8	NW7.5	WNW6.4	WNW6.0	WNW6.8	WNW7.1	WNW7.4	WNW6.1	NW5.9	NW5.8	NW4.6	NW4.0	WNW4.4	WNW4.8	WNW5.0	WNW5.7	WNW6.8	WNW6.8	Diurnal Average
W26	W26	W26	WNW28	WNW31	NNW34	NNW36	NNW35	WNW26	WNW24	WNW25	WNW26	WNW28	WNW28	NW29	NE24	W26	W30	W31	WNW27	WNW26	W27	W27	W29	Diurnal Maximum

C - Calibration M - Maintenance AF - Analyzer Failure UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods



Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 10 km/h on Jan 24 07:00 Minimum Value: 0 km/h on Jan 6 00:00 Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 2 Median = 3 Q ₃ = 5 P ₉₀ = 6 P ₉₉ = 8																	Hours in Service: 744 Hours of Data: 526 Hours of Missing Data: 218 Hours of Calibration: 1 Percent Operational Time: 70.8									
Day	Hourly Period Ending At (MST)																								Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	2	2	2	2	2	2	2	2	2	2	3	3	3	3	2	3	3	3	3	2	2	2	2	1	3	
2-Jan	2	2	2	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	2	
3-Jan	1	1	1	1	2	1	2	1	1	1	1	1	2	2	2	3	3	3	3	3	3	4	3	4	4	
4-Jan	5	3	3	4	5	3	2	2	2	2	3	3	3	3	3	3	3	3	2	1	1	1	1	1	5	
5-Jan	3	2	2	2	2	2	3	3	3	3	3	2	3	3	2	2	3	2	1	1	1	1	1	0	3	
6-Jan	1	2	2	1	2	2	2	2	2	3	2	2	2	2	2	2	2	2	3	3	2	2	3	3	3	
7-Jan	1	3	1	1	3	4	1	1	1	1	2	3	4	5	5	5	4	3	8	6	4	6	7	7	8	
8-Jan	6	6	7	6	5	4	6	6	6	5	5	7	7	7	7	6	5	4	4	4	4	5	5	5	7	
9-Jan	5	5	5	4	5	5	4	4	3	2	2	1	1	1	1	1	2	2	2	2	2	2	2	3	5	
10-Jan	3	4	4	3	4	3	4	2	3	2	3	3	3	2	2	3	UO	UO	UO	UO	UO	UO	UO	UO	4	
11-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	
12-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	
13-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	M	M	M	M	M	UO	UO	UO	UO	UO	UO	UO	--	
14-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	
15-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	
16-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	M	5	5	6	6	5	5	4	4	5	7	5	7	
17-Jan	6	5	6	4	4	4	5	3	3	3	3	4	5	4	4	3	2	3	3	3	2	3	3	3	6	
18-Jan	3	2	2	2	2	2	2	2	2	2	3	3	2	2	2	2	2	1	1	2	2	2	2	3	3	
19-Jan	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	2	
20-Jan	1	1	1	1	1	2	2	2	3	5	4	4	4	4	5	6	2	6	5	5	8	7	7	7	8	
21-Jan	6	6	6	5	5	5	6	6	6	6	5	6	5	5	4	5	5	4	4	5	5	5	5	3	6	
22-Jan	3	2	3	4	5	5	4	4	2	2	3	3	4	4	4	4	4	1	2	1	1	2	3	2	5	
23-Jan	6	5	5	5	5	5	5	5	3	4	4	6	5	4	5	5	5	5	5	5	5	5	6	6	6	
24-Jan	5	6	6	7	8	9	10	8	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	10	
25-Jan	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	
26-Jan	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	
27-Jan	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	M	C	3	6	6	7	8	8	7	6	6	5	6	8
28-Jan	6	5	6	5	5	5	5	5	5	5	7	7	6	6	5	5	4	3	3	3	3	3	3	3	7	
29-Jan	3	3	3	2	1	1	1	1	1	1	1	1	2	2	1	1	2	3	3	3	3	3	3	4	4	
30-Jan	3	3	2	2	3	3	2	2	2	2	2	2	1	2	2	1	1	1	2	1	1	1	1	1	3	
31-Jan	2	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	3	4	4	4	5	4	3	2	5	
6 6 7 7 8 9 10 8 6 6 7 7 7 7 7 6 7 8 8 7 8 7 7 7 7 Diurnal Maximum																										
C - Calibration M - Maintenance AF - Analyzer Failure UO - Unstable Operation																										





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 20m (WS20) - km/h
Anzac - January 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	52	9.89	9.89
6 - 11	189	35.93	45.82
12 - 19	180	34.22	80.04
20 - 28	97	18.44	98.48
29 - 38	8	1.52	100.00
> 38	0	0.00	100.00

Total Number of Valid Hours: 526

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Wind Speed 20m (WS20) - km/h
Anzac - January 2025**

Wind Speed Ranges (km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	2	1	2	3	4	4	6	5	3	3	1	3	6	4	2	3	52
6 - 11	8	1	1	0	5	15	25	21	10	7	2	2	7	52	27	6	189
12 - 19	6	5	0	0	1	12	28	2	4	3	11	6	11	37	32	22	180
20 - 28	3	0	3	1	0	0	0	3	0	0	1	0	22	45	11	8	97
29 - 38	0	0	0	0	0	0	0	0	0	0	0	0	3	0	2	3	8
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	19	7	6	4	10	31	59	31	17	13	15	11	49	138	74	42	526

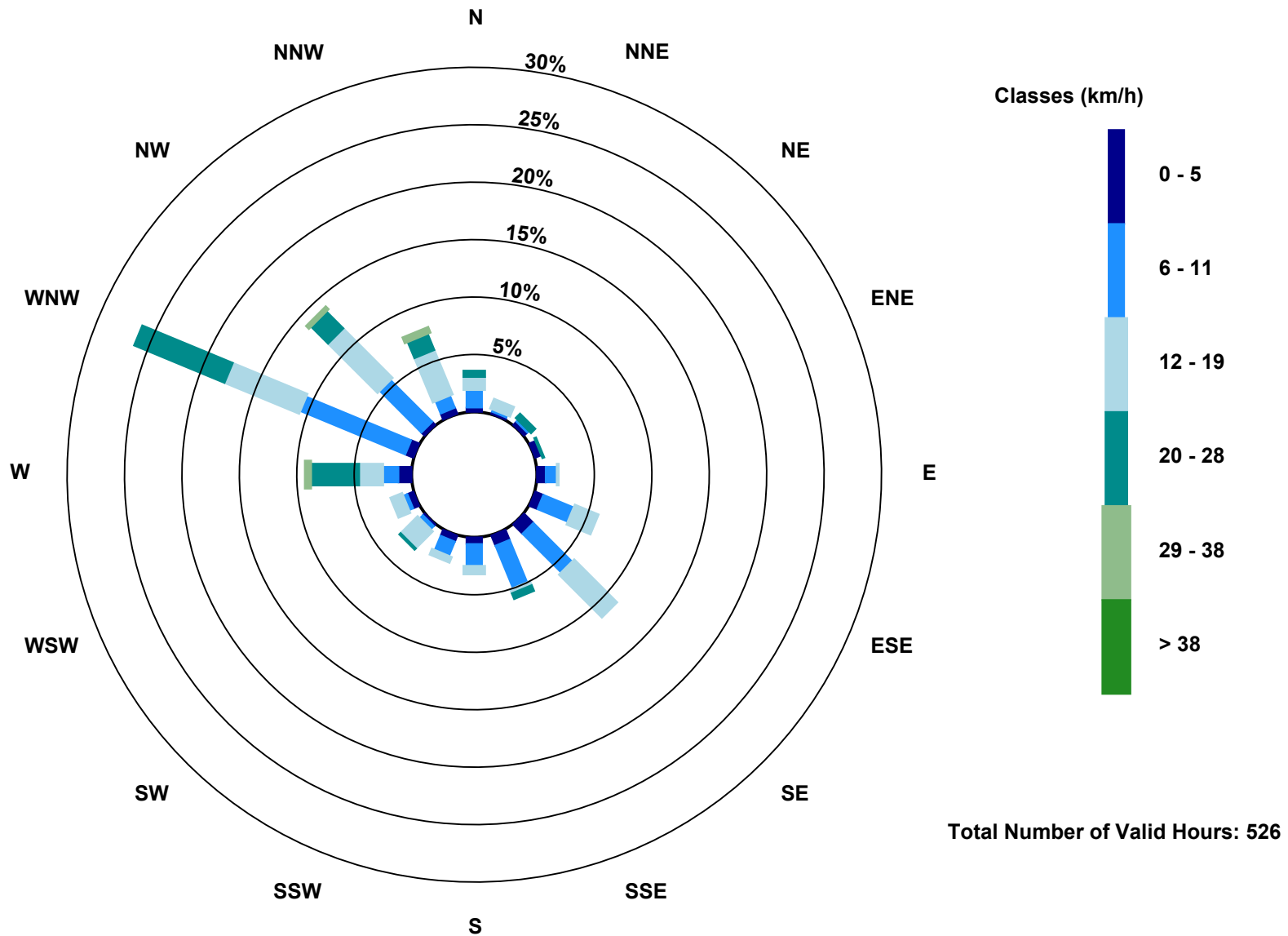
Total Number of Valid Hours: 526

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Wind Speed 20m (WS20) - km/h
Anzac





Wood Buffalo Environmental Association
Summary of Hour Averages

Wind Direction 20m (WD20) - deg
Anzac - January 2025

Direction of Maximum Speed: 337 deg on Jan 24 07:00																						Hours in Service: 744			
Direction of Maximum Daily Speed Average: 290.0 deg on Jan 8																						Hours of Data: 526			
Direction of Minimum Speed: 328 deg on Jan 9 14:00											Direction of Minimum Daily Speed Average: 2.2 deg on Jan 2											Hours of Missing Data: 218			
Monthly Average Direction: 292.2 deg																						Percent Operational Time: 70.8			
Day	Hourly Period Ending At (MST)																								Daily Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	318	327	315	309	305	312	312	321	326	323	318	314	309	314	314	312	320	318	318	331	331	322	312	299	317.4
2-Jan	301	302	300	294	301	296	303	293	281	282	281	268	298	327	358	24	69	101	154	145	139	149	149	144	283.5
3-Jan	146	153	155	164	153	155	153	145	146	154	145	121	113	133	122	129	136	138	135	134	133	132	135	147	139.2
4-Jan	137	118	130	142	140	129	105	98	101	105	123	130	134	137	136	141	138	138	99	92	100	110	108	45	125.4
5-Jan	314	311	300	304	318	335	319	304	302	311	305	297	301	312	309	320	319	292	283	285	261	254	208	166	305.2
6-Jan	157	139	133	127	139	137	140	142	141	138	139	135	143	147	144	150	153	150	154	154	166	77	181	205	145.6
7-Jan	165	198	98	130	163	207	142	117	170	171	221	214	225	244	244	246	236	228	225	225	218	238	267	269	227.4
8-Jan	267	272	274	280	286	279	279	285	286	285	284	281	286	296	305	312	307	304	299	297	294	305	303	304	290.0
9-Jan	299	296	298	295	290	314	339	337	330	347	348	304	297	328	140	135	139	142	139	141	141	143	142	144	299.8
10-Jan	146	140	152	157	147	175	214	259	306	300	297	291	284	280	294	310	UO	UO	UO	UO	UO	UO	UO	UO	--
11-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--
12-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--
13-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	M	M	M	M	M	UO	UO	UO	UO	UO	UO	UO	--
14-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--
15-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--
16-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	M	59	52	40	40	19	6	338	326	321	332	332	--
17-Jan	334	342	333	325	333	332	343	2	347	332	346	328	324	326	328	330	325	324	324	324	317	316	317	313	330.1
18-Jan	310	299	289	291	304	309	283	285	288	284	283	285	286	281	290	297	295	258	261	288	294	285	297	302	290.3
19-Jan	295	291	291	295	297	292	292	295	287	289	295	298	310	306	301	294	297	281	271	240	244	215	179	176	288.2
20-Jan	177	181	186	160	149	149	142	142	146	186	176	193	203	184	195	217	162	251	278	264	268	279	277	276	224.5
21-Jan	278	277	276	275	280	283	280	277	280	282	283	292	298	326	353	354	358	345	345	342	344	331	325	324	305.6
22-Jan	319	318	300	291	289	294	304	315	343	338	307	298	299	302	290	281	279	206	178	195	207	193	198	188	287.9
23-Jan	190	214	216	218	229	249	267	279	279	275	253	274	279	281	286	286	294	301	296	299	293	282	278	282	270.2
24-Jan	287	284	287	298	314	327	337	342	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--
25-Jan	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--
26-Jan	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--
27-Jan	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	M	C	275	286	282	276	274	273	286	287	286	291	296	--
28-Jan	294	291	300	294	290	291	290	290	287	292	298	298	306	308	313	318	320	309	284	295	303	298	295	290	298.1
29-Jan	290	292	291	284	285	271	296	299	276	187	187	95	340	1	36	68	40	25	21	359	351	15	18	18	341.7
30-Jan	8	4	2	3	5	360	0	333	319	298	290	328	308	282	286	321	353	355	325	290	8	204	161	94	338.0
31-Jan	119	117	118	118	120	113	114	112	118	125	126	120	117	119	115	108	107	109	109	109	107	111	107	97	112.9
287.0 283.5 279.9 277.4 286.8 292.6 302.5 306.6 295.9 286.7 281.7 283.8 286.9 299.5 305.3 309.1 316.2 305.9 290.0 294.0 289.2 288.8 289.8 288.0																									
Diurnal Average																									
C - Calibration M - Maintenance AF - Analyzer Failure UO - Unstable Operation																									
All monthly, daily, and diurnal averages have been calculated using vector methods																									



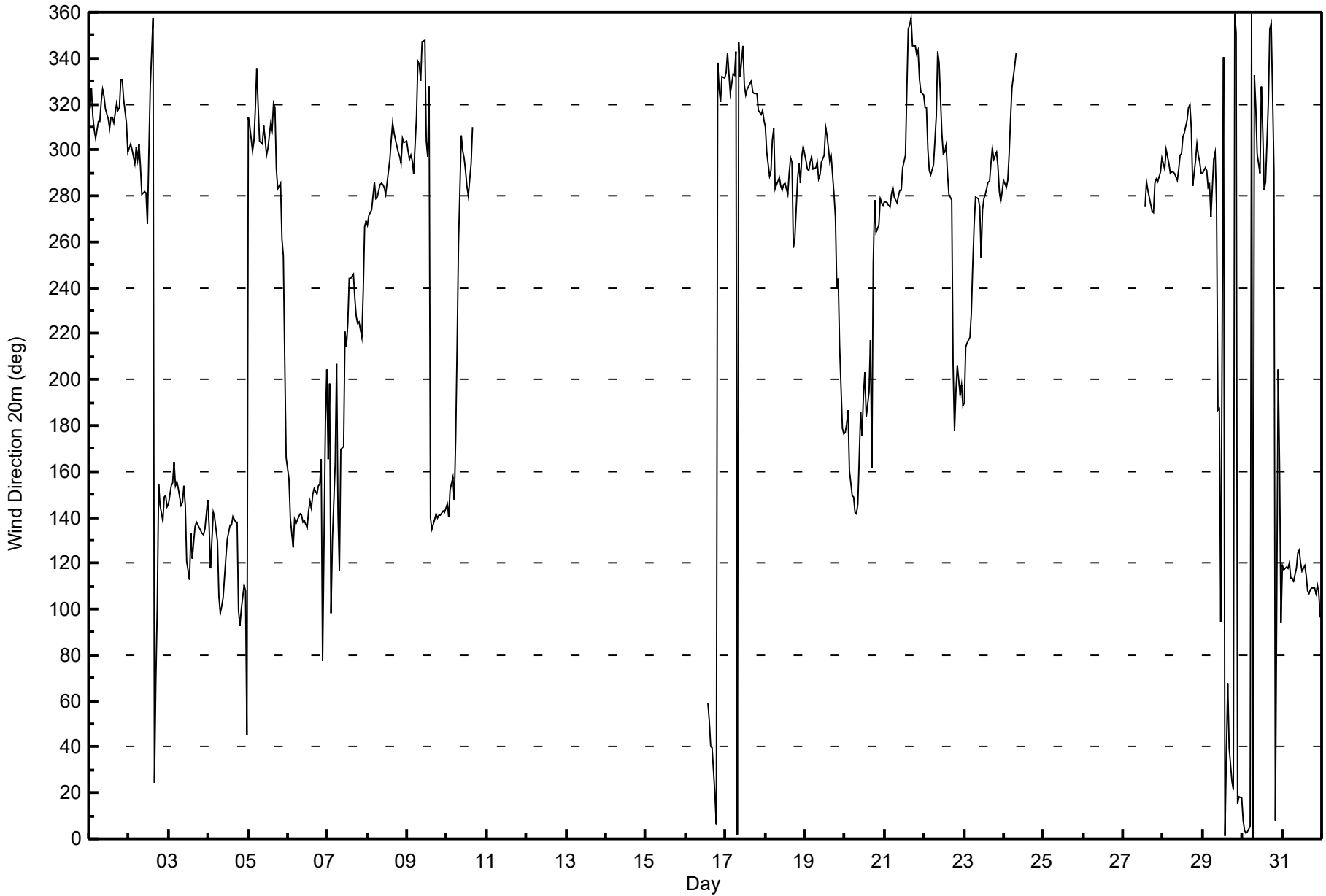
Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Direction 20m (WD20) - deg
Anzac - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 85 deg on Jan 9 14:00	Hours of Data: 526
Minimum Value: 4 deg on Jan 20 02:00	Hours of Missing Data: 218
Percentiles: P ₁ = 8 P ₁₀ = 11 Q ₁ = 13 Median = 15 Q ₃ = 16 P ₉₀ = 20 P ₉₉ = 66	Hours of Calibration: 1
	Percent Operational Time: 70.8

Day	Hourly Period Ending At (MST)																								Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	11	9	14	10	13	11	12	11	10	10	13	13	14	13	12	13	11	12	13	11	10	10	10	12	14	
2-Jan	11	11	11	13	14	12	15	16	11	10	14	19	26	34	22	17	7	14	16	10	11	9	9	9	34	
3-Jan	11	9	11	5	9	7	9	9	10	9	14	16	14	16	13	14	14	13	14	14	14	15	15	11	16	
4-Jan	15	18	15	12	15	17	16	13	15	13	16	17	15	14	14	14	13	14	15	11	11	16	18	57		
5-Jan	16	14	16	15	21	11	21	15	14	14	15	17	17	14	14	13	12	18	10	10	10	15	25	30		
6-Jan	25	19	19	15	14	15	14	14	12	15	13	17	14	12	14	12	10	12	14	13	12	74	41	50	74	
7-Jan	36	19	25	29	31	14	43	20	13	23	23	15	27	16	18	18	16	15	16	17	19	22	17	17	43	
8-Jan	16	16	17	15	15	15	16	15	15	16	16	16	16	16	14	14	14	15	14	14	14	14	14	15	17	
9-Jan	14	15	15	14	15	28	13	15	13	14	15	19	29	85	26	17	17	13	12	12	13	12	13	16	85	
10-Jan	12	13	12	11	15	20	21	41	21	19	17	17	15	15	16	18	UO	UO	UO	UO	UO	UO	UO	UO	41	
11-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	
12-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	
13-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	M	M	M	M	M	UO	UO	UO	UO	UO	UO	UO	--	
14-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	
15-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	
16-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	M	13	13	12	13	18	18	13	12	11	12	14	18	
17-Jan	14	13	18	16	12	12	13	15	14	14	13	13	14	13	12	12	10	10	11	10	10	11	12	16	18	
18-Jan	11	10	10	11	11	12	12	11	11	12	13	14	14	14	16	13	22	16	11	18	12	13	11	10	22	
19-Jan	10	10	11	11	12	12	12	13	14	14	13	14	16	15	13	13	11	19	10	20	11	22	12	9	22	
20-Jan	9	4	9	9	10	12	20	18	25	16	22	19	18	17	18	16	52	67	17	17	19	16	16	16	67	
21-Jan	15	16	14	14	16	15	16	16	17	16	16	16	16	23	15	14	16	13	14	13	14	15	12	11	23	
22-Jan	15	12	17	15	15	14	15	16	12	13	17	15	16	19	16	16	17	39	8	12	9	15	19	15	39	
23-Jan	23	17	18	16	17	17	17	16	15	20	26	16	16	16	17	15	15	14	15	14	16	16	15	16	26	
24-Jan	16	16	16	14	15	15	14	14	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	16	
25-Jan	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	
26-Jan	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	
27-Jan	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	M	C	20	16	16	16	16	16	16	15	14	15	15	20
28-Jan	15	15	16	15	15	16	16	15	16	15	15	16	15	15	13	12	19	15	14	14	15	15	14	14	19	
29-Jan	15	14	14	13	10	9	12	14	29	50	12	70	49	13	31	19	20	13	13	18	29	14	15	15	70	
30-Jan	15	15	13	13	16	16	14	10	11	15	15	22	31	20	16	30	7	5	29	42	75	14	43	70	75	
31-Jan	63	16	11	12	13	10	13	14	15	14	16	15	14	13	14	14	14	14	13	13	14	14	14	14	63	
Diurnal Maximum																										
63	19	25	29	31	28	43	41	29	50	23	70	49	85	31	30	52	67	29	42	75	74	43	70			

C - Calibration M - Maintenance AF - Analyzer Failure UO - Unstable Operation





WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

**AMS17
WAPASU
JANUARY 2025**

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

February 28, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - WAPASU (AMS17)
JANUARY 2025

MONTHLY SUMMARY

Parameter	Hours of Data	Hours of Calibration	Hours without Data	Operational Time	Maximum 1-Hour Value	1-Hour Exceedances	Maximum 24-Hour Value	24-Hour Exceedances
SO2 (ppb) Average	709	35	35	100	21.2	0	5.5	0
H2S (ppb) Average	708	36	36	100	0.9	0	0.3	0
THC (ppm) Average	705	35	39	99.46	2.8	-	2.4	-
O3 (ppb) Average	709	35	35	100	49.9	0	40.2	-
NO2 (ppb) Average	708	36	36	100	28.3	0	12.7	-
NO (ppb) Average	708	36	36	100	13	-	2.5	-
NOX (ppb) Average	708	36	36	100	39.7	-	14.9	-
PM2.5 (ug/m3) Average	743	1	1	100	14	0	6.3	0
Temperature 2 m (C) Average	744	0	0	100	6.1	-	0.5	-
Relative Humidity (%) Average	744	0	0	100	97.9	-	92.9	-
Wind Speed 10 m (km/h) Average	741	0	3	99.6	33	-	15	-
Wind Direction 10 m (deg) Average	741	0	3	99.6	-	-	-	-
Precipitation (mm) Total	744	0	0	100	0.9	-	5.3	-

Note : Operational time includes periods of data collection and instrument calibration

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - WAPASU (AMS17)
JANUARY 2025

MONTHLY SUMMARY FOR AIR QUALITY/ METEOROLOGICAL MONITORING MEASUREMENTS

Parameter	Number	Mean	StnDev	Total	Percentile						
					Min	P10	Q1	Median	Q3	P90	Max
SO2 (ppb) Average	709	1.12	2.4	-	0	0	0	0.2	0.8	3.5	21.2
H2S (ppb) Average	708	0.17	0.1	-	0	0	0.1	0.1	0.2	0.4	0.9
THC (ppm) Average	705	2.32	0.1	-	2.2	2.2	2.3	2.3	2.3	2.4	2.8
O3 (ppb) Average	709	31.4	7.8	-	1.9	22.1	28	32.2	36.3	40.1	49.9
NO2 (ppb) Average	708	5.15	5	-	0.2	0.6	1.5	3.6	7.6	12.2	28.3
NO (ppb) Average	708	0.46	1.3	-	0	0	0	0	0.3	1	13
NOX (ppb) Average	708	5.6	5.8	-	0.2	0.6	1.6	3.8	7.9	13.3	39.7
PM2.5 (ug/m3) Average	743	2.84	2	-	0.1	0.7	1.5	2.5	3.5	5.4	14
Temperature 2 m (C) Average	744	-13.21	10.3	-	-37.6	-26.4	-21.7	-11.7	-4.3	-0.3	6.1
Relative Humidity (%) Average	744	81.42	8.8	-	43.4	72.2	77.2	81	88.2	92	97.9
Wind Speed 10 m (km/h) Average	741	8.8	5	-	0	3	5	8	12	15	33
Wind Direction 10 m (deg) Average	741	-	-	-	-	-	-	-	-	-	-
Precipitation (mm) Total	744	-	-	20.75	-	-	-	-	-	-	-

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - WAPASU (AMS17)
 JANUARY 2025

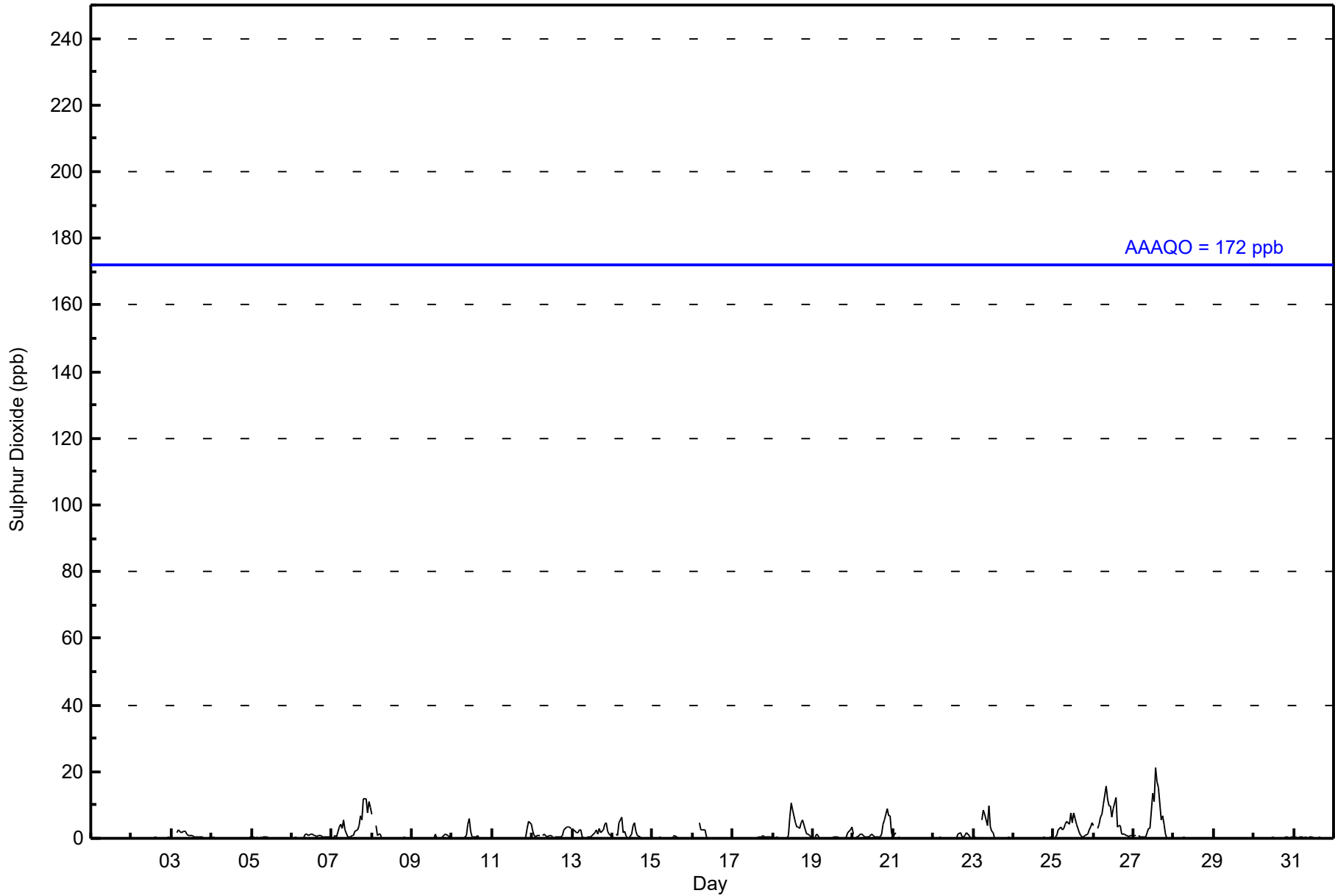
OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
THC	06 Jan 2025 23:00	06 Jan 2025 23:00	1	Unstable Operation - excessive baseline drift
THC	07 Jan 2025 02:00	07 Jan 2025 03:00	2	Unstable Operation - excessive baseline drift
THC	07 Jan 2025 05:00	07 Jan 2025 05:00	1	Unstable Operation - excessive baseline drift
Wind Speed, Wind Direction	02 Jan 2025 13:00	02 Jan 2025 13:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	02 Jan 2025 15:00	02 Jan 2025 15:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	11 Jan 2025 16:00	11 Jan 2025 16:00	1	Flat line in sensor output signal



Wood Buffalo Environmental Association
Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Wapasu - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Wapasu - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	697	98.31	98.31
11 - 20	11	1.55	99.86
21 - 60	1	0.14	100.00
61 - 110	0	0.00	100.00
111 - 172	0	0.00	100.00
> 172	0	0.00	100.00

Total Number of Valid Hours: 709

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Sulphur Dioxide (SO₂) - ppb
Wapasu - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 10	114	60	18	20	12	10	10	105	111	45	59	34	18	21	21	36	694
11 - 20	0	0	0	0	0	0	0	0	0	2	9	0	0	0	0	0	11
21 - 60	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
61 - 110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111 - 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	114	60	18	20	12	10	10	105	111	48	68	34	18	21	21	36	706

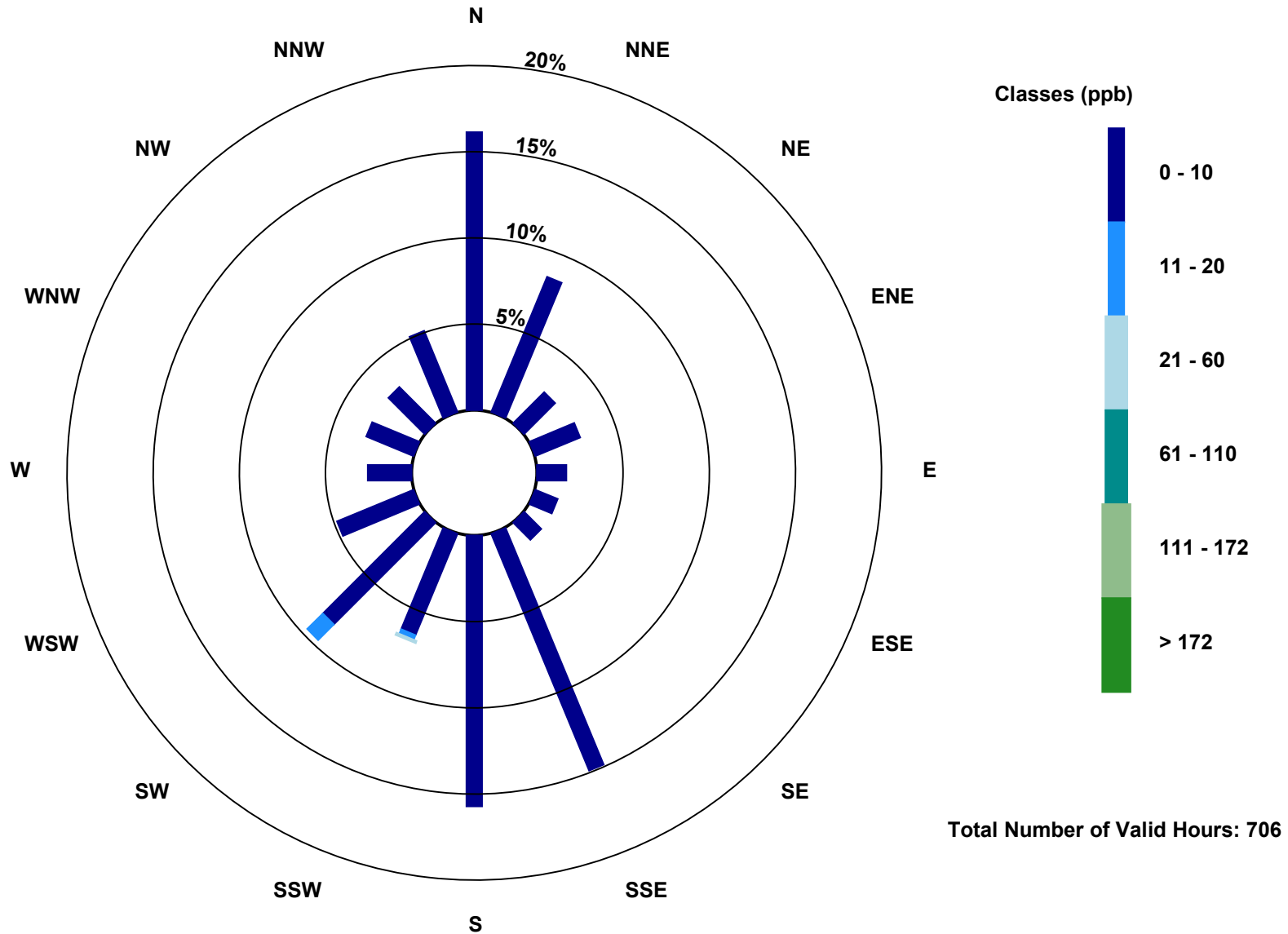
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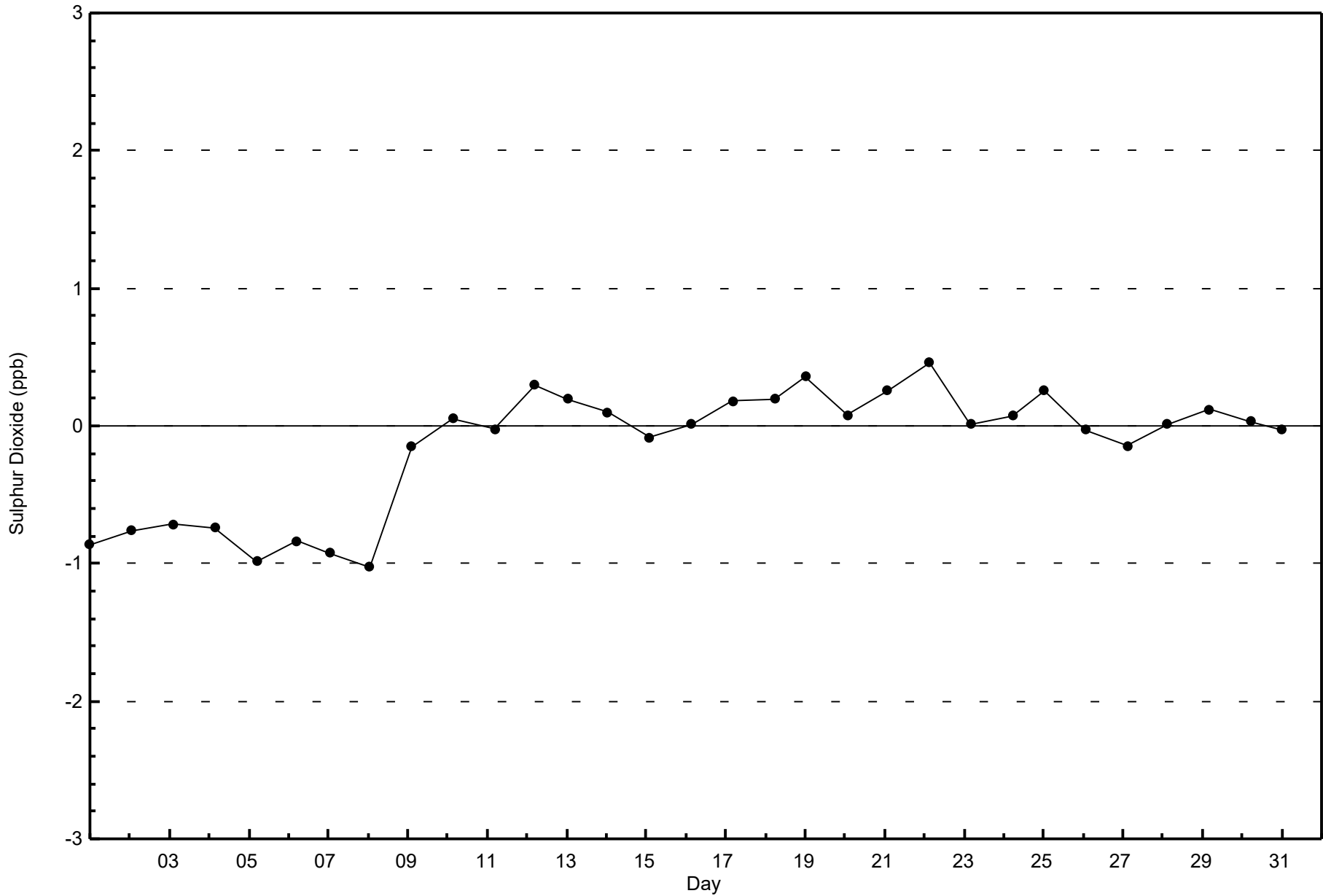
Total Number of Hours: 744

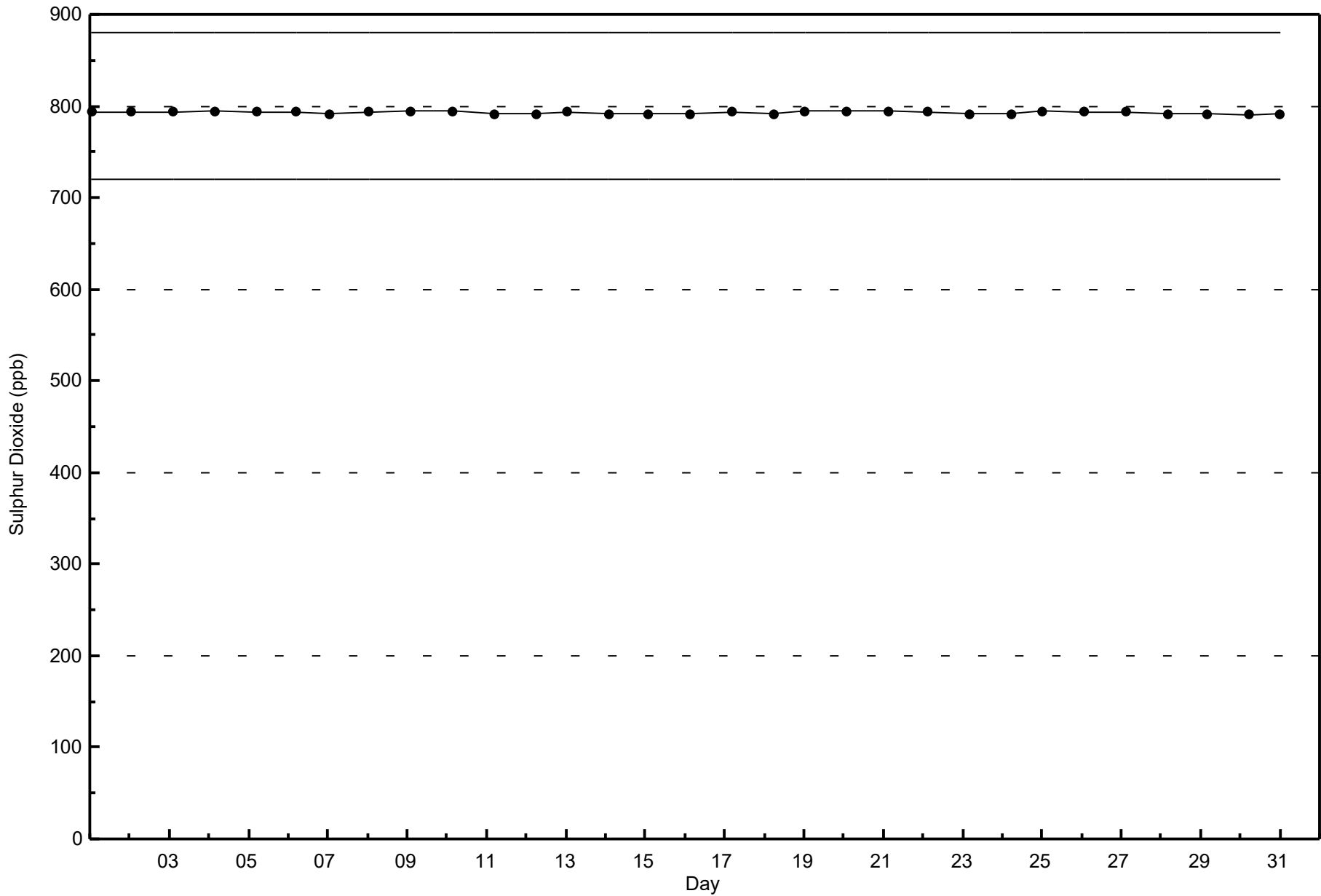


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Sulphur Dioxide (SO₂) - ppb
Wapasu





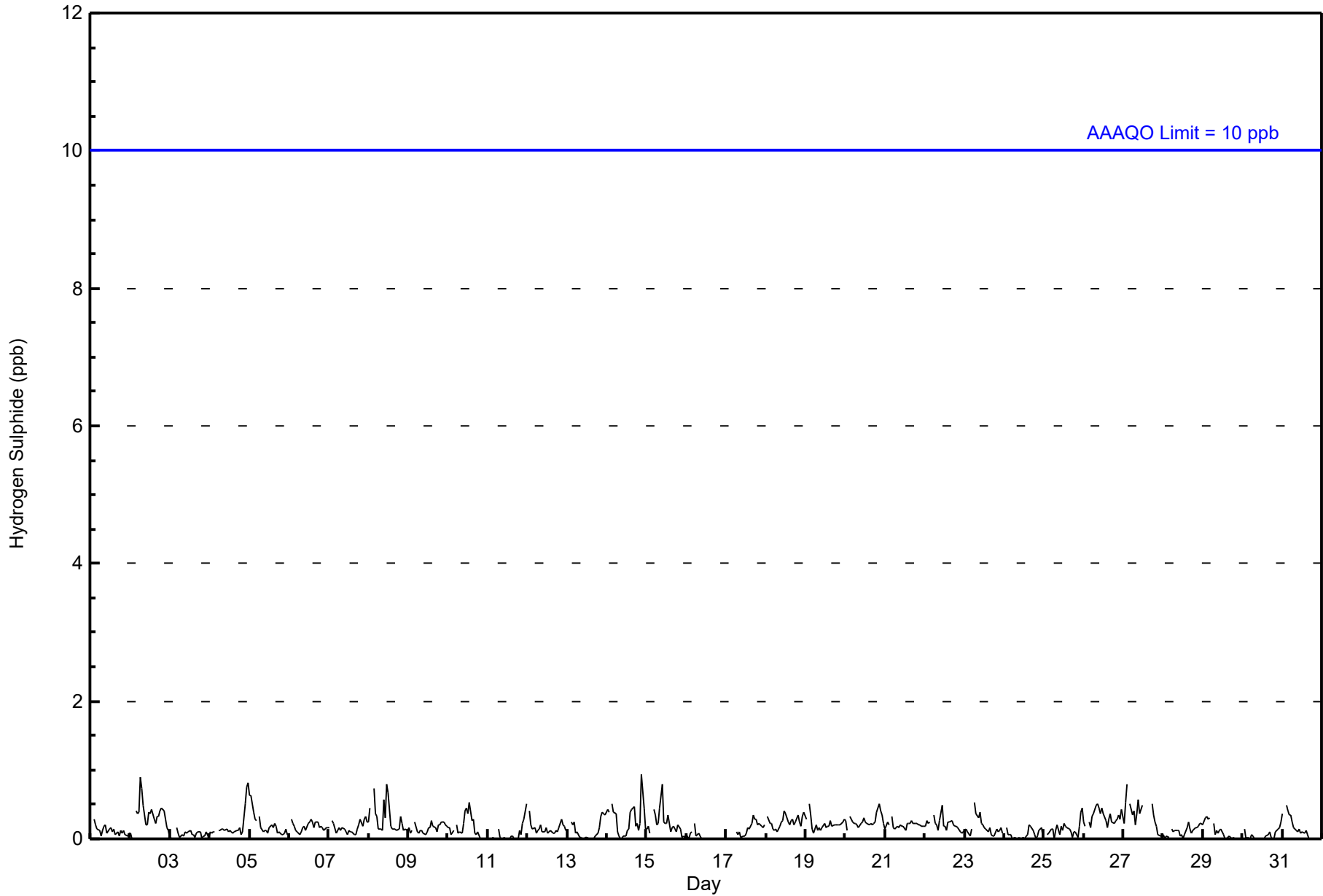




Wood Buffalo Environmental Association
Summary of Hour Averages

Hydrogen Sulphide (H₂S) - ppb
Wapasu - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 0.9 ppb on Jan 14 22:00 Maximum Daily Average: 0.3 ppb on Jan 27		Hours in Service: 744 Hours of Data: 708 Hours of Missing Data: 36 Hours of Calibration: 36 Percent Operational Time: 100.0																											
Minimum Value: 0.0 ppb on Jan 2 02:00 Maximum Diurnal Average: 0.2 ppb at hour 5 Monthly Average: 0.17 ppb		Minimum Daily Average: 0.0 ppb on Jan 16 Minimum Diurnal Average: 0.1 ppb at hour 18 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.1 Q ₃ = 0.2 P ₉₀ = 0.4 P ₉₉ = 0.7																											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
1-Jan	0.1	Z	0.3	0.2	0.1	0.1	0.0	0.1	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.3	0.9	
2-Jan	0.1	0.0	Z	0.4	0.4	0.4	0.9	0.7	0.5	0.2	0.2	0.4	0.4	0.4	0.3	0.2	0.3	0.3	0.4	0.5	0.4	0.3	0.2	0.1	0.1	0.1	0.1	0.2	0.3
3-Jan	0.0	0.0	0.0	Z	0.2	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.2
4-Jan	0.1	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.5	0.8	0.8	0.2	0.2	0.2	0.3
5-Jan	0.6	0.6	0.4	0.3	0.3	Z	0.3	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
6-Jan	Z	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2
7-Jan	0.2	Z	0.3	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2
8-Jan	0.2	0.4	Z	0.7	0.4	0.3	0.1	0.1	0.1	0.6	0.3	0.8	0.7	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
9-Jan	0.2	0.1	0.1	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
10-Jan	0.2	0.2	0.1	0.1	Z	0.2	0.1	0.1	0.1	0.2	0.4	0.4	0.4	0.5	0.3	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.5	0.1	0.1	0.1	0.1	0.1
12-Jan	Z	0.4	0.2	0.1	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2
13-Jan	0.1	Z	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.4	0.4	0.4	0.1	0.1	0.1	0.1	0.1
14-Jan	0.4	0.4	Z	0.5	0.4	0.4	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.4	0.4	0.5	0.2	0.2	0.1	0.2	0.9	0.5	0.1	0.3	0.3	0.3	0.3	0.3
15-Jan	0.1	0.2	0.1	Z	0.4	0.4	0.2	0.2	0.5	0.8	0.2	0.2	0.2	0.3	0.1	0.2	0.2	0.2	0.1	0.2	0.1	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2
16-Jan	0.1	0.0	0.1	0.1	Z	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.2	0.1	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1
18-Jan	Z	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.4	0.2	0.2	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.3	0.4	0.2	0.2	0.2	0.2	0.2
19-Jan	0.3	Z	0.5	0.3	0.1	0.1	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
20-Jan	0.3	0.1	Z	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.5	0.4	0.3	0.2	0.3	0.3	0.3	0.3
21-Jan	0.1	0.2	0.2	Z	0.3	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
22-Jan	0.2	0.3	0.2	0.2	Z	0.4	0.2	0.2	0.1	0.3	0.5	0.2	0.2	0.1	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2
23-Jan	0.1	0.1	0.1	0.0	0.2	Z	0.5	0.4	0.3	0.4	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.1
24-Jan	Z	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.2	0.0	0.1	0.2	0.0	0.0	0.0
25-Jan	0.0	Z	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.1	0.1	0.0	0.2	0.4	0.5	0.1	0.1	0.1	0.1	0.1
26-Jan	0.2	0.2	Z	0.2	0.2	0.3	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.3	0.2	0.3	0.4	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3
27-Jan	0.2	0.5	0.8	Z	0.5	0.3	0.4	0.2	0.4	0.6	0.4	0.5	C	C	C	C	C	0.5	0.3	0.2	0.2	0.1	0.0	0.0	0.3	0.3	0.3	0.3	0.3
28-Jan	0.1	0.0	0.0	0.0	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
29-Jan	0.2	0.3	0.3	0.3	0.3	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30-Jan	Z	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0
31-Jan	0.4	Z	0.5	0.4	0.4	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
																								Diurnal Average					
																								Diurnal Maximum					
																								0.2					
																								0.6					
Z - zerospan C - Calibration																													
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																													





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Hydrogen Sulphide (H₂S) - ppb
Wapasu - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	708	100.00	100.00
3 - 4	0	0.00	100.00
5 - 7	0	0.00	100.00
8 - 11	0	0.00	100.00
> 11	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Hydrogen Sulphide (H₂S) - ppb
Wapasu - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2	117	58	18	19	11	12	10	104	113	47	64	35	18	20	24	35	705
3 - 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 - 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 - 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	117	58	18	19	11	12	10	104	113	47	64	35	18	20	24	35	705

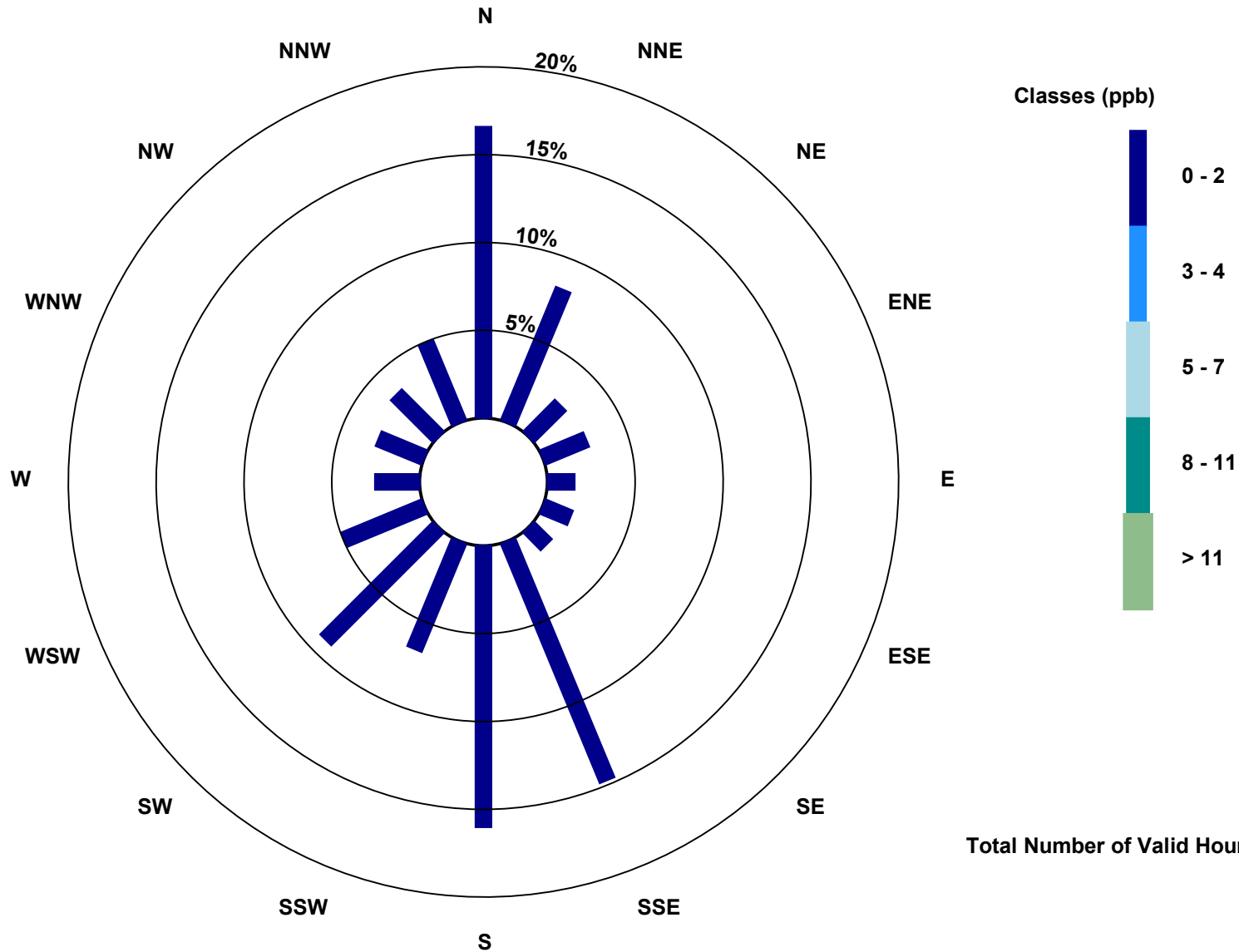
Total Number of Valid Hours: 705

Total Number of Hours: 744

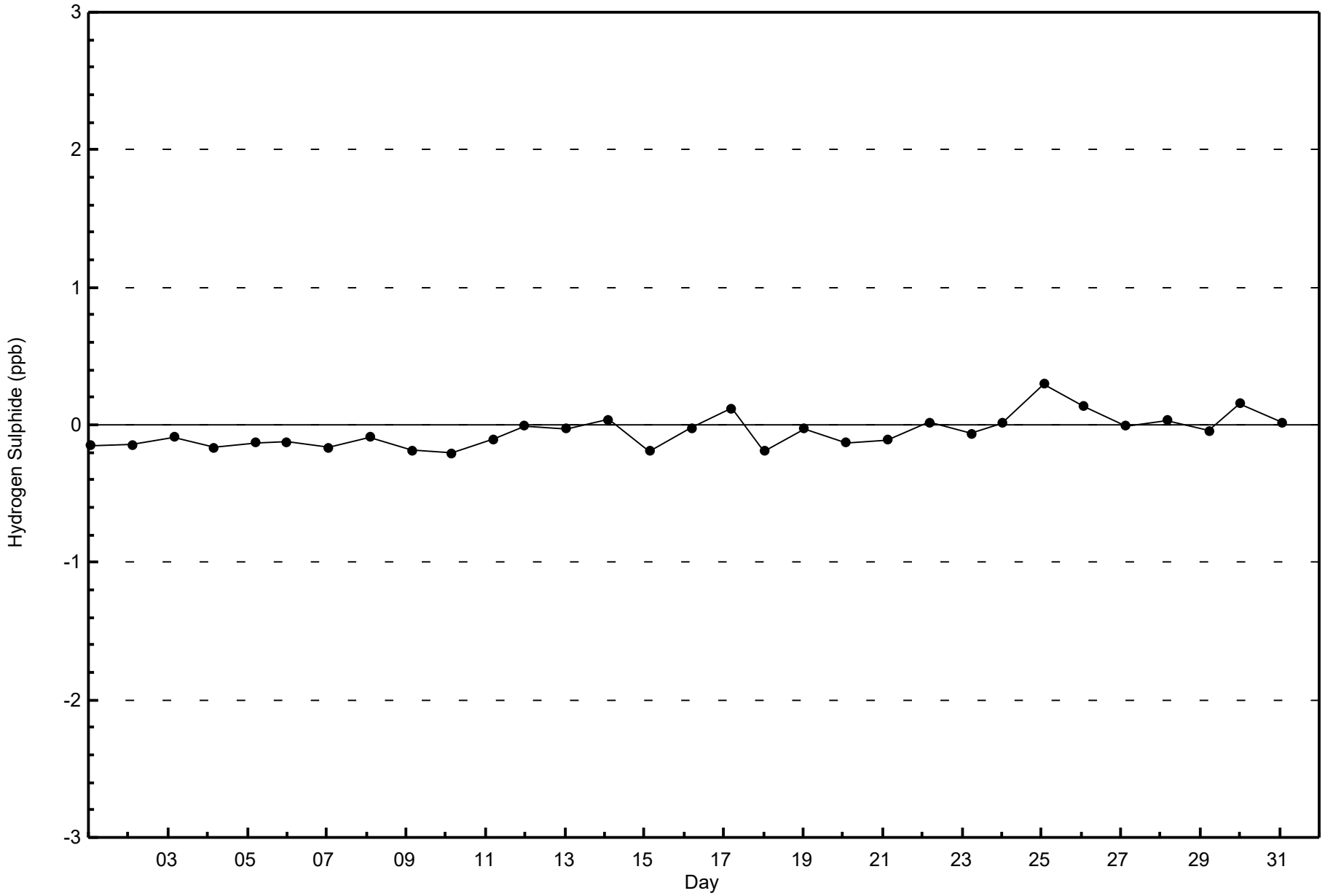


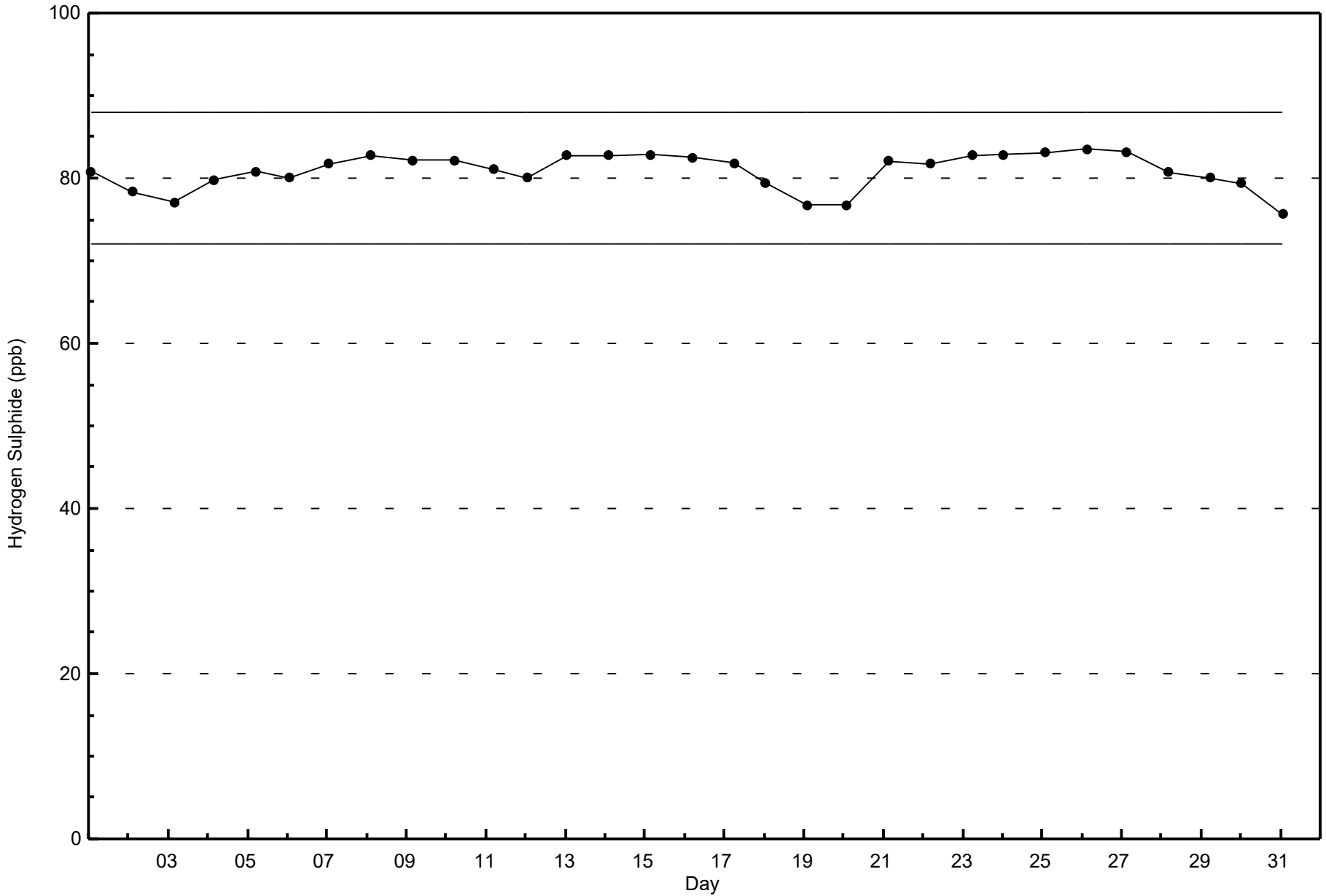
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Hydrogen Sulphide (H₂S) - ppb
Wapasu



Total Number of Valid Hours: 705

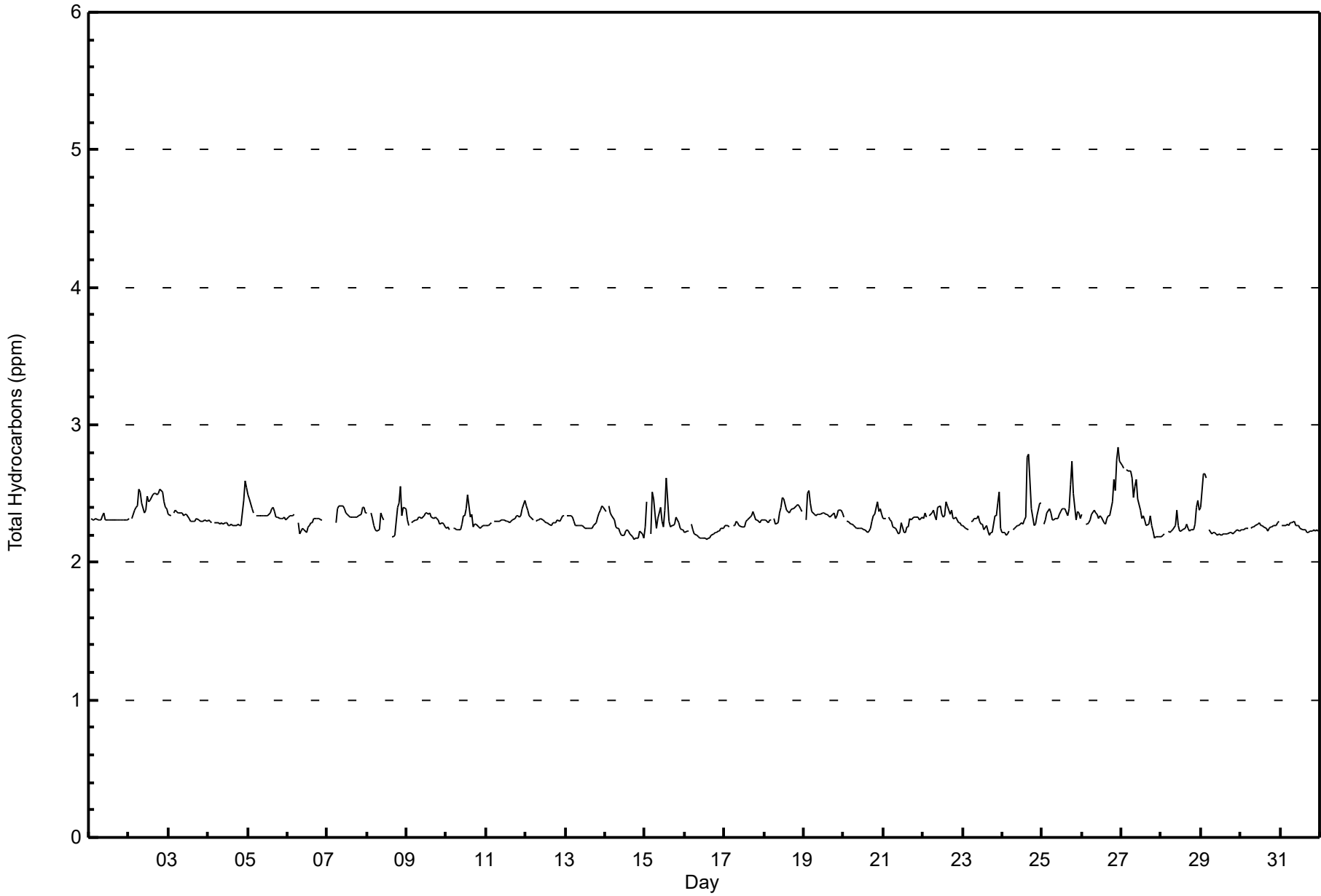






Wood Buffalo Environmental Association
Hourly Averages

Total Hydrocarbons (THC) - ppm
Wapasu - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Hydrocarbons (THC) - ppm
Wapasu - January 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	0	0.00	0.00
2.1 - 3.0	705	100.00	100.00
3.1 - 10.0	0	0.00	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 705

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Total Hydrocarbons (THC) - ppm
Wapasu - January 2025

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.1 - 3.0	114	60	18	20	12	10	10	105	108	47	68	34	18	21	21	36	702
3.1 - 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	114	60	18	20	12	10	10	105	108	47	68	34	18	21	21	36	702

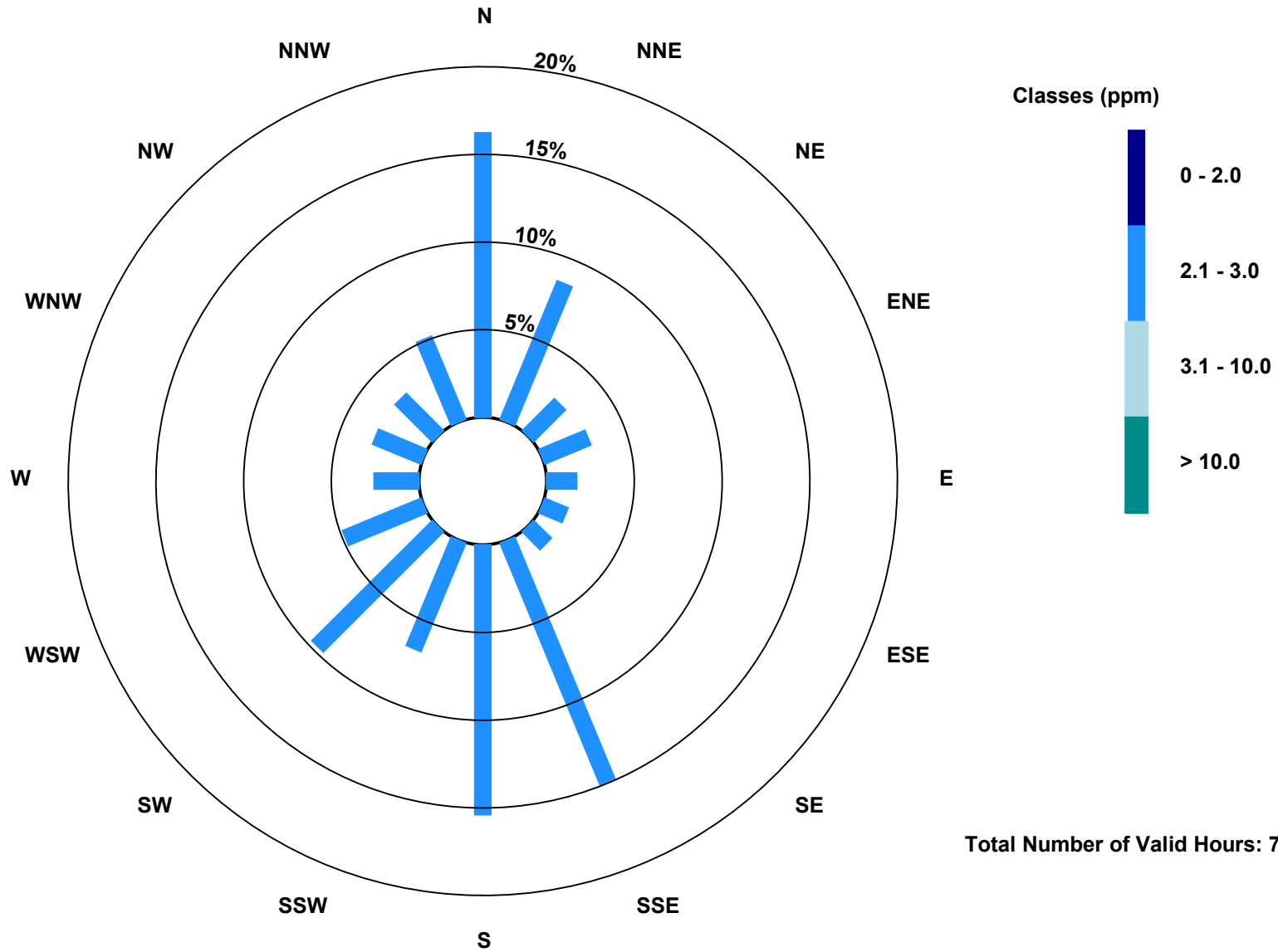
Total Number of Valid Hours: 702

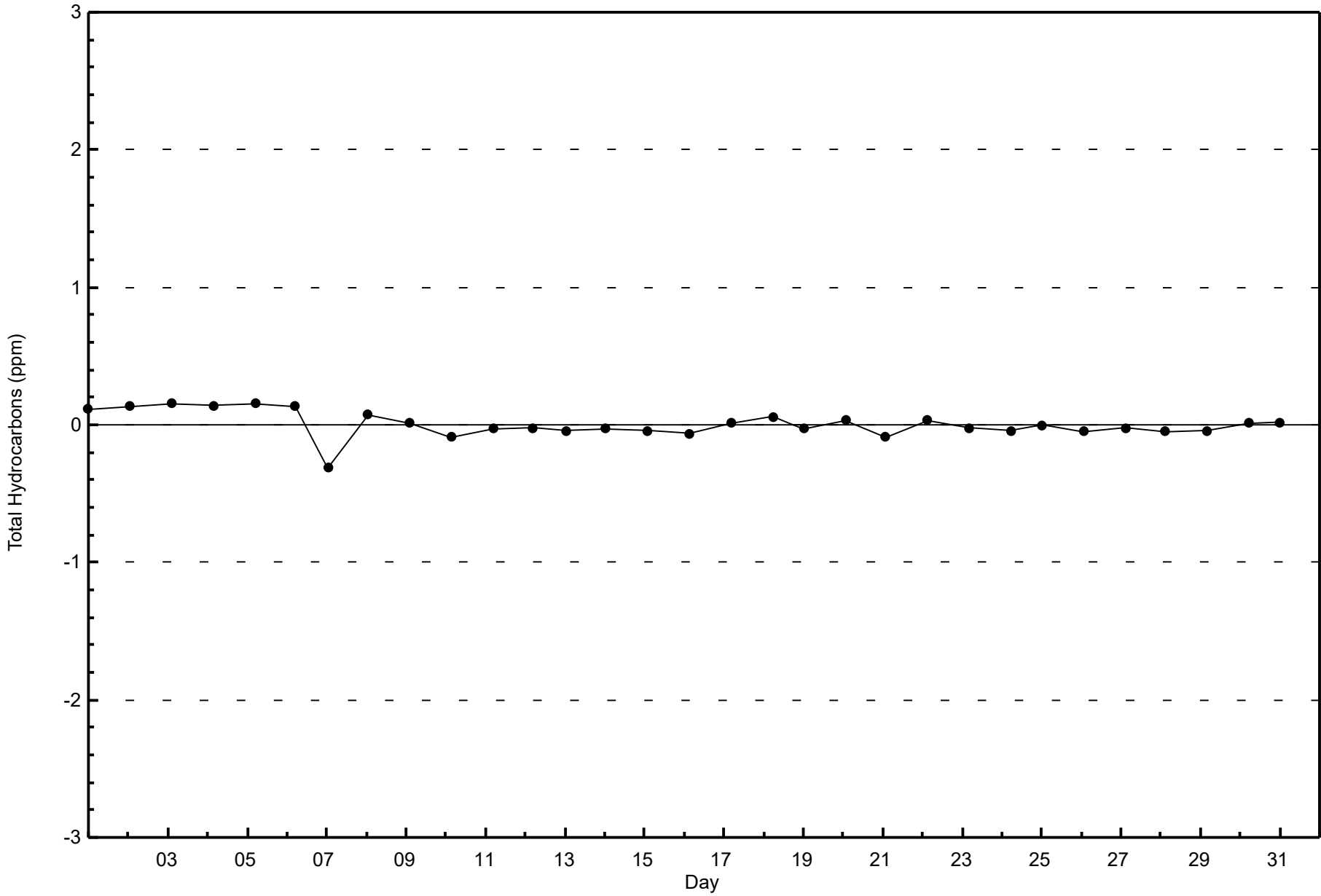
Total Number of Hours: 744

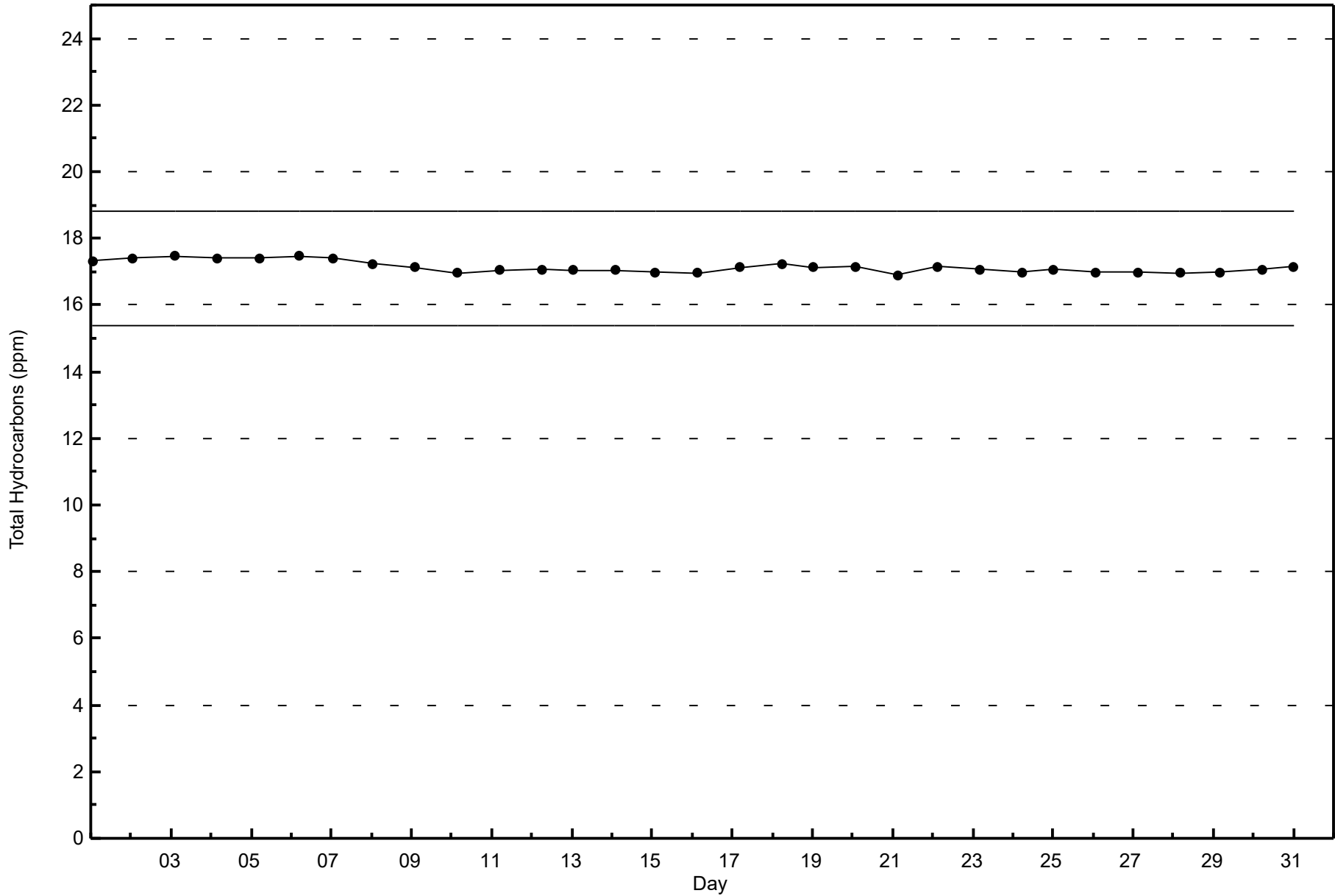


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Total Hydrocarbons (THC) - ppm
Wapasu









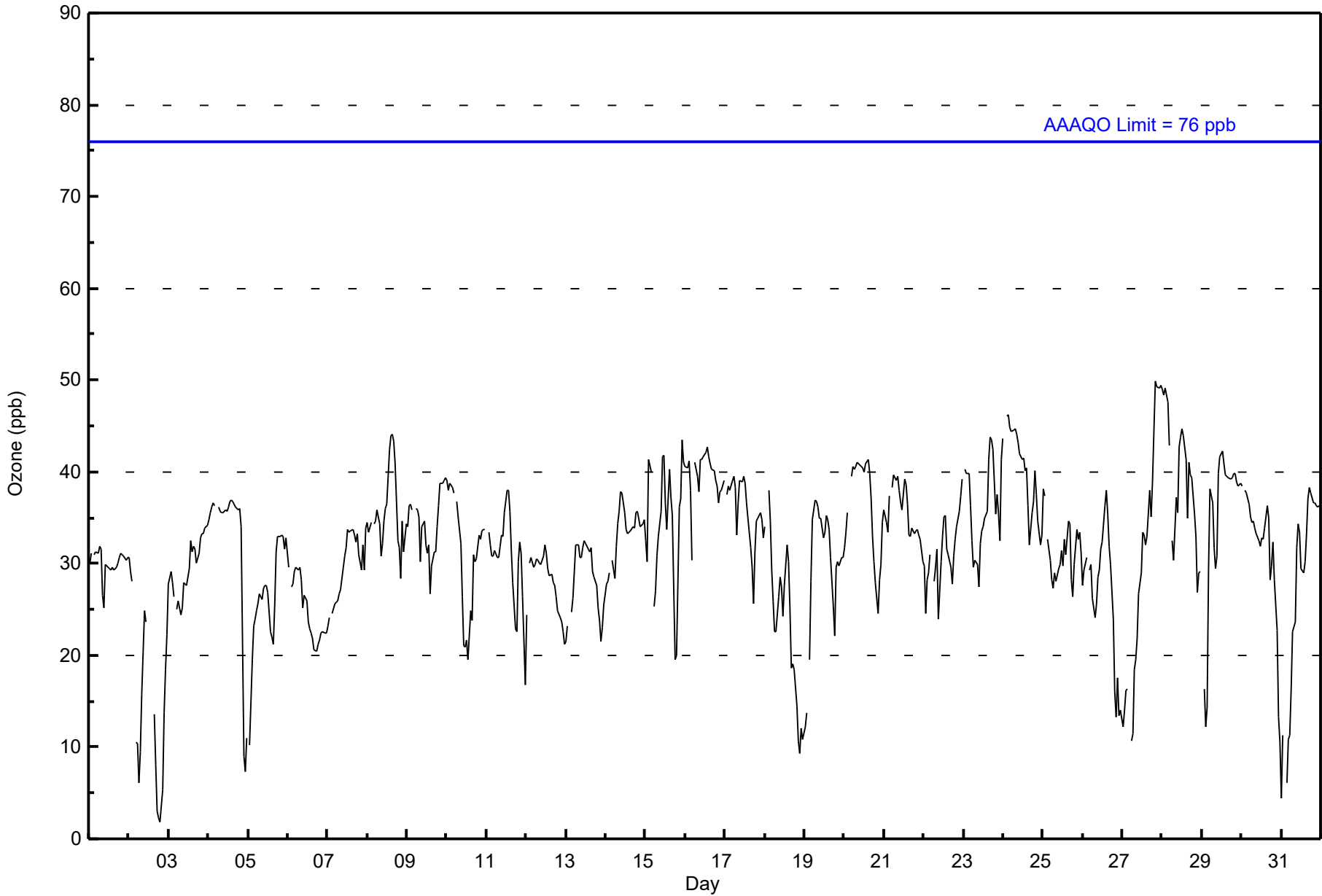
Wood Buffalo Environmental Association

Summary of Hour Averages

Ozone (O₃) - ppb

Wapasu - January 2025

Number of Exceedences (AAAQO):		1-hr: 0	24-hr: 0	Hours in Service: 744																	744						
Maximum Value: 49.9 ppb on Jan 27 21:00		Maximum Daily Average: 40.2 ppb on Jan 24																	709								
Minimum Value: 1.9 ppb on Jan 2 20:00		Minimum Daily Average: 14.6 ppb on Jan 2																	35								
Maximum Diurnal Average: 34.1 ppb at hour 14		Minimum Diurnal Average: 29.3 ppb at hour 2																	35								
Monthly Average: 31.40 ppb		Percentiles: P ₁ = 7.4 P ₁₀ = 22.1 Q ₁ = 28.0 Median = 32.2 Q ₃ = 36.3 P ₉₀ = 40.1 P ₉₉ = 47.5																	100.0								
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	30.0	31.1	Z	31.0	31.3	31.1	31.9	31.7	26.6	25.2	29.9	29.7	29.4	29.3	29.6	29.3	29.6	30.0	30.6	31.1	30.9	30.9	30.4	30.6	30.0	31.9	
2-Jan	30.6	29.2	28.0	Z	10.5	10.4	6.0	9.5	15.8	24.9	23.7	C	C	C	C	13.6	8.1	3.0	2.3	1.9	5.3	13.7	18.5	22.2	14.6	30.6	
3-Jan	27.8	29.2	27.9	26.3	Z	25.1	25.9	24.4	25.1	27.8	27.8	27.7	29.4	32.5	31.2	31.8	31.6	30.1	31.1	32.8	33.2	33.2	33.9	34.1	29.6	34.1	
4-Jan	34.8	35.5	36.1	36.6	36.4	Z	36.1	35.8	35.5	35.6	35.8	35.7	36.2	36.8	36.9	36.7	36.2	36.0	35.8	36.0	34.1	9.0	7.3	11.0	32.4	36.9	
5-Jan	Z	10.2	19.5	23.3	23.9	Z	24.9	25.6	26.7	26.0	27.4	27.6	26.9	22.5	21.9	21.2	25.4	31.3	33.0	33.0	33.1	32.9	31.6	32.8	26.4	33.1	
6-Jan	29.5	Z	27.5	27.7	29.1	29.7	29.3	29.6	28.3	25.1	26.6	25.9	23.7	22.8	22.5	21.8	20.6	20.5	21.1	21.7	22.4	22.5	22.4	22.5	24.9	29.7	
7-Jan	23.2	24.1	Z	24.5	25.7	25.7	25.9	26.7	27.2	29.6	30.8	31.7	33.7	33.4	33.6	33.7	33.1	32.3	33.3	31.0	29.2	32.1	29.3	33.9	29.7	33.9	
8-Jan	34.5	33.4	34.5	Z	34.3	34.7	35.9	34.3	30.8	32.2	34.7	36.0	36.5	42.4	43.9	44.0	43.3	40.9	32.5	31.7	28.3	34.6	31.2	34.4	35.6	44.0	
9-Jan	34.1	36.4	36.5	35.8	Z	36.0	35.9	35.1	30.1	34.0	34.6	32.1	31.1	32.0	26.7	29.8	31.3	31.2	33.9	36.3	38.7	38.7	39.0	39.3	34.3	39.3	
10-Jan	39.0	38.0	38.7	38.3	37.7	Z	36.7	35.0	32.2	26.3	21.1	21.0	21.6	19.5	24.9	23.8	31.0	30.1	30.5	33.1	32.6	33.6	33.7	33.7	31.0	39.0	
11-Jan	Z	33.4	32.0	30.8	30.8	31.4	30.6	30.7	31.9	33.0	32.9	35.6	38.1	38.0	35.7	31.4	28.0	22.9	22.5	30.2	32.3	31.2	26.3	16.8	30.7	38.1	
12-Jan	24.4	Z	30.0	30.7	29.6	29.9	30.6	30.3	30.0	29.9	30.9	32.0	31.1	29.4	28.7	28.9	27.9	27.6	26.3	24.9	24.2	23.6	22.5	21.1	28.0	32.0	
13-Jan	21.5	23.2	Z	24.7	26.3	29.2	32.1	32.0	30.6	30.6	31.7	32.4	32.2	31.6	31.2	31.8	29.1	28.6	27.7	25.1	23.8	21.5	23.0	25.4	28.1	32.4	
14-Jan	27.8	28.1	28.9	Z	30.3	28.4	31.9	34.3	35.8	37.8	37.6	35.6	33.7	33.3	33.5	33.5	34.0	33.9	35.5	35.6	34.9	34.0	34.3	34.8	33.4	37.8	
15-Jan	32.5	30.2	41.3	40.0	Z	25.3	27.1	30.9	33.0	35.6	41.6	41.8	36.6	33.8	40.3	37.2	35.2	27.3	19.5	20.0	36.1	37.1	43.4	41.0	34.2	43.4	
16-Jan	40.5	40.4	41.1	38.0	30.4	Z	41.0	39.5	37.8	41.3	41.3	41.6	42.1	42.7	41.6	40.9	40.2	40.1	39.1	38.4	36.6	37.8	38.1	39.0	39.5	42.7	
17-Jan	Z	37.5	38.4	38.0	39.0	39.5	38.3	33.1	36.6	39.0	38.9	39.4	38.8	36.6	34.9	31.7	29.6	25.7	31.3	34.6	34.9	35.6	34.7	32.8	35.6	39.5	
18-Jan	34.0	Z	38.0	34.6	29.3	26.0	22.6	22.5	26.4	28.5	27.5	24.3	27.6	32.0	30.2	25.1	18.5	19.0	18.5	14.5	10.6	9.3	12.0	10.8	23.6	38.0	
19-Jan	12.2	13.7	Z	19.5	28.0	34.8	36.9	36.7	36.1	35.0	34.9	32.8	33.5	35.3	34.7	33.7	30.7	25.4	22.2	29.6	30.3	29.7	30.7	30.7	29.9	36.9	
20-Jan	31.7	33.3	35.5	Z	39.5	40.6	40.3	40.6	41.1	40.7	40.6	40.4	39.9	40.9	41.4	39.8	37.1	33.0	30.3	28.0	24.6	28.2	30.0	34.4	36.2	41.4	
21-Jan	35.9	34.5	33.4	37.4	Z	38.3	39.6	39.1	39.5	38.0	36.8	35.9	39.1	38.6	36.4	33.2	33.0	33.8	33.2	33.6	33.6	33.2	32.7	30.2	35.6	39.6	
22-Jan	29.7	24.6	28.3	29.1	31.0	Z	28.0	29.5	31.6	23.9	30.2	32.9	35.1	35.3	31.5	31.0	29.6	27.7	30.9	32.7	34.0	35.7	37.4	39.2	31.3	39.2	
23-Jan	Z	40.3	39.8	39.9	36.4	32.5	29.7	30.4	29.9	27.4	32.2	33.6	34.0	35.0	35.7	41.3	43.8	43.4	42.4	35.4	37.5	35.4	32.5	41.3	36.1	43.8	
24-Jan	43.6	Z	46.1	46.2	44.8	44.3	44.5	44.7	44.1	43.2	41.9	41.4	41.5	40.2	40.4	36.2	32.0	35.5	36.8	40.1	37.5	34.6	32.0	33.2	40.2	46.2	
25-Jan	38.1	37.4	Z	32.6	30.4	28.3	27.4	29.0	28.1	29.5	29.8	31.4	29.8	32.7	31.0	34.6	34.4	28.2	26.4	29.9	33.7	32.6	33.4	31.0	31.3	38.1	
26-Jan	27.7	29.3	30.7	Z	29.3	29.8	26.3	24.2	25.6	28.6	29.3	31.6	32.4	36.3	37.9	35.3	31.9	29.9	24.0	15.9	13.2	17.6	13.4	14.0	26.7	37.9	
27-Jan	12.2	14.0	16.2	16.4	Z	10.6	11.4	18.4	19.6	21.8	26.7	29.0	33.5	33.1	32.0	33.0	38.0	35.1	39.0	44.5	49.9	49.3	49.1	49.4	29.7	49.9	
28-Jan	49.0	48.3	49.1	47.7	42.8	Z	32.6	30.4	37.2	35.6	42.7	43.7	44.6	44.0	41.3	34.9	41.0	39.7	39.4	35.4	32.9	26.9	29.0	29.2	39.0	49.1	
29-Jan	Z	16.3	12.1	14.4	29.3	38.1	36.6	31.8	29.4	30.8	39.8	41.6	42.2	40.8	39.6	39.5	39.3	39.1	39.3	39.9	39.7	38.9	38.5	38.7	34.6	42.2	
30-Jan	38.4	Z	38.1	37.7	36.5	35.1	34.5	34.6	33.8	33.2	32.4	31.9	32.8	32.6	33.9	36.3	34.9	28.3	29.7	32.3	28.2	22.8	13.3	10.6	31.4	38.4	
31-Jan	4.5	11.2	Z	6.0	10.8	11.3	16.2	22.5	23.7	31.7	34.3	33.4	29.5	28.9	30.1	33.3	37.0	38.2	37.7	36.6	36.6	36.3	36.1	36.4	27.1	38.2	
		30.3	29.3	33.1	31.0	30.9	29.6	30.6	30.8	30.9	31.7	33.1	33.6	33.9	34.1	33.8	32.5	32.1	30.6	30.2	30.5	30.7	30.1	29.7	30.1	Diurnal Average	
		49.0	48.3	49.1	47.7	44.8	44.3	44.5	44.7	44.1	43.2	42.7	43.7	44.6	44.0	43.9	44.0	43.8	43.4	42.4	44.5	49.9	49.3	49.1	49.4	Diurnal Maximum	
Z - zerospan		C - Calibration																									
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr 76 ppb																									





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ozone (O₃) - ppb
Wapasu - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	58	8.18	8.18
21 - 50	651	91.82	100.00
51 - 82	0	0.00	100.00
> 83	0	0.00	100.00

Total Number of Valid Hours: 709

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Ozone (O₃) - ppb
Wapasu - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	7	2	1	2	4	5	8	11	6	4	1	1	1	2	0	3	58
21 - 50	110	55	18	18	7	7	2	95	102	45	68	34	16	20	22	31	650
51 - 82	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	117	57	19	20	11	12	10	106	108	49	69	35	17	22	22	34	708

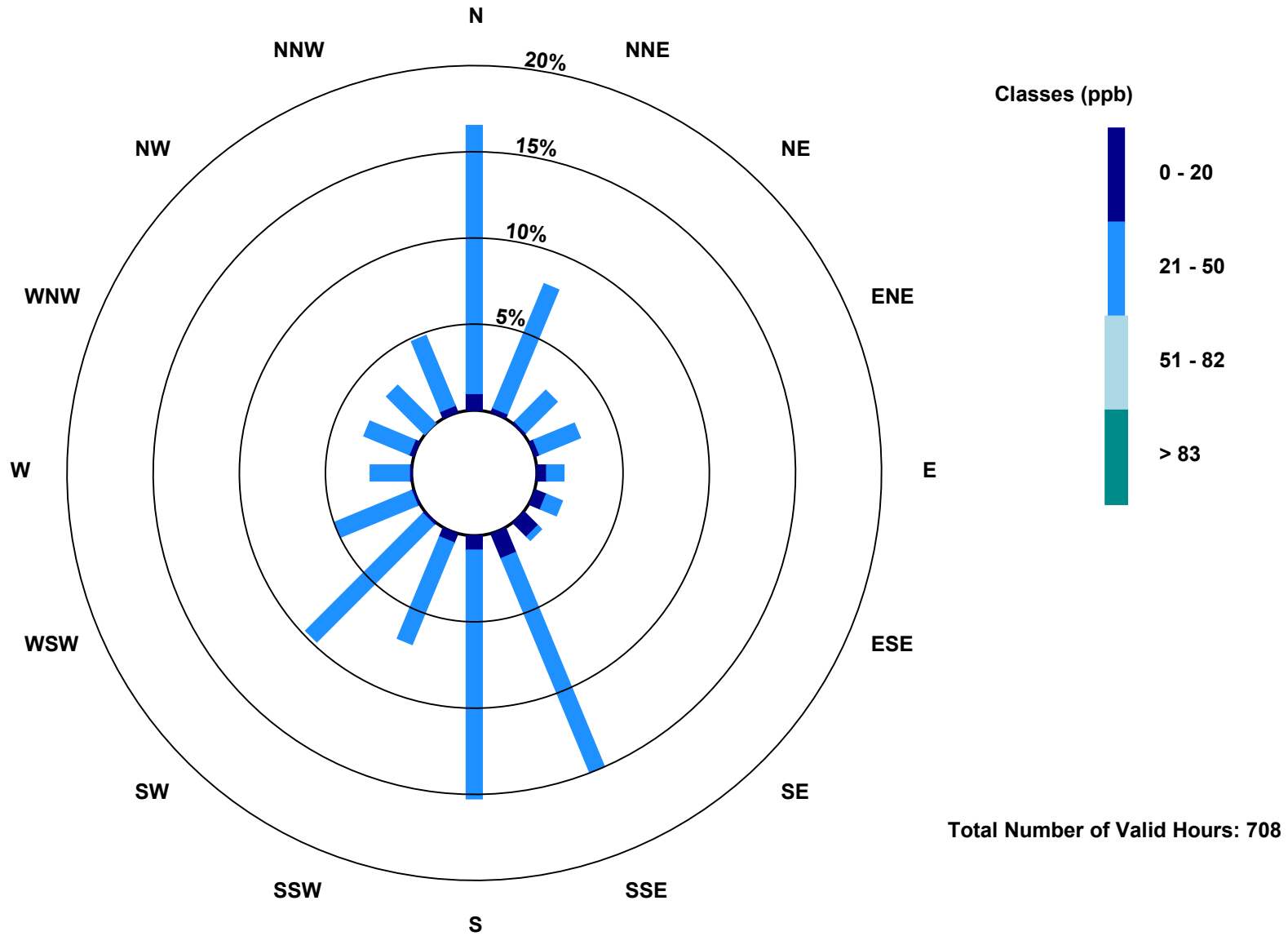
Total Number of Valid Hours: 708

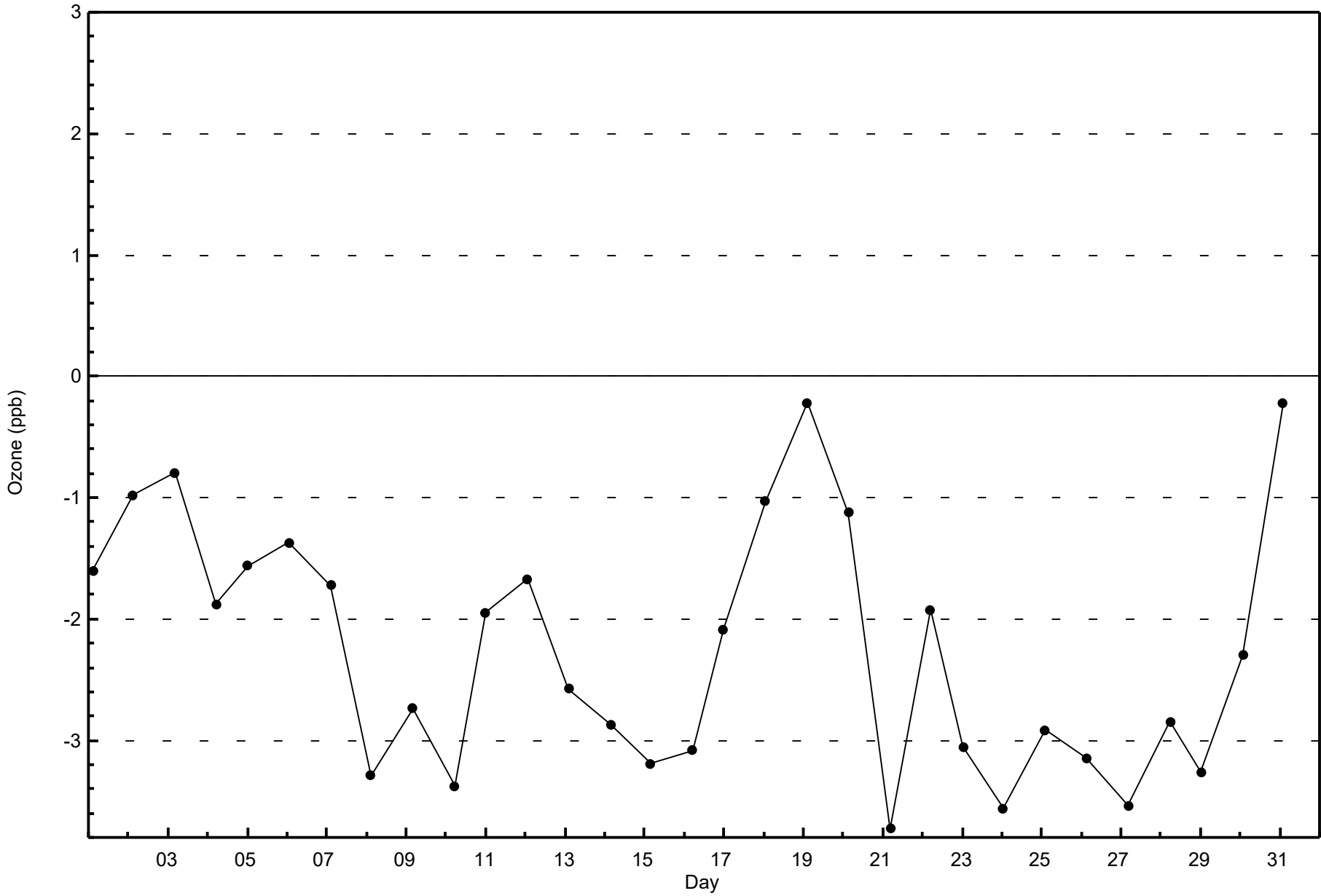
Total Number of Hours: 744

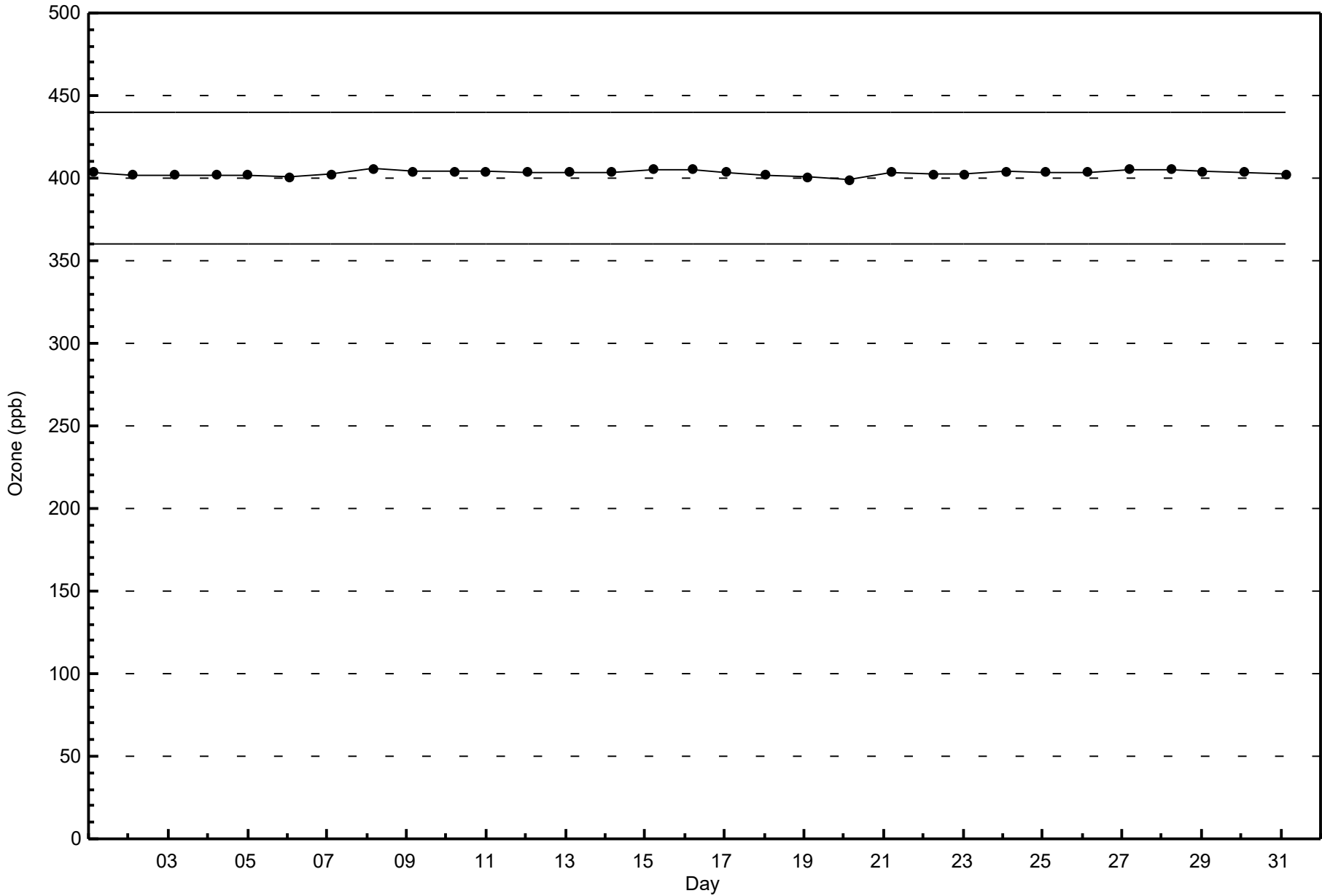


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Ozone (O₃) - ppb
Wapasu









Wood Buffalo Environmental Association
Summary of Hour Averages

Nitric Oxide (NO) - ppb
Wapasu - January 2025

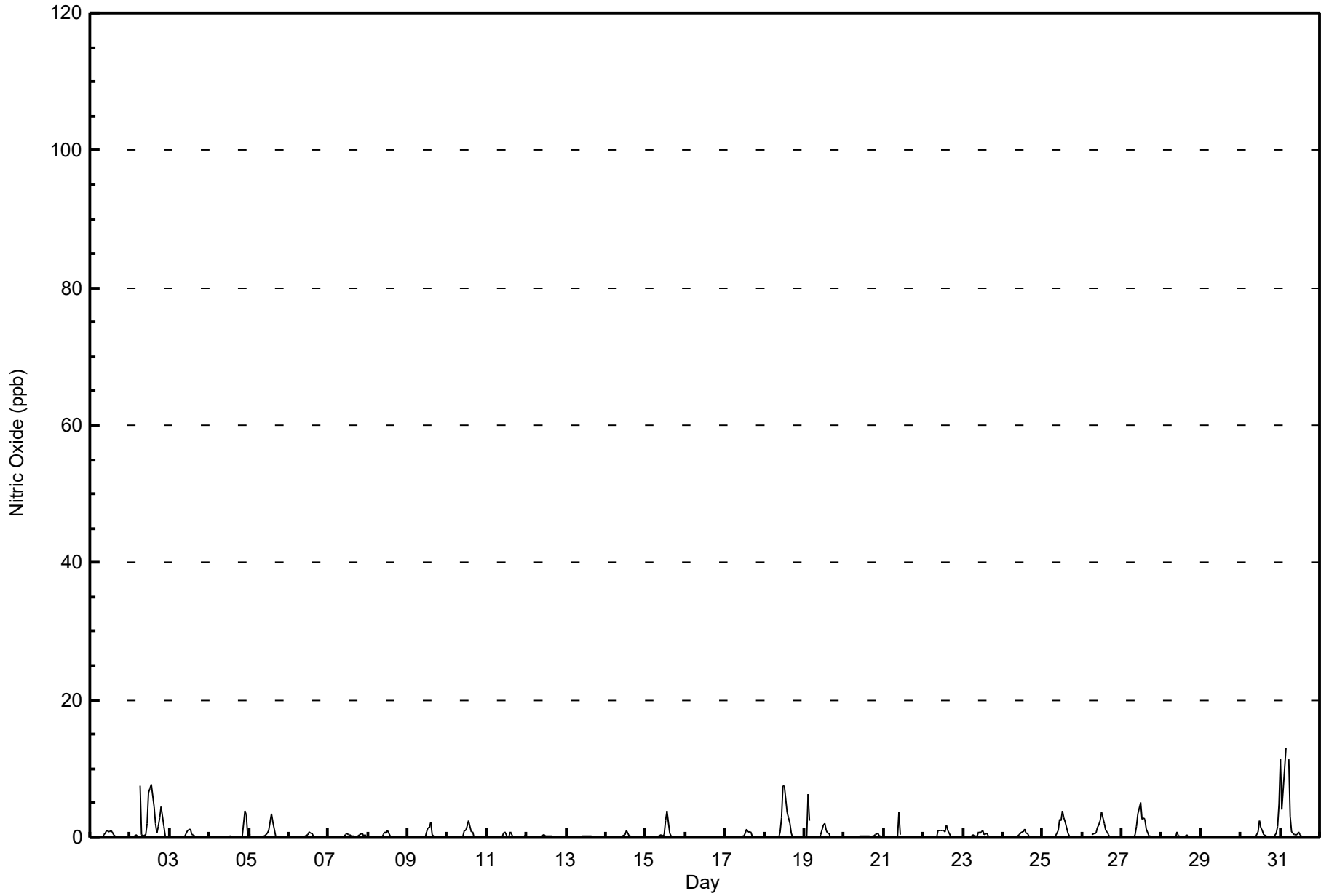
Maximum Value: 13.0 ppb on Jan 31 04:00		Maximum Daily Average: 2.5 ppb on Jan 31		Hours in Service: 744																						
Minimum Value: 0.0 ppb on Jan 1 20:00		Minimum Daily Average: 0.0 ppb on Jan 16		Hours of Data: 708																						
Maximum Diurnal Average: 1.5 ppb at hour 13		Minimum Diurnal Average: 0.0 ppb at hour 5		Hours of Missing Data: 36																						
Monthly Average: 0.46 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.3 P ₉₀ = 1.0 P ₉₉ = 7.4		Hours of Calibration: 36																						
				Percent Operational Time: 100.0																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.4	0.7	1.0	0.8	1.0	0.9	0.4	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.0
2-Jan	0.0	0.0	0.0	0.4	0.2	Z	7.6	0.3	0.1	0.3	2.1	6.4	7.2	7.7	4.4	2.0	0.7	1.5	2.8	4.5	1.5	0.1	0.0	0.0	2.2	7.7
3-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.5	1.0	1.2	0.4	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.2
4-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	3.8	3.2	0.1	0.4	3.8
5-Jan	0.5	0.3	Z	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.5	0.6	1.0	3.4	2.3	1.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	3.4
6-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.5	0.7	0.7	0.6	0.3	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.7
7-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.5	0.5	0.4	0.4	0.3	0.2	0.1	0.1	0.1	0.3	0.6	0.3	0.4	0.1	0.2	0.6
8-Jan	0.0	0.1	0.1	0.0	0.0	Z	0.0	0.0	0.1	0.4	0.8	0.7	1.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2	1.0
9-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.8	1.5	1.4	2.2	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	2.2
10-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.1	0.9	1.6	2.4	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	2.4
11-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.8	0.1	0.1	0.8	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.1	0.8
12-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3
13-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.3
14-Jan	0.0	0.1	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.4	0.9	0.6	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.9
15-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.2	0.4	2.5	3.9	0.5	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	3.9
16-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.3	0.6	1.2	0.9	0.9	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.2
18-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.7	2.8	7.5	7.5	3.7	2.9	2.0	0.7	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.2	7.5
19-Jan	0.0	0.0	6.4	2.5	Z	0.0	0.0	0.0	0.0	0.1	0.4	1.9	1.9	1.1	0.7	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	6.4
20-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.4	0.6	0.3	0.2	0.0	0.2	0.6
21-Jan	Z	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	3.6	0.5	C	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	3.6
22-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.0	1.1	0.9	1.0	0.7	1.8	1.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.8
23-Jan	0.0	0.0	Z	0.0	0.1	0.1	0.3	0.2	0.2	0.8	0.6	0.9	1.0	0.5	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.0
24-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.7	0.8	1.2	0.6	0.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.2
25-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.2	1.0	2.6	2.4	3.9	2.8	2.1	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	3.9
26-Jan	0.0	0.0	0.0	0.0	0.2	Z	0.3	0.7	0.6	1.4	1.8	2.4	3.6	1.9	1.0	0.9	0.4	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.7	3.6
27-Jan	Z	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.4	1.6	3.4	5.0	2.6	2.9	2.6	1.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.9	5.0
28-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.8	0.3	0.2	0.1	0.1	0.2	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.8
29-Jan	0.0	0.1	Z	0.1	0.1	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
30-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.9	2.4	1.5	1.1	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.7	1.7	5.0	5.0
31-Jan	11.4	4.0	10.1	13.0	Z	11.3	3.1	0.8	0.4	0.4	0.5	0.8	0.4	0.1	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	13.0
																								Diurnal Average		
																								Diurnal Maximum		
																								Diurnal Average		
																								Diurnal Maximum		

Z - zerospan C - Calibration



Wood Buffalo Environmental Association
Hourly Averages

Nitric Oxide (NO) - ppb
Wapasu - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitric Oxide (NO) - ppb
Wapasu - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	708	100.00	100.00
21 - 40	0	0.00	100.00
41 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitric Oxide (NO) - ppb
Wapasu - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	112	58	19	20	10	13	10	104	111	48	71	34	17	22	22	34	705
21 - 40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	112	58	19	20	10	13	10	104	111	48	71	34	17	22	22	34	705

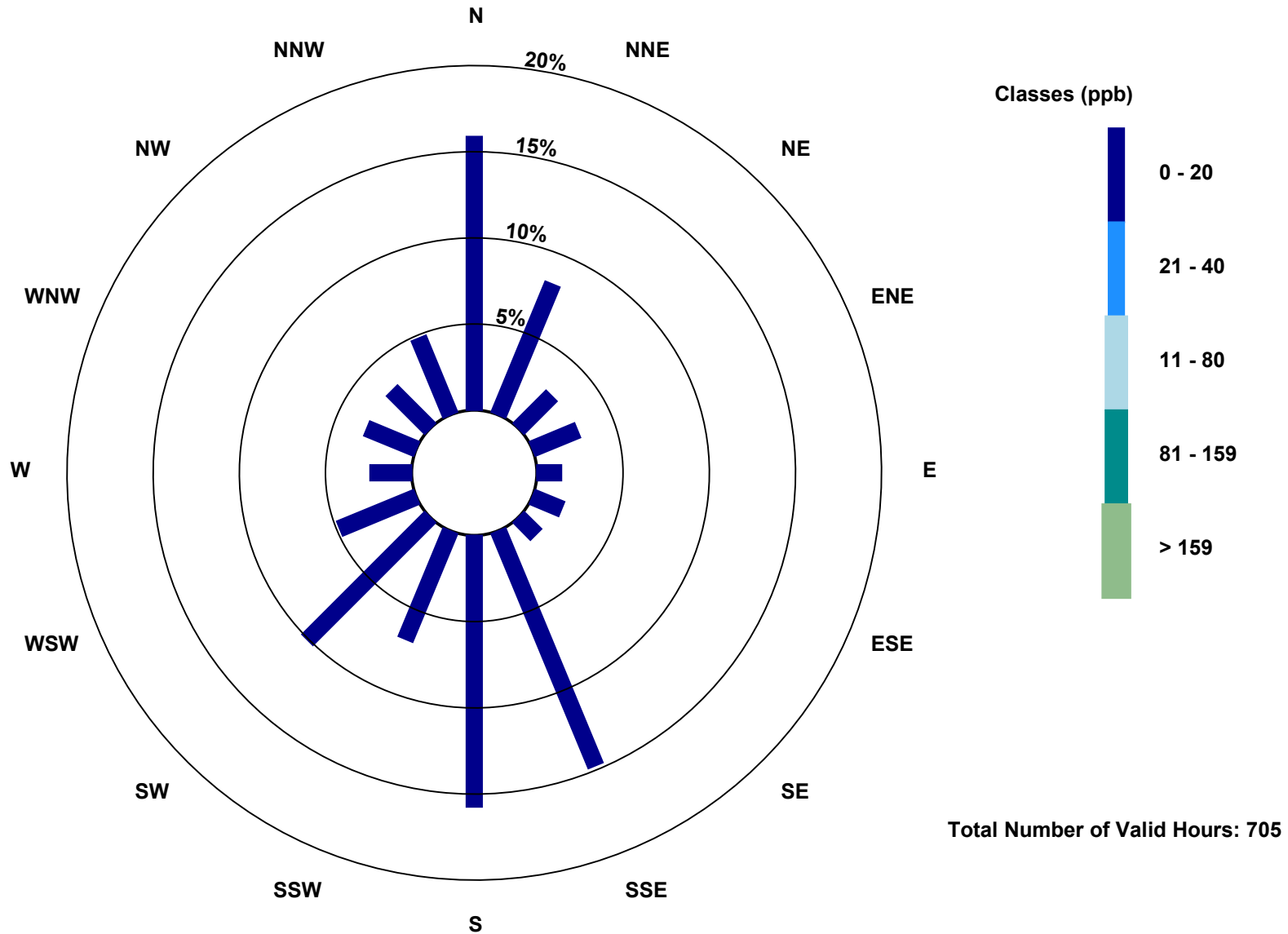
Total Number of Valid Hours: 705

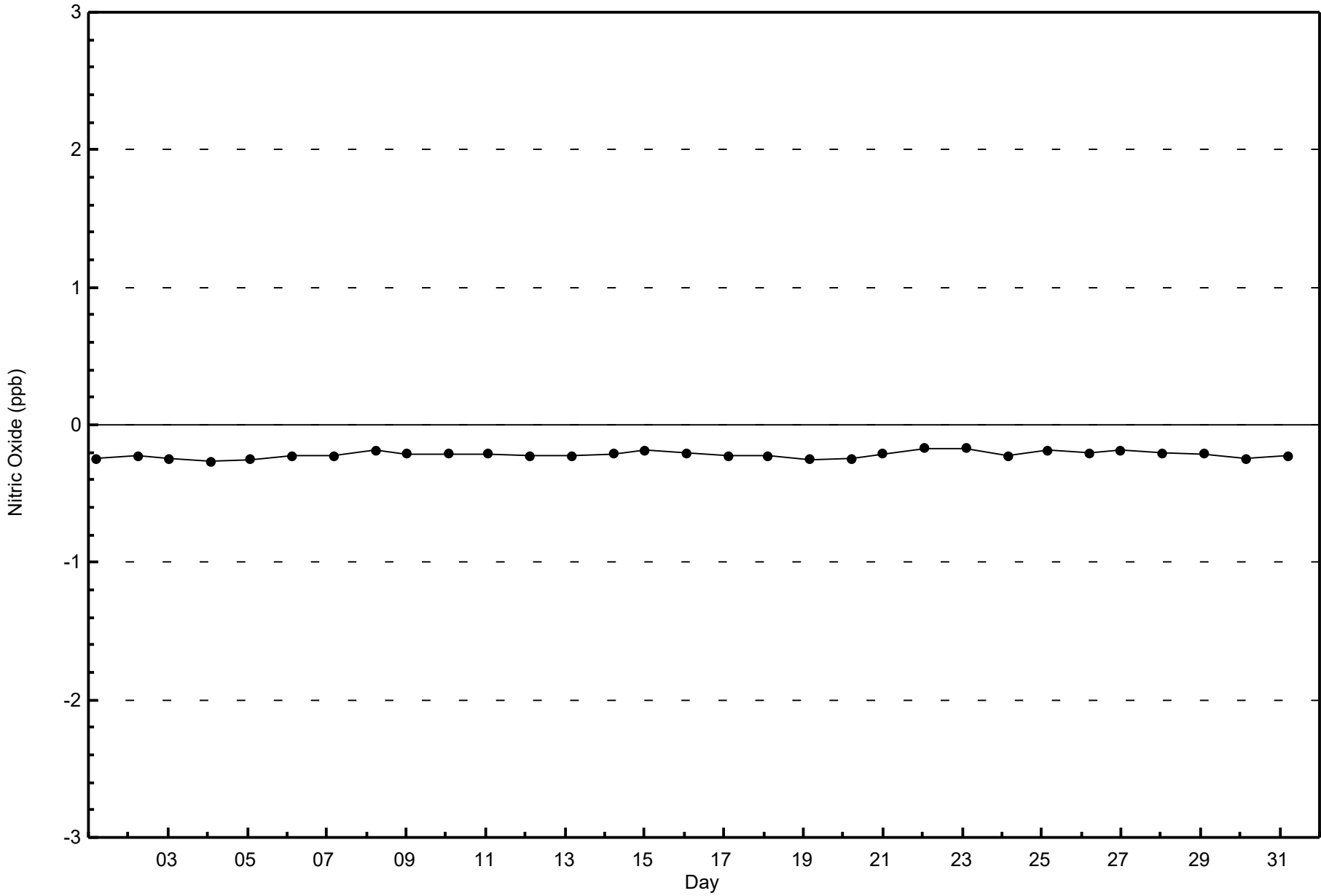
Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitric Oxide (NO) - ppb
Wapasu

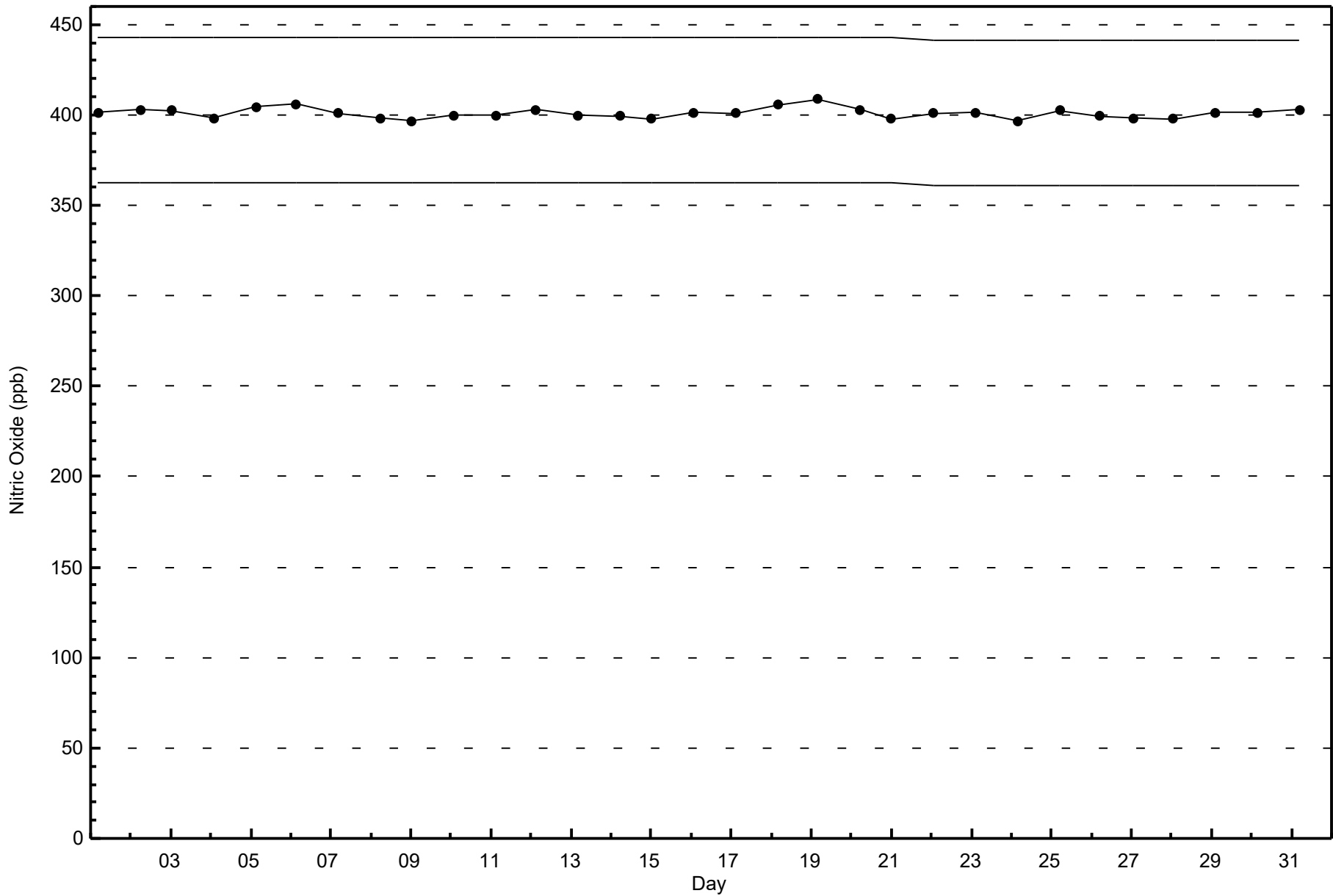






Wood Buffalo Environmental Association
Span Responses

Nitric Oxide (NO) - ppb
Wapasu - January 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Dioxide (NO₂) - ppb

Wapasu - January 2025

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 28.3 ppb on Jan 31 01:00	Maximum Daily Average: 12.7 ppb on Jan 2		Hours of Data:	708
Minimum Value: 0.2 ppb on Jan 1 19:00	Minimum Daily Average: 1.8 ppb on Jan 16		Hours of Missing Data:	36
Maximum Diurnal Average: 6.7 ppb at hour 23	Minimum Diurnal Average: 4.0 ppb at hour 11		Hours of Calibration:	36
Monthly Average: 5.15 ppb	Percentiles: P ₁ = 0.2 P ₁₀ = 0.6 Q ₁ = 1.5 Median = 3.6 Q ₃ = 7.6 P ₉₀ = 12.2 P ₉₉ = 20.7		Percent Operational Time:	100.0

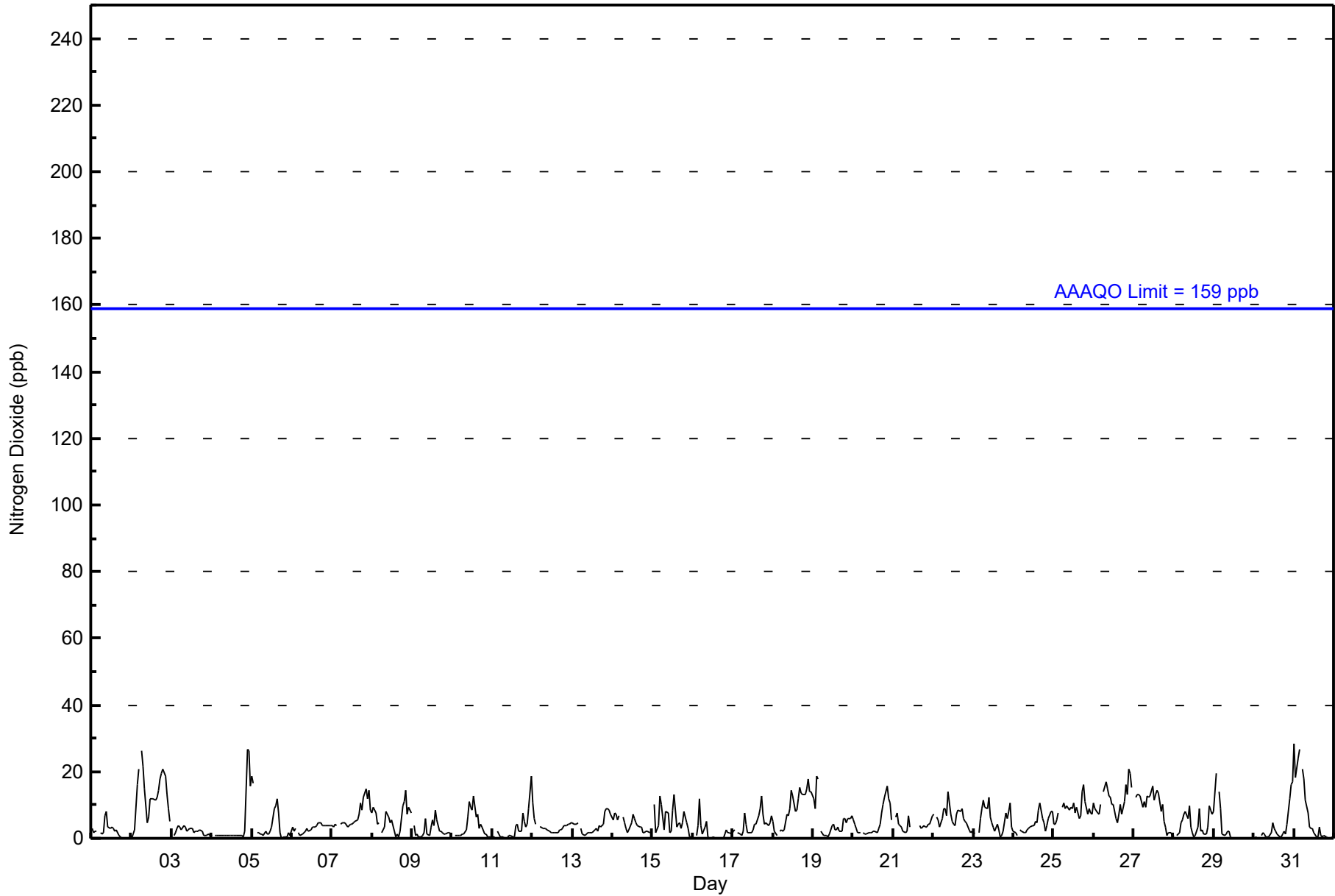
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	3.1	1.8	2.1	2.2	Z	1.7	1.4	1.8	6.7	8.2	3.3	2.9	3.2	3.0	2.3	2.4	1.0	0.4	0.2	0.2	0.2	0.2	0.2	0.2	2.1	8.2																							
2-Jan	0.2	1.4	2.7	16.0	20.6	Z	26.2	21.6	14.8	4.8	6.5	12.0	11.9	11.9	11.6	12.3	14.4	18.0	19.6	20.6	18.7	13.1	9.1	5.0	12.7	26.2																							
3-Jan	Z	0.9	1.7	2.8	4.0	3.4	2.7	3.8	3.6	2.3	2.7	2.8	3.1	1.8	2.3	2.0	2.2	2.5	2.0	0.9	0.7	1.0	1.2	1.0	2.2	4.0																							
4-Jan	0.9	Z	1.0	0.9	0.9	0.8	0.8	0.9	1.0	1.0	0.9	0.7	0.7	0.8	0.7	0.8	0.8	0.8	0.8	0.6	2.3	26.9	26.4	15.7	3.8	26.9																							
5-Jan	18.8	16.5	Z	1.9	1.6	1.4	1.1	1.0	2.3	1.2	1.4	2.0	3.6	8.9	9.9	11.7	7.5	1.5	0.2	0.4	0.5	0.4	1.6	0.9	4.2	18.8																							
6-Jan	3.3	2.0	3.1	Z	1.6	1.0	1.1	1.5	2.3	2.9	2.3	2.6	3.5	3.5	3.5	3.9	4.5	4.5	4.0	4.0	3.8	3.8	3.9	4.0	3.1	4.5																							
7-Jan	3.7	3.5	4.1	4.0	Z	4.1	4.7	4.5	4.5	3.3	3.8	4.2	4.2	4.8	5.2	5.5	7.1	10.4	8.3	12.3	14.7	11.8	14.3	8.4	6.6	14.7																							
8-Jan	7.6	9.2	7.6	4.3	4.5	Z	1.9	3.2	8.2	7.4	6.3	4.7	5.4	2.0	0.5	1.3	0.5	2.3	9.7	11.0	14.2	7.3	9.5	7.8	5.9	14.2																							
9-Jan	Z	3.7	0.7	1.1	0.5	0.6	0.8	1.7	5.8	1.3	0.8	3.5	5.3	3.8	8.6	5.3	2.3	2.2	1.5	1.4	1.1	1.7	1.6	1.1	2.5	8.6																							
10-Jan	1.1	Z	0.8	0.9	1.0	1.0	1.1	1.4	2.4	6.5	11.1	9.4	8.3	12.5	6.2	7.4	3.1	4.1	3.5	1.1	1.3	0.5	0.5	0.4	3.7	12.5																							
11-Jan	0.5	0.6	Z	2.0	1.2	0.5	0.3	0.2	0.2	0.2	0.8	1.0	0.3	0.6	3.7	4.1	2.2	2.1	7.8	5.0	3.6	4.3	8.9	18.8	3.0	18.8																							
12-Jan	10.6	6.1	4.3	Z	3.3	3.3	2.8	2.9	2.8	2.6	2.2	1.9	1.7	1.5	1.6	1.9	2.4	2.5	3.0	3.9	3.8	4.1	4.4	4.5	3.4	10.6																							
13-Jan	4.7	4.2	4.2	4.6	Z	2.9	1.3	1.0	1.4	1.6	1.5	1.7	1.7	2.5	3.0	2.2	3.8	3.5	4.3	8.0	9.1	8.9	8.5	7.4	4.0	9.1																							
14-Jan	5.5	7.8	7.0	5.6	6.7	Z	6.5	4.6	3.1	1.7	2.6	4.8	7.1	5.8	4.7	3.9	3.4	3.4	1.7	1.8	2.1	2.3	1.6	1.5	4.1	7.8																							
15-Jan	Z	10.2	1.7	3.7	12.7	10.1	6.2	2.4	8.1	7.8	1.8	2.2	8.6	13.1	3.6	4.3	4.5	3.0	4.8	8.2	4.7	3.0	0.5	0.4	5.5	13.1																							
16-Jan	0.3	Z	0.8	4.0	11.9	4.0	1.3	3.5	4.9	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	1.3	2.6	1.6	1.6	1.1	1.8	11.9																							
17-Jan	2.3	2.6	Z	1.7	1.1	0.8	2.1	7.5	4.4	1.8	1.9	1.7	2.6	4.3	4.4	6.9	8.7	12.8	7.4	4.3	4.6	3.7	4.5	6.8	4.3	12.8																							
18-Jan	5.2	2.1	0.7	Z	2.2	2.5	2.3	2.4	7.1	6.8	8.8	14.4	12.8	7.9	8.6	11.8	15.4	13.7	13.1	13.2	14.7	17.6	13.9	14.1	9.2	17.6																							
19-Jan	11.9	9.1	18.7	18.0	Z	2.2	1.0	0.7	0.7	0.5	1.4	4.0	4.1	2.6	2.4	3.2	2.3	2.3	6.1	5.8	4.6	6.0	6.1	6.6	5.2	18.7																							
20-Jan	5.3	4.2	2.8	1.8	1.5	Z	1.5	1.3	1.2	1.9	1.9	1.9	2.0	2.0	1.9	2.8	4.1	7.6	10.0	12.1	15.7	12.0	10.4	5.4	4.8	15.7																							
21-Jan	Z	6.2	7.5	4.4	3.7	3.5	2.2	1.9	2.0	6.7	3.6	C	C	C	C	C	4.0	2.8	3.9	3.2	3.5	4.1	4.4	6.9	4.1	7.5																							
22-Jan	7.2	Z	6.5	5.7	3.6	6.0	9.1	9.1	6.7	14.0	7.3	5.0	4.4	3.9	7.0	8.3	8.0	9.1	6.1	5.1	4.6	2.7	1.6	2.0	6.2	14.0																							
23-Jan	1.2	1.5	Z	1.8	5.9	8.9	11.6	9.3	8.9	12.1	6.3	4.5	3.6	2.0	4.1	2.5	0.6	0.8	2.2	7.8	6.1	8.2	10.7	3.5	5.4	12.1																							
24-Jan	2.0	1.6	0.7	Z	2.5	2.0	1.6	1.7	2.5	2.9	3.6	4.0	3.7	4.9	4.6	8.5	10.4	5.9	4.8	2.0	4.0	6.1	7.9	7.9	4.2	10.4																							
25-Jan	4.1	4.1	5.6	7.6	Z	9.5	10.8	9.0	9.9	8.6	9.4	8.8	10.7	7.5	9.2	5.8	6.9	13.8	16.3	11.0	7.1	8.8	7.7	7.3	8.7	16.3																							
26-Jan	10.4	8.8	7.7	7.4	10.0	Z	13.9	17.1	14.7	12.9	12.2	10.0	10.0	5.9	4.6	7.1	10.0	7.4	10.9	15.9	13.3	20.6	19.5	15.4	11.6	20.6																							
27-Jan	Z	12.1	13.0	13.3	12.8	9.5	11.2	9.2	12.7	12.4	12.6	15.7	11.6	13.1	14.4	13.4	8.2	10.2	5.2	3.3	1.0	1.6	1.5	0.6	9.5	15.7																							
28-Jan	0.9	Z	0.7	1.8	4.6	5.7	7.3	8.0	6.0	9.7	3.2	1.7	0.6	0.9	3.3	8.9	2.2	2.4	1.1	1.4	3.3	9.9	8.4	7.3	4.3	9.9																							
29-Jan	8.0	19.6	Z	14.0	9.0	1.4	0.9	1.4	2.1	2.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	2.7	19.6																							
30-Jan	0.2	0.4	0.2	Z	0.9	1.5	1.3	0.3	0.3	0.4	1.9	4.6	2.9	2.2	1.2	0.5	0.4	1.3	2.0	1.3	4.1	12.0	16.1	16.8	3.2	16.8																							
31-Jan	28.3	18.2	24.2	26.5	Z	20.7	17.9	11.5	7.5	3.5	2.9	3.0	1.5	0.4	0.3	3.3	0.9	0.4	0.7	0.3	0.2	0.2	0.2	0.3	7.5	28.3																							
																								5.7	6.1	5.0	6.1	5.1	4.2	5.0	4.7	5.1	4.8	4.0	4.5	4.7	4.5	5.1	4.6	4.9	5.2	5.4	5.5	6.6	6.7	5.8	Diurnal Average		
																								28.3	19.6	24.2	26.5	20.6	20.7	26.2	21.6	14.8	14.0	12.6	15.7	12.8	13.1	14.4	13.4	15.4	18.0	19.6	20.6	18.7	26.9	26.4	18.8	Diurnal Maximum	

Z - zerospan C - Calibration
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
Wapasu - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Wapasu - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	697	98.45	98.45
21 - 40	11	1.55	100.00
41 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Dioxide (NO₂) - ppb
Wapasu - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	110	57	19	20	8	11	10	103	111	48	70	34	17	22	22	32	694
21 - 40	2	1	0	0	2	2	0	1	0	0	1	0	0	0	0	2	11
11 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	112	58	19	20	10	13	10	104	111	48	71	34	17	22	22	34	705

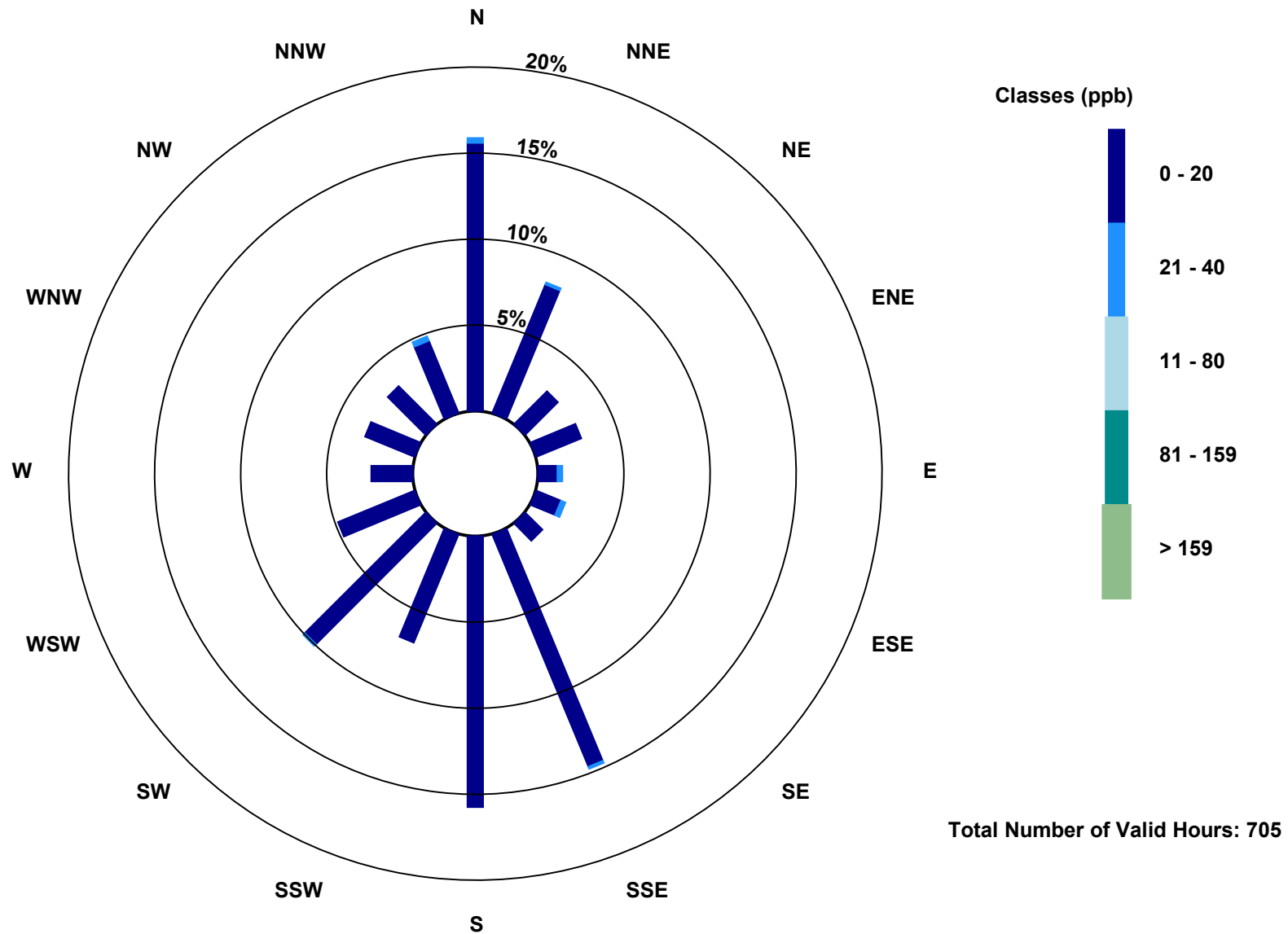
Total Number of Valid Hours: 705

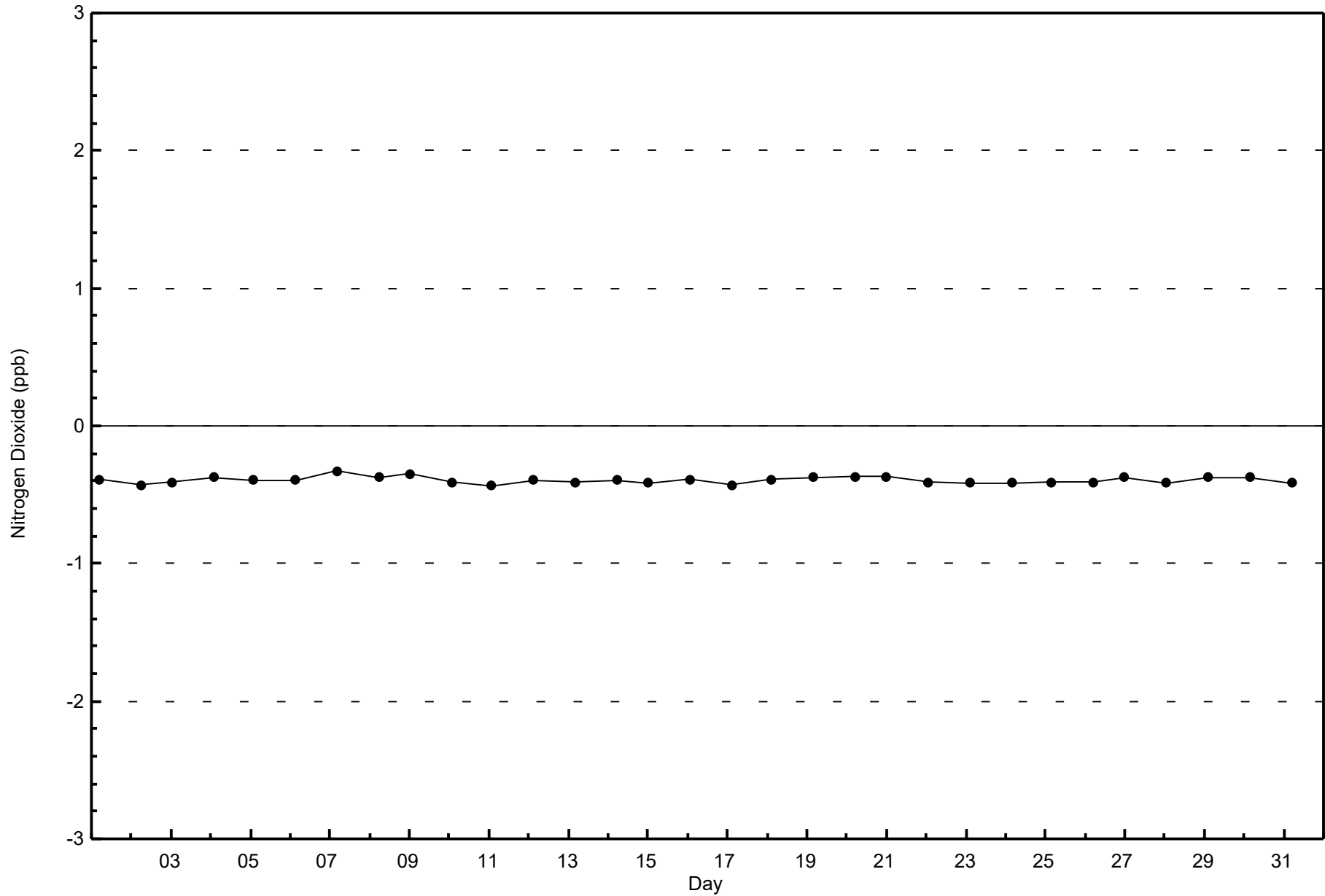
Total Number of Hours: 744

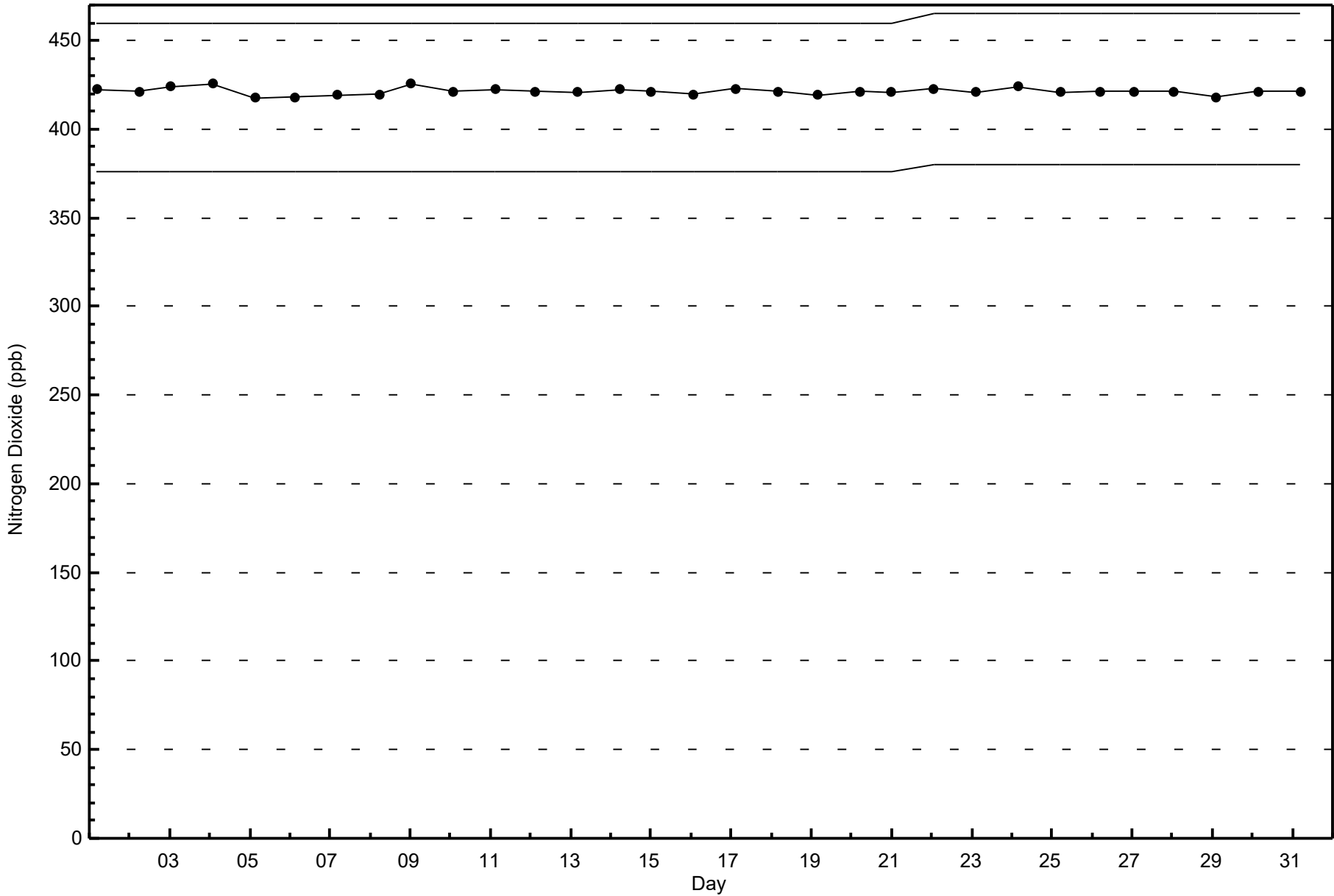


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Dioxide (NO₂) - ppb
Wapasu









Wood Buffalo Environmental Association
Summary of Hour Averages

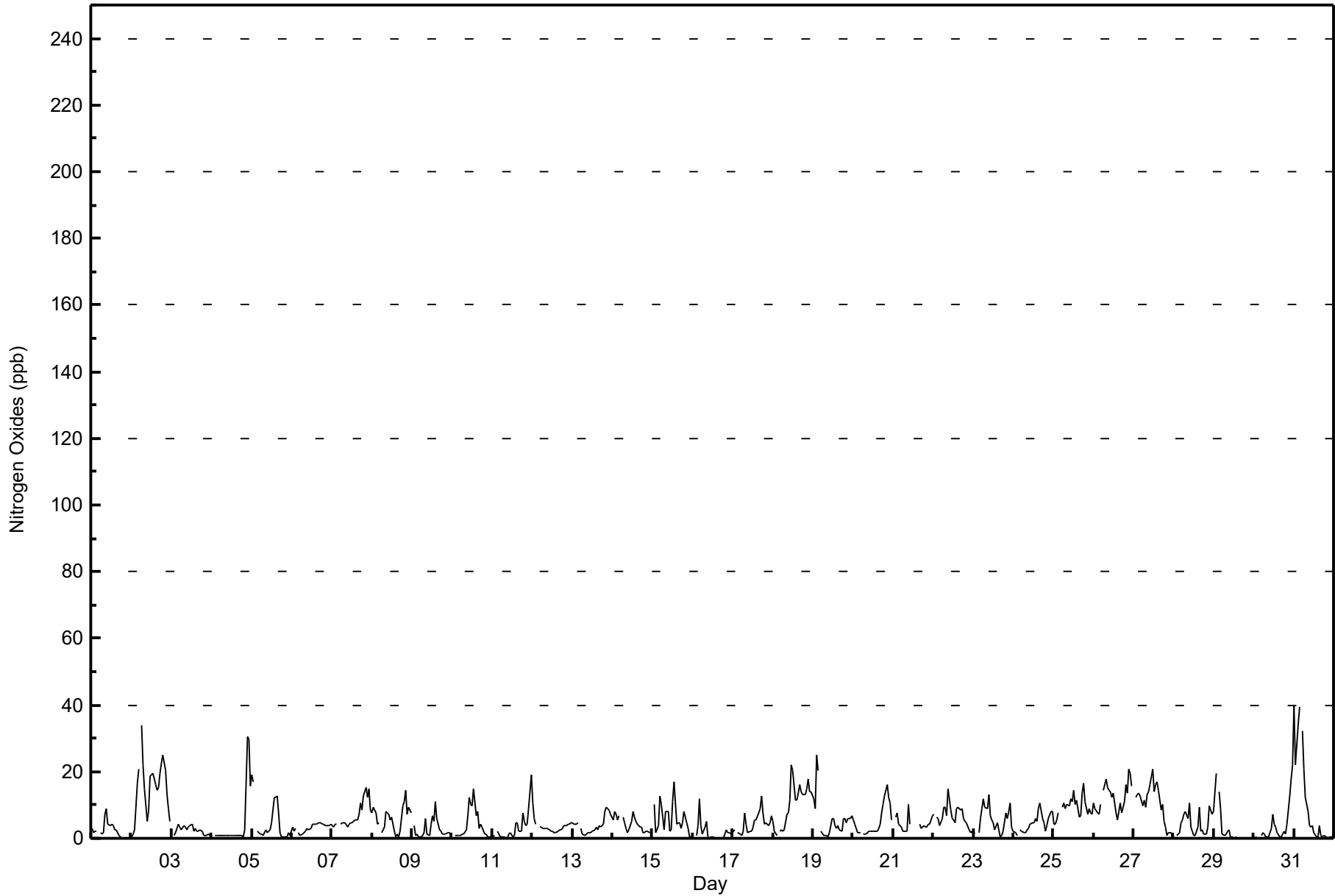
Nitrogen Oxides (NO_x) - ppb
Wapasu - January 2025

Maximum Value: 39.7 ppb on Jan 31 01:00		Maximum Daily Average: 14.9 ppb on Jan 2		Hours in Service: 744																						
Minimum Value: 0.2 ppb on Jan 29 22:00		Minimum Daily Average: 1.8 ppb on Jan 16		Hours of Data: 708																						
Maximum Diurnal Average: 6.9 ppb at hour 23		Minimum Diurnal Average: 4.6 ppb at hour 6		Hours of Missing Data: 36																						
Monthly Average: 5.60 ppb		Percentiles: P ₁ = 0.2 P ₁₀ = 0.6 Q ₁ = 1.6 Median = 3.8 Q ₃ = 7.9 P ₉₀ = 13.3 P ₉₉ = 25.1		Hours of Calibration: 36																						
				Percent Operational Time: 100.0																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	3.1	1.8	2.1	2.2	Z	1.7	1.4	1.8	7.1	8.9	4.3	3.7	4.2	3.9	2.7	2.6	1.1	0.5	0.2	0.2	0.2	0.2	0.2	0.2	2.3	8.9
2-Jan	0.2	1.4	2.7	16.4	20.8	Z	33.8	21.9	14.9	5.1	8.6	18.4	19.1	19.6	16.0	14.3	15.1	19.5	22.4	25.1	20.2	13.2	9.1	5.0	14.9	33.8
3-Jan	Z	0.9	1.7	2.8	4.0	3.4	2.7	3.8	3.6	2.5	3.2	3.8	4.3	2.2	2.8	2.1	2.2	2.5	2.0	0.9	0.7	1.0	1.2	1.0	2.4	4.3
4-Jan	0.9	Z	1.0	0.9	0.9	0.8	0.8	0.9	1.0	1.0	1.0	0.8	0.8	0.9	0.8	0.8	0.8	0.8	0.8	0.6	2.3	30.7	29.6	15.8	4.1	30.7
5-Jan	19.3	16.8	Z	1.9	1.6	1.4	1.1	1.0	2.5	1.5	1.9	2.6	4.6	12.3	12.2	12.8	7.7	1.5	0.2	0.4	0.5	0.4	1.6	0.9	4.6	19.3
6-Jan	3.3	2.0	3.1	Z	1.6	1.0	1.1	1.5	2.3	3.0	2.5	3.1	4.2	4.2	4.1	4.2	4.6	4.5	4.0	4.1	3.9	3.8	3.9	4.0	3.2	4.6
7-Jan	3.7	3.5	4.1	4.0	Z	4.1	4.7	4.5	4.5	3.4	4.3	4.7	4.6	5.2	5.5	5.7	7.2	10.5	8.4	12.6	15.3	12.1	14.7	8.5	6.8	15.3
8-Jan	7.6	9.3	7.7	4.3	4.5	Z	1.9	3.2	8.3	7.8	7.1	5.4	6.4	2.1	0.5	1.3	0.5	2.3	9.7	11.0	14.3	7.3	9.5	7.8	6.1	14.3
9-Jan	Z	3.7	0.7	1.1	0.5	0.6	0.8	1.7	5.8	1.3	0.9	4.3	6.8	5.2	10.8	5.8	2.3	2.2	1.5	1.4	1.1	1.7	1.6	1.1	2.7	10.8
10-Jan	1.1	Z	0.8	0.9	1.0	1.0	1.1	1.4	2.4	6.7	12.2	10.3	9.9	14.9	7.0	8.2	3.1	4.1	3.5	1.1	1.3	0.5	0.5	0.4	4.1	14.9
11-Jan	0.5	0.6	Z	2.0	1.2	0.5	0.3	0.2	0.2	0.2	1.4	1.8	0.4	0.7	4.5	4.5	2.2	2.1	7.8	5.0	3.6	4.3	8.9	19.2	3.1	19.2
12-Jan	10.6	6.1	4.3	Z	3.3	3.3	2.8	2.9	2.8	2.8	2.5	2.1	1.9	1.7	1.8	2.0	2.4	2.5	3.0	3.9	3.8	4.1	4.4	4.5	3.4	10.6
13-Jan	4.7	4.2	4.2	4.6	Z	2.9	1.3	1.0	1.4	1.7	1.8	1.9	1.9	2.7	3.2	2.4	3.9	3.5	4.3	8.1	9.2	9.0	8.6	7.4	4.1	9.2
14-Jan	5.5	7.9	7.0	5.6	6.7	Z	6.5	4.6	3.1	1.7	2.7	5.2	8.0	6.4	4.9	4.1	3.4	3.4	1.7	1.8	2.1	2.3	1.6	1.5	4.3	8.0
15-Jan	Z	10.2	1.7	3.7	12.7	10.1	6.2	2.4	8.2	8.2	2.0	2.6	11.1	17.0	4.1	4.6	4.6	3.0	4.8	8.2	4.7	3.0	0.5	0.4	5.8	17.0
16-Jan	0.3	Z	0.8	4.0	11.9	4.0	1.3	3.5	4.9	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	1.3	2.6	1.6	1.6	1.1	1.8	11.9
17-Jan	2.3	2.6	Z	1.7	1.1	0.8	2.1	7.5	4.4	1.9	2.2	2.0	3.2	5.5	5.3	7.8	8.9	12.8	7.4	4.3	4.6	3.7	4.5	6.8	4.5	12.8
18-Jan	5.2	2.1	0.7	Z	2.2	2.5	2.3	2.4	7.2	7.5	11.6	21.9	20.3	11.6	11.5	13.8	16.1	13.8	13.2	13.3	14.8	17.7	14.0	14.2	10.4	21.9
19-Jan	11.9	9.1	25.1	20.5	Z	2.2	1.0	0.7	0.7	0.6	1.8	5.9	6.0	3.7	3.1	3.7	2.4	2.3	6.1	5.8	4.6	6.0	6.1	6.6	5.9	25.1
20-Jan	5.3	4.2	2.8	1.8	1.5	Z	1.5	1.3	1.2	2.0	2.1	2.1	2.2	2.2	2.1	3.0	4.2	7.7	10.2	12.5	16.3	12.3	10.6	5.4	5.0	16.3
21-Jan	Z	6.2	7.6	4.4	3.7	3.5	2.2	1.9	2.0	10.3	4.1	C	C	C	C	C	4.0	2.8	3.9	3.2	3.5	4.1	4.4	6.9	4.4	10.3
22-Jan	7.2	Z	6.5	5.7	3.6	6.0	9.1	9.1	6.8	15.0	8.4	5.9	5.4	4.6	8.8	9.4	8.3	9.1	6.1	5.1	4.6	2.7	1.6	2.0	6.6	15.0
23-Jan	1.2	1.5	Z	1.8	6.0	9.0	11.9	9.5	9.1	12.9	6.9	5.4	4.6	2.5	4.7	2.6	0.6	0.8	2.2	7.8	6.1	8.2	10.7	3.5	5.6	12.9
24-Jan	2.0	1.6	0.7	Z	2.5	2.0	1.6	1.7	2.5	3.1	4.1	4.7	4.5	6.1	5.2	9.1	10.7	5.9	4.8	2.0	4.0	6.1	7.9	7.9	4.4	10.7
25-Jan	4.1	4.1	5.6	7.6	Z	9.5	10.8	9.0	10.1	9.6	12.0	11.2	14.6	10.3	11.3	6.4	7.0	13.8	16.3	11.0	7.1	8.8	7.7	7.3	9.4	16.3
26-Jan	10.4	8.8	7.7	7.4	10.2	Z	14.2	17.8	15.3	14.3	14.0	12.4	13.6	7.8	5.6	8.0	10.4	7.4	10.9	16.0	13.4	20.7	19.6	15.5	12.2	20.7
27-Jan	Z	12.2	13.0	13.4	12.9	9.6	11.3	9.2	13.1	14.0	16.0	20.7	14.2	16.0	17.0	14.5	8.3	10.3	5.2	3.3	1.0	1.6	1.5	0.6	10.4	20.7
28-Jan	0.9	Z	0.7	1.8	4.6	5.7	7.3	8.0	6.1	10.5	3.5	1.9	0.7	1.0	3.5	9.4	2.2	2.4	1.1	1.4	3.3	9.9	8.4	7.3	4.4	10.5
29-Jan	8.0	19.7	Z	14.1	9.1	1.4	0.9	1.4	2.2	2.5	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	2.7	19.7
30-Jan	0.2	0.4	0.2	Z	0.9	1.5	1.3	0.3	0.3	0.5	2.8	7.0	4.4	3.3	1.6	0.6	0.4	1.3	2.0	1.3	4.1	12.7	17.8	21.8	3.8	21.8
31-Jan	39.7	22.2	34.3	39.5	Z	32.0	21.0	12.3	7.9	3.9	3.4	3.8	1.9	0.5	0.4	3.6	0.9	0.4	0.7	0.3	0.2	0.2	0.2	0.3	10.0	39.7
																								Diurnal Average		
																								Diurnal Maximum		
6.1 6.3 5.6 6.7 5.2 4.6 5.4 4.8 5.2 5.3 4.8 5.9 6.2 5.8 5.4 5.6 4.7 5.0 5.3 5.6 5.6 6.8 6.9 6.0																								Diurnal Average		
39.7 22.2 34.3 39.5 20.8 32.0 33.8 21.9 15.3 15.0 16.0 21.9 20.3 19.6 17.0 14.5 16.1 19.5 22.4 25.1 20.2 30.7 29.6 21.8																								Diurnal Maximum		
Z - zerospan C - Calibration																										



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Wapasu - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Wapasu - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	690	97.46	97.46
21 - 40	18	2.54	100.00
41 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Oxides (NO_x) - ppb
Wapasu - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	110	56	19	20	7	11	9	101	111	48	68	34	17	22	22	32	687
21 - 40	2	2	0	0	3	2	1	3	0	0	3	0	0	0	0	2	18
11 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	112	58	19	20	10	13	10	104	111	48	71	34	17	22	22	34	705

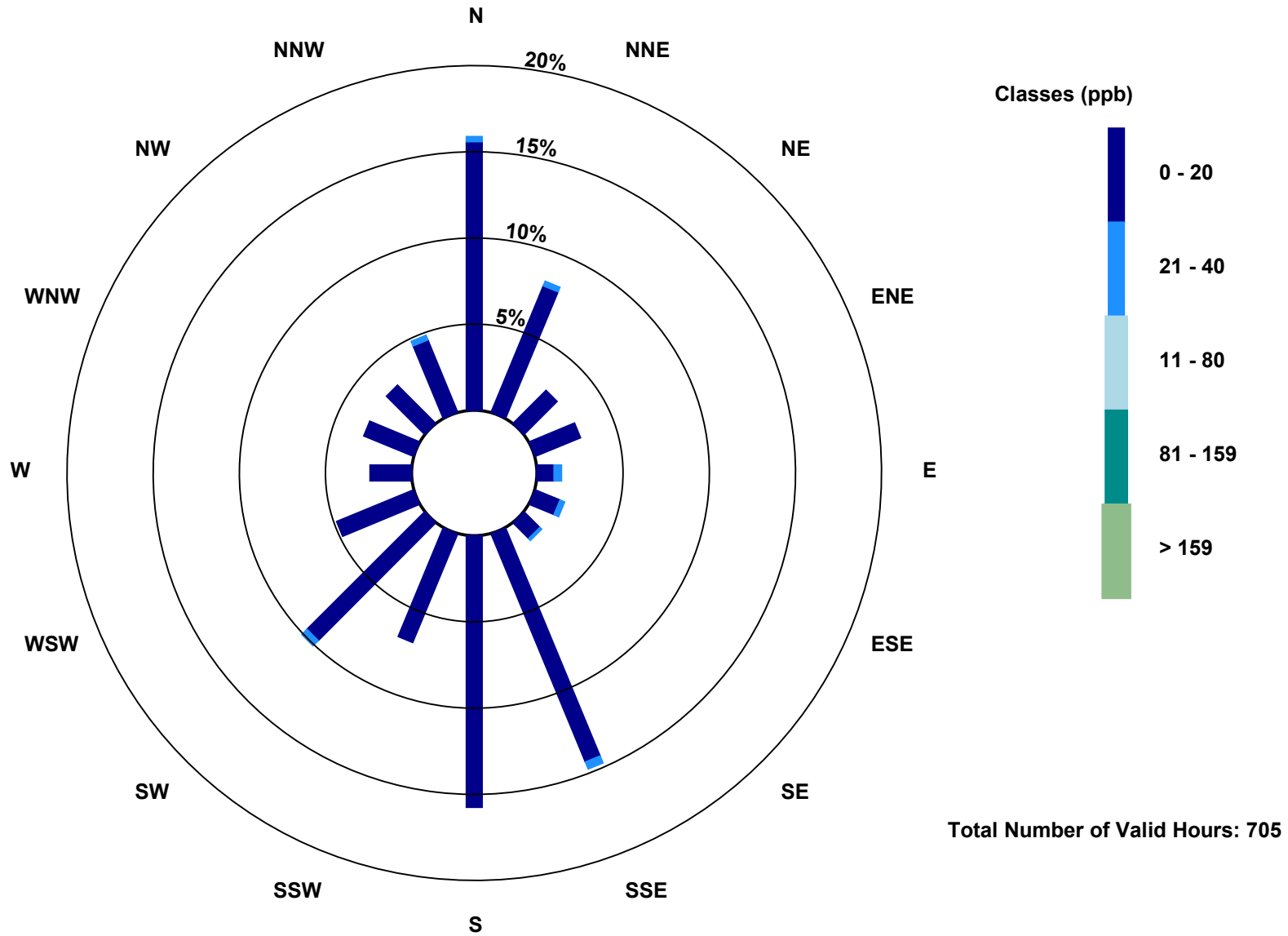
Total Number of Valid Hours: 705

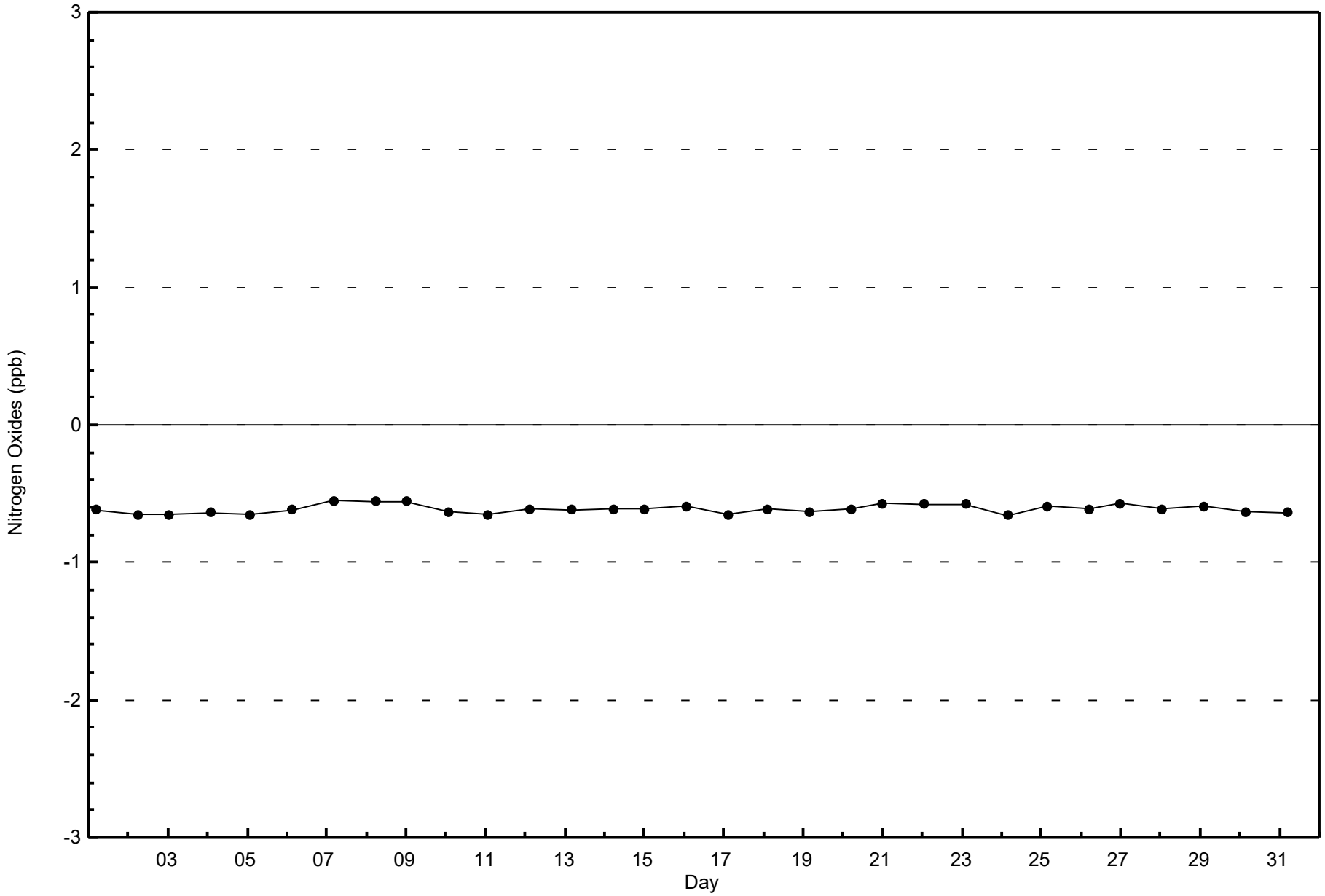
Total Number of Hours: 744

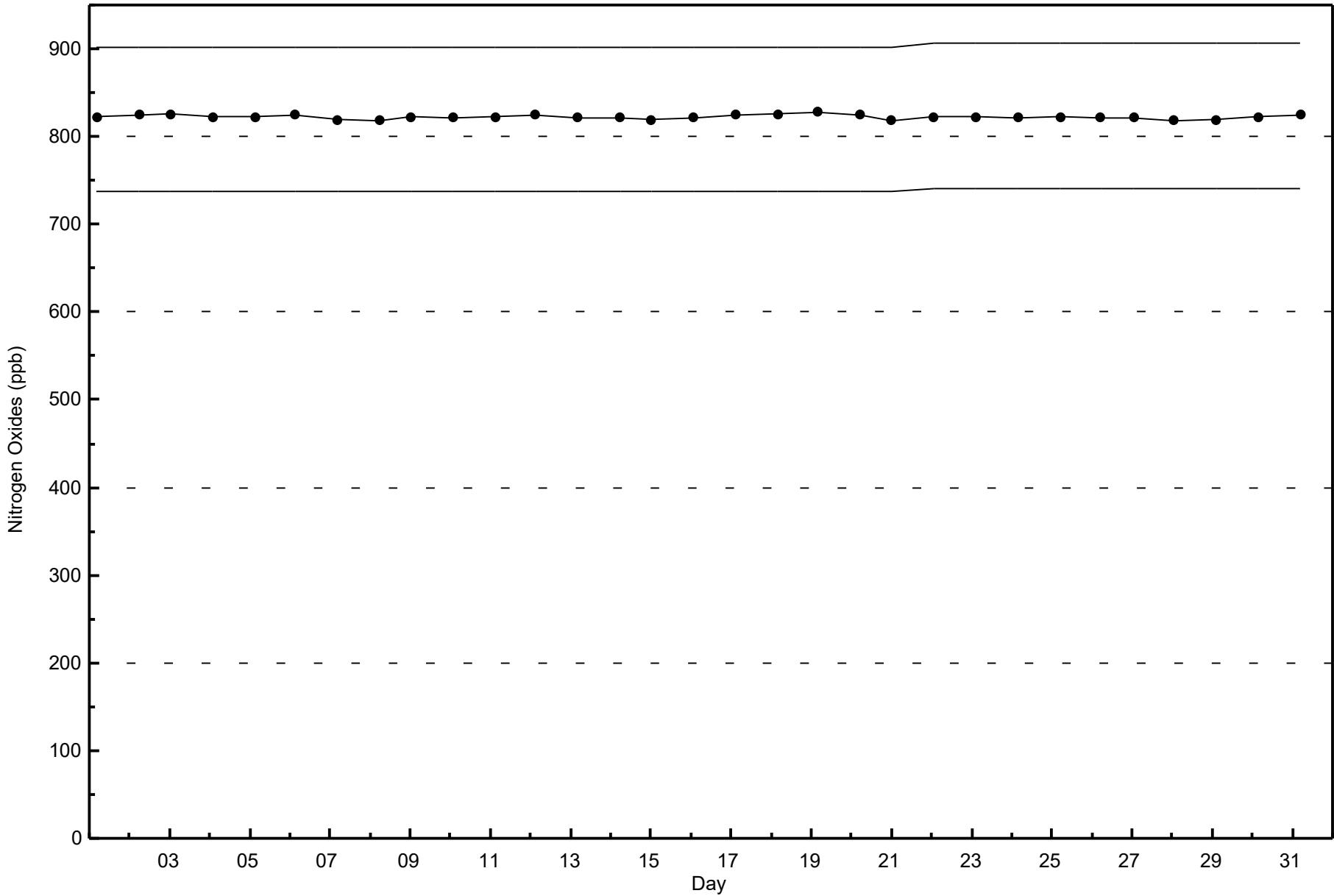


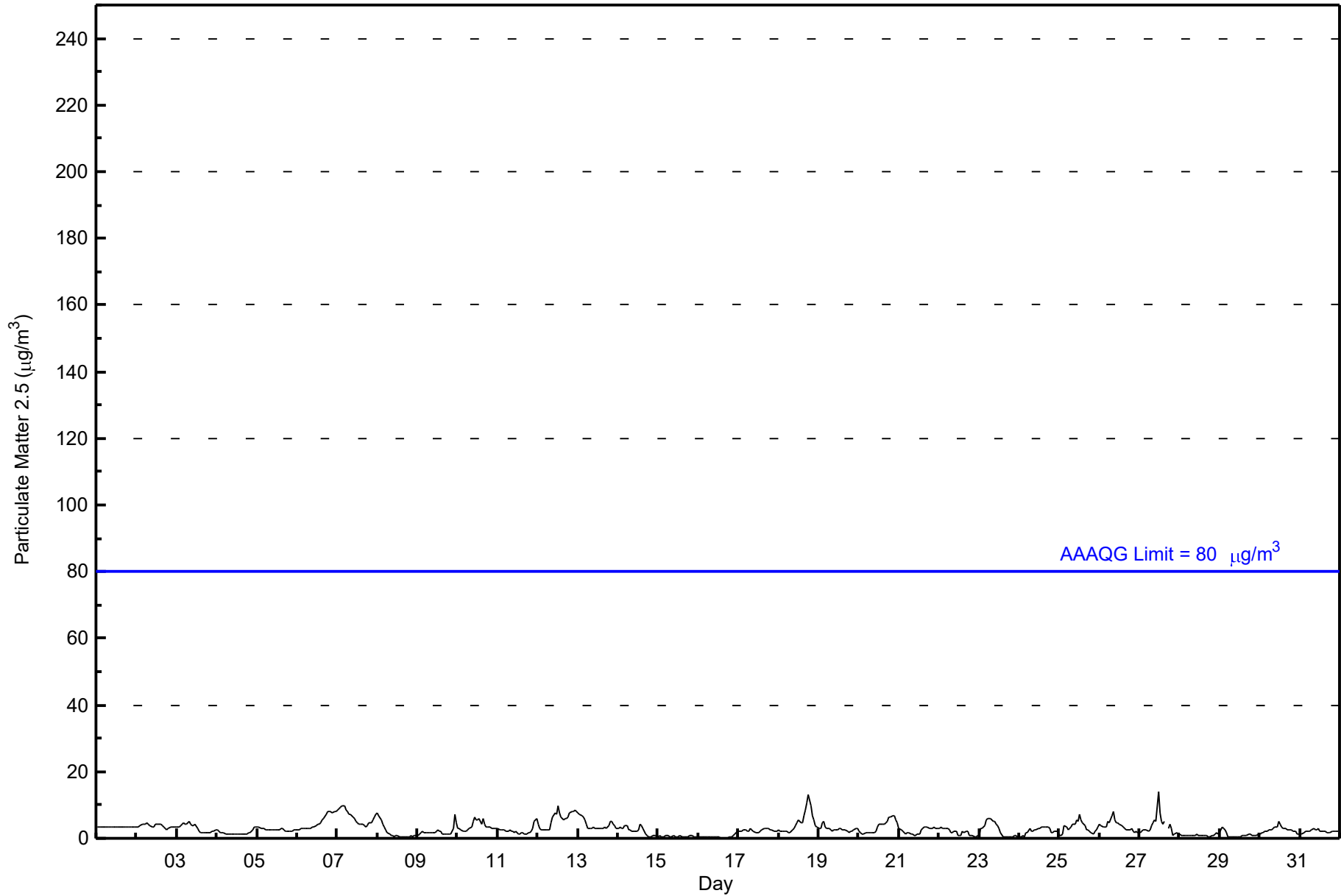
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Oxides (NO_x) - ppb
Wapasu











Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Wapasu - January 2025

Concentration Ranges ($\mu\text{g}/\text{m}^3$)	Number of Hours	%	Cumulative %
0 - 5	670	90.17	90.18
6 - 15	73	9.83	100.00
16 - 25	0	0.00	100.00
26 - 80	0	0.00	100.00
> 81.0	0	0.00	100.00

Total Number of Valid Hours: 743

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - μg/m³
Wapasu - January 2025

Concentration Ranges (μg/m ³)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	120	61	19	20	12	13	8	98	92	35	55	34	19	22	23	36	667
6 - 15	2	0	0	0	0	0	2	11	25	15	16	1	0	0	1	0	73
16 - 25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 81.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	122	61	19	20	12	13	10	109	117	50	71	35	19	22	24	36	740

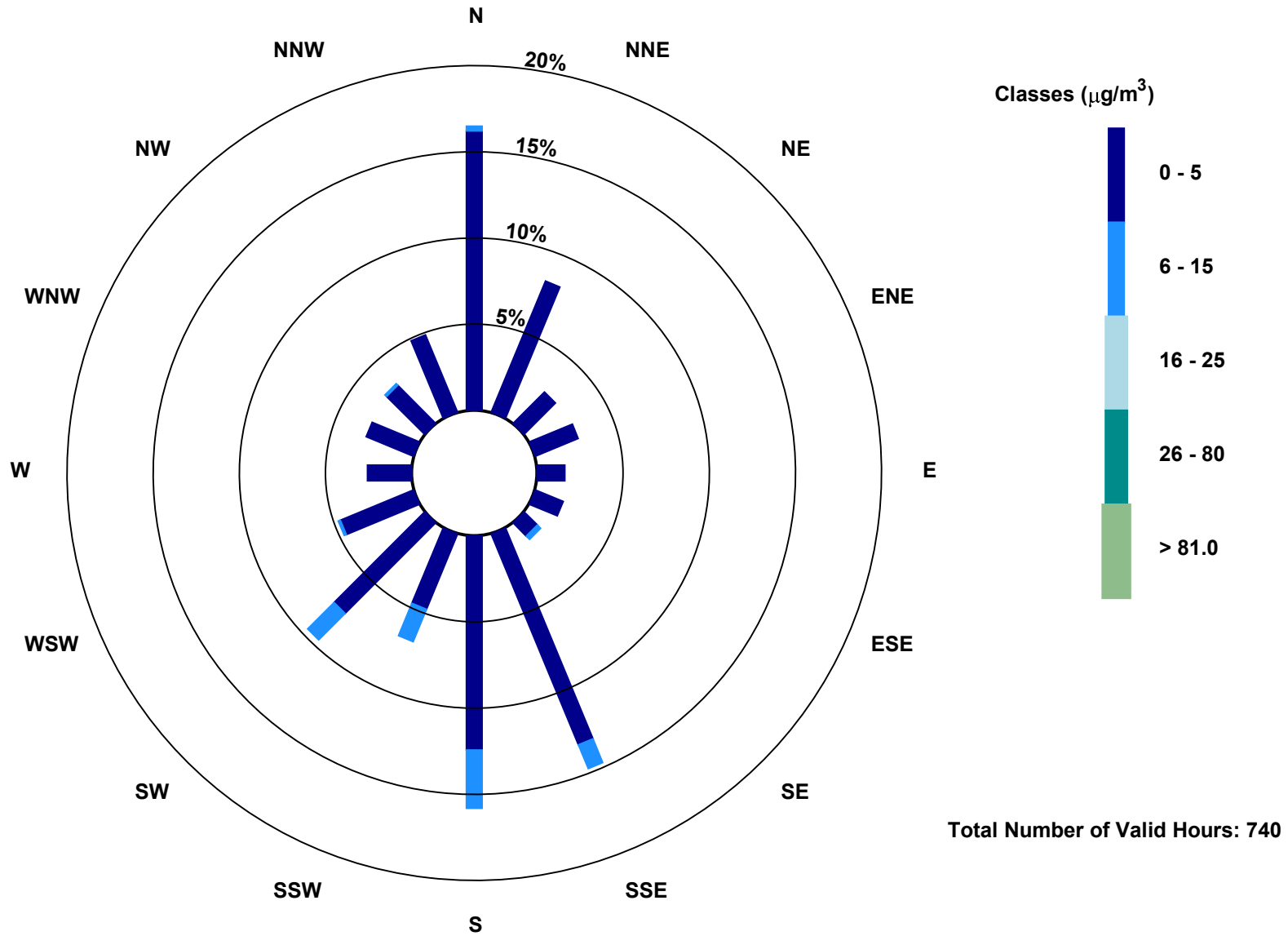
Total Number of Valid Hours: 740

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Wapasu

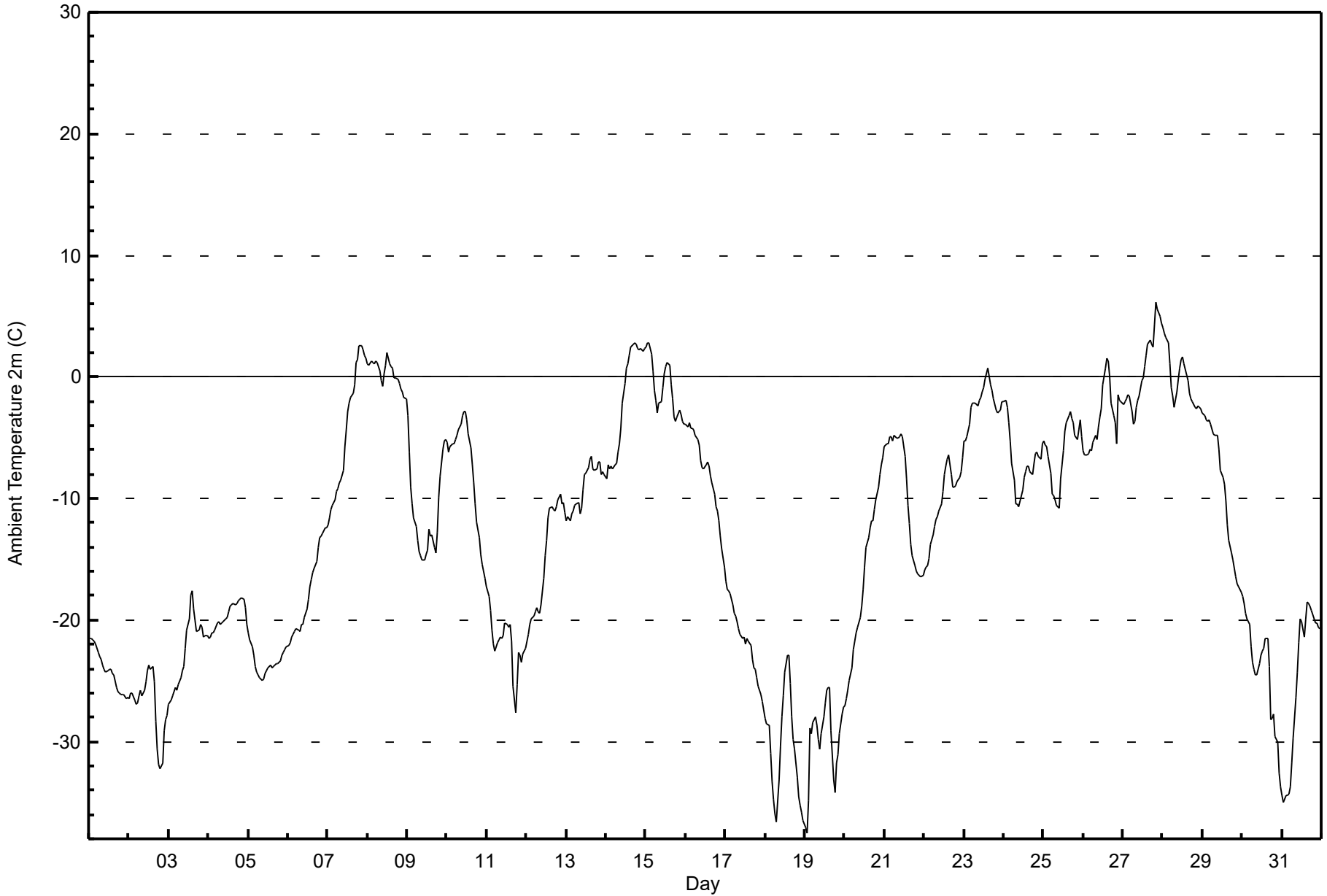




Wood Buffalo Environmental Association
Summary of Hour Averages

Ambient Temperature 2m (AT2) - C
Wapasu - January 2025

Maximum Value: 6.1 C on Jan 27 21:00		Maximum Daily Average: 0.5 C on Jan 27		Hours in Service: 744																																												
Minimum Value: -37.6 C on Jan 19 02:00		Minimum Daily Average: -30.6 C on Jan 18		Hours of Data: 744																																												
Maximum Diurnal Average: -11.2 C at hour 15		Minimum Diurnal Average: -14.5 C at hour 8		Hours of Missing Data: 0																																												
Monthly Average: -13.21 C		Percentiles: P ₁ = -35.0 P ₁₀ = -26.4 Q ₁ = -21.7 Median = -11.7 Q ₃ = -4.3 P ₉₀ = -0.3 P ₉₉ = 3.2		Hours of Calibration: 0																																												
				Percent Operational Time: 100.0																																												
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Jan	-21.5	-21.5	-21.6	-21.7	-21.9	-22.7	-23.0	-23.2	-23.7	-24.1	-24.3	-24.2	-24.0	-24.0	-24.4	-24.6	-25.6	-25.9	-26.0	-26.1	-26.1	-26.4	-26.4	-24.1	-21.5																							
2-Jan	-26.4	-26.1	-26.0	-26.5	-26.9	-26.8	-26.2	-25.8	-26.2	-25.8	-25.1	-24.2	-23.7	-24.0	-23.9	-25.1	-28.4	-30.6	-31.9	-32.2	-31.8	-29.1	-28.2	-27.9	-27.0	-23.7																						
3-Jan	-26.9	-26.6	-26.2	-25.9	-25.6	-25.8	-25.4	-24.7	-24.2	-23.8	-22.3	-20.9	-19.9	-17.9	-17.6	-19.1	-20.0	-20.9	-20.8	-20.3	-20.6	-21.5	-21.2	-21.3	-22.5	-17.6																						
4-Jan	-21.5	-21.4	-21.0	-21.0	-20.8	-20.3	-20.1	-20.3	-20.3	-20.1	-20.0	-19.8	-19.3	-18.9	-18.7	-18.6	-18.8	-18.7	-18.5	-18.3	-18.1	-18.3	-19.0	-20.4	-19.7	-18.1																						
5-Jan	-21.0	-21.6	-22.2	-22.9	-23.8	-24.3	-24.5	-24.8	-24.9	-24.9	-24.5	-24.1	-23.9	-23.8	-23.9	-23.8	-23.7	-23.6	-23.6	-23.4	-22.9	-22.7	-22.5	-22.3	-23.5	-21.0																						
6-Jan	-22.1	-21.9	-21.4	-21.2	-20.9	-20.7	-20.8	-20.9	-20.3	-20.3	-19.8	-19.1	-18.3	-17.2	-16.7	-16.1	-15.7	-15.2	-14.0	-13.2	-13.1	-12.8	-12.4	-12.4	-17.8	-12.4																						
7-Jan	-12.2	-11.6	-10.9	-10.6	-10.1	-9.4	-9.2	-8.7	-8.5	-7.7	-5.7	-4.3	-2.8	-2.2	-1.7	-1.3	-0.7	1.2	1.4	2.6	2.6	2.2	1.8	1.5	-4.3	2.6																						
8-Jan	1.1	0.9	1.3	1.2	1.0	1.3	1.2	0.4	-0.3	-0.8	0.3	1.0	2.0	1.0	0.8	0.8	0.0	0.0	-0.2	-0.5	-1.0	-1.2	-1.6	-1.9	0.3	2.0																						
9-Jan	-3.2	-6.1	-9.1	-10.5	-11.6	-12.3	-13.5	-14.4	-14.7	-15.0	-15.0	-14.6	-14.3	-12.5	-13.2	-13.0	-14.0	-14.4	-12.8	-9.9	-8.1	-6.0	-5.3	-5.2	-11.2	-3.2																						
10-Jan	-5.4	-6.1	-5.8	-5.6	-5.4	-5.1	-4.8	-4.3	-3.9	-3.2	-2.9	-2.8	-3.5	-4.7	-5.8	-7.2	-8.7	-10.5	-12.0	-13.2	-14.7	-15.4	-16.0	-16.5	-7.7	-2.8																						
11-Jan	-17.3	-18.1	-19.3	-20.8	-22.0	-22.5	-21.8	-21.6	-21.5	-21.5	-21.3	-20.2	-20.3	-20.6	-20.4	-21.8	-25.4	-27.6	-25.3	-22.7	-23.0	-23.5	-22.8	-22.3	-21.8	-17.3																						
12-Jan	-21.7	-21.1	-20.3	-19.9	-19.7	-19.3	-19.0	-19.3	-19.4	-18.7	-16.6	-14.7	-13.4	-11.6	-10.8	-10.7	-10.9	-11.0	-10.7	-10.1	-9.6	-10.5	-10.4	-11.2	-15.0	-9.6																						
13-Jan	-11.8	-11.5	-11.9	-11.2	-11.0	-10.5	-10.5	-10.3	-11.3	-10.8	-9.3	-8.0	-7.9	-7.5	-6.8	-6.5	-7.6	-7.7	-7.6	-7.0	-7.0	-8.1	-7.8	-8.0	-9.1	-6.5																						
14-Jan	-8.3	-7.3	-7.6	-7.4	-7.6	-7.3	-7.1	-6.2	-5.5	-4.2	-2.1	-0.6	0.7	1.1	1.7	2.4	2.7	2.8	2.6	2.4	2.2	2.3	2.1	2.3	-1.9	2.8																						
15-Jan	2.4	2.8	2.8	1.8	0.5	-1.1	-2.0	-3.0	-2.2	-2.0	-0.9	0.3	0.9	1.1	0.9	-0.7	-1.8	-3.3	-3.6	-3.3	-2.7	-3.0	-3.7	-3.9	-1.0	2.8																						
16-Jan	-3.9	-4.1	-3.8	-4.3	-4.3	-4.4	-4.9	-5.2	-5.6	-6.8	-7.4	-7.5	-7.2	-7.0	-7.3	-8.2	-8.7	-9.6	-10.7	-11.1	-11.8	-13.1	-14.2	-15.7	-7.8	-3.8																						
17-Jan	-16.7	-17.5	-17.6	-17.8	-18.7	-19.5	-19.6	-20.1	-20.8	-21.1	-21.5	-21.4	-22.0	-21.6	-21.8	-22.1	-23.2	-24.0	-24.0	-24.7	-25.4	-26.1	-26.7	-27.3	-21.7	-16.7																						
18-Jan	-28.1	-28.6	-28.6	-31.0	-33.3	-34.8	-35.9	-36.6	-33.2	-30.4	-27.9	-26.2	-24.3	-22.9	-22.9	-25.2	-27.9	-29.8	-30.6	-32.9	-34.5	-35.2	-35.8	-36.5	-30.6	-22.9																						
19-Jan	-37.1	-37.6	-34.9	-28.9	-29.3	-28.4	-28.0	-28.7	-29.8	-30.7	-29.3	-28.0	-26.8	-25.7	-25.6	-25.6	-29.1	-33.1	-34.2	-31.8	-31.0	-29.4	-27.7	-27.2	-29.9	-25.6																						
20-Jan	-27.1	-26.5	-25.8	-25.0	-23.9	-22.4	-21.8	-21.1	-20.6	-19.8	-18.8	-17.5	-15.6	-14.0	-13.2	-12.5	-11.8	-11.8	-11.0	-10.1	-9.1	-8.0	-7.2	-6.6	-16.7	-6.6																						
21-Jan	-5.8	-5.5	-5.5	-4.9	-4.9	-5.2	-4.8	-5.1	-5.0	-4.9	-4.7	-5.0	-6.6	-8.4	-10.6	-12.1	-13.8	-14.7	-15.5	-15.9	-16.3	-16.3	-16.4	-16.3	-9.3	-4.7																						
22-Jan	-15.8	-15.7	-15.5	-15.0	-13.8	-13.0	-12.4	-11.7	-11.4	-11.1	-10.5	-9.4	-8.0	-7.3	-6.7	-6.4	-8.1	-9.1	-9.1	-9.0	-8.6	-8.3	-7.8	-6.7	-10.4	-6.4																						
23-Jan	-5.3	-5.3	-5.0	-3.9	-2.5	-2.2	-2.2	-2.1	-2.3	-1.9	-1.7	-1.2	-0.9	-0.2	0.7	0.1	-0.7	-1.2	-1.8	-2.7	-3.0	-2.9	-2.7	-2.1	-2.2	0.7																						
24-Jan	-2.1	-2.0	-2.5	-3.7	-5.3	-7.1	-8.5	-10.5	-10.4	-10.7	-10.2	-9.3	-8.3	-7.8	-7.3	-7.4	-7.8	-8.0	-7.1	-6.4	-6.2	-6.6	-6.8	-5.5	-7.0	-2.0																						
25-Jan	-5.2	-5.6	-5.7	-6.5	-7.9	-9.6	-9.8	-10.1	-10.6	-10.7	-8.4	-7.2	-6.1	-4.5	-3.8	-3.2	-2.8	-3.4	-3.8	-4.8	-5.2	-4.3	-3.5	-4.9	-6.2	-2.8																						
26-Jan	-6.1	-6.4	-6.4	-6.3	-6.0	-6.0	-5.4	-4.8	-5.1	-4.1	-3.3	-2.6	-0.7	0.7	1.5	1.3	0.0	-2.2	-3.1	-3.8	-5.5	-1.5	-1.9	-2.1	-3.3	1.5																						
27-Jan	-2.3	-2.0	-1.8	-1.5	-1.6	-2.8	-3.9	-3.7	-2.5	-1.9	-1.6	-0.3	0.0	0.8	1.8	2.7	3.0	2.7	2.4	4.3	6.1	5.6	4.9	4.5	0.5	6.1																						
28-Jan	4.0	3.6	3.3	2.8	1.1	-0.9	-1.6	-2.6	-1.2	-0.2	0.7	1.4	1.7	1.1	0.2	-0.3	-1.4	-1.8	-2.1	-2.5	-2.7	-2.4	-2.5	-2.6	-0.2	4.0																						
29-Jan	-3.0	-3.2	-3.5	-3.6	-3.5	-3.9	-4.6	-4.8	-4.8	-4.8	-6.0	-7.6	-8.2	-8.9	-10.2	-12.1	-13.5	-14.5	-15.1	-15.8	-16.4	-17.1	-17.3	-17.7	-9.2	-3.0																						
30-Jan	-18.0	-18.6	-19.4	-19.9	-20.4	-22.2	-23.5	-24.0	-24.5	-24.5	-23.6	-22.8	-22.6	-22.3	-21.6	-21.5	-23.9	-28.2	-28.1	-27.7	-29.6	-30.0	-32.5	-33.7	-24.3	-18.0																						
31-Jan	-34.5	-35.0	-34.4	-34.5	-34.3	-33.7	-31.8	-29.7	-26.4	-24.3	-21.9	-19.9	-20.2	-21.4	-19.9	-18.5	-18.6	-18.9	-19.3	-20.0	-20.2	-20.3	-20.6	-20.7	-25.0	-18.5																						
																								-13.6	-13.8	-13.8	-13.7	-14.0	-14.3	-14.4	-14.5	-14.2	-13.9	-13.1	-12.3	-11.7	-11.3	-11.2	-11.5	-12.5	-13.3	-13.4	-13.2	-13.3	-13.2	-13.3	-13.4	Diurnal Average
																								4.0	3.6	3.3	2.8	1.1	1.3	1.2	0.4	-0.3	-0.2	0.7	1.4	2.0	1.1	1.8	2.7	3.0	2.8	2.6	4.3	6.1	5.6	4.9	4.5	Diurnal Maximum





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ambient Temperature 2m (AT2) - C
Wapasu - January 2025

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	248	33.33	33.33
-20 - 0	427	57.39	90.73
0 - 10	69	9.27	100.00
10 - 20	0	0.00	100.00
> 20	0	0.00	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

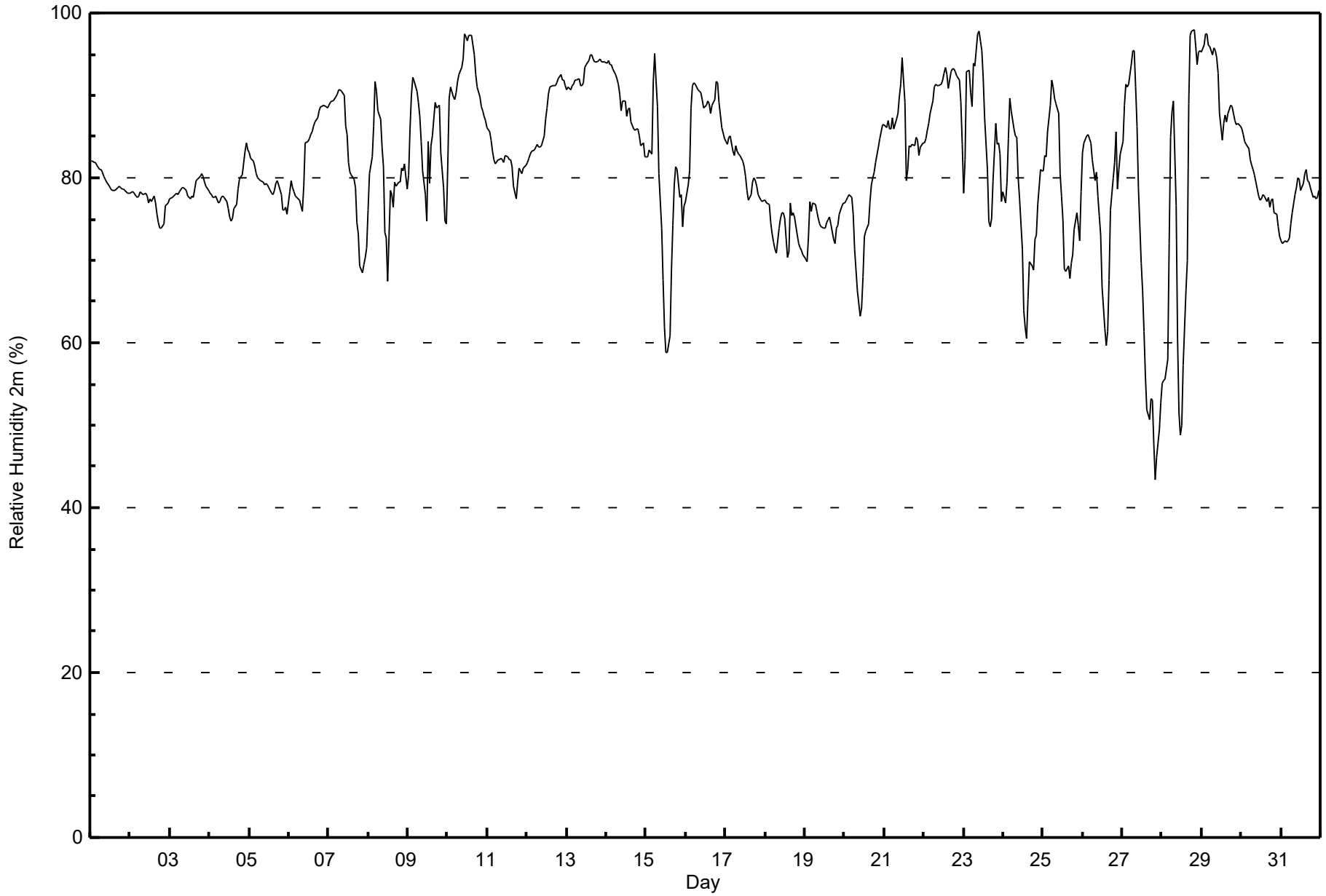
Relative Humidity 2m (RH2) - %
Wapasu - January 2025

Maximum Value: 97.9 % on Jan 28 20:00		Maximum Daily Average: 92.9 % on Jan 13		Hours in Service: 744																						
Minimum Value: 43.4 % on Jan 27 21:00		Minimum Daily Average: 70.4 % on Jan 27		Hours of Data: 744																						
Maximum Diurnal Average: 85.0 % at hour 6		Minimum Diurnal Average: 78.2 % at hour 14		Hours of Missing Data: 0																						
Monthly Average: 81.42 %		Percentiles: P ₁ = 51.7 P ₁₀ = 72.2 Q ₁ = 77.2 Median = 81.0 Q ₃ = 88.2 P ₉₀ = 92.0 P ₉₉ = 97.4		Hours of Calibration: 0																						
				Percent Operational Time: 100.0																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	82.0	82.1	81.8	81.9	81.6	81.1	81.0	80.6	80.1	79.9	79.5	78.9	78.7	78.5	78.5	78.6	78.9	79.0	78.8	78.7	78.7	78.5	78.2	78.2	79.7	82.1
2-Jan	78.2	78.4	78.2	77.8	77.6	77.8	78.3	78.2	77.9	78.2	77.8	77.0	77.5	77.1	77.8	77.0	75.6	74.5	73.8	73.9	74.5	76.6	76.8	76.9	77.0	78.4
3-Jan	77.5	77.6	77.8	77.9	78.1	77.9	78.4	78.8	78.8	78.7	78.4	77.8	77.4	77.9	77.6	78.7	79.7	79.9	80.2	80.5	80.1	79.5	79.1	78.5	78.6	80.5
4-Jan	78.1	77.9	77.6	77.6	77.8	77.0	77.2	77.6	77.8	77.6	77.1	76.4	75.3	74.8	75.1	76.3	76.7	78.6	79.8	80.1	80.3	83.1	84.3	83.4	78.2	84.3
5-Jan	83.0	82.3	82.1	81.4	80.6	80.0	79.8	79.6	79.5	79.1	79.2	79.1	78.8	78.1	78.0	78.5	79.3	79.6	79.1	78.0	76.1	76.1	76.5	75.6	79.1	83.0
6-Jan	78.2	79.6	78.8	78.2	77.8	77.6	77.3	76.6	75.9	79.0	84.3	84.4	84.7	85.2	85.6	86.3	86.8	87.3	88.2	88.7	88.6	88.7	88.6	88.5	83.1	88.7
7-Jan	88.8	89.1	89.4	89.3	89.8	90.2	90.7	90.6	90.5	89.9	86.3	85.3	81.9	80.7	80.3	79.8	78.8	74.5	73.2	69.3	68.5	69.5	70.3	71.5	82.0	90.7
8-Jan	76.2	80.5	82.5	86.3	91.8	90.5	88.2	87.2	83.8	81.4	73.3	72.7	67.4	78.5	78.0	76.4	79.4	79.0	79.5	79.5	81.2	80.9	81.7	78.7	80.6	91.8
9-Jan	80.3	85.9	90.0	92.3	91.7	90.5	89.1	87.5	84.4	80.8	78.0	74.7	84.3	79.2	83.9	85.1	89.2	88.5	88.6	88.9	83.0	78.8	74.8	74.5	84.3	92.3
10-Jan	81.5	89.6	91.1	89.8	89.5	90.3	91.7	92.5	93.4	94.5	97.4	97.1	96.7	97.3	97.2	96.1	94.9	92.6	91.0	89.9	88.7	88.1	87.5	87.0	91.9	97.4
11-Jan	86.2	85.7	84.6	83.3	82.2	81.7	82.2	82.2	82.4	82.2	81.9	82.8	82.6	82.3	82.2	81.4	78.9	77.5	79.5	81.2	80.9	80.6	81.1	81.5	82.0	86.2
12-Jan	81.9	82.3	83.0	83.3	83.5	83.8	84.1	83.8	83.8	84.0	85.2	87.2	88.5	90.2	91.0	91.2	91.3	91.2	91.5	92.1	92.5	91.8	91.9	91.2	87.5	92.5
13-Jan	90.7	91.0	90.6	91.3	91.4	91.8	91.9	92.0	91.1	91.2	91.5	93.5	93.8	94.3	95.0	94.9	94.4	94.1	94.1	94.3	94.4	94.0	94.1	94.1	92.9	95.0
14-Jan	93.8	94.2	93.7	93.7	93.2	92.6	92.0	91.3	90.2	88.2	89.4	89.4	87.5	88.3	88.5	86.8	85.9	85.8	85.9	85.0	83.9	84.2	82.5	82.5	88.8	94.2
15-Jan	82.5	82.5	83.4	82.9	91.7	95.0	91.7	88.6	80.5	73.8	67.6	61.9	58.8	58.7	60.9	68.9	74.2	79.2	81.3	81.0	77.6	77.9	74.1	76.5	77.1	95.0
16-Jan	77.1	79.2	80.8	88.4	91.3	91.5	91.3	90.7	90.6	90.3	89.4	88.5	88.8	89.4	88.9	87.8	88.9	89.5	91.6	91.5	89.2	87.7	86.2	84.8	88.1	91.6
17-Jan	84.4	84.1	84.9	85.0	83.2	82.6	83.9	83.3	82.9	82.6	82.1	81.3	80.2	78.5	77.2	77.9	79.5	80.0	79.6	79.0	77.9	77.3	77.1	77.3	80.9	85.0
18-Jan	77.3	77.0	76.7	74.6	73.3	72.2	71.4	70.9	73.9	75.1	75.8	75.7	75.1	70.3	71.1	76.9	75.5	75.7	75.3	73.1	72.1	71.6	71.1	70.6	73.8	77.3
19-Jan	70.2	69.9	72.9	77.1	76.0	76.9	76.8	76.0	75.1	74.3	74.1	73.8	73.8	74.5	75.0	75.2	74.4	72.5	72.1	73.9	74.3	75.5	76.6	76.9	74.5	77.1
20-Jan	76.9	77.3	77.7	78.0	77.7	75.7	71.4	68.8	66.2	63.2	64.2	68.0	72.9	73.6	74.4	77.1	79.2	79.9	80.8	81.9	83.8	84.8	85.6	86.5	76.1	86.5
21-Jan	86.4	86.2	87.0	86.0	86.0	87.3	86.0	87.1	87.8	89.9	91.3	94.6	89.1	79.6	81.0	83.9	83.8	84.1	84.0	85.0	84.5	82.8	83.7	84.2	85.9	94.6
22-Jan	84.3	84.8	85.7	86.6	87.8	89.4	90.9	91.3	91.3	91.2	91.4	91.9	92.8	93.4	92.5	90.8	92.9	93.3	93.2	92.9	92.4	91.8	89.2	84.2	90.2	93.4
23-Jan	78.1	82.2	92.8	93.1	90.3	88.7	94.0	93.5	97.4	97.7	96.7	95.4	92.1	87.2	81.0	74.7	74.1	75.1	79.7	86.7	84.1	84.2	82.9	77.2	86.6	97.7
24-Jan	78.3	77.0	79.5	84.8	89.7	88.1	85.9	85.1	84.9	79.9	77.5	71.3	63.9	61.9	60.6	65.2	69.9	69.3	68.9	72.6	73.0	76.7	81.1	80.8	76.1	89.7
25-Jan	80.9	82.7	82.6	85.6	88.9	91.9	91.1	89.7	89.0	87.7	80.5	77.8	74.9	69.0	68.6	69.3	67.7	69.7	70.7	73.7	75.7	74.3	72.3	78.3	78.9	91.9
26-Jan	83.1	84.3	85.0	85.2	84.7	84.3	82.3	79.7	80.7	77.8	75.3	73.0	66.7	61.6	59.7	61.3	67.6	76.0	80.0	81.9	85.5	78.7	81.0	82.8	77.4	85.5
27-Jan	84.4	88.8	91.4	91.0	91.3	93.8	95.5	95.4	91.0	86.3	78.9	69.6	66.2	61.4	55.9	51.9	50.7	53.2	53.1	47.7	43.4	46.2	49.6	52.6	70.4	95.5
28-Jan	55.1	55.5	55.5	57.9	72.0	84.9	88.0	89.4	76.6	60.4	51.6	48.8	50.0	57.3	66.3	70.0	88.9	97.4	97.9	97.9	95.9	93.7	95.3	95.3	75.1	97.9
29-Jan	95.3	96.1	97.4	97.4	96.1	95.9	94.9	95.8	95.5	94.6	92.7	87.8	84.6	86.7	87.6	86.8	87.8	88.9	88.7	87.7	87.0	86.4	86.7	86.3	91.0	97.4
30-Jan	86.0	85.2	84.5	84.1	83.5	82.2	81.5	81.0	80.3	79.5	77.8	77.2	77.5	77.9	77.8	77.2	77.6	76.4	77.3	77.4	75.8	75.6	74.0	72.9	79.2	86.0
31-Jan	72.3	72.0	72.4	72.3	72.4	72.8	74.4	75.8	77.9	78.8	80.0	79.8	78.5	79.4	80.5	81.0	79.6	79.4	78.8	77.6	77.8	77.4	77.6	78.5	77.0	81.0
80.9 82.0 83.0 83.7 84.6 85.0 84.9 84.5 83.6 82.2 80.8 79.8 78.7 78.2 78.3 78.8 80.1 80.7 81.2 81.4 80.7 80.4 80.4 80.2																								Diurnal Average		
95.3 96.1 97.4 97.4 96.1 95.9 95.5 95.8 97.4 97.7 97.4 97.1 96.7 97.3 97.2 96.1 94.9 97.4 97.9 97.9 95.9 94.0 95.3 95.3																								Diurnal Maximum		



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 2m (RH2) - %
Wapasu - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Relative Humidity 2m (RH2) - %
Wapasu - January 2025

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	0	0.00	0.00
40 - 60	21	2.82	2.82
60 - 80	320	43.01	45.83
80 - 100	403	54.17	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association

Summary of Hour Averages

Precipitation (PC) - mm

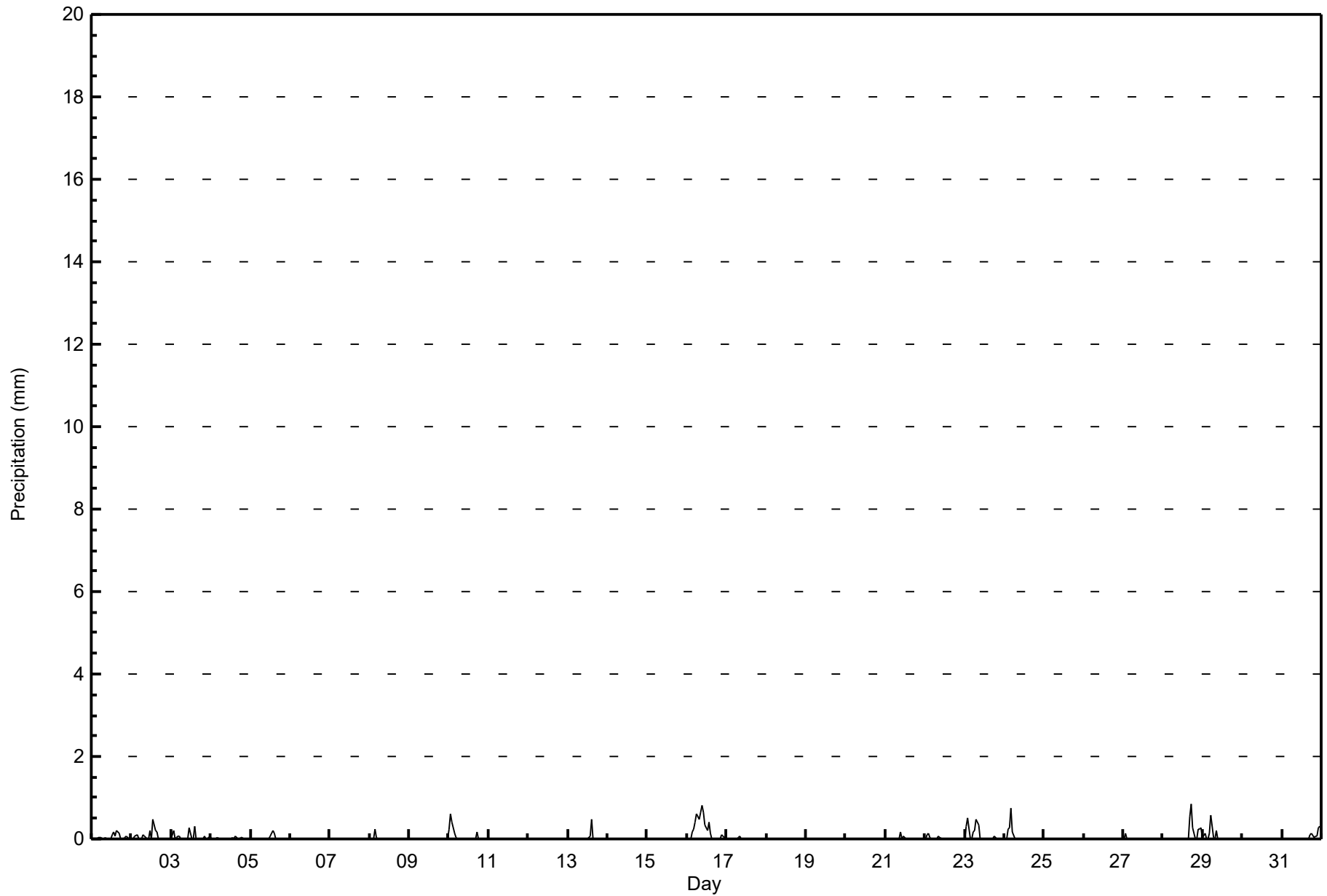
Wapasu - January 2025

Maximum Value: 0.9 mm on Jan 28 18:00		Maximum Daily Total: 5.3 mm on Jan 16		Hours in Service: 744																						
Minimum Value: 0.0 mm on Jan 1 01:00		Minimum Daily Total: 0.0 mm on Jan 6		Hours of Data: 744																						
Maximum Diurnal Total: 1.5 mm at hour 2		Minimum Diurnal Total: 0.1 mm at hour 20		Hours of Missing Data: 0																						
Monthly Total: 20.75 mm		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.1 P ₉₉ = 0.6		Hours of Calibration: 0																						
				Percent Operational Time: 100.0																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.2	0.1	0.2	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1	1.0	0.2
2-Jan	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.2	0.0	0.5	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.5
3-Jan	0.0	0.2	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	1.1	0.3	
4-Jan	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.3	0.1	
5-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.2	
6-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Jan	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2
9-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Jan	0.2	0.6	0.4	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	1.6	0.6	
11-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.5	
14-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16-Jan	0.0	0.0	0.0	0.2	0.3	0.4	0.6	0.5	0.7	0.8	0.6	0.3	0.2	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	5.3	0.8	
17-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	
18-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	
22-Jan	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.1	
23-Jan	0.0	0.3	0.5	0.0	0.0	0.2	0.2	0.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	2.1	0.5		
24-Jan	0.0	0.0	0.2	0.3	0.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.7		
25-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
26-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
27-Jan	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1		
28-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.9	0.3	0.0	0.0	0.2	0.2	2.4	0.9		
29-Jan	0.1	0.1	0.0	0.0	0.2	0.6	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.6		
30-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
31-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.3	1.0	0.3
																								Diurnal Average		
																								Diurnal Maximum		



Wood Buffalo Environmental Association
Hourly Averages

Precipitation (PC) - mm
Wapasu - January 2025



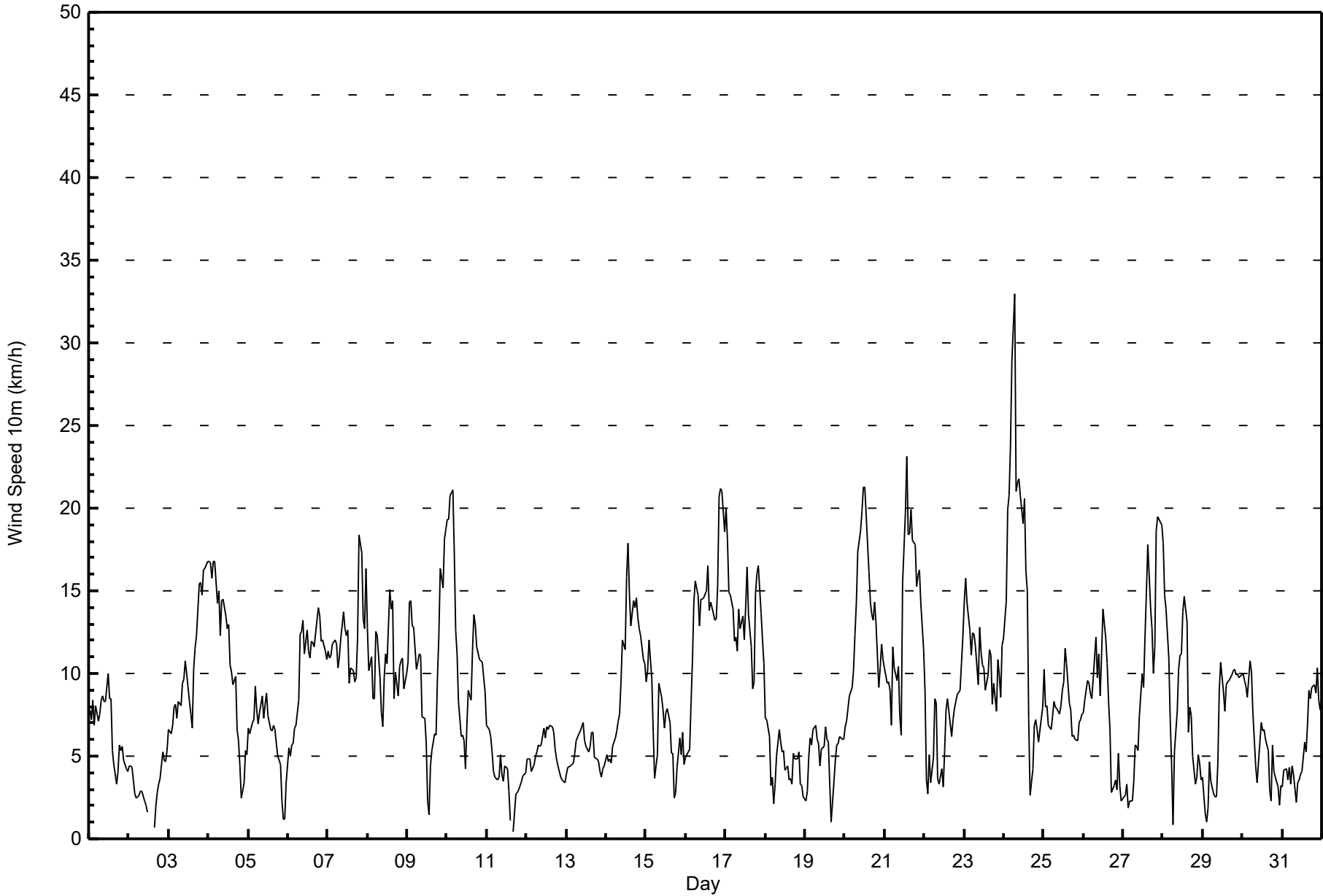


Maximum Speed: 33 km/h on Jan 24 07:00	Maximum Daily Speed Average: 13.6 km/h on Jan 17	Hours in Service: 744
Minimum Speed Value: 0 km/h on Jan 11 17:00	Minimum Daily Speed Average: 1.2 km/h on Jan 2	Hours of Data: 741
Maximum Diurnal Speed Average: 2.5 km/h at hour 14	Minimum Diurnal Speed Average: 0.5 km/h at hour 5	Hours of Missing Data: 3
Monthly Average Velocity: 1.2 km/h 234.9 deg	Percentiles: P ₁ = 1 P ₁₀ = 3 Q ₁ = 5 Median = 8 Q ₃ = 12 P ₉₀ = 15 P ₉₉ = 21	Percent Operational Time: 99.6

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	N8	N7	N8	N7	N8	N7	N8	N8	NNW9	N8	N8	N10	N8	N8	N5	N4	NNE3	NNE4	NNE6	NNE5	NNE6	NNE5	NE4	NNE4	N6.5	N10	
2-Jan	NNE4	NNE4	N4	NNE3	N2	N3	N3	NNE3	NE3	NNE2	N2	NNW2	UO	S1	UO	SE1	SE2	SE3	SSE3	SSE4	SSE5	SSE5	SSE5	SSE5	E1.2	SSE5	
3-Jan	SSE7	SSE6	SSE7	SSE8	SSE8	SSE7	SSE8	SSE8	SSE9	SSE10	SSE11	SSE10	SSE8	SSE8	SSE7	SSE10	SSE12	SSE12	SSE15	SSE15	SSE15	SSE16	SSE16	SSE17	SSE10.4	SSE17	
4-Jan	SSE17	SSE17	SSE16	SSE17	SSE17	SSE14	SSE15	SSE12	SSE14	SSE15	SSE14	SSE13	SSE13	SSE11	SSE10	SSE9	SSE10	SSE7	SSE6	S4	WSW2	NNW3	NNW5	N5	SSE9.8	SSE17	
5-Jan	NNW7	N6	N7	N7	N9	NNE8	N7	N8	N9	N7	N8	N9	N7	N7	NNW7	NNW7	N7	N6	NE5	ENE4	N2	N1	S1	SSW3	N5.6	N9	
6-Jan	SW5	S5	SSE6	SSE6	SSE7	S7	SSE8	SSE12	SSE13	SSE13	SSE11	SSE13	S11	S11	S12	S12	S12	S13	SSW14	S14	SSW12	SSW12	SSW11	SSW11	S10.0	SSW14	
7-Jan	S11	S11	S11	S12	S12	SSW12	S10	S11	S12	S14	S13	S12	S13	S9	S10	SSW10	S9	SSW10	SSW12	SW18	SW17	SW13	SW13	SW16	SSW11.6	SW18	
8-Jan	SW13	SW10	SW11	SW8	SW8	WSW13	WSW12	W10	W8	WSW7	SW10	WSW11	W11	NW15	NW14	NNW14	NW8	NW10	WNW9	WNW10	W11	WNW11	WNW9	NW10	W8.4	NW15	
9-Jan	NNW11	N14	N14	N13	N13	N10	N11	N11	N11	N7	N7	N6	NE2	WSW1	SSW4	SSW5	SSE6	S6	SSE10	SSE12	SSE16	SSE15	SSE18	SSE19	NE2.0	SSE19	
10-Jan	SSE19	SSE19	SSE21	SSE21	SSE17	S13	SSE11	S8	S6	SSW6	SSW6	WSW4	NW7	N9	N8	N11	N14	N13	N12	N11	N11	N11	N10	N9	ESE1.4	SSE21	
11-Jan	N7	N7	N6	N5	N4	NNE4	NE4	NNE4	NE5	NNE4	NNE3	NNE4	NNE4	NNE3	N1	UO	SE0	SSE3	S3	S3	S3	SSE3	S4	SSW4	NNE1.9	N7	
12-Jan	SSE5	S5	SSE5	S4	S4	S5	S5	S6	S6	S6	SSE7	S6	S7	S7	S7	S7	S6	S5	S5	S4	S4	SSE4	SSE3	SSE3	S5.2	S7	
13-Jan	SSE4	SSE4	SSE4	SSE4	SSE5	S5	SSE6	SSE6	S6	SSE7	SSE7	S6	S6	S5	S6	S6	S6	S5	S5	S4	S4	S4	S4	S4	S5.1	SSE7	
14-Jan	SSE5	S5	S5	S5	SSE6	S6	S7	S7	S8	S9	SSW12	SSW11	SW16	SW18	SW15	SW13	WSW14	WSW14	WSW15	WSW13	SW13	WSW12	WSW11	WSW11	SW9.2	SW18	
15-Jan	W9	WNW10	NW12	WNW10	W6	WSW4	NW4	NNW5	NNW9	NNW9	NNW8	WNW7	W8	W8	W7	WSW5	SW5	SSE2	E3	ENE4	ENE6	ENE5	NE6	ENE5	NW3.7	NW12	
16-Jan	ENE5	E5	ESE5	ESE8	ESE11	ESE14	ESE16	ESE15	E13	ENE14	ENE14	ENE15	NE15	NE17	NE14	NE14	NNE14	NNE13	NNE13	N15	N21	N21	N21	N19	NE10.2	N21	
17-Jan	N20	N18	N15	N15	N14	N12	N12	NNW11	N14	N13	N13	N12	N14	NNW16	NNW14	NNW12	NNW9	NNW9	N15	N16	N17	N14	N12	N11	N13.6	N20	
18-Jan	N7	NNE7	NNE6	NNE3	NNE4	NE2	SSE3	SSE5	SSE7	SSE6	S5	SW5	SW4	SW4	SW4	SW4	S3	SSE5	SE5	SSE5	SE5	SE3	ESE3	ESE3	SSE1.8	N7	
19-Jan	ESE2	ENE3	NNE5	NNE6	NNE6	NNE7	N7	NNE6	NNE6	NNE4	NNE5	N6	N7	N6	N6	N3	ESE1	SSE3	SSE5	SSE6	SSE6	SSE6	S6	S6	NE2.3	N7	
20-Jan	S7	S7	S8	S9	S9	S10	S12	SSW14	S17	S19	S20	S21	S21	S20	S16	SSW14	SSW14	SSW13	SSW14	SSW13	SSW9	SW10	SW12	SW11	SSW13.1	S21	
21-Jan	SW10	SW9	SW10	SW9	SW7	SW12	WSW10	SW10	WSW10	WSW7	WNW6	N16	N20	N23	N18	N19	N20	N18	N18	N15	N16	N16	N14	NNW11	NW8.5	N23	
22-Jan	NNW9	NW4	SSW3	SW5	W3	NW5	NNW9	N8	NNW4	W3	SW4	SW3	WSW5	WSW8	SW8	SW8	S6	S7	S8	S8	S9	S9	S11	S12	SW3.6	S12	
23-Jan	SSW14	SSW16	S14	SSW13	SSW11	SW12	SW12	SW12	SSW9	SW13	SW11	SW10	SW10	WSW9	W10	NW11	NW11	NW8	WNW9	WSW8	WSW11	WSW10	W9	WNW12	WSW8.6	SSW16	
24-Jan	WNW12	NW14	NNW20	NNW21	NNW24	N29	N33	N21	N22	N22	N21	NNW19	N21	NNW16	NNW15	NNW7	SW3	SSW4	SW7	WSW7	WSW7	SW6	SW7	SW8	NNW12.1	N33	
25-Jan	SW10	SW8	SW8	SSW7	SSW7	S7	S8	S8	S8	SSW8	SSW9	SW9	SW12	SW11	WSW8	WSW8	WSW6	WSW6	WSW6	SSW6	SSW6	SSW7	SSW7	S8	SSW7.3	SW12	
26-Jan	S8	S8	S10	S9	SSW9	SSW8	SW10	SW12	SSW10	SW11	SSW9	SSW11	SW14	SW12	SW11	SW8	SW7	W3	WNW3	WNW4	WSW3	WSW3	SW5	S3	SSE2	SSW7.3	SW14
27-Jan	S3	S3	SSW3	SSW2	S2	SE2	S3	SSE6	SSW6	S5	S7	SW10	SSW9	SSW12	SW15	SW18	SW14	SW13	SW10	WNW12	NW19	NW20	WNW19	NW19	WSW6.4	NW20	
28-Jan	NW18	NW15	NW14	WNW11	NNW7	N4	WNW1	SW5	W8	WNW10	NW11	NW11	NW14	NW15	NNW13	NNW6	WNW8	NW7	WNW5	WSW3	WSW4	WSW5	W5	W4	WNW7.6	NW18	
29-Jan	W4	WNW2	W1	NNW2	N5	NE3	E3	SSE3	SE3	NNE5	NNE9	NE11	NNE9	NNE8	NNE9	NE9	NNE10	NNE10	NNE10	NNE10	NE10	NNE10	NNE10	NNE10	NNE6.0	NE11	
30-Jan	NNE10	NNE10	NNE9	NNE9	N11	N10	N8	NNE6	NNE4	N3	N6	N7	N6	NNE7	NNE6	NNE5	NNW3	NE2	ENE6	ENE4	E4	E3	SSE2	SSE3	NNE5.2	N11	
31-Jan	ESE3	E4	E4	E4	E4	ESE3	SE4	E4	E2	NE3	NNE4	ESE4	NE4	NNE6	NNE5	ENE7	ENE9	ENE8	ENE9	ENE9	ENE9	ENE10	ENE8	NE8	ENE5.2	ENE10	

WSW1.5 SW1.1 SW0.9SSW1.1 S0.5SSW0.9SSW1.0 S1.5 S1.4SSW1.4SSW1.4WSW1.4 W1.9WNW2.5 W2.5 W1.9WSW1.4WSW1.2 SW1.2 SW1.5WSW1.4WSW1.3WSW1.4WSW1.6	Diurnal Average
N20 SSE19 SSE21 SSE21NNW24 N29 N33 N21 N22 N22 N21 S21 S21 N23 N18 N19 N20 N18 N18 SW18 N21 N21 N21 NW19	Diurnal Maximum

UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 10m (WS10) - km/h
Wapasu - January 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	211	28.48	28.48
6 - 11	335	45.21	73.68
12 - 19	171	23.08	96.76
20 - 28	22	2.97	99.73
29 - 38	2	0.27	100.00
> 38	0	0.00	100.00

Total Number of Valid Hours: 741

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Wind Speed 10m (WS10) - km/h
Wapasu - January 2025**

Wind Speed Ranges (km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	16	28	11	7	11	8	10	32	35	8	13	10	7	5	3	7	211
6 - 11	59	30	4	10	0	2	0	42	60	25	34	18	12	13	9	17	335
12 - 19	34	3	4	3	1	3	0	33	18	17	25	7	0	4	11	8	171
20 - 28	11	0	0	0	0	0	0	2	4	0	0	0	0	0	1	4	22
29 - 38	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	122	61	19	20	12	13	10	109	117	50	72	35	19	22	24	36	741

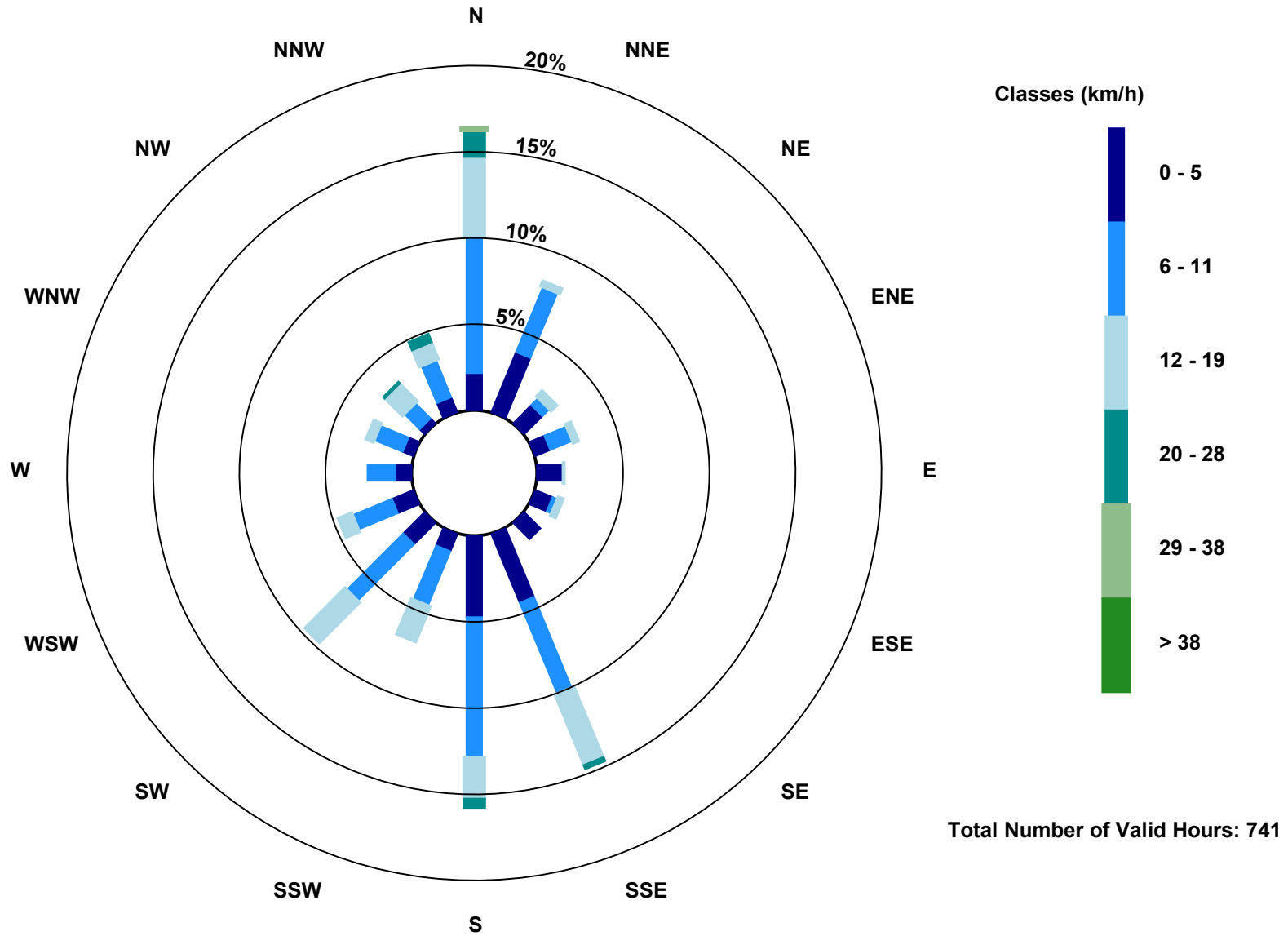
Total Number of Valid Hours: 741

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Wind Speed 10m (WS10) - km/h
Wapasu





Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Speed 10m (WS10) - km/h
Wapasu - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 10 km/h on Jan 24 07:00 Minimum Value: 0 km/h on Jan 2 19:00 Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 1 Median = 2 Q ₃ = 4 P ₉₀ = 5 P ₉₉ = 7																		Hours in Service: 744 Hours of Data: 741 Hours of Missing Data: 3 Hours of Calibration: 0 Percent Operational Time: 99.6							
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	3	2	2	2	2	2	2	2	2	2	3	3	3	2	2	1	1	1	2	2	2	2	1	1	3
2-Jan	1	2	1	1	1	1	1	1	1	1	1	1	UO	1	UO	1	1	0	0	1	0	1	1	1	2
3-Jan	2	1	2	2	2	2	2	2	3	2	3	3	2	3	3	3	3	3	4	4	4	4	5	5	5
4-Jan	5	4	4	5	5	4	4	3	4	4	4	4	4	4	3	3	3	3	2	2	1	1	1	2	5
5-Jan	2	1	2	2	3	3	2	2	2	2	3	3	2	2	2	1	2	2	2	1	1	1	1	1	3
6-Jan	2	2	2	2	2	2	3	3	3	4	4	4	4	4	4	4	4	5	4	4	4	4	3	3	5
7-Jan	3	3	4	3	4	4	3	4	4	4	4	4	4	3	3	4	3	4	5	5	5	4	4	4	5
8-Jan	3	3	3	3	2	3	4	3	2	2	3	3	4	5	4	4	3	3	3	3	3	4	3	3	5
9-Jan	3	5	4	4	4	3	4	4	3	3	2	2	1	3	1	2	2	2	2	4	4	4	5	5	5
10-Jan	5	5	6	6	6	4	4	2	2	3	3	2	2	2	3	3	3	4	4	3	3	3	3	3	6
11-Jan	2	2	2	1	1	1	1	1	2	1	1	2	1	1	1	UO	1	1	1	1	1	1	1	1	2
12-Jan	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	2
13-Jan	1	1	1	1	1	1	1	2	2	2	2	2	2	1	2	2	2	1	1	1	1	1	1	1	2
14-Jan	1	1	1	1	1	1	2	2	2	3	4	4	6	5	5	3	3	3	3	3	2	3	3	3	6
15-Jan	3	4	4	4	2	1	2	1	2	2	2	2	2	3	2	1	2	1	1	3	1	2	3	1	4
16-Jan	1	1	2	2	4	4	5	5	4	4	5	4	5	5	6	5	5	5	5	5	7	7	7	6	7
17-Jan	6	6	5	5	4	4	4	3	4	4	4	4	4	4	4	3	3	3	5	4	5	4	4	3	6
18-Jan	4	2	2	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	4
19-Jan	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	2	2
20-Jan	2	2	2	3	3	3	4	5	6	6	7	7	7	7	6	5	4	4	5	4	3	4	3	2	7
21-Jan	3	2	3	3	3	3	3	3	2	2	2	6	6	6	6	6	6	5	6	5	4	4	4	3	6
22-Jan	3	2	1	2	1	3	2	3	2	1	1	1	1	2	2	2	2	2	2	2	2	3	3	4	4
23-Jan	5	5	5	4	4	4	4	3	3	4	3	3	2	2	3	4	3	3	3	2	3	3	3	4	5
24-Jan	4	5	8	6	7	8	10	7	7	6	5	5	6	4	4	2	1	1	3	2	2	2	2	2	10
25-Jan	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	2	2	2	2	1	1	2	3	2	3
26-Jan	2	2	3	3	3	2	3	4	3	4	3	4	4	4	3	2	2	1	1	1	1	2	1	1	4
27-Jan	1	1	1	1	1	1	1	1	2	1	2	4	3	4	4	5	4	4	3	7	6	7	7	6	7
28-Jan	6	5	4	4	4	2	1	2	3	3	3	4	5	5	4	3	3	3	2	1	1	2	1	1	6
29-Jan	1	1	1	1	2	1	1	1	1	2	3	4	3	3	3	3	3	3	4	3	4	4	3	3	4
30-Jan	3	3	3	4	3	3	2	2	1	1	2	2	2	2	2	2	2	2	1	1	1	1	1	1	4
31-Jan	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	3	3	2	3	3	3	3	3	3	3
Diurnal Maximum																								6	
UO - Unstable Operation																									



Wood Buffalo Environmental Association
Summary of Hour Averages

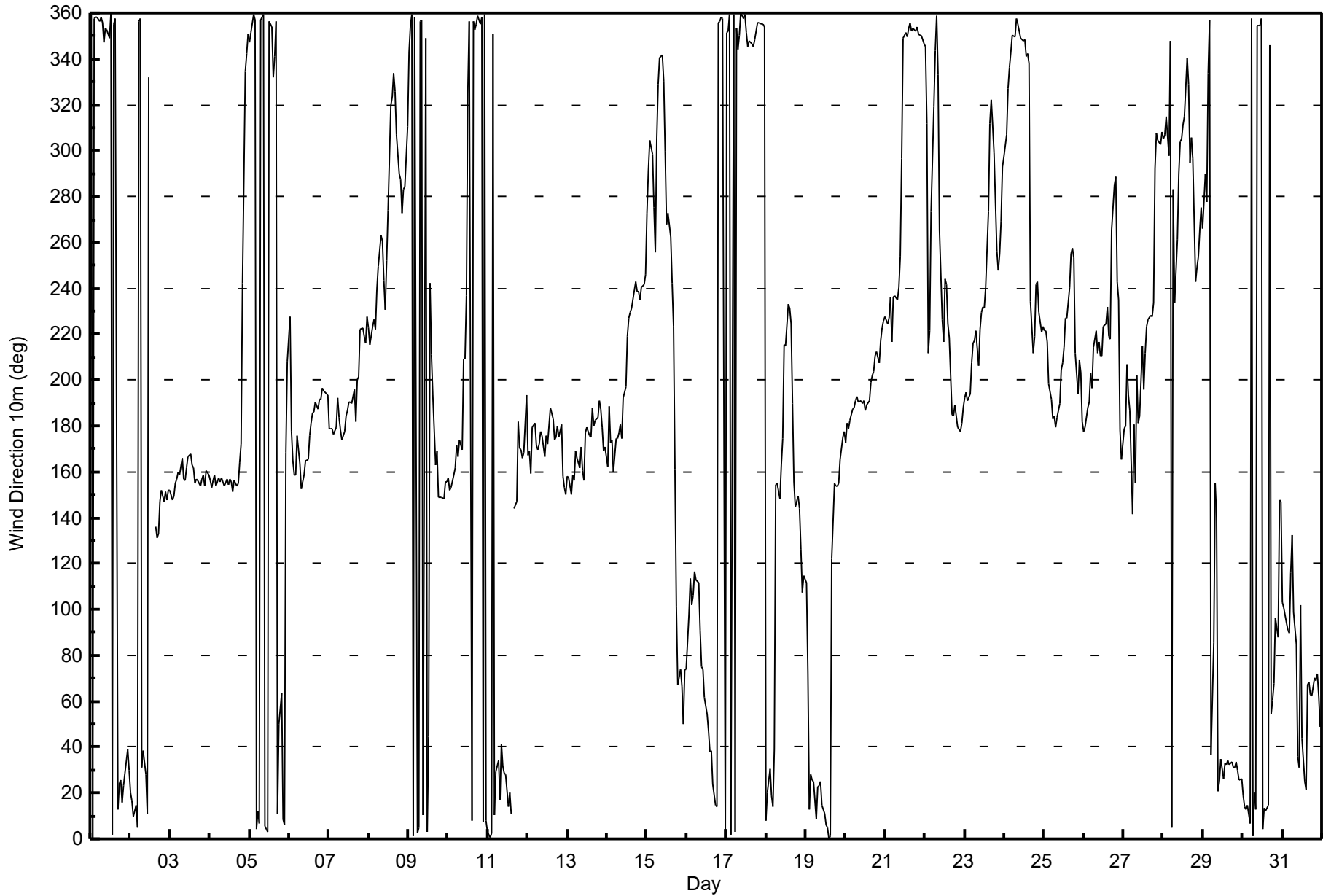
Wind Direction 10m (WD10) - deg
Wapasu - January 2025

Direction of Maximum Speed: 349 deg on Jan 24 07:00	Hours in Service: 744
Direction of Maximum Daily Speed Average: 353.7 deg on Jan 17	Hours of Data: 741
Direction of Minimum Speed: 144 deg on Jan 11 17:00	Hours of Missing Data: 3
Direction of Minimum Daily Speed Average: 1.2 deg on Jan 2	Percent Operational Time: 99.6
Monthly Average Direction: 234.9 deg	

Day	Hourly Period Ending At (MST)																								Daily Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	359	0	357	358	358	356	358	356	347	353	353	349	360	2	355	357	13	24	25	16	23	29	39	30	2.6
2-Jan	20	16	10	15	5	356	358	31	39	28	11	332	UO	178	UO	136	131	133	147	152	147	151	148	152	78.9
3-Jan	152	148	150	155	157	160	159	166	157	156	162	167	168	163	162	155	157	156	154	157	159	154	161	158	157.9
4-Jan	156	153	156	158	154	158	155	157	156	154	157	154	157	155	152	156	153	155	164	172	242	334	342	351	156.1
5-Jan	347	351	360	357	4	12	7	357	359	5	4	3	356	354	332	341	356	11	50	63	8	6	169	208	1.1
6-Jan	228	177	165	159	158	176	164	152	156	158	165	165	176	182	185	186	191	187	192	191	196	195	194	194	179.0
7-Jan	179	179	179	177	180	193	184	178	174	178	184	187	190	190	190	196	182	200	201	222	223	219	216	228	194.6
8-Jan	223	215	223	227	222	239	250	263	261	243	230	252	274	320	323	334	326	307	290	287	273	283	285	310	270.9
9-Jan	343	355	359	1	358	3	5	356	357	10	349	3	44	242	211	194	163	169	149	149	149	148	156	155	53.6
10-Jan	158	152	153	158	162	171	167	174	170	210	209	237	325	356	8	356	353	355	359	355	358	7	360	8	119.9
11-Jan	3	1	3	351	11	29	34	17	41	32	29	28	14	20	11	UO	144	147	182	170	170	166	169	194	28.0
12-Jan	167	169	159	180	181	172	169	172	177	176	167	176	172	180	188	183	174	175	180	175	181	158	153	150	173.3
13-Jan	158	158	150	158	156	169	166	162	171	161	156	177	180	176	175	188	180	183	184	191	187	179	169	171	171.0
14-Jan	163	188	173	174	160	174	175	177	181	175	192	197	219	227	229	231	239	243	239	239	235	240	241	246	216.9
15-Jan	273	291	305	298	275	256	305	329	341	341	330	300	268	273	263	242	223	161	101	67	74	66	50	74	304.6
16-Jan	74	98	113	102	106	117	113	111	91	75	74	61	54	47	38	39	24	15	14	356	356	358	358	0	46.6
17-Jan	352	352	359	2	359	3	354	344	350	360	358	360	352	345	348	347	345	348	352	356	356	355	355	354	353.7
18-Jan	8	20	30	19	14	39	154	155	148	163	175	215	215	233	231	224	190	156	144	150	144	126	107	115	147.6
19-Jan	112	72	13	28	26	25	9	23	23	25	14	11	6	5	0	1	122	155	154	154	155	165	175	177	43.3
20-Jan	173	181	179	183	187	188	191	193	191	191	190	191	187	189	191	199	202	204	210	212	207	217	223	226	195.9
21-Jan	228	225	227	236	217	236	237	235	241	254	296	349	351	350	353	356	352	353	352	354	351	350	350	347	326.1
22-Jan	346	312	212	221	273	319	343	359	333	265	226	216	244	242	225	218	185	184	189	184	179	177	181	188	220.4
23-Jan	192	194	191	194	208	216	218	221	206	222	230	232	231	241	273	312	322	311	299	256	248	255	269	293	236.6
24-Jan	297	307	327	336	343	350	349	358	355	352	349	348	349	341	342	338	234	212	219	242	243	230	221	223	334.3
25-Jan	221	222	217	198	192	183	184	179	184	190	205	207	214	227	227	240	255	257	253	211	194	208	203	182	210.8
26-Jan	178	180	188	191	203	197	214	222	212	217	211	210	223	224	232	219	218	265	285	289	243	235	178	165	212.9
27-Jan	179	180	207	194	187	142	180	155	202	181	184	215	196	212	223	226	228	227	234	292	308	305	303	308	244.7
28-Jan	305	307	315	297	348	5	283	234	261	290	304	305	311	315	340	329	295	306	296	243	249	254	266	275	303.2
29-Jan	266	290	278	334	357	36	86	155	141	21	25	35	26	33	32	34	32	33	31	31	34	30	25	26	29.3
30-Jan	19	14	13	15	7	358	1	20	13	355	355	357	5	13	12	15	346	54	61	68	96	88	148	147	17.2
31-Jan	103	101	94	91	90	116	132	99	85	36	31	102	44	25	21	67	69	63	62	70	69	72	62	49	69.3

236.7 222.8 218.7 201.7 171.5 193.9 193.7 182.5 185.5 194.0 213.6 240.8 264.7 284.0 280.3 271.1 250.7 239.7 223.5 229.7 240.3 248.1 237.6 237.4
 Diurnal Average

UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods





Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg
Wapasu - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 96 deg on Jan 9 14:00 Minimum Value: 4 deg on Jan 2 21:00 Percentiles: P ₁ = 9 P ₁₀ = 17 Q ₁ = 20 Median = 25 Q ₃ = 28 P ₉₀ = 31 P ₉₉ = 61																			Hours in Service: 744 Hours of Data: 741 Hours of Missing Data: 3 Hours of Calibration: 0 Percent Operational Time: 99.6						
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	27	26	23	25	25	24	22	25	17	21	23	21	25	25	24	27	26	26	28	28	28	29	25	27	29
2-Jan	28	31	27	26	25	26	27	26	22	28	36	45	UO	71	UO	70	12	13	9	7	4	8	11	14	71
3-Jan	18	18	18	18	19	21	20	23	22	20	23	23	25	26	26	18	21	19	18	19	22	19	22	21	26
4-Jan	20	19	23	26	21	21	19	21	19	19	20	20	21	23	22	23	22	32	29	35	34	27	19	26	35
5-Jan	19	19	21	22	26	29	26	22	24	24	26	27	26	29	21	18	21	29	24	27	33	61	77	30	77
6-Jan	18	28	25	24	22	28	26	19	20	21	25	27	29	29	30	31	31	28	30	28	29	28	28	28	31
7-Jan	27	27	26	27	26	29	28	29	28	28	31	28	30	29	28	28	33	36	33	17	17	20	21	16	36
8-Jan	18	22	16	19	18	20	21	26	25	23	16	22	33	23	22	17	19	27	28	27	27	26	28	25	33
9-Jan	21	27	25	27	25	28	28	25	23	30	20	29	54	96	33	26	21	25	17	17	19	18	19	21	96
10-Jan	21	20	20	21	24	28	24	27	22	27	25	36	28	25	29	22	22	22	24	24	23	27	25	28	36
11-Jan	26	26	28	16	28	25	28	28	25	29	31	36	34	45	70	UO	85	13	20	20	20	18	21	26	85
12-Jan	24	25	21	28	30	25	25	27	27	28	25	29	27	28	28	30	26	31	26	23	24	18	14	10	31
13-Jan	10	14	10	12	17	22	23	24	27	21	20	27	28	28	27	28	29	27	24	29	20	14	12	14	29
14-Jan	11	18	13	15	13	21	25	26	25	26	29	29	23	18	17	18	16	18	16	16	14	17	18	20	29
15-Jan	30	29	25	29	27	28	34	20	15	14	16	26	25	27	17	16	14	32	25	47	23	24	25	20	47
16-Jan	24	20	21	20	22	21	23	24	27	22	24	22	23	25	27	26	30	32	31	25	25	25	23	28	32
17-Jan	24	22	26	26	24	25	24	19	21	23	22	25	20	18	19	20	18	19	21	23	24	24	22	22	26
18-Jan	29	28	23	21	23	48	13	10	8	14	24	20	22	24	20	18	22	11	10	11	7	19	19	23	48
19-Jan	21	27	24	25	23	30	28	28	30	28	27	28	25	27	27	26	61	13	9	7	10	12	18	21	61
20-Jan	21	27	26	28	28	29	28	29	29	29	28	28	28	28	29	28	28	31	24	23	28	25	16	17	31
21-Jan	19	19	21	24	35	18	17	18	17	24	35	21	21	21	23	23	22	22	23	25	20	19	20	17	35
22-Jan	21	44	35	29	40	34	18	26	45	32	18	27	27	18	18	19	23	26	28	27	24	28	27	28	45
23-Jan	29	29	29	29	26	23	22	21	25	21	19	17	17	21	30	25	22	26	28	22	20	24	26	28	30
24-Jan	28	25	26	18	21	21	22	26	24	21	19	20	20	19	19	18	42	20	22	22	17	18	17	14	42
25-Jan	14	16	19	25	24	22	21	23	27	26	28	23	22	16	17	25	23	26	23	20	19	19	28	25	28
26-Jan	21	21	27	27	26	26	23	20	24	22	25	27	20	19	18	21	19	49	35	30	34	21	26	41	49
27-Jan	28	30	25	38	33	41	44	13	26	23	27	24	29	23	19	16	18	21	18	38	26	27	29	27	44
28-Jan	27	26	24	30	35	39	75	20	27	27	28	26	26	27	21	30	29	24	27	29	28	26	32	31	75
29-Jan	30	35	34	50	24	42	25	20	23	27	32	29	30	33	27	27	29	28	28	30	28	28	31	29	50
30-Jan	30	30	31	30	29	25	25	31	29	25	22	25	26	27	29	30	16	34	15	19	33	26	17	43	43
31-Jan	15	23	10	9	11	29	14	16	60	23	32	52	58	26	27	35	24	21	22	24	24	23	25	26	60
30 44 35 50 40 48 75 31 60 32 36 52 58 96 70 70 85 49 35 47 34 61 77 43																									
Diurnal Maximum																									
UO - Unstable Operation																									



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS18 STONY MOUNTAIN JANUARY 2025

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

February 28, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - STONY MOUNTAIN (AMS18)
 JANUARY 2025

MONTHLY SUMMARY for
 AMD SECTION III.B.1(c)

Parameter	Hours of Data	Hours of Calibration	Hours without Data	Operational Time	Maximum 30-Min Value	30-Min Exceedances	Maximum 1-Hour Value	1-Hour Exceedances	Maximum 24-Hour Value	24-Hour Exceedances
SO2(ppb) Average	706	36	38	99.73	-	-	5.6	0	3.3	0
TRS(ppb) Average	703	38	41	99.6	0.9	0	0.8	0	0.5	0
THC(ppm) Average	706	36	38	99.73	-	-	2.3	-	2.2	-
NMHC(ppm) Average	706	36	38	99.73	-	-	0.114	-	0.083	-
CH4(ppm) Average	706	36	38	99.73	-	-	2.2	-	2.1	-
O3 (ppb) Average	708	34	36	99.73	-	-	44.7	0	41.5	-
NO2 (ppb) Average	704	37	40	99.6	-	-	11	0	6.4	-
NO (ppb) Average	704	37	40	99.6	-	-	4.7	-	1.2	-
NOX (ppb) Average	704	37	40	99.6	-	-	12.3	-	6.9	-
PM2.5 (ug/m3) Average	741	2	3	99.87	-	-	27.9	0	14.8	0
CO(ppm) Average	707	35	37	99.73	-	-	0.2	0	0.2	0
CO2(ppm) Average	707	35	37	99.73	-	-	458.7	0	450.4	0
Temperature 2 m (C) Average	744	0	0	100	-	-	4.9	-	1.7	-
Relative Humidity (%) Average	739	0	5	99.33	-	-	99.8	-	87.6	-
Wind Speed 10 m (km/h) Average	715	0	29	96.1	-	-	20	-	17	-
Wind Speed 20 m (km/h) Average	707	0	37	95.03	-	-	32	-	24	-
Wind Direction 10 m (deg) Average	715	0	29	96.1	-	-	-	-	0	-
Wind Direction 20 m (deg) Average	707	0	37	95.03	-	-	-	-	0	-
Precipitation (mm) Total	744	0	0	100	-	-	1.4	-	9.6	-
Leaf Wetness (% of range) Average	744	0	0	100	-	-	80.8	-	17.4	-
Global Solar Radiation (W/m2) Average	744	0	0	100	-	-	303	-	51.7	-

Note : Operational time includes periods of data collection and instrument calibration

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - STONY MOUNTAIN (AMS18)
JANUARY 2025

MONTHLY SUMMARY FOR AIR QUALITY/ METEOROLOGICAL MONITORING MEASUREMENTS

Parameter	Number	Mean	StnDev	Total	Percentile						
					Min	P10	Q1	Median	Q3	P90	Max
SO2 (ppb) Average	706	0.49	0.9	-	0	0	0.1	0.2	0.5	1.3	5.6
TRS (ppb) Average	703	0.42	0.1	-	0.3	0.4	0.4	0.4	0.4	0.5	0.8
THC (ppm) Average	706	2.08	0.1	-	2	2	2	2.1	2.1	2.2	2.3
NMHC(ppm) Average	706	0.012	0.02	-	0	0	0	0	0	0	0.114
CH4(ppm) Average	706	2.07	0.1	-	2	2	2	2.1	2.1	2.1	2.2
O3 (ppb) Average	708	33.01	6.1	-	10.9	24.1	30.1	34.4	37.6	39.3	44.7
NO2 (ppb) Average	704	1.46	1.7	-	0	0	0.3	0.9	2	3.6	11
NO (ppb) Average	704	0.39	0.5	-	0	0	0	0.2	0.6	1.1	4.7
NOX (ppb) Average	704	1.86	2	-	0	0	0.5	1.3	2.5	4.5	12.3
PM2.5 (ug/m3) Average	741	2.92	3.1	-	0.1	0.6	1.2	2.3	3.5	5.4	27.9
CO(ppm) Average	707	0.17	0	-	0.1	0.1	0.2	0.2	0.2	0.2	0.2
CO2(ppm) Average	707	439.67	4.2	-	432.7	435.1	436.7	438.7	441.5	446	458.7
Temperature 2 m (C) Average	744	-10.71	9.5	-	-28.3	-24.2	-19.3	-8.4	-2.7	0.9	4.9
Relative Humidity (%) Average	739	75.31	11.6	-	36.2	60.7	71	77	81.8	88.8	99.8
Wind Speed 10 m (km/h) Average	715	9.7	4	-	0	4	6	9	13	16	20
Wind Speed 20 m (km/h) Average	707	14.6	6	-	1	7	10	15	19	22	32
Wind Direction 10 m (deg) Average	715	-	-	-	-	-	-	-	-	-	-
Wind Direction 20 m (deg) Average	707	-	-	-	-	-	-	-	-	-	-
Precipitation (mm) Total	744	-	-	35.48	-	-	-	-	-	-	-
Surface Wetness (% of range) Average	744	3.77	6	-	1.2	1.7	1.9	2.4	2.8	8.9	80.8
Global Solar Radiation (W/m2) Average	744	21.13	45.7	-	0	0	0	0.2	16.3	80.8	303

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - STONY MOUNTAIN (AMS18)
JANUARY 2025

MONTHLY SUMMARY

Parameter	Period Start	Period End	Duration (Hours)	Notes
SO2	15 Jan 2025 14:00	15 Jan 2025 15:00	2	Maintenance - WBEA internal audit
TRS	15 Jan 2025 13:00	15 Jan 2025 15:00	3	Maintenance - WBEA internal audit
THC/NMHC/CH4	15 Jan 2025 16:00	15 Jan 2025 17:00	2	Maintenance - WBEA internal audit
NO2	22 Jan 2025 15:00	22 Jan 2025 16:00	2	Maintenance - WBEA internal audit
O3	15 Jan 2025 13:00	15 Jan 2025 15:00	3	Maintenance - WBEA internal audit
PM2.5	15 Jan 2025 14:00	15 Jan 2025 14:00	1	Maintenance - WBEA internal audit
CO	22 Jan 2025 13:00	22 Jan 2025 14:00	2	Maintenance - WBEA internal audit
CO2	22 Jan 2025 13:00	22 Jan 2025 14:00	2	Maintenance - WBEA internal audit
Relative Humidity	10 Jan 2025 19:00	10 Jan 2025 23:00	5	Sensor operated out of range
Wind Speed, Wind Direction 10m	11 Jan 2025 09:00	12 Jan 2025 13:00	29	Flat line in sensor output signal - Sensor frozen
Wind Speed, Wind Direction 20m	11 Jan 2025 09:00	12 Jan 2025 21:00	37	Flat line in sensor output signal - Sensor frozen

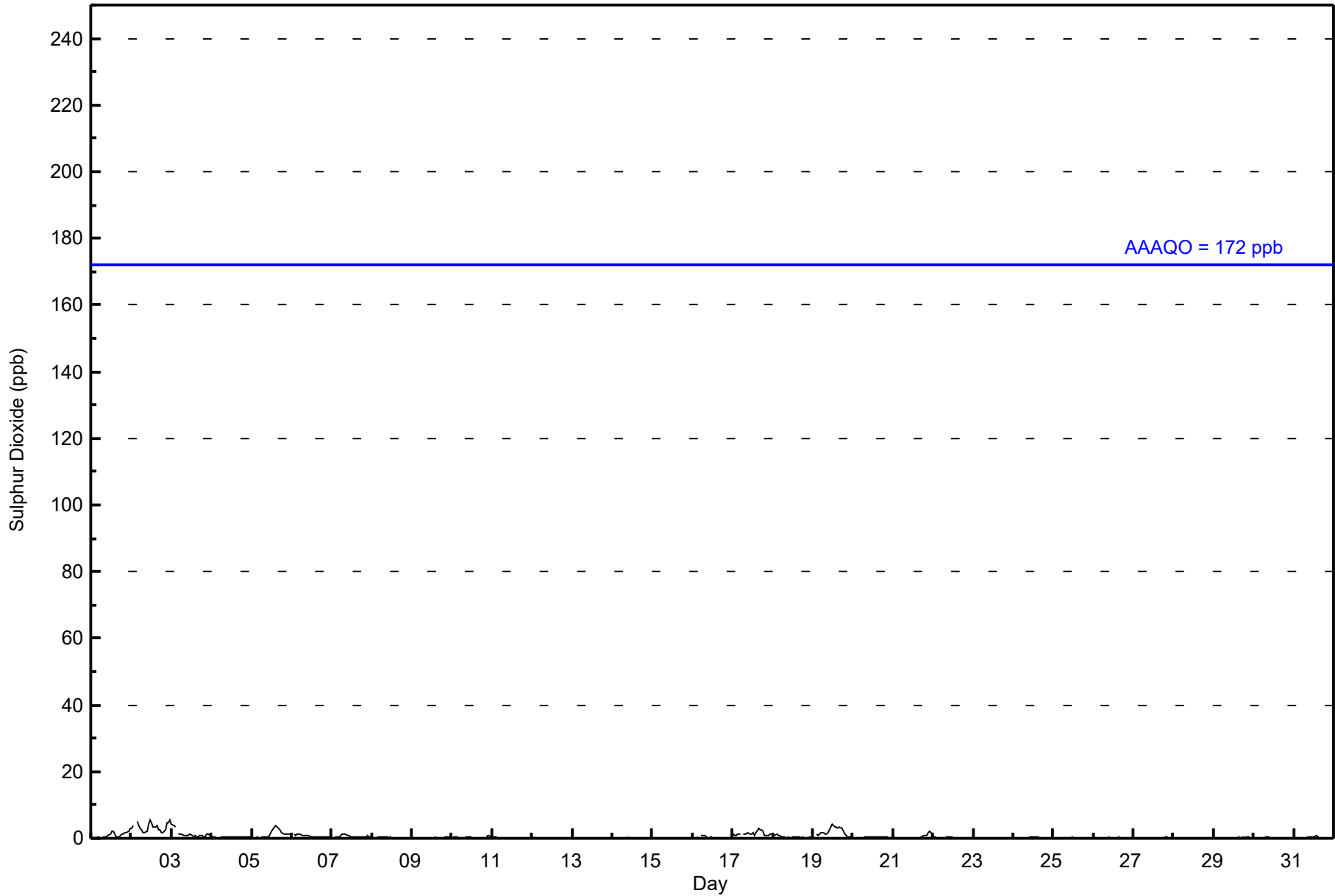


Number of Exceedences (AAAQO):		1-hr: 0		24-hr: 0		Hours in Service:														744																													
Maximum Value: 5.6 ppb on Jan 3 00:00		Maximum Daily Average: 3.3 ppb on Jan 2														Hours of Data:		706																															
Minimum Value: 0.0 ppb on Jan 8 21:00		Minimum Daily Average: 0.0 ppb on Jan 15														Hours of Missing Data:		38																															
Maximum Diurnal Average: 0.7 ppb at hour 15		Minimum Diurnal Average: 0.4 ppb at hour 20														Hours of Calibration:		36																															
Monthly Average: 0.49 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.5 P ₉₀ = 1.3 P ₉₉ = 4.1														Percent Operational Time:		99.7																															
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	0.1	Z	0.1	0.2	0.3	0.2	0.0	0.4	0.3	0.4	0.6	1.4	1.9	2.0	1.3	0.5	0.4	0.7	1.5	1.1	1.6	1.8	2.0	2.8	0.9	2.8																							
2-Jan	2.9	4.0	Z	5.2	4.0	3.0	2.3	1.6	1.6	2.1	4.1	5.5	4.5	3.4	3.4	3.7	2.3	2.4	1.9	1.8	2.5	4.5	4.6	5.6	3.3	5.6																							
3-Jan	4.3	3.6	3.2	Z	1.1	1.1	1.2	1.0	0.9	0.7	0.7	1.2	0.9	0.5	1.0	0.5	0.5	0.7	0.8	0.5	0.6	1.3	1.3	0.9	1.2	4.3																							
4-Jan	0.5	0.3	0.2	0.2	Z	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.4	0.5	0.5	0.4	0.3	0.2	0.3	0.5																							
5-Jan	0.2	0.2	0.2	0.3	0.2	Z	0.3	0.4	0.4	0.3	0.4	1.2	2.3	3.4	3.8	3.3	3.0	2.4	1.9	1.1	1.3	1.1	1.3	1.3	1.3	3.8																							
6-Jan	Z	1.1	1.0	1.1	1.4	1.2	1.1	0.9	1.1	0.9	0.8	0.5	0.5	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.5	0.7	1.4																							
7-Jan	0.5	Z	0.5	0.5	0.6	0.7	1.2	1.4	1.3	1.0	0.7	0.5	0.4	0.5	0.6	0.6	0.4	0.5	0.4	0.6	0.6	0.6	0.5	0.3	0.7	1.4																							
8-Jan	0.3	0.2	Z	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.3																							
9-Jan	0.1	0.0	0.1	Z	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.1	0.3	0.2	0.2	0.1	0.1	0.3																							
10-Jan	0.2	0.3	0.6	0.3	Z	0.2	0.2	0.2	0.3	0.2	0.3	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	1.0	0.9	0.4	0.3	1.0																							
11-Jan	0.3	0.4	0.4	0.1	0.2	Z	0.2	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.2	0.1	0.1	0.2	0.1	0.0	0.1	0.1	0.2	0.1	0.4																							
12-Jan	Z	0.2	0.2	0.2	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.2	0.0	0.1	0.1	0.2																							
13-Jan	0.1	Z	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1																							
14-Jan	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	C	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3																							
15-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	M	M	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1																							
16-Jan	0.0	0.0	0.1	0.6	Z	1.0	1.0	0.7	0.3	0.1	0.2	0.3	0.1	0.0	0.1	0.1	0.0	0.1	0.2	0.1	0.2	0.1	0.1	0.3	0.2	1.0																							
17-Jan	1.2	0.9	1.0	1.3	1.3	Z	1.4	1.4	1.4	1.5	1.2	1.4	1.7	0.8	1.5	3.1	2.4	2.6	2.2	0.9	0.8	0.9	1.1	1.3	1.5	3.1																							
18-Jan	Z	1.0	1.1	0.9	1.0	0.6	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	1.1																							
19-Jan	0.2	Z	1.4	0.9	1.3	1.8	1.7	1.1	1.2	1.8	2.7	4.1	3.7	3.3	3.2	2.9	3.2	3.1	2.2	1.2	0.9	0.4	0.5	0.3	1.9	4.1																							
20-Jan	0.1	0.1	Z	0.1	0.1	0.0	0.1	0.3	0.3	0.3	0.5	0.3	0.4	0.5	0.6	0.6	0.5	0.5	0.5	0.5	0.4	0.2	0.1	0.0	0.3	0.6																							
21-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.0	0.8	0.8	1.8	2.1	1.3	0.4	2.1																							
22-Jan	0.3	0.2	0.0	0.0	Z	0.0	0.1	0.2	0.3	0.3	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3																							
23-Jan	0.1	0.1	0.1	0.1	0.1	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1																							
24-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.5	0.4	0.3	0.4	0.5	0.4	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.5																							
25-Jan	0.0	Z	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2																							
26-Jan	0.2	0.1	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.0	0.0	0.2	0.2																							
27-Jan	0.0	0.0	0.1	Z	0.1	0.0	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.3	0.3	0.2	0.2	0.1	0.1	0.3																							
28-Jan	0.1	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1																							
29-Jan	0.1	0.1	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.3	0.2	0.2	0.2	0.4	0.5	0.3	0.2	0.1	0.2	0.5																							
30-Jan	Z	0.1	0.1	0.2	0.2	0.1	0.1	0.3	0.3	0.4	0.2	0.0	0.0	0.2	0.2	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4																							
31-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.3	0.5	0.5	0.6	0.8	0.4	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.8																							
																								Diurnal Average		0.5		0.5		0.4		0.4		0.4		0.4		0.5		0.6		0.6		0.7		0.6		0.5	
																								Diurnal Maximum		4.3		4.0		3.2		5.2		4.0		3.0		2.3		1.6		1.6		2.1		4.1		5.5	
Z - zerospan C - Calibration M - Maintenance																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb																																																	



Wood Buffalo Environmental Association
Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Stony Mountain - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Sulphur Dioxide (SO₂) - ppb
Stony Mountain - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	706	100.00	100.00
11 - 20	0	0.00	100.00
21 - 60	0	0.00	100.00
61 - 110	0	0.00	100.00
111 - 172	0	0.00	100.00
> 172	0	0.00	100.00

Total Number of Valid Hours: 706

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Stony Mountain - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 10	14	18	22	11	21	12	6	30	37	67	47	35	75	131	76	68	670
11 - 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 - 60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61 - 110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111 - 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	14	18	22	11	21	12	6	30	37	67	47	35	75	131	76	68	670

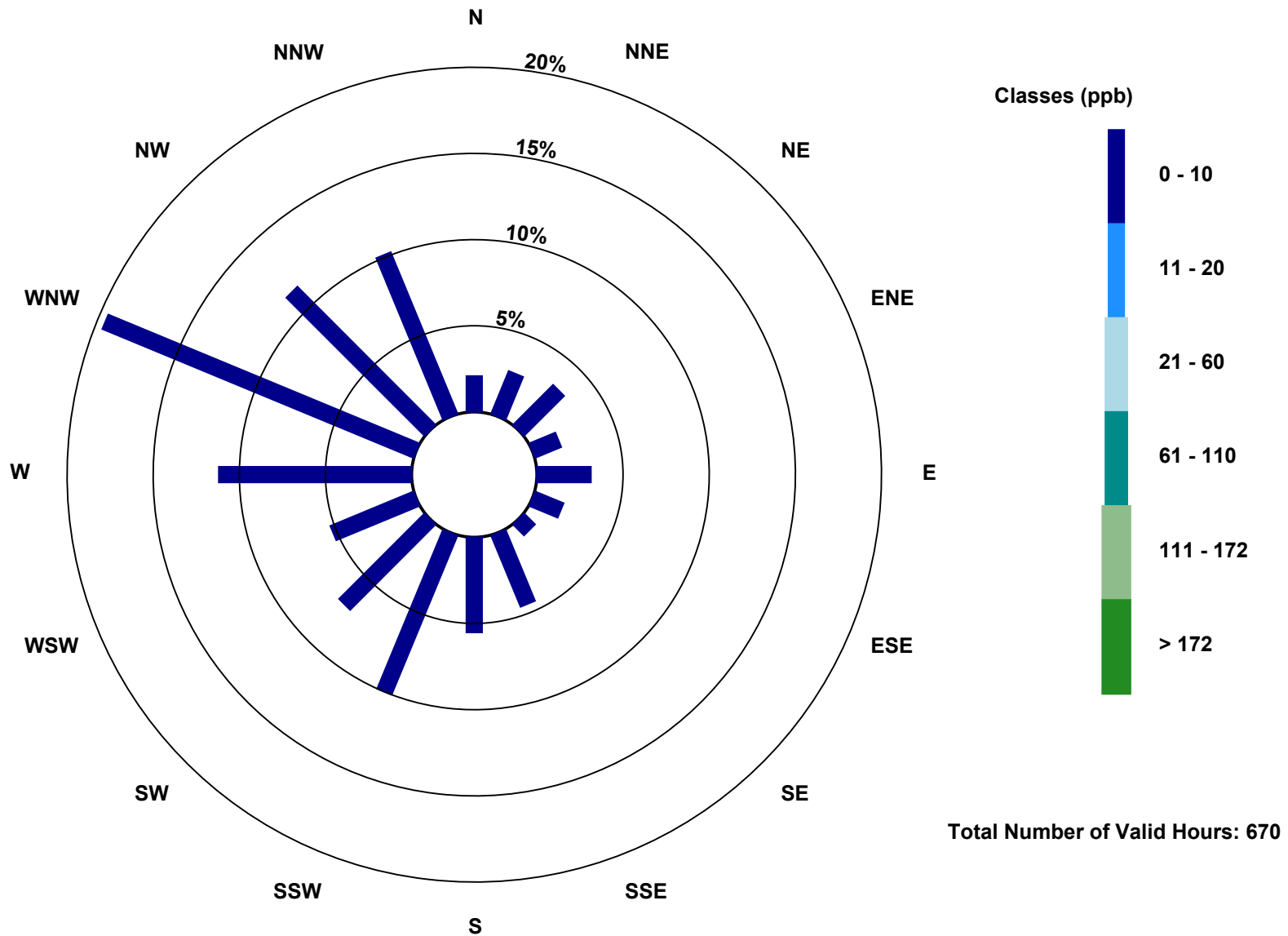
Total Number of Valid Hours: 670

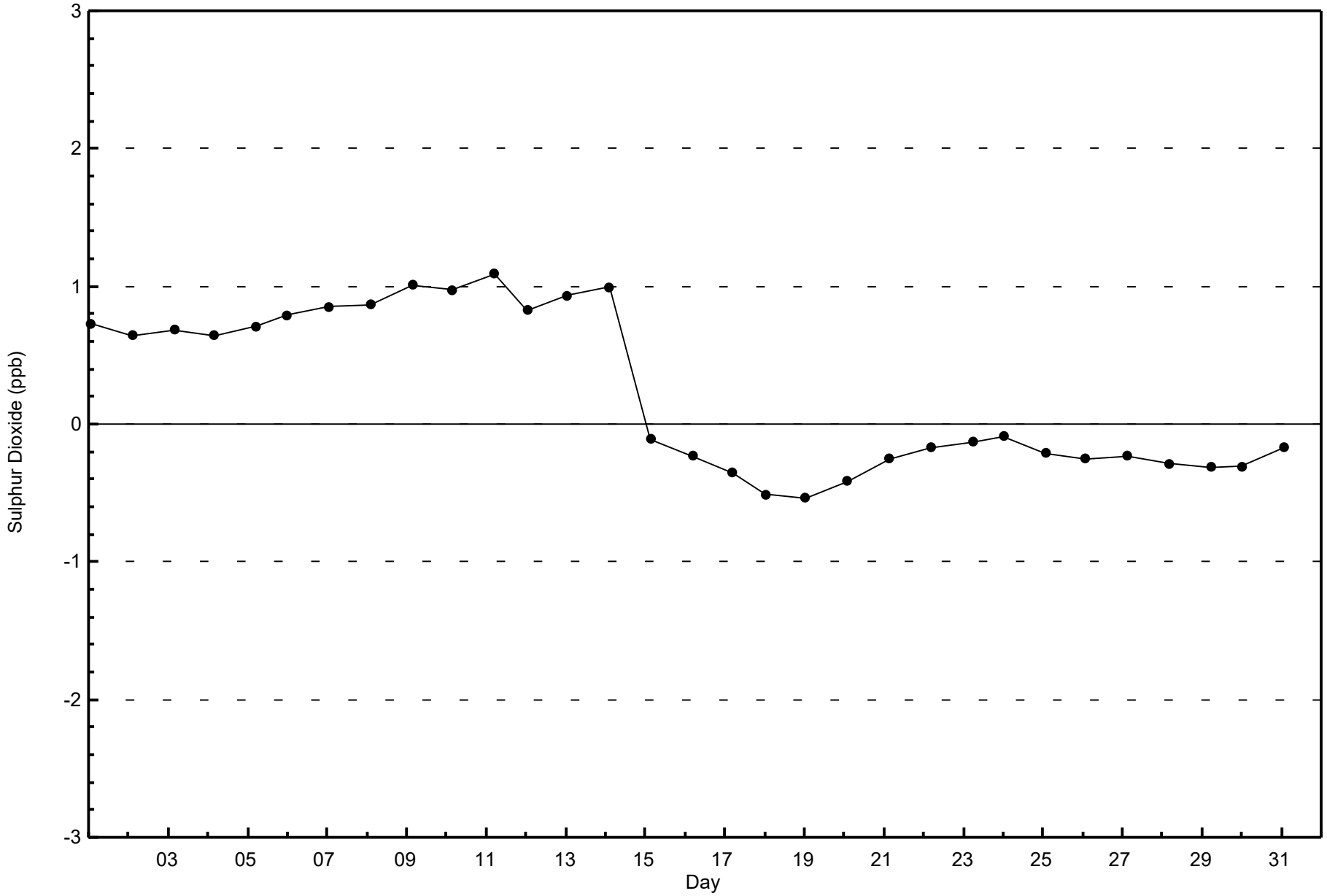
Total Number of Hours: 744

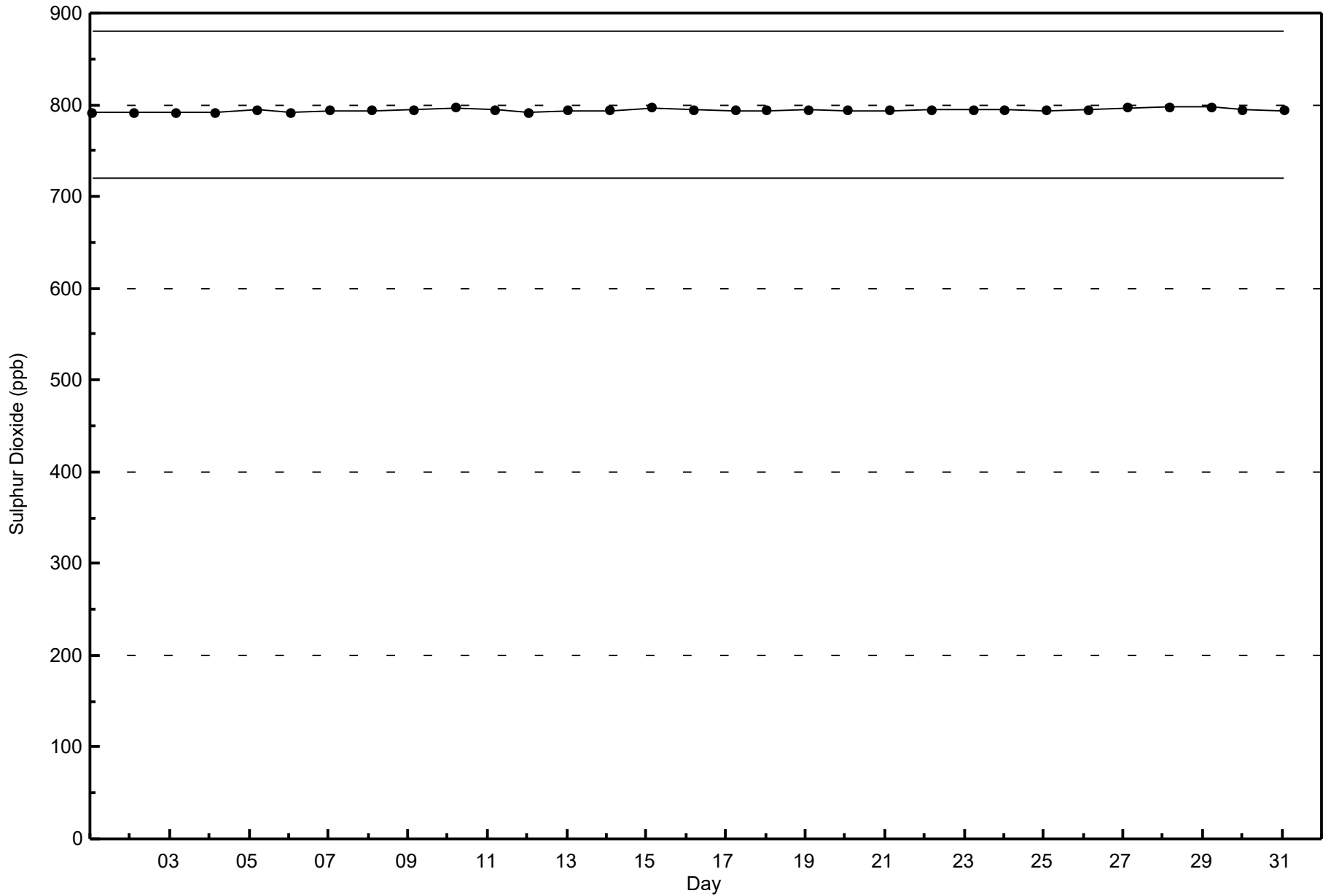


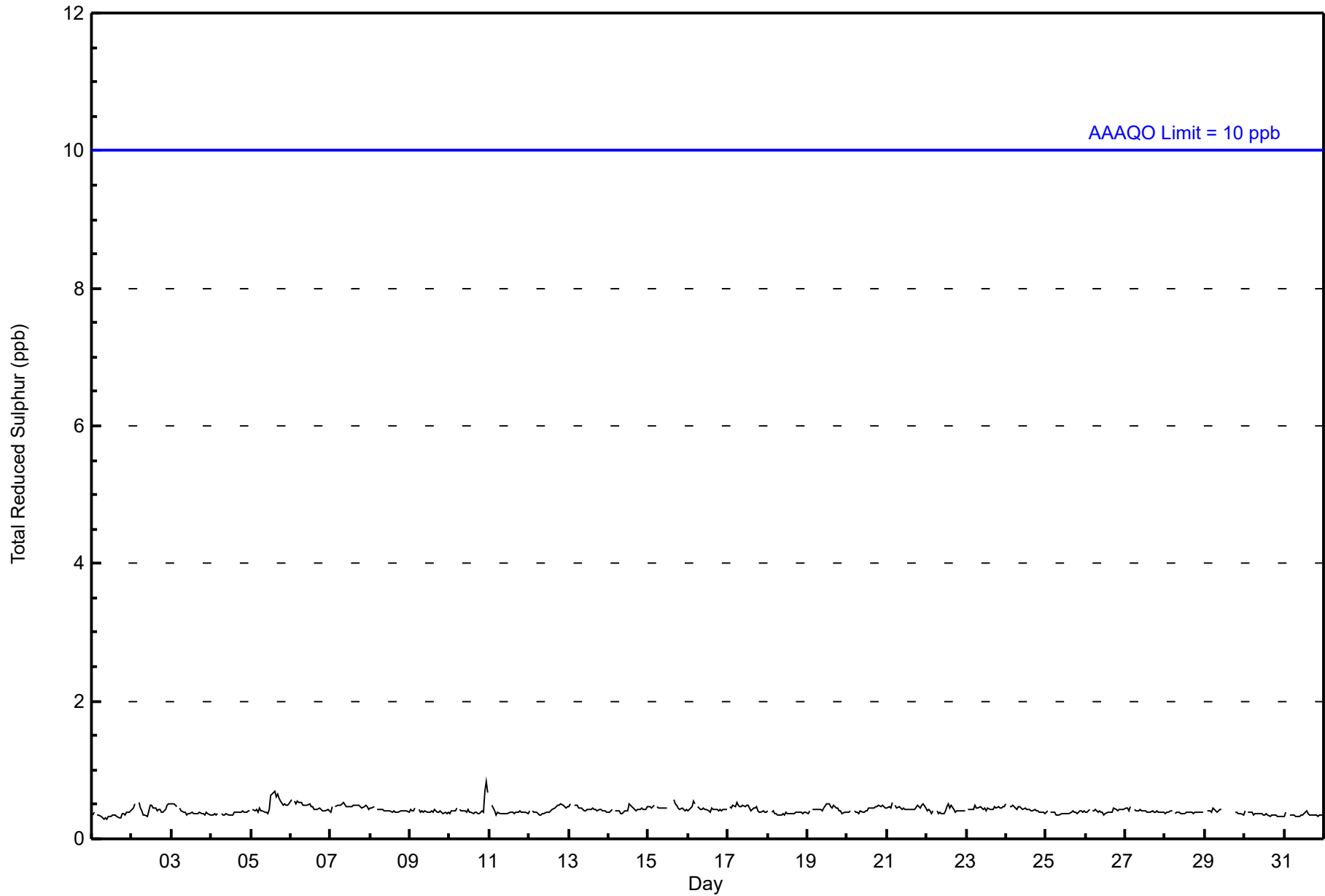
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Sulphur Dioxide (SO₂) - ppb
Stony Mountain











Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Reduced Sulphur (TRS) - ppb
Stony Mountain - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	703	100.00	100.00
3 - 4	0	0.00	100.00
5 - 7	0	0.00	100.00
8 - 11	0	0.00	100.00
> 11	0	0.00	100.00

Total Number of Valid Hours: 703

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Total Reduced Sulphur (TRS) - ppb
Stony Mountain - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2	13	19	22	11	17	11	5	30	37	66	49	38	74	129	78	68	667
3 - 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 - 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 - 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	13	19	22	11	17	11	5	30	37	66	49	38	74	129	78	68	667

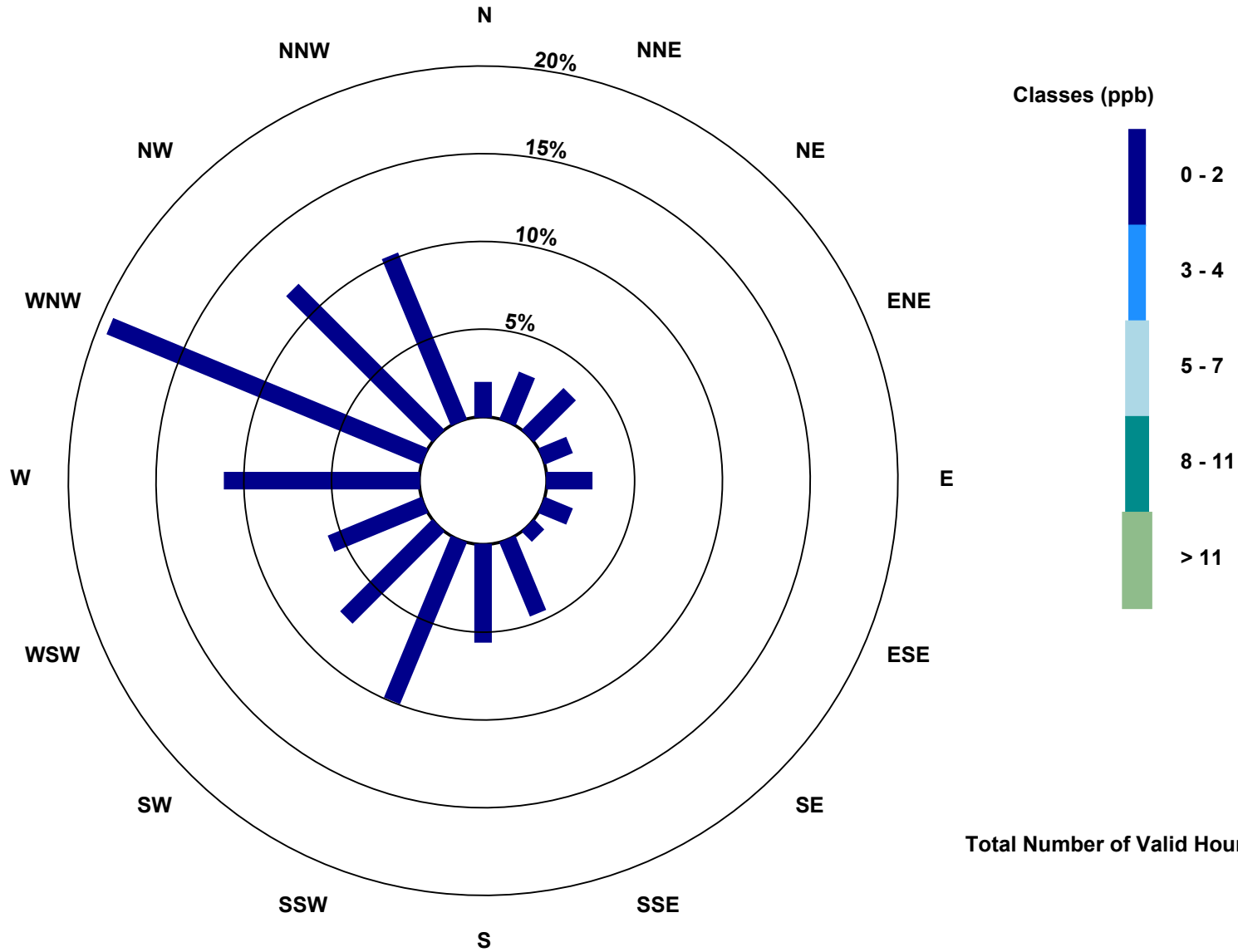
Total Number of Valid Hours: 667

Total Number of Hours: 744

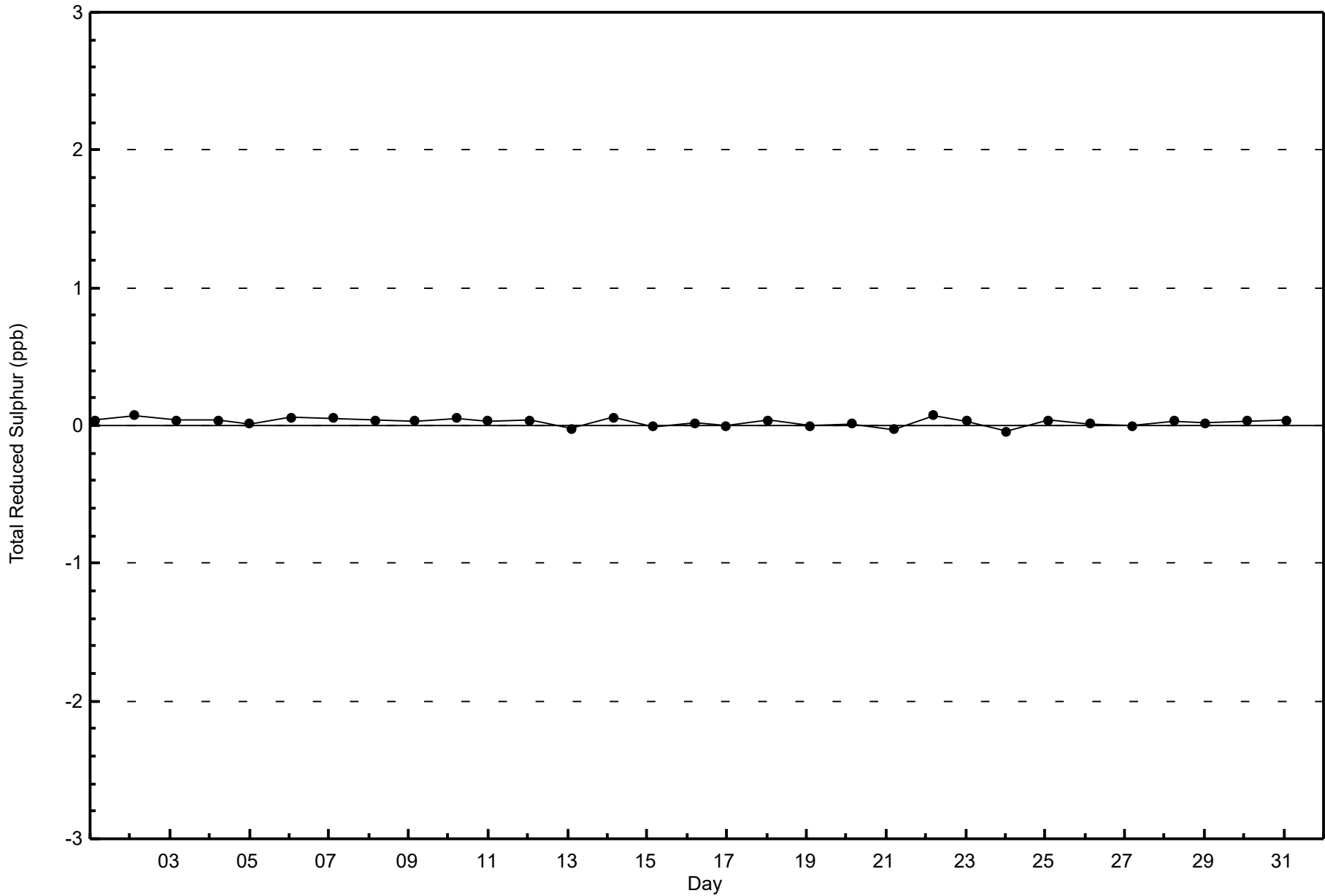


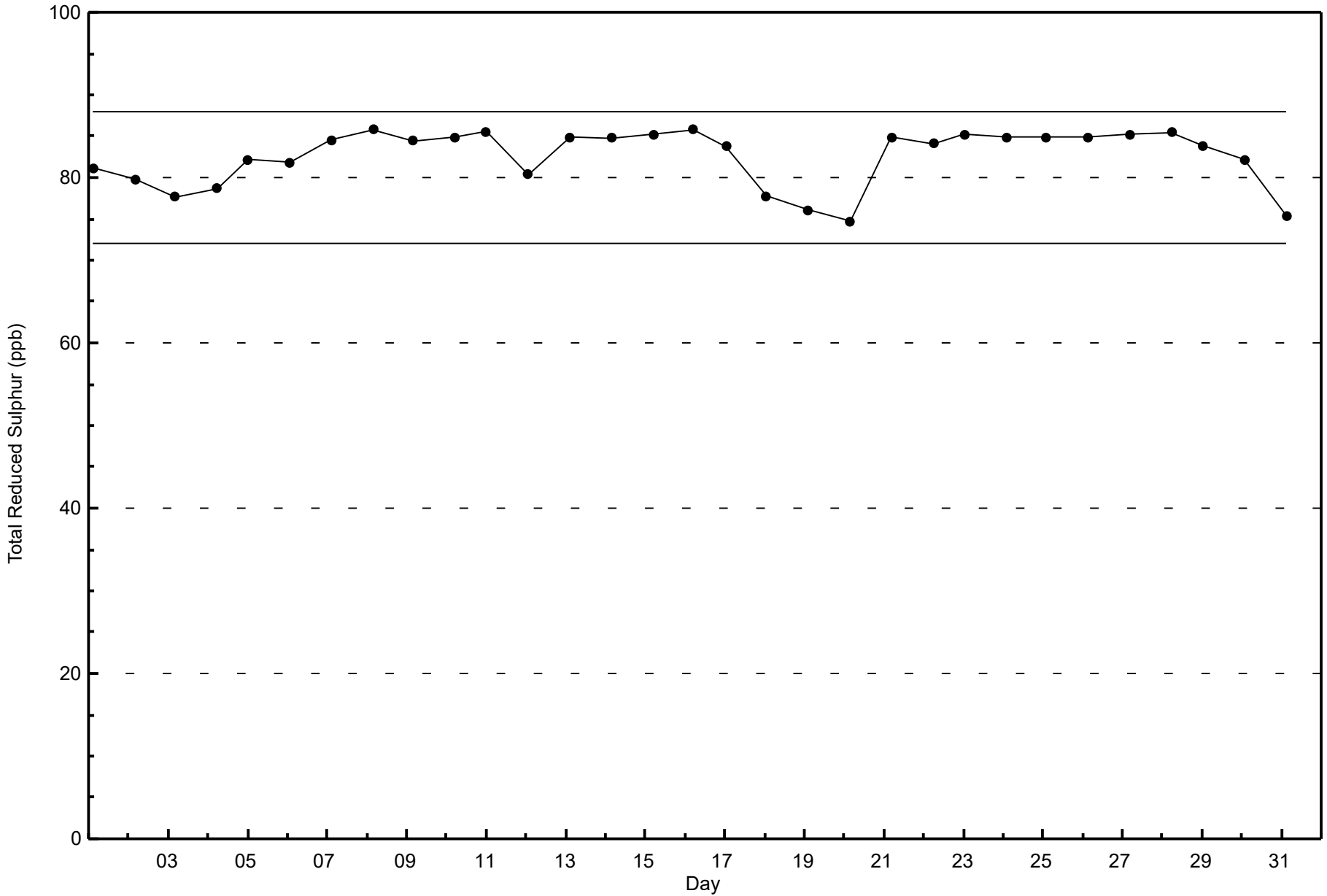
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Total Reduced Sulphur (TRS) - ppb
Stony Mountain



Total Number of Valid Hours: 667



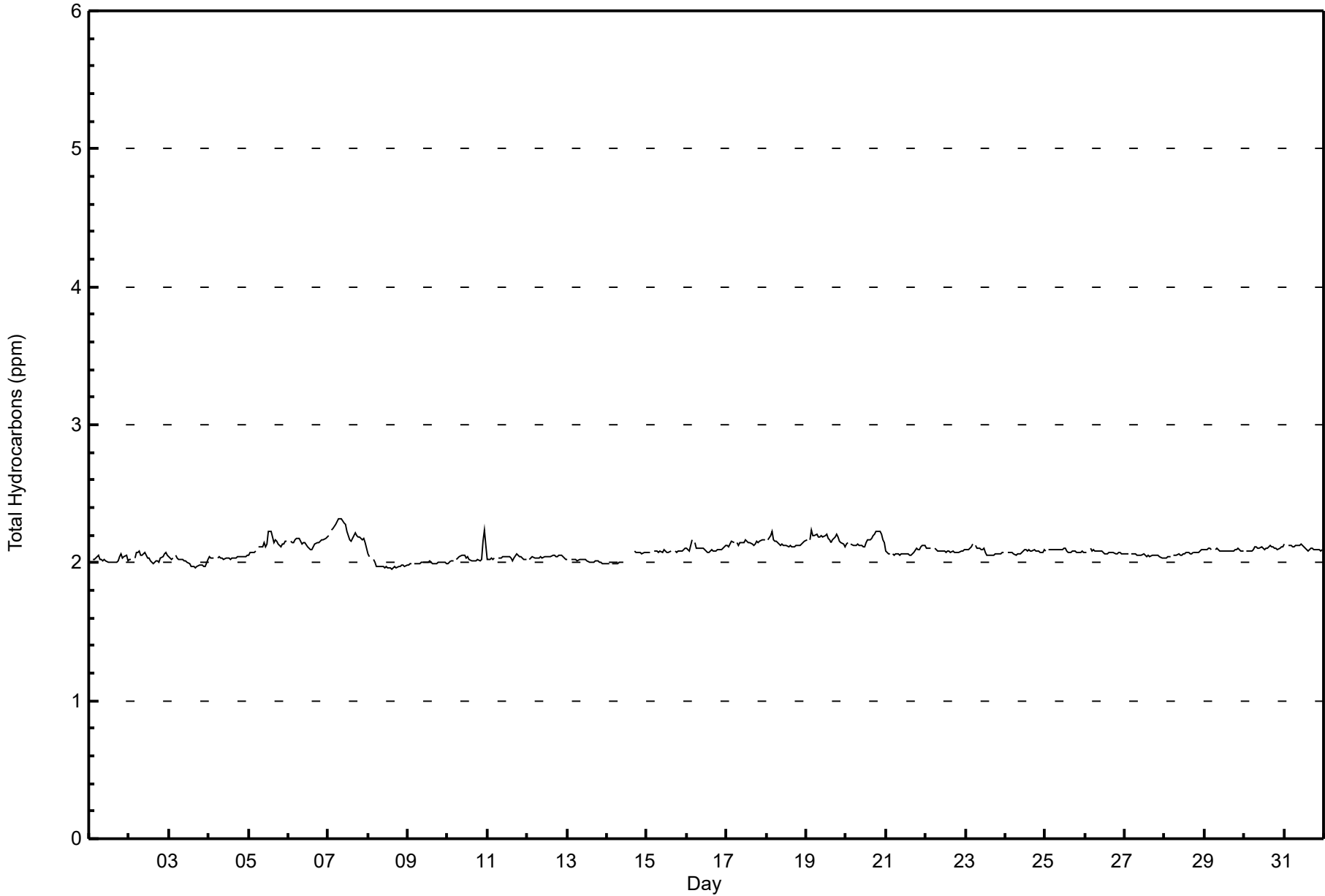




Wood Buffalo Environmental Association
Summary of Hour Averages

Total Hydrocarbons (THC) - ppm
Stony Mountain - January 2025

Maximum Value: 2.3 ppm on Jan 7 08:00		Maximum Daily Average: 2.2 ppm on Jan 7		Hours in Service: 744																																															
Minimum Value: 2.0 ppm on Jan 8 15:00		Minimum Daily Average: 2.0 ppm on Jan 8		Hours of Data: 706																																															
Maximum Diurnal Average: 2.1 ppm at hour 4		Minimum Diurnal Average: 2.1 ppm at hour 2		Hours of Missing Data: 38																																															
Monthly Average: 2.08 ppm		Percentiles: P ₁ = 2.0 P ₁₀ = 2.0 Q ₁ = 2.0 Median = 2.1 Q ₃ = 2.1 P ₉₀ = 2.2 P ₉₉ = 2.2		Hours of Calibration: 36																																															
				Percent Operational Time: 99.7																																															
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																											
1-Jan	2.0	Z	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1																							
2-Jan	2.0	2.0	Z	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.0	2.1	2.1																							
3-Jan	2.0	2.0	2.0	Z	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1																							
4-Jan	2.0	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.1	2.1																							
5-Jan	2.1	2.1	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.2	2.2																							
6-Jan	Z	2.2	2.1	2.1	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.2	2.2																							
7-Jan	2.2	Z	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.2	2.2	2.3	2.3																							
8-Jan	2.1	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1																							
9-Jan	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0																							
10-Jan	2.0	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.2	2.1	2.0	2.0	2.2	2.2																							
11-Jan	2.0	2.0	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1																							
12-Jan	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1																							
13-Jan	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0																							
14-Jan	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	C	C	C	C	C	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1																							
15-Jan	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	M	M	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1																							
16-Jan	2.1	2.1	2.1	2.2	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2																							
17-Jan	2.1	2.1	2.1	2.2	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.2	2.2	2.2	2.2	2.2	2.1	2.2																							
18-Jan	Z	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2																							
19-Jan	2.2	Z	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.2	2.2																							
20-Jan	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2																							
21-Jan	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1																							
22-Jan	2.1	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1																							
23-Jan	2.1	2.1	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1																							
24-Jan	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1																							
25-Jan	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1																							
26-Jan	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1																							
27-Jan	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.1																							
28-Jan	2.0	2.0	2.0	2.0	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1																							
29-Jan	2.1	2.1	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1																							
30-Jan	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1																							
31-Jan	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1																							
																								2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	
																								2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
Z - zerospan																								C - Calibration		M - Maintenance																									





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Hydrocarbons (THC) - ppm
Stony Mountain - January 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	225	31.87	31.87
2.1 - 3.0	481	68.13	100.00
3.1 - 10.0	0	0.00	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 706

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Total Hydrocarbons (THC) - ppm
Stony Mountain - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2.0	7	4	4	0	1	0	0	26	27	13	14	5	21	39	23	10	194
2.1 - 3.0	7	14	18	11	20	12	6	4	10	54	33	30	52	93	54	58	476
3.1 - 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	14	18	22	11	21	12	6	30	37	67	47	35	73	132	77	68	670

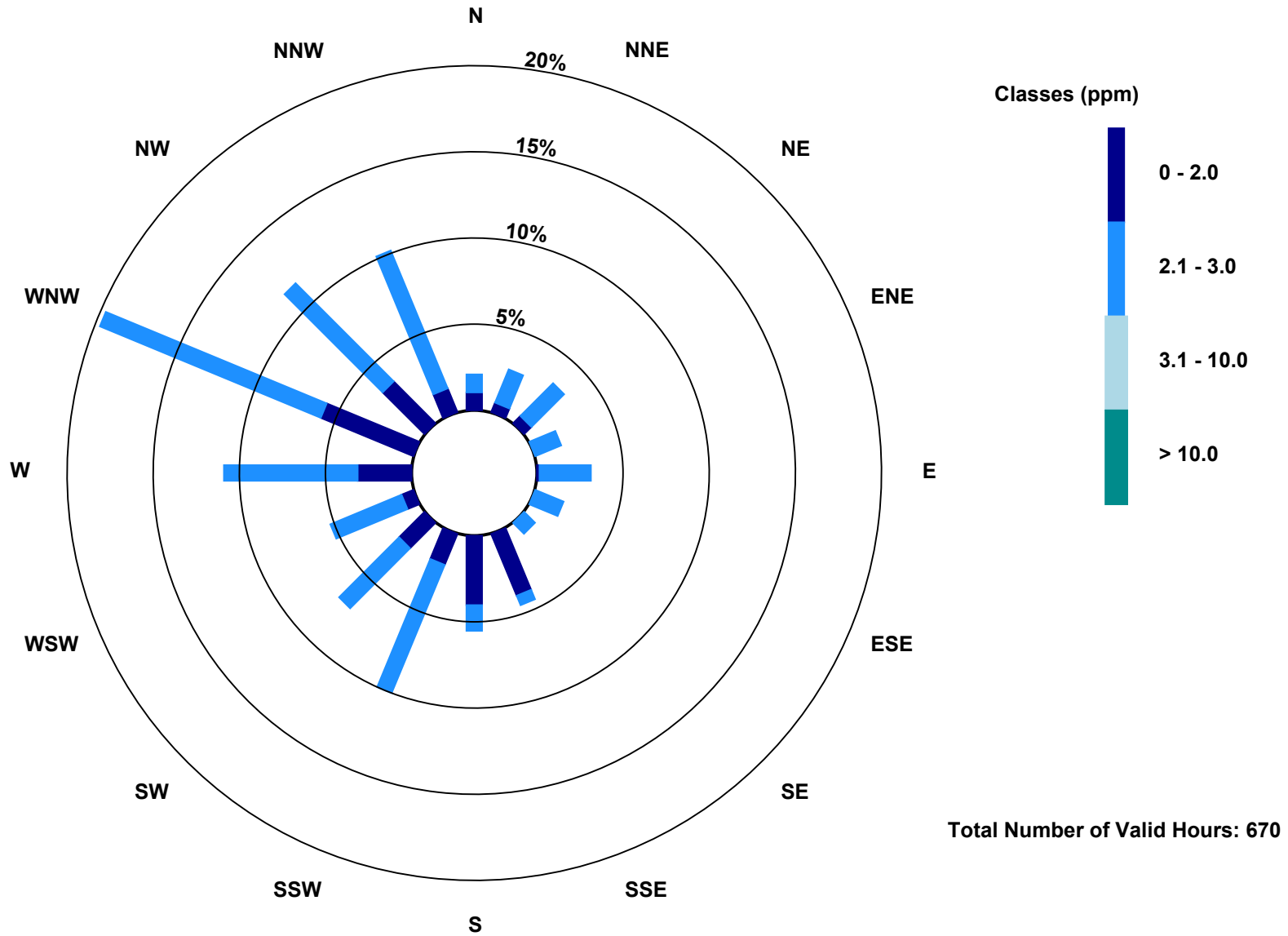
Total Number of Valid Hours: 670

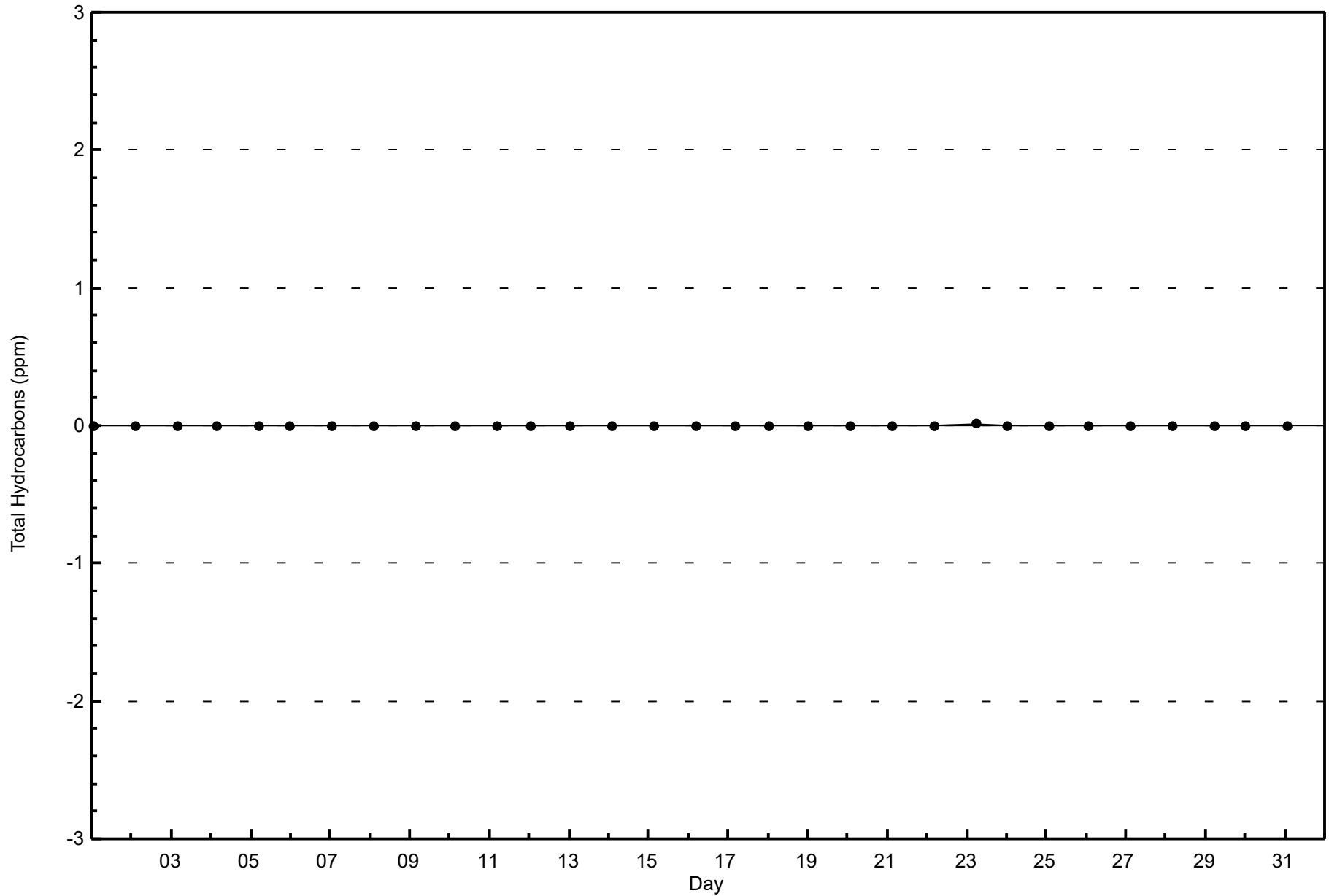
Total Number of Hours: 744

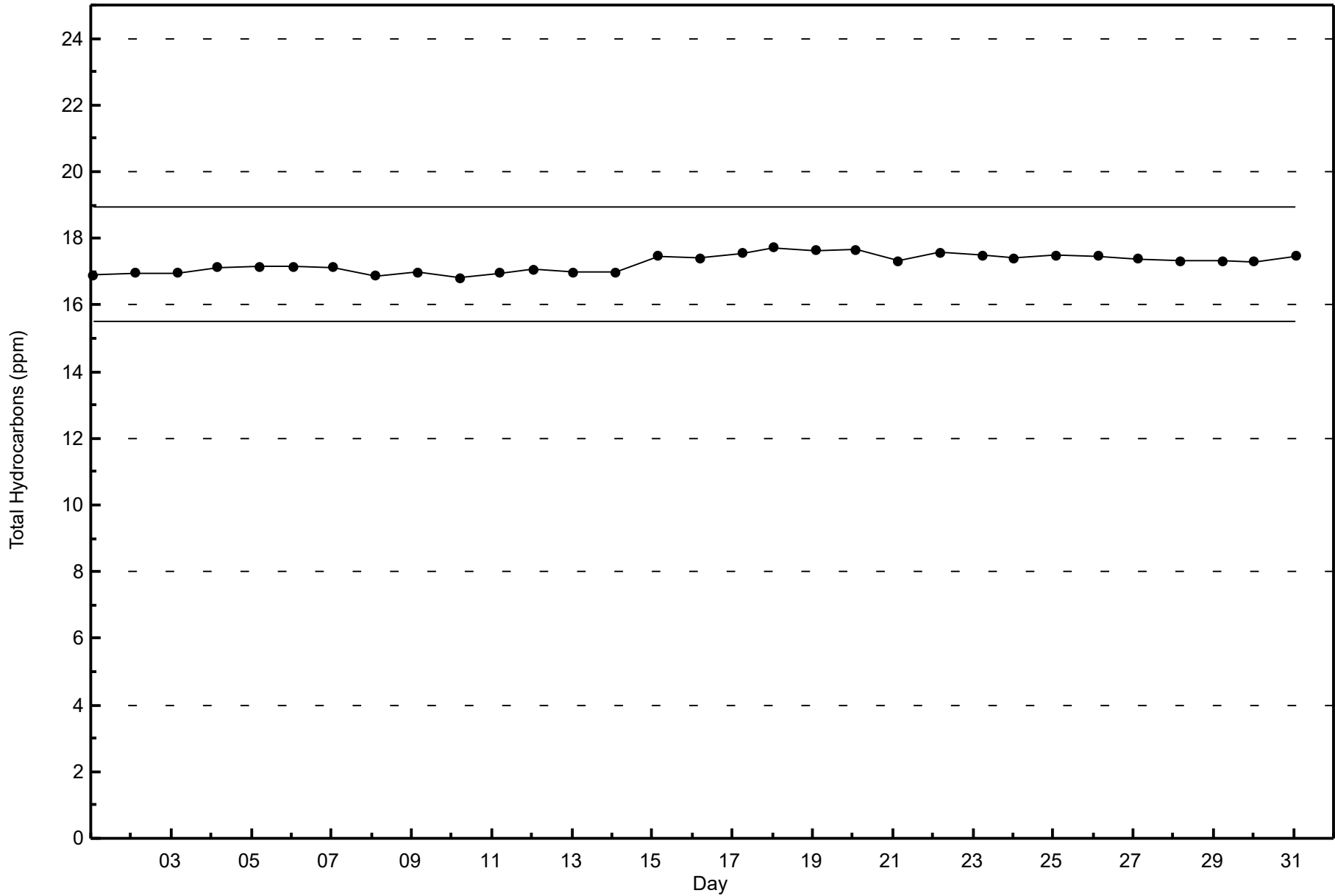


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Total Hydrocarbons (THC) - ppm
Stony Mountain

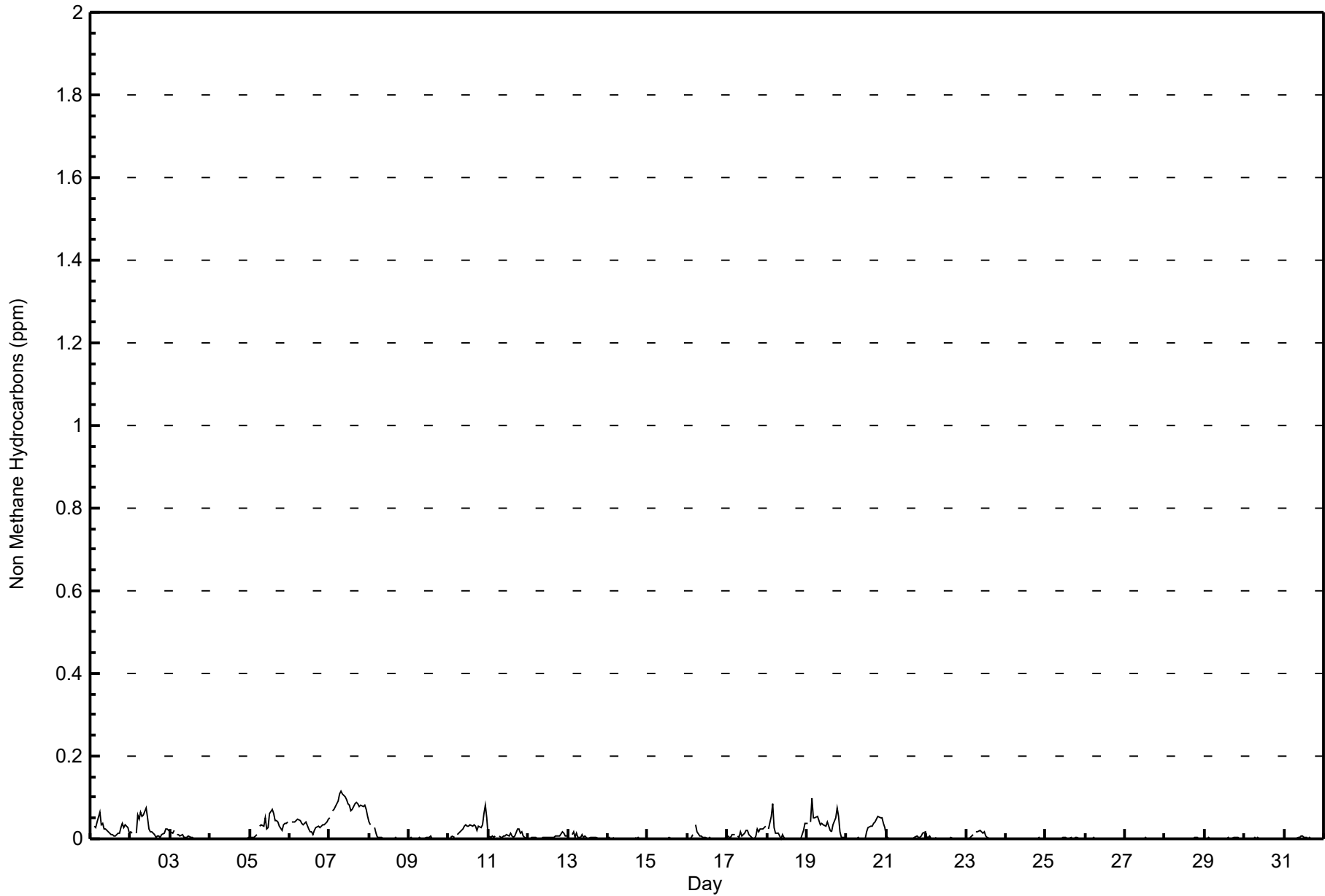








Maximum Value: 0.114 ppm on Jan 7 08:00		Maximum Daily Average: 0.083 ppm on Jan 7		Hours in Service:	744																					
Minimum Value: 0.000 ppm on Jan 4 01:00		Minimum Daily Average: 0.000 ppm on Jan 27		Hours of Data:	706																					
Maximum Diurnal Average: 0.017 ppm at hour 4		Minimum Diurnal Average: 0.006 ppm at hour 2		Hours of Missing Data:	38																					
Monthly Average: 0.012 ppm		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.0 P ₉₉ = 0.1		Hours of Calibration:	36																					
				Percent Operational Time:	99.7																					
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0.025	Z	0.029	0.028	0.040	0.064	0.033	0.037	0.023	0.024	0.020	0.014	0.009	0.009	0.007	0.006	0.014	0.012	0.029	0.036	0.028	0.034	0.027	0.012	0.024	0.064
2-Jan	0.018	0.012	Z	0.015	0.059	0.049	0.063	0.054	0.058	0.075	0.049	0.024	0.017	0.015	0.009	0.004	0.008	0.005	0.004	0.010	0.014	0.024	0.025	0.020	0.027	0.075
3-Jan	0.016	0.015	0.019	Z	0.010	0.011	0.007	0.011	0.002	0.005	0.005	0.007	0.004	0.002	0.001	0.001	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.005	0.019
4-Jan	0.000	0.001	0.000	0.000	Z	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.002	0.000	0.002
5-Jan	0.002	0.004	0.003	0.008	0.009	Z	0.031	0.033	0.032	0.052	0.025	0.026	0.062	0.071	0.060	0.043	0.045	0.041	0.031	0.022	0.034	0.037	0.039	0.042	0.033	0.071
6-Jan	Z	0.041	0.040	0.039	0.044	0.048	0.045	0.037	0.033	0.036	0.040	0.024	0.016	0.018	0.009	0.021	0.027	0.030	0.028	0.032	0.033	0.035	0.041	0.047	0.033	0.048
7-Jan	0.052	Z	0.069	0.073	0.086	0.092	0.108	0.114	0.107	0.101	0.094	0.086	0.081	0.069	0.070	0.083	0.089	0.085	0.079	0.080	0.079	0.082	0.072	0.054	0.083	0.114
8-Jan	0.041	0.034	Z	0.028	0.012	0.003	0.004	0.003	0.000	0.001	0.000	0.001	0.000	0.000	0.001	0.000	0.002	0.000	0.000	0.001	0.001	0.000	0.000	0.000	0.006	0.041
9-Jan	0.000	0.002	0.001	Z	0.001	0.001	0.002	0.000	0.000	0.000	0.003	0.004	0.005	0.008	0.001	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.001	0.008
10-Jan	0.000	0.001	0.005	0.003	Z	0.010	0.013	0.017	0.023	0.029	0.034	0.031	0.029	0.034	0.032	0.034	0.029	0.020	0.030	0.028	0.033	0.061	0.081	0.050	0.027	0.081
11-Jan	0.007	0.004	0.005	0.003	0.006	Z	0.007	0.003	0.005	0.006	0.006	0.010	0.006	0.013	0.007	0.003	0.008	0.023	0.025	0.013	0.018	0.008	0.005	0.002	0.008	0.025
12-Jan	Z	0.001	0.003	0.004	0.003	0.001	0.001	0.001	0.000	0.002	0.003	0.002	0.003	0.004	0.003	0.005	0.007	0.008	0.008	0.008	0.018	0.013	0.007	0.007	0.005	0.018
13-Jan	0.009	Z	0.011	0.016	0.004	0.013	0.003	0.004	0.009	0.005	0.007	0.004	0.002	0.003	0.005	0.003	0.003	0.004	0.002	0.001	0.001	0.000	0.000	0.000	0.005	0.016
14-Jan	0.003	0.004	Z	0.004	0.000	0.000	0.001	0.002	0.001	0.000	0.001	0.000	C	C	C	C	C	0.004	0.001	0.002	0.000	0.001	0.001	0.001	0.001	0.004
15-Jan	0.001	0.001	0.001	Z	0.001	0.000	0.000	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.002	0.001	M	M	0.001	0.000	0.000	0.001	0.000	0.001	0.001	0.002
16-Jan	0.001	0.000	0.002	0.010	Z	0.034	0.016	0.006	0.007	0.004	0.004	0.004	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.004	0.034
17-Jan	0.006	0.003	0.002	0.011	0.011	Z	0.007	0.004	0.018	0.008	0.014	0.022	0.021	0.010	0.007	0.002	0.002	0.008	0.024	0.017	0.023	0.024	0.027	0.030	0.013	0.030
18-Jan	Z	0.023	0.055	0.086	0.027	0.015	0.014	0.013	0.001	0.010	0.003	0.002	0.001	0.001	0.000	0.001	0.000	0.000	0.001	0.000	0.001	0.010	0.021	0.039	0.014	0.086
19-Jan	0.036	Z	0.041	0.098	0.052	0.051	0.054	0.044	0.034	0.036	0.033	0.032	0.040	0.029	0.019	0.016	0.034	0.050	0.076	0.055	0.018	0.004	0.002	0.000	0.037	0.098
20-Jan	0.000	0.000	Z	0.000	0.000	0.000	0.001	0.002	0.000	0.001	0.001	0.002	0.017	0.028	0.030	0.032	0.038	0.040	0.047	0.055	0.052	0.050	0.037	0.029	0.020	0.055
21-Jan	0.008	0.000	0.000	Z	0.000	0.001	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.002	0.001	0.001	0.000	0.004	0.007	0.002	0.002	0.008	0.015	0.017	0.003	0.017
22-Jan	0.003	0.003	0.006	0.001	Z	0.002	0.000	0.000	0.001	0.001	0.002	0.000	0.000	0.000	0.000	0.004	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.006
23-Jan	0.000	0.001	0.001	0.006	0.011	Z	0.016	0.016	0.019	0.016	0.014	0.016	0.006	0.003	0.002	0.001	0.000	0.000	0.000	0.001	0.001	0.001	0.000	0.000	0.006	0.019
24-Jan	Z	0.001	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.000	0.001	0.001	0.002	0.000	0.000	0.000	0.000	0.002
25-Jan	0.001	Z	0.001	0.000	0.000	0.001	0.001	0.001	0.000	0.001	0.003	0.004	0.003	0.001	0.001	0.002	0.001	0.000	0.002	0.004	0.001	0.001	0.000	0.000	0.001	0.004
26-Jan	0.000	0.000	Z	0.002	0.001	0.003	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.003
27-Jan	0.001	0.000	0.001	Z	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.002
28-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.001	0.001	0.000	0.000	0.000	0.002
29-Jan	0.000	0.001	0.003	0.002	0.000	Z	0.001	0.002	0.000	0.000	0.002	0.000	0.001	0.001	0.002	0.001	0.001	0.002	0.004	0.002	0.003	0.001	0.000	0.000	0.001	0.004
30-Jan	Z	0.000	0.000	0.000	0.001	0.001	0.002	0.001	0.003	0.000	0.001	0.000	0.000	0.000	0.001	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003
31-Jan	0.000	Z	0.000	0.000	0.000	0.000	0.001	0.001	0.003	0.005	0.006	0.007	0.004	0.002	0.000	0.005	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.002	0.007
																								Diurnal Average		
																								Diurnal Maximum		
Z - zerospan C - Calibration M - Maintenance																										





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Non Methane Hydrocarbons (NMHC) - ppm
Stony Mountain - January 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 0.005	455	64.45	64.45
0.006 - 0.05	216	30.59	95.04
0.06 - 0.1	35	4.96	100.00
> 0.1	0	0.00	100.00

Total Number of Valid Hours: 706

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Non Methane Hydrocarbons (NMHC) - ppm
Stony Mountain - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 0.005	5	15	17	9	20	7	1	24	25	21	35	27	64	106	37	22	435
0.006 - 0.05	8	2	5	2	1	5	5	6	12	26	11	8	9	25	35	40	200
0.06 - 0.1	1	1	0	0	0	0	0	0	0	20	1	0	0	1	5	6	35
> 0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	14	18	22	11	21	12	6	30	37	67	47	35	73	132	77	68	670

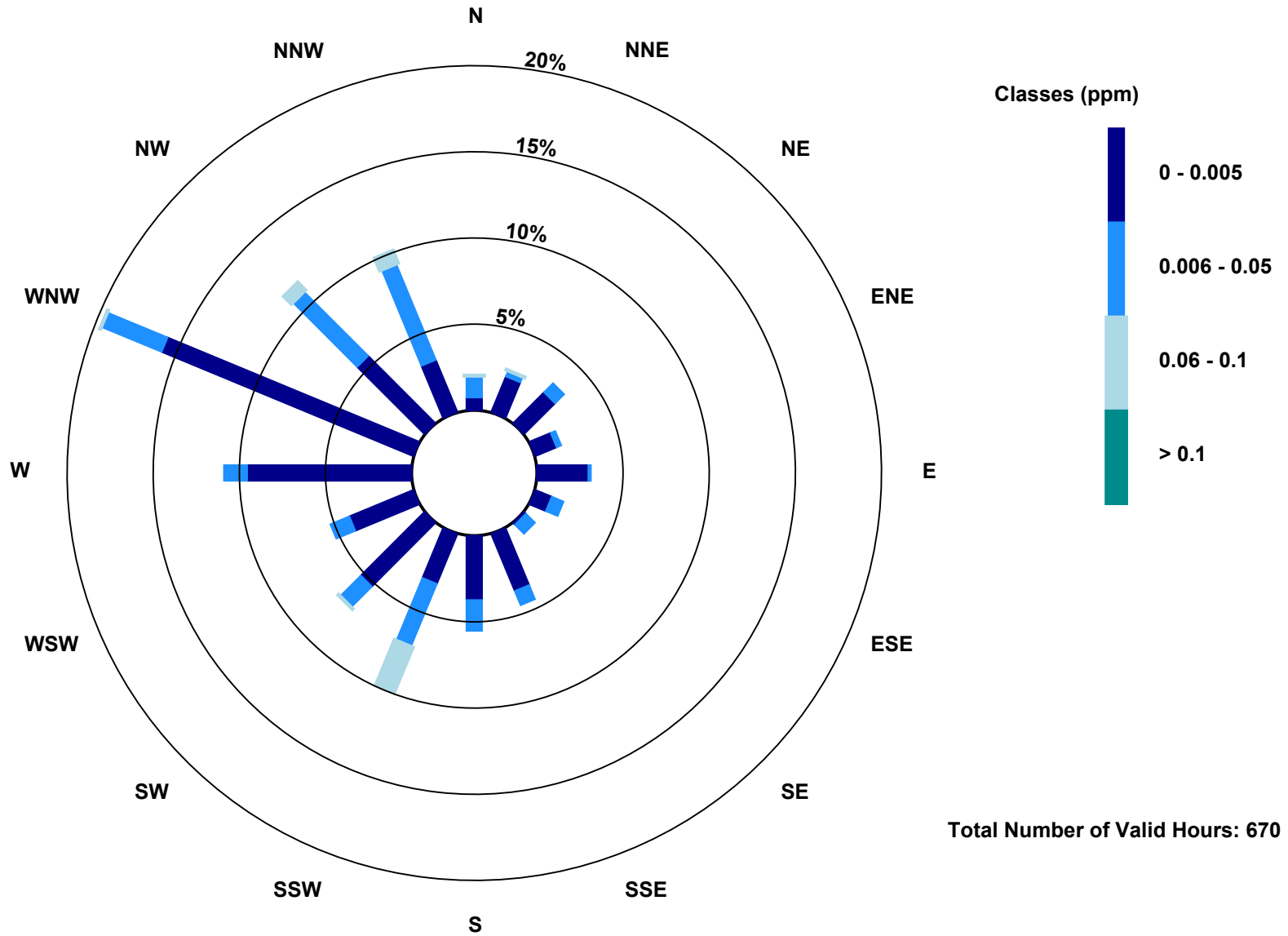
Total Number of Valid Hours: 670

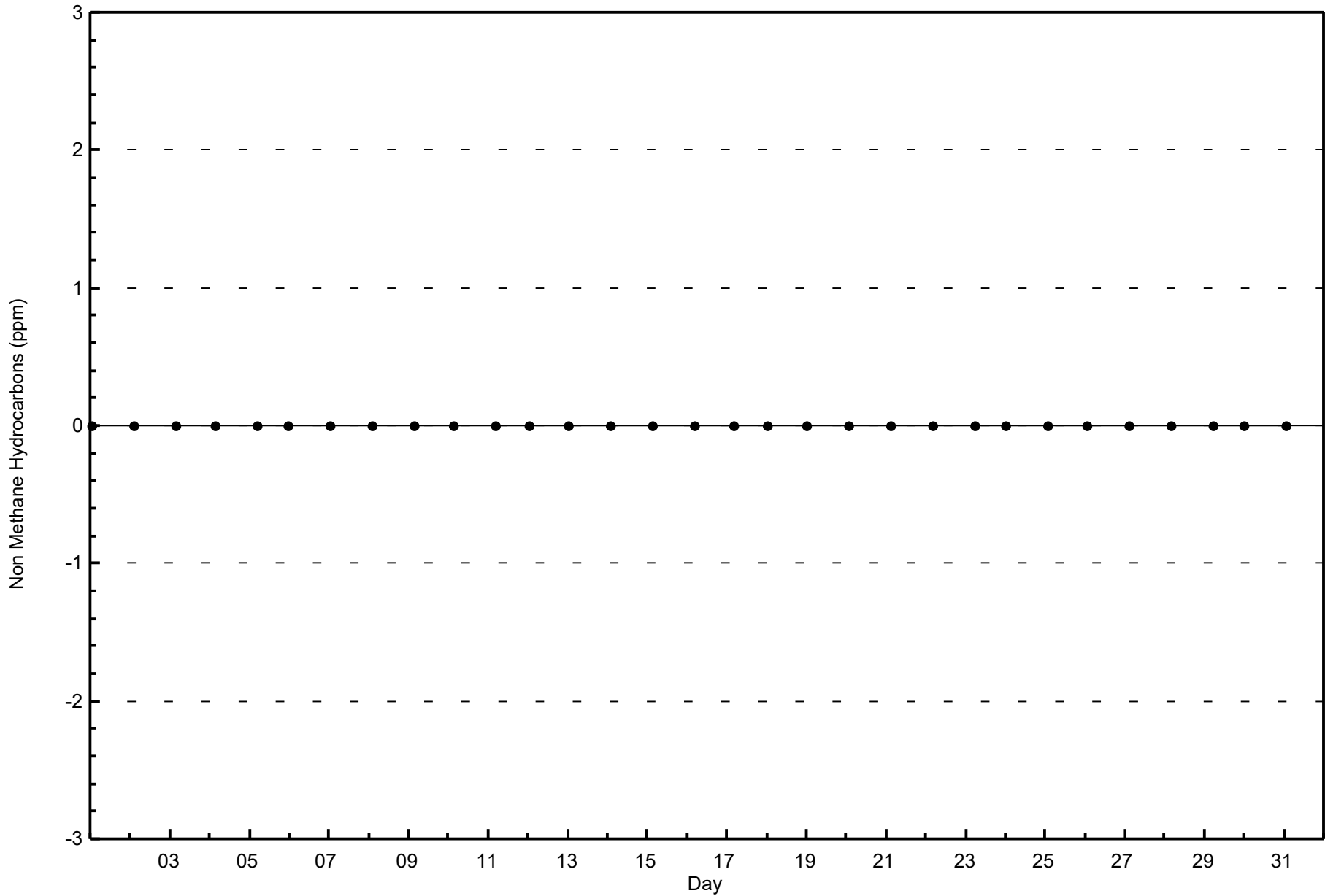
Total Number of Hours: 744

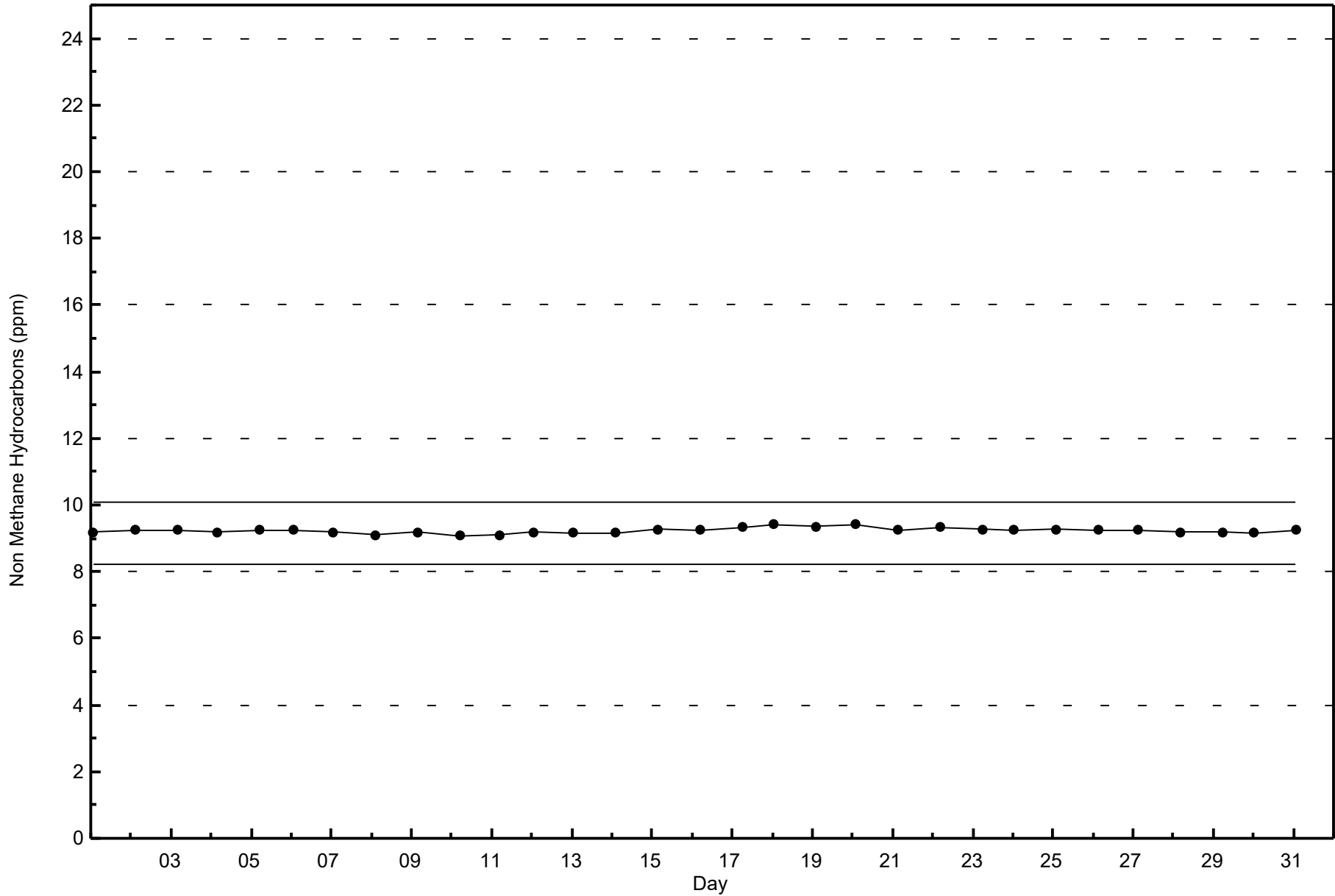


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Non Methane Hydrocarbons (NMHC) - ppm
Stony Mountain



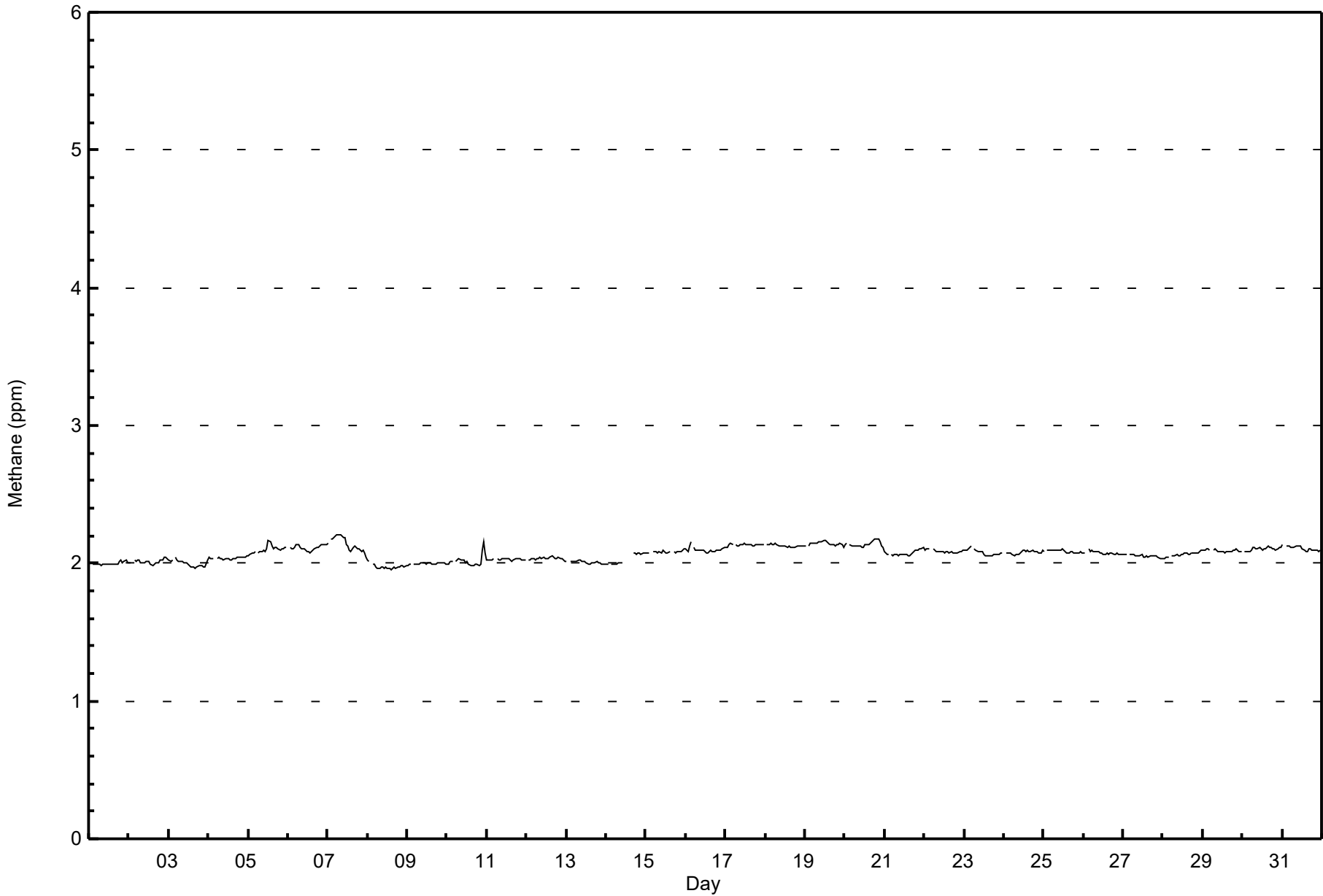






Wood Buffalo Environmental Association
Hourly Averages

Methane (CH₄) - ppm
Stony Mountain - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Methane (CH₄) - ppm
Stony Mountain - January 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	247	34.99	34.99
2.1 - 3.0	459	65.01	100.00
3.1 - 10.0	0	0.00	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 706

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Methane (CH₄) - ppm
Stony Mountain - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2.0	7	4	4	0	1	0	0	26	29	15	16	8	21	40	24	17	212
2.1 - 3.0	7	14	18	11	20	12	6	4	8	52	31	27	52	92	53	51	458
3.1 - 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	14	18	22	11	21	12	6	30	37	67	47	35	73	132	77	68	670

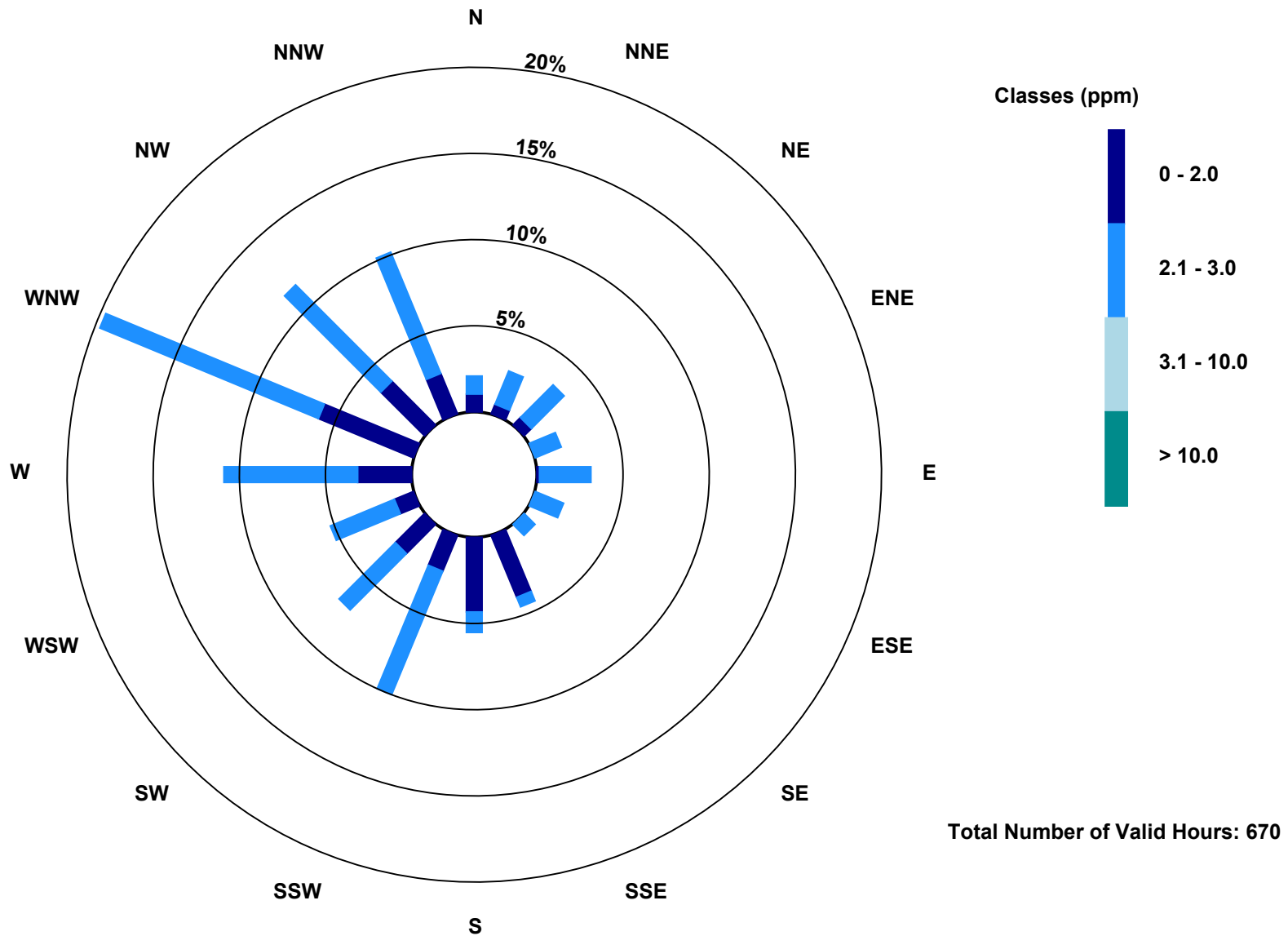
Total Number of Valid Hours: 670

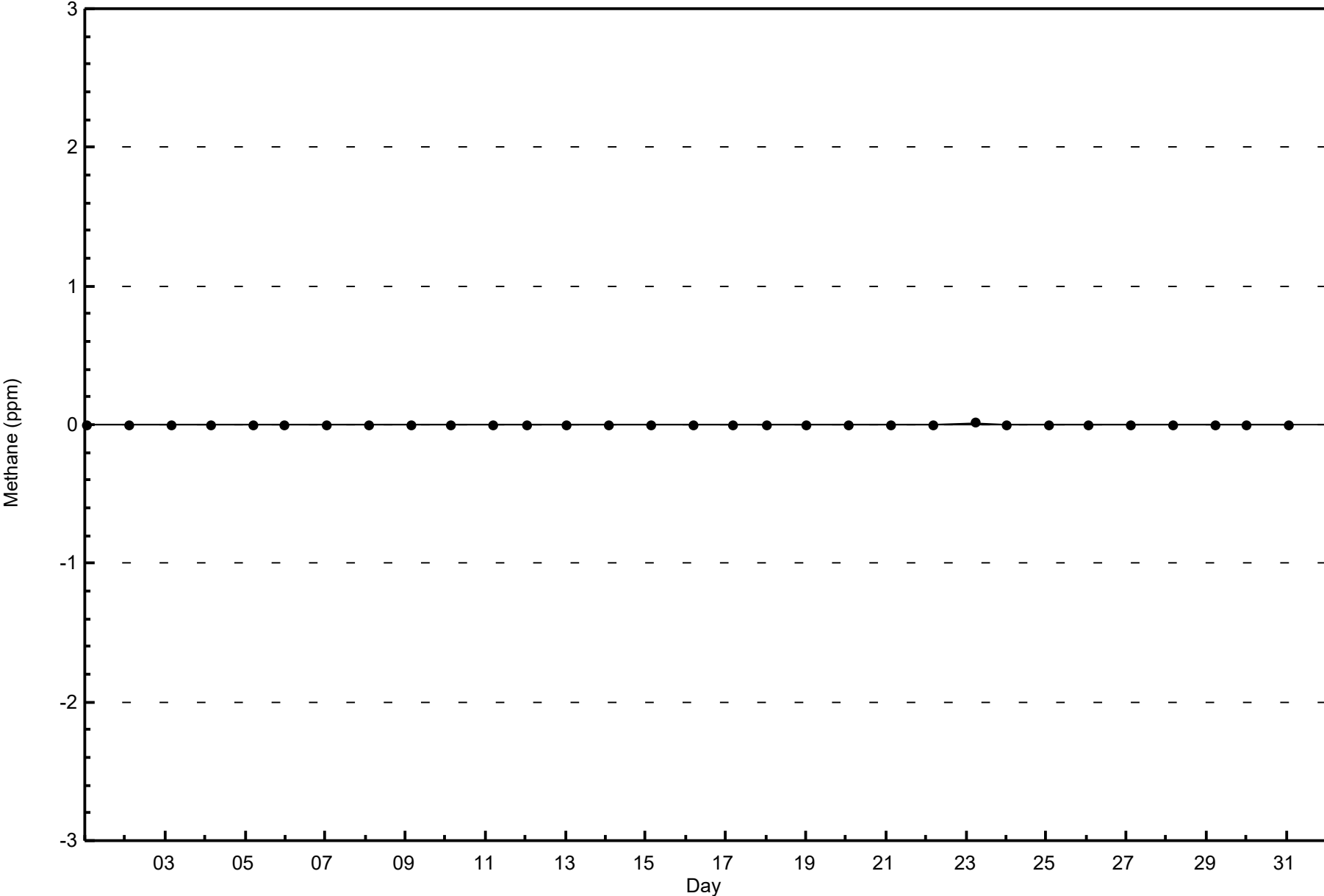
Total Number of Hours: 744

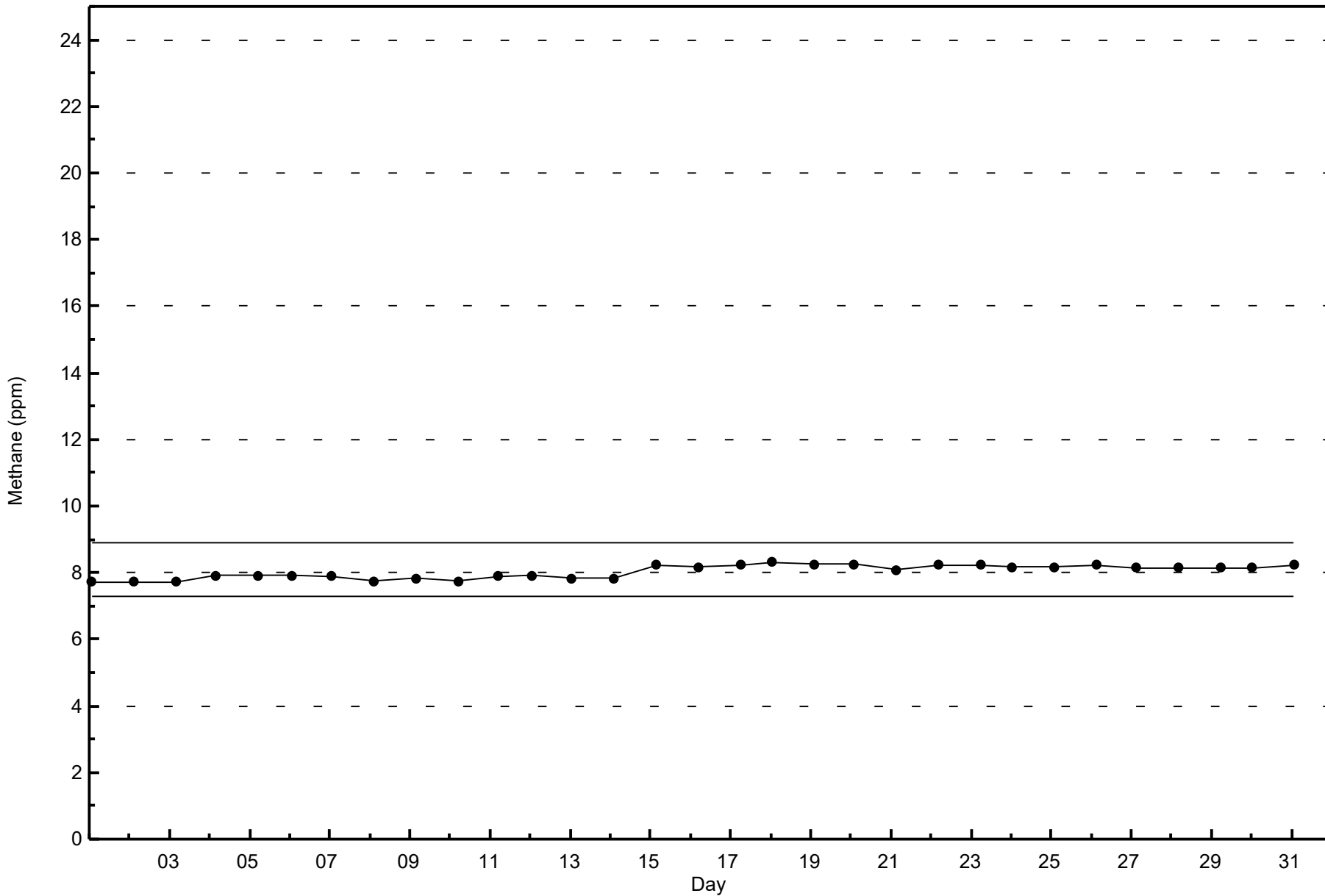


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Methane (CH₄) - ppm
Stony Mountain







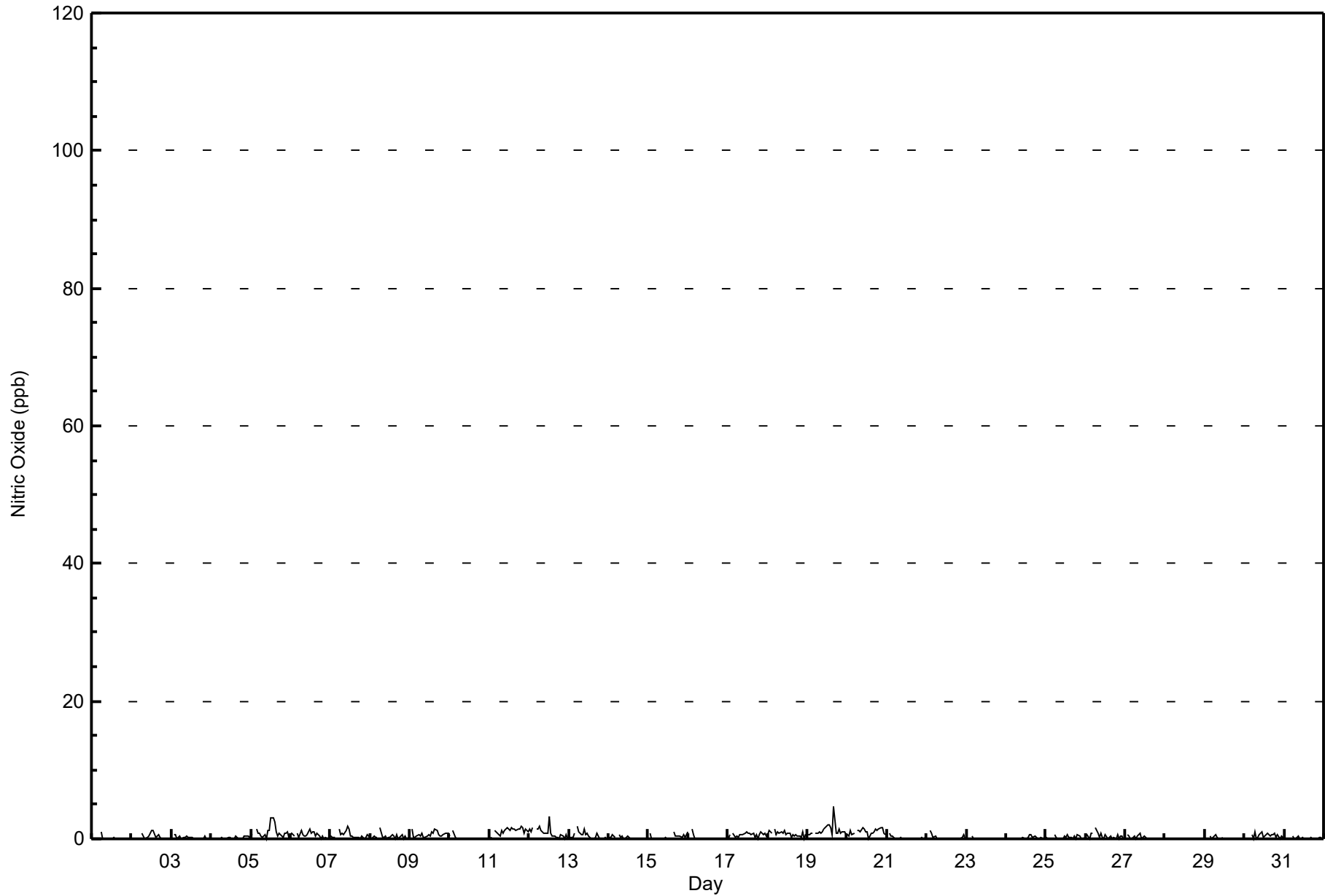


Maximum Value: 4.7 ppb on Jan 19 17:00		Maximum Daily Average: 1.2 ppb on Jan 19		Hours in Service: 744																							
Minimum Value: 0.0 ppb on Jan 1 01:00		Minimum Daily Average: 0.0 ppb on Jan 28		Hours of Data: 704																							
Maximum Diurnal Average: 0.6 ppb at hour 13		Minimum Diurnal Average: 0.2 ppb at hour 24		Hours of Missing Data: 40																							
Monthly Average: 0.39 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.2 Q ₃ = 0.6 P ₉₀ = 1.1 P ₉₉ = 1.9		Hours of Calibration: 37																							
				Percent Operational Time: 99.6																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	0.0	0.0	0.0	0.0	Z	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.0	
2-Jan	0.0	0.0	0.0	0.1	0.0	Z	0.8	0.3	0.0	0.2	0.4	0.8	1.2	1.2	0.2	0.5	0.7	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.3	1.2	
3-Jan	Z	0.6	0.6	0.0	0.3	0.4	0.0	0.2	0.3	0.3	0.3	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.2	0.6	
4-Jan	0.0	Z	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.3	0.3	0.0	0.0	0.1	0.3	0.0	0.0	0.0	0.0	0.3	0.4	0.5	0.2	0.1	0.5	
5-Jan	0.5	0.7	Z	1.4	0.8	0.8	0.5	0.2	0.5	0.0	1.2	1.1	3.1	3.0	2.4	1.0	0.4	0.7	0.7	0.2	0.7	0.8	1.1	0.3	1.0	3.1	
6-Jan	0.8	0.6	0.4	Z	0.7	0.2	1.2	0.6	0.4	0.5	0.5	1.4	0.8	1.0	1.0	0.5	0.8	0.4	0.0	0.4	0.1	0.2	0.0	0.3	0.6	1.4	
7-Jan	0.3	0.2	0.1	0.1	Z	1.4	0.6	0.8	0.5	1.2	1.8	1.4	0.3	0.5	0.3	0.1	0.3	0.2	0.0	0.4	0.0	0.3	0.7	0.4	0.5	1.8	
8-Jan	0.0	0.0	0.5	0.3	0.2	Z	1.6	0.1	0.2	0.3	0.0	0.1	0.1	0.5	0.3	0.0	0.5	0.0	0.4	0.7	0.0	0.5	0.0	0.1	0.3	1.6	
9-Jan	Z	1.4	0.3	0.3	0.4	0.6	0.4	0.8	0.1	0.1	0.5	0.7	0.4	0.9	0.9	1.3	1.2	0.6	0.5	0.5	0.6	0.8	0.9	0.9	0.6	1.4	
10-Jan	0.4	Z	1.3	0.3	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.3	
11-Jan	0.0	0.2	Z	1.3	1.1	0.8	0.4	1.1	0.8	1.3	1.4	1.6	1.2	1.6	1.4	1.4	1.3	1.4	1.4	1.8	1.6	0.8	1.3	1.0	1.1	1.8	
12-Jan	1.5	1.0	1.6	Z	1.5	1.5	1.9	1.3	0.9	0.8	0.7	0.8	3.2	0.9	0.4	0.4	0.2	0.1	0.0	0.5	0.5	0.1	0.5	0.0	0.9	3.2	
13-Jan	0.2	0.2	0.1	0.9	Z	1.8	1.0	0.6	0.6	1.4	0.7	0.8	0.4	0.0	0.0	0.0	0.2	0.8	0.0	0.0	0.0	0.0	0.2	0.0	0.4	1.8	
14-Jan	0.1	0.2	0.6	0.3	0.2	Z	0.7	0.2	0.4	0.1	0.0	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.7	
15-Jan	Z	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.0	M	M	M	1.0	0.4	0.5	0.5	0.4	0.2	0.6	0.1	0.5	0.3	1.0	
16-Jan	1.0	Z	1.3	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	1.3	
17-Jan	0.0	0.5	Z	0.8	0.3	0.4	0.2	0.6	0.5	0.6	0.8	1.0	0.8	0.8	0.6	0.9	0.2	0.7	0.0	0.7	1.0	0.7	0.8	0.4	0.6	1.0	
18-Jan	0.6	1.2	0.9	Z	1.4	0.7	1.1	0.8	1.1	0.8	1.2	0.6	0.8	0.8	0.1	0.7	0.5	0.6	0.3	0.4	0.2	1.1	0.0	0.6	0.7	1.4	
19-Jan	0.6	0.7	0.9	0.7	Z	0.9	0.8	1.0	0.9	1.1	1.4	1.7	2.0	2.0	1.7	0.7	4.7	0.9	0.9	1.5	0.9	1.0	1.0	0.6	1.2	4.7	
20-Jan	0.6	0.5	1.3	0.6	0.8	Z	1.3	1.2	1.1	1.7	1.5	0.9	0.9	0.1	0.7	0.8	0.9	1.5	1.2	1.5	1.6	1.7	0.7	0.7	1.0	1.7	
21-Jan	Z	0.9	0.4	0.5	0.3	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2	0.1	0.9	
22-Jan	0.0	Z	1.2	0.8	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.5	0.0	0.1	1.2	
23-Jan	0.0	0.0	Z	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	
24-Jan	0.0	0.0	0.0	Z	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.0	0.1	0.3	0.6	0.6	0.2	0.4	0.2	0.0	0.0	0.3	0.0	0.0	0.1	0.6	
25-Jan	0.1	0.0	0.0	0.0	Z	0.5	0.3	0.0	0.0	0.0	0.0	0.4	0.3	0.6	0.3	0.1	0.0	0.5	0.0	0.6	0.4	0.0	0.0	0.0	0.2	0.6	
26-Jan	0.4	0.5	0.0	0.8	0.8	Z	1.7	0.9	0.1	0.8	0.2	0.0	0.7	0.0	0.1	0.4	0.0	0.1	0.0	0.5	0.0	0.5	0.5	0.0	0.4	1.7	
27-Jan	Z	0.6	0.3	0.0	0.0	0.4	0.0	0.5	0.6	0.9	0.1	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.9	
28-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
29-Jan	0.0	0.0	Z	0.5	0.1	0.2	0.7	0.2	0.1	0.0	0.0	0.2	C	C	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	--	0.7	
30-Jan	0.0	0.0	0.0	Z	0.7	0.0	1.0	0.0	0.3	0.6	0.9	0.2	0.4	0.5	0.8	0.3	0.6	0.6	0.7	0.2	0.7	0.0	0.4	0.2	0.4	1.0	
31-Jan	0.1	0.0	0.0	0.0	Z	0.5	0.0	0.0	0.4	0.1	0.0	0.2	0.0	0.0	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.0	0.1	0.5	
		0.3	0.4	0.5	0.4	0.4	0.5	0.5	0.4	0.3	0.4	0.5	0.5	0.6	0.5	0.4	0.4	0.4	0.3	0.2	0.3	0.3	0.3	0.3	0.2	Diurnal Average	
		1.5	1.4	1.6	1.4	1.5	1.8	1.9	1.3	1.1	1.7	1.8	1.7	3.2	3.0	2.4	1.4	4.7	1.5	1.4	1.8	1.6	1.7	1.3	1.0	Diurnal Maximum	
Z - zerospan		C - Calibration			M - Maintenance																						



Wood Buffalo Environmental Association
Hourly Averages

Nitric Oxide (NO) - ppb
Stony Mountain - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitric Oxide (NO) - ppb
Stony Mountain - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	704	100.00	100.00
21 - 40	0	0.00	100.00
41 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 704

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitric Oxide (NO) - ppb
Stony Mountain - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	15	18	22	11	18	11	6	28	35	69	48	38	72	132	79	66	668
21 - 40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	15	18	22	11	18	11	6	28	35	69	48	38	72	132	79	66	668

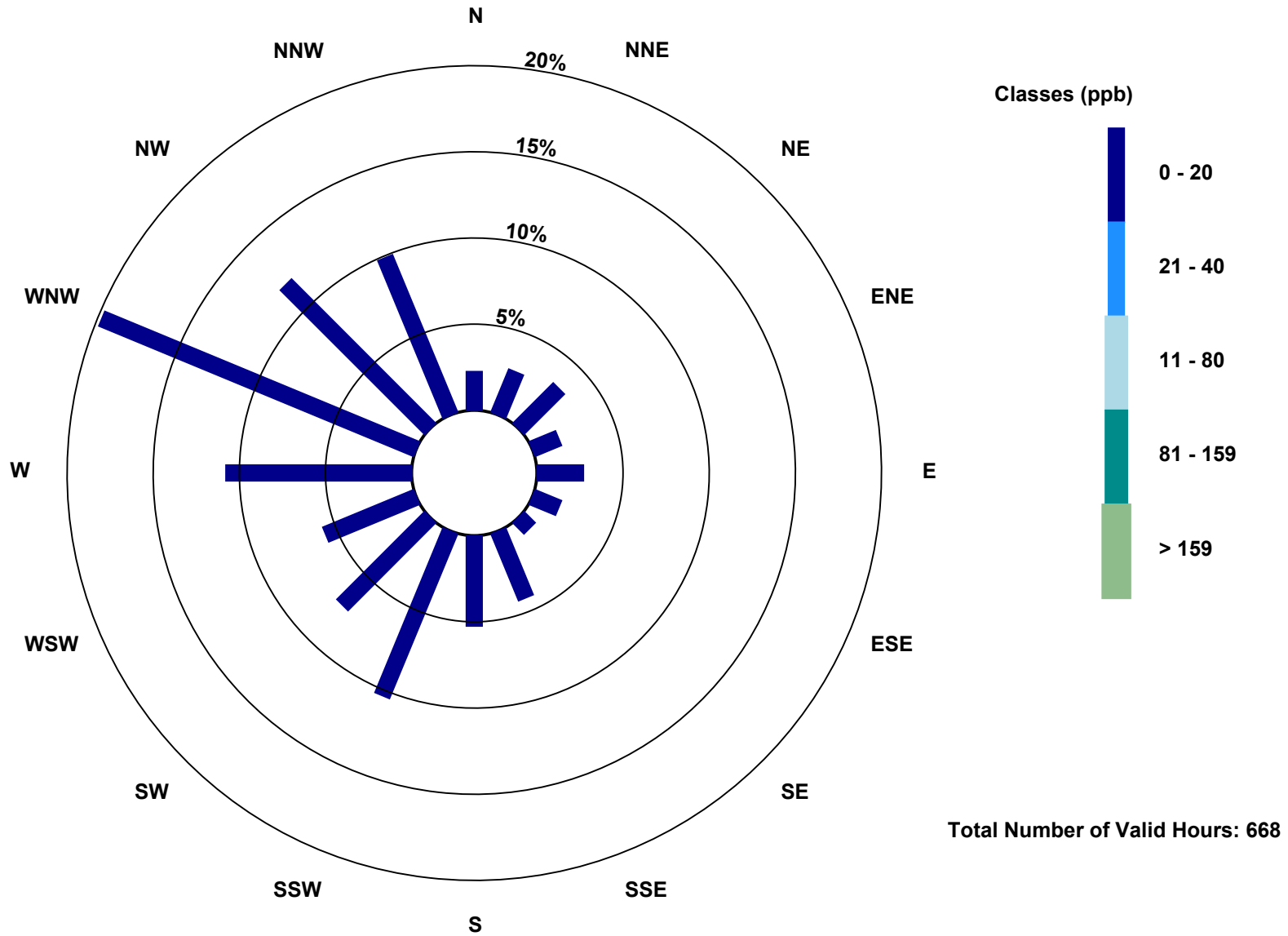
Total Number of Valid Hours: 668

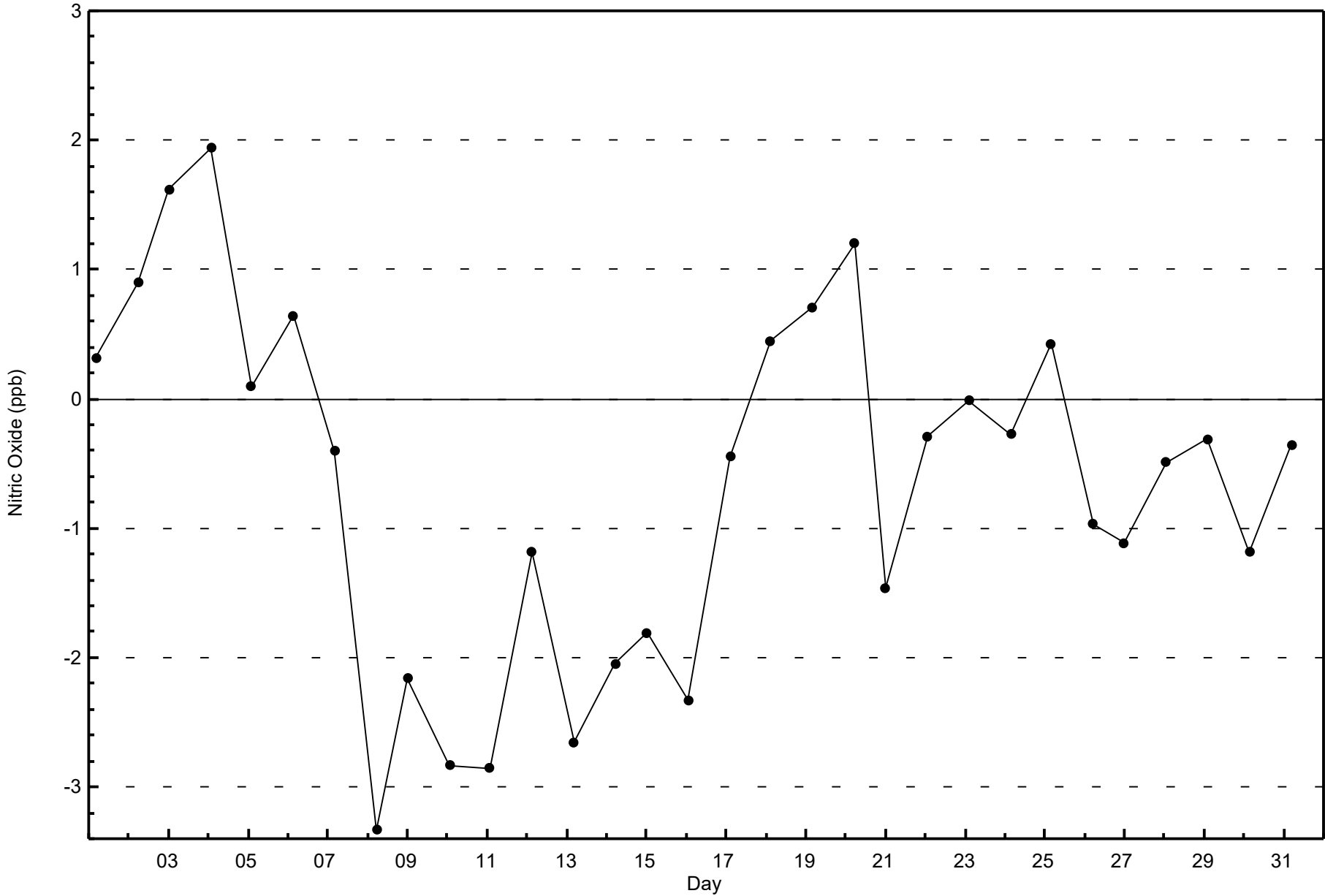
Total Number of Hours: 744

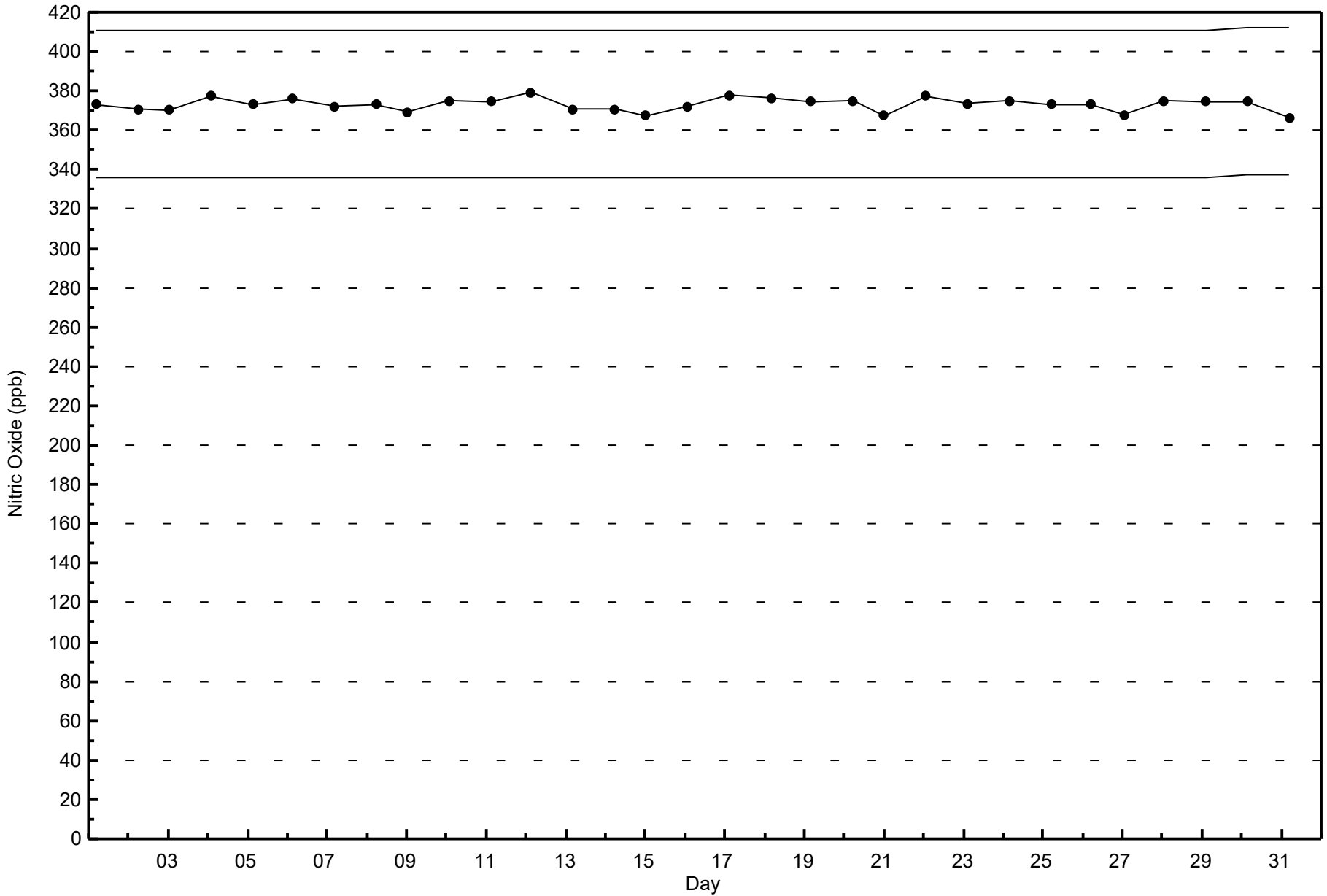


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitric Oxide (NO) - ppb
Stony Mountain









Wood Buffalo Environmental Association

Summary of Hour Averages

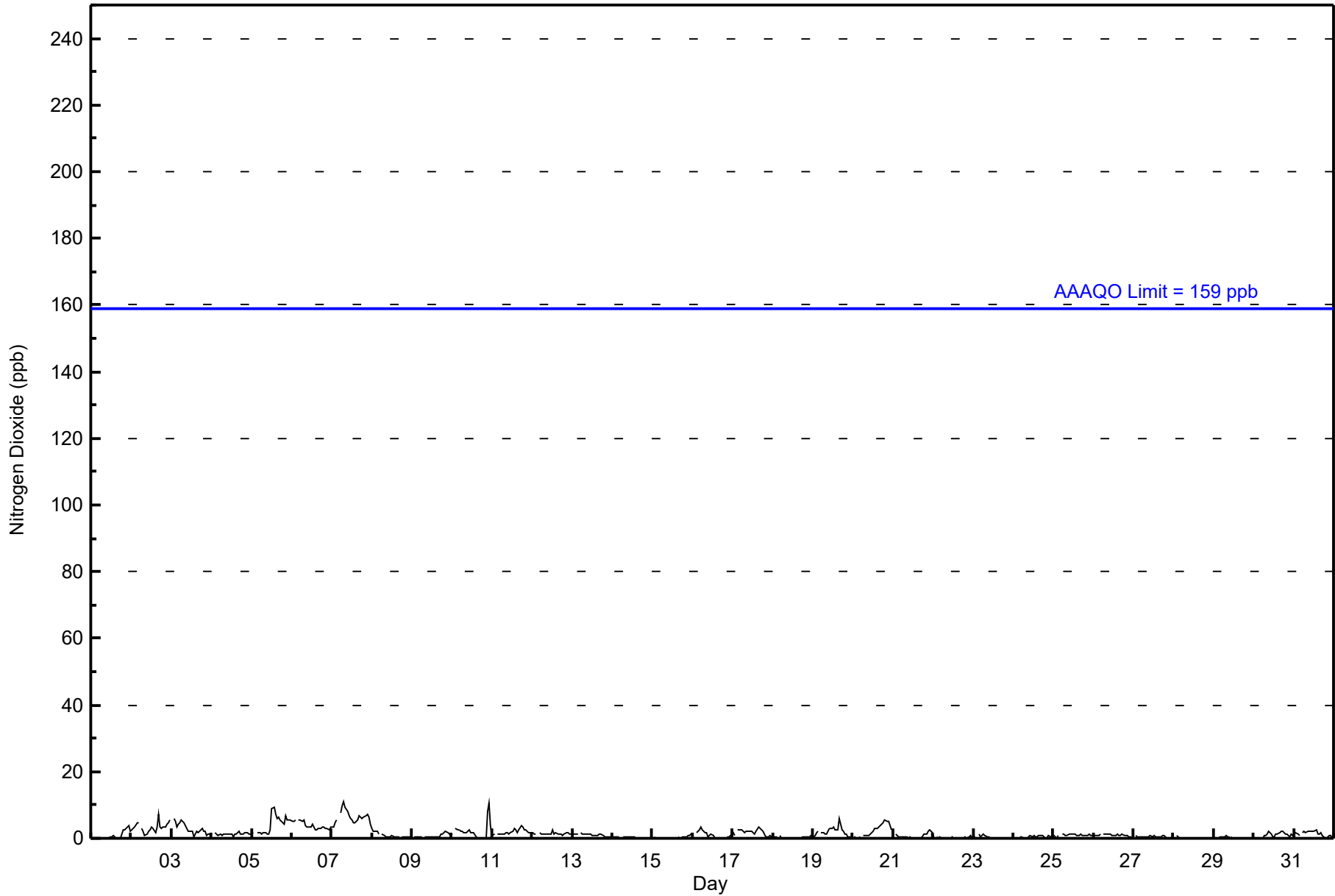
Nitrogen Dioxide (NO₂) - ppb Stony Mountain - January 2025

Number of Exceedences (AAAQO):		1-hr: 0	24-hr: 0	Hours in Service: 744																	Daily Average		Daily Maximum				
Maximum Value: 11.0 ppb on Jan 7 08:00		Maximum Daily Average: 6.4 ppb on Jan 7																	Hours of Data: 704		Hours of Missing Data: 40						
Minimum Value: 0.0 ppb on Jan 1 01:00		Minimum Daily Average: 0.0 ppb on Jan 28																	Hours of Calibration: 37		Percent Operational Time: 99.6						
Maximum Diurnal Average: 1.8 ppb at hour 23		Minimum Diurnal Average: 1.2 ppb at hour 1																									
Monthly Average: 1.46 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.3 Median = 0.9 Q ₃ = 2.0 P ₉₀ = 3.6 P ₉₉ = 8.0																									
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	0.0	0.0	0.0	0.0	Z	0.2	0.0	0.1	0.0	0.2	0.1	0.6	0.6	1.0	0.6	0.0	0.0	0.0	1.3	2.5	2.6	3.1	3.9	2.3	0.8	3.9	
2-Jan	2.5	3.1	3.5	4.5	4.5	Z	3.1	2.1	0.9	1.3	2.1	2.7	3.6	2.9	1.9	3.4	7.3	3.6	3.1	3.4	3.4	4.4	4.6	5.5	3.4	7.3	
3-Jan	Z	6.0	5.2	3.2	4.2	4.8	5.3	4.6	3.9	3.1	2.2	2.3	2.0	0.4	1.1	2.0	1.7	2.0	3.0	2.1	2.2	1.0	1.3	1.3	2.8	6.0	
4-Jan	1.2	Z	1.9	1.4	0.8	1.2	1.0	1.4	1.2	1.4	1.1	1.2	1.1	0.6	1.1	1.3	2.1	1.4	1.2	1.4	1.7	1.7	1.4	1.1	1.3	2.1	
5-Jan	1.4	1.6	Z	1.5	1.5	1.5	1.4	1.5	1.5	1.4	1.4	2.4	9.1	9.3	7.4	6.0	6.5	5.7	5.0	4.3	6.6	5.7	5.7	5.7	4.1	9.3	
6-Jan	5.2	5.2	5.3	Z	5.6	5.7	5.2	5.3	3.8	3.4	3.3	3.4	4.2	3.6	2.7	2.4	2.8	3.1	3.4	3.2	3.0	2.9	2.7	3.2	3.9	5.7	
7-Jan	3.5	3.6	4.7	5.7	Z	7.6	9.9	11.0	9.5	8.0	6.6	5.8	5.4	4.7	4.8	5.7	6.7	6.2	5.8	6.5	6.8	7.1	6.3	4.2	6.4	11.0	
8-Jan	2.9	2.1	2.3	2.1	1.3	Z	1.2	0.9	0.6	0.6	0.5	0.5	0.7	0.6	0.4	0.4	0.5	0.2	0.5	0.3	0.3	0.3	0.4	0.4	0.9	2.9	
9-Jan	Z	0.5	0.4	0.4	0.4	0.4	0.1	0.2	0.3	0.5	0.3	0.3	0.5	0.5	0.6	0.4	0.6	1.1	1.3	1.5	2.1	1.5	1.2	0.7	0.7	2.1	
10-Jan	1.3	Z	2.8	2.4	2.5	2.2	2.3	1.9	1.5	2.1	2.5	1.9	1.6	1.6	0.5	0.1	0.0	0.2	0.0	0.0	0.0	8.2	10.8	3.7	2.2	10.8	
11-Jan	0.9	1.1	Z	1.3	1.2	1.3	1.2	1.1	1.6	1.5	1.3	1.8	2.1	2.8	2.4	1.9	2.7	3.7	3.4	2.7	2.4	2.3	1.7	1.5	1.9	3.7	
12-Jan	1.5	1.3	1.2	Z	1.8	1.3	1.4	1.2	1.3	1.2	1.1	1.2	2.5	1.3	1.5	1.2	1.4	1.4	0.9	1.2	1.6	1.5	1.4	1.2	1.4	2.5	
13-Jan	1.2	1.2	1.2	1.3	Z	1.5	1.1	1.1	1.1	1.3	1.1	1.2	1.0	0.7	1.0	0.9	1.1	1.3	0.7	0.6	0.4	0.3	0.6	0.5	1.0	1.5	
14-Jan	0.3	0.4	0.3	0.4	0.3	Z	0.4	0.5	0.3	0.3	0.5	0.4	0.6	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.6	
15-Jan	Z	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	M	M	M	0.3	0.1	0.2	0.4	0.4	0.5	0.7	1.0	1.2	0.3	1.2	
16-Jan	1.2	Z	1.6	2.1	2.4	3.4	2.5	1.8	1.7	0.5	0.9	1.4	1.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.5	0.4	1.1	1.0	3.4	
17-Jan	1.5	1.0	Z	2.5	2.4	2.7	2.1	1.8	2.1	2.1	2.1	2.0	1.8	1.1	2.0	3.2	2.8	2.5	2.3	1.2	0.4	0.5	0.7	0.6	1.8	3.2	
18-Jan	0.6	0.5	0.4	Z	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.2	0.0	0.0	0.2	0.4	0.4	0.4	0.5	0.6	0.8	0.3	0.8	
19-Jan	0.6	0.8	1.7	2.0	Z	1.7	1.5	1.2	1.4	2.1	2.8	3.0	3.2	2.7	2.5	2.6	5.8	2.5	2.2	1.3	1.1	0.5	0.4	0.3	1.9	5.8	
20-Jan	0.0	0.4	0.2	0.2	0.3	Z	0.9	0.8	0.9	0.7	1.2	1.6	2.0	2.8	2.9	3.6	4.0	4.3	4.8	5.5	5.2	4.9	3.8	2.7	2.3	5.5	
21-Jan	Z	1.1	0.8	0.6	0.5	0.3	0.6	0.4	0.4	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.2	1.3	2.2	2.4	1.8	0.7	2.4	
22-Jan	0.5	Z	0.5	0.1	0.3	0.1	0.0	0.2	0.1	0.1	0.1	0.3	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.4	0.2	0.4	0.7	0.1	0.2	0.7	
23-Jan	1.0	0.5	Z	1.4	0.6	0.9	1.2	0.9	0.6	0.3	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.4	
24-Jan	0.0	0.0	0.0	Z	0.5	0.3	0.1	0.0	0.0	0.3	0.7	0.6	0.7	0.6	0.6	0.8	0.7	0.9	0.6	0.1	0.2	0.7	0.6	0.6	0.4	0.9	
25-Jan	0.9	0.3	0.2	0.7	Z	1.2	1.1	1.0	1.0	1.1	1.2	1.3	1.4	1.1	1.0	1.0	1.1	0.9	0.7	0.8	0.8	1.1	0.9	0.9	0.9	1.4	
26-Jan	0.9	0.9	0.8	0.9	1.1	Z	1.1	1.2	1.3	1.3	1.2	0.9	0.8	0.9	1.1	0.9	0.7	1.1	0.7	0.8	0.8	0.4	0.3	0.3	0.9	1.3	
27-Jan	Z	0.8	0.6	0.5	0.4	0.4	0.5	0.4	0.5	0.5	0.7	0.6	0.7	0.5	0.3	0.5	0.6	0.9	0.8	0.6	0.0	0.1	0.0	0.0	0.5	0.9	
28-Jan	0.0	Z	0.7	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	
29-Jan	0.0	0.0	Z	0.5	0.5	0.6	0.4	0.7	0.5	0.4	0.2	0.4	C	C	C	C	C	C	C	0.1	0.0	0.0	0.0	0.0	--	0.7	
30-Jan	0.0	0.0	0.0	Z	0.1	0.2	0.9	0.8	1.3	2.0	1.2	0.3	0.5	1.1	1.1	1.7	2.2	2.3	1.7	1.2	1.2	0.5	1.2	0.8	1.0	2.3	
31-Jan	1.1	1.6	1.2	0.8	Z	1.7	2.2	1.7	2.0	2.1	2.3	2.0	2.1	2.4	1.1	1.4	1.6	1.0	0.6	0.1	0.5	0.7	0.8	0.2	1.4	2.4	
																								Diurnal Average		Diurnal Maximum	
																								1.2 1.3 1.4 1.4 1.4 1.6 1.6 1.5 1.3 1.3 1.3 1.3 1.7 1.5 1.3 1.4 1.8 1.6 1.5 1.4 1.5 1.7 1.8 1.4		5.2 6.0 5.3 5.7 5.6 7.6 9.9 11.0 9.5 8.0 6.6 5.8 9.1 9.3 7.4 6.0 7.3 6.2 5.8 6.5 6.8 8.2 10.8 5.7	
Z - zerospan C - Calibration M - Maintenance																											
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb																											



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
Stony Mountain - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Nitrogen Dioxide (NO₂) - ppb
Stony Mountain - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	704	100.00	100.00
21 - 40	0	0.00	100.00
41 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 704

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Dioxide (NO₂) - ppb
Stony Mountain - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	15	18	22	11	18	11	6	28	35	69	48	38	72	132	79	66	668
21 - 40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	15	18	22	11	18	11	6	28	35	69	48	38	72	132	79	66	668

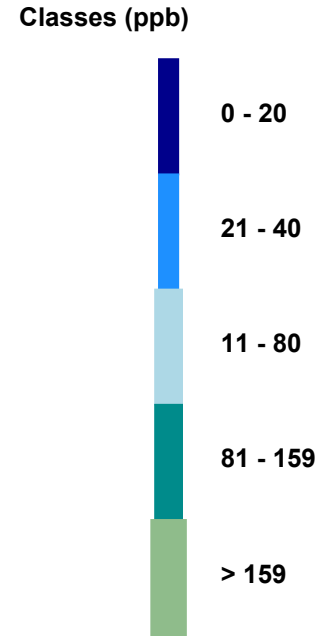
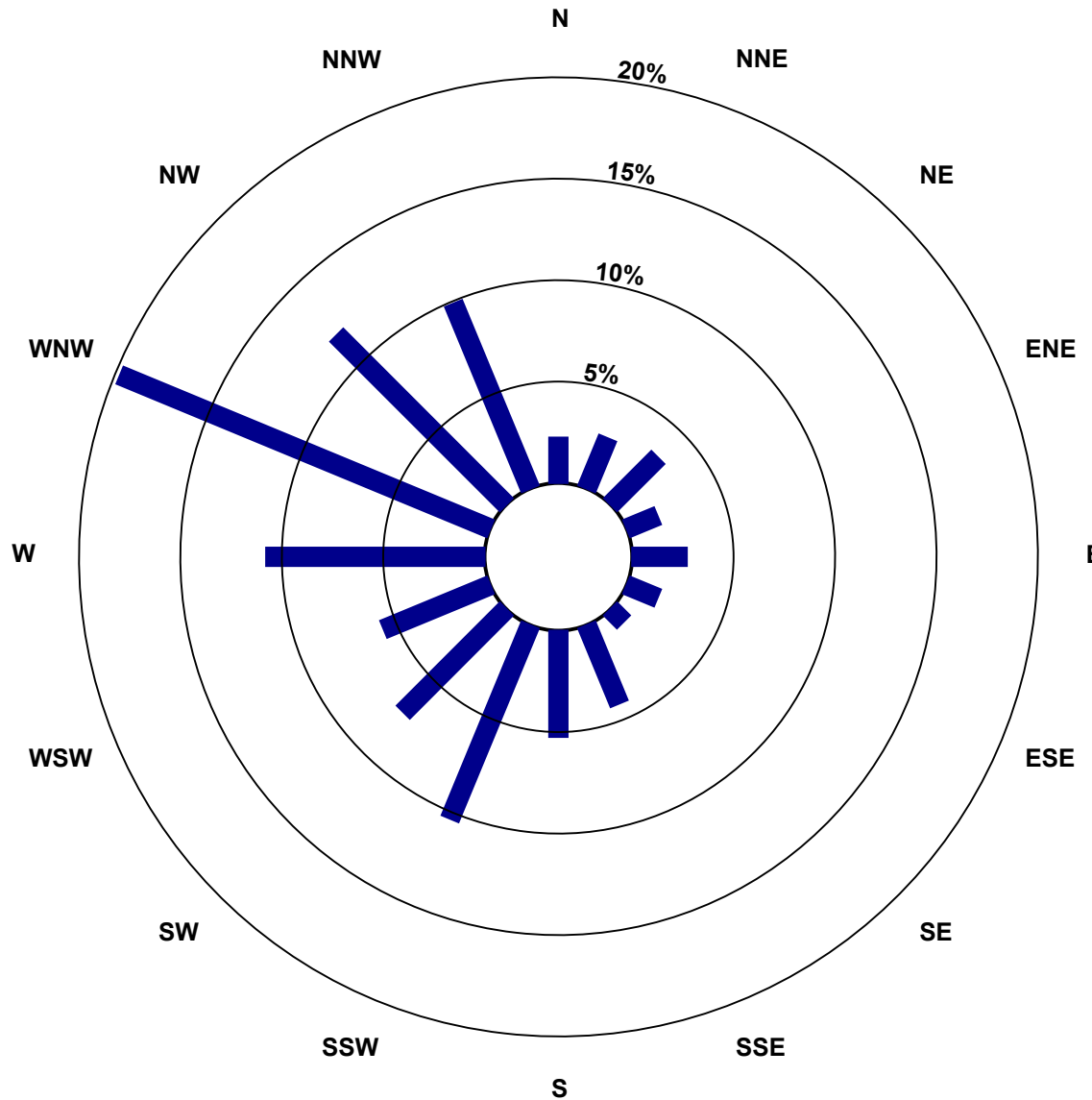
Total Number of Valid Hours: 668

Total Number of Hours: 744

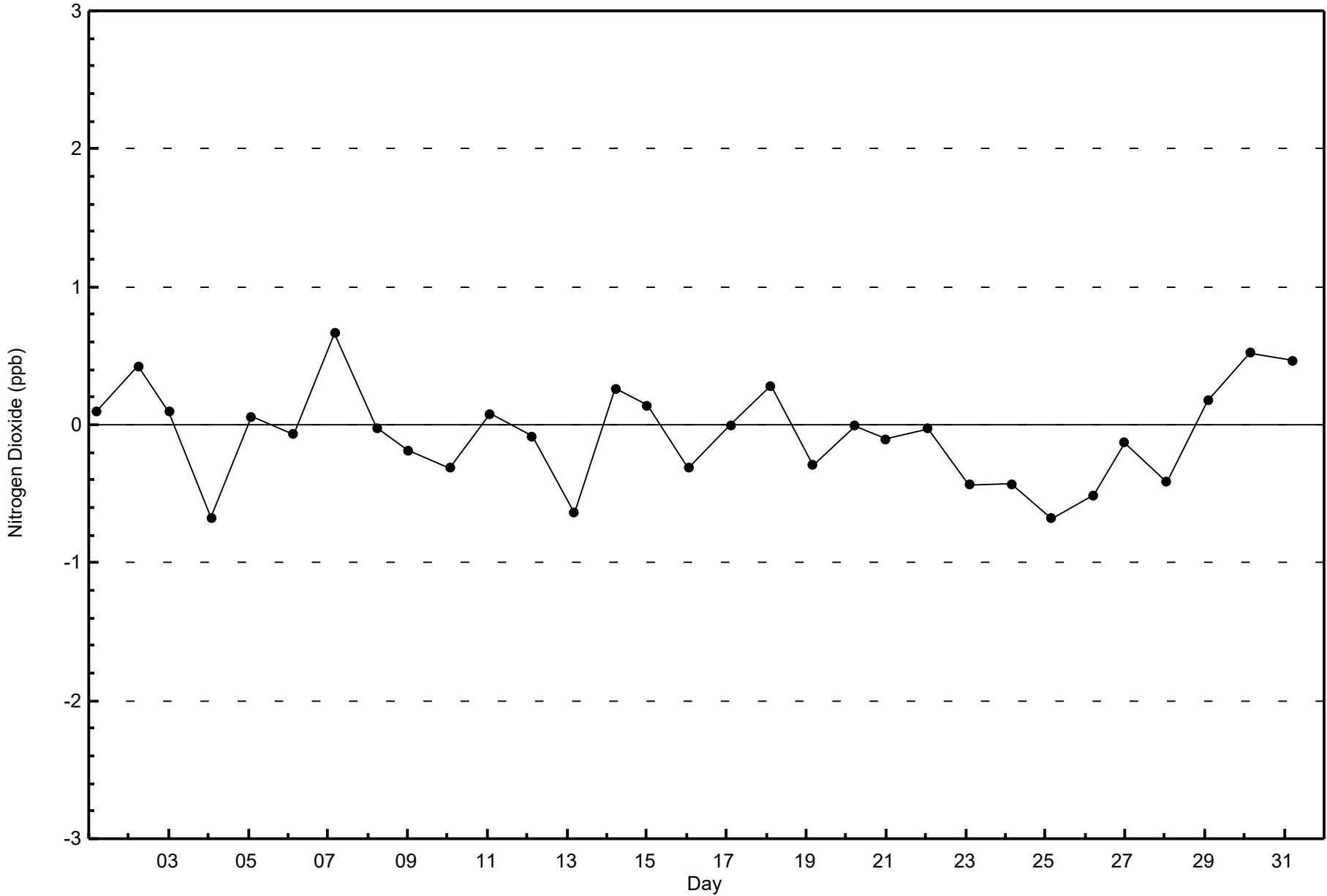


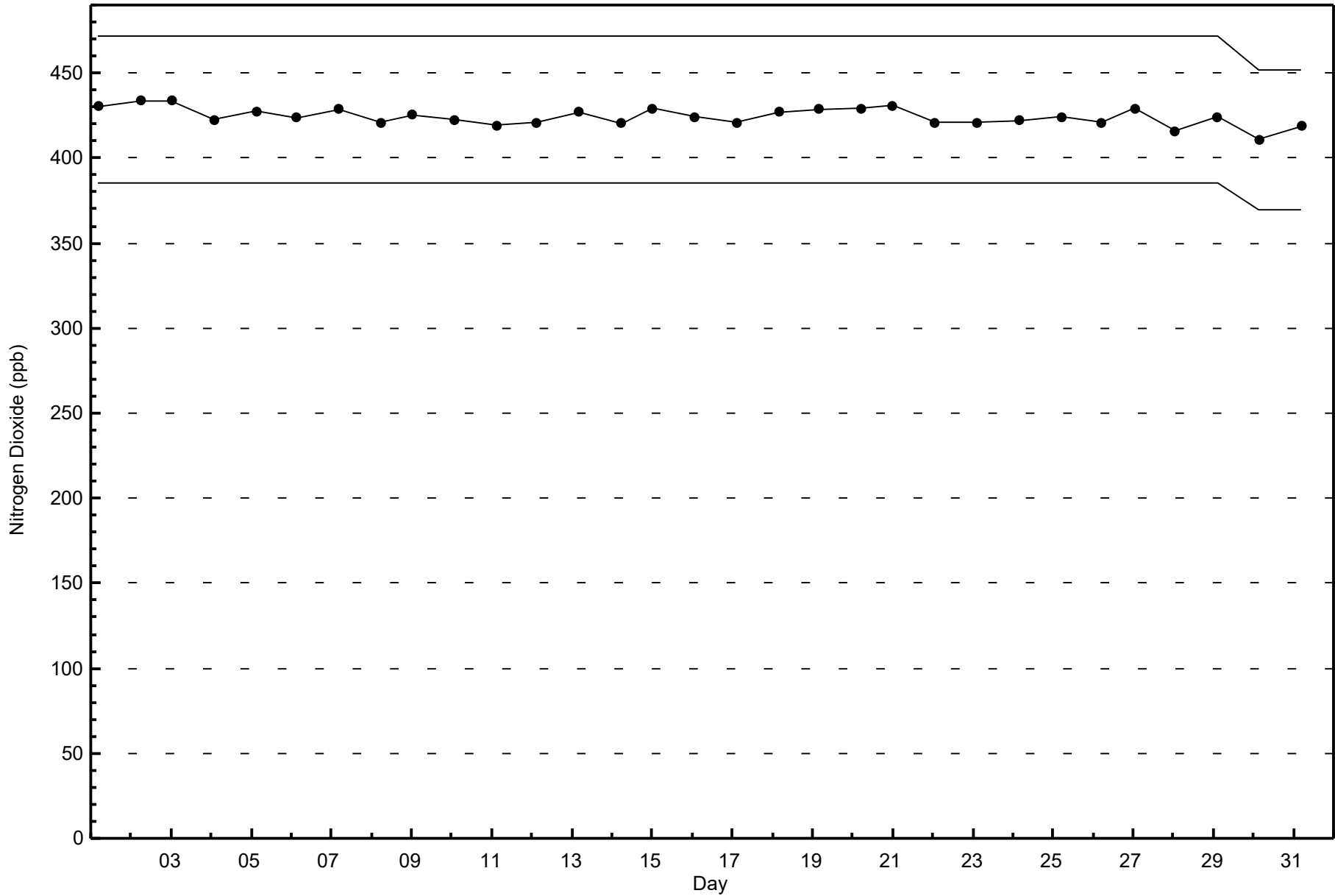
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Dioxide (NO₂) - ppb
Stony Mountain



Total Number of Valid Hours: 668







Wood Buffalo Environmental Association
Summary of Hour Averages

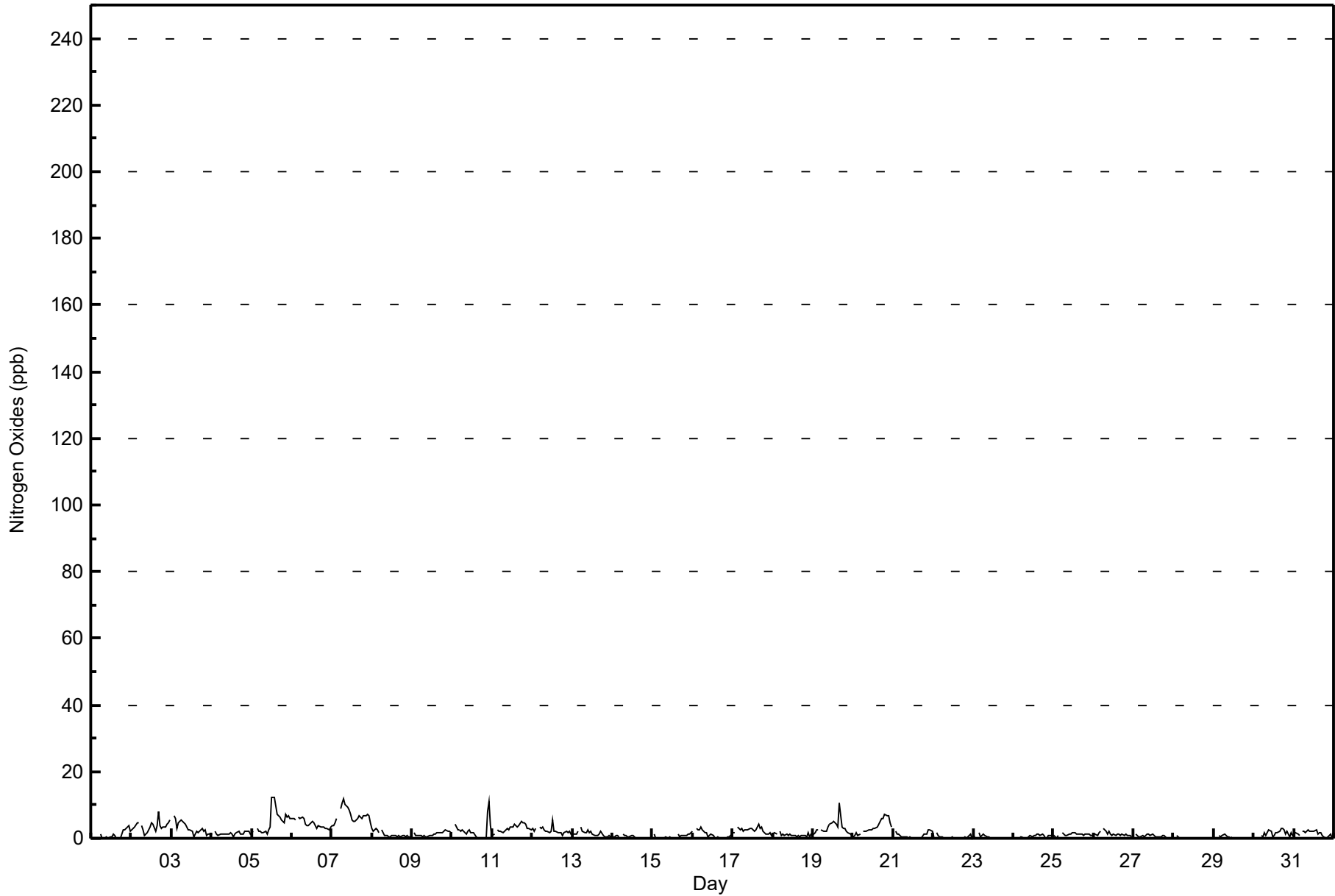
Nitrogen Oxides (NO_x) - ppb
Stony Mountain - January 2025

Maximum Value: 12.3 ppb on Jan 5 14:00		Maximum Daily Average: 6.9 ppb on Jan 7		Hours in Service: 744																																													
Minimum Value: 0.0 ppb on Jan 1 01:00		Minimum Daily Average: 0.0 ppb on Jan 28		Hours of Data: 704																																													
Maximum Diurnal Average: 2.3 ppb at hour 13		Minimum Diurnal Average: 1.4 ppb at hour 1		Hours of Missing Data: 40																																													
Monthly Average: 1.86 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.5 Median = 1.3 Q ₃ = 2.5 P ₉₀ = 4.5 P ₉₉ = 9.8		Hours of Calibration: 37																																													
				Percent Operational Time: 99.6																																													
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	0.0	0.0	0.0	0.0	Z	1.2	0.0	0.1	0.0	0.2	0.1	0.6	0.6	1.3	0.7	0.0	0.0	0.0	1.3	2.5	2.6	3.1	3.9	2.3	0.9	3.9																							
2-Jan	2.5	3.1	3.5	4.6	4.5	Z	3.9	2.4	0.9	1.5	2.5	3.5	4.8	4.1	2.1	3.9	8.0	3.7	3.2	3.4	3.4	4.4	4.6	5.5	3.6	8.0																							
3-Jan	Z	6.6	5.8	3.2	4.5	5.2	5.3	4.8	4.2	3.4	2.5	2.6	2.2	0.4	1.1	2.0	1.7	2.0	3.0	2.1	2.5	1.0	1.3	1.3	3.0	6.6																							
4-Jan	1.2	Z	1.9	1.4	0.8	1.3	1.2	1.4	1.2	1.4	1.4	1.5	1.1	0.6	1.2	1.6	2.1	1.4	1.2	1.4	2.0	2.1	1.9	1.3	1.4	2.1																							
5-Jan	1.9	2.3	Z	2.9	2.3	2.3	1.9	1.7	2.0	1.4	2.6	3.5	12.2	12.3	9.8	7.0	6.9	6.4	5.7	4.5	7.3	6.5	6.8	6.0	5.1	12.3																							
6-Jan	6.0	5.8	5.7	Z	6.3	5.9	6.4	5.9	4.2	3.9	3.8	4.8	5.0	4.6	3.7	2.9	3.6	3.5	3.4	3.6	3.1	3.1	2.7	3.5	4.4	6.4																							
7-Jan	3.8	3.8	4.8	5.8	Z	9.0	10.5	11.8	10.0	9.2	8.4	7.2	5.7	5.2	5.1	5.8	7.0	6.4	5.8	6.9	6.8	7.4	7.0	4.6	6.9	11.8																							
8-Jan	2.9	2.1	2.8	2.4	1.5	Z	2.8	1.0	0.8	0.9	0.5	0.6	0.8	1.1	0.7	0.4	1.0	0.2	0.9	1.0	0.3	0.8	0.4	0.5	1.1	2.9																							
9-Jan	Z	1.9	0.7	0.7	0.8	1.0	0.5	1.0	0.4	0.6	0.8	1.0	0.9	1.4	1.5	1.7	1.8	1.7	1.8	2.0	2.7	2.3	2.1	1.6	1.3	2.7																							
10-Jan	1.7	Z	4.1	2.7	2.5	2.2	2.4	2.0	1.5	2.1	2.6	1.9	1.6	1.6	0.5	0.1	0.0	0.2	0.0	0.0	0.0	8.2	10.8	3.7	2.3	10.8																							
11-Jan	0.9	1.3	Z	2.6	2.3	2.1	1.6	2.2	2.4	2.8	2.7	3.4	3.3	4.4	3.8	3.3	4.0	5.1	4.8	4.5	4.0	3.1	3.0	2.5	3.0	5.1																							
12-Jan	3.0	2.3	2.8	Z	3.3	2.8	3.3	2.5	2.2	2.0	1.8	2.0	5.7	2.2	1.9	1.6	1.6	1.5	0.9	1.7	2.1	1.6	1.9	1.2	2.3	5.7																							
13-Jan	1.4	1.4	1.3	2.2	Z	3.3	2.1	1.7	1.7	2.7	1.8	2.0	1.4	0.7	1.0	0.9	1.3	2.1	0.7	0.6	0.4	0.3	0.8	0.5	1.4	3.3																							
14-Jan	0.4	0.6	0.9	0.7	0.5	Z	1.1	0.7	0.7	0.4	0.5	0.8	0.8	0.5	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.4	1.1																							
15-Jan	Z	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.3	0.1	M	M	M	1.3	0.5	0.7	0.9	0.8	0.7	1.3	1.1	1.7	0.5	1.7																							
16-Jan	2.2	Z	2.9	2.7	2.4	3.4	2.5	1.8	1.7	0.5	0.9	1.4	1.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.1	0.5	0.4	1.1	1.1	3.4																							
17-Jan	1.5	1.5	Z	3.3	2.7	3.1	2.3	2.4	2.6	2.7	2.9	3.0	2.6	1.9	2.6	4.1	3.0	3.2	2.3	1.9	1.4	1.2	1.5	1.0	2.4	4.1																							
18-Jan	1.2	1.7	1.3	Z	2.1	0.7	1.1	0.8	1.1	0.8	1.2	0.7	0.8	0.9	0.3	0.7	0.5	0.8	0.7	0.8	0.6	1.6	0.6	1.4	1.0	2.1																							
19-Jan	1.2	1.5	2.6	2.7	Z	2.6	2.3	2.2	2.3	3.2	4.2	4.7	5.2	4.7	4.2	3.3	10.5	3.4	3.1	2.8	2.0	1.5	1.4	0.9	3.2	10.5																							
20-Jan	0.6	0.9	1.5	0.8	1.1	Z	2.2	2.0	2.0	2.4	2.7	2.5	2.9	2.9	3.6	4.4	4.9	5.8	6.0	7.0	6.8	6.6	4.5	3.4	3.4	7.0																							
21-Jan	Z	2.0	1.2	1.1	0.8	0.3	0.6	0.5	0.6	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.2	1.3	2.4	2.4	2.0	0.8	2.4																							
22-Jan	0.5	Z	1.7	0.9	0.5	0.4	0.0	0.2	0.1	0.1	0.1	0.3	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.4	0.2	0.7	1.2	0.1	0.3	1.7																							
23-Jan	1.0	0.5	Z	1.9	0.6	0.9	1.2	0.9	0.6	0.3	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.9																							
24-Jan	0.0	0.0	0.0	Z	0.5	0.4	0.1	0.0	0.0	0.3	0.9	0.6	0.8	0.9	1.2	1.4	0.9	1.3	0.8	0.1	0.2	1.0	0.6	0.6	0.6	1.4																							
25-Jan	1.0	0.3	0.2	0.7	Z	1.7	1.4	1.0	1.0	1.1	1.2	1.7	1.7	1.7	1.3	1.1	1.1	1.4	0.7	1.4	1.2	1.1	0.9	0.9	1.1	1.7																							
26-Jan	1.3	1.4	0.8	1.7	1.9	Z	2.8	2.1	1.4	2.1	1.4	0.9	1.5	0.9	1.2	1.3	0.7	1.2	0.7	1.3	0.8	0.9	0.8	0.3	1.3	2.8																							
27-Jan	Z	1.4	0.9	0.5	0.4	0.8	0.5	0.9	1.1	1.4	0.8	1.1	0.9	0.5	0.3	0.5	0.6	0.9	0.8	0.6	0.0	0.1	0.0	0.0	0.6	1.4																							
28-Jan	0.0	Z	0.7	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7																							
29-Jan	0.0	0.0	Z	1.0	0.6	0.8	1.1	0.9	0.6	0.4	0.2	0.6	C	C	C	C	C	C	C	0.1	0.0	0.0	0.0	0.0	--	1.1																							
30-Jan	0.0	0.0	0.0	Z	0.8	0.2	1.9	0.8	1.6	2.6	2.1	0.5	0.9	1.6	1.9	2.0	2.8	2.9	2.4	1.4	1.9	0.5	1.6	1.0	1.4	2.9																							
31-Jan	1.2	1.6	1.2	0.8	Z	2.2	2.2	1.7	2.4	2.2	2.3	2.2	2.1	2.4	1.1	1.5	1.9	1.0	0.6	0.1	0.5	0.9	1.1	0.2	1.4	2.4																							
																								1.4	1.7	1.9	1.8	1.7	2.1	2.1	1.9	1.7	1.7	1.7	1.8	2.3	2.0	1.8	1.8	2.2	1.9	1.7	1.7	1.8	2.1	2.1	1.6	Diurnal Average	
																								6.0	6.6	5.8	5.8	6.3	9.0	10.5	11.8	10.0	9.2	8.4	7.2	12.2	12.3	9.8	7.0	10.5	6.4	6.0	7.0	7.3	8.2	10.8	6.0	Diurnal Maximum	
Z - zerospan		C - Calibration				M - Maintenance																																											



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Stony Mountain - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Stony Mountain - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	704	100.00	100.00
21 - 40	0	0.00	100.00
41 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 704

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Oxides (NO_x) - ppb
Stony Mountain - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	15	18	22	11	18	11	6	28	35	69	48	38	72	132	79	66	668
21 - 40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	15	18	22	11	18	11	6	28	35	69	48	38	72	132	79	66	668

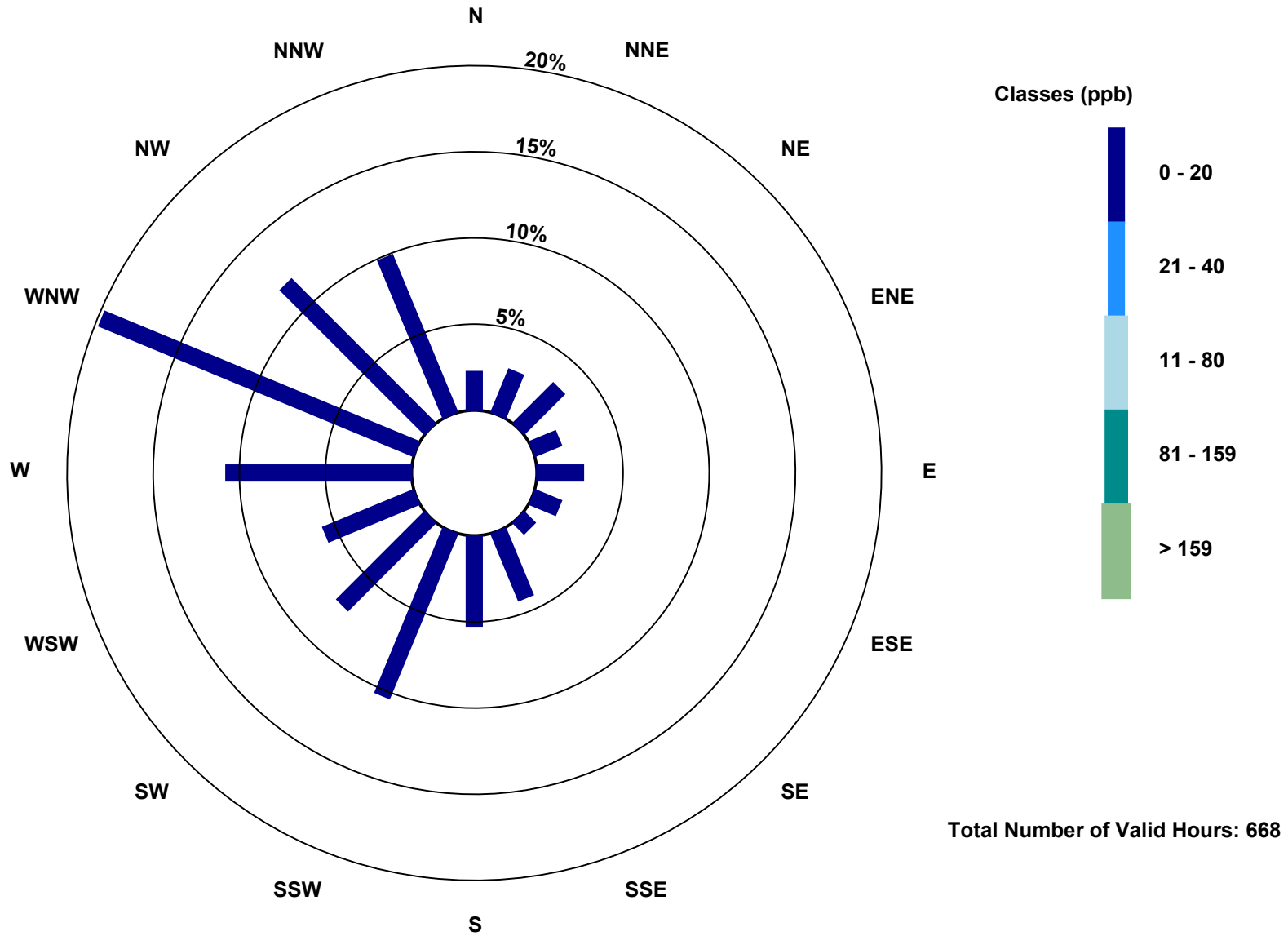
Total Number of Valid Hours: 668

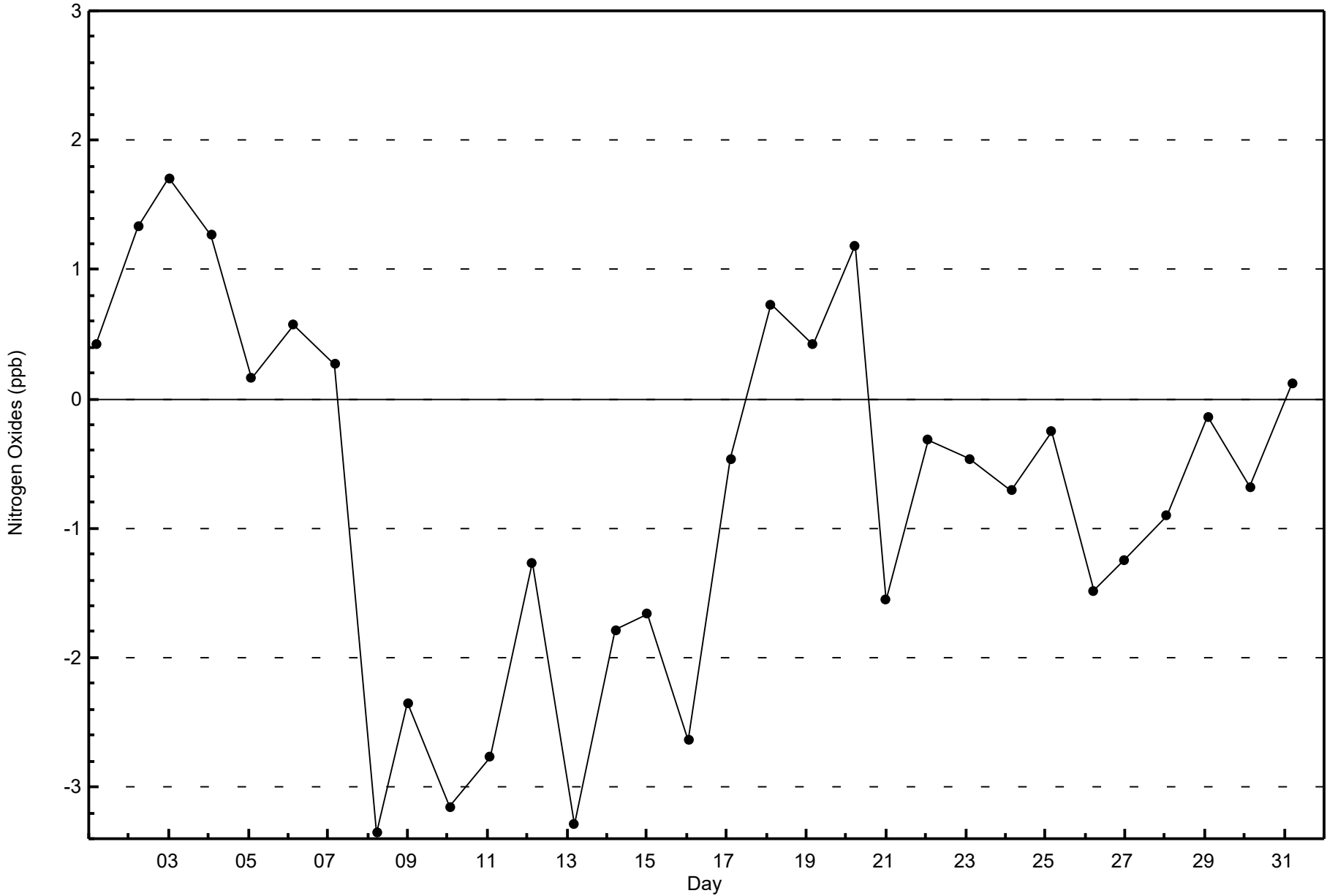
Total Number of Hours: 744

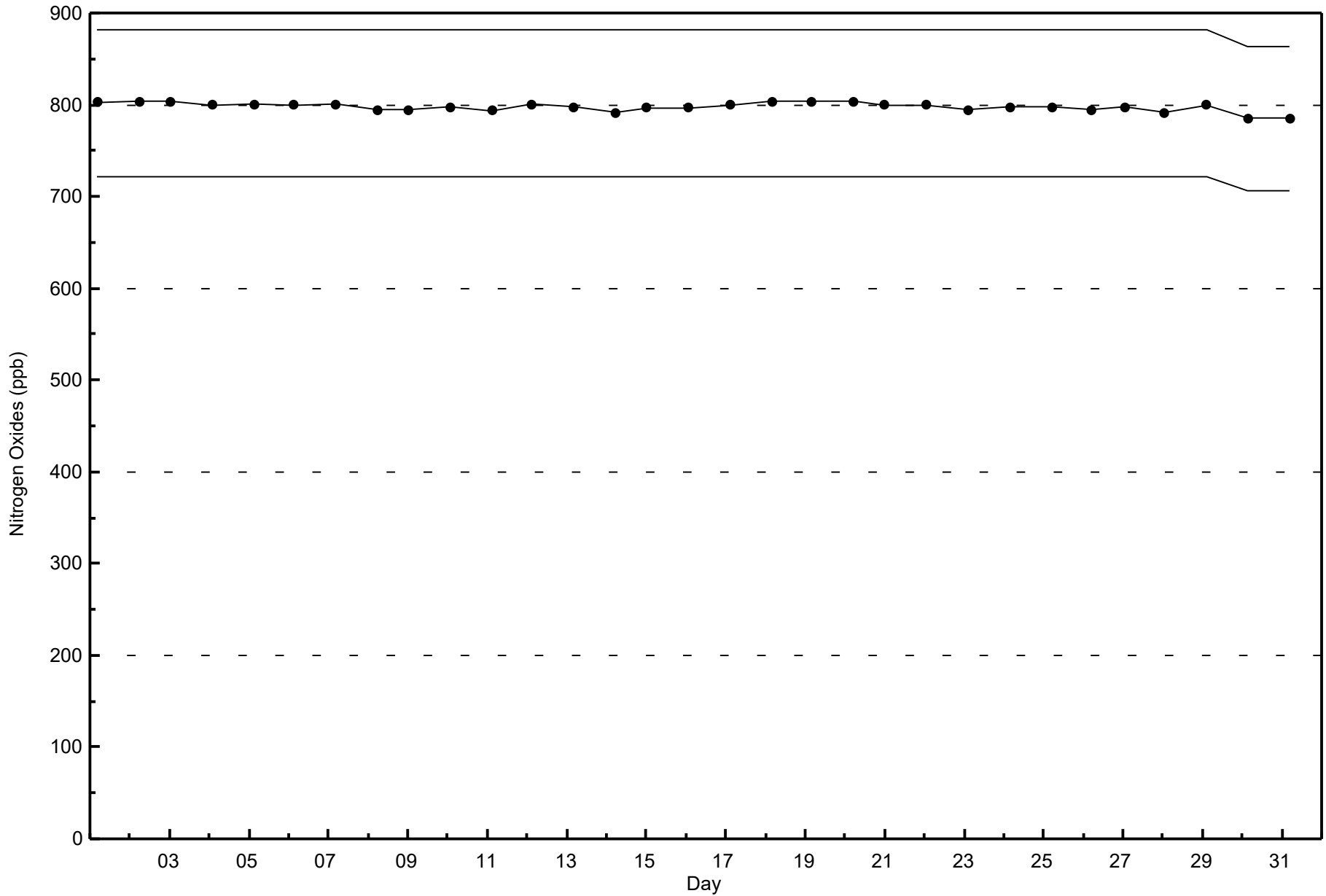


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Oxides (NO_x) - ppb
Stony Mountain





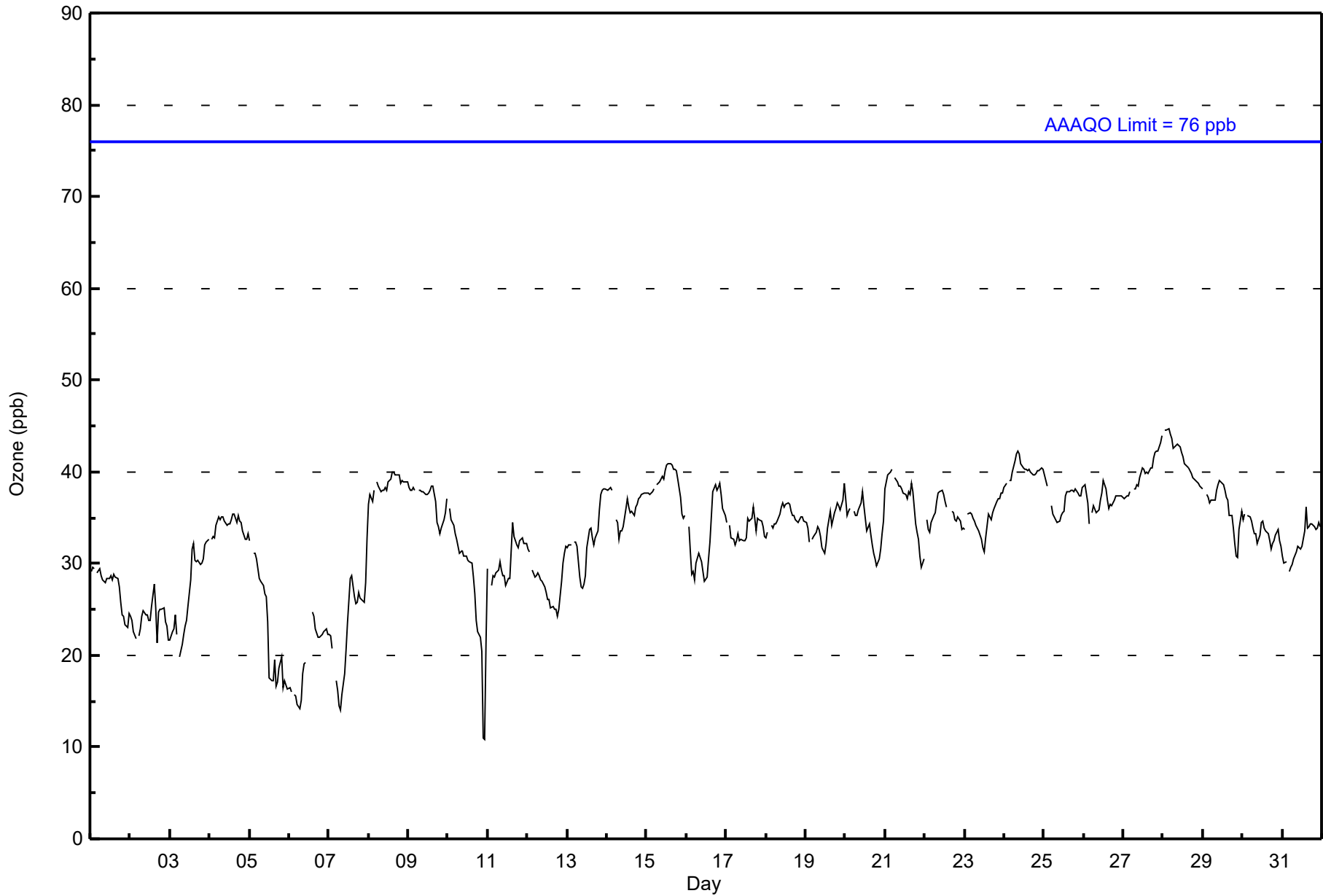




Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 44.7 ppb on Jan 28 04:00	Maximum Daily Average: 41.5 ppb on Jan 28		Hours of Data:	708
Minimum Value: 10.9 ppb on Jan 10 23:00	Minimum Daily Average: 19.6 ppb on Jan 6		Hours of Missing Data:	36
Maximum Diurnal Average: 33.9 ppb at hour 15	Minimum Diurnal Average: 32.0 ppb at hour 6		Hours of Calibration:	34
Monthly Average: 33.01 ppb	Percentiles: P ₁ = 15.6 P ₁₀ = 24.1 Q ₁ = 30.1 Median = 34.4 Q ₃ = 37.6 P ₉₀ = 39.3 P ₉₉ = 43.0		Percent Operational Time:	99.7

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	29.2	29.6	29.4	Z	28.9	29.4	28.7	28.2	28.1	27.9	28.4	28.4	28.7	28.2	28.8	28.6	28.3	27.5	25.9	24.3	24.3	23.3	23.0	24.5	27.5	29.6
2-Jan	24.3	23.8	22.6	21.8	Z	22.1	22.8	24.3	24.8	24.4	24.4	23.9	23.8	25.3	27.8	25.1	21.3	24.8	25.1	25.0	25.2	23.6	23.2	21.7	24.0	27.8
3-Jan	21.7	22.5	22.9	24.4	22.3	Z	19.9	21.2	22.3	23.2	23.7	25.3	28.2	31.6	32.2	30.4	30.2	30.3	30.0	30.1	30.5	32.1	32.3	32.6	27.0	32.6
4-Jan	Z	32.6	32.9	32.8	34.2	35.1	34.8	35.0	34.7	34.2	34.3	34.3	34.7	35.4	35.4	34.5	35.3	34.7	34.5	33.6	32.7	32.7	33.3	34.2	35.4	
5-Jan	32.4	Z	31.1	31.0	30.5	29.5	28.4	28.1	27.6	26.7	26.4	23.6	17.6	17.2	17.3	19.5	16.7	17.1	18.6	19.9	16.5	17.3	16.8	16.3	22.9	32.4
6-Jan	16.4	16.0	Z	15.8	15.6	14.6	14.2	15.1	18.0	19.0	19.3	C	C	C	24.7	24.3	22.8	21.9	22.0	22.2	22.3	22.6	22.9	22.3	19.6	24.7
7-Jan	22.3	22.1	20.7	Z	17.3	16.2	14.5	14.0	15.6	17.9	20.6	23.5	25.9	28.4	28.6	26.4	25.7	25.8	26.8	26.2	26.0	25.8	27.9	32.8	23.1	32.8
8-Jan	36.5	37.6	36.8	37.9	Z	38.9	38.5	37.9	38.0	38.0	38.2	38.0	38.9	39.3	40.0	40.0	39.7	39.6	39.7	38.8	39.1	38.8	39.0	38.8	38.6	40.0
9-Jan	38.3	38.0	38.0	38.2	38.0	Z	38.0	38.0	37.8	37.8	37.5	37.6	37.7	38.0	38.4	38.4	36.7	34.5	34.0	33.2	33.9	34.8	35.6	37.0	36.9	38.4
10-Jan	Z	36.0	34.8	34.2	33.2	32.6	31.9	31.2	31.4	30.8	30.8	30.8	30.4	30.2	30.1	28.5	26.7	23.9	22.6	22.0	20.5	11.0	10.9	21.4	27.6	36.0
11-Jan	29.4	Z	27.6	28.7	28.5	29.1	29.3	30.3	29.4	28.6	28.6	27.6	28.3	28.4	31.4	34.5	32.9	32.0	31.8	32.6	32.6	32.8	32.2	32.1	30.4	34.5
12-Jan	31.6	31.3	Z	29.3	28.5	28.7	28.9	28.6	28.2	28.1	27.5	26.8	26.1	26.1	25.2	25.3	25.0	25.0	24.3	25.0	28.1	30.1	31.1	31.9	27.9	31.9
13-Jan	31.7	32.1	32.1	Z	32.4	32.4	32.0	28.6	27.4	27.2	27.8	28.7	31.7	33.7	33.9	32.9	32.0	32.7	33.6	35.8	37.6	37.9	38.2	38.1	32.6	38.2
14-Jan	38.0	38.2	38.3	38.0	Z	34.8	34.5	32.6	33.6	33.5	34.1	36.1	37.1	36.2	35.5	35.7	35.3	36.2	36.5	37.1	37.2	37.5	37.7	37.7	36.1	38.3
15-Jan	37.7	37.7	37.5	37.8	38.2	Z	38.6	38.8	39.0	39.4	39.3	40.0	40.7	40.9	40.9	40.7	40.3	40.3	40.1	39.1	37.2	35.5	34.9	35.2	38.7	40.9
16-Jan	Z	34.1	31.3	28.8	29.2	28.2	30.0	31.1	30.7	30.1	29.1	28.0	28.5	30.4	32.3	35.1	37.9	38.6	38.0	38.3	38.7	37.5	35.9	35.2	32.9	38.7
17-Jan	34.5	Z	34.2	32.7	32.7	32.0	32.6	33.3	32.4	32.6	32.4	32.5	32.8	35.0	34.6	35.0	36.1	34.9	33.5	34.9	34.8	34.6	33.9	32.9	33.7	36.1
18-Jan	32.9	33.3	Z	34.2	33.8	34.3	34.4	34.6	35.4	36.2	36.6	36.1	36.4	36.7	36.4	35.7	35.3	35.3	34.8	34.5	34.8	35.1	35.1	34.7	35.1	36.7
19-Jan	34.5	33.9	32.4	Z	32.7	33.0	33.3	34.0	33.7	32.9	31.7	31.1	32.1	33.9	34.7	35.7	34.1	35.5	36.0	36.7	36.3	35.9	36.9	38.8	34.3	38.8
20-Jan	37.0	35.2	35.7	36.0	Z	35.7	35.3	35.2	35.8	36.6	37.8	36.4	34.9	33.6	34.3	33.1	32.0	31.1	30.6	29.8	30.5	31.6	33.2	34.7	34.2	37.8
21-Jan	38.2	39.7	39.8	40.0	40.2	Z	39.4	38.9	38.4	38.4	38.1	37.7	37.5	37.0	37.8	37.6	38.7	37.8	34.3	33.5	32.6	30.8	29.5	30.5	36.8	40.2
22-Jan	Z	34.9	33.7	33.4	34.5	35.2	35.5	36.7	37.7	37.8	38.0	37.6	36.7	36.1	M	M	35.7	35.5	34.8	34.6	35.1	34.7	33.7	33.8	35.5	38.0
23-Jan	33.8	Z	35.4	35.5	35.3	34.9	34.7	34.1	33.6	33.1	32.6	31.7	31.2	32.8	35.4	35.0	34.8	35.5	36.0	36.8	37.0	37.1	37.7	37.7	34.9	37.7
24-Jan	38.3	38.8	Z	39.1	39.0	40.0	41.1	41.9	42.3	42.0	40.9	40.4	40.3	40.2	40.1	40.2	40.0	39.7	39.6	39.8	40.0	40.1	40.4	40.3	40.2	42.3
25-Jan	39.6	39.0	38.4	Z	36.4	35.4	35.1	34.8	34.4	34.6	35.2	35.6	35.6	37.4	37.9	37.9	38.0	37.9	37.9	38.1	37.6	37.4	37.4	38.3	37.0	39.6
26-Jan	38.4	38.5	36.6	34.3	Z	35.6	36.3	35.6	35.7	35.9	37.0	37.7	39.0	38.1	37.0	36.1	36.5	36.3	36.9	37.4	37.3	37.3	37.4	37.4	36.9	39.0
27-Jan	37.1	37.2	37.3	37.4	37.9	Z	38.1	38.2	38.6	38.5	39.4	40.5	40.2	39.9	40.0	39.9	40.5	40.4	41.6	42.1	42.3	42.2	43.1	44.0	39.8	44.0
28-Jan	Z	44.6	44.6	44.7	44.2	43.6	42.5	42.6	43.0	42.8	42.7	42.2	41.7	40.9	40.6	40.5	40.2	39.9	39.4	39.1	39.0	38.8	38.4	38.4	41.5	44.7
29-Jan	38.1	Z	37.5	37.2	36.6	36.8	37.0	36.9	38.0	38.6	39.0	38.9	38.5	37.9	37.2	37.0	35.3	35.3	33.8	32.1	30.8	30.6	33.7	35.6	36.2	39.0
30-Jan	34.8	35.4	Z	35.3	35.1	34.7	33.8	33.3	33.2	32.2	33.1	34.5	34.6	33.8	33.6	33.3	32.4	31.6	32.2	32.4	33.0	33.7	32.4	31.9	33.5	35.4
31-Jan	30.8	30.0	30.3	Z	29.1	29.6	29.8	30.5	31.3	31.8	31.7	31.5	31.8	33.6	36.2	33.9	34.0	34.3	34.3	34.0	33.8	33.9	34.5	34.0	32.4	36.2
	33.0	33.5	33.5	33.6	32.5	32.0	32.4	32.4	32.6	32.6	32.8	33.2	33.4	33.9	33.9	33.7	33.2	33.1	32.9	32.9	32.8	32.5	32.6	33.4		Diurnal Average
	39.6	44.6	44.6	44.7	44.2	43.6	42.5	42.6	43.0	42.8	42.7	42.2	41.7	40.9	40.9	40.7	40.5	40.4	41.6	42.1	42.3	42.2	43.1	44.0		Diurnal Maximum

Z - zerospan C - Calibration M - Maintenance
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 76 ppb





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Ozone (O₃) - ppb
Stony Mountain - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	31	4.38	4.38
21 - 50	677	95.62	100.00
51 - 82	0	0.00	100.00
> 83	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Ozone (O₃) - ppb
Stony Mountain - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	2	1	2	1	0	1	3	4	4	6	1	0	0	0	2	4	31
21 - 50	12	18	20	11	20	12	2	25	30	61	50	36	73	133	76	62	641
51 - 82	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	14	19	22	12	20	13	5	29	34	67	51	36	73	133	78	66	672

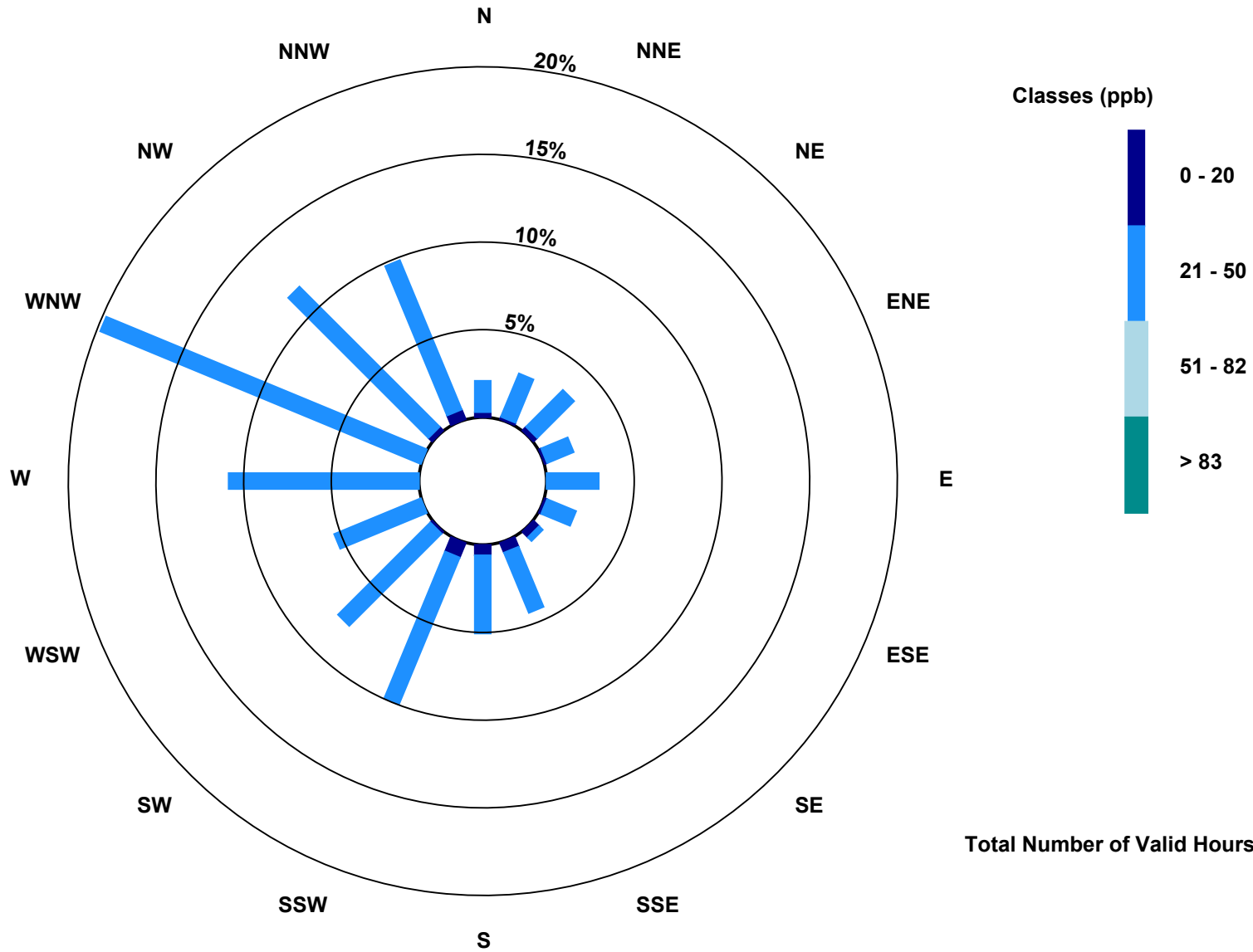
Total Number of Valid Hours: 672

Total Number of Hours: 744

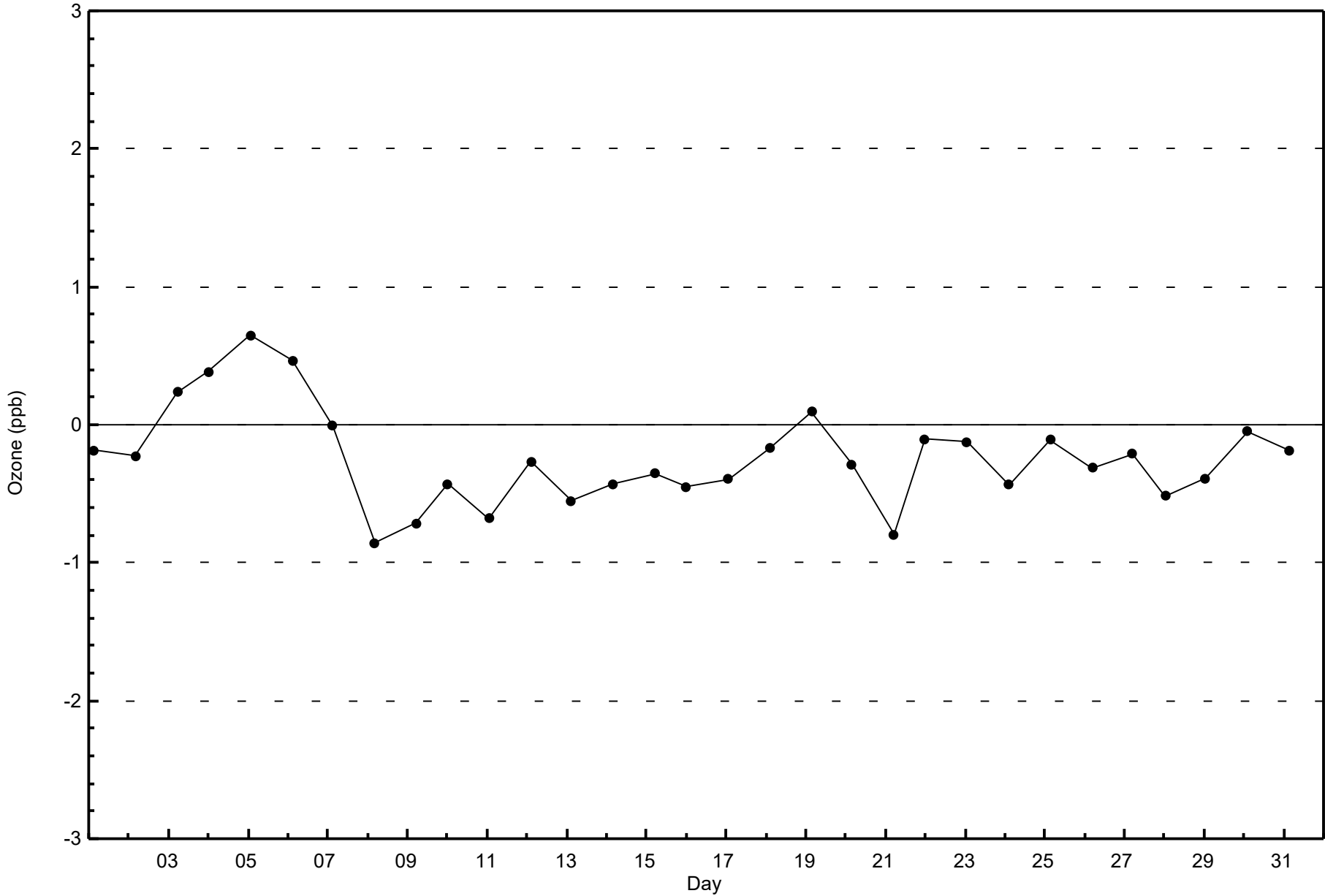


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Ozone (O₃) - ppb
Stony Mountain



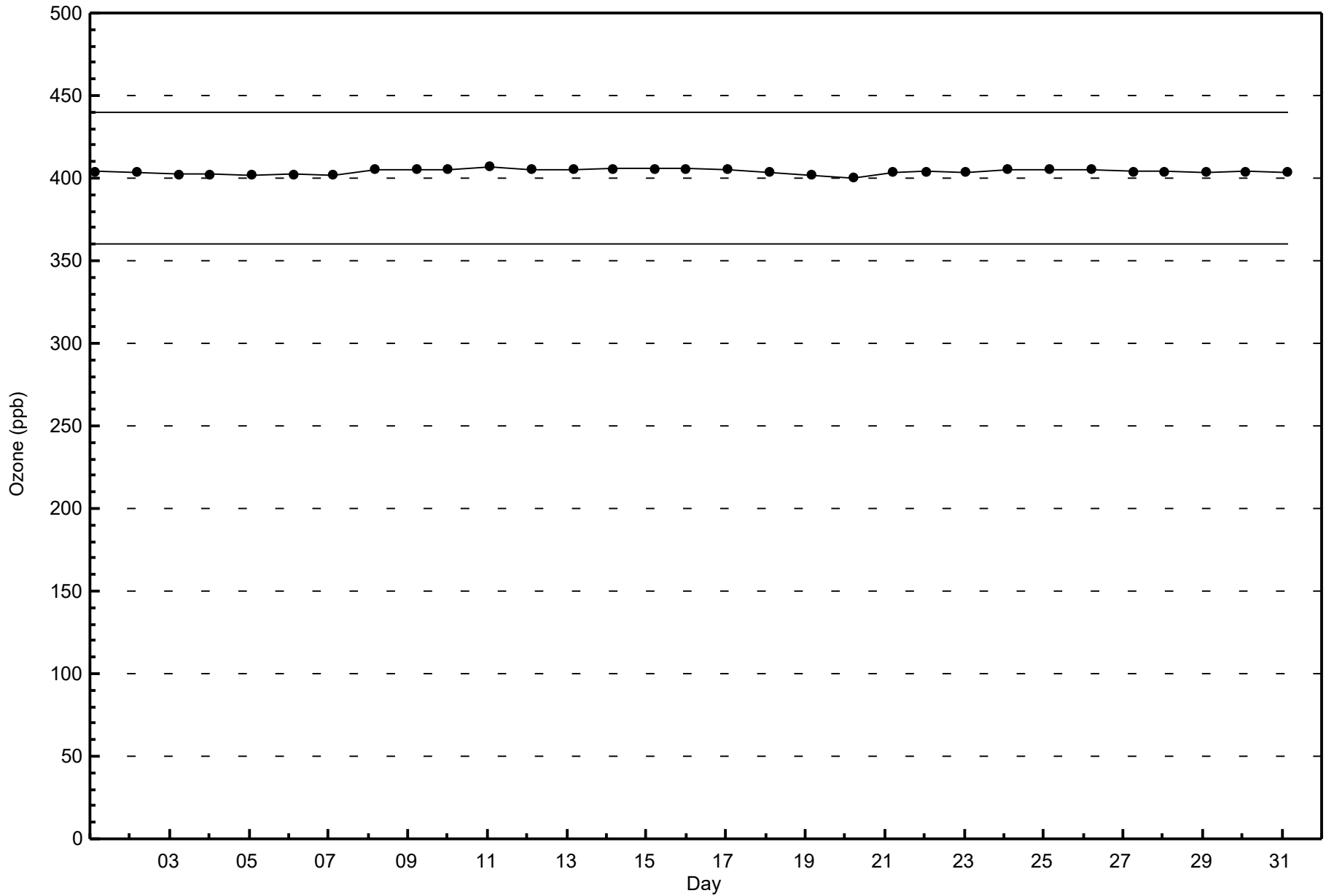
Total Number of Valid Hours: 672





Wood Buffalo Environmental Association
Span Responses

Ozone (O₃) - ppb
Stony Mountain - January 2025





Summary of Hour Averages

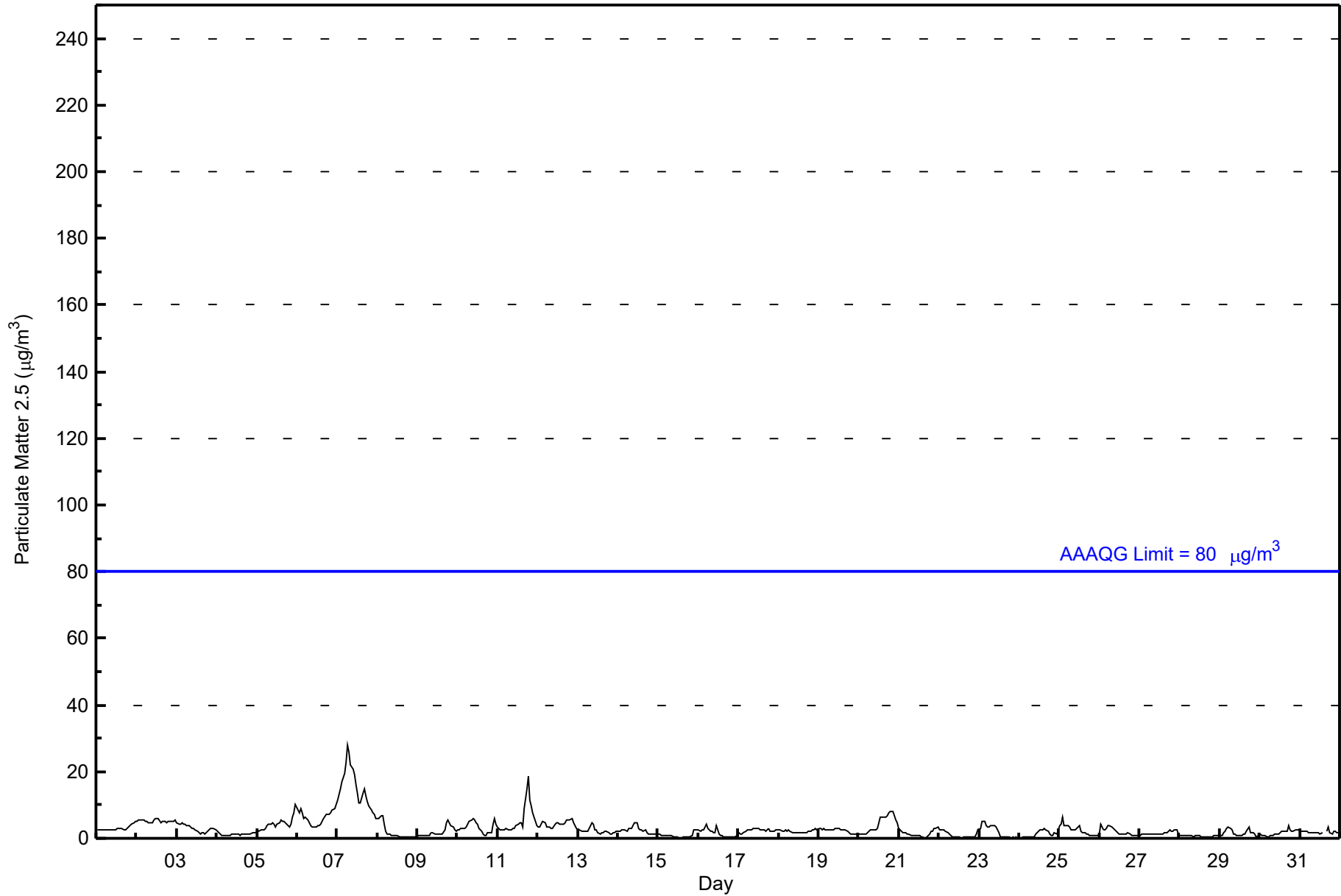
Stony Mountain - January 2025

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 27.9 µg/m ³ on Jan 7 07:00	Maximum Daily Average: 14.8 µg/m ³ on Jan 7		Hours of Data:	741
Minimum Value: 0.1 µg/m ³ on Jan 21 17:00	Minimum Daily Average: 0.7 µg/m ³ on Jan 28		Hours of Missing Data:	3
Maximum Diurnal Average: 3.3 µg/m ³ at hour 7	Minimum Diurnal Average: 2.4 µg/m ³ at hour 15		Hours of Calibration:	2
Monthly Average: 2.92 µg/m ³	Percentiles: P ₁ = 0.2 P ₁₀ = 0.6 Q ₁ = 1.2 Median = 2.3 Q ₃ = 3.5 P ₉₀ = 5.4 P ₉₉ = 17.8		Percent Operational Time:	99.9

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	2.4	2.5	2.5	2.6	2.6	2.6	2.5	2.5	2.6	2.6	2.7	2.7	2.9	2.9	2.9	2.8	2.8	2.8	3.1	3.5	3.9	4.2	4.6	5.2	3.0	5.2	
2-Jan	5.1	5.3	5.4	5.4	5.4	5.3	5.1	4.8	4.6	4.9	5.3	5.9	6.0	5.8	4.8	5.1	5.3	5.0	4.7	5.0	5.2	5.3	5.1	5.3	5.2	6.0	
3-Jan	4.8	4.2	4.1	4.7	4.2	4.1	4.0	3.9	3.3	3.1	3.1	2.7	2.2	1.5	1.4	1.5	1.5	1.4	2.1	2.8	2.9	3.0	3.1	2.7	3.0	4.8	
4-Jan	2.3	1.8	1.3	1.0	0.9	0.9	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.0	1.1	1.1	1.2	1.3	1.4	1.5	1.5	1.5	1.9	1.3	2.3	
5-Jan	2.0	2.3	2.5	2.6	2.6	3.0	3.7	4.1	4.4	4.9	4.2	3.6	4.0	4.6	5.4	5.1	5.1	4.5	4.3	3.6	4.2	6.2	7.7	10.3	4.4	10.3	
6-Jan	8.3	7.8	8.9	7.5	5.9	6.3	5.7	4.6	3.6	3.6	3.5	3.5	3.6	3.7	4.1	5.1	5.9	7.1	7.2	7.2	7.8	8.5	9.0	10.3	6.2	10.3	
7-Jan	11.7	13.0	14.7	16.7	19.7	22.9	27.9	25.9	21.9	20.9	19.1	15.9	13.7	10.8	10.5	13.7	14.8	12.6	10.9	9.7	8.3	7.7	7.1	6.1	14.8	27.9	
8-Jan	5.8	6.1	6.8	7.0	4.4	2.3	1.4	1.1	1.0	0.9	0.8	0.8	0.7	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.4	0.4	0.5	0.6	1.8	7.0	
9-Jan	0.7	0.8	0.8	0.8	0.9	0.7	0.8	1.0	1.6	1.5	1.4	1.4	1.4	1.3	1.2	1.3	2.3	4.7	5.4	4.8	3.7	3.4	2.5	2.0	1.9	5.4	
10-Jan	2.5	2.4	2.9	2.9	3.2	3.5	4.4	4.9	5.4	5.8	5.5	4.7	4.3	3.1	2.3	1.4	0.8	0.8	1.5	1.6	1.7	4.4	6.0	4.0	3.3	6.0	
11-Jan	3.4	2.7	2.6	2.6	2.7	2.8	2.7	2.6	2.7	2.9	3.1	3.8	4.1	4.9	4.7	3.3	8.7	14.9	18.5	11.6	9.6	7.7	6.4	3.7	5.5	18.5	
12-Jan	3.4	3.5	4.1	5.3	4.5	3.3	3.6	3.5	2.9	3.1	4.2	4.9	4.8	4.4	4.4	4.2	4.5	5.5	5.5	5.5	5.8	4.8	3.7	2.9	4.3	5.8	
13-Jan	2.6	2.3	2.2	2.0	2.1	2.2	2.1	3.6	4.6	4.3	2.6	2.4	1.8	1.4	1.6	1.7	1.9	2.1	1.7	1.4	1.3	1.5	1.8	2.1	2.2	4.6	
14-Jan	2.2	2.3	2.3	2.4	2.4	2.3	2.8	3.0	2.8	3.7	4.8	4.7	3.0	2.5	2.3	2.2	2.4	1.6	1.2	1.2	1.5	1.3	1.3	1.2	2.4	4.8	
15-Jan	1.2	1.2	1.1	0.9	0.9	0.9	0.8	0.8	0.7	0.6	0.6	0.5	0.5	M	0.4	0.4	0.5	0.5	0.5	0.6	0.8	2.5	2.7	2.6	1.0	2.7	
16-Jan	2.5	2.3	2.5	2.5	3.2	4.1	2.9	2.3	2.1	1.5	1.6	3.6	1.4	0.9	0.7	0.5	0.4	0.4	0.4	0.2	0.3	0.3	0.4	0.8	1.6	4.1	
17-Jan	1.5	1.3	1.3	1.8	2.2	2.5	2.5	2.5	2.7	2.8	2.8	2.8	2.8	2.5	2.6	2.3	2.2	2.6	2.9	2.3	2.2	2.2	2.5	2.5	2.3	2.9	
18-Jan	2.6	2.6	2.3	2.2	2.3	2.2	2.5	2.3	1.8	1.6	1.5	1.6	1.7	1.6	1.6	1.5	1.9	2.2	2.3	2.5	2.7	2.8	2.7	2.1	2.8		
19-Jan	2.8	2.8	2.7	2.8	2.5	2.5	2.4	2.4	2.5	2.7	2.9	3.0	2.9	2.7	2.5	2.4	2.5	2.2	1.9	1.5	1.3	1.3	1.2	1.1	2.3	3.0	
20-Jan	1.2	1.3	1.4	1.1	1.1	1.5	2.0	2.6	2.7	2.7	2.5	3.2	4.8	6.5	6.3	6.2	6.6	6.8	7.6	8.2	7.9	6.9	5.6	4.6	4.2	8.2	
21-Jan	3.0	2.1	1.8	1.7	1.5	1.3	1.1	1.0	0.9	0.9	0.8	0.8	0.7	0.6	0.3	0.2	0.1	0.2	1.4	2.0	2.2	2.8	3.1	3.2	1.4	3.2	
22-Jan	2.7	2.5	2.4	2.4	2.2	1.7	1.4	0.8	0.5	0.4	0.3	0.3	0.3	0.1	0.2	0.3	0.4	0.5	0.5	0.4	0.5	0.6	1.2	2.6	1.0	2.7	
23-Jan	2.4	2.9	5.0	5.0	3.8	3.5	3.5	3.8	3.8	3.9	3.2	2.7	1.5	0.5	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	2.0	5.0	
24-Jan	0.2	0.2	0.2	0.2	0.4	0.3	0.3	0.4	0.4	1.2	1.9	2.5	2.7	2.7	3.1	2.5	2.1	1.3	0.8	0.9	1.8	1.2	2.5	1.2	1.2	3.1	
25-Jan	3.6	4.1	6.3	4.0	3.8	3.9	3.2	2.7	2.7	2.7	2.8	3.4	3.7	2.2	1.5	1.5	1.3	1.1	1.0	0.9	0.7	0.8	0.8	0.9	2.5	6.3	
26-Jan	1.3	4.3	2.6	2.7	3.1	3.7	3.6	3.3	3.0	2.4	2.1	1.7	1.3	1.2	1.3	1.4	1.2	1.9	1.3	0.9	1.0	0.9	0.9	1.0	2.0	4.3	
27-Jan	1.0	1.1	1.2	1.3	1.3	1.2	1.3	1.3	1.2	1.3	1.3	1.3	1.3	1.3	1.4	1.5	1.7	2.1	2.4	2.3	2.3	2.4	2.4	1.2	1.5	2.4	
28-Jan	0.9	0.9	0.8	0.7	0.7	0.7	0.9	0.8	0.6	0.6	0.6	0.6	0.6	0.7	0.6	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.8	0.7	0.9
29-Jan	0.8	1.0	1.5	2.1	3.0	3.3	3.0	2.4	1.4	1.2	1.1	0.9	0.8	0.8	1.1	1.1	2.0	3.2	1.7	1.7	1.6	1.1	0.6	0.7	1.6	3.3	
30-Jan	1.1	1.1	0.8	0.7	0.6	0.6	0.6	0.7	0.9	1.1	1.2	1.4	1.6	2.0	2.1	2.1	2.1	3.6	2.7	2.2	2.2	2.4	2.5	2.5	1.6	3.6	
31-Jan	2.1	2.1	2.0	2.2	2.1	1.7	1.6	1.6	1.7	1.7	1.7	1.6	1.4	1.9	C	C	2.3	3.5	1.8	1.5	1.9	2.1	1.7	1.5	1.9	3.5	

2.8	2.9	3.1	3.2	3.1	3.2	3.3	3.2	3.0	3.0	2.9	2.9	2.7	2.6	2.4	2.5	2.8	3.2	3.2	2.8	2.8	3.0	2.9	2.9	Diurnal Average	
11.7	13.0	14.7	16.7	19.7	22.9	27.9	25.9	21.9	20.9	19.1	15.9	13.7	10.8	10.5	13.7	14.8	14.9	18.5	11.6	9.6	8.5	9.0	10.3	Diurnal Maximum	

C - Calibration M - Maintenance
 Alberta Ambient Air Quality Guideline/Objectives: 1-hr 80 µg/m³ 24-hr 29 µg/m³





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Stony Mountain - January 2025

Concentration Ranges ($\mu\text{g}/\text{m}^3$)	Number of Hours	%	Cumulative %
0 - 5	669	90.28	90.28
6 - 15	62	8.37	98.65
16 - 25	8	1.08	99.73
26 - 80	2	0.27	100.00
> 81.0	0	0.00	100.00

Total Number of Valid Hours: 741

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - μg/m³
Stony Mountain - January 2025

Concentration Ranges (μg/m ³)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	14	19	20	11	19	12	2	27	39	37	45	33	74	139	82	69	642
6 - 15	1	1	2	1	0	1	4	3	0	25	7	5	3	0	0	0	53
16 - 25	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	7
26 - 80	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
> 81.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	15	20	22	12	19	13	6	30	39	71	52	38	77	139	82	69	704

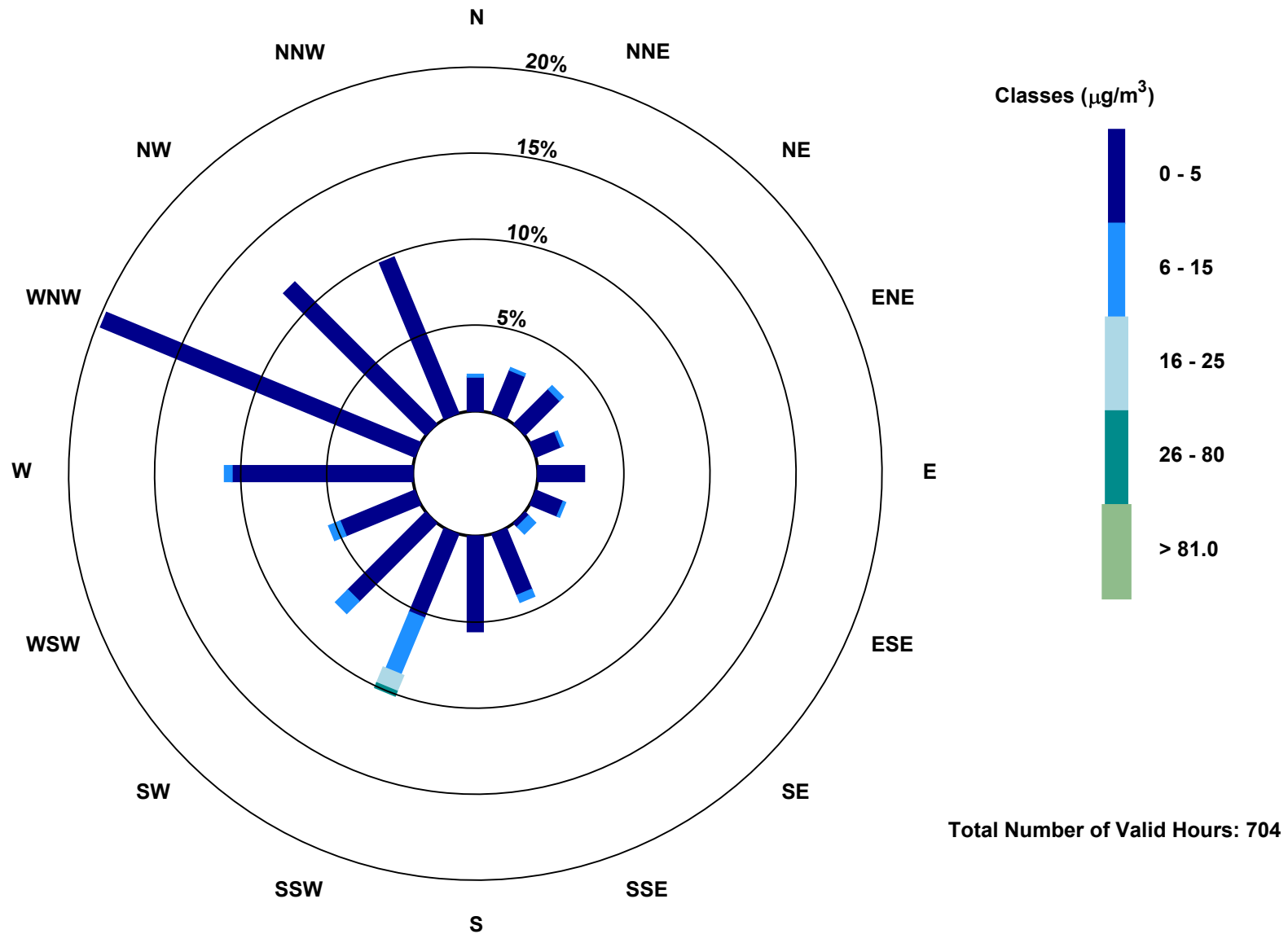
Total Number of Valid Hours: 704

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

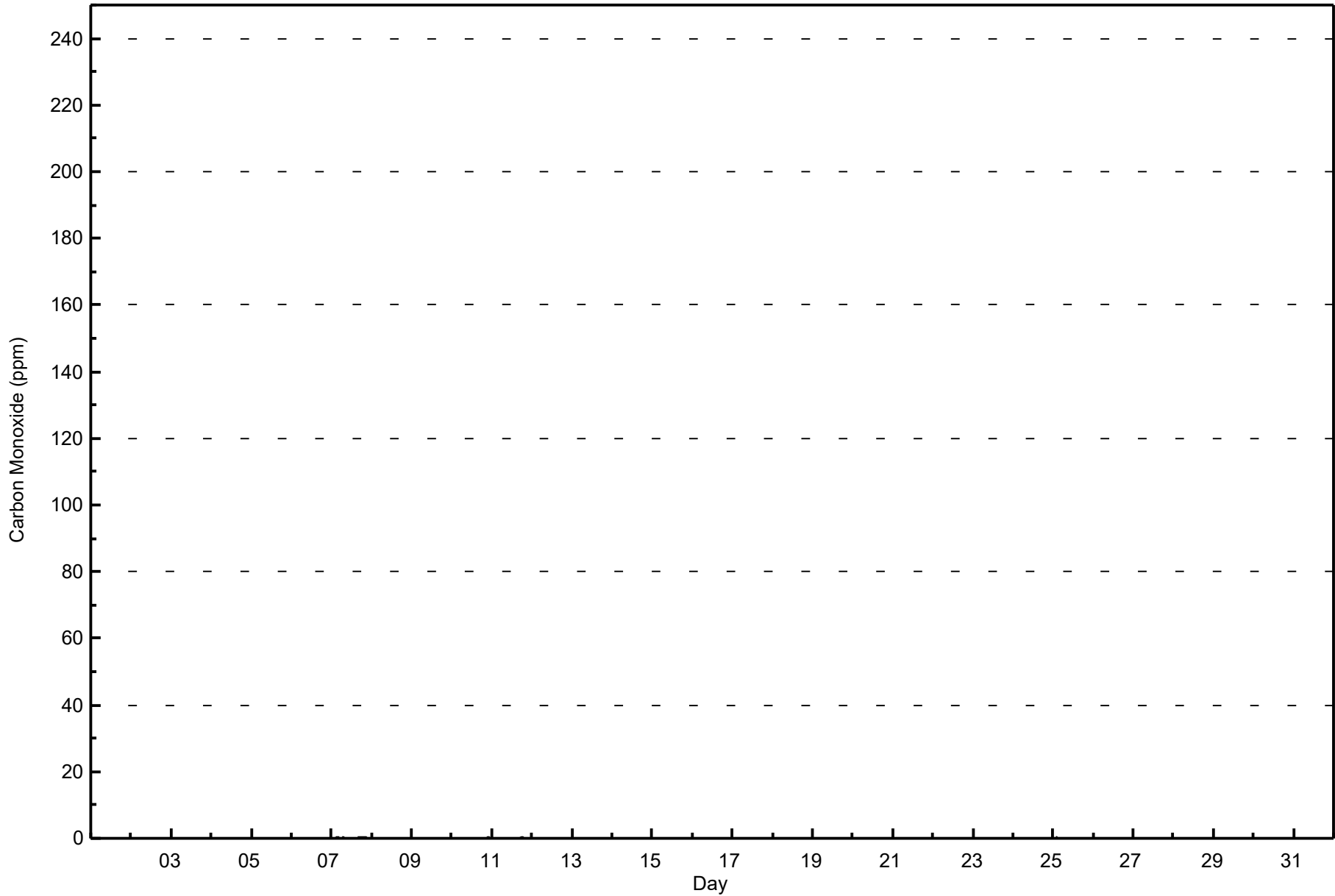
Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Stony Mountain





Wood Buffalo Environmental Association
Hourly Averages

Carbon Monoxide (CO) - ppm
Stony Mountain - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Carbon Monoxide (CO) - ppm
Stony Mountain - January 2025**

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 0.3	707	100.00	100.00
0.4 - 0.5	0	0.00	100.00
0.6 - 0.7	0	0.00	100.00
0.8 - 1.4	0	0.00	100.00
1.5 - 10	0	0.00	100.00
> 10	0	0.00	100.00

Total Number of Valid Hours: 707

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Carbon Monoxide (CO) - ppm
Stony Mountain - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 0.3	13	19	22	12	21	12	5	28	37	65	50	36	73	132	78	68	671
0.4 - 0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.6 - 0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.8 - 1.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.5 - 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	13	19	22	12	21	12	5	28	37	65	50	36	73	132	78	68	671

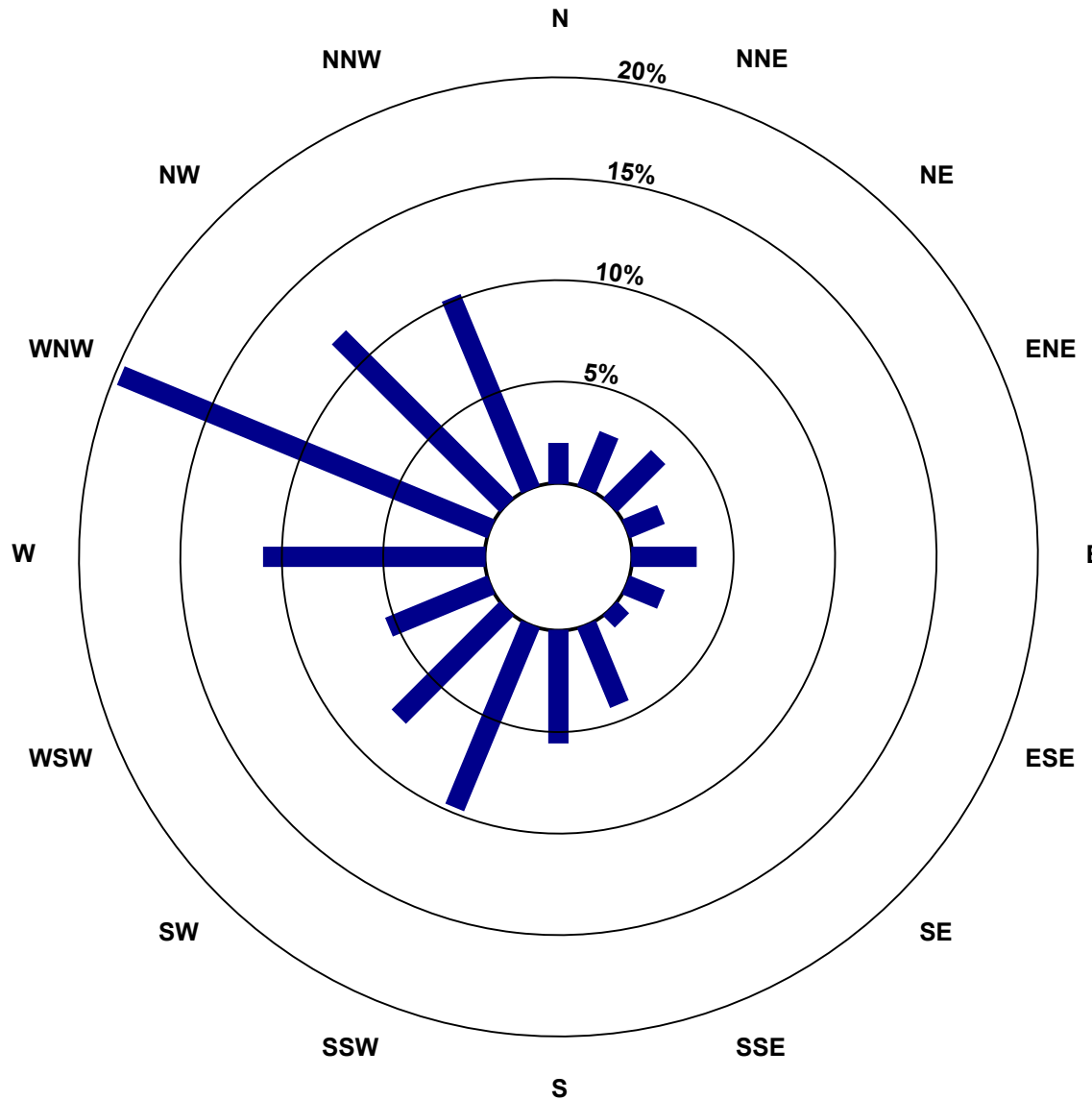
Total Number of Valid Hours: 671

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Carbon Monoxide (CO) - ppm
Stony Mountain



Classes (ppm)



Total Number of Valid Hours: 671



Wood Buffalo Environmental Association
Summary of Hour Averages

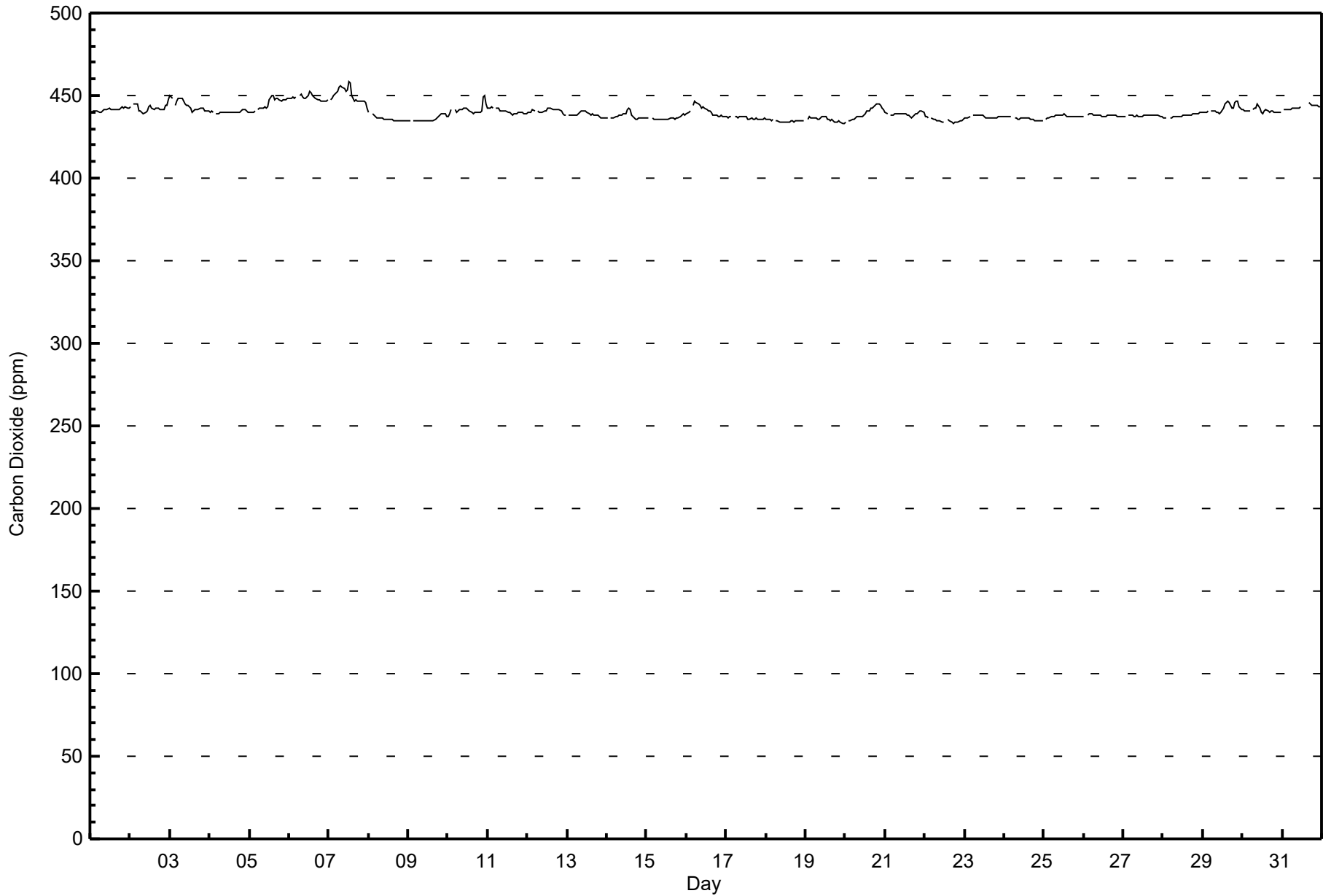
Carbon Dioxide (CO₂) - ppm
Stony Mountain - January 2025

Number of Exceedences (AAAQO):		1-hr: 0	24-hr: 0	Hours in Service:																	744						
Maximum Value: 458.7 ppm on Jan 7 13:00		Maximum Daily Average: 450.4 ppm on Jan 7																	Hours of Data:		707						
Minimum Value: 432.7 ppm on Jan 20 00:00		Minimum Daily Average: 434.6 ppm on Jan 18																	Hours of Missing Data:		37						
Maximum Diurnal Average: 440.4 ppm at hour 13		Minimum Diurnal Average: 439.1 ppm at hour 1																	Hours of Calibration:		35						
Monthly Average: 439.67 ppm		Percentiles: P ₁ = 433.6 P ₁₀ = 435.1 Q ₁ = 436.7 Median = 438.7 Q ₃ = 441.5 P ₉₀ = 446.0 P ₉₉ = 452.8																	Percent Operational Time:		99.7						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	Z	440.4	440.4	440.6	441.0	439.7	440.1	441.0	441.4	441.5	442.0	441.4	441.4	441.1	441.2	441.2	441.7	442.6	442.8	442.6	443.1	442.8	442.7	441.5	443.1		
2-Jan	443.3	Z	444.7	445.2	445.3	440.4	441.0	439.6	438.6	439.8	440.8	443.0	443.7	442.8	441.3	442.0	442.6	442.1	441.5	441.4	441.5	444.2	444.2	447.1	442.4	447.1	
3-Jan	449.9	448.7	Z	444.1	446.4	448.0	448.7	447.9	446.8	445.1	444.1	444.3	442.2	439.9	440.5	441.7	441.9	441.8	442.2	442.1	442.2	440.9	440.6	440.4	443.9	449.9	
4-Jan	440.2	440.3	440.1	Z	439.4	439.0	439.4	439.8	439.9	439.9	439.9	439.8	439.6	439.5	439.6	439.5	439.6	440.1	441.0	441.4	441.5	440.8	439.8	440.0	441.5	441.5	
5-Jan	439.9	440.0	440.2	440.5	Z	441.3	442.0	442.5	442.8	443.0	442.7	443.5	447.3	449.9	449.9	447.5	448.5	448.1	447.1	446.6	447.8	447.5	447.8	448.2	445.0	449.9	
6-Jan	447.9	448.0	449.0	448.6	448.8	Z	450.1	451.2	448.9	448.0	448.3	449.7	452.1	452.0	449.7	448.7	448.2	447.8	447.2	447.0	446.8	446.5	446.6	447.2	448.6	452.1	
7-Jan	Z	447.7	448.7	449.9	451.7	452.8	455.1	456.3	455.2	454.0	452.6	453.7	458.7	457.7	450.2	447.0	447.4	446.9	446.5	446.7	446.5	446.8	445.7	442.2	450.4	458.7	
8-Jan	440.0	Z	439.3	438.3	437.3	436.5	436.1	436.1	436.1	435.9	435.8	435.8	435.7	435.6	435.4	435.0	434.9	434.7	434.6	434.8	434.7	434.7	434.8	434.7	435.9	440.0	
9-Jan	434.9	435.0	Z	434.7	434.6	434.6	434.7	434.6	434.7	434.5	434.6	434.5	434.8	434.9	435.0	434.8	435.6	436.6	437.1	438.0	439.3	439.1	439.1	437.5	435.8	439.3	
10-Jan	437.6	438.8	441.7	Z	441.4	440.2	440.8	441.2	441.8	442.3	442.3	442.3	441.9	440.6	439.6	439.4	439.4	439.9	440.2	440.2	440.4	448.8	449.7	444.8	441.5	449.7	
11-Jan	442.0	442.0	443.0	442.1	Z	442.3	442.0	440.8	440.7	440.9	440.6	440.7	440.1	440.0	439.4	438.5	438.9	439.3	440.1	439.7	439.5	439.6	439.3	439.2	440.5	443.0	
12-Jan	439.6	439.5	439.9	441.3	440.9	Z	440.6	440.1	440.0	439.9	440.3	441.0	442.4	442.0	442.0	441.6	441.4	441.3	441.8	441.5	440.5	439.1	438.5	438.1	440.6	442.4	
13-Jan	Z	438.0	437.8	438.0	437.8	438.1	438.4	440.0	440.5	440.6	440.6	440.6	439.4	438.7	438.5	438.6	438.4	438.3	438.3	437.4	436.6	436.4	436.2	436.2	438.4	440.6	
14-Jan	436.2	Z	436.2	436.2	436.4	437.3	437.7	438.4	438.2	438.2	438.6	439.0	441.4	442.2	441.4	437.9	436.7	435.7	435.8	436.1	436.5	437.4	438.3	438.6	437.6	442.2	
15-Jan	436.3	436.3	Z	436.1	436.0	435.9	435.8	435.8	435.7	435.6	435.5	435.7	435.8	435.6	436.1	436.7	436.5	435.8	436.1	436.5	437.4	438.3	438.6	438.5	436.4	438.6	
16-Jan	439.3	439.5	440.8	Z	444.2	446.6	445.8	444.6	444.5	442.2	443.0	442.6	441.6	441.0	440.9	439.7	438.5	438.1	437.7	437.4	437.0	437.7	437.1	437.5	440.8	446.6	
17-Jan	437.4	436.5	436.9	437.5	Z	437.7	437.4	436.8	437.2	437.1	437.0	437.0	437.2	435.8	435.9	436.3	435.6	435.8	436.3	435.2	435.2	435.3	435.6	436.2	436.5	437.7	
18-Jan	436.0	435.6	435.4	435.2	435.2	Z	434.5	434.4	434.1	433.9	433.6	433.7	433.6	433.7	434.2	434.4	434.4	434.3	434.6	434.7	434.8	434.9	434.8	434.9	434.6	436.0	
19-Jan	Z	435.7	437.2	436.7	436.4	436.1	436.1	435.6	436.0	436.6	437.1	437.7	437.3	435.9	435.4	434.7	435.7	434.3	434.1	433.9	434.3	433.8	433.5	432.7	435.5	437.7	
20-Jan	433.6	Z	434.7	434.9	435.3	435.9	436.4	437.1	437.4	437.5	437.4	438.3	439.4	440.6	441.1	442.0	442.7	443.3	444.1	445.0	444.7	444.3	442.3	441.6	439.6	445.0	
21-Jan	439.5	438.6	Z	438.5	438.3	438.4	438.9	439.0	439.2	439.0	439.0	438.9	438.8	438.4	437.9	437.4	436.8	437.0	438.7	439.2	439.5	440.4	440.6	439.8	438.8	440.6	
22-Jan	437.6	437.0	436.8	Z	436.4	435.7	435.5	435.0	434.7	434.5	434.1	434.2	M	M	435.3	435.0	433.6	433.4	433.6	433.9	434.2	434.5	435.1	435.5	435.0	437.6	
23-Jan	436.1	436.3	436.8	437.0	Z	438.0	438.1	438.4	438.4	438.2	438.0	437.8	437.4	436.8	436.3	436.6	436.7	436.8	436.8	436.9	436.9	437.0	437.0	437.1	437.2	438.4	
24-Jan	437.2	437.1	437.3	437.3	437.1	Z	436.6	436.2	435.8	435.7	436.2	436.4	436.5	436.5	436.5	436.5	435.9	435.5	435.1	435.0	435.0	435.0	435.1	435.1	436.1	437.3	
25-Jan	Z	436.0	436.4	436.5	437.2	437.4	437.4	437.9	438.2	438.4	438.4	438.4	438.7	437.8	437.4	437.6	437.4	437.4	437.3	437.1	437.1	437.2	437.3	437.1	437.5	438.7	
26-Jan	437.2	Z	438.1	439.0	439.2	438.7	438.3	438.5	438.5	438.4	438.0	437.7	437.3	437.6	438.2	438.6	438.3	438.2	438.1	437.7	437.6	437.5	437.5	437.4	438.1	439.2	
27-Jan	437.6	437.7	Z	437.9	437.8	437.8	437.7	437.7	437.7	437.6	437.3	437.2	438.0	438.0	438.2	438.4	438.4	438.5	438.4	438.1	437.9	437.8	437.6	437.1	437.8	438.5	
28-Jan	436.8	436.6	436.4	Z	436.5	436.8	437.3	437.3	437.3	437.2	437.5	437.7	437.9	438.1	438.2	438.2	438.3	438.5	438.6	438.8	438.9	439.1	439.5	439.4	437.9	439.5	
29-Jan	439.7	440.1	440.1	440.4	Z	440.9	440.7	440.8	440.1	439.7	439.1	439.7	442.3	444.5	446.2	446.7	445.9	442.4	442.7	445.4	446.8	446.7	443.5	441.8	442.4	446.8	
30-Jan	441.7	440.8	440.3	440.4	440.3	Z	441.2	442.1	442.6	444.5	442.5	439.6	439.3	441.0	441.2	440.6	440.1	440.4	440.5	440.2	439.9	439.8	439.9	440.2	440.8	444.5	
31-Jan	Z	441.4	441.3	441.5	441.5	441.8	442.7	442.2	442.1	442.4	442.7	443.0	C	C	C	C	445.6	445.0	444.1	443.7	444.1	444.3	443.5	443.1	443.0	445.6	
		439.1	439.4	439.6	439.6	439.7	439.5	439.9	440.0	439.8	439.7	439.6	439.9	440.4	440.3	439.8	439.4	439.5	439.3	439.4	439.5	439.6	439.9	439.7	439.3	Diurnal Average	
		449.9	448.7	449.0	449.9	451.7	452.8	455.1	456.3	455.2	454.0	452.6	453.7	458.7	457.7	450.2	448.7	448.5	448.1	447.2	447.0	447.8	448.8	449.7	448.2	Diurnal Maximum	
Z - zerospan		C - Calibration				M - Maintenance																					



Wood Buffalo Environmental Association
Hourly Averages

Carbon Dioxide (CO₂) - ppm
Stony Mountain - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Carbon Dioxide (CO₂) - ppm
Stony Mountain - January 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
400 - 420	0	0.00	0.00
420 - 440	467	66.05	66.05
440 - 460	240	33.95	100.00
460 - 480	0	0.00	100.00
480 - 500	0	0.00	100.00
> 500	0	0.00	100.00

Total Number of Valid Hours: 707

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Carbon Dioxide (CO₂) - ppm
Stony Mountain - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
400 - 420	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
420 - 440	4	6	3	4	4	0	0	16	12	23	38	32	67	127	65	47	448
440 - 460	10	12	19	8	13	11	5	14	25	45	13	5	6	3	13	21	223
460 - 480	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
480 - 500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	14	18	22	12	17	11	5	30	37	68	51	37	73	130	78	68	671

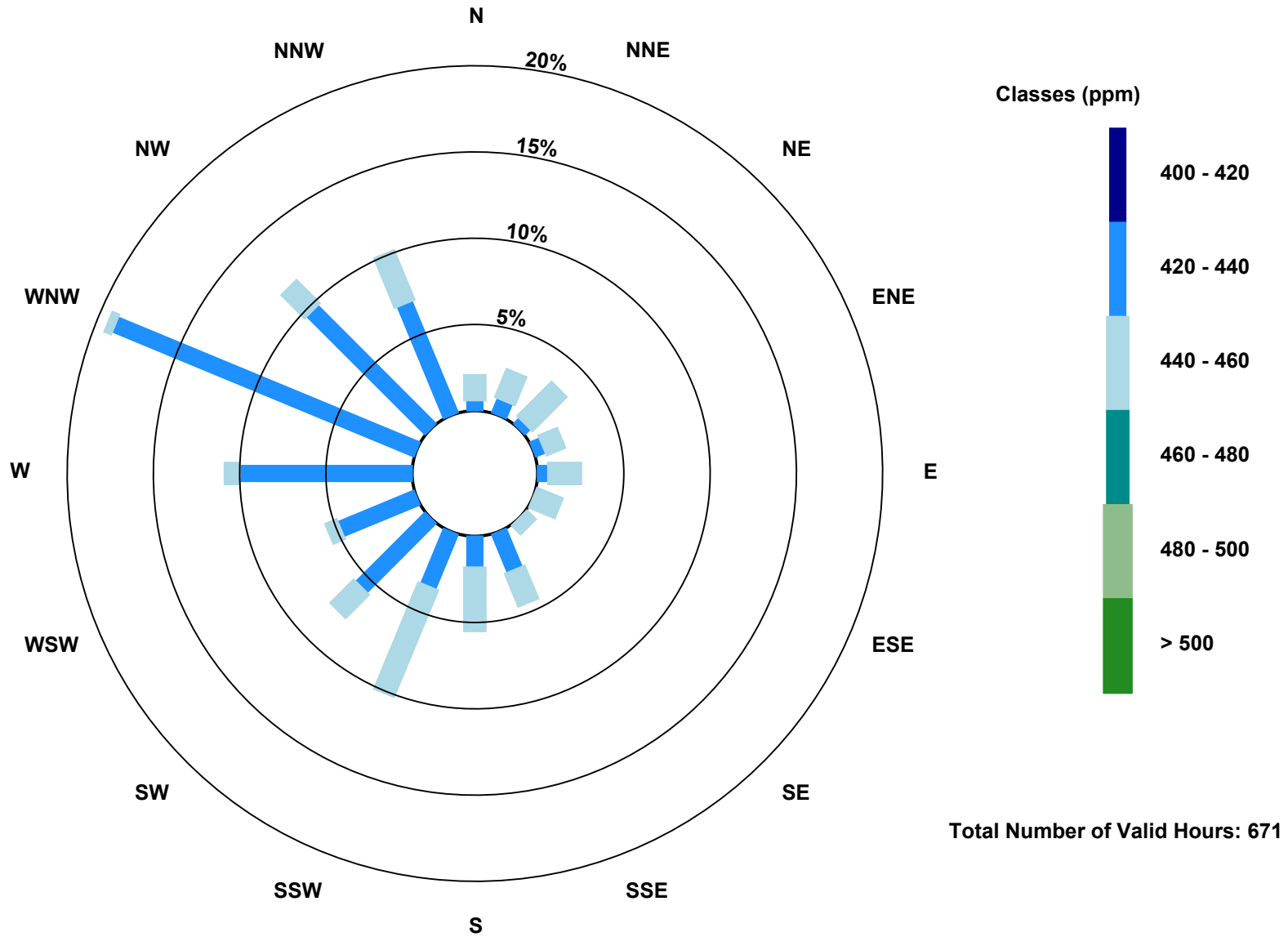
Total Number of Valid Hours: 671

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Carbon Dioxide (CO₂) - ppm
Stony Mountain



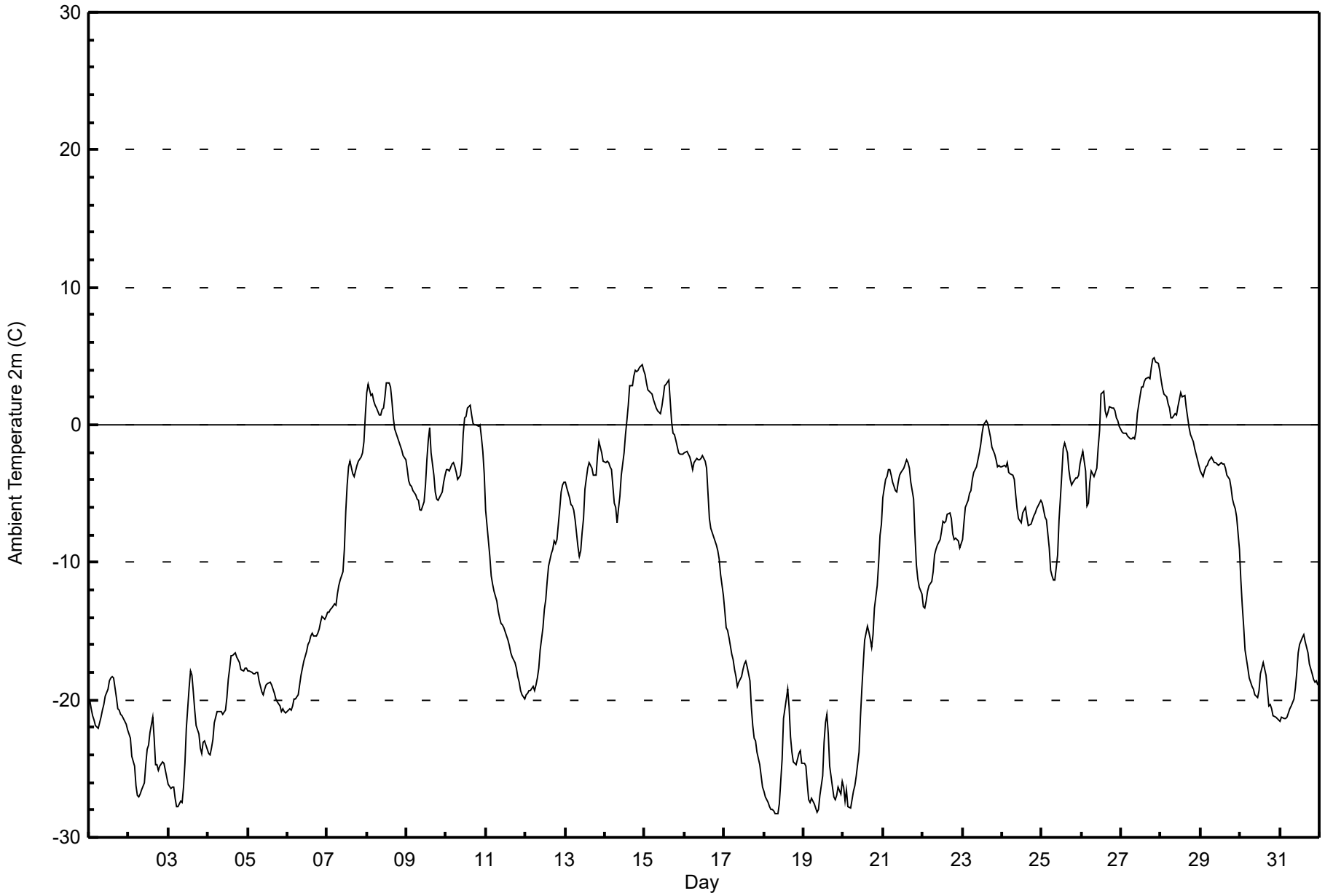


Maximum Value: 4.9 C on Jan 27 21:00 Maximum Daily Average: 1.7 C on Jan 27																					Hours in Service: 744 Hours of Data: 744					
Minimum Value: -28.3 C on Jan 18 08:00 Minimum Daily Average: -25.9 C on Jan 19 Maximum Diurnal Average: -8.2 C at hour 15 Minimum Diurnal Average: -12.4 C at hour 8 Monthly Average: -10.71 C Percentiles: P ₁ = -27.9 P ₁₀ = -24.2 Q ₁ = -19.3 Median = -8.4 Q ₃ = -2.7 P ₉₀ = 0.9 P ₉₉ = 4.0																					Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0					
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	-20.0	-20.6	-21.1	-21.4	-21.8	-22.1	-21.6	-21.3	-20.7	-20.3	-19.7	-19.2	-18.6	-18.4	-18.3	-18.4	-19.8	-20.6	-20.8	-21.0	-21.2	-21.4	-21.7	-22.2	-20.5	-18.3
2-Jan	-22.4	-22.7	-24.1	-24.8	-26.2	-26.9	-27.0	-26.8	-26.5	-26.1	-24.7	-23.6	-23.3	-22.4	-21.3	-22.8	-24.7	-24.7	-25.1	-24.8	-24.5	-24.7	-25.1	-25.6	-24.6	-21.3
3-Jan	-26.1	-26.5	-26.3	-26.3	-27.1	-27.8	-27.8	-27.3	-27.5	-26.3	-24.6	-22.1	-19.1	-17.9	-18.2	-19.4	-20.7	-21.9	-22.5	-23.5	-23.9	-23.1	-23.0	-23.6	-23.9	-17.9
4-Jan	-23.9	-24.0	-23.5	-22.8	-21.6	-20.9	-20.9	-20.8	-20.9	-21.0	-20.7	-19.8	-18.5	-17.7	-16.7	-16.7	-16.6	-16.9	-17.1	-17.3	-17.8	-17.9	-17.7	-17.7	-19.6	-16.6
5-Jan	-17.9	-17.9	-18.0	-18.1	-18.1	-18.0	-18.0	-18.6	-19.4	-19.6	-19.2	-19.8	-18.8	-18.7	-18.9	-19.2	-19.5	-19.9	-20.1	-20.4	-20.8	-20.7	-20.8	-21.0	-19.2	-17.9
6-Jan	-20.7	-20.6	-20.7	-20.4	-20.0	-19.9	-19.7	-18.9	-18.2	-17.7	-17.2	-16.4	-16.0	-15.8	-15.4	-15.2	-15.4	-15.4	-15.2	-14.9	-14.4	-13.9	-14.1	-13.9	-17.1	-13.9
7-Jan	-13.6	-13.7	-13.5	-13.3	-13.0	-13.2	-12.3	-11.7	-11.3	-10.7	-9.0	-6.3	-4.4	-3.0	-2.7	-3.6	-3.8	-3.4	-2.9	-2.7	-2.4	-2.1	-1.2	0.8	-7.2	0.8
8-Jan	2.4	3.0	2.1	2.2	1.7	1.4	1.3	0.7	0.7	1.1	1.2	2.1	3.0	3.1	2.8	1.7	0.5	-0.3	-0.9	-1.2	-1.5	-1.8	-2.2	-2.6	0.8	3.1
9-Jan	-3.2	-4.0	-4.4	-4.4	-4.8	-5.0	-5.4	-5.5	-6.2	-6.2	-5.6	-4.3	-2.5	-1.1	-0.2	-2.1	-3.6	-4.8	-5.4	-5.5	-5.3	-4.9	-4.1	-3.6	-4.3	-0.2
10-Jan	-3.2	-3.2	-3.4	-2.9	-2.8	-3.1	-3.4	-3.9	-3.6	-2.7	-0.6	0.5	0.6	1.2	1.4	0.7	0.1	0.0	0.0	-0.1	0.0	-0.9	-2.0	-3.6	-1.5	1.4
11-Jan	-6.2	-8.4	-9.6	-11.0	-11.6	-12.1	-12.8	-13.5	-14.0	-14.4	-14.5	-14.7	-15.3	-15.6	-16.1	-16.6	-16.9	-17.3	-17.7	-18.3	-18.7	-19.3	-19.6	-19.9	-14.8	-6.2
12-Jan	-19.7	-19.5	-19.3	-19.3	-19.1	-19.3	-18.9	-18.4	-17.7	-16.4	-14.7	-13.5	-12.7	-11.4	-10.3	-9.4	-9.0	-8.4	-8.6	-8.3	-6.1	-4.9	-4.4	-4.2	-13.0	-4.2
13-Jan	-4.2	-4.6	-5.3	-5.8	-5.9	-6.2	-6.9	-8.8	-9.6	-9.1	-7.8	-6.8	-4.6	-3.1	-2.8	-2.9	-3.2	-3.6	-3.7	-2.2	-1.2	-1.6	-2.0	-2.6	-4.8	-1.2
14-Jan	-2.7	-2.6	-2.8	-3.0	-3.3	-5.7	-6.0	-7.1	-6.1	-5.2	-3.7	-2.0	-0.7	0.4	1.5	2.8	2.9	3.6	3.9	4.0	4.2	4.3	4.0	4.0	-0.6	4.3
15-Jan	3.6	3.0	2.5	2.3	2.3	1.8	1.5	1.3	1.0	0.8	1.3	2.1	2.9	3.0	3.2	1.7	0.2	-0.6	-0.7	-1.1	-2.1	-2.2	-2.2	-2.1	1.0	3.6
16-Jan	-2.1	-1.9	-2.2	-2.4	-2.8	-3.2	-2.7	-2.4	-2.5	-2.6	-2.4	-2.3	-2.7	-3.1	-4.9	-6.8	-7.5	-8.1	-8.4	-8.7	-9.2	-9.8	-10.9	-12.4	-5.1	-1.9
17-Jan	-13.6	-14.8	-15.0	-15.5	-16.7	-17.1	-17.8	-18.3	-19.0	-18.7	-18.3	-17.8	-17.4	-17.1	-17.6	-18.7	-20.5	-21.9	-22.8	-22.9	-23.8	-24.7	-25.5	-26.3	-19.2	-13.6
18-Jan	-26.6	-27.0	-27.4	-27.7	-28.0	-28.0	-28.1	-28.3	-28.2	-27.5	-25.9	-24.3	-21.4	-20.0	-19.2	-20.5	-22.7	-23.8	-24.5	-24.7	-24.3	-23.9	-23.7	-24.6	-25.0	-19.2
19-Jan	-24.6	-24.8	-26.1	-27.3	-27.4	-27.2	-27.6	-27.8	-28.1	-27.9	-27.0	-25.6	-23.0	-21.7	-21.1	-22.4	-24.8	-26.3	-27.1	-27.3	-26.9	-26.4	-26.8	-25.9	-25.9	-21.1
20-Jan	-26.3	-27.4	-26.5	-27.7	-27.9	-27.2	-26.6	-26.2	-25.6	-23.8	-21.3	-19.2	-17.4	-15.6	-14.7	-15.1	-15.6	-16.2	-15.3	-13.3	-11.7	-10.1	-8.0	-7.2	-19.4	-7.2
21-Jan	-5.3	-3.9	-3.7	-3.2	-3.2	-3.7	-4.2	-4.8	-4.9	-4.2	-3.6	-3.4	-3.1	-2.8	-2.6	-2.7	-3.2	-4.2	-5.4	-8.0	-10.1	-11.2	-11.8	-12.3	-5.2	-2.6
22-Jan	-13.3	-13.3	-12.8	-12.1	-11.7	-11.4	-10.6	-9.4	-9.0	-8.8	-8.4	-7.7	-7.0	-7.1	-7.1	-6.6	-6.4	-6.8	-7.9	-8.4	-8.3	-8.5	-9.0	-8.7	-9.2	-6.4
23-Jan	-8.3	-7.1	-6.0	-5.5	-5.0	-4.8	-4.0	-3.4	-3.0	-2.6	-2.0	-1.4	-0.6	0.0	0.3	0.1	-0.4	-1.0	-1.6	-2.2	-2.5	-3.0	-2.9	-3.0	-2.9	0.3
24-Jan	-3.0	-3.0	-3.1	-2.7	-3.5	-3.6	-3.7	-4.0	-5.1	-6.1	-6.8	-7.1	-6.4	-6.2	-6.0	-6.7	-7.3	-7.2	-7.0	-6.6	-6.4	-6.1	-5.7	-5.5	-5.4	-2.7
25-Jan	-5.7	-6.2	-6.7	-6.9	-9.0	-10.5	-10.9	-11.3	-11.3	-9.5	-7.0	-5.3	-3.6	-1.7	-1.3	-2.0	-3.2	-4.0	-4.4	-4.1	-3.8	-3.8	-3.7	-2.8	-5.8	-1.3
26-Jan	-2.3	-1.9	-3.3	-5.9	-5.7	-4.1	-3.3	-3.8	-3.5	-3.1	-1.6	-0.4	2.2	2.4	1.0	0.6	0.9	1.3	1.3	1.3	1.1	0.5	0.3	-0.2	-1.1	2.4
27-Jan	-0.5	-0.6	-0.6	-0.6	-0.8	-1.1	-1.0	-0.9	-1.0	-0.5	0.9	2.1	2.7	2.7	3.1	3.3	3.5	3.3	4.1	4.7	4.9	4.6	4.4	4.0	1.7	4.9
28-Jan	3.3	2.6	2.2	2.0	1.5	1.2	0.5	0.6	0.8	0.7	1.3	1.8	2.3	2.0	2.2	1.2	0.5	-0.2	-0.7	-1.2	-1.7	-2.1	-2.6	-3.0	0.6	3.3
29-Jan	-3.3	-3.8	-3.4	-3.1	-3.0	-2.7	-2.3	-2.5	-2.7	-2.8	-2.9	-3.0	-2.8	-2.9	-2.8	-3.1	-3.7	-4.0	-4.6	-5.4	-5.8	-6.1	-6.8	-9.1	-3.9	-2.3
30-Jan	-11.3	-13.1	-14.7	-16.4	-17.7	-18.4	-18.8	-19.1	-19.2	-19.6	-19.8	-19.4	-18.1	-17.7	-17.3	-18.3	-19.3	-20.4	-20.4	-20.6	-21.1	-21.3	-21.4	-21.5	-18.5	-11.3
31-Jan	-21.5	-21.3	-21.3	-21.4	-21.2	-20.9	-20.7	-20.5	-19.9	-19.1	-18.0	-16.6	-16.0	-15.4	-15.3	-15.8	-16.1	-16.6	-17.4	-18.1	-18.5	-18.7	-18.7	-18.9	-18.7	-15.3
																								Diurnal Average		
																								Diurnal Maximum		



Wood Buffalo Environmental Association
Hourly Averages

Ambient Temperature 2m (AT2) - C
Stony Mountain - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Ambient Temperature 2m (AT2) - C
Stony Mountain - January 2025**

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	162	21.77	21.77
-20 - 0	485	65.19	86.96
0 - 10	97	13.04	100.00
10 - 20	0	0.00	100.00
> 20	0	0.00	100.00

Total Number of Valid Hours: 744

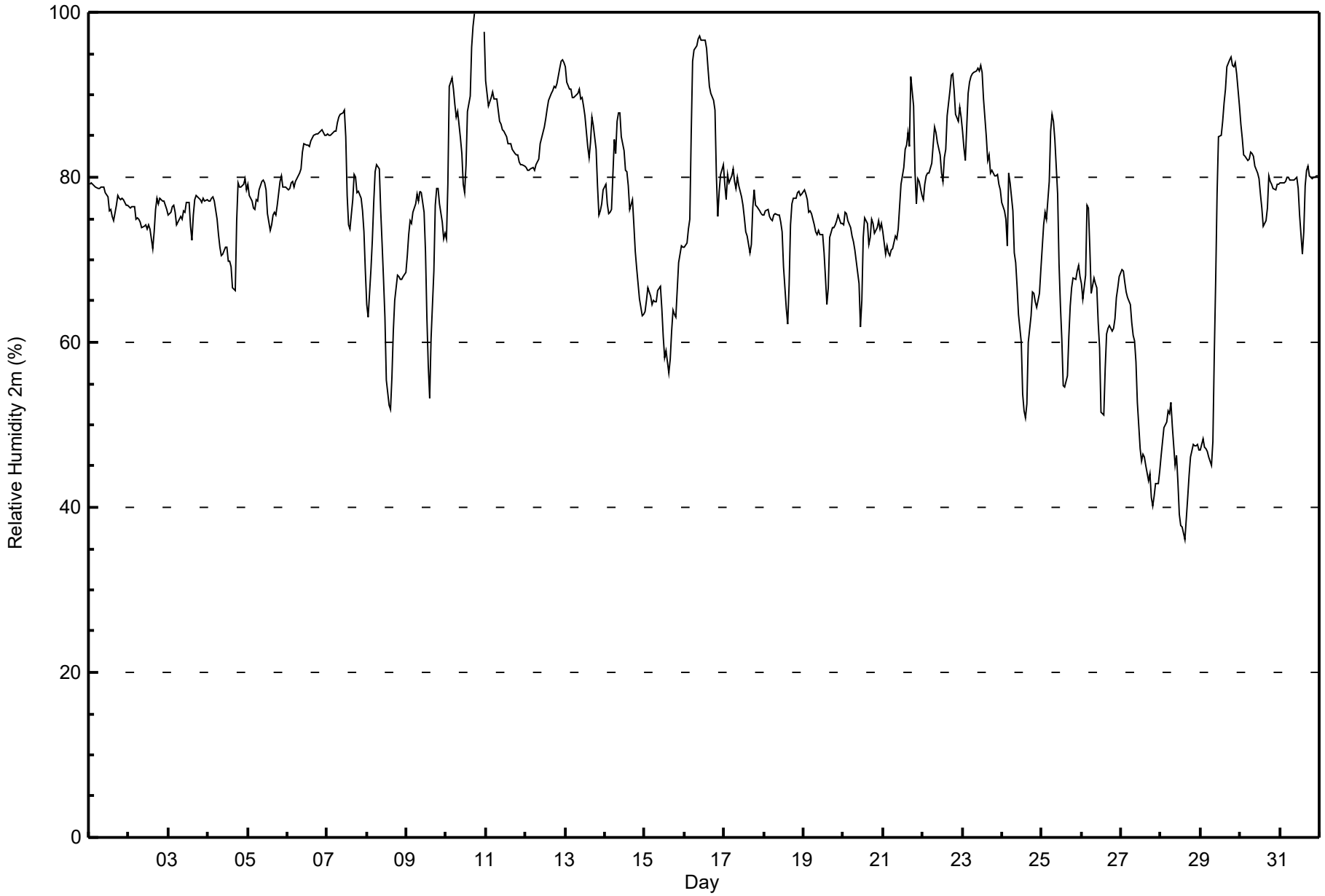
Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

Relative Humidity 2m (RH2) - %
Stony Mountain - January 2025

Maximum Value: 99.8 % on Jan 10 18:00 Maximum Daily Average: 87.6 % on Jan 10 Minimum Value: 36.2 % on Jan 28 15:00 Minimum Daily Average: 45.5 % on Jan 28 Maximum Diurnal Average: 77.6 % at hour 6 Minimum Diurnal Average: 71.2 % at hour 15 Monthly Average: 75.31 % Percentiles: P ₁ = 41.3 P ₁₀ = 60.7 Q ₁ = 71.0 Median = 77.0 Q ₃ = 81.8 P ₉₀ = 88.8 P ₉₉ = 96.3																						Hours in Service: 744 Hours of Data: 739 Hours of Missing Data: 5 Hours of Calibration: 0 Percent Operational Time: 99.3				
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	79.2	79.4	79.2	79.0	78.8	78.7	78.7	78.7	78.8	78.8	78.1	77.7	75.9	76.2	75.2	74.7	76.6	77.8	77.5	77.3	77.5	77.4	76.6	76.6	77.7	79.4
2-Jan	76.5	76.3	76.4	76.5	75.0	75.1	74.9	74.6	74.0	74.1	74.2	73.6	74.3	73.7	71.4	73.4	76.2	77.4	76.8	77.4	77.1	77.1	76.6	76.2	75.4	77.4
3-Jan	75.4	75.7	76.4	76.5	75.7	74.3	74.6	75.2	75.0	75.9	75.7	77.0	76.9	74.2	72.3	75.3	77.3	77.9	77.4	77.3	77.0	77.5	77.2	77.2	76.0	77.9
4-Jan	77.1	77.1	77.4	77.6	77.1	74.9	73.0	71.6	70.5	70.8	71.5	71.6	69.8	69.9	69.1	66.6	66.3	74.8	79.4	78.8	78.9	79.1	79.9	78.4	74.2	79.9
5-Jan	79.2	77.7	77.2	76.4	76.1	77.3	77.1	78.5	79.5	79.7	79.3	78.4	75.6	73.6	74.3	75.4	75.8	75.5	76.6	79.4	80.1	78.8	78.9	78.8	77.5	80.1
6-Jan	78.4	78.6	79.3	79.4	78.8	79.5	80.2	80.6	81.1	83.0	84.0	84.0	83.8	83.8	84.4	84.8	85.1	85.3	85.3	85.4	85.7	85.7	85.1	85.2	82.8	85.7
7-Jan	85.2	85.1	85.2	85.3	85.6	85.6	86.7	87.3	87.6	87.8	88.2	85.0	77.8	74.2	73.7	77.3	80.4	79.9	78.2	78.2	77.4	76.0	73.4	68.6	81.2	88.2
8-Jan	64.6	63.1	68.9	72.4	77.0	80.7	81.6	81.1	76.0	71.8	67.7	63.1	55.3	52.3	51.9	55.8	61.4	65.1	68.1	68.0	67.6	67.7	68.0	68.6	67.4	81.6
9-Jan	70.6	73.1	74.8	74.4	75.7	76.8	77.9	77.1	78.3	78.1	75.8	71.1	63.0	57.1	53.2	60.5	68.7	76.6	78.7	78.7	76.7	74.6	72.6	73.3	72.4	78.7
10-Jan	72.6	79.1	91.1	92.0	90.8	88.9	87.2	87.9	84.8	82.9	79.1	78.1	81.5	88.0	89.8	95.7	98.3	99.8	OR	OR	OR	OR	OR	97.7	87.6	99.8
11-Jan	91.7	88.7	89.2	89.7	90.3	89.5	89.5	88.1	86.8	86.4	85.7	85.6	85.0	84.0	84.1	84.0	83.4	82.9	82.7	82.6	81.8	81.5	81.5	81.3	85.7	91.7
12-Jan	81.2	80.9	80.9	81.0	81.2	80.8	81.5	81.9	82.2	84.1	85.4	86.1	87.1	88.3	89.3	90.1	90.5	91.1	90.8	91.3	93.3	94.0	94.3	93.9	86.7	94.3
13-Jan	93.4	91.6	90.7	90.7	89.6	89.7	89.8	90.1	90.8	89.6	89.7	88.7	87.5	83.7	82.4	84.2	87.3	86.3	83.3	78.9	75.5	75.9	76.8	78.4	86.0	93.4
14-Jan	79.2	76.8	75.6	75.8	76.1	84.6	82.8	86.8	87.8	87.7	84.9	83.3	80.8	80.7	78.9	76.0	77.3	74.3	71.0	69.0	67.2	65.3	63.2	63.4	77.0	87.8
15-Jan	63.8	65.0	66.6	65.7	64.5	65.1	64.9	65.0	66.3	66.7	64.1	60.7	58.2	59.0	56.2	58.0	61.3	64.0	63.0	63.0	69.7	70.6	71.7	71.5	64.4	71.7
16-Jan	71.5	72.1	73.7	75.0	85.2	94.0	95.4	95.9	96.9	97.2	96.6	96.6	96.6	95.6	93.2	90.9	90.1	89.3	88.2	80.2	75.3	78.3	80.4	81.6	87.1	97.2
17-Jan	79.2	77.3	80.3	79.4	80.1	81.0	79.4	78.7	80.1	79.0	77.7	76.7	75.2	73.3	73.0	70.8	71.9	76.2	78.5	76.7	76.5	76.0	75.7	75.4	77.0	81.0
18-Jan	75.5	75.9	76.1	75.3	74.9	74.7	75.5	75.6	75.4	75.4	74.5	73.4	69.1	64.0	62.2	66.9	74.3	76.7	77.5	77.5	78.1	78.3	77.9	78.0	74.3	78.3
19-Jan	78.5	78.0	77.3	75.7	75.9	75.6	74.3	73.3	73.0	73.5	73.0	73.1	70.9	67.8	64.7	66.6	72.7	73.9	73.9	74.2	74.7	75.4	74.4	74.4	73.5	78.5
20-Jan	74.3	75.7	75.6	74.7	73.9	72.9	72.2	71.2	69.8	67.2	61.8	65.0	72.6	75.1	74.4	71.8	72.8	74.9	74.3	73.3	74.0	74.7	73.7	74.4	72.5	75.7
21-Jan	73.5	70.7	71.7	70.9	70.4	71.2	71.4	72.9	72.5	73.7	76.5	79.2	81.3	83.4	83.9	85.3	83.7	92.2	88.6	80.7	76.8	79.8	79.4	77.7	77.8	92.2
22-Jan	77.3	79.2	80.1	80.6	80.4	81.8	83.9	86.2	85.5	84.3	82.7	80.5	79.5	82.3	83.4	87.4	90.5	92.3	92.6	90.5	87.6	86.7	88.4	87.3	84.6	92.6
23-Jan	85.6	83.6	82.0	90.1	91.6	92.1	92.6	92.7	92.8	93.2	92.9	93.6	92.7	89.5	84.9	82.0	82.8	80.6	80.9	80.3	80.2	80.4	79.1	78.4	86.4	93.6
24-Jan	77.0	75.9	75.0	71.8	80.5	79.3	75.9	70.9	69.7	66.7	63.4	60.0	53.7	51.7	50.8	52.6	59.9	63.1	66.2	65.9	65.0	64.2	65.9	68.8	66.4	80.5
25-Jan	71.5	74.2	75.8	75.0	79.5	85.6	87.7	86.8	84.6	78.0	69.6	64.4	60.3	54.8	54.5	55.9	60.7	64.4	66.6	67.8	67.6	68.7	69.3	67.9	70.5	87.7
26-Jan	67.2	65.2	68.1	76.6	76.3	71.6	66.0	67.8	67.1	66.6	62.4	59.4	51.6	51.3	56.8	61.0	61.6	62.0	61.4	61.7	62.9	65.3	66.5	68.0	64.4	76.6
27-Jan	68.9	68.7	67.4	66.0	65.4	64.6	62.4	60.9	60.2	57.7	52.7	47.2	45.6	46.4	46.1	45.1	43.2	44.2	41.1	40.2	41.3	42.8	43.0	44.4	52.7	68.9
28-Jan	46.3	47.9	49.6	50.3	51.7	51.4	52.8	49.9	45.1	46.3	43.0	39.1	37.8	37.7	36.2	38.6	41.3	44.0	46.1	47.6	47.5	47.4	47.6	47.0	45.5	52.8
29-Jan	46.9	48.2	47.4	47.1	46.8	46.2	45.2	48.0	58.4	67.4	78.0	84.9	85.1	86.7	89.1	90.7	93.4	94.2	94.6	93.5	93.4	93.9	92.5	88.7	73.3	94.6
30-Jan	86.4	84.8	82.7	82.6	82.0	82.3	83.1	82.9	82.5	81.3	80.5	79.8	77.9	76.3	74.1	74.7	76.3	80.1	79.4	79.2	78.6	78.4	79.1	79.1	80.2	86.4
31-Jan	79.3	79.3	79.3	79.5	80.0	79.9	79.7	79.6	79.6	79.8	80.0	78.6	75.5	70.7	73.4	79.1	80.8	81.3	80.1	79.7	79.9	80.0	80.1	80.1	79.0	81.3
75.1 75.0 75.8 76.2 77.0 77.6 77.4 77.3 77.2 76.9 75.8 74.7 72.8 71.8 71.2 72.6 74.9 76.7 76.0 75.1 74.8 75.1 75.0 75.5																								Diurnal Average		
93.4 91.6 91.1 92.0 91.6 94.0 95.4 95.9 96.9 97.2 96.6 96.6 96.6 95.6 93.2 95.7 98.3 99.8 94.6 93.5 93.4 94.0 94.3 97.7																								Diurnal Maximum		
OR - Out of Range																										





Wood Buffalo Environmental Association

Summary of Hour Averages

Precipitation (PC) - mm

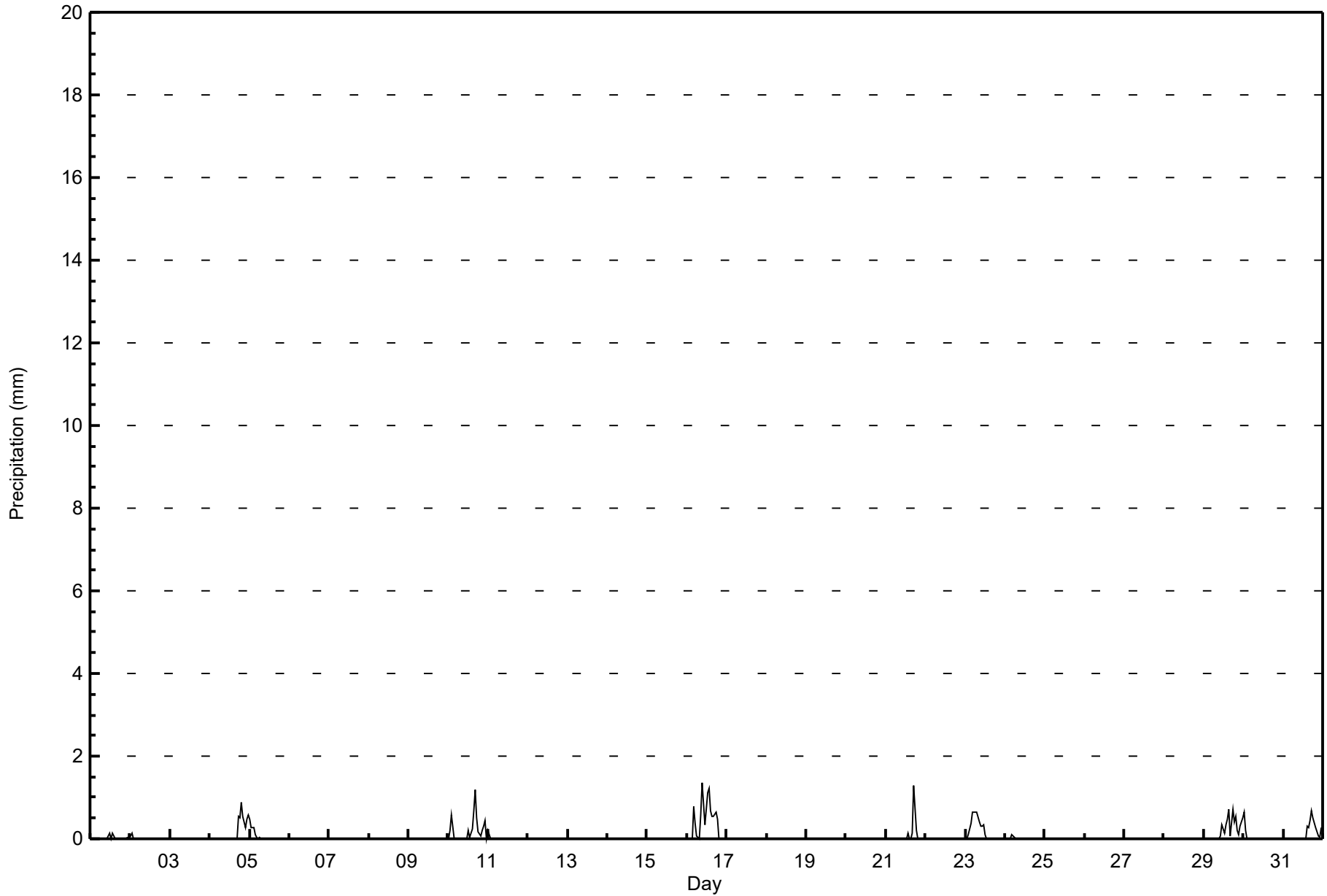
Stony Mountain - January 2025

Maximum Value: 1.4 mm on Jan 16 10:00 Maximum Daily Total: 9.6 mm on Jan 16																				Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0						
Minimum Value: 0.0 mm on Jan 1 01:00 Minimum Daily Total: 0.0 mm on Jan 3 Maximum Diurnal Total: 4.4 mm at hour 18 Minimum Diurnal Total: 0.5 mm at hour 4 Monthly Total: 35.48 mm Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.1 P ₉₉ = 0.8																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.4	0.1
2-Jan	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1
3-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.5	0.9	0.5	0.3	0.5	0.6	3.8	0.9
5-Jan	0.5	0.3	0.3	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.5
6-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Jan	0.0	0.2	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2	0.7	1.2	0.5	0.2	0.1	0.2	0.3	0.5	0.0	4.8	1.2
11-Jan	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
12-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16-Jan	0.0	0.0	0.0	0.0	0.8	0.4	0.1	0.0	0.6	1.4	0.9	0.4	1.1	1.2	0.7	0.6	0.5	0.6	0.5	0.0	0.0	0.0	0.0	0.0	9.6	1.4
17-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.1	1.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	1.8	1.3
22-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23-Jan	0.0	0.0	0.1	0.4	0.7	0.6	0.7	0.7	0.4	0.3	0.3	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5	0.7
24-Jan	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1
25-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.1	0.3	0.5	0.7	0.1	0.7	0.4	0.6	0.2	0.1	0.3	0.5	4.9	0.7
30-Jan	0.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.6
31-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.4	0.7	0.5	0.3	0.2	0.1	0.1	0.3	3.0	0.7	
1.4 0.8 0.9 0.5 1.6 1.1 0.8 0.7 1.0 1.7 1.3 1.1 1.6 1.9 1.7 2.2 2.4 4.4 2.3 1.8 1.2 0.8 1.3 1.4																								Diurnal Average		
0.6 0.3 0.6 0.4 0.8 0.6 0.7 0.7 0.6 1.4 0.9 0.4 1.1 1.2 0.7 0.7 1.2 1.3 0.5 0.9 0.5 0.3 0.5 0.6																								Diurnal Maximum		



Wood Buffalo Environmental Association
Hourly Averages

Precipitation (PC) - mm
Stony Mountain - January 2025





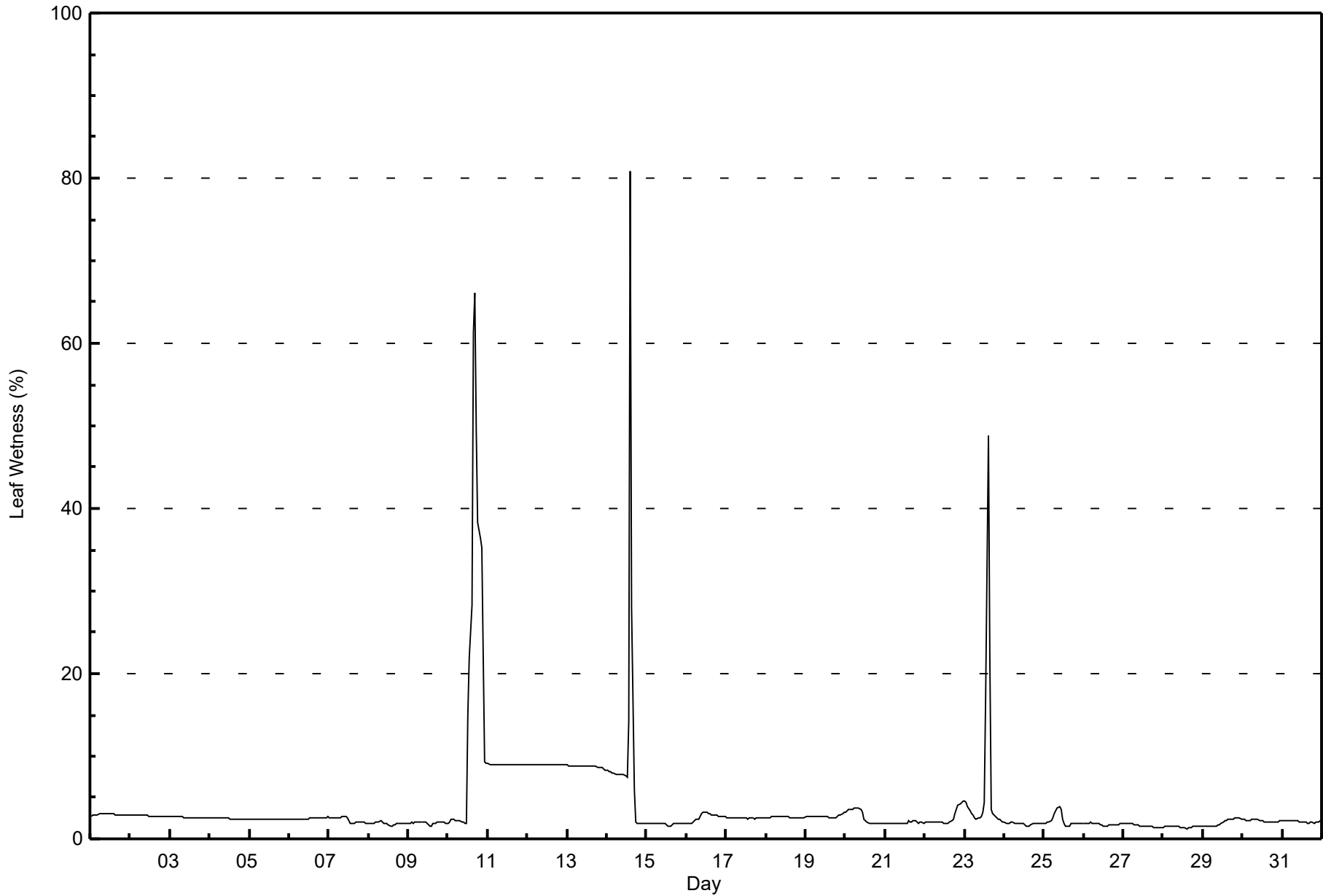
Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Precipitation (PC) - mm
Stony Mountain - January 2025

Concentration Ranges (mm)	Number of Hours	%	Cumulative %
0 - 0.3	703	94.49	94.49
0.4 - 0.5	16	2.15	96.64
0.6 - 0.7	17	2.28	98.92
0.8 - 1.4	8	1.08	100.00
1.5 - 10	0	0.00	100.00
> 10	0	0.00	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Leaf Wetness (LW) - %
Stony Mountain - January 2025

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 0.3	0	0.00	0.00
0.4 - 0.5	0	0.00	0.00
0.6 - 0.7	0	0.00	0.00
0.8 - 1.4	18	2.42	2.42
1.5 - 10	694	93.28	95.70
> 10	16	2.15	97.85

Total Number of Valid Hours: 744

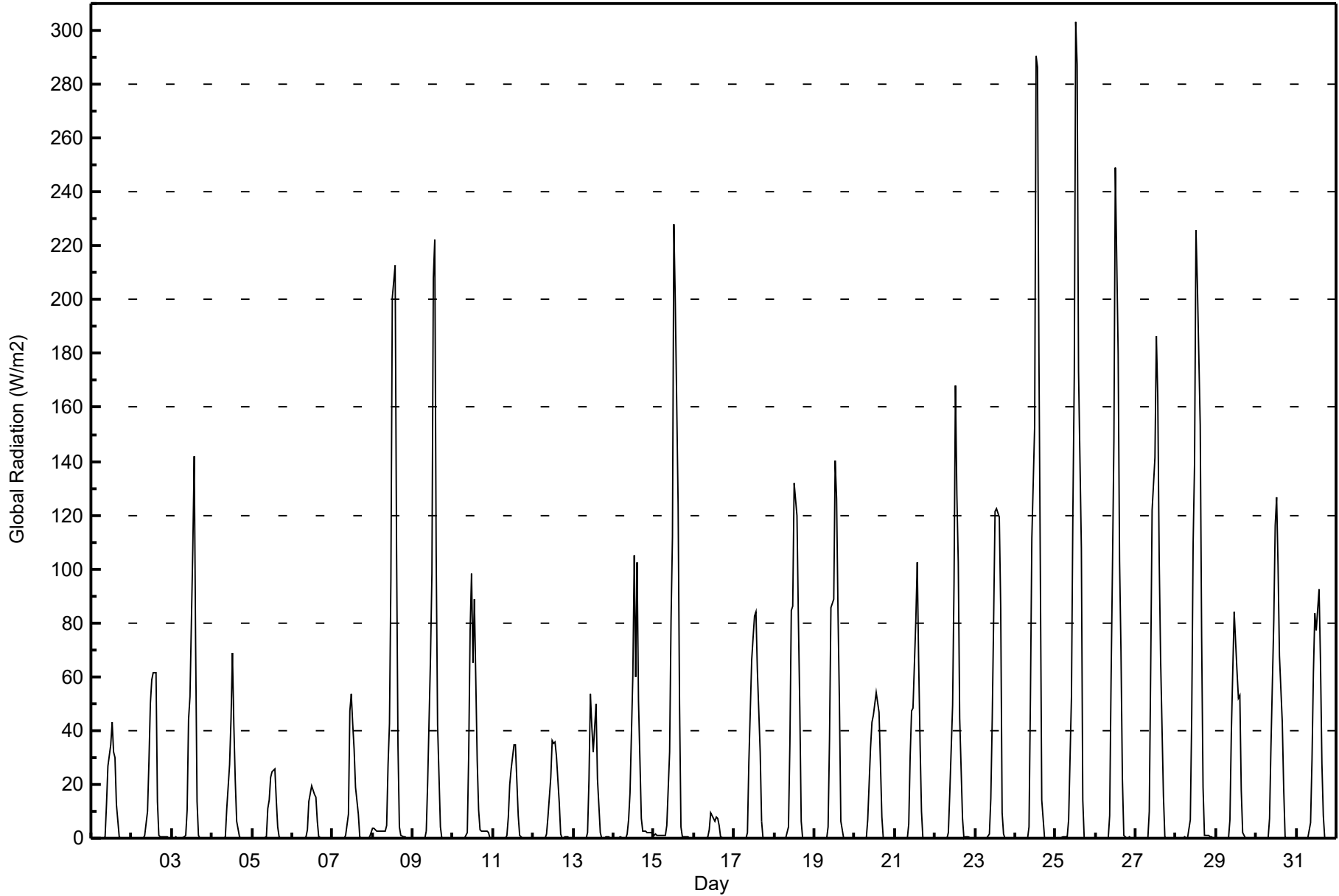
Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

Global Radiation (GR) - W/m2
Stony Mountain - January 2025

Maximum Value: 303.0 W/m2 on Jan 25 13:00		Maximum Daily Average: 51.7 W/m2 on Jan 25		Hours in Service: 744																						
Minimum Value: 0.0 W/m2 on Jan 2 03:00		Minimum Daily Average: 2.0 W/m2 on Jan 16		Hours of Data: 744																						
Maximum Diurnal Average: 115.3 W/m2 at hour 13		Minimum Diurnal Average: 0.1 W/m2 at hour 23		Hours of Missing Data: 0																						
Monthly Average: 21.13 W/m2		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.2 Q ₃ = 16.3 P ₉₀ = 80.8 P ₉₉ = 218.3		Hours of Calibration: 0																						
				Percent Operational Time: 100.0																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.8	12.6	26.9	34.8	43.3	32.0	29.8	12.6	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.1	43.3
2-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	9.9	28.2	50.0	58.7	61.6	61.6	13.8	1.3	0.3	0.4	0.5	0.4	0.3	0.3	0.3	12.0	61.6
3-Jan	0.2	0.2	0.3	0.1	0.1	0.1	0.2	0.3	1.3	10.6	44.1	52.4	107.7	142.0	71.7	13.8	0.9	0.0	0.2	0.2	0.1	0.3	0.1	0.0	18.6	142.0
4-Jan	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.6	11.1	27.3	44.3	68.6	42.2	21.7	6.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.3	68.6
5-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	11.2	14.3	22.5	24.9	25.7	14.1	4.4	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.9	25.7
6-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	3.2	13.5	19.3	17.7	16.3	15.2	6.4	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	19.3
7-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	9.1	47.3	53.4	42.8	33.1	18.9	8.9	0.5	0.0	0.1	0.1	0.1	0.1	0.4	2.3	9.1	53.4
8-Jan	3.8	3.5	2.7	2.6	2.6	2.5	2.6	2.4	4.9	27.5	42.8	96.0	200.7	213.0	107.8	34.9	4.4	0.9	0.5	0.3	0.2	0.2	0.2	0.1	31.5	213.0
9-Jan	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	21.0	67.0	98.1	208.1	222.3	105.7	42.0	4.2	0.3	0.1	0.0	0.1	0.0	0.0	0.0	32.2	222.3
10-Jan	0.0	0.0	0.0	0.1	0.2	0.1	0.2	0.1	2.1	31.3	77.2	98.2	65.3	88.9	28.8	10.7	3.2	2.6	2.6	2.6	2.5	2.1	0.1	0.0	17.5	98.2
11-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	7.7	19.7	26.0	34.7	34.9	21.3	8.3	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.4	34.9
12-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	1.8	7.9	22.6	36.4	35.0	36.0	30.5	13.3	1.4	0.1	0.0	0.3	0.3	0.1	0.1	0.1	7.7	36.4
13-Jan	0.1	0.0	0.1	0.1	0.1	0.2	0.2	0.0	2.2	21.5	53.6	41.6	31.9	49.8	22.1	12.1	1.9	0.2	0.2	0.4	0.5	0.3	0.1	0.1	10.0	53.6
14-Jan	0.2	0.1	0.1	0.1	0.3	0.2	0.1	0.0	1.5	6.7	16.6	60.5	105.2	59.8	102.3	51.1	7.2	2.6	2.6	2.5	2.3	2.1	1.9	1.7	17.8	105.2
15-Jan	1.3	1.5	1.3	1.1	0.9	0.9	0.9	0.9	4.8	32.1	81.2	111.9	228.1	199.3	124.2	49.8	4.4	0.5	0.4	0.4	0.4	0.1	0.0	0.0	35.3	228.1
16-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.6	3.2	9.3	8.3	6.5	7.7	7.3	4.6	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	9.3
17-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	28.6	66.4	74.6	82.5	84.0	62.6	32.2	6.4	0.0	0.0	0.0	0.1	0.0	0.0	0.0	18.3	84.0
18-Jan	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	4.2	35.1	84.4	86.0	132.0	119.9	81.6	48.2	6.1	0.2	0.1	0.2	0.2	0.1	0.1	0.0	24.9	132.0
19-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1	36.6	85.7	89.0	140.3	126.3	84.3	50.6	6.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	26.0	140.3
20-Jan	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	7.1	33.4	43.0	45.7	50.0	54.2	46.9	28.1	8.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	13.2	54.2
21-Jan	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.1	5.2	30.5	47.3	48.3	80.8	102.2	65.8	35.2	10.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.7	102.2
22-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	16.6	49.6	94.8	168.3	127.6	102.2	44.5	7.5	0.2	0.5	0.3	0.4	0.2	0.1	0.1	25.6	168.3
23-Jan	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	1.5	14.8	44.2	81.3	121.6	122.3	119.3	84.9	9.7	1.3	0.1	0.1	0.1	0.0	0.0	0.0	25.1	122.3
24-Jan	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	4.3	52.1	111.2	153.7	290.4	286.6	180.3	99.4	13.9	0.2	0.0	0.0	0.0	0.0	0.0	0.0	49.7	290.4
25-Jan	0.0	0.1	0.1	0.2	0.4	0.3	0.5	0.3	6.8	52.5	120.6	172.4	303.0	287.5	173.5	108.0	14.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	51.7	303.0
26-Jan	0.1	0.1	0.1	0.3	0.2	0.1	0.1	0.2	8.4	59.0	101.3	147.9	249.0	180.3	103.1	69.4	22.3	1.0	0.1	0.1	0.3	0.1	0.0	0.0	39.3	249.0
27-Jan	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.1	9.7	63.1	122.1	141.4	186.5	164.0	104.0	66.7	15.8	0.4	0.1	0.1	0.0	0.1	0.1	0.0	36.4	186.5
28-Jan	0.0	0.0	0.0	0.0	0.2	0.7	0.0	0.1	6.6	45.9	109.8	139.1	226.1	205.5	153.7	74.9	19.0	0.9	0.8	0.9	0.8	0.4	0.2	0.1	41.1	226.1
29-Jan	0.1	0.2	0.1	0.0	0.1	0.0	0.1	0.1	6.9	39.6	62.0	84.1	61.8	51.8	53.1	17.8	2.1	0.2	0.1	0.0	0.1	0.0	0.0	0.0	15.9	84.1
30-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	7.2	34.3	80.9	116.3	126.5	101.5	67.5	43.2	18.3	0.5	0.0	0.0	0.0	0.0	0.0	0.0	24.8	126.5
31-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	28.9	61.3	83.3	77.2	92.5	65.5	27.7	8.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	18.8	92.5
	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	3.5	25.7	57.5	77.8	115.3	108.7	72.5	36.3	6.5	0.4	0.3	0.3	0.3	0.2	0.1	0.2	Diurnal Average	
	3.8	3.5	2.7	2.6	2.6	2.5	2.6	2.4	9.7	63.1	122.1	172.4	303.0	287.5	180.3	108.0	22.3	2.6	2.6	2.6	2.5	2.1	1.9	2.3	Diurnal Maximum	





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Global Radiation (GR) - W/m2
Stony Mountain - January 2025

Concentration Ranges (W/m2)	Number of Hours	%	Cumulative %
0 - 20	567	76.21	76.21
21 - 100	123	16.53	92.74
101 - 300	53	7.12	99.87
301 - 600	1	0.13	100.00
601 - 900	0	0.00	100.00
> 900	0	0.00	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

Wind Speed 10m (WS10) - km/h
Stony Mountain - January 2025

Maximum Speed: 20 km/h on Jan 20 16:00	Maximum Daily Speed Average: 16.2 km/h on Jan 7	Hours in Service: 744
Minimum Speed Value: 0 km/h on Jan 6 01:00	Minimum Daily Speed Average: 0.6 km/h on Jan 2	Hours of Data: 715
Maximum Diurnal Speed Average: 6.0 km/h at hour 10	Minimum Diurnal Speed Average: 3.9 km/h at hour 17	Hours of Missing Data: 29
Monthly Average Velocity: 5.2 km/h 263.2 deg	Percentiles: P ₁ = 2 P ₁₀ = 4 Q ₁ = 6 Median = 9 Q ₃ = 13 P ₉₀ = 16 P ₉₉ = 19	Percent Operational Time: 96.1

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	NW6	NW6	NW6	WNW6	NW5	NW4	WNW5	NW5	NW5	NW4	NW5	NW5	NNW4	NNW4	NNW4	NNW4	NNW3	NNW4	NNW5	NNW5	NNW4	NNW4	N5	N4	NW4.6	NW6	
2-Jan	N3	N4	N3	N4	NNW2	NW3	NW4	NW3	NW3	NNW2	NW2	ENE3	NE3	NNE1	NNW1	E2	SSE2	SSW4	S4	SSW5	SSW5	SSW5	SSW3	S2	WNW0.6	SSW5	
3-Jan	SSE3	S3	SSW5	S5	S5	S4	S5	S5	S4	S5	SSE4	SSE5	SSE5	SSE7	SSE8	SSE8	SE7	SSE8	SSE7	SSE6	SSE10	SSE10	SSE10	SSE10	SSE5.9	SSE10	
4-Jan	SSE8	SSE7	SSE7	SSE7	SSE9	S13	SSE13	SSE12	SSE11	SSE10	SSE10	SSE12	SSE10	SSE11	SSE11	SSE9	SSE9	SSE8	S9	SSW8	S6	SSW5	SSW6	SSE9.1	SSE13		
5-Jan	SSW4	SW5	SW4	W4	W5	NW6	NW5	NW6	NW6	NW5	NNW5	NW5	NNW6	NW5	NW6	NNW5	NNW4	NNW4	N4	NE5	NE4	ENE3	E3	SE2	NW2.9	NW6	
6-Jan	SSW0	SE2	SE4	SSE3	SE3	SE3	SSE3	SSE5	SSE6	S7	S8	S8	S9	S8	S10	SSW9	S10	SSW10	SSW11	SSW12	SSW12	SSW13	SSW15	SSW16	S7.3	SSW16	
7-Jan	SSW15	SSW16	SSW16	SSW17	SSW17	SSW16	SSW16	SSW16	SSW16	SSW16	SSW16	SSW16	SSW17	SSW17	SSW16	SSW17	SSW17	SSW17	SSW17	SSW18	SSW17	SSW17	SSW16	SSW14	SW13	SSW16.2	SSW18
8-Jan	SW15	WSW14	WSW13	W15	W14	W11	W13	W12	W15	WNW16	WNW17	W15	WNW17	WNW15	WNW15	WNW15	WNW10	WNW11	WNW10	WNW10	WNW11	WNW12	WNW12	W10	W12.6	WNW17	
9-Jan	W9	WNW9	WNW10	WNW10	WNW11	WNW10	WNW9	W10	W12	WNW12	WNW11	WNW8	NW6	NW4	WSW3	SSW6	S7	SSW8	SSW9	S8	S9	S9	S10	S12	WSW5.7	WNW12	
10-Jan	S10	S11	S13	S14	S15	SSW16	SSW15	SSW16	SSW15	SW12	WSW13	W13	W11	WNW9	NW7	NW6	WNW6	NW6	NW6	NW5	NW4	NNE4	N5	NNW6	SW5.8	SSW16	
11-Jan	N8	N7	NNE8	NNE8	NNE7	NNE7	NE8	NE4	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	---	NE8	
12-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	---	W11	
13-Jan	W10	WNW10	WNW7	WNW6	W7	W5	SW6	SSW9	SSW8	SSW8	SSW9	SSW9	SSW9	SSW9	SW8	W8	W6	W9	W9	WSW10	W13	W14	W16	W15	W11	WSW8.0	W16
14-Jan	W12	WNW12	WNW11	W12	WSW10	SW9	SW11	SSW11	SSW13	SSW15	SSW18	SSW17	SSW19	SW17	SW14	WSW14	WSW13	WSW13	W15	W15	W14	WNW15	WNW16	W16	WSW11.7	SSW19	
15-Jan	WNW15	W14	W15	W15	WNW15	W15	W14	WNW14	WNW11	WNW11	WNW12	WNW13	WNW12	NW9	WNW9	W8	W6	SW6	SW7	SW6	SW7	SW5	SSW7	SSW7	W9.4	W15	
16-Jan	S6	S4	ESE6	ESE5	E6	ESE9	ESE7	E6	NE5	N4	E4	NE5	NNE7	NE10	NNE13	NNE15	NE16	NNE18	NNE17	N15	N11	NNW8	NNW8	NNW9	NE6.3	NNE18	
17-Jan	NNW10	NNW9	NNW9	NNW9	NNW7	NNW6	NNW7	NNW6	NNW4	NNW5	NNW5	NNW5	NNW5	NNW5	NNW6	NNW7	NNW7	NNW7	NNW7	NNW4	NW6	NW8	NW7	NW7	NNW6.7	NNW10	
18-Jan	NW8	NW8	NW8	NW7	WNW6	WNW8	WNW9	WNW8	WNW7	WNW8	WNW8	W6	W6	WSW6	WSW5	WSW6	SSW5	SW9	SW8	WSW8	WSW6	W7	WNW8	WNW6	W6.2	SW9	
19-Jan	WNW7	NW7	NW6	NW4	NW6	WNW6	WNW5	NW5	WNW5	NW6	NW6	NW6	NW6	NNW6	NW5	NNW5	NW4	NW3	NW4	NW4	WNW4	W6	WSW4	WSW5	NW4.9	WNW7	
20-Jan	SSW7	SSW10	SSW12	SSW14	SSW15	SSW17	SSW17	SSW17	SSW17	SSW18	SSW19	SSW18	SSW19	SSW18	SSW19	SSW20	SSW19	SSW19	SW20	SW20	SW18	WSW18	W19	W17	SSW15.7	SSW20	
21-Jan	W14	WNW15	W14	W15	W15	W16	W14	W14	W16	WNW13	WNW12	WNW13	WNW14	NW12	NW12	NW11	NW8	N8	NNW11	NNW11	NNW9	NNW9	NNW10	WNW11.4	W16		
22-Jan	NW11	NW9	WNW9	WNW10	WNW9	WNW9	WNW12	NW12	NW11	NW9	NW9	NW9	NW9	WNW9	WNW9	WNW7	WNW8	W6	SW6	SW8	SW9	SSW11	SSW12	SSW13	WNW7.0	SSW13	
23-Jan	SSW14	SSW15	SSW16	SSW15	SSW14	SSW14	SW14	SW13	SW12	SW11	WSW10	WNW8	W9	WNW12	W13	W14	WNW14	WNW15	WNW13	WNW12	WNW15	WNW14	WNW14	WNW13	WSW10.1	SSW16	
24-Jan	W16	W14	WNW15	WNW17	WNW16	NW16	NW18	NW18	NW17	NNW15	NNW14	NNW14	NW13	NNW13	NNW12	NW10	NW11	NW9	WNW8	WNW9	W11	W12	W11	W10	NW12.5	NW18	
25-Jan	WNW9	W9	W10	WSW8	SW9	SSW11	SSW12	SSW11	SW9	SW10	WSW10	W14	W12	W11	WNW11	W11	W10	W12	W12	WNW9	W11	W13	W11	W11	W9.6	W14	
26-Jan	WSW10	WSW11	SW9	SW9	SW9	WSW13	WSW13	WSW13	W15	W14	W13	W12	W13	W11	SW11	SW10	SW10	W13	WNW15	WNW13	WNW14	WNW14	WNW13	WNW13	W11.3	WNW15	
27-Jan	W14	W15	W13	W13	W12	WNW13	WNW13	WNW13	W12	W15	W13	W13	SW12	SW13	SW13	SW14	WSW14	WSW14	WSW19	W18	W16	WNW17	WNW17	WNW17	W13.4	WSW19	
28-Jan	NW17	WNW15	WNW16	NW16	WNW14	WNW14	WNW14	WNW14	WNW13	W13	WNW12	WNW15	NW16	NW16	WNW15	WNW14	WNW12	WNW12	WNW10	W11	W11	W10	W10	W11	WNW13.2	NW17	
29-Jan	W10	W8	W9	W8	WSW7	WSW8	WSW9	WSW9	W10	WSW9	WSW7	SW5	SSE2	E4	E5	E6	ENE6	ENE7	NE9	NNE9	NE8	NE9	NE11	NNE13	NW1.9	NNE13	
30-Jan	NNE14	N10	NNE10	NNE8	N5	NNE7	NNE6	NNE7	NNE8	NNE6	NNE6	NE6	NE6	NE8	NE6	ENE6	ENE5	ENE4	ENE5	ENE5	ENE4	ENE4	ENE5	NE5	NE6.0	NNE14	
31-Jan	ENE4	ENE4	ENE4	E4	E6	ESE7	E6	E6	E6	E6	E7	E8	E9	E9	E10	ENE9	ENE9	ENE10	ENE11	ENE9	ENE8	ENE8	ENE7	NE8	E7.0	ENE11	

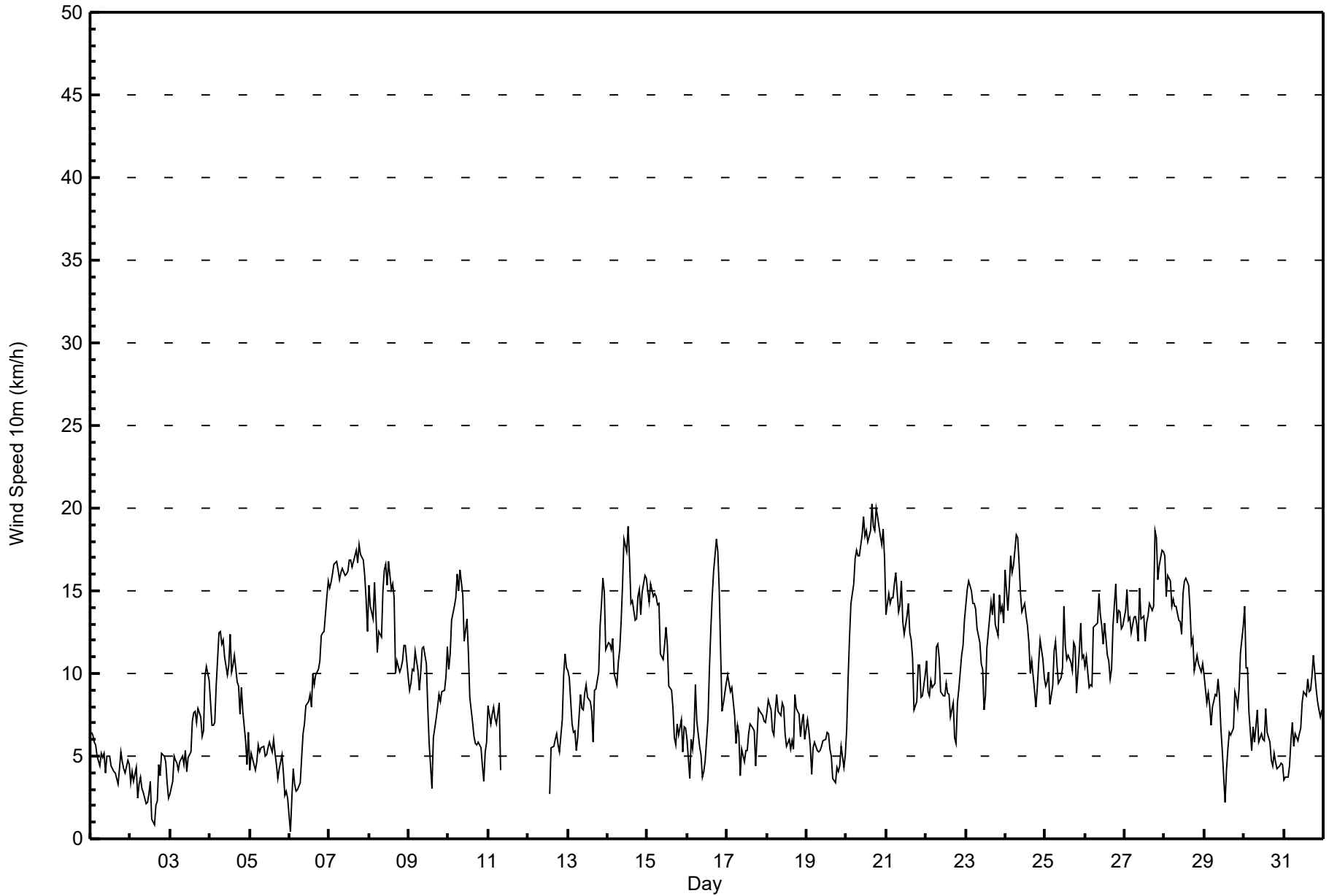
W6.0 W5.8 W5.6 W5.5WSW5.3WSW5.4WSW5.7WSW5.8WSW6.0 W5.7 W5.2 W4.9 W4.4 W4.3 W4.1 W3.9WSW4.2 W4.6 W4.9 W5.3 W5.6 W5.5 W5.6	Diurnal Average
NW17 SSW16 SSW16WNW17 SSW17 SSW17 NW18 NW18 SSW17 SSW18 SSW19 SSW18 SSW19 SSW18 SSW19 SSW20 SSW19 SSW19 SW20 SW20 SW18WSW18 W19WNW17	Diurnal Maximum

UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods



Wood Buffalo Environmental Association
Hourly Averages

Wind Speed 10m (WS10) - km/h
Stony Mountain - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Wind Speed 10m (WS10) - km/h
Stony Mountain - January 2025**

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	140	19.58	19.58
6 - 11	328	45.87	65.45
12 - 19	244	34.13	99.58
20 - 28	3	0.42	100.00
29 - 38	0	0.00	100.00
> 38	0	0.00	100.00

Total Number of Valid Hours: 715

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Wind Speed 10m (WS10) - km/h
Stony Mountain - January 2025**

Wind Speed Ranges (km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	10	2	7	12	6	1	5	9	11	11	5	4	3	5	24	25	140
6 - 11	5	14	11	11	13	4	1	25	15	28	24	17	45	50	42	23	328
12 - 19	1	7	0	0	0	0	0	5	4	61	13	13	59	64	11	6	244
20 - 28	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	3
29 - 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	16	23	18	23	19	5	6	39	30	101	44	34	107	119	77	54	715

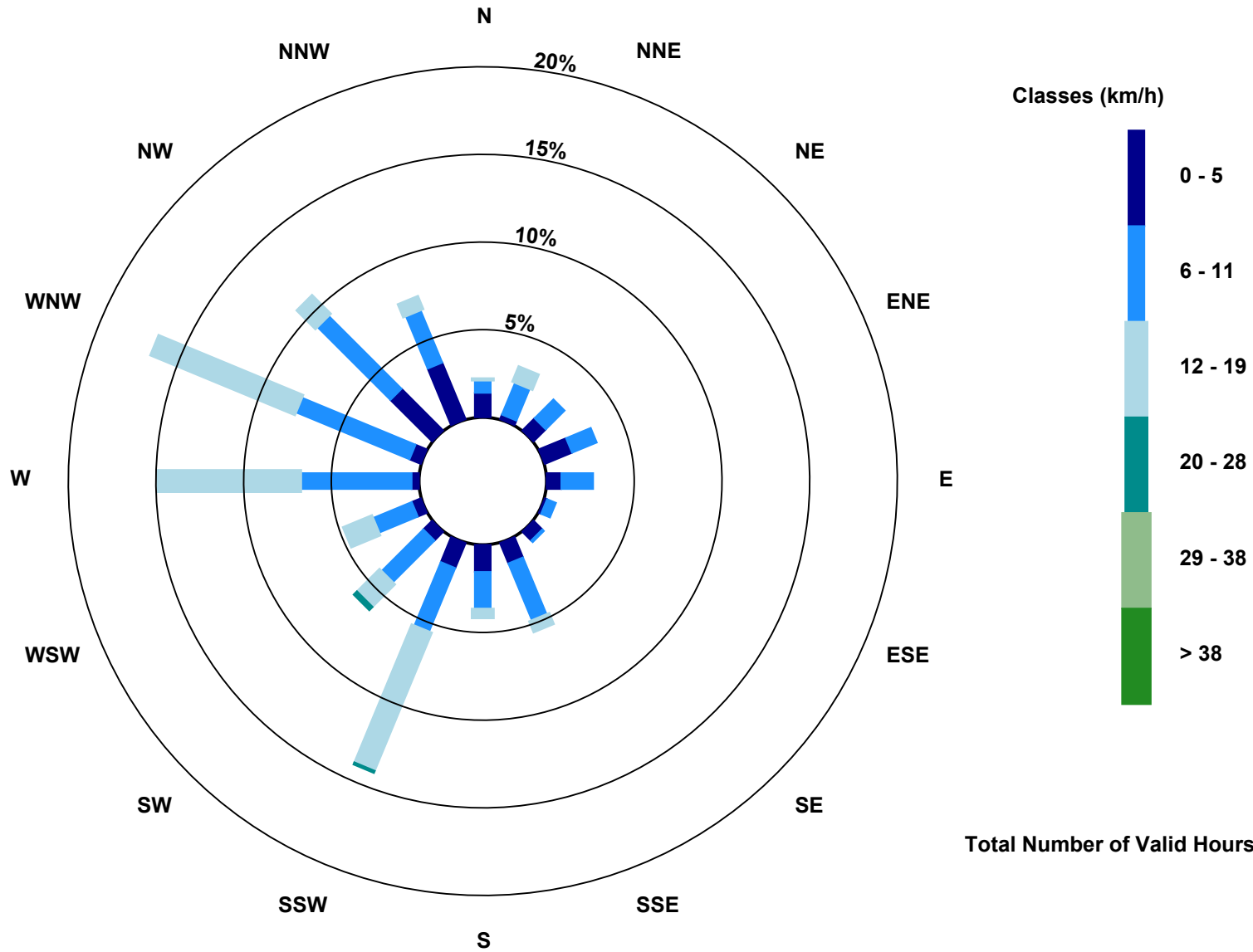
Total Number of Valid Hours: 715

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Wind Speed 10m (WS10) - km/h
Stony Mountain



Total Number of Valid Hours: 715



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Speed 10m (WS10) - km/h
Stony Mountain - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 7 km/h on Jan 24 08:00 Minimum Value: 0 km/h on Jan 2 05:00 Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 2 Median = 3 Q ₃ = 5 P ₉₀ = 6 P ₉₉ = 7																	Hours in Service: 744 Hours of Data: 715 Hours of Missing Data: 29 Hours of Calibration: 0 Percent Operational Time: 96.1									
Day	Hourly Period Ending At (MST)																								Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	2	2	2	2	1	1	1	1	1	1	2	2	2	2	1	2	1	2	2	2	1	1	2	2	2	2
2-Jan	2	2	1	1	0	1	1	1	0	1	1	1	2	1	1	1	1	1	1	1	1	1	1	0	2	
3-Jan	1	1	1	1	1	1	1	1	1	2	1	2	2	3	3	3	2	2	2	2	2	4	4	3	4	
4-Jan	3	2	2	2	4	5	5	4	4	4	4	4	4	4	4	4	4	4	3	3	3	2	2	2	5	
5-Jan	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	2	1	1	1	1	2	
6-Jan	1	1	1	1	1	1	1	2	2	2	3	3	3	3	3	3	3	4	4	4	4	5	5	5	5	
7-Jan	5	5	5	5	5	5	5	5	4	4	5	5	5	5	5	5	5	5	5	5	5	4	4	4	5	
8-Jan	5	5	5	6	5	5	5	4	6	6	6	6	7	6	6	5	4	4	3	3	4	4	4	3	7	
9-Jan	3	3	3	3	4	3	3	3	4	4	3	2	2	1	1	2	2	2	2	2	2	2	3	4	4	
10-Jan	3	4	4	5	5	5	4	5	5	4	5	5	4	3	2	2	2	3	3	2	2	3	2	2	5	
11-Jan	3	3	3	3	3	2	3	4	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	4	
12-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	3	1	2	2	2	2	2	2	3	4	4	4	4
13-Jan	4	3	2	2	2	1	2	2	2	2	3	3	2	3	3	2	3	3	4	5	5	6	6	4	6	
14-Jan	4	4	4	4	4	3	3	3	4	4	5	5	6	5	5	5	5	5	5	5	5	6	6	6	6	
15-Jan	6	6	6	6	6	5	5	5	4	4	4	5	4	4	3	3	2	2	2	2	2	1	2	1	6	
16-Jan	1	1	2	2	2	3	2	2	1	1	2	1	3	4	5	5	6	6	6	6	4	3	3	4	6	
17-Jan	4	4	4	4	3	2	3	3	1	2	2	2	2	3	3	3	3	1	2	3	2	2	2	2	4	
18-Jan	2	2	2	2	2	2	3	2	2	3	3	3	2	2	2	2	2	3	3	2	2	2	2	2	3	
19-Jan	2	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	1	1	1	1	1	2	2	2	2	
20-Jan	2	3	4	4	4	5	5	5	5	5	6	6	6	6	6	7	6	6	6	7	6	7	7	6	7	
21-Jan	5	6	6	5	6	6	6	5	6	6	5	5	5	6	5	5	4	4	4	5	5	3	4	4	6	
22-Jan	4	4	3	3	3	3	4	4	4	4	4	4	3	3	3	3	3	3	2	2	3	3	3	4	4	
23-Jan	4	5	5	5	4	5	4	4	4	4	4	3	3	4	5	6	5	6	5	5	6	5	5	5	6	
24-Jan	6	6	6	7	6	6	7	7	7	7	6	6	6	5	5	4	3	3	3	3	4	4	4	3	7	
25-Jan	3	3	4	3	3	3	3	3	3	3	4	6	5	4	5	4	4	4	4	3	4	5	4	4	6	
26-Jan	4	4	3	3	3	5	5	5	6	6	5	5	4	4	4	3	4	5	5	5	5	5	4	5	6	
27-Jan	5	6	4	5	5	5	5	4	4	6	5	5	4	4	5	5	5	5	7	7	6	6	6	6	7	
28-Jan	6	5	6	5	5	5	5	5	5	5	4	7	6	6	6	6	5	5	4	4	4	4	4	4	7	
29-Jan	4	3	3	3	2	3	3	3	3	3	3	2	2	2	2	2	2	2	3	3	2	3	4	4	4	
30-Jan	5	4	4	3	2	2	2	3	2	2	2	2	2	2	2	2	2	1	2	1	2	2	2	2	5	
31-Jan	1	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	3	3	4	3	3	2	2	2	4	
Diurnal Maximum																								6		
UO - Unstable Operation																										



Wood Buffalo Environmental Association
Summary of Hour Averages

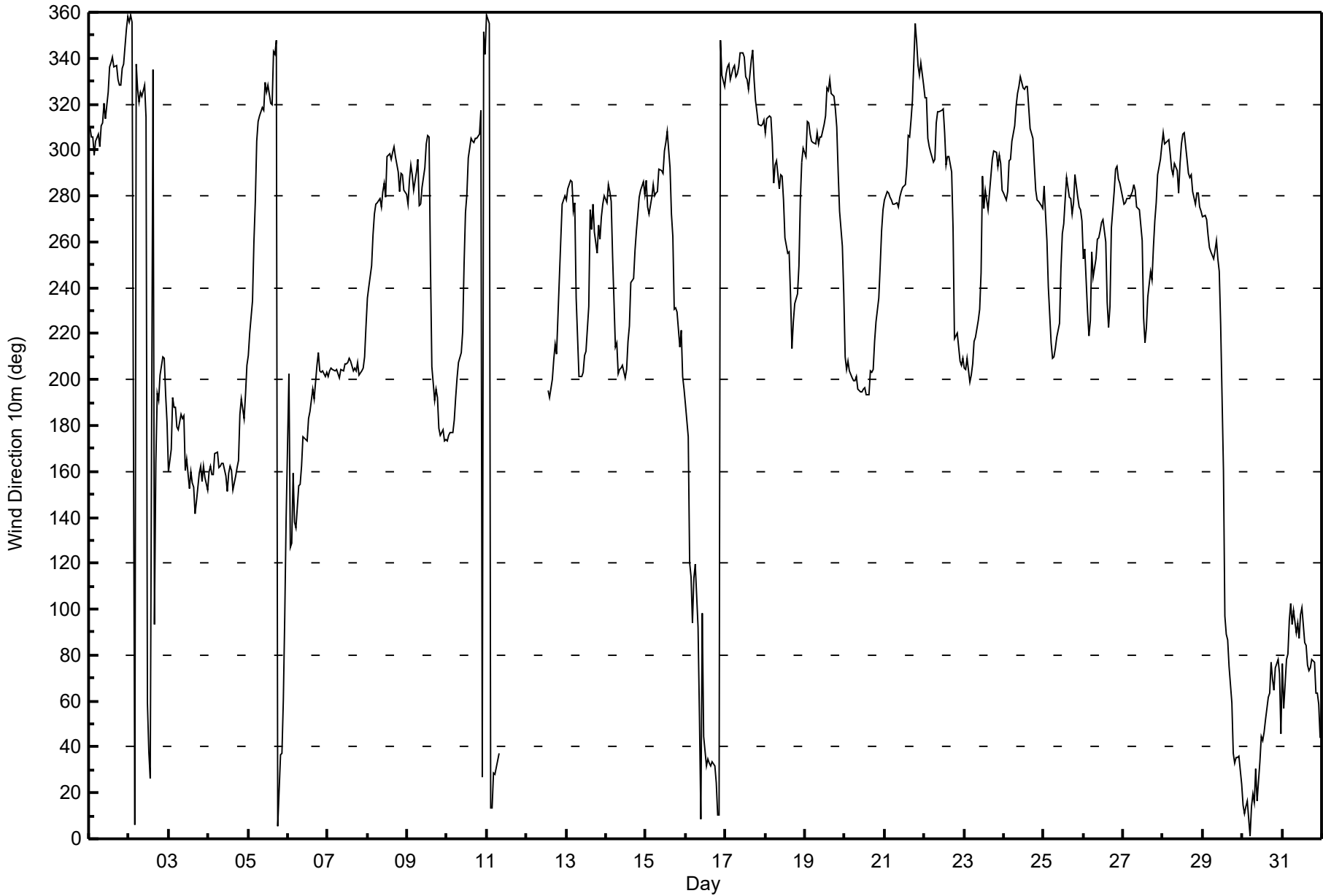
Wind Direction 10m (WD10) - deg
Stony Mountain - January 2025

Direction of Maximum Speed: 204 deg on Jan 20 16:00		Hours in Service:	744
Direction of Maximum Daily Speed Average: 205.6 deg on Jan 7		Hours of Data:	715
Direction of Minimum Speed: 203 deg on Jan 6 01:00		Hours of Missing Data:	29
Direction of Minimum Daily Speed Average: 0.6 deg on Jan 2		Percent Operational Time:	96.1
Monthly Average Direction: 263.2 deg			

Day	Hourly Period Ending At (MST)																								Daily Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	310	306	305	298	304	307	301	311	312	320	313	325	336	338	341	336	337	331	328	328	336	337	353	358	322.1	
2-Jan	355	359	355	6	338	326	321	325	324	328	314	59	38	26	335	94	164	194	191	202	210	209	194	181	299.8	
3-Jan	160	169	192	188	188	180	178	185	183	184	160	166	152	160	155	153	141	147	159	162	156	163	158	152	163.7	
4-Jan	160	162	158	159	168	169	161	163	164	164	158	151	159	162	160	152	158	161	165	185	192	183	194	206	165.3	
5-Jan	211	220	234	260	277	304	312	315	318	317	330	325	328	321	320	343	342	348	6	36	37	61	97	139	320.5	
6-Jan	203	127	129	159	138	136	154	155	162	175	175	174	183	186	191	196	191	206	212	204	203	204	202	203	188.6	
7-Jan	201	204	205	204	204	205	202	201	204	204	207	207	207	210	208	204	205	204	207	202	204	205	210	223	205.6	
8-Jan	236	240	250	263	272	276	277	279	275	282	285	279	297	298	296	299	301	297	291	282	290	289	283	281	279.7	
9-Jan	276	287	294	289	283	290	296	276	276	284	292	303	306	306	250	206	191	196	192	179	176	178	173	174	254.2	
10-Jan	173	176	177	177	182	192	201	208	212	221	250	273	281	297	305	304	303	305	305	307	317	27	352	341	230.3	
11-Jan	359	355	14	13	29	28	34	37	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	
12-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	195	192	200	209	215	211	228	261	277	279	280	--
13-Jan	279	283	287	286	273	277	236	201	202	201	203	211	212	232	274	265	277	264	255	267	261	271	276	280	255.8	
14-Jan	277	285	282	277	254	214	216	203	204	205	206	201	205	216	223	242	244	256	265	272	279	282	286	281	243.7	
15-Jan	287	275	272	280	285	280	281	282	291	291	290	300	303	308	292	272	262	231	231	229	214	222	201	196	274.9	
16-Jan	189	175	120	114	94	113	120	92	53	8	98	44	32	35	33	32	34	32	24	11	10	348	333	328	38.0	
17-Jan	333	336	338	331	335	337	332	333	336	342	342	340	332	330	327	339	343	331	322	317	311	311	311	313	329.6	
18-Jan	307	313	315	314	303	285	293	296	283	289	289	278	262	255	256	237	213	225	233	237	250	278	294	301	277.4	
19-Jan	297	313	312	307	304	303	303	307	303	306	306	311	315	327	326	331	325	323	318	310	291	273	258	238	305.1	
20-Jan	210	204	208	204	201	199	200	201	196	195	195	196	197	193	194	204	203	204	217	225	235	249	265	274	210.5	
21-Jan	278	282	281	279	278	276	276	277	275	280	282	284	285	293	306	306	313	321	355	347	337	332	338	328	295.0	
22-Jan	323	323	305	302	299	295	296	312	316	317	317	318	308	294	297	297	290	266	218	219	220	208	206	209	285.0	
23-Jan	205	204	209	199	202	207	216	219	226	231	246	289	275	282	274	281	288	296	300	299	293	298	294	283	253.9	
24-Jan	281	278	282	296	296	304	310	319	324	328	332	327	326	328	328	319	309	305	294	282	278	278	276	275	304.4	
25-Jan	284	272	260	240	216	210	210	213	218	224	248	264	268	278	288	280	279	272	277	289	280	275	274	269	259.2	
26-Jan	253	257	229	219	226	256	245	253	261	262	265	268	269	260	234	223	232	266	282	291	293	288	286	282	261.0	
27-Jan	276	277	279	279	279	282	285	283	275	274	274	261	227	216	223	236	247	244	257	269	277	289	296	302	268.4	
28-Jan	307	303	303	304	299	291	289	294	291	281	294	303	307	308	296	290	288	289	282	277	281	281	275	273	293.5	
29-Jan	271	271	270	263	257	255	252	256	261	252	247	224	160	97	89	87	75	59	37	33	36	35	36	24	314.3	
30-Jan	14	11	14	16	1	14	20	16	30	17	33	45	43	46	52	61	64	77	70	65	74	78	72	46	35.2	
31-Jan	76	57	78	81	95	103	93	100	90	94	87	98	101	85	84	76	73	75	78	77	64	64	59	44	80.4	

272.6 270.2 266.3 264.7 258.4 254.8 256.1 255.4 255.5 256.7 259.4 264.5 264.3 267.9 265.0 260.0 259.0 256.9 262.1 265.1 266.8 268.7 271.6 272.2
 Diurnal Average

UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods





Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg
Stony Mountain - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 85 deg on Jan 6 01:00 Minimum Value: 9 deg on Jan 19 19:00 Percentiles: P ₁ = 12 P ₁₀ = 19 Q ₁ = 22 Median = 25 Q ₃ = 28 P ₉₀ = 30 P ₉₉ = 40																			Hours in Service: 744 Hours of Data: 715 Hours of Missing Data: 29 Hours of Calibration: 0 Percent Operational Time: 96.1						
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	16	16	16	18	17	13	17	15	17	22	23	31	33	39	35	30	27	28	27	27	28	29	29	27	39
2-Jan	31	27	22	21	15	12	10	13	10	15	29	52	41	73	78	52	24	14	13	14	14	15	17	20	78
3-Jan	21	23	20	22	19	17	18	18	23	24	31	32	33	33	31	29	20	20	24	24	22	28	26	25	33
4-Jan	27	26	24	27	29	29	30	31	29	30	27	26	30	28	27	29	30	30	30	27	29	27	26	25	31
5-Jan	26	27	29	27	33	24	23	22	19	19	28	28	26	28	26	30	32	36	30	27	23	25	22	35	36
6-Jan	85	26	23	32	30	26	27	24	29	26	30	31	30	28	25	26	25	29	28	25	26	27	24	23	85
7-Jan	23	23	21	21	21	22	22	22	23	22	21	22	21	21	22	20	21	20	21	22	21	21	21	24	24
8-Jan	27	28	33	29	27	27	27	23	25	26	26	27	25	28	26	24	23	23	23	23	23	22	25	22	33
9-Jan	25	22	22	24	22	23	22	25	25	21	22	22	24	26	39	20	20	20	21	22	20	20	23	24	39
10-Jan	26	28	26	23	22	24	22	24	22	24	32	27	26	24	22	21	23	24	19	21	20	40	36	37	40
11-Jan	35	34	30	26	24	23	21	23	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	35
12-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	16	22	23	24	26	22	31	34	29	27	29	34
13-Jan	25	23	23	25	24	22	24	20	22	19	23	23	23	29	29	32	24	27	30	27	28	25	28	26	32
14-Jan	26	23	22	22	30	23	21	19	21	21	22	23	27	26	28	31	30	28	25	25	25	26	26	26	31
15-Jan	26	28	25	28	27	25	26	26	29	28	25	23	27	28	26	25	24	21	22	27	21	27	19	16	29
16-Jan	21	34	18	20	20	18	23	24	19	41	32	29	23	20	21	22	21	22	25	23	25	28	26	27	41
17-Jan	27	30	31	30	29	27	28	25	30	29	29	34	34	33	26	32	30	21	17	19	18	18	19	15	34
18-Jan	16	16	15	16	17	20	20	20	24	19	24	32	34	37	34	28	20	22	26	27	27	22	18	18	37
19-Jan	19	13	11	12	14	14	13	12	16	16	18	23	24	30	30	28	19	12	9	14	14	21	26	22	30
20-Jan	21	18	21	22	22	22	22	24	22	23	23	23	23	24	24	24	24	23	24	28	29	32	26	25	32
21-Jan	26	27	29	27	27	27	25	28	26	27	28	28	26	25	24	25	28	28	29	33	34	28	31	27	34
22-Jan	26	23	23	24	23	24	24	24	26	27	27	29	28	29	26	26	26	33	23	23	21	19	21	22	33
23-Jan	22	22	24	22	23	23	25	27	25	26	30	25	30	27	27	26	27	27	25	27	26	26	25	27	30
24-Jan	26	28	28	27	27	26	26	26	28	30	30	28	27	31	32	24	20	20	23	24	25	24	29	25	32
25-Jan	22	25	31	29	20	19	19	21	23	24	32	28	27	28	27	26	25	25	24	21	21	24	23	23	32
26-Jan	30	30	26	22	27	28	30	31	29	31	28	29	25	28	29	27	29	28	24	23	23	23	24	23	31
27-Jan	24	24	23	23	26	23	23	23	24	27	23	28	28	28	30	30	31	31	30	28	30	25	26	24	31
28-Jan	22	23	23	23	27	26	26	26	27	25	27	27	26	27	27	26	26	26	27	25	26	22	26	27	27
29-Jan	26	25	25	28	29	32	28	29	29	31	30	29	59	29	23	21	24	20	21	20	20	22	20	21	59
30-Jan	23	24	24	25	24	22	25	25	20	26	32	31	27	21	20	17	19	18	18	18	22	23	24	24	32
31-Jan	26	29	26	22	19	20	17	17	18	21	18	20	21	20	21	19	18	18	20	20	17	18	19	18	29
85 34 33 32 33 32 30 31 31 41 32 52 59 73 78 52 32 36 30 33 34 40 36 37																									
Diurnal Maximum																									
UO - Unstable Operation																									



Maximum Speed: 32 km/h on Jan 24 08:00	Maximum Daily Speed Average: 22.1 km/h on Jan 20	Hours in Service: 744
Minimum Speed Value: 1 km/h on Jan 6 01:00	Minimum Daily Speed Average: 1.4 km/h on Jan 2	Hours of Data: 707
Maximum Diurnal Speed Average: 9.2 km/h at hour 1	Minimum Diurnal Speed Average: 5.7 km/h at hour 17	Hours of Missing Data: 37
Monthly Average Velocity: 7.9 km/h 273.4 deg	Percentiles: P ₁ = 3 P ₁₀ = 7 Q ₁ = 10 Median = 15 Q ₃ = 19 P ₉₀ = 22 P ₉₉ = 28	Percent Operational Time: 95.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	NW11	NW11	NW10	NNW10	WNW9	WNW8	WNW9	NW9	NW9	NW7	NW8	NNW9	NNW8	NNW8	NNW7	NNW7	NNW7	NNW9	NNW10	NNW9	NNW9	NNW8	N9	N8	NW8.3	NW11
2-Jan	N6	N7	N7	N8	NNW6	NNW8	NW8	NNW7	NNW6	NNW5	NW3	NE3	NE4	NNE1	NW2	E3	SE5	S7	S7	SSW8	SSW8	SSW7	S6	S5	NW1.4	SSW8
3-Jan	SSE1	S7	SSW8	SSW8	SSW7	S7	S8	SSW8	S8	S9	S7	S8	SSE8	SSE10	SSE11	SSE13	SSE13	SSE15	SSE14	S12	SSE13	S17	SSE17	SSE16	S10.2	SSE17
4-Jan	SSE15	S13	SSE13	S13	S15	S19	SSE20	S18	SSE20	SSE18	SSE16	SSE16	SSE19	SSE15	SSE17	SSE17	SSE15	SSE15	SSE13	S14	S11	S8	SSW6	SSW8	S14.6	SSE20
5-Jan	SSW6	SW7	SW6	WSW6	W7	NW9	NW9	NW10	NW10	NW9	NNW9	NNW9	NNW11	NW9	NW10	NNW10	NNW8	NNW7	N6	NE7	NE5	ENE4	ESE4	SE3	NW5.0	NNW11
6-Jan	SW1	SE3	SE6	SSE5	SSE4	SE5	SSE6	SSE9	S11	S10	S12	S12	S11	S10	SSW12	SSW11	SSW12	SSW12	SW12	SSW14	SSW14	SSW14	SSW17	SSW17	S9.4	SSW17
7-Jan	SSW17	SSW18	SSW18	SSW18	SSW19	SSW19	SSW18	SSW18	SSW19	SSW18	SSW18	SSW19	SSW24	SSW23	SSW23	SSW23	SSW24	SSW23	SSW24	SSW24	SSW24	SSW22	SW20	SW19	SSW20.4	SSW24
8-Jan	WSW22	WSW20	WSW19	W22	W19	W16	W18	NNW18	W22	NNW24	NNW24	W22	NNW25	NNW23	NNW23	NNW23	NW16	NNW17	NNW16	NNW16	NNW17	NNW17	NNW17	NNW15	NNW18.6	NNW25
9-Jan	W13	NNW14	NNW16	NNW15	NNW16	NNW16	NNW15	W15	W17	NNW17	NNW15	NNW12	NW8	NW6	WSW4	SSW8	SSW11	SSW12	SSW13	S14	S15	S15	S15	S18	WSW8.7	S18
10-Jan	S15	S17	S20	S21	S21	SSW23	SSW21	SSW22	SW20	SW17	WSW18	W18	W16	NNW13	NW11	NW10	NW9	NW11	NW11	NW10	NW9	NNE7	N10	NNW11	WSW8.3	SSW23
11-Jan	N14	N12	NNE11	NNE12	NNE9	NNE9	NE9	NE5	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	---	N14
12-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	---	NNW17
13-Jan	NNW16	NNW15	NNW11	NNW11	W11	W9	WSW10	SW13	SW13	SW13	SW13	SW14	SW13	WSW13	W12	W9	W14	W14	W16	W20	W21	W23	W22	NNW17	W13.0	W23
14-Jan	NNW17	NNW18	NNW17	NNW18	W15	SW14	SW16	SW17	SW18	SSW21	SSW25	SSW24	SSW25	SW23	SW20	WSW21	WSW20	W19	W22	W21	NNW19	NNW21	NNW24	NNW22	WSW17.1	SSW25
15-Jan	NNW22	NNW21	W22	NNW21	NNW21	NNW21	NNW21	NNW20	NNW16	NNW17	NNW17	NW19	NW18	NW15	NNW13	W12	W9	WSW10	WSW11	WSW10	SW11	WSW9	SW10	SSW10	NNW14.2	NNW22
16-Jan	SSW9	S7	SE9	ESE8	E10	SE13	SE11	ESE8	ENE7	N5	ESE6	NE6	NE9	NE13	NE16	NE19	NE21	NNE23	NNE23	NNE22	N17	N15	NNW17	NNW19	NE8.4	NNE23
17-Jan	NNW20	NNW20	NNW18	NNW18	NNW15	NNW12	NNW14	NNW13	NNW8	NNW10	NNW9	NNW9	NNW10	NNW12	NNW13	NNW13	NNW14	NNW11	NNW13	NW15	NW14	NW14	NW13	NW13	NNW13.2	NNW20
18-Jan	NW14	NW15	NW14	NW12	NNW11	NNW12	NNW14	NNW12	NNW11	NNW12	NNW11	W9	W7	WSW8	W8	WSW8	SW8	SW13	WSW13	WSW12	WSW10	W11	NNW12	NNW10	NNW9.9	NW15
19-Jan	NNW12	NW11	NW10	NW8	NNW9	NNW10	NNW9	NNW10	NNW9	NW9	NW9	NW9	NW10	NNW11	NNW10	NNW10	NNW8	NNW8	NNW9	NW8	NNW8	W9	W7	WSW9	NW8.6	NNW12
20-Jan	SW11	SW15	SW18	SSW20	SSW22	SSW24	SSW24	SSW24	SSW24	SSW26	SSW27	SSW25	SSW25	SSW25	SSW25	SSW27	SSW26	SSW25	SW27	SW28	WSW26	WSW25	W26	W24	SW22.1	SW28
21-Jan	NNW20	NNW21	NNW20	NNW20	NNW21	W21	W23	NNW20	W20	NNW22	NNW19	NNW17	NNW19	NNW21	NW19	NW18	NW18	NNW14	N15	NNW20	NNW21	NNW16	NNW17	NNW19	NNW17.5	NNW23
22-Jan	NNW19	NNW16	NW13	NW15	NNW14	NNW15	NNW17	NW19	NW19	NW15	NNW15	NW15	NW14	NNW13	NW13	NW11	NNW12	W8	SW9	SW12	SW14	SW16	SW17	SW19	NNW11.5	NNW19
23-Jan	SW20	SSW21	SSW21	SSW20	SSW20	SW19	SW19	SW17	SW17	WSW15	WSW15	NNW12	NNW13	NNW16	W19	NNW20	NNW19	NW23	NW20	NNW19	NNW22	NW21	NNW22	NNW19	W14.6	NW23
24-Jan	NNW23	NNW20	NNW21	NNW25	NW24	NW26	NW30	NNW32	NNW31	NNW28	NNW28	NNW26	NNW24	NNW24	NNW22	NNW19	NW18	NW15	NW12	NNW13	NNW16	NNW17	NNW16	W14	NW20.5	NNW32
25-Jan	NNW13	W14	W15	WSW12	SW14	SW16	SW17	SW16	SW15	WSW15	WSW15	W20	W16	NNW15	NNW16	NNW15	NNW15	W17	W17	NNW13	NNW16	W18	W16	W16	W14.2	W20
26-Jan	W15	W16	WSW14	SW14	WSW14	W19	WSW19	W19	W21	W19	W18	W17	W18	W16	WSW15	SW13	WSW15	W19	NNW22	NNW20	NNW21	NNW20	NNW19	NNW19	W16.5	NNW22
27-Jan	NNW20	W21	NNW19	NNW19	NNW19	NNW19	NNW20	NNW19	W17	W21	NNW19	W19	WSW16	SW18	SW19	WSW20	WSW19	WSW20	W26	W26	NNW23	NNW24	NW26	NW28	W19.2	NW28
28-Jan	NW28	NW23	NW25	NW25	NNW22	NNW22	NNW21	NNW22	NNW20	NNW19	NNW18	NW22	NW25	NW25	NW23	NNW20	NNW17	NNW18	NNW15	NNW16	NNW16	NNW15	NNW14	W15	NNW19.9	NW28
29-Jan	W15	W12	W13	W11	W10	W12	WSW13	W12	W14	W12	WSW9	SW6	S3	ESE6	E8	E9	E9	ENE10	NE11	NE11	NE10	NE12	NE14	NNE16	NW2.8	NNE16
30-Jan	NNE19	NNE15	NNE14	NNE10	N9	NNE10	NNE8	NNE10	NNE9	NNE8	NE8	NE8	NE7	NE10	NE9	ENE9	ENE8	E8	ENE8	ENE8	E6	E7	E7	ENE6	NE8.3	NNE19
31-Jan	E5	ENE5	E6	E7	ESE9	ESE10	ESE9	ESE9	E9	E10	E10	ESE12	ESE13	E13	E15	E14	E14	E16	E17	E14	ENE13	ENE12	ENE11	NE10	E10.6	E17

W9.2	W8.9	W8.5	W8.4	W8.2	W8.3	W8.7	W8.4	W8.8	W8.9	W8.3	W7.8	W7.4	W6.8	W6.5	W6.1	W5.7	W6.3	W7.1	W7.6	W8.1	W8.4	W8.5	W8.5	Diurnal Average
NW28	NW23	NNW25	NNW25	NW24	NW26	NW30	NNW32	NNW31	NNW28	NNW28	NNW26	SSW25	NW25	SSW25	SSW27	SSW26	SSW25	SW27	SW28	WSW26	WSW25	NW26	NW28	Diurnal Maximum

UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

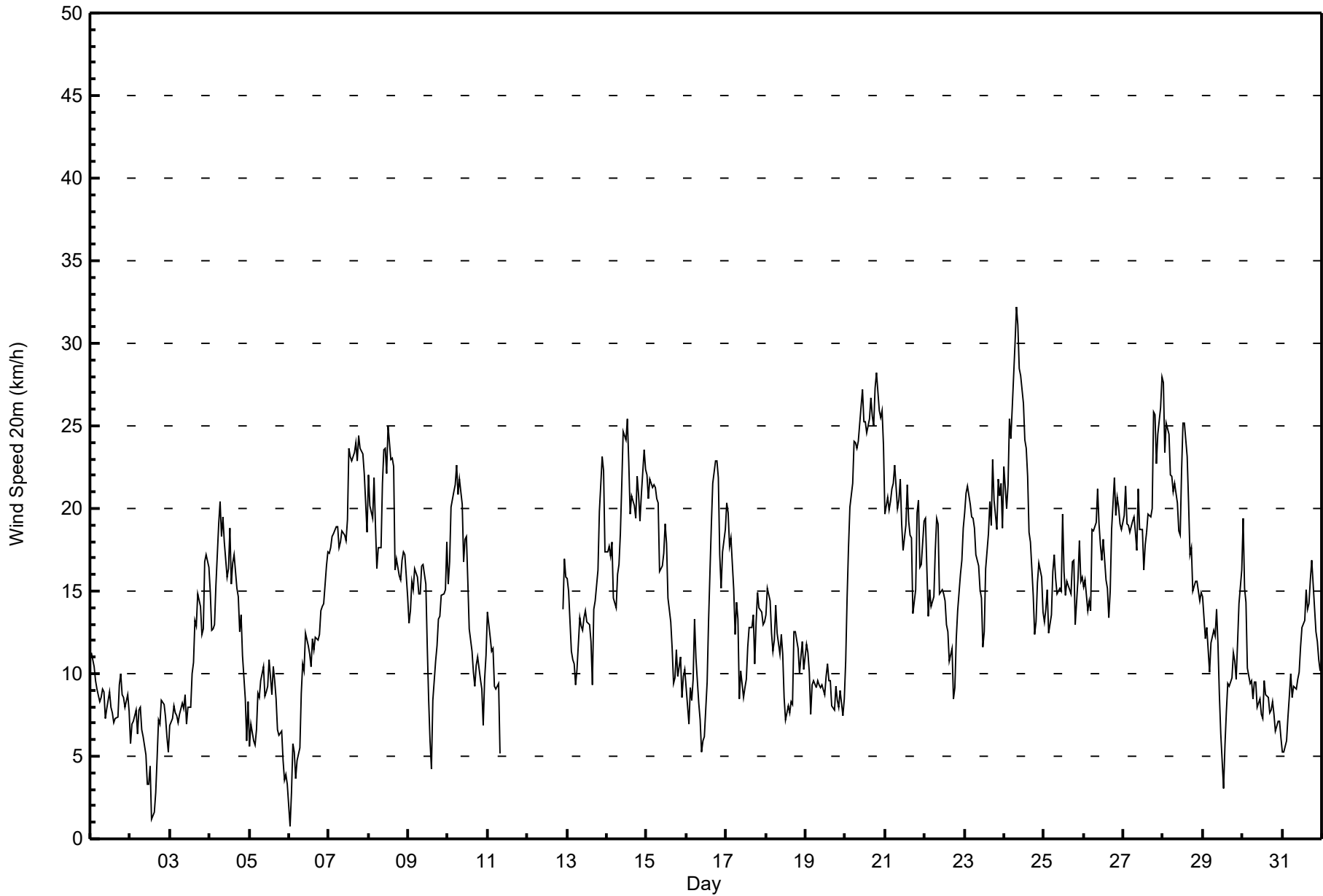
Wind Speed 20m (WS20) - km/h
Stony Mountain - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 10 km/h on Jan 24 09:00 Minimum Value: 1 km/h on Jan 5 23:00 Percentiles: P ₁ = 1 P ₁₀ = 2 Q ₁ = 2 Median = 4 Q ₃ = 5 P ₉₀ = 7 P ₉₉ = 9																		Hours in Service: 744 Hours of Data: 707 Hours of Missing Data: 37 Hours of Calibration: 0 Percent Operational Time: 95.0								
Day	Hourly Period Ending At (MST)																								Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	2	2	2	2	2	2	2	2	2	2	2	3	3	2	2	2	3	3	3	2	2	3	2	3	2	3
2-Jan	2	2	2	2	1	1	1	1	1	1	1	2	2	1	1	2	1	1	1	1	1	1	1	1	1	1
3-Jan	1	1	1	1	1	1	1	1	1	2	2	2	3	3	3	3	2	2	3	2	2	4	4	3	4	
4-Jan	3	3	2	2	4	5	6	5	5	5	4	4	5	5	4	5	5	4	3	4	3	2	2	2	2	
5-Jan	2	2	2	2	2	2	2	3	3	2	3	2	3	3	3	3	3	3	2	2	2	1	1	1	1	
6-Jan	1	1	2	2	1	1	1	2	3	3	4	3	4	3	4	3	3	4	3	4	4	4	4	4	4	
7-Jan	4	4	4	4	4	4	4	4	4	4	4	4	5	5	6	5	6	6	6	6	6	5	5	5	5	
8-Jan	6	6	6	6	6	5	5	5	7	7	7	7	9	8	7	7	5	4	4	4	4	5	5	4	9	
9-Jan	4	4	4	4	4	4	4	4	4	4	4	3	2	2	1	2	2	2	3	3	3	3	3	4	4	
10-Jan	4	5	6	5	5	6	5	6	5	4	5	5	4	4	3	3	2	3	3	2	2	2	3	4	6	
11-Jan	5	4	3	4	3	3	4	4	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	5	
12-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	5	
13-Jan	4	4	3	3	2	2	3	3	3	2	3	4	3	4	3	3	4	4	5	6	6	7	7	5	7	
14-Jan	5	5	4	4	4	3	4	3	4	5	6	6	7	6	5	6	6	6	6	6	6	6	7	7	7	
15-Jan	7	6	6	7	6	6	6	6	6	5	5	6	6	5	4	4	3	2	2	2	2	2	2	1	7	
16-Jan	2	1	2	2	2	3	2	2	2	2	2	3	5	5	6	7	7	7	7	7	5	5	5	6	7	
17-Jan	6	6	6	6	5	3	4	4	2	3	2	3	3	4	4	4	4	3	4	3	3	3	3	3	6	
18-Jan	3	3	3	3	2	3	3	3	3	3	3	3	2	3	2	3	3	3	3	3	3	3	2	2	3	
19-Jan	2	2	2	1	2	2	1	2	2	2	2	2	3	3	3	3	2	2	2	2	2	2	2	2	3	
20-Jan	2	3	4	5	5	5	6	6	6	7	7	7	7	7	7	8	7	7	7	7	7	7	8	7	8	
21-Jan	6	7	6	6	7	7	7	6	6	7	6	6	6	7	6	6	6	6	6	6	7	7	5	5	6	
22-Jan	6	5	4	4	4	3	5	6	6	5	5	5	5	4	4	4	4	3	2	3	3	3	4	5	6	
23-Jan	5	5	6	5	5	5	5	5	5	4	4	3	4	6	6	6	5	7	6	6	7	6	7	6	7	
24-Jan	7	6	7	8	8	9	9	10	10	10	9	8	7	8	7	5	5	4	3	4	4	5	5	4	10	
25-Jan	4	4	4	3	3	3	3	3	3	4	5	6	5	5	5	5	4	5	5	3	5	5	4	4	6	
26-Jan	5	5	4	3	4	5	6	6	6	6	6	5	5	5	5	4	4	6	6	5	5	5	5	5	6	
27-Jan	5	6	5	5	5	5	5	5	5	6	5	6	5	5	5	6	6	6	8	8	8	7	8	8	8	
28-Jan	8	7	7	7	6	7	6	6	6	6	6	9	8	8	8	7	5	5	4	5	4	4	4	4	9	
29-Jan	4	3	4	3	3	3	4	4	4	4	3	2	2	2	2	2	2	2	3	3	3	3	4	5	5	
30-Jan	6	4	4	4	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	6	
31-Jan	2	1	2	2	2	2	2	2	2	2	2	3	3	4	4	3	3	4	5	4	3	3	2	3	5	
Diurnal Maximum																										
UO - Unstable Operation																										



Wood Buffalo Environmental Association
Hourly Averages

Wind Speed 20m (WS20) - km/h
Stony Mountain - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Wind Speed 20m (WS20) - km/h
Stony Mountain - January 2025**

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	24	3.39	3.39
6 - 11	218	30.83	34.23
12 - 19	311	43.99	78.22
20 - 28	151	21.36	99.58
29 - 38	3	0.42	100.00
> 38	0	0.00	100.00

Total Number of Valid Hours: 707

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Wind Speed 20m (WS20) - km/h
Stony Mountain - January 2025**

Wind Speed Ranges (km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	1	1	4	2	2	1	3	3	2	0	1	1	0	0	2	1	24
6 - 11	9	10	13	8	12	9	3	6	17	15	8	11	14	14	34	35	218
12 - 19	5	6	4	2	7	3	0	19	17	22	34	18	45	79	29	21	311
20 - 28	0	3	1	0	0	0	0	2	3	34	9	8	18	46	17	10	151
29 - 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	15	20	22	12	21	13	6	30	39	71	52	38	77	139	83	69	707

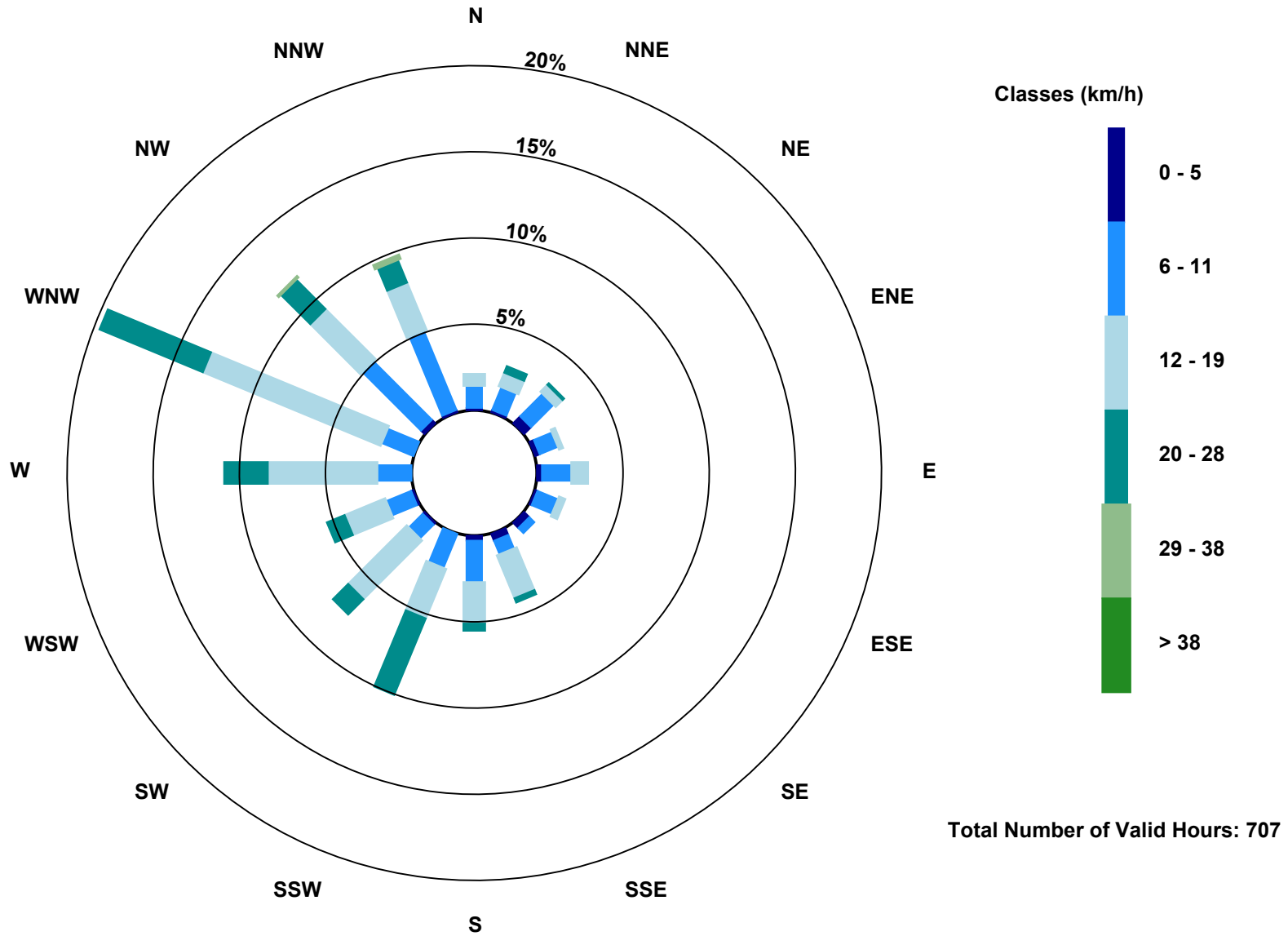
Total Number of Valid Hours: 707

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Wind Speed 20m (WS20) - km/h
Stony Mountain





Wood Buffalo Environmental Association
Summary of Hour Averages

Wind Direction 20m (WD20) - deg
Stony Mountain - January 2025

Direction of Maximum Speed: 329 deg on Jan 24 08:00																						Hours in Service: 744			
Direction of Maximum Daily Speed Average: 218.2 deg on Jan 20																						Hours of Data: 707			
Direction of Minimum Speed: 221 deg on Jan 6 01:00											Direction of Minimum Daily Speed Average: 1.4 deg on Jan 2											Hours of Missing Data: 37			
Monthly Average Direction: 273.4 deg																						Percent Operational Time: 95.0			
Day	Hourly Period Ending At (MST)																								Daily Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	311	306	307	297	302	303	297	310	314	324	318	329	338	337	342	336	343	337	333	334	340	340	350	358	324.1
2-Jan	353	358	2	9	347	330	326	332	329	332	325	52	37	15	323	88	146	191	190	203	212	210	190	170	314.4
3-Jan	160	172	197	194	193	188	187	192	190	190	169	172	162	165	162	159	148	155	166	170	165	170	165	160	170.3
4-Jan	167	171	167	169	172	171	167	169	168	166	163	158	164	165	163	159	164	165	168	182	189	182	196	207	169.2
5-Jan	210	219	234	257	276	306	315	320	323	321	333	329	333	323	324	343	343	345	1	38	36	69	105	142	323.7
6-Jan	221	136	137	162	154	144	161	164	169	179	177	178	186	187	193	197	195	208	215	210	205	209	208	209	190.8
7-Jan	206	207	211	210	210	209	208	209	210	210	213	212	212	213	212	208	208	208	210	206	208	210	216	230	210.6
8-Jan	241	244	252	264	273	279	277	283	278	283	287	281	299	303	299	302	304	301	294	285	291	292	285	282	282.6
9-Jan	278	289	295	291	283	293	299	277	275	285	293	303	307	315	249	210	195	201	197	184	183	185	179	178	254.8
10-Jan	179	179	179	181	185	193	204	209	217	227	251	273	280	295	311	305	306	308	310	310	323	19	352	342	237.5
11-Jan	355	354	12	12	28	26	34	40	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--
12-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	281	282	286	--
13-Jan	284	288	289	286	275	279	248	216	220	219	214	221	228	245	277	271	279	269	262	273	267	277	281	286	262.7
14-Jan	284	289	286	282	260	230	230	216	214	213	215	209	213	224	230	249	253	261	270	278	285	289	293	286	251.9
15-Jan	293	282	277	284	290	286	288	289	296	297	297	305	309	314	299	278	268	242	242	241	228	250	216	206	281.4
16-Jan	197	180	127	123	101	124	132	103	62	11	107	51	35	37	34	34	36	32	26	13	9	349	338	335	38.3
17-Jan	339	341	342	337	341	342	338	341	346	347	344	344	337	338	333	343	346	339	329	325	318	318	317	319	335.7
18-Jan	312	318	320	317	306	288	294	296	284	290	290	281	269	258	261	243	225	233	242	247	256	278	295	298	282.9
19-Jan	296	315	310	304	301	300	303	312	302	305	307	316	323	333	332	338	336	335	328	315	293	275	264	247	308.9
20-Jan	227	218	219	213	209	206	207	208	203	201	202	203	204	200	201	209	211	213	225	234	243	255	268	276	218.2
21-Jan	282	288	286	286	284	280	281	284	279	285	287	289	292	299	312	313	321	328	355	348	342	339	344	334	303.4
22-Jan	328	329	311	308	304	301	301	320	323	325	327	326	315	300	305	304	297	269	233	233	233	223	219	220	294.8
23-Jan	216	213	218	209	212	216	225	228	235	241	253	295	282	290	280	291	297	306	307	306	302	306	304	291	264.3
24-Jan	288	285	288	303	305	314	320	329	333	336	338	335	335	336	336	330	319	314	304	290	285	285	283	281	315.2
25-Jan	287	278	266	252	230	222	224	228	235	240	255	270	273	284	293	287	285	276	281	292	285	280	277	274	266.0
26-Jan	260	260	243	234	244	262	252	261	266	268	270	272	277	266	242	235	243	271	288	301	300	295	294	290	268.5
27-Jan	283	281	283	284	286	287	290	289	280	280	282	267	237	225	232	247	254	253	262	276	286	296	304	312	276.0
28-Jan	316	312	312	313	307	299	299	303	300	291	303	310	315	317	307	299	296	298	291	283	288	290	282	280	302.4
29-Jan	278	278	280	270	263	262	258	261	265	260	255	235	169	106	98	92	83	67	44	38	41	41	40	26	313.2
30-Jan	16	13	14	18	5	17	22	14	33	14	36	50	44	51	56	68	72	84	75	72	82	84	81	57	39.4
31-Jan	81	69	83	88	104	113	103	106	97	100	95	106	108	94	92	83	82	82	87	86	74	73	68	51	88.7
281.1 278.8 275.0 272.9 268.1 264.0 265.5 267.3 265.3 266.9 268.7 273.4 274.9 279.6 278.4 275.0 273.1 270.0 273.0 275.4 275.9 277.9 280.8 280.9																									
Diurnal Average																									
UO - Unstable Operation																									
All monthly, daily, and diurnal averages have been calculated using vector methods																									



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Direction 20m (WD20) - deg
Stony Mountain - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 79 deg on Jan 2 14:00	Hours of Data: 707
Minimum Value: 7 deg on Jan 2 19:00	Hours of Missing Data: 37
Percentiles: P ₁ = 11 P ₁₀ = 15 Q ₁ = 17 Median = 19 Q ₃ = 21 P ₉₀ = 22 P ₉₉ = 38	Hours of Calibration: 0
	Percent Operational Time: 95.0

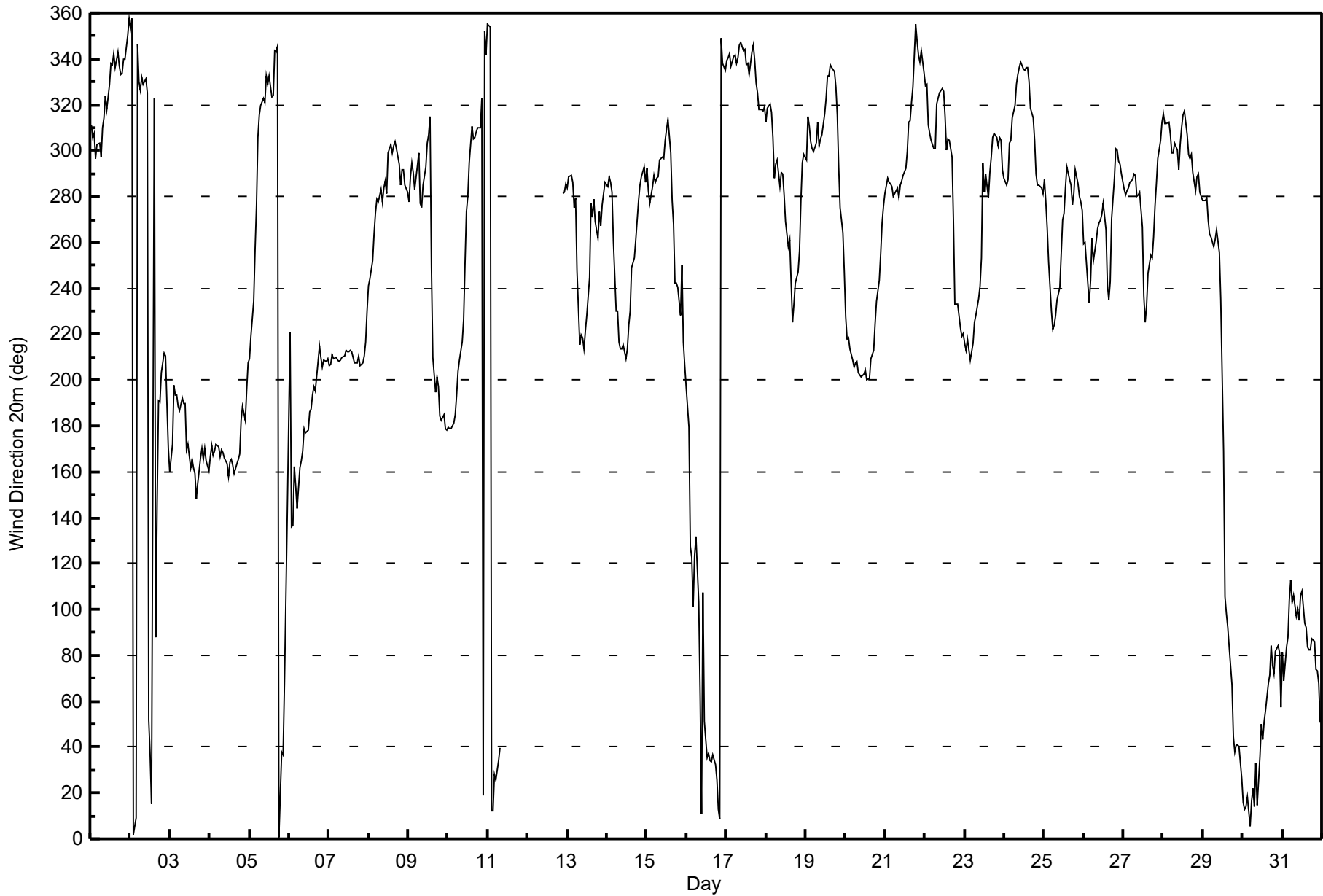
Day	Hourly Period Ending At (MST)																								Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	15	15	15	16	15	13	16	15	15	17	19	20	26	25	27	23	23	22	20	20	21	22	22	20	27	
2-Jan	22	20	16	17	17	14	12	15	11	13	22	42	32	79	60	45	21	10	7	10	9	9	16	13	79	
3-Jan	9	15	13	14	13	11	12	12	14	16	17	19	20	19	15	12	12	14	12	12	16	16	14	20		
4-Jan	14	15	14	14	17	19	18	19	18	17	17	16	18	19	17	18	18	18	20	20	20	22	22	22		
5-Jan	21	21	23	24	26	19	19	18	16	17	21	21	19	23	20	22	21	25	22	26	21	22	19	28		
6-Jan	69	26	18	23	26	18	19	14	19	19	20	20	24	21	20	20	20	22	22	19	21	21	19	18	69	
7-Jan	18	17	17	16	16	16	18	16	17	16	16	17	16	17	16	16	16	16	17	17	17	16	16	17	18	
8-Jan	20	21	24	22	22	20	22	19	19	20	22	21	21	23	21	20	19	18	19	19	19	19	20	20	24	
9-Jan	20	19	18	20	18	18	18	20	20	18	18	19	21	22	31	16	15	15	16	15	13	13	17	17	31	
10-Jan	17	18	18	16	17	18	17	18	17	20	23	20	21	21	18	18	18	19	17	18	18	38	25	26	38	
11-Jan	25	23	25	20	22	21	19	20	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	25	
12-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	20	20	22	22
13-Jan	19	19	18	17	18	15	17	16	15	13	17	18	17	21	22	21	19	19	21	20	22	20	20	19	22	
14-Jan	19	18	17	17	24	18	15	14	16	17	17	19	18	20	20	21	21	21	21	20	21	20	20	22	24	
15-Jan	21	21	19	21	20	19	20	21	23	21	19	20	21	21	20	20	17	15	15	19	17	21	14	11	23	
16-Jan	15	24	14	17	19	14	17	22	16	39	30	30	24	21	22	20	20	21	23	20	22	20	19	18	39	
17-Jan	19	20	21	19	19	18	19	17	18	19	19	21	22	21	19	22	19	16	14	14	16	15	15	13	22	
18-Jan	14	14	13	14	15	15	15	16	18	16	19	24	22	26	25	21	15	17	17	19	18	18	14	14	26	
19-Jan	15	12	11	9	11	12	13	13	14	14	15	18	18	21	20	19	15	12	11	15	11	14	16	15	21	
20-Jan	15	12	16	16	17	16	17	18	18	17	18	19	19	19	19	20	19	19	19	19	20	23	20	19	23	
21-Jan	20	21	23	21	20	21	21	21	21	21	23	22	21	20	19	20	21	20	22	23	22	19	21	18	23	
22-Jan	19	17	19	18	19	18	19	18	19	19	19	20	20	24	21	21	21	24	17	17	16	15	16	17	24	
23-Jan	17	18	19	18	19	19	19	21	19	19	23	19	22	22	21	20	20	20	20	21	20	21	19	21	23	
24-Jan	21	22	22	21	21	19	19	19	20	21	21	20	20	22	20	18	16	16	18	19	20	20	22	20	22	
25-Jan	19	19	20	19	16	15	14	16	17	17	23	22	22	22	21	21	20	19	20	18	17	19	18	18	23	
26-Jan	21	22	19	16	20	21	21	22	21	22	22	20	19	22	21	20	20	23	19	19	18	19	19	18	23	
27-Jan	19	18	19	18	20	18	19	18	19	20	20	22	21	22	23	23	24	22	22	21	22	20	20	19	24	
28-Jan	18	18	19	18	20	20	20	20	21	19	23	21	21	21	21	21	20	19	21	19	20	20	20	20	23	
29-Jan	20	19	20	20	20	21	22	21	22	24	23	26	54	24	21	18	22	18	20	21	21	21	20	19	54	
30-Jan	20	20	20	22	18	19	23	20	19	24	29	27	26	18	19	15	16	14	16	15	18	20	21	23	29	
31-Jan	20	26	19	18	15	16	15	14	15	15	15	15	17	17	17	16	15	15	17	16	17	15	17	17	26	
Diurnal Maximum																										
69 26 25 24 26 21 23 22 23 39 30 42 54 79 60 45 24 25 23 26 22 38 25 28																										

UO - Unstable Operation



Wood Buffalo Environmental Association
Hourly Averages

Wind Direction 20m (WD20) - deg
Stony Mountain - January 2025





WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS19 FIREBAG JANUARY 2025

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

February 28, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - FIREBAG (AMS19)
 JANUARY 2025

MONTHLY SUMMARY

Parameter	Hours of Data	Hours of Calibration	Hours without Data	Operational Time	Maximum 1-Hour Value	1-Hour Exceedances	Maximum 24-Hour Value	24-Hour Exceedances
SO2 (ppb) Average	708	36	36	100	24.1	0	6.9	0
H2S (ppb) Average	707	37	37	100	1.1	0	0.3	0
THC (ppm) Average	687	35	57	97.04	2.7	-	2.3	-
NO2 (ppb) Average	708	36	36	100	50.8	0	13.6	-
NO (ppb) Average	708	36	36	100	47.4	-	5.7	-
NOX (ppb) Average	708	36	36	100	98.2	-	19	-
Temperature 2 m (C) Average	744	0	0	100	5.5	-	0.6	-
Relative Humidity (%) Average	744	0	0	100	95.3	-	89.4	-
Wind Speed 10 m (km/h) Average	741	0	3	99.6	52	-	25	-
Wind Direction 10 m (deg) Average	741	0	3	99.6	-	-	-	-

Note : Operational time includes periods of data collection and instrument calibration

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - FIREBAG (AMS19)
 JANUARY 2025

MONTHLY SUMMARY FOR AIR QUALITY/ METEOROLOGICAL MONITORING MEASUREMENTS

Parameter	Number	Mean	StnDev	Total	Percentile						
					Min	P10	Q1	Median	Q3	P90	Max
SO2 (ppb) Average	708	1.15	2.3	-	0	0	0.1	0.3	0.9	3.6	24.1
H2S (ppb) Average	707	0.14	0.1	-	0	0	0	0.1	0.2	0.3	1.1
THC (ppm) Average	687	2.27	0.1	-	2.1	2.2	2.2	2.3	2.3	2.4	2.7
NO2 (ppb) Average	708	4.84	6.1	-	0.1	0.2	0.8	3.3	6.2	10.7	50.8
NO (ppb) Average	708	1.26	3.9	-	0	0	0	0.2	1.1	2.4	47.4
NOX (ppb) Average	708	6.09	9.5	-	0.1	0.2	0.8	3.9	7.4	12.9	98.2
Temperature 2 m (C) Average	744	-13.38	9.8	-	-32.5	-26.4	-22.2	-12.3	-5.1	-0.8	5.5
Relative Humidity (%) Average	744	79.47	8.1	-	43.3	71.9	74.8	79	85.5	89.7	95.3
Wind Speed 10 m (km/h) Average	741	13	8	-	0	4	7	12	18	23	52
Wind Direction 10 m (deg) Average	741	-	-	-	-	-	-	-	-	-	-

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - FIREBAG (AMS19)
 JANUARY 2025

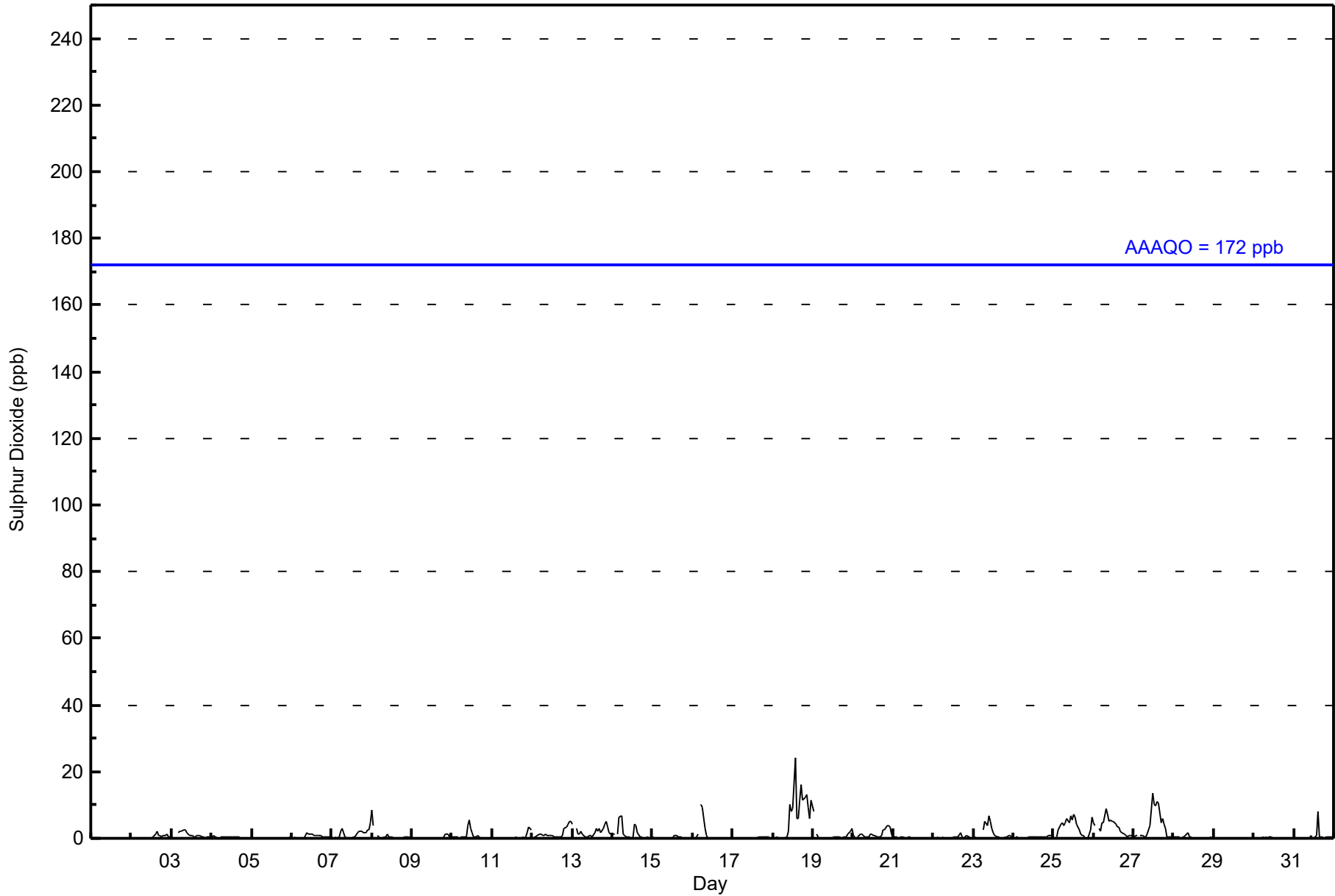
OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
THC	07 Jan 2025 19:00	08 Jan 2025 12:00	18	Unstable Operation - flatline in analyzer output signal
THC	08 Jan 2025 13:00	08 Jan 2025 16:00	4	Maintenance - analyzer rebooted
Wind Speed, Wind Direction	02 Jan 2025 17:00	02 Jan 2025 17:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	11 Jan 2025 15:00	11 Jan 2025 15:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	31 Jan 2025 00:00	31 Jan 2025 00:00	1	Flat line in sensor output signal



Wood Buffalo Environmental Association
Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Firebag - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Firebag - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	698	98.59	98.59
11 - 20	9	1.27	99.86
21 - 60	1	0.14	100.00
61 - 110	0	0.00	100.00
111 - 172	0	0.00	100.00
> 172	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Firebag - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 10	139	37	14	12	14	10	5	29	66	57	82	67	53	37	35	38	695
11 - 20	0	0	0	0	0	0	0	0	0	2	1	5	0	0	0	1	9
21 - 60	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
61 - 110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111 - 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	139	37	14	12	14	10	5	29	66	59	83	72	54	37	35	39	705

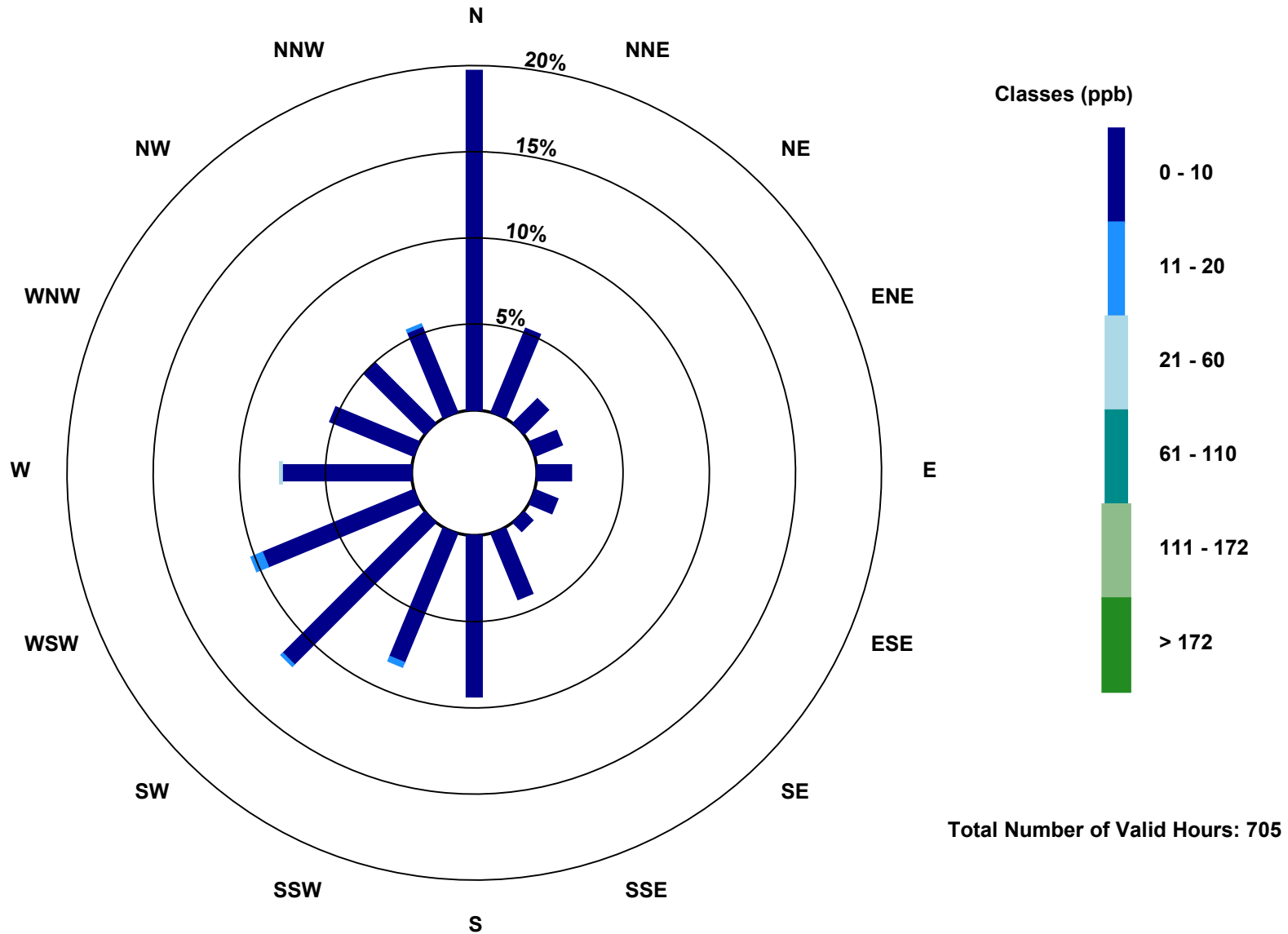
Total Number of Valid Hours: 705

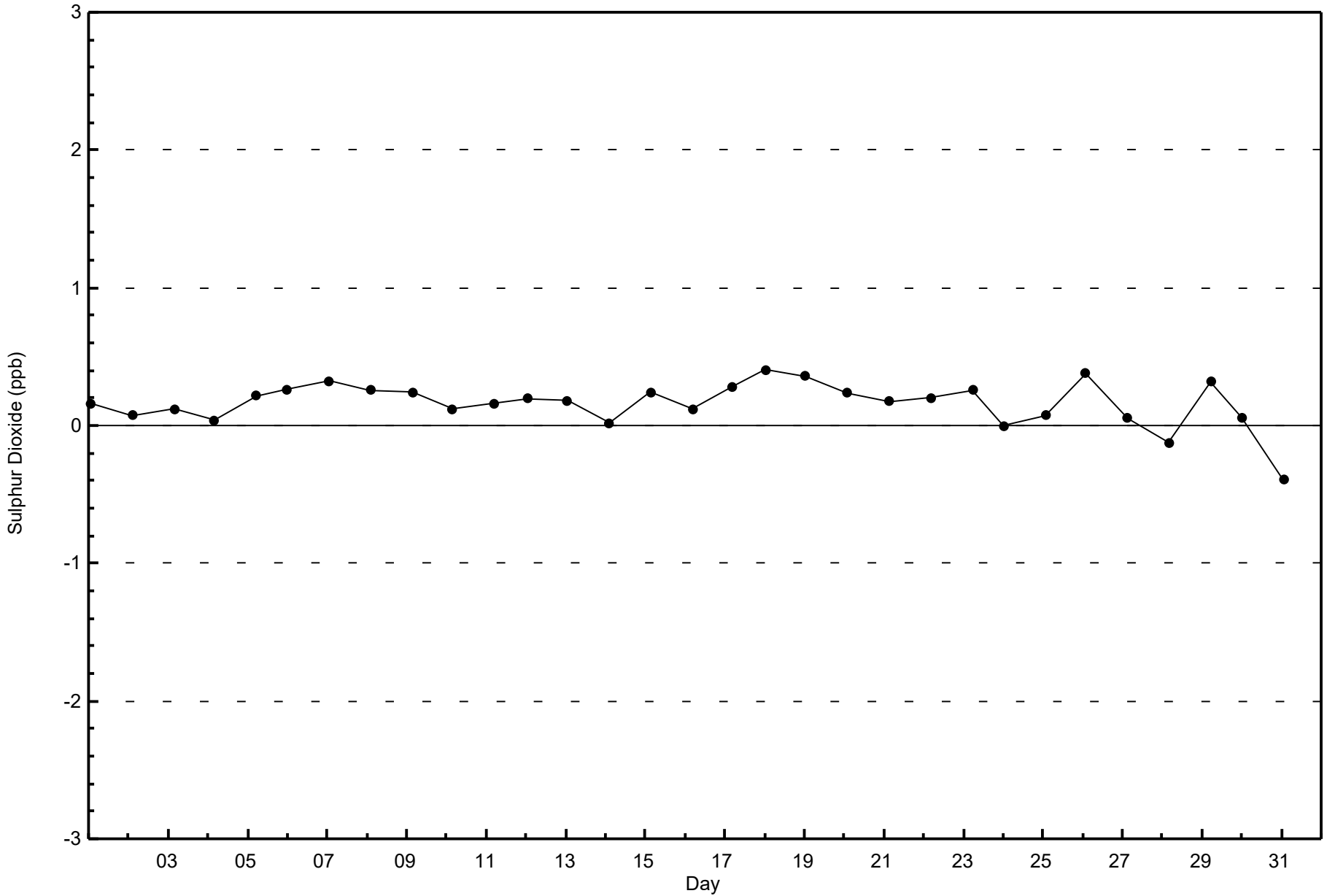
Total Number of Hours: 744

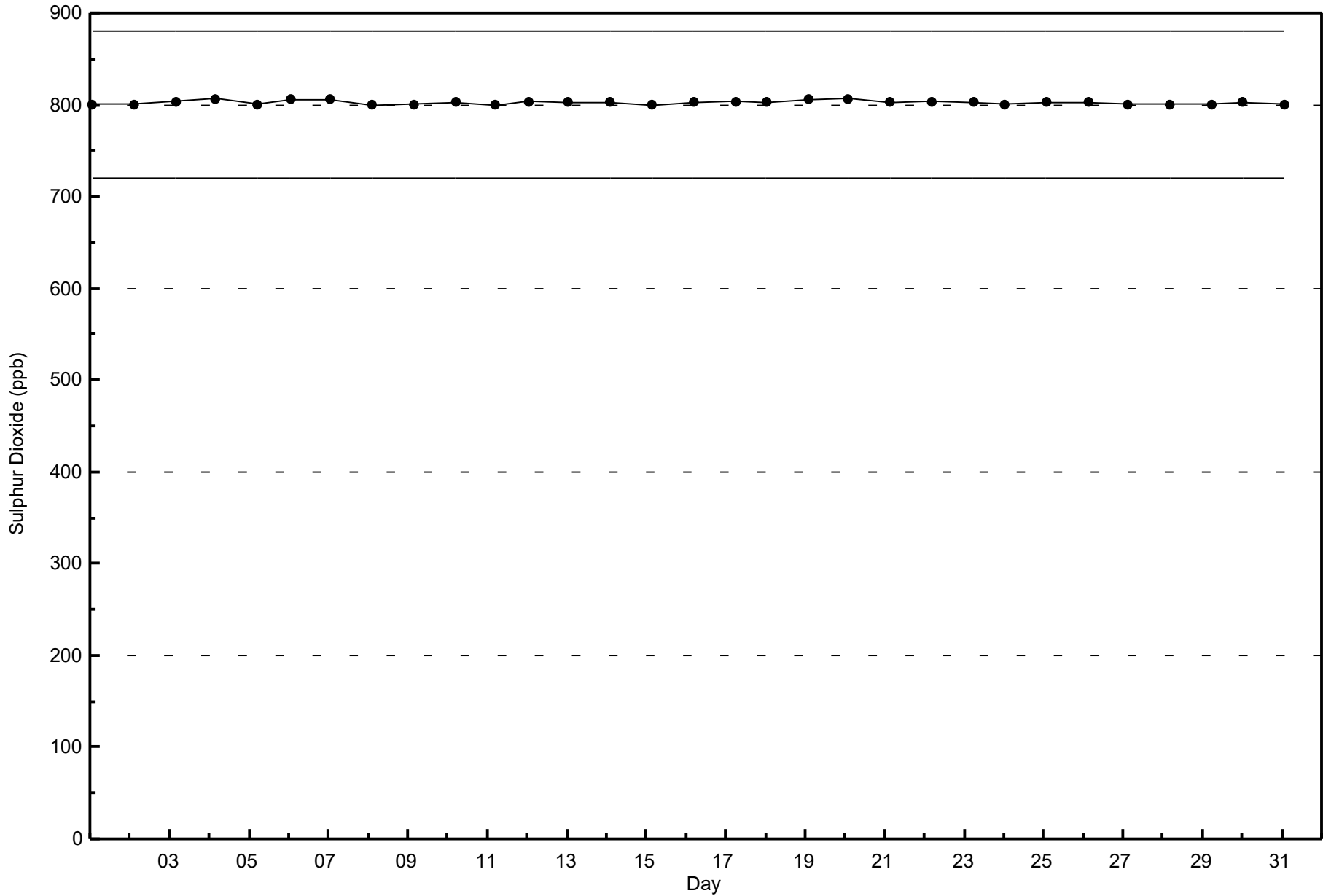


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Sulphur Dioxide (SO₂) - ppb
Firebag









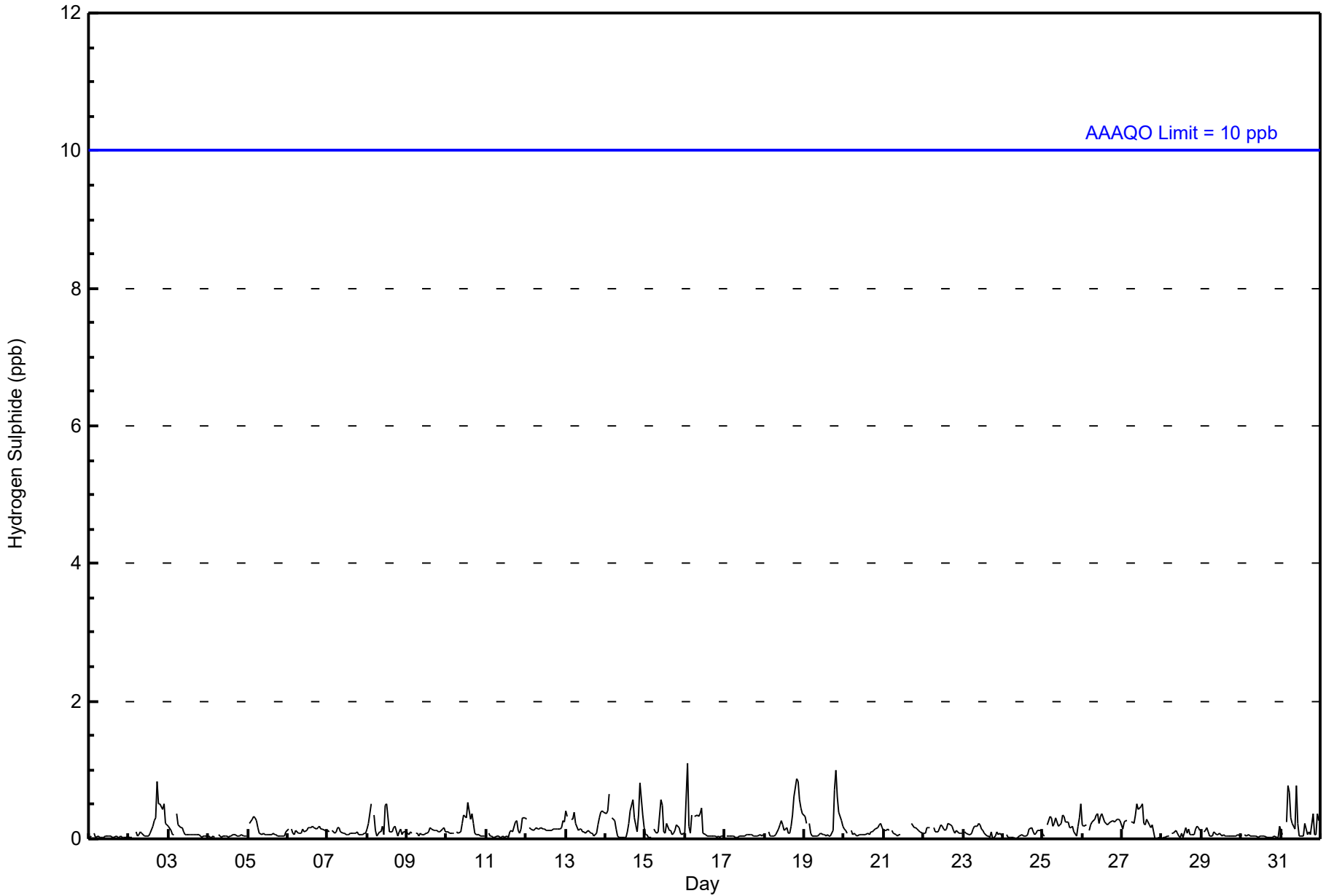
Summary of Hour Averages

Firebag - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0		Hours in Service: 744	
Maximum Value: 1.1 ppb on Jan 16 02:00		Maximum Daily Average: 0.3 ppb on Jan 18	
Minimum Value: 0.0 ppb on Jan 27 21:00		Minimum Daily Average: 0.0 ppb on Jan 1	
Maximum Diurnal Average: 0.2 ppb at hour 20		Minimum Diurnal Average: 0.1 ppb at hour 8	
Monthly Average: 0.14 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.2 P ₉₀ = 0.3 P ₉₉ = 0.8	
		Hours of Data: 707	
		Hours of Missing Data: 37	
		Hours of Calibration: 37	
		Percent Operational Time: 100.0	

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24								
1-Jan	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	
2-Jan	0.0	0.0	0.0	Z	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.3	0.8	0.5	0.5	0.4	0.5	0.2	0.2						0.2	0.8	
3-Jan	0.2	0.1	0.1	0.1	Z	0.4	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	
4-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	
5-Jan	Z	0.2	0.3	0.3	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3		
6-Jan	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1						0.1	0.2	
7-Jan	0.1	0.1	Z	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1						0.1	0.2	
8-Jan	0.1	0.2	0.5	Z	0.4	0.1	0.1	0.1	0.1	0.2	0.1	0.5	0.5	0.1	0.1	0.1	0.2	0.2	0.0	0.1	0.1	0.1	0.1	0.1						0.2	0.5	
9-Jan	0.1	0.1	0.1	0.1	Z	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1						0.1	0.2	
10-Jan	0.1	0.1	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.2	0.3	0.3	0.3	0.5	0.3	0.4	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0						0.2	0.5	
11-Jan	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.3	0.1	0.1	0.2	0.3	0.3						0.1	0.3	
12-Jan	0.3	Z	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.2						0.2	0.3	
13-Jan	0.4	0.3	Z	0.3	0.3	0.4	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.2	0.3	0.4	0.4	0.4						0.2	0.4	
14-Jan	0.4	0.4	0.6	Z	0.3	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.4	0.6	0.3	0.2	0.1	0.3	0.8	0.3	0.2						0.3	0.8	
15-Jan	0.1	0.1	0.0	0.0	Z	0.1	0.1	0.1	0.1	0.6	0.5	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1						0.1	0.6	
16-Jan	0.1	1.1	0.2	0.1	0.3	Z	0.3	0.3	0.3	0.4	0.4	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0						0.2	1.1	
17-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1						0.0	0.1
18-Jan	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.2	0.1	0.2	0.1	0.1	0.2	0.4	0.6	0.9	0.8	0.6	0.5	0.4						0.3	0.9	
19-Jan	0.3	0.2	Z	0.2	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.7	1.0	0.6	0.4	0.3	0.2						0.2	1.0	
20-Jan	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2						0.1	0.2	
21-Jan	0.1	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.0	0.1	0.1	C	C	C	C	C	C	C	0.2	0.2	0.2	0.1	0.1	0.1	0.1						--	0.2
22-Jan	0.1	0.1	0.2	0.2	0.2	Z	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1						0.1	0.2
23-Jan	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1						0.1	0.2
24-Jan	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1						0.1	0.2
25-Jan	0.1	0.0	Z	0.2	0.3	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.3	0.5						0.2	0.5
26-Jan	0.2	0.2	0.2	Z	0.1	0.2	0.2	0.3	0.4	0.4	0.2	0.3	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.3	0.3						0.3	0.4
27-Jan	0.1	0.2	0.3	0.3	Z	0.2	0.2	0.2	0.3	0.5	0.4	0.5	0.5	0.2	0.2	0.3	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0						0.2	0.5	
28-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.1						0.1	0.2	
29-Jan	Z	0.1	0.1	0.2	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0						0.1	0.2
30-Jan	0.1	Z	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2						0.0	0.2	
31-Jan	0.1	0.1	Z	0.3	0.8	0.7	0.3	0.2	0.1	0.8	0.2	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.4	0.1	0.1	0.4	0.3						0.2	0.8	
	0.1	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1								Diurnal Average
	0.4	1.1	0.6	0.3	0.8	0.7	0.3	0.3	0.4	0.8	0.5	0.5	0.5	0.5	0.3	0.4	0.6	0.8	0.7	1.0	0.8	0.8	0.5	0.5								Diurnal Maximum

Z - zerospan C - Calibration
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Hydrogen Sulphide (H₂S) - ppb
Firebag - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	707	100.00	100.00
3 - 4	0	0.00	100.00
5 - 7	0	0.00	100.00
8 - 11	0	0.00	100.00
> 11	0	0.00	100.00

Total Number of Valid Hours: 707

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Hydrogen Sulphide (H₂S) - ppb
Firebag - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2	134	42	15	12	13	10	5	28	65	59	84	74	53	35	37	38	704
3 - 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 - 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 - 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	134	42	15	12	13	10	5	28	65	59	84	74	53	35	37	38	704

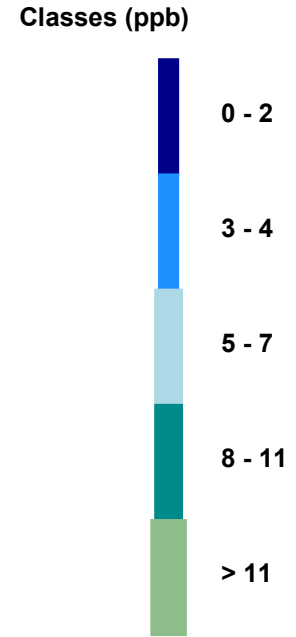
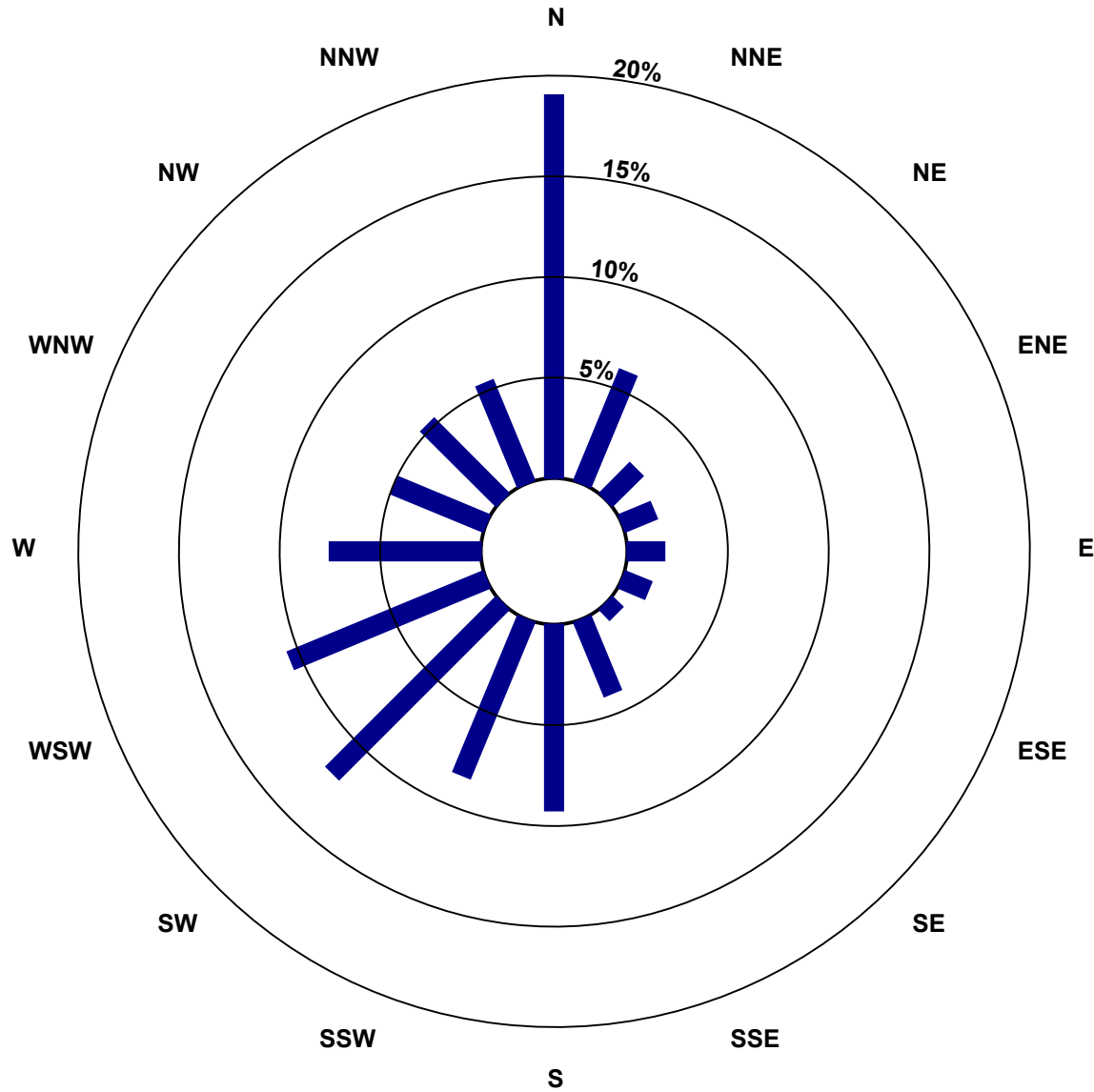
Total Number of Valid Hours: 704

Total Number of Hours: 744

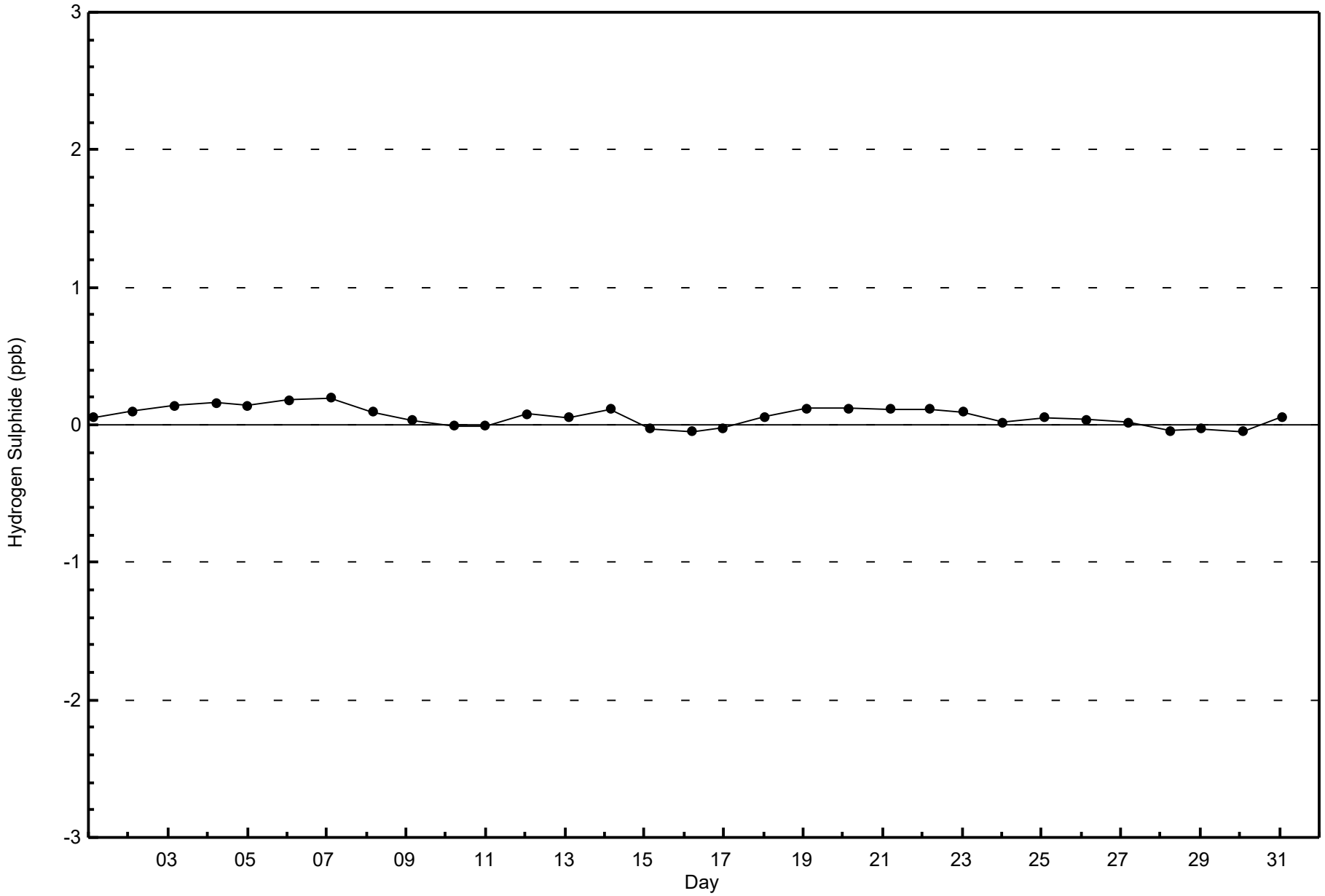


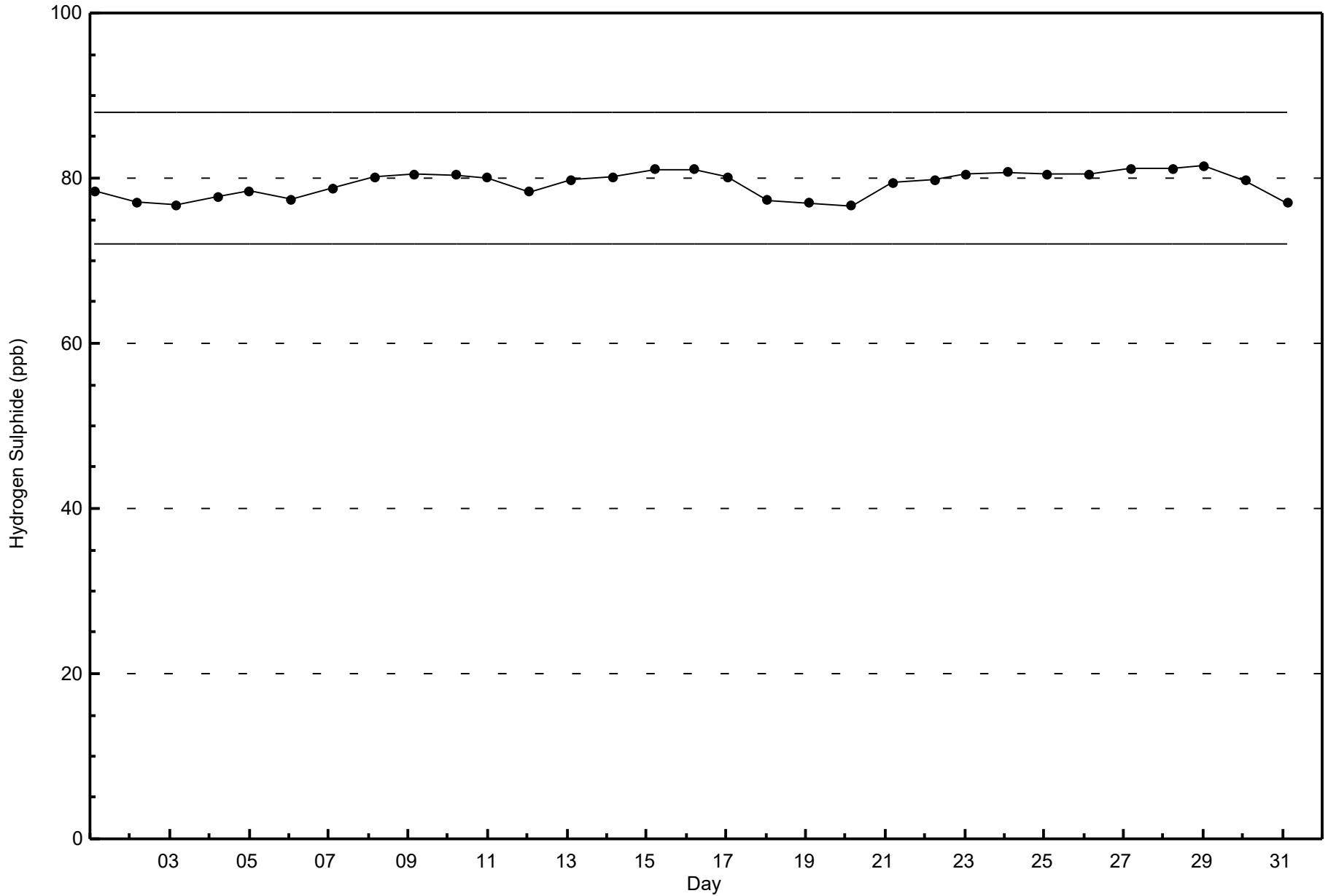
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Hydrogen Sulphide (H₂S) - ppb
Firebag



Total Number of Valid Hours: 704



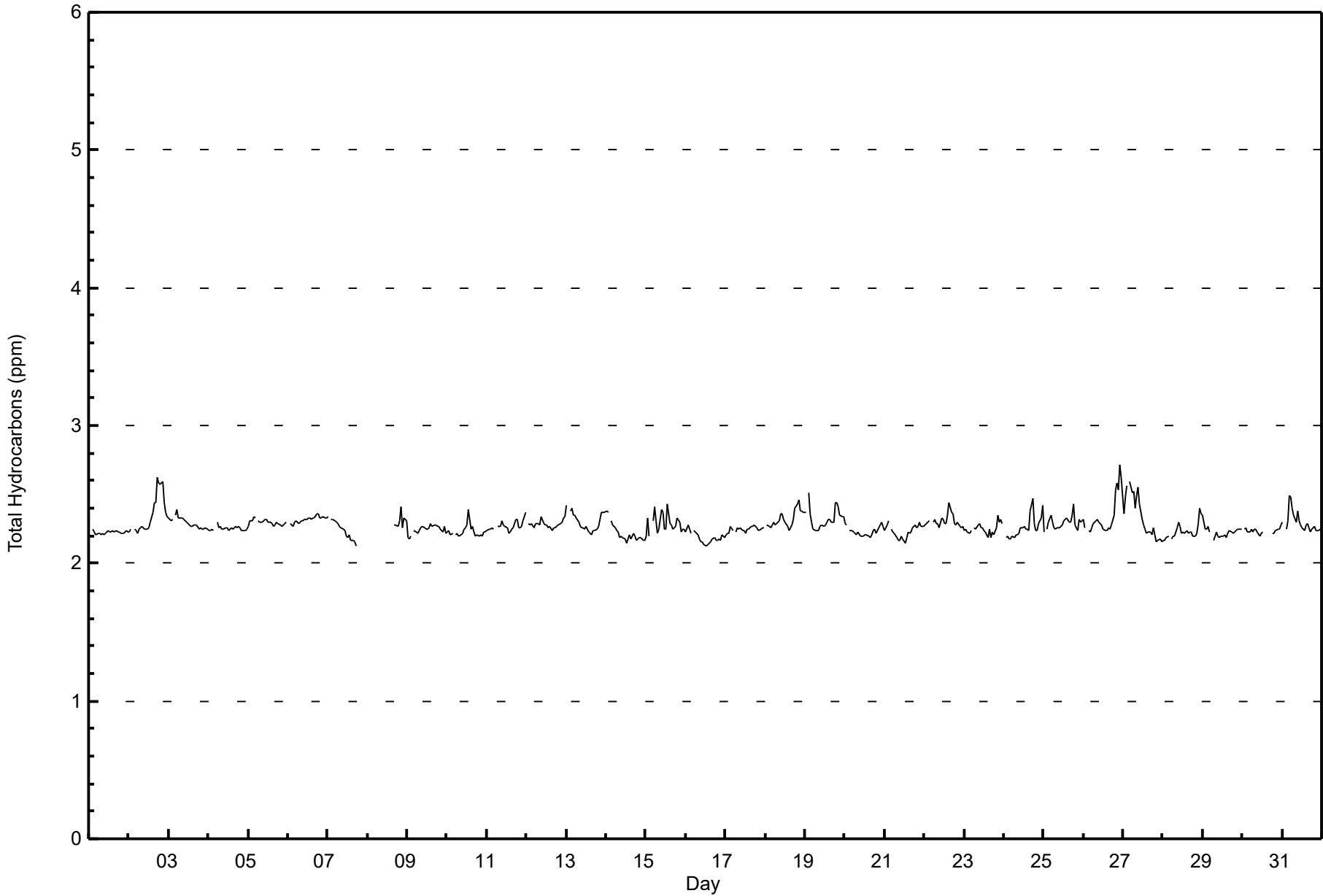




Wood Buffalo Environmental Association
Summary of Hour Averages

Total Hydrocarbons (THC) - ppm
Firebag - January 2025

Maximum Value: 2.7 ppm on Jan 26 23:00 Maximum Daily Average: 2.3 ppm on Jan 2		Hours in Service: 744 Hours of Data: 687																										
Minimum Value: 2.1 ppm on Jan 7 18:00 Maximum Diurnal Average: 2.3 ppm at hour 23 Monthly Average: 2.27 ppm		Hours of Missing Data: 57 Hours of Calibration: 35 Percent Operational Time: 97.0																										
		Minimum Daily Average: 2.2 ppm on Jan 16 Minimum Diurnal Average: 2.2 ppm at hour 13 Percentiles: P ₁ = 2.2 P ₁₀ = 2.2 Q ₁ = 2.2 Median = 2.3 Q ₃ = 2.3 P ₉₀ = 2.4 P ₉₉ = 2.6																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24				
1-Jan	2.2	Z	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	
2-Jan	2.2	2.2	Z	2.2	2.2	2.2	2.2	2.3	2.3	2.2	2.3	2.2	2.3	2.3	2.4	2.4	2.4	2.6	2.6	2.6	2.6	2.4	2.4	2.3	2.3	2.3	2.3	
3-Jan	2.3	2.3	2.3	Z	2.3	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.3	2.2	2.2	2.2	
4-Jan	2.2	2.2	2.3	2.2	Z	2.3	2.3	2.3	2.2	2.2	2.3	2.3	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	
5-Jan	2.3	2.3	2.3	2.3	2.3	Z	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	
6-Jan	Z	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	
7-Jan	2.3	Z	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	UO	UO	UO	UO	UO	UO	UO	UO	UO	
8-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	M	M	M	M	2.3	2.3	2.3	2.3	2.4	2.3	2.3	2.3	2.3	2.3	2.3	
9-Jan	2.2	2.2	2.2	Z	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.3	2.2	2.2	2.2	2.2	
10-Jan	2.2	2.2	2.2	2.2	Z	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.4	2.2	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	
11-Jan	2.2	2.2	2.2	2.3	2.2	Z	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.3	
12-Jan	Z	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	
13-Jan	2.4	Z	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.3	
14-Jan	2.4	2.4	Z	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	
15-Jan	2.2	2.3	2.2	Z	2.3	2.4	2.3	2.2	2.2	2.4	2.4	2.2	2.2	2.4	2.3	2.3	2.2	2.2	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.3	2.3	
16-Jan	2.2	2.3	2.2	2.2	Z	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	
17-Jan	2.2	2.2	2.2	2.3	2.2	Z	2.2	2.3	2.2	2.3	2.2	2.2	2.2	2.3	2.2	2.3	2.3	2.3	2.3	2.3	2.2	2.3	2.3	2.3	2.3	2.3	2.2	
18-Jan	Z	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.3	2.3	2.3	2.2	2.3	2.3	2.3	2.3	2.4	2.4	2.5	2.4	2.4	2.4	2.4	2.3	
19-Jan	2.4	Z	2.5	2.4	2.3	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.3	2.3	2.3	2.3	
20-Jan	2.3	2.3	Z	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.2	
21-Jan	2.2	2.3	2.3	Z	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	
22-Jan	2.3	2.3	2.3	2.3	Z	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	
23-Jan	2.2	2.2	2.2	2.2	2.2	Z	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	
24-Jan	Z	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.4	2.5	2.3	2.2	2.2	2.3	2.3	2.4	2.3	2.3	
25-Jan	2.2	Z	2.3	2.3	2.4	2.3	2.3	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.3	2.2	2.3	2.3	2.3	2.3	2.3	2.3	
26-Jan	2.3	2.3	Z	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.3	2.2	2.3	2.3	2.5	2.6	2.5	2.7	2.6	2.6	2.6	2.3	
27-Jan	2.4	2.5	2.6	Z	2.6	2.5	2.5	2.4	2.5	2.5	2.4	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	
28-Jan	2.2	2.2	2.2	2.2	Z	2.2	2.2	2.2	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.4	2.4	2.4	2.2	
29-Jan	2.3	2.3	2.2	2.3	2.2	Z	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	
30-Jan	Z	2.2	2.3	2.2	2.2	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.2	
31-Jan	2.3	Z	2.2	2.3	2.5	2.5	2.4	2.3	2.3	2.4	2.3	2.3	2.3	2.2	2.3	2.3	2.3	2.2	2.2	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.3	
	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	Diurnal Average
	2.4	2.5	2.6	2.4	2.6	2.5	2.5	2.4	2.5	2.5	2.4	2.3	2.3	2.4	2.4	2.4	2.4	2.6	2.6	2.6	2.6	2.6	2.5	2.7	2.6	2.6	Diurnal Maximum	
Z - zerospan		C - Calibration					M - Maintenance					UO - Unstable Operation																





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Hydrocarbons (THC) - ppm
Firebag - January 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	0	0.00	0.00
2.1 - 3.0	687	100.00	100.00
3.1 - 10.0	0	0.00	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 687

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Total Hydrocarbons (THC) - ppm
Firebag - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.1 - 3.0	139	37	14	12	14	10	5	29	66	58	80	67	49	33	35	36	684
3.1 - 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	139	37	14	12	14	10	5	29	66	58	80	67	49	33	35	36	684

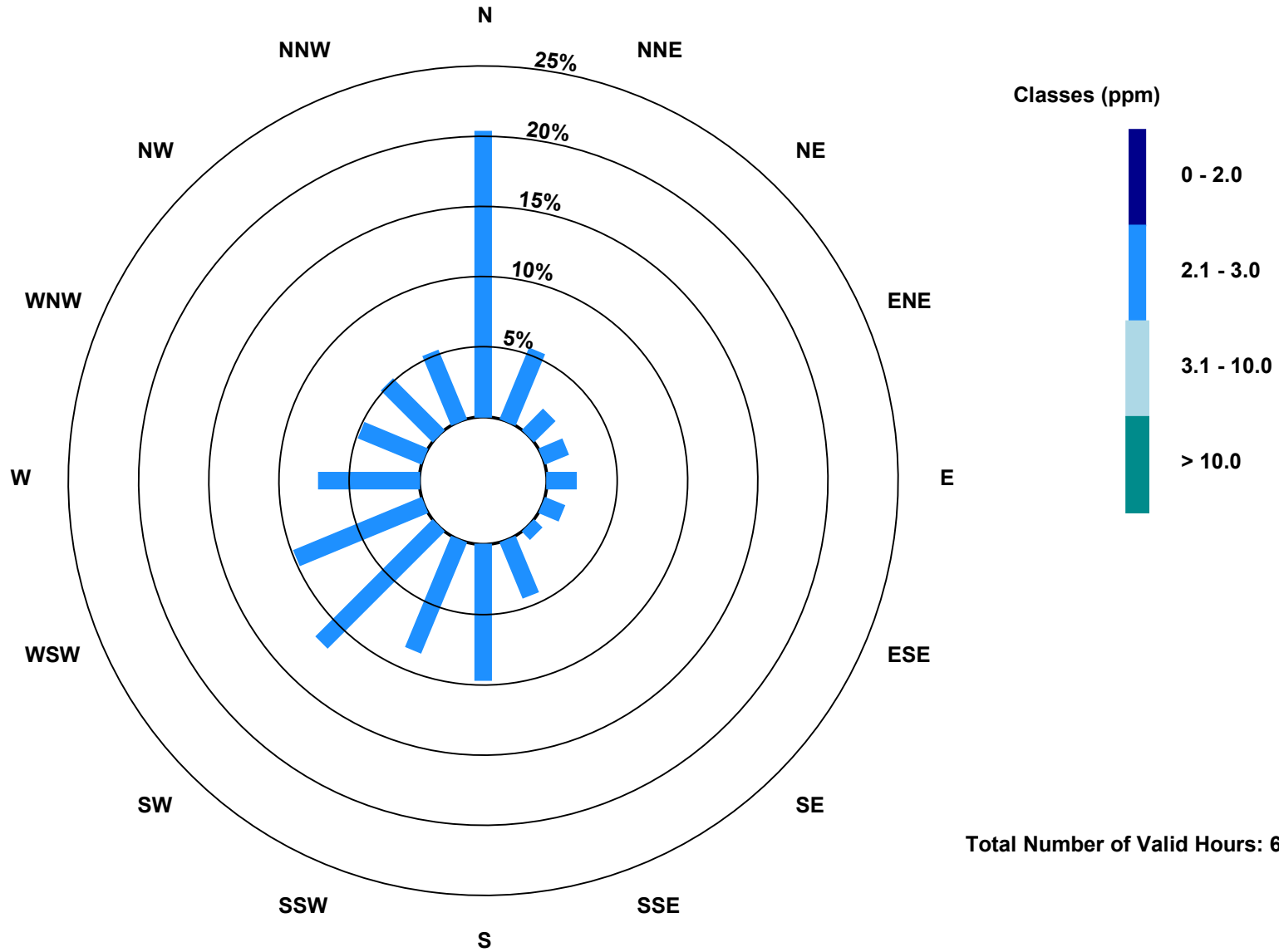
Total Number of Valid Hours: 684

Total Number of Hours: 744

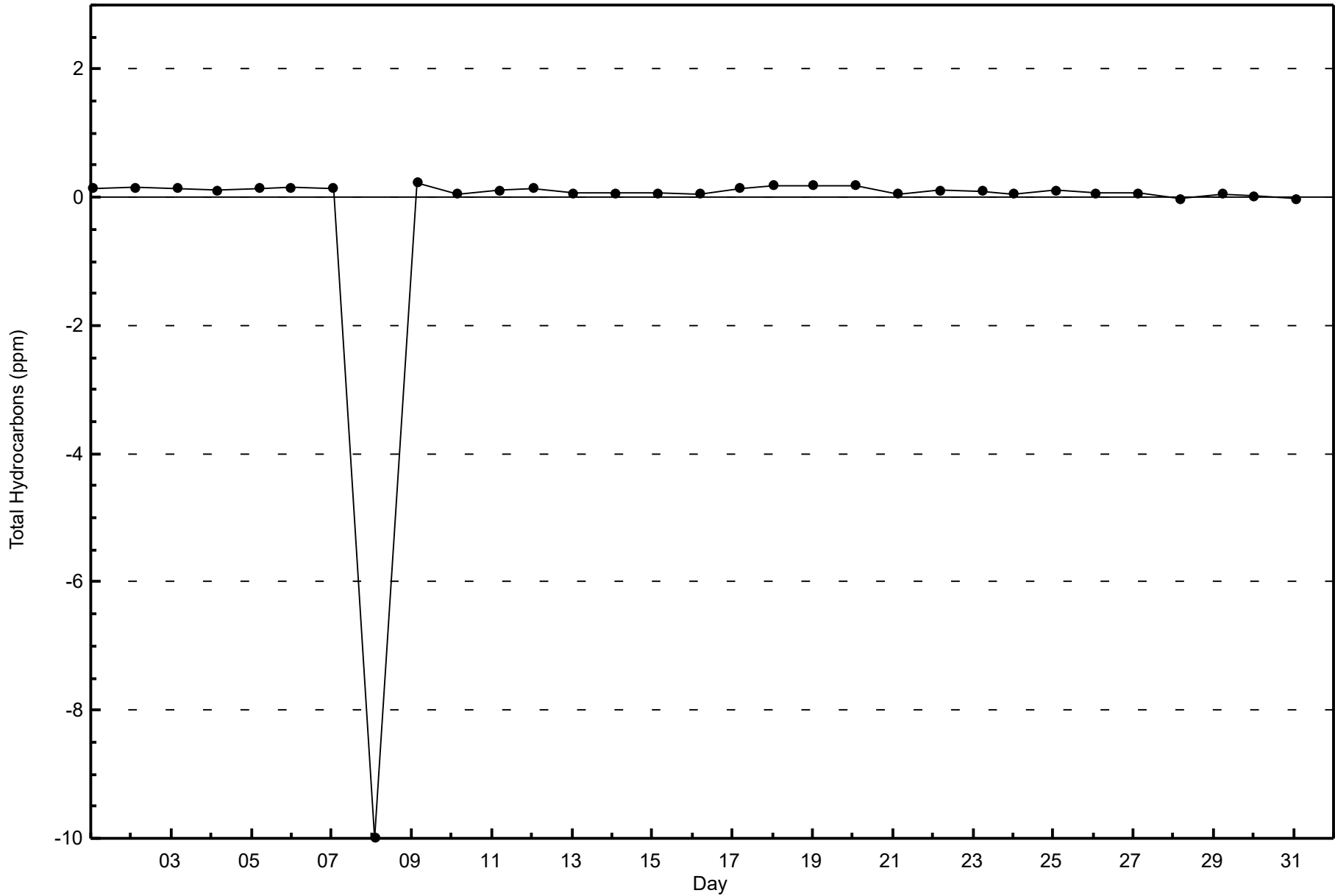


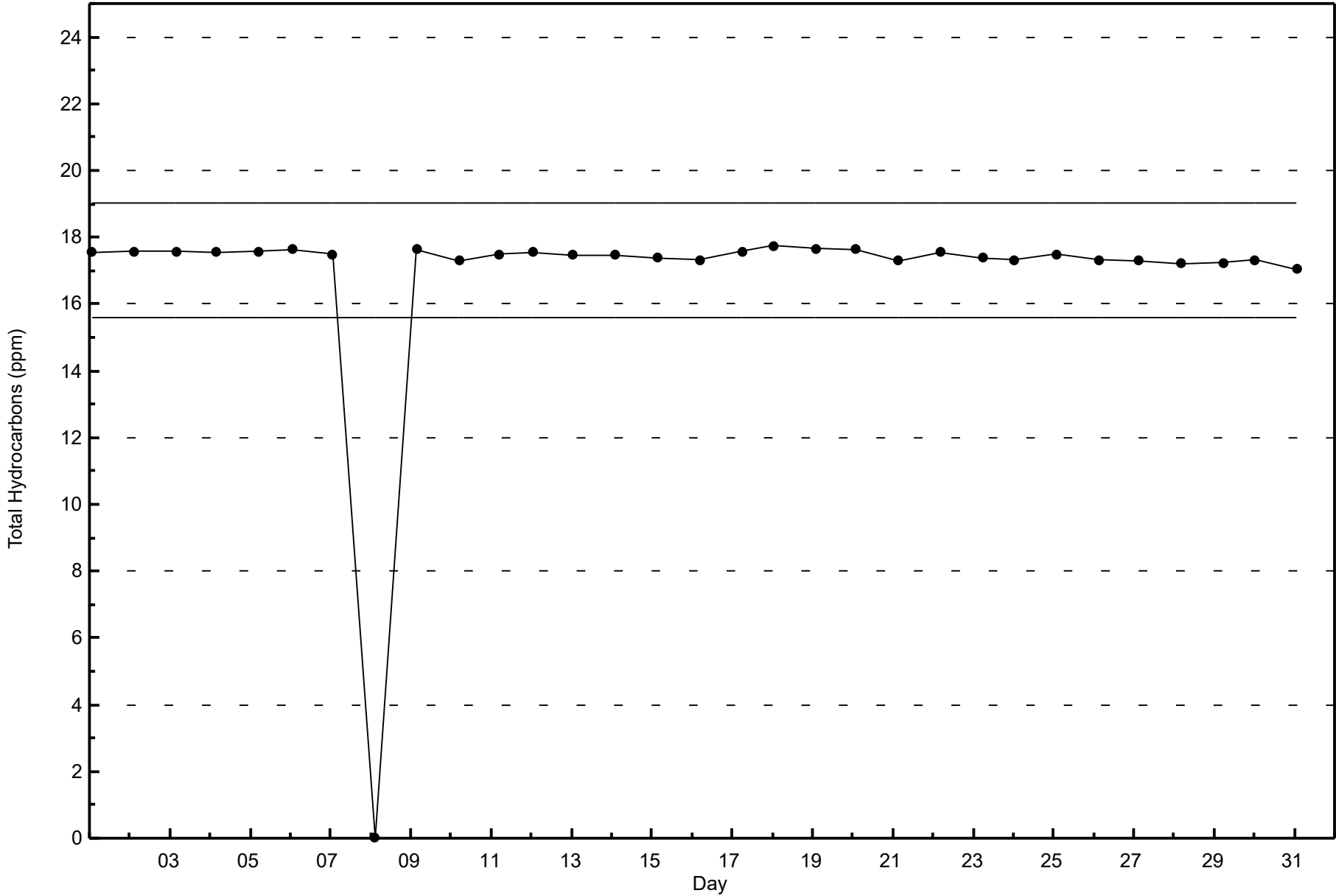
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Total Hydrocarbons (THC) - ppm
Firebag



Total Number of Valid Hours: 684

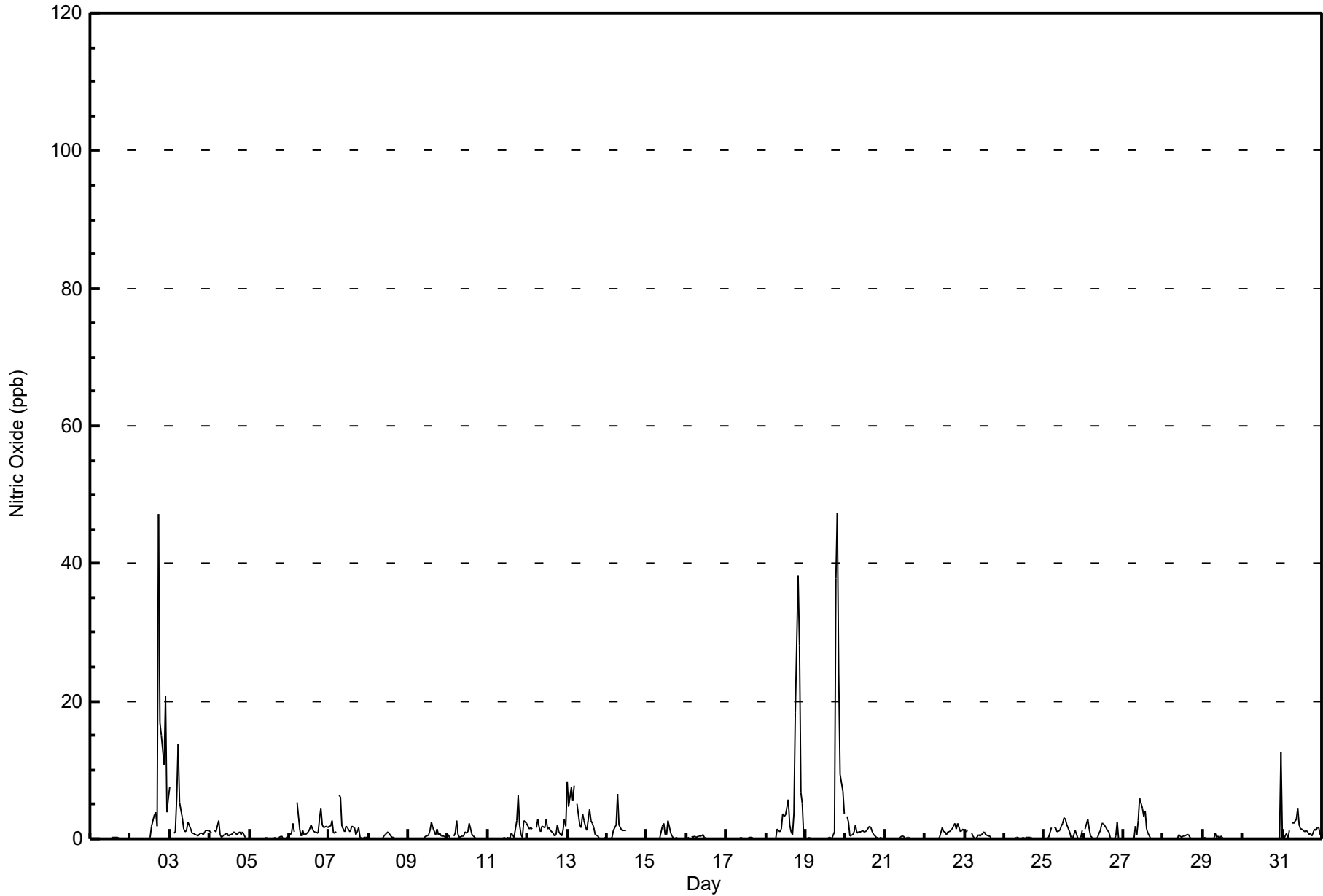






Wood Buffalo Environmental Association
Hourly Averages

Nitric Oxide (NO) - ppb
Firebag - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitric Oxide (NO) - ppb
Firebag - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	701	99.01	99.01
21 - 40	5	0.71	99.72
41 - 80	2	0.28	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitric Oxide (NO) - ppb
Firebag - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	137	43	15	12	14	10	4	29	61	59	79	69	55	36	35	40	698
21 - 40	0	0	0	0	0	0	0	0	2	0	1	2	0	0	0	0	5
11 - 80	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	137	43	15	12	14	10	4	29	64	60	80	71	55	36	35	40	705

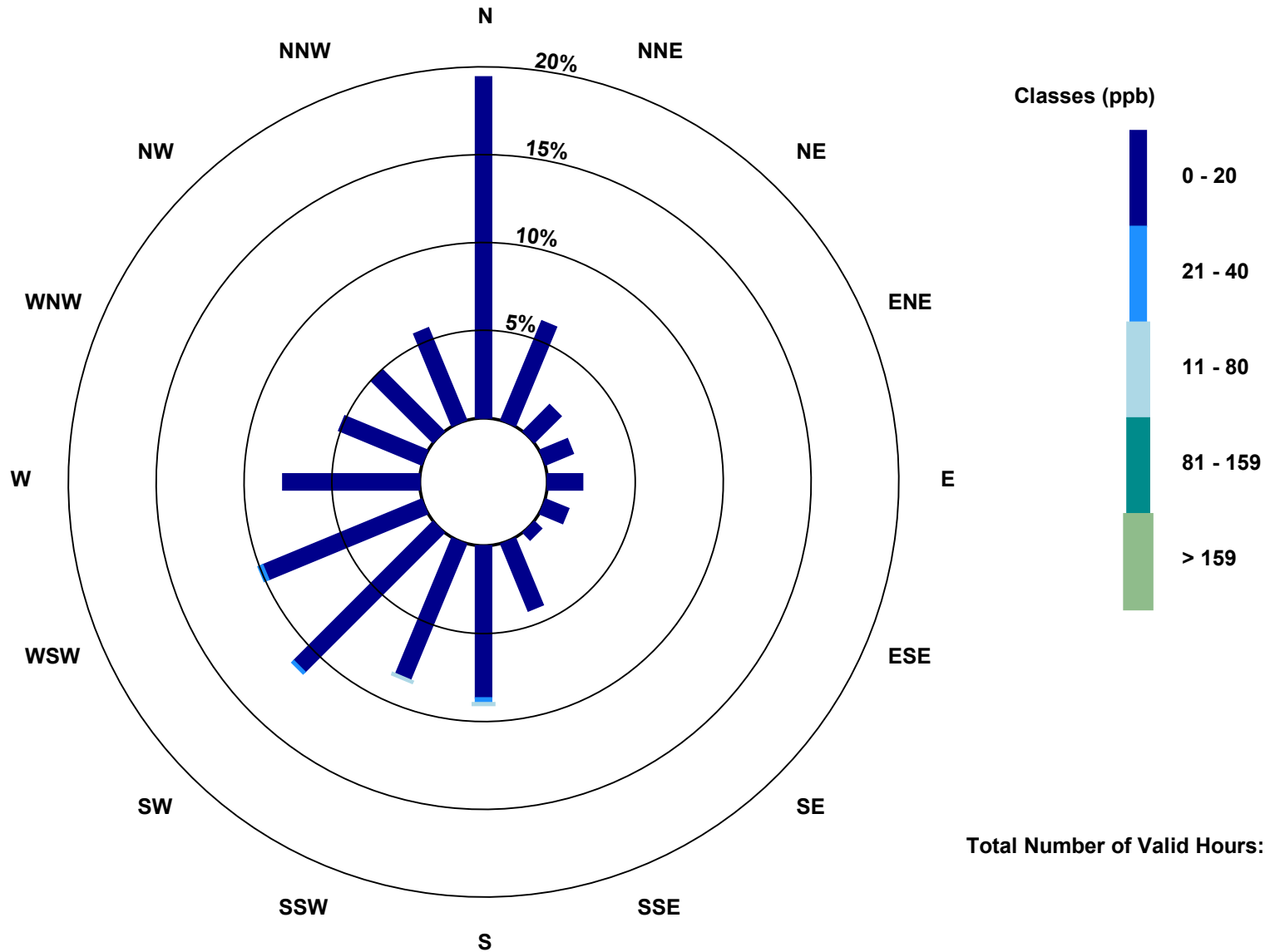
Total Number of Valid Hours: 705

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitric Oxide (NO) - ppb
Firebag

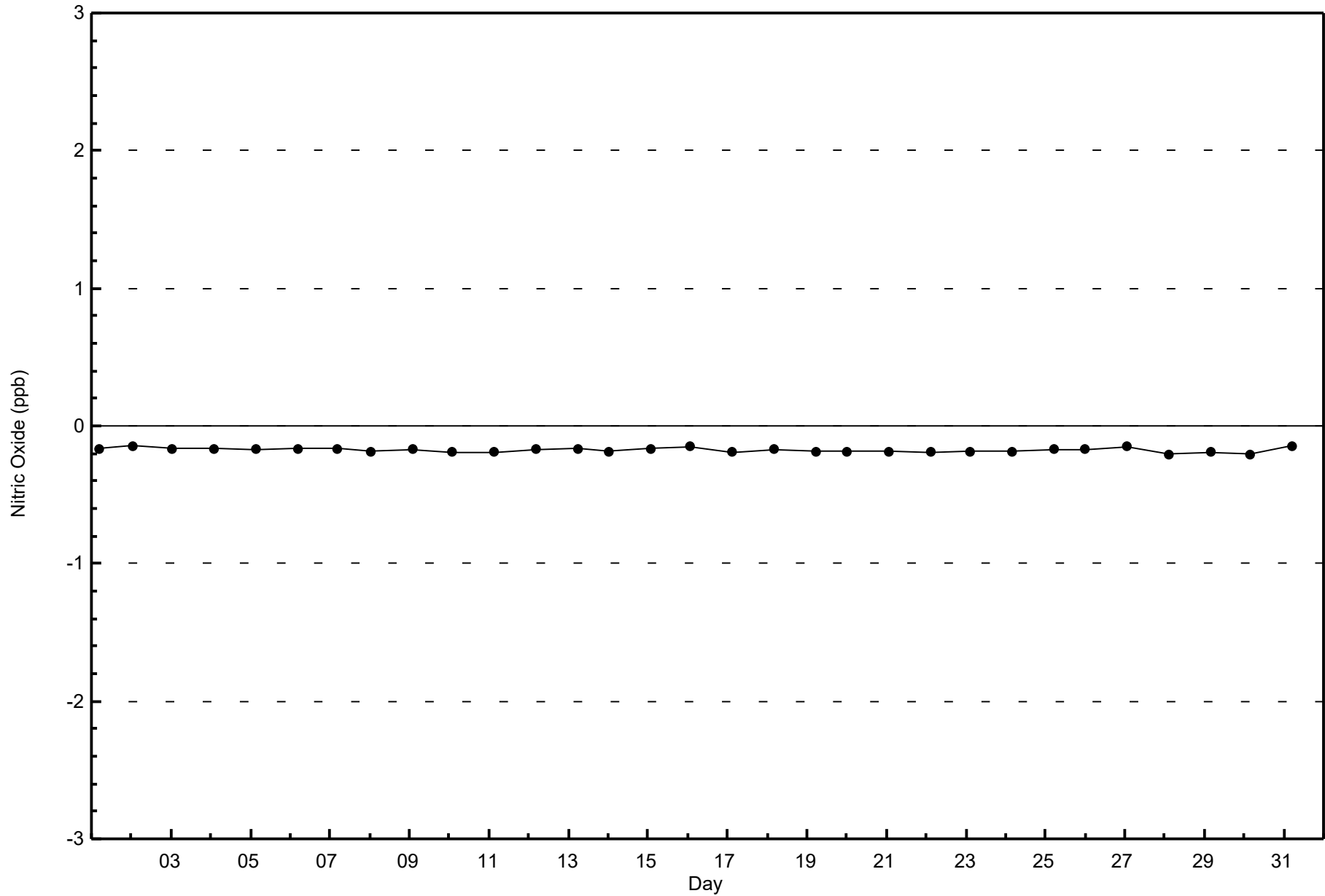


Total Number of Valid Hours: 705



Wood Buffalo Environmental Association
Zero Responses

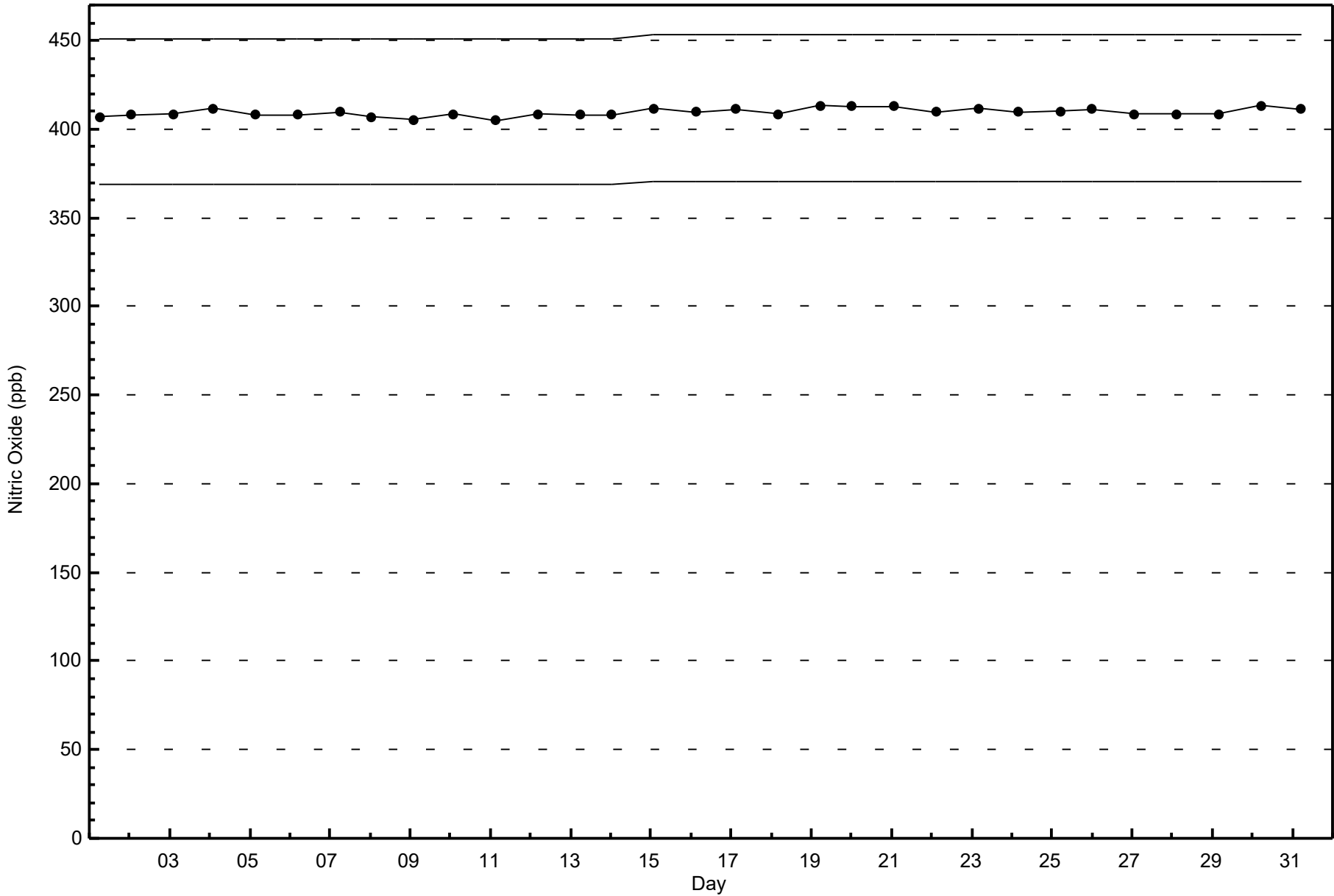
Nitric Oxide (NO) - ppb
Firebag - January 2025





Wood Buffalo Environmental Association
Span Responses

Nitric Oxide (NO) - ppb
Firebag - January 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

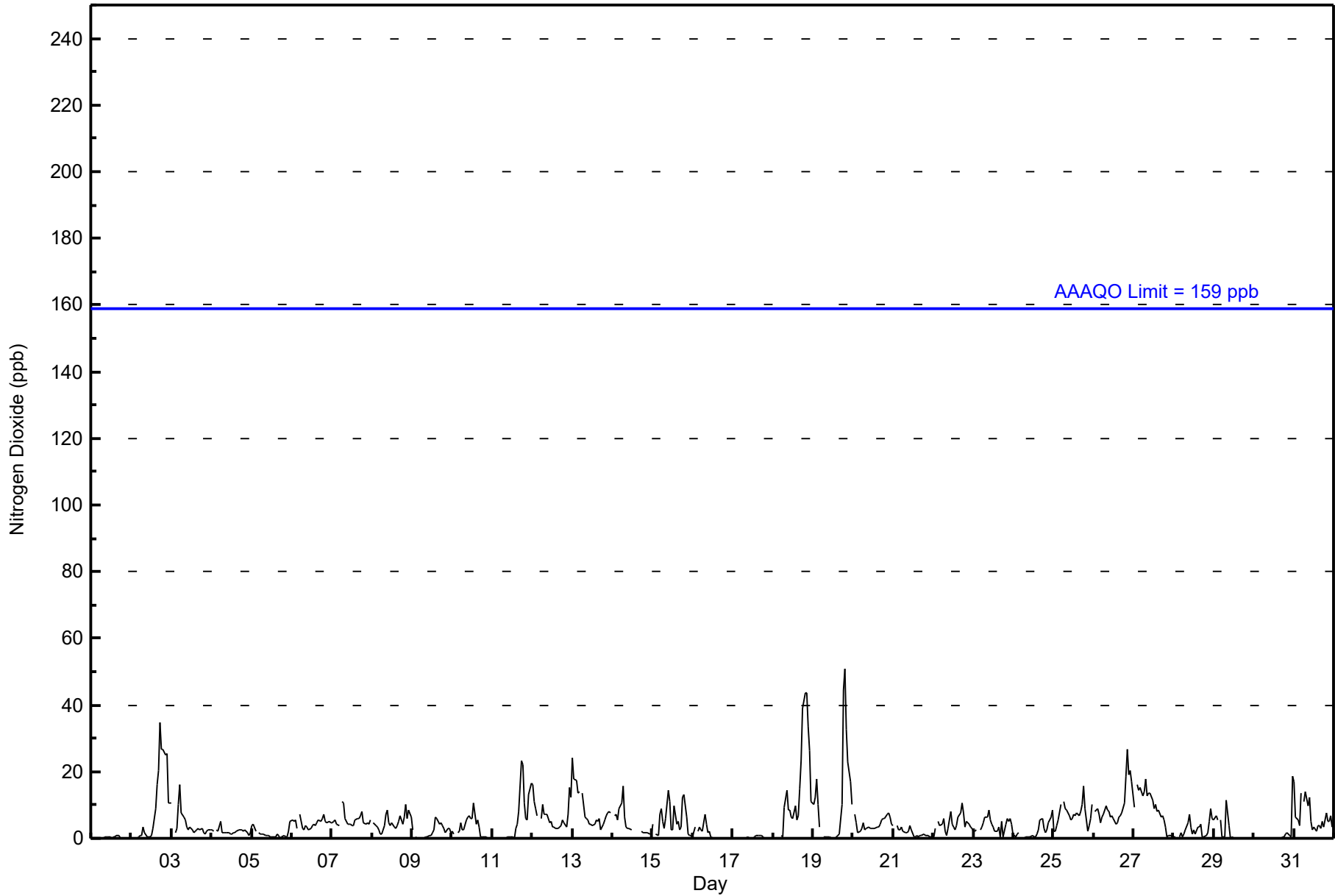
Nitrogen Dioxide (NO₂) - ppb

Firebag - January 2025

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 50.8 ppb on Jan 19 20:00	Maximum Daily Average: 13.6 ppb on Jan 18		Hours of Data:	708
Minimum Value: 0.1 ppb on Jan 1 18:00	Minimum Daily Average: 0.3 ppb on Jan 1		Hours of Missing Data:	36
Maximum Diurnal Average: 7.8 ppb at hour 20	Minimum Diurnal Average: 2.7 ppb at hour 13		Hours of Calibration:	36
Monthly Average: 4.84 ppb	Percentiles: P ₁ = 0.1 P ₁₀ = 0.2 Q ₁ = 0.8 Median = 3.3 Q ₃ = 6.2 P ₉₀ = 10.7 P ₉₉ = 32.3		Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0.2	0.2	0.2	0.2	0.2	Z	0.2	0.2	0.3	0.5	0.4	0.3	0.2	0.4	0.4	0.7	0.9	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.3	0.9
2-Jan	Z	0.2	0.2	0.2	0.3	0.9	1.0	3.6	1.9	0.6	0.3	0.3	0.8	2.8	8.7	16.0	20.5	34.8	26.8	26.5	24.9	25.6	10.7	10.6	9.5	34.8
3-Jan	10.7	Z	1.8	2.9	10.1	15.9	7.7	6.2	5.5	3.2	2.7	3.5	2.6	1.7	2.3	2.7	3.0	2.6	2.9	1.7	1.4	2.2	2.4	2.4	4.3	15.9
4-Jan	2.4	2.1	Z	2.5	2.3	5.1	1.8	1.6	1.7	1.9	1.9	1.1	1.2	1.5	1.9	2.2	2.4	2.7	2.5	2.1	2.7	1.7	0.9	1.7	2.1	5.1
5-Jan	3.9	4.1	2.1	Z	1.5	1.3	1.4	1.1	0.8	0.8	0.7	0.5	0.4	0.3	0.6	1.4	0.7	0.2	0.4	1.0	0.3	0.3	2.3	5.0	1.4	5.0
6-Jan	5.3	5.2	5.4	3.0	Z	7.2	3.0	2.4	3.7	3.3	2.6	3.0	3.8	4.2	4.0	4.7	5.3	5.1	6.1	7.1	5.0	4.6	4.9	4.6	4.5	7.2
7-Jan	4.8	5.0	5.6	4.2	4.0	Z	11.2	10.8	5.9	4.1	4.3	4.3	3.8	3.8	5.4	5.9	5.8	6.9	8.0	4.5	4.3	4.5	4.4	5.4	5.5	11.2
8-Jan	Z	4.8	3.9	3.3	2.4	1.4	1.4	3.9	7.2	8.4	4.5	3.8	4.5	3.6	3.0	3.9	5.2	6.6	4.3	6.5	10.2	5.8	8.5	6.5	4.9	10.2
9-Jan	2.6	Z	0.3	0.2	0.2	0.2	0.2	0.2	0.4	0.5	0.9	0.8	1.6	2.7	6.4	5.9	4.3	4.8	4.0	2.9	1.9	2.8	2.9	1.7	2.1	6.4
10-Jan	2.2	1.3	Z	1.5	2.3	4.8	2.6	2.6	5.5	6.4	6.8	5.8	6.1	10.7	4.4	5.3	3.3	0.6	0.4	0.3	0.3	0.2	0.2	0.2	3.2	10.7
11-Jan	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.3	0.5	0.3	0.5	0.2	2.9	4.1	7.9	23.2	22.0	10.7	5.8	5.6	13.1	16.5	5.0	23.2
12-Jan	16.3	11.0	8.7	6.8	Z	5.8	10.0	7.0	7.3	7.0	4.6	5.2	3.5	3.4	2.9	2.9	3.6	3.8	5.4	4.6	3.6	7.0	15.4	12.4	6.9	16.3
13-Jan	24.0	17.7	17.2	13.4	14.0	Z	13.5	6.3	5.9	5.5	4.2	4.2	3.7	4.4	5.7	4.9	6.0	2.7	4.4	5.6	6.8	7.6	8.2	7.8	8.4	24.0
14-Jan	Z	6.7	7.1	5.4	8.9	10.6	15.7	6.3	3.5	3.0	2.9	2.7	Z	C	C	C	C	2.3	1.9	1.8	1.8	1.9	1.3	1.3	4.7	15.7
15-Jan	4.1	Z	1.3	1.0	7.3	9.1	4.9	3.1	6.1	14.5	10.9	2.5	2.5	9.6	4.4	5.2	2.7	3.4	12.1	13.2	6.2	1.3	0.7	0.9	5.5	14.5
16-Jan	0.6	3.6	Z	2.2	3.4	2.7	2.2	7.0	4.2	1.9	2.2	0.4	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.4	7.0
17-Jan	0.1	0.1	0.1	Z	0.2	0.2	0.2	0.2	0.2	0.4	0.2	0.2	0.2	0.3	1.0	1.0	0.9	1.0	0.5	0.2	0.2	0.2	0.2	0.2	0.3	1.0
18-Jan	0.2	0.2	0.2	0.2	Z	0.8	0.5	9.5	14.4	8.3	8.3	6.3	6.0	9.8	5.6	6.9	14.8	23.5	39.0	43.5	43.5	33.6	26.1	11.2	13.6	43.5
19-Jan	10.1	12.2	18.0	10.1	3.6	Z	0.6	0.4	0.3	0.4	0.3	0.2	0.2	0.2	0.4	0.9	1.1	10.2	44.3	50.8	32.7	23.0	17.0	10.1	10.7	50.8
20-Jan	Z	7.1	4.6	1.8	2.3	2.8	4.6	2.5	2.8	3.2	3.1	2.8	3.1	3.1	3.6	3.6	4.4	5.4	6.0	6.1	7.2	7.5	6.4	4.4	4.3	7.5
21-Jan	3.9	Z	3.7	2.6	2.7	3.2	2.1	1.7	1.7	2.2	4.0	2.6	0.5	0.6	0.7	0.4	0.9	1.0	1.1	1.0	0.8	0.9	0.4	0.6	1.7	4.0
22-Jan	0.4	3.1	Z	5.2	3.8	4.2	5.9	2.3	0.8	2.8	8.0	4.1	3.6	2.5	3.7	6.5	7.5	10.4	7.7	3.4	5.0	4.4	3.5	3.0	4.4	10.4
23-Jan	2.1	2.2	2.5	Z	2.5	3.6	4.5	6.5	6.2	8.4	5.7	4.2	3.3	2.0	2.2	3.6	0.6	4.9	0.5	4.2	5.8	4.9	6.0	4.4	3.9	8.4
24-Jan	1.2	0.4	1.1	1.6	Z	0.2	0.2	0.4	0.5	0.4	0.4	0.7	0.5	0.6	1.3	2.4	5.5	5.8	3.1	1.8	2.5	4.8	6.5	8.6	2.2	8.6
25-Jan	2.3	2.3	3.8	5.6	10.1	Z	11.0	8.9	8.4	6.9	5.7	5.9	7.3	6.6	7.6	6.9	8.2	10.1	15.7	8.8	2.3	3.8	6.1	10.0	7.1	15.7
26-Jan	Z	8.2	8.7	7.1	4.8	6.5	7.3	9.6	8.6	7.9	6.5	6.9	6.0	4.4	4.7	6.5	6.6	7.6	10.5	18.6	26.6	19.1	20.2	16.9	10.0	26.6
27-Jan	9.2	Z	15.9	14.4	15.2	12.7	13.8	17.9	12.5	13.6	13.7	11.4	9.1	10.3	7.9	8.4	6.4	6.9	5.5	3.5	0.6	0.9	0.8	0.3	9.2	17.9
28-Jan	0.4	0.3	Z	0.6	1.8	0.5	1.1	2.6	4.6	7.0	3.3	1.1	2.5	1.3	3.3	3.3	4.3	0.5	0.4	0.9	1.7	5.2	9.0	6.0	2.7	9.0
29-Jan	5.7	6.7	5.5	Z	5.4	0.3	0.3	11.4	7.6	3.7	0.2	0.6	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	2.2	11.4
30-Jan	0.2	0.2	0.1	0.2	Z	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.6	0.6	1.4	1.7	0.9	0.6	18.7	1.2	18.7
31-Jan	16.9	6.3	5.7	3.7	13.7	Z	10.9	14.0	9.8	12.4	5.2	2.7	3.2	2.1	3.9	3.9	2.9	5.1	3.5	7.8	5.0	5.2	6.7	3.6	6.7	16.9
5.0 4.3 4.8 3.8 4.7 4.0 4.5 4.9 4.5 4.5 3.7 2.9 2.7 3.1 3.3 4.0 4.5 6.2 7.7 7.8 6.8 6.0 6.0 5.7																								Diurnal Average		
24.0 17.7 18.0 14.4 15.2 15.9 15.7 17.9 14.4 14.5 13.7 11.4 9.1 10.7 8.7 16.0 20.5 34.8 44.3 50.8 43.5 33.6 26.1 18.7																								Diurnal Maximum		

Z - zerospan C - Calibration
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Firebag - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	688	97.18	97.18
21 - 40	16	2.26	99.44
41 - 80	4	0.56	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Dioxide (NO₂) - ppb
Firebag - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	137	43	15	12	14	10	4	26	61	56	76	68	54	36	35	39	686
21 - 40	0	0	0	0	0	0	0	3	2	3	4	1	1	0	0	1	15
11 - 80	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	4
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	137	43	15	12	14	10	4	29	64	60	80	71	55	36	35	40	705

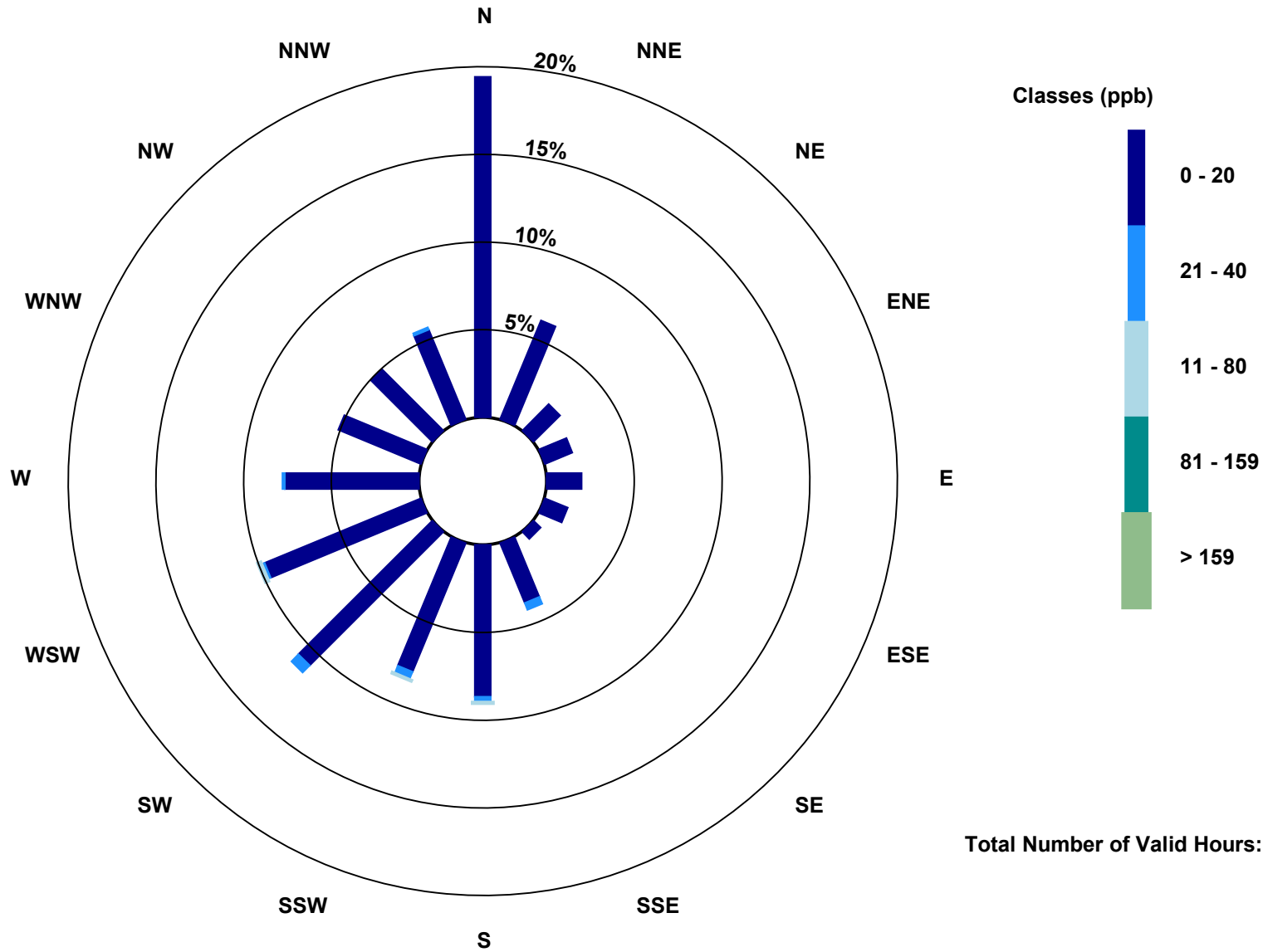
Total Number of Valid Hours: 705

Total Number of Hours: 744

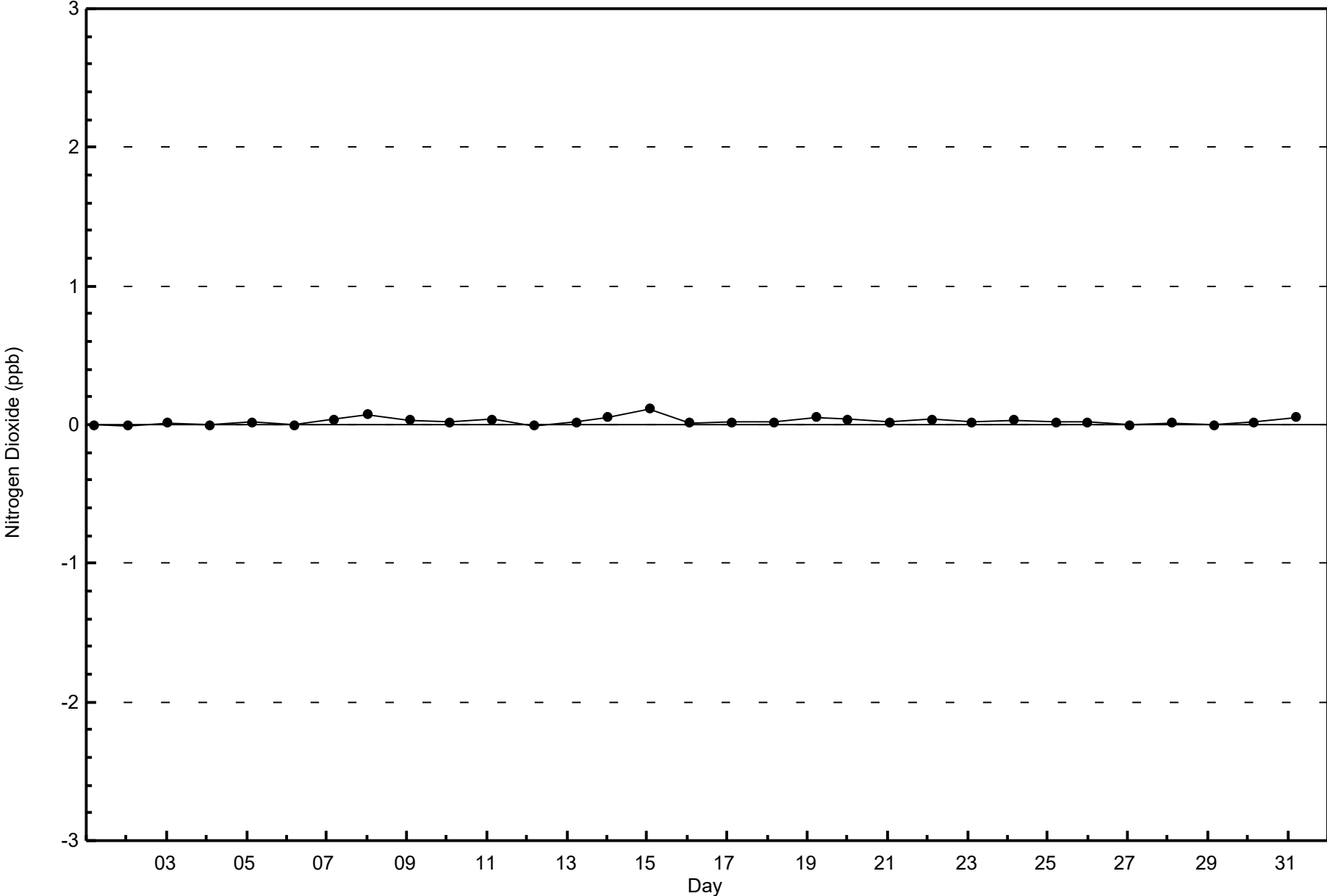


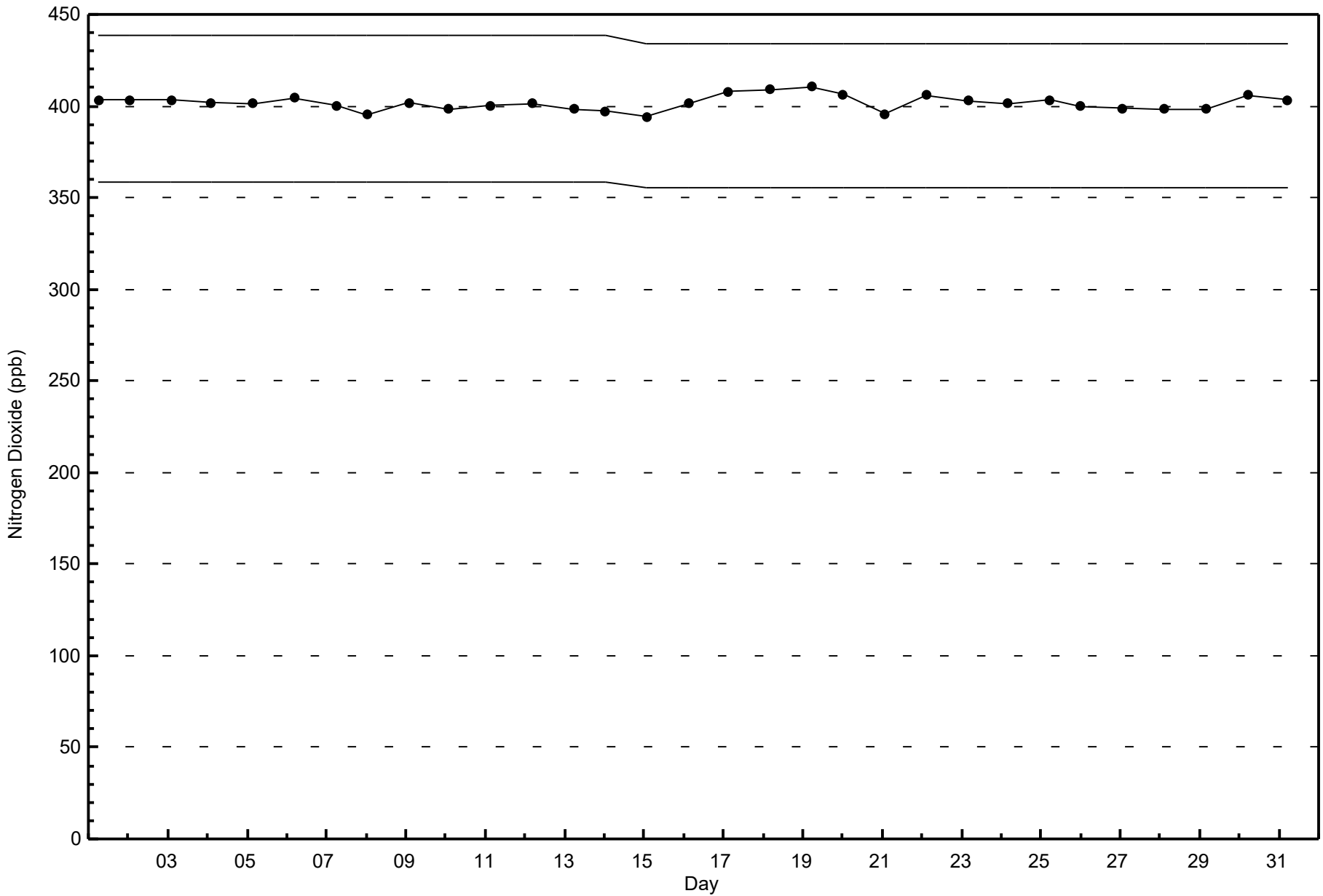
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Dioxide (NO₂) - ppb
Firebag



Total Number of Valid Hours: 705







Wood Buffalo Environmental Association
Summary of Hour Averages

Nitrogen Oxides (NO_x) - ppb
Firebag - January 2025

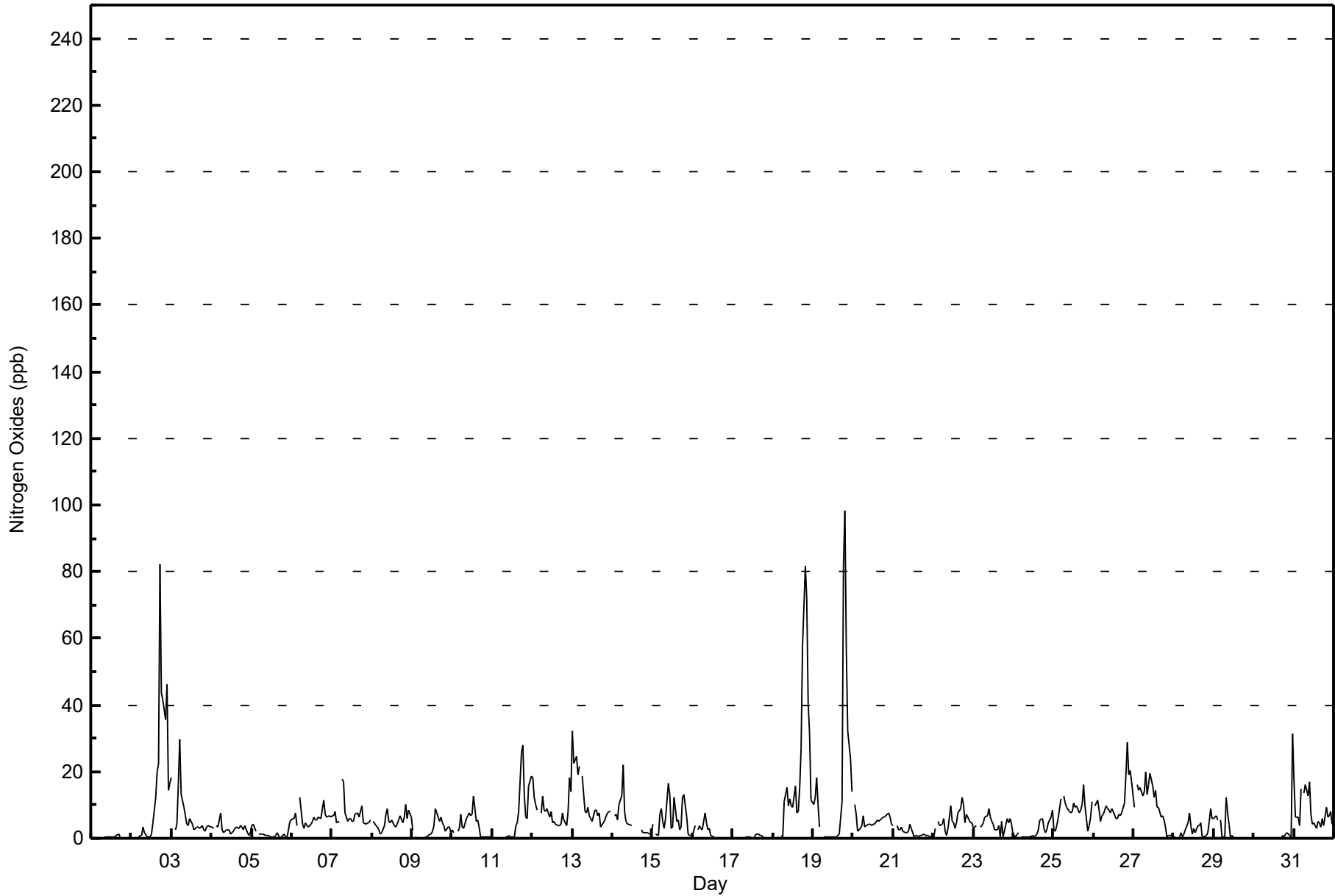
Maximum Value: 98.2 ppb on Jan 19 20:00		Maximum Daily Average: 19.0 ppb on Jan 18		Hours in Service: 744																						
Minimum Value: 0.1 ppb on Jan 16 23:00		Minimum Daily Average: 0.3 ppb on Jan 1		Hours of Data: 708																						
Maximum Diurnal Average: 11.5 ppb at hour 20		Minimum Diurnal Average: 3.6 ppb at hour 13		Hours of Missing Data: 36																						
Monthly Average: 6.09 ppb		Percentiles: P ₁ = 0.1 P ₁₀ = 0.2 Q ₁ = 0.8 Median = 3.9 Q ₃ = 7.4 P ₉₀ = 12.9 P ₉₉ = 46.2		Hours of Calibration: 36																						
				Percent Operational Time: 100.0																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0.2	0.2	0.2	0.2	0.2	Z	0.2	0.2	0.3	0.6	0.5	0.3	0.3	0.5	0.5	0.8	1.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.3	1.1
2-Jan	Z	0.2	0.2	0.2	0.3	0.9	1.0	3.6	1.9	0.6	0.3	0.4	1.1	4.6	12.2	19.8	22.3	82.0	43.7	41.5	35.7	46.4	14.5	16.4	15.2	82.0
3-Jan	18.3	Z	2.5	4.0	16.2	29.6	13.0	9.3	6.9	4.2	4.0	5.9	4.1	2.4	3.0	3.4	3.5	3.0	3.7	2.5	2.1	3.3	3.7	3.6	6.6	29.6
4-Jan	3.5	2.9	Z	3.7	3.4	7.6	2.4	1.9	2.0	2.6	2.7	1.5	1.7	2.1	2.8	3.2	3.0	3.6	3.5	2.7	3.7	1.9	1.0	1.7	2.8	7.6
5-Jan	4.0	4.1	2.1	Z	1.5	1.3	1.4	1.1	0.8	0.9	0.9	0.6	0.5	0.4	0.7	1.5	0.7	0.2	0.5	1.4	0.3	0.3	2.4	5.2	1.4	5.2
6-Jan	5.9	6.0	7.6	4.0	Z	12.5	4.1	2.9	4.8	3.9	3.3	4.1	5.2	6.2	5.4	5.7	6.3	5.9	9.0	11.6	7.1	6.2	6.8	6.3	6.1	12.5
7-Jan	6.7	6.8	8.2	4.9	5.0	Z	17.6	16.9	7.8	5.1	6.1	6.0	5.1	4.9	7.2	7.5	6.5	7.9	9.6	4.8	4.4	4.6	4.6	5.6	7.1	17.6
8-Jan	Z	4.9	4.0	3.4	2.5	1.5	1.5	3.9	7.3	8.9	5.2	4.6	5.5	4.0	3.2	4.1	5.3	6.7	4.4	6.5	10.3	5.8	8.5	6.5	5.2	10.3
9-Jan	2.6	Z	0.3	0.2	0.2	0.2	0.2	0.2	0.5	0.6	1.2	1.2	2.2	3.8	8.8	7.6	4.9	6.2	4.7	3.8	2.3	3.2	3.2	1.9	2.6	8.8
10-Jan	2.7	1.6	Z	1.9	3.1	7.4	3.2	2.8	6.0	6.8	7.7	6.6	7.2	12.9	4.9	5.6	3.4	0.6	0.4	0.3	0.3	0.2	0.2	0.2	3.7	12.9
11-Jan	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.3	0.4	0.7	0.4	0.6	0.2	3.7	4.6	8.1	25.8	28.2	12.8	6.3	5.9	15.8	18.8	5.8	28.2
12-Jan	18.0	12.5	10.3	8.3	Z	7.5	12.9	8.5	8.2	8.8	6.2	8.1	4.8	5.1	4.2	3.8	4.0	4.4	7.5	5.6	4.0	8.3	18.2	14.2	8.4	18.2
13-Jan	32.3	22.4	24.8	18.9	21.8	Z	18.6	8.3	7.6	9.2	6.8	6.0	4.9	8.6	8.3	7.0	7.6	3.4	4.8	5.7	6.8	7.6	8.2	7.9	11.2	32.3
14-Jan	Z	6.7	7.1	5.6	10.2	12.7	22.2	8.3	5.1	4.3	4.1	3.9	Z	Z	Z	Z	Z	2.3	1.9	1.8	1.8	1.9	1.3	1.3	5.7	22.2
15-Jan	4.1	Z	1.3	1.0	7.3	9.1	4.9	3.1	6.1	16.3	13.1	3.0	3.2	12.3	5.2	5.6	2.7	3.4	12.3	13.2	6.2	1.3	0.7	0.9	5.9	16.3
16-Jan	0.7	3.8	Z	2.6	3.7	3.1	2.4	7.5	4.7	2.3	2.8	0.7	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.6	7.5
17-Jan	0.1	0.1	0.1	Z	0.2	0.2	0.2	0.2	0.2	0.5	0.2	0.2	0.2	0.4	1.2	1.1	0.9	1.0	0.5	0.2	0.2	0.2	0.2	0.2	0.4	1.2
18-Jan	0.2	0.2	0.2	0.2	Z	0.8	0.5	11.0	15.3	9.8	11.9	9.6	9.4	15.5	7.6	8.0	15.4	27.2	57.4	81.6	71.6	40.3	31.2	11.3	19.0	81.6
19-Jan	10.2	12.3	18.1	10.2	3.6	Z	0.6	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.5	1.0	1.2	11.2	82.1	98.2	56.8	32.4	23.9	13.9	16.5	98.2
20-Jan	Z	10.3	7.1	2.2	2.9	3.8	6.7	3.4	3.8	4.2	4.4	3.9	4.1	4.4	5.4	5.1	5.5	6.0	6.4	6.3	7.3	7.6	6.4	4.4	5.3	10.3
21-Jan	3.9	Z	3.7	2.6	2.7	3.2	2.1	1.7	1.7	2.3	4.3	3.0	0.6	0.8	0.9	0.5	0.9	1.0	1.1	1.0	0.8	0.9	0.4	0.6	1.8	4.3
22-Jan	0.4	3.1	Z	5.2	3.8	4.3	5.9	2.3	0.8	3.1	9.6	5.2	4.6	3.1	4.6	7.6	8.9	12.2	10.0	4.8	7.3	5.5	4.7	4.5	5.3	12.2
23-Jan	3.1	3.2	3.8	Z	3.4	4.0	4.6	6.6	6.9	8.9	6.4	5.1	4.2	2.6	2.5	3.9	0.6	4.9	0.5	4.2	5.8	4.9	6.0	4.4	4.4	8.9
24-Jan	1.2	0.4	1.1	1.6	Z	0.3	0.3	0.5	0.6	0.5	0.5	0.8	0.6	0.7	1.5	2.6	5.6	5.8	3.1	1.8	2.5	4.8	6.5	8.6	2.3	8.6
25-Jan	2.3	2.3	3.8	5.8	11.7	Z	12.6	10.4	9.3	8.1	7.5	8.0	10.4	9.4	9.6	7.8	8.5	10.1	16.2	9.9	2.3	3.8	6.3	11.1	8.1	16.2
26-Jan	Z	9.6	11.6	8.6	5.1	6.7	7.3	9.6	8.8	8.7	7.7	9.1	8.1	6.0	5.9	7.4	6.8	7.6	10.5	18.9	29.0	19.2	20.2	16.9	10.8	29.0
27-Jan	9.2	Z	15.9	14.4	15.2	12.8	13.8	19.8	13.2	16.2	19.7	15.9	12.4	14.3	9.3	9.1	6.5	6.9	5.5	3.5	0.6	0.9	0.8	0.3	10.3	19.8
28-Jan	0.4	0.3	Z	0.6	1.8	0.5	1.1	2.6	4.7	7.6	3.7	1.2	3.0	1.7	3.8	3.8	4.5	0.5	0.4	0.9	1.7	5.2	9.1	6.0	2.8	9.1
29-Jan	5.7	6.9	5.5	Z	5.5	0.3	0.3	12.2	7.8	4.1	0.2	0.9	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	2.2	12.2
30-Jan	0.2	0.2	0.1	0.2	Z	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.6	0.6	1.4	1.7	1.0	0.6	31.4	1.7	31.4
31-Jan	17.5	6.3	6.4	3.8	15.0	Z	13.4	16.3	12.6	17.0	7.2	4.1	4.6	3.1	5.1	4.8	3.5	6.0	4.0	9.3	6.3	6.8	8.3	4.3	8.1	17.5
																								Diurnal Average		
																								Diurnal Maximum		
																								Diurnal Average		
																								Diurnal Maximum		

Z - zerospan C - Calibration



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Firebag - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Nitrogen Oxides (NO_x) - ppb
Firebag - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	681	96.19	96.19
21 - 40	17	2.40	98.59
41 - 80	6	0.85	99.44
81 - 159	4	0.56	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Oxides (NO_x) - ppb
Firebag - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	137	43	15	12	14	10	4	25	59	55	74	68	54	36	35	39	680
21 - 40	0	0	0	0	0	0	0	2	2	3	5	1	1	0	0	1	15
11 - 80	0	0	0	0	0	0	0	2	1	1	1	1	0	0	0	0	6
81 - 159	0	0	0	0	0	0	0	0	2	1	0	1	0	0	0	0	4
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	137	43	15	12	14	10	4	29	64	60	80	71	55	36	35	40	705

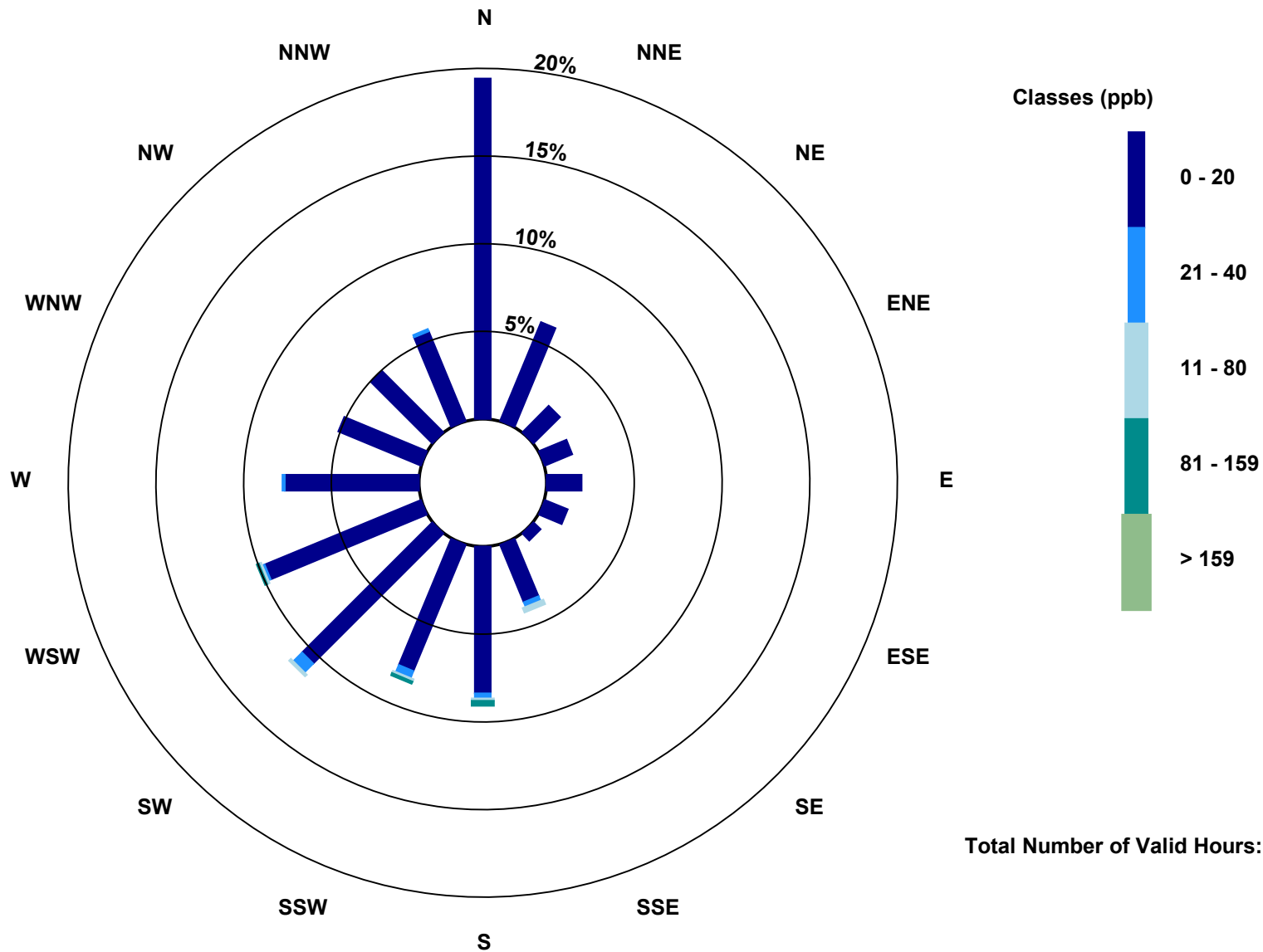
Total Number of Valid Hours: 705

Total Number of Hours: 744

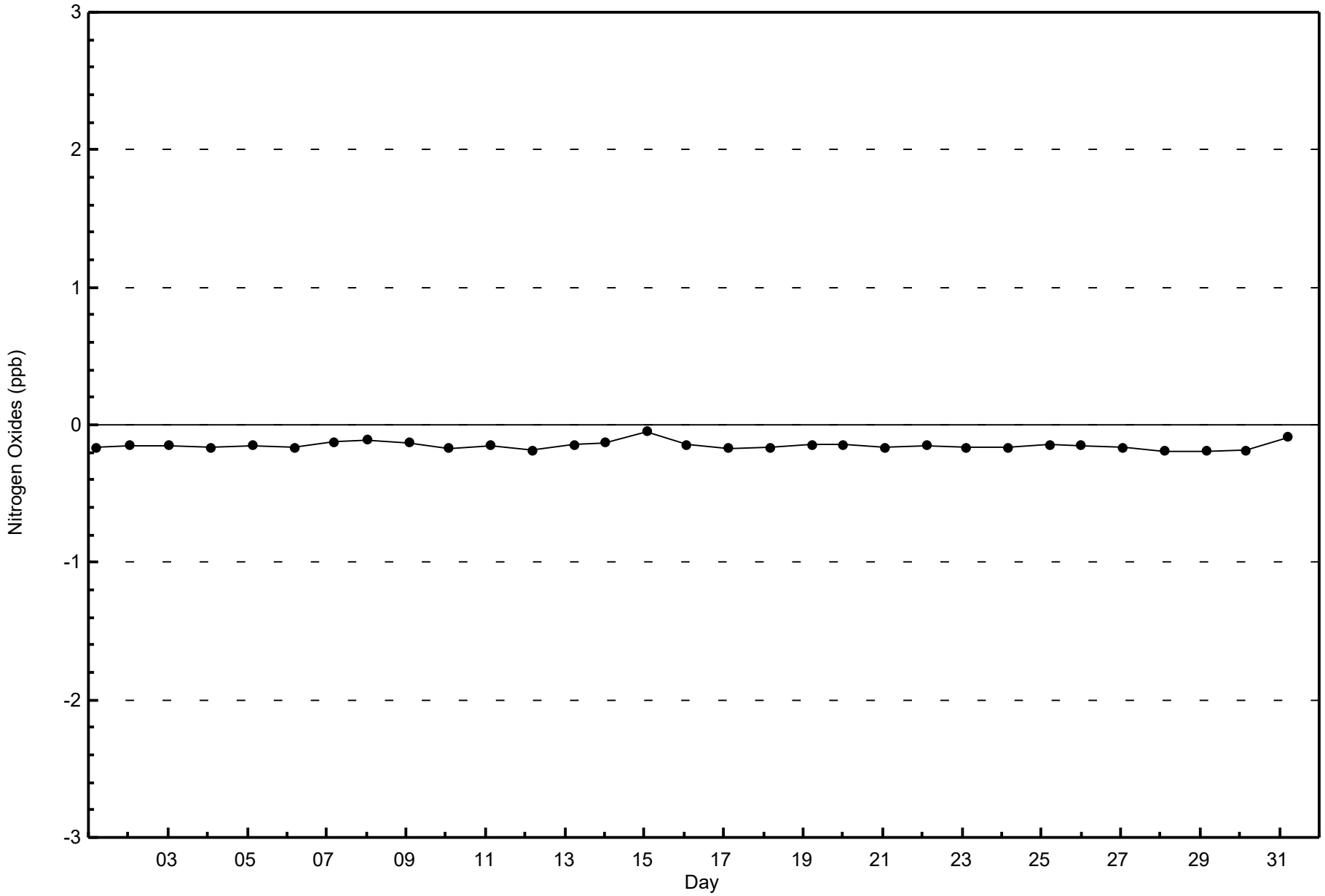


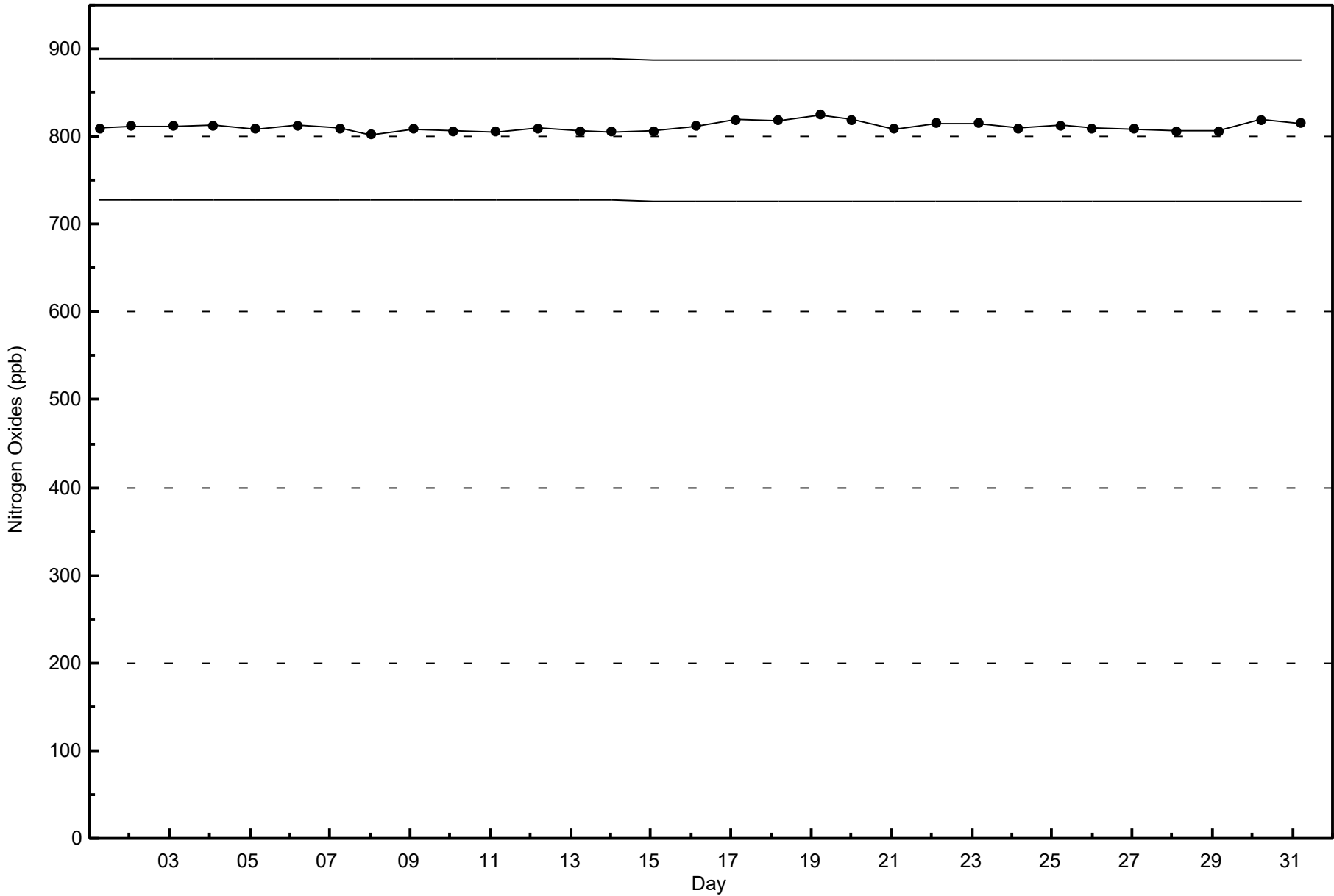
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Oxides (NO_x) - ppb
Firebag



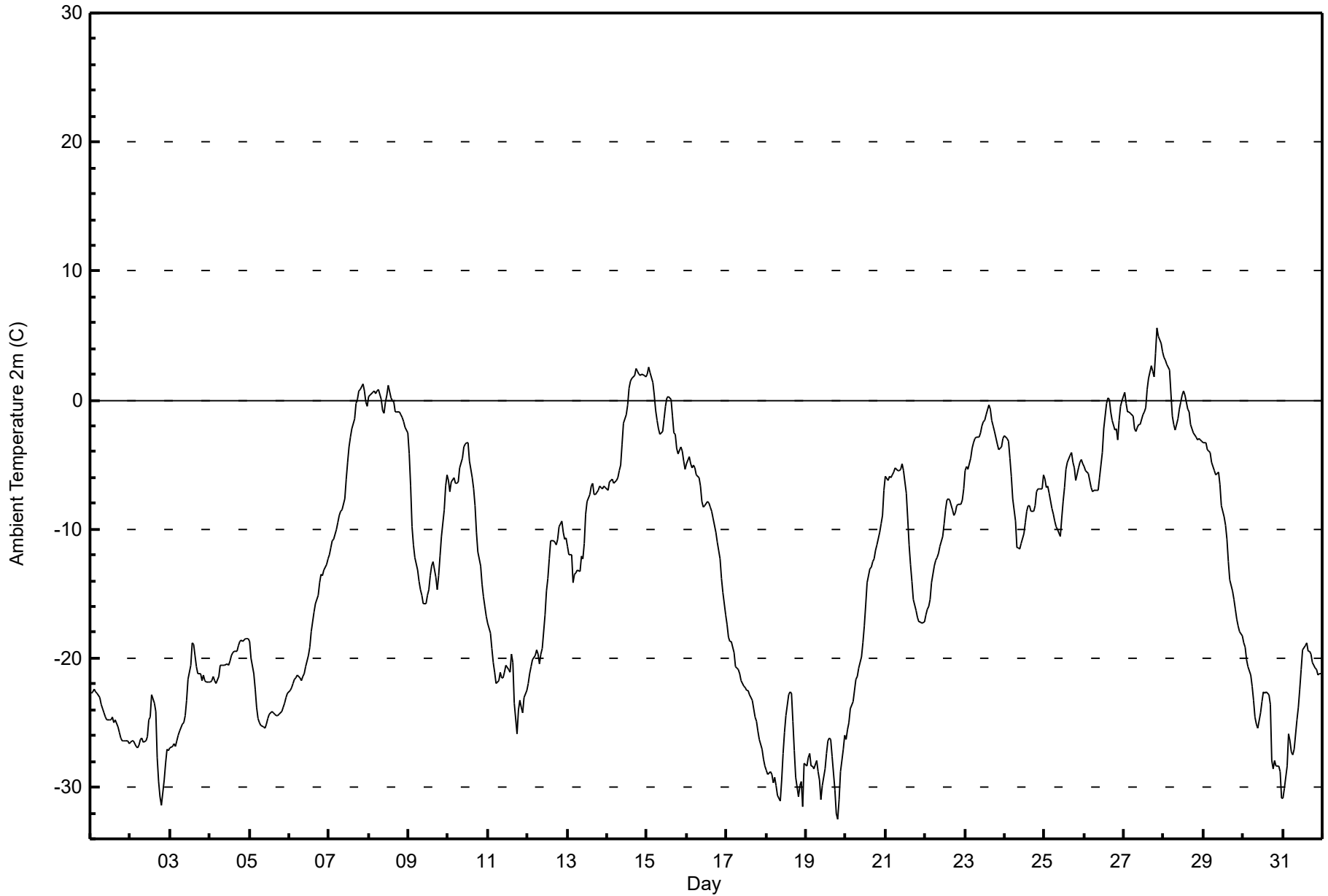
Total Number of Valid Hours: 705







Maximum Value: 5.5 C on Jan 27 21:00 Maximum Daily Average: 0.6 C on Jan 27																						Hours in Service:	744			
Minimum Value: -32.5 C on Jan 19 20:00 Minimum Daily Average: -28.6 C on Jan 19																						Hours of Data:	744			
Maximum Diurnal Average: -11.7 C at hour 15 Minimum Diurnal Average: -14.6 C at hour 8																						Hours of Missing Data:	0			
Monthly Average: -13.38 C Percentiles: P ₁ = -30.9 P ₁₀ = -26.4 Q ₁ = -22.2 Median = -12.3 Q ₃ = -5.1 P ₉₀ = -0.8 P ₉₉ = 2.8																						Hours of Calibration:	0			
																						Percent Operational Time:	100.0			
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	-22.8	-22.6	-22.4	-22.6	-22.7	-23.1	-23.6	-23.9	-24.3	-24.6	-24.8	-24.7	-24.8	-24.6	-25.0	-24.8	-25.3	-25.8	-26.1	-26.4	-26.4	-26.4	-26.4	-26.6	-24.6	-22.4
2-Jan	-26.5	-26.4	-26.5	-26.8	-27.0	-26.7	-26.3	-26.2	-26.5	-26.4	-26.1	-24.8	-24.5	-22.8	-23.5	-24.1	-27.7	-29.6	-30.8	-31.4	-29.5	-28.1	-27.1	-27.1	-26.8	-22.8
3-Jan	-27.0	-26.8	-26.7	-26.8	-26.4	-26.0	-25.6	-25.1	-25.0	-24.4	-23.3	-21.7	-20.5	-18.8	-18.9	-19.8	-20.6	-21.2	-21.3	-21.7	-21.4	-21.8	-21.9	-21.9	-23.1	-18.8
4-Jan	-21.9	-21.7	-21.4	-21.8	-22.0	-21.4	-20.6	-20.5	-20.5	-20.4	-20.5	-20.3	-19.8	-19.5	-19.5	-19.4	-19.1	-18.7	-18.6	-18.7	-18.5	-18.5	-18.5	-18.5	-20.1	-18.5
5-Jan	-18.7	-20.0	-21.2	-22.4	-23.8	-24.7	-25.0	-25.2	-25.4	-25.4	-25.1	-24.7	-24.3	-24.2	-24.3	-24.4	-24.4	-24.4	-24.4	-24.2	-23.8	-23.5	-23.0	-22.7	-23.7	-18.7
6-Jan	-22.5	-22.3	-21.9	-21.7	-21.5	-21.3	-21.5	-21.8	-21.4	-21.2	-20.6	-19.8	-19.1	-18.0	-17.2	-16.4	-15.8	-15.1	-14.2	-13.5	-13.6	-13.2	-12.7	-12.3	-18.3	-12.3
7-Jan	-12.0	-11.4	-10.9	-10.8	-10.1	-9.5	-8.9	-8.6	-8.5	-7.7	-6.2	-4.9	-3.7	-2.8	-2.2	-1.4	-0.2	0.1	0.8	0.9	1.2	0.7	-0.2	-0.5	-4.9	1.2
8-Jan	0.3	0.4	0.6	0.7	0.5	0.7	0.8	0.1	-0.8	-1.0	-0.1	0.4	1.2	0.2	0.0	-0.2	-0.9	-0.9	-0.9	-1.1	-1.4	-1.6	-2.1	-2.6	-0.3	1.2
9-Jan	-4.2	-6.7	-9.9	-11.2	-12.2	-13.2	-14.0	-14.7	-15.1	-15.8	-15.7	-15.1	-14.7	-13.6	-12.8	-12.5	-13.8	-14.7	-13.6	-12.1	-10.6	-8.5	-6.6	-5.8	-12.0	-4.2
10-Jan	-6.2	-7.1	-6.3	-6.0	-6.5	-6.4	-6.3	-5.3	-4.5	-3.6	-3.4	-3.3	-3.3	-4.7	-6.0	-6.9	-8.2	-10.3	-11.7	-12.9	-14.2	-15.3	-16.0	-16.8	-8.0	-3.3
11-Jan	-17.3	-18.1	-19.2	-20.4	-21.1	-22.0	-21.7	-21.1	-21.5	-21.5	-21.1	-20.5	-20.8	-21.1	-19.7	-20.4	-23.4	-25.8	-24.0	-23.3	-23.8	-24.2	-23.1	-22.6	-21.6	-17.3
12-Jan	-21.9	-21.2	-20.6	-20.1	-19.7	-19.3	-19.7	-20.5	-19.6	-19.2	-16.7	-14.8	-13.8	-12.3	-10.9	-10.9	-11.0	-11.3	-10.8	-9.8	-9.3	-10.2	-10.7	-10.6	-15.2	-9.3
13-Jan	-11.4	-12.0	-12.0	-14.1	-13.5	-13.4	-13.2	-13.3	-12.0	-12.3	-11.1	-8.8	-7.9	-7.4	-6.7	-6.4	-7.3	-7.3	-7.0	-6.7	-6.8	-6.9	-6.7	-6.8	-9.6	-6.4
14-Jan	-6.9	-6.4	-6.2	-6.1	-6.4	-6.2	-6.0	-5.4	-5.1	-3.4	-1.8	-1.2	-0.3	0.9	1.4	1.7	1.9	2.5	2.2	2.1	1.9	2.1	1.9	1.8	-1.7	2.5
15-Jan	2.1	2.6	2.2	1.3	0.3	-0.8	-1.6	-2.2	-2.6	-2.4	-1.5	-0.5	0.1	0.3	0.1	1.2	-2.5	-2.7	-3.8	-4.2	-3.7	-4.0	-4.7	-5.3	-1.4	2.6
16-Jan	-4.9	-4.4	-4.9	-5.2	-5.1	-5.2	-5.8	-6.0	-6.7	-7.8	-8.2	-8.2	-7.9	-8.0	-8.3	-8.6	-9.2	-10.2	-11.0	-11.6	-12.3	-13.8	-14.9	-16.6	-8.5	-4.4
17-Jan	-17.4	-18.4	-18.7	-18.8	-19.5	-20.6	-20.8	-20.8	-21.1	-21.7	-22.2	-22.3	-22.5	-22.5	-22.8	-23.2	-23.9	-24.6	-24.8	-25.6	-26.3	-27.1	-27.8	-28.4	-22.6	-17.4
18-Jan	-28.7	-29.1	-28.8	-29.0	-29.6	-29.2	-29.9	-30.7	-31.1	-29.5	-27.4	-25.7	-24.4	-22.9	-22.6	-22.7	-24.9	-27.2	-29.2	-30.8	-29.9	-29.6	-31.5	-28.2	-28.0	-22.6
19-Jan	-28.4	-27.8	-27.4	-28.3	-28.4	-28.5	-28.0	-28.8	-29.5	-30.9	-29.9	-28.5	-27.4	-26.4	-26.2	-26.3	-27.6	-30.2	-32.1	-32.5	-31.0	-28.8	-27.0	-26.0	-28.6	-26.0
20-Jan	-26.3	-25.6	-25.0	-23.9	-23.4	-22.5	-21.6	-21.5	-20.7	-19.9	-18.8	-17.5	-15.9	-14.1	-13.1	-12.9	-12.6	-12.4	-11.7	-11.2	-10.3	-9.6	-8.9	-7.0	-16.9	-7.0
21-Jan	-5.9	-6.2	-6.0	-6.0	-5.8	-5.6	-5.3	-5.5	-5.4	-5.3	-4.9	-5.4	-7.2	-9.2	-11.2	-12.7	-14.1	-15.4	-16.3	-16.8	-17.1	-17.2	-17.3	-17.2	-10.0	-4.9
22-Jan	-16.6	-16.3	-16.0	-15.5	-14.2	-12.8	-12.4	-12.2	-11.9	-11.3	-10.5	-9.6	-8.5	-7.7	-7.6	-7.8	-8.6	-8.9	-8.7	-8.2	-8.1	-8.1	-7.7	-6.8	-10.7	-6.8
23-Jan	-5.4	-5.2	-5.4	-4.5	-3.7	-3.3	-3.0	-2.9	-2.9	-2.6	-2.0	-1.6	-1.6	-1.1	-0.4	-0.7	-1.6	-2.0	-2.4	-3.4	-3.8	-3.7	-3.6	-3.0	-2.9	-0.4
24-Jan	-2.8	-3.0	-3.2	-4.5	-5.9	-7.7	-9.4	-11.5	-11.4	-11.5	-11.1	-10.4	-9.5	-8.6	-8.1	-8.2	-8.6	-8.7	-8.1	-7.1	-6.9	-6.9	-6.9	-5.8	-7.7	-2.8
25-Jan	-6.1	-6.8	-6.6	-7.2	-8.4	-8.8	-9.3	-9.8	-10.0	-10.6	-9.2	-7.9	-6.8	-5.4	-4.8	-4.3	-4.0	-4.8	-5.3	-6.2	-5.2	-4.8	-4.6	-4.9	-6.7	-4.0
26-Jan	-5.2	-5.5	-5.7	-6.2	-6.8	-7.1	-6.9	-7.0	-7.0	-6.0	-5.1	-4.1	-2.2	-0.3	0.2	0.1	-0.9	-1.5	-2.3	-2.2	-3.0	-1.6	-0.5	0.0	-3.6	0.2
27-Jan	0.6	-0.3	-0.9	-0.9	-1.1	-1.2	-2.2	-2.5	-2.1	-1.9	-1.9	-1.1	-0.9	-0.6	0.9	1.7	2.7	2.3	1.8	3.6	5.5	4.9	4.4	3.8	0.6	5.5
28-Jan	3.3	3.1	2.8	2.3	0.5	-1.3	-1.9	-2.3	-1.4	-0.7	-0.1	0.4	0.8	0.4	-0.7	-0.9	-1.9	-2.2	-2.5	-2.9	-3.1	-3.0	-3.1	-3.1	-0.7	3.3
29-Jan	-3.3	-3.3	-3.8	-3.9	-4.1	-4.9	-5.5	-5.8	-5.7	-5.6	-6.5	-8.2	-9.0	-9.7	-10.8	-12.5	-14.0	-14.8	-15.4	-16.2	-16.9	-17.5	-17.9	-18.3	-9.7	-3.3
30-Jan	-18.8	-19.2	-20.1	-20.7	-21.3	-22.2	-23.3	-24.6	-25.2	-25.4	-24.2	-23.3	-22.6	-22.7	-22.6	-22.8	-23.6	-28.0	-28.5	-27.9	-28.4	-28.4	-28.8	-30.9	-24.3	-18.8
31-Jan	-30.9	-30.1	-28.3	-25.9	-26.4	-27.3	-27.5	-27.1	-24.8	-23.8	-22.4	-20.8	-19.4	-19.0	-18.8	-19.5	-19.5	-19.6	-20.4	-20.8	-20.9	-21.3	-21.2	-21.2	-23.2	-18.8
																								Diurnal Average		
																								Diurnal Maximum		





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Ambient Temperature 2m (AT2) - C
Firebag - January 2025**

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	257	34.54	34.54
-20 - 0	431	57.93	92.47
0 - 10	56	7.53	100.00
10 - 20	0	0.00	100.00
> 20	0	0.00	100.00

Total Number of Valid Hours: 744

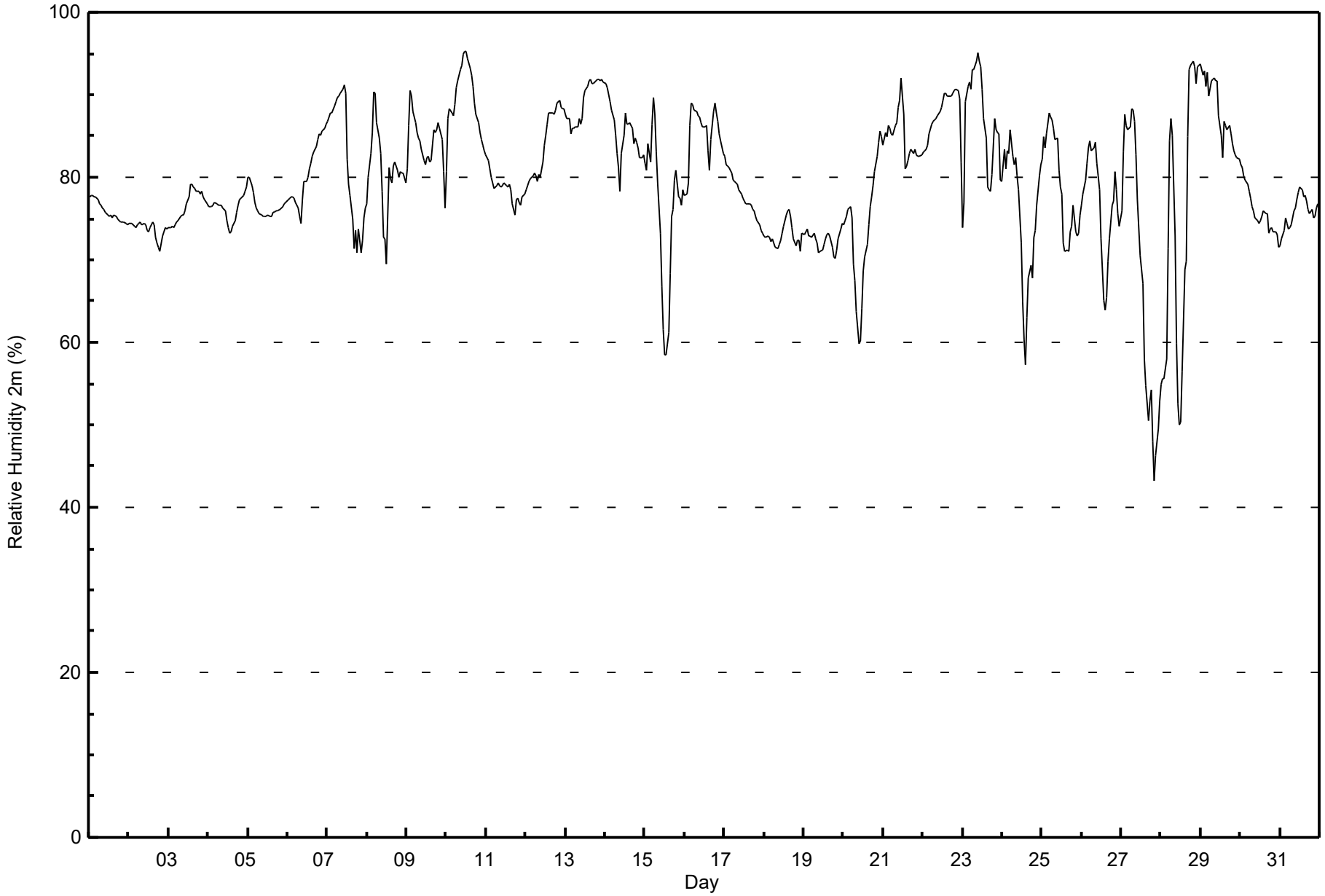
Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

Relative Humidity 2m (RH2) - %
Firebag - January 2025

Maximum Value: 95.3 % on Jan 10 12:00 Maximum Daily Average: 89.4 % on Jan 10																						Hours in Service: 744 Hours of Data: 744				
Minimum Value: 43.3 % on Jan 27 21:00 Minimum Daily Average: 68.5 % on Jan 27 Maximum Diurnal Average: 82.4 % at hour 6 Minimum Diurnal Average: 77.2 % at hour 14 Monthly Average: 79.47 % Percentiles: P ₁ = 52.7 P ₁₀ = 71.9 Q ₁ = 74.8 Median = 79.0 Q ₃ = 85.5 P ₉₀ = 89.7 P ₉₉ = 93.9																						Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0				
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	77.6	77.8	77.9	77.7	77.6	77.2	76.8	76.6	76.3	76.1	75.7	75.4	75.3	75.4	75.1	75.3	75.2	75.0	74.7	74.6	74.5	74.5	74.4	74.3	75.9	77.9
2-Jan	74.4	74.4	74.3	74.1	74.0	74.2	74.5	74.5	74.2	74.3	74.2	73.6	73.4	73.8	74.6	74.3	72.7	72.1	71.5	71.1	72.9	73.4	73.9	73.7	73.7	74.6
3-Jan	73.9	74.0	74.1	73.9	74.3	74.6	74.8	75.3	75.3	75.5	75.9	76.9	77.7	79.1	79.2	78.9	78.7	78.3	78.2	78.0	78.2	77.6	77.3	76.8	76.5	79.2
4-Jan	76.5	76.4	76.4	76.7	77.0	76.9	76.6	76.7	76.5	76.4	75.9	74.8	73.9	73.1	73.3	74.0	74.7	75.8	76.6	77.3	77.4	77.9	78.3	78.7	76.2	78.7
5-Jan	79.9	80.0	79.0	78.1	77.0	76.2	76.0	75.6	75.4	75.3	75.2	75.4	75.2	75.2	75.7	75.8	75.9	75.9	76.0	76.2	76.4	76.7	77.0	76.4	76.4	80.0
6-Jan	77.3	77.5	77.6	77.6	77.4	76.9	76.2	75.2	74.4	77.2	79.5	79.5	80.0	81.0	81.7	82.5	83.1	83.8	84.6	85.2	85.1	85.5	86.0	86.4	80.5	86.4
7-Jan	86.7	87.3	87.8	87.8	88.6	89.1	89.6	89.9	90.1	90.7	91.2	90.2	82.3	79.2	77.8	74.8	71.4	73.6	70.9	73.8	70.9	72.4	75.0	76.3	82.0	91.2
8-Jan	76.8	80.0	82.9	85.5	90.3	90.1	86.7	84.8	83.0	78.2	72.8	72.5	69.5	81.2	79.9	79.3	81.3	81.8	80.9	80.0	80.7	80.5	80.5	79.3	80.8	90.3
9-Jan	81.0	86.3	90.5	89.8	88.0	86.5	85.5	84.8	84.4	83.4	82.0	81.5	82.4	82.6	81.8	82.0	85.7	85.5	85.8	86.7	86.0	84.5	80.7	76.3	84.3	90.5
10-Jan	80.7	87.1	88.3	87.9	87.5	88.8	90.9	91.8	93.0	93.6	94.9	95.3	95.2	94.4	93.2	92.3	91.1	89.0	87.7	86.7	85.5	84.5	83.9	83.2	89.4	95.3
11-Jan	82.7	82.0	81.0	80.0	79.4	78.6	78.9	79.4	78.9	78.9	79.0	79.4	79.0	78.7	79.1	78.5	76.9	75.4	77.2	77.4	77.0	76.7	77.6	77.9	78.7	82.7
12-Jan	78.4	79.0	79.4	79.9	80.1	80.5	80.1	79.6	80.3	80.1	81.9	83.8	85.0	86.5	87.8	87.9	87.9	87.6	88.2	89.0	89.4	88.5	88.2	88.3	84.0	89.4
13-Jan	87.6	87.1	87.1	85.3	86.0	86.0	86.1	86.1	87.2	86.5	87.1	89.7	90.6	91.1	91.8	91.9	91.4	91.4	91.7	91.9	91.8	91.7	91.8	91.5	89.2	91.9
14-Jan	91.3	90.9	90.0	89.1	88.1	86.9	85.1	82.9	81.2	78.3	82.8	85.0	87.8	86.5	86.5	86.6	86.0	84.1	84.8	84.2	83.6	82.3	82.4	82.7	85.4	91.3
15-Jan	81.7	80.8	84.0	81.9	86.4	89.7	87.7	83.0	79.3	73.2	66.7	61.5	58.5	58.5	61.1	68.4	75.3	76.1	79.6	80.8	77.7	77.5	76.5	78.5	76.0	89.7
16-Jan	77.8	77.9	79.3	86.3	89.0	88.7	88.2	88.0	87.5	87.3	86.6	86.1	86.2	83.3	80.9	84.6	87.9	89.0	87.8	86.8	85.3	84.4	82.9	85.3	89.0	89.0
17-Jan	82.5	81.6	81.4	81.3	80.5	79.6	79.5	79.4	79.1	78.5	77.9	77.5	77.1	76.7	76.7	76.8	76.6	76.2	75.9	75.3	74.8	74.2	73.6	73.2	77.8	82.5
18-Jan	73.0	72.7	72.9	72.7	72.3	72.5	72.1	71.6	71.3	71.8	72.4	73.2	74.1	75.3	76.0	76.1	75.2	73.9	72.5	71.7	72.3	72.4	71.1	73.3	73.0	76.1
19-Jan	73.0	73.4	73.7	72.9	72.9	72.8	73.2	72.5	72.1	70.9	71.0	71.3	71.8	72.5	73.1	73.2	73.0	71.5	70.4	70.1	71.2	72.6	73.8	74.5	72.4	74.5
20-Jan	74.2	74.8	75.3	76.1	76.5	75.0	69.5	67.4	63.8	59.8	60.2	64.0	68.7	70.3	71.8	74.2	76.5	77.6	79.0	80.7	82.6	84.2	85.7	84.9	73.9	85.7
21-Jan	84.0	85.4	85.0	86.3	86.0	85.3	85.2	86.2	86.6	88.5	89.3	92.0	87.6	81.0	81.3	82.1	82.9	83.4	82.9	83.4	82.8	82.5	82.5	82.7	84.8	92.0
22-Jan	83.0	83.3	83.5	83.9	85.3	86.4	86.9	86.9	87.1	87.5	87.9	88.5	89.4	90.1	90.2	89.9	89.9	89.9	90.1	90.5	90.6	90.5	89.5	81.9	87.6	90.6
23-Jan	73.9	76.9	89.2	91.1	91.4	90.6	93.1	93.0	94.1	95.1	94.0	93.4	90.6	87.1	84.8	78.9	78.4	78.3	80.3	87.2	85.8	85.4	85.3	79.7	86.6	95.1
24-Jan	79.5	83.4	81.0	83.2	82.9	85.8	82.6	81.6	82.4	80.2	78.5	72.1	64.9	60.4	57.3	63.1	67.8	69.3	67.8	72.7	73.6	76.6	80.2	81.5	75.3	85.8
25-Jan	82.2	84.9	83.5	85.3	87.8	87.3	87.0	86.0	84.6	84.8	80.8	78.7	78.0	72.0	71.1	71.2	71.0	73.4	74.0	76.6	73.4	72.8	73.3	75.4	79.0	87.8
26-Jan	76.7	78.0	79.6	81.7	83.5	84.4	83.2	83.5	84.2	81.6	80.2	78.4	72.6	65.1	64.0	65.4	69.9	72.6	76.6	77.2	80.6	78.5	75.6	74.1	77.0	84.4
27-Jan	75.9	83.1	87.7	86.4	85.7	86.1	88.4	88.1	86.8	82.7	77.2	70.5	68.7	67.2	58.0	54.7	50.6	52.9	54.3	48.0	43.3	46.3	49.5	52.8	68.5	88.4
28-Jan	54.9	55.6	55.6	58.0	71.4	84.4	87.2	85.1	72.8	59.7	52.5	50.0	50.4	56.5	68.8	69.9	85.0	93.1	93.6	94.0	93.4	91.4	93.5	93.5	73.8	94.0
29-Jan	93.7	92.4	92.9	91.1	92.7	89.8	91.8	91.8	92.1	91.6	91.7	87.5	85.1	82.4	86.7	86.2	85.8	86.3	85.3	84.1	83.3	82.7	82.4	82.2	88.0	93.7
30-Jan	81.6	81.2	80.2	79.7	79.2	78.4	77.4	76.4	75.9	75.2	74.8	74.4	74.7	75.3	75.8	75.6	75.6	73.3	73.7	73.8	73.3	73.5	73.0	71.6	76.0	81.6
31-Jan	71.7	72.5	73.6	75.1	74.5	73.8	73.9	74.2	75.9	76.3	77.2	78.1	78.8	78.5	77.6	77.8	77.1	76.1	75.6	76.1	75.0	75.3	76.3	76.8	75.7	78.8
78.8 79.9 80.8 81.2 82.0 82.4 82.1 81.5 80.8 79.6 78.9 78.4 77.6 77.2 77.2 77.4 78.3 78.7 79.0 79.4 79.0 79.0 79.1 78.8																								Diurnal Average		
93.7 92.4 92.9 91.1 92.7 90.6 93.1 93.0 94.1 95.1 94.9 95.3 95.2 94.4 93.2 92.3 91.4 93.1 93.6 94.0 93.4 91.7 93.5 93.5																								Diurnal Maximum		





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Relative Humidity 2m (RH2) - %
Firebag - January 2025

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	0	0.00	0.00
40 - 60	23	3.09	3.09
60 - 80	380	51.08	54.17
80 - 100	341	45.83	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744

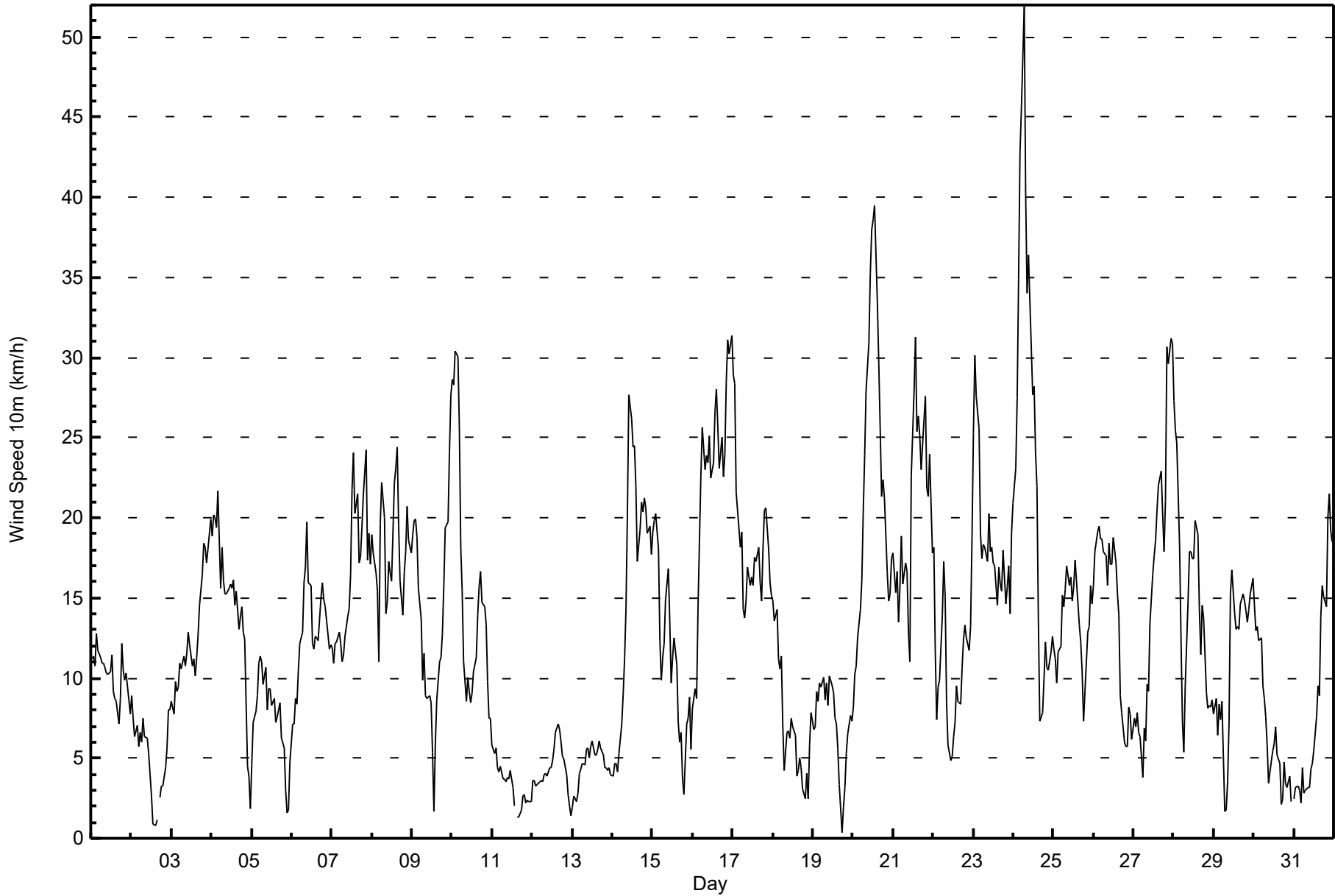


Maximum Speed: 52 km/h on Jan 24 07:00	Maximum Daily Speed Average: 22.0 km/h on Jan 20	Hours in Service: 744
Minimum Speed Value: 0 km/h on Jan 19 18:00	Minimum Daily Speed Average: 0.9 km/h on Jan 9	Hours of Data: 741
Maximum Diurnal Speed Average: 5.2 km/h at hour 14	Minimum Diurnal Speed Average: 2.9 km/h at hour 5	Hours of Missing Data: 3
Monthly Average Velocity: 4.1 km/h 282.2 deg	Percentiles: P ₁ = 2 P ₁₀ = 4 Q ₁ = 7 Median = 12 Q ₃ = 18 P ₉₀ = 23 P ₉₉ = 36	Percent Operational Time: 99.6

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	N11	N11	N11	N13	N12	N11	N11	N11	N11	N10	N10	NNW10	NNW11	N9	N9	N9	N7	N9	N12	N11	N10	N10	NNE9	N8	N10.1	N13
2-Jan	N9	N7	N6	N7	N6	N7	N6	N7	N6	N6	N5	NNW4	NNW3	S1	SSW1	SSW1	UO	S3	SSE3	SSE3	SSE4	S6	S8	S8	N1.8	N9
3-Jan	S9	S8	SSE10	S9	S9	S11	S11	S11	S11	S12	S13	S12	S11	S11	S10	SSE11	SSE13	SSE15	SSE17	SSE18	SSE18	S17	S18	S20	S12.6	S20
4-Jan	S19	S20	S20	S19	SSE22	SSE16	SSE18	SSE16	S15	S15	S16	S16	SSE16	SSE16	SSE15	SSE15	S13	S14	S14	S13	S12	SW4	W4	W2	S14.2	SSE22
5-Jan	NNE5	N7	N8	N9	N11	NNE11	NNE11	N10	N11	N8	N9	N9	N8	N9	NNW7	NNW8	N8	NNE8	NNE6	NE6	N3	NW2	WSW2	SW5	N6.8	NNE11
6-Jan	SW7	SSW7	S9	S8	S11	S12	S13	SSE16	SSE17	S20	S16	S16	S12	SSW12	SSW13	SSW13	SSW12	SSW15	SSW16	SW15	SW14	SW14	SW12	SW12	SSW12.2	S20
7-Jan	SW12	SW11	SW12	SSW12	SSW13	SW12	SW11	SW11	SSW13	SSW14	SW14	SW17	SW22	SW24	SW20	SW22	SSW17	SW18	SSW19	SW21	WSW24	WSW17	SW19	SW17	SSW16.1	WSW24
8-Jan	WSW19	WSW18	WSW17	W15	WSW11	W20	W22	NNW20	NNW14	NNW15	W17	W17	NNW16	NNW22	NNW23	NNW24	NNW20	NW16	NW14	NNW17	NNW18	NNW21	NNW19	NW18	NNW16.0	NNW24
9-Jan	NNW19	N20	N20	N19	N16	N14	N10	N12	N9	N9	NNW9	NNW8	NW5	WNW2	S6	SW9	S11	SSE11	S13	SSE16	SSE19	SSE20	SSE24	S28	NE0.9	SSE28
10-Jan	S29	SSE28	SSE30	S30	S26	S18	S15	SSW11	SSW9	WSW10	WSW9	W8	NW9	N10	N11	N14	N16	N17	N15	N14	N13	N10	NNE8	NNE7	S2.5	SSE30
11-Jan	NNE6	NNE5	N6	NNE4	N4	NNE4	NE4	NE4	NE4	NE4	NNE4	NNE4	NNE3	NE2	UO	N1	NW1	SW2	SW3	SW3	SSW2	SSW2	S2	SSW2	NNE1.8	NNE6
12-Jan	SSW4	S4	S3	S3	SSW4	S4	S4	S4	SSW4	S4	SSW4	S4	S5	SSW6	SSW7	SSW7	SSW7	SSW6	SW5	SW5	SW4	SW3	SSW2	SW1	SSW4.1	SSW7
13-Jan	SSW2	SSW3	SSE2	S3	S4	S4	S5	S5	SSW6	S6	S5	SSW6	SSW6	SW5	SW5	SW6	SSW6	SW6	SW5	WSW4	WSW4	WSW4	WSW4	WSW4	SSW4.1	SSW6
14-Jan	SW4	WSW5	WSW5	WSW4	SW5	SW7	SW9	SW11	SW14	SW20	SW28	SW26	SW24	WSW25	WSW22	WSW17	WSW19	W21	W20	W21	W21	W19	W19	W18	WSW15.0	SW28
15-Jan	WNNW19	NW20	NW20	NW18	NNW12	WNNW10	NW11	NNW12	NNW15	NNW17	NNW13	NW10	WNNW11	WNNW13	WNNW11	W7	WSW6	W7	W4	N3	ENE7	ENE7	ENE9	ENE6	NW8.8	NW20
16-Jan	ENE8	E9	ESE9	ESE14	ESE18	ESE23	ESE26	ESE23	E24	ENE23	ENE25	ENE22	ENE23	NE27	NE28	NE26	NNE23	NNE25	NNE23	N24	N28	N31	N30	N31	NE17.2	N31
17-Jan	N29	N28	N22	N20	N18	N19	N14	N14	N15	N17	N16	N16	N16	N18	NNW17	NNW18	NNW16	N15	N18	N20	N21	N18	N16	N15	N18.1	N29
18-Jan	N15	N14	N14	N11	N11	N11	NNW7	WSW4	WSW7	SW7	SW6	WSW7	WSW7	W6	WNNW4	WNNW4	WSW5	SW4	SSW3	WSW2	WSW4	W2	NNW6	NNW8	NW4.4	N15
19-Jan	NNW7	N7	N9	N9	N10	N9	N10	N9	N10	N8	N10	N10	N9	N8	N7	N6	N3	W0	S2	SSW3	SW5	SW7	SW8	SW7	N4.8	N10
20-Jan	SSW8	SW10	SSW11	SSW13	SSW14	SSW16	SSW20	SSW24	SSW28	SSW31	SSW35	SSW38	SSW39	SSW39	SSW33	SW30	SW26	SW21	SW22	WSW21	WSW17	WSW15	WSW15	WSW17	SW22.0	SSW39
21-Jan	W18	WSW15	W17	WSW14	WSW16	W19	W16	W17	W17	W13	WNNW11	N23	N28	N31	NNW25	N26	N25	N23	N26	N28	N22	N21	N24	N18	NNW15.3	N31
22-Jan	N18	NNW12	NW7	W9	NW10	NNW14	N17	N15	NNW8	NW6	WNNW5	WNNW5	WNNW6	W7	WSW9	WSW9	SW8	SW11	SW12	SW13	SW12	SSW12	SSW13	SW19	W6.1	SW19
23-Jan	SSW25	SSW30	SSW28	SW26	SW19	WSW17	WSW18	WSW18	SW17	WSW20	WSW18	W18	W17	W17	WNNW15	NW17	NW16	NW15	NW18	WNNW15	W16	W17	W14	WNNW19	WSW15.4	SSW30
24-Jan	NW21	NW23	NNW28	NNW35	N43	N46	N52	N40	N34	N36	N34	N28	N28	NNW24	NNW22	NNW14	WNNW7	W8	WSW10	W12	W11	W10	W12	W13	NNW21.6	N52
25-Jan	WSW12	WSW11	WSW10	WSW12	SW12	SW15	SW14	SW16	SW17	SW16	WSW16	WSW15	WSW16	WSW17	WSW16	W13	W12	W10	WSW7	WSW9	WSW13	WSW13	WSW16	SW15	WSW13.0	WSW17
26-Jan	SW16	SW18	SW19	SW19	SW19	WSW18	WSW18	SW16	WSW18	WSW17	WSW17	WSW19	WSW17	WSW15	WSW14	W9	WNNW8	W6	W6	WSW6	W8	WNNW8	WNNW6	WSW13.3	WSW13.3	SW19
27-Jan	NW7	WNNW7	W8	W7	W6	W4	WSW7	SSW6	SW10	SW9	SSW13	SW17	SW18	SW19	WSW20	WSW22	WSW23	WSW20	W18	WNNW21	NW31	NW30	NW31	NW31	W13.3	NW31
28-Jan	NW27	NW25	NW25	NW18	NNW13	NNW7	WNNW5	WSW10	W15	WNNW18	NW18	NW17	NW17	NW20	NNW19	NNW14	NW11	NW15	NW14	NW9	WNNW8	WNNW8	WNNW8	WNNW9	NW14.0	NW27
29-Jan	WNNW8	WNNW9	WNNW6	WNNW8	N7	NNE9	NE2	SSW2	WSW4	NNE7	NNE15	NNE17	NE14	NNE13	NNE13	NE13	NE15	NNE15	NNE15	NNE14	NNE13	NE14	NNE15	NNE16	NNE9.9	NNE17
30-Jan	NNE15	N13	NNE13	NNE12	N13	N10	NNE9	NNE8	NNE6	N3	N5	N5	N6	NNE7	NNE5	NNE5	N2	NNW2	NE5	ENE3	ENE3	ENE4	NE2	UO	NNE6.5	NNE15
31-Jan	N2	NE3	E3	E3	E2	SE4	SE3	ESE3	ESE3	SE3	ESE4	SE5	SE6	ESE8	ESE10	E9	E14	E16	E15	E14	E20	E21	E19	E19	E8.3	E21

WNNW5.1	WNNW4.6	WNNW3.8	W3.5	WNNW2.9	WNNW3.0	WNNW3.0	W3.0	W3.5	W4.0	W4.2	W4.5	W5.0	WNNW5.2	WNNW5.1	WNNW4.7	WNNW4.2	WNNW3.9	WNNW3.7	WNNW4.1	WNNW4.3	WNNW4.1	WNNW4.3	WNNW4.9	Diurnal Average
N29	SSW30	SSE30	NNW35	N43	N46	N52	N40	N34	N36	SSW35	SSW38	SSW39	SSW39	SSW33	SW30	SW26	NNE25	N26	N28	NW31	N31	NW31	N31	Diurnal Maximum

UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 10m (WS10) - km/h
Firebag - January 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	129	17.41	17.41
6 - 11	225	30.36	47.77
12 - 19	260	35.09	82.86
20 - 28	99	13.36	96.22
29 - 38	22	2.97	99.19
> 38	6	0.81	100.00

Total Number of Valid Hours: 741

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Wind Speed 10m (WS10) - km/h
Firebag - January 2025

Wind Speed Ranges (km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	10	10	8	4	3	3	4	4	18	17	16	14	6	6	3	3	129
6 - 11	67	15	2	4	2	3	1	3	20	15	20	17	17	15	9	15	225
12 - 19	36	16	2	0	6	2	0	16	24	18	36	37	26	13	14	14	260
20 - 28	21	3	3	4	3	3	0	6	4	5	13	9	6	3	8	8	99
29 - 38	8	0	0	0	0	0	0	1	2	5	1	0	0	0	4	1	22
> 38	4	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	6
Totals	146	44	15	12	14	11	5	30	68	62	86	77	55	37	38	41	741

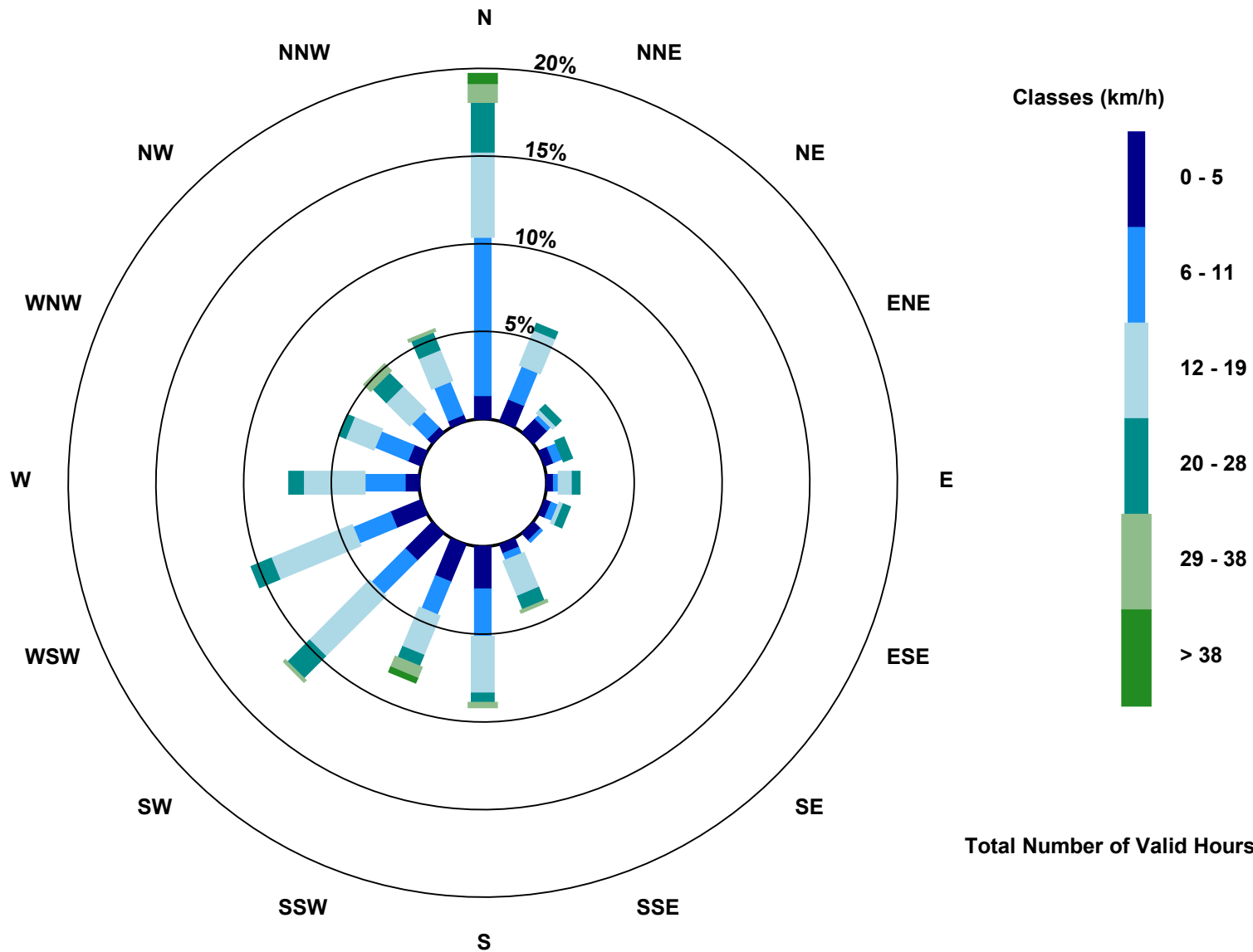
Total Number of Valid Hours: 741

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Wind Speed 10m (WS10) - km/h
Firebag



Total Number of Valid Hours: 741



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Speed 10m (WS10) - km/h
Firebag - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 11 km/h on Jan 24 07:00	Hours in Service: 744 Hours of Data: 741 Hours of Missing Data: 3 Hours of Calibration: 0 Percent Operational Time: 99.6
Minimum Value: 0 km/h on Jan 11 23:00	
Percentiles: P ₁ = 0 P ₁₀ = 1 Q ₁ = 1 Median = 2 Q ₃ = 3 P ₉₀ = 5 P ₉₉ = 8	

Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	2	2	2	3	3	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	3
2-Jan	2	2	1	1	1	1	1	2	1	1	1	1	1	1	1	1	UO	0	0	1	1	1	1	1	2
3-Jan	1	1	1	2	1	1	1	2	1	1	2	2	2	2	1	2	2	2	2	2	2	2	3	3	3
4-Jan	2	3	3	3	3	3	2	3	2	2	2	2	3	2	3	2	2	2	2	2	2	1	1	1	3
5-Jan	2	1	1	2	2	2	2	2	2	2	2	2	1	2	1	2	1	2	2	1	1	1	1	2	2
6-Jan	1	1	1	1	2	2	2	2	3	3	2	3	2	2	2	2	2	2	2	2	2	2	2	2	3
7-Jan	2	1	1	1	1	1	1	1	1	2	2	3	3	4	3	4	4	4	4	5	4	3	3	2	5
8-Jan	3	3	3	3	3	4	4	4	3	4	4	4	4	7	5	5	4	3	4	4	5	5	5	4	7
9-Jan	4	5	4	4	4	3	3	3	2	2	2	2	2	1	1	1	2	2	1	3	3	3	4	4	5
10-Jan	5	5	6	6	5	4	3	2	2	2	2	2	3	2	2	3	3	3	3	3	3	2	2	2	6
11-Jan	1	1	1	1	1	1	0	1	1	1	1	1	1	1	UO	1	1	0	0	0	0	0	0	0	1
12-Jan	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	1	1	1	0	1	1
13-Jan	1	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0	1
14-Jan	0	0	0	0	0	1	1	2	2	4	5	4	5	5	3	3	3	4	4	4	4	4	4	3	5
15-Jan	5	5	5	4	3	2	2	2	3	3	3	2	3	3	3	2	1	1	1	3	2	1	2	1	5
16-Jan	2	1	3	3	3	4	4	4	4	5	4	4	4	6	6	5	4	6	5	5	7	7	7	7	7
17-Jan	6	6	5	5	4	4	3	3	3	4	4	4	4	4	4	4	3	3	4	5	5	4	3	3	6
18-Jan	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	3
19-Jan	1	1	2	1	2	2	2	2	2	1	2	2	2	1	2	1	1	1	1	0	1	1	1	1	2
20-Jan	1	1	1	2	2	2	3	3	5	5	6	6	6	6	6	4	4	4	5	3	3	2	2	3	6
21-Jan	4	3	4	3	4	4	3	3	4	3	3	6	8	7	6	5	6	5	5	6	5	6	5	4	8
22-Jan	4	3	2	2	3	4	4	3	2	1	1	1	2	2	2	1	1	2	2	2	2	1	2	3	4
23-Jan	5	5	4	4	5	3	3	3	3	3	4	3	3	4	4	4	4	3	4	3	3	4	3	6	6
24-Jan	5	6	8	8	9	10	11	9	7	7	8	6	5	6	4	1	1	2	2	2	2	2	2	3	11
25-Jan	2	2	2	2	2	3	2	2	2	2	3	3	3	3	3	3	2	2	1	2	2	2	2	2	3
26-Jan	2	2	3	2	3	2	2	2	2	3	3	3	3	4	3	2	2	2	2	2	2	1	2	2	4
27-Jan	1	1	1	2	1	1	3	2	2	1	2	3	3	3	3	4	5	4	4	7	8	8	9	7	9
28-Jan	7	6	6	4	4	2	1	2	4	5	5	4	4	5	4	4	3	4	4	3	2	2	2	2	7
29-Jan	2	3	1	2	3	3	1	1	1	5	3	4	2	2	3	3	3	3	3	3	3	3	3	3	5
30-Jan	3	3	3	3	3	2	2	2	2	1	1	1	1	2	1	1	0	1	1	1	1	1	1	UO	3
31-Jan	1	1	0	1	1	1	1	1	1	1	1	1	1	2	2	2	2	3	3	4	4	4	5	3	5
	7	6	8	8	9	10	11	9	7	7	8	6	8	7	6	5	6	6	5	7	8	8	9	7	
Diurnal Maximum																									

UO - Unstable Operation



Wood Buffalo Environmental Association
Summary of Hour Averages

Wind Direction 10m (WD10) - deg
Firebag - January 2025

Direction of Maximum Speed: 353 deg on Jan 24 07:00	Hours in Service: 744
Direction of Maximum Daily Speed Average: 217.7 deg on Jan 20	Hours of Data: 741
Direction of Minimum Speed: 275 deg on Jan 19 18:00	Hours of Missing Data: 3
Direction of Minimum Daily Speed Average: 0.9 deg on Jan 9	Percent Operational Time: 99.6
Monthly Average Direction: 282.2 deg	

Day	Hourly Period Ending At (MST)																								Daily Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	353	1	356	355	355	356	354	353	353	352	350	344	348	356	353	0	0	8	11	7	6	10	17	9	358.3
2-Jan	3	4	5	10	356	358	354	6	3	359	358	347	336	187	206	196	UO	176	165	158	168	171	174	175	7.3
3-Jan	176	174	167	169	175	177	175	177	171	172	180	181	180	170	170	165	167	168	166	162	167	174	178	178	172.2
4-Jan	175	169	170	175	166	166	166	167	173	173	176	171	168	165	165	168	171	178	173	173	180	232	260	279	172.3
5-Jan	25	0	4	11	8	12	18	7	4	9	359	359	351	350	336	343	357	12	23	56	11	304	240	221	3.3
6-Jan	229	206	177	177	170	176	176	168	166	171	171	177	185	194	198	204	205	206	211	215	217	216	218	221	192.6
7-Jan	215	214	215	208	210	215	218	216	211	210	216	224	226	228	219	219	211	223	211	236	242	238	234	236	222.3
8-Jan	245	253	255	262	253	263	276	286	286	289	273	277	286	328	327	334	333	325	306	297	294	299	300	318	292.1
9-Jan	339	354	1	5	0	3	357	357	354	0	345	343	317	290	190	217	173	166	179	160	162	156	163	169	36.7
10-Jan	174	166	159	172	177	175	178	195	200	245	242	266	323	355	8	2	1	3	7	4	7	7	16	15	176.8
11-Jan	16	13	8	19	4	19	41	38	39	35	25	22	18	44	UO	5	310	221	217	214	201	196	183	205	19.1
12-Jan	196	186	181	171	192	189	174	184	192	185	192	185	191	193	203	208	203	205	222	230	233	226	213	225	199.2
13-Jan	197	210	161	171	180	187	180	170	196	178	174	192	201	215	215	219	212	231	232	242	251	242	242	240	206.9
14-Jan	231	246	248	237	227	223	220	220	221	215	218	222	235	249	257	254	256	269	266	266	267	265	272	273	246.7
15-Jan	289	306	313	312	298	289	311	329	340	335	332	306	293	289	291	272	257	266	261	359	69	57	46	75	312.9
16-Jan	78	95	123	116	109	112	111	106	93	74	75	71	64	54	50	45	27	21	16	7	3	4	359	359	52.5
17-Jan	357	354	1	360	3	7	4	359	356	359	2	0	351	352	346	347	347	350	356	357	359	357	356	354	356.4
18-Jan	358	358	358	352	351	356	341	249	237	232	235	258	254	266	288	284	251	214	210	240	255	280	337	337	311.9
19-Jan	336	357	10	9	8	6	4	3	360	2	1	3	4	360	353	0	353	275	184	207	224	219	216	221	352.1
20-Jan	211	214	212	206	208	210	211	208	210	208	211	207	206	208	213	220	224	229	236	238	242	240	247	258	217.7
21-Jan	262	256	259	253	258	265	268	266	270	279	303	351	352	351	348	358	353	355	357	358	355	353	357	350	326.5
22-Jan	351	331	308	275	305	328	354	358	348	312	300	291	286	281	258	245	227	216	219	223	219	206	208	214	276.4
23-Jan	210	212	212	216	226	237	241	247	234	243	252	259	261	264	283	315	321	325	309	286	270	276	277	301	255.2
24-Jan	306	313	327	342	351	353	353	0	360	355	352	351	352	347	343	334	296	270	254	269	272	268	269	275	338.1
25-Jan	253	256	257	239	225	227	226	226	228	233	244	247	243	253	256	269	273	276	258	239	245	242	237	227	243.6
26-Jan	224	226	222	224	236	234	239	240	236	240	237	237	246	255	254	252	260	292	273	268	247	272	286	303	243.2
27-Jan	321	286	264	272	261	262	245	213	235	231	211	233	229	229	240	247	256	248	265	295	312	306	308	311	268.9
28-Jan	311	315	317	309	338	335	293	258	281	301	309	311	319	316	334	335	305	308	315	306	287	288	282	294	310.1
29-Jan	295	341	332	345	2	17	37	202	237	12	19	30	34	27	25	34	37	32	32	25	32	38	32	20	21.4
30-Jan	17	10	18	17	11	11	12	25	26	1	358	2	2	13	23	17	1	342	36	64	78	67	56	UO	17.6
31-Jan	352	49	80	86	99	133	129	123	123	125	110	135	130	113	107	91	93	92	91	89	91	90	85	79	94.5

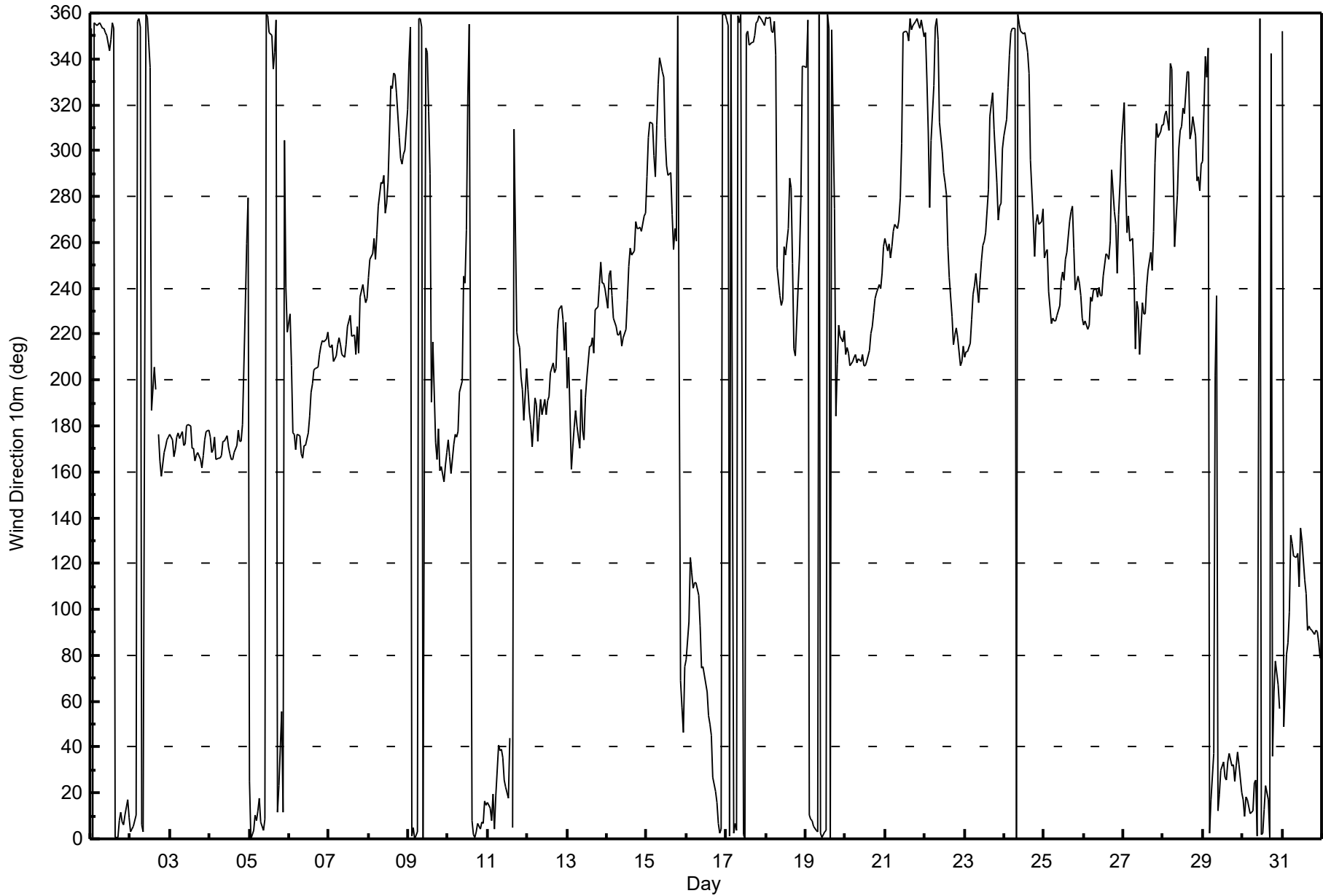
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 Diurnal Average

UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods



Wood Buffalo Environmental Association
Hourly Averages

Wind Direction 10m (WD10) - deg
Firebag - January 2025





Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg
Firebag - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0										Hours in Service: 744															
Maximum Value: 82 deg on Jan 2 14:00										Hours of Data: 741															
Minimum Value: 5 deg on Jan 19 00:00										Hours of Missing Data: 3															
Percentiles: P ₁ = 7 P ₁₀ = 8 Q ₁ = 10 Median = 12 Q ₃ = 14 P ₉₀ = 18 P ₉₉ = 51										Hours of Calibration: 0															
										Percent Operational Time: 99.6															
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	11	14	12	13	13	12	12	12	12	13	13	13	12	12	11	13	11	12	12	14	15	13	12	13	15
2-Jan	13	14	13	11	14	12	13	14	14	13	13	16	58	82	67	20	UO	13	8	8	7	11	6	7	82
3-Jan	8	8	7	7	8	8	8	10	8	8	8	7	9	9	7	8	9	9	8	9	9	8	9	10	10
4-Jan	10	9	9	9	10	10	8	9	9	9	9	9	9	9	10	8	10	8	9	10	10	22	35	44	44
5-Jan	26	14	11	13	12	13	12	13	14	12	13	14	14	14	15	14	14	13	16	16	29	50	45	26	50
6-Jan	11	17	9	13	10	10	9	8	9	8	8	10	10	9	9	9	9	9	9	9	9	9	9	9	17
7-Jan	8	8	8	8	8	8	9	8	8	8	9	10	10	10	9	9	14	13	12	10	9	9	9	9	14
8-Jan	9	11	10	11	14	14	13	15	14	15	13	15	17	16	13	11	11	12	17	16	16	16	15	16	17
9-Jan	12	15	13	14	14	15	14	15	14	15	11	18	23	79	21	11	14	16	15	9	10	9	9	9	79
10-Jan	9	10	10	11	9	10	17	9	12	10	12	17	27	16	13	13	14	15	13	12	14	14	13	14	27
11-Jan	14	16	13	11	12	13	14	13	14	13	14	16	23	26	UO	42	52	18	15	11	10	7	15	25	52
12-Jan	14	10	12	9	8	8	11	11	7	9	8	10	8	8	8	9	8	9	12	10	12	23	15	29	29
13-Jan	13	13	15	12	8	7	8	9	10	10	9	15	8	12	12	9	10	9	9	11	9	9	7	8	15
14-Jan	7	9	9	10	8	8	8	10	9	10	10	12	11	13	12	10	11	13	12	12	12	12	12	13	13
15-Jan	18	15	14	13	16	12	15	10	12	10	13	18	18	17	16	14	12	11	8	63	18	9	11	13	63
16-Jan	13	12	14	11	8	9	8	9	10	9	9	10	10	9	10	10	12	12	14	17	17	18	16	17	18
17-Jan	16	16	16	14	15	14	14	13	14	14	14	15	12	13	14	13	12	14	13	14	14	14	13	12	16
18-Jan	13	12	13	10	9	11	19	32	8	9	15	12	11	14	28	13	18	16	24	30	10	15	13	5	32
19-Jan	5	9	12	11	13	14	13	13	12	13	15	14	14	14	14	11	12	80	30	20	7	8	8	8	80
20-Jan	8	8	8	8	8	9	8	9	9	9	9	9	9	9	10	9	11	14	12	11	10	10	10	12	14
21-Jan	11	11	11	9	11	13	12	12	13	14	22	14	14	14	13	14	14	13	13	14	13	13	14	11	22
22-Jan	12	13	20	15	22	17	12	13	15	17	20	19	19	20	13	10	12	9	9	9	8	9	10	9	22
23-Jan	9	9	10	10	11	13	10	9	12	10	10	12	11	12	18	16	14	12	14	18	13	14	13	17	18
24-Jan	14	14	15	13	15	16	15	15	16	15	13	13	13	13	14	11	22	15	12	14	14	12	12	14	22
25-Jan	10	13	12	10	8	8	8	9	8	10	10	13	11	10	12	15	12	12	19	10	8	9	9	8	19
26-Jan	9	9	9	9	10	9	8	8	9	9	9	11	10	14	11	10	14	14	14	21	19	11	13	27	27
27-Jan	19	15	14	15	15	30	17	25	12	14	9	15	9	13	10	10	12	10	14	18	14	15	15	14	30
28-Jan	14	13	14	16	22	12	22	13	16	16	14	14	15	16	13	15	16	14	13	20	16	16	15	15	22
29-Jan	18	16	11	13	15	14	25	67	16	28	12	12	14	10	11	13	10	12	11	11	11	11	12	12	67
30-Jan	14	14	13	13	14	11	13	12	15	20	14	14	15	15	19	17	26	23	16	19	18	12	16	UO	26
31-Jan	27	14	15	17	17	15	20	14	15	26	20	16	17	11	10	11	9	9	9	12	10	10	11	11	27
Diurnal Maximum																									
UO - Unstable Operation																									



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS20 MACKAY RIVER JANUARY 2025

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

February 28, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - MACKAY RIVER (AMS20)
JANUARY 2025

MONTHLY SUMMARY

Parameter	Hours of Data	Hours of Calibration	Hours without Data	Operational Time	Maximum 1-Hour Value	1-Hour Exceedances	Maximum 24-Hour Value	24-Hour Exceedances
SO2 (ppb) Average	709	35	35	100	22.6	0	5.2	0
H2S (ppb) Average	708	35	36	99.87	3.7	0	0.5	0
THC (ppm) Average	708	35	36	99.87	3.1	-	2.7	-
NO2 (ppb) Average	706	36	38	99.73	32.4	0	16.6	-
NO (ppb) Average	706	36	38	99.73	19.9	-	3.4	-
NOX (ppb) Average	706	36	38	99.73	49.1	-	20	-
Temperature 2 m (C) Average	744	0	0	100	4.7	-	1.1	-
Relative Humidity (%) Average	744	0	0	100	96	-	92	-
Wind Speed 10 m (km/h) Average	736	0	8	98.92	25	-	12	-
Wind Direction 10 m (deg) Average	736	0	8	98.92	-	-	-	-
Precipitation (mm) Total	744	0	0	100	2.2	-	13.8	-

Note : Operational time includes periods of data collection and instrument calibration

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - MACKAY RIVER (AMS20)
 JANUARY 2025

MONTHLY SUMMARY FOR AIR QUALITY/ METEOROLOGICAL MONITORING MEASUREMENTS

Parameter	Number	Mean	StnDev	Total	Percentile						
					Min	P10	Q1	Median	Q3	P90	Max
SO2 (ppb) Average	709	0.73	1.9	-	0	0	0	0.1	0.5	2	22.6
H2S (ppb) Average	708	0.16	0.3	-	0	0	0.1	0.1	0.2	0.4	3.7
THC (ppm) Average	708	2.42	0.1	-	2.2	2.3	2.3	2.4	2.5	2.6	3.1
NO2 (ppb) Average	706	3.23	4.5	-	0.2	0.4	0.5	1.1	4.1	8.7	32.4
NO (ppb) Average	706	0.27	1.2	-	0	0	0	0	0.1	0.5	19.9
NOX (ppb) Average	706	3.5	5.2	-	0.2	0.4	0.5	1.2	4.4	9.1	49.1
Temperature 2 m (C) Average	744	-12.38	10.7	-	-38.7	-26.7	-21	-10.4	-3.7	0.2	4.7
Relative Humidity (%) Average	744	77.59	10.4	-	39.9	65.1	73.2	78.1	84.6	89.8	96
Wind Speed 10 m (km/h) Average	736	7.4	4	-	0	3	4	7	10	13	25
Wind Direction 10 m (deg) Average	736	-	-	-	-	-	-	-	-	-	-
Precipitation (mm) Total	744	-	-	28.53	-	-	-	-	-	-	-

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION -MACKAY RIVER (AMS20)
JANUARY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
H2S, NO2	10 Jan 2025 11:00	10 Jan 2025 11:00	1	Maintenance - sample manifold cleaned
NO2	06 Jan 2025 11:00	06 Jan 2025 11:00	1	Maintenance - verify daily QA response
THC	06 Jan 2025 09:00	06 Jan 2025 09:00	1	Maintenance - zero air generator replaced
Wind Speed, Wind Direction	01 Jan 2025 17:00	01 Jan 2025 20:00	4	Flat line in sensor output signal
Wind Speed, Wind Direction	01 Jan 2025 23:00	01 Jan 2025 23:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	02 Jan 2025 14:00	02 Jan 2025 14:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	15 Jan 2025 21:00	15 Jan 2025 21:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	29 Jan 2025 10:00	29 Jan 2025 10:00	1	Flat line in sensor output signal



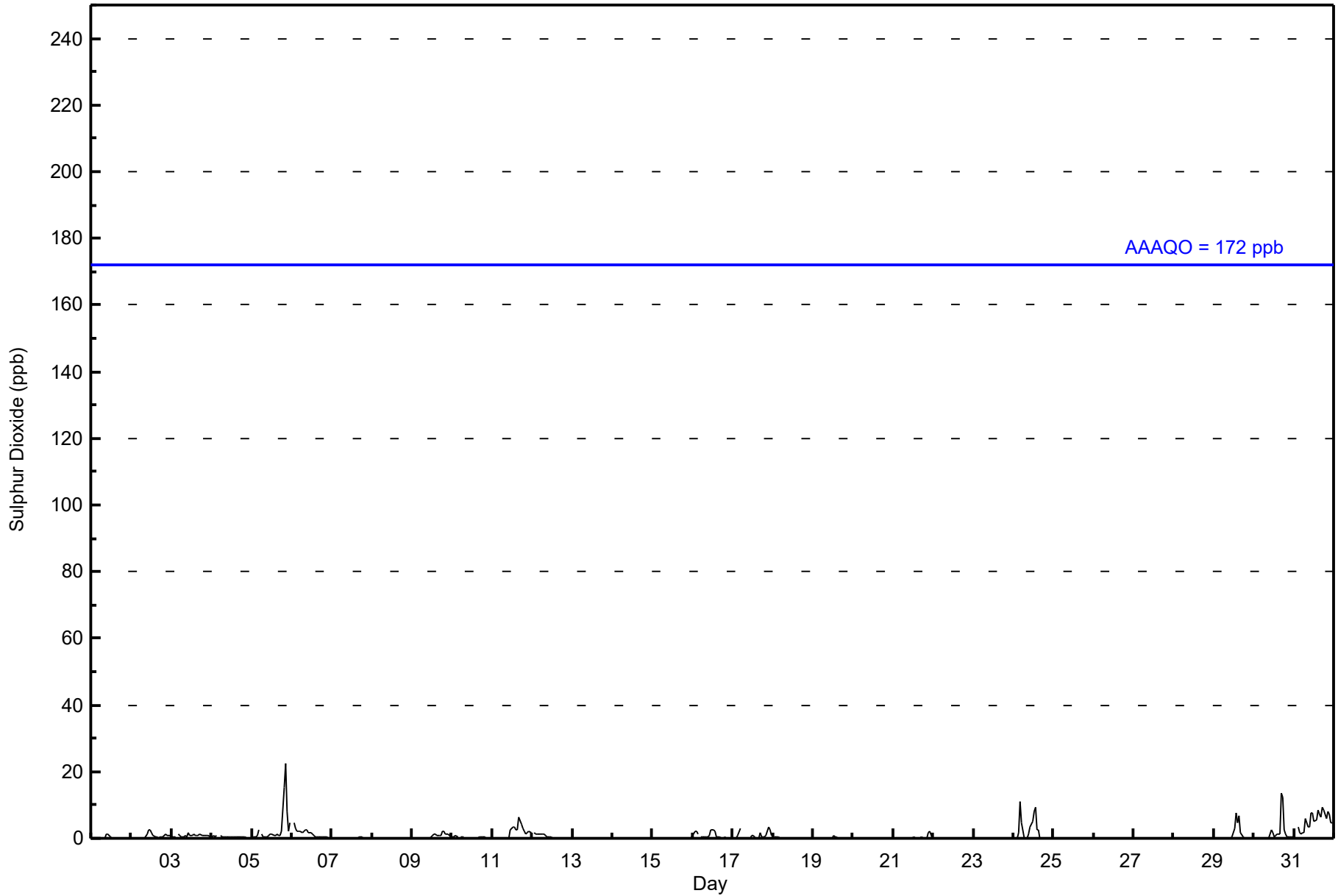
Wood Buffalo Environmental Association

Summary of Hour Averages

Sulphur Dioxide (SO₂) - ppb

Mackay River - January 2025

Number of Exceedences (AAAQO):		1-hr: 0		24-hr: 0		Hours in Service:		744																																								
Maximum Value: 22.6 ppb on Jan 5 21:00		Maximum Daily Average: 5.2 ppb on Jan 31		Minimum Value: 0.0 ppb on Jan 1 01:00		Minimum Daily Average: 0.0 ppb on Jan 25		Hours of Data: 709																																								
Maximum Diurnal Average: 1.3 ppb at hour 21		Minimum Diurnal Average: 0.1 ppb at hour 1		Hours of Missing Data: 35		Hours of Calibration: 35		Percent Operational Time: 100.0																																								
Monthly Average: 0.73 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.5 P ₉₀ = 2.0 P ₉₉ = 8.4																																														
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.1	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.1																						
2-Jan	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.2	1.2	2.6	2.4	1.8	1.0	0.5	0.3	0.2	0.2	0.3	0.3	1.3	1.0	0.9	0.8	0.7	2.6																						
3-Jan	0.5	0.5	0.4	Z	1.1	0.8	0.5	0.5	0.7	0.6	1.7	0.9	1.0	1.1	1.0	1.0	1.0	1.1	1.0	1.0	1.0	0.9	0.7	0.6	0.8	1.7																						
4-Jan	0.5	0.7	0.6	0.8	Z	0.7	0.6	0.5	0.5	0.4	0.4	0.2	0.2	0.3	0.3	0.4	0.5	0.4	0.5	0.4	0.3	0.2	0.1	0.1	0.4	0.8																						
5-Jan	0.1	0.3	0.2	1.0	2.7	Z	1.4	0.4	0.5	0.5	0.9	1.1	1.1	1.0	1.0	1.4	0.9	0.9	2.2	15.2	22.6	8.0	2.1	4.8	3.1	22.6																						
6-Jan	Z	4.8	2.9	2.3	2.1	2.0	1.9	2.2	2.6	2.4	1.9	1.6	1.3	0.9	0.5	0.5	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2	1.4	4.8																						
7-Jan	0.2	Z	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.3																						
8-Jan	0.2	0.2	Z	0.2	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2																						
9-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.5	1.0	1.1	1.4	0.9	0.8	1.0	2.0	2.1	1.4	1.1	0.8	0.6	0.6	2.1																						
10-Jan	0.3	0.6	0.6	0.4	Z	0.4	0.3	0.2	C	C	C	C	0.0	0.0	0.1	0.2	0.4	0.6	0.4	0.3	0.1	0.1	0.1	0.0	0.3	0.6																						
11-Jan	0.1	0.1	0.1	0.1	0.1	Z	0.2	0.1	0.1	0.0	0.2	2.4	3.4	3.2	2.4	2.8	6.4	4.1	2.9	2.1	1.4	1.6	2.0	1.7	1.6	6.4																						
12-Jan	Z	1.7	1.5	1.3	1.3	1.1	1.3	1.1	0.8	0.6	0.5	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.6	1.7																						
13-Jan	0.1	Z	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2																						
14-Jan	0.1	0.2	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2																						
15-Jan	0.1	0.1	0.1	Z	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.2																						
16-Jan	0.9	2.1	2.1	1.5	Z	0.4	0.2	0.3	0.3	0.3	1.0	2.4	2.5	2.3	0.3	0.2	0.3	0.1	0.1	0.6	0.1	0.2	0.0	0.0	0.8	2.5																						
17-Jan	0.0	0.0	0.0	1.0	3.1	Z	0.1	0.1	0.1	0.0	0.0	1.0	1.0	0.3	0.1	0.2	1.7	0.6	0.5	0.6	0.9	3.4	2.5	1.0	0.8	3.4																						
18-Jan	Z	0.4	0.3	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4																						
19-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.6	0.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.8																						
20-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1																						
21-Jan	0.0	0.0	0.0	Z	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.6	0.0	0.1	0.1	0.2	0.3	0.2	0.1	0.1	1.9	2.1	0.1	0.3	2.1																						
22-Jan	0.1	0.0	0.1	0.0	Z	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1																						
23-Jan	0.2	0.1	0.1	0.2	0.1	Z	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2																						
24-Jan	Z	0.2	0.1	1.8	10.9	4.5	0.1	0.1	0.1	1.2	3.5	5.3	8.1	9.3	2.7	2.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	10.9																						
25-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
26-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1																						
27-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1																						
28-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.1																						
29-Jan	0.0	0.1	0.0	0.1	0.1	Z	0.0	0.1	0.0	0.0	0.0	0.3	3.0	7.5	4.5	6.8	1.5	0.5	0.1	0.0	0.0	0.0	0.0	0.0	1.1	7.5																						
30-Jan	Z	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	2.7	1.6	0.4	0.9	1.2	1.1	13.7	12.5	2.8	1.1	0.6	0.5	0.4	0.4	1.7	13.7																						
31-Jan	0.4	Z	3.6	1.6	1.3	1.8	1.9	6.1	3.4	3.3	7.5	7.5	5.2	5.7	8.3	7.2	6.6	9.4	8.5	5.9	8.0	7.1	4.5	4.5	5.2	9.4																						
																								0.1	0.5	0.5	0.5	0.9	0.5	0.3	0.4	0.3	0.4	0.8	1.0	1.0	1.2	0.8	0.9	1.1	1.1	0.7	1.0	1.3	0.9	0.6	0.5	Diurnal Average
																								0.9	4.8	3.6	2.3	10.9	4.5	1.9	6.1	3.4	3.3	7.5	7.5	8.1	9.3	8.3	7.2	13.7	12.5	8.5	15.2	22.6	8.0	4.5	4.8	Diurnal Maximum
Z - zerospan C - Calibration																																																
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb																																																





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Mackay River - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	704	99.29	99.29
11 - 20	4	0.56	99.86
21 - 60	1	0.14	100.00
61 - 110	0	0.00	100.00
111 - 172	0	0.00	100.00
> 172	0	0.00	100.00

Total Number of Valid Hours: 709

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Sulphur Dioxide (SO₂) - ppb
Mackay River - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 10	24	53	36	10	5	23	49	42	52	74	35	74	121	46	22	30	696
11 - 20	0	0	0	2	1	0	0	0	0	0	0	0	0	0	1	0	4
21 - 60	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
61 - 110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111 - 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	24	53	36	12	6	24	49	42	52	74	35	74	121	46	23	30	701

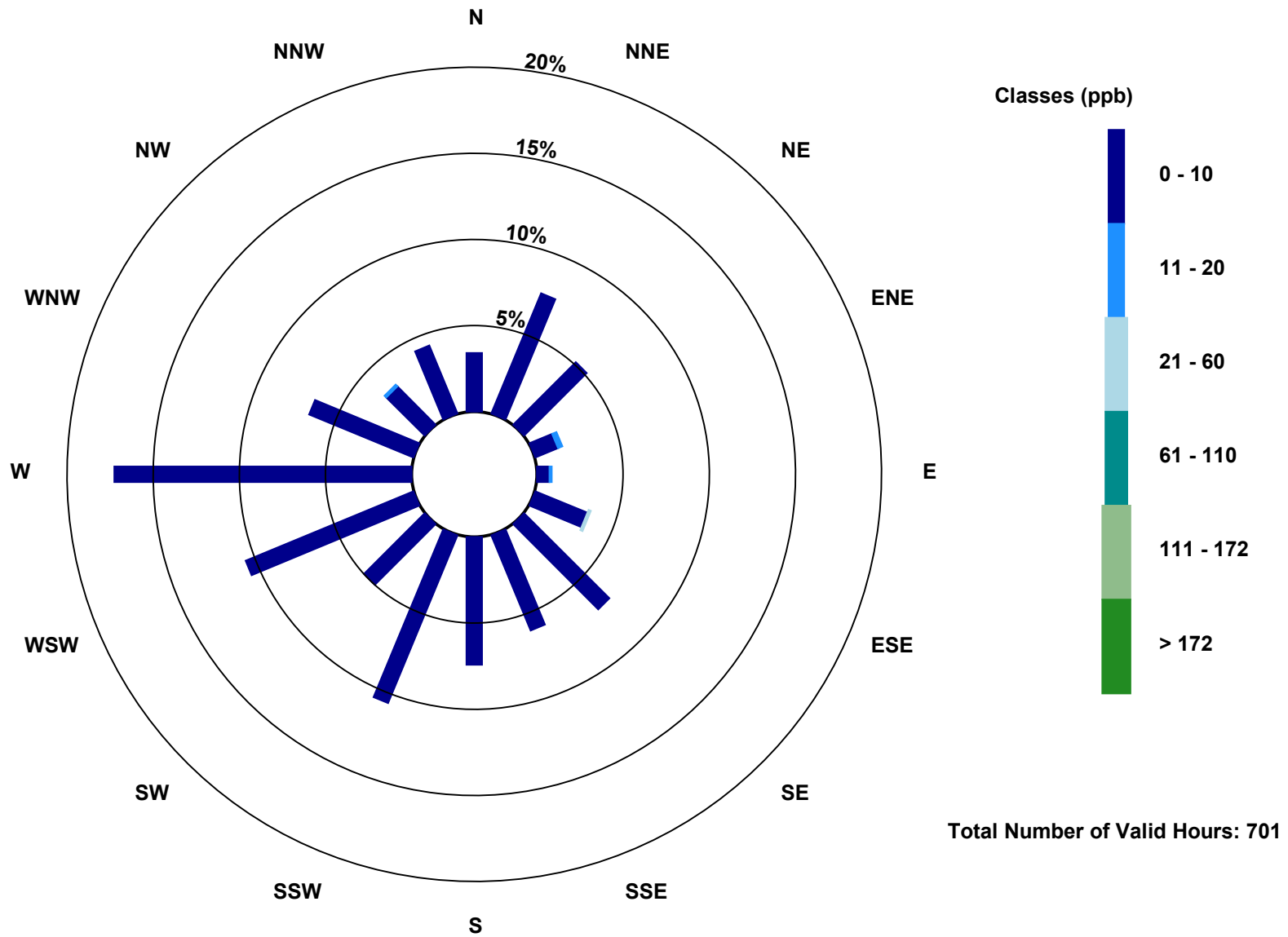
Total Number of Valid Hours: 701

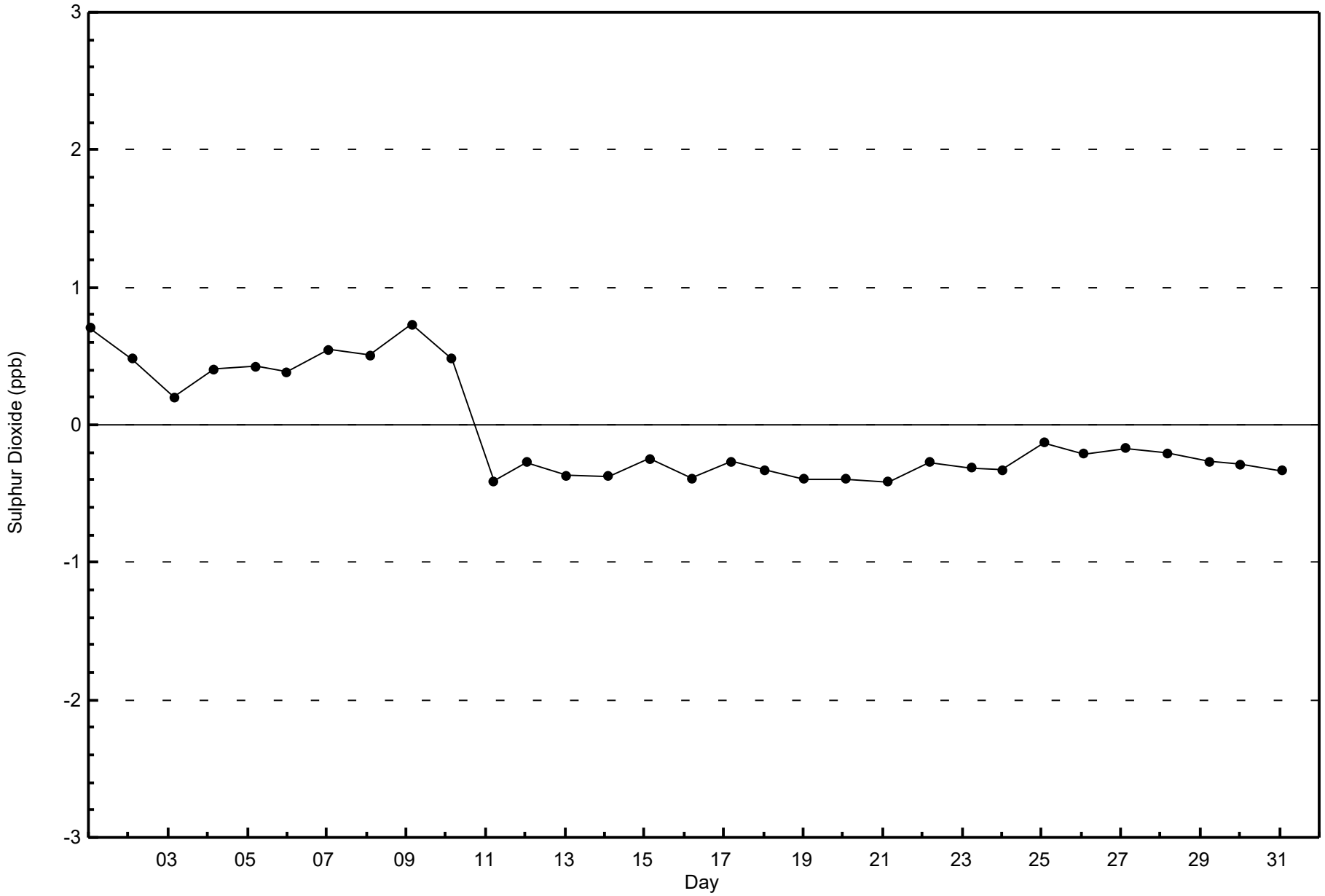
Total Number of Hours: 744

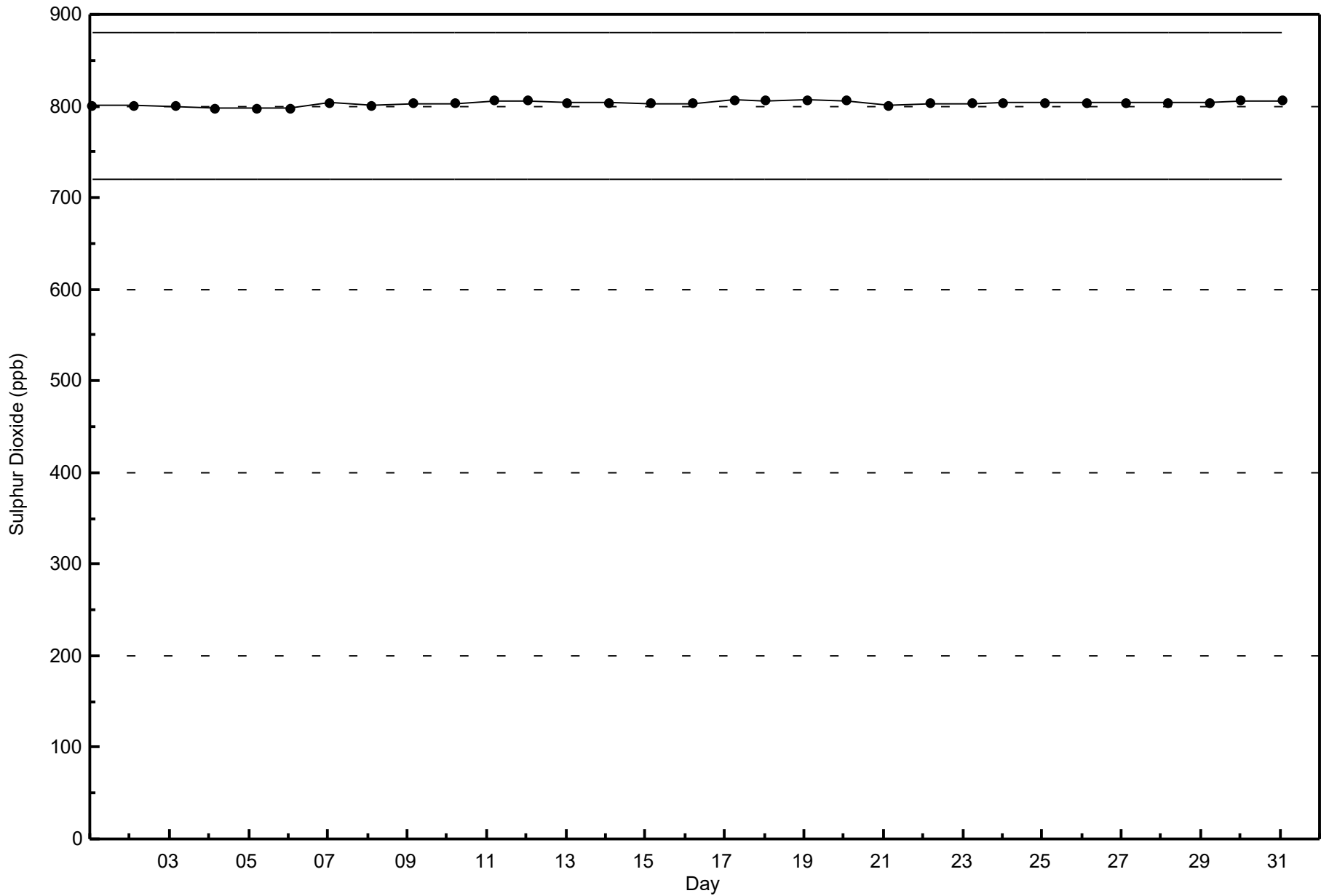


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Sulphur Dioxide (SO₂) - ppb
Mackay River









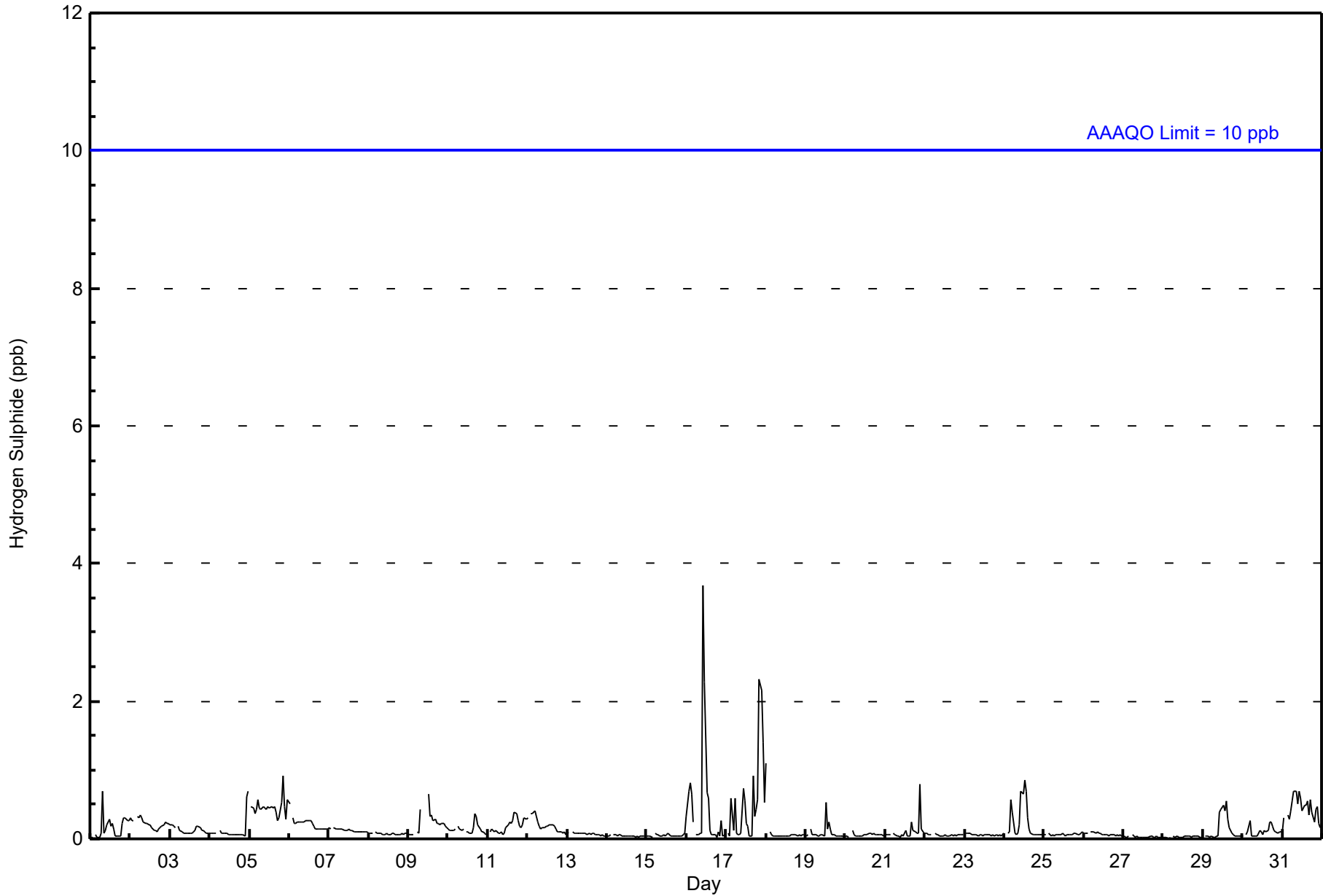
Wood Buffalo Environmental Association

Summary of Hour Averages

Hydrogen Sulphide (H₂S) - ppb

Mackay River - January 2025

Number of Exceedences (AAAQO):		1-hr: 0	24-hr: 0	Hours in Service: 744																	Daily Average		Daily Maximum																										
Maximum Value: 3.7 ppb on Jan 16 11:00		Maximum Daily Average: 0.5 ppb on Jan 17		Hours of Data: 708																	Hours of Missing Data: 36		Hours of Calibration: 35		Percent Operational Time: 99.9																								
Minimum Value: 0.0 ppb on Jan 28 04:00		Minimum Daily Average: 0.0 ppb on Jan 28		Hours of Missing Data: 36																	Hours of Calibration: 35		Percent Operational Time: 99.9																										
Maximum Diurnal Average: 0.3 ppb at hour 11		Minimum Diurnal Average: 0.1 ppb at hour 10		Hours of Calibration: 35																	Hours of Calibration: 35		Percent Operational Time: 99.9																										
Monthly Average: 0.16 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.1 Q ₃ = 0.2 P ₉₀ = 0.4 P ₉₉ = 0.9		Hours of Calibration: 35																	Hours of Calibration: 35		Percent Operational Time: 99.9																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	0.0	0.0	Z	0.1	0.0	0.0	0.1	0.7	0.1	0.1	0.2	0.3	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.2	0.3	0.3	0.3	0.3	0.2	0.2																							
2-Jan	0.3	0.3	0.3	Z	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2																						
3-Jan	0.2	0.2	0.2	0.2	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1																						
4-Jan	0.1	0.1	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.6	0.7	0.1	0.1																						
5-Jan	Z	0.5	0.4	0.4	0.4	Z	0.6	0.4	0.4	0.5	0.5	0.4	0.5	0.4	0.5	0.5	0.4	0.3	0.3	0.5	0.9	0.5	0.3	0.6	0.5	0.5	0.9																						
6-Jan	0.5	Z	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.5																						
7-Jan	0.2	0.1	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2																					
8-Jan	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1																					
9-Jan	0.1	0.1	0.1	0.1	Z	0.1	0.1	0.4	C	C	C	C	0.7	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.7																					
10-Jan	0.1	0.1	0.1	0.1	0.1	Z	0.2	0.1	0.1	0.1	M	0.1	0.1	0.1	0.1	0.2	0.4	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.4																					
11-Jan	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.4	0.4	0.3	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.4																					
12-Jan	0.3	Z	0.4	0.4	0.4	0.3	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.4																					
13-Jan	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.1	0.1																					
14-Jan	0.0	0.0	0.1	Z	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.1																					
15-Jan	0.0	0.0	0.0	0.0	Z	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1																					
16-Jan	0.3	0.7	0.8	0.7	0.2	Z	0.1	0.1	0.1	0.1	3.7	2.3	0.7	0.6	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.3	0.1	0.1	0.5	0.5	3.7																						
17-Jan	Z	0.1	0.0	0.6	0.1	0.6	0.1	0.1	0.1	0.1	0.7	0.5	0.2	0.2	0.0	0.0	0.9	0.3	0.4	0.6	2.3	2.1	1.4	0.5	0.5	0.5	2.3																						
18-Jan	1.1	Z	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.1	0.1	1.1																						
19-Jan	0.0	0.1	Z	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.5	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5																						
20-Jan	0.0	0.0	0.0	Z	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1																					
21-Jan	0.1	0.1	0.1	0.1	Z	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.8	0.2	0.1	0.1	0.1	0.8																						
22-Jan	0.1	0.1	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1																					
23-Jan	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1																					
24-Jan	0.1	Z	0.1	0.1	0.6	0.4	0.1	0.1	0.1	0.2	0.7	0.6	0.9	0.7	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.9																					
25-Jan	0.1	0.1	Z	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1																					
26-Jan	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1																					
27-Jan	0.0	0.0	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1																					
28-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1																					
29-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.5	0.4	0.5	0.3	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5																					
30-Jan	0.0	Z	0.1	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3																					
31-Jan	0.1	0.3	Z	0.3	0.3	0.4	0.6	0.7	0.7	0.5	0.7	0.6	0.4	0.5	0.5	0.5	0.3	0.6	0.4	0.2	0.4	0.5	0.2	0.2	0.4	0.4	0.7	0.7																					
																								0.2	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.3	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.1	Diurnal Average	
																								1.1	0.7	0.8	0.7	0.6	0.6	0.6	0.7	0.7	0.5	3.7	2.3	0.9	0.7	0.5	0.5	0.9	0.6	0.4	0.6	2.3	2.1	1.4	0.7	Diurnal Maximum	
Z - zerospan C - Calibration M - Maintenance																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																																																	





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Hydrogen Sulphide (H₂S) - ppb
Mackay River - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	707	99.86	99.86
3 - 4	1	0.14	100.00
5 - 7	0	0.00	100.00
8 - 11	0	0.00	100.00
> 11	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Hydrogen Sulphide (H₂S) - ppb
Mackay River - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2	25	53	34	11	5	24	49	43	49	75	35	79	122	42	25	28	699
3 - 4	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5 - 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 - 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	25	54	34	11	5	24	49	43	49	75	35	79	122	42	25	28	700

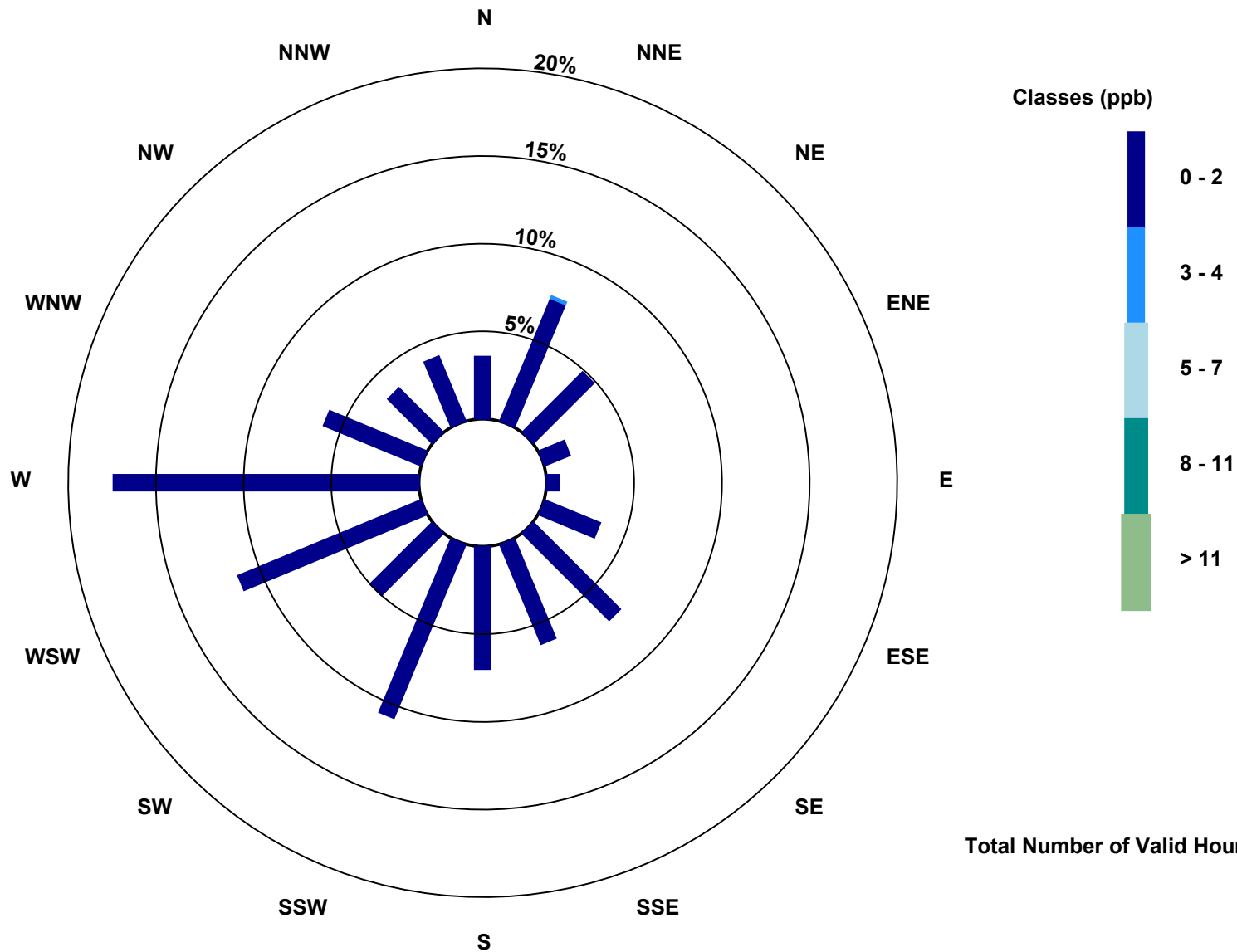
Total Number of Valid Hours: 700

Total Number of Hours: 744

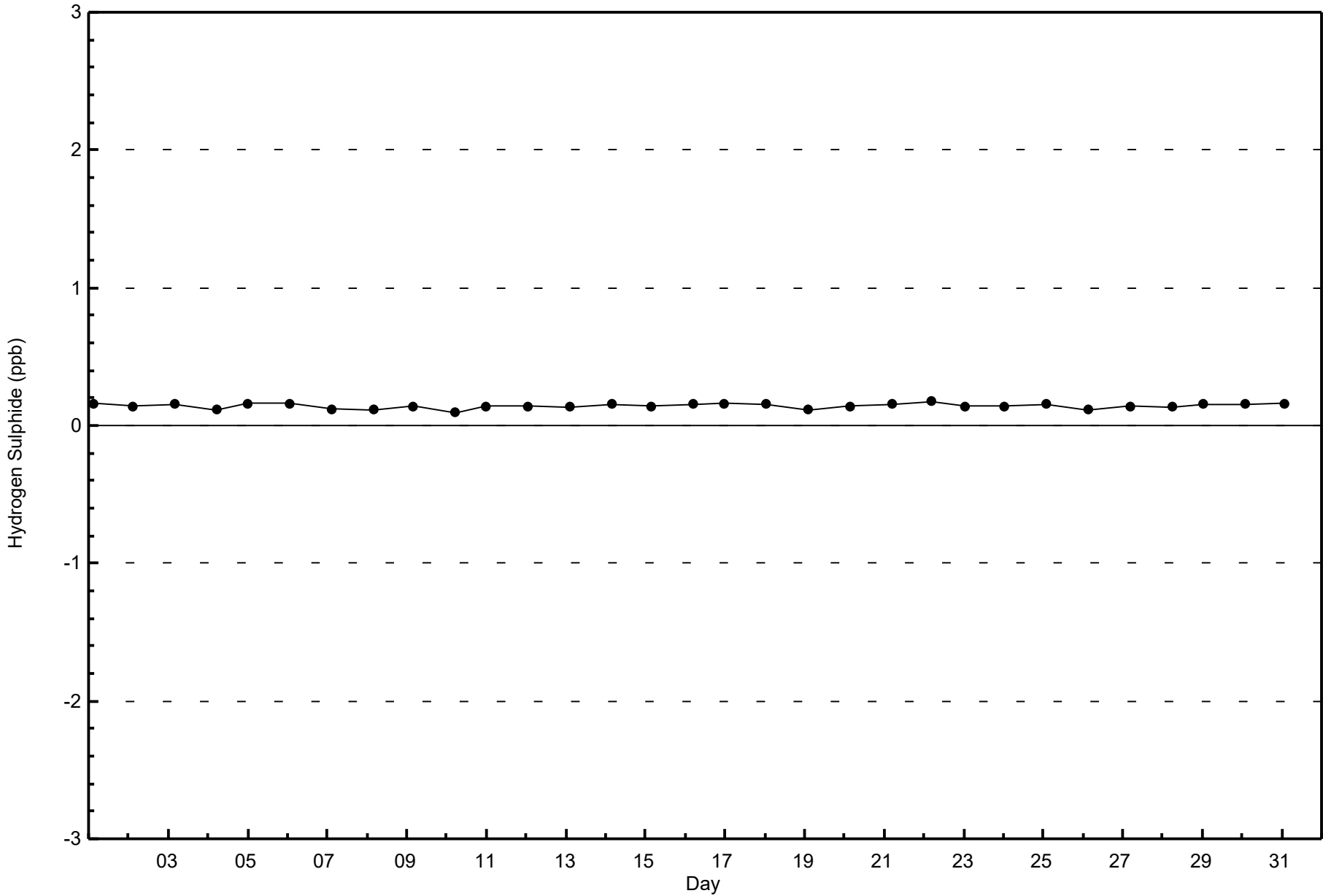


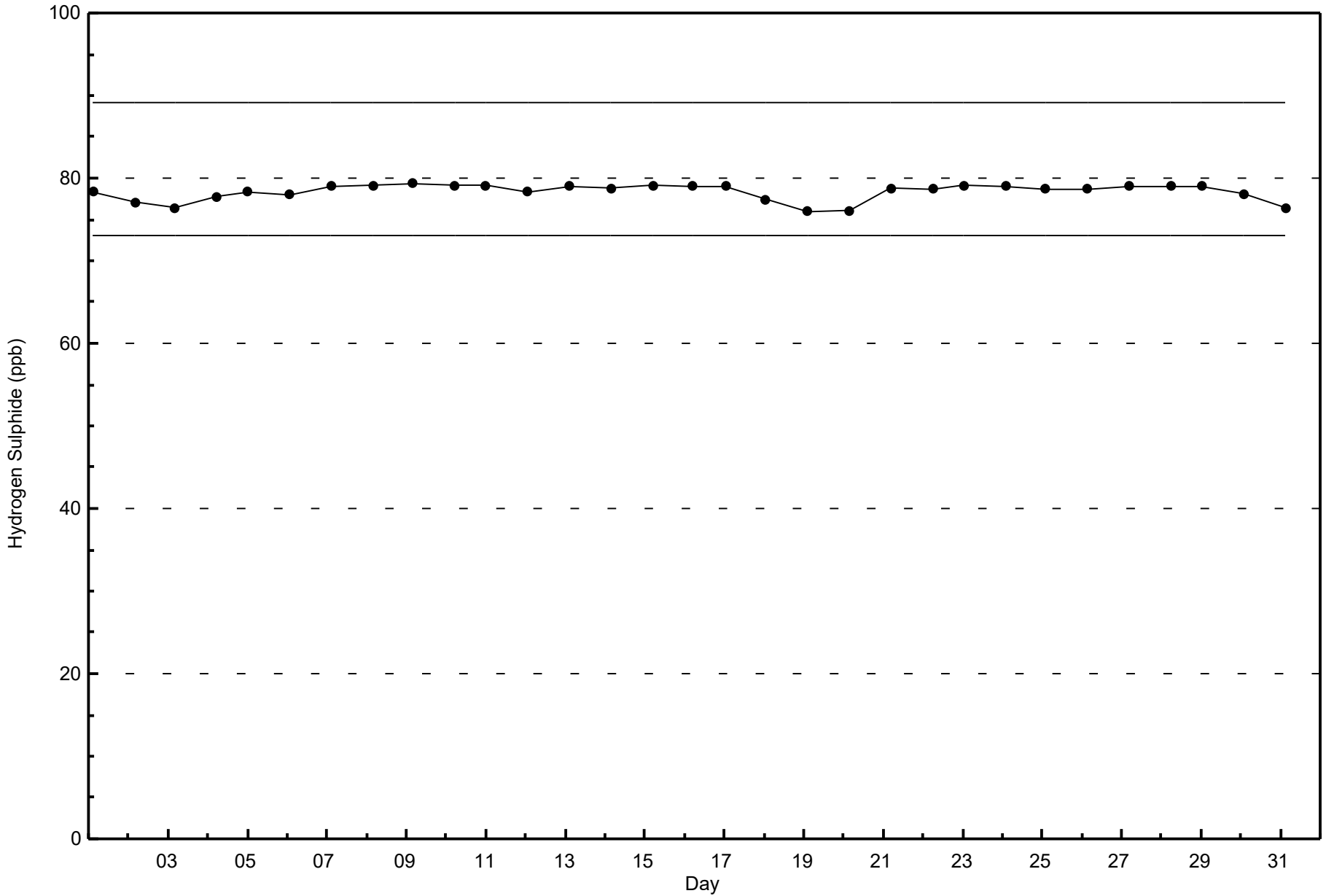
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Hydrogen Sulphide (H₂S) - ppb
Mackay River



Total Number of Valid Hours: 700



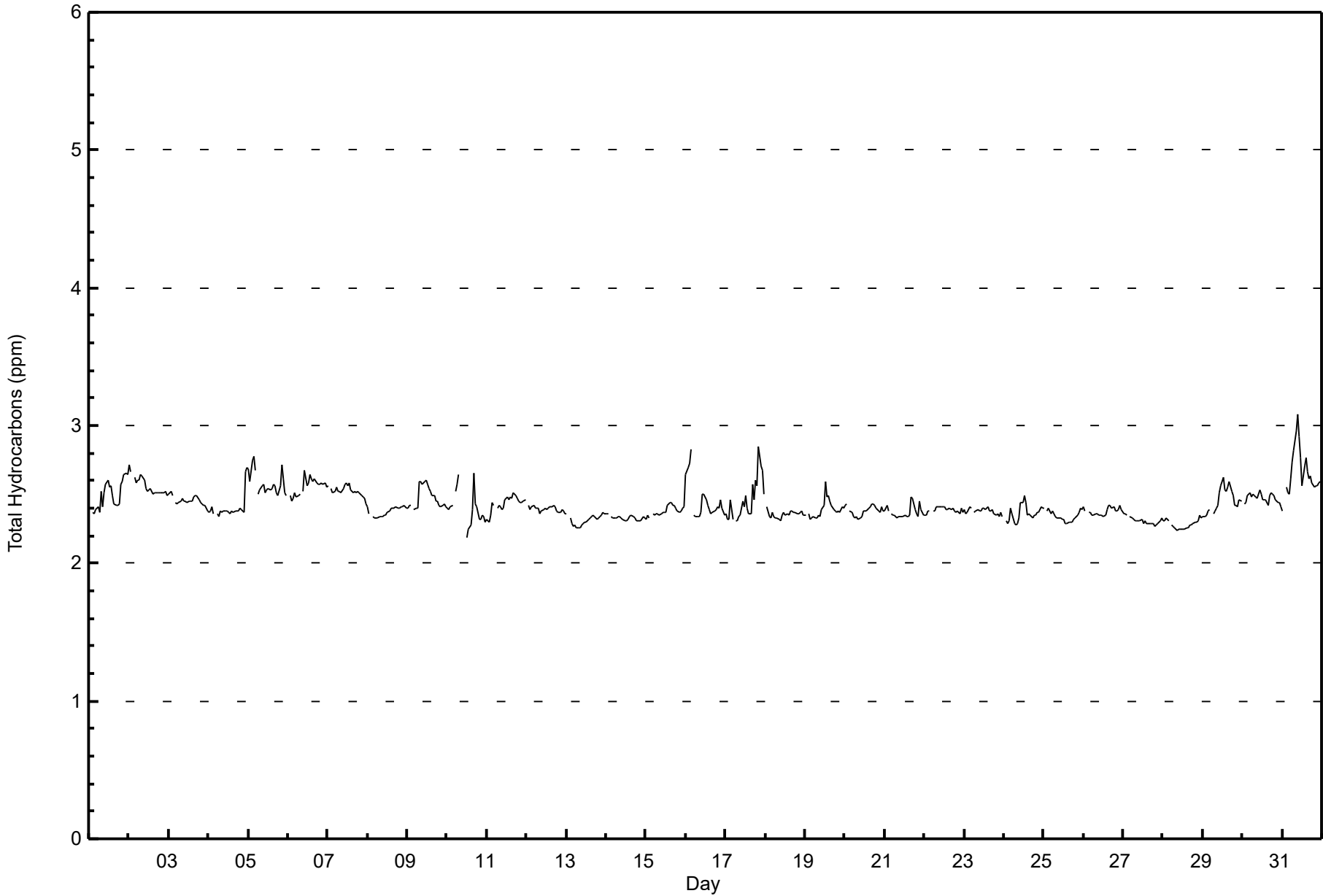




Wood Buffalo Environmental Association
Summary of Hour Averages

Total Hydrocarbons (THC) - ppm
Mackay River - January 2025

Maximum Value: 3.1 ppm on Jan 31 10:00		Maximum Daily Average: 2.7 ppm on Jan 31		Hours in Service: 744																							
Minimum Value: 2.2 ppm on Jan 10 13:00		Minimum Daily Average: 2.3 ppm on Jan 28		Hours of Data: 708																							
Maximum Diurnal Average: 2.4 ppm at hour 17		Minimum Diurnal Average: 2.4 ppm at hour 7		Hours of Missing Data: 36																							
Monthly Average: 2.42 ppm		Percentiles: P ₁ = 2.3 P ₁₀ = 2.3 Q ₁ = 2.3 Median = 2.4 Q ₃ = 2.5 P ₉₀ = 2.6 P ₉₉ = 2.8		Hours of Calibration: 35																							
				Percent Operational Time: 99.9																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	2.4	Z	2.4	2.4	2.4	2.4	2.4	2.5	2.4	2.5	2.6	2.6	2.6	2.6	2.5	2.4	2.4	2.4	2.4	2.6	2.6	2.6	2.7	2.6	2.5	2.7	
2-Jan	2.7	2.7	Z	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.6	2.7
3-Jan	2.5	2.5	2.5	Z	2.4	2.4	2.4	2.5	2.5	2.5	2.4	2.4	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.4	2.4	2.4	2.4	2.5	2.5	
4-Jan	2.4	2.4	2.4	2.4	Z	2.4	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.7	2.7	2.4	2.7	
5-Jan	2.7	2.6	2.8	2.8	2.7	Z	2.5	2.5	2.6	2.6	2.5	2.5	2.5	2.5	2.5	2.6	2.6	2.5	2.5	2.6	2.7	2.6	2.5	2.5	2.6	2.8	
6-Jan	Z	2.5	2.5	2.5	2.5	2.5	2.5	2.5	M	2.5	2.7	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.7	
7-Jan	2.6	Z	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.6	2.6	2.6	2.6	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.5	2.6	
8-Jan	2.4	2.4	Z	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	
9-Jan	2.4	2.4	2.4	Z	2.4	2.4	2.4	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.4	2.4	2.4	2.4	2.5	2.6	
10-Jan	2.4	2.4	2.4	2.4	Z	2.5	2.6	2.6	C	C	C	C	2.2	2.2	2.3	2.4	2.6	2.4	2.4	2.3	2.3	2.4	2.3	2.3	2.4	2.6	
11-Jan	2.3	2.3	2.3	2.4	2.4	Z	2.4	2.4	2.4	2.4	2.4	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.4	2.4	2.5	2.5	2.4	2.5	
12-Jan	Z	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	
13-Jan	2.4	Z	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.3	2.4	
14-Jan	2.4	2.4	Z	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	
15-Jan	2.3	2.4	2.3	Z	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	
16-Jan	2.6	2.7	2.7	2.8	Z	2.3	2.3	2.3	2.3	2.4	2.5	2.5	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.5	2.4	2.4	2.5	2.8	
17-Jan	2.4	2.3	2.3	2.5	2.3	Z	2.3	2.3	2.3	2.3	2.4	2.4	2.5	2.4	2.4	2.4	2.6	2.5	2.6	2.6	2.9	2.7	2.7	2.5	2.5	2.9	
18-Jan	Z	2.4	2.3	2.3	2.4	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.4	2.4	
19-Jan	2.4	Z	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.6	2.5	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.6	
20-Jan	2.4	2.4	Z	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	
21-Jan	2.4	2.4	2.4	Z	2.4	2.3	2.4	2.3	2.3	2.3	2.3	2.3	2.4	2.3	2.3	2.3	2.5	2.5	2.4	2.4	2.3	2.5	2.4	2.4	2.4	2.5	
22-Jan	2.3	2.3	2.4	2.4	Z	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	
23-Jan	2.4	2.4	2.4	2.4	2.4	Z	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.4	2.3	2.4	2.4	
24-Jan	Z	2.3	2.3	2.3	2.4	2.4	2.3	2.3	2.3	2.3	2.4	2.4	2.5	2.4	2.3	2.4	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.5	
25-Jan	2.4	Z	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.4	
26-Jan	2.4	2.4	Z	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	
27-Jan	2.4	2.4	2.4	Z	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	
28-Jan	2.3	2.3	2.3	2.3	Z	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.3	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	
29-Jan	2.3	2.3	2.3	2.4	2.4	Z	2.4	2.4	2.4	2.4	2.5	2.6	2.6	2.5	2.5	2.6	2.6	2.5	2.5	2.4	2.4	2.4	2.5	2.5	2.5	2.6	
30-Jan	Z	2.4	2.4	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.4	2.4	2.5	
31-Jan	2.4	Z	2.6	2.5	2.5	2.6	2.7	2.8	3.0	3.1	2.9	2.8	2.6	2.7	2.8	2.7	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	3.1	
2.4																								Diurnal Average			
2.7																								Diurnal Maximum			
Z - zerospan		C - Calibration				M - Maintenance																					





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Hydrocarbons (THC) - ppm
Mackay River - January 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	0	0.00	0.00
2.1 - 3.0	707	99.86	99.86
3.1 - 10.0	1	0.14	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Total Hydrocarbons (THC) - ppm
Mackay River - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.1 - 3.0	24	52	36	12	6	24	49	41	52	74	35	74	121	46	23	30	699
3.1 - 10.0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	24	53	36	12	6	24	49	41	52	74	35	74	121	46	23	30	700

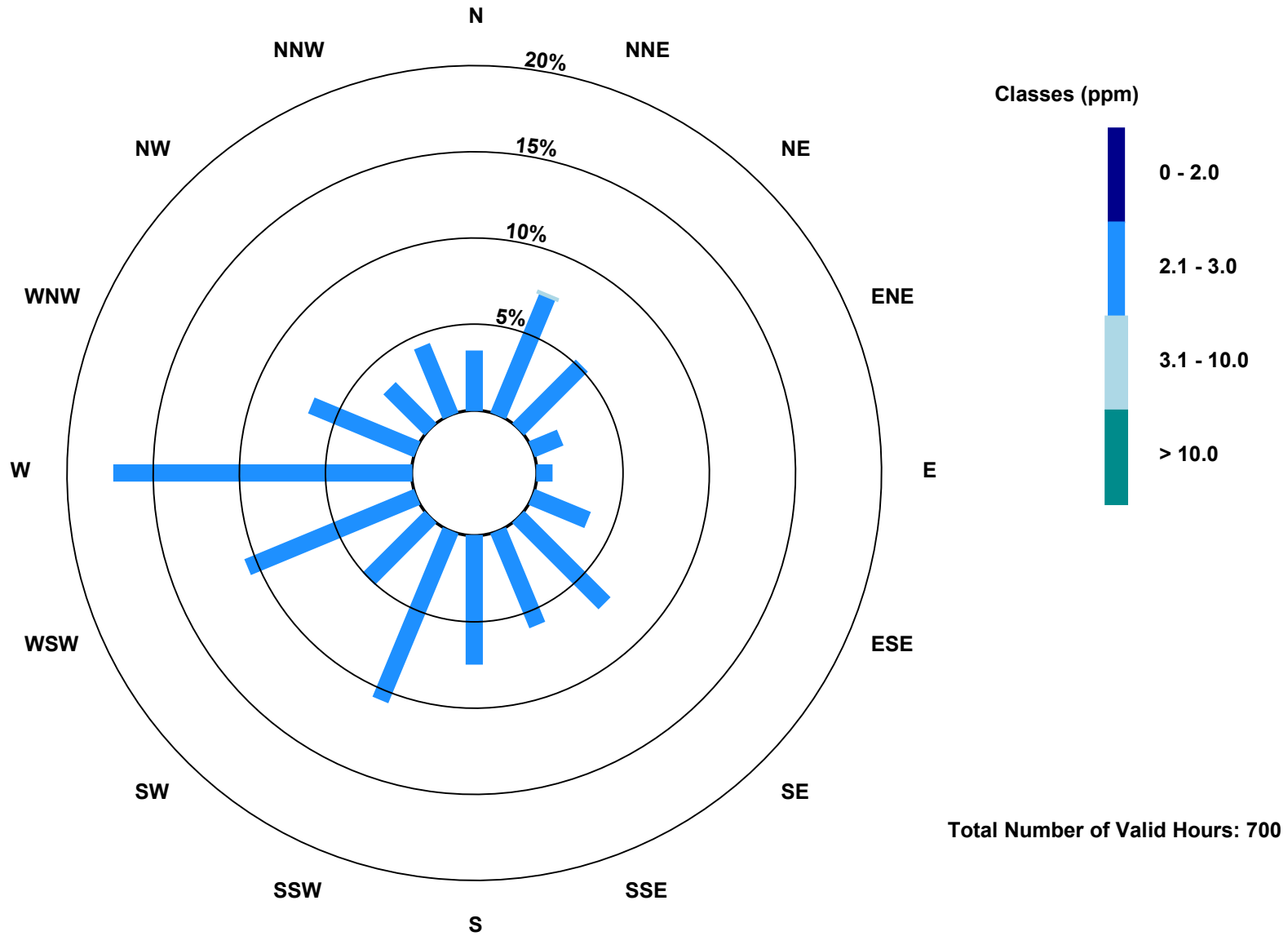
Total Number of Valid Hours: 700

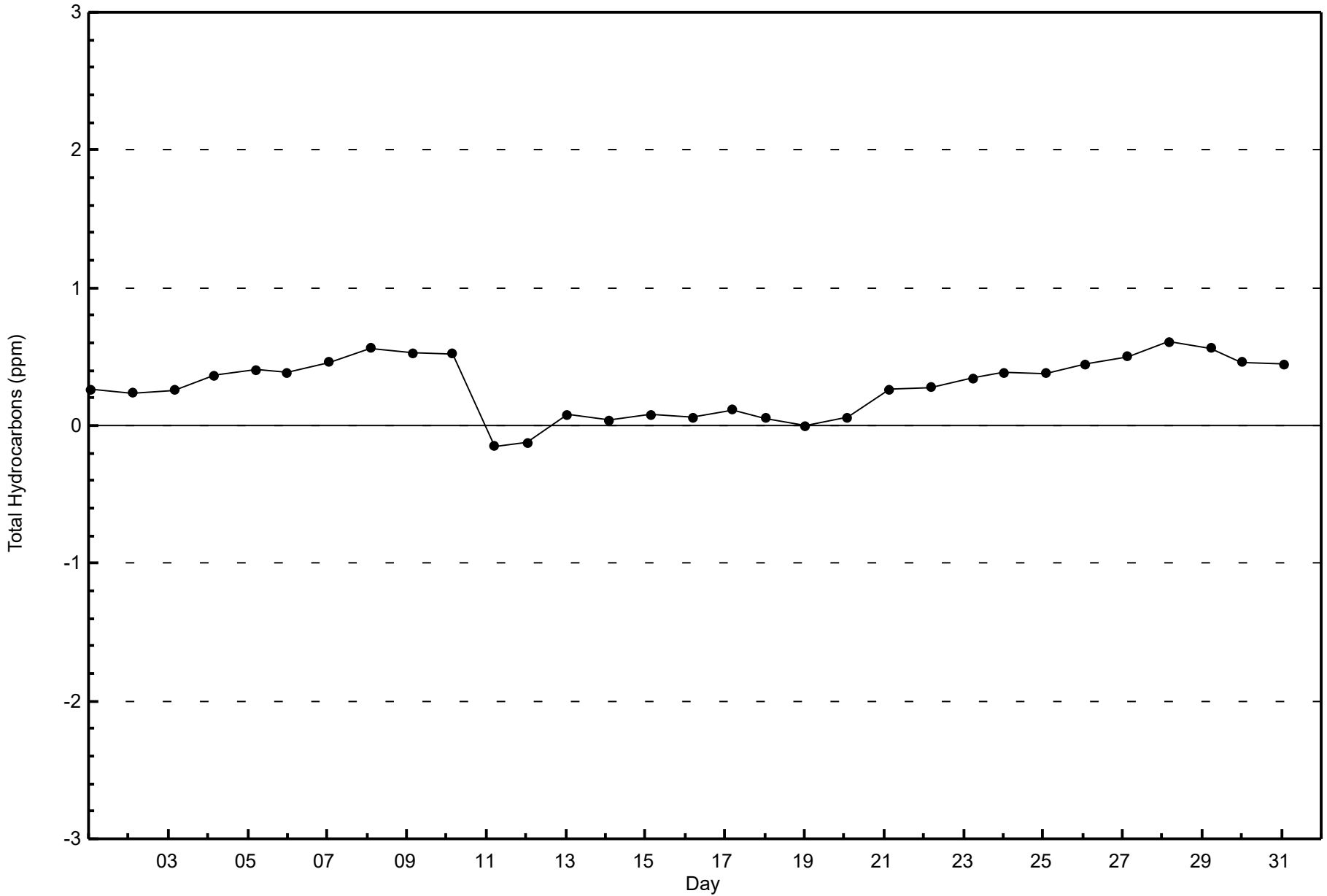
Total Number of Hours: 744

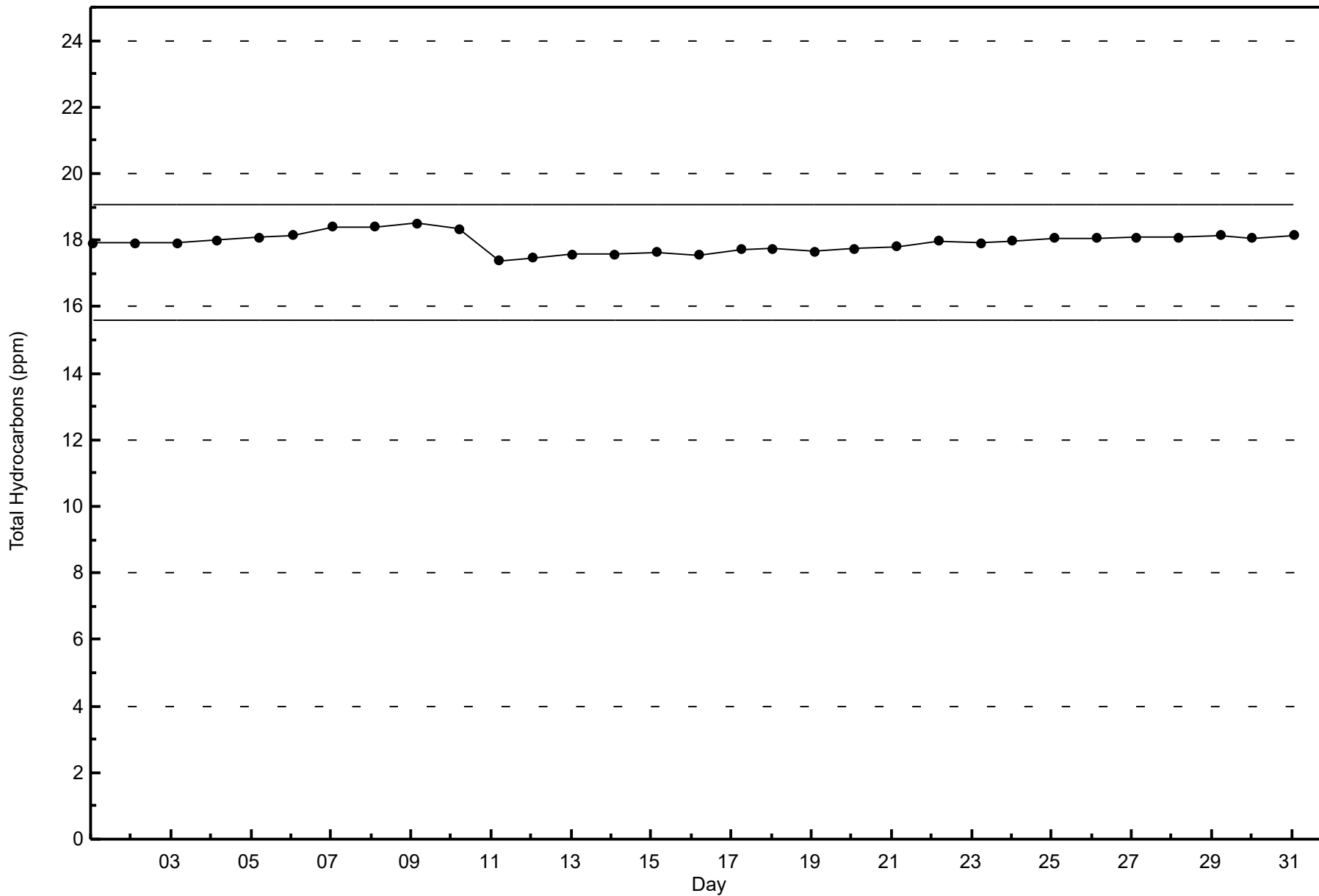


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Total Hydrocarbons (THC) - ppm
Mackay River









Wood Buffalo Environmental Association
Summary of Hour Averages

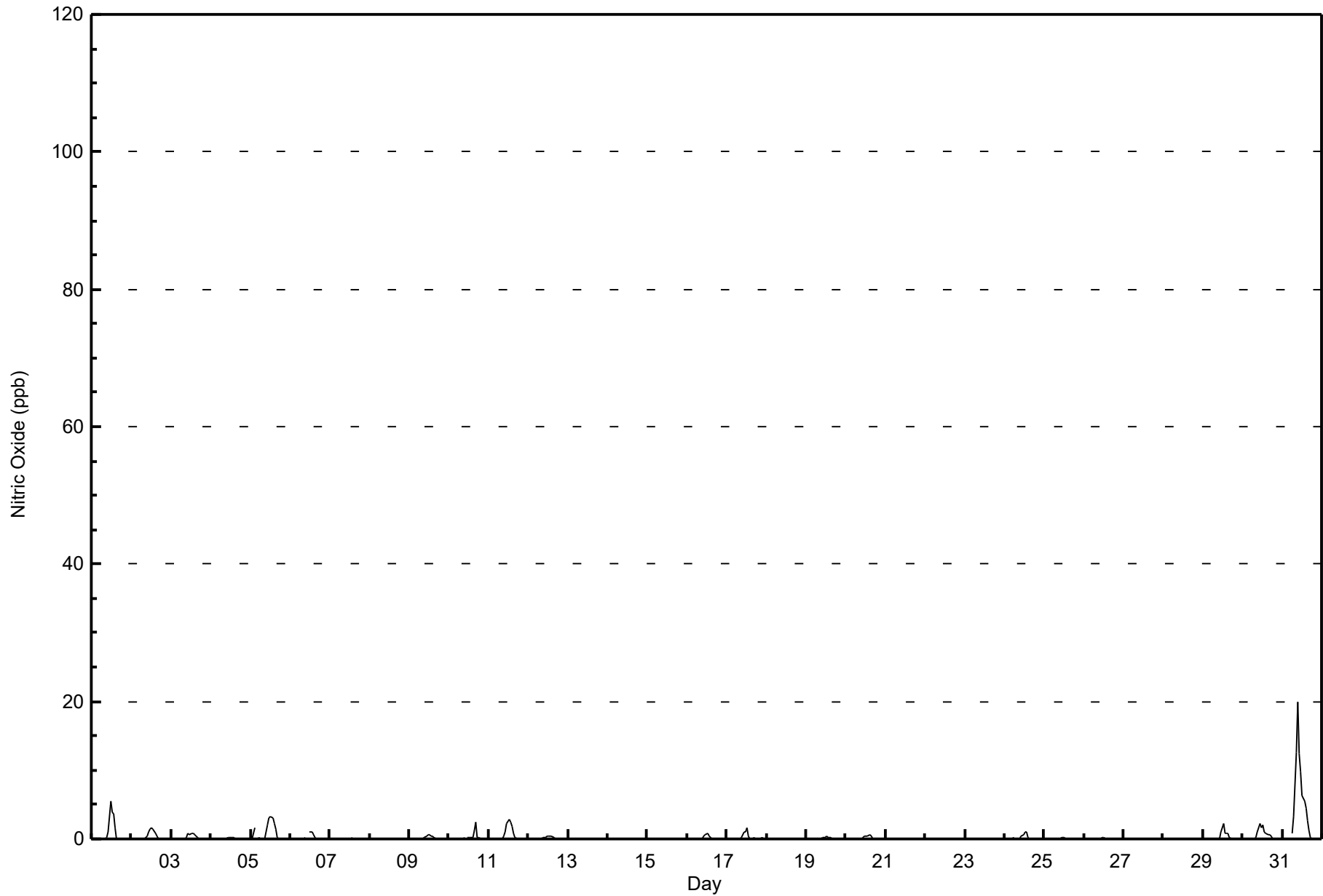
Nitric Oxide (NO) - ppb
Mackay River - January 2025

Maximum Value: 19.9 ppb on Jan 31 10:00		Maximum Daily Average: 3.4 ppb on Jan 31		Hours in Service: 744																						
Minimum Value: 0.0 ppb on Jan 1 05:00		Minimum Daily Average: 0.0 ppb on Jan 8		Hours of Data: 706																						
Maximum Diurnal Average: 1.0 ppb at hour 12		Minimum Diurnal Average: 0.0 ppb at hour 20		Hours of Missing Data: 38																						
Monthly Average: 0.27 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.1 P ₉₀ = 0.5 P ₉₉ = 4.4		Hours of Calibration: 36																						
				Percent Operational Time: 99.7																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.2	1.1	5.4	3.8	3.6	1.5	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.7	5.4
2-Jan	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	1.0	1.4	1.7	1.3	0.8	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.7
3-Jan	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.7	0.7	0.8	0.8	0.6	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.8
4-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2
5-Jan	0.1	0.1	1.6	Z	0.1	0.2	0.0	0.1	0.1	1.0	2.1	3.1	3.3	3.1	2.2	1.4	0.2	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.8	3.3
6-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.3	M	1.0	1.1	1.0	0.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.1
7-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	C	C	C	C	C	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
8-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.6	0.6	0.4	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.6
10-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.1	M	0.2	0.2	0.2	0.2	1.2	2.4	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.2	2.4
11-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.3	0.9	2.3	2.8	2.5	1.7	0.8	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	2.8
12-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.4	0.5	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.5
13-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
14-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
15-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16-Jan	0.1	0.1	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.6	0.8	0.5	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.8
17-Jan	0.0	0.0	0.0	Z	0.1	0.1	0.0	0.0	0.0	0.2	1.0	1.1	1.7	0.5	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.2	0.1	0.0	0.2	1.7
18-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.2	0.5	0.3	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.5
20-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.4	0.4	0.6	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.6
21-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1
22-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
24-Jan	0.0	0.0	0.0	0.1	Z	0.2	0.0	0.0	0.0	0.1	0.3	0.7	1.0	1.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.1
25-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
26-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
27-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
28-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.1	2.2	0.9	0.7	0.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	2.2
30-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.2	1.1	2.3	1.6	2.0	1.0	0.9	0.5	0.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.5	2.3
31-Jan	0.0	0.0	0.1	0.0	0.0	Z	0.7	3.3	12.6	19.9	12.4	9.8	6.3	5.6	4.5	2.6	1.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	3.4	19.9
																								Diurnal Average		
																								Diurnal Maximum		
Z - zerospan C - Calibration M - Maintenance																										



Wood Buffalo Environmental Association
Hourly Averages

Nitric Oxide (NO) - ppb
Mackay River - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitric Oxide (NO) - ppb
Mackay River - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	706	100.00	100.00
21 - 40	0	0.00	100.00
41 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 706

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitric Oxide (NO) - ppb
Mackay River - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	24	53	34	13	6	25	50	39	50	72	36	76	120	47	23	30	698
21 - 40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	24	53	34	13	6	25	50	39	50	72	36	76	120	47	23	30	698

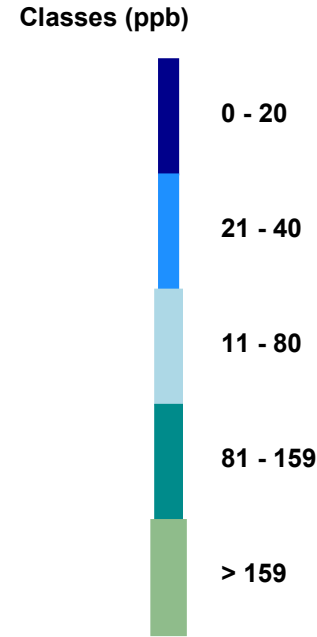
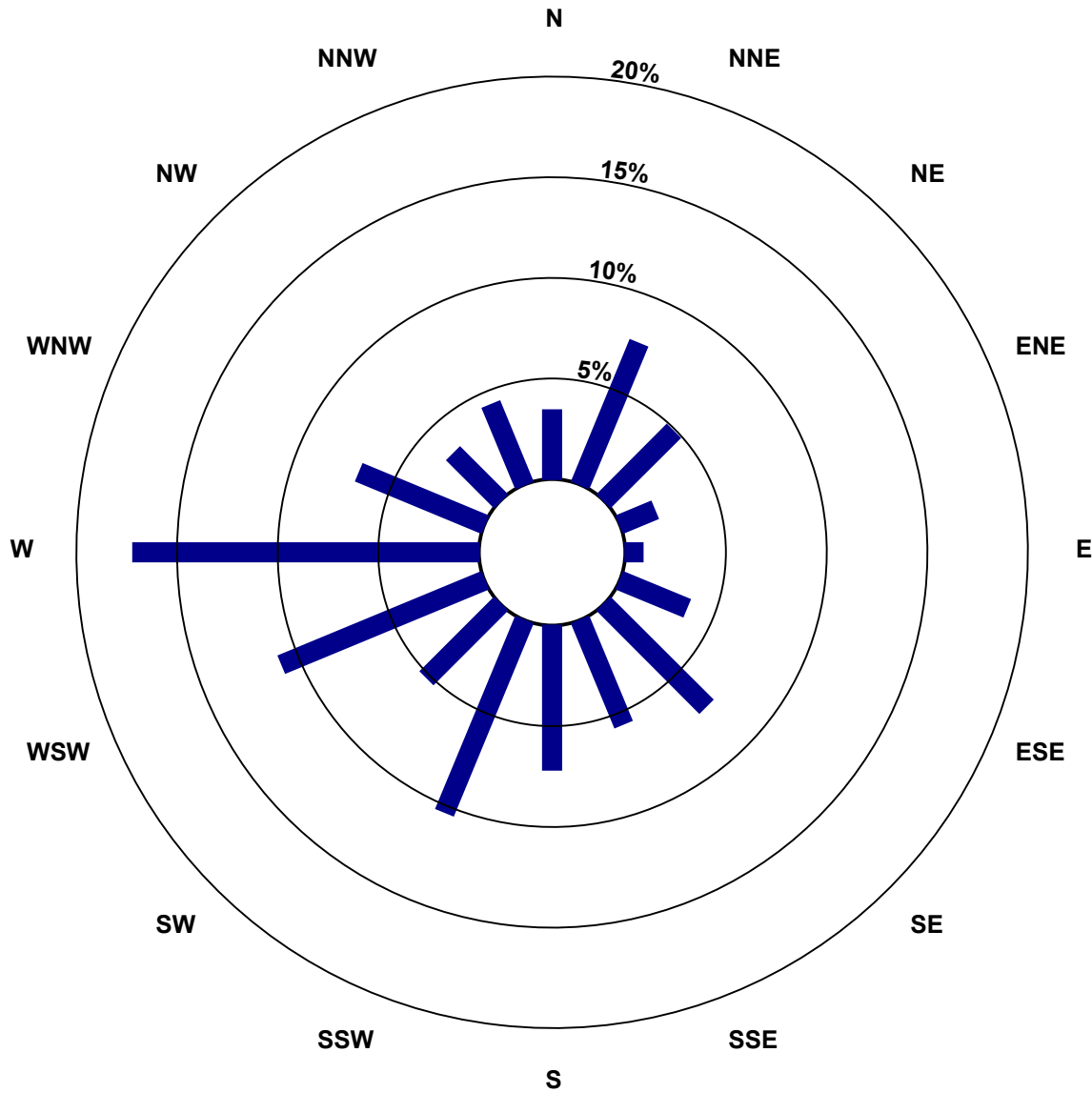
Total Number of Valid Hours: 698

Total Number of Hours: 744

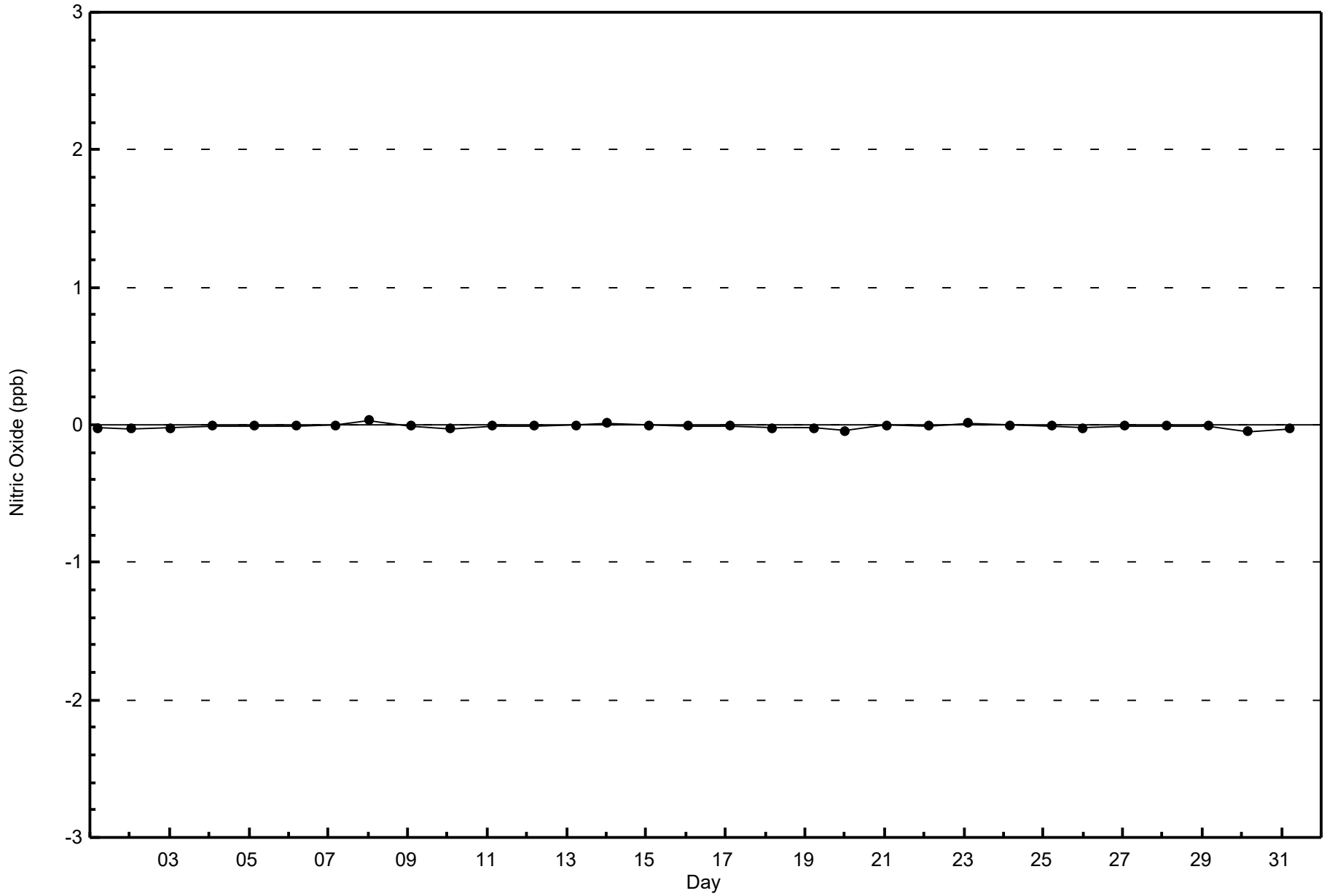


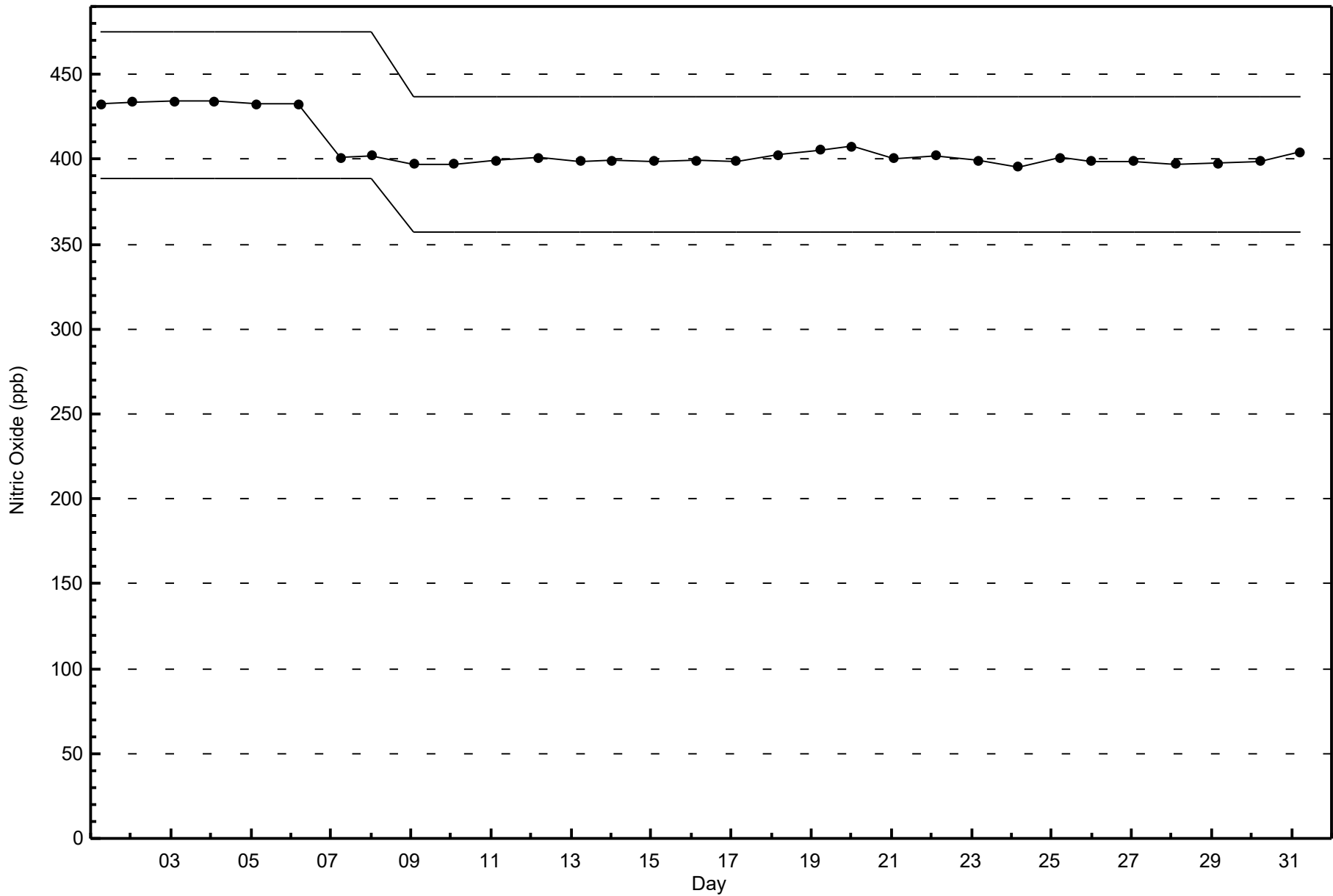
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitric Oxide (NO) - ppb
Mackay River



Total Number of Valid Hours: 698







Wood Buffalo Environmental Association
Summary of Hour Averages

Nitrogen Dioxide (NO₂) - ppb
Mackay River - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 32.4 ppb on Jan 31 09:00	Maximum Daily Average: 16.6 ppb on Jan 31
Minimum Value: 0.2 ppb on Jan 8 08:00	Hours of Data: 706
Maximum Diurnal Average: 3.9 ppb at hour 17	Hours of Missing Data: 38
Monthly Average: 3.23 ppb	Hours of Calibration: 36
Minimum Daily Average: 0.4 ppb on Jan 8	Percent Operational Time: 99.7
Minimum Diurnal Average: 2.6 ppb at hour 15	
Percentiles: P ₁ = 0.2 P ₁₀ = 0.4 Q ₁ = 0.5 Median = 1.1 Q ₃ = 4.1 P ₉₀ = 8.7 P ₉₉ = 20.1	

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	0.3	1.0	0.5	1.0	1.1	Z	0.8	0.7	0.4	3.2	5.3	11.2	8.1	8.3	5.1	1.2	1.3	1.1	1.8	8.7	10.6	10.7	9.1	8.7	4.4	11.2	
2-Jan	Z	9.3	8.2	7.6	7.2	8.1	9.0	7.4	6.0	4.9	3.9	3.6	3.3	3.0	2.6	2.7	3.1	3.3	3.5	3.6	5.0	5.6	5.8	6.2	5.3	9.3	
3-Jan	6.0	Z	5.8	5.4	4.6	4.0	3.4	3.1	2.9	2.6	2.9	2.2	2.1	2.2	2.7	4.3	7.6	7.9	6.2	4.7	5.2	3.6	2.6	2.1	4.1	7.9	
4-Jan	1.9	1.8	Z	1.6	1.7	1.8	1.9	1.8	1.8	2.3	1.7	1.4	1.5	2.0	2.0	2.3	2.8	2.9	3.1	2.8	2.7	4.2	19.1	21.5	3.8	21.5	
5-Jan	19.2	19.4	29.5	Z	15.9	18.5	11.0	14.7	14.7	12.5	9.7	8.4	7.5	7.4	7.6	10.2	10.9	7.5	7.4	11.5	20.1	18.2	9.1	11.2	13.1	29.5	
6-Jan	8.7	7.5	5.7	5.3	Z	5.4	6.2	6.0	5.9	5.6	M	4.5	4.1	4.1	3.9	3.5	2.8	2.5	2.9	3.2	3.6	3.9	4.1	4.1	4.7	8.7	
7-Jan	4.2	4.3	4.3	4.0	3.9	Z	3.8	3.7	C	C	C	C	C	2.4	2.1	1.7	1.9	2.2	2.7	2.6	2.7	2.8	2.4	2.0	3.0	4.3	
8-Jan	Z	1.0	0.7	0.6	0.5	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.5	0.7	0.8	0.7	0.4	0.4	1.0
9-Jan	0.4	Z	0.4	0.3	0.4	0.5	0.2	9.0	8.9	5.3	3.6	3.1	2.8	2.5	3.1	2.9	3.4	3.8	4.0	4.3	4.4	4.5	4.3	3.7	3.3	9.0	
10-Jan	3.0	2.1	Z	1.9	2.7	3.4	3.4	3.1	2.4	2.0	M	1.6	1.4	1.3	1.4	6.1	16.8	10.1	9.0	6.0	6.1	5.7	6.1	3.2	4.5	16.8	
11-Jan	3.1	3.5	4.1	Z	4.9	6.4	5.9	6.3	7.2	6.0	7.0	10.0	10.2	10.0	9.4	9.9	12.1	10.0	9.1	8.1	7.5	7.3	6.9	6.9	7.5	12.1	
12-Jan	6.9	6.1	4.4	3.7	Z	3.7	3.5	2.8	2.4	2.3	2.3	2.2	2.0	1.8	1.8	1.7	1.7	1.4	1.2	1.2	1.2	1.1	1.0	1.2	2.5	6.9	
13-Jan	0.8	0.6	0.5	0.4	0.4	Z	0.6	0.7	0.6	0.8	0.9	1.0	1.1	1.0	1.0	1.0	1.1	0.9	0.9	1.0	0.9	0.9	0.9	0.8	0.8	1.1	
14-Jan	Z	0.8	0.7	0.7	0.7	0.7	0.7	0.8	0.8	1.0	1.1	0.9	0.8	0.9	0.8	0.7	0.7	0.7	0.7	0.6	0.6	1.0	1.0	0.8	0.8	1.1	
15-Jan	0.8	Z	0.8	0.7	1.1	0.7	0.5	0.5	0.5	0.5	0.3	0.4	0.6	0.4	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.3	1.2	0.6	1.2	
16-Jan	14.2	16.0	Z	16.3	4.7	1.4	0.9	1.0	1.1	2.0	6.6	8.1	6.4	6.2	3.2	2.0	2.3	2.7	1.5	2.3	0.7	0.6	0.2	0.2	4.4	16.3	
17-Jan	0.2	0.2	0.2	Z	1.9	1.8	0.2	0.3	1.6	3.3	7.8	5.5	7.5	2.5	0.4	0.5	1.8	0.8	1.1	0.9	1.8	3.0	2.2	1.2	2.0	7.8	
18-Jan	1.7	0.7	1.2	1.9	Z	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.4	0.5	0.5	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.5	1.9	
19-Jan	0.2	0.2	0.3	0.3	0.4	Z	0.4	0.4	0.4	0.4	0.4	0.6	1.1	0.9	1.0	0.8	0.4	0.2	0.2	0.2	0.4	0.4	0.3	0.3	0.4	1.1	
20-Jan	Z	0.6	0.7	0.9	0.9	0.9	0.8	0.7	0.8	1.4	2.4	3.6	3.7	3.8	3.9	4.2	4.6	4.4	3.6	2.7	1.8	1.5	1.3	1.1	2.2	4.6	
21-Jan	1.0	Z	0.9	0.8	0.8	0.7	0.6	0.5	0.5	0.4	0.4	0.4	0.6	0.3	0.3	0.6	6.4	6.8	1.9	0.5	0.5	1.7	1.4	0.5	1.2	6.8	
22-Jan	0.5	0.6	Z	0.4	0.4	0.8	0.7	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.6	0.5	0.4	0.8	
23-Jan	0.7	0.8	0.9	Z	1.1	1.0	0.9	0.9	0.8	0.7	0.6	0.7	0.9	0.6	0.4	0.6	0.5	0.6	0.6	0.7	0.5	0.4	0.4	0.5	0.7	1.1	
24-Jan	0.5	0.5	0.4	1.1	Z	2.5	0.4	0.3	0.4	1.0	2.0	2.5	3.6	3.9	1.5	1.3	0.4	0.3	0.3	0.4	0.4	0.4	0.4	0.4	1.1	3.9	
25-Jan	0.4	0.5	0.6	0.6	0.5	Z	0.5	0.5	0.6	0.9	0.8	0.8	0.9	0.6	0.6	0.8	0.7	0.7	0.7	0.7	0.7	0.9	0.9	0.9	0.7	0.9	
26-Jan	Z	0.9	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.7	0.9	1.0	0.7	0.6	0.8	0.9	1.0	1.3	1.7	1.5	1.3	0.9	0.7	1.0	1.7	
27-Jan	0.6	Z	0.7	0.6	0.7	0.7	0.6	0.6	0.5	0.7	0.8	0.6	0.5	0.7	0.7	0.8	0.9	0.9	0.8	0.9	1.1	1.1	0.5	0.4	0.7	1.1	
28-Jan	0.5	0.5	Z	0.6	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.3	0.5	0.4	0.4	0.4	0.4	0.5	0.9	0.7	0.6	0.5	0.4	0.5	0.9	
29-Jan	0.4	0.4	0.4	Z	0.5	0.5	0.5	0.5	0.5	0.5	0.7	4.8	9.3	6.4	6.0	8.8	9.1	7.2	7.0	3.9	4.3	4.1	4.5	4.2	3.7	9.3	
30-Jan	3.9	3.0	4.0	6.7	Z	4.7	5.6	5.7	5.7	4.5	5.4	3.4	2.9	2.3	2.4	2.6	8.6	17.4	10.4	7.5	5.5	4.7	4.6	4.7	5.5	17.4	
31-Jan	5.2	11.0	16.6	15.2	12.8	Z	23.7	31.8	32.4	29.2	22.8	17.9	13.9	13.1	13.5	13.8	15.2	15.7	14.3	13.2	12.6	12.9	12.5	12.4	16.6	32.4	

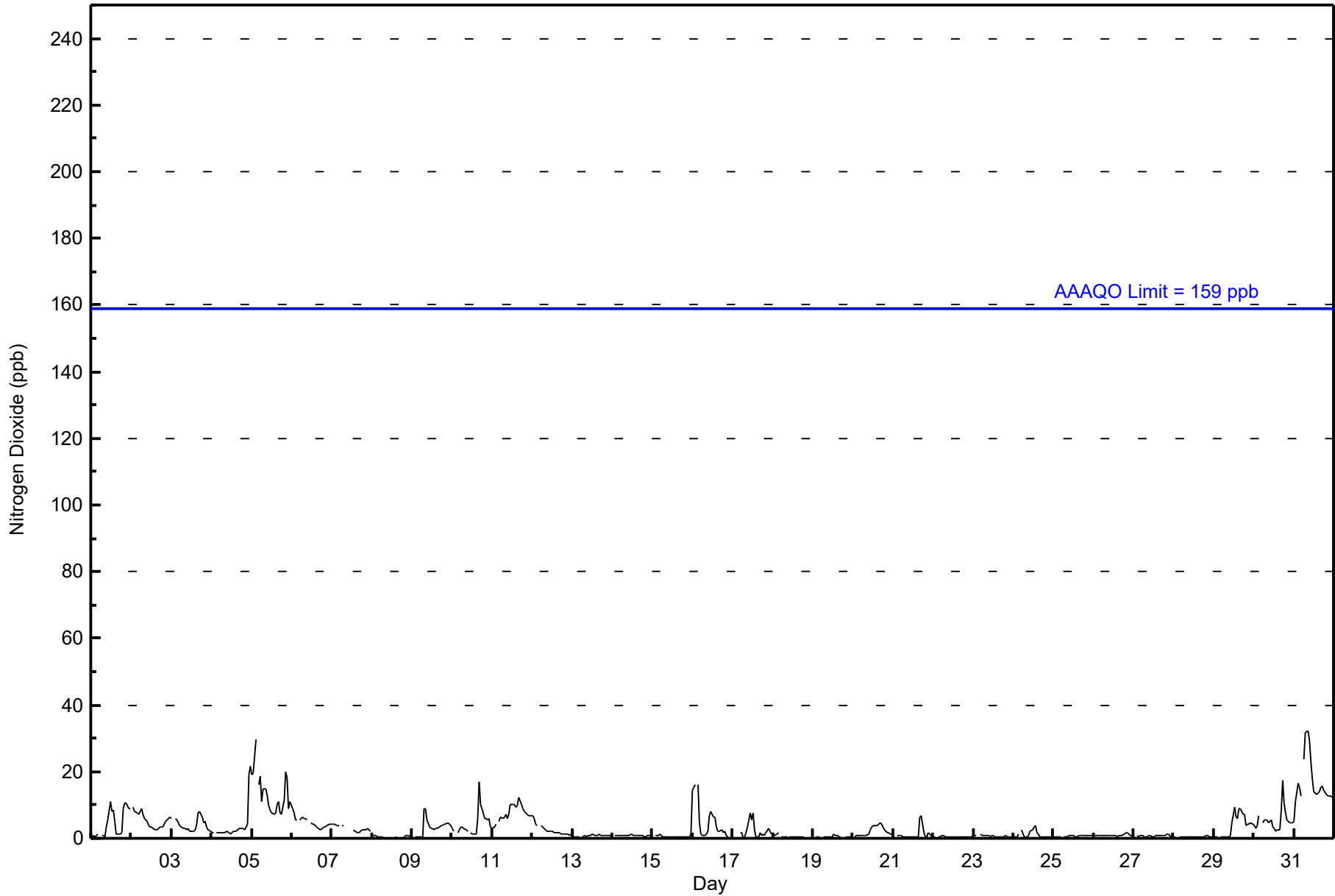
3.3	3.6	3.6	3.1	2.7	2.8	2.9	3.4	3.4	3.2	3.3	3.4	3.3	2.9	2.6	2.8	3.9	3.7	3.2	3.1	3.4	3.4	3.4	3.3			Diurnal Average
19.2	19.4	29.5	16.3	15.9	18.5	23.7	31.8	32.4	29.2	22.8	17.9	13.9	13.1	13.5	13.8	16.8	17.4	14.3	13.2	20.1	18.2	19.1	21.5			Diurnal Maximum

Z - zerospan C - Calibration M - Maintenance
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
Mackay River - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Mackay River - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	699	99.01	99.01
21 - 40	7	0.99	100.00
41 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 706

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Dioxide (NO₂) - ppb
Mackay River - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	22	50	32	13	6	25	50	39	50	72	36	76	120	47	23	30	691
21 - 40	2	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	7
11 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	24	53	34	13	6	25	50	39	50	72	36	76	120	47	23	30	698

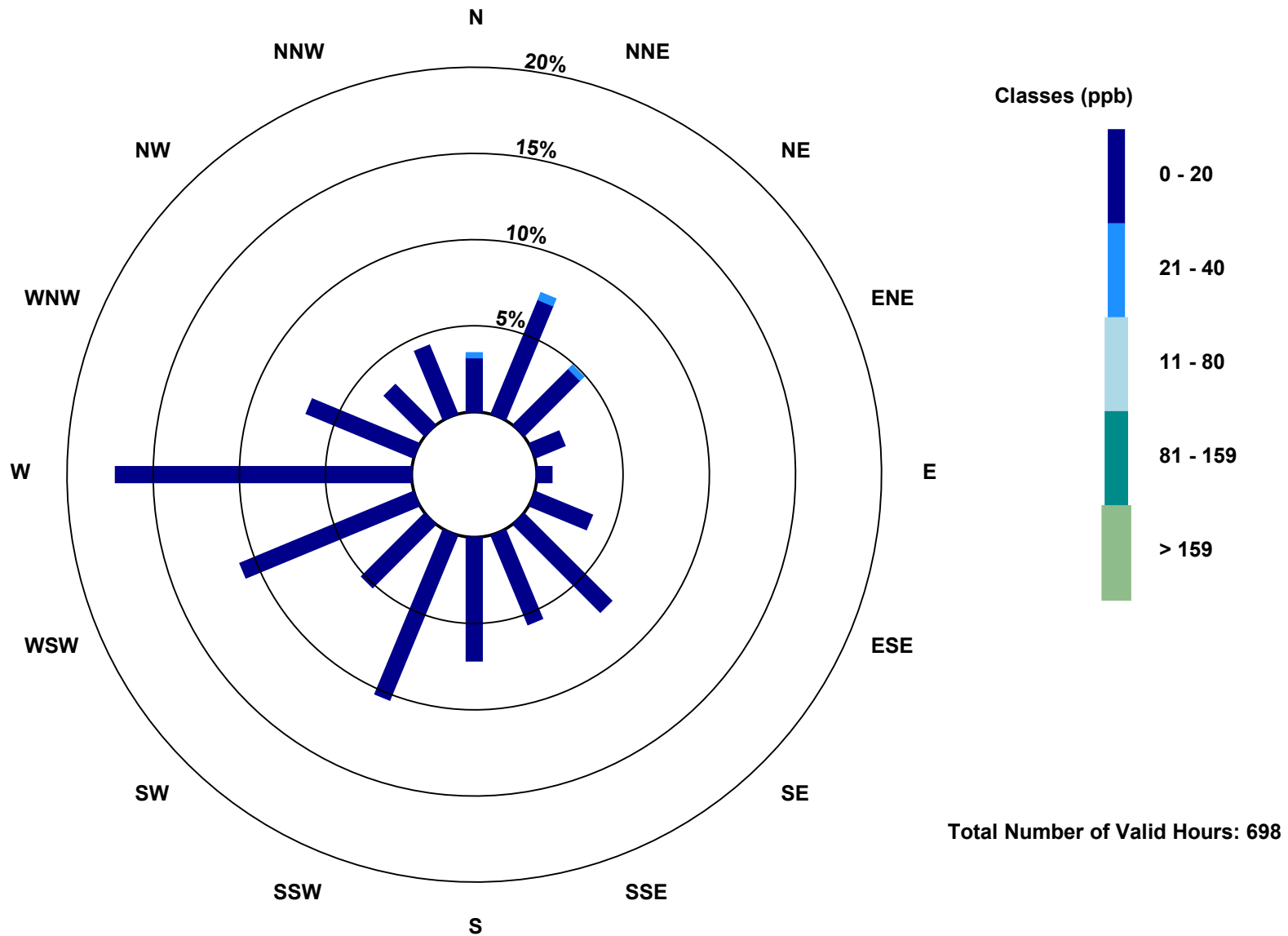
Total Number of Valid Hours: 698

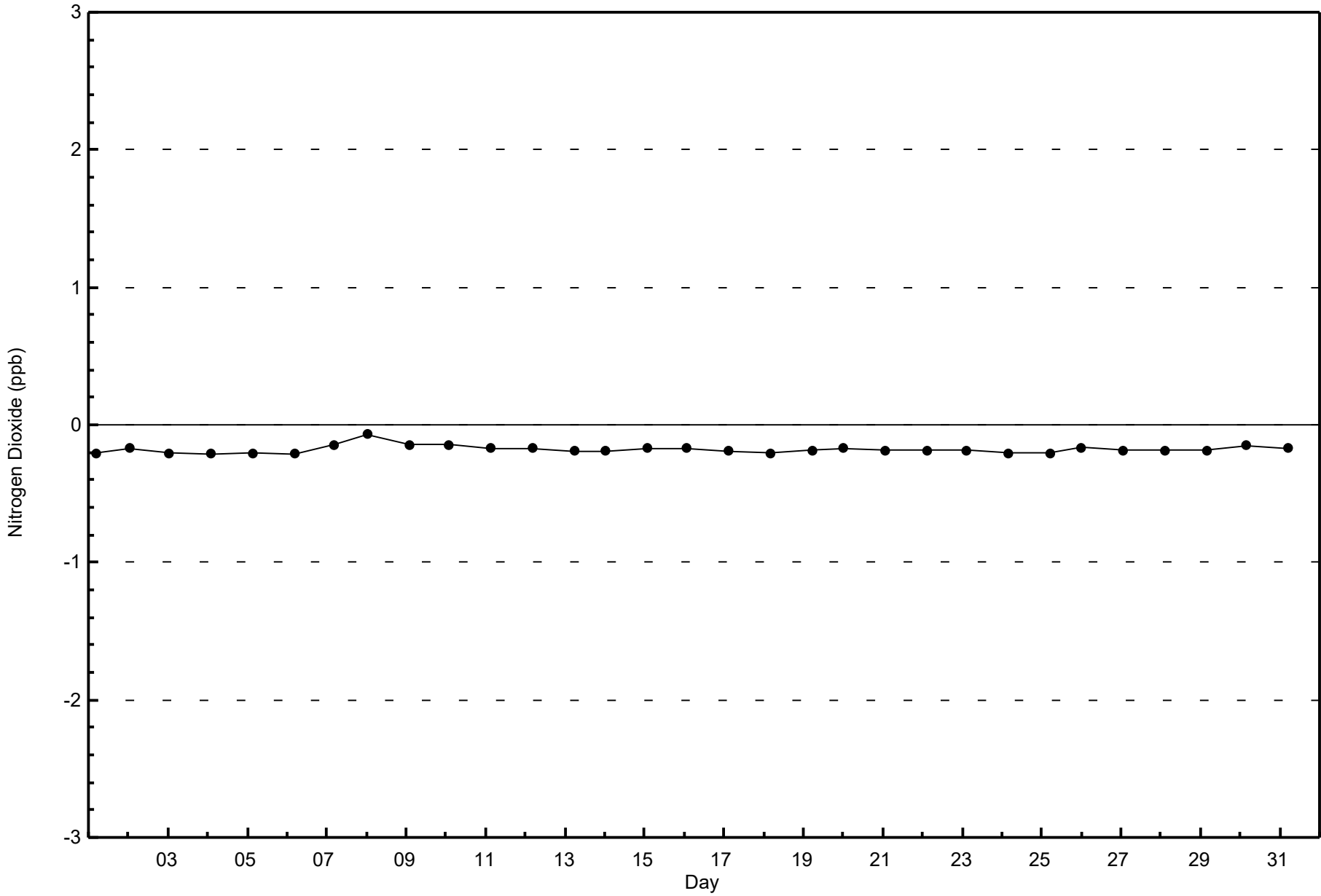
Total Number of Hours: 744

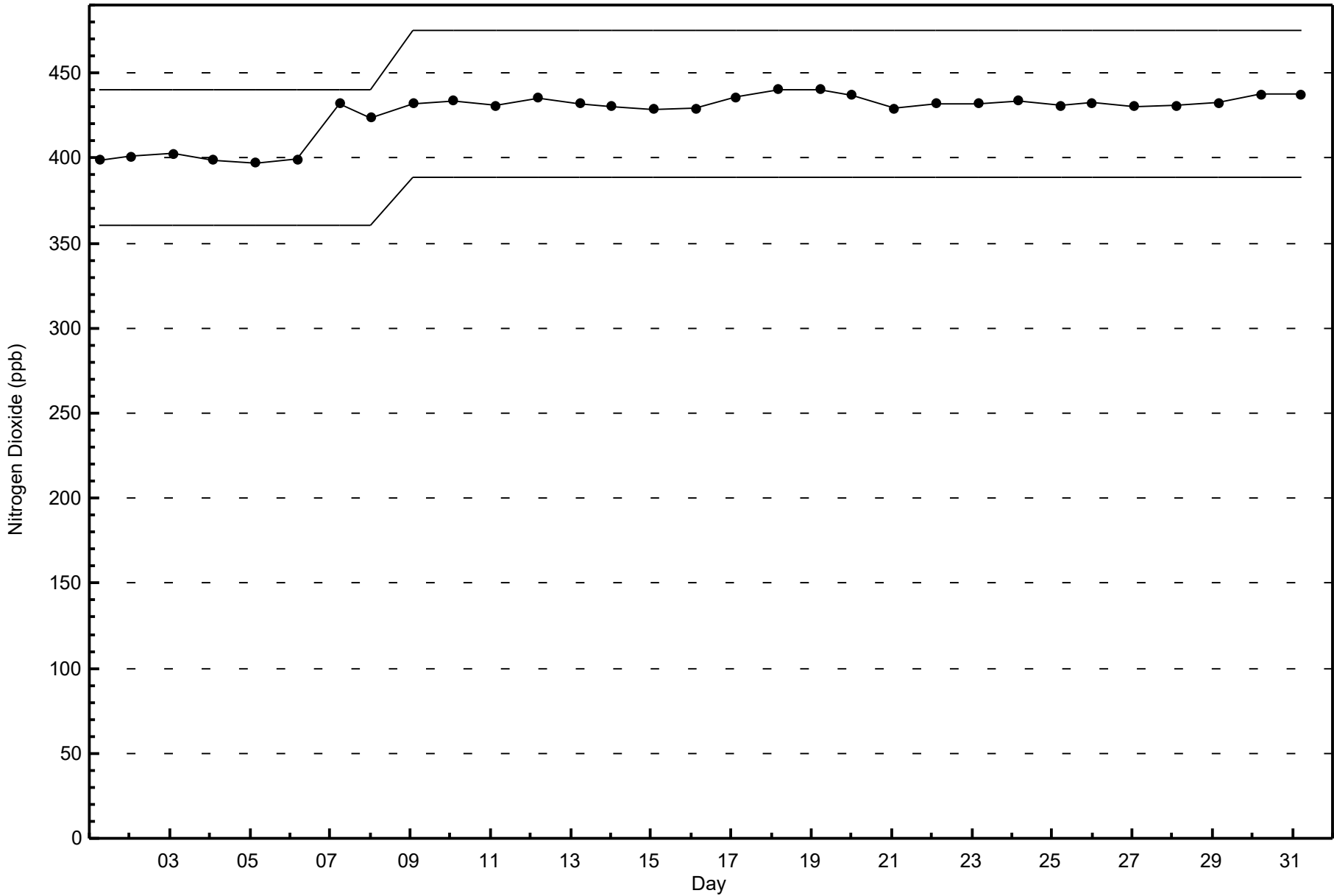


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Dioxide (NO₂) - ppb
Mackay River









Wood Buffalo Environmental Association
Summary of Hour Averages

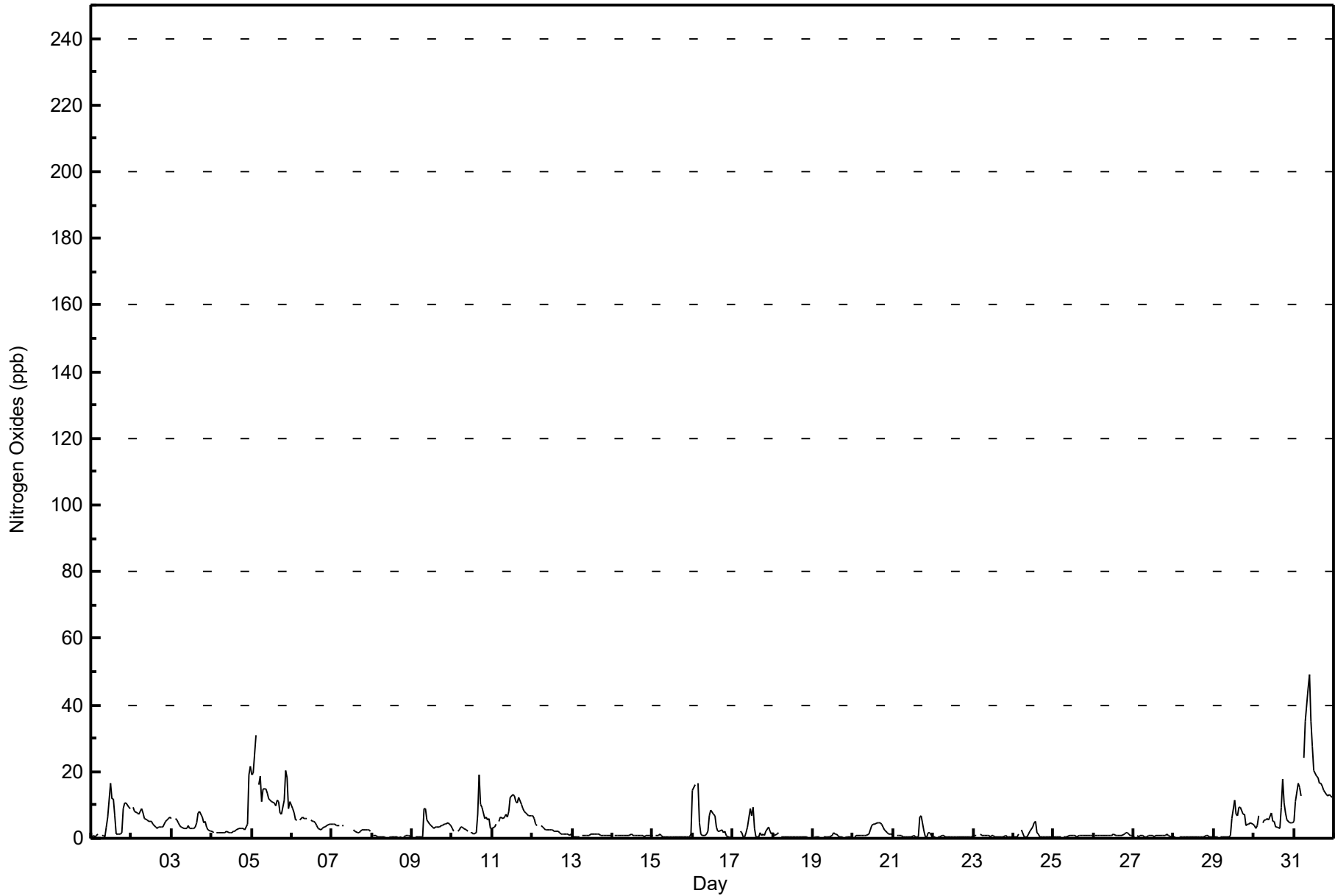
Nitrogen Oxides (NO_x) - ppb
Mackay River - January 2025

Maximum Value: 49.1 ppb on Jan 31 10:00																				Maximum Daily Average: 20.0 ppb on Jan 31					Hours in Service: 744	
Minimum Value: 0.2 ppb on Jan 8 10:00										Minimum Daily Average: 0.4 ppb on Jan 8										Hours of Data: 706						
Maximum Diurnal Average: 4.4 ppb at hour 12										Minimum Diurnal Average: 2.7 ppb at hour 5										Hours of Missing Data: 38						
Monthly Average: 3.50 ppb										Percentiles: P ₁ = 0.2 P ₁₀ = 0.4 Q ₁ = 0.5 Median = 1.2 Q ₃ = 4.4 P ₉₀ = 9.1 P ₉₉ = 21.5										Hours of Calibration: 36						
																				Percent Operational Time: 99.7						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0.3	1.0	0.5	1.0	1.1	Z	0.8	0.7	0.4	3.4	6.4	16.6	11.9	11.9	6.6	1.3	1.3	1.1	1.8	8.7	10.7	10.8	9.2	8.8	5.1	16.6
2-Jan	Z	9.4	8.3	7.7	7.3	8.2	9.1	7.5	6.1	5.4	4.9	5.0	5.0	4.3	3.4	3.0	3.2	3.3	3.5	3.6	5.0	5.6	5.8	6.2	5.7	9.4
3-Jan	6.0	Z	5.9	5.4	4.6	4.0	3.4	3.1	2.9	2.9	3.6	2.9	2.9	3.0	3.3	4.7	7.7	7.9	6.2	4.7	5.2	3.6	2.6	2.1	4.3	7.9
4-Jan	1.9	1.8	Z	1.6	1.7	1.8	1.9	1.8	1.8	2.3	1.8	1.6	1.7	2.2	2.1	2.4	2.8	2.9	3.1	2.8	2.7	4.2	19.1	21.6	3.8	21.6
5-Jan	19.3	19.5	31.1	Z	16.0	18.7	11.0	14.8	14.8	13.5	11.8	11.5	10.8	10.5	9.8	11.6	11.1	7.5	7.4	11.5	20.2	18.3	9.1	11.2	13.9	31.1
6-Jan	8.7	7.5	5.7	5.3	Z	5.4	6.2	6.0	5.9	5.9	M	5.5	5.2	5.1	4.6	3.8	2.8	2.5	2.9	3.2	3.6	3.9	4.1	4.1	4.9	8.7
7-Jan	4.2	4.3	4.3	4.0	3.9	Z	3.8	3.7	C	C	C	C	C	2.6	2.1	1.7	1.9	2.2	2.7	2.6	2.7	2.8	2.4	2.0	3.0	4.3
8-Jan	Z	1.0	0.7	0.6	0.5	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.5	0.7	0.8	0.7	0.4	0.4	1.0
9-Jan	0.4	Z	0.4	0.3	0.4	0.5	0.2	9.0	8.9	5.6	4.0	3.7	3.4	2.9	3.5	3.2	3.4	3.8	4.0	4.3	4.4	4.5	4.3	3.7	3.4	9.0
10-Jan	3.0	2.1	Z	1.9	2.7	3.4	3.4	3.1	2.5	2.1	M	1.8	1.6	1.5	1.6	7.3	19.2	10.3	9.2	6.1	6.2	5.7	6.1	3.2	4.7	19.2
11-Jan	3.1	3.5	4.1	Z	4.9	6.4	5.9	6.3	7.2	6.3	7.9	12.3	13.0	12.5	11.1	10.7	12.3	10.0	9.1	8.1	7.5	7.3	6.9	6.9	8.0	13.0
12-Jan	6.9	6.1	4.4	3.7	Z	3.7	3.5	2.8	2.4	2.4	2.5	2.5	2.4	2.3	2.2	1.9	1.7	1.4	1.2	1.2	1.2	1.1	1.0	1.2	2.6	6.9
13-Jan	0.8	0.6	0.5	0.4	0.4	Z	0.6	0.7	0.6	0.8	1.0	1.1	1.1	1.1	1.1	1.1	1.1	0.9	0.9	1.0	0.9	0.9	0.9	0.8	0.8	1.1
14-Jan	Z	0.8	0.7	0.7	0.7	0.7	0.7	0.8	0.8	1.0	1.1	1.0	0.9	0.9	0.8	0.7	0.7	0.7	0.7	0.6	0.6	1.0	1.0	0.8	0.8	1.1
15-Jan	0.8	Z	0.8	0.7	1.1	0.7	0.5	0.5	0.5	0.5	0.3	0.4	0.6	0.4	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.3	1.2	0.6	1.2
16-Jan	14.3	16.1	Z	16.4	4.7	1.4	0.9	1.0	1.1	2.0	6.9	8.7	7.2	6.7	3.4	2.1	2.3	2.7	1.5	2.3	0.7	0.6	0.2	0.2	4.5	16.4
17-Jan	0.2	0.2	0.2	Z	2.0	1.9	0.2	0.3	1.6	3.5	8.8	6.6	9.2	3.0	0.4	0.5	1.9	0.8	1.1	0.9	1.9	3.2	2.3	1.2	2.3	9.2
18-Jan	1.7	0.7	1.2	1.9	Z	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.4	0.5	0.5	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.5	1.9
19-Jan	0.2	0.2	0.3	0.3	0.4	Z	0.4	0.4	0.4	0.4	0.5	0.8	1.6	1.2	1.3	0.9	0.4	0.2	0.2	0.2	0.4	0.4	0.3	0.3	0.5	1.6
20-Jan	Z	0.6	0.7	0.9	0.9	0.9	0.8	0.7	0.8	1.4	2.5	3.9	4.1	4.2	4.5	4.6	4.7	4.4	3.6	2.7	1.8	1.5	1.3	1.1	2.3	4.7
21-Jan	1.0	Z	0.9	0.8	0.8	0.7	0.6	0.5	0.5	0.4	0.4	0.4	0.7	0.3	0.3	0.6	6.5	6.8	1.9	0.5	0.5	1.8	1.5	0.5	1.3	6.8
22-Jan	0.5	0.6	Z	0.4	0.4	0.8	0.7	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.6	0.5	0.4	0.8
23-Jan	0.7	0.8	0.9	Z	1.1	1.0	0.9	0.9	0.8	0.7	0.6	0.8	1.0	0.6	0.4	0.6	0.5	0.6	0.6	0.7	0.5	0.4	0.4	0.5	0.7	1.1
24-Jan	0.5	0.5	0.4	1.2	Z	2.7	0.4	0.3	0.4	1.1	2.3	3.2	4.6	5.0	1.7	1.4	0.4	0.3	0.3	0.4	0.4	0.4	0.4	0.4	1.2	5.0
25-Jan	0.4	0.5	0.6	0.6	0.5	Z	0.5	0.5	0.6	0.9	0.9	1.0	1.0	0.7	0.6	0.8	0.7	0.7	0.7	0.7	0.7	0.9	0.9	0.9	0.7	1.0
26-Jan	Z	0.9	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.8	1.0	1.1	0.8	0.7	0.8	0.9	1.0	1.3	1.7	1.5	1.3	0.9	0.7	1.0	1.7
27-Jan	0.6	Z	0.7	0.6	0.7	0.7	0.6	0.6	0.5	0.7	0.8	0.7	0.5	0.7	0.7	0.8	0.9	0.9	0.8	0.9	1.1	1.1	0.5	0.4	0.7	1.1
28-Jan	0.5	0.5	Z	0.6	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.3	0.5	0.4	0.4	0.4	0.4	0.5	0.9	0.7	0.6	0.5	0.4	0.5	0.9
29-Jan	0.4	0.4	0.4	Z	0.5	0.5	0.5	0.5	0.5	0.5	0.8	5.9	11.5	7.3	6.7	9.5	9.4	7.2	7.0	3.9	4.3	4.1	4.5	4.2	3.9	11.5
30-Jan	3.9	3.0	4.0	6.7	Z	4.7	5.6	5.7	5.9	5.6	7.7	5.0	4.9	3.3	3.3	3.1	9.3	17.7	10.4	7.5	5.5	4.7	4.6	4.7	6.0	17.7
31-Jan	5.2	11.0	16.7	15.2	12.8	Z	24.4	35.1	45.0	49.1	35.2	27.7	20.2	18.7	18.0	16.4	16.4	15.8	14.3	13.2	12.6	12.9	12.5	12.4	20.0	49.1
3.3 3.6 3.7 3.1 2.7 2.8 2.9 3.5 3.8 4.0 4.1 4.4 4.3 3.7 3.1 3.1 4.0 3.7 3.2 3.1 3.4 3.4 3.4 3.3																								Diurnal Average		
19.3 19.5 31.1 16.4 16.0 18.7 24.4 35.1 45.0 49.1 35.2 27.7 20.2 18.7 18.0 16.4 19.2 17.7 14.3 13.2 20.2 18.3 19.1 21.6																								Diurnal Maximum		
Z - zerospan C - Calibration M - Maintenance																										



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Mackay River - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Mackay River - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	698	98.87	98.87
21 - 40	6	0.85	99.72
41 - 80	2	0.28	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 706

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Oxides (NO_x) - ppb
Mackay River - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	22	50	31	13	6	25	50	39	50	72	36	76	120	47	23	30	690
21 - 40	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	6
11 - 80	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	24	53	34	13	6	25	50	39	50	72	36	76	120	47	23	30	698

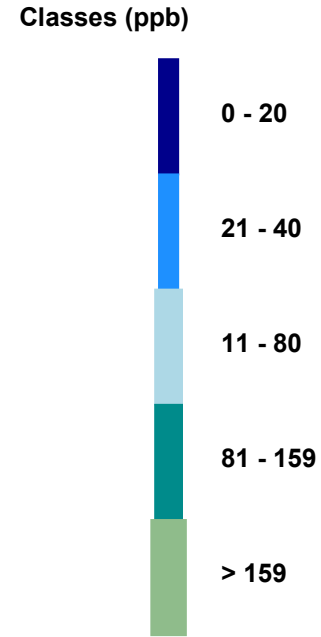
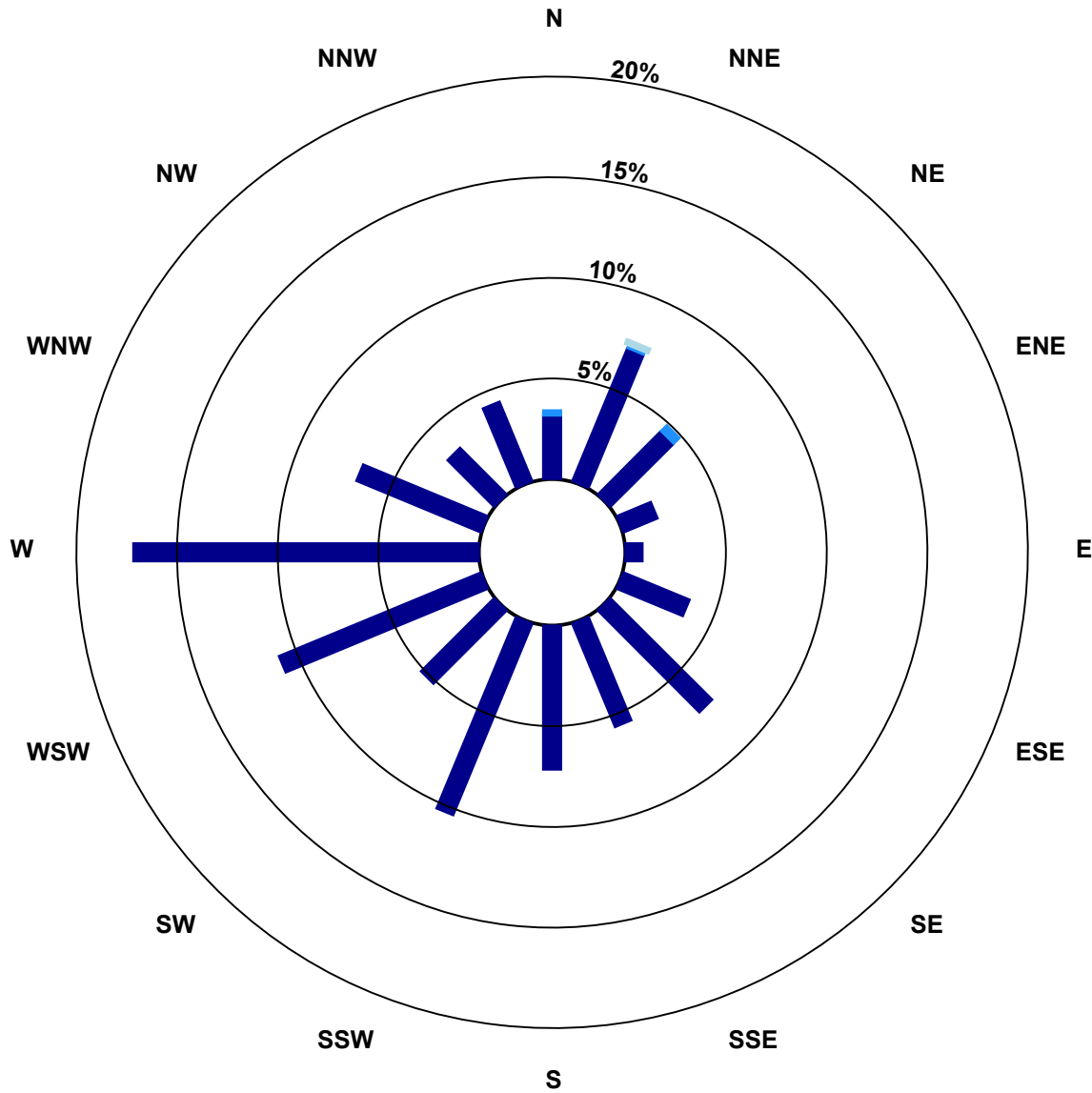
Total Number of Valid Hours: 698

Total Number of Hours: 744

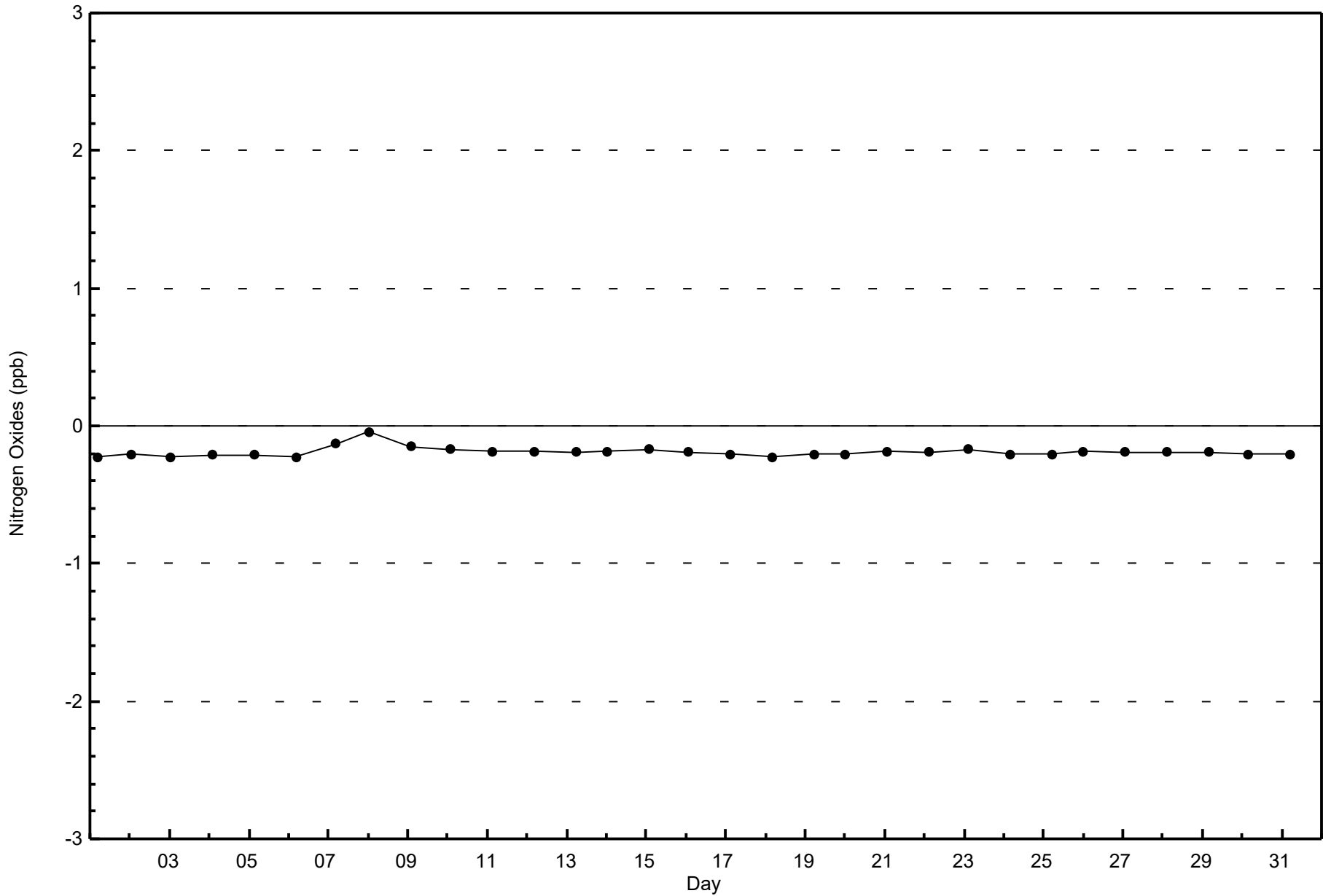


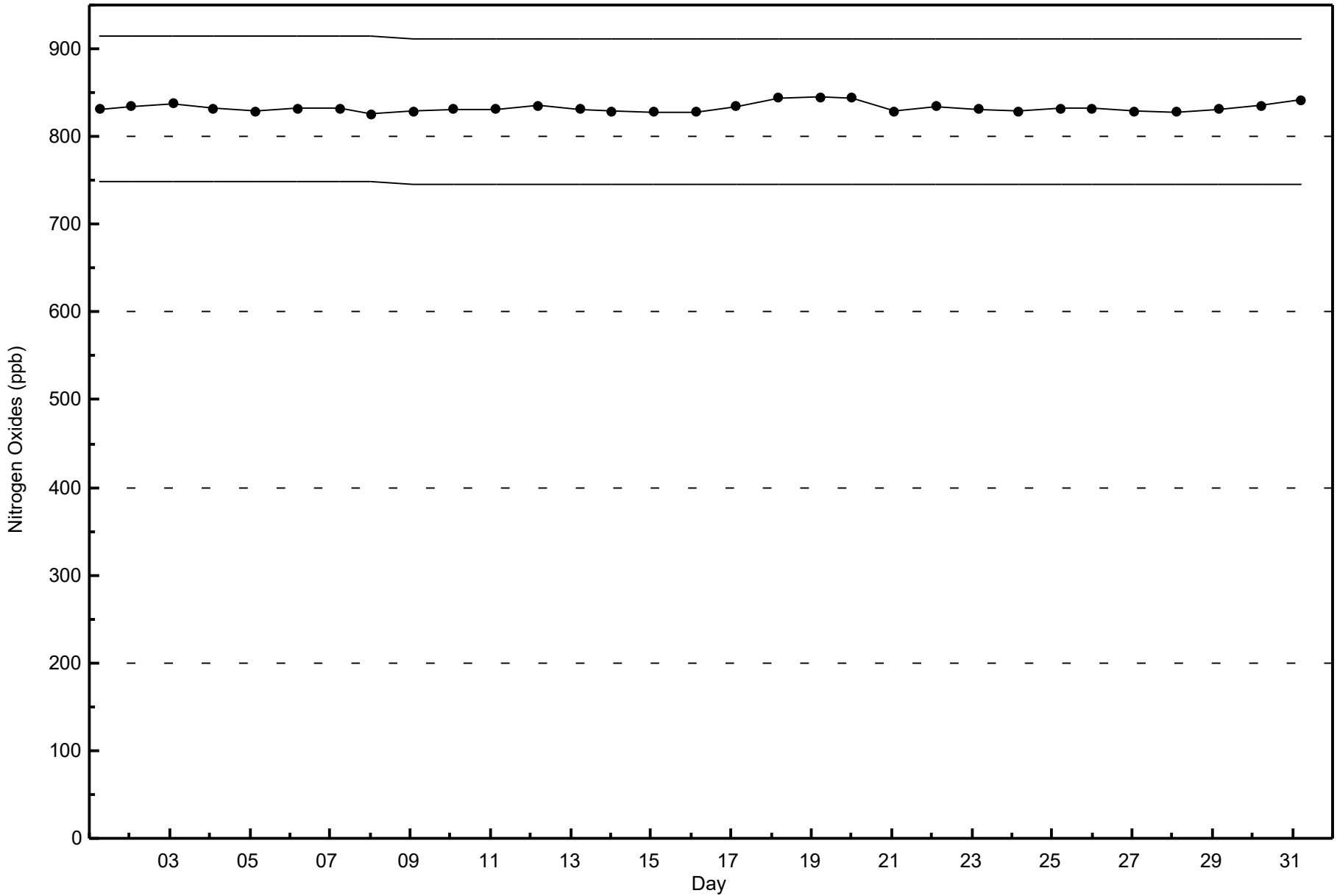
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Oxides (NO_x) - ppb
Mackay River



Total Number of Valid Hours: 698







Wood Buffalo Environmental Association
Summary of Hour Averages

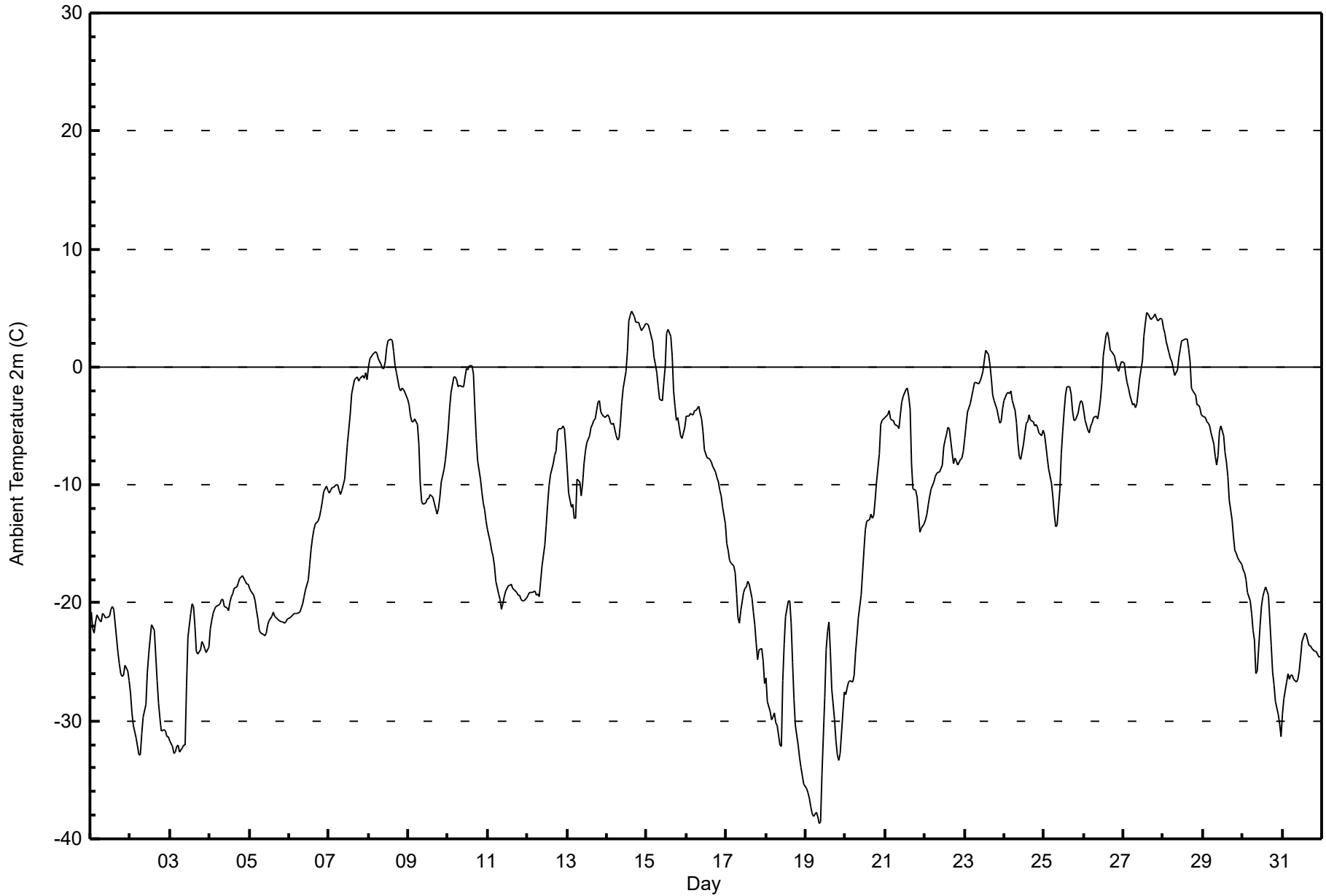
Ambient Temperature 2m (AT2) - C
Mackay River - January 2025

Maximum Value: 4.7 C on Jan 14 16:00		Maximum Daily Average: 1.1 C on Jan 27																				Hours in Service: 744				
Minimum Value: -38.7 C on Jan 19 09:00		Minimum Daily Average: -32.3 C on Jan 19																				Hours of Data: 744				
Maximum Diurnal Average: -9.3 C at hour 15		Minimum Diurnal Average: -14.4 C at hour 9																				Hours of Missing Data: 0				
Monthly Average: -12.38 C		Percentiles: P ₁ = -36.4 P ₁₀ = -26.7 Q ₁ = -21.0 Median = -10.4 Q ₃ = -3.7 P ₉₀ = 0.2 P ₉₉ = 4.2																				Hours of Calibration: 0				
																						Percent Operational Time: 100.0				
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	-20.8	-22.2	-22.5	-21.7	-21.0	-21.5	-21.6	-20.9	-21.0	-21.2	-21.2	-20.6	-20.4	-20.5	-21.7	-24.2	-25.1	-26.0	-26.2	-26.1	-25.3	-25.8	-26.6	-22.7	-20.4	
2-Jan	-27.7	-29.3	-30.4	-31.5	-32.2	-32.9	-32.9	-31.1	-29.7	-28.6	-25.9	-24.4	-23.0	-21.8	-22.3	-24.5	-26.6	-28.5	-29.7	-30.9	-30.7	-30.9	-31.3	-28.7	-21.8	
3-Jan	-31.7	-32.1	-32.8	-32.7	-32.2	-32.0	-32.6	-32.3	-32.1	-32.1	-27.0	-22.9	-20.9	-20.1	-20.3	-22.0	-24.1	-24.3	-24.0	-23.3	-23.5	-23.8	-24.3	-23.8	-26.9	-20.1
4-Jan	-22.2	-21.5	-20.9	-20.5	-20.3	-20.1	-20.1	-19.8	-19.7	-20.3	-20.4	-20.7	-19.9	-19.4	-19.2	-18.7	-18.6	-18.3	-18.0	-17.8	-17.7	-18.1	-18.4	-18.5	-19.5	-17.7
5-Jan	-18.8	-19.0	-19.3	-19.9	-20.6	-21.4	-22.3	-22.6	-22.7	-22.7	-22.5	-21.5	-21.1	-20.8	-21.2	-21.2	-21.4	-21.5	-21.6	-21.6	-21.7	-21.6	-21.4	-21.3	-18.8	
6-Jan	-21.3	-21.2	-21.0	-20.9	-20.9	-20.9	-20.8	-20.5	-20.0	-19.5	-18.9	-18.0	-16.8	-15.5	-14.5	-13.8	-13.3	-13.1	-12.7	-12.2	-11.4	-10.5	-10.1	-10.5	-16.6	-10.1
7-Jan	-10.7	-10.4	-10.2	-10.2	-10.0	-9.9	-10.5	-10.8	-10.4	-9.6	-7.9	-6.4	-5.3	-4.0	-2.3	-1.1	-1.0	-0.9	-1.2	-0.9	-0.8	-0.9	-0.5	-1.1	-5.7	-0.5
8-Jan	0.0	0.7	1.1	1.2	1.3	1.2	0.7	0.3	-0.1	-0.1	0.4	1.6	2.3	2.4	2.2	1.2	0.1	-0.5	-1.8	-2.0	-1.8	-1.9	-2.1	-2.7	0.1	2.4
9-Jan	-3.2	-4.2	-4.6	-4.6	-4.4	-4.8	-6.5	-9.9	-11.4	-11.6	-11.5	-11.1	-11.2	-10.9	-10.9	-11.0	-12.0	-12.5	-12.0	-11.0	-9.7	-8.7	-7.8	-6.7	-8.8	-3.2
10-Jan	-5.3	-3.5	-2.1	-0.8	-0.8	-1.1	-1.6	-1.5	-1.7	-1.6	-0.8	-0.1	-0.3	0.1	0.1	-0.6	-3.5	-6.1	-7.9	-9.5	-10.6	-11.5	-12.1	-13.1	-4.0	0.1
11-Jan	-13.8	-14.8	-15.6	-16.0	-16.9	-18.1	-19.3	-19.8	-20.5	-20.1	-19.4	-19.0	-18.6	-18.5	-18.4	-18.8	-18.9	-19.2	-19.3	-19.3	-19.8	-19.8	-19.9	-19.6	-18.5	-13.8
12-Jan	-19.4	-19.2	-19.1	-19.1	-18.9	-19.3	-19.3	-19.5	-18.2	-16.8	-15.1	-13.4	-11.7	-10.1	-9.1	-8.3	-7.5	-7.1	-5.5	-5.2	-5.2	-5.0	-5.2	-6.7	-12.7	-5.0
13-Jan	-8.6	-10.7	-11.9	-11.7	-12.8	-12.9	-9.5	-9.8	-11.0	-9.8	-8.2	-7.2	-6.5	-5.8	-5.1	-4.8	-4.5	-4.4	-3.0	-2.8	-3.8	-4.0	-4.2	-4.3	-7.4	-2.8
14-Jan	-4.0	-4.2	-4.7	-4.9	-4.7	-5.8	-6.2	-6.1	-4.8	-3.0	-1.8	-0.4	1.3	3.9	4.4	4.7	4.2	3.8	3.8	3.7	3.4	3.1	3.5	3.6	-0.3	4.7
15-Jan	3.6	3.6	3.1	2.1	0.8	0.2	-0.5	-1.7	-2.7	-2.9	-1.3	-0.1	2.8	3.2	2.6	0.9	-2.0	-3.3	-4.6	-4.3	-5.8	-6.1	-5.6	-5.1	-1.0	3.6
16-Jan	-4.2	-4.2	-4.0	-4.0	-4.0	-3.7	-3.6	-3.4	-3.9	-4.4	-5.5	-7.0	-7.8	-7.7	-7.9	-8.1	-8.5	-8.9	-9.4	-9.7	-10.4	-11.0	-11.8	-13.4	-6.9	-3.4
17-Jan	-14.9	-15.5	-16.4	-16.7	-16.8	-17.4	-19.3	-21.3	-21.7	-20.7	-19.1	-18.8	-18.7	-18.2	-18.4	-19.6	-20.8	-21.9	-23.4	-24.8	-24.0	-23.8	-24.9	-26.8	-20.2	-14.9
18-Jan	-26.3	-28.4	-29.2	-29.9	-29.7	-29.3	-30.2	-30.4	-32.1	-32.1	-26.6	-23.5	-21.1	-19.8	-19.8	-21.7	-25.0	-28.1	-30.4	-32.0	-33.1	-33.9	-34.7	-35.3	-28.5	-19.8
19-Jan	-35.8	-36.1	-36.6	-37.3	-37.9	-38.1	-37.8	-38.1	-38.7	-38.5	-34.5	-28.0	-24.0	-22.5	-21.6	-24.1	-27.3	-29.9	-31.7	-32.9	-33.3	-32.7	-29.2	-27.6	-32.3	-21.6
20-Jan	-27.8	-27.2	-26.7	-26.5	-26.7	-26.1	-24.3	-22.8	-21.2	-19.3	-17.5	-15.6	-13.8	-13.0	-13.0	-12.5	-12.9	-12.6	-11.3	-9.7	-7.4	-4.9	-4.5	-4.4	-16.7	-4.4
21-Jan	-4.3	-4.0	-3.7	-4.4	-4.5	-4.5	-4.9	-5.0	-5.2	-4.1	-3.0	-2.5	-1.9	-1.8	-2.6	-3.5	-8.2	-10.3	-10.5	-11.1	-12.5	-14.1	-13.6	-13.2	-6.4	-1.8
22-Jan	-13.0	-12.4	-11.6	-10.9	-10.3	-9.8	-9.3	-9.1	-8.9	-8.9	-8.4	-6.7	-6.2	-5.7	-5.1	-5.2	-7.2	-8.2	-7.7	-8.0	-8.3	-7.9	-7.7	-7.1	-8.5	-5.1
23-Jan	-6.1	-4.9	-3.8	-3.0	-2.5	-2.0	-1.4	-1.3	-1.5	-1.2	-0.8	-0.4	0.5	1.4	1.0	0.2	-1.0	-2.4	-2.9	-3.6	-4.2	-4.8	-4.6	-3.6	-2.2	1.4
24-Jan	-2.8	-2.3	-2.2	-2.2	-2.1	-2.9	-3.7	-4.8	-6.4	-7.7	-7.8	-6.6	-5.6	-4.8	-4.6	-4.0	-4.5	-4.7	-5.0	-4.9	-5.1	-5.6	-5.8	-5.3	-4.6	-2.1
25-Jan	-5.7	-6.6	-7.7	-8.7	-9.9	-11.1	-12.5	-13.5	-13.4	-10.4	-7.4	-5.5	-3.8	-2.4	-1.7	-1.7	-2.3	-3.7	-4.5	-4.6	-4.0	-3.3	-2.9	-3.0	-6.3	-1.7
26-Jan	-3.7	-4.5	-5.3	-5.6	-5.0	-4.7	-4.3	-4.1	-4.4	-3.7	-2.8	-1.3	1.0	2.7	3.0	2.4	1.4	1.3	0.9	0.4	-0.1	-0.4	0.1	0.5	-1.5	3.0
27-Jan	0.4	-0.6	-1.3	-1.8	-2.4	-3.3	-3.1	-3.5	-3.1	-2.0	-0.9	0.6	2.6	3.7	4.6	4.4	4.0	4.2	4.3	4.5	4.2	3.9	4.2	4.0	1.1	4.6
28-Jan	3.3	2.8	2.1	1.2	0.7	0.4	-0.1	-0.7	-0.2	0.8	1.6	2.2	2.2	2.4	2.4	1.5	0.5	-1.8	-2.0	-2.4	-3.2	-3.2	-3.4	-4.0	0.1	3.3
29-Jan	-4.2	-4.3	-4.6	-4.8	-5.0	-5.6	-6.5	-7.6	-8.3	-7.5	-5.5	-5.0	-5.9	-7.2	-8.1	-9.3	-11.2	-12.9	-14.3	-15.5	-15.8	-16.1	-16.4	-16.8	-9.1	-4.2
30-Jan	-17.2	-17.5	-18.1	-19.1	-19.8	-20.9	-22.4	-23.1	-26.0	-25.8	-22.0	-20.3	-19.5	-19.1	-18.7	-19.3	-21.5	-23.6	-25.8	-27.0	-28.3	-29.5	-30.3	-31.3	-22.8	-17.2
31-Jan	-29.4	-28.2	-26.7	-26.0	-26.5	-26.1	-26.2	-26.5	-26.7	-26.5	-25.7	-24.5	-23.3	-22.5	-22.7	-23.1	-23.7	-23.7	-23.8	-24.1	-24.1	-24.3	-24.6	-24.6	-25.1	-22.5
																								Diurnal Average		
																								Diurnal Maximum		



Wood Buffalo Environmental Association
Hourly Averages

Ambient Temperature 2m (AT2) - C
Mackay River - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ambient Temperature 2m (AT2) - C
Mackay River - January 2025

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	218	29.30	29.30
-20 - 0	446	59.95	89.25
0 - 10	80	10.75	100.00
10 - 20	0	0.00	100.00
> 20	0	0.00	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

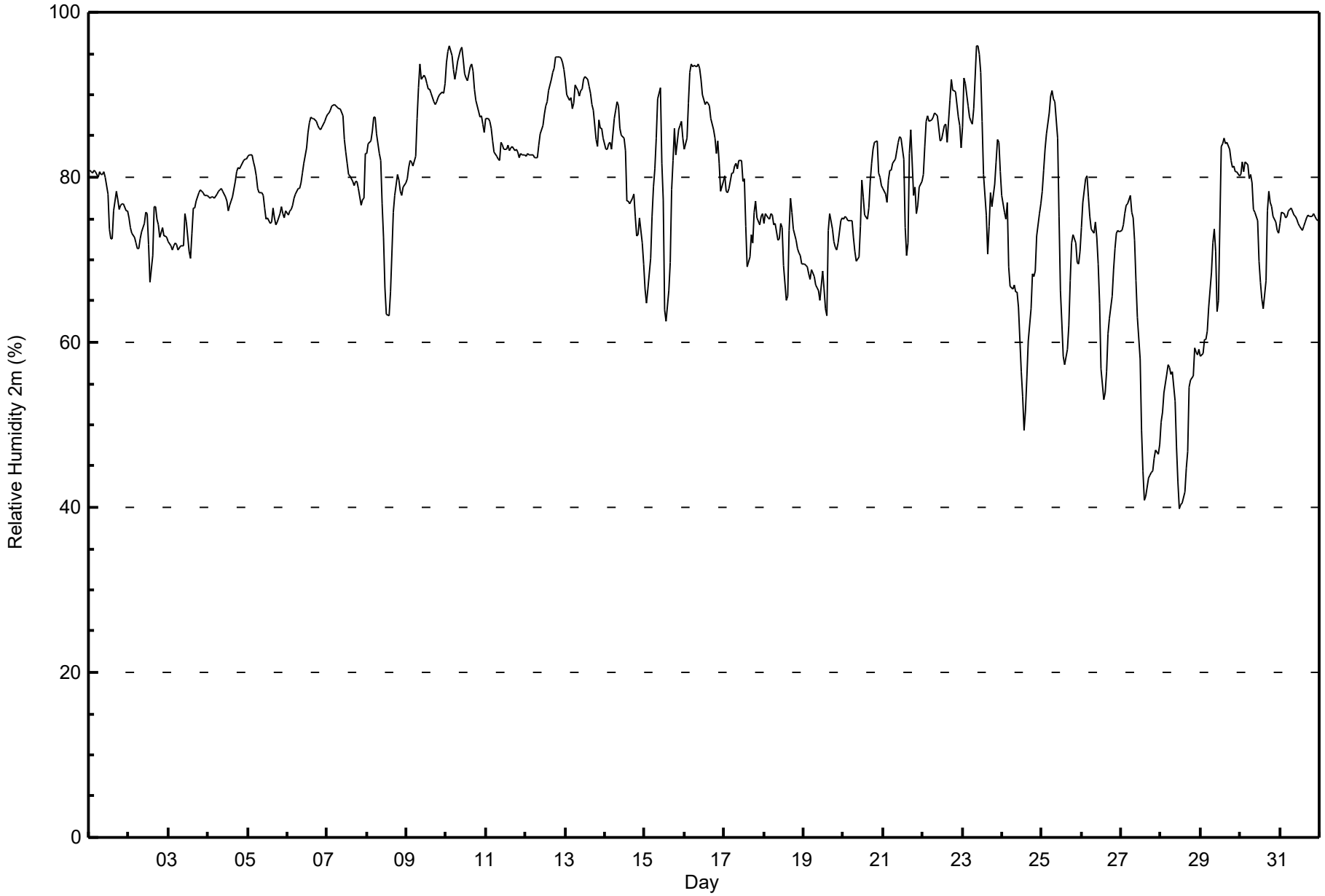
Relative Humidity 2m (RH2) - %
Mackay River - January 2025

Maximum Value: 96.0 % on Jan 10 03:00		Maximum Daily Average: 92.0 % on Jan 10																				Hours in Service: 744					
Minimum Value: 39.9 % on Jan 28 12:00		Minimum Daily Average: 51.6 % on Jan 28																				Hours of Data: 744					
Maximum Diurnal Average: 80.2 % at hour 9		Minimum Diurnal Average: 72.7 % at hour 14																				Hours of Missing Data: 0					
Monthly Average: 77.59 %		Percentiles: P ₁ = 43.7 P ₁₀ = 65.1 Q ₁ = 73.2 Median = 78.1 Q ₃ = 84.6 P ₉₀ = 89.8 P ₉₉ = 94.6																				Hours of Calibration: 0					
		Percent Operational Time: 100.0																									
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	80.8	80.7	80.5	80.9	80.7	80.0	80.7	80.3	80.3	80.6	80.1	78.0	73.8	72.5	72.6	76.0	78.3	77.4	76.0	76.6	76.8	76.8	75.9	75.9	78.0	80.9	
2-Jan	75.1	74.0	73.2	72.7	72.0	71.4	71.3	72.5	73.4	74.4	75.7	75.6	71.9	67.4	70.5	76.4	76.5	74.9	74.2	72.7	73.9	72.9	72.8	72.8	73.3	76.5	
3-Jan	72.1	71.8	71.2	71.6	72.1	71.8	71.2	71.7	71.7	71.6	75.6	74.6	71.0	70.2	73.2	76.2	76.3	77.2	78.1	78.5	78.3	78.1	77.8	77.9	74.2	78.5	
4-Jan	77.6	77.4	77.6	77.6	77.5	77.9	78.3	78.5	78.7	78.3	77.7	77.2	76.0	76.5	77.0	77.6	79.5	80.7	81.2	81.0	81.4	82.0	82.3	82.2	78.8	82.3	
5-Jan	82.6	82.7	82.7	81.8	81.2	80.1	78.7	78.2	78.1	77.8	76.3	74.8	75.0	74.4	74.6	76.3	75.1	74.2	74.5	75.6	76.5	75.5	75.1	75.9	77.4	82.7	
6-Jan	75.5	75.9	76.1	76.5	77.4	78.0	78.6	78.7	79.4	80.5	81.6	83.5	85.4	86.7	87.3	87.2	86.7	86.2	86.0	85.8	86.1	86.8	87.4	82.5	87.4		
7-Jan	87.6	87.8	88.1	88.6	88.8	88.6	88.4	88.2	88.3	87.5	84.6	83.1	81.7	80.4	80.2	79.6	78.9	79.4	79.6	78.6	76.5	77.4	77.4	82.8	83.4	88.8	
8-Jan	83.0	84.0	84.4	85.6	87.2	87.3	85.3	82.8	82.0	76.7	72.6	66.7	63.5	63.2	66.1	70.8	75.8	77.8	80.4	79.6	78.3	77.7	78.9	79.4	77.9	87.3	
9-Jan	79.8	81.3	82.0	81.9	81.3	82.6	87.1	90.8	93.7	91.9	92.4	92.1	91.4	90.8	90.6	90.2	89.2	88.8	89.1	89.7	90.1	90.4	90.1	91.3	88.3	93.7	
10-Jan	93.8	95.3	96.0	94.7	93.0	91.8	92.8	94.1	95.5	95.8	94.2	92.6	92.0	91.6	93.3	93.7	92.8	90.6	89.3	88.0	87.3	87.5	86.5	85.5	92.0	96.0	
11-Jan	87.2	87.2	86.7	85.9	84.5	83.0	82.6	82.2	82.1	84.2	83.9	83.4	83.4	83.8	83.3	83.6	83.7	83.2	83.4	83.1	82.4	82.9	82.8	82.7	83.8	87.2	
12-Jan	82.6	82.8	82.7	82.6	82.7	82.3	82.4	82.4	83.9	85.2	86.4	87.6	88.7	89.2	90.5	91.9	92.7	93.3	94.6	94.5	94.5	94.5	93.9	93.0	88.1	94.6	
13-Jan	91.7	90.1	89.4	89.6	88.2	89.0	91.2	90.5	89.8	90.4	90.7	91.9	92.2	91.8	91.1	90.1	88.9	88.1	84.5	83.7	86.9	85.9	86.0	84.8	89.0	92.2	
14-Jan	83.4	83.4	84.0	84.2	83.4	87.2	88.1	89.1	88.6	85.9	85.1	84.7	83.3	77.2	77.2	76.7	77.5	77.9	75.2	72.9	73.0	75.1	72.1	69.4	80.6	89.1	
15-Jan	66.4	64.8	66.4	70.2	75.3	78.8	81.0	84.7	89.4	90.8	81.7	77.3	63.8	62.6	66.3	69.7	78.5	82.1	86.0	82.6	85.7	86.3	86.8	84.7	77.6	90.8	
16-Jan	83.4	84.7	88.9	92.7	93.7	93.4	93.6	93.4	93.7	93.3	91.9	89.9	88.8	89.2	88.9	88.6	87.1	85.8	84.7	83.0	84.4	81.7	78.3	79.5	88.0	93.7	
17-Jan	80.2	78.2	78.1	78.6	80.5	80.5	81.4	81.7	81.0	82.1	82.0	79.5	79.9	74.1	69.1	70.3	73.0	72.1	75.8	77.1	75.1	74.3	75.3	75.7	77.3	82.1	
18-Jan	74.4	75.5	75.1	74.9	75.5	75.4	74.3	74.4	72.5	72.6	74.5	73.9	69.3	65.1	65.6	73.6	77.5	75.8	73.7	72.4	71.4	70.9	70.4	69.6	72.9	77.5	
19-Jan	69.4	69.4	69.1	68.3	67.6	68.8	68.0	66.9	66.6	66.2	65.1	68.7	66.4	64.1	63.3	73.6	75.6	73.7	72.2	71.5	71.2	72.1	74.8	75.1	69.5	75.6	
20-Jan	75.0	75.3	75.0	74.7	74.7	74.8	72.8	70.9	69.9	70.3	74.1	79.6	77.6	75.5	75.0	76.3	79.5	81.7	83.4	84.2	84.5	80.5	80.0	79.0	76.8	84.5	
21-Jan	78.6	78.0	76.9	79.6	80.9	80.8	81.6	82.2	83.2	84.3	84.8	84.7	82.2	74.0	70.5	72.1	82.9	85.7	77.8	78.9	75.5	76.7	78.9	79.5	79.6	85.7	
22-Jan	80.3	83.7	86.7	87.5	86.8	87.0	87.3	87.7	87.7	87.5	84.4	84.6	85.4	86.2	86.4	84.3	89.3	91.9	90.6	90.4	90.4	87.3	86.2	83.5	86.8	91.9	
23-Jan	86.1	92.1	91.4	88.7	87.4	86.7	86.4	88.4	95.9	95.9	94.8	92.6	86.8	80.4	75.4	70.6	74.1	78.1	76.5	79.1	81.9	84.5	84.2	80.6	84.9	95.9	
24-Jan	77.9	75.7	74.9	77.0	69.2	66.8	66.4	67.0	66.2	66.1	64.2	56.5	53.4	49.3	51.6	55.8	60.1	64.0	68.3	68.0	68.6	72.9	75.6	76.8	66.3	77.9	
25-Jan	78.4	80.8	83.3	85.3	87.7	89.9	90.5	89.6	89.1	84.8	75.2	66.2	62.4	58.3	57.3	59.2	62.1	67.4	72.0	73.1	72.0	69.7	69.6	71.0	74.8	90.5	
26-Jan	73.9	77.0	79.9	80.2	77.6	75.3	73.8	73.2	74.5	72.6	69.6	64.7	56.8	53.0	54.0	56.5	61.1	62.9	65.6	68.7	71.4	73.3	73.6	73.3	69.3	80.2	
27-Jan	73.6	74.3	75.6	76.5	76.8	77.9	75.8	75.1	72.5	67.5	63.0	58.0	49.3	44.3	40.9	41.3	43.5	44.0	44.3	44.4	45.9	46.9	46.4	47.6	58.5	77.9	
28-Jan	50.4	51.6	53.9	56.1	57.2	56.9	56.1	56.5	52.9	47.3	43.0	39.9	40.3	40.6	41.9	44.7	46.8	54.6	55.4	56.0	59.2	58.8	58.5	59.2	51.6	59.2	
29-Jan	58.4	58.7	60.3	60.4	61.4	64.3	68.4	72.0	73.8	71.0	63.7	65.1	83.7	84.1	84.7	84.1	84.3	83.3	82.1	81.3	81.3	80.8	80.6	80.1	73.7	84.7	
30-Jan	80.4	81.8	80.7	81.9	81.5	79.8	80.4	79.4	76.1	75.8	74.8	69.8	67.3	65.2	64.0	67.4	75.9	78.3	76.9	76.4	75.3	74.6	73.6	73.3	75.4	81.9	
31-Jan	74.4	75.8	75.7	75.0	75.2	76.0	76.0	76.2	75.5	75.2	74.9	74.4	74.0	73.6	74.1	74.5	75.1	75.4	75.3	75.3	75.6	75.3	74.8	74.7	75.1	76.2	
		77.9	78.4	78.9	79.4	79.3	79.5	79.7	80.0	80.2	79.5	78.0	76.5	74.7	72.7	72.8	74.5	76.7	77.6	77.6	77.5	77.8	77.7	77.6	77.5	Diurnal Average	
		93.8	95.3	96.0	94.7	93.7	93.4	93.6	94.1	95.9	95.9	94.8	92.6	92.2	91.8	93.3	93.7	92.8	93.3	94.6	94.5	94.5	94.5	93.9	93.0	Diurnal Maximum	



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 2m (RH2) - %
Mackay River - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Relative Humidity 2m (RH2) - %
Mackay River - January 2025

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	1	0.13	0.13
40 - 60	50	6.72	6.85
60 - 80	368	49.46	56.32
80 - 100	325	43.68	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association

Summary of Hour Averages

Precipitation (PC) - mm

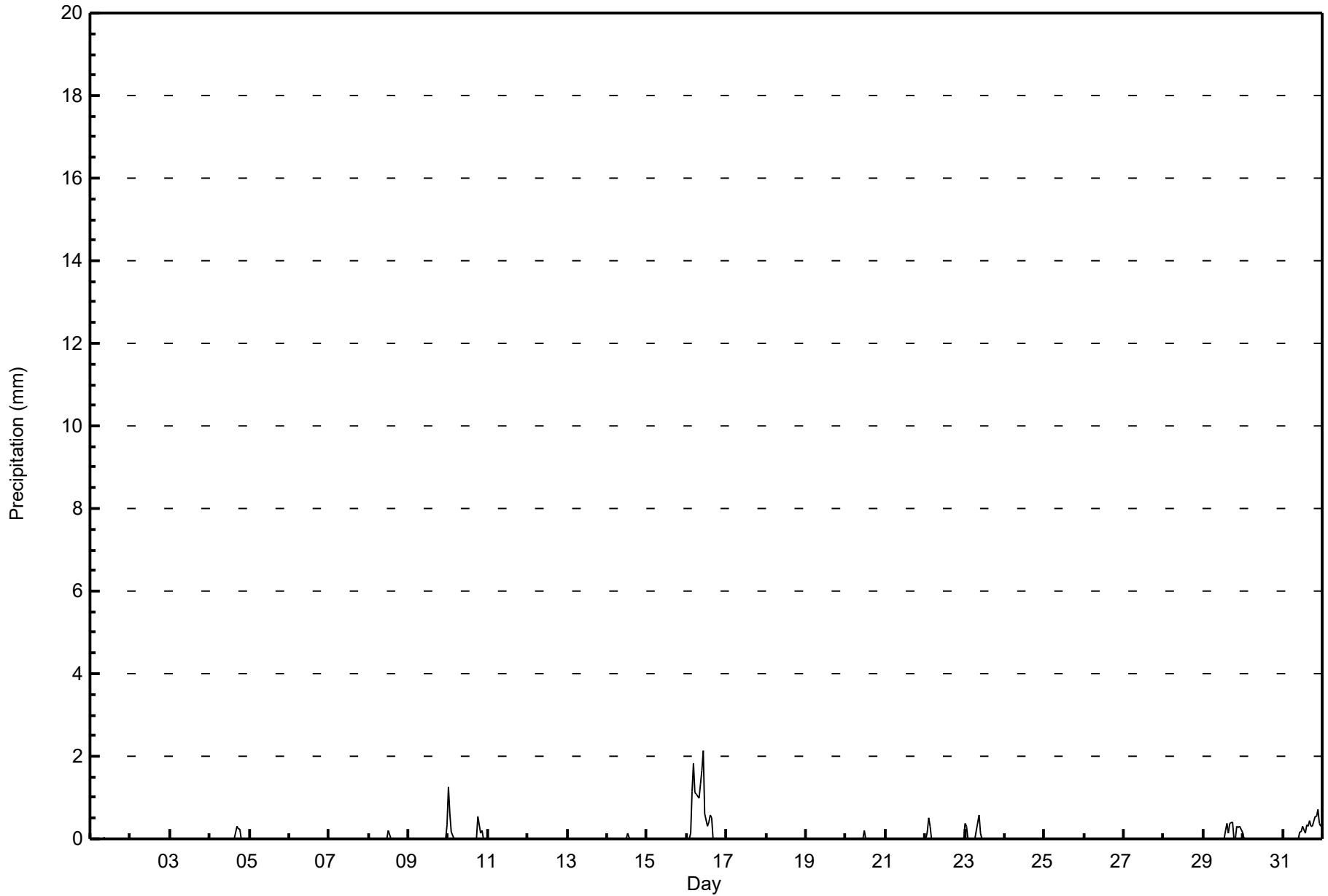
Mackay River - January 2025

Maximum Value: 2.2 mm on Jan 16 11:00																				Maximum Daily Total: 13.8 mm on Jan 16					Hours in Service: 744																								
Minimum Value: 0.0 mm on Jan 1 01:00																				Minimum Daily Total: 0.0 mm on Jan 2					Hours of Data: 744																								
Maximum Diurnal Total: 2.3 mm at hour 11																				Minimum Diurnal Total: 0.7 mm at hour 23					Hours of Missing Data: 0																								
Monthly Total: 28.53 mm																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.0 P ₉₉ = 1.0					Hours of Calibration: 0																								
																									Percent Operational Time: 100.0																								
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1																							
2-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
3-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
4-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
5-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
6-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
7-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
8-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2																						
9-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4																						
10-Jan	1.3	0.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.2	0.2	0.0	0.0	0.0	0.0	2.9	1.3																							
11-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
12-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
13-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
14-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1																						
15-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
16-Jan	0.0	0.0	0.1	1.1	1.8	1.1	1.1	1.0	1.3	1.7	2.2	0.6	0.3	0.4	0.6	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.8	2.2																							
17-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
18-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
19-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
20-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2																						
21-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
22-Jan	0.0	0.2	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.5																							
23-Jan	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.2	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.6																							
24-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
25-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
26-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
27-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
28-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
29-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.1	0.4	0.4	0.0	0.0	0.3	0.3	0.3	0.2	2.5	0.4	0.4																							
30-Jan	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1																							
31-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.3	0.1	0.3	0.3	0.4	0.3	0.3	0.6	0.6	0.7	0.4	0.3	4.9	0.7																							
																								1.7	1.1	0.8	1.4	1.8	1.1	1.1	1.2	2.0	1.8	2.3	1.0	0.9	0.8	1.3	1.0	1.1	1.0	0.7	1.0	1.0	0.7	0.8	Diurnal Average		
																								1.3	0.6	0.5	1.1	1.8	1.1	1.1	1.0	1.3	1.7	2.2	0.6	0.3	0.4	0.6	0.5	0.4	0.4	0.5	0.6	0.6	0.7	0.4	0.4	Diurnal Maximum	



Wood Buffalo Environmental Association
Hourly Averages

Precipitation (PC) - mm
Mackay River - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Precipitation (PC) - mm
Mackay River - January 2025

Concentration Ranges (mm)	Number of Hours	%	Cumulative %
0 - 0.3	718	96.51	96.51
0.4 - 0.5	10	1.34	97.85
0.6 - 0.7	7	0.94	98.79
0.8 - 1.4	6	0.81	99.60
1.5 - 10	3	0.40	100.00
> 10	0	0.00	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744

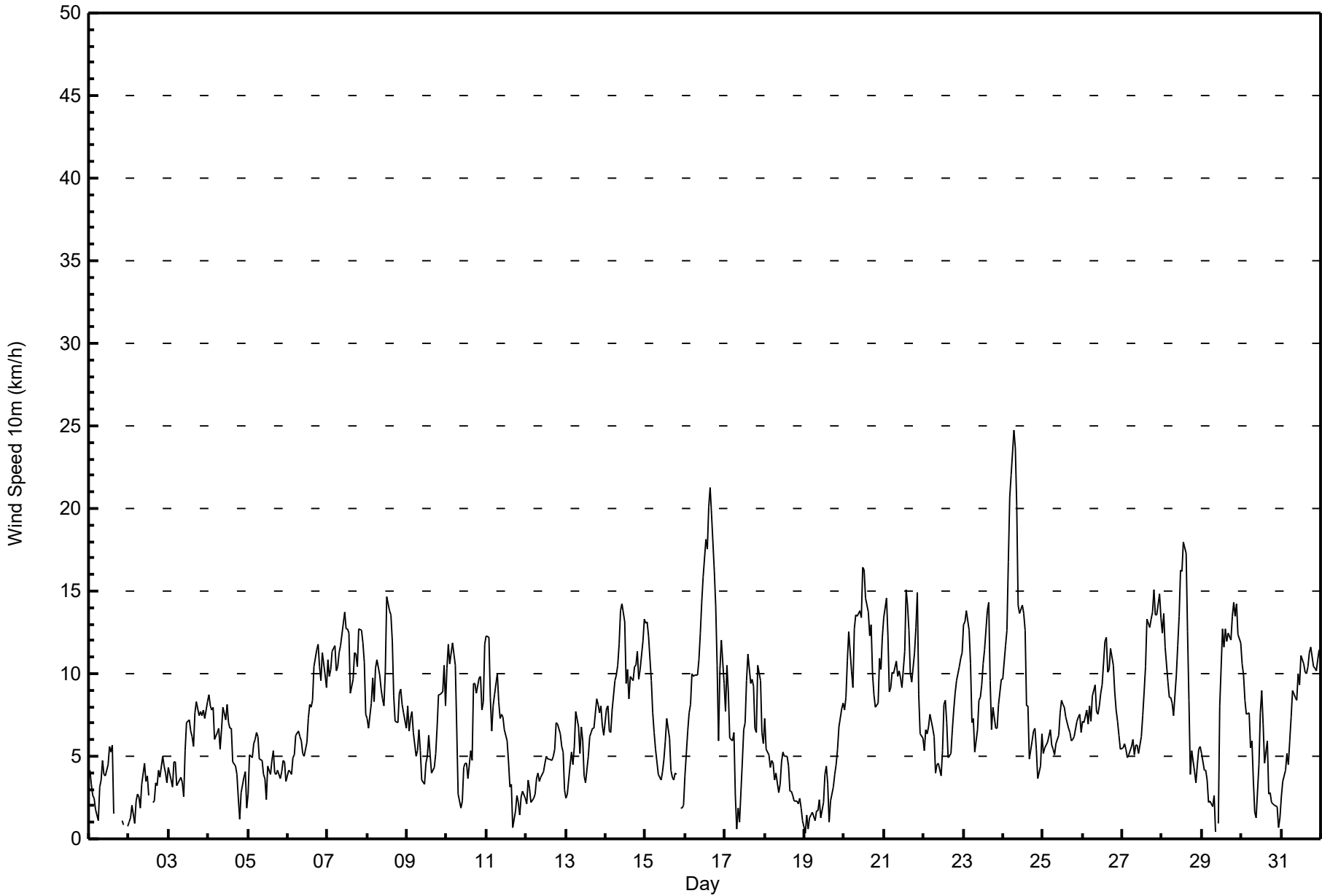


Maximum Speed: 25 km/h on Jan 24 07:00	Maximum Daily Speed Average: 11.1 km/h on Jan 7	Hours in Service: 744
Minimum Speed Value: 0 km/h on Jan 19 01:00	Minimum Daily Speed Average: 0.2 km/h on Jan 10	Hours of Data: 736
Maximum Diurnal Speed Average: 3.3 km/h at hour 14	Minimum Diurnal Speed Average: 1.4 km/h at hour 18	Hours of Missing Data: 8
Monthly Average Velocity: 2.3 km/h 259.1 deg	Percentiles: P ₁ = 1 P ₁₀ = 3 Q ₁ = 4 Median = 7 Q ₃ = 10 P ₉₀ = 13 P ₉₉ = 19	Percent Operational Time: 98.9

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	WNW4	W3	W3	W2	W2	WSW1	WNW3	NW4	NNW5	NNW4	N4	NNW4	NNW6	NNW5	NNW6	N2	UO	UO	UO	UO	NNE1	SE1	UO	WNW1	NW2.6	NNW6	
2-Jan	SSE1	SE1	SE2	S1	SSE2	SSE3	SE3	ESE2	SE3	S5	S4	SSW4	S3	UO	S2	SE2	SSE3	SSE3	SSE4	SE4	SSE5	SSE4	SE4	SSE3	SSE2.8	SSE5	
3-Jan	SSE4	SSE4	SE3	SE5	SSE5	SSE3	SSE3	SSE4	SE3	SE3	SE5	SSE7	SE7	SE7	SE6	ESE6	ESE8	ESE8	SE7	SE8	SE7	SE8	SE7	SE8	SE5.6	ESE8	
4-Jan	SE9	SE8	SE8	SE8	SE6	ESE6	SE7	ESE5	ESE7	ESE8	ESE7	ESE8	ESE7	ESE7	ESE7	E5	E4	ESE4	E2	ENE1	N3	N4	N4	N2	ESE4.9	SE9	
5-Jan	NNW3	N5	N5	N6	N6	N6	N6	NNE5	N5	N4	NE4	N2	NNW4	N4	NNE5	NE5	ENE4	E4	ENE4	ENE4	ESE4	SE5	SE5	S4	NNE3.0	N6	
6-Jan	SSE4	SE4	SE4	ESE5	SE5	SE6	SE7	SE6	SSE6	SE5	SSE5	SSE6	S7	S8	SSW8	SSW8	SSW10	SSW11	SSW12	SSW10	SSW10	SSW11	SSW10	SSW9	S6.5	SSW12	
7-Jan	SSW11	SSW10	SSW10	S11	S12	SSW10	S10	S11	S12	S13	SSW14	SSW13	SSW13	SSW12	SSW9	SSW10	SSW11	S11	SSW10	SSW13	SSW13	SSW12	SSW11	SSW8	SSW11.1	SSW14	
8-Jan	SW7	WSW7	WSW8	W10	W8	W10	W11	W10	W9	W8	W8	W10	WNW15	WNW14	WNW14	WNW12	WNW9	W7	W7	W9	W9	WNW8	WNW8	W7	W9.1	WNW15	
9-Jan	W8	W6	W7	W8	WNW6	W5	W5	N7	NE5	ENE4	SE3	SE5	SE5	SSE6	SE5	SE4	ESE4	SE5	SE7	SE9	SE9	SE9	SE11	SE8	SSE2.3	SE11	
10-Jan	SE10	SSE12	SSE11	SSW12	SSW11	SSW10	SSW7	SW3	SSW2	SW2	WSW4	W5	WNW5	W4	WNW5	N5	NNE9	NNE9	NNE9	NNE10	NNE10	NNE8	NNE8	NNE12	NE0.2	SSW12	
11-Jan	NE12	NNE12	NNE9	NNE7	NNE8	NNE9	NNE10	NNE8	NNE7	N8	NNE7	NNE7	NNE6	NNE5	NNW3	N3	S1	WSW2	SSW3	SW2	SSW1	SSW3	SSW3	SSW2	NNE4.3	NE12	
12-Jan	S2	S4	SSE3	S2	SSE2	SSE3	SSE4	SSE4	S3	S4	S4	S5	S5	SSW5	S5	SSW5	SW5	SW5	WSW7	W7	W6	WSW6	W5	W3	SSW3.3	WSW7	
13-Jan	WSW2	SW3	S4	S5	SSE4	S6	S8	SSW7	S5	S7	SSW6	SW4	WSW3	SSW5	SW6	SW6	SW7	SW7	WSW8	W8	W8	W8	WSW7	WSW6	SW4.9	WSW8	
14-Jan	W8	WSW8	WSW7	SW6	SSW8	S10	S10	S10	S12	SSW14	SSW14	SSW13	SW9	SW10	W8	W10	W10	WSW10	WSW10	WSW11	W10	W10	W12	W13	SW8.6	SSW14	
15-Jan	W13	W13	WNW12	WNW10	WNW8	W6	W5	W5	WSW4	WSW4	WSW4	WSW5	W6	WSW7	WSW6	WSW4	SW4	SW4	SW4	SW4	UO	ESE2	SE2	NE2	W5.1	W13	
16-Jan	NE4	NE6	NE8	ESE8	ESE10	E10	E10	ENE10	NE11	NE12	NNE14	NE16	NNE18	NNE18	NNE20	NNE21	NNE20	NNE16	NNE14	N10	NNW6	NW10	NNW12	NNW9	NNE10.1	NNE21	
17-Jan	NNW8	NNW10	NNW9	NW6	WNW6	NW6	NNW3	WNW1	NNE2	N1	NNE5	N7	NNW7	NW10	NNW11	NNW9	NW10	NW9	NW7	NW6	NW11	NW10	NW6	NW6	NNW6.6	NNW11	
18-Jan	NW7	WNW5	WNW5	W4	W5	W5	WSW4	SW4	SW3	SW3	W5	W5	W5	WSW5	W4	W3	S3	SSE3	SSE2	SE2	SSE2	SSE2	SSE2	S1	WSW2.6	NW7	
19-Jan	SW0	SSE1	S1	SSE1	SSE1	WSW2	WSW1	SSE2	SSE2	SE2	SW1	WSW2	NW4	NW4	NNW3	S1	SSE2	SSE3	SSE4	SSE4	S5	S7	S8	S8	S1.9	S8	
20-Jan	S8	S9	S11	S13	SSW10	SSW9	S13	S14	S13	S14	SSW13	SSW16	SSW16	SSW15	SSW14	SSW12	SSW13	SSW10	SSW9	SSW8	WSW8	W11	W10	W12	SSW10.7	SSW16	
21-Jan	W13	W15	W12	W9	W9	W10	W10	W11	W10	W10	W10	WNW9	WNW11	NNW15	NNW14	NNW13	NE10	NNE9	NNW11	NNW13	NNW15	NW9	WNW6	WNW6	WNW8.6	NNW15	
22-Jan	W5	W7	W6	W7	W8	WNW7	W6	W4	WSW5	W5	W4	W5	W8	W8	W7	SW5	S5	SSW7	S8	S9	S10	SSW10	S11	SSW11	SW5.3	SSW11	
23-Jan	SSW13	SSW13	SSW14	SSW13	SSW11	SW7	SW7	WSW5	WSW7	WSW8	WSW9	W9	W11	W11	WNW14	WNW14	WNW10	W7	WNW8	W7	W7	WSW8	W9	W10	WSW8.1	WNW14	
24-Jan	W10	W12	WNW13	WNW17	NW21	NW22	NW25	NNW24	NNW20	NW14	NW14	NW14	NW14	NW13	WNW8	WNW8	W5	WSW6	WSW7	WSW7	WSW5	WSW4	WSW4	W6	NW11.0	NW25	
25-Jan	WSW5	WSW6	SW6	SSW6	SSW7	S6	SSW5	SSW5	SW6	WSW6	WSW8	WSW8	WSW8	W8	W7	WSW7	W6	W6	WSW6	WSW6	WSW7	WSW7	WSW8	WSW8	WSW6.0	WSW8	
26-Jan	SW7	SSW7	SSW8	SW7	WSW8	WSW7	SW9	WSW9	WSW8	WSW8	WSW8	W9	W9	W12	WSW12	W10	W10	W11	WNW10	W9	W8	W7	W6	W5	WSW8.0	WSW12	
27-Jan	WSW6	WSW6	WSW5	WSW5	W5	W6	WSW6	WSW5	WSW6	WSW6	SW5	SW6	SW7	SW9	SW10	WSW13	WSW13	W13	W14	W15	W14	W14	WNW15	WNW13	WSW8.5	W15	
28-Jan	WNW12	WNW14	W12	W9	W9	W9	W8	W7	W10	WNW12	WNW14	WNW16	WNW16	WNW18	WNW17	WNW13	WNW8	W4	W5	W4	WSW3	WSW4	W5	W6	W9.6	WNW18	
29-Jan	W5	WSW4	WSW4	W4	W2	WSW2	SW2	SW3	WSW0	UO	NNW1	NNE8	NE13	NE12	NE13	NE12	NNE12	NNE12	NNE13	NNE14	NNE14	NNE14	NNE14	NNE12	NNE12	NNE6.2	NNE14
30-Jan	NNE11	NNE10	NNE8	NNE8	NNE8	NNE5	N6	NNE4	S2	NNW1	NE4	NE8	NNE9	N7	ENE5	NE6	ENE3	E3	ENE2	ESE2	ESE2	ESE2	ESE1	NNE1	NNE4.2	NNE11	
31-Jan	ENE3	ENE4	ENE4	ENE5	NE4	NE6	NNE7	NE9	NNE9	NNE8	NE10	NE9	NE11	NE11	NE10	NE10	NE10	NE10	NE11	NE12	NE10	NE10	NE11	NE11	NE8.5	NE12	

WSW2.8	WSW2.8	WSW2.8	WSW3.0	WSW2.7	WSW2.4	WSW2.2	WSW1.7	WSW1.7	WSW2.1	W2.2	W2.8	WNW3.3	WNW3.2	NNW2.5	W1.4	WSW1.4	W2.0	W2.3	W2.5	WSW2.6	W2.8	W2.6	Diurnal Average		
W13	W15	SSW14	WNW17	NW21	NW22	NW25	NNW24	NNW20	NW14	NNE14	SSW16	NNE18	WNW18	NNE20	NNE21	NNE20	NNE16	NNE14	W15	NNW15	NNE14	WNW15	WNW13	Diurnal Maximum	

UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 10m (WS10) - km/h
Mackay River - January 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	269	36.55	36.55
6 - 11	353	47.96	84.51
12 - 19	106	14.40	98.91
20 - 28	8	1.09	100.00
29 - 38	0	0.00	100.00
> 38	0	0.00	100.00

Total Number of Valid Hours: 736

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Wind Speed 10m (WS10) - km/h
Mackay River - January 2025**

Wind Speed Ranges (km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	15	9	7	12	4	12	27	38	26	12	20	30	35	8	3	11	269
6 - 11	10	28	21	1	2	13	25	5	21	41	18	46	79	18	14	11	353
12 - 19	0	15	8	0	0	0	0	1	7	25	0	4	14	21	5	6	106
20 - 28	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3	2	8
29 - 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	25	55	36	13	6	25	52	44	54	78	38	80	128	47	25	30	736

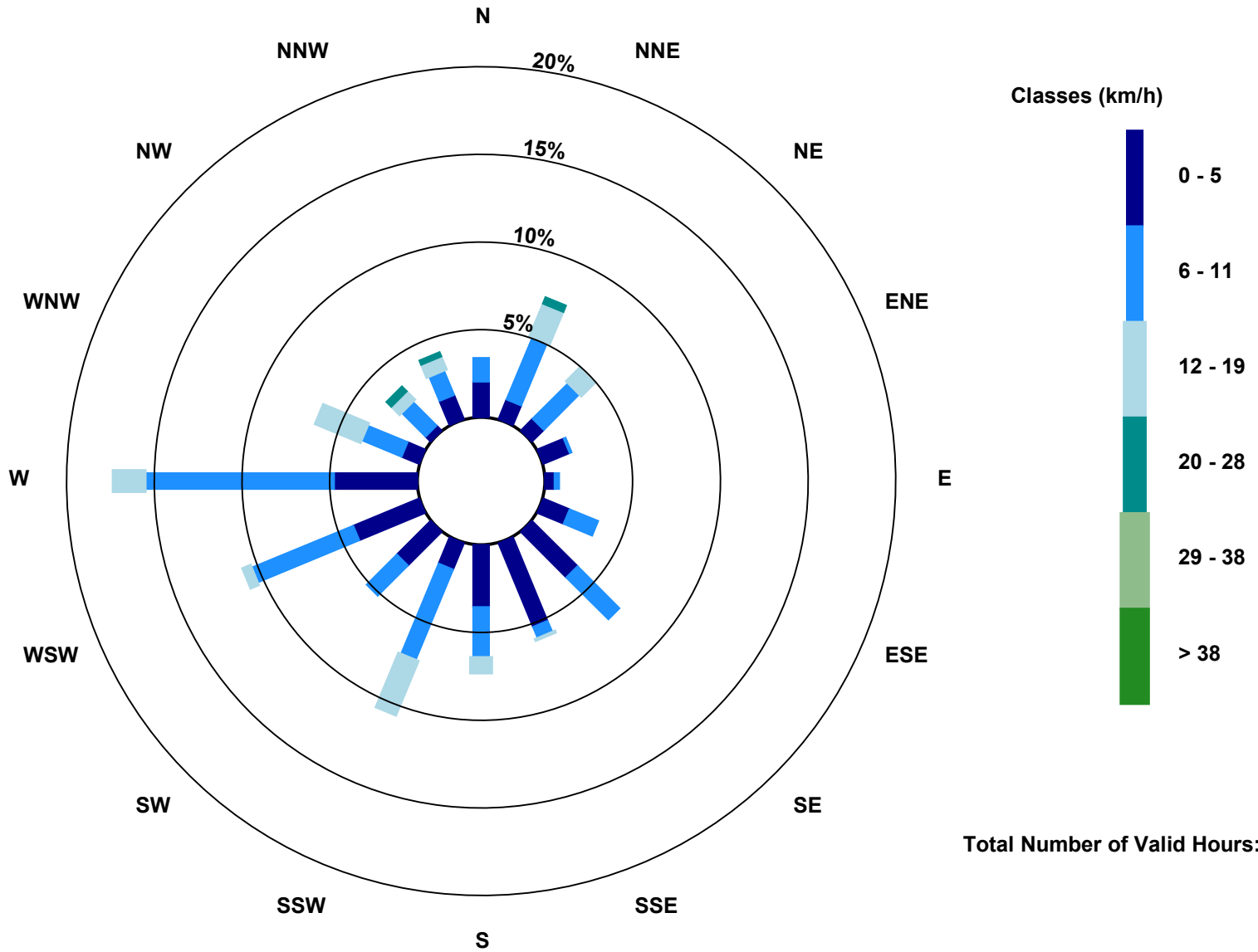
Total Number of Valid Hours: 736

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Wind Speed 10m (WS10) - km/h
Mackay River



Total Number of Valid Hours: 736



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Speed 10m (WS10) - km/h
Mackay River - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 8 km/h on Jan 24 06:00														Hours in Service: 744 Hours of Data: 736 Hours of Missing Data: 8 Hours of Calibration: 0 Percent Operational Time: 98.9											
Minimum Value: 0 km/h on Jan 2 03:00																									
Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 1 Median = 2 Q ₃ = 3 P ₉₀ = 4 P ₉₉ = 7																									
Day	Hourly Period Ending At (MST)																							Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		24
1-Jan	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	2	UO	UO	UO	UO	1	1	UO	1	2
2-Jan	1	1	0	1	1	1	1	1	1	1	1	1	1	UO	1	1	1	1	0	1	1	1	1	1	1
3-Jan	0	1	0	1	1	1	1	1	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2
4-Jan	3	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	1	2	1	1	1	1	1	1	1
5-Jan	1	1	1	2	2	2	2	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	2	1	2
6-Jan	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	3	3	4	3	3	3	3	3	3	4
7-Jan	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	3	3	2	4
8-Jan	3	3	3	4	4	4	4	4	4	3	3	5	5	5	4	4	3	3	3	4	3	3	3	3	5
9-Jan	3	3	3	3	3	2	2	2	2	1	1	1	2	2	2	1	1	1	2	2	2	2	3	2	3
10-Jan	3	4	3	4	3	3	3	1	2	1	2	2	3	2	2	2	3	3	3	3	3	3	3	4	4
11-Jan	4	4	3	2	3	3	3	3	2	2	2	2	2	2	1	2	1	1	1	1	1	1	1	1	4
12-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	2	2	2	1	3
13-Jan	1	1	1	1	1	1	2	2	2	2	2	1	2	2	2	2	2	2	3	3	3	3	3	2	3
14-Jan	3	3	2	2	2	2	2	3	3	4	4	4	3	4	4	4	4	4	4	4	4	4	5	5	5
15-Jan	5	5	5	3	3	2	2	2	1	1	2	2	2	3	3	2	1	1	1	1	UO	1	1	2	5
16-Jan	1	2	3	3	3	3	4	3	3	4	5	5	6	6	7	7	6	5	5	4	2	3	3	3	7
17-Jan	2	3	3	2	2	2	2	1	1	1	2	2	2	3	3	3	2	3	2	2	2	3	2	2	3
18-Jan	2	1	1	1	2	2	1	1	1	1	2	2	2	2	2	2	1	0	1	1	1	0	1	1	2
19-Jan	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	0	1	1	1	1	2	2	2
20-Jan	2	2	3	3	3	3	4	4	4	4	4	5	5	4	5	4	4	3	3	2	4	5	4	5	5
21-Jan	6	6	6	4	4	4	4	5	4	4	4	4	4	5	4	4	3	3	4	4	4	3	2	2	6
22-Jan	2	2	3	2	3	2	2	1	2	2	2	3	3	4	3	2	1	2	2	2	2	3	3	3	4
23-Jan	3	3	4	4	4	3	2	2	2	3	4	4	4	5	5	5	4	3	3	2	2	3	4	5	5
24-Jan	4	4	5	6	8	8	8	7	7	5	4	5	4	4	3	3	3	2	3	3	2	1	2	2	8
25-Jan	2	2	2	1	2	1	1	1	2	2	3	4	3	4	3	3	3	2	2	3	3	3	3	2	4
26-Jan	2	2	2	2	3	2	3	4	3	3	3	4	4	5	5	4	4	4	4	3	3	3	2	2	5
27-Jan	2	2	2	2	2	2	2	2	2	2	2	2	3	3	5	5	5	6	6	6	5	5	6	5	6
28-Jan	5	5	4	4	3	3	3	3	4	4	5	6	6	7	7	5	3	1	2	1	1	2	2	2	7
29-Jan	2	2	1	1	1	1	1	1	1	UO	1	4	4	4	4	4	4	4	5	5	5	5	5	4	5
30-Jan	4	3	4	2	2	3	2	1	1	1	2	2	3	2	2	2	2	1	1	1	1	1	1	1	4
31-Jan	1	1	2	2	2	1	2	3	3	3	3	3	3	4	3	3	3	4	4	3	3	3	4	4	4
Diurnal Maximum																									
UO - Unstable Operation																									



Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Direction 10m (WD10) - deg

Mackay River - January 2025

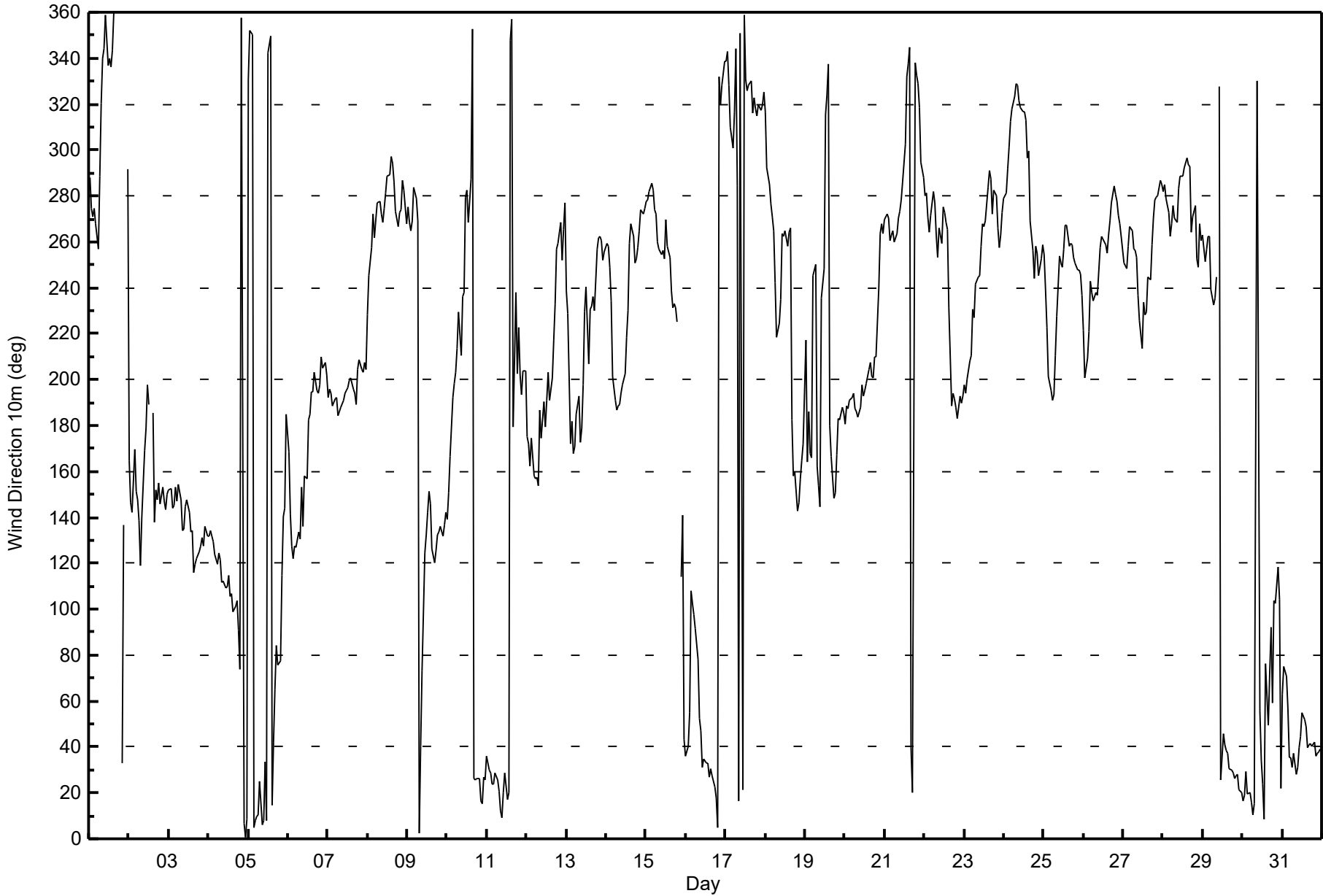
Direction of Maximum Speed: 323 deg on Jan 24 07:00	Hours in Service: 744
Direction of Maximum Daily Speed Average: 195.8 deg on Jan 7	Hours of Data: 736
Direction of Minimum Speed: 217 deg on Jan 19 01:00	Hours of Missing Data: 8
Direction of Minimum Daily Speed Average: 0.2 deg on Jan 10	Percent Operational Time: 98.9
Monthly Average Direction: 259.1 deg	

Day	Hourly Period Ending At (MST)																								Daily Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	288	274	271	274	268	257	289	321	340	344	359	337	340	336	344	360	UO	UO	UO	UO	33	137	UO	291	322.3
2-Jan	165	146	142	169	151	148	138	119	140	169	179	197	189	UO	185	138	152	148	155	146	153	147	143	150	155.4
3-Jan	152	153	144	145	153	147	154	148	134	135	144	148	142	134	134	116	120	122	125	128	131	128	136	132	135.4
4-Jan	132	134	132	129	124	120	125	121	112	112	109	110	114	105	107	99	101	104	91	74	357	7	1	8	111.0
5-Jan	331	352	350	5	8	10	11	25	6	8	34	8	342	349	15	42	65	84	76	77	115	140	144	185	28.0
6-Jan	168	142	127	122	127	127	133	131	153	136	158	157	182	185	195	195	203	195	194	198	210	205	207	202	178.6
7-Jan	192	196	194	188	191	192	184	186	188	191	194	195	197	200	200	196	194	189	204	209	205	203	207	204	195.8
8-Jan	228	245	258	272	262	269	277	277	272	268	275	281	289	289	297	294	286	273	267	273	274	287	283	268	275.9
9-Jan	275	268	265	269	283	279	269	2	41	73	125	132	142	151	146	126	120	126	133	134	136	132	137	142	154.7
10-Jan	139	151	166	192	198	203	213	230	210	236	238	279	282	268	287	353	26	25	26	26	16	15	27	26	50.7
11-Jan	36	30	29	24	24	29	25	21	12	9	20	28	17	20	348	357	180	238	203	223	202	193	204	204	22.0
12-Jan	175	172	163	175	158	157	157	154	187	174	190	179	191	203	191	200	217	233	257	259	269	252	265	277	210.2
13-Jan	239	229	172	182	168	171	185	193	172	179	198	230	241	207	231	232	236	230	257	262	262	261	252	256	221.5
14-Jan	260	258	249	234	201	191	187	188	189	194	198	202	219	230	259	268	262	251	253	258	265	274	272	274	233.8
15-Jan	278	278	282	285	282	274	272	260	257	254	256	253	270	258	253	239	231	233	231	225	UO	114	141	44	265.2
16-Jan	36	40	55	108	102	97	92	78	52	47	31	35	33	33	27	30	27	23	17	5	332	320	328	339	33.5
17-Jan	339	343	328	310	301	317	344	284	17	351	21	359	331	326	328	330	316	323	318	315	319	317	320	325	327.2
18-Jan	317	293	285	276	271	265	242	218	224	235	264	263	265	258	264	266	183	158	160	143	147	157	165	172	252.1
19-Jan	217	164	186	168	166	245	250	162	154	144	235	248	316	324	337	180	166	148	151	167	183	182	188	186	187.8
20-Jan	180	188	187	191	192	194	187	186	183	188	197	193	195	199	204	208	201	201	210	210	240	264	268	264	203.0
21-Jan	270	272	271	261	263	265	260	263	271	273	278	286	302	332	337	345	40	20	338	333	329	319	295	288	300.7
22-Jan	280	281	271	264	271	282	277	263	253	266	259	275	273	268	265	231	188	194	191	188	183	193	190	193	236.2
23-Jan	198	194	200	208	211	231	227	242	245	246	258	268	267	269	284	291	287	272	283	280	266	258	263	273	249.6
24-Jan	279	281	291	302	312	318	323	329	328	321	318	317	317	313	297	300	269	256	244	258	255	245	253	259	304.9
25-Jan	254	239	223	201	196	191	193	211	228	254	251	249	257	267	267	258	260	259	253	251	247	248	246	237	241.6
26-Jan	222	201	209	221	243	238	234	238	237	247	257	262	261	259	255	263	269	277	284	281	278	272	268	262	253.6
27-Jan	251	250	248	258	267	265	257	256	253	237	226	214	234	228	229	245	243	259	270	279	280	280	287	285	258.5
28-Jan	282	285	279	273	263	268	275	271	269	283	289	288	289	292	296	294	293	264	271	276	252	249	268	260	281.0
29-Jan	263	251	257	263	263	239	233	236	245	UO	328	26	46	41	39	37	30	30	28	26	28	28	21	20	23.5
30-Jan	17	19	29	20	20	16	10	15	171	330	55	34	24	9	76	49	72	92	59	104	103	119	104	22	32.4
31-Jan	63	75	71	57	35	36	31	37	28	31	40	45	55	52	49	40	41	42	41	42	36	37	38	39	42.1

254.0 252.9 244.0 238.0 240.8 246.4 243.5 243.5 240.2 237.7 249.1 263.7 281.1 282.4 289.1 295.2 267.7 251.9 263.5 264.1 266.8 258.2 259.0 263.2
Diurnal Average

UO - Unstable Operation

All monthly, daily, and diurnal averages have been calculated using vector methods





Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg
Mackay River - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 90 deg on Jan 4 20:00 Minimum Value: 5 deg on Jan 3 01:00 Percentiles: P ₁ = 11 P ₁₀ = 19 Q ₁ = 22 Median = 27 Q ₃ = 39 P ₉₀ = 46 P ₉₉ = 76		Hours in Service: 744 Hours of Data: 736 Hours of Missing Data: 8 Hours of Calibration: 0 Percent Operational Time: 98.9																							
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	18	31	34	28	27	50	23	23	18	21	23	26	26	23	21	77	UO	UO	UO	UO	45	31	UO	39	77
2-Jan	64	55	17	77	17	12	17	22	20	17	24	25	35	UO	36	44	7	11	7	13	11	13	15	12	77
3-Jan	5	10	13	9	10	18	16	14	26	17	20	21	22	21	22	18	17	16	14	15	19	16	19	19	26
4-Jan	19	21	23	22	22	17	20	21	16	16	21	18	20	20	18	29	25	20	32	90	28	25	26	33	90
5-Jan	17	21	22	24	22	23	27	22	26	23	32	48	29	31	26	25	36	31	34	32	29	23	28	31	48
6-Jan	24	30	22	21	21	20	25	21	24	29	24	27	21	22	22	26	24	22	21	23	29	23	25	23	30
7-Jan	19	20	20	17	17	19	19	19	19	18	19	19	19	20	18	19	19	19	24	23	21	20	21	27	27
8-Jan	34	43	45	41	46	45	37	32	43	42	41	35	28	29	23	25	25	37	40	38	35	25	30	38	46
9-Jan	39	47	44	43	34	28	32	29	24	35	38	36	28	31	26	26	16	20	23	22	21	20	20	23	47
10-Jan	21	24	26	26	21	23	30	36	62	37	38	36	42	46	29	47	23	24	28	24	23	28	27	28	62
11-Jan	24	25	25	26	25	26	25	23	23	24	29	28	29	46	41	24	87	50	43	38	37	41	34	45	87
12-Jan	46	34	42	31	35	25	22	19	28	26	26	22	23	26	18	27	23	36	45	42	36	47	46	39	47
13-Jan	37	33	23	19	20	17	15	21	31	21	25	35	50	28	37	30	30	27	47	43	45	41	46	44	50
14-Jan	46	44	37	29	20	18	17	18	21	19	20	22	32	33	48	49	47	48	49	46	46	43	39	39	49
15-Jan	36	36	33	27	27	36	37	42	43	34	52	47	44	46	44	39	21	21	20	20	UO	34	20	44	52
16-Jan	33	25	25	29	24	28	32	35	25	23	25	24	23	25	24	24	23	24	24	24	20	18	18	21	35
17-Jan	20	22	22	23	23	23	62	51	25	17	26	27	20	21	19	20	18	19	16	13	15	19	22	17	62
18-Jan	17	15	17	21	35	51	38	27	34	33	50	45	51	43	50	38	31	23	34	27	21	23	33	61	61
19-Jan	81	63	77	27	30	19	76	48	66	35	59	38	35	38	34	69	29	15	9	17	15	12	12	14	81
20-Jan	15	17	20	19	21	20	21	22	21	22	23	21	21	24	25	24	22	22	27	22	43	46	45	45	46
21-Jan	41	41	44	47	48	44	46	46	42	42	37	32	27	21	22	29	24	25	22	21	21	21	24	26	48
22-Jan	29	32	45	40	39	27	32	44	47	40	47	48	42	46	44	37	21	16	15	16	17	19	18	20	48
23-Jan	21	19	22	24	25	39	30	47	39	42	45	47	44	44	33	26	27	35	33	30	42	44	44	41	47
24-Jan	38	33	29	25	22	20	20	21	21	21	21	21	23	30	26	36	49	39	47	41	36	42	41	41	49
25-Jan	45	41	26	24	19	17	17	19	26	41	47	47	50	47	44	47	42	42	45	45	46	43	40	33	50
26-Jan	24	20	21	25	39	35	40	38	41	46	47	46	46	50	49	46	41	35	30	31	37	38	43	47	50
27-Jan	45	43	44	46	40	46	42	40	45	36	29	30	39	30	33	41	44	45	42	35	32	31	30	30	46
28-Jan	31	30	35	39	41	42	35	40	40	29	32	31	30	29	26	26	25	33	32	30	31	43	42	42	43
29-Jan	43	39	41	42	48	29	58	29	87	UO	36	30	25	24	24	25	27	27	26	24	25	23	25	25	87
30-Jan	25	24	23	23	22	24	21	46	22	51	31	30	27	29	47	24	35	32	37	42	47	52	77	73	77
31-Jan	28	40	30	33	26	20	21	24	25	23	23	22	22	23	23	23	24	24	23	24	22	23	24	23	40
Diurnal Maximum																									
UO - Unstable Operation																									



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

**AMS21
CONKLIN
JANUARY 2025**

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

February 28, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - CONKLIN (AMS21)
 JANUARY 2025

MONTHLY SUMMARY

Parameter	Hours of Data	Hours of Calibration	Hours without Data	Operational Time	Maximum 30-Min Value	30-Min Exceedances	Maximum 1-Hour Value	1-Hour Exceedances	Maximum 24-Hour Value	24-Hour Exceedances
SO2(ppb) Average	709	35	35	100	-	-	5.5	0	1.5	0
TRS(ppb) Average	708	36	36	100	0.6	0	0.6	0	0.4	0
THC(ppm) Average	679	34	65	95.83	-	-	2.3	-	2.2	-
NMHC(ppm) Average	679	34	65	95.83	-	-	0.084	-	0.017	-
CH4(ppm) Average	679	34	65	95.83	-	-	2.2	-	2.2	-
O3 (ppb) Average	710	34	34	100	-	-	49	0	44.6	-
NO2 (ppb) Average	708	36	36	100	-	-	18.9	0	7.8	-
NO (ppb) Average	708	36	36	100	-	-	28.8	-	1.6	-
NOX (ppb) Average	708	36	36	100	-	-	47.7	-	8.2	-
PM2.5 (ug/m3) Average	743	1	1	100	-	-	55.9	0	15.2	0
Temperature 2 m (C) Average	744	0	0	100	-	-	5.7	-	2.1	-
Relative Humidity (%) Average	744	0	0	100	-	-	99.3	-	89	-
Wind Speed 10 m (km/h) Average	658	0	86	88.44	-	-	25	-	14	-
Wind Direction 10 m (deg) Average	658	0	86	88.44	-	-	-	-	-	-

Note : Operational time includes periods of data collection and instrument calibration

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - CONKLIN (AMS21)
 JANUARY 2025

MONTHLY SUMMARY FOR AIR QUALITY/ METEOROLOGICAL MONITORING MEASUREMENTS

Parameter	Number	Mean	StnDev	Total	Percentile						
					Min	P10	Q1	Median	Q3	P90	Max
SO2 (ppb) Average	709	0.42	0.7	-	0	0	0.1	0.2	0.4	0.9	5.5
TRS (ppb) Average	708	0.25	0.1	-	0.1	0.2	0.2	0.2	0.3	0.3	0.6
THC (ppm) Average	679	2.08	0	-	2	2	2	2.1	2.1	2.1	2.3
NMHC(ppm) Average	679	0.001	0.005	-	0	0	0	0	0	0	0.084
CH4(ppm) Average	679	2.08	0	-	2	2	2	2.1	2.1	2.1	2.2
O3 (ppb) Average	710	33.09	8.8	-	7.7	19.1	27.7	35.4	40	42.1	49
NO2 (ppb) Average	708	2.46	2.2	-	0.1	0.7	1	1.7	3.2	5.3	18.9
NO (ppb) Average	708	0.36	1.3	-	0	0	0	0.1	0.3	0.7	28.8
NOX (ppb) Average	708	2.82	2.9	-	0.1	0.8	1.1	1.9	3.7	6.3	47.7
PM2.5 (ug/m3) Average	743	4.4	5.6	-	0.2	0.7	1.5	2.9	5	8.7	55.9
Temperature 2 m (C) Average	744	-11.21	10.9	-	-38.2	-28	-18.7	-8.5	-2.4	1.2	5.7
Relative Humidity (%) Average	744	75.1	11.3	-	37.3	60	70.4	76.8	81.8	87.7	99.3
Wind Speed 10 m (km/h) Average	658	7.8	5	-	0	2	4	7	11	14	25
Wind Direction 10 m (deg) Average	658	-	-	-	-	-	-	-	-	-	-

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - CONKLIN (AMS 21)
JANUARY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
THC/NMHC/CH4	20 Jan 2025 05:00	21 Jan 2025 04:00	24	Unstable Operation - excessive baseline drift
THC/NMHC/CH4	21 Jan 2025 06:00	21 Jan 2025 12:00	7	Unstable Operation - excessive baseline drift
Wind Speed, Wind Direction	10 Jan 2025 22:00	14 Jan 2025 11:00	86	Flat line in sensor output signal - Sensor frozen

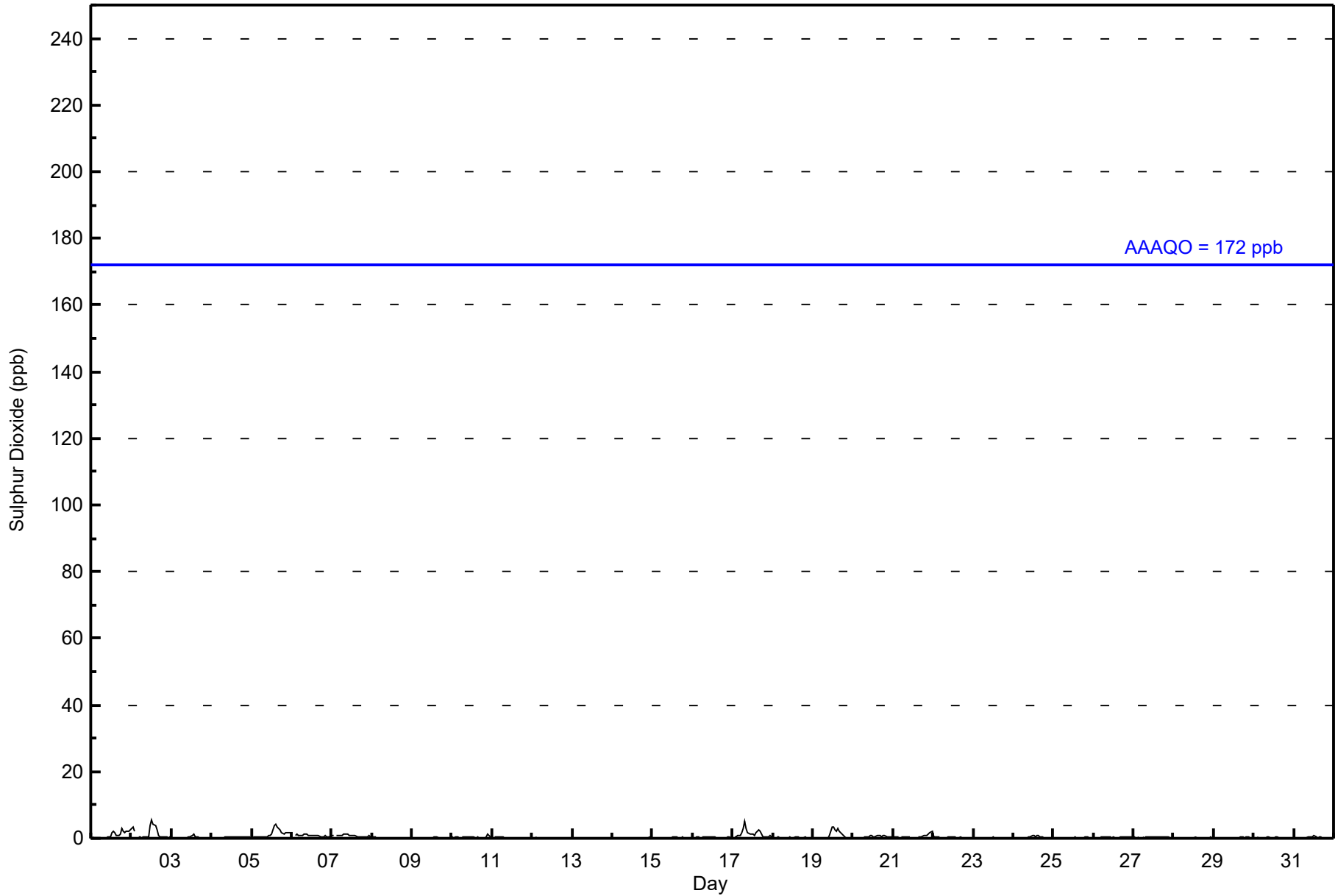


Number of Exceedences (AAAQO):		1-hr: 0		24-hr: 0		Hours in Service:														744																															
Maximum Value: 5.5 ppb on Jan 2 13:00		Maximum Daily Average: 1.5 ppb on Jan 2														Hours of Data:		709																																	
Minimum Value: 0.0 ppb on Jan 3 09:00		Minimum Daily Average: 0.0 ppb on Jan 13														Hours of Missing Data:		35																																	
Maximum Diurnal Average: 0.7 ppb at hour 14		Minimum Diurnal Average: 0.2 ppb at hour 4														Hours of Calibration:		35																																	
Monthly Average: 0.42 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.4 P ₉₀ = 0.9 P ₉₉ = 3.5														Percent Operational Time:		100.0																																	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																											
1-Jan	0.2	0.2	Z	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.2	0.6	1.9	2.3	1.9	0.9	1.0	1.2	3.0	2.1	1.9	2.1	2.2	2.6	1.1	3.0																									
2-Jan	2.9	3.5	2.1	Z	0.5	0.3	0.2	0.3	0.3	0.3	0.5	3.9	5.5	4.3	3.7	2.7	1.0	0.5	0.4	0.4	0.3	0.3	0.2	0.2	1.5	5.5																									
3-Jan	0.1	0.2	0.1	0.2	Z	0.2	0.1	0.1	0.0	0.1	0.2	0.4	1.0	1.3	0.6	0.6	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.3	1.3																									
4-Jan	0.2	0.1	0.0	0.1	0.1	Z	0.2	0.1	0.2	0.4	0.4	0.6	0.5	0.6	0.5	0.6	0.5	0.5	0.5	0.4	0.5	0.6	0.5	0.5	0.4	0.6																									
5-Jan	Z	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.5	0.9	0.7	1.4	3.7	4.3	3.5	2.9	2.5	1.6	1.3	1.5	1.7	1.7	1.8	1.4	4.3																									
6-Jan	1.6	Z	1.0	1.2	0.9	0.7	0.9	1.2	1.2	1.1	0.9	0.8	0.8	0.8	0.8	0.7	0.8	0.6	0.5	0.6	0.7	0.5	0.5	0.7	0.8	1.6																									
7-Jan	0.8	0.8	Z	0.8	0.7	0.8	1.1	1.1	1.3	1.1	0.9	0.8	0.7	0.7	0.7	0.6	0.5	0.5	0.4	0.4	0.6	0.6	0.8	0.6	0.7	1.3																									
8-Jan	0.4	0.3	0.2	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4																									
9-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.4																									
10-Jan	0.2	0.2	0.3	0.2	0.2	Z	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.3	1.1	0.8	0.4	0.3	1.1																									
11-Jan	Z	0.4	0.4	0.3	0.3	0.3	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.4																									
12-Jan	0.2	Z	0.3	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.3																									
13-Jan	0.1	0.1	Z	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1																									
14-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.2																									
15-Jan	0.2	0.1	0.2	0.2	Z	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.3																									
16-Jan	0.2	0.2	0.2	0.3	0.3	Z	0.6	0.5	0.2	0.3	0.2	0.3	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.6																									
17-Jan	Z	0.5	0.6	0.8	1.0	1.8	2.9	5.2	3.0	1.6	1.4	1.2	1.3	0.6	1.6	2.5	1.9	1.3	0.5	0.6	0.5	0.5	0.7	0.6	1.4	5.2																									
18-Jan	0.6	Z	0.4	0.2	0.2	0.1	0.1	0.1	0.0	0.2	0.2	0.2	0.1	0.3	0.2	0.3	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.1	0.2	0.6																									
19-Jan	0.1	0.2	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.9	3.3	3.3	2.6	2.1	2.9	2.2	1.4	0.8	0.3	0.2	0.1	0.1	0.1	0.9	3.3																									
20-Jan	0.1	0.0	0.1	Z	0.0	0.0	0.0	0.4	0.4	0.6	0.9	0.7	0.4	0.6	0.9	0.6	0.7	0.6	0.7	0.7	0.6	0.6	0.5	0.4	0.5	0.9																									
21-Jan	0.3	0.4	0.4	0.2	Z	0.3	0.3	0.3	0.3	0.3	0.4	C	C	C	C	0.4	0.3	0.5	0.9	0.7	0.7	1.1	1.8	2.0	0.6	2.0																									
22-Jan	0.5	0.3	0.4	0.3	0.3	Z	0.1	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.0	0.1	0.0	0.2	0.5																									
23-Jan	Z	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.2	0.2	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.2																									
24-Jan	0.1	Z	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.3	0.6	0.8	0.7	0.6	0.7	1.0	0.5	0.6	0.2	0.2	0.2	0.1	0.1	0.2	0.3	1.0																									
25-Jan	0.2	0.1	Z	0.0	0.1	0.1	0.2	0.1	0.0	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.5	0.6	0.1	0.2	0.2	0.2	0.6																									
26-Jan	0.3	0.2	0.2	Z	0.3	0.4	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.4																									
27-Jan	0.2	0.2	0.2	0.2	Z	0.3	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.2	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.3	0.2	0.1	0.2	0.3																									
28-Jan	0.2	0.2	0.1	0.2	0.2	Z	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.2																									
29-Jan	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.3																									
30-Jan	0.1	Z	0.2	0.1	0.1	0.1	0.2	0.1	0.3	0.3	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.3																									
31-Jan	0.0	0.0	Z	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.4	0.6	0.7	0.3	0.2	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.7																									
																								Diurnal Average		0.4		0.3		0.3		0.2		0.2		0.3		0.3		0.4		0.3		0.3		0.4		0.4		0.4	
																								Diurnal Maximum		2.9		3.5		2.1		1.2		1.0		1.8		2.9		5.2		3.0		1.6		1.4		3.9		5.5	
Z - zerospan C - Calibration																																																			
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb																																																			



Wood Buffalo Environmental Association
Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Conklin - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Conklin - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	709	100.00	100.00
11 - 20	0	0.00	100.00
21 - 60	0	0.00	100.00
61 - 110	0	0.00	100.00
111 - 172	0	0.00	100.00
> 172	0	0.00	100.00

Total Number of Valid Hours: 709

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Conklin - January 2025

Concentration Ranges (ppb)	Wind Direction																
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Totals
0 - 10	20	28	9	13	11	18	9	52	55	54	61	18	40	100	72	67	627
11 - 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 - 60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61 - 110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111 - 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	20	28	9	13	11	18	9	52	55	54	61	18	40	100	72	67	627

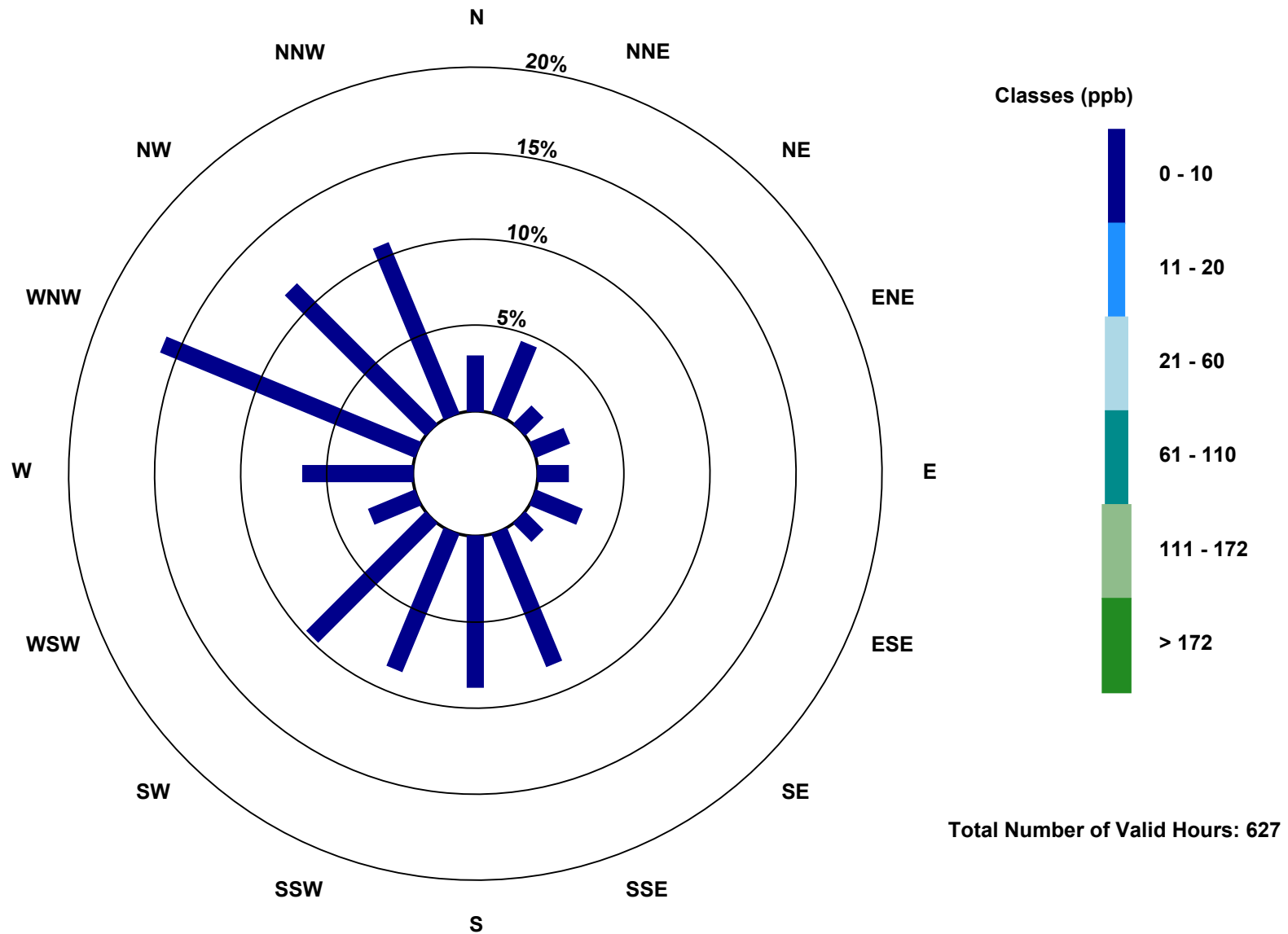
Total Number of Valid Hours: 627

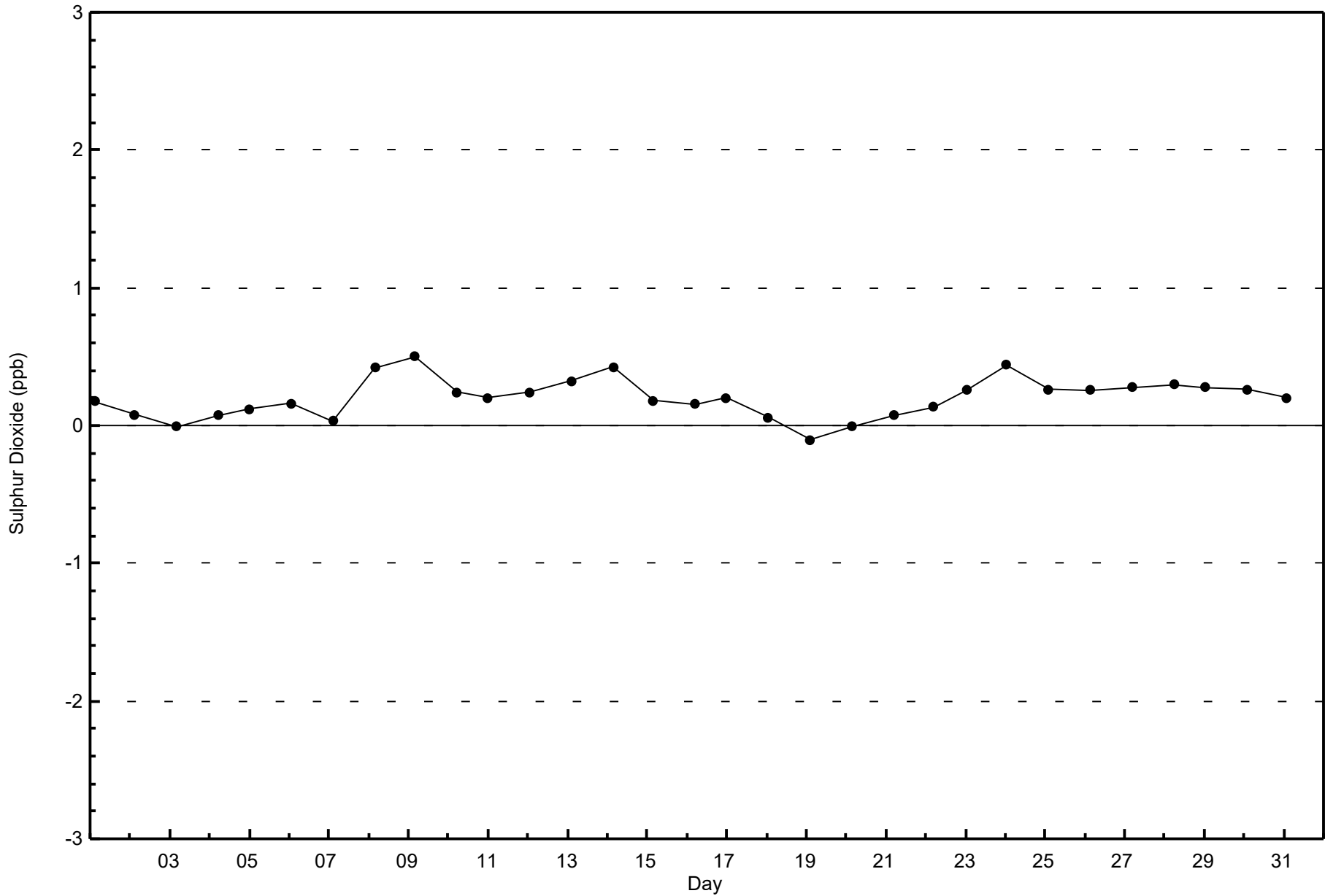
Total Number of Hours: 744

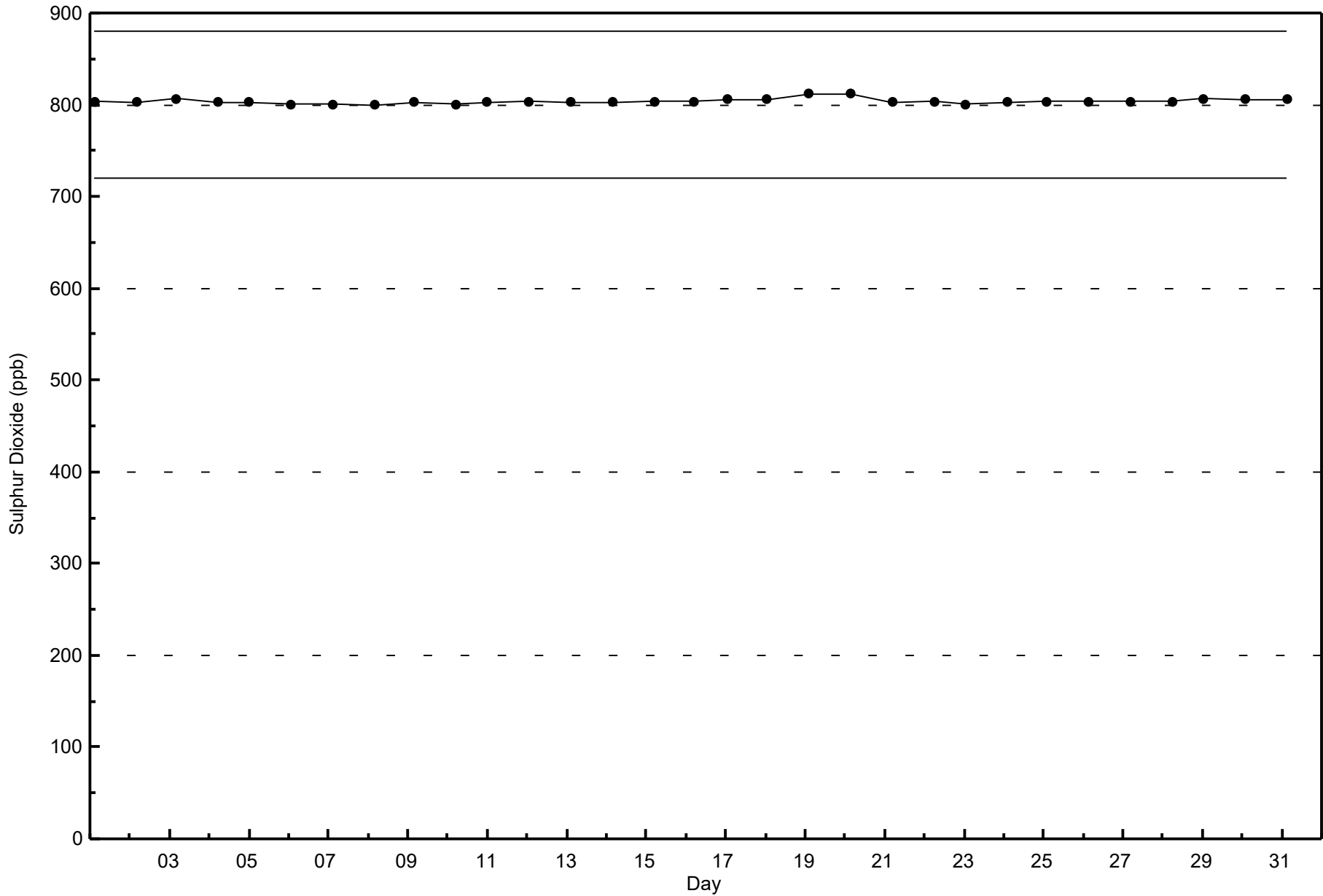


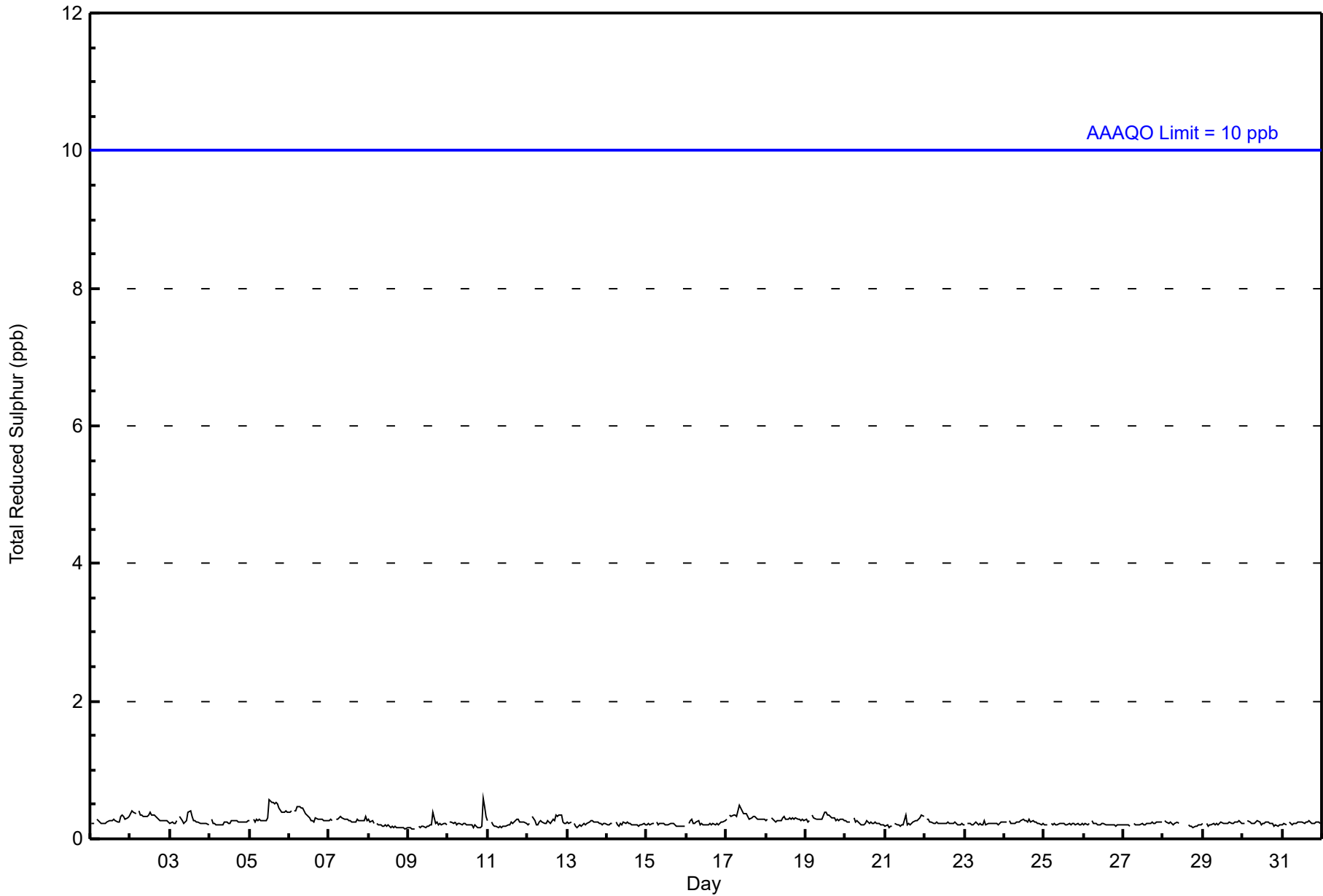
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Sulphur Dioxide (SO₂) - ppb
Conklin











Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Reduced Sulphur (TRS) - ppb
Conklin - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	708	100.00	100.00
3 - 4	0	0.00	100.00
5 - 7	0	0.00	100.00
8 - 11	0	0.00	100.00
> 11	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Total Reduced Sulphur (TRS) - ppb
Conklin - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2	21	28	8	13	12	16	10	50	54	54	62	19	38	104	69	68	626
3 - 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 - 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 - 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	21	28	8	13	12	16	10	50	54	54	62	19	38	104	69	68	626

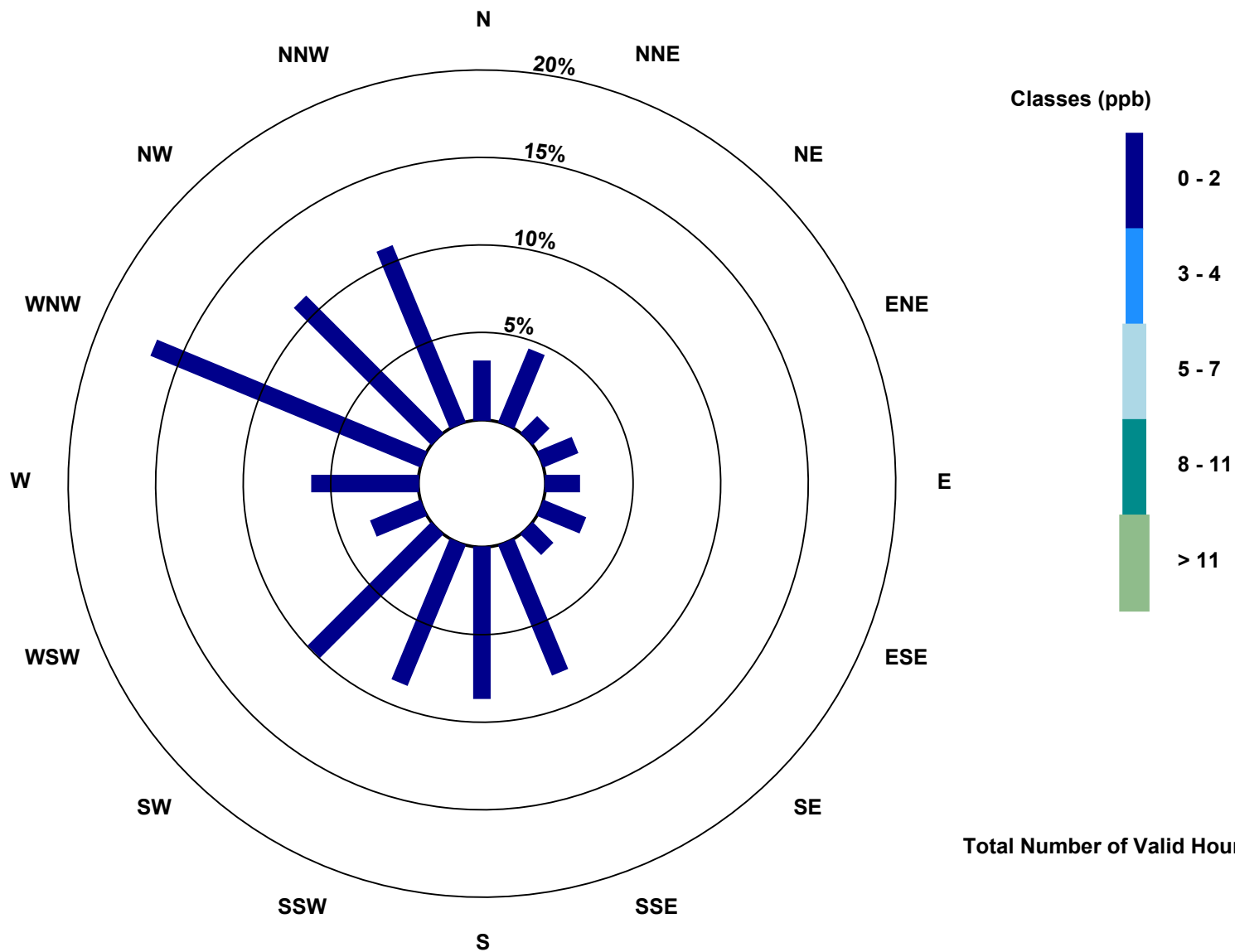
Total Number of Valid Hours: 626

Total Number of Hours: 744

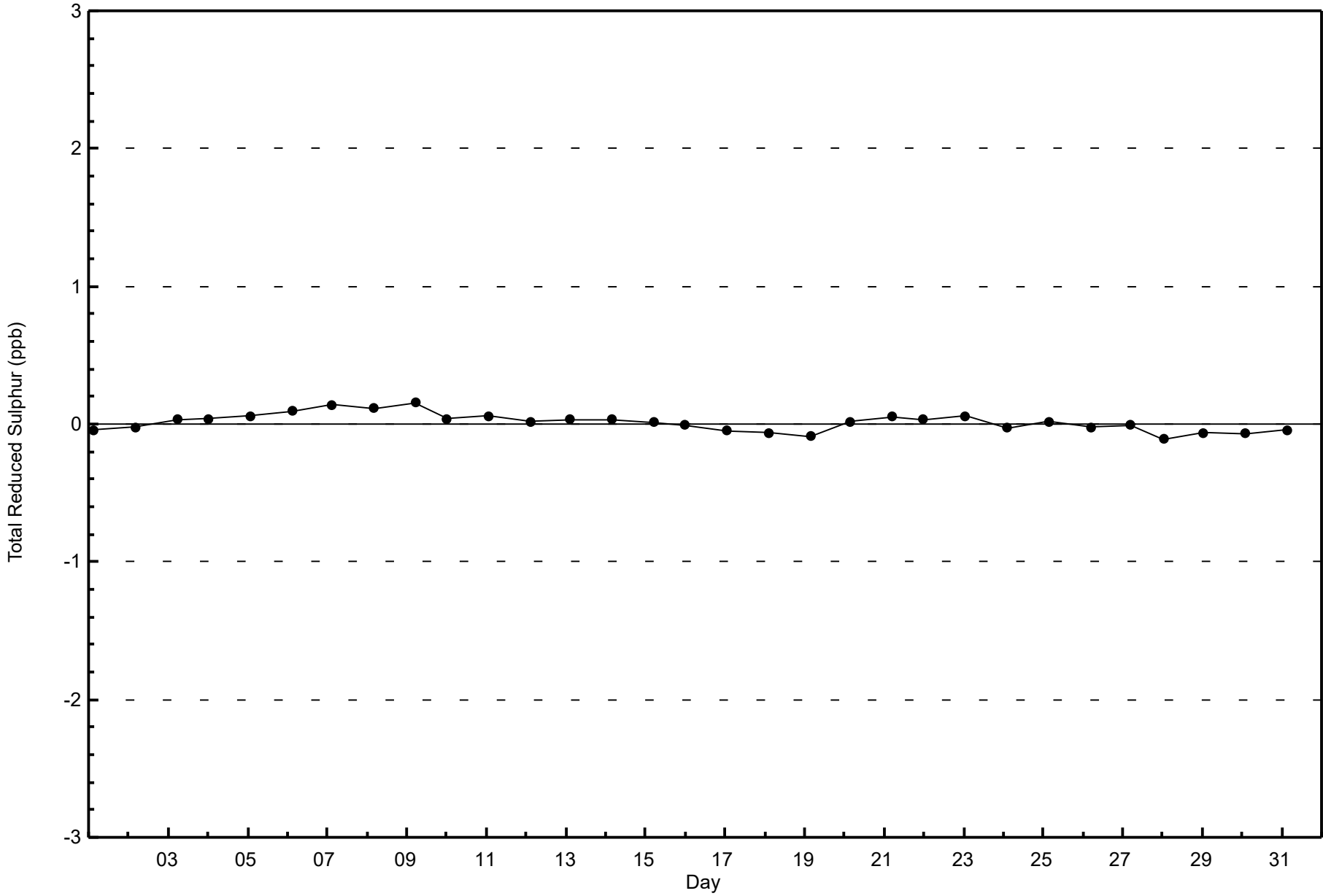


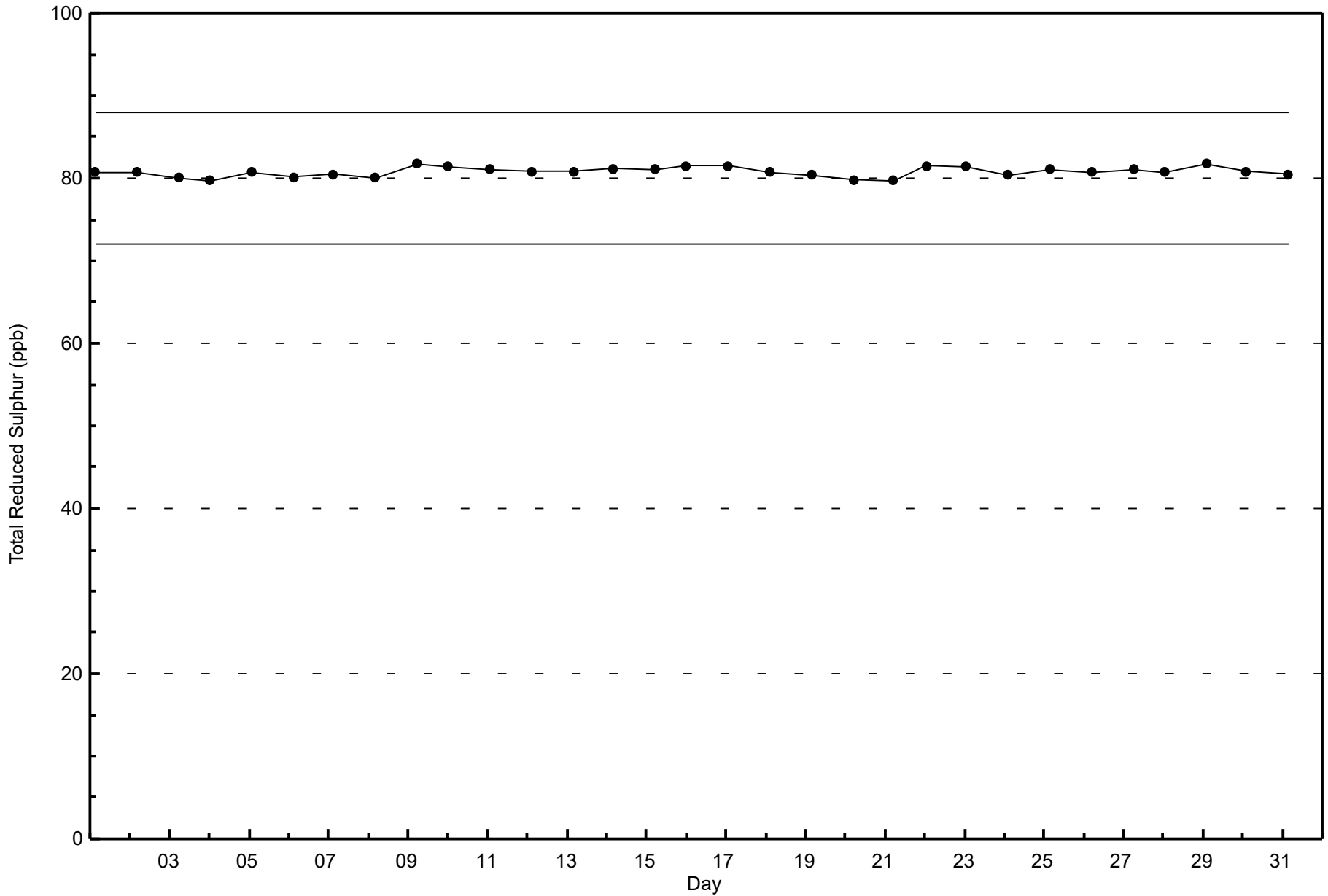
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Total Reduced Sulphur (TRS) - ppb
Conklin



Total Number of Valid Hours: 626



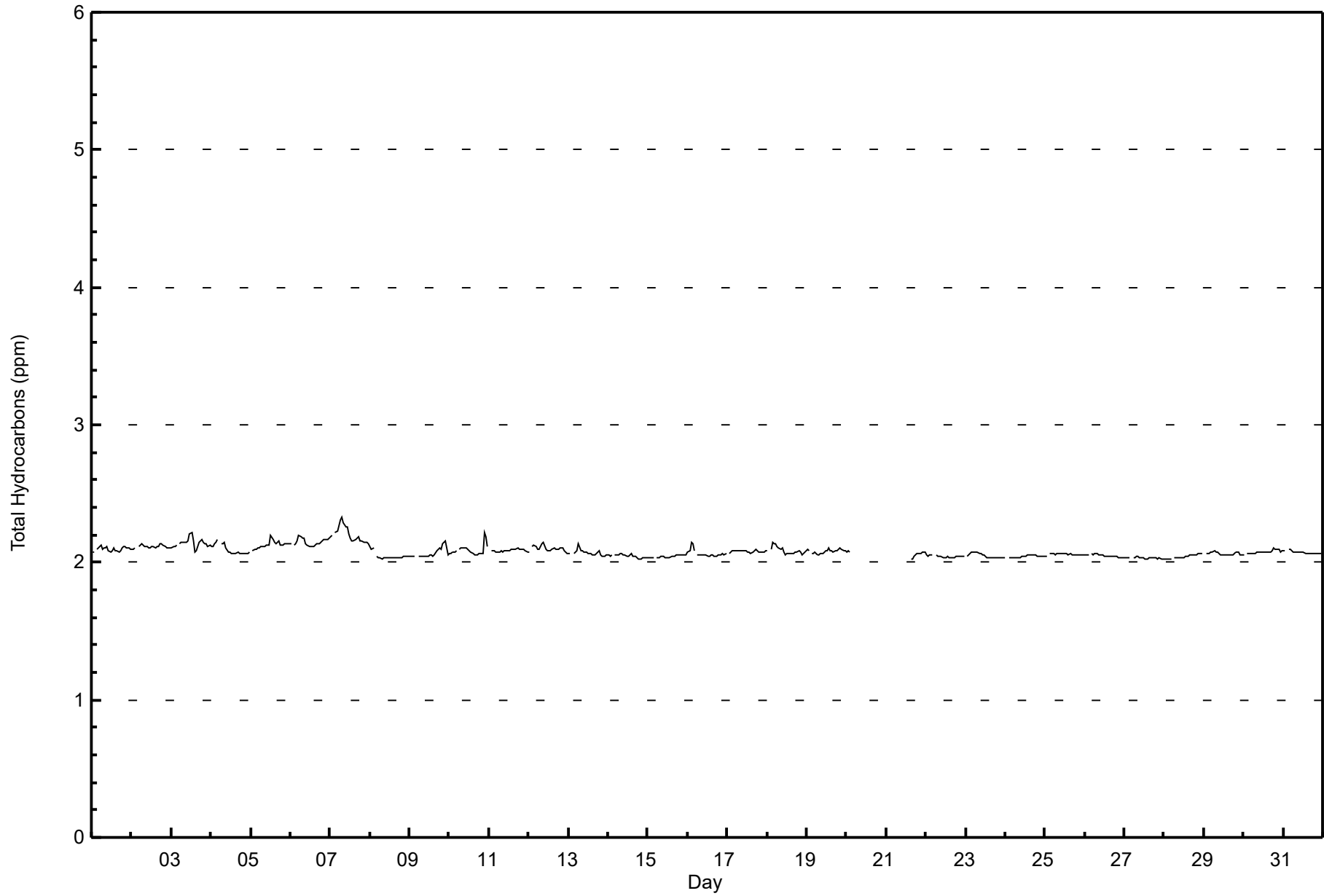




Wood Buffalo Environmental Association
Summary of Hour Averages

Total Hydrocarbons (THC) - ppm
Conklin - January 2025

Maximum Value: 2.3 ppm on Jan 7 08:00																					Maximum Daily Average: 2.2 ppm on Jan 7				Hours in Service: 744			
Minimum Value: 2.0 ppm on Jan 28 01:00																					Minimum Daily Average: 2.0 ppm on Jan 27				Hours of Data: 679			
Maximum Diurnal Average: 2.1 ppm at hour 6																					Minimum Diurnal Average: 2.1 ppm at hour 16				Hours of Missing Data: 65			
Monthly Average: 2.08 ppm																					Percentiles: P ₁ = 2.0 P ₁₀ = 2.0 Q ₁ = 2.0 Median = 2.1 Q ₃ = 2.1 P ₉₀ = 2.1 P ₉₉ = 2.2				Hours of Calibration: 34			
Percent Operational Time: 95.8																												
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24				
1-Jan	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	
2-Jan	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
3-Jan	2.1	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
4-Jan	2.1	2.1	2.1	2.1	2.2	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
5-Jan	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
6-Jan	2.1	Z	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.2
7-Jan	2.2	2.2	Z	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.3
8-Jan	2.1	2.1	2.1	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1
9-Jan	2.0	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.2	2.2
10-Jan	2.1	2.1	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.2
11-Jan	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
12-Jan	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
13-Jan	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1
14-Jan	2.0	2.0	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1
15-Jan	2.0	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.0	2.1	2.0	2.1	2.1	2.1
16-Jan	2.1	2.1	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.1	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
17-Jan	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
18-Jan	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
19-Jan	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
20-Jan	2.1	2.1	2.1	Z	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO
21-Jan	UO	UO	UO	UO	Z	UO	UO	UO	UO	UO	UO	UO	C	C	C	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
22-Jan	2.1	2.0	2.1	2.1	2.1	Z	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
23-Jan	Z	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
24-Jan	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
25-Jan	2.0	2.0	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
26-Jan	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1
27-Jan	2.0	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
28-Jan	2.0	2.0	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
29-Jan	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
30-Jan	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
31-Jan	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
2.1																								Diurnal Average				
2.2																								Diurnal Maximum				
Z - zerospan		C - Calibration						UO - Unstable Operation																				





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Hydrocarbons (THC) - ppm
Conklin - January 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	174	25.63	25.63
2.1 - 3.0	505	74.37	100.00
3.1 - 10.0	0	0.00	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 679

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Total Hydrocarbons (THC) - ppm
Conklin - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2.0	0	4	0	0	0	0	0	0	2	6	10	10	24	62	40	11	169
2.1 - 3.0	20	24	9	13	10	17	9	52	50	39	48	7	15	27	32	56	428
3.1 - 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	20	28	9	13	10	17	9	52	52	45	58	17	39	89	72	67	597

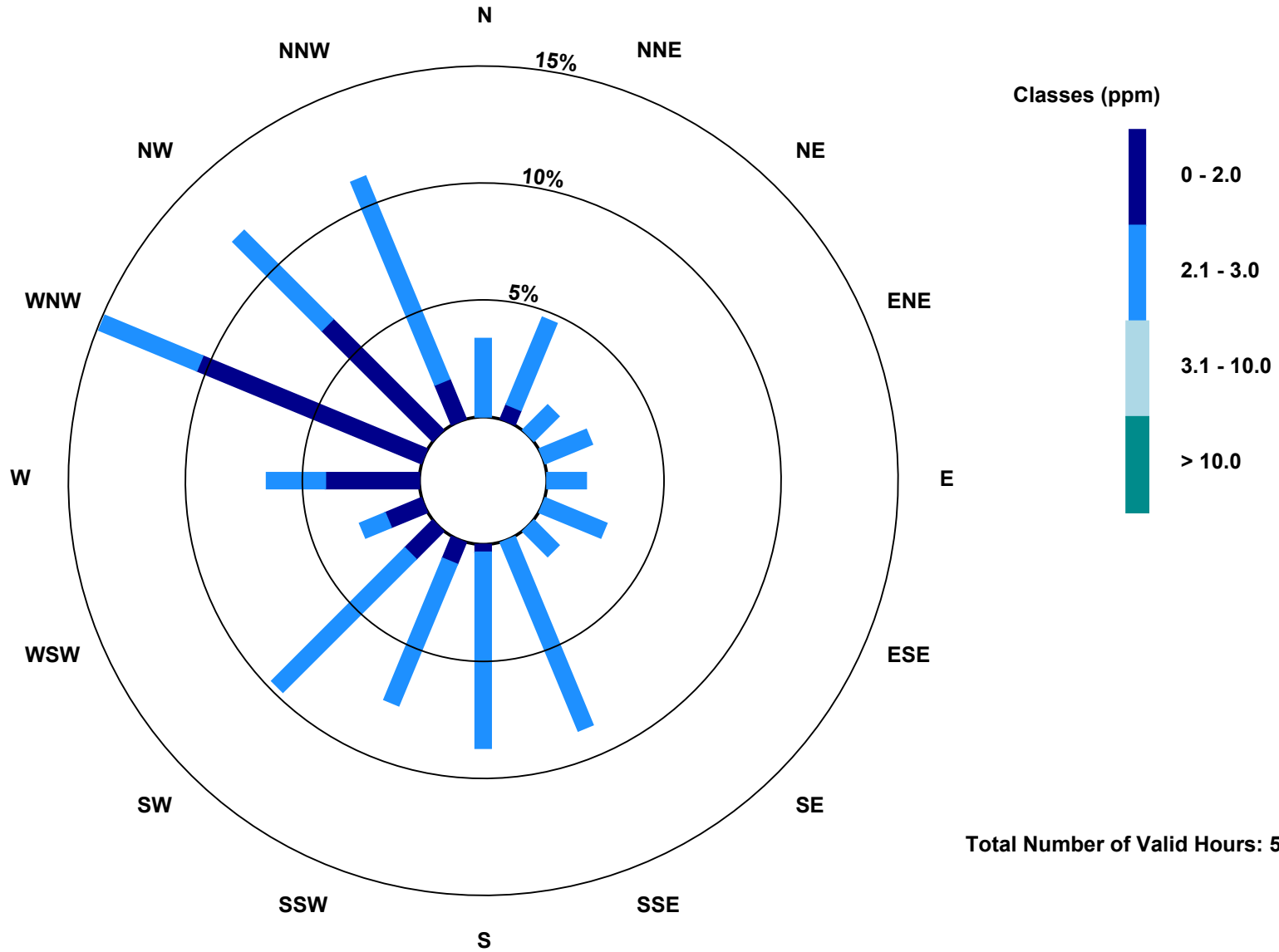
Total Number of Valid Hours: 597

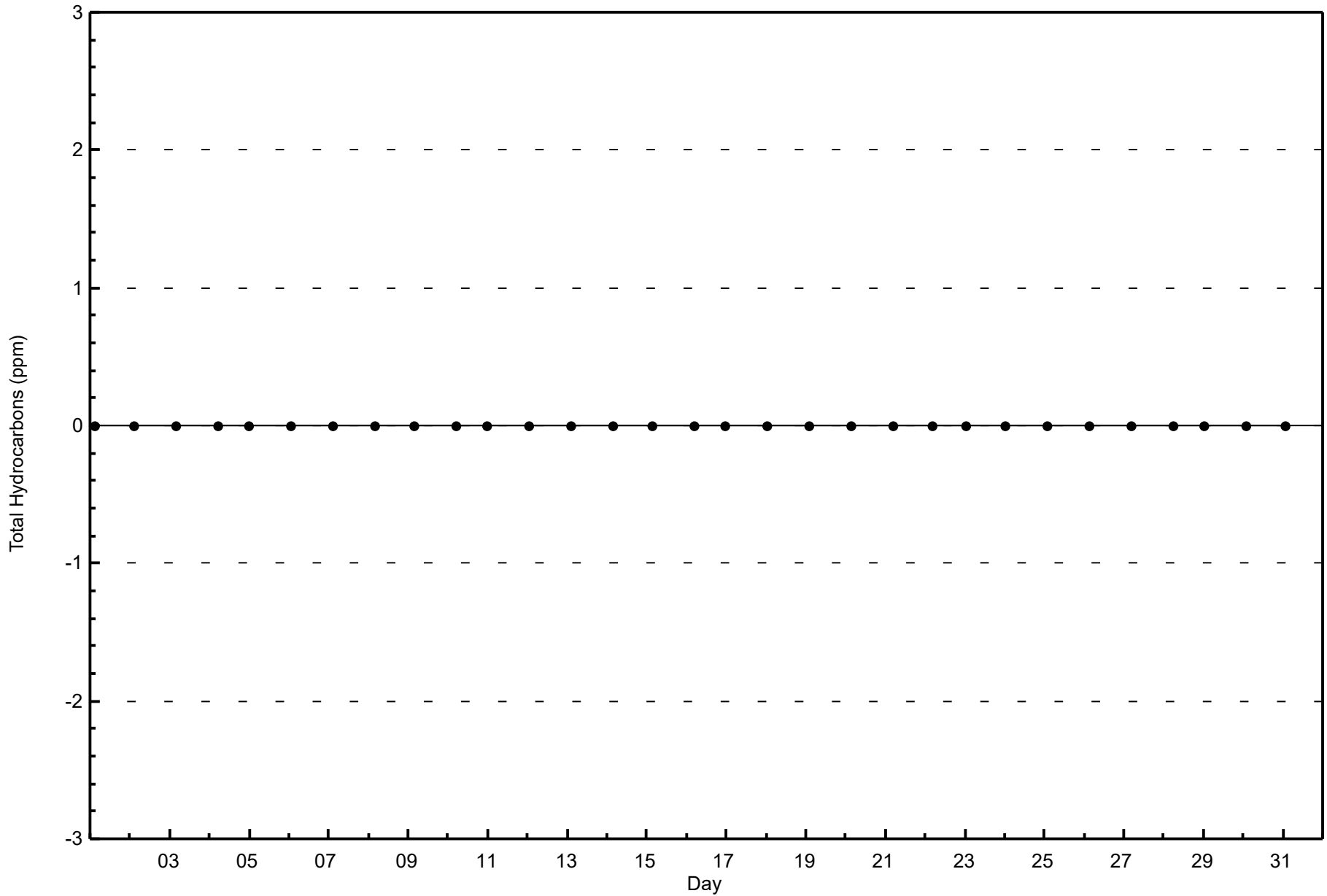
Total Number of Hours: 744

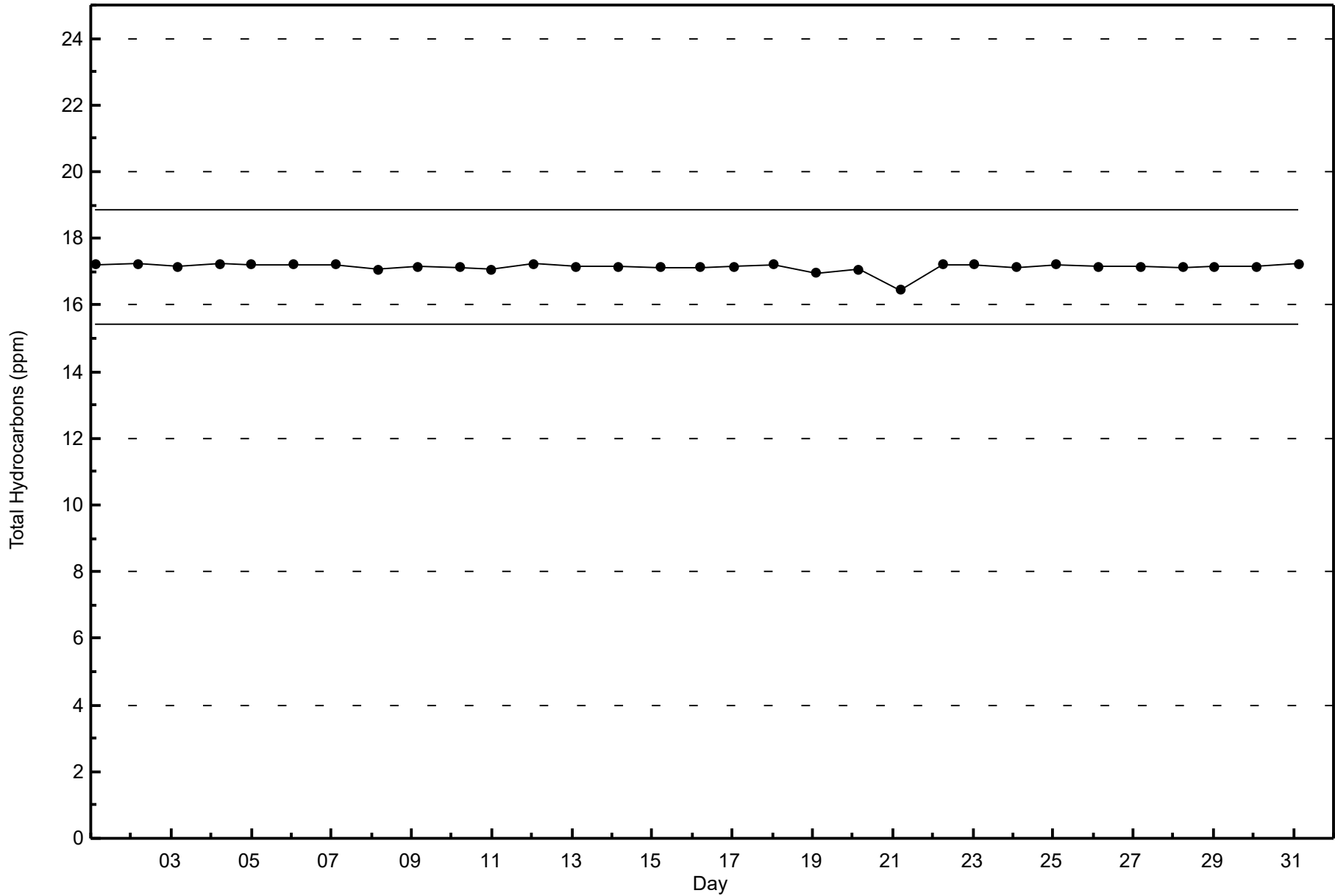


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Total Hydrocarbons (THC) - ppm
Conklin





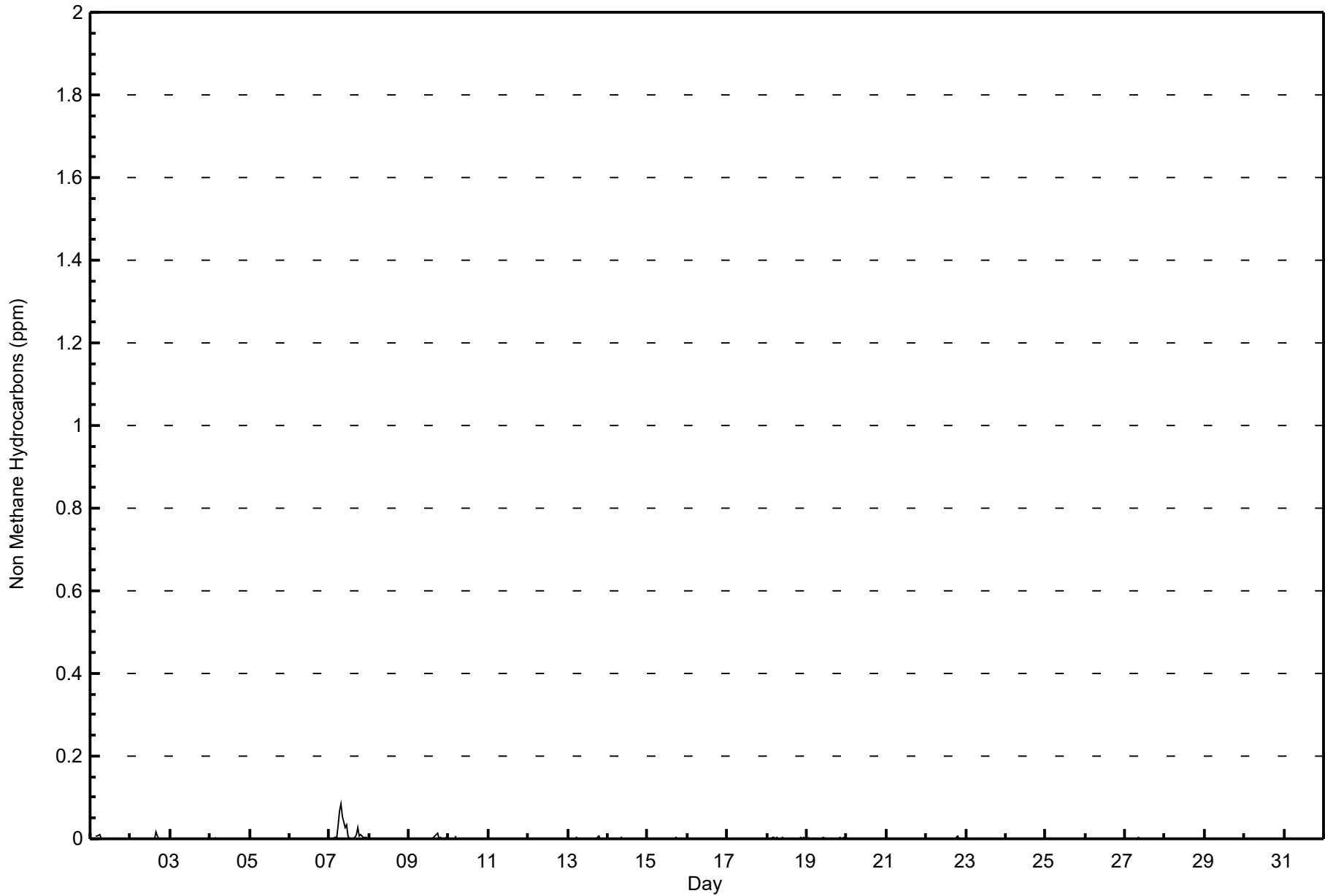




Summary of Hour Averages

Conklin - January 2025

Maximum Value: 0.084 ppm on Jan 7 08:00		Maximum Daily Average: 0.017 ppm on Jan 7		Hours in Service:	744																					
Minimum Value: 0.000 ppm on Jan 1 01:00		Minimum Daily Average: 0.000 ppm on Jan 5		Hours of Data:	679																					
Maximum Diurnal Average: 0.003 ppm at hour 8		Minimum Diurnal Average: 0.000 ppm at hour 3		Hours of Missing Data:	65																					
Monthly Average: 0.001 ppm		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.0 P ₉₉ = 0.0		Hours of Calibration:	34																					
				Percent Operational Time:	95.8																					
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0.000	0.000	Z	0.008	0.008	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.009
2-Jan	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.015	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.015
3-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.001
4-Jan	0.000	0.000	0.000	0.000	0.004	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004
5-Jan	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6-Jan	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7-Jan	0.001	0.000	Z	0.005	0.004	0.035	0.067	0.084	0.053	0.026	0.033	0.007	0.000	0.000	0.000	0.005	0.011	0.028	0.006	0.011	0.003	0.002	0.002	0.000	0.017	0.084
8-Jan	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.009	0.014	0.000	0.003	0.000	0.000	0.003	0.000	0.001	0.014
10-Jan	0.000	0.000	0.000	0.000	0.008	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008
11-Jan	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12-Jan	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13-Jan	0.000	0.000	Z	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.006
14-Jan	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003
15-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005
16-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
17-Jan	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
18-Jan	0.000	Z	0.000	0.004	0.002	0.000	0.002	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.002	0.000	0.001	0.004
19-Jan	0.000	0.002	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.002	0.000	0.000	0.002
20-Jan	0.000	0.000	0.000	Z	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	0.000
21-Jan	UO	UO	UO	UO	Z	UO	UO	UO	UO	UO	UO	UO	C	C	C	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	--	0.000
22-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.006	0.000	0.000	0.000	0.000	0.000	0.006
23-Jan	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
24-Jan	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25-Jan	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
26-Jan	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
27-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005
28-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
29-Jan	Z	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
30-Jan	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
31-Jan	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
																								Diurnal Average		
																								Diurnal Maximum		
Z - zerospan			C - Calibration				UO - Unstable Operation																			





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Non Methane Hydrocarbons (NMHC) - ppm
Conklin - January 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 0.005	658	96.91	96.91
0.006 - 0.05	19	2.80	99.71
0.06 - 0.1	2	0.29	100.00
> 0.1	0	0.00	100.00

Total Number of Valid Hours: 679

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Non Methane Hydrocarbons (NMHC) - ppm
Conklin - January 2025

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 0.005	20	28	9	13	10	17	8	52	48	37	54	17	39	89	70	66	577
0.006 - 0.05	0	0	0	0	0	0	1	0	4	6	4	0	0	0	2	1	18
0.06 - 0.1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
> 0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	20	28	9	13	10	17	9	52	52	45	58	17	39	89	72	67	597

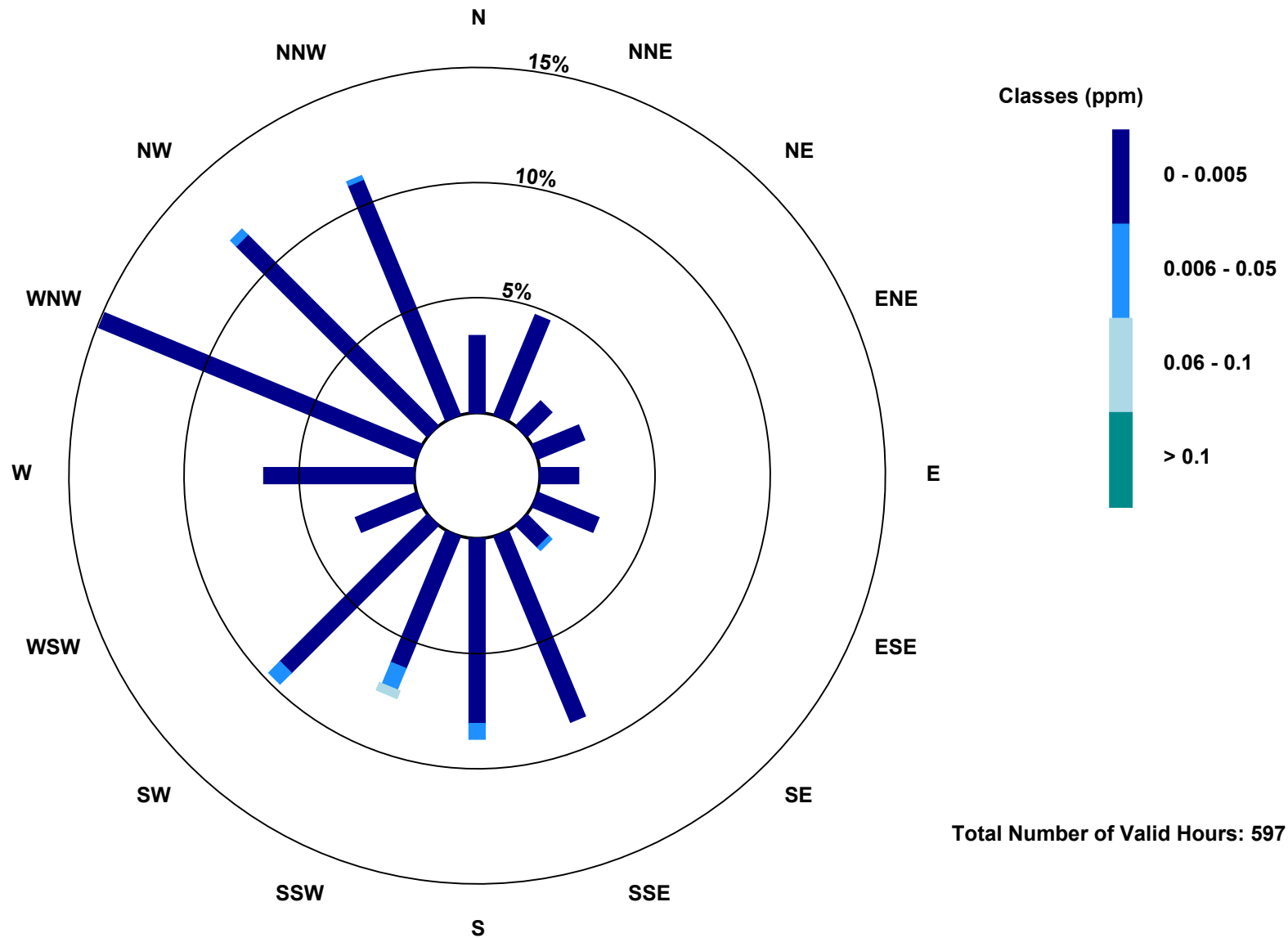
Total Number of Valid Hours: 597

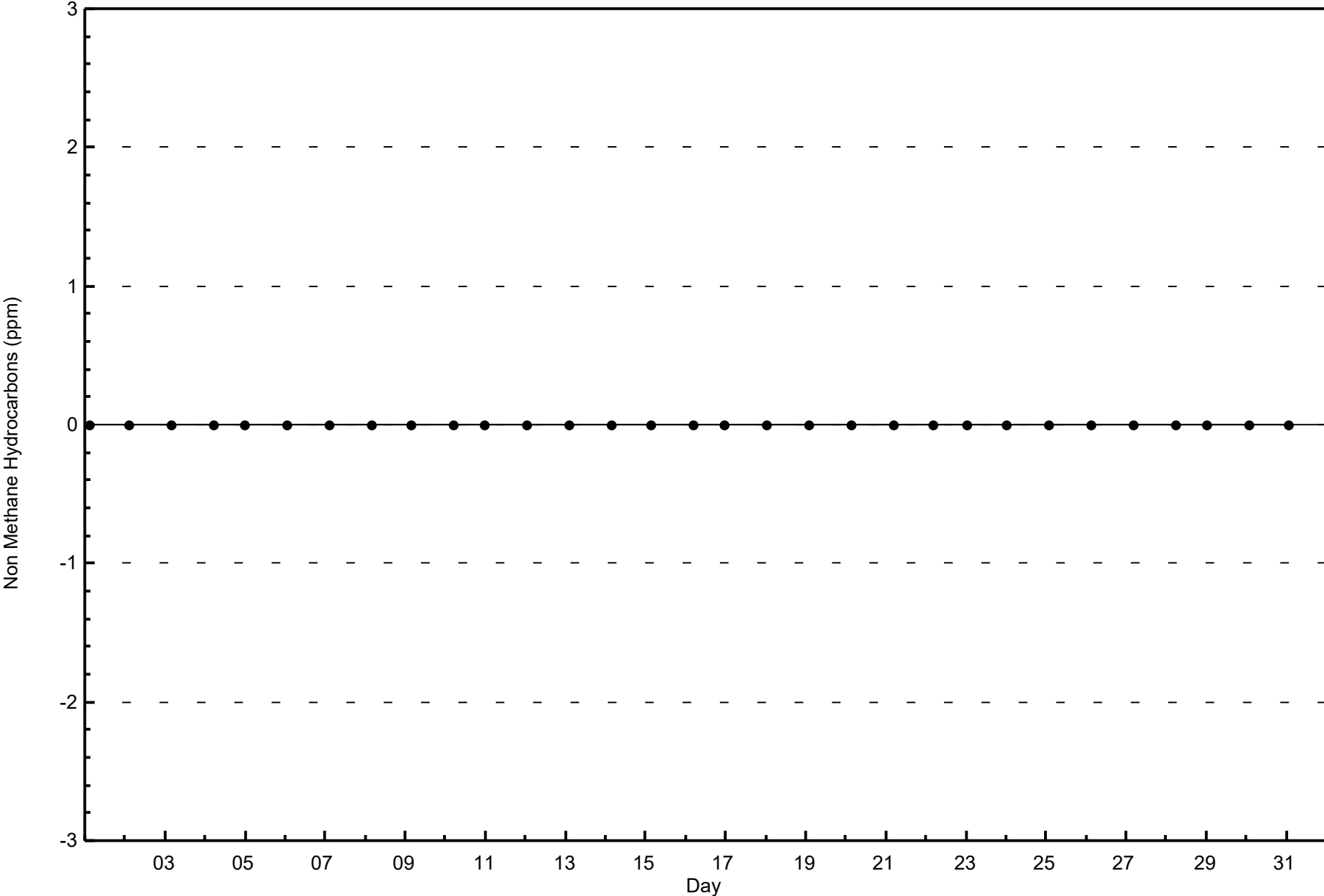
Total Number of Hours: 744

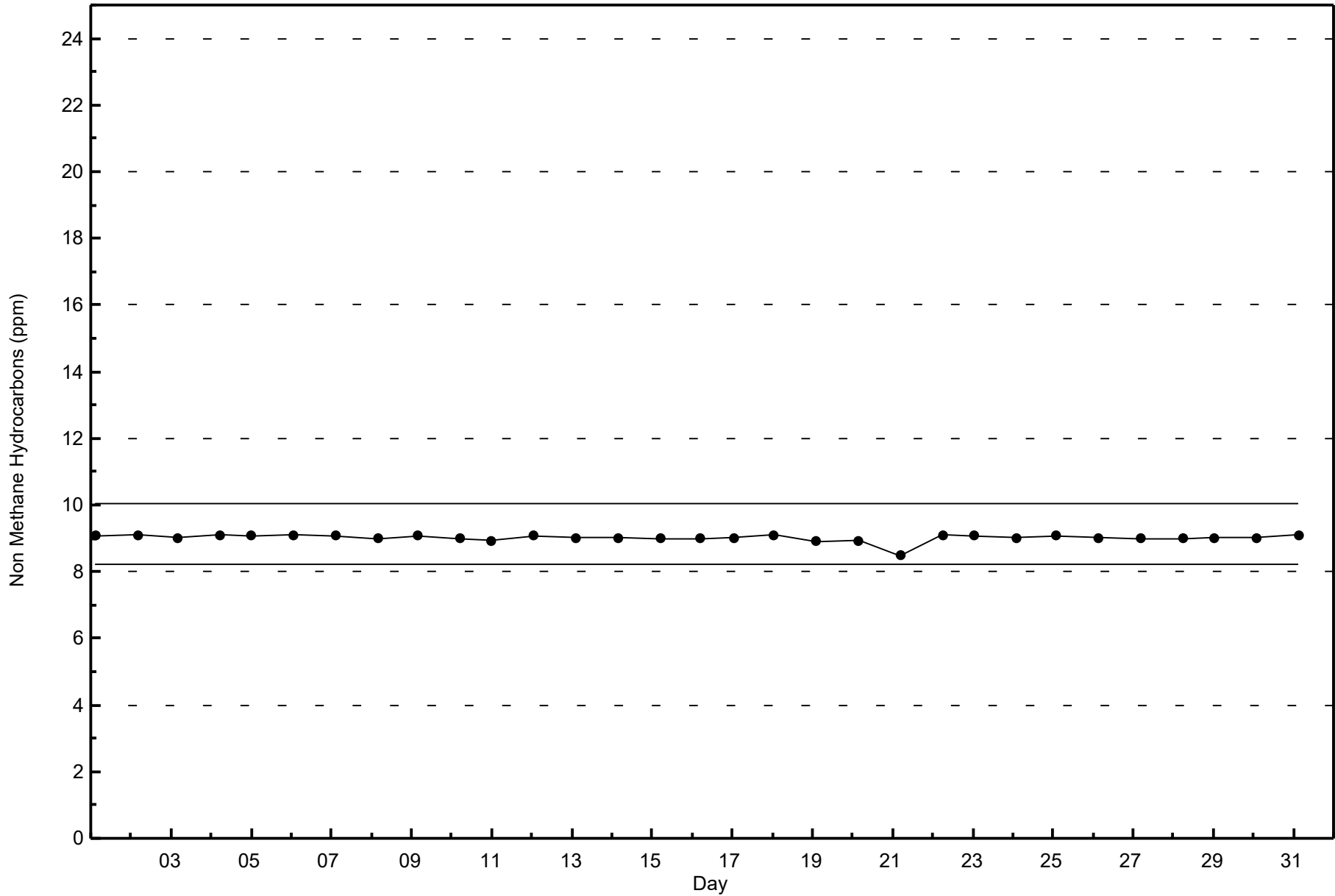


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Non Methane Hydrocarbons (NMHC) - ppm
Conklin









Wood Buffalo Environmental Association
Summary of Hour Averages

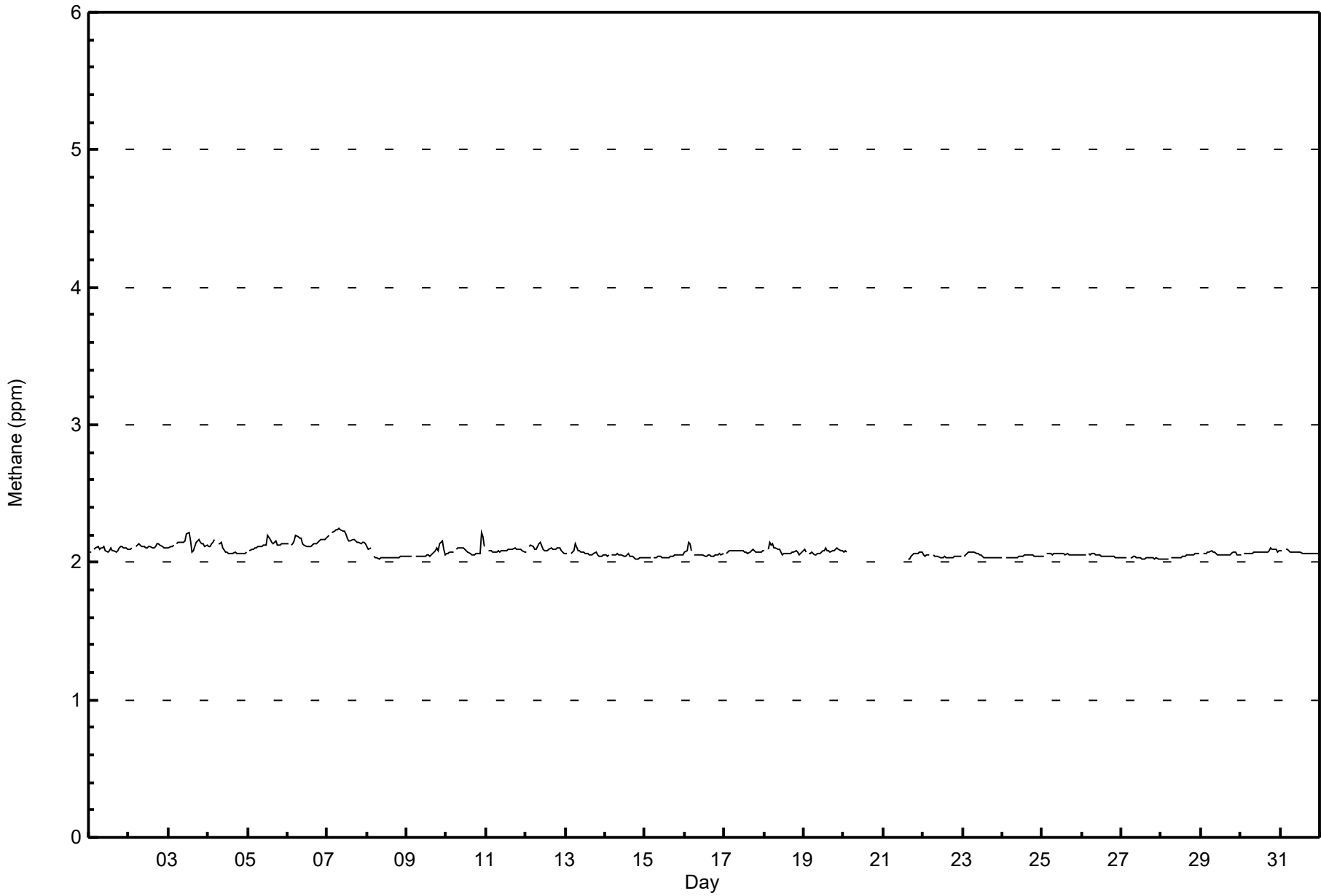
Methane (CH₄) - ppm
Conklin - January 2025

Number of Exceedences (AAAQO):		1-hr: 0 24-hr: 0		Hours in Service:		744																																													
Maximum Value: 2.2 ppm on Jan 7 08:00		Maximum Daily Average: 2.2 ppm on Jan 7		Hours of Data:		679																																													
Minimum Value: 2.0 ppm on Jan 28 01:00		Minimum Daily Average: 2.0 ppm on Jan 27		Hours of Missing Data:		65																																													
Maximum Diurnal Average: 2.1 ppm at hour 5		Minimum Diurnal Average: 2.1 ppm at hour 16		Hours of Calibration:		34																																													
Monthly Average: 2.08 ppm		Percentiles: P ₁ = 2.0 P ₁₀ = 2.0 Q ₁ = 2.0 Median = 2.1 Q ₃ = 2.1 P ₉₀ = 2.1 P ₉₉ = 2.2		Percent Operational Time:		95.8																																													
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																											
1-Jan	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1																								
2-Jan	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1																							
3-Jan	2.1	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1																							
4-Jan	2.1	2.1	2.1	2.1	2.2	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1																							
5-Jan	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1																							
6-Jan	2.1	Z	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1																							
7-Jan	2.2	2.2	Z	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1																							
8-Jan	2.1	2.1	2.1	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0																							
9-Jan	2.0	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1																							
10-Jan	2.1	2.1	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1																							
11-Jan	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1																							
12-Jan	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1																							
13-Jan	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1																							
14-Jan	2.0	2.0	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0																							
15-Jan	2.0	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.0	2.1	2.0	2.1	2.1	2.1																							
16-Jan	2.1	2.1	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.1	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1																							
17-Jan	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1																							
18-Jan	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1																							
19-Jan	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1																							
20-Jan	2.1	2.1	2.1	Z	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO																							
21-Jan	UO	UO	UO	UO	Z	UO	UO	UO	UO	UO	UO	UO	C	C	C	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1																							
22-Jan	2.1	2.0	2.1	2.1	2.1	Z	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0																							
23-Jan	Z	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0																							
24-Jan	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0																							
25-Jan	2.0	2.0	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1																							
26-Jan	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1																							
27-Jan	2.0	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0																							
28-Jan	2.0	2.0	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1																							
29-Jan	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1																							
30-Jan	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1																							
31-Jan	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1																							
																								2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	
																								2.2	2.2	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
																								Z - zerospan				C - Calibration				UO - Unstable Operation																			



Wood Buffalo Environmental Association
Hourly Averages

Methane (CH₄) - ppm
Conklin - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Methane (CH₄) - ppm
Conklin - January 2025**

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	174	25.63	25.63
2.1 - 3.0	505	74.37	100.00
3.1 - 10.0	0	0.00	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 679

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Methane (CH₄) - ppm
Conklin - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2.0	0	4	0	0	0	0	0	0	2	6	10	10	24	62	40	11	169
2.1 - 3.0	20	24	9	13	10	17	9	52	50	39	48	7	15	27	32	56	428
3.1 - 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	20	28	9	13	10	17	9	52	52	45	58	17	39	89	72	67	597

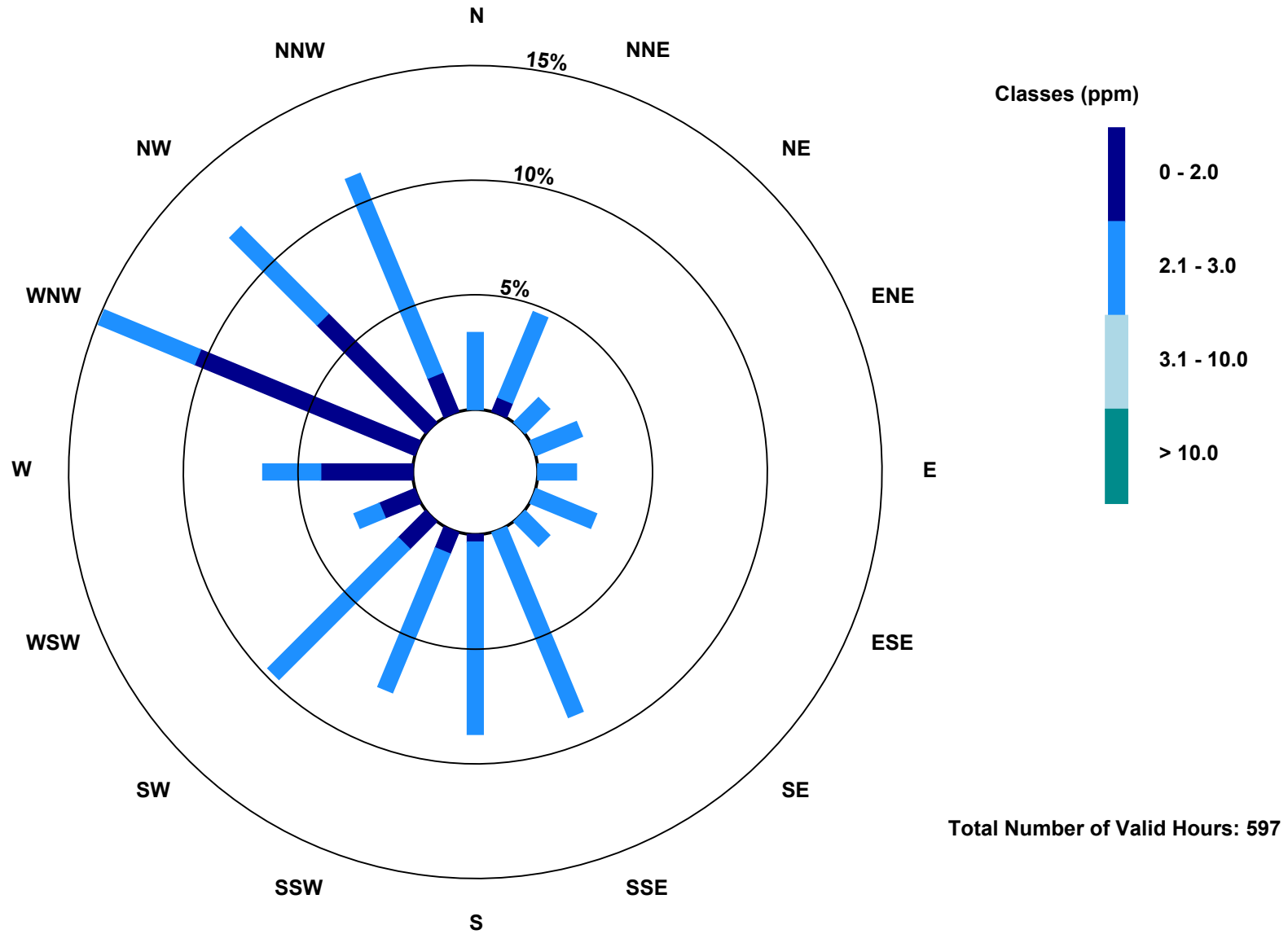
Total Number of Valid Hours: 597

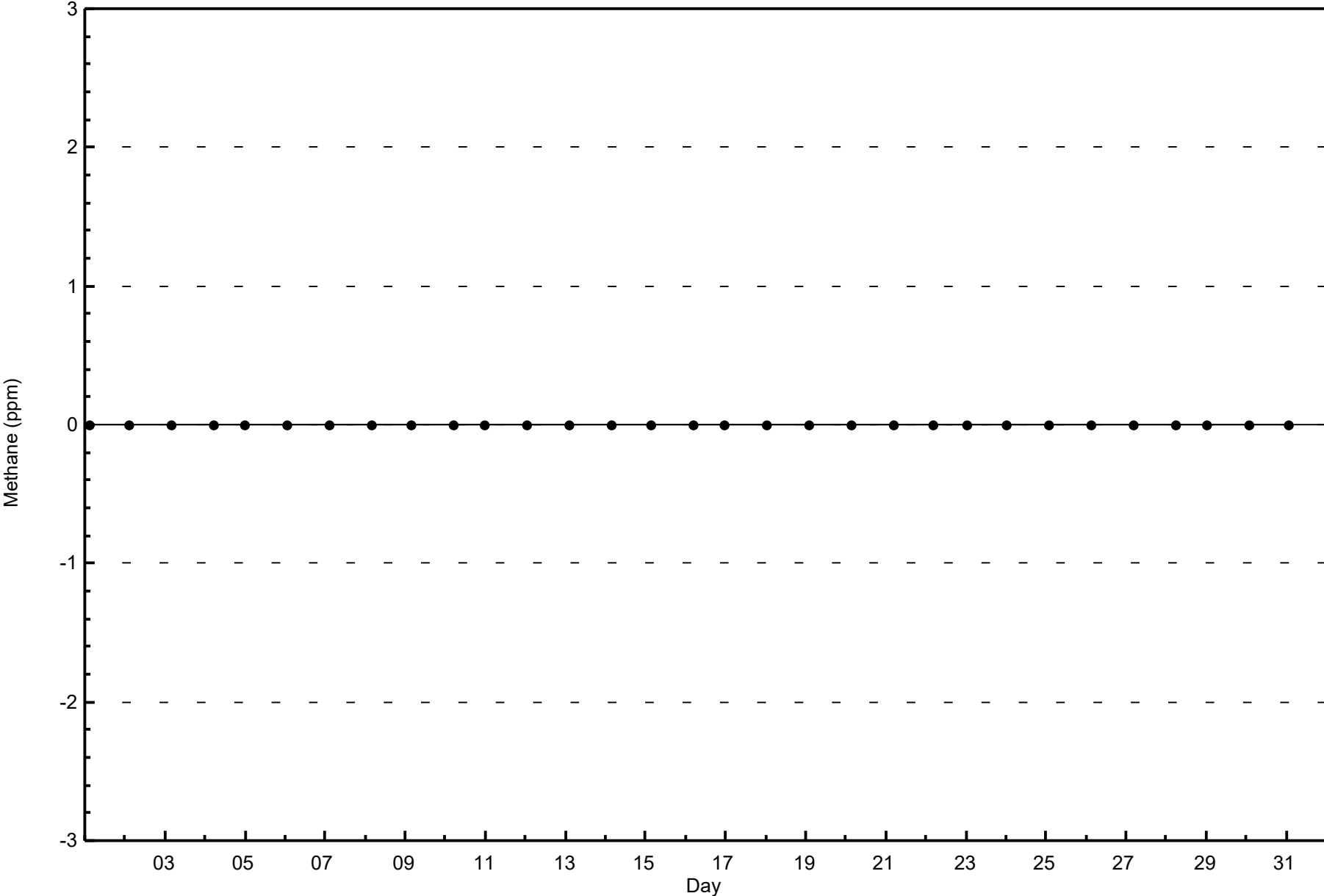
Total Number of Hours: 744

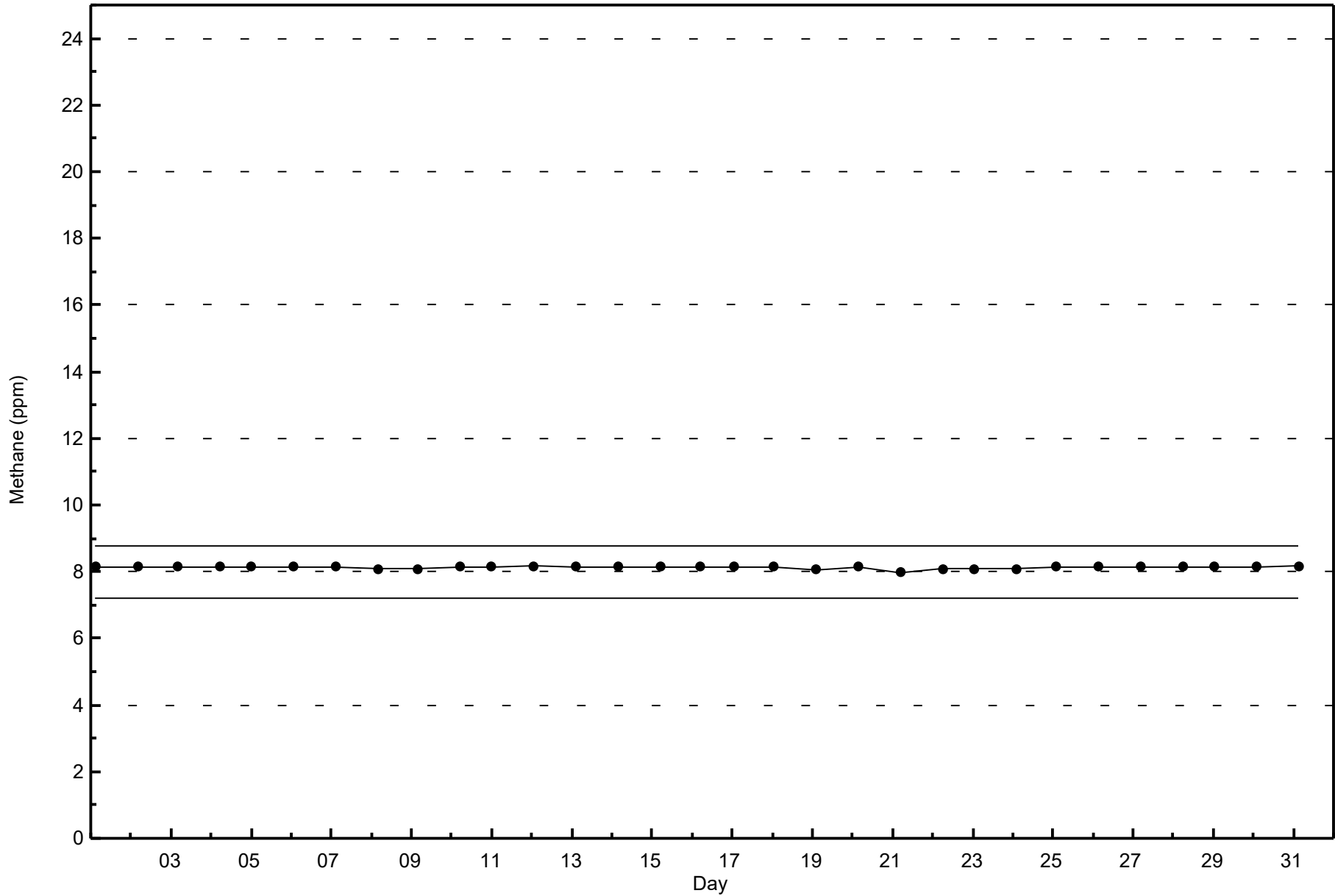


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Methane (CH₄) - ppm
Conklin









Wood Buffalo Environmental Association
Summary of Hour Averages

Nitric Oxide (NO) - ppb
Conklin - January 2025

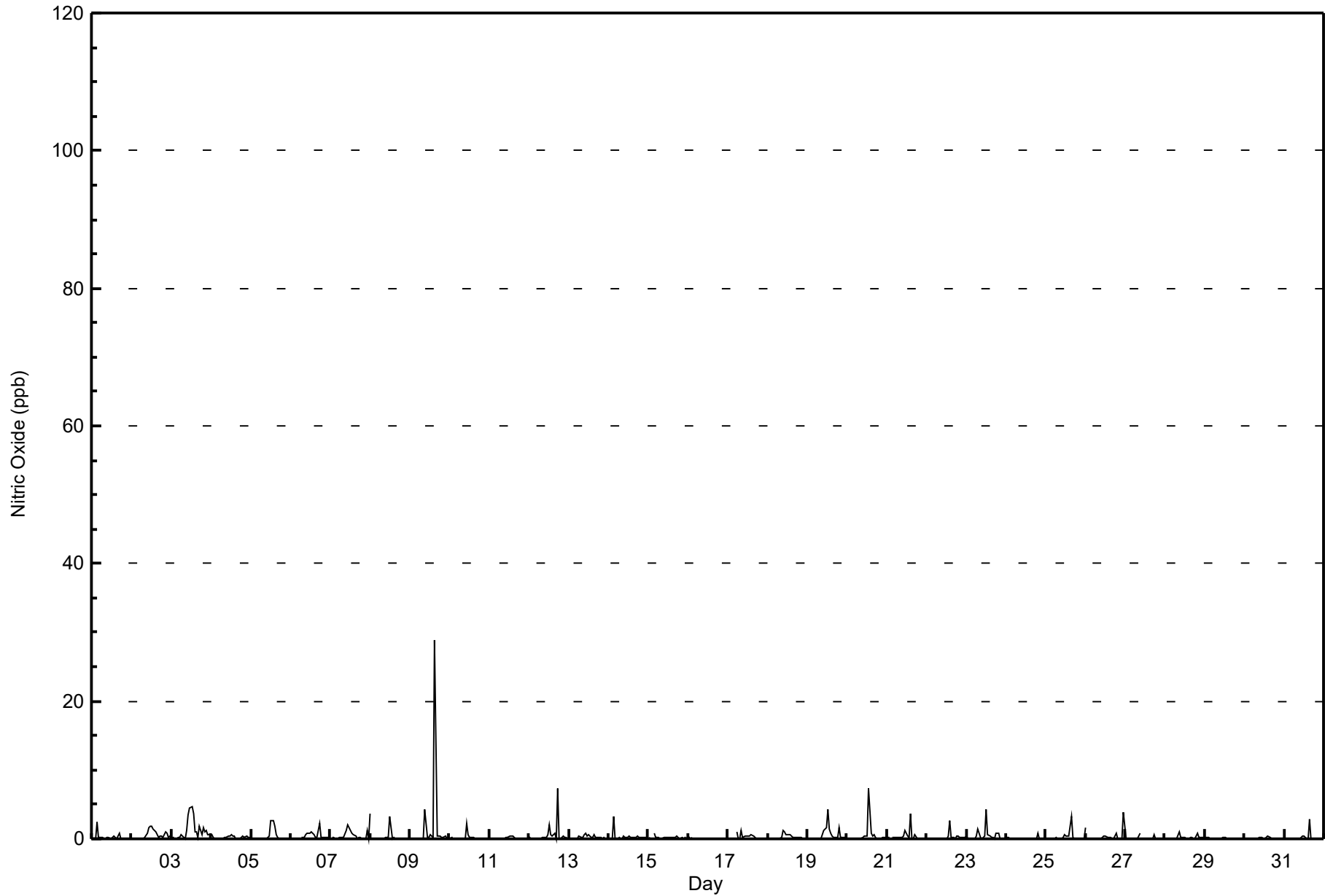
Maximum Value: 28.8 ppb on Jan 9 16:00		Maximum Daily Average: 1.6 ppb on Jan 9		Hours in Service: 744																						
Minimum Value: 0.0 ppb on Jan 2 04:00		Minimum Daily Average: 0.1 ppb on Jan 16		Hours of Data: 708																						
Maximum Diurnal Average: 1.4 ppb at hour 16		Minimum Diurnal Average: 0.0 ppb at hour 5		Hours of Missing Data: 36																						
Monthly Average: 0.36 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.3 P ₉₀ = 0.7 P ₉₉ = 4.2		Hours of Calibration: 36																						
				Percent Operational Time: 100.0																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	Z	0.0	0.0	2.4	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.4	0.2	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.4
2-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.9	1.6	1.8	1.9	1.5	1.1	0.6	0.2	0.5	0.4	0.2	1.1	0.8	0.2	0.4	0.6	1.9
3-Jan	0.2	0.2	Z	0.1	0.2	0.1	0.6	0.3	0.1	1.3	3.4	4.4	4.7	3.6	0.9	0.9	0.3	1.7	0.5	1.5	0.9	1.2	0.6	0.7	1.2	4.7
4-Jan	0.6	0.2	0.1	Z	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.3	0.5	0.3	0.1	0.1	0.1	0.2	0.4	0.2	0.3	0.3	0.2	0.2	0.2	0.6
5-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.2	0.4	2.6	2.7	1.8	0.6	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.4	2.7
6-Jan	0.0	0.0	0.0	0.0	0.1	Z	0.1	0.2	0.2	0.6	0.9	0.8	1.0	0.9	0.6	0.3	0.2	2.3	0.1	0.1	0.2	0.1	0.1	0.1	0.4	2.3
7-Jan	Z	0.2	0.2	0.1	0.0	0.2	0.2	0.2	0.2	1.2	2.1	1.7	1.2	0.8	0.6	0.4	0.1	0.1	0.1	0.0	0.0	0.0	1.1	0.0	0.5	2.1
8-Jan	3.6	Z	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	3.3	0.1	0.2	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.4	3.6
9-Jan	0.1	0.1	Z	0.0	0.0	0.0	0.0	0.0	0.1	4.2	0.2	0.2	0.6	0.5	0.3	28.8	0.4	0.5	0.4	0.2	0.1	0.3	0.0	0.0	1.6	28.8
10-Jan	0.0	0.2	0.1	Z	0.0	0.1	0.1	0.0	0.0	0.1	2.2	0.6	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.2
11-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.4	0.5	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.5
12-Jan	0.1	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.3	0.2	0.6	2.1	0.6	0.4	0.8	0.1	7.4	0.0	0.0	0.3	0.1	0.1	0.0	0.6	7.4
13-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.1	0.6	0.8	0.4	0.6	0.3	0.2	0.5	0.2	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.2	0.8
14-Jan	0.1	Z	0.1	0.1	3.2	0.0	0.1	0.2	0.1	0.1	0.3	0.1	0.2	0.4	0.1	0.2	0.2	0.1	0.5	0.1	0.2	0.1	0.1	0.1	0.1	0.3
15-Jan	0.1	0.1	Z	0.7	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.1	0.2	0.2	0.2	0.1	0.5	0.3	0.1	0.1	0.1	0.1	0.1	0.2	0.7
16-Jan	0.4	0.1	0.1	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4
17-Jan	0.0	0.0	0.0	0.0	Z	1.0	0.0	0.0	1.2	0.2	0.4	0.5	0.4	0.3	0.7	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.2
18-Jan	0.0	0.1	0.0	0.1	0.1	Z	0.0	0.0	0.1	1.2	0.9	0.6	0.6	0.7	0.4	0.3	0.1	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.3	1.2
19-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.6	1.1	1.7	4.3	1.5	0.8	0.5	0.2	0.1	0.1	1.6	0.3	0.2	0.1	0.2	0.6	4.3
20-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.4	0.4	0.5	7.3	0.7	0.3	0.5	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.5	7.3
21-Jan	0.2	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.5	1.3	0.4	0.3	3.7	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.4	3.7
22-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.3	2.6	0.2	0.1	0.1	0.5	0.3	0.2	0.2	0.1	0.1	0.2	2.6
23-Jan	0.3	0.1	0.1	0.0	Z	0.0	0.4	1.4	0.1	0.1	0.3	0.5	4.2	0.7	0.4	0.2	0.1	0.0	0.9	0.9	0.0	0.0	0.0	0.1	0.5	4.2
24-Jan	0.1	0.1	0.1	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.1	0.0	0.1	0.1	0.1	0.8
25-Jan	Z	0.0	0.1	0.1	0.0	0.0	0.2	0.0	0.0	0.1	0.2	0.6	0.4	0.4	0.4	3.3	0.2	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.3	3.3
26-Jan	1.6	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.4	0.4	0.2	0.2	0.1	0.1	0.0	0.9	0.1	0.0	0.0	0.0	3.9	0.4	3.9
27-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.3	0.7	C	C	C	C	C	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.7
28-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	1.0	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.8	0.2	0.1	0.2	0.1	0.2	1.0
29-Jan	0.1	0.1	0.1	0.1	Z	0.0	0.1	0.1	0.0	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2
30-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.3	0.4	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4
31-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.3	0.4	0.1	0.1	2.8	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.8
																								Diurnal Average		
																								Diurnal Maximum		
																								0.3 3.6		
																								0.1 0.2		
																								0.0 0.2		
																								0.3 3.2		
																								0.0 0.2		
																								0.1 1.0		
																								0.1 0.6		
																								0.1 1.4		
																								0.1 1.2		
																								0.5 4.2		
																								0.6 3.4		
																								1.1 4.4		
																								0.8 4.7		
																								0.6 7.3		
																								1.4 3.7		
																								0.6 28.8		
																								1.4 0.9		
																								0.1 7.4		
																								0.5 0.9		
																								0.2 1.6		
																								0.3 1.1		
																								0.1 1.2		
																								0.1 1.1		
																								0.1 3.9		

Z - zerospan C - Calibration



Wood Buffalo Environmental Association
Hourly Averages

Nitric Oxide (NO) - ppb
Conklin - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Nitric Oxide (NO) - ppb
Conklin - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	707	99.86	99.86
21 - 40	1	0.14	100.00
41 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitric Oxide (NO) - ppb
Conklin - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	19	28	9	13	12	17	10	50	53	54	60	17	36	105	72	70	625
21 - 40	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
11 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	19	28	9	13	12	17	10	51	53	54	60	17	36	105	72	70	626

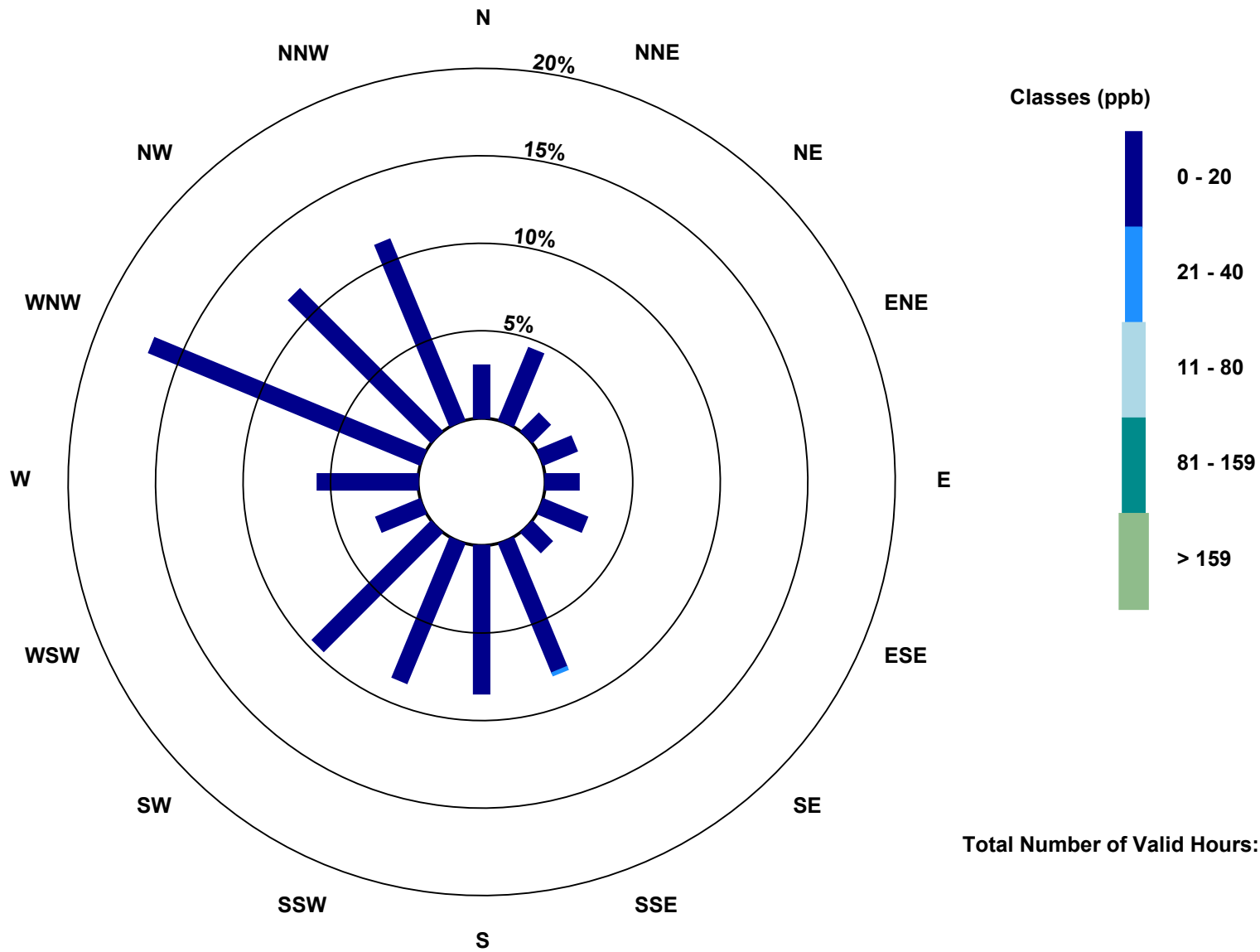
Total Number of Valid Hours: 626

Total Number of Hours: 744

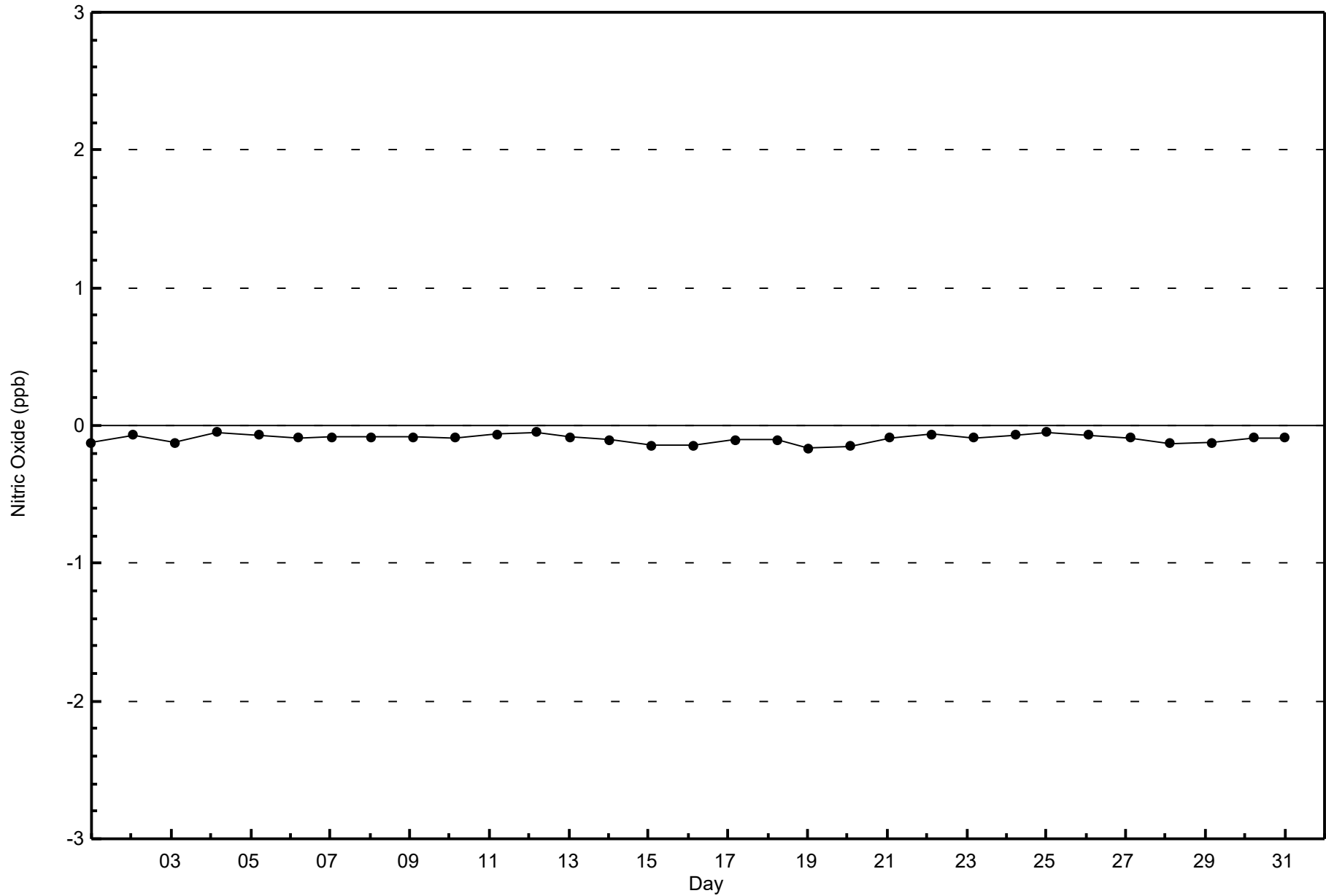


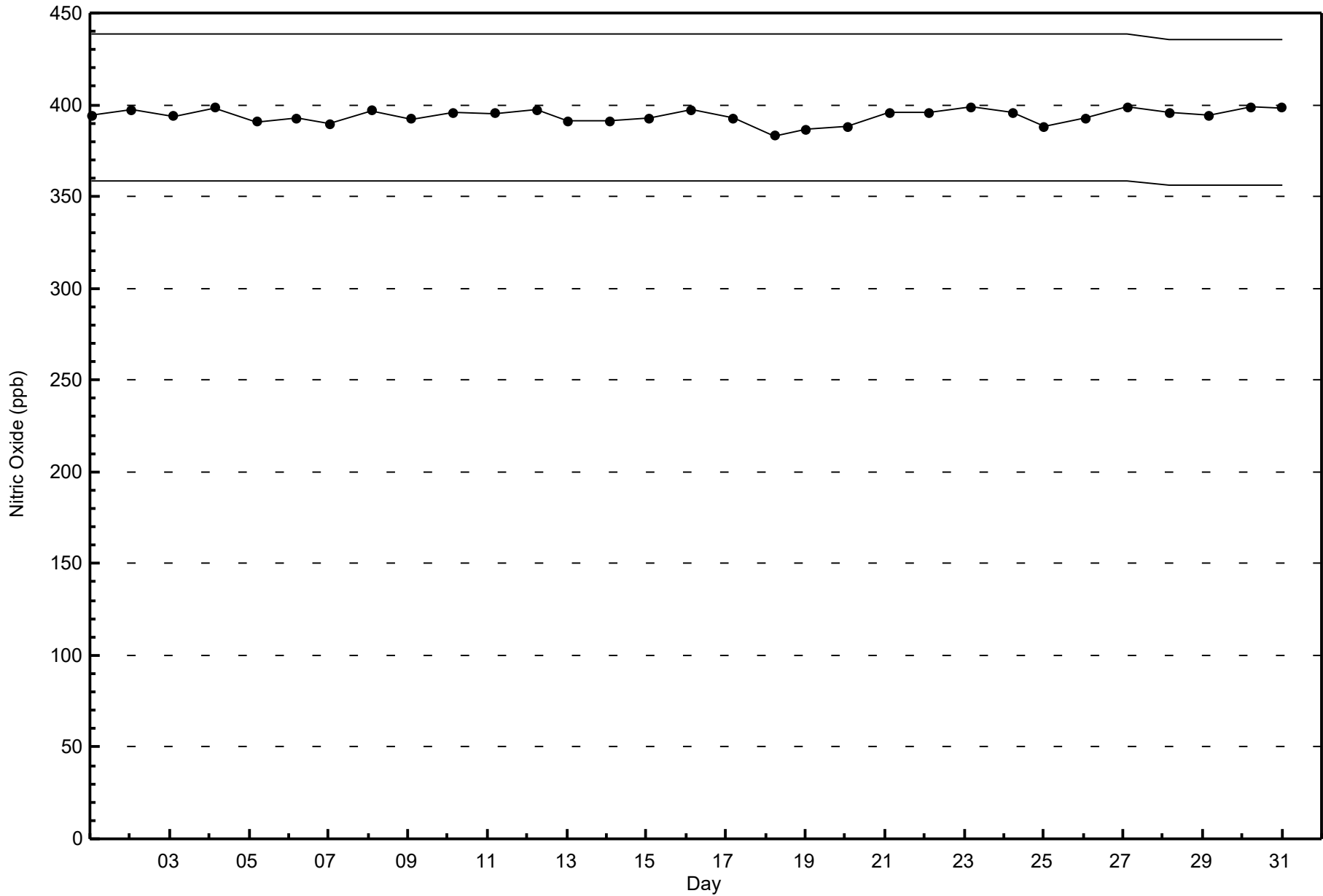
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitric Oxide (NO) - ppb
Conklin



Total Number of Valid Hours: 626







Wood Buffalo Environmental Association
Summary of Hour Averages

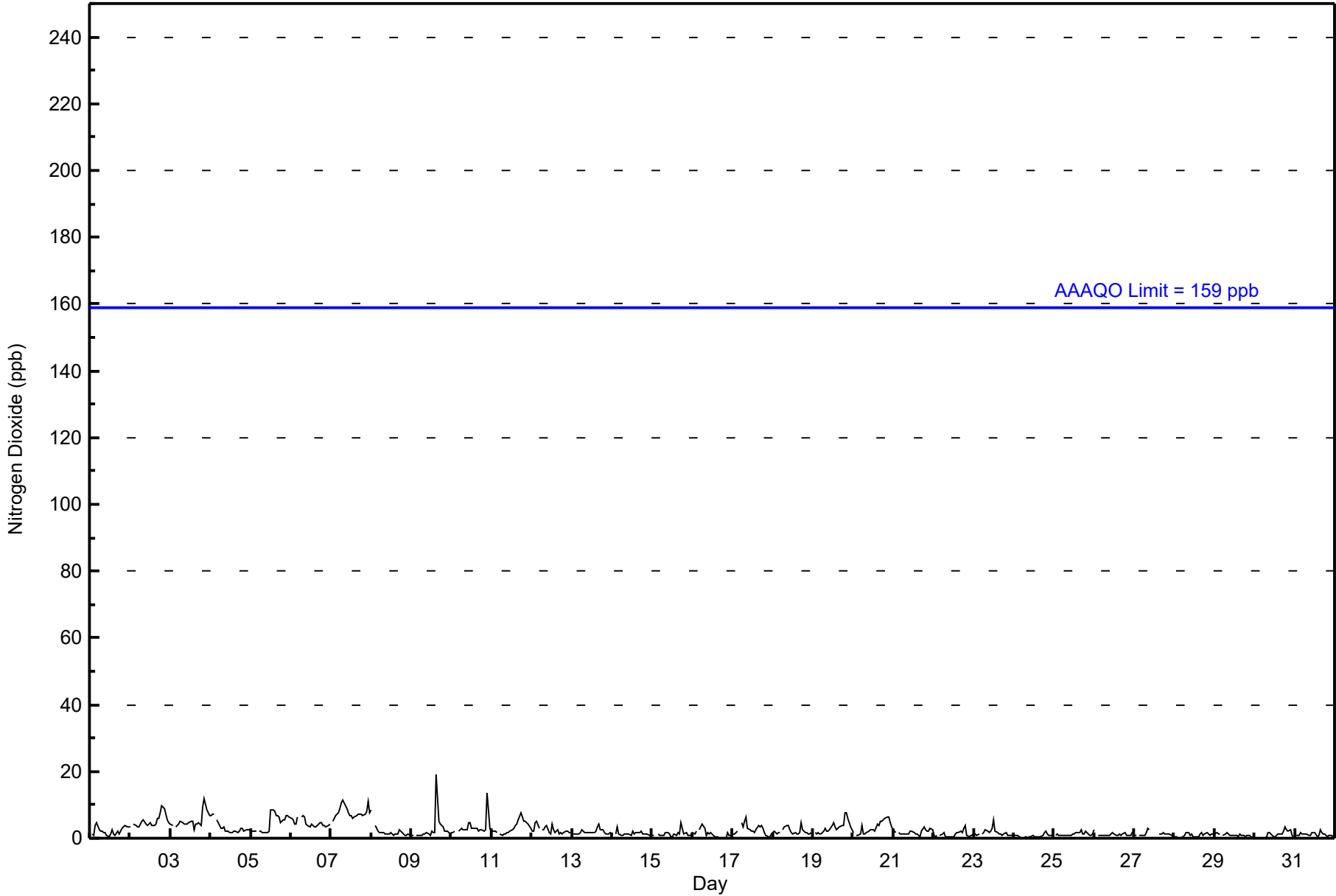
Nitrogen Dioxide (NO₂) - ppb
Conklin - January 2025

Number of Exceedences (AAAQO):		1-hr: 0	24-hr: 0																		Hours in Service:	744																											
Maximum Value: 18.9 ppb on Jan 9 16:00		Maximum Daily Average: 7.8 ppb on Jan 7																	Hours of Data:	708																													
Minimum Value: 0.1 ppb on Jan 16 18:00		Minimum Daily Average: 0.8 ppb on Jan 24																	Hours of Missing Data:	36																													
Maximum Diurnal Average: 3.1 ppb at hour 22		Minimum Diurnal Average: 1.9 ppb at hour 2																	Hours of Calibration:	36																													
Monthly Average: 2.46 ppb		Percentiles: P ₁ = 0.1 P ₁₀ = 0.7 Q ₁ = 1.0 Median = 1.7 Q ₃ = 3.2 P ₉₀ = 5.3 P ₉₉ = 10.1																	Percent Operational Time:	100.0																													
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	Z	1.2	0.9	3.9	4.7	2.5	2.3	2.0	1.7	1.5	0.8	0.5	1.4	2.7	1.2	0.8	2.3	1.2	2.1	3.1	3.5	3.8	3.6	3.3	2.2	4.7																							
2-Jan	3.4	Z	4.3	3.7	3.5	3.6	4.2	5.1	5.3	4.4	3.9	4.2	4.5	3.8	3.8	4.2	5.9	5.8	7.8	9.9	8.7	7.3	5.5	4.5	5.1	9.9																							
3-Jan	4.2	3.8	Z	3.4	3.7	4.1	5.2	4.5	4.1	4.2	4.2	4.8	5.2	4.9	2.7	4.3	4.1	4.8	3.8	9.3	11.9	10.1	8.3	6.9	5.3	11.9																							
4-Jan	6.8	7.3	7.0	Z	5.4	3.7	3.1	3.0	3.4	2.0	2.0	1.8	1.9	1.9	2.0	2.1	1.9	2.0	2.8	3.0	2.2	2.6	2.6	2.6	3.2	7.3																							
5-Jan	2.1	2.1	2.1	2.3	Z	2.1	2.0	1.8	1.7	1.8	1.6	2.0	8.4	8.6	8.0	6.7	6.9	6.4	4.7	5.4	5.7	6.6	6.7	6.5	4.4	8.6																							
6-Jan	6.1	5.5	4.2	4.2	6.5	Z	6.3	6.8	6.3	4.1	3.7	3.5	4.1	3.8	3.2	3.2	4.0	4.7	4.7	4.0	3.9	3.6	3.7	4.4	4.5	6.8																							
7-Jan	Z	4.9	5.8	6.8	7.8	9.0	10.6	11.3	10.6	9.1	7.7	6.9	6.6	6.1	6.3	6.8	7.1	7.2	7.0	6.9	7.4	7.9	11.0	7.7	7.8	11.3																							
8-Jan	8.6	Z	4.0	2.9	2.2	1.9	1.7	1.5	1.2	1.2	1.2	1.1	1.6	0.7	1.1	1.1	1.1	2.4	1.8	1.3	1.0	0.8	1.2	0.9	1.8	8.6																							
9-Jan	0.9	0.8	Z	0.8	0.8	0.7	1.0	1.2	1.1	1.8	1.3	1.0	2.3	1.9	1.9	18.9	4.9	4.3	3.7	3.2	2.0	2.3	1.6	1.1	2.6	18.9																							
10-Jan	1.6	1.7	2.2	Z	2.3	2.7	3.0	2.5	2.4	2.5	4.6	4.5	2.9	2.9	3.1	2.8	2.2	2.7	2.7	2.1	2.5	13.6	8.5	3.0	3.4	13.6																							
11-Jan	2.3	2.0	2.1	1.9	Z	1.4	0.9	1.2	1.2	1.7	1.5	2.1	2.4	3.1	3.8	4.4	5.4	7.6	6.4	5.0	4.9	4.8	4.2	3.0	3.2	7.6																							
12-Jan	2.1	2.1	4.5	4.9	2.9	Z	2.4	2.5	3.6	4.0	1.9	1.3	4.1	2.5	1.8	2.7	1.4	1.7	1.4	1.5	2.1	2.1	1.9	1.5	2.5	4.9																							
13-Jan	Z	1.2	1.3	1.4	1.2	1.6	2.6	1.6	1.6	1.7	1.9	1.6	1.9	1.5	2.1	3.2	4.4	2.5	2.7	1.6	1.4	1.4	1.3	1.5	1.9	4.4																							
14-Jan	1.2	Z	1.3	3.3	1.1	0.9	1.0	1.1	1.3	1.3	1.1	1.0	2.1	1.2	1.5	1.6	1.9	2.0	1.2	1.2	1.3	1.2	0.9	0.9	1.4	3.3																							
15-Jan	0.9	0.9	Z	1.2	0.8	0.9	0.9	0.8	1.5	1.5	1.4	0.6	0.6	1.2	1.0	1.8	1.3	4.5	3.0	1.1	1.9	1.0	0.9	0.9	1.3	4.5																							
16-Jan	1.7	1.3	2.1	Z	2.4	3.2	4.4	3.1	0.9	1.5	1.4	1.7	0.8	0.5	0.4	0.3	0.2	0.1	0.1	0.1	0.1	1.7	0.7	1.0	1.3	4.4																							
17-Jan	1.3	1.2	1.7	2.0	Z	4.8	3.6	5.1	6.3	2.8	2.4	2.3	2.3	1.6	2.7	3.7	3.6	3.9	2.8	1.9	0.7	0.5	0.6	1.3	2.6	6.3																							
18-Jan	1.8	2.2	1.4	1.5	1.6	Z	2.6	3.2	3.8	3.8	2.7	1.6	1.3	1.6	1.3	1.2	1.5	4.7	2.7	1.9	1.6	1.1	1.3	1.7	2.1	4.7																							
19-Jan	Z	1.5	1.4	1.5	1.4	1.1	2.1	2.9	2.0	2.2	2.7	3.8	4.6	3.6	2.6	2.9	3.5	3.7	3.9	7.6	7.7	5.9	3.3	2.5	3.2	7.7																							
20-Jan	1.5	Z	0.9	0.9	1.4	3.9	1.4	1.3	1.7	2.1	2.5	2.7	2.4	2.2	4.1	4.0	5.1	5.1	5.3	6.1	6.4	6.3	4.6	3.5	3.3	6.4																							
21-Jan	2.4	1.8	Z	1.7	1.3	1.2	1.2	1.3	1.2	1.3	2.1	2.3	1.7	1.4	1.2	0.7	0.5	2.0	3.2	2.7	2.0	2.2	3.1	2.5	1.8	3.2																							
22-Jan	0.7	0.3	0.7	Z	1.0	1.4	1.8	0.6	0.3	0.3	0.3	0.3	0.5	1.4	1.7	1.6	2.0	1.5	3.0	4.0	0.8	0.6	0.8	0.9	1.2	4.0																							
23-Jan	1.5	1.1	1.0	1.1	Z	1.3	1.7	2.5	2.1	1.5	2.0	2.8	5.5	2.2	1.5	1.2	1.4	1.0	1.2	1.5	0.9	0.7	0.8	0.8	1.6	5.5																							
24-Jan	0.8	0.8	0.7	0.5	0.6	Z	0.4	0.5	0.2	0.3	0.6	0.7	0.4	0.4	0.5	0.5	0.5	0.9	1.9	2.2	1.4	0.9	0.9	0.8	0.8	2.2																							
25-Jan	Z	0.9	1.3	0.8	0.8	0.8	0.9	0.8	0.9	0.9	0.8	1.4	1.4	1.5	1.6	1.8	2.4	1.4	1.2	2.1	1.1	0.9	1.0	1.2	1.2	2.4																							
26-Jan	2.7	Z	0.9	1.0	0.9	0.9	0.9	0.9	0.9	0.9	1.2	1.5	1.2	1.0	0.8	1.1	1.0	1.4	1.7	1.0	0.8	0.8	0.8	1.8	1.1	2.7																							
27-Jan	0.9	0.9	Z	1.0	1.0	0.9	0.9	1.7	3.1	2.5	Z	Z	Z	Z	Z	1.1	1.1	1.8	1.1	1.2	1.2	1.1	0.8	0.6	1.3	3.1																							
28-Jan	0.3	0.5	0.4	Z	0.5	0.6	0.7	1.5	1.5	0.9	1.1	0.6	0.4	0.3	0.5	1.1	1.5	1.0	1.2	1.9	1.3	1.0	1.3	1.2	0.9	1.9																							
29-Jan	1.1	1.5	1.3	1.1	Z	0.8	1.3	1.8	1.2	1.0	0.7	0.7	0.7	0.7	0.4	1.1	1.0	1.0	0.5	0.9	1.0	0.8	0.3	0.1	0.9	1.8																							
30-Jan	0.2	0.1	0.1	0.1	0.2	Z	0.2	0.3	1.5	1.6	0.8	0.3	0.3	0.8	1.1	1.1	1.3	2.1	3.4	2.4	2.3	2.6	0.9	0.5	1.1	3.4																							
31-Jan	Z	0.9	0.9	1.5	1.4	1.1	1.3	1.2	1.0	1.0	1.6	1.8	1.7	0.6	1.0	2.5	1.6	1.4	1.2	0.5	0.9	0.7	0.7	0.6	1.2	2.5																							
																								2.3	1.9	2.1	2.1	2.2	2.2	2.3	2.4	2.4	2.2	2.1	2.0	2.5	2.2	2.2	2.9	2.7	3.0	2.9	3.1	2.9	3.1	2.7	2.2	Diurnal Average	
																								8.6	7.3	7.0	6.8	7.8	9.0	10.6	11.3	10.6	9.1	7.7	6.9	8.4	8.6	8.0	18.9	7.1	7.6	7.8	9.9	11.9	13.6	11.0	7.7	Diurnal Maximum	
Z - zerospan C - Calibration																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb																																																	



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
Conklin - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Nitrogen Dioxide (NO₂) - ppb
Conklin - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	708	100.00	100.00
21 - 40	0	0.00	100.00
41 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Dioxide (NO₂) - ppb
Conklin - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	19	28	9	13	12	17	10	51	53	54	60	17	36	105	72	70	626
21 - 40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	19	28	9	13	12	17	10	51	53	54	60	17	36	105	72	70	626

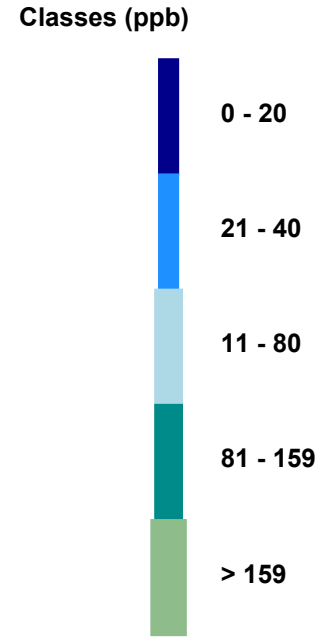
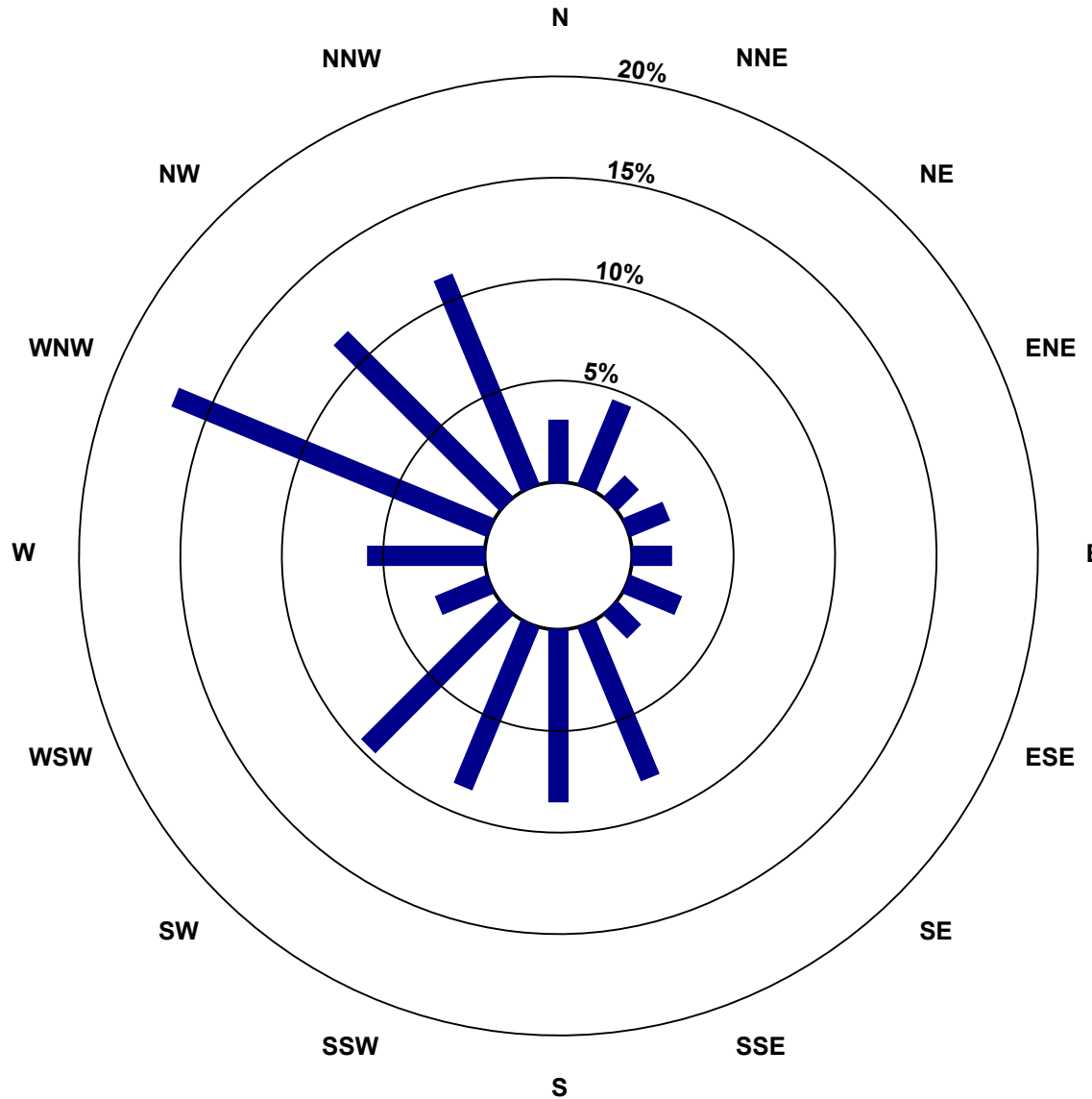
Total Number of Valid Hours: 626

Total Number of Hours: 744

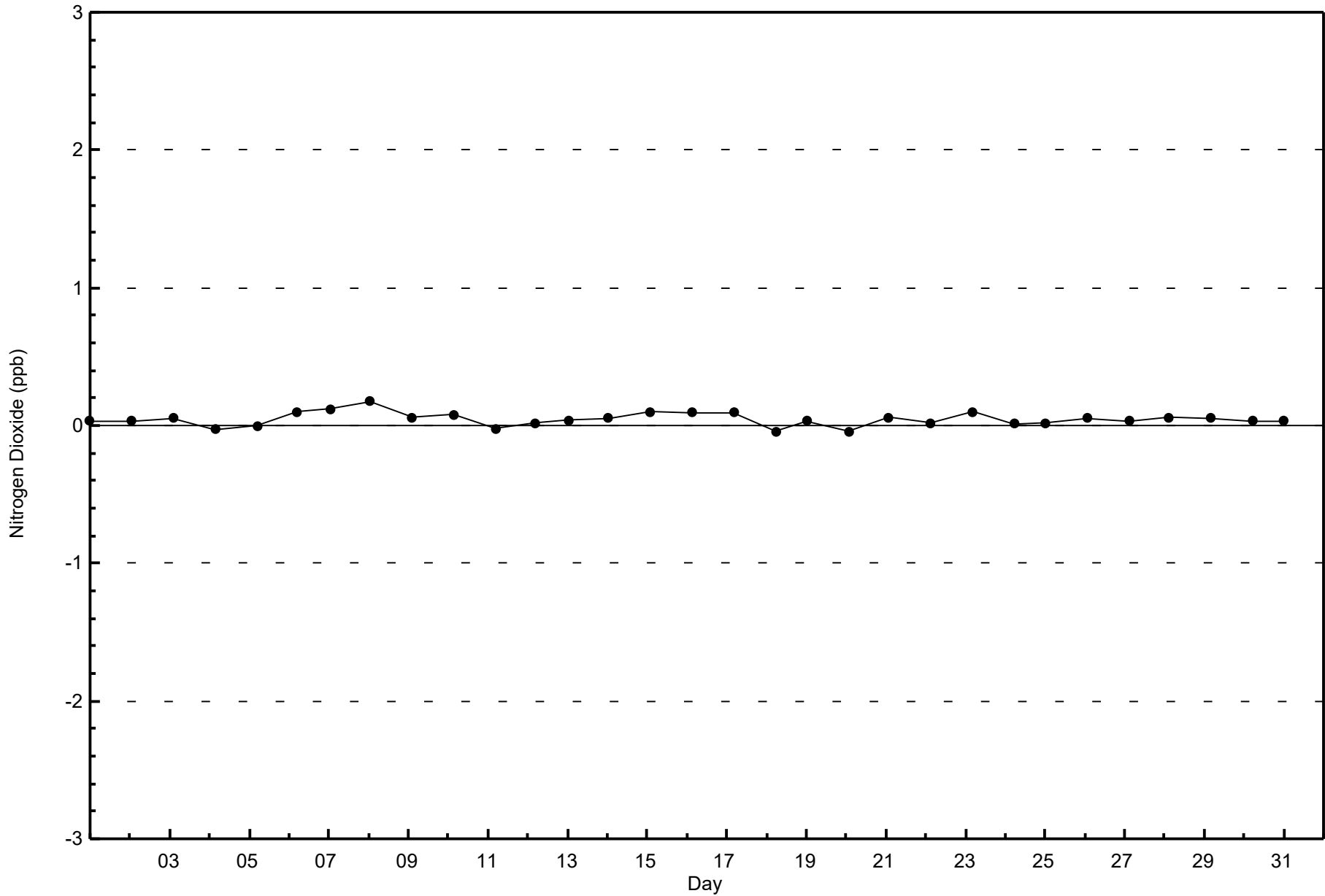


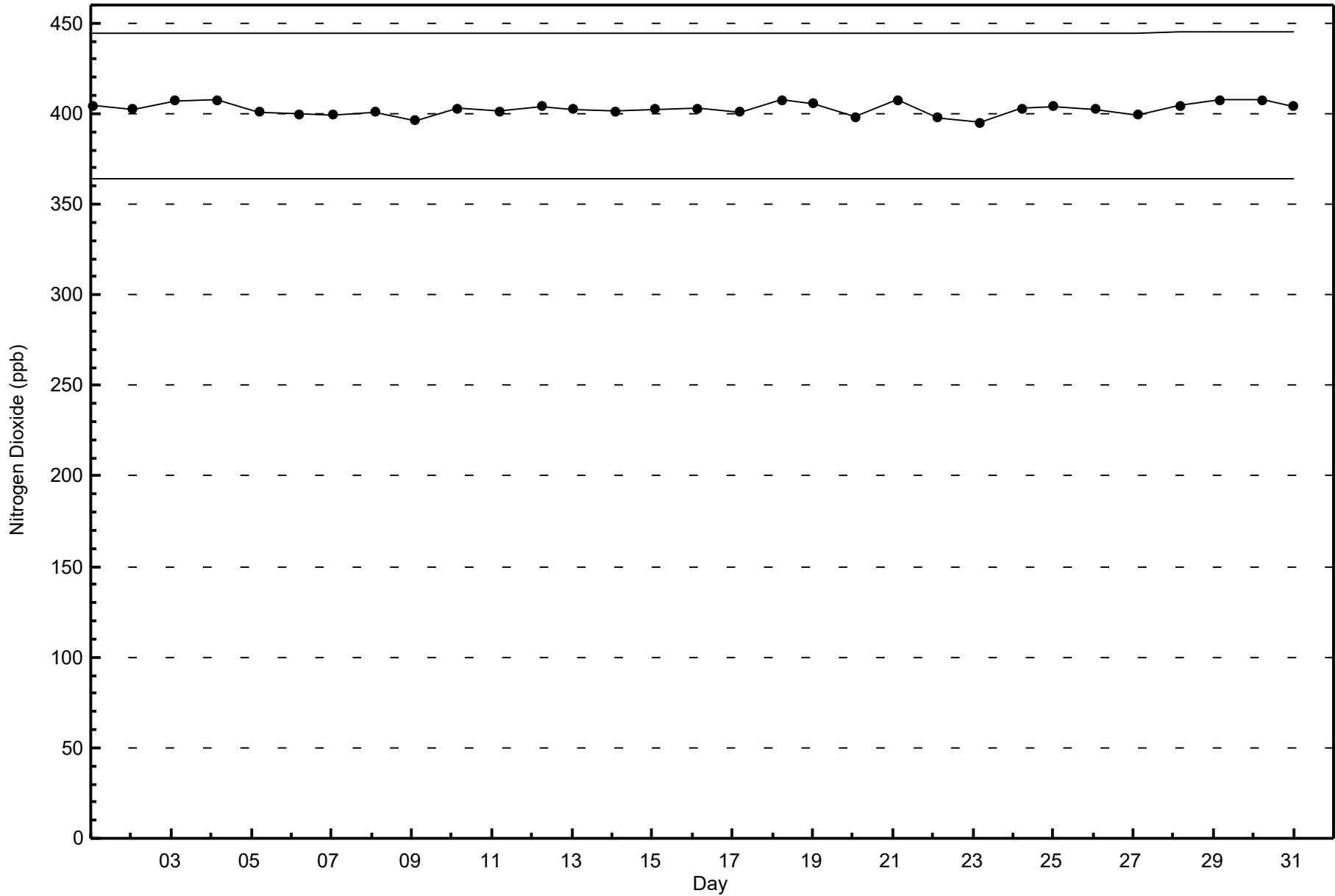
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Dioxide (NO₂) - ppb
Conklin



Total Number of Valid Hours: 626







Wood Buffalo Environmental Association
Summary of Hour Averages

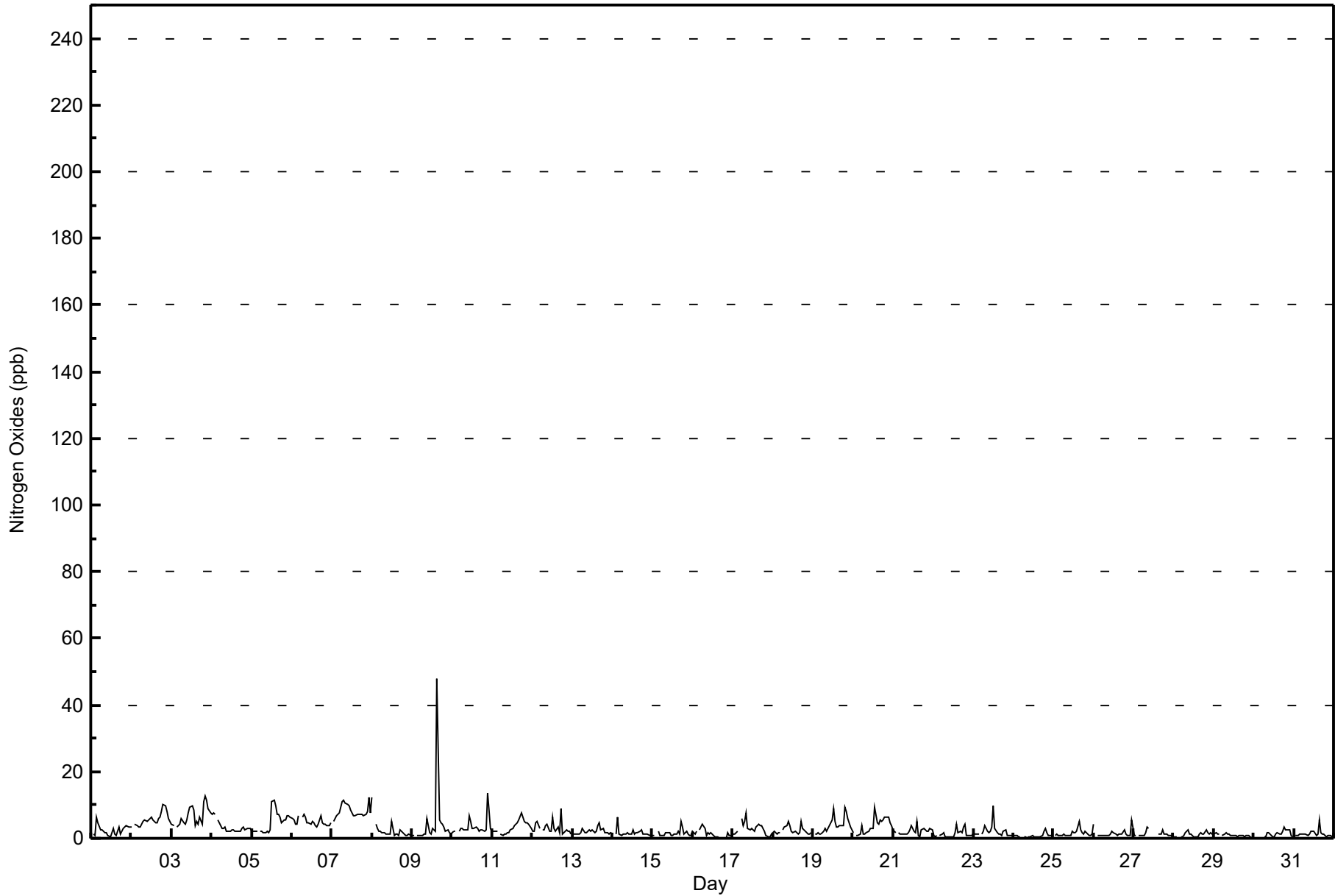
Nitrogen Oxides (NO_x) - ppb
Conklin - January 2025

Maximum Value: 47.7 ppb on Jan 9 16:00		Maximum Daily Average: 8.2 ppb on Jan 7		Hours in Service: 744																							
Minimum Value: 0.1 ppb on Jan 30 02:00		Minimum Daily Average: 0.8 ppb on Jan 24		Hours of Data: 708																							
Maximum Diurnal Average: 4.3 ppb at hour 16		Minimum Diurnal Average: 1.9 ppb at hour 2		Hours of Missing Data: 36																							
Monthly Average: 2.82 ppb		Percentiles: P ₁ = 0.1 P ₁₀ = 0.8 Q ₁ = 1.1 Median = 1.9 Q ₃ = 3.7 P ₉₀ = 6.3 P ₉₉ = 11.3		Hours of Calibration: 36																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	Z	1.2	0.9	6.3	4.8	2.6	2.4	2.1	1.7	1.6	0.9	0.6	1.6	3.1	1.4	0.8	3.2	1.2	2.1	3.1	3.5	3.8	3.6	3.3	2.4	6.3	
2-Jan	3.4	Z	4.3	3.7	3.5	3.6	4.3	5.2	5.5	5.3	5.5	6.0	6.4	5.3	4.9	4.8	6.1	6.3	8.2	10.1	9.8	8.1	5.7	4.9	5.7	10.1	
3-Jan	4.4	4.0	Z	3.5	3.9	4.2	5.8	4.8	4.2	5.5	7.6	9.2	9.9	8.5	3.6	5.2	4.4	6.5	4.3	10.8	12.8	11.3	8.9	7.6	6.6	12.8	
4-Jan	7.4	7.5	7.1	Z	5.4	3.7	3.1	3.0	3.5	2.2	2.3	2.1	2.4	2.4	2.3	2.2	2.0	2.1	3.0	3.4	2.4	2.9	2.9	2.8	3.4	7.5	
5-Jan	2.1	2.1	2.1	2.3	Z	2.1	2.0	1.8	1.7	1.9	1.8	2.4	11.0	11.3	9.8	7.3	7.0	6.5	4.7	5.4	5.7	6.6	6.8	6.5	4.8	11.3	
6-Jan	6.1	5.5	4.2	4.2	6.6	Z	6.4	7.0	6.5	4.7	4.6	4.3	5.1	4.7	3.8	3.5	4.2	7.0	4.8	4.1	4.1	3.7	3.8	4.5	4.9	7.0	
7-Jan	Z	5.1	6.0	6.9	7.8	9.2	10.8	11.5	10.8	10.3	9.8	8.6	7.8	6.9	6.9	7.2	7.2	7.3	7.1	6.9	7.4	7.9	12.1	7.7	8.2	12.1	
8-Jan	12.2	Z	4.1	2.9	2.2	2.0	1.8	1.6	1.3	1.3	1.3	1.3	4.9	0.8	1.3	1.2	1.1	2.4	1.8	1.4	1.0	0.8	1.3	1.0	2.2	12.2	
9-Jan	1.0	0.9	Z	0.8	0.8	0.7	1.0	1.2	1.2	6.0	1.5	1.2	2.9	2.4	2.2	47.7	5.3	4.8	4.1	3.4	2.1	2.6	1.6	1.1	4.2	47.7	
10-Jan	1.6	1.9	2.3	Z	2.3	2.8	3.1	2.5	2.4	2.6	6.8	5.1	3.1	3.1	3.3	2.9	2.2	2.7	2.7	2.1	2.5	13.6	8.5	3.0	3.6	13.6	
11-Jan	2.3	2.0	2.1	1.9	Z	1.4	0.9	1.2	1.2	1.7	1.6	2.3	2.8	3.6	4.2	4.6	5.4	7.6	6.4	5.0	4.9	4.8	4.2	3.1	3.3	7.6	
12-Jan	2.2	2.1	4.5	4.9	2.9	Z	2.4	2.5	3.7	4.3	2.1	1.9	6.2	3.1	2.2	3.5	1.5	9.1	1.4	1.5	2.4	2.2	2.0	1.5	3.0	9.1	
13-Jan	Z	1.2	1.3	1.4	1.2	1.6	2.9	1.9	1.7	2.3	2.7	2.0	2.5	1.8	2.3	3.7	4.6	2.7	3.0	1.7	1.5	1.5	1.4	1.6	2.1	4.6	
14-Jan	1.3	Z	1.4	6.5	1.1	1.0	1.2	1.2	1.4	1.6	1.2	1.2	2.5	1.3	1.7	1.8	2.0	2.5	1.3	1.4	1.4	1.3	1.0	1.0	1.7	6.5	
15-Jan	1.0	1.0	Z	1.9	0.9	1.0	1.0	0.9	1.6	1.7	1.7	0.7	0.8	1.4	1.2	2.0	1.4	5.0	3.3	1.2	2.0	1.1	1.0	1.0	1.5	5.0	
16-Jan	2.1	1.4	2.2	Z	2.5	3.2	4.4	3.1	0.9	1.5	1.5	1.8	0.8	0.5	0.4	0.3	0.2	0.1	0.1	0.1	0.1	1.7	0.7	1.0	1.3	4.4	
17-Jan	1.3	1.2	1.7	2.0	Z	5.8	3.6	5.1	7.5	3.0	2.8	2.8	2.7	1.9	3.4	4.1	3.7	3.9	2.8	1.9	0.7	0.5	0.6	1.3	2.8	7.5	
18-Jan	1.8	2.3	1.4	1.6	1.7	Z	2.6	3.2	3.9	5.0	3.6	2.2	1.9	2.3	1.7	1.5	1.6	4.9	2.8	2.1	1.8	1.2	1.4	1.8	2.4	5.0	
19-Jan	Z	1.5	1.4	1.5	1.4	1.1	2.1	2.9	2.1	2.8	3.8	5.5	8.9	5.1	3.4	3.4	3.7	3.8	4.0	9.2	8.0	6.1	3.4	2.7	3.8	9.2	
20-Jan	1.5	Z	0.9	0.9	1.4	3.9	1.4	1.4	1.8	2.3	2.9	3.1	2.9	9.5	4.8	4.3	5.6	5.3	5.4	6.2	6.5	6.5	4.8	3.7	3.8	9.5	
21-Jan	2.6	1.9	Z	1.8	1.4	1.3	1.3	1.4	1.3	1.5	2.6	3.6	2.1	1.7	4.9	0.7	0.5	2.7	3.2	2.7	2.0	2.2	3.1	2.5	2.1	4.9	
22-Jan	0.7	0.3	0.7	Z	1.0	1.4	1.9	0.6	0.3	0.3	0.3	0.3	0.3	0.6	1.7	4.3	1.8	2.1	1.6	3.5	4.3	1.0	0.8	0.9	1.0	1.4	4.3
23-Jan	1.8	1.2	1.1	1.1	Z	1.3	2.1	3.9	2.2	1.6	2.3	3.3	9.7	2.9	1.9	1.4	1.5	1.0	2.1	2.4	0.9	0.7	0.8	0.9	2.1	9.7	
24-Jan	0.9	0.9	0.8	0.5	0.6	Z	0.4	0.5	0.2	0.3	0.6	0.8	0.4	0.4	0.5	0.5	0.5	0.9	1.9	3.0	1.5	0.9	1.0	0.9	0.8	3.0	
25-Jan	Z	0.9	1.4	0.9	0.8	0.8	1.1	0.8	0.9	1.0	1.0	2.0	1.8	1.9	2.0	5.1	2.6	1.5	1.2	2.2	1.2	0.9	1.0	1.2	1.5	5.1	
26-Jan	4.3	Z	0.9	1.0	0.9	0.9	0.9	0.9	0.9	1.0	1.5	1.9	1.6	1.2	1.0	1.2	1.1	1.4	2.6	1.1	0.8	0.8	0.8	5.7	1.5	5.7	
27-Jan	0.9	0.9	Z	1.0	1.0	0.9	0.9	1.7	3.4	3.2	Z	Z	Z	Z	Z	1.1	1.1	2.5	1.1	1.2	1.2	1.1	0.8	0.6	1.4	3.4	
28-Jan	0.3	0.5	0.4	Z	0.5	0.6	0.7	1.6	2.5	1.1	1.3	0.7	0.5	0.4	0.6	1.2	1.6	1.1	1.3	2.7	1.5	1.1	1.5	1.3	1.1	2.7	
29-Jan	1.2	1.6	1.4	1.2	Z	0.8	1.4	1.9	1.2	1.1	0.8	0.9	0.8	0.8	0.4	1.1	1.0	1.0	0.5	0.9	1.0	0.8	0.3	0.1	1.0	1.9	
30-Jan	0.2	0.1	0.1	0.1	0.2	Z	0.2	0.3	1.5	1.7	0.9	0.3	0.4	1.1	1.5	1.2	1.4	2.1	3.4	2.4	2.3	2.6	0.9	0.5	1.1	3.4	
31-Jan	Z	0.9	0.9	1.5	1.4	1.1	1.3	1.2	1.0	1.1	1.9	2.1	2.1	0.7	1.1	5.3	1.7	1.4	1.2	0.5	0.9	0.7	0.7	0.6	1.4	5.3	
																								Diurnal Average			
																								Diurnal Maximum			
																								Diurnal Average			
																								Diurnal Maximum			
Z - zerospan C - Calibration																											



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Conklin - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Nitrogen Oxides (NO_x) - ppb
Conklin - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	707	99.86	99.86
21 - 40	0	0.00	99.86
41 - 80	1	0.14	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Oxides (NO_x) - ppb
Conklin - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	19	28	9	13	12	17	10	50	53	54	60	17	36	105	72	70	625
21 - 40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 - 80	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	19	28	9	13	12	17	10	51	53	54	60	17	36	105	72	70	626

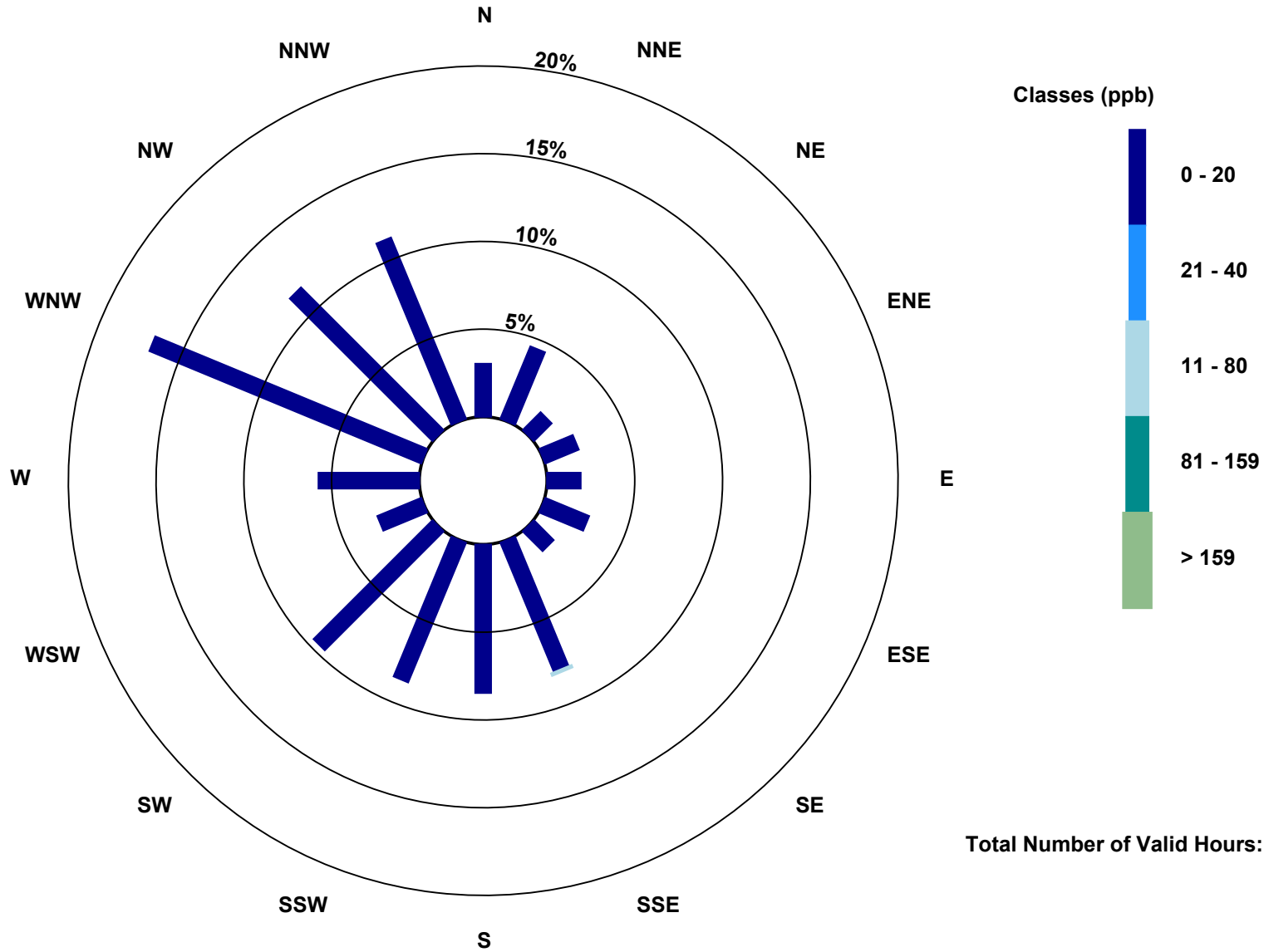
Total Number of Valid Hours: 626

Total Number of Hours: 744

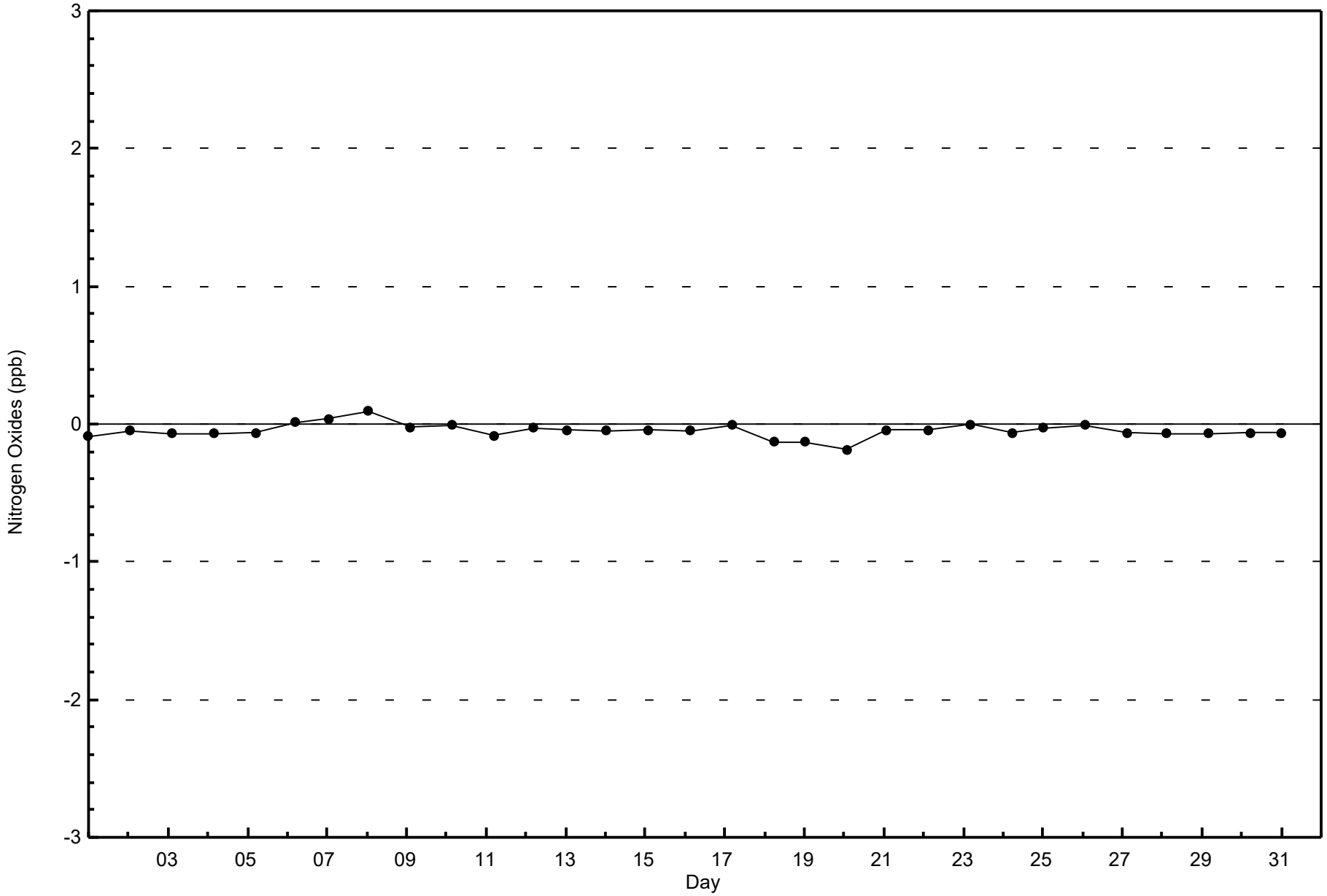


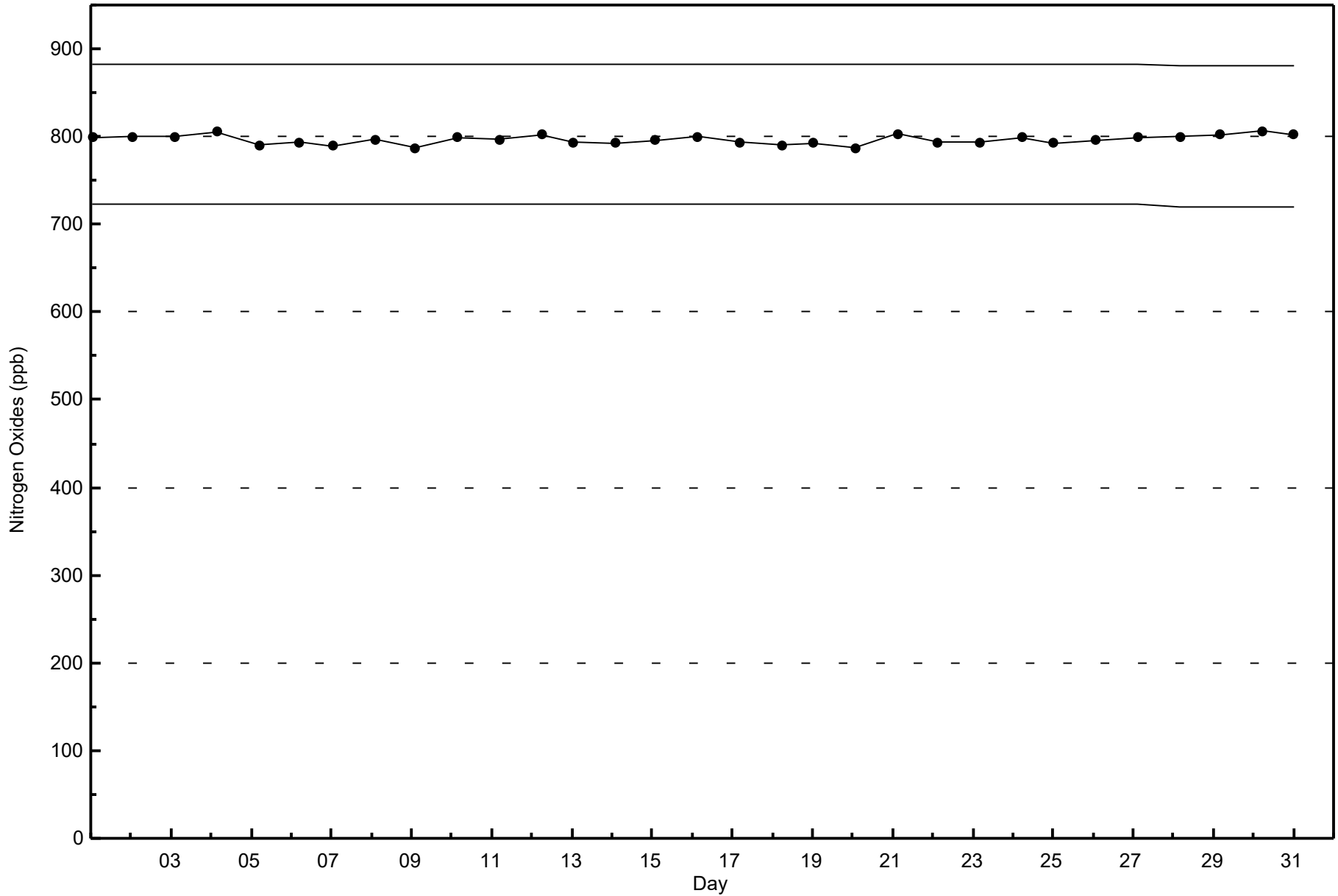
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Oxides (NO_x) - ppb
Conklin



Total Number of Valid Hours: 626







Wood Buffalo Environmental Association

Summary of Hour Averages

Ozone (O₃) - ppb

Conklin - January 2025

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 49.0 ppb on Jan 28 04:00	Maximum Daily Average: 44.6 ppb on Jan 28		Hours of Data:	710
Minimum Value: 7.7 ppb on Jan 3 09:00	Minimum Daily Average: 15.4 ppb on Jan 3		Hours of Missing Data:	34
Maximum Diurnal Average: 36.5 ppb at hour 15	Minimum Diurnal Average: 31.2 ppb at hour 7		Hours of Calibration:	34
Monthly Average: 33.09 ppb	Percentiles: P ₁ = 10.5 P ₁₀ = 19.1 Q ₁ = 27.7 Median = 35.4 Q ₃ = 40.0 P ₉₀ = 42.1 P ₉₉ = 46.6		Percent Operational Time:	100.0

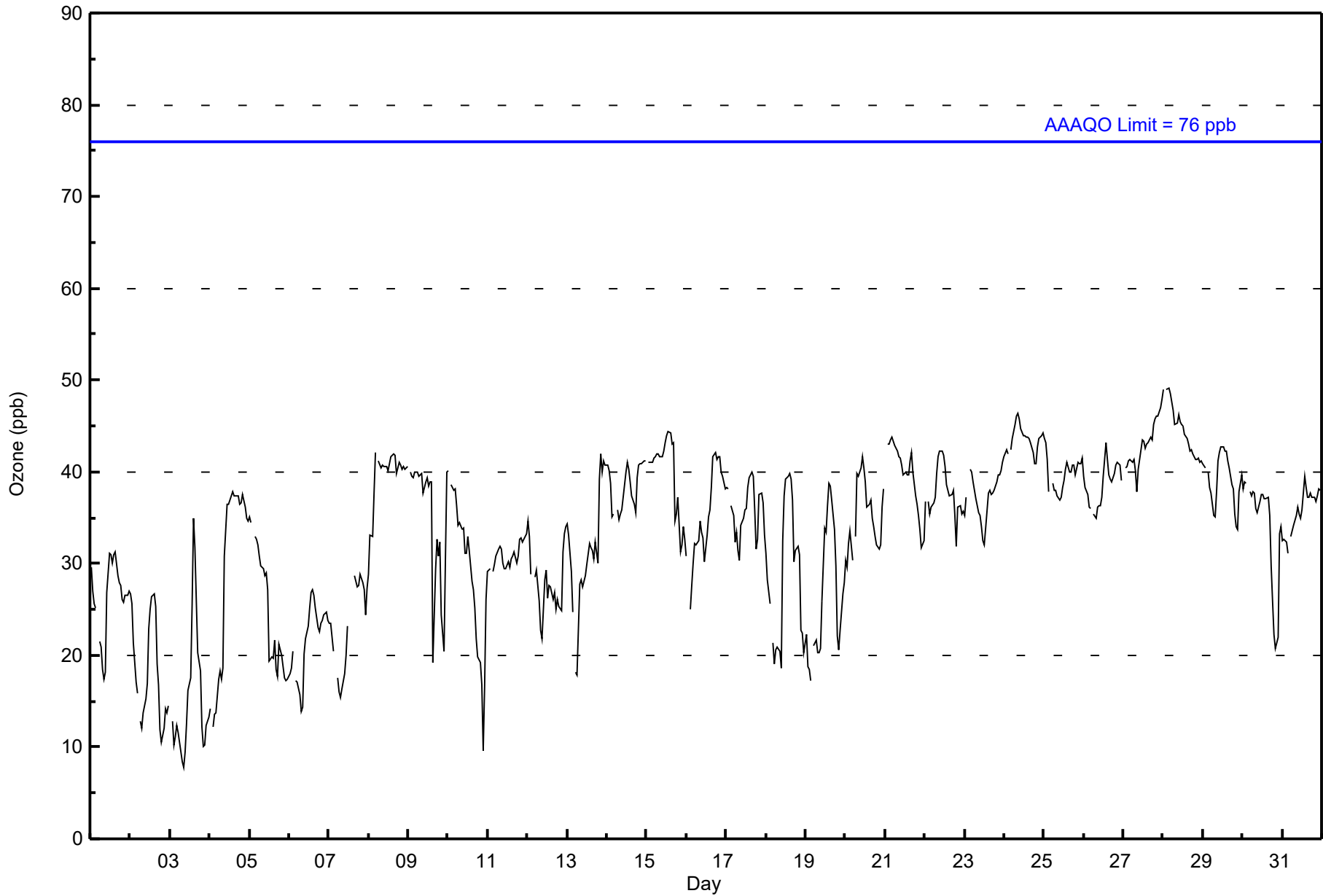
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Jan	29.6	27.0	25.6	25.1	Z	21.6	20.9	18.5	17.4	18.2	26.9	31.1	31.0	30.1	31.0	31.3	28.7	27.9	27.6	26.0	25.8	26.5	26.5	27.0	26.1	31.3																						
2-Jan	26.7	25.6	21.3	17.1	15.8	Z	12.8	12.1	13.7	15.2	16.9	22.9	25.0	26.4	26.7	25.3	19.1	16.8	11.9	10.5	12.0	14.2	13.7	14.5	18.1	26.7																						
3-Jan	Z	12.8	10.3	11.1	12.4	11.5	10.5	8.4	7.7	9.5	12.6	16.1	17.5	25.4	34.9	31.7	25.9	20.3	18.3	12.1	10.1	10.3	12.4	13.3	15.4	34.9																						
4-Jan	14.2	Z	12.2	13.6	13.8	17.4	18.3	17.4	18.6	30.8	36.4	36.4	37.0	37.3	37.8	37.4	37.4	37.3	36.5	37.5	36.2	35.0	34.6	29.1	37.8																							
5-Jan	35.0	34.5	Z	33.0	32.7	32.0	30.8	29.8	29.4	28.7	28.9	27.1	19.4	19.9	19.7	21.6	18.4	17.7	21.2	19.9	18.8	17.5	17.2	17.4	24.8	35.0																						
6-Jan	18.0	18.6	20.4	Z	17.3	17.1	15.7	13.8	14.3	20.1	21.8	23.2	25.1	26.9	27.2	26.5	25.1	23.0	22.5	23.5	23.9	24.3	24.7	23.9	21.6	27.2																						
7-Jan	23.5	23.4	21.9	20.4	Z	17.5	16.1	15.5	16.3	18.1	20.0	23.2	C	C	C	28.7	28.1	27.5	27.6	28.8	28.0	27.1	24.4	27.3	23.2	28.8																						
8-Jan	28.9	33.2	32.9	37.7	42.1	Z	41.2	40.4	40.7	40.5	40.5	40.5	40.1	41.7	41.8	41.9	41.8	39.8	41.0	40.7	40.3	40.6	40.3	40.6	39.5	42.1																						
9-Jan	Z	40.0	39.5	39.4	39.9	40.0	39.5	39.6	39.9	37.7	38.9	39.3	38.5	38.8	38.9	19.2	29.4	32.6	30.8	32.3	24.5	20.4	30.5	40.0	35.2	40.0																						
10-Jan	40.1	Z	38.6	38.0	38.1	36.3	34.1	34.5	33.8	33.8	31.1	31.1	32.9	31.4	28.0	27.2	25.1	21.8	19.8	19.3	16.8	9.6	16.7	26.1	28.9	40.1																						
11-Jan	29.1	29.5	Z	29.2	30.0	30.8	31.5	31.9	31.6	30.0	29.5	29.5	30.3	29.6	30.5	30.7	31.3	30.1	30.9	32.6	32.8	32.4	32.6	33.3	30.9	33.3																						
12-Jan	34.6	32.9	28.9	Z	28.5	29.2	27.5	26.0	22.8	21.9	28.2	29.3	26.2	27.6	27.4	26.1	26.9	25.0	26.1	25.3	24.8	31.3	33.2	34.0	28.0	34.6																						
13-Jan	34.3	33.1	29.1	24.7	Z	18.1	17.9	27.8	28.3	27.4	28.0	28.7	29.8	32.2	31.7	31.4	30.5	32.3	30.0	39.1	41.9	39.9	41.2	40.7	31.2	41.9																						
14-Jan	40.8	40.2	38.8	35.0	35.4	Z	35.8	34.7	35.4	35.8	37.1	40.0	41.0	40.3	39.0	37.4	36.4	35.6	39.3	40.7	40.9	40.9	41.2	41.2	38.4	41.2																						
15-Jan	Z	41.0	41.0	41.0	41.4	41.6	41.9	41.9	41.7	41.6	42.2	43.2	43.9	44.4	44.2	43.0	43.1	34.6	35.4	37.2	31.3	32.0	34.0	32.6	39.8	44.4																						
16-Jan	30.8	Z	25.0	27.6	30.0	32.2	32.0	32.6	34.6	33.5	32.9	30.2	33.1	35.0	35.8	38.3	41.6	42.1	41.4	41.7	41.7	40.0	39.5	38.2	35.2	42.1																						
17-Jan	38.3	38.1	Z	36.4	35.2	32.4	33.4	31.4	30.4	34.2	34.9	35.9	36.0	38.2	39.3	40.0	39.6	35.9	31.5	32.6	37.5	37.7	36.7	33.1	35.6	40.0																						
18-Jan	31.1	28.2	25.6	Z	21.4	19.0	20.6	20.9	20.4	18.7	32.5	37.4	39.1	39.5	39.9	39.2	37.0	30.2	31.4	31.8	31.0	22.8	22.4	20.3	28.7	39.9																						
19-Jan	22.3	18.8	18.5	17.2	Z	21.1	21.7	20.3	20.2	20.7	25.9	33.9	33.4	36.4	38.8	38.4	36.8	33.7	29.7	22.2	20.6	22.7	26.7	28.0	26.4	38.8																						
20-Jan	30.3	29.6	32.3	33.6	30.4	Z	33.0	39.9	39.5	40.4	41.6	40.4	38.8	36.2	36.5	37.0	35.0	33.9	33.0	32.0	31.5	32.0	36.1	38.2	35.3	41.6																						
21-Jan	Z	43.0	43.0	43.4	43.7	43.4	42.9	42.2	41.7	41.5	40.7	39.7	40.0	39.6	39.7	41.1	42.1	40.0	37.4	36.5	35.2	33.8	31.7	32.4	39.8	43.7																						
22-Jan	36.8	Z	36.7	35.4	36.2	36.6	37.2	39.8	41.6	42.3	42.3	41.8	40.5	38.6	38.0	37.3	37.6	38.0	35.3	31.8	36.2	36.4	35.4	35.7	37.7	42.3																						
23-Jan	35.3	37.2	Z	40.3	40.0	39.0	37.9	37.1	35.6	35.3	34.0	32.5	32.1	33.9	37.7	38.0	37.6	37.7	38.0	38.8	39.6	39.7	40.1	41.1	37.3	41.1																						
24-Jan	41.6	42.4	41.9	Z	42.4	43.6	45.1	46.0	46.3	45.8	44.7	44.0	43.9	43.7	43.8	43.6	43.1	42.1	40.9	40.9	42.7	43.6	44.0	44.2	43.5	46.3																						
25-Jan	43.6	43.1	41.3	37.8	Z	38.7	38.0	38.0	37.3	37.0	37.3	38.3	39.0	40.3	41.0	40.0	39.9	40.7	40.7	39.7	41.0	40.9	40.8	41.4	39.8	43.6																						
26-Jan	39.5	38.3	37.5	36.1	36.0	Z	35.4	34.9	36.2	36.4	36.3	37.2	39.6	43.1	41.3	39.6	39.2	38.9	39.9	40.7	41.1	40.9	40.7	39.1	38.6	43.1																						
27-Jan	Z	40.4	40.5	41.2	41.3	41.1	41.4	40.1	37.8	40.2	41.3	43.5	43.3	42.5	43.0	43.1	43.7	43.5	45.2	45.7	46.0	46.1	46.9	47.8	42.9	47.8																						
28-Jan	49.0	Z	49.0	49.0	48.5	47.6	46.7	45.2	45.3	46.2	45.4	45.2	45.0	44.1	43.6	43.1	42.3	42.4	42.0	41.3	41.4	41.6	41.1	41.1	44.6	49.0																						
29-Jan	40.9	40.4	Z	39.9	38.3	37.7	35.2	35.1	37.8	41.2	42.1	42.7	42.7	42.3	42.2	41.2	40.4	38.5	38.1	35.5	34.0	33.7	37.8	39.6	39.0	42.7																						
30-Jan	38.2	38.9	38.7	Z	37.9	37.4	37.8	37.7	36.0	35.6	36.8	37.6	37.5	37.1	37.0	37.2	35.3	29.7	25.9	22.3	20.8	22.0	33.2	34.0	34.1	38.9																						
31-Jan	32.5	32.6	32.3	31.1	Z	32.9	33.6	34.2	35.3	36.1	35.3	34.9	35.9	39.5	38.3	37.1	37.3	37.7	37.2	37.2	36.8	37.4	38.1	37.9	35.7	39.5																						
																								33.3	33.2	31.6	32.1	33.2	31.4	31.2	31.2	31.2	32.1	33.6	34.7	35.3	36.1	36.5	35.3	34.7	33.1	32.5	32.1	31.8	31.4	32.7	33.5	Diurnal Average
																								49.0	43.1	49.0	49.0	48.5	47.6	46.7	46.0	46.3	46.2	45.4	45.2	45.0	44.4	44.2	43.6	43.7	43.5	45.2	45.7	46.0	46.1	46.9	47.8	Diurnal Maximum

Z - zerospan C - Calibration
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 76 ppb



Wood Buffalo Environmental Association
Hourly Averages

Ozone (O₃) - ppb
Conklin - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ozone (O₃) - ppb
Conklin - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	89	12.54	12.54
21 - 50	621	87.46	100.00
51 - 82	0	0.00	100.00
> 83	0	0.00	100.00

Total Number of Valid Hours: 710

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Ozone (O₃) - ppb
Conklin - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	2	0	3	1	1	7	3	25	17	10	1	1	0	0	4	10	85
21 - 50	19	28	6	12	9	11	6	26	36	45	58	17	37	104	70	59	543
51 - 82	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	21	28	9	13	10	18	9	51	53	55	59	18	37	104	74	69	628

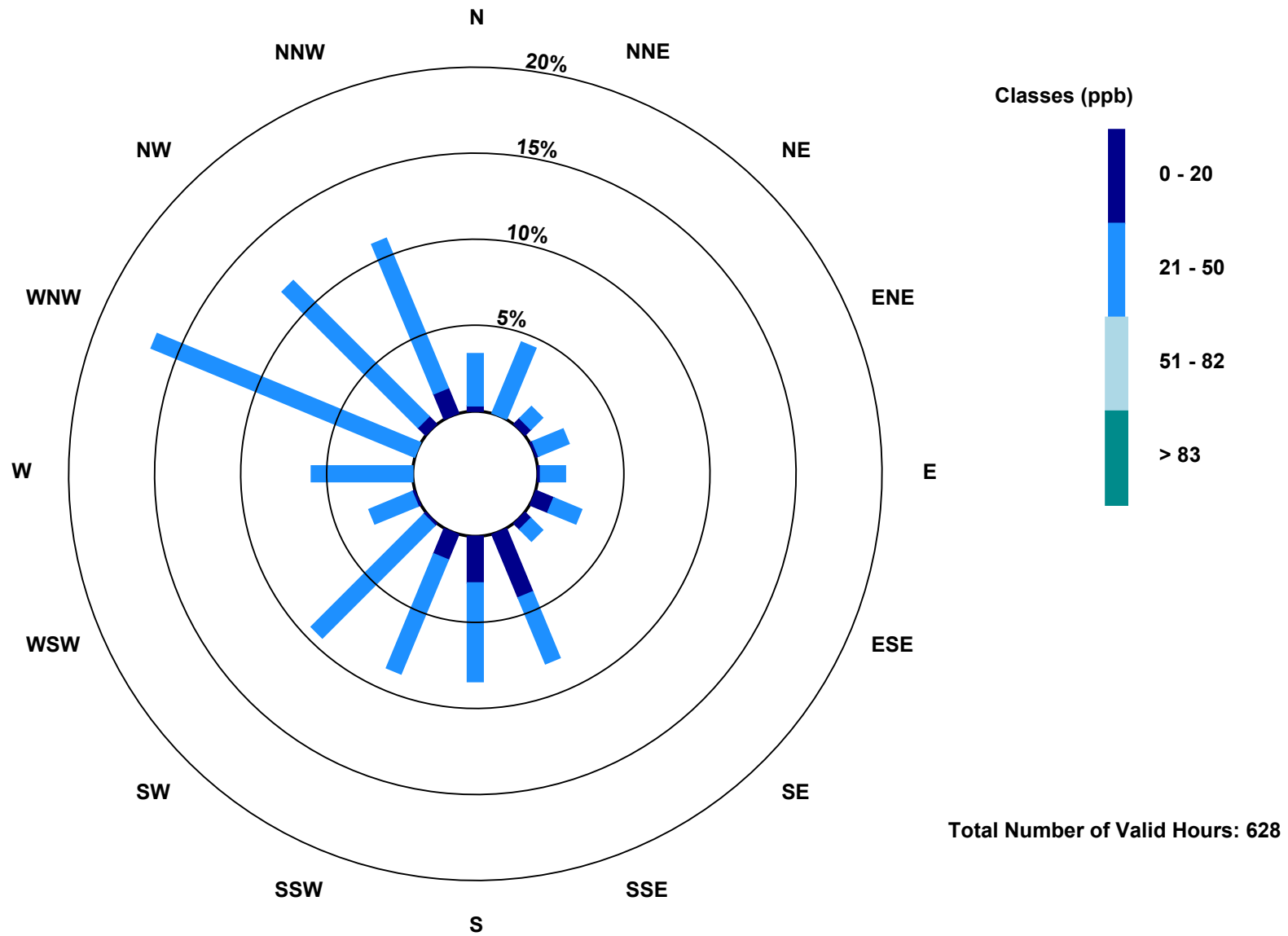
Total Number of Valid Hours: 628

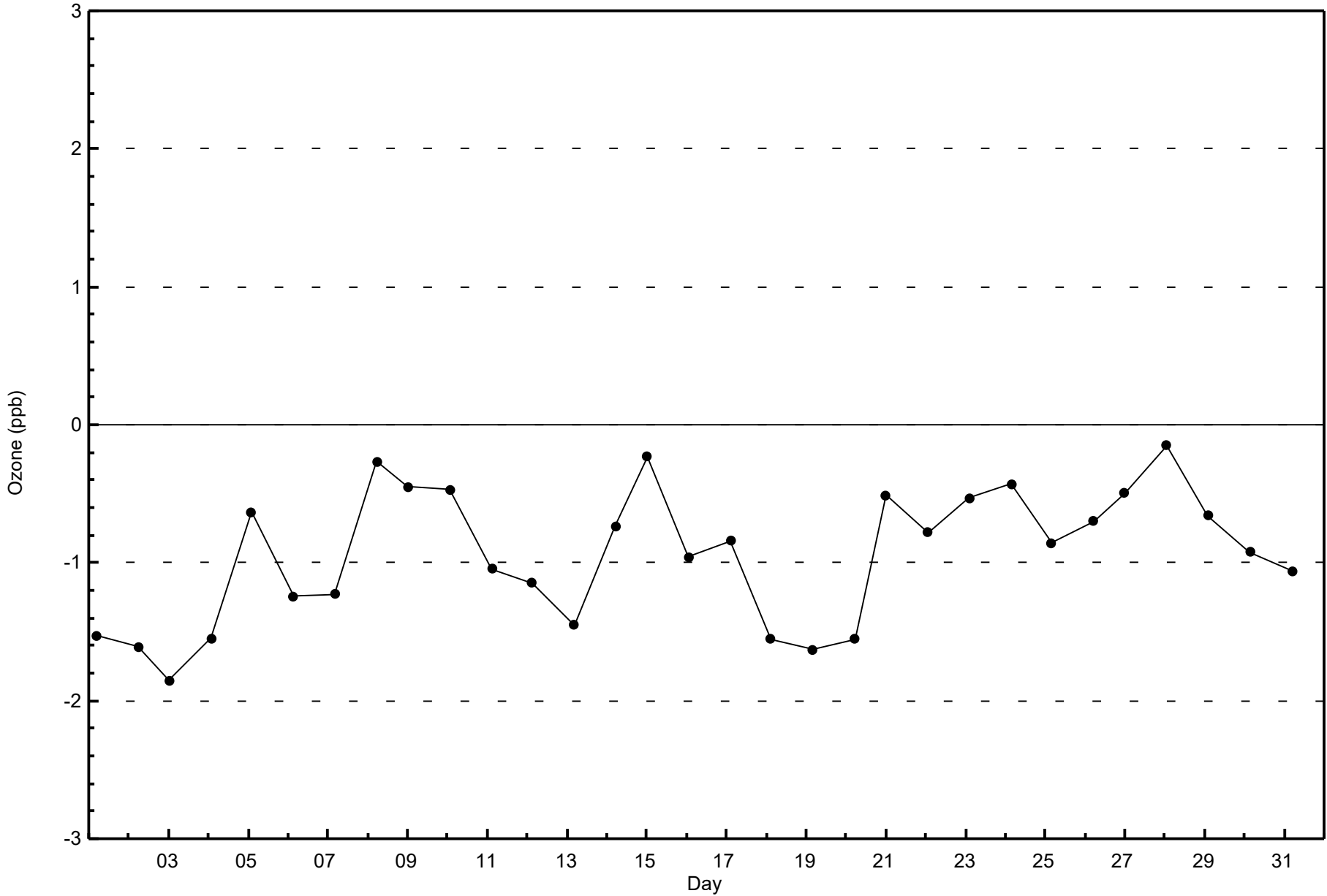
Total Number of Hours: 744

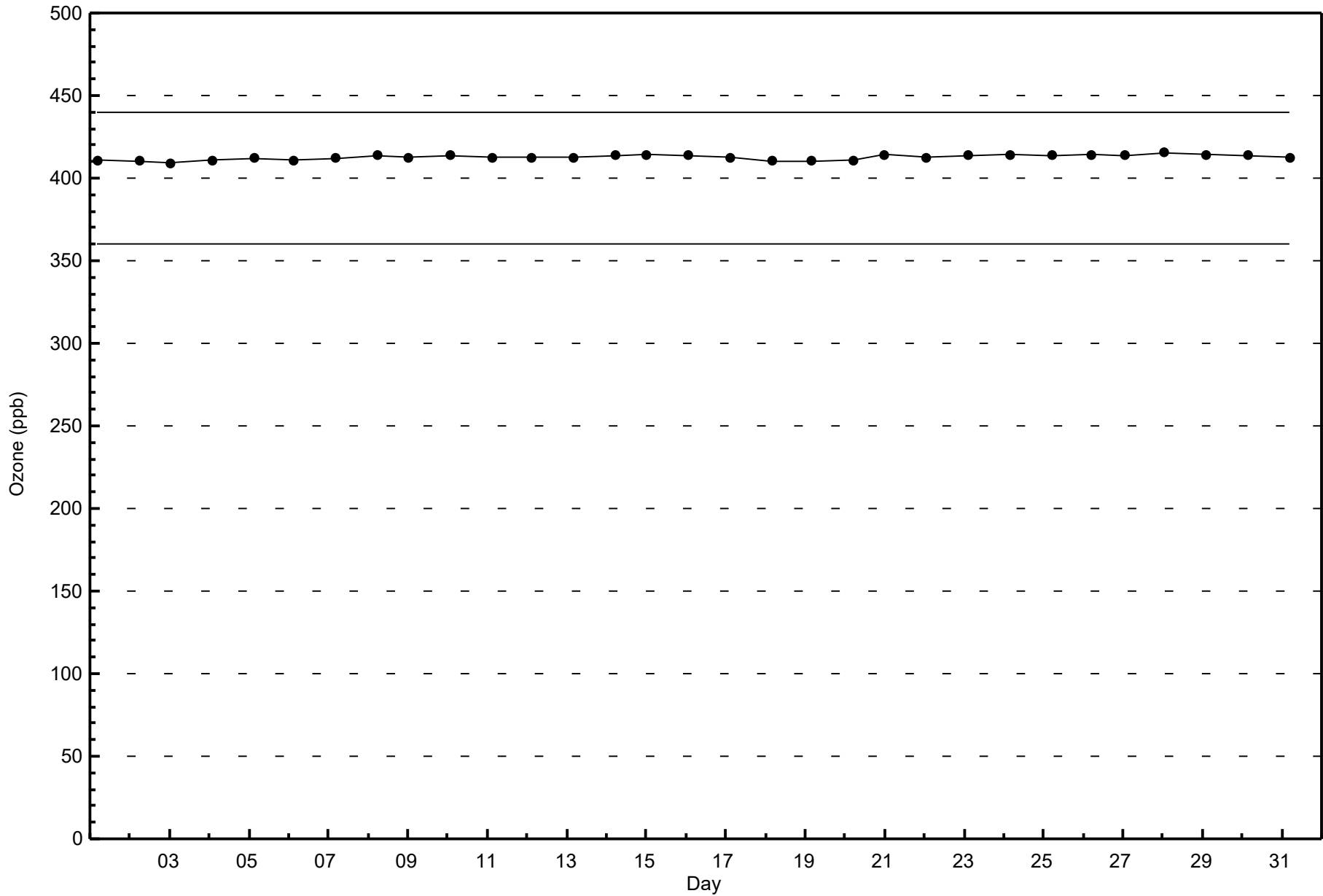


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Ozone (O₃) - ppb
Conklin









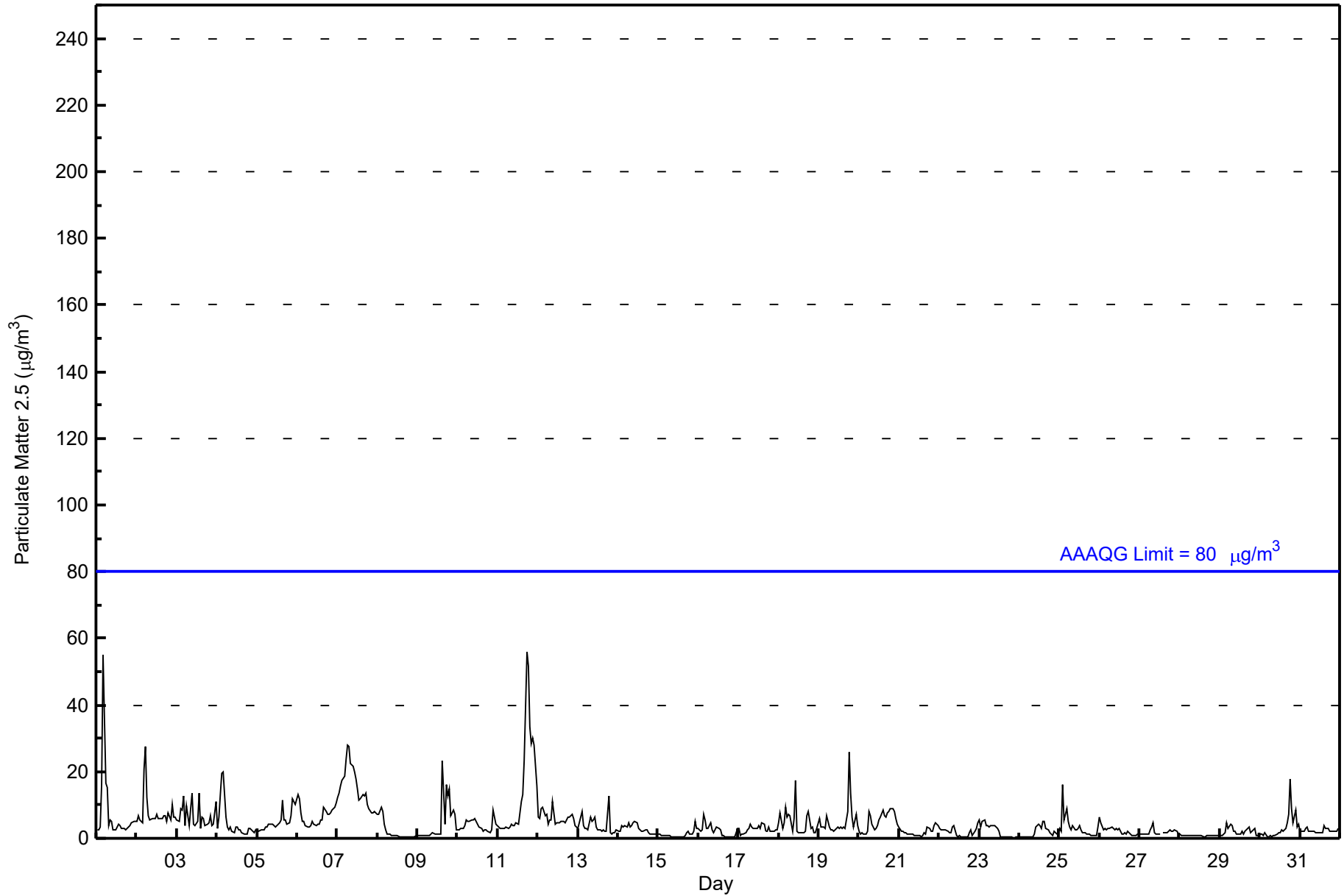
Summary of Hour Averages

Conklin - January 2025

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 55.9 µg/m ³ on Jan 11 18:00	Maximum Daily Average: 15.2 µg/m ³ on Jan 7		Hours of Data:	743
Minimum Value: 0.2 µg/m ³ on Jan 23 22:00	Minimum Daily Average: 0.8 µg/m ³ on Jan 28		Hours of Missing Data:	1
Maximum Diurnal Average: 6.9 µg/m ³ at hour 5	Minimum Diurnal Average: 3.2 µg/m ³ at hour 13		Hours of Calibration:	1
Monthly Average: 4.40 µg/m ³	Percentiles: P ₁ = 0.3 P ₁₀ = 0.7 Q ₁ = 1.5 Median = 2.9 Q ₃ = 5.0 P ₉₀ = 8.7 P ₉₉ = 27.8		Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Jan	2.4	2.4	3.5	16.3	55.1	16.6	15.1	3.8	5.5	5.0	2.6	2.7	3.4	4.4	3.7	2.8	2.8	2.7	3.1	3.4	3.8	4.7	4.9	5.0	7.3	55.1																						
2-Jan	5.1	7.0	5.3	4.5	20.6	27.6	12.1	6.9	5.5	6.0	6.1	5.8	7.1	5.9	5.8	5.9	6.6	6.6	5.1	7.7	5.6	10.1	6.4	6.2	8.0	27.6																						
3-Jan	5.5	5.3	8.7	8.5	12.7	3.7	9.8	3.8	8.8	13.5	4.0	3.8	5.0	13.4	2.9	6.2	5.9	3.6	4.1	4.5	6.6	3.7	4.3	11.2	6.6	13.5																						
4-Jan	3.0	6.2	13.2	19.3	19.9	6.5	3.6	2.7	3.3	1.9	1.8	3.4	3.3	2.4	2.6	1.7	1.1	1.3	1.4	2.9	3.1	2.3	1.8	2.6	4.6	19.9																						
5-Jan	2.4	2.2	2.5	2.6	2.7	3.3	3.6	4.2	4.3	4.1	3.8	3.6	3.9	4.7	5.3	11.5	5.4	5.4	4.2	4.7	6.6	11.7	10.8	10.2	5.1	11.7																						
6-Jan	13.2	11.8	7.6	5.2	5.1	3.7	3.5	3.5	3.7	5.0	4.3	4.0	4.1	4.1	5.5	5.5	9.1	7.9	7.3	7.2	7.6	8.4	9.5	10.6	6.6	13.2																						
7-Jan	12.3	13.6	15.6	17.4	18.5	23.6	27.9	27.4	22.6	21.8	19.8	17.7	14.8	11.6	12.0	13.0	12.8	13.4	10.4	8.9	7.7	7.5	7.8	7.6	15.2	27.9																						
8-Jan	7.1	7.2	9.2	8.0	4.2	2.6	1.5	1.2	0.9	0.9	0.8	0.8	0.8	0.5	0.5	0.4	0.4	0.4	0.3	0.4	0.3	0.3	0.5	0.7	2.1	9.2																						
9-Jan	0.6	0.8	0.8	0.8	0.8	0.7	0.7	0.9	1.3	1.6	1.4	1.4	1.3	1.3	1.2	23.2	4.2	16.1	12.7	15.0	6.7	8.5	7.0	2.6	4.6	23.2																						
10-Jan	2.6	2.7	3.2	3.1	4.0	5.3	5.0	5.1	5.3	5.6	5.9	4.9	4.1	3.3	2.9	2.1	2.6	2.5	1.9	1.7	2.3	8.6	6.5	4.1	4.0	8.6																						
11-Jan	3.6	3.0	2.9	3.1	3.1	3.4	3.1	3.5	4.0	4.0	3.9	4.7	4.2	7.6	11.0	13.0	23.4	55.9	51.7	33.5	28.5	30.2	27.9	15.7	14.4	55.9																						
12-Jan	6.2	5.7	8.8	9.3	6.6	7.1	4.2	5.3	5.5	10.9	4.4	4.9	4.8	4.8	5.1	4.9	4.7	5.6	6.2	6.4	7.2	5.7	3.8	3.3	5.9	10.9																						
13-Jan	3.0	4.8	8.0	3.7	3.1	2.8	2.5	6.3	5.0	5.7	6.3	3.3	2.4	2.4	2.0	2.4	2.1	2.2	12.6	1.6	1.2	1.6	1.7	2.4	3.7	12.6																						
14-Jan	2.1	2.2	3.7	3.2	3.8	3.5	4.5	3.3	3.7	4.6	4.9	4.5	3.1	2.6	2.3	2.2	2.5	2.5	1.6	1.1	1.4	1.5	1.4	1.3	2.8	4.9																						
15-Jan	1.2	1.2	1.0	0.9	0.9	0.9	0.8	0.8	0.6	0.6	0.6	0.5	0.6	0.5	0.6	0.4	0.7	1.7	2.2	1.3	1.1	2.2	5.0	3.1	1.2	5.0																						
16-Jan	3.1	2.2	2.7	7.0	5.5	3.0	2.8	4.8	2.7	1.9	2.6	3.2	2.8	2.3	1.0	0.7	0.6	0.4	0.6	0.3	0.3	0.3	0.4	2.8	2.2	7.0																						
17-Jan	2.9	1.0	1.1	1.4	1.9	2.7	3.1	4.1	3.4	2.9	2.9	3.1	3.9	2.9	4.8	4.1	2.0	2.2	3.5	2.1	2.1	2.0	2.6	2.6	2.7	4.8																						
18-Jan	4.5	7.5	3.2	4.5	9.5	6.5	7.4	6.7	2.0	5.9	17.4	2.0	1.7	1.8	1.6	1.7	1.9	6.8	8.1	3.0	3.3	1.7	1.6	3.0	4.7	17.4																						
19-Jan	5.9	3.4	3.5	3.5	2.9	6.7	3.2	2.7	2.7	2.0	2.4	3.2	3.1	3.3	3.2	3.3	2.8	8.1	25.8	13.5	6.4	3.5	7.4	3.6	5.3	25.8																						
20-Jan	2.2	1.1	1.8	1.2	1.2	2.0	8.0	6.6	4.3	2.7	2.8	3.8	5.7	6.6	8.5	6.9	6.3	7.6	8.0	8.7	8.8	8.2	6.0	4.3	5.1	8.8																						
21-Jan	3.2	2.3	1.9	1.7	1.6	1.4	1.2	1.1	1.1	0.9	0.9	0.8	0.7	0.6	1.0	1.5	1.3	3.4	2.8	2.0	2.3	4.0	4.7	3.8	1.9	4.7																						
22-Jan	2.9	2.6	2.5	2.6	2.4	1.9	1.5	1.7	3.2	3.9	0.8	0.3	0.8	0.4	0.6	0.5	0.4	0.5	1.6	2.7	0.9	2.2	2.8	4.8	1.9	4.8																						
23-Jan	5.4	3.4	4.9	5.3	4.0	3.7	3.5	3.9	3.9	4.0	3.5	3.1	2.1	0.6	0.3	0.3	0.3	0.4	0.4	0.5	0.2	0.2	0.2	0.2	2.3	5.4																						
24-Jan	0.2	0.3	0.2	0.4	0.4	0.4	0.4	0.4	0.4	1.4	3.5	4.3	3.8	2.9	5.1	5.2	2.9	2.5	1.8	1.1	0.7	2.2	1.4	1.1	1.8	5.2																						
25-Jan	2.8	2.1	16.2	5.7	9.0	5.0	3.2	2.8	3.7	2.6	2.6	3.0	3.6	2.5	1.6	1.5	1.4	1.2	1.2	0.9	0.8	0.8	0.8	3.3	3.3	16.2																						
26-Jan	6.3	4.5	2.6	2.9	2.7	2.8	3.2	3.3	3.2	2.7	2.8	2.7	2.8	1.2	1.3	1.5	1.5	2.1	1.3	0.9	0.8	0.9	0.9	1.1	2.3	6.3																						
27-Jan	1.1	1.2	1.2	1.3	1.4	1.2	2.7	3.2	4.8	1.7	1.4	1.3	1.3	C	1.6	1.7	1.7	2.3	2.7	2.3	2.2	2.6	2.3	1.4	1.9	4.8																						
28-Jan	1.2	0.8	0.8	0.7	0.7	0.8	0.8	0.9	0.8	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.7	0.7	0.8	0.7	0.7	0.7	0.8	0.8	0.8	0.8	1.2																					
29-Jan	0.8	0.9	1.1	1.9	4.5	3.1	4.3	3.8	2.2	2.1	1.5	1.3	1.3	2.3	1.2	2.3	2.5	3.5	1.9	2.2	2.7	2.9	0.9	0.8	2.2	4.5																						
30-Jan	1.2	1.1	0.9	1.5	0.6	0.6	0.7	0.6	1.0	1.0	1.3	1.6	1.8	2.5	2.3	3.1	4.7	7.1	17.9	9.1	4.8	8.6	3.3	4.4	3.4	17.9																						
31-Jan	2.2	2.0	2.2	2.8	3.6	2.2	2.0	2.2	2.0	1.6	1.8	1.7	1.5	1.6	3.9	3.0	2.8	3.0	2.2	2.0	2.3	2.1	2.0	2.9	2.3	3.9																						
																								3.7	3.6	4.5	4.9	6.9	5.0	4.7	4.1	3.9	4.2	3.9	3.3	3.2	3.4	3.3	4.3	3.8	5.8	6.6	4.9	4.2	4.8	4.4	4.1	Diurnal Average
																								13.2	13.6	16.2	19.3	55.1	27.6	27.9	27.4	22.6	21.8	19.8	17.7	14.8	13.4	12.0	23.2	23.4	55.9	51.7	33.5	28.5	30.2	27.9	15.7	Diurnal Maximum

C - Calibration
 Alberta Ambient Air Quality Guideline/Objectives: 1-hr 80 µg/m³ 24-hr 29 µg/m³





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Conklin - January 2025**

Concentration Ranges ($\mu\text{g}/\text{m}^3$)	Number of Hours	%	Cumulative %
0 - 5	582	78.33	78.33
6 - 15	130	17.50	95.83
16 - 25	20	2.69	98.52
26 - 80	11	1.48	100.00
> 81.0	0	0.00	100.00

Total Number of Valid Hours: 743

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Conklin - January 2025

Concentration Ranges ($\mu\text{g}/\text{m}^3$)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	19	27	7	12	10	16	6	34	29	26	40	17	38	108	71	66	526
6 - 15	1	2	2	1	1	3	4	17	25	23	20	2	1	0	3	3	108
16 - 25	1	0	0	0	1	0	0	2	2	6	3	0	0	0	1	2	18
26 - 80	0	0	0	0	0	0	0	0	0	2	0	0	1	1	1	0	5
> 81.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	21	29	9	13	12	19	10	53	56	57	63	19	40	109	76	71	657

Total Number of Valid Hours: 657

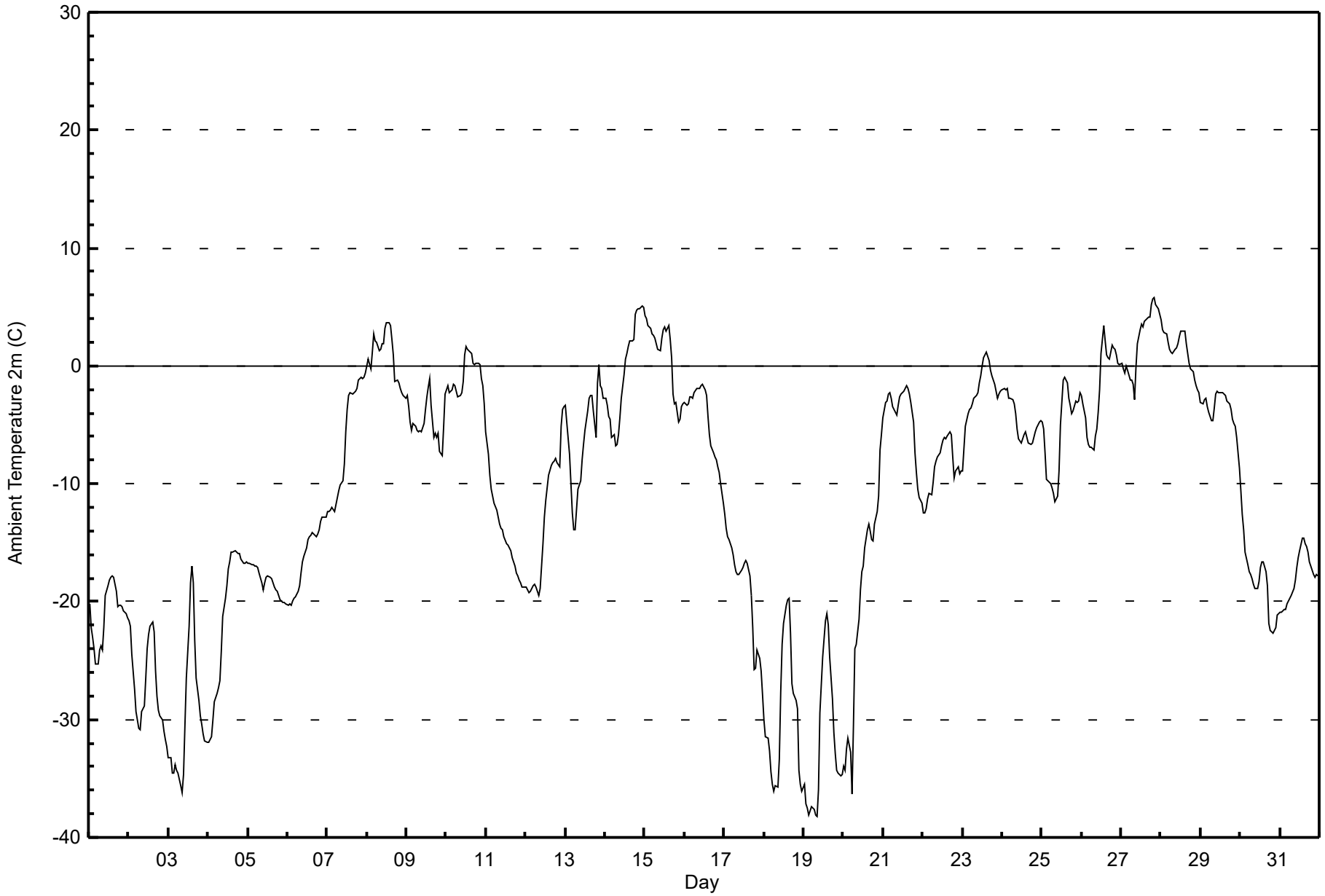
Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

Ambient Temperature 2m (AT2) - C
Conklin - January 2025

Maximum Value: 5.7 C on Jan 27 21:00 Maximum Daily Average: 2.1 C on Jan 27 Minimum Value: -38.2 C on Jan 19 09:00 Minimum Daily Average: -32.1 C on Jan 19 Maximum Diurnal Average: -7.7 C at hour 15 Minimum Diurnal Average: -13.7 C at hour 6 Monthly Average: -11.21 C Percentiles: P ₁ = -36.7 P ₁₀ = -28.0 Q ₁ = -18.7 Median = -8.5 Q ₃ = -2.4 P ₉₀ = 1.2 P ₉₉ = 4.9																								Hours in Service:	744	
																								Hours of Data:	744	
																								Hours of Missing Data:	0	
																								Hours of Calibration:	0	
																								Percent Operational Time:	100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	-20.2	-22.2	-23.1	-24.0	-25.2	-25.2	-24.1	-23.8	-24.1	-22.3	-19.5	-18.6	-18.1	-17.9	-17.8	-17.9	-19.1	-20.4	-20.3	-20.3	-20.5	-20.8	-21.0	-21.3	-21.2	-17.8
2-Jan	-21.6	-22.1	-24.5	-27.4	-29.3	-30.1	-30.7	-30.9	-29.3	-28.8	-26.4	-23.9	-22.7	-22.1	-21.7	-22.6	-25.9	-28.1	-29.2	-29.7	-30.1	-30.9	-31.7	-32.2	-27.2	-21.6
3-Jan	-33.3	-33.2	-34.6	-34.6	-33.9	-34.3	-34.6	-35.6	-36.2	-34.7	-30.5	-26.5	-22.1	-18.4	-16.9	-18.4	-23.3	-26.5	-28.4	-29.6	-30.3	-31.2	-31.8	-32.0	-29.6	-16.9
4-Jan	-31.9	-31.7	-31.5	-30.0	-28.5	-27.7	-27.3	-26.8	-24.2	-21.2	-19.8	-18.7	-17.2	-16.6	-15.8	-15.7	-15.7	-15.8	-15.9	-15.9	-16.4	-16.7	-16.7	-16.7	-21.4	-15.7
5-Jan	-16.7	-16.8	-16.8	-16.9	-17.0	-17.0	-17.1	-17.6	-18.4	-19.0	-18.4	-18.0	-17.9	-17.9	-18.0	-18.4	-18.7	-19.0	-19.2	-19.9	-20.0	-20.0	-20.1	-20.2	-18.3	-16.7
6-Jan	-20.3	-20.2	-20.3	-19.9	-19.8	-19.6	-19.1	-18.6	-17.6	-16.6	-16.2	-15.4	-14.7	-14.5	-14.4	-14.1	-14.2	-14.5	-14.3	-13.9	-13.2	-12.8	-12.9	-12.9	-16.2	-12.8
7-Jan	-12.4	-12.4	-12.3	-12.0	-12.3	-11.7	-11.2	-10.6	-10.1	-9.7	-8.3	-5.6	-3.7	-2.6	-2.3	-2.4	-2.3	-2.2	-1.9	-1.3	-1.0	-0.9	-0.6	-0.6	-6.3	-0.6
8-Jan	-0.1	0.6	-0.3	1.2	2.7	2.2	2.0	1.3	1.5	1.8	1.9	3.2	3.7	3.6	3.4	2.2	0.9	-1.3	-1.2	-1.4	-2.0	-2.2	-2.5	-2.7	0.8	3.7
9-Jan	-2.5	-3.5	-4.7	-5.4	-4.9	-5.1	-5.5	-5.6	-5.5	-5.6	-4.8	-3.7	-2.6	-1.8	-1.1	-3.4	-6.1	-5.7	-6.1	-5.7	-7.2	-7.6	-5.1	-2.4	-4.6	-1.1
10-Jan	-2.0	-1.7	-2.3	-2.0	-1.6	-1.7	-2.2	-2.6	-2.6	-2.3	-1.3	1.0	1.7	1.4	1.2	1.1	0.3	0.2	0.2	0.2	0.1	-1.1	-1.7	-3.2	-0.9	1.7
11-Jan	-5.5	-7.6	-9.3	-10.5	-11.0	-11.6	-12.2	-12.9	-13.4	-13.8	-13.9	-14.5	-15.1	-15.3	-15.5	-15.7	-16.3	-17.0	-17.5	-17.8	-18.2	-18.4	-18.7	-18.8	-14.2	-5.5
12-Jan	-18.8	-19.0	-19.3	-19.1	-18.7	-18.6	-18.8	-19.1	-19.5	-18.9	-15.0	-12.9	-11.4	-10.4	-9.3	-8.4	-8.2	-8.1	-7.9	-8.2	-8.5	-5.2	-3.7	-3.4	-12.9	-3.4
13-Jan	-3.3	-4.8	-7.5	-9.9	-12.5	-13.9	-13.9	-10.5	-10.1	-9.8	-8.0	-6.6	-5.4	-3.8	-2.8	-2.5	-2.5	-3.8	-6.0	-1.4	0.1	-1.7	-1.9	-2.7	-6.0	0.1
14-Jan	-2.8	-3.3	-4.3	-4.6	-6.1	-5.8	-6.8	-6.7	-5.8	-4.4	-2.8	-0.8	0.6	1.1	1.7	2.1	2.1	2.3	4.3	4.8	4.9	4.9	5.0	4.9	-0.6	5.0
15-Jan	4.3	4.0	3.4	3.2	2.8	2.6	2.4	1.9	1.4	1.3	2.3	3.0	3.4	3.0	3.4	2.2	0.7	-2.4	-3.2	-3.1	-4.8	-4.6	-3.4	-3.3	0.9	4.3
16-Jan	-3.1	-3.3	-3.2	-2.7	-2.7	-2.7	-2.2	-2.0	-1.9	-1.9	-1.7	-1.6	-2.1	-2.5	-4.3	-5.9	-6.7	-7.4	-7.7	-8.0	-8.5	-9.0	-10.0	-11.6	-4.7	-1.6
17-Jan	-12.5	-13.8	-14.5	-14.7	-15.4	-16.1	-16.9	-17.4	-17.7	-17.7	-17.4	-17.1	-16.7	-16.5	-16.8	-17.8	-19.5	-22.2	-25.8	-25.7	-24.0	-24.8	-25.8	-27.9	-18.9	-12.5
18-Jan	-30.0	-31.5	-31.6	-32.6	-34.5	-35.5	-36.1	-35.6	-35.7	-33.4	-27.6	-23.6	-21.8	-20.3	-19.9	-19.7	-22.6	-27.0	-27.8	-28.4	-29.1	-34.3	-35.5	-36.1	-29.6	-19.7
19-Jan	-35.5	-37.1	-37.5	-38.1	-37.8	-37.4	-37.6	-38.0	-38.2	-36.0	-29.5	-24.7	-23.1	-21.6	-21.0	-22.0	-24.7	-28.3	-31.1	-32.9	-34.3	-34.6	-34.7	-34.6	-32.1	-21.0
20-Jan	-34.0	-34.3	-32.5	-31.5	-32.7	-36.3	-30.5	-23.9	-23.6	-21.5	-19.0	-17.5	-17.0	-15.4	-13.9	-13.5	-14.0	-14.7	-14.8	-13.5	-12.4	-11.1	-7.2	-5.9	-20.4	-5.9
21-Jan	-4.4	-3.1	-3.0	-2.4	-2.3	-2.8	-3.4	-4.0	-4.2	-3.3	-2.7	-2.4	-2.1	-1.9	-1.7	-1.9	-2.4	-3.1	-4.8	-7.4	-9.1	-10.4	-11.1	-11.6	-4.4	-1.7
22-Jan	-12.5	-12.5	-12.1	-11.3	-10.8	-10.9	-9.9	-8.6	-8.1	-7.8	-7.4	-6.7	-6.3	-6.1	-6.2	-5.9	-5.6	-5.8	-7.7	-9.6	-8.9	-8.6	-9.2	-8.9	-8.6	-5.6
23-Jan	-8.9	-7.0	-5.2	-4.1	-3.7	-3.6	-3.2	-2.8	-2.6	-2.2	-1.5	-0.8	0.0	0.7	1.1	0.8	0.5	-0.4	-0.8	-1.5	-2.1	-2.7	-2.4	-2.1	-2.3	1.1
24-Jan	-2.1	-1.9	-2.0	-1.9	-2.7	-2.7	-2.8	-3.2	-4.1	-5.3	-6.2	-6.6	-6.2	-5.8	-5.6	-6.1	-6.6	-6.6	-6.6	-6.1	-5.6	-5.2	-4.8	-4.6	-4.6	-1.9
25-Jan	-4.8	-5.3	-7.3	-9.6	-9.9	-9.9	-10.4	-10.8	-11.5	-11.0	-8.9	-5.0	-3.1	-1.2	-0.9	-1.5	-2.7	-3.4	-4.0	-3.8	-3.0	-3.1	-3.0	-2.3	-5.7	-0.9
26-Jan	-2.5	-3.2	-4.4	-6.1	-6.7	-6.9	-6.9	-7.2	-6.0	-5.3	-3.9	-2.0	1.1	3.4	2.1	1.0	0.8	0.6	1.8	1.5	1.5	0.9	0.3	0.1	-1.9	3.4
27-Jan	0.2	-0.2	-0.6	0.0	-0.3	-1.2	-1.2	-1.5	-2.8	-0.1	1.9	3.1	3.5	3.3	3.8	3.9	4.2	4.1	5.1	5.7	5.7	5.2	4.9	4.4	2.1	5.7
28-Jan	3.9	3.1	2.8	2.7	2.0	1.5	1.2	1.1	1.4	1.5	1.9	2.5	3.0	2.9	2.9	1.9	1.1	0.2	-0.2	-0.4	-1.2	-1.7	-2.0	-2.3	1.2	3.9
29-Jan	-3.1	-3.2	-2.9	-2.7	-3.4	-3.9	-4.6	-4.7	-3.6	-2.4	-2.1	-2.3	-2.2	-2.2	-2.3	-2.5	-3.0	-3.2	-3.7	-4.5	-4.8	-5.1	-6.1	-8.7	-3.6	-2.1
30-Jan	-10.6	-12.6	-13.9	-15.8	-16.9	-17.4	-17.7	-18.1	-18.5	-18.9	-18.9	-18.2	-17.1	-16.6	-16.6	-17.5	-18.7	-21.9	-22.5	-22.6	-22.7	-22.2	-21.2	-21.0	-18.2	-10.6
31-Jan	-20.9	-20.9	-20.6	-20.6	-20.2	-19.9	-19.7	-19.4	-18.9	-18.1	-17.1	-16.2	-15.7	-14.6	-14.6	-15.0	-15.3	-15.8	-16.7	-17.3	-17.7	-17.9	-17.7	-17.8	-17.9	-14.6
	-11.9	-12.3	-12.8	-13.0	-13.3	-13.7	-13.6	-13.4	-13.2	-12.5	-11.0	-9.6	-8.6	-8.0	-7.7	-8.2	-9.2	-10.2	-10.8	-10.9	-11.1	-11.4	-11.4	-11.6	Diurnal Average	
	4.3	4.0	3.4	3.2	2.8	2.6	2.4	1.9	1.5	1.8	2.3	3.2	3.7	3.6	3.8	3.9	4.2	4.1	5.1	5.7	5.7	5.2	5.0	4.9	Diurnal Maximum	





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Ambient Temperature 2m (AT2) - C
Conklin - January 2025**

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	153	20.56	20.56
-20 - 0	487	65.46	86.02
0 - 10	104	13.98	100.00
10 - 20	0	0.00	100.00
> 20	0	0.00	100.00

Total Number of Valid Hours: 744

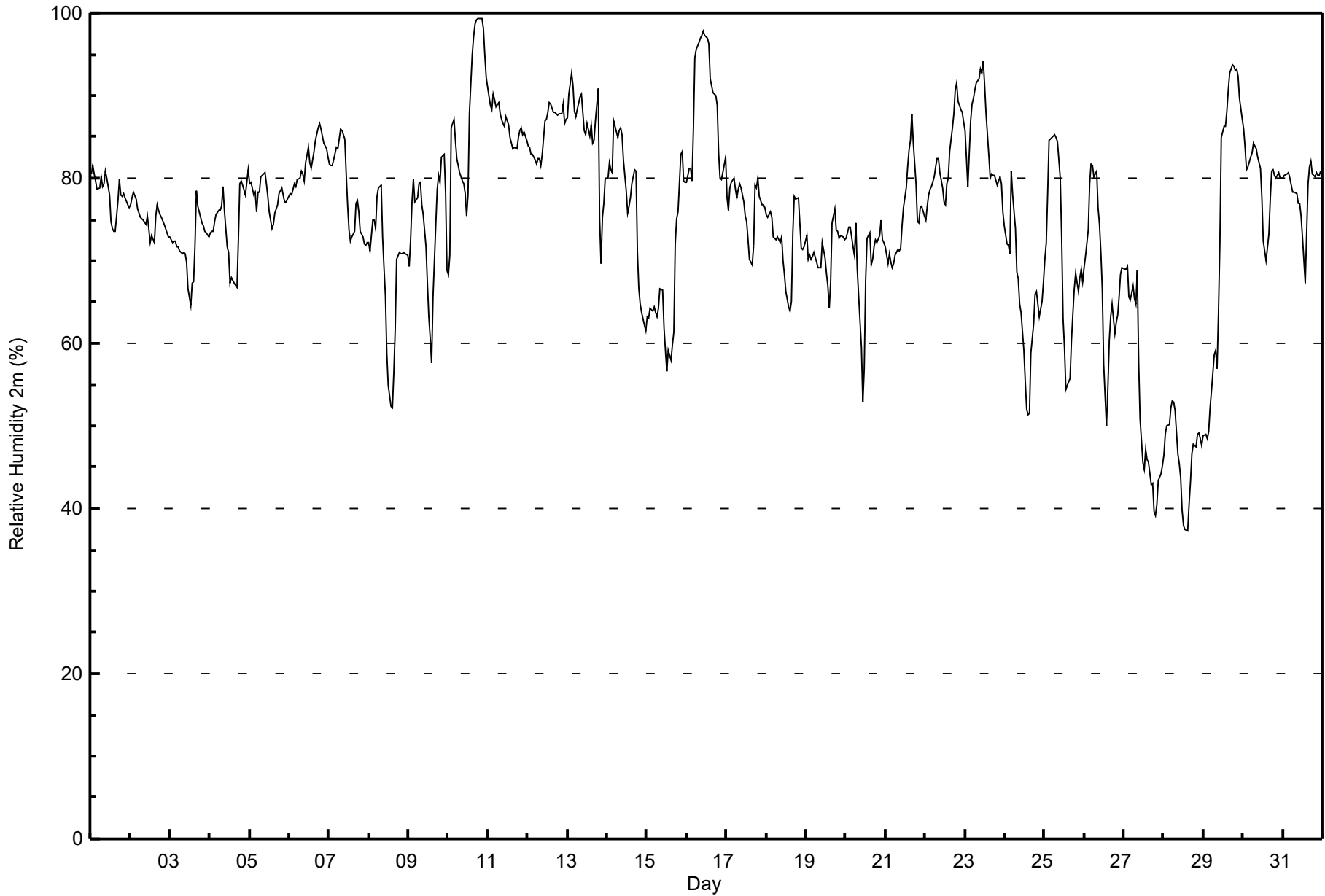
Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

Relative Humidity 2m (RH2) - %
Conklin - January 2025

Maximum Value: 99.3 % on Jan 10 21:00																						Maximum Daily Average: 89.0 % on Jan 16																						Hours in Service: 744			
Minimum Value: 37.3 % on Jan 28 15:00																						Minimum Daily Average: 46.4 % on Jan 28																						Hours of Data: 744			
Maximum Diurnal Average: 77.6 % at hour 7																						Minimum Diurnal Average: 70.7 % at hour 14																						Hours of Missing Data: 0			
Monthly Average: 75.10 %																						Percentiles: P ₁ = 41.5 P ₁₀ = 60.0 Q ₁ = 70.4 Median = 76.8 Q ₃ = 81.8 P ₉₀ = 87.7 P ₉₉ = 97.3																						Hours of Calibration: 0			
																																												Percent Operational Time: 100.0			
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																							
1-Jan	80.6	81.5	80.6	79.6	78.6	78.8	80.2	79.0	79.4	80.8	80.0	78.0	74.7	73.9	73.5	73.6	77.2	79.9	78.0	77.8	78.1	77.6	76.9	76.4	78.1	81.5																					
2-Jan	76.8	77.7	78.4	77.4	76.3	75.7	75.3	75.1	75.0	74.5	75.5	73.8	72.2	73.1	72.1	75.5	76.9	76.1	75.6	75.3	74.4	74.0	73.4	72.9	75.1	78.4																					
3-Jan	73.0	72.2	72.4	72.3	71.7	71.6	71.1	70.9	71.0	70.8	69.8	66.6	64.6	67.3	67.5	71.9	78.5	76.6	75.3	74.6	74.2	73.6	73.4	72.9	71.8	78.5																					
4-Jan	73.4	73.6	73.6	74.8	75.6	76.1	76.2	76.5	79.0	76.2	71.7	71.1	67.3	68.0	67.7	67.3	66.8	72.5	79.3	79.7	79.2	78.0	79.5	81.0	74.3	81.0																					
5-Jan	79.3	79.5	77.9	78.2	75.9	78.2	78.3	80.1	80.6	80.7	79.3	77.8	75.9	73.9	74.4	75.8	76.3	76.8	78.2	78.9	78.0	77.2	77.1	77.5	77.7	80.7																					
6-Jan	78.1	78.0	78.7	79.4	79.0	79.8	80.1	80.8	80.6	79.6	81.9	83.7	81.8	81.2	82.1	83.2	84.6	86.0	86.6	86.0	85.0	84.2	83.6	82.6	81.9	86.6																					
7-Jan	81.8	81.6	81.6	82.3	83.7	83.6	84.8	86.0	85.8	84.7	80.4	76.7	73.7	72.4	72.9	73.6	76.9	77.4	75.9	73.6	72.9	72.1	71.9	72.3	78.3	86.0																					
8-Jan	72.2	71.2	75.0	75.0	73.9	77.8	78.8	79.1	72.9	69.2	65.8	58.9	54.9	52.4	52.2	56.4	61.7	70.2	71.0	70.9	70.8	70.9	70.8	70.7	68.5	79.1																					
9-Jan	69.3	72.6	77.0	79.8	77.1	77.6	79.4	79.5	76.7	75.6	71.8	67.3	63.3	60.8	57.7	65.6	74.5	78.6	80.4	79.5	82.5	82.9	78.2	68.8	74.0	82.9																					
10-Jan	68.2	70.6	86.0	87.1	84.6	82.4	81.5	80.7	79.6	79.2	78.1	75.5	78.0	87.7	94.9	97.1	98.7	99.2	99.3	99.3	99.3	98.2	95.0	92.2	87.2	99.3																					
11-Jan	91.0	88.8	88.2	90.1	89.4	88.7	89.1	87.8	87.1	86.6	86.3	87.4	86.4	84.9	84.2	83.6	83.7	83.6	84.9	85.8	86.1	85.2	85.6	84.7	86.6	91.0																					
12-Jan	83.9	83.8	82.9	82.9	82.2	81.7	82.4	82.3	81.6	83.0	87.0	87.2	88.0	89.2	89.0	87.9	87.9	87.7	87.6	87.8	87.8	88.9	86.6	87.1	85.7	89.2																					
13-Jan	87.2	90.2	92.7	91.2	88.2	87.4	88.3	89.8	90.2	87.9	85.8	85.2	86.6	85.0	86.5	84.3	84.5	87.0	90.8	75.1	69.6	75.2	76.9	79.9	85.2	92.7																					
14-Jan	80.0	81.9	81.0	80.7	87.0	85.6	84.9	85.7	86.0	85.3	82.2	78.5	75.8	76.7	77.6	79.3	81.0	80.8	71.1	66.6	64.7	63.7	62.1	61.5	77.5	87.0																					
15-Jan	63.2	63.1	64.3	63.9	64.4	63.8	63.2	64.2	66.7	66.4	61.8	59.1	56.6	59.1	58.1	59.8	61.3	72.0	75.0	75.9	82.9	83.2	79.7	79.5	67.0	83.2																					
16-Jan	79.4	81.2	81.2	79.7	86.1	94.6	95.6	96.4	97.0	97.4	97.8	97.3	97.0	96.3	92.0	91.2	90.4	90.0	88.9	83.0	80.0	79.8	80.7	82.5	89.0	97.8																					
17-Jan	77.7	76.1	78.9	79.5	80.0	78.7	77.7	78.7	79.3	78.8	77.0	75.4	74.7	72.6	70.2	69.5	71.8	79.2	78.8	80.0	77.8	76.8	76.8	76.4	76.8	80.0																					
18-Jan	75.6	75.3	76.0	75.3	72.9	72.6	72.5	72.9	72.1	72.9	70.1	68.4	66.3	64.4	64.0	65.0	73.4	77.8	77.5	77.6	74.7	71.5	71.4	71.7	72.2	77.8																					
19-Jan	73.0	70.2	70.7	70.1	70.6	71.1	69.8	69.1	69.1	69.2	72.1	70.4	68.4	67.0	64.3	67.4	74.6	76.3	73.8	73.6	72.7	73.0	72.8	72.5	70.9	76.3																					
20-Jan	72.7	73.4	74.0	74.0	71.7	70.7	74.6	69.0	65.8	59.6	52.8	57.0	67.5	72.7	73.4	69.6	70.2	71.7	72.5	72.2	73.1	74.9	72.5	72.2	69.9	74.9																					
21-Jan	71.6	69.7	70.9	69.8	69.2	69.7	70.7	71.4	71.3	71.5	74.2	76.4	78.8	81.3	83.4	84.6	87.8	84.5	79.4	74.8	74.6	76.4	76.6	75.4	75.6	87.8																					
22-Jan	75.0	76.6	78.1	78.6	79.0	80.1	81.4	82.4	82.4	80.6	78.9	77.1	76.8	79.4	80.0	83.3	86.1	87.7	90.7	91.6	89.3	88.3	88.0	86.8	82.4	91.6																					
23-Jan	85.8	82.4	79.0	87.0	89.0	89.7	90.7	91.6	92.0	93.2	92.7	94.2	91.2	87.9	82.8	80.1	80.5	80.3	80.3	79.2	79.6	80.2	79.3	76.0	85.2	94.2																					
24-Jan	74.2	72.1	71.9	70.8	80.9	78.0	73.9	68.7	67.9	64.7	63.7	59.2	55.4	52.0	51.4	51.6	58.8	62.4	65.9	66.2	64.8	63.3	65.1	67.5	65.4	80.9																					
25-Jan	70.1	72.1	78.1	84.6	84.9	85.1	85.3	84.9	84.4	80.0	72.9	63.1	59.5	54.3	54.9	55.8	60.4	63.6	66.6	68.5	66.3	67.9	69.0	67.5	70.8	85.3																					
26-Jan	69.1	70.5	73.8	79.4	81.6	81.6	80.2	80.9	76.5	74.5	70.9	66.7	57.4	50.0	54.5	60.4	63.2	64.8	61.2	62.6	63.3	65.6	68.3	69.2	68.6	81.6																					
27-Jan	68.9	69.0	69.4	65.6	65.2	66.9	65.4	64.8	68.8	57.6	50.9	45.6	44.7	47.0	45.9	45.6	42.9	43.1	39.7	39.2	40.5	43.5	44.2	45.3	53.3	69.4																					
28-Jan	46.4	48.9	49.9	50.2	52.2	53.0	52.8	51.8	46.7	45.4	43.8	39.8	38.0	37.5	37.3	40.5	43.3	46.7	47.9	47.4	48.9	49.2	48.5	47.7	46.4	53.0																					
29-Jan	48.8	49.0	48.5	49.4	52.2	54.2	58.7	59.1	56.9	63.7	72.0	85.0	86.3	86.3	88.2	90.7	92.7	93.7	93.5	93.1	93.1	92.4	89.7	87.0	74.3	93.7																					
30-Jan	86.0	83.8	81.1	81.4	82.5	83.1	84.2	83.9	83.5	82.5	81.2	77.7	72.4	71.1	69.9	73.3	77.4	80.8	81.1	80.3	80.1	80.7	80.1	80.0	79.9	86.0																					
31-Jan	80.0	80.3	80.5	80.6	80.1	79.2	78.3	78.3	78.1	76.9	76.9	75.4	72.9	67.3	73.4	79.3	81.3	82.0	80.5	80.1	80.7	80.4	80.3	80.8	78.5	82.0																					
																						74.6	74.7	75.9	76.5	77.0	77.3	77.6	77.5	76.9	75.8	74.4	72.8	71.2	70.7	70.8	72.3	75.0	77.1	77.0	76.0	75.6	75.8	75.3	74.8	Diurnal Average	
																						91.0	90.2	92.7	91.2	89.4	94.6	95.6	96.4	97.0	97.4	97.8	97.3	97.0	96.3	94.9	97.1	98.7	99.2	99.3	99.3	99.3	98.2	95.0	92.2	Diurnal Maximum	

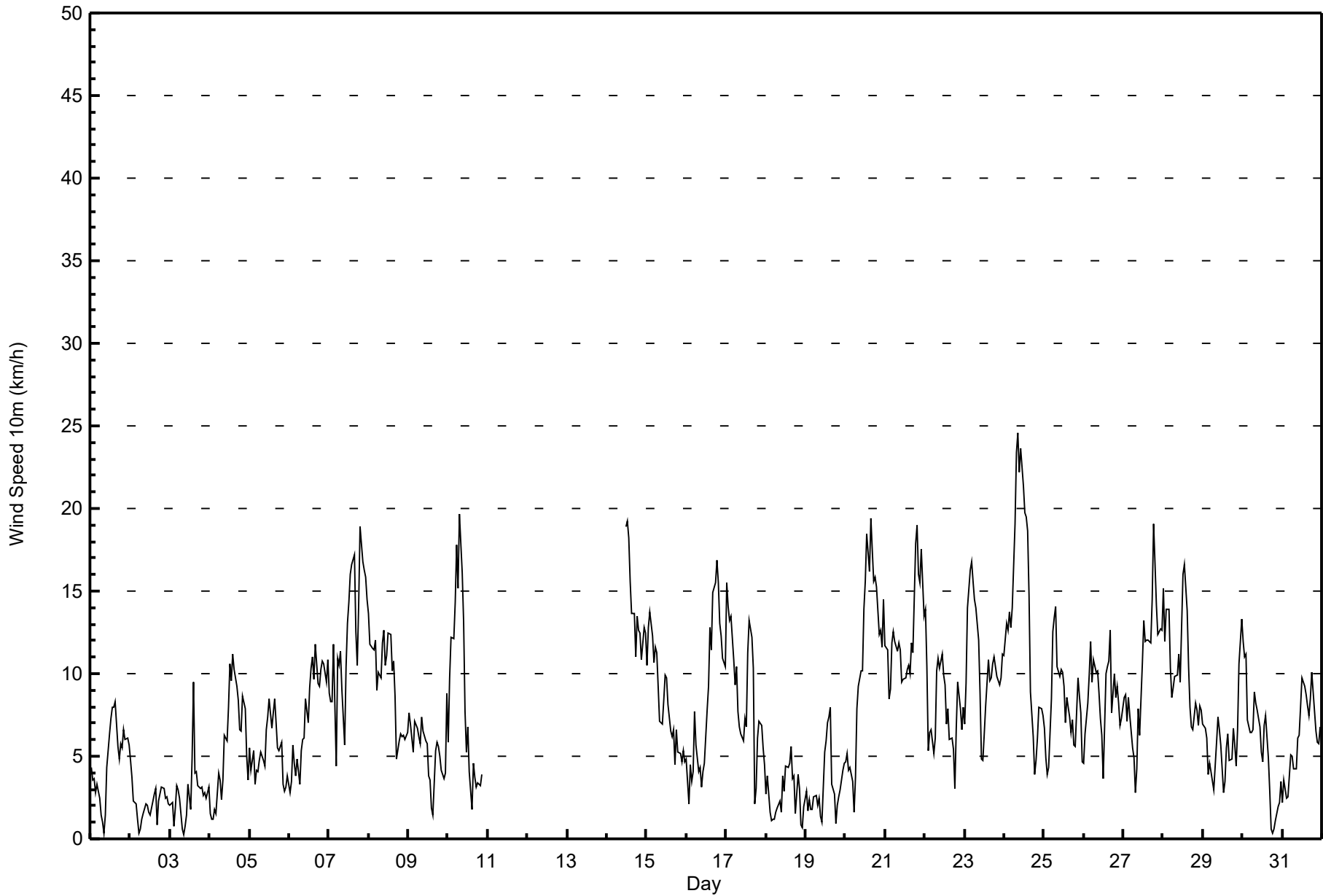




Maximum Speed: 25 km/h on Jan 24 09:00	Maximum Daily Speed Average: 13.3 km/h on Jan 24	Hours in Service: 744
Minimum Speed Value: 0 km/h on Jan 3 09:00	Minimum Daily Speed Average: 0.8 km/h on Jan 2	Hours of Data: 658
Maximum Diurnal Speed Average: 4.4 km/h at hour 14	Minimum Diurnal Speed Average: 2.9 km/h at hour 18	Hours of Missing Data: 86
Monthly Average Velocity: 3.6 km/h 275.6 deg	Percentiles: P ₁ = 1 P ₁₀ = 2 Q ₁ = 4 Median = 7 Q ₃ = 11 P ₉₀ = 14 P ₉₉ = 20	Percent Operational Time: 88.4

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																						
1-Jan	NW4	NW4	NW4	NW3	NW3	NNW2	S1	SSE1	ESE0	N1	NNW4	NNW6	NNW7	NNW8	NNW8	NNW8	NNW6	NNW5	NNW6	NNW5	NNW7	N6	N6	N6	NNW4.3	NNW8																				
2-Jan	NNE5	NNE4	N2	NNW2	NNW1	W0	S1	S1	SSE2	S2	S2	SSW2	NW1	SW2	SSE3	SE3	S1	S2	SSE3	SSE3	SSE3	S2	SSE3	S2	SSE0.8	NNE5																				
3-Jan	S2	SSE2	S1	S2	SSE3	SSE3	SSE2	WSW1	S0	SSE1	SSE1	SSE3	SSE2	S5	S10	SSE4	SE4	SSE3	SSE3	SSE3	S3	SSE3	SSE2	SSE3	SSE2.7	S10																				
4-Jan	SSE2	SSE1	NW1	SSE2	N2	NNW4	NNW4	NNW2	SE4	SSE6	SSE6	SE8	SSE11	SSE10	SE10	SE9	SSE8	SSE7	S7	SSW9	S8	S5	S4	SSE4.5	SSE11																					
5-Jan	SW6	SW4	WSW5	W3	W4	NW4	NW5	NW5	NNW5	NW4	NNW7	NNW7	NNW9	NW7	NNW8	NNW8	NNW7	NNW6	NNE5	NE6	NE3	ENE3	ESE3	SE4	NNW3.5	NNW9																				
6-Jan	NE3	E3	ESE6	ESE5	ESE4	ESE5	ESE3	ESE5	SE6	S6	S8	S7	S9	SSW10	SSW11	SSW10	SSW12	SSW9	SW9	SW10	SW11	SW11	SSW10	SSW11	S6.0	SSW12																				
7-Jan	SSW9	SSW8	SSW8	SSW12	SSW4	SSW11	SSW11	SSW11	SSW9	SSW6	SW10	SW13	SW14	SW16	SW17	SSW17	SW13	SSW11	SSW14	SSW19	SSW17	SW16	SW16	SW15	SSW12.2	SSW19																				
8-Jan	SW14	SW12	SW11	WSW11	W12	W9	W10	W10	W12	NNW13	NNW10	NNW11	NNW12	NW12	NNW10	NW11	NW9	NW5	WNW6	WNW6	WNW6	WNW6	WNW6	WNW6	W8.7	SW14																				
9-Jan	W8	WNW7	WNW6	WNW5	WNW7	WNW7	WNW6	WNW6	WNW7	WNW7	NW6	NW6	W4	W4	W2	SSE1	S5	S6	S6	S5	SE4	SSE4	SSE4	S9	W2.9	S9																				
10-Jan	S6	S10	SSE12	S12	S14	SSW18	SSW15	SSW20	SW16	SW13	SW8	W5	W7	WNW4	NW2	NW5	NW4	NW3	NW3	NW3	NNW4	UO	UO	UO	SW6.3	SSW20																				
11-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	---	---																				
12-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	---	---																				
13-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	---	---																				
14-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	---	---																				
15-Jan	WNW11	W13	W14	WNW12	WNW11	WNW12	WNW11	WNW9	WNW7	WNW7	WNW8	NW10	NW10	WNW8	NW7	W6	W7	SW4	SW7	SSW5	SSE5	SSE5	S5	SSE5	W6.5	W14																				
16-Jan	SSE5	SE2	SE4	ESE3	ENE4	ESE8	ESE6	NE4	NNE4	NNE3	ESE4	NNE5	NNE8	NNE9	NNE13	NNE11	NNE15	NNE15	NNE17	N16	N13	N12	NNW11	NNW10	NNE6.3	NNE17																				
17-Jan	NNW16	NNW14	NNW13	NNW13	NNW11	NNW9	NNW10	NNW8	NNW7	NNW6	NNW6	NNW7	NNW7	NNW11	NNW13	NNW12	NNW10	NNW2	NNW3	NW6	NW7	NW7	NW6	NNW4	NNW8.7	NNW16																				
18-Jan	NNW3	NNW4	ESE2	SSE1	SSE1	SSW1	SSE2	SSE2	S2	SSE2	S4	WNW3	WNW4	WNW4	WNW5	SW6	SW4	SSW4	S2	SSW4	S3	NW1	SSE1	S2	SW1.4	SW6																				
19-Jan	S3	SSW2	S2	SSW2	S2	S3	SSW3	SSW2	S2	S1	WNW1	NW5	NW6	NNW7	NNW7	NW8	NW3	NW3	WNW1	S2	S3	S3	S4	SSE5	WSW1.1	NW8																				
20-Jan	S5	SSE5	SSE4	SE4	ESE3	E2	S4	SSW8	S9	SSW10	SSW10	SSW14	SSW16	SSW19	S16	SSW19	SSW17	SW16	SW16	WSW15	SW12	SW13	W12	WNW14	SSW9.5	SSW19																				
21-Jan	WNW12	WNW11	WNW8	WNW9	WNW12	WNW13	WNW12	WNW11	WNW12	WNW11	WNW9	WNW10	WNW10	WNW10	NW11	NW10	NNW12	NNW11	N18	NNW19	NNW16	NNW15	NNW18	NNW13	NW11.1	NNW19																				
22-Jan	NNW14	NNW10	NW5	NW6	NW7	NW5	WNW6	NW10	NW11	NW10	NNW11	NW10	NW9	WNW7	NW8	WNW6	WNW6	W5	SW3	SW7	SSW9	SSW8	S7	SSW8	WNW5.7	NNW14																				
23-Jan	SSW7	SW9	SW14	SSW16	SSW17	SW16	SW15	SW14	SW12	WSW9	W5	WNW5	W6	WNW8	W11	WNW10	NNW10	NNW11	NNW11	NW10	NW10	NW9	WNW10	WNW11	WSW8.2	SSW17																				
24-Jan	WNW11	WNW13	WNW13	WNW14	NW13	NW14	NW19	NW23	NNW25	NNW22	NNW24	NNW21	NNW20	NNW20	NNW19	NNW15	NW9	NW6	WNW4	W5	WNW6	WNW8	WNW8	WNW7	NW13.3	NNW25																				
25-Jan	WNW7	W5	SW4	S4	SSW8	SW13	SW13	SW14	SW10	SW10	SW10	WSW10	W9	W7	WNW9	WNW7	WNW6	W7	WNW6	WNW6	WNW10	WNW9	WNW8	W5	WSW6.7	SW14																				
26-Jan	SSW5	SW6	SW8	SW10	SW12	SW10	SW11	SW10	WSW10	WSW9	SW7	SW6	SW4	W10	WSW10	WSW11	WSW13	WSW8	WNW10	NW9	NW9	NW8	NW7	NW7	WSW7.5	WSW13																				
27-Jan	WNW9	WNW9	WNW7	WNW9	WNW7	NW5	NW5	SW3	SW4	W8	W6	W11	WSW13	SW12	WSW12	WSW12	WSW12	WSW14	W19	W17	W14	WNW12	WNW13	NW13	W9.2	W19																				
28-Jan	NW15	NW12	NW14	NW14	NW10	NW9	WNW9	WNW10	WNW10	WNW11	WNW10	NW13	NW16	NW17	NW14	WNW10	WNW8	WNW7	WNW7	W8	WNW8	WNW7	W8	WNW8	WNW10.3	NW17																				
29-Jan	WNW7	W7	WNW6	W4	SW5	SSW4	S3	SSW4	SW6	WSW7	SW7	SW6	SSE3	ESE3	ESE6	E6	ENE5	NE5	NNE7	NNE6	N4	NNE7	NNE11	NNE13	NNW0.9	NNE13																				
30-Jan	NNE12	N11	NNE11	NNE7	N6	N6	NNE7	N9	N8	N8	NNE7	NE5	NE5	NNE7	NNE7	NNE5	ENE3	SSE1	E0	N1	N1	NNE2	ENE2	NNE4	NNE5.4	NNE12																				
31-Jan	N2	N4	NNE2	NE3	E4	ESE5	ESE5	E4	ENE4	E6	E6	E8	ESE10	E9	ENE9	ENE8	ENE7	ENE8	E10	E8	ENE7	ENE6	ENE6	NE7	ENE5.7	E10																				
WNW4.0 W3.7 W3.3 W3.3 W3.4																								WNW3.4	W3.7	W4.0	W3.7	W4.0	W3.7	W4.0	W3.5	W4.2	W4.2	WNW4.4	WNW4.0	W3.7	W3.4	W2.9	W3.3	W3.6	W3.5	WNW3.4	WNW3.5	WNW3.7	Diurnal Average	
NNW16 NNW14 SW14 SSW16 SSW17 SSW18																								NW19	NNW23	NNW25	NNW22	NNW24	NNW21	NNW20	NNW20	NNW19	SSW19	SSW17	SSW16	W19	NNW19	SSW17	SW16	NNW18	SW15	Diurnal Maximum				

UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 10m (WS10) - km/h
Conklin - January 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	230	34.95	34.95
6 - 11	296	44.98	79.94
12 - 19	124	18.84	98.78
20 - 28	8	1.22	100.00
29 - 38	0	0.00	100.00
> 38	0	0.00	100.00

Total Number of Valid Hours: 658

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Wind Speed 10m (WS10) - km/h
Conklin - January 2025**

Wind Speed Ranges (km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	8	10	7	6	5	14	8	43	39	13	10	2	12	11	26	16	230
6 - 11	9	13	2	7	7	5	2	9	14	25	26	9	19	79	37	33	296
12 - 19	4	6	0	0	0	0	0	1	3	18	28	8	9	19	13	15	124
20 - 28	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	7	8
29 - 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	21	29	9	13	12	19	10	53	56	57	64	19	40	109	76	71	658

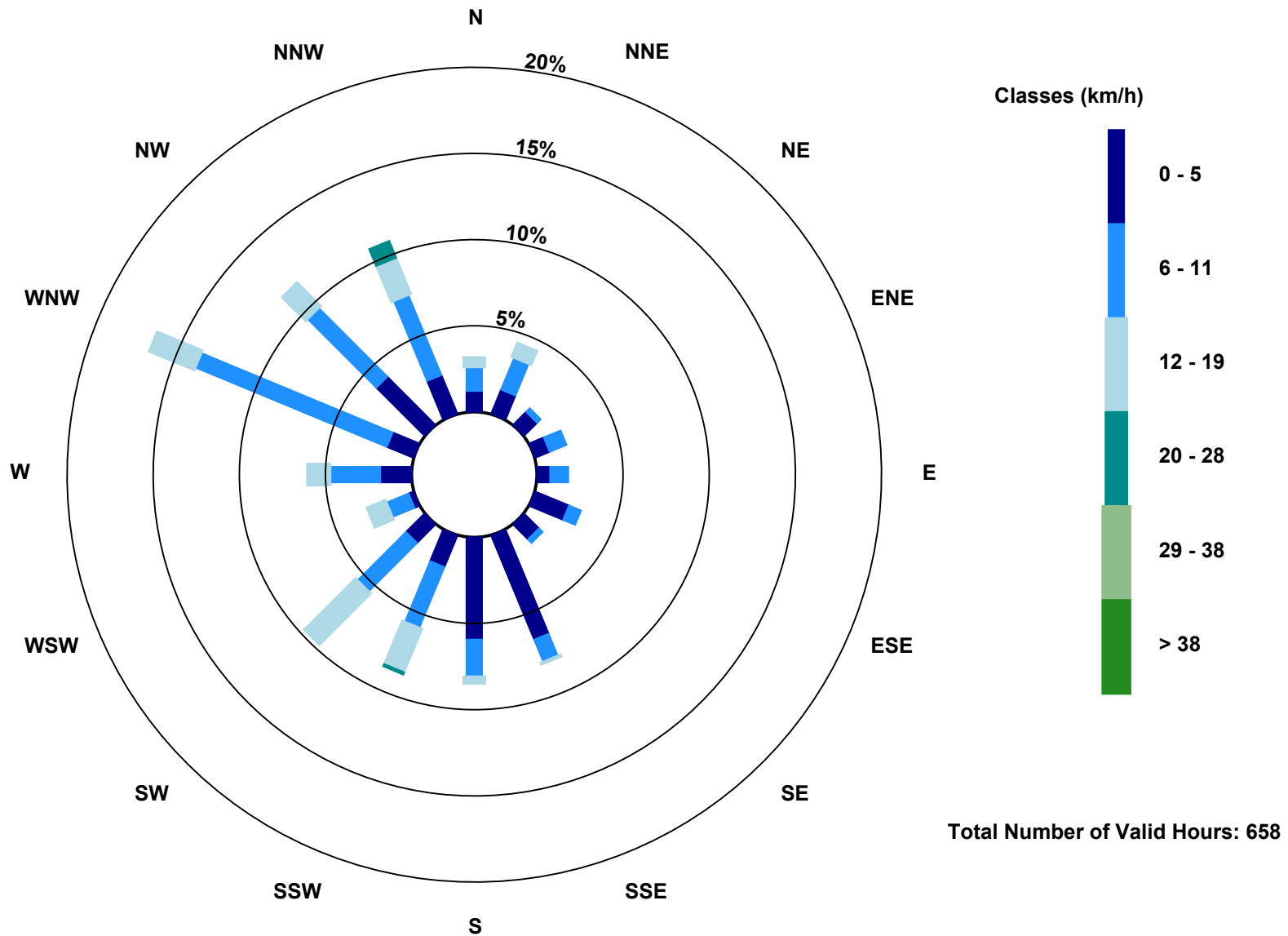
Total Number of Valid Hours: 658

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Wind Speed 10m (WS10) - km/h
Conklin





Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

Wind Speed 10m (WS10) - km/h

Conklin - January 2025

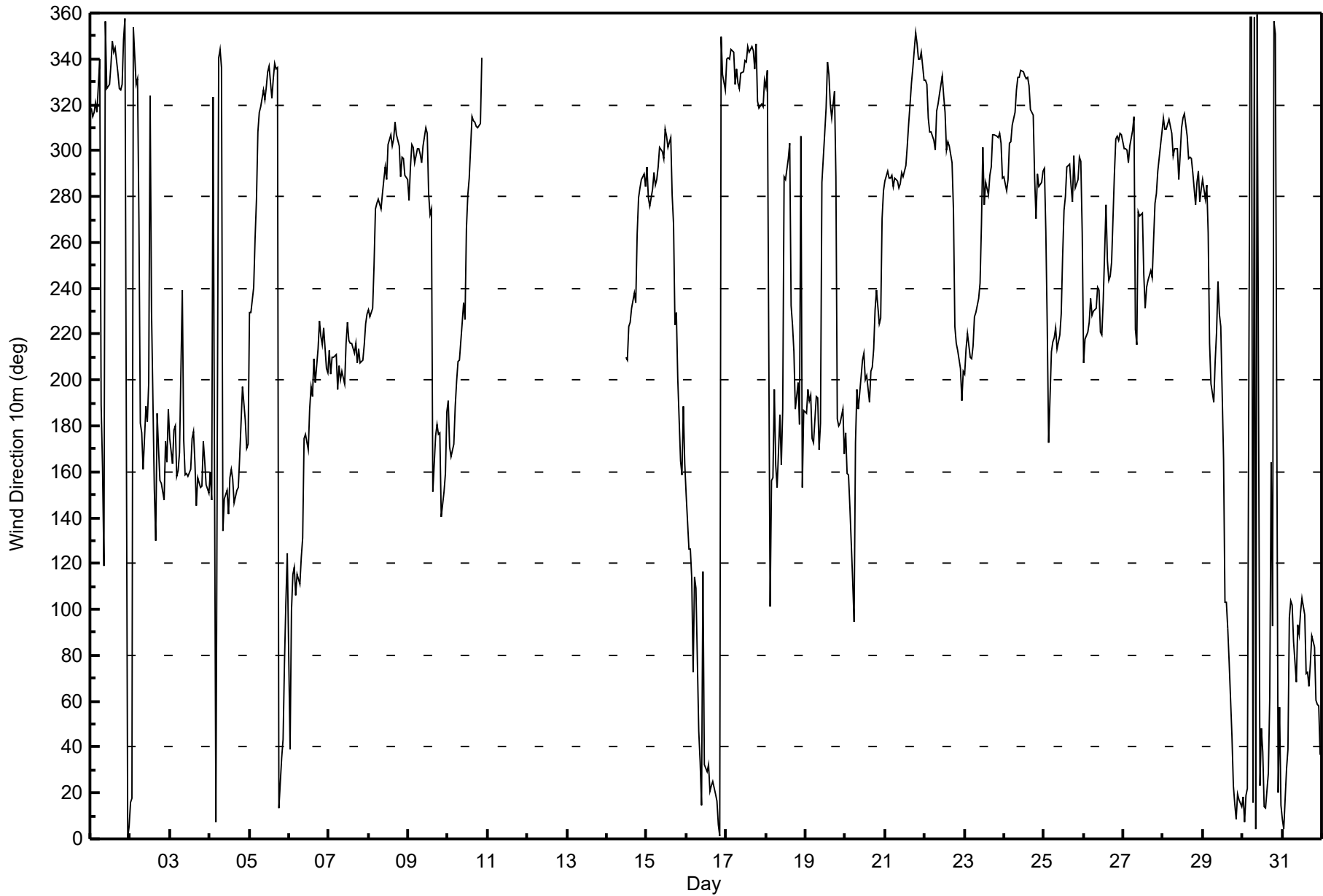
Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 8 km/h on Jan 24 09:00 Minimum Value: 0 km/h on Jan 1 04:00 Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 1 Median = 3 Q ₃ = 4 P ₉₀ = 5 P ₉₉ = 7														Hours in Service: 744 Hours of Data: 658 Hours of Missing Data: 86 Hours of Calibration: 0 Percent Operational Time: 88.4												
Day	Hourly Period Ending At (MST)																								Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	1	1	1	0	1	1	1	1	1	1	2	2	2	2	2	2	1	1	2	2	2	2	2	2	2	2
2-Jan	2	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	2
3-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	3	3	1	1	1	1	1	1	1	1	1	1	3
4-Jan	1	1	1	1	1	1	1	1	1	2	2	2	3	3	3	3	3	2	2	2	4	2	1	1	1	4
5-Jan	2	1	2	1	2	1	2	2	2	2	2	2	2	2	2	3	2	2	2	2	1	1	1	1	1	3
6-Jan	1	1	1	1	1	1	1	1	2	2	3	2	3	3	3	3	3	3	3	4	3	3	4	4	4	4
7-Jan	4	3	3	4	3	3	4	4	3	3	4	4	5	5	4	4	6	4	5	5	5	4	4	4	4	6
8-Jan	4	3	3	4	5	3	4	4	4	5	4	5	5	5	4	5	4	2	2	3	2	2	3	2	2	5
9-Jan	3	3	2	2	3	2	3	2	3	3	2	2	1	1	2	2	1	1	1	2	1	1	2	3	3	3
10-Jan	2	3	3	3	4	5	5	5	4	4	3	3	3	2	2	1	1	1	1	1	2	UO	UO	UO	5	5
11-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--
12-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--
13-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--
14-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	5
15-Jan	4	5	5	5	4	5	5	4	3	3	4	4	4	3	3	2	2	1	1	1	1	1	1	1	1	5
16-Jan	2	2	1	2	2	2	2	2	2	1	1	2	2	4	4	4	5	6	6	5	4	3	3	4	4	6
17-Jan	5	4	4	4	3	3	3	2	2	2	2	2	2	3	4	4	4	2	1	2	2	2	2	1	1	5
18-Jan	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	1	2	1	1	1	1	1	1	1	2
19-Jan	1	1	1	1	1	1	2	1	1	1	1	2	2	2	2	2	1	1	1	1	1	1	1	1	1	2
20-Jan	1	1	1	1	1	1	3	3	4	4	5	6	5	5	5	6	6	5	5	6	4	5	6	6	6	6
21-Jan	5	4	4	4	5	5	5	4	5	5	4	4	4	4	4	4	4	5	6	6	5	5	6	5	6	6
22-Jan	5	5	2	3	3	2	3	4	4	4	4	4	4	3	3	2	3	3	2	2	2	3	3	2	2	5
23-Jan	2	3	5	4	4	4	4	4	3	2	2	2	2	4	5	4	4	4	5	4	4	4	4	5	5	5
24-Jan	5	5	6	6	6	6	8	8	8	8	7	8	7	6	7	6	5	3	2	2	3	3	4	3	8	8
25-Jan	3	2	1	1	4	3	3	4	3	3	3	5	4	3	3	3	3	3	3	2	5	4	3	2	5	5
26-Jan	1	2	2	3	3	3	3	3	3	2	2	1	3	4	4	3	3	4	4	3	4	3	3	3	4	4
27-Jan	3	3	3	3	3	2	2	2	2	3	3	4	4	4	4	3	4	4	7	7	6	5	5	5	7	7
28-Jan	6	5	6	6	5	3	4	4	4	4	4	6	7	7	6	4	4	3	2	3	3	3	3	4	7	7
29-Jan	3	3	2	2	1	1	2	2	2	2	2	2	2	1	1	2	2	2	2	2	1	3	4	4	4	4
30-Jan	5	3	3	4	2	2	2	3	3	2	2	2	2	2	2	2	1	1	1	1	1	2	1	1	5	5
31-Jan	1	1	1	1	1	2	2	1	1	2	2	2	3	3	3	3	3	3	4	3	2	2	2	2	4	4
Diurnal Maximum																										
UO - Unstable Operation																										



Wood Buffalo Environmental Association
Summary of Hour Averages

Wind Direction 10m (WD10) - deg
Conklin - January 2025

Direction of Maximum Speed: 332 deg on Jan 24 09:00																					Hours in Service: 744				
Direction of Maximum Daily Speed Average: 317.2 deg on Jan 24																					Hours of Data: 658				
Direction of Minimum Speed: 174 deg on Jan 3 09:00										Direction of Minimum Daily Speed Average: 0.8 deg on Jan 2											Hours of Missing Data: 86				
Monthly Average Direction: 275.6 deg																					Percent Operational Time: 88.4				
Day	Hourly Period Ending At (MST)																								Daily Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	318	315	317	321	317	340	189	162	119	357	327	329	337	348	343	345	334	327	327	329	348	357	1	5	337.9
2-Jan	16	18	354	329	332	270	181	177	161	189	182	199	324	230	152	130	185	170	156	155	148	174	164	188	160.9
3-Jan	175	163	178	180	158	161	168	239	174	159	159	158	161	174	177	164	145	157	153	154	173	165	154	150	164.2
4-Jan	160	147	324	160	7	341	344	336	134	148	152	142	158	161	157	146	152	153	167	182	197	183	170	172	160.3
5-Jan	229	229	241	262	279	308	317	319	327	322	328	334	337	323	331	338	336	336	14	36	43	77	103	124	327.5
6-Jan	39	99	115	118	106	116	111	122	131	175	176	170	188	197	193	209	199	213	226	219	215	222	205	203	187.3
7-Jan	213	203	210	210	211	196	206	200	204	199	216	225	217	216	216	212	216	207	213	208	209	216	225	229	212.6
8-Jan	231	228	231	250	275	277	279	275	281	287	293	288	303	307	302	305	312	307	302	289	297	297	289	288	280.8
9-Jan	278	293	303	301	295	301	301	298	295	302	310	307	281	272	275	151	176	181	176	177	141	151	159	186	265.9
10-Jan	191	171	166	172	189	200	208	209	225	234	226	266	281	288	315	313	312	310	310	312	341	UO	UO	UO	216.8
11-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--
12-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--
13-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--
14-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--
15-Jan	293	279	276	283	290	285	287	293	301	299	296	309	306	302	306	281	238	234	264	280	284	288	290	284	278.9
16-Jan	150	126	126	114	73	114	109	47	33	15	117	32	29	32	21	23	25	19	16	6	1	349	333	327	24.2
17-Jan	340	341	340	344	343	329	336	329	327	334	335	339	339	345	343	346	344	336	347	322	319	321	319	331	336.9
18-Jan	328	335	102	156	157	196	163	153	185	163	187	289	288	297	303	232	224	212	187	199	181	307	153	187	229.9
19-Jan	186	196	191	193	174	173	193	192	170	181	286	307	318	339	333	320	314	326	289	183	180	181	187	168	258.2
20-Jan	177	159	159	145	112	95	173	196	188	201	209	212	200	202	191	204	206	214	230	239	224	227	271	283	210.7
21-Jan	287	291	288	288	289	284	288	286	284	286	290	288	294	302	312	321	329	336	352	346	340	340	343	331	312.1
22-Jan	331	329	314	308	308	304	300	317	320	325	333	324	316	300	304	302	294	274	223	216	213	205	191	204	298.4
23-Jan	202	214	220	210	209	215	227	229	236	242	268	302	276	286	280	289	293	307	307	306	305	308	303	288	257.2
24-Jan	288	283	288	303	304	311	317	326	332	332	335	334	332	331	332	329	318	316	288	270	290	284	286	291	317.2
25-Jan	292	265	224	173	212	217	218	223	214	220	229	254	274	280	293	294	285	278	298	283	287	297	295	264	254.1
26-Jan	208	218	221	225	235	228	230	231	240	239	221	220	234	276	252	244	245	252	290	305	306	305	307	307	251.2
27-Jan	301	301	300	295	302	309	315	222	215	273	272	272	246	231	241	243	248	244	261	277	281	291	303	308	272.2
28-Jan	314	310	309	314	310	308	298	301	301	287	299	310	314	316	306	297	297	296	290	276	286	291	278	283	302.3
29-Jan	288	279	285	264	216	198	190	208	221	243	229	223	165	103	103	92	77	44	23	15	8	19	17	14	327.7
30-Jan	18	8	19	22	358	358	16	358	4	360	23	48	38	14	13	28	62	164	93	356	351	20	57	15	15.6
31-Jan	9	4	30	39	96	104	102	86	68	93	89	99	105	98	72	73	67	76	89	84	61	59	58	36	77.4
288.1 280.8 269.2 265.4 268.8 258.2 264.2 265.2 270.1 273.9 276.2 278.2 278.4 281.7 283.6 279.4 272.9 264.8 280.6 276.1 278.0 281.9 288.4 283.3																									
Diurnal Average																									
UO - Unstable Operation																									
All monthly, daily, and diurnal averages have been calculated using vector methods																									





Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg
Conklin - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 89 deg on Jan 30 19:00 Minimum Value: 9 deg on Jan 1 04:00 Percentiles: P ₁ = 13 P ₁₀ = 17 Q ₁ = 19 Median = 25 Q ₃ = 31 P ₉₀ = 38 P ₉₉ = 80																			Hours in Service: 744 Hours of Data: 658 Hours of Missing Data: 86 Hours of Calibration: 0 Percent Operational Time: 88.4						
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	13	11	11	9	13	33	52	51	18	41	18	20	21	19	17	16	14	13	16	18	16	17	19	21	52
2-Jan	22	20	27	31	29	76	57	18	21	14	17	31	79	61	41	34	81	26	17	18	17	18	17	21	81
3-Jan	31	28	57	20	13	12	14	71	79	59	33	15	50	32	18	24	16	15	18	20	23	20	21	16	79
4-Jan	27	19	87	28	79	16	18	56	18	20	16	15	19	18	17	16	17	16	19	19	21	17	19	20	87
5-Jan	23	20	18	28	33	29	22	17	16	18	18	20	19	23	21	17	19	21	31	20	31	31	24	21	33
6-Jan	31	23	14	20	23	15	19	19	17	18	18	23	19	20	20	21	18	22	25	24	22	27	32	31	32
7-Jan	39	36	38	27	78	25	27	22	29	56	36	25	23	20	19	17	46	29	27	16	17	18	20	19	78
8-Jan	17	19	19	28	27	27	28	26	29	29	31	32	29	29	30	27	21	24	25	29	25	27	27	27	32
9-Jan	28	30	25	22	28	25	27	28	29	29	30	32	41	37	65	75	20	17	16	20	11	15	48	27	75
10-Jan	30	20	16	17	18	16	21	16	20	23	24	46	34	35	38	22	25	28	28	23	34	UO	UO	UO	46
11-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--
12-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--
13-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--
14-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	17	17	21	21	17	16	17	28	29	29	31	31	31	31
15-Jan	30	28	26	29	29	30	31	29	32	31	32	26	28	30	30	27	19	24	16	32	20	22	19	21	32
16-Jan	22	37	18	39	42	19	19	31	36	48	33	37	20	25	24	25	24	24	22	21	21	17	17	18	48
17-Jan	17	16	16	16	17	18	17	16	16	16	19	21	22	19	17	17	15	39	16	17	16	16	15	15	39
18-Jan	20	34	32	62	36	43	40	35	32	41	20	83	34	34	27	25	20	21	75	31	30	82	75	34	83
19-Jan	25	29	26	29	25	24	18	18	23	51	88	30	30	24	22	18	14	18	67	27	23	24	15	18	88
20-Jan	28	19	25	20	30	59	87	32	29	25	28	24	19	16	18	18	23	27	26	28	28	39	31	87	
21-Jan	29	29	33	31	28	30	30	29	29	31	31	32	30	30	23	23	18	21	18	17	17	18	17	19	33
22-Jan	19	18	26	27	27	27	33	24	20	19	19	22	26	30	29	35	32	30	40	18	17	29	31	21	40
23-Jan	23	20	21	17	17	17	21	21	19	20	45	34	33	33	29	33	31	27	26	28	28	26	29	31	45
24-Jan	33	27	30	29	27	26	22	19	19	19	19	20	21	20	20	18	21	22	35	31	34	31	31	28	35
25-Jan	30	35	25	31	22	19	19	19	20	22	19	30	32	33	32	31	31	30	34	30	29	30	30	52	52
26-Jan	28	20	20	20	17	20	18	19	15	14	21	23	61	31	25	19	16	32	30	27	26	28	26	25	61
27-Jan	30	31	30	33	32	35	40	68	31	30	41	29	20	22	23	20	20	17	25	30	30	29	29	26	68
28-Jan	21	24	25	22	25	27	30	30	32	28	31	25	25	24	28	29	30	30	33	27	28	29	25	29	33
29-Jan	28	26	32	45	23	33	69	37	19	25	19	22	45	27	24	27	38	33	27	24	27	25	27	23	69
30-Jan	22	22	22	36	17	20	24	20	21	22	30	43	50	33	22	23	38	64	89	38	70	66	54	34	89
31-Jan	56	27	57	41	26	23	27	31	34	26	27	23	21	26	30	33	34	31	31	32	31	36	36	28	57
Diurnal Maximum																									
UO - Unstable Operation																									



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

**AMS22
JANVIER
JANUARY 2025**

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

February 28, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - JANVIER (AMS22)
JANUARY 2025

MONTHLY SUMMARY

Parameter	Hours of Data	Hours of Calibration	Hours without Data	Operational Time	Maximum 30-Min Value	30-Min Exceedances	Maximum 1-Hour Value	1-Hour Exceedances	Maximum 24-Hour Value	24-Hour Exceedances
SO2(ppb) Average	709	35	35	100	-	-	6.7	0	1.7	0
TRS(ppb) Average	707	37	37	100	0.6	0	0.6	0	0.3	0
THC(ppm) Average	708	34	36	99.73	-	-	2.2	-	2.1	-
NMHC(ppm) Average	708	34	36	99.73	-	-	0.006	-	0	-
CH4(ppm) Average	708	34	36	99.73	-	-	2.2	-	2.1	-
O3 (ppb) Average	708	35	36	99.87	-	-	51.6	0	46.4	-
NO2 (ppb) Average	707	37	37	100	-	-	12.2	0	6	-
NO (ppb) Average	707	37	37	100	-	-	7.5	-	1.5	-
NOX (ppb) Average	707	37	37	100	-	-	16.1	-	6.6	-
PM2.5 (ug/m3) Average	741	3	3	100	-	-	72	0	18.7	0
Temperature 2 m (C) Average	744	0	0	100	-	-	6.7	-	2.1	-
Relative Humidity (%) Average	744	0	0	100	-	-	99.3	-	90.9	-
Wind Speed 10 m (km/h) Average	744	0	0	100	-	-	20	-	13	-
Wind Speed 20 m (km/h) Average	736	0	8	98.92	-	-	28	-	19	-
Wind Direction 10 m (deg) Average	744	0	0	100	-	-	-	-	-	-
Wind Direction 20 m (deg) Average	736	0	8	98.92	-	-	-	-	-	-

Note : Operational time includes periods of data collection and instrument calibration

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - JANVIER (AMS22)
JANUARY 2025

MONTHLY SUMMARY FOR AIR QUALITY/ METEOROLOGICAL MONITORING MEASUREMENTS

Parameter	Number	Mean	StnDev	Total	Percentile						
					Min	P10	Q1	Median	Q3	P90	Max
SO2 (ppb) Average	709	0.38	0.7	-	0	0	0	0.2	0.4	0.8	6.7
TRS (ppb) Average	707	0.19	0.1	-	0	0.1	0.1	0.2	0.2	0.3	0.6
THC (ppm) Average	708	2.03	0	-	2	2	2	2	2.1	2.1	2.2
NMHC(ppm) Average	708	0	0	-	0	0	0	0	0	0	0.006
CH4(ppm) Average	708	2.03	0	-	2	2	2	2	2.1	2.1	2.2
O3 (ppb) Average	708	32.88	9.2	-	6.2	18.9	26	35.4	40.5	42.8	51.6
NO2 (ppb) Average	707	2.43	2.4	-	0	0.2	0.5	1.5	4.1	5.8	12.2
NO (ppb) Average	707	0.37	0.6	-	0	0	0	0.2	0.5	0.9	7.5
NOX (ppb) Average	707	2.81	2.7	-	0	0.3	0.7	1.7	4.7	6.8	16.1
PM2.5 (ug/m3) Average	741	4.2	6.3	-	0.2	0.7	1.4	2.6	4.4	7.6	72
Temperature 2 m (C) Average	744	-11.57	10.7	-	-36.1	-27	-19.7	-9.7	-2.3	1	6.7
Relative Humidity (%) Average	744	76.82	11.5	-	36.7	60.9	72.9	77.7	83.9	90.6	99.3
Wind Speed 10 m (km/h) Average	744	7.2	4	-	0	2	4	7	10	13	20
Wind Speed 20 m (km/h) Average	736	10.1	5	-	0	3	6	9	13	18	28
Wind Direction 10 m (deg) Average	744	-	-	-	-	-	-	-	-	-	-
Wind Direction 20 m (deg) Average	736	-	-	-	-	-	-	-	-	-	-

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - JANVIER (AMS22)
 JANUARY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
THC/NMHC/CH4	06 Jan 2025 14:00	06 Jan 2025 15:00	2	Maintenance - replaced support gas cylinder
O3	27 Jan 2025 00:00	27 Jan 2025 00:00	1	Unstable Operation - excessive baseline drift
Wind Speed, Wind Direction 20m	03 Jan 2025 12:00	03 Jan 2025 17:00	6	Flat line in sensor output signal - Sensor frozen
Wind Speed, Wind Direction 20m	06 Jan 2025 08:00	06 Jan 2025 08:00	1	Flat line in sensor output signal - Sensor frozen
Wind Speed, Wind Direction 20m	09 Jan 2025 21:00	09 Jan 2025 21:00	1	Flat line in sensor output signal - Sensor frozen

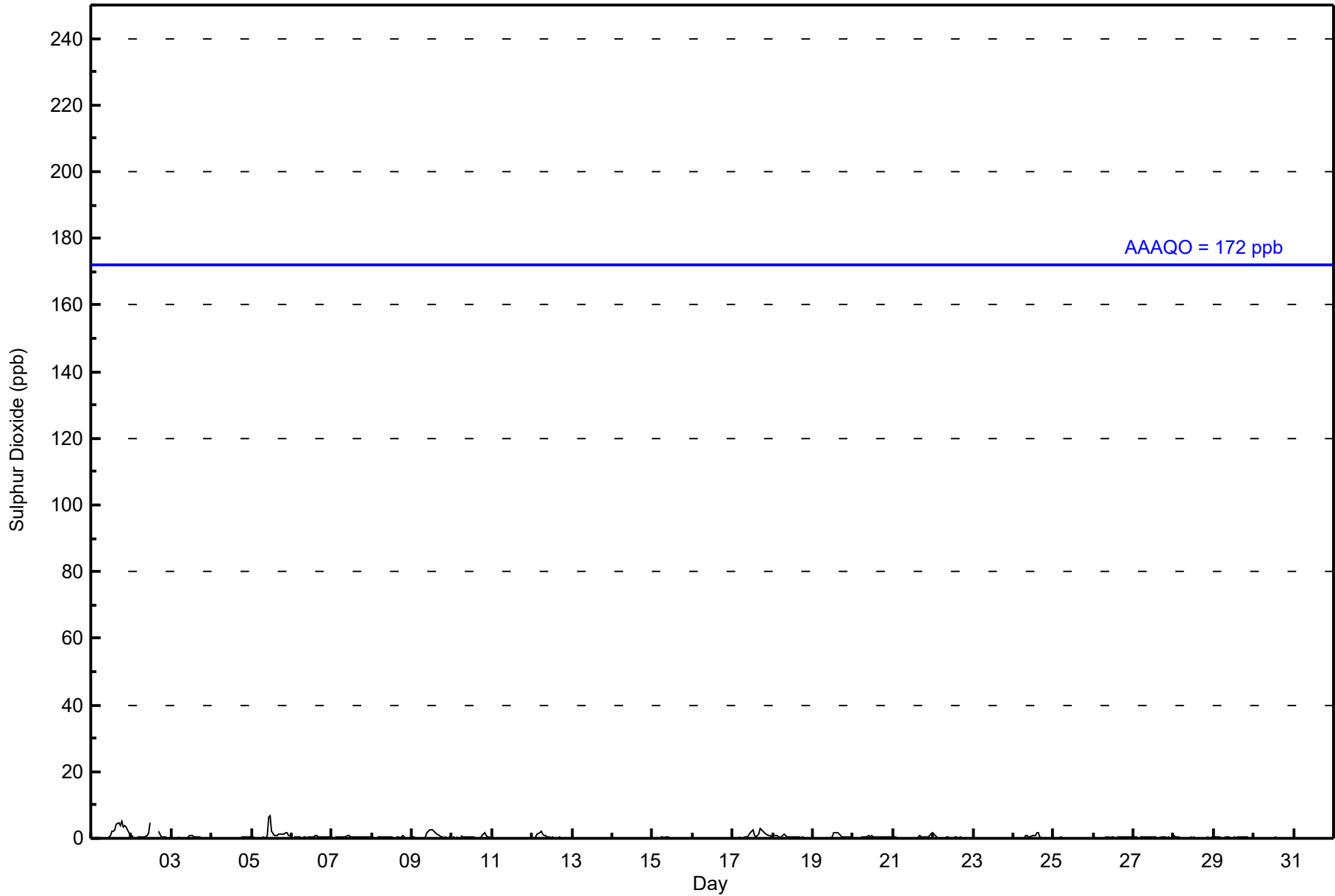


Number of Exceedences (AAAQO):		1-hr: 0		24-hr: 0		Hours in Service:														744																																																					
Maximum Value: 6.7 ppb on Jan 5 12:00		Maximum Daily Average: 1.7 ppb on Jan 1														Hours of Data:		709																																																							
Minimum Value: 0.0 ppb on Jan 1 04:00		Minimum Daily Average: 0.0 ppb on Jan 11														Hours of Missing Data:		35																																																							
Maximum Diurnal Average: 0.8 ppb at hour 12		Minimum Diurnal Average: 0.2 ppb at hour 3														Hours of Calibration:		35																																																							
Monthly Average: 0.38 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.2 Q ₃ = 0.4 P ₉₀ = 0.8 P ₉₉ = 3.8														Percent Operational Time:		100.0																																																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																																																	
1-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.8	2.2	2.2	2.7	4.4	4.8	4.0	4.9	3.5	3.8	3.3	1.7	1.2	1.7	4.9																																															
2-Jan	0.7	0.6	Z	0.4	0.3	0.3	0.2	0.3	0.4	0.7	1.7	4.6	C	C	C	C	2.2	1.1	0.5	0.4	0.3	0.2	0.1	0.2	0.8	4.6																																															
3-Jan	0.1	0.2	0.2	Z	0.4	0.2	0.1	0.0	0.1	0.1	0.2	0.8	0.7	0.6	0.4	0.5	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.8																																															
4-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.4	0.4	0.3	0.3	0.3	0.3	0.1	0.4																																															
5-Jan	0.6	0.4	0.2	0.1	0.0	Z	0.1	0.3	0.1	0.9	6.5	6.7	2.1	1.0	1.0	0.9	1.1	1.2	1.3	1.3	1.8	1.6	1.0	1.0	1.4	6.7																																															
6-Jan	Z	0.5	0.3	0.2	0.3	0.3	0.2	0.3	0.3	0.2	0.3	0.2	0.3	0.5	1.0	0.8	0.6	0.6	0.5	0.4	0.4	0.4	0.4	0.3	0.4	1.0																																															
7-Jan	0.3	Z	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.7	0.8	0.6	0.5	0.5	0.4	0.4	0.5	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.8																																															
8-Jan	0.4	0.4	Z	0.4	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.1	0.1	0.3	0.2	0.2	0.7	0.2	0.1	0.1	0.1	0.3	0.3	0.7																																															
9-Jan	0.5	0.3	0.2	Z	0.1	0.1	0.1	0.2	0.4	1.9	2.4	2.6	2.4	2.2	1.8	1.4	0.8	0.5	0.3	0.2	0.3	0.2	0.2	0.2	0.8	2.6																																															
10-Jan	0.2	0.2	0.2	0.3	Z	0.8	0.4	0.3	0.3	0.2	0.3	0.3	0.3	0.2	0.2	0.0	0.0	0.1	0.9	1.6	0.7	0.3	0.3	0.2	0.4	1.6																																															
11-Jan	0.1	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1																																															
12-Jan	Z	0.2	0.3	1.1	1.6	2.0	1.4	1.0	0.6	0.4	0.4	0.2	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.5	2.0																																															
13-Jan	0.1	Z	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1																																															
14-Jan	0.0	0.0	Z	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.1	0.2																																															
15-Jan	0.2	0.1	0.0	Z	0.2	0.2	0.3	0.2	0.2	0.3	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3																																															
16-Jan	0.0	0.0	0.0	0.1	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.0	0.2																																															
17-Jan	0.2	0.1	0.0	0.1	0.5	Z	0.2	0.3	0.4	0.6	1.5	2.3	2.5	0.8	0.5	1.2	2.8	2.4	2.2	1.8	1.4	0.9	1.0	0.5	1.1	2.8																																															
18-Jan	Z	0.8	1.0	0.6	0.3	0.4	0.8	1.1	0.6	0.4	0.4	0.5	0.4	0.3	0.5	0.4	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.4	1.1																																															
19-Jan	0.1	Z	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	1.8	1.8	1.5	1.8	1.2	0.5	0.4	0.3	0.3	0.6	0.5	0.3	0.5	1.8																																															
20-Jan	0.2	0.2	Z	0.2	0.2	0.2	0.3	0.3	0.4	0.7	0.6	0.7	0.4	0.6	0.5	0.5	0.6	0.6	0.5	0.5	0.5	0.4	0.5	0.5	0.4	0.7																																															
21-Jan	0.3	0.2	0.1	Z	0.2	0.1	0.2	0.0	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.4	0.7	0.4	0.3	0.3	0.3	0.4	0.8	1.7	0.3	1.7																																															
22-Jan	1.3	0.8	0.4	0.2	Z	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.1	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	1.3																																															
23-Jan	0.0	0.1	0.1	0.2	0.1	Z	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2																																															
24-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.7	0.5	0.6	0.8	1.0	0.9	1.6	1.6	0.4	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.4	1.6																																															
25-Jan	0.0	Z	0.0	0.1	0.4	0.2	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.4																																															
26-Jan	0.0	0.1	Z	0.2	0.1	0.1	0.2	0.3	0.4	0.4	0.2	0.3	0.4	0.2	0.3	0.4	0.3	0.2	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.4	0.4																																														
27-Jan	0.3	0.3	0.2	Z	0.3	0.3	0.2	0.3	0.3	0.3	0.2	0.4	0.4	0.5	0.1	0.1	0.3	0.4	0.4	0.3	0.1	0.3	0.1	0.4	0.3	0.5																																															
28-Jan	0.7	0.3	0.3	0.3	Z	0.1	0.1	0.0	0.1	0.2	0.3	0.1	0.2	0.2	0.2	0.2	0.0	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.7																																															
29-Jan	0.2	0.3	0.2	0.3	0.2	Z	0.4	0.6	0.3	0.3	0.1	0.2	0.3	0.2	0.2	0.2	0.3	0.4	0.5	0.3	0.2	0.1	0.1	0.0	0.3	0.6																																															
30-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4																																															
31-Jan	0.0	Z	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2																																															
																								Diurnal Average		0.3		0.2		0.2		0.2		0.2		0.3		0.6		0.8		0.6		0.5		0.5		0.5		0.6		0.5		0.5		0.4		0.4		0.4		0.3		0.3									
																								Diurnal Maximum		1.3		0.8		1.0		1.1		1.6		2.0		1.4		1.1		0.7		1.9		6.5		6.7		2.5		2.2		2.7		4.4		4.8		4.0		4.9		3.5		3.8		3.3		1.7		1.7	
Z - zerospan																								C - Calibration																																																	
Alberta Ambient Air Quality Objectives (AAAQO):																								1-hr		172 ppb		24-hr		48 ppb																																											



Wood Buffalo Environmental Association
Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Janvier - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Janvier - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	709	100.00	100.00
11 - 20	0	0.00	100.00
21 - 60	0	0.00	100.00
61 - 110	0	0.00	100.00
111 - 172	0	0.00	100.00
> 172	0	0.00	100.00

Total Number of Valid Hours: 709

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Janvier - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 10	70	87	25	14	7	6	4	13	20	126	130	45	42	60	38	14	701
11 - 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 - 60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61 - 110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111 - 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	70	87	25	14	7	6	4	13	20	126	130	45	42	60	38	14	701

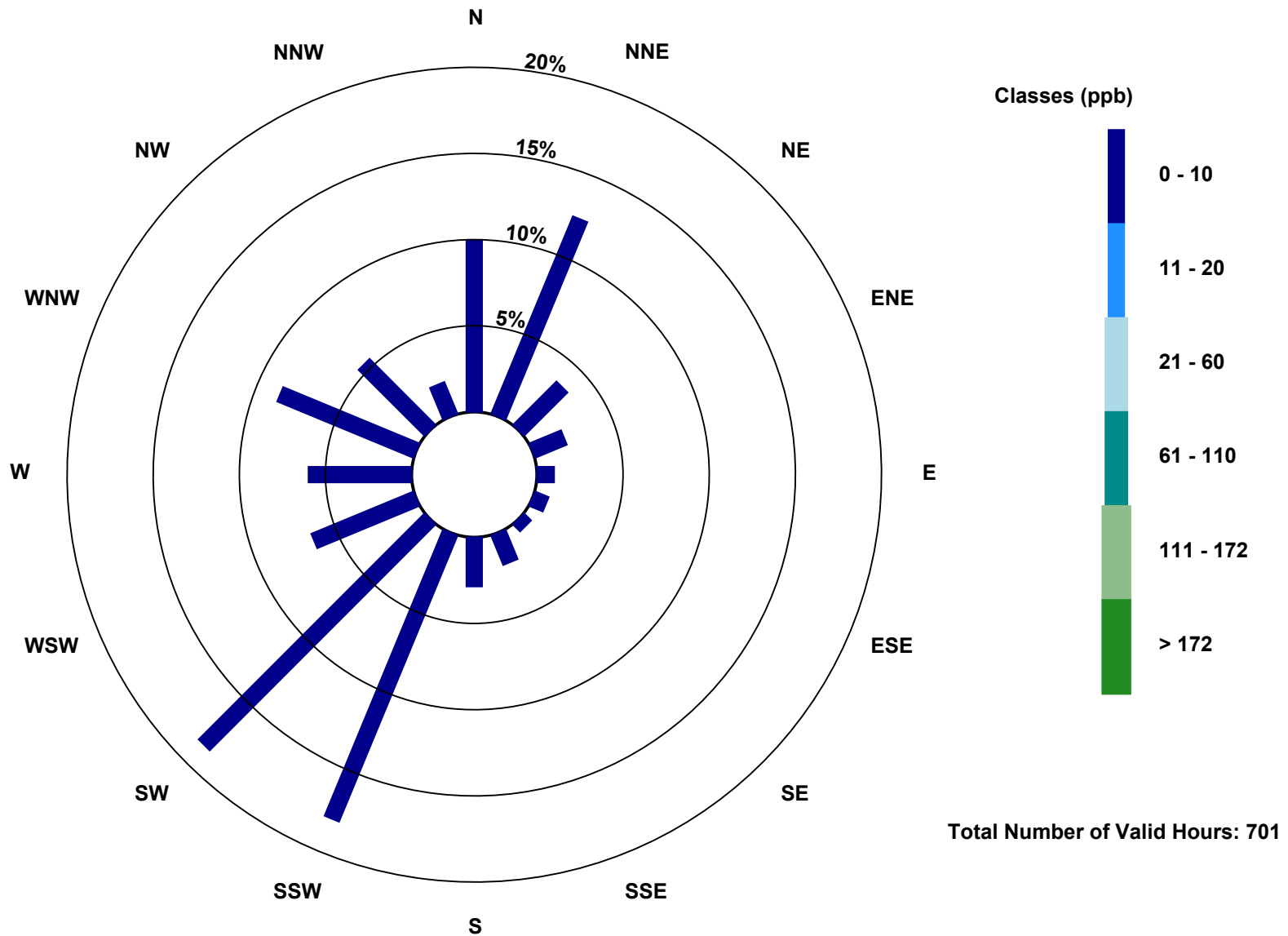
Total Number of Valid Hours: 701

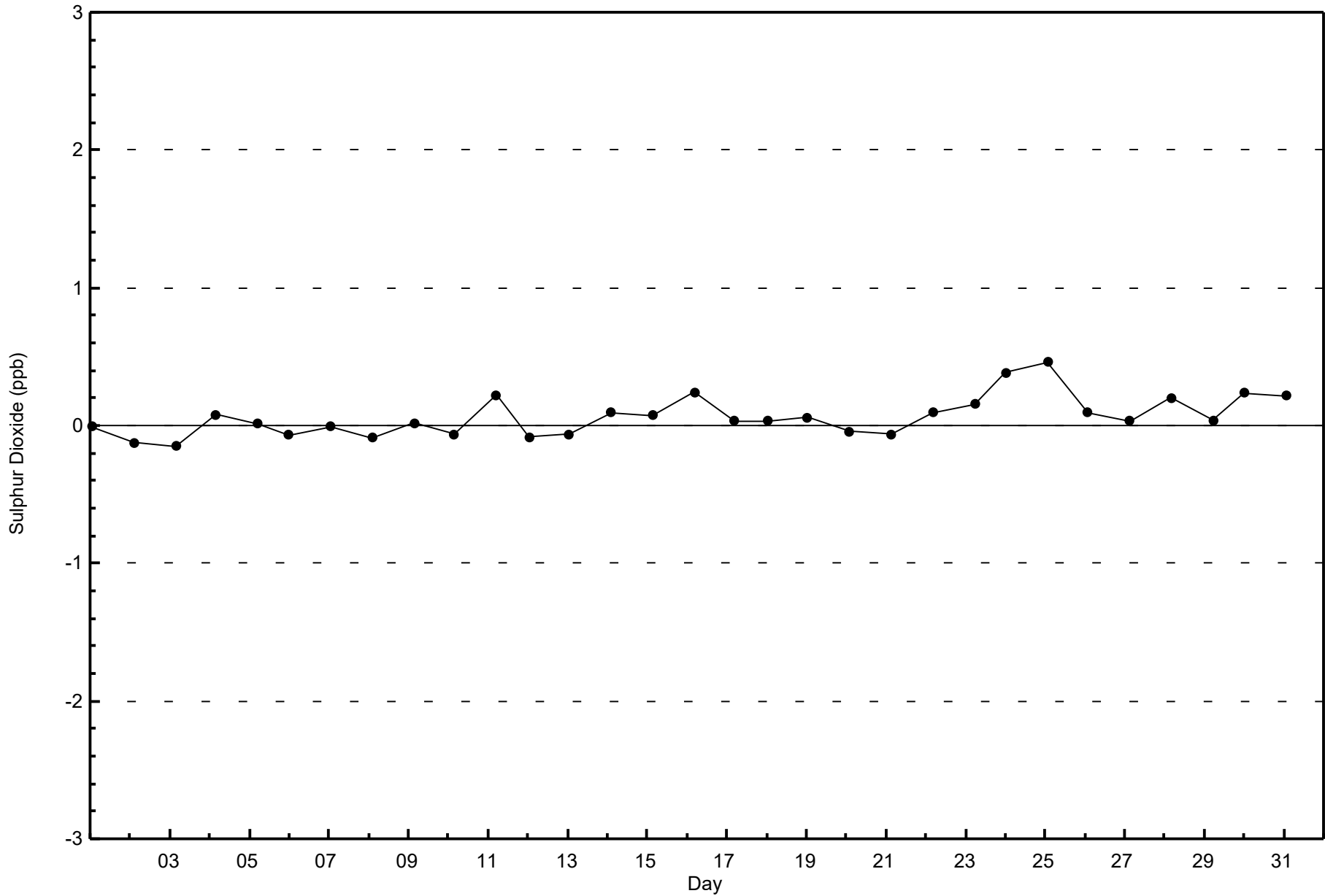
Total Number of Hours: 744

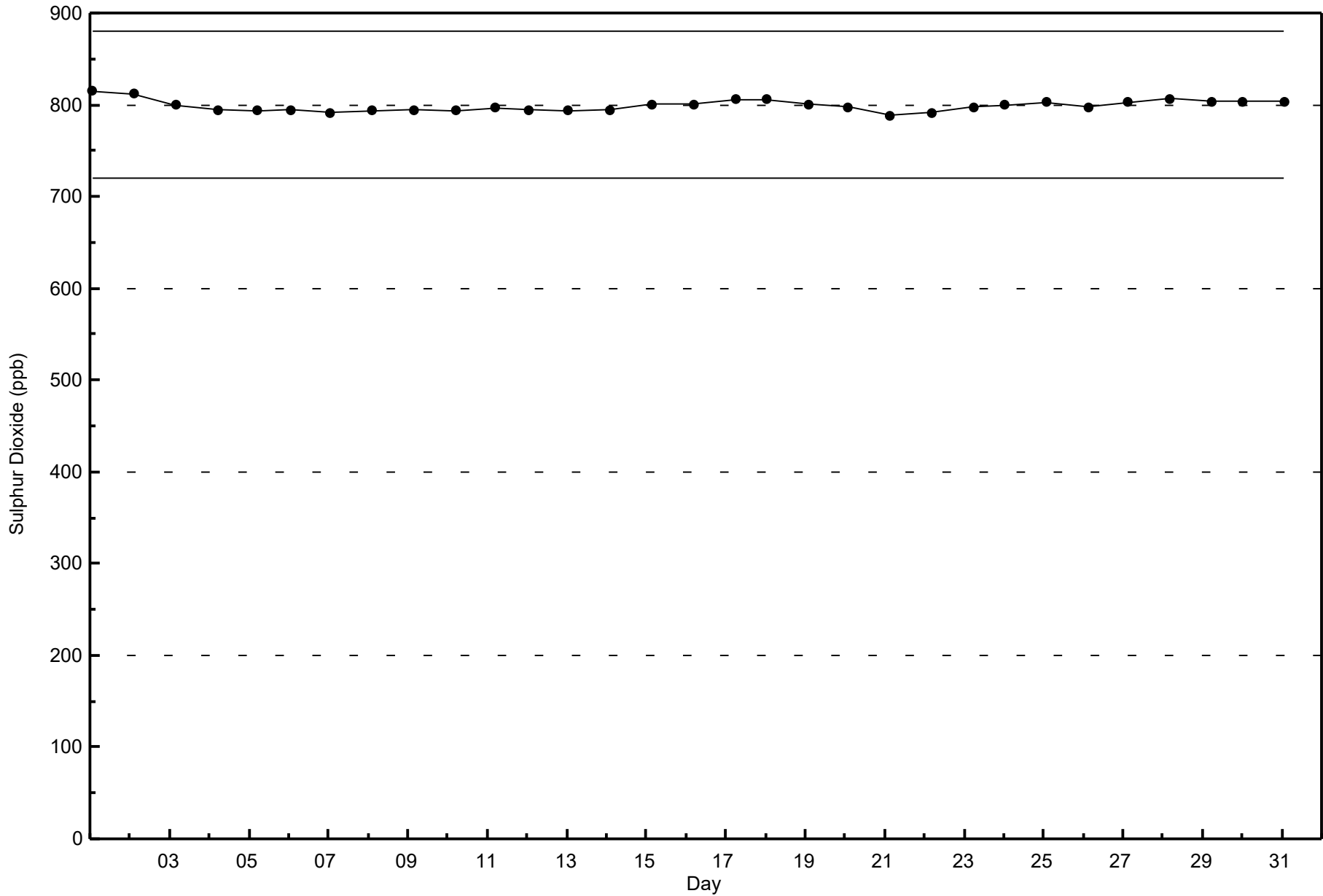


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Sulphur Dioxide (SO₂) - ppb
Janvier



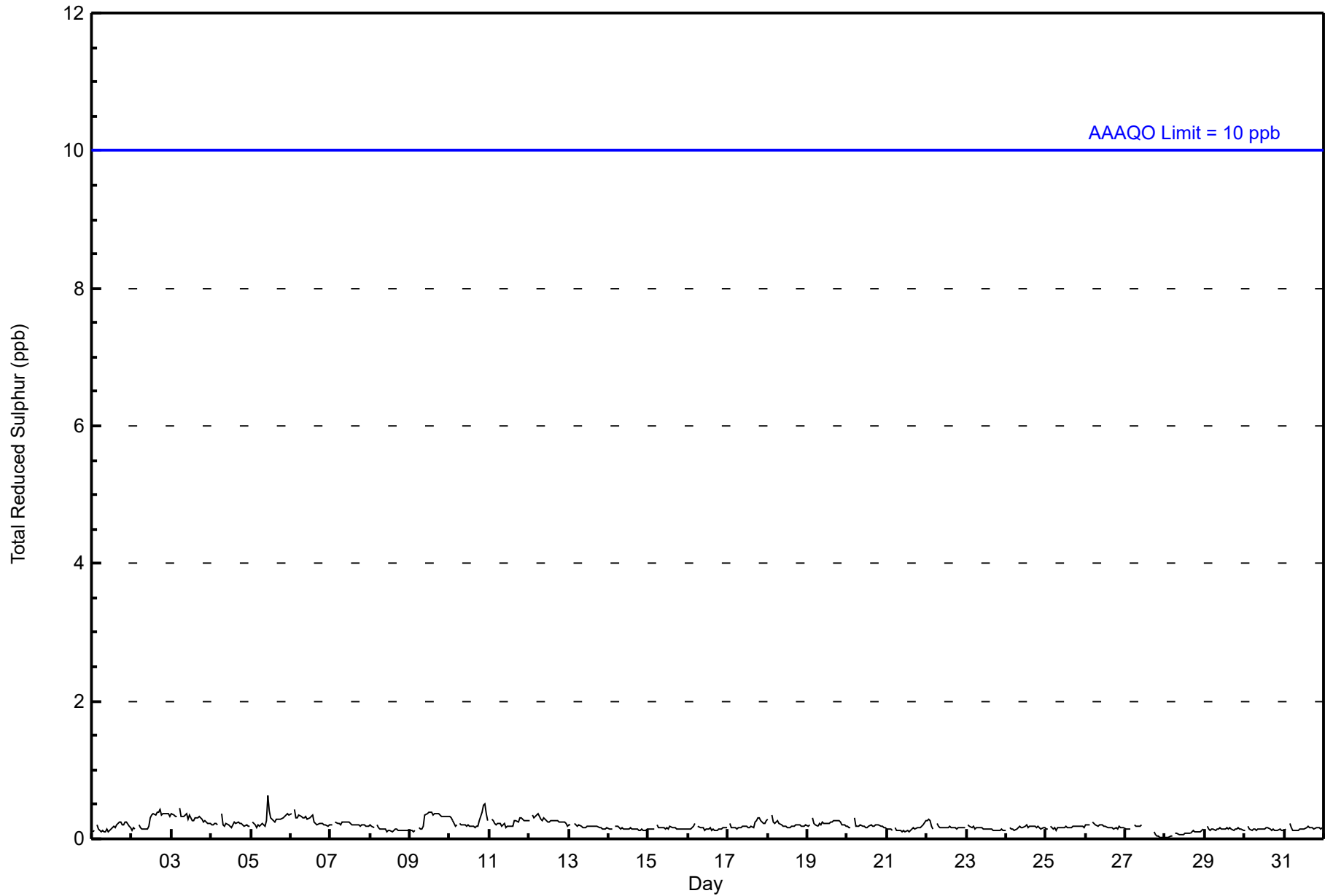






Wood Buffalo Environmental Association
Hourly Averages

Total Reduced Sulphur (TRS) - ppb
Janvier - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Reduced Sulphur (TRS) - ppb
Janvier - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	707	100.00	100.00
3 - 4	0	0.00	100.00
5 - 7	0	0.00	100.00
8 - 11	0	0.00	100.00
> 11	0	0.00	100.00

Total Number of Valid Hours: 707

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Total Reduced Sulphur (TRS) - ppb
Janvier - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2	71	90	25	14	7	6	4	13	20	123	128	44	42	60	38	14	699
3 - 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 - 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 - 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	71	90	25	14	7	6	4	13	20	123	128	44	42	60	38	14	699

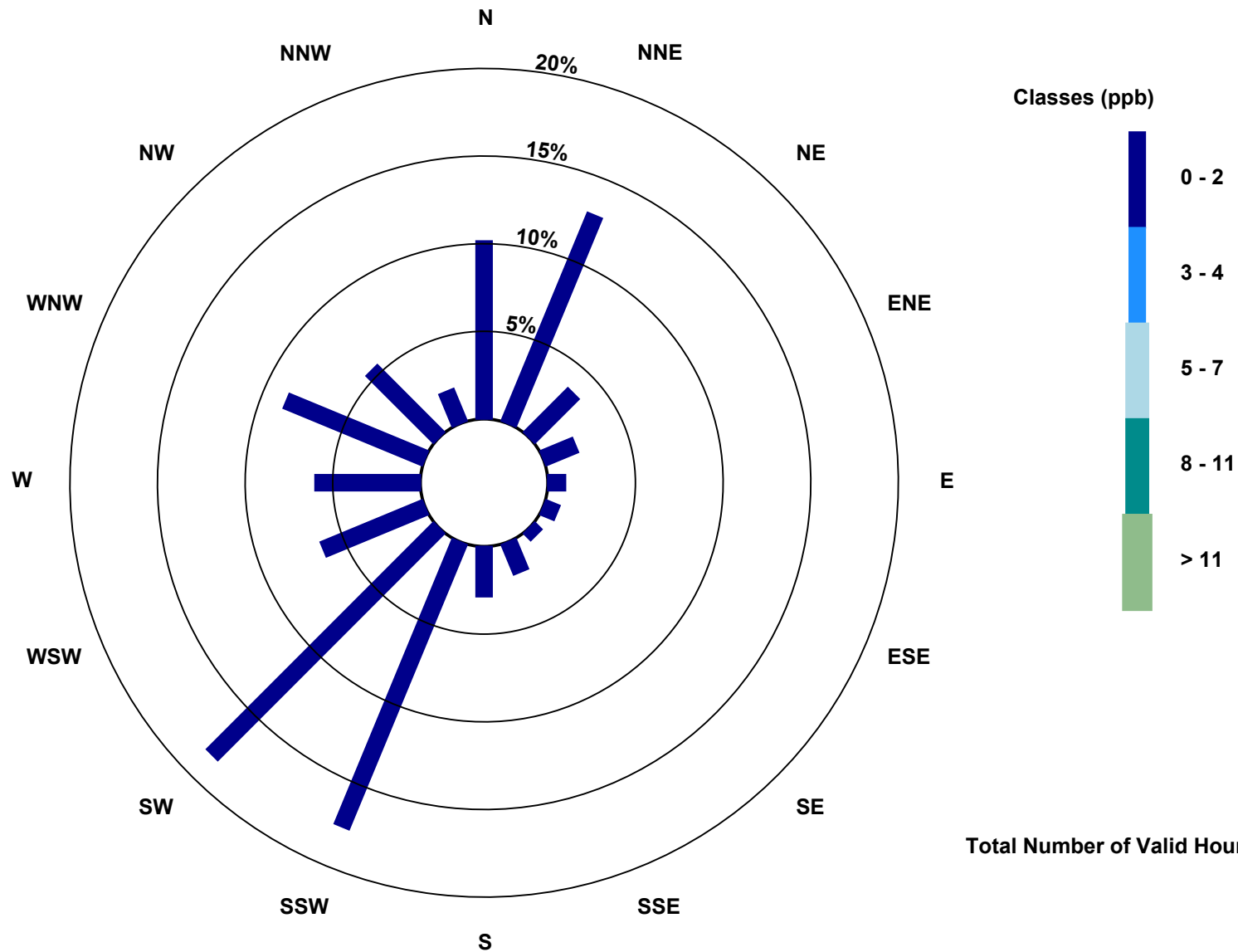
Total Number of Valid Hours: 699

Total Number of Hours: 744

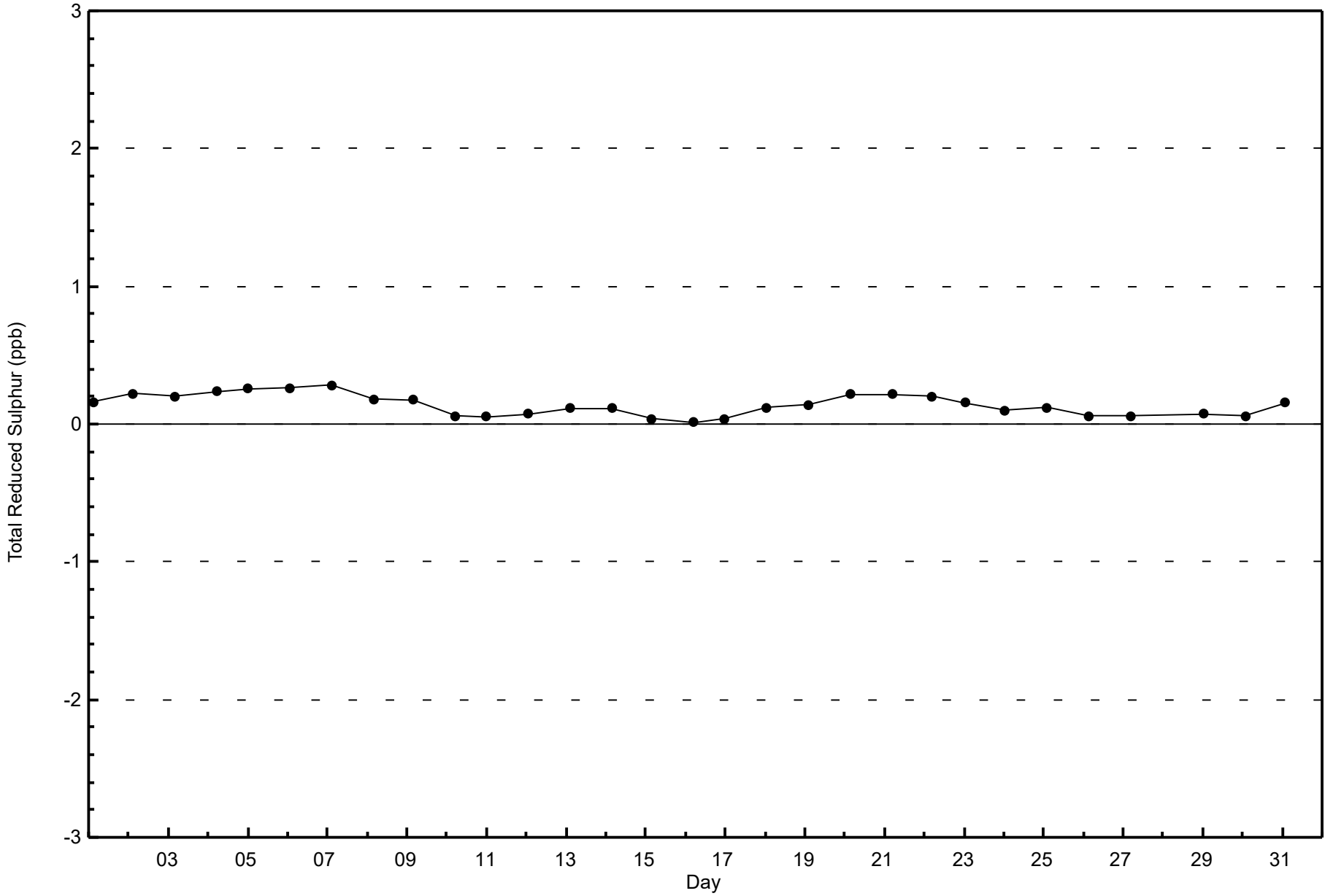


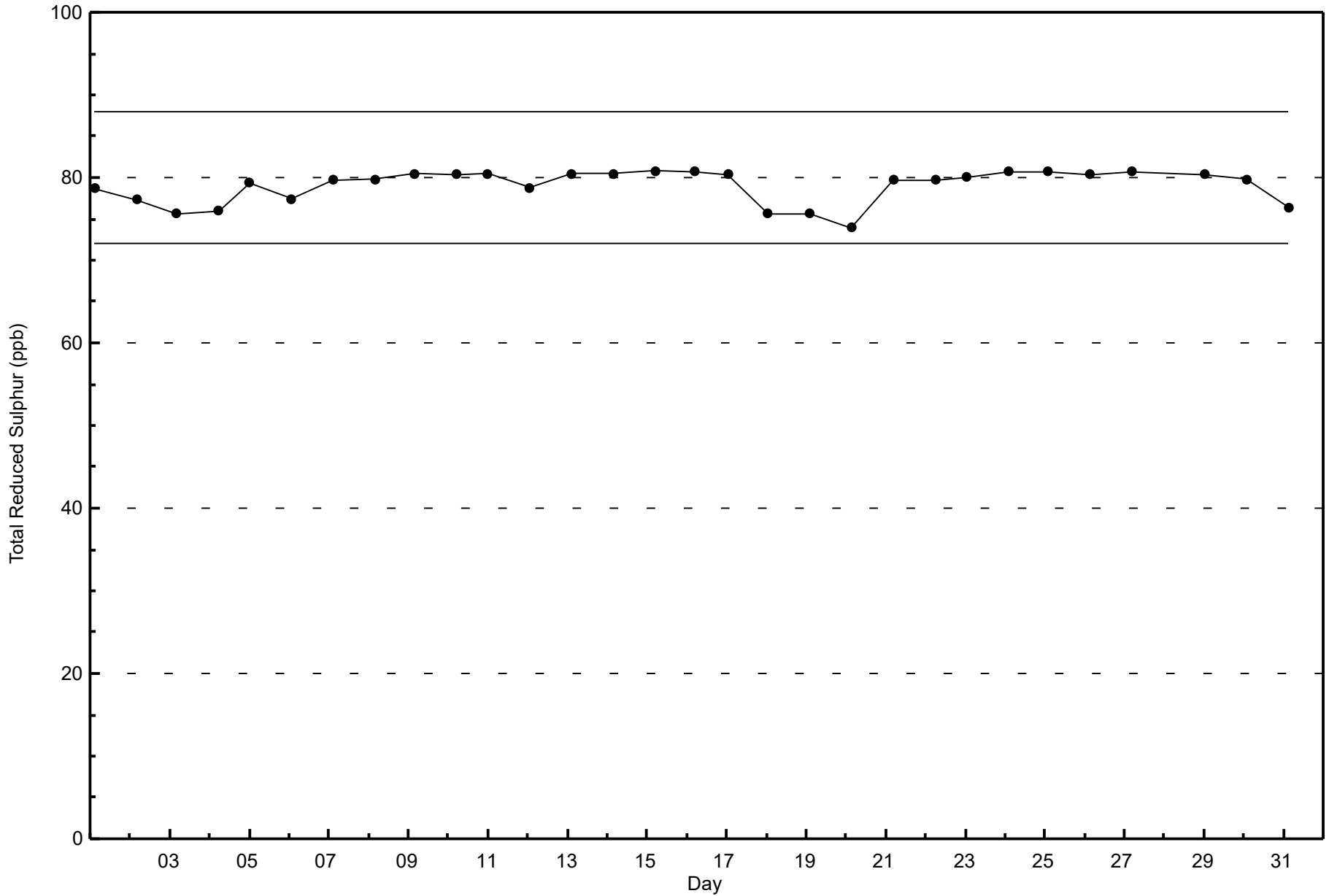
Wood Buffalo Environmental Association
Wind Rose Jan 2025

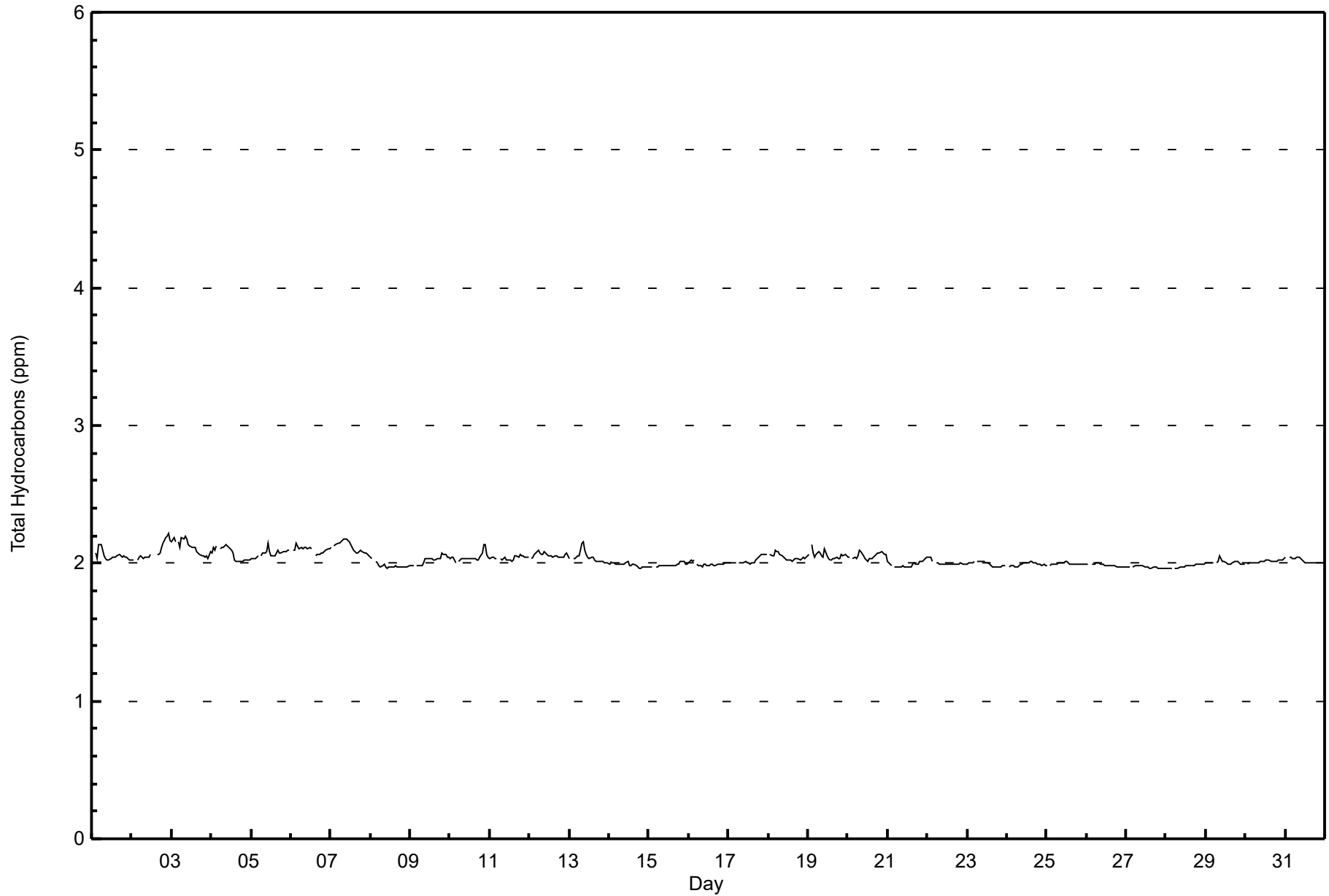
Total Reduced Sulphur (TRS) - ppb
Janvier



Total Number of Valid Hours: 699









**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Total Hydrocarbons (THC) - ppm
Janvier - January 2025**

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	524	74.01	74.01
2.1 - 3.0	184	25.99	100.00
3.1 - 10.0	0	0.00	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Total Hydrocarbons (THC) - ppm
Janvier - January 2025

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2.0	50	72	18	13	4	3	3	5	7	67	102	38	41	58	35	8	524
2.1 - 3.0	20	15	7	1	4	3	1	8	12	58	28	7	1	2	3	6	176
3.1 - 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	70	87	25	14	8	6	4	13	19	125	130	45	42	60	38	14	700

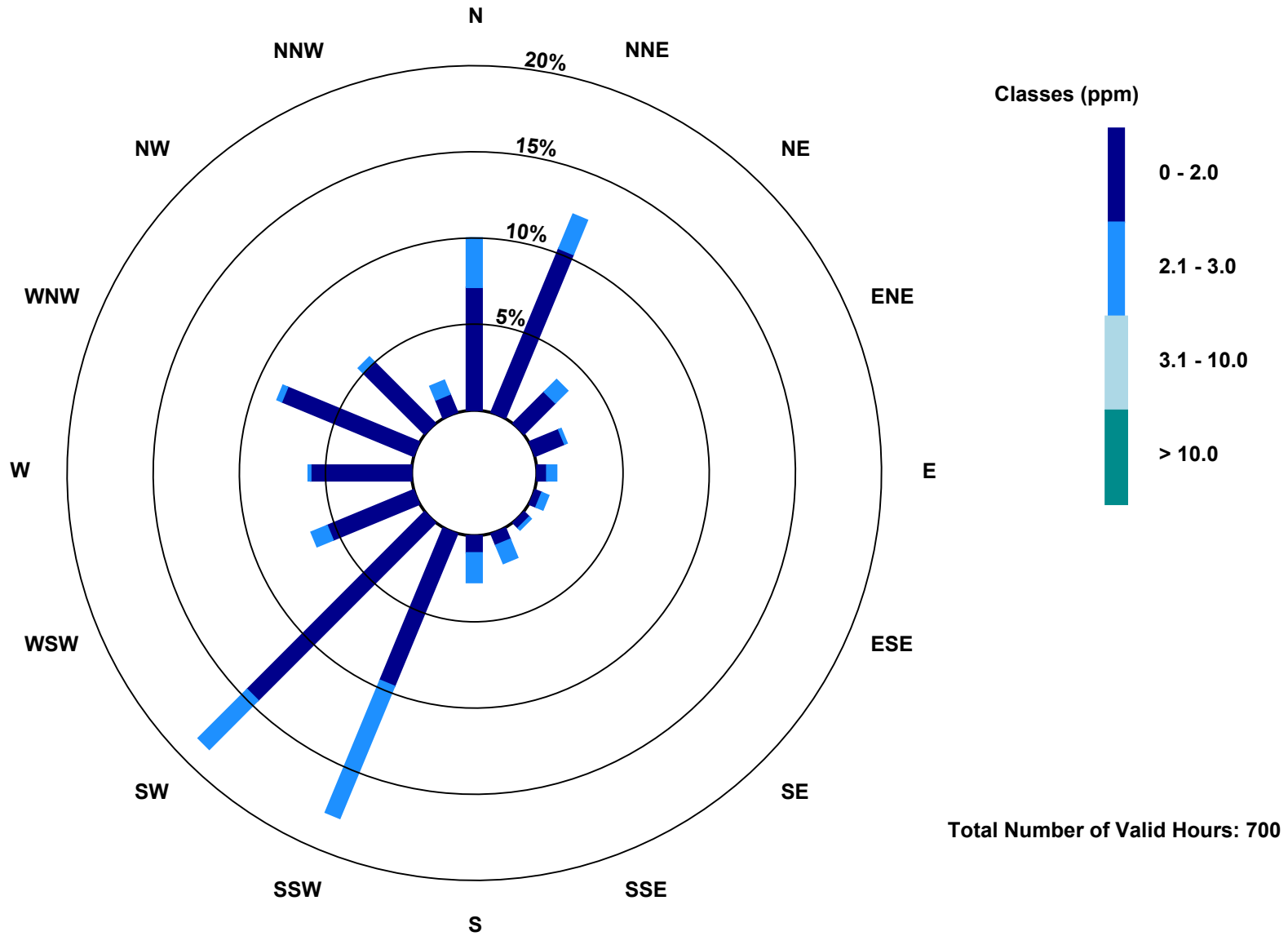
Total Number of Valid Hours: 700

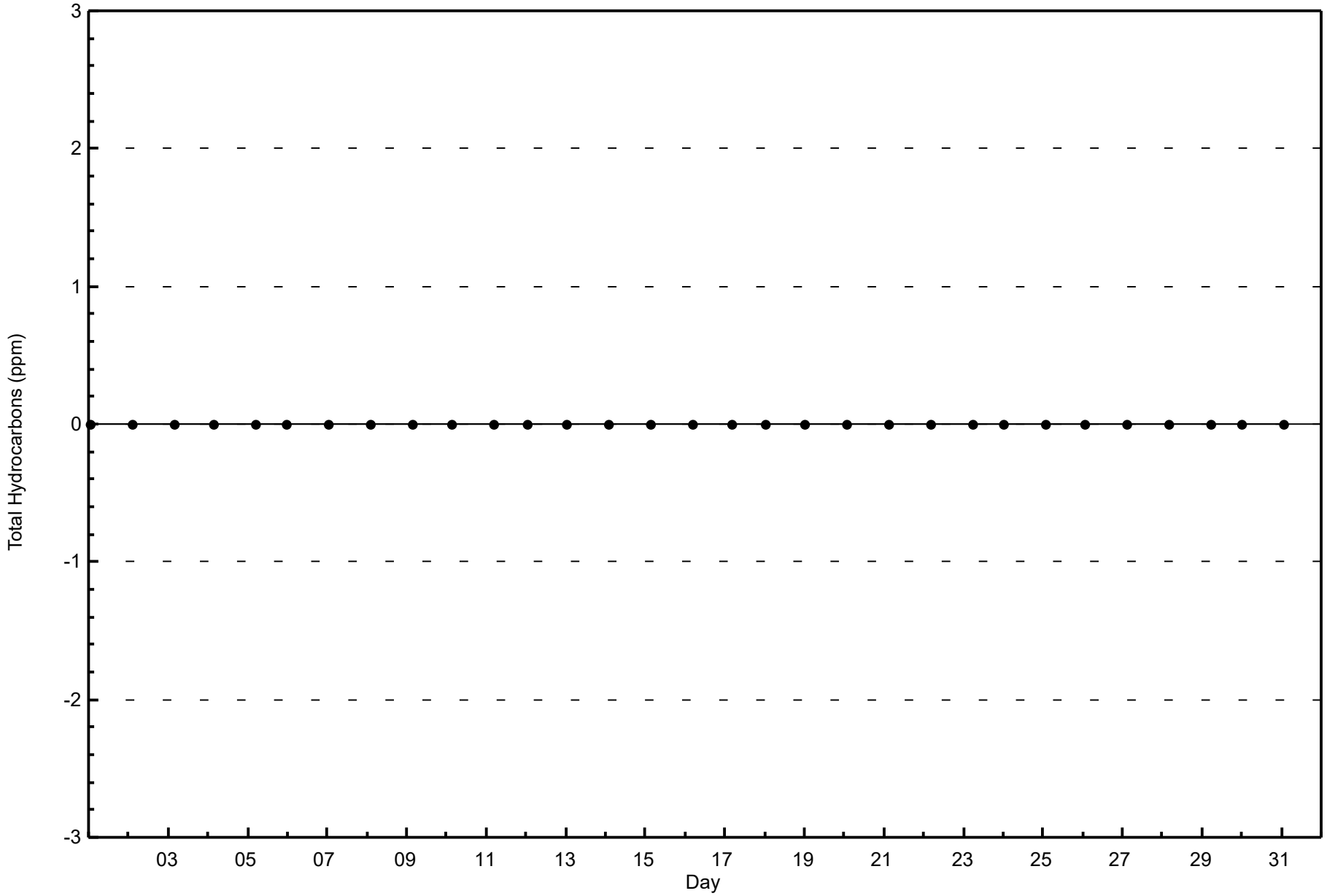
Total Number of Hours: 744

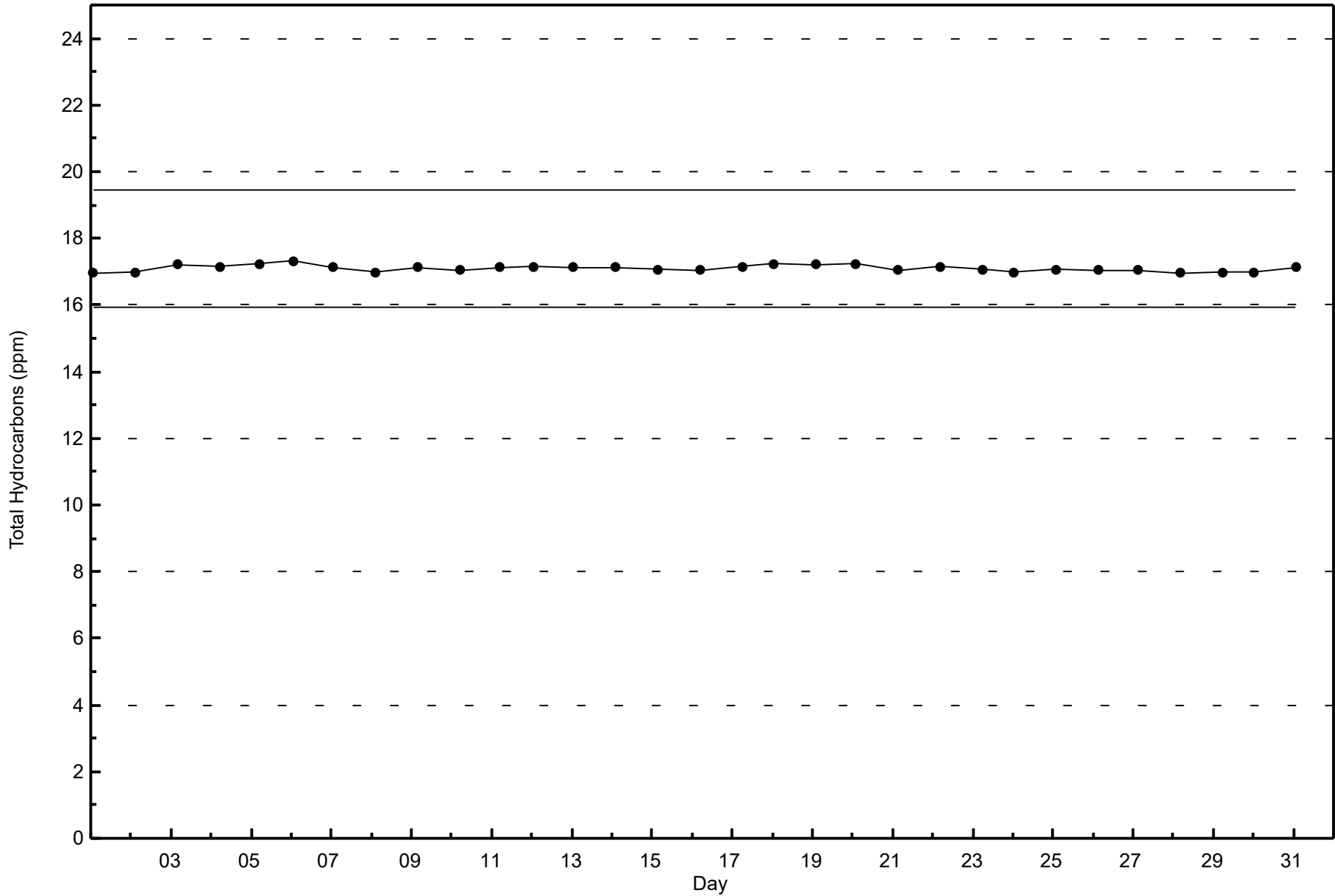


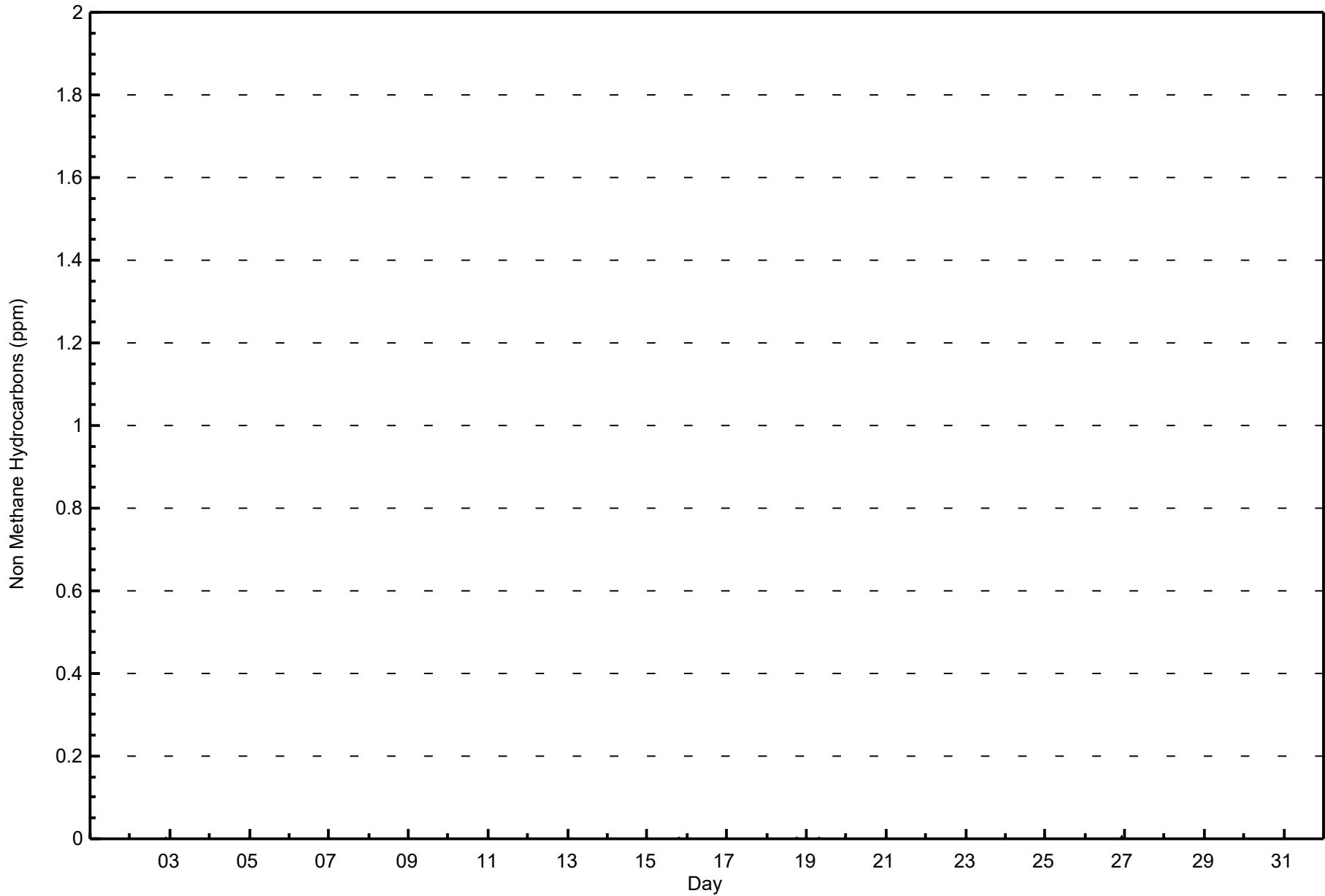
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Total Hydrocarbons (THC) - ppm
Janvier











Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Non Methane Hydrocarbons (NMHC) - ppm
Janvier - January 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 0.005	707	99.86	99.86
0.006 - 0.05	1	0.14	100.00
0.06 - 0.1	0	0.00	100.00
> 0.1	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



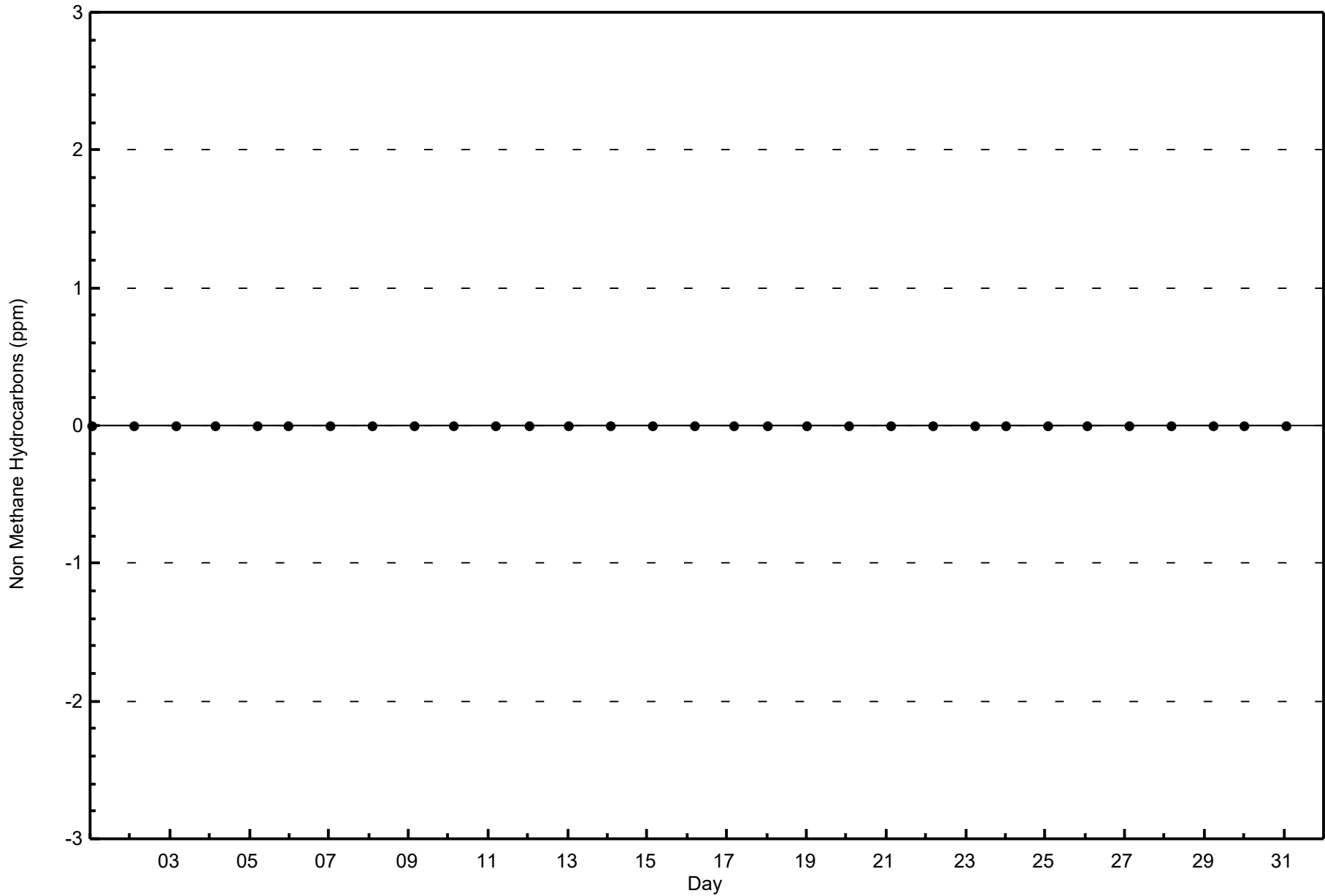
**Wood Buffalo Environmental Association
Frequency Distribution**

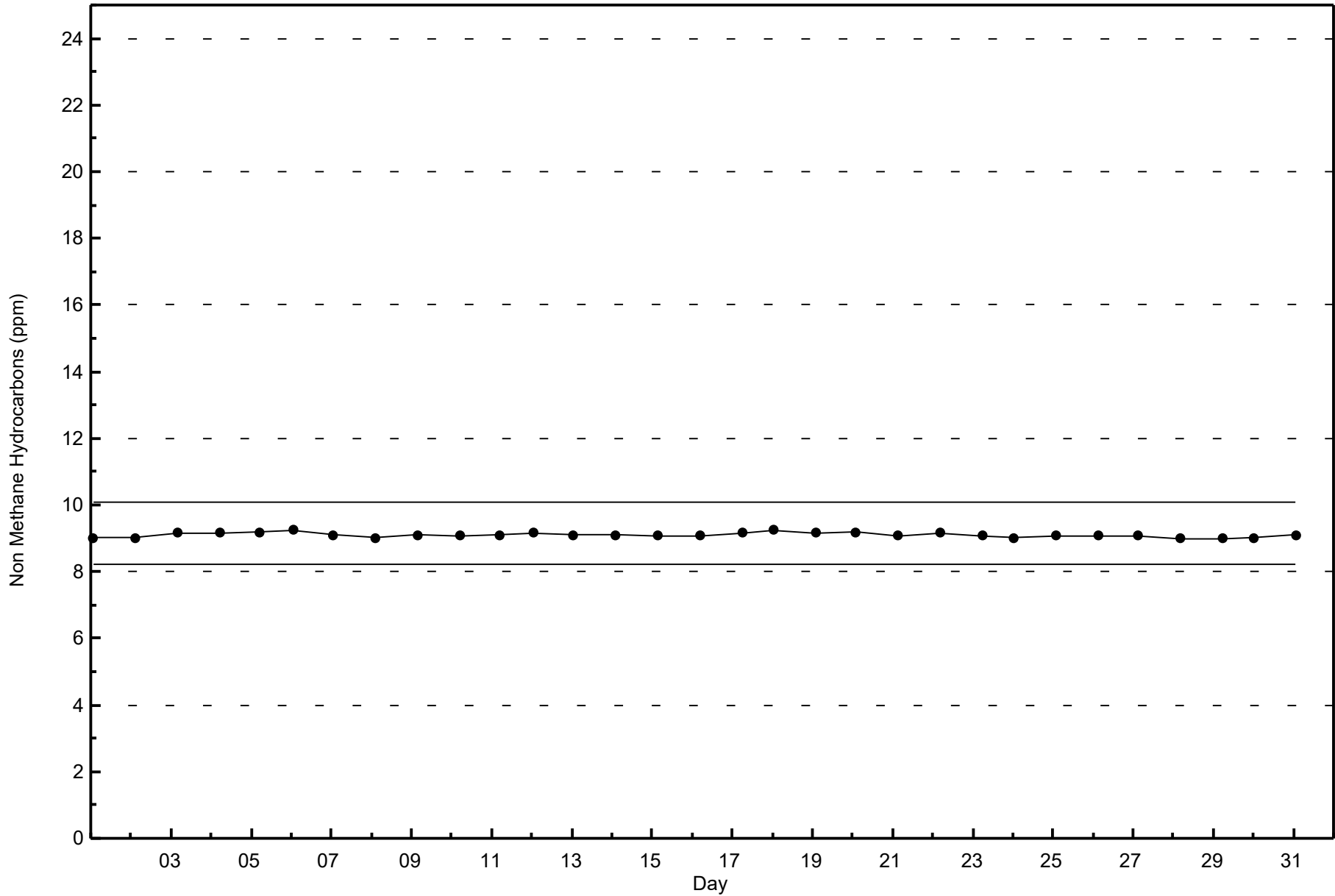
**Non Methane Hydrocarbons (NMHC) - ppm
Janvier - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 0.005	70	87	25	14	8	6	4	13	19	125	130	44	42	60	38	14	699
0.006 - 0.05	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
0.06 - 0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	70	87	25	14	8	6	4	13	19	125	130	45	42	60	38	14	700

Total Number of Valid Hours: 700

Total Number of Hours: 744







Wood Buffalo Environmental Association
Summary of Hour Averages

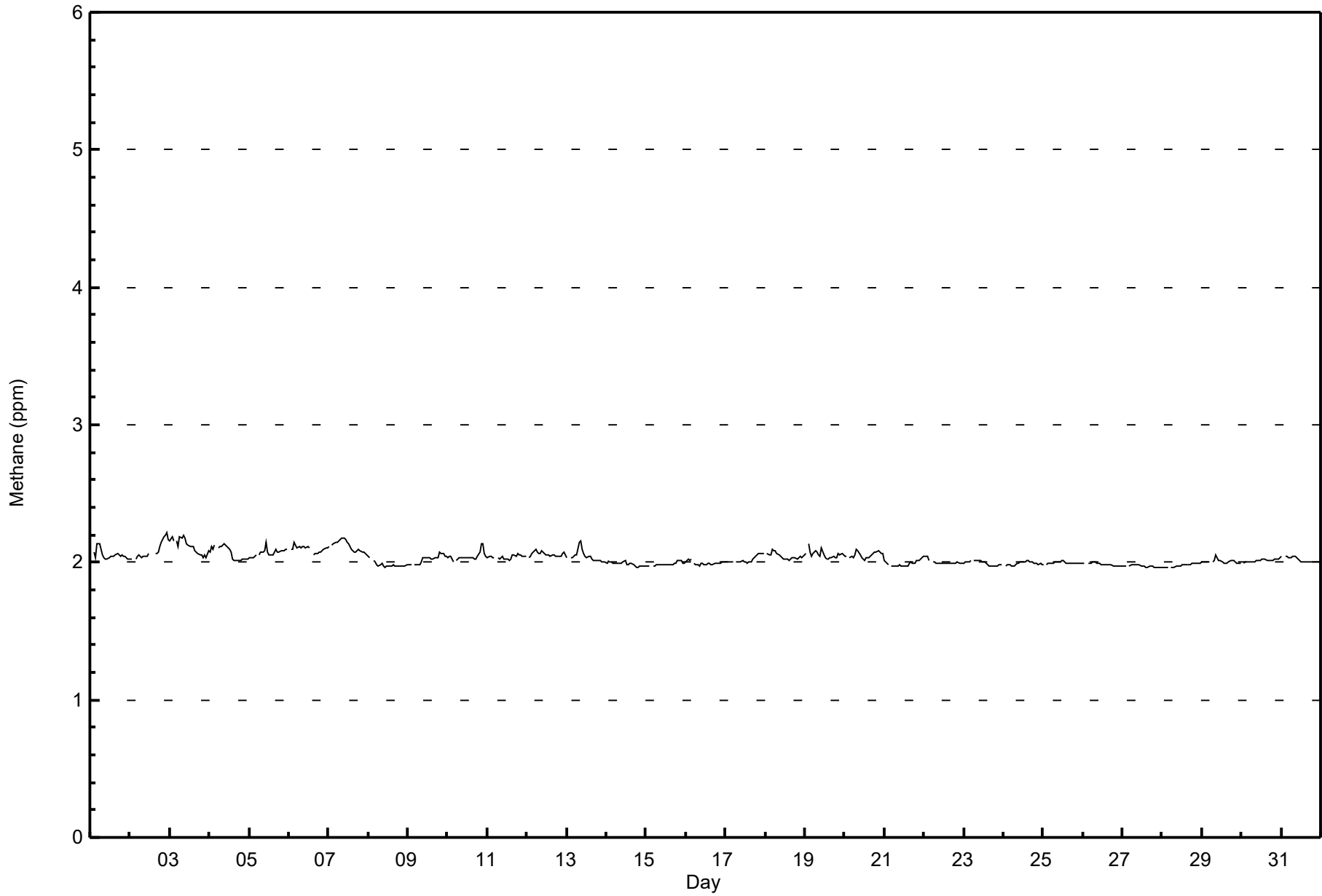
Methane (CH₄) - ppm
Janvier - January 2025

Number of Exceedences (AAAQO):		1-hr: 0		24-hr: 0		Hours in Service:																744				
Maximum Value: 2.2 ppm on Jan 2 23:00		Maximum Daily Average: 2.1 ppm on Jan 7																Hours of Data:		708						
Minimum Value: 2.0 ppm on Jan 28 00:00		Minimum Daily Average: 2.0 ppm on Jan 27																Hours of Missing Data:		36						
Maximum Diurnal Average: 2.0 ppm at hour 9		Minimum Diurnal Average: 2.0 ppm at hour 15																Hours of Calibration:		34						
Monthly Average: 2.03 ppm		Percentiles: P ₁ = 2.0 P ₁₀ = 2.0 Q ₁ = 2.0 Median = 2.0 Q ₃ = 2.1 P ₉₀ = 2.1 P ₉₉ = 2.2																Percent Operational Time:		99.7						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	2.0	Z	2.1	2.0	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1
2-Jan	2.0	2.0	Z	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.1	C	C	C	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.1	2.2
3-Jan	2.2	2.2	2.2	Z	2.2	2.1	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.0	2.1	2.1	2.2
4-Jan	2.1	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1
5-Jan	2.0	2.0	2.0	2.0	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
6-Jan	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	M	M	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
7-Jan	2.1	Z	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2
8-Jan	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
9-Jan	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.1
10-Jan	2.0	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.0	2.0	2.1
11-Jan	2.0	2.0	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.1
12-Jan	Z	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1
13-Jan	2.0	Z	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2
14-Jan	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
15-Jan	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
16-Jan	2.0	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
17-Jan	2.0	2.0	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.0	2.1
18-Jan	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1
19-Jan	2.1	Z	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1
20-Jan	2.0	2.0	Z	2.0	2.0	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
21-Jan	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
22-Jan	2.0	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
23-Jan	2.0	2.0	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
24-Jan	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
25-Jan	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
26-Jan	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
27-Jan	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
28-Jan	2.0	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
29-Jan	2.0	2.0	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
30-Jan	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
31-Jan	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
2.0																								Diurnal Average		
2.2																								Diurnal Maximum		
Z - zerospan		C - Calibration				M - Maintenance																				



Wood Buffalo Environmental Association
Hourly Averages

Methane (CH₄) - ppm
Janvier - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Methane (CH₄) - ppm
Janvier - January 2025**

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	524	74.01	74.01
2.1 - 3.0	184	25.99	100.00
3.1 - 10.0	0	0.00	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Methane (CH₄) - ppm
Janvier - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2.0	50	72	18	13	4	3	3	5	7	67	102	38	41	58	35	8	524
2.1 - 3.0	20	15	7	1	4	3	1	8	12	58	28	7	1	2	3	6	176
3.1 - 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	70	87	25	14	8	6	4	13	19	125	130	45	42	60	38	14	700

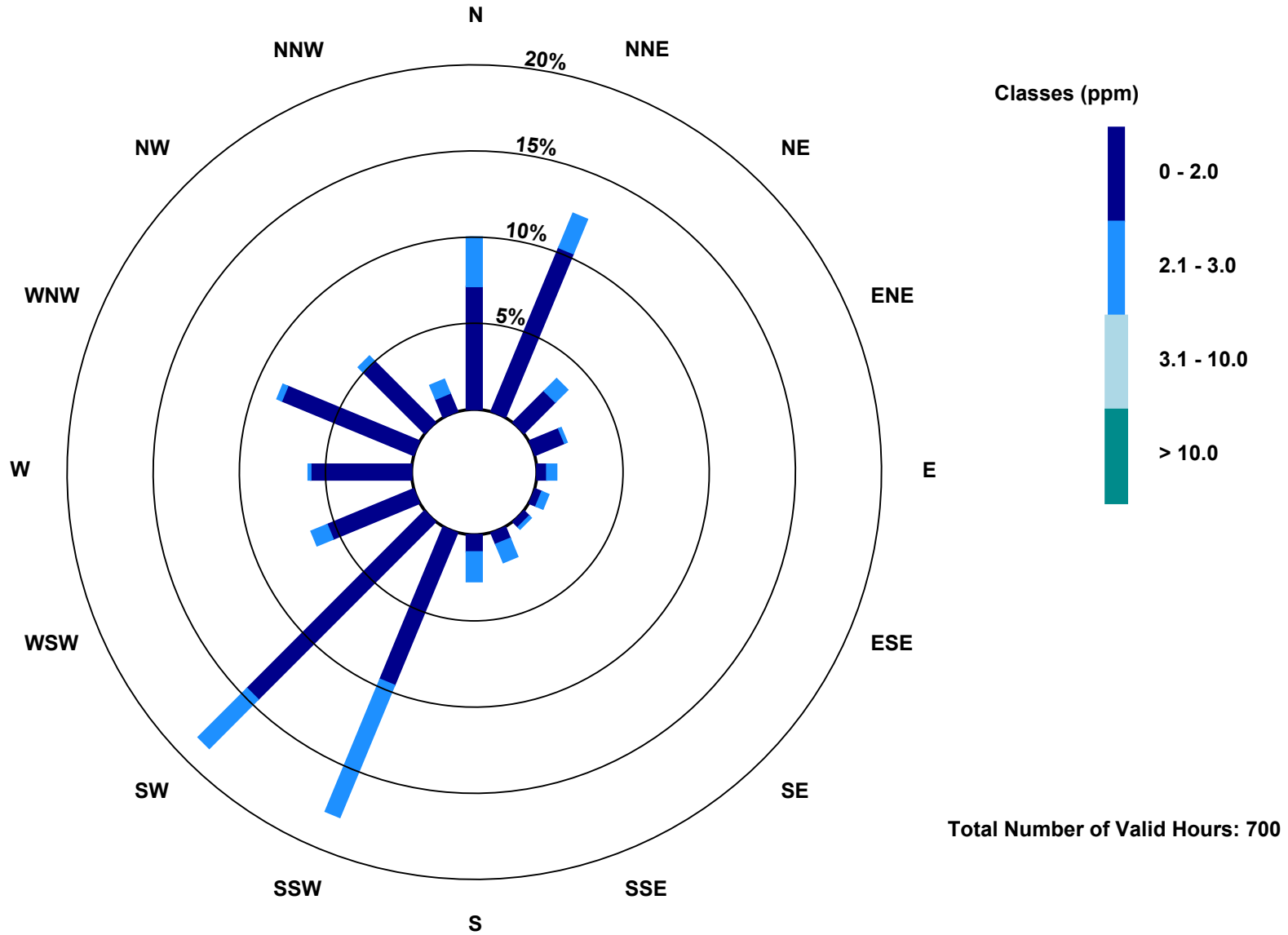
Total Number of Valid Hours: 700

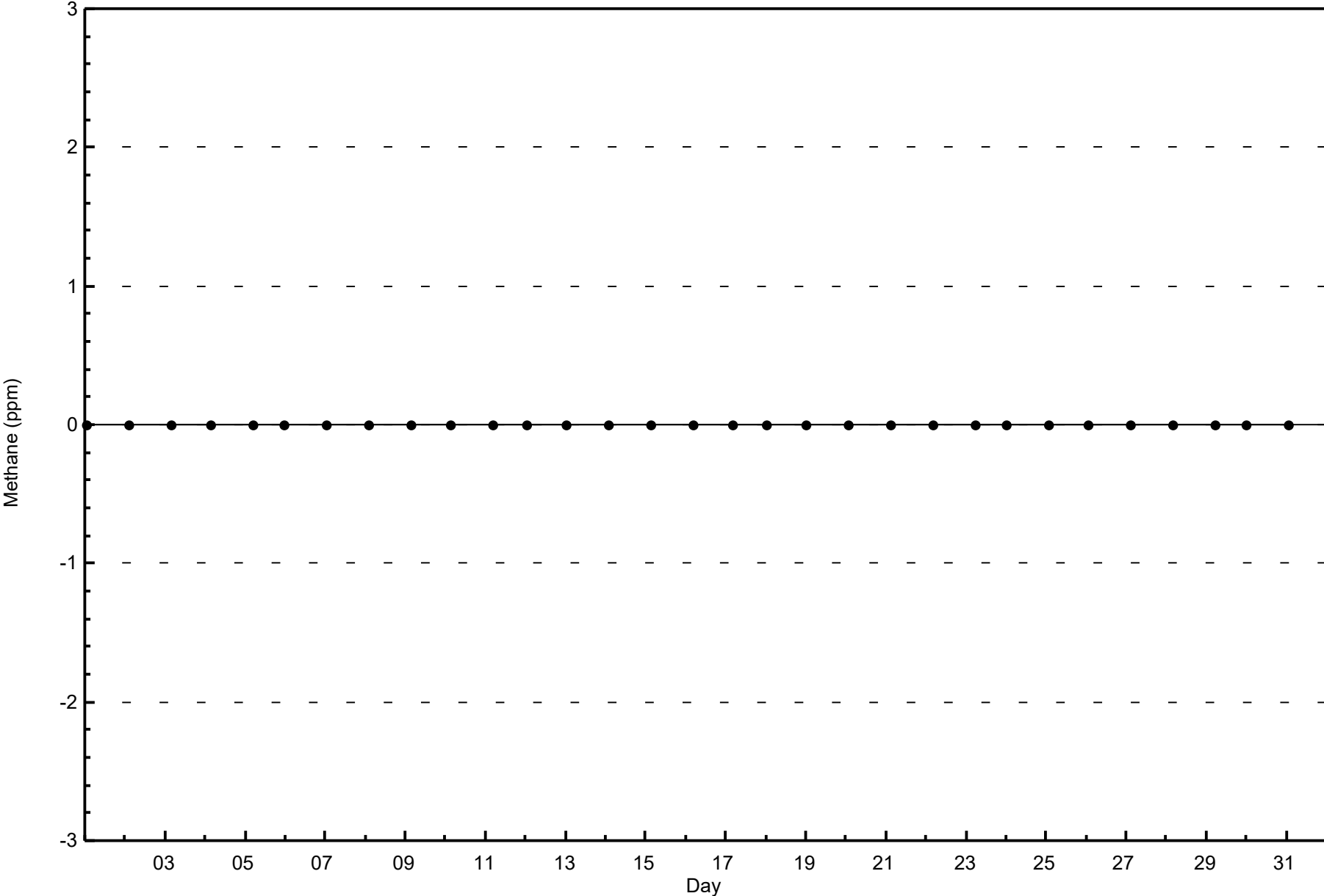
Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Methane (CH₄) - ppm
Janvier

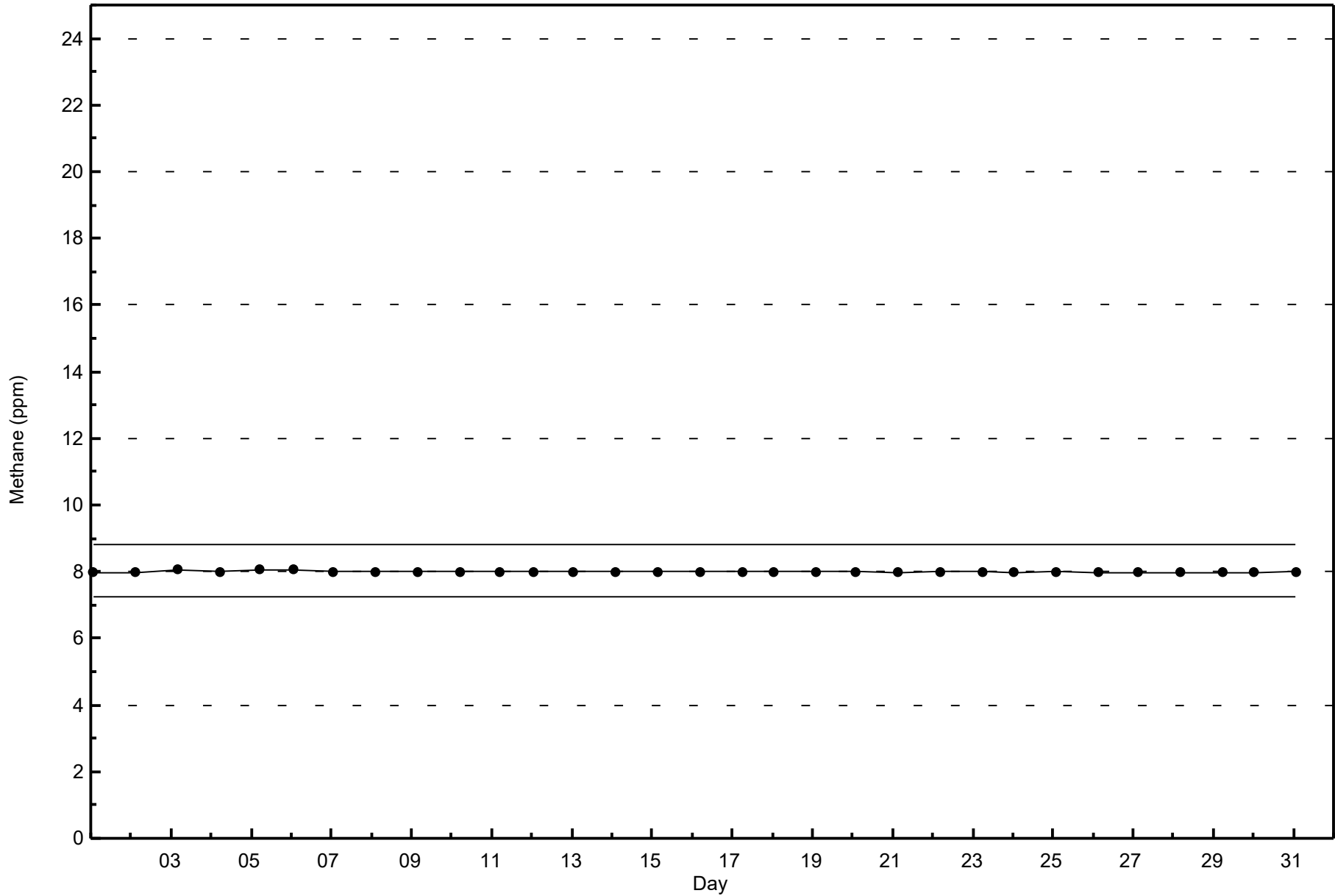






Wood Buffalo Environmental Association
Span Responses

Methane (CH₄) - ppm
Janvier - January 2025





Wood Buffalo Environmental Association
Summary of Hour Averages

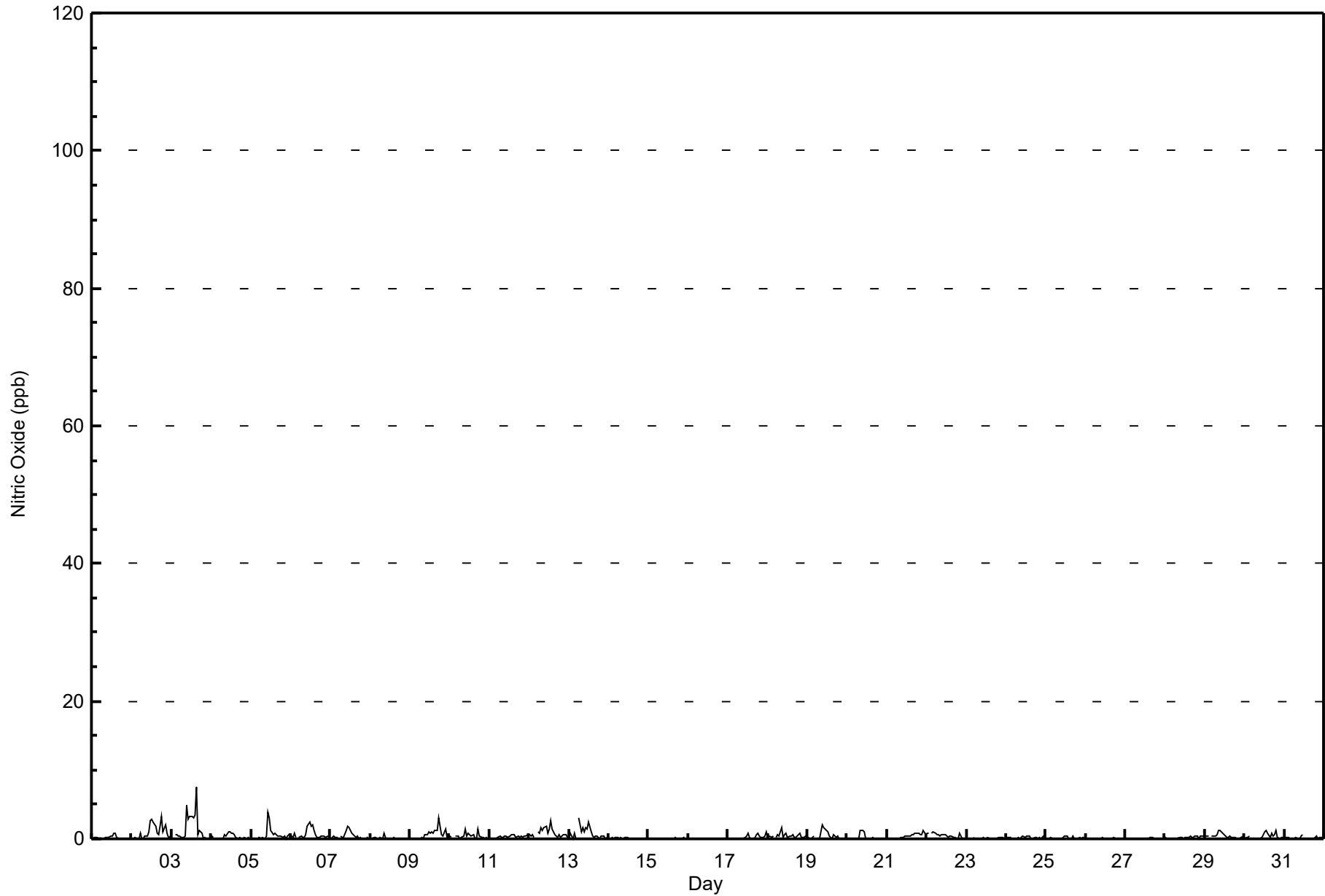
Nitric Oxide (NO) - ppb
Janvier - January 2025

Maximum Value: 7.5 ppb on Jan 3 16:00		Maximum Daily Average: 1.5 ppb on Jan 3		Hours in Service: 744																						
Minimum Value: 0.0 ppb on Jan 1 01:00		Minimum Daily Average: 0.0 ppb on Jan 16		Hours of Data: 707																						
Maximum Diurnal Average: 0.8 ppb at hour 12		Minimum Diurnal Average: 0.1 ppb at hour 5		Hours of Missing Data: 37																						
Monthly Average: 0.37 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.2 Q ₃ = 0.5 P ₉₀ = 0.9 P ₉₉ = 3.1		Hours of Calibration: 37																						
				Percent Operational Time: 100.0																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0.0	0.1	0.2	0.2	0.0	Z	0.0	0.0	0.3	0.3	0.2	0.3	0.4	0.8	0.8	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.8
2-Jan	Z	0.0	0.2	0.0	0.1	0.7	0.0	0.0	0.4	0.4	0.9	2.7	2.8	2.5	1.8	0.8	0.7	1.9	3.2	0.9	2.1	0.7	0.3	0.2	1.0	3.2
3-Jan	0.8	Z	0.6	0.6	0.3	0.5	0.2	0.3	0.5	5.0	2.8	3.3	3.3	3.2	3.5	7.5	0.6	1.2	0.9	0.0	0.2	0.0	0.0	0.0	1.5	7.5
4-Jan	0.4	0.1	Z	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.9	1.1	0.8	0.7	0.5	0.1	0.1	0.2	0.0	0.0	0.3	0.1	0.1	0.0	0.3	1.1
5-Jan	0.0	0.0	0.1	Z	0.1	0.2	0.0	0.1	0.0	0.4	3.9	3.1	1.2	0.7	0.8	0.5	0.4	0.4	0.4	0.2	0.5	0.0	0.4	0.5	0.6	3.9
6-Jan	0.4	0.3	0.8	0.3	Z	0.1	0.4	0.1	0.1	0.6	1.8	2.5	1.8	2.0	1.2	0.6	0.2	0.3	0.4	0.4	0.4	0.3	0.4	0.3	0.7	2.5
7-Jan	0.1	0.2	0.4	0.2	0.3	Z	0.3	0.3	0.3	1.1	1.9	1.7	1.2	0.8	0.6	0.2	0.3	0.1	0.2	0.0	0.1	0.0	0.2	0.0	0.5	1.9
8-Jan	Z	0.0	0.3	0.1	0.0	0.0	0.3	0.0	0.8	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.8
9-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.5	0.6	1.0	0.9	1.1	0.7	1.1	1.2	3.0	1.8	0.6	0.5	1.5	0.3	0.2	0.7	3.0
10-Jan	0.5	0.3	Z	0.3	0.4	0.3	0.0	0.2	0.4	1.4	0.4	0.7	0.5	0.5	0.6	0.0	0.1	1.4	0.4	0.3	0.1	0.1	0.1	0.0	0.4	1.4
11-Jan	0.2	0.0	0.1	Z	0.0	0.2	0.4	0.1	0.2	0.4	0.3	0.3	0.4	0.6	0.6	0.6	0.2	0.4	0.1	0.4	0.1	0.3	0.4	0.7	0.3	0.7
12-Jan	0.6	0.5	0.6	0.3	Z	1.0	0.8	1.6	1.3	1.5	1.9	0.8	1.5	2.6	1.5	0.6	0.4	0.2	0.7	0.3	0.6	0.5	0.6	0.2	0.9	2.6
13-Jan	0.0	0.7	0.1	0.8	0.0	Z	3.0	1.1	1.7	1.0	1.6	1.3	2.4	1.1	0.4	0.3	0.4	0.4	0.0	0.4	0.3	0.3	0.1	0.3	0.8	3.0
14-Jan	Z	0.0	0.2	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
15-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2
16-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.8	0.1	0.0	0.1	0.1	0.6	0.9	0.3	0.3	0.2	0.3	1.0	0.2	1.0
18-Jan	0.2	0.4	0.2	0.4	Z	0.1	0.6	0.3	1.7	0.3	0.5	0.8	0.2	0.3	0.4	0.5	0.3	0.2	0.5	0.8	0.3	0.1	0.2	0.4	0.4	1.7
19-Jan	0.1	0.0	0.0	0.2	0.4	Z	0.0	0.0	1.0	2.1	1.7	1.2	0.9	0.5	0.2	0.1	0.6	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.4	2.1
20-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.2	1.1	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2	1.3
21-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.2	0.5	0.4	0.4	0.5	0.5	0.5	0.9	0.8	0.8	0.6	0.7	1.3	0.7	0.4	1.3
22-Jan	0.8	0.7	Z	0.9	0.9	0.9	0.6	0.6	0.5	0.6	0.5	0.6	0.4	0.1	0.3	0.4	0.3	0.3	0.1	0.1	0.8	0.0	0.0	0.0	0.5	0.9
23-Jan	0.0	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.0	0.1	0.0	0.1	0.0	0.2	0.2	0.1	0.3	0.0	0.1	0.3
24-Jan	0.1	0.1	0.2	0.3	Z	0.0	0.0	0.3	0.0	0.3	0.4	0.1	0.5	0.5	0.4	0.0	0.0	0.2	0.1	0.0	0.1	0.0	0.5	0.1	0.2	0.5
25-Jan	0.0	0.1	0.0	0.2	0.0	Z	0.0	0.0	0.0	0.0	0.3	0.3	0.5	0.4	0.0	0.0	0.5	0.0	0.0	0.0	0.2	0.0	0.3	0.1	0.1	0.5
26-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
27-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
28-Jan	0.2	0.0	Z	0.0	0.1	0.0	0.0	0.1	0.3	0.3	0.1	0.0	0.1	0.2	0.1	0.4	0.2	0.3	0.5	0.4	0.0	0.5	0.3	0.3	0.2	0.5
29-Jan	0.5	0.5	0.4	Z	0.3	0.3	0.5	0.5	1.3	1.3	0.9	0.7	0.5	0.3	0.1	0.3	0.2	0.2	0.1	0.1	0.0	0.0	0.1	0.3	0.4	1.3
30-Jan	0.0	0.1	0.2	0.3	Z	0.0	0.0	0.1	0.0	0.0	0.2	0.6	1.0	1.2	0.8	0.2	0.8	0.5	0.6	1.2	0.2	0.0	0.1	0.1	0.4	1.2
31-Jan	0.0	0.1	0.1	0.0	0.0	Z	0.0	0.2	0.0	0.1	0.4	0.7	C	C	C	C	C	C	C	0.0	0.4	0.0	0.2	0.2	--	0.7
																								Diurnal Average		
																								Diurnal Maximum		
Z - zerospan C - Calibration																										



Wood Buffalo Environmental Association
Hourly Averages

Nitric Oxide (NO) - ppb
Janvier - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitric Oxide (NO) - ppb
Janvier - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	707	100.00	100.00
21 - 40	0	0.00	100.00
41 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 707

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitric Oxide (NO) - ppb
Janvier - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	69	91	23	11	7	6	3	13	20	127	129	45	42	60	38	15	699
21 - 40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	69	91	23	11	7	6	3	13	20	127	129	45	42	60	38	15	699

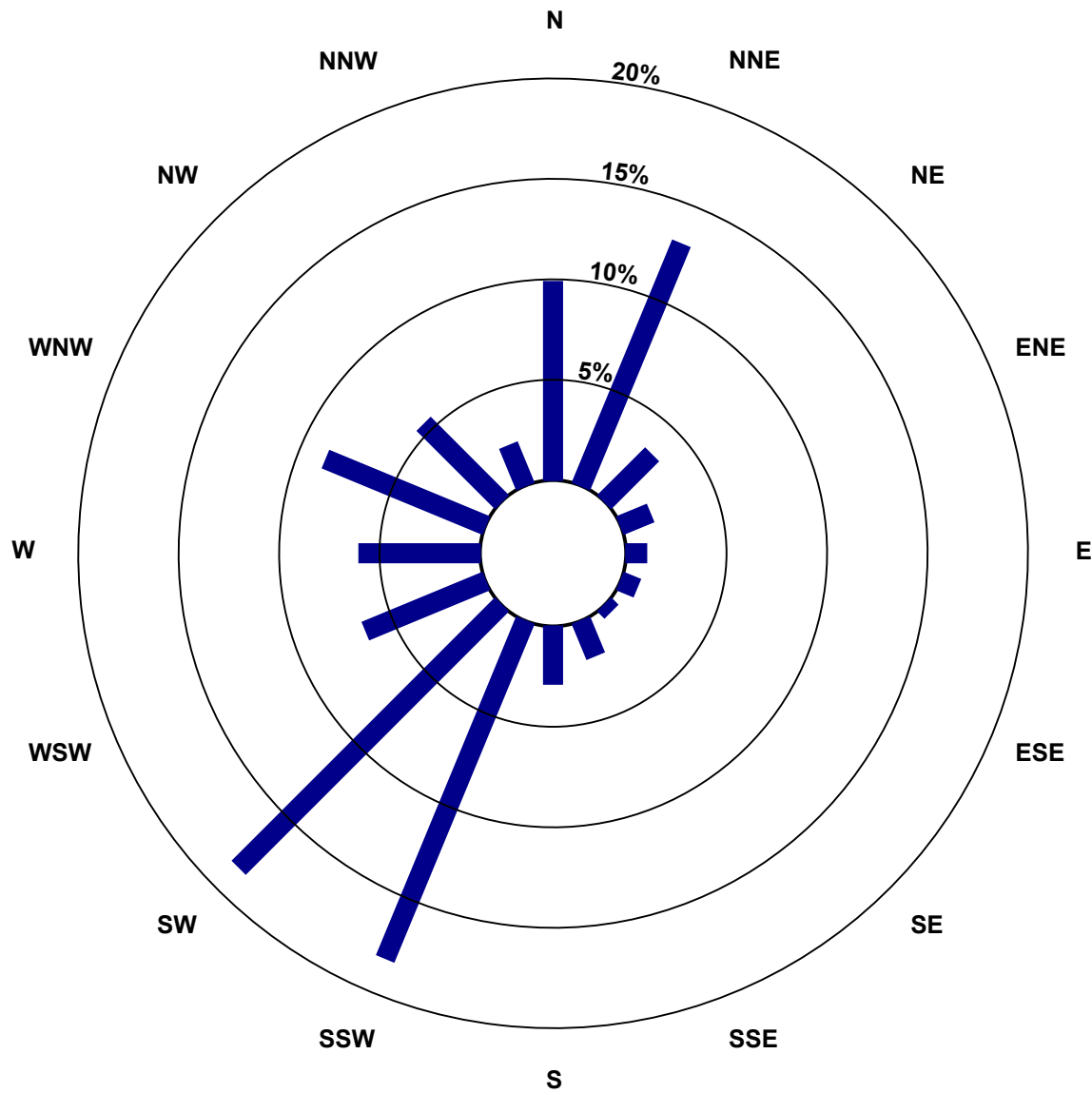
Total Number of Valid Hours: 699

Total Number of Hours: 744

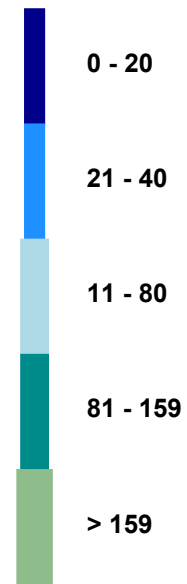


Wood Buffalo Environmental Association
Wind Rose Jan 2025

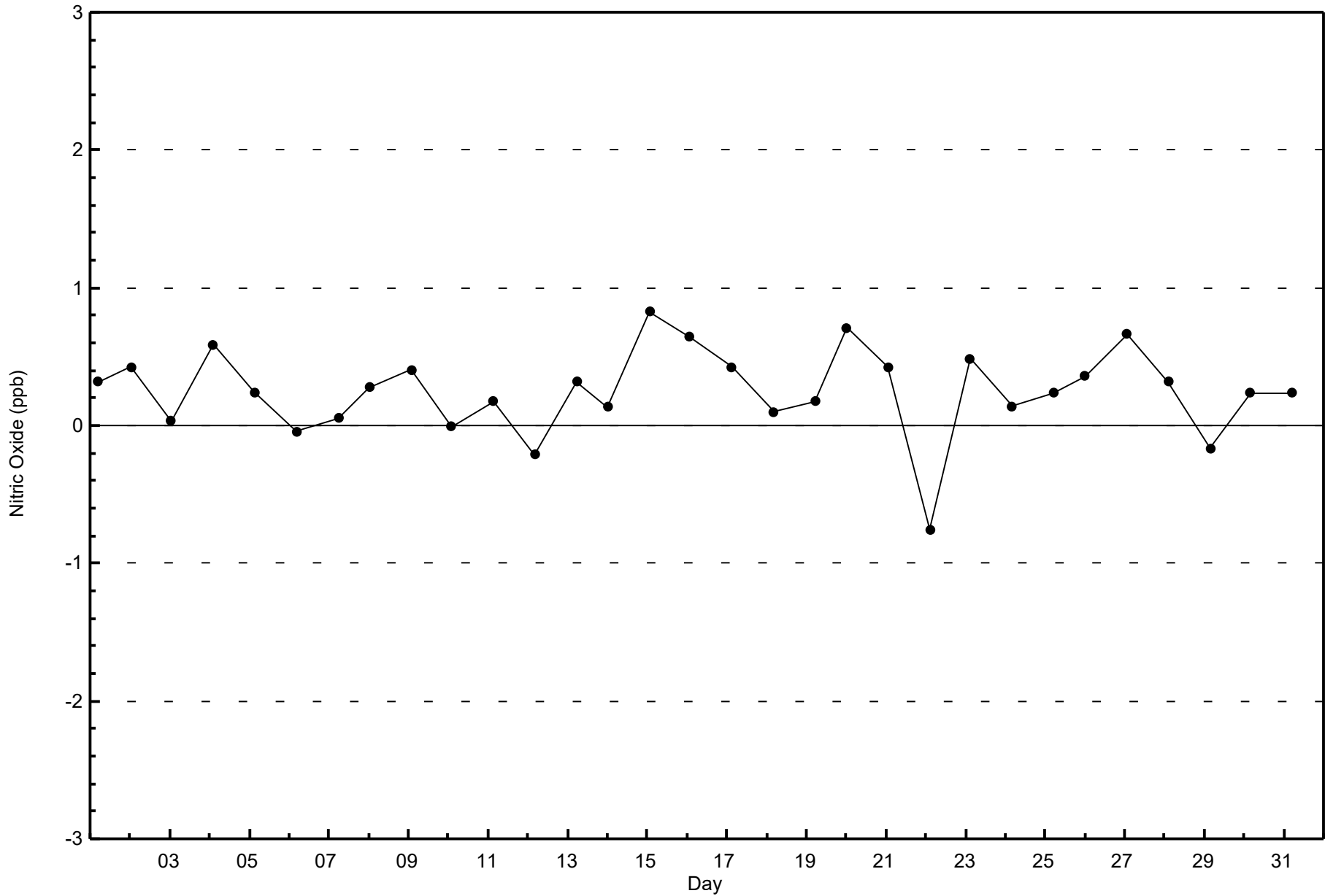
Nitric Oxide (NO) - ppb
Janvier



Classes (ppb)



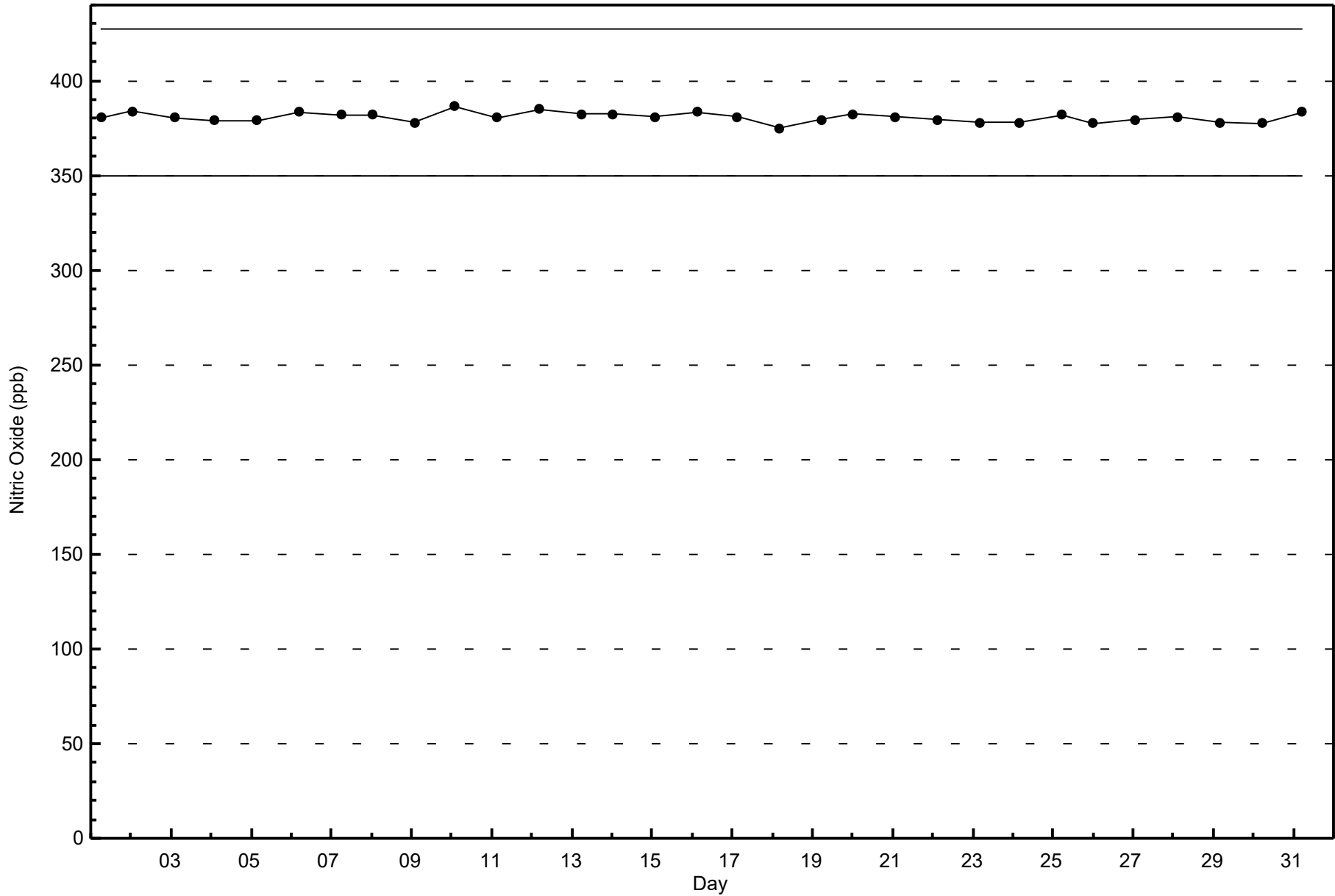
Total Number of Valid Hours: 699





Wood Buffalo Environmental Association
Span Responses

Nitric Oxide (NO) - ppb
Janvier - January 2025





Wood Buffalo Environmental Association
Summary of Hour Averages

Wind Direction 20m (WD20) - deg
Janvier - January 2025

Direction of Maximum Speed: 307 deg on Jan 28 13:00	Hours in Service: 744
Direction of Maximum Daily Speed Average: 301.2 deg on Jan 28	Hours of Data: 736
Direction of Minimum Speed: 23 deg on Jan 4 11:00	Hours of Missing Data: 8
Direction of Minimum Daily Speed Average: 0.3 deg on Jan 2	Percent Operational Time: 98.9
Monthly Average Direction: 267.3 deg	

Day	Hourly Period Ending At (MST)																								Daily Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	261	232	254	259	184	218	217	227	227	240	241	325	12	9	13	33	35	13	9	2	13	10	5	12	346.9
2-Jan	13	16	31	55	223	219	235	277	229	219	232	313	10	33	42	89	100	102	204	162	189	185	154	153	47.6
3-Jan	197	200	197	183	201	181	187	184	202	197	205	UO	UO	UO	UO	UO	UO	340	132	160	158	152	128	149	179.0
4-Jan	73	40	99	359	20	22	1	50	201	187	23	109	152	195	129	115	149	159	178	191	192	196	207	205	165.7
5-Jan	204	224	237	236	245	243	308	337	325	358	8	10	11	11	9	24	19	22	16	32	32	38	29	44	0.0
6-Jan	19	54	104	237	45	81	336	UO	4	263	350	238	286	189	201	203	199	210	220	211	214	214	213	216	211.1
7-Jan	213	216	212	220	213	219	222	220	221	208	212	209	211	203	202	210	219	213	221	216	215	217	210	220	214.4
8-Jan	219	225	209	222	241	237	215	186	194	271	291	290	292	297	303	317	315	310	296	298	295	295	302	286	276.5
9-Jan	247	267	277	281	265	286	304	309	345	24	27	36	44	89	69	23	66	22	29	251	UO	354	12	26	321.4
10-Jan	24	116	177	193	201	214	217	219	215	197	213	219	222	226	231	228	237	260	21	16	4	1	12	13	229.1
11-Jan	11	4	6	6	15	9	7	13	16	18	25	23	21	35	14	6	16	21	356	338	22	73	168	195	15.4
12-Jan	206	174	163	175	199	175	174	175	195	185	202	200	200	220	222	202	198	208	206	200	191	196	213	221	198.1
13-Jan	216	210	212	202	212	358	239	206	208	201	212	220	196	202	216	214	217	218	230	223	217	228	227	227	217.4
14-Jan	237	229	209	214	208	212	211	209	214	220	218	210	211	225	224	216	216	243	263	271	281	290	282	285	235.3
15-Jan	280	291	294	291	298	284	291	285	294	306	300	304	301	299	305	295	245	229	226	208	214	214	216	216	280.7
16-Jan	190	124	130	100	35	89	92	59	68	70	74	64	39	39	36	32	33	30	21	17	14	3	352	358	37.0
17-Jan	357	353	2	354	358	358	355	359	7	9	10	4	2	5	0	358	350	0	347	6	358	347	349	290	357.7
18-Jan	330	329	350	150	195	198	203	229	209	217	223	233	224	213	204	197	207	226	210	212	219	226	216	208	216.8
19-Jan	208	209	210	210	204	203	204	203	199	223	238	11	8	5	7	22	18	222	283	213	206	211	207	208	220.5
20-Jan	207	209	209	210	208	207	205	209	195	187	198	207	211	210	213	218	224	232	236	235	232	226	231	193	217.0
21-Jan	245	275	275	269	270	284	277	286	258	271	283	286	283	298	320	353	5	14	4	7	2	360	2	0	310.1
22-Jan	7	292	216	246	273	263	261	310	328	319	320	321	315	298	287	280	256	250	236	206	210	212	215	215	265.1
23-Jan	213	208	211	212	222	222	229	227	232	235	231	231	235	268	264	297	301	301	302	302	306	307	296	289	262.2
24-Jan	292	292	290	296	299	309	333	342	358	355	353	355	345	352	350	336	319	313	289	242	280	279	284	274	319.3
25-Jan	247	231	231	227	228	229	220	223	217	216	227	222	219	242	275	288	263	264	256	269	264	239	220	223	237.3
26-Jan	226	222	215	206	208	213	213	210	205	237	247	252	237	252	244	252	238	235	283	280	275	260	240	242	236.3
27-Jan	246	261	264	252	242	230	226	220	233	240	225	213	234	236	224	226	233	247	230	264	295	299	306	310	254.5
28-Jan	306	306	304	307	309	304	308	311	307	297	306	307	307	310	309	303	297	296	284	277	262	269	266	273	301.2
29-Jan	243	248	254	247	228	235	209	202	197	202	231	210	233	211	41	44	47	28	27	25	30	33	34	25	0.0
30-Jan	19	23	18	20	5	15	21	18	14	20	31	17	34	34	27	19	24	33	32	19	336	17	22	11	21.3
31-Jan	24	14	16	19	17	13	14	14	14	19	18	52	54	50	53	59	62	66	69	63	48	52	39	29	43.8

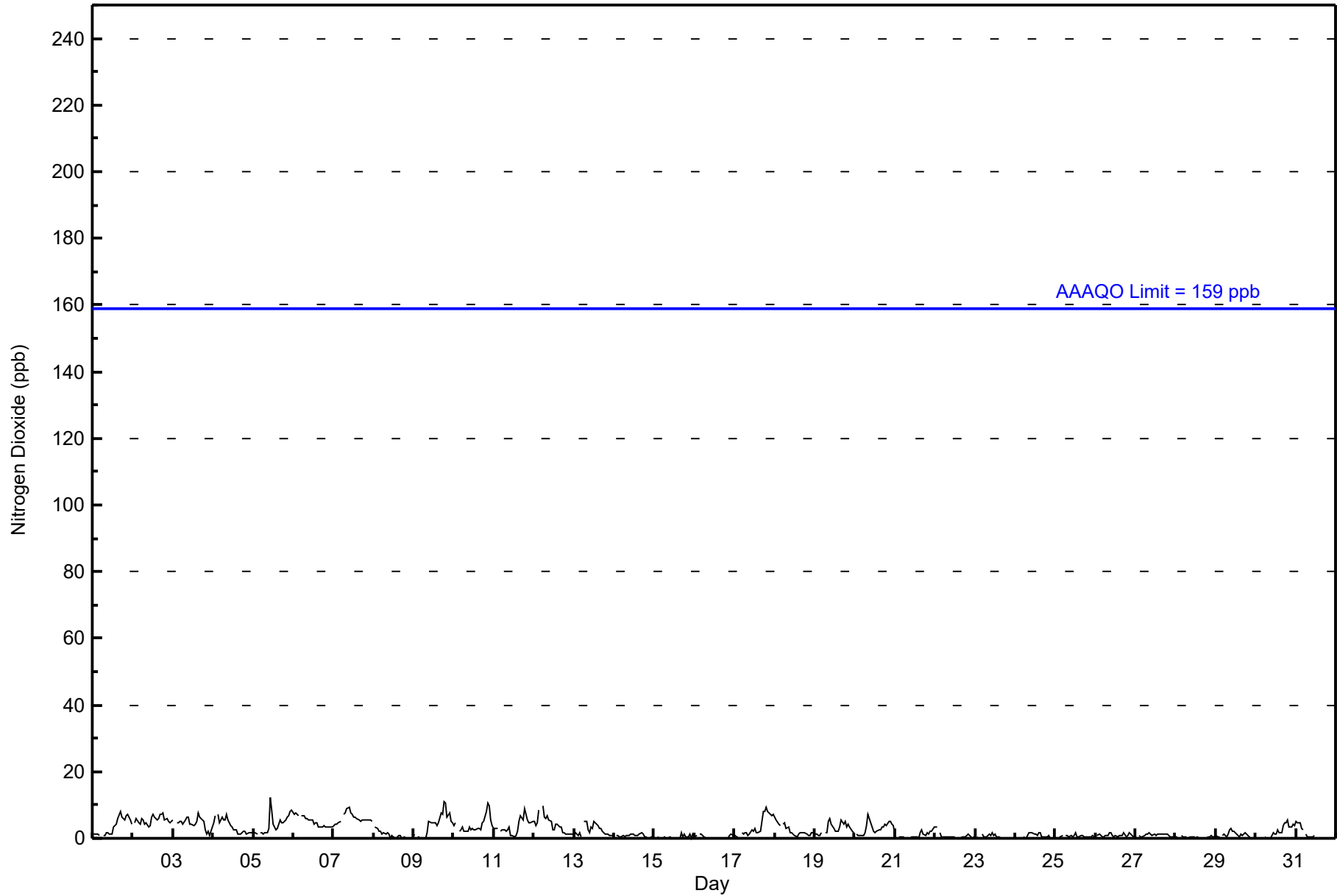
262.1 263.3 253.8 252.3 252.2 253.8 255.1 255.0 251.3 266.2 276.7 276.7 280.7 289.1 292.3 296.2 277.4 276.5 275.7 263.4 266.3 270.6 270.7 268.6
 Diurnal Average

UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
Janvier - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Nitrogen Dioxide (NO₂) - ppb
Janvier - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	707	100.00	100.00
21 - 40	0	0.00	100.00
41 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 707

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Dioxide (NO₂) - ppb
Janvier - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	69	91	23	11	7	6	3	13	20	127	129	45	42	60	38	15	699
21 - 40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	69	91	23	11	7	6	3	13	20	127	129	45	42	60	38	15	699

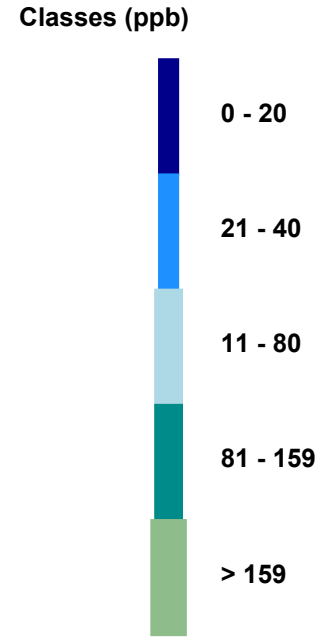
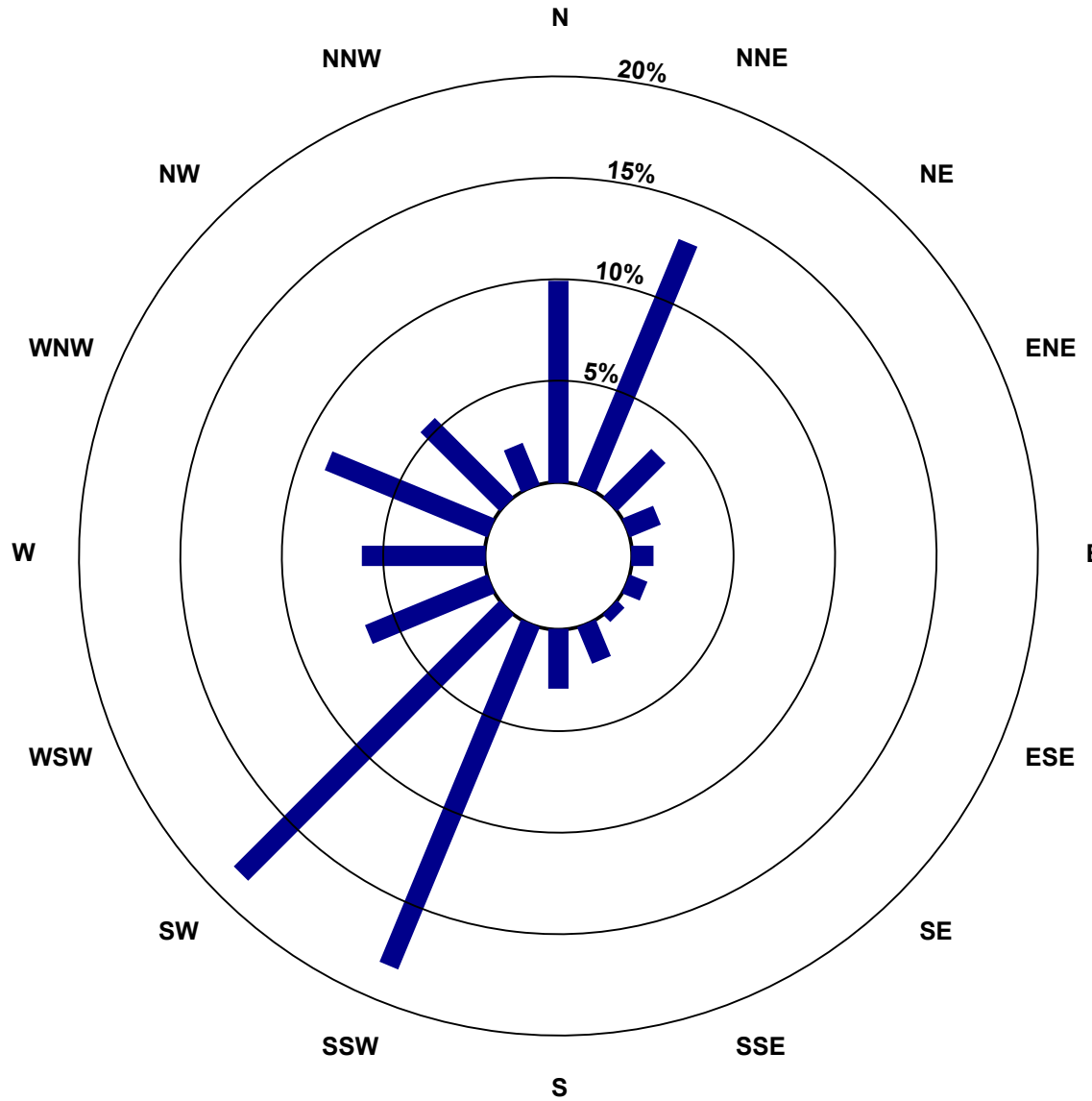
Total Number of Valid Hours: 699

Total Number of Hours: 744

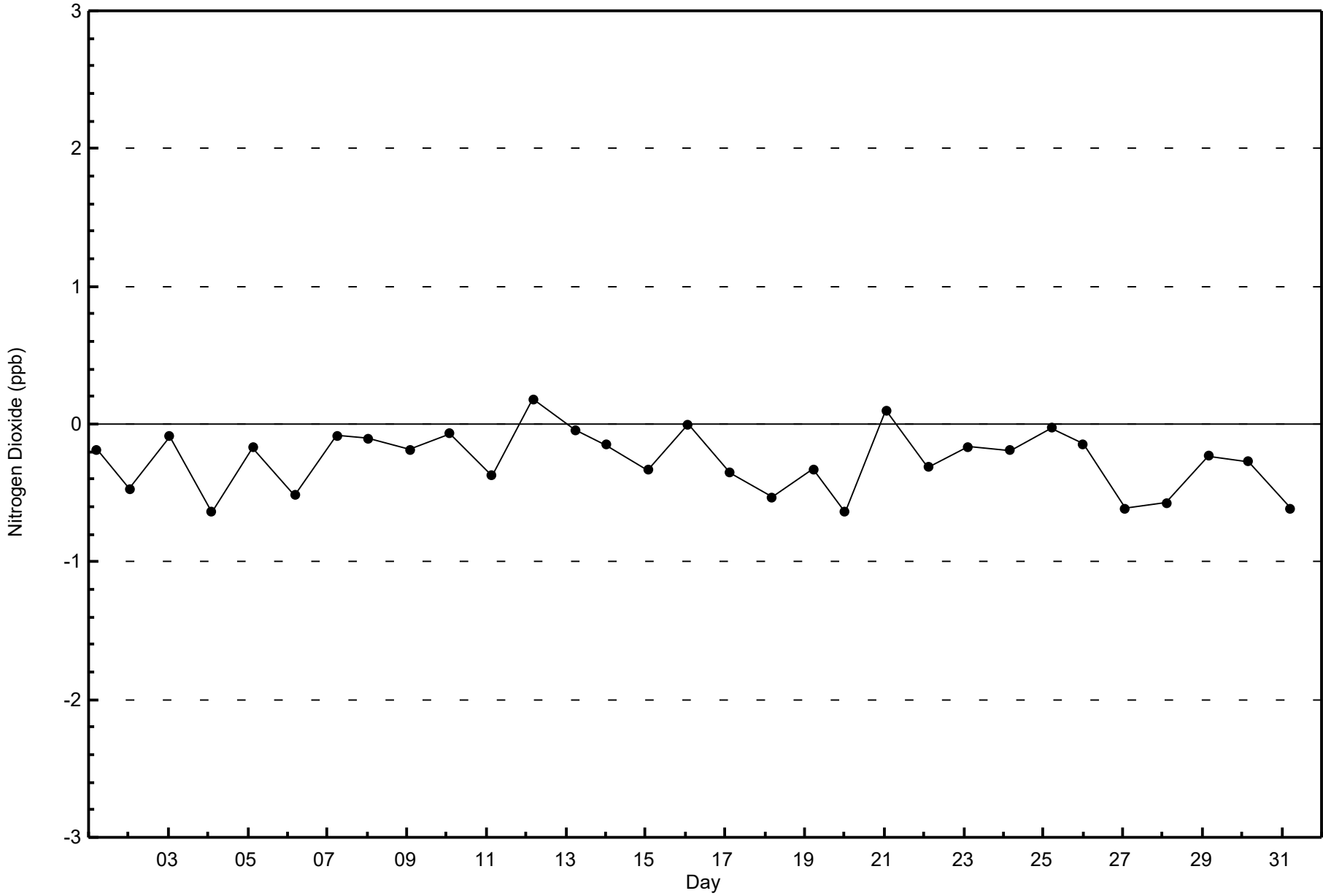


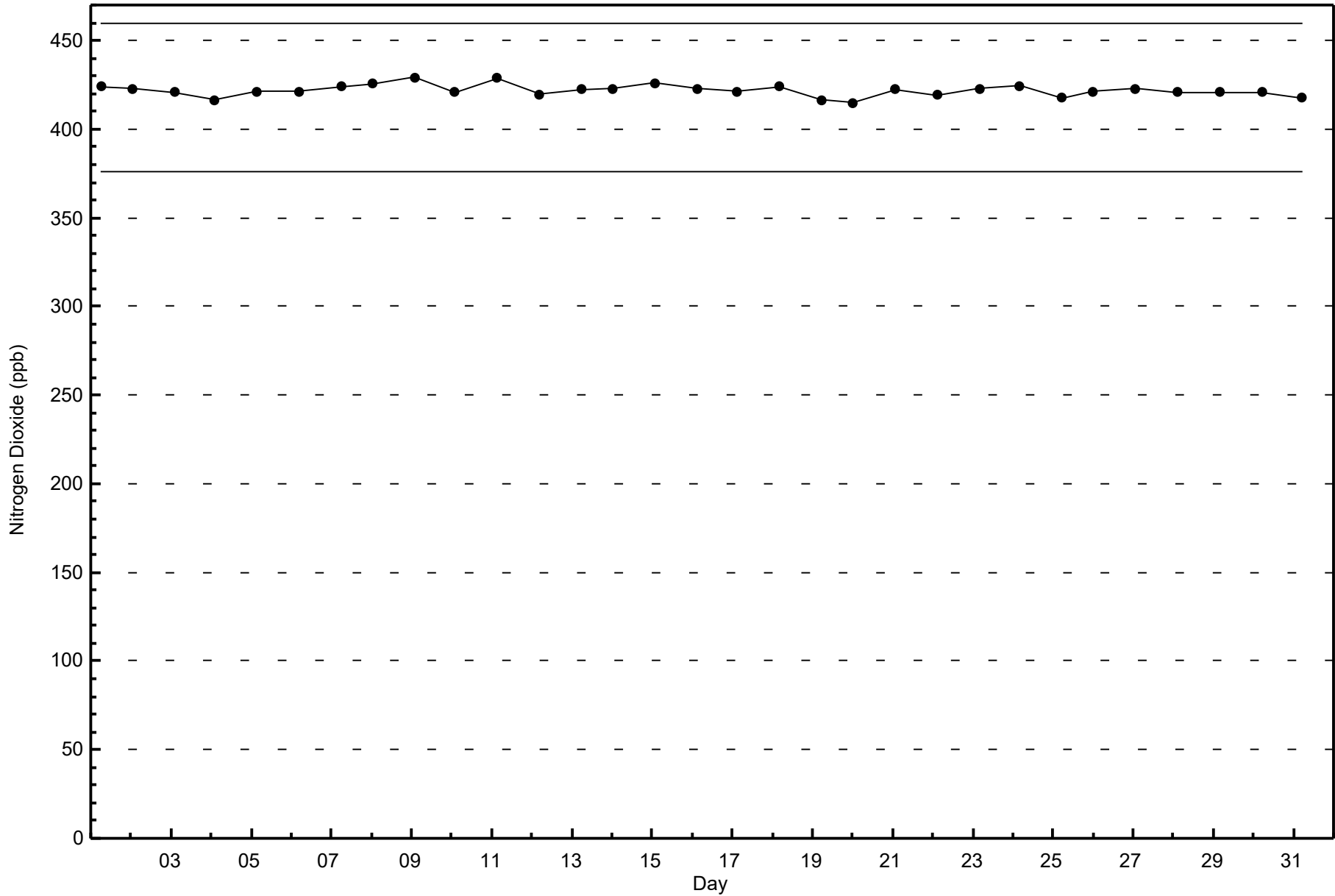
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Dioxide (NO₂) - ppb
Janvier



Total Number of Valid Hours: 699



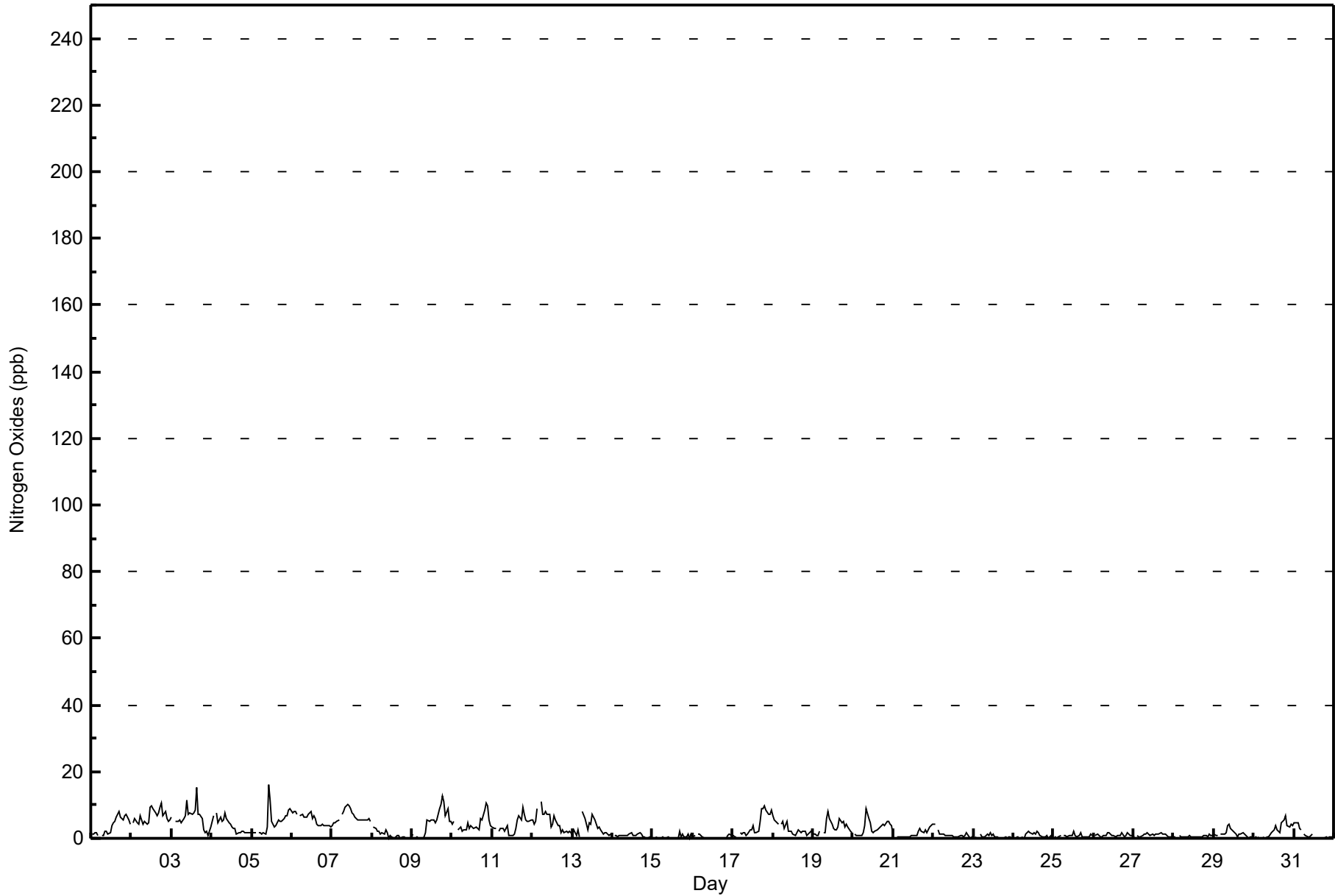




Wood Buffalo Environmental Association
Summary of Hour Averages

Nitrogen Oxides (NO_x) - ppb
Janvier - January 2025

Maximum Value: 16.1 ppb on Jan 5 11:00		Maximum Daily Average: 6.6 ppb on Jan 2		Hours in Service: 744																							
Minimum Value: 0.0 ppb on Jan 9 00:00		Minimum Daily Average: 0.4 ppb on Jan 15		Hours of Data: 707																							
Maximum Diurnal Average: 3.4 ppb at hour 19		Minimum Diurnal Average: 1.7 ppb at hour 5		Hours of Missing Data: 37																							
Monthly Average: 2.81 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.3 Q ₁ = 0.7 Median = 1.7 Q ₃ = 4.7 P ₉₀ = 6.8 P ₉₉ = 10.7		Hours of Calibration: 37																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	1.2	1.4	1.6	1.6	0.7	Z	0.9	0.8	2.0	1.9	1.4	1.7	3.8	4.7	4.9	6.4	8.0	6.5	5.9	5.5	6.8	7.3	5.4	4.3	3.7	8.0	
2-Jan	Z	4.8	6.0	4.8	4.4	6.6	5.7	4.2	5.2	4.0	4.7	9.1	9.9	9.0	7.5	6.6	7.7	9.2	10.7	6.6	8.1	5.9	5.1	5.4	6.6	10.7	
3-Jan	6.4	Z	5.1	5.2	5.3	5.4	4.6	5.9	7.0	11.4	7.1	7.6	7.3	7.6	8.6	15.2	7.0	7.2	5.8	2.5	1.6	2.1	0.9	3.4	6.1	15.2	
4-Jan	4.9	6.8	Z	7.4	4.6	6.4	5.3	5.6	7.5	5.8	4.7	4.4	3.5	3.1	2.9	1.4	1.5	1.8	2.3	2.1	1.7	1.8	1.6	1.7	3.9	7.5	
5-Jan	1.9	1.7	1.5	Z	1.7	1.9	1.3	1.7	1.5	3.4	16.1	11.6	5.3	3.4	3.7	4.6	5.7	4.9	5.2	5.8	6.8	6.7	8.4	9.0	4.9	16.1	
6-Jan	7.8	8.0	8.1	7.0	Z	6.7	7.2	6.2	6.2	6.3	7.1	8.0	6.0	6.6	5.9	4.1	3.6	3.8	4.1	3.9	4.0	3.8	3.7	3.6	5.7	8.1	
7-Jan	3.9	4.6	4.8	4.9	5.4	Z	7.3	8.0	9.3	10.3	9.7	8.7	7.7	7.1	6.4	5.5	5.4	5.5	5.6	5.4	5.7	5.4	5.8	5.2	6.4	10.3	
8-Jan	Z	3.5	3.1	2.3	2.1	1.2	1.9	1.1	2.7	1.5	0.0	0.7	0.4	0.2	0.5	0.8	0.7	0.1	0.3	0.2	0.1	0.2	0.2	0.0	1.0	3.5	
9-Jan	1.1	Z	0.1	0.3	0.0	0.1	0.0	0.3	1.6	5.6	5.2	5.7	5.4	5.7	4.6	5.6	8.8	10.1	12.7	11.0	6.9	9.0	5.3	5.0	4.8	12.7	
10-Jan	4.3	5.1	Z	2.6	2.8	3.6	2.2	2.5	2.7	4.7	2.9	3.8	3.2	2.9	3.5	2.8	2.7	6.1	5.5	8.4	10.5	9.9	5.7	3.9	4.4	10.5	
11-Jan	3.3	3.0	3.1	Z	2.3	2.8	2.8	2.1	2.9	3.6	1.0	1.0	1.0	1.3	2.9	5.6	6.8	5.7	9.1	7.4	5.4	4.9	5.0	5.6	3.9	9.1	
12-Jan	5.7	4.3	5.3	8.9	Z	10.9	7.2	7.4	8.1	7.2	7.1	3.2	4.2	6.8	5.7	3.8	3.7	1.9	2.4	1.6	2.0	1.8	2.0	1.5	4.9	10.9	
13-Jan	0.8	2.4	0.8	2.3	0.6	Z	8.0	6.0	4.1	2.7	4.8	4.3	7.4	5.5	4.2	3.1	3.4	2.6	1.1	1.8	1.7	1.3	0.9	1.1	3.1	8.0	
14-Jan	Z	1.0	1.0	0.5	0.7	1.0	0.7	0.8	0.8	1.0	1.2	1.5	0.9	0.8	1.0	1.1	1.5	1.2	0.5	0.3	0.2	0.0	0.3	0.1	0.8	1.5	
15-Jan	0.1	Z	0.3	0.0	0.0	0.0	0.3	0.0	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.3	1.4	0.5	0.5	1.2	0.0	1.1	0.4	2.1	
16-Jan	0.5	1.0	Z	1.2	1.2	0.7	0.3	0.1	0.2	0.2	0.1	0.1	0.0	0.2	0.0	0.1	0.0	0.0	0.2	0.0	0.0	0.9	1.3	0.9	0.4	1.3	
17-Jan	0.8	0.4	0.5	Z	1.5	1.4	1.5	1.6	1.0	1.1	2.6	2.7	3.8	1.6	1.9	2.3	5.0	8.8	8.8	9.7	8.5	7.2	7.1	8.3	3.8	9.7	
18-Jan	6.6	5.7	4.5	4.3	Z	4.4	5.2	3.2	5.1	2.0	2.2	2.0	1.1	0.9	1.6	2.4	2.1	1.8	2.3	2.2	1.0	1.1	1.7	2.0	2.8	6.6	
19-Jan	1.2	1.3	1.0	1.1	2.0	Z	1.7	1.8	6.0	8.0	5.8	4.1	3.1	2.6	2.5	3.3	5.9	4.5	5.2	3.5	4.1	3.6	2.2	1.8	3.3	8.0	
20-Jan	Z	1.3	1.0	0.8	0.7	0.9	1.9	3.7	8.7	5.9	4.5	2.0	1.9	2.3	2.6	2.9	3.3	3.6	4.2	4.0	4.9	5.1	4.4	3.7	3.2	8.7	
21-Jan	1.4	Z	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.6	0.9	0.8	0.7	0.6	2.2	3.1	2.1	1.6	2.4	1.7	2.7	3.5	4.2	1.4	4.2	
22-Jan	4.3	4.1	Z	2.5	1.4	1.4	1.2	1.0	0.8	0.9	0.9	0.9	0.5	0.2	0.4	0.6	0.8	0.8	0.4	0.8	1.9	0.4	0.0	0.5	1.2	4.3	
23-Jan	0.2	0.2	0.3	Z	1.3	0.5	0.6	0.5	1.4	0.8	1.6	0.8	1.1	0.6	0.3	0.2	0.2	0.1	0.0	0.4	0.2	0.3	0.3	0.2	0.5	1.6	
24-Jan	0.2	0.1	0.3	0.3	Z	0.3	0.1	1.1	1.7	2.1	1.9	1.4	1.7	1.5	2.2	1.8	0.6	0.6	0.4	0.3	0.9	0.0	0.7	0.1	0.9	2.2	
25-Jan	0.0	0.3	0.0	0.5	0.9	Z	0.8	0.9	0.6	0.7	0.8	1.0	2.0	1.0	0.4	0.7	1.5	0.5	0.3	0.4	0.6	0.4	1.3	0.7	0.7	2.0	
26-Jan	Z	0.8	1.1	1.0	0.5	0.6	0.8	1.0	1.8	1.8	1.1	0.6	0.8	0.6	0.7	1.0	1.0	1.7	0.5	0.7	1.7	1.2	0.7	0.6	1.0	1.8	
27-Jan	0.3	Z	0.8	0.3	0.5	1.0	1.2	1.4	1.6	1.3	0.9	1.2	1.0	1.2	1.3	1.2	1.6	1.4	1.2	1.1	0.7	0.5	0.4	0.2	1.0	1.6	
28-Jan	0.6	0.6	Z	0.8	0.5	0.4	0.3	0.3	0.6	0.7	0.5	0.3	0.3	0.5	0.3	0.6	0.4	0.4	0.7	0.7	0.6	1.4	0.7	0.9	0.6	1.4	
29-Jan	1.3	1.0	0.7	Z	1.3	1.4	1.1	1.7	4.0	4.2	3.1	2.7	1.9	1.3	0.6	1.5	1.1	1.7	1.4	1.0	0.6	0.2	0.3	0.3	1.5	4.2	
30-Jan	0.1	0.2	0.2	0.3	Z	0.3	0.0	0.2	0.2	0.2	1.7	1.9	2.4	3.9	2.7	1.7	4.7	5.2	5.4	6.6	3.6	3.4	4.2	3.9	2.3	6.6	
31-Jan	4.9	4.8	4.9	3.0	2.4	Z	1.2	0.8	0.6	0.6	0.9	1.5	C	C	C	C	C	C	0.0	0.4	0.0	0.2	0.3	0.3	--	4.9	
		2.5	2.6	2.2	2.5	1.7	2.4	2.4	2.3	3.1	3.2	3.3	3.1	2.9	2.8	2.7	3.0	3.3	3.3	3.4	3.1	3.0	2.9	2.6	2.6	Diurnal Average	
		7.8	8.0	8.1	8.9	5.4	10.9	8.0	8.0	9.3	11.4	16.1	11.6	9.9	9.0	8.6	15.2	8.8	10.1	12.7	11.0	10.5	9.9	8.4	9.0	Diurnal Maximum	
Z - zerospan		C - Calibration																									





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Nitrogen Oxides (NO_x) - ppb
Janvier - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	707	100.00	100.00
21 - 40	0	0.00	100.00
41 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 707

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Oxides (NO_x) - ppb
Janvier - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	69	91	23	11	7	6	3	13	20	127	129	45	42	60	38	15	699
21 - 40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	69	91	23	11	7	6	3	13	20	127	129	45	42	60	38	15	699

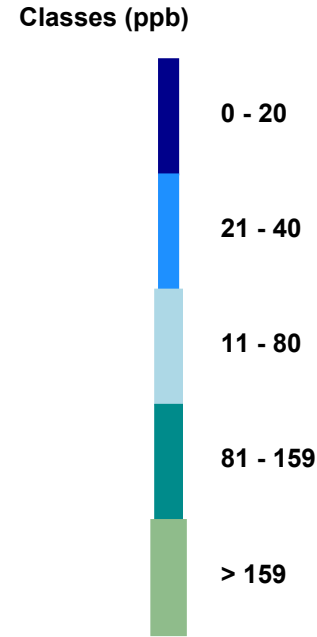
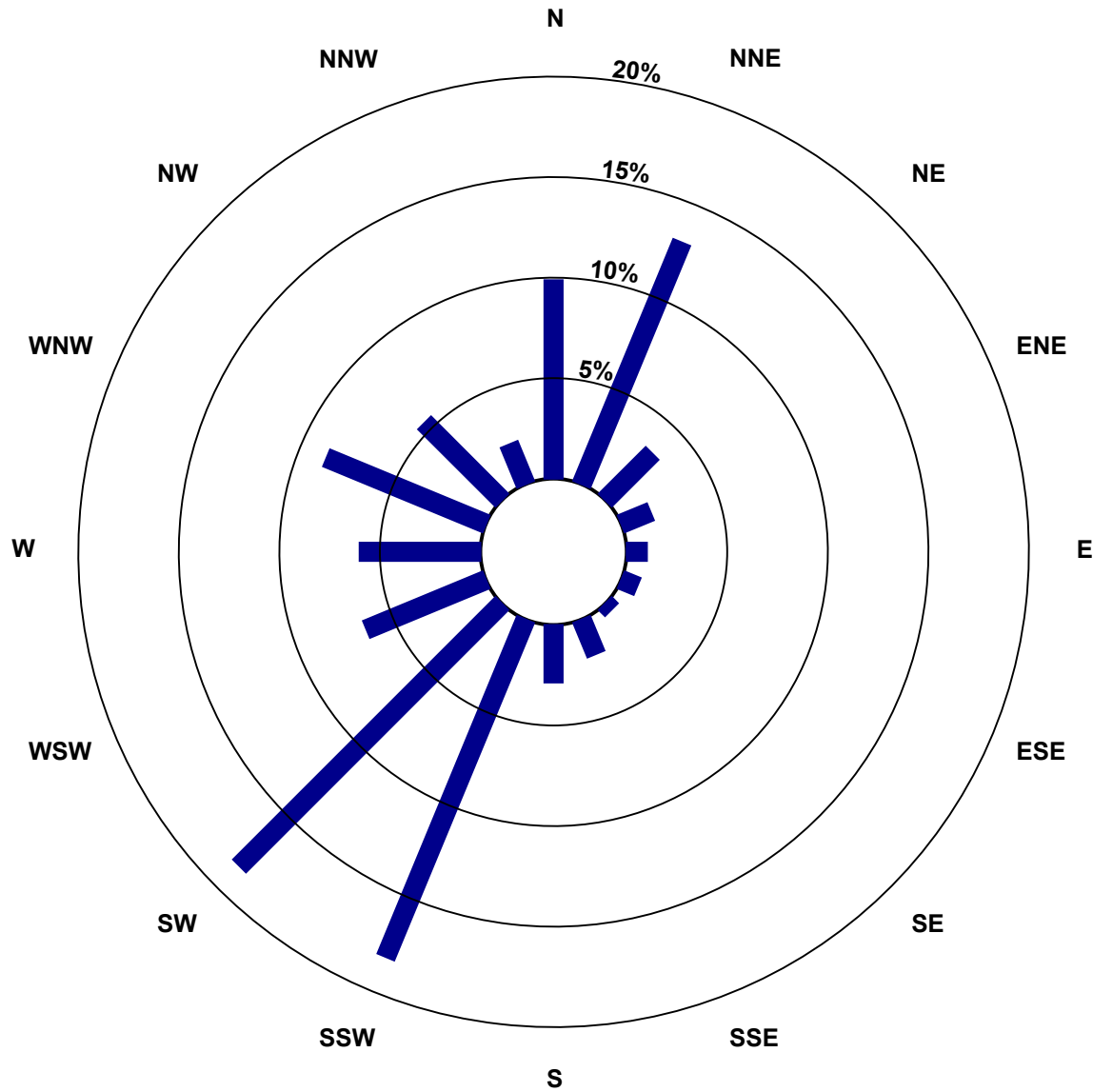
Total Number of Valid Hours: 699

Total Number of Hours: 744

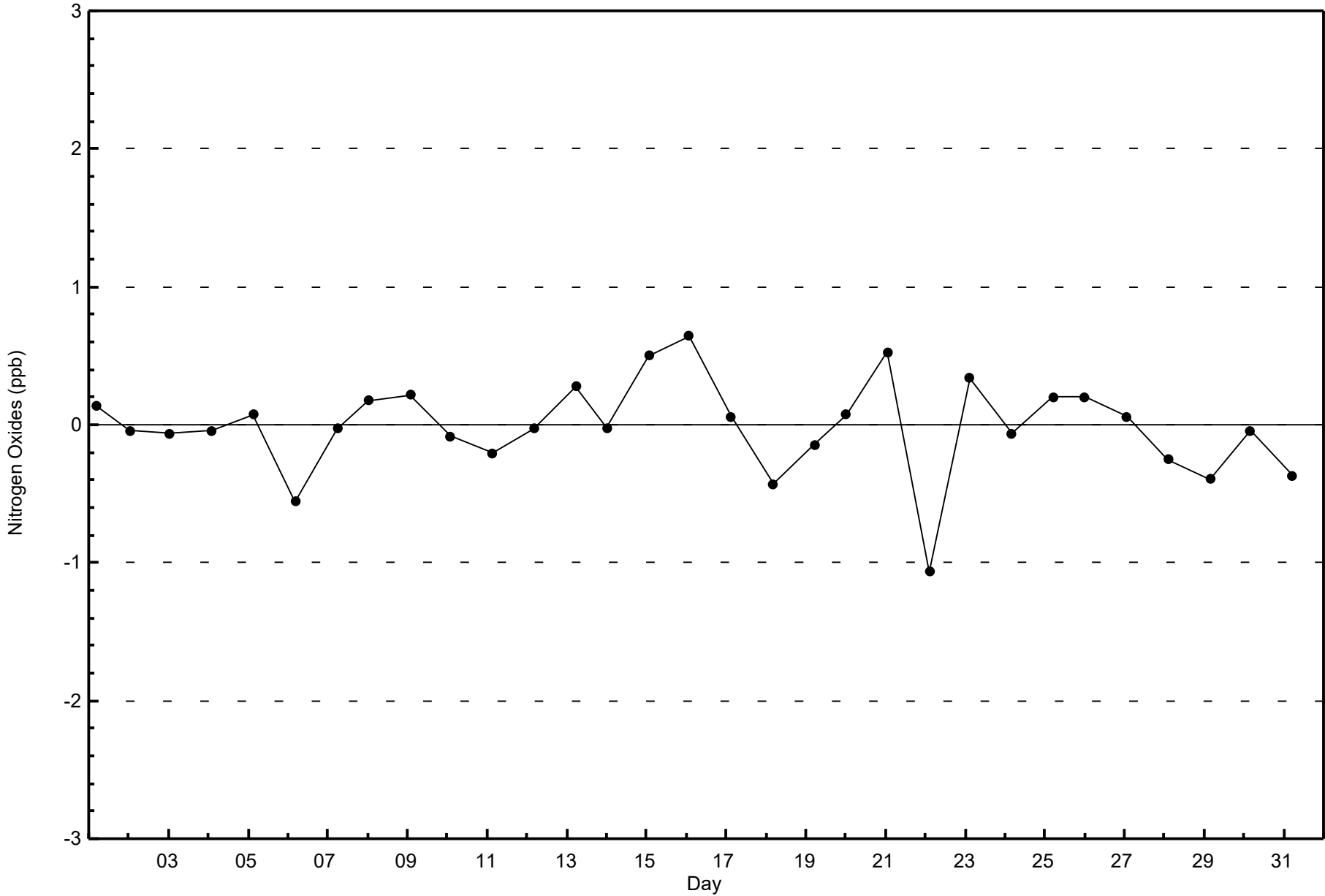


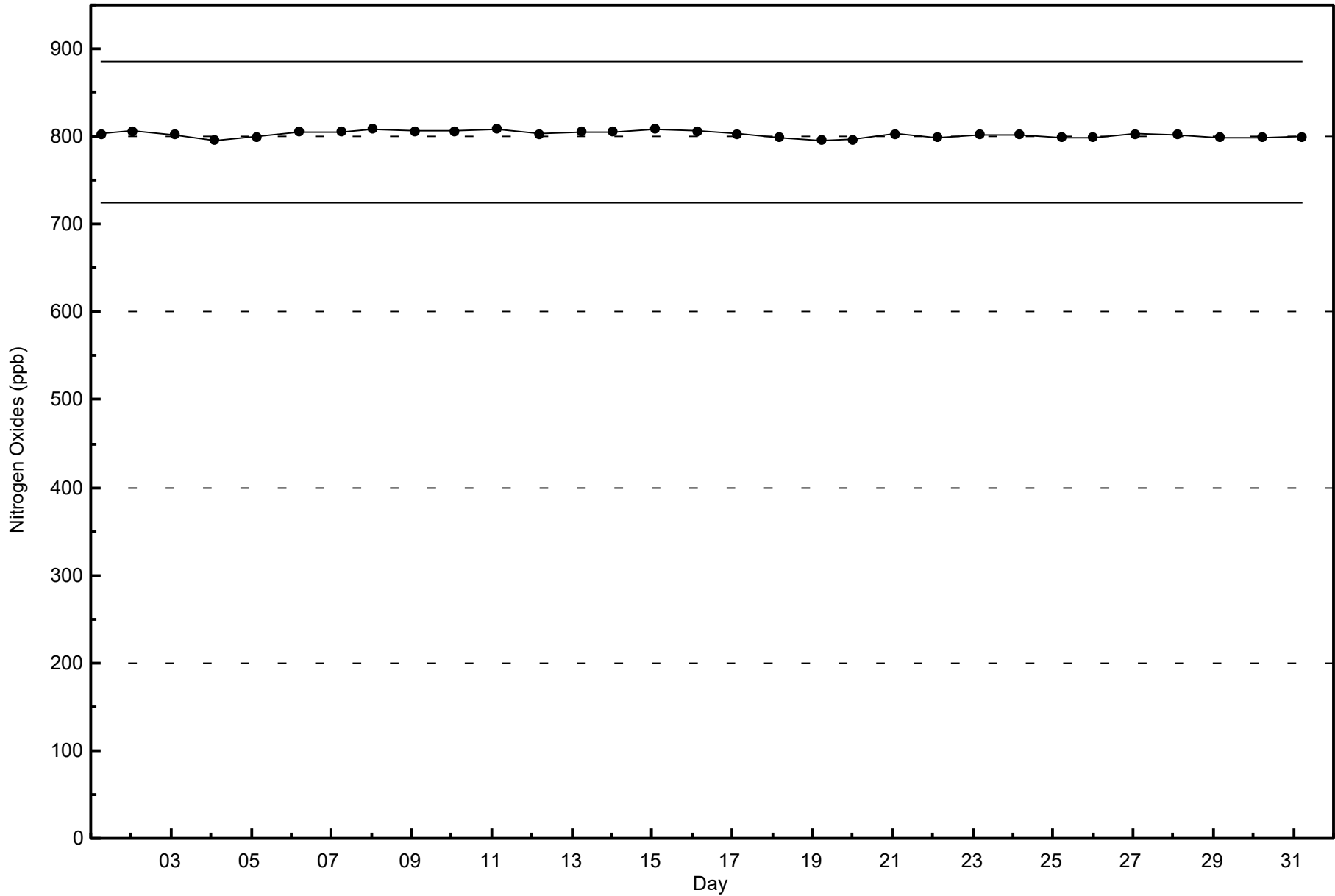
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Oxides (NO_x) - ppb
Janvier



Total Number of Valid Hours: 699







Wood Buffalo Environmental Association

Summary of Hour Averages

Ozone (O₃) - ppb

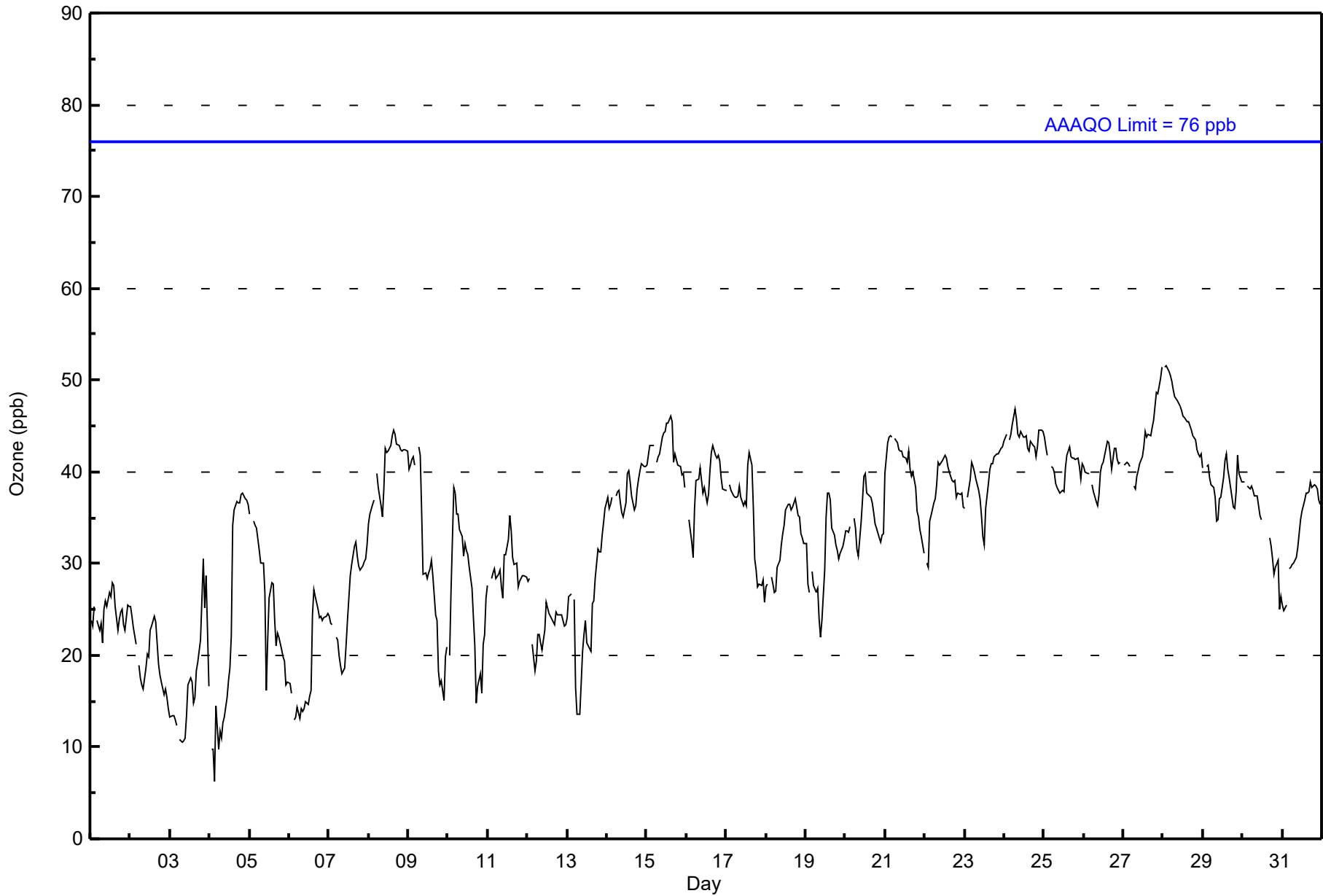
Janvier - January 2025

Number of Exceedences (AAAQO):		1-hr: 0	24-hr: 0																		Hours in Service:	744					
Maximum Value: 51.6 ppb on Jan 28 03:00		Maximum Daily Average: 46.4 ppb on Jan 28																	Hours of Data:	708							
Minimum Value: 6.2 ppb on Jan 4 04:00		Minimum Daily Average: 16.9 ppb on Jan 3																	Hours of Missing Data:	36							
Maximum Diurnal Average: 35.3 ppb at hour 15		Minimum Diurnal Average: 31.2 ppb at hour 10																	Hours of Calibration:	35							
Monthly Average: 32.88 ppb		Percentiles: P ₁ = 11.0 P ₁₀ = 18.9 Q ₁ = 26.0 Median = 35.4 Q ₃ = 40.5 P ₉₀ = 42.8 P ₉₉ = 49.0																	Percent Operational Time:	99.9							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	23.8	23.2	25.3	Z	23.8	22.7	23.5	21.4	24.9	25.9	25.3	26.9	26.4	27.9	27.7	25.4	22.7	24.0	24.7	25.0	23.3	22.7	25.4	25.3	24.7	27.9	
2-Jan	25.3	24.3	23.0	21.2	Z	18.9	17.6	16.8	16.3	18.7	20.1	19.9	22.8	23.2	24.3	23.6	21.4	19.1	17.8	17.1	15.7	16.3	15.3	14.1	19.7	25.3	
3-Jan	13.3	13.4	13.4	12.9	12.3	Z	10.8	10.6	10.6	11.0	13.5	16.8	17.5	17.1	14.8	15.4	18.3	19.2	21.7	26.1	30.5	25.2	28.7	16.7	16.9	30.5	
4-Jan	Z	9.8	9.8	6.2	14.5	9.8	11.8	11.0	12.6	13.2	15.4	17.3	18.6	22.1	34.1	35.9	36.7	36.6	36.6	37.5	37.7	37.0	36.8	36.4	23.4	37.7	
5-Jan	35.4	Z	34.7	34.1	33.8	32.7	31.4	30.1	30.0	26.8	16.2	21.7	26.3	27.9	27.7	23.9	21.0	22.4	22.0	20.6	19.8	19.3	16.7	17.1	25.7	35.4	
6-Jan	16.9	15.9	Z	13.0	13.3	14.3	13.2	14.1	13.9	14.2	14.9	14.6	15.6	16.1	24.3	27.1	26.5	25.1	24.1	24.2	23.9	24.1	24.2	24.5	19.0	27.1	
7-Jan	24.3	23.5	23.3	Z	21.9	21.7	20.0	18.9	18.0	18.6	21.1	23.7	26.2	28.7	29.9	31.9	32.4	30.7	29.7	29.3	29.8	30.2	30.5	32.0	25.9	32.4	
8-Jan	34.3	35.4	36.4	36.8	Z	39.8	38.3	36.3	35.1	38.1	42.5	42.2	42.3	42.8	43.9	44.6	44.1	43.0	42.9	42.5	42.3	42.4	42.3	42.2	40.5	44.6	
9-Jan	40.3	40.7	41.3	41.6	40.7	Z	42.8	41.8	35.7	28.8	29.0	28.4	29.1	29.4	30.4	28.7	24.5	23.7	18.3	16.8	17.2	15.1	19.8	20.9	29.8	42.8	
10-Jan	Z	20.0	27.0	38.3	37.7	35.3	35.3	33.8	32.9	30.8	32.2	31.5	31.0	29.6	27.3	24.1	21.0	14.8	16.6	18.0	15.9	21.2	22.3	26.2	27.1	38.3	
11-Jan	27.5	Z	28.3	29.0	29.4	28.4	28.8	29.3	27.4	26.3	30.9	30.9	32.7	35.3	33.6	30.6	29.9	30.0	27.5	28.1	28.4	28.7	28.7	28.5	29.5	35.3	
12-Jan	28.0	28.4	Z	21.2	18.4	19.3	22.3	22.2	21.4	20.7	22.7	25.7	25.1	24.6	24.3	23.6	23.4	24.7	24.3	24.4	24.5	23.8	23.2	23.3	23.5	28.4	
13-Jan	24.2	26.4	26.7	Z	26.1	16.4	13.5	13.6	17.0	20.4	22.3	23.9	21.4	20.7	20.4	25.6	25.9	28.4	31.5	31.3	31.3	33.0	34.5	36.0	24.8	36.0	
14-Jan	37.2	35.9	36.4	37.2	Z	37.4	37.8	38.0	36.7	35.6	35.1	36.6	39.8	40.1	38.9	37.4	35.9	36.3	38.2	39.1	40.1	40.8	40.6	40.6	37.9	40.8	
15-Jan	40.8	41.7	42.8	42.9	42.9	Z	41.0	41.6	42.0	43.7	44.2	44.3	45.3	45.3	46.1	45.4	41.0	41.9	41.4	40.7	40.5	39.7	39.8	38.3	42.3	46.1	
16-Jan	Z	34.8	33.5	32.3	30.7	36.0	39.1	39.2	40.4	39.0	37.6	38.3	36.5	37.6	40.1	42.2	42.9	41.8	41.5	41.8	41.2	39.3	38.1	38.0	38.3	42.9	
17-Jan	38.0	Z	38.5	38.0	37.4	37.2	37.3	37.3	38.5	37.3	36.3	36.7	36.3	40.7	42.0	40.8	36.2	30.6	29.3	27.5	27.7	27.5	28.2	25.7	35.0	42.0	
18-Jan	27.4	27.8	Z	28.5	27.7	26.9	26.9	29.6	30.4	32.0	33.3	34.1	35.8	36.5	36.4	35.9	36.2	36.6	37.0	35.2	35.1	33.2	32.8	32.2	32.5	37.0	
19-Jan	32.2	27.8	26.9	Z	29.2	27.6	26.9	27.4	23.9	22.0	23.8	29.2	35.1	37.7	37.7	36.9	33.8	33.1	32.0	31.4	30.5	31.1	31.8	32.7	30.5	37.7	
20-Jan	33.6	33.5	33.5	34.0	Z	34.9	33.8	31.5	30.8	34.5	36.8	39.6	39.8	37.7	37.3	37.2	36.6	35.5	34.3	33.9	32.7	32.4	33.0	33.2	34.8	39.8	
21-Jan	39.9	43.2	43.8	43.9	43.8	Z	43.6	43.2	42.4	42.2	42.2	41.7	41.4	41.1	42.3	40.3	39.4	40.0	38.2	35.7	35.0	33.7	33.0	31.2	40.1	43.9	
22-Jan	Z	30.1	29.7	34.6	35.3	36.6	37.1	38.7	41.1	40.7	41.1	41.5	41.8	41.5	40.5	40.0	39.0	38.9	39.0	37.3	37.7	37.6	37.6	36.2	38.0	41.8	
23-Jan	35.9	Z	37.2	39.2	41.0	40.5	40.0	39.2	38.0	37.1	35.2	32.9	32.1	36.1	38.8	40.3	40.9	41.0	41.6	42.0	42.0	42.3	42.6	42.7	39.1	42.7	
24-Jan	43.3	44.1	Z	43.5	44.1	45.1	46.8	45.7	44.0	43.7	44.3	43.8	43.8	43.9	42.5	42.3	43.3	42.8	42.8	41.7	42.7	44.5	44.6	44.5	43.8	46.8	
25-Jan	43.8	42.8	41.9	Z	40.6	40.5	39.9	38.7	38.3	37.7	37.8	38.0	37.8	40.4	41.8	42.7	41.6	41.5	41.6	41.3	41.4	40.5	39.3	40.8	40.5	43.8	
26-Jan	40.6	40.0	39.9	39.8	Z	38.6	37.8	36.8	36.4	37.5	40.0	40.8	41.1	42.6	43.3	43.2	41.9	40.3	42.5	42.5	41.3	40.9	41.0	UO	40.4	43.3	
27-Jan	40.7	41.0	41.0	40.8	40.5	Z	38.4	38.1	39.5	40.1	40.8	41.6	42.7	44.4	43.8	44.1	43.9	44.9	45.6	47.1	48.7	48.5	50.1	51.4	43.4	51.4	
28-Jan	Z	51.5	51.6	50.9	50.5	49.9	49.0	48.2	47.8	47.4	47.2	46.7	46.0	45.8	45.5	45.4	45.0	44.5	44.0	43.4	42.5	41.9	41.6	42.0	46.4	51.6	
29-Jan	40.3	Z	40.6	40.8	39.3	38.6	38.3	37.2	34.7	34.8	37.1	37.2	39.4	41.2	42.0	40.3	39.4	37.2	36.2	36.0	37.8	41.8	39.7	38.9	38.6	42.0	
30-Jan	38.9	38.9	Z	38.5	38.2	38.4	38.0	37.4	37.4	37.3	35.2	34.8	C	C	C	C	32.8	31.9	30.5	28.8	29.6	30.3	25.0	26.4	34.1	38.9	
31-Jan	25.4	24.9	25.4	Z	29.4	29.6	29.9	30.0	30.7	31.7	33.2	34.8	35.7	36.9	37.7	37.7	37.9	38.9	38.3	38.5	38.5	38.1	37.0	36.5	33.8	38.9	
		32.7	31.5	32.8	33.6	32.4	31.4	32.0	31.5	31.2	31.2	31.9	32.8	33.5	34.5	35.3	35.1	34.0	33.5	33.3	33.1	33.1	33.0	33.1	32.5	Diurnal Average	
		43.8	51.5	51.6	50.9	50.5	49.9	49.0	48.2	47.8	47.4	47.2	46.7	46.0	45.8	46.1	45.4	45.0	44.9	45.6	47.1	48.7	48.5	50.1	51.4	Diurnal Maximum	
Z - zerospan		C - Calibration										UO - Unstable Operation															
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr 76 ppb																									



Wood Buffalo Environmental Association
Hourly Averages

Ozone (O₃) - ppb
Janvier - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Ozone (O₃) - ppb
Janvier - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	84	11.86	11.86
21 - 50	620	87.57	99.44
51 - 82	4	0.56	100.00
> 83	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Ozone (O₃) - ppb
Janvier - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	8	10	6	0	2	3	0	5	8	14	9	4	3	1	1	2	76
21 - 50	61	77	20	13	6	2	4	7	11	113	122	40	41	57	33	13	620
51 - 82	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4
> 83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	69	87	26	13	8	5	4	12	19	127	131	44	44	58	38	15	700

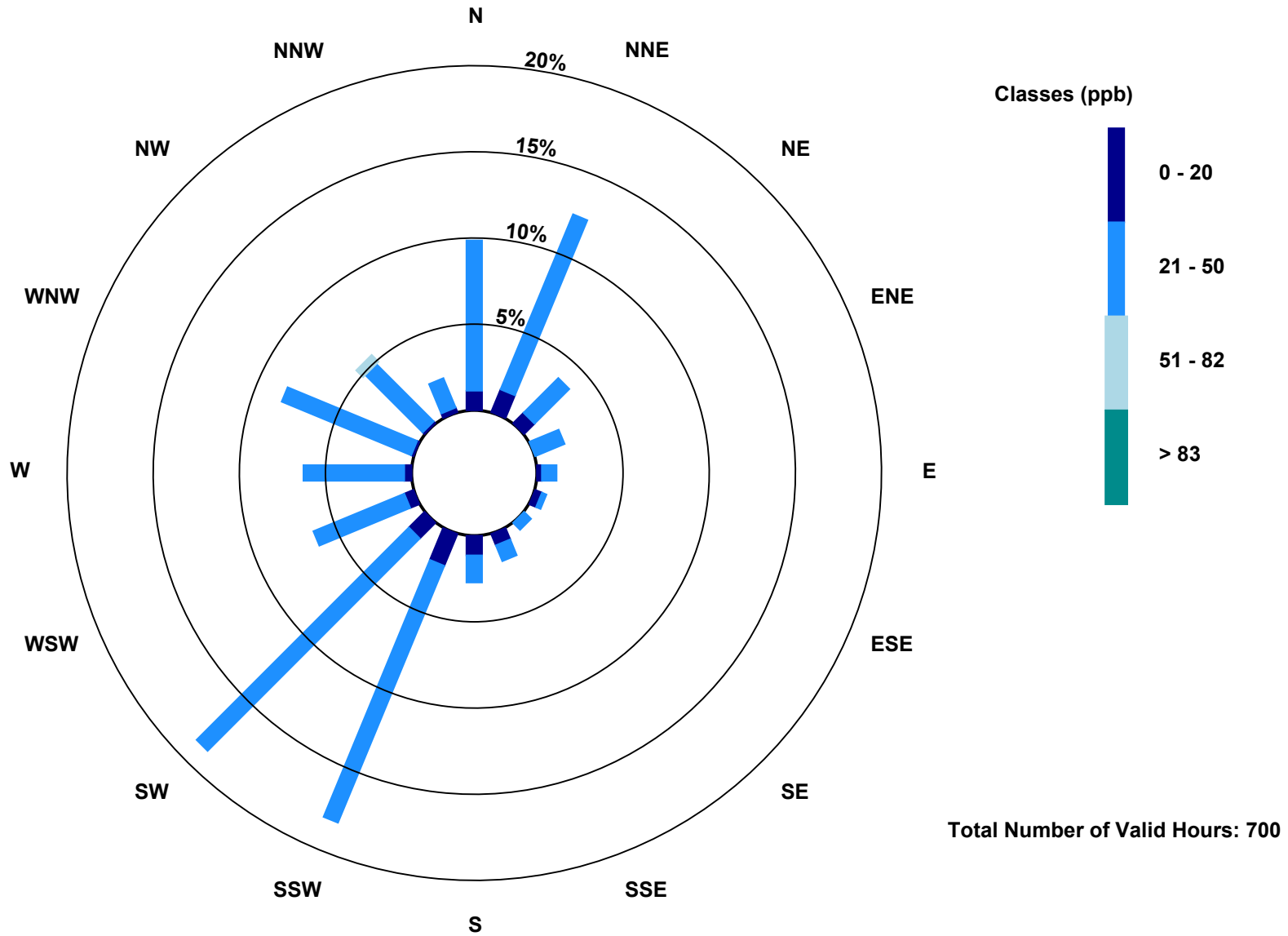
Total Number of Valid Hours: 700

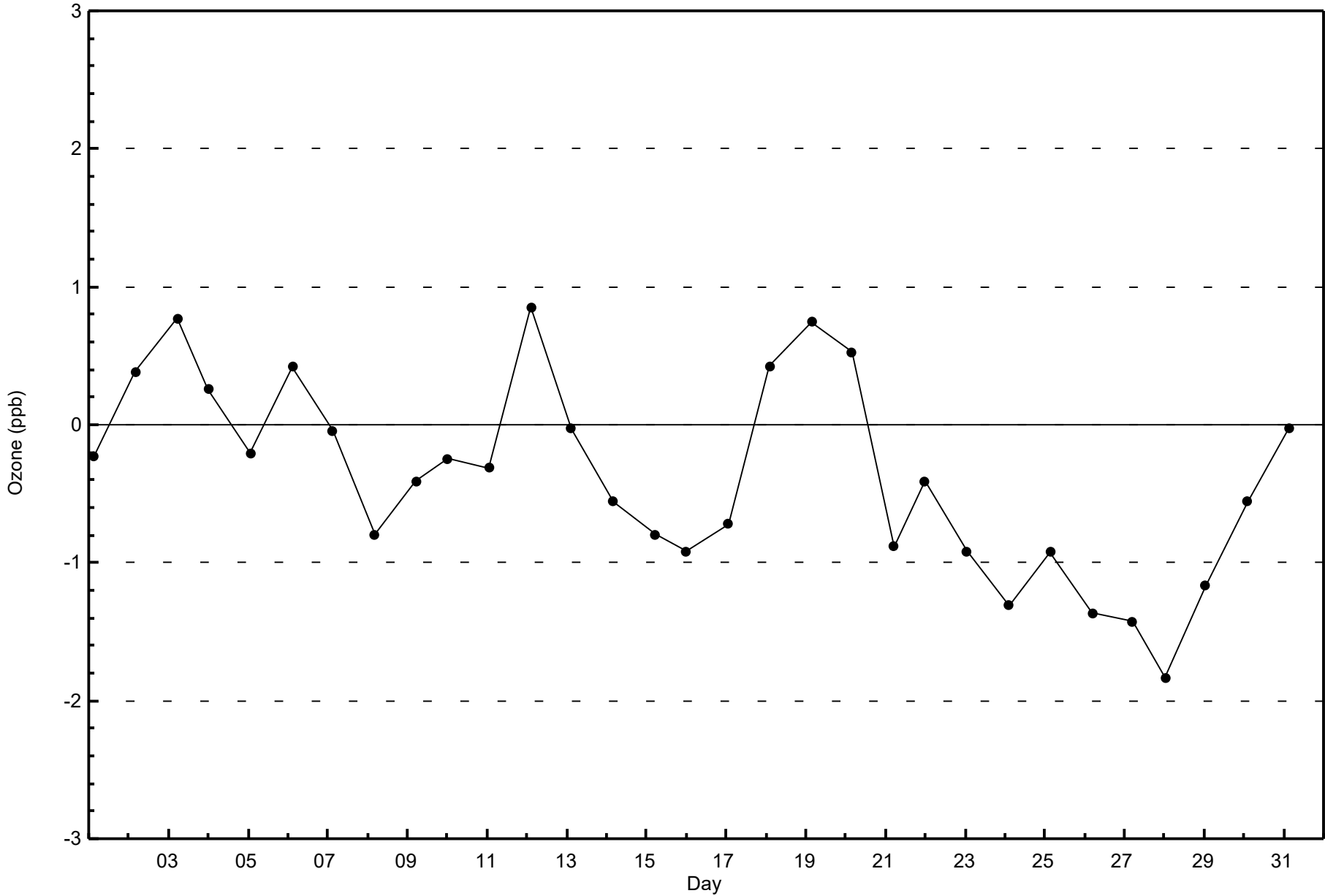
Total Number of Hours: 744

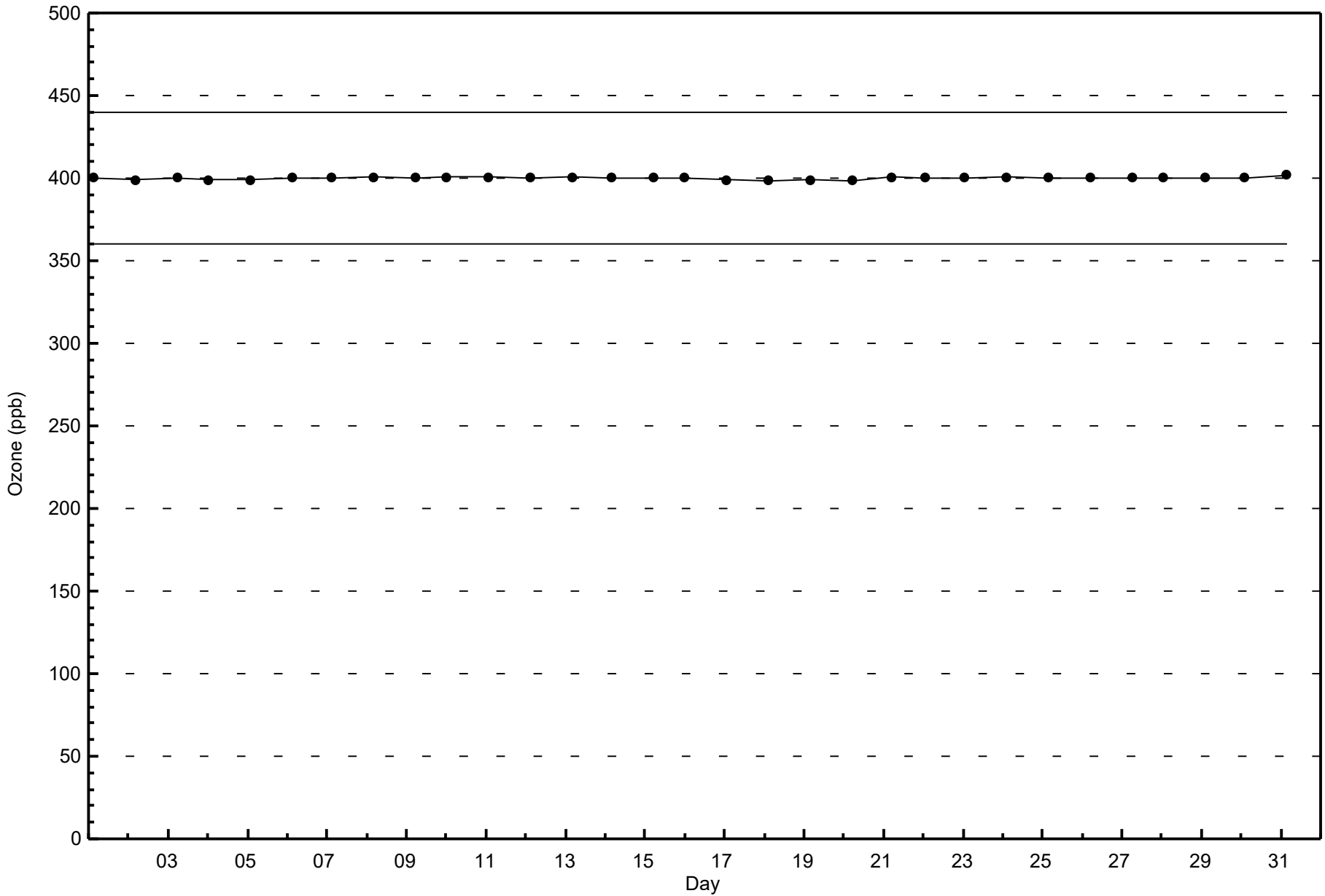


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Ozone (O₃) - ppb
Janvier









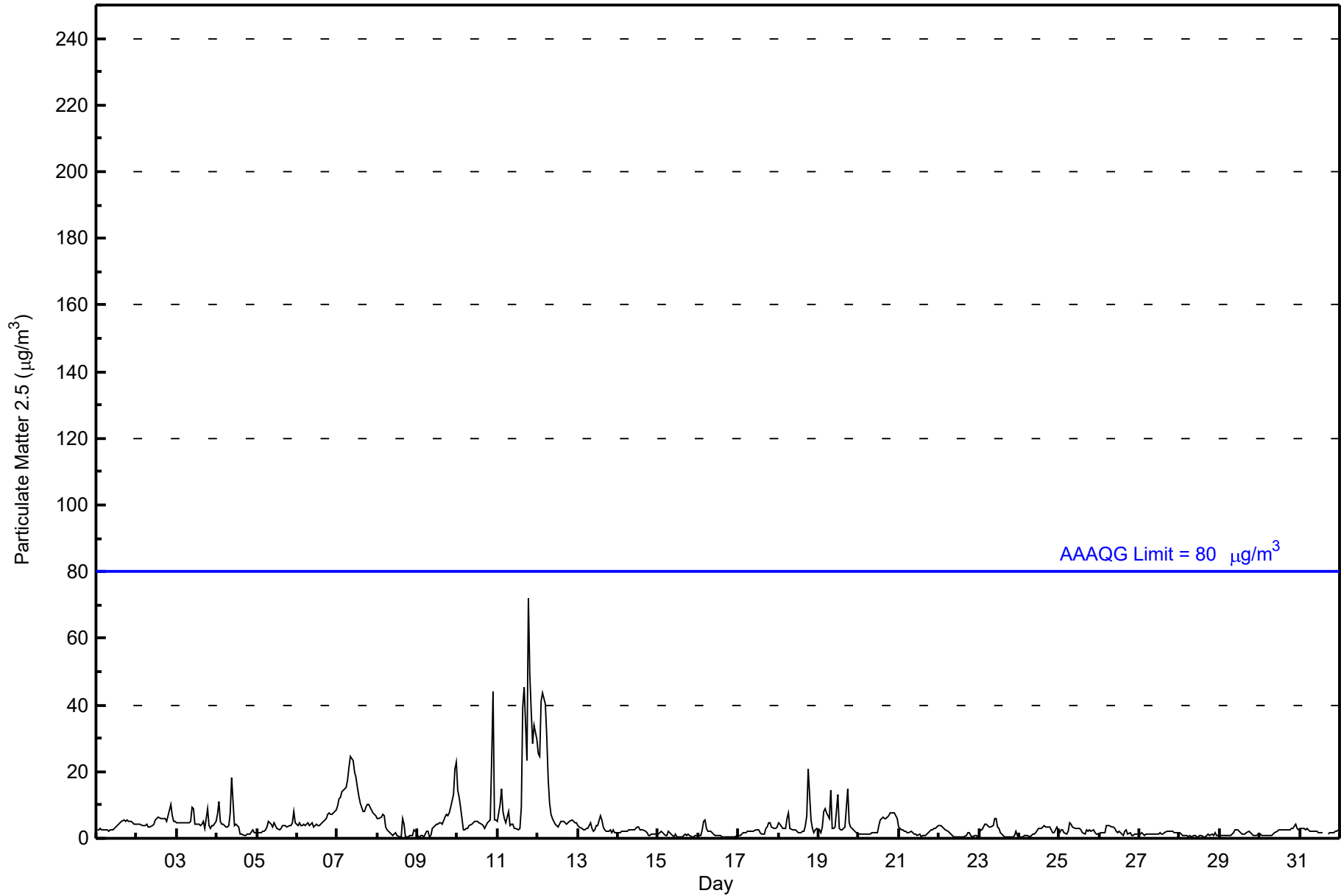
Wood Buffalo Environmental Association

Summary of Hour Averages

Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Janvier - January 2025

Number of Exceedences (AAAQO):		1-hr: 0		24-hr: 0		Hours in Service: 744														Daily Average		Daily Maximum				
Maximum Value: 72.0 µg/m ³ on Jan 11 19:00		Maximum Daily Average: 18.7 µg/m ³ on Jan 11		Hours of Data: 741														Hours of Missing Data: 3		Hours of Calibration: 3						
Minimum Value: 0.2 µg/m ³ on Jan 16 21:00		Minimum Daily Average: 0.9 µg/m ³ on Jan 28		Hours of Calibration: 3														Percent Operational Time: 100.0								
Maximum Diurnal Average: 6.2 µg/m ³ at hour 19		Minimum Diurnal Average: 3.0 µg/m ³ at hour 14		Percentiles: P ₁ = 0.3 P ₁₀ = 0.7 Q ₁ = 1.4 Median = 2.6 Q ₃ = 4.4 P ₉₀ = 7.6 P ₉₉ = 39.0																						
Monthly Average: 4.20 µg/m ³																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	2.4	2.4	2.8	2.5	2.5	2.4	2.4	2.3	2.5	2.7	2.7	3.2	3.8	4.3	4.5	5.2	5.5	5.1	5.7	5.2	5.2	5.2	4.4	4.2	3.7	5.7
2-Jan	4.1	4.2	4.4	4.0	3.8	3.9	4.3	3.4	3.5	3.8	4.3	5.5	6.1	6.2	5.9	5.7	6.0	6.0	5.2	6.8	10.3	7.0	5.0	4.9	5.2	10.3
3-Jan	4.9	4.7	4.7	4.6	4.7	4.6	4.5	4.7	5.3	9.2	8.7	4.4	4.3	4.2	3.9	4.4	4.9	2.9	8.7	3.6	2.8	3.8	3.6	5.1	4.9	9.2
4-Jan	7.3	10.9	5.0	4.4	4.1	3.5	3.3	4.0	7.7	18.1	3.9	4.3	3.7	3.2	1.5	1.1	1.0	1.0	1.1	1.1	1.5	2.3	1.6	1.6	4.0	18.1
5-Jan	1.7	1.9	1.8	2.0	2.2	2.3	3.4	5.2	4.1	3.6	4.6	3.7	2.8	2.7	2.8	3.7	3.9	3.7	3.5	3.9	3.7	4.6	8.0	4.7	3.5	8.0
6-Jan	3.7	4.7	3.9	3.9	4.3	3.9	4.5	3.9	4.2	4.8	3.5	4.3	3.7	4.0	4.1	4.8	5.2	5.9	7.2	7.6	7.2	7.2	8.0	8.6	5.1	8.6
7-Jan	9.7	11.8	12.4	13.9	14.6	15.4	17.4	21.0	24.5	23.5	20.0	18.1	15.2	12.6	10.5	8.2	8.1	9.2	10.0	10.1	8.5	7.7	7.3	6.6	13.2	24.5
8-Jan	5.9	5.9	6.4	7.4	6.7	3.4	2.5	1.8	1.1	0.9	1.4	1.5	0.7	0.5	0.4	5.8	4.4	0.5	0.4	0.9	0.8	0.9	2.5	1.8	2.7	7.4
9-Jan	0.4	0.5	0.7	0.9	0.4	2.1	2.3	0.5	0.8	3.0	3.9	4.2	4.2	4.6	4.5	4.3	6.4	7.0	7.0	7.7	9.5	13.2	21.0	22.8	5.5	22.8
10-Jan	14.5	12.2	9.2	2.6	2.7	2.8	2.9	3.8	4.3	4.5	5.0	5.1	5.0	4.5	4.2	3.8	3.2	3.7	4.7	5.3	23.5	44.2	5.3	5.7	7.6	44.2
11-Jan	5.1	10.1	14.9	8.2	5.9	4.6	8.0	3.7	4.3	4.3	3.1	2.9	2.7	2.9	9.2	39.5	45.2	23.3	72.0	49.2	38.2	28.5	33.9	29.5	18.7	72.0
12-Jan	25.5	24.6	40.9	43.6	40.2	30.6	17.8	10.5	7.3	6.0	4.4	3.7	3.6	4.4	5.2	5.1	4.7	4.4	4.7	5.2	5.6	5.2	4.8	4.6	13.0	43.6
13-Jan	4.0	3.3	3.0	2.6	2.4	2.8	3.1	4.5	3.1	2.2	2.7	3.7	3.6	6.8	5.3	3.5	2.5	2.1	2.2	2.5	1.8	2.4	1.7	1.7	3.1	6.8
14-Jan	1.9	1.8	2.2	2.3	2.2	2.3	2.4	2.3	2.6	2.7	2.7	3.4	3.4	2.6	2.6	2.4	2.1	1.8	0.9	0.8	1.1	1.2	1.2	1.3	2.1	3.4
15-Jan	1.4	1.7	2.2	1.2	1.0	0.8	1.9	1.7	1.2	0.6	1.3	0.5	0.4	0.5	0.4	0.6	1.4	1.0	1.3	0.8	0.6	0.6	0.7	0.6	1.0	2.2
16-Jan	0.9	0.9	2.7	5.2	5.3	3.0	2.3	2.1	1.5	1.2	1.0	0.9	0.8	0.8	0.5	0.4	0.4	0.3	0.2	0.2	0.2	0.3	0.4	0.8	1.4	5.3
17-Jan	0.8	1.0	1.4	1.7	1.8	2.0	2.2	2.1	2.0	2.3	2.7	2.7	2.7	1.5	1.1	1.4	2.9	3.2	4.8	4.6	3.5	3.1	3.1	3.3	2.4	4.8
18-Jan	4.5	4.3	3.1	2.8	2.9	5.8	7.6	3.0	2.5	2.5	2.5	2.2	1.9	1.9	2.1	2.3	3.6	6.7	20.8	5.3	3.2	1.9	2.4	3.1	4.1	20.8
19-Jan	2.4	1.7	3.4	7.9	8.8	7.7	5.9	14.5	2.8	2.9	3.4	13.3	2.9	2.7	2.6	2.9	3.5	15.0	4.8	3.2	2.8	2.5	1.9	1.6	5.0	15.0
20-Jan	1.4	1.3	1.3	1.4	1.3	1.2	1.1	1.2	1.6	1.7	1.6	1.5	3.9	5.7	6.4	5.9	5.8	6.2	7.0	7.6	7.5	7.8	6.8	5.8	3.9	7.8
21-Jan	3.5	2.7	2.5	2.0	2.0	1.9	1.7	2.0	1.6	1.1	1.2	1.0	1.4	0.6	0.8	0.8	1.0	1.1	1.9	2.5	2.7	2.9	3.1	3.7	1.9	3.7
22-Jan	3.7	3.7	3.5	2.9	2.5	2.2	1.9	1.3	0.9	0.6	0.4	0.4	0.4	0.3	0.4	0.3	0.7	1.9	1.7	0.7	0.6	0.7	0.8	0.6	1.4	3.7
23-Jan	1.2	2.4	2.7	4.3	4.3	3.6	3.4	3.5	3.7	5.7	6.0	3.5	2.9	1.5	0.7	0.4	0.6	0.3	0.3	0.4	0.3	0.8	1.9	0.9	2.3	6.0
24-Jan	0.3	0.3	0.5	0.9	0.8	0.6	0.4	0.9	1.3	1.1	1.7	2.9	3.0	3.1	3.4	3.9	3.5	3.2	3.3	2.5	1.9	1.8	3.5	2.4	2.0	3.9
25-Jan	1.9	2.4	2.7	1.9	1.4	2.3	4.7	4.4	3.6	3.0	2.9	2.9	3.0	2.4	1.6	1.1	2.6	2.2	2.3	2.0	2.6	1.5	1.1	1.2	2.4	4.7
26-Jan	1.2	1.8	1.8	1.6	3.7	3.6	3.8	3.6	3.4	2.9	2.1	1.8	2.2	1.1	1.0	2.2	2.4	1.4	1.8	1.0	1.0	1.2	1.3	1.2	2.0	3.8
27-Jan	1.2	1.7	1.4	1.0	1.1	1.2	1.2	1.4	1.4	1.3	1.3	1.4	1.6	1.4	1.4	1.7	2.0	1.9	2.0	2.2	1.9	1.6	1.5	1.5	1.5	2.2
28-Jan	1.5	1.4	0.9	0.7	0.7	0.6	0.7	0.6	0.9	1.0	0.6	0.6	0.7	0.6	0.6	0.6	0.7	1.3	0.8	1.2	0.7	1.6	0.6	1.1	0.9	1.6
29-Jan	0.7	0.8	0.8	0.8	0.8	0.8	0.9	1.4	1.9	2.6	2.7	2.7	1.8	1.5	1.4	1.4	1.7	2.0	1.8	1.3	0.9	0.7	1.0	1.3	1.4	2.7
30-Jan	1.1	0.9	0.7	0.7	0.7	0.7	0.7	0.9	1.1	1.8	2.3	2.4	2.4	2.5	2.5	2.4	2.4	2.5	2.5	2.9	2.8	4.3	2.9	2.7	2.0	4.3
31-Jan	2.8	3.0	3.0	2.6	3.0	2.4	2.3	1.9	2.0	2.0	2.0	1.8	1.7	1.6	C	C	C	1.5	1.8	1.8	1.8	2.0	2.2	2.4	2.2	3.0
3.9 4.2 4.7 4.6 4.5 4.0 3.9 3.8 3.5 4.0 3.4 3.6 3.1 3.0 3.0 4.2 4.6 4.1 6.2 4.9 5.0 5.4 4.6 4.4																								Diurnal Average		
25.5 24.6 40.9 43.6 40.2 30.6 17.8 21.0 24.5 23.5 20.0 18.1 15.2 12.6 10.5 39.5 45.2 23.3 72.0 49.2 38.2 44.2 33.9 29.5																								Diurnal Maximum		
C - Calibration																										
Alberta Ambient Air Quality Guideline/Objectives: 1-hr 80 µg/m ³ 24-hr 29 µg/m ³																										





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Janvier - January 2025

Concentration Ranges ($\mu\text{g}/\text{m}^3$)	Number of Hours	%	Cumulative %
0 - 5	620	83.67	83.67
6 - 15	93	12.55	96.22
16 - 25	14	1.89	98.11
26 - 80	14	1.89	100.00
> 81.0	0	0.00	100.00

Total Number of Valid Hours: 741

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Janvier - January 2025**

Concentration Ranges ($\mu\text{g}/\text{m}^3$)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	61	80	24	9	6	4	3	10	11	97	105	45	45	62	37	14	613
6 - 15	8	8	2	2	2	2	1	1	5	29	28	2	0	0	2	0	92
16 - 25	1	3	0	0	0	0	0	0	3	4	3	0	0	0	0	0	14
26 - 80	3	2	0	1	0	0	0	2	2	3	0	0	0	0	0	1	14
> 81.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	73	93	26	12	8	6	4	13	21	133	136	47	45	62	39	15	733

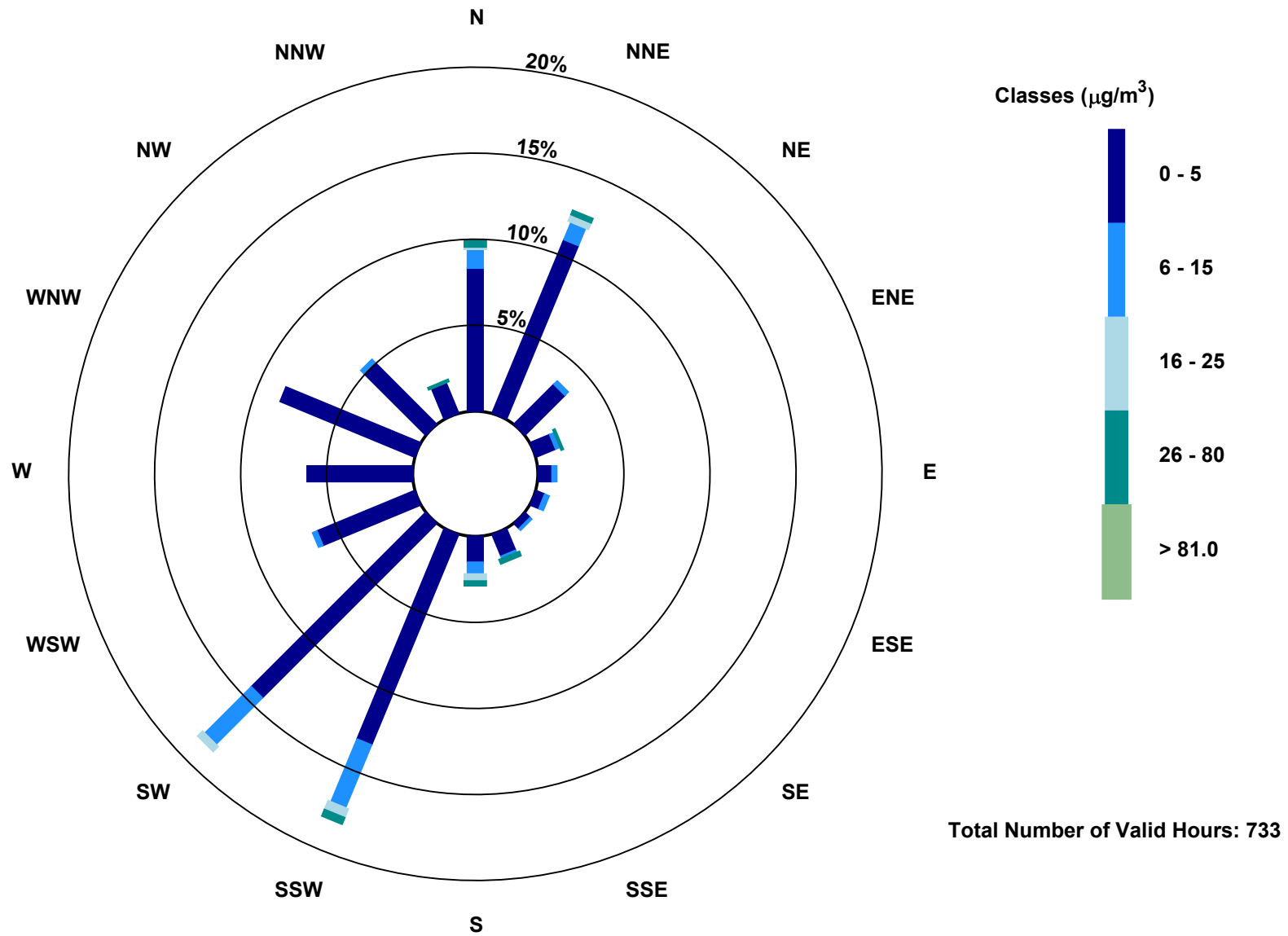
Total Number of Valid Hours: 733

Total Number of Hours: 744



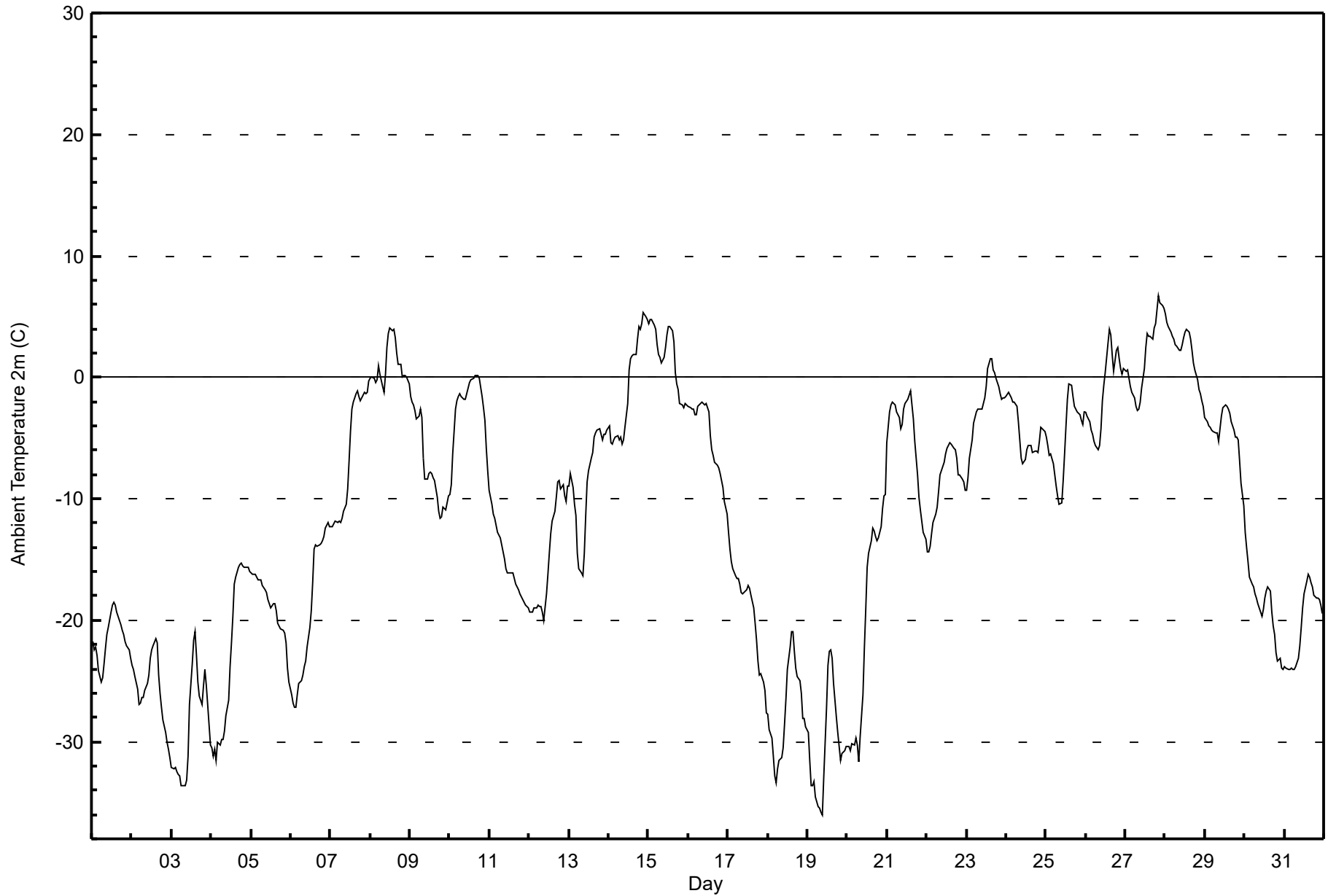
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Janvier





Maximum Value: 6.7 C on Jan 27 21:00 Maximum Daily Average: 2.1 C on Jan 28																						Hours in Service: 744 Hours of Data: 744				
Minimum Value: -36.1 C on Jan 19 10:00 Minimum Daily Average: -30.3 C on Jan 19 Maximum Diurnal Average: -8.5 C at hour 15 Minimum Diurnal Average: -13.8 C at hour 9 Monthly Average: -11.57 C Percentiles: P ₁ = -33.6 P ₁₀ = -27.0 Q ₁ = -19.7 Median = -9.7 Q ₃ = -2.3 P ₉₀ = 1.0 P ₉₉ = 4.9																						Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0				
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	-21.7	-22.5	-22.2	-22.9	-24.2	-25.1	-24.7	-23.5	-22.3	-21.2	-20.5	-19.3	-18.8	-18.5	-18.7	-19.3	-20.0	-20.4	-20.9	-21.1	-21.8	-22.1	-22.5	-23.2	-21.6	-18.5
2-Jan	-23.7	-24.0	-24.6	-25.7	-26.9	-26.8	-26.4	-26.4	-25.8	-25.2	-24.6	-23.1	-22.4	-22.1	-21.5	-21.9	-24.5	-26.1	-27.2	-28.3	-29.3	-30.0	-30.6	-31.3	-25.8	-21.5
3-Jan	-32.1	-32.2	-32.2	-32.5	-32.7	-32.9	-33.6	-33.6	-33.6	-33.1	-31.2	-26.9	-23.7	-21.7	-21.0	-22.9	-25.0	-26.2	-27.0	-25.4	-24.0	-25.3	-27.0	-30.2	-28.6	-21.0
4-Jan	-30.5	-31.2	-30.6	-31.6	-30.1	-30.2	-29.8	-29.8	-29.1	-27.9	-26.5	-23.9	-21.8	-19.6	-17.0	-16.4	-15.7	-15.4	-15.3	-15.5	-15.6	-15.6	-15.7	-16.0	-22.9	-15.3
5-Jan	-16.0	-16.2	-16.3	-16.4	-16.7	-16.7	-16.7	-17.1	-17.5	-17.8	-18.3	-18.9	-18.9	-18.7	-18.6	-19.3	-20.2	-20.5	-20.7	-20.8	-21.0	-21.8	-23.9	-25.1	-18.9	-16.0
6-Jan	-26.2	-26.9	-27.1	-27.2	-26.1	-25.2	-25.0	-24.5	-23.9	-23.4	-22.2	-20.6	-19.2	-16.9	-14.2	-13.8	-13.9	-13.7	-13.6	-13.4	-13.1	-12.4	-11.9	-12.2	-19.4	-11.9
7-Jan	-12.2	-12.3	-12.1	-11.8	-12.0	-11.9	-11.9	-11.6	-11.1	-10.5	-9.2	-6.9	-4.5	-2.6	-2.0	-1.4	-1.2	-1.6	-1.9	-1.7	-1.3	-1.3	-1.2	-0.3	-6.4	-0.3
8-Jan	-0.1	0.0	-0.1	-0.5	-0.2	0.9	0.3	-0.8	-1.3	0.2	2.4	3.6	4.1	3.9	4.0	3.3	1.9	1.1	1.1	0.1	0.1	0.1	0.0	-0.6	1.0	4.1
9-Jan	-1.6	-2.1	-2.3	-2.7	-3.4	-3.2	-2.6	-3.3	-6.7	-8.4	-8.4	-7.9	-7.8	-7.9	-8.3	-8.6	-9.8	-11.0	-11.6	-11.4	-10.7	-10.9	-10.3	-9.7	-7.1	-1.6
10-Jan	-9.6	-8.8	-6.3	-2.6	-2.0	-1.6	-1.4	-1.6	-1.8	-1.9	-1.4	-0.9	-0.5	-0.2	-0.1	0.1	0.2	0.1	-0.1	-1.6	-2.5	-3.6	-5.8	-7.7	-2.6	0.2
11-Jan	-9.3	-10.4	-11.2	-11.6	-12.2	-12.8	-13.3	-13.8	-14.4	-14.9	-15.7	-16.0	-16.1	-16.1	-16.5	-17.0	-17.5	-17.8	-18.0	-18.3	-18.5	-18.7	-18.9	-15.2	-9.3	
12-Jan	-19.3	-19.3	-19.3	-19.0	-19.0	-18.7	-18.8	-18.8	-19.3	-20.0	-17.9	-16.2	-14.5	-12.8	-11.9	-11.0	-9.8	-8.6	-8.5	-9.1	-8.8	-9.8	-10.2	-9.0	-14.6	-8.5
13-Jan	-8.9	-7.9	-9.0	-10.5	-11.4	-14.5	-15.7	-16.1	-16.3	-14.5	-11.4	-8.6	-7.7	-6.6	-6.1	-4.9	-4.5	-4.3	-4.2	-4.6	-5.2	-4.7	-4.7	-4.4	-8.6	-4.2
14-Jan	-4.0	-5.3	-5.4	-5.1	-4.9	-4.8	-5.1	-4.9	-5.5	-5.1	-4.2	-2.1	0.6	1.5	1.8	1.9	1.9	3.2	4.2	4.0	4.4	5.3	5.0	4.7	-0.8	5.3
15-Jan	4.5	4.8	4.8	4.3	3.9	2.7	1.9	1.7	1.1	1.6	2.5	3.5	4.2	4.2	3.8	3.0	0.4	-0.6	-1.0	-2.2	-2.2	-2.5	-2.2	-2.3	1.7	4.8
16-Jan	-2.4	-2.5	-2.6	-2.6	-3.1	-3.0	-2.4	-2.1	-2.0	-2.2	-2.3	-2.2	-2.9	-4.8	-6.0	-6.5	-7.0	-7.3	-7.5	-8.0	-8.5	-9.1	-10.3	-11.3	-4.9	-2.0
17-Jan	-12.7	-14.1	-15.2	-15.7	-16.3	-16.5	-16.6	-17.1	-17.7	-17.8	-17.6	-17.5	-17.1	-17.4	-17.9	-19.0	-20.3	-21.6	-23.3	-24.5	-24.4	-25.1	-25.8	-27.6	-19.1	-12.7
18-Jan	-27.7	-29.0	-29.7	-31.2	-32.8	-33.4	-32.2	-31.5	-31.3	-30.5	-28.6	-26.5	-24.1	-22.3	-20.9	-21.0	-22.5	-23.9	-24.6	-25.0	-26.0	-28.1	-28.1	-28.8	-27.5	-20.9
19-Jan	-29.3	-31.5	-33.6	-33.6	-33.3	-34.5	-35.3	-35.5	-35.9	-36.1	-32.9	-27.2	-23.7	-22.6	-22.5	-23.2	-25.2	-27.9	-29.2	-30.4	-31.5	-31.0	-30.8	-30.4	-30.3	-22.5
20-Jan	-30.4	-30.4	-30.8	-30.1	-30.3	-29.7	-30.3	-31.6	-29.6	-26.1	-22.4	-19.1	-15.7	-14.4	-13.4	-12.5	-12.6	-13.1	-13.5	-13.2	-12.3	-10.8	-9.8	-9.7	-20.5	-9.7
21-Jan	-5.4	-2.8	-2.3	-2.0	-2.1	-2.2	-2.8	-3.3	-4.2	-3.9	-2.7	-2.2	-1.8	-1.4	-1.1	-2.2	-3.4	-5.2	-8.0	-9.9	-10.9	-11.8	-12.7	-13.3	-4.9	-1.1
22-Jan	-14.4	-14.4	-14.0	-12.9	-11.9	-11.3	-10.7	-9.4	-8.1	-7.6	-7.0	-6.3	-5.8	-5.6	-5.4	-5.6	-5.8	-5.9	-6.6	-8.0	-8.1	-8.3	-8.6	-9.3	-8.8	-5.4
23-Jan	-9.3	-8.3	-6.7	-5.2	-3.8	-3.3	-2.8	-2.6	-2.6	-2.2	-1.7	-0.7	0.7	1.5	1.5	0.6	0.4	-0.1	-0.8	-1.4	-1.8	-1.7	-1.6	-2.3	1.5	
24-Jan	-1.5	-1.2	-1.4	-1.7	-2.1	-2.0	-2.4	-3.7	-5.2	-6.7	-7.1	-6.8	-6.0	-5.6	-5.6	-6.2	-6.0	-6.0	-6.2	-5.2	-4.2	-4.3	-4.5	-4.5	-4.5	-1.2
25-Jan	-4.9	-5.6	-6.5	-6.3	-7.1	-8.0	-9.0	-9.8	-10.5	-10.3	-8.5	-6.3	-4.0	-1.8	-0.6	-0.7	-1.6	-2.4	-2.6	-2.9	-3.0	-3.6	-3.9	-2.9	-5.1	-0.6
26-Jan	-2.9	-3.2	-3.6	-4.3	-4.7	-5.2	-5.6	-6.0	-5.7	-4.2	-1.9	-0.6	0.4	2.8	3.9	3.5	1.9	0.5	2.3	2.5	1.5	0.7	0.2	0.7	-1.1	3.9
27-Jan	0.5	0.6	-0.1	-0.8	-1.2	-1.7	-2.4	-2.7	-2.6	-2.1	-0.8	0.7	2.4	3.6	3.3	3.3	3.1	4.1	4.5	5.6	6.7	6.2	5.9	5.7	1.7	6.7
28-Jan	5.2	4.5	4.2	3.7	3.4	3.1	2.7	2.6	2.2	2.2	2.7	3.3	3.8	4.0	3.7	3.1	2.2	1.2	0.6	-0.2	-1.0	-1.4	-1.9	-2.4	2.1	5.2
29-Jan	-3.3	-3.6	-4.0	-4.1	-4.3	-4.4	-4.5	-4.6	-5.3	-4.3	-3.2	-2.5	-2.2	-2.4	-2.6	-3.0	-3.7	-4.3	-4.9	-5.0	-5.1	-6.9	-8.8	-10.6	-4.5	-2.2
30-Jan	-12.8	-14.0	-15.1	-16.4	-17.0	-17.3	-17.8	-18.2	-18.6	-19.0	-19.7	-19.1	-18.2	-17.6	-17.3	-17.6	-19.4	-20.5	-21.2	-22.7	-23.4	-23.1	-23.9	-24.0	-18.9	-12.8
31-Jan	-23.9	-24.0	-24.0	-24.1	-24.0	-24.0	-24.1	-23.8	-23.2	-22.1	-20.6	-18.9	-17.9	-16.8	-16.3	-16.5	-16.9	-17.3	-18.0	-18.1	-18.2	-18.3	-18.7	-19.4	-20.4	-16.3
																								Diurnal Average		
																								Diurnal Maximum		





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ambient Temperature 2m (AT2) - C
Janvier - January 2025

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	185	24.87	24.87
-20 - 0	460	61.83	86.69
0 - 10	99	13.31	100.00
10 - 20	0	0.00	100.00
> 20	0	0.00	100.00

Total Number of Valid Hours: 744

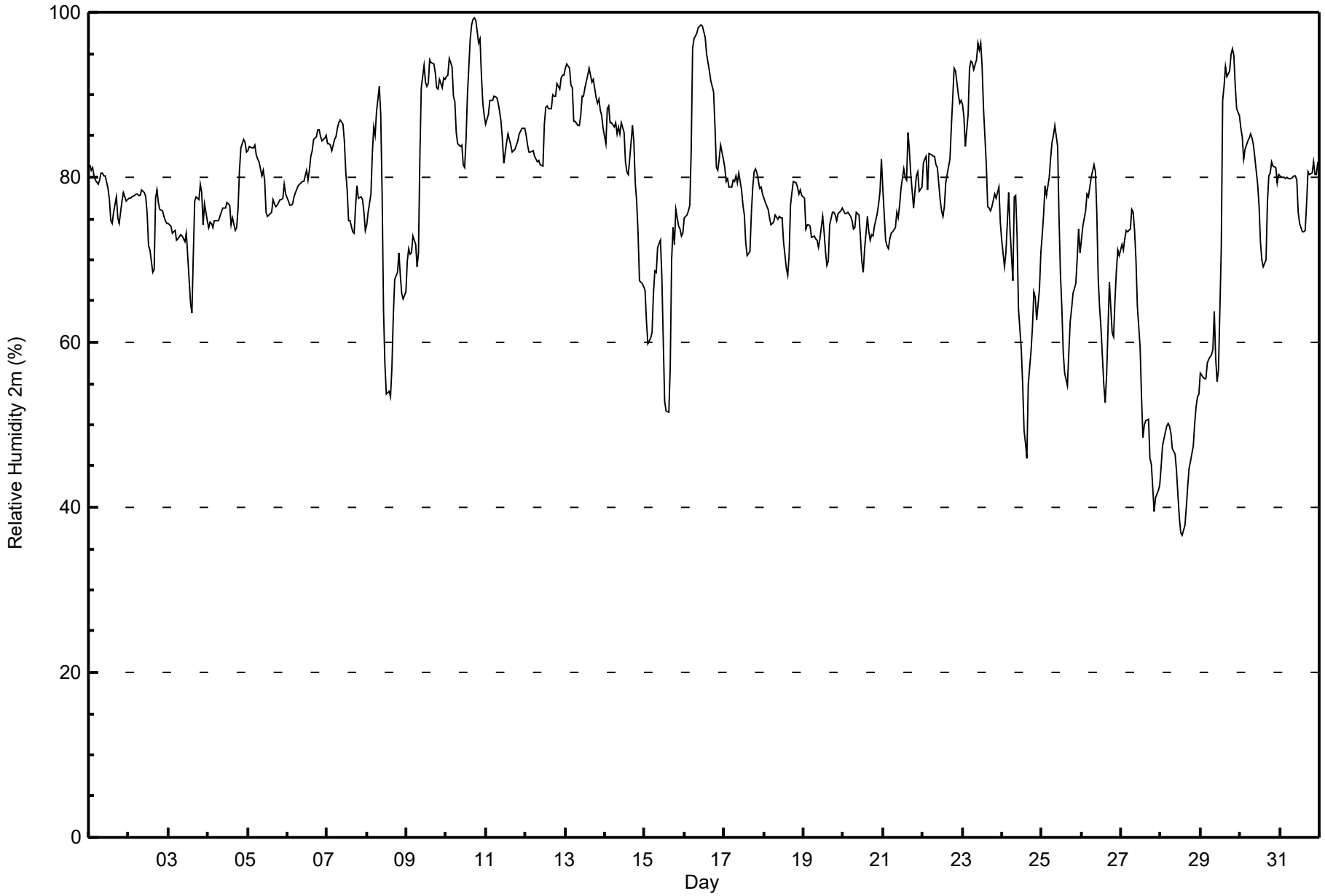
Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

Relative Humidity 2m (RH2) - %
Janvier - January 2025

Maximum Value: 99.3 % on Jan 10 18:00 Maximum Daily Average: 90.9 % on Jan 10																						Hours in Service: 744 Hours of Data: 744				
Minimum Value: 36.7 % on Jan 28 14:00 Minimum Daily Average: 45.8 % on Jan 28 Maximum Diurnal Average: 79.6 % at hour 9 Minimum Diurnal Average: 72.6 % at hour 15 Monthly Average: 76.82 % Percentiles: P ₁ = 41.8 P ₁₀ = 60.9 Q ₁ = 72.9 Median = 77.7 Q ₃ = 83.9 P ₉₀ = 90.6 P ₉₉ = 97.8																						Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0				
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	81.5	80.8	81.1	80.1	79.6	79.1	79.6	80.5	80.4	80.2	80.2	78.6	77.3	74.7	74.4	75.7	77.6	75.1	74.5	75.8	77.1	78.2	77.2	77.4	78.2	81.5
2-Jan	77.4	77.5	77.6	77.8	78.0	78.0	77.9	77.9	78.4	78.1	77.6	75.5	71.8	71.2	68.6	68.9	77.4	78.6	76.9	76.2	75.9	75.3	74.7	74.4	75.9	78.6
3-Jan	74.3	74.0	73.2	73.3	73.5	72.4	72.6	73.0	72.8	72.5	72.2	73.2	67.6	64.7	63.5	70.6	77.0	77.7	77.3	79.2	78.1	74.3	76.7	74.8	73.3	79.2
4-Jan	73.9	74.5	74.5	74.0	74.8	74.7	74.8	75.2	75.8	76.2	76.3	76.9	76.8	76.6	74.3	75.0	73.5	73.9	76.3	80.8	83.5	84.6	84.2	83.1	76.8	84.6
5-Jan	83.3	83.8	83.6	83.6	83.8	82.8	82.2	81.9	80.1	80.9	79.6	75.8	75.3	75.6	75.8	77.3	76.7	76.4	76.6	77.2	77.3	77.4	79.2	77.9	79.3	83.8
6-Jan	77.0	76.6	76.6	76.7	77.6	78.2	79.0	79.1	79.3	79.6	79.6	80.9	79.7	80.8	82.6	83.3	84.6	85.0	85.7	85.8	84.9	84.5	84.8	85.1	81.1	85.8
7-Jan	84.0	84.1	83.9	83.2	84.6	84.9	86.0	86.6	87.0	86.5	84.4	80.7	78.6	74.7	74.7	73.3	73.3	76.4	79.0	77.5	77.6	77.2	75.8	73.6	80.3	87.0
8-Jan	74.2	75.8	78.0	82.9	86.1	85.2	88.0	91.1	87.7	78.0	63.9	57.2	53.8	54.0	53.5	56.9	63.3	67.7	68.4	70.8	68.1	66.0	65.3	66.2	70.9	91.1
9-Jan	69.9	71.4	70.7	70.9	72.8	71.9	69.2	70.9	82.6	90.9	93.5	91.6	91.0	91.4	94.2	93.9	93.7	92.7	90.9	90.7	91.8	90.9	92.0	91.8	84.6	94.2
10-Jan	92.2	92.4	94.4	93.4	89.9	89.1	85.4	84.0	83.8	83.9	81.6	81.2	84.5	90.1	96.7	98.5	99.1	99.3	99.0	96.3	96.8	92.4	89.0	87.5	90.9	99.3
11-Jan	86.5	87.7	89.3	89.4	89.4	89.8	89.6	89.1	88.0	86.9	84.6	81.8	84.2	85.3	84.6	83.9	83.1	83.4	84.0	84.5	85.2	85.5	86.0	85.9	86.1	89.8
12-Jan	85.0	83.9	83.1	83.1	83.2	82.5	82.2	81.9	82.0	81.6	81.4	86.5	88.6	88.7	88.4	88.3	90.0	89.9	89.9	91.4	90.8	92.0	92.3	92.4	86.6	92.4
13-Jan	93.2	93.7	93.2	91.2	90.8	86.7	86.8	86.4	86.4	87.5	89.8	89.8	90.9	92.4	93.2	92.3	91.6	91.9	89.7	89.0	89.6	88.2	87.4	86.0	89.9	93.7
14-Jan	84.1	88.3	88.7	86.7	86.6	86.0	86.6	85.3	86.2	85.3	86.6	85.5	81.9	80.7	80.4	82.3	86.2	84.2	79.2	77.2	73.2	67.5	67.2	66.8	81.8	88.7
15-Jan	66.2	62.5	59.9	60.5	61.1	65.9	68.7	68.4	71.6	72.3	68.0	60.4	52.9	51.6	51.5	57.0	70.0	73.9	71.9	76.2	74.0	73.7	72.9	73.2	66.0	76.2
16-Jan	75.1	75.4	76.0	76.6	83.3	95.6	96.9	97.4	98.1	98.3	98.5	98.3	96.9	94.9	93.9	92.8	91.6	90.3	86.0	81.1	80.8	82.2	83.8	82.2	88.6	98.5
17-Jan	81.2	79.5	79.8	78.9	78.8	79.7	79.4	80.1	79.4	80.5	78.5	76.6	75.5	72.0	70.5	71.1	75.7	78.8	80.8	81.0	80.5	78.7	78.9	77.9	78.1	81.2
18-Jan	77.4	77.0	76.0	75.2	74.3	74.4	74.7	75.4	74.9	75.3	75.0	75.2	72.2	68.9	68.1	70.5	76.7	78.2	79.4	79.4	78.9	77.9	78.6	77.8	75.5	79.4
19-Jan	77.4	73.8	74.2	74.3	74.1	72.7	73.0	72.6	72.4	71.5	72.5	75.3	73.3	71.0	69.4	69.8	74.2	75.8	75.8	75.5	74.7	75.5	75.9	76.2	73.8	77.4
20-Jan	75.9	75.6	75.6	75.7	75.3	74.8	73.7	73.9	75.7	75.4	72.7	69.8	68.5	71.3	75.2	73.4	72.4	73.0	72.8	74.0	75.6	76.8	78.3	82.3	74.5	82.3
21-Jan	78.6	72.4	71.7	71.4	72.5	73.2	73.4	74.0	75.8	75.0	76.6	78.6	81.0	79.9	79.6	85.4	83.2	80.3	76.2	78.2	80.2	80.6	78.3	78.8	77.3	85.4
22-Jan	81.6	82.2	82.6	78.5	82.9	82.6	82.5	82.5	81.5	81.2	77.2	75.9	75.3	76.4	79.4	80.3	82.3	86.0	89.7	93.2	93.0	90.1	88.9	89.3	83.1	93.2
23-Jan	88.8	87.2	83.7	87.7	93.2	94.0	93.8	93.1	94.3	96.2	95.5	96.3	93.5	88.4	81.5	76.5	76.3	76.0	76.4	78.0	77.4	78.2	78.7	74.6	85.8	96.3
24-Jan	72.4	69.1	70.9	74.5	78.1	73.6	67.4	77.6	77.7	72.8	64.1	59.1	54.9	49.3	47.8	46.0	55.0	59.0	61.9	66.1	65.4	62.6	66.4	70.9	65.1	78.1
25-Jan	73.0	75.6	79.0	77.8	80.0	82.4	84.2	85.1	86.4	83.8	75.2	68.4	64.3	58.8	56.3	54.8	58.9	62.5	64.1	65.9	67.1	70.1	73.7	70.9	71.6	86.4
26-Jan	72.3	74.1	75.9	77.9	77.7	78.9	79.9	81.6	80.7	75.8	67.9	64.3	61.8	54.9	52.6	55.9	61.5	67.2	61.2	60.8	65.1	68.7	71.1	70.6	69.1	81.6
27-Jan	71.9	71.2	72.5	73.6	73.4	73.8	76.2	75.8	73.5	70.1	64.5	59.4	53.2	48.5	50.0	50.5	50.7	45.9	45.3	42.4	39.6	41.2	42.1	42.7	58.7	76.2
28-Jan	44.9	47.4	48.3	49.9	50.2	49.9	49.0	47.0	46.4	44.4	41.6	38.8	37.0	36.7	37.8	40.0	42.5	44.7	45.5	47.4	50.1	52.1	53.3	53.7	45.8	53.7
29-Jan	56.3	55.7	55.7	55.6	57.5	58.0	58.4	59.1	63.7	58.2	55.2	56.6	71.4	89.3	91.1	93.5	92.2	92.9	94.9	95.5	94.7	91.0	88.3	87.5	73.8	95.5
30-Jan	85.9	84.9	82.1	83.4	84.4	84.7	85.2	84.7	83.9	82.4	79.1	76.5	72.2	70.1	69.1	69.9	77.0	80.2	80.5	81.8	81.4	81.1	79.3	80.3	80.0	85.9
31-Jan	80.2	79.9	80.0	79.8	80.0	79.9	79.8	79.9	80.1	80.3	79.6	75.7	74.4	73.3	73.4	73.5	76.8	80.7	80.3	80.5	81.9	80.3	80.4	81.9	78.9	81.9
																								Diurnal Average		
																								Diurnal Maximum		



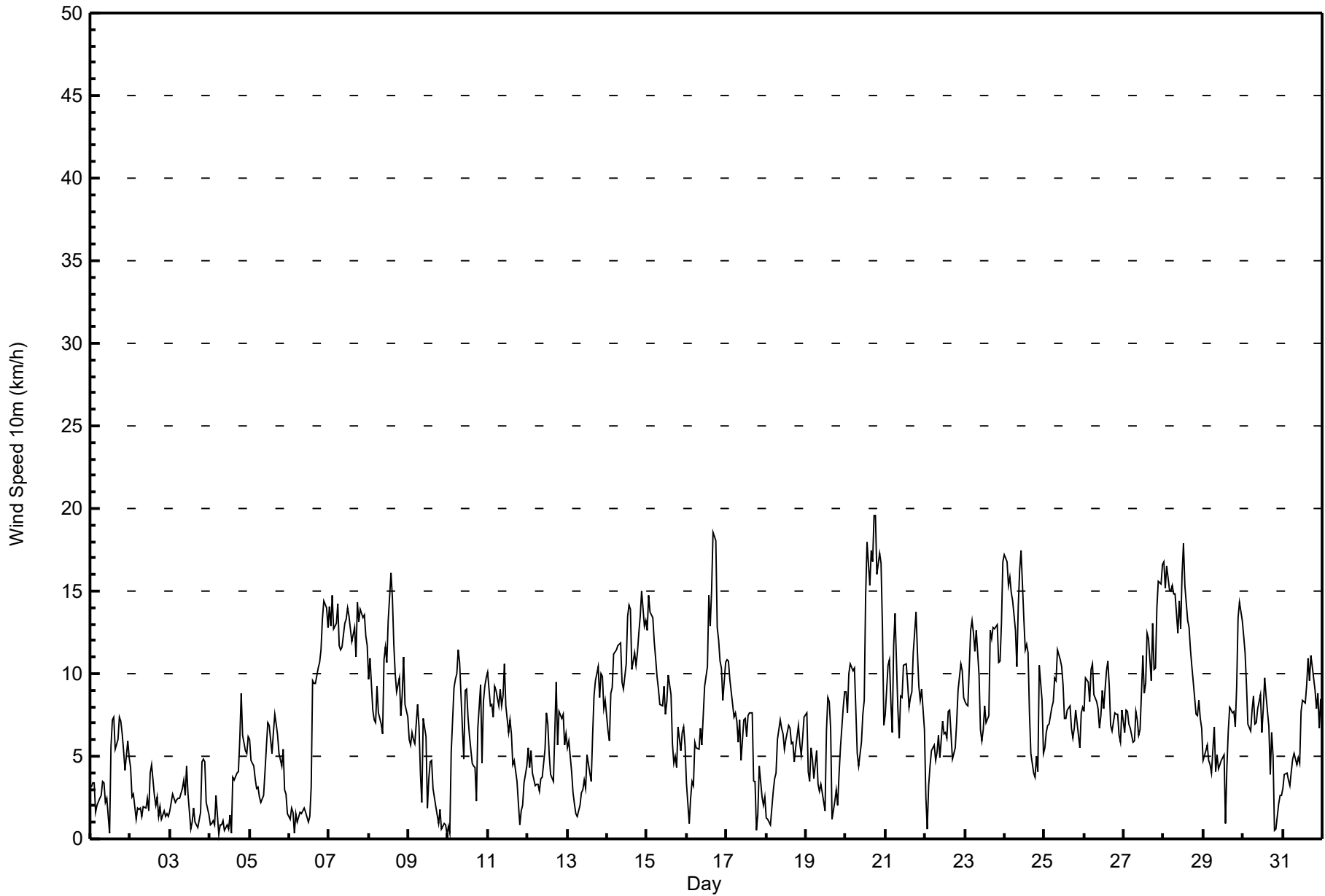


Maximum Speed: 20 km/h on Jan 20 18:00	Maximum Daily Speed Average: 12.9 km/h on Jan 7	Hours in Service: 744
Minimum Speed Value: 0 km/h on Jan 10 00:00	Minimum Daily Speed Average: 0.4 km/h on Jan 2	Hours of Data: 744
Maximum Diurnal Speed Average: 3.7 km/h at hour 6	Minimum Diurnal Speed Average: 1.9 km/h at hour 17	Hours of Missing Data: 0
Monthly Average Velocity: 2.8 km/h 251.7 deg	Percentiles: P ₁ = 1 P ₁₀ = 2 Q ₁ = 4 Median = 7 Q ₃ = 10 P ₉₀ = 13 P ₉₉ = 17	Percent Operational Time: 100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	SSW3	SSW3	SW3	S2	S2	SSW2	S3	SSW3	SSW3	SSW2	SW2	NNW0	N6	N7	NNE7	NNE5	NNE6	N7	N7	N6	NNE5	N4	N6	N5	N1.8	NNE7	
2-Jan	N4	NNE3	NNE3	SE1	S2	S2	SW2	S1	S2	SW2	SW2	WNW2	N4	NNE5	NE3	ENE2	ESE3	SE1	S2	S1	S2	S1	SE2	S1	ESE0.4	NNE5	
3-Jan	S2	S3	S2	SSE2	S2	SE2	SSE2	SSE3	S4	SSE3	SSW4	SSW3	WNW1	N1	N2	NNE1	E1	SW1	SE2	SSE5	SSE5	SE5	ESE2	SE1	SSE1.9	SSE5	
4-Jan	ENE1	N1	ESE1	N1	NNE3	ENE0	SSE1	S1	SSW1	NNW1	WNW1	WNW1	NN1	NW0	ESE4	E4	SE4	SSE4	S6	S9	S6	S5	SSW5	SSW6	S1.8	S9	
5-Jan	SSW6	SSW5	SW4	SW4	SW3	SW3	WNW3	NNW2	WNW3	N4	N6	NNE7	NNE7	NNE5	NNE6	NNE8	NNE7	NNE6	NNE5	NNE4	NNE5	NNE3	NNE3	NE1	N2.5	NNE8	
6-Jan	SE1	SE2	SE2	SW0	NE2	NNE1	NW2	WNW1	NNW2	WSW2	NNW2	W1	WSW1	S3	SSW10	SSW9	SSW9	SSW10	SSW11	SSW11	SSW13	SSW14	SSW14	SSW13	SSW4.9	SSW14	
7-Jan	SSW14	SSW13	SSW15	SSW13	SSW13	SSW14	SSW12	SSW11	SSW12	SSW13	SSW13	SSW14	SSW13	SSW13	SSW12	SSW13	SSW11	SSW14	SSW13	SSW14	SSW13	SSW14	SSW12	SSW12	SSW12.9	SSW15	
8-Jan	SSW10	SSW11	SSW8	SSW7	SW7	SW9	SSW8	SSE7	S6WSW11	W12	W11	W13WNW16WNW15	NW12WNW10	WNW9WNW10	W7	W9WNW11	WNW8	W7							W7.5	WNW16	
9-Jan	SW6	WSW6	W6	W6	WSW6	W8	WNW7	WNW4	NNW2	NNE7	NNE6	NNE2	NNE4	ENE5	NE5	N3	NE2	NE1	N1	SW2	NNW1	NW1	NW1	NW0	NW1.6	W8	
10-Jan	N1	NNE0	S5	S9	SSW10	SSW10	SSW11	SSW11	SSW7	S5	SSW9	SSW9	SSW7	SW6	SW5	SW4	SW4	WSW2	NNE7	NNE9	N5	N8	N9	NNE10	SW2.7	SSW11	
11-Jan	N10	N8	N8	N7	NNE9	N9	N8	N9	NNE8	NNE9	NNE11	NNE8	NNE6	NNE7	N6	N4	N5	NNE3	N2	N1	NNE2	ENE2	SSE3	S4	NNE5.6	NNE11	
12-Jan	SSW6	SSE4	SSE5	S4	SSW3	SSE3	SSE3	SSE3	S4	S4	SSW5	SSW8	S7	SSW5	SW4	SSW3	S7	SSW10	S6	S8	S7	S8	SSW6	SSW6	S5.2	SSW10	
13-Jan	SSW5	SSW6	SSW4	S3	SSW2	NNW2	WSW1	S2	S3	S3	SSW4	SSW3	S5	SSW4	SSW4	SSW6	SSW9	SSW10	SW10	SSW9	SSW10	SW10	SSW8	SSW8	SSW5.2	SW10	
14-Jan	SW6	SW6	SSW9	SSW9	SSW11	SSW11	SSW12	SSW12	SSW12	SSW10	SSW9	SSW11	SSW13	SW14	SW14	SSW10	SSW11	SW10WSW11	W12	W13	W15	W13	W13	W13	SW9.7	W15	
15-Jan	W13	W15	W14	W13WNW12	W11	W10	W9	W8	WNW8	WNW9	WNW8	WNW8WNW10	WNW9	W6	SW5	SSW5	SSW4	SSW7	SSW5	SSW6	SSW7	SSW6	SSW7	SSW6	W7.3	W15	
16-Jan	S3	ESE1	SE2	E3	NNE3	ENE6	ENE5	NE5	NE7	ENE6	ENE7	NE9	NNE10	NNE15	NNE13	NNE15	NNE19	NNE18	NNE13	NNE12	N11	N10	N8	N11	NNE8.0	NNE19	
17-Jan	N11	N11	N10	N9	N7	N8	N7	N6	N7	N5	N7	N7	N6	N7	N8	N8	N4	N3	ESE1	NNE1	N4	N3	N2	SW3	N5.8	N11	
18-Jan	WNW1	WNW1	SE1	S2	S3	S4	S4	SW6	SSW7	SSW7	SSW6	SW5	SSW6	SSW7	SSW7	S6	SSW6	SSW5	S5	SSW7	SSW6	SSW5	SSW6	SSW7	SSW4.8	SSW7	
19-Jan	S8	SSW4	S3	SSW5	SSW5	S4	SSW5	SSW3	SSW3	SSW3	SSW3	N2	N7	N9	N8	NNE7	NNE1	SSE2	SE3	S2	S4	SSW5	SSW8	SSW9	S1.9	SSW9	
20-Jan	SSW9	SSW8	SSW10	SSW11	SSW10	SSW10	SSW8	SSW5	S4	S6	S8	SSW8	SSW15	SSW18	SSW15	SSW17	SW17	SW20	SW20	SW16	SW17	SW17	SW13	S7	SSW11.6	SW20	
21-Jan	SW8	W10	W11	W8	WSW6	W12	W14	W8	WSW6	W9	W9	W11	W11	WNW9	NW8	N9	N9	NNE11	N14	N11	N9	N8	N9	N7	NW6.3	N14	
22-Jan	N3	S1	SSW3	SW4	W5	WSW6	WSW5	WNW5	NW6	WNW5	NW7	NW6	WNW6	WNW6	W8	W8	WSW5	WSW5	SW5	SSW7	SSW9	SSW11	SSW10	SSW9	WSW4.4	SSW11	
23-Jan	SSW8	SSW8	SSW8	SSW13	SW13	SSW12	SW11	SW13	SW10	SW7	SW6	SW7	SW8	W7	WSW7WNW13WNW12WNW13WNW13WNW13WNW11WNW11WNW13	W17									WSW8.6	W17	
24-Jan	WNW17	W17	W15WNW16WNW15WNW14	NNW13	NNW10	N14	N16	N17	N13	NNW11	N12	N11	NNW8	WNW5	WNW4	W4	SW5	WSW4	W11	W8	WSW5				NW8.6	N17	
25-Jan	SW6	SW6	SSW7	SSW7	SSW8	SW8	SSW10	SSW10	SSW11	SSW11	SW10	SSW9	SSW7	SW7	W8	W8	WSW7	WSW6	WSW7	WSW8	WSW6	SSW8	SSW8	SSW8	SW7.3	SSW11	
26-Jan	SSW8	SSW10	SSW9	SSW8	SSW10	SSW11	SSW9	SSW8	S8	SW7	WSW7	WSW9	SW8WSW10WSW11	WSW9	SW7	SW7	W8	W8	W8	WSW6	SW6	SW8			SW7.5	WSW11	
27-Jan	SW6	WSW8	WSW8	WSW7	SW7	SSW6	SSW6	SSW8	SW7	SW6	SSW7	SSW11	SW9	SW9	SSW12	SW12	SW10WSW13	SW10WSW10WNW14WNW16WNW15WNW17							WSW8.3	WNW17	
28-Jan	WNW17	WNW15	WNW17	WNW15	WNW15	WNW15	WNW15	WNW15	WNW15	WNW12	WNW14	WNW13	WNW16	WNW18	WNW15	WNW13	WNW13	WNW11	WNW10	W9	W8	WSW7	W8	W7	W7	WNW12.6	WNW18
29-Jan	SW5	SW5	WSW6	SW5	SSW4	SW4	SSW7	S4	S5	S4	SW4	SSW5	SW5	S1	NNE4	NE6	NE8	NNE8	NNE8	NNE7	NNE9	NNE13	NNE14	NNE13	NNE1.3	NNE14	
30-Jan	NNE12	NNE11	NNE9	NNE7	N7	NNE8	NNE9	NNE7	NNE7	NNE8	NNE9	N6	NNE8	NNE10	NNE9	NNE7	NNE4	NNE6	NNE5	NW0	SE1	NNE2	N3	N3	NNE6.4	NNE12	
31-Jan	NNE3	N4	N4	NNE4	N3	N4	N5	N5	N4	N5	NNE5	NE8	NE8	NE8	NE9	NE11	NE10	NE11	NE10	NE9	NE8	NE9	NNE7	NNE8	NNE6.5	NE11	

WSW3.3WSW3.4WSW3.4	SW3.6	SW3.6	WSW3.7	WSW3.3	WSW2.8	SW2.4	WSW2.2	W2.5	W2.6	W2.7	WNW2.7	WNW2.5	WNW2.3	W1.9	WSW2.4	W2.6	WSW2.9	WSW2.9	WSW3.2	WSW3.0	WSW3.1					Diurnal Average
WNW17	W17	WNW17	WNW16	WNW15	WNW15	WNW15	WNW15	N14	N16	N17	WNW16	WNW18	SSW18	SSW15	SSW17	NNE19	SW20	SW20	SW16	SW17	SW17	WNW15	W17			Diurnal Maximum

All monthly, daily, and diurnal averages have been calculated using vector methods





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Wind Speed 10m (WS10) - km/h
Janvier - January 2025**

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	272	36.56	36.56
6 - 11	354	47.58	84.14
12 - 19	116	15.59	99.73
20 - 28	2	0.27	100.00
29 - 38	0	0.00	100.00
> 38	0	0.00	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Wind Speed 10m (WS10) - km/h
Janvier - January 2025**

Wind Speed Ranges (km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	34	30	7	6	3	6	15	15	47	40	28	10	2	14	7	8	272
6 - 11	48	44	15	3	0	0	0	1	17	103	37	26	32	21	4	3	354
12 - 19	6	11	0	0	0	0	0	0	0	38	9	1	15	34	1	1	116
20 - 28	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
29 - 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	88	85	22	9	3	6	15	16	64	181	76	37	49	69	12	12	744

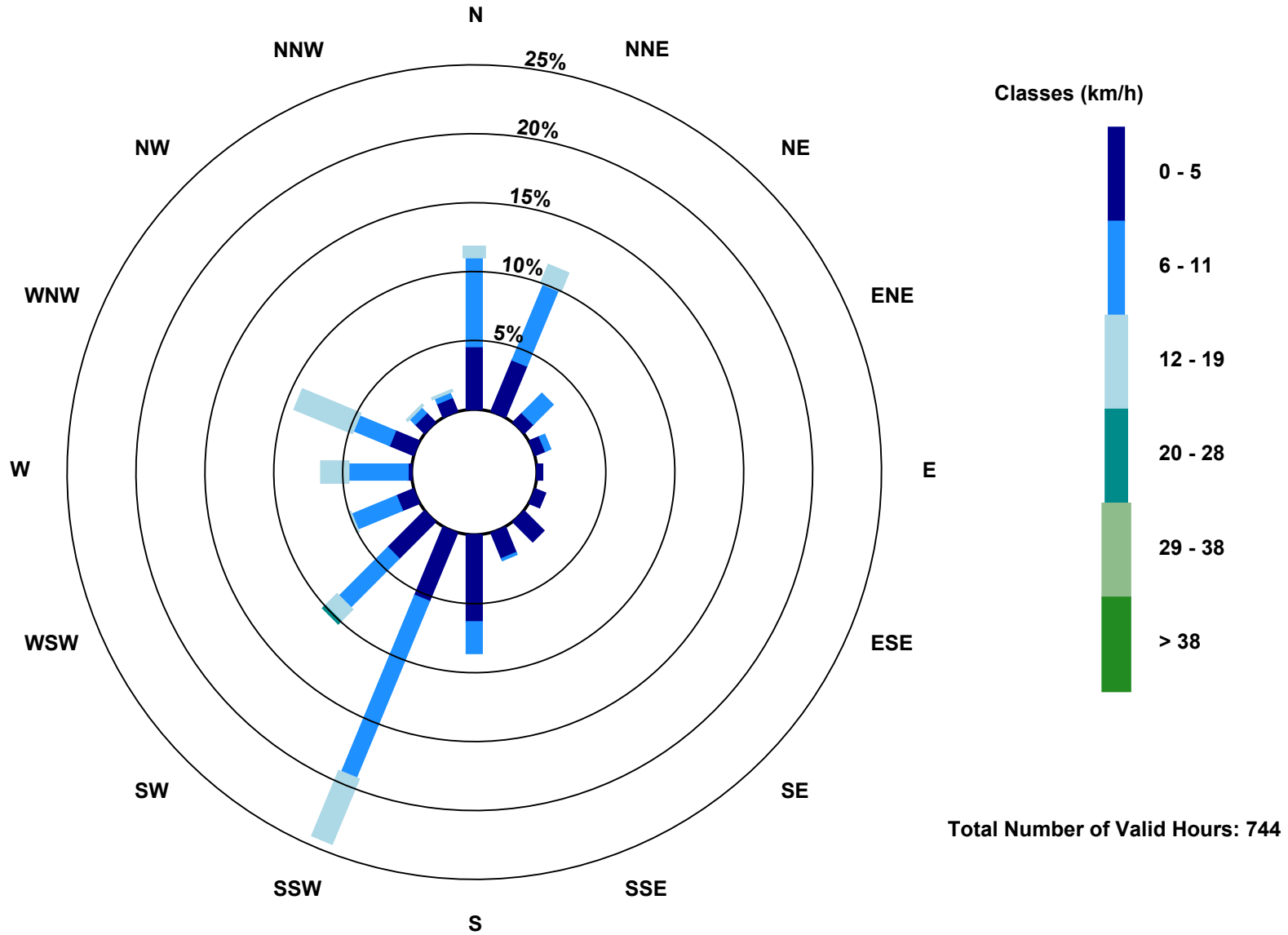
Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Wind Speed 10m (WS10) - km/h
Janvier





Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 7 km/h on Jan 28 14:00														Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0											
Minimum Value: 0 km/h on Jan 3 01:00																									
Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 1 Median = 2 Q ₃ = 3 P ₉₀ = 5 P ₉₉ = 6																									
Day	Hourly Period Ending At (MST)																							Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		24
1-Jan	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	1	2	3	3	2	2	1	2	2	3
2-Jan	2	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1
3-Jan	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	1	1	2
4-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	2	1	2	2	3
5-Jan	2	1	2	1	1	1	1	1	1	3	2	2	2	2	2	2	2	2	2	1	1	2	1	1	3
6-Jan	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	2	3	4	3	4	4	4	4	4	4
7-Jan	4	3	4	4	3	4	3	3	3	4	3	4	4	3	3	4	4	4	3	3	4	3	3	3	4
8-Jan	3	3	2	2	2	3	2	2	2	5	4	4	5	6	5	6	5	4	3	3	3	4	3	3	6
9-Jan	2	2	2	2	2	3	3	2	2	2	2	2	1	2	2	1	1	1	1	1	1	1	1	1	3
10-Jan	1	1	4	3	3	3	4	4	2	1	2	2	2	2	1	1	1	1	4	3	2	3	3	4	4
11-Jan	4	3	3	3	3	3	3	3	3	3	3	2	2	2	2	2	1	1	1	1	1	1	1	1	4
12-Jan	1	1	1	1	1	1	1	1	1	1	2	2	2	2	1	1	2	3	3	3	2	2	1	2	3
13-Jan	2	1	1	1	1	1	1	1	1	1	2	1	2	1	2	2	2	2	3	3	2	3	2	2	3
14-Jan	2	1	2	2	2	3	3	3	3	3	3	3	4	5	4	3	3	3	4	4	5	5	5	4	5
15-Jan	4	5	5	5	4	4	4	3	3	3	4	3	3	4	3	2	1	1	2	1	1	1	1	2	5
16-Jan	2	2	2	2	2	2	2	2	2	2	2	3	3	5	4	5	6	6	5	4	4	4	3	5	6
17-Jan	4	5	4	4	3	3	3	3	3	2	2	3	2	3	3	3	2	1	1	1	2	1	1	1	5
18-Jan	1	1	1	1	1	1	1	2	1	1	2	2	2	2	2	1	1	1	2	1	1	1	1	1	2
19-Jan	1	2	1	1	2	1	1	1	1	1	1	1	3	3	3	2	1	1	1	1	1	1	1	1	3
20-Jan	2	2	2	2	2	2	3	1	2	2	2	2	5	5	5	5	6	7	7	5	6	5	4	3	7
21-Jan	3	4	4	3	3	5	5	4	3	3	3	4	4	3	4	5	4	4	5	4	4	4	3	3	5
22-Jan	1	1	1	1	1	2	1	2	3	2	3	3	3	2	3	3	2	2	2	2	2	3	3	2	3
23-Jan	2	2	3	3	4	4	4	4	4	2	2	2	2	2	3	5	4	4	5	5	4	4	5	6	6
24-Jan	6	6	6	6	6	6	7	6	6	6	7	6	5	6	5	4	3	2	1	2	2	5	4	2	7
25-Jan	2	2	2	2	2	3	2	3	3	3	3	3	2	2	3	3	2	3	3	2	2	1	2	2	3
26-Jan	2	3	2	2	2	3	3	2	1	2	3	4	3	3	4	3	3	2	4	2	3	2	2	2	4
27-Jan	2	3	2	2	2	2	1	2	2	2	2	3	3	3	4	4	3	5	3	5	5	6	6	7	7
28-Jan	6	6	6	6	6	6	6	6	5	5	5	7	7	7	6	5	4	3	3	2	2	3	2	2	7
29-Jan	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	2	2	3	2	2	3	4	4	4	4
30-Jan	4	3	3	2	2	2	3	2	2	3	2	2	2	2	2	2	1	1	2	1	1	1	1	1	4
31-Jan	1	1	1	1	1	1	1	2	1	1	1	2	2	2	3	3	3	3	3	3	2	2	3	2	3
														Diurnal Maximum											



Wood Buffalo Environmental Association
Summary of Hour Averages

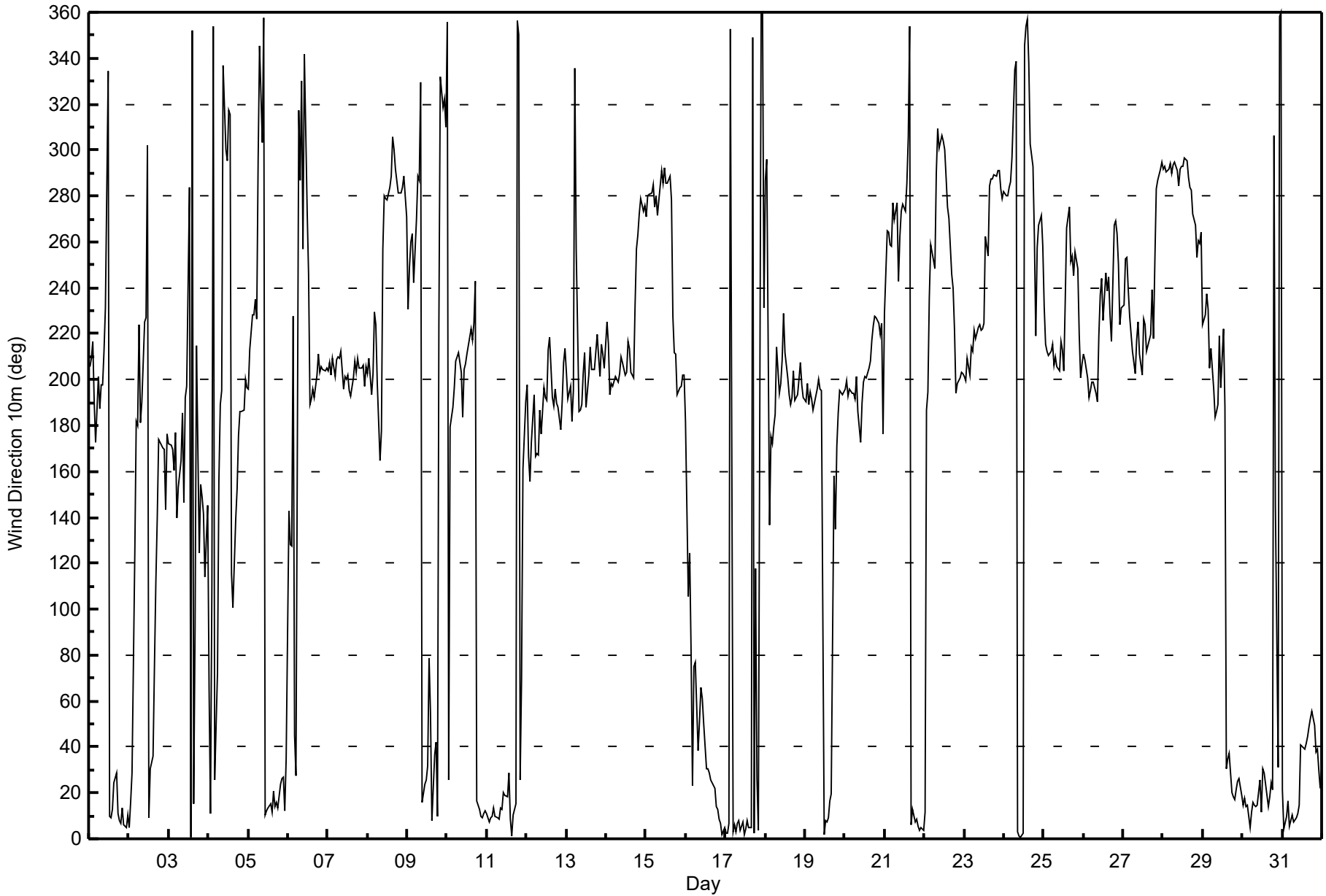
Wind Direction 10m (WD10) - deg
Janvier - January 2025

Direction of Maximum Speed: 223 deg on Jan 20 18:00	Hours in Service: 744
Direction of Maximum Daily Speed Average: 203.8 deg on Jan 7	Hours of Data: 744
Direction of Minimum Speed: 310 deg on Jan 10 00:00	Hours of Missing Data: 0
Direction of Minimum Daily Speed Average: 0.4 deg on Jan 2	Percent Operational Time: 100.0
Monthly Average Direction: 251.7 deg	

Day	Hourly Period Ending At (MST)																								Daily Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	206	209	217	190	173	201	187	198	198	212	231	334	10	9	13	24	29	11	8	7	13	6	5	10	4.4
2-Jan	5	16	29	125	182	180	224	181	190	225	227	302	9	31	36	75	112	140	174	173	170	170	143	176	103.9
3-Jan	172	171	170	161	177	140	153	165	186	147	192	197	283	1	352	15	93	215	124	155	149	142	114	145	159.2
4-Jan	66	11	111	354	26	73	156	189	195	337	300	295	317	315	115	101	139	152	175	186	186	187	200	197	171.3
5-Jan	196	213	228	228	235	226	295	345	303	358	10	12	13	15	12	21	14	16	14	24	26	27	12	35	0.7
6-Jan	143	128	128	227	45	27	317	287	330	257	341	273	246	189	192	196	192	202	211	203	206	204	204	205	203.6
7-Jan	204	207	202	209	202	209	210	209	213	196	201	200	202	195	193	201	208	203	209	205	205	206	197	205	203.8
8-Jan	203	210	193	203	230	224	199	165	178	257	280	279	278	284	288	306	300	292	282	281	281	284	289	271	261.4
9-Jan	231	249	260	264	242	269	288	287	329	16	23	26	32	78	55	8	36	42	10	224	332	319	322	310	306.6
10-Jan	356	26	179	188	197	208	210	211	203	184	205	207	211	215	222	217	225	243	16	13	10	9	11	12	216.1
11-Jan	11	8	9	10	14	10	9	9	13	13	20	19	18	28	9	1	10	15	356	350	26	70	161	190	14.2
12-Jan	198	166	156	172	194	166	168	167	187	176	197	192	191	213	219	192	189	196	190	188	178	190	207	213	189.3
13-Jan	203	192	197	182	195	336	257	186	186	189	202	212	188	202	214	204	204	205	220	210	202	215	211	205	205.2
14-Jan	225	215	194	198	197	201	200	199	202	210	208	202	203	217	214	203	201	232	257	263	272	279	273	276	223.7
15-Jan	271	280	281	281	285	275	280	271	278	291	285	292	286	285	289	278	228	212	211	193	196	197	202	202	267.2
16-Jan	182	105	125	81	23	75	77	39	51	66	61	50	31	31	29	25	25	22	14	13	8	7	2	5	30.0
17-Jan	2	2	6	353	3	6	3	6	8	4	8	2	4	8	5	5	349	3	118	26	4	359	360	231	3.0
18-Jan	287	296	137	175	172	180	185	214	194	199	209	229	212	201	194	189	192	204	191	194	200	208	197	192	199.1
19-Jan	190	198	189	195	192	187	193	196	200	196	195	2	8	8	9	17	19	158	135	171	186	195	194	194	189.6
20-Jan	196	200	193	196	194	194	192	202	186	173	190	199	201	201	205	208	217	223	227	227	225	220	224	176	207.8
21-Jan	229	265	264	259	258	277	269	277	243	262	273	277	274	286	306	354	6	13	7	9	5	4	5	4	304.0
22-Jan	11	187	194	235	259	252	249	290	309	301	306	304	300	288	275	270	246	240	222	194	198	201	203	203	249.2
23-Jan	201	199	209	202	214	213	221	218	223	224	221	222	225	262	254	284	287	288	289	289	291	291	283	279	249.5
24-Jan	282	280	280	284	286	296	335	339	3	1	1	2	345	354	357	338	303	293	263	219	257	267	272	258	314.2
25-Jan	232	215	212	211	212	216	206	210	205	204	216	213	204	234	266	275	251	254	245	256	248	220	201	207	223.2
26-Jan	211	209	201	192	195	199	199	194	190	219	237	244	226	247	239	245	228	217	267	269	264	250	224	231	223.7
27-Jan	232	253	253	239	228	213	207	202	217	225	211	202	226	224	212	215	220	239	218	252	283	287	292	295	240.5
28-Jan	292	293	290	292	294	290	294	295	291	284	292	293	293	296	295	288	284	283	272	267	253	260	259	264	287.1
29-Jan	224	228	237	230	205	214	196	184	186	189	219	196	222	188	31	35	37	20	18	17	21	25	26	19	12.4
30-Jan	15	18	14	15	5	12	16	14	14	14	25	11	30	28	24	14	19	25	21	307	146	31	358	360	17.3
31-Jan	22	4	10	16	6	8	10	7	9	11	15	41	40	39	42	45	49	52	55	49	38	39	30	22	33.6

242.7 247.9 237.6 235.0 236.1 239.5 239.2 237.4 234.0 252.3 263.2 260.4 268.0 282.2 284.4 287.1 259.9 258.4 260.0 246.8 250.8 254.8 253.7 250.6
 Diurnal Average

All monthly, daily, and diurnal averages have been calculated using vector methods





Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg
Janvier - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 102 deg on Jan 16 02:00 Minimum Value: 7 deg on Jan 19 01:00 Percentiles: P ₁ = 10 P ₁₀ = 15 Q ₁ = 18 Median = 23 Q ₃ = 31 P ₉₀ = 47 P ₉₉ = 88		Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	15	15	17	63	28	16	11	12	15	37	24	88	22	22	21	16	15	22	24	32	26	24	30	22	88
2-Jan	25	27	32	48	10	32	25	35	26	33	23	69	40	20	22	45	20	52	38	59	42	42	32	30	69
3-Jan	33	25	22	27	26	24	14	33	14	22	13	26	93	70	29	32	67	64	51	26	22	23	48	48	93
4-Jan	87	76	65	71	25	100	63	53	39	87	75	75	49	87	21	25	25	26	20	17	14	15	22	18	100
5-Jan	16	20	22	20	19	19	47	70	48	47	27	28	24	24	22	19	21	18	20	20	18	31	21	41	70
6-Jan	45	20	24	84	45	74	38	29	58	44	70	78	61	34	16	18	16	20	22	19	20	20	20	18	84
7-Jan	17	17	16	20	16	17	20	18	17	15	16	18	18	15	13	17	21	16	19	18	17	17	15	21	21
8-Jan	18	17	22	12	18	19	22	21	25	38	18	22	23	23	25	42	36	31	24	20	21	20	24	22	42
9-Jan	21	25	27	24	23	24	33	47	68	19	31	81	37	37	32	26	54	49	33	49	63	40	49	91	91
10-Jan	77	86	43	19	19	18	18	20	24	20	16	17	19	19	19	20	17	46	17	20	28	31	21	23	86
11-Jan	24	35	30	25	21	26	27	22	21	22	16	22	26	18	27	41	30	39	47	96	81	63	38	32	96
12-Jan	21	26	25	33	20	26	23	27	29	21	18	18	17	35	30	26	15	16	30	23	19	17	14	12	35
13-Jan	14	12	30	25	54	47	34	46	33	38	31	40	22	23	40	20	18	16	18	15	16	17	23	14	54
14-Jan	17	17	10	11	12	15	16	16	16	18	16	18	22	20	17	15	24	22	19	20	19	19	19	18	24
15-Jan	21	20	21	19	22	17	20	22	21	36	27	34	28	28	28	25	17	17	32	10	12	9	11	14	36
16-Jan	52	102	83	53	48	31	28	26	22	46	22	23	16	17	17	17	16	17	22	22	25	29	38	37	102
17-Jan	33	42	30	46	41	37	43	37	26	27	25	31	33	27	33	32	69	41	97	70	30	61	70	37	97
18-Jan	73	57	84	29	26	43	12	18	10	12	21	23	25	24	15	16	11	11	11	11	13	11	10	8	84
19-Jan	7	15	13	9	37	24	10	20	35	25	34	83	30	28	25	18	77	29	23	33	23	14	8	7	83
20-Jan	10	12	11	12	12	12	13	11	26	21	15	18	18	18	19	20	22	21	22	23	22	19	23	28	28
21-Jan	30	24	21	28	37	26	21	33	48	25	26	20	20	22	42	45	31	24	26	26	30	38	31	36	48
22-Jan	32	88	26	21	17	17	19	40	45	45	48	46	42	28	24	24	34	30	23	17	14	15	18	19	88
23-Jan	15	16	21	17	21	20	23	20	22	23	24	25	26	25	29	24	25	24	27	25	31	34	23	20	34
24-Jan	21	21	21	23	26	31	55	53	35	35	38	37	53	48	45	61	42	39	32	21	44	28	24	30	61
25-Jan	23	22	20	21	20	18	16	19	15	17	20	21	20	23	27	22	23	28	23	18	19	19	16	16	28
26-Jan	17	17	13	16	12	14	14	19	12	22	31	29	27	21	25	26	29	22	32	19	20	22	28	19	32
27-Jan	24	21	22	19	18	19	17	15	19	20	24	19	24	23	20	20	21	24	28	35	26	25	29	32	35
28-Jan	28	29	28	30	29	26	30	33	32	22	31	31	29	38	36	29	22	20	17	18	19	17	17	19	38
29-Jan	21	21	21	23	18	21	10	20	11	19	24	17	23	74	17	21	19	17	15	16	16	16	16	18	74
30-Jan	20	18	22	16	25	22	23	25	24	22	13	27	18	14	17	20	14	8	15	90	74	47	34	32	90
31-Jan	32	24	19	23	34	22	21	20	22	19	19	20	16	18	16	17	20	21	24	22	17	17	25	14	34
	87	102	84	84	54	100	63	70	68	87	75	88	93	87	45	61	77	64	97	96	81	63	70	91	
	Diurnal Maximum																								



Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Speed 20m (WS20) - km/h

Janvier - January 2025

Maximum Speed: 28 km/h on Jan 28 13:00	Maximum Daily Speed Average: 18.8 km/h on Jan 28	Hours in Service: 744
Minimum Speed Value: 0 km/h on Jan 4 11:00	Minimum Daily Speed Average: 0.3 km/h on Jan 2	Hours of Data: 736
Maximum Diurnal Speed Average: 5.6 km/h at hour 6	Minimum Diurnal Speed Average: 3.1 km/h at hour 17	Hours of Missing Data: 8
Monthly Average Velocity: 4.4 km/h 267.3 deg	Percentiles: P ₁ = 1 P ₁₀ = 3 Q ₁ = 6 Median = 9 Q ₃ = 13 P ₉₀ = 18 P ₉₉ = 24	Percent Operational Time: 98.9

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	W5	SW6	WSW6	W3	S1	SW3	SW5	SW6	SW5	WSW3	WSW3	NW1	NNE7	N9	NNE9	NNE7	NE7	NNE10	N10	N9	NNE7	N6	N8	NNE7	NNW2.9	NNE10
2-Jan	NNE6	NNE4	NNE5	NE2	SW4	SW4	SW3	W1	SW1	SW3	SW3	NW3	N5	NNE5	NE3	E2	E4	ESE2	SSW3	SSE1	S3	S2	SSE2	SSE2	NE0.3	NNE6
3-Jan	SSW3	SSW6	SSW5	S5	SSW5	S4	S6	S5	SSW7	SSW5	SSW6	UO	UO	UO	UO	UO	UO	NNW1	SE4	SSE8	SSE7	SSE7	SE4	SSE3	S4.6	SSE8
4-Jan	ENE2	NE3	E3	N2	NNE4	NNE2	N2	NE1	SSW2	S1	NNE0	ESE2	SSE3	SSW1	SE5	ESE5	SSE5	SSE6	S7	S11	SSW8	SSW7	SSW7	SSW8	SSE2.3	S11
5-Jan	SSW7	SW6	WSW6	SW5	WSW5	WSW4	NW4	NNW5	NW4	N6	N7	N9	N8	N6	N8	NNE9	NNE8	NNE8	NNE6	NNE5	NNE7	NE4	NNE5	NE3	N3.4	NNE9
6-Jan	NNE1	NE1	ESE2	WSW1	NE2	E2	NNW1	UO	N2	W2	N2	WSW1	WNW1	S5	SSW11	SSW11	SSW12	SSW13	SW13	SSW14	SW16	SW17	SSW17	SW16	SSW6.0	SSW17
7-Jan	SSW17	SW16	SSW18	SW16	SSW16	SW18	SW15	SW15	SW16	SSW16	SSW16	SSW16	SSW17	SSW16	SSW15	SSW16	SW14	SSW18	SW17	SW18	SW17	SW18	SSW15	SW15	SSW16.3	SSW18
8-Jan	SW13	SW15	SSW11	SW10	WSW12	WSW14	SW11	S10	SSW9	W15	WNW17	WNW15	WNW18	WNW23	WNW22	NW19	NW16	NW14	WNW14	WNW12	WNW13	WNW16	WNW13	WNW11	W11.2	WNW23
9-Jan	WSW8	W8	W9	W9	W8	WNW12	NW11	NW7	NNW4	NNE10	NNE7	NE2	NE4	E5	ENE6	NNE4	ENE3	NNE3	NNE3	WSW2	UO	N2	NNE1	NNE0	NW2.8	WNW12
10-Jan	NNE1	ESE1	S10	SSW12	SSW12	SW13	SW15	SW14	SW9	SSW7	SSW11	SW11	SW9	SW8	SW6	SW7	WSW7	W5	NNE9	NNE12	N6	N11	NNE13	NNE13	SW3.9	SW15
11-Jan	N13	N11	N10	N10	NNE12	N12	N10	NNE11	NNE10	NNE11	NNE13	NNE9	NNE7	NE8	NNE8	N6	NNE6	NNE5	N3	NNW1	NNE3	ENE2	SSE4	SSW5	NNE7.0	N13
12-Jan	SSW7	S5	SSE7	S5	SSW5	S4	S4	S4	SSW6	S6	SSW7	SSW9	SSW8	SW6	SW5	SSW5	SSW9	SSW12	SSW8	SSW11	S10	SSW11	SSW9	SW10	SSW7.0	SSW12
13-Jan	SW8	SSW8	SSW7	SSW6	SSW5	N1	WSW0	SSW3	SSW5	SSW5	SSW5	SW4	SSW6	SSW7	SW6	SW9	SW12	SW13	SW15	SW12	SW13	SW14	SW12	SW12	SW7.6	SW15
14-Jan	WSW10	SW10	SSW12	SW12	SSW14	SSW15	SSW15	SW15	SW13	SW13	SSW14	SSW17	SW19	SW18	SW13	SW15	WSW15	W15	W17	W19	WNW21	WNW18	WNW19	SW13.2	WNW21	
15-Jan	W18	WNW21	WNW20	WNW19	WNW18	WNW16	WNW15	WNW13	WNW12	NW13	WNW13	NW11	WNW12	WNW14	NW13	WNW9	WSW8	SW8	SW7	SSW9	SW8	SW9	SW8	SW8	W10.8	WNW21
16-Jan	S4	SE1	SE4	E5	NE4	E8	E8	ENE7	ENE9	ENE7	ENE9	ENE12	NE12	NE18	NE15	NNE18	NNE23	NNE22	NNE17	NNE17	NNE14	N14	N12	N15	NE9.8	NNE23
17-Jan	N15	N15	N13	N13	N10	N11	N10	N9	N10	N7	N9	N10	N8	N9	N11	N10	N7	N7	NNW2	N5	N8	NNW7	N6	WNW4	N8.8	N15
18-Jan	NNW4	NNW4	N2	SSE1	SSW5	SSW7	SSW6	SW10	SSW10	SW9	SW8	SW7	SW7	SSW8	SSW8	SSW7	SSW8	SW7	SSW8	SSW9	SW8	SW8	SW8	SSW10	SW6.4	SSW10
19-Jan	SSW9	SSW8	SSW6	SSW8	SSW8	SSW6	SSW8	SSW6	SSW3	SW6	WSW3	N4	N9	N11	N10	NNE9	NNE4	SW2	WNW0	SSW4	SSW7	SSW8	SSW10	SSW11	SW3.0	SSW11
20-Jan	SSW12	SSW11	SSW13	SSW13	SSW13	SSW13	SSW11	SSW9	SSW8	S10	SSW11	SSW11	SSW18	SSW22	SSW19	SW22	SW22	SW26	SW26	SW21	SW23	SW22	SW18	SSW10	SW15.7	SW26
21-Jan	WSW11	W14	W15	W11	W9	WNW17	W18	WNW11	WSW8	W12	WNW12	WNW15	WNW14	WNW14	NW12	N12	N12	NNE15	N18	N15	N12	N12	N12	N9	NW9.6	W18
22-Jan	N4	WNW1	SW5	WSW7	W8	W8	W7	NW9	NNW9	NW8	NW11	NW10	NW9	WNW9	WNW10	W11	WSW7	WSW7	SW8	SSW10	SSW12	SSW14	SW13	SW11	W6.3	SSW14
23-Jan	SSW11	SSW11	SSW12	SSW16	SW17	SW16	SW15	SW17	SW14	SW9	SW8	SW9	SW11	W10	W10	WNW18	WNW18	WNW19	WNW19	WNW19	NW16	NW16	WNW19	WNW23	W11.7	WNW23
24-Jan	WNW24	WNW24	WNW22	WNW23	WNW21	NW22	NNW21	NNW17	N19	N22	N25	N19	NNW16	N17	N16	NNW12	NW8	NW7	WNW6	WSW7	W6	W15	WNW12	W8	NW14.0	N25
25-Jan	WSW8	SW9	SW9	SW9	SW11	SW12	SW13	SW13	SW15	SW14	SW14	SW11	SW8	WSW10	W11	WNW11	W9	W9	WSW9	W11	W9	WSW8	SW10	SW10	WSW9.8	SW15
26-Jan	SW11	SW13	SW12	SSW11	SSW13	SSW14	SSW11	SSW11	SSW11	WSW10	WSW10	WSW12	WSW10	WSW13	WSW14	WSW12	WSW9	SW10	WNW11	W11	W11	W9	WSW9	WSW11	WSW10.5	WSW14
27-Jan	WSW10	W11	W10	WSW10	WSW10	SW8	SW8	SW10	SW10	WSW9	SW9	SSW14	SW12	SW13	SW16	SW16	SW13	WSW18	SW13	W14	WNW20	WNW23	NW23	NW26	WSW11.6	NW26
28-Jan	NW26	NW23	NW25	NW23	NW23	NW23	NW23	NW22	NW19	WNW21	NW20	NW25	NW28	NW24	NW20	WNW19	WNW17	WNW15	WNW13	W11	W11	W11	W10	W10	WNW18.8	NW28
29-Jan	WSW7	WSW8	WSW8	WSW7	SW6	SW6	SSW9	SSW6	SSW7	SSW6	SW6	SSW5	SW7	SSW1	NE6	NE8	NE10	NNE10	NNE10	NNE9	NNE12	NNE17	NE18	NNE17	N1.6	NNE18
30-Jan	NNE16	NNE14	NNE12	NNE10	N9	NNE10	NNE11	NNE9	NNE9	NNE10	NNE10	NNE8	NE9	NE11	NNE10	NNE9	NNE6	NNE9	NNE8	NNE2	NNW2	NNE4	NNE6	N5	NNE8.6	NNE16
31-Jan	NNE5	NNE5	NNE5	NNE4	NNE4	NNE5	NNE6	NNE7	NNE6	NNE6	NNE5	NE9	NE10	NE10	NE11	ENE13	ENE12	ENE13	ENE13	ENE11	NE9	NE10	NE8	NNE10	NE7.7	ENE13

W5.1	W5.4	WSW5.0	WSW5.2	WSW5.4	WSW5.6	WSW5.0	WSW4.5	WSW3.7	W3.7	W4.0	W3.8	W4.1	WNW4.3	WNW4.1	WNW3.8	W3.1	W3.8	W4.2	W4.3	W4.7	W5.1	W4.6	W4.8	Diurnal Average	
NNW26	WNW24	NW25	NW23	NW23	NW23	NW23	NW22	N19	N22	N25	NW25	NW28	NW24	WNW22	SW22	NNE23	SW26	SW26	SW21	SW23	WNW23	NW23	NW26	Diurnal Maximum	

UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

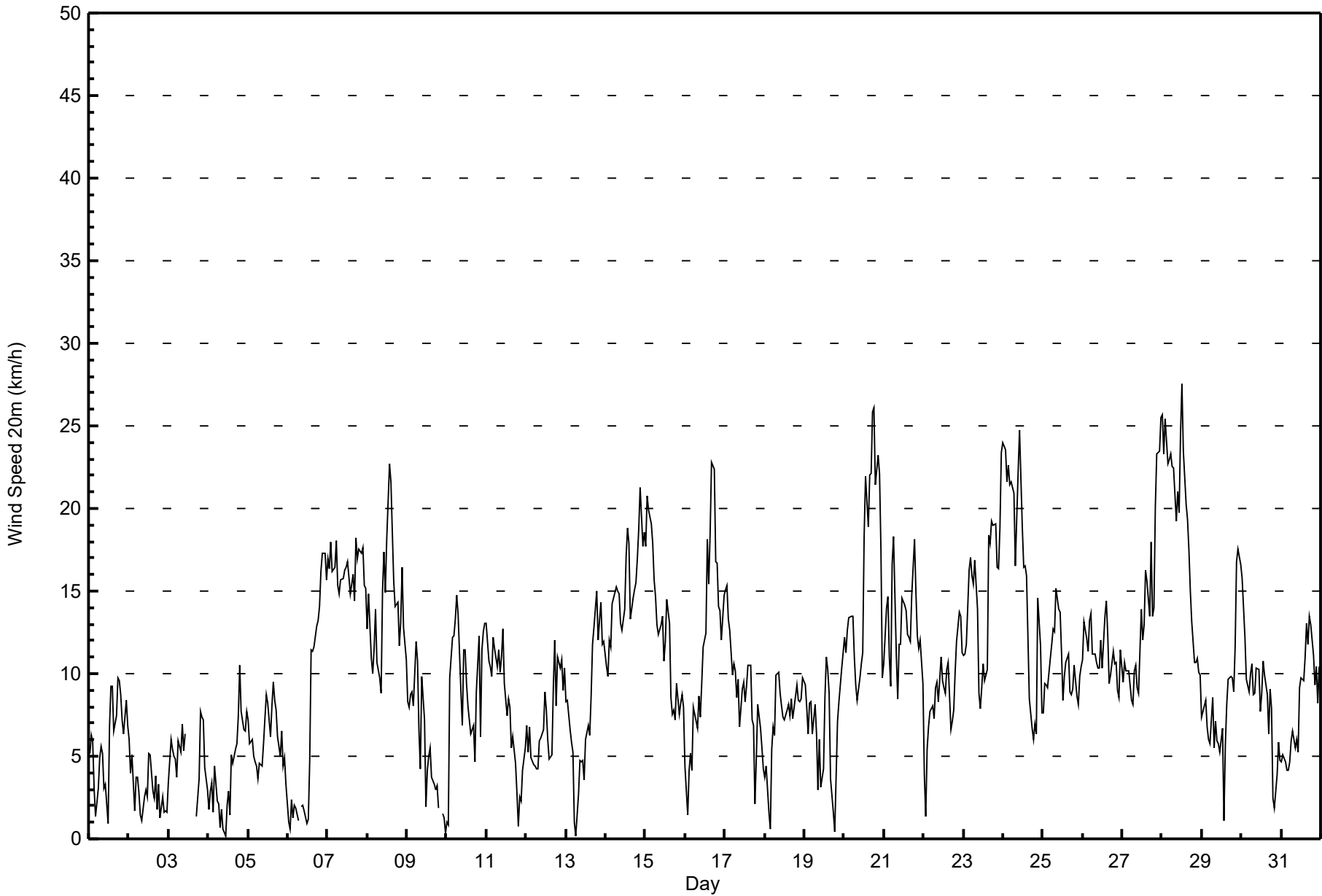
Wind Speed 20m (WS20) - km/h
Janvier - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 10 km/h on Jan 24 07:00 Minimum Value: 0 km/h on Jan 1 07:00 Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 2 Median = 2 Q ₃ = 4 P ₉₀ = 5 P ₉₉ = 8																		Hours in Service: 744 Hours of Data: 736 Hours of Missing Data: 8 Hours of Calibration: 0 Percent Operational Time: 98.9								
Day	Hourly Period Ending At (MST)																								Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	1	1	1	1	1	2	0	1	1	1	1	1	3	3	3	1	2	3	3	3	2	2	3	2	3	3
2-Jan	2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	2
3-Jan	1	1	1	1	1	1	2	1	1	1	1	UO	UO	UO	UO	UO	UO	1	3	2	2	3	2	1	3	
4-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	2	3	2	1	2	2	3	
5-Jan	2	1	2	1	1	1	2	2	2	4	3	3	2	2	2	2	2	2	2	1	1	2	1	2	4	
6-Jan	1	1	0	1	1	2	1	UO	1	1	1	2	1	3	3	3	3	3	4	4	5	4	5	4	5	
7-Jan	4	4	5	5	4	4	4	4	4	4	4	4	4	4	3	4	4	4	4	4	4	4	3	4	5	
8-Jan	3	4	3	2	2	3	3	2	2	7	5	5	6	7	6	7	6	5	3	3	4	5	4	3	7	
9-Jan	2	2	3	2	2	4	3	3	2	3	2	2	2	2	2	1	1	1	1	1	UO	1	1	1	4	
10-Jan	1	2	4	3	3	3	4	4	2	2	2	3	3	3	1	1	1	1	4	3	2	4	4	4	4	
11-Jan	4	4	4	3	4	4	3	3	3	3	3	2	2	2	2	2	2	2	1	2	2	1	2	2	4	
12-Jan	1	1	2	1	1	1	1	1	2	1	2	2	2	2	2	1	2	3	3	3	2	2	1	2	3	
13-Jan	2	1	1	2	2	1	1	1	1	1	2	1	2	2	2	2	2	3	3	3	3	3	3	2	3	
14-Jan	2	2	2	2	2	3	3	3	3	3	3	4	4	5	5	3	3	4	4	4	5	6	5	4	6	
15-Jan	5	5	5	5	5	4	4	3	3	4	4	4	4	4	4	3	1	2	2	1	1	1	2	2	5	
16-Jan	2	3	2	2	2	3	2	2	2	3	3	3	3	5	4	5	7	6	5	5	4	5	4	6	7	
17-Jan	5	6	4	5	4	4	4	3	3	2	3	3	3	3	3	3	3	2	2	3	2	2	2	2	6	
18-Jan	2	1	2	1	1	2	1	2	1	2	2	2	2	2	2	1	1	1	2	1	2	1	1	1	2	
19-Jan	1	2	1	1	2	1	1	2	2	2	1	2	3	4	3	2	2	1	1	2	1	1	1	1	4	
20-Jan	2	2	2	3	2	2	3	1	2	2	2	3	5	6	5	6	7	7	8	6	6	5	5	3	8	
21-Jan	3	4	4	4	4	6	5	5	4	4	4	4	4	4	5	6	5	5	6	5	5	4	4	3	6	
22-Jan	2	1	1	1	1	2	2	3	4	3	4	4	4	3	3	3	2	2	2	2	2	3	3	2	4	
23-Jan	2	2	3	4	5	4	4	4	4	3	2	2	3	3	3	6	5	5	6	6	6	5	6	6	6	
24-Jan	7	7	6	6	7	8	10	7	7	8	8	8	6	7	7	6	3	2	2	2	2	6	4	3	10	
25-Jan	2	2	2	2	3	3	3	3	3	3	3	3	2	2	3	4	2	3	3	2	2	1	2	2	4	
26-Jan	2	3	2	2	2	3	3	2	1	2	4	4	3	3	4	4	4	2	4	3	3	2	2	2	4	
27-Jan	2	3	3	2	2	2	2	2	2	2	2	3	3	4	4	4	3	5	3	6	6	7	8	9	9	
28-Jan	8	7	8	7	7	7	8	8	6	6	6	9	9	9	7	7	5	4	4	2	3	3	2	2	9	
29-Jan	2	2	2	2	1	2	1	1	1	1	1	1	2	1	2	3	3	3	2	2	3	4	4	5	5	
30-Jan	4	4	4	2	3	3	3	2	3	3	2	2	2	2	2	2	1	2	2	2	1	1	1	1	4	
31-Jan	1	1	1	1	1	1	1	2	2	1	1	2	2	2	3	3	3	4	4	3	2	2	3	2	4	
Diurnal Maximum																								8		
UO - Unstable Operation																										



Wood Buffalo Environmental Association
Hourly Averages

Wind Speed 20m (WS20) - km/h
Janvier - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 20m (WS20) - km/h
Janvier - January 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	157	21.33	21.33
6 - 11	326	44.29	65.63
12 - 19	210	28.53	94.16
20 - 28	43	5.84	100.00
29 - 38	0	0.00	100.00
> 38	0	0.00	100.00

Total Number of Valid Hours: 736

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Wind Speed 20m (WS20) - km/h
Janvier - January 2025**

Wind Speed Ranges (km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	13	27	11	3	6	6	4	8	14	20	14	9	5	4	4	9	157
6 - 11	38	47	13	6	2	0	0	5	7	71	58	30	29	8	10	2	326
12 - 19	20	17	3	5	0	0	0	0	0	41	57	8	11	36	9	3	210
20 - 28	2	2	0	0	0	0	0	0	0	1	7	0	0	14	16	1	43
29 - 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	73	93	27	14	8	6	4	13	21	133	136	47	45	62	39	15	736

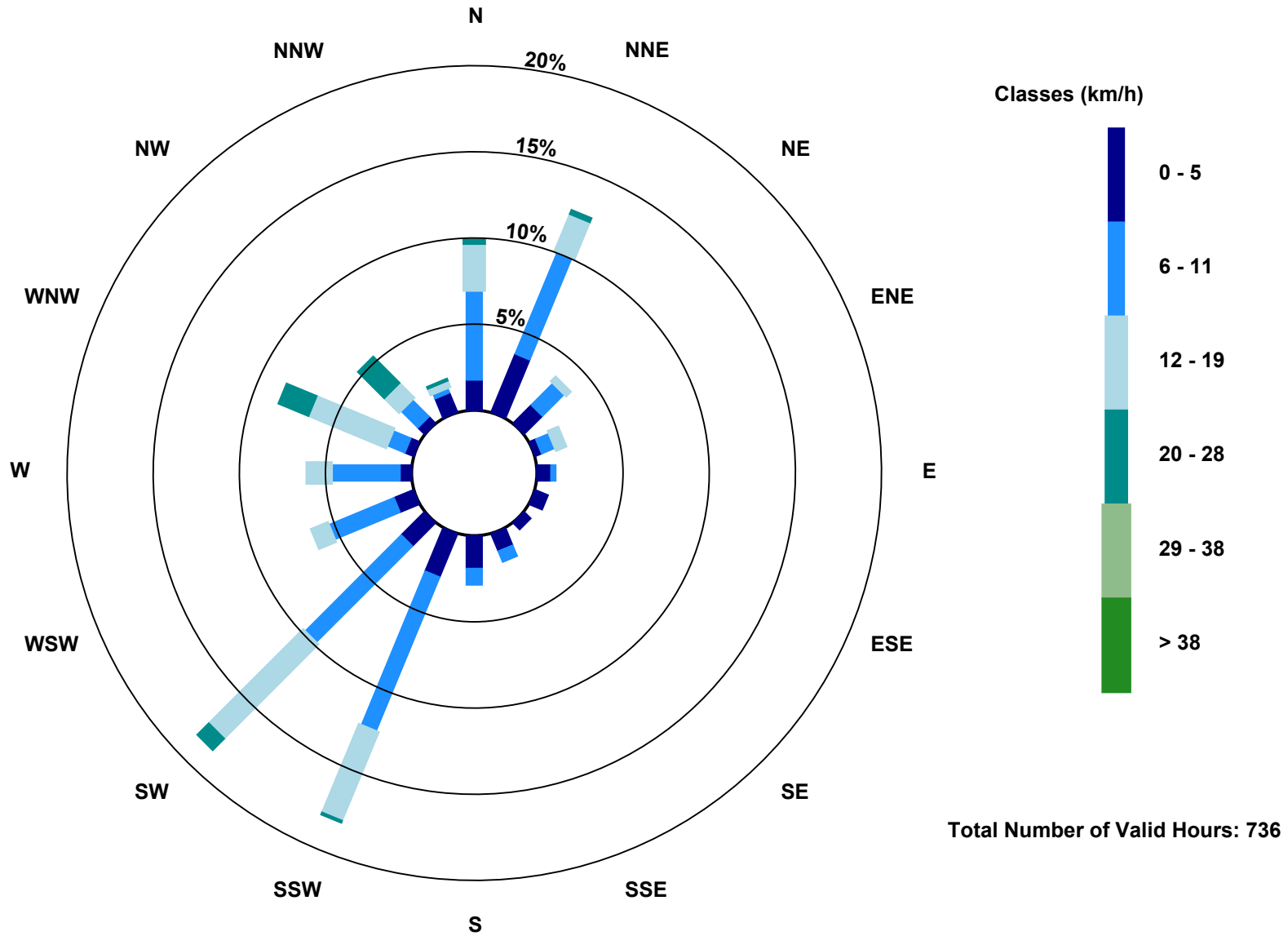
Total Number of Valid Hours: 736

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Wind Speed 20m (WS20) - km/h
Janvier





Wood Buffalo Environmental Association
Summary of Hour Averages

Wind Direction 20m (WD20) - deg
Janvier - January 2025

Direction of Maximum Speed: 307 deg on Jan 28 13:00		Hours in Service:	744
Direction of Maximum Daily Speed Average: 301.2 deg on Jan 28		Hours of Data:	736
Direction of Minimum Speed: 23 deg on Jan 4 11:00		Hours of Missing Data:	8
Direction of Minimum Daily Speed Average: 0.3 deg on Jan 2		Percent Operational Time:	98.9
Monthly Average Direction: 267.3 deg			

Day	Hourly Period Ending At (MST)																								Daily Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	261	232	254	259	184	218	217	227	227	240	241	325	12	9	13	33	35	13	9	2	13	10	5	12	346.9
2-Jan	13	16	31	55	223	219	235	277	229	219	232	313	10	33	42	89	100	102	204	162	189	185	154	153	47.6
3-Jan	197	200	197	183	201	181	187	184	202	197	205	UO	UO	UO	UO	UO	UO	340	132	160	158	152	128	149	179.0
4-Jan	73	40	99	359	20	22	1	50	201	187	23	109	152	195	129	115	149	159	178	191	192	196	207	205	165.7
5-Jan	204	224	237	236	245	243	308	337	325	358	8	10	11	11	9	24	19	22	16	32	32	38	29	44	0.0
6-Jan	19	54	104	237	45	81	336	UO	4	263	350	238	286	189	201	203	199	210	220	211	214	214	213	216	211.1
7-Jan	213	216	212	220	213	219	222	220	221	208	212	209	211	203	202	210	219	213	221	216	215	217	210	220	214.4
8-Jan	219	225	209	222	241	237	215	186	194	271	291	290	292	297	303	317	315	310	296	298	295	295	302	286	276.5
9-Jan	247	267	277	281	265	286	304	309	345	24	27	36	44	89	69	23	66	22	29	251	UO	354	12	26	321.4
10-Jan	24	116	177	193	201	214	217	219	215	197	213	219	222	226	231	228	237	260	21	16	4	1	12	13	229.1
11-Jan	11	4	6	6	15	9	7	13	16	18	25	23	21	35	14	6	16	21	356	338	22	73	168	195	15.4
12-Jan	206	174	163	175	199	175	174	175	195	185	202	200	200	220	222	202	198	208	206	200	191	196	213	221	198.1
13-Jan	216	210	212	202	212	358	239	206	208	201	212	220	196	202	216	214	217	218	230	223	217	228	227	227	217.4
14-Jan	237	229	209	214	208	212	211	209	214	220	218	210	211	225	224	216	216	243	263	271	281	290	282	285	235.3
15-Jan	280	291	294	291	298	284	291	285	294	306	300	304	301	299	305	295	245	229	226	208	214	214	216	216	280.7
16-Jan	190	124	130	100	35	89	92	59	68	70	74	64	39	39	36	32	33	30	21	17	14	3	352	358	37.0
17-Jan	357	353	2	354	358	358	355	359	7	9	10	4	2	5	0	358	350	0	347	6	358	347	349	290	357.7
18-Jan	330	329	350	150	195	198	203	229	209	217	223	233	224	213	204	197	207	226	210	212	219	226	216	208	216.8
19-Jan	208	209	210	210	204	203	204	203	199	223	238	11	8	5	7	22	18	222	283	213	206	211	207	208	220.5
20-Jan	207	209	209	210	208	207	205	209	195	187	198	207	211	210	213	218	224	232	236	235	232	226	231	193	217.0
21-Jan	245	275	275	269	270	284	277	286	258	271	283	286	283	298	320	353	5	14	4	7	2	360	2	0	310.1
22-Jan	7	292	216	246	273	263	261	310	328	319	320	321	315	298	287	280	256	250	236	206	210	212	215	215	265.1
23-Jan	213	208	211	212	222	222	229	227	232	235	231	231	235	268	264	297	301	301	302	302	306	307	296	289	262.2
24-Jan	292	292	290	296	299	309	333	342	358	355	353	355	345	352	350	336	319	313	289	242	280	279	284	274	319.3
25-Jan	247	231	231	227	228	229	220	223	217	216	227	222	219	242	275	288	263	264	256	269	264	239	220	223	237.3
26-Jan	226	222	215	206	208	213	213	210	205	237	247	252	237	252	244	252	238	235	283	280	275	260	240	242	236.3
27-Jan	246	261	264	252	242	230	226	220	233	240	225	213	234	236	224	226	233	247	230	264	295	299	306	310	254.5
28-Jan	306	306	304	307	309	304	308	311	307	297	306	307	307	310	309	303	297	296	284	277	262	269	266	273	301.2
29-Jan	243	248	254	247	228	235	209	202	197	202	231	210	233	211	41	44	47	28	27	25	30	33	34	25	0.0
30-Jan	19	23	18	20	5	15	21	18	14	20	31	17	34	34	27	19	24	33	32	19	336	17	22	11	21.3
31-Jan	24	14	16	19	17	13	14	14	14	19	18	52	54	50	53	59	62	66	69	63	48	52	39	29	43.8

262.1 263.3 253.8 252.3 252.2 253.8 255.1 255.0 251.3 266.2 276.7 276.7 280.7 289.1 292.3 296.2 277.4 276.5 275.7 263.4 266.3 270.6 270.7 268.6
 Diurnal Average

UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods



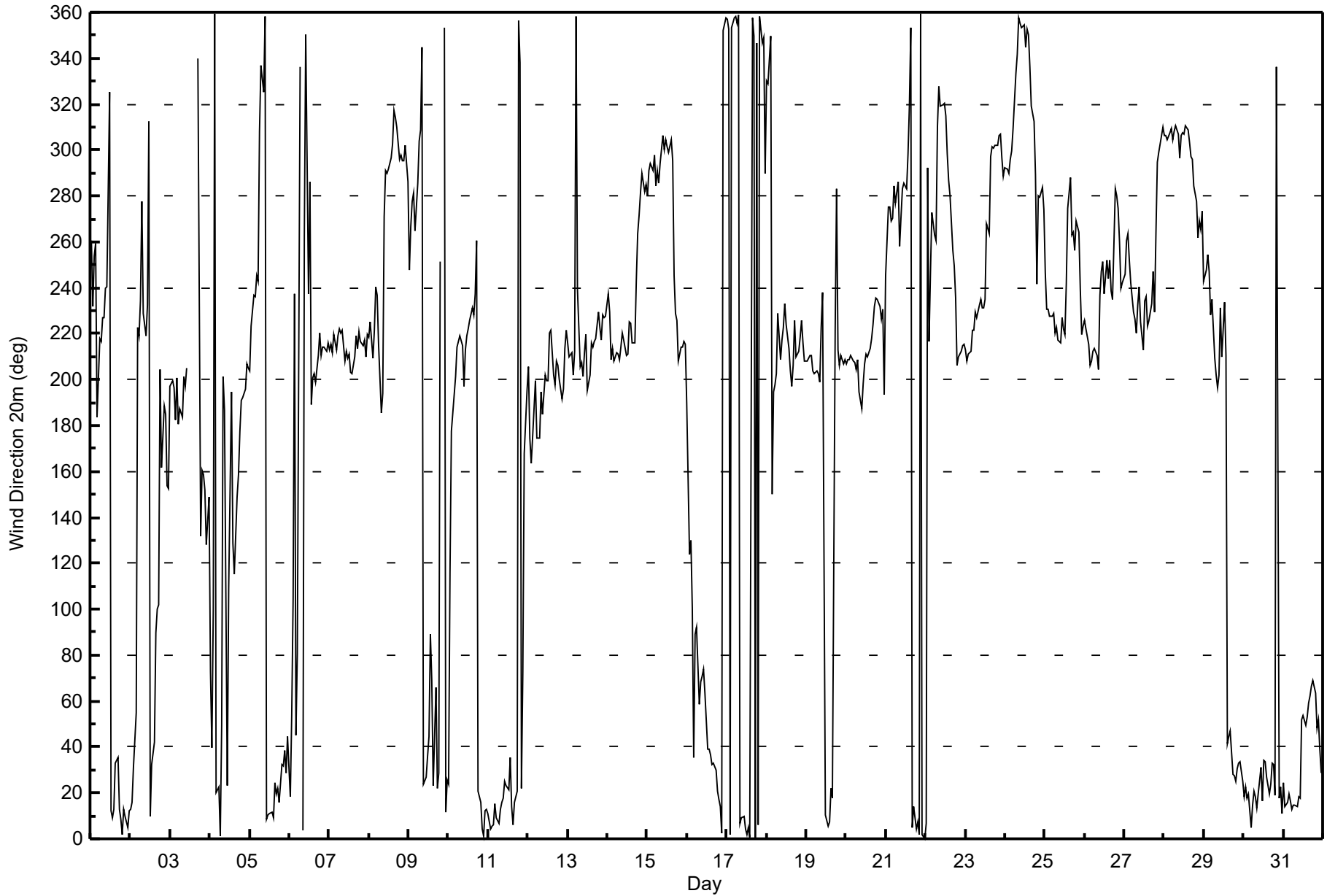
Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Direction 20m (WD20) - deg
Janvier - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 99 deg on Jan 16 02:00	Hours of Data: 736
Minimum Value: 7 deg on Jan 19 03:00	Hours of Missing Data: 8
Percentiles: P ₁ = 8 P ₁₀ = 13 Q ₁ = 16 Median = 18 Q ₃ = 24 P ₉₀ = 35 P ₉₉ = 84	Hours of Calibration: 0
	Percent Operational Time: 98.9

Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	18	10	16	53	67	24	10	12	13	37	19	81	22	21	20	15	13	20	21	25	22	19	24	19	81
2-Jan	19	17	19	57	9	17	19	29	60	31	18	54	34	17	20	37	18	34	13	59	28	55	50	37	60
3-Jan	12	9	11	10	14	12	11	16	12	10	10	UO	UO	UO	UO	UO	UO	49	63	19	18	19	25	19	63
4-Jan	59	19	12	35	11	24	29	83	46	86	90	43	32	77	20	22	22	22	17	17	13	14	19	16	90
5-Jan	15	18	17	17	15	15	41	35	30	34	25	22	21	24	22	16	17	16	20	18	15	12	9	17	41
6-Jan	35	55	31	40	39	62	42	UO	44	44	71	84	84	30	16	17	14	18	20	17	18	17	17	17	84
7-Jan	16	15	15	18	15	16	17	16	14	15	16	16	17	14	13	16	19	15	16	16	15	15	14	19	19
8-Jan	16	16	19	11	14	16	18	15	21	37	15	18	20	18	19	26	24	21	18	15	15	16	19	17	37
9-Jan	18	20	24	19	19	19	20	30	59	17	26	88	28	40	23	25	32	22	10	45	UO	31	41	79	88
10-Jan	66	78	16	16	18	16	16	18	21	16	14	16	18	17	14	15	12	33	20	18	24	25	19	21	78
11-Jan	20	27	25	23	19	23	22	19	18	19	13	20	25	16	23	35	24	25	44	92	75	60	30	28	92
12-Jan	19	22	21	28	16	21	20	20	18	14	16	18	19	33	28	20	12	15	21	15	16	12	11	10	33
13-Jan	11	10	16	13	24	84	86	40	18	26	21	29	21	13	17	17	15	14	14	13	14	14	18	12	86
14-Jan	13	13	10	11	11	13	14	15	15	16	14	16	16	18	17	16	14	19	19	16	16	16	17	15	19
15-Jan	17	16	16	15	16	15	16	18	17	22	20	24	24	19	20	24	16	15	25	10	13	9	11	13	25
16-Jan	41	99	72	41	48	24	23	25	18	37	20	21	15	14	16	14	14	15	18	18	22	25	32	30	99
17-Jan	26	32	25	35	32	32	32	28	23	21	21	26	26	25	30	27	33	21	68	28	19	24	26	30	68
18-Jan	35	23	68	78	8	22	10	13	10	12	17	17	23	21	14	13	10	10	11	10	11	9	10	8	78
19-Jan	7	8	7	7	14	11	9	13	53	13	31	35	26	24	24	15	24	67	93	21	16	12	8	7	93
20-Jan	9	10	11	11	11	11	10	9	16	15	11	16	17	16	18	18	18	17	18	20	17	16	18	28	28
21-Jan	26	20	18	23	28	21	19	25	34	22	20	16	18	19	31	36	26	20	25	23	25	29	25	27	36
22-Jan	26	68	18	18	16	14	16	23	31	25	33	31	30	22	20	21	29	22	20	16	13	14	15	16	68
23-Jan	13	16	14	16	18	17	19	16	17	18	20	18	22	22	24	18	18	18	20	18	22	23	19	16	24
24-Jan	16	17	17	18	20	22	37	34	27	29	30	30	39	35	35	39	28	25	27	19	30	23	18	24	39
25-Jan	21	17	18	20	17	17	15	17	14	15	17	18	20	19	26	18	19	22	19	16	17	17	14	15	26
26-Jan	15	15	13	16	12	13	14	16	11	17	25	25	22	17	19	22	24	19	25	17	16	18	21	14	25
27-Jan	19	18	19	15	15	16	13	13	15	16	20	17	18	20	18	16	17	19	23	32	19	19	22	22	32
28-Jan	21	21	20	21	21	18	21	24	22	18	21	21	21	25	26	21	17	16	14	16	16	16	15	16	26
29-Jan	17	18	18	19	17	17	10	15	8	14	22	21	19	78	15	19	18	13	13	14	14	13	14	17	78
30-Jan	18	17	19	14	23	19	19	24	24	18	12	25	20	11	15	17	11	8	10	29	37	16	12	18	37
31-Jan	17	17	17	20	20	22	17	17	19	15	19	17	14	15	14	16	18	19	20	19	15	16	25	13	25
	66	99	72	78	67	84	86	83	60	86	90	88	84	78	35	39	33	67	93	92	75	60	50	79	
	Diurnal Maximum																								

UO - Unstable Operation





WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS23 FORT HILLS JANUARY 2025

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

February 28, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - FORT HILLS (AMS23)
 JANUARY 2025

MONTHLY SUMMARY for
 AMD SECTION III.B.1(c)

Parameter	Hours of Data	Hours of Calibration	Hours without Data	Operational Time	Maximum 30-Min Value	30-Min Exceedances	Maximum 1-Hour Value	1-Hour Exceedances	Maximum 24-Hour Value	24-Hour Exceedances
SO2(ppb) Average	709	33	35	99.73	-	-	23.4	0	5.8	0
TRS(ppb) Average	707	35	37	99.73	6.1	2	5.9	0	1.4	0
THC(ppm) Average	678	32	66	95.43	-	-	6.3	-	3.7	-
NMHC(ppm) Average	678	32	66	95.43	-	-	0.936	-	0.205	-
CH4(ppm) Average	678	32	66	95.43	-	-	6	-	3.5	-
NO2 (ppb) Average	705	37	39	99.73	-	-	56.2	0	38.4	-
NO (ppb) Average	705	37	39	99.73	-	-	250.6	-	87.8	-
NOX (ppb) Average	705	37	39	99.73	-	-	301.3	-	118	-
PM2.5 (ug/m3) Average	741	2	3	99.87	-	-	32.3	0	11.1	0
Temperature 2 m (C) Average	743	0	1	99.87	-	-	8.6	-	2.5	-
Relative Humidity (%) Average	743	0	1	99.87	-	-	96.3	-	87.5	-
Wind Speed 10 m (km/h) Average	734	0	10	98.66	-	-	35	-	26	-
Wind Direction 10 m (deg) Average	734	0	10	98.66	-	-	-	-	-	-

Note : Operational time includes periods of data collection and instrument calibration

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - FORT HILLS (AMS23)
 JANUARY 2025

MONTHLY SUMMARY FOR AIR QUALITY/ METEOROLOGICAL MONITORING MEASUREMENTS

Parameter	Number	Mean	StnDev	Total	Percentile						
					Min	P10	Q1	Median	Q3	P90	Max
SO2 (ppb) Average	709	1.16	2.3	-	0	0	0.1	0.3	1.1	3.1	23.4
TRS (ppb) Average	707	0.74	0.5	-	0.3	0.4	0.5	0.6	0.8	1.3	5.9
THC (ppm) Average	678	2.35	0.6	-	1.9	2	2.1	2.2	2.4	2.8	6.3
NMHC(ppm) Average	678	0.045	0.084	-	0	0	0	0	0.1	0.2	0.936
CH4(ppm) Average	678	2.31	0.5	-	1.9	2	2.1	2.1	2.3	2.7	6
NO2 (ppb) Average	705	16.6	11.3	-	0.1	1.7	8.2	14.8	24.9	31.9	56.2
NO (ppb) Average	705	13.9	30.1	-	0	0	0.1	2	9.2	48.9	250.6
NOX (ppb) Average	705	30.5	38.7	-	0.1	2	9.1	17.6	34.5	75.1	301.3
PM2.5 (ug/m3) Average	741	4.54	4	-	0.2	0.7	2.1	3.6	5.6	9.3	32.3
Temperature 2 m (C) Average	743	-12.94	11.3	-	-37.4	-29.3	-21.8	-12.2	-3	1.6	8.6
Relative Humidity (%) Average	743	75.23	10.1	-	34.8	61.8	72.1	75.7	82	86.8	96.3
Wind Speed 10 m (km/h) Average	734	12.1	7	-	0	3	7	11	16	23	35
Wind Direction 10 m (deg) Average	734	-	-	-	-	-	-	-	-	-	-

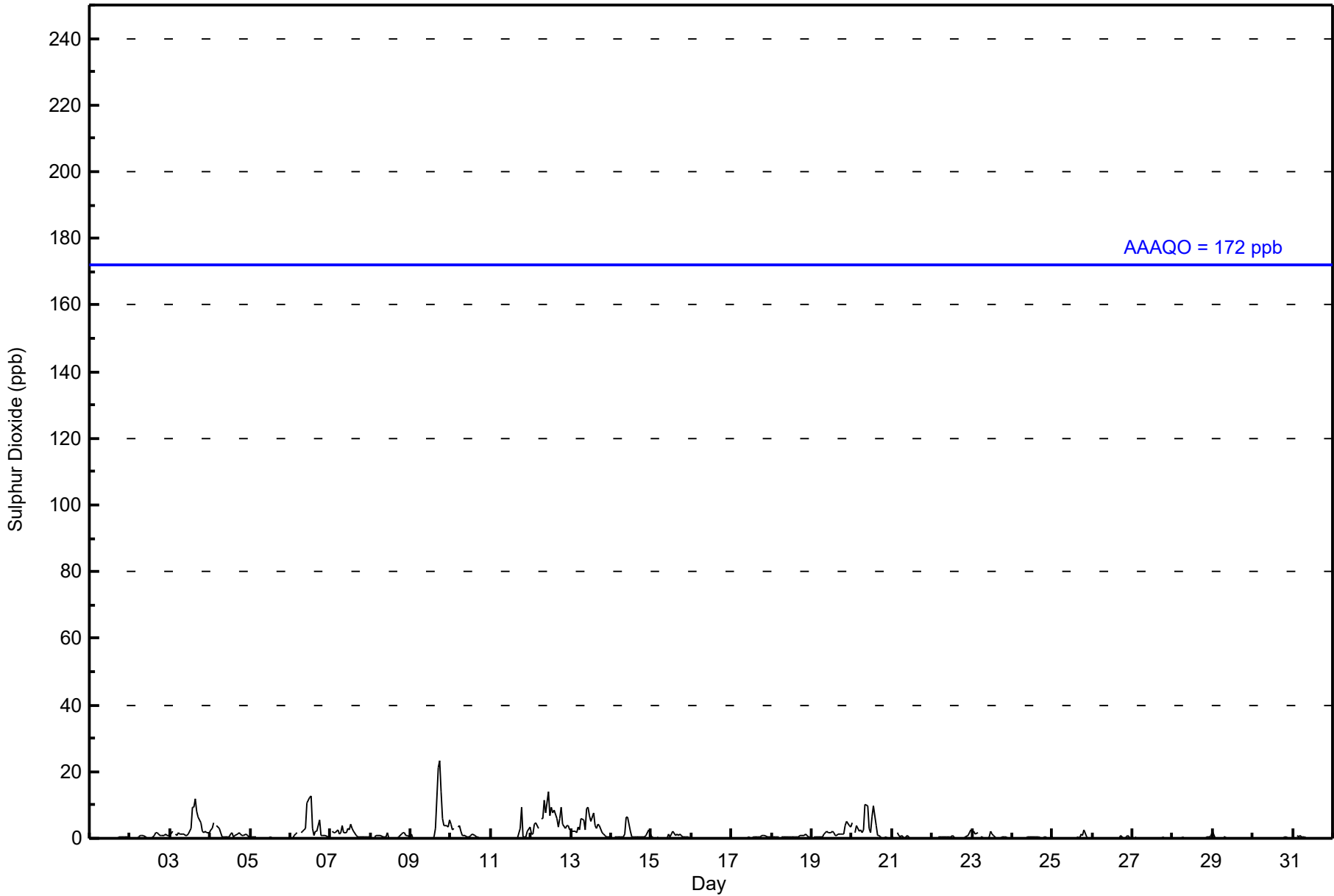
WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - FORT HILLS (AMS23)
JANUARY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
ALL GASEOUS ANALYZERS	16 Jan 2025 09:00	16 Jan 2025 09:00	1	Maintenance - sample manifold cleaned
ALL PARAMETERS	24 Jan 2025 06:00	24 Jan 2025 06:00	1	DAS Failure - data not recorded
THC/NMHC/CH4	13 Jan 2025 02:00	14 Jan 2025 08:00	31	Unstable Operation - AMD noncompliance
THC/NMHC/CH4	14 Jan 2025 09:00	14 Jan 2025 09:00	1	Maintenance - replaced zero air generator
Wind Speed, Wind Direction	01 Jan 2025 22:00	01 Jan 2025 22:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	02 Jan 2025 03:00	02 Jan 2025 05:00	3	Flat line in sensor output signal
Wind Speed, Wind Direction	02 Jan 2025 08:00	02 Jan 2025 08:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	02 Jan 2025 17:00	02 Jan 2025 18:00	2	Flat line in sensor output signal
Wind Speed, Wind Direction	18 Jan 2025 19:00	18 Jan 2025 19:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	30 Jan 2025 18:00	30 Jan 2025 18:00	1	Flat line in sensor output signal



Number of Exceedences (AAAQO):		1-hr: 0	24-hr: 0																		Hours in Service:	744																											
Maximum Value: 23.4 ppb on Jan 9 18:00		Maximum Daily Average: 5.8 ppb on Jan 12																	Hours of Data:	709																													
Minimum Value: 0.0 ppb on Jan 1 07:00		Minimum Daily Average: 0.0 ppb on Jan 16																	Hours of Missing Data:	35																													
Maximum Diurnal Average: 1.9 ppb at hour 18		Minimum Diurnal Average: 0.7 ppb at hour 2																	Hours of Calibration:	33																													
Monthly Average: 1.16 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.3 Q ₃ = 1.1 P ₉₀ = 3.1 P ₉₉ = 11.5																	Percent Operational Time:	99.7																													
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	Z	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.4	0.5	0.4	0.4	0.3	0.3	0.2	0.2	0.5																							
2-Jan	0.2	Z	0.1	0.2	0.1	0.3	0.8	0.7	0.7	0.3	0.2	0.2	0.2	0.2	0.6	1.5	1.7	1.4	0.9	0.9	1.0	1.2	0.7	0.6	0.6	1.7																							
3-Jan	0.8	2.1	Z	1.3	0.8	1.6	1.4	1.3	1.2	1.0	0.9	1.3	3.1	9.1	9.4	11.9	8.1	6.4	4.6	1.9	1.6	2.3	1.6	1.5	3.3	11.9																							
4-Jan	2.5	2.9	4.5	Z	4.0	2.9	1.6	0.5	0.4	0.4	0.4	0.6	1.1	1.8	0.6	0.8	1.1	1.7	1.2	0.7	1.0	1.4	0.8	0.6	1.5	4.5																							
5-Jan	0.4	0.4	0.4	0.3	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4																							
6-Jan	0.0	0.1	0.9	1.1	1.6	Z	1.6	2.3	2.6	3.0	10.7	12.5	12.9	3.0	1.0	2.0	2.2	5.6	0.9	0.7	0.7	0.7	0.5	0.5	2.9	12.9																							
7-Jan	Z	2.1	1.6	1.7	2.3	1.2	1.7	3.7	1.5	1.5	2.9	2.5	4.0	2.9	2.1	1.0	0.6	0.5	0.5	0.5	0.4	0.3	0.3	0.3	1.6	4.0																							
8-Jan	0.3	Z	0.3	1.0	0.9	0.8	0.7	0.3	0.4	0.3	1.6	0.2	0.1	0.0	0.1	0.1	0.2	0.2	1.2	1.6	1.5	0.7	0.8	0.6	0.6	1.6																							
9-Jan	1.1	0.1	Z	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.2	3.1	21.0	23.4	14.1	5.8	3.7	3.7	3.5	5.4	3.7	23.4																						
10-Jan	4.3	2.5	2.9	Z	3.4	3.9	1.9	1.0	0.6	0.4	0.3	0.4	0.9	1.5	0.8	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	4.3																							
11-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	9.2	0.5	0.3	0.5	2.2	3.5	0.8	9.2																							
12-Jan	1.4	1.4	4.1	4.6	3.0	Z	5.9	5.8	11.6	7.6	14.0	6.6	9.3	7.6	8.4	5.8	3.5	5.7	9.3	4.1	2.8	3.7	3.9	2.7	5.8	14.0																							
13-Jan	Z	2.3	2.0	1.9	3.2	2.5	5.9	5.6	2.8	8.9	9.3	6.8	5.2	7.7	4.0	3.1	4.1	3.8	1.5	1.1	0.9	0.6	0.5	0.4	3.6	9.3																							
14-Jan	0.4	Z	0.3	0.3	0.3	0.3	0.3	0.4	1.1	6.5	6.2	2.0	0.6	0.4	0.3	0.4	0.3	0.4	0.3	0.3	0.3	0.8	2.4	1.7	1.1	6.5																							
15-Jan	0.5	0.2	Z	0.5	0.1	0.1	0.1	0.2	0.2	0.2	1.4	0.6	1.2	2.3	0.8	1.3	0.8	1.2	1.1	0.5	0.2	0.2	0.2	0.1	0.6	2.3																							
16-Jan	0.1	0.2	0.1	Z	0.1	0.2	0.1	0.1	M	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2																							
17-Jan	0.0	0.0	0.0	0.0	Z	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.5	0.5	0.7	0.8	0.7	0.6	0.5	0.5	0.3	0.8																							
18-Jan	0.4	0.4	0.3	0.4	0.3	Z	0.5	0.4	0.3	0.5	0.5	0.3	0.4	0.4	0.3	0.2	0.6	1.0	1.0	1.0	1.1	0.6	0.5	0.3	0.5	1.1																							
19-Jan	Z	0.3	0.2	0.3	0.6	0.6	0.6	1.2	1.8	1.9	1.8	1.7	2.1	1.5	0.9	0.9	1.1	1.3	1.5	1.4	4.0	5.2	3.8	3.2	1.6	5.2																							
20-Jan	4.6	Z	1.7	4.0	1.9	2.7	1.6	2.5	10.1	9.6	3.1	1.6	6.4	9.9	3.9	1.0	0.6	0.3	0.2	0.2	0.2	0.2	0.2	0.2	2.9	10.1																							
21-Jan	0.6	0.2	Z	1.8	0.7	0.5	0.8	0.1	0.3	0.7	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.3	1.8																							
22-Jan	0.0	0.0	0.0	Z	0.4	0.6	0.3	0.3	0.5	0.4	0.4	0.5	0.7	0.3	0.1	0.1	0.1	0.1	0.1	0.2	0.4	0.7	1.5	2.5	0.5	2.5																							
23-Jan	2.2	2.0	1.4	1.8	Z	0.4	0.3	0.2	0.2	0.2	0.3	2.0	1.3	0.8	0.1	0.2	0.1	0.1	0.3	0.3	0.3	0.2	0.2	0.1	0.6	2.2																							
24-Jan	0.1	0.1	0.1	0.1	0.0	DF	0.0	0.1	0.1	0.3	0.3	0.3	0.3	0.3	0.5	0.5	0.1	0.1	0.4	0.3	0.1	0.2	0.5	0.2	0.5	0.2	0.5																						
25-Jan	0.6	Z	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.4	0.1	1.4	1.0	2.7	0.3	0.1	0.0	0.1	0.3	2.7																							
26-Jan	0.1	0.1	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.7	0.0	0.1	0.4	1.0	0.3	0.1	0.1	1.0																							
27-Jan	0.1	0.1	0.4	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.0	0.1	0.1	0.1	0.1	0.4																						
28-Jan	0.1	0.0	0.1	0.1	Z	0.2	0.2	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.4	0.5	0.6	0.8	0.2	0.8																						
29-Jan	2.3	0.2	0.1	0.2	0.1	Z	0.4	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.3																							
30-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.2	0.1	0.0	0.1	0.4																						
31-Jan	0.0	Z	0.6	0.6	0.7	0.6	0.3	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.2	0.7																							
																								0.9	0.7	0.9	0.9	1.0	0.8	0.9	0.9	1.2	1.5	1.9	1.4	1.6	1.6	1.1	1.2	1.5	1.9	1.6	0.9	0.8	0.8	0.8	0.9	Diurnal Average	
																								4.6	2.9	4.5	4.6	4.0	3.9	5.9	5.8	11.6	9.6	14.0	12.5	12.9	9.9	9.4	11.9	21.0	23.4	14.1	5.8	4.0	5.2	3.9	5.4	Diurnal Maximum	
Z - zerospan C - Calibration M - Maintenance DF - DAS Failure																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb																																																	





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Fort Hills - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	700	98.73	98.73
11 - 20	7	0.99	99.72
21 - 60	2	0.28	100.00
61 - 110	0	0.00	100.00
111 - 172	0	0.00	100.00
> 172	0	0.00	100.00

Total Number of Valid Hours: 709

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Fort Hills - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 10	98	67	13	3	5	20	62	118	91	50	18	22	22	50	23	29	691
11 - 20	0	0	0	0	0	0	0	3	1	3	0	0	0	0	0	0	7
21 - 60	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
61 - 110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111 - 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	98	67	13	3	5	20	62	121	94	53	18	22	22	50	23	29	700

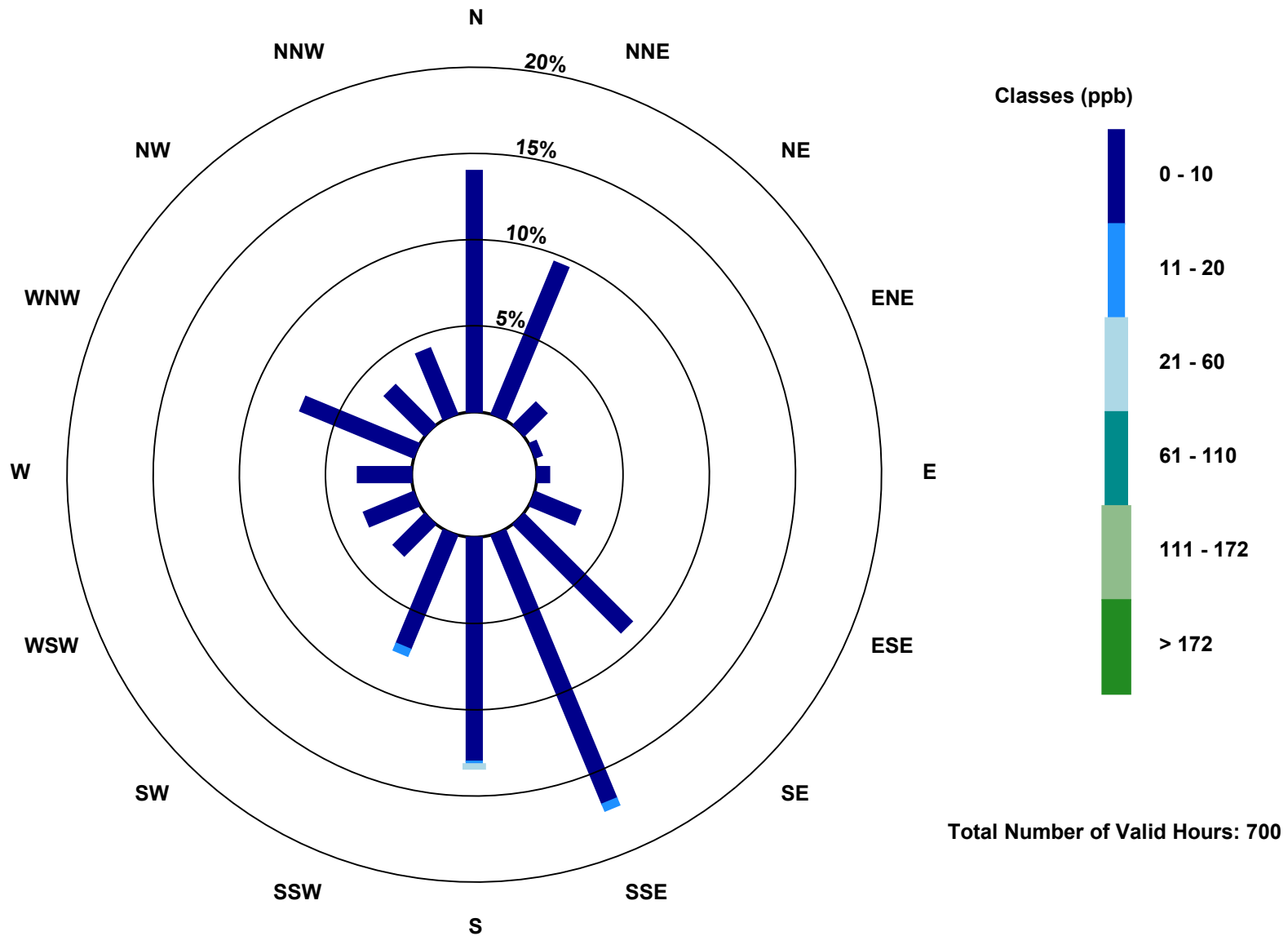
Total Number of Valid Hours: 700

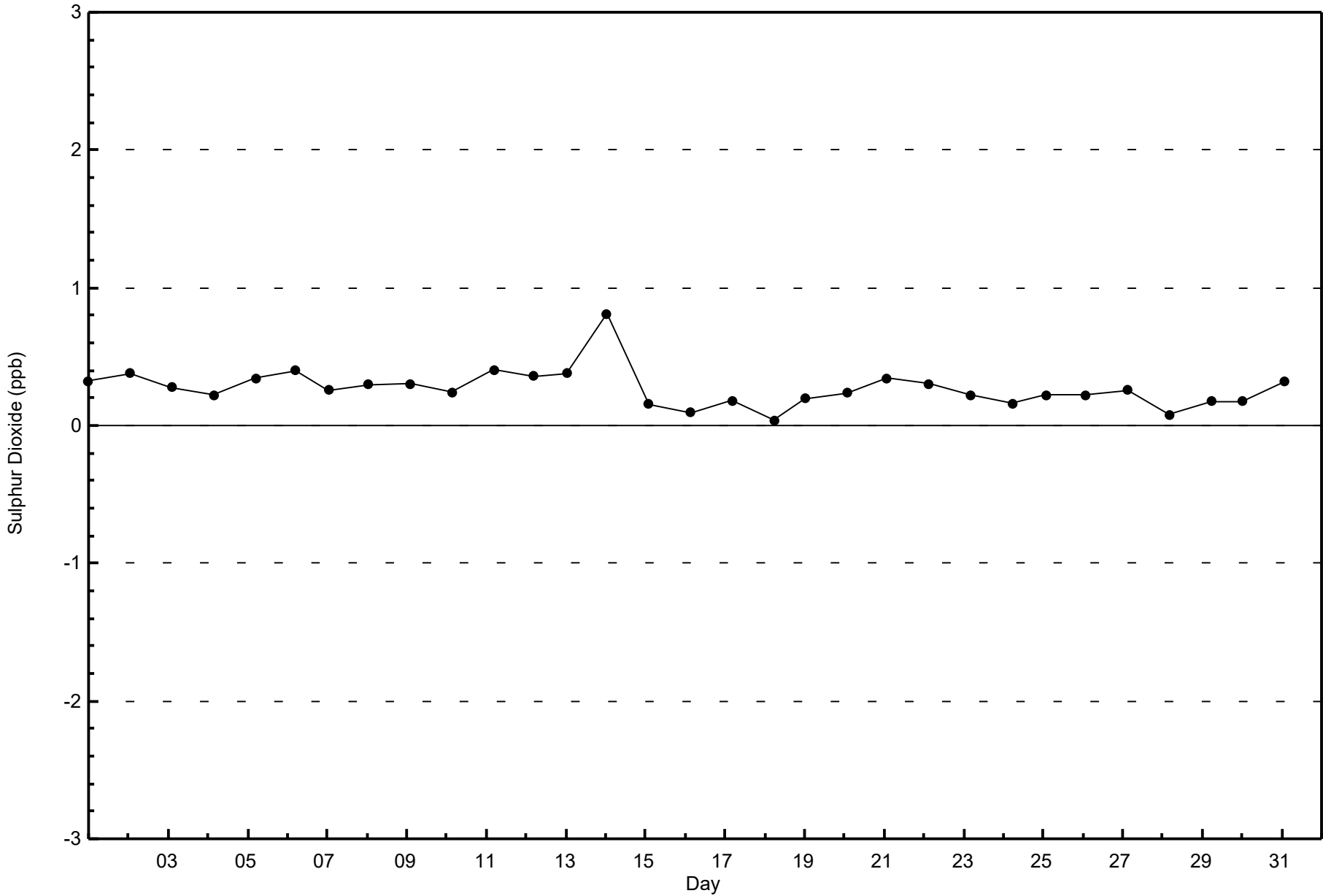
Total Number of Hours: 744

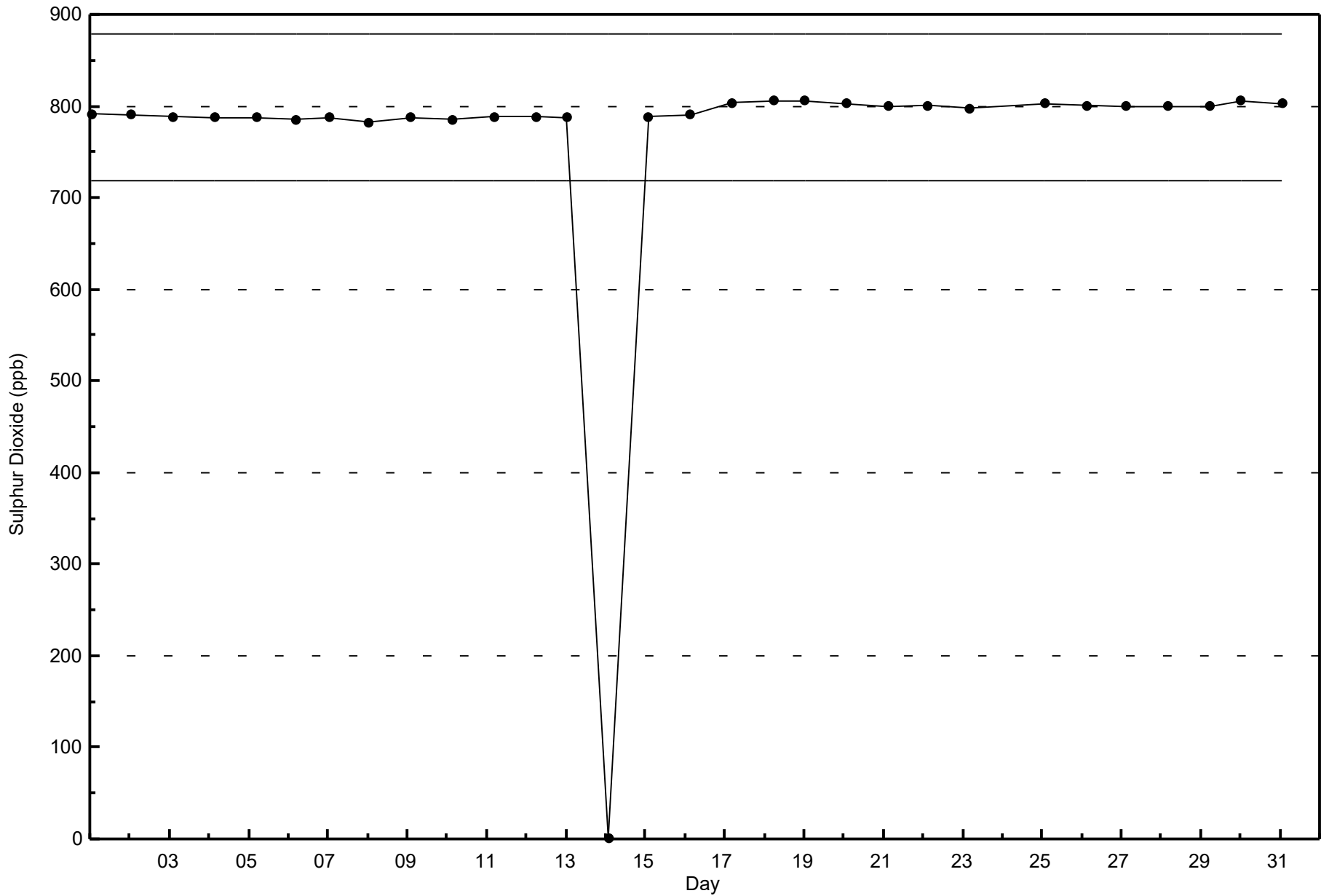


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Sulphur Dioxide (SO₂) - ppb
Fort Hills









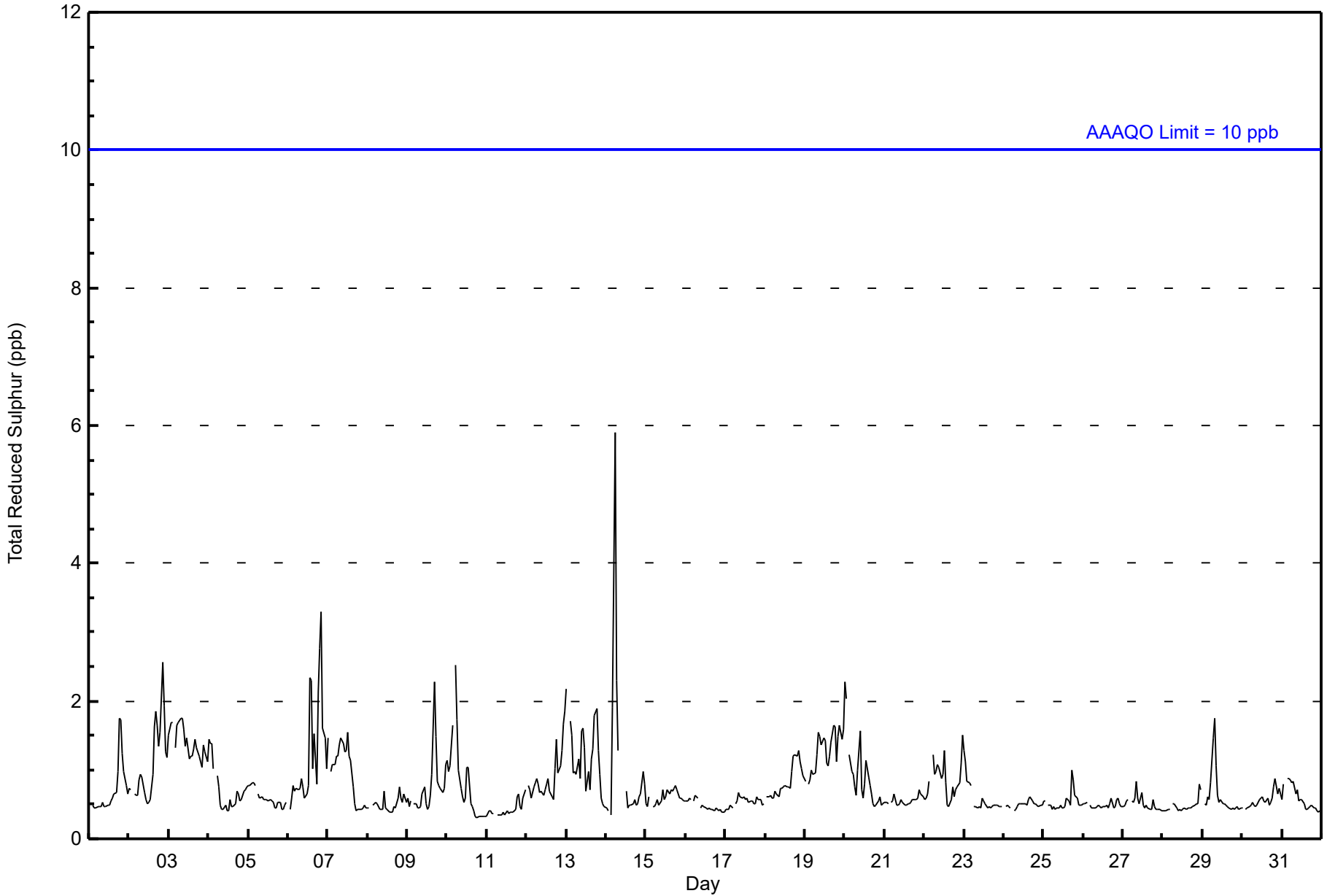
Wood Buffalo Environmental Association

Summary of Hour Averages

Total Reduced Sulphur (TRS) - ppb

Fort Hills - January 2025

Number of Exceedences (AAAQO):		1-hr: 0		24-hr: 0																Hours in Service:		744																											
Maximum Value: 5.9 ppb on Jan 14 06:00				Maximum Daily Average: 1.4 ppb on Jan 3																Hours of Data:		707																											
Minimum Value: 0.3 ppb on Jan 10 19:00				Minimum Daily Average: 0.4 ppb on Jan 11																Hours of Missing Data:		37																											
Maximum Diurnal Average: 1.0 ppb at hour 6				Minimum Diurnal Average: 0.7 ppb at hour 16																Hours of Calibration:		35																											
Monthly Average: 0.74 ppb				Percentiles: P ₁ = 0.3 P ₁₀ = 0.4 Q ₁ = 0.5 Median = 0.6 Q ₃ = 0.8 P ₉₀ = 1.3 P ₉₉ = 2.3																Percent Operational Time:		99.7																											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	0.5	Z	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.7	0.7	1.0	1.7	1.7	1.2	1.0	0.8	0.7	0.7	1.7																							
2-Jan	0.7	0.7	Z	0.6	0.6	0.6	0.8	0.9	0.9	0.7	0.6	0.5	0.5	0.6	0.9	1.6	1.9	1.7	1.3	1.5	2.6	1.9	1.3	1.2	1.1	2.6																							
3-Jan	1.5	1.7	1.7	Z	1.3	1.7	1.7	1.8	1.8	1.6	1.3	1.5	1.2	1.2	1.2	1.3	1.4	1.3	1.2	1.1	1.0	1.4	1.3	1.1	1.4	1.8																							
4-Jan	1.4	1.4	1.4	1.0	Z	0.9	0.7	0.5	0.4	0.4	0.5	0.4	0.4	0.6	0.5	0.5	0.5	0.7	0.7	0.5	0.6	0.7	0.7	0.8	0.7	1.4																							
5-Jan	0.8	0.8	0.8	0.8	0.8	Z	0.7	0.6	0.6	0.6	0.6	0.6	0.5	0.6	0.5	0.5	0.4	0.4	0.5	0.5	0.4	0.4	0.5	0.5	0.6	0.8																							
6-Jan	Z	0.4	0.6	0.8	0.7	0.7	0.7	0.9	0.8	0.6	0.7	0.8	2.3	2.3	1.0	1.5	0.8	2.1	2.8	3.3	1.6	1.5	1.0	1.2	3.3	3.3																							
7-Jan	1.5	Z	1.0	1.1	1.1	1.2	1.2	1.4	1.5	1.4	1.3	1.3	1.5	1.2	1.1	0.8	0.5	0.4	0.4	0.4	0.4	0.5	0.5	0.4	1.0	1.5																							
8-Jan	0.4	0.4	Z	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.7	0.5	0.4	0.4	0.4	0.5	0.4	0.6	0.7	0.6	0.5	0.7	0.5	0.5	0.7																							
9-Jan	0.6	0.5	0.5	Z	0.5	0.5	0.4	0.4	0.5	0.7	0.7	0.5	0.4	0.5	0.6	0.9	2.3	1.5	0.8	0.8	0.7	0.7	0.7	1.1	0.7	2.3																							
10-Jan	1.1	1.0	1.1	1.6	Z	2.5	1.7	1.0	0.7	0.6	0.5	0.6	1.0	1.0	0.5	0.5	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.8	2.5																							
11-Jan	0.3	0.4	0.4	0.4	0.4	Z	0.3	0.4	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.6	0.7	0.5	0.4	0.6	0.7	0.4	0.7																							
12-Jan	Z	0.8	0.7	0.6	0.8	0.8	0.9	0.8	0.7	0.7	0.6	0.7	0.8	0.9	0.7	0.6	0.6	1.0	1.4	1.0	1.1	1.3	1.7	1.9	0.9	1.9																							
13-Jan	2.2	Z	1.7	1.5	1.0	1.0	0.9	1.1	0.9	1.6	1.6	1.3	0.7	1.0	0.7	1.2	1.3	1.8	1.9	1.3	0.9	0.6	0.5	0.5	1.2	2.2																							
14-Jan	0.4	0.4	Z	0.3	1.9	5.9	2.3	1.3	C	C	C	C	0.7	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.6	0.6	1.0	0.8	1.0	5.9																							
15-Jan	0.5	0.5	0.6	Z	0.5	0.5	0.5	0.6	0.5	0.5	0.7	0.6	0.6	0.7	0.6	0.7	0.7	0.7	0.8	0.7	0.6	0.6	0.6	0.6	0.6	0.8																							
16-Jan	0.5	0.5	0.6	0.6	Z	0.5	0.6	0.6	M	0.4	0.5	0.5	0.4	0.4	0.5	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.5	0.6																							
17-Jan	0.4	0.4	0.4	0.5	0.4	Z	0.5	0.5	0.7	0.6	0.6	0.6	0.6	0.6	0.5	0.6	0.5	0.5	0.5	0.6	0.6	0.6	0.5	0.5	0.5	0.7																							
18-Jan	Z	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.6	0.7	0.7	0.7	0.8	0.8	0.7	0.7	1.0	1.2	1.2	1.2	1.3	1.1	1.0	0.9	0.8	1.3																							
19-Jan	0.8	Z	0.8	0.9	1.0	0.9	0.9	1.2	1.5	1.5	1.4	1.5	1.4	1.1	1.1	1.2	1.4	1.7	1.6	1.1	1.5	1.6	1.4	1.6	1.3	1.7																							
20-Jan	2.3	2.0	Z	1.2	1.0	0.9	0.8	0.6	1.0	1.6	0.7	0.6	0.8	1.1	0.9	0.8	0.7	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.9	2.3																							
21-Jan	0.5	0.5	0.5	Z	0.5	0.5	0.7	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.6	0.6	0.5	0.7																							
22-Jan	0.6	0.6	0.6	0.8	Z	1.2	0.9	1.0	1.1	1.0	0.9	0.9	1.3	0.8	0.5	0.5	0.6	0.7	0.6	0.7	0.7	0.8	1.1	1.5	0.9	1.5																							
23-Jan	1.3	1.1	0.8	0.8	0.8	Z	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.5	0.4	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	1.3																							
24-Jan	Z	0.5	0.5	0.5	0.4	DF	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6																							
25-Jan	0.5	0.5	Z	0.5	0.5	0.4	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.5	1.0	0.8	0.6	0.6	0.5	0.5	0.5	1.0																							
26-Jan	0.5	0.5	0.5	Z	0.5	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.6	0.4	0.5	0.6	0.6	0.5	0.5	0.5	0.6																							
27-Jan	0.5	0.5	0.5	0.6	Z	0.5	0.5	0.6	0.8	0.6	0.5	0.7	0.5	0.5	0.5	0.4	0.4	0.4	0.6	0.5	0.4	0.4	0.4	0.4	0.5	0.8																							
28-Jan	0.4	0.4	0.4	0.4	0.4	Z	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.5	0.5	0.5	0.5	0.8	0.7	0.5	0.8																							
29-Jan	Z	0.5	0.5	0.6	0.6	0.8	1.5	1.8	1.1	0.6	0.5	0.6	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.5	0.6	1.8																							
30-Jan	0.4	Z	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.5	0.5	0.6	0.5	0.5	0.6	0.8	0.9	0.7	0.7	0.6	0.6	0.9																							
31-Jan	0.6	0.8	Z	0.9	0.9	0.9	0.8	0.8	0.7	0.7	0.5	0.6	0.6	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.6	0.9																							
																								0.8	0.7	0.7	0.7	0.7	1.0	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	Diurnal Average
																								2.3	2.0	1.7	1.6	1.9	5.9	2.3	1.8	1.8	1.6	1.6	1.5	1.5	2.3	2.3	1.6	2.3	1.8	2.1	2.8	3.3	1.9	1.7	1.9	1.9	Diurnal Maximum
Z - zerospan C - Calibration M - Maintenance DF - DAS Failure																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																																																	





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Reduced Sulphur (TRS) - ppb
Fort Hills - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	702	99.29	99.29
3 - 4	4	0.57	99.86
5 - 7	1	0.14	100.00
8 - 11	0	0.00	100.00
> 11	0	0.00	100.00

Total Number of Valid Hours: 707

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Total Reduced Sulphur (TRS) - ppb
Fort Hills - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2	97	71	12	2	6	19	60	120	90	52	18	23	22	48	24	30	694
3 - 4	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	4
5 - 7	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
8 - 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	97	71	12	2	6	19	63	120	92	52	18	23	22	48	24	30	699

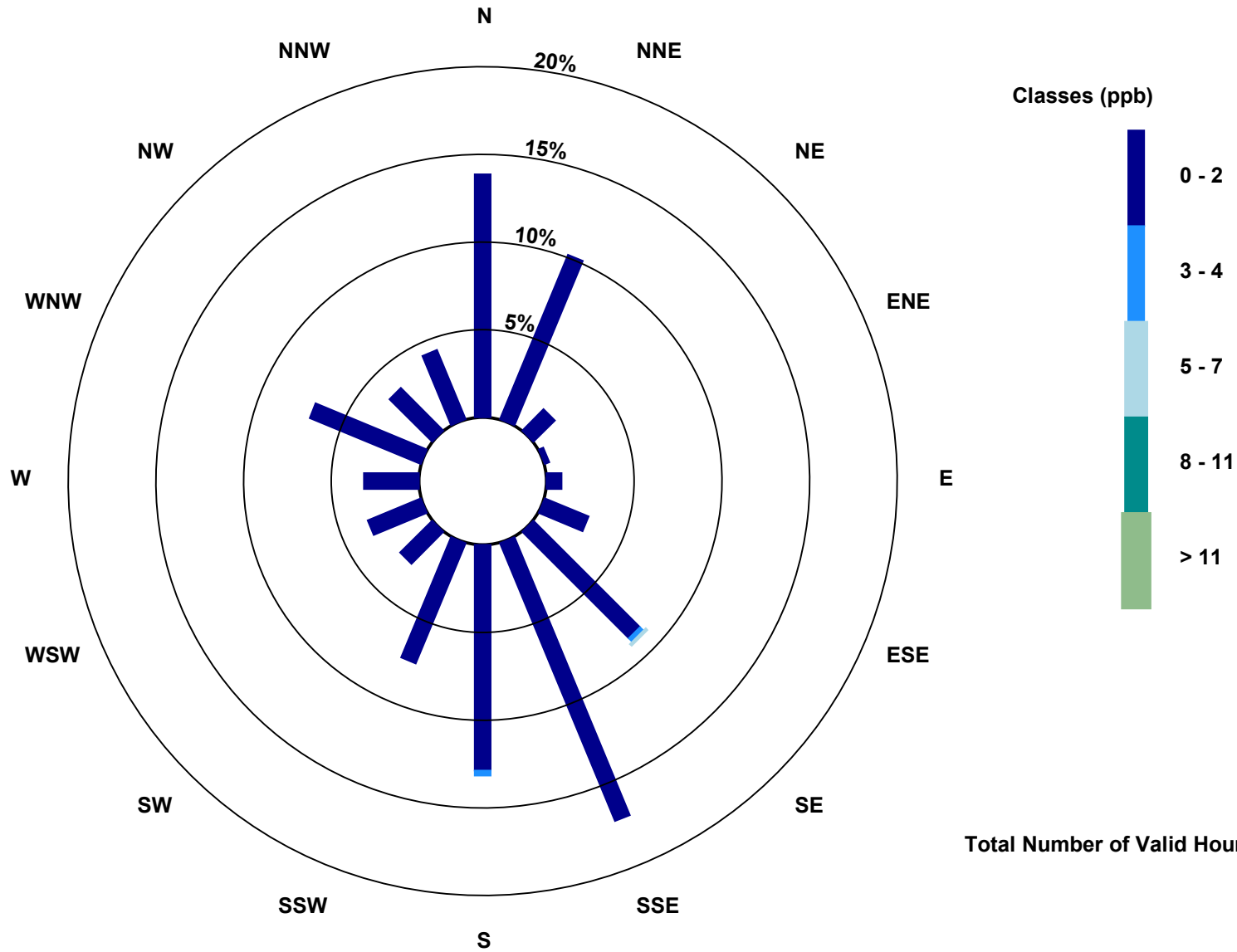
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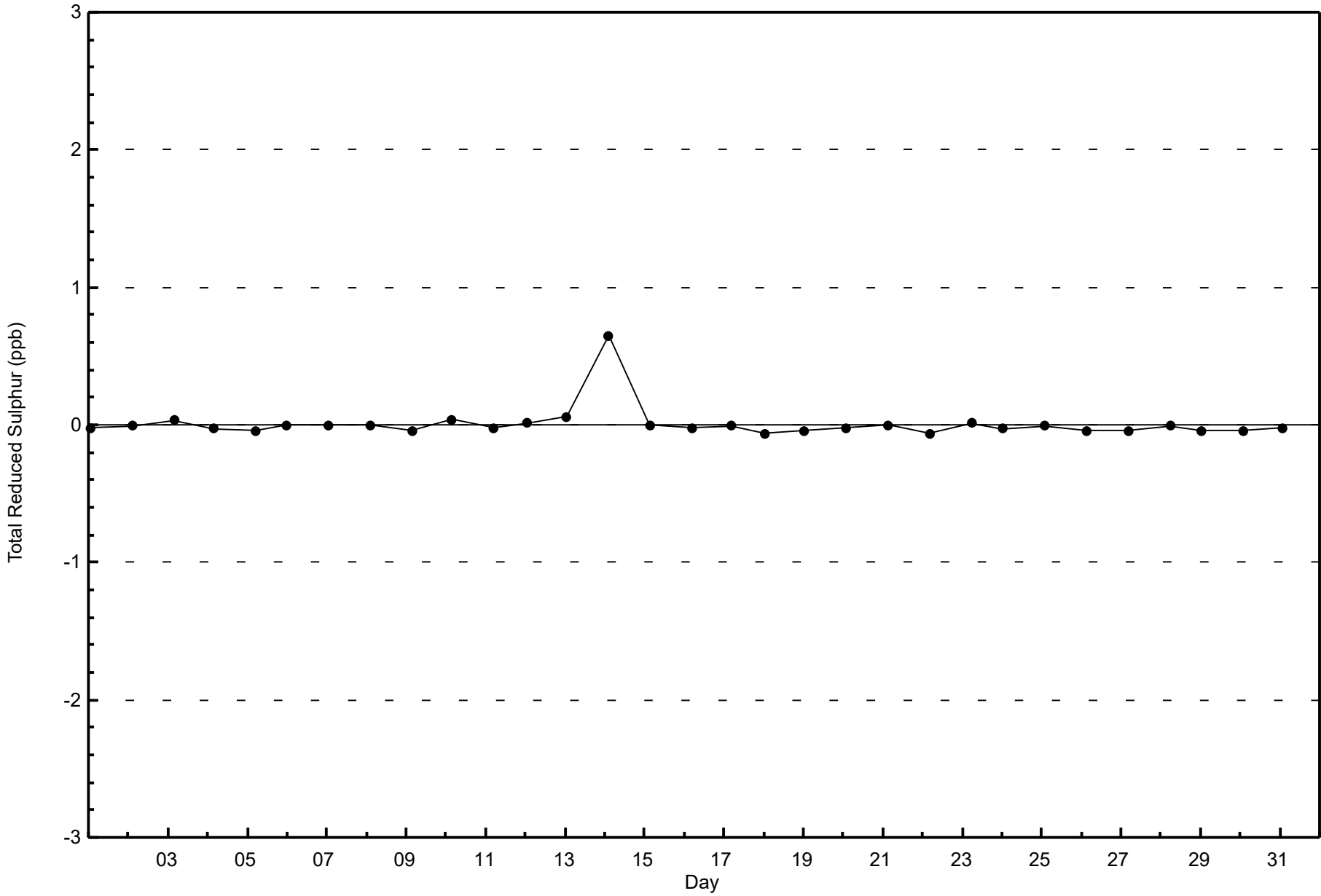
Total Number of Hours: 744

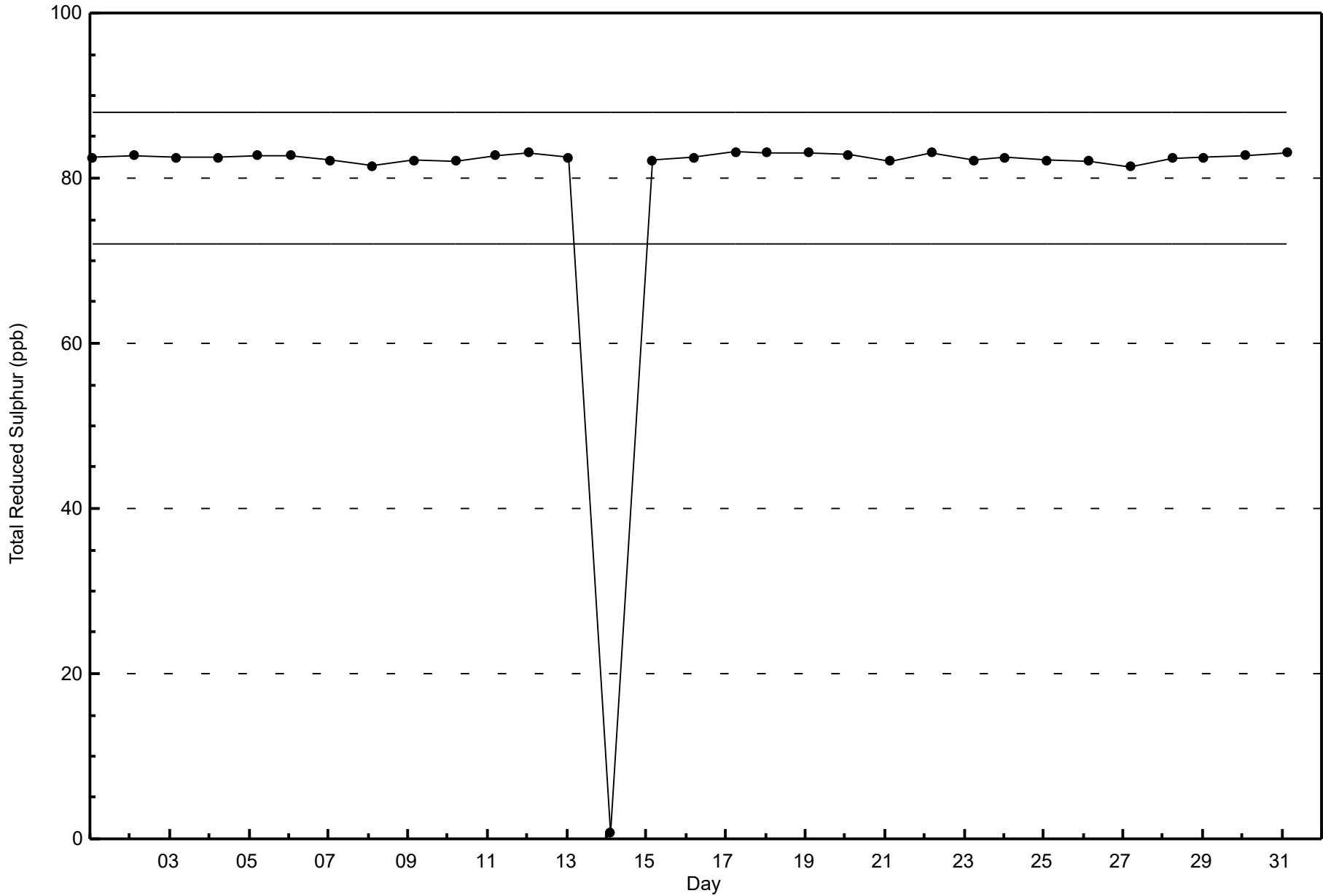


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Total Reduced Sulphur (TRS) - ppb
Fort Hills









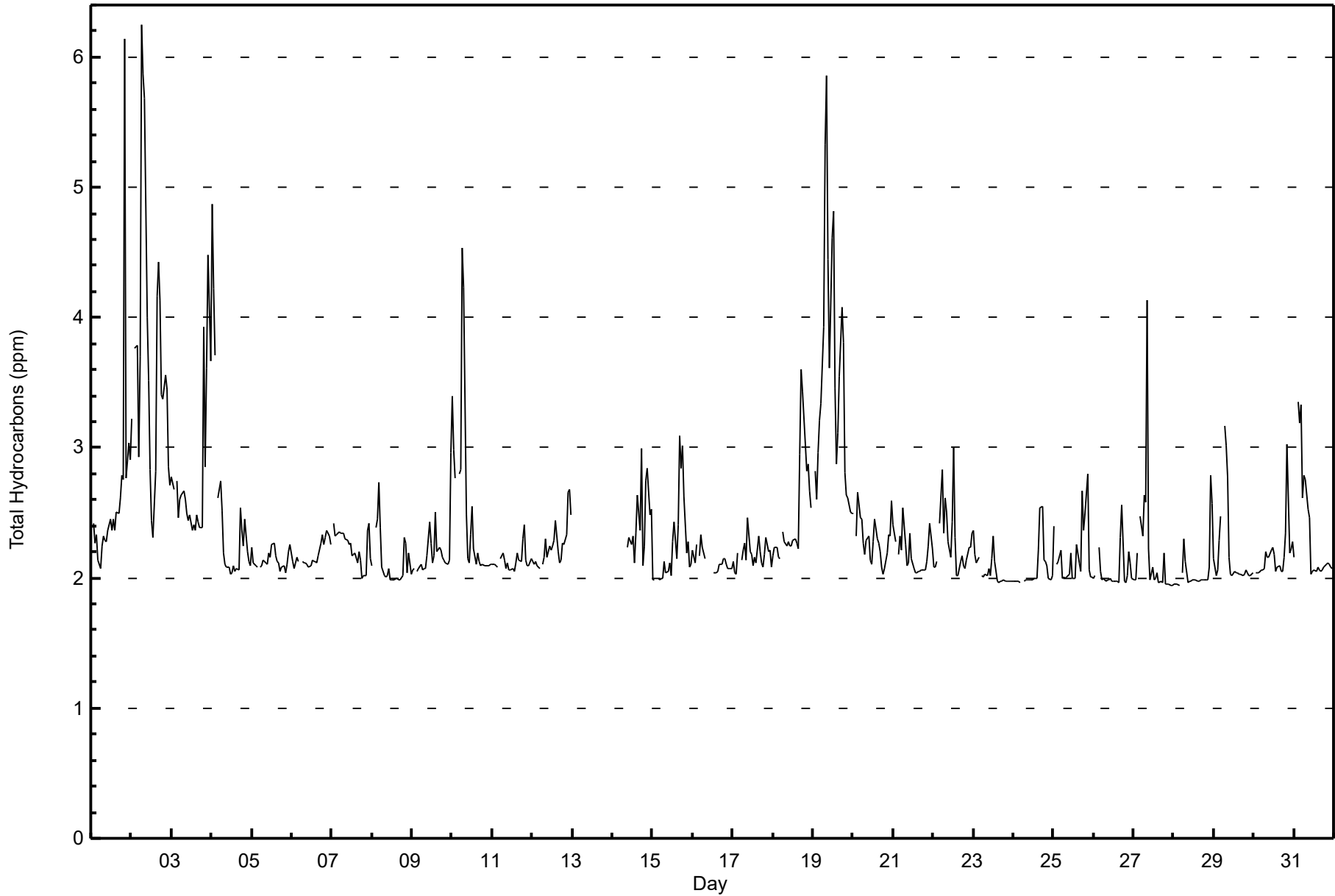
Wood Buffalo Environmental Association

Summary of Hour Averages

Total Hydrocarbons (THC) - ppm

Fort Hills - January 2025

Number of Exceedences (AAAQO):		1-hr: 0		24-hr: 0		Hours in Service:		744																		
Maximum Value: 6.3 ppm on Jan 2 07:00		Maximum Daily Average: 3.7 ppm on Jan 2		Minimum Value: 1.9 ppm on Jan 27 23:00		Minimum Daily Average: 2.1 ppm on Jan 26		Hours of Data: 678																		
Maximum Diurnal Average: 2.6 ppm at hour 8		Minimum Diurnal Average: 2.2 ppm at hour 15		Hours of Missing Data: 66		Hours of Calibration: 32		Percent Operational Time: 95.4																		
Monthly Average: 2.35 ppm		Percentiles: P ₁ = 2.0 P ₁₀ = 2.0 Q ₁ = 2.1 Median = 2.2 Q ₃ = 2.4 P ₉₀ = 2.8 P ₉₉ = 4.8																								
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	Z	2.4	2.3	2.3	2.1	2.1	2.2	2.3	2.3	2.3	2.4	2.4	2.4	2.5	2.4	2.5	2.5	2.6	2.8	2.8	6.1	2.8	3.0	2.9	2.6	6.1
2-Jan	3.2	Z	3.8	3.8	2.9	3.7	6.3	5.9	5.7	4.0	3.5	2.8	2.4	2.3	2.8	4.2	4.4	4.1	3.4	3.4	3.6	3.5	2.9	2.7	3.7	6.3
3-Jan	2.8	2.7	Z	2.7	2.5	2.6	2.6	2.7	2.6	2.5	2.4	2.5	2.4	2.4	2.5	2.4	2.4	2.4	3.9	2.9	3.6	4.5	3.7	2.8	4.5	
4-Jan	4.9	4.2	3.7	Z	2.6	2.7	2.5	2.2	2.1	2.1	2.1	2.0	2.0	2.1	2.1	2.1	2.5	2.4	2.2	2.4	2.2	2.1	2.1	2.5	4.9	
5-Jan	2.2	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.3	2.2	2.1	2.1	2.0	2.1	2.1	2.0	2.1	2.2	2.3	2.1	2.3
6-Jan	2.1	2.1	2.1	2.2	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.3	2.3	2.3	2.4	2.3	2.3	2.2	2.4
7-Jan	Z	2.4	2.3	2.3	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.1	2.2	2.1	2.0	2.0	2.0	2.4	2.4	2.1	2.2	2.4
8-Jan	2.1	Z	2.4	2.5	2.7	2.4	2.1	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.3	2.0	2.2	2.0	2.1	2.7
9-Jan	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.4	2.3	2.1	2.2	2.5	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	3.0	2.2	3.0
10-Jan	3.4	3.0	2.8	Z	2.8	2.8	4.5	4.2	2.5	2.2	2.1	2.3	2.6	2.2	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.5	4.5
11-Jan	2.1	2.1	2.1	2.1	Z	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.3	2.4	2.1	2.1	2.1	2.1	2.1	2.4
12-Jan	2.1	2.1	2.1	2.1	2.1	Z	2.1	2.2	2.3	2.2	2.2	2.2	2.2	2.3	2.4	2.2	2.1	2.1	2.3	2.3	2.3	2.7	2.7	2.5	2.3	2.7
13-Jan	Z	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	--
14-Jan	UO	UO	UO	UO	UO	UO	UO	UO	M	2.2	2.3	2.3	2.3	2.1	2.3	2.6	2.4	3.0	2.1	2.2	2.7	2.8	2.5	2.5	--	3.0
15-Jan	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.1	2.0	2.1	2.1	2.0	2.3	2.4	2.2	2.4	3.1	2.8	3.0	2.6	2.2	2.3	2.1	2.1	2.3	3.1
16-Jan	2.2	2.1	2.3	Z	2.2	2.3	2.2	2.2	M	C	C	C	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.3
17-Jan	2.1	2.0	2.0	2.2	Z	2.1	2.2	2.3	2.1	2.5	2.2	2.2	2.2	2.1	2.2	2.1	2.3	2.2	2.1	2.1	2.2	2.3	2.2	2.1	2.2	2.5
18-Jan	2.2	2.2	2.2	2.2	2.1	Z	2.4	2.3	2.2	2.3	2.2	2.2	2.3	2.3	2.3	2.2	3.0	3.6	3.4	3.0	2.8	2.9	2.7	2.5	2.5	3.6
19-Jan	Z	2.8	2.6	3.0	3.2	3.3	3.9	5.3	5.9	4.5	3.6	4.6	4.8	3.5	2.9	3.1	3.5	4.1	3.8	2.8	2.6	2.6	2.5	2.5	3.5	5.9
20-Jan	2.5	Z	2.3	2.7	2.5	2.5	2.3	2.2	2.3	2.3	2.1	2.1	2.3	2.4	2.3	2.3	2.2	2.1	2.0	2.1	2.2	2.3	2.3	2.6	2.3	2.7
21-Jan	2.4	2.3	Z	2.2	2.3	2.2	2.5	2.3	2.1	2.1	2.3	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.2	2.4	2.2	2.2	2.5
22-Jan	2.1	2.1	2.1	Z	2.4	2.8	2.3	2.6	2.5	2.3	2.2	2.4	3.0	2.3	2.0	2.0	2.1	2.2	2.1	2.1	2.1	2.2	2.2	2.3	2.3	3.0
23-Jan	2.4	2.2	2.1	2.2	Z	2.0	2.0	2.0	2.0	2.1	2.0	2.1	2.3	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.4
24-Jan	2.0	2.0	2.0	2.0	2.0	DF	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.5	2.6	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.6
25-Jan	2.4	Z	2.1	2.1	2.2	2.0	2.0	2.0	2.0	2.0	2.2	2.0	2.0	2.0	2.3	2.1	2.1	2.7	2.4	2.5	2.8	2.1	2.0	2.0	2.2	2.8
26-Jan	2.0	2.0	Z	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.6	2.0	2.0	2.0	2.2	2.1	2.0	2.1	2.6
27-Jan	2.0	2.0	2.2	Z	2.5	2.3	2.6	2.6	4.1	2.2	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.0	1.9	1.9	1.9	1.9	2.2	4.1
28-Jan	1.9	2.0	2.0	1.9	Z	2.0	2.3	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.8	2.6	2.1	2.8
29-Jan	2.1	2.0	2.1	2.3	2.5	Z	3.2	3.0	2.8	2.2	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.2	3.2
30-Jan	Z	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.0	2.0	2.2	2.3	3.0	2.2	2.2	2.3	2.2	3.0
31-Jan	2.2	Z	3.3	3.2	3.3	2.6	2.8	2.8	2.5	2.5	2.0	2.0	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.4	3.3
2.4 2.3 2.4 2.3 2.4 2.4 2.6 2.6 2.5 2.3 2.3 2.3 2.3 2.2 2.2 2.3 2.3 2.4 2.3 2.3 2.5 2.3 2.4 2.3																								Diurnal Average		
4.9 4.2 3.8 3.8 3.3 3.7 6.3 5.9 5.9 4.5 3.6 4.6 4.8 3.5 2.9 4.2 4.4 4.1 3.8 3.9 6.1 3.6 4.5 3.7																								Diurnal Maximum		
Z - zerospan		C - Calibration				M - Maintenance				DF - DAS Failure				UO - Unstable Operation												





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Hydrocarbons (THC) - ppm
Fort Hills - January 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	152	22.42	22.42
2.1 - 3.0	477	70.35	92.77
3.1 - 10.0	49	7.23	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 678

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Total Hydrocarbons (THC) - ppm
Fort Hills - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2.0	14	11	1	0	0	0	3	13	23	7	2	4	11	38	13	11	151
2.1 - 3.0	82	56	12	3	5	14	37	87	64	39	14	17	11	10	8	16	475
3.1 - 10.0	2	0	0	0	0	6	7	6	7	6	2	1	0	2	2	2	43
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	98	67	13	3	5	20	47	106	94	52	18	22	22	50	23	29	669

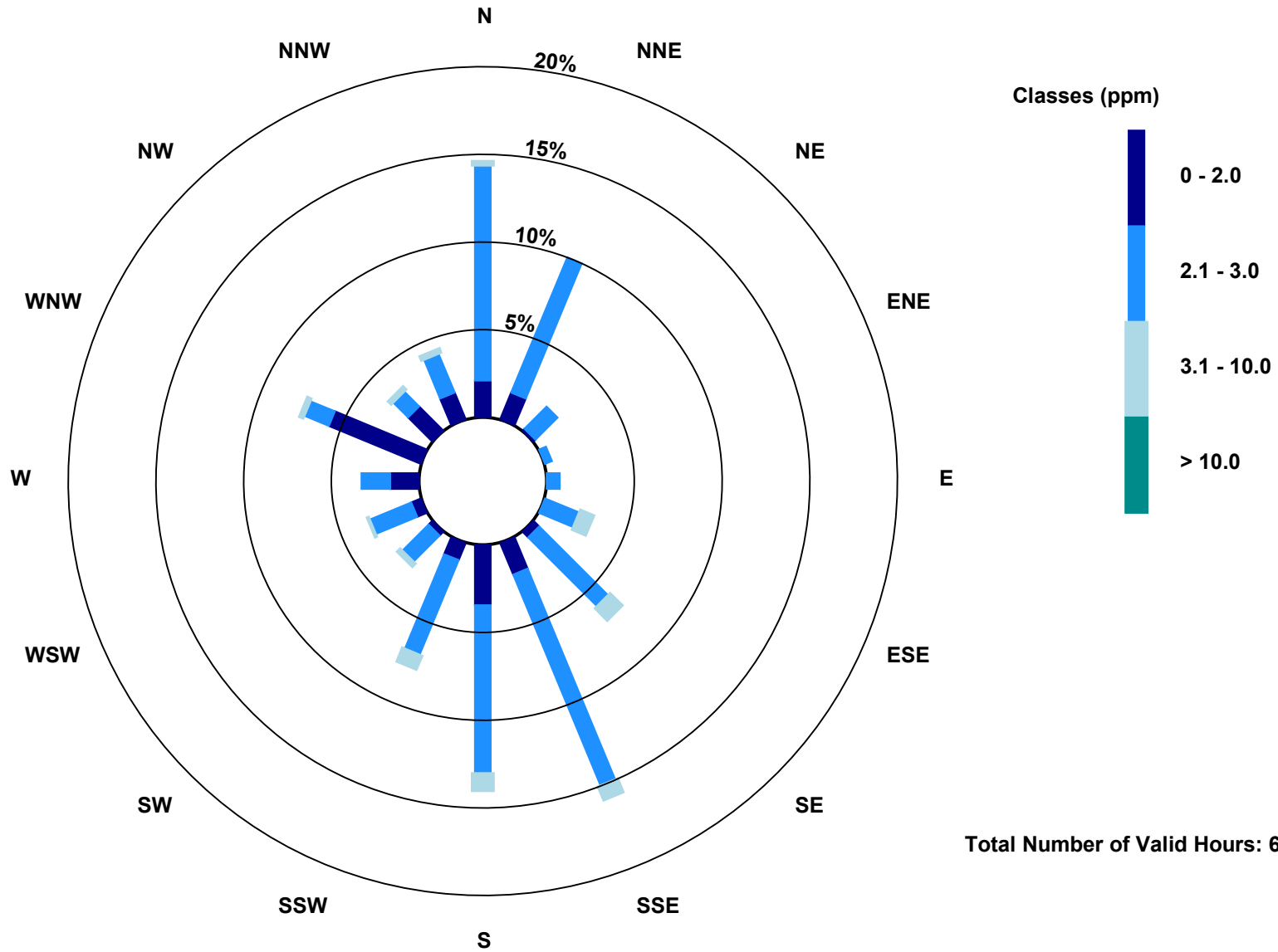
Total Number of Valid Hours: 669

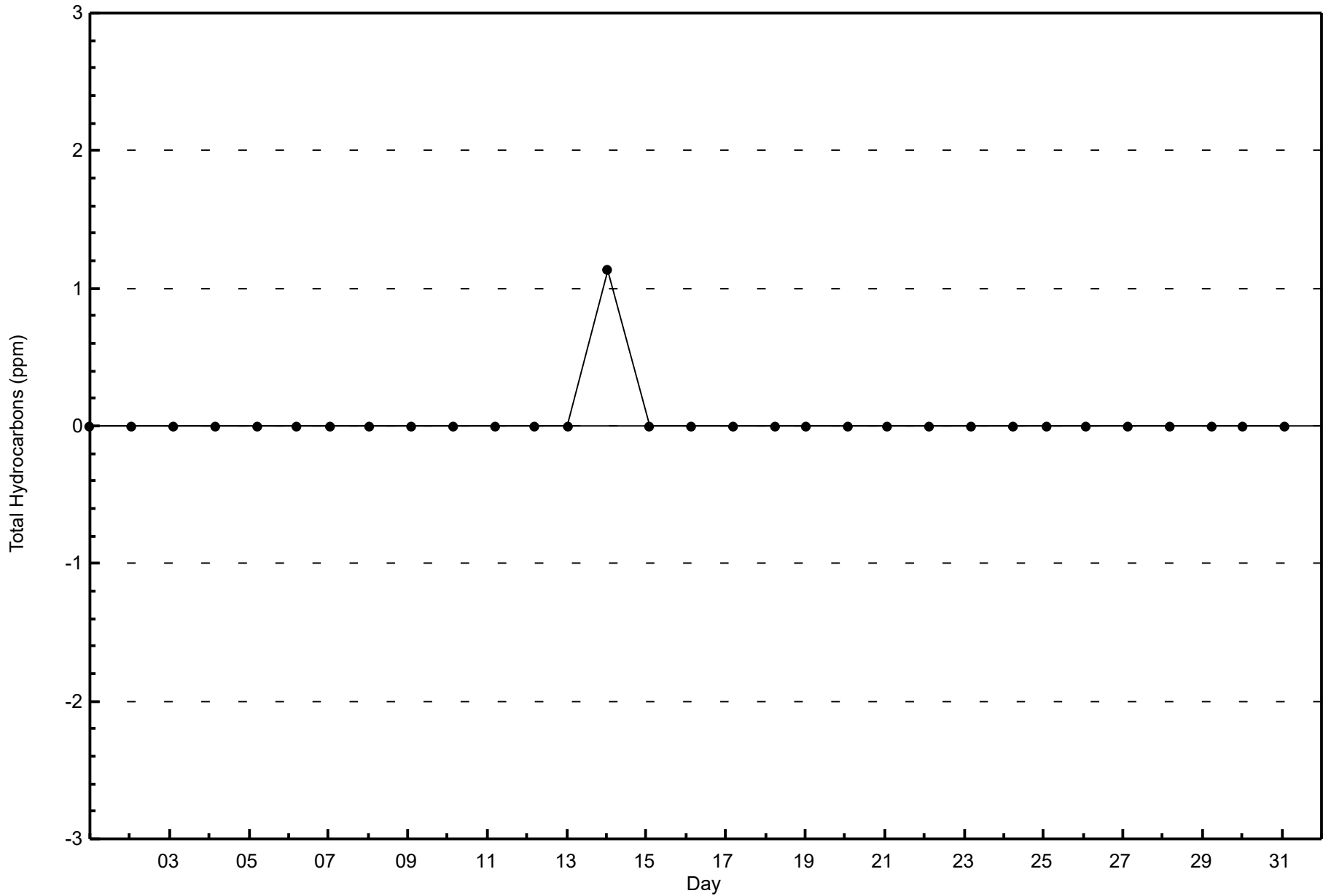
Total Number of Hours: 744

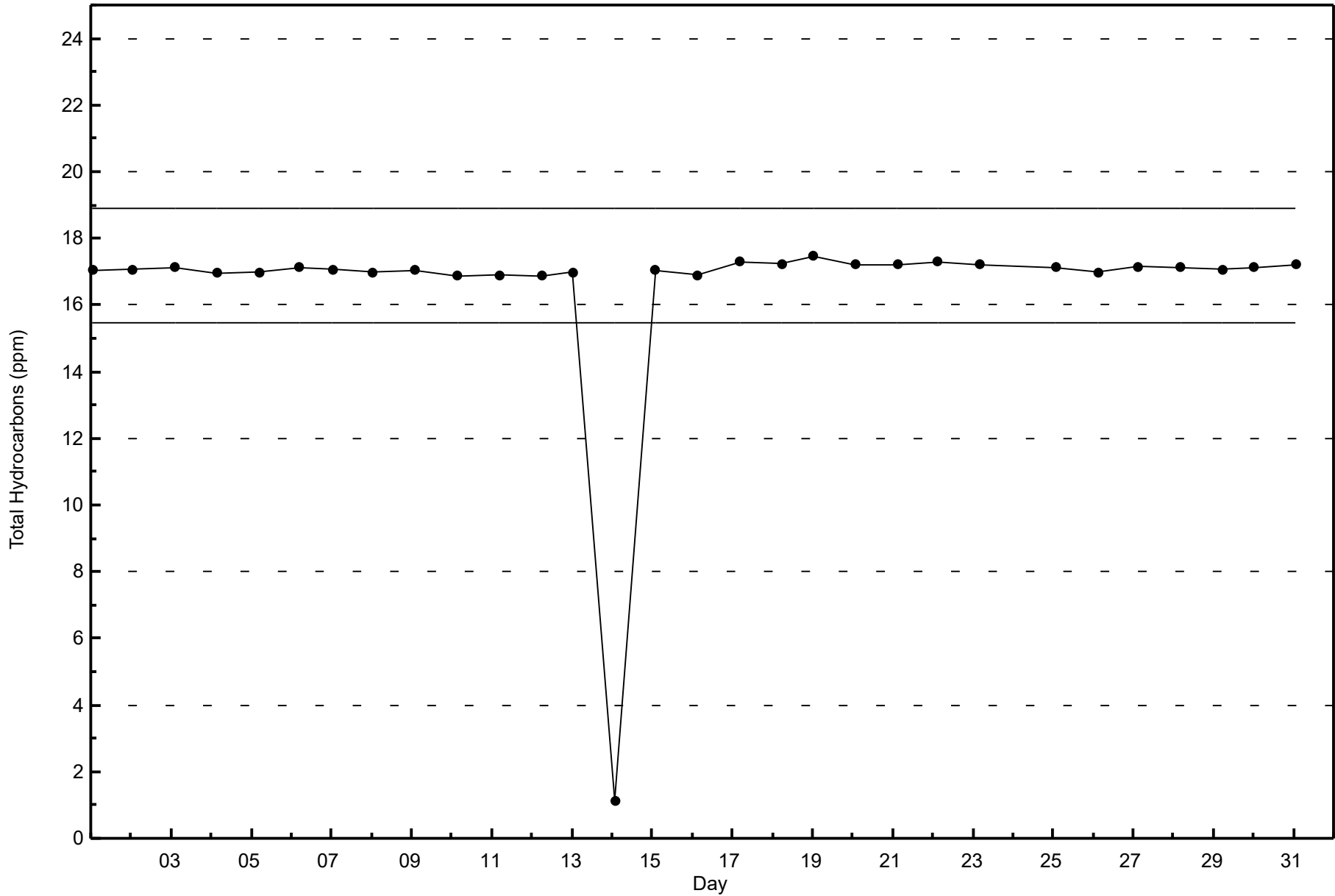


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Total Hydrocarbons (THC) - ppm
Fort Hills





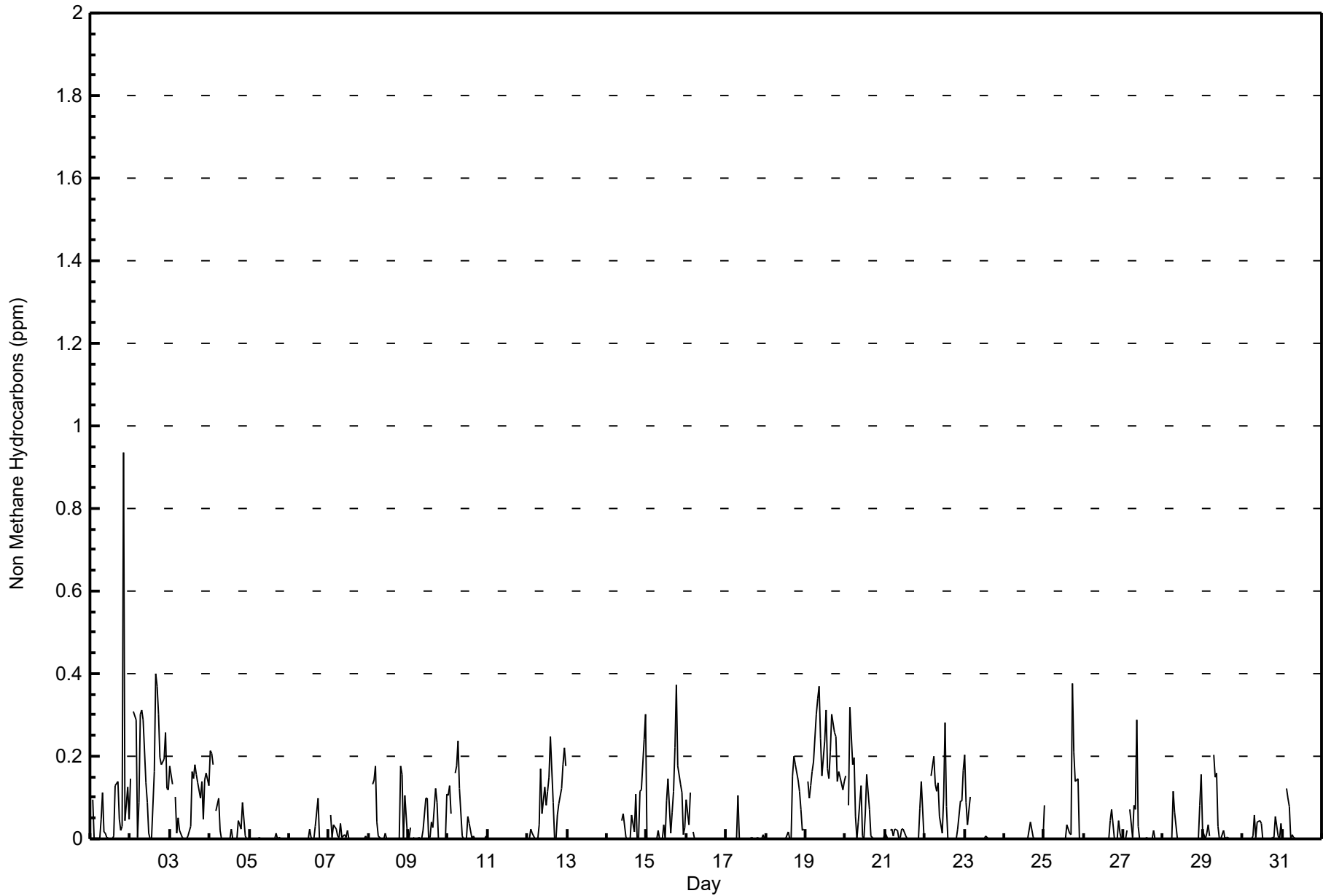




Summary of Hour Averages

Fort Hills - January 2025

Maximum Value: 0.936 ppm on Jan 1 21:00		Maximum Daily Average: 0.205 ppm on Jan 19		Hours in Service:	744																						
Minimum Value: 0.000 ppm on Jan 1 03:00		Minimum Daily Average: 0.000 ppm on Jan 11		Hours of Data:	678																						
Maximum Diurnal Average: 0.076 ppm at hour 21		Minimum Diurnal Average: 0.021 ppm at hour 12		Hours of Missing Data:	66																						
Monthly Average: 0.045 ppm		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.1 P ₉₀ = 0.2 P ₉₉ = 0.3		Hours of Calibration:	32																						
				Percent Operational Time:	95.4																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	Z	0.094	0.000	0.000	0.000	0.000	0.049	0.111	0.016	0.013	0.002	0.000	0.000	0.000	0.005	0.130	0.140	0.047	0.021	0.031	0.936	0.043	0.124	0.049	0.079	0.936	
2-Jan	0.147	Z	0.310	0.288	0.004	0.089	0.300	0.311	0.290	0.136	0.087	0.014	0.000	0.000	0.163	0.401	0.371	0.301	0.196	0.178	0.193	0.258	0.123	0.119	0.186	0.401	
3-Jan	0.176	0.134	Z	0.100	0.014	0.051	0.022	0.005	0.000	0.000	0.000	0.006	0.030	0.161	0.146	0.179	0.157	0.135	0.098	0.137	0.046	0.141	0.159	0.130	0.088	0.179	
4-Jan	0.212	0.206	0.178	Z	0.066	0.099	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.023	0.001	0.000	0.000	0.045	0.034	0.025	0.089	0.006	0.000	0.000	0.044	0.212	
5-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.004	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.013	0.000	0.004	0.000	0.000	0.000	0.000	0.000	0.001	0.013	
6-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.024	0.003	0.000	0.000	0.029	0.099	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.099	
7-Jan	Z	0.057	0.003	0.036	0.024	0.005	0.003	0.037	0.004	0.011	0.005	0.019	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000	0.000	0.006	0.000	0.009	0.057	
8-Jan	0.000	Z	0.131	0.143	0.177	0.039	0.006	0.000	0.001	0.000	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.176	0.155	0.001	0.105	0.002	0.041	0.177	
9-Jan	0.000	0.027	Z	0.003	0.000	0.000	0.002	0.000	0.000	0.020	0.097	0.097	0.002	0.003	0.041	0.026	0.121	0.087	0.000	0.000	0.000	0.000	0.000	0.110	0.028	0.121	
10-Jan	0.105	0.128	0.062	Z	0.158	0.177	0.237	0.123	0.005	0.000	0.000	0.000	0.056	0.037	0.000	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008	0.048	0.237	
11-Jan	0.000	0.000	0.001	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.001	
12-Jan	0.000	0.000	0.022	0.012	0.000	Z	0.000	0.035	0.170	0.060	0.125	0.081	0.117	0.149	0.249	0.089	0.000	0.000	0.057	0.085	0.121	0.181	0.222	0.175	0.085	0.249	
13-Jan	Z	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	--	
14-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	M	0.044	0.061	0.004	0.000	0.000	0.057	0.016	0.107	0.000	0.001	0.115	0.120	0.241	0.302	--	0.302	
15-Jan	0.000	0.000	Z	0.000	0.000	0.000	0.022	0.000	0.022	0.000	0.035	0.000	0.092	0.144	0.014	0.065	0.116	0.220	0.372	0.175	0.131	0.112	0.009	0.026	0.067	0.372	
16-Jan	0.095	0.034	0.112	Z	0.017	0.000	0.000	0.000	M	C	C	C	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.014	0.112	
17-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.106	0.002	0.002	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.003	0.000	0.010	0.000	0.000	0.005	0.106	
18-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.016	0.000	0.000	0.153	0.201	0.180	0.142	0.115	0.073	0.020	0.023	0.040	0.201	
19-Jan	Z	0.140	0.097	0.130	0.163	0.187	0.303	0.338	0.369	0.246	0.153	0.236	0.312	0.170	0.145	0.211	0.301	0.259	0.249	0.138	0.162	0.148	0.118	0.139	0.205	0.369	
20-Jan	0.153	Z	0.083	0.319	0.180	0.197	0.055	0.000	0.039	0.127	0.007	0.000	0.061	0.155	0.070	0.007	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.063	0.319	
21-Jan	0.018	0.000	Z	0.020	0.023	0.007	0.025	0.022	0.000	0.004	0.025	0.025	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.074	0.138	0.002	0.000	0.017	0.138	
22-Jan	0.000	0.000	0.000	Z	0.154	0.201	0.132	0.115	0.134	0.053	0.012	0.102	0.283	0.078	0.000	0.000	0.000	0.000	0.000	0.000	0.025	0.091	0.090	0.168	0.071	0.283	
23-Jan	0.203	0.087	0.035	0.101	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.019	0.203	
24-Jan	0.000	0.000	0.000	0.000	0.000	DF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.022	0.040	0.005	0.000	0.000	0.000	0.000	0.001	0.000	0.003	0.040	
25-Jan	0.081	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.032	0.013	0.011	0.375	0.212	0.138	0.147	0.000	0.000	0.000	0.044	0.375	
26-Jan	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.045	0.070	0.000	0.000	0.000	0.045	0.015	0.000	0.000	0.008	0.070	
27-Jan	0.000	0.000	0.021	Z	0.071	0.003	0.083	0.072	0.288	0.030	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.021	0.000	0.000	0.000	0.000	0.000	0.026	0.288	
28-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.114	0.064	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.080	0.155	0.000	0.018	0.155	
29-Jan	0.021	0.000	0.014	0.034	0.008	Z	0.204	0.150	0.159	0.030	0.000	0.000	0.020	0.000	0.004	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.028	0.204	
30-Jan	Z	0.000	0.000	0.000	0.000	0.000	0.007	0.056	0.004	0.039	0.046	0.038	0.000	0.000	0.000	0.002	0.000	0.000	0.003	0.002	0.054	0.008	0.000	0.036	0.013	0.056	
31-Jan	0.003	Z	0.123	0.098	0.078	0.002	0.010	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.014	0.123	
		0.049	0.038	0.050	0.054	0.047	0.044	0.054	0.054	0.053	0.028	0.023	0.021	0.033	0.032	0.029	0.040	0.051	0.065	0.048	0.041	0.076	0.043	0.049	0.048	Diurnal Average	
		0.212	0.206	0.310	0.319	0.180	0.201	0.303	0.338	0.369	0.246	0.153	0.236	0.312	0.170	0.249	0.401	0.371	0.375	0.372	0.178	0.936	0.258	0.241	0.302	Diurnal Maximum	
Z - zerospan		C - Calibration				M - Maintenance				DF - DAS Failure				UO - Unstable Operation													





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Non Methane Hydrocarbons (NMHC) - ppm
Fort Hills - January 2025**

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 0.005	406	59.88	59.88
0.006 - 0.05	99	14.60	74.48
0.06 - 0.1	101	14.90	89.38
> 0.1	72	10.62	100.00

Total Number of Valid Hours: 678

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Non Methane Hydrocarbons (NMHC) - ppm
Fort Hills - January 2025

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 0.005	82	43	9	0	2	7	15	55	61	25	7	7	12	41	16	22	404
0.006 - 0.05	12	14	2	0	0	1	8	17	10	10	3	5	5	3	4	4	98
0.06 - 0.1	4	9	2	1	1	3	12	21	15	13	4	5	3	4	1	3	101
> 0.1	0	1	0	2	2	9	12	13	8	4	4	5	2	2	2	0	66
Totals	98	67	13	3	5	20	47	106	94	52	18	22	22	50	23	29	669

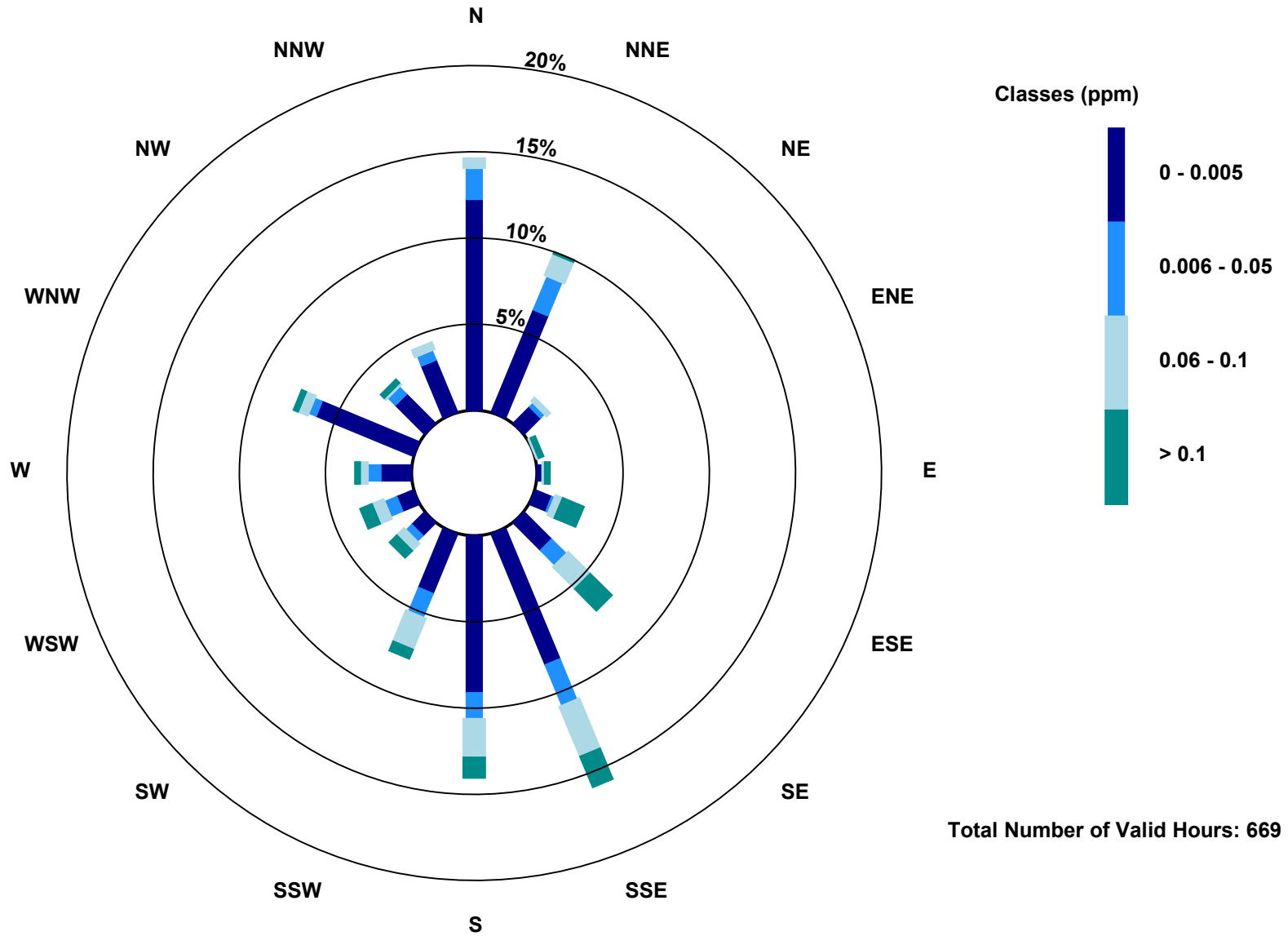
Total Number of Valid Hours: 669

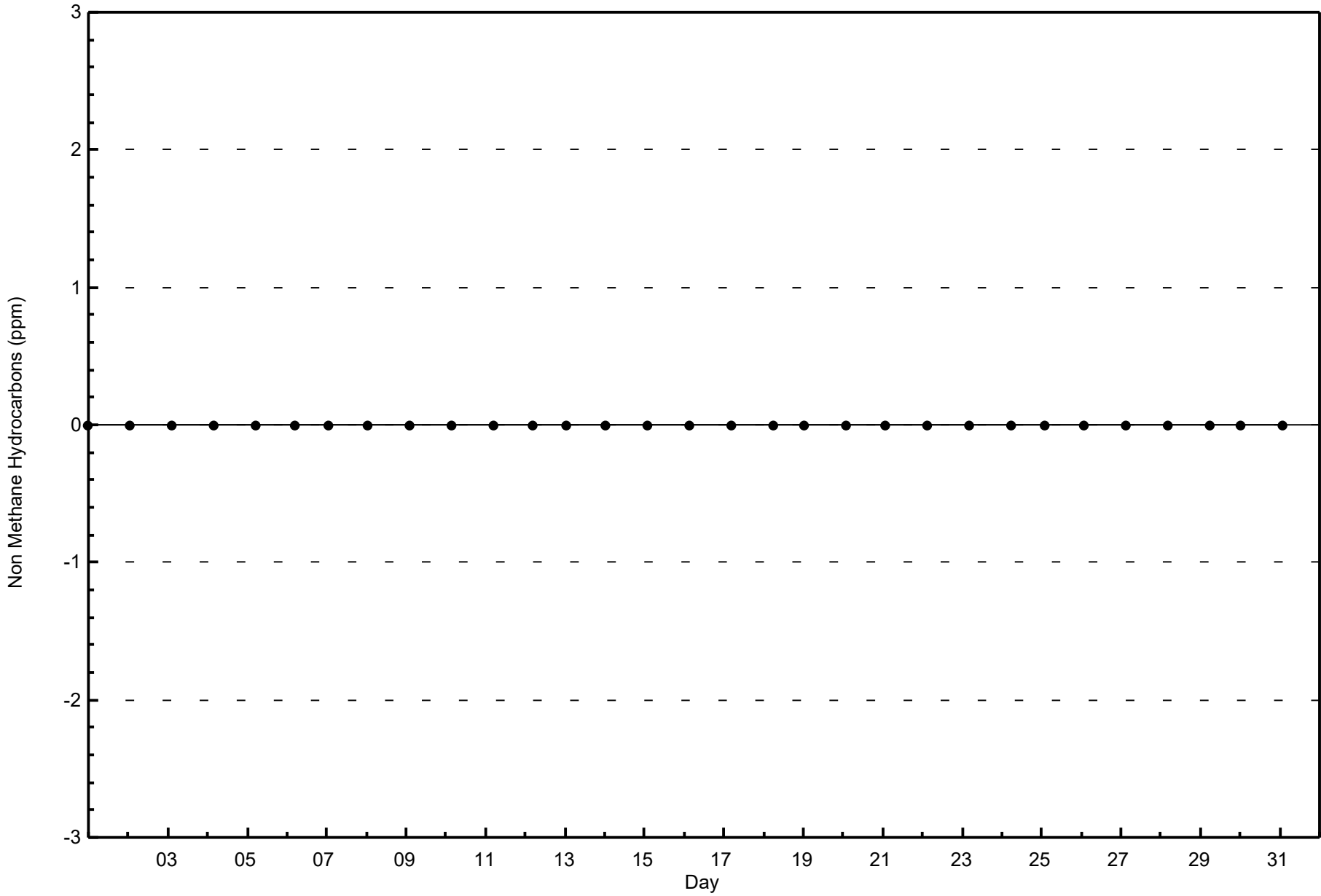
Total Number of Hours: 744

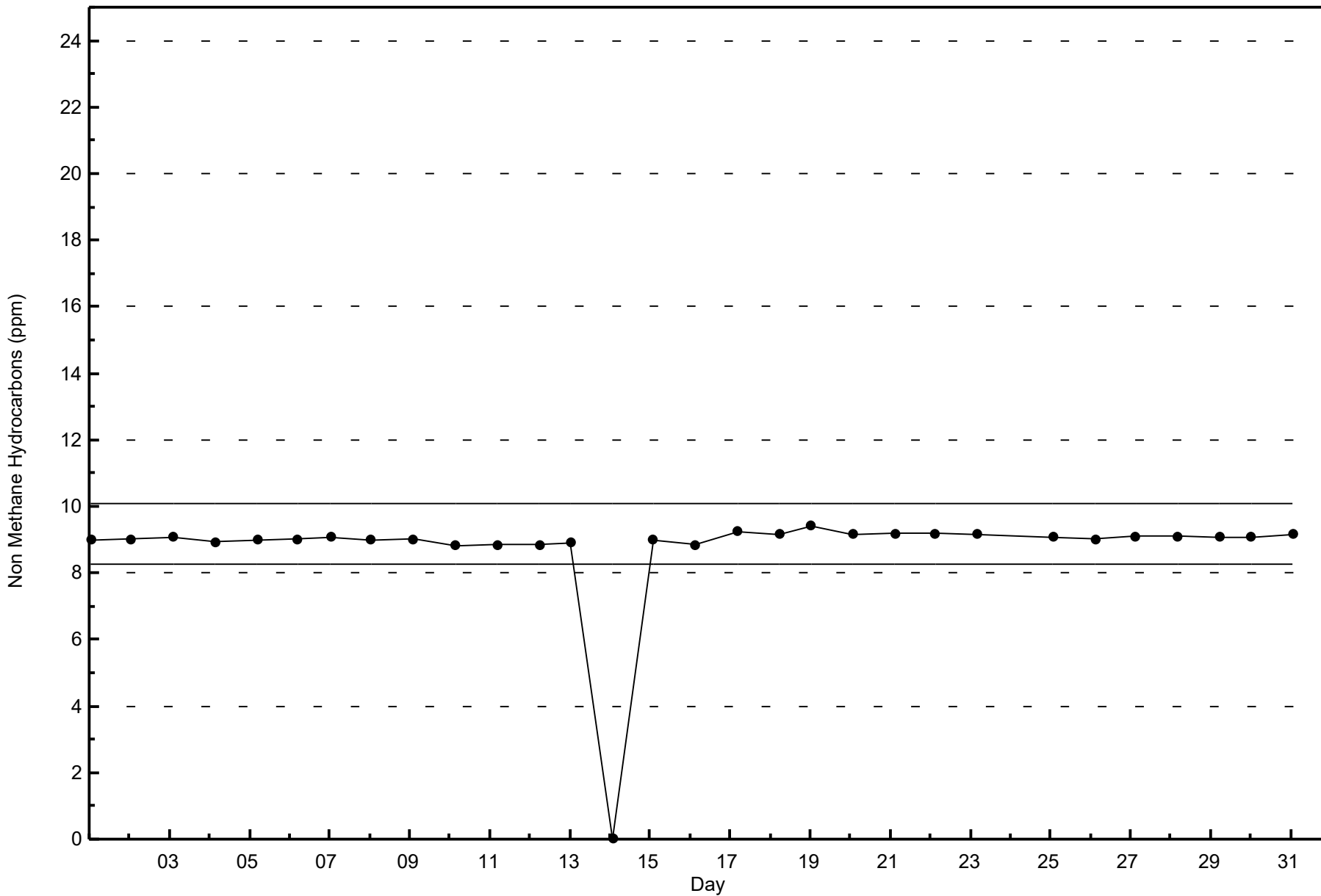


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Non Methane Hydrocarbons (NMHC) - ppm
Fort Hills









Wood Buffalo Environmental Association

Summary of Hour Averages

Methane (CH₄) - ppm

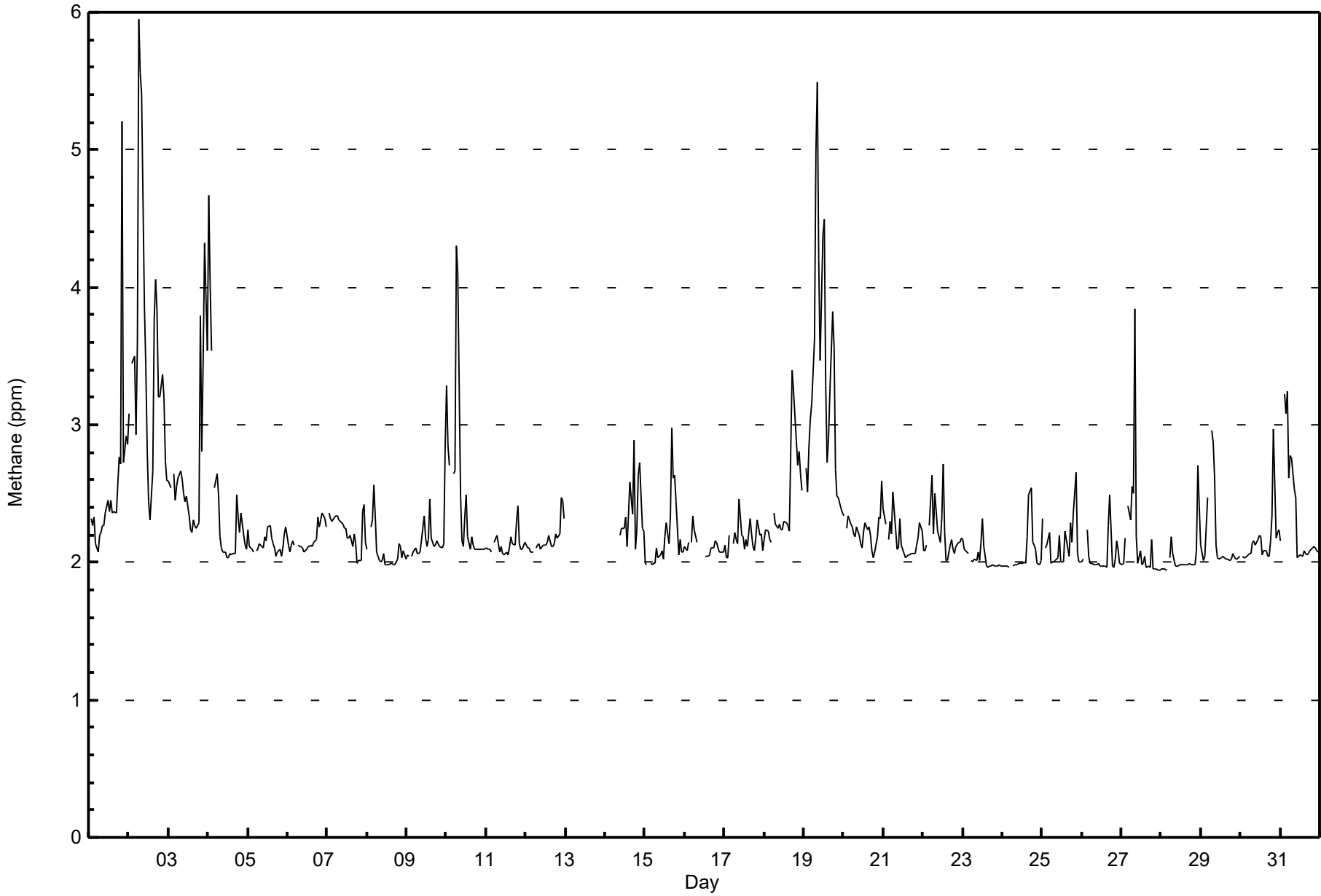
Fort Hills - January 2025

Number of Exceedences (AAAQO):		1-hr: 0		24-hr: 0		Hours in Service: 744														Daily Average		Daily Maximum					
Maximum Value: 6.0 ppm on Jan 2 07:00		Maximum Daily Average: 3.5 ppm on Jan 2		Hours of Data: 678														Hours of Missing Data: 66		Hours of Calibration: 32							
Minimum Value: 1.9 ppm on Jan 27 23:00		Minimum Daily Average: 2.0 ppm on Jan 23		Hours of Calibration: 32														Percent Operational Time: 95.4									
Maximum Diurnal Average: 2.5 ppm at hour 8		Minimum Diurnal Average: 2.2 ppm at hour 15		Percentiles: P ₁ = 2.0 P ₁₀ = 2.0 Q ₁ = 2.1 Median = 2.1 Q ₃ = 2.3 P ₉₀ = 2.7 P ₉₉ = 4.5																							
Monthly Average: 2.31 ppm																											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	Z	2.3	2.3	2.3	2.1	2.1	2.2	2.2	2.3	2.3	2.4	2.4	2.4	2.5	2.4	2.4	2.4	2.6	2.8	2.7	5.2	2.7	2.9	2.9	2.5	5.2	
2-Jan	3.1	Z	3.4	3.5	2.9	3.6	6.0	5.6	5.4	3.9	3.4	2.8	2.4	2.3	2.7	3.8	4.1	3.8	3.2	3.2	3.4	3.2	2.7	2.6	3.5	6.0	
3-Jan	2.6	2.5	Z	2.6	2.5	2.6	2.6	2.7	2.6	2.5	2.4	2.5	2.3	2.2	2.2	2.3	2.3	2.3	3.8	2.8	3.5	4.3	3.5	2.7	4.3		
4-Jan	4.7	4.0	3.5	Z	2.5	2.6	2.5	2.2	2.1	2.1	2.1	2.0	2.0	2.1	2.1	2.1	2.5	2.3	2.2	2.4	2.2	2.1	2.1	2.5	4.7		
5-Jan	2.2	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.3	2.2	2.1	2.1	2.0	2.1	2.1	2.0	2.1	2.2	2.3	2.1	2.3	
6-Jan	2.1	2.1	2.1	2.2	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.3	2.3	2.4	2.3	2.3	2.2	2.4	
7-Jan	Z	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.1	2.2	2.1	2.0	2.0	2.0	2.4	2.4	2.1	2.2	2.4	
8-Jan	2.1	Z	2.3	2.3	2.6	2.3	2.1	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.1	2.0	2.1	2.6	
9-Jan	2.1	2.0	Z	2.0	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.2	2.1	2.2	2.5	2.2	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.8	2.2	2.8	
10-Jan	3.3	2.8	2.7	Z	2.6	2.7	4.3	4.1	2.5	2.2	2.1	2.3	2.5	2.2	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.5	4.3		
11-Jan	2.1	2.1	2.1	2.1	Z	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.3	2.4	2.1	2.1	2.1	2.1	2.1	2.4	
12-Jan	2.1	2.1	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.2	2.2	2.2	2.5	2.5	2.3	2.2	2.5
13-Jan	Z	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	--	
14-Jan	UO	UO	UO	UO	UO	UO	UO	UO	M	2.2	2.2	2.2	2.3	2.1	2.3	2.6	2.3	2.9	2.1	2.2	2.6	2.7	2.2	2.2	--	2.9	
15-Jan	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.1	2.0	2.1	2.0	2.2	2.3	2.1	2.3	2.3	3.0	2.6	2.6	2.4	2.1	2.2	2.1	2.1	2.2	3.0	
16-Jan	2.1	2.1	2.1	Z	2.1	2.3	2.2	2.2	M	C	C	C	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.3	
17-Jan	2.1	2.0	2.0	2.2	Z	2.1	2.2	2.2	2.1	2.5	2.2	2.2	2.2	2.1	2.2	2.1	2.3	2.2	2.1	2.1	2.2	2.3	2.2	2.1	2.2	2.5	
18-Jan	2.2	2.2	2.2	2.2	2.1	Z	2.4	2.3	2.2	2.3	2.2	2.2	2.3	2.3	2.3	2.2	2.8	3.4	3.2	2.9	2.7	2.8	2.6	2.5	2.5	3.4	
19-Jan	Z	2.7	2.5	2.8	3.0	3.2	3.6	5.0	5.5	4.2	3.5	4.4	4.5	3.3	2.7	2.9	3.2	3.8	3.6	2.7	2.5	2.5	2.4	2.4	3.3	5.5	
20-Jan	2.3	Z	2.2	2.3	2.3	2.3	2.2	2.2	2.3	2.2	2.1	2.1	2.2	2.3	2.2	2.3	2.2	2.1	2.0	2.1	2.2	2.3	2.3	2.6	2.2	2.6	
21-Jan	2.4	2.3	Z	2.2	2.3	2.2	2.5	2.2	2.1	2.1	2.3	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.2	2.2	2.5	
22-Jan	2.1	2.1	2.1	Z	2.3	2.6	2.2	2.5	2.4	2.2	2.2	2.3	2.7	2.2	2.0	2.0	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.7	
23-Jan	2.2	2.1	2.1	2.1	Z	2.0	2.0	2.0	2.0	2.1	2.0	2.1	2.3	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.3	
24-Jan	2.0	2.0	2.0	2.0	2.0	DF	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.5	2.5	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.5	
25-Jan	2.3	Z	2.1	2.1	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.1	2.0	2.3	2.2	2.4	2.7	2.1	2.0	2.0	2.1	2.7	
26-Jan	2.0	2.0	Z	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.5	2.0	2.0	2.0	2.2	2.1	2.0	2.0	2.5	
27-Jan	2.0	2.0	2.2	Z	2.4	2.3	2.6	2.5	3.8	2.2	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.0	1.9	1.9	1.9	1.9	2.2	3.8	
28-Jan	1.9	2.0	2.0	1.9	Z	2.0	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.7	2.4	2.0	2.7	
29-Jan	2.1	2.0	2.0	2.3	2.5	Z	3.0	2.9	2.6	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.2	3.0	
30-Jan	Z	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.1	2.2	2.2	2.2	2.1	2.1	2.1	2.0	2.0	2.2	2.3	3.0	2.2	2.2	2.2	2.2	3.0	
31-Jan	2.2	Z	3.2	3.1	3.2	2.6	2.8	2.8	2.5	2.5	2.0	2.0	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3	3.2	
																								Diurnal Average		Diurnal Maximum	
2.3																								2.3		2.3	
4.7																								4.7		4.7	
Z - zerospan				C - Calibration				M - Maintenance				DF - DAS Failure				UO - Unstable Operation											



Wood Buffalo Environmental Association
Hourly Averages

Methane (CH₄) - ppm
Fort Hills - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Methane (CH₄) - ppm
Fort Hills - January 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	157	23.16	23.16
2.1 - 3.0	476	70.21	93.36
3.1 - 10.0	45	6.64	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 678

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Methane (CH₄) - ppm
Fort Hills - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2.0	14	14	1	0	0	0	3	13	23	7	2	5	11	38	14	11	156
2.1 - 3.0	82	53	12	3	5	15	38	87	64	40	14	17	11	10	7	16	474
3.1 - 10.0	2	0	0	0	0	5	6	6	7	5	2	0	0	2	2	2	39
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	98	67	13	3	5	20	47	106	94	52	18	22	22	50	23	29	669

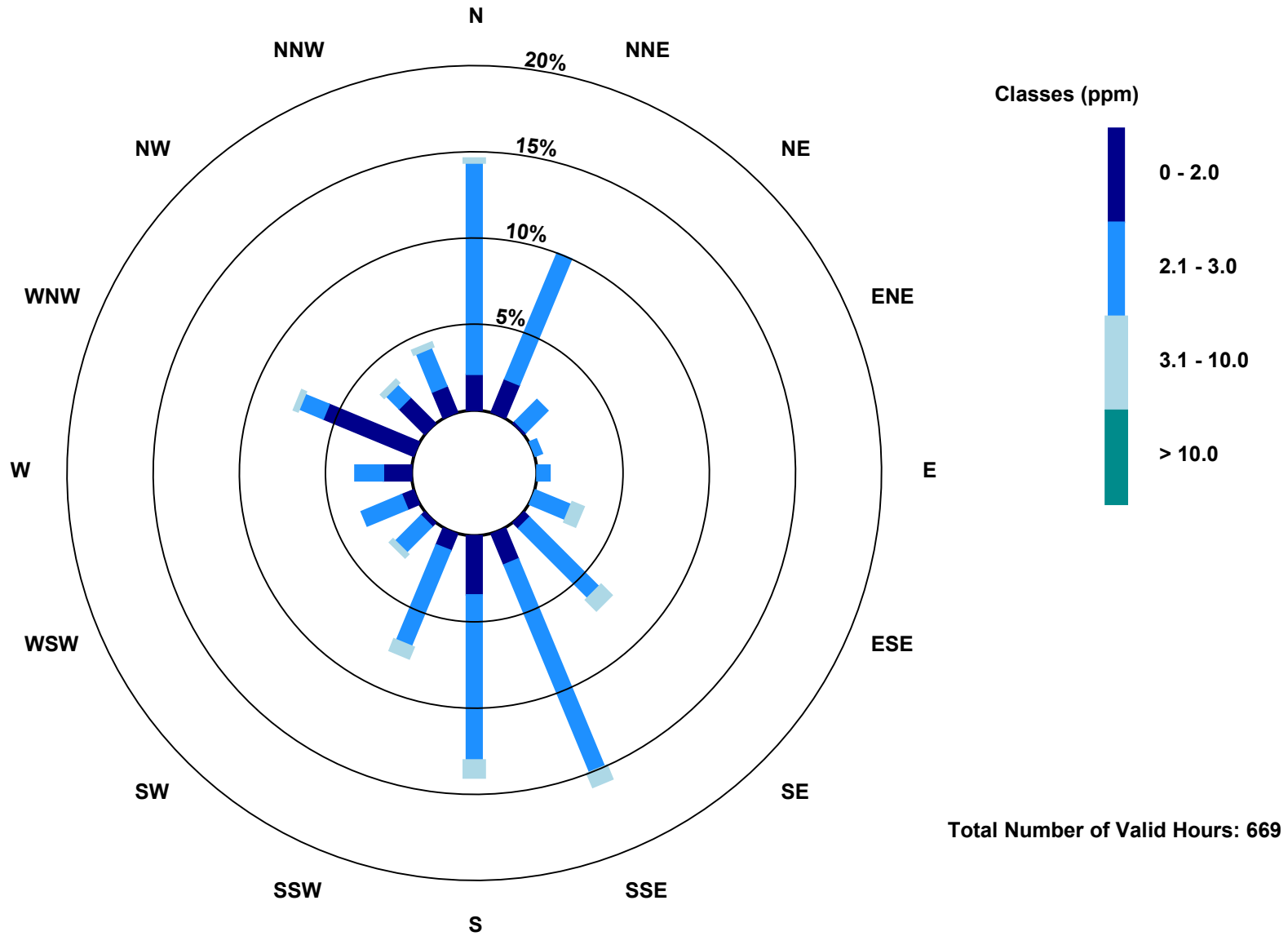
Total Number of Valid Hours: 669

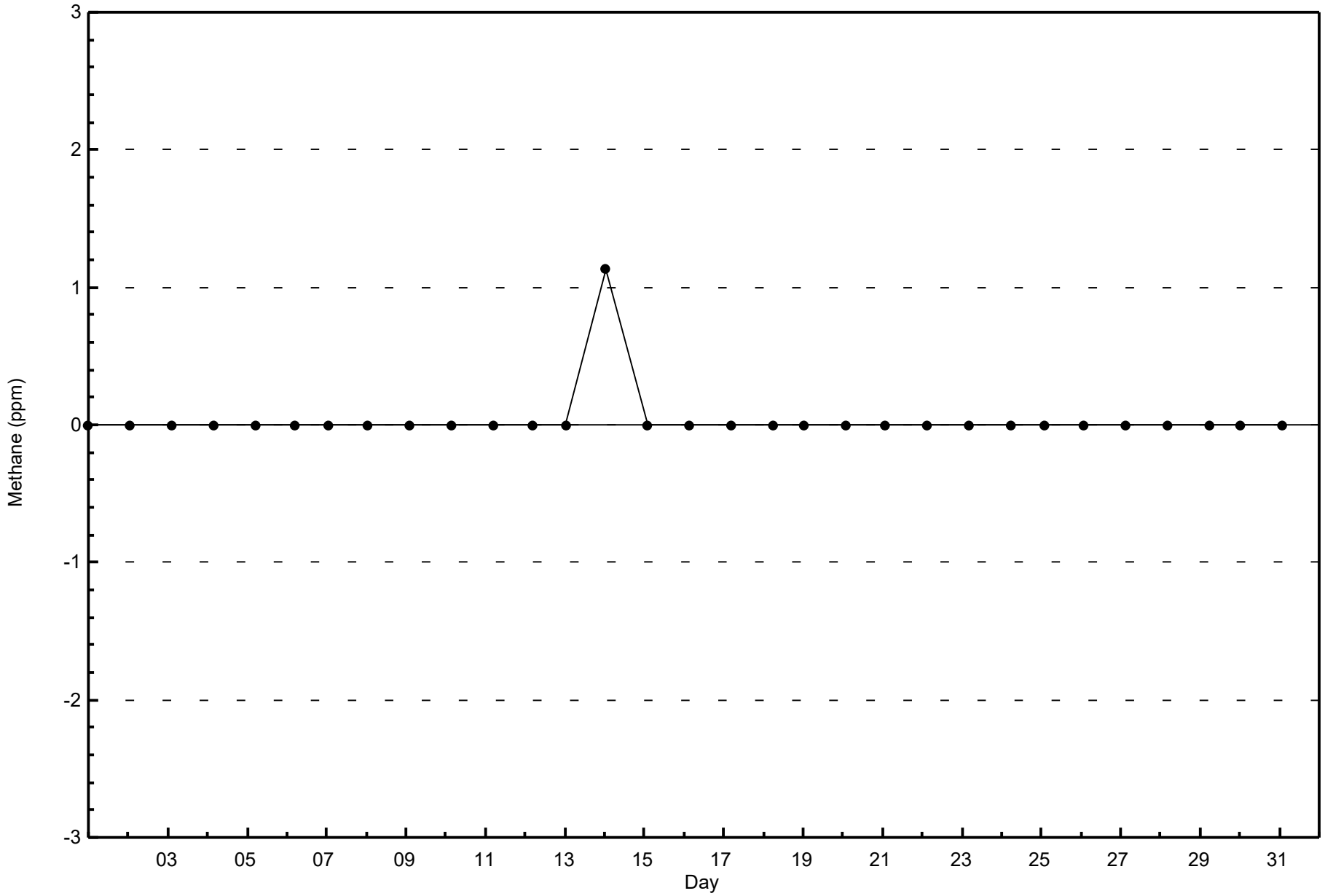
Total Number of Hours: 744

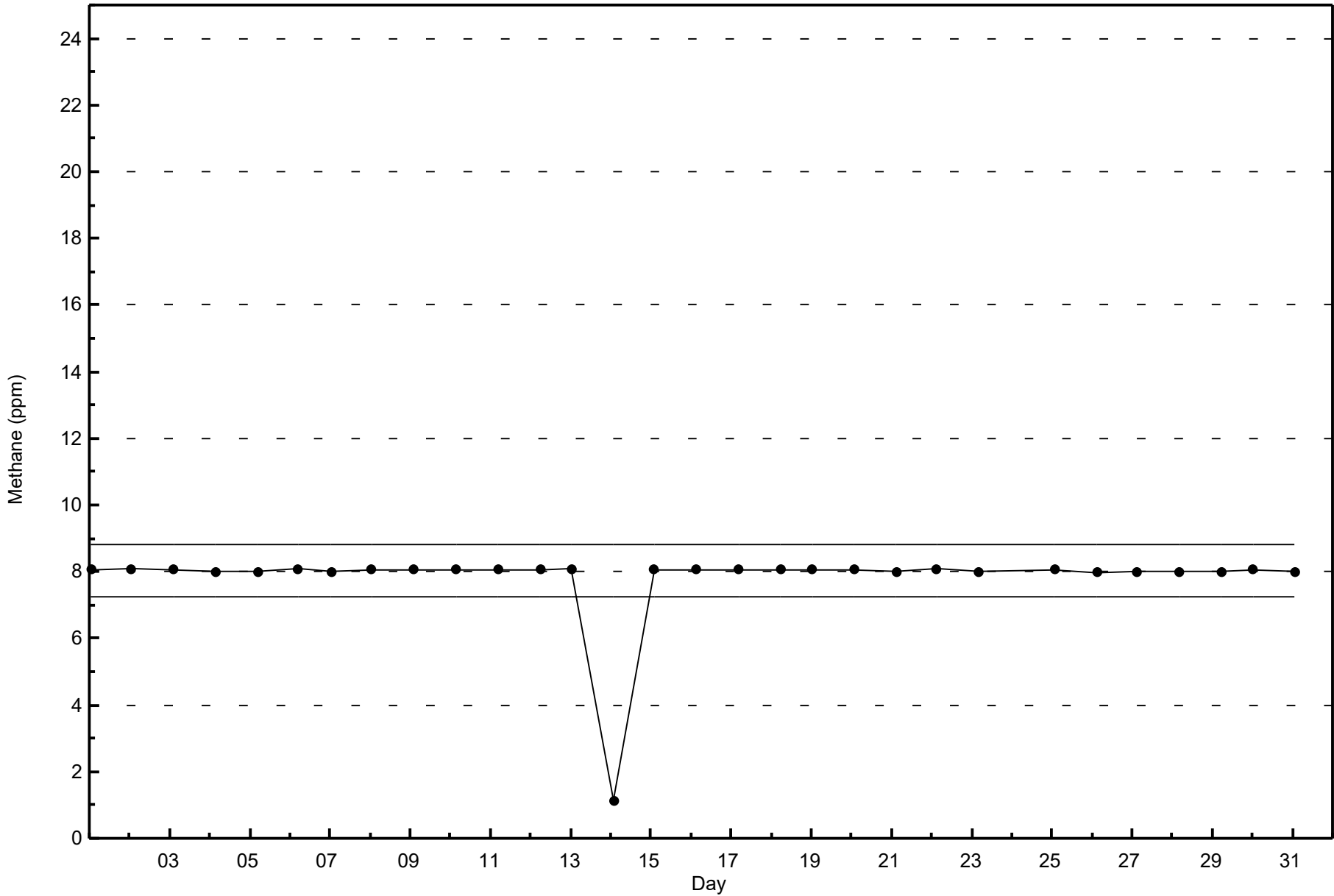


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Methane (CH₄) - ppm
Fort Hills





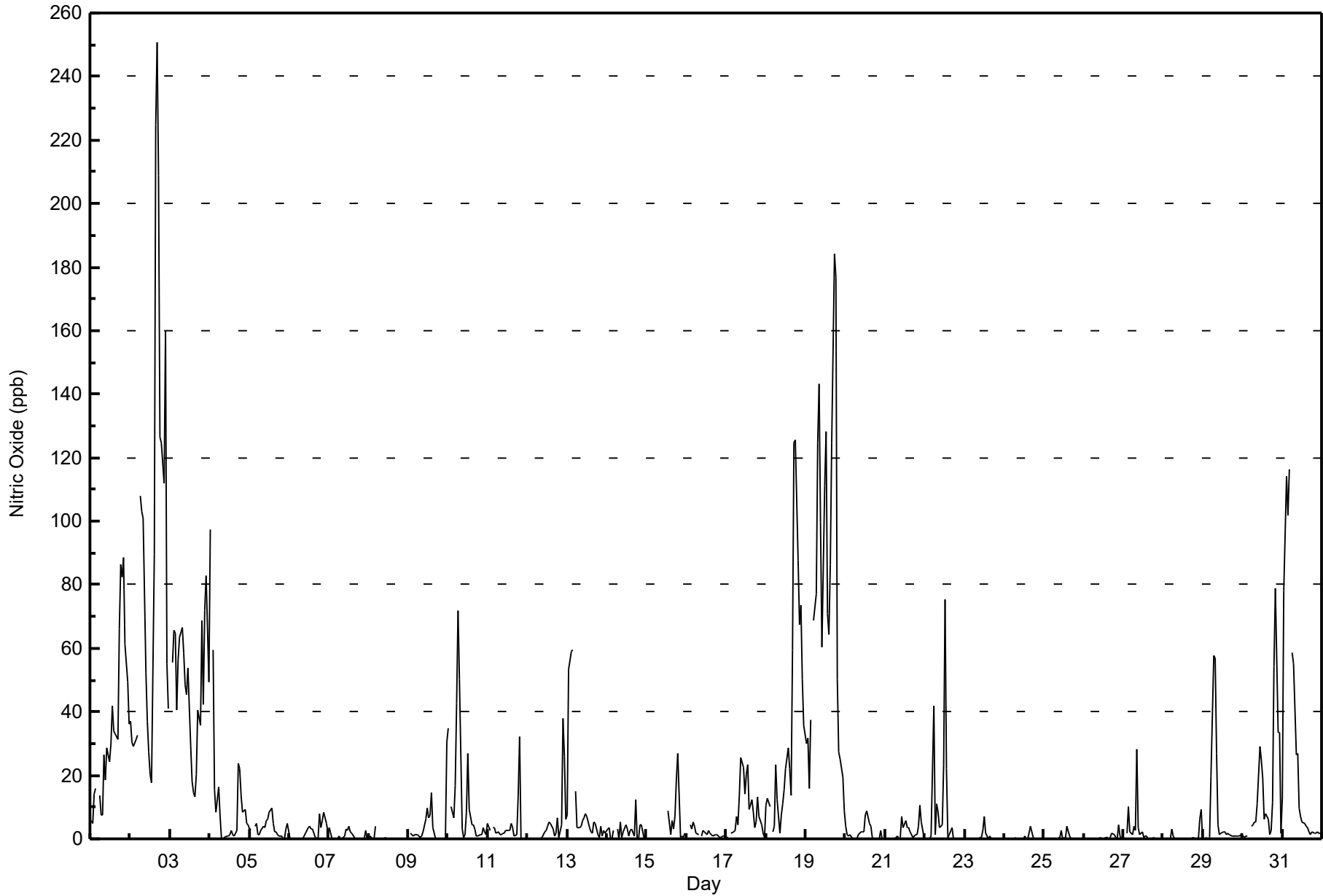




Wood Buffalo Environmental Association
Summary of Hour Averages

Nitric Oxide (NO) - ppb
Fort Hills - January 2025

Number of Exceedences (AAAQO):		1-hr: 0	24-hr: 0	Hours in Service: 744																	744																												
Maximum Value: 250.6 ppb on Jan 2 17:00		Maximum Daily Average: 87.8 ppb on Jan 2																	705																														
Minimum Value: 0.0 ppb on Jan 4 09:00		Minimum Daily Average: 0.3 ppb on Jan 8																	39																														
Maximum Diurnal Average: 22.3 ppb at hour 18		Minimum Diurnal Average: 7.8 ppb at hour 24																	37																														
Monthly Average: 13.90 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 2.0 Q ₃ = 9.2 P ₉₀ = 48.9 P ₉₉ = 128.1																	99.7																														
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	5.6	5.1	14.2	15.9	Z	13.8	7.3	7.4	26.4	18.6	28.5	24.2	30.2	41.9	33.8	33.1	31.5	66.3	86.5	82.6	88.8	61.2	49.2	36.1	35.1	88.8																							
2-Jan	37.2	30.2	29.3	31.1	32.6	Z	107.9	103.3	100.9	52.5	37.1	27.2	20.2	17.7	89.6	224.6	250.6	208.9	126.4	124.8	111.9	160.0	54.9	41.0	87.8	250.6																							
3-Jan	Z	55.3	65.7	64.6	40.5	56.6	63.3	66.6	58.8	48.5	45.4	53.7	29.0	18.3	14.6	13.2	20.3	40.5	35.8	68.9	42.3	72.0	82.8	49.4	48.1	82.8																							
4-Jan	97.5	Z	59.4	15.4	8.4	16.1	6.9	0.1	0.0	0.4	1.0	0.7	1.3	2.7	1.3	0.8	2.7	23.7	21.9	13.8	8.3	9.3	4.8	4.6	13.1	97.5																							
5-Jan	3.2	3.2	Z	3.8	4.7	1.5	1.4	2.7	3.9	3.4	5.9	6.3	8.2	9.9	4.9	2.0	2.2	1.5	1.1	0.7	0.0	0.2	3.2	4.9	3.4	9.9																							
6-Jan	0.1	0.0	0.1	Z	0.0	0.0	0.1	0.0	0.1	0.9	1.8	3.4	4.2	3.2	3.2	1.8	0.5	0.2	8.0	3.6	5.6	8.5	4.6	2.3	2.3	8.5																							
7-Jan	3.6	1.6	0.2	0.1	Z	0.0	0.8	0.2	0.1	1.0	3.0	2.7	3.8	2.4	1.8	0.5	0.0	0.0	0.0	0.0	0.0	2.6	0.0	1.1	3.8																								
8-Jan	0.0	1.0	0.1	0.0	4.1	Z	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	4.1																							
9-Jan	Z	1.8	1.2	1.0	1.3	1.1	0.9	0.6	0.7	2.3	6.1	9.5	6.6	7.4	14.7	3.6	0.1	0.0	0.0	0.0	0.0	0.0	30.4	3.9	30.4																								
10-Jan	34.9	Z	10.1	6.5	16.6	42.8	71.9	50.3	3.3	0.5	1.2	8.4	26.8	9.2	4.5	4.2	3.3	0.8	1.0	1.2	1.4	3.4	2.4	1.5	13.3	71.9																							
11-Jan	4.9	2.5	Z	3.3	3.6	1.7	2.4	1.2	1.4	1.7	1.8	2.7	2.7	2.6	4.6	3.4	1.0	1.2	13.6	32.0	0.0	0.0	0.0	0.1	3.8	32.0																							
12-Jan	0.1	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.5	2.0	2.6	3.9	5.3	4.8	3.2	0.9	2.0	6.7	0.5	4.4	37.8	26.2	6.4	4.7	37.8																							
13-Jan	7.3	53.4	58.8	59.3	Z	14.8	3.5	3.5	4.1	5.7	6.8	8.0	7.2	3.4	2.1	2.0	5.5	5.0	1.2	0.5	3.9	0.8	2.5	1.7	11.3	59.3																							
14-Jan	2.9	3.3	0.0	0.1	2.7	Z	3.3	0.0	5.4	0.4	2.1	4.3	2.9	1.0	2.5	3.3	1.0	12.5	0.0	0.0	4.5	4.5	0.1	0.6	2.5	12.5																							
15-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	C	C	C	C	C	C	9.0	1.5	5.9	2.9	7.2	18.7	26.8	0.3	0.9	0.2	1.6	--	26.8																							
16-Jan	0.7	Z	4.3	3.1	5.3	3.8	1.6	1.2	M	0.9	2.5	2.3	1.5	2.8	1.6	1.3	0.8	1.4	1.5	0.8	0.6	0.5	0.9	0.7	1.8	5.3																							
17-Jan	0.6	0.5	Z	1.7	2.4	2.6	7.1	4.3	13.8	25.6	22.7	14.3	20.4	23.3	9.1	12.1	8.3	3.3	5.5	13.3	7.3	4.4	1.9	0.2	8.9	25.6																							
18-Jan	10.4	12.7	10.2	Z	2.1	4.0	23.3	12.2	1.8	7.6	11.1	15.5	22.1	28.6	21.9	13.6	59.7	124.9	125.4	87.5	67.3	73.7	50.4	35.6	35.7	125.4																							
19-Jan	30.0	31.9	15.7	37.6	Z	68.9	77.0	124.7	143.4	99.6	60.5	111.2	128.2	70.9	64.4	86.2	124.8	184.3	176.9	50.3	27.2	25.0	19.5	8.7	76.8	184.3																							
20-Jan	3.8	1.2	0.7	1.2	0.2	Z	0.1	0.1	1.1	2.3	2.0	2.3	7.4	9.0	4.9	3.9	0.6	0.0	0.0	0.0	0.0	2.7	0.2	0.0	1.9	9.0																							
21-Jan	Z	0.0	0.0	0.0	0.1	0.0	0.1	0.9	0.0	0.5	7.0	3.5	5.5	3.7	3.5	2.3	1.4	0.6	1.1	1.2	3.9	10.7	5.4	0.5	2.3	10.7																							
22-Jan	0.1	Z	0.0	0.0	1.1	42.0	1.2	11.1	8.5	3.7	4.3	23.2	75.3	22.2	0.7	1.1	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.6	75.3																							
23-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.4	2.7	7.1	1.8	0.1	0.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	7.1																							
24-Jan	0.1	0.0	0.0	Z	0.2	DF	0.2	0.2	0.1	0.1	0.0	0.0	0.8	0.1	0.1	1.9	3.8	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.4	3.8																							
25-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.5	2.6	0.1	0.4	0.2	4.1	0.9	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.4	4.1																							
26-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.1	0.2	0.4	0.4	0.1	0.6	1.6	1.2	0.4	0.0	4.3	0.7	0.1	0.5	4.3																							
27-Jan	0.3	Z	1.6	10.1	2.2	1.5	4.1	2.8	28.1	3.5	1.3	2.2	0.5	0.7	0.9	0.1	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	2.6	28.1																							
28-Jan	0.2	0.0	Z	0.0	0.2	3.3	0.9	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	6.2	9.4	0.9	9.4																							
29-Jan	0.0	0.0	0.4	Z	0.4	20.0	57.8	56.7	26.8	4.3	1.5	1.9	2.2	2.0	1.5	1.7	1.3	1.0	0.8	0.8	0.7	0.9	0.7	1.4	8.0	57.8																							
30-Jan	0.8	0.6	0.8	1.0	Z	4.0	4.4	5.3	5.4	11.1	29.2	24.7	18.8	6.0	8.0	6.3	1.4	2.7	11.3	54.1	78.7	33.5	33.6	1.9	14.9	78.7																							
31-Jan	13.0	78.2	114.1	101.9	116.3	Z	58.6	55.1	26.3	27.1	9.8	7.0	5.4	5.0	3.9	3.4	2.2	1.4	2.1	1.9	1.8	2.0	1.9	1.6	27.8	116.3																							
																								9.9	10.9	14.9	13.8	9.4	12.4	16.3	17.0	15.9	10.8	9.9	12.2	14.8	10.0	10.0	14.1	17.1	22.3	20.9	18.3	14.8	16.7	11.4	7.8	Diurnal Average	
																								97.5	78.2	114.1	101.9	116.3	68.9	107.9	124.7	143.4	99.6	60.5	111.2	128.2	70.9	89.6	224.6	250.6	208.9	176.9	124.8	111.9	160.0	82.8	49.4	Diurnal Maximum	
Z - zerospan		C - Calibration				M - Maintenance				DF - DAS Failure																																							





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Nitric Oxide (NO) - ppb
Fort Hills - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	576	81.70	81.70
21 - 40	50	7.09	88.79
41 - 80	48	6.81	95.60
81 - 159	25	3.55	99.15
> 159	6	0.85	100.00

Total Number of Valid Hours: 705

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitric Oxide (NO) - ppb
Fort Hills - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	87	66	12	2	5	8	37	101	81	44	16	20	18	43	17	18	575
21 - 40	10	1	1	1	1	2	11	2	3	4	0	1	1	3	2	4	47
11 - 80	3	0	0	0	0	4	10	14	4	3	2	0	0	1	2	4	47
81 - 159	2	1	0	0	0	6	2	3	3	2	1	0	0	0	1	2	23
> 159	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	4
Totals	102	68	13	3	6	20	62	122	91	53	19	21	19	47	22	28	696

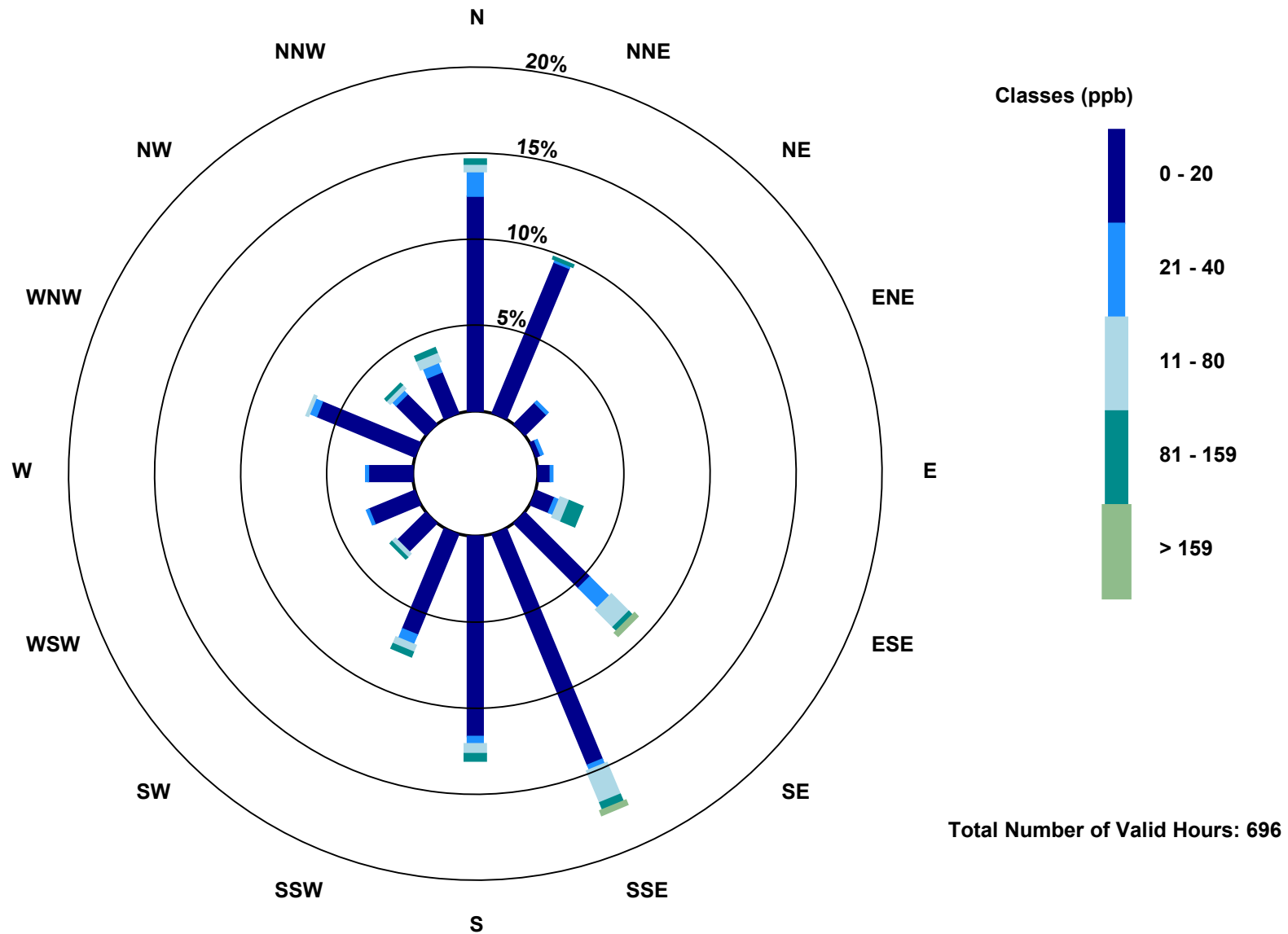
Total Number of Valid Hours: 696

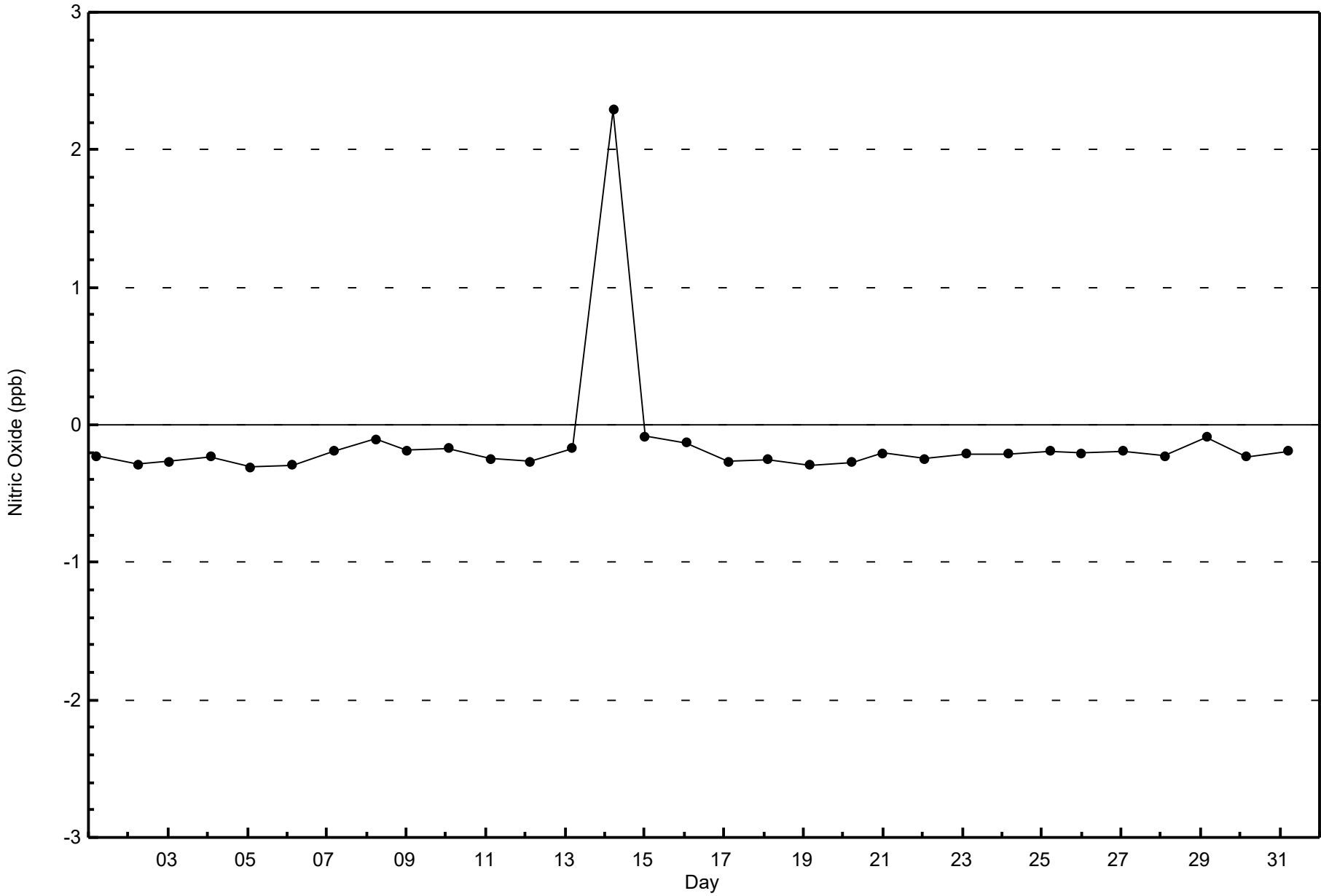
Total Number of Hours: 744

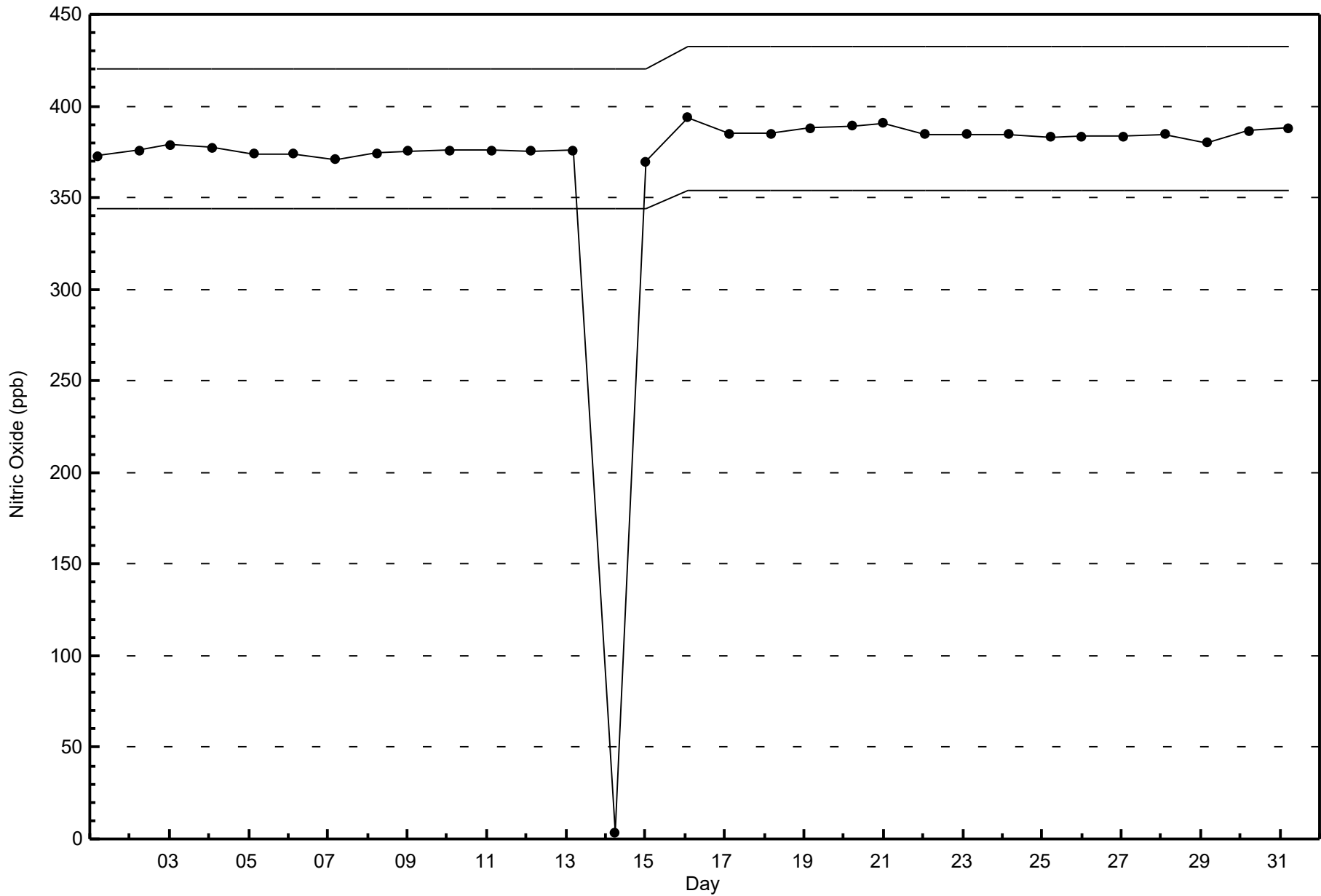


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitric Oxide (NO) - ppb
Fort Hills









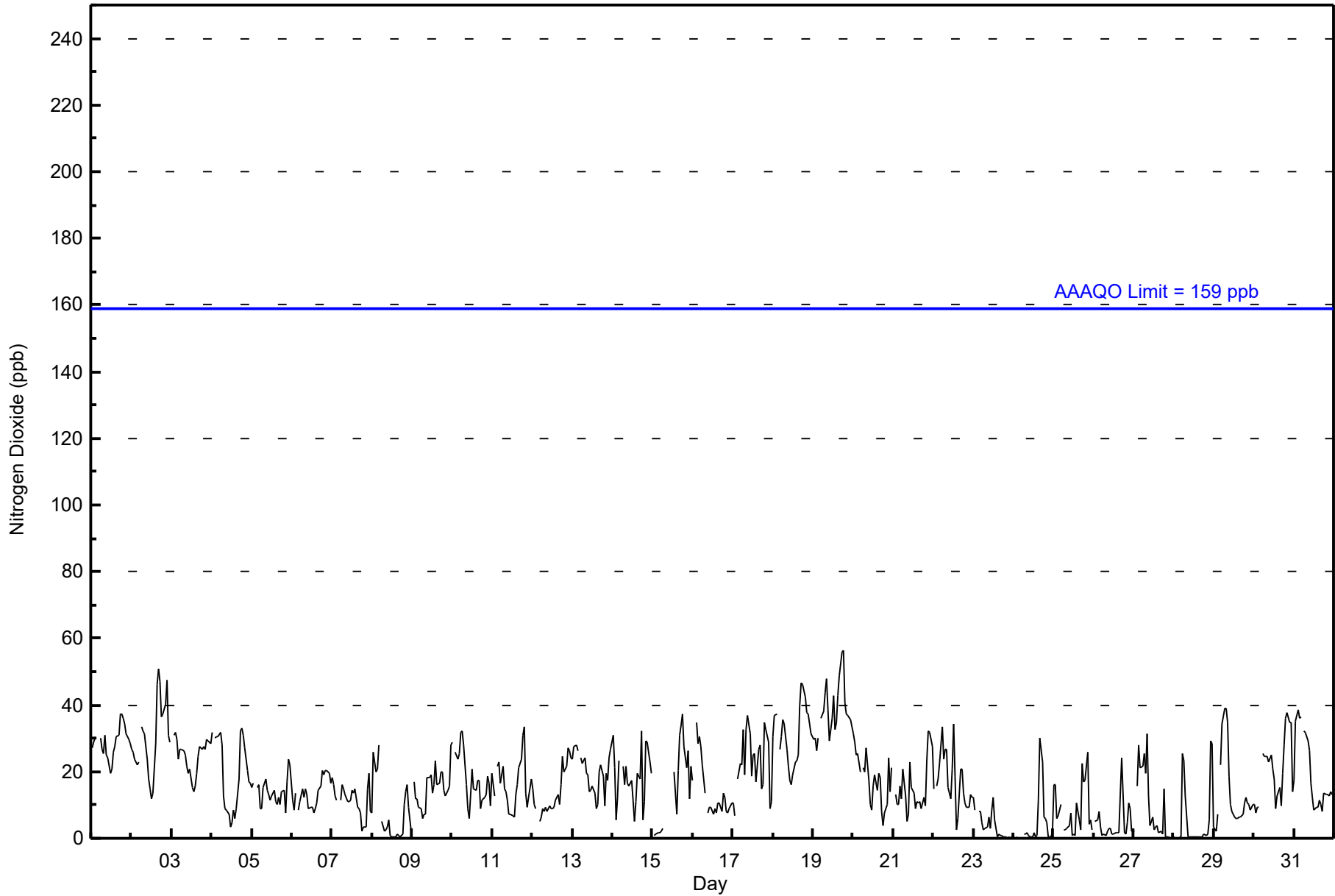
Wood Buffalo Environmental Association
Summary of Hour Averages

Nitrogen Dioxide (NO₂) - ppb
Fort Hills - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 56.2 ppb on Jan 19 19:00	Maximum Daily Average: 38.4 ppb on Jan 19
Minimum Value: 0.1 ppb on Jan 28 02:00	Hours of Data: 705
Maximum Diurnal Average: 20.2 ppb at hour 6	Hours of Missing Data: 39
Monthly Average: 16.60 ppb	Hours of Calibration: 37
Minimum Daily Average: 4.0 ppb on Jan 23	Percent Operational Time: 99.7
Minimum Diurnal Average: 11.5 ppb at hour 14	
Percentiles: P ₁ = 0.3 P ₁₀ = 1.7 Q ₁ = 8.2 Median = 14.8 Q ₃ = 24.9 P ₉₀ = 31.9 P ₉₉ = 46.6	

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	27.1	28.8	30.0	29.9	Z	29.9	26.5	25.5	31.1	25.2	24.3	19.3	20.6	25.8	27.5	30.7	31.0	37.1	37.1	36.2	34.2	31.5	29.6	28.2	29.0	37.1
2-Jan	26.9	26.0	23.8	22.2	22.8	Z	33.3	32.0	31.4	23.9	17.6	15.0	12.0	13.5	28.2	46.3	50.7	47.1	36.5	37.1	40.1	47.5	30.8	28.7	30.1	50.7
3-Jan	Z	30.8	31.6	29.5	23.9	26.8	26.6	26.3	24.8	21.6	19.4	20.8	15.1	13.9	15.5	19.6	24.7	27.7	26.8	27.4	26.5	29.5	29.1	28.3	24.6	31.6
4-Jan	31.6	Z	30.2	30.3	30.4	31.8	27.8	12.8	9.0	8.3	7.0	3.6	4.6	8.4	5.8	9.0	17.7	32.4	33.2	30.8	27.1	20.5	17.0	16.6	19.4	33.2
5-Jan	15.3	16.4	Z	15.2	16.1	9.1	8.7	15.1	17.7	14.6	13.1	11.5	12.7	14.4	11.0	10.0	12.4	10.2	14.0	14.2	7.5	17.0	23.7	22.0	14.0	23.7
6-Jan	11.6	8.5	13.7	Z	8.5	11.1	14.7	12.4	14.9	13.1	9.0	9.3	9.5	7.8	9.0	10.7	14.4	15.8	20.3	19.1	20.3	20.3	19.5	16.4	13.5	20.3
7-Jan	18.3	16.0	12.7	11.6	Z	11.6	16.2	14.8	13.1	11.1	11.2	11.5	14.3	13.4	14.8	9.3	9.1	7.6	2.1	3.6	3.2	15.0	19.3	8.0	11.6	19.3
8-Jan	7.8	25.9	20.0	20.9	28.1	Z	5.0	2.0	2.6	3.2	5.6	0.7	0.4	0.5	0.5	1.1	0.7	0.4	1.1	10.0	13.9	16.0	9.3	1.8	7.7	28.1
9-Jan	Z	16.9	11.7	11.7	9.4	8.8	6.0	7.2	7.2	18.2	18.2	19.0	13.5	16.3	23.5	15.9	16.6	19.9	20.1	14.3	12.9	14.4	15.6	28.1	15.0	28.1
10-Jan	28.9	Z	25.7	23.9	25.6	31.6	32.1	28.1	16.3	8.8	6.1	13.3	20.8	14.7	14.4	17.3	17.4	9.0	11.4	12.1	13.1	18.5	16.7	9.7	18.1	32.1
11-Jan	19.5	12.7	Z	21.7	22.9	16.5	21.8	15.0	13.9	11.5	7.3	7.0	6.8	6.3	13.3	15.9	21.1	23.9	30.9	33.6	13.5	9.2	12.2	17.9	16.3	33.6
12-Jan	14.9	10.2	8.7	Z	4.9	6.5	8.8	8.2	9.4	8.0	9.9	8.9	8.9	9.3	11.4	13.1	10.1	16.0	24.6	20.0	21.7	27.1	26.3	24.3	13.5	27.1
13-Jan	23.7	27.7	28.1	26.4	Z	24.2	22.3	24.3	19.3	19.1	14.1	14.5	15.5	13.7	9.0	10.1	20.0	21.9	18.8	9.9	19.4	17.2	24.0	26.6	19.6	28.1
14-Jan	30.9	21.0	5.3	12.4	23.3	Z	21.4	16.2	21.6	16.5	15.6	17.3	11.5	5.2	11.1	19.4	17.6	32.1	5.4	11.2	29.2	28.9	22.8	19.7	18.1	32.1
15-Jan	Z	0.9	1.3	1.5	1.9	2.2	2.8	C	C	C	C	C	C	20.0	7.1	20.2	30.9	33.8	37.1	27.4	21.1	26.4	11.9	21.6	--	37.1
16-Jan	17.4	Z	34.6	28.3	30.5	27.5	22.0	13.7	M	7.7	9.2	9.2	7.0	9.0	7.7	10.4	10.8	8.0	13.7	12.4	7.9	7.6	8.7	10.4	14.3	34.6
17-Jan	10.6	6.9	Z	17.8	22.6	21.9	32.6	19.1	32.5	37.0	31.2	18.6	25.1	25.6	16.8	26.6	28.0	14.8	16.1	34.9	32.8	28.9	8.8	11.2	22.6	37.0
18-Jan	30.4	36.7	37.2	Z	26.8	30.5	35.8	34.2	26.5	21.8	17.2	16.2	18.9	22.7	23.2	24.9	39.8	46.6	46.3	42.2	37.7	37.5	34.4	31.4	31.3	46.6
19-Jan	29.7	30.1	26.2	30.1	Z	36.2	38.2	43.7	47.9	38.6	29.1	36.0	42.6	32.6	34.6	42.6	48.9	56.0	56.2	40.5	37.4	36.9	35.4	33.6	38.4	56.2
20-Jan	31.5	28.9	25.0	25.4	20.1	Z	21.1	20.1	27.1	17.2	10.2	8.6	15.6	18.9	14.3	19.4	18.1	8.2	3.8	7.6	10.0	24.1	13.9	21.0	17.8	31.5
21-Jan	Z	13.0	10.0	10.2	15.5	11.9	20.8	12.6	5.2	7.0	23.0	15.3	13.4	9.1	11.0	10.6	10.9	8.7	12.3	9.9	23.1	32.3	31.8	27.6	15.0	32.3
22-Jan	14.9	Z	15.8	17.6	22.3	33.5	23.9	26.5	26.7	15.4	11.8	20.9	34.2	18.5	2.5	6.0	20.6	20.7	13.5	10.4	9.3	9.3	13.3	12.3	17.4	34.2
23-Jan	12.1	8.3	Z	8.2	8.1	4.7	2.4	3.1	3.2	6.5	3.1	8.3	12.3	5.4	0.4	1.1	0.9	0.9	0.5	0.6	0.2	0.4	0.2	0.4	4.0	12.3
24-Jan	0.4	0.2	0.3	Z	0.8	DF	1.2	1.3	1.5	0.8	0.5	0.6	1.7	0.6	0.7	11.3	29.9	23.0	6.3	5.8	4.5	0.5	0.4	2.0	4.3	29.9
25-Jan	16.1	16.0	5.9	6.8	10.1	Z	2.7	2.4	2.9	3.7	7.6	0.8	1.2	1.0	10.7	5.7	2.4	22.3	16.9	17.5	26.0	4.3	5.3	2.4	8.3	26.0
26-Jan	Z	4.9	5.7	8.1	3.6	1.0	1.1	0.7	2.3	3.1	3.0	1.3	1.2	1.6	1.8	1.7	13.2	24.2	1.9	1.4	4.6	10.4	8.9	2.2	4.7	24.2
27-Jan	2.3	Z	15.6	28.0	21.3	21.6	25.3	19.3	31.5	12.7	4.0	6.4	2.4	3.3	4.0	1.7	2.2	1.4	14.7	0.5	0.4	0.3	0.2	0.2	9.5	31.5
28-Jan	0.3	0.1	Z	0.3	0.5	25.4	23.5	12.7	0.4	0.4	0.5	0.4	0.6	0.5	0.3	0.5	0.5	0.3	1.3	0.8	1.2	5.5	29.2	28.4	5.8	29.2
29-Jan	3.5	2.3	7.4	Z	22.1	34.4	38.8	38.8	34.8	18.6	10.2	8.2	6.3	6.0	5.9	6.5	6.5	7.0	10.7	12.4	10.8	10.2	8.5	10.1	13.9	38.8
30-Jan	10.2	7.5	9.5	9.3	Z	25.3	24.5	24.4	24.7	22.8	24.8	20.7	17.7	9.0	12.9	15.4	9.6	19.4	27.8	36.0	37.6	34.9	34.6	14.0	20.5	37.6
31-Jan	17.5	35.3	38.5	36.2	36.5	Z	32.1	31.8	29.4	26.2	16.5	12.4	8.6	9.4	9.2	11.3	10.3	8.1	13.7	13.2	13.1	12.8	13.9	13.2	19.5	38.5
	17.4	16.6	18.3	18.6	17.6	20.2	20.0	18.1	18.2	14.8	12.7	11.9	12.5	11.5	11.6	14.3	17.6	19.5	18.6	17.8	18.1	19.2	17.9	16.7		Diurnal Average
	31.6	36.7	38.5	36.2	36.5	36.2	38.8	43.7	47.9	38.6	31.2	36.0	42.6	32.6	34.6	46.3	50.7	56.0	56.2	42.2	40.1	47.5	35.4	33.6		Diurnal Maximum

Z - zerospan C - Calibration M - Maintenance DF - DAS Failure
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Fort Hills - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	459	65.11	65.11
21 - 40	231	32.77	97.87
41 - 80	15	2.13	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 705

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Dioxide (NO₂) - ppb
Fort Hills - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	68	47	9	0	1	5	21	82	75	36	10	16	16	41	16	15	458
21 - 40	34	21	4	3	5	12	39	36	13	17	9	5	3	6	6	13	226
11 - 80	0	0	0	0	0	3	2	4	3	0	0	0	0	0	0	0	12
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	102	68	13	3	6	20	62	122	91	53	19	21	19	47	22	28	696

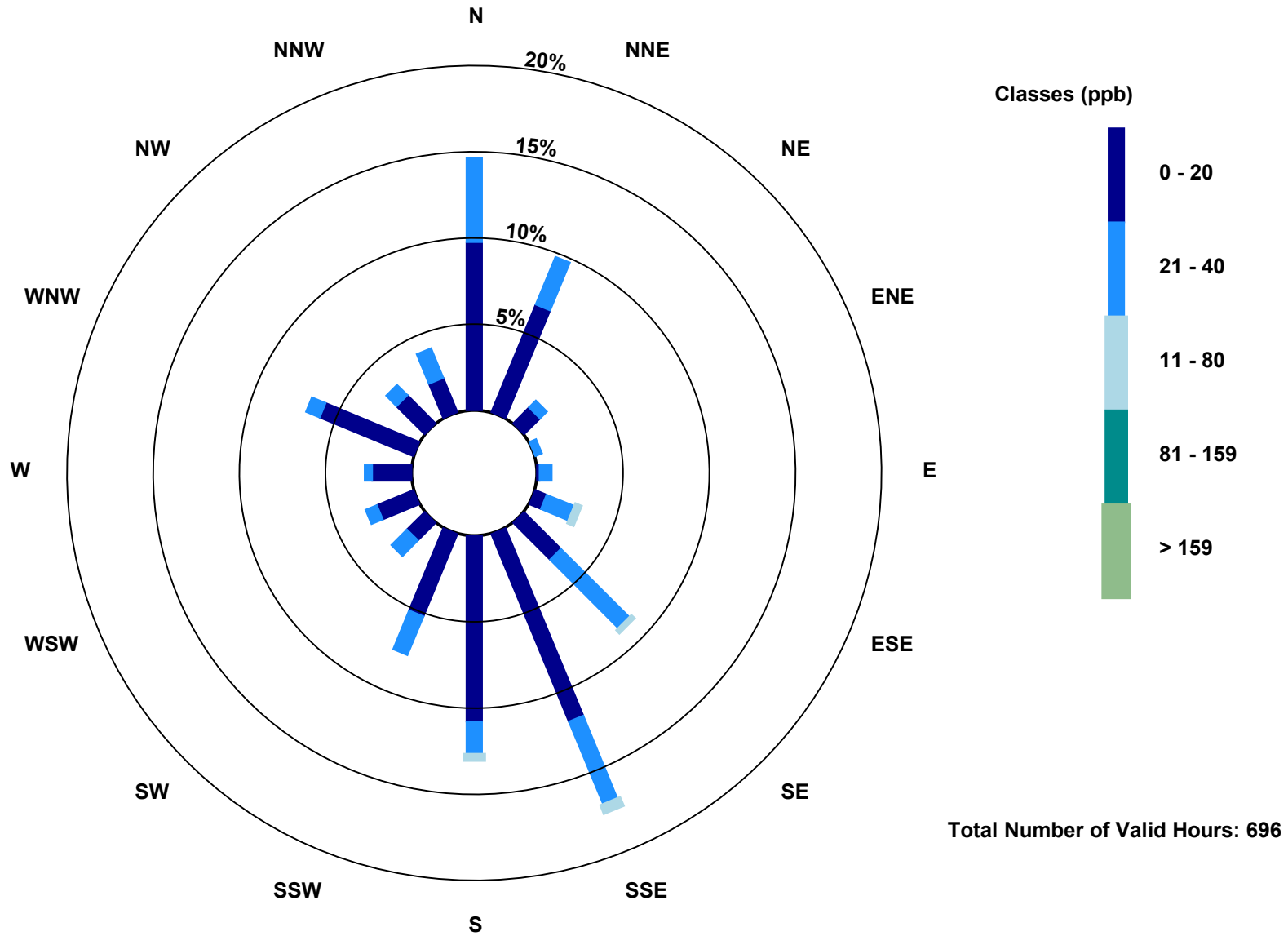
Total Number of Valid Hours: 696

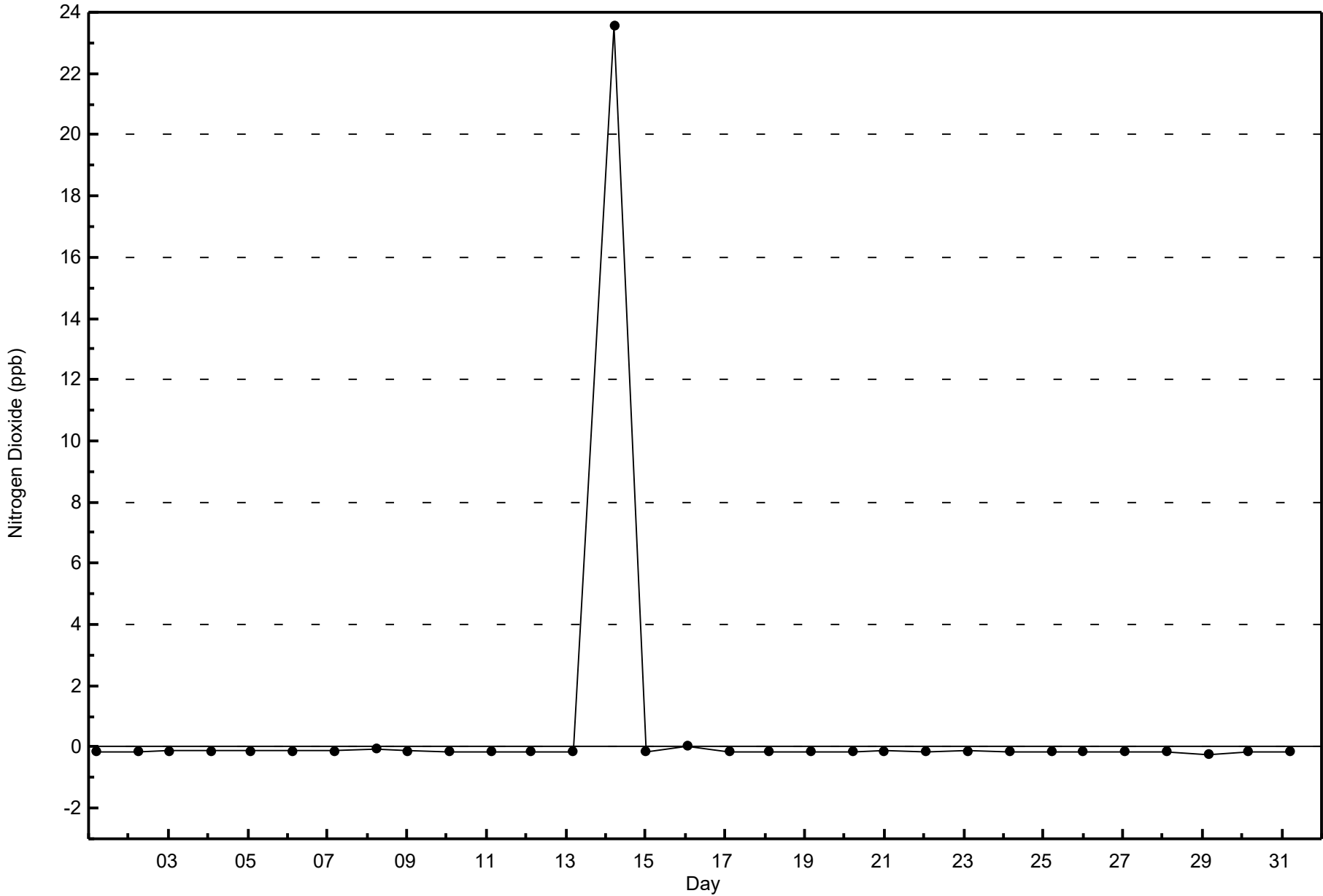
Total Number of Hours: 744

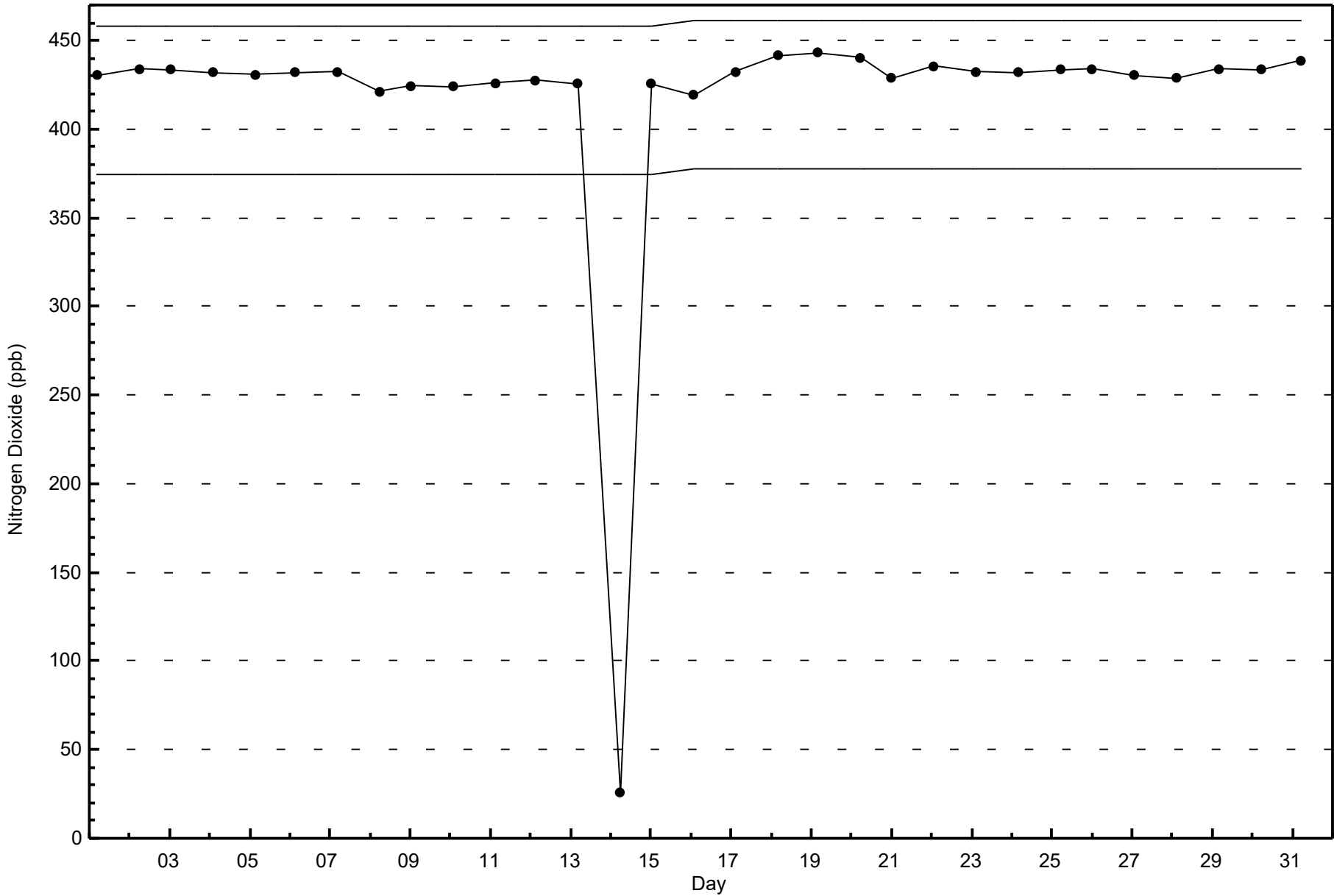


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Dioxide (NO₂) - ppb
Fort Hills





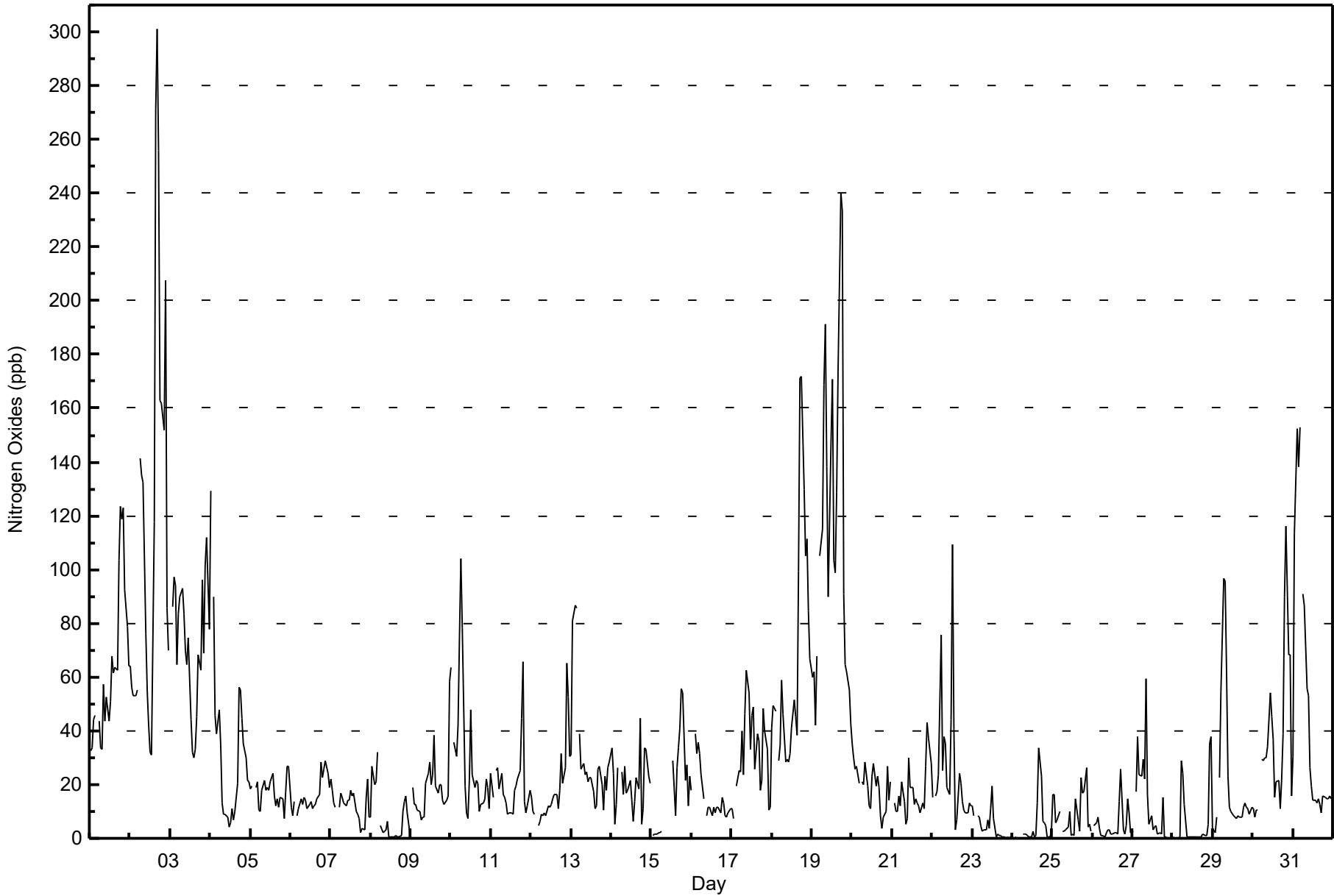




Wood Buffalo Environmental Association
Summary of Hour Averages

Nitrogen Oxides (NO_x) - ppb
Fort Hills - January 2025

Number of Exceedences (AAAQO):		1-hr: 0	24-hr: 0																		Hours in Service:	744					
Maximum Value: 301.3 ppb on Jan 2 17:00		Maximum Daily Average: 118.0 ppb on Jan 2																	Hours of Data:	705							
Minimum Value: 0.1 ppb on Jan 28 02:00		Minimum Daily Average: 4.5 ppb on Jan 23																	Hours of Missing Data:	39							
Maximum Diurnal Average: 41.8 ppb at hour 18		Minimum Diurnal Average: 21.5 ppb at hour 14																	Hours of Calibration:	37							
Monthly Average: 30.50 ppb		Percentiles: P ₁ = 0.3 P ₁₀ = 2.0 Q ₁ = 9.1 Median = 17.6 Q ₃ = 34.5 P ₉₀ = 75.1 P ₉₉ = 173.6																	Percent Operational Time:	99.7							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	32.7	33.9	44.2	45.8	Z	43.7	33.8	32.9	57.5	43.8	52.8	43.5	50.8	67.7	61.3	63.8	62.5	103.4	123.6	118.8	123.0	92.7	78.8	64.3	64.1	123.6	
2-Jan	64.1	56.2	53.1	53.3	55.4	Z	141.2	135.3	132.3	76.4	54.7	42.2	32.2	31.2	117.8	270.9	301.3	256.0	162.9	161.9	152.0	207.5	85.7	69.7	118.0	301.3	
3-Jan	Z	86.1	97.3	94.1	64.4	83.4	89.9	92.9	83.6	70.1	64.8	74.5	44.1	32.2	30.1	32.8	45.0	68.2	62.6	96.3	68.8	101.5	111.9	77.7	72.7	111.9	
4-Jan	129.1	Z	89.6	45.7	38.8	47.9	34.7	12.9	9.0	8.7	8.0	4.3	5.9	11.1	7.1	9.8	20.4	56.1	55.1	44.6	35.4	29.8	21.8	21.2	32.5	129.1	
5-Jan	18.5	19.6	Z	19.0	20.8	10.6	10.1	17.8	21.6	18.0	19.0	17.8	20.9	24.3	15.9	12.0	14.6	11.7	15.1	14.9	7.5	17.2	26.9	26.9	17.4	26.9	
6-Jan	11.7	8.5	13.8	Z	8.5	11.1	14.8	12.4	15.0	14.0	10.8	12.7	13.7	11.0	12.2	12.5	14.9	16.0	28.3	22.7	25.9	28.8	24.1	18.7	15.7	28.8	
7-Jan	21.9	17.6	12.9	11.7	Z	11.6	17.0	15.0	13.2	12.1	14.2	14.2	18.1	15.8	16.6	9.8	9.1	7.6	2.1	3.6	3.2	15.0	21.9	8.0	12.7	21.9	
8-Jan	7.8	26.9	20.1	20.9	32.2	Z	5.0	2.0	2.6	3.2	6.2	0.7	0.4	0.5	0.7	1.2	0.7	0.4	1.1	10.0	13.9	16.0	9.3	1.8	8.0	32.2	
9-Jan	Z	18.7	12.9	12.7	10.7	9.9	6.9	7.8	7.9	20.5	24.3	28.5	20.1	23.7	38.2	19.5	16.7	19.9	20.1	14.3	12.9	14.4	15.6	58.5	18.9	58.5	
10-Jan	63.8	Z	35.8	30.4	42.2	74.4	104.0	78.4	19.6	9.3	7.3	21.7	47.6	23.9	18.9	21.5	20.7	9.8	12.4	13.3	14.5	21.9	19.1	11.2	31.4	104.0	
11-Jan	24.4	15.2	Z	25.0	26.5	18.2	24.2	16.2	15.3	13.2	9.1	9.7	9.5	8.9	17.9	19.3	22.1	25.1	44.5	65.6	13.5	9.2	12.2	18.0	20.1	65.6	
12-Jan	15.0	10.2	8.7	Z	4.9	6.5	8.8	8.2	9.4	8.5	11.9	11.5	12.8	14.6	16.2	16.3	11.0	18.0	31.3	20.5	26.1	64.9	52.5	30.7	18.2	64.9	
13-Jan	31.0	81.1	86.9	85.7	Z	39.0	25.8	27.8	23.4	24.8	20.9	22.5	22.7	17.1	11.1	12.1	25.5	26.9	20.0	10.4	23.3	18.0	26.5	28.3	30.9	86.9	
14-Jan	33.8	24.3	5.3	12.5	26.0	Z	24.7	16.2	27.0	16.9	17.7	21.6	14.4	6.2	13.6	22.7	18.6	44.6	5.4	11.2	33.7	33.4	22.9	20.3	20.6	44.6	
15-Jan	Z	0.9	1.3	1.5	1.9	2.2	2.8	C	C	C	C	C	C	29.0	8.6	26.1	33.8	41.0	55.7	54.2	21.4	27.3	12.1	23.2	--	55.7	
16-Jan	18.1	Z	38.9	31.4	35.8	31.3	23.6	14.9	M	8.6	11.7	11.5	8.5	11.8	9.3	11.7	11.6	9.4	15.2	13.2	8.5	8.1	9.6	11.1	16.1	38.9	
17-Jan	11.2	7.4	Z	19.5	25.0	24.5	39.7	23.4	46.3	62.6	53.9	32.9	45.5	48.9	25.9	38.7	36.3	18.1	21.6	48.2	40.1	33.3	10.7	11.4	31.5	62.6	
18-Jan	40.8	49.4	47.4	Z	28.9	34.5	59.1	46.4	28.3	29.4	28.3	31.7	41.0	51.3	45.1	38.5	99.5	171.5	171.7	129.7	105.0	111.2	84.8	67.0	67.0	171.7	
19-Jan	59.7	62.0	41.9	67.7	Z	105.1	115.2	168.4	191.3	138.2	89.6	147.2	170.8	103.5	99.0	128.8	173.7	240.3	233.1	90.8	64.6	61.9	54.9	42.3	115.2	240.3	
20-Jan	35.3	30.1	25.7	26.6	20.3	Z	21.2	20.2	28.2	19.5	12.2	10.9	23.0	27.9	19.2	23.3	18.7	8.2	3.8	7.6	10.0	26.8	14.1	21.0	19.7	35.3	
21-Jan	Z	13.0	10.0	10.2	15.6	11.9	20.9	13.5	5.2	7.5	30.0	18.8	18.9	12.8	14.5	12.9	12.3	9.3	13.4	11.1	27.0	43.0	37.2	28.1	17.3	43.0	
22-Jan	15.0	Z	15.8	17.6	23.4	75.5	25.1	37.6	35.2	19.1	16.1	44.1	109.5	40.7	3.2	7.1	24.0	20.7	13.5	10.4	9.3	9.3	13.3	12.3	26.0	109.5	
23-Jan	12.1	8.3	Z	8.2	8.1	4.7	2.4	3.1	3.2	6.8	3.5	11.0	19.4	7.2	0.5	1.8	1.1	0.9	0.5	0.6	0.2	0.4	0.2	0.4	4.5	19.4	
24-Jan	0.5	0.2	0.3	Z	1.0	DF	1.4	1.5	1.6	0.9	0.5	0.6	2.5	0.7	0.8	13.2	33.7	23.3	6.3	5.8	4.5	0.5	0.4	2.0	4.6	33.7	
25-Jan	16.1	16.0	5.9	6.8	10.1	Z	2.7	2.4	2.9	4.2	10.2	0.9	1.6	1.2	14.8	6.6	2.4	22.4	17.0	17.5	26.1	4.3	5.3	2.4	8.7	26.1	
26-Jan	Z	4.9	5.7	8.1	3.6	1.0	1.1	0.7	2.3	3.2	3.4	1.4	1.4	2.0	2.2	1.8	13.8	25.8	3.1	1.8	4.6	14.7	9.6	2.3	5.2	25.8	
27-Jan	2.6	Z	17.2	38.1	23.5	23.1	29.4	22.1	59.6	16.2	5.3	8.6	2.9	4.0	4.9	1.8	2.2	1.4	15.3	0.5	0.4	0.3	0.2	0.2	12.2	59.6	
28-Jan	0.5	0.1	Z	0.3	0.7	28.7	24.4	12.8	0.4	0.4	0.5	0.4	0.7	0.5	0.3	0.5	0.5	0.3	1.6	0.8	1.2	5.5	35.4	37.8	6.7	37.8	
29-Jan	3.5	2.3	7.8	Z	22.5	54.4	96.6	95.5	61.6	22.9	11.7	10.1	8.5	8.0	7.4	8.2	7.8	8.0	11.5	13.2	11.5	11.1	9.2	11.5	21.9	96.6	
30-Jan	11.0	8.1	10.3	10.3	Z	29.3	28.9	29.7	30.1	33.9	54.0	45.4	36.5	15.0	20.9	21.7	11.0	22.1	39.1	90.1	116.3	68.4	68.2	15.9	35.5	116.3	
31-Jan	30.5	113.5	152.6	138.1	152.8	Z	90.7	86.9	55.7	53.3	26.3	19.4	14.0	14.4	13.1	14.7	12.5	9.5	15.8	15.1	14.9	14.8	15.8	14.8	47.4	152.8	
		27.3	27.5	33.1	32.4	27.1	32.6	36.3	35.2	34.1	25.5	22.6	24.0	27.3	21.5	21.5	28.4	34.8	41.8	39.4	36.1	32.9	35.9	29.4	24.5	Diurnal Average	
		129.1	113.5	152.6	138.1	152.8	105.1	141.2	168.4	191.3	138.2	89.6	147.2	170.8	103.5	117.8	270.9	301.3	256.0	233.1	161.9	152.0	207.5	111.9	77.7	Diurnal Maximum	
Z - zerospan		C - Calibration				M - Maintenance				DF - DAS Failure																	





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Fort Hills - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	396	56.17	56.17
21 - 40	155	21.99	78.16
41 - 80	88	12.48	90.64
81 - 159	51	7.23	97.87
> 159	14	1.99	99.86

Total Number of Valid Hours: 705

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Oxides (NO_x) - ppb
Fort Hills - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	60	35	7	0	0	3	13	71	68	31	9	14	16	40	16	13	396
21 - 40	23	27	4	1	2	5	20	27	13	11	7	6	2	2	0	4	154
11 - 80	14	5	2	2	4	2	18	12	4	7	1	1	1	4	3	5	85
81 - 159	5	1	0	0	0	8	7	9	3	4	2	0	0	1	3	6	49
> 159	0	0	0	0	0	2	3	3	3	0	0	0	0	0	0	0	11
Totals	102	68	13	3	6	20	61	122	91	53	19	21	19	47	22	28	695

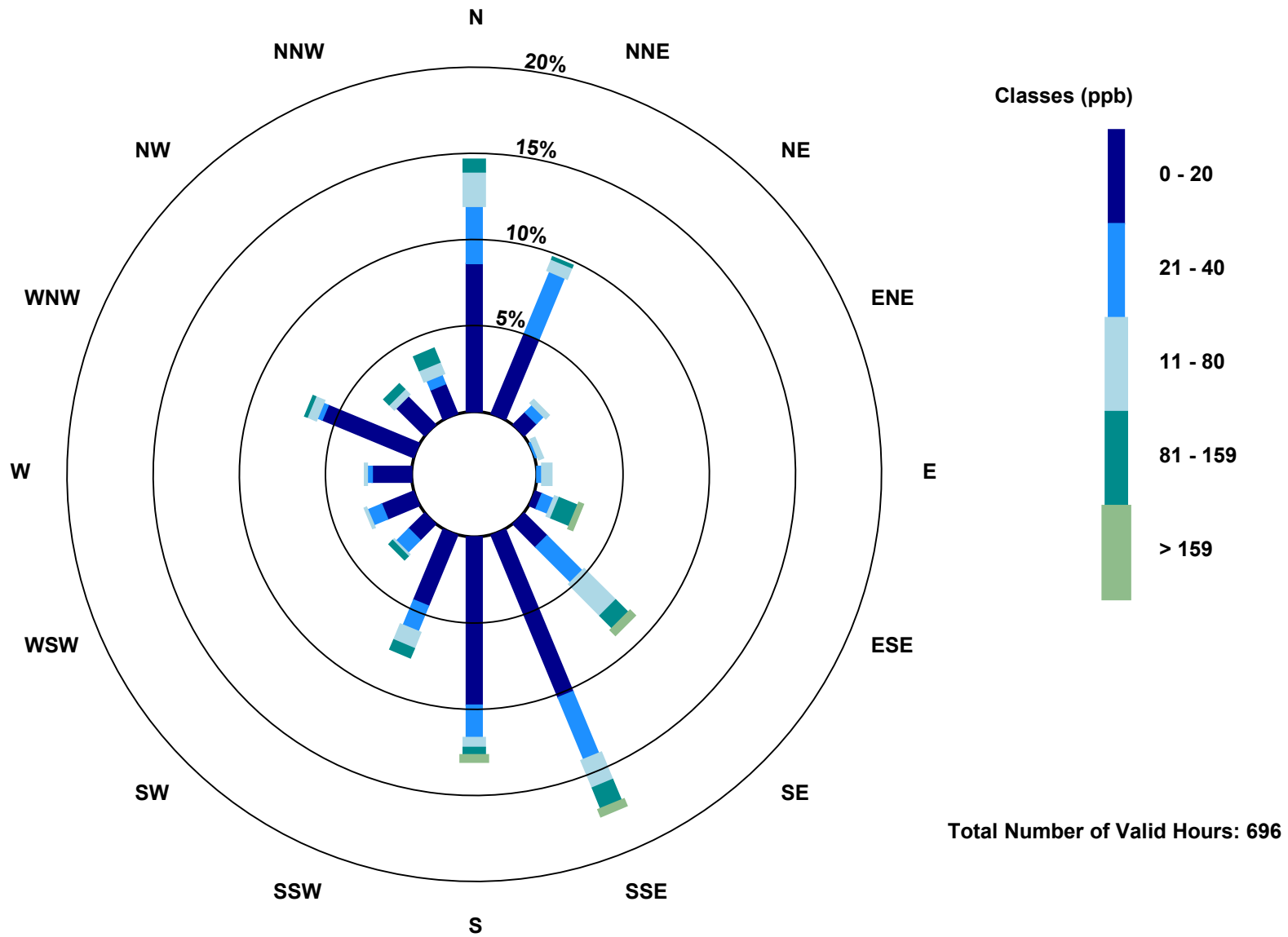
Total Number of Valid Hours: 696

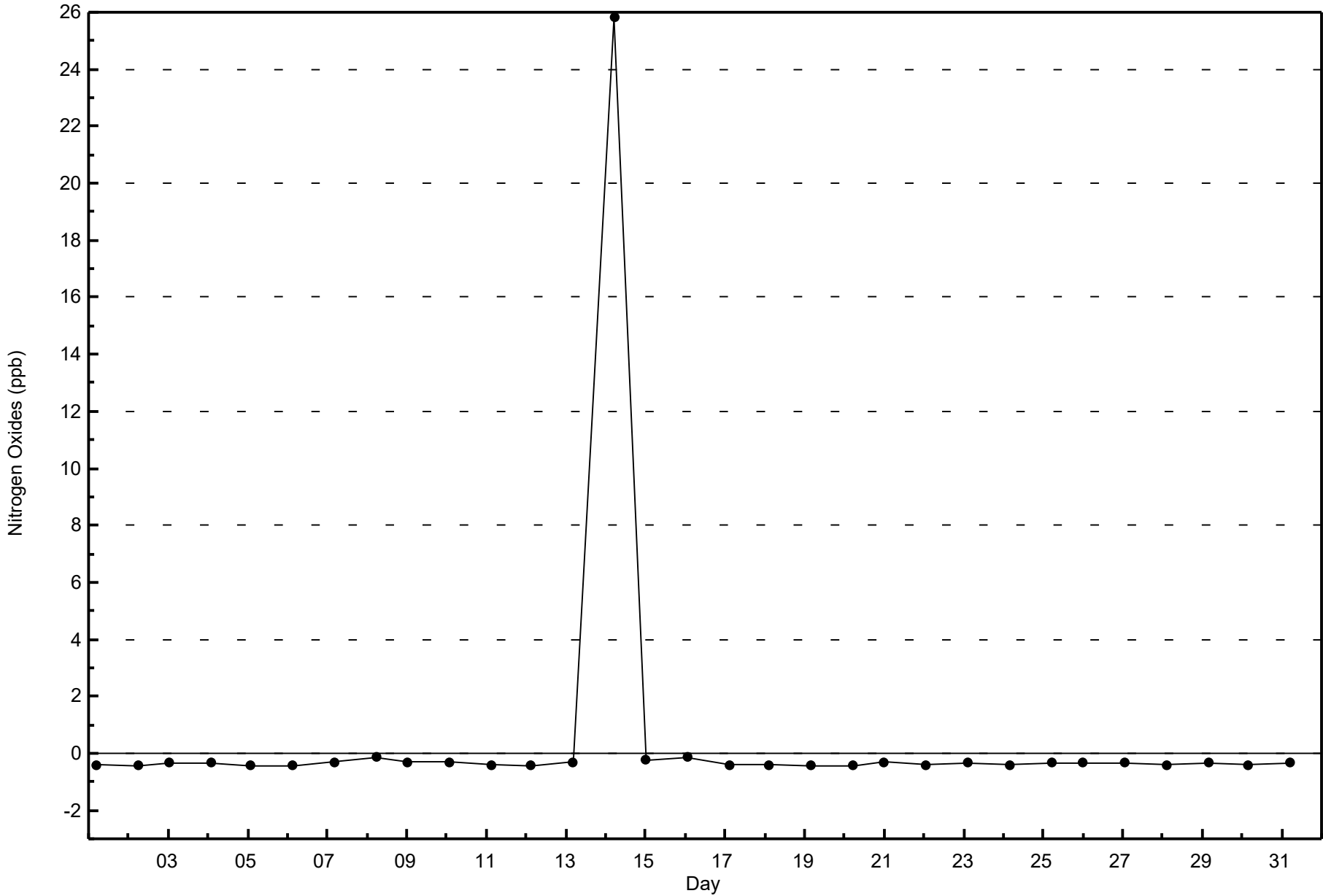
Total Number of Hours: 744

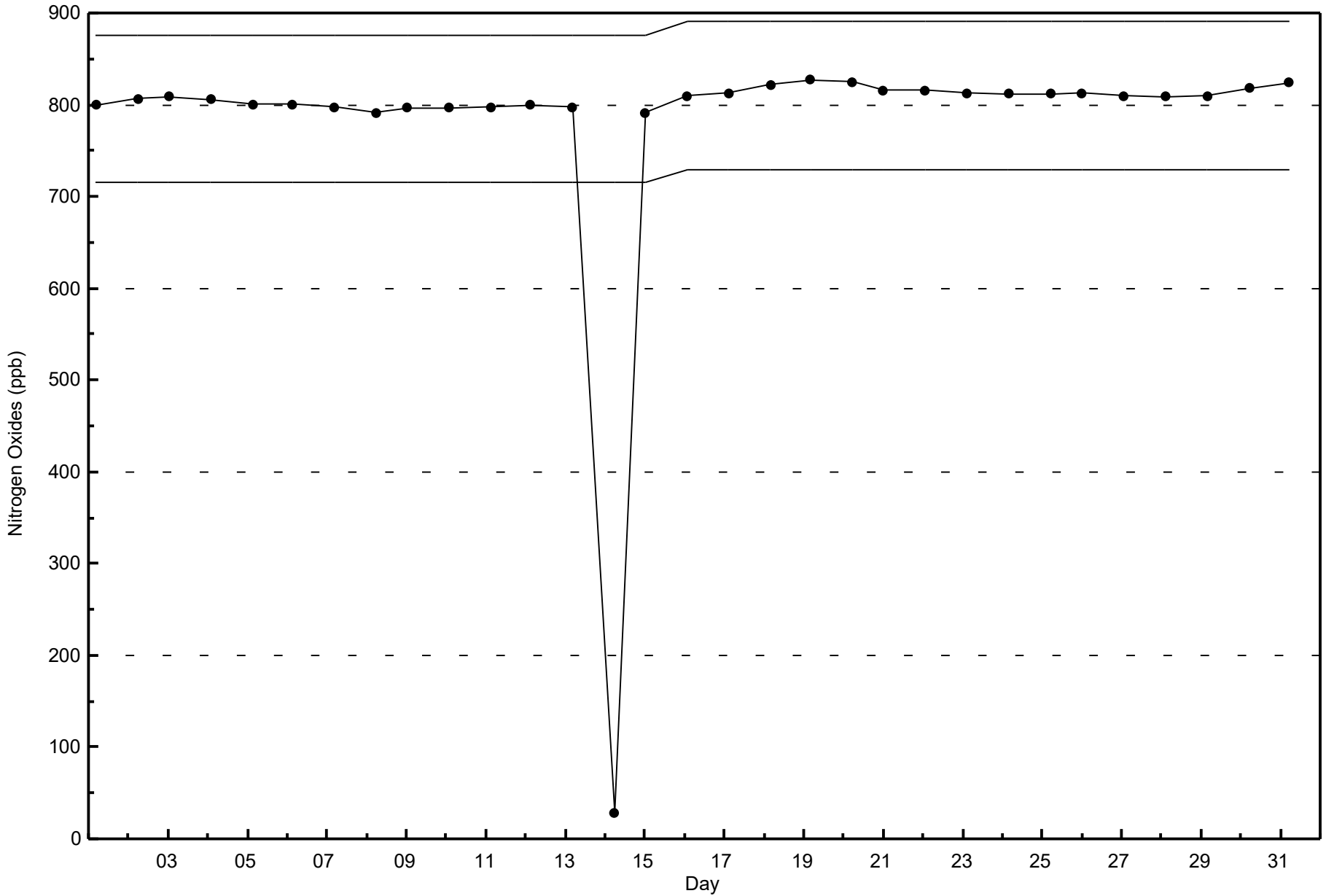


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Oxides (NO_x) - ppb
Fort Hills









Wood Buffalo Environmental Association

Summary of Hour Averages

Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Fort Hills - January 2025

Number of Exceedences (AAAQO):		1-hr: 0	24-hr: 0																		Hours in Service:	744																										
Maximum Value: 32.3 µg/m ³ on Jan 30 21:00		Maximum Daily Average: 11.1 µg/m ³ on Jan 12																	Hours of Data:	741																												
Minimum Value: 0.2 µg/m ³ on Jan 22 15:00		Minimum Daily Average: 0.9 µg/m ³ on Jan 28																	Hours of Missing Data:	3																												
Maximum Diurnal Average: 5.0 µg/m ³ at hour 6		Minimum Diurnal Average: 4.0 µg/m ³ at hour 24																	Hours of Calibration:	2																												
Monthly Average: 4.54 µg/m ³		Percentiles: P ₁ = 0.3 P ₁₀ = 0.7 Q ₁ = 2.1 Median = 3.6 Q ₃ = 5.6 P ₉₀ = 9.3 P ₉₉ = 20.3																	Percent Operational Time:	99.9																												
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Jan	4.4	4.3	4.3	4.2	4.5	4.7	4.4	9.4	4.4	3.9	4.3	4.2	4.2	4.9	5.8	6.1	5.2	5.4	5.6	5.5	5.5	5.0	4.6	4.6	5.0	9.4																						
2-Jan	4.3	4.3	3.9	3.7	3.7	4.1	5.8	5.5	5.4	4.0	3.5	3.5	3.6	4.1	6.7	9.4	10.6	9.6	7.5	7.7	9.4	10.0	6.9	6.3	6.0	10.6																						
3-Jan	8.2	8.5	9.0	7.9	5.7	7.2	7.1	6.8	7.0	6.9	6.8	8.5	7.3	17.4	8.9	9.3	8.9	8.0	7.0	6.4	5.8	5.6	5.4	4.5	7.7	17.4																						
4-Jan	5.5	5.8	5.3	5.1	4.8	4.8	4.1	2.8	2.6	2.5	2.6	2.1	2.1	3.1	2.5	2.5	2.9	3.5	3.7	3.3	3.4	4.0	3.6	3.6	3.6	5.8																						
5-Jan	3.3	3.4	3.6	3.9	3.6	3.2	3.1	3.1	3.3	3.1	3.0	3.0	3.2	3.5	3.1	2.8	3.3	2.5	2.7	2.8	2.8	3.0	3.8	3.9	3.2	3.9																						
6-Jan	3.2	2.9	3.4	3.8	4.0	4.2	4.1	3.9	4.3	4.1	4.3	5.6	7.7	5.2	4.8	4.9	5.5	9.0	5.6	5.8	6.2	6.9	7.1	7.5	5.2	9.0																						
7-Jan	9.1	11.0	11.3	11.3	11.8	11.1	11.1	11.8	9.6	9.1	10.2	9.3	7.8	7.0	5.7	4.1	3.0	2.8	2.8	3.1	3.8	5.0	6.4	6.1	7.7	11.8																						
8-Jan	6.6	5.4	3.8	3.1	2.4	2.0	0.8	0.3	0.3	0.4	0.9	0.6	0.6	0.5	0.3	0.3	0.3	0.3	0.3	1.2	1.3	0.8	0.9	0.6	1.4	6.6																						
9-Jan	0.6	1.8	2.1	3.0	2.8	2.5	2.7	2.6	2.6	3.3	4.1	4.9	3.6	4.0	5.1	5.5	10.8	11.7	9.0	6.3	5.0	5.2	5.1	7.8	4.7	11.7																						
10-Jan	9.3	7.8	8.6	11.4	13.5	17.1	13.8	13.1	11.0	9.4	8.7	9.9	10.8	7.9	4.3	3.7	3.5	3.4	3.6	3.1	2.9	2.8	3.0	3.3	7.8	17.1																						
11-Jan	3.4	3.1	2.9	3.0	2.8	2.4	2.4	2.4	2.7	2.7	2.5	2.3	2.1	2.5	2.9	2.7	2.7	2.7	3.8	3.3	2.8	2.7	4.0	5.8	2.9	5.8																						
12-Jan	4.1	3.5	5.4	4.9	3.9	4.5	5.7	5.5	5.0	5.3	11.4	17.3	19.3	21.2	19.3	20.0	17.4	16.7	13.7	9.7	9.4	12.1	14.3	15.8	11.1	21.2																						
13-Jan	17.7	18.7	18.0	13.2	8.1	6.6	5.9	5.9	5.8	6.0	6.5	7.9	9.2	6.4	5.9	5.0	5.6	5.9	4.5	3.3	3.1	2.2	1.8	1.6	7.3	18.7																						
14-Jan	1.7	1.7	1.3	1.7	2.6	4.1	3.5	3.4	4.2	4.7	5.4	4.3	2.9	2.5	2.5	2.0	1.7	1.8	0.6	0.6	1.2	1.2	1.9	1.8	2.5	5.4																						
15-Jan	0.4	0.3	0.3	0.2	0.3	0.3	0.3	0.8	0.7	0.8	0.9	0.6	0.9	1.5	0.9	1.2	1.6	2.6	2.8	2.5	1.3	1.6	0.9	1.4	1.0	2.8																						
16-Jan	1.7	2.2	2.7	1.6	1.6	1.3	1.1	1.5	C	C	1.5	1.3	1.0	1.8	0.9	0.7	0.6	0.7	0.5	0.6	1.4	2.2	2.3	2.2	1.4	2.7																						
17-Jan	2.3	2.0	1.8	2.3	2.8	2.6	2.9	3.3	3.5	3.8	3.4	3.4	3.5	3.3	3.3	3.7	3.3	2.9	2.8	4.0	3.4	3.4	2.5	2.6	3.0	4.0																						
18-Jan	3.3	3.3	3.5	3.4	3.1	3.5	4.2	3.8	3.7	4.2	4.0	3.7	3.9	4.1	4.2	4.1	5.4	6.8	6.5	6.1	6.6	5.6	5.1	4.8	4.5	6.8																						
19-Jan	4.5	5.1	4.2	5.3	6.5	7.0	11.0	9.6	9.8	8.6	7.5	8.5	9.5	7.1	6.8	8.0	9.7	10.3	10.9	7.9	11.2	11.5	10.2	8.6	8.3	11.5																						
20-Jan	8.3	7.1	5.3	7.8	5.6	5.4	3.6	3.1	4.1	5.1	3.8	3.5	4.8	6.7	5.8	6.1	6.5	6.0	5.4	5.0	5.1	4.9	3.2	2.9	5.2	8.3																						
21-Jan	2.6	2.3	1.8	1.3	1.4	1.4	1.6	1.5	1.0	0.8	1.7	1.4	1.9	2.8	4.5	5.7	5.1	4.1	4.0	3.5	4.0	4.6	4.6	4.1	2.8	5.7																						
22-Jan	3.5	3.5	3.8	4.2	4.3	5.0	4.4	5.1	5.2	5.1	4.4	4.5	6.1	3.6	0.2	0.3	1.2	0.8	0.7	1.4	2.6	3.2	3.5	4.8	3.4	6.1																						
23-Jan	4.1	3.7	3.9	4.5	4.4	3.9	4.0	3.9	3.4	3.1	2.3	1.6	1.4	0.8	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.5	0.5	2.0	4.5																						
24-Jan	0.4	0.4	0.4	0.4	0.7	DF	1.1	0.8	1.7	2.6	2.9	3.1	3.3	3.6	3.0	4.3	5.9	4.0	1.5	1.1	1.0	0.4	0.3	0.5	1.9	5.9																						
25-Jan	1.5	1.7	0.6	0.7	1.7	1.4	1.3	1.4	2.4	2.9	2.9	3.1	3.3	2.7	3.4	1.9	0.8	2.4	1.8	1.9	1.7	0.7	0.7	1.1	1.8	3.4																						
26-Jan	3.5	9.3	5.3	4.6	4.4	4.0	3.8	3.3	3.2	3.2	2.8	2.4	2.3	2.0	1.7	2.4	3.2	3.4	0.6	0.6	0.9	1.1	1.1	0.6	2.9	9.3																						
27-Jan	0.6	0.6	1.2	1.7	1.7	2.1	3.7	4.5	5.4	5.5	4.6	3.2	2.4	2.5	2.2	1.9	2.3	2.7	3.8	0.8	1.0	1.0	0.8	0.6	2.4	5.5																						
28-Jan	0.5	0.5	0.4	0.3	0.4	1.4	1.7	1.2	0.5	0.8	0.7	0.8	0.7	0.6	0.5	0.5	0.7	0.6	0.6	0.6	0.7	1.0	2.1	2.6	0.9	2.6																						
29-Jan	2.1	0.7	0.8	2.5	2.0	3.4	7.3	5.1	4.3	2.1	1.0	1.5	1.8	2.1	2.8	3.1	3.8	4.4	3.5	3.6	4.0	4.6	4.0	4.6	3.1	7.3																						
30-Jan	4.6	4.2	3.8	3.7	5.9	7.0	7.6	5.7	4.6	9.3	11.6	10.8	5.8	4.4	5.8	6.8	5.2	4.2	9.4	25.7	32.3	19.5	16.2	5.0	9.1	32.3																						
31-Jan	6.0	23.9	24.1	21.0	25.1	20.5	11.5	13.0	6.3	6.4	6.2	7.4	11.6	10.9	9.0	8.2	7.2	6.2	6.6	6.2	5.3	5.8	4.9	5.0	10.8	25.1																						
																								4.2	4.9	4.7	4.7	4.7	5.0	4.7	4.6	4.3	4.3	4.4	4.6	4.8	4.9	4.3	4.4	4.6	4.7	4.3	4.3	4.7	4.4	4.3	4.0	Diurnal Average
																								17.7	23.9	24.1	21.0	25.1	20.5	13.8	13.1	11.0	9.4	11.6	17.3	19.3	21.2	19.3	20.0	17.4	16.7	13.7	25.7	32.3	19.5	16.2	15.8	Diurnal Maximum
C - Calibration DF - DAS Failure																																																
Alberta Ambient Air Quality Guideline/Objectives: 1-hr 80 µg/m ³ 24-hr 29 µg/m ³																																																





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Fort Hills - January 2025

Concentration Ranges ($\mu\text{g}/\text{m}^3$)	Number of Hours	%	Cumulative %
0 - 5	546	73.68	73.68
6 - 15	173	23.35	97.03
16 - 25	20	2.70	99.73
26 - 80	2	0.27	100.00
> 81.0	0	0.00	100.00

Total Number of Valid Hours: 741

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Fort Hills - January 2025

Concentration Ranges ($\mu\text{g}/\text{m}^3$)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	81	65	10	2	5	12	33	64	75	43	17	22	21	49	22	20	541
6 - 15	18	8	3	1	1	8	27	56	22	11	2	1	2	2	2	5	169
16 - 25	2	0	0	0	0	0	4	8	0	1	0	0	0	0	0	5	20
26 - 80	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
> 81.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	102	73	13	3	6	20	64	128	97	55	19	23	23	51	24	31	732

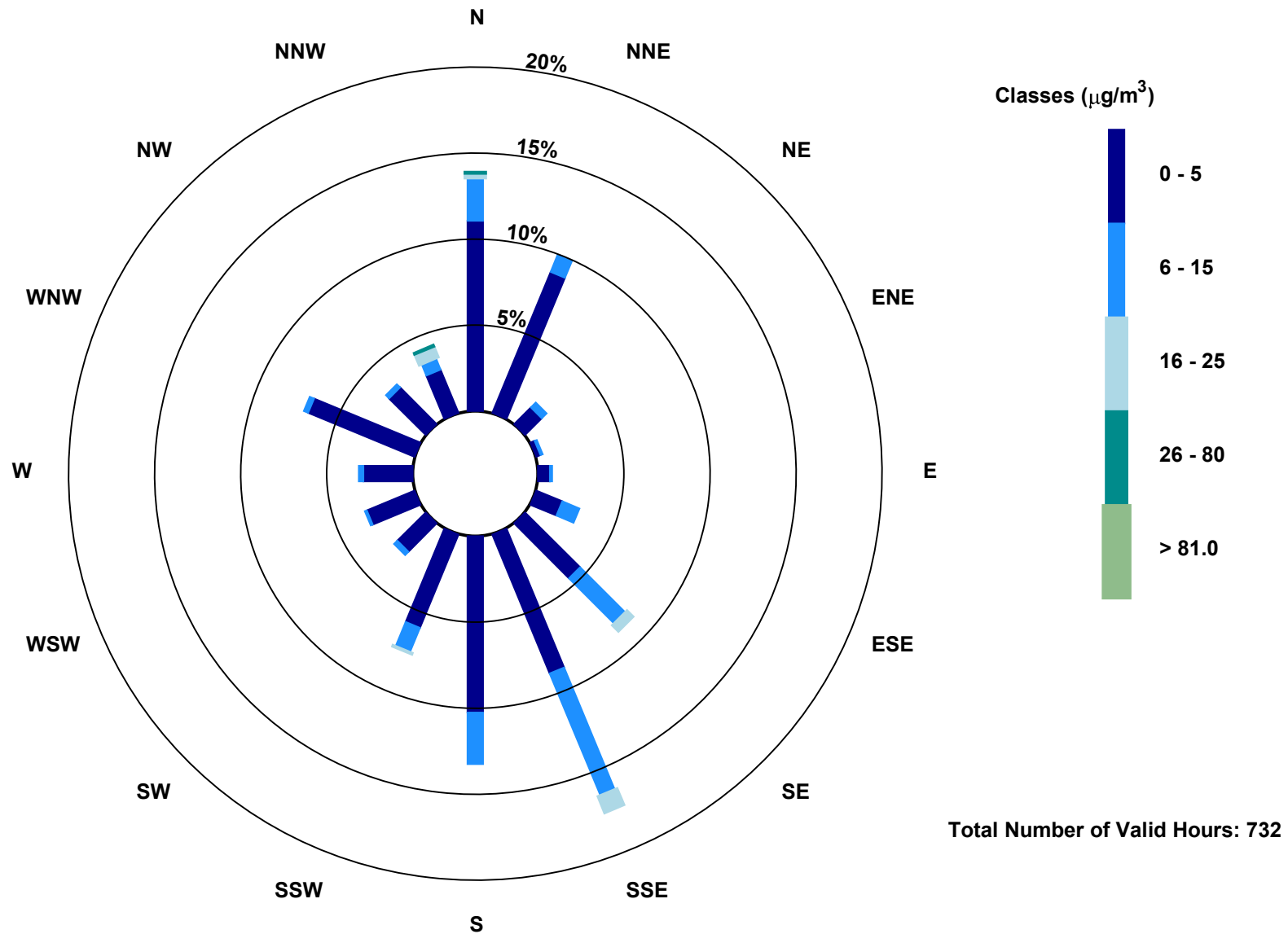
Total Number of Valid Hours: 732

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Fort Hills

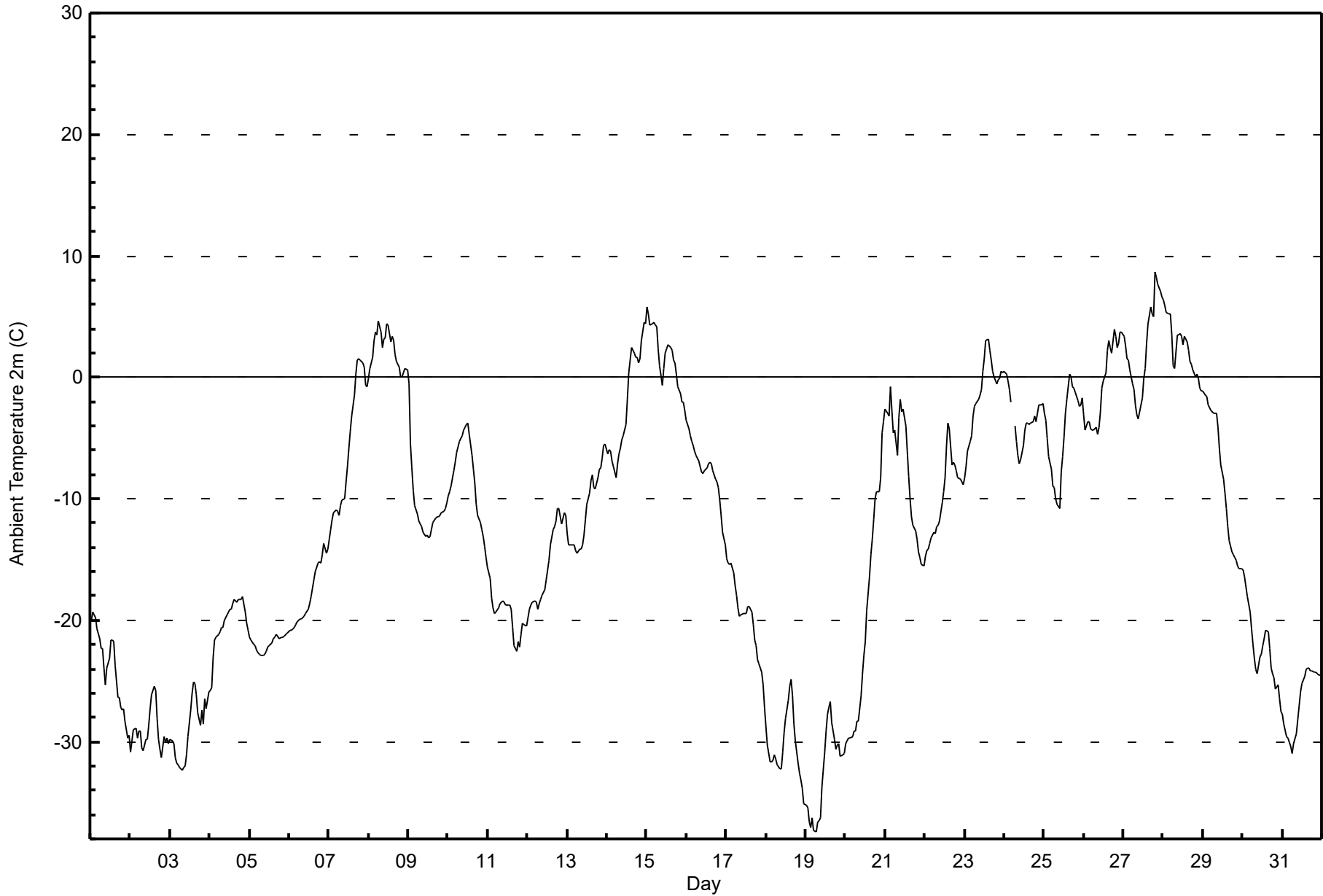




Wood Buffalo Environmental Association
Summary of Hour Averages

Ambient Temperature 2m (AT2) - C
Fort Hills - January 2025

Maximum Value: 8.6 C on Jan 27 20:00		Maximum Daily Average: 2.5 C on Jan 28		Hours in Service: 744																						
Minimum Value: -37.4 C on Jan 19 07:00		Minimum Daily Average: -32.6 C on Jan 19		Hours of Data: 743																						
Maximum Diurnal Average: -11.0 C at hour 16		Minimum Diurnal Average: -14.5 C at hour 9		Hours of Missing Data: 1																						
Monthly Average: -12.94 C		Percentiles: P ₁ = -35.9 P ₁₀ = -29.3 Q ₁ = -21.8 Median = -12.2 Q ₃ = -3.0 P ₉₀ = 1.6 P ₉₉ = 5.8		Hours of Calibration: 0																						
				Percent Operational Time: 99.9																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	-20.0	-19.4	-19.6	-19.8	-20.7	-21.5	-22.3	-22.3	-24.0	-25.3	-23.9	-23.2	-21.7	-21.7	-21.8	-23.7	-26.3	-26.4	-27.2	-27.3	-27.3	-28.3	-29.7	-29.5	-23.9	-19.4
2-Jan	-30.8	-30.0	-29.0	-28.9	-29.7	-29.2	-29.2	-30.5	-30.8	-29.8	-29.8	-28.7	-27.3	-26.1	-25.4	-25.8	-28.1	-29.8	-30.6	-31.3	-29.6	-30.0	-29.7	-30.2	-29.2	-25.4
3-Jan	-29.9	-30.0	-30.2	-31.3	-31.8	-31.9	-32.2	-32.3	-32.2	-32.0	-31.1	-29.6	-27.4	-26.0	-25.1	-25.2	-26.1	-27.6	-28.6	-27.4	-28.5	-26.5	-27.3	-25.8	-29.0	-25.1
4-Jan	-25.8	-25.6	-23.1	-21.6	-21.4	-21.2	-20.9	-20.6	-20.5	-20.0	-19.6	-19.4	-19.2	-19.1	-18.6	-18.3	-18.5	-18.3	-18.3	-18.2	-18.1	-19.3	-20.3	-20.9	-20.3	-18.1
5-Jan	-21.4	-21.7	-22.0	-22.1	-22.4	-22.7	-22.8	-22.9	-22.9	-22.8	-22.5	-22.2	-22.0	-21.8	-21.5	-21.4	-21.2	-21.3	-21.5	-21.4	-21.4	-21.3	-21.2	-21.0	-21.9	-21.0
6-Jan	-20.9	-20.8	-20.7	-20.6	-20.4	-20.1	-19.9	-19.9	-19.8	-19.6	-19.4	-19.1	-18.6	-18.1	-17.4	-16.7	-16.0	-15.3	-15.1	-15.3	-14.6	-13.7	-14.5	-14.2	-17.9	-13.7
7-Jan	-13.3	-12.6	-11.7	-11.1	-10.9	-11.0	-11.4	-10.6	-10.1	-10.1	-8.6	-7.3	-5.8	-4.4	-3.2	-1.5	0.3	1.4	1.5	1.5	1.2	0.8	-0.7	-0.8	-5.8	1.5
8-Jan	-0.1	0.8	1.6	3.0	3.8	3.5	4.6	3.8	2.5	3.1	3.2	4.4	4.3	3.0	3.4	3.1	1.9	1.3	0.8	0.1	0.1	0.4	0.8	0.6	2.2	4.6
9-Jan	-0.6	-5.5	-7.5	-9.2	-10.5	-11.2	-11.8	-12.1	-12.3	-12.8	-13.1	-13.0	-13.3	-13.1	-12.5	-12.0	-11.6	-11.5	-11.5	-11.4	-11.2	-11.1	-10.8	-10.4	-10.8	-0.6
10-Jan	-9.8	-9.4	-9.0	-7.7	-7.0	-6.2	-5.7	-5.3	-4.8	-4.4	-4.1	-3.8	-3.7	-4.7	-6.5	-7.5	-8.8	-10.5	-11.4	-12.0	-12.5	-13.1	-13.9	-14.8	-8.2	-3.7
11-Jan	-15.7	-16.5	-18.2	-19.0	-19.5	-19.3	-19.0	-18.6	-18.5	-18.4	-18.5	-18.7	-18.7	-18.7	-19.0	-20.6	-22.1	-22.6	-21.7	-22.2	-21.2	-20.3	-20.4	-20.5	-19.5	-15.7
12-Jan	-19.8	-19.1	-18.8	-18.5	-18.4	-18.5	-19.0	-18.7	-18.3	-18.0	-17.4	-16.7	-15.9	-15.1	-13.7	-12.6	-12.3	-11.9	-10.8	-10.8	-12.1	-11.6	-11.2	-11.4	-15.4	-10.8
13-Jan	-12.9	-13.8	-13.8	-13.8	-13.8	-14.3	-14.5	-14.2	-14.2	-13.8	-12.9	-11.7	-10.5	-9.5	-8.5	-8.1	-9.1	-9.2	-8.2	-7.6	-7.4	-6.7	-5.6	-5.6	-10.8	-5.6
14-Jan	-6.3	-6.0	-6.0	-6.9	-7.3	-8.3	-7.1	-6.3	-5.8	-5.2	-4.8	-3.9	-1.8	0.4	1.5	2.4	2.0	1.6	1.7	1.2	1.6	3.1	4.5	4.4	-2.1	4.5
15-Jan	5.8	5.2	4.3	4.4	4.5	4.3	4.1	2.4	1.0	-0.7	0.8	1.9	2.3	2.7	2.4	2.2	1.4	1.1	0.3	-0.8	-1.3	-2.0	-2.0	-2.7	1.7	5.8
16-Jan	-3.5	-4.2	-4.8	-5.3	-5.6	-6.1	-6.5	-6.9	-7.3	-7.8	-7.9	-7.6	-7.4	-7.2	-7.0	-7.1	-7.6	-8.4	-8.6	-9.1	-10.1	-11.4	-12.7	-13.8	-7.7	-3.5
17-Jan	-14.9	-15.3	-15.4	-15.3	-16.1	-17.1	-18.0	-19.0	-19.7	-19.6	-19.5	-19.4	-19.5	-18.9	-18.9	-19.4	-20.3	-21.6	-22.1	-23.3	-23.5	-24.3	-25.3	-27.2	-19.7	-14.9
18-Jan	-28.8	-30.3	-31.7	-31.6	-31.6	-31.1	-31.4	-31.9	-32.2	-32.3	-30.9	-29.3	-28.1	-26.6	-25.5	-24.9	-26.2	-28.6	-30.0	-31.8	-32.5	-33.1	-33.9	-35.1	-30.4	-24.9
19-Jan	-35.2	-35.4	-36.6	-37.1	-36.3	-37.3	-37.4	-36.6	-36.5	-36.2	-33.7	-30.8	-29.1	-27.8	-27.1	-26.7	-28.5	-29.8	-30.7	-30.3	-30.2	-31.2	-31.1	-31.0	-32.6	-26.7
20-Jan	-30.1	-29.9	-29.7	-29.7	-29.6	-29.1	-29.1	-28.3	-28.4	-26.2	-24.4	-23.0	-21.8	-19.2	-16.4	-14.6	-13.3	-11.7	-10.0	-9.5	-9.4	-8.2	-4.6	-3.7	-20.0	-3.7
21-Jan	-2.6	-3.0	-3.2	-0.8	-2.7	-4.6	-4.4	-6.5	-3.3	-1.9	-2.9	-2.7	-4.0	-6.1	-8.1	-10.0	-11.5	-12.2	-12.7	-13.3	-14.4	-14.8	-15.4	-15.5	-7.4	-0.8
22-Jan	-14.7	-14.3	-14.1	-13.7	-13.2	-12.7	-12.9	-12.3	-12.2	-11.9	-10.4	-9.4	-8.3	-5.8	-3.7	-4.3	-7.2	-6.9	-7.2	-7.7	-8.3	-8.4	-8.6	-8.8	-9.9	-3.7
23-Jan	-8.3	-7.3	-6.1	-5.3	-4.8	-3.2	-2.4	-2.1	-1.8	-1.4	-1.0	0.5	1.6	3.0	3.2	2.3	1.4	0.4	0.1	-0.5	-0.2	-0.1	0.5	0.4	-1.3	3.2
24-Jan	0.5	0.3	-0.3	-1.0	-2.1	DF	-4.0	-5.3	-6.4	-7.1	-6.7	-5.6	-4.4	-3.7	-3.7	-3.8	-3.8	-3.7	-3.2	-3.6	-3.0	-2.3	-2.2	-2.2	-3.4	0.5
25-Jan	-3.0	-3.5	-5.0	-6.6	-7.6	-8.9	-9.1	-10.0	-10.4	-10.8	-7.8	-6.5	-5.0	-3.0	-1.8	0.3	0.0	-0.8	-0.9	-1.3	-2.0	-2.4	-2.3	-1.7	-4.6	0.3
26-Jan	-3.0	-4.4	-3.6	-3.7	-4.2	-4.3	-4.3	-4.1	-4.7	-4.2	-2.9	-0.9	-0.4	0.4	2.2	3.0	2.4	2.0	3.9	3.3	2.5	2.8	3.7	3.7	-0.6	3.9
27-Jan	3.4	2.6	1.6	1.5	0.6	-0.5	-1.0	-2.3	-3.0	-3.5	-2.8	-1.7	-0.1	0.7	2.9	4.4	5.8	5.3	5.0	8.6	8.2	7.7	7.1	6.6	2.4	8.6
28-Jan	6.3	5.9	5.4	5.2	5.2	3.5	1.0	0.8	3.5	3.5	3.6	3.4	2.7	3.4	2.9	2.2	1.3	1.0	0.6	0.0	0.2	-0.1	-0.8	-1.1	2.5	6.3
29-Jan	-1.1	-1.4	-1.6	-2.3	-2.5	-2.8	-3.0	-3.0	-3.0	-4.1	-5.8	-7.2	-8.3	-9.5	-10.8	-12.3	-13.5	-14.4	-14.6	-14.8	-15.0	-15.5	-15.8	-15.8	-8.2	-1.1
30-Jan	-15.9	-16.5	-17.3	-18.1	-19.3	-20.7	-22.0	-23.1	-24.1	-24.3	-23.0	-22.8	-22.1	-21.5	-20.8	-20.9	-22.3	-23.9	-24.4	-24.7	-25.7	-25.4	-26.5	-27.5	-22.2	-15.9
31-Jan	-27.7	-28.6	-29.6	-29.7	-30.1	-30.4	-31.0	-30.1	-29.3	-28.2	-27.1	-25.9	-25.2	-24.6	-24.1	-23.9	-24.0	-24.1	-24.1	-24.2	-24.3	-24.4	-24.5	-24.6	-26.7	-23.9
																								Diurnal Average		
																								Diurnal Maximum		
DF - DAS Failure																										





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Ambient Temperature 2m (AT2) - C
Fort Hills - January 2025**

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	232	31.22	31.22
-20 - 0	392	52.76	83.98
0 - 10	119	16.02	100.00
10 - 20	0	0.00	100.00
> 20	0	0.00	100.00

Total Number of Valid Hours: 743

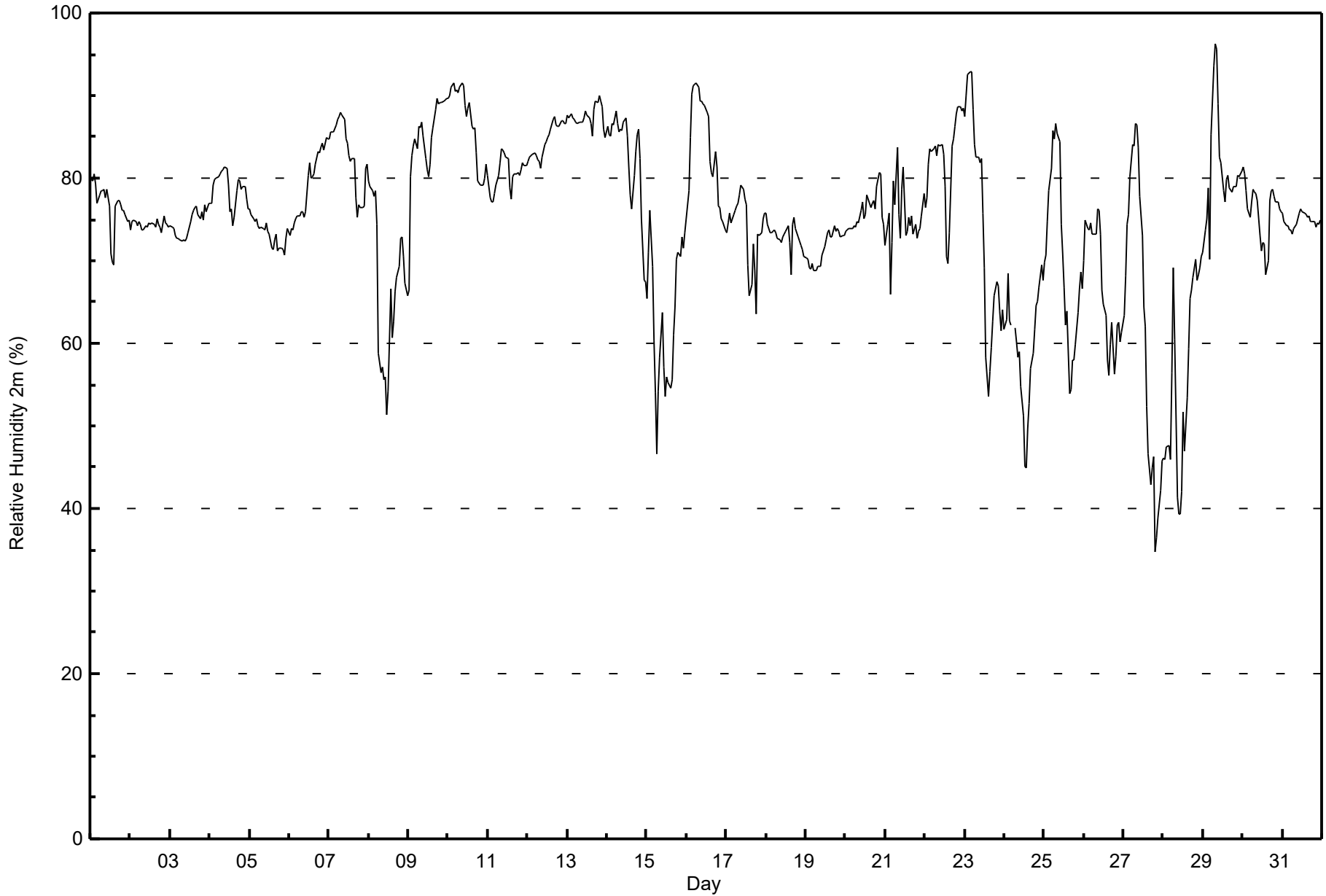
Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

Relative Humidity 2m (RH2) - %
Fort Hills - January 2025

Maximum Value: 96.3 % on Jan 29 08:00 Maximum Daily Average: 87.5 % on Jan 13																						Hours in Service: 744 Hours of Data: 743																									
Minimum Value: 34.8 % on Jan 27 20:00 Minimum Daily Average: 55.7 % on Jan 28 Maximum Diurnal Average: 78.4 % at hour 6 Minimum Diurnal Average: 71.4 % at hour 15 Monthly Average: 75.23 % Percentiles: P ₁ = 42.5 P ₁₀ = 61.8 Q ₁ = 72.1 Median = 75.7 Q ₃ = 82.0 P ₉₀ = 86.8 P ₉₉ = 91.5																						Hours of Missing Data: 1 Hours of Calibration: 0 Percent Operational Time: 99.9																									
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																							
1-Jan	79.8	79.6	80.5	79.4	77.0	78.0	78.6	78.4	78.7	77.6	78.6	76.6	70.8	69.8	69.5	76.6	77.2	77.3	76.7	76.1	76.2	75.5	74.8	74.8	76.6	80.5																					
2-Jan	73.7	74.7	74.9	74.7	74.2	74.8	74.5	73.7	73.7	74.2	74.1	74.5	74.4	74.6	74.5	74.0	75.2	74.5	74.1	73.4	75.4	74.6	74.5	74.1	74.4	75.4																					
3-Jan	74.2	74.1	73.9	73.0	72.8	72.7	72.5	72.4	72.5	72.4	72.8	73.4	74.7	75.6	76.2	76.4	76.6	75.5	75.1	75.9	74.9	76.8	75.8	77.0	74.5	77.0																					
4-Jan	76.9	77.0	79.2	79.9	80.0	80.1	80.4	80.8	81.0	81.3	81.2	79.2	75.9	76.2	74.3	75.3	78.5	79.9	79.7	78.7	78.9	78.9	77.4	76.3	78.6	81.3																					
5-Jan	76.2	75.6	75.1	74.8	75.0	74.3	73.9	74.1	73.9	73.6	74.6	73.3	71.6	71.4	72.6	73.2	71.2	71.5	71.5	71.4	70.6	72.7	73.9	73.3	76.2	73.3																					
6-Jan	73.0	73.9	73.8	74.5	75.1	75.5	75.4	75.9	76.0	75.3	76.0	80.3	81.9	80.0	80.1	80.5	81.7	83.2	83.0	83.7	84.2	83.4	85.0	84.7	79.0	85.0																					
7-Jan	84.7	85.6	85.7	85.6	86.4	87.1	87.5	88.0	87.6	87.1	84.8	84.2	82.8	82.1	82.4	82.4	77.6	75.2	76.8	76.4	76.4	76.5	81.3	81.6	82.7	88.0																					
8-Jan	79.7	79.0	78.4	77.7	78.4	74.4	58.8	56.4	57.1	55.5	55.9	51.4	54.2	66.7	60.8	62.8	66.3	68.0	69.3	72.7	72.9	70.6	67.3	65.8	66.7	79.7																					
9-Jan	66.5	80.2	82.7	83.9	84.8	83.5	86.3	86.2	86.8	85.1	82.3	81.0	80.3	81.7	85.0	86.1	88.3	89.7	89.0	89.1	89.2	89.4	89.5	89.7	84.8	89.7																					
10-Jan	89.7	90.0	91.0	91.5	90.6	90.6	90.4	91.0	91.6	91.2	88.8	87.4	88.5	89.1	86.2	86.0	86.1	83.0	79.6	79.2	79.1	79.1	80.0	81.7	86.7	91.6																					
11-Jan	80.3	77.6	77.2	77.1	78.1	79.2	80.3	81.8	83.6	83.3	83.1	82.6	82.3	78.8	77.5	80.2	80.6	80.5	80.7	80.4	81.1	81.8	81.5	81.5	80.5	83.6																					
12-Jan	82.0	82.5	82.7	82.9	83.0	82.7	82.2	82.1	81.2	82.6	84.0	84.4	85.0	85.3	85.9	87.1	87.4	86.5	86.3	86.2	87.0	87.0	86.6	86.6	84.5	87.4																					
13-Jan	87.7	87.3	87.8	87.4	87.1	86.8	86.6	86.8	86.8	86.9	87.4	88.1	87.7	87.3	86.6	85.2	88.3	89.3	89.2	90.0	89.4	88.7	86.0	84.9	87.5	90.0																					
14-Jan	86.2	85.2	85.1	86.6	86.5	88.1	86.6	85.5	85.9	85.8	86.8	87.2	85.1	81.3	78.0	76.2	80.4	83.3	85.2	86.0	82.4	75.1	67.7	67.5	82.6	88.1																					
15-Jan	65.5	71.0	76.2	69.4	60.3	54.0	46.6	54.2	58.3	63.7	57.1	53.5	56.0	55.2	54.6	55.7	61.1	64.5	70.2	70.9	70.5	72.9	71.5	73.4	62.8	76.2																					
16-Jan	75.0	78.5	84.9	90.2	91.1	91.4	91.5	91.0	89.4	89.3	89.0	88.8	88.0	87.5	82.1	80.6	80.1	83.3	81.4	76.7	76.5	75.1	74.8	73.8	83.7	91.5																					
17-Jan	73.4	74.6	75.7	74.6	75.7	76.1	76.7	76.9	78.0	79.1	78.6	77.5	76.8	69.6	65.7	67.2	72.0	68.8	63.6	73.2	73.0	73.4	75.1	75.8	73.8	79.1																					
18-Jan	75.8	74.4	73.4	73.4	73.5	73.7	73.4	72.8	72.5	72.1	72.9	73.3	73.6	74.3	72.2	68.3	74.3	75.2	74.0	72.9	72.3	71.9	71.3	70.5	73.0	75.8																					
19-Jan	70.3	70.1	69.2	69.0	69.7	68.7	68.8	69.4	69.4	69.3	70.7	71.7	72.5	73.4	73.8	72.9	72.9	74.2	73.6	73.8	73.6	72.9	73.0	73.0	71.5	74.2																					
20-Jan	73.6	73.6	73.8	73.8	73.9	74.2	74.1	74.7	74.6	76.2	77.2	75.0	75.5	78.0	77.0	76.5	77.0	77.3	76.3	79.0	80.6	80.5	75.2	74.4	75.9	80.6																					
21-Jan	71.9	74.4	75.8	66.0	72.2	79.7	76.7	83.8	75.6	72.7	78.6	81.4	73.0	73.5	75.2	74.2	75.4	73.2	74.3	72.7	73.6	73.8	75.4	78.1	75.1	83.8																					
22-Jan	76.4	77.6	81.8	83.6	83.2	83.6	83.9	82.7	84.0	83.9	84.0	82.8	79.0	70.6	69.7	73.4	83.8	84.8	86.3	87.8	88.6	88.7	88.2	88.6	82.4	88.7																					
23-Jan	87.4	90.0	92.5	92.8	92.8	88.3	84.0	82.5	82.6	81.8	82.4	75.7	69.2	58.3	53.6	56.7	59.4	62.7	65.7	67.5	67.0	63.9	61.5	64.1	74.3	92.8																					
24-Jan	61.6	62.9	68.4	62.7	62.2	DF	61.9	60.1	58.3	59.0	54.7	51.3	45.0	44.9	49.7	52.7	57.0	58.8	61.7	64.5	65.1	66.9	69.4	67.7	59.4	69.4																					
25-Jan	69.9	70.7	74.7	78.5	81.2	85.7	84.8	86.6	85.5	84.4	74.5	70.8	66.8	62.3	63.9	54.0	54.4	58.0	58.0	59.9	63.7	66.5	68.6	66.6	70.4	86.6																					
26-Jan	70.1	74.9	73.9	73.7	74.6	73.2	73.2	73.1	76.2	76.1	73.2	66.5	64.8	63.4	57.9	56.0	59.8	62.5	56.3	58.5	62.2	62.5	60.2	61.4	66.8	76.2																					
27-Jan	63.3	68.1	74.3	75.6	80.2	84.2	83.8	86.6	86.4	83.8	77.8	73.0	64.5	62.1	52.3	46.7	42.9	44.9	46.2	34.8	36.5	38.9	42.3	45.7	62.3	86.6																					
28-Jan	46.0	46.0	47.5	47.5	45.9	56.5	69.1	60.5	41.3	39.3	39.3	42.0	51.6	46.9	53.4	59.3	65.5	66.4	68.0	70.2	67.7	68.3	69.1	70.4	55.7	70.4																					
29-Jan	71.0	73.7	75.1	78.9	70.2	85.2	93.6	96.3	95.6	89.1	82.5	81.9	78.5	77.2	79.8	80.4	78.9	78.4	79.0	78.9	78.9	80.4	80.1	80.8	81.0	96.3																					
30-Jan	81.4	80.6	78.5	76.2	75.3	77.1	78.6	78.3	78.1	77.3	73.1	71.2	72.1	72.1	68.4	70.1	77.4	78.5	78.6	77.8	77.2	77.0	76.2	75.9	76.1	81.4																					
31-Jan	75.8	74.7	74.2	74.3	73.7	73.6	73.2	73.9	74.4	75.1	75.7	76.2	76.0	75.8	75.5	75.3	75.4	74.8	74.7	74.7	74.0	74.5	74.4	74.8	74.8	76.2																					
																						74.8	76.1	77.4	77.1	76.9	78.4	77.7	78.0	77.3	76.9	75.9	74.7	73.5	72.4	71.4	71.7	73.7	74.3	74.3	74.6	74.8	74.7	74.4	74.7	Diurnal Average	
																						89.7	90.0	92.5	92.8	92.8	91.4	93.6	96.3	95.6	91.2	89.0	88.8	88.5	89.1	86.6	87.1	88.3	89.7	89.2	90.0	89.4	89.4	89.5	89.7	Diurnal Maximum	
DF - DAS Failure																																															





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Relative Humidity 2m (RH2) - %
Fort Hills - January 2025

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	5	0.67	0.67
40 - 60	60	8.08	8.75
60 - 80	438	58.95	67.70
80 - 100	240	32.30	100.00

Total Number of Valid Hours: 743

Total Number of Hours: 744

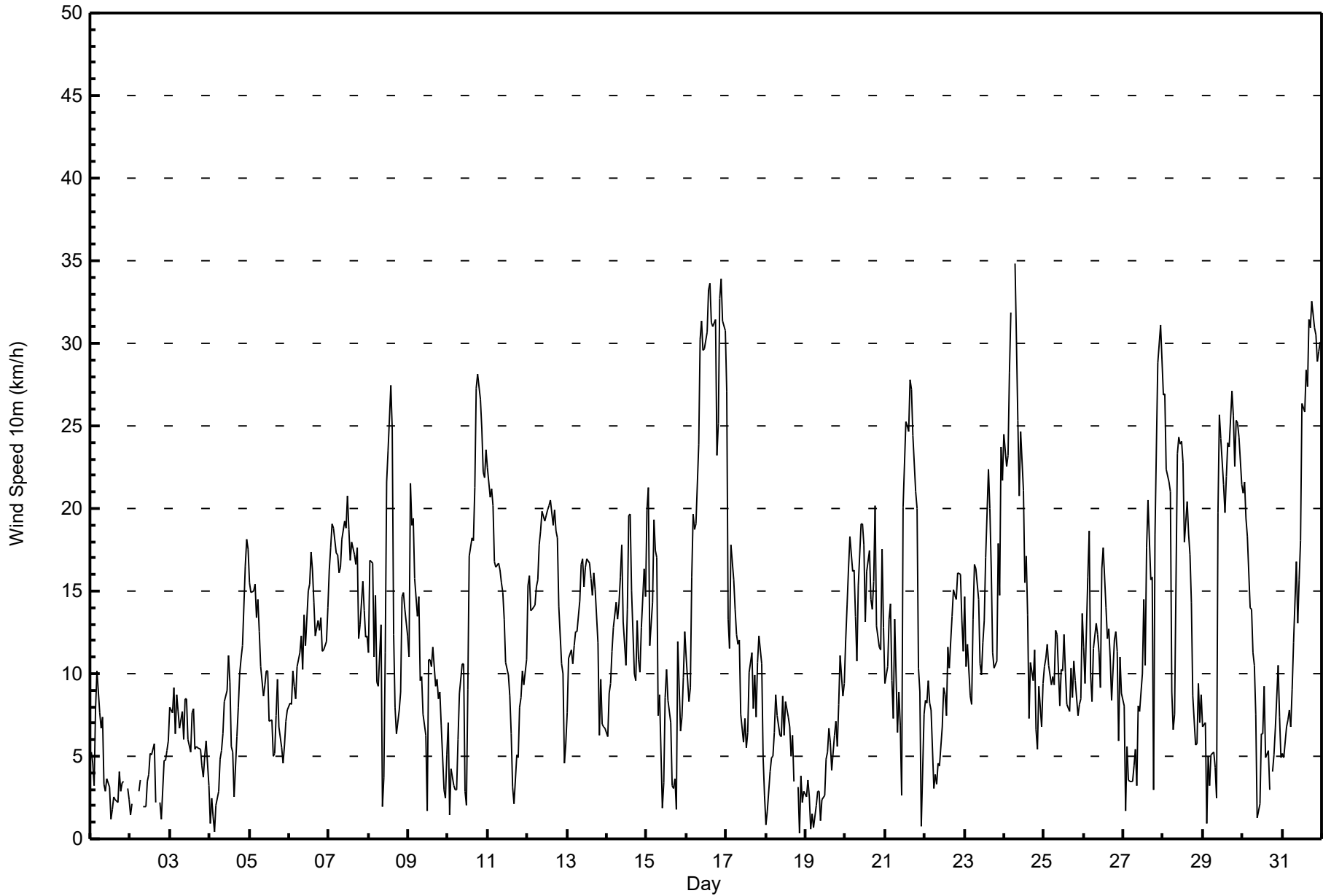


Maximum Speed: 35 km/h on Jan 24 07:00	Maximum Daily Speed Average: 25.5 km/h on Jan 16	Hours in Service: 744
Minimum Speed Value: 0 km/h on Jan 18 21:00	Minimum Daily Speed Average: 1.3 km/h on Jan 4	Hours of Data: 734
Maximum Diurnal Speed Average: 2.7 km/h at hour 23	Minimum Diurnal Speed Average: 0.4 km/h at hour 12	Hours of Missing Data: 10
Monthly Average Velocity: 0.4 km/h 328.8 deg	Percentiles: P ₁ = 1 P ₁₀ = 3 Q ₁ = 7 Median = 11 Q ₃ = 16 P ₉₀ = 23 P ₉₉ = 31	Percent Operational Time: 98.7

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	NNE5	NNE5	NNW3	N8	NNE10	N8	NNE7	NNE7	NNW3	NW3	NNW4	WNW3	NW1	SSE2	E3	SE2	SSW2	N4	NNE3	N3	NW4	UO	SW3	SSW2	N2.8	NNE10
2-Jan	N1	WSW2	UO	UO	UO	S3	ESE4	UO	SW2	SSE2	S3	SSE4	SE5	ESE5	ESE6	SE2	UO	UO	S2	SE1	SE5	SSE5	SSE5	SE6	SE2.9	SE6
3-Jan	SE8	SE8	SSE9	SSE6	SE9	SE8	SSE7	SSE8	SSE6	SSE8	SSE6	SSW5	SSE8	SSW8	SSW8	S5	SE6	SE5	S5	S4	S4	SSW5	SSW6	SSW3	SSE5.9	SSE9
4-Jan	SSW1	NNW2	WNW1	N0	S2	SSW3	SSW5	S5	S6	S8	S9	S11	S9	SSW6	SSE5	NW3	N6	N8	N10	N11	N12	N17	N18	N18	N1.3	N18
5-Jan	N15	N15	N15	NNE15	NNE13	N14	NNE13	NNE10	NNE9	NNE9	N10	N10	N7	NNE7	NNW5	NNW5	NNE7	NE10	NE7	NE6	SSE5	SSE6	SE7	S8	NNE7.5	N15
6-Jan	S8	SSE8	SSE10	S9	S8	S10	S11	S12	S10	S14	SSW12	SSW15	SSW15	S17	S16	S14	S12	SSW13	SSW13	S13	S11	S11	S12	SSE14	S12.0	S17
7-Jan	SSE16	SSE18	SSE19	SSE19	SSE17	SSE17	SSE16	SSE16	SSE18	S19	SSE19	SSE21	SSE19	SSE17	SSE18	S17	SSW17	SSW18	S12	S13	SSW16	S14	SE12	SSE12	SSE15.9	SSE21
8-Jan	SSW11	SW17	SSW17	SW11	SW15	SSW9	W9WNW13	WSW2	W4WSW11	WNW22	WNW23	WNW27	NW25	NW12	W8	W6	WSW8	SW9	WSW15	WSW15	W14	WNW12	W14	WNW12	W10.5	WNW27
9-Jan	WNW11	NNE22	NNE19	NNE19	NNE16	NNE13	NE15	NNE10	NE10	NNE8	NNE6	E2	ESE11	ESE11	SE10	SSE12	S9	S10	SSE8	S9	S7	WSW3	WSW2	SSW5	ENE4.0	NNE22
10-Jan	SE7	W1	WNW4	NNW3	ENE3	SE3	S6	SSE9	SSE11	SSE11	S3	N2	N9	NNE17	NNE18	N18	N21	N27	N28	N27	N25	NNE22	NNE22	NNE24	NNE9.4	N28
11-Jan	NNE22	NNE21	NNE21	NNE20	NNE17	N16	N17	N16	N16	N15	NNE13	N11	NNE10	NNE9	NNE6	NNE3	E2	ESE5	SE5	SE8	SSE9	S10	SSE9	SSE11	NNE8.1	NNE22
12-Jan	SSE15	SSE16	SSE14	SSE14	SSE14	SSE15	SSE16	SSE18	SSE19	SSE20	SSE19	SSE20	SSE20	SSE20	SSE21	SSE19	SSE20	SE19	SSE18	SSE14	SE11	SE10	S5	S6	SSE15.7	SSE21
13-Jan	SSE8	SE11	SE11	SE11	SSE12	SE13	SE13	SSE14	SE17	SSE17	SSE15	SSE16	SSE17	SSE17	SSE16	SE15	SE16	SE15	SE12	SSE6	SE10	SE7	SE7	SE7	SSE12.3	SSE17
14-Jan	SSW6	S9	SSE9	SE11	SE13	SE14	SSE13	SSE14	SSE16	S18	S13	SSE10	S14	SSW20	SW20	SW15	SSW10	SSW10	SSW13	SSW11	SSW10	SSW13	SSW16	W15	S10.5	SW20
15-Jan	WNW20	NW21	W12	WNW14	NW19	NW17	WNW17	NNE7	NNW9	NW2	W3	W9	WSW10	WSW8	WNW7	WSW3	SSW3	E4	E2	NNE12	NE7	NNE7	NE10	NNE13	NW6.6	NW21
16-Jan	NNE11	NNE8	NNE9	NNE16	N20	N19	N19	N24	NNE30	N31	N30	N31	N33	N34	N31	N31	N31	N23	N25	N33	N34	N31	N31	N31	N25.5	N34
17-Jan	N27	NNW13	NNW12	N18	N16	N14	N12	NNE12	NNE12	NNW8	N6	NNE7	NNE6	N6	N10	N11	N8	NNW10	N7	NNE11	N12	N11	NNW5	N3	N10.4	N27
18-Jan	NE1	SE2	SSE4	S5	SSW5	SSE6	SE9	SSE7	SSE6	SSE6	SSE9	SE6	SE8	SE7	ESE7	ESE5	ESE6	S3	UO	SSE3	SSE0	NNW4	NW2	WNW3	SSE3.9	SE9
19-Jan	NW3	WNW4	WNW3	W1	WSW2	NW1	SW2	S3	SSE3	SSE1	SSW2	ESE3	ESE5	ESE5	ESE7	ESE6	ESE4	SE6	SSE7	S6	SE8	SE11	SE9	SE9	SE3.3	SE11
20-Jan	SSE12	SSE14	SSE16	SSE18	SSE16	SSE16	SSE13	S11	S15	S19	SSE19	S18	SSW13	SSE16	S17	S15	S14	SSW16	S20	SSE13	ESE12	SE11	SW18	SW13	S14.3	S20
21-Jan	SSW9	SSW10	S13	SW14	SSW10	S7	SW13	SE6	WSW9	W7	NNE3	N20	N25	NNE25	N25	N28	N27	N24	N21	N20	N10	NNE9	ENE1	S8	N6.3	N28
22-Jan	S8	S8	SSE10	SE8	SE8	SSE3	SW4	SSE3	SE5	S4	SSE7	ESE9	SE9	SSE7	S12	SSE10	SE13	SSE15	S15	SSE15	SSE16	SSE16	SSE13	S11	SSE9.1	SSE16
23-Jan	S15	S10	S12	S9	SSE8	S13	SSW17	SSW16	S15	SSE11	S10	SSW12	SW13	W17	WNW22	WNW20	WNW16	WNW11	W10	W11	W18	W15	WNW24	WNW22	WSW9.1	WNW24
24-Jan	WNW24	WNW23	NW23	NW28	NNW32	DF	NNW35	NNW30	NNW25	NNW21	NNW16	NW17	NW14	WSW7	SW11	SSW10	SSW11	SSW7	WNW5	WNW9	SW7	SW9	SW9	NW13.9	NNW35	
25-Jan	SSW10	SSW11	SSW12	S10	S9	SSE10	SSE9	S13	S12	SSE8	S10	S10	S12	S10	ESE8	WSW8	WSW10	WSW9	WSW11	S10	S7	SE8	SSE8	S14	S8.8	S14
26-Jan	S12	SSE9	SSW16	SSW19	S10	S8	S12	SSE13	SE12	SE11	SE9	S16	S18	SSE14	SSE12	SSW13	SW11	WNW8	WNW12	WNW13	W11	WSW6	WNW11	WNW9	SSW7.7	SSW19
27-Jan	WNW8	W2	S6	SE4	SSE3	S3	SE4	SE5	SE3	SE8	SSE8	SE10	S15	S10	S18	SSW21	SSW16	S16	SSE3	WNW18	WNW24	WNW29	WNW31	WNW29	SW5.9	WNW31
28-Jan	WNW27	WNW27	WNW22	WNW22	WNW21	N9	NE7	NW8	WNW23	WNW24	WNW24	WNW24	WNW23	WNW18	WNW20	WNW18	NW17	NW14	NW9	W6	WSW6	SW9	WSW7	W9	WNW15.2	WNW27
29-Jan	W7	NW7	NW1	S5	SE3	E5	SE5	ESE4	ENE2	NNE20	N26	NNE24	NNE21	NNE20	NNE22	NNE24	NNE24	NNE27	N26	N23	N25	N25	NNE24	NNE21	NNE14.4	NNE27
30-Jan	NNE21	N22	NNE19	N18	NNE14	NNE14	NNE11	NNE11	NNE8	W1	N2	NE6	NE6	NE9	NNE5	NE5	SSE3	UO	NNW4	N5	NNW7	N10	NNW7	NW5	NNE8.6	N22
31-Jan	NNW5	NNW5	NNW7	N7	NNW8	NNW7	NNW9	N12	N17	N13	N16	N18	N26	N26	N28	N27	N31	N31	N33	N31	N31	N29	N29	N30	N19.7	N33

WNW1.6	WNW1.3	SSW1.2	WNW0.6	NE0.6	ESE2.0	ESE0.9	ESE1.9	SE1.3	SSE1.5	SSE0.9	SSW0.4	SE0.5	ENE0.6	NNW0.9	NW0.9	NNW0.8	N1.4	NNW1.1	NNW1.7	NNW1.9	NNW2.0	NW2.7	WNW2.4	Diurnal Average
N27	WNW27	NW23	NW28	NNW32	N19	NNW35	NNW30	NNE30	N31	N30	N30	N31	N33	N34	N31	N31	N31	N33	N31	N33	N34	N31	N31	Diurnal Maximum

DF - DAS Failure UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Wind Speed 10m (WS10) - km/h
Fort Hills - January 2025**

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	141	19.21	19.21
6 - 11	259	35.29	54.50
12 - 19	217	29.56	84.06
20 - 28	89	12.13	96.19
29 - 38	28	3.81	100.00
> 38	0	0.00	100.00

Total Number of Valid Hours: 734

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Wind Speed 10m (WS10) - km/h
Fort Hills - January 2025

Wind Speed Ranges (km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	8	6	2	3	6	9	15	19	16	12	4	6	6	8	10	11	141
6 - 11	21	26	10	0	0	10	37	42	42	19	7	13	11	8	3	10	259
12 - 19	27	19	1	0	0	1	12	60	38	22	7	4	6	10	7	3	217
20 - 28	26	22	0	0	0	0	0	7	1	2	1	0	0	22	4	4	89
29 - 38	21	1	0	0	0	0	0	0	0	0	0	0	0	3	0	3	28
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	103	74	13	3	6	20	64	128	97	55	19	23	23	51	24	31	734

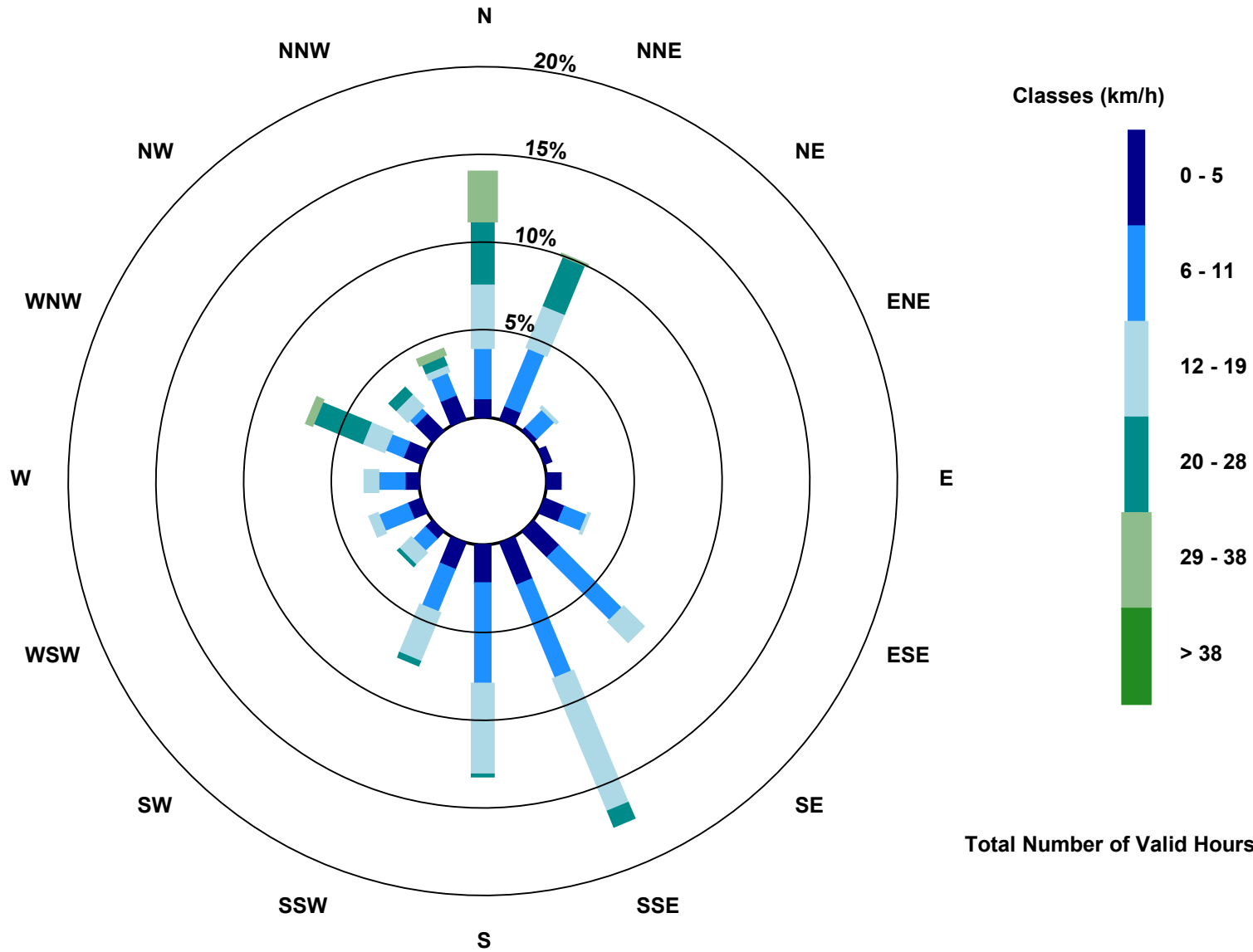
Total Number of Valid Hours: 734

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Wind Speed 10m (WS10) - km/h
Fort Hills





Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Speed 10m (WS10) - km/h
Fort Hills - January 2025

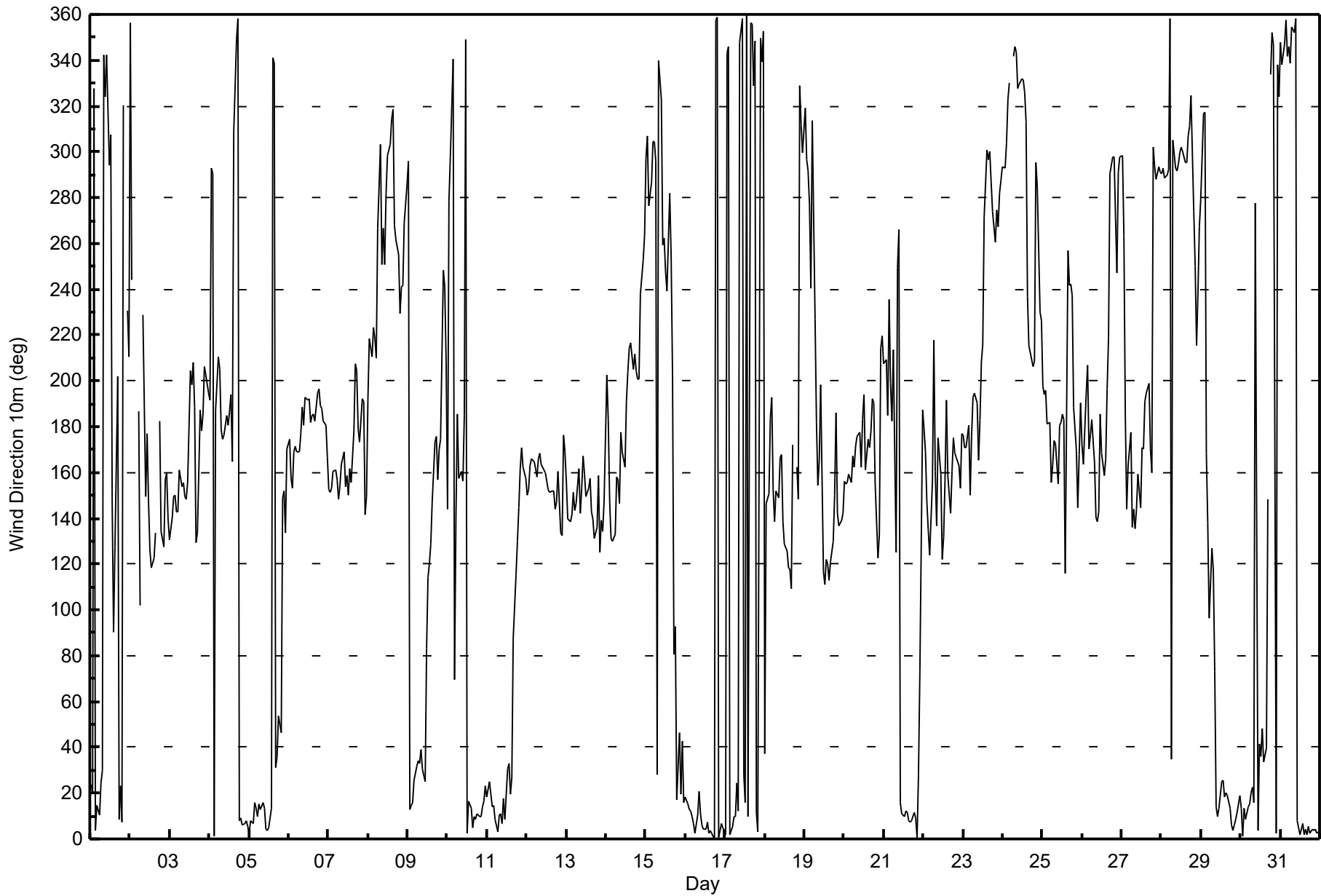
Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 10 km/h on Jan 24 07:00 Minimum Value: 0 km/h on Jan 3 23:00 Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 1 Median = 2 Q ₃ = 3 P ₉₀ = 5 P ₉₉ = 7																	Hours in Service: 744 Hours of Data: 734 Hours of Missing Data: 10 Hours of Calibration: 0 Percent Operational Time: 98.7									
Day	Hourly Period Ending At (MST)																								Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	1	1	1	2	2	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2
2-Jan	1	1	UO	UO	UO	1	1	UO	1	1	1	1	1	1	1	1	UO	UO	0	1	1	1	1	1	1	1
3-Jan	1	1	1	2	1	1	1	1	1	1	1	2	1	1	1	2	1	1	1	1	1	1	0	1	2	2
4-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	3	3	3
5-Jan	3	3	3	3	3	3	3	2	2	1	2	2	1	1	2	1	2	2	1	2	1	1	1	1	3	3
6-Jan	1	1	1	1	1	1	1	2	2	2	2	2	3	3	2	2	2	3	2	2	2	2	2	2	3	3
7-Jan	2	2	3	3	2	3	2	2	2	3	3	3	3	2	2	3	3	3	2	2	3	2	3	3	3	3
8-Jan	2	4	4	4	4	4	3	3	2	4	5	5	9	6	7	5	2	1	2	2	3	3	3	2	9	9
9-Jan	4	4	4	4	4	3	3	2	2	2	1	3	2	2	1	1	2	2	1	1	1	1	1	1	4	4
10-Jan	1	2	2	2	1	2	2	2	2	1	3	1	5	3	3	4	5	5	5	5	5	5	4	4	5	5
11-Jan	4	4	4	3	3	3	3	3	3	2	3	2	2	1	1	2	2	2	2	3	1	1	1	2	4	4
12-Jan	2	2	2	2	2	2	2	3	2	3	2	3	2	2	2	2	3	2	2	3	2	3	1	1	3	3
13-Jan	1	2	2	2	1	1	2	2	3	2	3	2	2	3	3	2	2	2	4	1	2	1	1	1	4	4
14-Jan	2	2	1	1	1	2	2	2	2	2	3	2	2	3	4	3	4	1	2	2	2	4	2	3	4	4
15-Jan	6	5	3	4	6	5	5	3	4	2	2	3	2	2	1	1	3	2	3	1	3	3	3	3	6	6
16-Jan	3	2	2	2	4	3	4	4	5	5	5	4	5	6	5	5	5	6	5	5	6	7	6	6	7	7
17-Jan	5	5	4	3	3	2	2	2	2	2	2	2	2	2	3	2	4	3	3	2	3	3	1	2	5	5
18-Jan	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	UO	1	1	1	1	1	2	2
19-Jan	1	1	1	1	2	1	2	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	2	2	2	2
20-Jan	2	2	2	2	2	2	2	2	2	2	2	3	2	2	3	2	2	3	4	2	1	2	5	5	5	5
21-Jan	2	3	3	4	3	3	5	3	2	5	3	4	5	4	5	6	5	5	4	4	2	2	1	2	6	6
22-Jan	1	1	1	1	1	1	2	1	1	2	1	2	1	2	2	1	2	2	2	2	2	2	3	2	3	3
23-Jan	2	2	2	1	2	2	2	2	3	4	4	3	2	6	6	5	5	3	4	3	4	4	6	6	6	6
24-Jan	6	5	6	7	9	DF	10	7	7	5	5	3	4	4	1	1	2	2	2	2	3	2	2	2	10	10
25-Jan	1	2	2	2	2	2	3	2	2	1	2	2	3	2	2	3	1	2	3	1	2	1	3	3	3	3
26-Jan	2	1	5	4	5	2	3	2	2	1	1	5	2	2	1	2	2	5	3	2	2	1	2	2	5	5
27-Jan	2	2	2	1	2	2	1	1	2	1	1	3	2	2	5	6	4	5	6	6	7	7	8	7	8	8
28-Jan	6	6	5	5	5	4	3	7	6	6	6	8	8	5	5	5	5	3	4	1	1	2	1	1	8	8
29-Jan	2	2	1	1	1	1	1	1	1	8	5	4	4	3	3	4	4	5	4	5	5	5	4	4	8	8
30-Jan	4	4	4	4	3	2	3	2	3	1	2	2	2	2	1	1	1	UO	1	1	2	2	1	1	4	4
31-Jan	1	1	1	2	2	1	2	3	3	3	3	4	5	5	5	5	5	6	6	5	5	6	6	4	6	6
Diurnal Maximum																										
DF - DAS Failure UO - Unstable Operation																										



Wood Buffalo Environmental Association
Summary of Hour Averages

Wind Direction 10m (WD10) - deg
Fort Hills - January 2025

Direction of Maximum Speed: 342 deg on Jan 24 07:00																						Hours in Service: 744			
Direction of Maximum Daily Speed Average: 5.8 deg on Jan 16																						Hours of Data: 734			
Direction of Minimum Speed: 148 deg on Jan 18 21:00											Direction of Minimum Daily Speed Average: 1.3 deg on Jan 4											Hours of Missing Data: 10			
Monthly Average Direction: 328.8 deg																						Percent Operational Time: 98.7			
Day	Hourly Period Ending At (MST)																								Daily Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	24	20	328	4	15	10	24	30	342	324	342	294	307	148	90	127	202	9	23	7	320	UO	230	210	5.5
2-Jan	356	244	UO	UO	UO	187	102	UO	229	150	177	148	127	119	123	134	UO	UO	183	134	128	157	160	140	145.0
3-Jan	131	140	149	150	143	143	161	154	156	149	148	156	204	198	208	189	129	133	188	178	186	206	202	195	163.1
4-Jan	192	293	291	1	187	211	205	179	175	176	185	181	187	194	165	308	349	358	8	9	6	7	8	5	358.1
5-Jan	2	8	7	16	13	10	15	13	16	13	4	4	5	13	341	339	31	36	54	46	149	152	133	170	17.8
6-Jan	175	157	153	169	171	169	169	177	189	180	193	192	192	182	185	185	182	195	197	189	188	183	180	167	181.2
7-Jan	152	151	153	160	161	157	148	154	163	169	154	159	150	162	156	178	207	204	179	174	192	191	141	149	164.7
8-Jan	192	218	211	223	219	210	267	303	251	267	251	282	299	303	314	319	268	262	255	230	241	242	269	286	263.8
9-Jan	296	13	14	16	26	32	34	33	39	30	25	83	114	120	129	147	173	176	157	171	174	248	241	208	56.3
10-Jan	144	279	298	341	69	140	185	157	160	156	185	349	2	17	13	5	10	9	11	10	10	14	17	23	17.1
11-Jan	18	25	19	14	15	9	3	11	11	7	18	9	31	33	20	27	88	115	130	145	161	171	162	158	27.0
12-Jan	150	153	163	166	165	161	158	166	168	164	161	160	156	153	151	152	152	144	147	161	134	132	177	169	156.4
13-Jan	156	140	138	142	151	143	146	162	142	153	167	159	149	153	158	143	140	131	136	159	125	139	134	147	147.2
14-Jan	203	183	148	131	130	133	158	157	147	178	169	162	191	204	214	217	205	212	205	201	201	238	253	263	188.4
15-Jan	297	307	276	287	304	305	296	28	340	323	259	263	248	239	282	254	203	81	93	17	46	19	42	16	310.5
16-Jan	18	15	13	12	10	7	3	10	20	11	6	4	4	7	3	3	3	0	358	359	1	4	7	3	5.8
17-Jan	2	343	346	2	6	10	10	24	12	348	358	28	16	360	9	356	356	329	349	12	3	349	339	353	0.9
18-Jan	37	146	151	184	193	153	139	152	149	167	168	138	129	126	118	118	110	172	UO	163	148	329	312	299	146.8
19-Jan	319	296	292	277	241	313	227	182	154	165	198	116	111	122	120	113	121	130	150	186	142	137	139	142	143.3
20-Jan	156	155	155	159	156	167	162	172	176	178	162	183	194	161	174	171	178	192	190	155	123	133	214	220	171.3
21-Jan	207	209	185	235	199	183	214	125	249	266	16	11	9	12	11	8	8	8	11	9	1	28	73	187	359.3
22-Jan	179	169	147	135	124	156	218	160	137	175	159	122	132	157	191	159	142	160	175	168	167	163	153	177	159.4
23-Jan	176	171	171	181	150	176	193	195	190	165	183	208	216	272	301	296	300	287	274	261	274	267	282	287	239.8
24-Jan	293	293	304	323	330	DF	342	346	343	328	330	332	331	326	313	237	215	210	206	209	295	285	230	226	313.3
25-Jan	198	194	196	181	182	156	163	174	173	155	181	182	185	183	116	257	242	242	237	189	169	145	168	190	185.6
26-Jan	172	164	194	207	170	176	183	164	140	139	143	185	169	159	166	197	219	290	298	298	272	247	291	298	194.7
27-Jan	298	264	186	144	163	178	136	144	135	144	159	145	171	170	191	195	199	171	160	302	293	288	294	291	231.6
28-Jan	291	293	288	290	292	358	35	305	293	292	295	300	302	300	295	295	307	311	324	274	250	216	238	267	294.7
29-Jan	280	317	317	169	138	96	127	117	73	14	10	13	25	26	18	20	19	14	6	4	6	8	12	19	15.2
30-Jan	13	1	13	8	14	15	20	22	16	277	4	42	36	48	33	39	148	UO	334	352	347	2	338	324	12.1
31-Jan	348	338	347	358	342	346	338	354	352	358	8	5	2	6	2	4	2	5	3	4	4	4	3	3	1.1
283.5 284.5 200.6 298.9 40.9 116.8 123.1 112.7 125.3 159.3 165.4 192.7 128.3 59.3 345.7 318.6 330.7 358.6 339.7 344.8 335.0 328.0 309.5 301.0																								Diurnal Average	
DF - DAS Failure UO - Unstable Operation																									
All monthly, daily, and diurnal averages have been calculated using vector methods																									





Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg
Fort Hills - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 90 deg on Jan 8 09:00	Hours of Data: 734
Minimum Value: 4 deg on Jan 3 03:00	Hours of Missing Data: 10
Percentiles: P ₁ = 6 P ₁₀ = 8 Q ₁ = 10 Median = 13 Q ₃ = 18 P ₉₀ = 34 P ₉₉ = 80	Hours of Calibration: 0
	Percent Operational Time: 98.7

Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	9	13	33	22	7	8	8	7	35	17	33	44	58	57	36	35	36	7	15	16	22	UO	20	10	58
2-Jan	23	57	UO	UO	UO	15	15	UO	23	46	15	14	14	8	11	37	UO	UO	29	72	9	8	13	13	72
3-Jan	7	6	4	6	5	7	9	5	6	6	6	24	8	9	11	30	13	13	18	17	32	14	7	21	32
4-Jan	76	12	45	77	30	41	22	10	6	7	9	12	19	15	80	11	11	9	9	12	10	11	11	11	80
5-Jan	13	12	11	10	10	13	11	11	13	10	11	13	14	12	18	22	15	13	17	20	20	11	11	13	22
6-Jan	8	11	8	7	9	12	9	8	11	8	10	11	12	9	7	9	13	10	9	9	10	10	7	6	13
7-Jan	13	9	8	10	9	10	10	9	7	7	10	7	10	9	11	19	10	8	10	11	10	9	20	13	20
8-Jan	11	11	11	16	14	45	29	14	90	90	33	14	17	13	12	19	19	21	16	22	12	12	14	12	90
9-Jan	27	10	16	9	10	11	10	15	11	18	19	63	14	12	9	8	9	11	9	13	21	29	34	29	63
10-Jan	15	80	23	19	38	37	36	28	16	9	79	69	25	10	12	12	12	11	11	11	11	13	9	9	80
11-Jan	9	10	9	8	9	13	13	11	11	13	19	17	14	13	13	16	46	20	18	12	11	10	12	7	46
12-Jan	7	6	10	8	9	7	7	7	8	7	7	8	8	7	7	8	7	7	8	15	17	10	23	14	23
13-Jan	13	8	9	11	10	6	7	18	10	7	14	12	10	16	15	10	8	8	17	27	11	15	20	11	27
14-Jan	20	19	16	8	7	7	12	10	11	9	19	22	17	9	9	13	10	10	5	6	9	20	9	18	22
15-Jan	19	18	15	20	14	13	17	44	39	82	67	15	17	13	16	34	26	73	65	19	13	13	12	10	82
16-Jan	12	8	8	10	12	12	14	15	9	11	13	15	15	14	16	15	15	17	16	15	16	16	13	16	17
17-Jan	15	16	19	16	14	10	10	9	9	18	18	14	12	14	12	14	38	18	27	13	12	14	18	72	72
18-Jan	38	80	22	23	10	13	10	11	16	7	9	13	8	11	7	16	15	43	UO	24	89	18	22	9	89
19-Jan	27	18	27	76	60	66	57	40	27	84	50	34	12	19	8	11	18	8	13	21	12	7	8	7	84
20-Jan	7	9	6	6	9	6	8	8	9	12	10	12	11	11	7	9	9	8	11	11	10	10	27	17	27
21-Jan	32	19	12	17	45	38	16	45	45	57	68	13	10	10	12	13	13	12	11	12	13	12	80	14	80
22-Jan	10	10	7	11	11	27	15	39	17	14	19	12	9	25	8	26	11	10	10	8	9	7	21	10	39
23-Jan	11	10	12	15	13	10	9	8	9	22	26	15	12	19	15	13	13	13	25	21	14	15	14	14	26
24-Jan	13	13	14	14	13	DF	16	15	14	12	10	11	13	14	14	35	13	14	11	24	30	18	34	23	35
25-Jan	7	15	17	12	27	19	36	12	12	17	10	9	13	16	22	32	8	9	11	15	19	9	28	8	36
26-Jan	23	16	18	7	43	21	20	9	11	9	9	13	8	7	12	10	15	41	13	11	13	19	11	16	43
27-Jan	11	87	35	35	57	56	28	28	43	15	26	19	9	13	14	13	17	11	80	18	15	13	13	13	87
28-Jan	13	13	13	13	13	30	45	79	13	14	13	15	14	18	14	15	16	15	18	16	25	9	17	12	79
29-Jan	14	27	85	32	36	24	13	11	24	18	11	11	10	11	9	10	9	12	14	15	13	14	12	10	85
30-Jan	12	17	10	15	10	9	12	9	12	62	29	16	17	12	23	17	38	UO	14	19	27	13	15	13	62
31-Jan	17	15	12	16	16	11	16	15	15	16	14	17	20	16	19	17	18	17	18	16	17	18	21	21	21
	76	87	85	77	60	66	57	79	90	90	79	69	58	57	36	80	46	73	80	72	89	29	80	72	

Diurnal Maximum

DF - DAS Failure

UO - Unstable Operation



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS23 FORT HILLS JANUARY 2025

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

February 28, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - FORT HILLS (AMS23)
 JANUARY 2025

MONTHLY SUMMARY for
 AMD SECTION III.B.1(c)

Parameter	Hours of Data	Hours of Calibration	Hours without Data	Operational Time	Maximum 1-Hour Value	1-Hour Exceedances	Maximum 24-Hour Value	24-Hour Exceedances
SO2(ppb) Average	709	33	35	99.73	23.4	0	5.8	0
TRS(ppb) Average	707	35	37	99.73	5.9	0	1.4	0
THC(ppm) Average	678	32	66	95.43	6.3	-	3.7	-
NMHC(ppm) Average	678	32	66	95.43	0.936	-	0.205	-
CH4(ppm) Average	678	32	66	95.43	6	-	3.5	-
NO2 (ppb) Average	705	37	39	99.73	56.2	0	38.4	-
NO (ppb) Average	705	37	39	99.73	250.6	-	87.8	-
NOX (ppb) Average	705	37	39	99.73	301.3	-	118	-
PM2.5 (ug/m3) Average	741	2	3	99.87	32.3	0	11.1	0
Temperature 2 m (C) Average	743	0	1	99.87	8.6	-	2.5	-
Relative Humidity (%) Average	743	0	1	99.87	96.3	-	87.5	-
Wind Speed 10 m (km/h) Average	734	0	10	98.66	35	-	26	-
Wind Direction 10 m (deg) Average	734	0	10	98.66	-	-	-	-

Note : Operational time includes periods of data collection and instrument calibration

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - FORT HILLS (AMS23)
 JANUARY 2025

MONTHLY SUMMARY FOR AIR QUALITY/ METEOROLOGICAL MONITORING MEASUREMENTS

Parameter	Number	Mean	StnDev	Total	Percentile						
					Min	P10	Q1	Median	Q3	P90	Max
SO2 (ppb) Average	709	1.16	2.3	-	0	0	0.1	0.3	1.1	3.1	23.4
TRS (ppb) Average	707	0.74	0.5	-	0.3	0.4	0.5	0.6	0.8	1.3	5.9
THC (ppm) Average	678	2.35	0.6	-	1.9	2	2.1	2.2	2.4	2.8	6.3
NMHC(ppm) Average	678	0.045	0.084	-	0	0	0	0	0.1	0.2	0.936
CH4(ppm) Average	678	2.31	0.5	-	1.9	2	2.1	2.1	2.3	2.7	6
NO2 (ppb) Average	705	16.6	11.3	-	0.1	1.7	8.2	14.8	24.9	31.9	56.2
NO (ppb) Average	705	13.9	30.1	-	0	0	0.1	2	9.2	48.9	250.6
NOX (ppb) Average	705	30.5	38.7	-	0.1	2	9.1	17.6	34.5	75.1	301.3
PM2.5 (ug/m3) Average	741	4.54	4	-	0.2	0.7	2.1	3.6	5.6	9.3	32.3
Temperature 2 m (C) Average	743	-12.94	11.3	-	-37.4	-29.3	-21.8	-12.2	-3	1.6	8.6
Relative Humidity (%) Average	743	75.23	10.1	-	34.8	61.8	72.1	75.7	82	86.8	96.3
Wind Speed 10 m (km/h) Average	734	12.1	7	-	0	3	7	11	16	23	35
Wind Direction 10 m (deg) Average	734	-	-	-	-	-	-	-	-	-	-

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - FORT HILLS (AMS23)
JANUARY 2025

OPERATIONAL NOTES

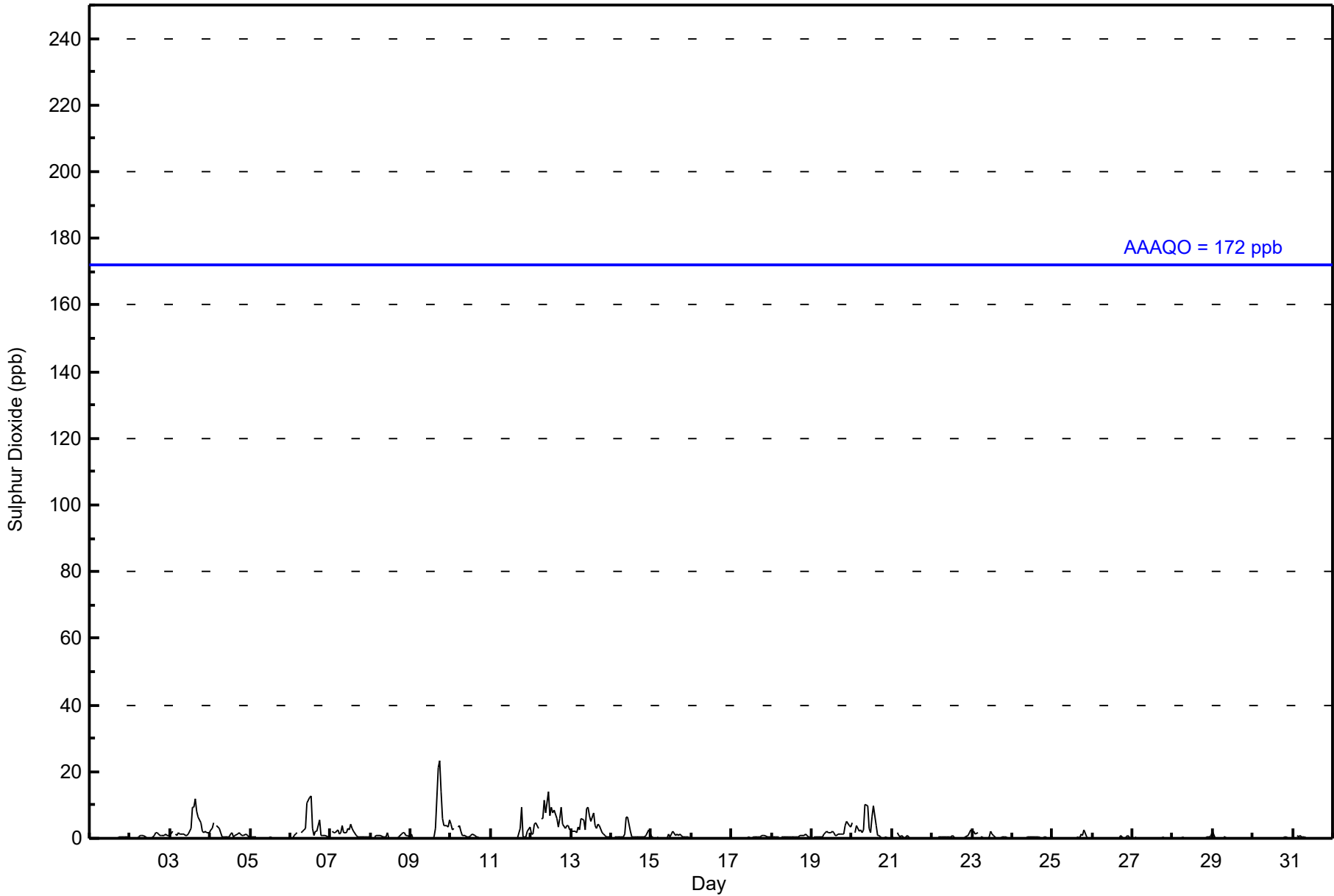
Parameter	Period Start	Period End	Duration (Hours)	Notes
ALL GASEOUS ANALYZERS	16 Jan 2025 09:00	16 Jan 2025 09:00	1	Maintenance - sample manifold cleaned
ALL PARAMETERS	24 Jan 2025 06:00	24 Jan 2025 06:00	1	DAS Failure - data not recorded
THC/NMHC/CH4	13 Jan 2025 02:00	14 Jan 2025 08:00	31	Unstable Operation - AMD noncompliance
THC/NMHC/CH4	14 Jan 2025 09:00	14 Jan 2025 09:00	1	Maintenance - replaced zero air generator
Wind Speed, Wind Direction	01 Jan 2025 22:00	01 Jan 2025 22:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	02 Jan 2025 03:00	02 Jan 2025 05:00	3	Flat line in sensor output signal
Wind Speed, Wind Direction	02 Jan 2025 08:00	02 Jan 2025 08:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	02 Jan 2025 17:00	02 Jan 2025 18:00	2	Flat line in sensor output signal
Wind Speed, Wind Direction	18 Jan 2025 19:00	18 Jan 2025 19:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	30 Jan 2025 18:00	30 Jan 2025 18:00	1	Flat line in sensor output signal



Wood Buffalo Environmental Association
Summary of Hour Averages

Sulphur Dioxide (SO₂) - ppb
Fort Hills - January 2025

Number of Exceedences (AAAQO):		1-hr: 0	24-hr: 0																		Hours in Service:	744					
Maximum Value: 23.4 ppb on Jan 9 18:00		Maximum Daily Average: 5.8 ppb on Jan 12																	Hours of Data:	709							
Minimum Value: 0.0 ppb on Jan 1 07:00		Minimum Daily Average: 0.0 ppb on Jan 16																	Hours of Missing Data:	35							
Maximum Diurnal Average: 1.9 ppb at hour 18		Minimum Diurnal Average: 0.7 ppb at hour 2																	Hours of Calibration:	33							
Monthly Average: 1.16 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.3 Q ₃ = 1.1 P ₉₀ = 3.1 P ₉₉ = 11.5																	Percent Operational Time:	99.7							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	Z	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.4	0.5	0.4	0.4	0.3	0.3	0.2	0.2	0.5	
2-Jan	0.2	Z	0.1	0.2	0.1	0.3	0.8	0.7	0.7	0.3	0.2	0.2	0.2	0.2	0.6	1.5	1.7	1.4	0.9	0.9	1.0	1.2	0.7	0.6	0.6	1.7	
3-Jan	0.8	2.1	Z	1.3	0.8	1.6	1.4	1.3	1.2	1.0	0.9	1.3	3.1	9.1	9.4	11.9	8.1	6.4	4.6	1.9	1.6	2.3	1.6	1.5	3.3	11.9	
4-Jan	2.5	2.9	4.5	Z	4.0	2.9	1.6	0.5	0.4	0.4	0.4	0.6	1.1	1.8	0.6	0.8	1.1	1.7	1.2	0.7	1.0	1.4	0.8	0.6	1.5	4.5	
5-Jan	0.4	0.4	0.4	0.3	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	
6-Jan	0.0	0.1	0.9	1.1	1.6	Z	1.6	2.3	2.6	3.0	10.7	12.5	12.9	3.0	1.0	2.0	2.2	5.6	0.9	0.7	0.7	0.7	0.5	0.5	2.9	12.9	
7-Jan	Z	2.1	1.6	1.7	2.3	1.2	1.7	3.7	1.5	1.5	2.9	2.5	4.0	2.9	2.1	1.0	0.6	0.5	0.5	0.5	0.4	0.3	0.3	0.3	1.6	4.0	
8-Jan	0.3	Z	0.3	1.0	0.9	0.8	0.7	0.3	0.4	0.3	1.6	0.2	0.1	0.0	0.1	0.1	0.2	0.2	1.2	1.6	1.5	0.7	0.8	0.6	0.6	1.6	
9-Jan	1.1	0.1	Z	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.2	3.1	21.0	23.4	14.1	5.8	3.7	3.7	3.5	5.4	3.7	23.4
10-Jan	4.3	2.5	2.9	Z	3.4	3.9	1.9	1.0	0.6	0.4	0.3	0.4	0.9	1.5	0.8	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	4.3	
11-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	9.2	0.5	0.3	0.5	2.2	3.5	0.8	9.2	
12-Jan	1.4	1.4	4.1	4.6	3.0	Z	5.9	5.8	11.6	7.6	14.0	6.6	9.3	7.6	8.4	5.8	3.5	5.7	9.3	4.1	2.8	3.7	3.9	2.7	5.8	14.0	
13-Jan	Z	2.3	2.0	1.9	3.2	2.5	5.9	5.6	2.8	8.9	9.3	6.8	5.2	7.7	4.0	3.1	4.1	3.8	1.5	1.1	0.9	0.6	0.5	0.4	3.6	9.3	
14-Jan	0.4	Z	0.3	0.3	0.3	0.3	0.3	0.4	1.1	6.5	6.2	2.0	0.6	0.4	0.3	0.4	0.3	0.4	0.3	0.3	0.3	0.8	2.4	1.7	1.1	6.5	
15-Jan	0.5	0.2	Z	0.5	0.1	0.1	0.1	0.2	0.2	0.2	1.4	0.6	1.2	2.3	0.8	1.3	0.8	1.2	1.1	0.5	0.2	0.2	0.2	0.1	0.6	2.3	
16-Jan	0.1	0.2	0.1	Z	0.1	0.2	0.1	0.1	M	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	
17-Jan	0.0	0.0	0.0	0.0	Z	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.5	0.5	0.7	0.8	0.7	0.6	0.5	0.5	0.3	0.8	
18-Jan	0.4	0.4	0.3	0.4	0.3	Z	0.5	0.4	0.3	0.5	0.5	0.3	0.4	0.4	0.3	0.2	0.6	1.0	1.0	1.0	1.1	0.6	0.5	0.3	0.5	1.1	
19-Jan	Z	0.3	0.2	0.3	0.6	0.6	0.6	1.2	1.8	1.9	1.8	1.7	2.1	1.5	0.9	0.9	1.1	1.3	1.5	1.4	4.0	5.2	3.8	3.2	1.6	5.2	
20-Jan	4.6	Z	1.7	4.0	1.9	2.7	1.6	2.5	10.1	9.6	3.1	1.6	6.4	9.9	3.9	1.0	0.6	0.3	0.2	0.2	0.2	0.2	0.2	0.2	2.9	10.1	
21-Jan	0.6	0.2	Z	1.8	0.7	0.5	0.8	0.1	0.3	0.7	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.3	1.8	
22-Jan	0.0	0.0	0.0	Z	0.4	0.6	0.3	0.3	0.5	0.4	0.4	0.5	0.7	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.4	0.7	1.5	2.5	0.5	2.5
23-Jan	2.2	2.0	1.4	1.8	Z	0.4	0.3	0.2	0.2	0.2	0.3	2.0	1.3	0.8	0.1	0.2	0.1	0.1	0.3	0.3	0.3	0.2	0.2	0.1	0.6	2.2	
24-Jan	0.1	0.1	0.1	0.1	0.0	DF	0.0	0.1	0.1	0.3	0.3	0.3	0.3	0.3	0.5	0.5	0.1	0.1	0.4	0.3	0.1	0.2	0.5	0.2	0.5	0.2	0.5
25-Jan	0.6	Z	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.4	0.1	1.4	1.0	2.7	0.3	0.1	0.0	0.1	0.3	2.7	
26-Jan	0.1	0.1	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.7	0.0	0.1	0.4	1.0	0.3	0.1	0.1	1.0	
27-Jan	0.1	0.1	0.4	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.0	0.1	0.1	0.1	0.1	0.4
28-Jan	0.1	0.0	0.1	0.1	Z	0.2	0.2	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.4	0.5	0.6	0.8	0.2	0.8
29-Jan	2.3	0.2	0.1	0.2	0.1	Z	0.4	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.3	
30-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.2	0.1	0.0	0.1	0.4
31-Jan	0.0	Z	0.6	0.6	0.7	0.6	0.3	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.2	0.7	
0.9 0.7 0.9 0.9 1.0 0.8 0.9 0.9 1.2 1.5 1.9 1.4 1.6 1.6 1.1 1.2 1.5 1.9 1.6 0.9 0.8 0.8 0.8 0.9																								Diurnal Average			
4.6 2.9 4.5 4.6 4.0 3.9 5.9 5.8 11.6 9.6 14.0 12.5 12.9 9.9 9.4 11.9 21.0 23.4 14.1 5.8 4.0 5.2 3.9 5.4																								Diurnal Maximum			
Z - zerospan C - Calibration M - Maintenance DF - DAS Failure																											
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb																											





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Fort Hills - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	700	98.73	98.73
11 - 20	7	0.99	99.72
21 - 60	2	0.28	100.00
61 - 110	0	0.00	100.00
111 - 172	0	0.00	100.00
> 172	0	0.00	100.00

Total Number of Valid Hours: 709

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Fort Hills - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 10	98	67	13	3	5	20	62	118	91	50	18	22	22	50	23	29	691
11 - 20	0	0	0	0	0	0	0	3	1	3	0	0	0	0	0	0	7
21 - 60	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
61 - 110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111 - 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	98	67	13	3	5	20	62	121	94	53	18	22	22	50	23	29	700

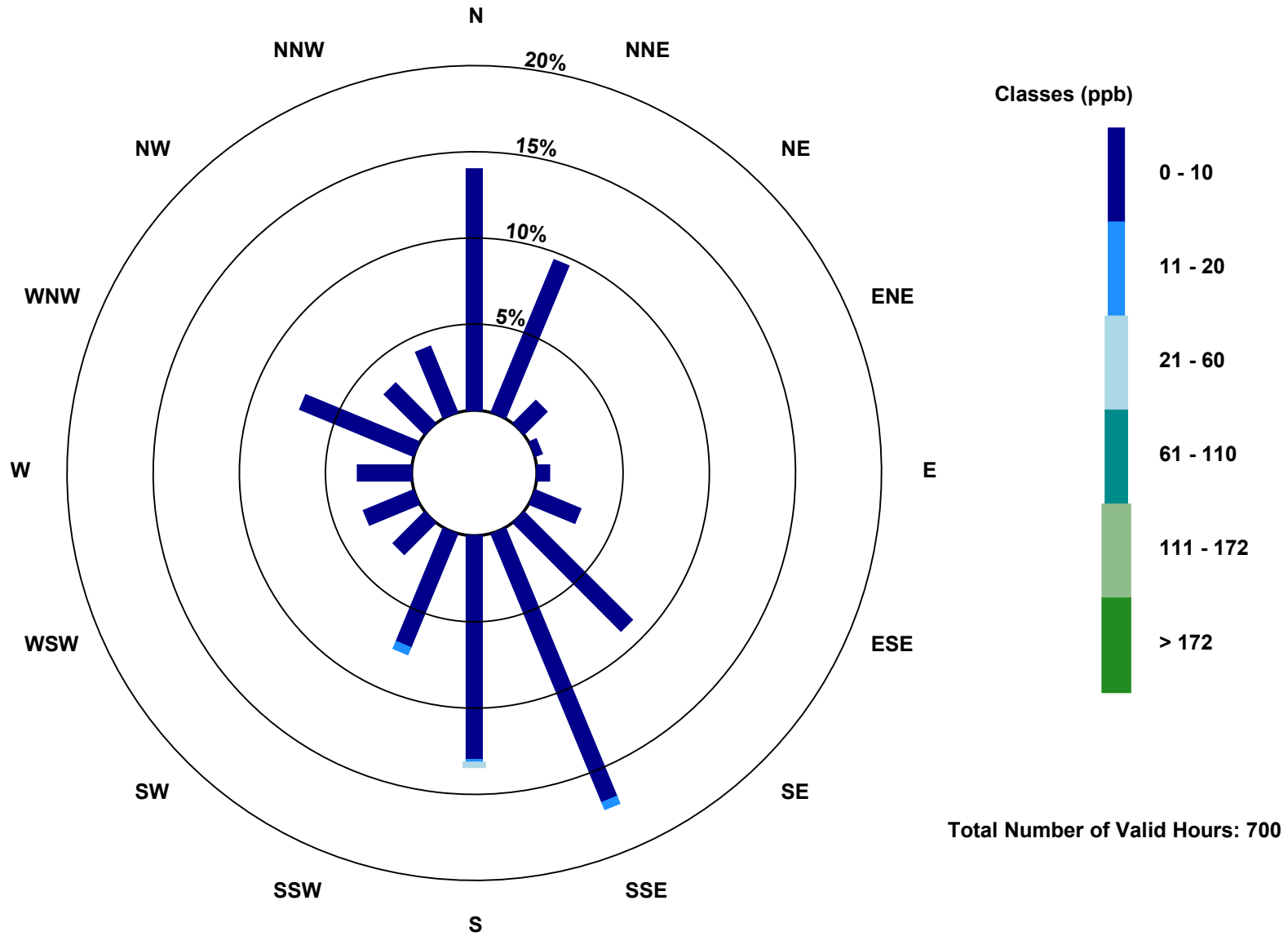
Total Number of Valid Hours: 700

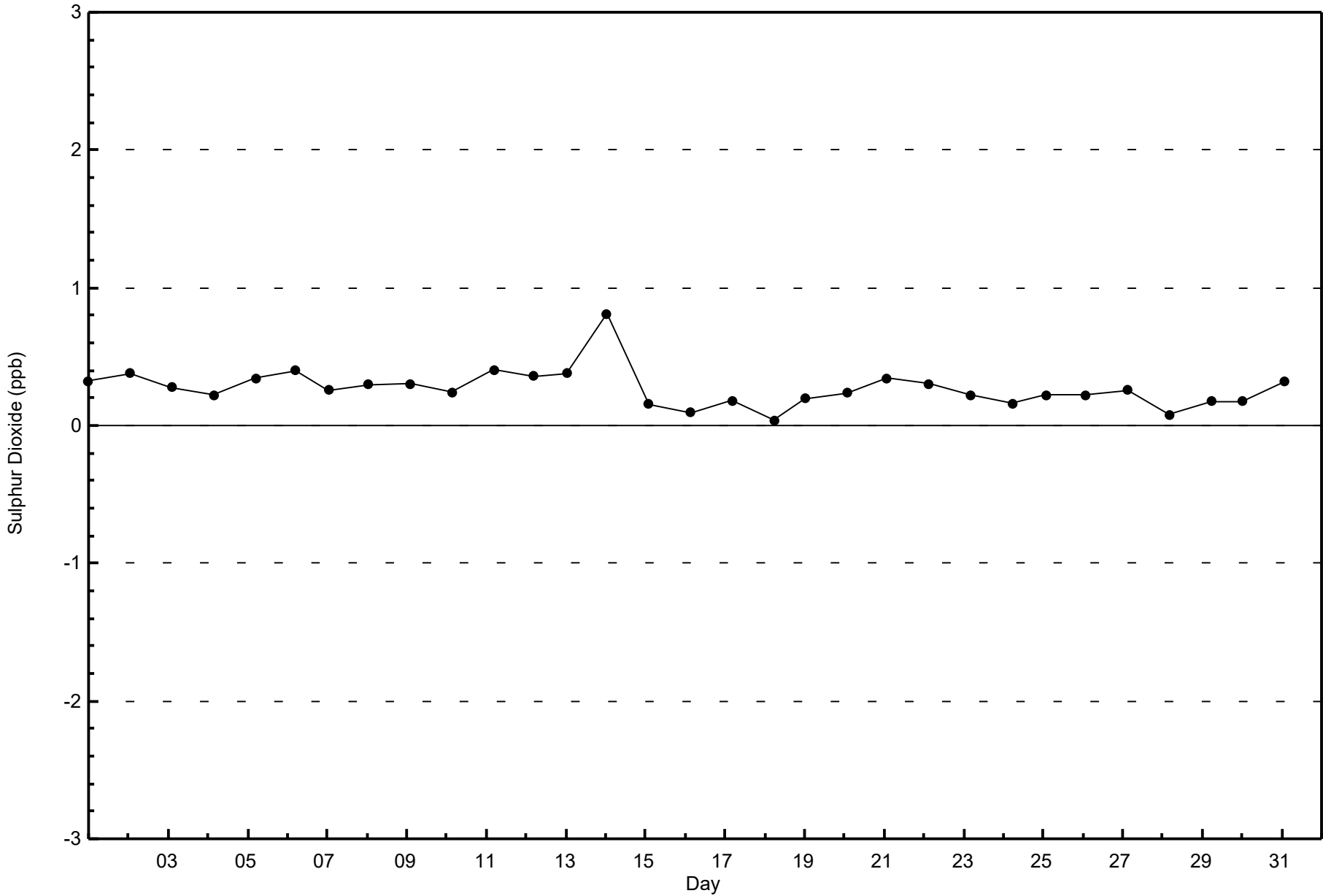
Total Number of Hours: 744

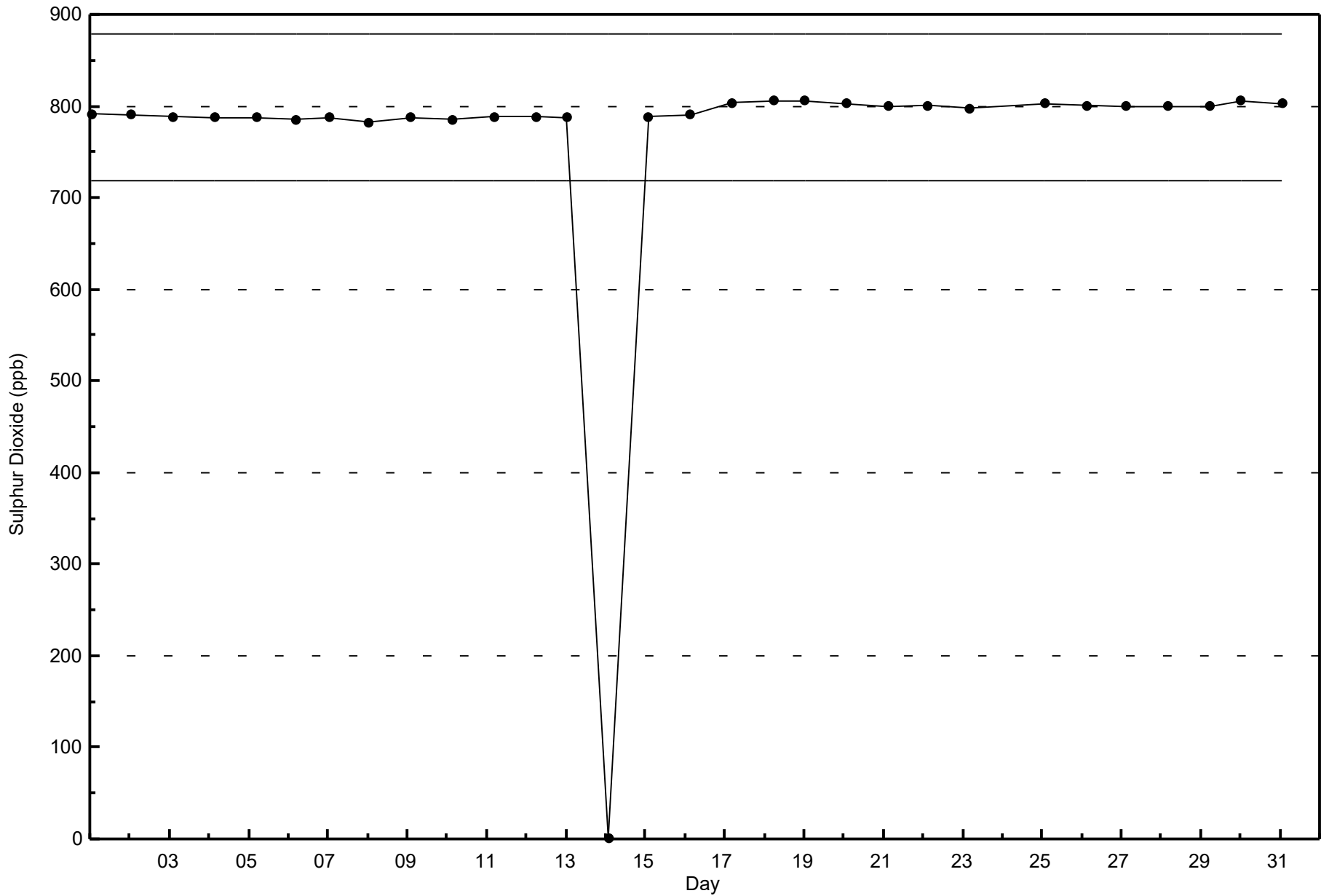


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Sulphur Dioxide (SO₂) - ppb
Fort Hills









Wood Buffalo Environmental Association

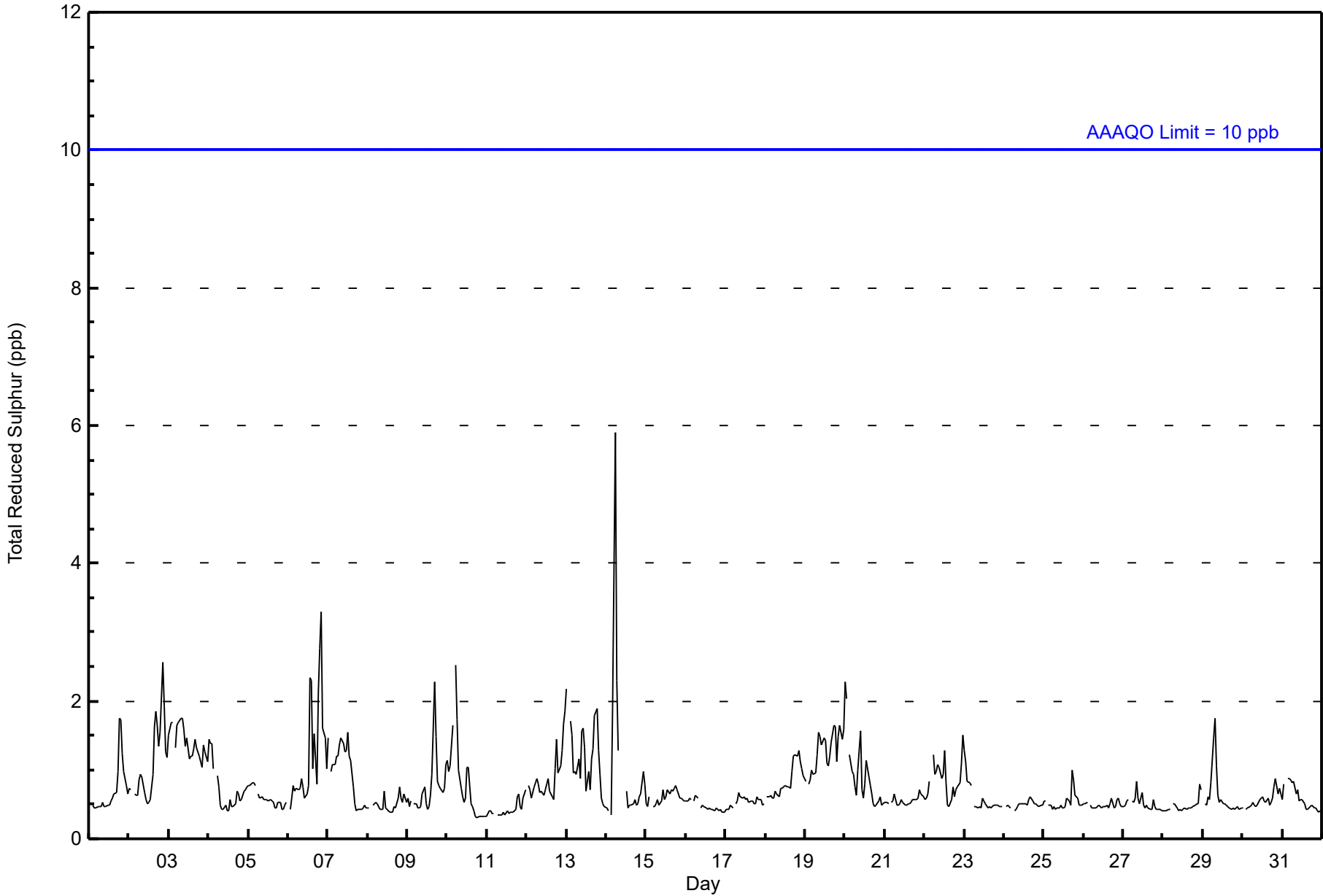
Summary of Hour Averages

Total Reduced Sulphur (TRS) - ppb

Fort Hills - January 2025

Number of Exceedences (AAAQO):		1-hr: 0		24-hr: 0		Hours in Service: 744														Daily Average		Daily Maximum					
Maximum Value: 5.9 ppb on Jan 14 06:00		Maximum Daily Average: 1.4 ppb on Jan 3		Hours of Data: 707														Hours of Missing Data: 37		Hours of Calibration: 35							
Minimum Value: 0.3 ppb on Jan 10 19:00		Minimum Daily Average: 0.4 ppb on Jan 11		Hours of Calibration: 35														Percent Operational Time: 99.7									
Maximum Diurnal Average: 1.0 ppb at hour 6		Minimum Diurnal Average: 0.7 ppb at hour 16		Percentiles: P ₁ = 0.3 P ₁₀ = 0.4 Q ₁ = 0.5 Median = 0.6 Q ₃ = 0.8 P ₉₀ = 1.3 P ₉₉ = 2.3																							
Monthly Average: 0.74 ppb																											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	0.5	Z	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.7	0.7	1.0	1.7	1.7	1.2	1.0	0.8	0.7	0.7	1.7	
2-Jan	0.7	0.7	Z	0.6	0.6	0.6	0.8	0.9	0.9	0.7	0.6	0.5	0.5	0.6	0.9	1.6	1.9	1.7	1.3	1.5	2.6	1.9	1.3	1.2	1.1	2.6	
3-Jan	1.5	1.7	1.7	Z	1.3	1.7	1.7	1.8	1.8	1.6	1.3	1.5	1.2	1.2	1.2	1.3	1.4	1.3	1.2	1.1	1.0	1.4	1.3	1.1	1.4	1.8	
4-Jan	1.4	1.4	1.4	1.0	Z	0.9	0.7	0.5	0.4	0.4	0.5	0.4	0.4	0.6	0.5	0.5	0.5	0.7	0.7	0.5	0.6	0.7	0.7	0.8	0.7	1.4	
5-Jan	0.8	0.8	0.8	0.8	0.8	Z	0.7	0.6	0.6	0.6	0.6	0.6	0.5	0.6	0.5	0.5	0.4	0.4	0.5	0.5	0.4	0.4	0.5	0.5	0.6	0.8	
6-Jan	Z	0.4	0.6	0.8	0.7	0.7	0.7	0.9	0.8	0.6	0.7	0.8	2.3	2.3	1.0	1.5	0.8	2.1	2.8	3.3	1.6	1.5	1.0	1.2	3.3	3.3	
7-Jan	1.5	Z	1.0	1.1	1.1	1.2	1.2	1.4	1.5	1.4	1.3	1.3	1.5	1.2	1.1	0.8	0.5	0.4	0.4	0.4	0.4	0.5	0.5	0.4	1.0	1.5	
8-Jan	0.4	0.4	Z	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.7	0.5	0.4	0.4	0.4	0.5	0.4	0.6	0.7	0.6	0.5	0.7	0.5	0.5	0.7	
9-Jan	0.6	0.5	0.5	Z	0.5	0.5	0.4	0.4	0.5	0.7	0.7	0.5	0.4	0.5	0.6	0.9	2.3	1.5	0.8	0.8	0.7	0.7	0.7	1.1	0.7	2.3	
10-Jan	1.1	1.0	1.1	1.6	Z	2.5	1.7	1.0	0.7	0.6	0.5	0.6	1.0	1.0	0.5	0.5	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.8	2.5	
11-Jan	0.3	0.4	0.4	0.4	0.4	Z	0.3	0.4	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.6	0.7	0.5	0.4	0.6	0.7	0.4	0.7	
12-Jan	Z	0.8	0.7	0.6	0.8	0.8	0.9	0.8	0.7	0.7	0.6	0.7	0.8	0.9	0.7	0.6	0.6	1.0	1.4	1.0	1.1	1.3	1.7	1.9	0.9	1.9	
13-Jan	2.2	Z	1.7	1.5	1.0	1.0	0.9	1.1	0.9	1.6	1.6	1.3	0.7	1.0	0.7	1.2	1.3	1.8	1.9	1.3	0.9	0.6	0.5	0.5	1.2	2.2	
14-Jan	0.4	0.4	Z	0.3	1.9	5.9	2.3	1.3	C	C	C	C	0.7	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.6	0.6	1.0	0.8	1.0	5.9	
15-Jan	0.5	0.5	0.6	Z	0.5	0.5	0.5	0.6	0.5	0.5	0.7	0.6	0.6	0.7	0.6	0.7	0.7	0.7	0.8	0.7	0.6	0.6	0.6	0.6	0.6	0.8	
16-Jan	0.5	0.5	0.6	0.6	Z	0.5	0.6	0.6	M	0.4	0.5	0.5	0.4	0.4	0.5	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.5	0.6	
17-Jan	0.4	0.4	0.4	0.5	0.4	Z	0.5	0.5	0.7	0.6	0.6	0.6	0.6	0.6	0.5	0.6	0.5	0.5	0.5	0.6	0.6	0.6	0.5	0.5	0.5	0.7	
18-Jan	Z	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.6	0.7	0.7	0.7	0.8	0.8	0.7	0.7	1.0	1.2	1.2	1.2	1.3	1.1	1.0	0.9	0.8	1.3	
19-Jan	0.8	Z	0.8	0.9	1.0	0.9	0.9	1.2	1.5	1.5	1.4	1.5	1.4	1.1	1.1	1.2	1.4	1.7	1.6	1.1	1.5	1.6	1.4	1.6	1.3	1.7	
20-Jan	2.3	2.0	Z	1.2	1.0	0.9	0.8	0.6	1.0	1.6	0.7	0.6	0.8	1.1	0.9	0.8	0.7	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.9	2.3	
21-Jan	0.5	0.5	0.5	Z	0.5	0.5	0.7	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.6	0.6	0.5	0.7	
22-Jan	0.6	0.6	0.6	0.8	Z	1.2	0.9	1.0	1.1	1.0	0.9	0.9	1.3	0.8	0.5	0.5	0.6	0.7	0.6	0.7	0.7	0.8	1.1	1.5	0.9	1.5	
23-Jan	1.3	1.1	0.8	0.8	0.8	Z	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.5	0.4	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	1.3	
24-Jan	Z	0.5	0.5	0.5	0.4	DF	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	
25-Jan	0.5	0.5	Z	0.5	0.5	0.4	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.5	1.0	0.8	0.6	0.6	0.5	0.5	0.5	1.0	
26-Jan	0.5	0.5	0.5	Z	0.5	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.6	0.4	0.5	0.6	0.6	0.5	0.5	0.5	0.6	
27-Jan	0.5	0.5	0.5	0.6	Z	0.5	0.5	0.6	0.8	0.6	0.5	0.7	0.5	0.5	0.5	0.4	0.4	0.4	0.6	0.5	0.4	0.4	0.4	0.4	0.5	0.8	
28-Jan	0.4	0.4	0.4	0.4	0.4	Z	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.5	0.5	0.5	0.5	0.8	0.7	0.5	0.8	
29-Jan	Z	0.5	0.5	0.6	0.6	0.8	1.5	1.8	1.1	0.6	0.5	0.6	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.5	0.6	1.8	
30-Jan	0.4	Z	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.5	0.5	0.6	0.5	0.5	0.6	0.8	0.9	0.7	0.7	0.6	0.6	0.9	
31-Jan	0.6	0.8	Z	0.9	0.9	0.9	0.8	0.8	0.7	0.7	0.5	0.6	0.6	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.6	0.9	
																								Diurnal Average		Diurnal Maximum	
																								0.8		2.3	
																								0.7		2.0	
																								0.7		1.7	
																								0.7		1.6	
																								1.0		1.9	
																								0.8		5.9	
																								0.8		2.3	
																								0.8		1.8	
																								0.7		1.8	
																								0.7		1.6	
																								0.7		1.6	
																								0.7		1.5	
																								0.7		1.5	
																								0.7		2.3	
																								0.7		2.3	
																								0.7		1.6	
																								0.7		2.3	
																								0.8		1.8	
																								0.8		2.1	
																								0.8		2.8	
																								0.8		3.3	
																								0.7		1.9	
																								0.7		1.7	
																								0.7		1.9	

Z - zerospan C - Calibration M - Maintenance DF - DAS Failure
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Reduced Sulphur (TRS) - ppb
Fort Hills - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	702	99.29	99.29
3 - 4	4	0.57	99.86
5 - 7	1	0.14	100.00
8 - 11	0	0.00	100.00
> 11	0	0.00	100.00

Total Number of Valid Hours: 707

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Total Reduced Sulphur (TRS) - ppb
Fort Hills - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2	97	71	12	2	6	19	60	120	90	52	18	23	22	48	24	30	694
3 - 4	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	4
5 - 7	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
8 - 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	97	71	12	2	6	19	63	120	92	52	18	23	22	48	24	30	699

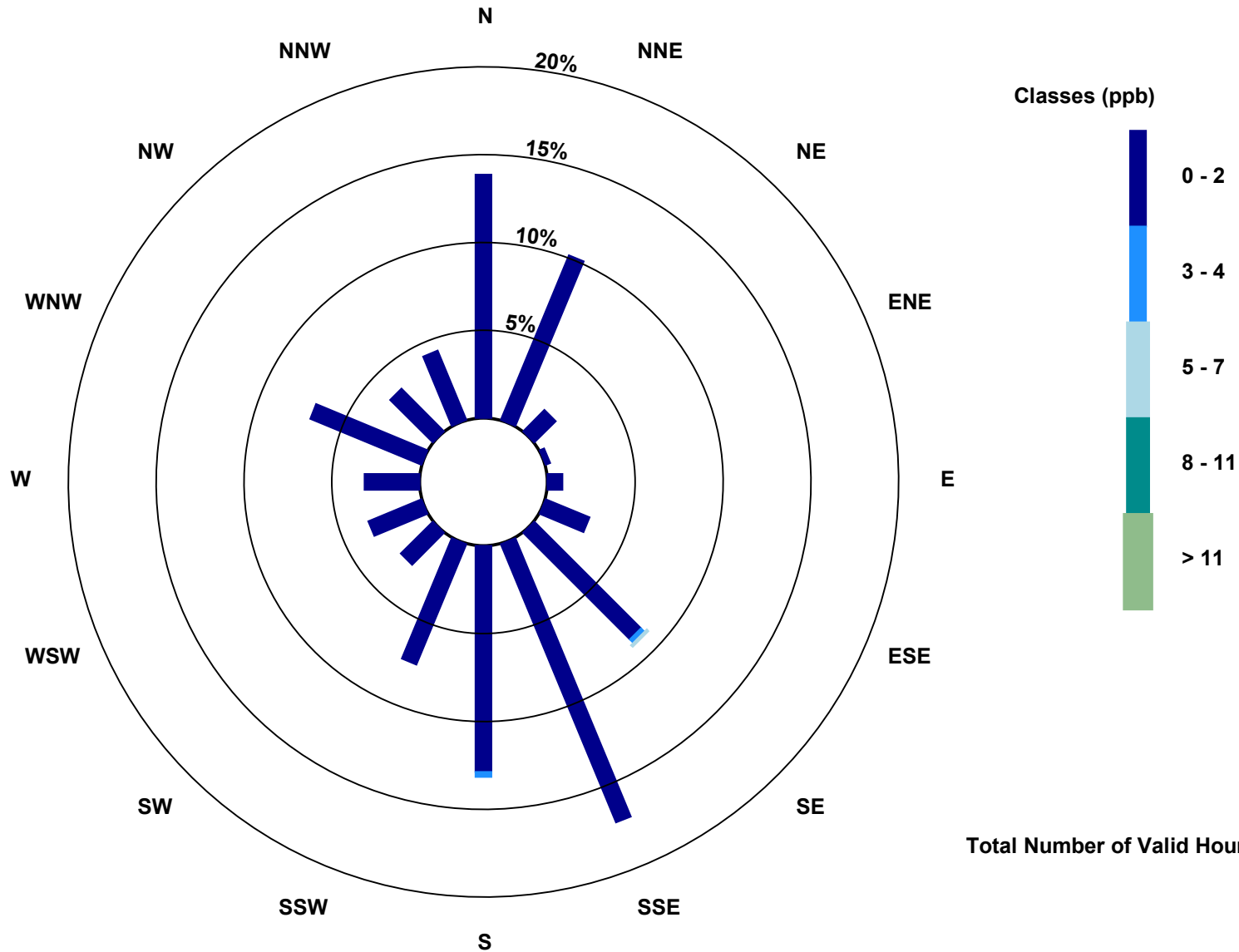
Total Number of Valid Hours: 699

Total Number of Hours: 744

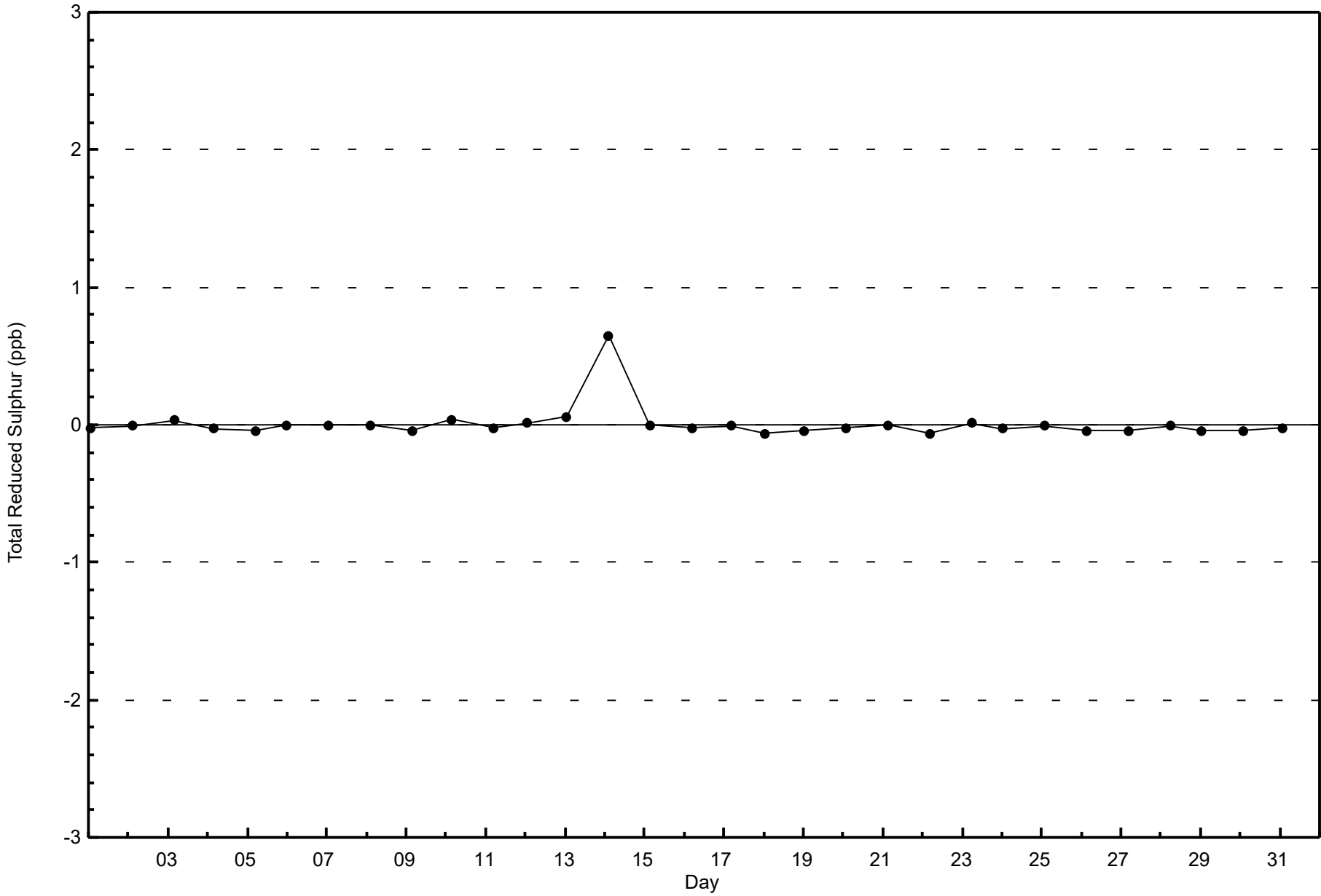


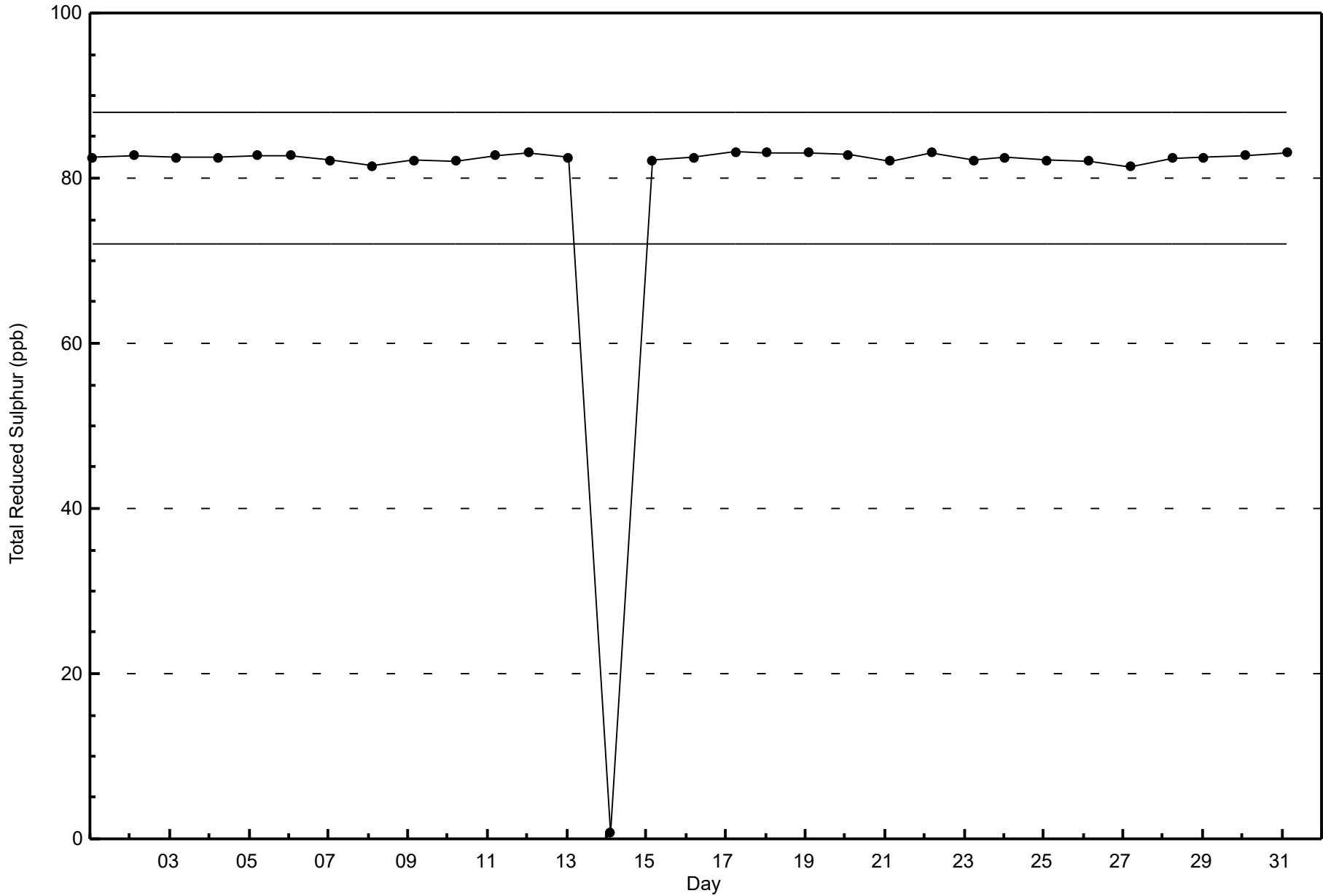
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Total Reduced Sulphur (TRS) - ppb
Fort Hills



Total Number of Valid Hours: 699







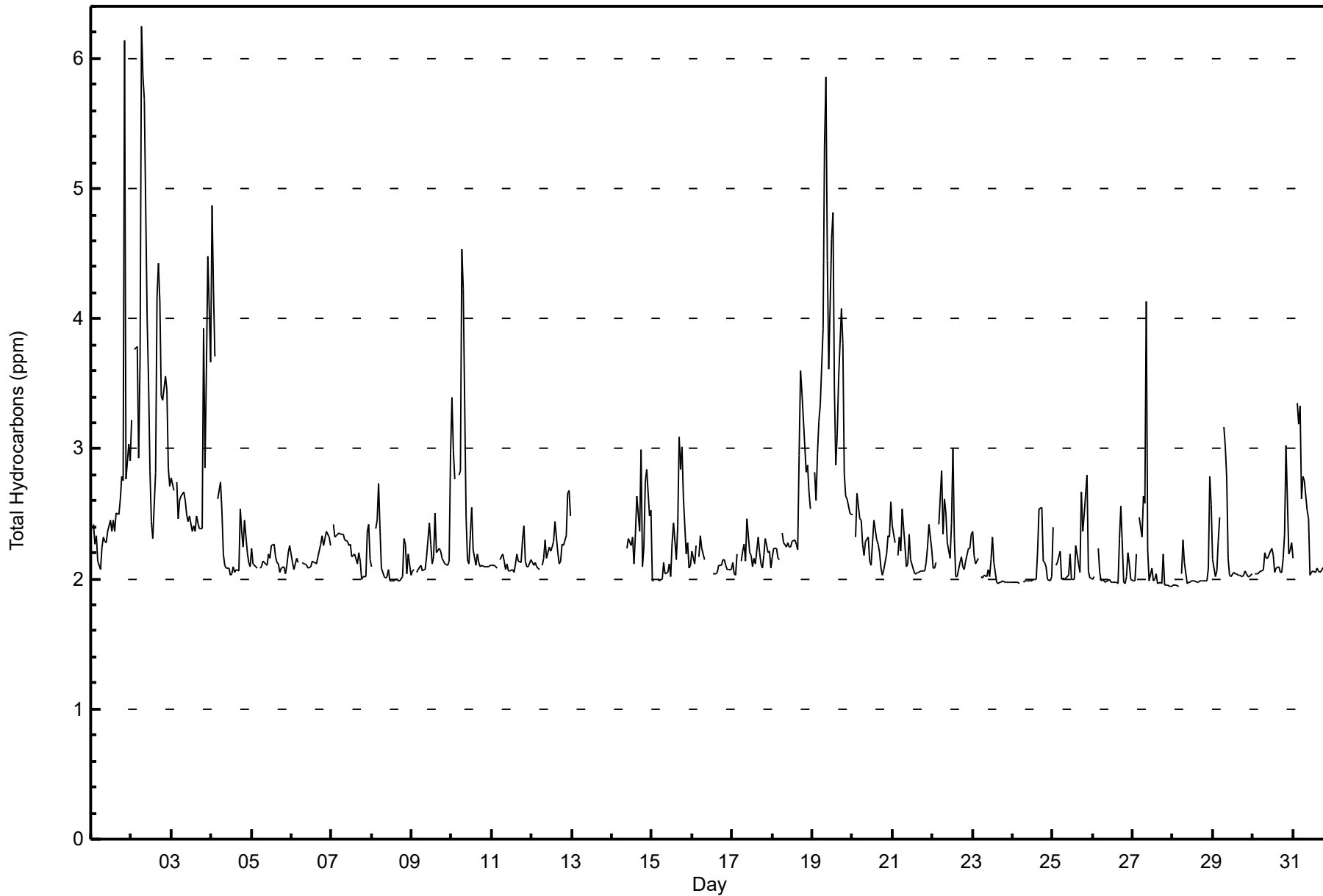
Wood Buffalo Environmental Association

Summary of Hour Averages

Total Hydrocarbons (THC) - ppm

Fort Hills - January 2025

Number of Exceedences (AAAQO):		1-hr: 0		24-hr: 0		Hours in Service:		744																		
Maximum Value: 6.3 ppm on Jan 2 07:00		Maximum Daily Average: 3.7 ppm on Jan 2		Minimum Value: 1.9 ppm on Jan 27 23:00		Minimum Daily Average: 2.1 ppm on Jan 26		Hours of Data: 678																		
Maximum Diurnal Average: 2.6 ppm at hour 8		Minimum Diurnal Average: 2.2 ppm at hour 15		Hours of Missing Data: 66		Hours of Calibration: 32		Percent Operational Time: 95.4																		
Monthly Average: 2.35 ppm		Percentiles: P ₁ = 2.0 P ₁₀ = 2.0 Q ₁ = 2.1 Median = 2.2 Q ₃ = 2.4 P ₉₀ = 2.8 P ₉₉ = 4.8																								
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	Z	2.4	2.3	2.3	2.1	2.1	2.2	2.3	2.3	2.3	2.4	2.4	2.4	2.5	2.4	2.5	2.5	2.6	2.8	2.8	6.1	2.8	3.0	2.9	2.6	6.1
2-Jan	3.2	Z	3.8	3.8	2.9	3.7	6.3	5.9	5.7	4.0	3.5	2.8	2.4	2.3	2.8	4.2	4.4	4.1	3.4	3.4	3.6	3.5	2.9	2.7	3.7	6.3
3-Jan	2.8	2.7	Z	2.7	2.5	2.6	2.6	2.7	2.6	2.5	2.4	2.5	2.4	2.4	2.5	2.4	2.4	2.4	3.9	2.9	3.6	4.5	3.7	2.8	4.5	
4-Jan	4.9	4.2	3.7	Z	2.6	2.7	2.5	2.2	2.1	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.5	2.4	2.2	2.4	2.2	2.1	2.1	2.5	4.9	
5-Jan	2.2	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.3	2.2	2.1	2.1	2.0	2.1	2.1	2.0	2.1	2.2	2.3	2.1	2.3
6-Jan	2.1	2.1	2.1	2.2	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.3	2.3	2.3	2.4	2.3	2.3	2.2	2.4
7-Jan	Z	2.4	2.3	2.3	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.1	2.2	2.1	2.0	2.0	2.0	2.4	2.4	2.1	2.2	2.4
8-Jan	2.1	Z	2.4	2.5	2.7	2.4	2.1	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.3	2.0	2.2	2.0	2.1	2.7
9-Jan	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.4	2.3	2.1	2.2	2.5	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	3.0	2.2	3.0
10-Jan	3.4	3.0	2.8	Z	2.8	2.8	4.5	4.2	2.5	2.2	2.1	2.3	2.6	2.2	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.5	4.5
11-Jan	2.1	2.1	2.1	2.1	Z	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.3	2.4	2.1	2.1	2.1	2.1	2.1	2.4
12-Jan	2.1	2.1	2.1	2.1	2.1	Z	2.1	2.2	2.3	2.2	2.2	2.2	2.2	2.3	2.4	2.2	2.1	2.1	2.3	2.3	2.3	2.7	2.7	2.5	2.3	2.7
13-Jan	Z	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	--
14-Jan	UO	UO	UO	UO	UO	UO	UO	UO	M	2.2	2.3	2.3	2.3	2.1	2.3	2.6	2.4	3.0	2.1	2.2	2.7	2.8	2.5	2.5	--	3.0
15-Jan	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.1	2.0	2.1	2.1	2.0	2.3	2.4	2.2	2.4	3.1	2.8	3.0	2.6	2.2	2.3	2.1	2.1	2.3	3.1
16-Jan	2.2	2.1	2.3	Z	2.2	2.3	2.2	2.2	M	C	C	C	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.3
17-Jan	2.1	2.0	2.0	2.2	Z	2.1	2.2	2.3	2.1	2.5	2.2	2.2	2.2	2.1	2.2	2.1	2.3	2.2	2.1	2.1	2.2	2.3	2.2	2.1	2.2	2.5
18-Jan	2.2	2.2	2.2	2.2	2.1	Z	2.4	2.3	2.2	2.3	2.2	2.2	2.3	2.3	2.3	2.2	3.0	3.6	3.4	3.0	2.8	2.9	2.7	2.5	2.5	3.6
19-Jan	Z	2.8	2.6	3.0	3.2	3.3	3.9	5.3	5.9	4.5	3.6	4.6	4.8	3.5	2.9	3.1	3.5	4.1	3.8	2.8	2.6	2.6	2.5	2.5	3.5	5.9
20-Jan	2.5	Z	2.3	2.7	2.5	2.5	2.3	2.2	2.3	2.3	2.1	2.1	2.3	2.4	2.3	2.3	2.2	2.1	2.0	2.1	2.2	2.3	2.3	2.6	2.3	2.7
21-Jan	2.4	2.3	Z	2.2	2.3	2.2	2.5	2.3	2.1	2.1	2.3	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.2	2.4	2.2	2.2	2.5
22-Jan	2.1	2.1	2.1	Z	2.4	2.8	2.3	2.6	2.5	2.3	2.2	2.4	3.0	2.3	2.0	2.0	2.1	2.2	2.1	2.1	2.1	2.2	2.2	2.3	2.3	3.0
23-Jan	2.4	2.2	2.1	2.2	Z	2.0	2.0	2.0	2.0	2.1	2.0	2.1	2.3	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.4
24-Jan	2.0	2.0	2.0	2.0	2.0	DF	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.5	2.6	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.6
25-Jan	2.4	Z	2.1	2.1	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.1	2.1	2.7	2.4	2.5	2.8	2.1	2.0	2.0	2.2	2.8
26-Jan	2.0	2.0	Z	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.6	2.0	2.0	2.0	2.2	2.1	2.0	2.1	2.6
27-Jan	2.0	2.0	2.2	Z	2.5	2.3	2.6	2.6	4.1	2.2	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.0	1.9	1.9	1.9	1.9	2.2	4.1
28-Jan	1.9	2.0	2.0	1.9	Z	2.0	2.3	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.8	2.6	2.1	2.8
29-Jan	2.1	2.0	2.1	2.3	2.5	Z	3.2	3.0	2.8	2.2	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.2	3.2
30-Jan	Z	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.0	2.0	2.2	2.3	3.0	2.2	2.2	2.3	2.2	3.0
31-Jan	2.2	Z	3.3	3.2	3.3	2.6	2.8	2.8	2.5	2.5	2.0	2.0	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.4	3.3
2.4 2.3 2.4 2.3 2.4 2.4 2.6 2.6 2.5 2.3 2.3 2.3 2.3 2.2 2.2 2.3 2.3 2.4 2.3 2.3 2.5 2.3 2.4 2.3																								Diurnal Average		
4.9 4.2 3.8 3.8 3.3 3.7 6.3 5.9 5.9 4.5 3.6 4.6 4.8 3.5 2.9 4.2 4.4 4.1 3.8 3.9 6.1 3.6 4.5 3.7																								Diurnal Maximum		
Z - zerospan		C - Calibration				M - Maintenance				DF - DAS Failure				UO - Unstable Operation												





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Hydrocarbons (THC) - ppm
Fort Hills - January 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	152	22.42	22.42
2.1 - 3.0	477	70.35	92.77
3.1 - 10.0	49	7.23	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 678

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Total Hydrocarbons (THC) - ppm
Fort Hills - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2.0	14	11	1	0	0	0	3	13	23	7	2	4	11	38	13	11	151
2.1 - 3.0	82	56	12	3	5	14	37	87	64	39	14	17	11	10	8	16	475
3.1 - 10.0	2	0	0	0	0	6	7	6	7	6	2	1	0	2	2	2	43
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	98	67	13	3	5	20	47	106	94	52	18	22	22	50	23	29	669

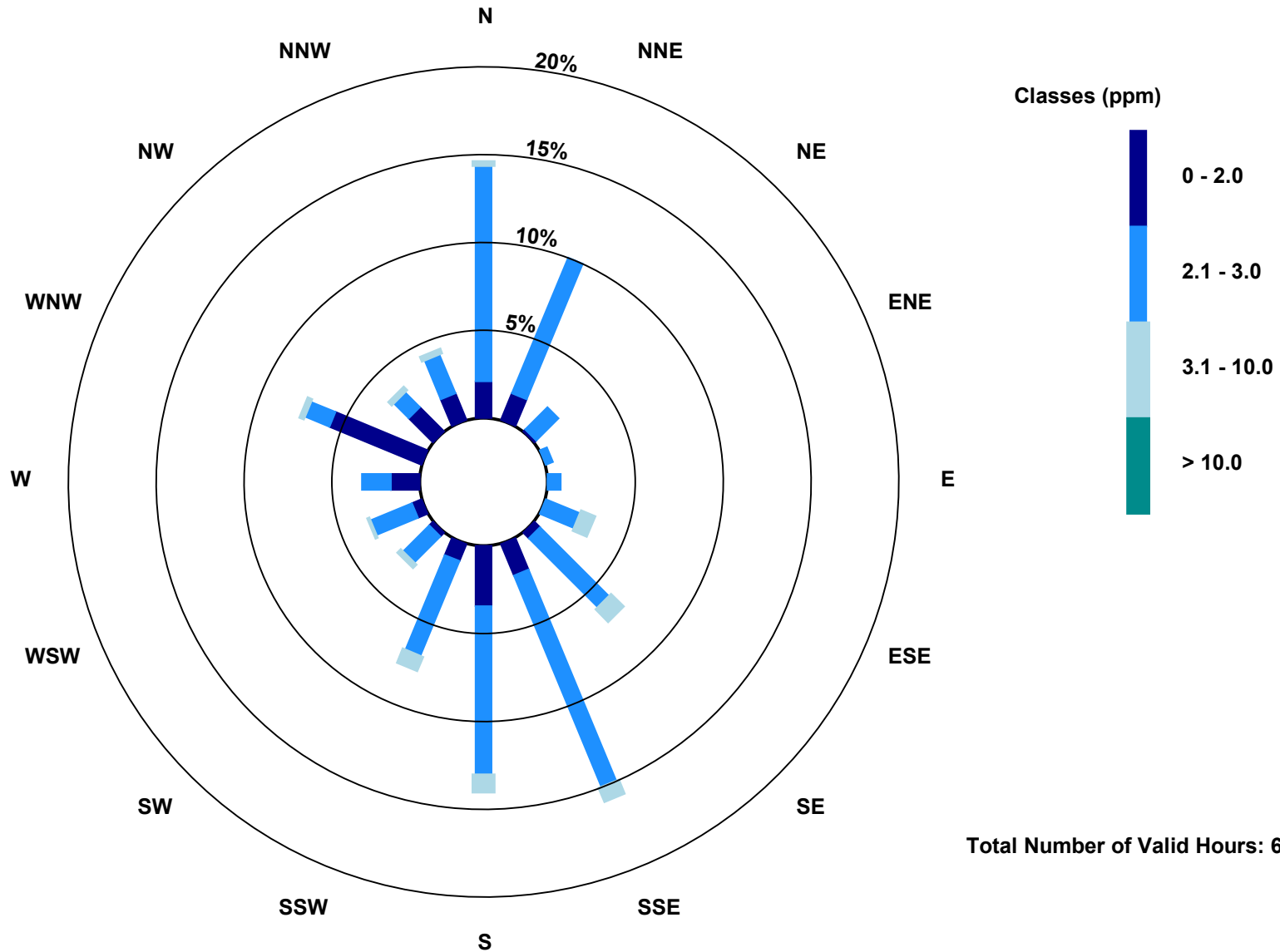
Total Number of Valid Hours: 669

Total Number of Hours: 744

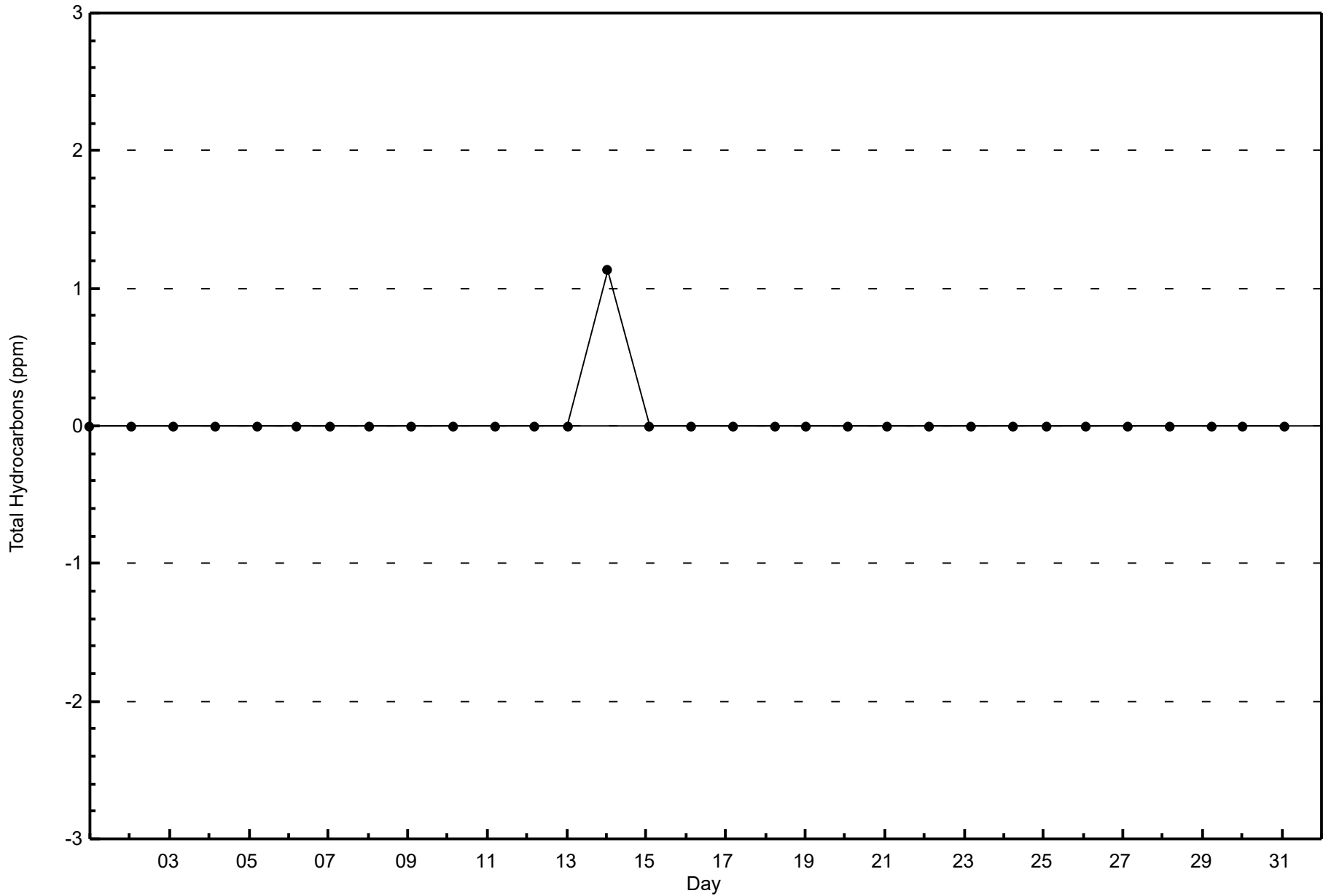


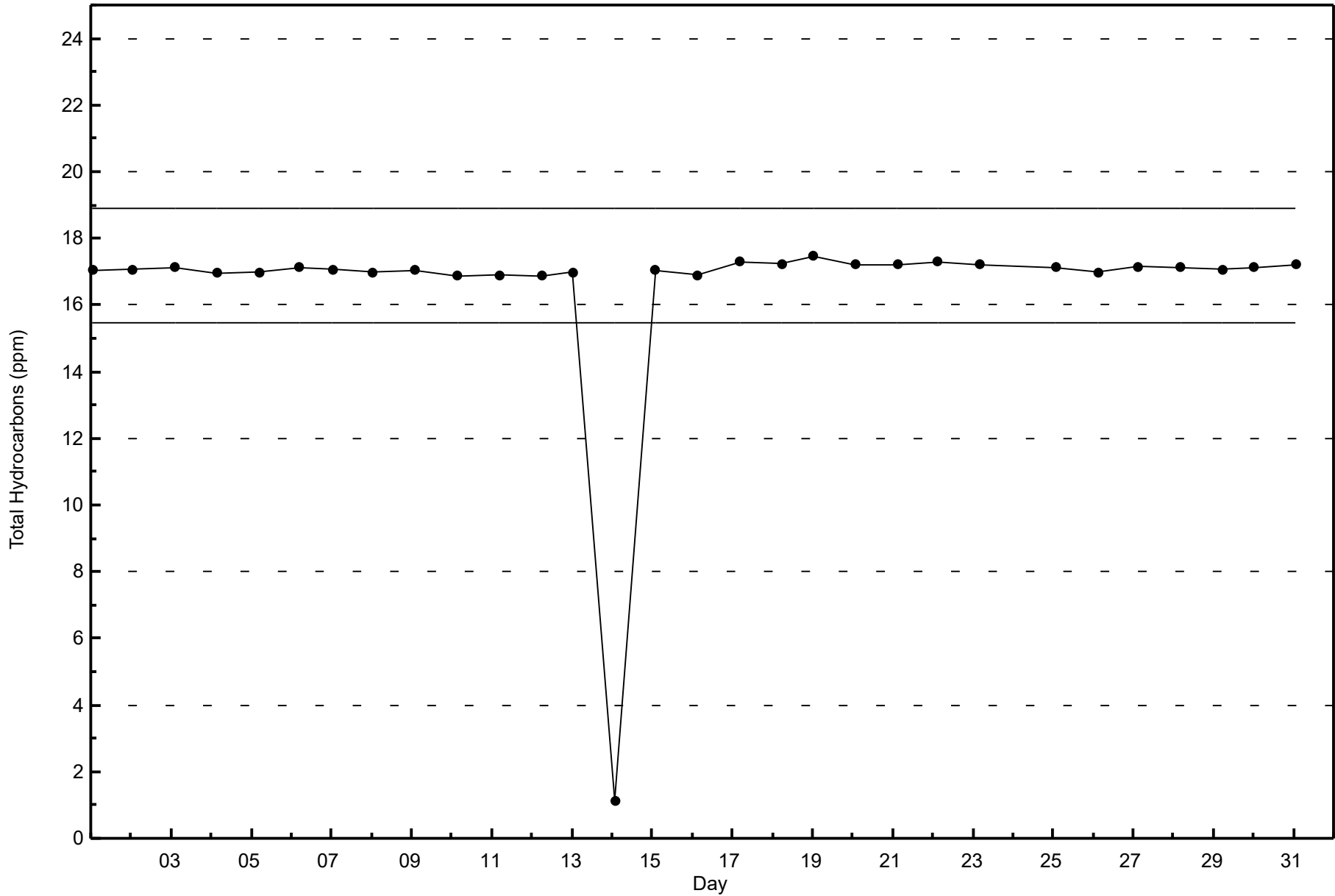
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Total Hydrocarbons (THC) - ppm
Fort Hills



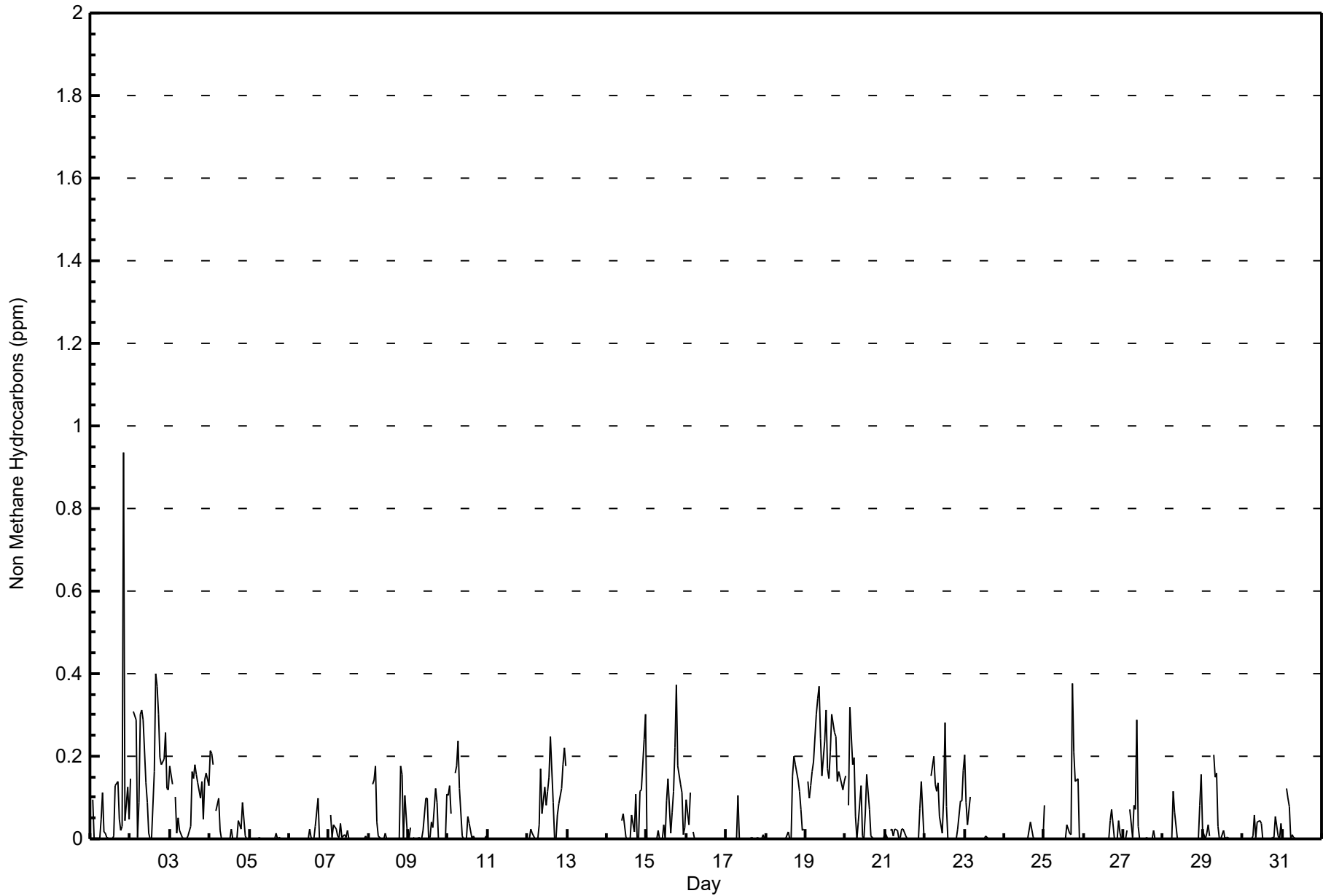
Total Number of Valid Hours: 669







Maximum Value: 0.936 ppm on Jan 1 21:00		Maximum Daily Average: 0.205 ppm on Jan 19		Hours in Service:	744																						
Minimum Value: 0.000 ppm on Jan 1 03:00		Minimum Daily Average: 0.000 ppm on Jan 11		Hours of Data:	678																						
Maximum Diurnal Average: 0.076 ppm at hour 21		Minimum Diurnal Average: 0.021 ppm at hour 12		Hours of Missing Data:	66																						
Monthly Average: 0.045 ppm		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.1 P ₉₀ = 0.2 P ₉₉ = 0.3		Hours of Calibration:	32																						
				Percent Operational Time:	95.4																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	Z	0.094	0.000	0.000	0.000	0.000	0.049	0.111	0.016	0.013	0.002	0.000	0.000	0.000	0.005	0.130	0.140	0.047	0.021	0.031	0.936	0.043	0.124	0.049	0.079	0.936	
2-Jan	0.147	Z	0.310	0.288	0.004	0.089	0.300	0.311	0.290	0.136	0.087	0.014	0.000	0.000	0.163	0.401	0.371	0.301	0.196	0.178	0.193	0.258	0.123	0.119	0.186	0.401	
3-Jan	0.176	0.134	Z	0.100	0.014	0.051	0.022	0.005	0.000	0.000	0.000	0.006	0.030	0.161	0.146	0.179	0.157	0.135	0.098	0.137	0.046	0.141	0.159	0.130	0.088	0.179	
4-Jan	0.212	0.206	0.178	Z	0.066	0.099	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.023	0.001	0.000	0.000	0.045	0.034	0.025	0.089	0.006	0.000	0.000	0.044	0.212	
5-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.004	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.013	0.000	0.004	0.000	0.000	0.000	0.000	0.001	0.013		
6-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.024	0.003	0.000	0.000	0.029	0.099	0.000	0.000	0.000	0.000	0.000	0.007	0.099		
7-Jan	Z	0.057	0.003	0.036	0.024	0.005	0.003	0.037	0.004	0.011	0.005	0.019	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000	0.000	0.006	0.000	0.009	0.057	
8-Jan	0.000	Z	0.131	0.143	0.177	0.039	0.006	0.000	0.001	0.000	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.176	0.155	0.001	0.105	0.002	0.041	0.177	
9-Jan	0.000	0.027	Z	0.003	0.000	0.000	0.002	0.000	0.000	0.020	0.097	0.097	0.002	0.003	0.041	0.026	0.121	0.087	0.000	0.000	0.000	0.000	0.000	0.110	0.028	0.121	
10-Jan	0.105	0.128	0.062	Z	0.158	0.177	0.237	0.123	0.005	0.000	0.000	0.000	0.056	0.037	0.000	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.008	0.048	0.237		
11-Jan	0.000	0.000	0.001	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.001		
12-Jan	0.000	0.000	0.022	0.012	0.000	Z	0.000	0.035	0.170	0.060	0.125	0.081	0.117	0.149	0.249	0.089	0.000	0.000	0.057	0.085	0.121	0.181	0.222	0.175	0.085	0.249	
13-Jan	Z	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	--	
14-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	M	0.044	0.061	0.004	0.000	0.000	0.057	0.016	0.107	0.000	0.001	0.115	0.120	0.241	0.302	--	0.302	
15-Jan	0.000	0.000	Z	0.000	0.000	0.000	0.022	0.000	0.022	0.000	0.035	0.000	0.092	0.144	0.014	0.065	0.116	0.220	0.372	0.175	0.131	0.112	0.009	0.026	0.067	0.372	
16-Jan	0.095	0.034	0.112	Z	0.017	0.000	0.000	0.000	M	C	C	C	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.014	0.112		
17-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.106	0.002	0.002	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.003	0.000	0.010	0.000	0.005	0.106		
18-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.016	0.000	0.000	0.153	0.201	0.180	0.142	0.115	0.073	0.020	0.023	0.040	0.201	
19-Jan	Z	0.140	0.097	0.130	0.163	0.187	0.303	0.338	0.369	0.246	0.153	0.236	0.312	0.170	0.145	0.211	0.301	0.259	0.249	0.138	0.162	0.148	0.118	0.139	0.205	0.369	
20-Jan	0.153	Z	0.083	0.319	0.180	0.197	0.055	0.000	0.039	0.127	0.007	0.000	0.061	0.155	0.070	0.007	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.063	0.319		
21-Jan	0.018	0.000	Z	0.020	0.023	0.007	0.025	0.022	0.000	0.004	0.025	0.025	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.074	0.138	0.002	0.017	0.138		
22-Jan	0.000	0.000	0.000	Z	0.154	0.201	0.132	0.115	0.134	0.053	0.012	0.102	0.283	0.078	0.000	0.000	0.000	0.000	0.000	0.000	0.025	0.091	0.090	0.168	0.071	0.283	
23-Jan	0.203	0.087	0.035	0.101	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.019	0.203		
24-Jan	0.000	0.000	0.000	0.000	0.000	DF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.022	0.040	0.005	0.000	0.000	0.000	0.000	0.001	0.003	0.040		
25-Jan	0.081	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.032	0.013	0.011	0.375	0.212	0.138	0.147	0.000	0.000	0.044	0.375		
26-Jan	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.045	0.070	0.000	0.000	0.000	0.045	0.015	0.000	0.008	0.070		
27-Jan	0.000	0.000	0.021	Z	0.071	0.003	0.083	0.072	0.288	0.030	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.021	0.000	0.000	0.000	0.000	0.026	0.288		
28-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.114	0.064	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.080	0.155	0.000	0.018	0.155		
29-Jan	0.021	0.000	0.014	0.034	0.008	Z	0.204	0.150	0.159	0.030	0.000	0.000	0.020	0.000	0.004	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.028	0.204		
30-Jan	Z	0.000	0.000	0.000	0.000	0.000	0.007	0.056	0.004	0.039	0.046	0.038	0.000	0.000	0.000	0.002	0.000	0.000	0.003	0.002	0.054	0.008	0.000	0.036	0.013	0.056	
31-Jan	0.003	Z	0.123	0.098	0.078	0.002	0.010	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.014	0.123		
		0.049	0.038	0.050	0.054	0.047	0.044	0.054	0.054	0.053	0.028	0.023	0.021	0.033	0.032	0.029	0.040	0.051	0.065	0.048	0.041	0.076	0.043	0.049	0.048	Diurnal Average	
		0.212	0.206	0.310	0.319	0.180	0.201	0.303	0.338	0.369	0.246	0.153	0.236	0.312	0.170	0.249	0.401	0.371	0.375	0.372	0.178	0.936	0.258	0.241	0.302	Diurnal Maximum	
Z - zerospan		C - Calibration				M - Maintenance				DF - DAS Failure				UO - Unstable Operation													





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Non Methane Hydrocarbons (NMHC) - ppm
Fort Hills - January 2025**

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 0.005	406	59.88	59.88
0.006 - 0.05	99	14.60	74.48
0.06 - 0.1	101	14.90	89.38
> 0.1	72	10.62	100.00

Total Number of Valid Hours: 678

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Non Methane Hydrocarbons (NMHC) - ppm
Fort Hills - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 0.005	82	43	9	0	2	7	15	55	61	25	7	7	12	41	16	22	404
0.006 - 0.05	12	14	2	0	0	1	8	17	10	10	3	5	5	3	4	4	98
0.06 - 0.1	4	9	2	1	1	3	12	21	15	13	4	5	3	4	1	3	101
> 0.1	0	1	0	2	2	9	12	13	8	4	4	5	2	2	2	0	66
Totals	98	67	13	3	5	20	47	106	94	52	18	22	22	50	23	29	669

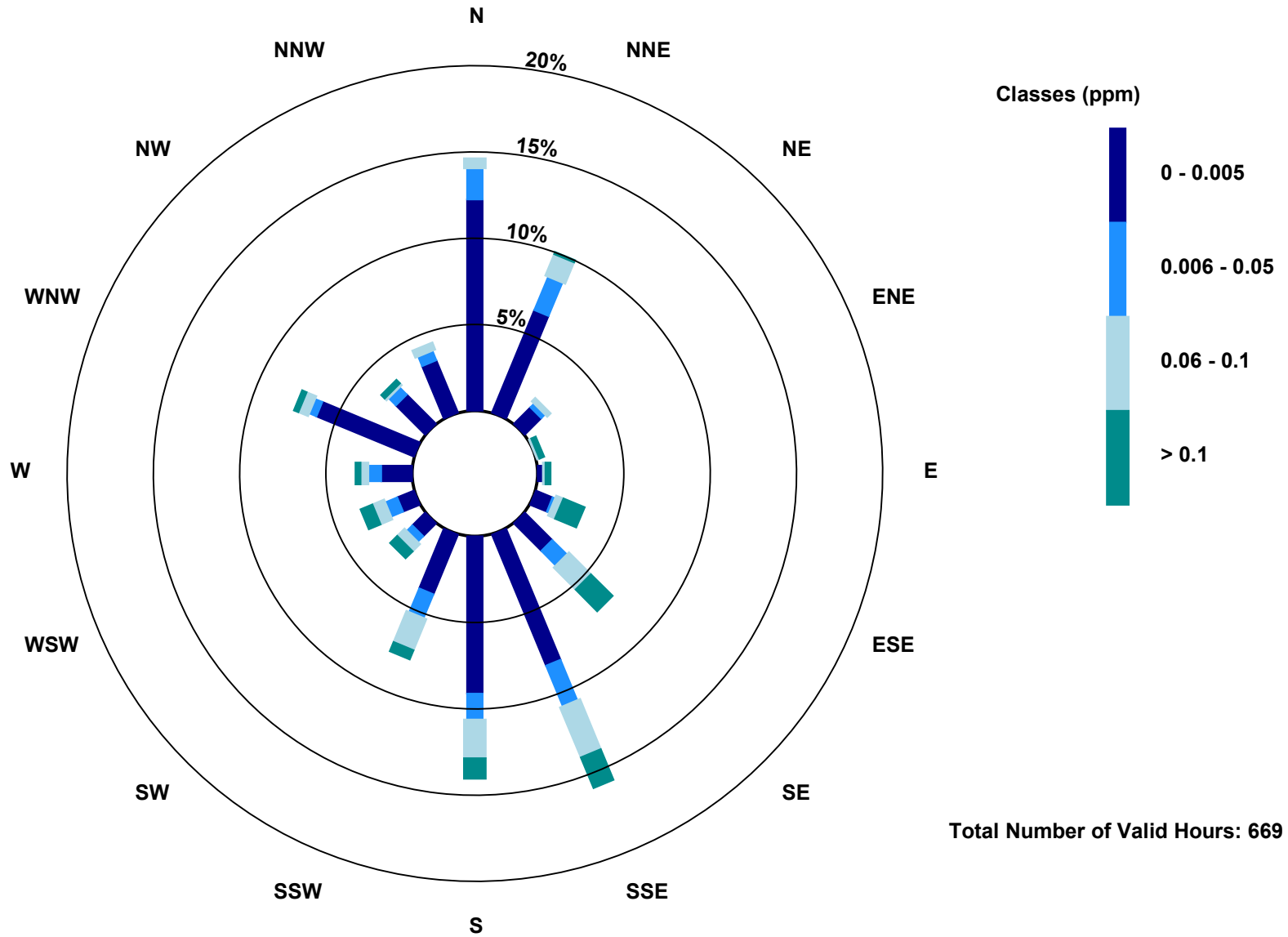
Total Number of Valid Hours: 669

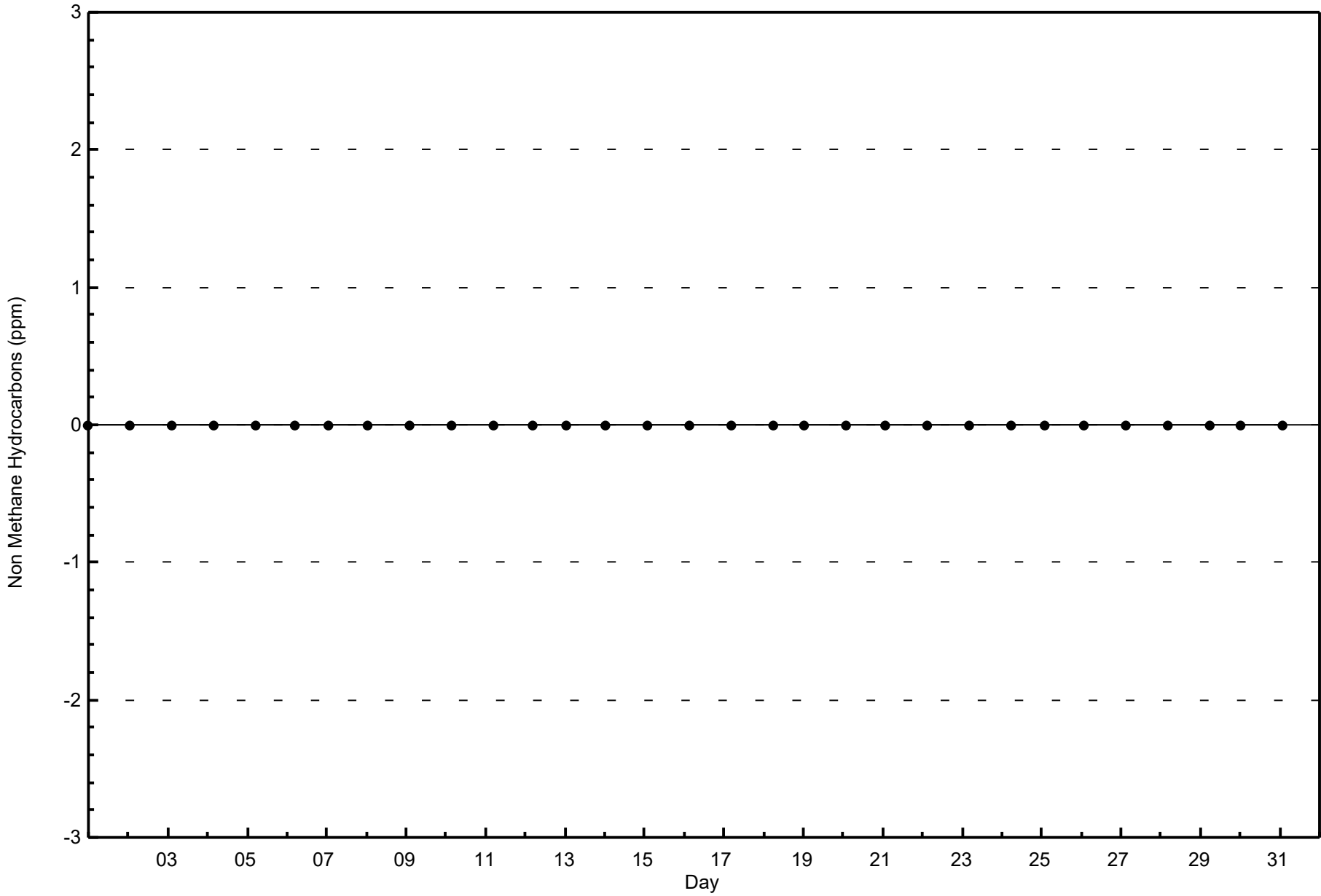
Total Number of Hours: 744

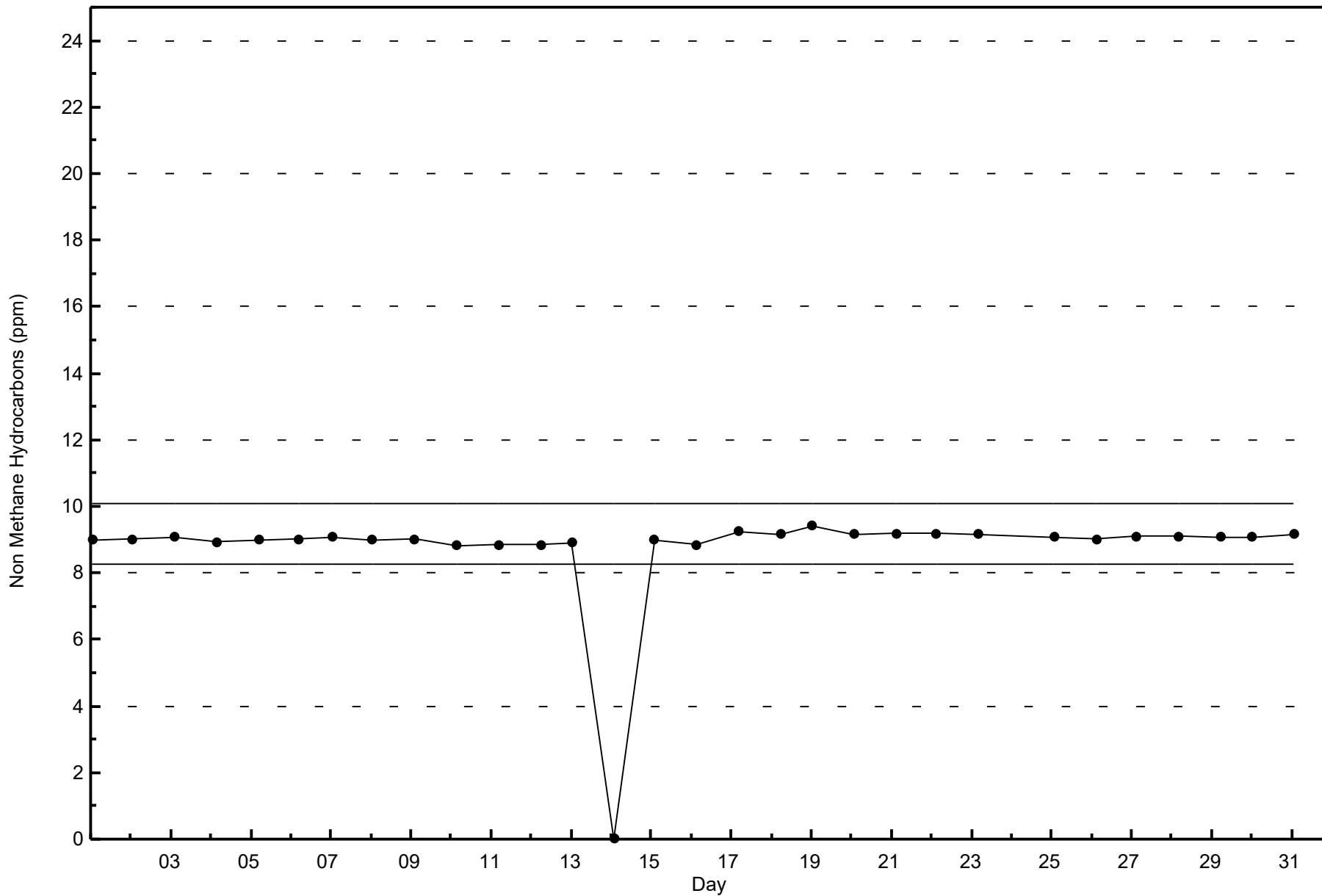


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Non Methane Hydrocarbons (NMHC) - ppm
Fort Hills









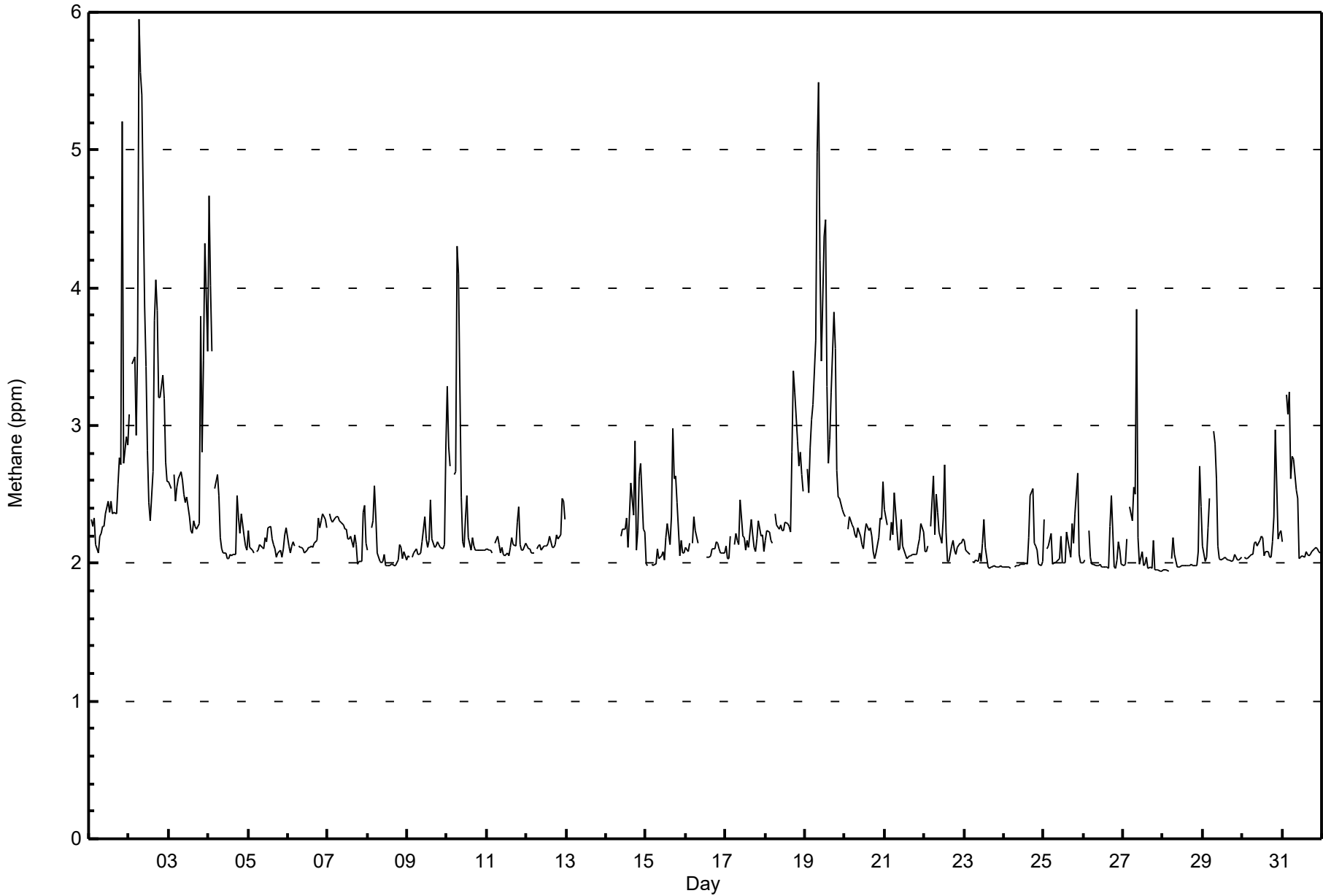
Wood Buffalo Environmental Association

Summary of Hour Averages

Methane (CH₄) - ppm

Fort Hills - January 2025

Number of Exceedences (AAAQO):		1-hr: 0		24-hr: 0		Hours in Service:														744																			
Maximum Value: 6.0 ppm on Jan 2 07:00		Maximum Daily Average: 3.5 ppm on Jan 2														Hours of Data:		678																					
Minimum Value: 1.9 ppm on Jan 27 23:00		Minimum Daily Average: 2.0 ppm on Jan 23														Hours of Missing Data:		66																					
Maximum Diurnal Average: 2.5 ppm at hour 8		Minimum Diurnal Average: 2.2 ppm at hour 15														Hours of Calibration:		32																					
Monthly Average: 2.31 ppm		Percentiles: P ₁ = 2.0 P ₁₀ = 2.0 Q ₁ = 2.1 Median = 2.1 Q ₃ = 2.3 P ₉₀ = 2.7 P ₉₉ = 4.5														Percent Operational Time:		95.4																					
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24															
1-Jan	Z	2.3	2.3	2.3	2.1	2.1	2.2	2.2	2.3	2.3	2.4	2.4	2.4	2.5	2.4	2.4	2.4	2.6	2.8	2.7	5.2	2.7	2.9	2.9	2.5	5.2													
2-Jan	3.1	Z	3.4	3.5	2.9	3.6	6.0	5.6	5.4	3.9	3.4	2.8	2.4	2.3	2.7	3.8	4.1	3.8	3.2	3.2	3.4	3.2	2.7	2.6	3.5	6.0													
3-Jan	2.6	2.5	Z	2.6	2.5	2.6	2.6	2.7	2.6	2.5	2.4	2.5	2.3	2.2	2.2	2.3	2.3	2.3	3.8	2.8	3.5	4.3	3.5	2.7	4.3														
4-Jan	4.7	4.0	3.5	Z	2.5	2.6	2.5	2.2	2.1	2.1	2.1	2.0	2.0	2.1	2.1	2.1	2.5	2.3	2.2	2.4	2.2	2.1	2.1	2.5	4.7														
5-Jan	2.2	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.3	2.2	2.1	2.1	2.0	2.1	2.1	2.0	2.1	2.2	2.3	2.1	2.3													
6-Jan	2.1	2.1	2.1	2.2	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.3	2.3	2.4	2.3	2.3	2.2	2.4													
7-Jan	Z	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.1	2.2	2.1	2.0	2.0	2.0	2.4	2.4	2.1	2.2	2.4													
8-Jan	2.1	Z	2.3	2.3	2.6	2.3	2.1	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.1	2.0	2.1	2.6													
9-Jan	2.1	2.0	Z	2.0	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.2	2.1	2.2	2.5	2.2	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.8	2.2	2.8													
10-Jan	3.3	2.8	2.7	Z	2.6	2.7	4.3	4.1	2.5	2.2	2.1	2.3	2.5	2.2	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.5	4.3														
11-Jan	2.1	2.1	2.1	2.1	Z	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.3	2.4	2.1	2.1	2.1	2.1	2.1	2.4													
12-Jan	2.1	2.1	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.2	2.2	2.2	2.5	2.5	2.3	2.2	2.5												
13-Jan	Z	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	--													
14-Jan	UO	UO	UO	UO	UO	UO	UO	UO	M	2.2	2.2	2.2	2.3	2.1	2.3	2.6	2.3	2.9	2.1	2.2	2.6	2.7	2.2	2.2	--	2.9													
15-Jan	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.1	2.0	2.1	2.0	2.2	2.3	2.1	2.3	2.3	3.0	2.6	2.6	2.4	2.1	2.2	2.1	2.1	2.2	3.0													
16-Jan	2.1	2.1	2.1	Z	2.1	2.3	2.2	2.2	M	C	C	C	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.3													
17-Jan	2.1	2.0	2.0	2.2	Z	2.1	2.2	2.2	2.1	2.5	2.2	2.2	2.2	2.1	2.2	2.1	2.3	2.2	2.1	2.1	2.2	2.3	2.2	2.1	2.2	2.5													
18-Jan	2.2	2.2	2.2	2.2	2.1	Z	2.4	2.3	2.2	2.3	2.2	2.2	2.3	2.3	2.3	2.2	2.8	3.4	3.2	2.9	2.7	2.8	2.6	2.5	2.5	3.4													
19-Jan	Z	2.7	2.5	2.8	3.0	3.2	3.6	5.0	5.5	4.2	3.5	4.4	4.5	3.3	2.7	2.9	3.2	3.8	3.6	2.7	2.5	2.5	2.4	2.4	3.3	5.5													
20-Jan	2.3	Z	2.2	2.3	2.3	2.3	2.2	2.2	2.3	2.2	2.1	2.1	2.2	2.3	2.2	2.3	2.2	2.1	2.0	2.1	2.2	2.3	2.3	2.6	2.2	2.6													
21-Jan	2.4	2.3	Z	2.2	2.3	2.2	2.5	2.2	2.1	2.1	2.3	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.2	2.2	2.5													
22-Jan	2.1	2.1	2.1	Z	2.3	2.6	2.2	2.5	2.4	2.2	2.2	2.3	2.7	2.2	2.0	2.0	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.7													
23-Jan	2.2	2.1	2.1	2.1	Z	2.0	2.0	2.0	2.0	2.1	2.0	2.1	2.3	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.3													
24-Jan	2.0	2.0	2.0	2.0	2.0	DF	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.5	2.5	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.5													
25-Jan	2.3	Z	2.1	2.1	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.1	2.0	2.3	2.2	2.4	2.7	2.1	2.0	2.0	2.1	2.7													
26-Jan	2.0	2.0	Z	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.5	2.0	2.0	2.0	2.2	2.1	2.0	2.0	2.5													
27-Jan	2.0	2.0	2.2	Z	2.4	2.3	2.6	2.5	3.8	2.2	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.0	1.9	1.9	1.9	1.9	2.2	3.8													
28-Jan	1.9	2.0	2.0	1.9	Z	2.0	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.7	2.4	2.0	2.7													
29-Jan	2.1	2.0	2.0	2.3	2.5	Z	3.0	2.9	2.6	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.2	3.0													
30-Jan	Z	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.1	2.2	2.2	2.2	2.1	2.1	2.1	2.0	2.0	2.2	2.3	3.0	2.2	2.2	2.2	2.2	3.0													
31-Jan	2.2	Z	3.2	3.1	3.2	2.6	2.8	2.8	2.5	2.5	2.0	2.0	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3	3.2													
																								Diurnal Average		2.3													
																								Diurnal Maximum		4.7													
Z - zerospan																								C - Calibration				M - Maintenance				DF - DAS Failure				UO - Unstable Operation			





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Methane (CH₄) - ppm
Fort Hills - January 2025**

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	157	23.16	23.16
2.1 - 3.0	476	70.21	93.36
3.1 - 10.0	45	6.64	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 678

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Methane (CH₄) - ppm
Fort Hills - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2.0	14	14	1	0	0	0	3	13	23	7	2	5	11	38	14	11	156
2.1 - 3.0	82	53	12	3	5	15	38	87	64	40	14	17	11	10	7	16	474
3.1 - 10.0	2	0	0	0	0	5	6	6	7	5	2	0	0	2	2	2	39
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	98	67	13	3	5	20	47	106	94	52	18	22	22	50	23	29	669

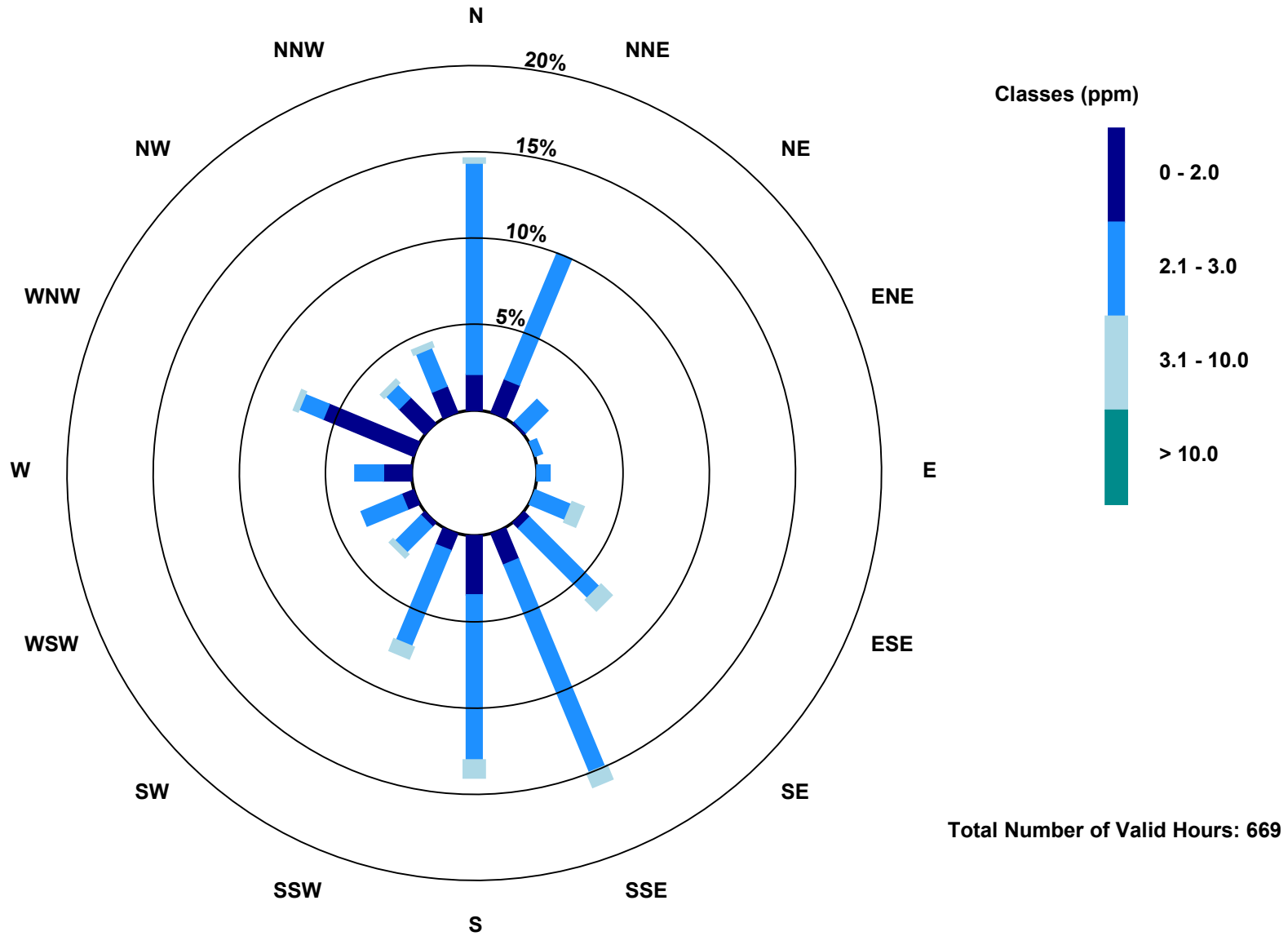
Total Number of Valid Hours: 669

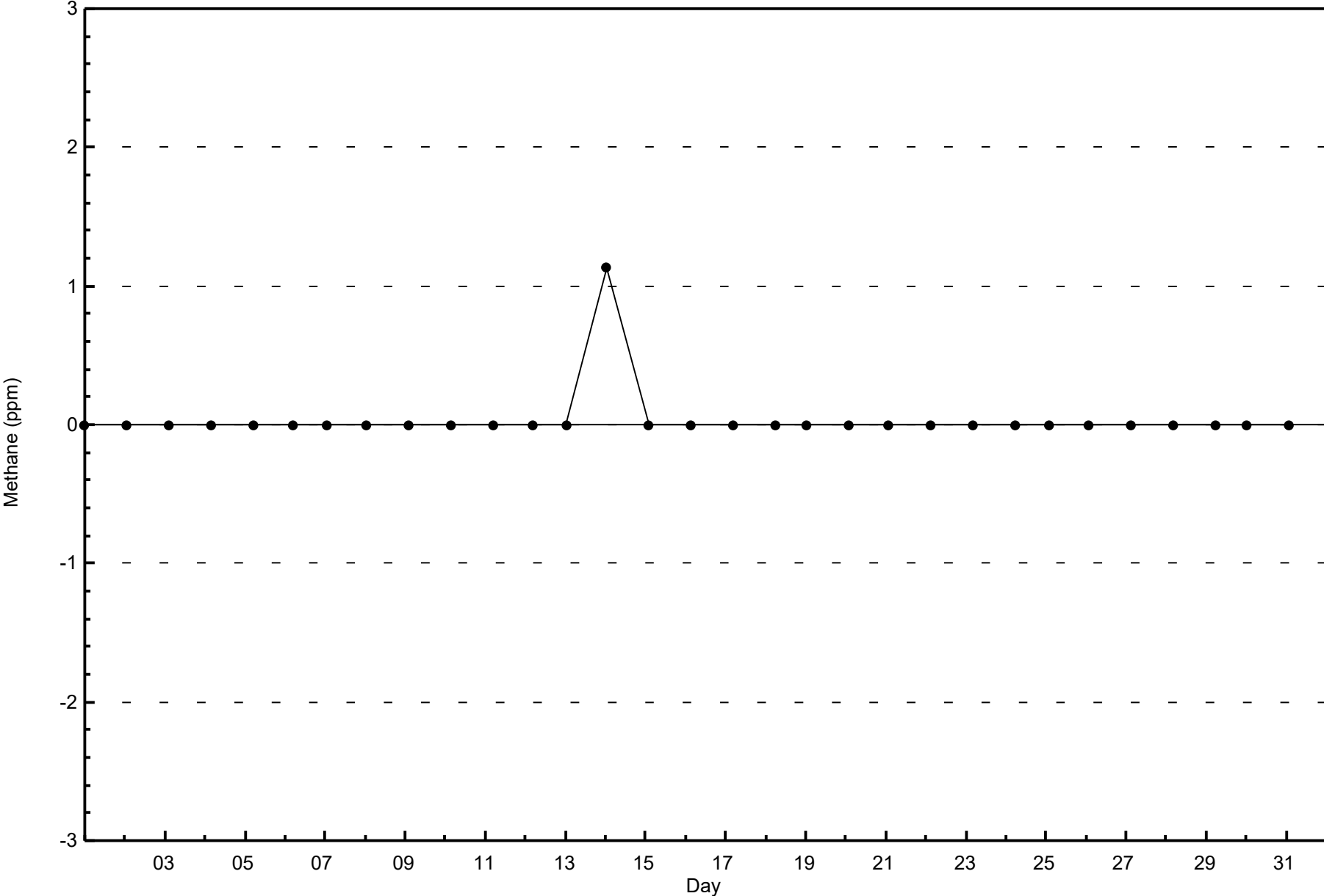
Total Number of Hours: 744

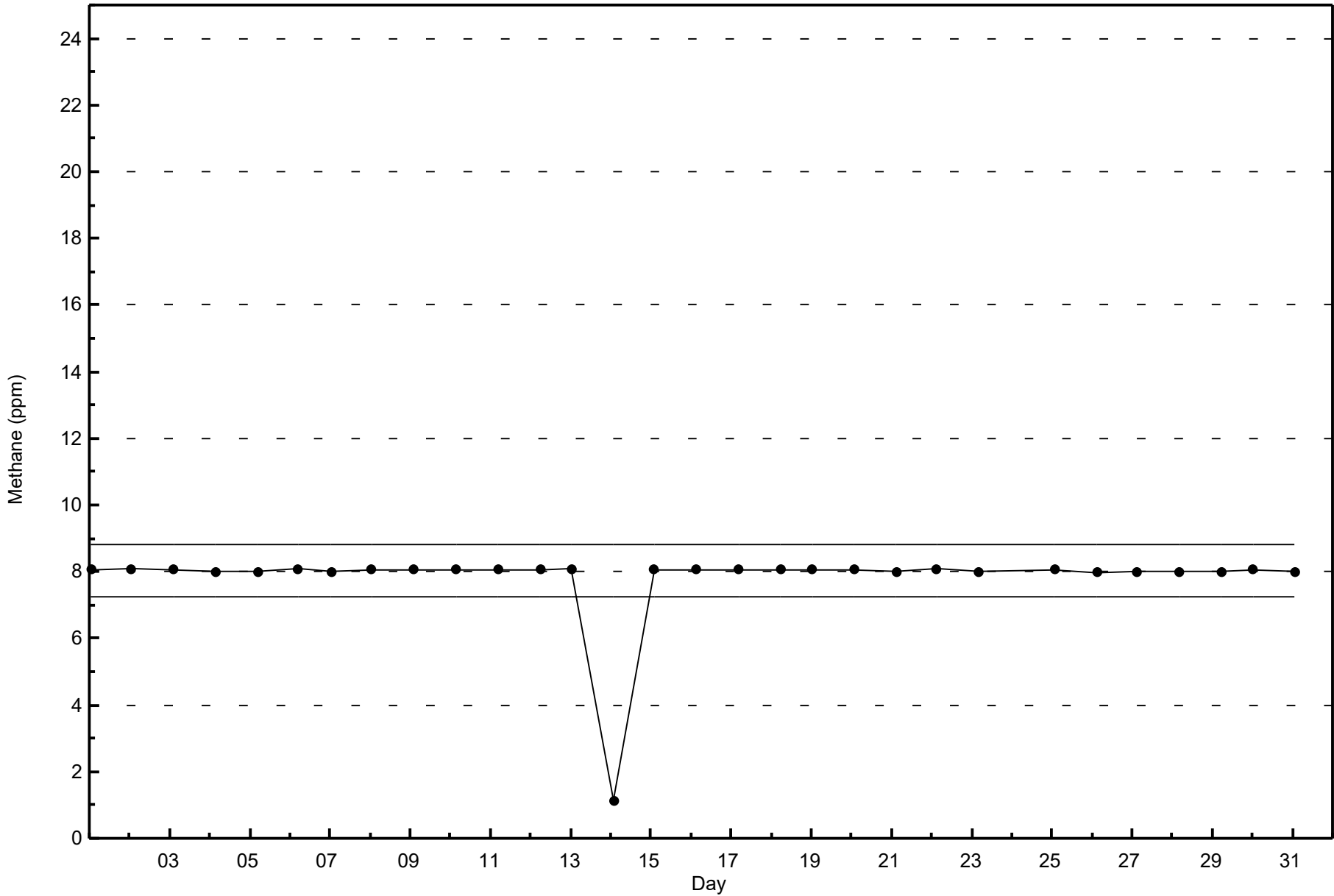


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Methane (CH₄) - ppm
Fort Hills









Wood Buffalo Environmental Association
Summary of Hour Averages

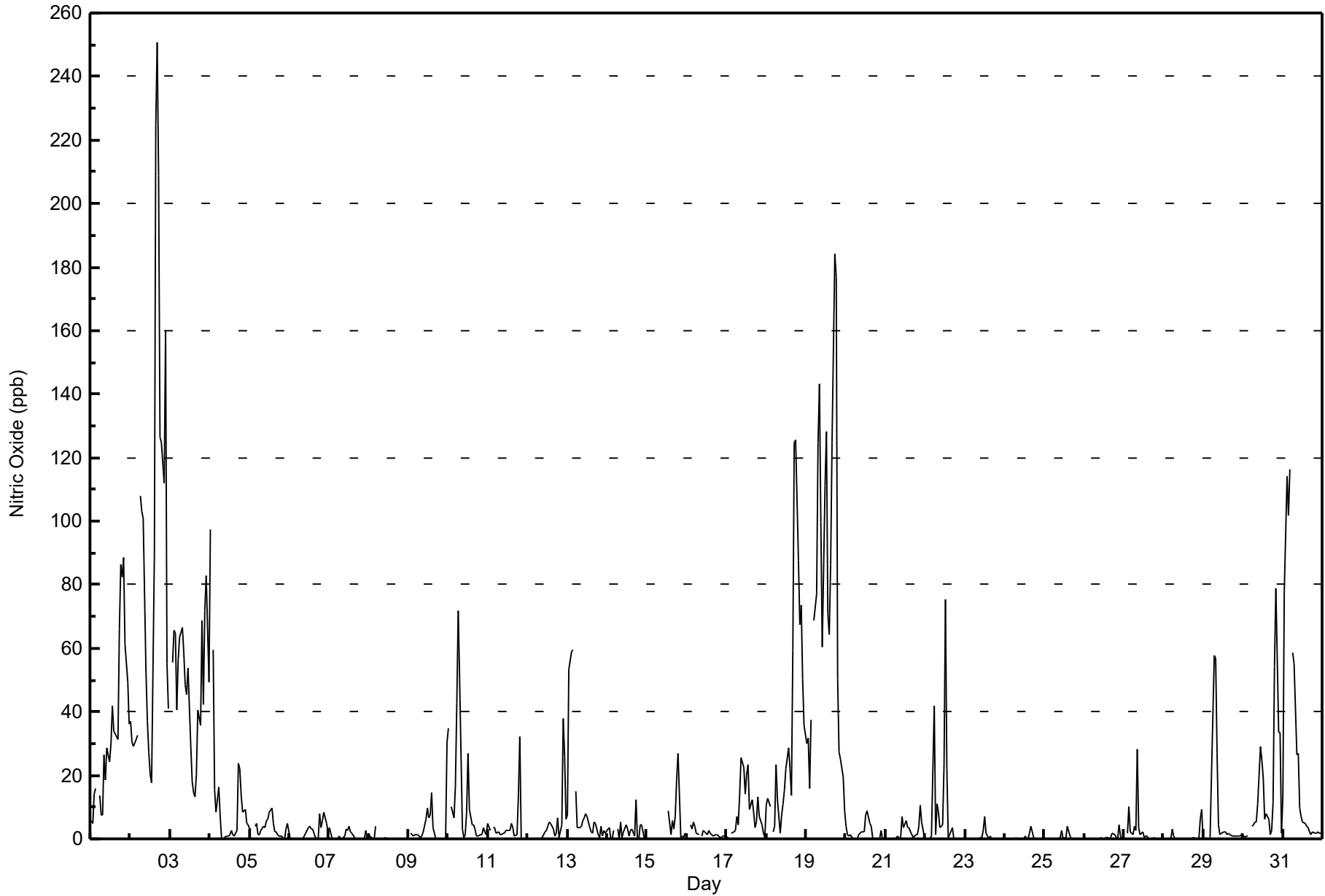
Nitric Oxide (NO) - ppb
Fort Hills - January 2025

Number of Exceedences (AAAQO):		1-hr: 0	24-hr: 0	Hours in Service: 744																	744					
Maximum Value: 250.6 ppb on Jan 2 17:00		Maximum Daily Average: 87.8 ppb on Jan 2																	705							
Minimum Value: 0.0 ppb on Jan 4 09:00		Minimum Daily Average: 0.3 ppb on Jan 8																	39							
Maximum Diurnal Average: 22.3 ppb at hour 18		Minimum Diurnal Average: 7.8 ppb at hour 24																	37							
Monthly Average: 13.90 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 2.0 Q ₃ = 9.2 P ₉₀ = 48.9 P ₉₉ = 128.1																	99.7							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	5.6	5.1	14.2	15.9	Z	13.8	7.3	7.4	26.4	18.6	28.5	24.2	30.2	41.9	33.8	33.1	31.5	66.3	86.5	82.6	88.8	61.2	49.2	36.1	35.1	88.8
2-Jan	37.2	30.2	29.3	31.1	32.6	Z	107.9	103.3	100.9	52.5	37.1	27.2	20.2	17.7	89.6	224.6	250.6	208.9	126.4	124.8	111.9	160.0	54.9	41.0	87.8	250.6
3-Jan	Z	55.3	65.7	64.6	40.5	56.6	63.3	66.6	58.8	48.5	45.4	53.7	29.0	18.3	14.6	13.2	20.3	40.5	35.8	68.9	42.3	72.0	82.8	49.4	48.1	82.8
4-Jan	97.5	Z	59.4	15.4	8.4	16.1	6.9	0.1	0.0	0.4	1.0	0.7	1.3	2.7	1.3	0.8	2.7	23.7	21.9	13.8	8.3	9.3	4.8	4.6	13.1	97.5
5-Jan	3.2	3.2	Z	3.8	4.7	1.5	1.4	2.7	3.9	3.4	5.9	6.3	8.2	9.9	4.9	2.0	2.2	1.5	1.1	0.7	0.0	0.2	3.2	4.9	3.4	9.9
6-Jan	0.1	0.0	0.1	Z	0.0	0.0	0.1	0.0	0.1	0.9	1.8	3.4	4.2	3.2	3.2	1.8	0.5	0.2	8.0	3.6	5.6	8.5	4.6	2.3	2.3	8.5
7-Jan	3.6	1.6	0.2	0.1	Z	0.0	0.8	0.2	0.1	1.0	3.0	2.7	3.8	2.4	1.8	0.5	0.0	0.0	0.0	0.0	0.0	2.6	0.0	1.1	3.8	
8-Jan	0.0	1.0	0.1	0.0	4.1	Z	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	4.1
9-Jan	Z	1.8	1.2	1.0	1.3	1.1	0.9	0.6	0.7	2.3	6.1	9.5	6.6	7.4	14.7	3.6	0.1	0.0	0.0	0.0	0.0	0.0	30.4	3.9	30.4	
10-Jan	34.9	Z	10.1	6.5	16.6	42.8	71.9	50.3	3.3	0.5	1.2	8.4	26.8	9.2	4.5	4.2	3.3	0.8	1.0	1.2	1.4	3.4	2.4	1.5	13.3	71.9
11-Jan	4.9	2.5	Z	3.3	3.6	1.7	2.4	1.2	1.4	1.7	1.8	2.7	2.7	2.6	4.6	3.4	1.0	1.2	13.6	32.0	0.0	0.0	0.0	0.1	3.8	32.0
12-Jan	0.1	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.5	2.0	2.6	3.9	5.3	4.8	3.2	0.9	2.0	6.7	0.5	4.4	37.8	26.2	6.4	4.7	37.8
13-Jan	7.3	53.4	58.8	59.3	Z	14.8	3.5	3.5	4.1	5.7	6.8	8.0	7.2	3.4	2.1	2.0	5.5	5.0	1.2	0.5	3.9	0.8	2.5	1.7	11.3	59.3
14-Jan	2.9	3.3	0.0	0.1	2.7	Z	3.3	0.0	5.4	0.4	2.1	4.3	2.9	1.0	2.5	3.3	1.0	12.5	0.0	0.0	4.5	4.5	0.1	0.6	2.5	12.5
15-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	C	C	C	C	C	C	9.0	1.5	5.9	2.9	7.2	18.7	26.8	0.3	0.9	0.2	1.6	--	26.8
16-Jan	0.7	Z	4.3	3.1	5.3	3.8	1.6	1.2	M	0.9	2.5	2.3	1.5	2.8	1.6	1.3	0.8	1.4	1.5	0.8	0.6	0.5	0.9	0.7	1.8	5.3
17-Jan	0.6	0.5	Z	1.7	2.4	2.6	7.1	4.3	13.8	25.6	22.7	14.3	20.4	23.3	9.1	12.1	8.3	3.3	5.5	13.3	7.3	4.4	1.9	0.2	8.9	25.6
18-Jan	10.4	12.7	10.2	Z	2.1	4.0	23.3	12.2	1.8	7.6	11.1	15.5	22.1	28.6	21.9	13.6	59.7	124.9	125.4	87.5	67.3	73.7	50.4	35.6	35.7	125.4
19-Jan	30.0	31.9	15.7	37.6	Z	68.9	77.0	124.7	143.4	99.6	60.5	111.2	128.2	70.9	64.4	86.2	124.8	184.3	176.9	50.3	27.2	25.0	19.5	8.7	76.8	184.3
20-Jan	3.8	1.2	0.7	1.2	0.2	Z	0.1	0.1	1.1	2.3	2.0	2.3	7.4	9.0	4.9	3.9	0.6	0.0	0.0	0.0	0.0	2.7	0.2	0.0	1.9	9.0
21-Jan	Z	0.0	0.0	0.0	0.1	0.0	0.1	0.9	0.0	0.5	7.0	3.5	5.5	3.7	3.5	2.3	1.4	0.6	1.1	1.2	3.9	10.7	5.4	0.5	2.3	10.7
22-Jan	0.1	Z	0.0	0.0	1.1	42.0	1.2	11.1	8.5	3.7	4.3	23.2	75.3	22.2	0.7	1.1	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.6	75.3
23-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.4	2.7	7.1	1.8	0.1	0.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	7.1
24-Jan	0.1	0.0	0.0	Z	0.2	DF	0.2	0.2	0.1	0.1	0.0	0.0	0.8	0.1	0.1	1.9	3.8	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.4	3.8
25-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.5	2.6	0.1	0.4	0.2	4.1	0.9	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.4	4.1
26-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.1	0.2	0.4	0.4	0.1	0.6	1.6	1.2	0.4	0.0	4.3	0.7	0.1	0.5	4.3
27-Jan	0.3	Z	1.6	10.1	2.2	1.5	4.1	2.8	28.1	3.5	1.3	2.2	0.5	0.7	0.9	0.1	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	2.6	28.1
28-Jan	0.2	0.0	Z	0.0	0.2	3.3	0.9	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	6.2	9.4	0.9	9.4
29-Jan	0.0	0.0	0.4	Z	0.4	20.0	57.8	56.7	26.8	4.3	1.5	1.9	2.2	2.0	1.5	1.7	1.3	1.0	0.8	0.8	0.7	0.9	0.7	1.4	8.0	57.8
30-Jan	0.8	0.6	0.8	1.0	Z	4.0	4.4	5.3	5.4	11.1	29.2	24.7	18.8	6.0	8.0	6.3	1.4	2.7	11.3	54.1	78.7	33.5	33.6	1.9	14.9	78.7
31-Jan	13.0	78.2	114.1	101.9	116.3	Z	58.6	55.1	26.3	27.1	9.8	7.0	5.4	5.0	3.9	3.4	2.2	1.4	2.1	1.9	1.8	2.0	1.9	1.6	27.8	116.3
9.9 10.9 14.9 13.8 9.4 12.4 16.3 17.0 15.9 10.8 9.9 12.2 14.8 10.0 10.0 14.1 17.1 22.3 20.9 18.3 14.8 16.7 11.4 7.8																								Diurnal Average		
97.5 78.2 114.1 101.9 116.3 68.9 107.9 124.7 143.4 99.6 60.5 111.2 128.2 70.9 89.6 224.6 250.6 208.9 176.9 124.8 111.9 160.0 82.8 49.4																								Diurnal Maximum		
Z - zerospan		C - Calibration				M - Maintenance				DF - DAS Failure																



Wood Buffalo Environmental Association
Hourly Averages

Nitric Oxide (NO) - ppb
Fort Hills - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Nitric Oxide (NO) - ppb
Fort Hills - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	576	81.70	81.70
21 - 40	50	7.09	88.79
41 - 80	48	6.81	95.60
81 - 159	25	3.55	99.15
> 159	6	0.85	100.00

Total Number of Valid Hours: 705

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitric Oxide (NO) - ppb
Fort Hills - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	87	66	12	2	5	8	37	101	81	44	16	20	18	43	17	18	575
21 - 40	10	1	1	1	1	2	11	2	3	4	0	1	1	3	2	4	47
11 - 80	3	0	0	0	0	4	10	14	4	3	2	0	0	1	2	4	47
81 - 159	2	1	0	0	0	6	2	3	3	2	1	0	0	0	1	2	23
> 159	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	4
Totals	102	68	13	3	6	20	62	122	91	53	19	21	19	47	22	28	696

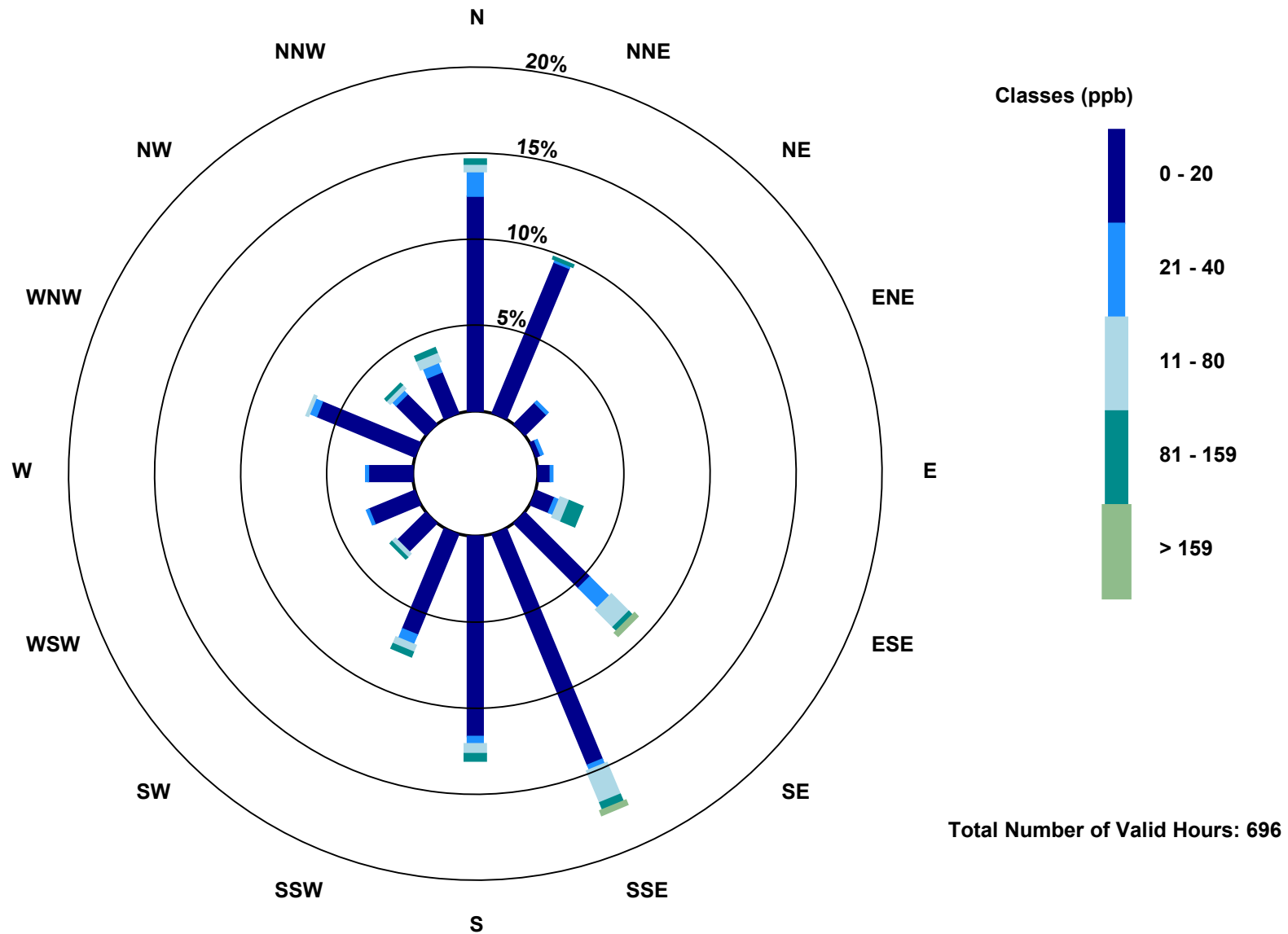
Total Number of Valid Hours: 696

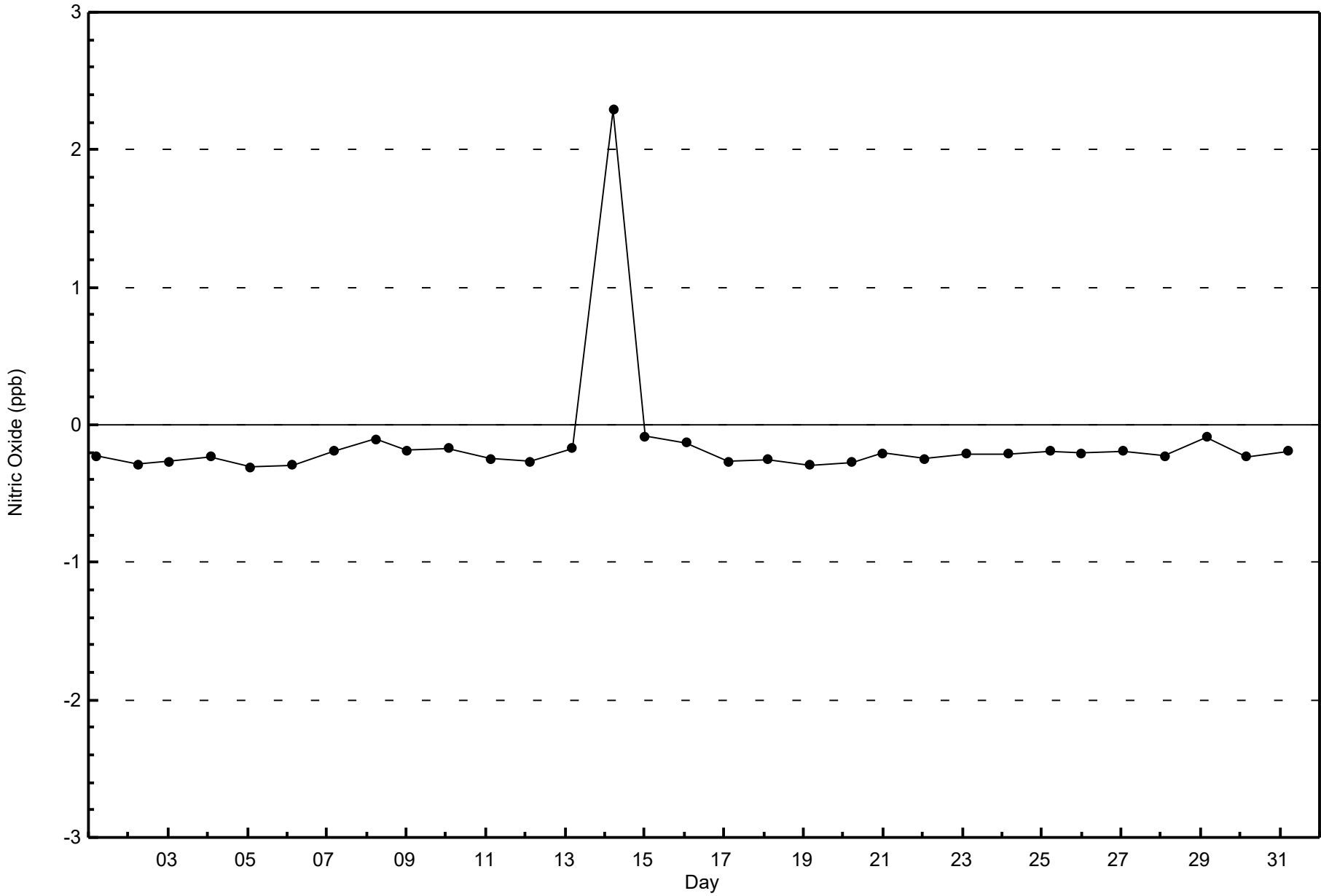
Total Number of Hours: 744

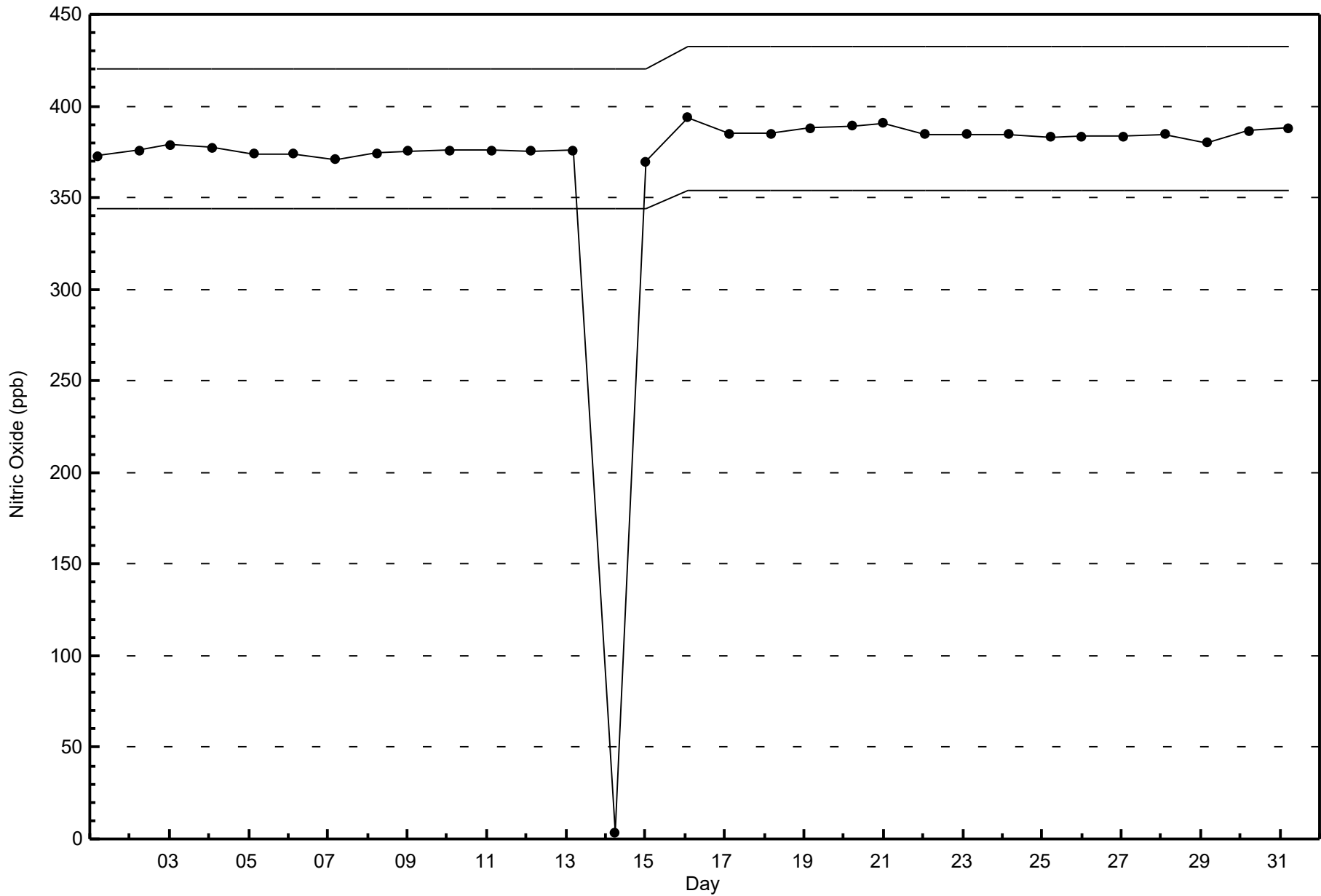


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitric Oxide (NO) - ppb
Fort Hills









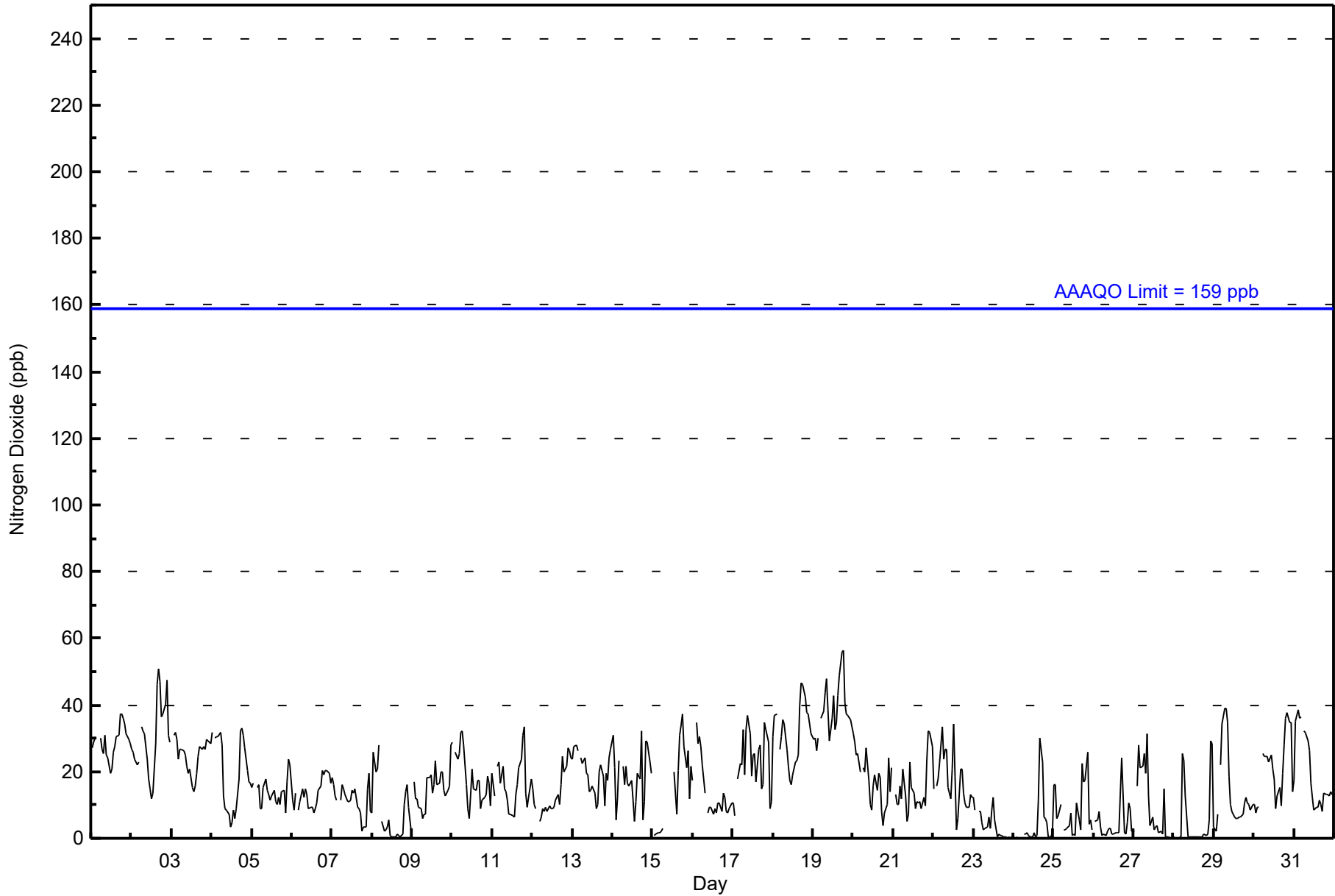
Wood Buffalo Environmental Association
Summary of Hour Averages

Nitrogen Dioxide (NO₂) - ppb
Fort Hills - January 2025

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 56.2 ppb on Jan 19 19:00	Maximum Daily Average: 38.4 ppb on Jan 19		Hours of Data:	705
Minimum Value: 0.1 ppb on Jan 28 02:00	Minimum Daily Average: 4.0 ppb on Jan 23		Hours of Missing Data:	39
Maximum Diurnal Average: 20.2 ppb at hour 6	Minimum Diurnal Average: 11.5 ppb at hour 14		Hours of Calibration:	37
Monthly Average: 16.60 ppb	Percentiles: P ₁ = 0.3 P ₁₀ = 1.7 Q ₁ = 8.2 Median = 14.8 Q ₃ = 24.9 P ₉₀ = 31.9 P ₉₉ = 46.6		Percent Operational Time:	99.7

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	27.1	28.8	30.0	29.9	Z	29.9	26.5	25.5	31.1	25.2	24.3	19.3	20.6	25.8	27.5	30.7	31.0	37.1	37.1	36.2	34.2	31.5	29.6	28.2	29.0	37.1																							
2-Jan	26.9	26.0	23.8	22.2	22.8	Z	33.3	32.0	31.4	23.9	17.6	15.0	12.0	13.5	28.2	46.3	50.7	47.1	36.5	37.1	40.1	47.5	30.8	28.7	30.1	50.7																							
3-Jan	Z	30.8	31.6	29.5	23.9	26.8	26.6	26.3	24.8	21.6	19.4	20.8	15.1	13.9	15.5	19.6	24.7	27.7	26.8	27.4	26.5	29.5	29.1	28.3	24.6	31.6																							
4-Jan	31.6	Z	30.2	30.3	30.4	31.8	27.8	12.8	9.0	8.3	7.0	3.6	4.6	8.4	5.8	9.0	17.7	32.4	33.2	30.8	27.1	20.5	17.0	16.6	19.4	33.2																							
5-Jan	15.3	16.4	Z	15.2	16.1	9.1	8.7	15.1	17.7	14.6	13.1	11.5	12.7	14.4	11.0	10.0	12.4	10.2	14.0	14.2	7.5	17.0	23.7	22.0	14.0	23.7																							
6-Jan	11.6	8.5	13.7	Z	8.5	11.1	14.7	12.4	14.9	13.1	9.0	9.3	9.5	7.8	9.0	10.7	14.4	15.8	20.3	19.1	20.3	20.3	19.5	16.4	13.5	20.3																							
7-Jan	18.3	16.0	12.7	11.6	Z	11.6	16.2	14.8	13.1	11.1	11.2	11.5	14.3	13.4	14.8	9.3	9.1	7.6	2.1	3.6	3.2	15.0	19.3	8.0	11.6	19.3																							
8-Jan	7.8	25.9	20.0	20.9	28.1	Z	5.0	2.0	2.6	3.2	5.6	0.7	0.4	0.5	0.5	1.1	0.7	0.4	1.1	10.0	13.9	16.0	9.3	1.8	7.7	28.1																							
9-Jan	Z	16.9	11.7	11.7	9.4	8.8	6.0	7.2	7.2	18.2	18.2	19.0	13.5	16.3	23.5	15.9	16.6	19.9	20.1	14.3	12.9	14.4	15.6	28.1	15.0	28.1																							
10-Jan	28.9	Z	25.7	23.9	25.6	31.6	32.1	28.1	16.3	8.8	6.1	13.3	20.8	14.7	14.4	17.3	17.4	9.0	11.4	12.1	13.1	18.5	16.7	9.7	18.1	32.1																							
11-Jan	19.5	12.7	Z	21.7	22.9	16.5	21.8	15.0	13.9	11.5	7.3	7.0	6.8	6.3	13.3	15.9	21.1	23.9	30.9	33.6	13.5	9.2	12.2	17.9	16.3	33.6																							
12-Jan	14.9	10.2	8.7	Z	4.9	6.5	8.8	8.2	9.4	8.0	9.9	8.9	8.9	9.3	11.4	13.1	10.1	16.0	24.6	20.0	21.7	27.1	26.3	24.3	13.5	27.1																							
13-Jan	23.7	27.7	28.1	26.4	Z	24.2	22.3	24.3	19.3	19.1	14.1	14.5	15.5	13.7	9.0	10.1	20.0	21.9	18.8	9.9	19.4	17.2	24.0	26.6	19.6	28.1																							
14-Jan	30.9	21.0	5.3	12.4	23.3	Z	21.4	16.2	21.6	16.5	15.6	17.3	11.5	5.2	11.1	19.4	17.6	32.1	5.4	11.2	29.2	28.9	22.8	19.7	18.1	32.1																							
15-Jan	Z	0.9	1.3	1.5	1.9	2.2	2.8	C	C	C	C	C	C	20.0	7.1	20.2	30.9	33.8	37.1	27.4	21.1	26.4	11.9	21.6	--	37.1																							
16-Jan	17.4	Z	34.6	28.3	30.5	27.5	22.0	13.7	M	7.7	9.2	9.2	7.0	9.0	7.7	10.4	10.8	8.0	13.7	12.4	7.9	7.6	8.7	10.4	14.3	34.6																							
17-Jan	10.6	6.9	Z	17.8	22.6	21.9	32.6	19.1	32.5	37.0	31.2	18.6	25.1	25.6	16.8	26.6	28.0	14.8	16.1	34.9	32.8	28.9	8.8	11.2	22.6	37.0																							
18-Jan	30.4	36.7	37.2	Z	26.8	30.5	35.8	34.2	26.5	21.8	17.2	16.2	18.9	22.7	23.2	24.9	39.8	46.6	46.3	42.2	37.7	37.5	34.4	31.4	31.3	46.6																							
19-Jan	29.7	30.1	26.2	30.1	Z	36.2	38.2	43.7	47.9	38.6	29.1	36.0	42.6	32.6	34.6	42.6	48.9	56.0	56.2	40.5	37.4	36.9	35.4	33.6	38.4	56.2																							
20-Jan	31.5	28.9	25.0	25.4	20.1	Z	21.1	20.1	27.1	17.2	10.2	8.6	15.6	18.9	14.3	19.4	18.1	8.2	3.8	7.6	10.0	24.1	13.9	21.0	17.8	31.5																							
21-Jan	Z	13.0	10.0	10.2	15.5	11.9	20.8	12.6	5.2	7.0	23.0	15.3	13.4	9.1	11.0	10.6	10.9	8.7	12.3	9.9	23.1	32.3	31.8	27.6	15.0	32.3																							
22-Jan	14.9	Z	15.8	17.6	22.3	33.5	23.9	26.5	26.7	15.4	11.8	20.9	34.2	18.5	2.5	6.0	20.6	20.7	13.5	10.4	9.3	9.3	13.3	12.3	17.4	34.2																							
23-Jan	12.1	8.3	Z	8.2	8.1	4.7	2.4	3.1	3.2	6.5	3.1	8.3	12.3	5.4	0.4	1.1	0.9	0.9	0.5	0.6	0.2	0.4	0.2	0.4	4.0	12.3																							
24-Jan	0.4	0.2	0.3	Z	0.8	DF	1.2	1.3	1.5	0.8	0.5	0.6	1.7	0.6	0.7	11.3	29.9	23.0	6.3	5.8	4.5	0.5	0.4	2.0	4.3	29.9																							
25-Jan	16.1	16.0	5.9	6.8	10.1	Z	2.7	2.4	2.9	3.7	7.6	0.8	1.2	1.0	10.7	5.7	2.4	22.3	16.9	17.5	26.0	4.3	5.3	2.4	8.3	26.0																							
26-Jan	Z	4.9	5.7	8.1	3.6	1.0	1.1	0.7	2.3	3.1	3.0	1.3	1.2	1.6	1.8	1.7	13.2	24.2	1.9	1.4	4.6	10.4	8.9	2.2	4.7	24.2																							
27-Jan	2.3	Z	15.6	28.0	21.3	21.6	25.3	19.3	31.5	12.7	4.0	6.4	2.4	3.3	4.0	1.7	2.2	1.4	14.7	0.5	0.4	0.3	0.2	0.2	9.5	31.5																							
28-Jan	0.3	0.1	Z	0.3	0.5	25.4	23.5	12.7	0.4	0.4	0.5	0.4	0.6	0.5	0.3	0.5	0.5	0.3	1.3	0.8	1.2	5.5	29.2	28.4	5.8	29.2																							
29-Jan	3.5	2.3	7.4	Z	22.1	34.4	38.8	38.8	34.8	18.6	10.2	8.2	6.3	6.0	5.9	6.5	6.5	7.0	10.7	12.4	10.8	10.2	8.5	10.1	13.9	38.8																							
30-Jan	10.2	7.5	9.5	9.3	Z	25.3	24.5	24.4	24.7	22.8	24.8	20.7	17.7	9.0	12.9	15.4	9.6	19.4	27.8	36.0	37.6	34.9	34.6	14.0	20.5	37.6																							
31-Jan	17.5	35.3	38.5	36.2	36.5	Z	32.1	31.8	29.4	26.2	16.5	12.4	8.6	9.4	9.2	11.3	10.3	8.1	13.7	13.2	13.1	12.8	13.9	13.2	19.5	38.5																							
																								17.4	16.6	18.3	18.6	17.6	20.2	20.0	18.1	18.2	14.8	12.7	11.9	12.5	11.5	11.6	14.3	17.6	19.5	18.6	17.8	18.1	19.2	17.9	16.7	Diurnal Average	
																								31.6	36.7	38.5	36.2	36.5	36.2	38.8	43.7	47.9	38.6	31.2	36.0	42.6	32.6	34.6	46.3	50.7	56.0	56.2	42.2	40.1	47.5	35.4	33.6	Diurnal Maximum	

Z - zerospan C - Calibration M - Maintenance DF - DAS Failure
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Fort Hills - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	459	65.11	65.11
21 - 40	231	32.77	97.87
41 - 80	15	2.13	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 705

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Dioxide (NO₂) - ppb
Fort Hills - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	68	47	9	0	1	5	21	82	75	36	10	16	16	41	16	15	458
21 - 40	34	21	4	3	5	12	39	36	13	17	9	5	3	6	6	13	226
11 - 80	0	0	0	0	0	3	2	4	3	0	0	0	0	0	0	0	12
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	102	68	13	3	6	20	62	122	91	53	19	21	19	47	22	28	696

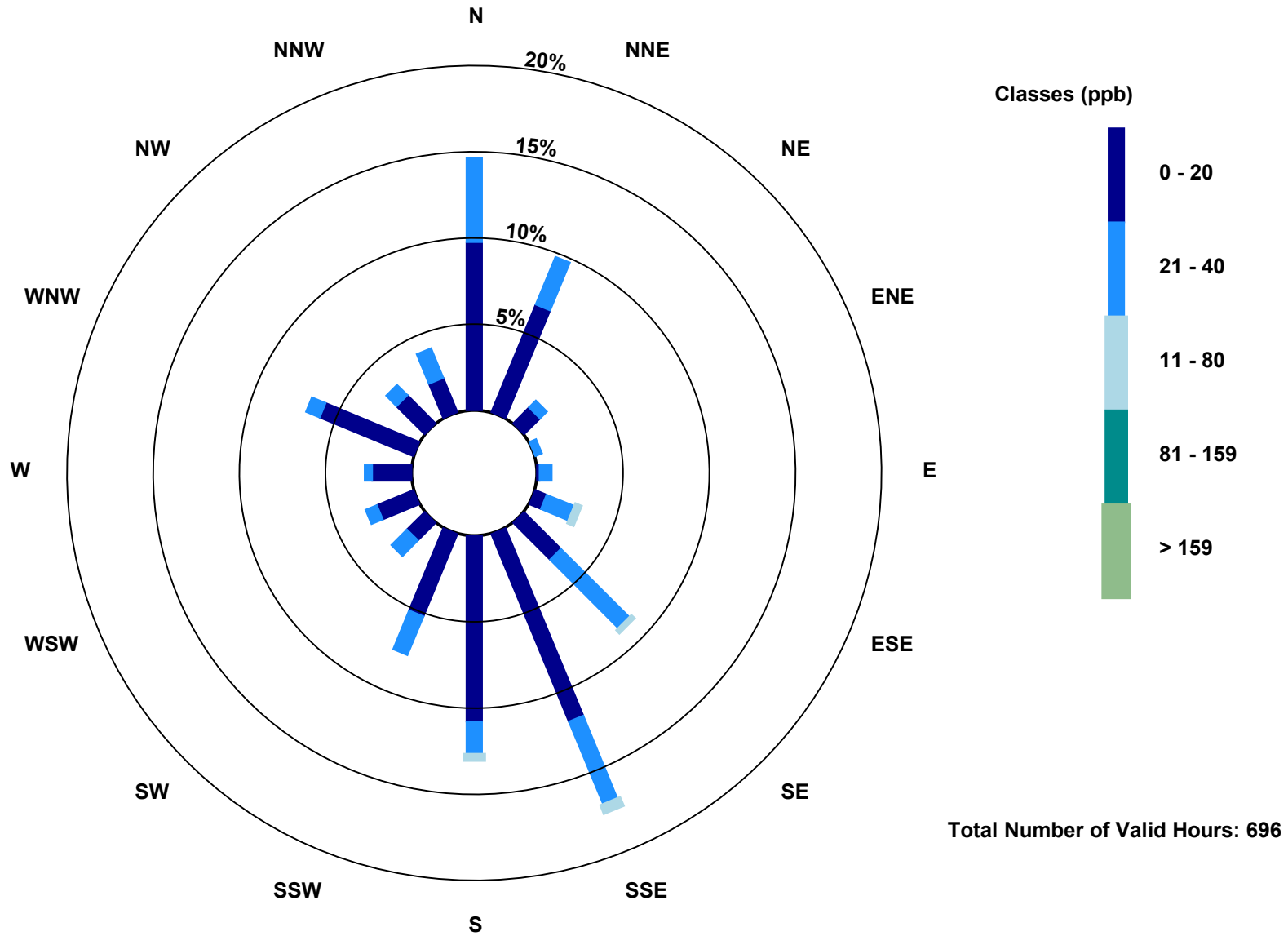
Total Number of Valid Hours: 696

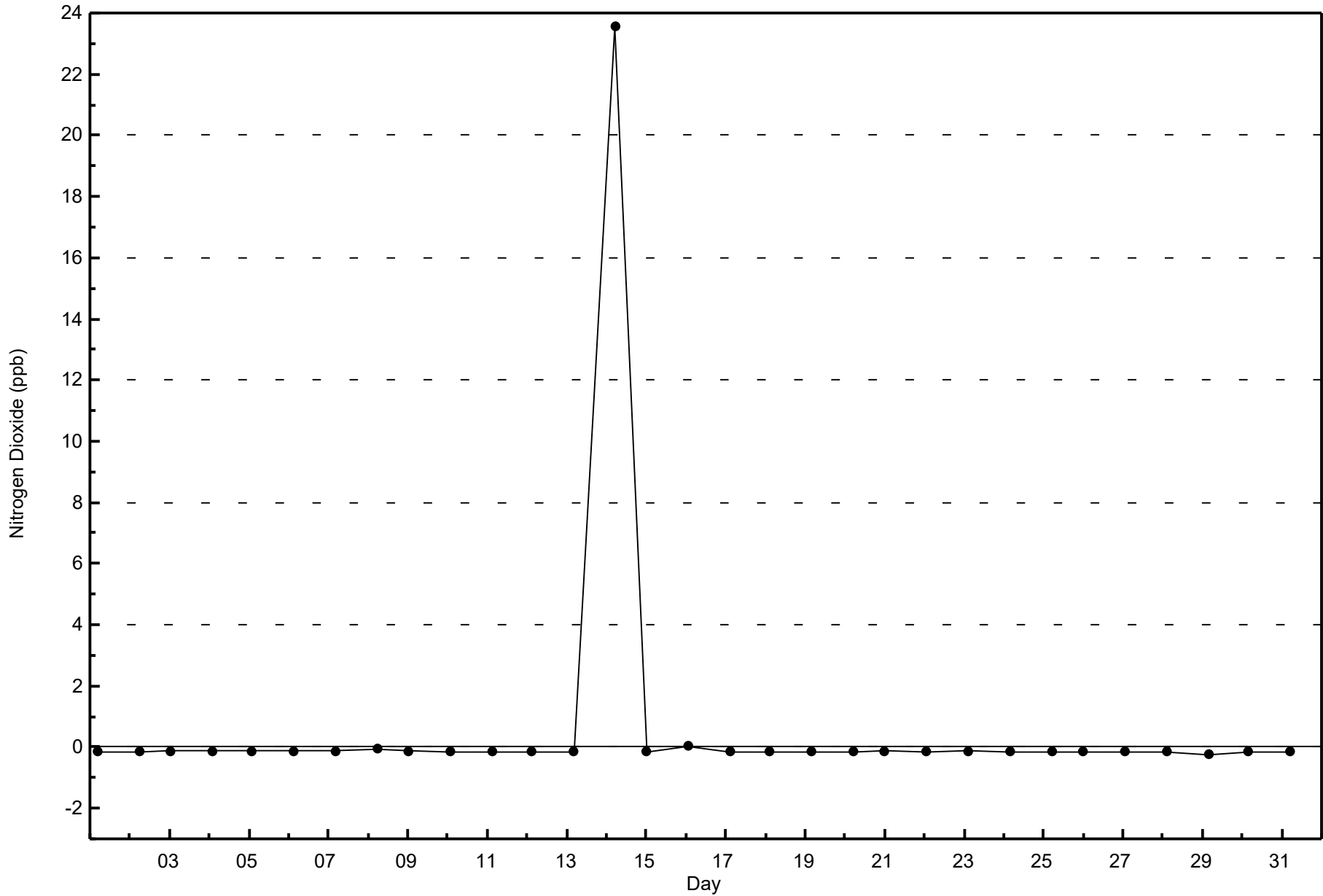
Total Number of Hours: 744

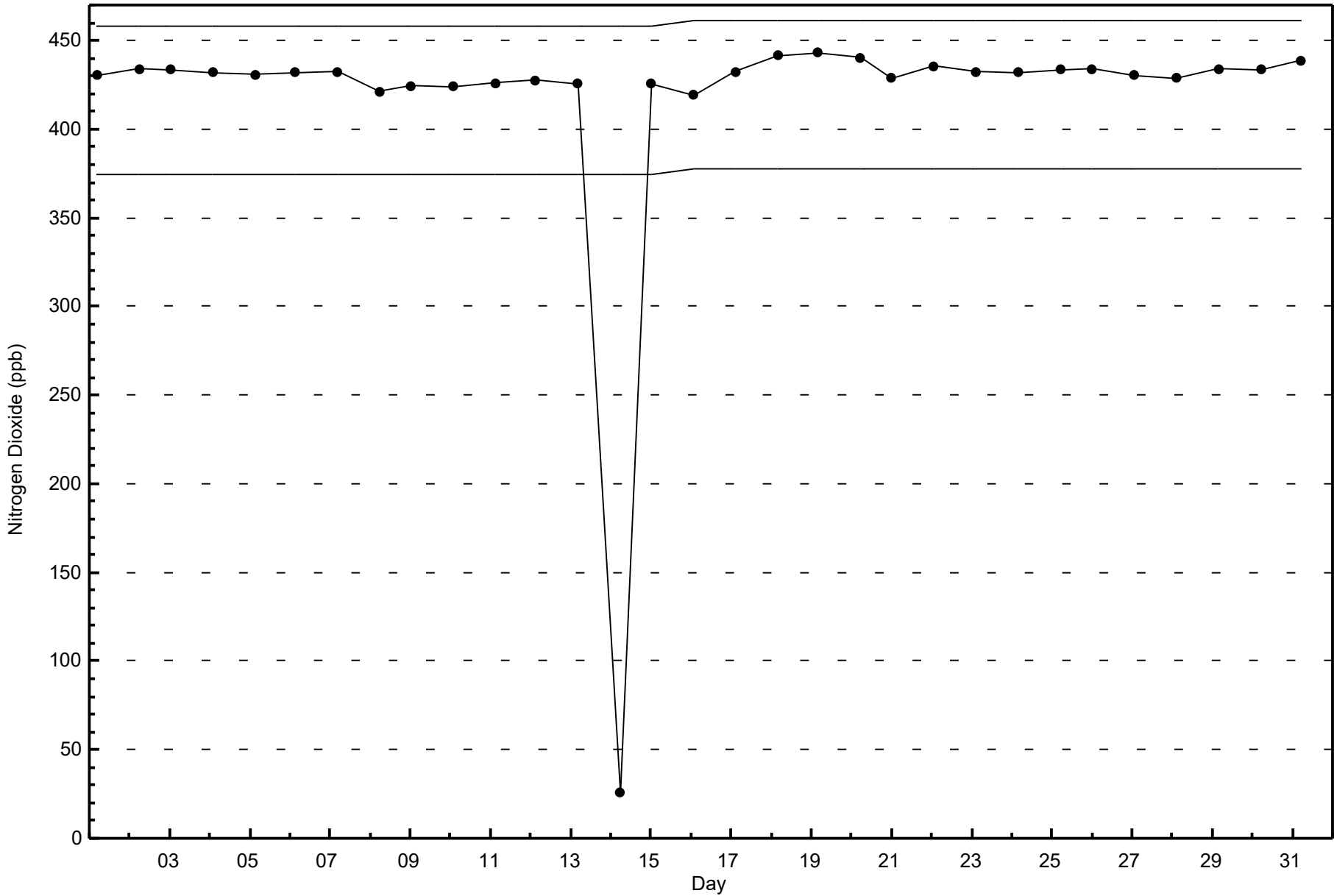


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Dioxide (NO₂) - ppb
Fort Hills









Wood Buffalo Environmental Association
Summary of Hour Averages

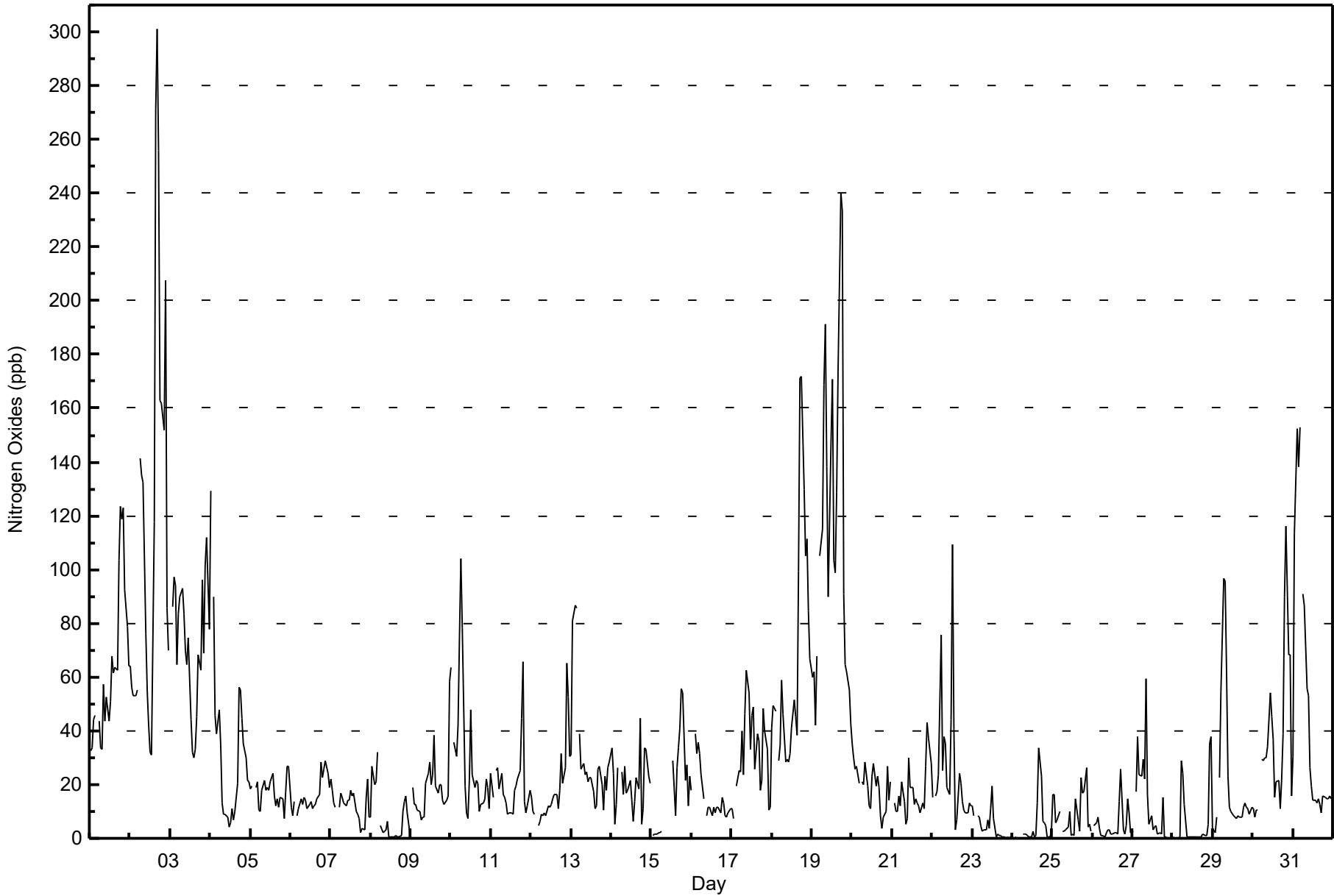
Nitrogen Oxides (NO_x) - ppb
Fort Hills - January 2025

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 301.3 ppb on Jan 2 17:00	Maximum Daily Average: 118.0 ppb on Jan 2		Hours of Data:	705
Minimum Value: 0.1 ppb on Jan 28 02:00	Minimum Daily Average: 4.5 ppb on Jan 23		Hours of Missing Data:	39
Maximum Diurnal Average: 41.8 ppb at hour 18	Minimum Diurnal Average: 21.5 ppb at hour 14		Hours of Calibration:	37
Monthly Average: 30.50 ppb	Percentiles: P ₁ = 0.3 P ₁₀ = 2.0 Q ₁ = 9.1 Median = 17.6 Q ₃ = 34.5 P ₉₀ = 75.1 P ₉₉ = 173.6		Percent Operational Time:	99.7

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	32.7	33.9	44.2	45.8	Z	43.7	33.8	32.9	57.5	43.8	52.8	43.5	50.8	67.7	61.3	63.8	62.5	103.4	123.6	118.8	123.0	92.7	78.8	64.3	64.1	123.6
2-Jan	64.1	56.2	53.1	53.3	55.4	Z	141.2	135.3	132.3	76.4	54.7	42.2	32.2	31.2	117.8	270.9	301.3	256.0	162.9	161.9	152.0	207.5	85.7	69.7	118.0	301.3
3-Jan	Z	86.1	97.3	94.1	64.4	83.4	89.9	92.9	83.6	70.1	64.8	74.5	44.1	32.2	30.1	32.8	45.0	68.2	62.6	96.3	68.8	101.5	111.9	77.7	72.7	111.9
4-Jan	129.1	Z	89.6	45.7	38.8	47.9	34.7	12.9	9.0	8.7	8.0	4.3	5.9	11.1	7.1	9.8	20.4	56.1	55.1	44.6	35.4	29.8	21.8	21.2	32.5	129.1
5-Jan	18.5	19.6	Z	19.0	20.8	10.6	10.1	17.8	21.6	18.0	19.0	17.8	20.9	24.3	15.9	12.0	14.6	11.7	15.1	14.9	7.5	17.2	26.9	26.9	17.4	26.9
6-Jan	11.7	8.5	13.8	Z	8.5	11.1	14.8	12.4	15.0	14.0	10.8	12.7	13.7	11.0	12.2	12.5	14.9	16.0	28.3	22.7	25.9	28.8	24.1	18.7	15.7	28.8
7-Jan	21.9	17.6	12.9	11.7	Z	11.6	17.0	15.0	13.2	12.1	14.2	14.2	18.1	15.8	16.6	9.8	9.1	7.6	2.1	3.6	3.2	15.0	21.9	8.0	12.7	21.9
8-Jan	7.8	26.9	20.1	20.9	32.2	Z	5.0	2.0	2.6	3.2	6.2	0.7	0.4	0.5	0.7	1.2	0.7	0.4	1.1	10.0	13.9	16.0	9.3	1.8	8.0	32.2
9-Jan	Z	18.7	12.9	12.7	10.7	9.9	6.9	7.8	7.9	20.5	24.3	28.5	20.1	23.7	38.2	19.5	16.7	19.9	20.1	14.3	12.9	14.4	15.6	58.5	18.9	58.5
10-Jan	63.8	Z	35.8	30.4	42.2	74.4	104.0	78.4	19.6	9.3	7.3	21.7	47.6	23.9	18.9	21.5	20.7	9.8	12.4	13.3	14.5	21.9	19.1	11.2	31.4	104.0
11-Jan	24.4	15.2	Z	25.0	26.5	18.2	24.2	16.2	15.3	13.2	9.1	9.7	9.5	8.9	17.9	19.3	22.1	25.1	44.5	65.6	13.5	9.2	12.2	18.0	20.1	65.6
12-Jan	15.0	10.2	8.7	Z	4.9	6.5	8.8	8.2	9.4	8.5	11.9	11.5	12.8	14.6	16.2	16.3	11.0	18.0	31.3	20.5	26.1	64.9	52.5	30.7	18.2	64.9
13-Jan	31.0	81.1	86.9	85.7	Z	39.0	25.8	27.8	23.4	24.8	20.9	22.5	22.7	17.1	11.1	12.1	25.5	26.9	20.0	10.4	23.3	18.0	26.5	28.3	30.9	86.9
14-Jan	33.8	24.3	5.3	12.5	26.0	Z	24.7	16.2	27.0	16.9	17.7	21.6	14.4	6.2	13.6	22.7	18.6	44.6	5.4	11.2	33.7	33.4	22.9	20.3	20.6	44.6
15-Jan	Z	0.9	1.3	1.5	1.9	2.2	2.8	C	C	C	C	C	C	29.0	8.6	26.1	33.8	41.0	55.7	54.2	21.4	27.3	12.1	23.2	--	55.7
16-Jan	18.1	Z	38.9	31.4	35.8	31.3	23.6	14.9	M	8.6	11.7	11.5	8.5	11.8	9.3	11.7	11.6	9.4	15.2	13.2	8.5	8.1	9.6	11.1	16.1	38.9
17-Jan	11.2	7.4	Z	19.5	25.0	24.5	39.7	23.4	46.3	62.6	53.9	32.9	45.5	48.9	25.9	38.7	36.3	18.1	21.6	48.2	40.1	33.3	10.7	11.4	31.5	62.6
18-Jan	40.8	49.4	47.4	Z	28.9	34.5	59.1	46.4	28.3	29.4	28.3	31.7	41.0	51.3	45.1	38.5	99.5	171.5	171.7	129.7	105.0	111.2	84.8	67.0	67.0	171.7
19-Jan	59.7	62.0	41.9	67.7	Z	105.1	115.2	168.4	191.3	138.2	89.6	147.2	170.8	103.5	99.0	128.8	173.7	240.3	233.1	90.8	64.6	61.9	54.9	42.3	115.2	240.3
20-Jan	35.3	30.1	25.7	26.6	20.3	Z	21.2	20.2	28.2	19.5	12.2	10.9	23.0	27.9	19.2	23.3	18.7	8.2	3.8	7.6	10.0	26.8	14.1	21.0	19.7	35.3
21-Jan	Z	13.0	10.0	10.2	15.6	11.9	20.9	13.5	5.2	7.5	30.0	18.8	18.9	12.8	14.5	12.9	12.3	9.3	13.4	11.1	27.0	43.0	37.2	28.1	17.3	43.0
22-Jan	15.0	Z	15.8	17.6	23.4	75.5	25.1	37.6	35.2	19.1	16.1	44.1	109.5	40.7	3.2	7.1	24.0	20.7	13.5	10.4	9.3	9.3	13.3	12.3	26.0	109.5
23-Jan	12.1	8.3	Z	8.2	8.1	4.7	2.4	3.1	3.2	6.8	3.5	11.0	19.4	7.2	0.5	1.8	1.1	0.9	0.5	0.6	0.2	0.4	0.2	0.4	4.5	19.4
24-Jan	0.5	0.2	0.3	Z	1.0	DF	1.4	1.5	1.6	0.9	0.5	0.6	2.5	0.7	0.8	13.2	33.7	23.3	6.3	5.8	4.5	0.5	0.4	2.0	4.6	33.7
25-Jan	16.1	16.0	5.9	6.8	10.1	Z	2.7	2.4	2.9	4.2	10.2	0.9	1.6	1.2	14.8	6.6	2.4	22.4	17.0	17.5	26.1	4.3	5.3	2.4	8.7	26.1
26-Jan	Z	4.9	5.7	8.1	3.6	1.0	1.1	0.7	2.3	3.2	3.4	1.4	1.4	2.0	2.2	1.8	13.8	25.8	3.1	1.8	4.6	14.7	9.6	2.3	5.2	25.8
27-Jan	2.6	Z	17.2	38.1	23.5	23.1	29.4	22.1	59.6	16.2	5.3	8.6	2.9	4.0	4.9	1.8	2.2	1.4	15.3	0.5	0.4	0.3	0.2	0.2	12.2	59.6
28-Jan	0.5	0.1	Z	0.3	0.7	28.7	24.4	12.8	0.4	0.4	0.5	0.4	0.7	0.5	0.3	0.5	0.5	0.3	1.6	0.8	1.2	5.5	35.4	37.8	6.7	37.8
29-Jan	3.5	2.3	7.8	Z	22.5	54.4	96.6	95.5	61.6	22.9	11.7	10.1	8.5	8.0	7.4	8.2	7.8	8.0	11.5	13.2	11.5	11.1	9.2	11.5	21.9	96.6
30-Jan	11.0	8.1	10.3	10.3	Z	29.3	28.9	29.7	30.1	33.9	54.0	45.4	36.5	15.0	20.9	21.7	11.0	22.1	39.1	90.1	116.3	68.4	68.2	15.9	35.5	116.3
31-Jan	30.5	113.5	152.6	138.1	152.8	Z	90.7	86.9	55.7	53.3	26.3	19.4	14.0	14.4	13.1	14.7	12.5	9.5	15.8	15.1	14.9	14.8	15.8	14.8	47.4	152.8

27.3	27.5	33.1	32.4	27.1	32.6	36.3	35.2	34.1	25.5	22.6	24.0	27.3	21.5	21.5	28.4	34.8	41.8	39.4	36.1	32.9	35.9	29.4	24.5	Diurnal Average	
129.1	113.5	152.6	138.1	152.8	105.1	141.2	168.4	191.3	138.2	89.6	147.2	170.8	103.5	117.8	270.9	301.3	256.0	233.1	161.9	152.0	207.5	111.9	77.7	Diurnal Maximum	

Z - zerospan C - Calibration M - Maintenance DF - DAS Failure





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Nitrogen Oxides (NO_x) - ppb
Fort Hills - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	396	56.17	56.17
21 - 40	155	21.99	78.16
41 - 80	88	12.48	90.64
81 - 159	51	7.23	97.87
> 159	14	1.99	99.86

Total Number of Valid Hours: 705

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Oxides (NO_x) - ppb
Fort Hills - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	60	35	7	0	0	3	13	71	68	31	9	14	16	40	16	13	396
21 - 40	23	27	4	1	2	5	20	27	13	11	7	6	2	2	0	4	154
11 - 80	14	5	2	2	4	2	18	12	4	7	1	1	1	4	3	5	85
81 - 159	5	1	0	0	0	8	7	9	3	4	2	0	0	1	3	6	49
> 159	0	0	0	0	0	2	3	3	3	0	0	0	0	0	0	0	11
Totals	102	68	13	3	6	20	61	122	91	53	19	21	19	47	22	28	695

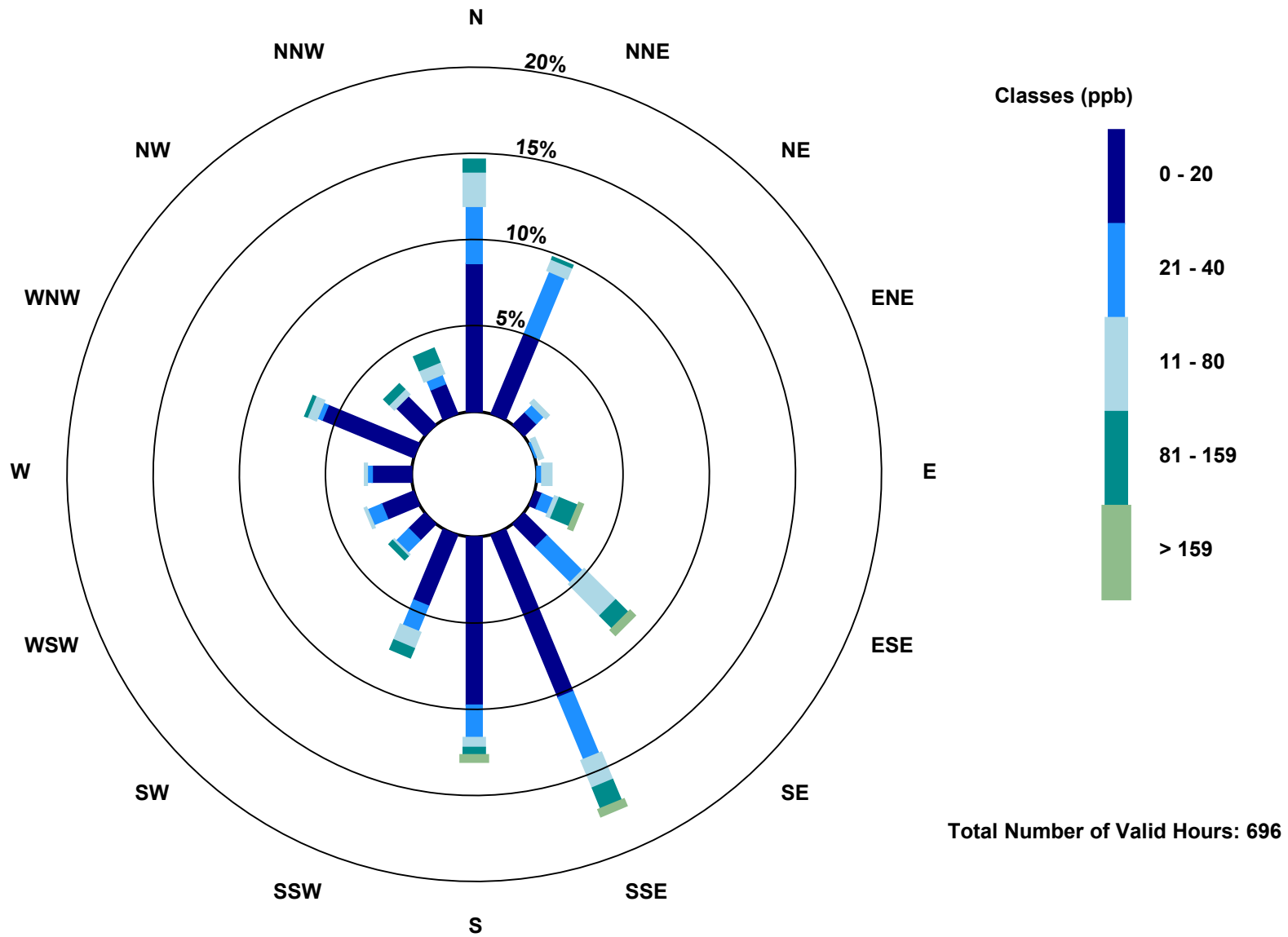
Total Number of Valid Hours: 696

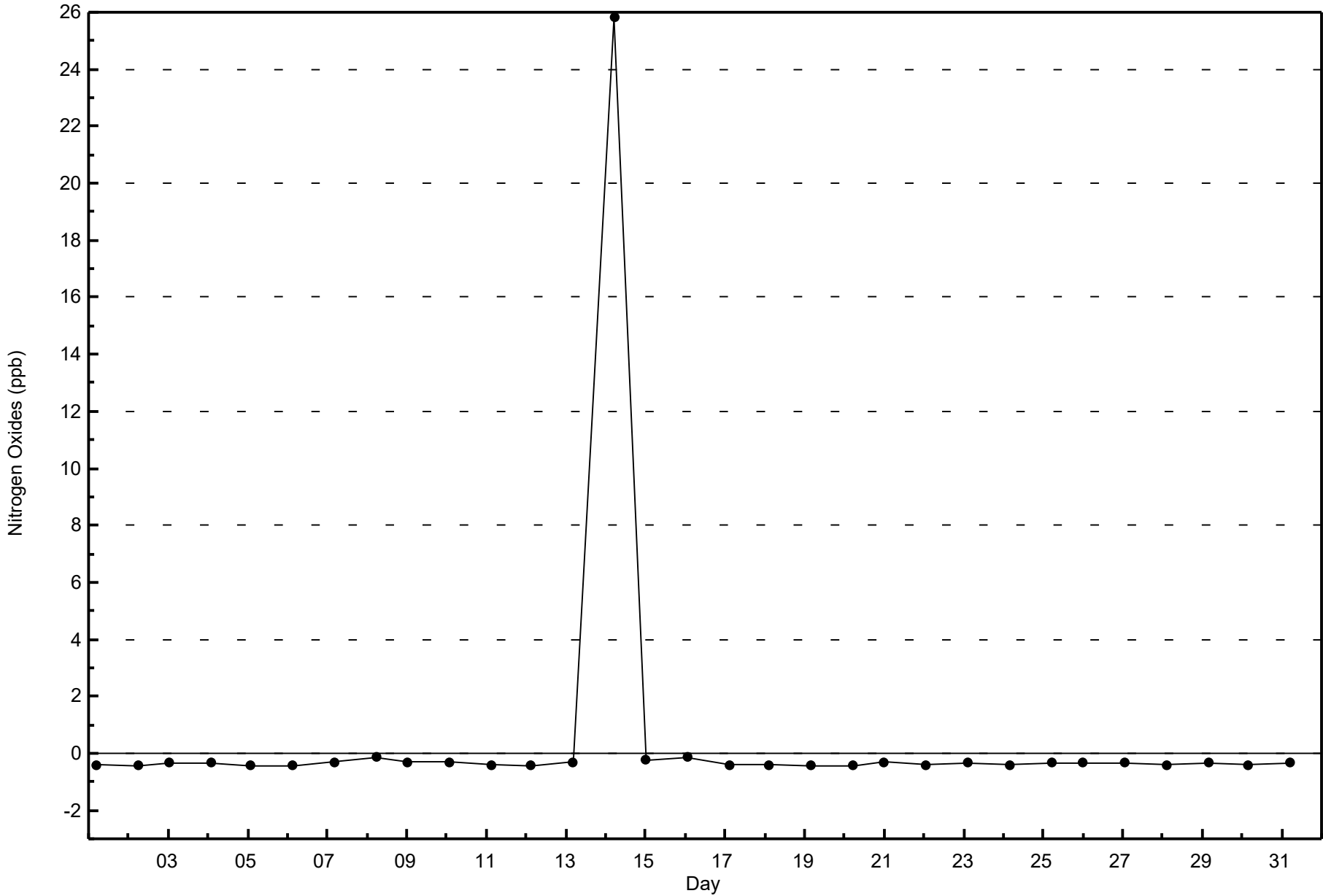
Total Number of Hours: 744

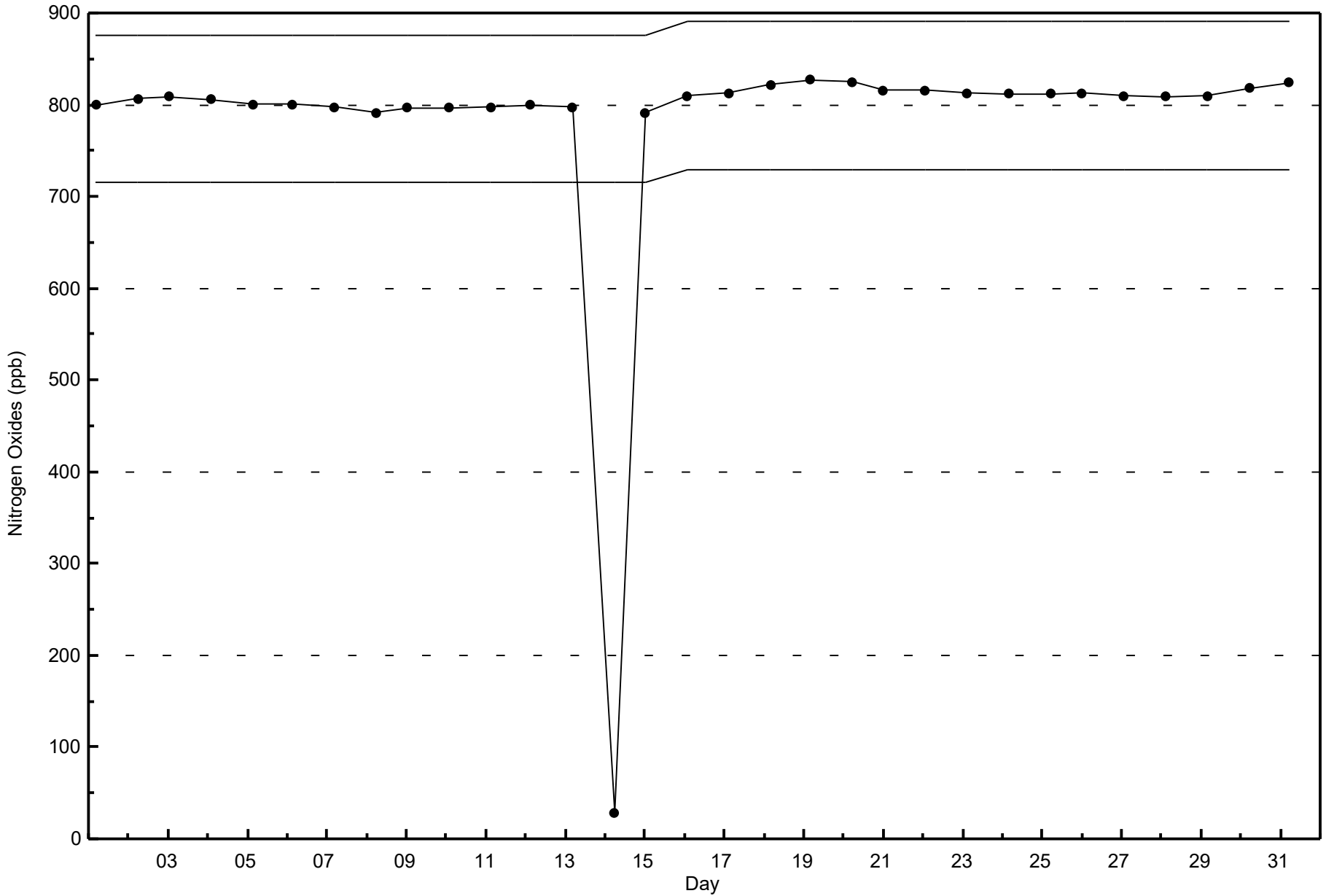


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Oxides (NO_x) - ppb
Fort Hills









Wood Buffalo Environmental Association

Summary of Hour Averages

Particulate Matter 2.5 (PM_{2.5}) - µg/m³

Fort Hills - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 32.3 µg/m ³ on Jan 30 21:00 Minimum Value: 0.2 µg/m ³ on Jan 22 15:00 Maximum Diurnal Average: 5.0 µg/m ³ at hour 6 Monthly Average: 4.54 µg/m ³		Maximum Daily Average: 11.1 µg/m ³ on Jan 12 Minimum Daily Average: 0.9 µg/m ³ on Jan 28 Minimum Diurnal Average: 4.0 µg/m ³ at hour 24 Percentiles: P ₁ = 0.3 P ₁₀ = 0.7 Q ₁ = 2.1 Median = 3.6 Q ₃ = 5.6 P ₉₀ = 9.3 P ₉₉ = 20.3		Hours in Service: 744 Hours of Data: 741 Hours of Missing Data: 3 Hours of Calibration: 2 Percent Operational Time: 99.9																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	4.4	4.3	4.3	4.2	4.5	4.7	4.4	9.4	4.4	3.9	4.3	4.2	4.2	4.9	5.8	6.1	5.2	5.4	5.6	5.5	5.5	5.0	4.6	4.6	5.0	9.4
2-Jan	4.3	4.3	3.9	3.7	3.7	4.1	5.8	5.5	5.4	4.0	3.5	3.5	3.6	4.1	6.7	9.4	10.6	9.6	7.5	7.7	9.4	10.0	6.9	6.3	6.0	10.6
3-Jan	8.2	8.5	9.0	7.9	5.7	7.2	7.1	6.8	7.0	6.9	6.8	8.5	7.3	17.4	8.9	9.3	8.9	8.0	7.0	6.4	5.8	5.6	5.4	4.5	7.7	17.4
4-Jan	5.5	5.8	5.3	5.1	4.8	4.8	4.1	2.8	2.6	2.5	2.6	2.1	2.1	3.1	2.5	2.5	2.9	3.5	3.7	3.3	3.4	4.0	3.6	3.6	3.6	5.8
5-Jan	3.3	3.4	3.6	3.9	3.6	3.2	3.1	3.1	3.3	3.1	3.0	3.0	3.2	3.5	3.1	2.8	3.3	2.5	2.7	2.8	2.8	3.0	3.8	3.9	3.2	3.9
6-Jan	3.2	2.9	3.4	3.8	4.0	4.2	4.1	3.9	4.3	4.1	4.3	5.6	7.7	5.2	4.8	4.9	5.5	9.0	5.6	5.8	6.2	6.9	7.1	7.5	5.2	9.0
7-Jan	9.1	11.0	11.3	11.3	11.8	11.1	11.1	11.8	9.6	9.1	10.2	9.3	7.8	7.0	5.7	4.1	3.0	2.8	2.8	3.1	3.8	5.0	6.4	6.1	7.7	11.8
8-Jan	6.6	5.4	3.8	3.1	2.4	2.0	0.8	0.3	0.3	0.4	0.9	0.6	0.6	0.5	0.3	0.3	0.3	0.3	0.3	1.2	1.3	0.8	0.9	0.6	1.4	6.6
9-Jan	0.6	1.8	2.1	3.0	2.8	2.5	2.7	2.6	2.6	3.3	4.1	4.9	3.6	4.0	5.1	5.5	10.8	11.7	9.0	6.3	5.0	5.2	5.1	7.8	4.7	11.7
10-Jan	9.3	7.8	8.6	11.4	13.5	17.1	13.8	13.1	11.0	9.4	8.7	9.9	10.8	7.9	4.3	3.7	3.5	3.4	3.6	3.1	2.9	2.8	3.0	3.3	7.8	17.1
11-Jan	3.4	3.1	2.9	3.0	2.8	2.4	2.4	2.4	2.7	2.7	2.5	2.3	2.1	2.5	2.9	2.7	2.7	2.7	3.8	3.3	2.8	2.7	4.0	5.8	2.9	5.8
12-Jan	4.1	3.5	5.4	4.9	3.9	4.5	5.7	5.5	5.0	5.3	11.4	17.3	19.3	21.2	19.3	20.0	17.4	16.7	13.7	9.7	9.4	12.1	14.3	15.8	11.1	21.2
13-Jan	17.7	18.7	18.0	13.2	8.1	6.6	5.9	5.9	5.8	6.0	6.5	7.9	9.2	6.4	5.9	5.0	5.6	5.9	4.5	3.3	3.1	2.2	1.8	1.6	7.3	18.7
14-Jan	1.7	1.7	1.3	1.7	2.6	4.1	3.5	3.4	4.2	4.7	5.4	4.3	2.9	2.5	2.5	2.0	1.7	1.8	0.6	0.6	1.2	1.2	1.9	1.8	2.5	5.4
15-Jan	0.4	0.3	0.3	0.2	0.3	0.3	0.3	0.8	0.7	0.8	0.9	0.6	0.9	1.5	0.9	1.2	1.6	2.6	2.8	2.5	1.3	1.6	0.9	1.4	1.0	2.8
16-Jan	1.7	2.2	2.7	1.6	1.6	1.3	1.1	1.5	C	C	1.5	1.3	1.0	1.8	0.9	0.7	0.6	0.7	0.5	0.6	1.4	2.2	2.3	2.2	1.4	2.7
17-Jan	2.3	2.0	1.8	2.3	2.8	2.6	2.9	3.3	3.5	3.8	3.4	3.4	3.5	3.3	3.3	3.7	3.3	2.9	2.8	4.0	3.4	3.4	2.5	2.6	3.0	4.0
18-Jan	3.3	3.3	3.5	3.4	3.1	3.5	4.2	3.8	3.7	4.2	4.0	3.7	3.9	4.1	4.2	4.1	5.4	6.8	6.5	6.1	6.6	5.6	5.1	4.8	4.5	6.8
19-Jan	4.5	5.1	4.2	5.3	6.5	7.0	11.0	9.6	9.8	8.6	7.5	8.5	9.5	7.1	6.8	8.0	9.7	10.3	10.9	7.9	11.2	11.5	10.2	8.6	8.3	11.5
20-Jan	8.3	7.1	5.3	7.8	5.6	5.4	3.6	3.1	4.1	5.1	3.8	3.5	4.8	6.7	5.8	6.1	6.5	6.0	5.4	5.0	5.1	4.9	3.2	2.9	5.2	8.3
21-Jan	2.6	2.3	1.8	1.3	1.4	1.4	1.6	1.5	1.0	0.8	1.7	1.4	1.9	2.8	4.5	5.7	5.1	4.1	4.0	3.5	4.0	4.6	4.6	4.1	2.8	5.7
22-Jan	3.5	3.5	3.8	4.2	4.3	5.0	4.4	5.1	5.2	5.1	4.4	4.5	6.1	3.6	0.2	0.3	1.2	0.8	0.7	1.4	2.6	3.2	3.5	4.8	3.4	6.1
23-Jan	4.1	3.7	3.9	4.5	4.4	3.9	4.0	3.9	3.4	3.1	2.3	1.6	1.4	0.8	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.5	0.5	2.0	4.5
24-Jan	0.4	0.4	0.4	0.4	0.7	DF	1.1	0.8	1.7	2.6	2.9	3.1	3.3	3.6	3.0	4.3	5.9	4.0	1.5	1.1	1.0	0.4	0.3	0.5	1.9	5.9
25-Jan	1.5	1.7	0.6	0.7	1.7	1.4	1.3	1.4	2.4	2.9	2.9	3.1	3.3	2.7	3.4	1.9	0.8	2.4	1.8	1.9	1.7	0.7	0.7	1.1	1.8	3.4
26-Jan	3.5	9.3	5.3	4.6	4.4	4.0	3.8	3.3	3.2	3.2	2.8	2.4	2.3	2.0	1.7	2.4	3.2	3.4	0.6	0.6	0.9	1.1	1.1	0.6	2.9	9.3
27-Jan	0.6	0.6	1.2	1.7	1.7	2.1	3.7	4.5	5.4	5.5	4.6	3.2	2.4	2.5	2.2	1.9	2.3	2.7	3.8	0.8	1.0	1.0	0.8	0.6	2.4	5.5
28-Jan	0.5	0.5	0.4	0.3	0.4	1.4	1.7	1.2	0.5	0.8	0.7	0.8	0.7	0.6	0.5	0.5	0.7	0.6	0.6	0.6	0.7	1.0	2.1	2.6	0.9	2.6
29-Jan	2.1	0.7	0.8	2.5	2.0	3.4	7.3	5.1	4.3	2.1	1.0	1.5	1.8	2.1	2.8	3.1	3.8	4.4	3.5	3.6	4.0	4.6	4.0	4.6	3.1	7.3
30-Jan	4.6	4.2	3.8	3.7	5.9	7.0	7.6	5.7	4.6	9.3	11.6	10.8	5.8	4.4	5.8	6.8	5.2	4.2	9.4	25.7	32.3	19.5	16.2	5.0	9.1	32.3
31-Jan	6.0	23.9	24.1	21.0	25.1	20.5	11.5	13.0	6.3	6.4	6.2	7.4	11.6	10.9	9.0	8.2	7.2	6.2	6.6	6.2	5.3	5.8	4.9	5.0	10.8	25.1
																								Diurnal Average		
																								Diurnal Maximum		
4.2 4.9 4.7 4.7 4.7 5.0 4.7 4.6 4.3 4.3 4.4 4.6 4.8 4.9 4.3 4.4 4.6 4.7 4.3 4.3 4.7 4.4 4.3 4.0 17.7 23.9 24.1 21.0 25.1 20.5 13.8 13.1 11.0 9.4 11.6 17.3 19.3 21.2 19.3 20.0 17.4 16.7 13.7 25.7 32.3 19.5 16.2 15.8																										
C - Calibration DF - DAS Failure Alberta Ambient Air Quality Guideline/Objectives: 1-hr 80 µg/m ³ 24-hr 29 µg/m ³																										





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Fort Hills - January 2025

Concentration Ranges ($\mu\text{g}/\text{m}^3$)	Number of Hours	%	Cumulative %
0 - 5	546	73.68	73.68
6 - 15	173	23.35	97.03
16 - 25	20	2.70	99.73
26 - 80	2	0.27	100.00
> 81.0	0	0.00	100.00

Total Number of Valid Hours: 741

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - μg/m³
Fort Hills - January 2025

Concentration Ranges (μg/m ³)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	81	65	10	2	5	12	33	64	75	43	17	22	21	49	22	20	541
6 - 15	18	8	3	1	1	8	27	56	22	11	2	1	2	2	2	5	169
16 - 25	2	0	0	0	0	0	4	8	0	1	0	0	0	0	0	5	20
26 - 80	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
> 81.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	102	73	13	3	6	20	64	128	97	55	19	23	23	51	24	31	732

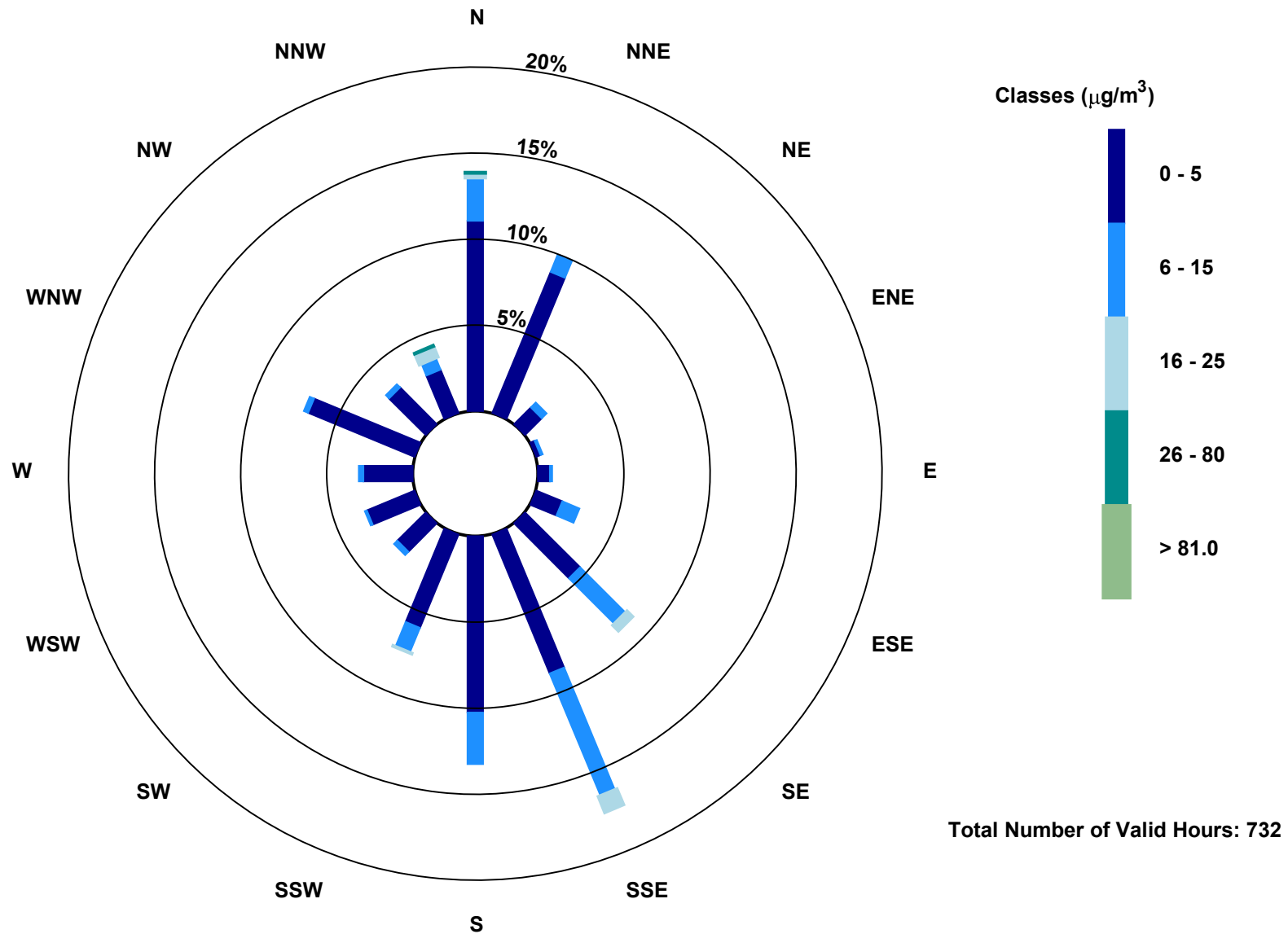
Total Number of Valid Hours: 732

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Fort Hills

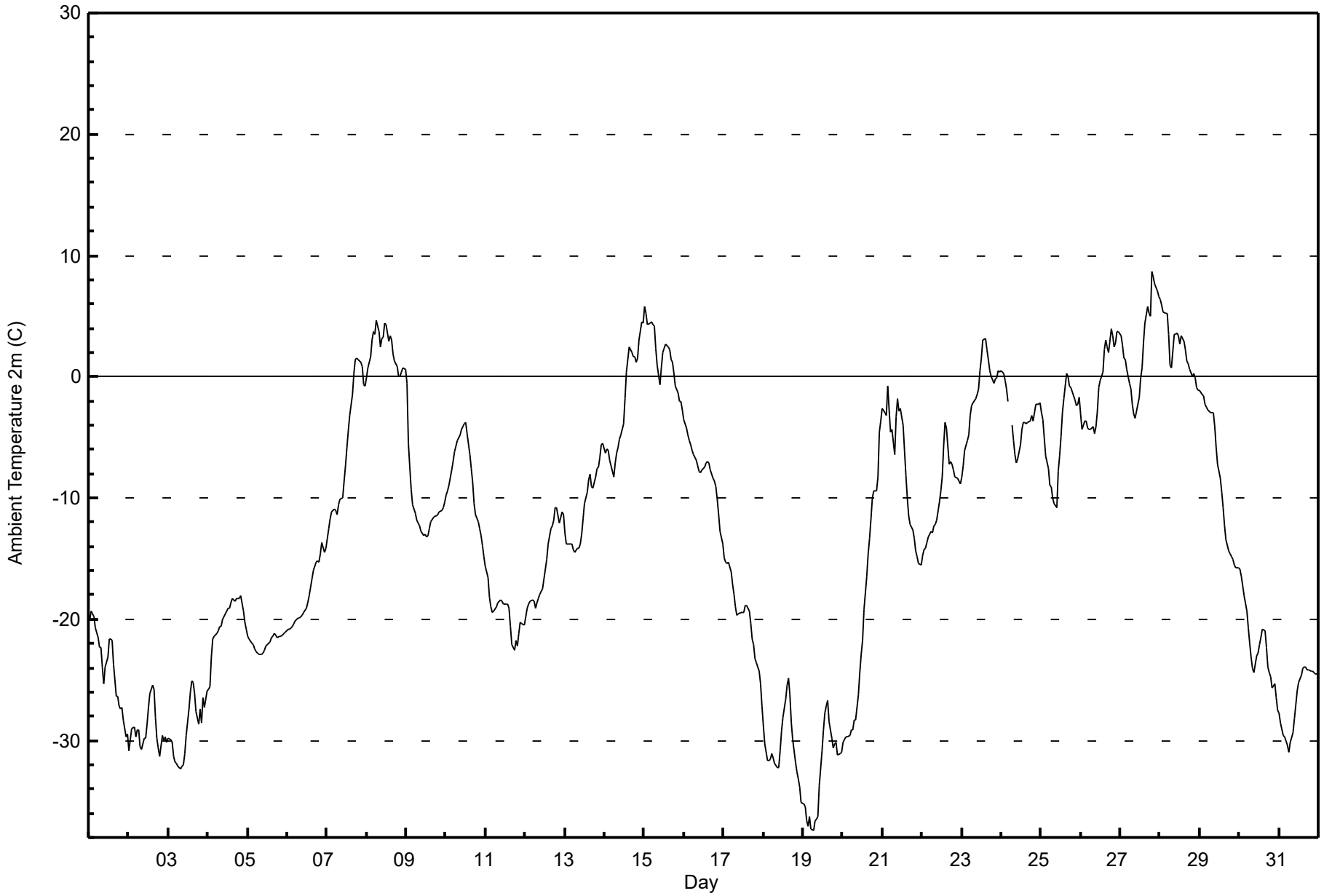




Wood Buffalo Environmental Association
Summary of Hour Averages

Ambient Temperature 2m (AT2) - C
Fort Hills - January 2025

Maximum Value: 8.6 C on Jan 27 20:00		Maximum Daily Average: 2.5 C on Jan 28		Hours in Service: 744																						
Minimum Value: -37.4 C on Jan 19 07:00		Minimum Daily Average: -32.6 C on Jan 19		Hours of Data: 743																						
Maximum Diurnal Average: -11.0 C at hour 16		Minimum Diurnal Average: -14.5 C at hour 9		Hours of Missing Data: 1																						
Monthly Average: -12.94 C		Percentiles: P ₁ = -35.9 P ₁₀ = -29.3 Q ₁ = -21.8 Median = -12.2 Q ₃ = -3.0 P ₉₀ = 1.6 P ₉₉ = 5.8		Hours of Calibration: 0																						
				Percent Operational Time: 99.9																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	-20.0	-19.4	-19.6	-19.8	-20.7	-21.5	-22.3	-22.3	-24.0	-25.3	-23.9	-23.2	-21.7	-21.7	-21.8	-23.7	-26.3	-26.4	-27.2	-27.3	-27.3	-28.3	-29.7	-29.5	-23.9	-19.4
2-Jan	-30.8	-30.0	-29.0	-28.9	-29.7	-29.2	-29.2	-30.5	-30.8	-29.8	-29.8	-28.7	-27.3	-26.1	-25.4	-25.8	-28.1	-29.8	-30.6	-31.3	-29.6	-30.0	-29.7	-30.2	-29.2	-25.4
3-Jan	-29.9	-30.0	-30.2	-31.3	-31.8	-31.9	-32.2	-32.3	-32.2	-32.0	-31.1	-29.6	-27.4	-26.0	-25.1	-25.2	-26.1	-27.6	-28.6	-27.4	-28.5	-26.5	-27.3	-25.8	-29.0	-25.1
4-Jan	-25.8	-25.6	-23.1	-21.6	-21.4	-21.2	-20.9	-20.6	-20.5	-20.0	-19.6	-19.4	-19.2	-19.1	-18.6	-18.3	-18.5	-18.3	-18.3	-18.2	-18.1	-19.3	-20.3	-20.9	-20.3	-18.1
5-Jan	-21.4	-21.7	-22.0	-22.1	-22.4	-22.7	-22.8	-22.9	-22.9	-22.8	-22.5	-22.2	-22.0	-21.8	-21.5	-21.4	-21.2	-21.3	-21.5	-21.4	-21.4	-21.3	-21.2	-21.0	-21.9	-21.0
6-Jan	-20.9	-20.8	-20.7	-20.6	-20.4	-20.1	-19.9	-19.9	-19.8	-19.6	-19.4	-19.1	-18.6	-18.1	-17.4	-16.7	-16.0	-15.3	-15.1	-15.3	-14.6	-13.7	-14.5	-14.2	-17.9	-13.7
7-Jan	-13.3	-12.6	-11.7	-11.1	-10.9	-11.0	-11.4	-10.6	-10.1	-10.1	-8.6	-7.3	-5.8	-4.4	-3.2	-1.5	0.3	1.4	1.5	1.5	1.2	0.8	-0.7	-0.8	-5.8	1.5
8-Jan	-0.1	0.8	1.6	3.0	3.8	3.5	4.6	3.8	2.5	3.1	3.2	4.4	4.3	3.0	3.4	3.1	1.9	1.3	0.8	0.1	0.1	0.4	0.8	0.6	2.2	4.6
9-Jan	-0.6	-5.5	-7.5	-9.2	-10.5	-11.2	-11.8	-12.1	-12.3	-12.8	-13.1	-13.0	-13.3	-13.1	-12.5	-12.0	-11.6	-11.5	-11.5	-11.4	-11.2	-11.1	-10.8	-10.4	-10.8	-0.6
10-Jan	-9.8	-9.4	-9.0	-7.7	-7.0	-6.2	-5.7	-5.3	-4.8	-4.4	-4.1	-3.8	-3.7	-4.7	-6.5	-7.5	-8.8	-10.5	-11.4	-12.0	-12.5	-13.1	-13.9	-14.8	-8.2	-3.7
11-Jan	-15.7	-16.5	-18.2	-19.0	-19.5	-19.3	-19.0	-18.6	-18.5	-18.4	-18.5	-18.7	-18.7	-18.7	-19.0	-20.6	-22.1	-22.6	-21.7	-22.2	-21.2	-20.3	-20.4	-20.5	-19.5	-15.7
12-Jan	-19.8	-19.1	-18.8	-18.5	-18.4	-18.5	-19.0	-18.7	-18.3	-18.0	-17.4	-16.7	-15.9	-15.1	-13.7	-12.6	-12.3	-11.9	-10.8	-10.8	-12.1	-11.6	-11.2	-11.4	-15.4	-10.8
13-Jan	-12.9	-13.8	-13.8	-13.8	-13.8	-14.3	-14.5	-14.2	-14.2	-13.8	-12.9	-11.7	-10.5	-9.5	-8.5	-8.1	-9.1	-9.2	-8.2	-7.6	-7.4	-6.7	-5.6	-5.6	-10.8	-5.6
14-Jan	-6.3	-6.0	-6.0	-6.9	-7.3	-8.3	-7.1	-6.3	-5.8	-5.2	-4.8	-3.9	-1.8	0.4	1.5	2.4	2.0	1.6	1.7	1.2	1.6	3.1	4.5	4.4	-2.1	4.5
15-Jan	5.8	5.2	4.3	4.4	4.5	4.3	4.1	2.4	1.0	-0.7	0.8	1.9	2.3	2.7	2.4	2.2	1.4	1.1	0.3	-0.8	-1.3	-2.0	-2.0	-2.7	1.7	5.8
16-Jan	-3.5	-4.2	-4.8	-5.3	-5.6	-6.1	-6.5	-6.9	-7.3	-7.8	-7.9	-7.6	-7.4	-7.2	-7.0	-7.1	-7.6	-8.4	-8.6	-9.1	-10.1	-11.4	-12.7	-13.8	-7.7	-3.5
17-Jan	-14.9	-15.3	-15.4	-15.3	-16.1	-17.1	-18.0	-19.0	-19.7	-19.6	-19.5	-19.4	-19.5	-18.9	-18.9	-19.4	-20.3	-21.6	-22.1	-23.3	-23.5	-24.3	-25.3	-27.2	-19.7	-14.9
18-Jan	-28.8	-30.3	-31.7	-31.6	-31.6	-31.1	-31.4	-31.9	-32.2	-32.3	-30.9	-29.3	-28.1	-26.6	-25.5	-24.9	-26.2	-28.6	-30.0	-31.8	-32.5	-33.1	-33.9	-35.1	-30.4	-24.9
19-Jan	-35.2	-35.4	-36.6	-37.1	-36.3	-37.3	-37.4	-36.6	-36.5	-36.2	-33.7	-30.8	-29.1	-27.8	-27.1	-26.7	-28.5	-29.8	-30.7	-30.3	-30.2	-31.2	-31.1	-31.0	-32.6	-26.7
20-Jan	-30.1	-29.9	-29.7	-29.7	-29.6	-29.1	-29.1	-28.3	-28.4	-26.2	-24.4	-23.0	-21.8	-19.2	-16.4	-14.6	-13.3	-11.7	-10.0	-9.5	-9.4	-8.2	-4.6	-3.7	-20.0	-3.7
21-Jan	-2.6	-3.0	-3.2	-0.8	-2.7	-4.6	-4.4	-6.5	-3.3	-1.9	-2.9	-2.7	-4.0	-6.1	-8.1	-10.0	-11.5	-12.2	-12.7	-13.3	-14.4	-14.8	-15.4	-15.5	-7.4	-0.8
22-Jan	-14.7	-14.3	-14.1	-13.7	-13.2	-12.7	-12.9	-12.3	-12.2	-11.9	-10.4	-9.4	-8.3	-5.8	-3.7	-4.3	-7.2	-6.9	-7.2	-7.7	-8.3	-8.4	-8.6	-8.8	-9.9	-3.7
23-Jan	-8.3	-7.3	-6.1	-5.3	-4.8	-3.2	-2.4	-2.1	-1.8	-1.4	-1.0	0.5	1.6	3.0	3.2	2.3	1.4	0.4	0.1	-0.5	-0.2	-0.1	0.5	0.4	-1.3	3.2
24-Jan	0.5	0.3	-0.3	-1.0	-2.1	DF	-4.0	-5.3	-6.4	-7.1	-6.7	-5.6	-4.4	-3.7	-3.7	-3.8	-3.8	-3.7	-3.2	-3.6	-3.0	-2.3	-2.2	-2.2	-3.4	0.5
25-Jan	-3.0	-3.5	-5.0	-6.6	-7.6	-8.9	-9.1	-10.0	-10.4	-10.8	-7.8	-6.5	-5.0	-3.0	-1.8	0.3	0.0	-0.8	-0.9	-1.3	-2.0	-2.4	-2.3	-1.7	-4.6	0.3
26-Jan	-3.0	-4.4	-3.6	-3.7	-4.2	-4.3	-4.3	-4.1	-4.7	-4.2	-2.9	-0.9	-0.4	0.4	2.2	3.0	2.4	2.0	3.9	3.3	2.5	2.8	3.7	3.7	-0.6	3.9
27-Jan	3.4	2.6	1.6	1.5	0.6	-0.5	-1.0	-2.3	-3.0	-3.5	-2.8	-1.7	-0.1	0.7	2.9	4.4	5.8	5.3	5.0	8.6	8.2	7.7	7.1	6.6	2.4	8.6
28-Jan	6.3	5.9	5.4	5.2	5.2	3.5	1.0	0.8	3.5	3.5	3.6	3.4	2.7	3.4	2.9	2.2	1.3	1.0	0.6	0.0	0.2	-0.1	-0.8	-1.1	2.5	6.3
29-Jan	-1.1	-1.4	-1.6	-2.3	-2.5	-2.8	-3.0	-3.0	-3.0	-4.1	-5.8	-7.2	-8.3	-9.5	-10.8	-12.3	-13.5	-14.4	-14.6	-14.8	-15.0	-15.5	-15.8	-15.8	-8.2	-1.1
30-Jan	-15.9	-16.5	-17.3	-18.1	-19.3	-20.7	-22.0	-23.1	-24.1	-24.3	-23.0	-22.8	-22.1	-21.5	-20.8	-20.9	-22.3	-23.9	-24.4	-24.7	-25.7	-25.4	-26.5	-27.5	-22.2	-15.9
31-Jan	-27.7	-28.6	-29.6	-29.7	-30.1	-30.4	-31.0	-30.1	-29.3	-28.2	-27.1	-25.9	-25.2	-24.6	-24.1	-23.9	-24.0	-24.1	-24.1	-24.2	-24.3	-24.4	-24.5	-24.6	-26.7	-23.9
																								Diurnal Average		
																								Diurnal Maximum		
DF - DAS Failure																										





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ambient Temperature 2m (AT2) - C
Fort Hills - January 2025

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	232	31.22	31.22
-20 - 0	392	52.76	83.98
0 - 10	119	16.02	100.00
10 - 20	0	0.00	100.00
> 20	0	0.00	100.00

Total Number of Valid Hours: 743

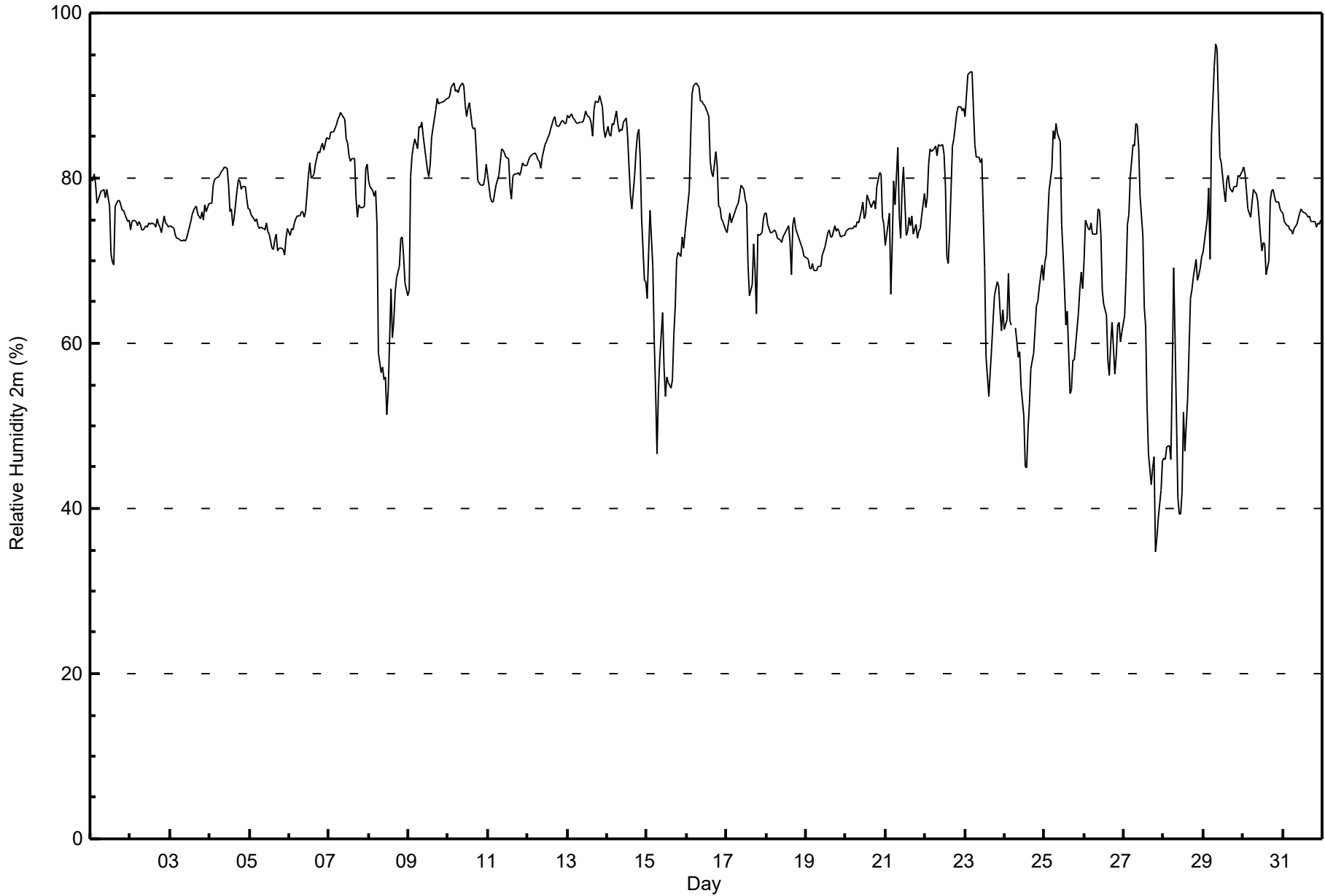
Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

Relative Humidity 2m (RH2) - %
Fort Hills - January 2025

Maximum Value: 96.3 % on Jan 29 08:00 Maximum Daily Average: 87.5 % on Jan 13																						Hours in Service: 744 Hours of Data: 743																									
Minimum Value: 34.8 % on Jan 27 20:00 Minimum Daily Average: 55.7 % on Jan 28 Maximum Diurnal Average: 78.4 % at hour 6 Minimum Diurnal Average: 71.4 % at hour 15 Monthly Average: 75.23 % Percentiles: P ₁ = 42.5 P ₁₀ = 61.8 Q ₁ = 72.1 Median = 75.7 Q ₃ = 82.0 P ₉₀ = 86.8 P ₉₉ = 91.5																						Hours of Missing Data: 1 Hours of Calibration: 0 Percent Operational Time: 99.9																									
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																							
1-Jan	79.8	79.6	80.5	79.4	77.0	78.0	78.6	78.4	78.7	77.6	78.6	76.6	70.8	69.8	69.5	76.6	77.2	77.3	76.7	76.1	76.2	75.5	74.8	74.8	76.6	80.5																					
2-Jan	73.7	74.7	74.9	74.7	74.2	74.8	74.5	73.7	73.7	74.2	74.1	74.5	74.4	74.6	74.5	74.0	75.2	74.5	74.1	73.4	75.4	74.6	74.5	74.1	74.4	75.4																					
3-Jan	74.2	74.1	73.9	73.0	72.8	72.7	72.5	72.4	72.5	72.4	72.8	73.4	74.7	75.6	76.2	76.4	76.6	75.5	75.1	75.9	74.9	76.8	75.8	77.0	74.5	77.0																					
4-Jan	76.9	77.0	79.2	79.9	80.0	80.1	80.4	80.8	81.0	81.3	81.2	79.2	75.9	76.2	74.3	75.3	78.5	79.9	79.7	78.7	78.9	78.9	77.4	76.3	78.6	81.3																					
5-Jan	76.2	75.6	75.1	74.8	75.0	74.3	73.9	74.1	73.9	73.6	74.6	73.3	71.6	71.4	72.6	73.2	71.2	71.5	71.5	71.4	70.6	72.7	73.9	73.3	76.2	73.3																					
6-Jan	73.0	73.9	73.8	74.5	75.1	75.5	75.4	75.9	76.0	75.3	76.0	80.3	81.9	80.0	80.1	80.5	81.7	83.2	83.0	83.7	84.2	83.4	85.0	84.7	79.0	85.0																					
7-Jan	84.7	85.6	85.7	85.6	86.4	87.1	87.5	88.0	87.6	87.1	84.8	84.2	82.8	82.1	82.4	82.4	77.6	75.2	76.8	76.4	76.4	76.5	81.3	81.6	82.7	88.0																					
8-Jan	79.7	79.0	78.4	77.7	78.4	74.4	58.8	56.4	57.1	55.5	55.9	51.4	54.2	66.7	60.8	62.8	66.3	68.0	69.3	72.7	72.9	70.6	67.3	65.8	66.7	79.7																					
9-Jan	66.5	80.2	82.7	83.9	84.8	83.5	86.3	86.2	86.8	85.1	82.3	81.0	80.3	81.7	85.0	86.1	88.3	89.7	89.0	89.1	89.2	89.4	89.5	89.7	84.8	89.7																					
10-Jan	89.7	90.0	91.0	91.5	90.6	90.6	90.4	91.0	91.6	91.2	88.8	87.4	88.5	89.1	86.2	86.0	86.1	83.0	79.6	79.2	79.1	79.1	80.0	81.7	86.7	91.6																					
11-Jan	80.3	77.6	77.2	77.1	78.1	79.2	80.3	81.8	83.6	83.3	83.1	82.6	82.3	78.8	77.5	80.2	80.6	80.5	80.7	80.4	81.1	81.8	81.5	81.5	80.5	83.6																					
12-Jan	82.0	82.5	82.7	82.9	83.0	82.7	82.2	82.1	81.2	82.6	84.0	84.4	85.0	85.3	85.9	87.1	87.4	86.5	86.3	86.2	87.0	87.0	86.6	86.6	84.5	87.4																					
13-Jan	87.7	87.3	87.8	87.4	87.1	86.8	86.6	86.8	86.8	86.9	87.4	88.1	87.7	87.3	86.6	85.2	88.3	89.3	89.2	90.0	89.4	88.7	86.0	84.9	87.5	90.0																					
14-Jan	86.2	85.2	85.1	86.6	86.5	88.1	86.6	85.5	85.9	85.8	86.8	87.2	85.1	81.3	78.0	76.2	80.4	83.3	85.2	86.0	82.4	75.1	67.7	67.5	82.6	88.1																					
15-Jan	65.5	71.0	76.2	69.4	60.3	54.0	46.6	54.2	58.3	63.7	57.1	53.5	56.0	55.2	54.6	55.7	61.1	64.5	70.2	70.9	70.5	72.9	71.5	73.4	62.8	76.2																					
16-Jan	75.0	78.5	84.9	90.2	91.1	91.4	91.5	91.0	89.4	89.3	89.0	88.8	88.0	87.5	82.1	80.6	80.1	83.3	81.4	76.7	76.5	75.1	74.8	73.8	83.7	91.5																					
17-Jan	73.4	74.6	75.7	74.6	75.7	76.1	76.7	76.9	78.0	79.1	78.6	77.5	76.8	69.6	65.7	67.2	72.0	68.8	63.6	73.2	73.0	73.4	75.1	75.8	73.8	79.1																					
18-Jan	75.8	74.4	73.4	73.4	73.5	73.7	73.4	72.8	72.5	72.1	72.9	73.3	73.6	74.3	72.2	68.3	74.3	75.2	74.0	72.9	72.3	71.9	71.3	70.5	73.0	75.8																					
19-Jan	70.3	70.1	69.2	69.0	69.7	68.7	68.8	69.4	69.4	69.3	70.7	71.7	72.5	73.4	73.8	72.9	72.9	74.2	73.6	73.8	73.6	72.9	73.0	73.0	71.5	74.2																					
20-Jan	73.6	73.6	73.8	73.8	73.9	74.2	74.1	74.7	74.6	76.2	77.2	75.0	75.5	78.0	77.0	76.5	77.0	77.3	76.3	79.0	80.6	80.5	75.2	74.4	75.9	80.6																					
21-Jan	71.9	74.4	75.8	66.0	72.2	79.7	76.7	83.8	75.6	72.7	78.6	81.4	73.0	73.5	75.2	74.2	75.4	73.2	74.3	72.7	73.6	73.8	75.4	78.1	75.1	83.8																					
22-Jan	76.4	77.6	81.8	83.6	83.2	83.6	83.9	82.7	84.0	83.9	84.0	82.8	79.0	70.6	69.7	73.4	83.8	84.8	86.3	87.8	88.6	88.7	88.2	88.6	82.4	88.7																					
23-Jan	87.4	90.0	92.5	92.8	92.8	88.3	84.0	82.5	82.6	81.8	82.4	75.7	69.2	58.3	53.6	56.7	59.4	62.7	65.7	67.5	67.0	63.9	61.5	64.1	74.3	92.8																					
24-Jan	61.6	62.9	68.4	62.7	62.2	DF	61.9	60.1	58.3	59.0	54.7	51.3	45.0	44.9	49.7	52.7	57.0	58.8	61.7	64.5	65.1	66.9	69.4	67.7	59.4	69.4																					
25-Jan	69.9	70.7	74.7	78.5	81.2	85.7	84.8	86.6	85.5	84.4	74.5	70.8	66.8	62.3	63.9	54.0	54.4	58.0	58.0	59.9	63.7	66.5	68.6	66.6	70.4	86.6																					
26-Jan	70.1	74.9	73.9	73.7	74.6	73.2	73.2	73.1	76.2	76.1	73.2	66.5	64.8	63.4	57.9	56.0	59.8	62.5	56.3	58.5	62.2	62.5	60.2	61.4	66.8	76.2																					
27-Jan	63.3	68.1	74.3	75.6	80.2	84.2	83.8	86.6	86.4	83.8	77.8	73.0	64.5	62.1	52.3	46.7	42.9	44.9	46.2	34.8	36.5	38.9	42.3	45.7	62.3	86.6																					
28-Jan	46.0	46.0	47.5	47.5	45.9	56.5	69.1	60.5	41.3	39.3	39.3	42.0	51.6	46.9	53.4	59.3	65.5	66.4	68.0	70.2	67.7	68.3	69.1	70.4	55.7	70.4																					
29-Jan	71.0	73.7	75.1	78.9	70.2	85.2	93.6	96.3	95.6	89.1	82.5	81.9	78.5	77.2	79.8	80.4	78.9	78.4	79.0	78.9	78.9	80.4	80.1	80.8	81.0	96.3																					
30-Jan	81.4	80.6	78.5	76.2	75.3	77.1	78.6	78.3	78.1	77.3	73.1	71.2	72.1	72.1	68.4	70.1	77.4	78.5	78.6	77.8	77.2	77.0	76.2	75.9	76.1	81.4																					
31-Jan	75.8	74.7	74.2	74.3	73.7	73.6	73.2	73.9	74.4	75.1	75.7	76.2	76.0	75.8	75.5	75.3	75.4	74.8	74.7	74.7	74.0	74.5	74.4	74.8	74.8	76.2																					
																						74.8	76.1	77.4	77.1	76.9	78.4	77.7	78.0	77.3	76.9	75.9	74.7	73.5	72.4	71.4	71.7	73.7	74.3	74.3	74.6	74.8	74.7	74.4	74.7	Diurnal Average	
																						89.7	90.0	92.5	92.8	92.8	91.4	93.6	96.3	95.6	91.2	89.0	88.8	88.5	89.1	86.6	87.1	88.3	89.7	89.2	90.0	89.4	89.4	89.5	89.7	Diurnal Maximum	
DF - DAS Failure																																															





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Relative Humidity 2m (RH2) - %
Fort Hills - January 2025

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	5	0.67	0.67
40 - 60	60	8.08	8.75
60 - 80	438	58.95	67.70
80 - 100	240	32.30	100.00

Total Number of Valid Hours: 743

Total Number of Hours: 744



Maximum Speed: 35 km/h on Jan 24 07:00	Maximum Daily Speed Average: 25.5 km/h on Jan 16	Hours in Service: 744
Minimum Speed Value: 0 km/h on Jan 18 21:00	Minimum Daily Speed Average: 1.3 km/h on Jan 4	Hours of Data: 734
Maximum Diurnal Speed Average: 2.7 km/h at hour 23	Minimum Diurnal Speed Average: 0.4 km/h at hour 12	Hours of Missing Data: 10
Monthly Average Velocity: 0.4 km/h 328.8 deg	Percentiles: P ₁ = 1 P ₁₀ = 3 Q ₁ = 7 Median = 11 Q ₃ = 16 P ₉₀ = 23 P ₉₉ = 31	Percent Operational Time: 98.7

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	NNE5	NNE5	NNW3	N8	NNE10	N8	NNE7	NNE7	NNW3	NW3	NNW4	WNW3	NW1	SSE2	E3	SE2	SSW2	N4	NNE3	N3	NW4	UO	SW3	SSW2	N2.8	NNE10
2-Jan	N1	WSW2	UO	UO	UO	S3	ESE4	UO	SW2	SSE2	S3	SSE4	SE5	ESE5	ESE6	SE2	UO	UO	S2	SE1	SE5	SSE5	SSE5	SE6	SE2.9	SE6
3-Jan	SE8	SE8	SSE9	SSE6	SE9	SE8	SSE7	SSE8	SSE6	SSE8	SSE6	SSW5	S5	S6	S5	SE6	SE5	S5	S4	S4	SSW5	SSW6	SSW3	SSE5.9	SSE9	
4-Jan	SSW1	NNW2	WNW1	N0	S2	SSW3	SSW5	S5	S6	S8	S9	S11	S9	SSW6	SSE5	NW3	N6	N8	N10	N11	N12	N17	N18	N18	N1.3	N18
5-Jan	N15	N15	N15	NNE15	NNE13	N14	NNE13	NNE10	NNE9	NNE9	N10	N10	N7	NNE7	NNW5	NNW5	NNE7	NE10	NE7	NE6	SSE5	SSE6	SE7	S8	NNE7.5	N15
6-Jan	S8	SSE8	SSE10	S9	S8	S10	S11	S12	S10	S14	SSW12	SSW15	SSW15	S17	S16	S14	S12	SSW13	SSW13	S13	S11	S11	S12	SSE14	S12.0	S17
7-Jan	SSE16	SSE18	SSE19	SSE19	SSE17	SSE17	SSE16	SSE16	SSE18	S19	SSE19	SSE21	SSE19	SSE17	SSE18	S17	SSW17	SSW18	S12	S13	SSW16	S14	SE12	SSE12	SSE15.9	SSE21
8-Jan	SSW11	SW17	SSW17	SW11	SW15	SSW9	W9WNW13	WSW2	W4WSW11	WNW22	WNW23	WNW27	NW25	NW12	W8	W6	WSW8	SW9	WSW15	WSW15	W14	WNW12	W14	WNW12	W10.5	WNW27
9-Jan	WNW11	NNE22	NNE19	NNE19	NNE16	NNE13	NE15	NNE10	NE10	NNE8	NNE6	E2	ESE11	ESE11	SE10	SSE12	S9	S10	SSE8	S9	S7	WSW3	WSW2	SSW5	ENE4.0	NNE22
10-Jan	SE7	W1	WNW4	NNW3	ENE3	SE3	S6	SSE9	SSE11	SSE11	S3	N2	N9	NNE17	NNE18	N18	N21	N27	N28	N27	N25	NNE22	NNE22	NNE24	NNE9.4	N28
11-Jan	NNE22	NNE21	NNE21	NNE20	NNE17	N16	N17	N16	N16	N15	NNE13	N11	NNE10	NNE9	NNE6	NNE3	E2	ESE5	SE5	SE8	SSE9	S10	SSE9	SSE11	NNE8.1	NNE22
12-Jan	SSE15	SSE16	SSE14	SSE14	SSE14	SSE15	SSE16	SSE18	SSE19	SSE20	SSE19	SSE20	SSE20	SSE20	SSE21	SSE19	SSE20	SE19	SSE18	SSE14	SE11	SE10	S5	S6	SSE15.7	SSE21
13-Jan	SSE8	SE11	SE11	SE11	SSE12	SE13	SE13	SSE14	SE17	SSE17	SSE15	SSE16	SSE17	SSE17	SSE16	SE15	SE16	SE15	SE12	SSE6	SE10	SE7	SE7	SE7	SSE12.3	SSE17
14-Jan	SSW6	S9	SSE9	SE11	SE13	SE14	SSE13	SSE14	SSE16	S18	S13	SSE10	S14	SSW20	SW20	SW15	SSW10	SSW10	SSW13	SSW11	SSW10	SSW13	SSW16	W15	S10.5	SW20
15-Jan	WNW20	NW21	W12	WNW14	NW19	NW17	WNW17	NNE7	NNW9	NW2	W3	W9	WSW10	WSW8	WNW7	WSW3	SSW3	E4	E2	NNE12	NE7	NNE7	NE10	NNE13	NW6.6	NW21
16-Jan	NNE11	NNE8	NNE9	NNE16	N20	N19	N19	N24	NNE30	N31	N30	N31	N33	N34	N31	N31	N31	N23	N25	N33	N34	N31	N31	N25.5	N34	
17-Jan	N27	NNW13	NNW12	N18	N16	N14	N12	NNE12	NNE12	NNW8	N6	NNE7	NNE6	N6	N10	N11	N8	NNW10	N7	NNE11	N12	N11	NNW5	N3	N10.4	N27
18-Jan	NE1	SE2	SSE4	S5	SSW5	SSE6	SE9	SSE7	SSE6	SSE6	SSE9	SE6	SE8	SE7	ESE7	ESE5	ESE6	S3	UO	SSE3	SSE0	NNW4	NW2	WNW3	SSE3.9	SE9
19-Jan	NW3	WNW4	WNW3	W1	WSW2	NW1	SW2	S3	SSE3	SSE1	SSW2	ESE3	ESE5	ESE5	ESE7	ESE6	ESE4	SE6	SSE7	S6	SE8	SE11	SE9	SE9	SE3.3	SE11
20-Jan	SSE12	SSE14	SSE16	SSE18	SSE16	SSE16	SSE13	S11	S15	S19	SSE19	S18	SSW13	SSE16	S17	S15	S14	SSW16	S20	SSE13	ESE12	SE11	SW18	SW13	S14.3	S20
21-Jan	SSW9	SSW10	S13	SW14	SSW10	S7	SW13	SE6	WSW9	W7	NNE3	N20	N25	NNE25	N25	N28	N27	N24	N21	N20	N10	NNE9	ENE1	S8	N6.3	N28
22-Jan	S8	S8	SSE10	SE8	SE8	SSE3	SW4	SSE3	SE5	S4	SSE7	ESE9	SE9	SSE7	S12	SSE10	SE13	SSE15	S15	SSE15	SSE16	SSE16	SSE13	S11	SSE9.1	SSE16
23-Jan	S15	S10	S12	S9	SSE8	S13	SSW17	SSW16	S15	SSE11	S10	SSW12	SW13	W17	WNW22	WNW20	WNW16	WNW11	W10	W11	W18	W15	WNW24	WNW22	WSW9.1	WNW24
24-Jan	WNW24	WNW23	NW23	NW28	NNW32	DF	NNW35	NNW30	NNW25	NNW21	NNW16	NW17	NW14	WSW7	SW11	SSW10	SSW11	SSW7	WNW5	WNW9	SW7	SW9	SW9	NW13.9	NNW35	
25-Jan	SSW10	SSW11	SSW12	S10	S9	SSE10	SSE9	S13	S12	SSE8	S10	S10	S12	S10	ESE8	WSW8	WSW10	WSW9	WSW11	S10	S7	SE8	SSE8	S14	S8.8	S14
26-Jan	S12	SSE9	SSW16	SSW19	S10	S8	S12	SSE13	SE12	SE11	SE9	S16	S18	SSE14	SSE12	SSW13	SW11	WNW8	WNW12	WNW13	W11	WSW6	WNW11	WNW9	SSW7.7	SSW19
27-Jan	WNW8	W2	S6	SE4	SSE3	S3	SE4	SE5	SE3	SE8	SSE8	SE10	S15	S10	S18	SSW21	SSW16	S16	SSE3	WNW18	WNW24	WNW29	WNW31	WNW29	SW5.9	WNW31
28-Jan	WNW27	WNW27	WNW22	WNW22	WNW21	N9	NE7	NW8	WNW23	WNW24	WNW24	WNW24	WNW23	WNW18	WNW20	WNW18	NW17	NW14	NW9	W6	WSW6	SW9	WSW7	W9	WNW15.2	WNW27
29-Jan	W7	NW7	NW1	S5	SE3	E5	SE5	ESE4	ENE2	NNE20	N26	NNE24	NNE21	NNE20	NNE22	NNE24	NNE24	NNE27	N26	N23	N25	N25	NNE24	NNE21	NNE14.4	NNE27
30-Jan	NNE21	N22	NNE19	N18	NNE14	NNE14	NNE11	NNE11	NNE8	W1	N2	NE6	NE6	NE9	NNE5	NE5	SSE3	UO	NNW4	N5	NNW7	N10	NNW7	NW5	NNE8.6	N22
31-Jan	NNW5	NNW5	NNW7	N7	NNW8	NNW7	NNW9	N12	N17	N13	N16	N18	N26	N26	N28	N27	N31	N31	N33	N31	N31	N29	N29	N30	N19.7	N33

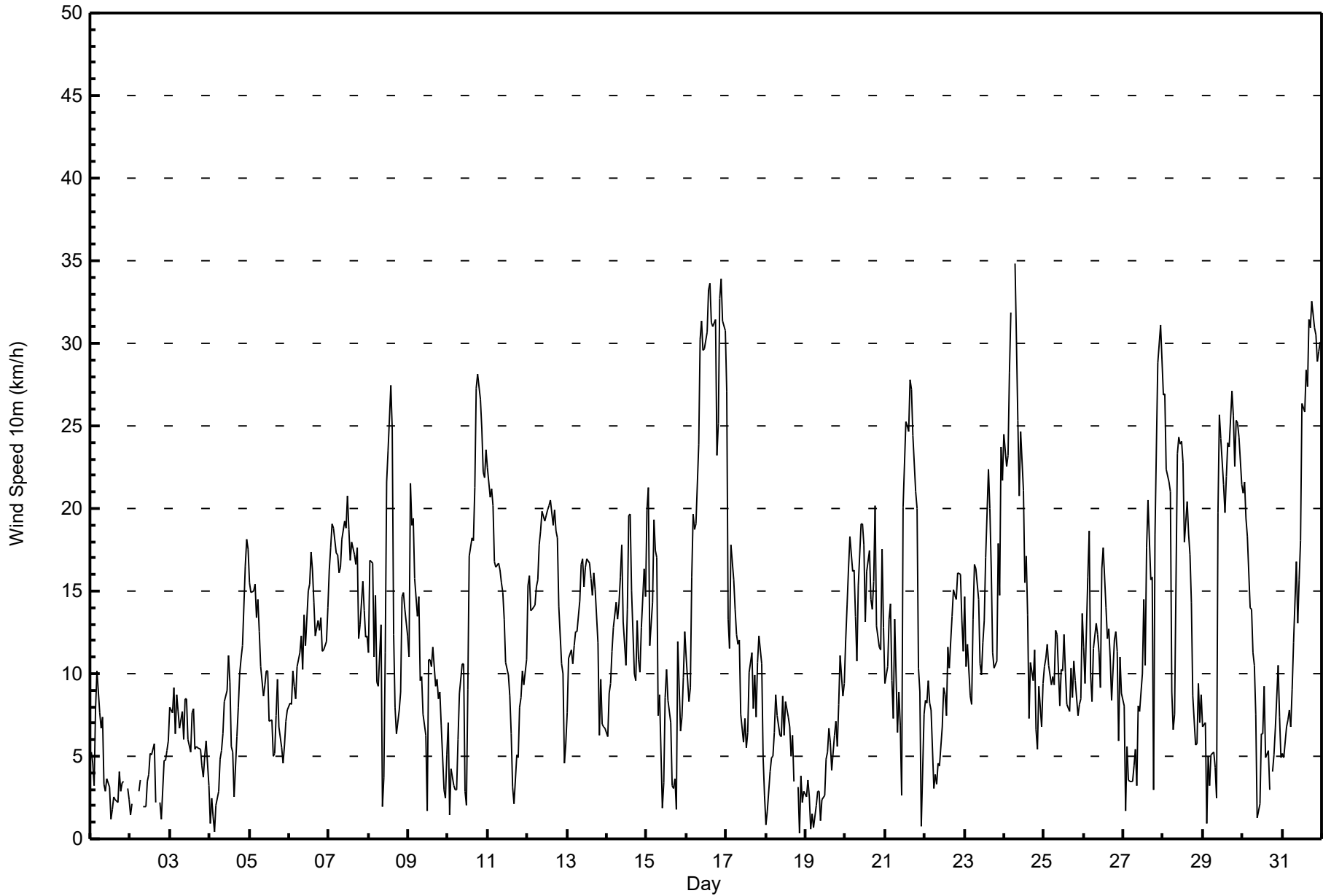
WNW1.6	WNW1.3	SSW1.2	WNW0.6	NE0.6	ESE2.0	ESE0.9	ESE1.9	SE1.3	SSE1.5	SSE0.9	SSW0.4	SE0.5	ENE0.6	NNW0.9	NW0.9	NNW0.8	N1.4	NNW1.1	NNW1.7	NNW1.9	NNW2.0	NW2.7	WNW2.4	Diurnal Average
N27	WNW27	NW23	NW28	NNW32	N19	NNW35	NNW30	NNE30	N31	N30	N30	N31	N33	N34	N31	N31	N31	N33	N31	N33	N34	N31	N31	Diurnal Maximum

DF - DAS Failure UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods



Wood Buffalo Environmental Association
Hourly Averages

Wind Speed 10m (WS10) - km/h
Fort Hills - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 10m (WS10) - km/h
Fort Hills - January 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	141	19.21	19.21
6 - 11	259	35.29	54.50
12 - 19	217	29.56	84.06
20 - 28	89	12.13	96.19
29 - 38	28	3.81	100.00
> 38	0	0.00	100.00

Total Number of Valid Hours: 734

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Wind Speed 10m (WS10) - km/h
Fort Hills - January 2025

Wind Speed Ranges (km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	8	6	2	3	6	9	15	19	16	12	4	6	6	8	10	11	141
6 - 11	21	26	10	0	0	10	37	42	42	19	7	13	11	8	3	10	259
12 - 19	27	19	1	0	0	1	12	60	38	22	7	4	6	10	7	3	217
20 - 28	26	22	0	0	0	0	0	7	1	2	1	0	0	22	4	4	89
29 - 38	21	1	0	0	0	0	0	0	0	0	0	0	0	3	0	3	28
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	103	74	13	3	6	20	64	128	97	55	19	23	23	51	24	31	734

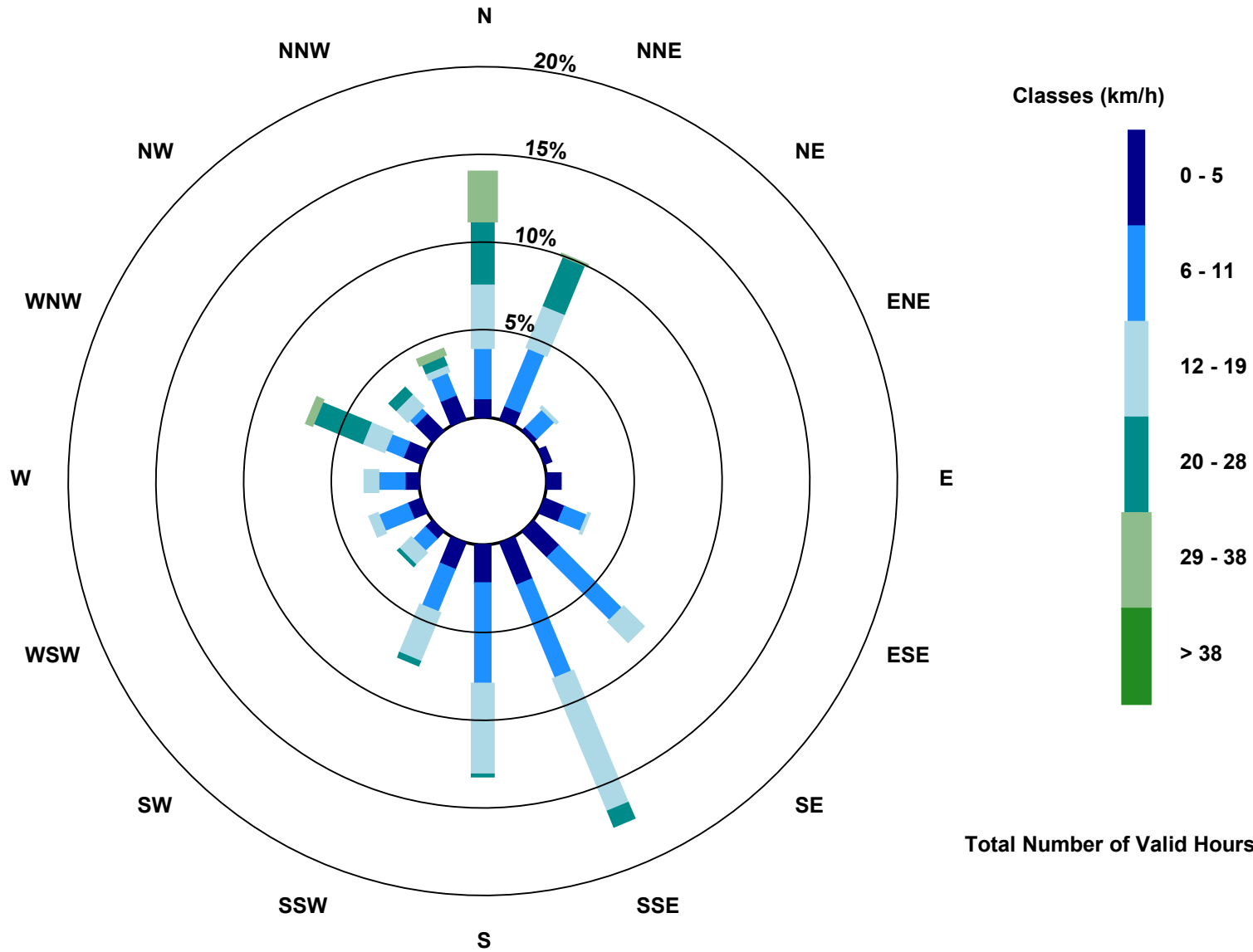
Total Number of Valid Hours: 734

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Wind Speed 10m (WS10) - km/h
Fort Hills



Total Number of Valid Hours: 734



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Speed 10m (WS10) - km/h
Fort Hills - January 2025

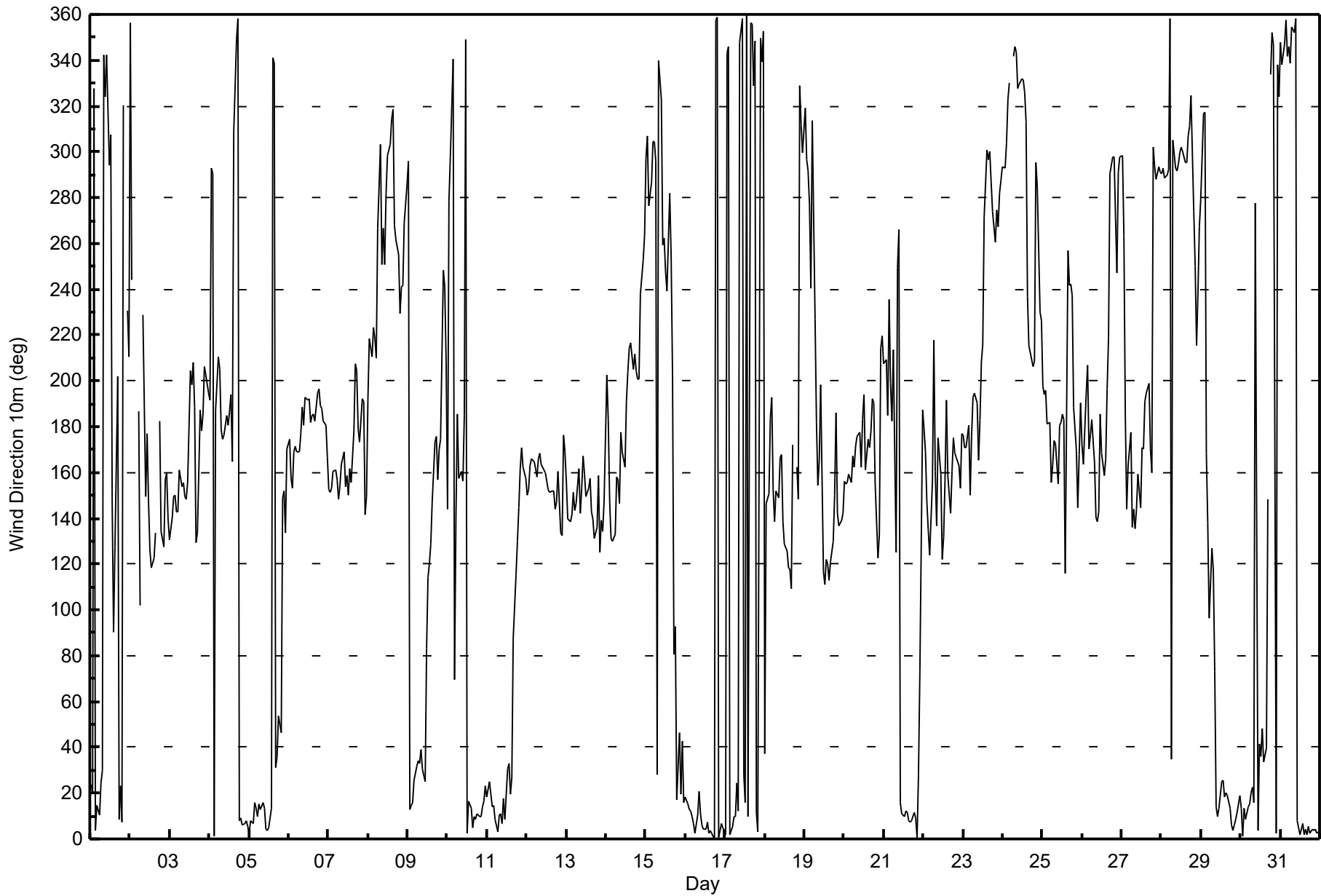
Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 10 km/h on Jan 24 07:00 Minimum Value: 0 km/h on Jan 3 23:00 Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 1 Median = 2 Q ₃ = 3 P ₉₀ = 5 P ₉₉ = 7																		Hours in Service: 744 Hours of Data: 734 Hours of Missing Data: 10 Hours of Calibration: 0 Percent Operational Time: 98.7							
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	1	1	1	2	2	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
2-Jan	1	1	UO	UO	UO	1	1	UO	1	1	1	1	1	1	1	1	UO	UO	0	1	1	1	1	1	1
3-Jan	1	1	1	2	1	1	1	1	1	1	1	2	1	1	1	2	1	1	1	1	1	1	0	1	2
4-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	3	3
5-Jan	3	3	3	3	3	3	3	2	2	1	2	2	1	1	2	1	2	2	1	2	1	1	1	1	3
6-Jan	1	1	1	1	1	1	1	2	2	2	2	2	3	3	2	2	2	3	2	2	2	2	2	2	3
7-Jan	2	2	3	3	2	3	2	2	2	3	3	3	3	2	2	3	3	3	2	2	3	2	3	3	3
8-Jan	2	4	4	4	4	4	3	3	2	4	5	5	9	6	7	5	2	1	2	2	3	3	3	2	9
9-Jan	4	4	4	4	4	3	3	2	2	2	1	3	2	2	1	1	2	2	1	1	1	1	1	1	4
10-Jan	1	2	2	2	1	2	2	2	2	1	3	1	5	3	3	4	5	5	5	5	5	5	4	4	5
11-Jan	4	4	4	3	3	3	3	3	3	2	3	2	2	1	1	2	2	2	2	3	1	1	1	2	4
12-Jan	2	2	2	2	2	2	2	3	2	3	2	3	2	2	2	2	3	2	2	3	2	3	1	1	3
13-Jan	1	2	2	2	1	1	2	2	3	2	3	2	2	3	3	2	2	2	4	1	2	1	1	1	4
14-Jan	2	2	1	1	1	2	2	2	2	2	3	2	2	3	4	3	4	1	2	2	2	4	2	3	4
15-Jan	6	5	3	4	6	5	5	3	4	2	2	3	2	2	1	1	3	2	3	1	3	3	3	3	6
16-Jan	3	2	2	2	4	3	4	4	5	5	5	4	5	6	5	5	5	6	5	5	6	7	6	6	7
17-Jan	5	5	4	3	3	2	2	2	2	2	2	2	2	3	2	4	3	3	2	3	3	1	2	5	
18-Jan	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	UO	1	1	1	1	1	2
19-Jan	1	1	1	1	2	1	2	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	2	2	2
20-Jan	2	2	2	2	2	2	2	2	2	2	3	2	2	3	2	2	3	4	2	1	2	5	5	5	
21-Jan	2	3	3	4	3	3	5	3	2	5	3	4	5	4	5	6	5	5	4	4	2	2	1	2	6
22-Jan	1	1	1	1	1	1	2	1	1	2	1	2	1	2	2	1	2	2	2	2	2	2	3	2	3
23-Jan	2	2	2	1	2	2	2	2	3	4	4	3	2	6	6	5	5	3	4	3	4	4	6	6	6
24-Jan	6	5	6	7	9	DF	10	7	7	5	5	3	4	4	1	1	2	2	2	2	3	2	2	2	10
25-Jan	1	2	2	2	2	2	3	2	2	1	2	2	3	2	2	3	1	2	3	1	2	1	3	3	3
26-Jan	2	1	5	4	5	2	3	2	2	1	1	5	2	2	1	2	2	5	3	2	2	1	2	2	5
27-Jan	2	2	2	1	2	2	1	1	2	1	1	3	2	2	5	6	4	5	6	6	7	7	8	7	8
28-Jan	6	6	5	5	5	4	3	7	6	6	6	8	8	5	5	5	5	3	4	1	1	2	1	1	8
29-Jan	2	2	1	1	1	1	1	1	1	8	5	4	4	3	3	4	4	5	4	5	5	5	4	4	8
30-Jan	4	4	4	4	3	2	3	2	3	1	2	2	2	2	1	1	1	UO	1	1	2	2	1	1	4
31-Jan	1	1	1	2	2	1	2	3	3	3	3	4	5	5	5	5	5	6	6	5	5	6	6	4	6
Diurnal Maximum																									
DF - DAS Failure UO - Unstable Operation																									



Wood Buffalo Environmental Association
Summary of Hour Averages

Wind Direction 10m (WD10) - deg
Fort Hills - January 2025

Direction of Maximum Speed: 342 deg on Jan 24 07:00																						Hours in Service: 744			
Direction of Maximum Daily Speed Average: 5.8 deg on Jan 16																						Hours of Data: 734			
Direction of Minimum Speed: 148 deg on Jan 18 21:00											Direction of Minimum Daily Speed Average: 1.3 deg on Jan 4											Hours of Missing Data: 10			
Monthly Average Direction: 328.8 deg																						Percent Operational Time: 98.7			
Day	Hourly Period Ending At (MST)																								Daily Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	24	20	328	4	15	10	24	30	342	324	342	294	307	148	90	127	202	9	23	7	320	UO	230	210	5.5
2-Jan	356	244	UO	UO	UO	187	102	UO	229	150	177	148	127	119	123	134	UO	UO	183	134	128	157	160	140	145.0
3-Jan	131	140	149	150	143	143	161	154	156	149	148	156	204	198	208	189	129	133	188	178	186	206	202	195	163.1
4-Jan	192	293	291	1	187	211	205	179	175	176	185	181	187	194	165	308	349	358	8	9	6	7	8	5	358.1
5-Jan	2	8	7	16	13	10	15	13	16	13	4	4	5	13	341	339	31	36	54	46	149	152	133	170	17.8
6-Jan	175	157	153	169	171	169	169	177	189	180	193	192	192	182	185	185	182	195	197	189	188	183	180	167	181.2
7-Jan	152	151	153	160	161	157	148	154	163	169	154	159	150	162	156	178	207	204	179	174	192	191	141	149	164.7
8-Jan	192	218	211	223	219	210	267	303	251	267	251	282	299	303	314	319	268	262	255	230	241	242	269	286	263.8
9-Jan	296	13	14	16	26	32	34	33	39	30	25	83	114	120	129	147	173	176	157	171	174	248	241	208	56.3
10-Jan	144	279	298	341	69	140	185	157	160	156	185	349	2	17	13	5	10	9	11	10	10	14	17	23	17.1
11-Jan	18	25	19	14	15	9	3	11	11	7	18	9	31	33	20	27	88	115	130	145	161	171	162	158	27.0
12-Jan	150	153	163	166	165	161	158	166	168	164	161	160	156	153	151	152	152	144	147	161	134	132	177	169	156.4
13-Jan	156	140	138	142	151	143	146	162	142	153	167	159	149	153	158	143	140	131	136	159	125	139	134	147	147.2
14-Jan	203	183	148	131	130	133	158	157	147	178	169	162	191	204	214	217	205	212	205	201	201	238	253	263	188.4
15-Jan	297	307	276	287	304	305	296	28	340	323	259	263	248	239	282	254	203	81	93	17	46	19	42	16	310.5
16-Jan	18	15	13	12	10	7	3	10	20	11	6	4	4	7	3	3	3	0	358	359	1	4	7	3	5.8
17-Jan	2	343	346	2	6	10	10	24	12	348	358	28	16	360	9	356	356	329	349	12	3	349	339	353	0.9
18-Jan	37	146	151	184	193	153	139	152	149	167	168	138	129	126	118	118	110	172	UO	163	148	329	312	299	146.8
19-Jan	319	296	292	277	241	313	227	182	154	165	198	116	111	122	120	113	121	130	150	186	142	137	139	142	143.3
20-Jan	156	155	155	159	156	167	162	172	176	178	162	183	194	161	174	171	178	192	190	155	123	133	214	220	171.3
21-Jan	207	209	185	235	199	183	214	125	249	266	16	11	9	12	11	8	8	8	11	9	1	28	73	187	359.3
22-Jan	179	169	147	135	124	156	218	160	137	175	159	122	132	157	191	159	142	160	175	168	167	163	153	177	159.4
23-Jan	176	171	171	181	150	176	193	195	190	165	183	208	216	272	301	296	300	287	274	261	274	267	282	287	239.8
24-Jan	293	293	304	323	330	DF	342	346	343	328	330	332	331	326	313	237	215	210	206	209	295	285	230	226	313.3
25-Jan	198	194	196	181	182	156	163	174	173	155	181	182	185	183	116	257	242	242	237	189	169	145	168	190	185.6
26-Jan	172	164	194	207	170	176	183	164	140	139	143	185	169	159	166	197	219	290	298	298	272	247	291	298	194.7
27-Jan	298	264	186	144	163	178	136	144	135	144	159	145	171	170	191	195	199	171	160	302	293	288	294	291	231.6
28-Jan	291	293	288	290	292	358	35	305	293	292	295	300	302	300	295	295	307	311	324	274	250	216	238	267	294.7
29-Jan	280	317	317	169	138	96	127	117	73	14	10	13	25	26	18	20	19	14	6	4	6	8	12	19	15.2
30-Jan	13	1	13	8	14	15	20	22	16	277	4	42	36	48	33	39	148	UO	334	352	347	2	338	324	12.1
31-Jan	348	338	347	358	342	346	338	354	352	358	8	5	2	6	2	4	2	5	3	4	4	4	3	3	1.1
283.5 284.5 200.6 298.9 40.9 116.8 123.1 112.7 125.3 159.3 165.4 192.7 128.3 59.3 345.7 318.6 330.7 358.6 339.7 344.8 335.0 328.0 309.5 301.0																								Diurnal Average	
DF - DAS Failure UO - Unstable Operation																									
All monthly, daily, and diurnal averages have been calculated using vector methods																									





Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg
Fort Hills - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 90 deg on Jan 8 09:00																	Hours in Service: 744 Hours of Data: 734 Hours of Missing Data: 10 Hours of Calibration: 0 Percent Operational Time: 98.7								
Minimum Value: 4 deg on Jan 3 03:00																									
Percentiles: P ₁ = 6 P ₁₀ = 8 Q ₁ = 10 Median = 13 Q ₃ = 18 P ₉₀ = 34 P ₉₉ = 80																									
Day	Hourly Period Ending At (MST)																							Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		24
1-Jan	9	13	33	22	7	8	8	7	35	17	33	44	58	57	36	35	36	7	15	16	22	UO	20	10	58
2-Jan	23	57	UO	UO	UO	15	15	UO	23	46	15	14	14	8	11	37	UO	UO	29	72	9	8	13	13	72
3-Jan	7	6	4	6	5	7	9	5	6	6	6	24	8	9	11	30	13	13	18	17	32	14	7	21	32
4-Jan	76	12	45	77	30	41	22	10	6	7	9	12	19	15	80	11	11	9	9	12	10	11	11	11	80
5-Jan	13	12	11	10	10	13	11	11	13	10	11	13	14	12	18	22	15	13	17	20	20	11	11	13	22
6-Jan	8	11	8	7	9	12	9	8	11	8	10	11	12	9	7	9	13	10	9	9	10	10	7	6	13
7-Jan	13	9	8	10	9	10	10	9	7	7	10	7	10	9	11	19	10	8	10	11	10	9	20	13	20
8-Jan	11	11	11	16	14	45	29	14	90	90	33	14	17	13	12	19	19	21	16	22	12	12	14	12	90
9-Jan	27	10	16	9	10	11	10	15	11	18	19	63	14	12	9	8	9	11	9	13	21	29	34	29	63
10-Jan	15	80	23	19	38	37	36	28	16	9	79	69	25	10	12	12	12	11	11	11	11	13	9	9	80
11-Jan	9	10	9	8	9	13	13	11	11	13	19	17	14	13	13	16	46	20	18	12	11	10	12	7	46
12-Jan	7	6	10	8	9	7	7	7	8	7	7	8	8	7	7	8	7	7	8	15	17	10	23	14	23
13-Jan	13	8	9	11	10	6	7	18	10	7	14	12	10	16	15	10	8	8	17	27	11	15	20	11	27
14-Jan	20	19	16	8	7	7	12	10	11	9	19	22	17	9	9	13	10	10	5	6	9	20	9	18	22
15-Jan	19	18	15	20	14	13	17	44	39	82	67	15	17	13	16	34	26	73	65	19	13	13	12	10	82
16-Jan	12	8	8	10	12	12	14	15	9	11	13	15	15	14	16	15	15	17	16	15	16	16	13	16	17
17-Jan	15	16	19	16	14	10	10	9	9	18	18	14	12	14	12	14	38	18	27	13	12	14	18	72	72
18-Jan	38	80	22	23	10	13	10	11	16	7	9	13	8	11	7	16	15	43	UO	24	89	18	22	9	89
19-Jan	27	18	27	76	60	66	57	40	27	84	50	34	12	19	8	11	18	8	13	21	12	7	8	7	84
20-Jan	7	9	6	6	9	6	8	8	9	12	10	12	11	11	7	9	9	8	11	11	10	10	27	17	27
21-Jan	32	19	12	17	45	38	16	45	45	57	68	13	10	10	12	13	13	12	11	12	13	12	80	14	80
22-Jan	10	10	7	11	11	27	15	39	17	14	19	12	9	25	8	26	11	10	10	8	9	7	21	10	39
23-Jan	11	10	12	15	13	10	9	8	9	22	26	15	12	19	15	13	13	13	25	21	14	15	14	14	26
24-Jan	13	13	14	14	13	DF	16	15	14	12	10	11	13	14	14	35	13	14	11	24	30	18	34	23	35
25-Jan	7	15	17	12	27	19	36	12	12	17	10	9	13	16	22	32	8	9	11	15	19	9	28	8	36
26-Jan	23	16	18	7	43	21	20	9	11	9	9	13	8	7	12	10	15	41	13	11	13	19	11	16	43
27-Jan	11	87	35	35	57	56	28	28	43	15	26	19	9	13	14	13	17	11	80	18	15	13	13	13	87
28-Jan	13	13	13	13	13	30	45	79	13	14	13	15	14	18	14	15	16	15	18	16	25	9	17	12	79
29-Jan	14	27	85	32	36	24	13	11	24	18	11	11	10	11	9	10	9	12	14	15	13	14	12	10	85
30-Jan	12	17	10	15	10	9	12	9	12	62	29	16	17	12	23	17	38	UO	14	19	27	13	15	13	62
31-Jan	17	15	12	16	16	11	16	15	15	16	14	17	20	16	19	17	18	17	18	16	17	18	21	21	21
76 87 85 77 60 66 57 79 90 90 79 69 58 57 36 80 46 73 80 72 89 29 80 72																									
Diurnal Maximum																									
DF - DAS Failure UO - Unstable Operation																									



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS25 WASKŌW OHCI PIMÂTISIWIN JANUARY 2025

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

February 28, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - WASKŌW OHCI PIMĀTISIWIN (AMS25)
 JANUARY 2025

MONTHLY SUMMARY

Parameter	Hours of Data	Hours of Calibration	Hours without Data	Operational Time	Maximum 1-Hour Value	1-Hour Exceedances	Maximum 24-Hour Value	24-Hour Exceedances
SO2(ppb) Average	710	34	34	100	21.1	0	2.9	0
H2S(ppb) Average	707	37	37	100	5.4	0	1.1	0
Temperature 2 m (C) Average	744	0	0	100	8.2	0	2.7	0
Relative Humidity (%) Average	744	0	0	100	96.2	-	87.9	-
Wind Speed 10 m (km/h) Average	694	0	50	93.28	26	0	12	0
Wind Direction 10 m (deg) Average	694	0	50	93.28	-	-	-	-

Note : Operational time includes periods of data collection and instrument calibration

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - WASKŌW OHCI PIMĀTISIWIN (AMS25)
 JANUARY 2025

MONTHLY SUMMARY FOR AIR QUALITY/ METEOROLOGICAL MONITORING MEASUREMENTS

Parameter	Number	Mean	StnDev	Total	Percentile						
					Min	P10	Q1	Median	Q3	P90	Max
SO2 (ppb) Average	710	0.65	1.5	-	0	0	0	0.2	0.6	1.8	21.1
H2S (ppb) Average	707	0.37	0.5	-	0	0.1	0.1	0.2	0.5	0.9	5.4
Temperature 2 m (C) Average	744	-13.32	11.4	-	-38.7	-30.1	-22.2	-12.3	-3.6	0.9	8.2
Relative Humidity (%) Average	744	76.37	9.9	-	37.9	65.8	71.9	77	82.3	88.3	96.2
Wind Speed 10 m (km/h) Average	694	5.7	4	-	0	1	3	5	7	11	26
Wind Direction 10 m (deg) Average	694	-	-	-	-	-	-	-	-	-	-

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - WASKŌW OHCI PIMĀTISIWIN (AMS25)

JANUARY 2025

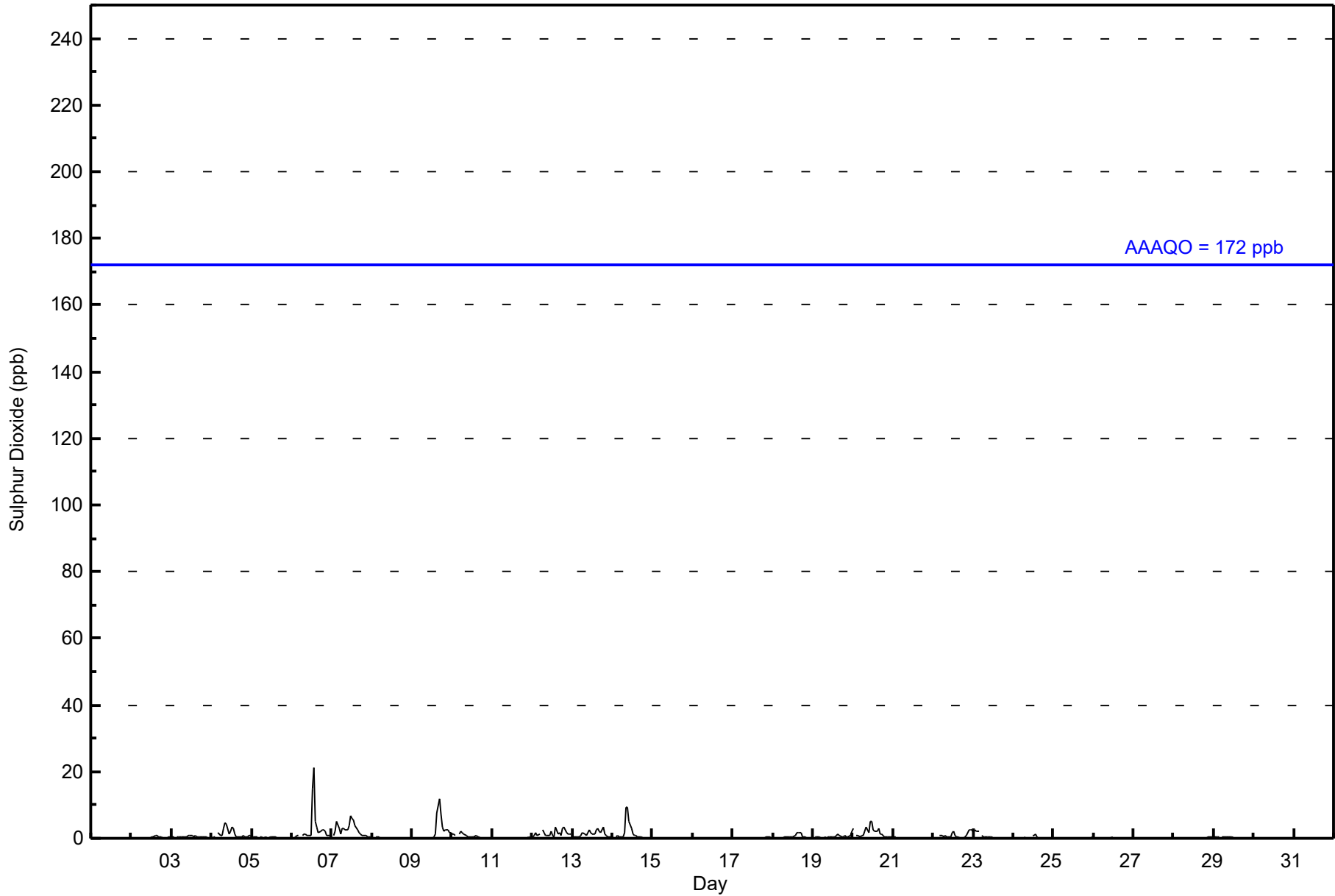
OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
Wind Speed, Wind Direction	01 Jan 2025 01:00	01 Jan 2025 05:00	5	Flat line in sensor output signal
Wind Speed, Wind Direction	01 Jan 2025 08:00	01 Jan 2025 08:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	01 Jan 2025 15:00	01 Jan 2025 15:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	01 Jan 2025 17:00	01 Jan 2025 17:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	01 Jan 2025 22:00	02 Jan 2025 08:00	11	Flat line in sensor output signal
Wind Speed, Wind Direction	02 Jan 2025 09:00	02 Jan 2025 09:00	1	Maintenance - deice sensor
Wind Speed, Wind Direction	02 Jan 2025 10:00	02 Jan 2025 10:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	02 Jan 2025 16:00	02 Jan 2025 17:00	2	Flat line in sensor output signal
Wind Speed, Wind Direction	03 Jan 2025 00:00	03 Jan 2025 05:00	6	Flat line in sensor output signal
Wind Speed, Wind Direction	03 Jan 2025 07:00	03 Jan 2025 07:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	03 Jan 2025 16:00	03 Jan 2025 18:00	3	Flat line in sensor output signal
Wind Speed, Wind Direction	03 Jan 2025 23:00	03 Jan 2025 23:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	11 Jan 2025 17:00	11 Jan 2025 17:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	11 Jan 2025 21:00	11 Jan 2025 22:00	2	Flat line in sensor output signal
Wind Speed, Wind Direction	18 Jan 2025 05:00	18 Jan 2025 06:00	2	Flat line in sensor output signal
Wind Speed, Wind Direction	18 Jan 2025 23:00	19 Jan 2025 01:00	3	Flat line in sensor output signal
Wind Speed, Wind Direction	19 Jan 2025 03:00	19 Jan 2025 03:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	19 Jan 2025 08:00	19 Jan 2025 09:00	2	Flat line in sensor output signal
Wind Speed, Wind Direction	19 Jan 2025 17:00	19 Jan 2025 18:00	2	Flat line in sensor output signal
Wind Speed, Wind Direction	31 Jan 2025 00:00	31 Jan 2025 01:00	2	Flat line in sensor output signal
Wind Speed, Wind Direction	31 Jan 2025 03:00	31 Jan 2025 03:00	1	Flat line in sensor output signal



Wood Buffalo Environmental Association
Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Waskow ohci Pimatisiwin - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Waskow ohci Pimatisiwin - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	707	99.58	99.58
11 - 20	2	0.28	99.86
21 - 60	1	0.14	100.00
61 - 110	0	0.00	100.00
111 - 172	0	0.00	100.00
> 172	0	0.00	100.00

Total Number of Valid Hours: 710

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Waskow ohci Pimatisiwin - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 10	102	22	14	6	1	6	94	137	28	24	30	41	54	44	18	42	663
11 - 20	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
21 - 60	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
61 - 110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111 - 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	102	22	14	6	1	6	95	139	28	24	30	41	54	44	18	42	666

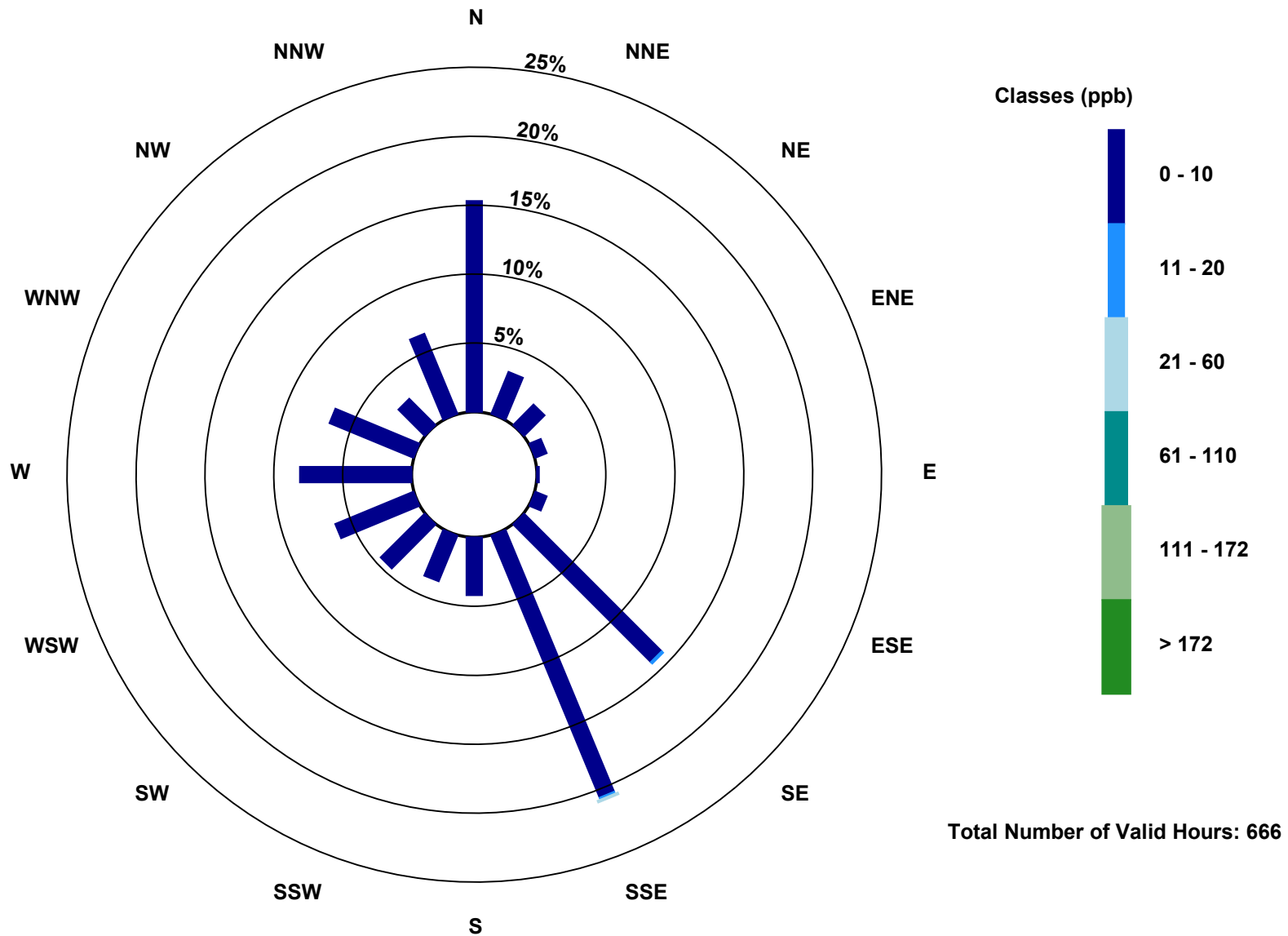
Total Number of Valid Hours: 666

Total Number of Hours: 744

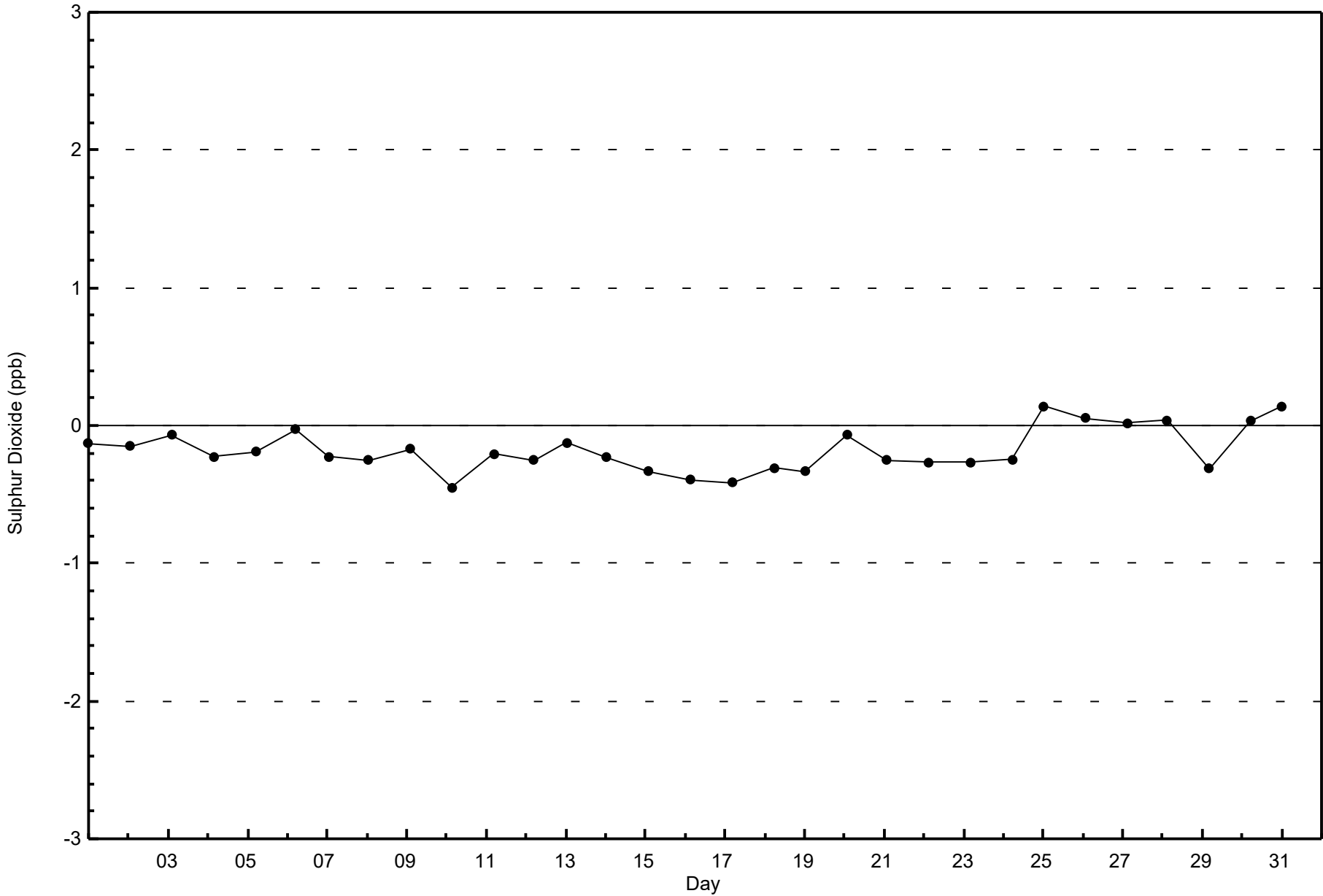


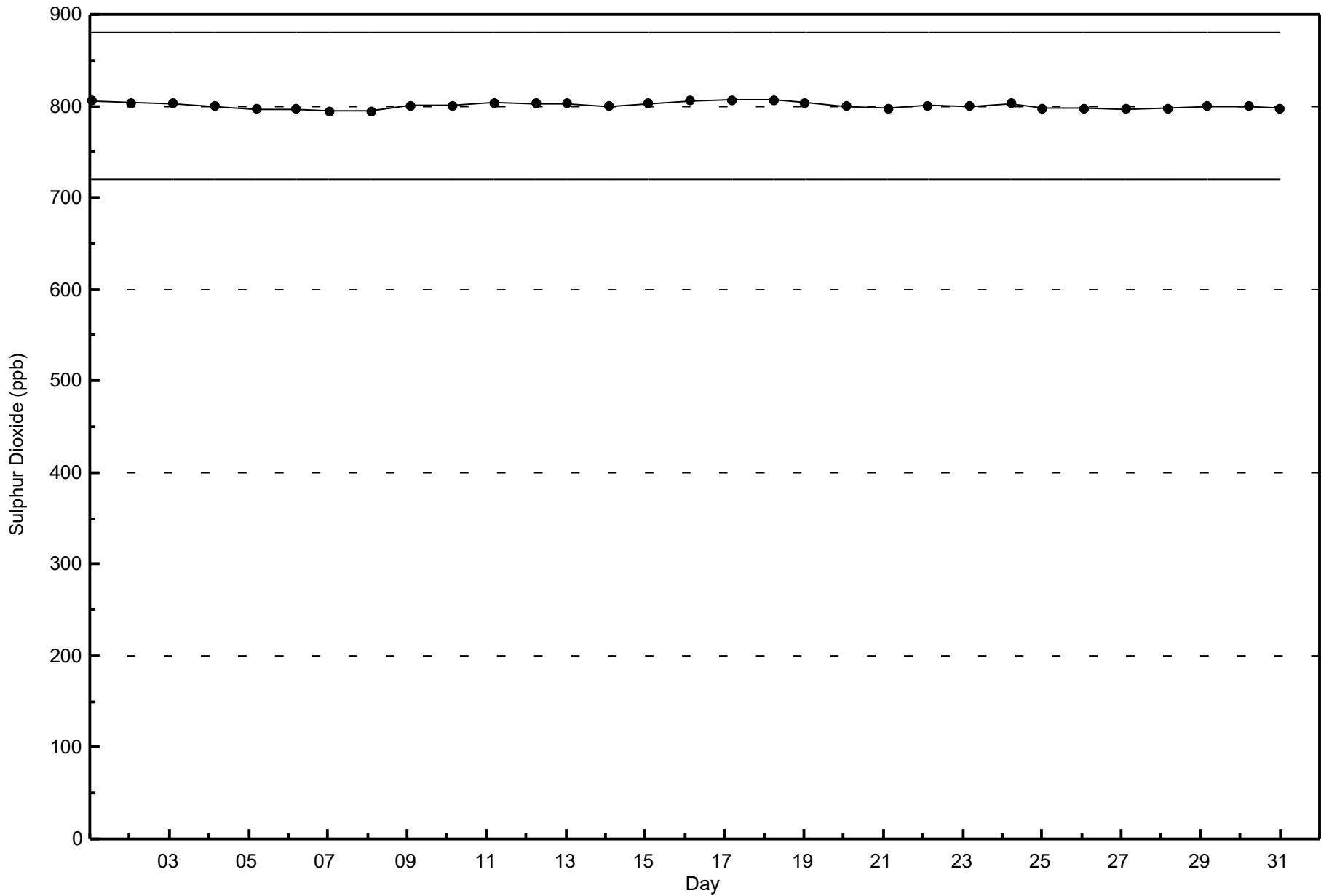
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Sulphur Dioxide (SO₂) - ppb
Waskow ohci Pimatisiwin



Total Number of Valid Hours: 666



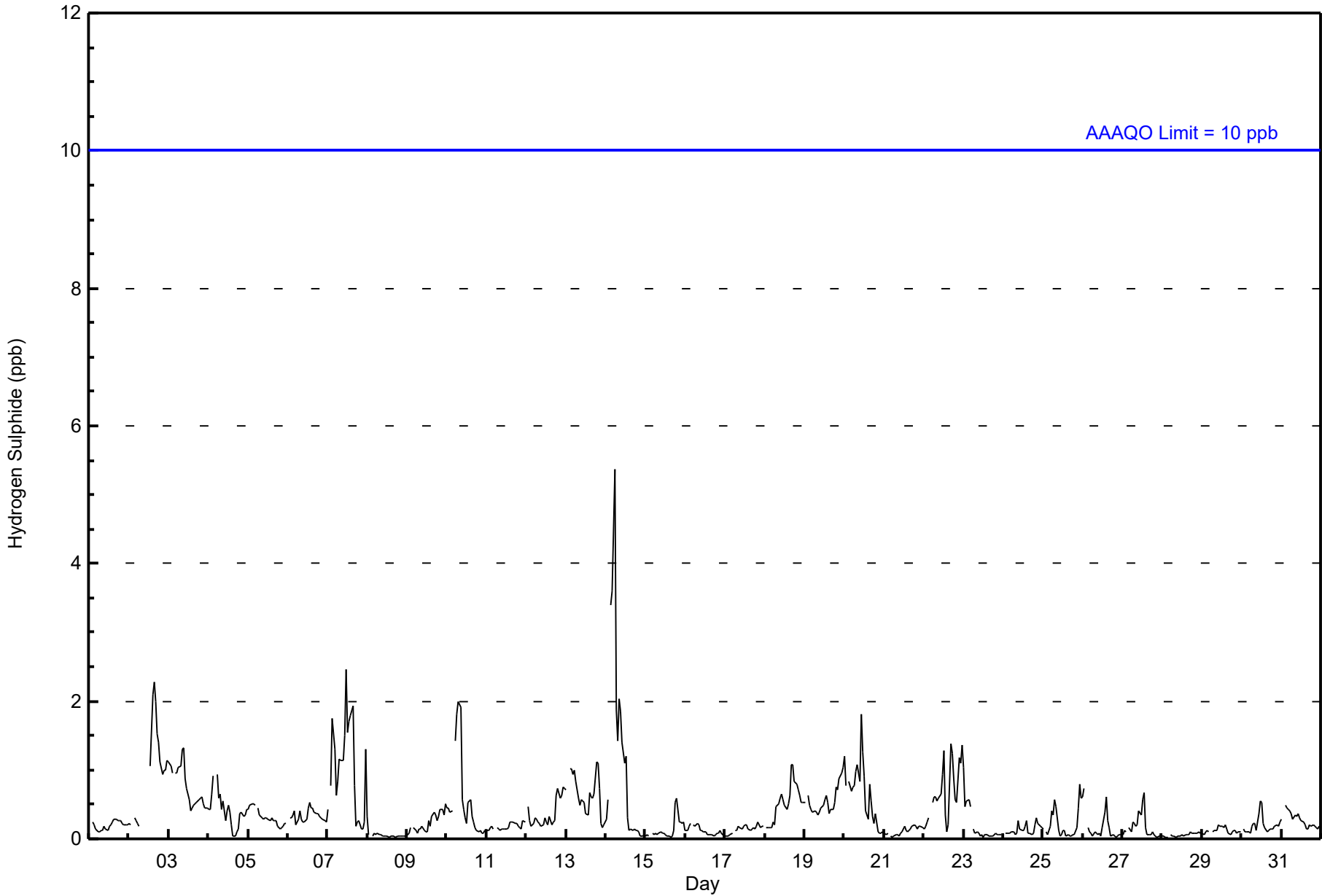




Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 5.4 ppb on Jan 14 06:00	Maximum Daily Average: 1.1 ppb on Jan 14		Hours of Data:	707
Minimum Value: 0.0 ppb on Jan 21 06:00	Minimum Daily Average: 0.1 ppb on Jan 28		Hours of Missing Data:	37
Maximum Diurnal Average: 0.6 ppb at hour 6	Minimum Diurnal Average: 0.3 ppb at hour 21		Hours of Calibration:	37
Monthly Average: 0.37 ppb	Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.5 P ₉₀ = 0.9 P ₉₉ = 2.0		Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
1-Jan	0.3	Z	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3
2-Jan	0.2	0.2	Z	0.3	0.3	0.2	0.2	C	C	C	C	C	C	1.1	2.1	2.3	2.0	1.5	1.4	1.1	0.9	1.0	1.0	1.1	--	--	2.3	2.3	
3-Jan	1.1	1.1	1.0	Z	1.0	1.0	1.0	1.1	1.3	1.3	0.9	0.7	0.6	0.4	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.5	0.5	0.4	0.8	0.8	1.3	1.3	
4-Jan	0.4	0.4	0.7	0.9	Z	0.9	0.6	0.7	0.4	0.5	0.3	0.4	0.5	0.4	0.2	0.0	0.0	0.1	0.1	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.9	0.9	
5-Jan	0.4	0.5	0.5	0.5	0.5	Z	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.5	0.5	
6-Jan	Z	0.3	0.3	0.4	0.4	0.2	0.3	0.4	0.3	0.3	0.2	0.3	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.5	0.5	
7-Jan	0.4	Z	0.8	1.7	1.3	0.6	0.8	1.2	1.1	1.1	1.5	2.5	1.5	1.7	1.8	1.9	0.8	0.2	0.3	0.3	0.2	0.1	0.3	1.3	1.0	1.0	2.5	2.5	
8-Jan	0.3	0.1	Z	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.3	
9-Jan	0.1	0.1	0.2	Z	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.3	0.2	0.3	0.4	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.2	0.2	0.5	0.5	
10-Jan	0.4	0.4	0.4	0.4	Z	1.4	1.8	2.0	1.9	0.6	0.4	0.3	0.2	0.5	0.6	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.6	0.6	2.0	2.0	
11-Jan	0.1	0.1	0.2	0.2	0.1	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.3	0.3	0.3	
12-Jan	Z	0.5	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.3	0.2	0.2	0.3	0.6	0.7	0.6	0.6	0.8	0.7	0.4	0.4	0.8	0.8	
13-Jan	0.7	Z	1.0	1.0	0.9	1.0	0.8	0.6	0.5	0.6	0.5	0.5	0.4	0.4	0.7	0.6	0.6	0.6	1.1	1.1	0.7	0.2	0.2	0.2	0.7	0.7	1.1	1.1	
14-Jan	0.3	0.6	Z	3.4	3.6	5.4	1.9	1.4	2.0	1.9	1.4	1.1	1.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.1	1.1	5.4	5.4	
15-Jan	0.0	0.1	0.0	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.5	0.6	0.2	0.2	0.2	0.1	0.1	0.6	0.6	
16-Jan	0.1	0.1	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.2	0.2	
17-Jan	0.0	0.0	0.0	0.1	0.1	Z	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	
18-Jan	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.5	0.6	0.7	0.6	0.5	0.4	0.5	0.6	1.1	1.1	0.8	0.8	0.7	0.6	0.5	0.5	0.5	0.5	1.1	1.1	
19-Jan	0.5	Z	0.6	0.5	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.5	0.6	0.6	0.5	0.4	0.4	0.4	0.5	0.7	0.7	0.9	1.0	1.0	0.6	0.6	1.0	1.0	
20-Jan	1.2	0.8	Z	0.8	0.7	0.8	0.8	1.0	1.1	0.8	1.8	1.3	0.9	0.4	0.3	0.8	0.5	0.3	0.2	0.4	0.1	0.1	0.1	0.1	0.7	0.7	1.8	1.8	
21-Jan	0.1	0.1	0.1	Z	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.1	0.2	0.2	
22-Jan	0.1	0.2	0.2	0.3	Z	0.5	0.6	0.6	0.5	0.6	0.6	0.9	1.3	0.3	0.1	0.2	1.4	1.2	0.9	0.6	0.5	1.2	1.1	1.4	0.7	0.7	1.4	1.4	
23-Jan	1.0	0.5	0.5	0.6	0.5	Z	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	1.0	1.0	1.0	
24-Jan	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.1	0.1	0.1	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.2	0.2	0.1	0.1	0.3	0.3
25-Jan	0.2	Z	0.1	0.1	0.2	0.4	0.4	0.6	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.2	0.4	0.8	0.6	0.2	0.2	0.8	0.8	
26-Jan	0.6	0.7	Z	0.2	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.2	0.4	0.6	0.3	0.2	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.7	0.7	
27-Jan	0.1	0.1	0.1	Z	0.2	0.1	0.2	0.2	0.2	0.2	0.4	0.3	0.6	0.7	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.2	0.2	0.7	0.7	
28-Jan	0.0	0.0	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
29-Jan	0.1	0.1	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2
30-Jan	Z	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.4	0.5	0.5	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.5
31-Jan	0.3	Z	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.4	0.3	0.3	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.3	0.3	0.5	0.5	0.5

Z - zerospan C - Calibration
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Hydrogen Sulphide (H₂S) - ppb
Waskow ohci Pimatisiwin - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	704	99.58	99.58
3 - 4	2	0.28	99.86
5 - 7	1	0.14	100.00
8 - 11	0	0.00	100.00
> 11	0	0.00	100.00

Total Number of Valid Hours: 707

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Hydrogen Sulphide (H₂S) - ppb
Waskow ohci Pimatisiwin - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2	100	21	14	7	1	5	94	136	27	24	29	40	52	45	20	45	660
3 - 4	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
5 - 7	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
8 - 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	100	21	14	7	1	5	95	138	27	24	29	40	52	45	20	45	663

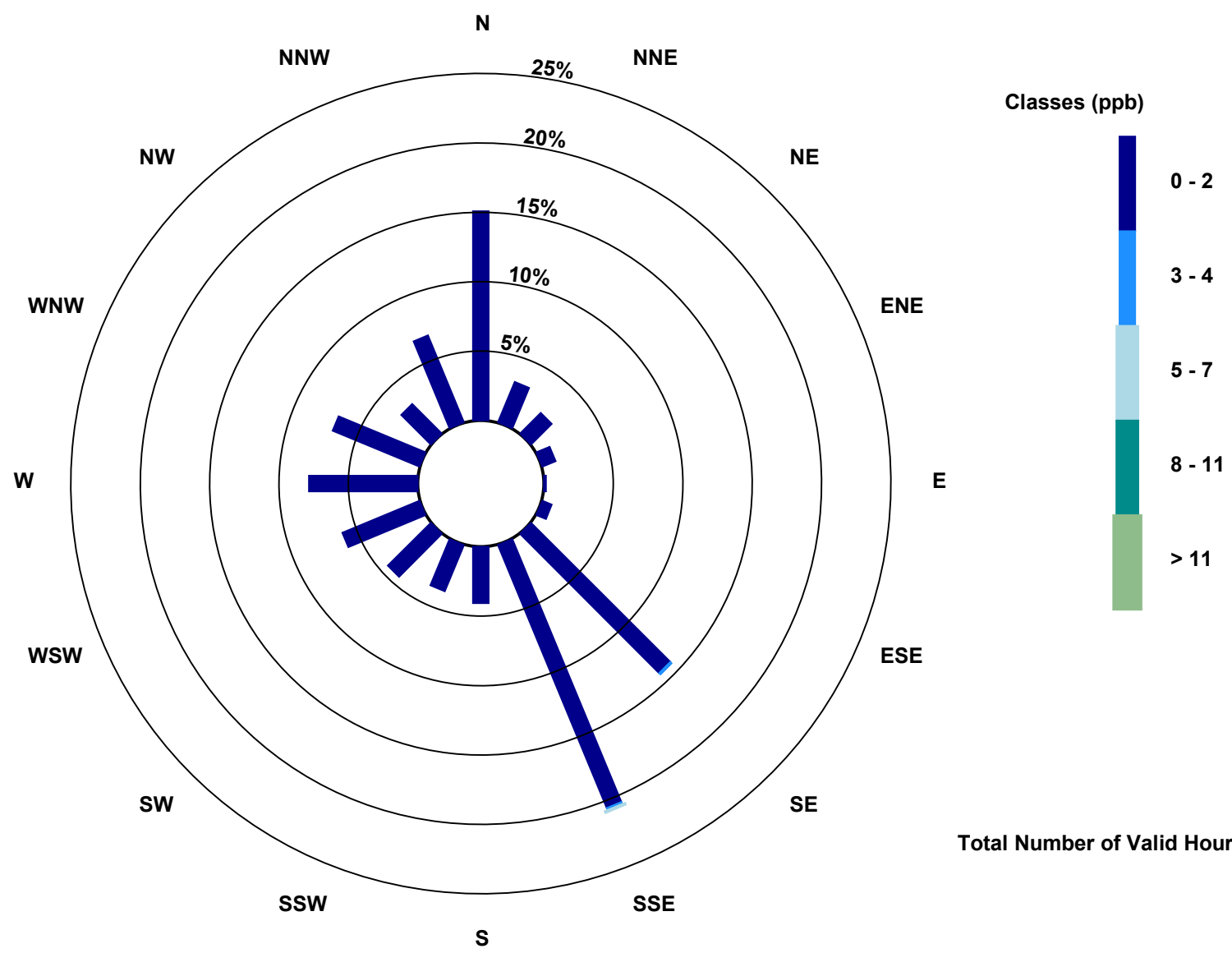
Total Number of Valid Hours: 663

Total Number of Hours: 744

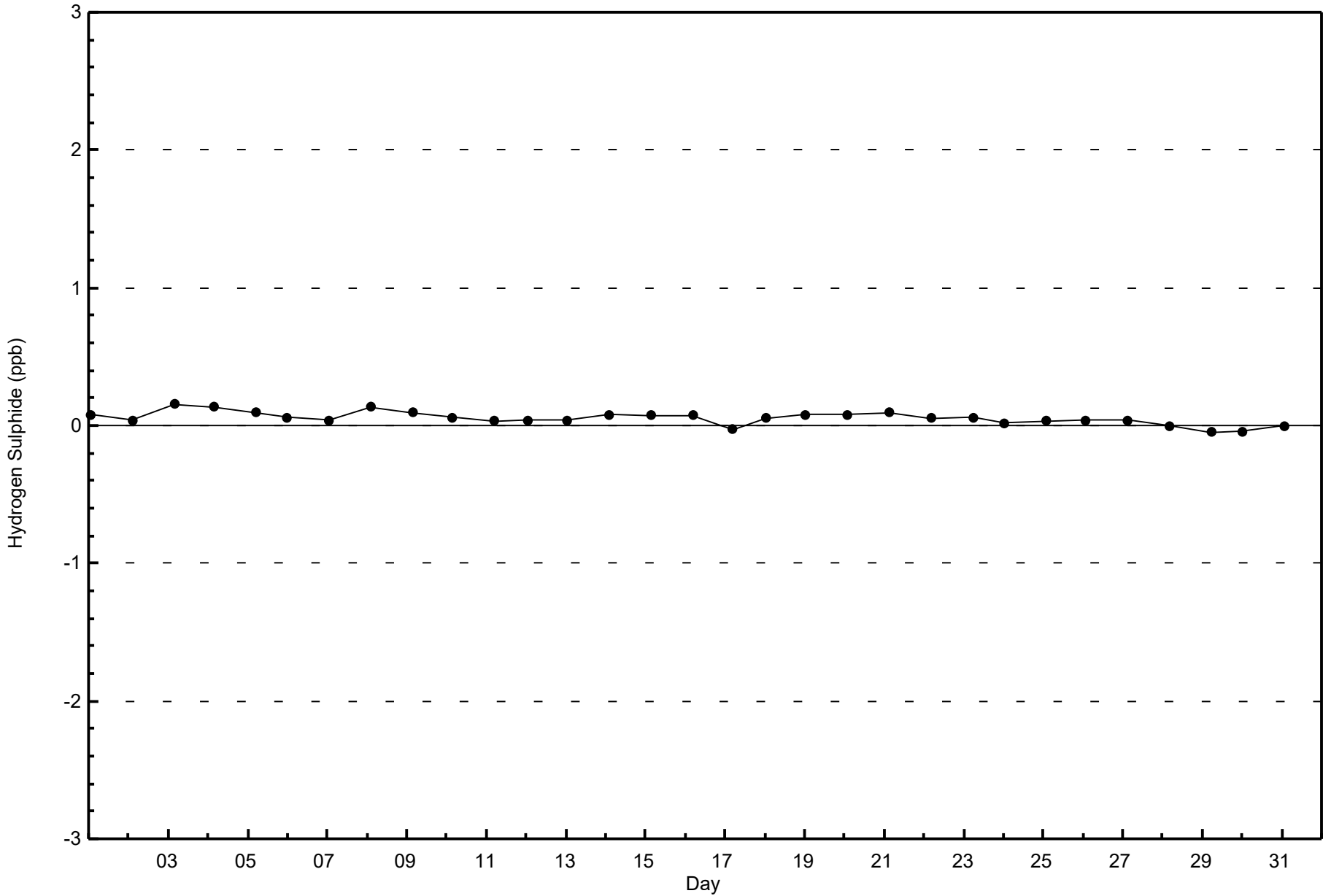


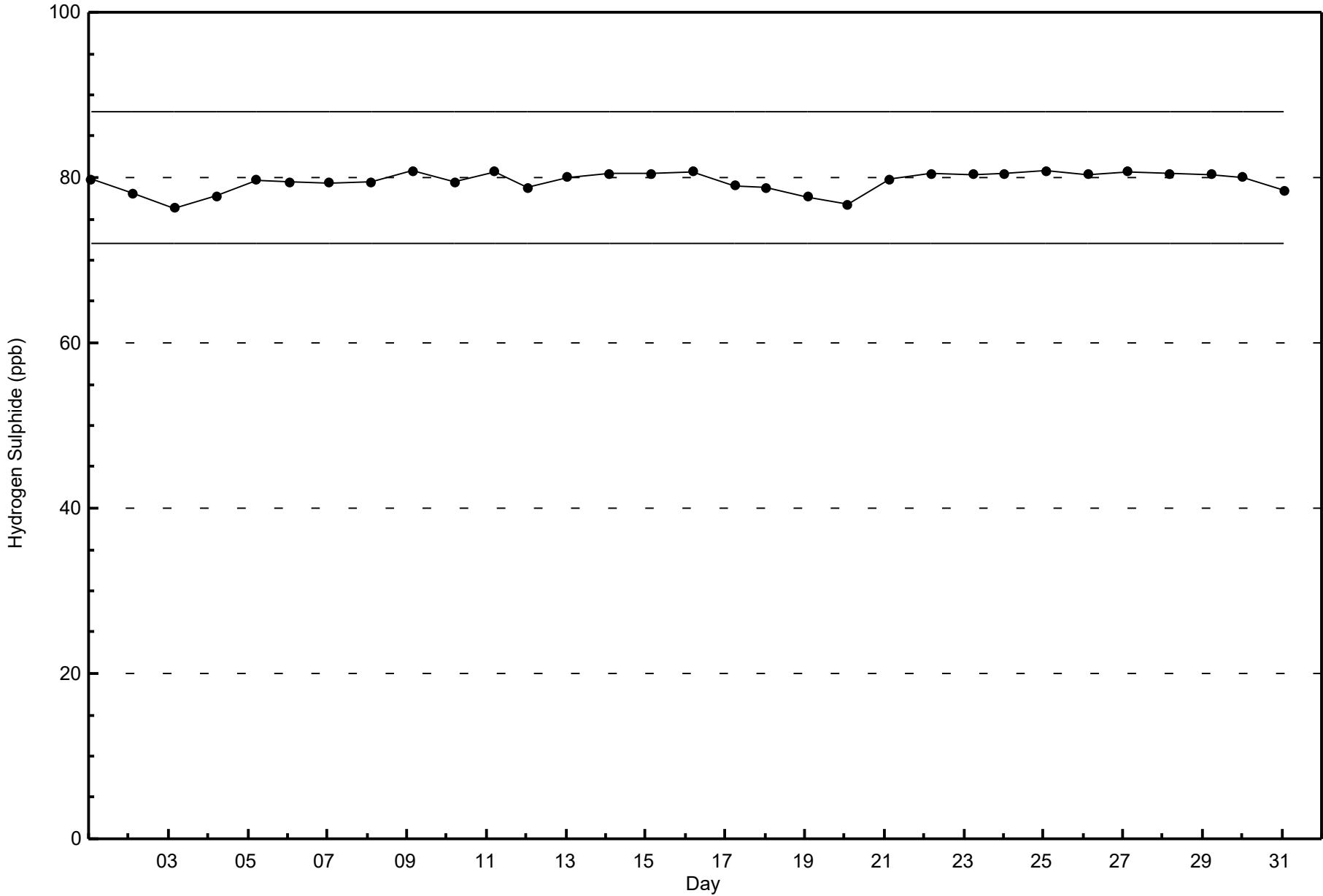
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Hydrogen Sulphide (H₂S) - ppb
Waskow ohci Pimatisiwin



Total Number of Valid Hours: 663



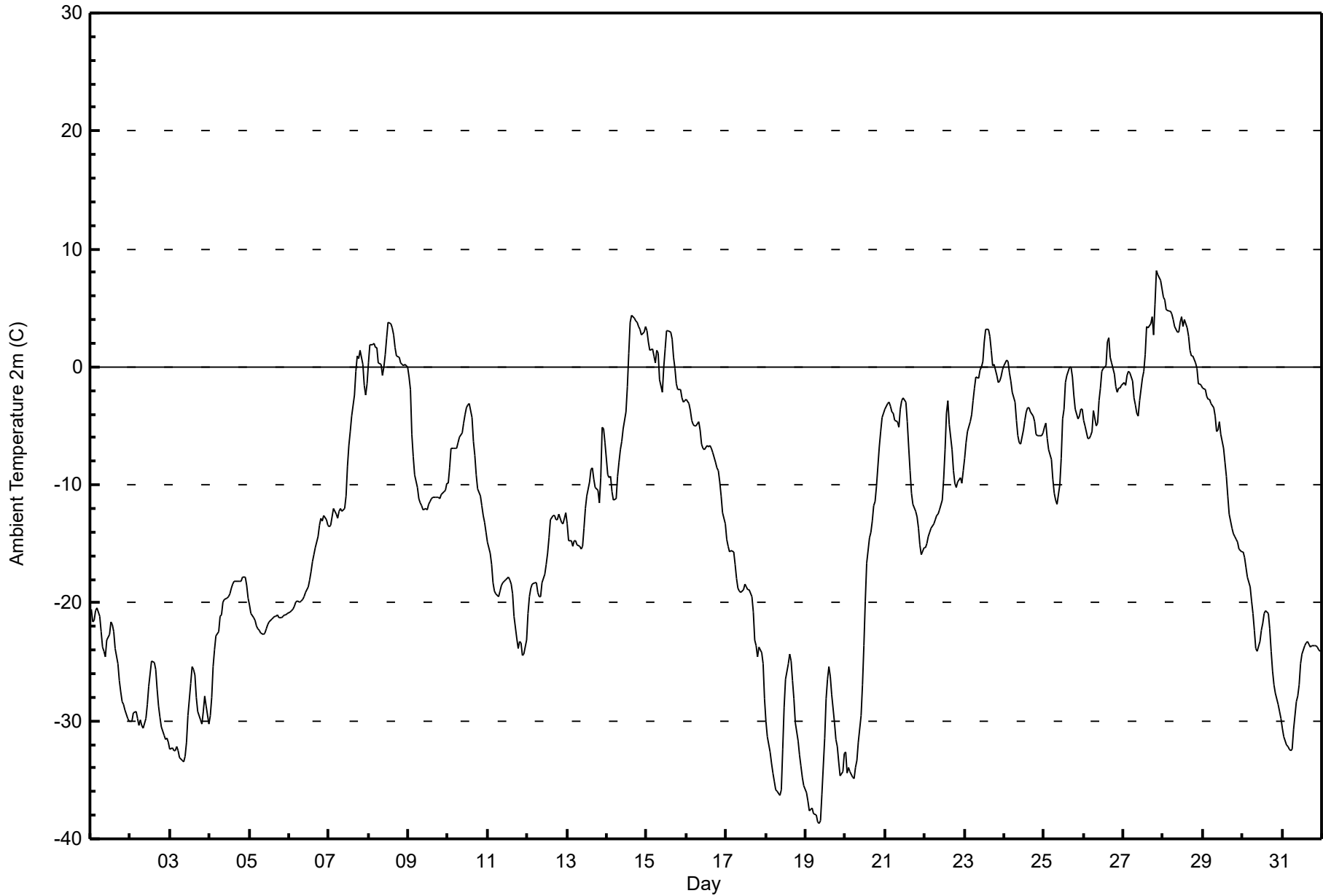




Wood Buffalo Environmental Association
Summary of Hour Averages

Ambient Temperature 2m (AT2) - C
Waskow ohci Pimatisiwin - January 2025

Maximum Value: 8.2 C on Jan 27 21:00		Maximum Daily Average: 2.7 C on Jan 28		Hours in Service: 744																						
Minimum Value: -38.7 C on Jan 19 09:00		Minimum Daily Average: -33.7 C on Jan 19		Hours of Data: 744																						
Maximum Diurnal Average: -10.4 C at hour 15		Minimum Diurnal Average: -15.3 C at hour 9		Hours of Missing Data: 0																						
Monthly Average: -13.32 C		Percentiles: P ₁ = -37.1 P ₁₀ = -30.1 Q ₁ = -22.2 Median = -12.3 Q ₃ = -3.6 P ₉₀ = 0.9 P ₉₉ = 4.8		Hours of Calibration: 0																						
				Percent Operational Time: 100.0																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	-20.5	-21.6	-21.5	-20.7	-20.4	-21.1	-22.5	-23.7	-24.1	-24.5	-23.2	-22.7	-21.6	-21.9	-22.5	-23.9	-25.2	-26.5	-27.5	-28.4	-28.6	-29.1	-29.8	-30.1	-24.2	-20.4
2-Jan	-30.0	-30.0	-29.3	-29.2	-29.8	-30.4	-29.9	-30.4	-30.6	-29.8	-28.6	-27.1	-26.0	-25.0	-25.0	-25.7	-27.3	-28.7	-29.7	-30.5	-31.2	-31.6	-31.5	-31.8	-29.1	-25.0
3-Jan	-32.4	-32.3	-32.5	-32.5	-32.2	-32.5	-33.1	-33.4	-33.4	-33.0	-31.8	-29.6	-26.8	-25.4	-25.6	-26.1	-28.0	-29.1	-30.0	-30.3	-29.2	-27.8	-28.7	-30.3	-30.3	-25.4
4-Jan	-29.6	-28.0	-25.5	-23.9	-22.8	-22.5	-21.1	-21.0	-20.0	-19.7	-19.6	-19.5	-19.3	-18.8	-18.4	-18.1	-18.1	-18.2	-18.2	-18.2	-17.8	-17.9	-18.5	-19.6	-20.6	-17.8
5-Jan	-20.2	-20.9	-21.2	-21.5	-21.9	-22.2	-22.4	-22.6	-22.6	-22.5	-21.9	-21.7	-21.4	-21.2	-21.2	-21.2	-21.2	-21.0	-21.3	-21.3	-21.1	-21.0	-21.0	-20.9	-21.5	-20.2
6-Jan	-20.8	-20.7	-20.5	-20.3	-20.0	-19.9	-19.9	-19.9	-19.7	-19.4	-19.1	-18.7	-18.0	-17.3	-16.5	-15.9	-15.3	-14.4	-13.4	-12.8	-13.0	-12.6	-12.9	-13.4	-17.3	-12.6
7-Jan	-13.6	-13.5	-12.7	-12.0	-12.5	-12.8	-12.2	-12.0	-12.2	-12.1	-10.9	-8.4	-6.7	-5.5	-4.2	-2.4	-0.4	0.9	0.7	1.5	0.3	-1.6	-2.4	-1.5	-6.9	1.5
8-Jan	0.4	1.9	1.9	1.9	1.7	1.7	0.3	0.2	-0.7	0.0	1.0	2.5	3.8	3.7	3.3	2.7	1.7	1.0	0.8	0.3	0.3	0.2	0.2	0.0	1.3	3.8
9-Jan	-0.8	-2.0	-5.7	-7.6	-9.1	-10.2	-11.1	-11.5	-11.8	-12.1	-12.0	-12.1	-11.6	-11.4	-11.2	-11.1	-11.0	-11.1	-11.1	-11.1	-10.8	-10.5	-10.4	-9.9	-9.9	-0.8
10-Jan	-9.9	-8.6	-6.9	-6.9	-6.9	-6.9	-6.4	-6.0	-5.6	-4.7	-4.0	-3.4	-3.3	-3.2	-4.3	-6.3	-7.5	-9.1	-10.3	-11.0	-11.8	-12.6	-13.2	-14.0	-7.6	-3.2
11-Jan	-14.9	-15.8	-16.7	-18.2	-19.0	-19.2	-19.5	-19.0	-18.6	-18.3	-18.2	-18.1	-17.8	-18.1	-18.5	-19.3	-21.1	-23.0	-23.8	-23.3	-23.3	-24.5	-24.4	-23.1	-19.8	-14.9
12-Jan	-20.9	-19.4	-18.8	-18.4	-18.2	-18.3	-19.1	-19.5	-19.4	-18.3	-17.5	-16.7	-15.8	-14.4	-12.9	-12.6	-12.6	-12.9	-12.9	-12.5	-13.2	-13.3	-12.8	-12.3	-16.0	-12.3
13-Jan	-13.3	-14.8	-14.7	-15.2	-14.8	-14.7	-15.1	-15.2	-15.4	-15.3	-13.7	-12.0	-11.0	-9.7	-8.7	-8.5	-9.5	-10.2	-10.5	-11.5	-9.4	-5.1	-5.2	-6.4	-11.7	-5.1
14-Jan	-9.1	-9.4	-9.3	-10.6	-11.3	-11.2	-9.2	-8.0	-7.1	-6.3	-5.3	-3.8	-1.6	1.2	3.8	4.4	4.2	3.9	3.8	3.4	3.1	2.7	2.9	3.4	-2.7	4.4
15-Jan	3.0	2.1	1.4	1.5	0.9	0.3	1.4	1.2	-1.0	-2.2	-0.1	1.5	3.0	3.1	2.9	2.3	0.8	-0.1	-1.4	-1.9	-1.9	-2.6	-3.0	-2.9	0.3	3.1
16-Jan	-2.8	-3.1	-3.8	-4.5	-4.9	-5.0	-4.9	-4.6	-5.3	-6.5	-6.9	-7.1	-6.7	-6.8	-6.7	-6.9	-7.3	-8.1	-8.5	-8.8	-9.8	-10.9	-12.4	-13.3	-6.9	-2.8
17-Jan	-14.6	-15.3	-15.7	-15.5	-15.6	-16.7	-17.9	-18.7	-19.0	-19.1	-18.8	-18.4	-18.6	-18.9	-18.9	-19.5	-20.7	-23.1	-23.6	-24.5	-23.7	-24.2	-25.2	-28.2	-19.8	-14.6
18-Jan	-30.1	-31.3	-32.6	-33.6	-34.4	-35.2	-35.8	-36.0	-36.3	-35.9	-32.5	-28.9	-26.5	-25.2	-24.4	-24.9	-26.6	-28.2	-30.2	-31.7	-32.9	-33.8	-34.8	-35.5	-31.6	-24.4
19-Jan	-36.1	-36.8	-37.6	-37.5	-37.4	-37.8	-38.0	-38.6	-38.7	-38.4	-36.3	-31.4	-28.1	-26.5	-25.4	-26.3	-27.8	-30.1	-31.6	-32.2	-33.4	-34.6	-34.3	-32.8	-33.7	-25.4
20-Jan	-32.6	-34.5	-33.9	-34.3	-34.8	-34.9	-33.9	-33.4	-31.8	-29.5	-27.0	-23.6	-19.8	-16.7	-14.5	-14.0	-13.0	-11.7	-11.4	-10.1	-6.7	-5.4	-4.2	-3.9	-21.5	-3.9
21-Jan	-3.6	-3.1	-3.0	-3.3	-3.8	-3.9	-4.5	-4.6	-5.2	-3.6	-2.8	-2.6	-2.9	-4.7	-6.8	-8.8	-10.7	-11.6	-12.2	-12.7	-13.6	-15.1	-15.9	-15.3	-7.3	-2.6
22-Jan	-15.3	-14.9	-14.4	-14.0	-13.7	-13.4	-13.0	-12.6	-12.5	-12.1	-11.3	-9.5	-7.0	-3.9	-2.9	-4.9	-7.1	-8.8	-9.8	-10.2	-9.8	-9.4	-9.9	-8.8	-10.4	-2.9
23-Jan	-7.7	-6.4	-5.5	-4.6	-4.0	-2.9	-1.8	-0.8	-1.0	-0.2	0.0	0.4	2.1	3.1	3.2	2.6	1.5	0.2	0.2	-0.8	-1.3	-1.1	-0.8	-0.2	-1.1	3.2
24-Jan	0.1	0.5	0.5	-0.5	-1.2	-2.2	-3.0	-4.5	-5.9	-6.5	-6.5	-5.3	-4.6	-3.8	-3.4	-3.4	-3.8	-4.1	-4.7	-5.8	-5.9	-5.8	-5.8	-5.5	-3.8	0.5
25-Jan	-5.1	-4.8	-6.1	-7.1	-7.8	-9.5	-10.7	-11.3	-11.7	-10.0	-7.7	-4.4	-3.6	-1.3	-0.7	0.0	-0.1	-0.9	-2.4	-3.6	-4.4	-4.2	-3.6	-3.6	-5.2	0.0
26-Jan	-4.5	-5.0	-6.0	-6.0	-5.8	-5.5	-3.7	-5.1	-4.7	-2.8	-1.8	-0.4	-0.1	0.1	2.1	2.5	0.8	0.4	-0.6	-1.7	-2.1	-1.8	-1.8	-1.6	-2.3	2.5
27-Jan	-1.3	-1.5	-0.7	-0.4	-0.5	-1.2	-2.7	-3.3	-4.0	-4.1	-2.9	-1.0	-0.4	1.1	3.4	3.3	3.6	4.3	2.7	5.3	8.2	7.8	7.3	6.6	1.2	8.2
28-Jan	6.0	5.7	4.9	4.7	4.8	4.5	4.0	3.4	2.9	3.0	3.7	4.3	3.5	4.1	3.3	2.6	1.5	0.9	0.9	0.4	-0.1	-1.4	-1.4	-1.6	2.7	6.0
29-Jan	-1.8	-2.0	-2.5	-2.8	-2.8	-3.1	-3.4	-4.2	-5.5	-5.4	-4.6	-5.8	-6.8	-8.1	-9.3	-10.9	-12.4	-13.6	-14.2	-14.4	-14.6	-14.8	-15.4	-15.7	-8.1	-1.8
30-Jan	-15.7	-16.1	-16.9	-17.8	-18.6	-19.8	-20.9	-22.3	-23.9	-24.1	-23.3	-22.3	-21.8	-20.9	-20.7	-20.9	-22.2	-24.2	-25.7	-27.0	-27.7	-28.6	-29.2	-29.8	-22.5	-15.7
31-Jan	-30.7	-31.4	-32.0	-32.2	-32.5	-32.5	-32.4	-30.7	-28.4	-27.9	-26.9	-25.2	-24.3	-23.7	-23.3	-23.3	-23.5	-23.8	-23.6	-23.6	-23.7	-23.7	-23.9	-24.1	-27.0	-23.3
																								Diurnal Average		
																								Diurnal Maximum		





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Ambient Temperature 2m (AT2) - C
Waskow ohci Pimatisiwin - January 2025**

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	227	30.51	30.51
-20 - 0	416	55.91	86.42
0 - 10	101	13.58	100.00
10 - 20	0	0.00	100.00
> 20	0	0.00	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

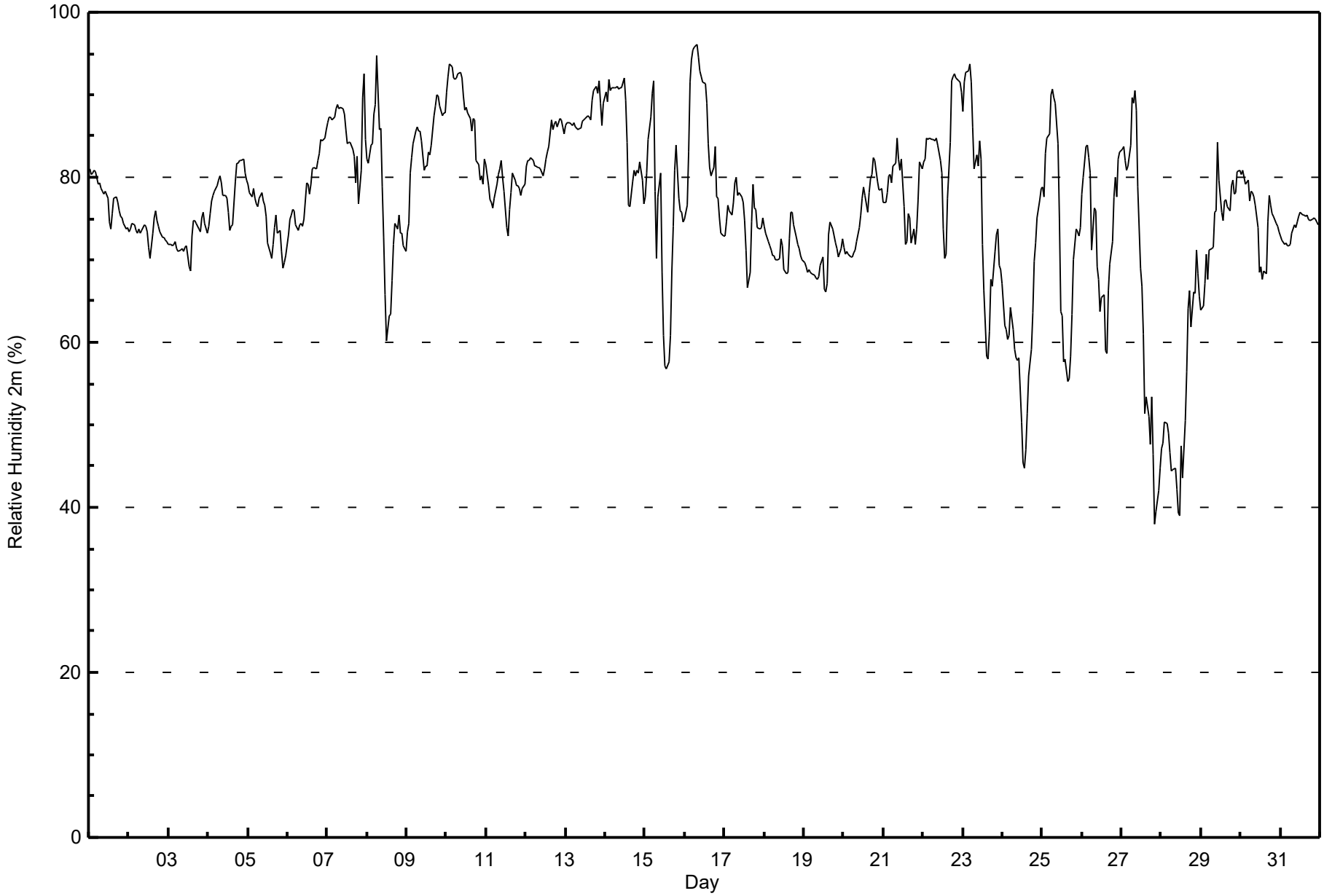
Relative Humidity 2m (RH2) - %
Waskow ohci Pimatisiwin - January 2025

Maximum Value: 96.2 % on Jan 16 08:00 Maximum Daily Average: 87.9 % on Jan 10																						Hours in Service: 744 Hours of Data: 744				
Minimum Value: 37.9 % on Jan 27 21:00 Minimum Daily Average: 53.0 % on Jan 28 Maximum Diurnal Average: 79.3 % at hour 6 Minimum Diurnal Average: 70.8 % at hour 15 Monthly Average: 76.37 % Percentiles: P ₁ = 44.5 P ₁₀ = 65.8 Q ₁ = 71.9 Median = 77.0 Q ₃ = 82.3 P ₉₀ = 88.3 P ₉₉ = 93.6																						Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0				
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	81.0	80.4	80.5	80.8	80.6	79.1	79.3	78.7	78.3	78.0	78.3	77.4	74.6	73.8	75.6	77.4	77.7	76.9	76.0	75.2	75.1	74.4	73.8	73.8	77.4	81.0
2-Jan	73.4	73.8	74.4	74.2	73.5	73.1	73.8	73.1	73.5	74.2	74.1	73.3	71.6	70.2	73.2	75.1	75.9	74.7	74.1	73.4	72.7	72.7	72.4	72.1	73.4	75.9
3-Jan	71.8	71.8	71.7	71.9	72.2	71.3	71.1	71.2	71.3	71.1	71.5	71.7	69.2	68.7	72.9	74.8	74.7	74.4	73.7	73.4	75.1	75.8	74.4	73.1	72.5	75.8
4-Jan	74.1	75.7	77.2	77.8	78.3	79.0	79.6	80.1	79.4	77.8	77.8	77.5	75.8	73.6	74.1	74.3	79.4	81.7	81.7	82.0	82.0	82.2	80.6	79.6	78.4	82.2
5-Jan	79.1	78.1	77.7	78.7	77.5	76.7	76.5	77.4	78.1	77.1	76.6	75.2	72.0	70.9	70.1	71.9	74.0	75.4	83.2	73.5	71.0	69.0	69.7	70.6	74.6	79.1
6-Jan	73.0	74.9	75.5	76.2	75.9	74.2	73.6	74.3	74.4	74.0	74.9	79.2	79.1	78.0	79.1	81.0	81.3	81.0	82.1	82.8	84.5	84.4	84.8	85.7	78.5	85.7
7-Jan	86.6	87.2	87.3	87.0	87.3	88.3	88.8	88.3	88.4	88.4	87.6	85.8	84.1	84.2	84.2	83.4	82.5	79.4	82.5	76.8	80.8	89.6	92.5	84.6	85.6	92.5
8-Jan	82.1	81.6	83.9	84.0	87.6	88.7	94.7	85.7	85.9	78.8	72.7	65.8	60.2	63.2	63.3	67.4	71.8	74.5	73.7	75.4	73.3	73.3	71.7	71.1	76.3	94.7
9-Jan	73.4	74.5	80.5	82.4	84.1	85.6	86.0	85.6	85.6	84.3	80.9	81.3	81.4	83.1	82.7	83.9	87.4	88.6	90.0	89.8	88.6	87.5	87.8	87.8	84.3	90.0
10-Jan	90.3	92.2	93.7	93.4	92.0	91.9	92.1	92.5	92.8	92.0	89.8	88.1	88.4	87.7	87.2	85.6	87.2	87.0	82.1	81.5	79.6	80.1	79.1	82.2	87.9	93.7
11-Jan	81.5	78.9	77.3	76.9	76.3	77.4	79.1	80.3	81.1	82.1	80.0	78.3	73.9	72.9	76.2	78.1	80.4	79.7	79.0	79.0	78.6	77.7	78.6	79.2	78.4	82.1
12-Jan	81.3	82.0	82.1	82.4	82.0	81.4	81.3	81.2	81.2	81.1	80.1	81.1	82.2	83.1	83.7	87.0	85.7	86.5	86.8	86.2	87.2	87.0	86.1	85.3	83.5	87.2
13-Jan	86.2	86.6	86.7	86.5	86.3	86.7	86.1	85.8	85.9	86.0	86.9	87.0	87.2	87.5	87.3	86.9	89.3	90.4	91.1	90.2	91.8	88.9	86.3	88.9	87.6	91.8
14-Jan	90.4	89.2	91.9	90.5	90.9	90.8	90.9	91.1	90.7	90.8	90.8	92.0	89.3	84.3	76.5	76.5	79.4	80.8	80.1	80.8	80.6	81.9	79.7	76.8	85.7	92.0
15-Jan	77.6	80.6	84.6	87.3	90.1	91.7	78.3	70.2	77.7	80.5	68.4	60.9	57.2	56.7	57.6	60.9	68.7	74.1	80.9	84.0	77.5	76.0	75.8	74.5	74.7	91.7
16-Jan	74.9	76.6	83.1	91.6	94.2	95.4	95.8	96.2	94.5	92.8	92.1	91.5	91.3	89.0	84.1	81.2	80.2	81.2	83.7	77.7	77.5	75.1	73.2	72.8	85.2	96.2
17-Jan	72.9	74.5	76.6	75.9	75.4	77.0	79.3	80.0	77.9	78.2	77.6	76.9	74.7	71.2	66.6	68.4	74.6	79.1	76.2	76.1	74.0	73.7	73.9	75.1	75.2	80.0
18-Jan	74.1	73.3	72.3	71.7	71.1	70.5	70.5	70.0	70.0	70.1	72.6	71.7	68.9	68.3	68.4	72.5	75.8	75.7	74.2	72.7	71.9	71.3	70.4	70.0	71.6	75.8
19-Jan	69.7	69.1	68.5	68.8	68.5	68.3	68.2	67.8	67.7	68.0	69.3	70.3	66.4	66.1	67.1	73.0	74.5	73.7	72.9	72.1	71.4	70.4	71.3	72.5	69.8	74.5
20-Jan	71.5	70.6	71.1	70.6	70.3	70.4	70.9	71.2	72.2	73.9	75.5	77.5	78.9	77.7	75.7	78.1	79.8	80.3	82.3	82.0	79.4	78.5	78.4	78.7	75.6	82.3
21-Jan	77.0	77.0	78.2	80.1	80.4	79.4	81.3	81.6	84.7	82.1	80.8	82.2	76.4	71.9	72.2	75.7	75.1	72.0	73.7	71.9	73.8	77.3	81.9	80.9	77.8	84.7
22-Jan	81.8	82.3	84.7	84.6	84.7	84.6	84.6	84.3	84.7	83.8	82.1	80.6	73.7	70.2	70.6	77.4	84.3	91.6	92.2	92.6	92.0	91.7	91.4	90.3	84.2	92.6
23-Jan	88.0	91.5	92.8	93.0	93.7	91.5	86.1	81.0	82.8	81.3	84.4	82.3	71.9	66.3	58.4	58.0	61.4	67.7	66.7	70.9	73.0	73.7	69.3	68.9	77.3	93.7
24-Jan	67.1	62.1	61.5	60.3	60.8	64.2	61.6	59.1	58.1	57.9	58.1	50.3	45.4	44.7	46.9	51.3	55.9	59.1	63.5	69.9	72.1	75.0	77.2	78.6	60.9	78.6
25-Jan	78.8	77.7	82.9	84.7	85.2	89.9	90.7	89.7	89.0	84.1	75.1	63.7	63.2	57.6	57.9	55.3	55.7	58.4	63.5	70.0	73.8	73.5	72.9	73.8	73.6	90.7
26-Jan	78.0	80.0	83.7	83.9	82.4	80.5	71.3	76.2	75.9	69.1	67.7	63.8	65.5	65.8	59.0	58.6	66.2	69.5	72.3	77.7	80.1	77.6	82.2	83.0	73.7	83.9
27-Jan	83.4	83.8	82.1	80.9	81.4	83.9	89.7	89.1	90.5	88.1	78.8	69.1	66.9	60.9	51.4	53.3	51.0	47.6	53.5	46.4	37.9	39.5	42.0	44.8	66.5	90.5
28-Jan	47.0	47.8	50.4	50.2	49.1	46.7	44.4	44.6	44.7	42.2	39.4	39.0	47.4	43.5	50.5	56.4	64.1	66.2	61.9	66.1	65.9	71.2	68.3	65.6	53.0	71.2
29-Jan	63.9	64.5	67.2	70.6	67.6	71.2	71.4	71.5	75.8	76.0	84.2	79.7	75.8	74.8	77.2	77.3	76.5	76.0	78.9	79.6	77.9	78.2	80.6	80.9	74.9	84.2
30-Jan	80.4	80.8	80.0	79.2	79.6	77.2	78.3	78.1	77.7	76.7	73.9	68.4	69.1	67.7	68.6	68.4	74.7	77.8	76.6	75.6	75.2	74.4	74.0	73.4	75.2	80.8
31-Jan	72.8	72.4	71.9	72.0	71.6	71.6	71.8	73.3	74.3	73.8	74.5	75.3	75.7	75.4	75.5	75.2	75.4	75.0	74.8	74.8	75.1	74.9	74.7	74.2	74.0	75.7
	76.9	77.1	78.4	79.0	79.0	79.3	78.9	78.4	78.9	77.9	76.7	74.7	72.8	71.3	70.8	72.4	74.9	76.0	76.6	76.8	76.4	76.7	76.6	76.4		Diurnal Average
	90.4	92.2	93.7	93.4	94.2	95.4	95.8	96.2	94.5	92.8	92.1	92.0	91.3	89.0	87.3	87.0	89.3	91.6	92.2	92.6	92.0	91.7	92.5	90.3		Diurnal Maximum



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 2m (RH2) - %
Waskow ohci Pimatisiwin - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Relative Humidity 2m (RH2) - %
Waskow ohci Pimatisiwin - January 2025

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	4	0.54	0.54
40 - 60	45	6.05	6.59
60 - 80	425	57.12	63.71
80 - 100	270	36.29	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Maximum Speed: 26 km/h on Jan 24 07:00	Maximum Daily Speed Average: 12.0 km/h on Jan 16	Hours in Service: 744
Minimum Speed Value: 0 km/h on Jan 14 00:00	Minimum Daily Speed Average: 0.8 km/h on Jan 4	Hours of Data: 694
Maximum Diurnal Speed Average: 2.3 km/h at hour 23	Minimum Diurnal Speed Average: 0.3 km/h at hour 8	Hours of Missing Data: 50
Monthly Average Velocity: 1.0 km/h 309.6 deg	Percentiles: P ₁ = 0 P ₁₀ = 1 Q ₁ = 3 Median = 5 Q ₃ = 7 P ₉₀ = 11 P ₉₉ = 18	Percent Operational Time: 93.3

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	UO	UO	UO	UO	UO	NNW3	WNW2	UO	W2	W3	WNW2	WSW1	ENE1	NE1	UO	SW1	UO	W2	W1	W2	W2	UO	UO	UO	---	NNW3
2-Jan	UO	UO	UO	UO	UO	UO	UO	UO	M	UO	SSE2	SE1	SSE1	SSE2	SSE2	UO	UO	WSW2	W1	W1	WSW2	W1	WSW2	UO	---	SSE2
3-Jan	UO	UO	UO	UO	UO	SSW2	UO	WSW2	W2	S1	S2	SSE3	SSE2	SE2	SE3	UO	UO	UO	W1	SW0	SSE1	ENE1	UO	NE1	---	SSE3
4-Jan	NE2	NNW3	NNW2	NNW3	N3	S0	ESE1	SE4	SSE6	SE7	SE6	SE8	SSE6	SE6	SSE4	SSE1	N2	N3	N4	NNW4	NNW4	N4	NNW7	NNW7	ENE0.8	SE8
5-Jan	NNW6	NNW7	NNW7	N5	NNE6	N5	N6	N4	N3	NNW4	N4	N5	NNW5	N4	N4	N4	N4	NE3	NE3	NE2	ENE1	SE1	SE2	S2	N3.5	NNW7
6-Jan	SSE2	SE4	SE3	SE3	SE4	SE5	SE7	SSE6	SSE5	SSE7	SSE7	SSE7	SSE7	SSE7	SSE7	SE7	SE9	SSE8	SSE8	SSE8	SSE7	SSE7	SSE6	SSE4	SSE5.9	SE9
7-Jan	SSE5	SSE3	SSE8	SE9	SE5	SSE5	SSE7	SSE8	SSE7	SE7	SE7	SSE11	SSE9	SSE6	SSE6	SSE6	SSE6	SSE5	SE5	SSE6	S2	SE3	SSE4	SSE5	SSE6.0	SSE11
8-Jan	SW6	WSW9	WSW10	W8	SW7	S2	SSW3	SW2	SW4	SSW3	SSW6	WSW7	W13	WNW18	WNW17	WNW13	W6	W5	W7	W6	W7	WSW9	W8	W7	W6.6	WNW18
9-Jan	WSW7	WNW6	N8	NNE7	N9	NNE7	NNE7	NNE5	NNE5	NE3	ENE2	NE2	E3	ESE3	SE4	SE4	SE5	SE4	SE5	SE4	SE2	WNW2	N1	NNW1	NE1.8	N9
10-Jan	ESE2	SW0	N2	ENE1	NNW3	NNW3	NNW3	SE2	S1	SSE3	S2	WNW2	NNW4	N8	N9	N10	N10	N11	N12	N10	N11	NNW12	N12	N11	N5.1	NNW12
11-Jan	N11	N11	N10	N7	NNW8	N7	NNW7	N5	N6	NNW6	N8	N6	NNW7	N7	NNE4	NE1	UO	SSW1	W1	SE1	UO	UO	S2	SE2	N5.0	N11
12-Jan	SE3	SE5	SSE5	SE6	SE7	SE7	SE6	SSE6	SSE5	SE8	SE8	SE9	SE7	SE7	SSE8	SSE10	SE7	SE6	SE6	SE5	SE4	SE5	SSE4	SSE4	SE6.2	SSE10
13-Jan	SSE2	SE3	SSE5	SE5	SE5	SE7	SE7	SE5	SE5	SE5	SE5	SE4	SE8	SE6	SSE7	SE9	SSE7	SSE6	SSE5	SSE3	SSW2	WSW5	W3	NE0	SSE4.4	SE9
14-Jan	SE2	SSE3	SSE5	SE4	SSE5	SSE4	SSE4	SSE6	SSE8	SSE7	SE6	SSE5	SW3	SSW5	WSW8	WSW7	WSW7	SW8	SW6	SW7	SW5	WSW6	WSW7	WSW9	SSW4.2	WSW9
15-Jan	WSW8	WNW3	WNW3	W4	WSW5	W6	W8	WNW4	W1	SSW1	W3	SW1	SW4	W4	WSW3	WSW3	SSW1	SSE3	SSW2	NE1	N6	NW5	NNW5	N4	W2.6	W8
16-Jan	NNE5	N5	N5	N7	NNE6	N6	N7	N8	N12	N13	N13	N13	N14	N17	N16	N15	N18	N17	NNW14	NNW16	N15	NNW15	N16	N15	N12.0	N18
17-Jan	N15	NNW9	NW5	NNW7	N8	N7	NNW5	N5	N5	N4	N3	NNE2	NNE5	N6	NNW7	NNW7	NW4	W3	WNW2	NNW4	NNW7	N6	NNW4	SW1	NNW5.1	N15
18-Jan	WSW1	W2	SW1	WSW2	UO	UO	S1	SSW1	S2	SSE2	SSE4	SE5	SE5	SE6	SE5	SSE4	SSE2	SW0	W1	WSW1	WSW1	W1	UO	UO	SSE1.8	SE6
19-Jan	UO	SW1	UO	W1	WNW1	WNW2	W2	UO	UO	NW1	SSW0	SE1	SE3	SE3	SE3	SSE3	UO	UO	SSE2	SSW1	SW1	SSE2	SSE4	SSE6	S1.2	SSE6
20-Jan	SSE4	SSE2	SSE4	S1	SSW1	SW1	S2	SE2	SSE1	WSW1	SE2	SE3	SE4	SSE6	SSE6	SSE5	SSE5	SSE4	SE4	SSE5	SSW6	SW7	WSW10	WSW8	S3.2	WSW10
21-Jan	SW7	SW8	SSW5	S4	SSW5	WSW6	SW4	SW5	SW3	SW6	W5	NNW5	N10	N12	NNE12	N11	N15	N11	N10	N11	NNW6	NW4	WSW2	SSW2	NNW3.3	N15
22-Jan	SE2	SE3	SE6	SE5	SE3	WSW1	SSE1	SE2	SE3	SE2	SSE3	SE5	SE4	SW5	S5	SE5	SSE4	SSE4	SE4	SSE5	SSE7	SSE7	SE7	SSE8	SSE3.9	SSE8
23-Jan	SSE10	SSE9	SE8	SSE7	SE3	SSE3	SSE3	S5	SSE4	S6	SSE5	SSE3	WSW5	W8	WNW12	WNW13	WNW12	WNW6	WNW8	WSW7	W7	WSW7	W8	W9	SW3.7	WNW13
24-Jan	WNW11	WNW14	WNW17	NW24	NW23	NW23	NW26	NNW25	NNW17	NW16	WNW14	NW14	NW17	NW14	WNW9	WNW6	W2	S2	SSE4	SSE2	ENE0	SSE2	SSE3	SSE2	NW10.4	NW26
25-Jan	SSE3	ESE2	SSE3	SSE5	SSE4	SSE4	SSE5	SSE5	SSE5	SSW6	SW8	SSW6	SSE5	SSW5	SSE3	WNW4	W4	W5	N1	SSE2	SSE5	SE5	SSE5	SSE6	S3.3	SW8
26-Jan	SSE5	SSE5	SSE4	SSE4	SSE4	SSW6	S6	SSE4	SSE5	SSW7	S5	S5	SE5	SE4	SSE4	SE1	WSW1	W5	WNW2	WSW4	WSW4	SSE2	S2	S1	S3.2	SSW7
27-Jan	SSW1	ESE1	SSE1	SSW1	NE1	SW0	SSE1	SSE2	ESE2	SSE3	SSE4	SE4	SE6	SSE4	SSE6	SE6	S5	S6	SE2	WNW9	WNW15	WNW19	WNW19	WNW17	WSW2.3	WNW19
28-Jan	W14	WNW14	W11	W11	W11	WNW12	WNW11	WNW10	W9	W11	WNW13	WNW17	WNW14	NW13	WNW14	WNW14	NW9	NW5	WNW7	WSW4	S3	WSW5	WSW6	W6	WNW9.6	WNW17
29-Jan	W5	W2	S1	SSE1	SSE1	SSE1	S1	NW1	WSW2	NW4	N11	NNE10	NNE10	N11	N11	NNE11	N12	N12	N12	N10	N11	N10	N12	N9	N6.2	N12
30-Jan	N10	NNE9	N10	N9	NNW7	NNW6	N5	NNE4	SE2	NE1	ENE3	NE3	NNE5	NNE5	NNE4	NNE4	NNE2	W2	W2	W2	WNW1	W2	WNW2	UO	N3.6	N10
31-Jan	UO	W2	UO	WNW3	NW1	NW2	NNW3	NNW6	NNW6	NNW8	N7	N7	N8	N9	N10	N11	N11	N12	N12	N11	N11	N12	N12	N13	N7.8	N13

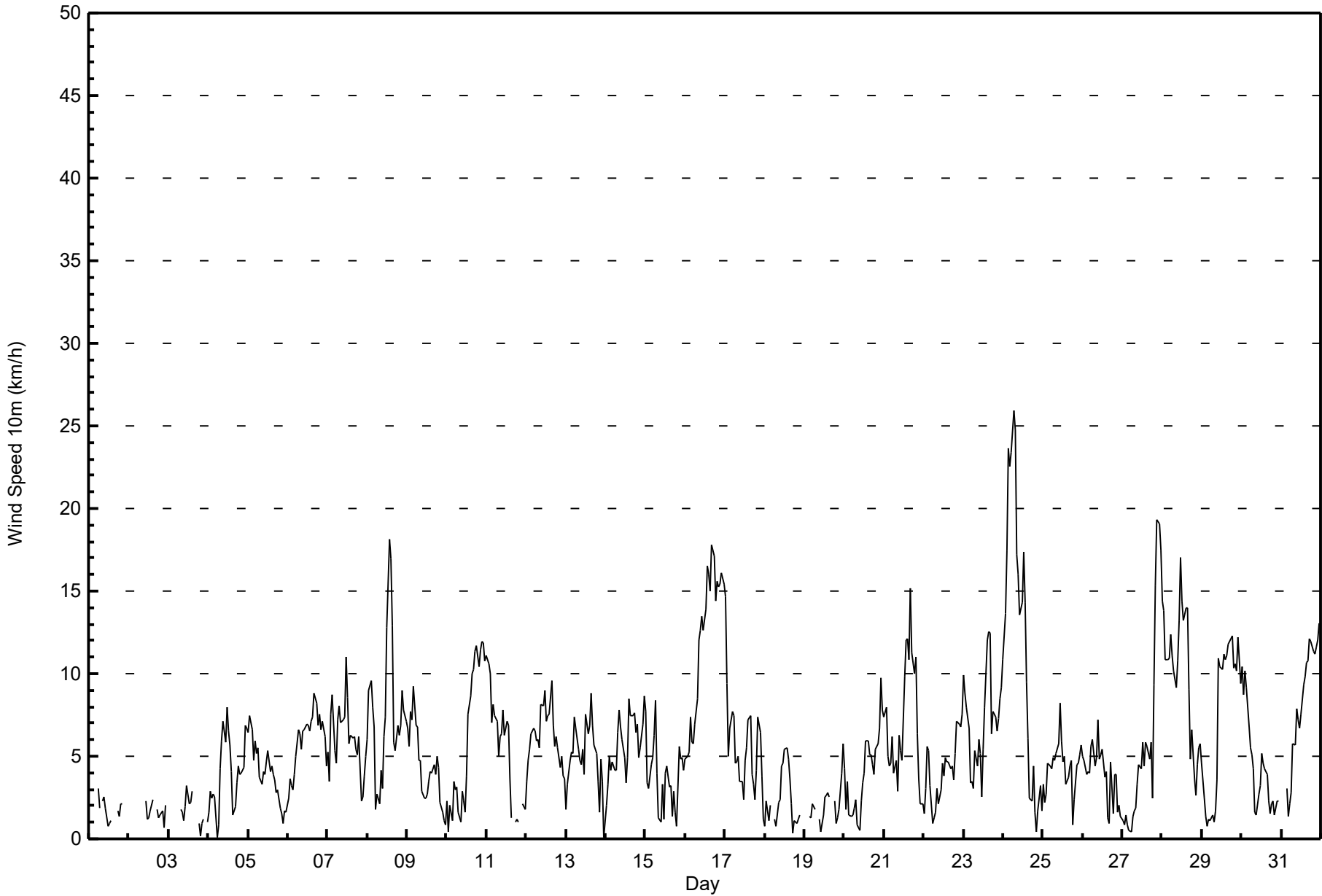
W1.3	WNW1.4	W0.8	WNW0.9	NW1.1	NW1.3	NW0.9	NNW0.3	S0.3	SW0.7	SSW0.4	E0.3	NNW0.6	NNW1.5	NNW1.2	NNW1.6	NNW1.7	NW1.1	NNW1.1	NW1.2	NW1.8	WNW2.1	WNW2.3	WNW1.8	Diurnal Average
N15	WNW14	WNW17	NW24	NW23	NW23	NW26	NNW25	NNW17	NW16	WNW14	WNW17	NW17	WNW18	WNW17	N15	N18	N17	NNW14	NNW16	WNW15	WNW19	WNW19	WNW17	Diurnal Maximum

M - Maintenance UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods



Wood Buffalo Environmental Association
Hourly Averages

Wind Speed 10m (WS10) - km/h
Waskow ohci Pimatisiwin - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 10m (WS10) - km/h
Waskow ohci Pimatisiwin - January 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	400	57.64	57.64
6 - 11	229	33.00	90.63
12 - 19	60	8.65	99.28
20 - 28	5	0.72	100.00
29 - 38	0	0.00	100.00
> 38	0	0.00	100.00

Total Number of Valid Hours: 694

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Wind Speed 10m (WS10) - km/h
Waskow ohci Pimatisiwin - January 2025

Wind Speed Ranges (km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	27	12	14	7	1	6	67	99	25	19	20	24	35	15	10	19	400
6 - 11	52	9	0	0	0	0	32	48	3	6	10	18	19	10	1	21	229
12 - 19	26	2	0	0	0	0	0	0	0	0	0	0	1	21	5	5	60
20 - 28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	5
29 - 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	105	23	14	7	1	6	99	147	28	25	30	42	55	46	20	46	694

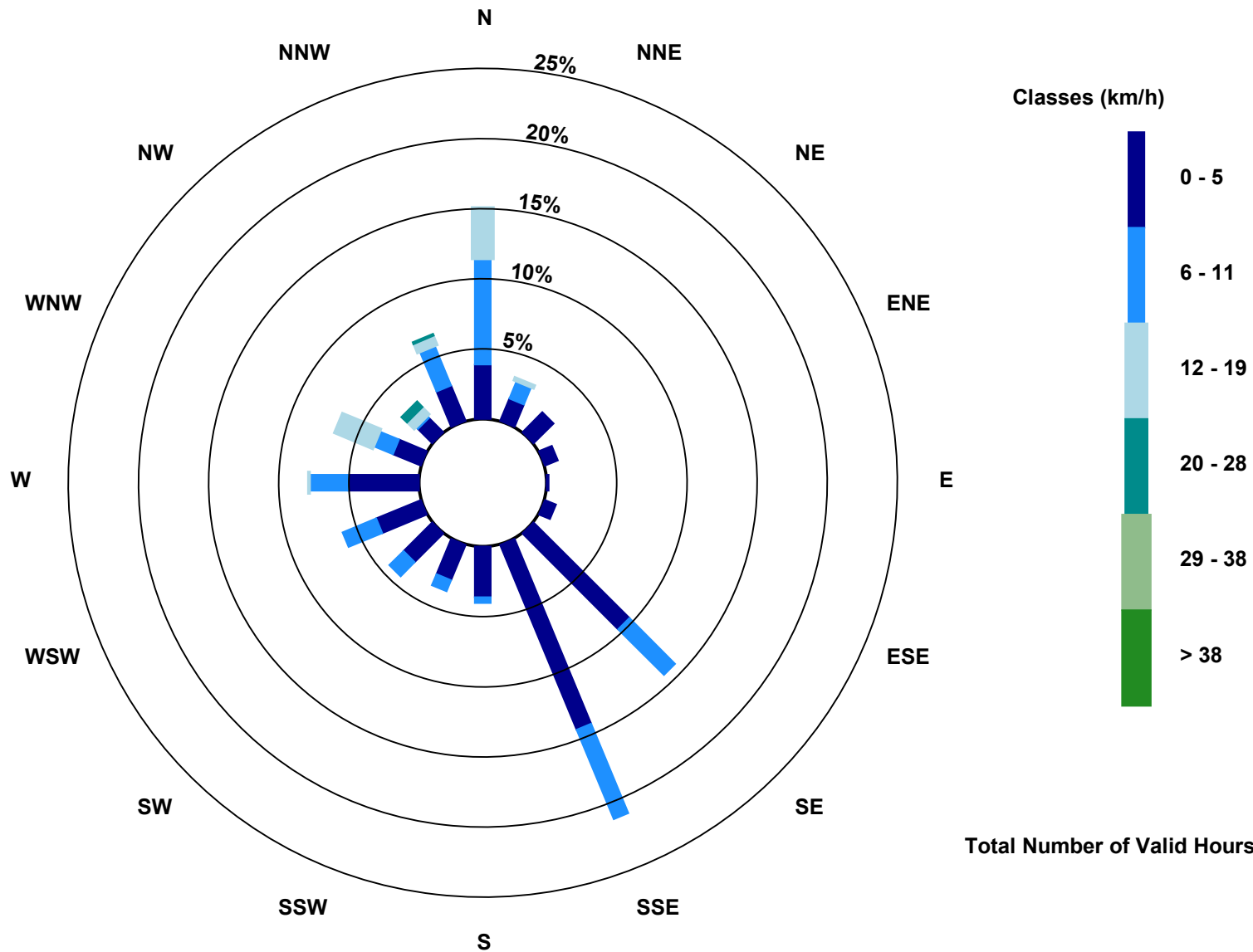
Total Number of Valid Hours: 694

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Wind Speed 10m (WS10) - km/h
Waskow ohci Pimatisiwin





Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Speed 10m (WS10) - km/h
Waskow ohci Pimatisiwin - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 8 km/h on Jan 24 07:00	Hours in Service: 744 Hours of Data: 694 Hours of Missing Data: 50 Hours of Calibration: 0 Percent Operational Time: 93.3
Minimum Value: 0 km/h on Jan 1 09:00	
Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 1 Median = 2 Q ₃ = 3 P ₉₀ = 4 P ₉₉ = 7	

Day	Hourly Period Ending At (MST)																								Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	UO	UO	UO	UO	UO	2	0	UO	0	0	1	1	1	1	UO	1	UO	1	1	1	1	UO	UO	UO	2	
2-Jan	UO	UO	UO	UO	UO	UO	UO	UO	M	UO	1	1	1	1	1	UO	UO	UO	1	1	1	1	1	UO	UO	1
3-Jan	UO	UO	UO	UO	UO	1	UO	1	1	1	1	1	1	1	1	UO	UO	UO	1	1	1	1	UO	1	1	
4-Jan	1	1	1	1	1	1	1	2	2	3	2	2	2	2	1	2	1	1	1	1	1	1	2	2	3	
5-Jan	2	2	2	2	2	2	2	2	2	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	2	
6-Jan	1	1	1	1	1	2	2	2	2	2	2	2	3	2	2	2	3	3	2	2	2	2	2	1	3	
7-Jan	2	1	2	2	2	1	3	2	2	2	3	3	2	2	3	2	2	2	2	2	1	1	1	2	3	
8-Jan	4	4	4	3	2	2	1	2	1	1	2	4	4	7	6	4	2	2	2	2	3	4	3	3	7	
9-Jan	2	3	3	3	3	3	2	2	2	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	3	
10-Jan	1	1	1	1	1	1	1	1	1	1	1	1	2	3	4	3	3	4	4	4	4	4	4	4	4	
11-Jan	4	4	4	3	3	2	2	2	2	2	2	2	2	3	2	1	UO	1	1	1	UO	UO	1	1	4	
12-Jan	1	1	2	2	2	2	2	2	2	3	3	3	2	2	3	3	2	2	2	2	1	2	1	1	3	
13-Jan	1	1	1	2	2	2	2	3	1	2	2	1	2	3	2	3	2	2	1	2	2	2	1	1	3	
14-Jan	1	1	1	1	1	1	1	2	2	2	2	2	1	4	3	3	3	3	3	3	2	2	3	3	4	
15-Jan	3	1	2	2	1	2	3	3	2	1	3	1	2	2	2	1	1	1	1	2	2	1	1	1	3	
16-Jan	1	1	2	2	2	1	2	2	4	4	4	4	4	5	6	5	6	6	5	5	5	6	5	6	6	
17-Jan	5	4	2	2	2	3	2	2	2	1	1	1	2	2	2	2	1	1	2	2	2	2	2	1	5	
18-Jan	1	1	1	1	UO	UO	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	UO	UO	2	
19-Jan	UO	1	UO	1	1	1	1	UO	UO	1	1	1	1	1	1	1	UO	UO	1	1	1	1	2	2	2	
20-Jan	2	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	1	1	1	2	2	3	4	4	4	
21-Jan	3	3	3	2	2	3	2	3	2	2	2	3	4	4	5	4	5	4	4	4	2	1	1	1	5	
22-Jan	1	1	2	2	1	1	1	1	1	1	1	1	1	3	2	1	1	1	1	2	2	2	2	3	3	
23-Jan	3	3	2	2	1	1	1	2	2	2	3	1	3	3	5	4	4	2	4	3	3	3	3	4	5	
24-Jan	4	5	7	6	7	6	8	8	5	5	4	5	5	5	3	2	1	1	1	1	1	1	1	1	8	
25-Jan	1	1	1	1	1	1	1	1	1	3	4	2	2	2	1	2	2	2	2	1	1	1	1	1	4	
26-Jan	1	1	1	1	1	2	3	2	2	3	3	2	2	1	2	1	1	1	1	1	1	1	1	1	3	
27-Jan	1	1	1	1	1	1	1	1	1	1	1	1	2	1	2	2	2	2	2	2	6	6	8	7	8	
28-Jan	6	5	4	4	4	4	4	4	4	5	5	7	7	5	5	5	5	2	3	1	1	1	2	2	7	
29-Jan	2	1	1	1	1	1	1	1	1	2	4	4	4	4	4	4	4	4	4	3	3	4	4	4	4	
30-Jan	4	3	3	3	2	1	2	2	0	1	1	1	2	2	1	1	1	1	0	1	1	1	1	UO	4	
31-Jan	UO	1	UO	1	1	1	1	2	2	2	2	2	3	3	3	3	4	4	4	4	4	4	4	4	4	
	6	5	7	6	7	6	8	8	5	5	5	7	7	7	6	5	6	6	5	6	6	8	7	6		

Diurnal Maximum

M - Maintenance UO - Unstable Operation



Wood Buffalo Environmental Association
Summary of Hour Averages

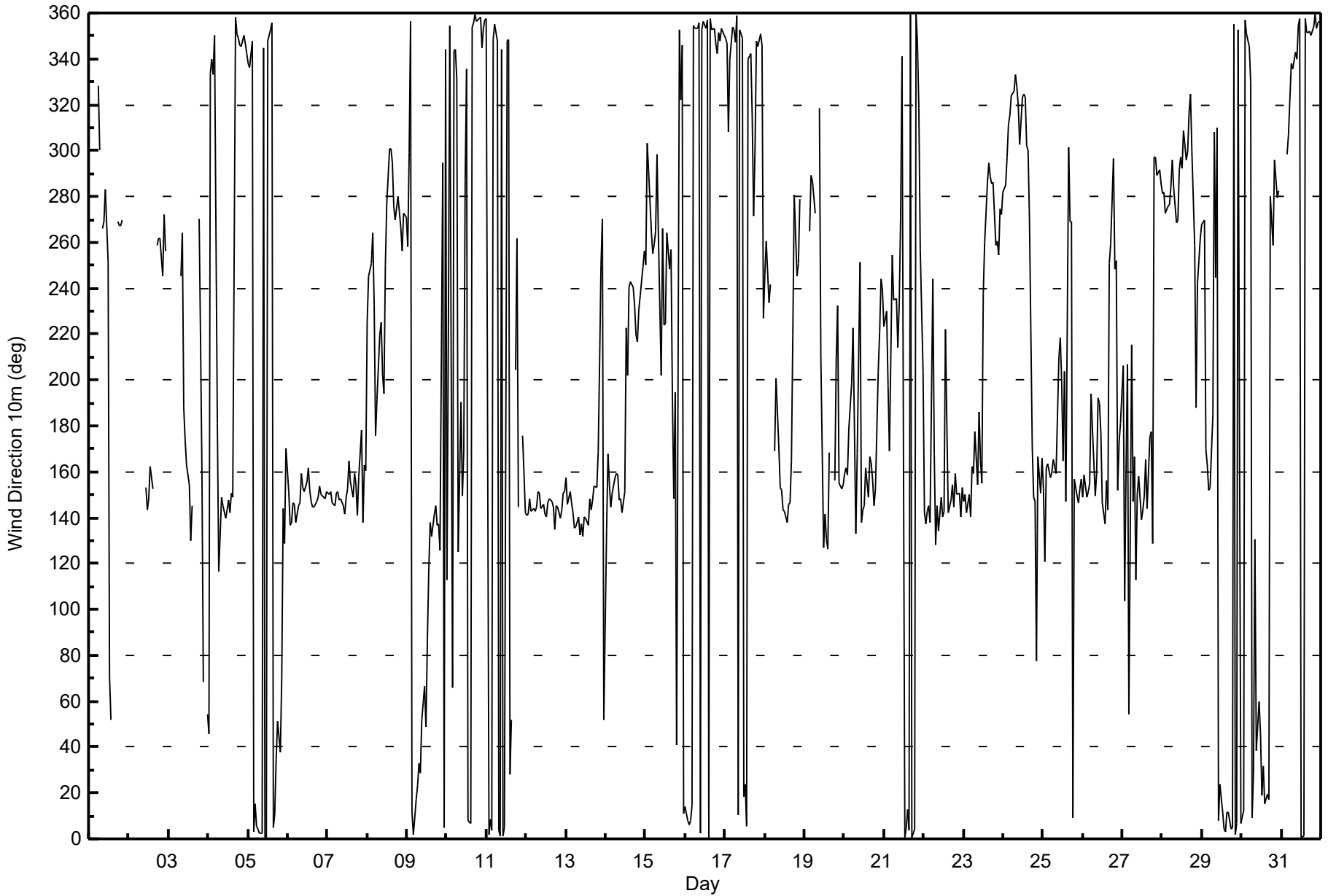
Wind Direction 10m (WD10) - deg
Waskow ohci Pimatisiwin - January 2025

Direction of Maximum Speed: 326 deg on Jan 24 07:00																						Hours in Service: 744			
Direction of Maximum Daily Speed Average: 354.9 deg on Jan 16																						Hours of Data: 694			
Direction of Minimum Speed: 52 deg on Jan 14 00:00											Direction of Minimum Daily Speed Average: 0.8 deg on Jan 4											Hours of Missing Data: 50			
Monthly Average Direction: 309.6 deg																						Percent Operational Time: 93.3			
Day	Hourly Period Ending At (MST)																								Daily Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	UO	UO	UO	UO	UO	328	300	UO	266	269	283	251	71	52	UO	234	UO	269	267	267	270	UO	UO	UO	--
2-Jan	UO	UO	UO	UO	UO	UO	UO	UO	M	UO	153	143	148	163	153	UO	UO	258	262	262	245	272	256	UO	--
3-Jan	UO	UO	UO	UO	UO	211	UO	246	264	188	174	163	154	130	145	UO	UO	UO	270	217	160	68	UO	54	--
4-Jan	46	334	340	333	350	181	117	133	149	145	140	143	148	142	151	149	358	351	349	346	345	350	347	342	73.2
5-Jan	338	336	348	3	15	6	4	2	2	345	0	1	348	353	356	5	11	35	51	38	70	144	129	171	2.0
6-Jan	151	137	138	146	146	138	145	147	159	153	151	155	162	152	147	145	145	147	149	154	150	149	149	151	149.0
7-Jan	151	150	152	146	145	151	151	148	148	145	141	149	153	165	155	149	159	154	141	158	178	138	163	161	151.3
8-Jan	225	246	251	264	233	175	192	220	225	203	194	250	277	301	301	295	276	270	280	273	267	256	273	271	265.9
9-Jan	258	299	357	12	2	17	23	33	29	52	66	49	87	117	138	132	142	146	136	137	126	295	5	344	42.6
10-Jan	113	222	354	66	343	344	331	125	191	150	169	287	335	8	7	354	356	359	356	357	358	345	353	357	356.6
11-Jan	358	2	8	4	348	355	348	3	1	344	1	5	348	349	28	52	UO	204	262	145	UO	UO	176	142	358.7
12-Jan	141	142	148	143	144	143	145	151	151	144	146	142	140	146	148	147	145	135	145	144	140	144	151	151	144.8
13-Jan	158	146	151	146	142	136	136	141	133	137	132	140	139	137	148	143	148	154	153	168	208	250	271	52	148.0
14-Jan	135	168	154	144	151	157	159	148	148	142	152	223	202	240	243	240	232	219	217	231	237	249	256	256	199.5
15-Jan	250	303	291	264	255	260	265	298	263	202	266	224	224	264	248	257	192	148	195	41	353	322	346	11	274.3
16-Jan	14	8	6	8	15	354	353	353	356	2	353	356	353	357	0	357	353	353	347	342	351	348	354	350	354.9
17-Jan	349	347	308	340	354	353	347	359	10	353	349	18	24	6	340	342	315	271	301	348	346	351	346	227	346.2
18-Jan	246	260	234	241	UO	UO	169	201	171	153	152	143	143	138	146	147	165	220	281	245	251	279	UO	UO	166.7
19-Jan	UO	234	UO	265	289	287	273	UO	UO	318	211	127	141	130	126	168	UO	UO	156	209	233	155	152	155	169.4
20-Jan	159	162	158	179	198	223	179	133	168	252	138	144	145	162	149	166	164	156	145	153	204	221	244	239	179.1
21-Jan	224	230	198	169	211	255	235	236	214	234	271	341	1	5	13	4	359	1	4	360	347	319	257	204	327.4
22-Jan	142	137	143	145	138	244	168	128	145	134	149	140	143	222	180	142	148	154	145	159	150	151	140	153	151.4
23-Jan	147	150	142	150	140	162	160	178	154	186	165	155	238	260	286	295	289	286	286	258	260	255	274	272	235.2
24-Jan	282	285	297	311	316	324	326	333	328	320	303	323	325	324	302	300	270	171	149	147	77	167	151	166	314.1
25-Jan	153	121	162	163	158	160	165	162	159	209	218	200	165	204	147	302	269	269	9	157	149	146	153	157	178.3
26-Jan	149	159	149	151	155	194	178	149	160	192	190	177	146	137	156	144	251	260	296	249	252	152	172	181	175.9
27-Jan	206	104	163	207	54	215	147	167	113	150	158	139	143	150	165	144	175	178	129	297	297	289	291	285	250.3
28-Jan	281	282	273	276	277	284	296	284	269	270	292	297	292	309	296	300	317	325	299	258	188	243	252	262	286.1
29-Jan	268	270	169	163	152	153	185	308	245	310	8	24	12	4	3	12	11	4	5	355	2	7	353	6	2.0
30-Jan	10	12	357	351	345	329	9	29	131	38	60	46	19	32	15	20	17	280	269	259	296	280	283	UO	1.5
31-Jan	UO	270	UO	299	307	323	338	336	343	340	354	357	1	1	357	352	352	352	351	354	360	353	356	357	350.9
276.2 285.8 278.1 299.3 316.9 307.2 307.0 338.3 175.5 218.3 204.2 96.3 347.5 339.9 328.8 331.3 332.4 323.7 337.7 309.5 316.9 299.8 301.2 295.5																									
Diurnal Average																									
M - Maintenance UO - Unstable Operation																									
All monthly, daily, and diurnal averages have been calculated using vector methods																									



Wood Buffalo Environmental Association
Hourly Averages

Wind Direction 10m (WD10) - deg
Waskow ohci Pimatisiwin - January 2025





Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg
Waskow ohci Pimatisiwin - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 102 deg on Jan 27 06:00	Hours of Data: 694
Minimum Value: 6 deg on Jan 18 02:00	Hours of Missing Data: 50
Percentiles: P ₁ = 14 P ₁₀ = 20 Q ₁ = 22 Median = 26 Q ₃ = 39 P ₉₀ = 59 P ₉₉ = 95	Hours of Calibration: 0
	Percent Operational Time: 93.3

Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	UO	UO	UO	UO	UO	16	21	UO	24	9	16	58	42	34	UO	38	UO	17	25	11	28	UO	UO	UO	58
2-Jan	UO	UO	UO	UO	UO	UO	UO	UO	M	UO	16	59	50	48	23	UO	UO	19	39	11	36	50	15	UO	59
3-Jan	UO	UO	UO	UO	UO	20	UO	26	32	69	25	25	33	27	37	UO	UO	UO	59	85	75	56	UO	50	85
4-Jan	27	29	42	25	31	91	89	32	25	25	29	17	22	26	24	70	19	21	20	19	18	19	22	19	91
5-Jan	18	17	20	23	26	24	23	26	23	21	25	25	22	30	26	26	24	34	28	36	40	81	36	42	81
6-Jan	36	24	25	25	24	26	24	21	25	27	27	27	33	25	21	23	23	25	21	20	18	21	18	24	36
7-Jan	26	39	21	20	24	20	20	18	19	18	22	19	21	31	31	25	36	39	25	34	55	29	26	25	55
8-Jan	60	42	38	31	39	94	57	81	35	31	27	38	24	21	19	19	19	20	24	32	36	35	37	30	94
9-Jan	26	49	29	23	23	28	23	24	25	35	28	27	34	39	28	24	24	20	24	27	47	46	51	77	77
10-Jan	40	97	68	79	37	34	23	58	82	33	49	80	33	24	30	23	22	23	23	23	24	21	23	22	97
11-Jan	24	26	22	26	22	24	20	25	23	19	22	25	24	24	29	35	UO	81	82	73	UO	UO	40	48	82
12-Jan	30	20	19	20	23	23	20	21	20	21	22	22	20	24	23	21	23	21	21	21	29	26	32	25	32
13-Jan	49	33	22	26	25	21	20	34	23	28	31	32	22	44	35	27	22	20	14	47	96	47	51	101	101
14-Jan	59	51	16	18	15	25	36	21	21	19	19	31	46	62	43	43	39	40	44	39	50	35	35	32	62
15-Jan	31	49	47	27	13	13	20	72	87	74	70	84	53	49	49	31	66	28	65	85	28	17	20	19	87
16-Jan	21	21	21	20	23	21	17	20	21	21	22	22	22	23	24	22	24	23	21	19	21	22	24	22	24
17-Jan	21	22	23	20	22	21	23	26	21	23	23	45	28	26	20	19	47	24	30	37	17	19	57	59	59
18-Jan	62	6	52	25	UO	UO	70	88	44	32	23	23	23	23	23	23	28	93	57	61	65	50	UO	UO	93
19-Jan	UO	23	UO	44	77	30	46	UO	UO	52	86	45	28	35	34	35	UO	UO	26	69	54	28	17	17	86
20-Jan	24	44	26	25	74	41	41	38	96	95	37	32	28	27	22	31	24	24	28	28	52	54	40	53	96
21-Jan	46	36	52	41	47	56	57	75	76	40	36	47	24	24	25	25	23	26	23	23	25	31	27	30	76
22-Jan	51	22	22	22	37	60	73	50	31	23	42	26	22	52	41	25	22	22	27	24	19	22	19	26	73
23-Jan	21	22	21	19	28	28	54	37	32	40	39	72	58	34	29	23	23	29	40	40	33	32	29	32	72
24-Jan	29	25	24	16	20	19	19	19	18	17	18	20	19	20	22	26	38	56	21	60	70	42	26	76	76
25-Jan	32	46	36	23	22	16	18	20	18	62	33	38	34	49	39	77	43	34	81	32	13	18	17	18	81
26-Jan	21	19	24	22	24	31	45	23	29	39	48	40	25	25	38	94	91	20	74	20	32	70	50	58	94
27-Jan	69	95	72	98	98	102	75	72	33	33	24	24	21	27	37	37	32	31	62	65	25	26	23	27	102
28-Jan	30	25	30	29	30	26	24	28	35	35	29	24	27	25	22	21	23	28	22	29	38	23	26	21	38
29-Jan	31	75	58	74	54	49	45	61	54	35	22	26	24	25	23	24	25	25	23	24	24	24	22	27	75
30-Jan	25	27	24	25	20	18	32	29	39	57	31	32	31	29	25	22	21	41	35	36	47	37	31	UO	57
31-Jan	UO	42	UO	31	56	46	30	17	18	17	21	23	22	23	23	21	21	21	20	21	23	22	22	23	56
Diurnal Maximum																									
69 97 72 98 98 102 89 88 96 95 86 84 58 62 49 94 91 93 82 85 96 81 57 101																									

M - Maintenance UO - Unstable Operation



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS27
JACKFISH 2/3
JANUARY 2025

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

February 28, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - JACKFISH 2/3 (AMS27)
JANUARY 2025

MONTHLY SUMMARY

Parameter	Hours of Data	Hours of Calibration	Hours without Data	Operational Time	Maximum 1-Hour Value	1-Hour Exceedances	Maximum 24-Hour Value	24-Hour Exceedances
SO2 (ppb) Average	707	35	37	99.73	19.7	0	5.8	0
H2S (ppb) Average	706	38	38	100	0.8	0	0.2	0
NO2 (ppb) Average	705	37	39	99.73	17.7	0	6.7	-
NO (ppb) Average	705	37	39	99.73	3.3	-	0.5	-
NOX (ppb) Average	705	37	39	99.73	17.8	-	7.2	-
Temperature 2 m (C) Average	744	0	0	100	4.6	-	0.8	-
Relative Humidity (%) Average	744	0	0	100	97.5	-	90.2	-
Wind Speed 10 m (km/h) Average	742	0	2	99.73	22	-	15	-
Wind Direction 10 m (deg) Average	742	0	2	99.73	-	-	-	-

Note : Operational time includes periods of data collection and instrument calibration

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - JACKFISH 2/3 (AMS27)
 JANUARY 2025

MONTHLY SUMMARY FOR AIR QUALITY/ METEOROLOGICAL MONITORING MEASUREMENTS

Parameter	Number	Mean	StnDev	Total	Percentile						
					Min	P10	Q1	Median	Q3	P90	Max
SO2 (ppb) Average	707	1.19	2.8	-	0	0	0.1	0.3	0.8	2.5	19.7
H2S (ppb) Average	706	0.06	0.1	-	0	0	0	0	0.1	0.1	0.8
NO2 (ppb) Average	705	2.27	2.2	-	0	0.5	0.8	1.4	3	5.5	17.7
NO (ppb) Average	705	0.15	0.3	-	0	0	0	0	0.1	0.4	3.3
NOX (ppb) Average	705	2.42	2.4	-	0	0.5	0.9	1.5	3.3	5.8	17.8
Temperature 2 m (C) Average	744	-11.08	9.4	-	-29.7	-24.8	-19.4	-8.4	-3.1	0.4	4.6
Relative Humidity (%) Average	744	77.7	10.8	-	37.6	63.8	74.5	79.2	84.3	90.2	97.5
Wind Speed 10 m (km/h) Average	742	8.3	4	-	0	3	5	8	11	14	22
Wind Direction 10 m (deg) Average	742	-	-	-	-	-	-	-	-	-	-

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - JACKFISH 2/3 (AMS27)
JANUARY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
NO2, SO2	24 Jan 2025 16:00	24 Jan 2025 17:00	2	Maintenance - sample manifold cleaned
Wind Speed, Wind Direction	11 Jan 2025 20:00	11 Jan 2025 21:00	2	Flat line in sensor output signal - Sensor frozen



Wood Buffalo Environmental Association

Summary of Hour Averages

Sulphur Dioxide (SO₂) - ppb

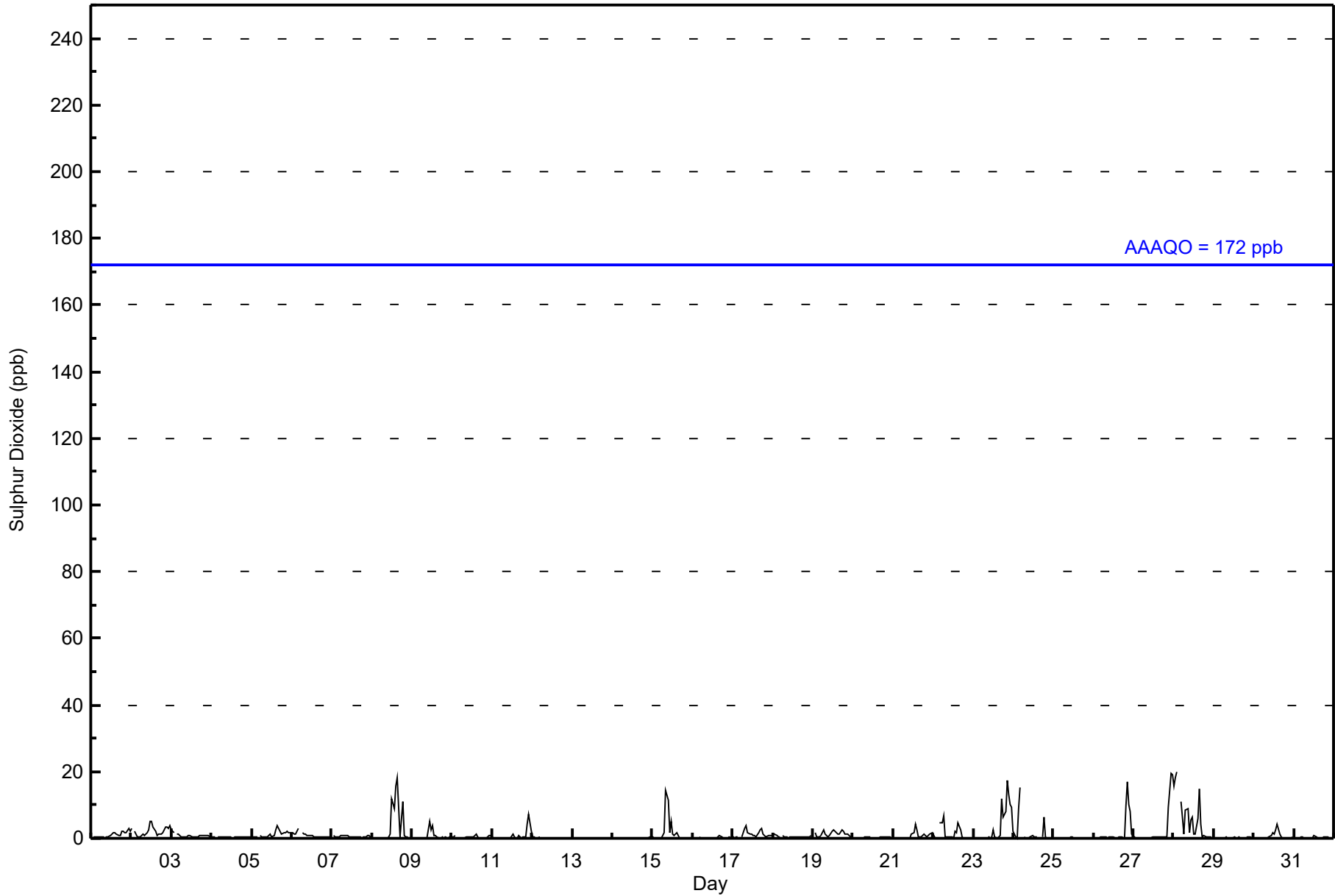
Jackfish 2/3 - January 2025

Number of Exceedences (AAAQO):		1-hr: 0	24-hr: 0	Hours in Service: 744																	Daily Average		Daily Maximum																										
Maximum Value: 19.7 ppb on Jan 28 03:00		Maximum Daily Average: 5.8 ppb on Jan 28		Hours of Data: 707																	Hours of Missing Data: 37		Hours of Calibration: 35																										
Minimum Value: 0.0 ppb on Jan 11 06:00		Minimum Daily Average: 0.0 ppb on Jan 13		Hours of Missing Data: 37																	Hours of Calibration: 35		Percent Operational Time: 99.7																										
Maximum Diurnal Average: 2.0 ppb at hour 23		Minimum Diurnal Average: 0.6 ppb at hour 4		Hours of Calibration: 35																	Hours of Calibration: 35		Percent Operational Time: 99.7																										
Monthly Average: 1.19 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.3 Q ₃ = 0.8 P ₉₀ = 2.5 P ₉₉ = 15.6		Hours of Calibration: 35																	Hours of Calibration: 35		Percent Operational Time: 99.7																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	Z	0.3	0.3	0.3	0.4	0.6	0.5	0.3	0.2	0.4	0.5	1.0	1.1	1.7	1.6	1.3	1.0	0.8	1.9	2.2	1.7	1.6	2.8	2.1	1.1	2.8																							
2-Jan	2.9	Z	2.0	0.6	0.4	0.4	0.6	1.1	0.7	1.5	2.7	5.1	5.1	3.3	2.2	1.0	1.2	1.1	1.1	1.7	3.3	3.5	3.1	3.6	2.1	5.1																							
3-Jan	2.5	1.5	Z	1.2	1.2	0.9	0.6	0.3	0.4	0.6	0.7	0.7	0.6	0.5	0.4	0.4	0.4	0.7	0.8	0.8	0.7	1.0	0.8	0.5	0.8	2.5																							
4-Jan	0.6	0.5	0.5	Z	0.5	0.3	0.4	0.5	0.4	0.5	0.5	0.3	0.2	0.2	0.3	0.3	0.3	0.5	0.5	0.3	0.4	0.5	0.4	0.5	0.4	0.6																							
5-Jan	0.3	0.3	0.4	0.4	Z	0.7	0.4	0.5	0.4	0.4	1.1	1.2	0.6	1.0	2.7	3.6	2.9	2.3	1.1	1.9	1.9	2.1	1.9	1.8	1.3	3.6																							
6-Jan	1.5	1.2	1.2	2.0	2.8	Z	1.5	1.1	1.4	1.0	1.1	0.9	0.8	0.5	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.5	0.4	0.6	1.0	2.8																							
7-Jan	Z	0.7	0.5	0.5	0.5	0.7	0.9	0.9	0.9	0.7	0.5	0.4	0.3	0.4	0.4	0.3	0.3	0.2	0.2	0.4	0.5	0.7	0.7	0.6	0.5	0.9																							
8-Jan	0.4	Z	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.3	1.3	12.0	9.0	15.6	18.2	9.3	0.6	10.8	0.7	0.2	0.3	0.2	0.2	3.5	18.2																							
9-Jan	0.2	0.2	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	4.9	2.4	3.9	0.6	1.0	0.3	0.2	0.2	0.3	0.2	0.4	0.2	0.3	0.3	0.7	4.9																							
10-Jan	0.4	0.4	0.7	Z	0.2	0.2	0.1	0.2	0.2	0.4	0.5	0.3	0.3	0.4	1.2	0.5	0.2	0.1	0.1	0.1	0.1	0.5	1.0	0.7	0.4	1.2																							
11-Jan	0.3	0.2	0.1	0.1	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.3	0.0	0.2	0.7	0.1	0.2	0.2	0.6	4.1	7.3	2.1	0.8	7.3																							
12-Jan	0.3	0.3	0.1	0.1	0.2	Z	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3																							
13-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2																							
14-Jan	0.1	Z	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.1	0.2																							
15-Jan	0.2	0.2	Z	0.1	0.1	0.1	0.7	1.6	14.4	11.3	1.9	5.1	1.2	0.8	1.6	0.7	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.1	1.8	14.4																							
16-Jan	0.1	0.0	0.0	Z	0.4	0.2	0.1	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.4	0.7	0.3	0.0	0.0	0.0	0.0	0.3	0.0	0.1	0.7																							
17-Jan	0.3	0.2	0.3	0.3	Z	0.5	1.6	2.8	4.0	1.9	1.3	1.4	0.8	0.8	0.5	1.7	2.7	2.8	1.2	1.0	0.6	0.7	0.9	0.9	1.3	4.0																							
18-Jan	1.0	1.1	0.7	0.6	0.6	Z	0.8	0.3	0.3	0.2	0.3	0.3	0.4	0.3	0.5	0.6	0.4	0.2	0.2	0.3	0.3	0.3	0.3	0.6	0.5	1.1																							
19-Jan	Z	1.9	0.5	0.4	0.6	0.9	2.6	1.4	0.7	0.6	0.9	2.0	2.5	2.3	1.8	1.3	1.2	2.5	2.1	1.3	1.3	1.1	0.3	0.2	1.3	2.6																							
20-Jan	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.4	0.4	C	C	C	C	0.2	0.3	0.3	0.3	0.3	0.3	0.5	0.4	0.2	0.3	0.5																							
21-Jan	0.1	0.2	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.4	1.7	4.4	2.5	0.3	0.3	0.4	1.1	0.9	0.4	0.7	1.1	1.7	0.8	4.4																							
22-Jan	0.7	0.2	0.2	Z	4.5	4.9	6.6	0.3	0.3	0.2	0.2	0.2	0.2	1.9	1.6	4.5	2.5	0.6	0.2	0.2	0.1	0.1	0.1	0.1	1.3	6.6																							
23-Jan	0.1	0.1	0.2	0.1	Z	0.1	0.1	0.1	0.1	0.3	0.2	0.4	2.6	0.3	0.1	0.2	0.8	12.1	6.2	8.0	17.5	13.3	10.1	9.4	3.6	17.5																							
24-Jan	2.2	0.6	0.2	8.8	15.1	Z	0.4	0.1	0.1	0.1	0.3	0.7	0.5	0.4	0.4	M	M	0.2	6.5	0.5	0.2	0.2	0.2	0.2	1.8	15.1																							
25-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.5	0.4	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.5																							
26-Jan	0.4	Z	0.1	0.1	0.4	0.3	0.6	0.4	0.2	0.3	0.6	0.6	0.4	0.1	0.1	0.4	0.6	0.3	0.1	9.8	17.0	10.2	7.9	1.1	2.3	17.0																							
27-Jan	0.3	0.2	Z	0.1	0.0	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.3	0.3	0.2	0.3	0.5	0.3	0.3	0.3	0.2	9.3	19.4	19.2	2.3	19.4																							
28-Jan	15.6	18.1	19.7	Z	11.2	6.2	1.2	8.5	8.9	1.9	5.5	6.5	1.3	1.2	5.9	14.8	4.4	0.3	0.7	0.2	0.2	0.2	0.2	0.2	5.8	19.7																							
29-Jan	0.2	0.1	0.1	0.1	Z	0.0	0.0	0.2	0.1	0.1	0.2	0.1	0.3	0.1	0.2	0.3	0.2	0.2	0.1	0.1	0.3	0.2	0.3	0.2	0.2	0.3																							
30-Jan	0.0	0.1	0.1	0.1	0.1	Z	0.0	0.0	0.0	0.4	0.7	1.6	1.5	2.5	4.1	1.4	0.4	0.2	0.1	0.1	0.1	0.2	0.2	0.3	0.6	4.1																							
31-Jan	Z	0.2	0.1	0.2	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.4	0.2	0.1	0.0	0.0	0.6	0.6	0.4	0.1	0.2	0.0	0.2	0.6																							
																								1.2	1.1	1.1	0.6	1.5	0.7	0.7	1.1	0.8	0.8	1.2	1.4	1.1	1.5	1.8	1.1	0.9	1.2	1.1	1.6	1.7	2.0	1.5	Diurnal Average		
																								15.6	18.1	19.7	8.8	15.1	6.2	6.6	8.5	14.4	11.3	5.5	6.5	12.0	9.0	15.6	18.2	9.3	12.1	10.8	9.8	17.5	13.3	19.4	19.2	Diurnal Maximum	
Z - zerospan C - Calibration M - Maintenance																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb																																																	



Wood Buffalo Environmental Association
Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Jackfish 2/3 - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Jackfish 2/3 - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	689	97.45	97.45
11 - 20	18	2.55	100.00
21 - 60	0	0.00	100.00
61 - 110	0	0.00	100.00
111 - 172	0	0.00	100.00
> 172	0	0.00	100.00

Total Number of Valid Hours: 707

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Sulphur Dioxide (SO₂) - ppb
Jackfish 2/3 - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 - 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 - 60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61 - 110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111 - 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

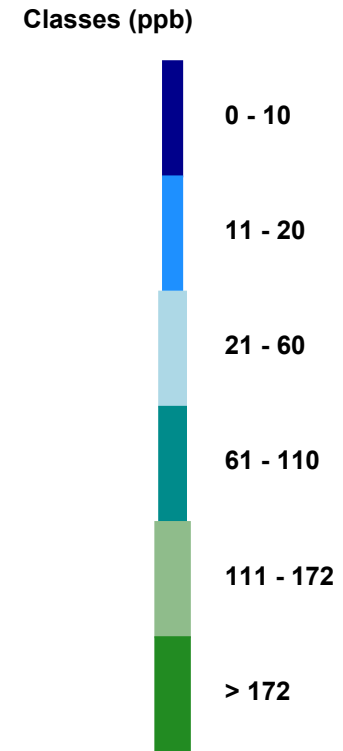
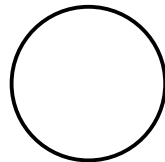
Total Number of Valid Hours: 0

Total Number of Hours: 744

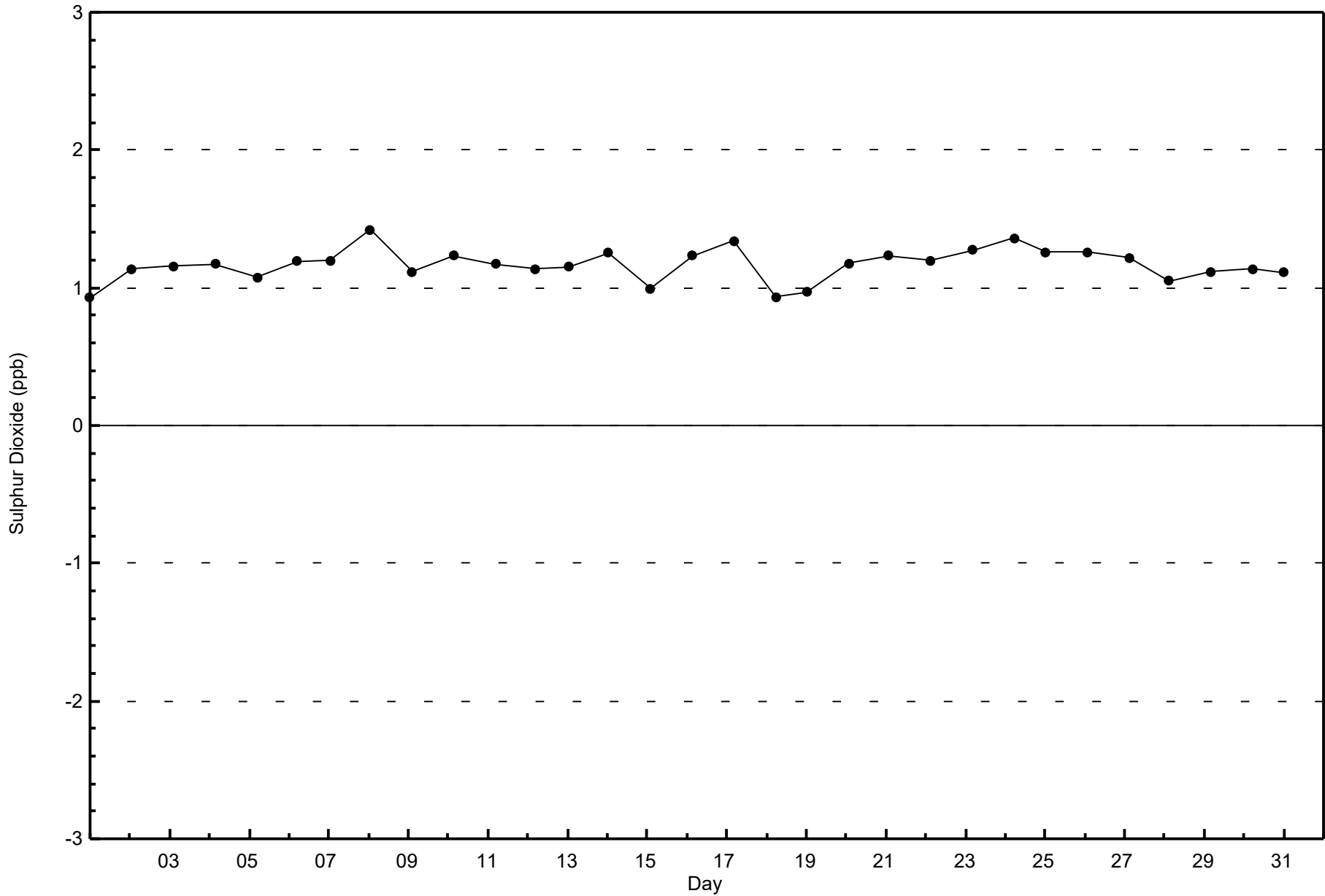


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Sulphur Dioxide (SO₂) - ppb
Jackfish 2/3



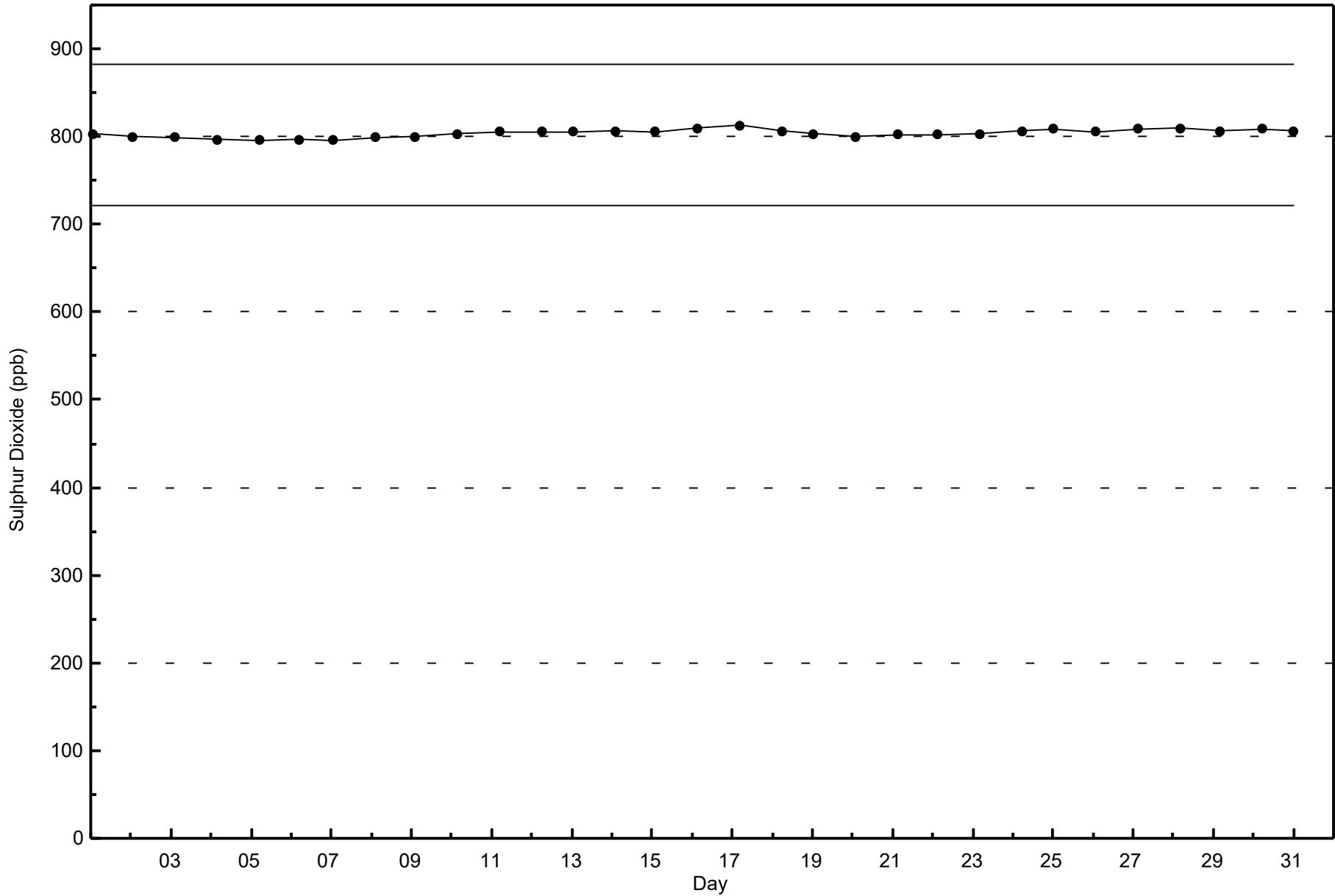
Total Number of Valid Hours: 0





Wood Buffalo Environmental Association
Span Responses

Sulphur Dioxide (SO₂) - ppb
Jackfish 2/3 - January 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Hydrogen Sulphide (H2S) - ppb

Jackfish 2/3 - January 2025

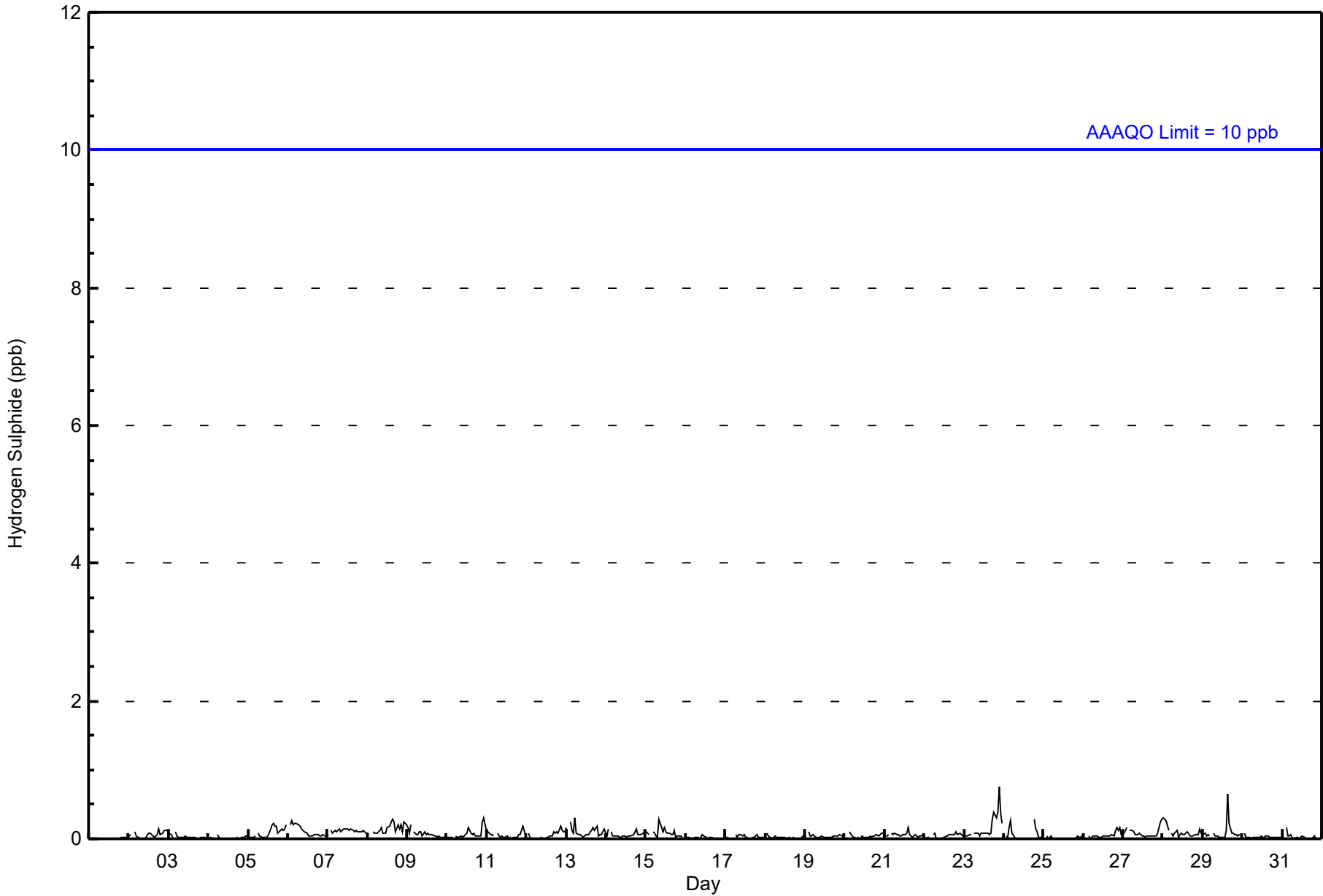
Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																							Hours in Service: 744									
Maximum Value: 0.8 ppb on Jan 23 22:00																							Maximum Daily Average: 0.2 ppb on Jan 23									
Minimum Value: 0.0 ppb on Jan 1 01:00																							Hours of Data: 706									
Maximum Diurnal Average: 0.1 ppb at hour 23																							Hours of Missing Data: 38									
Monthly Average: 0.06 ppb																							Hours of Calibration: 38									
Minimum Daily Average: 0.0 ppb on Jan 1																							Percent Operational Time: 100.0									
Minimum Diurnal Average: 0.0 ppb at hour 10																																
Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.1 P ₉₀ = 0.1 P ₉₉ = 0.3																																
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24								
1-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2-Jan	0.0	0.1	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
3-Jan	0.1	0.1	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
4-Jan	0.0	0.0	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
6-Jan	Z	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1
7-Jan	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
8-Jan	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1
9-Jan	0.2	0.1	0.2	Z	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
10-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1
11-Jan	0.1	0.1	0.1	0.1	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.0	0.1	0.1	0.1	0.1	0.2	0.0	0.1	
12-Jan	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
13-Jan	0.2	Z	0.2	0.1	0.1	0.3	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
14-Jan	0.0	0.1	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
15-Jan	0.1	0.1	0.1	Z	0.1	0.1	0.0	0.0	0.3	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
16-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18-Jan	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19-Jan	0.0	Z	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20-Jan	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
21-Jan	0.0	0.0	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
22-Jan	0.0	0.0	0.0	0.0	Z	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
23-Jan	0.0	0.0	0.0	0.1	0.1	Z	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.4	0.3	0.4	0.8	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
24-Jan	Z	0.0	0.0	0.2	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C	C	C	C	C	C	C	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--
25-Jan	0.1	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.1
27-Jan	0.1	0.1	0.2	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.1	0.2	0.3	0.1	0.2	0.3	0.1
28-Jan	0.3	0.3	0.3	0.1	Z	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
29-Jan	0.1	0.1	0.0	0.1	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.6	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.1
30-Jan	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31-Jan	0.0	Z	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
																							Diurnal Average									
																							Diurnal Maximum									
0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1																							0.3 0.3 0.3 0.2 0.3 0.3 0.2 0.2 0.3 0.2 0.1 0.2 0.2 0.2 0.2 0.6 0.2 0.3 0.4 0.3 0.4 0.8 0.4 0.3									

Z - zerospan C - Calibration
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb



Wood Buffalo Environmental Association
Hourly Averages

Hydrogen Sulphide (H₂S) - ppb
Jackfish 2/3 - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Hydrogen Sulphide (H₂S) - ppb
Jackfish 2/3 - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	706	100.00	100.00
3 - 4	0	0.00	100.00
5 - 7	0	0.00	100.00
8 - 11	0	0.00	100.00
> 11	0	0.00	100.00

Total Number of Valid Hours: 706

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Hydrogen Sulphide (H₂S) - ppb
Jackfish 2/3 - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2	22	32	29	16	17	6	6	6	52	63	96	103	93	58	45	60	704
3 - 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 - 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 - 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	22	32	29	16	17	6	6	6	52	63	96	103	93	58	45	60	704

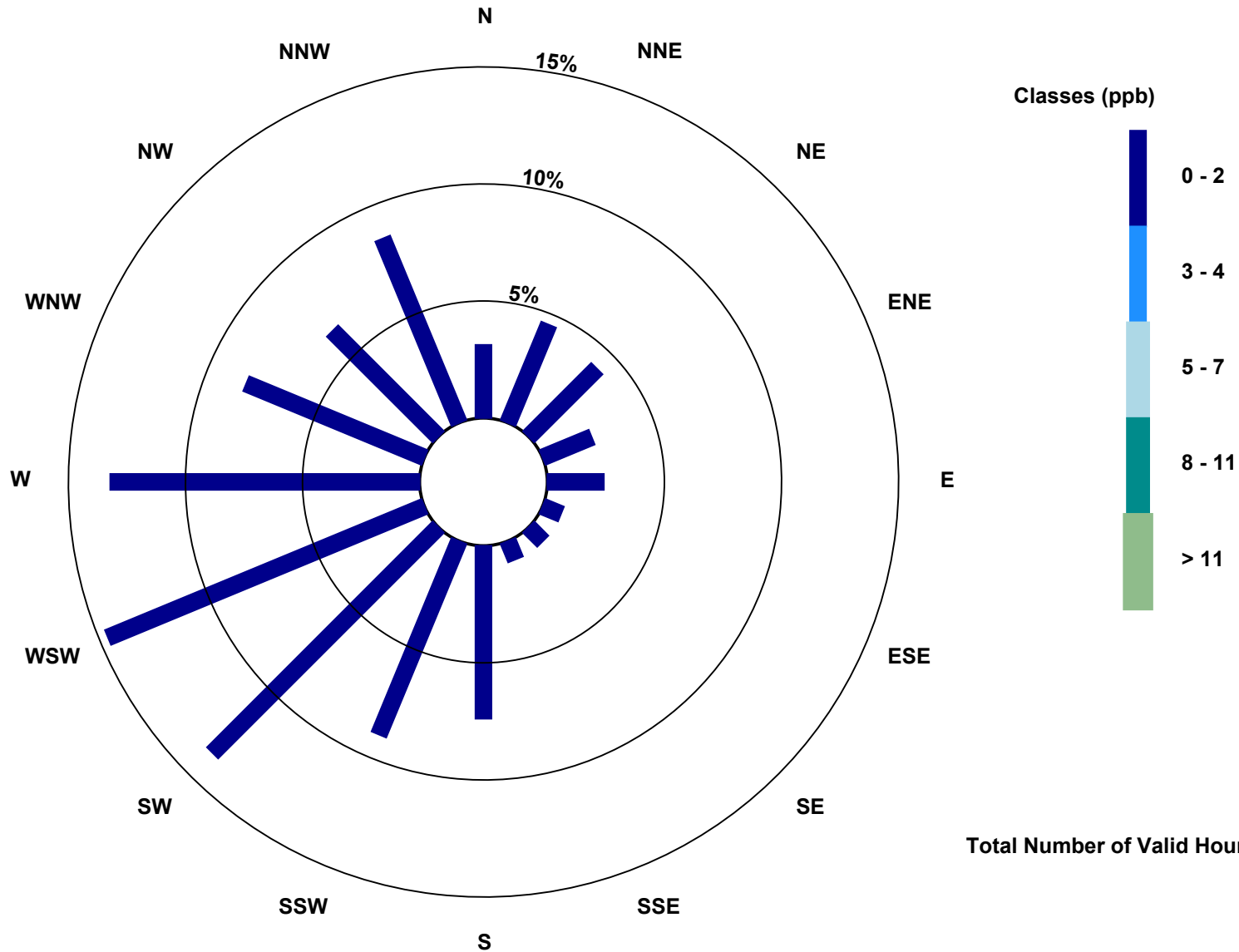
Total Number of Valid Hours: 704

Total Number of Hours: 744

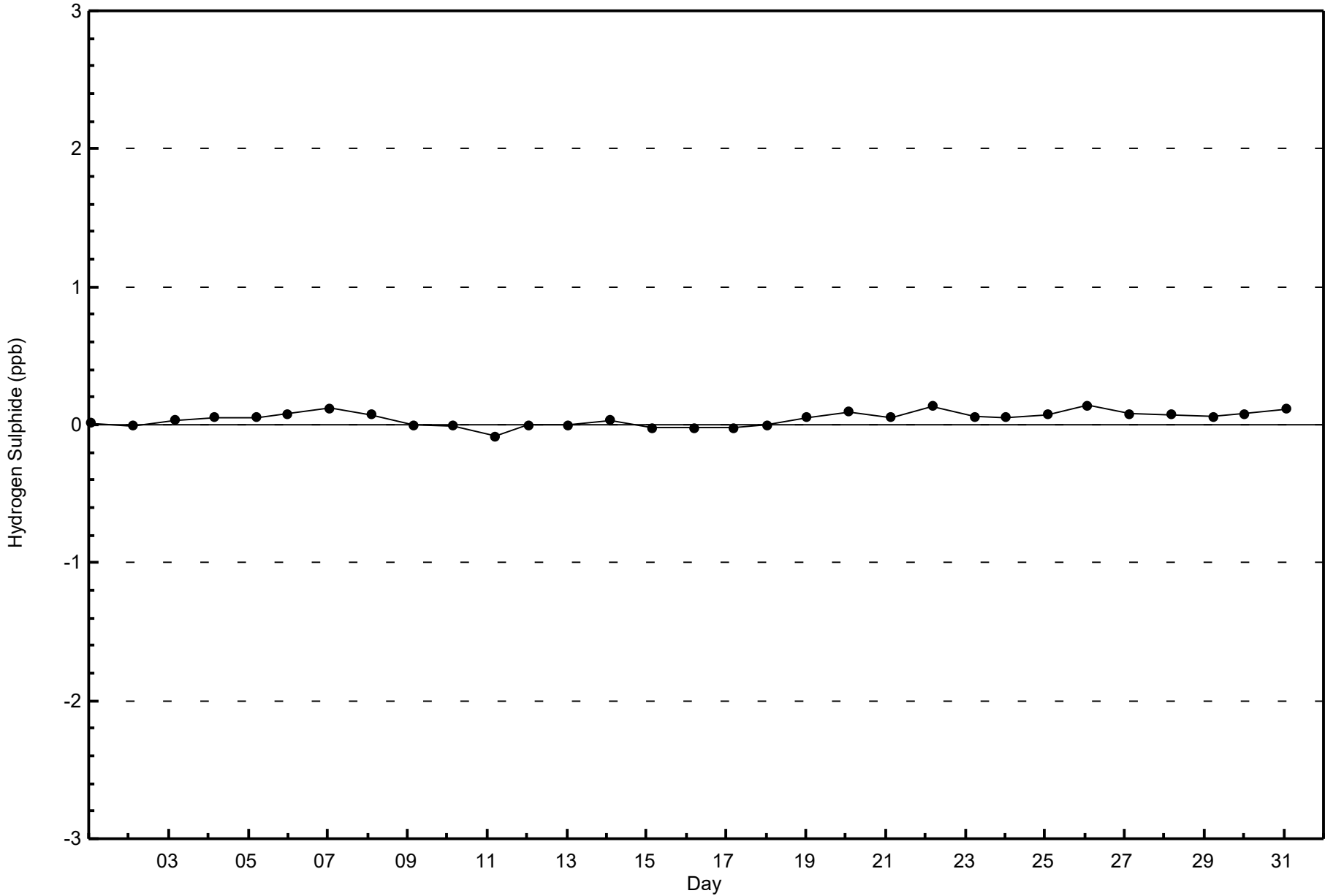


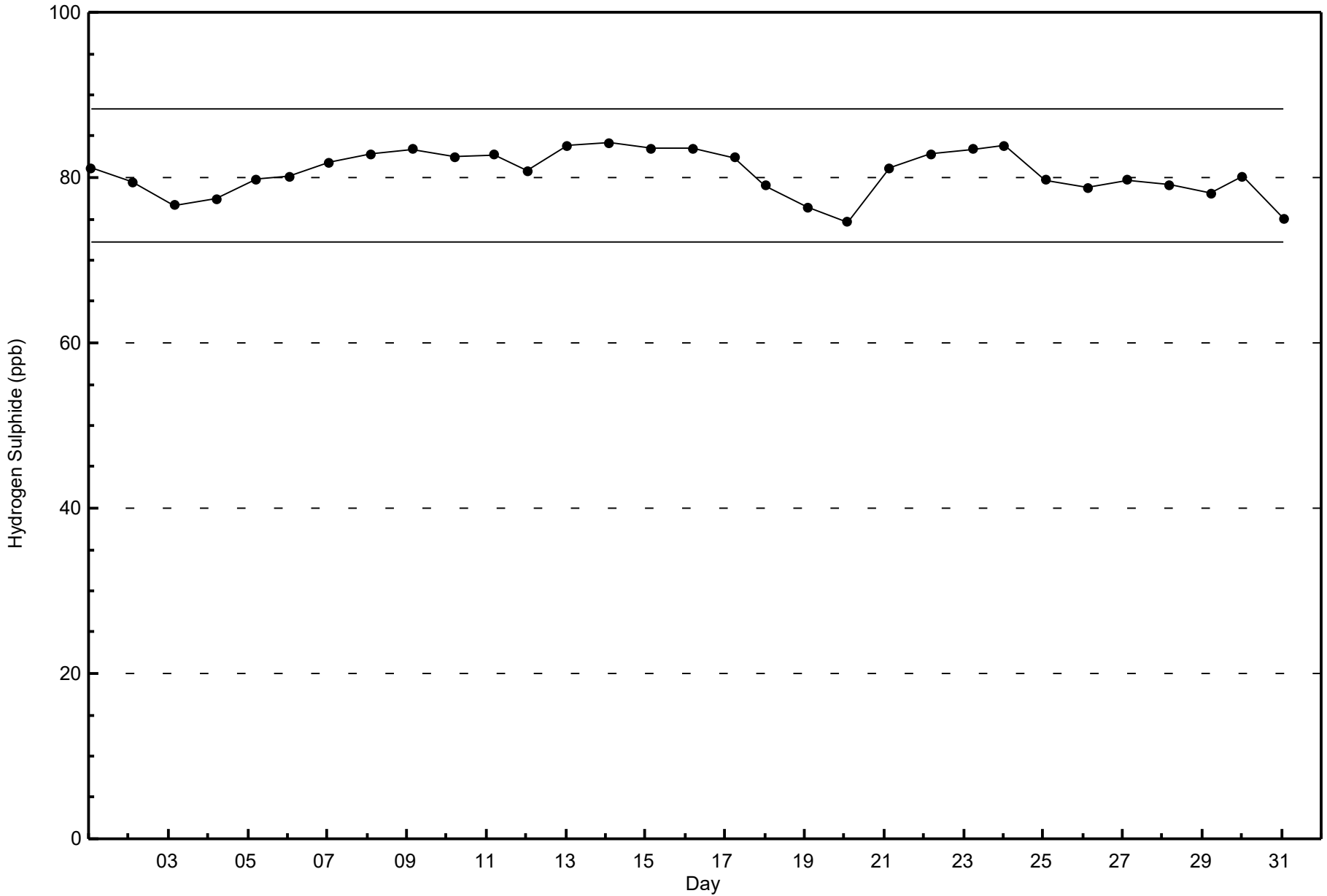
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Hydrogen Sulphide (H₂S) - ppb
Jackfish 2/3



Total Number of Valid Hours: 704







Wood Buffalo Environmental Association
Summary of Hour Averages

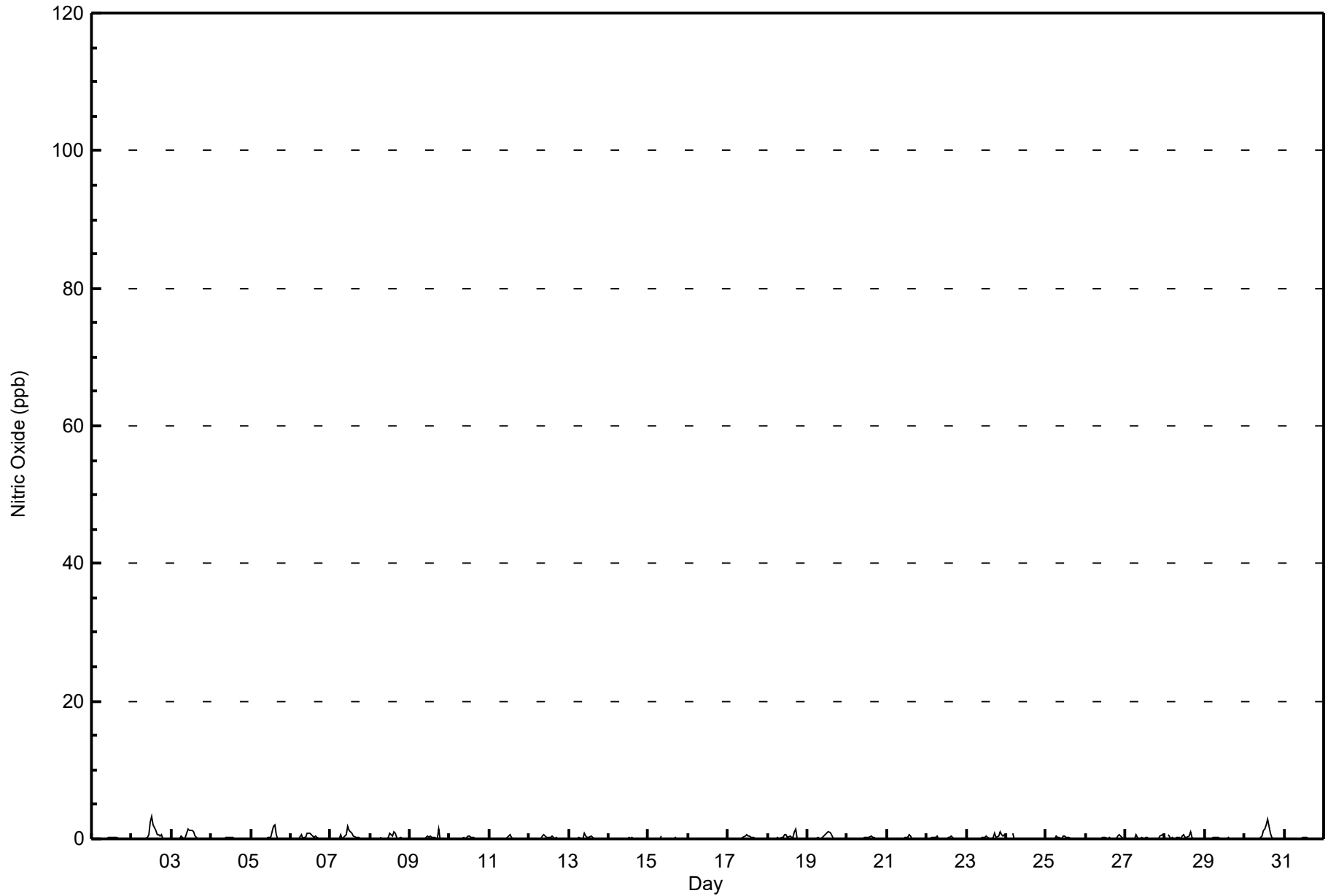
Nitric Oxide (NO) - ppb
Jackfish 2/3 - January 2025

Maximum Value: 3.3 ppb on Jan 2 13:00 Maximum Daily Average: 0.5 ppb on Jan 2		Hours in Service: 744 Hours of Data: 705 Hours of Missing Data: 39 Hours of Calibration: 37 Percent Operational Time: 99.7																									
Minimum Value: 0.0 ppb on Jan 1 01:00 Maximum Diurnal Average: 0.5 ppb at hour 13 Monthly Average: 0.15 ppb		Minimum Daily Average: 0.0 ppb on Jan 16 Minimum Diurnal Average: 0.0 ppb at hour 2 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.1 P ₉₀ = 0.4 P ₉₉ = 1.8																									
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
2-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.6	2.4	3.3	2.0	1.1	0.6	0.6	0.5	0.7	0.0	0.0	0.1	0.1	0.1	0.5	3.3	
3-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.3	0.8	1.4	1.2	1.2	1.0	0.4	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.3	1.4	
4-Jan	0.0	Z	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.2	0.2	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	
5-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	1.9	2.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.0	
6-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.6	0.0	0.1	0.2	0.7	0.9	0.6	0.4	0.3	0.3	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.9	
7-Jan	0.1	0.0	0.0	0.0	Z	0.0	0.6	0.1	0.2	0.6	1.9	1.3	1.0	0.8	0.4	0.2	0.1	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.3	1.9	
8-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.1	0.1	0.0	0.0	0.1	0.1	0.8	0.5	0.9	0.9	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.9	
9-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.3	0.4	0.2	0.3	0.1	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.4	
10-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.4	0.4	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	
11-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.7	
12-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.1	0.4	0.6	0.1	0.2	0.2	0.1	0.4	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.6	
13-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.3	0.0	0.0	0.8	0.4	0.2	0.3	0.3	0.2	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.8	
14-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	
15-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	C	C	C	C	C	C	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	0.4	
16-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	
17-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.5	0.4	0.4	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.5	
18-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.0	0.2	0.2	0.5	0.6	0.3	0.3	0.2	0.1	1.0	1.5	0.1	0.0	0.0	0.0	0.0	0.0	0.2	1.5	
19-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.3	0.0	0.0	0.1	0.4	0.9	1.1	1.0	0.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.1	
20-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.1	0.0	0.0	0.2	0.2	0.2	0.3	0.4	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	
21-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.1	0.2	0.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.6	
22-Jan	0.0	Z	0.0	0.3	0.2	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	
23-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.2	0.2	0.5	0.2	0.1	0.0	0.1	0.8	0.3	0.4	1.0	0.6	0.4	0.5	0.2	1.0	
24-Jan	0.1	0.0	0.0	Z	0.8	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	M	M	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.8	
25-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.4	0.1	0.2	0.1	0.3	0.4	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	
26-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.4	0.7	0.4	0.3	0.0	0.1	0.7	
27-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.6	0.2	0.0	0.1	0.2	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.4	0.7	0.5	0.1	0.7	
28-Jan	0.3	Z	0.5	0.0	0.2	0.1	0.1	0.3	0.3	0.0	0.5	0.5	0.1	0.1	0.5	0.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.9	
29-Jan	0.0	0.0	Z	0.0	0.0	0.3	0.2	0.1	0.2	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	
30-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.4	1.2	1.5	2.0	2.8	0.8	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	2.8	
31-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	
																								Diurnal Average			
																								Diurnal Maximum			
Z - zerospan C - Calibration M - Maintenance																											



Wood Buffalo Environmental Association
Hourly Averages

Nitric Oxide (NO) - ppb
Jackfish 2/3 - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitric Oxide (NO) - ppb
Jackfish 2/3 - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	705	100.00	100.00
21 - 40	0	0.00	100.00
41 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 705

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitric Oxide (NO) - ppb
Jackfish 2/3 - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	21	34	27	16	17	6	7	6	49	63	93	106	93	56	43	66	703
21 - 40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	21	34	27	16	17	6	7	6	49	63	93	106	93	56	43	66	703

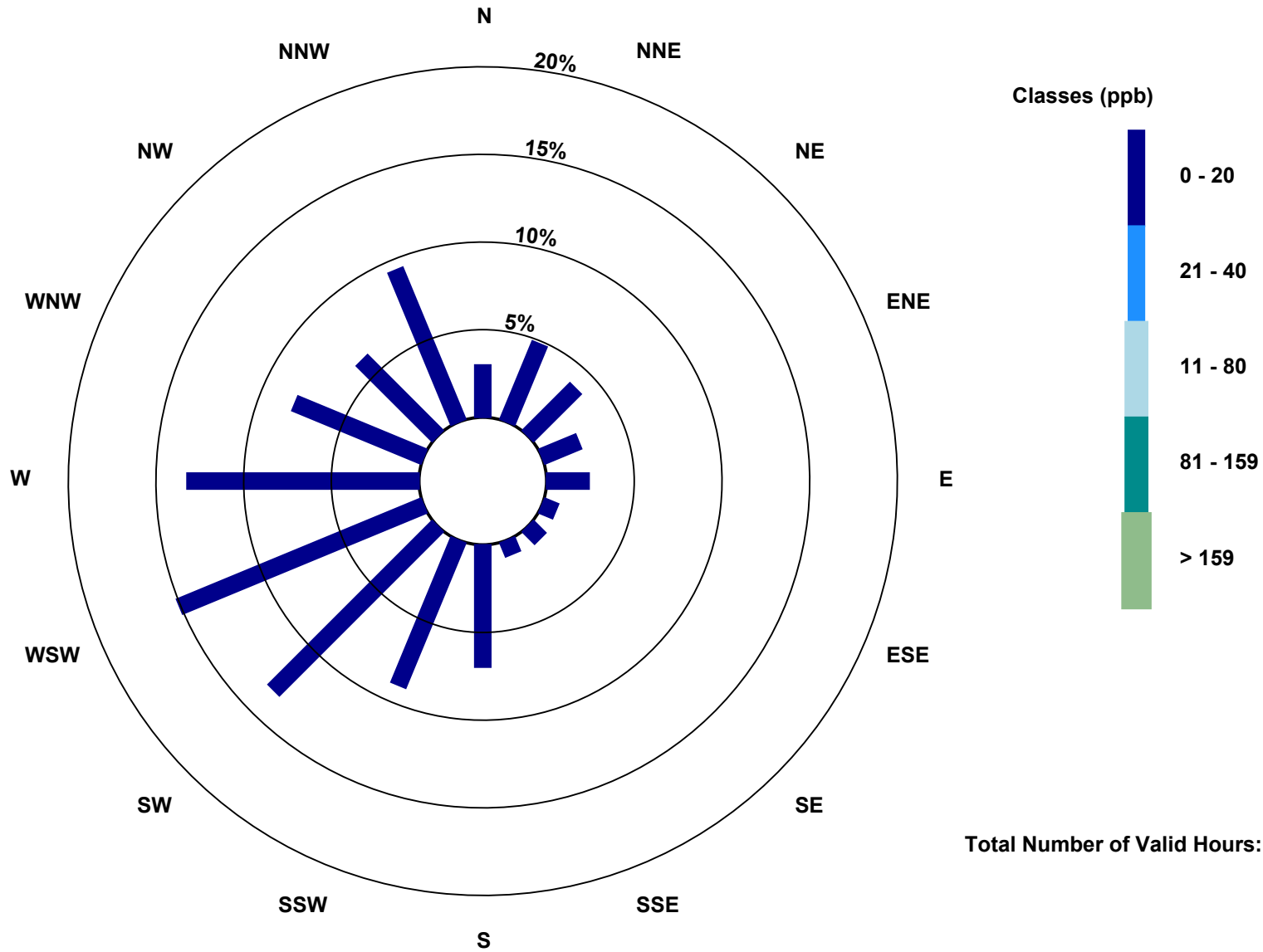
Total Number of Valid Hours: 703

Total Number of Hours: 744

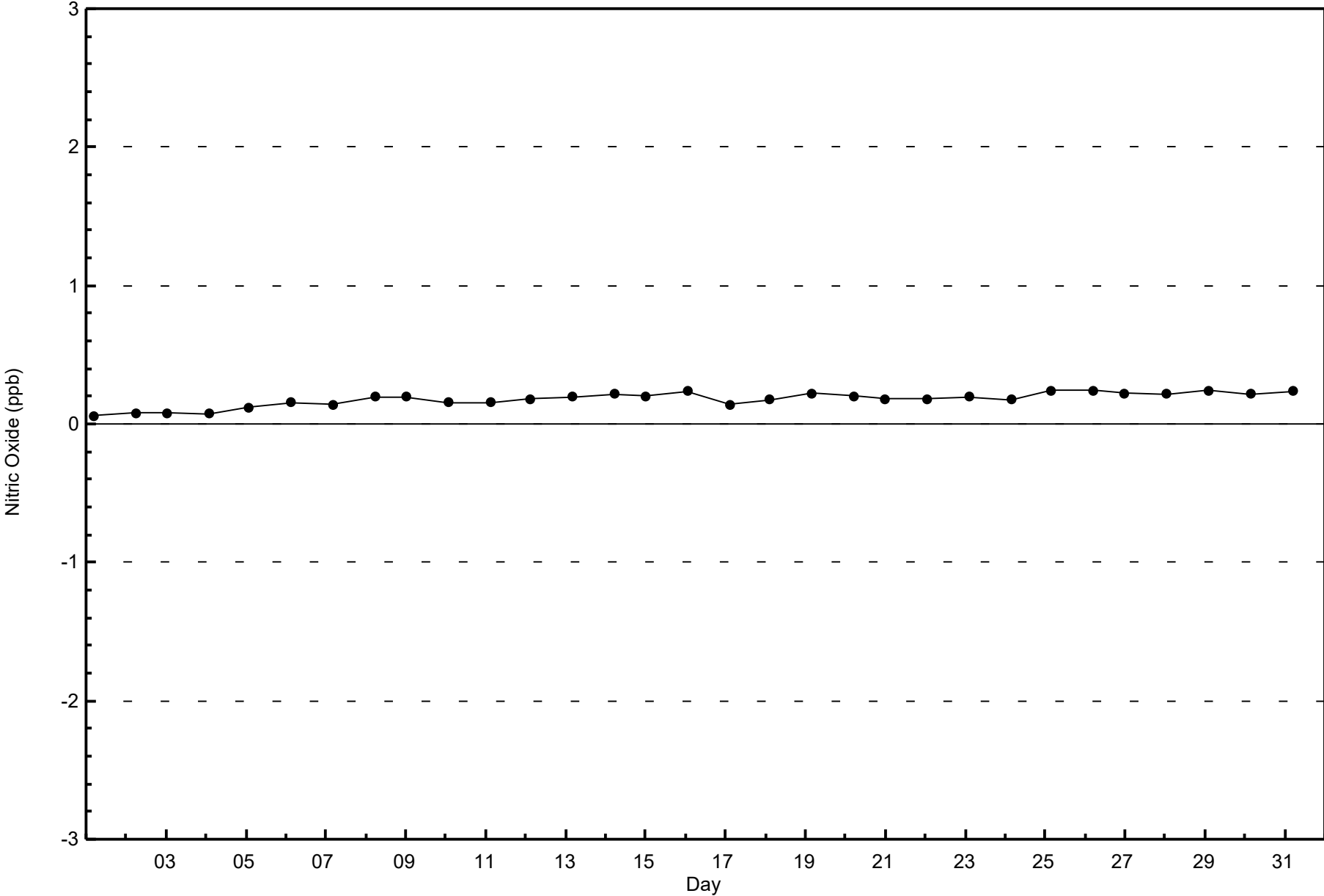


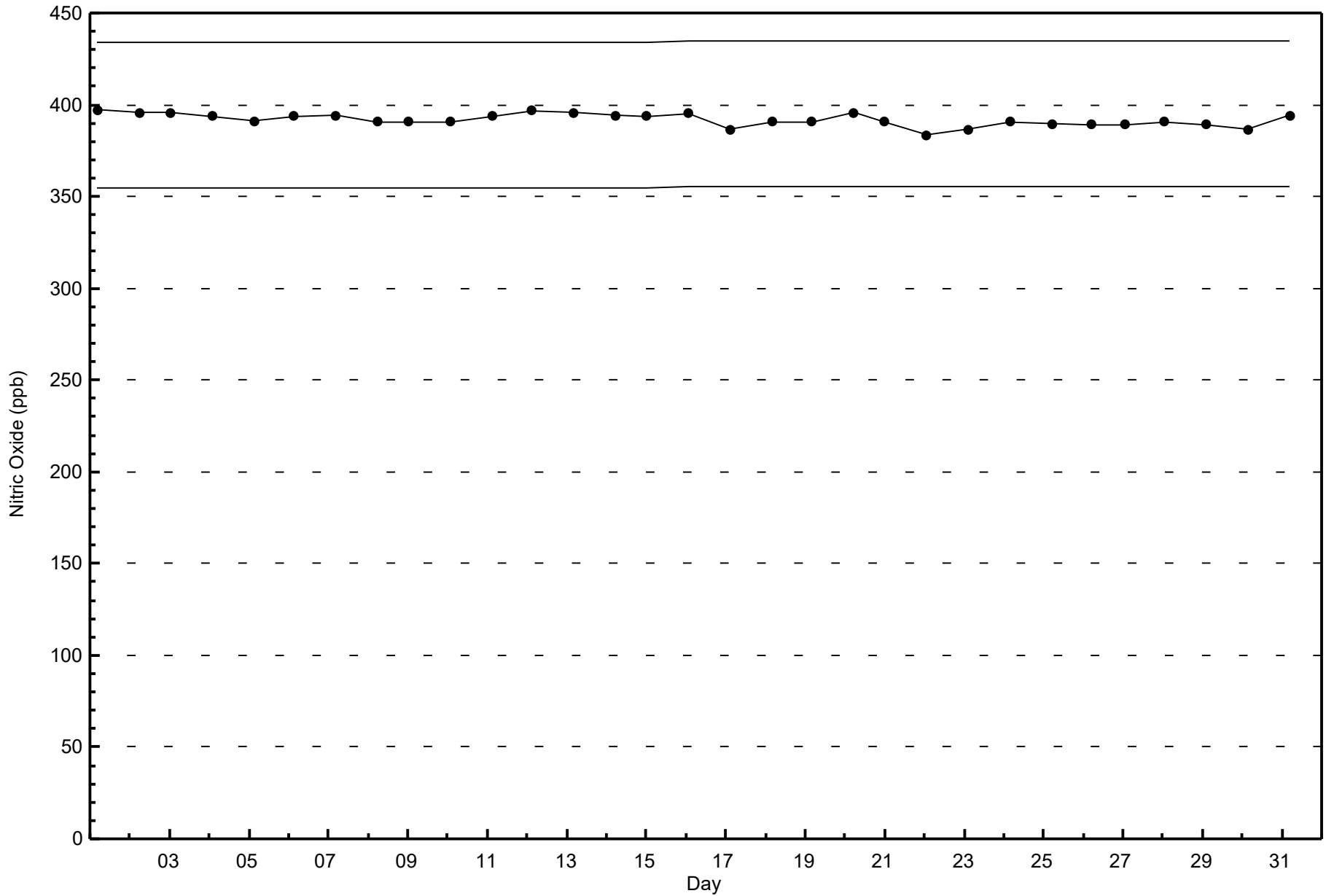
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitric Oxide (NO) - ppb
Jackfish 2/3



Total Number of Valid Hours: 703







Wood Buffalo Environmental Association
Summary of Hour Averages

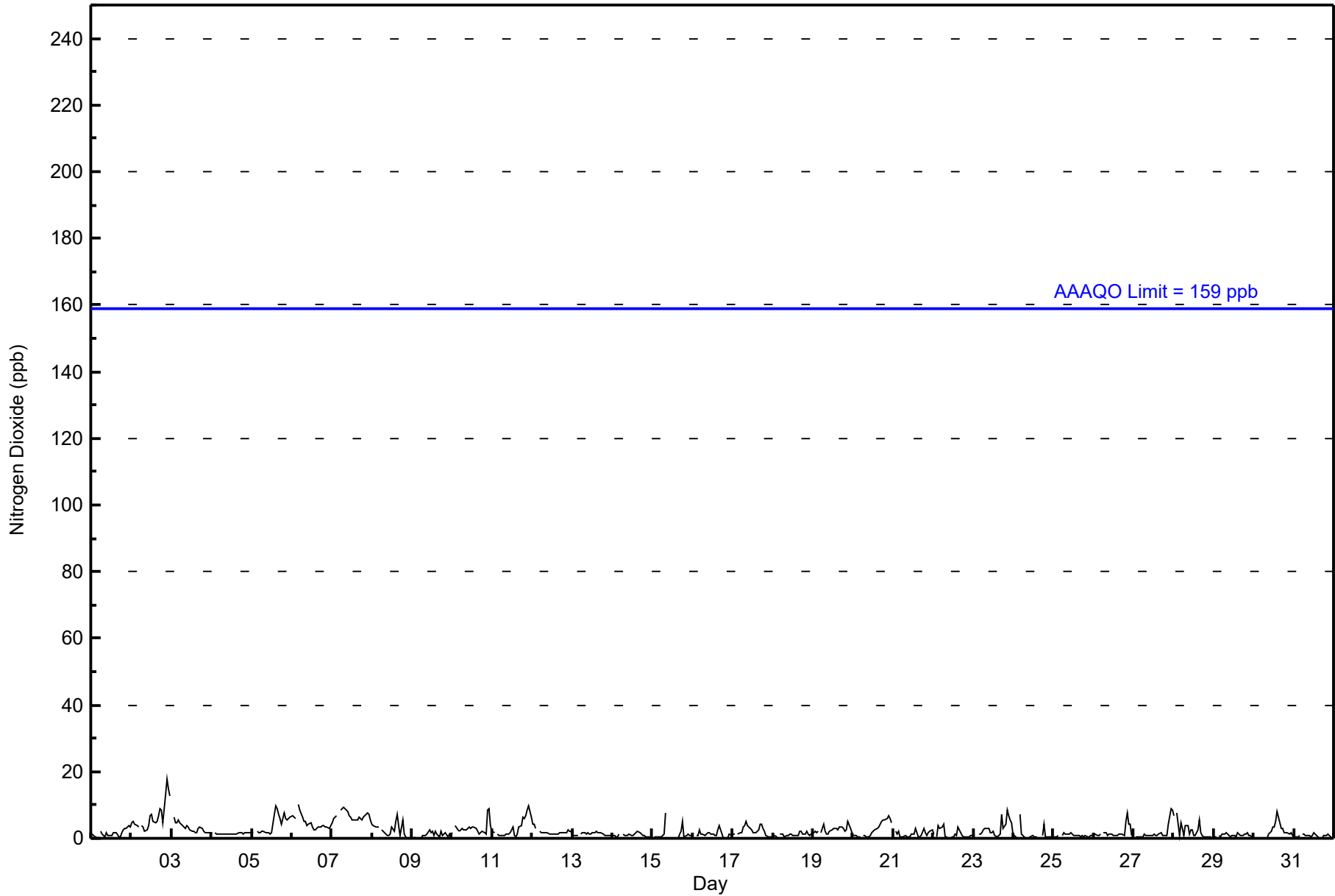
Nitrogen Dioxide (NO₂) - ppb
Jackfish 2/3 - January 2025

Number of Exceedences (AAAQO):		1-hr: 0		24-hr: 0		Hours in Service: 744																																											
Maximum Value: 17.7 ppb on Jan 2 22:00		Maximum Daily Average: 6.7 ppb on Jan 7		Hours of Data: 705																																													
Minimum Value: 0.0 ppb on Jan 16 20:00		Minimum Daily Average: 0.7 ppb on Jan 31		Hours of Missing Data: 39																																													
Maximum Diurnal Average: 3.2 ppb at hour 23		Minimum Diurnal Average: 1.7 ppb at hour 4		Hours of Calibration: 37																																													
Monthly Average: 2.27 ppb		Percentiles: P ₁ = 0.1 P ₁₀ = 0.5 Q ₁ = 0.8 Median = 1.4 Q ₃ = 3.0 P ₉₀ = 5.5 P ₉₉ = 9.3		Percent Operational Time: 99.7																																													
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	1.1	0.8	0.6	0.6	Z	2.0	1.1	1.0	0.6	1.5	1.0	0.8	0.9	1.5	1.8	1.7	0.5	0.6	1.6	2.6	2.9	3.1	3.7	3.3	1.5	3.7																							
2-Jan	4.5	5.0	4.3	3.7	3.5	Z	4.0	3.3	2.3	2.5	3.7	6.9	7.2	5.2	4.5	5.0	6.9	8.9	8.3	4.8	13.2	17.7	14.9	12.9	6.7	17.7																							
3-Jan	Z	6.2	4.8	4.7	5.5	4.8	4.3	3.2	2.9	3.8	3.6	2.6	2.2	2.2	1.7	1.7	2.8	3.3	3.1	2.1	1.7	1.5	1.5	1.5	3.1	6.2																							
4-Jan	1.7	Z	1.6	1.4	1.3	1.3	1.4	1.2	1.1	1.3	1.2	1.2	1.2	1.2	1.1	1.3	1.5	1.6	1.5	1.1	1.5	1.7	1.8	1.8	1.4	1.8																							
5-Jan	1.7	1.6	Z	2.2	1.8	1.9	2.0	2.2	1.8	1.7	1.6	1.4	1.8	7.0	9.7	8.9	7.1	6.1	4.4	7.8	5.9	5.3	5.9	6.4	4.2	9.7																							
6-Jan	6.6	6.5	6.1	Z	10.0	8.5	6.5	5.0	5.2	3.8	4.4	4.6	3.6	2.5	2.5	3.1	3.3	3.5	3.8	3.9	3.5	3.3	3.1	3.8	4.7	10.0																							
7-Jan	4.8	5.8	6.3	6.7	Z	8.3	9.0	9.3	8.9	7.9	6.9	6.2	5.7	5.5	5.7	5.7	6.3	6.0	5.3	6.5	7.2	7.5	7.1	5.4	6.7	9.3																							
8-Jan	4.3	3.9	3.5	3.5	3.2	Z	2.6	1.5	1.2	1.0	0.9	1.1	3.2	2.3	5.0	7.0	4.0	0.9	5.4	1.1	0.6	0.2	0.2	0.5	2.5	7.0																							
9-Jan	Z	0.3	0.2	0.1	0.2	0.2	0.8	0.9	0.9	1.1	2.7	1.6	2.0	0.9	2.1	1.2	0.5	2.1	0.9	1.1	1.7	0.5	1.1	1.0	1.0	2.7																							
10-Jan	1.6	Z	3.7	2.4	2.2	2.5	2.8	2.6	2.7	2.8	3.3	3.0	3.4	3.2	3.1	2.0	1.4	1.7	2.1	1.6	1.4	8.4	9.0	4.0	3.1	9.0																							
11-Jan	2.0	1.5	Z	1.4	0.9	0.9	0.9	1.0	1.2	1.3	1.3	1.9	3.6	1.0	0.6	1.1	3.4	3.8	6.2	5.9	6.6	8.4	9.6	6.5	3.1	9.6																							
12-Jan	4.3	4.2	2.8	Z	2.0	1.7	1.6	1.8	1.9	1.6	1.1	1.3	1.2	1.1	1.2	1.2	1.7	1.7	1.8	1.8	1.9	2.5	2.1	2.3	1.9	4.3																							
13-Jan	1.0	1.0	0.7	0.8	Z	1.2	1.8	1.6	1.2	1.5	1.1	1.1	1.5	1.9	2.1	1.8	1.8	1.6	1.2	0.9	0.7	0.9	0.8	0.8	1.3	2.1																							
14-Jan	0.7	0.7	0.6	0.6	1.1	Z	1.1	0.9	0.8	0.7	1.1	1.0	0.8	1.2	1.7	2.1	1.9	1.2	1.0	0.7	0.6	0.5	0.4	0.4	0.9	2.1																							
15-Jan	Z	0.6	0.5	0.4	0.6	0.4	0.9	1.4	7.5	C	C	C	C	C	C	0.2	1.1	2.1	5.0	0.6	0.8	1.4	0.8	0.7	--	7.5																							
16-Jan	1.0	Z	0.8	0.9	2.6	1.4	1.1	0.8	1.1	1.8	1.4	1.1	0.7	0.9	2.6	3.9	1.4	0.2	0.0	0.0	0.2	1.1	0.7	1.2	3.9																								
17-Jan	1.4	1.1	Z	1.1	1.6	1.7	3.3	4.0	5.2	3.8	2.9	2.6	1.9	1.9	1.7	2.6	4.3	4.3	2.9	2.2	0.7	0.4	0.5	0.4	2.3	5.2																							
18-Jan	0.6	0.7	0.6	Z	1.1	1.1	1.2	0.5	0.9	0.8	1.3	1.1	0.7	0.9	0.8	0.9	2.1	2.2	1.2	1.4	2.2	1.3	0.9	1.1	1.1	2.2																							
19-Jan	1.6	2.1	1.8	2.0	Z	1.6	4.3	2.0	1.2	1.4	2.2	2.5	2.8	2.8	3.0	2.7	3.4	3.6	2.9	2.0	2.4	5.2	3.0	1.6	2.5	5.2																							
20-Jan	0.7	0.8	0.7	0.5	0.4	Z	1.0	0.7	0.5	0.6	0.9	1.6	2.0	2.6	3.0	3.4	4.3	5.0	5.4	5.5	5.8	6.7	6.1	4.7	2.7	6.7																							
21-Jan	Z	2.3	1.1	2.0	0.6	0.4	0.5	0.7	0.5	0.6	0.4	1.2	1.3	2.8	1.8	0.5	0.4	1.0	2.8	1.8	1.0	1.5	2.1	2.4	1.3	2.8																							
22-Jan	1.2	Z	0.5	4.0	3.1	3.2	4.4	0.3	0.3	0.2	0.2	0.3	0.4	1.2	1.0	3.2	1.7	0.7	0.6	0.4	0.4	0.3	0.7	0.8	1.3	4.4																							
23-Jan	0.9	0.7	Z	1.2	1.1	1.7	2.7	3.1	2.8	3.0	1.7	1.5	2.2	1.0	0.6	0.7	1.2	7.1	3.0	4.3	8.6	6.8	5.3	4.8	2.9	8.6																							
24-Jan	1.1	0.3	0.2	Z	7.0	1.2	0.4	0.1	0.2	0.2	0.4	0.8	0.3	0.3	0.3	M	M	0.7	4.2	0.5	0.4	0.4	0.6	0.5	1.0	7.0																							
25-Jan	0.4	0.4	0.6	0.8	Z	0.7	1.5	1.3	1.4	1.2	1.5	1.3	0.9	1.0	0.8	0.7	0.6	0.9	0.6	0.7	0.6	0.5	0.7	0.9	0.9	1.5																							
26-Jan	1.4	1.1	1.0	0.9	1.2	Z	1.9	1.5	1.0	1.4	1.3	1.3	1.0	0.7	0.8	1.3	1.4	1.2	0.9	5.2	7.6	4.4	4.4	0.8	1.9	7.6																							
27-Jan	Z	0.6	0.6	0.5	0.5	0.4	1.2	1.0	0.8	0.8	0.8	0.8	1.1	0.8	0.7	1.1	1.6	1.0	0.9	0.8	0.7	4.2	8.7	8.6	1.7	8.7																							
28-Jan	6.7	Z	7.7	0.9	4.7	2.8	0.8	3.8	3.8	1.1	2.5	2.6	0.9	0.7	2.5	5.6	1.9	1.0	0.5	0.3	0.3	0.3	0.3	0.2	2.3	7.7																							
29-Jan	0.4	0.4	Z	0.7	0.6	1.1	1.4	1.6	1.4	0.9	0.6	0.7	0.9	0.6	1.9	1.4	0.8	1.0	1.3	1.4	1.5	1.0	0.9	0.2	1.0	1.9																							
30-Jan	0.1	0.1	0.0	Z	0.2	0.1	0.1	0.1	0.2	1.4	2.0	3.6	3.2	5.1	8.1	4.6	3.1	3.0	1.8	1.7	1.7	1.2	1.5	0.9	1.9	8.1																							
31-Jan	0.4	0.5	0.6	0.8	Z	1.2	1.2	0.7	0.7	0.8	0.4	0.7	1.5	1.0	0.6	0.1	0.1	0.1	0.8	1.0	1.4	0.7	0.6	0.2	0.7	1.5																							
																								2.0	1.9	2.0	1.7	2.3	2.0	2.2	1.9	2.0	1.8	1.8	2.0	2.0	2.4	2.5	2.5	2.6	2.6	2.3	2.8	3.2	3.2	2.6	Diurnal Average		
																								6.7	6.5	7.7	6.7	10.0	8.5	9.0	9.3	8.9	7.9	6.9	6.9	7.2	7.0	9.7	8.9	7.1	8.9	8.3	7.8	13.2	17.7	14.9	12.9	Diurnal Maximum	
Z - zerospan C - Calibration M - Maintenance																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb																																																	



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
Jackfish 2/3 - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Jackfish 2/3 - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	705	100.00	100.00
21 - 40	0	0.00	100.00
41 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 705

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Dioxide (NO₂) - ppb
Jackfish 2/3 - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	21	34	27	16	17	6	7	6	49	63	93	106	93	56	43	66	703
21 - 40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	21	34	27	16	17	6	7	6	49	63	93	106	93	56	43	66	703

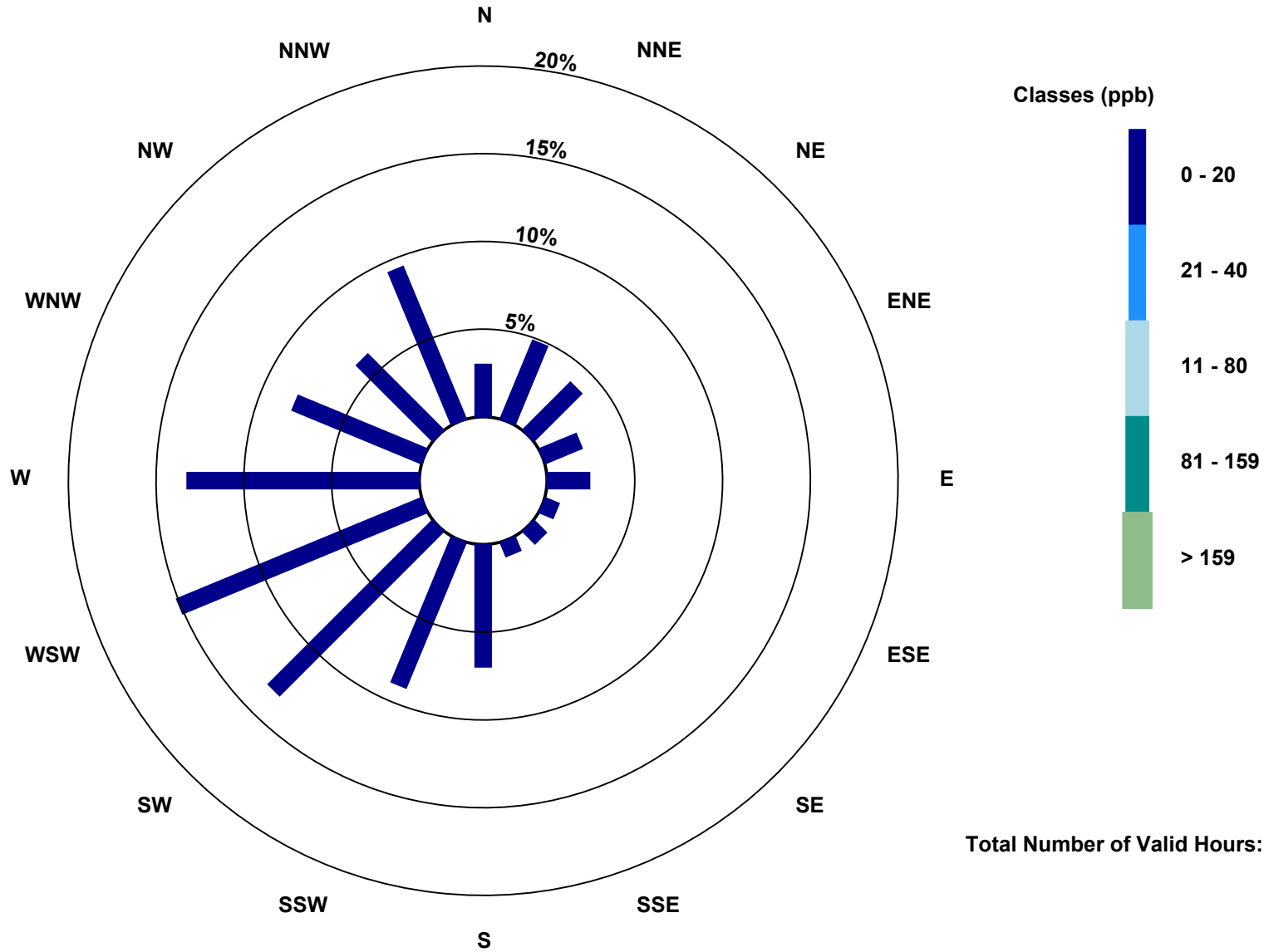
Total Number of Valid Hours: 703

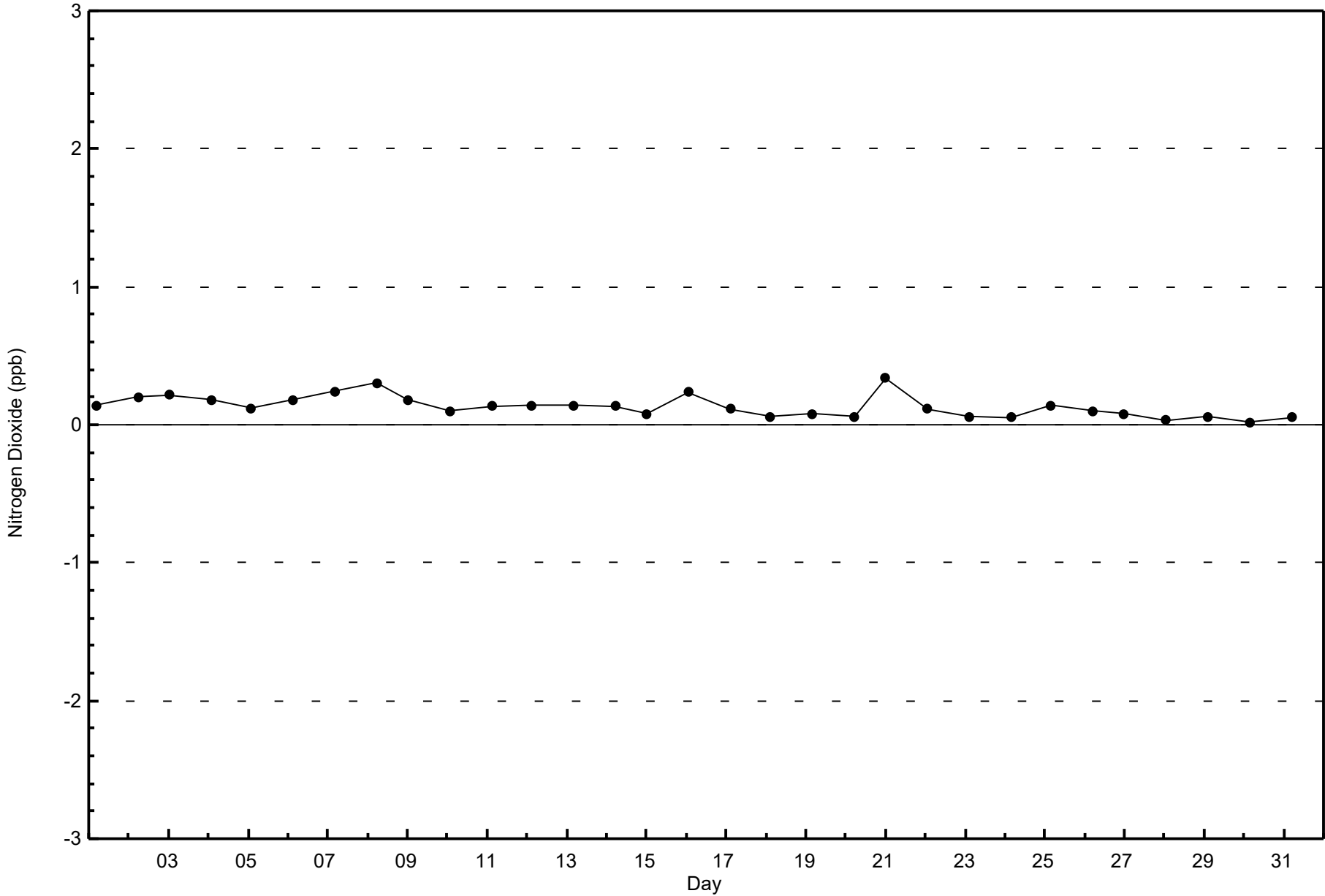
Total Number of Hours: 744

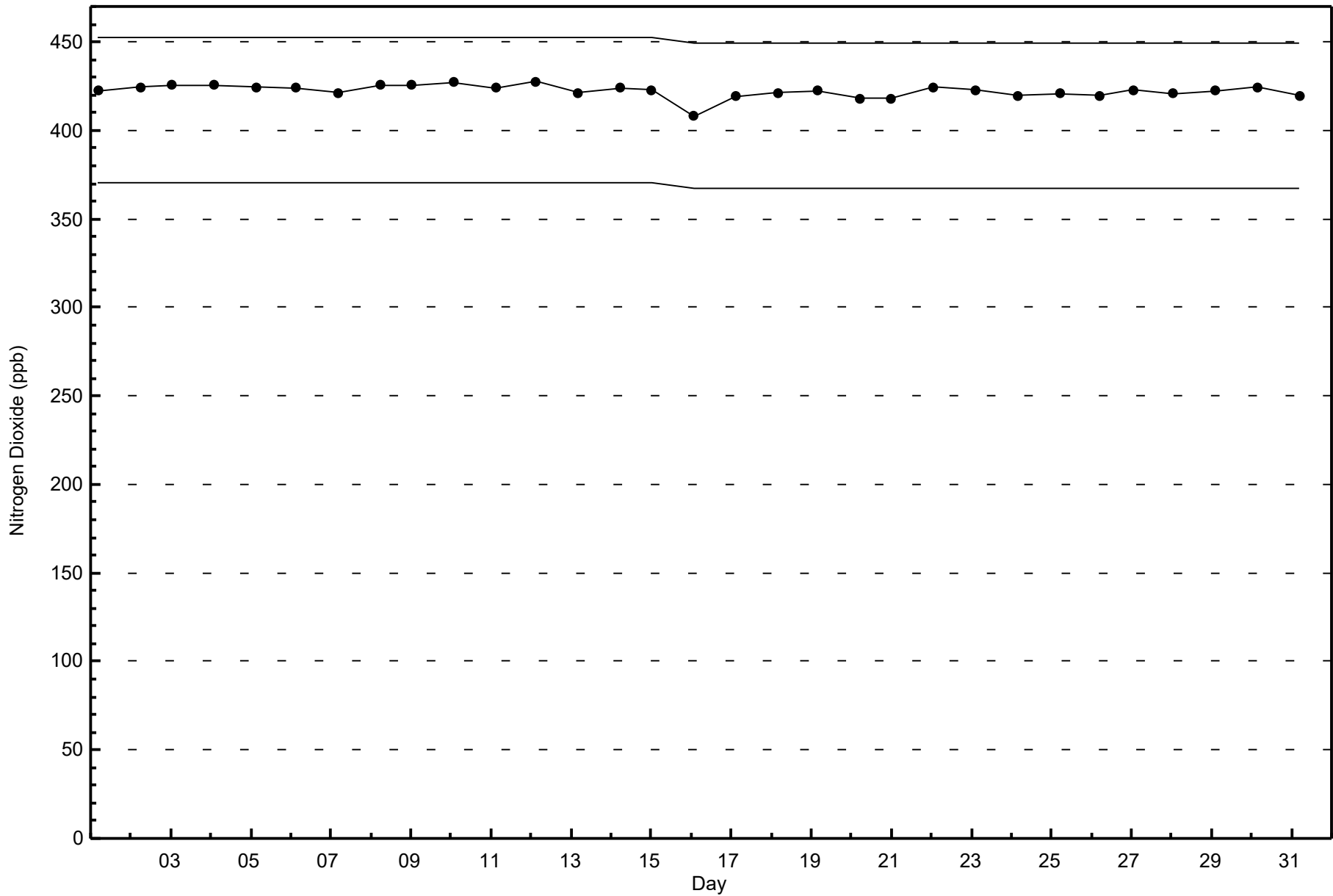


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Dioxide (NO₂) - ppb
Jackfish 2/3









Wood Buffalo Environmental Association
Summary of Hour Averages

Nitrogen Oxides (NO_x) - ppb
Jackfish 2/3 - January 2025

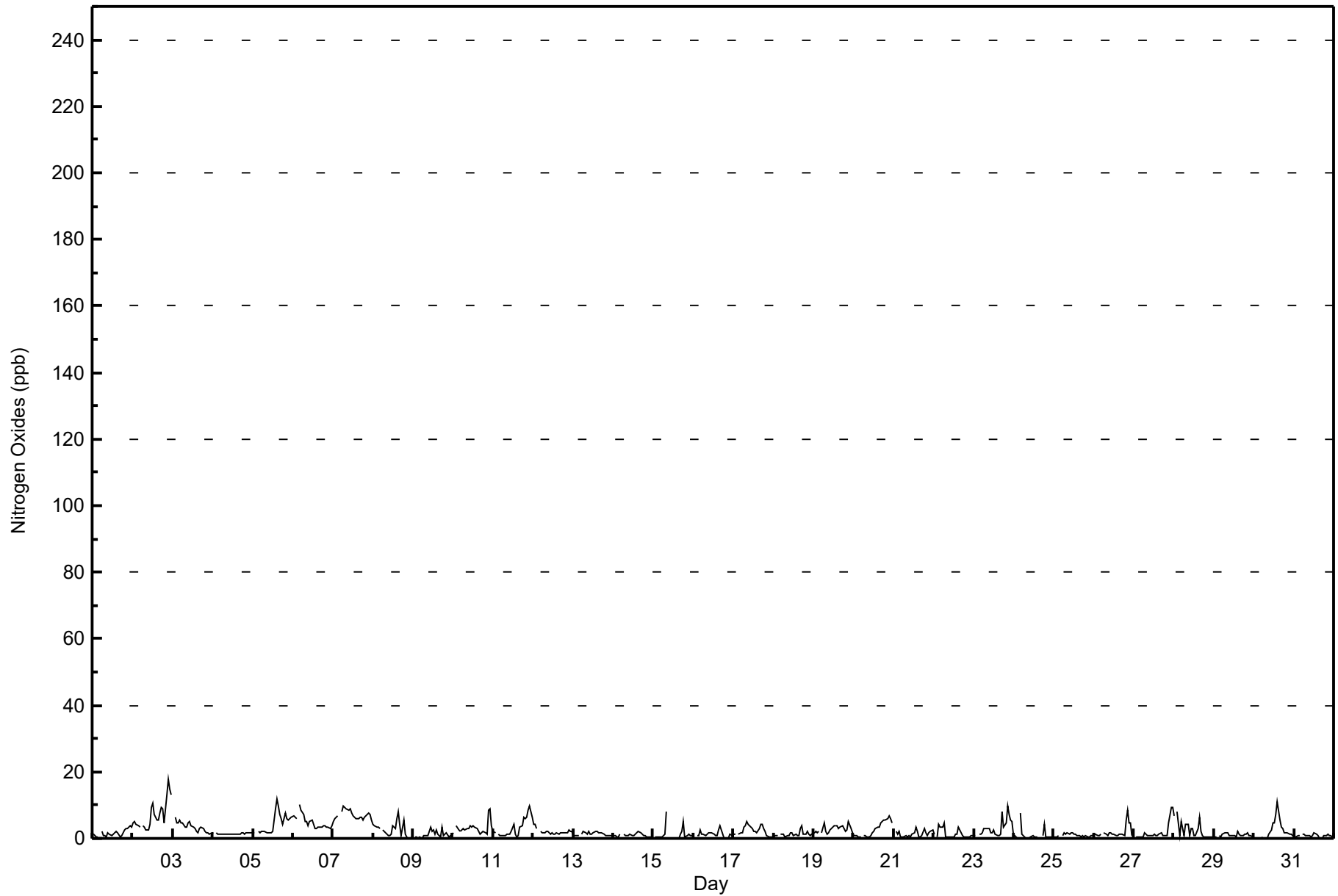
Maximum Value: 17.8 ppb on Jan 2 22:00		Maximum Daily Average: 7.2 ppb on Jan 2		Hours in Service: 744																							
Minimum Value: 0.0 ppb on Jan 16 21:00		Minimum Daily Average: 0.7 ppb on Jan 31		Hours of Data: 705																							
Maximum Diurnal Average: 3.3 ppb at hour 23		Minimum Diurnal Average: 1.7 ppb at hour 4		Hours of Missing Data: 39																							
Monthly Average: 2.42 ppb		Percentiles: P ₁ = 0.1 P ₁₀ = 0.5 Q ₁ = 0.9 Median = 1.5 Q ₃ = 3.3 P ₉₀ = 5.8 P ₉₉ = 10.0		Hours of Calibration: 37																							
				Percent Operational Time: 99.7																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	1.1	0.8	0.6	0.6	Z	2.0	1.1	1.0	0.6	1.6	1.1	1.0	1.1	1.8	2.0	1.8	0.5	0.6	1.6	2.6	2.9	3.1	3.7	3.3	1.6	3.7	
2-Jan	4.5	5.0	4.3	3.7	3.5	Z	4.0	3.3	2.3	2.6	4.3	9.3	10.5	7.2	5.6	5.6	7.5	9.4	9.0	4.8	13.2	17.8	15.0	13.0	7.2	17.8	
3-Jan	Z	6.2	4.8	4.7	5.5	4.8	4.7	3.2	3.2	4.6	5.0	3.8	3.4	3.2	2.1	1.8	2.8	3.3	3.2	2.1	1.7	1.5	1.5	1.5	3.4	6.2	
4-Jan	1.7	Z	1.6	1.4	1.3	1.4	1.5	1.2	1.1	1.4	1.4	1.4	1.5	1.4	1.2	1.3	1.5	1.6	1.5	1.1	1.5	1.7	1.8	1.8	1.4	1.8	
5-Jan	1.7	1.6	Z	2.2	1.8	1.9	2.0	2.2	1.8	1.7	1.7	1.6	2.1	8.9	11.7	9.6	7.1	6.1	4.4	7.8	5.9	5.3	5.9	6.4	4.4	11.7	
6-Jan	6.6	6.5	6.1	Z	10.0	8.5	7.1	5.0	5.3	4.0	5.1	5.5	4.2	2.9	2.8	3.4	3.5	3.5	3.9	3.9	3.5	3.3	3.1	3.8	4.9	10.0	
7-Jan	4.9	5.8	6.3	6.7	Z	8.3	9.6	9.4	9.1	8.5	8.8	7.5	6.7	6.3	6.1	5.9	6.4	6.2	5.3	6.5	7.3	7.5	7.1	5.4	7.0	9.6	
8-Jan	4.3	3.9	3.5	3.5	3.2	Z	2.7	1.6	1.2	1.0	1.0	1.2	4.0	2.8	5.9	7.9	4.2	0.9	5.5	1.1	0.6	0.2	0.2	0.5	2.6	7.9	
9-Jan	Z	0.3	0.2	0.1	0.2	0.2	0.8	0.9	0.9	1.1	3.2	1.9	2.4	1.1	2.4	1.3	0.5	3.5	0.9	1.1	1.7	0.5	1.1	1.0	1.2	3.5	
10-Jan	1.6	Z	3.7	2.4	2.2	2.5	2.8	2.6	2.8	2.9	3.6	3.4	3.8	3.5	3.2	2.0	1.4	1.7	2.1	1.6	1.4	8.4	9.0	4.0	3.2	9.0	
11-Jan	2.0	1.5	Z	1.4	0.9	0.9	0.9	1.0	1.2	1.3	1.4	2.1	4.3	1.2	0.6	1.1	3.4	3.8	6.2	5.9	6.6	8.4	9.6	6.5	3.1	9.6	
12-Jan	4.3	4.2	2.8	Z	2.0	1.7	1.7	1.9	2.3	2.2	1.2	1.5	1.4	1.2	1.6	1.3	1.8	1.8	1.8	1.8	1.9	2.5	2.1	2.3	2.1	4.3	
13-Jan	1.0	1.0	0.7	0.8	Z	1.2	2.1	1.6	1.2	2.3	1.5	1.3	1.8	2.2	2.3	1.9	1.9	1.6	1.3	0.9	0.7	0.9	0.8	0.8	1.4	2.3	
14-Jan	0.7	0.7	0.6	0.6	1.1	Z	1.1	0.9	0.8	0.7	1.1	1.0	1.0	1.3	1.9	2.2	1.9	1.2	1.0	0.7	0.6	0.5	0.4	0.4	1.0	2.2	
15-Jan	Z	0.6	0.5	0.4	0.6	0.4	0.9	1.4	7.9	C	C	C	C	C	C	0.2	1.4	2.1	5.0	0.6	0.8	1.4	0.8	0.7	--	7.9	
16-Jan	1.0	Z	0.8	0.9	2.6	1.4	1.1	0.8	1.1	1.8	1.9	1.5	1.1	0.7	0.9	2.6	3.9	1.4	0.2	0.0	0.0	0.2	1.1	0.7	1.2	3.9	
17-Jan	1.4	1.1	Z	1.1	1.6	1.7	3.3	4.0	5.2	4.1	3.3	3.1	2.3	2.3	1.9	2.8	4.3	4.3	2.9	2.2	0.7	0.4	0.5	0.4	2.4	5.2	
18-Jan	0.6	0.7	0.6	Z	1.1	1.1	1.3	0.5	1.1	1.0	1.8	1.7	1.0	1.2	1.0	1.0	3.1	3.7	1.3	1.4	2.2	1.3	0.9	1.1	1.3	3.7	
19-Jan	1.6	2.1	1.8	2.0	Z	1.6	4.6	2.0	1.2	1.5	2.6	3.4	3.9	3.8	3.7	3.0	3.4	3.6	2.9	2.0	2.4	5.2	3.0	1.6	2.7	5.2	
20-Jan	0.7	0.8	0.7	0.5	0.4	Z	1.0	0.8	0.5	0.6	1.1	1.8	2.2	2.9	3.4	3.6	4.5	5.0	5.4	5.5	5.8	6.7	6.1	4.7	2.8	6.7	
21-Jan	Z	2.3	1.1	2.0	0.6	0.4	0.6	0.8	0.5	0.7	0.4	1.3	1.5	3.4	2.1	0.5	0.4	1.0	2.8	1.8	1.0	1.5	2.1	2.4	1.4	3.4	
22-Jan	1.2	Z	0.5	4.3	3.3	3.4	4.7	0.3	0.3	0.2	0.2	0.3	0.4	1.4	1.1	3.5	1.8	0.7	0.6	0.4	0.4	0.3	0.7	0.8	1.3	4.7	
23-Jan	0.9	0.7	Z	1.2	1.1	1.7	2.8	3.1	2.9	3.1	1.9	1.7	2.7	1.2	0.7	0.7	1.3	7.9	3.3	4.7	9.6	7.4	5.7	5.3	3.1	9.6	
24-Jan	1.2	0.3	0.2	Z	7.8	1.3	0.4	0.1	0.2	0.2	0.4	0.9	0.3	0.3	0.3	0.7	M	M	0.7	4.3	0.5	0.4	0.4	0.6	0.5	1.0	7.8
25-Jan	0.4	0.4	0.6	0.8	Z	0.7	1.9	1.4	1.6	1.3	1.8	1.7	1.2	1.2	0.9	0.7	0.6	0.9	0.6	0.7	0.6	0.5	0.7	0.9	1.0	1.9	
26-Jan	1.4	1.1	1.0	0.9	1.2	Z	1.9	1.5	1.0	1.5	1.5	1.5	1.2	0.8	0.9	1.4	1.4	1.2	0.9	5.6	8.3	4.8	4.7	0.8	2.0	8.3	
27-Jan	Z	0.6	0.6	0.5	0.5	0.4	1.8	1.2	0.8	0.9	1.0	0.9	1.3	1.0	0.8	1.2	1.6	1.0	0.9	0.8	0.7	4.6	9.4	9.1	1.8	9.4	
28-Jan	7.0	Z	8.2	0.9	4.9	2.9	0.9	4.1	4.1	1.1	3.0	3.1	1.0	0.8	3.0	6.5	2.0	1.0	0.5	0.3	0.3	0.3	0.3	0.2	2.4	8.2	
29-Jan	0.4	0.4	Z	0.7	0.6	1.4	1.6	1.7	1.6	0.9	0.7	0.7	1.0	0.6	2.0	1.4	0.8	1.0	1.3	1.4	1.5	1.0	0.9	0.2	1.0	2.0	
30-Jan	0.1	0.1	0.0	Z	0.2	0.1	0.1	0.1	0.2	1.5	2.4	4.8	4.7	7.1	10.9	5.4	3.3	3.0	1.8	1.7	1.7	1.2	1.5	0.9	2.3	10.9	
31-Jan	0.4	0.5	0.6	0.8	Z	1.2	1.2	0.7	0.7	0.8	0.4	0.8	1.7	1.2	0.6	0.1	0.1	0.1	0.8	1.0	1.4	0.7	0.6	0.2	0.7	1.7	
																								Diurnal Average			
																								Diurnal Maximum			
																								Diurnal Average			
																								Diurnal Maximum			
																								Diurnal Average			
																								Diurnal Maximum			

Z - zerospan C - Calibration M - Maintenance



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Jackfish 2/3 - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Jackfish 2/3 - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	705	100.00	100.00
21 - 40	0	0.00	100.00
41 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 705

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Jackfish 2/3 - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	21	34	27	16	17	6	7	6	49	63	93	106	93	56	43	66	703
21 - 40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	21	34	27	16	17	6	7	6	49	63	93	106	93	56	43	66	703

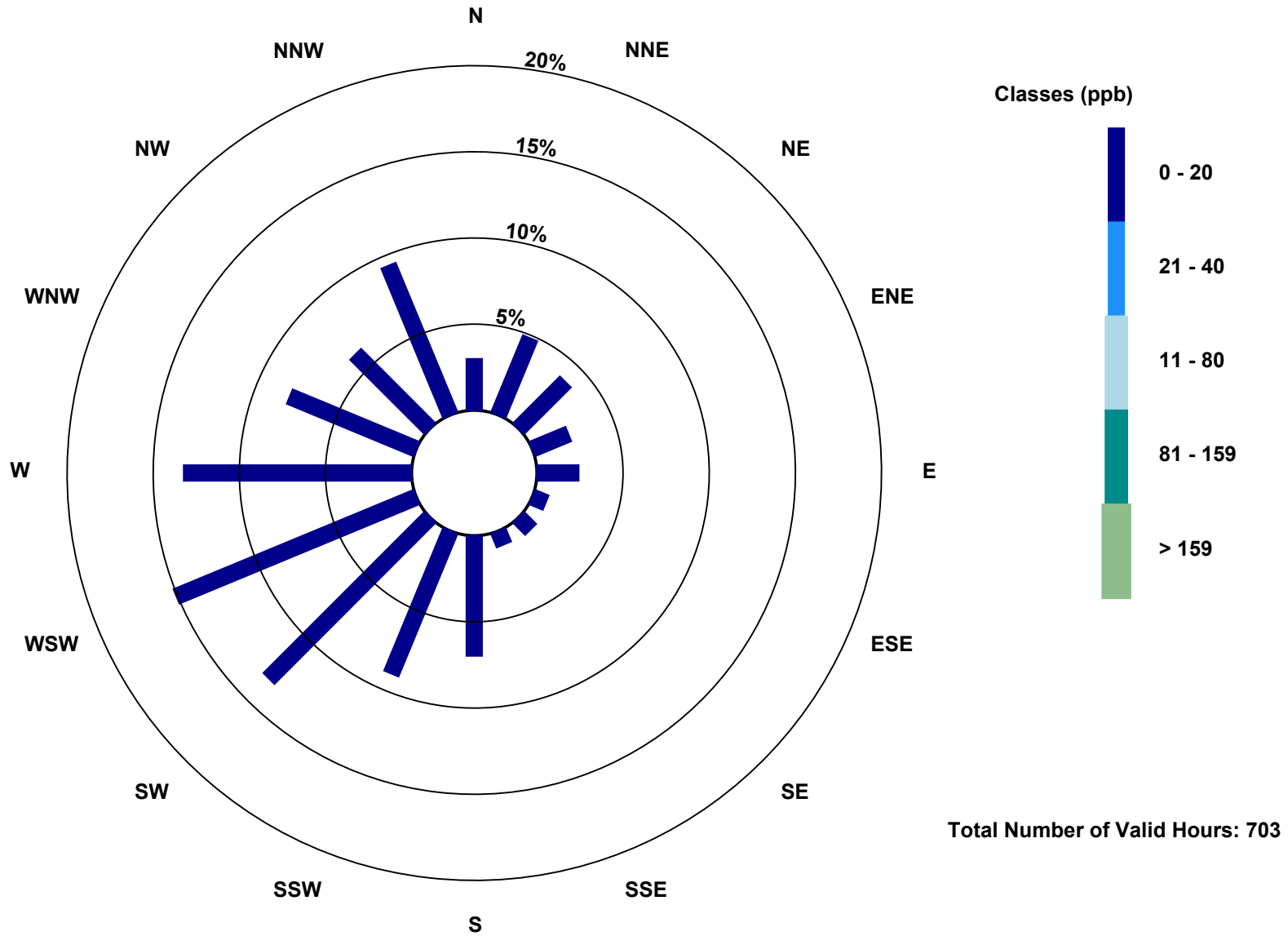
Total Number of Valid Hours: 703

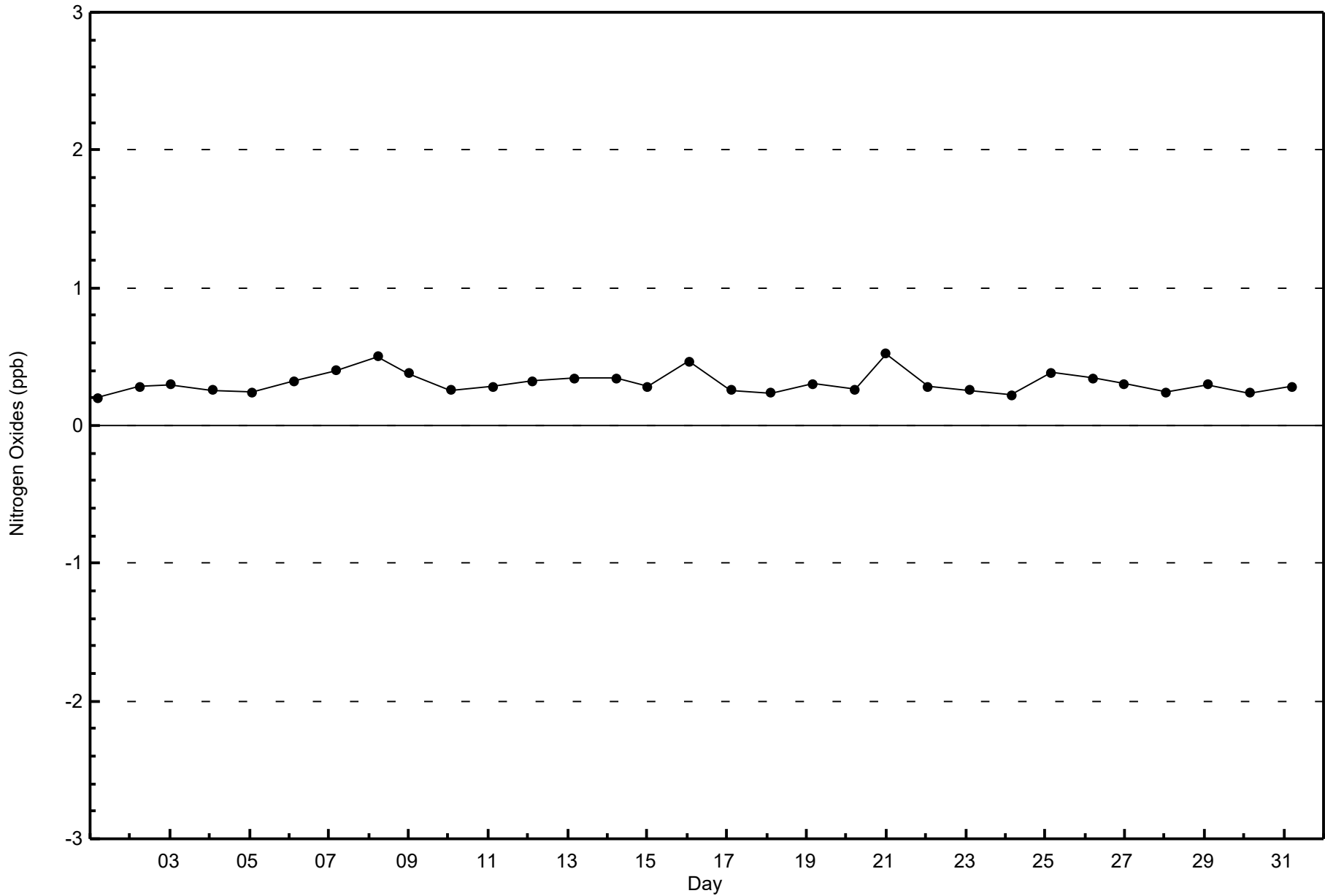
Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Oxides (NO_x) - ppb
Jackfish 2/3

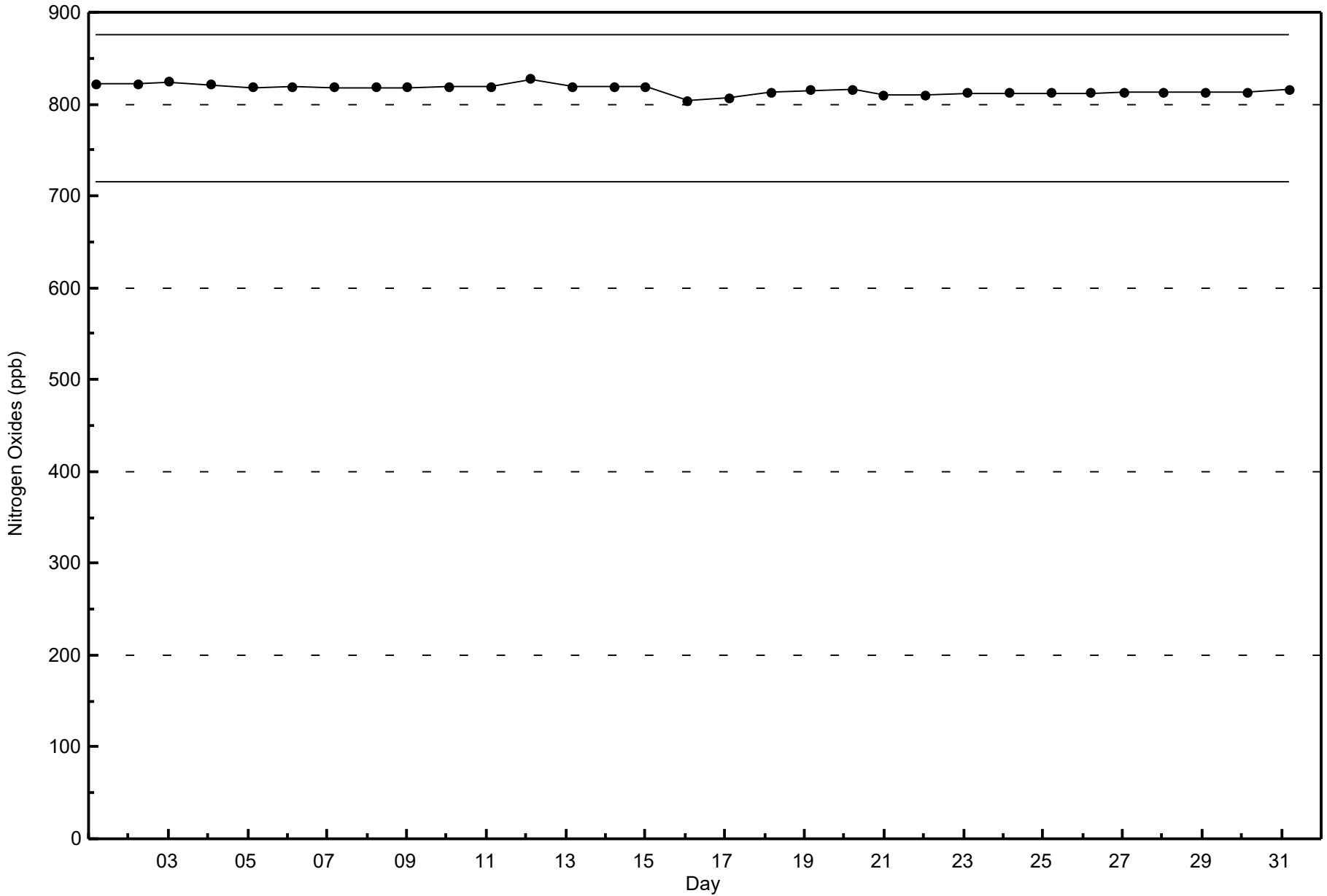






Wood Buffalo Environmental Association
Span Responses

Nitrogen Oxides (NO_x) - ppb
Jackfish 2/3 - January 2025



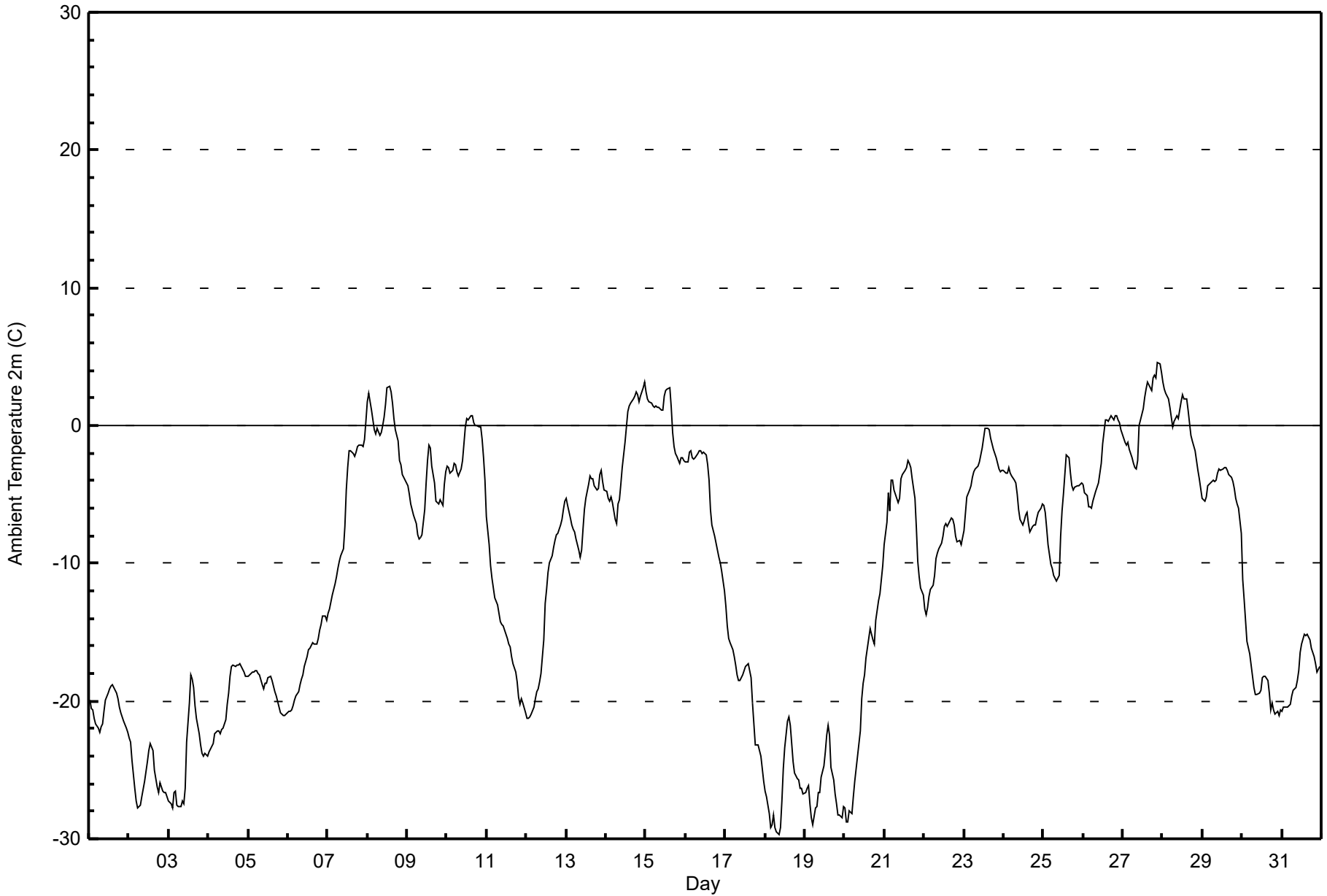


Maximum Value: 4.6 C on Jan 27 22:00 Maximum Daily Average: 0.8 C on Jan 27 Minimum Value: -29.7 C on Jan 18 09:00 Minimum Daily Average: -26.3 C on Jan 19 Maximum Diurnal Average: -8.7 C at hour 15 Minimum Diurnal Average: -12.6 C at hour 7 Monthly Average: -11.08 C Percentiles: P ₁ = -28.8 P ₁₀ = -24.8 Q ₁ = -19.4 Median = -8.4 Q ₃ = -3.1 P ₉₀ = 0.4 P ₉₉ = 3.1																								Hours in Service:	744	
																								Hours of Data:	744	
																								Hours of Missing Data:	0	
																								Hours of Calibration:	0	
																								Percent Operational Time:	100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	-19.9	-20.5	-20.7	-21.3	-21.7	-22.0	-22.3	-21.9	-21.7	-20.7	-19.9	-19.4	-19.1	-18.9	-18.8	-19.0	-19.4	-19.8	-20.5	-20.9	-21.2	-21.5	-22.0	-22.2	-20.6	-18.8
2-Jan	-22.7	-23.0	-24.3	-26.3	-27.2	-27.8	-27.7	-27.6	-27.0	-25.8	-25.1	-24.4	-23.6	-23.1	-23.6	-25.0	-25.6	-26.2	-26.7	-26.0	-26.6	-26.6	-26.6	-26.9	-25.6	-22.7
3-Jan	-27.2	-27.5	-27.7	-26.6	-26.5	-27.6	-27.7	-27.7	-27.3	-27.5	-26.3	-23.0	-20.1	-18.1	-18.4	-19.1	-20.3	-21.3	-22.4	-23.2	-23.8	-24.0	-23.8	-24.0	-24.2	-18.1
4-Jan	-23.7	-23.5	-23.3	-23.1	-22.4	-22.2	-22.2	-22.3	-22.0	-21.3	-20.3	-19.4	-18.2	-17.4	-17.4	-17.5	-17.4	-17.3	-17.3	-17.5	-17.9	-18.2	-18.2	-18.2	-20.1	-17.3
5-Jan	-18.2	-18.1	-17.9	-17.9	-17.8	-17.8	-18.0	-18.1	-18.8	-19.2	-18.8	-18.7	-18.3	-18.2	-18.5	-19.0	-19.3	-19.6	-20.0	-20.9	-21.0	-21.0	-21.0	-20.9	-19.1	-17.8
6-Jan	-20.8	-20.7	-20.6	-20.3	-19.9	-19.6	-19.4	-18.9	-18.4	-18.1	-17.5	-16.8	-16.3	-16.1	-15.9	-15.8	-15.8	-15.9	-15.5	-14.9	-14.5	-13.9	-13.9	-14.1	-17.2	-13.9
7-Jan	-13.6	-13.3	-12.8	-12.4	-11.5	-11.0	-10.4	-9.9	-9.5	-9.0	-7.4	-4.7	-3.0	-1.9	-1.8	-2.0	-2.2	-2.0	-1.5	-1.4	-1.4	-1.5	-1.0	0.3	-6.0	0.3
8-Jan	1.8	2.3	1.1	0.4	-0.3	-0.7	-0.2	-0.7	-0.5	0.0	0.6	1.6	2.8	2.9	2.5	1.6	0.5	-0.3	-1.1	-2.5	-2.9	-3.5	-3.8	-4.1	-0.1	2.9
9-Jan	-4.4	-5.0	-5.7	-6.1	-6.5	-7.1	-7.9	-8.2	-8.1	-7.9	-6.1	-4.2	-2.5	-1.4	-1.6	-2.9	-4.2	-5.5	-5.6	-5.7	-5.4	-5.8	-4.3	-3.4	-5.2	-1.4
10-Jan	-2.9	-3.1	-3.4	-3.2	-2.7	-2.8	-3.3	-3.7	-3.2	-2.6	-1.3	-0.1	0.5	0.4	0.7	0.7	0.2	0.0	0.0	-0.1	-0.1	-1.0	-2.3	-4.0	-1.6	0.7
11-Jan	-6.7	-8.7	-10.2	-11.1	-11.8	-12.5	-13.0	-13.6	-14.3	-14.5	-14.6	-14.8	-15.4	-15.8	-16.1	-16.8	-17.3	-17.9	-18.6	-19.7	-20.2	-19.9	-20.1	-20.9	-15.2	-6.7
12-Jan	-21.3	-21.3	-21.1	-20.9	-20.5	-19.8	-19.3	-19.2	-18.6	-18.0	-15.5	-13.0	-11.9	-10.7	-10.0	-9.5	-8.9	-8.4	-7.9	-7.8	-7.2	-6.8	-6.1	-5.5	-13.7	-5.5
13-Jan	-5.3	-5.8	-6.7	-7.3	-7.5	-7.8	-8.2	-9.0	-9.6	-9.1	-7.6	-6.1	-5.3	-4.3	-3.7	-3.9	-3.9	-4.4	-4.7	-4.6	-3.6	-3.3	-4.1	-4.6	-5.8	-3.3
14-Jan	-4.8	-5.3	-5.4	-5.2	-5.6	-6.8	-7.1	-5.7	-5.4	-4.2	-3.0	-1.3	-0.1	1.0	1.4	1.6	1.9	2.1	2.5	2.2	1.7	2.1	2.8	3.2	-1.6	3.2
15-Jan	2.5	1.9	1.7	1.7	1.4	1.3	1.4	1.4	1.4	1.2	1.1	2.1	2.5	2.6	2.7	1.3	-0.5	-1.5	-2.0	-2.2	-2.8	-2.4	-2.4	-2.5	0.5	2.7
16-Jan	-2.7	-2.6	-2.0	-1.9	-2.3	-2.5	-2.4	-2.1	-1.8	-1.8	-2.0	-2.0	-2.2	-2.8	-4.0	-6.1	-7.2	-8.0	-8.5	-9.0	-9.5	-10.0	-10.6	-12.0	-4.8	-1.8
17-Jan	-13.2	-14.5	-15.4	-15.8	-16.3	-16.8	-17.4	-18.1	-18.5	-18.5	-18.1	-17.8	-17.5	-17.4	-17.3	-18.3	-20.2	-21.7	-23.2	-23.2	-23.2	-24.0	-24.9	-25.8	-19.0	-13.2
18-Jan	-26.6	-27.0	-28.2	-29.1	-28.9	-28.3	-29.2	-29.5	-29.7	-29.2	-27.2	-24.9	-23.4	-21.4	-21.2	-21.8	-23.1	-24.4	-25.2	-25.6	-25.7	-26.3	-26.3	-26.8	-26.2	-21.2
19-Jan	-26.6	-26.4	-26.1	-27.5	-28.5	-28.9	-27.8	-27.6	-26.6	-26.6	-25.5	-24.7	-23.7	-22.4	-21.8	-22.5	-24.8	-25.7	-26.8	-27.5	-28.2	-28.3	-28.5	-27.6	-26.3	-21.8
20-Jan	-27.8	-28.8	-28.7	-28.0	-28.2	-27.0	-25.8	-24.9	-24.0	-22.2	-19.8	-18.7	-18.1	-16.8	-15.5	-14.8	-15.1	-15.6	-15.9	-14.1	-12.7	-12.2	-11.2	-10.2	-19.8	-10.2
21-Jan	-8.7	-7.0	-4.9	-6.2	-4.0	-4.0	-4.7	-5.2	-5.6	-5.3	-3.9	-3.6	-3.3	-3.0	-2.5	-2.7	-3.1	-3.9	-5.3	-7.5	-9.9	-11.0	-11.8	-12.3	-5.8	-2.5
22-Jan	-13.4	-13.7	-13.2	-12.4	-11.9	-11.6	-10.8	-9.7	-9.3	-9.0	-8.5	-8.0	-7.4	-7.1	-7.3	-7.1	-6.7	-6.8	-7.2	-8.0	-8.4	-8.3	-8.7	-8.2	-9.3	-6.7
23-Jan	-7.6	-6.4	-5.2	-4.7	-4.4	-3.8	-3.4	-3.2	-3.0	-2.6	-2.2	-1.6	-0.9	-0.2	-0.3	-0.3	-0.9	-1.3	-1.7	-2.4	-2.7	-3.2	-3.4	-3.2	-2.9	-0.2
24-Jan	-3.3	-3.4	-3.4	-3.0	-3.4	-3.7	-3.9	-4.2	-5.0	-6.1	-6.8	-7.2	-6.9	-6.5	-6.3	-7.1	-7.7	-7.3	-7.2	-7.2	-6.7	-6.3	-6.0	-5.7	-5.6	-3.0
25-Jan	-5.8	-6.3	-7.5	-8.7	-10.1	-10.4	-10.9	-11.1	-11.3	-10.9	-8.0	-6.2	-5.0	-3.5	-2.1	-2.3	-3.4	-4.4	-4.6	-4.5	-4.4	-4.4	-4.3	-4.1	-6.4	-2.1
26-Jan	-4.3	-4.9	-5.1	-5.9	-5.9	-6.0	-5.5	-4.8	-4.5	-4.2	-3.4	-2.8	-1.4	0.5	0.4	0.3	0.5	0.7	0.5	0.7	0.7	0.4	0.2	-0.3	-2.2	0.7
27-Jan	-0.9	-1.2	-1.4	-1.3	-1.7	-2.4	-2.7	-3.1	-3.2	-2.5	0.0	0.8	1.2	2.0	2.7	3.1	2.7	2.6	3.5	3.7	3.5	4.6	4.4	3.9	0.8	4.6
28-Jan	3.2	2.7	2.3	2.0	1.4	0.6	-0.1	0.3	0.7	0.5	1.1	1.8	2.2	1.9	1.9	1.2	0.2	-0.7	-1.1	-1.8	-2.5	-3.2	-3.9	-4.6	0.3	3.2
29-Jan	-5.3	-5.5	-5.2	-4.4	-4.3	-4.2	-4.0	-4.0	-4.0	-3.4	-3.1	-3.2	-3.1	-3.0	-3.0	-3.2	-3.6	-3.8	-4.0	-4.6	-5.3	-5.7	-6.0	-7.9	-4.3	-3.0
30-Jan	-11.2	-12.6	-14.2	-15.7	-16.6	-17.4	-18.2	-19.0	-19.5	-19.6	-19.4	-19.2	-18.3	-18.2	-18.2	-18.5	-19.4	-20.7	-20.1	-20.6	-21.0	-20.7	-21.0	-20.6	-18.3	-11.2
31-Jan	-20.7	-20.5	-20.4	-20.5	-20.4	-20.2	-19.7	-19.2	-19.0	-18.5	-17.7	-16.5	-15.9	-15.2	-15.2	-15.2	-15.4	-15.5	-16.2	-16.8	-17.3	-17.9	-17.6	-17.5	-17.9	-15.2
																								Diurnal Average		
																								Diurnal Maximum		



Wood Buffalo Environmental Association
Hourly Averages

Ambient Temperature 2m (AT2) - C
Jackfish 2/3 - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Ambient Temperature 2m (AT2) - C
Jackfish 2/3 - January 2025**

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	169	22.72	22.72
-20 - 0	490	65.86	88.58
0 - 10	85	11.42	100.00
10 - 20	0	0.00	100.00
> 20	0	0.00	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



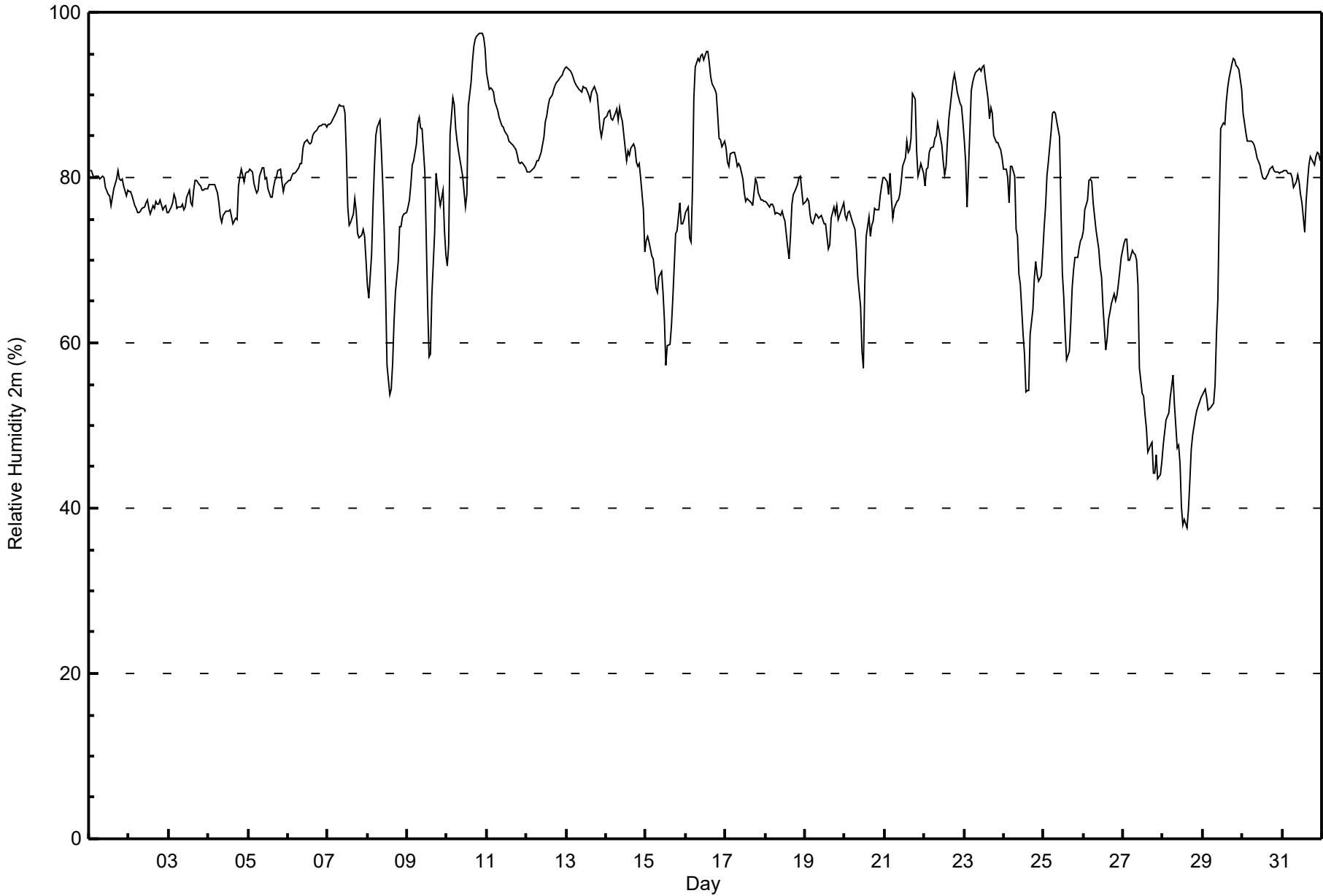
Wood Buffalo Environmental Association

Summary of Hour Averages

Relative Humidity 2m (RH2) - %

Jackfish 2/3 - January 2025

Maximum Value: 97.5 % on Jan 10 21:00 Maximum Daily Average: 90.2 % on Jan 13																						Hours in Service: 744 Hours of Data: 744				
Minimum Value: 37.6 % on Jan 28 15:00 Minimum Daily Average: 48.0 % on Jan 28 Maximum Diurnal Average: 79.8 % at hour 7 Minimum Diurnal Average: 74.2 % at hour 14 Monthly Average: 77.70 % Percentiles: P ₁ = 44.1 P ₁₀ = 63.8 Q ₁ = 74.5 Median = 79.2 Q ₃ = 84.3 P ₉₀ = 90.2 P ₉₉ = 95.5																						Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0				
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	80.9	80.8	80.3	80.0	80.2	80.3	79.9	80.0	80.1	80.0	78.8	78.0	77.8	76.6	77.6	78.7	79.8	80.8	79.9	79.7	79.9	79.0	77.8	78.4	79.4	80.9
2-Jan	78.2	78.3	77.8	76.5	76.2	75.7	75.8	75.9	76.3	76.5	77.0	77.3	76.2	75.7	76.7	76.3	77.1	76.7	76.8	77.2	76.2	76.5	76.6	75.7	76.6	78.3
3-Jan	75.8	76.5	77.0	78.0	77.5	76.2	76.4	76.4	76.7	76.1	76.4	77.6	78.5	76.9	76.6	78.5	79.6	79.6	79.1	79.0	78.4	78.4	78.6	78.6	77.6	79.6
4-Jan	79.1	79.1	79.2	79.2	79.1	78.1	77.0	75.2	74.5	75.5	76.0	75.9	75.9	76.1	75.2	74.5	75.2	74.8	79.0	80.2	80.9	79.5	80.5	80.7	77.5	80.9
5-Jan	80.8	81.0	80.6	79.3	78.7	78.1	78.4	80.2	81.2	81.3	79.7	79.9	78.6	77.6	77.6	78.8	79.7	80.1	80.8	81.0	79.5	78.3	79.2	79.4	79.6	81.3
6-Jan	79.6	79.7	80.2	80.5	80.5	80.7	81.2	81.7	81.7	83.6	84.2	84.7	84.3	84.1	84.2	85.0	85.4	85.7	86.1	86.2	86.4	86.5	86.4	86.1	83.5	86.5
7-Jan	86.4	86.4	86.6	87.0	87.6	87.9	88.4	88.8	88.6	88.6	87.9	82.8	76.5	74.3	74.6	75.5	77.4	76.0	73.2	72.7	73.1	73.7	72.9	70.0	80.7	88.8
8-Jan	67.0	65.3	70.7	76.5	81.3	85.1	86.2	86.9	83.2	79.1	73.5	66.1	57.2	53.8	54.4	57.5	62.5	66.1	69.9	74.1	74.1	75.3	75.5	75.8	71.5	86.9
9-Jan	76.4	77.3	79.2	81.6	82.0	84.1	86.6	87.3	85.9	86.0	80.7	72.7	64.6	58.3	58.6	65.7	73.3	80.6	79.0	77.8	76.7	78.4	73.6	70.7	76.5	87.3
10-Jan	69.3	71.9	85.3	89.7	88.8	86.0	84.3	83.3	81.1	80.1	78.4	76.5	77.9	88.6	91.5	94.0	95.9	96.8	97.2	97.4	97.5	97.4	97.0	95.6	87.6	97.5
11-Jan	92.6	90.7	90.8	90.7	90.3	89.1	88.1	87.3	86.7	86.3	86.1	85.7	85.0	84.5	84.3	84.1	83.9	83.4	82.7	81.9	81.6	81.9	81.8	81.1	85.9	92.6
12-Jan	80.7	80.7	80.7	80.8	81.1	81.6	82.0	82.1	82.5	83.0	84.9	86.7	87.5	88.7	89.4	90.0	90.8	91.3	91.6	91.8	92.2	92.3	92.9	93.2	86.6	93.2
13-Jan	93.4	93.2	92.9	92.6	92.1	91.6	91.2	90.6	90.5	90.4	90.9	90.8	90.8	90.1	89.3	90.3	90.7	91.1	90.0	88.1	85.9	84.9	85.9	87.0	90.2	93.4
14-Jan	87.5	87.9	88.1	87.1	86.9	87.8	88.3	87.0	88.5	87.5	86.8	83.6	82.1	83.3	82.8	83.5	84.0	83.5	81.9	81.3	81.7	80.0	76.1	71.0	84.1	88.5
15-Jan	72.4	72.9	72.2	70.5	70.2	68.7	66.6	66.2	68.0	68.7	66.1	62.7	57.3	59.6	59.9	62.1	65.4	69.4	73.2	73.5	76.9	74.4	74.5	75.0	68.6	76.9
16-Jan	75.8	76.5	72.6	72.1	78.5	89.7	93.4	94.4	94.1	94.7	95.0	94.2	95.3	95.3	93.9	92.2	91.3	90.6	90.1	87.6	84.7	84.6	83.7	84.4	87.7	95.3
17-Jan	83.6	81.8	81.4	82.9	83.0	83.1	82.4	81.4	81.7	81.3	79.9	78.1	77.1	77.5	77.4	77.0	76.6	78.3	79.9	79.4	78.2	77.2	77.2	77.0	79.7	83.6
18-Jan	77.0	77.0	76.5	76.8	76.8	76.4	75.5	75.8	75.6	75.5	75.9	75.3	74.7	71.6	70.1	73.1	76.7	78.0	78.4	79.1	80.0	80.1	78.4	76.8	76.3	80.1
19-Jan	77.1	77.4	77.1	75.3	74.5	74.3	75.6	75.4	75.1	75.2	75.4	74.4	74.4	72.9	71.4	71.9	75.1	76.5	75.6	76.7	75.0	75.4	76.5	77.0	75.2	77.4
20-Jan	75.4	75.0	75.8	76.0	74.7	74.2	73.7	71.3	67.9	64.4	59.0	57.0	67.1	72.9	75.2	72.9	74.2	74.8	76.3	76.2	76.2	77.8	79.0	80.1	72.8	80.1
21-Jan	79.9	79.4	77.9	80.5	77.5	75.1	76.2	77.1	77.3	77.9	79.4	81.3	82.4	84.3	83.0	83.4	84.7	90.3	89.4	83.2	80.2	80.8	81.8	80.5	81.0	90.3
22-Jan	79.0	81.0	81.2	83.1	83.5	83.7	84.8	85.2	86.6	85.8	83.8	81.9	80.3	81.3	84.5	87.1	90.2	91.7	92.5	91.5	90.3	88.9	88.6	86.8	85.6	92.5
23-Jan	84.6	81.9	76.4	85.5	90.5	91.5	92.3	92.8	93.0	93.2	92.9	93.4	93.6	92.0	89.5	87.1	88.5	87.8	85.1	84.2	84.2	83.7	83.4	82.3	87.9	93.6
24-Jan	81.0	81.0	79.9	77.0	81.4	81.3	80.2	73.7	72.8	68.3	67.1	61.0	58.6	54.0	54.3	54.3	61.0	64.0	67.7	69.8	68.3	67.4	68.2	70.8	69.3	81.4
25-Jan	74.0	76.4	80.1	81.9	85.6	87.8	88.0	87.7	86.8	84.9	76.2	68.5	65.6	61.3	58.0	58.9	62.4	66.6	68.9	70.3	70.3	71.5	72.4	72.6	74.0	88.0
26-Jan	73.5	76.0	77.3	79.7	79.9	79.4	76.9	73.7	72.5	71.4	69.2	68.0	64.4	59.2	60.5	63.0	63.7	64.7	65.9	65.1	65.8	67.1	68.7	70.3	69.8	79.9
27-Jan	72.0	72.5	72.5	70.0	70.0	71.2	70.9	70.7	70.0	67.0	56.9	53.9	53.5	51.4	49.6	46.8	47.6	48.0	44.3	44.2	46.5	43.6	44.0	45.7	57.6	72.5
28-Jan	47.6	49.1	50.6	51.6	53.3	54.7	56.2	52.5	47.4	47.6	45.4	40.2	38.0	38.6	37.6	39.9	43.3	47.2	48.8	51.0	51.8	52.4	52.9	53.4	48.0	56.2
29-Jan	53.8	54.4	53.4	51.9	52.1	52.2	52.8	54.9	60.9	65.2	76.1	86.0	86.7	86.4	89.2	90.8	92.1	93.7	94.4	94.2	93.5	93.5	93.1	90.6	75.5	94.4
30-Jan	87.7	86.6	85.4	84.4	84.4	84.4	84.3	83.8	83.3	82.3	81.5	80.7	79.9	79.8	79.9	80.5	81.0	81.2	81.3	80.8	80.7	80.7	80.6	80.8	82.3	87.7
31-Jan	80.7	80.9	80.8	80.6	80.6	80.5	80.0	78.9	79.5	80.4	79.5	77.9	76.9	73.5	77.1	79.4	81.5	82.5	82.2	81.6	82.5	83.0	82.8	82.0	80.2	83.0
																								Diurnal Average		
																								Diurnal Maximum		





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Relative Humidity 2m (RH2) - %
Jackfish 2/3 - January 2025

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	4	0.54	0.54
40 - 60	60	8.06	8.60
60 - 80	344	46.24	54.84
80 - 100	336	45.16	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744

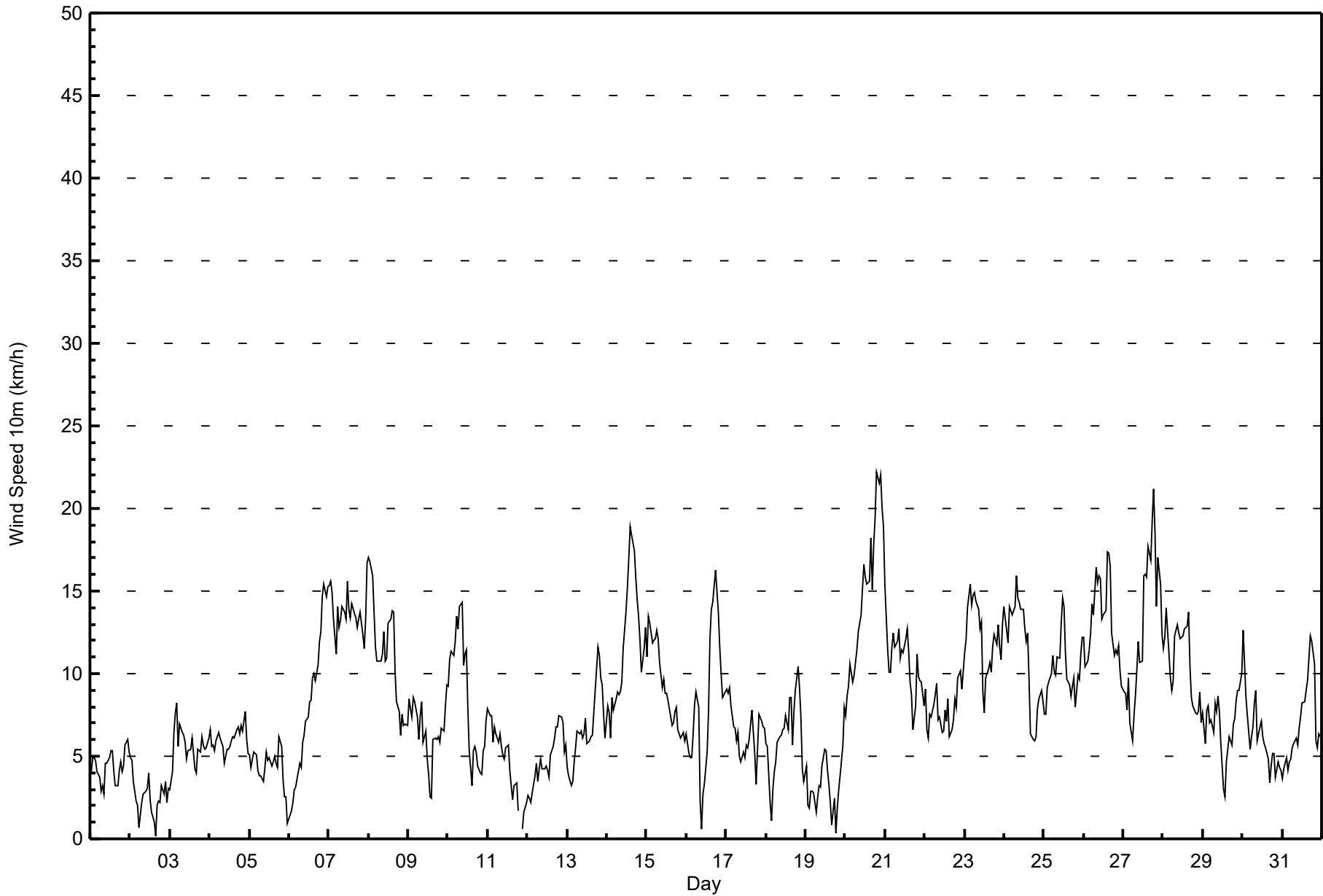


Maximum Speed: 22 km/h on Jan 20 20:00	Maximum Daily Speed Average: 14.4 km/h on Jan 20	Hours in Service: 744
Minimum Speed Value: 0 km/h on Jan 2 16:00	Minimum Daily Speed Average: 0.7 km/h on Jan 2	Hours of Data: 742
Maximum Diurnal Speed Average: 5.2 km/h at hour 9	Minimum Diurnal Speed Average: 4.0 km/h at hour 17	Hours of Missing Data: 2
Monthly Average Velocity: 4.7 km/h 259.5 deg	Percentiles: P ₁ = 1 P ₁₀ = 3 Q ₁ = 5 Median = 8 Q ₃ = 11 P ₉₀ = 14 P ₉₉ = 19	Percent Operational Time: 99.7

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	NW4	NW5	NW5	NW5	NW4	NW4	NW3	NW3	NNW3	NNW5	NNW5	N5	NNW5	N5	NNW4	NNW3	NNW3	NNW4	NNW5	NNW4	NNW4	N6	N6	NNE5	NNW4.2	N6	
2-Jan	NNE5	NNE5	NNE3	NNE2	N2	NE1	ENE1	NNE2	NNE3	N3	N3	NNE4	N2	NW2	ENE1	E0	SSW2	S2	S2	S3	S3	S3	SSE2	S3	NE0.7	NNE5	
3-Jan	S3	S4	SSW6	SSW8	SSW8	SSW6	S7	SSW6	SSW6	SSW6	S5	SSW5	SSW5	SSW6	S5	S4	SSE4	S5	S5	S6	S6	S5	S6	S6	S5.6	SSW8	
4-Jan	S7	S6	S6	S5	S6	S6	S6	S6	S6	S5	S5	S5	S6	S6	S6	S6	S7	S7	S6	SSW7	SW7	SSW8	SSW6	SSW5	S5.9	SSW8	
5-Jan	SSW5	SSW4	SW5	WSW5	W5	NW4	NW4	NW4	NW3	NW4	NNW5	NNW5	NNW5	NW4	NNW5	NNW5	N5	N4	NE6	NE6	NNE4	NNE3	NE3	ESE1	NNW2.5	NE6	
6-Jan	NNW1	NE2	SSE2	S3	S3	S4	S5	S4	S6	S6	SSW7	SSW7	SSW8	SSW8	SSW10	SW10	SSW10	SW10	SW12	SW13	SW15	SW15	SW15	SW15	SSW7.5	SW15	
7-Jan	SW15	SW16	SW15	SW13	SW11	SSW14	SW13	SSW13	SSW14	SW14	SW13	SW16	SW14	WSW13	SW14	SW14	SW13	SSW13	SW13	SW14	SW12	SW12	SW13	WSW17	SW13.6	WSW17	
8-Jan	WSW17	WSW17	WSW16	W14	W12	W11	W11	W11	W11	WNW13	WNW11	WNW11	WNW13	WNW13	WNW14	WNW14	NW10	NW8	WNW8	W6	W8	W7	W7	WNW7	W10.6	WSW17	
9-Jan	WNW8	WNW8	W7	WNW9	W8	W7	W6	W7	W8	W6	WNW7	NW5	NW4	NNW3	SW2	SW6	SSW6	SSW6	SSW6	SSW6	S7	S7	SSW8	S9	WSW4.8	S9	
10-Jan	S9	SSW11	SSW11	SSW11	SSW12	SSW14	SSW13	SW14	SW14	SW11	WSW11	WSW11	W8	W5	WNW3	NW5	NW6	NW5	NW4	NW4	NW4	NNE5	N6	NNE7	SW5.3	SW14	
11-Jan	NNE8	NNE7	NNE7	NNE6	NNE7	NNE6	NNE6	NE6	NE6	NNE5	NNE5	NNE5	NE6	NNE4	N3	N2	NE3	NE3	NE2	UO	UO	WSW1	SSW2	SW2	NNE4.2	NNE8	
12-Jan	SW3	SSW2	S2	SSW3	SSW4	SW5	SW3	SSW4	SSW5	SSW4	SW4	SW4	SW4	SSW4	SSW5	SW6	SW6	SW7	SW7	SW7	WSW7	WSW7	W5	WSW6	SW4.6	WSW7	
13-Jan	W4	W4	W3	W3	W5	WSW6	WSW7	SW6	SW7	SW6	SSW6	SW7	SW6	SW6	WSW6	WSW6	WSW8	WSW9	WSW12	WSW11	WSW10	WSW9	W8	W6	WSW6.3	WSW12	
14-Jan	WSW8	WSW8	WSW6	WSW9	SW8	SW9	SW9	SW9	SW9	SW9	SW12	SW14	SW15	SW17	WSW19	WSW18	WSW17	WSW16	W15	W13	W12	W10	W12	W13	WSW11.3	WSW19	
15-Jan	W11	W14	W13	W12	W12	W12	W13	WNW12	WNW11	WNW9	WNW10	NW9	NW9	NW8	NW7	W7	WSW7	WSW8	WSW8	WSW8	SW7	SW6	SSW6	S6	W8.0	W14	
16-Jan	S6	S5	SSE5	SSE5	SE6	SE8	SSE9	SE8	S2	E1	ESE3	E3	NE5	NE8	NE12	NE14	NE14	NE16	NE15	NNE14	NNE12	N10	N9	NNW9	ENE4.7	NE16	
17-Jan	NNW9	NNW9	N9	NNW8	N7	NNW7	NNW6	NNW6	NNW5	NNW5	N5	NNW5	NNW6	NNW6	NNW6	NNW8	N6	NNW5	NNW3	NNW5	NNW8	NNW7	NNW7	NNW7	NNW6.4	N9	
18-Jan	NNW6	NNW6	NW2	W1	NW3	WNW4	W5	WSW6	WSW6	WSW6	WSW7	WSW7	WSW7	WSW7	WSW7	WSW9	WSW9	SW6	SW8	SW9	WSW10	WSW9	WSW7	W4	W3	WSW5.5	WSW10
19-Jan	W4	WSW2	WSW2	WSW3	WSW3	WSW3	SSW2	W3	NW3	NW3	NNW4	NNW5	NNW5	NNW4	NNW3	NNW2	WSW1	WNW2	N0	SW2	SW3	WSW4	WSW6	SW8	W2.3	SW8	
20-Jan	SW7	SSW9	SSW9	SSW11	SSW10	SSW10	SW11	SW11	SSW13	SW14	SSW15	SSW17	SSW16	SSW15	SSW16	SW18	SW15	SW18	SW19	SW22	WSW22	WSW22	WSW20	WSW19	SW14.4	SW22	
21-Jan	WSW15	W11	W10	WSW10	W12	W12	W12	W12	W13	W11	WNW11	WNW11	WNW12	WNW13	NW11	NW10	NW9	NNW7	N8	NNW11	NNW10	NNW10	NNW9	NNW8	WNW9.2	WSW15	
22-Jan	NNW9	NNW7	NW6	WNW8	WNW7	WNW8	WNW9	NW9	NNW7	NNW7	NNW6	NNW7	NW8	NW7	WNW8	WNW6	WNW7	W7	WSW8	SW8	SW10	SW10	SSW9	SW10	WNW5.8	SW10	
23-Jan	SW11	SW12	SW14	SW15	SW14	SW15	WSW15	WSW14	WSW14	WSW13	WSW13	W9	W8	W10	W10	W11	WNW10	WNW12	NW12	WNW12	WNW13	WNW12	WNW11	WNW13	W10.6	SW15	
24-Jan	WNW14	W13	W12	WNW14	WNW14	NW14	NW14	NNW16	NNW15	NNW14	NNW14	NNW14	NNW13	NNW12	NNW12	NNW10	NW6	NW6	WNW6	W6	W8	W8	W9	W8	NW10.3	NNW16	
25-Jan	W8	WSW8	WSW9	SW9	SW10	SW11	SW10	SW11	SW11	WSW13	WSW15	WSW14	WSW11	W10	W9	W9	W9	W9	W10	W8	W10	W10	W11	WSW12	WSW9.8	WSW15	
26-Jan	SW12	SW10	WSW11	WSW11	WSW12	SW14	WSW14	WSW16	WSW15	WSW16	WSW16	WSW13	WSW14	WSW14	WSW17	WSW17	WSW17	W12	W11	WNW11	WNW11	WNW12	WNW10	WNW9	WSW12.5	WSW17	
27-Jan	W9	W9	W8	W10	W7	W6	WSW7	SW9	SW10	WSW12	WSW11	SW11	WSW16	WSW16	WSW16	WSW16	WSW18	WSW17	WSW19	WSW21	WSW19	W14	WNW17	WNW15	WNW12	WSW12.2	WSW21
28-Jan	WNW12	WNW12	WNW14	NW11	WNW10	W9	W10	WNW12	WNW13	WNW12	WNW12	NW12	NW12	NW13	WNW13	WNW14	WNW10	W9	W8	W8	W8	W8	WSW9	W7	WNW10.4	WNW14	
29-Jan	W8	W6	WSW8	WSW8	WSW7	WSW7	SW6	WSW8	WSW8	WSW9	WSW8	WSW6	SSW3	ESE3	E5	E5	E6	ENE6	NE7	NE7	NE8	NE9	NE9	NNE10	WNW1.1	NNE10	
30-Jan	NNE13	NNE11	NNE9	NE7	N5	NNE6	NNE7	NNE8	NE9	NNE6	NNE7	NE7	NE6	NNE6	NE6	NE5	ENE3	ENE4	ENE5	ENE5	ENE4	ENE5	ENE4	ENE4	NE6.0	NNE13	
31-Jan	ENE4	E4	E5	E4	E5	E5	ESE6	SE6	SE6	SE6	SE7	ESE7	E8	E8	E9	E10	E11	E12	E12	E11	ENE6	ENE5	ENE6	ENE6	E6.6	E12	

W4.9	W4.5	WSW4.8	WSW5.0	WSW4.8	WSW5.1	WSW5.1	WSW5.1	WSW5.2	WSW5.1	W5.1	W4.7	W4.5	W4.5	W4.5	W4.7	W4.0	W4.0	WSW4.2	WSW4.6	W4.9	W4.7	W4.5	W4.7	Diurnal Average	
WSW17	WSW17	WSW16	SW15	SW14	SW15	WSW15	WSW16	WSW15	WSW16	WSW16	SSW17	WSW16	SW17	WSW19	WSW18	WSW17	WSW19	WSW21	SW22	WSW22	WSW22	WSW20	WSW19	Diurnal Maximum	

UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 10m (WS10) - km/h
Jackfish 2/3 - January 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	202	27.22	27.22
6 - 11	365	49.19	76.42
12 - 19	170	22.91	99.33
20 - 28	5	0.67	100.00
29 - 38	0	0.00	100.00
> 38	0	0.00	100.00

Total Number of Valid Hours: 742

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Wind Speed 10m (WS10) - km/h
Jackfish 2/3 - January 2025

Wind Speed Ranges (km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	13	15	8	12	9	4	0	5	26	17	11	10	13	3	26	30	202
6 - 11	9	17	16	4	7	2	7	1	27	35	47	55	61	30	17	30	365
12 - 19	0	3	5	0	2	0	0	0	0	14	40	41	22	29	6	8	170
20 - 28	0	0	0	0	0	0	0	0	0	0	1	4	0	0	0	0	5
29 - 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	22	35	29	16	18	6	7	6	53	66	99	110	96	62	49	68	742

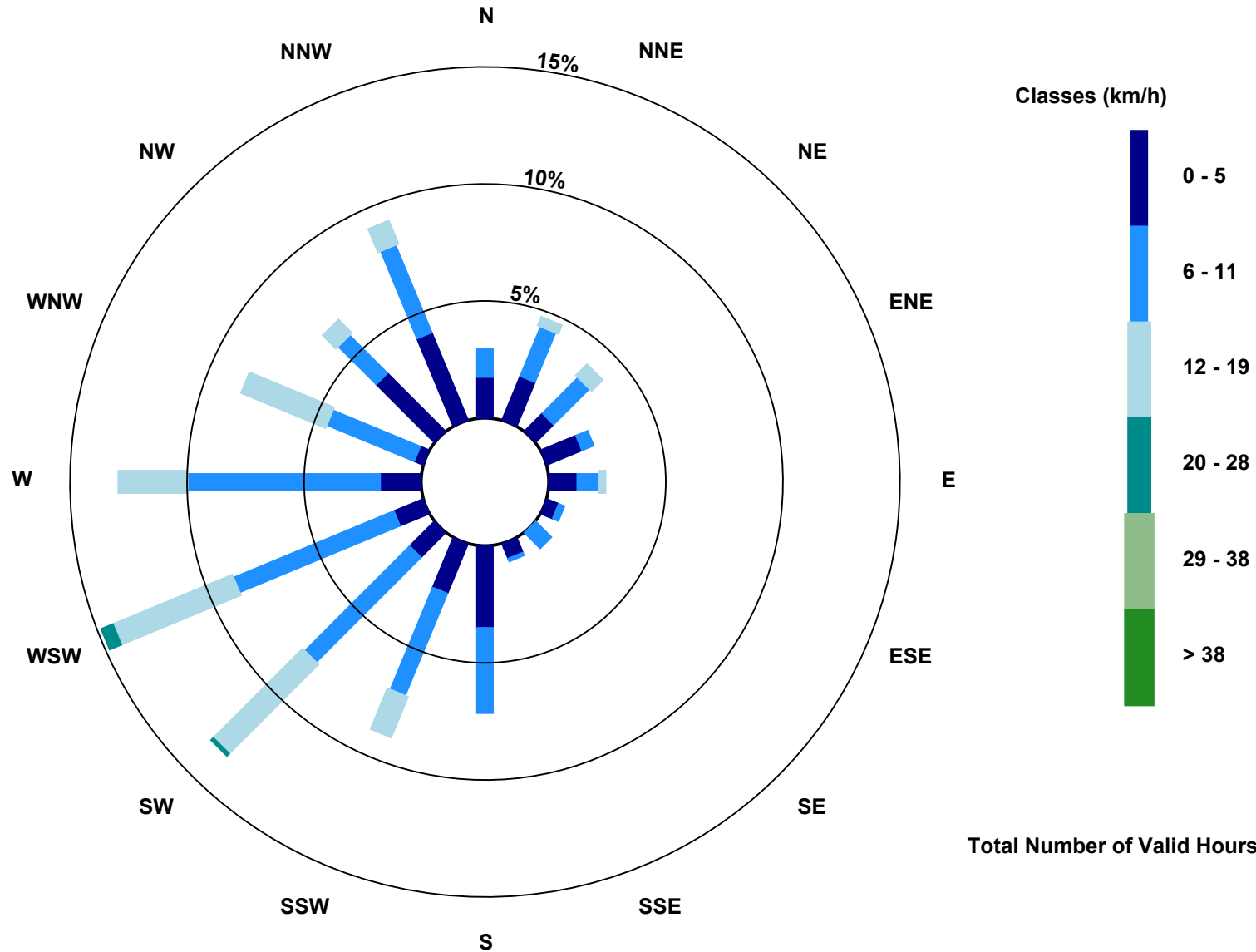
Total Number of Valid Hours: 742

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Wind Speed 10m (WS10) - km/h
Jackfish 2/3





Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Speed 10m (WS10) - km/h
Jackfish 2/3 - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 7 km/h on Jan 24 08:00 Minimum Value: 0 km/h on Jan 2 18:00 Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 2 Median = 2 Q ₃ = 4 P ₉₀ = 5 P ₉₉ = 6																	Hours in Service: 744 Hours of Data: 742 Hours of Missing Data: 2 Hours of Calibration: 0 Percent Operational Time: 99.7									
Day	Hourly Period Ending At (MST)																								Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	2	2	2	2	1	2	1	1	1	2	2	2	2	2	2	1	1	2	2	1	2	2	2	2	2	
2-Jan	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	
3-Jan	1	1	1	2	2	1	2	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
4-Jan	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	2	2	2	3	2	2	3	
5-Jan	1	1	2	1	2	2	2	1	1	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	2	
6-Jan	1	1	1	1	1	1	1	2	2	2	2	2	3	3	3	3	3	3	4	3	4	4	4	4	4	
7-Jan	4	4	3	3	3	3	3	3	3	3	3	4	3	3	4	3	3	3	3	4	3	3	4	4	4	
8-Jan	5	4	4	4	3	3	3	3	4	5	4	4	6	6	6	6	5	4	3	2	2	2	2	3	6	
9-Jan	3	3	2	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	2	2	2	2	3	3	3	
10-Jan	4	4	4	4	4	4	3	4	4	3	3	3	3	2	1	2	2	2	2	2	2	3	2	3	4	
11-Jan	3	3	3	2	3	3	3	3	2	2	2	2	2	2	1	1	1	1	1	UO	UO	1	1	1	3	
12-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	2	2	
13-Jan	1	1	1	1	1	1	1	1	1	1	2	1	1	2	2	2	2	2	2	2	2	3	2	2	3	
14-Jan	2	2	1	1	2	2	2	2	2	3	3	4	5	5	5	5	5	4	4	4	3	3	4	5	5	
15-Jan	4	4	4	4	4	5	5	5	4	4	4	4	4	3	3	3	2	1	2	2	1	1	1	1	5	
16-Jan	1	1	2	2	2	3	3	3	2	2	1	1	2	2	4	5	5	6	6	5	5	4	3	4	6	
17-Jan	4	4	4	3	3	3	3	3	2	2	2	2	2	2	3	3	2	2	2	2	3	3	3	2	4	
18-Jan	2	2	1	1	2	2	1	2	1	1	1	2	2	2	2	2	1	2	2	2	2	2	1	1	2	
19-Jan	1	1	1	1	1	1	1	1	2	2	2	2	2	2	1	2	1	1	1	1	1	1	1	2	2	
20-Jan	2	2	2	2	2	3	3	3	4	4	5	5	5	5	5	6	5	5	5	5	5	5	5	4	6	
21-Jan	4	4	4	2	5	5	4	5	4	4	5	4	5	5	5	4	4	3	4	5	5	5	4	4	5	
22-Jan	4	3	2	3	3	3	4	4	3	3	3	3	3	3	4	3	3	3	2	2	2	2	2	3	4	
23-Jan	3	4	4	5	4	4	4	4	4	3	4	3	3	4	4	4	4	4	5	5	5	5	5	5	5	
24-Jan	5	5	5	6	6	6	6	7	7	7	6	7	6	6	6	4	3	3	2	2	3	3	3	3	7	
25-Jan	3	2	2	2	2	3	2	2	2	2	3	4	4	3	3	3	3	3	4	3	3	3	3	3	4	
26-Jan	3	2	3	3	3	3	3	4	4	3	4	3	4	4	5	4	4	4	4	5	4	4	4	3	5	
27-Jan	3	3	3	3	2	2	1	2	2	2	3	3	4	4	4	5	5	5	5	6	5	7	7	5	7	
28-Jan	5	6	6	5	4	3	4	5	5	5	5	5	6	6	5	6	4	3	3	3	3	2	2	2	6	
29-Jan	2	2	2	2	1	1	2	2	2	2	2	2	1	1	1	2	2	2	2	2	2	3	3	3	4	4
30-Jan	5	4	4	3	2	2	3	3	3	2	3	2	2	2	2	2	1	1	2	1	1	2	1	1	5	
31-Jan	2	1	1	1	2	2	2	3	2	2	2	3	3	2	3	3	4	4	4	3	2	2	2	2	4	
																	Diurnal Maximum									
																	5 6 6 6 6 6 6 7 7 7 6 7 6 6 6 6 5 6 6 6 5 7 7 5									
UO - Unstable Operation																										



Wood Buffalo Environmental Association
Summary of Hour Averages

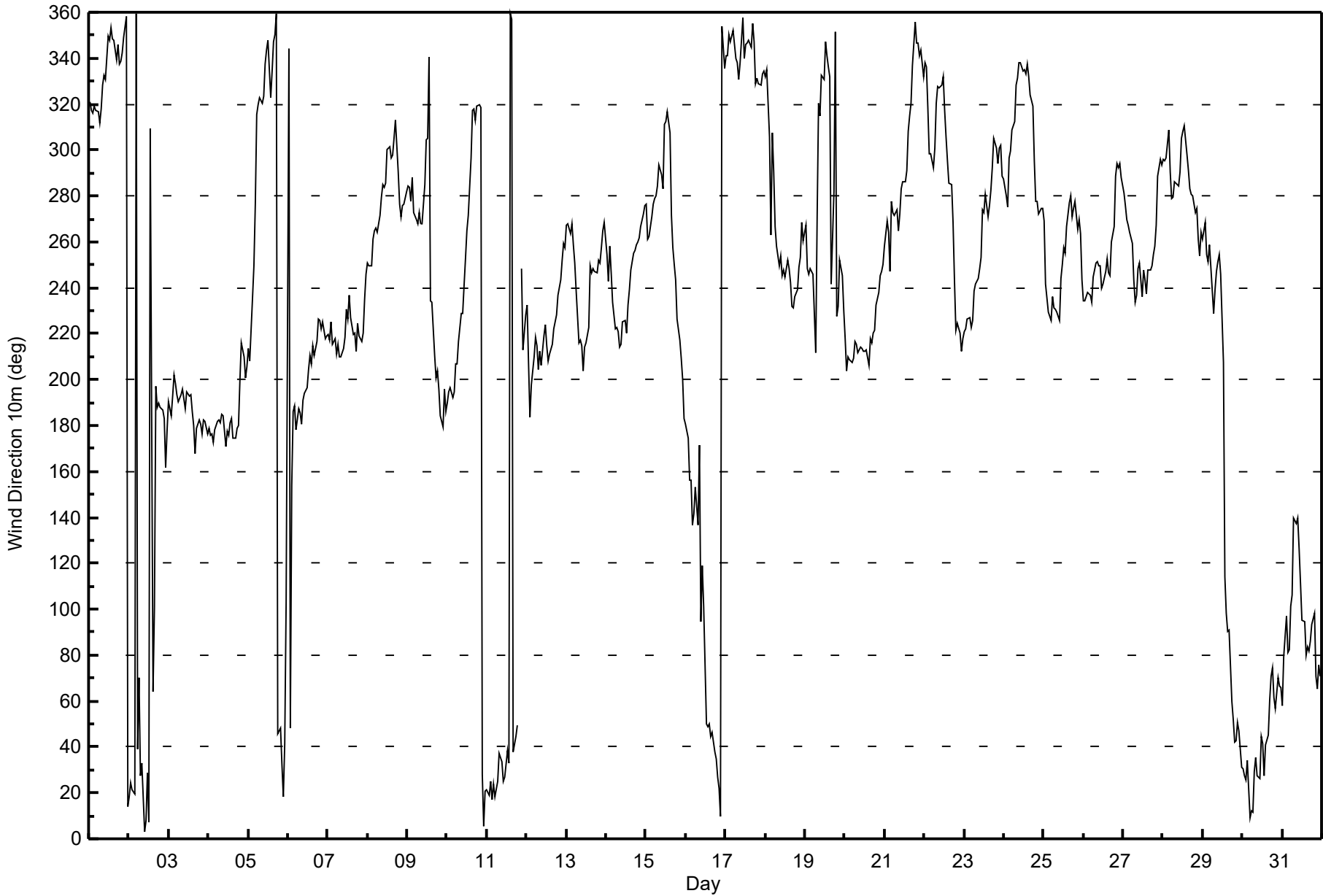
Wind Direction 10m (WD10) - deg
Jackfish 2/3 - January 2025

Direction of Maximum Speed: 233 deg on Jan 20 20:00		Hours in Service: 744
Direction of Maximum Daily Speed Average: 221.9 deg on Jan 20		Hours of Data: 742
Direction of Minimum Speed: 100 deg on Jan 2 16:00	Direction of Minimum Daily Speed Average: 0.7 deg on Jan 2	Hours of Missing Data: 2
Monthly Average Direction: 259.5 deg		Percent Operational Time: 99.7

Day	Hourly Period Ending At (MST)																								Daily Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	321	317	316	319	317	317	312	318	328	333	330	349	348	353	348	348	339	346	337	339	342	349	358	14	337.3
2-Jan	18	24	21	19	359	39	70	28	33	3	8	29	7	309	64	100	197	188	190	188	187	183	162	178	38.4
3-Jan	190	184	193	202	199	193	190	193	196	192	187	195	193	193	186	180	168	179	182	181	176	183	182	176	188.1
4-Jan	179	176	176	173	178	182	181	185	185	171	177	176	182	183	174	174	179	180	200	216	210	201	206	206	184.8
5-Jan	213	208	236	250	276	316	320	323	321	324	337	343	348	323	334	347	350	359	46	48	32	19	41	103	331.8
6-Jan	344	48	154	186	189	178	188	186	181	191	194	196	204	211	207	215	211	217	227	226	222	225	218	219	210.5
7-Jan	220	217	225	215	218	211	215	210	210	214	219	231	226	237	227	220	220	213	224	219	216	220	235	246	221.4
8-Jan	251	249	249	261	265	266	264	272	279	285	283	285	300	301	296	298	305	313	291	276	271	276	276	282	277.4
9-Jan	284	284	277	288	273	270	268	273	268	268	285	305	305	340	235	234	211	201	204	196	184	180	196	186	249.5
10-Jan	190	195	196	192	195	207	207	217	229	229	241	253	265	272	296	317	318	313	319	320	319	28	5	21	234.2
11-Jan	22	19	25	17	24	19	25	37	36	33	25	27	38	33	359	357	38	44	50	UO	UO	249	213	228	25.5
12-Jan	233	207	183	198	210	218	215	204	212	206	219	224	215	208	211	215	222	225	228	236	243	252	259	257	224.6
13-Jan	267	268	264	268	259	251	239	216	217	215	204	214	216	223	250	247	249	247	246	252	251	257	265	268	243.2
14-Jan	254	243	258	247	233	222	223	221	214	216	225	226	220	232	239	248	255	256	259	260	262	266	272	276	243.8
15-Jan	277	261	263	271	276	279	280	284	294	289	283	311	312	317	308	272	257	250	243	226	217	209	200	183	271.0
16-Jan	180	174	156	156	137	142	153	137	171	94	119	101	50	49	50	44	46	38	35	27	22	10	354	335	57.3
17-Jan	341	341	350	347	352	346	340	338	330	338	357	340	346	347	348	345	355	347	329	331	329	328	333	335	341.8
18-Jan	332	335	306	263	307	290	266	258	250	254	245	248	244	252	249	242	232	231	236	239	249	253	268	260	255.4
19-Jan	267	248	246	248	247	246	212	271	320	315	333	331	347	341	336	332	241	282	351	228	232	252	246	230	280.1
20-Jan	218	204	210	209	207	209	216	216	212	214	213	212	213	213	206	218	216	220	221	233	238	245	247	250	221.9
21-Jan	258	269	264	247	277	273	272	274	265	272	283	286	286	291	308	315	321	337	356	347	347	341	344	332	293.7
22-Jan	338	336	319	298	298	293	301	320	328	327	328	332	317	306	295	285	285	268	243	221	225	220	212	218	286.9
23-Jan	221	222	226	227	223	226	239	241	244	248	253	274	273	281	271	276	282	292	305	301	294	301	302	289	260.4
24-Jan	288	280	275	296	299	309	312	328	331	338	338	335	335	333	338	332	324	319	295	278	278	272	274	274	310.7
25-Jan	269	242	236	229	226	236	231	231	229	226	244	250	257	255	267	277	280	271	274	278	266	270	263	244	251.2
26-Jan	235	234	238	237	237	233	245	251	251	250	249	240	241	247	253	246	245	260	267	289	294	292	294	288	253.0
27-Jan	281	276	270	267	264	259	244	233	236	248	251	236	248	243	237	248	248	250	254	258	267	289	296	294	257.7
28-Jan	296	295	297	309	291	279	280	286	285	284	291	305	308	310	298	291	283	281	280	273	275	261	254	264	288.6
29-Jan	261	269	255	252	258	249	229	239	247	252	255	246	207	114	98	90	91	60	52	42	43	50	47	31	283.8
30-Jan	30	27	26	34	9	12	12	29	35	27	26	45	42	28	41	45	60	71	75	62	57	70	66	66	37.6
31-Jan	58	79	97	81	83	101	106	140	137	140	126	111	95	95	80	83	82	86	94	98	71	66	75	71	93.5

265.9 258.9 253.2 252.5 252.7 249.0 247.7 251.8 252.3 256.2 259.7 263.3 268.0 270.5 268.1 266.1 260.8 260.2 258.3 258.3 262.3 266.1 267.6 263.5
 Diurnal Average

UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods





Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg
Jackfish 2/3 - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 119 deg on Jan 19 19:00 Minimum Value: 8 deg on Jan 2 20:00 Percentiles: P ₁ = 13 P ₁₀ = 16 Q ₁ = 19 Median = 31 Q ₃ = 40 P ₉₀ = 46 P ₉₉ = 78																			Hours in Service: 744 Hours of Data: 742 Hours of Missing Data: 2 Hours of Calibration: 0 Percent Operational Time: 99.7						
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	37	38	42	39	37	45	39	36	68	30	42	49	45	44	44	40	39	39	40	40	38	36	40	40	68
2-Jan	41	33	31	18	31	53	66	41	35	43	51	40	71	71	61	92	34	15	18	8	14	14	32	16	92
3-Jan	13	17	13	18	14	16	15	16	16	18	23	23	28	34	36	40	56	45	36	41	40	35	41	35	56
4-Jan	33	36	38	37	40	32	31	34	39	42	45	41	41	39	41	42	43	38	37	32	26	27	27	29	45
5-Jan	25	21	22	22	36	40	46	37	49	47	43	50	48	48	44	41	41	42	32	33	37	43	43	72	72
6-Jan	73	52	42	49	39	33	24	34	32	28	31	30	30	27	22	24	24	23	22	21	19	20	19	19	73
7-Jan	18	17	18	18	17	17	17	16	16	17	19	18	18	18	19	19	19	19	19	20	20	18	19	18	20
8-Jan	16	18	17	24	26	27	23	27	33	34	34	35	41	39	37	34	37	36	32	26	25	28	26	32	41
9-Jan	30	32	27	27	28	26	21	29	26	27	29	43	45	78	42	17	17	16	24	26	23	27	31	32	78
10-Jan	34	33	31	29	29	21	18	20	20	21	24	23	32	32	32	41	40	43	48	43	42	45	46	40	48
11-Jan	42	47	41	49	41	44	47	39	33	37	45	39	34	45	58	72	52	36	50	UO	UO	62	56	30	72
12-Jan	22	30	26	27	22	17	20	15	17	17	17	19	20	22	21	20	18	18	18	16	15	17	25	26	30
13-Jan	34	28	24	23	17	13	14	17	17	17	18	20	22	18	29	20	19	19	15	15	15	22	29	32	34
14-Jan	17	15	17	14	20	15	16	19	19	21	21	23	23	23	20	18	18	18	19	21	22	27	32	33	33
15-Jan	36	22	25	31	33	33	32	33	34	34	31	42	42	43	44	32	16	12	15	21	19	17	15	12	44
16-Jan	14	18	32	42	39	47	40	41	81	98	57	47	25	27	30	30	29	31	35	39	39	42	43	44	98
17-Jan	50	43	47	46	39	45	56	53	43	52	44	53	50	55	48	45	43	41	68	42	43	37	40	32	68
18-Jan	36	38	63	92	57	45	17	13	16	13	16	19	19	25	17	17	16	15	15	12	11	22	13	92	
19-Jan	15	73	55	13	16	41	76	65	62	67	38	48	45	54	51	88	95	78	119	64	16	16	13	15	119
20-Jan	17	16	16	16	17	20	21	21	22	23	24	23	24	24	26	24	23	19	19	18	16	16	16	15	26
21-Jan	20	30	30	23	37	35	35	35	27	32	38	35	33	36	42	41	44	49	47	45	46	47	45	49	49
22-Jan	39	49	40	32	36	33	35	40	43	47	40	48	46	45	39	40	36	32	21	18	18	17	17	20	49
23-Jan	21	22	24	22	23	21	20	19	18	17	18	35	33	36	34	35	32	33	39	36	35	36	37	34	39
24-Jan	34	34	33	34	38	38	39	43	44	45	46	45	45	48	47	47	50	43	37	32	32	31	34	30	50
25-Jan	30	21	15	16	16	16	18	17	16	16	15	18	22	22	32	35	33	30	35	34	31	34	24	17	35
26-Jan	16	15	18	17	17	16	15	15	15	15	15	19	18	19	17	16	17	26	30	33	36	33	33	31	36
27-Jan	32	33	29	28	26	24	17	17	16	14	18	20	17	18	18	17	20	17	19	22	30	33	37	36	37
28-Jan	41	38	33	40	36	32	31	34	32	33	36	42	45	42	39	36	32	36	31	31	32	17	13	21	45
29-Jan	15	25	15	14	15	15	21	16	14	16	21	24	37	44	32	30	26	25	28	29	27	24	28	37	44
30-Jan	34	37	39	37	47	45	41	36	33	43	39	31	43	40	34	26	31	27	24	23	20	27	29	31	47
31-Jan	30	26	28	25	32	30	32	46	37	44	41	38	28	25	26	27	27	26	28	27	29	30	28	29	46
73 73 63 92 57 53 76 65 81 98 57 53 71 78 61 92 95 78 119 64 46 62 56 72																									
Diurnal Maximum																									
UO - Unstable Operation																									



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS29 SURMONT 2 JANUARY 2025

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

February 28, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - SURMONT2 (AMS29)
 JANUARY 2025

MONTHLY SUMMARY

Parameter	Hours of Data	Hours of Calibration	Hours without Data	Operational Time	Maximum 1-Hour Value	1-Hour Exceedances	Maximum 24-Hour Value	24-Hour Exceedances
SO2 (ppb) Average	709	35	35	100	15.7	0	2.9	0
H2S (ppb) Average	706	38	38	100	0.7	0	0.3	0
THC(ppm) Average	708	35	36	99.87	2.8	-	2.5	-
NO2 (ppb) Average	707	37	37	100	23.8	0	7.9	-
NO (ppb) Average	707	37	37	100	3.8	-	0.8	-
NOX (ppb) Average	707	37	37	100	27.3	-	8.7	-
PM2.5 (ug/m3) Average	742	2	2	100	114.5	1	16.6	0
Temperature 2 m (C) Average	744	0	0	100	5.9	-	2.2	-
Relative Humidity (%) Average	744	0	0	100	97.4	-	90.6	-
Wind Speed 10 m (km/h) Average	743	0	1	99.87	21	-	14	-
Wind Direction 10 m (deg) Average	743	0	1	99.87	-	-	-	-

Note : Operational time includes periods of data collection and instrument calibration

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - SURMONT 2 (AMS29)
 JANUARY 2025

MONTHLY SUMMARY FOR AIR QUALITY/ METEOROLOGICAL MONITORING MEASUREMENTS

Parameter	Number	Mean	StnDev	Total	Percentile						
					Min	P10	Q1	Median	Q3	P90	Max
SO2 (ppb) Average	709	0.77	1.3	-	0	0	0.1	0.4	0.9	1.9	15.7
H2S (ppb) Average	706	0.09	0.1	-	0	0	0	0.1	0.1	0.2	0.7
THC (ppm) Average	708	2.36	0.1	-	2.2	2.3	2.3	2.4	2.4	2.4	2.8
NO2 (ppb) Average	707	2.89	3.1	-	0.1	0.4	0.7	1.8	3.9	7.2	23.8
NO (ppb) Average	707	0.18	0.4	-	0	0	0	0	0.1	0.5	3.8
NOX (ppb) Average	707	3.06	3.3	-	0.1	0.4	0.7	1.9	4.2	7.6	27.3
PM2.5 (ug/m3) Average	742	3.79	6.8	-	0.2	0.6	1.1	2.4	4.2	6.8	114.5
Temperature 2 m (C) Average	744	-11.36	10.9	-	-34.3	-26.1	-20.7	-9.1	-2.2	2.1	5.9
Relative Humidity (%) Average	744	75.56	11.5	-	38.1	58.8	71.1	77.1	82.8	89.4	97.4
Wind Speed 10 m (km/h) Average	743	7.5	5	-	0	2	4	7	10	14	21
Wind Direction 10 m (deg) Average	743	-	-	-	-	-	-	-	-	-	-

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - SURMONT 2 (AMS29)
JANUARY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
THC	28 Jan 2025 10:00	28 Jan 2025 10:00	1	Maintenance - remote troubleshooting
Wind Speed, Wind Direction	19 Jan 2025 02:00	19 Jan 2025 02:00	1	Flat line in sensor output signal - Sensor frozen



Number of Exceedences (AAAQO):		1-hr: 0		24-hr: 0		Hours in Service: 744														Daily Average		Daily Maximum					
Maximum Value: 15.7 ppb on Jan 5 09:00		Maximum Daily Average: 2.9 ppb on Jan 5		Hours of Data: 709														Hours of Missing Data: 35		Hours of Calibration: 35							
Minimum Value: 0.0 ppb on Jan 4 08:00		Minimum Daily Average: 0.1 ppb on Jan 31		Hours of Calibration: 35														Percent Operational Time: 100.0									
Maximum Diurnal Average: 1.2 ppb at hour 10		Minimum Diurnal Average: 0.4 ppb at hour 23		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.4 Q ₃ = 0.9 P ₉₀ = 1.9 P ₉₉ = 5.6																							
Monthly Average: 0.77 ppb																											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	0.2	Z	0.2	0.3	1.0	1.0	1.2	1.0	1.1	1.5	3.0	3.7	5.6	4.1	2.4	4.3	5.7	4.7	5.1	6.9	6.3	4.3	1.0	0.4	2.8	6.9	
2-Jan	0.3	0.2	Z	0.2	0.3	0.6	1.9	3.0	2.1	2.1	4.8	8.3	7.7	6.7	3.8	3.1	1.3	0.8	0.5	0.3	0.4	0.4	0.3	0.3	2.2	8.3	
3-Jan	0.4	0.3	0.7	Z	0.8	0.7	0.8	1.0	0.8	0.6	1.0	1.0	0.9	0.8	0.9	1.2	1.0	0.6	0.5	0.5	0.2	0.1	0.1	0.1	0.6	1.2	
4-Jan	0.1	0.2	0.1	0.0	Z	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.2	0.3	0.3	0.2	0.1	0.1	0.5	0.5	0.7	0.6	0.5	0.2	0.7	0.5	
5-Jan	0.5	0.4	0.4	0.5	2.4	Z	0.4	1.9	15.7	13.6	2.5	1.0	1.3	0.9	1.2	1.1	4.2	4.7	5.1	3.9	2.8	1.1	0.6	0.4	2.9	15.7	
6-Jan	Z	1.2	1.9	1.4	1.7	1.3	1.1	0.9	0.8	0.8	0.7	0.8	0.8	0.7	0.9	0.8	0.8	1.4	0.9	0.8	1.1	1.2	0.8	0.6	1.0	1.9	
7-Jan	0.6	Z	0.7	0.6	0.4	0.5	0.4	0.5	0.3	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.2	0.7	
8-Jan	0.3	0.3	Z	0.3	1.1	0.5	1.4	0.3	0.1	0.3	0.6	0.7	0.1	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.3	1.4	
9-Jan	0.0	0.0	0.0	Z	0.1	0.1	0.0	1.3	2.8	3.0	3.0	2.6	2.3	1.7	2.1	1.6	1.0	0.8	0.7	0.6	0.4	0.5	0.6	0.9	1.1	3.0	
10-Jan	0.9	0.6	0.5	0.4	Z	1.1	3.5	0.9	0.6	0.6	0.5	C	C	C	C	0.2	0.1	3.9	2.4	1.2	1.2	0.8	0.7	0.9	1.1	3.9	
11-Jan	0.6	0.4	0.4	0.4	0.3	Z	0.4	0.7	0.9	1.8	1.6	1.1	0.7	0.3	0.5	0.6	1.6	1.5	0.7	0.3	0.2	0.0	0.0	0.1	0.7	1.8	
12-Jan	Z	0.3	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.2	0.0	0.0	0.0	0.2	0.4	0.2	0.1	0.1	0.3	0.5	0.9	0.9	0.8	0.2	0.9	
13-Jan	0.2	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.2	0.4	0.3	0.7	0.8	0.1	0.8	
14-Jan	0.6	1.0	Z	0.8	0.1	0.0	0.6	0.3	0.0	1.8	2.6	1.3	1.5	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.7	0.5	2.6	
15-Jan	0.4	0.6	0.2	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.1	0.1	0.2	0.5	0.4	0.4	0.3	0.3	0.2	0.6	
16-Jan	0.3	0.4	1.4	0.8	Z	0.5	0.4	0.4	0.5	0.4	0.3	0.5	0.4	0.4	0.3	0.2	0.2	0.3	0.3	0.3	0.5	0.3	0.3	0.3	0.4	1.4	
17-Jan	0.4	0.3	0.2	0.2	0.2	Z	0.5	0.4	0.8	0.6	0.9	0.7	0.5	0.2	0.7	3.4	3.7	2.6	1.5	1.0	0.9	0.8	0.8	0.7	1.0	3.7	
18-Jan	Z	0.7	0.6	0.8	1.7	1.7	1.0	0.3	0.3	1.8	2.9	0.9	1.0	2.3	1.9	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.1	0.2	0.8	2.9	
19-Jan	0.5	Z	0.1	0.2	1.9	1.5	1.2	1.1	1.4	1.9	4.5	4.6	3.9	4.3	3.4	2.8	2.0	1.0	1.3	0.8	0.7	0.5	0.4	0.4	1.7	4.6	
20-Jan	0.4	0.4	Z	0.6	0.4	0.3	0.6	1.0	1.1	1.9	2.6	1.3	1.5	0.8	1.5	3.3	0.8	0.6	0.5	0.6	0.6	0.5	0.3	0.3	0.9	3.3	
21-Jan	0.3	0.7	0.6	Z	0.9	0.3	0.3	0.3	0.3	0.5	0.8	0.2	0.2	0.1	0.4	0.9	0.4	0.1	0.2	0.0	0.0	0.0	1.0	1.2	0.4	1.2	
22-Jan	1.4	0.9	0.4	0.1	Z	0.1	0.1	0.8	0.8	0.4	0.4	0.2	0.1	0.1	0.1	0.1	0.6	0.2	0.1	0.1	0.1	0.1	0.2	2.1	0.4	2.1	
23-Jan	5.1	2.7	0.5	0.3	0.2	Z	0.3	0.2	0.3	0.5	0.9	1.0	0.4	1.1	0.5	0.4	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.8	0.7	5.1	
24-Jan	Z	0.9	0.5	0.0	0.0	0.0	2.3	1.3	0.1	0.6	0.3	1.5	0.9	2.0	2.4	1.0	0.3	0.2	0.1	0.3	0.3	0.3	0.9	1.2	0.8	2.4	
25-Jan	1.0	Z	0.3	0.3	0.1	0.1	0.2	0.3	0.3	0.3	0.2	0.1	0.4	0.7	0.4	0.5	0.2	0.2	0.3	0.2	0.1	0.2	0.1	0.0	0.3	1.0	
26-Jan	0.2	0.4	Z	0.1	0.1	0.0	0.2	0.2	0.0	0.4	0.3	0.2	0.2	0.0	0.1	0.1	0.1	0.4	0.6	0.0	0.0	0.1	0.0	0.0	0.2	0.6	
27-Jan	0.0	1.0	2.3	Z	2.0	1.7	1.7	1.9	2.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.2	1.0	0.5	0.2	0.2	0.7	2.3	
28-Jan	0.1	0.1	0.1	0.0	Z	0.1	0.2	0.4	0.3	0.1	0.5	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	2.2	0.2	2.2	
29-Jan	3.1	2.0	2.4	3.4	2.8	Z	0.9	0.4	0.4	0.2	0.3	0.5	0.4	0.2	1.2	1.2	0.4	0.2	0.0	0.0	0.0	0.1	0.1	0.0	0.9	3.4	
30-Jan	Z	0.1	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.3	0.2	0.6	0.9	1.0	0.6	0.3	0.2	0.0	0.0	0.0	0.1	0.0	0.2	1.0	
31-Jan	0.1	Z	0.2	0.2	0.2	0.3	0.3	1.2	0.0	0.0	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	1.2	
																								Diurnal Average		Diurnal Maximum	
																								0.7		5.1	
																								0.6		2.7	
																								0.6		2.4	
																								0.5		3.4	
																								0.7		2.8	
																								0.5		1.7	
																								0.7		3.5	
																								0.7		3.0	
																								1.1		15.7	
																								1.2		13.6	
																								1.1		4.8	
																								1.1		8.3	
																								1.0		7.7	
																								0.9		6.7	
																								0.9		3.8	
																								0.8		4.3	
																								0.8		5.7	
																								0.7		4.7	
																								0.7		5.1	
																								0.6		6.9	
																								0.6		6.3	
																								0.5		4.3	
																								0.4		1.0	
																								0.5		2.2	

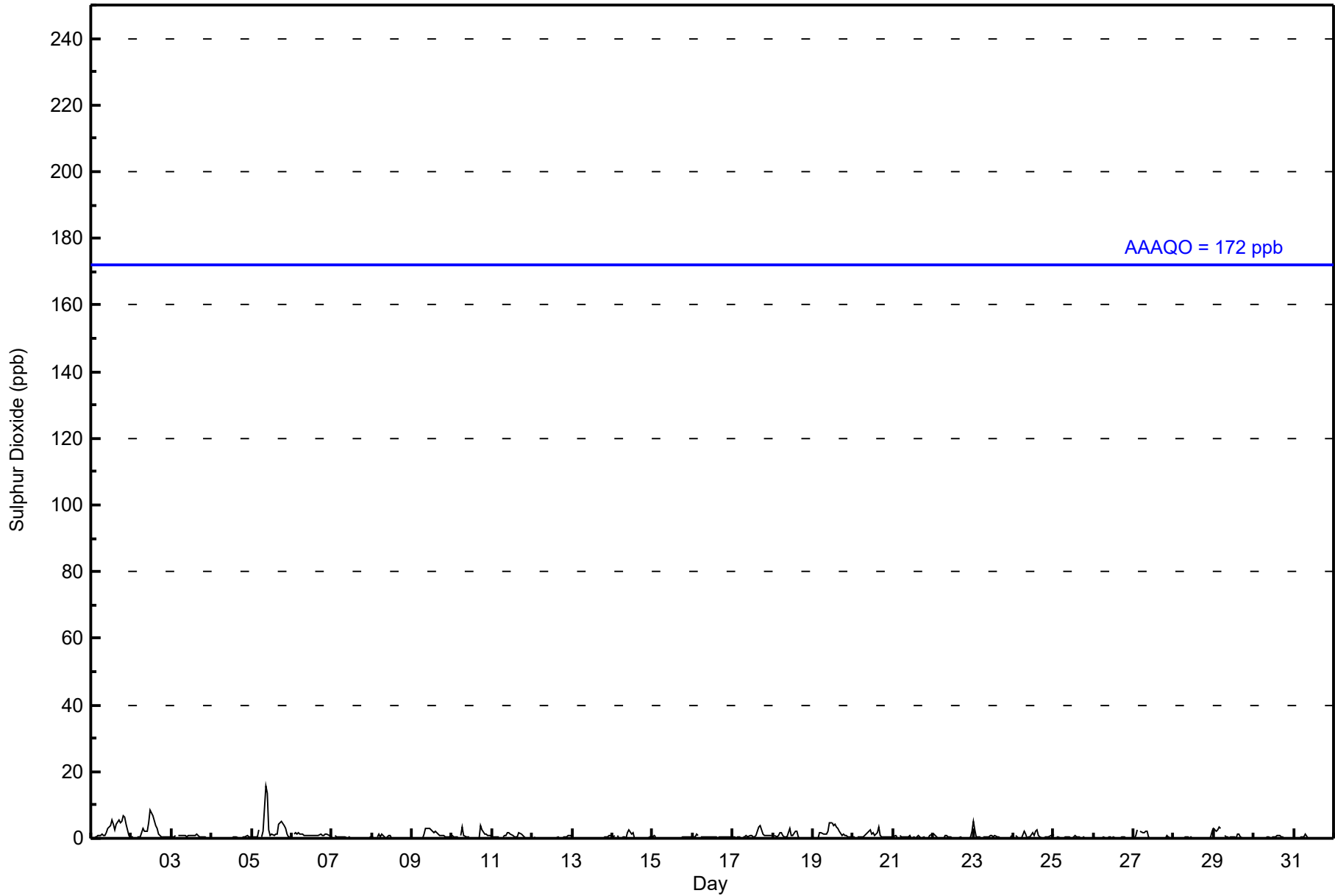
Z - zerospan C - Calibration

Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb



Wood Buffalo Environmental Association
Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Surmont 2 - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Surmont 2 - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	707	99.72	99.72
11 - 20	2	0.28	100.00
21 - 60	0	0.00	100.00
61 - 110	0	0.00	100.00
111 - 172	0	0.00	100.00
> 172	0	0.00	100.00

Total Number of Valid Hours: 709

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Sulphur Dioxide (SO₂) - ppb
Surmont 2 - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 10	38	11	10	6	9	30	79	19	15	19	25	77	134	98	44	93	707
11 - 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
21 - 60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61 - 110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111 - 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	38	11	10	6	9	30	79	19	15	19	25	77	134	98	44	95	709

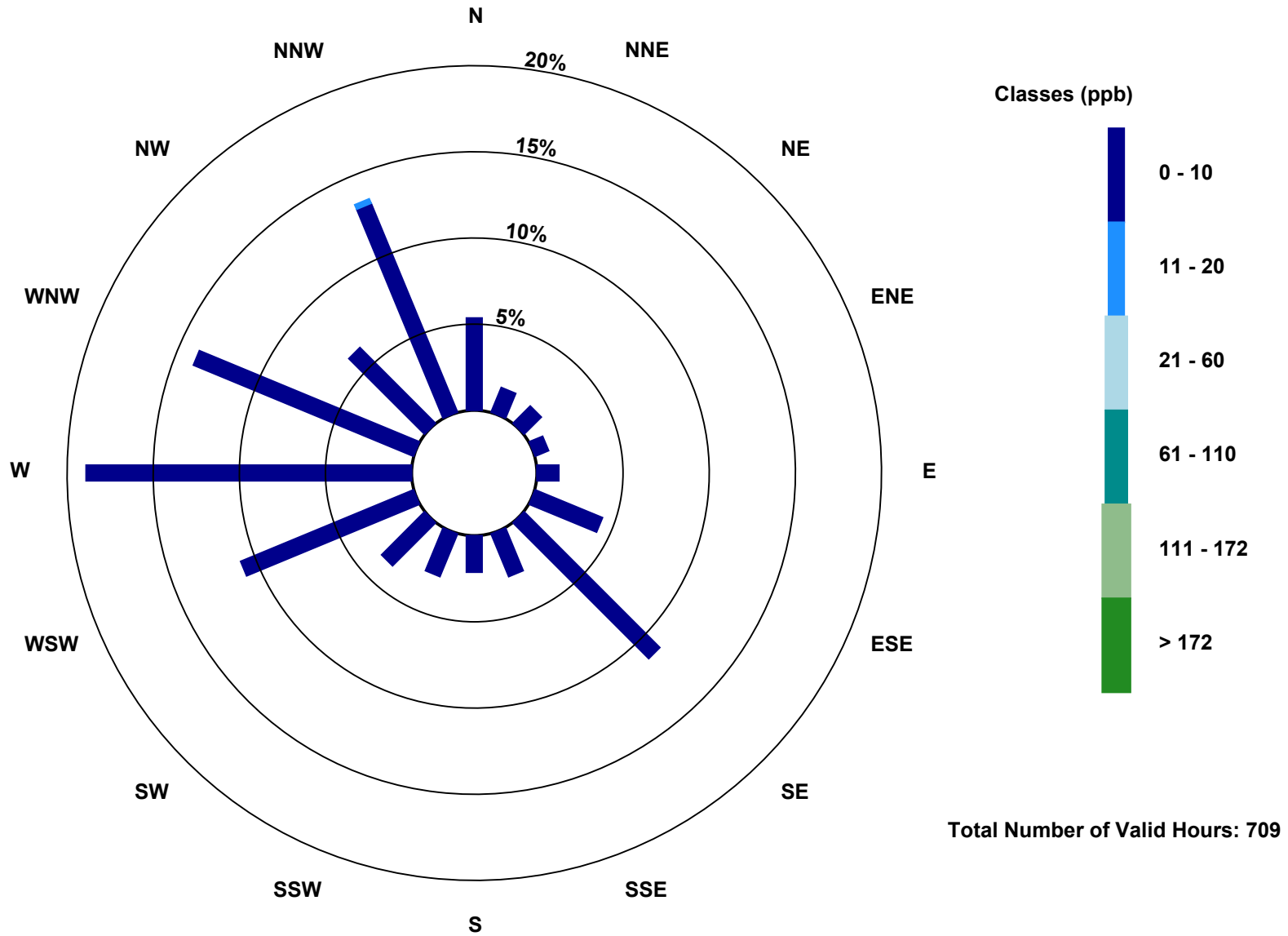
Total Number of Valid Hours: 709

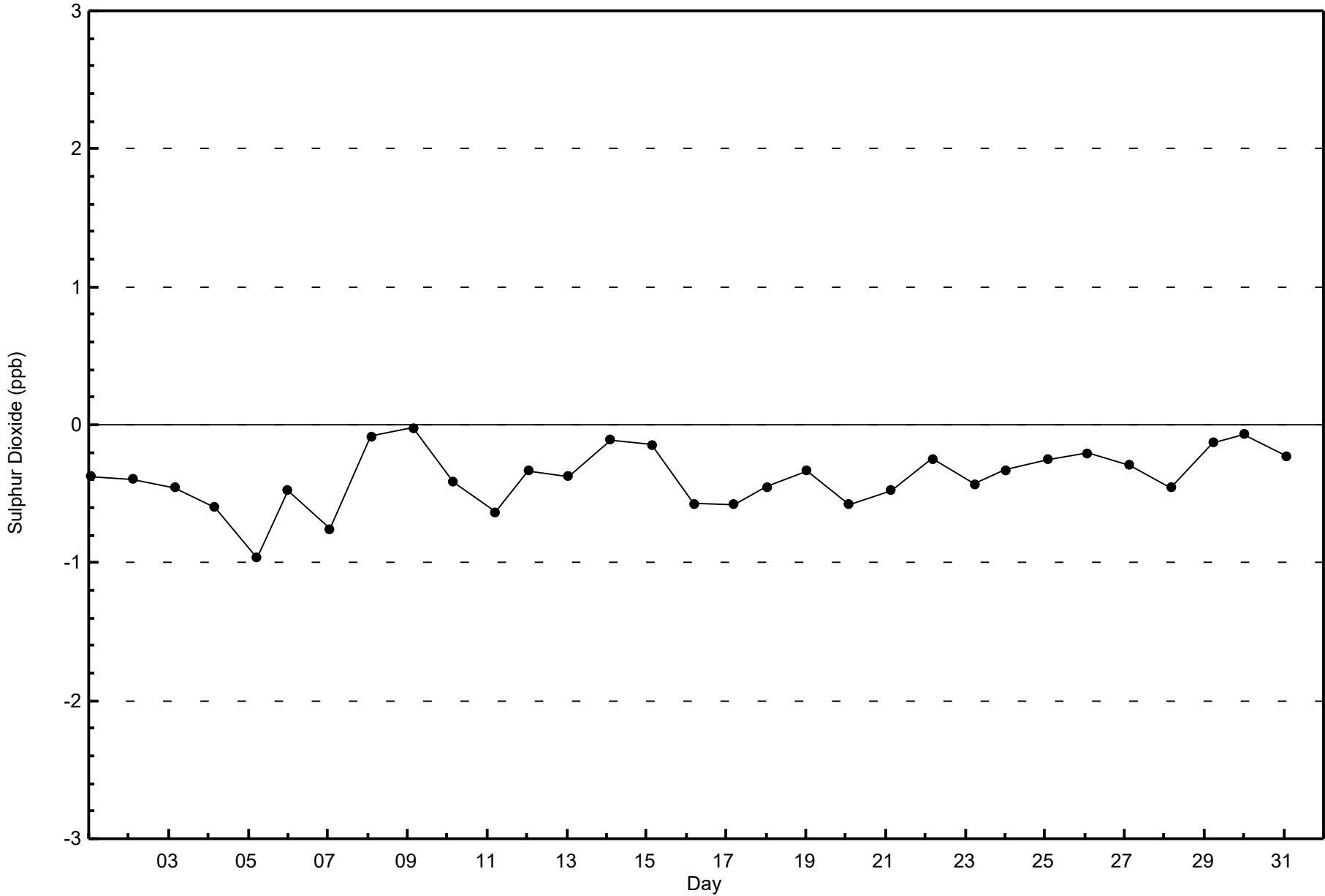
Total Number of Hours: 744

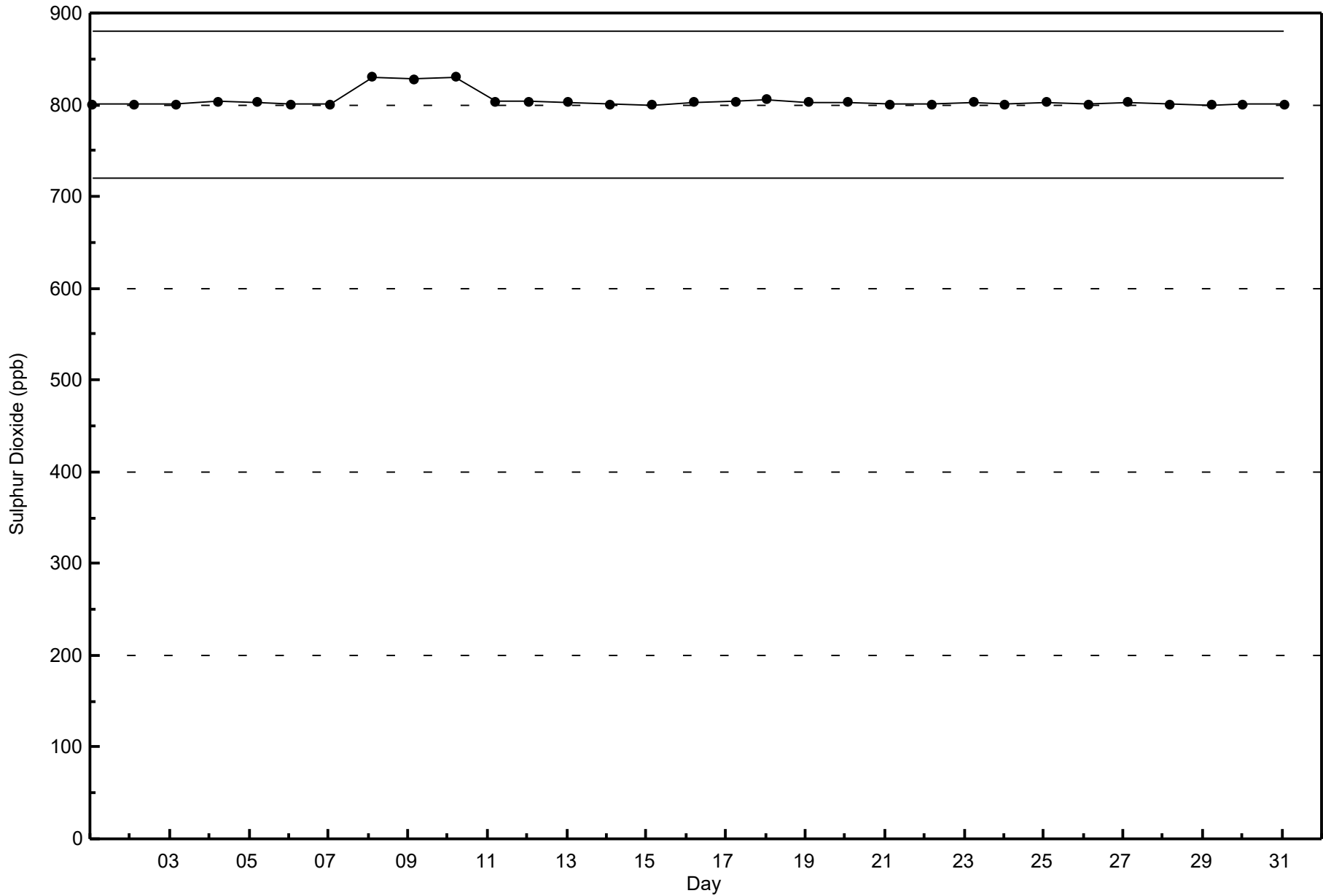


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Sulphur Dioxide (SO₂) - ppb
Surmont 2









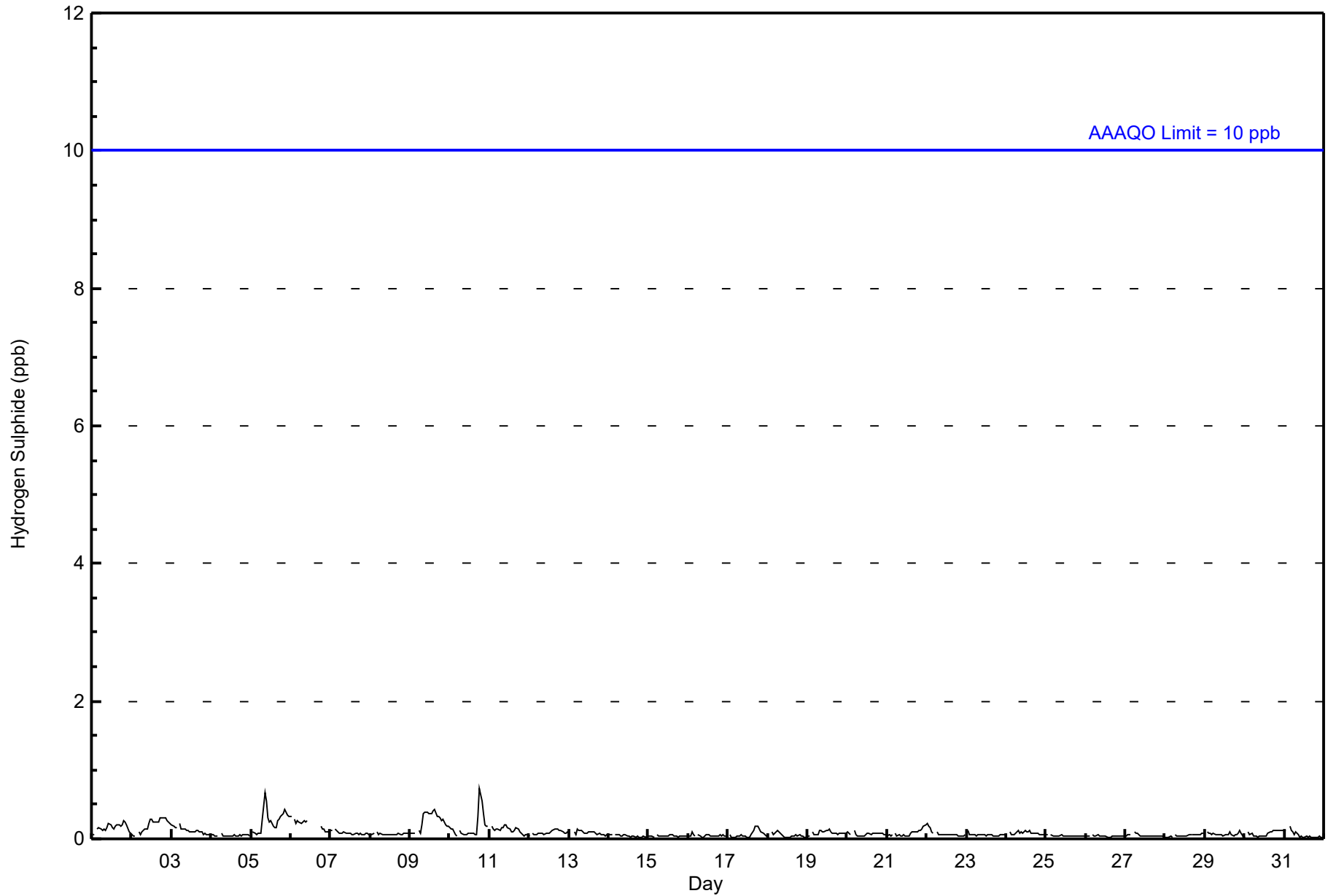
Wood Buffalo Environmental Association

Summary of Hour Averages

Hydrogen Sulphide (H₂S) - ppb

Surmont 2 - January 2025

Number of Exceedences (AAAQO):		1-hr: 0	24-hr: 0	Hours in Service: 744																	744																													
Maximum Value: 0.7 ppb on Jan 10 19:00		Maximum Daily Average: 0.3 ppb on Jan 5																	Hours of Data: 706																															
Minimum Value: 0.0 ppb on Jan 17 05:00		Minimum Daily Average: 0.0 ppb on Jan 26																	Hours of Missing Data: 38																															
Maximum Diurnal Average: 0.1 ppb at hour 19		Minimum Diurnal Average: 0.1 ppb at hour 7																	Hours of Calibration: 38																															
Monthly Average: 0.09 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.1 P ₉₀ = 0.2 P ₉₉ = 0.4																	Percent Operational Time: 100.0																															
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																										
1-Jan	0.1	0.1	Z	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.1	0.1	0.2	0.3	0.2	0.2																						
2-Jan	0.1	0.0	0.0	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2																						
3-Jan	0.2	0.2	0.2	0.2	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1																						
4-Jan	0.1	0.1	0.0	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1																						
5-Jan	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.7	0.6	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3																						
6-Jan	0.3	Z	0.3	0.2	0.3	0.3	0.2	0.2	0.3	0.2	0.3	C	C	C	C	C	C	C	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1																						
7-Jan	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1																						
8-Jan	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1																						
9-Jan	0.1	0.1	0.1	0.1	Z	0.1	0.1	0.2	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2																						
10-Jan	0.2	0.1	0.1	0.1	0.0	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.7	0.6	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2																						
11-Jan	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1																						
12-Jan	0.0	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1																						
13-Jan	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1																						
14-Jan	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
15-Jan	0.0	0.0	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
16-Jan	0.0	0.0	0.1	0.1	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0																						
17-Jan	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1																						
18-Jan	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
19-Jan	0.0	0.0	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1																						
20-Jan	0.1	0.1	0.1	Z	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1																						
21-Jan	0.1	0.1	0.1	0.1	Z	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2																						
22-Jan	0.2	0.2	0.2	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2																						
23-Jan	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1																						
24-Jan	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1																						
25-Jan	0.1	0.1	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																						
26-Jan	0.0	0.0	0.0	Z	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1																						
27-Jan	0.0	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1																						
28-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1																						
29-Jan	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1																						
30-Jan	0.0	Z	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1																						
31-Jan	0.1	0.1	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2																						
																								0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
																								0.3	0.2	0.3	0.2	0.3	0.3	0.2	0.3	0.7	0.6	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.7	0.6	0.4	0.4	0.4	0.3	0.3	0.3	0.3
Z - zerospan C - Calibration																																																		
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																																																		





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Hydrogen Sulphide (H₂S) - ppb
Surmont 2 - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	706	100.00	100.00
3 - 4	0	0.00	100.00
5 - 7	0	0.00	100.00
8 - 11	0	0.00	100.00
> 11	0	0.00	100.00

Total Number of Valid Hours: 706

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Hydrogen Sulphide (H₂S) - ppb
Surmont 2 - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2	39	11	10	6	9	31	75	17	12	19	27	73	136	99	46	95	705
3 - 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 - 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 - 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	39	11	10	6	9	31	75	17	12	19	27	73	136	99	46	95	705

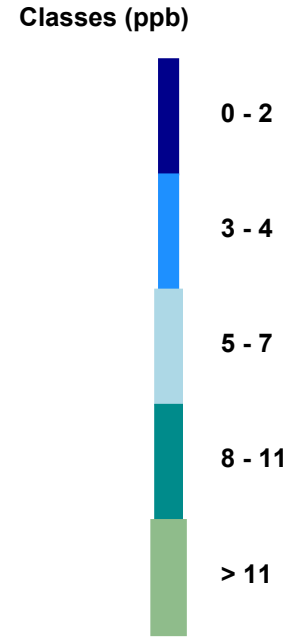
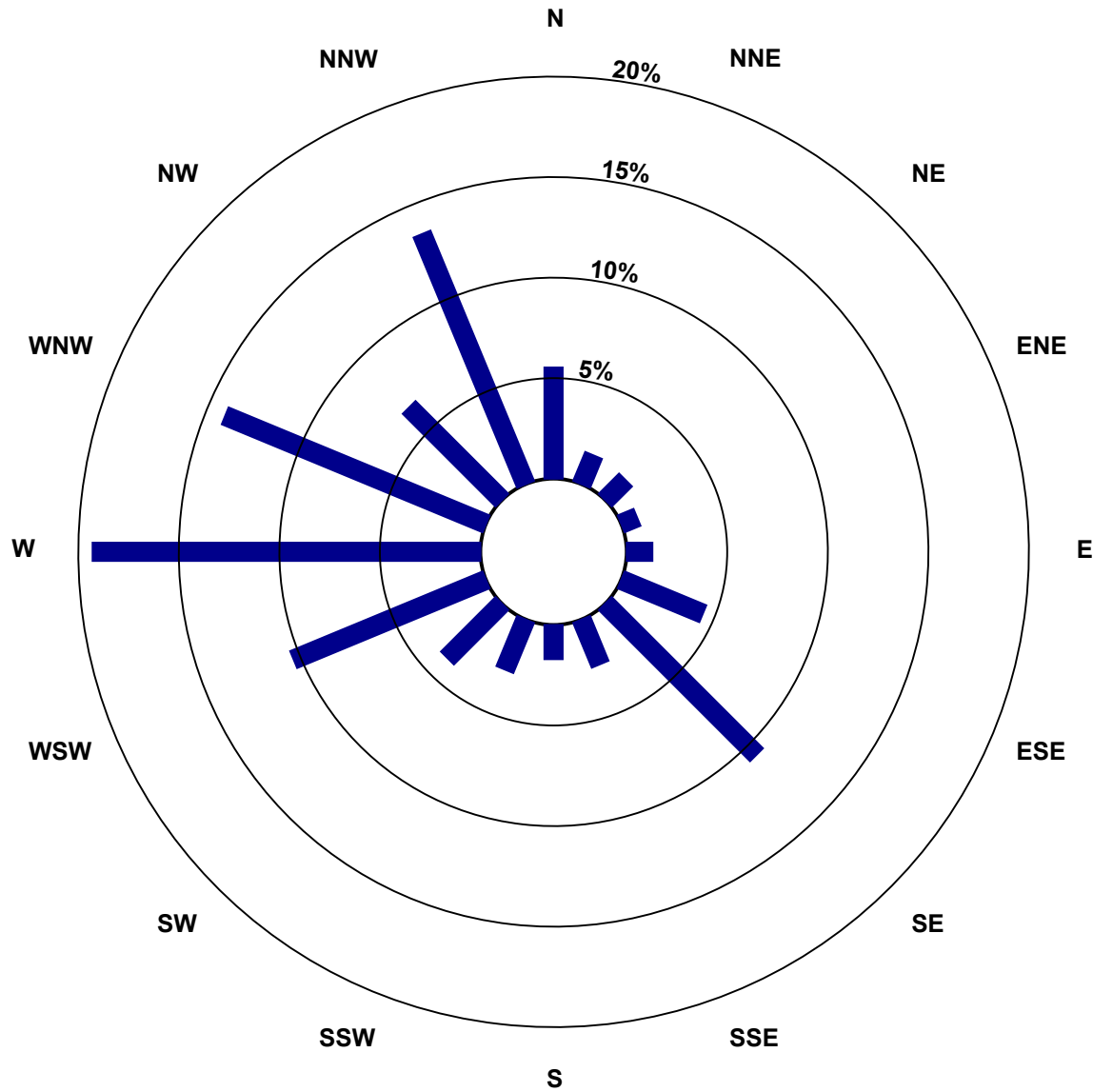
Total Number of Valid Hours: 705

Total Number of Hours: 744

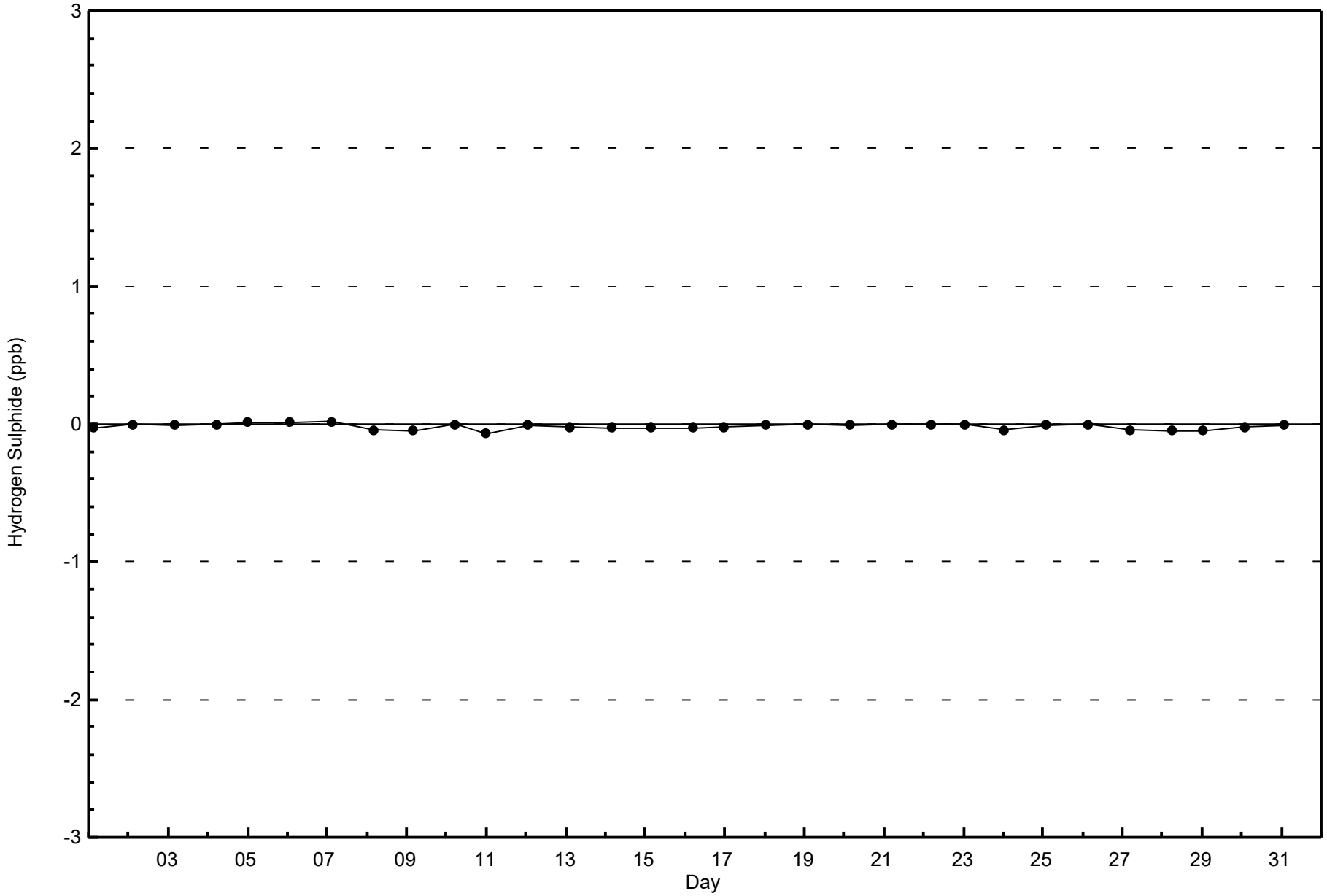


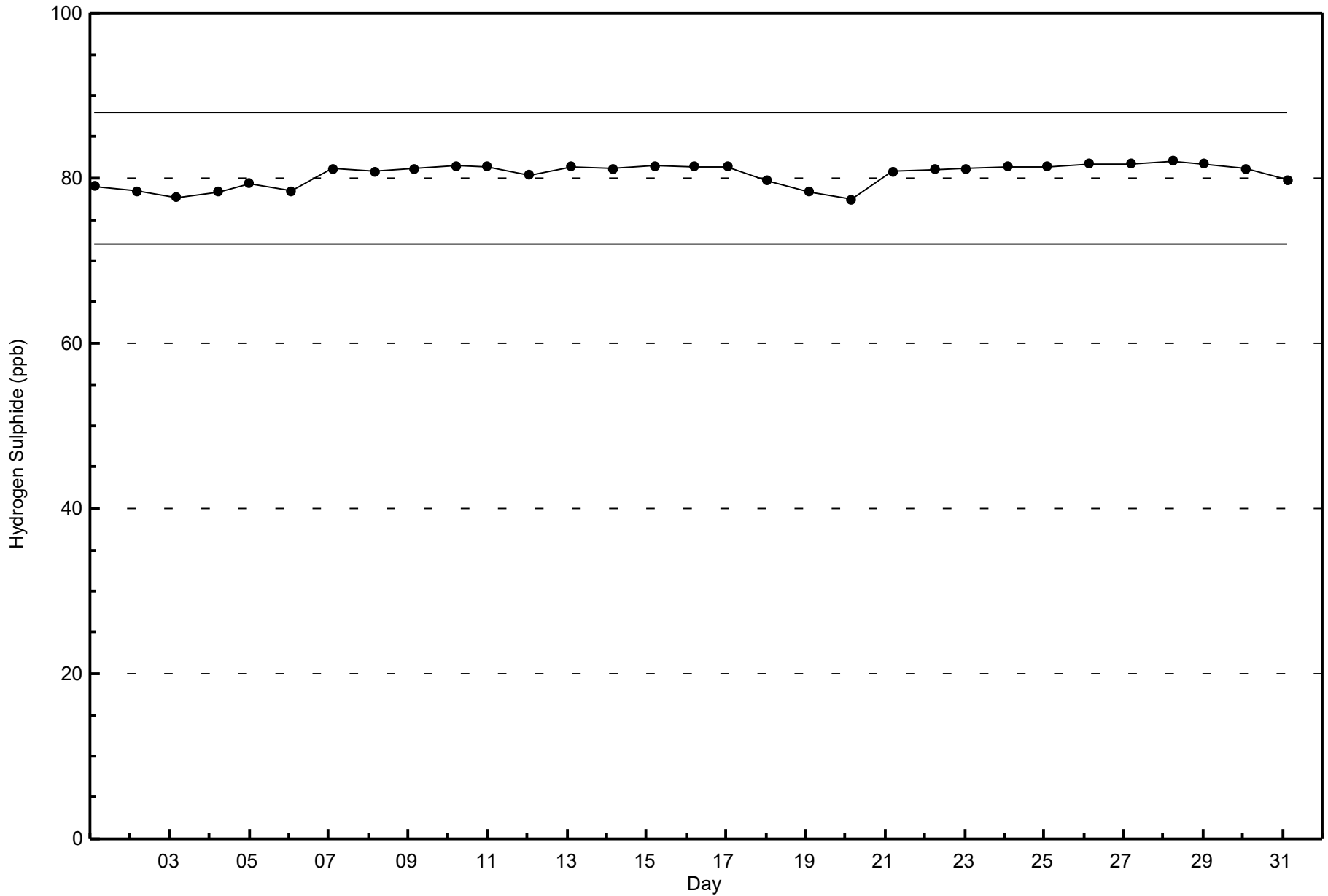
Wood Buffalo Environmental Association
Wind Rose Jan 2025

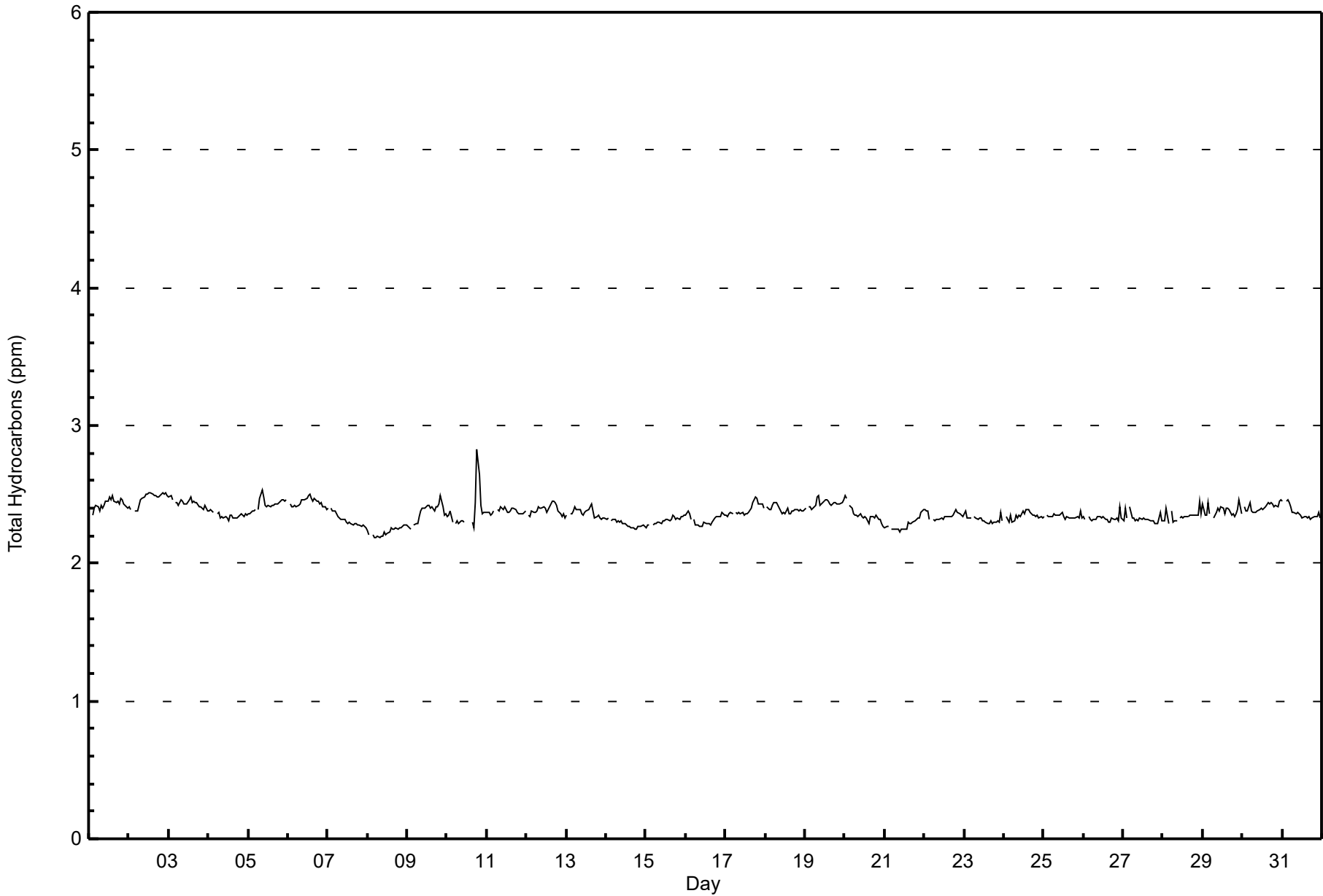
Hydrogen Sulphide (H₂S) - ppb
Surmont 2



Total Number of Valid Hours: 705









Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Hydrocarbons (THC) - ppm
Surmont 2 - January 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	0	0.00	0.00
2.1 - 3.0	708	100.00	100.00
3.1 - 10.0	0	0.00	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Total Hydrocarbons (THC) - ppm
Surmont 2 - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.1 - 3.0	38	11	10	6	9	30	79	19	15	19	25	77	134	97	44	95	708
3.1 - 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	38	11	10	6	9	30	79	19	15	19	25	77	134	97	44	95	708

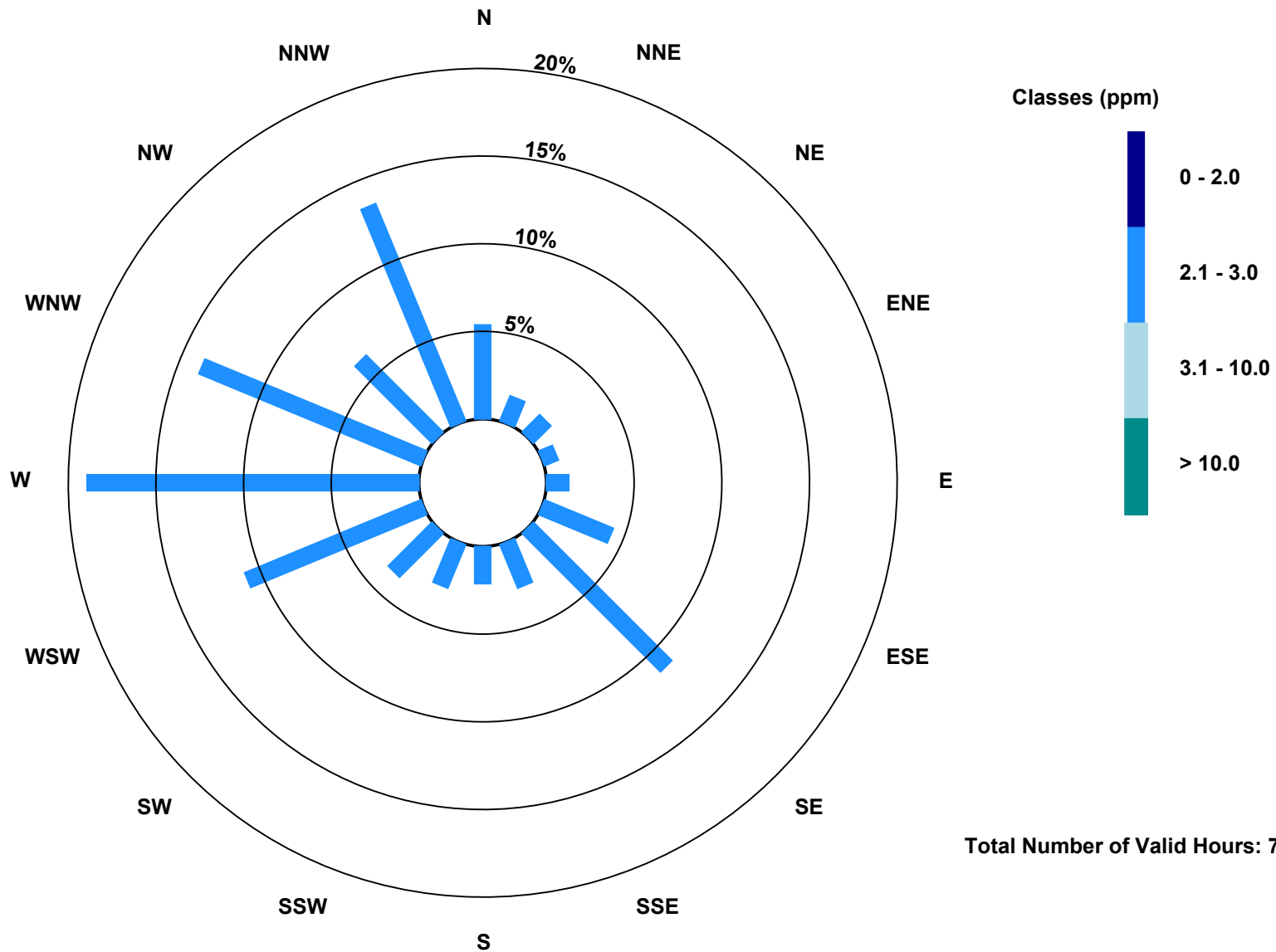
Total Number of Valid Hours: 708

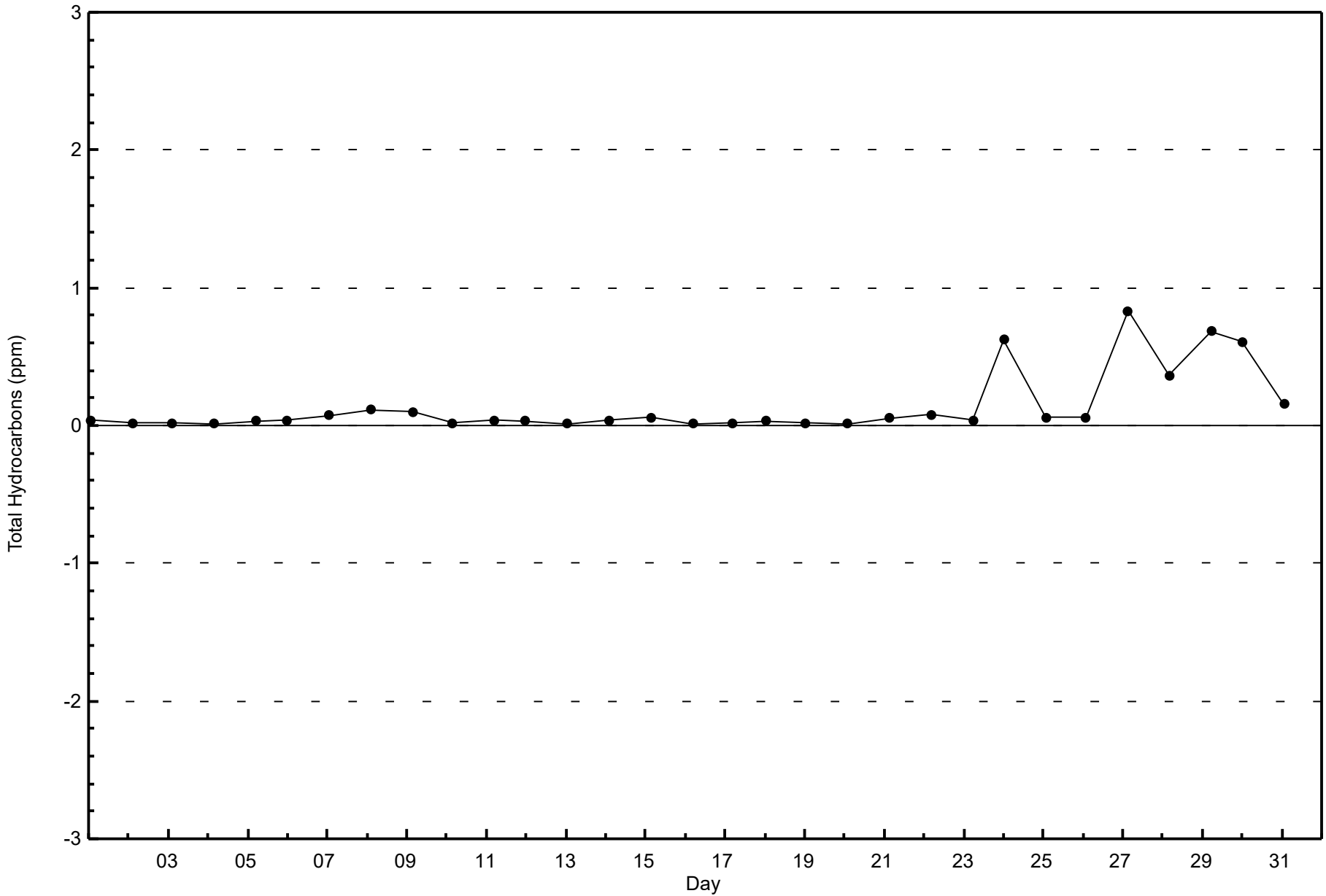
Total Number of Hours: 744

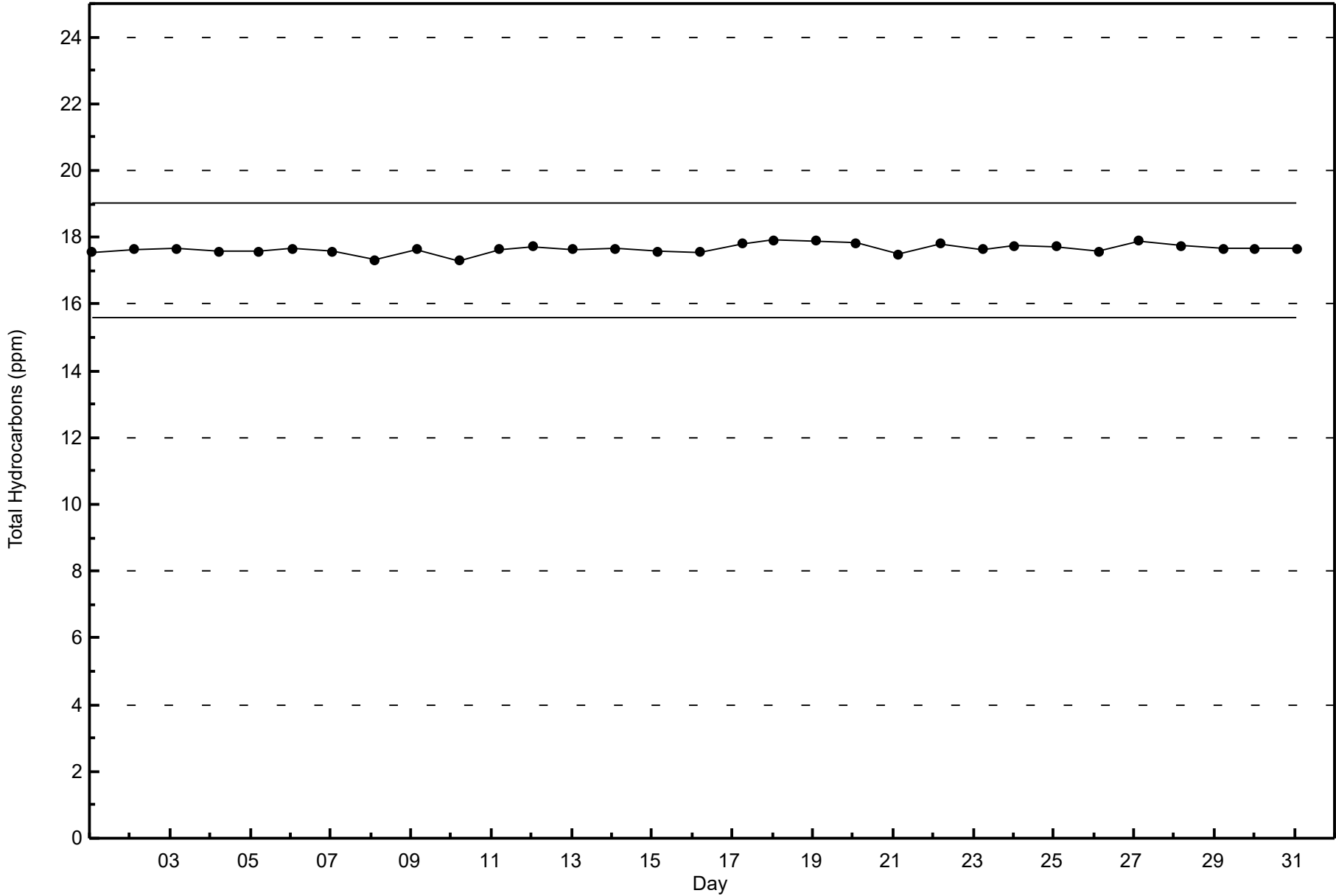


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Total Hydrocarbons (THC) - ppm
Surmont 2









Wood Buffalo Environmental Association

Summary of Hour Averages

Nitric Oxide (NO) - ppb

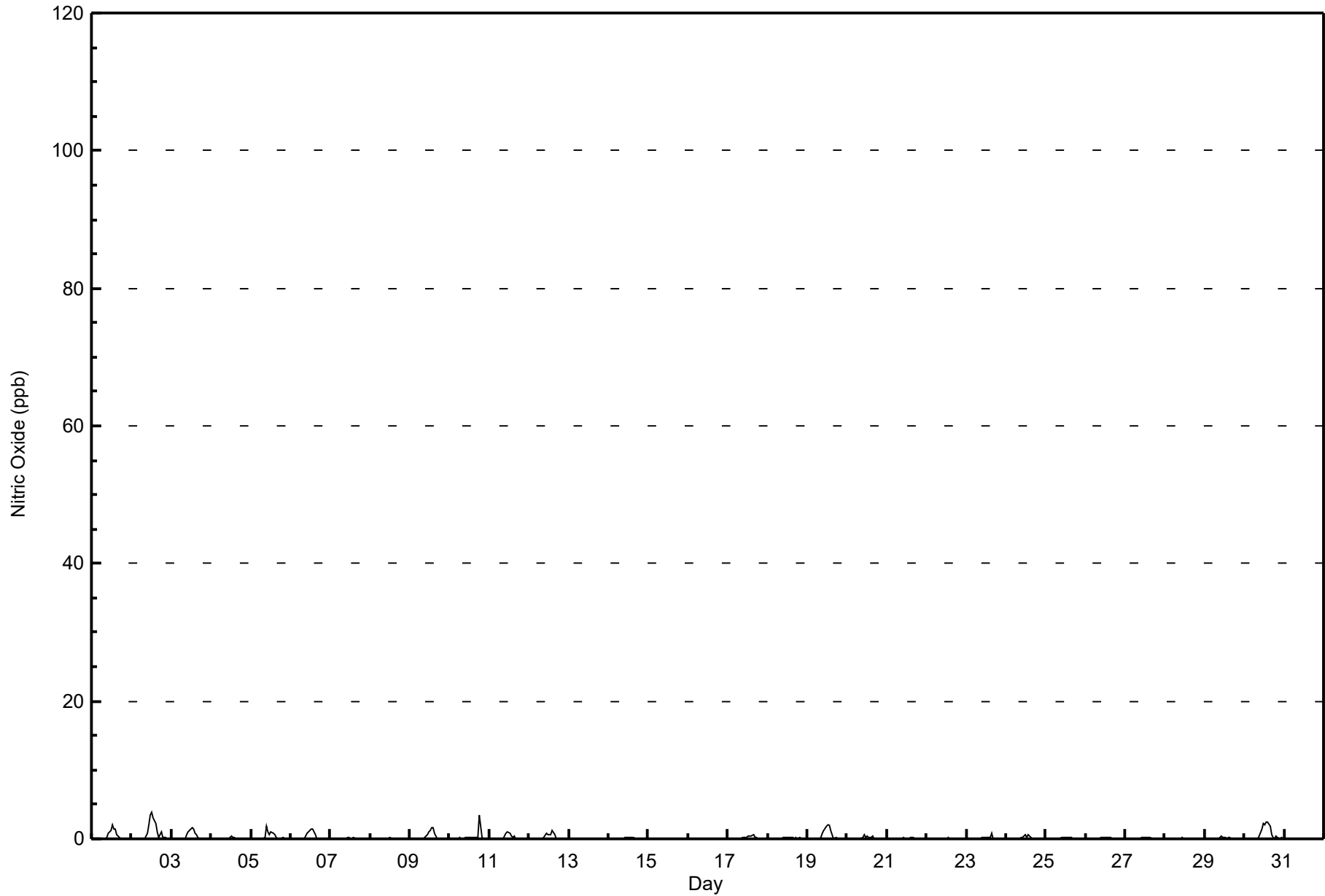
Surmont 2 - January 2025

Number of Exceedences (AAAQO):		1-hr: 0		24-hr: 0		Hours in Service:														744						
Maximum Value: 3.8 ppb on Jan 2 13:00		Maximum Daily Average: 0.8 ppb on Jan 2														Hours of Data:		707								
Minimum Value: 0.0 ppb on Jan 1 02:00		Minimum Daily Average: 0.0 ppb on Jan 28														Hours of Missing Data:		37								
Maximum Diurnal Average: 0.7 ppb at hour 13		Minimum Diurnal Average: 0.0 ppb at hour 4														Hours of Calibration:		37								
Monthly Average: 0.18 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.1 P ₉₀ = 0.5 P ₉₉ = 2.1														Percent Operational Time:		100.0								
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.2	0.7	1.3	2.0	1.4	1.5	0.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	2.0
2-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.8	2.0	3.5	3.8	3.1	2.2	1.1	0.2	0.7	1.0	0.2	0.1	0.1	0.1	0.1	0.8	3.8
3-Jan	0.1	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.7	1.1	1.3	1.7	1.4	0.9	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.7
4-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3
5-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.3	1.8	1.0	0.7	1.0	0.8	0.6	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	1.8
6-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.4	0.8	1.2	1.4	1.3	1.0	0.5	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.4
7-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
8-Jan	Z	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
9-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.6	1.0	1.2	1.5	1.7	0.8	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.7
10-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.2	0.3	0.2	0.2	0.2	0.1	0.2	0.2	3.5	0.3	0.1	0.0	0.0	0.0	0.3	3.5
11-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.1	0.1	0.5	0.9	0.9	0.8	0.4	0.2	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.9
12-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.3	0.9	0.6	0.5	0.6	1.1	0.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.1
13-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	C	C	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	0.0
14-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3
15-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
16-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
17-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.0	0.1	0.2	0.2	0.4	0.4	0.3	0.6	0.3	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.6
18-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.3	0.0	0.0	0.0	0.0	0.1	0.3
19-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.1	0.1	0.2	0.7	1.2	1.7	2.0	1.9	1.2	0.5	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4	2.0
20-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.7	0.3	0.4	0.2	0.3	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.7
21-Jan	0.1	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.2
22-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
23-Jan	0.1	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.2	0.1	0.8	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.8
24-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.2	0.2	0.6	0.2	0.5	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.6
25-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.3	0.2	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.3
26-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2
27-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2
28-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
29-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.2	0.1	0.1	0.2	0.1	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.4
30-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.5	1.5	2.1	2.1	2.5	2.4	1.9	0.5	0.1	0.0	0.4	0.2	0.0	0.1	0.1	0.6	2.5
31-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
0.0																								Diurnal Average		
0.1																								Diurnal Maximum		
Z - zerospan		C - Calibration																								



Wood Buffalo Environmental Association
Hourly Averages

Nitric Oxide (NO) - ppb
Surmont 2 - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Nitric Oxide (NO) - ppb
Surmont 2 - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	707	100.00	100.00
21 - 40	0	0.00	100.00
41 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 707

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitric Oxide (NO) - ppb
Surmont 2 - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	38	11	9	6	9	33	70	19	15	20	24	75	135	100	45	97	706
21 - 40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	38	11	9	6	9	33	70	19	15	20	24	75	135	100	45	97	706

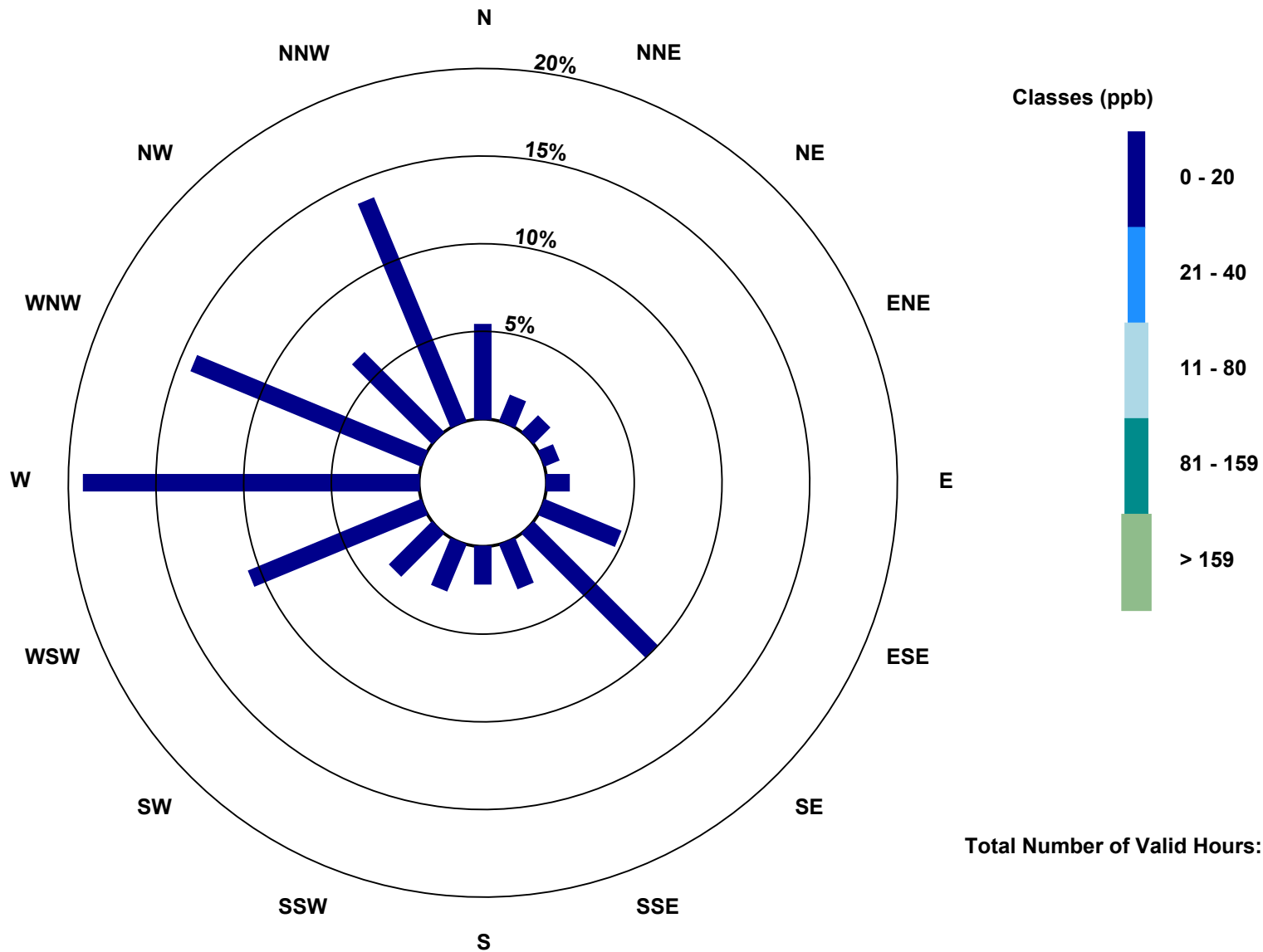
Total Number of Valid Hours: 706

Total Number of Hours: 744

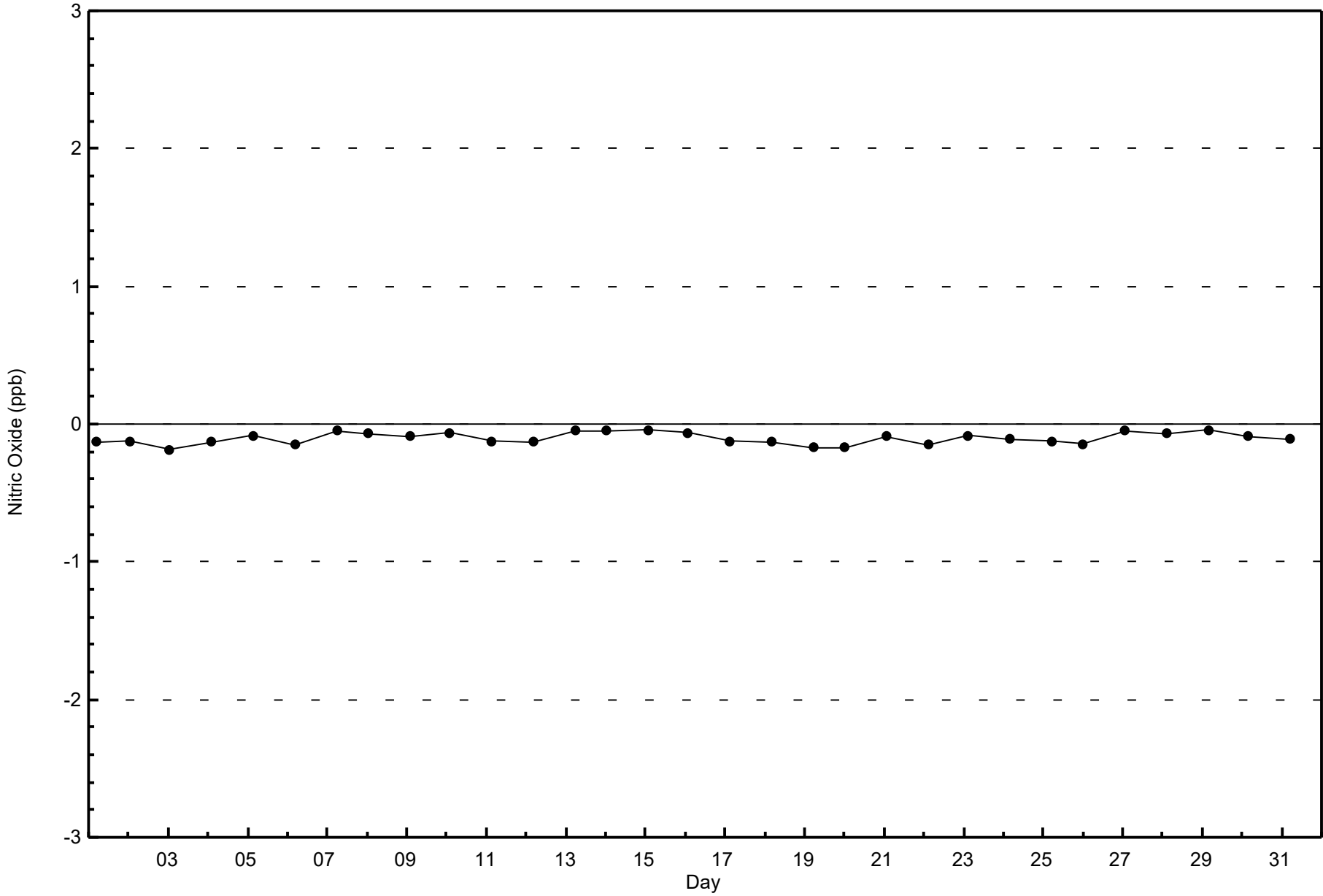


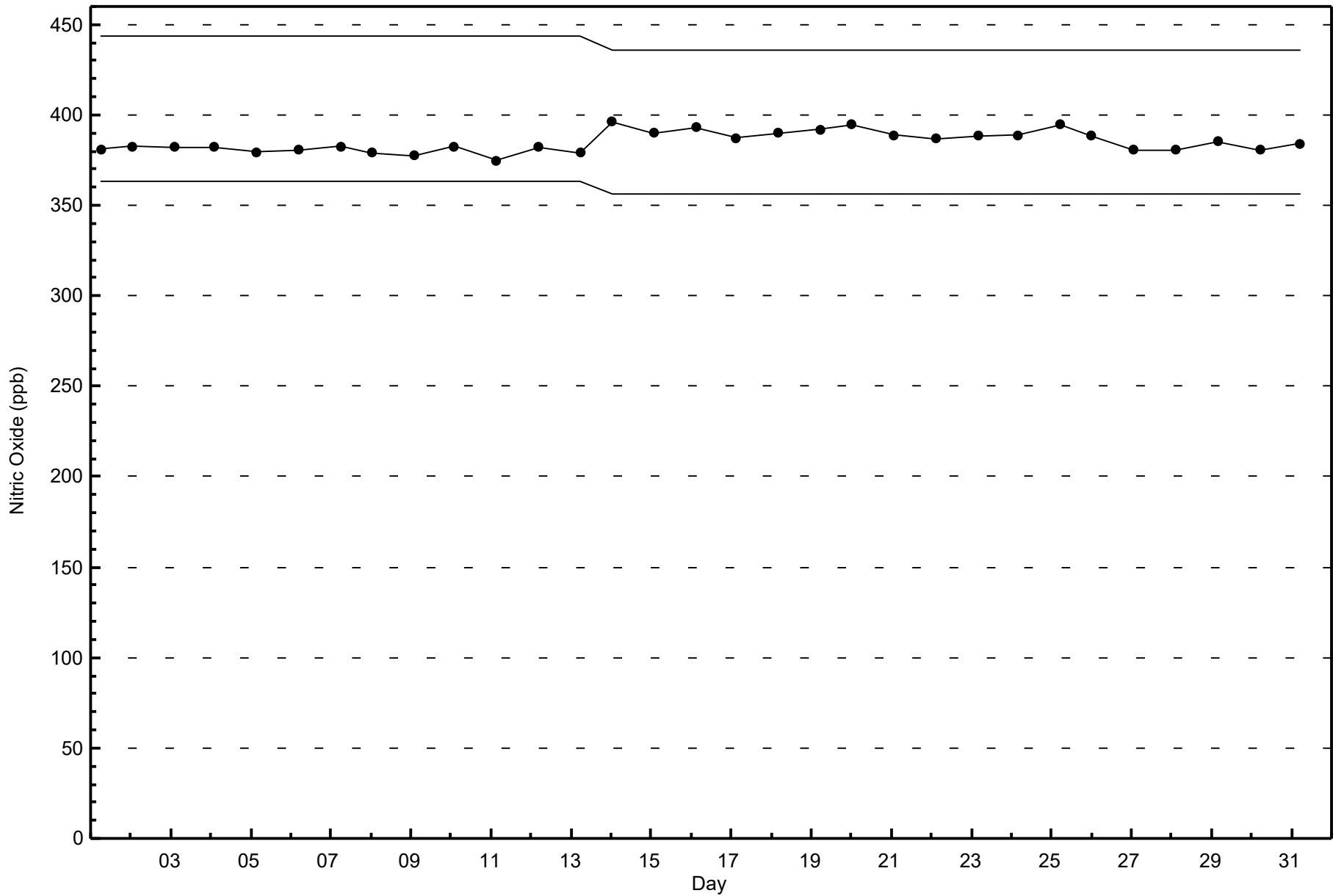
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitric Oxide (NO) - ppb
Surmont 2



Total Number of Valid Hours: 706







Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Dioxide (NO₂) - ppb

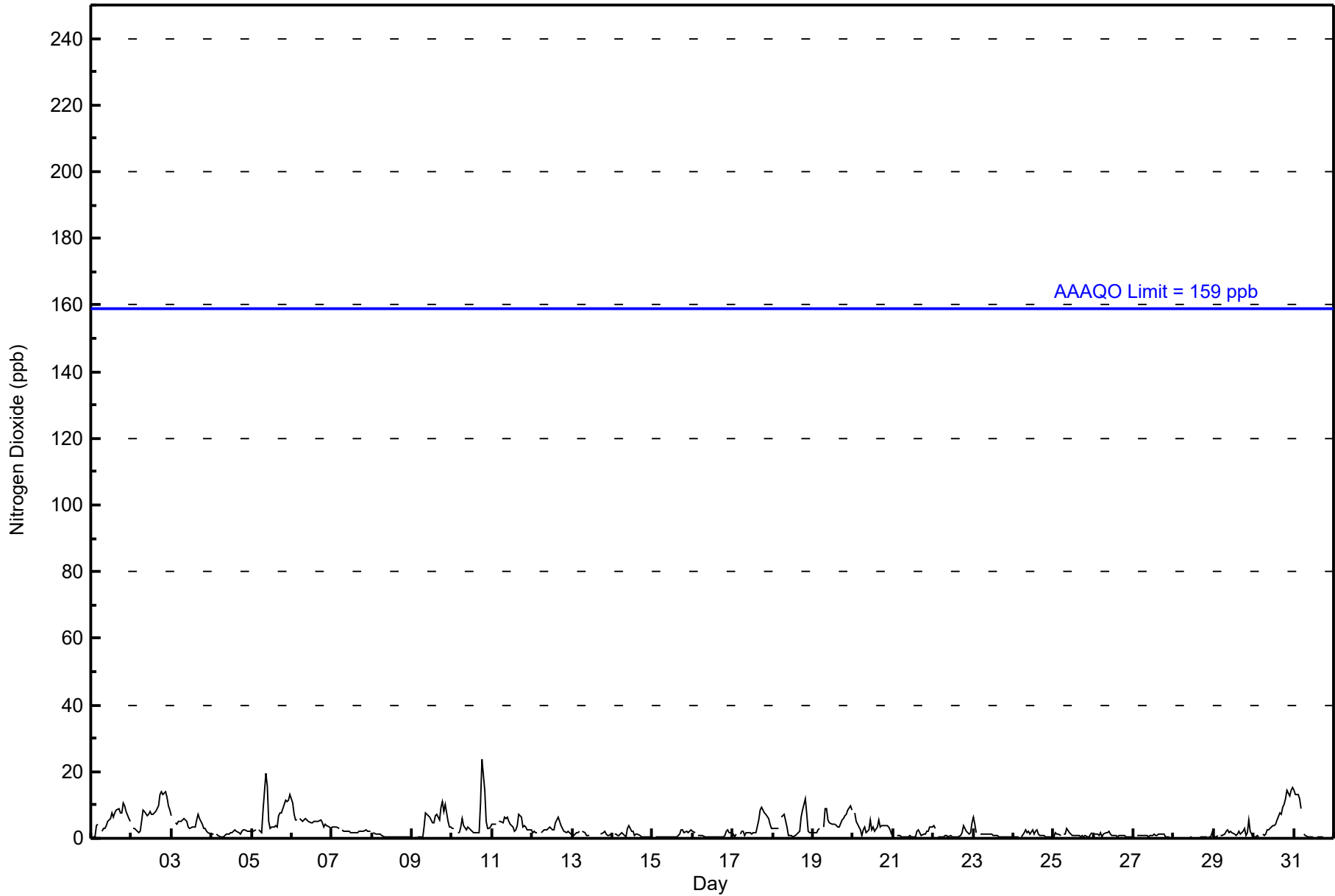
Surmont 2 - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0		Hours in Service: 744																								
Maximum Value: 23.8 ppb on Jan 10 19:00		Maximum Daily Average: 7.9 ppb on Jan 2																								
Minimum Value: 0.1 ppb on Jan 28 01:00		Minimum Daily Average: 0.3 ppb on Jan 28																								
Maximum Diurnal Average: 4.5 ppb at hour 19		Minimum Diurnal Average: 1.8 ppb at hour 6																								
Monthly Average: 2.89 ppb		Percentiles: P ₁ = 0.1 P ₁₀ = 0.4 Q ₁ = 0.7 Median = 1.8 Q ₃ = 3.9 P ₉₀ = 7.2 P ₉₉ = 14.2																								
		Hours of Data: 707																								
		Hours of Missing Data: 37																								
		Hours of Calibration: 37																								
		Percent Operational Time: 100.0																								
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0.6	0.3	0.6	4.0	4.4	Z	2.3	3.0	2.8	3.9	5.0	6.0	7.5	6.3	7.5	8.6	8.9	7.8	7.5	10.6	9.7	8.1	5.8	5.2	5.5	10.6
2-Jan	Z	3.1	3.1	2.2	1.8	2.3	5.2	8.4	7.9	6.8	7.0	8.1	7.3	7.3	7.9	8.7	9.7	13.2	14.1	13.1	13.9	12.3	9.8	8.5	7.9	14.1
3-Jan	6.6	Z	4.5	4.2	4.9	5.1	5.1	5.8	5.7	5.1	3.6	3.1	3.3	3.3	5.3	7.1	6.0	4.4	2.8	2.8	2.2	1.6	1.4	4.2	7.1	
4-Jan	1.4	1.2	Z	1.3	1.0	0.6	0.5	0.8	1.2	1.4	1.5	1.9	2.0	2.4	2.1	1.7	1.2	2.0	2.4	2.5	2.3	2.0	2.3	1.6	2.5	
5-Jan	1.5	2.0	2.4	Z	2.6	2.0	1.5	8.6	19.6	15.6	5.0	3.0	3.4	3.5	3.9	3.6	6.7	7.7	7.7	10.3	11.4	11.2	11.4	13.2	6.9	19.6
6-Jan	10.7	7.3	5.6	5.6	Z	6.1	5.2	5.7	6.1	5.4	5.0	4.8	4.6	5.0	5.0	5.1	4.9	5.4	4.6	3.6	4.3	4.0	3.2	3.0	5.2	10.7
7-Jan	3.4	3.6	3.3	3.2	3.1	Z	2.5	2.3	2.3	2.1	2.3	1.8	1.7	1.6	1.8	1.9	2.1	2.3	2.2	2.3	2.6	2.3	2.0	2.3	2.4	3.6
8-Jan	Z	1.5	1.2	1.3	1.3	1.3	0.9	0.5	0.4	0.4	0.4	0.4	0.5	0.3	0.3	0.4	0.4	0.3	0.3	0.5	0.4	0.4	0.3	0.3	0.6	1.5
9-Jan	0.3	Z	0.3	0.2	0.3	0.3	0.2	3.6	7.8	7.0	6.5	5.3	4.6	4.6	6.8	7.2	5.6	9.5	11.1	8.0	10.3	5.1	3.6	3.3	4.8	11.1
10-Jan	3.1	2.8	Z	1.9	1.7	3.4	6.0	3.7	2.5	3.6	3.0	2.5	2.2	1.6	1.8	1.6	1.8	10.8	23.8	14.5	5.0	3.1	2.9	3.3	4.6	23.8
11-Jan	4.3	4.2	4.3	Z	5.1	5.1	4.6	6.2	5.8	6.2	5.1	4.1	3.4	2.2	2.4	4.0	7.4	6.4	3.3	4.0	3.3	2.4	2.6	2.6	4.3	7.4
12-Jan	1.8	2.0	1.5	1.7	Z	1.9	2.2	2.5	2.6	2.4	3.5	2.8	2.5	2.7	4.6	6.5	5.1	4.0	3.0	2.2	1.6	2.1	1.5	1.2	2.7	6.5
13-Jan	1.2	0.8	1.9	1.7	2.0	Z	2.2	1.5	0.9	0.8	0.8	C	C	C	C	C	C	1.3	1.7	2.3	1.4	0.7	0.9	1.1	--	2.3
14-Jan	Z	1.1	1.4	1.0	0.8	1.7	1.2	0.8	0.6	2.8	3.7	2.0	2.3	0.9	1.1	1.3	0.8	0.5	0.6	0.5	0.5	0.5	0.5	0.5	1.2	3.7
15-Jan	0.4	Z	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.7	1.1	2.5	2.7	1.8	2.1	1.8	2.3	2.5	1.0	2.7
16-Jan	2.1	1.9	Z	1.0	1.0	0.9	1.0	0.5	0.5	0.5	0.6	0.6	0.5	0.4	0.3	0.4	0.3	0.4	0.3	0.8	2.3	2.7	1.6	1.7	1.0	2.7
17-Jan	1.2	0.6	1.2	Z	1.3	2.0	2.1	0.9	1.6	1.7	1.8	1.4	1.5	1.8	1.9	5.6	8.3	9.4	8.5	7.7	7.1	5.9	4.1	3.1	3.5	9.4
18-Jan	2.8	3.0	2.8	3.0	Z	6.3	6.8	7.1	3.2	1.0	0.8	0.7	0.5	0.7	1.2	1.5	2.2	6.3	8.3	11.7	7.0	2.3	1.9	1.6	3.6	11.7
19-Jan	1.7	1.6	1.8	2.5	2.8	Z	3.6	8.8	8.8	5.4	4.5	4.4	4.1	4.4	4.0	3.4	3.3	5.7	5.9	6.7	7.3	8.4	9.6	8.6	5.1	9.6
20-Jan	Z	7.6	5.1	4.1	2.5	1.0	2.4	3.6	1.6	2.7	5.5	2.6	3.4	2.3	3.4	5.3	3.4	3.9	3.9	3.9	3.7	3.6	2.4	1.4	3.4	7.6
21-Jan	1.0	Z	0.8	0.8	0.7	0.6	0.5	0.5	0.6	0.6	0.8	0.5	0.4	0.4	2.2	2.4	1.6	1.0	1.3	1.2	2.3	2.3	3.3	3.6	1.3	3.6
22-Jan	4.0	3.1	Z	0.4	0.4	0.3	0.4	0.9	0.8	0.5	0.7	0.4	0.3	0.4	0.3	0.6	0.7	1.7	4.0	3.1	2.0	1.4	1.6	4.5	1.4	4.5
23-Jan	6.3	4.2	1.5	Z	1.4	1.1	1.3	1.3	1.4	1.2	1.1	1.2	0.7	0.8	0.7	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.5	1.2	6.3
24-Jan	0.4	0.3	0.3	0.3	Z	0.3	1.9	2.4	1.5	2.1	1.4	2.4	1.1	2.0	2.4	1.3	0.7	0.7	0.8	0.6	0.5	0.3	0.4	0.5	1.1	2.4
25-Jan	0.4	1.5	1.3	1.2	0.8	Z	1.2	1.3	2.8	1.9	1.2	1.0	0.9	0.8	0.7	0.8	0.6	0.7	0.6	0.7	0.6	0.6	1.2	1.9	1.1	2.8
26-Jan	Z	1.4	1.4	0.9	1.5	0.6	1.3	1.6	1.7	2.0	1.4	1.0	0.7	0.7	0.6	0.7	0.7	0.7	0.7	0.5	0.4	0.4	0.4	0.3	0.9	2.0
27-Jan	0.3	Z	0.8	0.7	0.7	0.7	0.8	0.8	0.9	0.6	0.7	0.8	1.2	0.8	0.8	1.2	1.1	1.4	1.2	0.6	0.5	0.4	0.2	0.2	0.8	1.4
28-Jan	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.4	0.1	0.1	0.2	0.1	0.2	0.5	0.6	0.3	0.3	0.2	0.3	0.5	1.8	0.3	1.8
29-Jan	0.6	0.5	0.7	Z	0.7	0.8	1.1	2.3	2.6	1.9	2.1	1.5	1.4	0.7	1.3	2.2	1.2	2.0	3.0	0.7	1.7	5.3	2.3	0.3	1.6	5.3
30-Jan	0.3	0.5	0.7	0.5	Z	1.4	1.0	1.3	2.5	2.6	3.6	4.0	3.7	4.4	5.6	7.5	7.1	9.3	10.0	11.9	14.5	12.7	14.5	15.3	5.9	15.3
31-Jan	14.2	13.3	13.2	11.7	8.7	Z	1.4	0.9	0.6	0.5	0.4	0.3	0.2	0.2	0.3	0.3	0.4	0.3	0.2	0.2	0.2	0.1	0.2	0.3	3.0	14.2
																								Diurnal Average		
																								Diurnal Maximum		
																								2.7 2.7 2.4 2.2 2.0 1.8 2.2 2.8 3.1 2.9 2.6 2.3 2.2 2.1 2.5 3.0 3.2 4.0 4.5 4.2 3.9 3.4 3.1 3.1		
																								14.2 13.3 13.2 11.7 8.7 6.3 6.8 8.8 19.6 15.6 7.0 8.1 7.5 7.3 7.9 8.7 9.7 13.2 23.8 14.5 14.5 12.7 14.5 15.3		
Z - zerospan C - Calibration																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb																										



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
Surmont 2 - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Nitrogen Dioxide (NO₂) - ppb
Surmont 2 - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	706	99.86	99.86
21 - 40	1	0.14	100.00
41 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 707

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Dioxide (NO₂) - ppb
Surmont 2 - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	38	11	9	6	9	33	70	19	15	20	24	75	135	100	45	96	705
21 - 40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
11 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	38	11	9	6	9	33	70	19	15	20	24	75	135	100	45	97	706

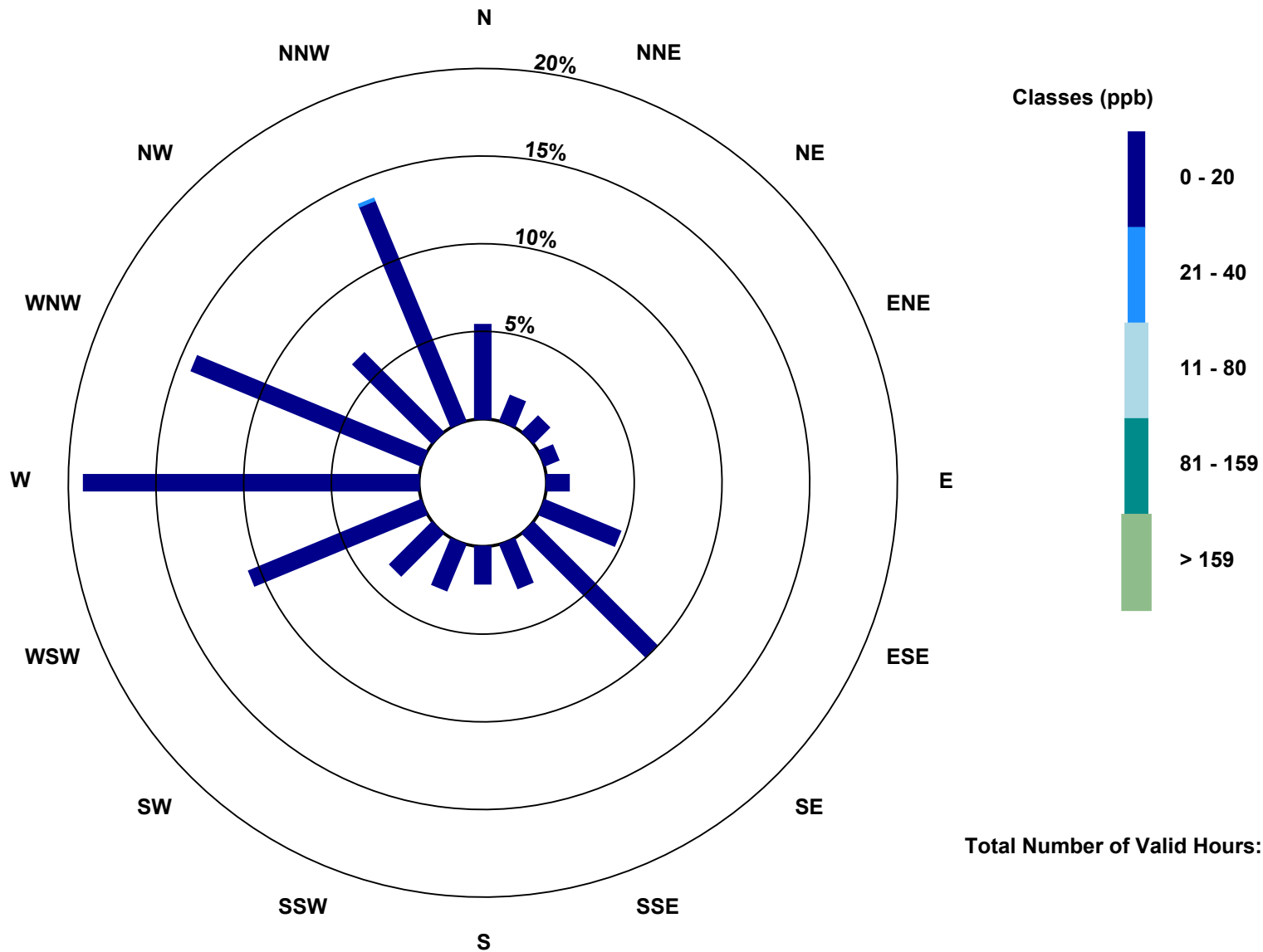
Total Number of Valid Hours: 706

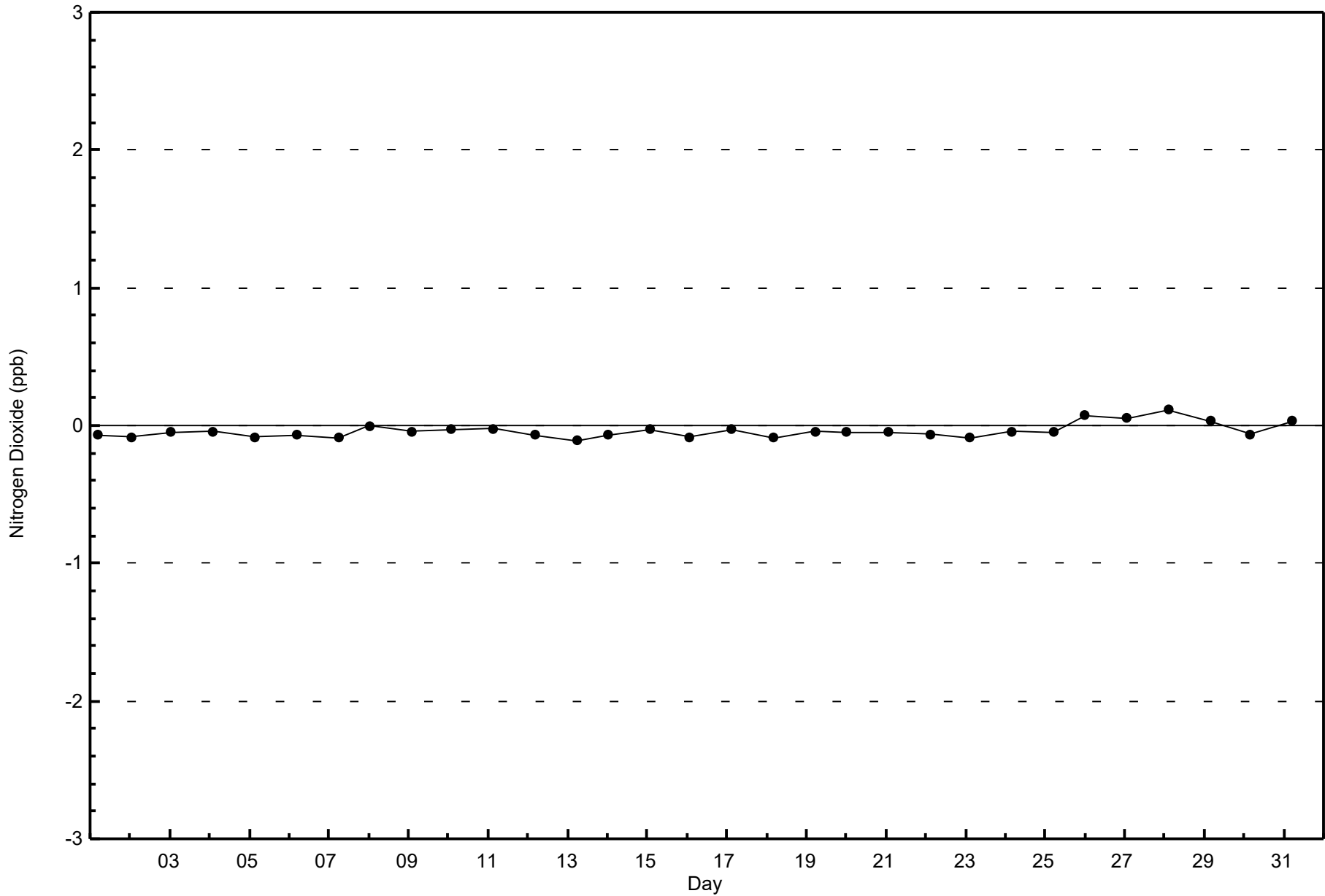
Total Number of Hours: 744

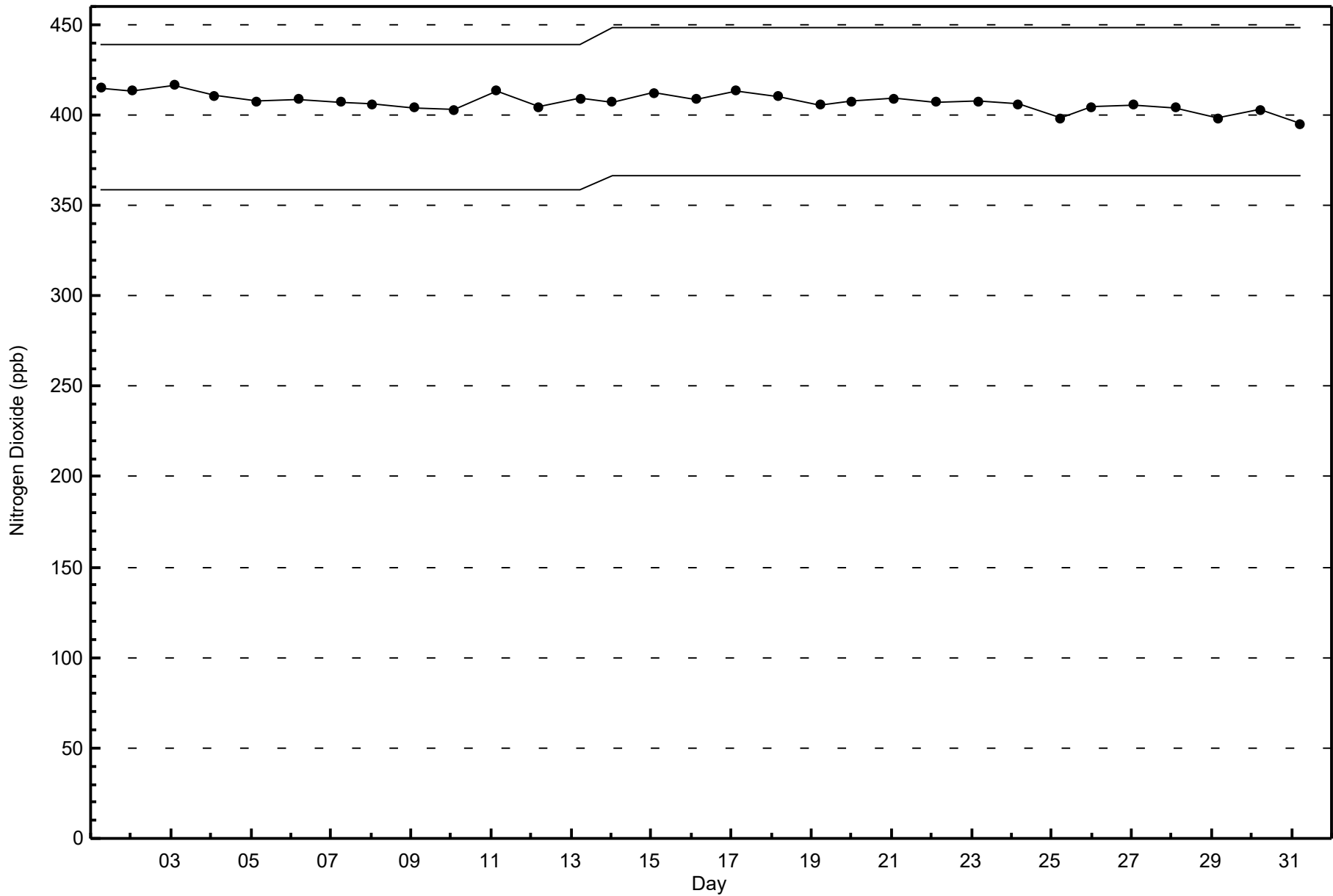


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Dioxide (NO₂) - ppb
Surmont 2









Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Oxides (NO_x) - ppb

Surmont 2 - January 2025

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 27.3 ppb on Jan 10 19:00	Maximum Daily Average: 8.7 ppb on Jan 2		Hours of Data:	707
Minimum Value: 0.1 ppb on Jan 28 06:00	Minimum Daily Average: 0.3 ppb on Jan 28		Hours of Missing Data:	37
Maximum Diurnal Average: 4.6 ppb at hour 19	Minimum Diurnal Average: 1.9 ppb at hour 6		Hours of Calibration:	37
Monthly Average: 3.06 ppb	Percentiles: P ₁ = 0.1 P ₁₀ = 0.4 Q ₁ = 0.7 Median = 1.9 Q ₃ = 4.2 P ₉₀ = 7.6 P ₉₉ = 14.6		Percent Operational Time:	100.0

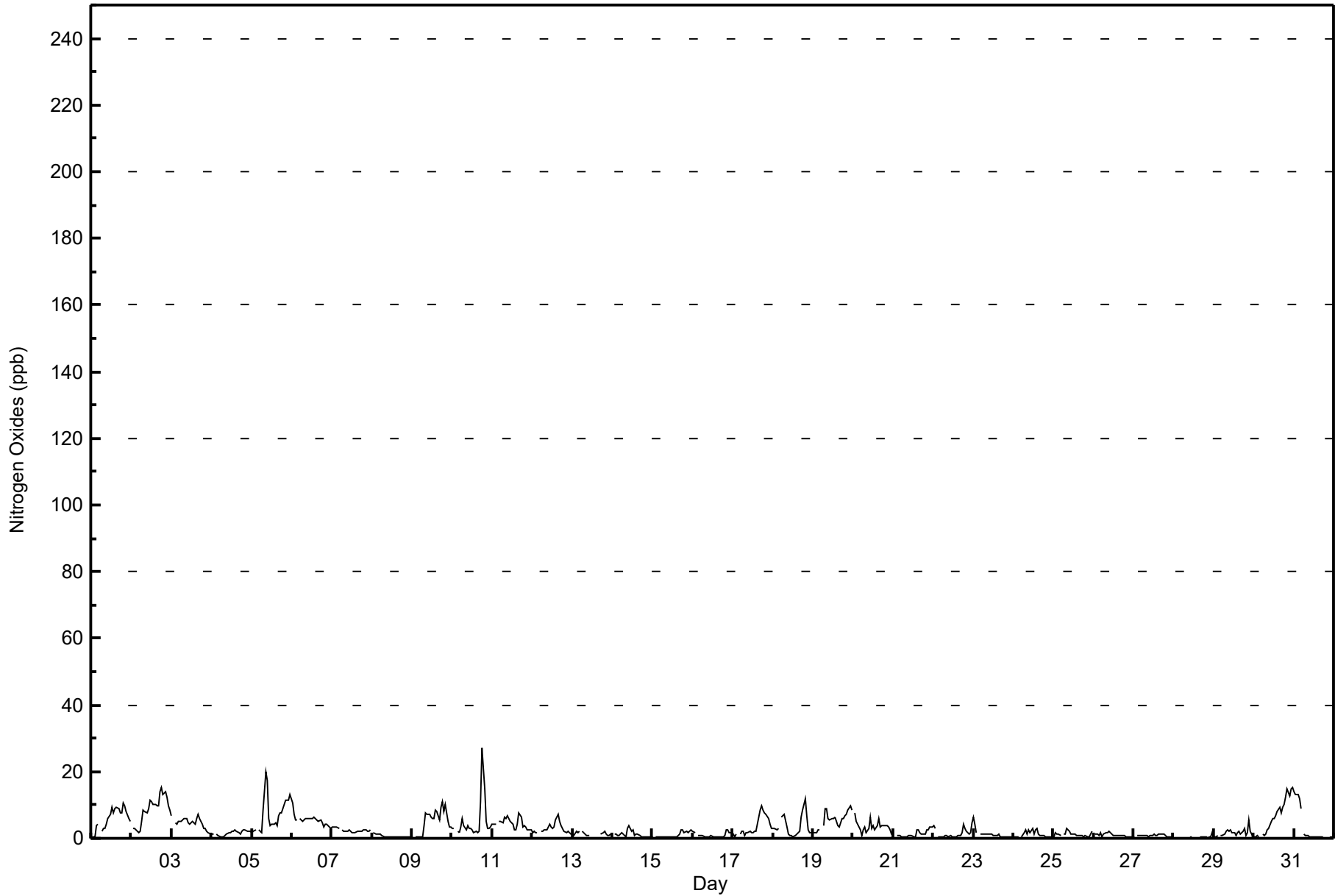
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	0.6	0.3	0.6	4.0	4.4	Z	2.3	3.0	2.8	4.1	5.7	7.3	9.5	7.7	9.0	9.3	9.0	7.8	7.5	10.6	9.7	8.1	5.8	5.2	5.8	10.6																							
2-Jan	Z	3.1	3.1	2.2	1.8	2.3	5.2	8.4	8.0	7.6	9.0	11.6	11.1	10.4	10.1	9.8	9.9	13.9	15.1	13.3	14.0	12.4	9.9	8.6	8.7	15.1																							
3-Jan	6.7	Z	4.6	4.2	4.9	5.1	5.1	5.8	5.8	5.8	4.7	4.4	5.0	4.7	4.2	5.8	7.2	6.0	4.4	2.8	2.8	2.2	1.6	1.4	4.6	7.2																							
4-Jan	1.4	1.2	Z	1.3	1.0	0.6	0.5	0.8	1.2	1.5	1.7	2.2	2.3	2.6	2.1	1.7	1.2	2.0	2.4	2.5	2.3	2.0	2.3	2.0	1.6	2.6																							
5-Jan	1.5	2.0	2.4	Z	2.6	2.0	1.5	8.6	19.9	17.4	6.0	3.7	4.4	4.3	4.5	3.8	6.8	7.8	7.8	10.4	11.4	11.3	11.5	13.3	7.2	19.9																							
6-Jan	10.7	7.3	5.6	5.6	Z	6.1	5.2	5.7	6.1	5.8	5.8	6.0	6.0	6.3	6.0	5.6	5.0	5.5	4.6	3.6	4.3	4.0	3.2	3.0	5.5	10.7																							
7-Jan	3.4	3.6	3.3	3.2	3.1	Z	2.5	2.3	2.3	2.2	2.5	2.0	1.8	1.7	1.9	2.0	2.1	2.3	2.2	2.3	2.6	2.3	2.0	2.3	2.4	3.6																							
8-Jan	Z	1.5	1.3	1.3	1.4	1.3	0.9	0.6	0.4	0.4	0.4	0.4	0.6	0.4	0.3	0.5	0.5	0.3	0.3	0.5	0.4	0.4	0.3	0.3	0.6	1.5																							
9-Jan	0.3	Z	0.3	0.2	0.3	0.3	0.2	3.6	7.8	7.3	7.1	6.3	5.8	6.1	8.5	8.0	5.7	9.5	11.1	8.0	10.3	5.1	3.6	3.3	5.2	11.1																							
10-Jan	3.1	2.8	Z	1.9	1.7	3.4	6.1	3.7	2.5	3.8	3.2	2.8	2.4	1.8	2.0	1.7	2.0	11.0	27.3	14.8	5.1	3.1	2.9	3.3	4.9	27.3																							
11-Jan	4.3	4.2	4.3	Z	5.1	5.1	4.7	6.3	5.9	6.7	6.0	5.0	4.2	2.6	2.6	4.3	7.5	6.4	3.3	4.0	3.3	2.4	2.6	2.6	4.5	7.5																							
12-Jan	1.8	2.0	1.5	1.7	Z	1.9	2.2	2.5	2.6	2.7	4.4	3.4	3.0	3.3	5.7	7.2	5.2	4.0	3.0	2.2	1.6	2.1	1.5	1.2	2.9	7.2																							
13-Jan	1.2	0.8	1.9	1.7	2.0	Z	2.2	1.5	0.9	0.8	0.8	C	C	C	C	C	C	1.3	1.7	2.3	1.4	0.7	0.9	1.1	--	2.3																							
14-Jan	Z	1.1	1.4	1.0	0.8	1.7	1.2	0.8	0.6	2.9	3.8	2.2	2.6	1.0	1.3	1.5	0.9	0.6	0.6	0.5	0.5	0.5	0.5	0.5	1.2	3.8																							
15-Jan	0.4	Z	0.4	0.4	0.3	0.3	0.3	0.4	0.3	0.3	0.4	0.5	0.4	0.4	0.4	0.8	1.1	2.5	2.7	1.8	2.1	1.8	2.3	2.5	1.0	2.7																							
16-Jan	2.1	1.9	Z	1.0	1.0	0.9	1.0	0.5	0.5	0.5	0.6	0.7	0.5	0.4	0.3	0.4	0.3	0.4	0.3	0.8	2.3	2.7	1.6	1.7	1.0	2.7																							
17-Jan	1.2	0.6	1.2	Z	1.3	2.0	2.1	1.0	1.6	1.8	2.0	1.6	1.9	2.2	2.2	6.2	8.6	9.6	8.6	7.8	7.1	5.9	4.1	3.1	3.6	9.6																							
18-Jan	2.8	3.0	2.8	3.0	Z	6.3	6.8	7.1	3.2	1.1	0.9	1.0	0.6	0.9	1.4	1.7	2.3	6.4	8.4	12.0	7.0	2.3	1.9	1.6	3.7	12.0																							
19-Jan	1.7	1.6	1.8	2.5	2.8	Z	3.7	8.9	9.0	6.1	5.7	6.1	6.1	6.3	5.2	3.9	3.4	5.8	5.9	6.7	7.3	8.4	9.6	8.6	5.5	9.6																							
20-Jan	Z	7.6	5.1	4.1	2.5	1.0	2.4	3.6	1.6	3.0	6.2	2.9	3.8	2.5	3.7	5.7	3.5	3.9	3.9	3.9	3.7	3.6	2.4	1.4	3.6	7.6																							
21-Jan	1.1	Z	0.8	0.8	0.7	0.6	0.5	0.5	0.6	0.7	1.0	0.6	0.5	0.5	2.3	2.6	1.7	1.1	1.3	1.3	2.3	2.3	3.3	3.6	1.3	3.6																							
22-Jan	4.0	3.1	Z	0.4	0.4	0.3	0.4	0.9	0.8	0.6	0.8	0.5	0.3	0.5	0.4	0.7	0.7	1.7	4.0	3.1	2.0	1.4	1.6	4.5	1.4	4.5																							
23-Jan	6.4	4.2	1.5	Z	1.4	1.1	1.3	1.3	1.4	1.3	1.2	1.4	0.8	1.0	0.8	1.1	0.5	0.5	0.4	0.4	0.3	0.3	0.4	0.5	1.3	6.4																							
24-Jan	0.4	0.3	0.3	0.3	Z	0.3	1.9	2.4	1.5	2.3	1.6	3.0	1.3	2.5	2.9	1.4	0.7	0.7	0.8	0.6	0.5	0.3	0.4	0.5	1.2	3.0																							
25-Jan	0.4	1.5	1.3	1.2	0.8	Z	1.2	1.3	2.8	2.1	1.4	1.2	1.1	1.1	0.9	0.9	0.7	0.7	0.6	0.8	0.6	0.6	1.2	1.9	1.1	2.8																							
26-Jan	Z	1.4	1.4	0.9	1.5	0.6	1.3	1.6	1.7	2.2	1.6	1.2	0.9	0.9	0.8	0.8	0.8	0.7	0.7	0.5	0.4	0.4	0.4	0.3	1.0	2.2																							
27-Jan	0.3	Z	0.8	0.7	0.7	0.7	0.8	0.8	0.9	0.6	0.9	1.0	1.4	1.0	1.0	1.3	1.2	1.4	1.2	0.6	0.5	0.4	0.2	0.2	0.8	1.4																							
28-Jan	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.5	0.1	0.1	0.2	0.1	0.2	0.5	0.6	0.3	0.3	0.2	0.3	0.5	1.8	0.3	1.8																							
29-Jan	0.6	0.5	0.7	Z	0.7	0.8	1.1	2.3	2.6	2.1	2.5	1.7	1.5	0.8	1.5	2.3	1.2	2.1	3.1	0.7	1.7	5.4	2.3	0.3	1.7	5.4																							
30-Jan	0.3	0.5	0.7	0.5	Z	1.4	1.0	1.3	2.6	3.1	5.1	6.1	5.8	6.9	8.0	9.4	7.6	9.4	10.0	12.3	14.7	12.7	14.6	15.4	6.5	15.4																							
31-Jan	14.2	13.3	13.2	11.7	8.7	Z	1.4	0.9	0.6	0.5	0.5	0.3	0.3	0.2	0.3	0.3	0.4	0.3	0.2	0.2	0.2	0.1	0.2	0.3	3.0	14.2																							
																								2.7	2.7	2.4	2.1	2.0	1.9	2.2	2.8	3.2	3.1	3.0	2.9	2.9	2.7	3.0	3.4	3.3	4.0	4.6	4.2	4.0	3.4	3.1	3.1	Diurnal Average	
																								14.2	13.3	13.2	11.7	8.7	6.3	6.8	8.9	19.9	17.4	9.0	11.6	11.1	10.4	10.1	9.8	9.9	13.9	27.3	14.8	14.7	12.7	14.6	15.4	Diurnal Maximum	

Z - zerospan C - Calibration



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Surmont 2 - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Surmont 2 - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	706	99.86	99.86
21 - 40	1	0.14	100.00
41 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 707

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Oxides (NO_x) - ppb
Surmont 2 - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	38	11	9	6	9	33	70	19	15	20	24	75	135	100	45	96	705
21 - 40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
11 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	38	11	9	6	9	33	70	19	15	20	24	75	135	100	45	97	706

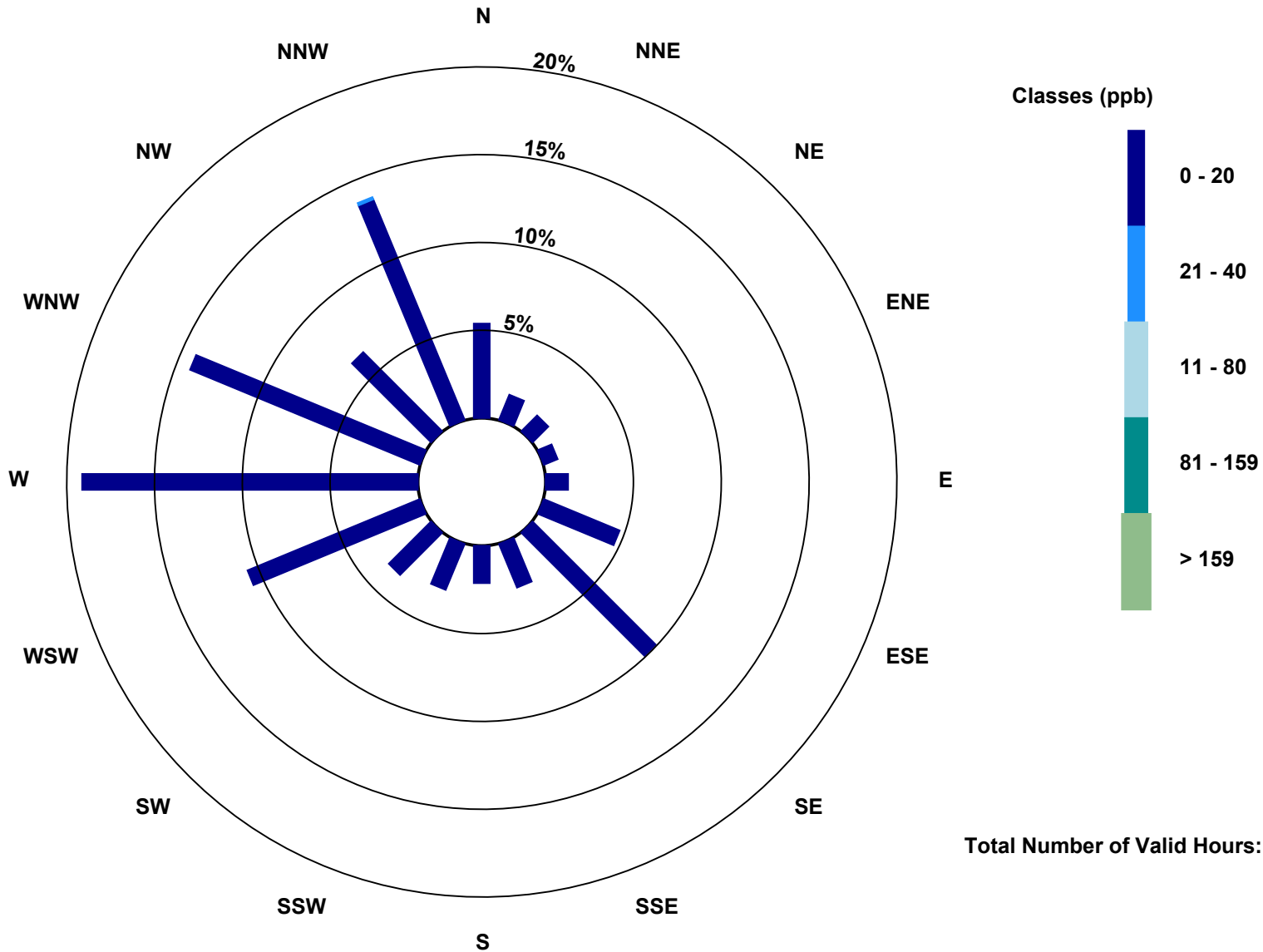
Total Number of Valid Hours: 706

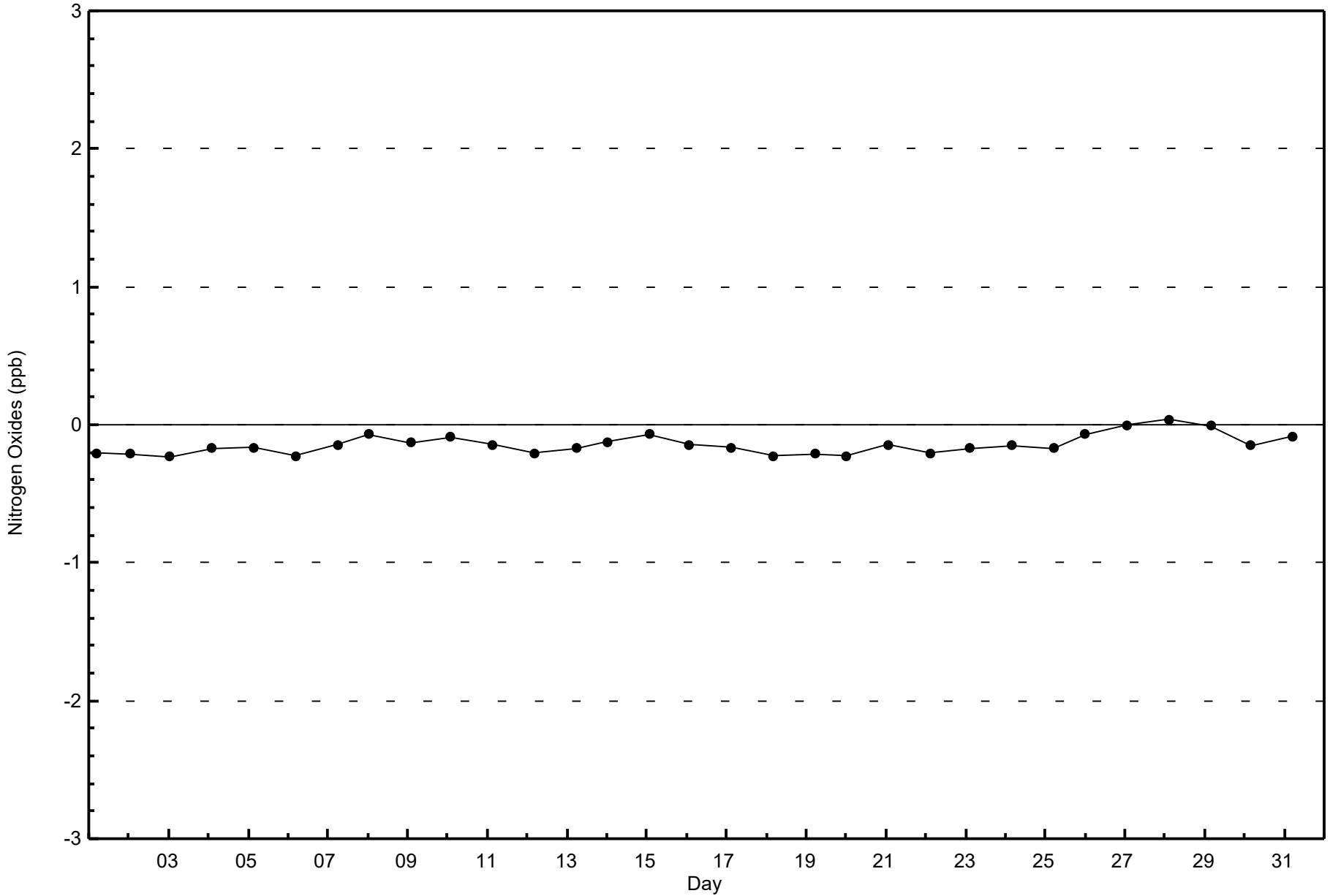
Total Number of Hours: 744

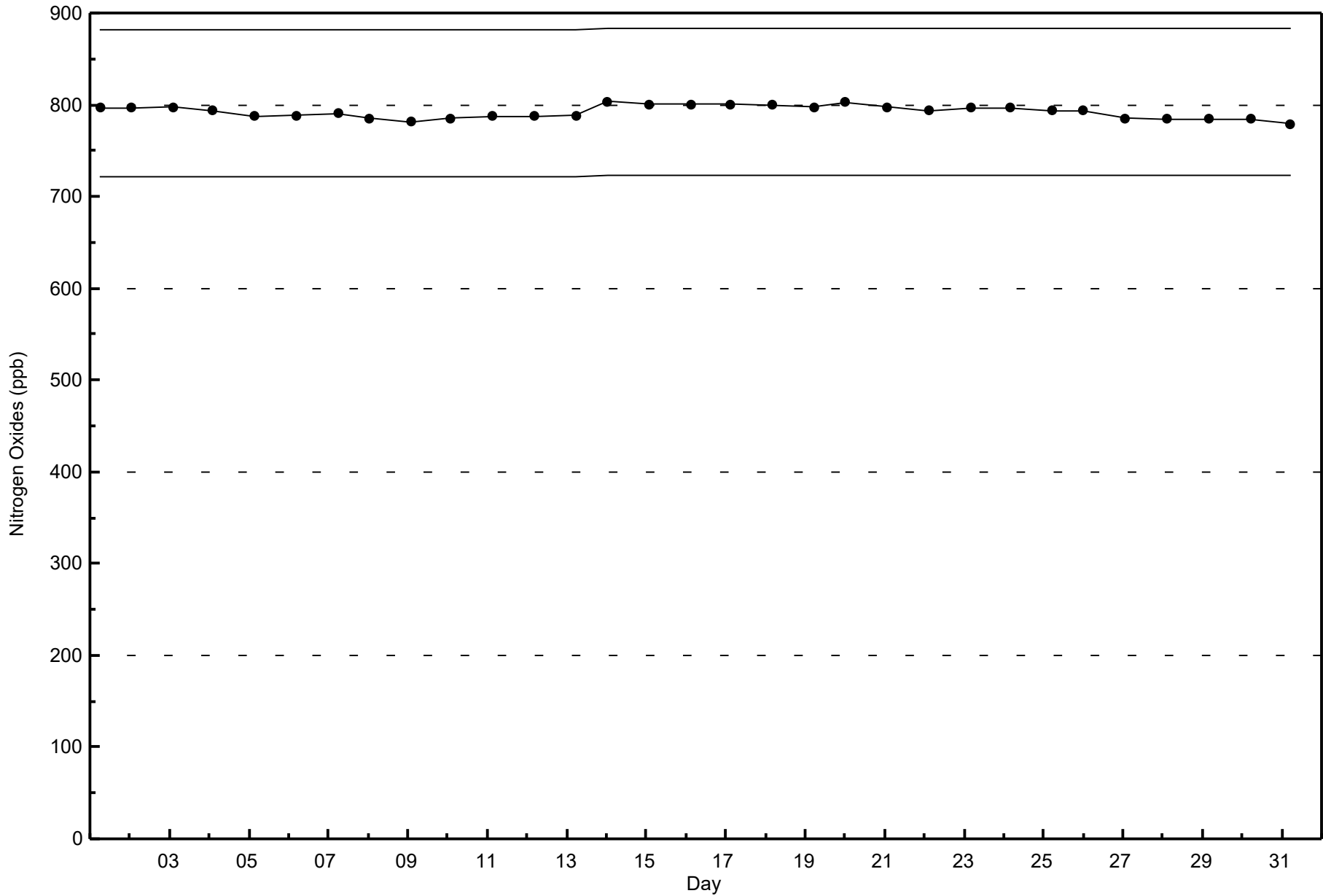


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Oxides (NO_x) - ppb
Surmont 2





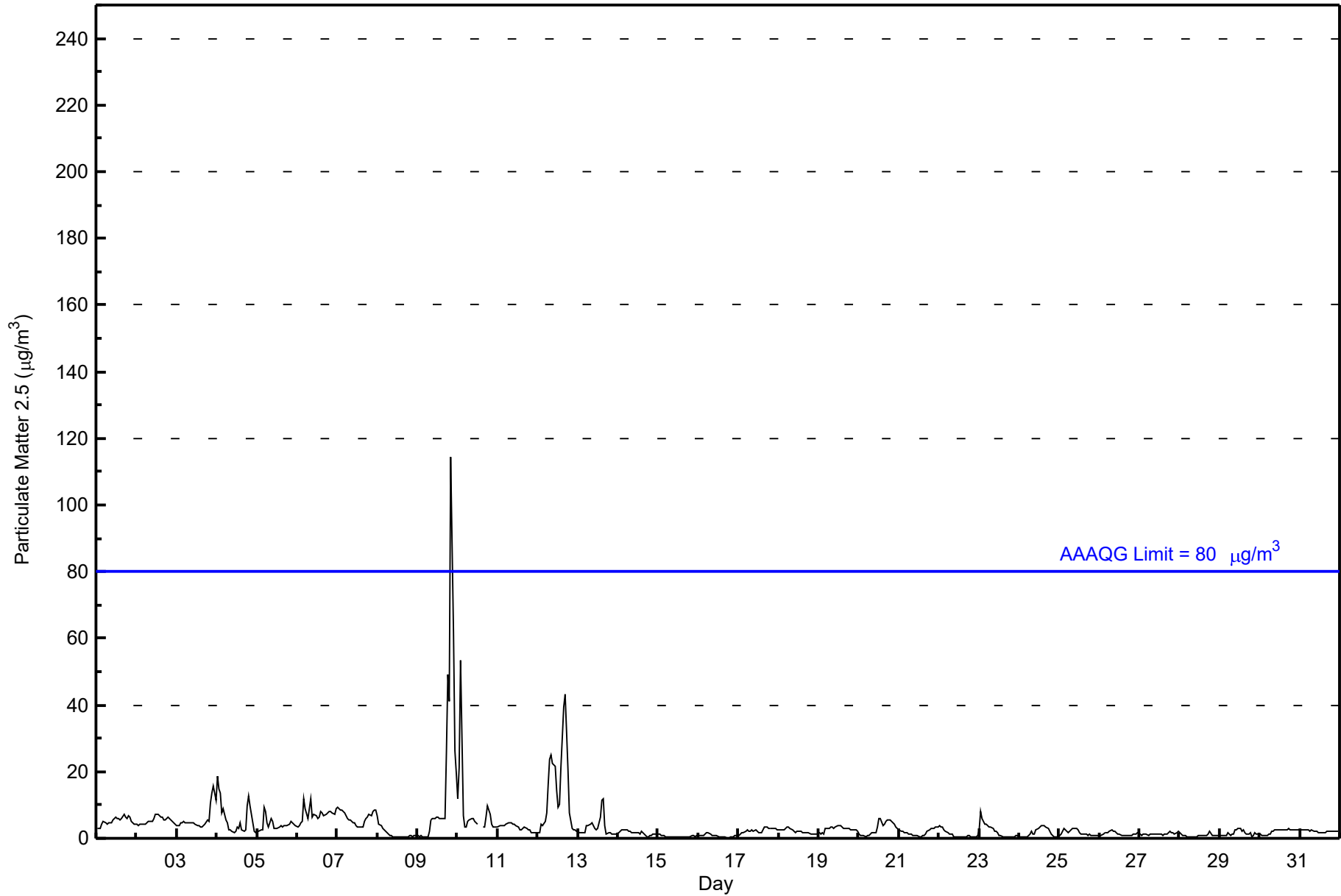




Number of Exceedences (AAAQO):	1-hr: 1	24-hr: 0	Hours in Service:	744
Maximum Value: 114.5 µg/m ³ on Jan 9 21:00	Maximum Daily Average: 16.6 µg/m ³ on Jan 9		Hours of Data:	742
Minimum Value: 0.2 µg/m ³ on Jan 16 19:00	Minimum Daily Average: 0.6 µg/m ³ on Jan 15		Hours of Missing Data:	2
Maximum Diurnal Average: 6.7 µg/m ³ at hour 21	Minimum Diurnal Average: 2.8 µg/m ³ at hour 4		Hours of Calibration:	2
Monthly Average: 3.79 µg/m ³	Percentiles: P ₁ = 0.3 P ₁₀ = 0.6 Q ₁ = 1.1 Median = 2.4 Q ₃ = 4.2 P ₉₀ = 6.8 P ₉₉ = 29.8		Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Jan	3.1	3.1	3.0	4.3	5.0	4.5	4.4	4.7	4.6	4.8	5.5	6.6	5.9	5.9	5.4	6.1	7.3	6.2	5.8	6.6	6.3	5.2	4.4	4.1	5.1	7.3																						
2-Jan	4.0	4.0	4.1	4.2	4.1	4.1	4.7	5.2	4.9	5.1	6.0	7.2	7.4	7.0	6.5	6.2	5.7	5.7	5.9	6.2	5.7	5.3	4.7	4.3	5.3	7.4																						
3-Jan	4.0	4.0	4.6	4.8	5.0	4.6	4.8	4.7	4.6	4.5	4.5	4.2	3.9	3.8	3.5	3.3	3.7	4.2	5.5	4.9	10.7	13.5	15.9	11.4	5.8	15.9																						
4-Jan	18.8	15.0	13.4	7.6	8.7	5.4	4.8	2.5	2.6	2.2	1.9	2.1	3.4	3.0	4.5	2.7	2.3	2.5	9.8	12.8	9.6	4.7	2.2	1.7	6.0	18.8																						
5-Jan	2.1	2.1	2.4	2.5	9.3	8.2	4.5	3.5	5.9	4.9	3.1	2.9	3.2	3.2	3.7	3.5	3.7	3.7	4.0	4.3	5.0	4.6	4.2	3.8	4.1	9.3																						
6-Jan	3.5	3.9	4.9	5.0	11.8	9.1	5.8	9.0	12.0	6.2	7.1	6.9	5.8	6.3	8.0	7.6	6.8	7.1	7.6	7.8	8.1	7.5	7.2	8.7	7.2	12.0																						
7-Jan	9.4	9.0	8.7	8.4	7.7	6.6	6.1	5.6	5.5	4.8	4.6	3.9	3.6	3.5	3.4	3.5	5.3	5.8	6.4	7.2	6.8	7.9	8.3	8.7	6.3	9.4																						
8-Jan	7.0	4.3	3.8	3.2	2.6	2.0	1.5	1.0	0.7	0.5	0.5	0.5	0.5	0.4	0.3	0.3	0.3	0.3	0.3	0.8	0.8	0.6	0.6	0.7	1.4	7.0																						
9-Jan	0.7	0.6	0.7	0.6	0.4	0.5	0.6	2.0	5.5	6.0	5.9	6.4	6.2	6.0	5.9	5.9	6.0	25.9	49.1	41.0	114.5	61.9	26.4	19.6	16.6	114.5																						
10-Jan	11.8	21.3	53.4	6.9	3.3	3.6	4.9	5.5	6.0	5.9	5.3	4.6	4.4	C	C	3.2	3.2	6.3	9.6	7.2	4.3	3.2	3.3	3.3	8.2	53.4																						
11-Jan	3.4	3.7	3.8	4.0	3.9	4.2	4.5	4.6	4.5	4.4	4.2	3.8	3.2	2.5	2.4	2.9	3.2	3.1	2.6	2.4	1.9	1.6	1.6	1.9	3.3	4.6																						
12-Jan	1.6	1.5	4.2	3.8	5.2	7.7	16.1	23.8	24.9	22.3	21.4	14.5	9.3	10.3	21.0	39.2	43.0	32.2	20.8	7.4	2.9	2.6	2.4	2.1	14.2	43.0																						
13-Jan	2.0	1.8	1.8	1.7	1.7	3.8	3.9	4.1	4.9	4.0	3.0	2.6	3.0	6.5	11.6	12.0	4.0	1.4	1.5	1.5	1.3	1.1	1.3	1.4	3.4	12.0																						
14-Jan	1.6	2.0	2.4	2.6	2.6	2.4	2.3	2.0	1.9	1.7	1.6	1.6	1.8	1.4	2.1	1.8	0.9	0.6	0.5	0.7	0.9	1.2	1.2	1.4	1.6	2.6																						
15-Jan	1.3	1.1	0.9	0.7	0.6	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.8	0.6	0.6	0.7	0.6	1.3																						
16-Jan	0.8	0.8	0.8	0.9	1.1	1.7	1.5	1.2	1.0	0.9	0.9	0.9	0.6	0.4	0.5	0.4	0.2	0.2	0.2	0.2	0.3	0.5	0.9	1.0	0.7	1.7																						
17-Jan	1.0	1.3	1.6	1.8	2.0	2.4	2.3	2.1	2.5	2.2	2.4	2.1	1.6	1.5	1.6	3.2	3.5	3.6	3.1	3.2	3.0	3.0	2.8	2.7	2.3	3.6																						
18-Jan	2.7	2.7	2.6	2.7	3.1	3.3	3.2	3.1	2.6	2.0	1.7	2.0	2.0	1.8	1.8	1.7	1.7	1.5	1.5	1.3	1.2	1.3	1.4	2.1	3.3																							
19-Jan	1.6	1.4	1.5	1.5	3.0	3.0	2.9	3.4	3.4	3.0	3.3	3.7	3.8	3.9	3.6	3.1	2.8	2.8	2.8	2.7	2.6	2.6	2.5	2.1	2.8	3.9																						
20-Jan	1.3	1.0	0.9	0.7	0.6	0.7	0.9	1.3	1.6	1.9	1.5	3.5	5.9	5.8	3.9	4.3	5.0	5.4	5.5	5.4	4.9	4.3	3.5	2.8	3.0	5.9																						
21-Jan	2.5	2.3	2.1	1.7	1.7	1.5	1.3	1.1	0.9	0.9	0.8	0.7	0.5	0.4	0.7	0.7	1.1	2.1	2.7	2.9	3.0	3.1	3.5	3.5	1.7	3.5																						
22-Jan	3.7	3.6	3.2	2.4	2.2	1.7	1.2	1.3	1.1	0.5	0.4	0.4	0.3	0.2	0.3	0.3	0.5	0.7	0.7	0.6	0.4	0.4	0.4	0.9	1.1	3.7																						
23-Jan	2.3	8.0	5.9	4.4	4.2	4.0	3.5	3.2	2.9	2.3	2.2	1.6	0.9	0.8	0.4	0.3	0.2	0.3	0.2	0.4	0.4	0.6	0.7	0.8	2.1	8.0																						
24-Jan	0.3	0.3	0.3	0.6	0.5	0.5	1.4	1.9	1.2	1.2	2.4	3.0	3.2	3.7	4.0	3.8	3.3	2.9	2.2	1.1	0.7	0.5	0.4	0.5	1.7	4.0																						
25-Jan	0.8	1.3	2.2	3.0	2.0	1.6	2.0	2.6	2.9	3.0	2.8	2.4	1.8	1.3	1.1	1.1	1.1	1.1	1.1	1.0	1.0	0.8	0.9	1.0	1.7	3.0																						
26-Jan	0.9	0.9	1.3	1.5	1.8	1.8	2.3	2.6	2.3	1.9	1.6	1.4	1.2	1.0	0.8	0.6	0.7	0.8	0.8	1.0	1.1	1.2	1.3	1.5	1.3	2.6																						
27-Jan	1.1	0.8	1.1	1.4	1.1	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.1	1.1	1.2	1.7	2.0	1.8	1.6	1.4	1.7	2.2	1.3	2.2																						
28-Jan	1.7	1.4	1.1	0.7	0.6	0.6	0.6	0.6	0.5	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.9	1.3	1.9	0.9	1.0	0.9	0.7	0.8	0.9	1.9																						
29-Jan	0.8	0.8	0.9	0.9	0.8	1.5	1.0	1.1	1.4	2.4	2.6	3.1	2.9	2.2	2.4	1.9	1.3	1.2	1.7	0.5	0.8	1.5	1.3	1.3	1.5	3.1																						
30-Jan	1.1	0.7	0.8	0.7	0.9	1.1	1.4	2.1	2.3	2.4	2.6	2.7	2.7	2.7	2.7	2.7	2.7	2.8	2.6	2.5	2.5	2.5	2.7	2.7	2.1	2.8																						
31-Jan	2.6	2.4	2.6	2.5	2.4	2.4	2.1	2.4	2.0	2.0	1.9	1.8	1.8	1.8	1.8	1.9	2.1	2.0	2.0	2.1	2.2	2.2	2.2	2.1	2.1	2.6																						
																								3.2	3.4	4.5	2.8	3.2	3.1	3.2	3.5	3.8	3.4	3.4	3.2	3.0	3.0	3.5	4.1	4.0	4.4	5.2	4.5	6.7	4.8	3.6	3.3	Diurnal Average
																								18.8	21.3	53.4	8.4	11.8	9.1	16.1	23.8	24.9	22.3	21.4	14.5	9.3	10.3	21.0	39.2	43.0	32.2	49.1	41.0	114.5	61.9	26.4	19.6	Diurnal Maximum

C - Calibration
 Alberta Ambient Air Quality Guideline/Objectives: 1-hr 80 µg/m³ 24-hr 29 µg/m³





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Surmont 2 - January 2025

Concentration Ranges ($\mu\text{g}/\text{m}^3$)	Number of Hours	%	Cumulative %
0 - 5	623	83.96	83.96
6 - 15	98	13.21	97.17
16 - 25	11	1.48	98.65
26 - 80	9	1.21	99.87
> 81.0	1	0.13	100.00

Total Number of Valid Hours: 742

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - μg/m³
Surmont 2 - January 2025

Concentration Ranges (μg/m ³)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	38	11	10	6	9	24	33	13	13	15	26	58	135	104	44	83	622
6 - 15	2	0	0	0	0	8	30	5	2	4	1	21	6	1	3	15	98
16 - 25	0	0	0	0	0	1	9	0	0	1	0	0	0	0	0	0	11
26 - 80	0	0	0	0	0	1	7	1	0	0	0	0	0	0	0	0	9
> 81.0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Totals	40	11	10	6	9	34	80	19	15	20	27	79	141	105	47	98	741

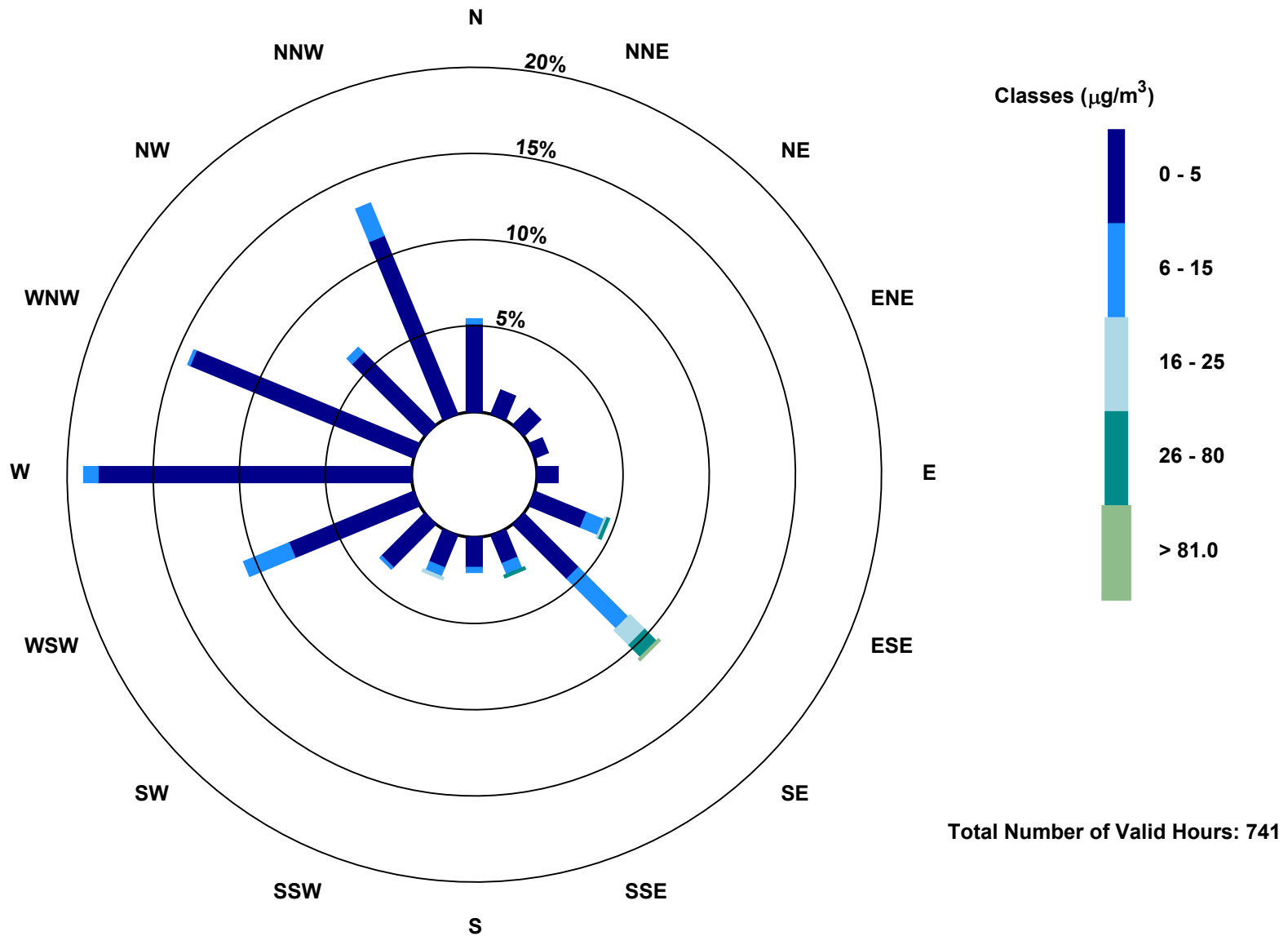
Total Number of Valid Hours: 741

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Surmont 2

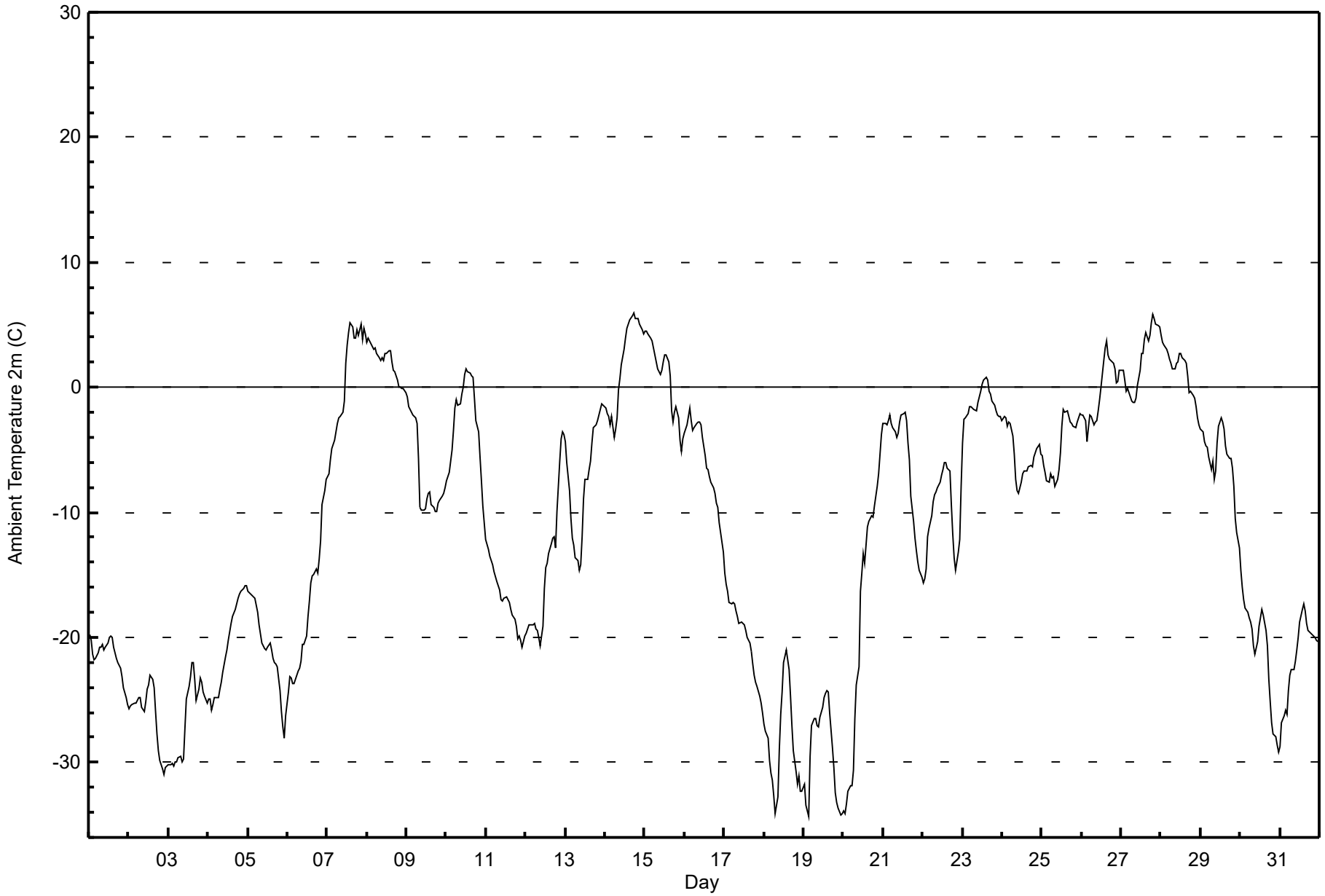




Wood Buffalo Environmental Association
Summary of Hour Averages

Ambient Temperature 2m (AT2) - C
Surmont 2 - January 2025

Maximum Value: 5.9 C on Jan 14 18:00 Maximum Daily Average: 2.2 C on Jan 27 Minimum Value: -34.3 C on Jan 19 04:00 Minimum Daily Average: -29.2 C on Jan 19 Maximum Diurnal Average: -9.0 C at hour 15 Minimum Diurnal Average: -12.6 C at hour 9 Monthly Average: -11.36 C Percentiles: P ₁ = -33.5 P ₁₀ = -26.1 Q ₁ = -20.7 Median = -9.1 Q ₃ = -2.2 P ₉₀ = 2.1 P ₉₉ = 5.3																								Hours in Service:	744																								
																								Hours of Data:	744																								
																								Hours of Missing Data:	0																								
																								Hours of Calibration:	0																								
																								Percent Operational Time:	100.0																								
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	-19.8	-20.2	-21.3	-21.7	-21.7	-21.3	-20.8	-20.8	-20.5	-21.0	-20.8	-20.4	-20.0	-19.9	-20.0	-20.8	-21.6	-22.0	-22.2	-22.5	-23.1	-24.1	-24.8	-25.4	-21.5	-19.8																							
2-Jan	-25.7	-25.5	-25.4	-25.2	-25.3	-25.0	-24.9	-24.8	-25.6	-25.9	-25.1	-24.1	-23.8	-23.0	-23.3	-24.0	-25.9	-27.7	-29.0	-29.9	-30.6	-31.0	-30.4	-30.3	-26.3	-23.0																							
3-Jan	-30.2	-30.2	-30.1	-30.3	-30.0	-30.0	-29.6	-29.5	-30.0	-29.7	-27.3	-24.9	-23.9	-23.1	-22.0	-22.0	-23.3	-25.1	-24.1	-23.3	-23.6	-24.3	-24.7	-25.2	-26.5	-22.0																							
4-Jan	-25.0	-24.9	-25.8	-25.4	-24.8	-24.8	-24.9	-24.2	-23.5	-22.8	-21.6	-21.1	-20.3	-19.6	-18.9	-18.3	-17.8	-17.3	-16.9	-16.6	-16.3	-16.1	-15.9	-15.8	-20.8	-15.8																							
5-Jan	-16.3	-16.5	-16.7	-16.7	-16.9	-17.5	-18.0	-19.0	-20.4	-20.6	-20.9	-21.0	-20.8	-20.5	-21.0	-21.7	-22.0	-22.1	-22.4	-24.2	-25.9	-27.2	-28.1	-26.3	-20.9	-16.3																							
6-Jan	-24.4	-23.1	-23.2	-23.7	-23.7	-23.3	-22.7	-22.5	-22.0	-20.6	-20.5	-19.9	-18.4	-17.1	-15.7	-15.1	-15.0	-14.5	-14.8	-13.7	-12.3	-9.4	-8.3	-7.4	-18.0	-7.4																							
7-Jan	-7.2	-6.9	-5.8	-4.9	-4.3	-3.5	-2.9	-2.4	-2.3	-2.0	-1.1	2.0	3.4	4.4	5.2	4.8	3.9	3.9	4.6	4.2	5.0	3.8	4.7	4.3	0.5	5.2																							
8-Jan	3.6	4.0	3.5	3.3	3.1	3.1	2.7	2.3	2.2	2.4	2.2	2.7	2.7	3.0	3.0	2.1	1.3	1.3	0.6	0.0	0.0	-0.1	-0.1	-0.5	2.0	4.0																							
9-Jan	-0.8	-1.5	-1.7	-2.0	-2.3	-2.4	-2.9	-5.7	-9.6	-9.8	-9.9	-9.7	-8.9	-8.5	-8.4	-9.4	-9.6	-10.0	-9.9	-9.2	-9.0	-8.7	-8.5	-8.1	-6.9	-0.8																							
10-Jan	-7.4	-7.2	-6.8	-5.0	-3.4	-1.7	-0.9	-1.4	-1.3	-0.6	0.0	1.0	1.5	1.3	1.2	1.0	0.8	-0.8	-2.7	-3.6	-5.6	-7.5	-9.5	-10.8	-2.9	1.5																							
11-Jan	-12.1	-12.9	-13.5	-13.9	-14.2	-14.8	-15.5	-15.8	-16.2	-17.0	-17.1	-16.9	-16.7	-17.0	-17.2	-17.8	-18.2	-18.6	-19.1	-20.2	-19.9	-20.2	-20.8	-19.9	-16.9	-12.1																							
12-Jan	-19.7	-19.3	-19.0	-19.0	-18.9	-18.9	-19.3	-19.4	-20.0	-20.7	-19.1	-16.0	-14.4	-14.1	-13.3	-12.6	-12.0	-11.9	-12.8	-9.9	-5.9	-4.1	-3.5	-3.8	-14.5	-3.5																							
13-Jan	-4.4	-6.1	-8.3	-10.5	-12.1	-12.6	-13.6	-13.9	-14.6	-14.1	-11.9	-9.0	-7.4	-7.4	-6.5	-5.9	-4.4	-3.2	-3.0	-2.7	-2.2	-1.8	-1.4	-1.4	-7.4	-1.4																							
14-Jan	-1.7	-2.2	-2.3	-3.0	-2.3	-4.1	-3.3	-2.4	-0.3	0.7	1.8	3.0	3.9	4.7	5.1	5.4	5.7	5.9	5.5	5.5	5.0	4.6	4.3	1.9	5.9	5.9																							
15-Jan	4.5	4.5	4.3	3.9	3.7	3.1	2.6	2.0	1.5	1.1	1.4	2.0	2.5	2.6	2.1	0.9	-1.9	-2.8	-2.0	-1.5	-2.5	-4.2	-5.1	-4.1	0.8	4.5																							
16-Jan	-3.6	-3.0	-2.3	-1.7	-2.6	-3.4	-3.2	-2.9	-2.7	-2.8	-3.0	-4.0	-5.4	-6.5	-6.6	-7.1	-7.6	-8.0	-8.5	-9.3	-9.6	-10.9	-11.6	-13.2	-5.8	-1.7																							
17-Jan	-14.9	-15.8	-16.3	-17.2	-17.4	-17.2	-17.3	-17.8	-18.4	-18.9	-18.8	-18.9	-18.9	-19.5	-20.0	-20.4	-21.1	-22.1	-23.1	-23.6	-23.9	-24.8	-25.3	-26.1	-19.9	-14.9																							
18-Jan	-26.9	-27.5	-28.1	-29.8	-30.8	-31.4	-32.6	-34.1	-32.7	-28.9	-26.2	-24.4	-22.0	-21.0	-21.8	-22.5	-24.7	-27.1	-29.0	-30.7	-31.8	-31.1	-32.3	-32.3	-28.3	-21.0																							
19-Jan	-31.8	-33.4	-33.9	-34.3	-29.5	-27.0	-26.5	-26.5	-27.1	-27.2	-26.4	-25.6	-24.8	-24.5	-24.2	-24.3	-26.1	-28.8	-30.4	-32.4	-33.2	-33.6	-34.2	-34.1	-29.2	-24.2																							
20-Jan	-33.9	-34.1	-33.3	-32.3	-31.9	-31.8	-30.6	-26.5	-23.8	-22.4	-16.3	-14.8	-13.3	-14.0	-11.1	-10.7	-10.5	-10.3	-10.3	-9.5	-7.9	-6.9	-5.3	-3.8	-18.6	-3.8																							
21-Jan	-2.9	-2.9	-3.0	-2.6	-2.3	-2.9	-3.3	-3.6	-4.0	-3.7	-2.8	-2.3	-2.1	-2.0	-2.6	-4.5	-5.8	-8.7	-10.7	-12.0	-13.1	-14.0	-14.6	-15.2	-5.9	-2.0																							
22-Jan	-15.6	-15.3	-14.5	-12.0	-11.3	-10.3	-9.1	-8.6	-8.4	-8.0	-7.5	-7.0	-6.6	-6.1	-6.1	-6.4	-6.7	-9.3	-11.8	-13.7	-14.6	-13.2	-12.2	-8.0	-10.1	-6.1																							
23-Jan	-4.5	-2.5	-2.4	-2.1	-1.6	-1.6	-1.7	-1.7	-1.9	-1.2	-0.8	-0.3	0.3	0.6	0.8	0.5	-0.3	-0.5	-1.1	-1.5	-1.9	-2.2	-2.3	-2.4	-1.3	0.8																							
24-Jan	-2.6	-2.4	-2.4	-3.1	-2.7	-2.9	-3.9	-5.3	-7.4	-8.2	-8.5	-7.6	-6.9	-6.7	-6.7	-6.7	-6.4	-6.2	-6.3	-5.6	-5.2	-5.0	-4.6	-5.4	-5.4	-2.4	-2.4																						
25-Jan	-5.5	-6.2	-6.7	-7.5	-7.5	-6.9	-7.3	-7.2	-7.9	-7.4	-6.6	-5.3	-3.2	-1.7	-2.0	-1.9	-2.3	-2.7	-2.9	-3.1	-3.2	-2.8	-2.4	-2.1	-4.7	-1.7																							
26-Jan	-2.2	-2.2	-2.7	-4.4	-3.2	-2.2	-2.4	-3.0	-2.8	-2.6	-1.8	-1.0	0.1	2.1	3.1	3.7	2.6	2.3	2.1	1.9	1.5	0.4	0.5	1.4	-0.4	3.7																							
27-Jan	1.4	1.4	0.6	-0.3	-0.1	-0.8	-1.1	-1.2	-1.2	-0.9	0.1	1.3	2.7	2.7	3.8	4.4	3.7	4.2	5.2	5.9	5.6	5.1	5.0	4.8	2.2	5.9																							
28-Jan	4.1	3.6	3.3	3.1	2.7	2.3	1.9	1.5	1.4	1.9	2.0	2.7	2.7	2.3	2.1	1.9	0.9	-0.5	-0.3	-0.6	-0.8	-1.6	-2.4	-3.0	1.3	4.1																							
29-Jan	-3.3	-3.6	-4.4	-4.7	-4.8	-5.5	-6.5	-5.9	-7.4	-6.6	-4.5	-3.1	-2.5	-2.8	-3.4	-4.7	-5.4	-5.7	-5.7	-6.5	-8.0	-10.5	-11.6	-12.9	-5.8	-2.5																							
30-Jan	-14.6	-15.9	-16.9	-17.6	-18.0	-18.4	-18.8	-19.3	-20.7	-21.3	-20.4	-19.1	-18.4	-17.7	-18.2	-19.4	-20.7	-23.3	-25.1	-26.8	-27.8	-28.0	-28.6	-29.2	-21.0	-14.6																							
31-Jan	-28.7	-26.9	-26.3	-25.9	-26.2	-24.3	-23.0	-22.6	-22.6	-21.9	-21.0	-20.0	-18.7	-17.8	-17.3	-17.9	-18.8	-19.4	-19.5	-19.7	-19.8	-20.0	-20.2	-20.3	-21.6	-17.3																							
																								-12.0	-12.1	-12.3	-12.5	-12.3	-12.2	-12.2	-12.3	-12.6	-12.3	-11.4	-10.4	-9.6	-9.2	-9.0	-9.3	-10.0	-10.7	-11.1	-11.4	-11.6	-11.9	-12.1	-12.0	Diurnal Average	
																								4.5	4.5	4.3	3.9	3.7	3.1	2.7	2.3	2.2	2.4	2.2	3.0	3.9	4.7	5.2	5.4	5.7	5.9	5.5	5.9	5.6	5.1	5.0	4.8	Diurnal Maximum	





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ambient Temperature 2m (AT2) - C
Surmont 2 - January 2025

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	205	27.55	27.55
-20 - 0	418	56.18	83.74
0 - 10	121	16.26	100.00
10 - 20	0	0.00	100.00
> 20	0	0.00	100.00

Total Number of Valid Hours: 744

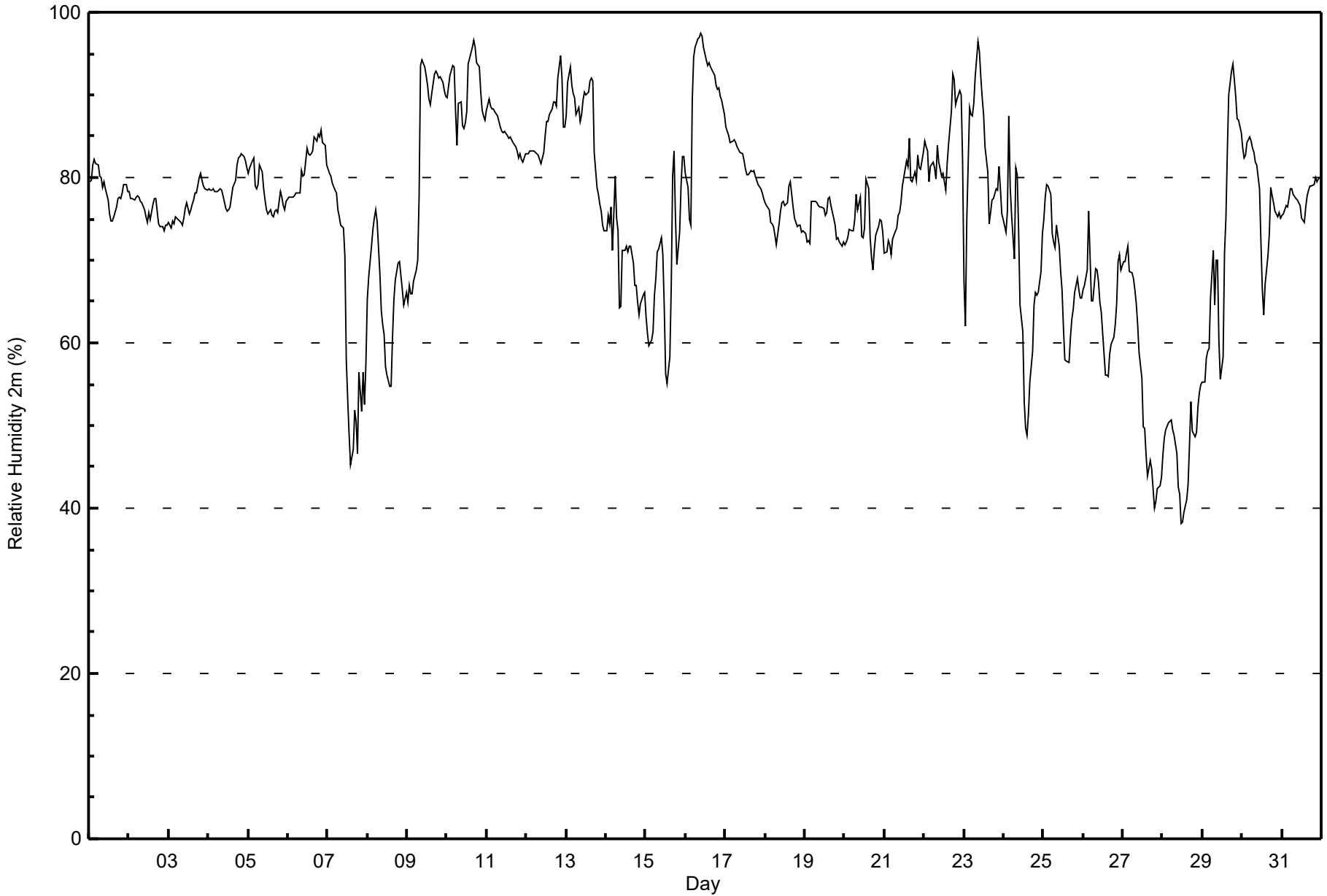
Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

Relative Humidity 2m (RH2) - %
Surmont 2 - January 2025

Maximum Value: 97.4 % on Jan 16 10:00		Maximum Daily Average: 90.6 % on Jan 10		Hours in Service: 744																																												
Minimum Value: 38.1 % on Jan 28 12:00		Minimum Daily Average: 47.2 % on Jan 28		Hours of Data: 744																																												
Maximum Diurnal Average: 77.7 % at hour 9		Minimum Diurnal Average: 72.5 % at hour 14		Hours of Missing Data: 0																																												
Monthly Average: 75.56 %		Percentiles: P ₁ = 42.3 P ₁₀ = 58.8 Q ₁ = 71.1 Median = 77.1 Q ₃ = 82.8 P ₉₀ = 89.4 P ₉₉ = 95.7		Hours of Calibration: 0																																												
				Percent Operational Time: 100.0																																												
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Jan	79.4	79.7	81.4	82.2	81.6	81.5	80.2	80.0	78.8	79.4	78.6	77.2	75.5	74.8	74.7	75.3	76.4	77.5	77.6	77.5	78.2	79.2	79.1	78.3	78.5	82.2																						
2-Jan	78.3	77.5	77.5	77.3	77.6	77.7	77.7	77.2	76.9	76.2	75.3	74.7	75.7	74.8	76.8	77.4	77.4	75.8	74.4	74.1	74.0	73.6	74.3	74.2	76.1	78.3																						
3-Jan	74.6	73.9	74.8	74.4	75.3	75.1	74.9	74.7	74.2	75.1	76.3	76.9	75.6	76.0	76.7	77.3	78.2	78.1	80.0	80.5	79.6	79.0	78.6	78.6	76.6	80.5																						
4-Jan	78.6	78.5	78.4	78.6	78.3	78.4	78.5	78.7	78.4	77.8	76.3	75.9	76.1	76.5	77.7	78.8	79.6	81.5	82.3	82.6	82.8	82.5	82.0	81.2	79.2	82.8																						
5-Jan	80.5	81.1	82.0	82.4	79.0	78.7	79.1	81.5	80.6	78.6	77.3	76.1	75.6	76.1	75.5	75.2	76.0	76.1	75.7	78.3	77.7	76.5	76.1	77.1	78.0	82.4																						
6-Jan	77.6	77.7	77.7	77.7	77.8	78.1	78.1	78.1	80.8	80.1	80.3	83.6	83.0	82.8	83.2	84.9	84.4	85.3	84.9	85.8	84.3	83.9	81.6	81.4	85.8																							
7-Jan	81.0	80.4	80.2	79.4	78.5	78.2	76.1	75.3	74.3	73.9	70.5	58.0	53.3	48.9	45.2	47.0	51.9	50.6	46.6	56.4	51.7	56.4	52.5	57.4	63.5	81.0																						
8-Jan	65.3	68.0	71.8	73.7	75.0	76.0	74.8	68.4	63.9	62.3	61.1	57.1	56.1	54.7	54.8	60.6	65.3	67.6	69.7	69.9	68.2	66.4	64.6	66.0	65.9	76.0																						
9-Jan	64.8	67.0	65.9	66.0	67.4	68.8	70.0	77.9	93.6	94.3	93.4	92.4	91.2	89.5	88.9	90.2	92.5	92.9	92.6	92.0	92.1	91.6	90.5	89.8	84.0	94.3																						
10-Jan	89.7	91.0	92.4	93.5	93.4	88.1	83.9	89.0	89.2	86.3	85.9	86.7	87.9	93.7	95.1	95.8	96.6	95.7	93.9	93.4	90.4	88.1	87.5	86.9	90.6	96.6																						
11-Jan	88.2	89.5	88.6	88.3	88.3	87.9	87.5	86.9	86.2	85.6	85.4	85.7	85.1	84.8	84.9	84.6	84.3	83.8	83.3	82.4	82.9	82.2	81.9	82.9	85.5	89.5																						
12-Jan	82.8	82.9	83.2	83.1	83.2	83.1	82.8	82.8	82.2	81.7	83.1	85.1	86.8	86.9	87.6	88.4	89.2	89.1	88.7	92.1	94.7	92.0	86.2	86.1	86.0	94.7																						
13-Jan	87.4	91.6	93.4	91.2	90.2	89.6	87.7	88.5	86.8	87.6	89.4	90.3	90.0	90.4	91.7	92.1	91.6	83.0	78.8	78.0	76.7	75.9	74.3	73.5	86.2	93.4																						
14-Jan	73.5	75.4	74.5	76.4	71.1	80.2	75.1	73.6	64.2	64.4	71.2	71.7	71.1	71.8	71.7	69.6	66.9	67.0	64.9	63.5	64.8	65.8	66.2	70.2	80.2																							
15-Jan	63.1	61.2	59.6	60.3	61.3	65.7	67.7	71.1	71.3	72.6	70.6	64.4	56.2	55.1	58.3	66.8	80.3	83.2	75.2	69.4	73.3	79.0	82.6	82.5	68.8	83.2																						
16-Jan	80.5	78.8	74.9	74.2	89.3	94.7	95.8	96.8	97.0	97.4	97.2	95.7	94.2	93.6	93.8	93.4	93.1	92.4	91.3	90.7	90.8	89.9	89.3	87.6	90.5	97.4																						
17-Jan	86.1	85.6	85.0	84.2	84.4	84.5	84.2	83.7	83.3	83.0	82.8	82.1	81.0	80.3	80.4	80.8	80.7	80.8	80.2	79.7	79.2	78.6	78.2	77.5	81.9	86.1																						
18-Jan	77.0	76.6	76.2	74.5	74.4	74.1	73.0	71.9	74.4	75.9	76.9	77.1	76.6	77.0	79.0	79.6	78.0	76.5	75.1	74.1	74.2	74.2	73.4	73.5	75.5	79.6																						
19-Jan	73.3	72.2	72.4	72.1	77.1	77.1	77.1	77.0	76.6	76.4	76.5	76.3	75.5	75.7	77.5	77.7	76.7	75.1	74.3	72.6	72.7	72.3	71.7	72.2	74.9	77.7																						
20-Jan	71.9	72.2	72.7	73.7	73.6	74.9	78.0	76.1	77.6	73.0	72.6	73.8	79.9	78.6	72.7	70.3	68.8	71.3	73.0	74.0	75.0	74.8	73.4	74.0	79.9	79.9																						
21-Jan	70.9	71.0	72.3	71.8	70.7	72.6	73.1	73.9	75.5	75.8	76.9	79.0	81.0	82.0	81.3	84.7	79.6	79.4	80.7	79.7	82.7	81.1	81.1	83.0	77.5	84.7																						
22-Jan	84.4	83.7	83.2	79.5	81.3	81.9	81.3	79.9	84.0	81.9	80.2	80.5	79.5	78.4	81.7	84.1	87.9	92.5	91.9	88.8	89.5	90.5	90.0	82.0	84.1	92.5																						
23-Jan	67.5	62.1	74.9	88.5	87.7	87.5	89.0	92.3	96.5	95.3	92.1	89.7	87.7	83.7	80.6	74.4	75.7	77.4	77.4	78.6	78.5	81.4	78.6	75.5	82.2	96.5																						
24-Jan	74.9	73.5	76.0	87.4	78.8	75.4	70.2	81.1	80.3	73.5	64.7	61.4	52.9	49.7	48.8	51.3	55.2	59.0	64.6	66.1	65.7	66.0	68.6	73.3	67.4	87.4																						
25-Jan	74.9	77.6	79.2	79.1	78.0	73.3	72.2	71.5	74.2	71.8	68.6	66.4	61.8	57.9	57.7	57.7	60.7	62.9	64.1	66.2	67.9	66.4	65.5	65.5	68.4	79.2																						
26-Jan	66.4	66.9	68.8	75.9	70.5	65.1	65.1	69.0	68.8	67.5	65.0	63.7	61.2	56.2	56.2	55.9	58.6	59.8	60.6	62.3	64.7	69.9	70.7	68.8	64.9	75.9																						
27-Jan	69.9	69.9	70.8	71.7	68.6	68.4	67.8	66.5	64.7	62.2	58.8	55.7	49.8	49.7	46.4	43.8	45.8	44.8	42.4	40.0	40.9	42.3	42.7	43.7	55.3	71.7																						
28-Jan	46.5	48.4	49.5	50.3	50.5	50.7	49.5	48.8	46.6	42.5	41.7	38.1	38.4	39.6	41.0	42.9	47.6	52.8	49.3	48.7	49.2	52.1	54.0	54.9	47.2	54.9																						
29-Jan	55.2	55.3	58.1	58.9	59.4	65.5	71.3	64.6	70.0	70.1	60.2	55.6	58.4	70.8	75.1	83.0	90.1	92.9	93.7	91.9	89.8	87.2	86.9	85.4	72.9	93.7																						
30-Jan	83.6	82.3	82.8	84.2	84.8	84.4	83.6	83.0	81.8	81.5	78.7	72.1	66.4	63.4	67.1	70.6	73.2	78.7	77.9	76.9	75.9	75.3	75.8	75.0	77.5	84.8																						
31-Jan	75.4	75.6	76.6	76.4	77.4	78.7	78.6	78.0	77.5	77.3	76.9	76.6	75.2	74.5	76.4	77.9	78.5	79.0	79.0	79.2	80.0	79.5	79.8	80.0	77.7	80.0																						
																								74.9	75.1	76.0	77.0	76.9	77.2	76.8	77.4	77.7	77.0	75.6	74.1	72.7	72.5	73.0	74.0	75.7	76.1	75.6	75.6	75.7	75.9	75.5	75.3	Diurnal Average
																								89.7	91.6	93.4	93.5	93.4	94.7	95.8	96.8	97.0	97.4	97.2	95.7	94.2	93.7	95.1	95.8	96.6	95.7	93.9	93.4	94.7	92.0	90.5	89.8	Diurnal Maximum





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Relative Humidity 2m (RH2) - %
Surmont 2 - January 2025

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	4	0.54	0.54
40 - 60	76	10.22	10.75
60 - 80	411	55.24	65.99
80 - 100	253	34.01	100.00

Total Number of Valid Hours: 744

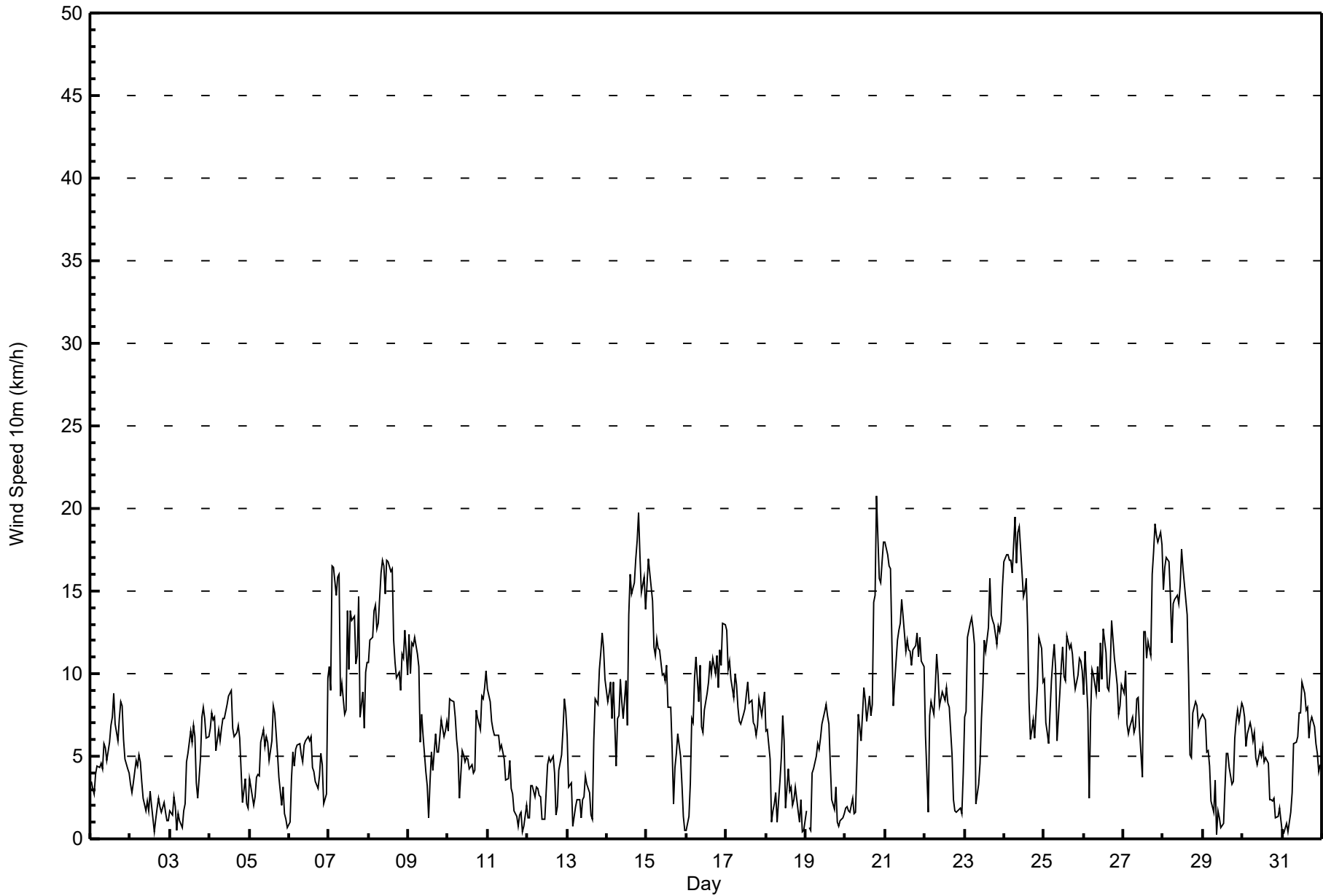
Total Number of Hours: 744



Maximum Speed: 21 km/h on Jan 20 20:00	Maximum Daily Speed Average: 12.9 km/h on Jan 8	Hours in Service: 744
Minimum Speed Value: 0 km/h on Jan 29 09:00	Minimum Daily Speed Average: 1.3 km/h on Jan 9	Hours of Data: 743
Maximum Diurnal Speed Average: 5.5 km/h at hour 1	Minimum Diurnal Speed Average: 3.2 km/h at hour 17	Hours of Missing Data: 1
Monthly Average Velocity: 4.2 km/h 288.4 deg	Percentiles: $P_1 = 0$ $P_{10} = 2$ $Q_1 = 4$ Median = 7 $Q_3 = 10$ $P_{90} = 14$ $P_{99} = 18$	Percent Operational Time: 99.9

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	NW3	NNW3	NW3	NW4	NW4	WNW4	NNW5	NW4	NNW6	NNW6	NNW5	NNW6	NNW7	NNW7	NNW9	NNW7	NNW6	NNW7	NNW8	NNW8	NNW6	NNW5	NNW4	NNW4	NNW5.4	NNW9	
2-Jan	NW3	NNW3	NNW3	NW5	NW4	NW5	NNW5	NNW4	NW2	NNW2	NNW2	NW2	W3	WSW2	SSW0	WNW1	WSW2	WSW2	SW2	WSW2	WSW2	WSW2	SW1	SSW1	WNW1.9	NW5	
3-Jan	SW2	SW1	WSW3	SW2	WSW1	SW2	SSW1	S1	SSE2	SE2	SSE5	SSE7	SSE6	SE7	SE6	SE3	SSE2	SE5	SE7	SE8	SE7	SE6	SE6	SE3.5	SE8		
4-Jan	SE7	SE8	SE7	ESE7	ESE5	SE7	SE6	SE7	SE7	SE8	SE9	SE9	SE7	SE6	SE6	SE7	SSE6	SE4	SE2	SE4	SE2	SSW2	SE6.1	SE9			
5-Jan	WSW4	W3	NNE2	NE3	NW4	NW4	NNW4	NNW6	NNW7	NNW6	NNW6	N6	NNW5	N6	N8	N8	NNW6	NNW5	NNW4	N2	WSW3	WSW2	SW1	S1	NNW3.6	N8	
6-Jan	SE1	ESE4	SE5	ESE4	SE5	SE6	SE6	SE5	SSE5	ESE6	SE6	SE6	SE6	SE6	SSE4	SE4	SSE4	S3	SE4	SSE5	SE4	SE2	SSW3	WSW10	SE4.1	WSW10	
7-Jan	WSW10	WSW9	WSW17	WSW16	WSW15	WSW16	WSW16	W9	W9	WSW8	SW8	WSW14	WSW10	WSW14	WSW13	WSW14	WSW11	WSW11	WSW15	WSW7	WSW9	WSW7	W10	W11	WSW11.5	WSW17	
8-Jan	W11	W12	W12	W14	W14	W13	W13	WNW16	WNW17	WNW17	WNW15	WNW17	WNW17	WNW16	WNW16	NW12	NW11	NW10	WNW10	WNW9	WNW11	WNW11	WNW13	WNW10	WNW12.9	WNW17	
9-Jan	WNW12	WNW10	WNW12	WNW12	WNW12	WNW11	WNW10	NNE6	N8	N6	NNW4	NNW3	ESE1	ESE3	ESE5	ESE4	SE6	SE5	SE5	SE6	SE7	SE6	ESE6	SE7	NW1.3	WNW12	
10-Jan	SE7	SE8	SE8	SE8	ESE7	S6	SW5	SSW2	WSW5	W5	WNW5	NW5	WNW5	NW4	WNW5	WNW4	NNW4	N8	NNW7	NNW7	NNW9	NNW8	NNW9	NNW10	NW1.9	NNW10	
11-Jan	NNW9	NNW8	NW7	NW7	N6	N6	NNW6	NNW5	N6	N5	N5	N4	NNE4	NE5	NNE3	NNW3	N2	NNW1	NNW1	W1	NW2	SSW0	S1	SE2	NNW3.5	NNW9	
12-Jan	SSW1	ESE1	SE3	ESE3	SE3	ESE3	SE3	SE3	SE3	SE1	ESE1	SE3	SE4	SE5	SE5	SE4	SSE1	SSW2	WSW4	W5	W7	W8	W8	S1.5	W8		
13-Jan	W6	W3	WSW3	SSW1	SSW1	SW2	SSW2	S2	S1	SSW2	SE3	SE4	ESE3	SE3	SE1	SE1	WSW6	W8	W8	W10	W11	W12	W12	W10	WSW3.6	W12	
14-Jan	WNW8	W9	W10	WNW7	W9	W4	W7	WSW7	WSW10	WSW8	SW7	SW10	SW7	WSW14	W16	W15	W15	W17	W18	W20	W17	W15	W16	W14	W11.3	W20	
15-Jan	W15	WNW17	WNW16	WNW14	WNW12	WNW11	WNW12	WNW12	WNW11	WNW10	WNW10	WNW10	WNW10	WNW10	WNW8	WNW8	W5	WSW2	WSW4	WSW5	WSW6	WSW5	SW3	ESE1	SE0	WNW8.3	WNW17
16-Jan	SSE0	S1	SE3	ESE7	ESE7	ESE10	ESE11	ESE11	ESE7	ENE6	ENE8	ENE9	ENE9	NE11	NE10	NE11	NNE10	N11	N9	NNW11	NNW11	NNW13	NNW13	NE5.1	NNW13		
17-Jan	NNW13	NNW10	NNW11	NNW10	NNW9	NNW10	NNW9	N8	N7	N7	N8	NNW8	NNW9	NNW9	NNW8	NNW8	NNW7	NNW7	NW6	NW7	NNW8	NW7	NW8	NW9	NNW8.3	NNW13	
18-Jan	NW7	NNW7	NNW5	N1	W2	W2	WSW3	SSW1	W3	W5	W7	W6	WNW2	WNW4	WSW3	WSW3	WSW2	WSW2	SW3	WSW2	NW1	WSW2	NE0	S0	W2.5	W7	
19-Jan	WSW2	UO	WSW1	W1	WNW4	NW4	NW5	NW6	NW5	NW6	NNW7	NNW8	NNW8	N7	NNW7	NNW5	NW2	WSW2	WSW3	WSW1	WSW1	SW1	SW1	SW2	NW3.2	NNW8	
20-Jan	SW2	SW2	SW2	S2	SSE2	SSE2	SE2	ESE4	ESE8	ESE6	S8	S9	S8	SE7	SE9	S7	WSW8	W14	W15	WSW21	W16	W16	W17	W18	SW4.8	WSW21	
21-Jan	W18	W17	W17	W16	WNW12	NW8	NW9	WNW12	WNW13	WNW13	WNW14	WNW13	WNW11	NW12	NNW11	NNW11	N10	N11	NNW12	NNW12	NNW11	NNW12	NNW11	NNW10	NW10.9	W18	
22-Jan	NNW6	NW4	N2	WNW7	WNW8	WNW8	NW9	NW11	NW10	NW8	NW9	NW9	NW8	WNW9	WNW8	WNW8	W5	SSW2	SW2	SSW2	SSE2	SE2	S2	SSW4	WNW5.0	NW11	
23-Jan	SSW7	SSW8	WSW12	WSW13	WSW13	WSW13	WSW12	NNE2	WSW3	W5	W7	WSW9	W12	W11	W13	WNW16	WNW14	WNW13	WNW13	WNW12	WNW13	W13	W13	W15	W9.9	WNW16	
24-Jan	WNW17	W17	WNW17	WNW17	WNW17	NW16	NNW19	NNW17	NNW19	NNW19	NNW18	NNW15	NNW16	NNW13	NW8	WNW6	WNW7	WNW6	W8	W9	W12	W12	W10	NW12.1	NNW19		
25-Jan	W10	W7	W6	W6	WSW10	WSW11	WSW12	W10	WNW6	W9	W10	W12	W10	W10	WNW13	W12	W12	W11	W10	W9	W10	W11	W11	W10	W9.7	WNW12	
26-Jan	W9	W11	WNW8	WNW2	WNW7	W10	W10	WNW9	W10	WNW9	W12	W10	W13	W11	W9	W9	WNW10	WNW13	WNW11	WNW10	W9	W8	W8	W9	W9.4	WNW13	
27-Jan	W9	W10	W7	W6	W7	W7	W6	W7	W9	W9	WNW7	W4	WSW13	WSW13	WSW11	W12	W11	W16	W17	W19	W18	WNW18	WNW19	WNW18	W11.1	W19	
28-Jan	WNW15	WNW16	WNW17	WNW17	WNW15	WNW12	WNW14	WNW14	WNW15	WNW14	WNW15	WNW18	WNW16	WNW15	WNW14	WNW10	NW5	W5	W8	WNW8	W8	W7	W7	W7	WNW12.0	WNW18	
29-Jan	W8	W7	W5	W5	W4	W2	SSW2	WSW4	N0	WSW2	W1	WSW1	NNE1	WNW3	NE5	ENE5	NE4	NNE3	NNE4	NNE6	N7	N8	N7	NNE8	NNW2.3	NNE8	
30-Jan	N8	N7	N6	N6	N7	NNW7	N6	N6	NNW5	NNW5	NNW5	N5	N6	N5	NE5	NE5	NNW2	W2	WSW2	WSW2	SW1	SW1	WSW2	SW1	N3.6	N8	
31-Jan	SW0	ESE0	WSW1	SSE0	SW1	SE2	SE3	ESE6	ESE6	SE6	ESE8	ESE8	ESE10	ESE9	E8	E8	E6	E7	E7	E7	E6	E5	ENE4	E4	ESE4.7	ESE10	
WNW5.5 W5.1 W4.9 W4.5WNW4.8WNW4.4WNW4.4WNW3.8WNW3.8WNW3.8WNW3.8WNW3.8WNW3.7 NW3.3WNW3.3WNW3.2WNW4.2WNW4.4WNW4.8WNW4.8WNW5.0WNW5.0																								Diurnal Average			
W18 W17WNW17WNW17WNW17 NW16NNW19NNW17NNW19NNW19NNW19NNW18WNW18WNW17WNW16WNW16WNW16 W15 W17 W18WSW21 W18WNW18WNW19 W18																								Diurnal Maximum			

UO - Unstable Operation
All monthly, daily, and diurnal averages have been calculated using vector methods





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 10m (WS10) - km/h
Surmont 2 - January 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	274	36.88	36.88
6 - 11	329	44.28	81.16
12 - 19	138	18.57	99.73
20 - 28	2	0.27	100.00
29 - 38	0	0.00	100.00
> 38	0	0.00	100.00

Total Number of Valid Hours: 743

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Wind Speed 10m (WS10) - km/h
Surmont 2 - January 2025**

Wind Speed Ranges (km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	10	7	7	2	2	15	39	16	10	18	23	39	23	11	24	28	274
6 - 11	30	4	3	4	7	19	41	3	5	2	4	20	71	40	21	55	329
12 - 19	0	0	0	0	0	0	0	0	0	0	0	19	46	55	3	15	138
20 - 28	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
29 - 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	40	11	10	6	9	34	80	19	15	20	27	79	141	106	48	98	743

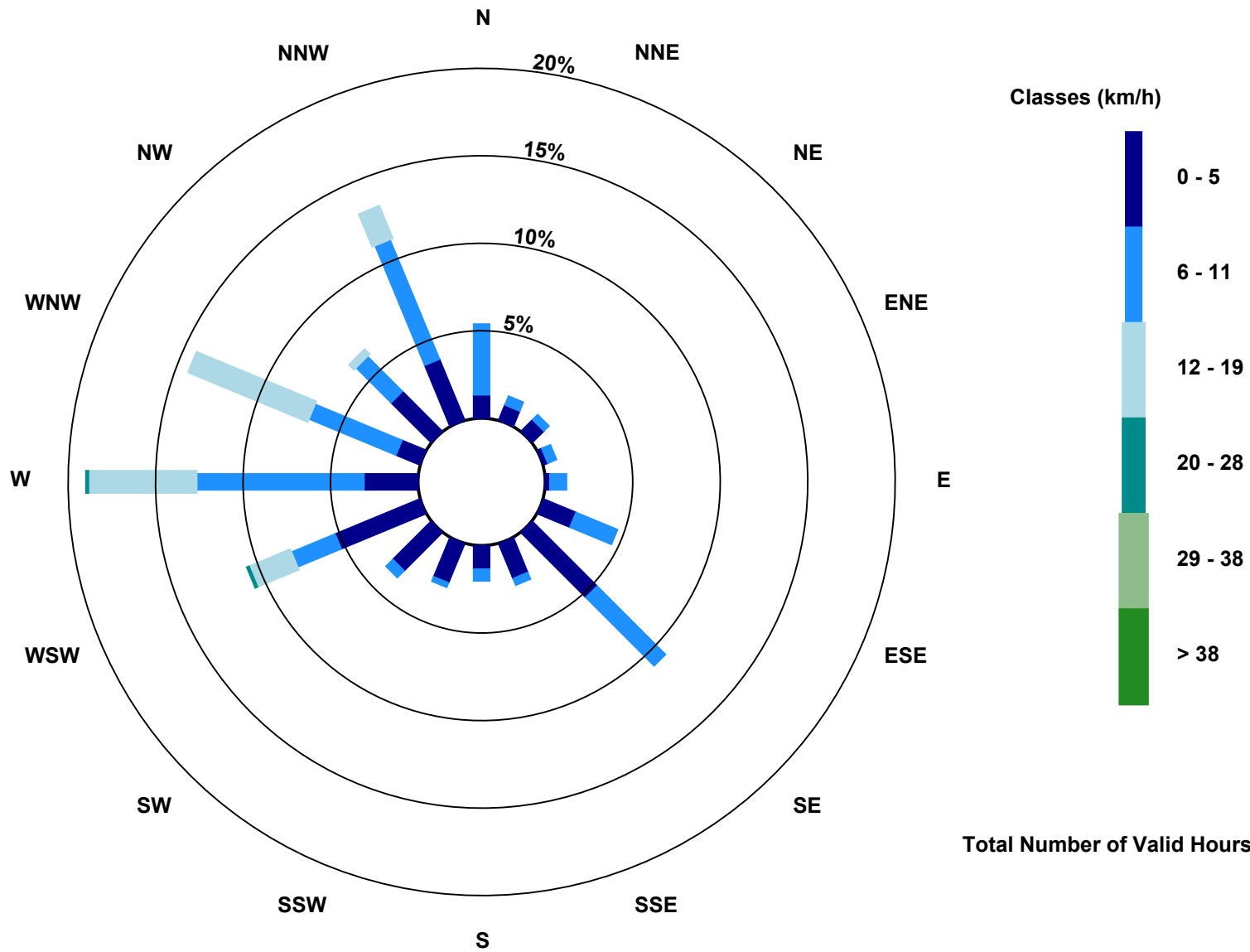
Total Number of Valid Hours: 743

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Wind Speed 10m (WS10) - km/h
Surmont 2





Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Speed 10m (WS10) - km/h
Surmont 2 - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 8 km/h on Jan 24 07:00 Minimum Value: 1 km/h on Jan 15 23:00 Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 2 Median = 3 Q ₃ = 4 P ₉₀ = 5 P ₉₉ = 7																	Hours in Service: 744 Hours of Data: 743 Hours of Missing Data: 1 Hours of Calibration: 0 Percent Operational Time: 99.9									
Day	Hourly Period Ending At (MST)																								Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	2	2	1	3	
2-Jan	1	1	2	2	1	2	2	1	1	1	1	1	1	1	1	2	2	2	1	1	2	1	1	1	2	
3-Jan	1	1	1	1	1	1	1	1	1	1	2	2	2	2	3	2	2	1	2	2	3	2	2	2	3	
4-Jan	2	3	2	2	2	2	2	2	3	2	2	3	3	3	2	2	2	2	2	2	1	1	1	2	3	
5-Jan	1	1	1	1	2	2	2	1	2	2	3	3	2	2	3	3	2	2	2	1	1	1	1	1	3	
6-Jan	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	4	4	
7-Jan	5	5	5	5	5	5	6	5	3	4	5	6	5	5	5	4	4	4	5	4	4	4	5	4	6	
8-Jan	4	4	4	5	5	4	5	5	6	6	6	6	6	6	6	5	5	4	4	3	4	4	4	4	6	
9-Jan	4	3	4	5	5	4	4	3	3	2	2	1	1	1	1	1	2	2	2	2	2	2	2	2	5	
10-Jan	2	3	3	3	2	3	3	2	2	2	2	2	2	1	2	1	2	3	2	3	3	3	3	3	3	
11-Jan	4	3	3	3	3	3	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	4	
12-Jan	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	2	1	1	1	1	2	2	2	3	3	
13-Jan	2	2	1	1	1	1	1	1	1	1	1	1	2	1	1	1	2	3	3	3	4	4	4	3	4	
14-Jan	3	3	3	3	3	4	4	4	4	5	4	5	4	5	6	5	5	6	6	7	6	5	5	4	7	
15-Jan	5	6	6	5	4	5	4	5	5	4	3	3	4	3	3	2	1	1	1	2	2	1	1	1	6	
16-Jan	1	1	2	2	2	3	3	3	3	3	2	3	3	4	4	3	5	4	5	4	4	4	5	5	5	
17-Jan	5	4	4	4	3	4	4	3	3	3	3	3	3	4	4	3	3	3	2	3	3	3	4	3	5	
18-Jan	2	3	2	1	1	1	1	1	1	2	2	3	1	2	1	2	1	1	1	1	1	1	1	1	3	
19-Jan	1	UO	1	1	1	2	2	2	2	2	3	3	3	3	3	2	1	1	1	1	1	1	1	1	3	
20-Jan	1	1	1	1	1	1	1	2	2	3	3	4	5	3	3	4	6	6	7	7	6	5	6	6	7	
21-Jan	6	6	5	5	5	4	4	5	5	5	5	5	4	5	5	4	4	5	4	5	4	5	4	4	6	
22-Jan	3	2	2	2	3	3	3	5	4	3	4	4	3	3	3	3	3	1	1	1	1	1	1	2	5	
23-Jan	4	4	5	5	5	5	6	2	1	2	2	3	4	4	5	6	5	5	5	4	5	4	5	5	6	
24-Jan	6	6	6	6	6	7	8	7	7	8	7	6	7	7	6	4	2	2	2	3	4	5	4	3	8	
25-Jan	3	2	2	3	4	3	3	3	3	4	3	4	3	4	5	4	4	4	3	3	4	4	3	3	5	
26-Jan	3	4	3	2	3	4	5	4	5	4	4	4	4	4	3	3	4	5	4	4	3	2	2	3	5	
27-Jan	2	3	3	2	2	2	2	3	2	3	3	3	4	4	4	4	4	5	6	7	7	6	7	6	7	
28-Jan	6	6	6	7	5	5	5	5	5	5	5	6	7	6	5	4	3	2	3	3	3	2	2	2	7	
29-Jan	2	2	1	2	1	1	2	2	1	1	2	1	1	1	2	2	1	1	2	2	3	3	3	3	3	
30-Jan	3	3	2	3	3	3	3	2	2	2	2	2	2	2	2	2	1	1	1	2	1	1	1	1	3	
31-Jan	1	1	2	1	1	1	1	1	2	2	2	2	3	2	3	2	2	2	3	2	2	2	1	2	3	
																	Diurnal Maximum									
UO - Unstable Operation																										



Wood Buffalo Environmental Association
Summary of Hour Averages

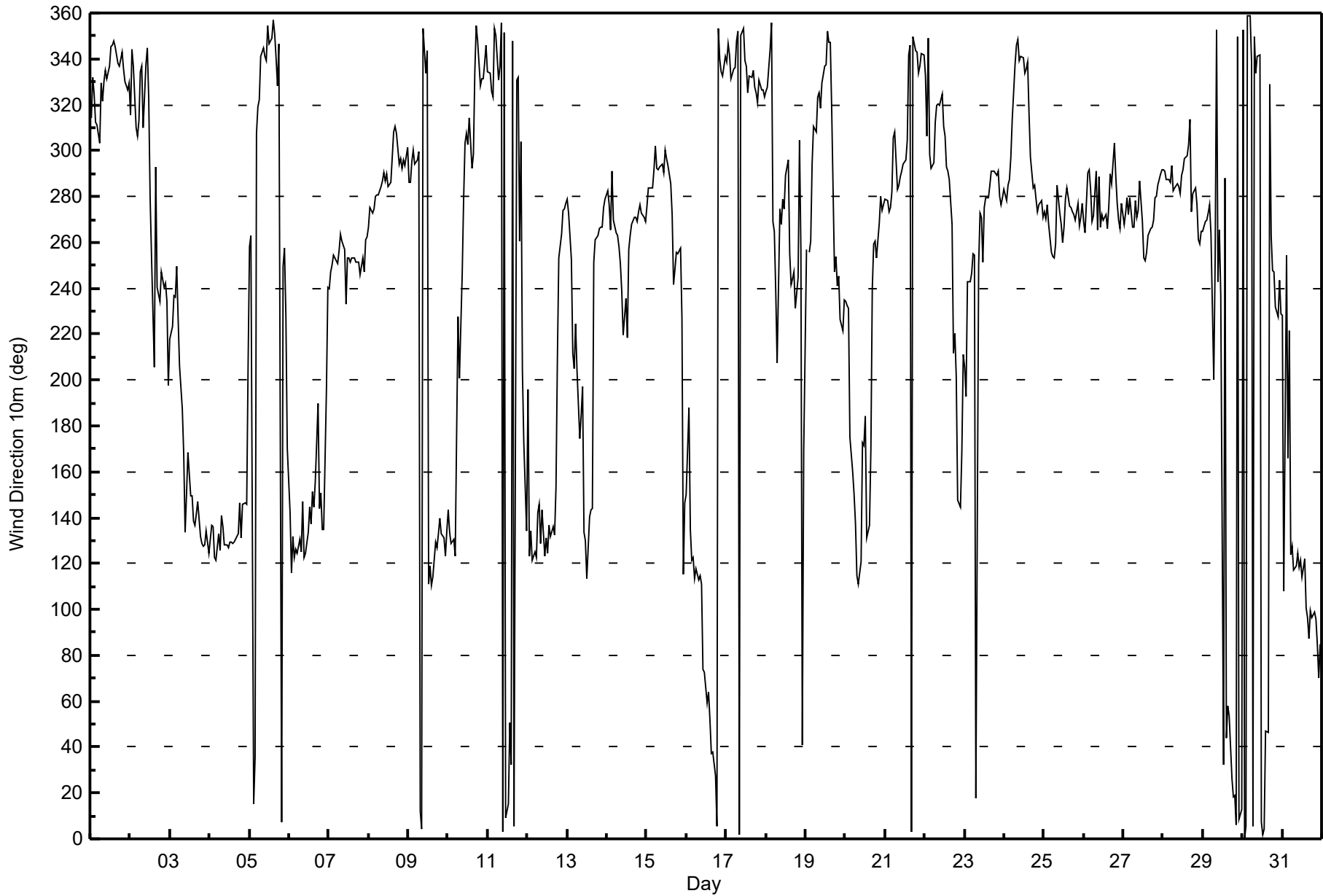
Wind Direction 10m (WD10) - deg
Surmont 2 - January 2025

Direction of Maximum Speed: 253 deg on Jan 20 20:00	Hours in Service: 744
Direction of Maximum Daily Speed Average: 288.4 deg on Jan 8	Hours of Data: 743
Direction of Minimum Speed: 353 deg on Jan 29 09:00	Hours of Missing Data: 1
Direction of Minimum Daily Speed Average: 1.3 deg on Jan 9	Percent Operational Time: 99.9
Monthly Average Direction: 288.4 deg	

Day	Hourly Period Ending At (MST)																								Daily Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	314	332	325	312	311	303	330	321	330	335	331	337	345	346	348	345	338	337	340	343	336	330	327	329	333.9
2-Jan	316	344	337	310	307	313	335	337	310	337	345	323	279	254	205	293	241	237	234	247	241	242	235	198	300.7
3-Jan	218	223	237	236	249	227	206	188	168	134	150	168	150	150	138	137	141	147	132	128	127	128	134	124	146.2
4-Jan	131	137	136	123	122	133	126	141	136	128	128	127	129	129	129	132	133	147	131	146	146	146	207	132.7	
5-Jan	258	263	15	35	308	319	322	341	345	341	339	355	346	349	357	351	341	329	346	8	249	257	228	170	336.0
6-Jan	142	116	132	123	126	124	131	125	147	123	124	133	145	137	152	145	156	190	144	151	135	135	196	240	143.0
7-Jan	240	247	250	255	252	251	256	264	260	257	233	254	253	252	254	253	251	251	251	246	253	247	261	262	252.5
8-Jan	267	275	273	275	280	281	281	284	287	290	287	290	284	286	297	308	311	307	294	297	293	296	294	302	288.4
9-Jan	286	286	295	300	294	296	300	12	4	353	334	343	111	119	111	114	129	127	133	140	133	131	123	134	309.8
10-Jan	143	134	129	131	123	176	227	200	246	279	303	308	302	314	292	298	334	355	348	328	331	331	338	346	318.4
11-Jan	335	334	326	323	353	350	331	337	356	3	351	9	15	50	32	348	6	331	332	260	304	204	173	134	346.9
12-Jan	196	123	134	121	125	122	142	146	129	143	123	131	124	137	132	136	133	153	209	253	264	274	275	277	172.9
13-Jan	279	273	252	212	205	225	204	174	185	197	134	130	113	141	143	144	251	261	263	266	267	266	275	279	253.3
14-Jan	282	277	265	291	270	264	263	258	251	239	220	235	219	257	263	268	271	271	269	273	276	273	271	269	265.0
15-Jan	276	284	284	283	291	302	292	292	293	294	290	300	296	293	285	272	242	248	255	255	257	227	116	146	284.2
16-Jan	150	188	135	121	122	113	118	113	114	111	74	73	59	64	52	37	38	28	6	353	340	334	333	341	50.1
17-Jan	339	346	342	331	336	336	348	352	2	350	353	339	337	325	332	332	335	328	326	321	331	326	326	323	336.7
18-Jan	326	328	344	356	269	265	239	207	275	268	279	274	289	296	255	242	244	247	232	245	304	256	41	169	280.9
19-Jan	257	UO	256	260	294	310	308	323	325	318	330	337	338	352	347	347	318	247	254	241	245	226	222	235	319.5
20-Jan	235	233	231	175	160	150	138	115	111	121	173	171	184	131	137	170	240	259	260	253	268	280	274	276	232.6
21-Jan	279	278	273	275	282	306	308	283	285	288	291	294	296	304	341	346	3	350	344	343	334	337	343	342	308.0
22-Jan	332	306	349	298	292	294	312	320	320	319	325	311	306	293	291	287	268	211	220	201	148	144	169	211	300.8
23-Jan	206	193	243	243	246	255	255	18	250	273	271	252	275	280	279	285	291	291	291	289	291	280	277	280	269.9
24-Jan	283	278	285	288	297	313	337	346	348	339	341	341	334	336	339	316	297	284	285	279	273	276	278	271	311.5
25-Jan	273	270	276	268	255	254	253	259	285	273	268	260	267	279	284	276	275	273	285	270	277	268	271	277	269.8
26-Jan	269	264	290	291	283	269	272	291	265	289	266	272	270	272	266	276	290	285	303	288	277	269	266	277	277.0
27-Jan	268	273	279	272	280	266	267	278	271	274	287	269	254	252	255	263	266	267	270	280	280	285	290	291	273.3
28-Jan	292	291	287	287	286	293	282	284	285	284	282	289	292	296	298	303	314	273	281	284	276	261	259	265	286.6
29-Jan	265	269	270	272	276	264	200	253	353	243	265	237	32	288	44	58	54	26	18	19	6	350	9	13	334.4
30-Jan	353	0	6	359	359	339	5	350	334	341	342	7	2	4	47	46	329	263	248	247	232	228	244	229	351.0
31-Jan	228	108	255	166	221	124	128	117	119	124	118	122	114	122	101	96	87	100	96	99	96	85	70	85	106.8

281.7 280.8 279.7 280.9 282.0 284.1 287.7 301.3 299.1 299.1 295.0 290.4 290.6 293.0 304.1 299.5 295.2 285.9 284.8 282.8 286.3 284.8 287.0 287.3
 Diurnal Average

UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods





Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg
Surmont 2 - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 106 deg on Jan 29 09:00 Minimum Value: 14 deg on Jan 9 15:00 Percentiles: P ₁ = 19 P ₁₀ = 25 Q ₁ = 29 Median = 36 Q ₃ = 43 P ₉₀ = 59 P ₉₉ = 93																			Hours in Service: 744 Hours of Data: 743 Hours of Missing Data: 1 Hours of Calibration: 0 Percent Operational Time: 99.9						
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	39	32	35	28	34	36	38	43	37	36	48	40	38	33	34	37	43	38	39	38	38	46	44	45	48
2-Jan	46	45	47	38	37	39	49	45	44	68	49	79	29	49	87	61	48	26	25	31	20	38	49	31	87
3-Jan	34	21	15	25	56	23	45	51	42	26	29	39	40	47	37	40	69	61	41	31	33	36	41	35	69
4-Jan	35	38	39	29	34	37	34	45	40	32	32	29	35	29	31	36	34	37	43	42	68	42	49	59	68
5-Jan	27	26	67	29	42	41	47	35	33	38	42	41	47	39	36	37	38	41	35	46	22	48	47	77	77
6-Jan	51	26	30	32	32	31	40	41	49	31	36	38	41	40	47	49	54	67	42	50	58	88	95	47	95
7-Jan	51	60	22	25	26	22	25	47	29	38	57	30	38	28	25	24	28	28	24	45	43	65	47	35	65
8-Jan	28	29	26	27	31	29	30	28	29	30	31	32	32	32	37	38	39	36	33	35	32	32	33	39	39
9-Jan	29	28	32	36	32	33	35	59	36	37	46	54	90	22	14	19	35	37	48	44	35	36	32	39	90
10-Jan	47	34	38	37	42	69	65	79	42	46	41	40	36	40	34	28	37	38	36	39	37	37	37	34	79
11-Jan	41	40	39	40	44	46	38	36	40	41	40	44	42	39	55	65	72	57	83	64	55	85	74	54	85
12-Jan	91	80	46	38	38	29	33	35	43	33	47	34	27	39	35	34	29	37	62	33	24	25	28	27	91
13-Jan	26	51	22	59	34	45	28	35	52	44	42	31	37	63	46	64	36	27	30	30	25	23	30	31	64
14-Jan	29	26	20	29	22	81	35	56	43	56	67	58	62	34	29	26	25	25	25	24	26	27	25	25	81
15-Jan	27	28	28	29	32	37	34	36	35	33	30	36	31	34	29	24	38	19	17	19	33	61	46	51	61
16-Jan	98	92	70	19	23	24	17	19	18	30	31	34	32	29	30	37	36	40	44	42	38	43	39	40	98
17-Jan	39	40	36	40	40	37	39	37	38	36	34	39	39	46	44	39	42	38	40	37	41	40	44	38	46
18-Jan	40	39	43	84	28	40	28	43	30	29	25	32	73	52	20	25	34	23	44	69	72	22	83	71	84
19-Jan	32	UO	48	66	31	45	42	40	43	39	49	42	40	42	35	45	52	40	29	74	73	40	32	35	74
20-Jan	29	23	31	45	36	45	80	59	31	59	69	55	55	45	48	67	82	35	35	23	33	35	27	25	82
21-Jan	26	30	28	26	33	38	40	30	32	37	33	33	32	37	45	40	41	40	35	36	39	39	41	35	45
22-Jan	45	50	81	31	31	32	37	42	44	41	42	40	39	30	32	34	33	33	43	53	67	69	96	75	96
23-Jan	72	68	43	36	32	34	70	78	22	25	25	23	26	29	29	29	33	33	31	31	34	28	30	29	78
24-Jan	29	27	28	30	35	43	42	41	38	39	41	44	46	44	43	45	34	26	33	29	29	31	30	24	46
25-Jan	24	33	21	37	27	19	18	24	33	25	25	22	27	30	27	28	27	26	25	23	26	23	23	25	37
26-Jan	30	28	33	95	44	25	58	48	36	37	25	30	28	26	30	31	29	27	35	31	27	25	24	25	95
27-Jan	22	23	29	29	31	20	23	31	22	27	43	84	24	27	25	28	32	29	28	29	28	29	30	32	84
28-Jan	33	31	32	33	31	37	30	30	30	27	30	33	34	37	36	38	42	28	28	28	28	22	19	20	42
29-Jan	21	23	21	26	30	51	53	73	106	31	101	88	79	52	42	32	29	38	40	38	39	32	44	39	106
30-Jan	39	39	43	44	41	39	42	40	37	46	42	50	42	50	42	39	59	38	31	36	48	73	45	37	73
31-Jan	76	97	102	76	65	46	25	23	23	29	23	24	19	20	23	21	25	21	23	23	22	28	28	28	102
Diurnal Maximum																									
UO - Unstable Operation																									



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS30 ELLS RIVER JANUARY 2025

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

February 28, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - ELLS RIVER (AMS30)
JANUARY 2025

MONTHLY SUMMARY for
AMD SECTION III.B.1(c)

Parameter	Hours of Data	Hours of Calibration	Hours without Data	Operational Time	Maximum 1-Hour Value	1-Hour Exceedances	Maximum 24-Hour Value	24-Hour Exceedances
SO2 (ppb) Average	709	35	35	100	18.3	0	2.9	0
TRS (ppb) Average	708	36	36	100	16.5	4	4.1	2
THC (ppm) Average	709	35	35	100	3.2	-	2.6	-
NMHC (ppm) Average	709	35	35	100	1.045	-	0.166	-
CH4 (ppm) Average	709	35	35	100	2.9	-	2.5	-
NO2 (ppb) Average	687	39	57	97.58	39.1	0	21.7	-
NO (ppb) Average	687	39	57	97.58	82.5	-	14.6	-
NOX (ppb) Average	687	39	57	97.58	121.6	-	36.3	-
PM2.5 (ug/m3) Average	742	2	2	100	22.7	0	9.7	0
Temperature 2 m (C) Average	744	0	0	100	8.6	-	2.9	-
Relative Humidity (%) Average	744	0	0	100	90.5	-	84.9	-
Wind Speed 10 m (km/h) Average	711	0	33	95.56	36	-	25	-
Wind Direction 10 m (deg) Average	711	0	33	95.56	-	-	-	-
Global Solar Radiation (W/m2) Average	744	0	0	100	290.9	-	56.7	-

Note : Operational time includes periods of data collection and instrument calibration

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - ELLS RIVER (AMS30)
JANUARY 2025

MONTHLY SUMMARY FOR AIR QUALITY/ METEOROLOGICAL MONITORING MEASUREMENTS

Parameter	Number	Mean	StnDev	Total	Percentile						
					Min	P10	Q1	Median	Q3	P90	Max
SO2 (ppb) Average	709	0.55	1.7	-	0	0	0	0.1	0.3	1	18.3
TRS (ppb) Average	708	0.83	1.4	-	0.4	0.4	0.4	0.5	0.7	1.2	16.5
THC (ppm) Average	709	2.2	0.2	-	2	2	2	2.1	2.3	2.5	3.2
NMHC(ppm) Average	709	0.029	0.078	-	0	0	0	0	0	0.1	1.045
CH4(ppm) Average	709	2.17	0.2	-	2	2	2	2.1	2.3	2.4	2.9
NO2 (ppb) Average	687	10.16	8.6	-	0.1	0.6	1.5	9.3	15.9	21.1	39.1
NO (ppb) Average	687	3.25	7.4	-	0	0	0.1	0.3	2.9	9.4	82.5
NOX (ppb) Average	687	13.41	14.2	-	0.2	0.7	1.7	10.6	19.5	30.5	121.6
PM2.5 (ug/m3) Average	742	3.48	3	-	0.1	0.5	1.4	3	4.2	6.5	22.7
Temperature 2 m (C) Average	744	-13.19	11.8	-	-40.4	-30.6	-22	-12.1	-3.2	1.5	8.6
Relative Humidity (%) Average	744	72.13	9.9	-	35	61	67.5	72.5	78.9	83.7	90.5
Wind Speed 10 m (km/h) Average	711	10.8	7	-	1	3	6	9	13	22	36
Wind Direction 10 m (deg) Average	711	254.5	-	-	-	-	-	-	-	-	-
Global Solar Radiation (W/m2) Average	744	22.11	48.8	-	0	0	0	0	15.2	88.6	290.9

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - ELLS RIVER (AMS30)
JANUARY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
NO2	23 Jan 2025 17:00	24 Jan 2025 10:00	18	Maintenance - replaced external and charcoal
Wind Speed, Wind Direction	01 Jan 2025 01:00	01 Jan 2025 04:00	4	Flat line in sensor output signal
Wind Speed, Wind Direction	01 Jan 2025 09:00	01 Jan 2025 10:00	2	Flat line in sensor output signal
Wind Speed, Wind Direction	01 Jan 2025 16:00	01 Jan 2025 17:00	2	Flat line in sensor output signal
Wind Speed, Wind Direction	01 Jan 2025 19:00	01 Jan 2025 20:00	2	Flat line in sensor output signal
Wind Speed, Wind Direction	01 Jan 2025 22:00	02 Jan 2025 06:00	9	Flat line in sensor output signal
Wind Speed, Wind Direction	02 Jan 2025 08:00	02 Jan 2025 10:00	3	Flat line in sensor output signal
Wind Speed, Wind Direction	03 Jan 2025 17:00	03 Jan 2025 17:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	04 Jan 2025 03:00	04 Jan 2025 03:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	04 Jan 2025 05:00	04 Jan 2025 06:00	2	Flat line in sensor output signal
Wind Speed, Wind Direction	05 Jan 2025 21:00	05 Jan 2025 21:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	23 Jan 2025 04:00	23 Jan 2025 04:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	29 Jan 2025 06:00	29 Jan 2025 06:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	29 Jan 2025 08:00	29 Jan 2025 09:00	2	Flat line in sensor output signal
Wind Speed, Wind Direction	30 Jan 2025 18:00	30 Jan 2025 19:00	2	Flat line in sensor output signal

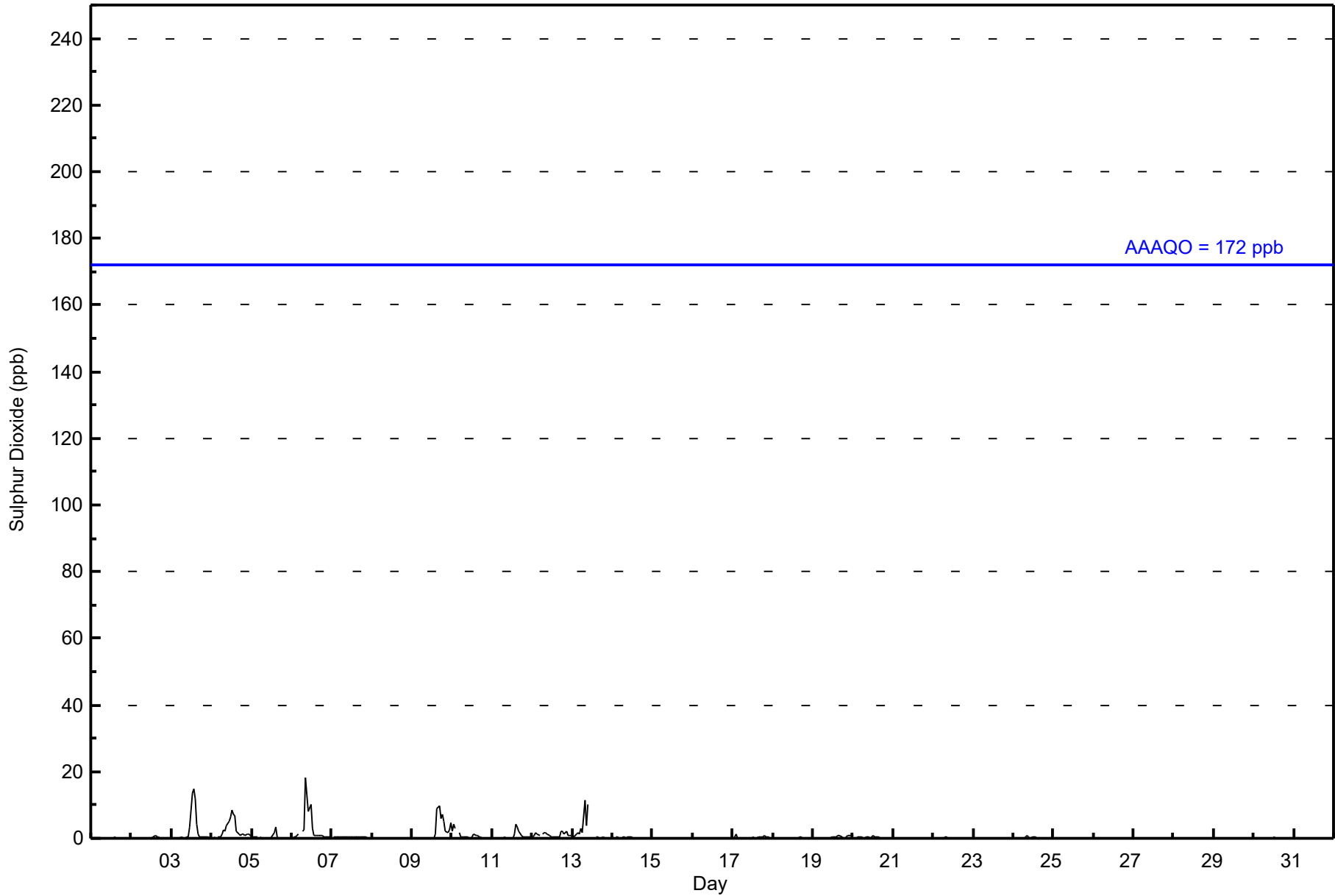


Number of Exceedences (AAAO):		1-hr: 0	24-hr: 0	Hours in Service: 744																	744						
Maximum Value: 18.3 ppb on Jan 6 09:00		Maximum Daily Average: 2.9 ppb on Jan 6		Hours of Data: 709																	709						
Minimum Value: 0.0 ppb on Jan 9 05:00		Minimum Daily Average: 0.0 ppb on Jan 25		Hours of Missing Data: 35																	35						
Maximum Diurnal Average: 1.1 ppb at hour 15		Minimum Diurnal Average: 0.2 ppb at hour 1		Hours of Calibration: 35																	35						
Monthly Average: 0.55 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.3 P ₉₀ = 1.0 P ₉₉ = 10.0		Percent Operational Time: 100.0																	100.0						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	Z	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.2	0.1	0.1	0.2	0.1
2-Jan	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.5	1.1	0.5	0.3	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.1
3-Jan	0.1	0.1	Z	0.1	0.1	0.0	0.3	0.2	0.2	0.3	0.6	3.4	13.4	14.6	11.7	4.3	1.3	0.6	0.3	0.3	0.3	0.3	0.2	0.1	2.3	14.6	
4-Jan	0.2	0.1	0.2	Z	0.4	0.6	1.3	2.4	2.3	3.8	4.9	6.4	8.3	7.4	6.8	2.1	1.5	0.9	1.4	1.3	0.7	1.1	1.1	0.8	2.4	8.3	
5-Jan	0.6	0.5	0.4	0.4	Z	0.3	0.2	0.2	0.1	0.2	0.2	0.3	1.9	3.3	0.2	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.4	3.3	0.4	
6-Jan	0.1	0.6	0.5	0.8	1.4	Z	2.1	2.5	18.3	12.9	7.9	10.0	3.0	0.9	0.8	0.8	0.7	0.7	0.6	0.6	0.5	0.5	0.4	0.3	2.9	18.3	
7-Jan	Z	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.4	0.5	
8-Jan	0.2	Z	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.2	
9-Jan	0.1	0.1	Z	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.1	1.5	8.8	9.6	5.8	7.3	5.0	2.3	1.6	2.6	4.8	2.2	9.6	
10-Jan	2.1	4.1	2.9	Z	1.5	0.5	0.4	0.4	0.3	0.3	0.2	0.2	0.5	1.1	1.0	0.7	0.5	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.8	4.1	
11-Jan	0.2	0.2	0.2	0.1	Z	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.1	1.1	4.4	3.3	2.2	0.7	0.3	0.4	0.4	0.5	0.4	0.4	0.7	4.4	
12-Jan	0.6	1.0	1.9	1.4	0.9	Z	1.2	1.6	1.6	1.2	0.8	0.6	0.5	0.5	0.4	0.5	0.4	2.0	2.1	1.1	2.0	1.1	0.8	0.6	1.1	2.1	
13-Jan	Z	0.6	1.3	1.5	1.1	3.0	1.5	11.3	3.6	10.0	C	C	C	C	0.4	0.2	0.1	0.1	0.3	0.2	0.1	0.2	0.2	0.2	1.9	11.3	
14-Jan	0.2	Z	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.2	0.3	
15-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	
16-Jan	0.0	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.1	
17-Jan	0.1	0.2	1.1	0.2	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.1	0.2	0.2	0.3	0.5	0.6	0.9	0.5	0.4	0.1	0.0	0.3	1.1	
18-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.5	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.5	
19-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.4	0.4	1.0	0.8	0.2	0.1	0.0	0.3	0.8	0.9	1.0	0.3	1.0	
20-Jan	0.7	Z	0.2	0.4	0.3	0.3	0.2	0.2	0.4	0.4	0.2	0.2	0.7	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.3	0.7	
21-Jan	0.1	0.1	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.2	
22-Jan	0.0	0.0	0.0	Z	0.0	0.1	0.1	0.2	0.3	0.2	0.2	0.2	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.3	
23-Jan	0.2	0.1	0.2	0.2	Z	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	
24-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.2	0.5	0.8	0.4	0.1	0.5	0.5	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.8	
25-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
26-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	
27-Jan	0.0	0.0	Z	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	
28-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	
29-Jan	0.1	0.0	0.1	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	
30-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.0	0.1	0.3	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.3	
31-Jan	Z	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	
		0.2	0.3	0.4	0.2	0.3	0.3	0.3	0.7	1.0	1.0	0.6	0.8	1.0	1.0	1.1	0.8	0.6	0.4	0.5	0.4	0.3	0.2	0.3	0.3	Diurnal Average	
		2.1	4.1	2.9	1.5	1.5	3.0	2.1	11.3	18.3	12.9	7.9	10.0	13.4	14.6	11.7	8.8	9.6	5.8	7.3	5.0	2.3	1.6	2.6	4.8	Diurnal Maximum	
Z - zerospan C - Calibration																											
Alberta Ambient Air Quality Objectives (AAAO): 1-hr 172 ppb 24-hr 48 ppb																											



Wood Buffalo Environmental Association
Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Ells River - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Ells River - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	703	99.15	99.15
11 - 20	6	0.85	100.00
21 - 60	0	0.00	100.00
61 - 110	0	0.00	100.00
111 - 172	0	0.00	100.00
> 172	0	0.00	100.00

Total Number of Valid Hours: 709

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Ells River - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 10	63	86	14	5	2	3	28	80	102	67	63	35	37	50	23	14	672
11 - 20	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	6
21 - 60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61 - 110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111 - 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	63	86	14	5	2	3	28	80	108	67	63	35	37	50	23	14	678

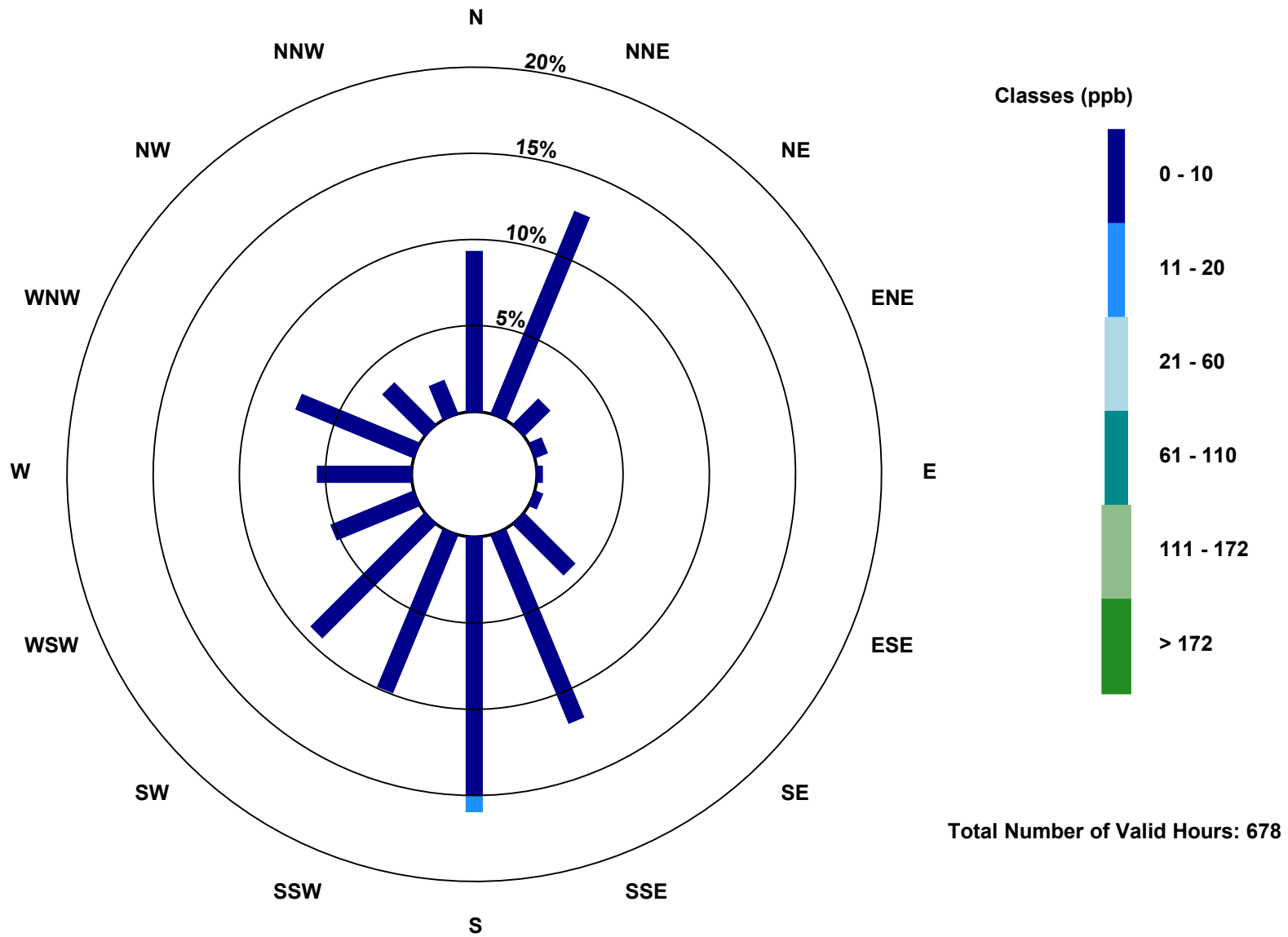
Total Number of Valid Hours: 678

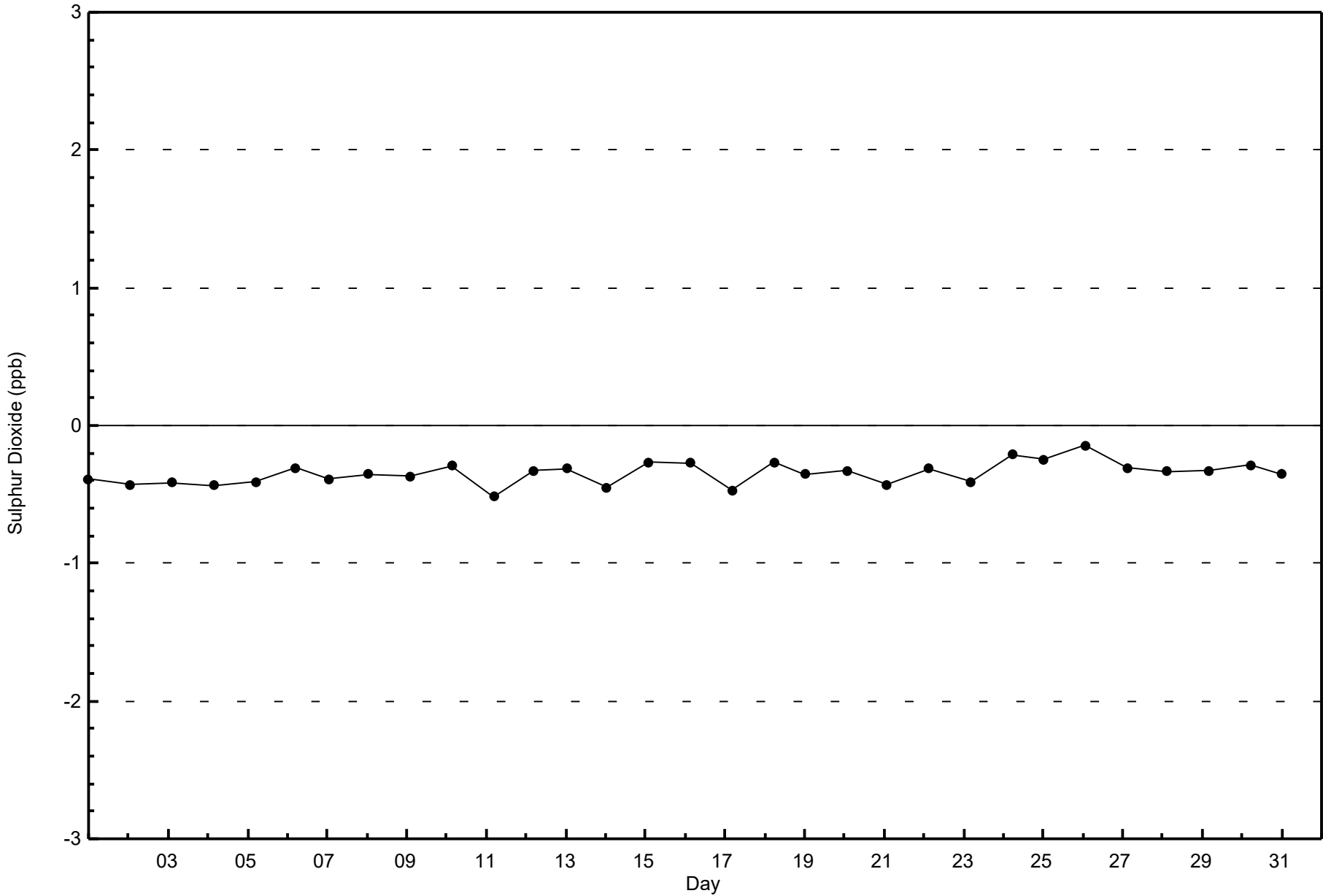
Total Number of Hours: 744

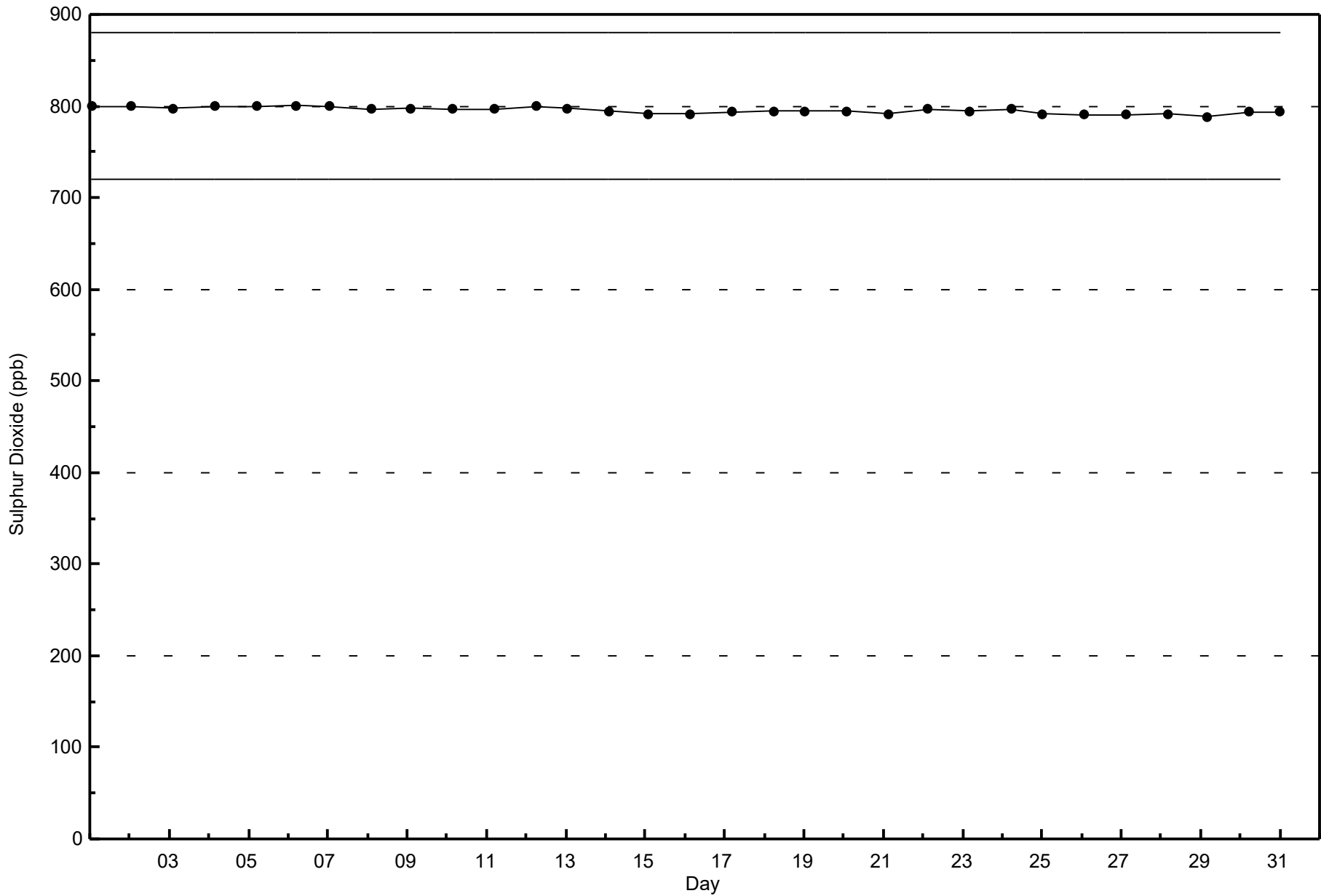


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Sulphur Dioxide (SO₂) - ppb
Ells River





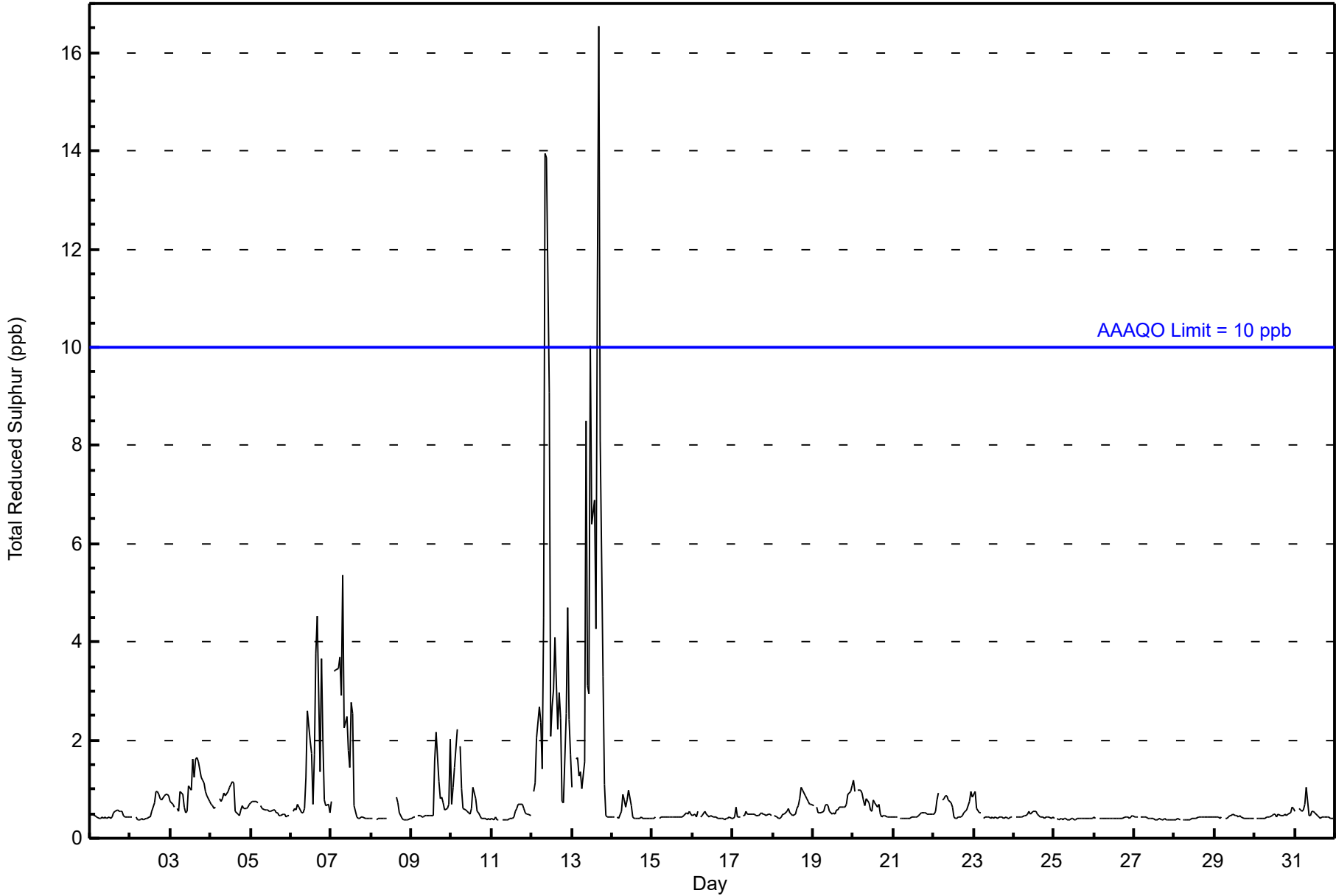




Number of Exceedences (AAAQO):	1-hr: 4	24-hr: 2	Hours in Service:	744
Maximum Value: 16.5 ppb on Jan 13 17:00	Maximum Daily Average: 4.1 ppb on Jan 13		Hours of Data:	708
Minimum Value: 0.4 ppb on Jan 28 07:00	Minimum Daily Average: 0.4 ppb on Jan 25		Hours of Missing Data:	36
Maximum Diurnal Average: 1.3 ppb at hour 17	Minimum Diurnal Average: 0.6 ppb at hour 2		Hours of Calibration:	36
Monthly Average: 0.83 ppb	Percentiles: P ₁ = 0.4 P ₁₀ = 0.4 Q ₁ = 0.4 Median = 0.5 Q ₃ = 0.7 P ₉₀ = 1.2 P ₉₉ = 8.0		Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	0.5	Z	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.6	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.5	0.6																							
2-Jan	0.4	0.4	Z	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.7	0.9	1.0	0.9	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.6	1.0																						
3-Jan	0.7	0.7	0.6	Z	0.6	0.5	1.0	0.9	0.6	0.5	0.5	1.1	1.0	1.6	1.2	1.6	1.6	1.6	1.2	1.2	1.1	1.0	0.9	0.8	1.0	1.6																							
4-Jan	0.7	0.7	0.6	0.6	Z	0.8	0.7	0.8	0.9	0.9	1.0	1.0	1.1	1.1	1.1	0.6	0.5	0.5	0.6	0.7	0.6	0.6	0.6	0.7	0.8	1.1																							
5-Jan	0.7	0.7	0.8	0.8	0.7	Z	0.7	0.6	0.6	0.6	0.6	0.5	0.5	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.5	0.6	0.8																							
6-Jan	Z	0.5	0.6	0.6	0.7	0.6	0.5	0.5	0.6	1.2	2.6	2.0	1.7	0.7	1.7	3.8	4.5	1.4	3.7	2.0	0.8	0.7	0.7	0.5	1.4	4.5																							
7-Jan	0.8	Z	3.4	3.4	3.5	3.7	2.9	5.4	2.3	2.5	1.8	1.4	2.8	2.5	0.7	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	1.8	5.4																							
8-Jan	0.4	0.4	Z	0.4	0.4	0.4	0.4	0.4	0.4	0.4	C	C	C	C	C	0.8	0.7	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.8																							
9-Jan	0.4	0.4	0.4	Z	0.5	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.5	1.6	2.2	1.1	0.8	0.8	0.7	0.6	0.6	0.7	2.0	0.7	2.2																								
10-Jan	0.7	1.0	1.4	2.2	Z	1.9	1.0	0.6	0.6	0.5	0.5	0.5	0.6	1.0	0.8	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.8	2.2																							
11-Jan	0.4	0.4	0.4	0.4	0.4	Z	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.6	0.6	0.7	0.7	0.7	0.6	0.5	0.5	0.5	0.5	0.5	0.7																							
12-Jan	Z	1.0	1.1	2.1	2.7	2.4	1.4	4.5	14.0	13.9	9.1	2.1	2.7	3.0	4.1	2.2	3.0	2.5	0.7	0.7	2.5	4.7	2.4	1.7	3.7	14.0																							
13-Jan	1.0	Z	1.6	1.6	1.3	1.4	1.0	1.5	8.5	3.1	2.9	10.0	6.4	6.9	4.3	11.3	16.5	8.1	3.3	1.1	0.5	0.4	0.4	0.4	4.1	16.5																							
14-Jan	0.4	0.4	Z	0.4	0.4	0.6	0.9	0.8	0.6	0.8	1.0	0.7	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	1.0																							
15-Jan	0.4	0.4	0.4	Z	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.6	0.5	0.4	0.6																							
16-Jan	0.5	0.5	0.4	0.5	Z	0.4	0.5	0.5	0.5	0.5	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5																							
17-Jan	0.4	0.4	0.6	0.4	0.4	Z	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6																							
18-Jan	Z	0.5	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.6	0.7	0.8	1.0	1.0	0.9	0.8	0.8	0.7	0.7	0.6	1.0																							
19-Jan	0.7	Z	0.6	0.5	0.5	0.5	0.5	0.7	0.7	0.7	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.9	0.9	1.1	1.1																							
20-Jan	1.2	1.0	Z	1.0	1.0	0.9	0.8	0.7	0.8	0.7	0.6	0.6	0.8	0.7	0.6	0.7	0.5	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.4	1.2																							
21-Jan	0.4	0.4	0.4	Z	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5																						
22-Jan	0.5	0.5	0.8	0.9	Z	0.8	0.8	0.9	0.9	0.8	0.7	0.6	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.8	0.9	0.8	0.6	0.9																							
23-Jan	0.9	0.9	0.6	0.5	0.5	Z	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.9																							
24-Jan	Z	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.6																							
25-Jan	0.4	Z	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4																							
26-Jan	0.4	0.4	Z	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.5																							
27-Jan	0.4	0.4	0.4	Z	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4																							
28-Jan	0.4	0.4	0.4	0.4	Z	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4																							
29-Jan	0.4	0.4	0.4	0.4	0.4	Z	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5																							
30-Jan	Z	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.5	0.6																							
31-Jan	0.5	Z	0.6	0.6	0.5	0.6	0.7	1.0	0.5	0.4	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	1.0																							
																								0.6	0.6	0.7	0.8	0.7	0.8	0.7	0.9	1.3	1.1	1.0	1.0	0.9	0.9	1.1	1.3	0.9	0.7	0.6	0.6	0.7	0.6	0.6	Diurnal Average		
																								1.2	1.0	3.4	3.4	3.5	3.7	2.9	5.4	14.0	13.9	9.1	10.0	6.4	6.9	4.3	11.3	16.5	8.1	3.7	2.0	2.5	4.7	2.4	2.0	Diurnal Maximum	

Z - zerospan C - Calibration
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Reduced Sulphur (TRS) - ppb
Ells River - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	674	95.20	95.20
3 - 4	21	2.97	98.16
5 - 7	5	0.71	98.87
8 - 11	4	0.56	99.44
> 11	4	0.56	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Total Reduced Sulphur (TRS) - ppb
Ells River - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2	62	87	14	5	2	3	25	65	97	67	61	35	38	47	20	17	645
3 - 4	0	0	0	0	0	0	1	9	10	1	0	0	0	0	0	0	21
5 - 7	0	0	0	0	0	0	1	2	2	0	0	0	0	0	0	0	5
8 - 11	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	4
> 11	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	4
Totals	62	87	14	5	2	3	27	82	111	68	61	35	38	47	20	17	679

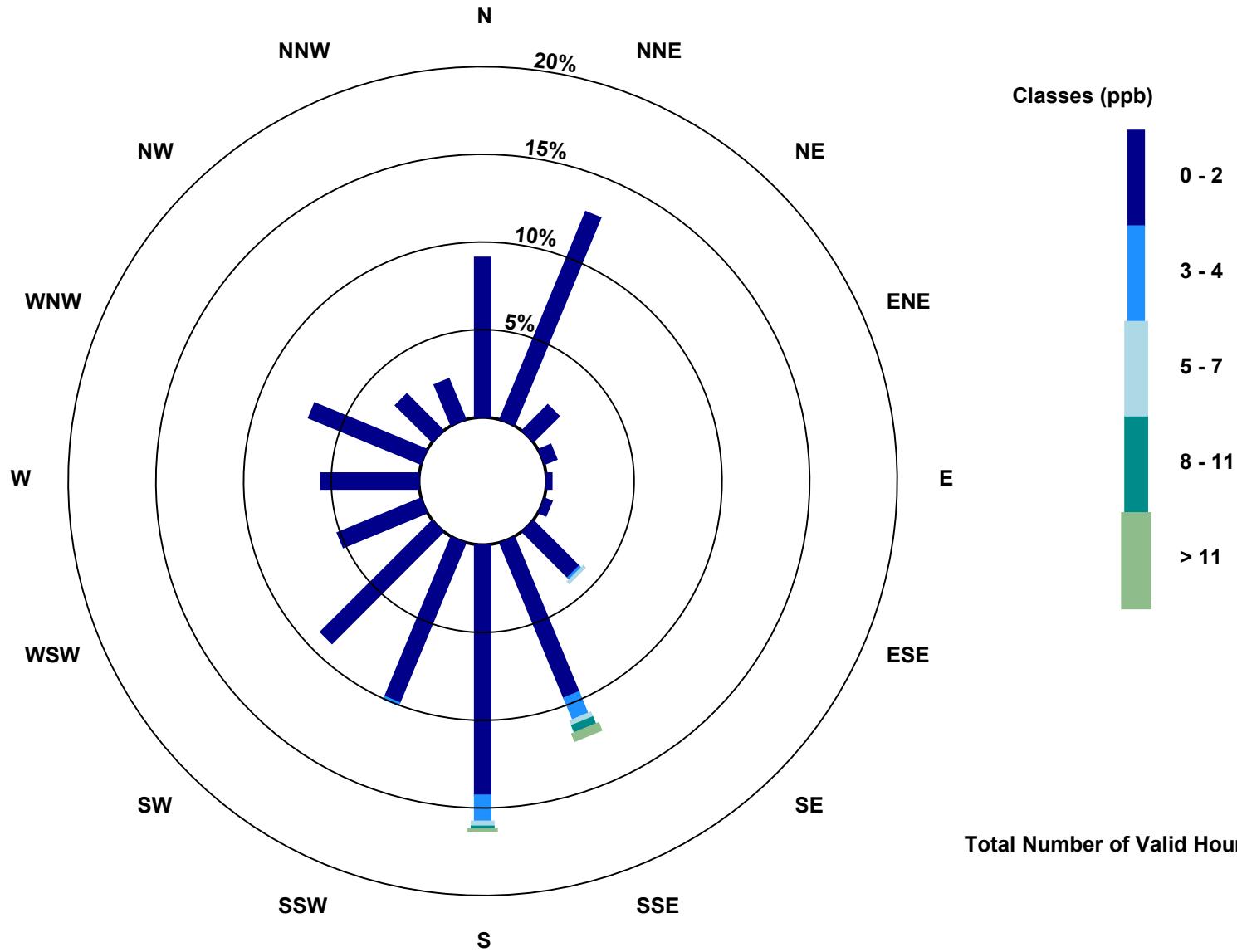
Total Number of Valid Hours: 679

Total Number of Hours: 744

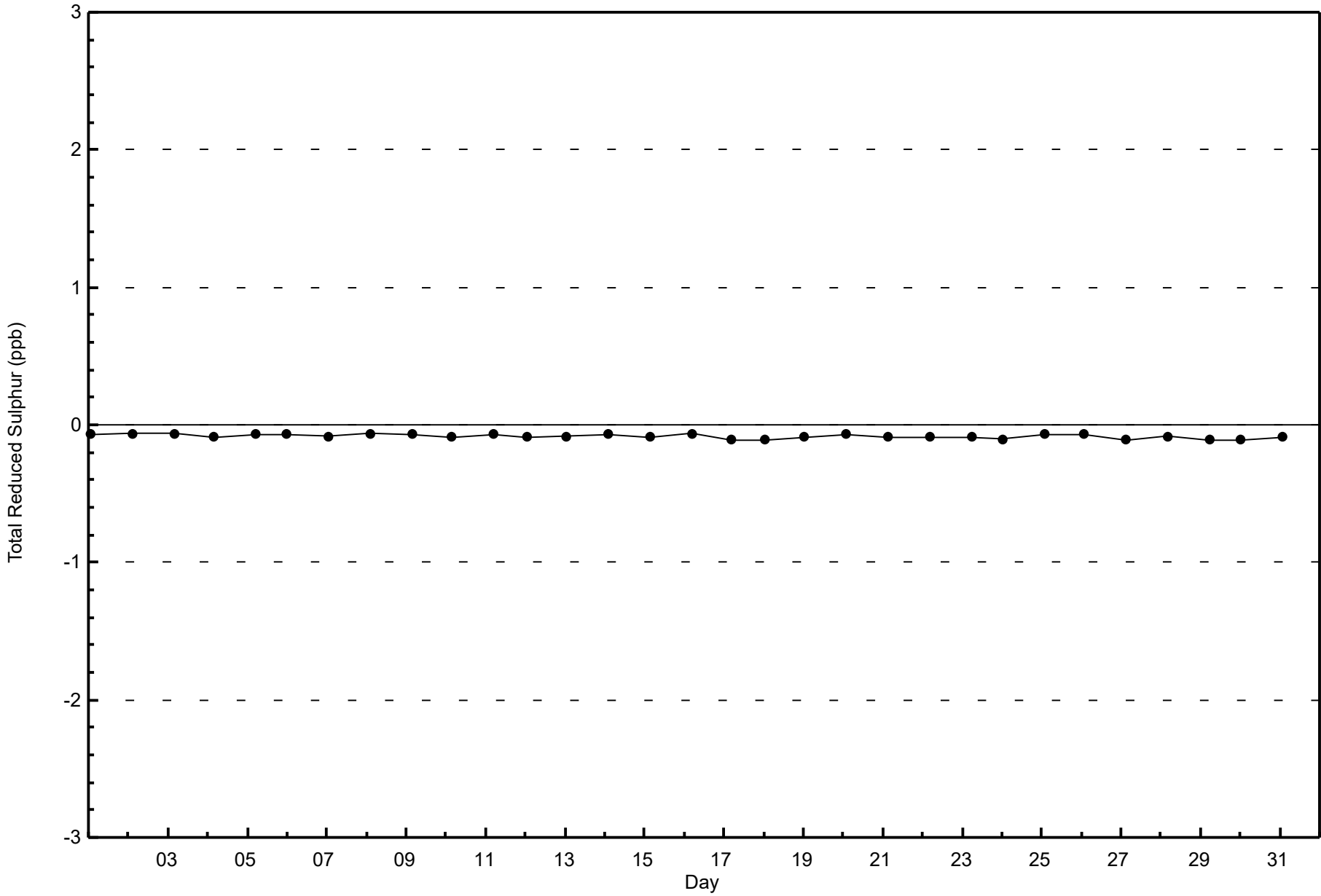


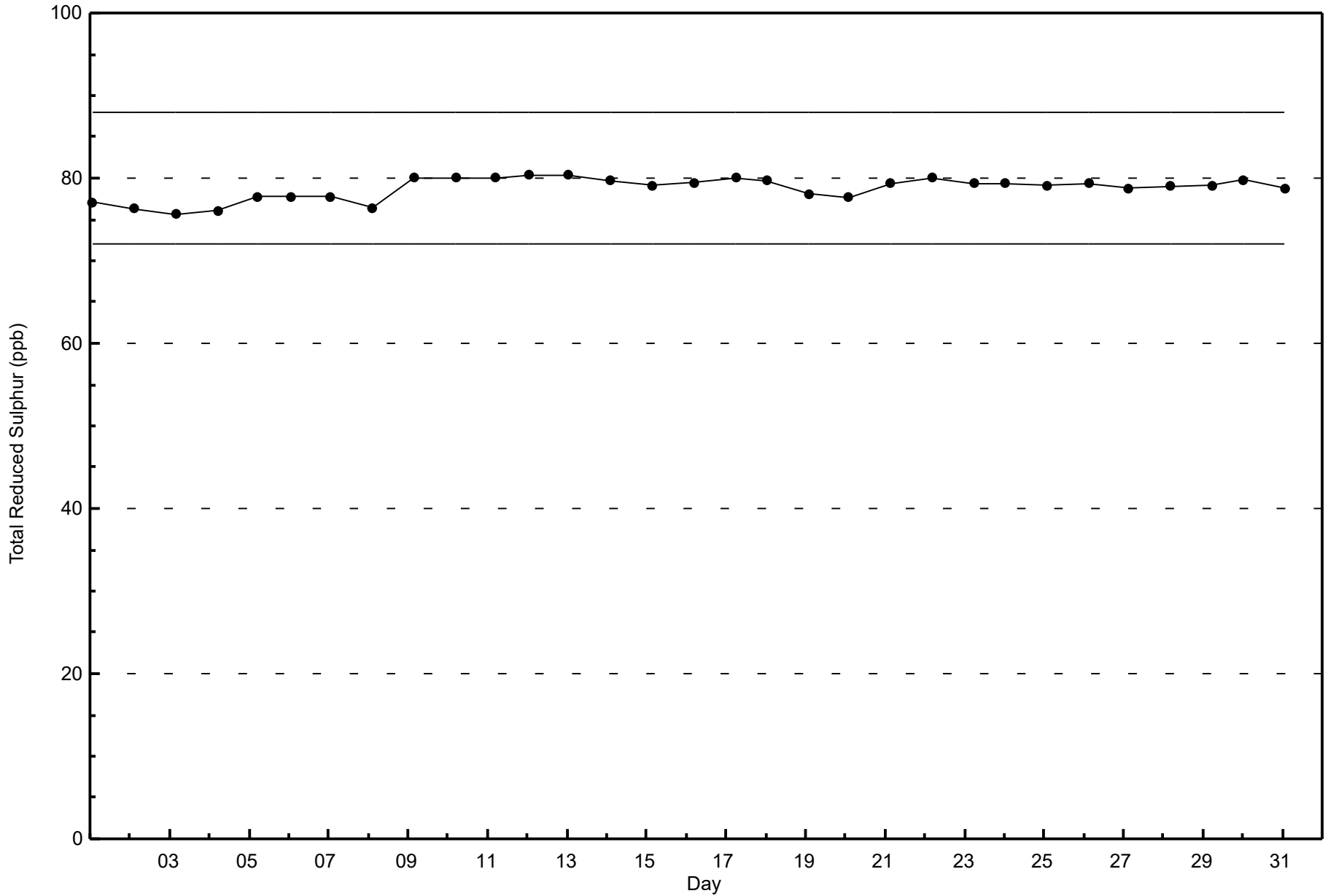
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Total Reduced Sulphur (TRS) - ppb
Ells River



Total Number of Valid Hours: 679







Wood Buffalo Environmental Association
Summary of Hour Averages

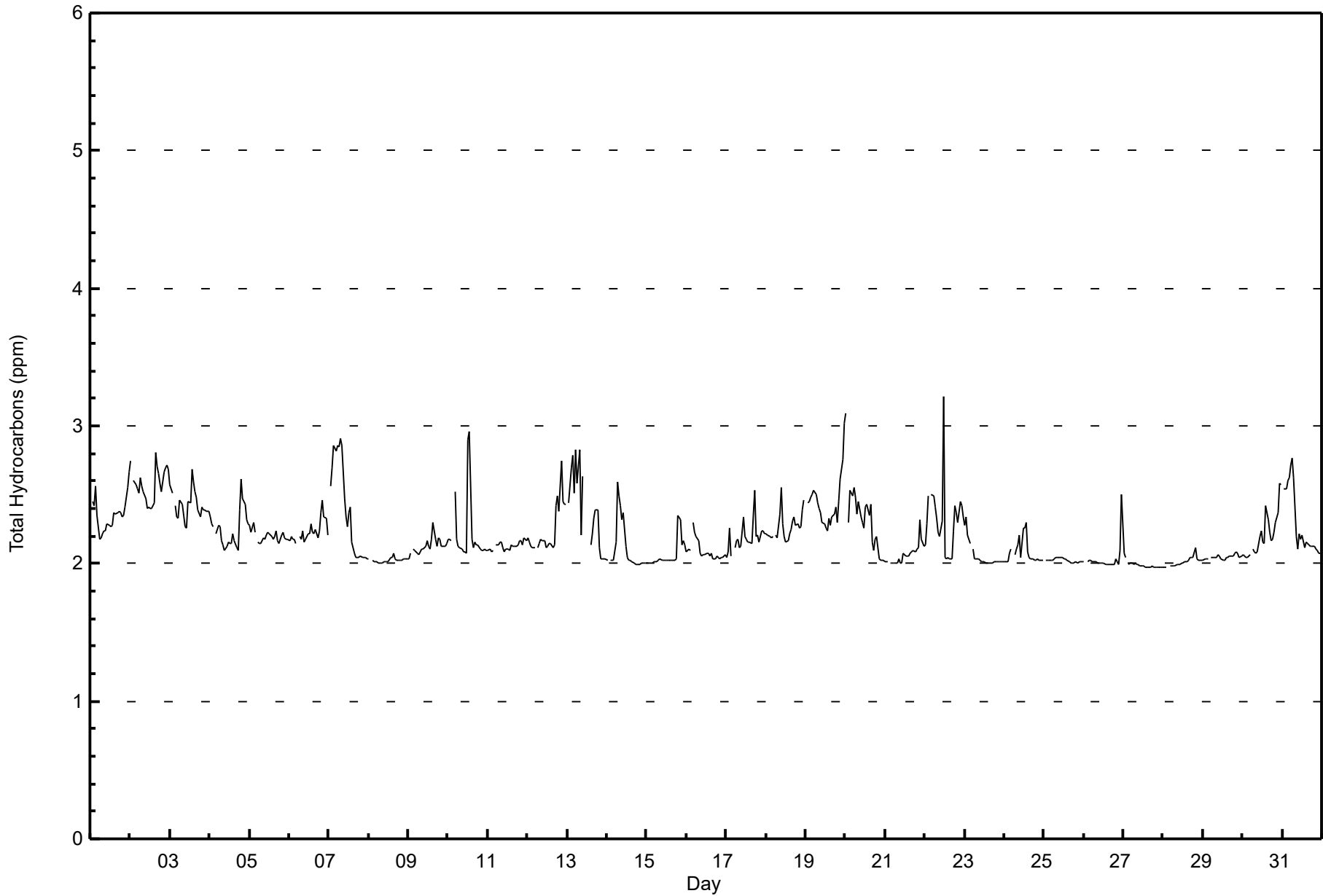
Total Hydrocarbons (THC) - ppm
Ells River - January 2025

Maximum Value: 3.2 ppm on Jan 22 12:00		Maximum Daily Average: 2.6 ppm on Jan 2		Hours in Service: 744																						
Minimum Value: 2.0 ppm on Jan 27 20:00		Minimum Daily Average: 2.0 ppm on Jan 27		Hours of Data: 709																						
Maximum Diurnal Average: 2.3 ppm at hour 5		Minimum Diurnal Average: 2.2 ppm at hour 15		Hours of Missing Data: 35																						
Monthly Average: 2.20 ppm		Percentiles: P ₁ = 2.0 P ₁₀ = 2.0 Q ₁ = 2.0 Median = 2.1 Q ₃ = 2.3 P ₉₀ = 2.5 P ₉₉ = 2.9		Hours of Calibration: 35																						
				Percent Operational Time: 100.0																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	Z	2.4	2.4	2.6	2.4	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.4	2.6	2.7	2.4	2.7
2-Jan	2.7	Z	2.6	2.6	2.5	2.5	2.6	2.6	2.5	2.5	2.4	2.4	2.4	2.4	2.4	2.8	2.7	2.7	2.6	2.5	2.7	2.7	2.7	2.7	2.6	2.8
3-Jan	2.6	2.5	Z	2.4	2.3	2.3	2.5	2.4	2.3	2.3	2.3	2.5	2.4	2.7	2.6	2.5	2.5	2.4	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.7
4-Jan	2.3	2.3	2.3	Z	2.2	2.3	2.3	2.3	2.2	2.1	2.1	2.1	2.2	2.1	2.2	2.2	2.1	2.1	2.4	2.6	2.5	2.4	2.3	2.3	2.2	2.6
5-Jan	2.3	2.2	2.3	2.2	Z	2.2	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.3
6-Jan	2.2	2.2	2.2	2.2	2.1	Z	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.2	2.2	2.3	2.2	2.2	2.4	2.5	2.3	2.3	2.2	2.2	2.5
7-Jan	Z	2.6	2.7	2.9	2.8	2.9	2.8	2.9	2.9	2.5	2.3	2.3	2.4	2.4	2.2	2.1	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.4	2.9
8-Jan	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1
9-Jan	2.0	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.2	2.3	2.2	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.3
10-Jan	2.2	2.2	2.2	Z	2.5	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.9	3.0	2.2	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	3.0
11-Jan	2.1	2.1	2.1	2.1	Z	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.2	2.2	2.1	2.2
12-Jan	2.2	2.2	2.1	2.1	2.1	Z	2.1	2.1	2.2	2.2	2.2	2.1	2.1	2.1	2.2	2.1	2.1	2.4	2.5	2.4	2.7	2.5	2.4	2.4	2.2	2.7
13-Jan	Z	2.4	2.7	2.8	2.5	2.8	2.6	2.8	2.2	2.6	C	C	C	C	2.1	2.2	2.3	2.4	2.4	2.1	2.0	2.0	2.0	2.0	2.4	2.8
14-Jan	2.0	Z	2.0	2.0	2.0	2.2	2.6	2.5	2.4	2.3	2.4	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.6
15-Jan	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.3	2.1	2.2	2.1	2.1	2.3
16-Jan	2.1	2.1	2.1	Z	2.3	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.3
17-Jan	2.0	2.1	2.3	2.1	Z	2.1	2.2	2.2	2.1	2.1	2.3	2.2	2.2	2.2	2.2	2.1	2.4	2.5	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.5
18-Jan	2.2	2.2	2.2	2.2	2.2	Z	2.2	2.2	2.4	2.6	2.3	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.5	2.6
19-Jan	Z	2.4	2.4	2.5	2.5	2.5	2.5	2.4	2.4	2.4	2.3	2.3	2.3	2.2	2.3	2.3	2.3	2.4	2.4	2.3	2.4	2.6	2.8	3.0	2.4	3.0
20-Jan	3.1	Z	2.3	2.5	2.5	2.6	2.5	2.4	2.4	2.3	2.3	2.3	2.4	2.4	2.3	2.4	2.2	2.1	2.2	2.2	2.0	2.0	2.0	2.0	2.3	3.1
21-Jan	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.2	2.1	2.1	2.3
22-Jan	2.1	2.3	2.5	Z	2.5	2.5	2.4	2.3	2.2	2.2	2.3	3.2	2.0	2.0	2.0	2.0	2.0	2.2	2.4	2.4	2.3	2.4	2.4	2.3	2.3	3.2
23-Jan	2.3	2.3	2.2	2.1	Z	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.3
24-Jan	2.0	2.0	2.0	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.2	2.0	2.3	2.3	2.3	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.3
25-Jan	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
26-Jan	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.5	2.0	2.5
27-Jan	2.1	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1
28-Jan	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.1
29-Jan	2.0	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.1
30-Jan	2.1	2.1	2.0	2.0	2.1	Z	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.1	2.4	2.3	2.2	2.2	2.2	2.2	2.2	2.3	2.4	2.6	2.6	2.6
31-Jan	Z	2.5	2.5	2.6	2.6	2.7	2.8	2.6	2.2	2.1	2.2	2.2	2.2	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.8
																								Diurnal Average		
																								Diurnal Maximum		
Z - zerospan C - Calibration																										



Wood Buffalo Environmental Association
Hourly Averages

Total Hydrocarbons (THC) - ppm
Ells River - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Hydrocarbons (THC) - ppm
Ells River - January 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	229	32.30	32.30
2.1 - 3.0	478	67.42	99.72
3.1 - 10.0	2	0.28	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 709

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Total Hydrocarbons (THC) - ppm
Ells River - January 2025

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2.0	10	6	0	0	0	0	0	7	15	43	52	25	22	35	10	1	226
2.1 - 3.0	53	80	14	5	2	3	28	72	92	24	11	10	15	15	13	13	450
3.1 - 10.0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	63	86	14	5	2	3	28	80	108	67	63	35	37	50	23	14	678

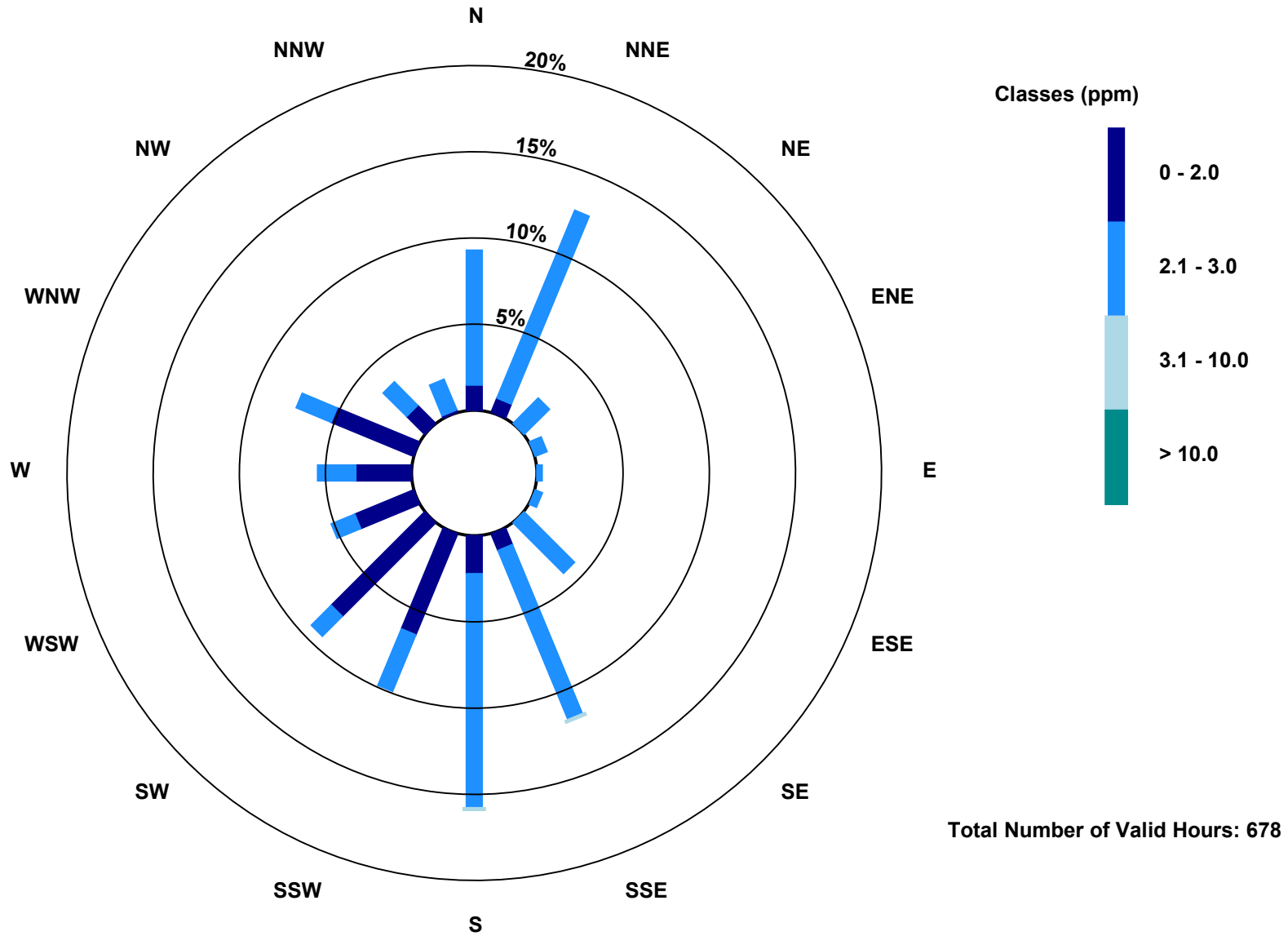
Total Number of Valid Hours: 678

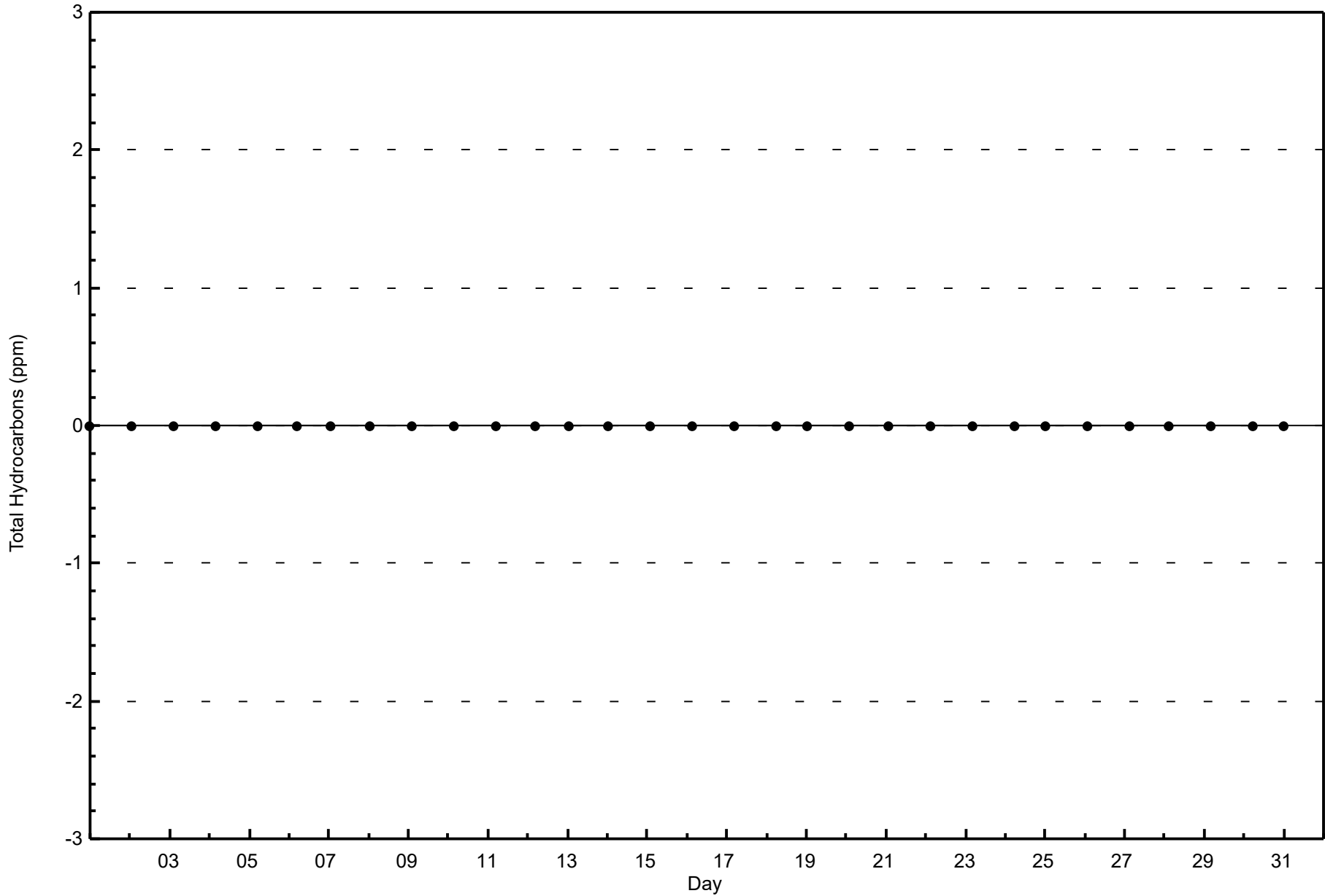
Total Number of Hours: 744

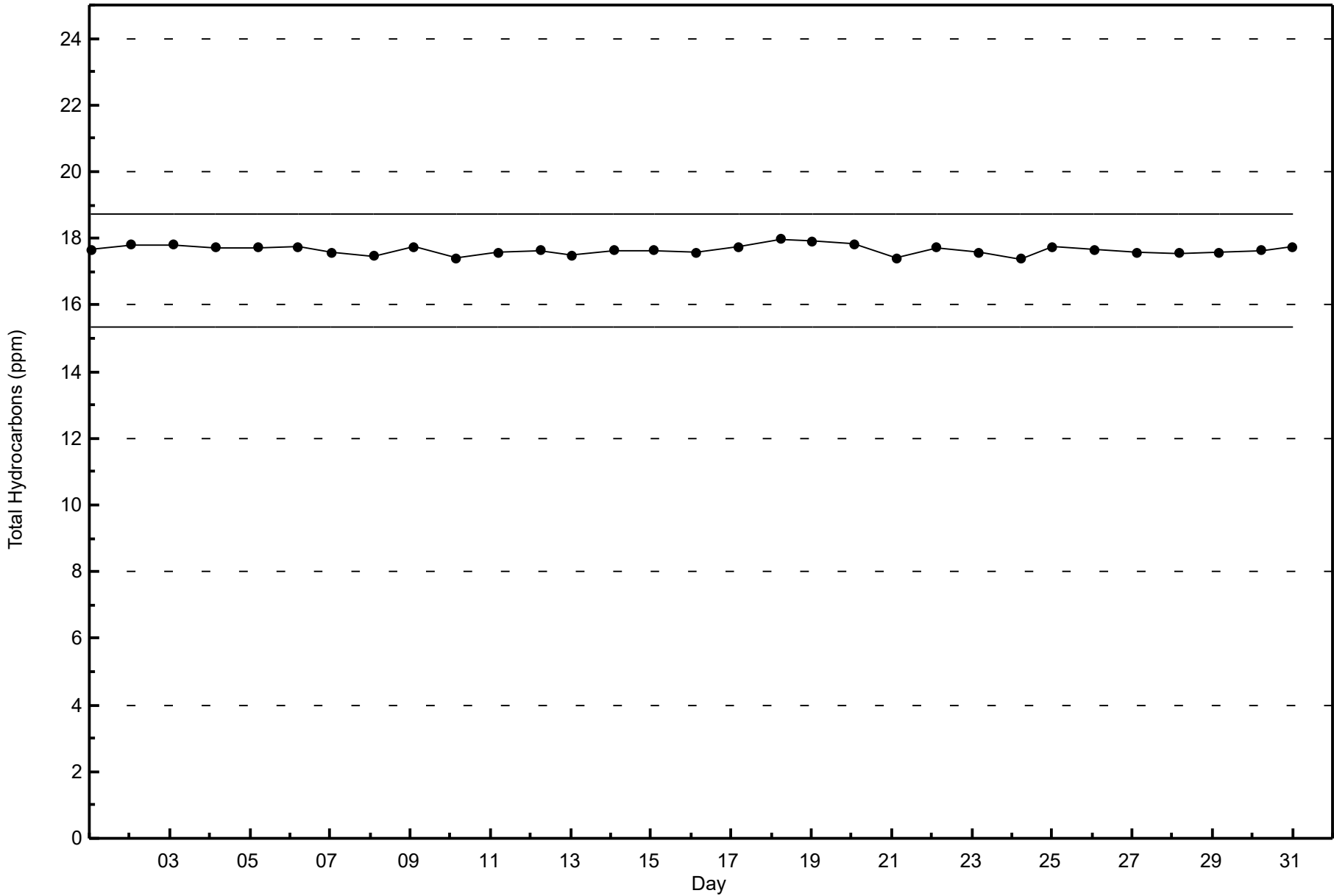


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Total Hydrocarbons (THC) - ppm
Ells River

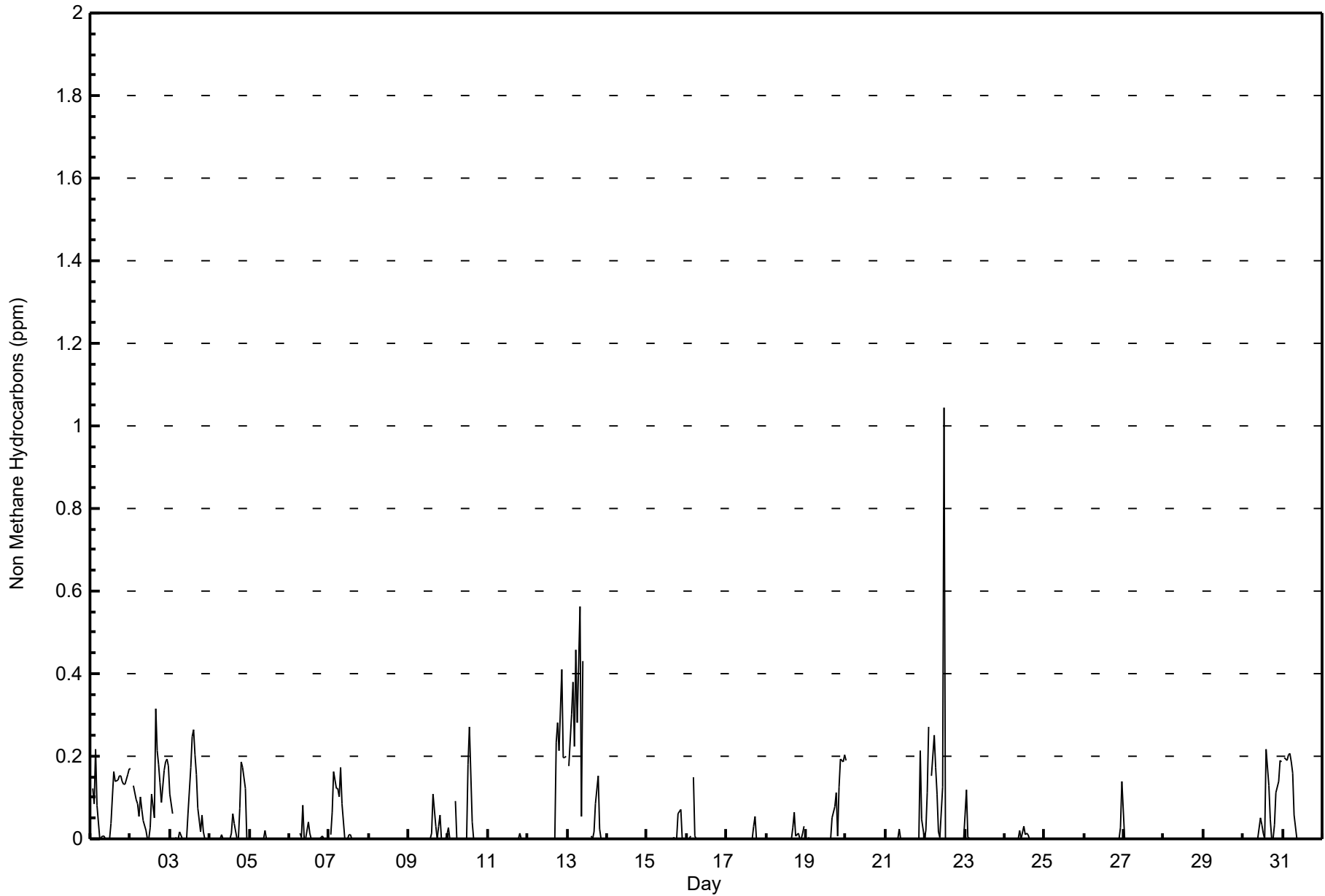








Maximum Value: 1.045 ppm on Jan 22 12:00		Maximum Daily Average: 0.166 ppm on Jan 13		Hours in Service: 744																							
Minimum Value: 0.000 ppm on Jan 1 06:00		Minimum Daily Average: 0.000 ppm on Jan 8		Hours of Data: 709																							
Maximum Diurnal Average: 0.043 ppm at hour 5		Minimum Diurnal Average: 0.006 ppm at hour 11		Hours of Missing Data: 35																							
Monthly Average: 0.029 ppm		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.1 P ₉₉ = 0.3		Hours of Calibration: 35																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	Z	0.121	0.085	0.218	0.082	0.000	0.003	0.007	0.007	0.000	0.000	0.000	0.036	0.101	0.163	0.140	0.142	0.154	0.152	0.138	0.133	0.134	0.157	0.169	0.093	0.218	
2-Jan	0.170	Z	0.129	0.097	0.083	0.055	0.103	0.070	0.045	0.020	0.001	0.000	0.026	0.107	0.050	0.314	0.215	0.181	0.135	0.089	0.168	0.187	0.193	0.175	0.114	0.314	
3-Jan	0.110	0.061	Z	0.005	0.000	0.000	0.016	0.000	0.000	0.000	0.000	0.063	0.172	0.248	0.263	0.202	0.155	0.074	0.016	0.057	0.015	0.000	0.000	0.000	0.063	0.263	
4-Jan	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.000	0.013	0.062	0.037	0.000	0.000	0.000	0.074	0.186	0.174	0.121	0.000	0.000	0.029	0.186	
5-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.021	
6-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.015	0.003	0.083	0.000	0.000	0.042	0.013	0.000	0.000	0.001	0.002	0.000	0.000	0.002	0.006	0.000	0.000	0.000	0.007	0.083	
7-Jan	Z	0.012	0.065	0.163	0.122	0.123	0.102	0.173	0.083	0.000	0.000	0.000	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.037	0.173	
8-Jan	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
9-Jan	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.014	0.108	0.030	0.000	0.030	0.058	0.000	0.000	0.001	0.011	0.011	0.108	
10-Jan	0.028	0.000	0.000	Z	0.090	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.180	0.271	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.027	0.271	
11-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.014	0.000	0.000	0.000	0.000	0.001	0.014	
12-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.234	0.281	0.215	0.409	0.197	0.196	0.200	0.075	0.409	
13-Jan	Z	0.175	0.301	0.381	0.223	0.459	0.280	0.561	0.054	0.430	C	C	C	C	0.005	0.000	0.016	0.083	0.153	0.024	0.000	0.000	0.000	0.000	0.166	0.561	
14-Jan	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
15-Jan	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.000	0.000	0.061	0.071	0.000	0.000	0.000	0.006	0.071	
16-Jan	0.000	0.001	0.007	Z	0.149	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.149	
17-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.030	0.056	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.056	
18-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.027	0.064	0.008	0.012	0.001	0.000	0.014	0.030	0.007	0.064	
19-Jan	Z	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.050	0.077	0.113	0.006	0.125	0.194	0.186	0.202	0.041	0.202	
20-Jan	0.190	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008	0.190	
21-Jan	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.213	0.047	0.000	0.012	0.213	
22-Jan	0.019	0.113	0.271	Z	0.152	0.250	0.172	0.108	0.017	0.003	0.125	1.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.099	1.045	
23-Jan	0.057	0.119	0.004	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008	0.119	
24-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.020	0.000	0.029	0.009	0.015	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.029	
25-Jan	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
26-Jan	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.027	0.140	0.007	0.140	
27-Jan	0.000	0.001	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	
28-Jan	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
29-Jan	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
30-Jan	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.051	0.033	0.014	0.000	0.216	0.128	0.046	0.000	0.000	0.033	0.114	0.139	0.189	0.187	0.050	0.216
31-Jan	Z	0.195	0.189	0.204	0.207	0.185	0.160	0.058	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.052	0.207	
		0.023	0.031	0.040	0.041	0.043	0.041	0.027	0.032	0.010	0.016	0.006	0.040	0.015	0.025	0.027	0.030	0.023	0.030	0.031	0.029	0.039	0.038	0.033	0.036	Diurnal Average	
		0.190	0.195	0.301	0.381	0.223	0.459	0.280	0.561	0.083	0.430	0.125	1.045	0.180	0.271	0.263	0.314	0.215	0.234	0.281	0.215	0.409	0.213	0.196	0.202	Diurnal Maximum	
Z - zerospan		C - Calibration																									





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Non Methane Hydrocarbons (NMHC) - ppm
Ells River - January 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 0.005	539	76.02	76.02
0.006 - 0.05	57	8.04	84.06
0.06 - 0.1	53	7.48	91.54
> 0.1	60	8.46	100.00

Total Number of Valid Hours: 709

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Non Methane Hydrocarbons (NMHC) - ppm
Ells River - January 2025

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 0.005	56	78	9	2	2	3	14	50	71	60	59	30	30	44	14	6	528
0.006 - 0.05	1	3	4	1	0	0	7	10	6	5	3	2	2	2	4	3	53
0.06 - 0.1	3	4	0	1	0	0	2	6	15	1	1	1	3	2	3	1	43
> 0.1	3	1	1	1	0	0	5	14	16	1	0	2	2	2	2	4	54
Totals	63	86	14	5	2	3	28	80	108	67	63	35	37	50	23	14	678

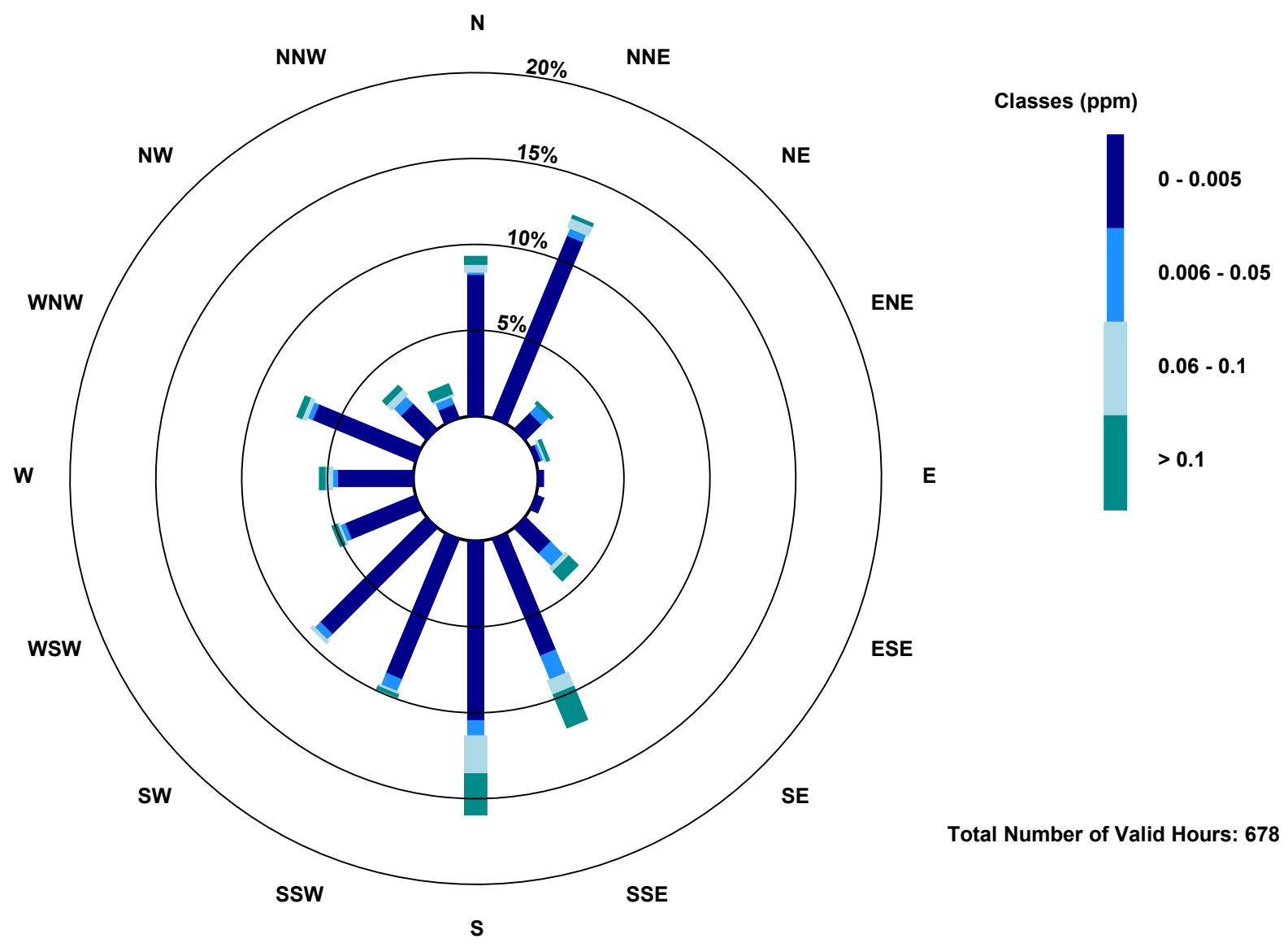
Total Number of Valid Hours: 678

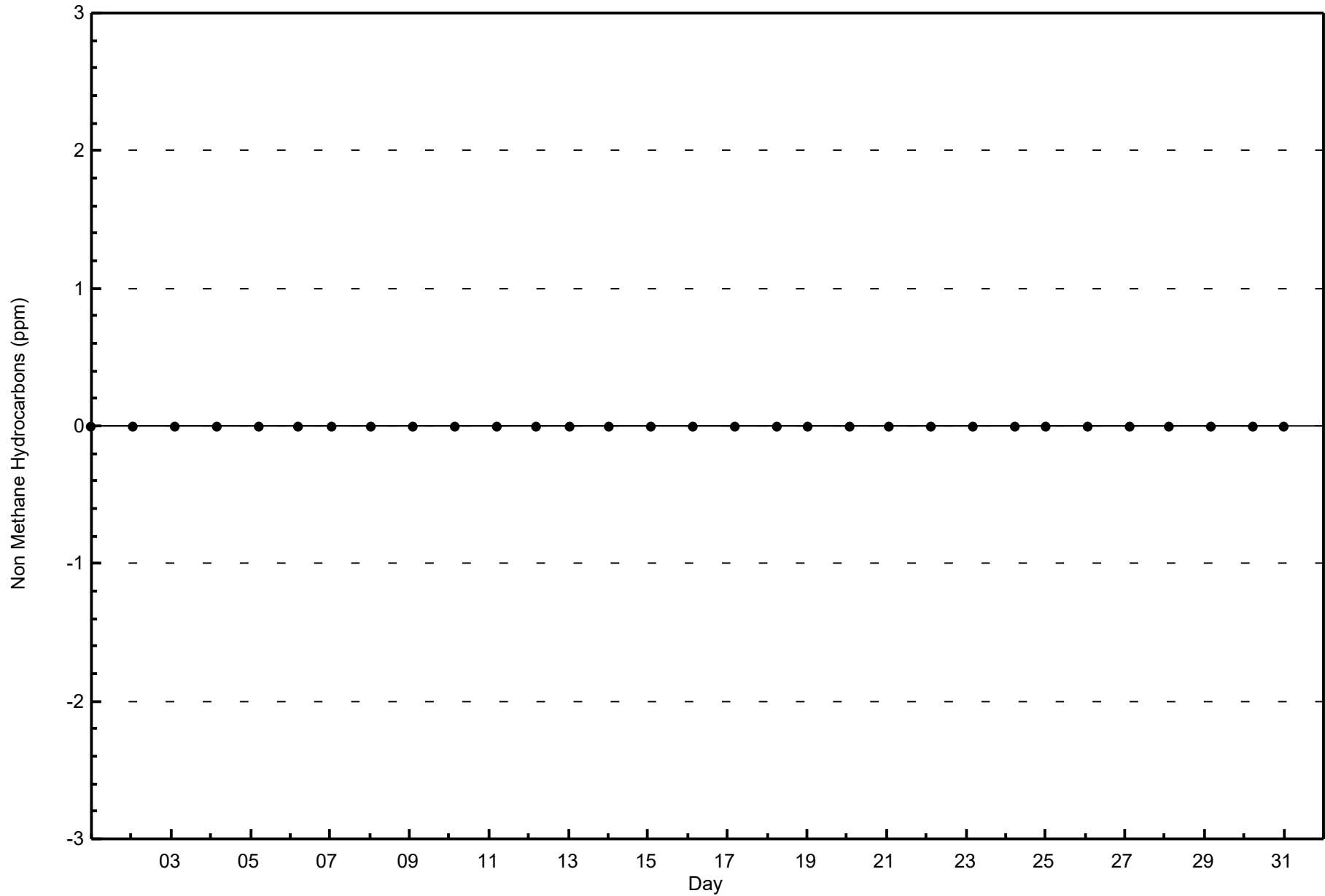
Total Number of Hours: 744

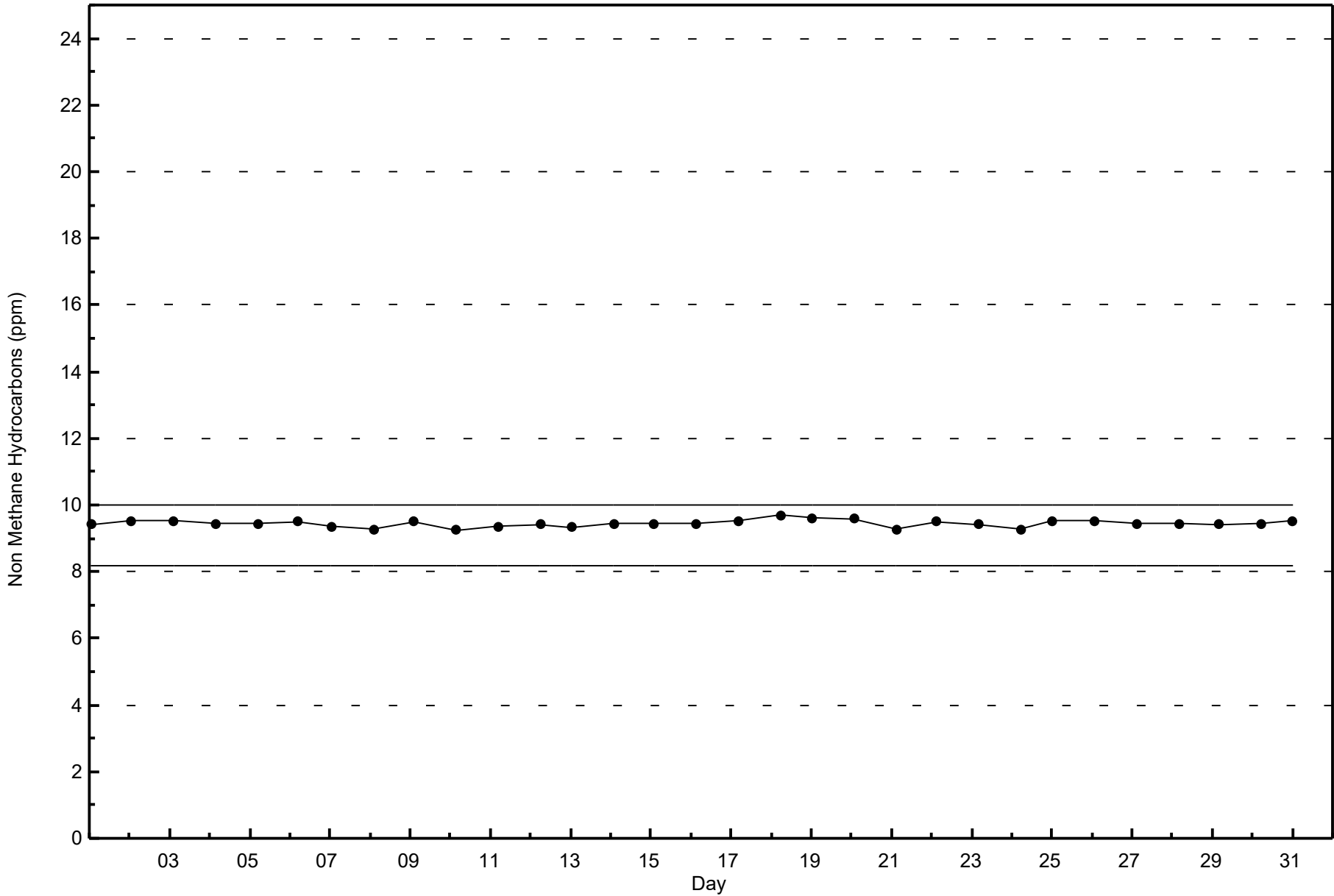


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Non Methane Hydrocarbons (NMHC) - ppm
Ells River









Wood Buffalo Environmental Association

Summary of Hour Averages

Methane (CH₄) - ppm

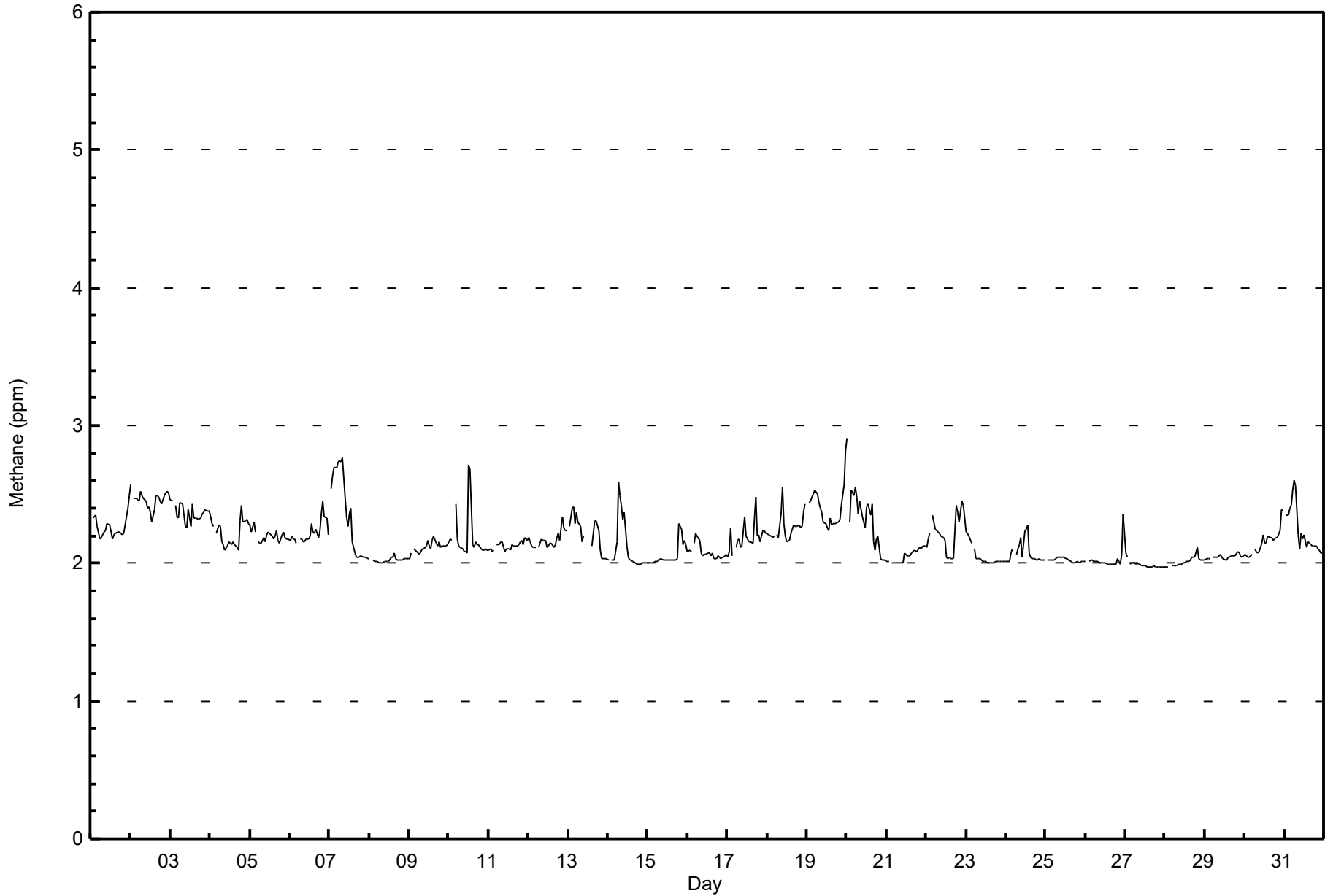
Ells River - January 2025

Number of Exceedences (AAAQO):		1-hr: 0		24-hr: 0		Hours in Service: 744														Daily Average		Daily Maximum																												
Maximum Value: 2.9 ppm on Jan 20 01:00		Maximum Daily Average: 2.5 ppm on Jan 2		Hours of Data: 709														Daily Average		Daily Maximum																														
Minimum Value: 2.0 ppm on Jan 27 20:00		Minimum Daily Average: 2.0 ppm on Jan 27		Hours of Missing Data: 35														Daily Average		Daily Maximum																														
Maximum Diurnal Average: 2.2 ppm at hour 7		Minimum Diurnal Average: 2.1 ppm at hour 15		Hours of Calibration: 35														Daily Average		Daily Maximum																														
Monthly Average: 2.17 ppm		Percentiles: P ₁ = 2.0 P ₁₀ = 2.0 Q ₁ = 2.0 Median = 2.1 Q ₃ = 2.3 P ₉₀ = 2.4 P ₉₉ = 2.7		Percent Operational Time: 100.0														Daily Average		Daily Maximum																														
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																										
1-Jan	Z	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.4	2.5	2.3	2.5																								
2-Jan	2.6	Z	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.4	2.4	2.3	2.4	2.5	2.5	2.5	2.5	2.4	2.5	2.5	2.5	2.5	2.5	2.5	2.6																							
3-Jan	2.5	2.5	Z	2.4	2.3	2.3	2.4	2.4	2.3	2.3	2.3	2.4	2.3	2.4	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.5																							
4-Jan	2.3	2.3	2.3	Z	2.2	2.2	2.3	2.3	2.2	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.4	2.3	2.3	2.3	2.2	2.4	2.4																							
5-Jan	2.3	2.2	2.3	2.2	Z	2.2	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3																							
6-Jan	2.2	2.2	2.2	2.2	2.1	Z	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.2	2.2	2.2	2.2	2.2	2.4	2.5	2.3	2.3	2.2	2.2	2.5	2.5																							
7-Jan	Z	2.5	2.6	2.7	2.7	2.7	2.7	2.7	2.8	2.5	2.3	2.3	2.4	2.4	2.2	2.1	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.8																							
8-Jan	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1																							
9-Jan	2.0	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.2	2.2	2.2	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2																							
10-Jan	2.2	2.2	2.2	Z	2.4	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.7	2.7	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.7																							
11-Jan	2.1	2.1	2.1	2.1	Z	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.2	2.2	2.1	2.2	2.2																							
12-Jan	2.2	2.2	2.1	2.1	2.1	Z	2.1	2.1	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.2	2.1	2.1	2.2	2.2	2.2	2.3	2.3	2.2	2.2	2.2	2.3																							
13-Jan	Z	2.3	2.4	2.4	2.3	2.4	2.3	2.3	2.2	2.2	Z	C	C	C	C	2.1	2.2	2.3	2.3	2.2	2.1	2.0	2.0	2.0	2.0	2.4	2.4																							
14-Jan	2.0	Z	2.0	2.0	2.0	2.2	2.6	2.5	2.4	2.3	2.4	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.6																							
15-Jan	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.3	2.1	2.2	2.1	2.1	2.3	2.3																							
16-Jan	2.1	2.1	2.1	Z	2.1	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.2																							
17-Jan	2.0	2.1	2.3	2.1	Z	2.1	2.2	2.2	2.1	2.1	2.3	2.2	2.2	2.2	2.2	2.1	2.3	2.5	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.5																							
18-Jan	2.2	2.2	2.2	2.2	2.2	Z	2.2	2.2	2.4	2.6	2.3	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.6																							
19-Jan	Z	2.4	2.4	2.5	2.5	2.5	2.5	2.4	2.4	2.4	2.3	2.3	2.3	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.6	2.8	2.8																							
20-Jan	2.9	Z	2.3	2.5	2.5	2.6	2.5	2.4	2.4	2.3	2.3	2.3	2.4	2.4	2.3	2.4	2.2	2.1	2.2	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.9																							
21-Jan	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1																							
22-Jan	2.1	2.2	2.2	Z	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.0	2.0	2.0	2.0	2.0	2.2	2.4	2.4	2.3	2.4	2.4	2.3	2.2	2.2	2.4																							
23-Jan	2.2	2.2	2.2	2.1	Z	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2																							
24-Jan	2.0	2.0	2.0	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.2	2.0	2.2	2.3	2.3	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.3																							
25-Jan	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0																							
26-Jan	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.4	2.0	2.4	2.4																							
27-Jan	2.1	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1																							
28-Jan	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.1																							
29-Jan	2.0	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.0	2.1																							
30-Jan	2.1	2.1	2.0	2.0	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.4	2.4	2.4																							
31-Jan	Z	2.3	2.4	2.4	2.4	2.5	2.6	2.6	2.2	2.1	2.2	2.2	2.2	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.6																							
																								2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	Diurnal Average
																								2.9	2.5	2.6	2.7	2.7	2.7	2.7	2.7	2.8	2.6	2.4	2.4	2.7	2.7	2.4	2.5	2.5	2.5	2.5	2.4	2.5	2.5	2.6	2.8	2.2	2.4	Diurnal Maximum
Z - zerospan																								C - Calibration																										



Wood Buffalo Environmental Association
Hourly Averages

Methane (CH₄) - ppm
Ells River - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Methane (CH₄) - ppm
Ells River - January 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	229	32.30	32.30
2.1 - 3.0	480	67.70	100.00
3.1 - 10.0	0	0.00	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 709

Total Number of Hours: 744



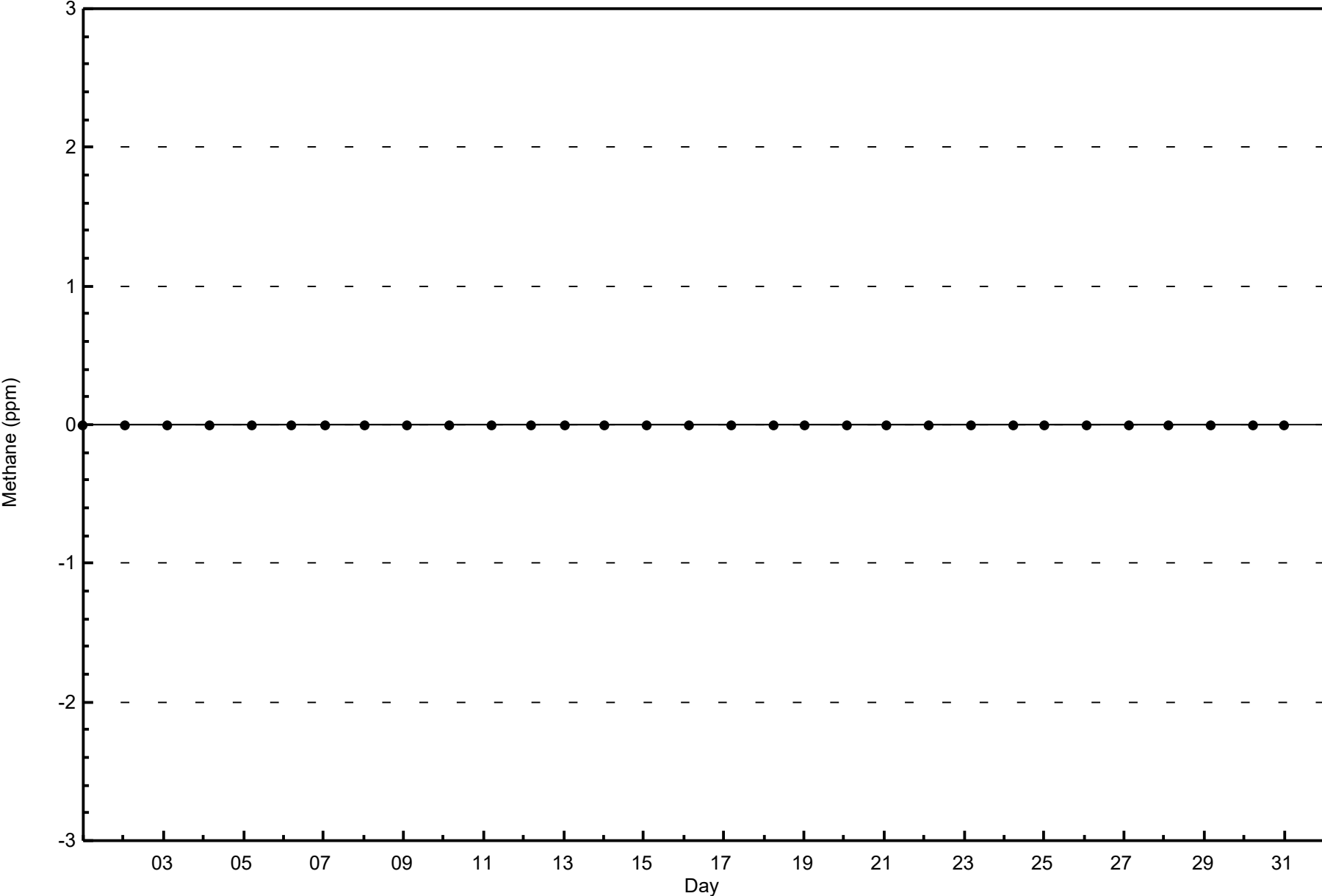
**Wood Buffalo Environmental Association
Frequency Distribution**

**Methane (CH₄) - ppm
Ells River - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2.0	10	6	0	0	0	0	0	7	15	43	52	25	22	35	10	1	226
2.1 - 3.0	53	80	14	5	2	3	28	73	93	24	11	10	15	15	13	13	452
3.1 - 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	63	86	14	5	2	3	28	80	108	67	63	35	37	50	23	14	678

Total Number of Valid Hours: 678

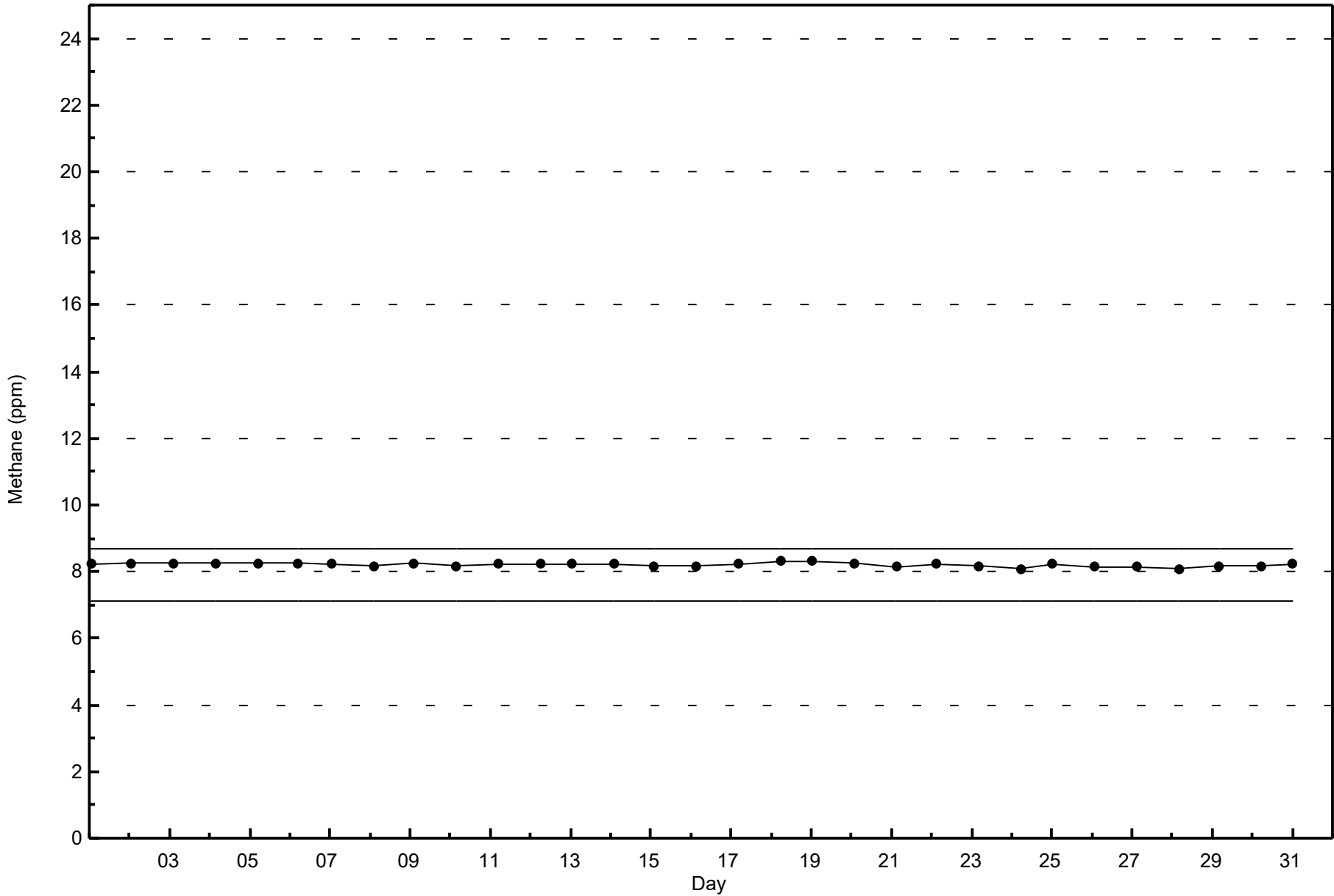
Total Number of Hours: 744





Wood Buffalo Environmental Association
Span Responses

Methane (CH₄) - ppm
Ells River - January 2025





Wood Buffalo Environmental Association
Summary of Hour Averages

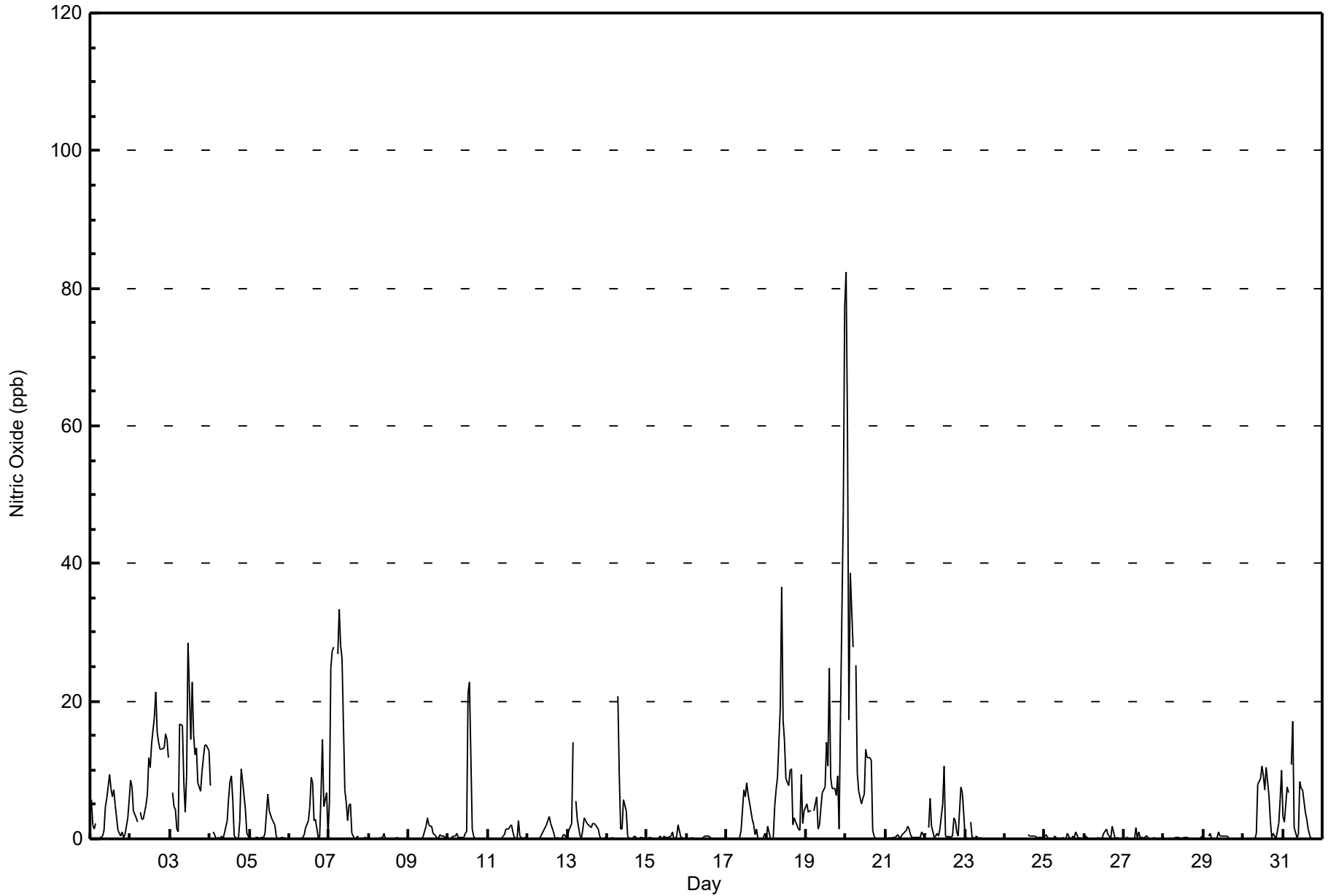
Nitric Oxide (NO) - ppb
Ells River - January 2025

Maximum Value: 82.5 ppb on Jan 20 01:00		Maximum Daily Average: 14.6 ppb on Jan 20		Hours in Service: 744																						
Minimum Value: 0.0 ppb on Jan 4 09:00		Minimum Daily Average: 0.1 ppb on Jan 8		Hours of Data: 687																						
Maximum Diurnal Average: 5.3 ppb at hour 14		Minimum Diurnal Average: 1.4 ppb at hour 19		Hours of Missing Data: 57																						
Monthly Average: 3.25 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.3 Q ₃ = 2.9 P ₉₀ = 9.4 P ₉₉ = 29.2		Hours of Calibration: 39																						
				Percent Operational Time: 97.6																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	5.6	1.9	1.4	2.2	Z	0.1	0.2	0.3	1.1	4.8	5.8	9.4	7.3	6.1	7.2	4.8	1.2	0.7	0.5	0.9	0.1	0.7	3.1	5.6	3.1	9.4
2-Jan	8.4	7.5	4.0	3.0	2.4	Z	3.9	2.8	2.9	4.8	6.6	11.8	10.4	13.9	17.6	21.5	15.5	14.0	13.0	13.0	13.1	15.2	14.5	11.7	10.1	21.5
3-Jan	Z	6.8	4.7	4.2	1.4	1.1	16.8	16.5	8.3	3.8	9.2	28.5	14.4	22.7	15.0	12.3	13.2	8.1	6.9	9.8	11.9	13.6	13.6	12.7	11.1	28.5
4-Jan	7.6	Z	1.1	0.6	0.1	0.1	0.0	0.4	0.0	0.7	2.6	5.8	8.4	9.1	5.5	0.5	0.0	0.0	2.6	10.2	8.3	4.3	0.8	0.5	3.0	10.2
5-Jan	0.3	0.1	Z	0.2	0.1	0.1	0.1	0.1	0.2	0.9	3.7	6.4	4.0	2.8	2.5	2.0	0.3	0.1	0.1	0.1	0.1	0.0	0.1	0.0	1.1	6.4
6-Jan	0.0	0.0	0.1	Z	0.1	0.1	0.0	0.1	0.2	0.7	1.6	2.7	4.7	9.0	8.2	2.7	2.9	0.2	0.2	6.5	14.5	4.7	6.6	0.6	2.9	14.5
7-Jan	5.3	24.7	27.3	27.9	Z	26.8	33.5	28.2	26.2	7.2	5.4	2.7	4.9	5.1	0.9	0.1	0.0	0.3	0.1	0.0	0.0	0.1	0.1	0.1	9.9	33.5
8-Jan	0.0	0.0	0.0	0.1	0.0	Z	0.1	0.1	0.2	0.9	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.9
9-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.8	3.1	1.9	1.9	1.8	0.8	0.3	0.0	0.1	0.6	0.3	0.4	0.1	0.2	0.6	3.1
10-Jan	0.4	Z	0.2	0.4	0.4	0.9	0.1	0.1	0.1	0.3	0.7	1.0	21.2	22.7	1.4	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	22.7
11-Jan	0.0	0.0	Z	0.0	0.1	0.1	0.0	0.0	0.1	0.4	0.7	1.4	1.4	1.8	2.1	1.0	0.3	0.1	2.7	0.3	0.3	0.0	0.2	0.0	0.6	2.7
12-Jan	0.0	0.1	0.0	Z	0.0	0.1	0.0	0.0	0.3	0.8	1.7	2.0	2.6	3.3	2.3	0.9	0.3	0.1	0.2	0.0	0.1	0.6	0.5	0.2	0.7	3.3
13-Jan	0.4	1.2	2.2	14.0	Z	5.5	2.8	0.4	0.1	1.4	3.1	2.6	2.3	1.7	1.6	2.2	2.3	1.9	1.4	0.4	0.0	0.0	0.1	2.1	14.0	
14-Jan	0.1	0.1	0.1	0.2	0.0	Z	20.6	9.4	1.4	1.4	5.6	4.1	0.3	0.1	0.1	0.1	0.3	0.2	0.1	0.1	0.1	0.2	0.1	0.0	1.9	20.6
15-Jan	Z	0.1	0.2	0.1	0.0	0.1	0.1	0.1	0.4	0.1	0.4	0.2	0.2	0.2	0.4	1.0	0.1	0.1	0.3	2.0	0.2	0.2	0.1	0.1	0.3	2.0
16-Jan	0.1	Z	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.2	0.5	0.4	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.5
17-Jan	0.0	0.1	Z	0.0	0.0	0.0	0.0	0.0	0.2	1.1	7.1	6.2	8.1	6.5	5.2	2.9	2.1	0.7	1.3	0.0	0.1	0.0	0.3	0.7	1.9	8.1
18-Jan	0.0	1.9	0.0	Z	0.3	4.6	7.0	9.0	19.1	36.6	17.3	14.2	8.8	7.7	9.9	10.1	2.1	3.1	2.5	1.4	1.1	9.3	2.3	4.0	7.5	36.6
19-Jan	5.1	3.8	4.0	4.1	Z	4.1	6.2	1.4	2.1	4.5	6.7	7.6	14.1	10.5	24.8	8.9	7.3	7.3	6.4	9.2	1.5	17.9	47.6	77.4	12.3	77.4
20-Jan	82.5	59.4	17.4	38.6	27.8	Z	25.2	9.6	6.9	5.1	5.8	6.6	13.1	11.8	11.8	11.3	1.2	0.4	0.1	0.1	0.0	0.0	0.0	0.0	14.6	82.5
21-Jan	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.7	0.2	0.2	0.6	0.8	1.3	1.9	1.4	0.7	0.2	0.1	0.1	0.1	0.1	0.1	1.1	0.1	0.5	1.9
22-Jan	0.9	Z	1.5	5.9	1.8	0.3	0.5	0.9	0.4	1.4	5.0	10.5	0.3	0.2	0.5	0.2	0.3	3.0	2.6	1.0	0.4	7.6	6.7	3.6	2.4	10.5
23-Jan	0.2	0.1	Z	2.5	0.1	0.2	0.1	0.4	0.0	0.1	0.0	C	C	C	C	C	M	M	M	M	M	M	M	M	--	2.5
24-Jan	M	M	M	M	M	M	M	M	M	M	C	C	C	C	0.5	0.3	0.5	0.4	0.4	0.2	0.2	0.1	0.1	0.1	--	0.5
25-Jan	0.4	0.7	0.1	0.1	Z	0.1	0.3	0.1	0.1	0.0	0.0	0.2	0.0	0.1	0.9	0.0	0.1	0.5	0.1	1.0	0.0	0.2	0.0	0.0	0.2	1.0
26-Jan	0.1	0.4	0.0	0.0	0.0	Z	0.0	0.1	0.1	0.1	0.0	0.1	0.8	1.4	0.6	0.5	0.1	1.8	0.3	0.0	0.2	0.0	0.0	0.1	0.3	1.8
27-Jan	Z	0.1	0.2	0.0	0.1	0.1	0.1	1.5	0.0	1.0	0.1	0.1	0.1	0.3	0.4	0.0	0.1	0.0	0.3	0.0	0.1	0.1	0.1	0.1	0.2	1.5
28-Jan	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.2	0.3	0.2	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.4	0.1	0.4
29-Jan	0.0	0.0	Z	0.3	0.9	0.0	0.1	0.0	0.2	1.0	0.3	0.4	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.0
30-Jan	0.0	0.0	0.0	Z	0.1	0.0	0.1	0.1	0.8	7.9	8.7	10.5	9.2	7.1	10.5	6.2	2.7	0.3	0.7	0.4	0.0	2.3	5.6	10.0	3.6	10.5
31-Jan	3.3	2.5	7.5	6.6	Z	10.8	17.0	1.7	0.1	0.6	8.4	7.3	7.2	3.9	2.8	1.5	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	3.6	17.0
4.8 4.5 2.9 4.3 1.5 2.2 4.5 2.8 2.4 2.9 3.6 5.1 5.1 5.3 4.6 3.1 1.8 1.5 1.4 1.9 1.8 2.6 3.5 4.3																								Diurnal Average		
82.5 59.4 27.3 38.6 27.8 26.8 33.5 28.2 26.2 36.6 17.3 28.5 21.2 22.7 24.8 21.5 15.5 14.0 13.0 13.0 14.5 17.9 47.6 77.4																								Diurnal Maximum		
Z - zerospan C - Calibration M - Maintenance																										



Wood Buffalo Environmental Association
Hourly Averages

Nitric Oxide (NO) - ppb
Ells River - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitric Oxide (NO) - ppb
Ells River - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	665	96.80	96.80
21 - 40	18	2.62	99.42
41 - 80	3	0.44	99.85
81 - 159	1	0.15	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 687

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitric Oxide (NO) - ppb
Ells River - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	60	88	14	5	2	3	26	76	95	69	62	33	31	43	18	8	633
21 - 40	0	1	0	0	0	0	2	3	11	0	0	0	0	0	0	1	18
11 - 80	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
81 - 159	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	60	89	14	5	2	3	28	79	110	69	62	33	31	43	18	9	655

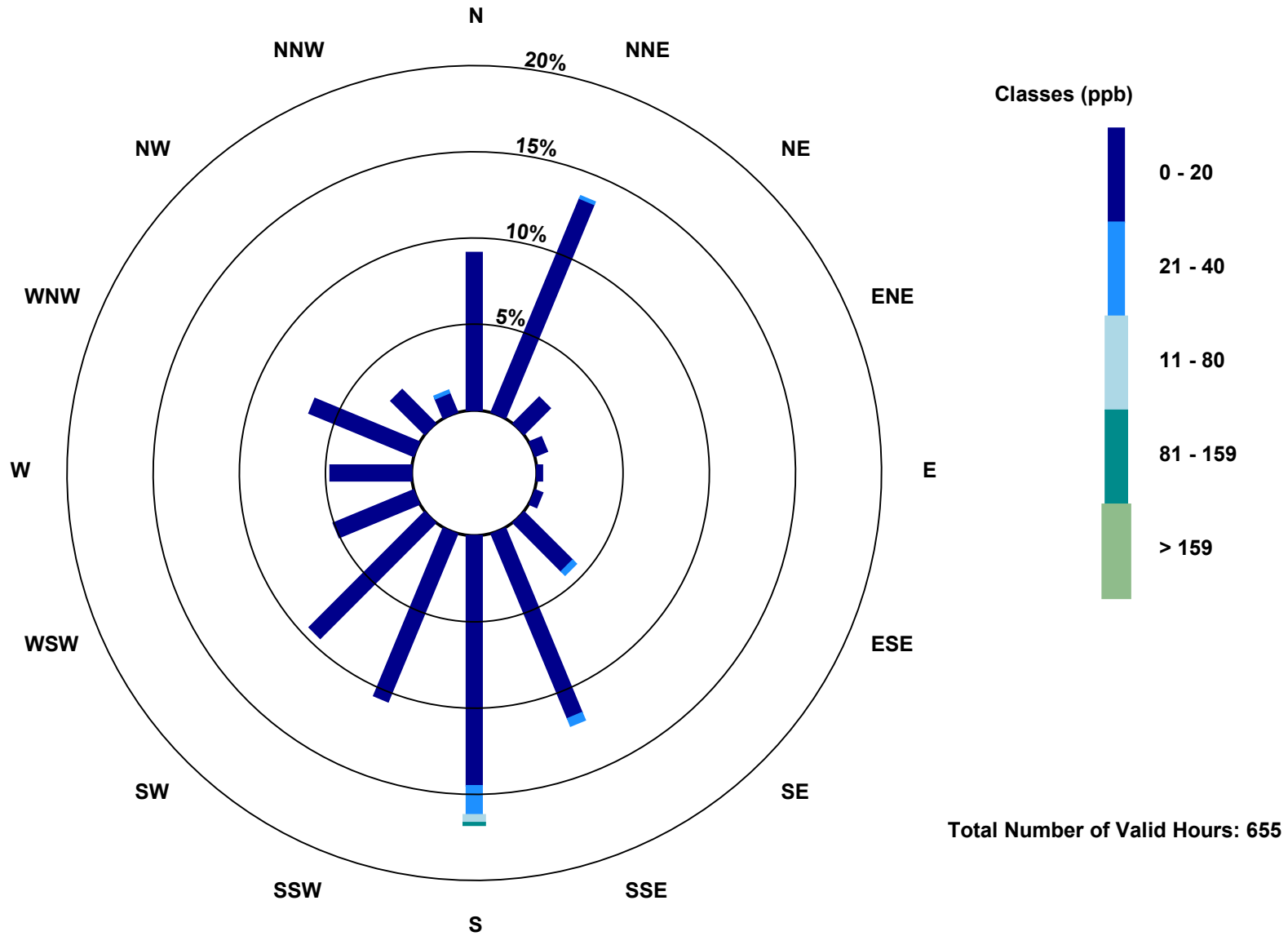
Total Number of Valid Hours: 655

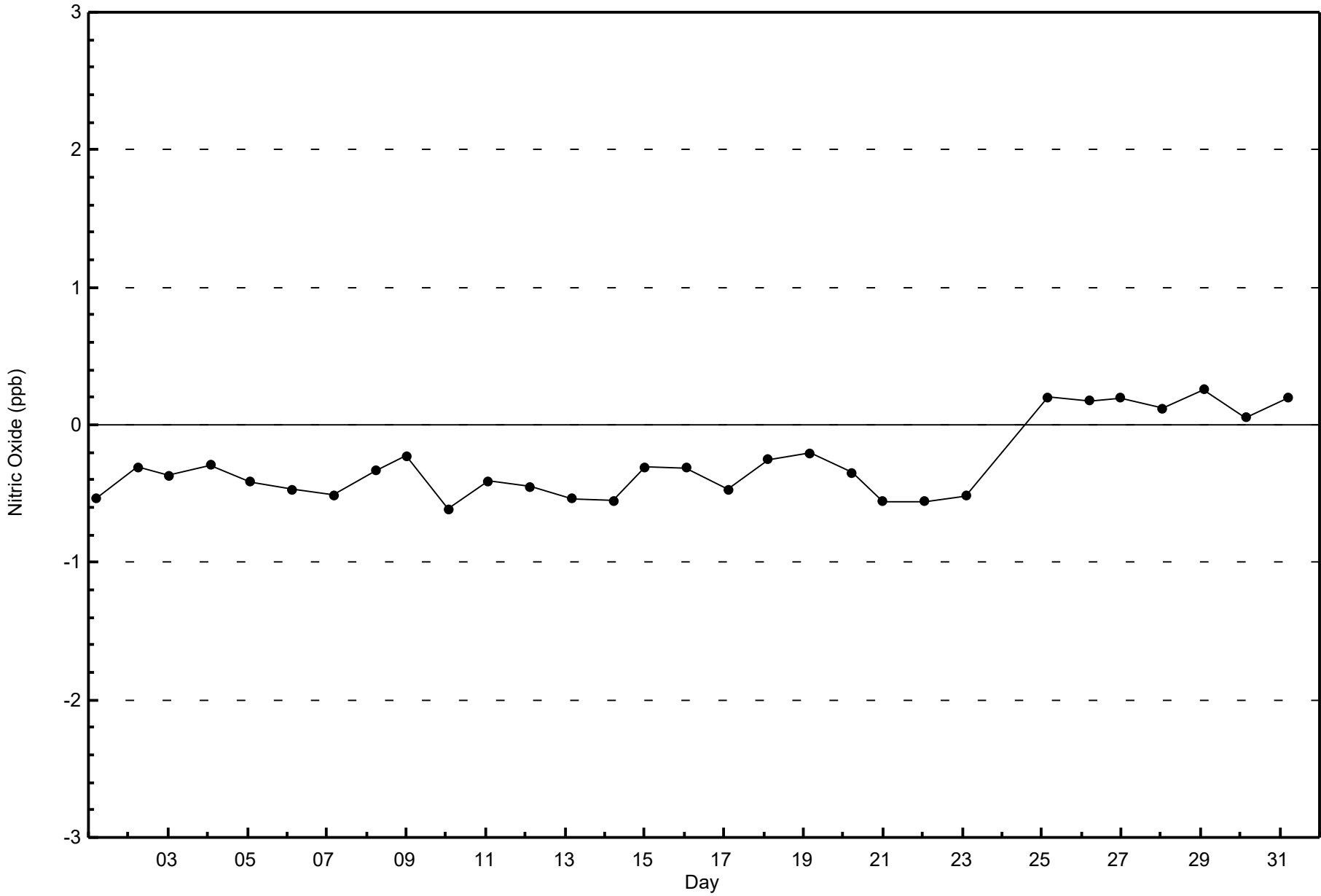
Total Number of Hours: 744

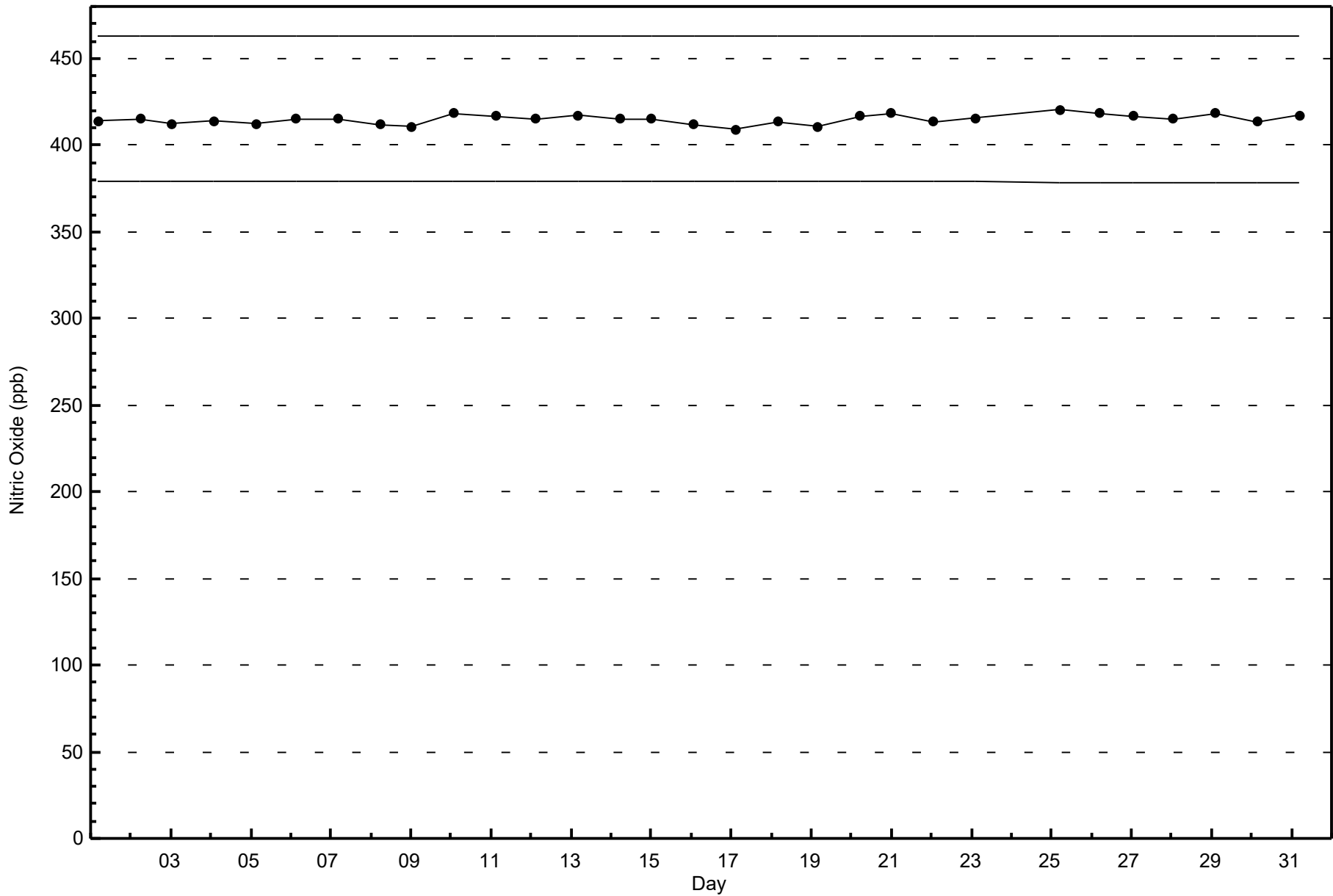


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitric Oxide (NO) - ppb
Ells River









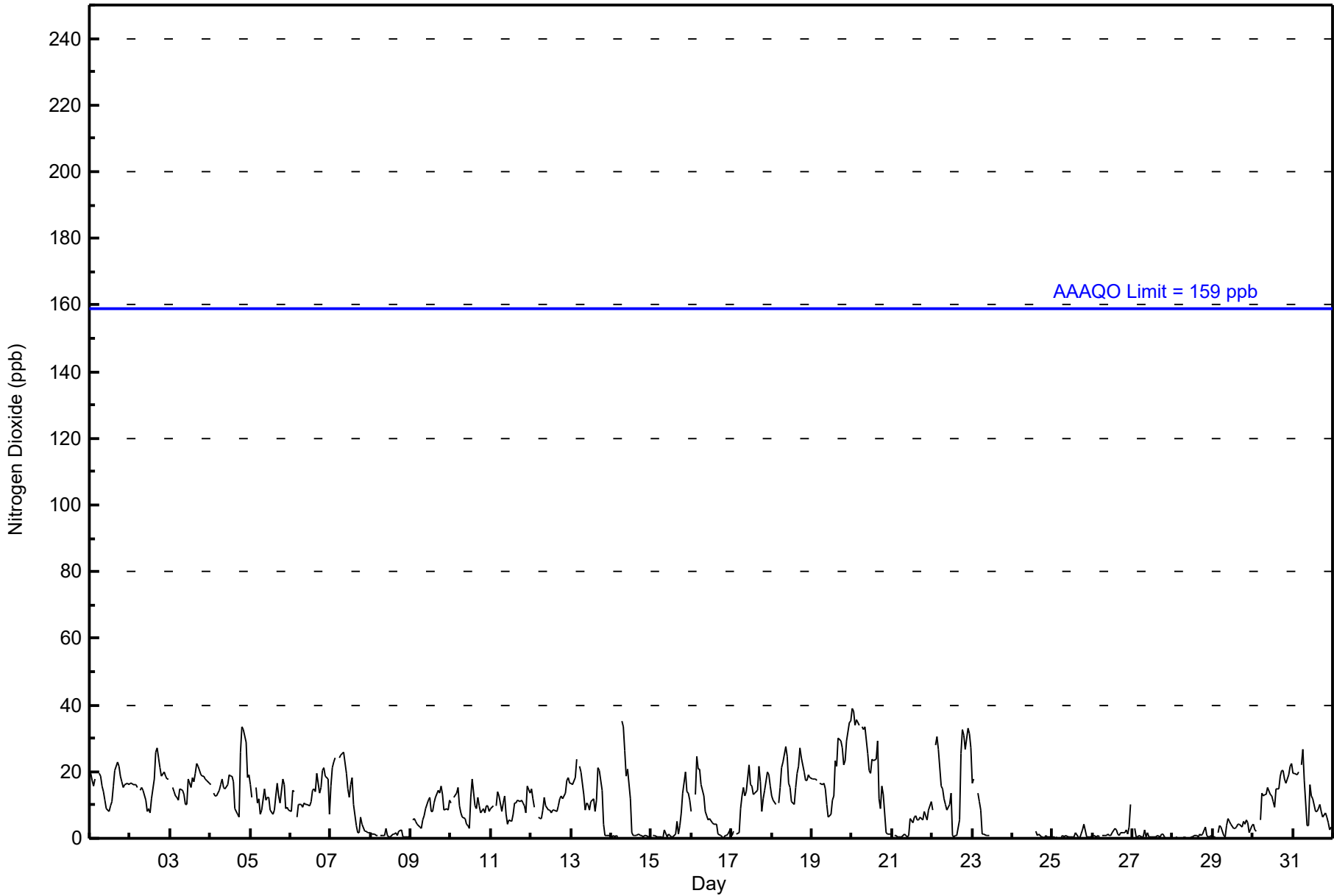
Wood Buffalo Environmental Association
Summary of Hour Averages

Nitrogen Dioxide (NO₂) - ppb
Ells River - January 2025

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 39.1 ppb on Jan 20 01:00	Maximum Daily Average: 21.7 ppb on Jan 20		Hours of Data:	687
Minimum Value: 0.1 ppb on Jan 27 22:00	Minimum Daily Average: 0.6 ppb on Jan 28		Hours of Missing Data:	57
Maximum Diurnal Average: 11.6 ppb at hour 4	Minimum Diurnal Average: 8.1 ppb at hour 13		Hours of Calibration:	39
Monthly Average: 10.16 ppb	Percentiles: P ₁ = 0.2 P ₁₀ = 0.6 Q ₁ = 1.5 Median = 9.3 Q ₃ = 15.9 P ₉₀ = 21.1 P ₉₉ = 33.8		Percent Operational Time:	97.6

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	19.4	17.3	15.8	17.6	Z	19.5	18.7	15.5	14.1	11.6	8.9	8.2	9.9	11.0	15.6	20.2	22.9	21.8	18.5	17.0	15.3	16.1	16.5	16.2	16.0	22.9																							
2-Jan	16.5	16.6	16.1	16.1	15.1	Z	14.2	15.4	14.6	11.4	8.0	8.8	7.6	11.8	17.8	25.7	27.1	24.1	21.0	18.7	20.0	18.6	17.6	17.9	16.6	27.1																							
3-Jan	Z	15.2	14.0	12.8	12.4	11.6	14.9	14.5	13.2	10.3	10.0	17.6	15.1	18.3	17.0	19.6	22.4	21.5	19.1	18.8	18.7	17.8	17.5	16.5	16.0	22.4																							
4-Jan	16.2	Z	13.7	12.9	12.9	14.6	15.9	18.0	15.4	15.0	16.3	19.1	18.7	18.8	17.0	8.7	7.4	6.5	25.7	33.4	32.7	28.7	18.1	19.0	17.6	33.4																							
5-Jan	16.0	12.2	Z	15.3	10.7	11.7	7.4	8.4	14.8	11.4	12.1	12.4	8.4	7.0	8.5	12.5	16.6	12.5	10.8	17.7	15.9	8.7	9.2	8.3	11.7	17.7																							
6-Jan	7.9	14.5	14.1	Z	6.4	10.2	10.3	9.3	10.4	10.3	10.2	9.6	11.0	14.2	14.7	14.0	19.4	13.6	15.1	20.5	21.2	18.7	17.7	7.3	13.1	21.2																							
7-Jan	15.7	21.1	23.0	24.0	Z	24.1	25.2	25.3	25.9	19.3	14.9	12.2	16.1	18.1	10.3	3.7	1.7	1.7	6.5	4.3	2.0	2.2	1.9	1.8	13.1	25.9																							
8-Jan	1.7	1.4	1.1	0.9	0.9	Z	0.7	0.7	0.7	3.0	0.7	0.5	0.6	1.3	1.3	1.9	1.0	2.0	2.7	0.3	0.3	0.3	0.3	0.3	1.1	3.0																							
9-Jan	Z	5.6	5.9	5.1	4.4	3.4	3.1	5.6	6.9	8.8	11.6	12.1	7.9	7.9	10.4	12.1	14.2	13.5	15.5	13.1	8.4	9.1	8.6	11.6	8.9	15.5																							
10-Jan	10.4	Z	12.2	13.5	15.3	9.8	7.7	6.5	5.9	4.1	3.7	2.9	12.2	17.7	9.8	9.0	12.3	9.9	7.6	8.8	7.5	9.7	9.7	7.9	9.3	17.7																							
11-Jan	9.1	9.9	Z	9.8	14.0	12.5	8.1	10.8	12.5	7.0	4.4	5.5	5.2	7.1	10.6	10.4	11.6	11.0	11.6	10.5	9.7	7.5	15.8	13.5	9.9	15.8																							
12-Jan	14.7	11.7	9.2	Z	6.4	6.1	5.8	8.5	12.1	9.9	8.3	8.3	7.5	8.5	8.3	7.9	9.8	11.7	12.8	11.8	13.7	17.2	18.1	16.7	10.7	18.1																							
13-Jan	16.7	16.0	18.2	23.8	Z	21.6	19.9	13.0	8.5	10.5	10.0	8.6	10.9	11.7	8.0	11.5	21.0	20.2	14.2	4.4	1.0	0.8	0.7	0.7	11.8	23.8																							
14-Jan	0.5	0.7	0.5	0.9	0.6	Z	35.0	33.5	26.3	18.8	20.9	12.0	1.5	0.9	0.9	1.1	0.8	0.7	0.6	0.7	0.8	0.5	0.5	0.5	6.9	35.0																							
15-Jan	Z	0.9	0.7	0.4	0.5	0.3	0.4	0.2	2.6	0.6	1.4	0.7	0.6	0.6	1.2	5.2	1.1	3.8	7.7	13.6	19.8	13.8	13.4	11.4	4.4	19.8																							
16-Jan	8.0	Z	13.3	24.7	20.9	20.6	16.3	12.6	8.1	6.7	5.5	5.9	4.5	4.3	4.1	4.3	1.4	0.7	0.4	0.2	0.7	0.8	1.3	3.0	7.3	24.7																							
17-Jan	0.7	2.0	Z	1.4	1.5	9.1	12.7	15.2	12.7	14.1	21.9	15.9	15.5	13.0	13.7	14.6	21.6	17.1	8.2	11.8	14.4	19.8	19.1	15.5	12.7	21.9																							
18-Jan	12.8	11.6	10.0	Z	10.5	15.4	21.1	23.0	27.5	24.4	16.7	15.4	11.2	10.3	15.4	19.4	21.6	27.2	24.1	20.0	17.5	17.5	19.2	18.4	17.8	27.5																							
19-Jan	17.9	17.6	17.6	17.5	Z	16.7	16.2	16.5	14.8	10.1	6.5	7.1	11.3	12.9	23.1	21.6	30.0	29.1	27.0	22.2	23.3	29.2	34.9	35.1	19.9	35.1																							
20-Jan	39.1	38.1	34.1	35.7	33.8	Z	33.5	32.8	33.3	25.4	20.5	19.3	23.7	23.2	23.6	29.2	11.8	9.1	15.5	13.0	1.7	1.4	1.2	1.2	21.7	39.1																							
21-Jan	Z	0.9	0.7	0.6	0.6	0.5	0.5	1.3	0.9	0.5	0.7	5.8	4.7	6.2	6.8	5.4	5.7	6.4	5.3	8.1	6.6	5.7	8.3	11.0	4.1	11.0																							
22-Jan	8.3	Z	27.9	30.7	26.9	15.8	14.8	12.0	10.0	8.4	10.0	13.6	0.9	0.4	0.9	0.9	5.5	25.5	32.6	30.9	26.5	33.1	31.4	27.0	17.1	33.1																							
23-Jan	16.7	17.7	Z	13.6	10.9	8.4	1.2	1.2	0.8	0.9	0.7	C	C	C	C	C	M	M	M	M	M	M	M	M	--	17.7																							
24-Jan	M	M	M	M	M	M	M	M	M	M	M	C	C	C	C	2.2	0.8	1.1	0.6	0.5	0.2	0.9	0.4	0.3	0.2	--	2.2																						
25-Jan	0.5	0.6	0.2	0.3	Z	0.3	0.8	0.6	0.7	0.5	0.5	0.6	0.5	0.5	1.6	0.3	0.2	1.1	2.7	4.1	0.5	0.5	0.3	0.5	0.8	4.1																							
26-Jan	0.8	0.7	0.6	0.7	0.6	Z	0.7	0.7	0.8	1.2	0.8	0.9	1.7	2.9	2.6	1.3	0.7	1.9	1.9	1.9	2.5	1.3	3.4	10.1	1.8	10.1																							
27-Jan	Z	2.8	0.6	0.6	0.8	0.4	0.3	2.7	0.3	1.9	0.3	0.4	0.3	0.5	0.6	0.7	0.6	1.1	1.3	0.3	0.2	0.1	0.1	0.1	0.7	2.8																							
28-Jan	0.1	Z	0.3	0.2	0.2	0.2	0.2	0.4	0.2	0.2	0.2	0.3	0.6	1.0	0.9	0.6	1.2	0.7	1.3	3.5	0.8	0.4	0.3	0.9	0.6	3.5																							
29-Jan	0.3	0.3	Z	1.6	3.8	3.3	0.8	0.4	3.7	6.1	5.0	4.2	3.0	2.9	3.2	4.1	4.1	3.4	5.0	4.3	5.4	4.6	1.6	3.9	3.3	6.1																							
30-Jan	4.3	2.5	2.3	Z	5.5	13.4	12.7	13.1	13.3	15.1	13.2	12.7	10.9	9.4	15.0	14.8	18.5	20.4	20.2	17.9	16.7	19.1	21.8	22.3	13.7	22.3																							
31-Jan	19.7	19.3	19.0	19.8	Z	22.1	26.5	17.2	4.0	3.7	16.0	12.7	11.7	8.2	8.2	8.7	10.1	8.1	6.4	7.6	6.3	4.6	2.5	3.2	11.5	26.5																							
																								11.0	10.3	10.8	11.6	9.0	10.9	11.5	11.2	10.5	9.0	8.7	8.7	8.1	8.6	9.1	9.7	10.8	10.9	11.4	11.3	10.4	10.3	10.4	10.1	Diurnal Average	
																								39.1	38.1	34.1	35.7	33.8	24.1	35.0	33.5	33.3	25.4	21.9	19.3	23.7	23.2	23.6	29.2	30.0	29.1	32.6	33.4	32.7	33.1	34.9	35.1	Diurnal Maximum	

Z - zerospan C - Calibration M - Maintenance
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Ells River - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	609	88.65	88.65
21 - 40	78	11.35	100.00
41 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 687

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Dioxide (NO₂) - ppb
Ells River - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	54	86	14	5	2	3	22	68	77	63	61	30	28	42	16	8	579
21 - 40	6	3	0	0	0	0	6	11	33	6	1	3	3	1	2	1	76
11 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	60	89	14	5	2	3	28	79	110	69	62	33	31	43	18	9	655

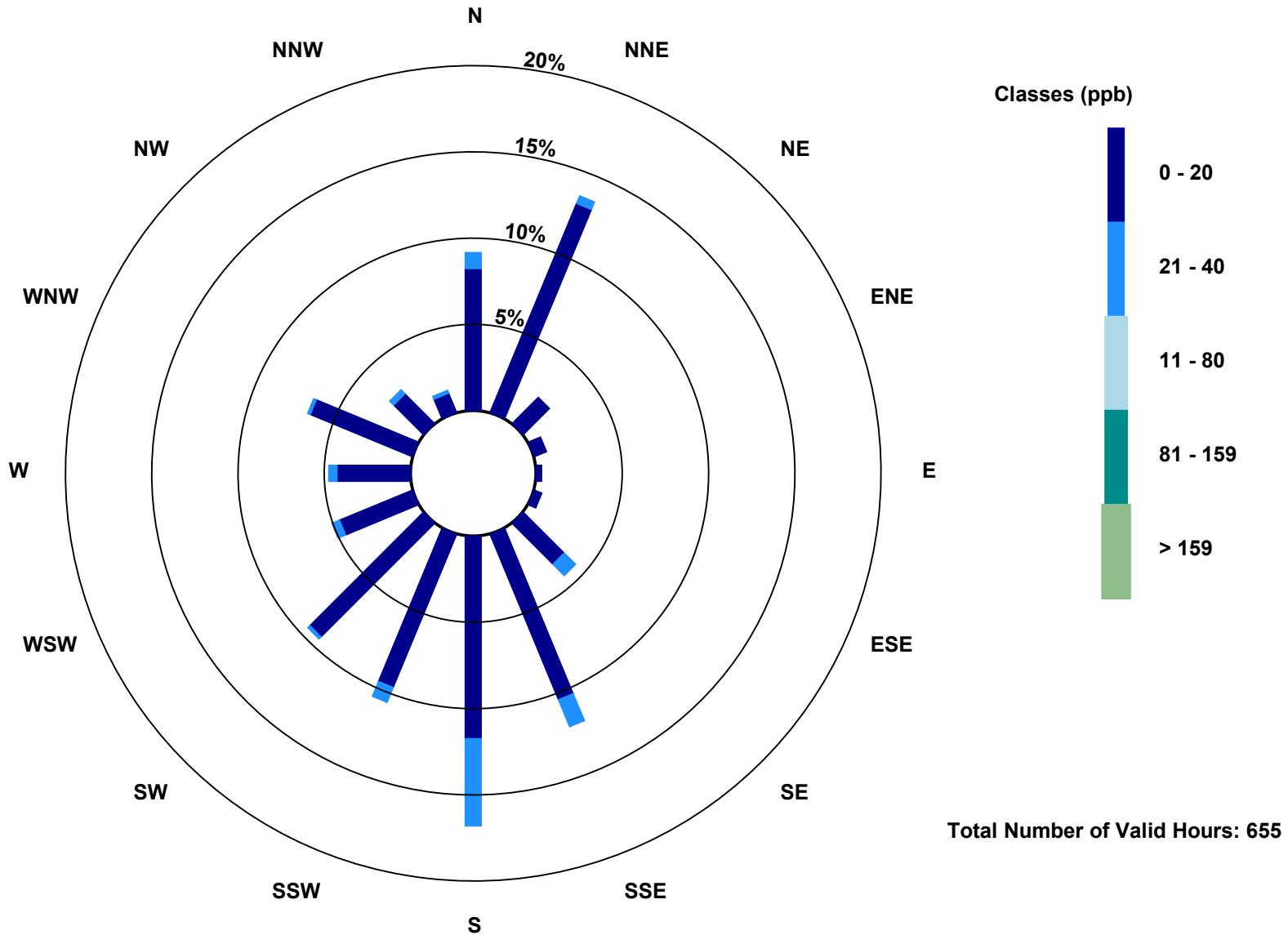
Total Number of Valid Hours: 655

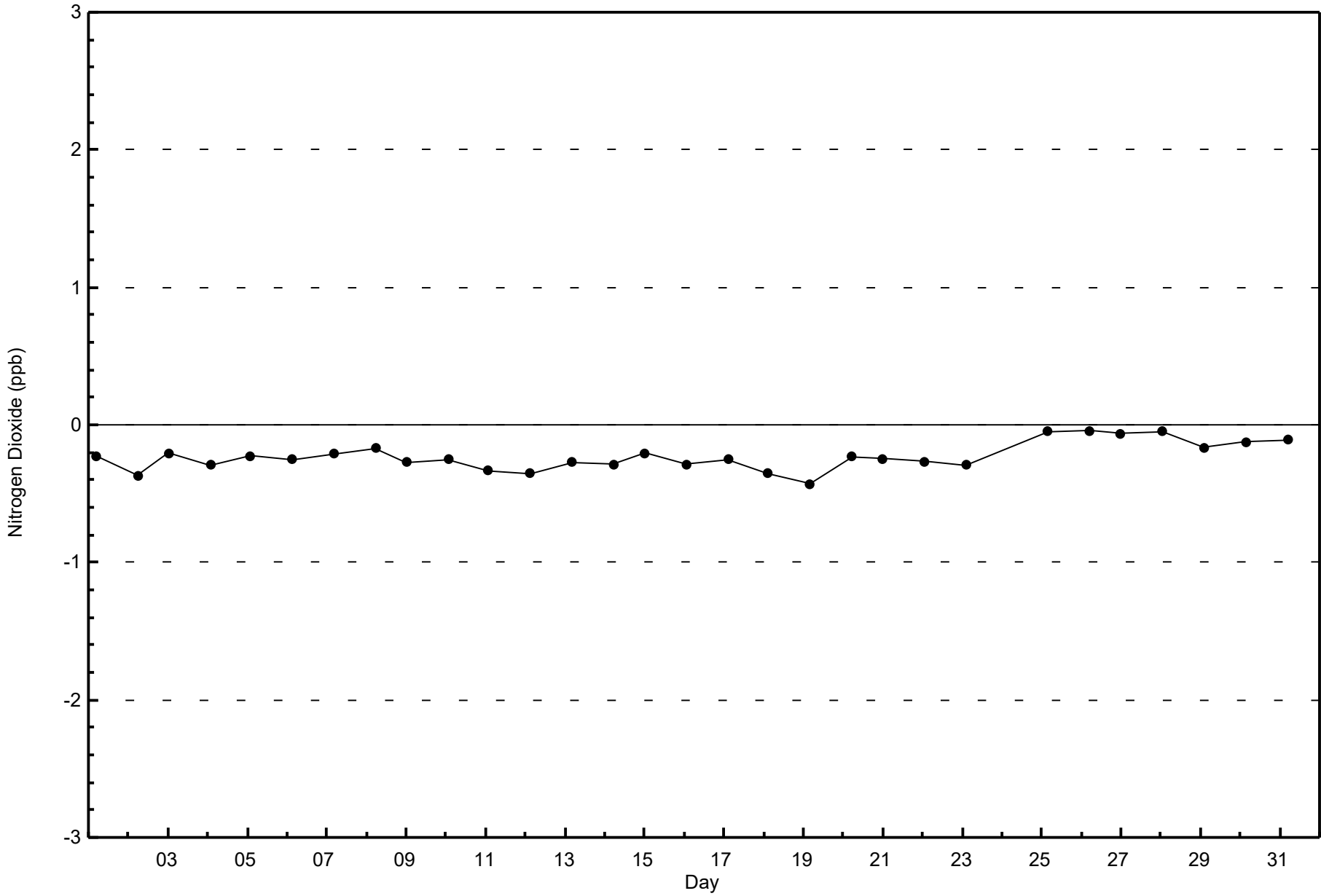
Total Number of Hours: 744

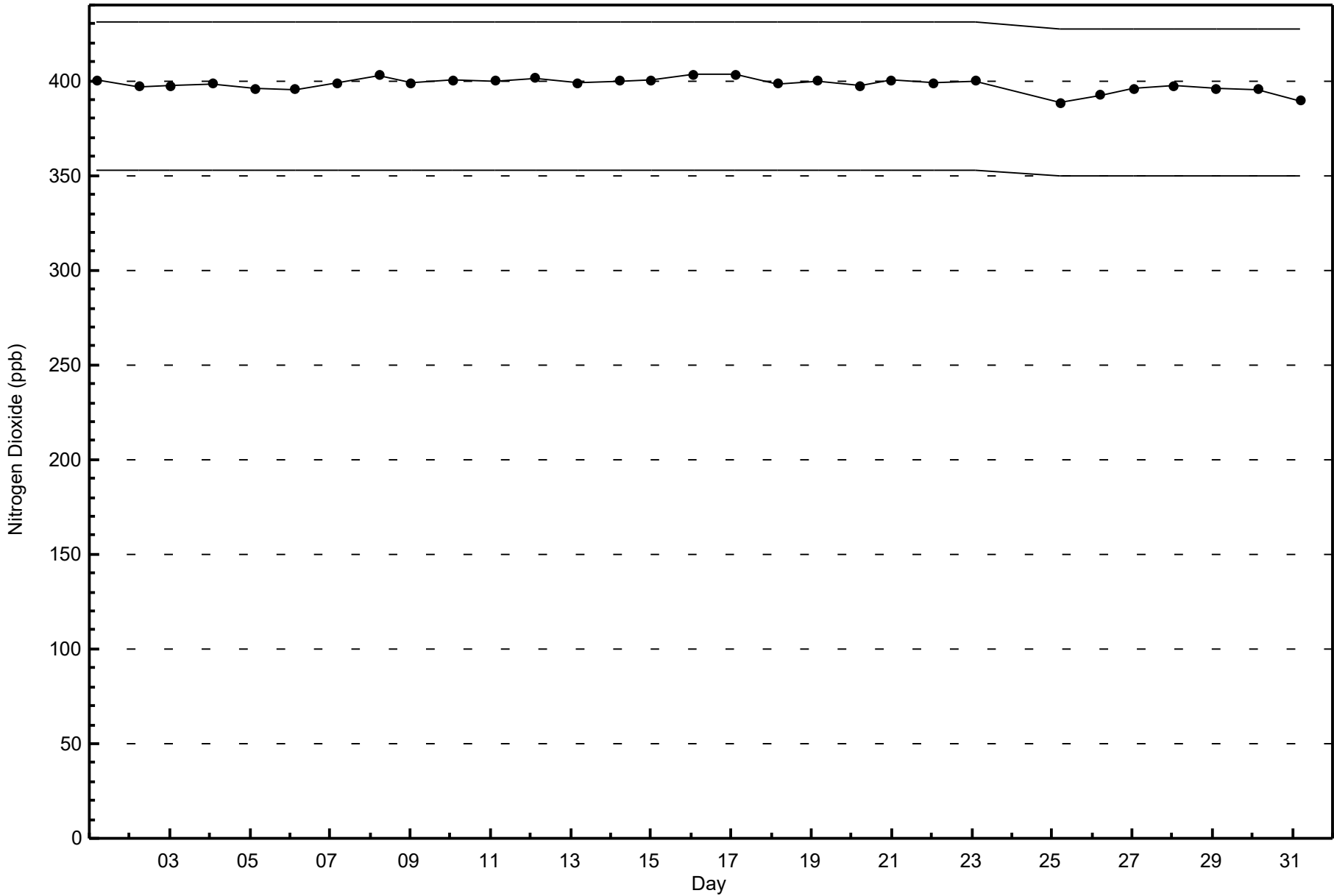


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Dioxide (NO₂) - ppb
Ells River









Wood Buffalo Environmental Association
Summary of Hour Averages

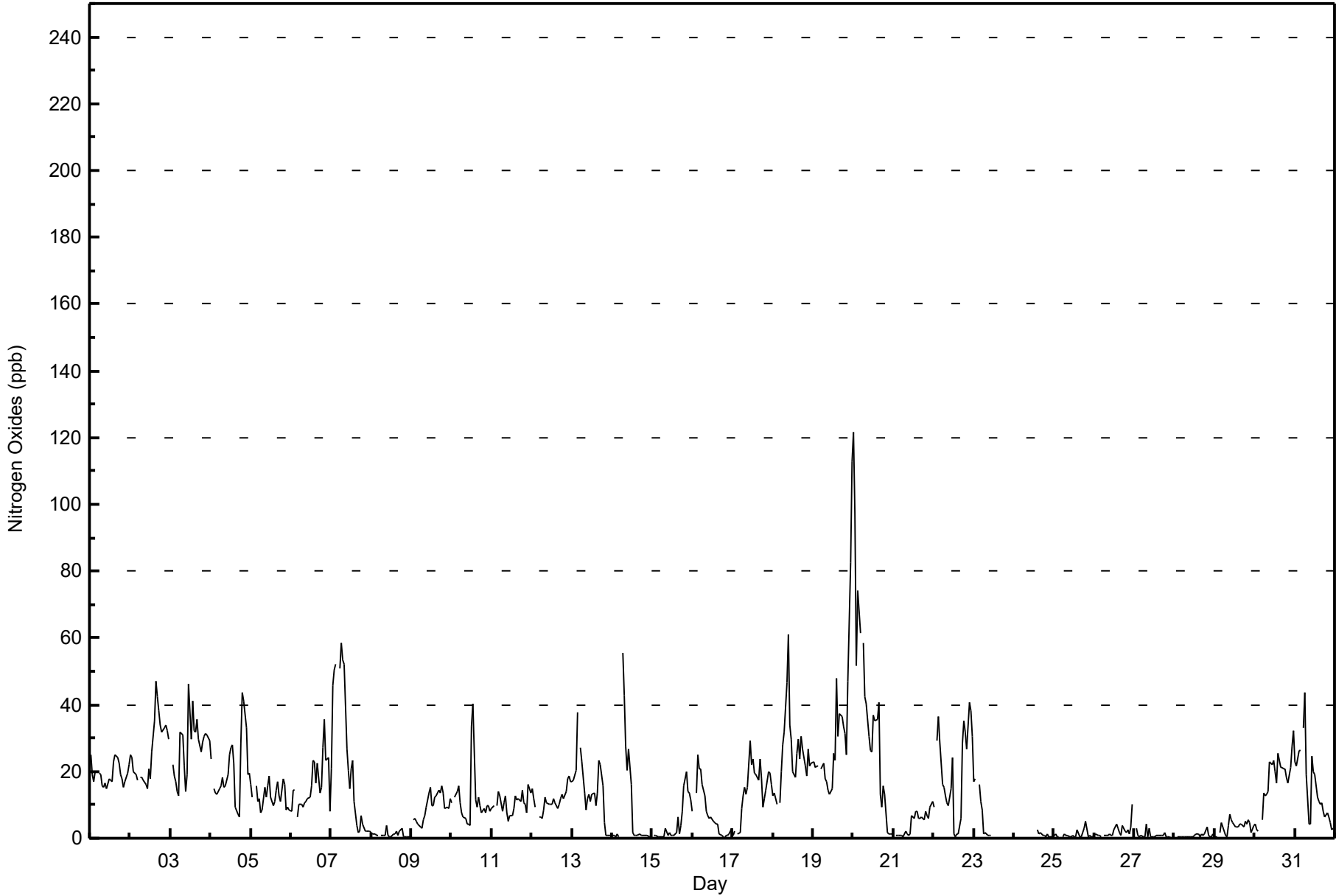
Nitrogen Oxides (NO_x) - ppb
Ells River - January 2025

Maximum Value: 121.6 ppb on Jan 20 01:00		Maximum Daily Average: 36.3 ppb on Jan 20		Hours in Service: 744																																													
Minimum Value: 0.2 ppb on Jan 28 01:00		Minimum Daily Average: 0.7 ppb on Jan 28		Hours of Data: 687																																													
Maximum Diurnal Average: 16.0 ppb at hour 7		Minimum Diurnal Average: 10.5 ppb at hour 5		Hours of Missing Data: 57																																													
Monthly Average: 13.41 ppb		Percentiles: P ₁ = 0.3 P ₁₀ = 0.7 Q ₁ = 1.7 Median = 10.6 Q ₃ = 19.5 P ₉₀ = 30.5 P ₉₉ = 59.0		Hours of Calibration: 39																																													
				Percent Operational Time: 97.6																																													
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	25.0	19.2	17.2	19.8	Z	19.6	18.9	15.8	15.2	16.4	14.7	17.6	17.2	17.1	22.8	25.0	24.1	22.5	19.0	17.9	15.4	16.8	19.6	21.8	19.1	25.0																							
2-Jan	24.9	24.1	20.1	19.1	17.5	Z	18.1	18.2	17.5	16.2	14.6	20.6	18.0	25.7	35.4	47.2	42.6	38.1	34.0	31.7	33.1	33.8	32.1	29.6	26.6	47.2																							
3-Jan	Z	22.0	18.7	17.0	13.8	12.7	31.7	31.0	21.5	14.1	19.2	46.1	29.5	41.0	32.0	31.9	35.6	29.6	26.0	28.6	30.6	31.4	31.1	29.2	27.1	46.1																							
4-Jan	23.8	Z	14.8	13.5	13.0	14.7	15.9	18.4	15.4	15.7	18.9	24.9	27.1	27.9	22.5	9.2	7.4	6.5	28.3	43.6	41.0	33.0	18.9	19.5	20.6	43.6																							
5-Jan	16.3	12.3	Z	15.5	10.8	11.8	7.5	8.5	15.0	12.3	15.8	18.8	12.4	9.8	11.0	14.5	16.9	12.6	10.9	17.8	16.0	8.7	9.3	8.3	12.7	18.8																							
6-Jan	7.9	14.5	14.2	Z	6.5	10.3	10.3	9.4	10.6	11.0	11.8	12.3	15.7	23.2	22.9	16.7	22.3	13.8	15.3	27.0	35.7	23.4	24.3	7.9	16.0	35.7																							
7-Jan	21.0	45.8	50.3	51.9	Z	50.9	58.7	53.5	52.1	26.5	20.3	14.9	21.0	23.2	11.2	3.8	1.7	2.0	6.6	4.3	2.0	2.3	2.0	1.9	23.0	58.7																							
8-Jan	1.7	1.4	1.1	1.0	0.9	Z	0.8	0.8	0.9	3.9	0.7	0.5	0.6	1.3	1.4	2.0	1.0	2.2	2.8	0.3	0.3	0.3	0.3	0.3	1.1	3.9																							
9-Jan	Z	5.6	5.9	5.1	4.4	3.4	3.1	5.6	6.9	9.2	13.4	15.2	9.8	9.8	12.2	12.9	14.5	13.5	15.6	13.7	8.7	9.5	8.7	11.8	9.5	15.6																							
10-Jan	10.8	Z	12.4	13.9	15.7	10.7	7.8	6.6	6.0	4.4	4.4	3.9	33.4	40.4	11.2	9.5	12.4	9.9	7.6	8.8	7.5	9.7	9.7	7.9	11.5	40.4																							
11-Jan	9.1	9.9	Z	9.8	14.1	12.6	8.1	10.8	12.6	7.4	5.1	6.9	6.6	8.9	12.7	11.4	11.9	11.1	14.3	10.8	10.0	7.5	16.0	13.5	10.5	16.0																							
12-Jan	14.7	11.8	9.2	Z	6.4	6.2	5.8	8.5	12.4	10.7	10.0	10.3	10.1	11.8	10.6	8.8	10.1	11.8	13.0	11.8	13.8	17.8	18.6	16.9	11.3	18.6																							
13-Jan	17.1	17.2	20.4	37.8	Z	27.1	22.7	13.4	8.6	11.9	13.1	11.2	13.2	13.4	9.6	13.7	23.3	22.1	15.6	4.8	1.0	0.8	0.7	0.8	13.9	37.8																							
14-Jan	0.6	0.8	0.6	1.1	0.6	Z	55.6	42.9	27.7	20.2	26.5	16.1	1.8	1.0	1.0	1.4	1.0	0.8	0.7	0.8	1.0	0.6	0.5	0.5	8.9	55.6																							
15-Jan	Z	1.0	0.9	0.5	0.5	0.4	0.5	0.3	3.0	0.7	1.8	0.9	0.8	0.8	1.6	6.2	1.2	3.9	8.0	15.6	20.0	14.0	13.5	11.5	4.7	20.0																							
16-Jan	8.1	Z	13.4	24.9	21.0	20.7	16.3	12.6	8.1	6.7	5.7	6.4	4.9	4.6	4.3	4.4	1.4	0.7	0.4	0.2	0.7	0.8	1.3	3.0	7.4	24.9																							
17-Jan	0.7	2.1	Z	1.4	1.5	9.1	12.7	15.2	12.9	15.2	29.0	22.1	23.6	19.5	18.9	17.5	23.7	17.8	9.5	11.8	14.5	19.8	19.4	16.2	14.5	29.0																							
18-Jan	12.8	13.5	10.0	Z	10.8	20.0	28.1	32.0	46.6	61.0	34.0	29.6	20.0	18.0	25.3	29.5	23.7	30.3	26.6	21.4	18.6	26.8	21.5	22.4	25.3	61.0																							
19-Jan	23.0	21.4	21.6	21.6	Z	20.8	22.4	17.9	16.9	14.6	13.2	14.7	25.4	23.4	47.9	30.5	37.3	36.4	33.4	31.4	24.8	47.1	82.5	112.5	32.2	112.5																							
20-Jan	121.6	97.5	51.5	74.3	61.6	Z	58.7	42.4	40.2	30.5	26.3	25.9	36.8	35.0	35.4	40.5	13.0	9.5	15.6	13.1	1.7	1.4	1.2	1.2	36.3	121.6																							
21-Jan	Z	1.0	0.8	0.7	0.7	0.6	0.6	2.0	1.1	0.7	1.3	6.6	6.0	8.1	8.2	6.1	5.9	6.5	5.4	8.2	6.7	5.8	9.4	11.1	4.5	11.1																							
22-Jan	9.2	Z	29.4	36.6	28.7	16.1	15.3	12.9	10.4	9.8	15.0	24.1	1.2	0.6	1.4	1.1	5.8	28.5	35.2	31.9	26.9	40.7	38.1	30.6	19.5	40.7																							
23-Jan	16.9	17.8	Z	16.1	11.0	8.6	1.3	1.6	0.8	1.0	0.7	C	C	C	C	C	M	M	M	M	M	M	M	M	--	17.8																							
24-Jan	M	M	M	M	M	M	M	M	M	M	C	C	C	C	2.7	1.1	1.6	1.0	0.9	0.4	1.1	0.5	0.4	0.3	--	2.7																							
25-Jan	0.9	1.3	0.3	0.4	Z	0.4	1.1	0.7	0.8	0.5	0.5	0.8	0.5	0.6	2.5	0.3	0.3	1.6	2.8	5.1	0.5	0.7	0.3	0.5	1.0	5.1																							
26-Jan	0.9	1.1	0.6	0.7	0.6	Z	0.7	0.8	0.9	1.3	0.8	1.0	2.5	4.3	3.2	1.8	0.8	3.7	2.2	1.9	2.7	1.3	3.4	10.2	2.1	10.2																							
27-Jan	Z	2.9	0.8	0.6	0.9	0.5	0.4	4.2	0.3	2.9	0.4	0.5	0.4	0.8	1.0	0.7	0.7	1.1	1.6	0.3	0.3	0.2	0.2	0.2	0.9	4.2																							
28-Jan	0.2	Z	0.4	0.3	0.3	0.3	0.3	0.6	0.3	0.4	0.3	0.4	0.8	1.3	1.1	0.6	1.3	0.7	1.3	3.5	0.9	0.4	0.3	1.3	0.7	3.5																							
29-Jan	0.3	0.3	Z	1.9	4.7	3.3	0.9	0.4	3.9	7.1	5.3	4.6	3.3	3.2	3.5	4.4	4.1	3.4	5.0	4.3	5.4	4.6	1.6	3.9	3.4	7.1																							
30-Jan	4.3	2.5	2.3	Z	5.6	13.4	12.8	13.2	14.1	23.0	21.9	23.2	20.1	16.5	25.5	21.0	21.2	20.7	20.9	18.3	16.7	21.4	27.4	32.3	17.3	32.3																							
31-Jan	23.0	21.8	26.5	26.4	Z	32.9	43.5	18.9	4.1	4.3	24.4	20.0	18.9	12.1	11.0	10.2	10.7	8.2	6.4	7.6	6.3	4.6	2.5	3.2	15.1	43.5																							
																								15.8	14.7	13.7	15.8	10.5	13.1	16.0	14.0	12.9	12.0	12.3	13.8	13.2	13.9	13.7	12.8	12.6	12.3	12.8	13.2	12.1	12.9	13.8	14.4	Diurnal Average	
																								121.6	97.5	51.5	74.3	61.6	50.9	58.7	53.5	52.1	61.0	34.0	46.1	36.8	41.0	47.9	47.2	42.6	38.1	35.2	43.6	41.0	47.1	82.5	112.5	Diurnal Maximum	
Z - zerospan		C - Calibration				M - Maintenance																																											



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Ells River - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Ells River - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	528	76.86	76.86
21 - 40	129	18.78	95.63
41 - 80	26	3.78	99.42
81 - 159	4	0.58	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 687

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Oxides (NO_x) - ppb
Ells River - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	52	84	11	2	2	3	12	60	59	57	57	28	23	34	15	6	505
21 - 40	5	5	3	3	0	0	14	15	32	11	5	5	8	9	3	2	120
11 - 80	3	0	0	0	0	0	2	4	15	1	0	0	0	0	0	1	26
81 - 159	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	4
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	60	89	14	5	2	3	28	79	110	69	62	33	31	43	18	9	655

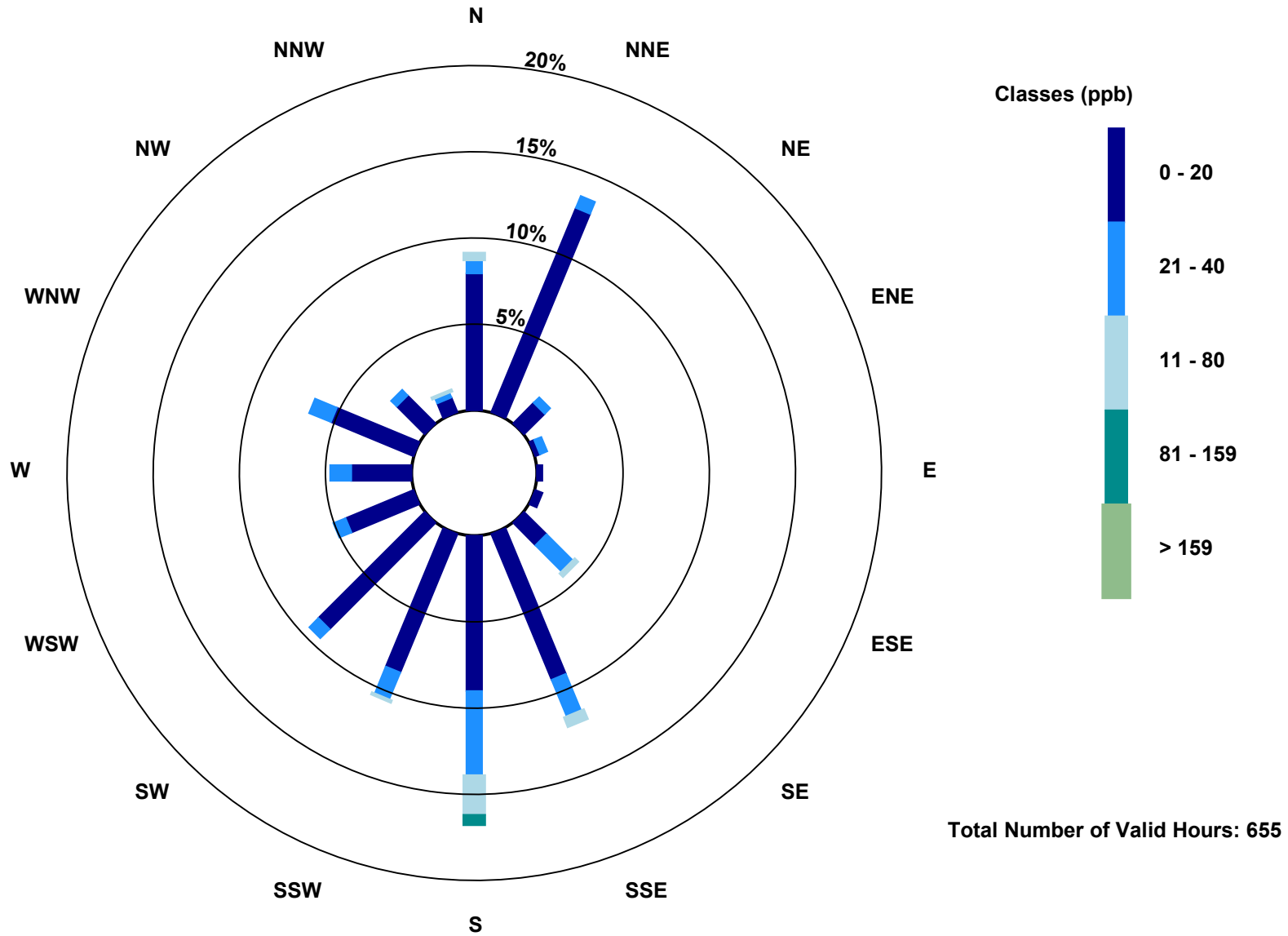
Total Number of Valid Hours: 655

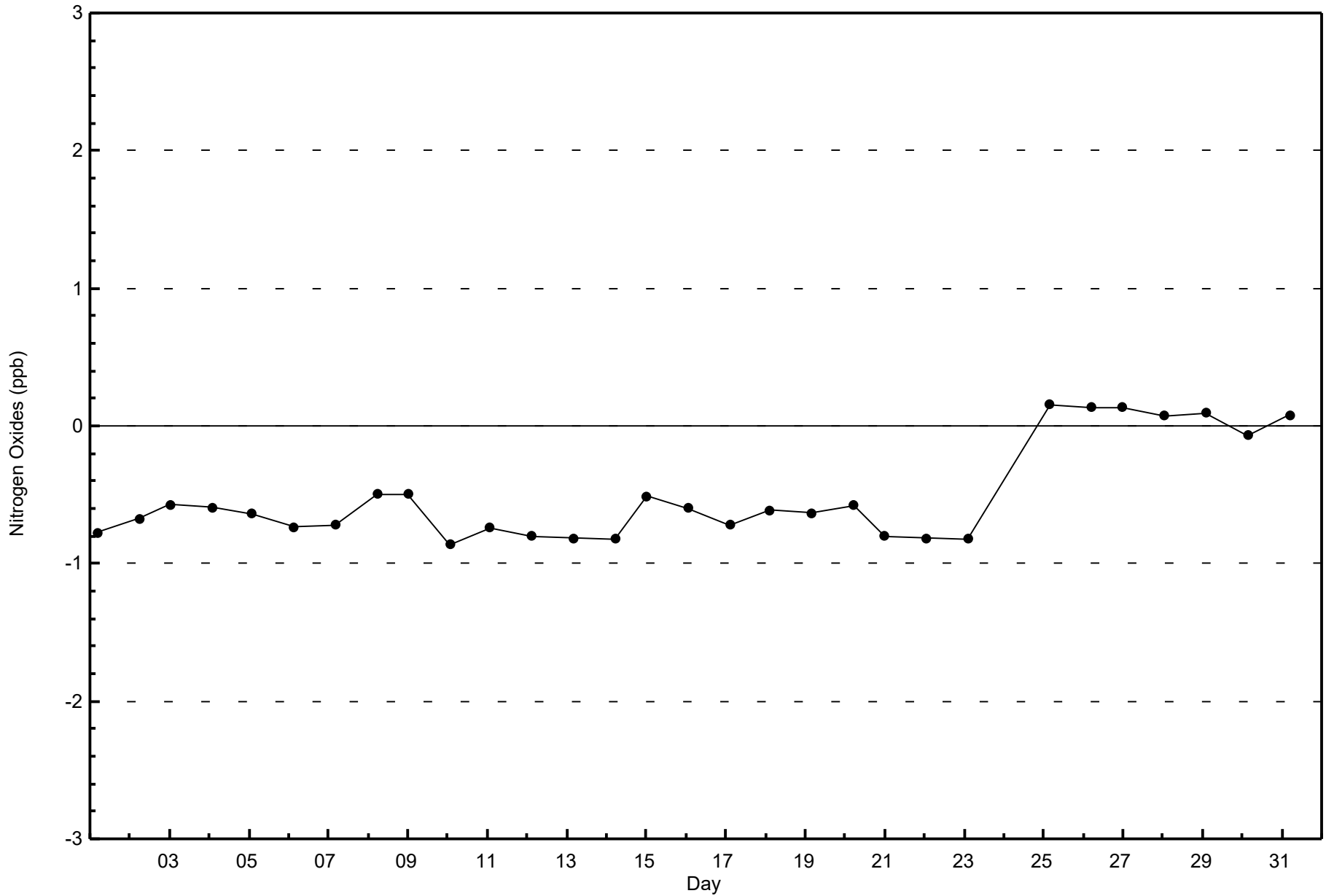
Total Number of Hours: 744

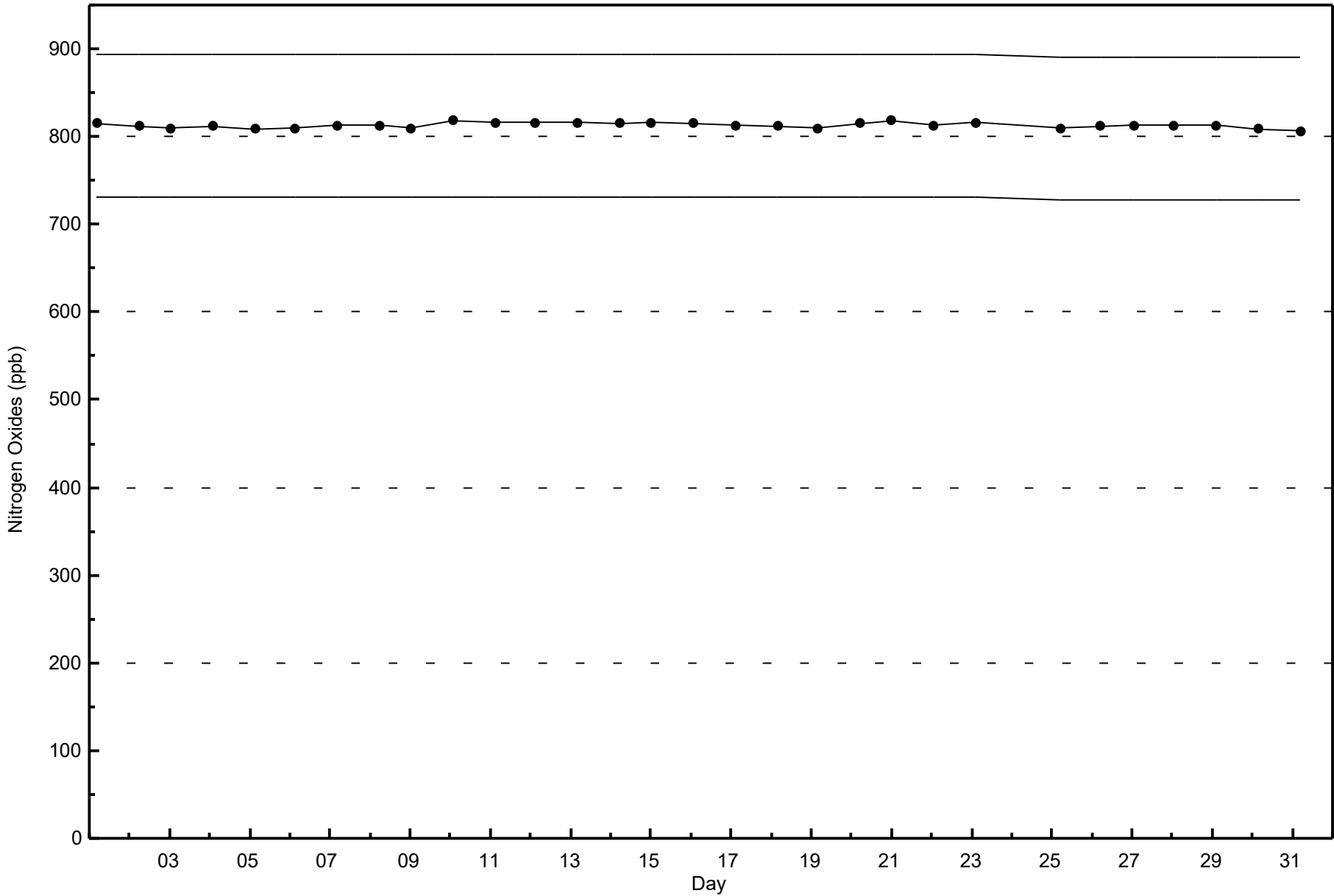


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Oxides (NO_x) - ppb
Ells River





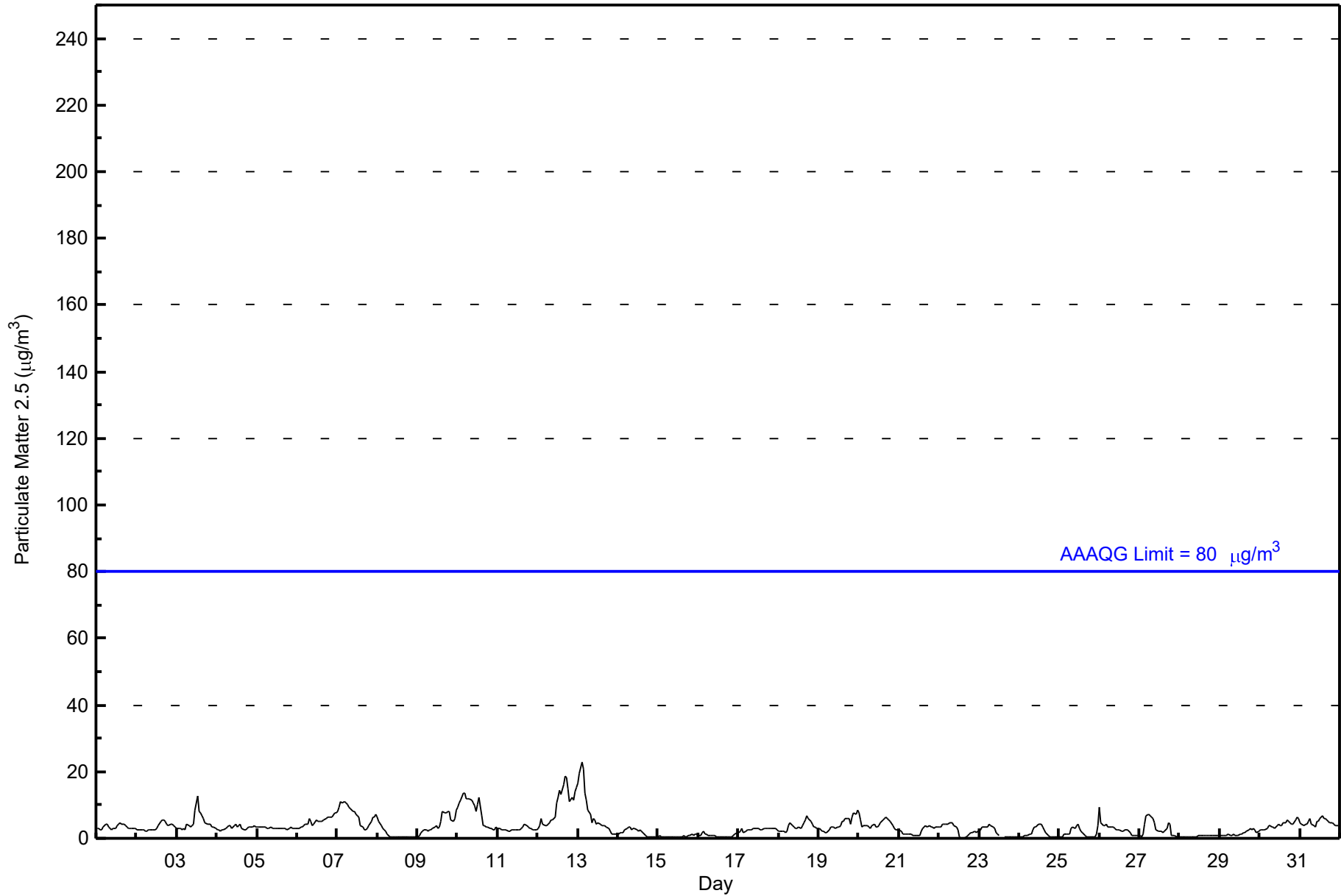




Summary of Hour Averages

Ells River - January 2025

Number of Exceedences (AAAQO):		1-hr: 0		24-hr: 0		Hours in Service: 744															744																												
Maximum Value: 22.7 µg/m ³ on Jan 13 03:00				Maximum Daily Average: 9.7 µg/m ³ on Jan 12		Hours of Data: 742															742																												
Minimum Value: 0.1 µg/m ³ on Jan 22 16:00				Minimum Daily Average: 0.6 µg/m ³ on Jan 28		Hours of Missing Data: 2															2																												
Maximum Diurnal Average: 3.8 µg/m ³ at hour 14				Minimum Diurnal Average: 3.0 µg/m ³ at hour 21		Hours of Calibration: 2															2																												
Monthly Average: 3.48 µg/m ³				Percentiles: P ₁ = 0.3 P ₁₀ = 0.5 Q ₁ = 1.4 Median = 3.0 Q ₃ = 4.2 P ₉₀ = 6.5 P ₉₉ = 14.9		Percent Operational Time: 100.0															100.0																												
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	2.9	2.9	2.7	2.6	3.4	4.2	4.3	3.5	2.8	2.6	2.8	2.8	4.0	4.4	4.5	4.4	4.3	3.7	3.4	3.1	2.9	3.0	2.8	2.8	3.4	4.5																							
2-Jan	2.7	2.7	2.6	2.6	2.5	2.3	2.2	2.6	2.3	2.4	2.5	2.7	3.1	3.8	5.2	5.6	5.6	5.1	4.1	3.7	4.3	4.0	3.6	3.6	3.4	5.6																							
3-Jan	3.1	2.9	2.8	2.5	2.8	2.7	4.1	3.9	3.2	3.9	4.2	8.4	12.7	8.0	7.5	6.8	6.0	4.8	4.2	4.2	4.3	3.6	3.2	2.9	4.7	12.7																							
4-Jan	2.6	2.5	2.2	2.5	2.7	3.1	3.4	3.9	4.0	3.1	3.9	4.1	3.6	4.0	4.4	2.8	2.5	2.4	3.0	3.3	3.2	3.2	3.6	3.4	3.2	4.4																							
5-Jan	3.3	3.3	3.3	3.4	3.4	3.3	3.1	3.0	3.2	3.1	2.9	3.0	2.9	3.0	3.0	3.1	3.1	3.0	2.7	3.0	3.2	3.0	2.9	2.9	3.1	3.4																							
6-Jan	2.8	3.1	3.3	3.4	3.9	4.3	4.1	5.7	5.0	4.0	4.3	5.4	5.3	4.9	5.1	5.2	5.5	5.8	6.2	6.2	6.3	6.4	7.6	7.5	5.1	7.6																							
7-Jan	8.0	9.5	11.0	10.7	10.8	10.4	10.3	9.4	9.0	8.1	8.0	7.2	6.8	6.3	3.6	3.2	2.7	2.7	2.8	3.7	5.2	6.4	6.5	7.3	7.1	11.0																							
8-Jan	6.2	5.0	3.7	3.0	2.7	2.1	1.1	0.4	0.3	0.3	0.2	0.3	0.3	0.6	0.3	0.3	0.3	0.2	0.3	0.3	0.4	0.4	0.5	0.4	1.2	6.2																							
9-Jan	0.4	0.7	1.7	2.3	2.7	2.6	2.3	2.6	2.7	2.9	3.2	3.8	3.2	3.5	5.3	7.9	7.8	7.6	8.1	8.0	5.6	5.2	6.1	8.4	4.4	8.4																							
10-Jan	9.4	10.6	11.3	13.4	13.6	11.7	11.9	11.7	11.7	10.5	9.7	8.0	10.0	12.1	6.6	3.8	3.6	3.4	3.2	3.1	2.8	2.6	2.7	3.2	7.9	13.6																							
11-Jan	3.2	3.1	2.7	2.6	2.6	2.5	2.0	2.1	2.5	2.5	2.7	2.4	2.5	2.4	2.8	3.5	4.1	4.0	3.6	3.1	2.8	2.6	2.7	2.6	2.8	4.1																							
12-Jan	2.9	3.9	5.9	4.3	3.8	3.9	4.3	4.8	5.5	5.5	6.5	10.7	12.1	14.3	13.2	16.2	18.7	18.3	14.7	11.2	12.2	11.5	14.1	15.1	9.7	18.7																							
13-Jan	16.7	19.4	22.7	20.7	13.4	11.6	8.6	7.4	4.5	5.8	5.4	4.4	4.5	4.3	4.0	3.8	3.7	3.3	3.2	2.1	1.5	1.4	1.2	1.1	7.3	22.7																							
14-Jan	1.2	1.7	1.7	1.8	2.5	3.2	3.5	3.5	2.7	3.0	2.9	2.6	2.2	2.5	2.1	1.5	0.9	0.5	0.4	0.4	0.5	0.5	0.5	0.5	1.8	3.5																							
15-Jan	0.5	0.6	0.5	0.5	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.4	0.6	0.9	0.9	1.2	1.0	1.2	1.2	0.6	1.2																							
16-Jan	0.8	0.9	1.7	2.1	1.3	1.2	0.9	1.0	0.9	0.9	0.7	0.5	0.5	0.5	0.6	0.4	0.3	0.3	0.3	0.4	0.6	1.0	1.2	1.5	0.8	2.1																							
17-Jan	1.7	2.2	2.9	1.9	2.0	2.5	2.5	2.6	2.6	2.8	3.1	3.0	2.9	2.7	2.6	3.0	3.2	2.9	2.9	3.0	3.0	3.1	3.0	2.7	2.7	3.2																							
18-Jan	2.2	2.3	1.9	2.1	1.7	2.3	3.7	4.7	3.7	3.3	3.0	3.0	3.3	3.1	3.9	4.7	5.5	6.8	6.0	5.3	4.1	3.5	3.5	3.1	3.6	6.8																							
19-Jan	2.9	2.6	2.2	2.0	1.9	1.9	2.4	3.2	3.3	3.2	3.1	3.3	3.6	3.9	5.1	4.9	6.0	5.9	6.0	4.2	6.4	7.7	7.1	8.5	4.2	8.5																							
20-Jan	7.4	5.6	3.2	3.8	3.9	3.7	3.2	3.1	3.7	4.0	3.4	3.5	4.0	4.5	5.4	6.1	6.3	6.1	5.7	4.9	3.6	3.1	2.7	2.4	4.3	7.4																							
21-Jan	2.4	1.9	1.3	1.1	1.4	1.3	1.2	1.1	1.0	0.8	0.7	0.7	0.8	2.1	2.9	3.5	3.8	3.4	3.7	3.5	3.3	3.2	3.2	3.3	2.2	3.8																							
22-Jan	3.3	3.5	4.2	4.2	4.1	4.2	4.5	4.8	4.7	3.9	3.5	2.5	0.4	0.1	0.1	0.1	0.3	0.7	1.1	1.6	1.9	2.0	1.8	2.1	2.5	4.8																							
23-Jan	2.2	2.5	3.2	3.3	3.3	3.5	4.0	3.9	3.3	2.8	1.8	1.1	0.7	C	C	0.3	0.4	0.3	0.3	0.3	0.4	0.4	0.5	1.8	4.0																								
24-Jan	0.4	0.3	0.4	0.7	0.9	1.0	1.1	1.4	2.6	3.2	3.3	4.2	4.4	4.4	3.5	2.6	1.8	0.9	0.5	0.4	0.4	0.4	0.4	0.3	1.6	4.4																							
25-Jan	0.4	0.4	0.5	1.3	1.4	1.2	1.3	2.8	3.3	2.8	3.6	4.0	3.1	2.3	1.6	0.7	0.5	0.5	0.5	0.5	0.5	0.5	1.4	3.9	1.6	4.0																							
26-Jan	9.3	4.6	3.7	3.9	4.1	3.6	3.4	3.4	3.4	3.0	2.7	2.5	2.6	2.3	2.2	2.5	2.5	2.3	1.8	0.9	0.8	0.7	0.7	0.9	2.8	9.3																							
27-Jan	0.7	0.6	1.2	4.3	6.6	7.3	6.9	6.4	5.9	4.7	2.6	2.2	2.2	2.2	1.5	2.0	2.8	4.8	4.0	0.9	0.8	0.8	0.6	0.5	3.0	7.3																							
28-Jan	0.4	0.4	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.5	0.6	0.7	0.9	0.9	0.7	0.6	0.7	0.7	0.8	0.9	0.7	0.7	0.8	0.8	0.6	0.9																							
29-Jan	0.8	0.8	1.0	0.9	0.9	1.2	1.0	0.7	1.4	1.0	0.7	1.0	1.1	1.3	1.6	1.9	2.0	2.3	3.0	2.7	2.8	2.7	1.9	2.1	1.5	3.0																							
30-Jan	2.4	2.7	2.4	2.6	2.9	4.0	3.8	3.4	3.2	3.1	3.8	4.1	4.0	3.7	4.8	4.9	5.6	5.1	4.7	4.2	4.4	5.7	6.4	6.0	4.1	6.4																							
31-Jan	4.7	4.4	3.8	4.4	4.1	5.0	6.1	4.1	3.6	3.5	5.0	5.1	5.7	6.8	6.1	6.0	5.3	5.1	4.5	4.5	4.3	3.9	3.7	3.8	4.7	6.8																							
																								3.5	3.5	3.6	3.7	3.6	3.6	3.6	3.4	3.3	3.3	3.5	3.7	3.8	3.7	3.6	3.7	3.7	3.4	3.1	3.0	3.0	3.2	3.4	Diurnal Average		
																								16.7	19.4	22.7	20.7	13.6	11.7	11.9	11.7	11.7	10.5	9.7	10.7	12.7	14.3	13.2	16.2	18.7	18.3	14.7	11.2	12.2	11.5	14.1	15.1	Diurnal Maximum	
C - Calibration																																																	
Alberta Ambient Air Quality Guideline/Objectives: 1-hr 80 µg/m ³ 24-hr 29 µg/m ³																																																	





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Ells River - January 2025

Concentration Ranges ($\mu\text{g}/\text{m}^3$)	Number of Hours	%	Cumulative %
0 - 5	629	84.77	84.77
6 - 15	106	14.29	99.06
16 - 25	7	0.94	100.00
26 - 80	0	0.00	100.00
> 81.0	0	0.00	100.00

Total Number of Valid Hours: 742

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - μg/m³
Ells River - January 2025

Concentration Ranges (μg/m ³)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	59	89	13	5	2	3	21	53	81	61	59	34	35	47	22	13	597
6 - 15	4	3	1	0	0	0	7	25	34	9	6	5	2	4	1	4	105
16 - 25	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	7
26 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 81.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	63	92	14	5	2	3	28	85	115	70	65	39	37	51	23	17	709

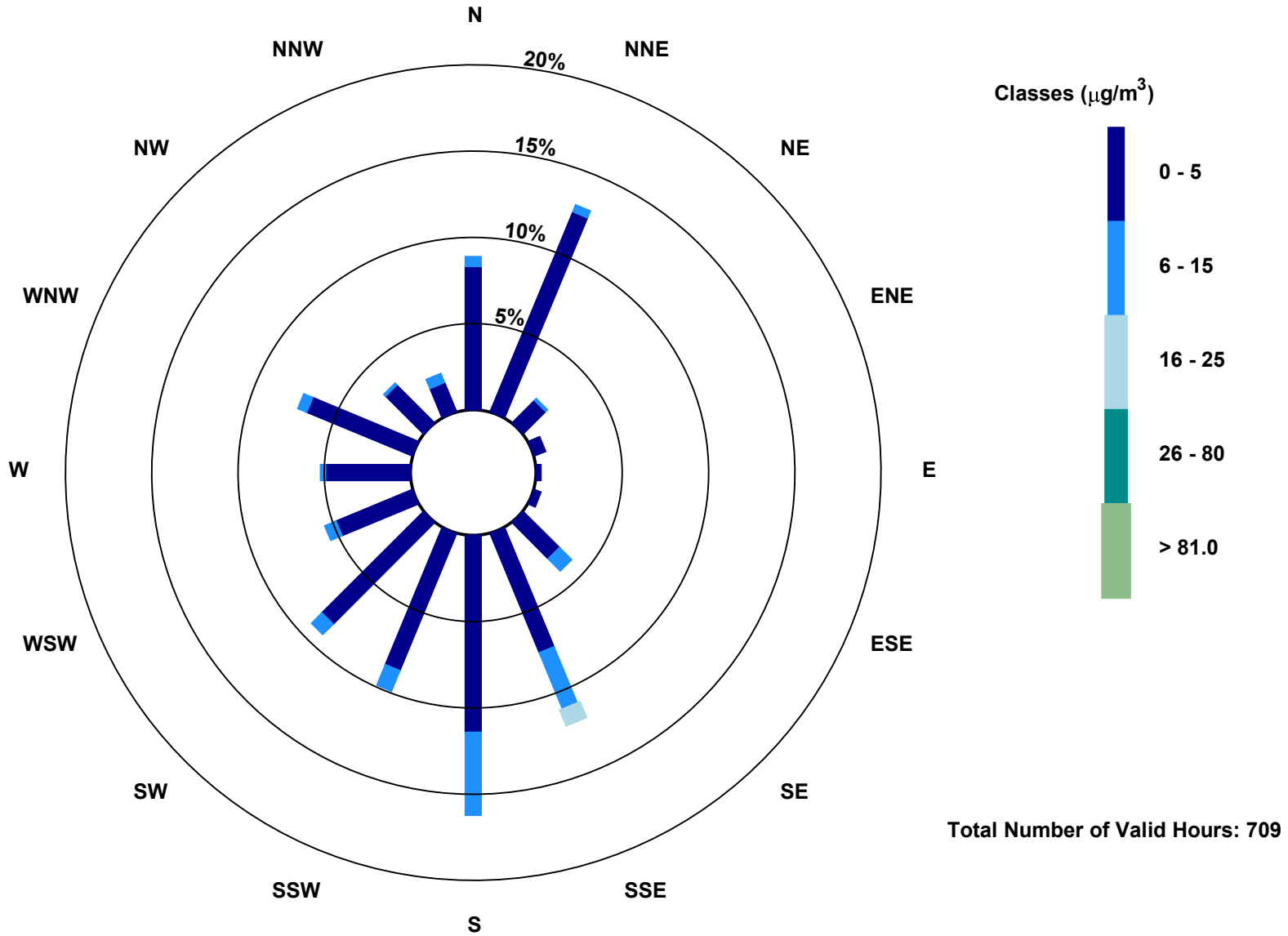
Total Number of Valid Hours: 709

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Ells River





Wood Buffalo Environmental Association
Summary of Hour Averages

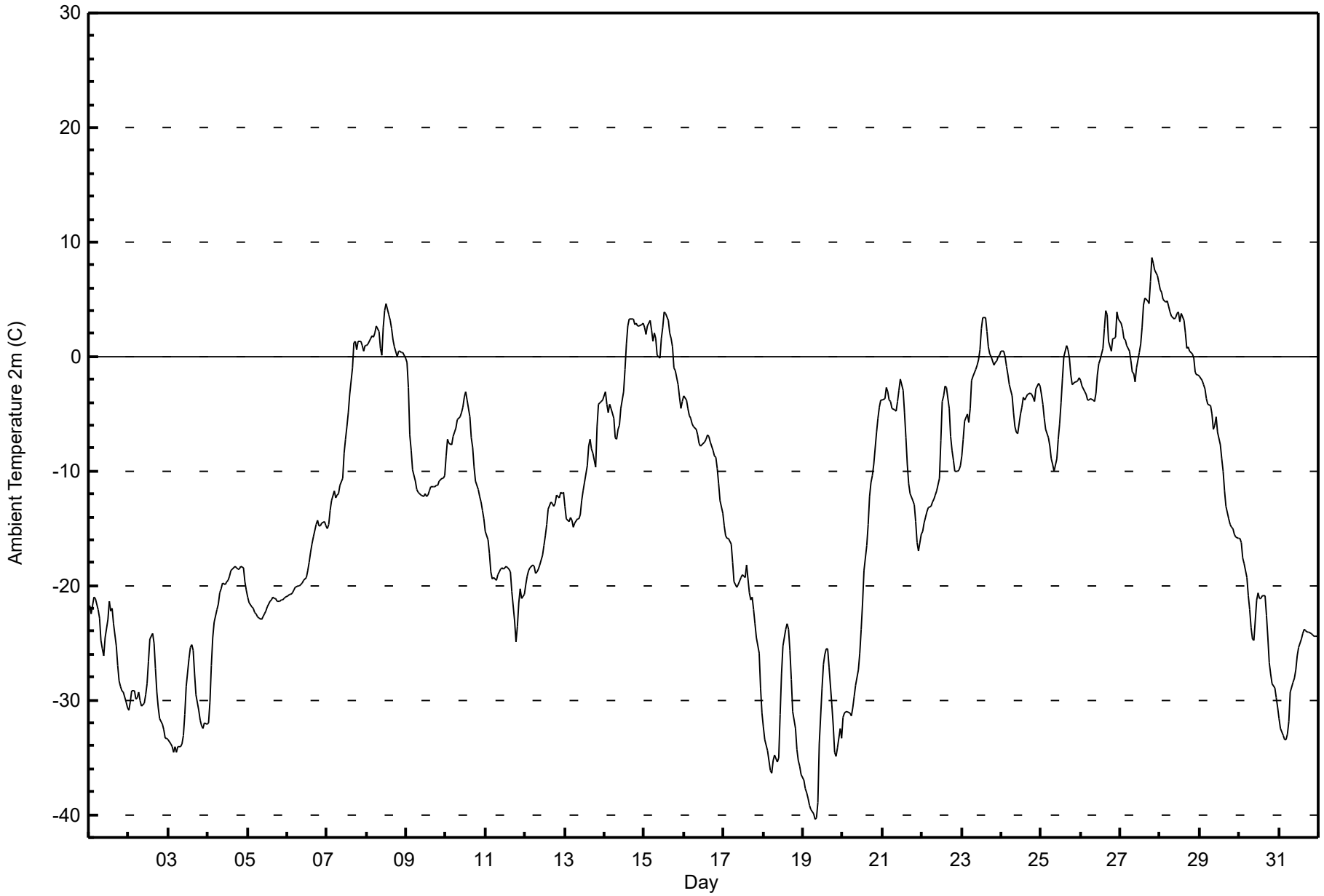
Ambient Temperature 2m (AT2) - C
Ells River - January 2025

Maximum Value: 8.6 C on Jan 27 20:00		Maximum Daily Average: 2.9 C on Jan 27		Hours in Service: 744																																													
Minimum Value: -40.4 C on Jan 19 08:00		Minimum Daily Average: -34.0 C on Jan 19		Hours of Data: 744																																													
Maximum Diurnal Average: -10.5 C at hour 15		Minimum Diurnal Average: -15.0 C at hour 9		Hours of Missing Data: 0																																													
Monthly Average: -13.19 C		Percentiles: P ₁ = -37.9 P ₁₀ = -30.6 Q ₁ = -22.0 Median = -12.1 Q ₃ = -3.2 P ₉₀ = 1.5 P ₉₉ = 5.4		Hours of Calibration: 0																																													
				Percent Operational Time: 100.0																																													
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	-21.7	-22.4	-21.7	-21.0	-21.1	-22.1	-22.9	-24.8	-25.5	-26.2	-24.6	-22.9	-21.4	-22.3	-21.9	-23.3	-25.3	-27.0	-28.4	-28.8	-29.1	-29.3	-30.2	-30.7	-24.8	-21.0																							
2-Jan	-30.9	-30.1	-29.2	-29.2	-29.9	-29.8	-29.3	-30.0	-30.5	-30.3	-29.6	-28.5	-26.6	-24.6	-24.2	-25.0	-27.3	-29.3	-30.7	-31.6	-32.1	-32.6	-33.3	-33.4	-29.5	-24.2																							
3-Jan	-33.5	-33.8	-34.0	-34.6	-34.1	-34.5	-34.1	-34.0	-33.8	-33.1	-31.3	-28.8	-26.4	-25.4	-25.2	-25.6	-27.7	-29.6	-30.9	-31.7	-32.3	-32.5	-32.0	-32.2	-31.3	-25.2																							
4-Jan	-32.0	-30.1	-27.0	-24.6	-23.2	-22.1	-21.7	-20.6	-20.3	-19.8	-19.9	-19.7	-19.5	-19.2	-18.7	-18.5	-18.4	-18.5	-18.6	-18.6	-18.3	-18.4	-19.6	-20.4	-21.2	-18.3																							
5-Jan	-21.0	-21.5	-21.8	-22.0	-22.3	-22.5	-22.8	-22.9	-22.9	-22.7	-22.5	-22.2	-21.9	-21.4	-21.2	-21.0	-21.2	-21.2	-21.3	-21.3	-21.2	-21.2	-21.1	-21.0	-21.8	-21.0																							
6-Jan	-20.8	-20.8	-20.8	-20.7	-20.4	-20.1	-20.1	-20.0	-19.9	-19.8	-19.6	-19.3	-18.7	-18.0	-17.2	-16.4	-15.8	-14.7	-14.3	-14.7	-14.7	-14.5	-14.4	-14.7	-17.9	-14.3																							
7-Jan	-15.0	-14.7	-13.4	-12.6	-11.8	-12.3	-12.1	-12.0	-11.3	-10.6	-8.5	-7.2	-6.1	-5.0	-3.3	-1.0	1.1	1.3	0.6	1.3	1.4	0.9	0.4	1.0	-6.2	1.4																							
8-Jan	1.0	1.1	1.5	1.9	1.7	2.0	2.6	2.2	0.7	0.1	2.5	4.0	4.7	3.6	3.2	2.4	1.4	0.9	0.0	0.4	0.4	0.4	0.4	-0.1	1.6	4.7																							
9-Jan	-0.5	-2.7	-6.8	-8.2	-9.8	-10.8	-11.6	-11.8	-12.0	-12.1	-12.3	-12.0	-12.3	-12.1	-11.7	-11.4	-11.4	-11.3	-11.3	-11.2	-10.8	-10.7	-10.6	-10.5	-10.2	-0.5																							
10-Jan	-8.7	-7.2	-7.5	-7.7	-7.0	-6.6	-6.2	-5.5	-5.2	-5.0	-4.5	-3.6	-3.1	-3.8	-5.2	-7.1	-8.0	-9.7	-10.9	-11.6	-12.2	-12.8	-13.4	-14.2	-7.8	-3.1																							
11-Jan	-15.3	-16.0	-17.3	-18.9	-19.4	-19.3	-19.5	-19.0	-18.8	-18.6	-18.4	-18.5	-18.4	-18.5	-18.5	-18.8	-20.5	-23.0	-24.9	-23.6	-21.5	-20.3	-21.2	-20.8	-19.5	-15.3																							
12-Jan	-19.9	-19.2	-18.7	-18.5	-18.2	-18.3	-18.9	-18.8	-18.6	-18.2	-17.3	-16.5	-15.6	-14.6	-13.4	-12.7	-12.8	-13.0	-12.8	-12.1	-12.4	-11.9	-12.0	-11.9	-15.7	-11.9																							
13-Jan	-13.0	-14.2	-14.5	-14.0	-14.3	-15.0	-14.5	-14.2	-14.1	-13.8	-12.6	-11.7	-10.9	-9.5	-7.8	-7.3	-8.1	-8.5	-9.7	-6.1	-4.1	-4.1	-4.0	-3.8	-10.4	-3.8																							
14-Jan	-3.1	-4.1	-4.9	-4.2	-4.6	-5.4	-7.1	-7.2	-6.3	-6.0	-4.5	-3.1	-1.1	1.0	2.7	3.2	3.2	3.2	2.8	3.0	2.7	2.7	2.8	3.0	-1.3	3.2																							
15-Jan	2.5	1.9	2.7	3.1	2.3	1.4	2.1	1.6	0.1	-0.2	1.5	2.6	3.9	3.7	3.1	2.1	1.6	0.9	-1.0	-1.2	-2.5	-3.5	-4.5	-4.0	0.8	3.9																							
16-Jan	-3.5	-3.8	-4.5	-5.1	-5.4	-5.8	-6.1	-6.4	-6.8	-7.6	-7.9	-7.7	-7.5	-7.2	-6.8	-7.0	-7.5	-8.2	-8.6	-8.8	-9.8	-11.1	-12.6	-13.7	-7.5	-3.5																							
17-Jan	-14.8	-15.6	-15.9	-15.9	-16.4	-18.0	-19.6	-19.9	-20.1	-19.9	-19.3	-19.0	-19.2	-19.3	-18.2	-20.6	-21.2	-21.0	-22.1	-23.4	-24.5	-25.9	-28.9	-31.1	-20.4	-14.8																							
18-Jan	-32.4	-33.5	-34.5	-35.3	-36.2	-36.3	-35.3	-34.8	-35.4	-35.1	-31.2	-27.8	-25.3	-23.8	-23.3	-23.8	-25.7	-28.2	-31.0	-32.5	-34.3	-35.2	-35.8	-36.5	-31.8	-23.3																							
19-Jan	-37.0	-37.8	-38.1	-38.6	-39.2	-39.5	-40.0	-40.4	-40.3	-38.9	-33.9	-28.9	-26.9	-26.0	-25.5	-25.5	-27.1	-30.4	-32.3	-34.6	-35.0	-34.2	-32.5	-33.3	-34.0	-25.5																							
20-Jan	-31.5	-31.2	-31.0	-31.0	-31.1	-31.3	-30.6	-29.6	-28.7	-27.3	-25.9	-23.8	-21.4	-18.7	-16.4	-14.6	-12.2	-11.0	-10.4	-9.4	-6.6	-5.4	-4.5	-3.9	-20.3	-3.9																							
21-Jan	-3.8	-3.7	-2.7	-3.0	-3.8	-3.9	-4.5	-4.7	-4.8	-3.9	-3.0	-1.9	-2.9	-4.9	-7.1	-9.4	-11.2	-12.0	-12.6	-13.0	-14.5	-16.2	-16.9	-15.5	-7.5	-1.9																							
22-Jan	-15.3	-14.6	-14.1	-13.5	-13.2	-13.0	-12.8	-12.5	-12.2	-11.7	-10.7	-7.3	-3.9	-3.4	-2.6	-2.7	-4.6	-7.0	-8.2	-9.1	-10.0	-10.0	-10.0	-9.5	-9.7	-2.6																							
23-Jan	-8.7	-7.3	-5.6	-5.0	-5.7	-4.6	-2.1	-1.7	-1.1	-0.7	-0.3	0.6	2.4	3.4	3.3	2.2	0.8	0.2	0.0	-0.7	-0.6	-0.3	0.0	0.1	-1.3	3.4																							
24-Jan	0.5	0.4	0.0	-0.9	-1.6	-2.4	-3.5	-4.8	-6.2	-6.6	-6.8	-5.0	-4.4	-3.5	-3.7	-3.5	-3.4	-3.1	-3.3	-3.6	-3.9	-2.8	-2.3	-2.5	-3.2	0.5																							
25-Jan	-3.4	-4.1	-5.3	-6.4	-7.1	-7.8	-9.0	-9.4	-10.1	-8.9	-7.2	-5.8	-4.0	-3.0	-1.9	-0.1	1.0	0.6	-0.2	-1.6	-2.4	-2.2	-2.2	-2.1	-1.9	-4.2	1.0																						
26-Jan	-2.1	-2.6	-3.1	-3.3	-3.8	-3.8	-3.6	-3.8	-3.9	-3.3	-1.6	-0.7	-0.3	0.7	2.4	4.0	3.6	1.3	0.5	1.6	1.6	1.6	3.9	3.2	-0.5	4.0																							
27-Jan	3.0	2.4	1.5	1.4	0.9	0.4	-0.4	-1.4	-1.5	-2.2	-1.0	0.4	1.1	2.6	4.5	5.1	4.9	4.6	6.5	8.6	8.1	7.6	7.0	6.4	2.9	8.6																							
28-Jan	5.9	5.6	5.0	4.7	4.8	4.4	3.9	3.5	3.3	3.4	3.8	3.9	3.0	3.7	3.1	2.1	0.7	0.8	0.5	0.2	-0.1	-1.3	-1.6	-1.6	2.6	5.9																							
29-Jan	-1.7	-2.1	-2.4	-2.8	-3.6	-4.2	-4.3	-5.0	-6.4	-6.0	-5.3	-6.6	-7.7	-9.0	-10.0	-11.8	-13.1	-14.2	-14.7	-14.9	-15.1	-15.5	-15.8	-15.9	-8.7	-1.7																							
30-Jan	-15.9	-16.3	-17.6	-18.0	-19.3	-20.9	-22.2	-23.7	-24.7	-24.8	-21.3	-20.7	-21.2	-21.1	-20.8	-20.9	-22.6	-24.5	-26.7	-27.7	-28.6	-29.0	-29.8	-30.6	-22.9	-15.9																							
31-Jan	-31.6	-32.4	-33.1	-33.4	-33.5	-32.9	-31.9	-29.3	-28.4	-28.1	-27.3	-26.1	-25.4	-24.6	-24.1	-23.8	-23.9	-24.0	-24.0	-24.2	-24.3	-24.4	-24.5	-24.5	-27.5	-23.8																							
																								-13.7	-13.9	-14.0	-14.1	-14.4	-14.7	-14.8	-14.9	-15.0	-14.8	-13.6	-12.4	-11.5	-10.9	-10.5	-10.6	-11.3	-12.1	-12.9	-13.0	-13.1	-13.3	-13.5	-13.7	Diurnal Average	
																								5.9	5.6	5.0	4.7	4.8	4.4	3.9	3.5	3.3	3.4	3.8	4.0	4.7	3.7	4.5	5.1	4.9	4.6	6.5	8.6	8.1	7.6	7.0	6.4	Diurnal Maximum	



Wood Buffalo Environmental Association
Hourly Averages

Ambient Temperature 2m (AT2) - C
Ells River - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ambient Temperature 2m (AT2) - C
Ells River - January 2025

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	236	31.72	31.72
-20 - 0	386	51.88	83.60
0 - 10	122	16.40	100.00
10 - 20	0	0.00	100.00
> 20	0	0.00	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

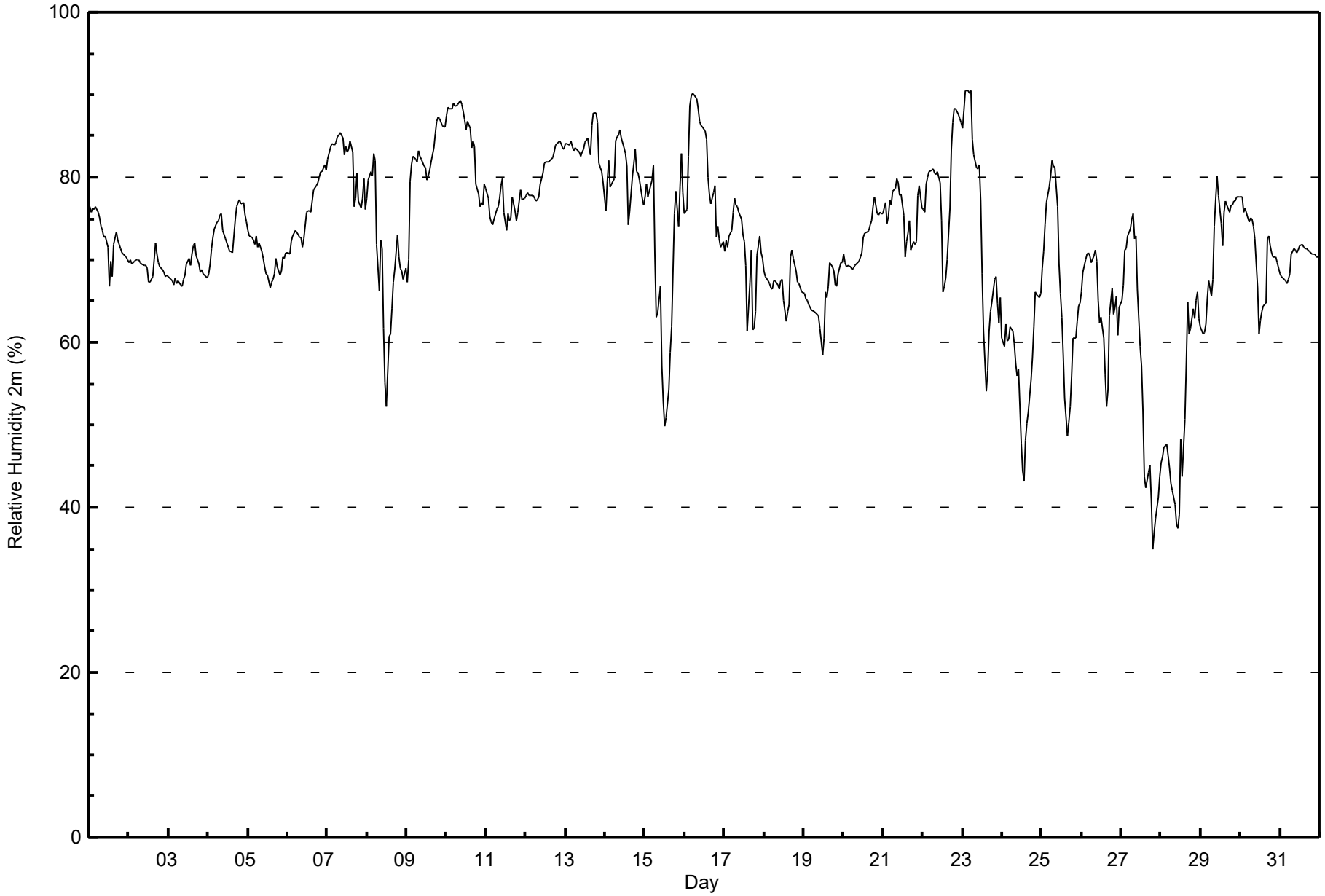
Relative Humidity 2m (RH2) - %
Ells River - January 2025

Maximum Value: 90.5 % on Jan 23 03:00 Maximum Daily Average: 84.9 % on Jan 10																						Hours in Service: 744 Hours of Data: 744																											
Minimum Value: 35.0 % on Jan 27 20:00 Minimum Daily Average: 51.1 % on Jan 28 Maximum Diurnal Average: 74.9 % at hour 6 Minimum Diurnal Average: 67.8 % at hour 15 Monthly Average: 72.13 % Percentiles: P ₁ = 41.0 P ₁₀ = 61.0 Q ₁ = 67.5 Median = 72.5 Q ₃ = 78.9 P ₉₀ = 83.7 P ₉₉ = 89.4																						Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0																											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	76.4	75.8	76.3	76.1	76.4	75.7	75.1	74.0	73.5	72.8	72.9	71.5	66.8	69.8	68.0	71.9	73.3	72.3	71.8	71.4	70.8	70.7	70.3	70.0	72.7	76.4																							
2-Jan	69.6	70.0	69.4	69.8	69.9	70.0	69.9	69.6	69.6	69.4	69.3	69.0	67.3	67.2	68.0	69.9	72.0	70.8	69.6	69.1	68.9	68.5	68.0	68.1	69.3	72.0																							
3-Jan	67.9	67.6	67.4	66.9	67.7	67.1	67.5	67.0	66.7	67.6	68.2	69.5	70.2	69.4	70.7	71.7	72.0	70.5	69.5	68.5	68.8	68.3	68.1	67.8	68.6	72.0																							
4-Jan	68.3	69.5	71.4	72.7	73.8	74.5	74.7	75.4	75.6	73.5	72.6	72.0	71.5	71.0	71.0	70.8	74.9	76.5	76.9	77.3	76.8	77.0	75.5	74.6	73.7	77.3																							
5-Jan	73.6	72.9	72.7	72.3	71.9	72.8	71.5	72.0	71.1	70.2	69.2	68.3	68.1	66.7	67.2	67.7	68.4	70.2	69.2	68.2	68.7	70.3	70.2	70.9	70.2	73.6																							
6-Jan	70.8	70.7	72.2	72.9	73.2	73.5	73.0	72.7	72.6	71.6	72.6	75.8	75.9	75.9	75.8	77.1	78.4	78.9	79.4	80.0	80.6	80.7	81.5	80.8	75.7	81.5																							
7-Jan	82.2	82.8	83.6	84.1	84.0	84.2	84.9	85.1	85.5	84.8	82.7	83.7	83.1	83.3	84.5	83.0	76.4	77.4	80.5	77.1	76.2	77.4	79.8	76.2	81.8	85.5																							
8-Jan	77.4	79.7	80.8	80.2	82.9	82.1	71.8	66.2	72.4	71.4	61.6	55.0	52.2	60.6	61.0	64.1	67.3	68.8	73.1	70.4	69.0	68.7	67.7	69.0	69.7	82.9																							
9-Jan	67.2	70.0	79.6	81.6	82.5	82.1	81.9	83.3	82.6	82.3	81.4	81.2	79.7	80.1	80.9	81.9	83.5	85.2	86.8	87.3	87.2	86.2	86.2	86.2	81.9	87.3																							
10-Jan	87.5	88.4	88.3	88.4	88.9	88.6	88.6	88.9	89.4	88.8	88.0	86.9	85.8	86.7	85.9	83.5	84.4	83.8	79.1	78.0	76.4	76.9	76.6	79.1	84.9	89.4																							
11-Jan	78.6	77.4	75.2	74.6	74.2	74.8	76.2	76.5	77.4	79.0	79.8	75.8	73.5	75.7	74.7	75.1	77.6	75.9	74.7	75.8	77.1	78.5	77.4	77.5	76.4	79.8																							
12-Jan	77.8	78.1	77.9	77.8	77.9	77.5	77.1	77.3	77.5	79.1	80.5	81.7	81.9	81.8	81.8	82.2	82.4	83.1	83.9	84.0	84.3	84.0	83.6	83.3	80.7	84.3																							
13-Jan	84.0	84.2	83.9	84.4	83.7	83.3	83.6	83.1	83.0	82.6	83.1	83.3	84.2	84.8	83.5	82.8	86.3	87.8	87.8	86.7	81.7	81.3	80.8	79.4	83.7	87.8																							
14-Jan	75.9	79.5	82.0	78.9	79.1	79.9	84.4	85.0	85.0	85.8	84.7	83.5	82.9	81.4	74.2	75.9	80.2	81.6	83.3	80.6	80.5	79.7	77.5	76.6	80.8	85.8																							
15-Jan	77.6	79.1	77.6	78.9	79.6	81.5	70.7	63.0	63.6	66.7	57.2	52.8	49.9	50.8	54.3	58.8	61.8	68.9	75.6	78.3	74.0	78.8	82.9	78.2	69.2	82.9																							
16-Jan	75.6	76.1	82.5	88.7	89.8	90.1	89.9	89.5	88.3	86.8	86.3	86.2	85.6	84.7	80.0	77.9	76.9	78.2	79.0	72.7	74.0	72.6	71.5	72.1	81.5	90.1																							
17-Jan	71.1	72.3	71.6	73.0	73.5	75.8	77.4	76.7	76.5	75.7	74.9	73.1	72.2	69.3	61.4	67.3	71.1	61.5	61.7	63.8	70.4	72.8	70.9	70.2	71.0	77.4																							
18-Jan	68.6	68.0	67.5	67.0	66.6	66.5	67.4	67.4	67.0	66.4	67.4	67.6	65.1	62.6	63.7	64.6	70.3	71.1	70.1	68.6	67.4	67.1	66.6	66.1	67.1	71.1																							
19-Jan	65.9	65.3	65.1	64.6	64.3	63.9	63.7	63.5	63.3	63.2	61.7	58.4	60.4	66.2	65.4	66.7	69.7	69.2	68.6	67.0	66.8	68.4	69.6	69.6	65.4	69.7																							
20-Jan	70.6	69.6	69.1	69.3	69.1	68.9	69.0	69.3	69.4	69.8	70.4	70.9	72.6	73.1	73.4	73.5	74.2	74.8	76.4	77.6	75.6	75.5	75.7	75.6	72.2	77.6																							
21-Jan	75.6	76.9	74.3	75.3	77.4	76.7	78.4	78.7	79.9	79.3	77.9	77.9	75.5	70.4	72.3	73.3	74.7	71.2	72.1	71.8	72.3	77.8	79.0	76.3	75.6	79.9																							
22-Jan	76.1	75.7	79.1	79.9	80.6	80.8	81.1	80.6	80.3	80.6	79.4	74.8	66.2	66.7	67.7	70.0	76.3	83.3	86.6	88.3	88.3	87.7	87.1	86.6	79.3	88.3																							
23-Jan	85.9	88.2	90.5	90.5	90.2	90.5	84.5	82.7	81.2	81.0	81.5	77.1	68.2	61.3	54.1	56.7	61.3	63.8	64.9	67.6	67.9	64.8	62.3	65.4	74.3	90.5																							
24-Jan	60.5	59.4	62.2	60.2	60.3	61.9	61.3	59.8	57.5	55.9	56.7	47.8	44.4	43.2	48.1	50.1	51.5	55.4	58.2	61.9	66.0	65.8	65.4	65.9	57.5	66.0																							
25-Jan	69.0	71.1	74.2	77.0	78.9	80.2	82.1	81.4	81.3	76.5	69.5	65.9	63.1	58.4	53.2	48.7	50.3	52.2	56.0	60.5	60.4	62.5	64.4	64.8	66.7	82.1																							
26-Jan	66.2	68.5	70.1	70.8	70.9	70.5	69.7	70.4	71.2	69.7	65.1	62.4	63.1	60.5	56.0	52.2	54.3	63.3	66.7	63.3	64.3	65.5	60.9	64.3	65.0	71.2																							
27-Jan	65.2	66.9	71.3	71.3	72.8	73.8	74.9	75.7	72.6	72.9	66.4	59.6	57.1	51.7	43.6	42.5	44.2	45.2	40.8	35.0	36.9	38.7	41.2	43.8	56.8	75.7																							
28-Jan	45.4	46.0	47.3	47.6	46.3	44.8	42.8	42.1	40.3	38.0	37.5	39.2	48.3	43.8	50.6	57.5	65.0	61.0	61.7	64.1	62.9	65.1	66.0	62.9	51.1	66.0																							
29-Jan	61.8	61.0	61.1	62.1	65.3	67.4	65.7	67.6	74.2	77.3	80.1	77.8	74.3	71.7	75.8	77.2	76.7	75.7	76.6	76.6	77.1	77.1	77.7	77.5	72.3	80.1																							
30-Jan	77.7	77.7	75.8	76.2	75.0	74.6	75.1	74.9	74.0	72.5	66.6	60.9	62.8	63.7	64.5	64.8	72.5	72.9	71.6	70.8	70.3	70.3	69.7	69.0	71.0	77.7																							
31-Jan	68.3	68.0	67.6	67.4	67.1	67.7	68.3	70.6	71.3	71.2	70.9	71.3	71.6	71.8	71.6	71.3	71.4	71.2	71.0	70.7	70.7	70.6	70.3	70.3	70.1	71.8																							
																								72.2	72.8	73.8	74.2	74.6	74.9	74.3	73.9	74.0	73.6	72.1	70.4	69.2	68.5	67.8	68.7	70.9	71.7	72.4	72.0	72.6	72.4	72.2	Diurnal Average		
																								87.5	88.4	90.5	90.5	90.2	90.5	89.9	89.5	89.4	88.8	88.0	86.9	85.8	86.7	85.9	83.5	86.3	87.8	87.8	88.3	88.3	87.7	87.1	86.6	Diurnal Maximum	



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 2m (RH2) - %
Ells River - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Relative Humidity 2m (RH2) - %
Ells River - January 2025

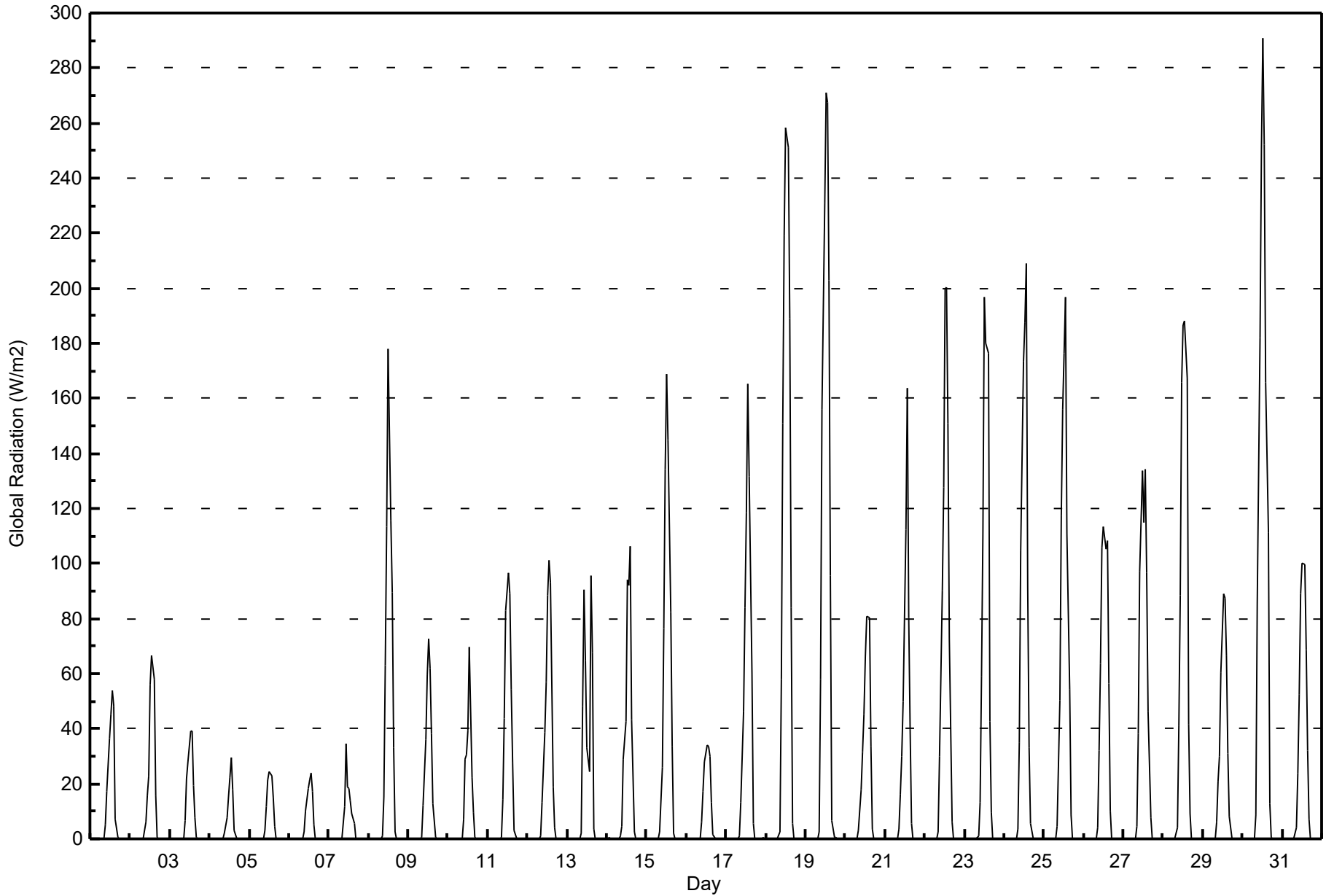
Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	6	0.81	0.81
40 - 60	56	7.53	8.33
60 - 80	524	70.43	78.76
80 - 100	158	21.24	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Maximum Value: 290.9 W/m2 on Jan 30 13:00																						Maximum Daily Average: 56.7 W/m2 on Jan 30				Hours in Service: 744	
Minimum Value: 0.0 W/m2 on Jan 1 01:00																						Minimum Daily Average: 4.1 W/m2 on Jan 4				Hours of Data: 744	
Maximum Diurnal Average: 115.0 W/m2 at hour 14																						Minimum Diurnal Average: 0.0 W/m2 at hour 8				Hours of Missing Data: 0	
Monthly Average: 22.11 W/m2																						Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 15.2 P ₉₀ = 88.6 P ₉₉ = 225.7				Hours of Calibration: 0	
																										Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2	17.1	36.8	45.3	53.9	48.5	7.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.9	53.9	
2-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	6.0	16.0	22.7	55.9	66.4	57.8	15.5	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	66.4	
3-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	6.4	22.0	28.0	38.9	39.4	19.6	7.8	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.8	39.4	
4-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	7.5	15.3	22.4	29.3	17.8	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1	29.3	
5-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	11.9	21.4	24.5	22.9	14.8	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	24.5	
6-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	10.4	18.4	21.2	23.7	17.5	5.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1	23.7	
7-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	11.8	34.7	18.6	18.1	13.7	9.1	5.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7	34.7	
8-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	15.1	63.3	113.2	178.1	115.2	89.4	33.0	2.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	25.5	178.1	
9-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	12.1	36.0	59.3	72.7	62.3	38.1	12.8	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.3	72.7	
10-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	7.3	29.1	30.5	39.1	69.6	22.4	9.8	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.7	69.6	
11-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	14.3	43.8	82.8	96.5	89.1	54.3	27.6	2.9	0.3	0.0	0.0	0.0	0.0	0.0	0.0	17.2	96.5	
12-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	13.1	38.8	57.2	88.6	101.4	92.9	18.8	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.3	101.4	
13-Jan	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.0	2.2	48.1	90.4	64.4	33.2	24.5	95.7	67.7	3.6	0.0	0.0	0.0	0.0	0.0	0.1	0.1	17.9	95.7	
14-Jan	0.2	0.4	0.2	0.2	0.2	0.2	0.0	0.0	0.8	4.5	29.1	42.6	93.9	92.0	106.1	43.3	2.6	0.1	0.2	0.1	0.1	0.0	0.0	0.0	17.4	106.1	
15-Jan	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.0	2.5	25.7	76.4	134.2	169.0	145.0	82.5	33.4	2.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	28.0	169.0	
16-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.9	17.3	28.0	33.9	33.7	30.0	13.1	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.8	33.9	
17-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	13.1	46.2	84.1	118.7	165.5	131.9	59.8	5.6	0.3	0.2	0.0	0.2	0.0	0.3	0.2	26.1	165.5	
18-Jan	0.2	0.1	0.1	0.2	0.1	0.1	0.0	0.1	2.6	57.9	151.2	219.0	258.4	251.1	188.9	83.7	5.8	0.2	0.2	0.2	0.1	0.1	0.2	0.1	50.9	258.4	
19-Jan	0.2	0.1	0.0	0.1	0.1	0.0	0.1	0.1	2.7	57.7	156.0	230.8	271.1	267.4	203.1	95.7	6.5	0.3	0.3	0.1	0.0	0.0	0.1	0.0	53.9	271.1	
20-Jan	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	3.1	17.6	31.4	45.1	66.1	81.1	80.3	33.6	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.1	81.1	
21-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	16.2	30.2	49.7	112.3	163.6	80.3	39.7	5.6	0.0	0.0	0.0	0.0	0.1	0.0	0.0	20.9	163.6	
22-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	30.1	89.9	127.7	199.9	200.1	150.8	72.6	6.3	0.1	0.1	0.1	0.0	0.0	0.0	0.0	36.7	200.1	
23-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	13.2	58.9	110.8	196.8	179.8	176.5	42.9	9.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.9	196.8	
24-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	35.3	104.8	173.2	187.7	208.9	91.6	33.0	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.1	208.9	
25-Jan	0.0	0.0	0.2	0.1	0.2	0.2	0.2	0.1	4.3	50.1	117.6	156.2	176.3	196.8	111.0	54.4	8.9	0.2	0.0	0.0	0.0	0.0	0.0	0.0	36.5	196.8	
26-Jan	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	4.2	32.0	63.4	105.9	113.2	105.5	108.3	56.5	10.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	25.0	113.2	
27-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7	37.9	97.0	133.6	114.7	134.4	96.6	46.2	7.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	28.0	134.4	
28-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.2	41.3	88.5	165.7	186.5	187.9	167.4	41.6	9.2	0.0	0.0	0.0	0.1	0.2	0.0	0.0	37.2	187.9	
29-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.1	20.9	30.0	60.7	89.1	87.6	66.4	30.9	8.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.7	89.1	
30-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.5	85.2	182.3	250.7	290.9	252.3	166.0	111.5	12.8	0.7	0.1	0.0	0.0	0.0	0.0	0.1	56.7	290.9	
31-Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	23.9	52.2	89.0	100.3	99.6	68.5	32.0	6.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.9	100.3	
																								Diurnal Average			
																								Diurnal Maximum			

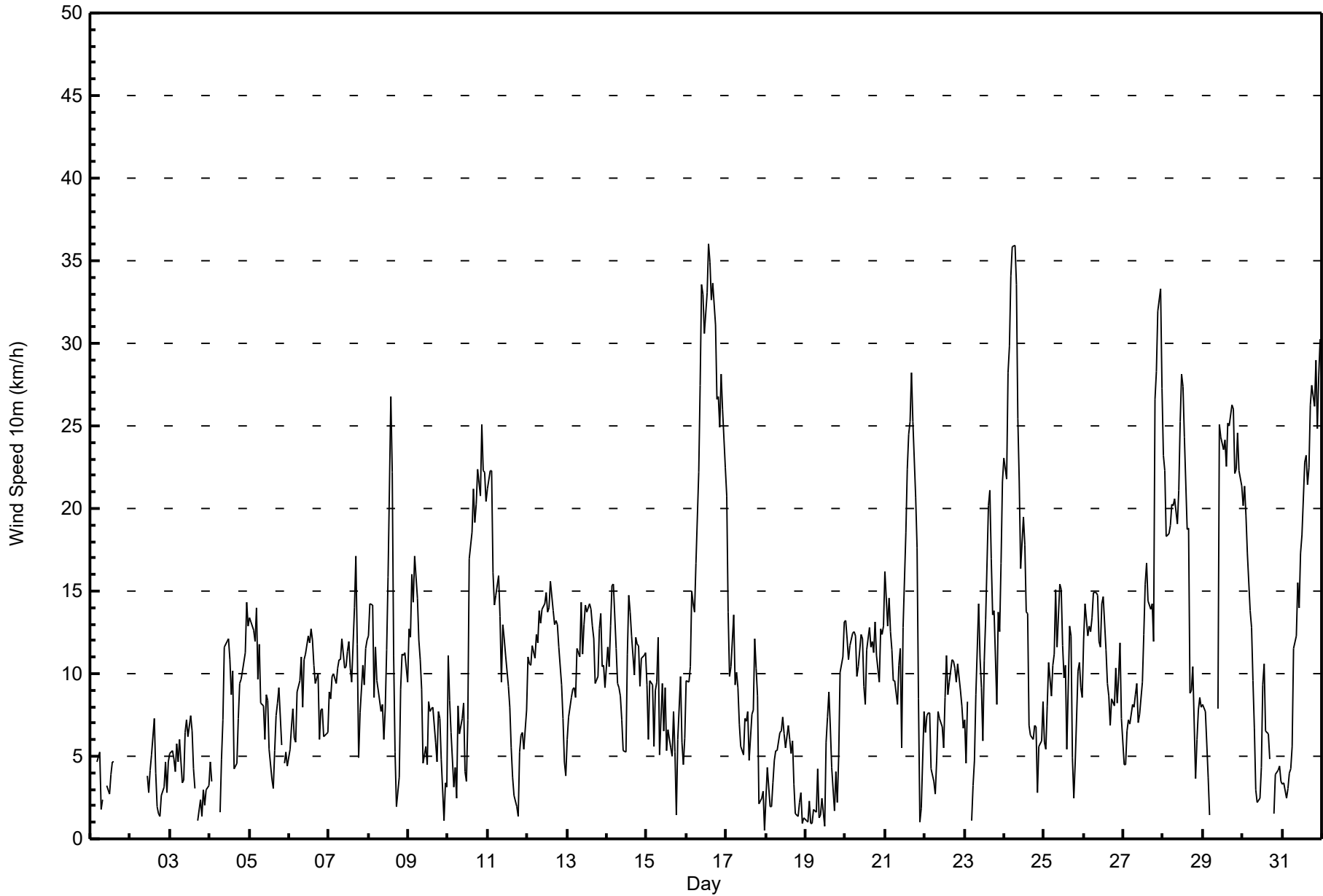




Maximum Speed: 36 km/h on Jan 16 14:00	Maximum Daily Speed Average: 24.6 km/h on Jan 16	Hours in Service: 744
Minimum Speed Value: 1 km/h on Jan 18 00:00	Minimum Daily Speed Average: 2.1 km/h on Jan 4	Hours of Data: 711
Maximum Diurnal Speed Average: 3.5 km/h at hour 23	Minimum Diurnal Speed Average: 0.8 km/h at hour 13	Hours of Missing Data: 33
Monthly Average Velocity: 1.5 km/h 288.2 deg	Percentiles: P ₁ = 1 P ₁₀ = 3 Q ₁ = 6 Median = 9 Q ₃ = 13 P ₉₀ = 22 P ₉₉ = 34	Percent Operational Time: 95.6

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	UO	UO	UO	UO	NNE5	NNE5	N2	WNW2	UO	UO	W3	WSW3	N4	NNE5	NE5	UO	UO	WSW2	UO	UO	W3	UO	UO	UO	---	NNE5
2-Jan	UO	UO	UO	UO	UO	UO	SSW3	UO	UO	UO	S4	S3	SSE4	SE5	SE7	SE4	NNW2	WSW2	WSW1	W3	S3	S5	S3	S5	---	SE7
3-Jan	S5	S5	S5	S4	S6	S5	SSW6	S3	S4	SSW6	S7	S6	S7	S6	S4	S3	UO	W1	W2	SW1	WNW3	WNW2	WNW3	WNW3	SSW3.6	S7
4-Jan	WNW5	W3	UO	NNW2	UO	UO	SSE2	SSE5	SSE7	SSE12	SSE12	SSE12	SSE11	SE9	SE10	SE4	NNE5	NNE7	N9	N10	N11	N14	N13	ENE2.1	N14	
5-Jan	N13	N13	N13	NNE12	NNE14	N10	NNE12	NNE8	NNE8	NE6	NNE9	NNE8	N5	NNW4	N3	NE5	NE7	NE8	ENE9	NE6	UO	SSE5	SE5	S4	ENE6.8	NNE14
6-Jan	S5	SSE7	SE8	SSE6	SSE6	SSE9	SSE10	SSE11	S8	S11	S11	S12	S12	S13	S12	S10	S9	S10	SSW6	SSW8	SSW8	SSW6	SW6	SSW6	S8.4	S13
7-Jan	S9	SSE8	SSE10	S10	S9	S10	S11	S11	S12	S10	SSE10	S11	SSE12	SSE10	SSE9	SSW14	SSW17	SSW12	SSE5	SSW8	SW11	SW9	SSW12	SSW12	S10.0	SSW17
8-Jan	SW12	WSW14	WSW14	WSW9	SW12	WSW10	W9	W8	S8	SSE6	WSW8	WNW11	WNW16	NW27	NW22	NW11	W5	SW2	WSW4	W9	W11	WSW11	W11	W9	W8.9	NW27
9-Jan	W13	NNW12	NNE16	NNE14	NNE17	NE15	NE12	NE11	NE9	ENE5	E6	ESE4	ESE8	ESE8	SSE8	SSE8	SE6	SSE5	SSE8	S7	SE5	WNW1	WNW3	WSW3	ENE3.6	NNE17
10-Jan	SE11	SSE8	WNW6	NNW3	NW4	W2	WSW8	SSW6	S7	S8	S4	WNW3	NNW7	NNE17	NNE19	NNE21	NNE19	NNE20	NNE22	NNE21	NNE25	NNE22	NNE22	NNE20	NNE8.3	NNE25
11-Jan	NNE21	NNE22	NNE22	NNE16	N14	NNE15	N16	N14	N10	N13	N12	NNE11	NNE9	NNE8	NNE6	E4	SE3	S2	SSW1	S5	S6	S6	S5	S8	NNE7.3	NNE22
12-Jan	SSE11	SSE11	SSE10	SSE12	SSE11	SSE12	SSE12	SSE14	SSE13	SSE14	SSE14	SSE15	SSE14	S14	SSE16	SSE14	SSE13	SSE13	SSE13	SSE12	SSE9	SE7	SSE5	SSE4	SSE11.6	SSE16
13-Jan	SSE6	SSE7	SSE9	SSE9	SSE9	SSE9	SSE12	S11	SSE14	S11	S13	S14	SSE14	SSE14	S14	SSE13	S12	SSE9	SE10	SW13	SW14	SW10	SW11	SW9	S9.9	SSE14
14-Jan	SW12	SSW10	SSW13	SSW15	SSW15	SSW12	S9	SSE9	SSE9	SSE7	S5	SW5	SW11	SW15	SW14	SW12	SW10	SSW12	SSW12	SW12	SW9	SW11	WSW11	WSW11	SSW10.1	SSW15
15-Jan	WSW9	W6	W10	WSW9	SW6	S9	SW10	WNW12	NW5	WNW9	WNW7	W9	WSW5	W7	SW6	SSE5	SSW8	WSW5	SSE1	WNW6	NNE10	NNE6	NNE4	NNE6	W4.2	WNW12
16-Jan	NNE10	NNE9	NNE10	NNE15	NNE14	NNE14	N17	N22	NNE27	NNE34	NNE33	NNE31	N33	NNE36	NNE35	NNE33	N34	N31	N27	N27	N25	N28	N26	N22	NNE24.6	NNE36
17-Jan	N21	N14	N10	NNE10	NNE14	NNE9	N10	N9	NE7	N6	N5	N7	NNE7	NE8	N5	N8	NW8	NW12	NW10	N9	NNE2	NNE2	SW3	W1	N7.3	N21
18-Jan	SW2	S4	S2	S2	SSW3	SSW5	S5	S5	S6	S7	SSE7	SE6	SE6	SE7	SE6	SE5	SE6	S3	W2	SSW1	WSW2	WNW3	SSW1	SW1	SSE3.3	SSE7
19-Jan	WSW1	WSW1	W2	SW1	SW1	W2	SSW2	S4	SW1	W1	S2	SSE1	SE6	SE7	SE9	SE7	SE4	S2	S4	SW2	S5	S10	S11	S13	S3.4	S13
20-Jan	S13	S12	S11	S12	S12	S13	S12	SSW10	SSW10	S12	SSE12	SSW9	SSW8	S11	SSW13	S12	S12	S11	SSE13	S11	SSW10	SW13	SW12	SW13	S11.0	S13
21-Jan	SW16	SSW13	WSW15	SW13	SW11	WSW10	SW10	SW8	SSW11	SW12	WSW6	N13	N19	NNE22	NNE24	NNE25	NNE28	NNE25	NNE21	NNE18	NNE8	NNW1	SSE2	SSW8	NNW4.7	NNE28
22-Jan	S6	SSE7	SSE8	S8	SE4	SE3	SSW3	SSE5	S8	S7	SSE7	SSE5	SW9	SW11	SW9	S9	S11	SSE11	SSE10	S10	S11	S9	S8	S7	S7.2	SW11
23-Jan	S7	S5	SSE8	UO	WSW1	S3	S5	SSW9	SSW14	SW11	SW9	WSW6	WSW11	W13	WNW20	WNW21	WNW17	WNW14	W14	WSW8	W14	W13	WNW17	WNW22	W8.9	WNW22
24-Jan	WNW23	WNW22	NW28	NW30	NW34	NNW36	NNW36	NNW34	NNW25	NNW22	NW16	NNW19	NNW18	NW14	NW14	W7	WSW6	SW6	SSW7	S7	S3	W6	WSW6	WSW8	NW15.2	NNW36
25-Jan	SSW6	SSW5	WSW8	SW11	SW9	SSW10	SSW11	SSW15	SSW12	SW15	SW15	SSW12	SSW10	SSW11	SW5	WNW13	WNW12	WSW5	N2	S5	S10	SSW11	SSW9	S9	SW8.4	SW15
26-Jan	SSW12	SW14	SSW12	SSW13	SSW13	S13	SSW15	SSW15	S15	S12	SSW12	S14	SSE15	SSE11	SSE9	SW9	SW7	W8	WNW8	NW10	WNW8	WNW10	NW12	NW7	SSW7.7	SSW15
27-Jan	W4	SW4	SW7	SW7	WSW7	WSW8	SW8	SW9	SW9	SSW7	SSW8	SSW9	SSW12	SW15	SSW17	S14	S14	S14	WNW12	WNW27	WNW28	WNW32	WNW33	WNW27	WSW10.1	WNW33
28-Jan	WNW23	WNW22	WNW18	WNW18	WNW19	WNW20	WNW20	WNW21	W19	W21	WNW25	WNW28	WNW27	WNW24	NW19	NW19	NW9	NW9	NNW10	W4	SSW6	SSW8	SW9	WSW8	WNW15.9	WNW28
29-Jan	W8	W8	WSW6	SW4	S1	UO	SSW5	UO	UO	N8	NNE25	NNE24	NNE24	NNE24	NNE23	NNE25	NNE25	NNE26	NNE26	N22	NNE22	NNE25	N22	NNE21	NNE15.3	NNE26
30-Jan	NNE20	N21	NNE20	N17	N14	NNE13	NNE10	NNE7	NNE3	SE2	ENE2	NE4	NE9	NE11	ENE7	ENE6	NE5	UO	UO	WSW1	WNW4	NNW4	WNW4	W3	NNE7.3	NNE21
31-Jan	W3	WNW3	W2	NW3	NNW4	NW4	N6	N12	N12	N16	N14	N17	N18	NNE23	N23	N21	N22	N26	N27	N26	N29	N25	N28	NNE30	N16.0	NNE30
WSW2.9 W2.3 W2.5 W2.1WNW1.9 W1.2WSW1.8WSW2.0SSW2.3SSW2.2 SW1.4WNW0.9 NW0.8 N1.4 N1.0NNW1.4NNW1.6 N1.5 N2.7 NW2.6 NW2.7WNW3.0WNW3.5WNW3.2																								Diurnal Average		
WNW23 NNE22 NW28 NW30 NW34 NNW36 NNW36 NNW34 NNE27 NNE34 NNE33 NNE31 N33 NNE36 NNE35 NNE33 N34 N31 N27 N27 N29 NNW32WNW33 NNE30																								Diurnal Maximum		

UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Wind Speed 10m (WS10) - km/h
Ells River - January 2025**

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	166	23.35	23.35
6 - 11	282	39.66	63.01
12 - 19	170	23.91	86.92
20 - 28	75	10.55	97.47
29 - 38	18	2.53	100.00
> 38	0	0.00	100.00

Total Number of Valid Hours: 711

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Wind Speed 10m (WS10) - km/h
Ells River - January 2025

Wind Speed Ranges (km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	7	8	4	2	1	1	11	15	38	9	14	15	16	14	4	7	166
6 - 11	14	23	9	3	1	2	17	43	51	34	32	21	15	8	7	2	282
12 - 19	21	19	1	0	0	0	0	27	26	27	19	3	6	11	7	3	170
20 - 28	17	35	0	0	0	0	0	0	0	0	0	0	1	17	3	2	75
29 - 38	4	7	0	0	0	0	0	0	0	0	0	0	0	2	2	3	18
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	63	92	14	5	2	3	28	85	115	70	65	39	38	52	23	17	711

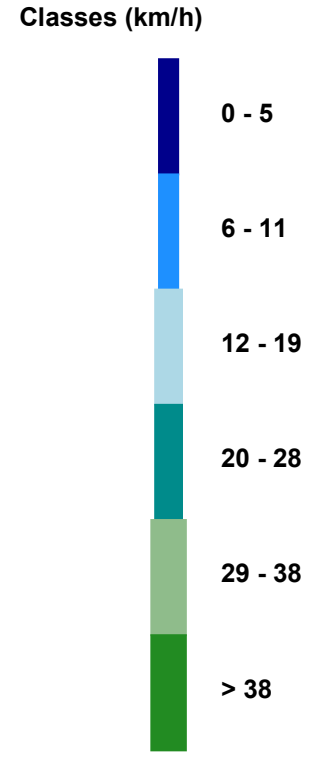
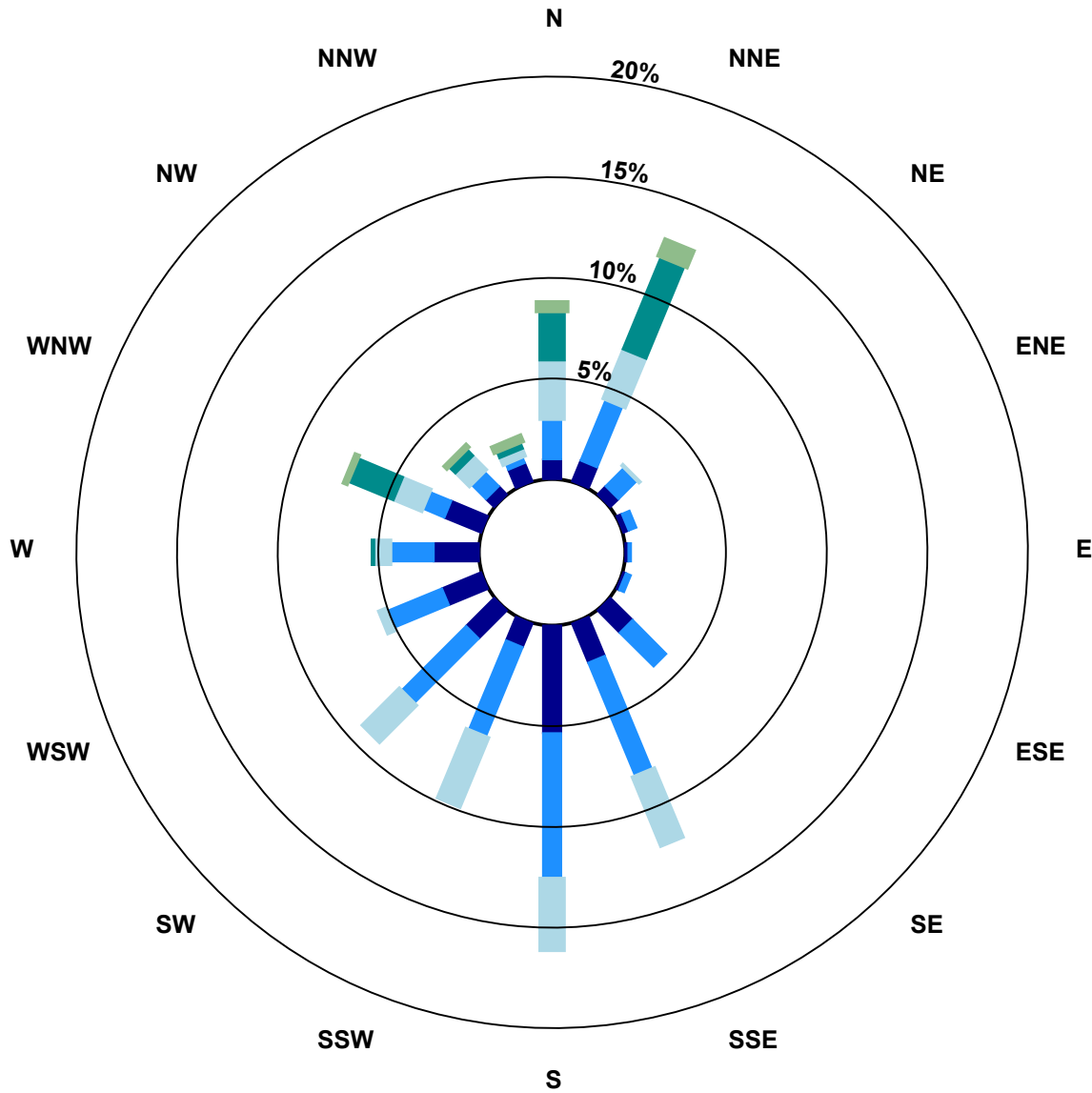
Total Number of Valid Hours: 711

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Wind Speed 10m (WS10) - km/h
Ells River



Total Number of Valid Hours: 711



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Speed 10m (WS10) - km/h
Ells River - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 9 km/h on Jan 29 10:00 Minimum Value: 0 km/h on Jan 1 08:00 Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 1 Median = 2 Q ₃ = 3 P ₉₀ = 4 P ₉₉ = 8														Hours in Service: 744 Hours of Data: 711 Hours of Missing Data: 33 Hours of Calibration: 0 Percent Operational Time: 95.6											
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	UO	UO	UO	UO	2	2	1	0	UO	UO	1	1	1	1	1	UO	UO	1	UO	UO	1	UO	UO	UO	2
2-Jan	UO	UO	UO	UO	UO	UO	1	UO	UO	UO	1	1	2	2	1	2	1	1	1	1	2	2	1	1	2
3-Jan	1	1	1	2	1	1	1	1	1	2	1	1	1	1	2	1	UO	1	1	2	2	2	1	2	
4-Jan	1	1	UO	1	UO	UO	2	1	3	2	3	2	3	2	2	3	2	1	1	1	1	2	2	2	
5-Jan	2	1	2	2	3	3	3	2	1	1	1	2	1	1	2	3	1	1	2	2	UO	1	1	1	
6-Jan	1	1	1	1	1	2	2	2	2	2	2	3	3	2	2	2	3	3	2	1	1	1	1	1	
7-Jan	1	1	1	2	2	1	1	1	2	1	2	2	2	2	2	3	4	3	4	3	3	2	2	3	
8-Jan	3	4	4	3	3	4	3	2	2	2	3	3	7	6	5	4	3	2	3	3	3	3	3	3	
9-Jan	3	4	4	3	3	3	2	2	2	2	2	3	2	1	2	1	1	2	1	2	1	1	2	1	
10-Jan	5	4	2	2	1	1	2	1	2	2	1	2	2	3	3	3	3	4	4	4	4	4	3	3	
11-Jan	3	3	4	2	3	4	2	2	1	2	2	2	2	2	2	1	2	1	2	2	1	1	1	1	
12-Jan	2	2	2	2	2	2	1	2	2	2	3	3	2	3	3	3	2	1	2	2	2	2	2	2	
13-Jan	1	1	1	1	2	2	2	2	2	2	2	3	2	4	3	2	2	1	1	4	3	3	2	2	
14-Jan	3	2	2	2	3	3	1	2	1	1	2	2	4	4	4	3	3	3	2	3	3	2	3	3	
15-Jan	2	2	3	3	3	2	2	3	5	3	3	3	3	2	1	1	2	1	2	2	3	1	1	1	
16-Jan	2	2	2	2	2	2	2	3	4	4	4	4	4	5	5	5	5	5	5	6	4	6	5	4	
17-Jan	3	3	2	2	3	1	1	1	1	1	1	4	1	2	1	1	4	3	2	4	2	2	1	1	
18-Jan	1	2	2	1	2	2	1	1	1	2	1	2	2	2	1	1	1	3	1	1	1	1	1	1	
19-Jan	1	1	2	1	1	1	1	2	1	2	1	1	1	1	1	3	1	0	1	1	3	1	2	1	
20-Jan	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	3	2	2	2	2	3	3	4	
21-Jan	5	3	4	3	3	4	3	5	4	3	4	7	2	3	4	4	4	4	3	3	3	1	3	2	
22-Jan	2	2	1	2	1	1	2	1	1	1	1	1	3	3	2	2	1	1	1	1	1	1	2	2	
23-Jan	1	2	2	UO	1	3	2	3	3	3	5	3	7	5	6	6	4	4	2	5	5	5	6	7	
24-Jan	6	6	6	7	8	8	8	7	5	5	3	4	3	3	3	2	2	2	2	3	2	2	3	8	
25-Jan	3	2	2	3	2	2	2	3	4	4	3	3	3	2	2	4	3	2	2	3	1	2	2	2	
26-Jan	3	3	3	3	4	3	3	3	2	2	2	3	2	3	2	2	2	1	3	2	2	4	3	3	
27-Jan	1	2	2	2	2	2	2	3	2	3	2	3	3	4	4	4	3	2	9	7	8	8	7	8	
28-Jan	6	6	5	4	5	5	5	5	5	6	7	8	8	6	4	6	5	3	3	2	1	2	2	2	
29-Jan	2	2	2	2	2	UO	2	UO	UO	9	4	4	4	3	3	4	4	4	4	3	3	3	4	3	
30-Jan	3	3	4	3	2	2	1	1	1	1	2	2	3	2	1	1	2	UO	UO	1	1	1	1	1	
31-Jan	1	1	1	1	1	1	1	3	2	3	2	2	2	3	3	4	3	3	3	3	4	3	4	4	
Diurnal Maximum																									
UO - Unstable Operation																									



Wood Buffalo Environmental Association
Summary of Hour Averages

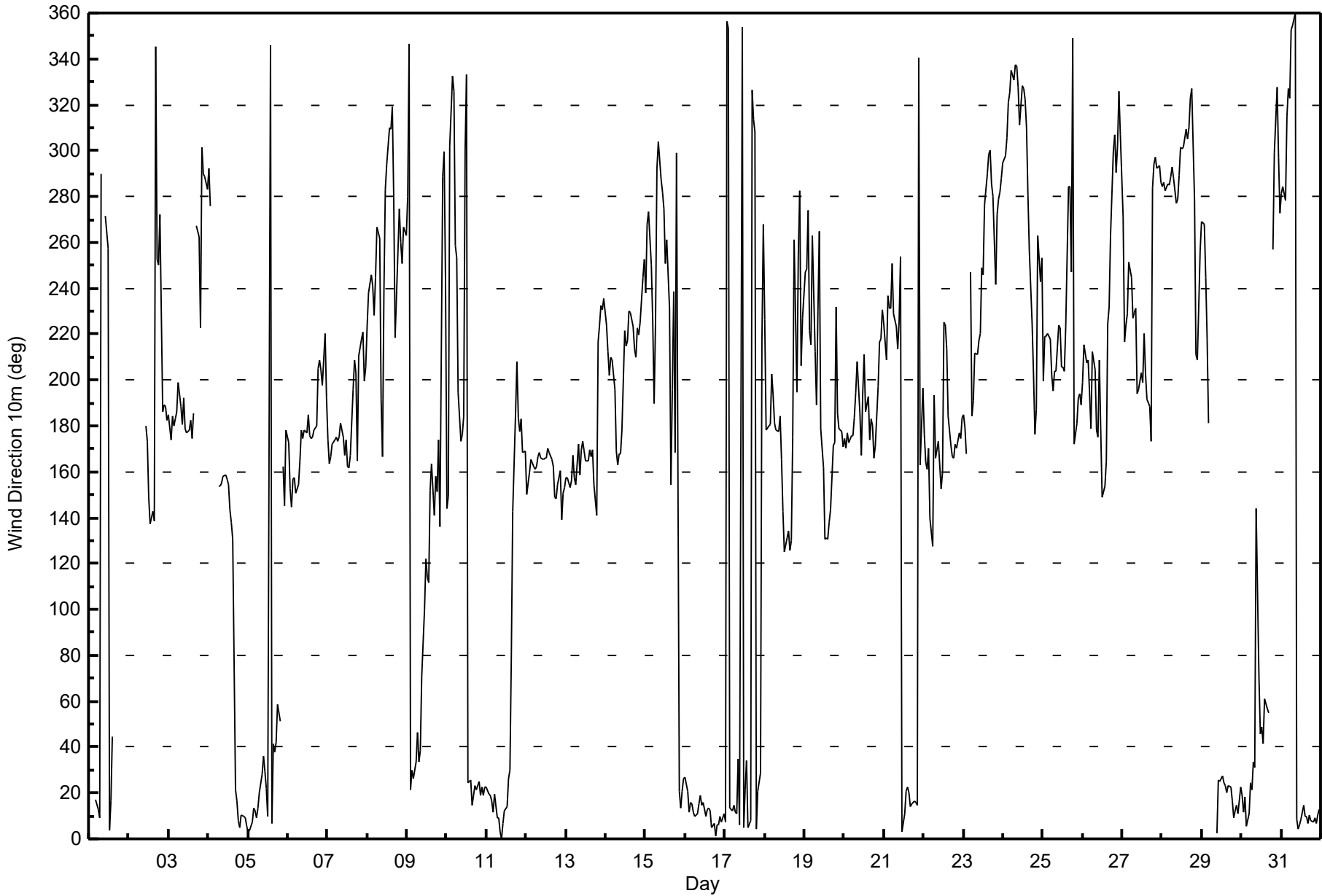
Wind Direction 10m (WD10) - deg
Ells River - January 2025

Direction of Maximum Speed: 13 deg on Jan 16 14:00	Hours in Service: 744
Direction of Maximum Daily Speed Average: 11.4 deg on Jan 16	Hours of Data: 711
Direction of Minimum Speed: 268 deg on Jan 18 00:00	Hours of Missing Data: 33
Direction of Minimum Daily Speed Average: 2.1 deg on Jan 4	Percent Operational Time: 95.6
Monthly Average Direction: 288.2 deg	

Day	Hourly Period Ending At (MST)																								Daily Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	UO	UO	UO	UO	17	13	9	290	UO	UO	272	258	4	17	44	UO	UO	257	UO	UO	264	UO	UO	UO	--
2-Jan	UO	UO	UO	UO	UO	UO	201	UO	UO	UO	180	173	149	137	143	139	345	253	250	272	186	189	189	182	--
3-Jan	185	174	184	180	183	186	199	189	181	192	179	177	178	182	175	185	UO	267	262	223	302	290	289	283	193.3
4-Jan	292	276	UO	342	UO	UO	154	154	155	158	158	157	154	144	138	131	21	16	8	5	10	10	9	5	77.2
5-Jan	3	4	7	13	12	9	13	20	28	36	30	22	10	346	7	42	38	42	58	51	UO	162	145	178	23.2
6-Jan	173	153	145	157	157	151	154	165	178	174	178	177	185	176	175	175	178	180	205	209	205	198	221	192	176.6
7-Jan	174	163	167	172	174	175	173	175	182	175	167	174	162	162	167	196	208	203	165	210	218	221	199	206	184.0
8-Jan	224	238	246	241	228	244	267	262	191	167	239	283	294	310	309	319	280	218	256	275	260	251	267	263	265.4
9-Jan	280	347	21	30	27	34	46	34	39	71	100	122	114	112	152	164	141	158	151	174	136	289	299	243	59.0
10-Jan	144	149	302	332	326	259	253	195	173	176	184	300	333	24	25	15	19	23	21	25	19	22	19	22	19.9
11-Jan	23	19	19	16	11	20	9	9	3	0	7	12	14	26	30	79	143	185	208	184	177	183	169	169	19.7
12-Jan	150	155	160	165	162	161	162	166	168	166	165	166	166	170	168	165	162	149	148	154	161	139	151	153	161.1
13-Jan	157	158	153	156	167	157	155	172	159	170	173	169	165	165	169	167	170	154	141	217	224	232	231	235	175.2
14-Jan	224	213	202	210	209	196	169	163	168	168	178	222	215	217	230	230	224	213	210	223	220	225	244	253	212.0
15-Jan	238	268	273	250	225	190	225	293	304	287	282	275	251	261	231	154	196	239	168	299	20	13	21	26	264.4
16-Jan	27	21	12	16	16	12	10	11	15	19	14	16	9	13	14	12	5	7	1	6	6	10	8	11	11.4
17-Jan	7	357	353	14	12	14	11	11	35	6	354	5	21	34	5	8	326	314	308	4	21	29	217	268	1.3
18-Jan	227	178	180	180	202	193	181	178	178	184	166	143	125	131	135	126	130	175	261	195	255	282	206	227	168.3
19-Jan	247	248	274	222	216	263	213	189	230	265	179	161	130	131	131	138	143	171	173	232	185	179	178	171	170.0
20-Jan	175	170	177	173	176	175	184	195	208	185	167	194	211	186	193	174	183	180	166	172	197	217	218	230	187.1
21-Jan	225	209	237	231	231	251	229	223	213	226	254	3	11	21	23	20	14	16	17	16	15	340	163	196	342.0
22-Jan	176	164	161	171	140	127	193	166	170	173	153	160	225	224	214	184	171	167	166	172	170	177	175	184	176.5
23-Jan	185	180	168	UO	247	185	191	212	211	218	220	249	246	277	290	298	300	285	280	242	272	279	282	288	262.0
24-Jan	295	298	305	321	325	335	331	337	337	328	311	328	327	322	310	281	256	224	202	176	187	263	243	253	315.2
25-Jan	200	219	219	220	218	202	195	204	204	224	223	206	206	204	223	284	284	247	349	172	181	192	194	189	214.2
26-Jan	199	215	208	209	195	179	212	204	178	175	209	178	149	154	165	225	232	263	300	307	290	302	326	307	210.4
27-Jan	271	217	224	229	251	245	227	229	231	194	196	203	199	220	203	191	188	173	284	294	297	292	294	286	250.8
28-Jan	284	286	282	286	285	289	293	288	277	279	289	302	301	301	310	305	310	323	327	278	211	209	232	256	289.5
29-Jan	269	268	245	218	181	UO	199	UO	UO	2	26	25	28	24	23	20	23	23	16	9	12	14	11	22	16.1
30-Jan	19	11	18	6	11	24	21	33	31	144	71	46	49	42	61	57	55	UO	UO	257	299	328	297	273	20.4
31-Jan	281	284	278	315	327	323	352	354	360	9	4	6	8	15	10	10	7	11	8	7	9	7	10	13	5.5

255.1 259.7 266.3 269.8 283.4 266.3 250.8 250.6 205.8 211.3 219.9 295.4 325.4 352.4 351.7 347.2 340.8 350.7 354.4 320.1 307.2 298.1 298.7 288.6
 Diurnal Average

UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods





Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg
Ells River - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 95 deg on Jan 21 23:00 Minimum Value: 4 deg on Jan 20 01:00 Percentiles: P ₁ = 6 P ₁₀ = 8 Q ₁ = 10 Median = 15 Q ₃ = 22 P ₉₀ = 41 P ₉₉ = 81																	Hours in Service: 744 Hours of Data: 711 Hours of Missing Data: 33 Hours of Calibration: 0 Percent Operational Time: 95.6								
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	UO	UO	UO	UO	23	10	24	24	UO	UO	16	16	20	11	24	UO	UO	46	UO	UO	12	UO	UO	UO	46
2-Jan	UO	UO	UO	UO	UO	UO	24	UO	UO	UO	11	16	21	12	7	44	10	44	39	48	16	12	24	10	48
3-Jan	7	12	11	54	11	15	10	19	13	14	9	14	15	17	35	23	UO	66	47	73	41	41	27	24	73
4-Jan	12	26	UO	35	UO	UO	89	15	11	10	10	11	13	12	9	35	10	13	6	7	8	10	10	13	89
5-Jan	10	10	11	10	8	11	8	14	11	13	12	16	14	20	19	19	12	16	12	17	UO	16	20	18	20
6-Jan	23	8	8	11	14	12	11	12	15	13	12	15	16	14	11	13	14	17	20	13	14	12	20	29	29
7-Jan	10	7	9	11	20	13	7	8	9	9	12	11	10	12	11	14	14	15	42	33	18	19	11	19	42
8-Jan	21	19	18	28	17	27	19	21	21	47	41	16	23	14	12	14	42	73	77	22	24	20	18	20	77
9-Jan	15	42	15	10	7	11	9	10	15	28	23	63	11	12	24	16	10	18	10	17	16	78	18	53	78
10-Jan	10	41	16	33	35	44	15	32	12	16	37	53	29	9	9	8	10	9	8	9	8	9	9	9	53
11-Jan	8	8	9	9	9	10	9	10	9	10	10	11	17	22	25	37	45	67	75	22	14	14	27	13	75
12-Jan	7	9	9	10	9	9	9	10	11	10	11	11	11	11	11	12	10	7	8	9	15	23	28	26	28
13-Jan	17	12	14	10	7	7	7	11	10	12	15	12	12	20	15	12	9	20	15	28	17	16	14	14	28
14-Jan	17	19	13	11	11	18	12	11	16	20	35	33	19	19	20	21	19	16	14	17	18	17	17	20	35
15-Jan	17	37	20	25	37	16	19	31	86	33	39	23	43	29	24	28	18	16	90	49	15	9	15	7	90
16-Jan	6	10	11	6	9	6	5	7	6	7	7	6	10	10	10	10	15	13	13	12	9	9	11	9	15
17-Jan	11	13	20	7	10	7	10	11	9	13	22	13	13	10	20	13	18	13	11	35	78	71	58	86	86
18-Jan	36	20	47	42	22	21	19	14	17	13	9	21	14	8	6	12	16	87	66	38	56	14	73	44	87
19-Jan	79	52	27	65	78	42	55	49	61	54	27	78	8	8	7	21	14	46	15	46	24	5	5	5	79
20-Jan	4	5	6	7	6	4	9	10	14	19	9	19	19	13	11	11	12	10	13	15	19	20	22	22	22
21-Jan	18	16	18	18	22	30	23	57	33	23	45	38	11	10	8	8	9	7	8	9	16	62	95	10	95
22-Jan	10	14	12	12	40	44	14	18	7	10	10	22	22	17	19	13	6	9	6	12	9	19	27	24	44
23-Jan	24	36	10	UO	82	82	38	21	16	25	34	76	24	21	16	14	11	14	17	23	21	19	15	15	82
24-Jan	13	13	14	11	12	11	12	12	10	12	11	10	11	12	12	19	19	31	31	20	76	27	34	31	76
25-Jan	31	36	17	17	18	17	11	12	20	17	14	18	20	14	33	19	17	37	77	34	10	11	14	17	77
26-Jan	18	16	17	17	19	20	16	13	13	12	16	13	14	15	15	30	24	11	24	11	15	14	14	25	30
27-Jan	33	36	28	23	33	15	15	32	30	30	28	23	20	17	15	15	11	11	61	15	15	14	14	16	61
28-Jan	16	16	16	14	15	14	14	15	17	17	15	16	11	12	15	16	31	20	21	59	15	13	14	17	59
29-Jan	18	12	25	60	80	UO	48	UO	UO	50	8	8	9	9	9	8	8	8	9	8	8	8	10	8	80
30-Jan	9	9	11	10	7	9	7	11	46	31	39	22	15	13	18	10	27	UO	UO	50	21	28	17	12	50
31-Jan	11	22	26	27	21	20	16	11	12	9	9	10	8	8	10	9	9	8	9	10	8	10	7	7	27
79 52 47 65 82 82 89 57 86 54 45 78 43 29 35 44 45 87 90 73 78 78 95 86																								Diurnal Maximum	
UO - Unstable Operation																									



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS31 BLACKROD JANAURY 2025

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

February 28, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - BLACKROD (AMS31)
 JANUARY 2025

MONTHLY SUMMARY

Parameter	Hours of Data	Hours of Calibration	Hours without Data	Operational Time	Maximum 1-Hour Value	1-Hour Exceedances	Maximum 24-Hour Value	24-Hour Exceedances
SO2 (ppb) Average	709	35	35	100	6.2	0	2.5	0
H2S (ppb) Average	707	37	37	100	0.8	0	0.4	0
NO2 (ppb) Average	707	37	37	100	46.1	0	15.9	-
NO (ppb) Average	707	37	37	100	58.7	-	22.1	-
NOX (ppb) Average	707	37	37	100	104.8	-	38.1	-
Temperature 2 m (C) Average	744	0	0	100	6.5	-	2.8	-
Relative Humidity (%) Average	744	0	0	100	98.4	-	90.1	-
Wind Speed 10 m (km/h) Average	538	0	206	72.31	36	-	22	-
Wind Direction 10 m (deg) Average	538	0	206	72.31	-	-	-	-

Note : Operational time includes periods of data collection and instrument calibration

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - BLACKROD (AMS31)
JANUARY 2025

MONTHLY SUMMARY FOR AIR QUALITY/ METEOROLOGICAL MONITORING MEASUREMENTS

Parameter	Number	Mean	StnDev	Total	Percentile						
					Min	P10	Q1	Median	Q3	P90	Max
SO2 (ppb) Average	709	0.27	0.6	-	0	0	0	0.1	0.2	0.5	6.2
H2S (ppb) Average	707	0.16	0.1	-	0	0.1	0.1	0.1	0.2	0.3	0.8
NO2 (ppb) Average	707	6.47	5.8	-	0.2	1.2	2.3	4.8	8.6	14.1	46.1
NO (ppb) Average	707	6.54	8.5	-	0	0.1	0.4	2.3	11	18.5	58.7
NOX (ppb) Average	707	13.01	13.6	-	0.4	1.5	3.1	7.7	19.7	31.7	104.8
Temperature 2 m (C) Average	744	-9.72	9.5	-	-31.9	-23	-18.4	-7.8	-1.9	1.8	6.5
Relative Humidity (%) Average	744	75.4	12.8	-	36.5	56.2	71.3	77.8	83.1	89.9	98.4
Wind Speed 10 m (km/h) Average	538	13.2	7	-	0	5	8	12	18	23	36
Wind Direction 10 m (deg) Average	538	-	-	-	-	-	-	-	-	-	-

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - BLACKROD 2/3 (AMS31)
 JANUARY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
Wind Speed, Wind Direction	11 Jan 2025 00:00	14 Jan 2025 12:00	85	Flat line in sensor output signal
Wind Speed, Wind Direction	16 Jan 2025 14:00	20 Jan 2025 13:00	96	Flat line in sensor output signal
Wind Speed, Wind Direction	20 Jan 2025 14:00	20 Jan 2025 14:00	1	Maintenance - tower lowered to de-ice the WS sensor
Wind Speed, Wind Direction	22 Jan 2025 17:00	22 Jan 2025 18:00	2.3	Flat line in sensor output signal
Wind Speed, Wind Direction	24 Jan 2025 18:00	24 Jan 2025 20:00	3	Flat line in sensor output signal
Wind Speed, Wind Direction	25 Jan 2025 13:00	25 Jan 2025 13:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	25 Jan 2025 20:00	25 Jan 2025 20:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	29 Jan 2025 17:00	29 Jan 2025 23:00	7	Flat line in sensor output signal
Wind Speed, Wind Direction	30 Jan 2025 16:00	31 Jan 2025 01:00	10	Flat line in sensor output signal



Number of Exceedences (AAAQO):		1-hr: 0		24-hr: 0		Hours in Service: 744														Daily Average		Daily Maximum					
Maximum Value: 6.2 ppb on Jan 11 05:00		Maximum Daily Average: 2.5 ppb on Jan 11		Hours of Data: 709														Hours of Missing Data: 35		Hours of Calibration: 35							
Minimum Value: 0.0 ppb on Jan 1 01:00		Minimum Daily Average: 0.0 ppb on Jan 31		Hours of Calibration: 35														Percent Operational Time: 100.0									
Maximum Diurnal Average: 0.4 ppb at hour 7		Minimum Diurnal Average: 0.1 ppb at hour 20		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.2 P ₉₀ = 0.5 P ₉₉ = 3.0																							
Monthly Average: 0.27 ppb																											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.6	0.5	0.1	0.0	0.0	0.1	0.2	0.0	0.0	0.3	0.4	0.6	0.0	0.4	0.3	0.0	0.0	0.2	0.6	
2-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.3	
3-Jan	0.0	0.4	0.8	Z	0.3	0.4	0.6	0.6	0.3	0.5	0.5	0.2	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.2	0.8	
4-Jan	0.1	0.2	0.2	0.1	Z	0.2	0.2	0.2	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.0	0.1	0.2	
5-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.2	0.3	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3	
6-Jan	Z	0.3	0.5	0.4	0.5	0.3	0.2	0.2	0.3	0.2	0.2	0.3	0.3	0.2	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	
7-Jan	0.3	Z	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.1	0.2	0.1	0.2	0.3	0.2	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.3	
8-Jan	0.1	0.0	Z	0.1	0.1	0.2	0.3	0.5	0.4	0.3	0.2	0.2	0.0	0.0	0.1	0.1	0.2	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.5	
9-Jan	0.2	0.1	0.2	Z	0.1	0.4	0.5	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.1	0.1	0.1	2.1	2.1	1.4	0.4	2.1	
10-Jan	1.3	1.5	0.8	0.4	Z	0.5	0.6	0.5	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.1	0.2	0.3	0.2	0.2	0.2	0.3	0.7	0.4	1.5	
11-Jan	1.4	2.4	2.9	5.5	6.2	Z	3.6	4.3	2.9	3.1	2.3	3.0	3.1	3.2	2.7	2.7	2.6	2.6	2.0	0.8	0.5	0.3	0.3	0.2	2.5	6.2	
12-Jan	Z	0.4	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.2	0.2	0.4	
13-Jan	0.2	Z	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	
14-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	
15-Jan	0.0	0.1	0.1	Z	0.1	0.1	0.3	0.3	0.4	0.2	0.2	0.1	0.1	0.1	0.3	0.2	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.4	
16-Jan	0.1	0.6	0.4	0.2	Z	0.1	0.1	0.2	0.1	0.1	0.0	0.1	0.3	0.1	0.0	0.3	0.1	0.0	0.0	0.1	0.8	1.4	0.6	0.1	0.3	1.4	
17-Jan	0.0	0.0	0.0	0.0	0.7	Z	0.5	0.0	0.0	0.0	0.2	0.0	0.3	0.4	0.3	0.5	0.1	0.6	0.5	0.5	0.5	1.1	1.1	0.3	0.3	1.1	
18-Jan	Z	0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.3	0.2	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.3	
19-Jan	0.0	Z	0.1	0.2	0.1	0.0	0.3	0.2	0.3	0.4	0.3	0.4	0.4	0.5	0.5	0.6	0.4	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.6	
20-Jan	0.0	0.0	Z	0.0	0.0	0.0	2.3	2.4	1.7	1.7	1.5	1.4	1.3	1.2	1.0	0.8	0.5	0.4	0.2	0.1	0.1	0.0	0.1	0.1	0.7	2.4	
21-Jan	0.0	0.3	0.2	Z	0.2	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.2	0.0	0.1	0.1	0.0	0.1	0.3	
22-Jan	0.0	0.1	0.2	0.2	Z	0.1	0.3	0.1	0.1	0.2	0.1	0.2	0.3	0.3	0.3	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.1	0.2	0.2	0.3	
23-Jan	0.2	0.1	0.1	0.0	0.0	Z	0.0	0.0	0.0	0.2	0.2	0.1	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.2	
24-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	
25-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	
26-Jan	0.1	0.1	Z	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.2	0.2	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.1	0.3	
27-Jan	0.2	0.2	0.3	Z	0.2	0.3	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.4	
28-Jan	0.1	0.1	0.2	0.1	Z	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.2	
29-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.3	0.9	0.8	2.0	1.2	0.2	2.0	
30-Jan	Z	0.8	1.3	1.6	1.9	2.0	2.4	1.4	0.6	0.2	0.1	0.4	1.3	1.4	0.9	C	C	C	C	0.1	0.1	0.2	0.1	0.0	0.9	2.4	
31-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
																								Diurnal Average		Diurnal Maximum	
																								0.2		1.4	
																								0.3		2.4	
																								0.3		2.9	
																								0.4		5.5	
																								0.4		6.2	
																								0.2		2.0	
																								0.4		3.6	
																								0.4		4.3	
																								0.3		2.9	
																								0.3		3.1	
																								0.2		2.3	
																								0.3		3.0	
																								0.3		3.1	
																								0.3		3.2	
																								0.3		2.7	
																								0.3		2.7	
																								0.2		2.6	
																								0.2		2.6	
																								0.2		2.0	
																								0.1		0.8	
																								0.2		0.9	
																								0.3		2.1	
																								0.3		2.1	
																								0.2		1.4	

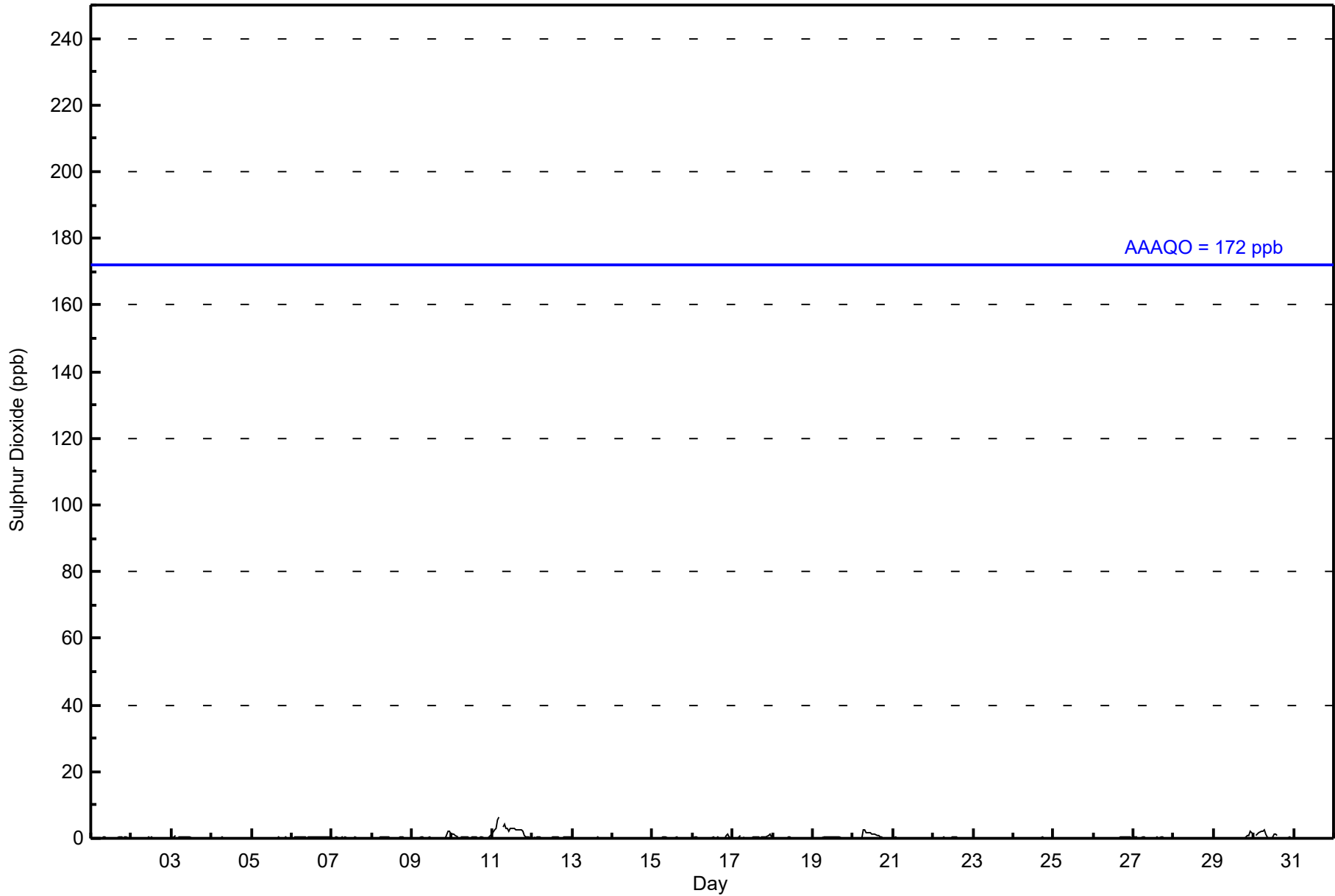
Z - zerospan C - Calibration

Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb



Wood Buffalo Environmental Association
Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Blackrod - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Blackrod - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	709	100.00	100.00
11 - 20	0	0.00	100.00
21 - 60	0	0.00	100.00
61 - 110	0	0.00	100.00
111 - 172	0	0.00	100.00
> 172	0	0.00	100.00

Total Number of Valid Hours: 709

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Blackrod - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 10	19	16	11	3	1	4	18	93	132	13	6	9	41	77	33	39	515
11 - 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 - 60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61 - 110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111 - 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	19	16	11	3	1	4	18	93	132	13	6	9	41	77	33	39	515

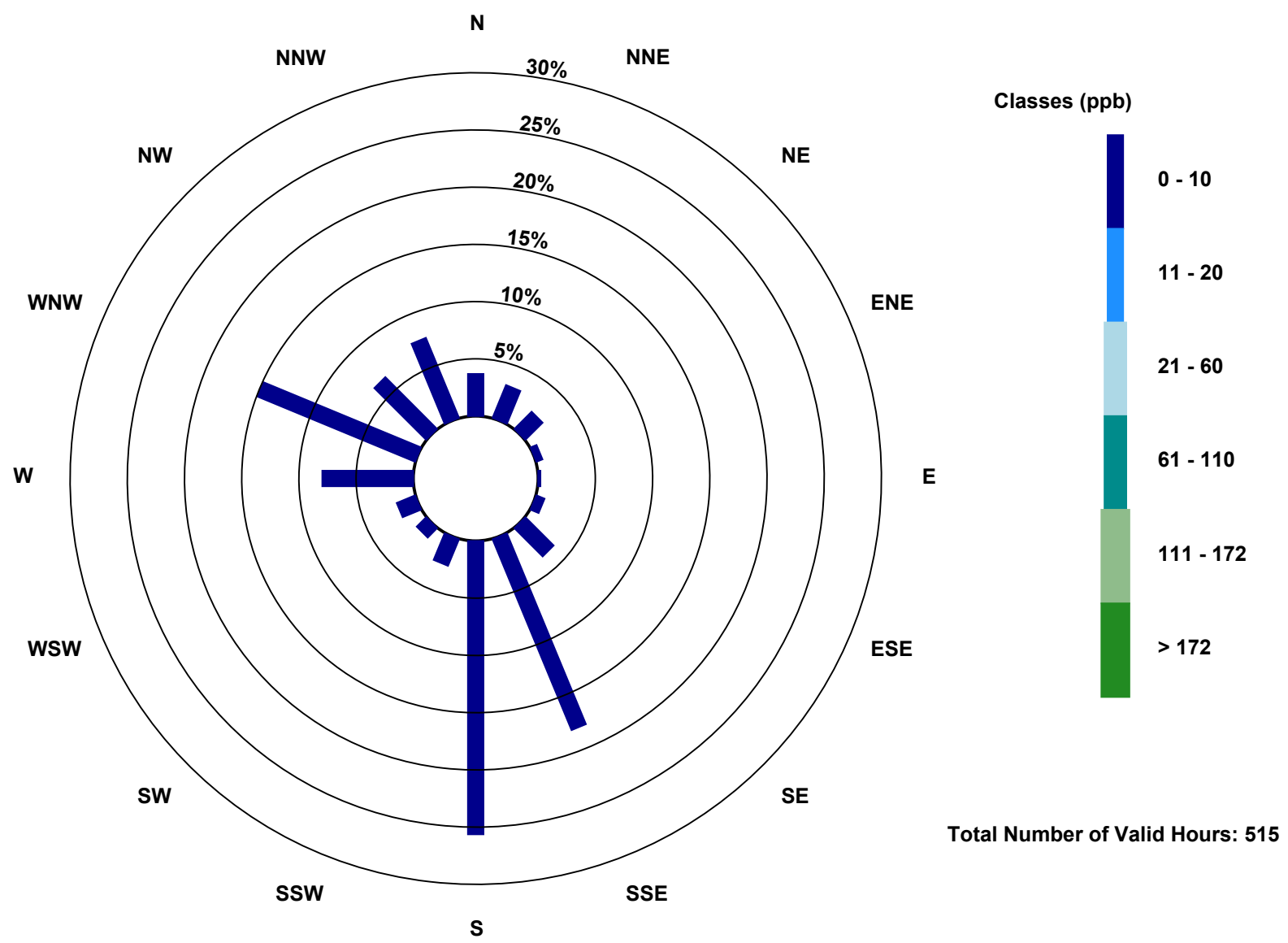
Total Number of Valid Hours: 515

Total Number of Hours: 744

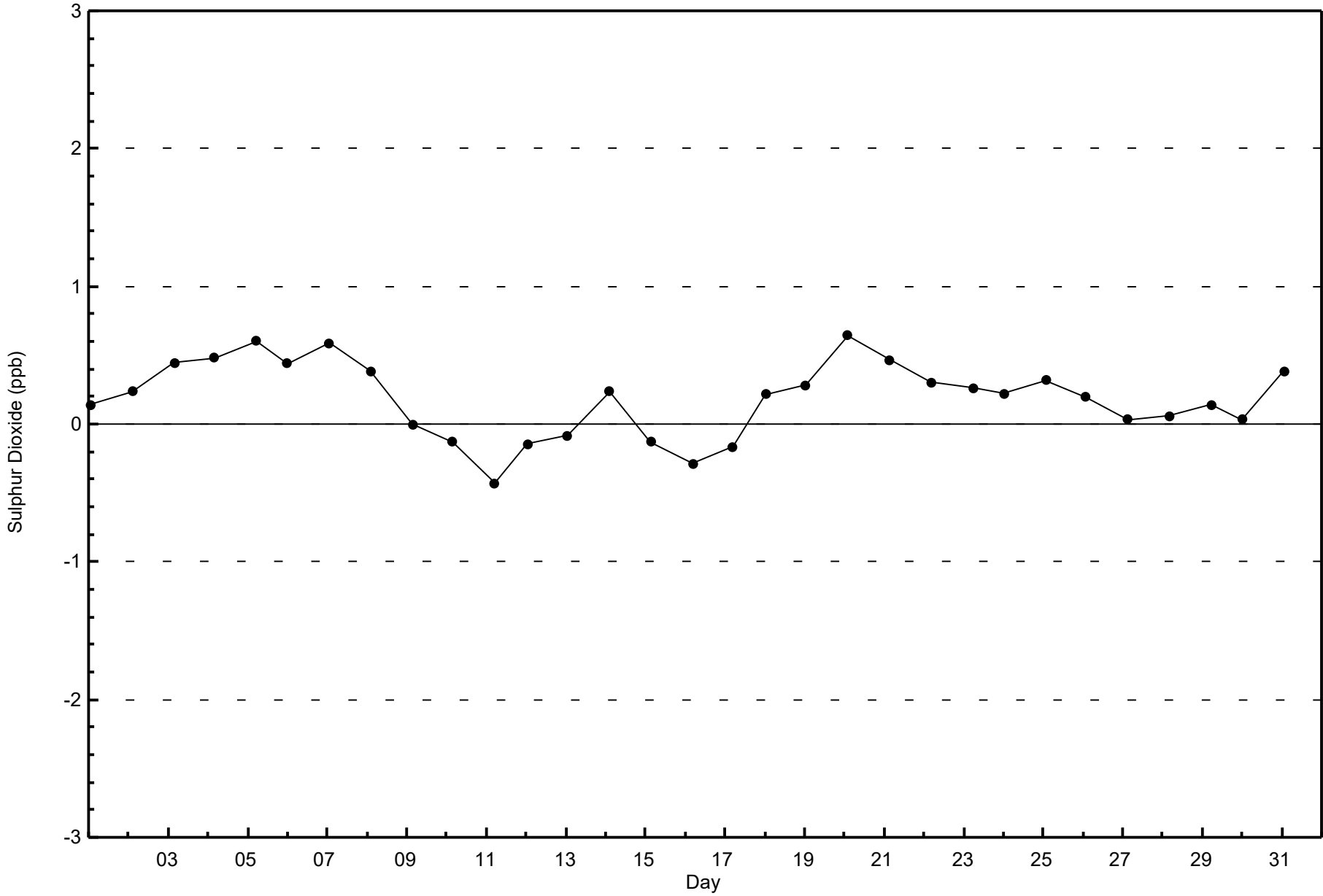


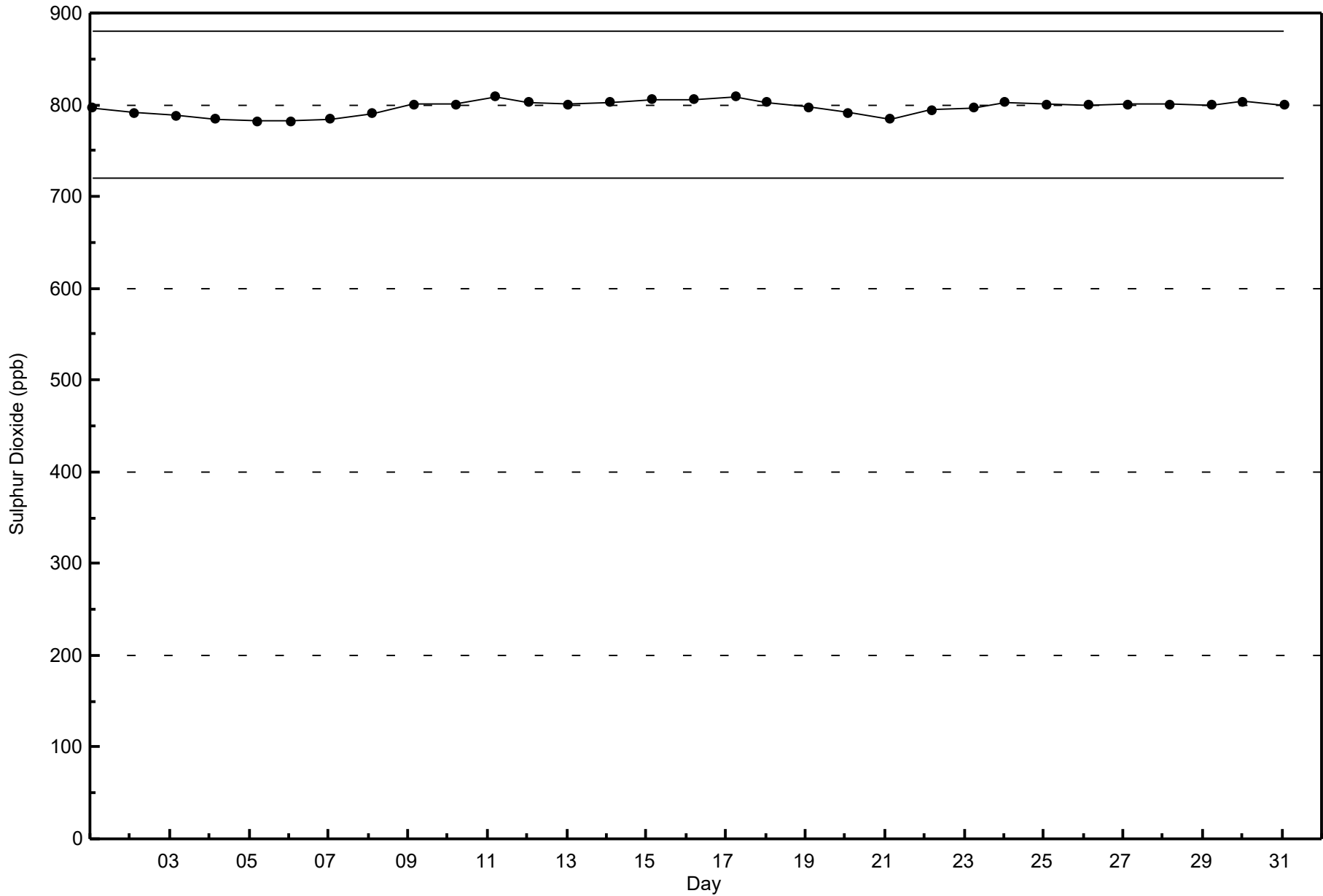
Wood Buffalo Environmental Association
Wind Rose Jan 2025

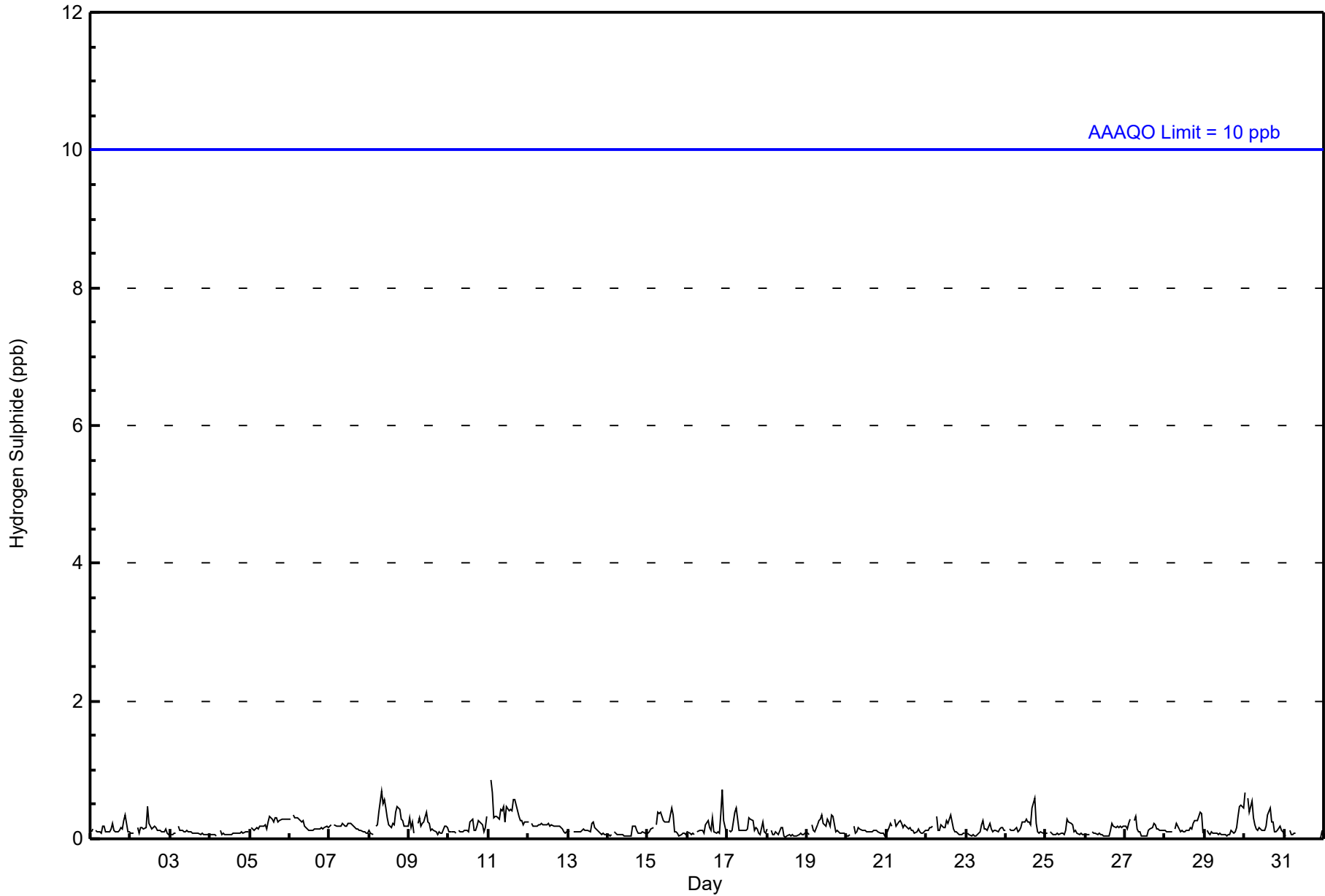
Sulphur Dioxide (SO₂) - ppb
Blackrod



Total Number of Valid Hours: 515









**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Hydrogen Sulphide (H₂S) - ppb
Blackrod - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	707	100.00	100.00
3 - 4	0	0.00	100.00
5 - 7	0	0.00	100.00
8 - 11	0	0.00	100.00
> 11	0	0.00	100.00

Total Number of Valid Hours: 707

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Hydrogen Sulphide (H₂S) - ppb
Blackrod - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2	19	17	10	3	1	3	17	88	132	13	7	8	41	77	33	40	509
3 - 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 - 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 - 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	19	17	10	3	1	3	17	88	132	13	7	8	41	77	33	40	509

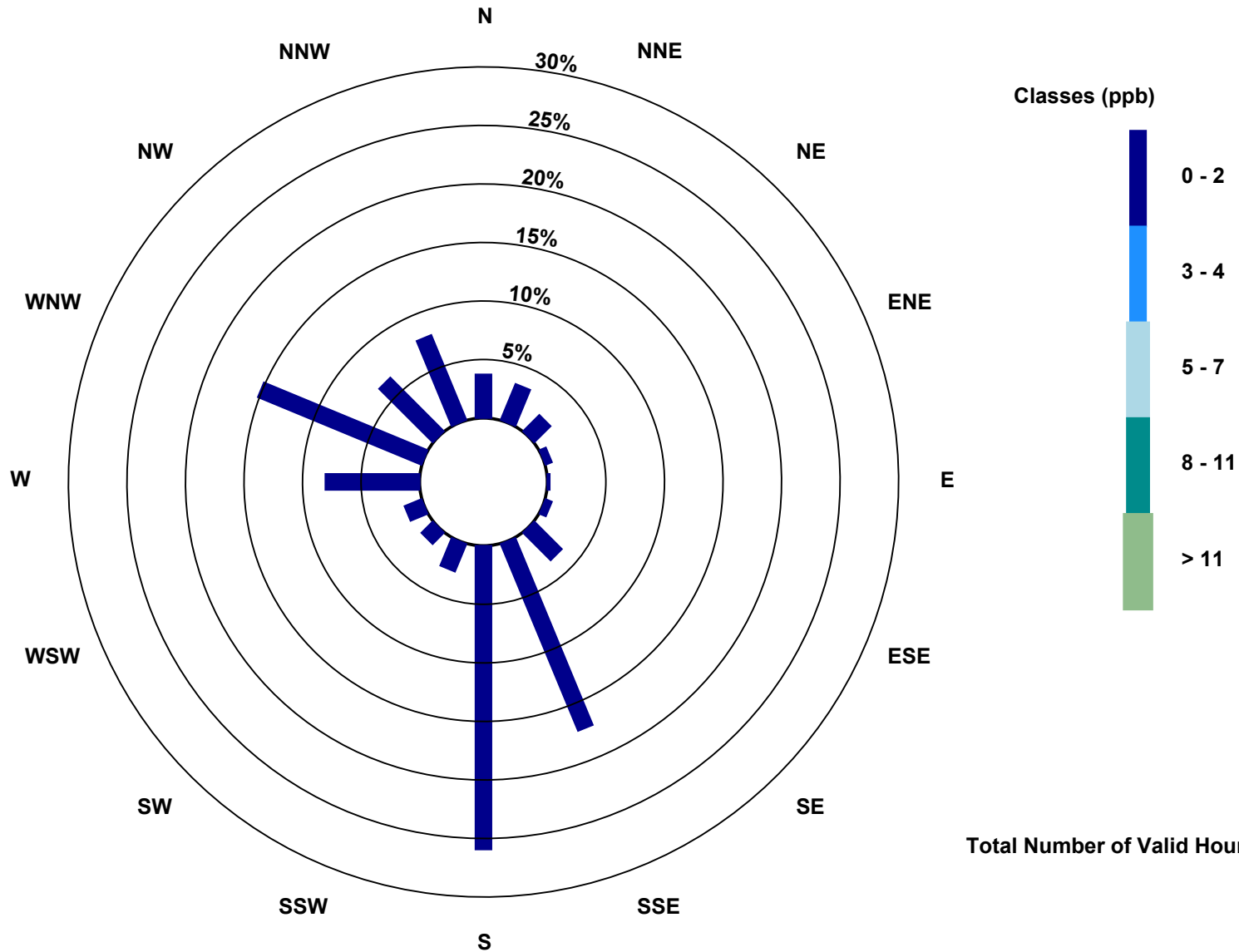
Total Number of Valid Hours: 509

Total Number of Hours: 744

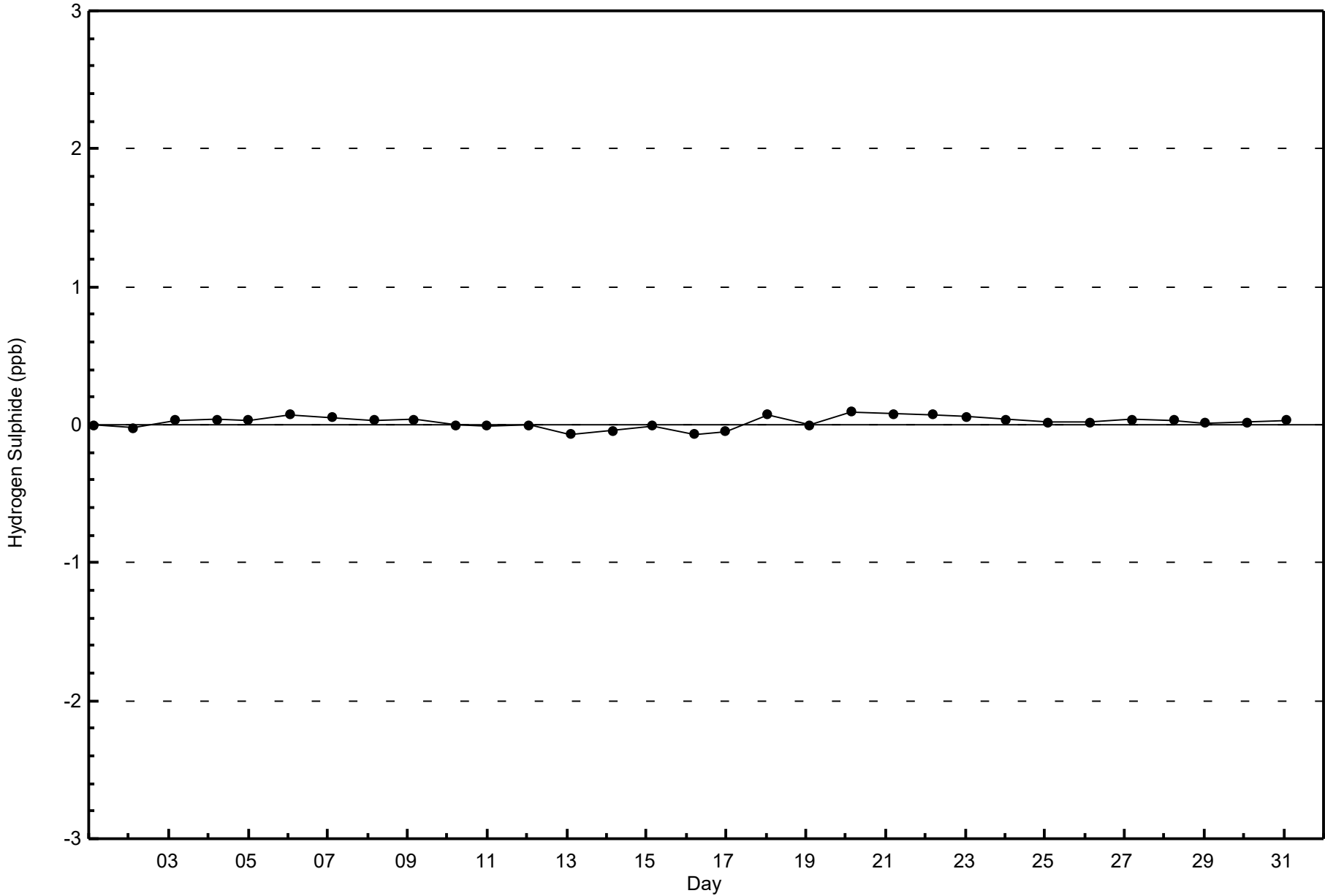


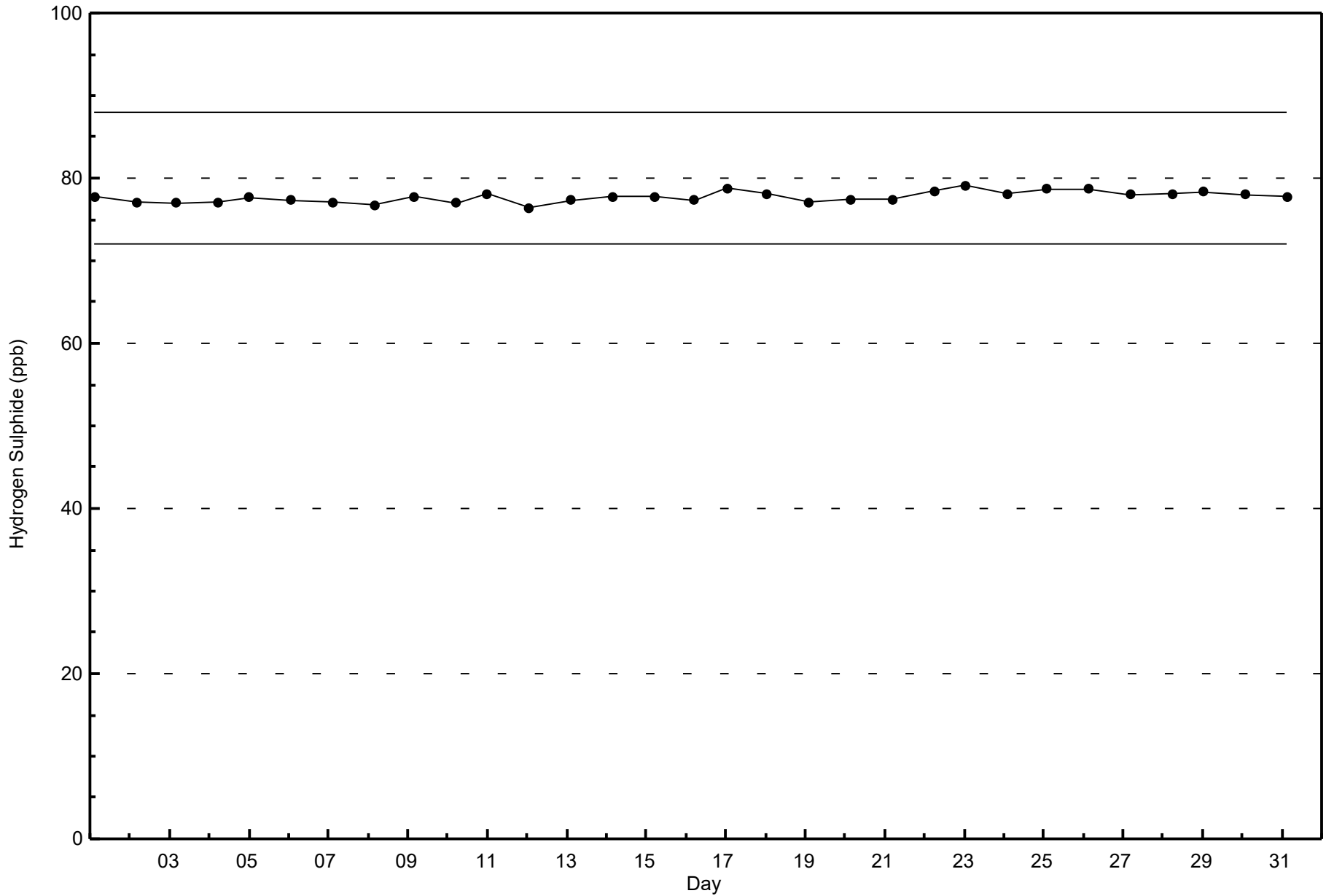
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Hydrogen Sulphide (H₂S) - ppb
Blackrod



Total Number of Valid Hours: 509







Wood Buffalo Environmental Association
Summary of Hour Averages

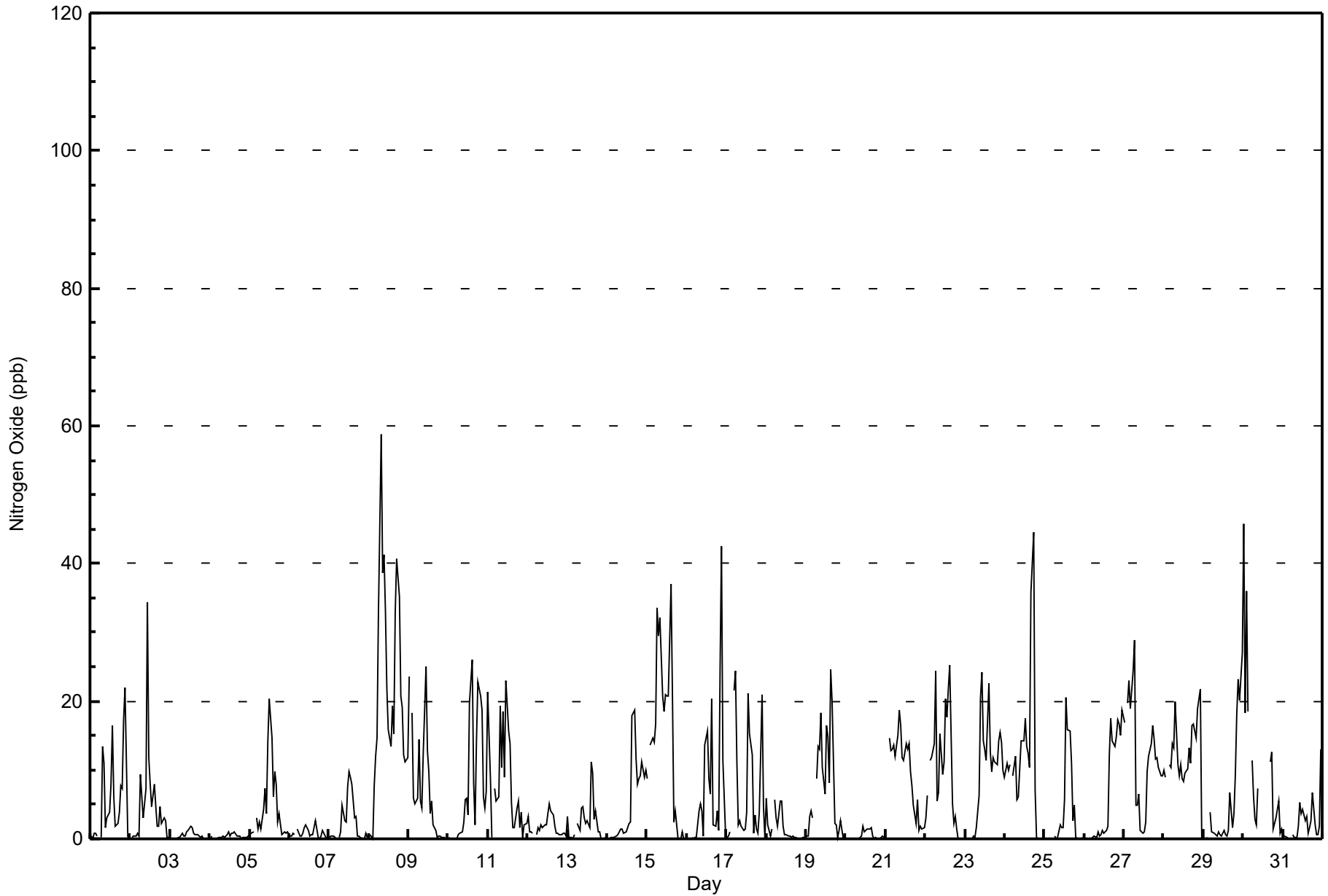
Nitrogen Oxide (NO) - ppb
Blackrod - January 2025

Maximum Value: 58.7 ppb on Jan 8 08:00		Maximum Daily Average: 22.1 ppb on Jan 8		Hours in Service: 744																																												
Minimum Value: 0.0 ppb on Jan 10 00:00		Minimum Daily Average: 0.4 ppb on Jan 4		Hours of Data: 707																																												
Maximum Diurnal Average: 9.5 ppb at hour 15		Minimum Diurnal Average: 2.4 ppb at hour 2		Hours of Missing Data: 37																																												
Monthly Average: 6.54 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.4 Median = 2.3 Q ₃ = 11.0 P ₉₀ = 18.5 P ₉₉ = 37.0		Hours of Calibration: 37																																												
				Percent Operational Time: 100.0																																												
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Jan	0.4	0.0	0.9	0.7	0.3	Z	0.3	13.4	10.9	1.7	3.0	3.8	7.9	16.5	6.1	1.7	2.3	3.8	7.8	7.3	17.3	22.0	0.3	0.5	5.6	22.0																						
2-Jan	Z	0.2	0.5	0.3	0.9	0.4	9.3	6.1	3.1	7.4	34.3	11.9	7.9	4.7	7.9	4.6	1.9	1.9	4.6	2.3	3.0	2.6	0.1	0.1	5.0	34.3																						
3-Jan	0.0	Z	0.1	0.0	0.0	0.3	0.2	0.9	0.3	0.5	1.1	1.3	1.9	1.6	0.9	0.6	0.6	0.6	0.2	0.4	0.0	0.0	0.0	0.0	0.5	1.9																						
4-Jan	0.0	0.3	Z	0.0	0.0	0.1	0.3	0.3	0.3	0.2	0.6	0.9	0.5	0.8	0.8	1.0	0.4	0.5	0.5	0.1	0.3	0.1	0.3	0.3	0.4	1.0																						
5-Jan	0.7	0.9	1.1	Z	3.1	1.4	2.5	1.3	4.3	7.2	3.7	14.0	20.4	14.7	6.2	9.7	8.0	2.5	3.7	0.7	0.9	1.1	0.8	1.0	4.8	20.4																						
6-Jan	0.5	0.4	0.8	0.7	Z	1.3	0.4	0.3	0.9	1.5	2.1	1.2	0.3	0.6	0.5	1.7	2.7	0.3	0.1	0.3	1.2	0.9	0.1	0.2	0.8	2.7																						
7-Jan	0.2	0.4	0.4	0.4	0.0	Z	0.3	0.9	5.0	2.7	2.5	7.5	9.8	8.9	7.8	3.1	3.3	0.3	0.5	0.1	0.1	0.1	0.7	0.2	2.4	9.8																						
8-Jan	Z	0.6	0.0	7.7	12.0	14.6	32.7	58.7	38.7	41.3	33.2	22.0	15.8	13.5	19.3	15.2	32.9	40.6	35.2	20.7	19.2	12.3	11.1	11.7	22.1	58.7																						
9-Jan	23.6	Z	18.3	5.9	5.1	5.8	14.4	5.5	4.5	12.5	25.1	12.8	9.8	3.7	5.5	2.0	1.2	0.2	0.5	0.4	0.2	0.2	0.1	0.0	6.8	25.1																						
10-Jan	0.0	0.1	Z	0.1	0.0	0.1	0.7	0.8	1.1	2.4	5.8	5.9	3.4	19.6	26.1	8.2	2.1	14.0	22.7	20.7	18.8	6.2	4.5	7.0	7.4	26.1																						
11-Jan	21.4	8.8	0.3	Z	7.3	5.5	6.0	19.3	10.4	18.4	8.9	23.1	15.6	13.8	5.4	1.7	1.6	4.4	5.4	1.6	3.8	0.3	1.9	2.3	8.1	23.1																						
12-Jan	3.2	1.1	1.0	0.7	Z	0.7	1.6	1.2	2.1	1.6	2.1	2.0	3.8	5.1	4.1	3.4	1.8	0.7	0.8	0.6	0.6	0.8	0.7	0.4	1.7	5.1																						
13-Jan	3.2	0.2	0.2	0.0	0.6	Z	2.2	1.3	4.5	4.7	3.0	2.3	2.7	1.6	11.3	9.6	2.9	4.0	1.1	0.9	0.0	0.1	0.1	0.3	2.5	11.3																						
14-Jan	Z	0.1	0.1	0.1	0.2	0.3	0.6	1.0	1.4	1.3	0.7	1.1	1.6	2.2	2.4	17.8	18.6	11.7	8.0	8.8	9.1	11.1	9.0	9.9	5.1	18.6																						
15-Jan	8.7	Z	13.6	14.6	14.1	16.7	33.7	29.4	32.2	20.7	18.5	20.9	20.8	20.7	37.0	20.6	2.3	4.0	2.1	0.1	0.0	1.1	0.0	0.1	14.4	37.0																						
16-Jan	0.1	0.0	Z	0.1	0.1	0.2	0.2	4.1	5.1	4.1	0.5	13.6	15.7	8.7	6.5	20.4	2.0	1.8	4.0	1.3	24.7	42.5	11.4	0.2	7.3	42.5																						
17-Jan	0.2	0.4	0.9	Z	21.5	24.4	11.2	2.0	2.7	1.7	1.1	1.5	4.0	21.1	15.2	12.1	0.9	3.5	1.3	0.8	3.9	20.9	4.7	0.2	6.8	24.4																						
18-Jan	6.0	2.0	0.4	1.4	Z	5.6	3.0	1.7	5.4	5.5	1.9	0.6	0.7	0.4	0.5	0.2	0.3	0.2	0.1	0.1	0.0	0.0	0.2	0.2	1.6	6.0																						
19-Jan	0.4	0.4	3.2	4.1	3.0	Z	8.7	13.4	13.0	18.3	10.3	6.6	16.4	14.9	8.2	24.6	20.0	2.3	2.1	0.2	1.2	2.6	0.1	0.0	7.6	24.6																						
20-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	1.8	1.0	1.2	1.4	1.5	1.7	0.5	0.1	0.3	0.1	0.0	0.1	0.4	0.2	0.5	1.8																						
21-Jan	0.2	Z	14.6	12.8	13.0	13.5	12.1	15.1	18.6	16.5	11.8	11.4	13.8	12.9	13.9	9.7	7.8	5.0	2.3	5.6	1.1	1.9	1.4	1.6	9.4	18.6																						
22-Jan	3.1	6.3	Z	11.5	11.7	13.8	24.5	5.6	6.6	15.2	9.4	11.2	20.4	17.7	21.7	25.3	5.1	2.3	3.3	1.5	0.1	0.1	0.0	0.0	9.4	25.3																						
23-Jan	0.0	0.0	0.0	Z	0.0	0.4	0.2	1.6	6.2	20.5	24.1	14.3	13.0	11.4	22.5	12.7	9.8	11.7	11.3	10.9	14.3	15.4	14.0	10.0	9.8	24.1																						
24-Jan	9.0	11.1	10.0	10.8	Z	9.2	12.0	5.6	6.1	10.2	14.1	14.3	17.6	13.5	12.5	10.5	35.8	44.4	7.2	0.1	0.0	0.0	0.0	0.0	11.0	44.4																						
25-Jan	0.0	0.0	0.0	0.1	0.0	Z	0.4	0.1	0.1	2.1	1.6	1.6	5.7	20.5	15.8	15.6	11.0	2.6	5.0	0.2	0.0	0.0	0.0	0.1	3.6	20.5																						
26-Jan	Z	0.0	0.0	0.0	0.0	0.2	0.4	0.2	1.1	0.4	0.6	1.1	0.8	1.1	1.9	12.3	17.5	14.2	13.5	14.8	17.3	16.7	15.0	18.7	6.4	18.7																						
27-Jan	16.9	Z	19.7	23.0	18.9	24.5	28.9	5.0	4.9	6.6	1.2	0.8	1.0	2.4	9.8	12.1	13.8	16.5	14.5	11.6	11.9	10.4	9.3	9.2	11.9	28.9																						
28-Jan	10.1	9.0	Z	10.8	10.4	13.8	13.2	19.9	10.9	9.2	10.7	8.7	8.4	9.6	10.1	13.2	10.9	16.5	16.6	14.7	19.0	20.4	21.9	0.0	12.5	21.9																						
29-Jan	0.0	0.0	0.2	Z	3.8	1.1	0.7	0.5	0.4	1.1	0.5	0.3	1.3	0.6	0.4	1.1	6.8	1.6	3.7	9.3	18.1	23.1	20.2	27.0	5.3	27.0																						
30-Jan	45.7	18.4	36.0	18.5	Z	11.5	6.0	2.8	2.1	7.3	C	C	C	C	C	C	11.1	12.5	1.5	2.3	3.1	5.5	0.8	1.4	--	45.7																						
31-Jan	0.2	0.4	0.3	0.0	0.0	Z	0.6	0.2	0.2	1.8	5.2	3.7	4.3	2.6	3.3	0.9	1.6	2.6	6.7	2.1	0.7	0.6	1.8	12.9	2.3	12.9																						
																								5.9	2.4	4.7	4.8	4.8	6.6	7.3	7.0	6.6	7.9	8.0	7.4	8.2	8.9	9.5	9.1	7.7	7.3	6.0	4.5	6.1	7.1	4.2	3.7	Diurnal Average
																								45.7	18.4	36.0	23.0	21.5	24.5	33.7	58.7	38.7	41.3	34.3	23.1	20.8	21.1	37.0	25.3	35.8	44.4	35.2	20.7	24.7	42.5	21.9	27.0	Diurnal Maximum
Z - zerospan																								C - Calibration																								



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxide (NO) - ppb
Blackrod - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Nitrogen Oxide (NO) - ppb
Blackrod - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	656	92.79	92.79
21 - 40	45	6.36	99.15
41 - 80	6	0.85	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 707

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Oxide (NO) - ppb
Blackrod - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	13	14	10	2	1	4	17	94	130	12	5	6	34	60	28	40	470
21 - 40	3	0	0	1	0	0	0	1	0	1	1	2	7	16	4	0	36
11 - 80	1	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	4
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	17	14	10	3	1	4	17	95	130	13	6	8	43	77	32	40	510

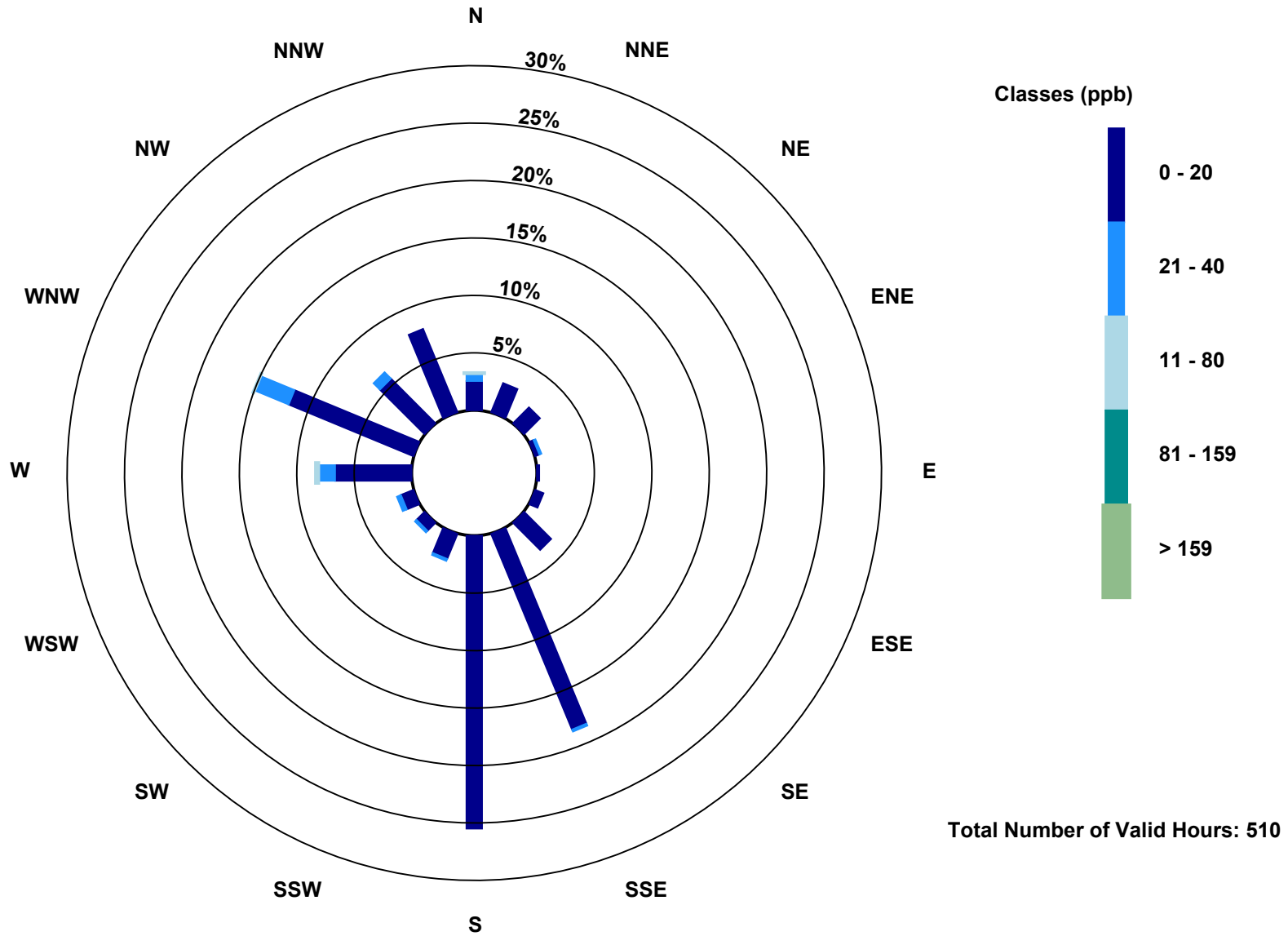
Total Number of Valid Hours: 510

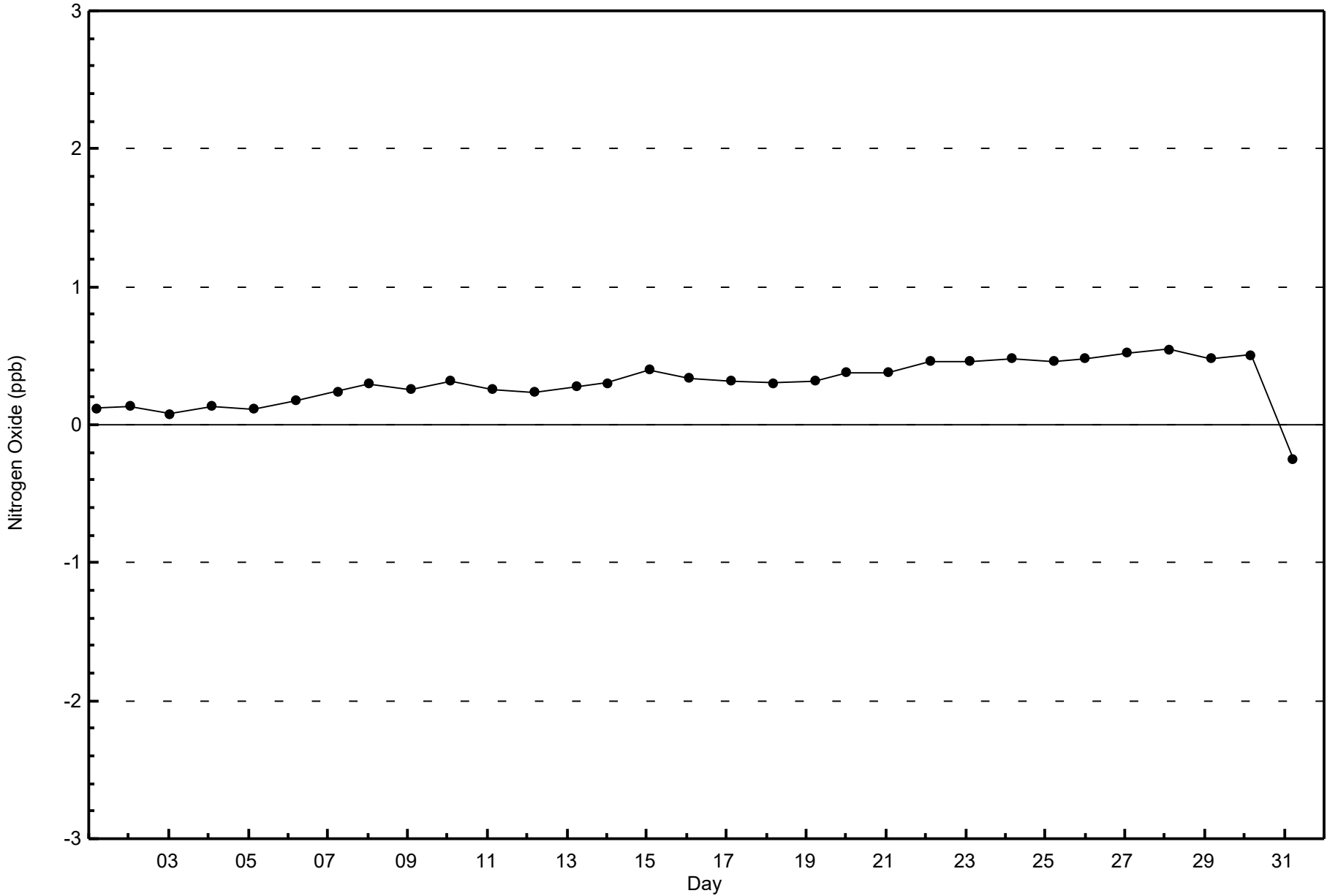
Total Number of Hours: 744

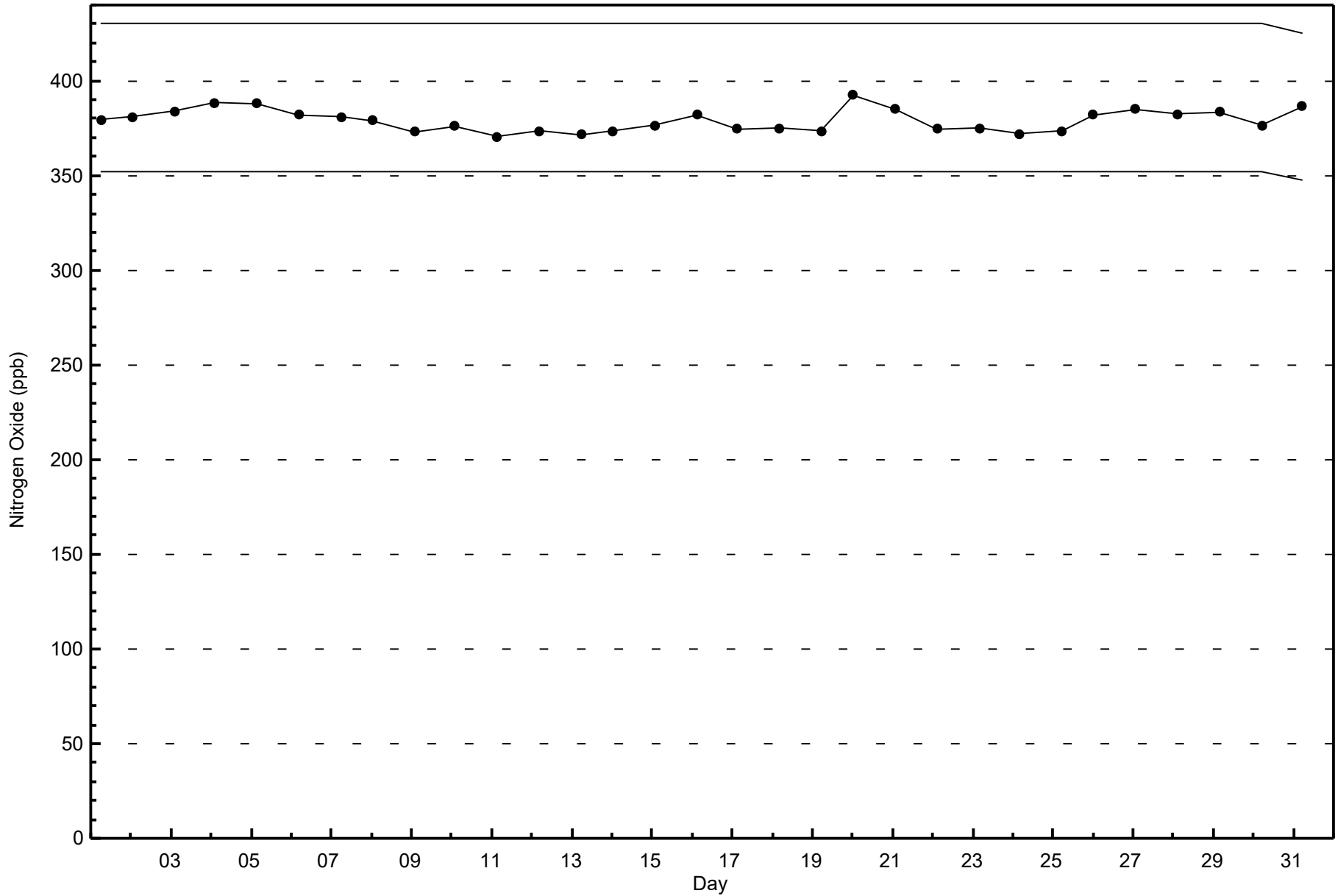


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Oxide (NO) - ppb
Blackrod





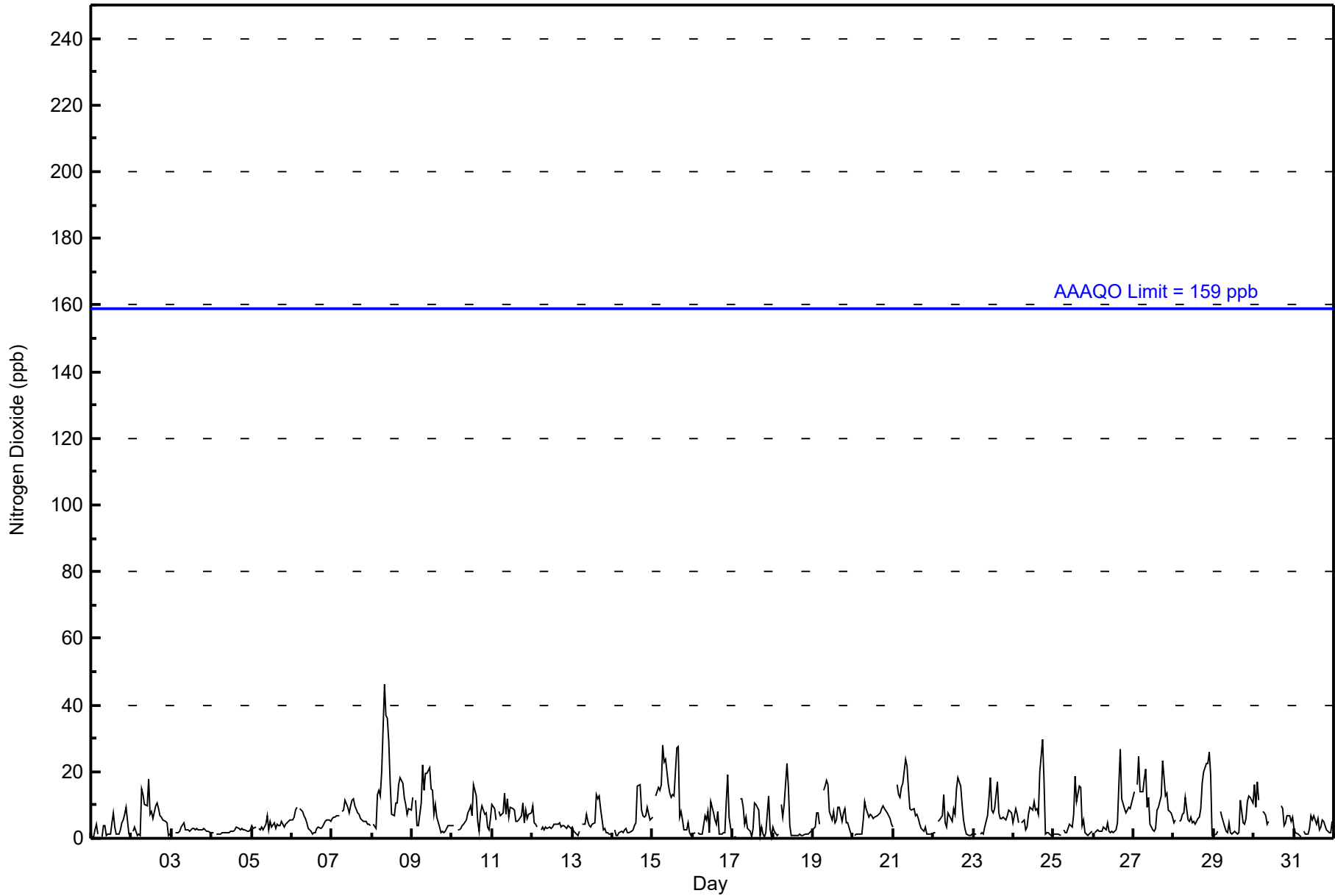




Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 46.1 ppb on Jan 8 08:00	Maximum Daily Average: 15.9 ppb on Jan 8		Hours of Data:	707
Minimum Value: 0.2 ppb on Jan 17 01:00	Minimum Daily Average: 2.1 ppb on Jan 4		Hours of Missing Data:	37
Maximum Diurnal Average: 9.0 ppb at hour 8	Minimum Diurnal Average: 3.3 ppb at hour 2		Hours of Calibration:	37
Monthly Average: 6.47 ppb	Percentiles: P ₁ = 0.6 P ₁₀ = 1.2 Q ₁ = 2.3 Median = 4.8 Q ₃ = 8.6 P ₉₀ = 14.1 P ₉₉ = 27.1		Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0.6	0.5	2.4	4.1	1.4	Z	0.6	4.0	3.9	1.0	1.3	1.4	4.6	7.7	3.5	1.1	1.1	2.4	4.5	5.5	7.2	9.4	1.4	0.8	3.1	9.4
2-Jan	Z	2.2	3.3	1.0	1.3	0.9	14.8	13.3	10.2	9.7	17.7	7.1	8.2	5.8	9.8	10.6	8.8	6.6	6.4	5.4	5.1	4.8	1.0	1.1	6.7	17.7
3-Jan	0.9	Z	1.8	1.9	1.5	2.0	3.3	4.6	2.7	2.6	2.7	2.3	2.8	2.9	2.7	2.9	2.7	2.6	2.7	3.1	2.6	2.2	2.0	1.9	2.5	4.6
4-Jan	1.6	1.8	Z	1.3	1.2	1.4	1.5	1.5	1.6	1.5	1.9	2.3	2.0	2.3	2.7	3.6	2.9	2.7	2.8	2.5	2.4	2.2	2.1	2.6	2.1	3.6
5-Jan	3.7	2.9	3.3	Z	2.9	2.6	3.6	2.5	4.1	6.8	2.5	5.1	3.6	4.8	2.8	4.4	4.0	4.0	5.1	3.4	4.3	4.7	4.9	5.7	4.0	6.8
6-Jan	5.5	6.4	8.4	9.5	Z	9.1	7.9	6.6	5.8	4.5	3.0	2.0	1.3	1.6	1.8	3.1	3.4	2.8	3.3	4.1	5.2	5.5	5.3	5.1	4.8	9.5
7-Jan	5.9	6.3	6.5	6.6	6.6	Z	7.9	8.4	11.6	9.4	7.8	9.6	11.6	11.8	9.6	7.8	7.2	5.9	5.4	5.1	4.9	4.3	4.3	3.7	7.3	11.8
8-Jan	Z	4.3	3.0	13.3	14.3	12.9	20.0	46.1	36.8	36.0	29.4	16.9	7.2	6.8	10.4	10.5	16.0	18.2	16.4	12.4	10.3	7.4	9.0	8.6	15.9	46.1
9-Jan	12.4	Z	11.3	4.0	4.0	10.8	22.1	14.2	19.5	19.4	21.2	14.7	14.5	7.0	10.0	6.5	3.5	1.5	2.0	1.9	2.2	3.9	3.9	3.7	9.3	22.1
10-Jan	3.8	3.8	Z	2.7	2.7	2.9	3.7	4.1	5.6	7.5	8.3	9.6	6.7	16.0	12.7	5.1	2.3	7.6	9.6	7.1	7.7	3.6	2.4	5.8	6.1	16.0
11-Jan	10.2	9.0	5.5	Z	7.9	6.9	7.7	13.5	7.2	11.8	6.2	9.4	9.0	8.3	5.0	5.0	5.5	6.7	10.6	4.6	8.6	6.0	7.3	7.6	7.8	13.5
12-Jan	9.7	4.6	4.1	3.4	Z	2.5	3.4	2.6	3.5	3.0	3.2	3.0	3.4	4.1	4.3	4.3	4.5	3.4	3.9	3.7	3.0	3.9	3.5	3.1	3.8	9.7
13-Jan	3.3	2.1	1.3	0.8	2.1	Z	4.3	4.1	7.3	5.2	3.7	3.2	4.2	4.8	13.0	12.0	12.7	8.9	2.6	3.1	1.5	1.6	1.4	1.3	4.5	13.0
14-Jan	Z	2.4	1.0	0.8	1.5	2.0	1.8	2.5	2.9	1.8	1.5	2.0	2.6	3.8	4.5	15.6	16.2	8.5	6.6	6.4	6.8	9.5	5.6	5.8	4.9	16.2
15-Jan	6.3	Z	12.6	15.2	14.6	16.1	27.9	22.7	23.8	16.1	13.6	12.3	13.0	12.6	27.1	27.7	6.4	8.2	5.3	2.7	2.7	4.7	1.5	0.8	12.8	27.9
16-Jan	1.1	1.7	Z	1.7	1.1	1.3	1.4	6.6	5.3	7.9	1.9	10.9	7.5	5.5	4.2	8.2	1.1	1.3	1.8	1.8	10.9	19.2	6.3	0.3	4.7	19.2
17-Jan	0.2	0.4	0.3	Z	11.8	11.8	9.5	4.4	6.4	2.8	2.2	0.6	2.8	10.4	10.0	8.5	1.0	3.2	1.1	0.6	1.8	12.8	3.0	0.4	4.6	12.8
18-Jan	3.4	2.3	0.7	1.1	Z	10.1	6.2	10.1	22.6	15.4	3.9	0.8	0.9	0.8	0.8	0.8	1.1	1.0	0.9	1.2	1.3	1.2	1.7	2.0	3.9	22.6
19-Jan	3.1	3.2	7.5	7.6	4.1	Z	14.4	15.6	17.5	16.3	8.0	5.5	8.1	4.8	5.5	9.5	9.3	4.9	7.6	9.0	4.6	4.5	1.9	0.6	7.5	17.5
20-Jan	Z	0.8	1.3	1.4	1.3	1.2	5.7	11.1	8.9	6.5	7.2	6.7	6.1	6.5	6.6	7.2	7.8	9.0	9.6	9.1	7.8	6.8	5.9	4.2	6.0	11.1
21-Jan	3.5	Z	16.1	13.0	12.4	15.2	16.7	23.9	21.7	15.0	8.7	8.4	8.7	6.6	7.0	5.9	4.2	3.1	2.2	3.2	1.2	1.2	1.1	1.2	8.7	23.9
22-Jan	1.7	1.9	Z	5.2	5.5	6.8	13.1	4.5	3.4	7.7	5.8	5.1	8.8	7.1	14.7	18.3	15.5	10.2	5.4	2.8	1.1	1.0	0.9	1.1	6.4	18.3
23-Jan	1.2	1.2	1.2	Z	1.1	1.5	1.3	3.4	6.7	11.9	18.3	8.6	7.6	8.8	16.8	7.6	6.0	5.8	6.4	5.5	6.9	8.3	8.0	7.5	6.6	18.3
24-Jan	4.6	8.9	7.3	4.5	Z	4.8	5.4	2.6	3.4	7.0	9.4	8.6	10.9	8.3	8.9	7.2	20.0	29.8	17.2	1.2	1.9	1.6	0.7	1.0	7.6	29.8
25-Jan	1.2	1.1	1.1	1.1	1.0	Z	2.7	1.6	1.9	4.3	4.0	3.5	7.4	18.5	11.2	15.8	15.1	3.7	5.7	1.6	1.0	1.3	1.5	2.1	4.7	18.5
26-Jan	Z	1.6	2.5	2.2	2.1	2.3	3.3	2.5	4.5	2.2	1.6	2.2	1.9	2.5	4.6	16.1	26.7	11.9	8.8	7.8	8.3	9.2	8.9	10.4	6.3	26.7
27-Jan	14.1	Z	16.0	24.7	14.0	13.8	18.0	20.8	9.5	12.1	4.1	2.7	2.1	2.8	8.6	9.2	12.7	23.4	18.2	12.5	13.4	8.6	7.7	6.2	12.0	24.7
28-Jan	4.7	5.4	Z	5.0	5.3	7.0	7.7	12.3	5.7	5.1	6.4	4.6	5.0	4.4	6.1	6.4	8.8	16.6	20.0	22.6	22.4	26.0	19.0	0.9	9.9	26.0
29-Jan	0.8	1.1	2.0	Z	8.0	6.3	3.2	2.3	1.9	4.6	1.8	1.4	2.1	1.5	1.2	1.8	11.6	4.6	4.1	5.8	11.2	12.8	12.2	10.7	4.9	12.8
30-Jan	15.9	9.2	17.1	11.3	Z	8.2	7.8	6.6	4.4	4.9	C	C	C	C	C	C	9.7	9.0	3.9	4.6	6.7	6.8	4.9	6.3	--	17.1
31-Jan	2.9	1.9	1.4	0.9	0.6	Z	2.1	1.2	1.1	3.0	6.9	5.6	6.7	4.3	6.1	2.6	3.3	5.3	5.0	2.6	2.1	1.6	1.8	4.9	3.2	6.9
	4.7	3.3	5.3	5.6	5.0	6.4	8.0	9.0	8.8	8.5	7.1	5.9	6.0	6.4	7.7	8.2	8.1	7.5	6.6	5.3	5.7	6.3	4.6	3.8		Diurnal Average
	15.9	9.2	17.1	24.7	14.6	16.1	27.9	46.1	36.8	36.0	29.4	16.9	14.5	18.5	27.1	27.7	26.7	29.8	20.0	22.6	22.4	26.0	19.0	10.7		Diurnal Maximum

Z - zerospan C - Calibration
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Blackrod - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	685	96.89	96.89
21 - 40	21	2.97	99.86
41 - 80	1	0.14	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 707

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Dioxide (NO₂) - ppb
Blackrod - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	16	14	10	3	1	4	17	94	130	12	5	5	33	74	32	40	490
21 - 40	1	0	0	0	0	0	0	1	0	1	1	3	9	3	0	0	19
11 - 80	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	17	14	10	3	1	4	17	95	130	13	6	8	43	77	32	40	510

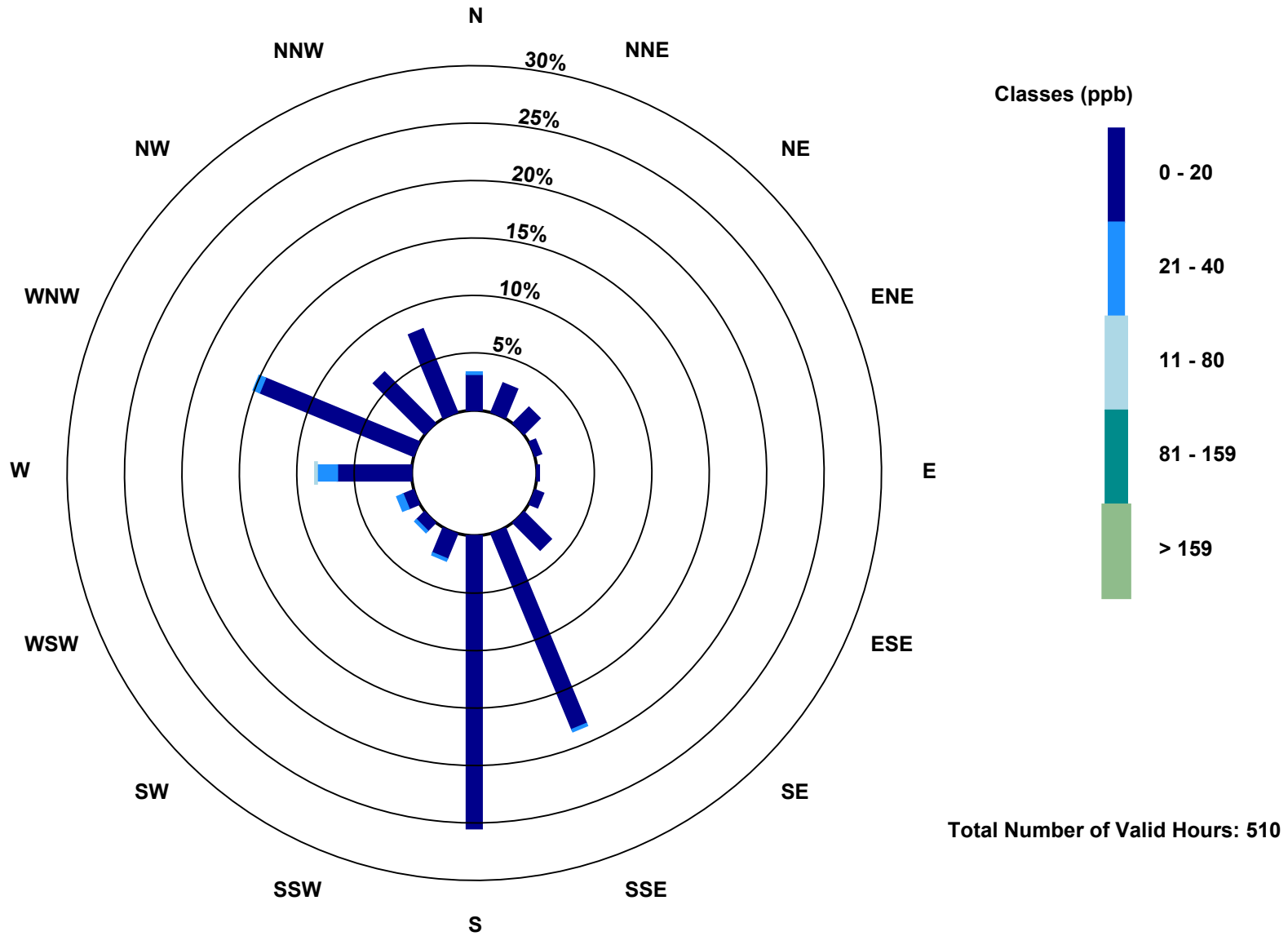
Total Number of Valid Hours: 510

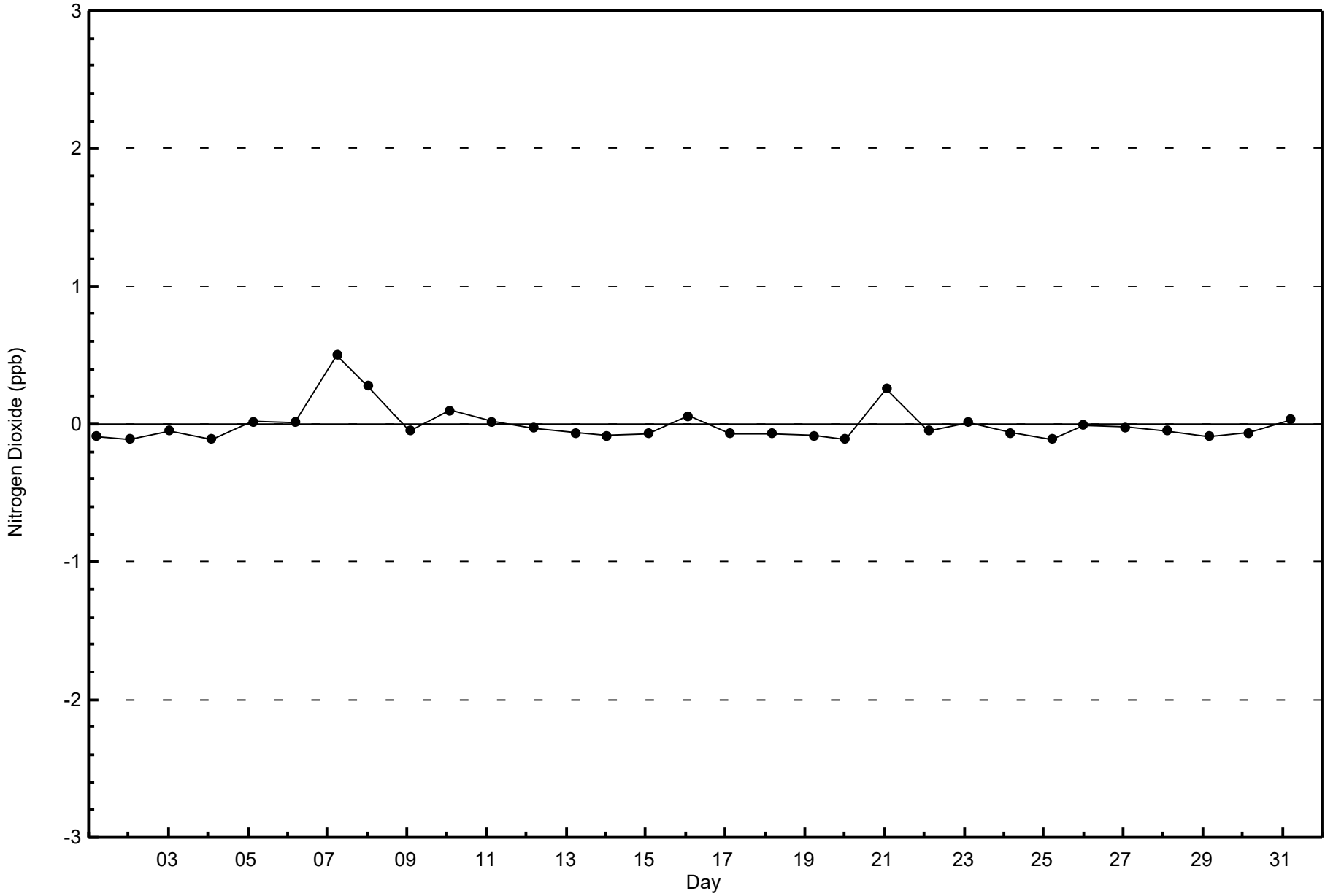
Total Number of Hours: 744

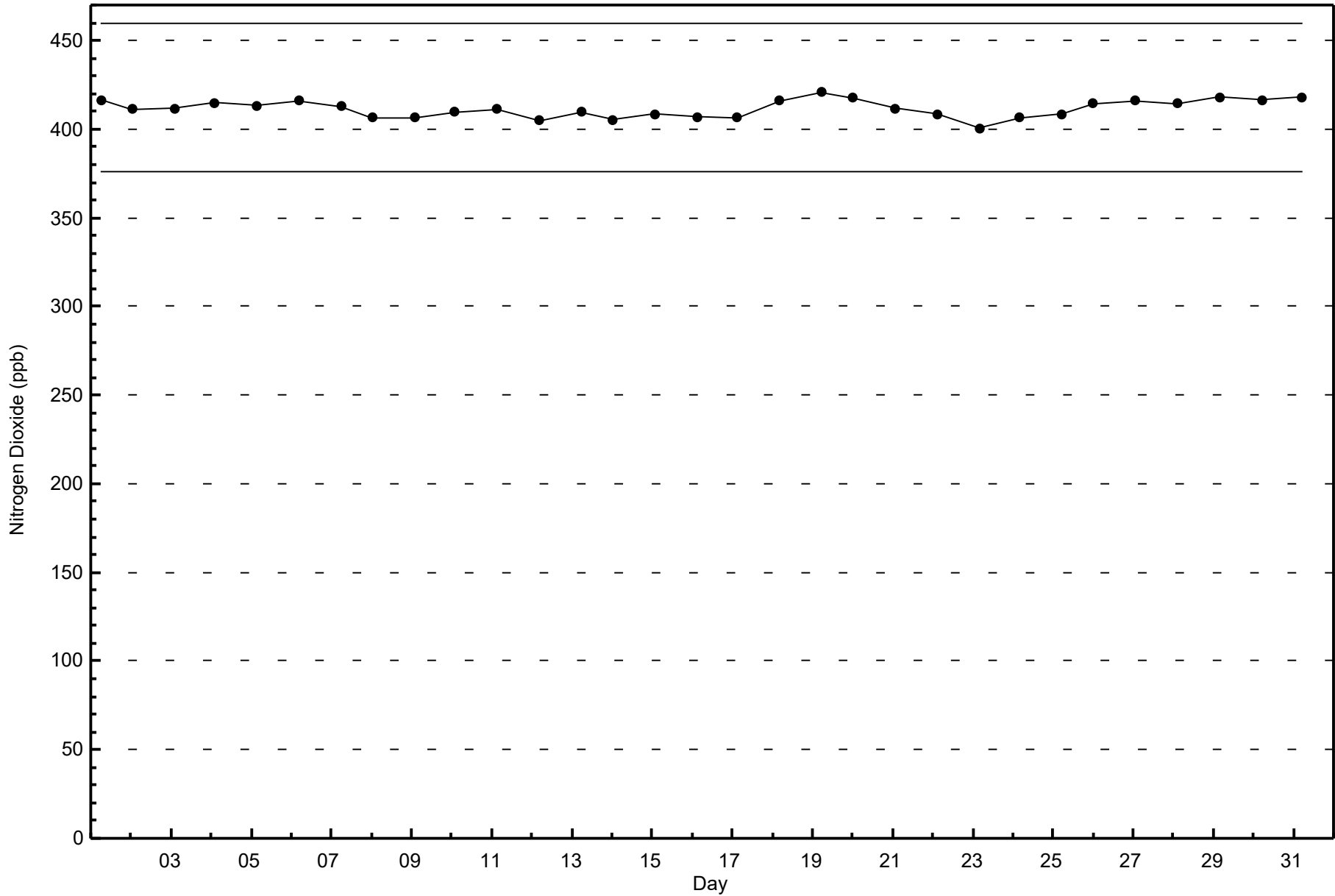


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Dioxide (NO₂) - ppb
Blackrod









Wood Buffalo Environmental Association
Summary of Hour Averages

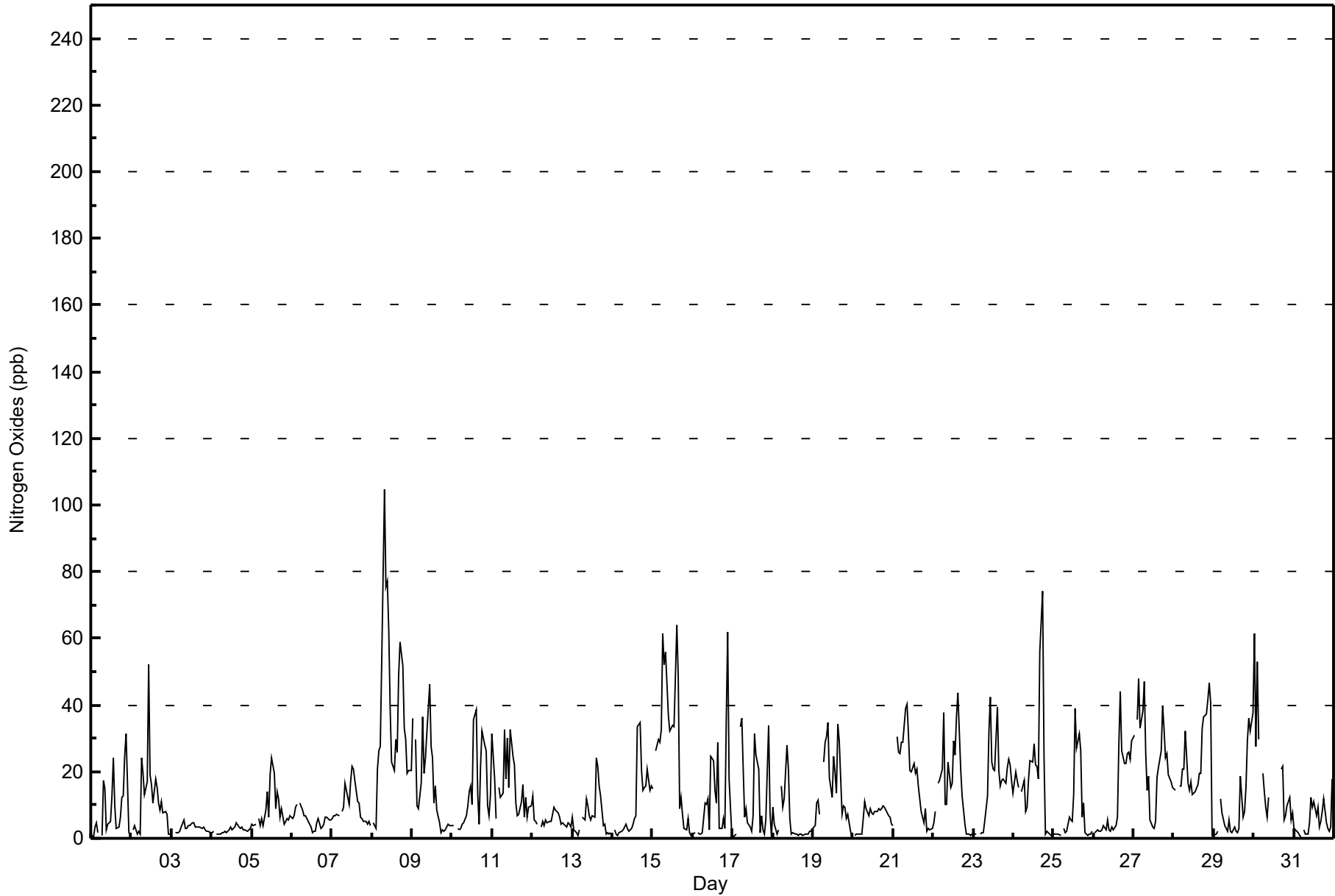
Nitrogen Oxides (NO_x) - ppb
Blackrod - January 2025

Maximum Value: 104.8 ppb on Jan 8 08:00		Maximum Daily Average: 38.1 ppb on Jan 8		Hours in Service:	744																					
Minimum Value: 0.4 ppb on Jan 17 01:00		Minimum Daily Average: 2.5 ppb on Jan 4		Hours of Data:	707																					
Maximum Diurnal Average: 17.3 ppb at hour 16		Minimum Diurnal Average: 5.7 ppb at hour 2		Hours of Missing Data:	37																					
Monthly Average: 13.01 ppb		Percentiles: P ₁ = 0.8 P ₁₀ = 1.5 Q ₁ = 3.1 Median = 7.7 Q ₃ = 19.7 P ₉₀ = 31.7 P ₉₉ = 61.6		Hours of Calibration:	37																					
				Percent Operational Time:	100.0																					
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	1.0	0.5	3.3	4.8	1.7	Z	0.9	17.4	14.8	2.7	4.3	5.2	12.5	24.2	9.6	2.8	3.4	6.2	12.3	12.8	24.5	31.4	1.7	1.3	8.7	31.4
2-Jan	Z	2.4	3.8	1.3	2.2	1.3	24.1	19.4	13.3	17.1	52.0	19.0	16.1	10.5	17.7	15.2	10.7	8.5	11.0	7.7	8.1	7.4	1.1	1.2	11.8	52.0
3-Jan	0.9	Z	1.9	1.9	1.5	2.3	3.5	5.5	3.0	3.1	3.8	3.6	4.7	4.5	3.6	3.5	3.3	3.2	2.9	3.5	2.6	2.2	2.0	1.9	3.0	5.5
4-Jan	1.6	2.1	Z	1.3	1.2	1.5	1.8	1.8	1.9	1.7	2.5	3.2	2.5	3.1	3.5	4.6	3.3	3.2	3.3	2.6	2.7	2.3	2.4	2.9	2.5	4.6
5-Jan	4.4	3.8	4.4	Z	6.0	4.0	6.1	3.8	8.4	14.0	6.2	19.1	24.0	19.5	9.0	14.1	12.0	6.5	8.8	4.1	5.2	5.8	5.7	6.7	8.8	24.0
6-Jan	6.0	6.8	9.2	10.2	Z	10.4	8.3	6.9	6.7	6.0	5.1	3.2	1.6	2.2	2.3	4.8	6.1	3.1	3.4	4.4	6.4	6.4	5.4	5.3	5.7	10.4
7-Jan	6.1	6.7	6.9	7.0	6.6	Z	8.2	9.3	16.6	12.1	10.3	17.1	21.4	20.7	17.4	10.9	10.5	6.2	5.9	5.2	5.0	4.4	5.0	3.9	9.7	21.4
8-Jan	Z	4.9	3.0	21.0	26.3	27.5	52.7	104.8	75.5	77.3	62.6	38.9	23.0	20.3	29.7	25.7	48.9	58.8	51.6	33.1	29.5	19.7	20.1	20.3	38.1	104.8
9-Jan	36.0	Z	29.6	9.9	9.1	16.6	36.5	19.7	24.0	31.9	46.3	27.5	24.3	10.7	15.5	8.5	4.7	1.7	2.5	2.3	2.4	4.1	4.0	3.7	16.2	46.3
10-Jan	3.8	3.9	Z	2.8	2.7	3.0	4.4	4.9	6.7	9.9	14.1	15.5	10.1	35.6	38.8	13.3	4.4	21.6	32.3	27.8	26.5	9.8	6.9	12.8	13.5	38.8
11-Jan	31.6	17.8	5.8	Z	15.2	12.4	13.7	32.8	17.6	30.2	15.1	32.5	24.6	22.1	10.4	6.7	7.1	11.1	16.0	6.2	12.4	6.3	9.2	9.9	15.9	32.8
12-Jan	12.9	5.7	5.1	4.1	Z	3.2	5.0	3.8	5.6	4.6	5.3	5.0	7.2	9.2	8.4	7.7	6.3	4.1	4.7	4.3	3.6	4.7	4.2	3.5	5.6	12.9
13-Jan	6.5	2.3	1.5	0.8	2.7	Z	6.5	5.4	11.8	9.9	6.7	5.5	6.9	6.4	24.3	21.6	15.6	12.9	3.7	4.0	1.5	1.7	1.5	1.6	7.0	24.3
14-Jan	Z	2.5	1.1	0.9	1.7	2.3	2.4	3.5	4.3	3.1	2.2	3.1	4.2	6.0	6.9	33.4	34.8	20.2	14.6	15.2	15.9	20.6	14.6	15.7	10.0	34.8
15-Jan	15.0	Z	26.2	29.8	28.7	32.8	61.6	52.1	56.0	36.8	32.1	33.2	33.8	33.3	64.1	48.3	8.7	12.2	7.4	2.8	2.7	5.8	1.5	0.9	27.2	64.1
16-Jan	1.2	1.7	Z	1.8	1.2	1.5	1.6	10.7	10.4	12.0	2.4	24.5	23.2	14.2	10.7	28.6	3.1	3.1	5.8	3.1	35.6	61.7	17.7	0.5	12.0	61.7
17-Jan	0.4	0.8	1.2	Z	33.3	36.2	20.7	6.4	9.1	4.5	3.3	2.1	6.8	31.5	25.2	20.6	1.9	6.7	2.4	1.4	5.7	33.7	7.7	0.6	11.4	36.2
18-Jan	9.4	4.3	1.1	2.5	Z	15.7	9.2	11.8	28.0	20.9	5.8	1.4	1.6	1.2	1.3	1.0	1.4	1.2	1.0	1.3	1.3	1.2	1.9	2.2	5.5	28.0
19-Jan	3.5	3.6	10.7	11.7	7.1	Z	23.1	29.0	30.5	34.6	18.3	12.1	24.5	19.7	13.7	34.1	29.3	7.2	9.7	9.2	5.8	7.1	2.0	0.6	15.1	34.6
20-Jan	Z	0.8	1.3	1.4	1.3	1.2	5.7	11.1	9.0	6.9	9.0	7.7	7.3	7.9	8.1	8.9	8.3	9.1	9.9	9.2	7.8	6.9	6.3	4.4	6.5	11.1
21-Jan	3.7	Z	30.7	25.8	25.4	28.7	28.8	39.0	40.3	31.5	20.5	19.8	22.5	19.5	20.9	15.6	12.0	8.1	4.5	8.8	2.3	3.1	2.5	2.8	18.1	40.3
22-Jan	4.8	8.2	Z	16.7	17.2	20.6	37.6	10.1	10.0	22.9	15.2	16.3	29.2	24.8	36.4	43.6	20.6	12.5	8.7	4.3	1.2	1.1	0.9	1.1	15.8	43.6
23-Jan	1.2	1.2	1.2	Z	1.1	1.9	1.5	5.0	12.9	32.4	42.4	22.9	20.6	20.2	39.3	20.3	15.8	17.5	17.7	16.4	21.2	23.7	22.0	17.5	16.3	42.4
24-Jan	13.6	20.0	17.3	15.3	Z	14.0	17.4	8.2	9.5	17.2	23.5	22.9	28.5	21.8	21.4	17.7	55.8	74.2	24.4	1.3	1.9	1.6	0.7	1.0	18.7	74.2
25-Jan	1.2	1.1	1.1	1.2	1.0	Z	3.1	1.7	2.0	6.4	5.6	5.1	13.1	39.0	27.0	31.4	26.1	6.3	10.7	1.8	1.0	1.3	1.5	2.2	8.3	39.0
26-Jan	Z	1.6	2.5	2.2	2.1	2.5	3.7	2.7	5.6	2.6	2.2	3.3	2.7	3.6	6.5	28.4	44.2	26.1	22.3	22.6	25.6	25.9	23.9	29.1	12.7	44.2
27-Jan	31.0	Z	35.7	47.7	32.9	38.3	46.9	25.8	14.4	18.7	5.3	3.5	3.1	5.2	18.4	21.3	26.5	39.9	32.7	24.1	25.3	19.0	17.0	15.4	23.8	47.7
28-Jan	14.8	14.4	Z	15.8	15.7	20.8	20.9	32.2	16.6	14.3	17.1	13.3	13.4	14.0	16.2	19.6	19.7	33.1	36.6	37.3	41.4	46.4	40.9	0.9	22.4	46.4
29-Jan	0.8	1.1	2.2	Z	11.8	7.4	3.9	2.8	2.3	5.7	2.3	1.7	3.4	2.1	1.6	2.9	18.4	6.2	7.8	15.1	29.3	35.9	32.4	37.7	10.2	37.7
30-Jan	61.6	27.6	53.1	29.8	Z	19.7	13.8	9.4	6.5	12.2	C	C	C	C	C	C	20.8	21.5	5.4	6.9	9.8	12.3	5.7	7.7	--	61.6
31-Jan	3.1	2.3	1.7	0.9	0.6	Z	2.7	1.4	1.3	4.8	12.1	9.3	11.0	6.9	9.4	3.5	4.9	7.9	11.7	4.7	2.8	2.2	3.6	17.8	5.5	17.8
																								Diurnal Average		
																								Diurnal Maximum		
																								Diurnal Average		
																								Diurnal Maximum		
Z - zerospan C - Calibration																										



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Blackrod - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Blackrod - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	543	76.80	76.80
21 - 40	136	19.24	96.04
41 - 80	27	3.82	99.86
81 - 159	1	0.14	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 707

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Oxides (NO_x) - ppb
Blackrod - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	7	14	10	1	1	4	15	93	127	9	2	0	9	32	22	35	381
21 - 40	8	0	0	1	0	0	2	1	3	4	3	6	25	36	9	5	103
11 - 80	2	0	0	1	0	0	0	1	0	0	1	2	8	9	1	0	25
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	17	14	10	3	1	4	17	95	130	13	6	8	43	77	32	40	510

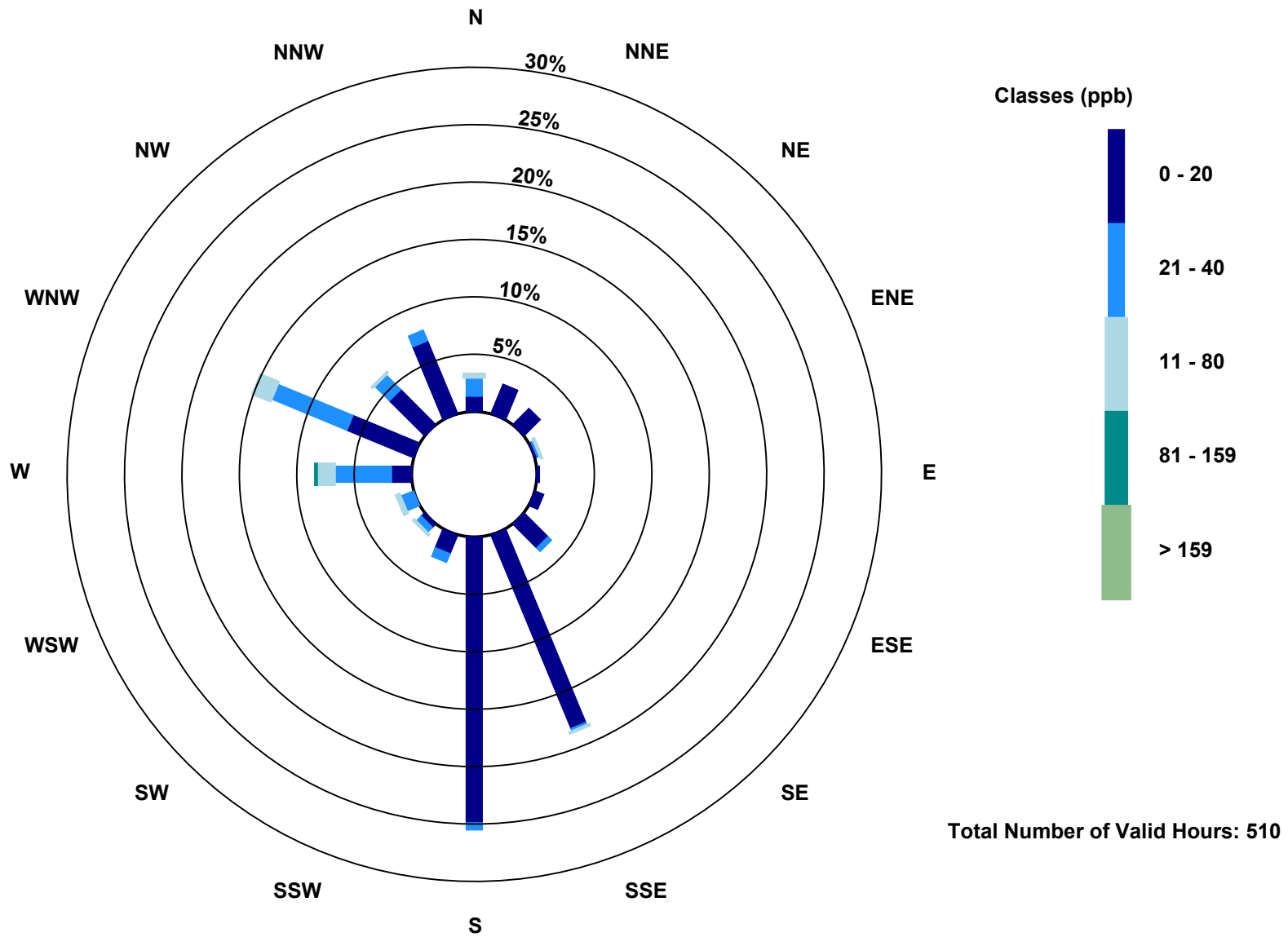
Total Number of Valid Hours: 510

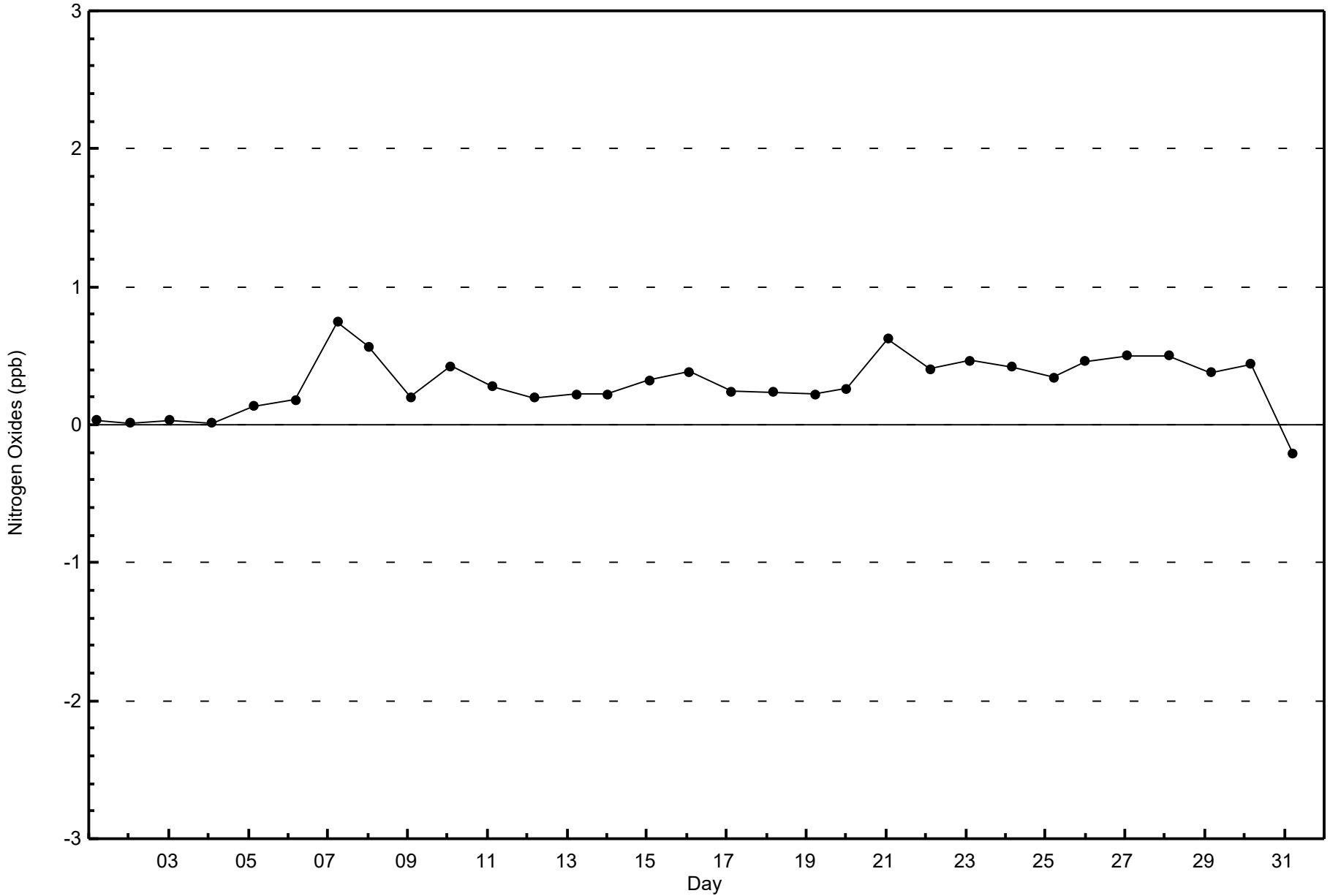
Total Number of Hours: 744

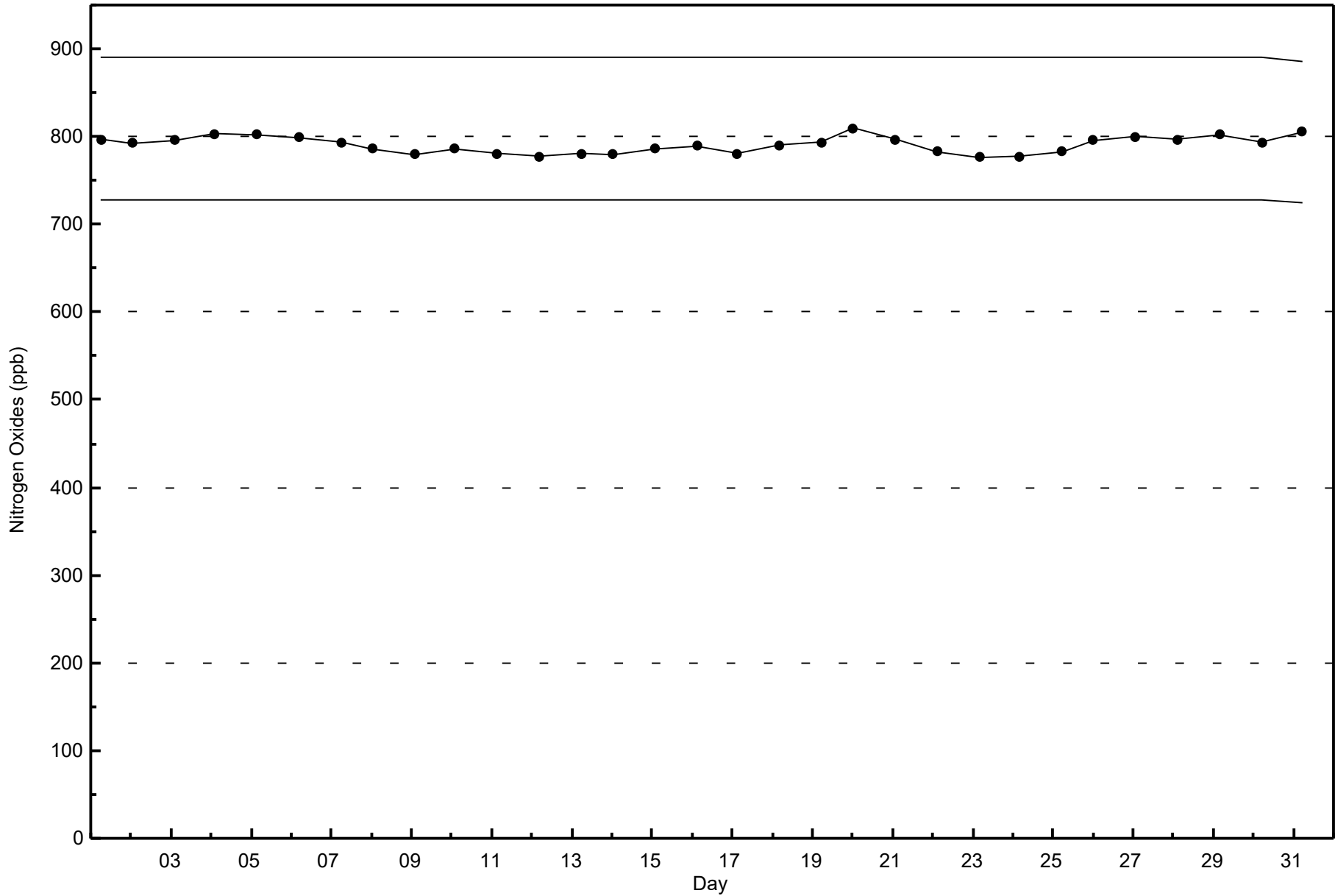


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Oxides (NO_x) - ppb
Blackrod





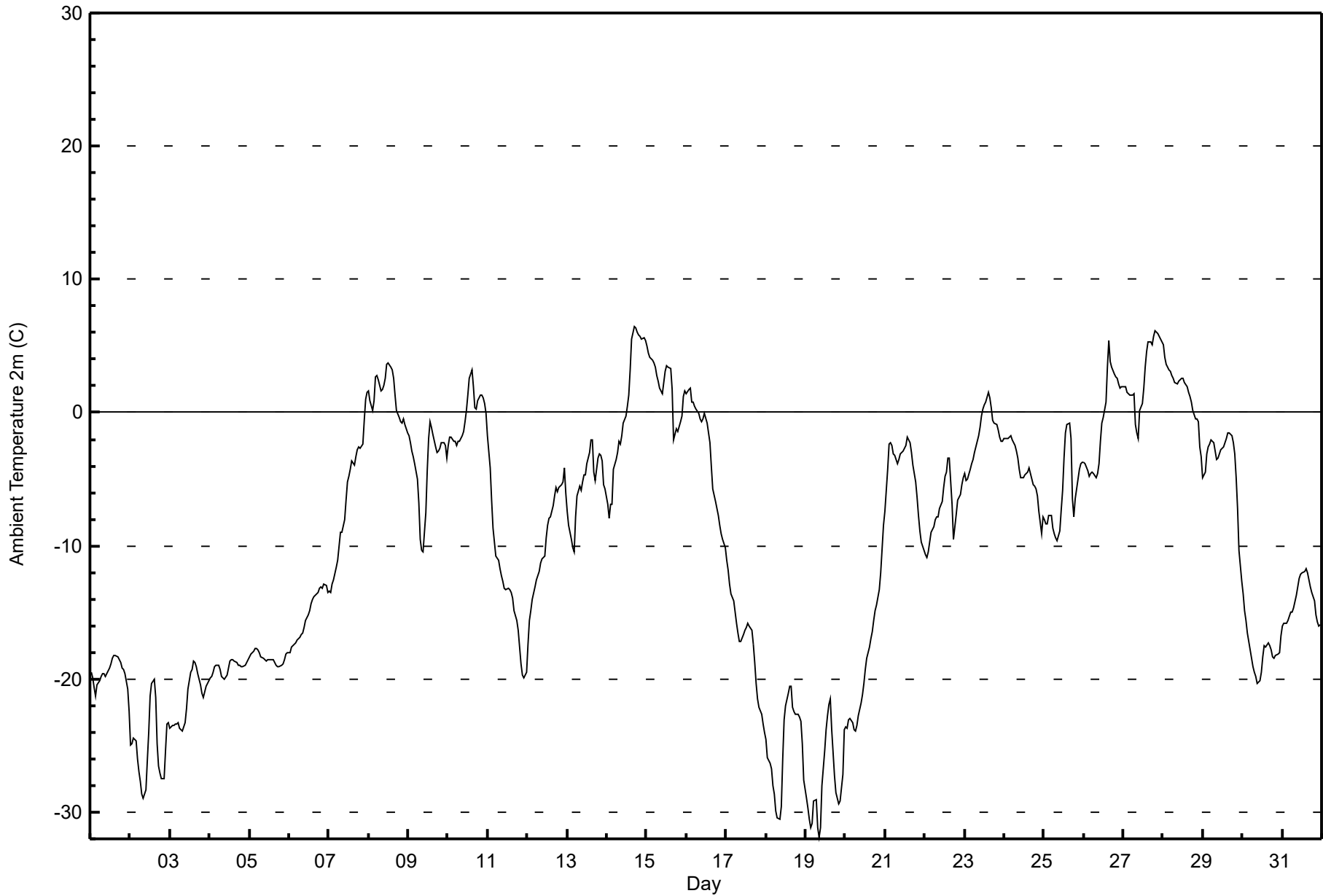




Wood Buffalo Environmental Association
Summary of Hour Averages

Ambient Temperature 2m (AT2) - C
Blackrod - January 2025

Maximum Value: 6.5 C on Jan 14 17:00		Maximum Daily Average: 2.8 C on Jan 27		Hours in Service: 744																																												
Minimum Value: -31.9 C on Jan 19 09:00		Minimum Daily Average: -27.7 C on Jan 19		Hours of Data: 744																																												
Maximum Diurnal Average: -7.5 C at hour 15		Minimum Diurnal Average: -11.2 C at hour 9		Hours of Missing Data: 0																																												
Monthly Average: -9.72 C		Percentiles: P ₁ = -30.2 P ₁₀ = -23.0 Q ₁ = -18.4 Median = -7.8 Q ₃ = -1.9 P ₉₀ = 1.8 P ₉₉ = 5.7		Hours of Calibration: 0																																												
				Percent Operational Time: 100.0																																												
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Jan	-19.5	-20.0	-20.7	-21.3	-20.5	-20.2	-19.8	-19.6	-19.6	-19.8	-19.6	-19.2	-18.9	-18.4	-18.2	-18.3	-18.3	-18.5	-18.7	-19.2	-19.3	-19.6	-20.7	-22.4	-19.6	-18.2																						
2-Jan	-25.0	-24.8	-24.4	-24.7	-26.0	-27.0	-27.7	-28.6	-28.9	-28.4	-26.1	-24.0	-21.2	-20.4	-20.0	-21.3	-24.9	-26.5	-27.1	-27.4	-27.5	-25.4	-23.4	-23.3	-25.2	-20.0																						
3-Jan	-23.7	-23.5	-23.5	-23.3	-23.4	-23.3	-23.7	-23.9	-23.5	-23.3	-22.3	-20.7	-19.5	-19.3	-18.7	-18.7	-19.1	-19.6	-20.4	-21.1	-21.4	-21.0	-20.5	-20.2	-21.6	-18.7																						
4-Jan	-19.9	-19.8	-19.4	-19.1	-19.0	-19.0	-19.3	-19.8	-19.9	-20.1	-19.7	-19.2	-18.7	-18.6	-18.6	-18.7	-18.8	-19.0	-19.0	-19.1	-19.0	-18.9	-18.8	-18.6	-19.2	-18.6																						
5-Jan	-18.3	-18.1	-17.9	-17.7	-17.7	-17.8	-18.1	-18.3	-18.4	-18.5	-18.6	-18.6	-18.6	-18.5	-18.5	-18.8	-18.9	-19.0	-19.0	-19.0	-18.8	-18.6	-18.1	-18.0	-18.4	-17.7																						
6-Jan	-18.0	-17.6	-17.5	-17.4	-17.2	-17.1	-16.9	-16.6	-16.5	-16.1	-15.6	-15.2	-14.8	-14.4	-14.0	-13.8	-13.8	-13.5	-13.2	-13.0	-13.2	-12.9	-13.0	-13.5	-15.2	-12.9																						
7-Jan	-13.4	-13.5	-12.9	-12.5	-11.6	-11.1	-10.1	-8.9	-9.0	-8.1	-6.5	-5.2	-4.8	-4.3	-3.6	-4.0	-3.3	-2.7	-2.6	-2.6	-2.4	-0.6	1.0	1.5	-6.3	1.5																						
8-Jan	1.6	0.9	0.1	0.9	2.7	2.8	2.5	1.7	1.8	2.1	2.5	3.6	3.7	3.4	3.2	2.6	1.3	0.2	-0.4	-0.7	-0.8	-0.5	-0.9	-1.5	1.4	3.7																						
9-Jan	-1.8	-2.3	-2.9	-3.3	-3.8	-5.0	-6.8	-9.5	-10.4	-10.4	-7.5	-4.4	-1.9	-0.7	-1.1	-1.6	-2.6	-3.0	-2.9	-2.6	-2.3	-2.3	-2.5	-3.4	-4.0	-0.7																						
10-Jan	-2.4	-1.8	-1.9	-2.1	-2.2	-2.4	-2.2	-2.2	-1.7	-1.4	-0.7	0.2	1.3	2.6	3.2	2.0	0.4	0.3	0.9	1.3	1.3	1.1	0.6	-0.1	-0.2	3.2																						
11-Jan	-1.7	-4.2	-6.6	-8.7	-9.7	-10.7	-11.1	-11.7	-12.2	-12.7	-13.2	-13.3	-13.2	-13.3	-13.5	-14.0	-14.9	-15.6	-16.3	-17.6	-18.9	-19.7	-19.9	-19.5	-13.0	-1.7																						
12-Jan	-17.4	-15.6	-14.8	-14.0	-13.1	-12.6	-12.2	-11.9	-11.3	-11.0	-10.8	-9.4	-8.4	-8.0	-7.8	-7.0	-6.3	-5.6	-5.9	-5.6	-5.5	-5.2	-4.2	-6.1	-9.6	-4.2																						
13-Jan	-7.5	-8.5	-9.6	-10.2	-10.4	-7.8	-6.2	-5.5	-5.9	-5.2	-4.7	-4.7	-3.8	-3.0	-2.1	-2.0	-4.4	-5.1	-3.4	-3.1	-3.2	-3.6	-5.4	-5.7	-5.5	-2.0																						
14-Jan	-6.9	-7.9	-6.9	-6.9	-4.3	-3.5	-3.0	-2.2	-2.3	-1.8	-0.8	-0.3	0.5	1.3	3.2	5.5	6.5	6.3	6.1	5.8	5.7	5.5	5.6	5.4	0.4	6.5																						
15-Jan	4.9	4.5	4.2	3.9	3.7	3.4	2.8	2.3	1.8	1.4	2.3	3.1	3.5	3.4	3.3	1.7	-2.0	-1.6	-1.2	-1.5	-0.6	-0.3	1.2	1.7	1.9	4.9																						
16-Jan	1.5	1.8	1.8	0.8	0.8	0.5	0.3	-0.1	-0.5	-0.6	-0.5	-0.1	-0.8	-1.5	-2.3	-4.0	-5.7	-6.7	-7.2	-7.8	-8.4	-9.1	-9.5	-10.1	-2.8	1.8																						
17-Jan	-11.0	-11.8	-12.9	-13.6	-14.2	-15.0	-15.8	-16.6	-17.2	-17.2	-16.7	-16.4	-16.1	-15.8	-16.0	-16.4	-17.4	-18.8	-20.3	-21.5	-22.1	-22.6	-23.4	-24.0	-17.2	-11.0																						
18-Jan	-24.5	-25.9	-26.3	-26.7	-28.0	-28.7	-29.9	-30.5	-30.5	-29.5	-26.0	-23.1	-22.0	-21.1	-20.5	-20.5	-22.1	-22.5	-22.6	-22.6	-22.9	-23.1	-24.8	-27.6	-25.1	-20.5																						
19-Jan	-28.9	-29.7	-30.5	-31.2	-30.8	-29.1	-29.1	-31.2	-31.9	-31.1	-28.0	-25.4	-23.8	-22.8	-21.9	-21.5	-23.8	-27.3	-28.5	-29.0	-29.3	-29.2	-27.2	-23.8	-27.7	-21.5																						
20-Jan	-23.5	-23.7	-23.1	-23.0	-23.3	-23.8	-23.9	-23.5	-22.8	-21.8	-21.2	-20.4	-19.2	-18.4	-17.6	-17.0	-16.4	-15.6	-14.9	-14.5	-13.3	-12.0	-10.3	-8.5	-18.8	-8.5																						
21-Jan	-7.4	-4.2	-2.4	-2.2	-2.5	-3.1	-3.2	-3.8	-3.5	-3.1	-3.0	-2.9	-2.5	-1.8	-2.0	-2.3	-3.0	-3.9	-5.2	-6.3	-7.7	-8.9	-9.7	-10.3	-4.4	-1.8																						
22-Jan	-10.7	-10.9	-10.4	-9.7	-9.0	-8.6	-8.0	-7.8	-7.8	-7.2	-6.6	-5.6	-4.8	-4.4	-3.4	-3.4	-6.9	-9.5	-8.6	-7.6	-6.6	-6.2	-5.4	-4.9	-7.3	-3.4																						
23-Jan	-4.6	-5.1	-5.0	-4.3	-3.8	-3.6	-3.0	-2.6	-1.8	-1.1	-0.3	0.3	0.6	0.8	1.5	1.1	0.4	-0.6	-0.8	-0.9	-1.4	-1.8	-2.1	-2.1	-1.7	1.5																						
24-Jan	-2.0	-2.0	-1.9	-1.9	-1.8	-2.1	-2.5	-2.8	-3.4	-4.3	-4.9	-4.9	-4.7	-4.6	-4.4	-4.2	-4.6	-5.4	-5.5	-5.7	-6.3	-7.4	-9.1	-7.8	-4.3	-1.8																						
25-Jan	-8.0	-8.3	-8.4	-7.7	-7.7	-8.6	-9.1	-9.4	-9.6	-8.9	-7.3	-5.9	-3.4	-1.5	-0.9	-0.7	-2.0	-6.4	-7.9	-6.5	-5.0	-4.3	-3.9	-3.7	-6.0	-0.7																						
26-Jan	-3.8	-3.8	-4.4	-4.8	-4.6	-4.5	-4.6	-4.8	-4.6	-3.8	-2.1	-0.8	-0.4	0.8	3.4	5.4	3.9	3.4	2.9	2.7	2.5	2.2	1.8	2.0	-0.7	5.4																						
27-Jan	1.9	1.9	1.6	1.4	1.3	1.3	1.4	-0.9	-1.5	-1.9	0.2	0.7	1.8	3.4	4.6	5.3	5.3	5.1	5.7	6.1	6.0	6.0	5.5	5.3	2.8	6.1																						
28-Jan	5.1	4.2	3.6	3.2	3.1	2.8	2.6	2.2	2.2	2.4	2.5	2.6	2.5	2.3	1.9	1.5	1.2	0.7	0.1	-0.5	-0.5	-0.7	-2.5	-3.3	1.6	5.1																						
29-Jan	-4.9	-4.4	-3.1	-2.5	-2.3	-2.0	-2.3	-2.9	-3.5	-3.4	-3.1	-2.8	-2.5	-2.3	-1.9	-1.6	-1.5	-1.7	-2.3	-3.2	-4.9	-7.2	-10.4	-12.7	-3.7	-1.5																						
30-Jan	-13.6	-14.8	-15.6	-16.5	-17.8	-18.4	-19.1	-19.5	-19.8	-20.4	-20.1	-19.5	-18.4	-17.5	-17.6	-17.3	-17.5	-17.8	-18.4	-18.5	-18.3	-18.2	-18.0	-16.7	-17.9	-13.6																						
31-Jan	-16.0	-15.8	-15.8	-15.6	-15.3	-14.9	-14.9	-14.7	-13.8	-13.0	-12.5	-12.2	-12.1	-11.9	-11.7	-12.0	-12.5	-13.1	-13.5	-14.1	-15.2	-15.8	-16.0	-16.0	-14.1	-11.7																						
																								-10.3	-10.5	-10.6	-10.7	-10.6	-10.6	-10.7	-11.1	-11.2	-10.9	-10.0	-9.1	-8.4	-7.9	-7.5	-7.5	-8.5	-9.1	-9.4	-9.5	-9.7	-9.7	-9.8	-9.9	Diurnal Average
																								5.1	4.5	4.2	3.9	3.7	3.4	2.8	2.3	2.2	2.4	2.5	3.6	3.7	3.4	4.6	5.5	6.5	6.3	6.1	6.1	6.0	6.0	5.6	5.4	Diurnal Maximum





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ambient Temperature 2m (AT2) - C
Blackrod - January 2025

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	117	15.73	15.73
-20 - 0	501	67.34	83.06
0 - 10	126	16.94	100.00
10 - 20	0	0.00	100.00
> 20	0	0.00	100.00

Total Number of Valid Hours: 744

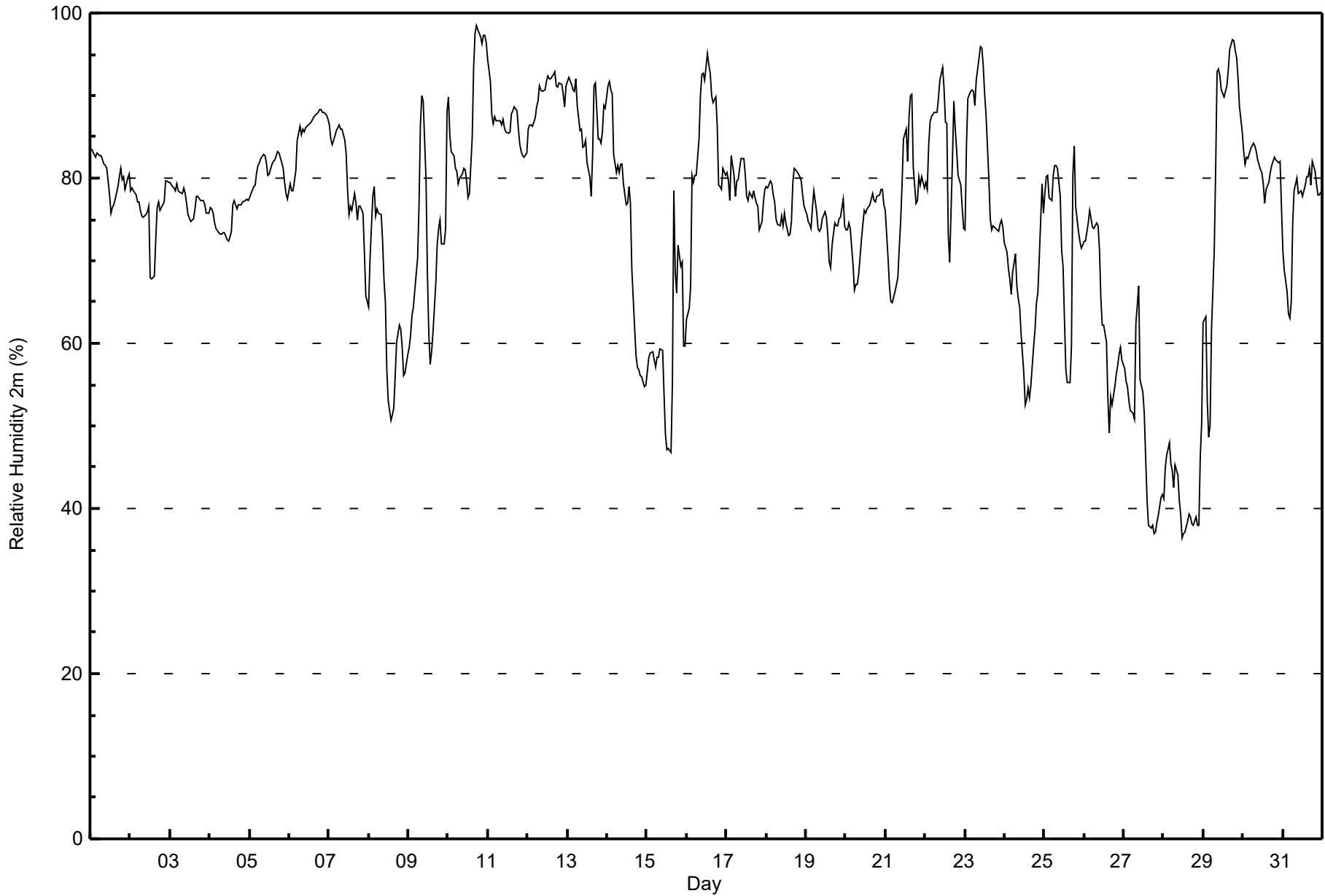
Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

Relative Humidity 2m (RH2) - %
Blackrod - January 2025

Maximum Value: 98.4 % on Jan 10 18:00 Maximum Daily Average: 90.1 % on Jan 12																						Hours in Service: 744 Hours of Data: 744				
Minimum Value: 36.5 % on Jan 28 12:00 Minimum Daily Average: 41.6 % on Jan 28 Maximum Diurnal Average: 78.7 % at hour 9 Minimum Diurnal Average: 72.3 % at hour 15 Monthly Average: 75.40 % Percentiles: P ₁ = 37.9 P ₁₀ = 56.2 Q ₁ = 71.3 Median = 77.8 Q ₃ = 83.1 P ₉₀ = 89.9 P ₉₉ = 96.5																						Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0				
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	83.5	83.2	82.9	82.6	83.1	82.8	82.7	82.2	81.7	81.5	81.2	78.0	75.8	76.5	76.8	77.5	79.0	80.1	81.3	79.9	80.1	78.7	80.0	80.5	80.5	83.5
2-Jan	78.5	78.9	78.5	78.0	77.1	77.0	76.2	75.4	75.2	75.6	76.0	76.6	68.0	67.8	68.1	72.7	76.5	77.1	76.2	76.5	77.1	79.6	79.7	79.5	75.9	79.7
3-Jan	79.5	79.0	78.8	78.5	79.3	78.5	78.4	78.2	78.9	78.1	76.9	75.6	74.7	74.9	75.1	76.2	77.7	77.8	77.2	77.2	77.3	76.8	75.8	75.7	77.3	79.5
4-Jan	76.4	76.3	75.7	74.6	73.8	73.3	73.2	73.3	73.5	73.4	72.6	72.3	72.8	73.5	76.7	77.3	76.2	76.8	76.7	76.8	77.1	77.3	77.5	77.2	75.2	77.5
5-Jan	77.6	78.1	79.1	79.2	80.6	81.4	81.9	82.4	82.9	82.8	81.9	80.4	80.6	81.7	82.0	82.2	82.7	83.2	83.0	81.9	81.2	79.5	78.1	77.5	80.9	83.2
6-Jan	79.3	78.5	78.4	79.7	80.8	84.7	86.3	85.3	86.0	85.7	86.2	86.5	86.6	86.8	87.1	87.5	87.6	87.9	88.2	88.2	88.0	88.0	87.6	87.1	85.3	88.2
7-Jan	86.4	84.8	84.1	84.5	85.7	86.0	86.5	86.0	86.0	84.6	82.9	78.4	75.5	76.6	76.0	78.1	77.0	74.9	76.6	76.6	75.7	71.0	65.7	65.1	79.4	86.5
8-Jan	64.4	70.2	77.7	79.0	75.4	76.3	75.8	75.6	72.4	67.7	64.9	56.7	53.1	50.8	51.3	52.2	56.1	60.1	62.1	61.6	59.5	56.1	56.5	58.6	63.9	79.0
9-Jan	59.5	61.0	63.4	64.5	66.4	70.4	76.7	86.4	90.0	89.3	79.9	68.5	61.1	57.4	59.0	61.3	67.4	72.1	73.9	74.9	72.0	72.0	73.9	88.1	71.2	90.0
10-Jan	89.8	85.2	83.2	82.7	81.1	80.9	79.4	80.1	80.4	81.3	81.1	79.6	77.6	78.1	84.9	93.3	97.4	98.4	98.0	97.1	96.3	97.2	97.3	96.4	87.4	98.4
11-Jan	94.4	91.7	87.6	86.5	87.5	87.0	87.0	87.0	86.5	87.2	86.1	85.6	85.5	85.6	87.9	88.2	88.6	88.2	86.0	84.0	83.2	82.7	82.6	83.0	86.6	94.4
12-Jan	85.9	86.5	86.5	86.3	87.3	88.6	89.2	91.2	90.7	90.6	90.7	91.7	92.4	92.0	92.0	92.5	92.9	91.2	91.1	91.5	91.4	90.1	88.7	91.2	90.1	92.9
13-Jan	91.8	92.2	91.4	90.8	90.5	92.0	88.9	85.7	86.0	83.7	83.9	84.6	81.9	80.1	77.8	82.9	91.3	91.5	84.8	84.8	84.3	85.5	88.8	88.4	86.8	92.2
14-Jan	91.2	91.7	90.7	90.2	82.9	80.7	81.6	80.8	81.7	81.7	79.3	76.9	77.0	78.9	77.0	69.1	61.8	58.5	57.1	56.7	56.0	55.9	54.8	55.0	73.6	91.7
15-Jan	56.5	58.1	58.8	59.0	58.0	57.1	58.3	58.3	59.3	59.2	53.8	49.1	47.2	47.3	46.7	55.4	78.5	68.7	66.1	71.8	69.3	69.8	59.6	59.7	59.4	78.5
16-Jan	62.9	64.2	67.0	80.3	79.5	80.3	80.3	84.8	90.1	92.6	92.6	91.8	95.1	93.7	92.7	90.0	89.2	89.8	86.3	79.1	79.0	78.6	81.2	80.3	83.4	95.1
17-Jan	80.8	79.7	77.4	82.7	80.4	77.7	79.7	79.8	81.1	82.3	82.5	80.5	77.8	77.4	78.3	77.7	78.4	77.6	77.0	76.6	73.8	74.7	77.2	78.6	78.7	82.7
18-Jan	79.0	78.9	79.6	79.3	78.0	77.2	75.2	74.3	74.2	75.4	74.2	75.8	74.5	73.1	73.2	74.7	79.6	81.2	81.1	80.6	80.1	79.7	77.9	76.7	77.2	81.2
19-Jan	75.7	74.7	74.4	73.9	76.4	78.5	76.0	73.8	73.6	74.0	75.1	75.9	75.3	73.1	69.8	69.2	71.9	74.6	74.2	74.3	75.0	75.3	77.4	74.3	74.4	78.5
20-Jan	73.8	73.7	74.5	73.8	69.4	66.4	67.1	67.2	68.4	72.6	74.3	76.1	75.8	76.3	76.8	77.5	78.1	77.3	77.1	77.7	78.0	78.6	78.6	76.8	74.4	78.6
21-Jan	76.2	70.3	66.9	65.0	65.0	65.6	66.3	68.0	71.5	74.7	79.1	84.7	86.0	82.0	87.5	90.0	90.2	81.4	76.9	77.4	80.2	79.1	80.1	78.8	76.8	90.2
22-Jan	79.4	78.7	83.9	86.8	87.5	87.9	88.0	87.9	89.7	91.9	93.4	90.8	86.8	86.6	73.2	69.8	82.3	89.4	86.0	83.4	80.3	79.2	76.3	73.8	83.9	93.4
23-Jan	73.7	83.9	89.7	90.6	90.7	90.5	88.9	91.8	94.5	95.9	95.7	93.6	90.3	87.6	80.0	75.1	73.8	74.2	74.1	73.8	73.5	74.5	74.9	74.1	83.6	95.9
24-Jan	72.3	71.0	68.9	67.8	65.9	68.7	70.8	67.0	65.4	64.5	61.1	56.2	52.6	53.2	54.5	53.4	55.0	59.6	61.7	64.9	66.1	70.4	79.3	75.7	64.4	79.3
25-Jan	78.1	80.2	80.3	77.6	77.3	80.3	81.5	81.6	81.3	77.9	71.3	69.2	62.9	56.8	55.3	55.2	59.6	80.3	83.8	76.6	73.5	72.4	71.5	71.8	73.2	83.8
26-Jan	72.4	72.4	74.5	76.1	75.1	74.0	73.8	74.7	74.2	71.3	65.4	62.2	62.3	60.1	53.4	49.2	53.5	52.6	54.7	56.3	57.3	58.7	59.5	58.0	64.2	76.1
27-Jan	56.9	55.4	54.7	53.1	51.8	51.5	50.8	62.4	64.6	67.0	55.6	54.1	51.5	46.1	41.0	38.0	37.6	37.9	37.0	37.1	38.3	39.2	41.3	41.8	48.5	67.0
28-Jan	41.2	44.9	46.4	47.9	45.4	44.6	42.5	45.2	44.1	41.1	39.3	36.5	37.0	37.1	38.5	39.3	39.0	38.1	38.0	38.9	37.9	37.9	46.2	50.4	41.6	50.4
29-Jan	62.6	63.2	53.0	48.7	50.1	61.5	71.3	81.1	92.8	93.3	92.4	90.7	89.9	90.6	91.2	93.1	95.6	96.8	96.5	95.5	94.6	92.0	88.6	85.5	82.1	96.8
30-Jan	83.2	81.7	82.5	82.3	83.5	83.9	84.3	83.9	83.2	82.2	81.0	80.6	79.4	77.0	78.7	79.4	80.7	81.6	82.1	82.5	82.2	81.8	82.0	76.5	81.5	84.3
31-Jan	71.1	68.9	66.3	63.6	63.0	65.1	74.4	78.5	79.9	78.2	78.4	78.5	77.7	79.2	80.2	80.1	81.2	79.1	82.0	80.9	79.4	78.0	77.9	78.4	75.8	82.0
75.3 75.4 75.4 75.7 75.1 75.8 76.5 77.7 78.7 78.6 77.1 75.4 73.7 72.8 72.3 72.8 75.4 76.1 75.7 75.3 74.8 74.5 74.7 74.7																								Diurnal Average		
94.4 92.2 91.4 90.8 90.7 92.0 89.2 91.8 94.5 95.9 95.7 93.6 95.1 93.7 92.7 93.3 97.4 98.4 98.0 97.1 96.3 97.2 97.3 96.4																								Diurnal Maximum		





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Relative Humidity 2m (RH2) - %
Blackrod - January 2025

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	19	2.55	2.55
40 - 60	88	11.83	14.38
60 - 80	352	47.31	61.69
80 - 100	285	38.31	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744

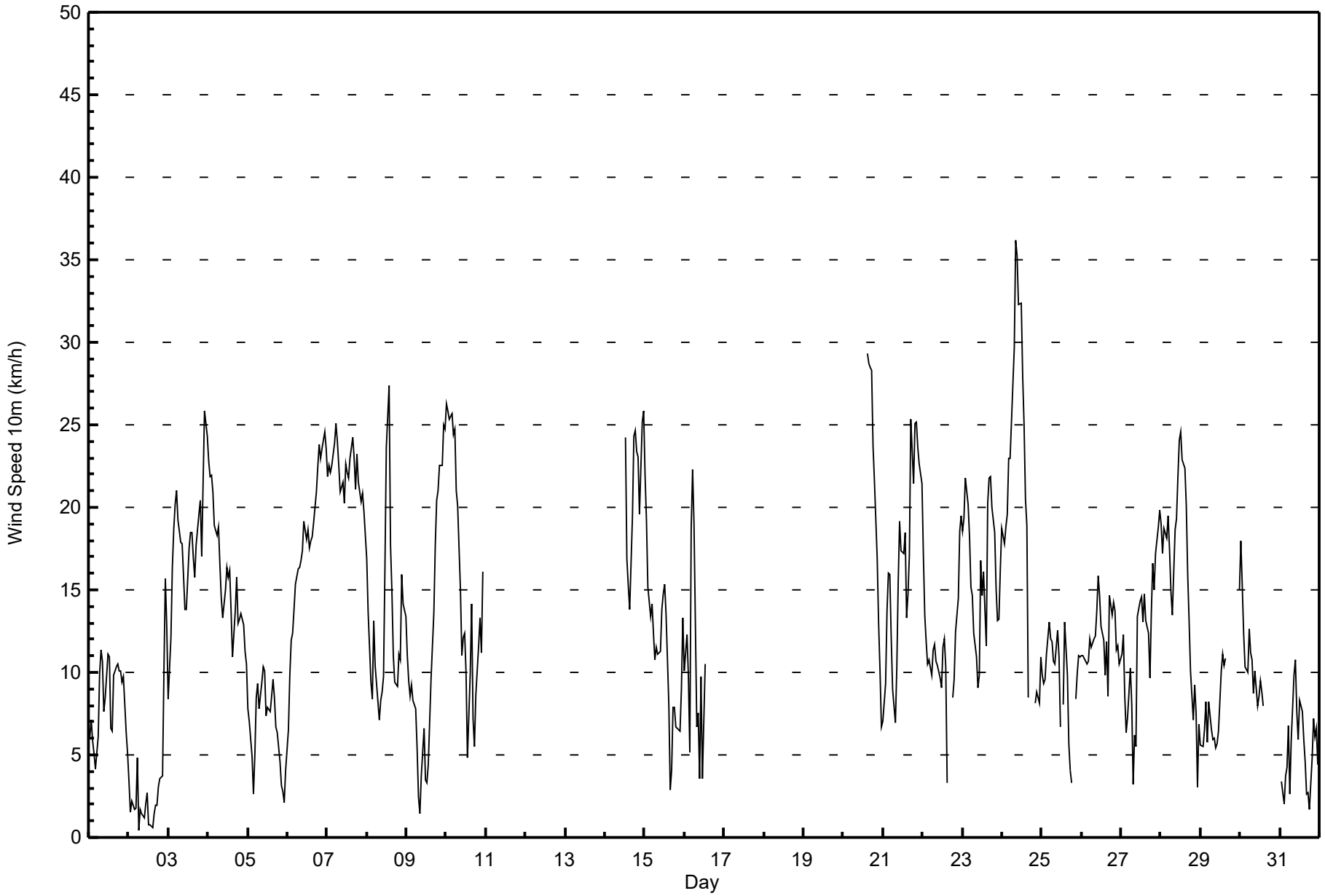


Maximum Speed: 36 km/h on Jan 24 09:00	Maximum Daily Speed Average: 22.0 km/h on Jan 7	Hours in Service: 744
Minimum Speed Value: 0 km/h on Jan 2 07:00	Minimum Daily Speed Average: 1.9 km/h on Jan 2	Hours of Data: 538
Maximum Diurnal Speed Average: 5.7 km/h at hour 3	Minimum Diurnal Speed Average: 3.6 km/h at hour 10	Hours of Missing Data: 206
Monthly Average Velocity: 4.8 km/h 220.4 deg	Percentiles: P ₁ = 1 P ₁₀ = 5 Q ₁ = 8 Median = 12 Q ₃ = 18 P ₉₀ = 23 P ₉₉ = 29	Percent Operational Time: 72.3

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	NNW6	NNW7	NNW6	NNW5	NNW4	NNW6	NNW10	N11	NNW11	NNW8	NNW9	NNW11	NNW11	N7	NW6	NNW10	NNW10	NNW11	N10	N10	N9	N10	NNE6	NNE5	NNW8.1	N11
2-Jan	NE3	NNE2	NNE2	NE2	NNE2	NE5	SSE0	SE2	SE1	ESE1	ENE2	NE3	SW1	W1	NW1	N1	ESE2	SE2	SE3	SE4	SSE4	S10	S16	SSE13	SE1.9	S16
3-Jan	S8	S12	S16	S19	S20	SSE21	SSE19	SSE18	SSE18	SSE16	SSE14	SSE14	S18	S18	SSE18	SSE17	SSE16	SSE18	SSE20	SSE20	SSE17	SSE22	SSE26	SSE24	SSE17.8	SSE26
4-Jan	SSE23	SSE22	SSE22	SSE21	SSE19	SSE18	SSE19	SSE17	SSE15	SSE13	SSE15	SSE16	S16	SSE16	S14	S11	S14	S16	S13	S13	S14	S13	S11	S11	S15.7	SSE23
5-Jan	S8	S7	S5	SW3	NW5	NNW8	NNW9	NNW8	NNW9	NNW10	NNW10	NW7	NW8	NW8	NNW9	NNW10	N9	NNE7	NNE6	NNE5	NNE3	NE3	S2	S4	NNW4.1	NNW10
6-Jan	S7	SSE10	S12	S12	S14	S15	S16	S16	S17	S17	S19	S18	S19	S18	S18	S18	S19	S21	S22	S24	S23	S24	S25	S24	S17.8	S25
7-Jan	S22	S23	S22	S23	S24	SSE25	S24	S23	S21	S22	S20	S23	S22	S22	S23	S24	S23	S21	S23	S22	S20	S21	S20	S18	S22.0	SSE25
8-Jan	S17	S14	S9	WSW8	W13	WNW10	WNW9	W7	W8	W9	W10	W16	WNW24	NW27	WNW18	WNW15	WNW11	WNW9	WNW9	WNW11	NW11	WNW16	WNW14	WNW13	WNW10.6	NW27
9-Jan	WNW11	NW9	NW9	NW9	NW8	N8	N5	NE2	ENE1	SE4	SSE7	SE3	S3	S4	S7	SSE10	SSE14	SSE18	SSE20	SSE21	SSE23	SSE23	S25	S25	S6.3	S25
10-Jan	SSE26	SSE26	S25	SSE26	SSE24	SSE25	SSE21	SSE20	S15	S11	S12	S12	S10	WSW5	NW10	NW14	NNW7	NW6	NW9	WNW12	WNW13	NW11	NNW16	UO	S7.7	SSE26
11-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	---	---
12-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	---	---
13-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	---	---
14-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	---	---
15-Jan	WNW22	W19	W15	W13	W14	W12	W11	W12	W11	WNW11	WNW14	WNW15	WNW15	WNW14	WNW8	WSW3	SSE4	SSE8	SSE8	SSE7	SSE7	SSE6	SE9	SE13	W7.3	WNW22
16-Jan	SE10	SE12	SE10	SSE5	SSE19	SSE22	SSE19	SSW7	SSW8	S4	S10	SW4	N11	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	---	SSE22
17-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	---	---
18-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	---	---
19-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	---	---
20-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	---	S29
21-Jan	SSW7	WSW9	W14	W16	W16	W12	WSW9	WSW7	W10	W15	W19	WNW17	WNW17	WNW18	NW13	NW15	NW17	NNW25	NNW21	NNW25	NNW25	NNW24	NNW23	NNW21	WNW14.2	NNW25
22-Jan	NW17	NW13	NW12	NW11	NW11	NW10	NW11	NW12	NW11	NW10	NW10	NW9	WNW12	WNW12	W10	WNW3	UO	UO	SSE8	SSE10	SSE12	SSE14	SSE19	SSE20	WNW5.0	SSE20
23-Jan	S19	SSE19	S22	S20	S18	S15	S15	S12	SSW11	SSW9	W10	WNW17	WNW15	WNW16	WSW12	WNW20	WNW22	WNW22	WNW20	WNW18	WNW15	WNW13	WNW13	W16	WSW9.2	WNW22
24-Jan	WNW19	W18	W19	WNW20	NW23	NW23	NW27	NW30	NNW36	NNW35	NNW32	NNW32	NNW28	NNW25	NNW20	NNW19	NW8	UO	UO	UO	S8	SSE9	SSE8	S11	NW17.1	NNW36
25-Jan	SSE10	SSE9	S10	SSE11	SSE13	S12	S12	S11	S11	S13	S11	S7	UO	W8	W13	W10	SW6	SSE4	S3	UO	SSE8	SSE10	S11	S11	S8.0	WNW13
26-Jan	S11	S11	S11	S11	S11	S12	S12	S12	S12	S14	SSE16	S15	S13	S12	S10	WSW12	WSW9	WNW15	WNW13	WNW14	WNW14	WNW11	WNW12	WNW11	SSW7.3	SSE16
27-Jan	W11	WNW12	WNW9	W6	WNW7	WNW10	WNW8	SSW3	SSE6	S6	S13	S14	S15	S13	SSW15	SSW13	SSW12	SW10	W14	W17	W15	W17	WNW19	WNW20	WSW8.5	WNW20
28-Jan	WNW19	WNW17	WNW19	WNW18	WNW20	WNW17	WNW15	WNW13	WNW19	WNW19	WNW22	WNW24	WNW25	WNW23	WNW22	WNW20	W16	W13	W10	W7	W9	W8	SW3	SSE7	WNW15.3	WNW25
29-Jan	SSE6	SSE6	S7	S8	SSW6	SW8	SSW6	SSW6	S6	SSE5	SSE6	SE6	SSE10	SSE11	SSE10	S11	UO	UO	UO	UO	UO	UO	UO	N15	---	N15
30-Jan	N18	N15	N12	N10	N10	NNE13	NNE11	NNE11	NNE9	N10	NNE8	NNE9	NNE9	N9	N8	UO	UO	UO	UO	UO	UO	UO	UO	UO	---	N18
31-Jan	UO	SE3	ESE2	SSE4	SSE4	SE7	SE3	SE6	SE10	SE11	SSE8	SSE6	SSE8	SSE8	SE6	ESE5	E3	ENE3	NE2	NE5	NE7	NE6	NE7	NNE4	ESE4.0	SE11

SSW5.1	SSW5.5	SSW5.7	SSW5.7	SSW5.2	SSW4.5	SSW4.2	SSW3.9	SW3.7	SW3.6	SW4.0	WSW4.3	WSW4.9	WSW5.2	SW5.6	WSW5.5	SW5.2	SW5.1	SW5.0	SW5.0	SW4.8	SSW5.2	SSW5.5	SSW5.6	Diurnal Average
SSE26	SSE26	S25	SSE26	SSE24	SSE25	NW27	NW30	NNW36	NNW35	NNW32	NNW32	NNW28	NW27	S29	S29	SSE28	SSE28	WNW25	NNW25	NNW25	NNW24	SSE26	WNW26	Diurnal Maximum

M - Maintenance UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Wind Speed 10m (WS10) - km/h
Blackrod - January 2025**

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	62	11.52	11.52
6 - 11	191	35.50	47.03
12 - 19	177	32.90	79.93
20 - 28	101	18.77	98.70
29 - 38	7	1.30	100.00
> 38	0	0.00	100.00

Total Number of Valid Hours: 538

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Wind Speed 10m (WS10) - km/h
Blackrod - January 2025**

Wind Speed Ranges (km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	2	7	8	3	1	4	8	9	7	1	4	2	1	1	1	3	62
6 - 11	14	9	3	0	0	0	9	29	35	8	3	5	16	17	21	22	191
12 - 19	4	1	0	0	0	0	2	32	57	4	0	2	23	42	8	2	177
20 - 28	0	0	0	0	0	0	0	27	37	0	0	0	4	19	4	10	101
29 - 38	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	4	7
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	20	17	11	3	1	4	19	97	138	13	7	9	44	79	35	41	538

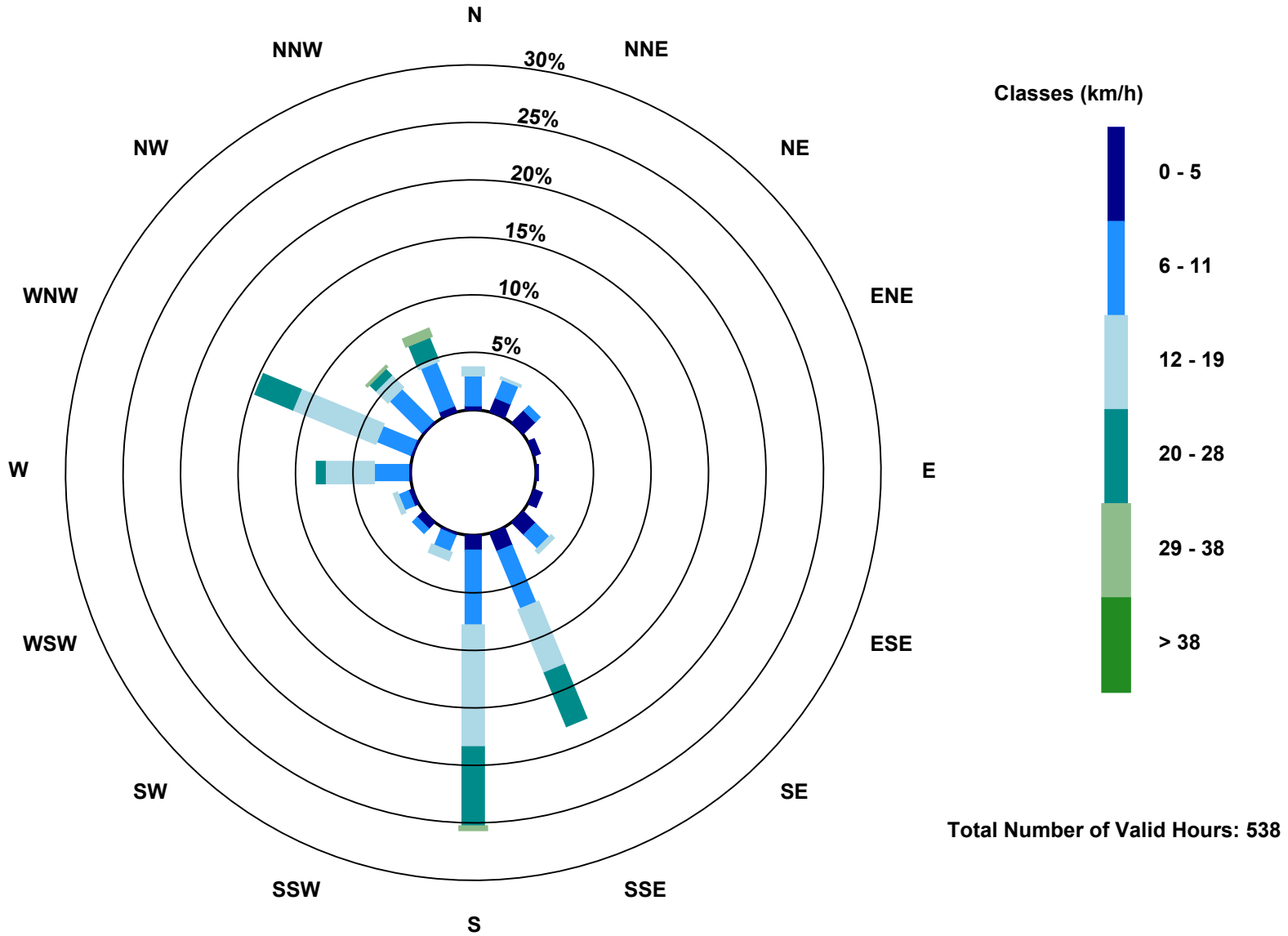
Total Number of Valid Hours: 538

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Wind Speed 10m (WS10) - km/h
Blackrod





Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Speed 10m (WS10) - km/h
Blackrod - January 2025

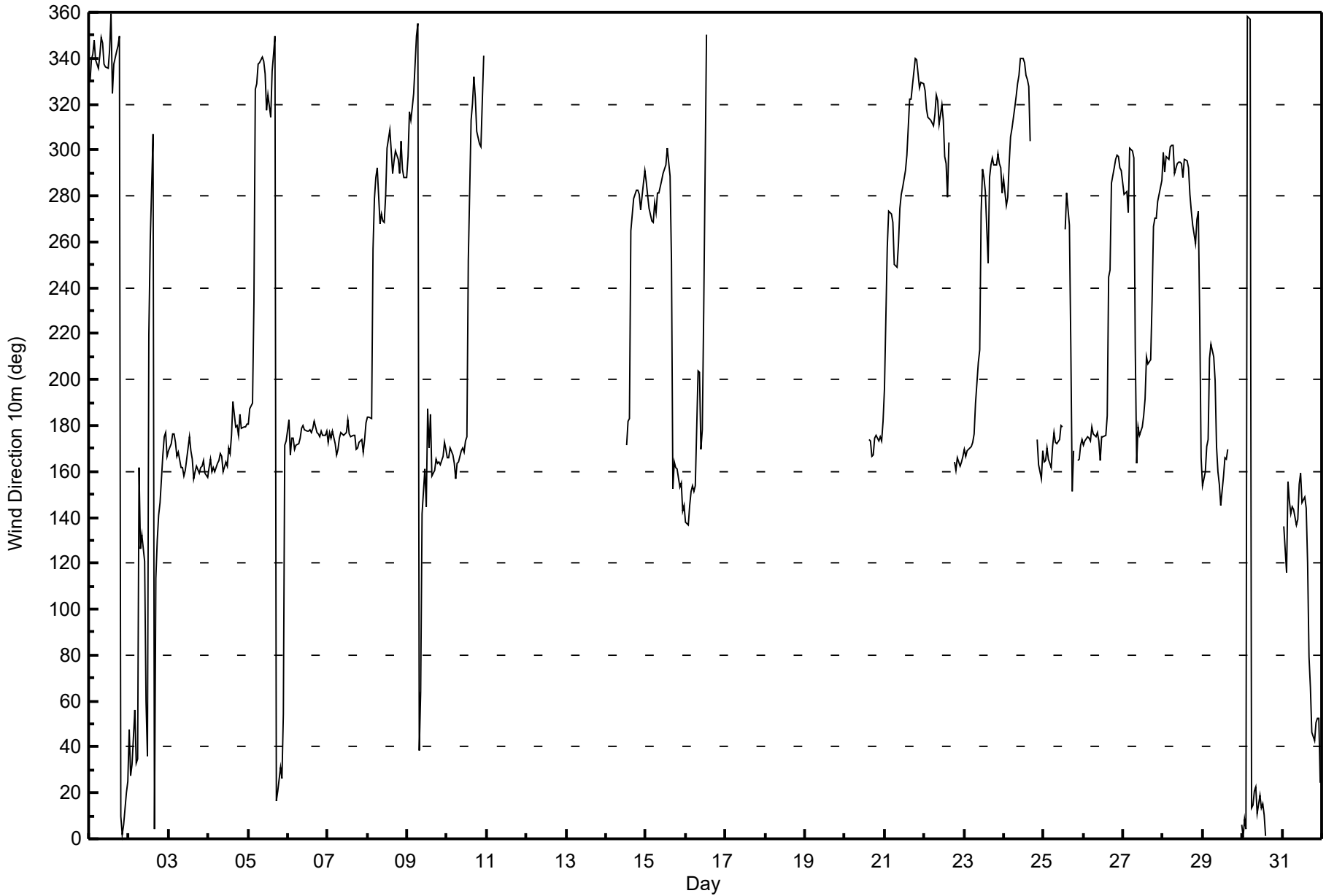
Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0														Hours in Service: 744											
Maximum Value: 9 km/h on Jan 24 09:00														Hours of Data: 538											
Minimum Value: 0 km/h on Jan 2 10:00														Hours of Missing Data: 206											
Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 2 Median = 3 Q ₃ = 4 P ₉₀ = 5 P ₉₉ = 7														Hours of Calibration: 0											
														Percent Operational Time: 72.3											
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	1	1	1	1	1	2	2	2	2	1	1	2	2	2	1	2	2	2	2	2	2	3	1	1	3
2-Jan	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	2	6	2	3	6
3-Jan	2	2	2	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	5	6	5	6
4-Jan	5	5	5	5	5	4	4	4	4	4	4	5	3	3	2	3	3	3	3	3	2	2	2	2	5
5-Jan	1	2	1	1	1	2	1	1	2	2	2	2	1	2	2	1	1	1	1	1	1	1	1	1	2
6-Jan	2	2	2	2	3	3	3	3	3	3	4	3	3	3	3	3	3	3	3	3	3	3	3	3	4
7-Jan	4	5	4	5	3	3	3	3	3	3	3	4	4	4	5	4	4	4	4	3	3	3	3	3	5
8-Jan	3	2	2	4	4	3	3	2	3	3	3	6	7	8	6	4	3	3	3	3	4	4	4	3	8
9-Jan	3	2	2	2	2	1	1	1	1	1	1	2	2	1	1	2	2	3	4	4	4	4	5	4	5
10-Jan	5	7	4	4	4	5	4	3	3	2	3	2	2	2	3	4	2	2	3	4	4	3	4	UO	7
11-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--
12-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--
13-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--
14-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	7
15-Jan	6	5	5	4	4	4	3	3	3	3	3	4	4	4	4	2	1	1	1	1	1	1	3	3	6
16-Jan	3	3	5	3	5	4	4	4	3	3	2	2	3	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	5
17-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--
18-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--
19-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--
20-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	M	4	5	4	5	4	4	4	2	3	3	5
21-Jan	3	4	4	5	5	4	4	5	5	6	5	5	5	5	6	6	5	8	5	6	5	5	5	4	8
22-Jan	4	3	4	3	3	3	3	3	3	3	3	3	4	4	4	3	UO	UO	1	2	3	3	4	3	4
23-Jan	3	3	4	3	3	3	2	2	3	3	5	4	5	5	4	6	6	6	5	4	4	4	3	4	6
24-Jan	5	5	5	5	7	6	7	7	9	8	7	7	6	6	5	5	6	UO	UO	UO	2	1	1	2	9
25-Jan	3	2	2	2	2	2	2	1	2	2	2	3	UO	4	4	3	2	1	1	UO	2	2	2	2	4
26-Jan	2	2	1	1	1	3	1	1	1	2	3	2	2	2	3	4	3	4	4	4	4	4	4	3	4
27-Jan	3	3	3	2	2	3	3	2	1	3	3	2	2	2	3	3	3	3	5	4	4	5	6	6	6
28-Jan	7	5	6	5	6	5	6	4	5	5	6	7	7	6	6	6	4	4	3	2	2	3	2	1	7
29-Jan	1	1	2	2	2	3	1	1	1	1	1	2	3	3	2	2	UO	UO	UO	UO	UO	UO	UO	UO	5
30-Jan	4	4	3	3	4	3	3	3	3	3	3	3	3	3	2	UO	UO	UO	UO	UO	UO	UO	UO	UO	4
31-Jan	UO	3	2	3	3	4	2	3	4	4	4	3	4	4	3	3	2	2	2	2	3	3	3	3	4
Diurnal Maximum																									
M - Maintenance UO - Unstable Operation																									



Wood Buffalo Environmental Association
Summary of Hour Averages

Wind Direction 10m (WD10) - deg
Blackrod - January 2025

Direction of Maximum Speed: 329 deg on Jan 24 09:00																					Hours in Service: 744					
Direction of Maximum Daily Speed Average: 174.4 deg on Jan 7																					Hours of Data: 538					
Direction of Minimum Speed: 162 deg on Jan 2 07:00										Direction of Minimum Daily Speed Average: 1.9 deg on Jan 2											Hours of Missing Data: 206					
Monthly Average Direction: 220.4 deg																					Percent Operational Time: 72.3					
Day	Hourly Period Ending At (MST)																								Daily Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	329	339	342	348	339	335	341	349	347	337	336	335	344	359	325	338	343	345	350	10	2	6	20	25	347.4	
2-Jan	48	27	32	56	33	35	162	126	132	121	60	36	219	260	307	5	113	130	141	146	167	175	177	166	142.7	
3-Jan	169	172	176	176	173	167	168	162	162	158	160	165	175	169	165	157	160	162	159	162	162	165	159	158	164.8	
4-Jan	162	165	160	162	160	164	165	168	166	160	164	162	170	168	176	190	179	180	176	185	179	179	180	180	169.3	
5-Jan	181	187	190	233	326	329	338	338	341	339	333	317	324	314	334	342	350	16	21	31	26	54	172	173	335.5	
6-Jan	183	167	175	174	170	172	172	174	179	180	178	177	178	178	177	179	182	177	176	175	178	176	176	177	176.3	
7-Jan	173	177	175	178	172	167	170	175	177	176	176	177	183	177	175	176	176	170	170	173	174	169	174	181	174.4	
8-Jan	184	183	183	257	279	288	292	268	272	269	269	280	301	308	299	290	295	299	296	290	304	292	288	288	281.3	
9-Jan	297	317	313	319	324	349	355	39	64	141	161	145	187	170	185	158	160	165	164	164	163	166	173	170	173.4	
10-Jan	166	166	170	167	164	157	164	164	169	170	169	173	175	252	313	321	332	323	308	303	302	321	341	UO	182.4	
11-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	
12-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	
13-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	
14-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	171	182	183	265	279	280	282	283	281	274	286	291	--
15-Jan	286	280	275	269	268	277	272	281	281	287	290	292	293	301	289	251	152	164	162	161	153	155	143	145	266.6	
16-Jan	138	137	145	151	154	151	154	204	203	170	178	229	350	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	
17-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	
18-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	
19-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	
20-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	M	174	173	167	167	175	176	174	175	173	182	--
21-Jan	196	258	274	273	272	269	250	249	259	274	281	284	291	297	310	322	322	329	340	340	333	327	329	329	303.6	
22-Jan	326	318	314	313	313	311	316	324	321	311	320	313	297	294	279	303	UO	UO	164	161	166	162	164	167	287.8	
23-Jan	170	167	169	170	171	173	176	190	207	213	273	291	288	282	251	288	293	297	293	293	298	294	292	281	247.6	
24-Jan	287	276	280	294	306	309	318	323	329	333	340	340	338	333	330	328	304	UO	UO	UO	174	163	157	169	317.7	
25-Jan	164	165	170	165	162	171	177	173	172	174	180	179	UO	265	281	268	215	151	169	UO	165	166	172	174	181.1	
26-Jan	172	173	175	174	173	179	177	175	177	174	164	175	175	176	184	245	248	286	292	296	298	297	292	291	208.8	
27-Jan	281	282	282	273	301	300	297	213	164	179	176	180	184	191	210	207	209	234	266	270	270	278	284	287	247.2	
28-Jan	299	291	297	296	301	302	302	290	294	295	295	294	288	296	296	292	280	273	268	260	270	274	227	166	290.2	
29-Jan	154	160	171	174	209	216	210	199	171	160	155	145	158	166	165	170	UO	UO	UO	UO	UO	UO	UO	6	--	
30-Jan	1	9	4	358	357	13	14	21	22	11	19	13	15	11	1	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	
31-Jan	UO	136	116	156	147	141	145	144	137	139	154	159	147	149	144	120	79	66	46	43	51	53	52	24	121.1	
209.1 204.8 205.9 210.6 212.0 205.1 209.5 209.8 218.8 223.5 225.1 244.5 242.8 247.9 230.6 242.0 229.2 227.0 222.4 226.5 221.5 212.7 207.7 205.0																										
Diurnal Average																										
M - Maintenance UO - Unstable Operation																										
All monthly, daily, and diurnal averages have been calculated using vector methods																										





Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg
Blackrod - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 100 deg on Jan 2 15:00 Minimum Value: 6 deg on Jan 26 08:00 Percentiles: P ₁ = 8 P ₁₀ = 10 Q ₁ = 11 Median = 14 Q ₃ = 17 P ₉₀ = 25 P ₉₉ = 72																		Hours in Service: 744 Hours of Data: 538 Hours of Missing Data: 206 Hours of Calibration: 0 Percent Operational Time: 72.3								
Day	Hourly Period Ending At (MST)																								Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	10	9	12	9	15	14	10	11	10	12	14	14	13	22	21	10	9	10	12	13	15	15	9	11	22	
2-Jan	13	59	57	21	21	8	92	29	34	57	39	38	89	87	100	71	44	35	16	22	46	17	7	9	100	
3-Jan	11	11	9	9	9	10	10	11	11	12	12	15	13	14	14	12	14	13	13	12	13	14	13	12	15	
4-Jan	12	13	13	14	15	14	13	14	15	16	15	15	14	14	13	15	12	10	13	10	10	9	10	12	16	
5-Jan	10	12	12	44	14	11	11	8	10	10	14	23	20	23	16	16	16	15	17	20	27	21	53	26	53	
6-Jan	13	13	11	13	12	13	11	11	10	10	10	10	10	10	10	10	11	10	10	10	9	9	9	8	13	
7-Jan	14	19	20	19	9	9	10	10	9	9	10	15	15	15	18	16	14	13	14	10	10	16	13	13	20	
8-Jan	9	9	13	34	15	19	16	17	19	18	19	17	18	14	16	13	16	15	15	13	17	13	13	14	34	
9-Jan	16	14	15	14	15	16	16	56	73	20	13	19	21	13	18	9	13	10	11	11	11	11	11	11	73	
10-Jan	12	15	11	12	13	11	13	10	11	11	13	12	12	52	17	14	13	20	16	16	15	16	14	UO	52	
11-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	
12-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	
13-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	
14-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	11	9	11	35	14	13	13	14	13	16	14	14	35
15-Jan	13	13	16	17	16	15	16	13	13	12	13	15	15	17	25	46	9	8	10	10	9	10	13	13	46	
16-Jan	19	18	35	62	14	11	13	45	54	91	18	57	19	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	91	
17-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	
18-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	
19-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	
20-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	M	9	10	10	11	10	12	12	9	16	23	23	
21-Jan	20	26	16	15	15	18	24	26	21	15	13	16	15	16	18	16	15	18	12	14	13	13	12	13	26	
22-Jan	14	13	16	15	15	17	15	12	13	17	15	21	16	16	18	32	UO	UO	9	12	14	12	11	10	32	
23-Jan	12	11	11	10	12	13	11	14	13	16	28	13	14	16	21	17	14	14	15	14	16	15	16	14	28	
24-Jan	14	14	15	15	15	16	14	15	13	13	13	15	14	16	13	16	21	UO	UO	9	11	9	9	9	21	
25-Jan	9	9	12	12	10	12	12	7	8	8	9	12	UO	17	16	20	29	12	30	UO	9	11	8	8	30	
26-Jan	9	10	8	8	8	10	7	6	6	8	11	10	10	17	21	20	13	16	16	17	18	17	17	21		
27-Jan	16	14	20	26	22	16	21	38	15	31	11	12	9	12	14	13	15	23	17	15	15	17	17	18	38	
28-Jan	19	16	17	16	17	16	19	20	15	15	15	16	14	16	16	17	13	16	18	19	16	16	53	9	53	
29-Jan	10	10	11	9	33	15	13	13	16	12	14	18	15	16	15	10	UO	UO	UO	UO	UO	UO	UO	UO	15	33
30-Jan	15	15	15	15	14	14	14	13	15	14	15	15	16	18	16	UO	UO	UO	UO	UO	UO	UO	UO	UO	18	
31-Jan	UO	28	48	25	32	31	56	28	25	23	24	23	24	20	20	36	42	29	63	18	18	19	24	31	63	
Diurnal Maximum																										
M - Maintenance UO - Unstable Operation																										



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS33 MONDAY CREEK JANUARY 2025

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

February 28, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - MONDAY CREEK (AMS33)
 JANUARY 2025

MONTHLY SUMMARY

Parameter	Hours of Data	Hours of Calibration	Hours without Data	Operational Time	Maximum 1-Hour Value	1-Hour Exceedances	Maximum 24-Hour Value	24-Hour Exceedances
SO2 (ppb) Average	708	36	36	100	16.6	0	1.9	0
H2S (ppb) Average	709	35	35	100	1.1	0	0.2	0
NO2 (ppb) Average	670	34	74	94.62	35	0	8	-
NO (ppb) Average	670	34	74	94.62	106.4	-	12.8	-
NOX (ppb) Average	670	34	74	94.62	141.4	-	20.8	-
Temperature 2 m (C) Average	744	0	0	100	5.9	-	1.8	-
Relative Humidity (%) Average	744	0	0	100	98.5	-	88.3	-
Wind Speed 10 m (km/h) Average	686	0	58	92.2	30	-	21	-
Wind Direction 10 m (deg) Average	686	0	58	92.2	-	-	-	-

Note : Operational time includes periods of data collection and instrument calibration

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - MONDAY CREEK (AMS33)
JANUARY 2025

MONTHLY SUMMARY FOR AIR QUALITY/ METEOROLOGICAL MONITORING MEASUREMENTS

Parameter	Number	Mean	StnDev	Total	Percentile						
					Min	P10	Q1	Median	Q3	P90	Max
SO2 (ppb) Average	708	0.8	1.3	-	0	0	0.1	0.4	1	1.8	16.6
H2S (ppb) Average	709	0.13	0.1	-	0	0.1	0.1	0.1	0.2	0.2	1.1
NO2 (ppb) Average	670	4.01	4.1	-	0	0.5	1.1	2.7	5.6	9.8	35
NO (ppb) Average	670	1.78	7.1	-	0	0	0	0.1	0.5	3.1	106.4
NOX (ppb) Average	670	5.79	10.1	-	0	0.5	1.2	3.1	6.5	12.3	141.4
Temperature 2 m (C) Average	744	-10.76	10.5	-	-39.2	-24.3	-18.8	-8.1	-2.2	1.4	5.9
Relative Humidity (%) Average	744	74.55	11.8	-	34.8	58.9	69	75.7	82.1	89	98.5
Wind Speed 10 m (km/h) Average	686	11.6	6	-	0	5	8	11	15	21	30
Wind Direction 10 m (deg) Average	686	-	-	-	-	-	-	-	-	-	-

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - MONDAY CREEK (AMS33)
JANUARY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
NO2	13 Jan 2025 06:00	14 Jan 2025 14:00	33	Analyzer Failure - reaction chamber cell failure
NO2	14 Jan 2025 15:00	14 Jan 2025 15:00	1	Maintenance - analyzer replaced
NO2	29 Jan 2025 11:00	29 Jan 2025 16:00	6	Maintenance - calibrator conditions, analyzer re-calibrated
Wind Speed, Wind Direction	11 Jan 2025 13:00	13 Jan 2025 17:00	53	Flat line in sensor output signal - Sensor frozen
Wind Speed, Wind Direction	18 Jan 2025 23:00	19 Jan 2025 00:00	2	Flat line in sensor output signal - Sensor frozen
Wind Speed, Wind Direction	19 Jan 2025 02:00	19 Jan 2025 02:00	1	Flat line in sensor output signal - Sensor frozen
Wind Speed, Wind Direction	19 Jan 2025 04:00	19 Jan 2025 05:00	2	Flat line in sensor output signal - Sensor frozen



Wood Buffalo Environmental Association

Summary of Hour Averages

Sulphur Dioxide (SO₂) - ppb

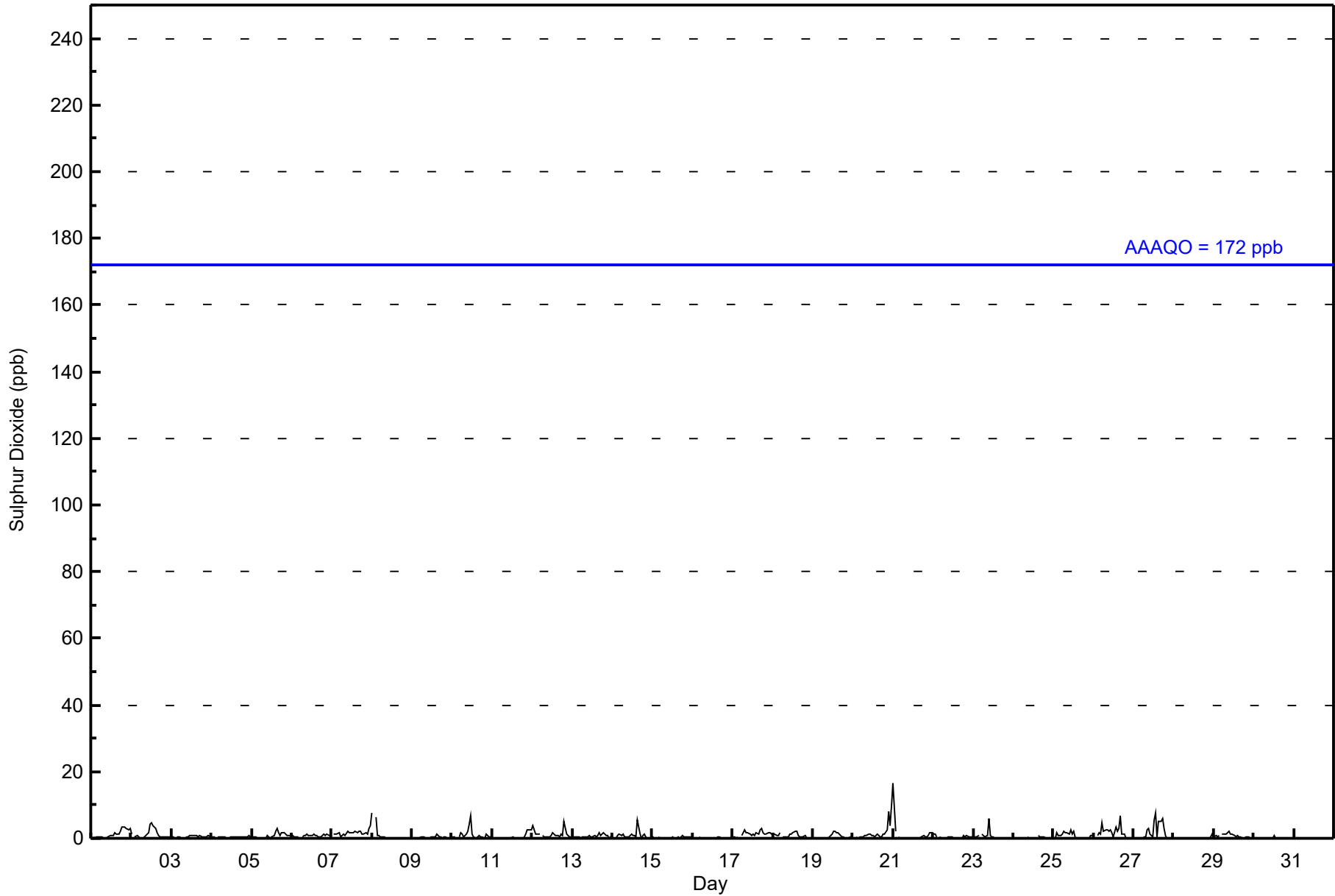
Monday Creek - January 2025

Number of Exceedences (AAAQO):		1-hr: 0	24-hr: 0	Hours in Service: 744																	744																											
Maximum Value: 16.6 ppb on Jan 21 01:00		Maximum Daily Average: 1.9 ppb on Jan 27																	708																													
Minimum Value: 0.0 ppb on Jan 9 00:00		Minimum Daily Average: 0.1 ppb on Jan 30																	36																													
Maximum Diurnal Average: 1.5 ppb at hour 1		Minimum Diurnal Average: 0.5 ppb at hour 5																	36																													
Monthly Average: 0.80 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.4 Q ₃ = 1.0 P ₉₀ = 1.8 P ₉₉ = 6.4																	100.0																													
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Jan	Z	0.2	0.2	0.2	0.3	0.3	0.3	0.1	0.1	0.1	0.6	0.9	0.7	1.0	1.5	1.2	1.4	2.2	3.2	3.2	3.5	3.1	2.7	2.9	1.3	3.5																						
2-Jan	1.5	Z	0.6	0.7	0.4	0.1	0.1	0.1	0.6	1.1	1.7	4.1	4.5	3.8	3.1	1.8	0.8	0.4	0.4	0.3	0.2	0.3	0.3	0.3	1.2	4.5																						
3-Jan	0.3	0.4	Z	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.5	0.9	0.8	0.7	0.7	0.7	0.6	0.9	0.5	0.4	0.4	0.5	0.6	0.6	0.5	0.9																						
4-Jan	0.4	0.4	0.5	Z	0.3	0.3	0.3	0.4	0.3	0.1	0.2	0.3	0.3	0.3	0.4	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.8	0.4	0.4	0.8																						
5-Jan	0.5	0.5	0.3	0.1	Z	0.1	0.1	0.0	0.1	1.0	0.6	0.2	0.3	1.0	2.1	2.8	1.6	1.0	1.7	1.8	1.2	1.0	0.9	0.7	0.9	2.8																						
6-Jan	0.6	0.6	0.4	0.3	0.4	Z	0.6	0.7	1.0	1.1	0.9	0.6	0.8	1.1	0.9	0.9	0.6	0.6	0.7	1.2	1.0	1.1	0.9	0.8	0.8	1.2																						
7-Jan	Z	1.4	1.5	1.1	1.7	0.6	0.8	1.1	1.0	2.0	1.6	1.8	1.7	1.6	2.3	1.6	1.9	2.1	1.2	1.5	1.6	1.2	2.8	3.7	1.6	3.7																						
8-Jan	7.7	Z	6.4	1.0	0.8	0.4	0.3	0.3	0.2	0.2	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.2	0.2	0.1	0.1	0.1	0.0	0.8	7.7																						
9-Jan	0.1	0.0	Z	0.0	0.0	0.3	0.2	0.3	0.0	0.1	0.1	0.4	0.3	0.5	0.5	1.4	0.5	0.2	0.2	0.5	0.3	0.2	0.1	0.2	0.3	1.4																						
10-Jan	0.2	0.3	0.4	Z	0.3	1.8	1.3	0.5	1.4	2.3	4.3	6.9	1.1	0.4	0.2	0.4	0.7	0.4	0.2	0.0	1.1	1.0	0.5	0.2	1.1	6.9																						
11-Jan	0.2	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.1	0.1	0.4	1.4	2.7	2.5	2.4	0.4	2.7																						
12-Jan	3.6	2.5	1.4	1.2	1.4	Z	0.9	0.6	0.5	0.5	0.6	0.8	1.6	1.4	0.7	0.9	0.6	1.1	0.7	5.1	1.4	0.7	0.4	0.5	1.3	5.1																						
13-Jan	Z	0.3	0.2	0.2	0.4	0.2	0.2	0.3	0.4	0.3	0.7	0.4	0.6	0.7	0.6	1.0	1.6	0.8	1.6	1.3	1.0	0.7	0.1	0.3	0.6	1.6																						
14-Jan	0.1	Z	0.2	0.8	1.1	0.8	1.1	0.4	0.5	0.3	0.6	1.2	1.0	0.8	0.4	5.3	1.3	0.1	1.0	1.3	0.5	0.1	0.0	0.1	0.8	5.3																						
15-Jan	0.3	0.1	Z	0.3	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.2	0.1	0.2	0.4	0.0	0.3	0.9	0.5	0.2	0.3	0.2	0.3	0.2	0.9																						
16-Jan	0.0	0.0	0.0	Z	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.4	0.5	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.5																						
17-Jan	0.4	0.5	0.2	0.3	Z	1.0	1.6	2.4	1.9	1.8	1.4	1.0	1.2	0.9	1.8	1.2	2.5	2.8	1.7	1.2	1.2	1.7	1.6	1.4	1.4	2.8																						
18-Jan	1.4	1.4	1.0	1.0	1.6	Z	0.6	0.5	0.4	0.3	1.1	1.4	1.8	2.1	2.0	0.8	0.4	0.3	0.2	0.8	0.2	0.1	0.0	0.0	0.9	2.1																						
19-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.5	1.4	2.1	2.3	1.9	1.6	1.4	0.6	0.3	0.1	0.2	0.1	0.2	0.1	0.6	2.3																						
20-Jan	0.0	Z	0.3	0.2	0.4	0.5	0.5	0.9	0.9	1.4	1.2	0.7	0.7	0.5	1.3	0.7	0.4	0.5	1.4	1.2	2.5	8.0	3.9	9.8	1.6	9.8																						
21-Jan	16.6	2.0	Z	0.4	0.1	0.1	0.2	0.0	0.1	0.1	0.1	0.2	0.0	0.1	0.1	0.1	0.1	0.5	0.7	0.4	0.4	0.9	1.6	1.5	1.1	16.6																						
22-Jan	1.2	1.1	0.6	Z	0.2	0.0	0.1	0.2	0.2	0.2	0.3	0.4	0.1	0.1	0.1	0.0	0.1	0.1	0.8	0.2	0.7	0.6	0.4	0.6	0.4	1.2																						
23-Jan	0.5	0.3	0.5	0.9	Z	1.2	0.7	0.4	0.8	6.0	0.9	0.3	0.3	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.6	6.0																						
24-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.1	0.1	0.5	C	C	C	C	C	0.8	0.5	0.4	0.2	0.2	0.1	0.0	0.0	0.0	0.2	0.8																						
25-Jan	Z	0.1	1.7	0.8	0.7	1.4	2.3	1.8	1.5	1.2	2.4	1.3	2.3	0.4	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.8	0.9	0.9	2.4																						
26-Jan	1.1	Z	0.9	1.8	1.1	4.5	2.3	2.7	2.6	2.0	2.4	1.9	0.3	3.4	2.2	3.0	6.7	1.4	1.1	0.0	0.1	0.0	0.0	0.0	1.8	6.7																						
27-Jan	0.0	0.0	Z	0.0	0.0	0.1	0.3	0.5	2.7	3.1	1.2	0.6	5.4	7.7	0.6	5.1	5.1	5.8	3.1	0.9	0.1	0.0	0.0	0.1	1.9	7.7																						
28-Jan	0.0	0.1	0.0	Z	0.0	0.2	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.6	1.3	0.1	1.3																						
29-Jan	0.6	0.7	0.3	0.8	Z	1.1	1.5	1.3	1.6	2.2	1.2	1.5	0.7	0.3	0.9	0.5	0.3	0.2	0.1	0.3	0.3	0.3	0.2	0.1	0.7	2.2																						
30-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.0	0.0	0.2	0.6	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.6																						
31-Jan	Z	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.0	0.1	0.1	0.2																						
																								1.5	0.5	0.7	0.5	0.5	0.6	0.5	0.5	0.6	0.9	0.8	1.0	1.0	1.1	0.8	1.1	1.0	0.8	0.7	0.8	0.7	0.8	0.7	1.0	Diurnal Average
																								16.6	2.5	6.4	1.8	1.7	4.5	2.3	2.7	2.7	6.0	4.3	6.9	5.4	7.7	3.1	5.3	6.7	5.8	3.2	5.1	3.5	8.0	3.9	9.8	Diurnal Maximum
Z - zerospan C - Calibration																																																
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb																																																



Wood Buffalo Environmental Association
Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Monday Creek - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Monday Creek - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	707	99.86	99.86
11 - 20	1	0.14	100.00
21 - 60	0	0.00	100.00
61 - 110	0	0.00	100.00
111 - 172	0	0.00	100.00
> 172	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Monday Creek - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 10	17	40	24	22	18	24	24	27	30	31	54	39	101	117	42	41	651
11 - 20	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
21 - 60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61 - 110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111 - 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	17	40	24	22	18	24	24	27	30	31	54	40	101	117	42	41	652

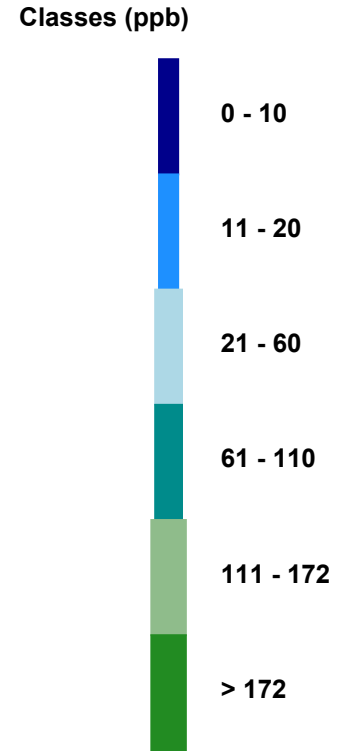
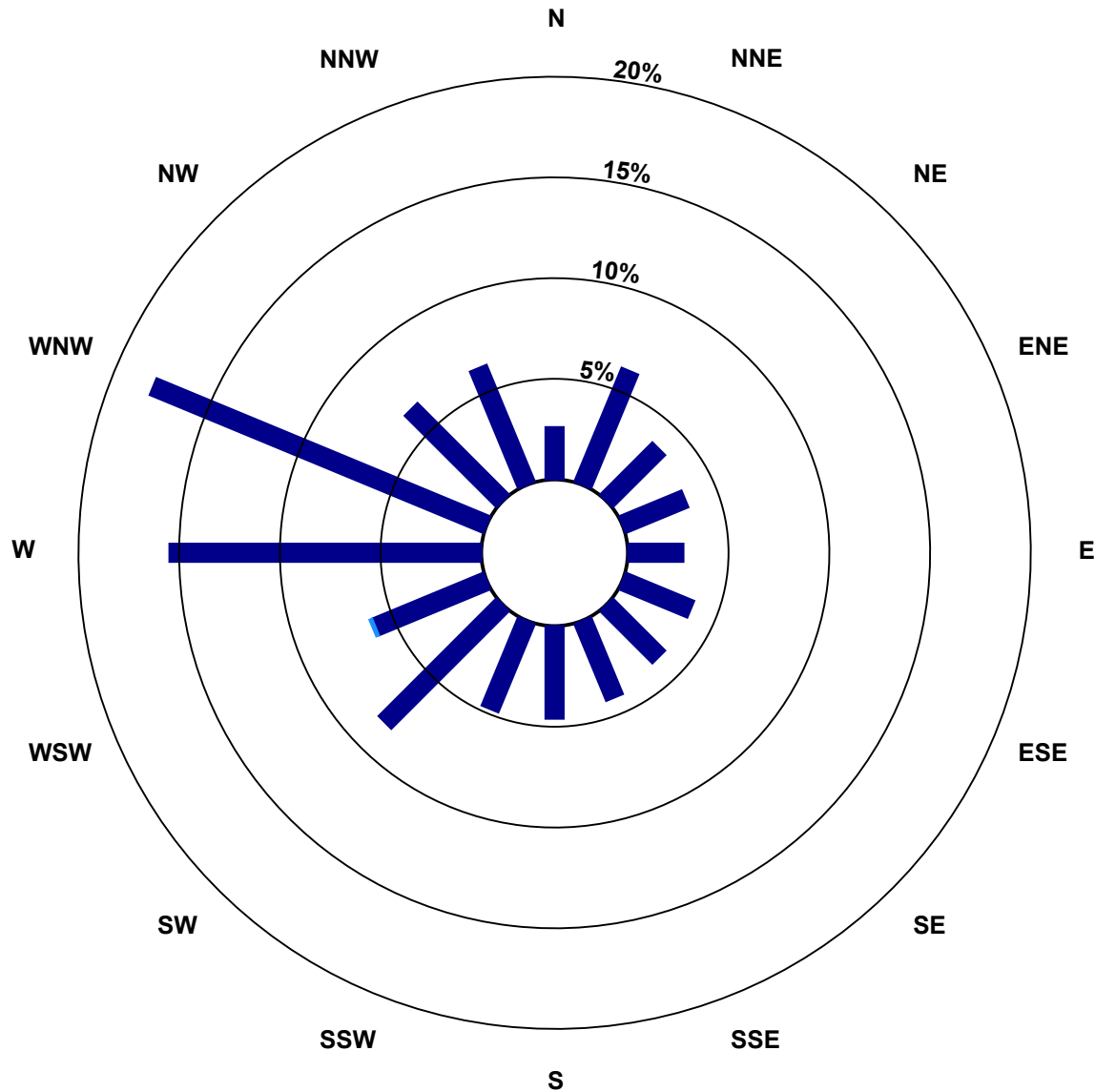
Total Number of Valid Hours: 652

Total Number of Hours: 744

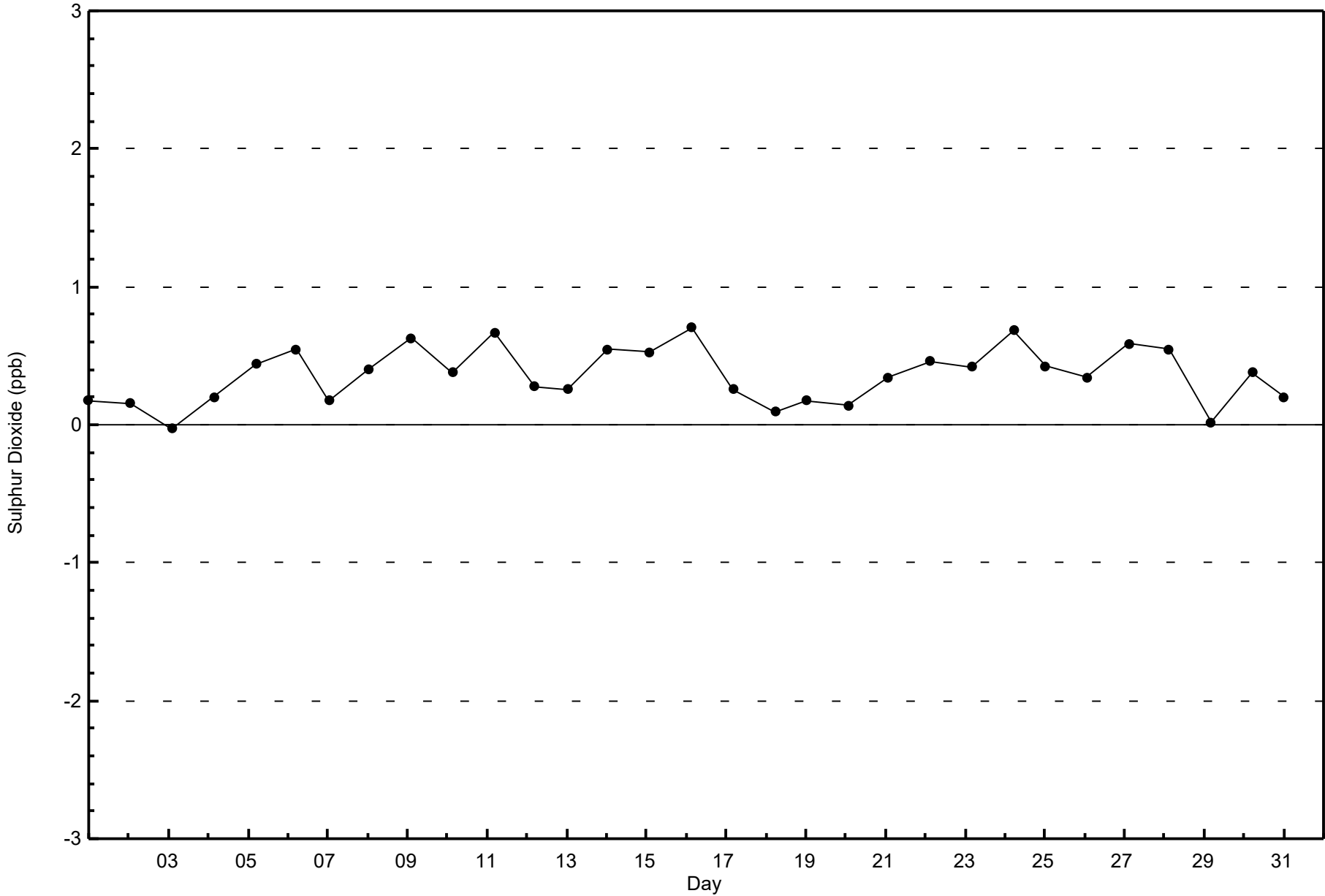


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Sulphur Dioxide (SO₂) - ppb
Monday Creek



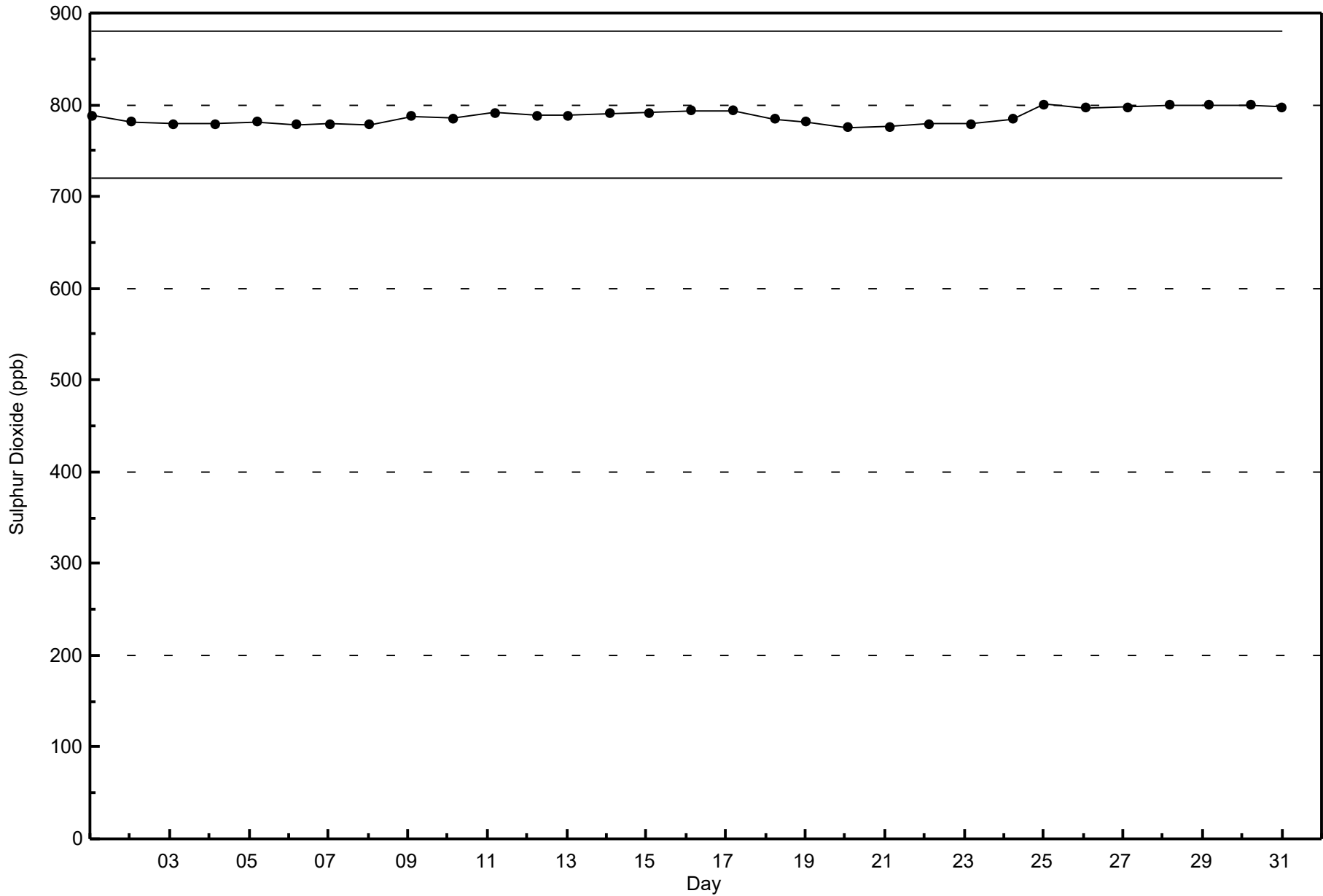
Total Number of Valid Hours: 652





Wood Buffalo Environmental Association
Span Responses

Sulphur Dioxide (SO₂) - ppb
Monday Creek - January 2025

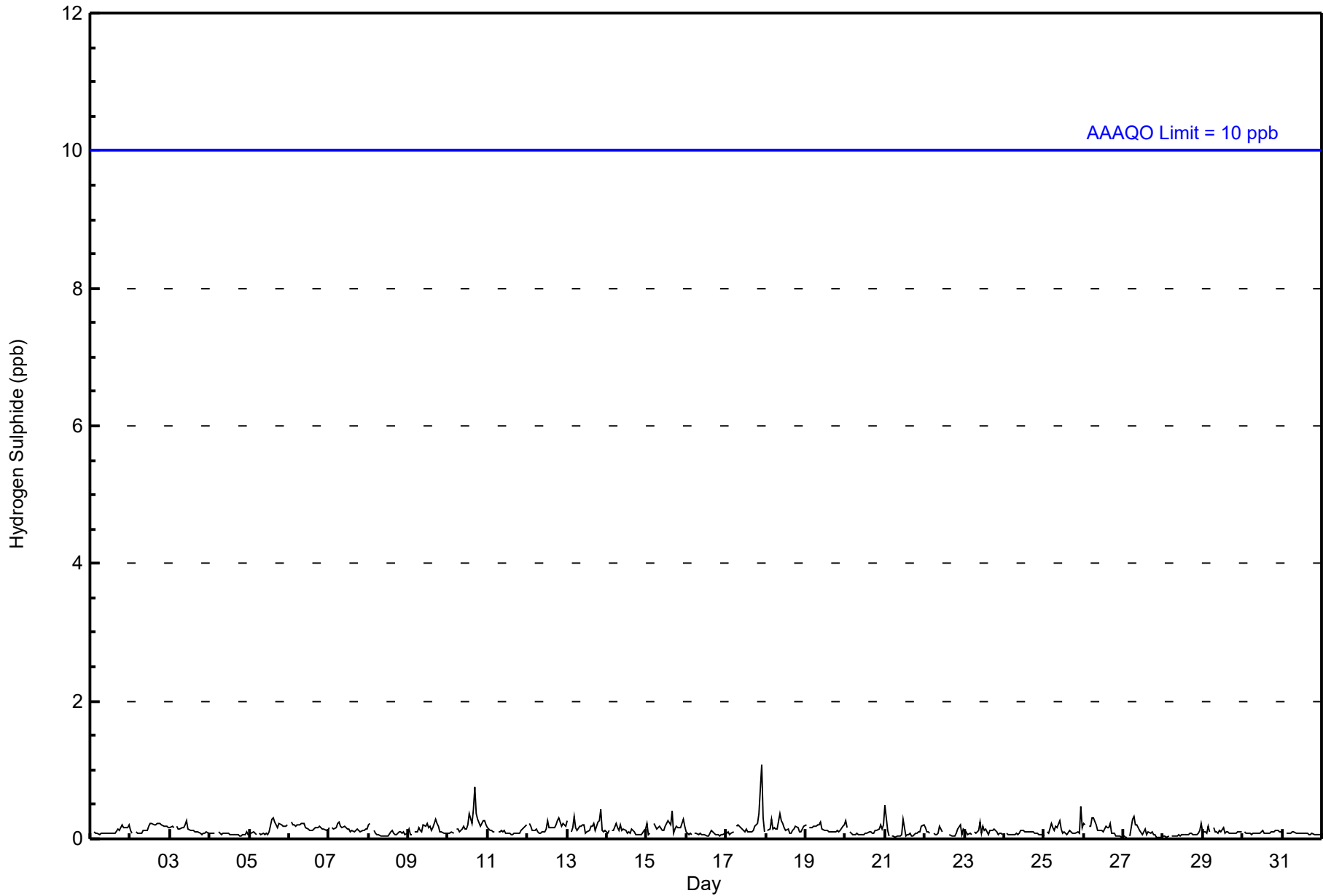




Wood Buffalo Environmental Association
Summary of Hour Averages

Hydrogen Sulphide (H₂S) - ppb
Monday Creek - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 1.1 ppb on Jan 17 22:00 Minimum Value: 0.0 ppb on Jan 27 03:00 Maximum Diurnal Average: 0.2 ppb at hour 22 Monthly Average: 0.13 ppb		Maximum Daily Average: 0.2 ppb on Jan 10 Minimum Daily Average: 0.1 ppb on Jan 28 Minimum Diurnal Average: 0.1 ppb at hour 3 Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.1 Median = 0.1 Q ₃ = 0.2 P ₉₀ = 0.2 P ₉₉ = 0.4		Hours in Service: 744 Hours of Data: 709 Hours of Missing Data: 35 Hours of Calibration: 35 Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	
2-Jan	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
3-Jan	0.2	0.2	0.2	Z	0.2	0.1	0.1	0.2	0.2	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3
4-Jan	0.1	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
5-Jan	0.1	0.1	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3
6-Jan	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2
7-Jan	0.2	Z	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
8-Jan	0.2	0.2	Z	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
9-Jan	0.2	0.1	0.1	Z	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3
10-Jan	0.1	0.1	0.1	0.1	Z	0.1	0.2	0.1	0.1	0.2	0.2	0.1	0.2	0.4	0.2	0.4	0.7	0.4	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.7
11-Jan	0.2	0.1	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2
12-Jan	Z	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3
13-Jan	0.3	Z	0.1	0.2	0.3	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.3	0.4	0.1	0.1	0.1	0.1	0.2	0.4
14-Jan	0.1	0.1	Z	0.1	0.1	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
15-Jan	0.2	0.1	0.1	Z	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.3	0.2	0.4	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.4
16-Jan	0.1	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
17-Jan	0.1	0.1	0.1	0.1	0.1	Z	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.4	1.1	0.3	0.1	0.2	1.1
18-Jan	Z	0.1	0.1	0.3	0.1	0.2	0.2	0.1	0.4	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.4
19-Jan	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2
20-Jan	0.3	0.2	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.3
21-Jan	0.5	0.1	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.5
22-Jan	0.2	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.2	0.1	C	C	C	C	0.1	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2
23-Jan	0.1	0.1	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
24-Jan	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
25-Jan	0.1	Z	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.2	0.1	0.5
26-Jan	0.2	0.2	Z	0.2	0.2	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3
27-Jan	0.0	0.0	0.0	Z	0.0	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.3
28-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2
29-Jan	0.1	0.1	0.1	0.2	0.1	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
30-Jan	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
31-Jan	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
																								Diurnal Average			
																								Diurnal Maximum			
Z - zerospan C - Calibration																											
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																											





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Hydrogen Sulphide (H₂S) - ppb
Monday Creek - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	709	100.00	100.00
3 - 4	0	0.00	100.00
5 - 7	0	0.00	100.00
8 - 11	0	0.00	100.00
> 11	0	0.00	100.00

Total Number of Valid Hours: 709

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Hydrogen Sulphide (H₂S) - ppb
Monday Creek - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2	18	39	23	22	18	25	25	28	29	31	53	41	103	114	39	46	654
3 - 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 - 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 - 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	18	39	23	22	18	25	25	28	29	31	53	41	103	114	39	46	654

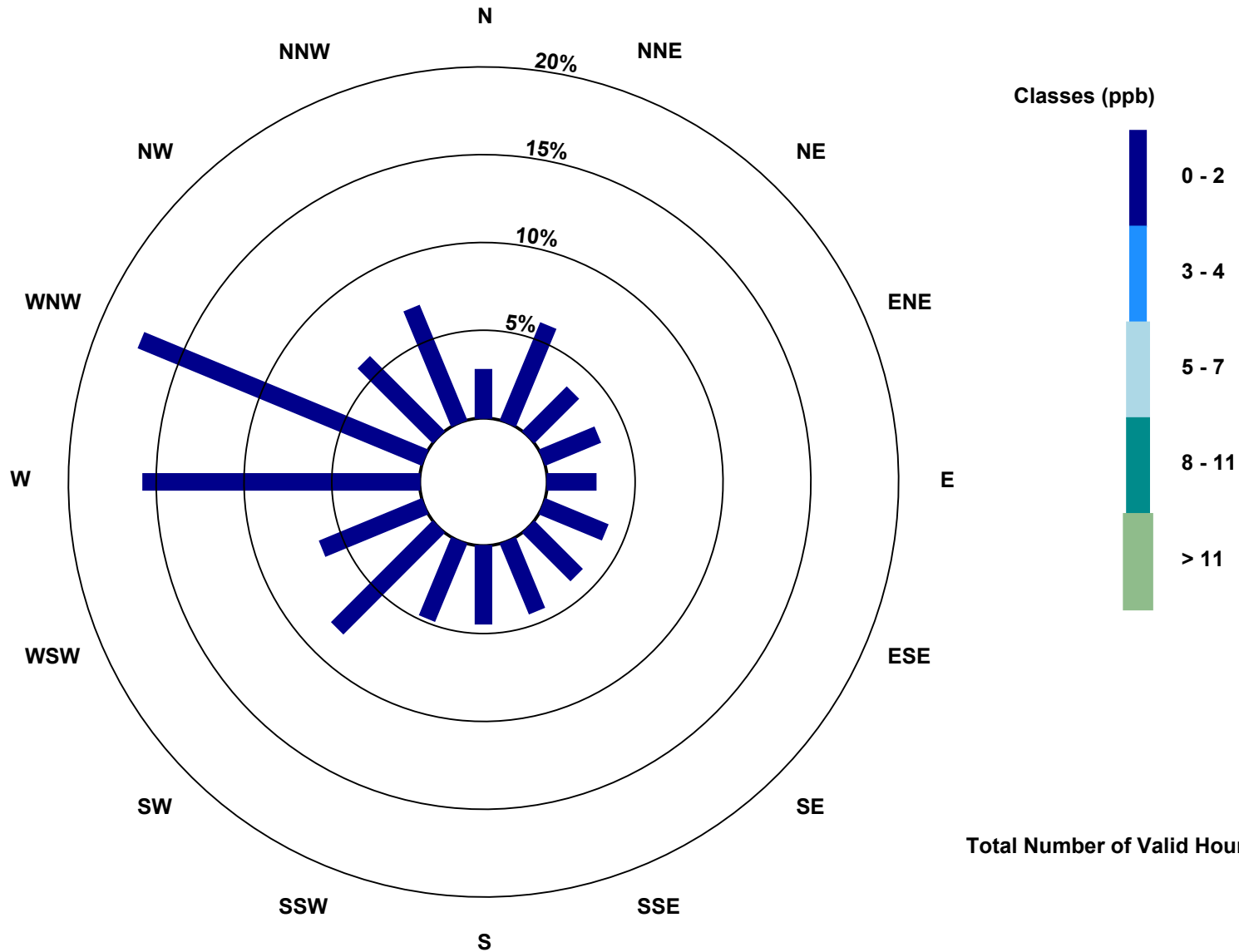
Total Number of Valid Hours: 654

Total Number of Hours: 744

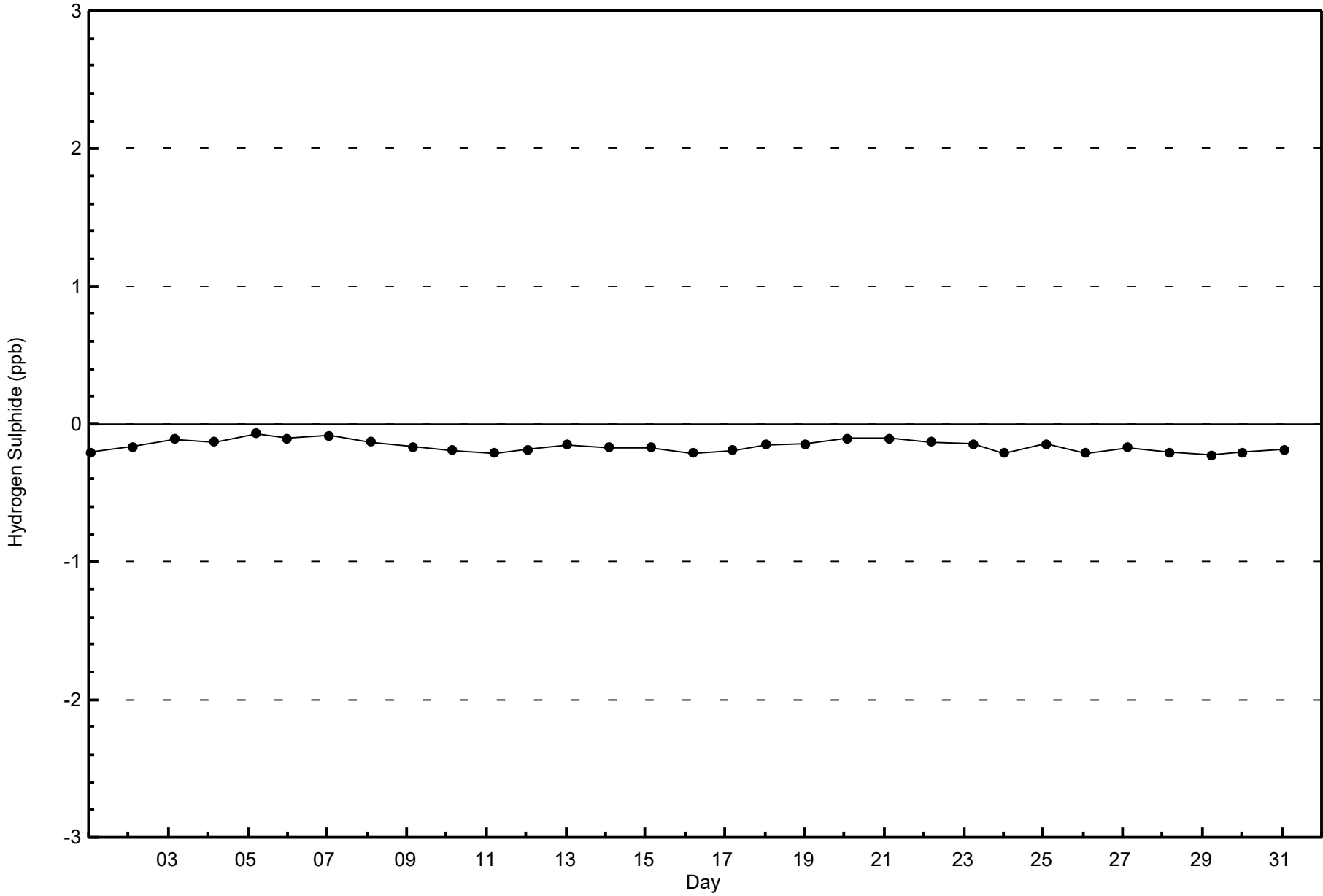


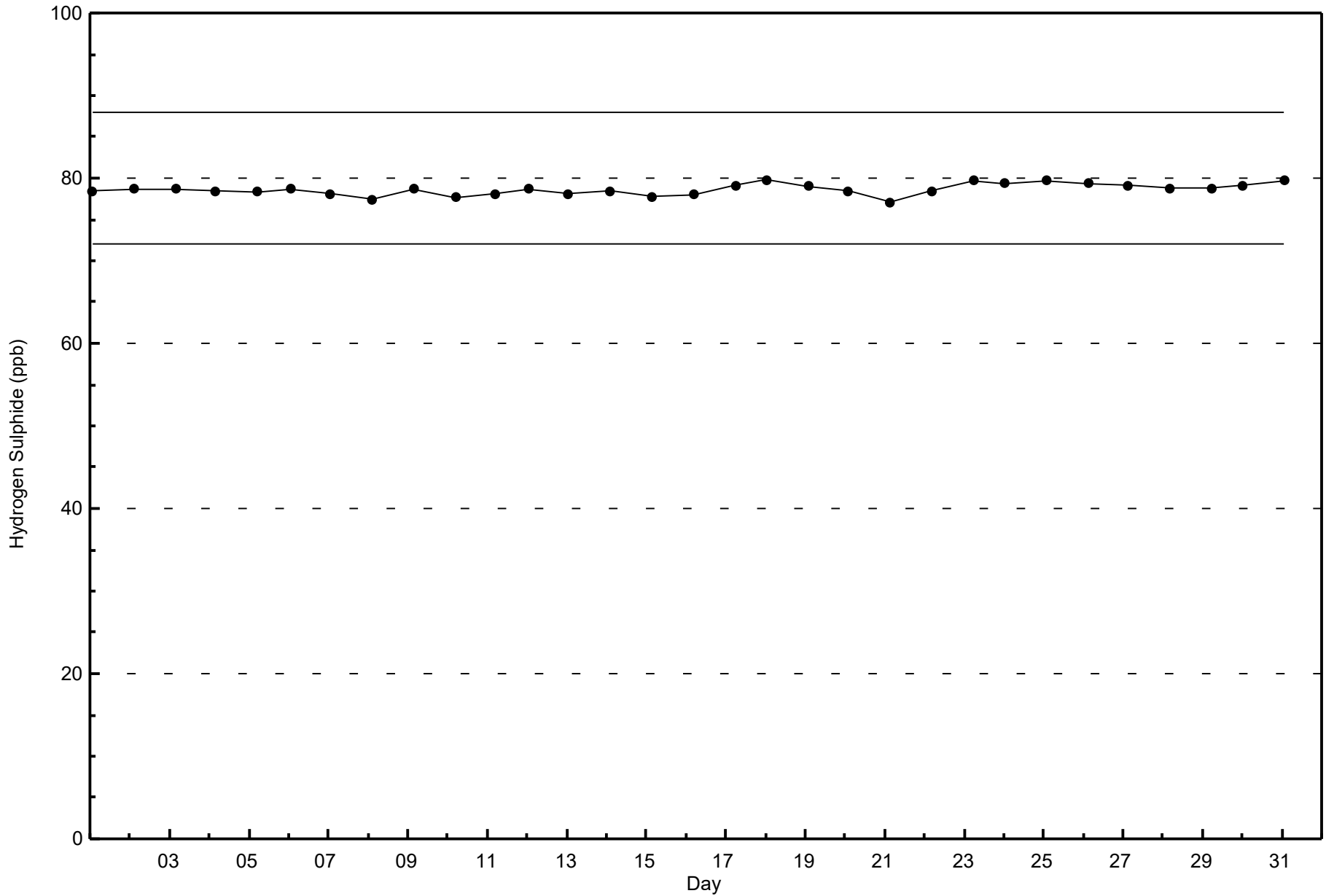
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Hydrogen Sulphide (H₂S) - ppb
Monday Creek



Total Number of Valid Hours: 654







Wood Buffalo Environmental Association

Summary of Hour Averages

Nitric Oxide (NO) - ppb

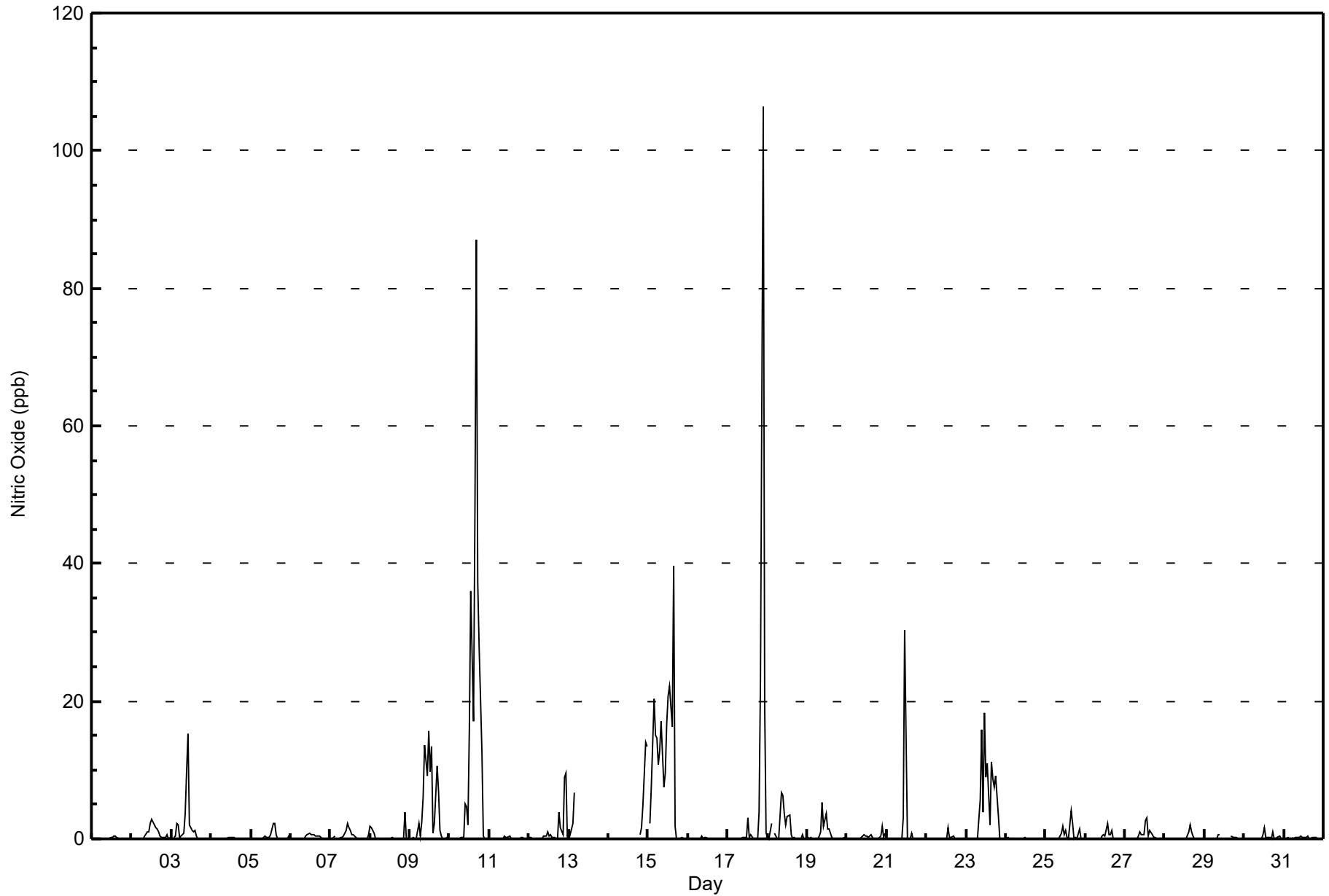
Monday Creek - January 2025

Maximum Value: 106.4 ppb on Jan 17 22:00		Maximum Daily Average: 12.8 ppb on Jan 10		Hours in Service: 744																							
Minimum Value: 0.0 ppb on Jan 1 04:00		Minimum Daily Average: 0.0 ppb on Jan 24		Hours of Data: 670																							
Maximum Diurnal Average: 4.3 ppb at hour 22		Minimum Diurnal Average: 0.2 ppb at hour 1		Hours of Missing Data: 74																							
Monthly Average: 1.78 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.5 P ₉₀ = 3.1 P ₉₉ = 28.6		Hours of Calibration: 34																							
				Percent Operational Time: 94.6																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.3	0.4	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.4	
2-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.3	1.0	0.9	2.2	2.8	2.4	1.6	1.5	0.9	0.5	0.2	0.2	0.1	0.6	0.1	0.2	0.7	2.8	
3-Jan	Z	0.1	0.4	2.3	2.1	0.2	0.3	0.7	3.6	9.9	15.3	1.9	1.2	1.1	1.2	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	1.8	15.3	
4-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.3	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.3	
5-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.4	0.1	0.2	0.2	0.6	2.2	2.2	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	2.2	
6-Jan	0.1	0.1	0.1	Z	0.0	0.0	0.1	0.1	0.1	0.4	0.5	0.8	0.6	0.7	0.6	0.5	0.3	0.3	0.2	0.1	0.1	0.0	0.1	0.1	0.2	0.8	
7-Jan	0.0	0.0	0.2	0.4	Z	0.1	0.2	0.3	0.4	1.2	2.3	1.6	1.1	0.6	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.4	2.3	
8-Jan	1.8	1.7	0.8	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	3.9	0.0	0.0	0.4	3.9	
9-Jan	Z	0.1	0.1	0.0	0.0	2.2	0.4	2.4	6.2	13.6	9.2	15.6	9.7	13.4	0.9	2.2	10.6	6.9	1.2	0.5	0.0	0.0	0.2	0.1	4.2	15.6	
10-Jan	0.0	Z	0.0	0.1	0.0	0.0	0.1	0.2	0.3	5.1	4.7	2.0	15.9	36.1	17.2	47.5	87.0	37.3	27.8	12.6	0.4	0.0	0.0	0.0	12.8	87.0	
11-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.0	0.3	0.3	0.1	0.3	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.1	0.3	
12-Jan	0.2	0.2	0.0	Z	0.0	0.0	0.1	0.0	0.0	0.5	0.3	1.1	0.3	0.6	0.2	0.2	0.0	0.0	3.9	1.7	0.6	8.9	9.5	0.5	1.2	9.5	
13-Jan	1.0	0.7	2.3	6.7	Z	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	6.7	
14-Jan	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	M	C	C	C	C	0.6	1.7	5.0	14.1	13.5	--	14.1	
15-Jan	Z	2.3	7.5	20.3	15.0	14.6	10.7	12.9	17.1	7.5	9.5	16.7	20.8	22.1	16.3	39.8	1.8	0.0	0.1	0.1	0.2	0.0	0.0	0.0	10.2	39.8	
16-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	
17-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	3.1	0.2	0.7	0.0	0.0	0.0	0.0	3.9	23.1	106.4	19.5	0.9	6.9	106.4	
18-Jan	0.5	0.0	2.3	Z	0.8	0.4	0.0	0.0	6.6	6.2	3.6	2.0	3.3	3.6	0.5	0.1	0.3	0.0	0.0	0.0	0.1	0.6	0.0	0.0	1.3	6.6	
19-Jan	0.2	0.0	0.1	0.0	Z	0.0	0.1	0.3	1.0	5.2	1.8	3.7	1.4	1.5	0.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.7	5.2	
20-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.4	0.5	0.4	0.4	0.3	0.6	0.3	0.0	0.0	0.0	0.0	0.5	1.8	0.3	0.9	0.3	1.8	
21-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1	30.3	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	30.3	
22-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.2	0.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.7	
23-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	5.6	15.8	3.8	18.3	9.0	11.0	2.1	11.2	8.7	7.5	9.1	3.2	0.0	0.0	0.0	0.0	4.6	18.3	
24-Jan	0.0	0.1	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
25-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.7	1.7	0.6	1.1	0.3	0.1	4.1	2.2	0.0	0.2	0.0	1.5	0.0	0.0	0.0	0.5	4.1	
26-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.3	0.6	0.4	2.2	0.6	0.6	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	2.2	
27-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.1	0.6	0.6	2.6	3.1	0.5	1.2	0.5	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.5	3.1	
28-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	2.1	1.1	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.1	
29-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.7	0.6	M	M	M	M	M	M	M	0.4	0.2	0.2	0.1	0.1	0.1	0.1	0.1	--	0.7	
30-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.7	0.2	0.2	0.2	0.2	0.1	1.0	0.1	0.1	0.1	0.1	0.4	0.1	0.1	1.7	
31-Jan	0.1	0.0	0.1	0.1	Z	0.3	0.1	0.2	0.1	0.2	0.4	0.2	0.1	0.1	0.4	0.1	0.1	0.1	0.2	0.1	0.0	0.0	0.1	0.0	0.1	0.4	
																								Diurnal Average			
																								Diurnal Maximum			
Z - zerospan C - Calibration M - Maintenance AF - Analyzer Failure																											



Wood Buffalo Environmental Association
Hourly Averages

Nitric Oxide (NO) - ppb
Monday Creek - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitric Oxide (NO) - ppb
Monday Creek - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	659	98.36	98.36
21 - 40	8	1.19	99.55
41 - 80	1	0.15	99.70
81 - 159	2	0.30	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 670

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitric Oxide (NO) - ppb
Monday Creek - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	18	39	24	22	16	25	23	28	27	27	47	35	91	107	41	46	616
21 - 40	0	0	0	0	0	0	0	0	0	0	0	0	0	6	2	0	8
11 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	18	39	24	22	16	25	23	28	27	27	47	35	91	115	44	46	627

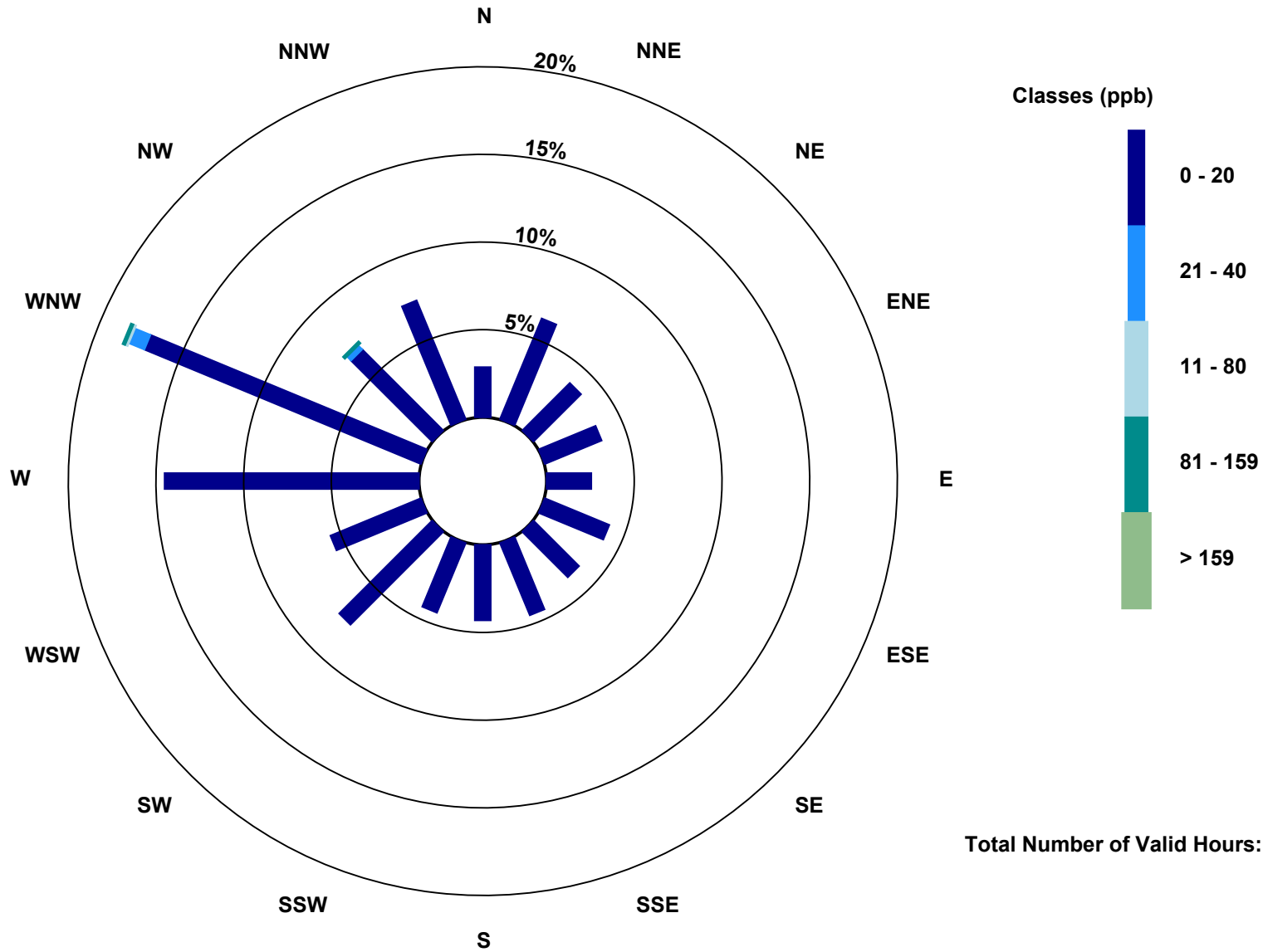
Total Number of Valid Hours: 627

Total Number of Hours: 744

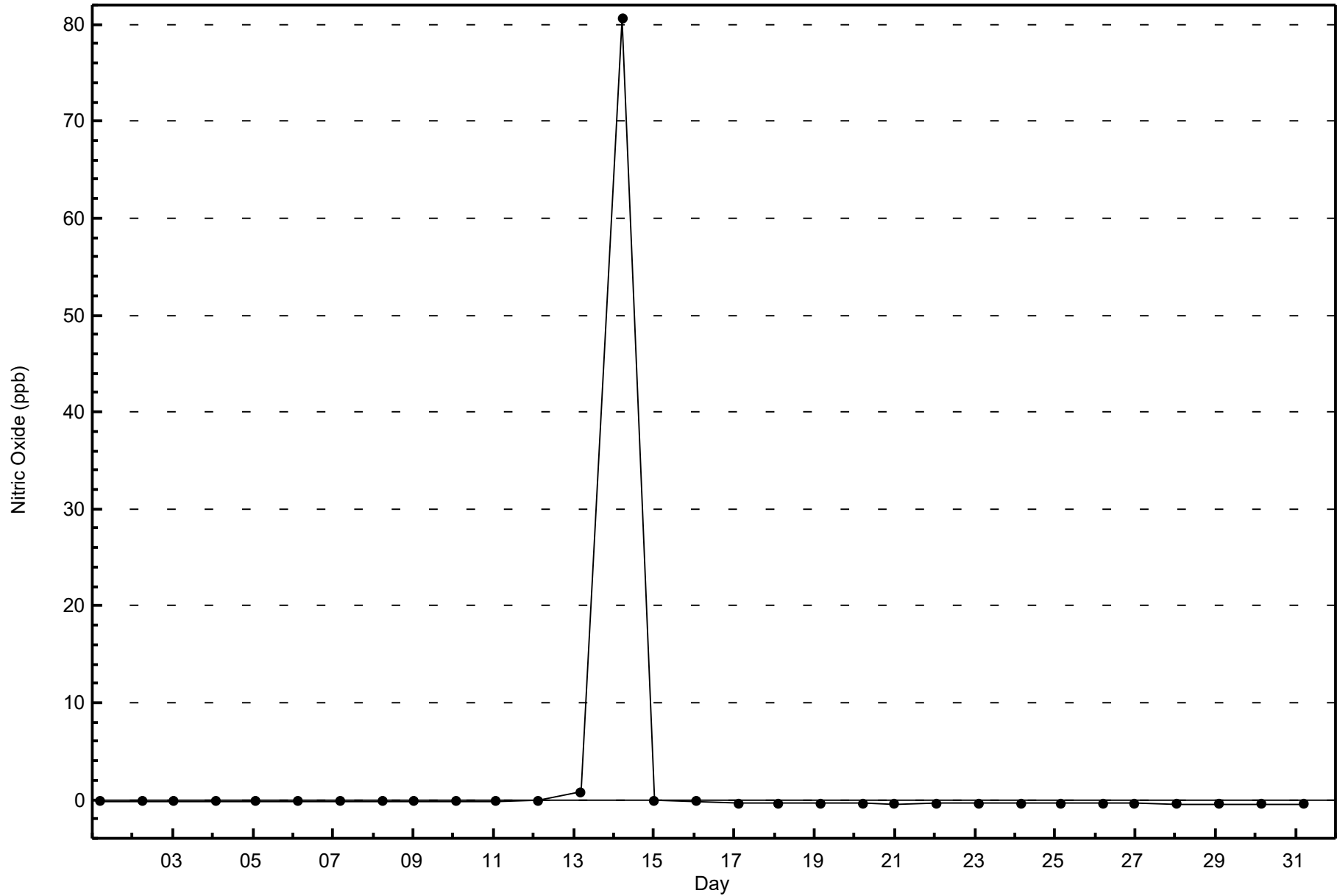


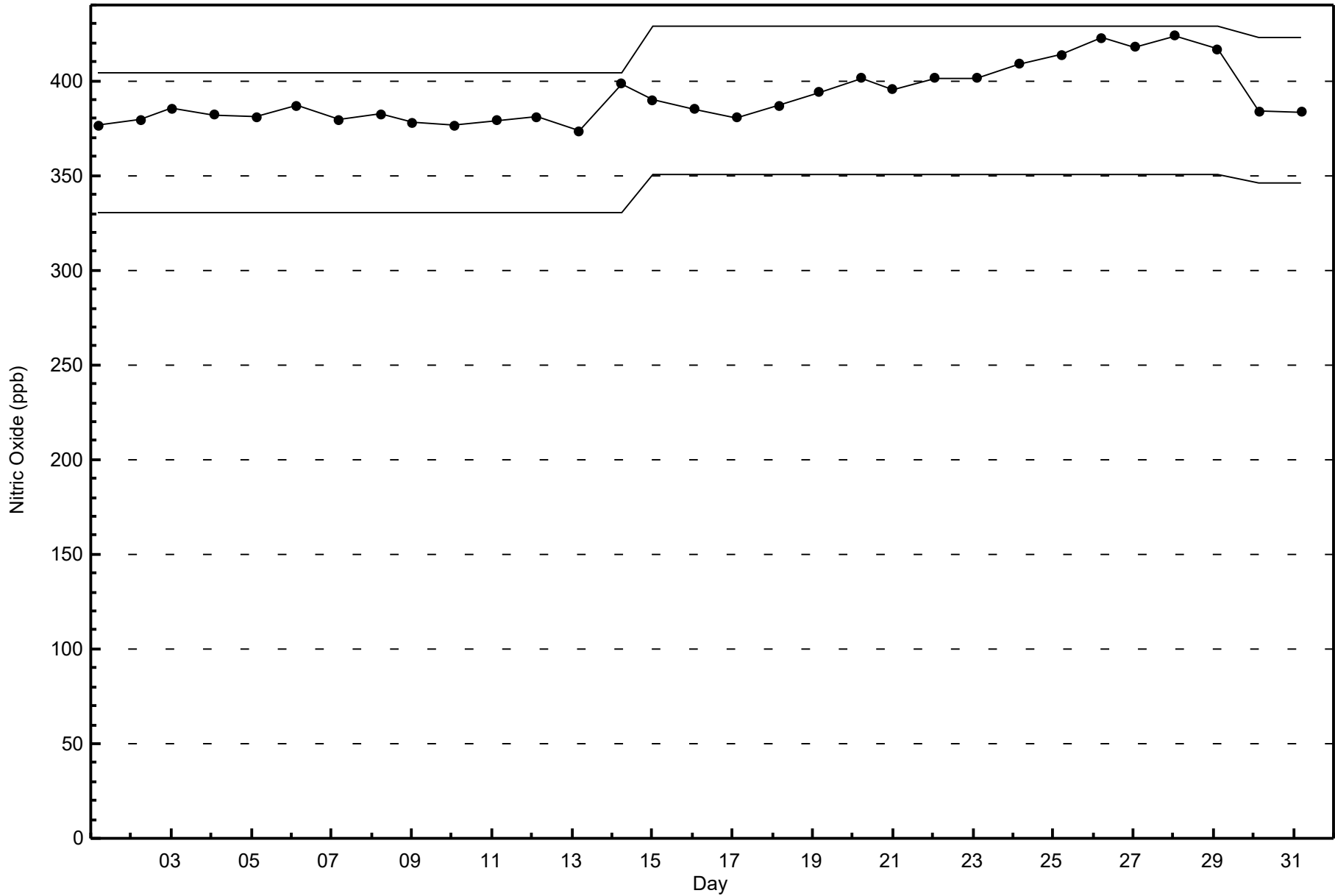
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitric Oxide (NO) - ppb
Monday Creek



Total Number of Valid Hours: 627







Wood Buffalo Environmental Association

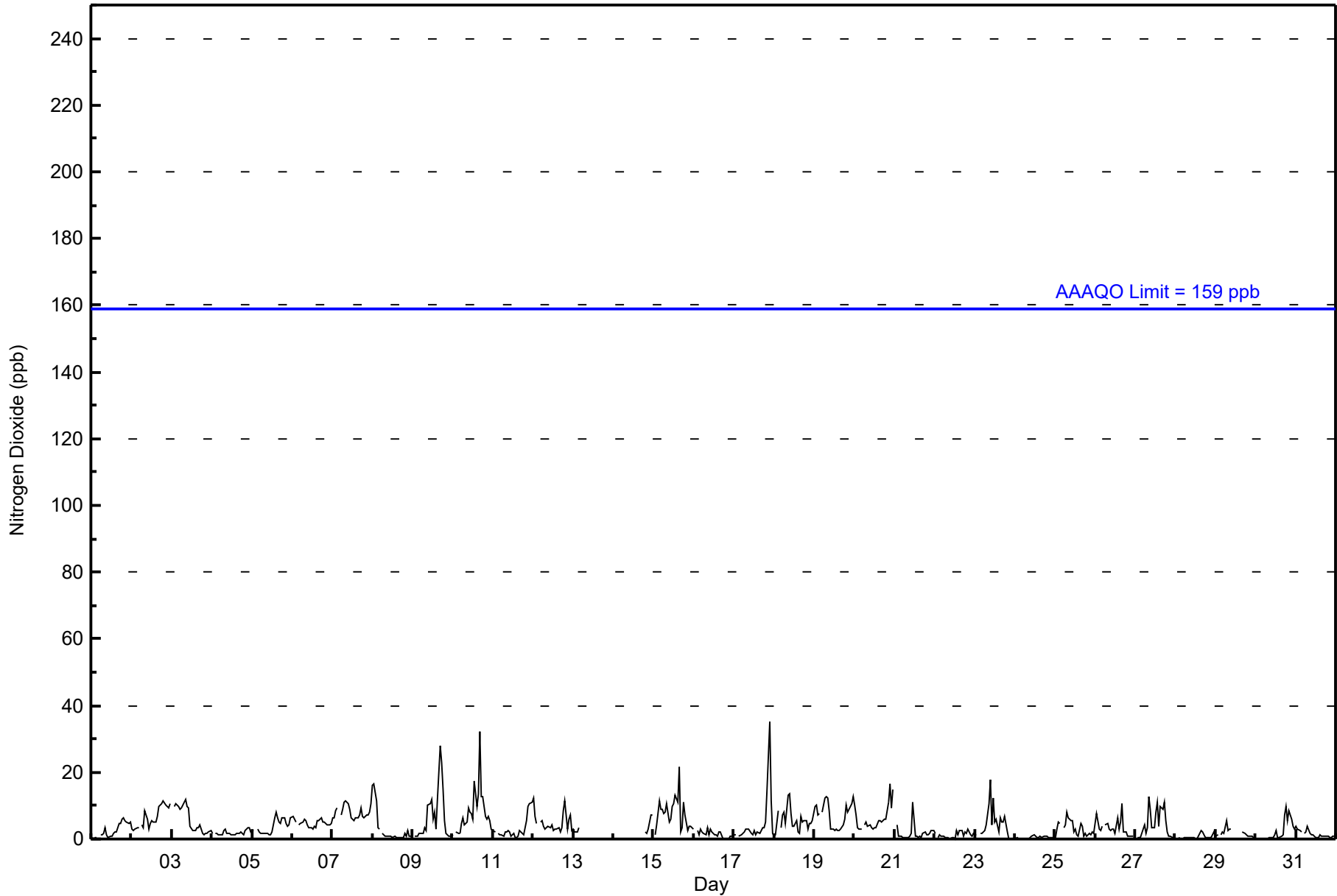
Summary of Hour Averages

Nitrogen Dioxide (NO₂) - ppb

Monday Creek - January 2025

Number of Exceedences (AAAQO):		1-hr: 0	24-hr: 0	Hours in Service: 744																	Daily Average		Daily Maximum				
Maximum Value: 35.0 ppb on Jan 17 22:00		Maximum Daily Average: 8.0 ppb on Jan 10		Hours of Data: 670																	Hours of Missing Data: 74		Hours of Calibration: 34				
Minimum Value: 0.0 ppb on Jan 16 19:00		Minimum Daily Average: 0.4 ppb on Jan 24		Hours of Calibration: 34																	Percent Operational Time: 94.6						
Maximum Diurnal Average: 5.6 ppb at hour 17		Minimum Diurnal Average: 2.7 ppb at hour 5		Percent Operational Time: 94.6																							
Monthly Average: 4.01 ppb		Percentiles: P ₁ = 0.1 P ₁₀ = 0.5 Q ₁ = 1.1 Median = 2.7 Q ₃ = 5.6 P ₉₀ = 9.8 P ₉₉ = 16.8																									
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	0.3	0.2	0.3	0.4	Z	1.1	1.3	1.7	3.6	1.1	0.6	0.7	0.9	1.5	2.2	2.3	4.6	4.7	6.0	6.5	5.7	5.2	4.6	5.0	2.6	6.5	
2-Jan	2.8	2.6	3.0	3.6	Z	3.2	Z	4.4	3.2	8.5	5.9	2.9	4.6	5.3	4.9	4.9	6.7	9.8	10.1	10.7	11.3	10.2	9.7	9.5	10.4	6.4	11.3
3-Jan	Z	9.8	10.6	10.1	9.6	8.8	9.2	11.0	11.7	9.7	9.2	3.7	2.5	2.6	2.6	3.3	3.6	4.3	1.7	1.3	1.5	1.7	2.3	2.5	5.8	11.7	
4-Jan	1.8	Z	1.9	1.5	1.3	1.2	1.3	2.4	2.8	1.9	1.7	1.3	1.2	1.3	1.3	1.5	1.9	2.1	1.8	1.4	2.6	3.3	3.6	2.1	1.9	3.6	
5-Jan	2.6	2.5	Z	3.1	2.3	1.8	1.9	1.7	1.9	1.5	1.2	1.3	2.1	6.4	8.2	6.5	5.1	4.5	6.3	6.2	4.5	3.9	4.2	6.2	3.7	8.2	
6-Jan	6.6	5.8	5.1	Z	4.4	4.5	5.0	6.0	5.6	4.2	3.5	3.2	3.0	3.9	3.5	5.3	5.7	6.2	5.2	5.1	4.5	4.4	4.2	4.6	4.8	6.6	
7-Jan	6.3	6.3	8.4	9.2	Z	7.1	9.0	10.9	11.4	10.4	9.0	6.5	6.1	5.4	6.3	6.3	7.1	9.5	6.8	6.5	7.3	7.1	8.1	10.8	7.9	11.4	
8-Jan	16.0	16.6	11.5	3.4	2.8	Z	1.5	1.0	0.9	0.9	0.9	0.7	0.6	0.7	0.5	0.6	0.4	0.4	0.5	1.5	0.8	2.5	0.7	0.9	2.9	16.6	
9-Jan	Z	0.7	0.7	0.8	1.6	1.9	1.6	3.5	2.6	10.1	10.4	11.8	5.8	7.9	3.1	12.0	27.9	22.9	14.8	5.4	1.6	0.9	0.7	1.0	6.5	27.9	
10-Jan	1.2	Z	2.0	1.8	1.9	4.8	6.4	4.1	5.2	9.4	8.1	7.6	6.0	17.3	9.6	13.6	32.1	12.8	12.9	6.9	5.9	6.9	5.7	2.9	8.0	32.1	
11-Jan	2.5	2.1	Z	1.6	1.4	1.4	1.0	2.0	2.0	2.5	2.2	1.0	1.6	0.5	0.5	0.8	2.4	1.8	1.4	3.3	5.6	9.8	10.6	11.0	3.0	11.0	
12-Jan	12.1	6.8	4.6	Z	5.2	5.4	4.0	3.0	3.4	3.9	3.4	4.3	2.6	3.1	2.9	3.5	2.2	3.3	8.6	11.5	2.9	5.9	7.3	2.4	4.9	12.1	
13-Jan	2.8	2.3	2.1	3.6	Z	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	3.6	
14-Jan	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	M	C	C	C	C	2.0	1.5	3.1	7.2	7.0	--	7.2	
15-Jan	Z	1.4	4.2	11.6	9.0	8.7	7.8	8.0	10.4	5.1	5.8	9.6	10.4	13.3	10.9	21.5	2.1	3.4	11.0	7.4	2.7	3.9	3.7	3.6	7.6	21.5	
16-Jan	3.1	Z	2.4	1.3	3.1	2.1	1.5	1.4	3.4	1.2	2.8	2.1	1.3	1.1	0.7	2.3	2.0	0.1	0.0	0.0	0.0	0.2	0.8	0.8	1.5	3.4	
17-Jan	1.1	1.2	Z	0.8	1.2	1.7	2.2	2.8	2.9	3.1	1.9	1.3	2.7	1.4	2.2	1.5	2.7	3.5	3.4	5.0	14.2	35.0	11.5	1.6	4.6	35.0	
18-Jan	0.9	1.1	8.4	Z	3.2	7.1	8.1	4.5	13.1	13.7	7.7	3.7	3.7	5.5	2.0	1.6	6.8	5.1	5.6	5.7	3.0	4.6	4.8	5.6	5.5	13.7	
19-Jan	9.8	10.0	7.2	7.7	Z	8.0	12.1	12.6	12.4	8.6	3.1	3.0	2.5	2.8	2.5	2.6	2.8	4.2	5.8	10.3	7.9	8.7	10.4	12.5	7.3	12.6	
20-Jan	10.0	7.0	3.2	3.0	3.1	Z	4.1	5.2	3.8	4.3	3.6	2.8	3.2	3.6	5.5	5.4	5.0	5.3	5.8	5.9	11.0	16.4	9.2	14.7	6.1	16.4	
21-Jan	Z	4.3	1.0	0.9	0.8	0.5	0.5	0.4	0.3	0.9	1.9	11.0	0.8	0.8	0.4	1.0	0.6	1.8	2.3	1.1	1.3	1.7	2.4	2.5	1.7	11.0	
22-Jan	1.9	Z	0.5	1.4	0.8	0.7	0.5	0.5	0.3	0.2	0.4	0.3	0.2	2.7	1.2	2.7	2.7	1.0	2.3	1.6	2.8	1.1	0.9	1.7	1.2	2.8	
23-Jan	1.2	1.1	Z	1.6	1.8	2.2	2.7	4.4	10.4	17.7	4.2	12.1	5.1	5.8	2.1	6.5	5.0	5.2	6.7	2.3	0.2	0.2	0.2	0.2	4.3	17.7	
24-Jan	0.1	0.5	0.1	Z	0.2	0.1	0.0	0.1	0.1	0.4	0.9	1.3	0.7	0.4	0.6	0.8	0.4	0.7	0.7	0.8	0.3	0.4	0.3	0.3	0.4	1.3	
25-Jan	0.5	3.1	5.0	4.5	Z	3.2	4.4	7.9	6.4	5.5	5.4	2.1	3.0	1.2	0.9	4.5	3.8	0.9	1.5	0.9	1.7	1.1	2.2	1.5	3.1	7.9	
26-Jan	4.5	7.7	2.9	2.7	3.8	Z	4.2	4.5	3.1	2.6	2.8	3.1	1.8	6.5	2.9	5.0	10.8	2.0	2.0	0.9	0.9	0.7	0.8	1.0	3.4	10.8	
27-Jan	Z	0.6	0.6	0.6	1.7	4.1	1.7	3.3	12.8	8.9	3.4	3.3	8.2	10.9	3.8	9.8	8.8	11.2	5.6	2.3	0.8	0.7	0.6	0.5	4.5	12.8	
28-Jan	0.2	Z	0.3	0.2	0.2	0.4	0.3	0.5	0.4	0.5	0.6	0.4	0.2	0.2	1.5	2.5	2.1	1.2	0.5	0.6	0.5	0.5	1.1	2.3	0.7	2.5	
29-Jan	1.0	1.2	Z	1.1	2.2	1.6	5.3	2.5	3.1	3.1	M	M	M	M	M	M	2.3	1.8	1.1	1.0	0.9	1.0	0.7	0.2	--	5.3	
30-Jan	0.2	0.2	0.1	Z	0.2	0.2	0.2	0.1	0.3	0.3	0.3	1.3	2.4	0.4	0.5	0.9	1.4	7.3	9.8	5.3	8.6	5.8	3.7	2.8	2.3	9.8	
31-Jan	3.7	3.0	2.5	2.0	Z	1.5	2.2	4.0	1.7	1.3	1.4	0.7	0.6	0.6	1.2	0.7	1.0	0.9	0.7	0.7	0.3	0.5	0.8	0.7	1.4	4.0	
																								Diurnal Average		Diurnal Maximum	
																								3.7		16.0	
																								3.9		16.6	
																								3.5		11.5	
																								3.1		11.6	
																								2.7		9.6	
																								3.2		8.8	
																								3.6		12.1	
																								3.9		12.6	
																								5.0		13.1	
																								4.8		17.7	
																								3.5		10.4	
																								3.7		12.1	
																								3.0		10.4	
																								4.0		17.3	
																								3.0		10.9	
																								4.7		21.5	
																								5.6		32.1	
																								4.8		22.9	
																								4.9		14.8	
																								4.0		11.5	
																								3.7		14.2	
																								4.9		35.0	
																								4.1		11.5	
																								4.0		14.7	

Z - zerospan C - Calibration M - Maintenance AF - Analyzer Failure
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Monday Creek - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	665	99.25	99.25
21 - 40	5	0.75	100.00
41 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 670

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Dioxide (NO₂) - ppb
Monday Creek - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	18	39	24	22	16	25	21	28	27	27	47	35	91	113	43	46	622
21 - 40	0	0	0	0	0	0	2	0	0	0	0	0	0	2	1	0	5
11 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	18	39	24	22	16	25	23	28	27	27	47	35	91	115	44	46	627

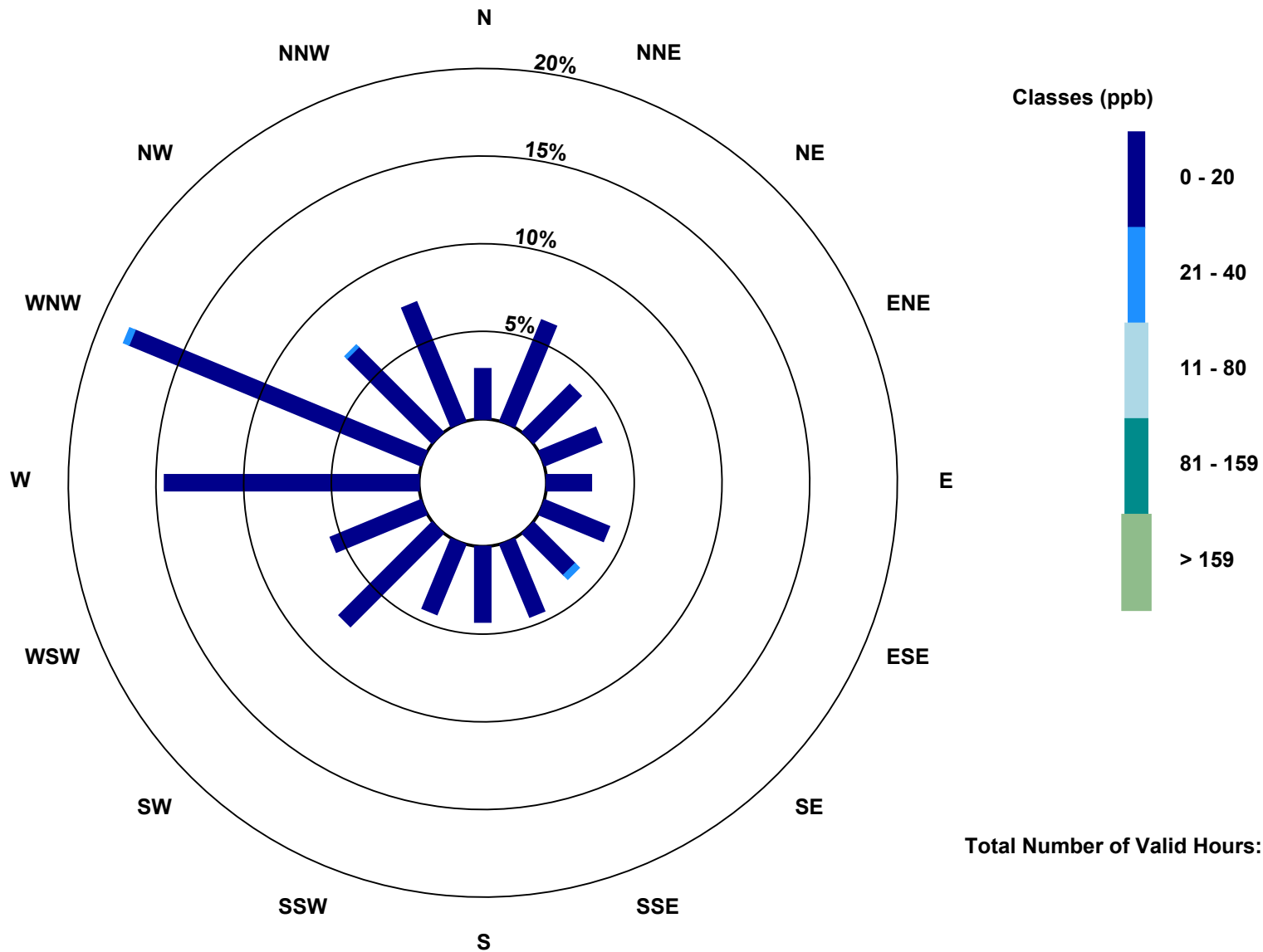
Total Number of Valid Hours: 627

Total Number of Hours: 744

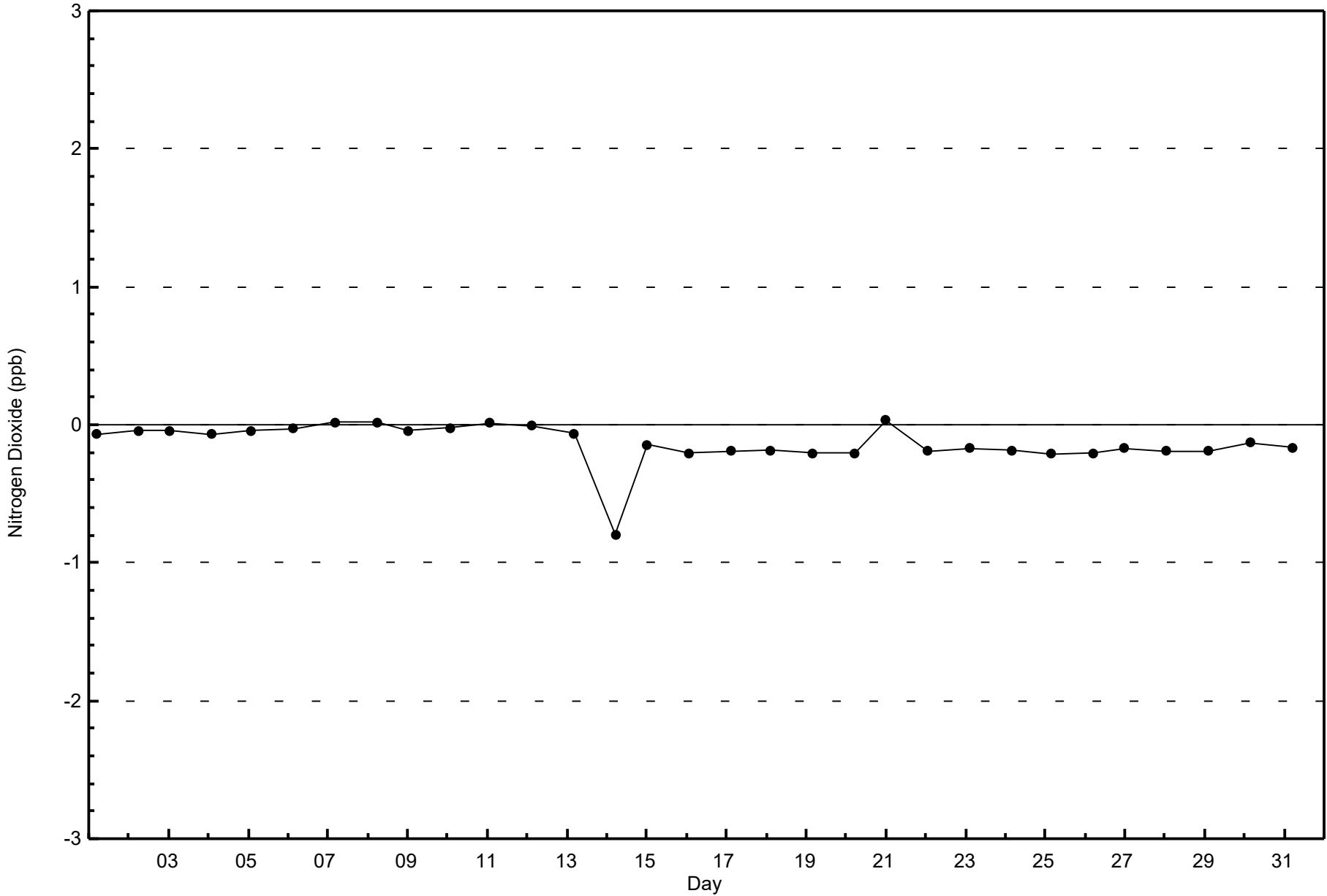


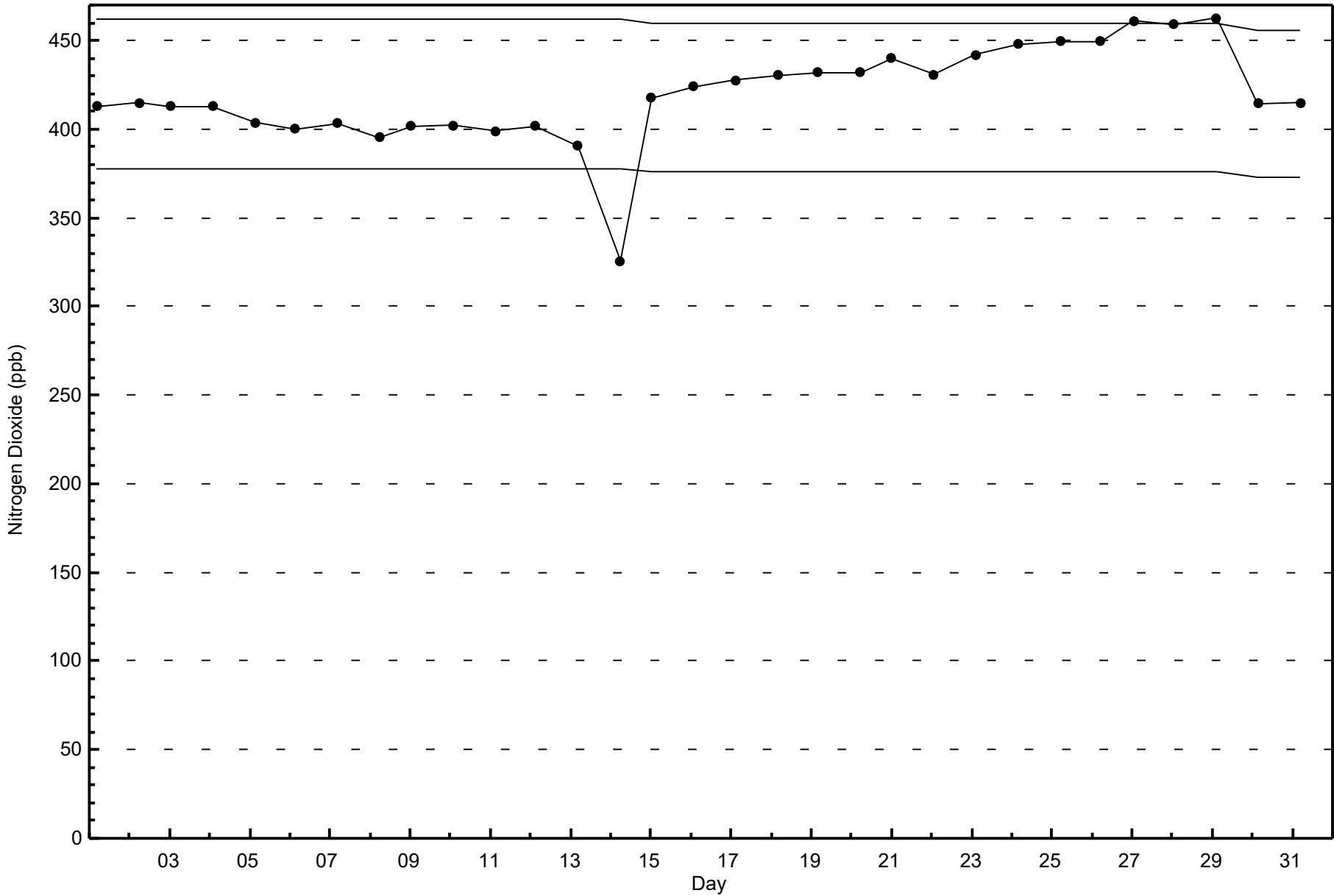
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Dioxide (NO₂) - ppb
Monday Creek



Total Number of Valid Hours: 627







Wood Buffalo Environmental Association
Summary of Hour Averages

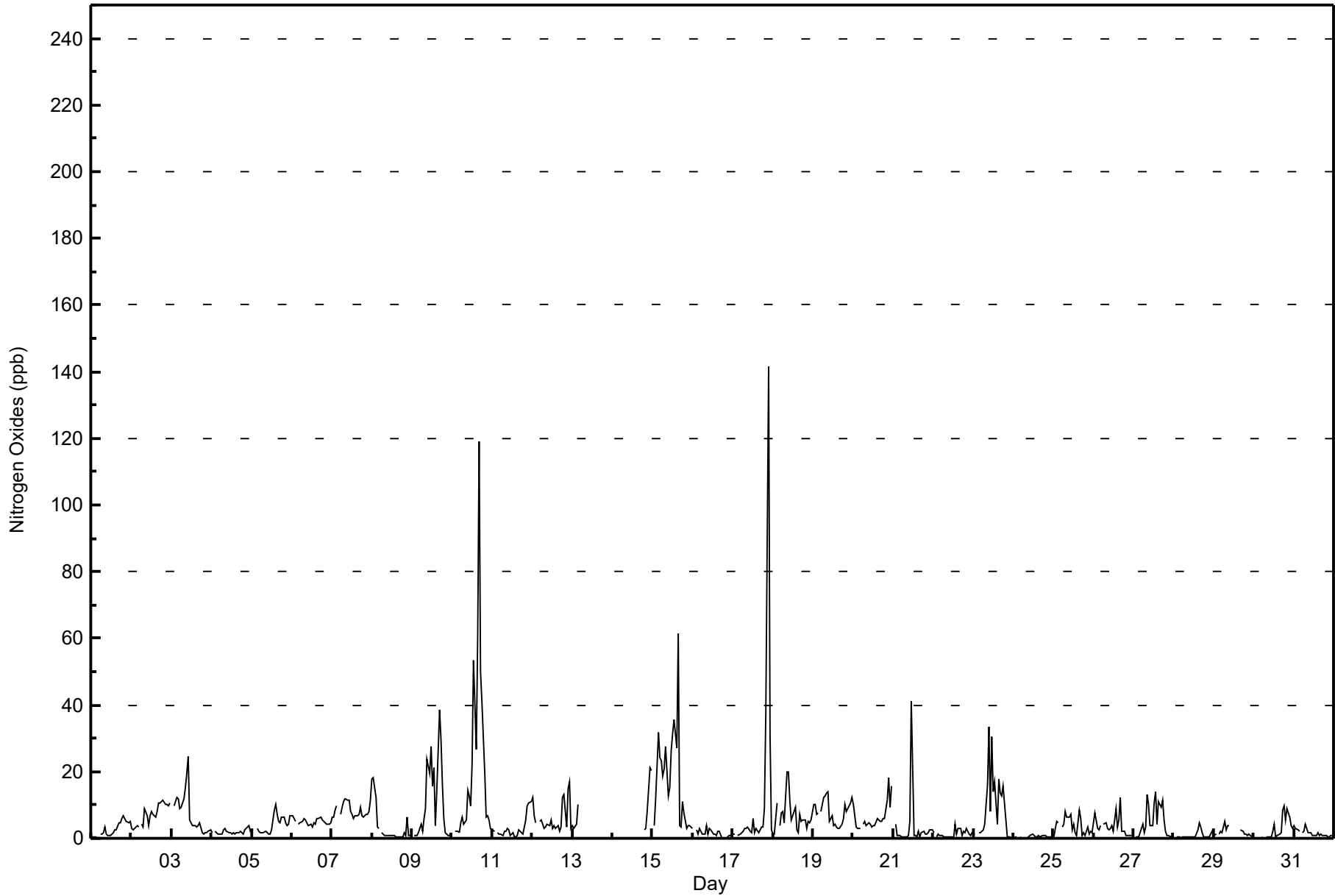
Nitrogen Oxides (NO_x) - ppb
Monday Creek - January 2025

Maximum Value: 141.4 ppb on Jan 17 22:00		Maximum Daily Average: 20.8 ppb on Jan 10		Hours in Service: 744																									
Minimum Value: 0.0 ppb on Jan 16 21:00		Minimum Daily Average: 0.4 ppb on Jan 24		Hours of Data: 670																									
Maximum Diurnal Average: 9.6 ppb at hour 17		Minimum Diurnal Average: 3.5 ppb at hour 5		Hours of Missing Data: 74																									
Monthly Average: 5.79 ppb		Percentiles: P ₁ = 0.1 P ₁₀ = 0.5 Q ₁ = 1.2 Median = 3.1 Q ₃ = 6.5 P ₉₀ = 12.3 P ₉₉ = 40.9		Hours of Calibration: 34																									
				Percent Operational Time: 94.6																									
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
1-Jan	0.3	0.2	0.3	0.4	Z	1.1	1.3	1.7	3.6	1.2	0.7	0.9	1.1	1.8	2.6	2.5	4.7	4.8	6.1	6.6	5.8	5.2	4.6	5.0	2.7	6.6			
2-Jan	2.8	2.6	3.0	3.6	3.2	Z	4.4	3.2	8.8	6.9	3.8	6.8	8.1	7.3	6.5	8.2	10.7	10.6	10.9	11.5	10.3	10.3	9.6	10.6	7.1	11.5			
3-Jan	Z	9.9	11.0	12.4	11.7	9.0	9.5	11.7	15.3	19.6	24.5	5.6	3.7	3.7	3.8	3.6	3.7	4.4	1.8	1.3	1.5	1.7	2.3	2.5	7.6	24.5			
4-Jan	1.8	Z	1.9	1.5	1.3	1.2	1.3	2.4	2.8	2.0	1.9	1.5	1.5	1.6	1.4	1.6	1.9	2.1	1.8	1.4	2.6	3.4	3.6	2.1	1.9	3.6			
5-Jan	2.6	2.5	Z	3.1	2.3	1.8	1.9	1.7	2.3	1.6	1.4	1.5	2.7	8.6	10.4	7.1	5.2	4.5	6.3	6.2	4.5	3.9	4.2	6.6	4.0	10.4			
6-Jan	6.7	5.9	5.2	Z	4.4	4.5	5.1	6.1	5.7	4.6	4.0	4.0	3.6	4.6	4.1	5.8	6.0	6.5	5.4	5.2	4.6	4.4	4.3	4.7	5.0	6.7			
7-Jan	6.3	6.3	8.6	9.6	Z	7.2	9.2	11.2	11.8	11.6	11.3	8.1	7.2	6.0	6.8	6.6	7.1	9.5	6.8	6.5	7.3	7.1	8.1	11.4	8.3	11.8			
8-Jan	17.8	18.3	12.3	3.4	2.8	Z	1.5	1.0	0.9	0.9	1.0	0.8	0.7	0.8	0.6	0.6	0.4	0.4	0.5	1.5	0.8	6.4	0.7	0.9	3.3	18.3			
9-Jan	Z	0.8	0.8	0.8	1.6	4.1	2.0	5.9	8.8	23.7	19.6	27.4	15.5	21.3	4.0	14.2	38.5	29.8	16.0	5.9	1.6	0.9	0.9	1.1	10.7	38.5			
10-Jan	1.2	Z	2.0	1.9	1.9	4.8	6.5	4.3	5.5	14.5	12.8	9.6	21.9	53.4	26.8	61.1	119.1	50.1	40.7	19.5	6.3	6.9	5.7	2.9	20.8	119.1			
11-Jan	2.5	2.1	Z	1.6	1.4	1.4	1.0	2.1	2.0	2.8	2.5	1.1	1.9	0.5	0.6	0.8	2.4	1.8	1.4	3.5	5.7	9.8	10.6	11.0	3.1	11.0			
12-Jan	12.3	7.0	4.6	Z	5.2	5.4	4.1	3.0	3.4	4.4	3.7	5.4	2.9	3.7	3.1	3.7	2.2	3.3	12.5	13.2	3.5	14.8	16.8	2.9	6.1	16.8			
13-Jan	3.8	3.0	4.4	10.3	Z	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	10.3			
14-Jan	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	M	C	C	C	C	2.6	3.2	8.1	21.3	20.5	--	21.3			
15-Jan	Z	3.7	11.7	31.9	24.0	23.3	18.5	20.9	27.5	12.6	15.3	26.3	31.2	35.4	27.2	61.3	3.9	3.4	11.1	7.5	2.9	3.9	3.7	3.6	17.9	61.3			
16-Jan	3.1	Z	2.4	1.3	3.1	2.1	1.5	1.4	3.7	1.2	3.0	2.3	1.3	1.1	0.7	2.3	2.0	0.1	0.0	0.0	0.0	0.2	0.8	0.8	1.5	3.7			
17-Jan	1.1	1.2	Z	0.8	1.2	1.7	2.2	2.8	2.9	3.2	2.1	1.5	5.8	1.6	2.9	1.5	2.7	3.5	3.4	8.9	37.3	141.4	31.0	2.5	11.4	141.4			
18-Jan	1.4	1.1	10.7	Z	4.0	7.5	8.1	4.5	19.7	19.9	11.3	5.7	7.0	9.1	2.5	1.7	7.1	5.1	5.6	5.7	3.1	5.2	4.8	5.6	6.8	19.9			
19-Jan	10.0	10.0	7.3	7.7	Z	8.0	12.2	12.9	13.4	13.8	4.9	6.7	3.9	4.3	3.2	2.9	2.8	4.2	5.8	10.3	7.9	8.7	10.5	12.5	8.0	13.8			
20-Jan	10.0	7.0	3.2	3.0	3.1	Z	4.1	5.2	3.8	4.7	4.1	3.2	3.6	3.9	6.1	5.7	5.0	5.3	5.8	5.9	11.5	18.2	9.5	15.6	6.4	18.2			
21-Jan	Z	4.3	1.0	0.9	0.8	0.5	0.5	0.4	0.3	0.9	5.0	41.3	0.8	0.8	0.4	1.9	0.6	1.8	2.3	1.1	1.3	1.7	2.4	2.5	3.2	41.3			
22-Jan	1.9	Z	0.5	1.4	0.8	0.7	0.5	0.5	0.3	0.2	0.4	0.3	0.2	4.4	1.4	3.0	3.1	1.0	2.3	1.6	2.8	1.1	0.9	1.7	1.3	4.4			
23-Jan	1.2	1.1	Z	1.6	1.8	2.2	2.7	4.4	16.0	33.5	8.0	30.4	14.1	16.8	4.2	17.7	13.7	12.7	15.8	5.5	0.2	0.2	0.2	0.2	8.9	33.5			
24-Jan	0.1	0.6	0.1	Z	0.2	0.1	0.0	0.1	0.1	0.4	0.9	1.4	0.7	0.4	0.6	0.8	0.4	0.7	0.7	0.8	0.3	0.4	0.3	0.3	0.4	1.4			
25-Jan	0.5	3.1	5.0	4.5	Z	3.2	4.4	7.9	6.4	6.2	7.1	2.7	4.1	1.5	1.0	8.6	6.0	0.9	1.7	0.9	3.2	1.1	2.2	1.5	3.6	8.6			
26-Jan	4.5	7.7	2.9	2.7	3.8	Z	4.2	4.5	3.1	2.7	3.1	3.7	2.2	8.7	3.5	5.6	12.1	2.0	2.0	0.9	0.9	0.7	0.8	1.0	3.6	12.1			
27-Jan	Z	0.6	0.6	0.6	1.7	4.1	1.7	3.3	13.2	10.0	4.0	3.9	10.8	14.0	4.3	11.0	9.3	11.4	5.7	2.3	0.8	0.7	0.6	0.5	5.0	14.0			
28-Jan	0.2	Z	0.3	0.2	0.2	0.4	0.3	0.5	0.4	0.5	0.6	0.4	0.2	0.2	2.6	4.6	3.2	1.7	0.5	0.6	0.5	0.5	1.1	2.3	1.0	4.6			
29-Jan	1.0	1.2	Z	1.1	2.2	1.6	5.3	2.5	3.8	3.7	M	M	M	M	M	M	2.7	2.0	1.3	1.1	1.0	1.1	0.8	0.2	--	5.3			
30-Jan	0.2	0.2	0.1	Z	0.2	0.2	0.2	0.1	0.3	0.3	0.3	1.9	4.1	0.6	0.7	1.1	1.5	8.3	9.9	5.4	8.7	6.2	3.8	2.9	2.5	9.9			
31-Jan	3.8	3.0	2.6	2.1	Z	1.8	2.3	4.2	1.8	1.5	1.8	0.9	0.7	0.7	1.6	0.8	1.1	1.0	0.9	0.8	0.3	0.5	0.9	0.7	1.6	4.2			
																								Diurnal Average					
																								Diurnal Maximum					
																								3.9 4.1 4.1 4.3 3.5 3.9 4.0 4.5 6.5 7.2 5.7 7.3 5.8 7.7 4.8 8.8 9.6 6.6 6.4 4.8 4.7 9.2 5.6 4.6					
																								17.8 18.3 12.3 31.9 24.0 23.3 18.5 20.9 27.5 33.5 24.5 41.3 31.2 53.4 27.2 61.3 119.1 50.1 40.7 19.5 37.3 141.4 31.0 20.5					
Z - zerospan																								C - Calibration		M - Maintenance		AF - Analyzer Failure	



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Monday Creek - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Nitrogen Oxides (NO_x) - ppb
Monday Creek - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	639	95.37	95.37
21 - 40	23	3.43	98.81
41 - 80	6	0.90	99.70
81 - 159	2	0.30	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 670

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Oxides (NO_x) - ppb
Monday Creek - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	18	39	24	22	16	24	21	28	27	27	47	35	87	96	39	46	596
21 - 40	0	0	0	0	0	1	2	0	0	0	0	0	4	13	3	0	23
11 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	5	1	0	6
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	18	39	24	22	16	25	23	28	27	27	47	35	91	115	44	46	627

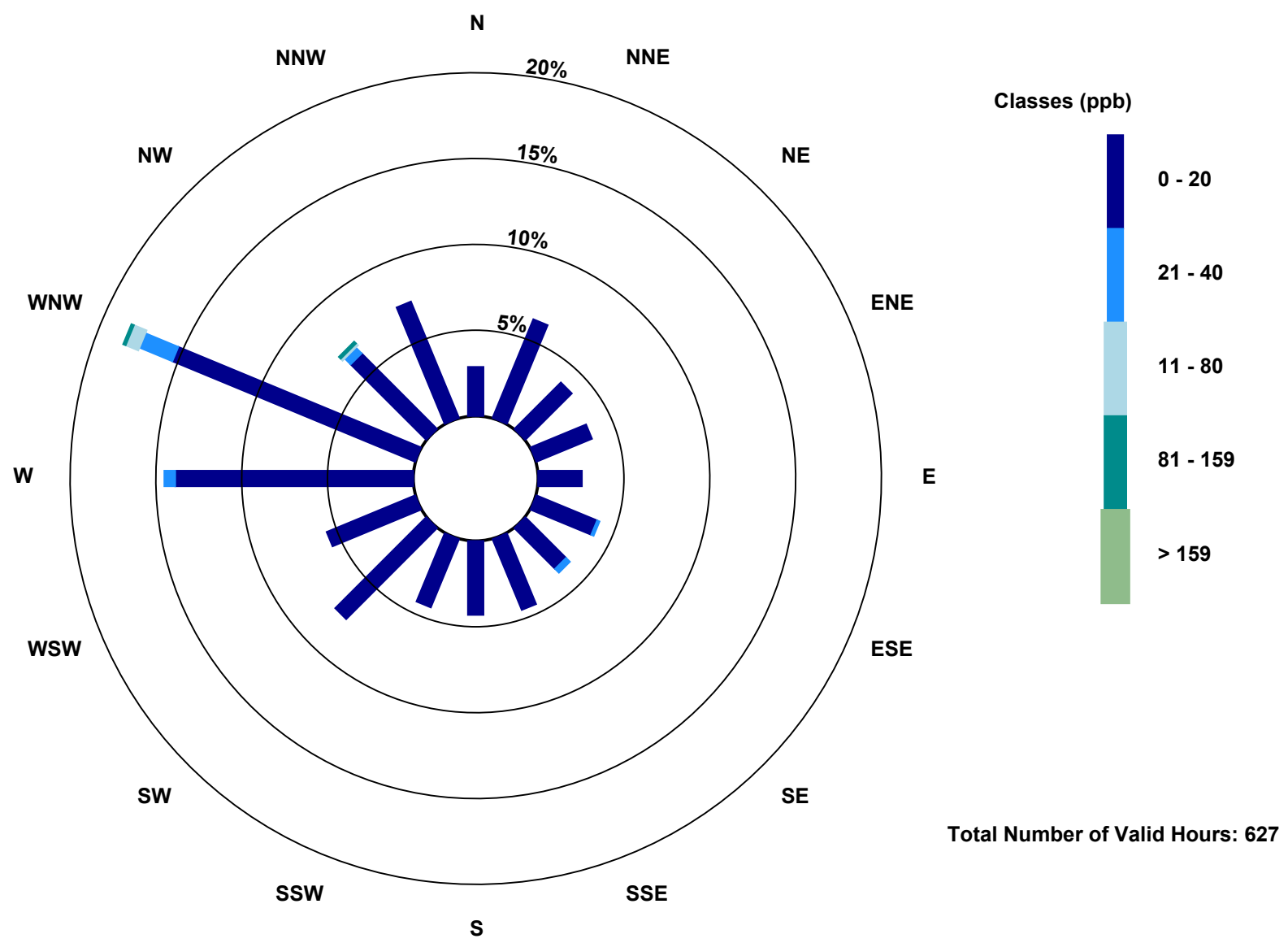
Total Number of Valid Hours: 627

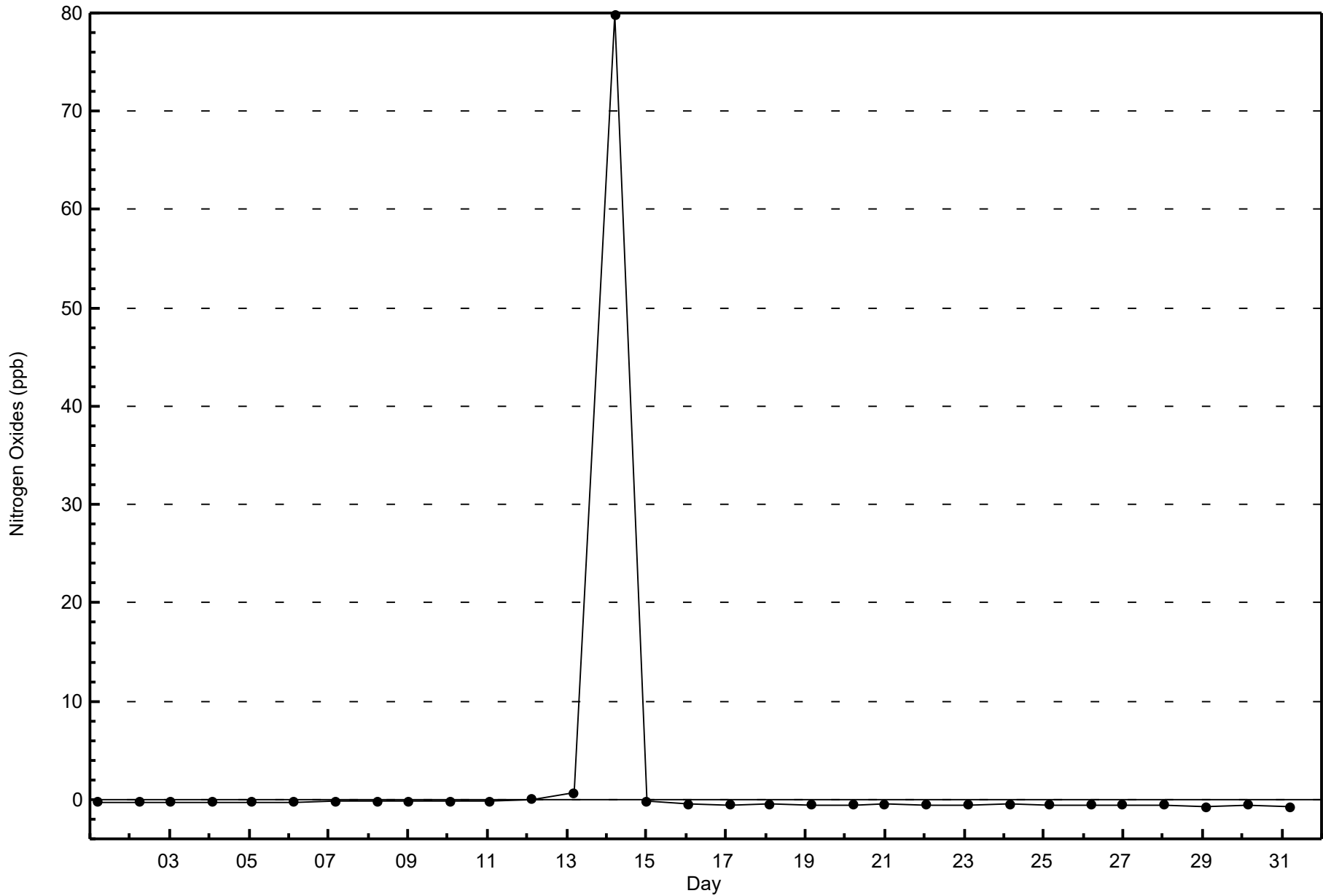
Total Number of Hours: 744

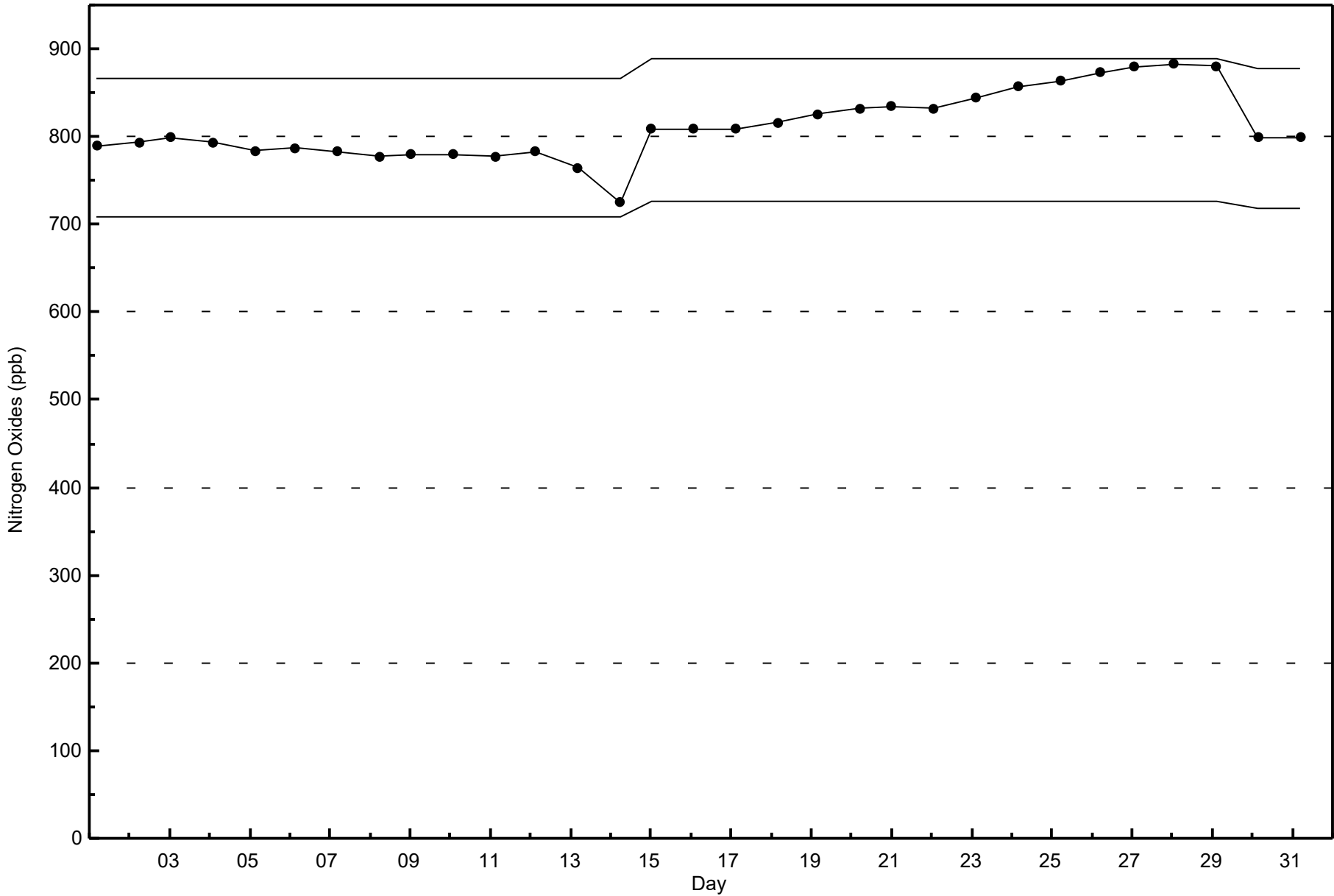


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Oxides (NO_x) - ppb
Monday Creek









Wood Buffalo Environmental Association
Summary of Hour Averages

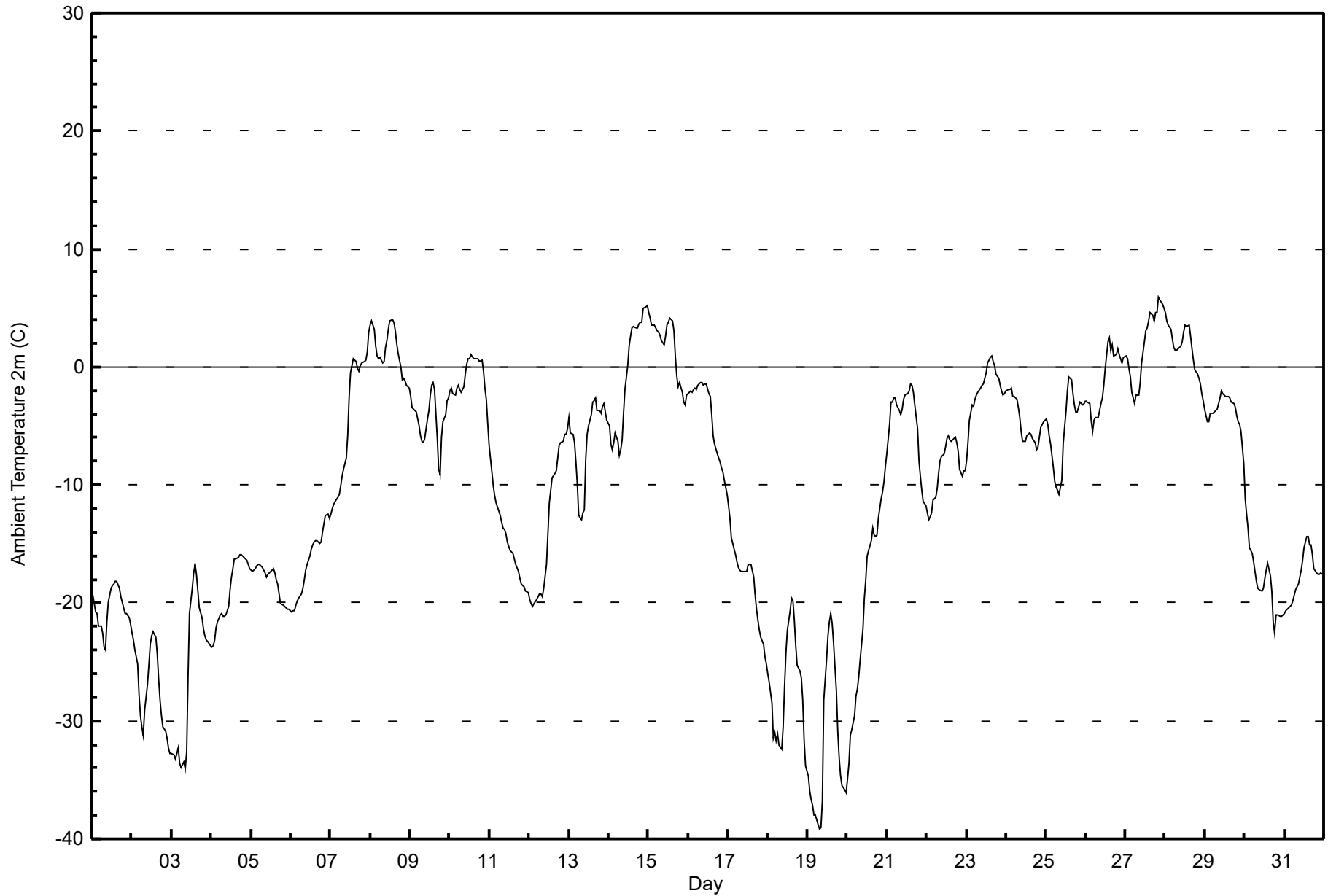
Ambient Temperature 2m (AT2) - C
Monday Creek - January 2025

Maximum Value: 5.9 C on Jan 27 21:00		Maximum Daily Average: 1.8 C on Jan 27		Hours in Service: 744																						
Minimum Value: -39.2 C on Jan 19 08:00		Minimum Daily Average: -32.1 C on Jan 19		Hours of Data: 744																						
Maximum Diurnal Average: -7.6 C at hour 15		Minimum Diurnal Average: -13.0 C at hour 8		Hours of Missing Data: 0																						
Monthly Average: -10.76 C		Percentiles: P ₁ = -36.4 P ₁₀ = -24.3 Q ₁ = -18.8 Median = -8.1 Q ₃ = -2.2 P ₉₀ = 1.4 P ₉₉ = 4.6		Hours of Calibration: 0																						
				Percent Operational Time: 100.0																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	-19.4	-20.1	-20.7	-20.9	-22.0	-22.0	-22.6	-23.8	-23.9	-21.6	-20.0	-18.8	-18.5	-18.4	-18.1	-18.1	-18.8	-19.4	-19.9	-20.5	-20.9	-20.9	-21.3	-21.9	-20.5	-18.1
2-Jan	-22.5	-23.1	-24.0	-25.2	-27.8	-29.6	-30.5	-31.3	-29.1	-27.0	-25.3	-23.5	-22.8	-22.4	-22.9	-24.4	-26.5	-28.2	-29.6	-30.5	-30.8	-31.4	-32.3	-32.8	-27.2	-22.4
3-Jan	-32.8	-32.8	-33.2	-32.7	-32.2	-33.6	-34.0	-33.5	-34.1	-32.7	-26.3	-20.9	-18.7	-17.4	-16.7	-17.6	-19.0	-20.4	-21.3	-22.1	-22.8	-23.1	-23.3	-23.7	-26.0	-16.7
4-Jan	-23.7	-23.7	-23.2	-22.0	-21.7	-21.1	-20.9	-21.1	-21.1	-20.2	-18.9	-17.9	-17.1	-16.3	-16.2	-16.1	-16.0	-16.0	-16.1	-16.2	-16.4	-16.8	-17.1	-19.0	-16.0	-16.0
5-Jan	-17.3	-17.3	-17.1	-16.9	-16.8	-16.8	-16.9	-17.0	-17.5	-17.5	-17.6	-17.5	-17.3	-17.1	-17.5	-18.0	-18.5	-19.3	-20.1	-20.2	-20.3	-20.4	-20.5	-20.6	-18.2	-16.8
6-Jan	-20.7	-20.6	-20.6	-20.2	-19.8	-19.6	-19.2	-18.7	-18.0	-17.2	-16.7	-16.0	-15.4	-15.1	-14.9	-14.7	-14.7	-15.0	-14.9	-14.0	-13.3	-12.6	-12.4	-12.8	-16.6	-12.4
7-Jan	-12.5	-12.0	-11.7	-11.5	-11.1	-10.8	-10.2	-9.3	-8.6	-7.7	-5.9	-2.6	-0.5	0.1	0.7	0.5	-0.1	-0.4	0.1	0.4	0.4	0.6	1.3	3.0	-4.5	3.0
8-Jan	3.5	3.9	3.2	1.7	1.0	0.7	0.8	0.3	0.5	1.7	2.3	3.2	3.9	4.0	3.7	3.1	2.0	1.2	0.0	-1.1	-0.9	-1.2	-1.5	-1.8	1.4	4.0
9-Jan	-2.5	-3.4	-3.6	-3.8	-3.8	-5.0	-5.8	-6.3	-6.4	-6.1	-4.4	-3.6	-2.4	-1.6	-1.4	-1.9	-6.0	-8.7	-9.2	-5.9	-4.7	-4.0	-2.8	-2.6	-4.4	-1.4
10-Jan	-2.1	-1.8	-2.3	-2.4	-1.8	-1.6	-1.9	-2.2	-1.7	-0.6	0.2	0.7	0.7	1.1	0.7	0.7	0.7	0.8	0.5	0.6	-0.3	-1.8	-2.7	-4.8	-0.9	1.1
11-Jan	-6.7	-8.9	-10.1	-10.9	-11.5	-11.9	-12.6	-13.2	-13.7	-13.8	-14.1	-14.8	-15.6	-15.7	-15.8	-16.3	-16.7	-17.3	-17.9	-18.4	-18.5	-18.7	-19.0	-19.1	-14.6	-6.7
12-Jan	-19.8	-20.1	-20.3	-20.0	-19.8	-19.5	-19.3	-19.3	-19.5	-18.8	-16.7	-14.2	-11.6	-10.4	-9.4	-9.1	-8.8	-7.7	-6.6	-6.4	-6.3	-5.7	-5.7	-5.2	-13.3	-5.2
13-Jan	-4.2	-5.6	-5.7	-6.4	-8.1	-9.9	-12.6	-12.9	-12.4	-12.1	-7.8	-5.7	-5.0	-4.0	-3.0	-2.8	-2.6	-3.6	-3.7	-4.0	-3.3	-3.1	-3.8	-4.5	-6.1	-2.6
14-Jan	-5.0	-6.5	-7.0	-6.4	-5.6	-6.3	-7.5	-7.0	-6.2	-4.0	-1.9	0.1	1.7	2.6	3.3	3.5	3.3	3.3	3.6	3.8	3.7	5.0	5.1	5.2	-0.8	5.2
15-Jan	4.6	4.1	3.6	3.5	3.3	3.1	3.0	2.7	2.2	1.9	2.6	3.5	3.8	4.1	3.9	3.1	0.9	-0.7	-1.7	-1.3	-2.1	-3.0	-3.2	-2.3	1.6	4.6
16-Jan	-2.3	-2.0	-2.1	-1.9	-1.8	-1.9	-1.5	-1.3	-1.4	-1.5	-1.4	-1.4	-2.3	-2.5	-4.1	-5.8	-6.6	-7.4	-7.7	-8.1	-8.5	-9.0	-9.7	-10.8	-4.3	-1.3
17-Jan	-11.8	-12.9	-14.4	-14.9	-15.9	-16.4	-16.9	-17.2	-17.3	-17.4	-17.3	-17.3	-16.8	-16.7	-16.7	-17.8	-19.3	-20.6	-21.5	-22.3	-22.9	-23.5	-24.6	-25.2	-18.2	-11.8
18-Jan	-26.0	-26.8	-28.4	-31.5	-31.0	-31.7	-31.1	-32.0	-32.4	-30.5	-27.0	-24.2	-22.3	-20.6	-19.6	-19.9	-21.5	-23.6	-25.3	-25.7	-26.3	-28.2	-31.7	-33.8	-27.1	-19.6
19-Jan	-34.7	-36.0	-36.6	-37.1	-37.9	-37.9	-38.8	-39.2	-39.0	-36.8	-28.3	-24.8	-22.8	-21.6	-20.9	-21.7	-23.3	-27.5	-30.9	-33.1	-34.7	-35.5	-35.9	-36.1	-32.1	-20.9
20-Jan	-34.9	-33.6	-31.3	-30.7	-29.5	-27.8	-27.3	-26.2	-24.8	-22.2	-19.6	-18.0	-16.1	-15.6	-14.7	-13.7	-14.2	-14.4	-14.2	-12.8	-11.2	-10.6	-9.7	-8.4	-20.1	-8.4
21-Jan	-7.3	-4.9	-2.9	-3.0	-2.6	-2.7	-3.2	-3.7	-4.0	-3.6	-2.8	-2.4	-2.3	-2.0	-1.5	-1.6	-2.2	-3.2	-5.3	-7.9	-9.2	-10.5	-11.4	-11.7	-4.7	-1.5
22-Jan	-12.3	-12.9	-12.8	-12.3	-11.3	-11.0	-10.3	-9.1	-8.0	-7.6	-7.3	-6.8	-6.1	-5.9	-6.2	-6.3	-6.1	-5.9	-6.5	-7.1	-8.7	-9.2	-8.8	-8.8	-8.6	-5.9
23-Jan	-8.0	-6.4	-4.5	-3.2	-3.3	-2.8	-2.4	-2.1	-1.9	-1.5	-1.5	-1.0	-0.5	0.4	0.8	1.0	0.5	0.1	-0.6	-1.0	-1.6	-2.1	-2.4	-2.2	-1.9	1.0
24-Jan	-2.0	-1.9	-1.9	-1.8	-2.5	-2.5	-2.7	-3.5	-4.2	-5.4	-6.3	-6.3	-5.9	-5.7	-5.6	-5.7	-6.1	-6.4	-7.0	-6.8	-6.0	-5.1	-4.7	-4.6	-4.6	-1.8
25-Jan	-4.5	-4.9	-5.8	-6.6	-8.6	-9.8	-10.2	-10.4	-10.8	-9.7	-6.5	-5.1	-3.9	-2.0	-0.9	-1.1	-2.3	-3.2	-3.8	-3.8	-2.9	-3.1	-3.2	-3.1	-5.3	-0.9
26-Jan	-2.8	-3.0	-3.1	-4.5	-5.5	-4.5	-4.3	-4.3	-3.7	-3.1	-2.6	-1.5	-0.1	2.1	2.5	1.5	1.9	1.0	1.1	1.5	1.0	0.7	0.3	0.9	-1.2	2.5
27-Jan	0.9	0.6	-0.1	-0.8	-2.2	-3.1	-2.4	-2.3	-2.4	-1.4	0.3	2.2	3.0	3.3	3.9	4.6	4.3	3.9	4.6	4.6	5.9	5.7	5.4	4.9	1.8	5.9
28-Jan	4.6	4.0	3.5	3.1	2.4	1.7	1.4	1.4	1.6	1.8	2.1	3.0	3.5	3.5	3.5	2.6	1.5	0.5	-0.2	-0.7	-0.9	-1.4	-2.2	-2.9	1.6	4.6
29-Jan	-3.6	-4.6	-4.7	-3.9	-3.9	-4.0	-3.7	-3.6	-3.0	-2.6	-2.1	-2.3	-2.5	-2.5	-2.5	-2.6	-3.0	-3.2	-3.5	-4.2	-4.7	-4.9	-5.4	-8.1	-3.7	-2.1
30-Jan	-11.1	-12.5	-13.7	-15.3	-15.9	-16.6	-17.4	-18.1	-18.7	-18.9	-19.0	-18.7	-17.9	-17.2	-16.7	-17.7	-19.0	-21.7	-22.6	-21.0	-21.1	-21.1	-21.1	-21.0	-18.1	-11.1
31-Jan	-20.9	-20.7	-20.4	-20.3	-20.2	-19.8	-19.4	-18.9	-18.4	-17.8	-17.2	-16.4	-15.4	-14.4	-14.4	-15.0	-15.1	-15.9	-17.1	-17.4	-17.6	-17.6	-17.5	-17.6	-17.7	-14.4
	-11.5	-11.8	-12.0	-12.2	-12.5	-12.7	-12.9	-13.0	-12.8	-12.1	-10.6	-9.4	-8.5	-7.9	-7.6	-8.0	-8.8	-9.6	-10.2	-10.4	-10.5	-10.7	-11.0	-11.3		Diurnal Average
	4.6	4.1	3.6	3.5	3.3	3.1	3.0	2.7	2.2	1.9	2.6	3.5	3.9	4.1	3.9	4.6	4.3	3.9	4.6	4.6	5.9	5.7	5.4	5.2		Diurnal Maximum



Wood Buffalo Environmental Association
Hourly Averages

Ambient Temperature 2m (AT2) - C
Monday Creek - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Ambient Temperature 2m (AT2) - C
Monday Creek - January 2025**

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	156	20.97	20.97
-20 - 0	471	63.31	84.27
0 - 10	117	15.73	100.00
10 - 20	0	0.00	100.00
> 20	0	0.00	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

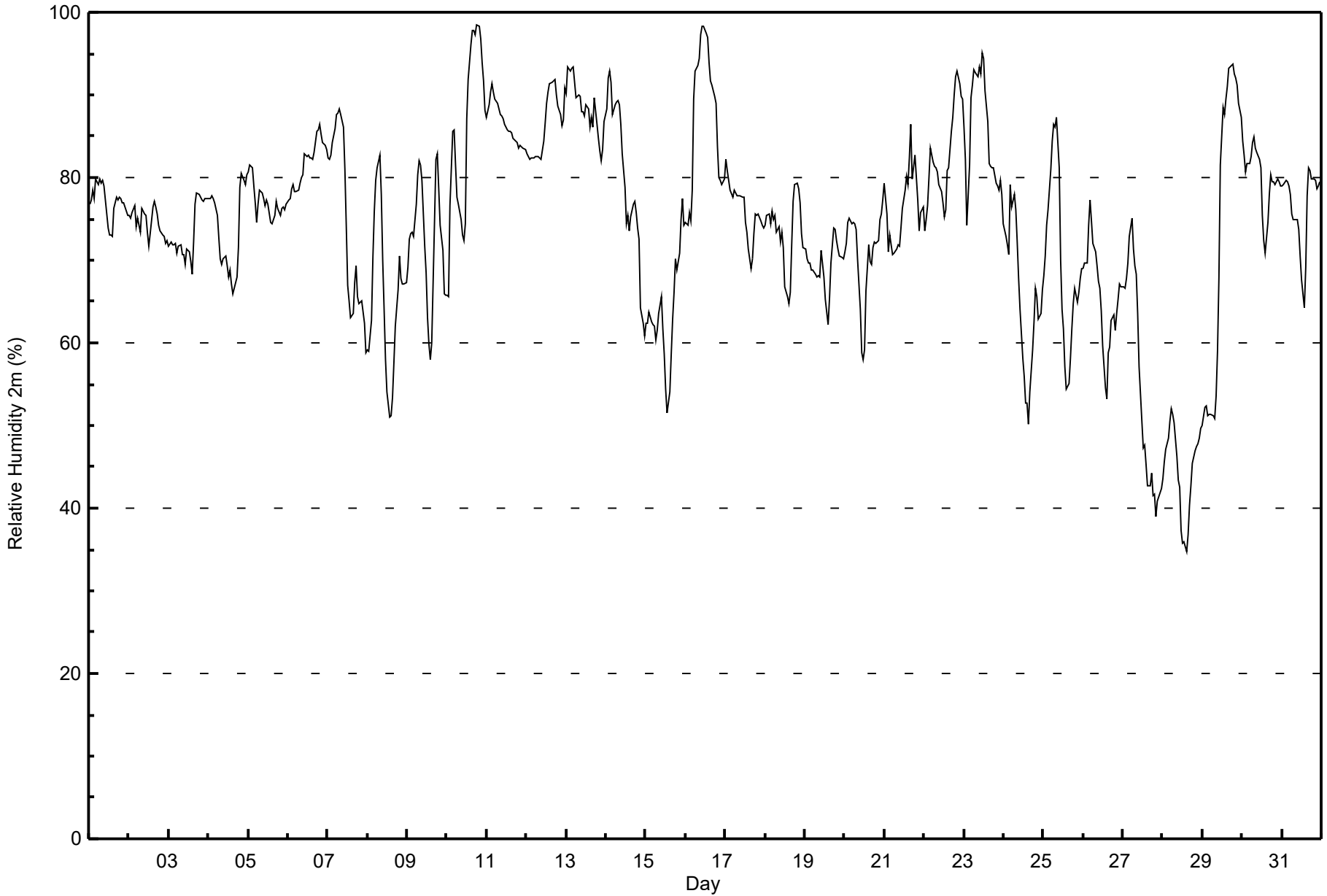
Relative Humidity 2m (RH2) - %
Monday Creek - January 2025

Maximum Value: 98.5 % on Jan 10 19:00 Maximum Daily Average: 88.3 % on Jan 13																						Hours in Service: 744 Hours of Data: 744				
Minimum Value: 34.8 % on Jan 28 15:00 Minimum Daily Average: 44.6 % on Jan 28 Maximum Diurnal Average: 77.3 % at hour 6 Minimum Diurnal Average: 70.4 % at hour 15 Monthly Average: 74.55 % Percentiles: P ₁ = 41.1 P ₁₀ = 58.9 Q ₁ = 69.0 Median = 75.7 Q ₃ = 82.1 P ₉₀ = 89.0 P ₉₉ = 97.3																						Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0				
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	76.9	77.3	78.5	77.5	79.8	79.1	79.8	79.3	79.6	78.9	77.2	73.8	73.0	73.1	72.9	76.3	77.5	77.3	77.6	77.4	77.0	77.0	76.0	75.4	77.0	79.8
2-Jan	75.5	75.2	75.7	76.6	74.0	75.0	74.3	73.5	76.3	75.7	75.4	73.4	71.6	73.2	76.4	77.1	76.4	75.6	74.3	73.6	73.1	72.9	72.0	72.4	74.5	77.1
3-Jan	71.7	72.2	71.8	71.9	72.0	70.8	71.7	71.8	70.7	70.6	69.5	71.3	70.9	69.9	68.3	72.1	76.7	78.1	78.0	77.7	77.2	77.1	77.5	77.4	73.2	78.1
4-Jan	77.4	77.5	77.8	77.5	76.9	75.5	72.6	70.1	69.5	70.2	70.4	69.3	67.9	68.8	67.2	65.9	67.2	67.9	71.5	78.8	80.6	79.6	79.2	80.3	73.3	80.6
5-Jan	80.6	81.4	81.1	79.1	76.9	74.5	76.8	78.4	78.1	77.5	76.6	77.7	67.7	74.5	74.3	75.0	75.5	77.2	76.3	75.4	76.2	76.5	76.2	76.8	77.1	81.4
6-Jan	77.4	77.5	78.6	79.1	78.2	78.3	78.5	79.3	80.0	80.3	82.8	82.6	82.8	82.3	82.3	82.1	83.1	85.6	85.8	86.5	85.2	84.2	83.9	83.3	81.7	86.5
7-Jan	82.3	82.2	82.6	84.3	86.0	87.6	87.8	88.4	87.7	86.2	80.9	74.1	66.9	65.1	63.1	63.5	67.3	69.2	65.6	64.7	65.1	63.7	62.3	58.8	74.4	88.4
8-Jan	59.2	59.0	62.7	70.4	75.9	79.7	81.1	82.8	78.0	70.1	64.1	58.0	54.1	51.0	51.1	53.3	57.7	62.1	66.4	70.4	67.8	67.1	67.1	67.3	65.7	82.8
9-Jan	69.2	72.5	73.2	73.4	72.9	76.7	80.4	82.0	81.4	79.7	71.8	68.4	63.0	59.8	58.0	59.9	74.7	82.1	82.9	78.7	74.2	71.2	66.0	65.7	72.4	82.9
10-Jan	65.8	65.5	76.6	85.6	85.8	81.5	77.7	76.8	74.9	73.1	72.4	74.4	87.0	91.8	96.1	97.8	97.8	97.3	98.5	98.3	96.8	93.9	91.7	88.1	85.2	98.5
11-Jan	87.4	88.7	90.4	91.4	90.4	89.6	89.0	88.2	87.7	87.5	87.2	86.5	85.8	85.5	85.6	85.3	84.8	84.3	84.2	83.5	83.9	83.8	83.6	83.4	86.6	91.4
12-Jan	82.8	82.5	82.1	82.3	82.3	82.5	82.6	82.6	82.4	82.2	84.3	86.7	89.0	90.3	91.3	91.5	91.8	91.9	89.9	88.7	87.7	86.3	86.9	90.9	86.3	91.9
13-Jan	90.2	93.3	92.8	93.1	93.4	91.5	89.6	89.9	89.8	88.0	87.9	87.4	88.8	88.4	86.0	87.3	86.2	89.7	86.4	84.8	83.1	82.0	83.4	86.7	88.3	93.4
14-Jan	88.3	92.0	92.9	91.5	87.7	88.8	89.2	89.4	88.8	86.5	82.9	78.8	74.4	75.5	73.5	75.3	76.8	77.2	75.7	73.8	72.5	64.2	62.4	60.8	80.0	92.9
15-Jan	62.4	62.4	63.7	62.6	62.2	62.0	60.3	61.5	63.6	65.6	61.8	58.6	54.5	51.6	54.1	58.6	62.9	66.1	70.1	68.7	70.9	74.9	77.4	74.2	63.8	77.4
16-Jan	74.7	74.3	75.7	74.8	78.4	89.4	92.9	93.6	94.4	97.3	98.3	98.3	97.5	97.0	94.0	91.7	91.1	89.8	88.9	83.8	80.0	79.6	79.1	79.9	87.3	98.3
17-Jan	82.2	80.9	79.7	78.4	77.7	78.5	78.1	77.7	77.9	77.7	77.6	77.7	74.5	73.3	71.3	69.0	70.1	73.3	75.6	75.4	75.6	74.7	74.2	73.9	76.1	82.2
18-Jan	74.2	75.5	75.5	74.5	76.0	75.0	75.4	73.4	74.1	72.1	73.3	71.4	66.8	65.6	64.8	66.2	71.8	77.1	79.1	79.4	78.6	76.9	73.2	71.6	73.4	79.4
19-Jan	71.3	70.2	69.7	69.6	68.8	68.9	68.3	67.9	68.2	68.0	71.3	68.0	65.3	63.8	62.3	65.4	69.7	73.9	73.7	72.4	71.3	70.5	70.3	70.2	69.1	73.9
20-Jan	71.1	72.1	74.5	75.1	74.3	74.6	74.5	73.6	70.2	64.1	58.9	58.0	59.1	66.4	71.8	69.9	69.4	71.4	72.2	72.0	72.4	74.9	75.5	77.3	70.5	77.3
21-Jan	79.3	75.5	70.9	73.1	71.8	70.7	70.8	71.4	71.8	71.7	73.9	76.3	78.6	80.2	79.2	82.4	86.5	79.9	82.7	80.0	77.2	73.6	75.8	76.4	76.2	86.5
22-Jan	73.6	75.0	76.7	79.9	83.5	81.9	81.3	81.3	80.7	79.2	78.2	77.0	75.2	76.2	80.8	81.1	85.5	87.3	90.1	92.1	92.8	91.4	89.8	89.5	82.5	92.8
23-Jan	86.2	82.1	74.3	81.4	89.7	91.1	93.0	92.7	92.2	93.4	92.6	95.0	94.4	90.4	86.8	81.7	81.4	81.2	81.2	79.3	79.0	78.4	79.7	77.9	85.6	95.0
24-Jan	74.4	72.9	71.9	70.6	79.2	76.4	78.0	76.1	72.2	67.8	64.0	58.1	55.9	52.7	52.7	50.1	54.1	59.1	62.5	66.5	65.6	62.9	63.6	66.4	65.6	79.2
25-Jan	68.2	70.6	74.3	76.1	81.1	84.5	86.4	86.1	87.2	81.2	70.0	64.0	61.6	57.1	54.4	55.1	58.2	61.7	64.8	66.7	64.9	66.1	67.8	69.0	69.9	87.2
26-Jan	69.0	69.6	69.7	74.3	77.3	74.7	72.0	69.3	67.4	66.6	63.9	59.6	54.6	53.2	58.7	59.5	62.6	63.3	61.6	63.6	65.2	67.1	66.8	65.9	77.3	
27-Jan	66.8	66.7	67.7	69.7	72.9	75.0	71.4	69.3	68.3	63.6	57.1	50.6	47.4	47.7	45.3	42.7	42.7	44.2	41.5	41.6	39.0	40.8	41.8	42.4	54.8	75.0
28-Jan	43.6	45.6	47.0	48.5	50.5	52.0	51.3	50.4	46.3	43.3	42.5	37.4	35.8	36.0	34.8	36.9	40.3	42.7	45.5	47.0	47.5	47.7	48.4	49.6	44.6	52.0
29-Jan	49.9	52.1	52.4	51.2	51.3	51.4	51.2	50.8	53.6	59.1	67.8	81.5	88.4	87.7	89.5	91.1	93.2	93.6	93.7	92.6	92.0	91.2	88.9	87.2	73.4	93.7
30-Jan	84.3	82.7	80.6	81.6	81.7	82.5	84.3	84.8	83.6	83.0	82.2	81.2	75.4	72.5	70.9	74.6	78.0	80.4	79.4	79.5	79.2	79.8	79.5	78.9	80.0	84.8
31-Jan	78.9	79.2	79.7	79.5	78.9	78.0	75.6	74.9	75.0	74.9	73.7	70.6	67.6	64.2	69.2	77.7	81.2	80.8	79.8	79.9	79.7	78.7	79.0	79.4	76.5	81.2
74.0 74.3 74.9 76.0 77.0 77.3 77.3 77.1 76.6 75.4 74.0 72.6 71.3 70.5 70.4 71.5 73.8 75.5 76.0 75.8 75.2 74.4 74.2 74.1																								Diurnal Average		
90.2 93.3 92.9 93.1 93.4 91.5 93.0 93.6 94.4 97.3 98.3 98.3 97.5 97.0 96.1 97.8 97.8 97.3 98.5 98.3 96.8 93.9 91.7 90.9																								Diurnal Maximum		



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 2m (RH2) - %
Monday Creek - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Relative Humidity 2m (RH2) - %
Monday Creek - January 2025

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	6	0.81	0.81
40 - 60	78	10.48	11.29
60 - 80	435	58.47	69.76
80 - 100	225	30.24	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Speed 10m (WS10) - km/h

Monday Creek - January 2025

Maximum Speed: 30 km/h on Jan 24 09:00	Maximum Daily Speed Average: 19.4 km/h on Jan 24	Hours in Service: 744
Minimum Speed Value: 0 km/h on Jan 19 06:00	Minimum Daily Speed Average: 1.7 km/h on Jan 2	Hours of Data: 686
Maximum Diurnal Speed Average: 7.3 km/h at hour 15	Minimum Diurnal Speed Average: 4.1 km/h at hour 20	Hours of Missing Data: 58
Monthly Average Velocity: 5.7 km/h 285.2 deg	Percentiles: P ₁ = 1 P ₁₀ = 5 Q ₁ = 8 Median = 11 Q ₃ = 15 P ₉₀ = 21 P ₉₉ = 27	Percent Operational Time: 92.2

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	NW8	NW6	NW6	NW7	WNW8	WNW7	WNW6	WNW4	WNW3	NW5	NW7	NNW10	NNW10	NNW9	NNW8	N6	NE8	NNE7	NNE8	NE8	NNE7	N7	NNE9	NNE10	NNW6.0	NNW10
2-Jan	N9	N10	NNE6	NE5	NNE2	WNW2	WNW1	NW3	WNW3	WNW2	WNW5	NNW4	N4	WNW3	S1	SSW2	ESE1	E1	E3	ESE2	ESE2	ESE3	ESE1	SE2	N1.7	N10
3-Jan	SE2	ESE3	ESE3	E3	ESE4	ESE3	E3	ESE4	ENE3	E3	ESE4	S7	SSE7	SSE9	S9	SSE9	SE8	SE9	SE9	SE9	SE11	SE8	SE8	SE8	SE5.6	SE11
4-Jan	SE10	SSE9	SSE9	SSE13	SSE10	SSE9	SSE8	SSE8	SSE9	SSE7	SSE8	S10	SSE11	SSE8	S12	S11	SSE10	SSE9	SSE10	S8	SSW9	SSW9	SSW9	SSW8	S9.0	SSE13
5-Jan	SSW7	SSW5	SW4	W6	WNW9	WNW11	WNW10	NW9	NW7	NW8	NNW9	NNW9	NNW8	NNW11	N9	NNE8	NE11	NE11	NE8	NNE7	NE6	NE5	ENE4	NNW4.9	NE11	
6-Jan	NE4	ENE4	SE6	SE6	SE6	SE7	SE6	SE6	SSE7	S8	S11	S10	SSW11	SSW10	SSW11	SSW12	SW13	SW11	SW11	SW14	SW13	SW13	SW12	SSW7.4	SW14	
7-Jan	SW13	SW12	SW11	SW11	SSW7	SSW9	SSW8	SSW10	SW8	SW9	SW8	SW12	SW14	SW11	SW12	SW13	SW13	SW8	WSW11	SW12	SW10	SW12	WSW18	WSW19	SSW11.0	WSW19
8-Jan	WSW22	W25	W24	W19	W17	W14	W15	W18	W17	WNW21	WNW21	WNW22	WNW23	WNW26	WNW26	WNW21	NW17	NW15	WNW12	WNW13	WNW15	WNW16	W14	WNW15	WNW18.0	WNW26
9-Jan	W12	W12	W13	WNW14	WNW14	W7	WSW8	W8	WSW9	W9	WNW10	WNW14	NW9	NW5	S3	SE1	SE1	SE2	SSE3	SSE6	SE7	SSE6	S9	S11	W5.1	WNW14
10-Jan	SSW15	S14	S13	S12	S13	SSW11	SW15	SW17	SW14	WSW11	W12	W11	W5	WNW6	W5	WNW8	WNW9	NW7	WNW7	WNW6	NNE12	NNE12	NNE15	NNE17	WSW4.8	SW17
11-Jan	NNE14	NNE18	NNE16	NNE13	N13	N12	NNE14	NNE13	N9	NNE10	NNE11	NE11	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	---	NNE18
12-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	---	---
13-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	---	W13
14-Jan	WSW6	SW6	SW6	SW7	WSW7	SSW6	S9	S7	SSW8	SSW9	SW15	SW18	SW20	WSW19	WSW22	W22	W23	W22	W20	W19	W17	WNW22	WNW22	WNW23	WSW13.1	WNW23
15-Jan	WNW18	W19	W20	WNW22	WNW24	WNW23	WNW23	WNW18	WNW18	WNW16	WNW17	WNW15	WNW17	WNW15	WNW13	WNW10	W8	WSW6	WSW8	WSW10	WSW6	S1	SSE3	SE4	WNW12.9	WNW24
16-Jan	SE4	ESE5	ESE8	ESE9	ESE8	ESE14	SE13	ESE11	ENE8	ENE8	ESE7	ENE9	ENE14	ENE15	NE21	NE22	NE22	NE24	NE25	NNE23	NNE21	N15	N13	NNW15	NE10.7	NE25
17-Jan	NNW13	N14	N12	NNW16	NNW15	NNW11	NNW11	NNW11	NNW9	NNW9	N8	NNE8	NNW10	NNW13	NNW14	NNW15	NNW14	NNW11	NNW9	NNW7	NW7	NW7	NW9	NW9	NNW10.6	NNW16
18-Jan	NW9	NNW9	NW3	W3	W5	W6	WNW5	WSW4	WSW3	SW3	SW6	W8	W7	W7	W9	WSW9	WSW9	SW6	WSW6	W6	W7	WNW5	UO	UO	W5.2	NNW9
19-Jan	E1	UO	ENE2	UO	UO	NW0	SSE1	W1	NW2	NW4	NW5	NW8	NNW10	NNW10	NNW9	NNW8	NNE6	N4	NW1	SSE2	SSE1	SSE1	S1	SE1	NNW2.8	NNW10
20-Jan	SSE3	SSE5	S6	S8	S5	S8	S6	S8	S10	SSW13	S10	S10	SSW13	SSW17	SSW19	SW19	SW19	SW18	SW19	SW17	WSW17	W19	W18	WSW21	SW11.3	WSW21
21-Jan	WSW16	W17	W18	W12	W17	W21	WNW23	W25	W20	WNW16	WNW21	WNW21	WNW23	WNW20	NW19	NW15	NNW12	N17	NNE17	NNE20	N17	NNW19	N16	NNW15	NW14.9	WNW25
22-Jan	NNW16	NNW15	NW7	WNW9	WNW13	WNW13	WNW14	WNW14	NW14	NW14	NW13	NW11	NW14	NW17	WNW16	WNW14	WNW10	W10	W10	SW8	SSW8	SSW10	S7	SSW6	WNW9.4	NW17
23-Jan	SSW10	SSW8	SW13	SW19	SW16	SW17	WSW16	WSW19	WSW17	W15	W14	WNW11	W11	WNW15	W16	WNW19	WNW19	WNW21	WNW22	WNW22	WNW21	WNW19	WNW18	WNW22	W14.1	WNW22
24-Jan	WNW25	WNW23	WNW25	WNW28	WNW27	WNW27	NNW25	NNW29	NNW30	NNW29	NNW27	NNW25	NNW26	NNW25	NNW25	NNW19	NW11	NW6	W6	W8	W10	WNW15	WNW17	WNW14	NW19.4	NNW30
25-Jan	WNW12	W7	WSW11	WSW10	SW6	SW8	SW8	SW7	SW8	WSW11	W18	W14	W12	W16	WNW18	WNW12	W12	WNW7	W8	WNW16	W9	WSW8	W9	WSW8	W10.0	WNW18
26-Jan	WSW11	WSW10	SW11	SW10	SW8	WSW11	W14	W16	W18	W18	W16	W14	SW13	WSW13	W20	W20	W18	W12	W15	WNW13	WNW9	WNW11	WNW12	WNW12	W12.9	W20
27-Jan	WNW15	WNW12	W10	W6	WNW7	W8	W9	W9	WSW10	WSW12	WSW8	SW9	W17	W17	WSW17	W22	W20	WSW20	W25	W22	W28	WNW26	WNW23	WNW19	W14.8	W28
28-Jan	NNW22	WNW24	NW20	NW21	WNW20	WNW17	WNW14	WNW20	WNW21	WNW22	WNW22	NW24	NW25	NW25	WNW26	WNW21	WNW17	W12	WNW11	WNW11	WNW14	WNW14	W11	W12	WNW18.3	WNW26
29-Jan	W11	W8	W8	W8	W7	W6	WSW7	W8	W10	W10	W13	W11	SW3	E5	E8	ENE11	E10	NE10	NE13	NE13	NE12	NE14	NE15	NNE20	N2.7	NNE20
30-Jan	NNE22	NE17	NNE15	NNE11	N9	NNE11	NNE11	NNE12	NNE11	NE10	NNE11	NNE10	NE9	NNE9	NNE8	NNE7	NE6	ENE2	ENE4	ENE7	E4	E6	ENE6	ENE6	NNE8.7	NNE22
31-Jan	ENE5	ENE5	ENE6	ENE6	E8	E8	ESE7	ESE8	ESE8	ESE10	ESE11	ESE12	ESE14	ESE13	E15	ENE14	ENE14	E18	E19	E13	ENE13	E13	E12	ENE11	E10.3	E19

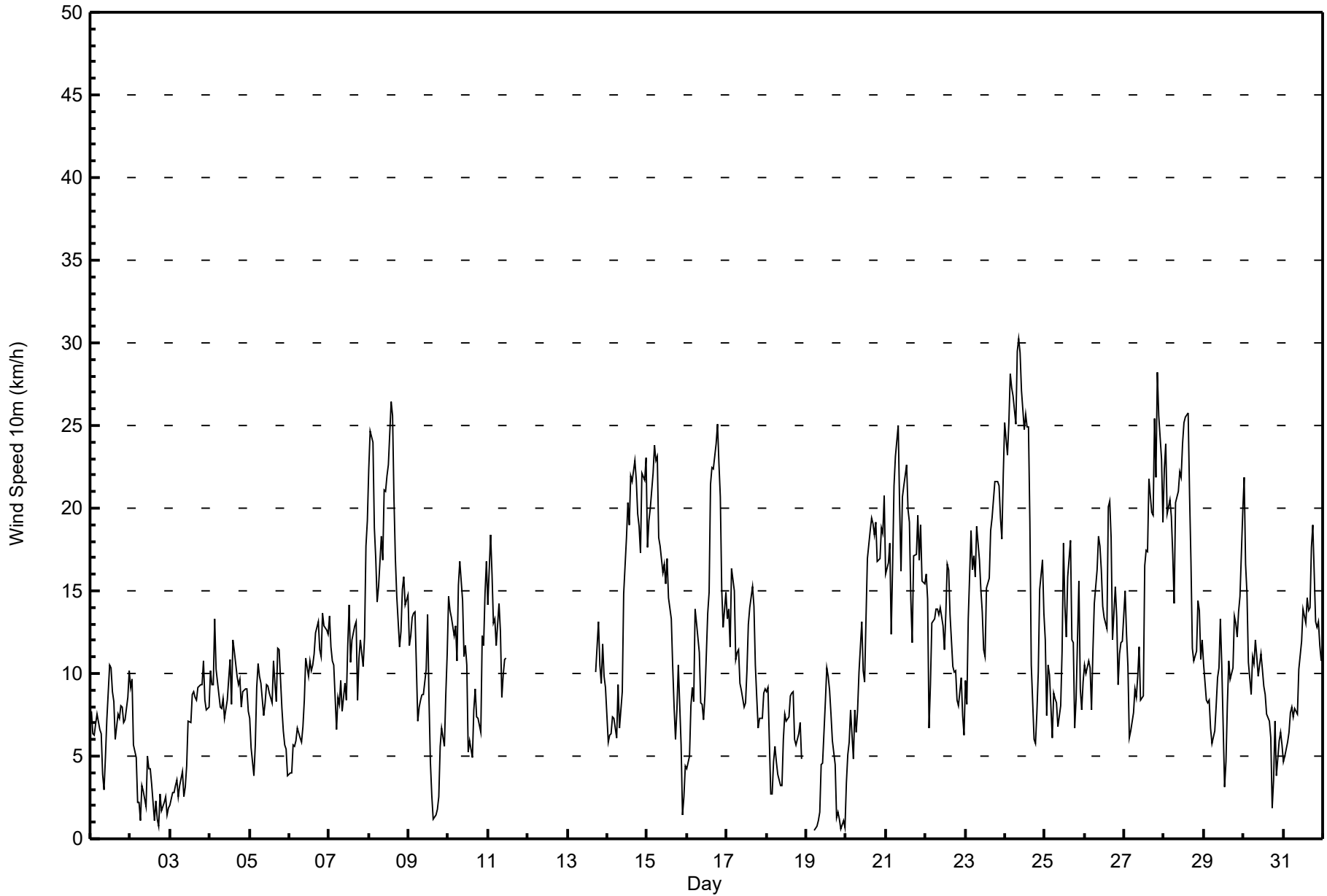
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WNW25	W25	WNW25	WNW28	WNW27	WNW27	NNW25	NNW29	NNW30	NNW29	NNW27	NNW25	NNW26	WNW26	WNW26	NE22	W23	NE24	W25	NNE23	W28	WNW26	WNW23	WNW23	Diurnal Maximum	

UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods



Wood Buffalo Environmental Association
Hourly Averages

Wind Speed 10m (WS10) - km/h
Monday Creek - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Wind Speed 10m (WS10) - km/h
Monday Creek - January 2025**

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	87	12.68	12.68
6 - 11	302	44.02	56.71
12 - 19	210	30.61	87.32
20 - 28	84	12.24	99.56
29 - 38	3	0.44	100.00
> 38	0	0.00	100.00

Total Number of Valid Hours: 686

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Wind Speed 10m (WS10) - km/h
Monday Creek - January 2025

Wind Speed Ranges (km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	2	1	3	8	8	12	8	8	5	2	3	2	5	10	9	1	87
6 - 11	8	21	11	10	5	10	16	20	21	23	25	23	44	22	20	23	302
12 - 19	9	14	5	5	6	4	1	1	5	6	28	12	43	48	8	15	210
20 - 28	0	5	5	0	0	0	0	0	0	0	1	4	16	41	7	5	84
29 - 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	19	41	24	23	19	26	25	29	31	31	57	41	108	121	44	47	686

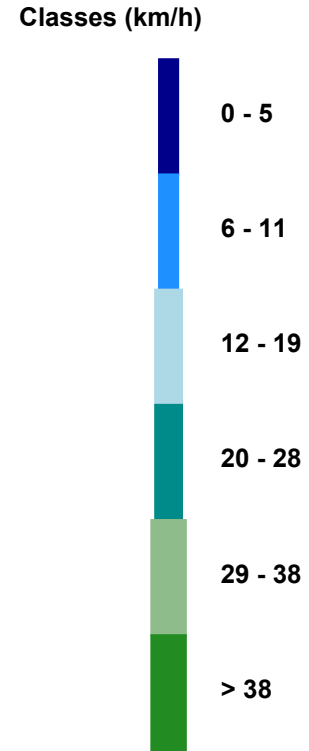
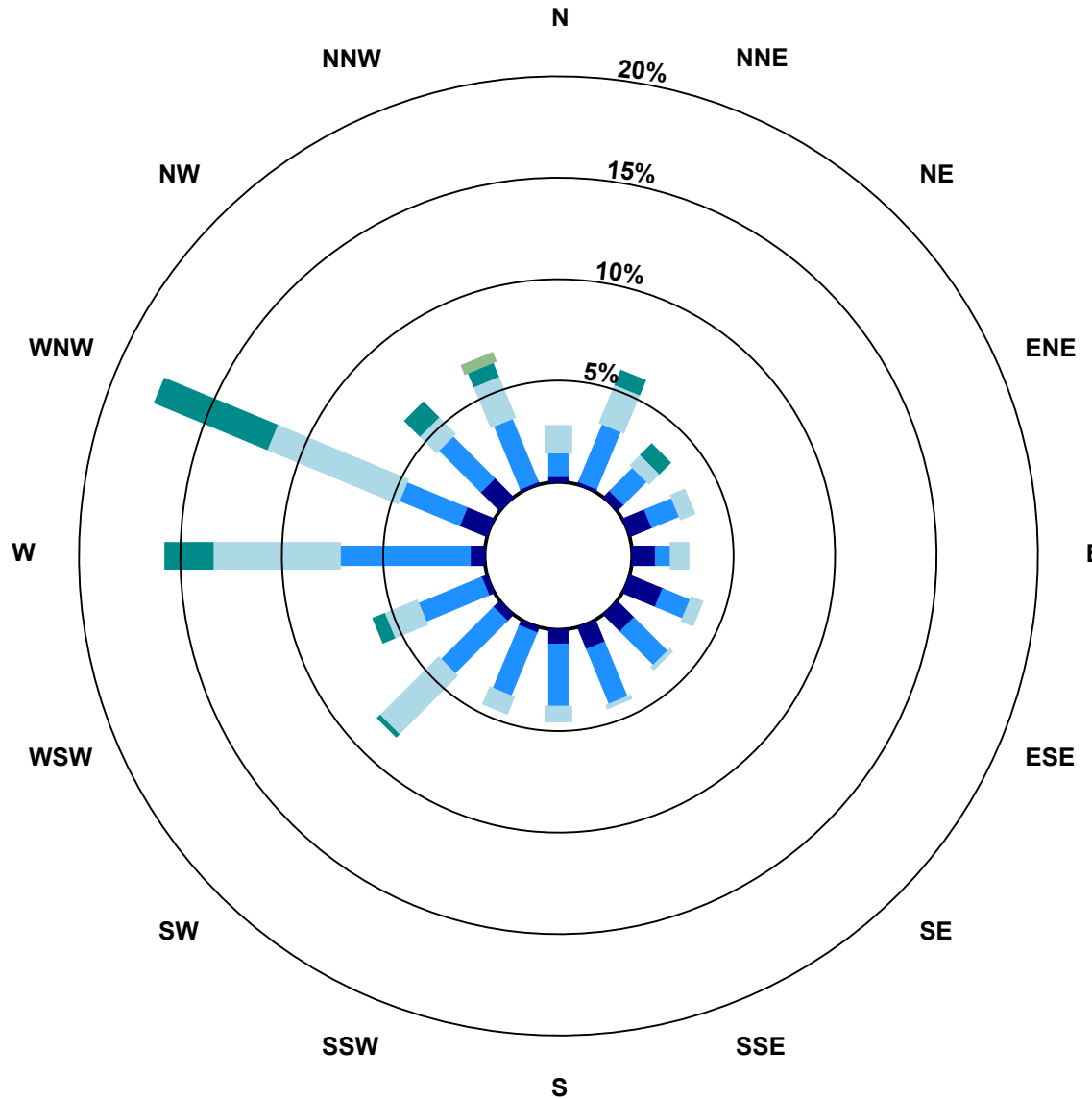
Total Number of Valid Hours: 686

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Wind Speed 10m (WS10) - km/h
Monday Creek



Total Number of Valid Hours: 686



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Speed 10m (WS10) - km/h
Monday Creek - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 9 km/h on Jan 24 09:00 Minimum Value: 1 km/h on Jan 3 07:00 Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 2 Median = 2 Q ₃ = 4 P ₉₀ = 5 P ₉₉ = 7																	Hours in Service: 744 Hours of Data: 686 Hours of Missing Data: 58 Hours of Calibration: 0 Percent Operational Time: 92.2									
Day	Hourly Period Ending At (MST)																								Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	2	2	2	2	2	1	1	2	1	1	2	2	2	2	2	2	1	2	2	2	1	2	2	2		
2-Jan	2	3	1	1	2	1	1	1	1	2	1	1	1	1	1	1	2	1	1	1	1	1	1	1		
3-Jan	1	1	1	1	1	1	1	1	1	1	1	2	2	2	3	2	2	2	2	2	2	1	1	2		
4-Jan	2	2	2	4	3	3	3	2	2	2	2	3	3	2	4	4	3	2	3	2	2	3	2	2		
5-Jan	2	2	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1		
6-Jan	1	1	1	1	1	1	2	2	1	2	3	3	3	3	3	3	3	4	3	3	3	3	3	3		
7-Jan	4	3	3	2	2	2	2	2	2	2	2	3	4	2	3	4	3	3	3	3	3	3	4	5		
8-Jan	6	5	5	4	3	3	3	3	3	6	5	5	6	6	6	6	5	4	2	2	3	3	2	2		
9-Jan	2	2	3	3	3	2	1	3	2	2	3	3	2	3	1	2	2	1	1	1	1	1	3	4		
10-Jan	4	4	4	3	5	4	4	4	4	3	3	3	1	1	1	2	2	1	2	1	5	3	4	4		
11-Jan	3	4	4	4	3	3	3	3	2	2	2	3	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO		
12-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO		
13-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	2	2	2	2	2	2	2		
14-Jan	2	1	1	1	2	1	2	2	2	2	4	5	5	5	5	5	5	4	4	3	4	4	5	6		
15-Jan	4	4	4	4	5	5	6	4	4	4	4	4	4	4	3	3	1	1	2	2	1	2	1	1		
16-Jan	1	1	1	2	3	3	3	2	3	2	1	2	2	4	4	6	5	6	6	5	5	4	3	3		
17-Jan	3	4	4	5	4	2	2	2	2	2	2	2	2	3	4	3	3	3	1	2	2	2	2	2		
18-Jan	2	1	3	1	1	1	2	2	2	1	1	2	2	2	2	2	2	1	1	1	1	1	UO	UO		
19-Jan	1	UO	2	UO	UO	1	1	1	1	1	2	2	2	2	2	2	1	1	1	1	1	1	1	1		
20-Jan	1	1	1	2	2	2	2	2	2	3	3	2	5	5	5	5	6	4	5	4	4	5	4	4		
21-Jan	3	5	4	2	3	4	5	5	5	4	4	4	5	4	5	5	3	5	4	4	6	5	4	4		
22-Jan	4	4	2	2	2	2	3	3	4	4	3	3	4	5	3	3	3	3	2	1	2	2	2	2		
23-Jan	2	2	4	4	4	4	4	5	4	5	3	2	2	3	3	4	6	4	5	5	5	4	4	4		
24-Jan	5	6	5	7	6	7	7	7	9	8	7	7	6	6	5	3	1	1	1	1	3	3	3	3		
25-Jan	2	2	3	2	1	2	3	2	3	2	5	4	3	3	4	3	3	2	2	4	4	2	2	2		
26-Jan	2	2	3	2	2	3	4	3	4	3	3	3	3	4	4	4	4	3	2	3	2	2	2	3		
27-Jan	3	3	2	1	1	2	1	1	2	3	3	3	4	5	4	6	5	5	5	5	6	5	6	5		
28-Jan	6	6	5	5	4	3	3	4	4	5	5	7	7	7	8	5	4	2	2	2	2	2	2	2		
29-Jan	1	1	1	1	1	1	2	2	2	3	3	3	1	1	2	2	2	2	3	2	2	3	4	4		
30-Jan	5	4	4	4	2	3	3	3	3	3	3	2	2	2	2	1	1	2	2	1	2	2	1	1		
31-Jan	1	1	1	1	1	2	2	1	1	2	3	2	3	3	3	3	3	3	3	2	2	2	2	2		
																	Diurnal Maximum									
UO - Unstable Operation																										



Wood Buffalo Environmental Association
Summary of Hour Averages

Wind Direction 10m (WD10) - deg
Monday Creek - January 2025

Direction of Maximum Speed: 335 deg on Jan 24 09:00	Hours in Service: 744
Direction of Maximum Daily Speed Average: 314.3 deg on Jan 24	Hours of Data: 686
Direction of Minimum Speed: 324 deg on Jan 19 06:00	Hours of Missing Data: 58
Direction of Minimum Daily Speed Average: 1.7 deg on Jan 2	Percent Operational Time: 92.2
Monthly Average Direction: 285.2 deg	

Day	Hourly Period Ending At (MST)																								Daily Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	316	313	318	311	302	302	294	296	297	315	317	339	343	343	340	352	34	27	33	35	31	10	19	21	345.2
2-Jan	5	8	24	48	22	301	289	315	300	294	300	338	359	298	176	212	121	100	90	107	106	107	116	127	4.0
3-Jan	127	120	121	96	102	106	101	106	65	99	121	171	161	166	185	148	140	137	142	141	137	134	137	136	138.7
4-Jan	143	147	159	164	164	166	163	151	152	161	168	174	168	165	178	170	165	161	167	179	209	210	201	199	169.7
5-Jan	195	201	230	264	287	299	297	304	317	325	329	335	341	326	330	357	12	38	45	43	22	44	51	67	339.1
6-Jan	52	74	124	130	146	135	137	134	155	181	190	186	193	199	198	211	212	216	220	221	221	228	219	220	194.9
7-Jan	227	226	227	217	212	200	199	209	214	219	220	221	224	231	227	232	233	219	240	227	223	234	239	252	226.3
8-Jan	257	264	265	270	275	272	273	274	275	289	290	290	298	300	297	300	313	313	298	286	285	285	279	284	284.4
9-Jan	276	270	280	293	291	259	255	266	258	277	286	298	312	315	186	130	141	133	152	159	140	153	180	177	262.3
10-Jan	192	190	184	177	188	203	218	224	236	241	266	264	266	295	281	286	300	308	296	306	26	19	17	17	248.4
11-Jan	13	24	16	14	9	7	31	28	8	22	22	38	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--
12-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--
13-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--
14-Jan	245	226	224	232	238	207	185	190	202	210	224	223	226	238	247	260	268	268	270	265	268	284	289	290	251.4
15-Jan	288	275	274	285	290	292	291	290	292	285	287	299	301	301	297	292	271	251	245	242	241	186	163	126	284.1
16-Jan	145	119	102	112	109	117	127	120	76	64	104	76	64	60	50	51	46	40	36	28	21	4	352	334	54.8
17-Jan	345	354	4	335	340	343	344	340	333	340	5	26	339	345	335	343	348	341	329	332	311	308	317	317	340.7
18-Jan	324	336	317	259	264	277	283	257	244	219	228	274	280	270	273	243	244	224	248	272	280	290	UO	UO	270.1
19-Jan	86	UO	78	UO	UO	324	154	276	326	326	309	307	331	334	332	337	12	352	309	164	161	161	187	139	332.6
20-Jan	158	161	182	186	186	186	185	188	185	195	185	170	202	212	208	216	221	225	232	235	247	261	260	258	217.6
21-Jan	255	278	280	269	279	279	282	281	274	285	287	291	291	294	309	313	339	1	16	20	351	347	352	341	304.7
22-Jan	333	332	317	283	292	288	295	302	310	316	326	326	316	307	294	295	286	280	261	216	207	195	189	199	294.6
23-Jan	195	198	217	228	221	229	239	247	251	269	273	291	274	284	275	285	291	300	300	301	302	302	300	296	271.7
24-Jan	293	291	289	298	297	302	313	329	335	337	343	340	337	334	338	335	322	305	274	278	274	287	284	285	314.3
25-Jan	287	262	251	247	220	232	227	222	230	222	253	262	259	272	278	290	285	274	286	265	285	277	248	262	262.5
26-Jan	243	247	230	221	233	247	263	267	270	271	269	261	236	252	262	267	266	268	271	291	298	294	289	291	263.9
27-Jan	285	289	278	273	284	276	270	264	252	255	249	233	261	262	245	263	265	257	266	264	281	291	300	298	271.0
28-Jan	304	301	307	305	297	294	293	290	297	290	294	307	311	305	302	296	289	281	285	286	285	286	267	266	295.7
29-Jan	272	273	275	265	274	275	247	273	269	268	266	263	226	86	85	74	81	56	54	48	54	52	54	23	354.9
30-Jan	28	34	27	17	1	17	18	15	20	35	28	25	47	22	25	18	36	75	74	59	88	85	71	64	31.5
31-Jan	66	62	72	72	87	98	119	117	104	119	119	118	110	108	79	72	72	82	90	88	78	79	84	59	90.1

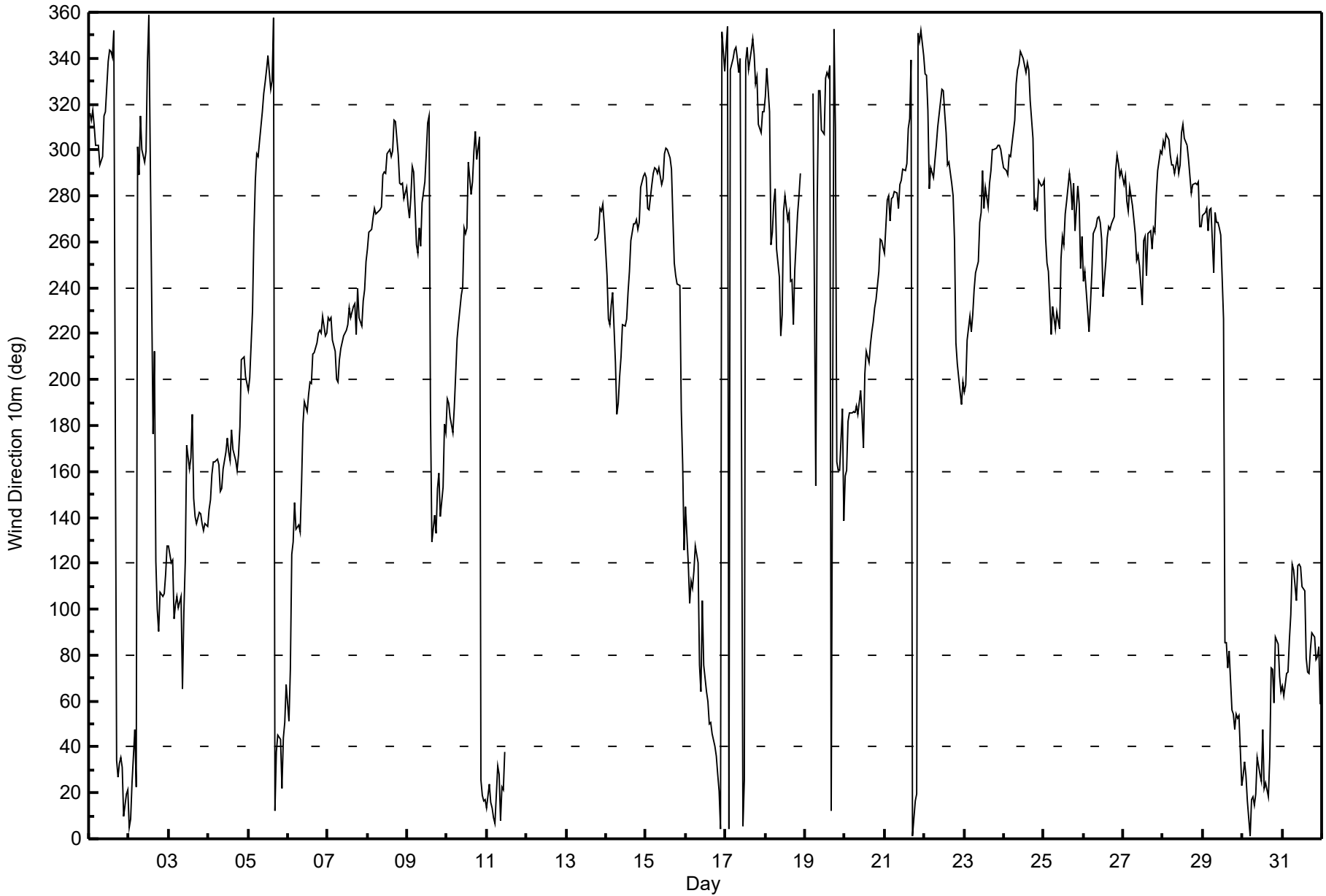
287.3 288.5 276.4 272.4 277.9 272.7 271.3 277.3 280.5 282.7 284.0 288.5 286.9 291.1 287.6 291.1 292.1 292.9 288.2 285.4 290.9 294.8 291.1 294.6
 Diurnal Average

UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods



Wood Buffalo Environmental Association
Hourly Averages

Wind Direction 10m (WD10) - deg
Monday Creek - January 2025





Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg
Monday Creek - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 88 deg on Jan 19 22:00 Minimum Value: 7 deg on Jan 27 07:00 Percentiles: P ₁ = 9 P ₁₀ = 11 Q ₁ = 12 Median = 15 Q ₃ = 18 P ₉₀ = 22 P ₉₉ = 73																		Hours in Service: 744 Hours of Data: 686 Hours of Missing Data: 58 Hours of Calibration: 0 Percent Operational Time: 92.2								
Day	Hourly Period Ending At (MST)																								Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	15	19	19	18	16	19	12	22	24	20	20	18	17	18	16	16	21	13	12	13	15	14	14	13	24	
2-Jan	16	16	17	13	45	22	67	15	36	68	24	30	33	43	80	43	74	49	27	34	35	40	33	51	80	
3-Jan	44	25	18	10	13	18	11	13	44	23	19	19	23	19	22	13	16	12	12	11	10	10	11	13	44	
4-Jan	12	12	16	17	20	23	21	20	17	19	20	22	20	21	20	21	19	18	18	22	15	17	21	17	23	
5-Jan	16	21	17	21	15	13	13	17	18	15	19	17	22	25	16	19	17	12	11	12	19	14	15	22	25	
6-Jan	20	22	18	13	17	10	13	12	19	20	18	18	20	17	17	17	15	15	15	15	15	16	16	14	22	
7-Jan	16	16	18	12	20	14	16	16	19	14	18	15	16	14	18	15	22	28	17	18	23	13	15	17	28	
8-Jan	15	11	12	11	10	10	10	10	10	14	12	14	15	15	13	16	18	17	13	10	11	10	11	9	18	
9-Jan	11	10	12	13	13	19	13	14	15	15	12	16	20	60	40	82	62	48	39	14	15	21	21	22	82	
10-Jan	19	20	19	22	25	22	14	13	15	16	18	15	24	19	19	15	16	19	18	21	35	12	14	14	35	
11-Jan	14	12	14	16	15	17	14	14	19	13	17	18	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	19	
12-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	
13-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	13	11	11	12	11	11	8	13
14-Jan	13	22	9	12	18	20	15	17	13	15	14	15	14	16	14	15	11	11	11	11	12	10	13	13	22	
15-Jan	12	12	11	11	11	14	15	13	12	11	13	17	16	17	13	11	14	10	10	16	77	18	24	77		
16-Jan	22	21	12	14	21	15	13	15	21	16	26	23	9	12	13	14	13	13	12	14	13	18	19	14	26	
17-Jan	15	20	16	14	14	15	14	13	14	14	25	14	20	15	15	15	17	12	12	20	18	20	17	14	25	
18-Jan	14	11	57	51	11	10	23	15	49	21	15	16	17	21	15	17	10	11	12	13	10	17	UO	UO	57	
19-Jan	67	UO	44	UO	UO	73	69	78	51	12	26	21	17	20	17	18	32	30	76	67	61	88	44	72	88	
20-Jan	17	19	12	16	19	15	18	19	17	16	20	20	21	17	17	15	14	13	15	13	14	13	12	11	21	
21-Jan	12	17	11	11	10	10	10	10	11	12	11	12	12	13	17	18	20	20	17	13	22	18	20	16	22	
22-Jan	18	15	24	10	10	10	12	17	18	18	17	17	18	18	14	13	13	13	17	12	16	11	16	22	24	
23-Jan	13	18	17	14	14	13	15	14	14	16	11	13	16	12	11	14	16	13	14	14	14	14	14	12	18	
24-Jan	11	12	11	14	13	16	17	18	17	17	19	21	17	17	16	15	15	21	15	10	16	17	11	10	21	
25-Jan	11	28	15	11	18	20	21	14	20	16	16	12	13	16	13	10	11	11	30	22	10	14	16	13	30	
26-Jan	12	12	15	15	21	15	16	11	10	11	11	16	13	17	12	10	12	11	13	10	15	14	10	13	21	
27-Jan	10	12	11	13	14	12	7	11	11	14	22	18	15	13	13	13	11	14	12	12	12	11	15	16	22	
28-Jan	16	15	17	16	13	10	13	11	15	12	14	17	18	17	16	14	11	10	10	9	9	9	10	10	18	
29-Jan	8	10	10	10	10	13	18	12	11	11	11	13	41	13	10	10	14	11	10	12	11	11	16	14	41	
30-Jan	14	15	14	18	18	16	15	17	15	22	20	17	23	15	19	11	9	64	29	9	29	11	8	15	64	
31-Jan	19	11	15	15	9	15	20	15	17	16	14	14	13	14	14	9	11	9	9	12	9	10	11	12	20	
Diurnal Maximum																										
UO - Unstable Operation																										



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS506 JACKFISH 1 JANUARY 2025

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

February 28, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - JACKFISH 1 (AMS506)
 JANUARY 2025

MONTHLY SUMMARY

Parameter	Hours of Data	Hours of Calibration	Hours without Data	Operational Time	Maximum 1-Hour Value	1-Hour Exceedances	Maximum 24-Hour Value	24-Hour Exceedances
SO2 (ppb) Average	710	34	34	100	23.4	0	7.8	0
H2S (ppb) Average	708	36	36	100	0.6	0	0.3	0
NO2 (ppb) Average	684	38	60	97.04	31.4	0	9	-
NO (ppb) Average	684	38	60	97.04	19.8	-	3.5	-
NOX (ppb) Average	684	38	60	97.04	51.2	-	12.5	-
Temperature 2 m (C) Average	744	0	0	100	4	-	0.6	-
Relative Humidity (%) Average	744	0	0	100	98	-	92.4	-
Wind Speed 10 m (km/h) Average	657	0	87	88.31	27	-	13	-
Wind Direction 10 m (deg) Average	657	0	87	88.31	-	-	-	-

Note : Operational time includes periods of data collection and instrument calibration

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - JACKFISH 1 (AMS506)
 JANUARY 2025

MONTHLY SUMMARY FOR AIR QUALITY/ METEOROLOGICAL MONITORING MEASUREMENTS

Parameter	Number	Mean	StnDev	Total	Percentile						
					Min	P10	Q1	Median	Q3	P90	Max
SO2 (ppb) Average	710	1.5	3	-	0	0.1	0.2	0.5	1.4	2.9	23.4
H2S (ppb) Average	708	0.13	0.1	-	0	0	0.1	0.1	0.2	0.3	0.6
NO2 (ppb) Average	684	4.22	4.8	-	0	0.7	1.4	2.8	5	8.5	31.4
NO (ppb) Average	684	0.84	2.1	-	0	0	0	0.2	0.7	1.9	19.8
NOX (ppb) Average	684	5.05	6.6	-	0	0.7	1.6	3.2	5.7	10.1	51.2
Temperature 2 m (C) Average	744	-11.03	9.4	-	-30.9	-24.3	-19.1	-8.2	-3	0.2	4
Relative Humidity (%) Average	744	78.55	10	-	42.9	65.1	74.9	79.1	84.4	91.1	98
Wind Speed 10 m (km/h) Average	657	6.8	4	-	1	3	4	6	8	11	27
Wind Direction 10 m (deg) Average	657	-	-	-	-	-	-	-	-	-	-

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - JACKFISH 1 (AMS506)
JANUARY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
NO2	28 Jan 2025 14:00	29 Jan 2025 11:00	22	Maintenance - stabilization post maintenance
Wind Speed, Wind Direction	10 Jan 2025 22:00	14 Jan 2025 12:00	87	Flat line in sensor output signal - Sensor frozen



Wood Buffalo Environmental Association

Summary of Hour Averages

Sulphur Dioxide (SO₂) - ppb

Jackfish 1 - January 2025

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 23.4 ppb on Jan 28 04:00	Maximum Daily Average: 7.8 ppb on Jan 28		Hours of Data:	710
Minimum Value: 0.0 ppb on Jan 9 03:00	Minimum Daily Average: 0.1 ppb on Jan 31		Hours of Missing Data:	34
Maximum Diurnal Average: 2.5 ppb at hour 15	Minimum Diurnal Average: 0.8 ppb at hour 8		Hours of Calibration:	34
Monthly Average: 1.50 ppb	Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.2 Median = 0.5 Q ₃ = 1.4 P ₉₀ = 2.9 P ₉₉ = 17.1		Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0.4	Z	1.5	1.1	1.4	1.6	1.4	1.4	2.7	1.2	1.5	1.8	1.8	1.7	1.5	1.3	1.2	1.1	1.8	2.6	2.6	2.3	2.1	2.2	1.6	2.7
2-Jan	2.3	0.9	Z	0.7	0.7	0.5	0.4	0.9	1.6	1.4	1.7	3.8	4.0	3.9	3.0	2.9	2.4	2.4	1.9	1.6	3.0	4.3	5.1	3.1	2.3	5.1
3-Jan	1.9	1.0	0.5	Z	0.8	0.6	0.6	0.5	0.3	0.6	1.0	0.8	0.5	0.4	0.4	0.4	0.3	0.2	0.4	0.3	0.3	0.4	0.3	0.3	0.5	1.9
4-Jan	0.2	0.2	0.2	0.2	Z	0.3	0.2	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.4	0.3	0.4	0.3	0.4	0.4	0.3	0.4	0.3	0.3	0.4
5-Jan	0.3	0.4	0.4	0.2	0.2	Z	1.5	0.8	0.3	0.5	0.8	0.6	0.3	0.4	1.7	3.3	2.8	1.5	1.0	1.9	1.9	1.4	1.1	1.1	1.1	3.3
6-Jan	Z	0.9	0.8	0.8	1.5	1.7	1.4	1.3	1.2	1.1	0.8	0.8	0.7	0.6	0.5	0.5	0.7	0.7	0.5	0.5	0.5	0.5	0.5	0.4	0.8	1.7
7-Jan	0.8	Z	0.6	0.4	0.4	0.5	0.6	0.6	0.6	0.7	0.6	0.6	0.6	0.7	0.6	0.6	0.5	0.5	0.4	0.6	0.7	0.9	0.8	0.8	0.6	0.9
8-Jan	0.7	0.6	Z	1.4	2.2	2.4	3.3	0.9	0.5	1.6	2.5	2.1	14.1	20.2	16.6	16.7	13.6	12.8	7.6	1.1	0.3	0.3	0.2	0.1	5.3	20.2
9-Jan	0.0	0.0	0.0	Z	0.0	0.5	0.0	0.0	0.0	0.0	0.1	2.4	3.2	1.3	3.2	0.5	0.1	0.0	0.0	0.2	0.1	0.0	0.1	0.1	0.5	3.2
10-Jan	0.2	0.3	0.3	0.2	Z	0.2	0.2	0.3	0.5	0.4	0.5	1.7	1.8	0.5	0.2	0.2	0.4	1.4	1.3	0.3	0.5	0.7	0.5	0.3	0.6	1.8
11-Jan	0.3	0.1	0.1	0.1	0.1	Z	0.1	0.0	0.1	0.1	0.2	0.3	0.4	0.2	0.2	0.3	0.1	1.3	1.4	0.6	1.3	1.5	2.4	3.3	0.6	3.3
12-Jan	Z	1.5	0.8	0.9	1.0	0.7	0.5	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.5	1.2	0.9	0.8	0.5	1.5
13-Jan	0.7	Z	0.3	0.3	0.4	1.2	0.9	0.3	0.2	0.1	0.2	0.2	0.2	0.1	0.1	0.6	0.8	1.2	0.9	1.2	1.7	1.1	0.2	0.0	0.6	1.7
14-Jan	0.6	1.3	Z	1.6	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.0	1.0	1.0	2.0	0.5	0.4	0.2	0.5	2.0
15-Jan	0.0	0.8	1.4	Z	0.2	0.2	1.2	1.7	5.6	2.9	0.7	7.6	5.4	5.7	5.2	0.9	1.5	2.1	0.5	0.3	0.2	0.3	0.3	0.2	1.9	7.6
16-Jan	0.3	0.3	0.3	0.3	Z	0.6	0.4	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.1	0.1	0.1	0.1	0.2	0.1	0.0	0.0	0.6	0.1	0.2	0.6
17-Jan	0.3	0.6	0.7	0.3	2.2	Z	0.9	1.8	1.9	2.4	2.1	1.6	1.0	0.6	0.9	1.6	2.0	2.5	1.4	0.9	0.6	0.6	0.8	1.1	1.3	2.5
18-Jan	Z	1.4	2.9	3.2	1.3	0.7	0.4	0.5	1.0	0.6	1.4	3.7	3.9	4.0	2.2	0.4	0.1	0.1	0.1	0.1	0.6	0.7	1.0	0.7	1.4	4.0
19-Jan	0.3	Z	1.2	0.9	1.3	1.9	2.7	2.7	1.9	1.0	3.3	1.7	2.7	2.5	1.8	1.4	1.2	1.1	2.4	2.1	2.1	1.3	1.0	0.4	1.7	3.3
20-Jan	0.2	0.2	Z	0.3	0.3	0.4	0.4	0.5	0.5	0.3	0.4	0.4	0.5	0.7	0.5	0.6	0.4	0.4	0.5	0.6	0.6	0.7	1.6	1.2	0.5	1.6
21-Jan	2.2	1.9	0.7	Z	0.9	0.5	0.3	0.3	1.7	1.8	C	C	C	3.2	10.9	4.9	2.0	2.0	1.3	0.3	0.8	0.6	1.4	2.0	2.0	10.9
22-Jan	1.2	0.2	0.6	1.7	Z	0.6	3.3	3.8	0.6	0.5	0.2	0.3	1.2	3.4	1.7	1.9	0.3	0.2	0.4	0.0	0.0	0.0	0.0	0.0	1.0	3.8
23-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.1	0.1	0.1	0.1	0.3	1.0	0.6	1.0	0.2	0.8	0.0	2.7	13.2	17.1	9.3	14.9	10.2	6.3	3.4	17.1
24-Jan	Z	0.6	0.4	8.8	10.2	15.7	11.3	1.0	0.3	0.3	0.4	0.8	0.5	0.3	0.4	0.5	0.5	0.7	1.0	0.3	0.1	0.5	0.2	0.1	2.4	15.7
25-Jan	0.1	Z	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.6	1.6	1.9	2.4	0.4	0.2	0.2	0.6	0.3	0.2	0.2	1.3	3.5	0.7	3.5
26-Jan	1.2	0.2	Z	0.2	0.2	0.2	0.3	0.7	1.6	2.7	2.5	2.7	0.8	1.3	1.1	0.5	0.4	1.2	3.0	2.8	5.7	7.3	13.3	8.1	2.5	13.3
27-Jan	1.4	0.6	0.5	Z	0.7	1.8	2.0	1.2	1.2	1.4	4.4	1.6	0.6	0.3	0.2	0.3	0.4	0.8	1.6	2.7	1.2	5.0	17.9	17.6	2.8	17.9
28-Jan	15.5	12.1	20.7	23.4	Z	1.2	0.4	2.3	8.6	1.4	4.8	16.1	18.1	10.1	22.0	10.2	6.0	0.7	0.2	0.2	0.1	0.3	2.8	2.9	7.8	23.4
29-Jan	2.5	1.6	0.5	3.4	4.6	Z	1.3	0.3	0.6	1.1	0.9	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.8	4.6
30-Jan	Z	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.3	0.1	0.2	0.2	0.4	0.4	0.3	0.1	0.2	0.1	0.1	0.2	0.2	0.1	0.2	0.1	0.4
31-Jan	0.1	Z	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1

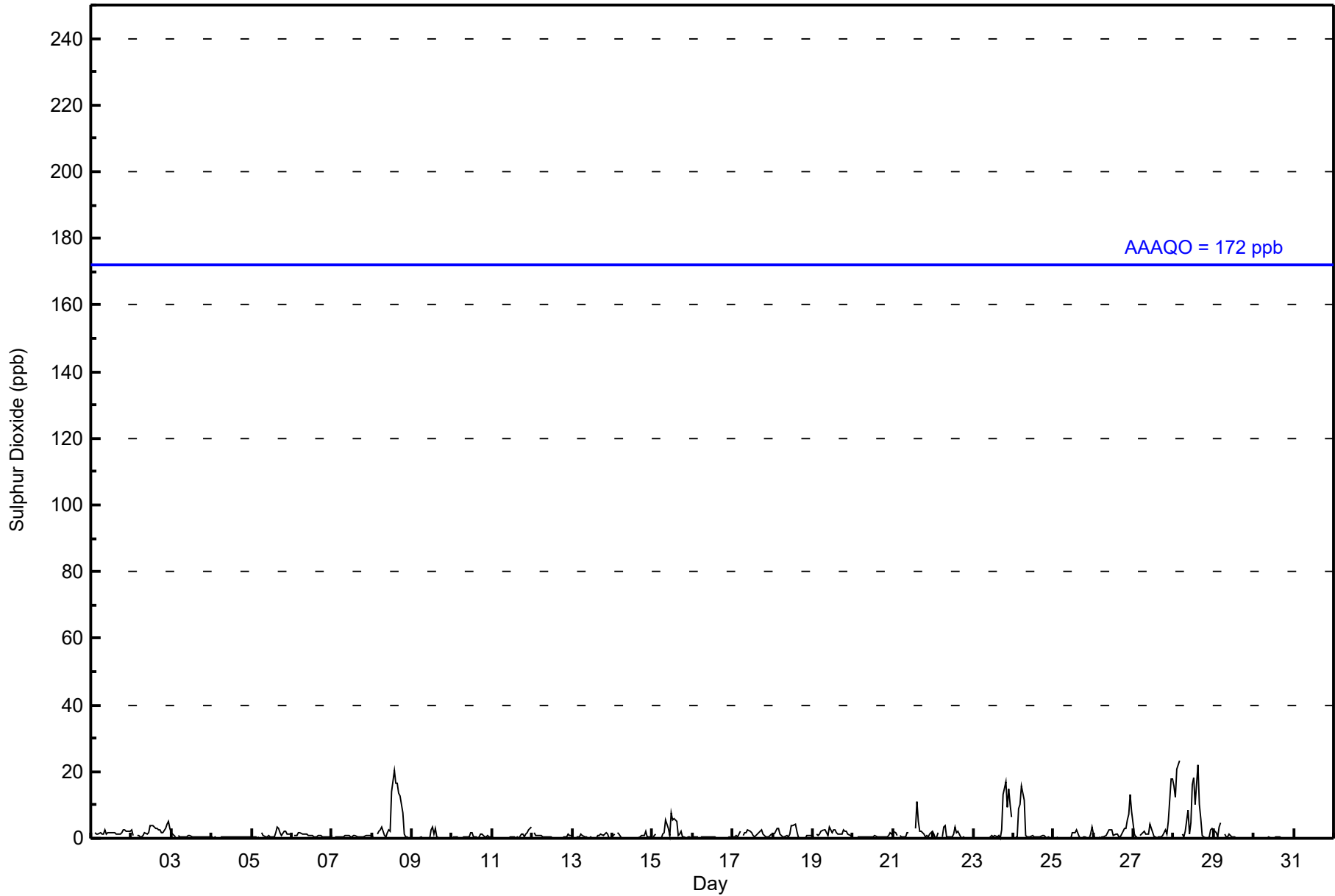
1.3	1.1	1.4	2.0	1.2	1.3	1.2	0.8	1.1	0.8	1.1	1.9	2.2	2.2	2.5	1.7	1.3	1.3	1.5	1.3	1.2	1.6	2.2	1.9	Diurnal Average	
15.5	12.1	20.7	23.4	10.2	15.7	11.3	3.8	8.6	2.9	4.8	16.1	18.1	20.2	22.0	16.7	13.6	12.8	13.2	17.1	9.3	14.9	17.9	17.6	Diurnal Maximum	

Z - zerospan C - Calibration
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb



Wood Buffalo Environmental Association
Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Jackfish 1 - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Jackfish 1 - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	688	96.90	96.90
11 - 20	19	2.68	99.58
21 - 60	3	0.42	100.00
61 - 110	0	0.00	100.00
111 - 172	0	0.00	100.00
> 172	0	0.00	100.00

Total Number of Valid Hours: 710

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Jackfish 1 - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 10	22	14	7	7	15	13	14	49	72	72	26	21	51	113	75	34	605
11 - 20	0	0	0	0	0	0	0	0	0	0	0	0	0	19	0	0	19
21 - 60	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3
61 - 110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111 - 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	22	14	7	7	15	13	14	49	72	72	26	21	51	135	75	34	627

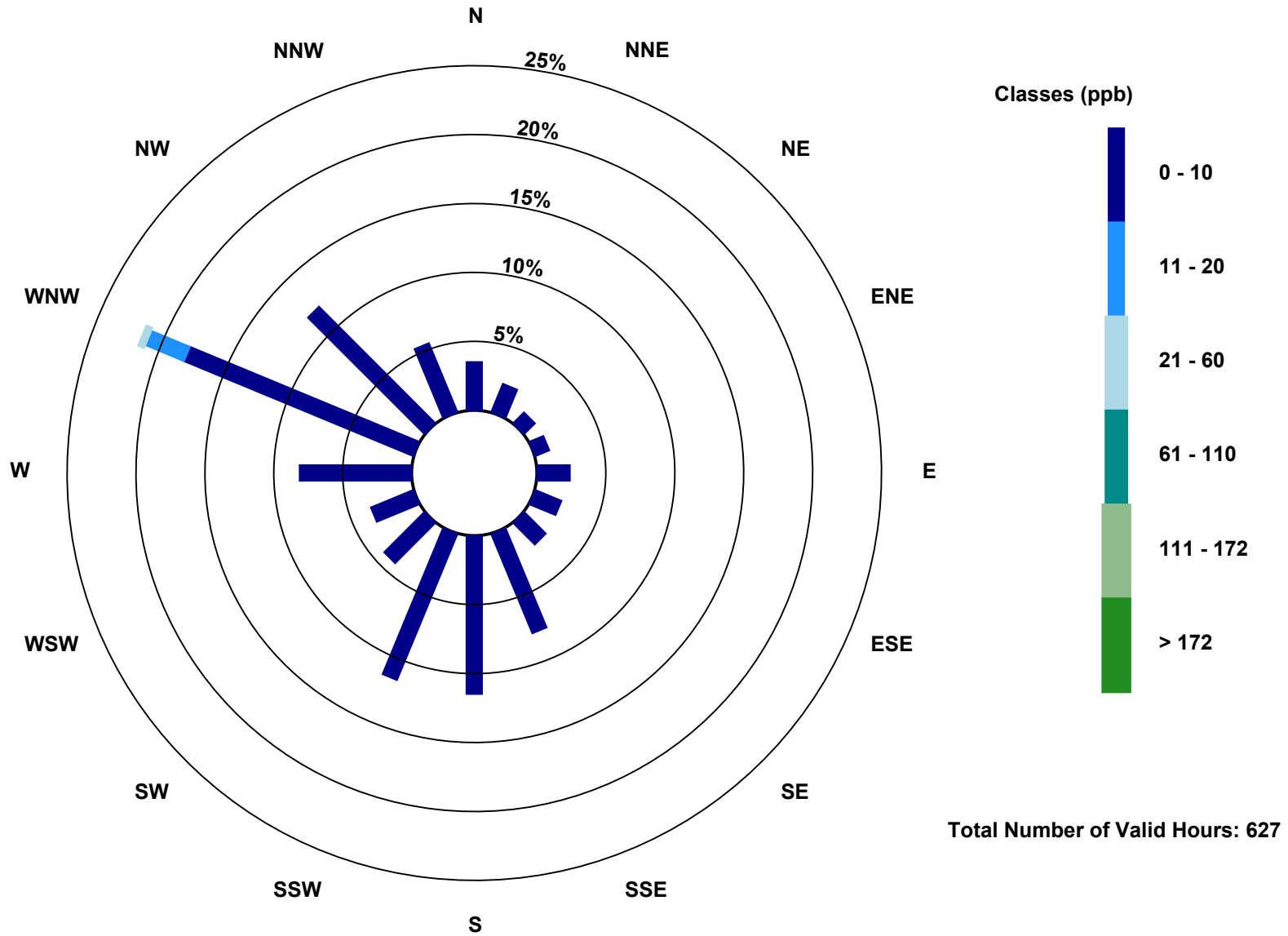
Total Number of Valid Hours: 627

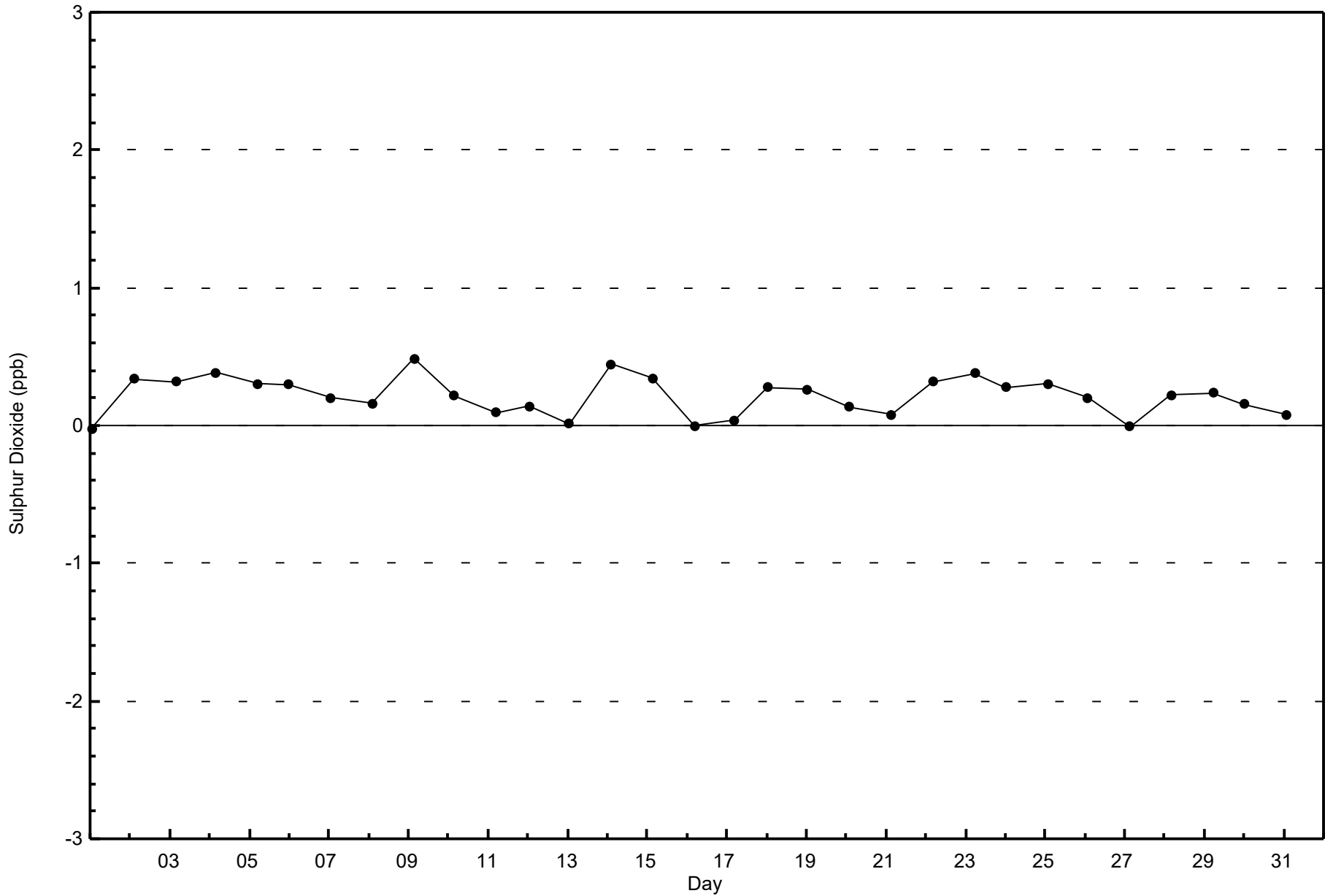
Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Sulphur Dioxide (SO₂) - ppb
Jackfish 1

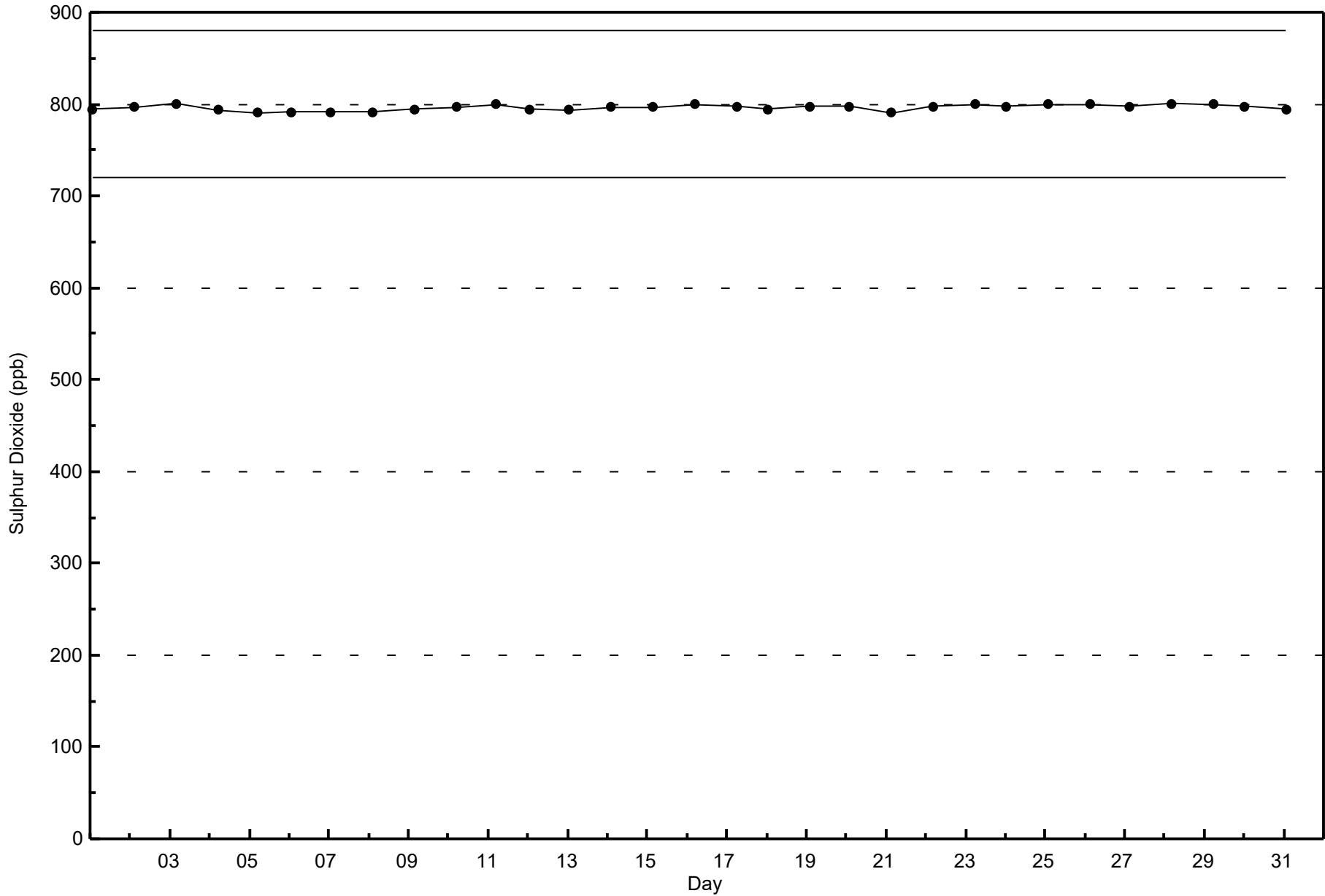






Wood Buffalo Environmental Association
Span Responses

Sulphur Dioxide (SO₂) - ppb
Jackfish 1 - January 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Hydrogen Sulphide (H₂S) - ppb

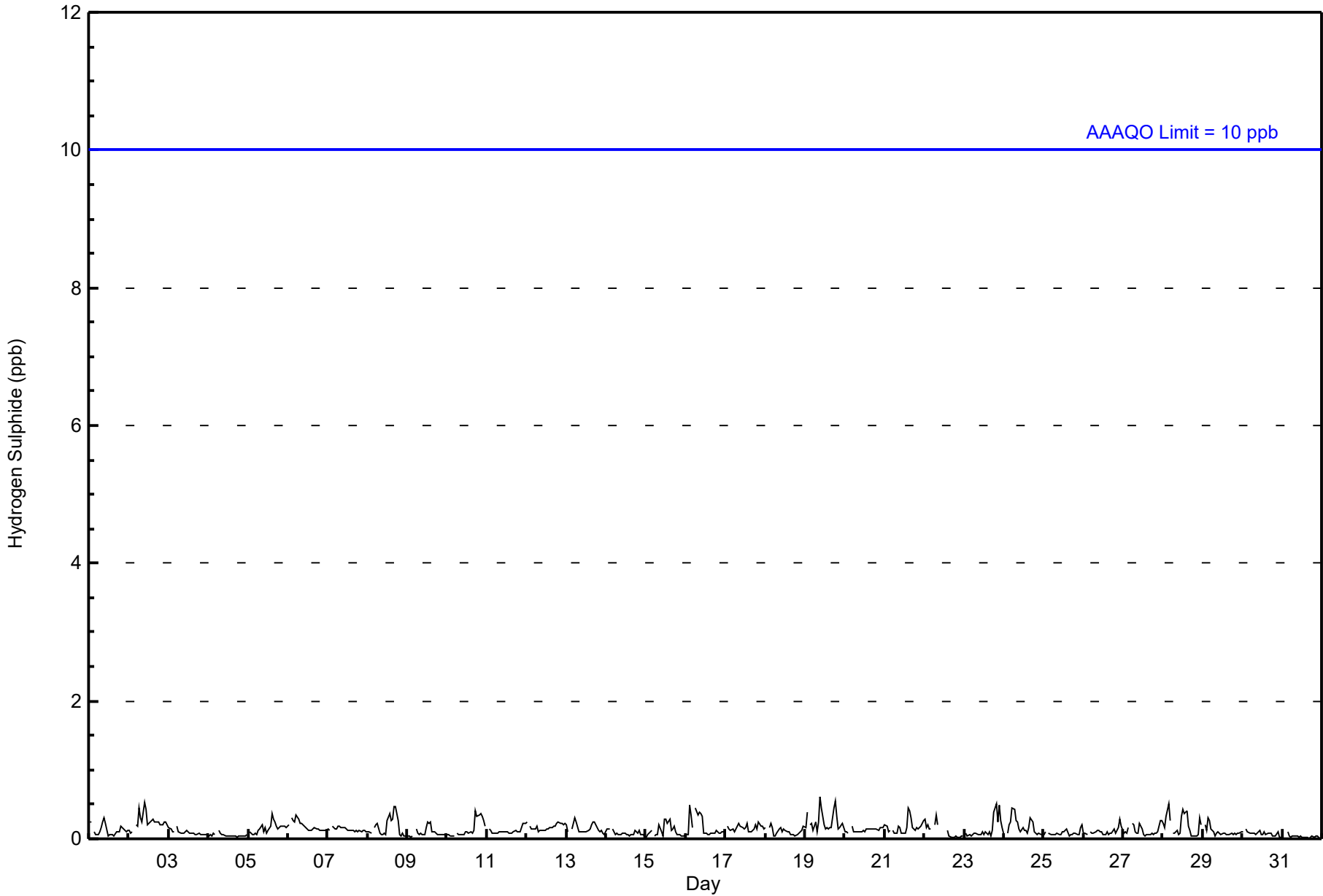
Jackfish 1 - January 2025

Number of Exceedences (AAAQO):		1-hr: 0	24-hr: 0	Hours in Service:	744																								
Maximum Value: 0.6 ppb on Jan 19 10:00		Maximum Daily Average: 0.3 ppb on Jan 19		Hours of Data:	708																								
Minimum Value: 0.0 ppb on Jan 31 02:00		Minimum Daily Average: 0.0 ppb on Jan 31		Hours of Missing Data:	36																								
Maximum Diurnal Average: 0.2 ppb at hour 7		Minimum Diurnal Average: 0.1 ppb at hour 21		Hours of Calibration:	36																								
Monthly Average: 0.13 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.1 Q ₃ = 0.2 P ₉₀ = 0.3 P ₉₉ = 0.5		Percent Operational Time:	100.0																								
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
1-Jan	0.2	0.3	Z	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.3	
2-Jan	0.1	0.1	0.1	Z	0.2	0.2	0.5	0.3	0.2	0.5	0.4	0.2	0.2	0.2	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.5
3-Jan	0.2	0.1	0.1	0.1	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	
4-Jan	0.0	0.1	0.0	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	
5-Jan	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.4	0.3	0.3	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	
6-Jan	0.2	Z	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	
7-Jan	0.1	0.1	Z	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	
8-Jan	0.1	0.1	0.1	Z	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.3	0.4	0.3	0.3	0.5	0.5	0.3	0.1	0.0	0.1	0.0	0.0	0.1	0.1	0.2	0.5	
9-Jan	0.0	0.0	0.0	0.0	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	
10-Jan	0.1	0.1	0.1	0.0	0.0	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.4	0.3	0.3	0.4	0.3	0.3	0.2	0.1	0.1	0.1	0.4	
11-Jan	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.2	
12-Jan	0.2	Z	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
13-Jan	0.2	0.1	Z	0.1	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	
14-Jan	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	
15-Jan	0.0	0.1	0.1	0.1	Z	0.0	0.1	0.1	0.1	0.2	0.1	0.0	0.3	0.3	0.2	0.3	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.3	
16-Jan	0.1	0.1	0.5	0.3	0.2	Z	0.4	0.3	0.4	0.4	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.5	
17-Jan	Z	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
18-Jan	0.2	Z	0.2	0.2	0.2	0.0	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	
19-Jan	0.2	0.4	Z	0.2	0.2	0.1	0.2	0.1	0.2	0.6	0.4	0.2	0.2	0.2	0.1	0.2	0.2	0.5	0.6	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.6	
20-Jan	0.1	0.1	0.1	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.2	
21-Jan	0.2	0.2	0.1	0.1	Z	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.5	0.4	0.3	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.3	0.2	0.2	0.5	
22-Jan	0.3	0.2	0.2	0.1	0.1	Z	0.2	0.3	0.2	C	C	C	C	C	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	
23-Jan	Z	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.4	0.5	0.3	0.5	0.3	0.2	0.1	0.1	0.5		
24-Jan	0.1	Z	0.1	0.2	0.3	0.4	0.4	0.3	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.4	
25-Jan	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.2	
26-Jan	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.1	0.1	0.1	0.3	
27-Jan	0.1	0.1	0.1	0.2	Z	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.1	0.1	0.3	
28-Jan	0.2	0.2	0.3	0.5	0.3	Z	0.1	0.1	0.1	0.1	0.1	0.3	0.4	0.4	0.4	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.3	0.2	0.2	0.2	0.2	0.5	
29-Jan	Z	0.2	0.1	0.3	0.3	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	
30-Jan	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	
31-Jan	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	
	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	Diurnal Average	
	0.3	0.4	0.5	0.5	0.3	0.4	0.5	0.3	0.4	0.6	0.4	0.3	0.4	0.4	0.5	0.4	0.5	0.5	0.6	0.5	0.4	0.5	0.3	0.3	0.3	0.3	0.3	Diurnal Maximum	
Z - zero span C - Calibration																													
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																													



Wood Buffalo Environmental Association
Hourly Averages

Hydrogen Sulphide (H₂S) - ppb
Jackfish 1 - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Hydrogen Sulphide (H₂S) - ppb
Jackfish 1 - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	708	100.00	100.00
3 - 4	0	0.00	100.00
5 - 7	0	0.00	100.00
8 - 11	0	0.00	100.00
> 11	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Hydrogen Sulphide (H₂S) - ppb
Jackfish 1 - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2	23	14	7	7	15	13	13	49	72	73	26	19	48	141	71	34	625
3 - 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 - 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 - 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	23	14	7	7	15	13	13	49	72	73	26	19	48	141	71	34	625

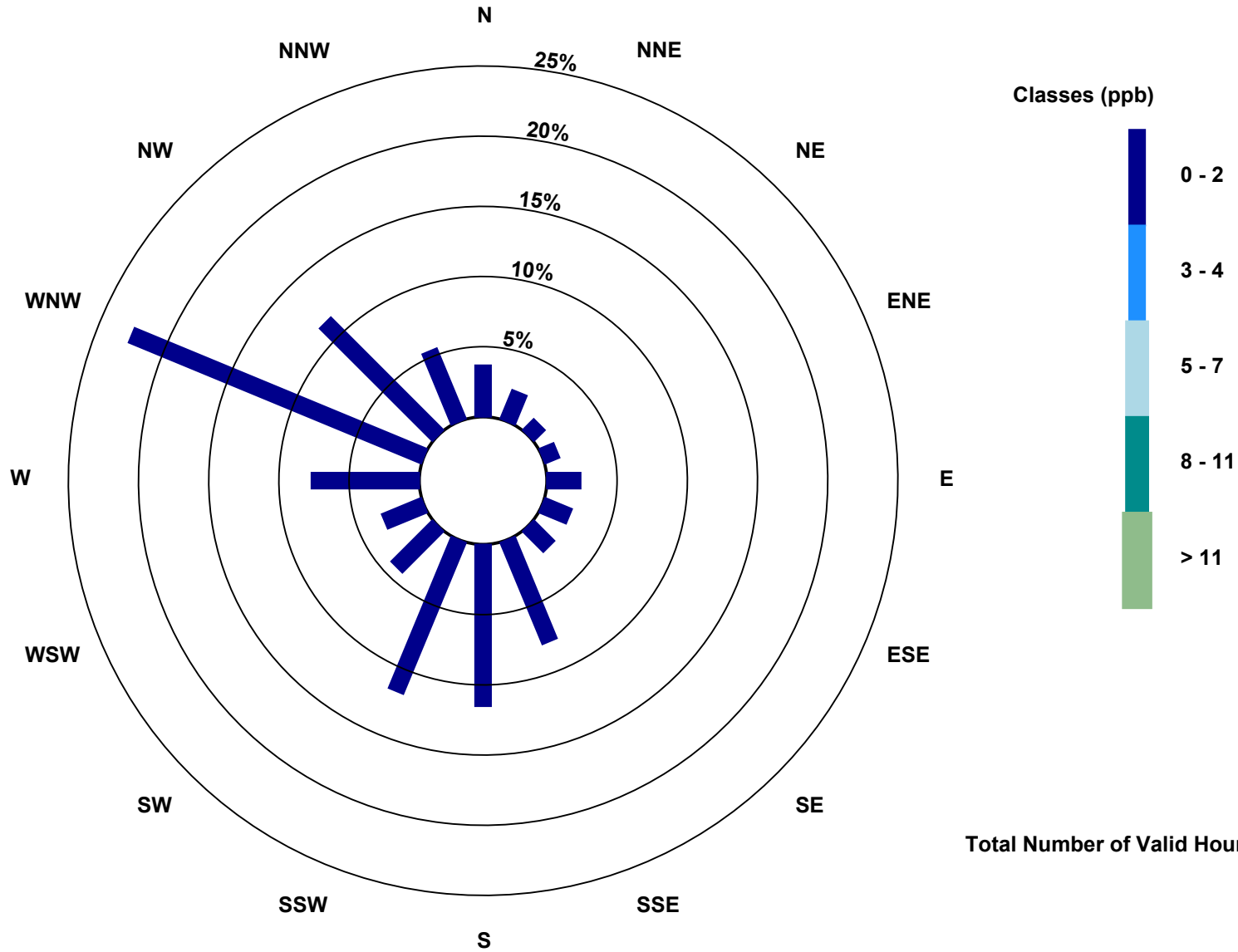
Total Number of Valid Hours: 625

Total Number of Hours: 744

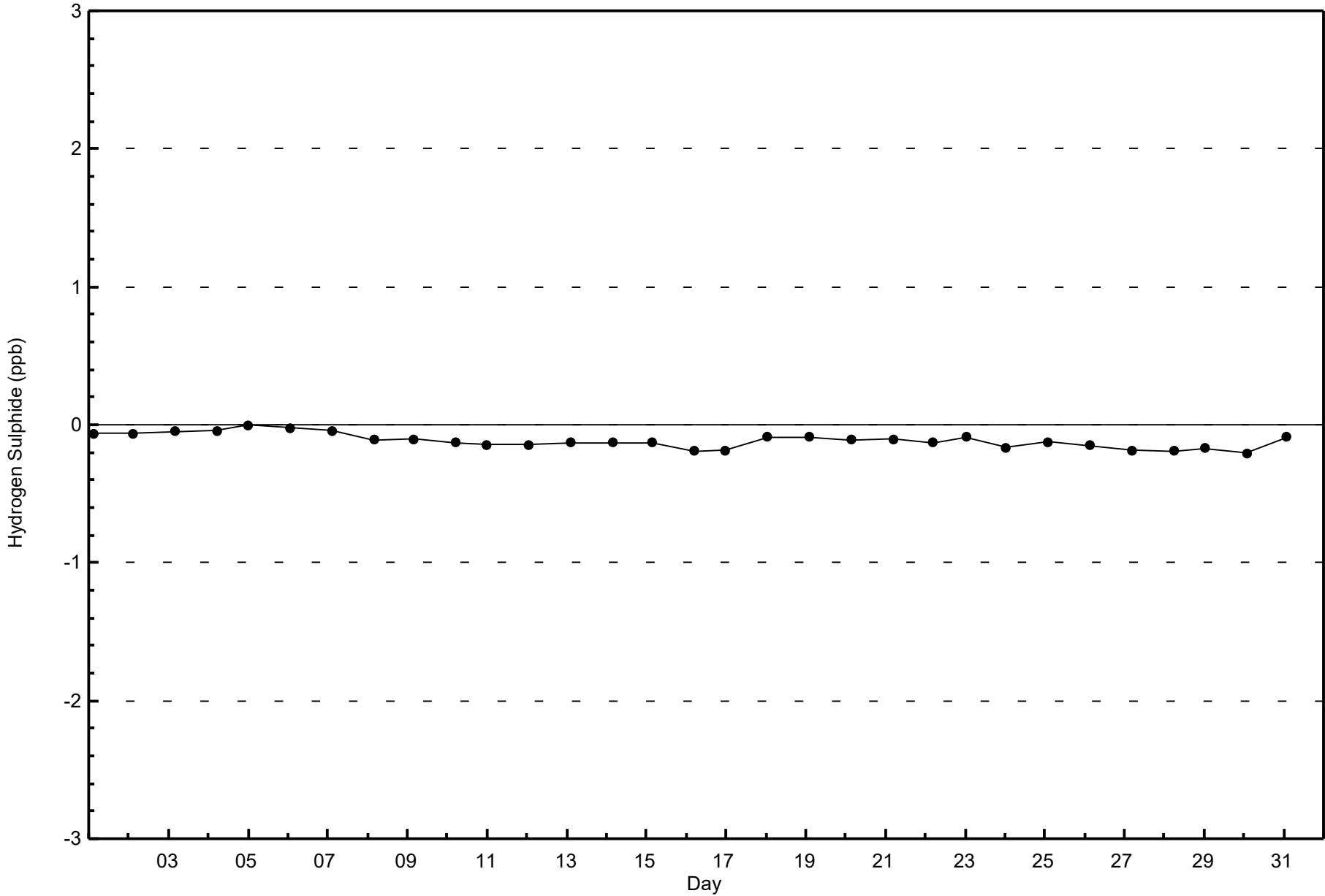


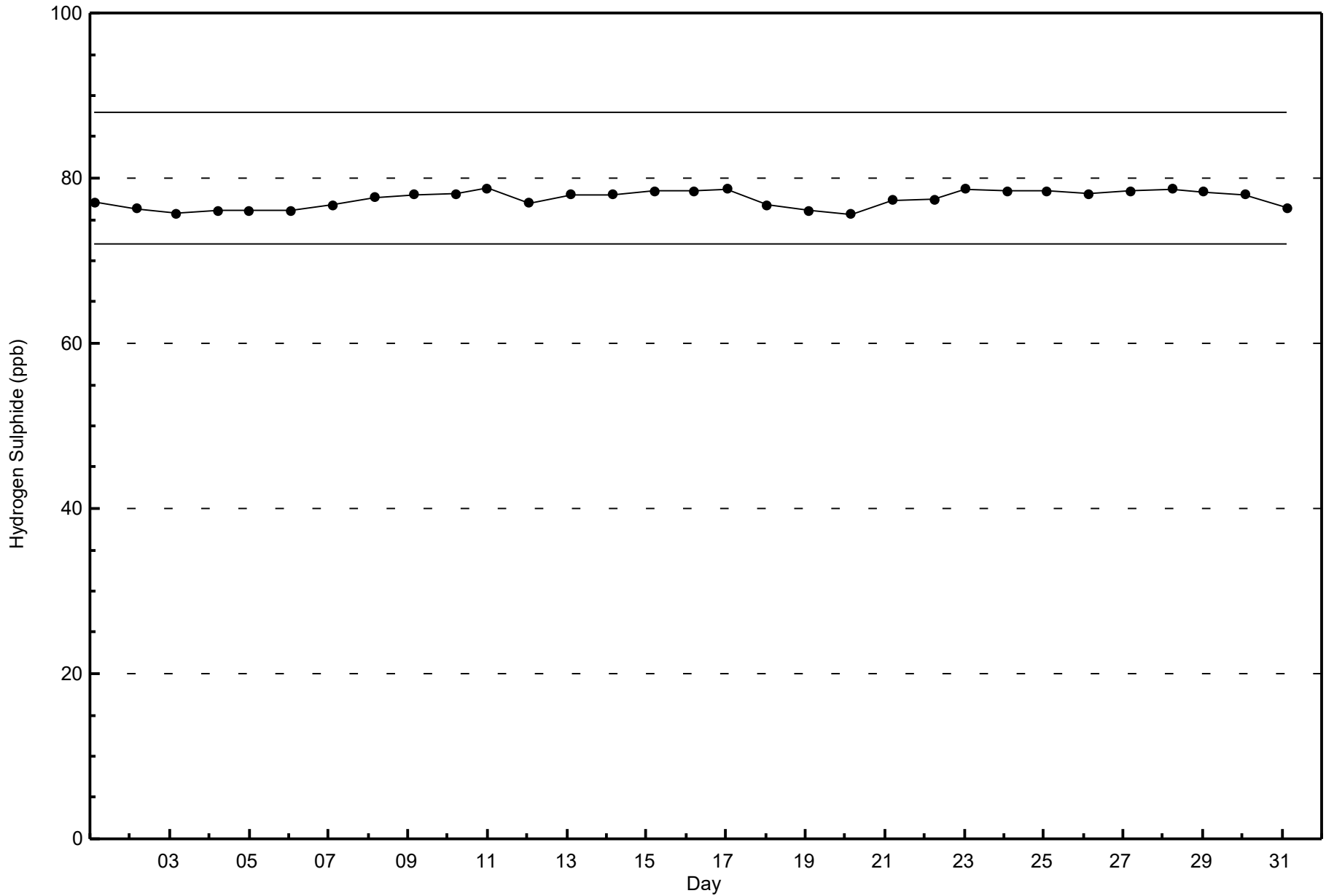
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Hydrogen Sulphide (H₂S) - ppb
Jackfish 1



Total Number of Valid Hours: 625







Wood Buffalo Environmental Association
Summary of Hour Averages

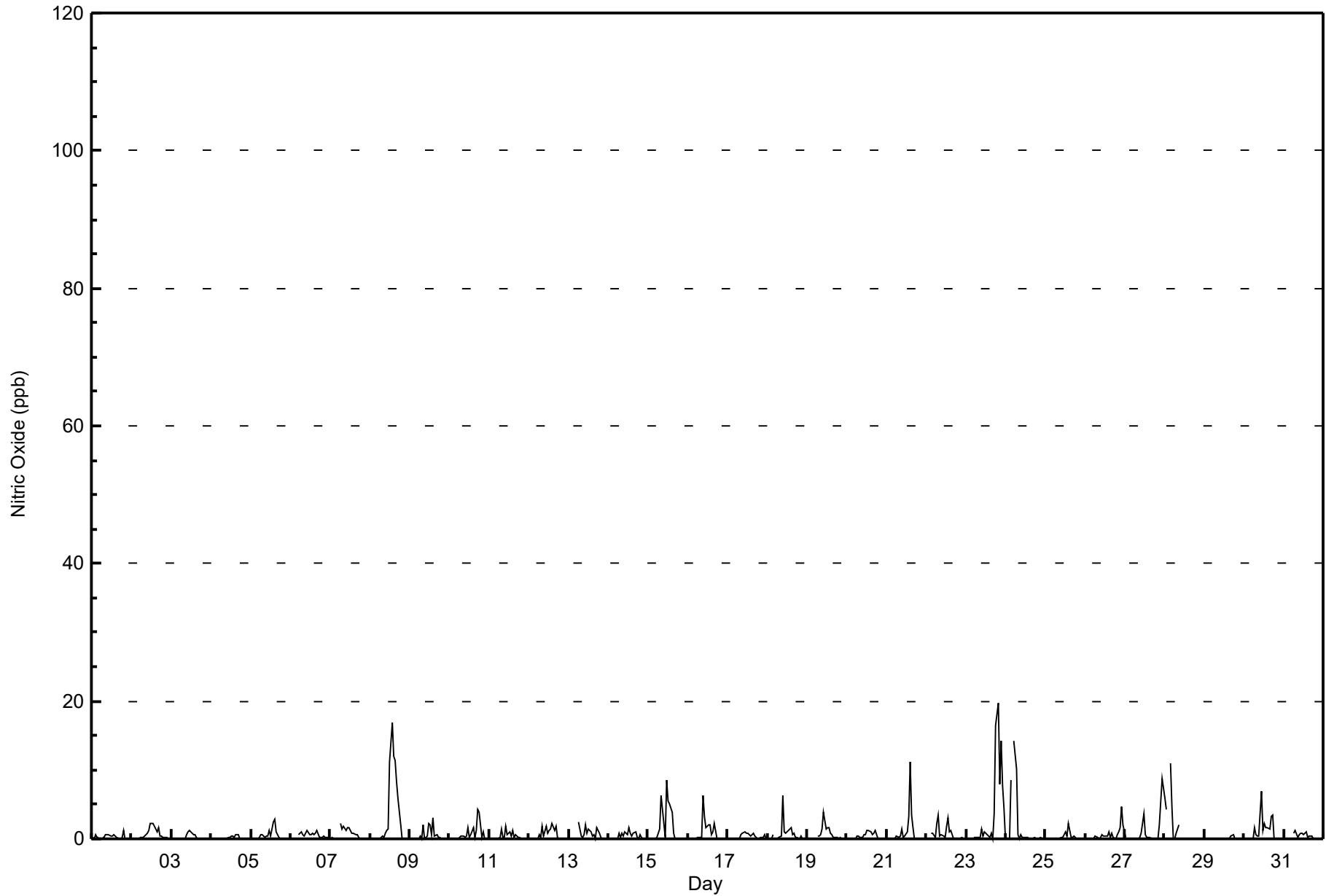
Nitric Oxide (NO) - ppb
Jackfish 1 - January 2025

Maximum Value: 19.8 ppb on Jan 23 20:00 Maximum Daily Average: 3.5 ppb on Jan 23																				Hours in Service: 744 Hours of Data: 684							
Minimum Value: 0.0 ppb on Jan 3 03:00 Minimum Daily Average: 0.1 ppb on Jan 4 Maximum Diurnal Average: 1.8 ppb at hour 15 Minimum Diurnal Average: 0.0 ppb at hour 3 Monthly Average: 0.84 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.2 Q ₃ = 0.7 P ₉₀ = 1.9 P ₉₉ = 11.2																				Hours of Missing Data: 60 Hours of Calibration: 38 Percent Operational Time: 97.0							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	0.3	0.1	0.5	0.2	0.3	Z	0.2	0.3	0.6	0.5	0.7	0.3	0.3	0.6	0.3	0.1	0.1	0.0	0.3	1.2	0.0	0.0	0.0	0.0	0.3	1.2	
2-Jan	Z	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.9	1.3	2.2	2.2	2.3	1.5	0.9	1.7	0.5	0.4	0.1	0.1	0.1	0.1	0.1	0.7	2.3	
3-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	1.0	1.2	0.8	0.6	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.2	
4-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.3	0.4	0.1	0.6	0.5	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.6	
5-Jan	0.0	0.0	0.0	Z	0.0	0.3	0.6	0.6	0.2	0.3	0.4	1.2	0.4	2.4	2.8	1.0	0.6	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.5	2.8	
6-Jan	0.0	0.0	0.0	0.0	Z	0.6	1.0	0.6	0.5	0.9	1.3	0.6	0.6	0.9	0.5	0.9	1.2	0.3	0.2	0.2	0.4	0.1	0.1	0.2	0.5	1.3	
7-Jan	0.1	0.2	0.0	0.0	0.0	Z	2.3	1.4	1.9	1.1	1.6	1.6	1.1	0.8	0.9	0.5	0.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.6	2.3	
8-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.9	1.2	1.4	11.2	16.9	12.0	11.3	8.4	5.8	2.0	0.0	0.0	0.0	0.0	0.0	3.1	16.9	
9-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.4	0.1	2.0	0.1	0.4	2.3	2.0	0.7	3.0	0.4	0.5	0.3	0.2	0.1	0.1	0.0	0.0	0.0	0.5	3.0	
10-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.2	0.3	0.5	0.1	0.3	1.6	0.3	0.6	1.5	0.2	1.2	4.3	3.8	0.2	1.1	0.0	0.0	0.0	0.7	4.3	
11-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.2	1.3	0.3	0.2	1.9	0.6	0.9	0.4	1.3	0.3	0.7	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.4	1.9	
12-Jan	0.1	0.1	0.1	0.0	Z	0.1	0.6	0.2	1.8	0.4	1.7	0.7	1.1	1.5	2.3	1.2	1.8	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.6	2.3	
13-Jan	0.0	0.0	0.0	0.0	0.0	Z	2.5	0.3	0.3	0.5	2.1	0.9	1.5	1.0	0.4	0.6	0.1	1.7	0.8	0.2	0.0	0.0	0.0	0.0	0.6	2.5	
14-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.7	0.1	0.8	0.4	1.0	0.6	1.6	0.8	0.4	0.7	0.9	0.3	0.1	0.5	0.1	0.0	0.0	0.0	0.4	1.6	
15-Jan	0.0	Z	0.0	0.0	0.0	0.2	0.9	1.4	6.2	2.3	0.2	8.6	5.4	5.1	3.9	0.7	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.5	8.6	
16-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.3	0.2	0.2	6.3	3.2	1.6	2.0	2.1	0.5	1.0	2.3	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.9	6.3	
17-Jan	0.0	0.0	0.0	Z	0.0	0.1	0.1	0.1	0.6	0.8	1.1	0.8	0.8	0.6	0.5	0.8	0.4	0.3	0.1	0.0	0.2	0.1	0.6	0.0	0.4	1.1	
18-Jan	0.0	0.0	0.0	0.6	Z	0.0	0.0	0.2	0.3	6.2	1.1	0.9	1.0	1.4	1.7	0.7	0.8	0.1	0.2	0.1	0.4	0.0	0.0	0.1	0.7	6.2	
19-Jan	0.1	0.1	0.1	0.1	0.0	Z	0.4	0.3	0.6	1.3	3.9	1.4	1.6	1.7	0.7	0.6	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.6	3.9	
20-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.1	0.2	0.5	0.6	1.2	1.1	1.0	0.6	0.8	1.2	0.5	0.0	0.0	0.0	0.0	0.0	0.4	1.2	
21-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.3	0.2	0.4	1.5	0.1	0.4	1.0	3.4	11.2	3.4	1.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.0	11.2	
22-Jan	0.0	0.0	Z	0.9	0.7	0.3	2.3	3.5	0.3	0.6	0.5	0.3	1.8	3.0	1.0	1.2	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.7	3.5	
23-Jan	0.0	0.0	0.1	Z	0.0	0.2	0.2	0.2	0.3	1.4	0.5	1.0	0.9	0.7	0.3	0.8	0.0	3.8	16.4	19.8	7.9	14.2	7.8	4.5	3.5	19.8	
24-Jan	0.2	0.0	0.0	8.5	Z	14.2	10.1	0.6	0.0	0.5	0.2	0.2	0.3	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.1	0.0	0.0	1.5	14.2		
25-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.2	0.6	1.0	0.4	2.3	0.1	0.1	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.2	2.3	
26-Jan	Z	0.0	0.0	0.0	0.0	0.0	0.3	0.1	0.0	0.2	0.5	0.4	0.4	0.3	0.9	0.1	0.7	0.1	0.0	0.7	0.9	1.6	4.7	2.0	0.6	4.7	
27-Jan	0.1	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.9	3.7	0.5	0.2	0.1	0.2	0.1	0.1	0.0	0.0	0.0	1.9	8.8	7.3	1.1	8.8	
28-Jan	5.9	4.3	Z	10.9	4.7	0.1	0.0	0.8	2.1	C	C	C	C	M	M	M	M	M	M	M	M	M	M	M	M	--	10.9
29-Jan	M	M	M	M	M	M	M	M	M	M	M	C	C	C	C	0.1	0.4	0.7	0.0	0.0	0.0	0.0	0.0	0.0	--	0.7	
30-Jan	0.0	0.0	0.0	0.0	Z	0.0	1.6	0.6	0.4	0.5	6.9	1.2	2.2	1.6	1.7	1.3	3.3	3.5	0.0	0.0	0.0	0.0	0.0	0.0	1.1	6.9	
31-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.9	1.2	0.1	0.7	0.8	0.9	0.5	1.0	0.2	0.3	0.3	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.2	
																								Diurnal Average			
																								Diurnal Maximum			
Z - zerospan C - Calibration M - Maintenance																											



Wood Buffalo Environmental Association
Hourly Averages

Nitric Oxide (NO) - ppb
Jackfish 1 - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Nitric Oxide (NO) - ppb
Jackfish 1 - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	684	100.00	100.00
21 - 40	0	0.00	100.00
41 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 684

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitric Oxide (NO) - ppb
Jackfish 1 - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	25	14	7	8	15	11	12	47	74	66	23	18	43	131	75	32	601
21 - 40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	25	14	7	8	15	11	12	47	74	66	23	18	43	131	75	32	601

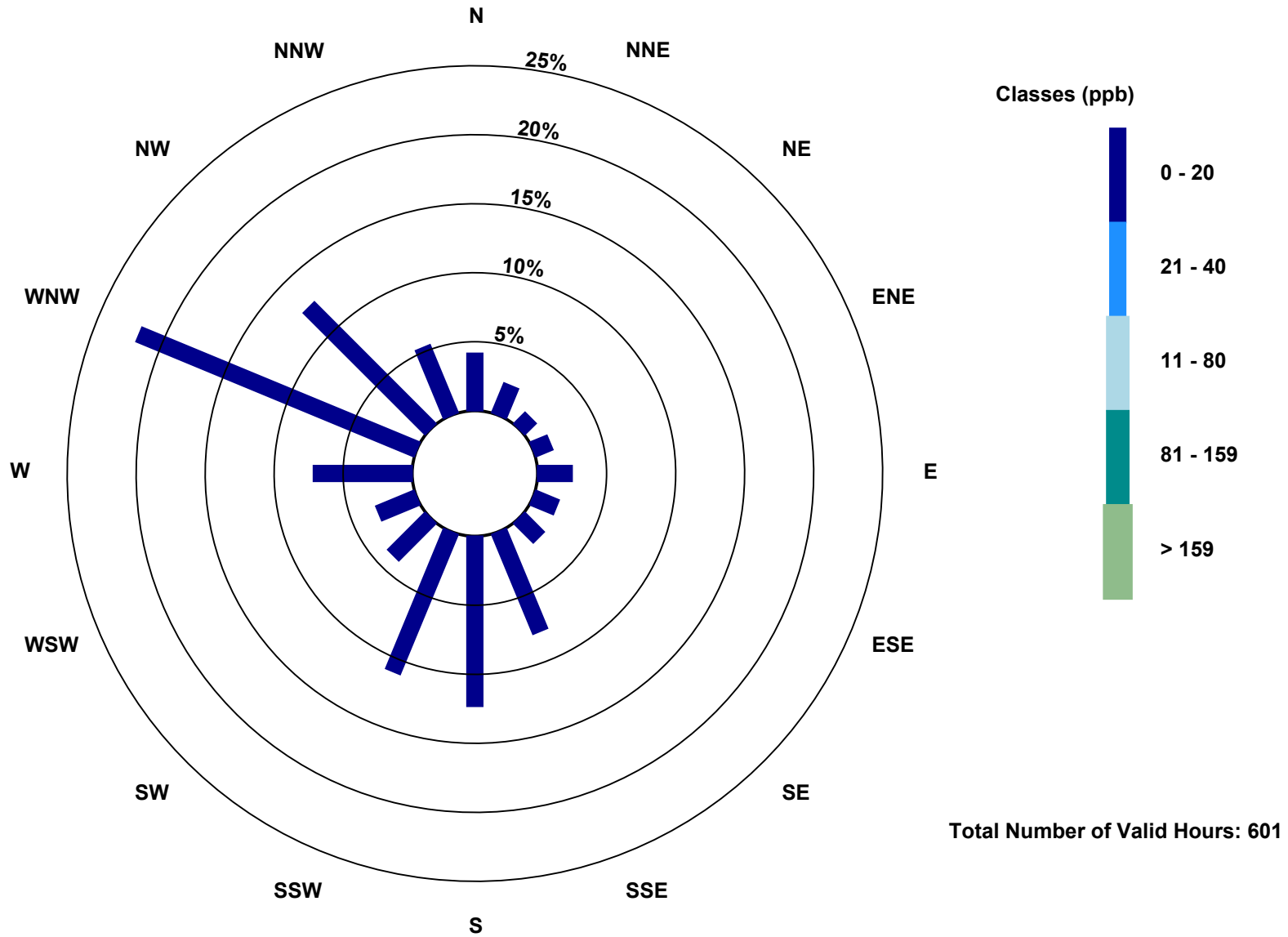
Total Number of Valid Hours: 601

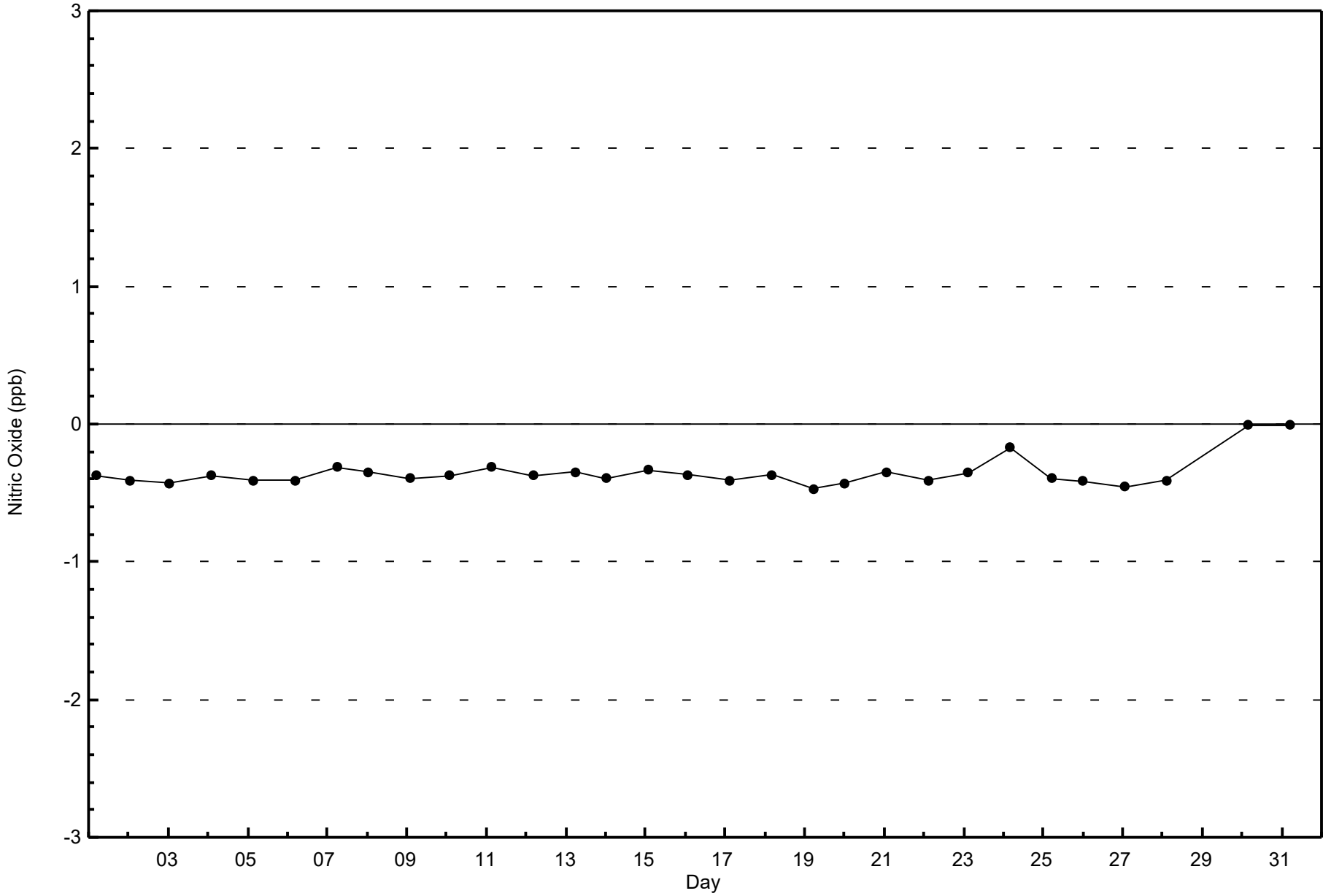
Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitric Oxide (NO) - ppb
Jackfish 1

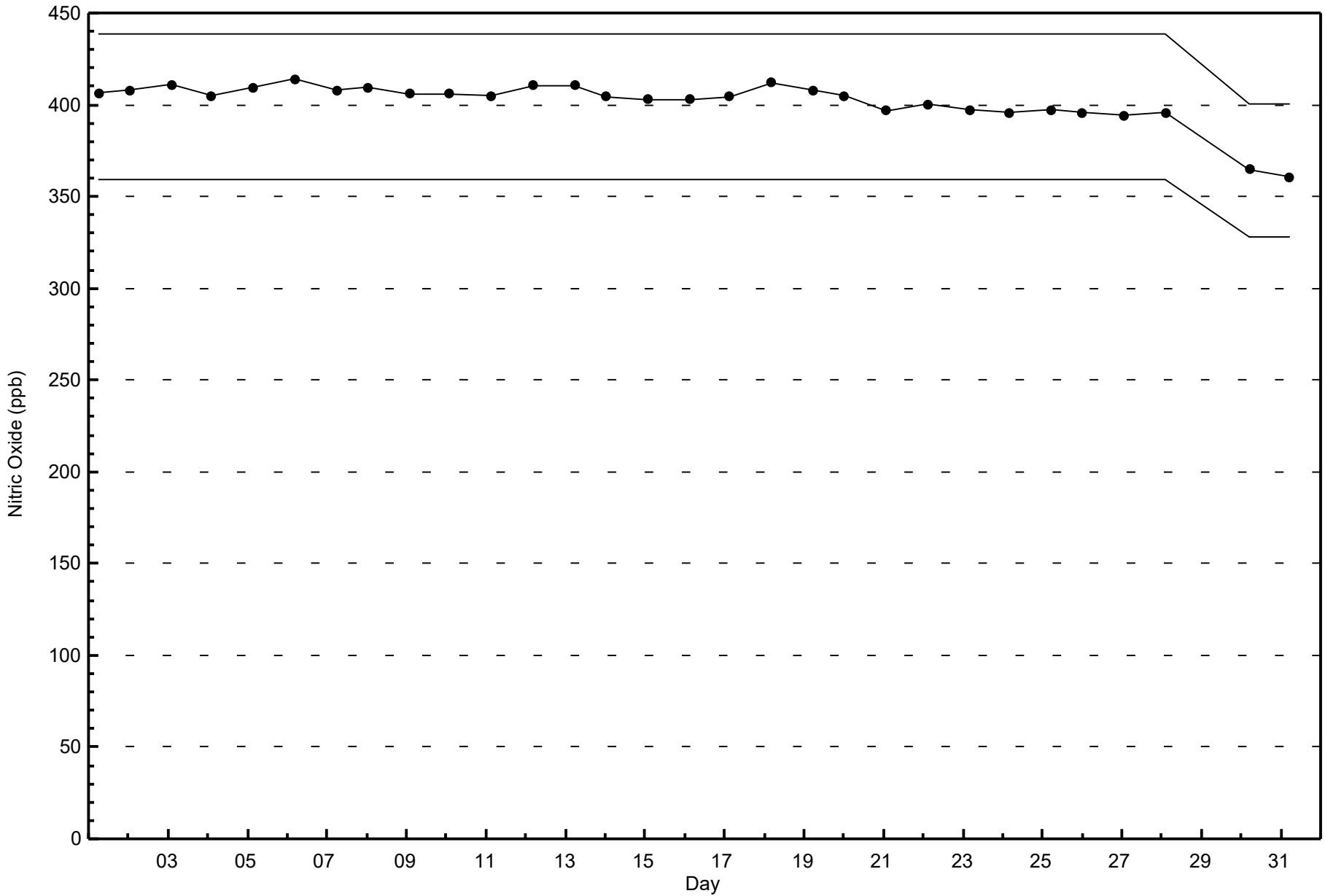






Wood Buffalo Environmental Association
Span Responses

Nitric Oxide (NO) - ppb
Jackfish 1 - January 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Dioxide (NO₂) - ppb

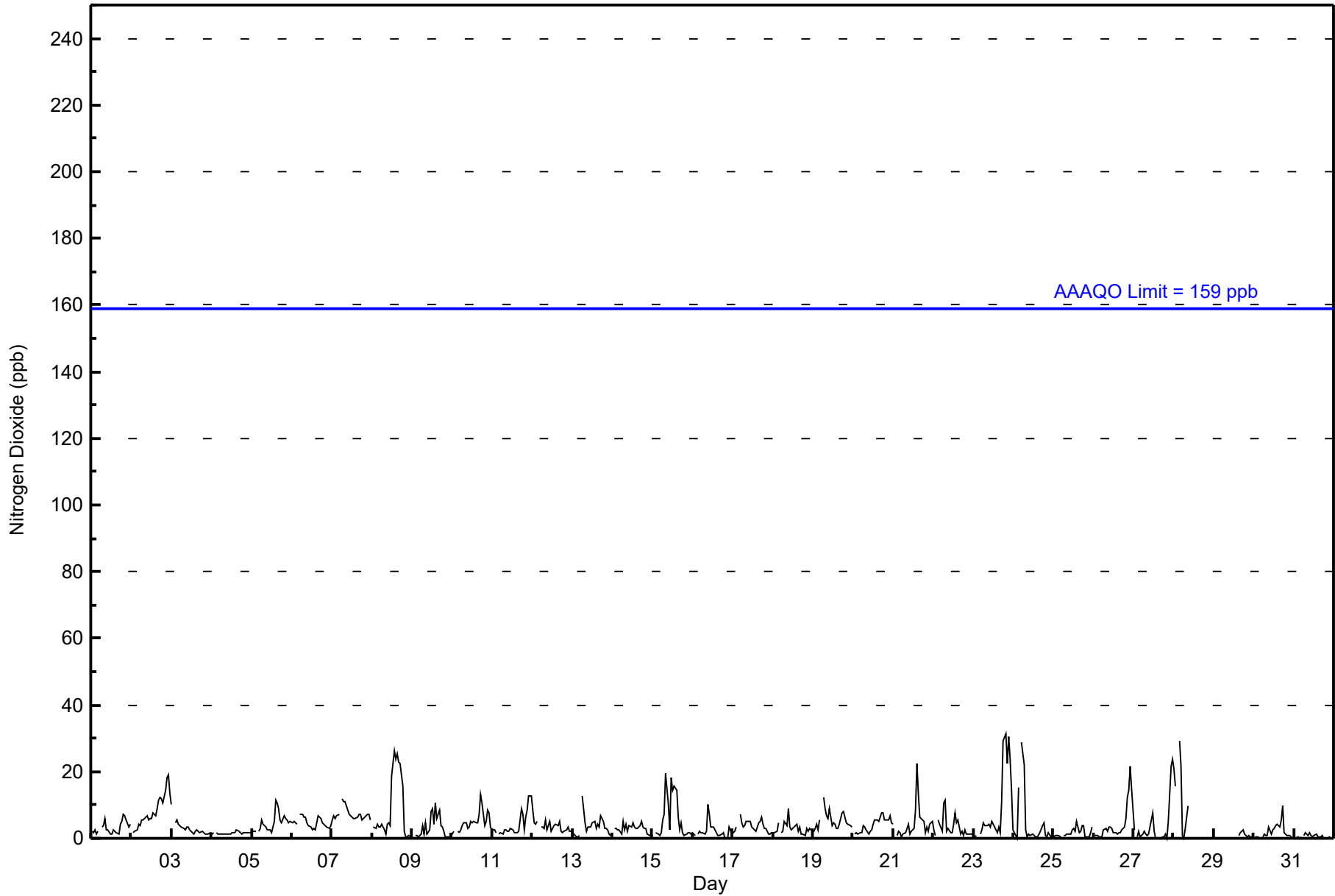
Jackfish 1 - January 2025

Number of Exceedences (AAAQO):		1-hr: 0	24-hr: 0	Hours in Service:																	744																												
Maximum Value: 31.4 ppb on Jan 23 20:00		Maximum Daily Average: 9.0 ppb on Jan 23																	Hours of Data:		684																												
Minimum Value: 0.0 ppb on Jan 16 20:00		Minimum Daily Average: 0.6 ppb on Jan 31																	Hours of Missing Data:		60																												
Maximum Diurnal Average: 5.7 ppb at hour 18		Minimum Diurnal Average: 2.1 ppb at hour 3																	Hours of Calibration:		38																												
Monthly Average: 4.22 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.7 Q ₁ = 1.4 Median = 2.8 Q ₃ = 5.0 P ₉₀ = 8.5 P ₉₉ = 24.1																	Percent Operational Time:		97.0																												
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	2.3	1.5	2.6	1.2	2.2	Z	3.4	3.9	5.9	2.5	2.5	1.3	1.1	2.5	2.3	1.8	1.4	4.3	5.2	7.3	6.7	5.6	3.6	4.2	3.3	7.3																							
2-Jan	Z	1.8	2.1	2.7	4.1	3.8	5.6	5.6	6.1	6.6	5.3	6.0	5.8	7.6	6.6	9.1	11.6	12.3	12.0	10.6	14.2	18.1	19.1	13.7	8.3	19.1																							
3-Jan	10.2	Z	4.8	5.3	4.4	3.9	3.5	2.9	2.7	3.4	3.5	2.6	1.6	1.4	2.2	2.7	2.3	1.7	2.2	1.9	1.4	1.1	1.2	1.5	3.0	10.2																							
4-Jan	1.4	1.7	Z	1.5	1.2	1.3	1.4	1.2	1.4	1.1	1.1	1.2	1.5	1.7	1.5	2.4	2.2	1.6	1.4	1.5	1.5	1.7	1.9	1.9	1.5	2.4																							
5-Jan	1.9	2.0	2.1	Z	2.2	3.1	5.5	4.3	3.6	2.5	2.6	2.6	1.9	5.0	11.4	10.5	9.1	5.6	4.6	6.7	6.1	5.3	4.6	4.9	4.7	11.4																							
6-Jan	4.8	4.9	4.8	4.4	Z	7.1	7.2	6.2	6.5	4.6	3.7	3.3	2.5	2.8	2.4	4.8	6.9	5.8	4.8	4.4	3.8	3.3	3.1	3.8	4.6	7.2																							
7-Jan	5.6	6.6	6.1	6.7	7.0	Z	11.7	11.1	10.9	8.5	7.4	6.7	6.2	6.0	6.0	6.2	7.4	7.0	5.3	5.9	6.6	7.2	7.1	5.7	7.2	11.7																							
8-Jan	Z	3.5	2.9	4.1	3.4	3.5	4.4	2.7	1.4	4.3	4.8	3.8	18.7	26.4	23.8	25.5	22.9	22.3	15.8	2.1	0.6	0.5	0.7	0.6	8.6	26.4																							
9-Jan	0.4	Z	0.7	0.7	0.4	1.3	3.8	1.4	4.7	1.2	2.5	8.1	9.0	4.2	10.7	5.9	8.5	3.8	3.2	2.1	0.4	0.3	0.4	0.7	3.2	10.7																							
10-Jan	1.2	2.2	Z	2.1	1.9	2.4	3.7	4.5	4.5	3.1	3.6	5.2	4.7	5.1	4.8	4.6	7.2	13.0	10.7	3.7	4.9	8.3	7.7	3.3	4.9	13.0																							
11-Jan	2.4	2.5	1.7	Z	1.4	1.8	1.4	2.4	2.4	2.2	2.1	3.0	2.7	1.6	1.6	1.6	2.1	8.7	7.0	2.7	6.5	8.3	12.8	12.6	4.0	12.8																							
12-Jan	8.5	4.5	4.3	4.9	Z	3.3	3.5	2.8	5.5	2.4	4.9	2.3	2.8	3.7	4.3	3.7	4.9	2.1	1.8	2.0	2.4	3.2	2.3	2.1	3.6	8.5																							
13-Jan	2.0	1.1	0.6	0.5	1.0	Z	12.8	4.8	2.2	3.4	3.5	3.2	4.5	5.0	3.0	4.1	3.6	6.6	5.1	3.0	2.9	2.7	1.1	0.8	3.4	12.8																							
14-Jan	Z	3.0	2.8	2.7	2.4	1.2	4.9	2.4	4.4	2.1	4.0	3.2	4.6	3.6	3.0	3.1	3.9	5.2	3.4	2.9	3.0	1.3	0.9	1.0	3.0	5.2																							
15-Jan	0.9	Z	1.9	1.3	0.7	1.5	5.5	7.3	19.6	10.2	2.5	18.1	14.5	15.8	14.3	6.3	2.5	4.7	1.9	1.0	1.1	1.5	1.5	1.4	5.9	19.6																							
16-Jan	1.5	0.9	Z	1.4	2.2	1.9	1.6	1.1	2.2	10.0	7.4	3.4	3.3	2.6	1.5	0.9	0.8	1.1	1.5	0.0	0.0	0.2	3.3	1.4	2.2	10.0																							
17-Jan	1.6	2.2	3.6	Z	7.2	4.5	3.3	3.7	5.0	5.2	5.0	3.6	2.8	2.7	2.3	4.8	5.1	6.3	4.4	3.1	3.1	1.4	1.4	1.6	3.6	7.2																							
18-Jan	1.8	1.6	2.1	4.5	Z	1.7	2.2	5.0	3.9	9.0	3.4	2.7	2.8	3.9	4.3	2.3	3.6	1.4	1.4	1.0	2.8	2.1	2.8	2.7	3.0	9.0																							
19-Jan	2.1	3.1	4.1	2.7	5.7	Z	12.1	8.9	6.9	6.0	8.9	3.8	4.5	4.3	2.9	3.0	4.2	7.5	7.9	6.5	4.6	4.3	3.7	3.2	5.3	12.1																							
20-Jan	Z	1.4	1.5	1.3	1.5	1.6	4.0	3.6	2.4	1.2	2.0	2.5	4.3	5.5	5.4	5.0	6.5	7.5	7.6	5.6	5.6	5.7	6.7	4.8	4.1	7.6																							
21-Jan	4.3	Z	0.8	2.3	1.6	0.5	1.1	1.7	2.8	4.2	1.3	2.3	3.0	8.3	22.3	13.4	6.2	5.8	5.2	1.6	3.6	2.3	4.2	5.0	4.5	22.3																							
22-Jan	2.5	0.8	Z	5.3	4.3	2.1	10.6	11.3	2.1	3.0	1.7	1.8	4.3	7.7	4.7	5.5	1.3	2.2	1.0	2.4	1.4	1.3	1.1	1.2	3.5	11.3																							
23-Jan	0.8	0.6	1.0	Z	1.3	2.5	4.5	3.8	3.7	4.1	3.2	5.2	4.2	3.3	1.7	3.3	1.5	11.1	29.3	31.4	22.6	30.6	23.8	14.3	9.0	31.4																							
24-Jan	2.6	0.9	0.2	15.4	Z	28.7	22.1	2.7	0.6	1.1	0.8	1.2	0.9	0.6	0.4	0.9	1.9	3.7	4.7	0.9	0.4	1.7	0.6	0.7	4.1	28.7																							
25-Jan	0.5	1.0	0.9	0.9	0.6	Z	1.0	0.8	1.2	1.3	1.3	2.5	3.0	2.2	5.1	1.5	2.3	3.8	4.0	0.6	0.3	0.5	1.8	3.4	1.8	5.1																							
26-Jan	Z	0.8	0.7	0.6	0.6	0.6	2.4	2.8	2.3	3.4	3.3	2.8	1.7	1.8	1.3	1.5	1.6	2.4	3.2	6.1	12.4	14.5	21.5	14.7	4.5	21.5																							
27-Jan	2.6	Z	0.6	2.0	0.3	1.4	2.1	1.4	1.0	1.4	3.6	7.6	2.1	0.0	0.0	0.0	0.0	0.4	0.5	1.2	0.0	5.2	21.8	23.7	3.4	23.7																							
28-Jan	20.9	15.6	Z	29.1	21.5	0.9	0.0	3.1	9.6	C	C	C	C	M	M	M	M	M	M	M	M	M	M	M	M	--	29.1																						
29-Jan	M	M	M	M	M	M	M	M	M	M	M	C	C	C	C	1.0	1.5	2.5	1.4	0.7	0.6	0.8	0.4	0.3	--	2.5																							
30-Jan	0.2	0.3	0.3	0.3	Z	0.4	1.1	1.0	0.9	3.3	1.3	2.6	2.9	3.8	4.3	3.5	5.6	9.6	1.6	1.1	0.7	0.8	0.5	0.2	2.0	9.6																							
31-Jan	0.2	0.1	0.4	0.2	0.4	Z	0.8	1.7	1.0	1.9	1.0	0.5	0.9	1.2	0.4	0.5	0.5	0.8	0.2	0.1	0.1	0.3	0.1	0.1	0.6	1.9																							
																								3.3	2.6	2.1	4.0	3.2	3.4	4.9	3.9	4.2	3.9	3.4	3.9	4.2	4.8	5.3	4.6	4.6	5.7	5.3	4.0	4.0	4.7	5.4	4.5	Diurnal Average	
																								20.9	15.6	6.1	29.1	21.5	28.7	22.1	11.3	19.6	10.2	8.9	18.1	18.7	26.4	23.8	25.5	22.9	22.3	29.3	31.4	22.6	30.6	23.8	23.7	Diurnal Maximum	
Z - zerospan C - Calibration M - Maintenance																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb																																																	



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
Jackfish 1 - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Nitrogen Dioxide (NO₂) - ppb
Jackfish 1 - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	665	97.22	97.22
21 - 40	19	2.78	100.00
41 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 684

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Dioxide (NO₂) - ppb
Jackfish 1 - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	25	14	7	8	15	11	12	47	74	66	23	18	43	112	75	32	582
21 - 40	0	0	0	0	0	0	0	0	0	0	0	0	0	19	0	0	19
41 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	25	14	7	8	15	11	12	47	74	66	23	18	43	131	75	32	601

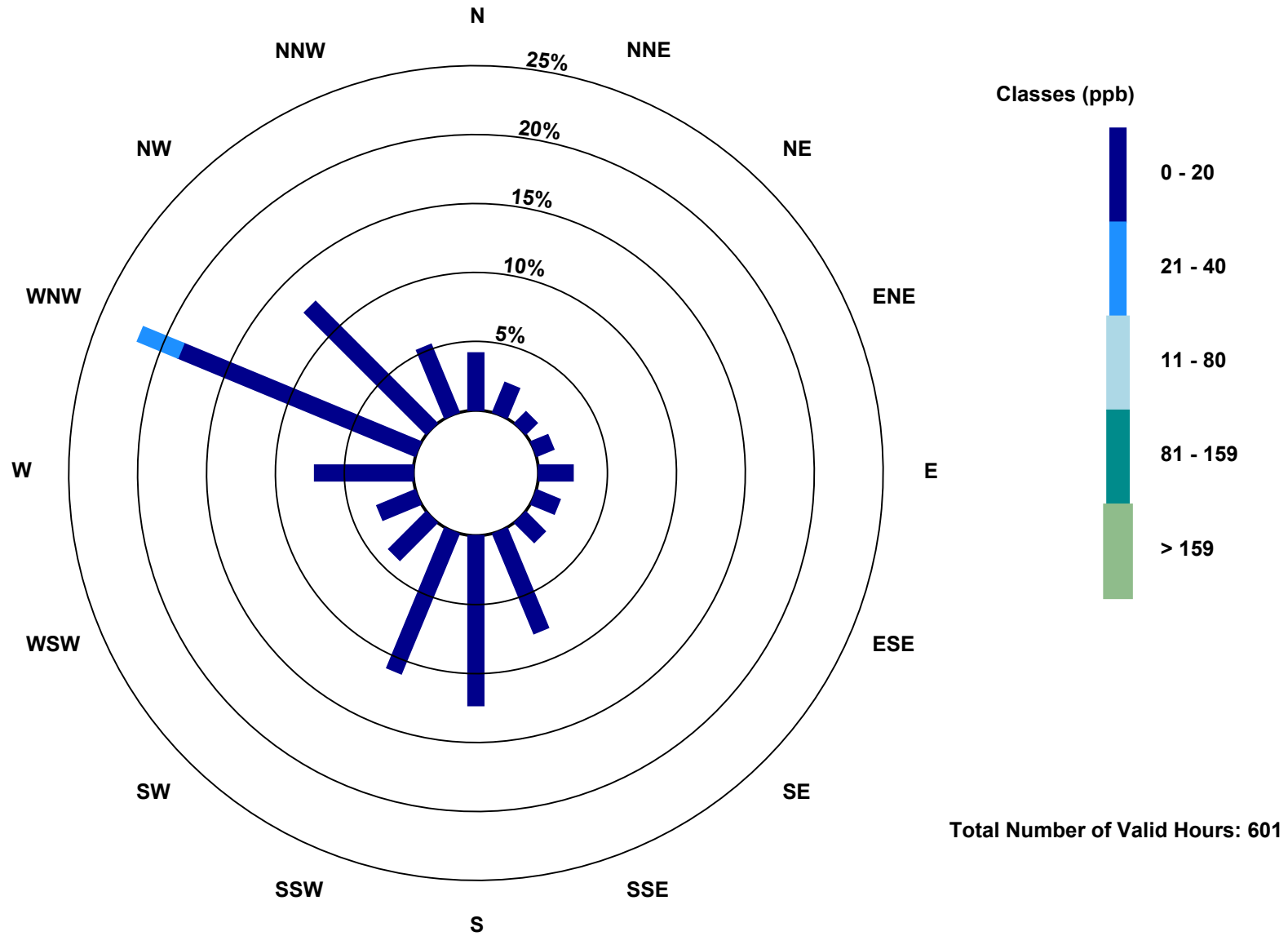
Total Number of Valid Hours: 601

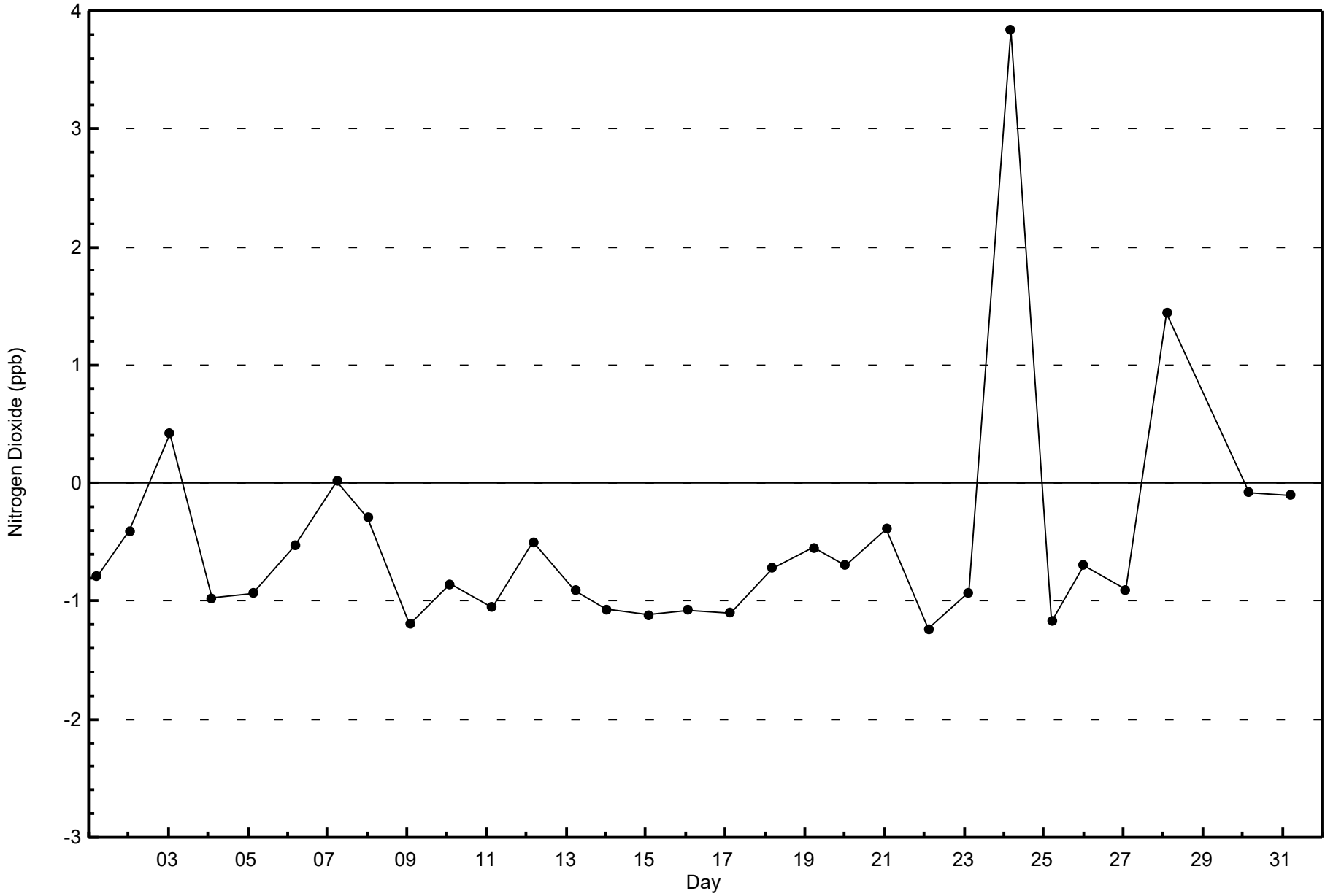
Total Number of Hours: 744

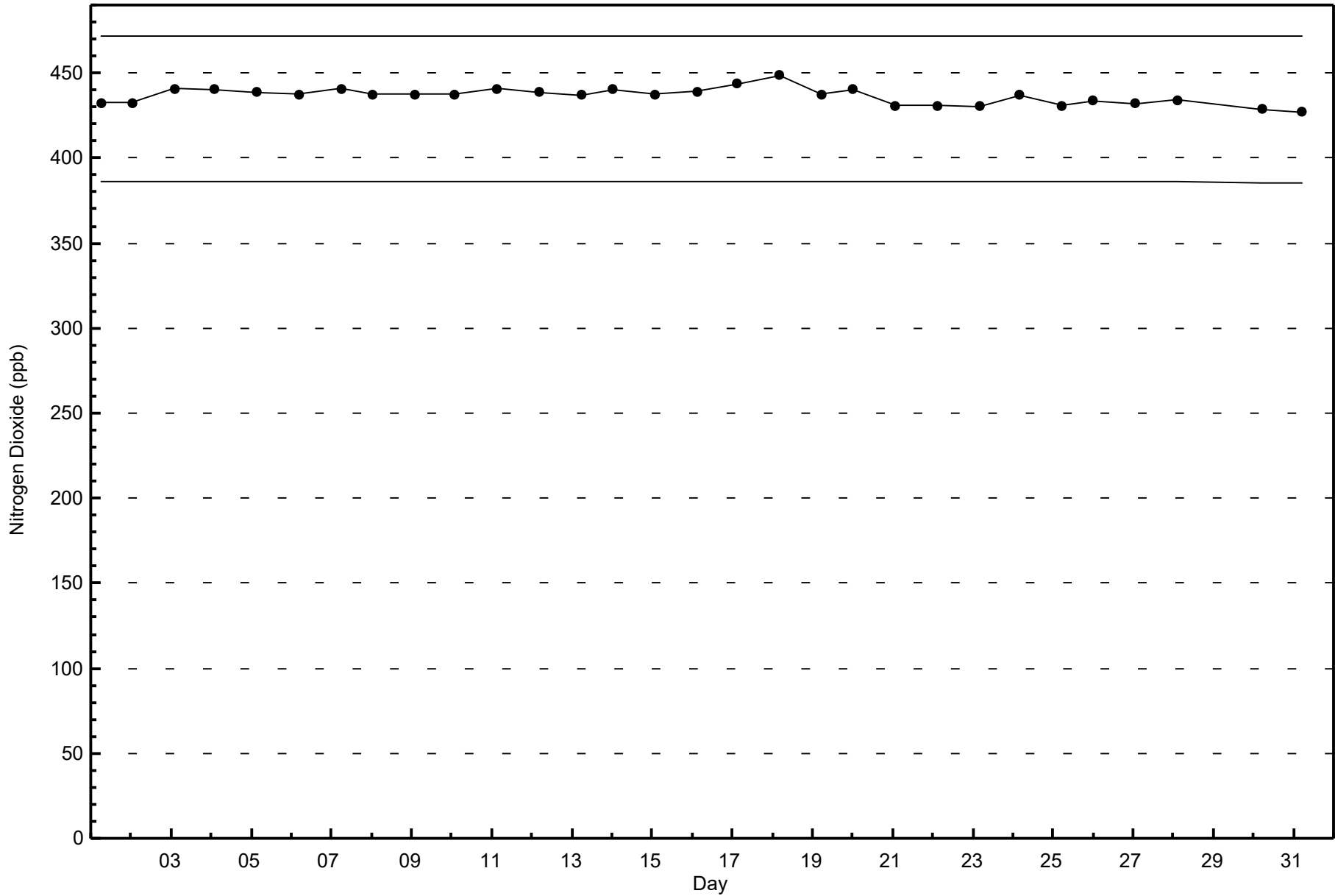


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Dioxide (NO₂) - ppb
Jackfish 1









Wood Buffalo Environmental Association
Summary of Hour Averages

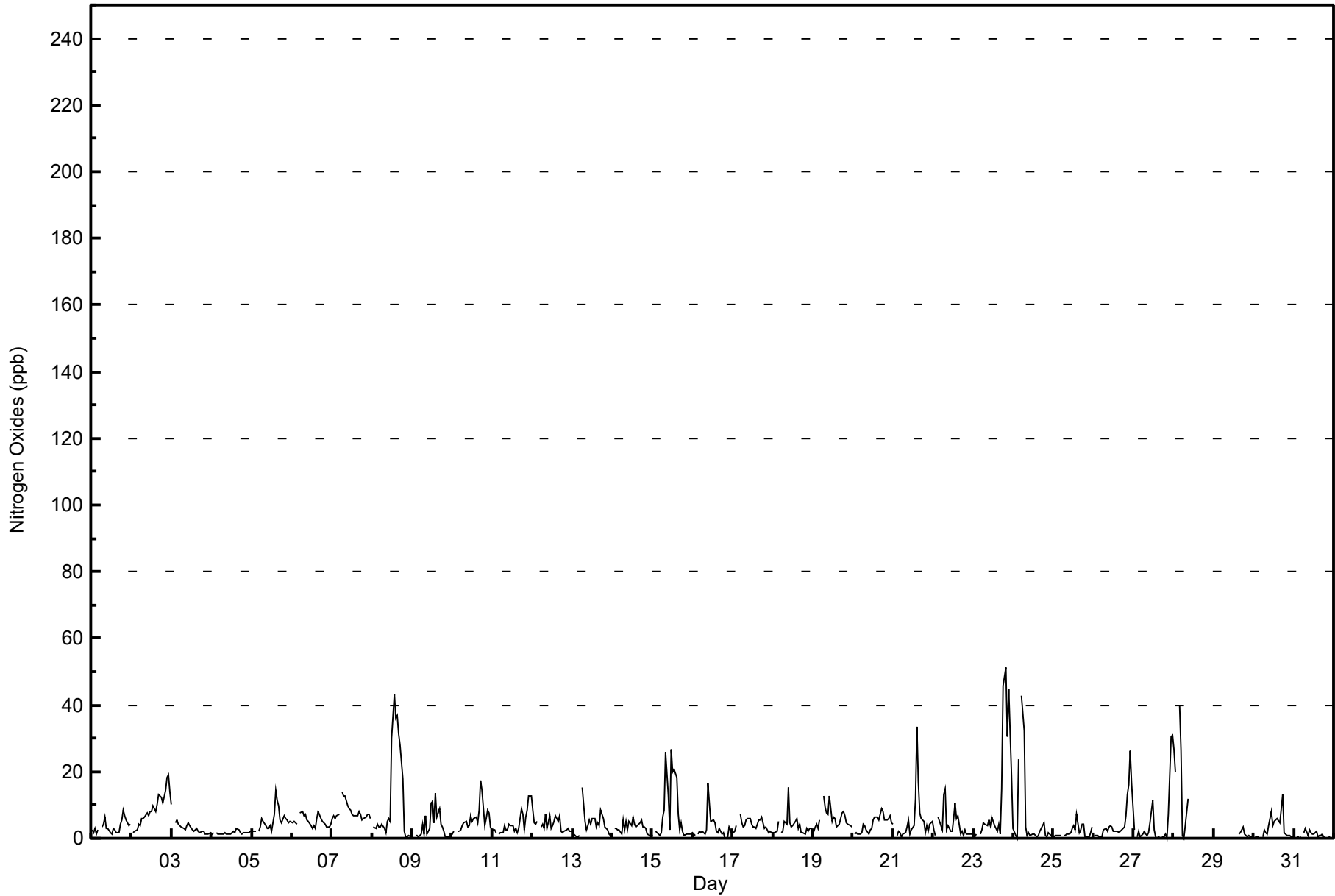
Nitrogen Oxides (NO_x) - ppb
Jackfish 1 - January 2025

Maximum Value: 51.2 ppb on Jan 23 20:00																						Maximum Daily Average: 12.5 ppb on Jan 23																						Hours in Service: 744					
Minimum Value: 0.0 ppb on Jan 28 07:00																						Minimum Daily Average: 0.9 ppb on Jan 31																						Hours of Data: 684					
Maximum Diurnal Average: 7.2 ppb at hour 15																						Minimum Diurnal Average: 2.2 ppb at hour 3																						Hours of Missing Data: 60					
Monthly Average: 5.05 ppb																						Percentiles: P ₁ = 0.1 P ₁₀ = 0.7 Q ₁ = 1.6 Median = 3.2 Q ₃ = 5.7 P ₉₀ = 10.1 P ₉₉ = 36.0																						Hours of Calibration: 38					
																																												Percent Operational Time: 97.0					
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	2.6	1.6	3.1	1.4	2.5	Z	3.6	4.2	6.5	3.0	3.2	1.6	1.4	3.1	2.6	1.9	1.5	4.3	5.5	8.5	6.7	5.6	3.6	4.2	3.6	8.5																							
2-Jan	Z	1.8	2.1	2.7	4.1	3.9	5.7	5.8	6.4	7.5	6.6	8.2	8.0	9.9	8.1	10.0	13.3	12.8	12.4	10.7	14.3	18.2	19.2	13.8	8.9	19.2																							
3-Jan	10.2	Z	4.8	5.3	4.4	3.9	3.5	2.9	2.7	3.9	4.5	3.8	2.4	2.0	2.7	2.9	2.3	1.7	2.2	1.9	1.4	1.1	1.2	1.5	3.2	10.2																							
4-Jan	1.4	1.7	Z	1.5	1.2	1.3	1.4	1.2	1.5	1.2	1.3	1.4	1.8	2.1	1.6	3.0	2.7	1.6	1.4	1.5	1.5	1.8	1.9	1.9	1.7	3.0																							
5-Jan	1.9	2.0	2.1	Z	2.2	3.4	6.1	4.9	3.8	2.8	3.0	3.8	2.3	7.4	14.2	11.5	9.7	5.7	4.7	6.7	6.1	5.3	4.6	4.9	5.2	14.2																							
6-Jan	4.8	4.9	4.8	4.4	Z	7.7	8.2	6.8	7.0	5.5	5.0	3.9	3.1	3.7	2.9	5.7	8.1	6.1	5.0	4.6	4.2	3.4	3.2	4.0	5.1	8.2																							
7-Jan	5.7	6.8	6.1	6.7	7.0	Z	14.0	12.5	12.8	9.6	9.0	8.3	7.3	6.8	6.9	6.7	8.0	7.3	5.3	5.9	6.6	7.2	7.1	5.7	7.8	14.0																							
8-Jan	Z	3.5	2.9	4.1	3.4	3.5	4.4	3.0	1.6	5.2	6.0	5.2	29.9	43.3	35.8	36.8	31.3	28.1	17.8	2.1	0.6	0.5	0.7	0.6	11.7	43.3																							
9-Jan	0.4	Z	0.7	0.7	0.4	1.3	4.2	1.5	6.7	1.3	2.9	10.4	11.0	4.9	13.7	6.3	9.0	4.1	3.4	2.2	0.5	0.3	0.4	0.7	3.8	13.7																							
10-Jan	1.2	2.2	Z	2.1	1.9	2.4	3.9	4.8	5.0	3.2	3.9	6.8	5.0	5.7	6.3	4.8	8.4	17.3	14.5	3.9	6.0	8.3	7.7	3.3	5.6	17.3																							
11-Jan	2.4	2.5	1.7	Z	1.4	1.8	1.6	3.7	2.7	2.4	4.0	3.6	3.6	2.0	2.9	1.9	2.8	8.8	7.2	2.7	6.5	8.3	12.8	12.6	4.3	12.8																							
12-Jan	8.6	4.6	4.4	4.9	Z	3.4	4.1	3.0	7.3	2.8	6.6	3.0	3.9	5.2	6.6	4.9	6.7	2.2	1.8	2.0	2.4	3.2	2.3	2.1	4.2	8.6																							
13-Jan	2.0	1.1	0.6	0.5	1.0	Z	15.3	5.1	2.5	3.9	5.6	4.1	6.0	6.0	3.4	4.7	3.7	8.3	5.9	3.2	2.9	2.7	1.1	0.8	3.9	15.3																							
14-Jan	Z	3.0	2.8	2.7	2.4	1.2	5.6	2.5	5.2	2.5	5.0	3.8	6.2	4.4	3.4	3.8	4.8	5.5	3.5	3.4	3.1	1.3	0.9	1.0	3.4	6.2																							
15-Jan	0.9	Z	1.9	1.3	0.7	1.7	6.4	8.7	25.8	12.5	2.7	26.7	19.9	20.9	18.2	7.0	2.5	4.8	1.9	1.0	1.1	1.5	1.5	1.4	7.4	26.7																							
16-Jan	1.5	0.9	Z	1.4	2.2	1.9	1.9	1.3	2.4	16.3	10.6	5.0	5.3	4.7	2.0	1.9	3.1	1.1	1.6	0.0	0.0	0.2	3.3	1.4	3.0	16.3																							
17-Jan	1.6	2.2	3.6	Z	7.2	4.6	3.4	3.8	5.6	6.0	6.1	4.4	3.6	3.3	2.8	5.6	5.5	6.6	4.5	3.1	3.3	1.5	2.0	1.6	4.0	7.2																							
18-Jan	1.8	1.6	2.1	5.1	Z	1.7	2.2	5.2	4.2	15.2	4.5	3.6	3.8	5.3	6.0	3.0	4.4	1.5	1.6	1.1	3.2	2.1	2.8	2.8	3.7	15.2																							
19-Jan	2.2	3.2	4.2	2.8	5.7	Z	12.5	9.2	7.5	7.3	12.8	5.2	6.1	6.0	3.6	3.6	4.4	7.7	8.0	6.6	4.7	4.3	3.7	3.2	5.8	12.8																							
20-Jan	Z	1.4	1.5	1.3	1.5	1.6	4.4	4.0	2.5	1.4	2.5	3.1	5.5	6.6	6.4	5.6	7.3	8.7	8.1	5.6	5.6	5.7	6.7	4.8	4.4	8.7																							
21-Jan	4.3	Z	0.8	2.3	1.6	0.5	1.4	1.9	3.2	5.7	1.4	2.7	4.0	11.7	33.5	16.8	7.8	5.9	5.2	1.6	3.6	2.3	4.2	5.0	5.5	33.5																							
22-Jan	2.5	0.8	Z	6.2	5.0	2.4	12.9	14.8	2.4	3.6	2.2	2.1	6.1	10.7	5.7	6.7	1.4	2.3	1.0	2.4	1.4	1.4	1.1	1.2	4.2	14.8																							
23-Jan	0.8	0.6	1.1	Z	1.3	2.7	4.7	4.0	4.0	5.5	3.7	6.2	5.1	4.0	2.0	4.1	1.5	14.9	45.7	51.2	30.5	44.8	31.6	18.8	12.5	51.2																							
24-Jan	2.8	0.9	0.2	23.9	Z	42.9	32.2	3.3	0.6	1.6	1.0	1.4	1.2	0.7	0.5	1.0	2.0	3.9	4.7	0.9	0.4	1.8	0.6	0.7	5.6	42.9																							
25-Jan	0.5	1.0	0.9	0.9	0.6	Z	1.0	0.8	1.2	1.4	1.5	3.1	4.0	2.6	7.4	1.6	2.4	4.2	4.2	0.6	0.3	0.5	1.8	3.4	2.0	7.4																							
26-Jan	Z	0.8	0.7	0.6	0.6	0.6	2.7	2.9	2.3	3.6	3.8	3.2	2.1	2.1	2.2	1.6	2.3	2.5	3.2	6.8	13.3	16.1	26.2	16.7	5.1	26.2																							
27-Jan	2.7	Z	0.6	2.0	0.3	1.4	2.1	1.4	1.0	1.7	4.5	11.3	2.6	0.2	0.1	0.2	0.1	0.5	0.5	1.2	0.0	7.1	30.6	31.0	4.5	31.0																							
28-Jan	26.8	19.9	Z	40.0	26.2	1.0	0.0	3.9	11.7	C	C	C	C	M	M	M	M	M	M	M	M	M	M	M	M	--	40.0																						
29-Jan	M	M	M	M	M	M	M	M	M	M	M	C	C	C	C	1.1	1.9	3.2	1.4	0.7	0.6	0.8	0.4	0.3	--	3.2																							
30-Jan	0.2	0.3	0.3	0.3	Z	0.4	2.7	1.6	1.3	3.8	8.2	3.8	5.1	5.4	6.0	4.8	8.9	13.1	1.6	1.1	0.7	0.8	0.5	0.2	3.1	13.1																							
31-Jan	0.2	0.1	0.4	0.2	0.4	Z	1.7	2.9	1.1	2.6	1.8	1.4	1.4	2.2	0.6	0.8	0.8	1.3	0.2	0.1	0.1	0.3	0.1	0.1	0.9	2.9																							
																								3.6	2.8	2.2	4.8	3.4	4.0	5.8	4.4	4.9	4.9	4.6	5.2	5.8	6.6	7.2	5.7	5.6	6.5	6.1	4.8	4.4	5.3	6.1	5.0	Diurnal Average	
																								26.8	19.9	6.1	40.0	26.2	42.9	32.2	14.8	25.8	16.3	12.8	26.7	29.9	43.3	35.8	36.8	31.3	28.1	45.7	51.2	30.5	44.8	31.6	31.0	Diurnal Maximum	
Z - zerospan																								C - Calibration				M - Maintenance																					



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Jackfish 1 - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Nitrogen Oxides (NO_x) - ppb
Jackfish 1 - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	660	96.49	96.49
21 - 40	19	2.78	99.27
41 - 80	5	0.73	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 684

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Oxides (NO_x) - ppb
Jackfish 1 - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	25	14	7	8	15	11	12	47	74	66	23	18	43	107	75	32	577
21 - 40	0	0	0	0	0	0	0	0	0	0	0	0	0	19	0	0	19
41 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	25	14	7	8	15	11	12	47	74	66	23	18	43	131	75	32	601

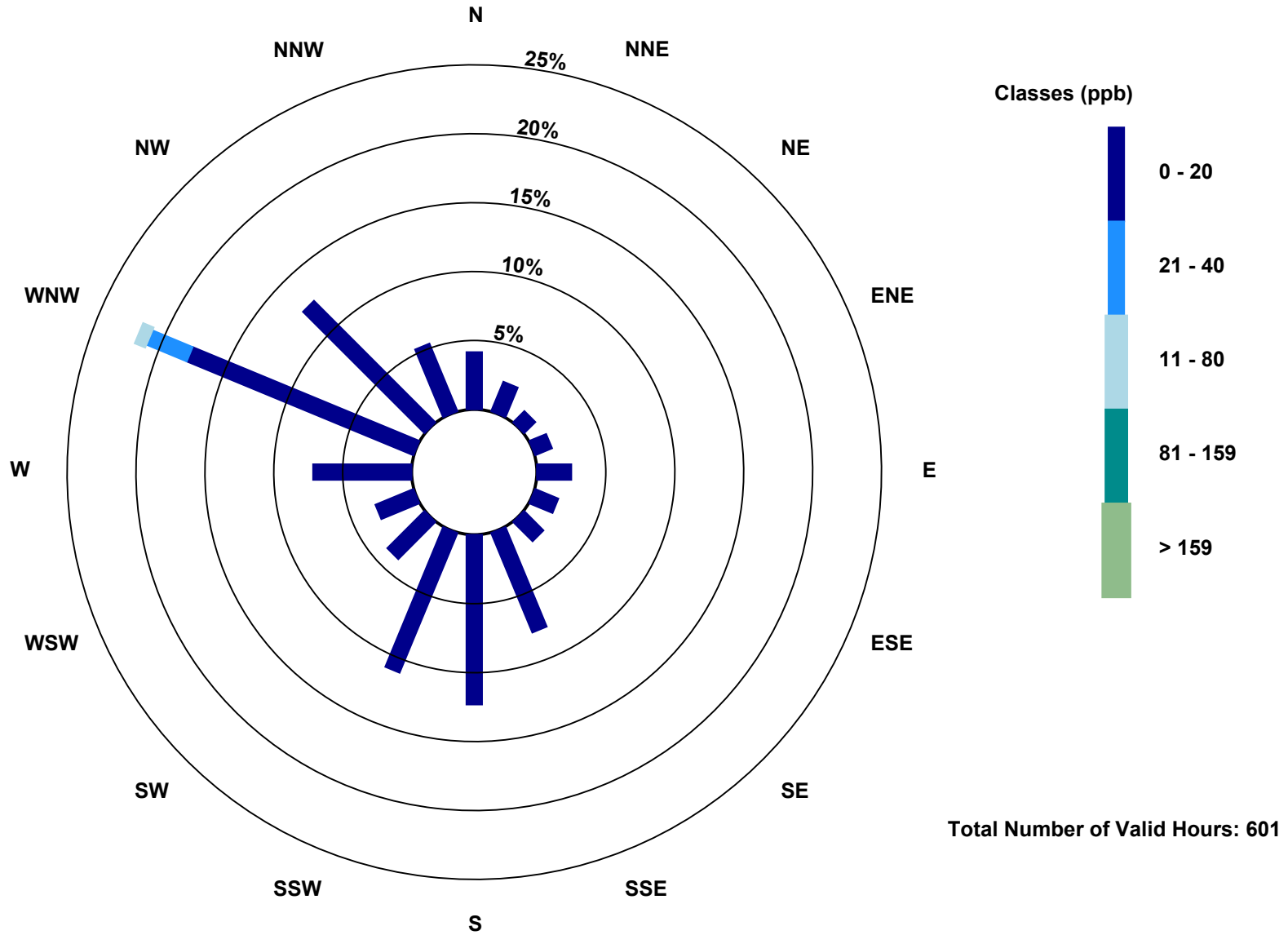
Total Number of Valid Hours: 601

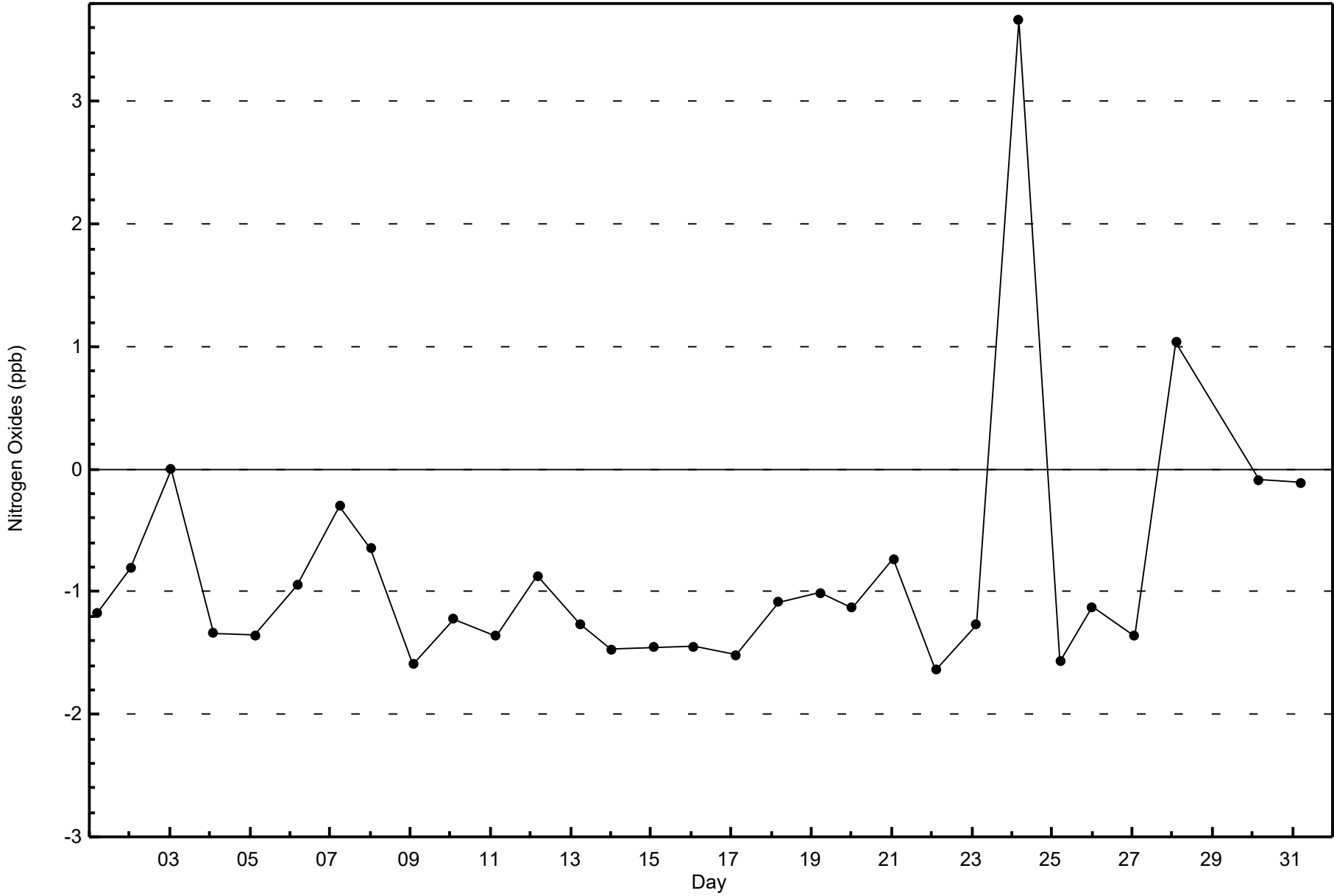
Total Number of Hours: 744

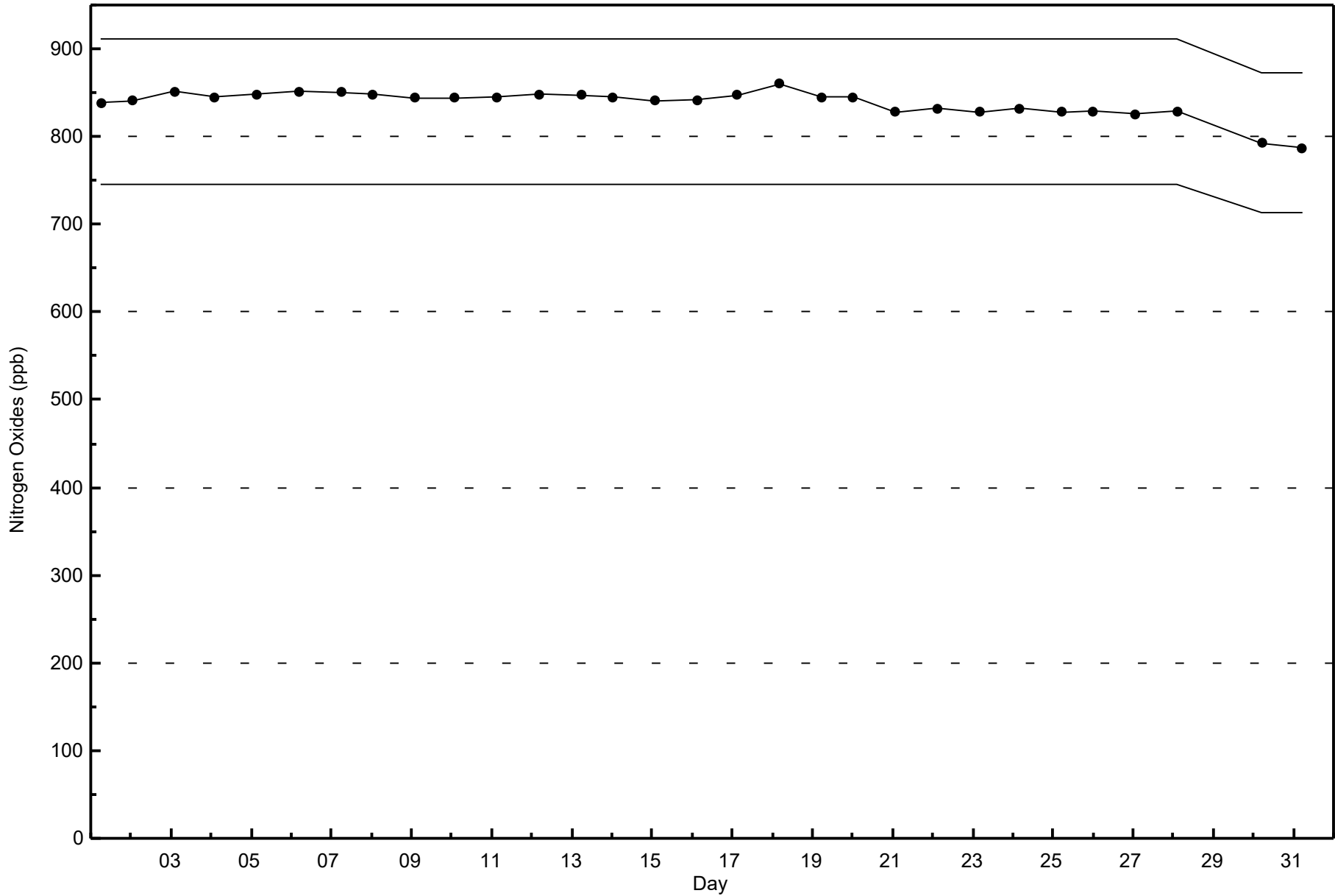


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Oxides (NO_x) - ppb
Jackfish 1

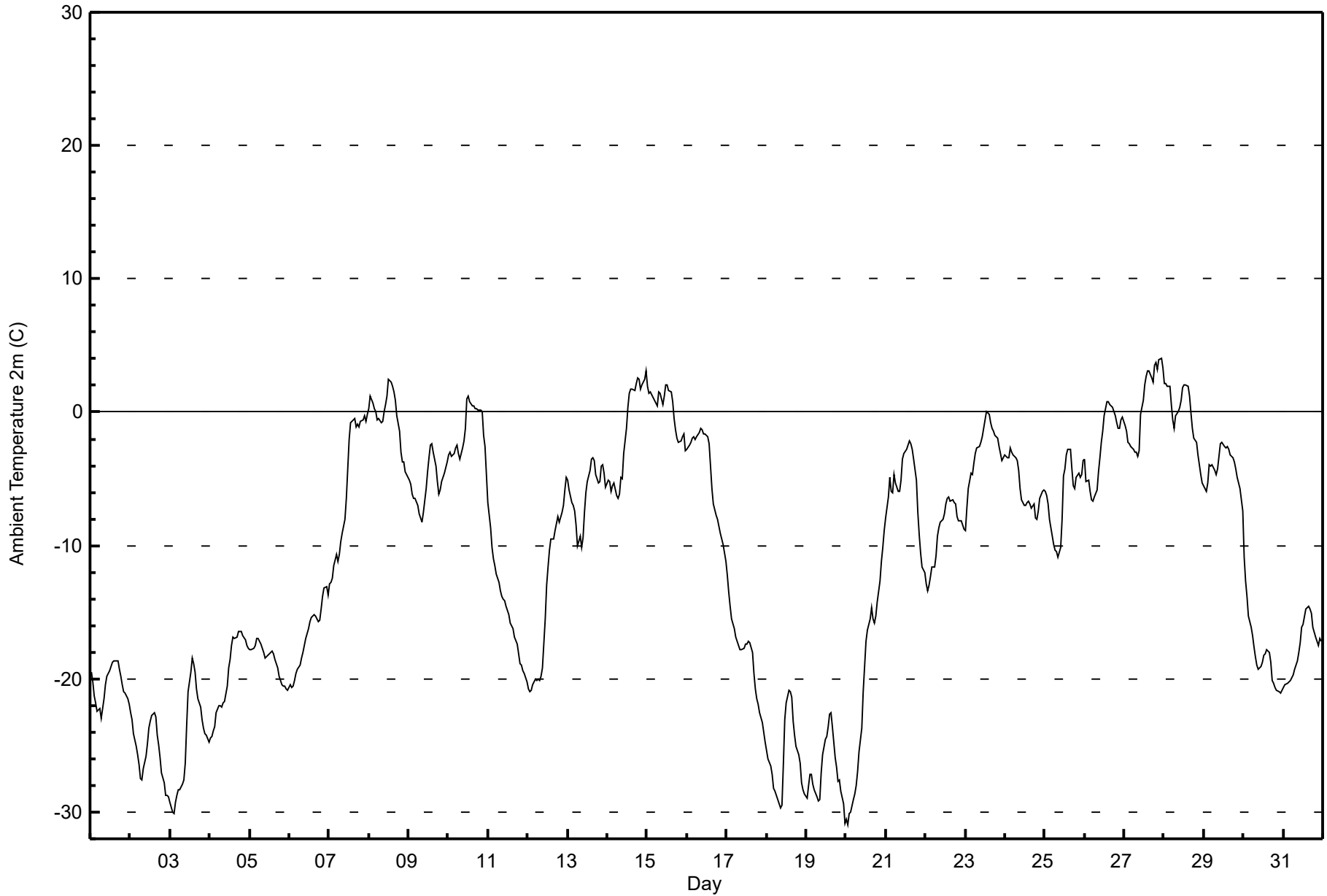








Maximum Value: 4.0 C on Jan 27 23:00 Maximum Daily Average: 0.6 C on Jan 27																						Hours in Service: 744 Hours of Data: 744					
Minimum Value: -30.9 C on Jan 20 02:00 Minimum Daily Average: -26.9 C on Jan 19 Maximum Diurnal Average: -8.5 C at hour 15 Minimum Diurnal Average: -12.8 C at hour 7 Monthly Average: -11.03 C Percentiles: P ₁ = -29.6 P ₁₀ = -24.3 Q ₁ = -19.1 Median = -8.2 Q ₃ = -3.0 P ₉₀ = 0.2 P ₉₉ = 3.1																						Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0					
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	-19.5	-20.2	-21.3	-21.9	-22.4	-22.2	-22.9	-22.3	-21.5	-20.5	-19.8	-19.4	-19.0	-18.8	-18.6	-18.7	-18.7	-19.3	-19.9	-20.5	-20.9	-21.1	-21.5	-21.9	-20.5	-18.6	
2-Jan	-22.5	-23.1	-24.2	-25.0	-25.7	-26.4	-27.5	-27.6	-26.7	-25.8	-24.8	-23.7	-23.2	-22.8	-22.5	-22.9	-24.2	-25.0	-26.0	-27.1	-27.8	-28.8	-28.8	-28.8	-25.5	-22.5	
3-Jan	-29.3	-30.0	-30.1	-29.3	-28.7	-28.4	-28.3	-27.9	-27.6	-26.4	-23.5	-20.9	-19.5	-18.4	-18.9	-19.5	-20.7	-21.4	-22.1	-23.1	-23.6	-24.1	-24.2	-24.8	-24.6	-18.4	
4-Jan	-24.4	-24.3	-23.9	-23.6	-22.6	-22.0	-22.0	-22.1	-21.8	-21.7	-20.6	-19.2	-18.5	-17.5	-16.9	-16.9	-16.9	-16.5	-16.4	-16.5	-16.8	-17.1	-17.5	-17.7	-19.7	-16.4	
5-Jan	-17.8	-17.9	-17.7	-17.5	-17.0	-17.0	-17.2	-17.4	-18.0	-18.5	-18.3	-18.2	-18.1	-17.9	-18.1	-18.6	-18.8	-19.2	-19.8	-19.8	-20.5	-20.5	-20.6	-20.8	-20.9	-18.6	-17.0
6-Jan	-20.5	-20.6	-20.6	-20.1	-19.7	-19.3	-19.0	-18.5	-18.0	-17.5	-17.0	-16.2	-15.7	-15.4	-15.3	-15.2	-15.3	-15.7	-15.6	-14.8	-13.8	-13.2	-13.1	-13.7	-16.8	-13.1	
7-Jan	-12.9	-12.8	-12.4	-11.5	-10.7	-11.2	-10.7	-9.7	-9.1	-8.1	-6.4	-4.2	-2.1	-0.8	-0.7	-0.5	-1.1	-0.9	-1.1	-0.7	-0.5	-0.3	-0.7	-0.1	-5.4	-0.1	
8-Jan	0.2	1.2	0.7	0.2	0.1	-0.6	-0.5	-0.8	-0.7	0.0	0.5	1.2	2.5	2.2	1.9	1.5	0.9	-0.2	-1.4	-3.0	-3.7	-3.7	-4.4	-4.8	-0.4	2.5	
9-Jan	-5.2	-5.5	-6.1	-6.5	-6.5	-7.0	-7.6	-7.9	-8.2	-7.5	-5.7	-4.5	-3.4	-2.4	-2.4	-3.0	-4.0	-5.2	-6.2	-5.8	-5.2	-4.6	-4.1	-3.8	-5.4	-2.4	
10-Jan	-3.2	-3.0	-3.3	-3.1	-2.7	-2.5	-3.1	-3.6	-2.6	-2.1	-1.2	1.0	1.2	0.8	0.5	0.5	0.2	0.2	0.2	0.1	0.0	-1.8	-2.5	-4.7	-1.4	1.2	
11-Jan	-6.8	-8.6	-10.2	-11.0	-11.6	-12.1	-12.7	-13.4	-13.8	-14.1	-14.1	-14.6	-15.2	-15.8	-16.0	-16.3	-16.8	-17.4	-18.2	-18.8	-18.9	-19.3	-19.6	-20.2	-14.8	-6.8	
12-Jan	-20.8	-21.0	-20.8	-20.4	-20.1	-20.1	-20.0	-20.1	-19.8	-19.1	-15.5	-13.0	-11.6	-10.3	-9.5	-9.5	-8.9	-8.4	-7.8	-8.2	-7.5	-7.0	-5.9	-4.9	-13.8	-4.9	
13-Jan	-5.1	-5.8	-6.8	-7.0	-7.4	-8.5	-10.0	-9.3	-10.1	-9.4	-7.5	-6.0	-5.2	-4.4	-3.5	-3.4	-3.6	-4.7	-5.3	-5.2	-4.1	-3.9	-4.6	-5.6	-6.1	-3.4	
14-Jan	-5.1	-5.2	-5.9	-5.5	-5.3	-6.2	-6.5	-6.1	-4.8	-5.0	-3.1	-1.2	0.3	1.4	1.7	1.7	1.7	2.2	2.6	2.5	1.7	2.1	2.5	3.1	-1.5	3.1	
15-Jan	1.9	1.4	1.5	1.1	0.9	0.6	0.5	1.5	1.4	0.6	1.2	2.0	2.1	1.7	1.5	0.8	-0.5	-1.4	-2.0	-2.3	-2.2	-1.8	-1.6	-2.9	0.3	2.1	
16-Jan	-2.8	-2.5	-2.2	-1.9	-1.8	-2.0	-1.9	-1.5	-1.2	-1.4	-1.7	-1.7	-1.8	-2.4	-4.0	-5.7	-6.9	-7.7	-8.0	-8.6	-9.1	-9.5	-9.9	-11.2	-4.5	-1.2	
17-Jan	-12.3	-13.5	-14.6	-15.5	-16.3	-16.8	-17.1	-17.5	-17.8	-17.8	-17.7	-17.4	-17.4	-17.2	-17.3	-18.1	-19.6	-20.7	-21.4	-21.9	-22.6	-23.2	-24.0	-24.8	-18.4	-12.3	
18-Jan	-25.4	-26.0	-26.6	-27.2	-28.3	-28.4	-28.8	-29.0	-29.7	-29.5	-26.4	-23.0	-21.8	-20.9	-20.9	-21.4	-23.2	-24.2	-25.1	-25.7	-26.3	-27.8	-28.3	-28.7	-25.9	-20.9	
19-Jan	-28.9	-28.1	-27.2	-27.2	-27.9	-28.3	-28.9	-29.1	-29.1	-27.1	-25.7	-24.6	-24.3	-23.6	-22.6	-22.6	-23.6	-25.9	-26.7	-27.7	-27.6	-28.5	-29.4	-30.9	-26.9	-22.6	
20-Jan	-30.5	-30.9	-30.2	-30.0	-29.1	-28.7	-28.0	-27.0	-25.4	-23.7	-21.0	-19.1	-17.1	-16.3	-15.5	-14.7	-15.5	-15.8	-15.3	-14.2	-12.7	-11.2	-10.1	-8.9	-20.5	-8.9	
21-Jan	-7.9	-6.3	-4.9	-6.0	-6.1	-4.7	-5.3	-5.9	-6.0	-5.1	-3.5	-3.1	-2.8	-2.4	-2.1	-2.4	-2.8	-3.5	-5.1	-7.5	-9.2	-10.6	-11.6	-12.0	-5.7	-2.1	
22-Jan	-12.9	-13.4	-13.0	-12.3	-11.6	-11.6	-10.8	-9.3	-8.6	-8.3	-8.0	-7.6	-6.9	-6.5	-6.4	-6.7	-6.6	-6.7	-6.8	-7.8	-8.2	-8.1	-8.5	-8.7	-9.0	-6.4	
23-Jan	-8.9	-7.2	-5.7	-4.6	-4.6	-3.8	-3.1	-2.7	-2.6	-2.3	-1.8	-1.2	-0.5	0.1	-0.1	-0.8	-1.2	-1.4	-1.7	-2.0	-2.6	-3.1	-3.6	-3.4	-2.9	0.1	
24-Jan	-3.2	-3.4	-3.4	-2.7	-3.0	-3.2	-3.4	-3.7	-4.4	-5.7	-6.6	-7.0	-6.9	-6.8	-6.7	-6.9	-7.2	-6.9	-7.9	-8.0	-7.4	-6.4	-6.0	-5.8	-5.5	-2.7	
25-Jan	-5.9	-6.2	-6.9	-8.1	-9.3	-10.0	-10.3	-10.5	-10.9	-10.1	-8.0	-4.8	-4.3	-3.2	-2.8	-2.8	-4.3	-5.5	-5.7	-4.9	-4.6	-4.9	-4.7	-3.6	-6.3	-2.8	
26-Jan	-3.6	-5.2	-5.1	-5.9	-6.6	-6.6	-6.4	-5.9	-4.5	-3.4	-2.2	-1.4	-0.3	0.8	0.8	0.6	0.5	0.4	-0.2	-0.8	-1.2	-1.2	-0.5	-0.4	-2.4	0.8	
27-Jan	-1.0	-1.5	-2.3	-2.4	-2.6	-2.8	-3.0	-3.0	-3.3	-2.9	-0.2	0.9	2.0	2.7	3.1	3.0	2.6	2.2	3.5	3.8	3.2	3.9	4.0	3.4	0.6	4.0	
28-Jan	2.2	2.1	1.9	2.0	0.5	-0.6	-1.2	-0.3	0.1	0.3	0.9	1.8	2.1	2.0	1.9	1.2	0.0	-1.2	-2.0	-2.3	-3.2	-4.0	-4.7	-5.3	-0.2	2.2	
29-Jan	-5.5	-5.9	-5.3	-4.0	-4.0	-3.9	-4.4	-4.6	-4.2	-3.3	-2.4	-2.3	-2.6	-2.6	-2.6	-2.8	-3.2	-3.4	-3.8	-4.2	-4.9	-5.3	-5.8	-7.4	-4.1	-2.3	
30-Jan	-10.8	-12.6	-13.8	-15.3	-16.1	-16.8	-17.6	-18.3	-19.0	-19.3	-19.1	-18.7	-18.3	-18.1	-17.8	-18.0	-18.7	-20.2	-20.3	-20.7	-20.9	-21.0	-21.1	-20.8	-18.1	-10.8	
31-Jan	-20.7	-20.4	-20.4	-20.2	-20.2	-19.9	-19.7	-19.3	-18.7	-18.0	-17.3	-16.1	-15.9	-14.8	-14.7	-14.5	-14.8	-15.1	-16.1	-16.8	-17.2	-17.5	-17.0	-17.2	-17.6	-14.5	
																								Diurnal Average			
																								Diurnal Maximum			





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ambient Temperature 2m (AT2) - C
Jackfish 1 - January 2025

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	165	22.18	22.18
-20 - 0	496	66.67	88.84
0 - 10	83	11.16	100.00
10 - 20	0	0.00	100.00
> 20	0	0.00	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

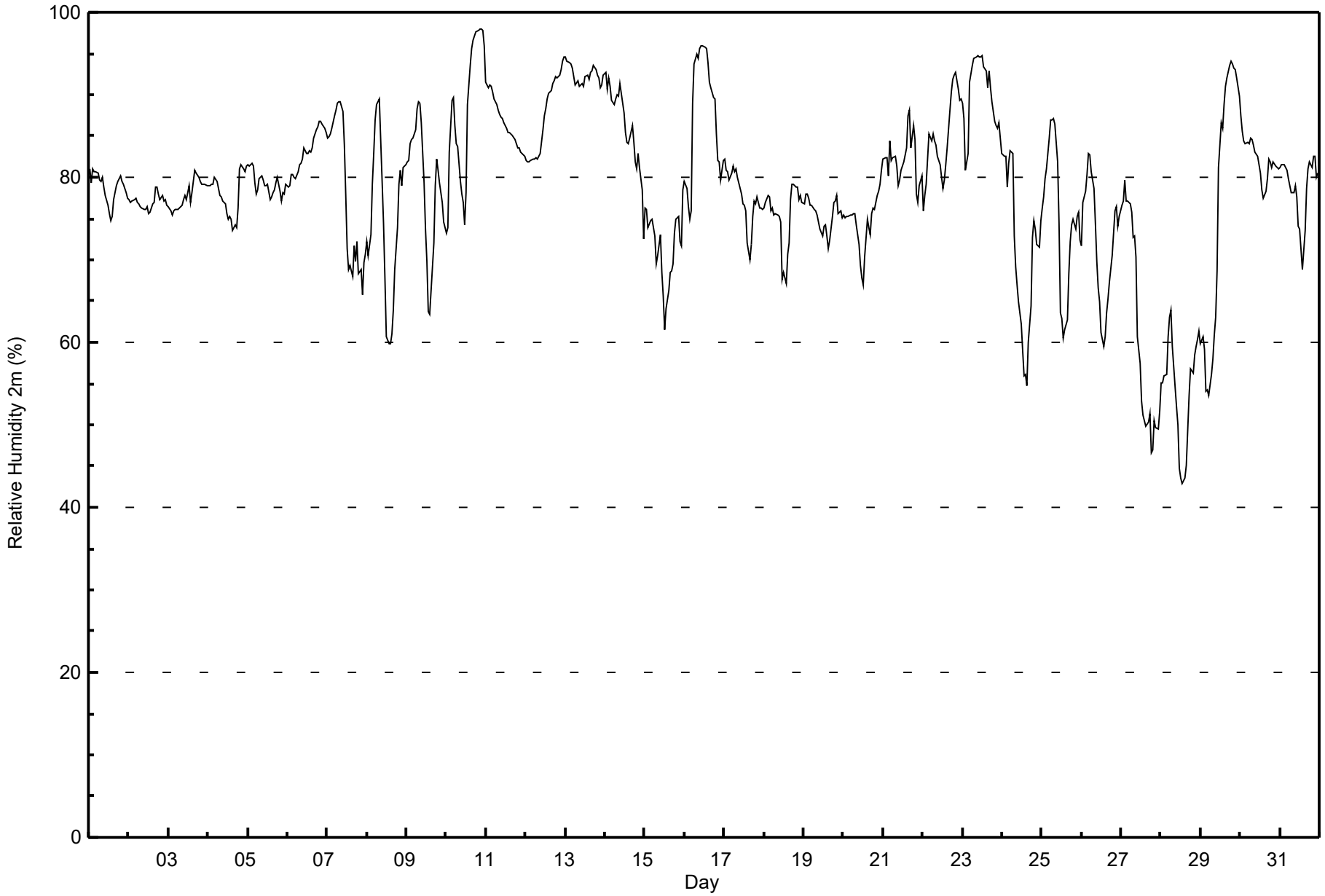
Relative Humidity 2m (RH2) - %
Jackfish 1 - January 2025

Maximum Value: 98.0 % on Jan 10 22:00 Maximum Daily Average: 92.4 % on Jan 13																						Hours in Service: 744 Hours of Data: 744					
Minimum Value: 42.9 % on Jan 28 14:00 Minimum Daily Average: 54.2 % on Jan 28 Maximum Diurnal Average: 81.2 % at hour 7 Minimum Diurnal Average: 74.3 % at hour 14 Monthly Average: 78.55 % Percentiles: P ₁ = 49.4 P ₁₀ = 65.1 Q ₁ = 74.9 Median = 79.1 Q ₃ = 84.4 P ₉₀ = 91.1 P ₉₉ = 96.0																						Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0					
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	81.0	79.3	80.9	80.7	80.7	80.4	79.6	79.5	80.0	78.9	77.9	76.6	75.6	74.7	75.3	77.3	79.0	79.5	79.9	80.1	79.6	79.1	78.1	77.5	78.8	81.0	
2-Jan	77.2	77.0	77.1	77.4	77.5	77.0	76.7	76.5	76.2	76.0	76.2	76.5	75.7	75.8	76.7	77.0	78.9	78.8	78.0	77.3	77.8	77.1	77.3	76.6	77.0	78.9	
3-Jan	76.4	75.9	75.4	75.9	76.2	76.1	76.2	76.5	76.6	77.3	77.8	77.3	79.0	77.0	78.2	79.4	80.8	80.6	80.0	79.5	79.2	79.1	79.2	78.9	77.8	80.8	
4-Jan	79.1	79.0	79.2	79.2	80.0	79.4	78.6	77.8	77.6	77.1	76.8	75.6	74.9	75.2	74.8	73.5	74.2	74.0	76.2	80.9	81.6	81.0	80.7	81.4	77.8	81.6	
5-Jan	81.5	81.4	81.7	81.3	79.3	78.0	78.6	79.8	80.2	79.7	79.0	79.1	77.3	77.6	78.1	78.5	79.4	80.0	78.3	77.1	78.1	78.0	79.2	79.2	79.2	81.7	
6-Jan	78.8	79.0	80.4	80.4	80.0	79.9	80.7	81.6	81.7	82.3	83.5	82.8	82.9	83.3	83.0	83.6	84.8	85.7	86.1	86.7	86.8	86.5	86.0	85.5	83.0	86.8	
7-Jan	84.8	84.9	85.3	86.0	87.5	88.1	89.0	89.2	89.2	87.9	83.9	77.7	71.4	68.8	69.3	67.9	71.7	69.9	72.1	68.3	68.9	65.7	69.6	70.7	77.8	89.2	
8-Jan	72.3	70.5	73.0	79.1	82.8	86.9	88.8	89.5	84.4	79.6	74.3	67.9	60.7	59.9	59.9	61.0	63.8	68.8	73.9	79.1	80.8	79.1	81.1	81.5	74.9	89.5	
9-Jan	81.8	82.0	84.0	84.7	84.7	85.7	88.3	89.2	89.1	86.5	79.3	73.8	69.9	63.8	63.4	66.2	72.0	79.0	82.3	80.8	79.3	76.9	74.6	73.9	78.8	89.2	
10-Jan	73.2	73.9	83.1	89.4	89.7	86.3	84.0	83.7	79.4	78.0	77.0	74.2	78.1	88.8	93.5	95.7	96.5	97.2	97.6	97.8	98.0	98.0	97.9	96.0	87.8	98.0	
11-Jan	91.6	90.8	91.1	91.0	90.4	89.5	88.8	88.1	87.6	87.3	87.1	86.6	85.9	85.4	85.4	85.3	85.0	84.6	84.0	83.5	83.5	83.1	82.9	82.5	86.7	91.6	
12-Jan	82.0	81.8	81.9	82.1	82.2	82.2	82.3	82.2	82.5	82.9	85.8	87.4	88.3	89.4	90.2	90.5	91.3	91.8	92.2	92.0	92.4	93.0	94.0	94.5	87.3	94.5	
13-Jan	94.5	94.2	93.9	93.8	93.3	92.2	91.2	91.7	91.1	91.2	91.4	91.0	92.3	92.5	91.9	92.7	92.9	93.5	93.1	92.3	92.0	90.9	91.2	92.3	92.4	94.5	
14-Jan	92.7	90.6	92.0	91.1	89.3	88.8	89.5	90.0	89.8	91.4	90.2	87.7	85.4	84.2	84.0	84.7	86.3	84.3	81.9	81.0	82.9	81.2	78.5	72.6	86.3	92.7	
15-Jan	76.2	76.2	73.8	74.8	74.8	73.8	73.0	69.5	70.4	73.0	68.5	65.7	61.6	64.1	66.3	68.5	68.7	69.4	73.3	75.0	75.2	72.2	71.7	78.5	71.4	78.5	
16-Jan	79.5	78.6	76.4	74.8	75.9	88.9	93.8	94.9	94.4	95.6	96.0	95.9	95.7	95.6	93.9	91.5	90.8	89.6	89.4	85.3	82.1	81.9	79.7	82.1	87.6	96.0	
17-Jan	82.2	80.9	80.7	79.6	80.5	81.4	80.8	81.0	79.9	79.2	77.9	76.8	76.5	76.0	72.0	70.0	71.9	75.3	77.1	76.7	77.6	76.3	76.3	76.1	77.6	82.2	
18-Jan	76.2	76.9	77.7	77.7	76.0	76.3	75.5	75.6	75.4	75.3	74.5	67.7	68.5	67.2	70.7	72.0	77.3	79.2	79.1	78.9	78.9	77.2	77.8	76.9	75.3	79.2	
19-Jan	76.8	77.9	77.9	77.4	76.6	76.7	76.1	75.9	75.5	74.7	73.7	72.8	74.1	74.2	72.8	71.4	72.4	75.3	76.9	77.1	77.8	75.7	75.9	75.2	75.5	77.9	
20-Jan	75.4	75.1	75.2	75.2	75.5	75.4	75.6	75.6	74.2	71.8	69.3	67.8	67.0	70.3	74.9	74.0	73.0	75.5	76.2	76.1	77.7	78.4	79.1	80.8	74.5	80.8	
21-Jan	82.2	82.4	82.3	80.1	84.4	82.1	82.3	82.6	81.3	79.0	79.7	80.8	81.8	82.7	83.5	87.5	88.1	83.5	86.2	84.6	78.0	77.0	78.9	80.1	82.1	88.1	
22-Jan	75.9	77.7	79.1	82.2	85.2	84.4	85.2	84.5	83.9	82.6	81.5	80.1	78.7	79.6	81.6	83.6	88.2	90.4	91.8	92.3	92.7	90.7	89.3	89.4	84.6	92.7	
23-Jan	89.0	87.1	80.8	82.8	91.5	92.6	93.6	94.4	94.6	94.8	94.7	94.5	94.7	93.3	92.9	90.9	92.9	90.9	89.2	86.8	86.2	86.0	86.6	84.8	90.2	94.8	
24-Jan	83.0	82.6	82.5	78.8	81.8	83.2	82.9	72.9	69.2	67.0	65.0	62.2	59.0	56.0	56.1	54.7	60.0	64.4	72.7	74.8	73.8	71.9	71.5	74.8	70.9	83.2	
25-Jan	76.3	77.7	79.8	81.0	84.7	86.9	87.0	87.0	86.4	81.8	74.5	63.5	62.9	62.9	60.5	61.5	62.6	68.3	72.2	74.3	74.9	73.7	75.2	75.8	72.5	75.0	87.0
26-Jan	71.6	77.0	78.3	80.3	83.0	82.7	80.7	78.7	74.5	69.9	66.6	64.9	61.3	59.6	60.6	63.5	65.3	67.3	70.6	73.3	75.9	76.4	74.1	75.3	72.1	83.0	
27-Jan	76.6	77.2	79.6	77.1	77.1	76.8	75.8	72.6	72.9	70.4	60.7	57.4	52.8	51.2	50.4	49.9	50.4	51.4	46.5	46.9	50.5	49.6	49.6	51.8	61.5	79.6	
28-Jan	55.1	55.0	56.0	56.2	60.7	63.0	64.0	59.5	54.6	52.1	50.0	44.8	43.6	42.9	43.6	45.1	49.3	53.5	56.7	56.2	58.5	59.6	60.4	61.3	54.2	64.0	
29-Jan	59.9	60.6	59.2	54.0	54.3	53.5	56.1	57.9	60.8	63.0	68.6	81.2	86.7	85.9	88.7	91.0	92.0	93.5	94.0	93.8	93.2	93.1	92.0	89.8	75.9	94.0	
30-Jan	87.4	85.6	84.3	84.0	84.3	84.1	84.8	84.5	83.9	83.1	82.5	81.4	80.5	78.4	77.5	78.3	79.8	82.2	81.9	81.2	81.8	81.4	81.1	81.0	82.3	87.4	
31-Jan	81.1	81.5	81.5	81.2	80.8	79.8	79.0	78.2	78.2	78.9	77.6	74.1	73.8	68.9	71.1	73.6	78.6	81.0	81.8	81.2	82.6	82.6	80.0	80.5	78.7	82.6	
																								Diurnal Average			
																								Diurnal Maximum			



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 2m (RH2) - %
Jackfish 1 - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Relative Humidity 2m (RH2) - %
Jackfish 1 - January 2025

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	0	0.00	0.00
40 - 60	46	6.18	6.18
60 - 80	365	49.06	55.24
80 - 100	333	44.76	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Speed 10m (WS10) - km/h

Jackfish 1 - January 2025

Maximum Speed: 27 km/h on Jan 24 09:00	Maximum Daily Speed Average: 13.1 km/h on Jan 24	Hours in Service: 744
Minimum Speed Value: 1 km/h on Jan 16 10:00	Minimum Daily Speed Average: 0.8 km/h on Jan 29	Hours of Data: 657
Maximum Diurnal Speed Average: 3.6 km/h at hour 12	Minimum Diurnal Speed Average: 2.1 km/h at hour 20	Hours of Missing Data: 87
Monthly Average Velocity: 2.7 km/h 279.6 deg	Percentiles: P ₁ = 1 P ₁₀ = 3 Q ₁ = 4 Median = 6 Q ₃ = 8 P ₉₀ = 11 P ₉₉ = 22	Percent Operational Time: 88.3

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	NW7	WNW5	WNW5	W3	W3	W4	WNW4	NW4	NW5	NW7	NW9	NW10	NW10	NNW8	NNW8	NNW7	NNW6	N5	N5	N6	N6	NNW6	NNW7	NNW7	NW5.7	NW10	
2-Jan	NNW8	NNW8	N5	N4	NNW4	NW2	NW3	NW5	NW6	NW4	NW5	NNW5	N5	NW2	N3	ENE2	SE1	S2	S2	S4	S2	S3	S2	S3	NNW2.0	NNW8	
3-Jan	S2	S4	S5	S4	S5	S4	S6	S5	S6	SSE4	SSE4	SSE4	SSE5	SSE6	SSE6	SSE5	SSE6	SSE7	SSE9	SSE8	SSE7	SSE5	SSE5	SSE6	SSE5.3	SSE9	
4-Jan	SSE7	SSE7	SSE8	SSE7	SSE6	SSE6	SSE5	SSE5	SSE5	SSE5	SSE5	SSE6	SSE7	SSE7	SSE7	SSE7	SSE7	SSE6	SSE6	S6	S5	S5	S4	S4	SSE6.0	SSE8	
5-Jan	S3	S3	S2	SSW2	W2	WNW3	WNW5	NW6	NW7	NNW9	NW9	NW8	NNW8	NW8	NW9	NNW9	NNW8	N6	NNE6	NNE5	N4	NNE4	ENE2	E1	NNW4.0	NNW9	
6-Jan	N1	ENE1	SE3	SE4	SSE3	SE3	SSE4	SSE4	SSE5	S5	SSE6	S6	S6	S6	S6	S5	S6	S5	SSW6	S6	S6	SSW7	SSW6	S6	S4.5	SSW7	
7-Jan	SSW8	S7	SSW8	SSW9	SSW7	S6	SSW6	SSW7	S7	SSW8	SSW9	SSW8	SSW8	SSW9	SSW9	SSW8	SSW5	S8	SSW7	SSW7	S7	SSW8	SSW8	SSW6	SSW7.5	SSW9	
8-Jan	SW5	SW5	WSW6	W5	WNW6	WNW5	WNW5	WNW6	WNW6	WNW8	WNW8	WNW9	WNW12	WNW12	WNW11	WNW11	WNW11	WNW9	WNW7	W3	WNW5	WNW5	W4	WNW4	WNW6.6	WNW12	
9-Jan	WNW5	WNW5	WNW5	WNW7	WNW5	W5	W3	W3	W4	WNW4	W3	WNW6	NW4	N2	SE2	SSW2	S4	S5	S5	S6	SSE6	SSE8	SSE7	S9	SW2.5	S9	
10-Jan	S8	SSE9	SSE8	SSE9	S9	S10	S7	S8	SSW7	SSW7	SSW6	W3	W3	WNW3	WNW1	WNW2	WNW4	WNW7	WNW7	NW7	NW7	UO	UO	UO	SSW3.5	S10	
11-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	---	---	
12-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	---	---	
13-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	---	---	
14-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	---	---	
15-Jan	WNW6	WNW5	WNW6	WNW7	WNW8	WNW8	WNW9	WNW8	WNW9	WNW8	WNW9	WNW8	WNW10	WNW10	WNW7	WNW7	W2	SSW3	SSW4	SSW5	SSW5	SSW5	SSW4	S4	W5.0	WNW10	
16-Jan	SSE5	SSE4	SE6	SE6	ESE7	SE12	SE11	SE10	SSE4	ESE1	ESE2	ESE5	NE4	NE7	NNE12	NNE12	NNE13	N16	N17	N17	NNW13	NNW14	NNW15	NW17	NNE4.5	N17	
17-Jan	NW18	NW16	NW16	NW18	NW14	NW13	NW13	NW12	NW12	NNW9	NNW9	NNW8	NW10	NW10	NW14	NNW13	NW13	NW12	NW12	NW12	NW10	NW10	NW13	NW16	NW12.6	NW18	
18-Jan	NW14	NW13	NW12	NW10	WNW4	WNW4	WNW3	WNW2	S2	SSE3	S3	SW2	SW3	W2	WSW3	SSW4	SSW4	SSW4	SSW4	SSW4	SSW4	SSW2	SSE2	SSW2	WSW2	W2.6	NW14
19-Jan	WSW2	WNW3	WSW2	W2	W1	W2	WNW2	WNW4	WNW5	NW6	NW7	NW10	NNW8	NW9	NW9	NNW8	NNW7	NW5	NW7	WNW3	SW3	W1	SSW3	SSW3	NW3.9	NW10	
20-Jan	SSW4	S5	S5	S6	S8	S8	S8	S8	S8	S7	S9	S8	S9	S10	S9	S10	SSW9	SSW9	SSW10	SSW10	SSW8	SW7	W5	WNW7	S7.0	SSW10	
21-Jan	WNW7	WNW7	WNW6	SSW5	W4	WNW7	WNW7	WNW7	WNW6	WNW5	WNW7	WNW8	WNW8	WNW9	WNW11	WNW10	NW12	NW16	NNW13	N11	NW18	NW17	NNW13	NW14	NW8.6	NW18	
22-Jan	NW17	NW15	NW7	WNW6	WNW6	WNW5	WNW7	NW11	NW12	NW13	NW13	NW12	NW9	WNW9	WNW6	WNW5	W4	W3	SW3	SSW4	SSW6	SSW7	SSW5	S5	WNW6.2	NW17	
23-Jan	S6	S7	S8	S9	S7	S8	SSW8	SSW7	SW6	WSW5	W4	WNW5	W3	WNW5	WNW6	WNW6	WNW6	WNW9	WNW11	WNW12	WNW10	WNW10	WNW9	WNW9	WSW4.8	WNW12	
24-Jan	WNW8	WNW8	WNW7	WNW11	WNW12	WNW13	WNW16	NW24	NW27	NW25	NW26	NW23	NW21	NW23	NW23	NW17	NW11	NW7	WNW4	W2	W2	WNW5	WNW6	W4	NW13.1	NW27	
25-Jan	W3	SW2	SSW5	SSW6	SW8	SSW9	SW8	SSW7	SSW8	SSW6	WSW5	W5	WNW4	W4	WNW4	W3	W2	WNW4	WNW4	WNW5	W3	W2	SW3	WSW4.2	SSW9		
26-Jan	SSW6	SSW6	SSW7	SSW7	SSW7	SSW7	SSW7	SSW5	WSW5	W6	W6	WSW5	SW5	WSW6	W6	WSW5	SW6	W4	W6	WNW6	WNW6	WNW7	WNW8	WNW7	WSW4.8	WNW8	
27-Jan	WNW6	W4	WSW2	WNW2	WSW2	WSW2	WSW3	SW5	SW5	WSW3	W3	S5	SSW6	SW6	SSW7	SW6	SW5	WSW6	W8	WNW8	WNW8	WNW11	WNW11	WNW10	W4.6	WNW11	
28-Jan	WNW9	WNW10	WNW11	WNW11	WNW8	W5	W4	WNW8	WNW8	WNW8	WNW9	WNW12	WNW14	WNW15	WNW12	WNW9	WNW8	WNW5	WNW5	W3	W4	W3	W2	W2	WNW7.6	WNW15	
29-Jan	WSW2	WSW2	WSW2	WSW3	SW3	SSW4	SSW4	SSW5	SSW4	SSW4	SW4	SW3	SE3	ESE3	ESE5	E6	E6	NE5	NE6	NNE8	NNE7	NNE7	NNE9	N11	NE0.8	N11	
30-Jan	N13	N13	N11	NNW7	NNW8	NNW7	N8	NNW8	NNW9	NNE8	N8	NNE6	N6	N6	NNE4	N4	NNE3	NE2	NE3	NE3	E2	E3	E4	ENE2	N5.5	N13	
31-Jan	ENE2	ENE3	ESE5	E3	ESE5	ESE7	ESE8	ESE9	SE8	SE9	SE9	ESE9	ESE8	E8	E9	E10	E10	E11	E11	E8	ENE6	ENE6	ESE8	E6	ESE7.0	E11	

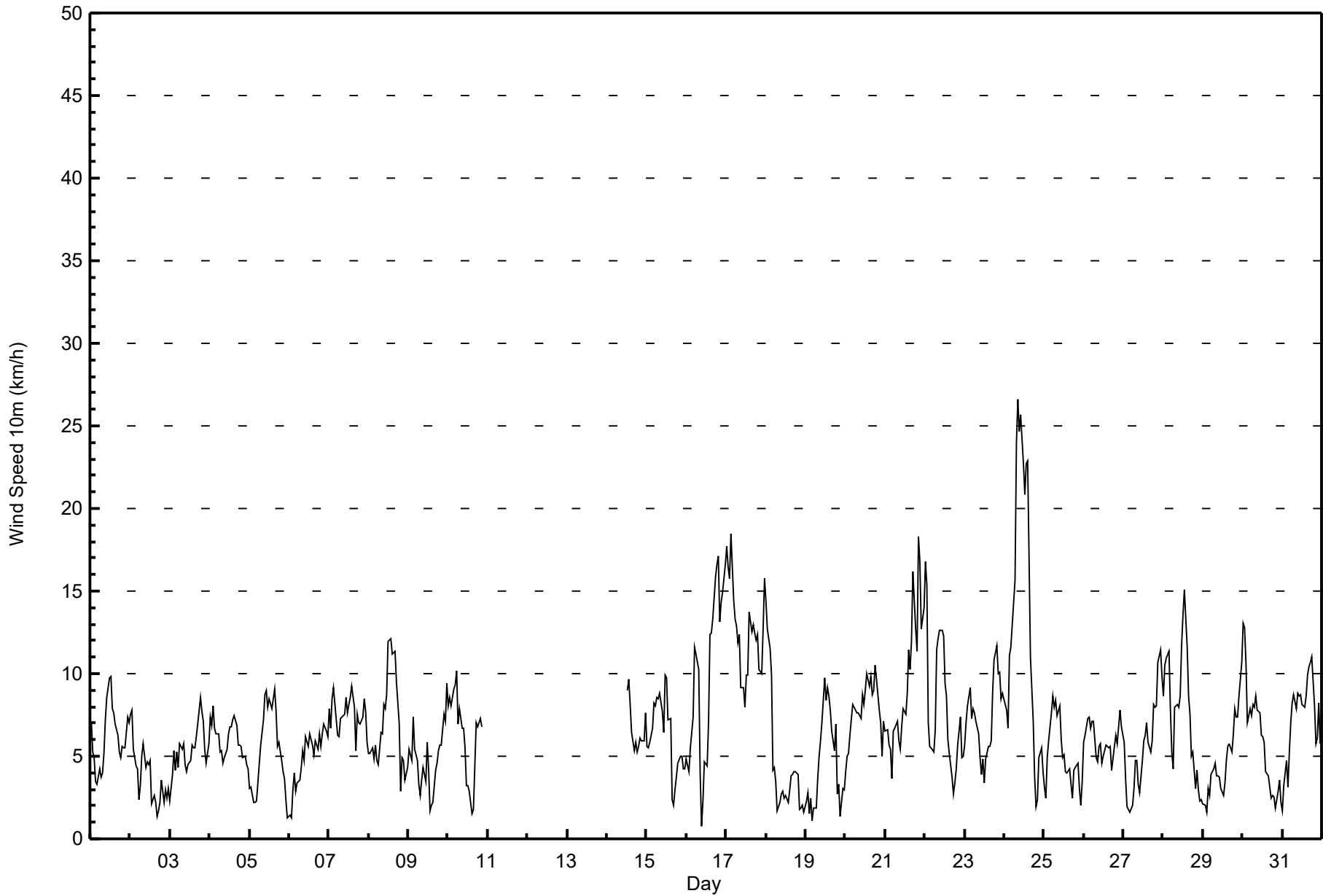
WNW3.5	WNW2.8	W2.3	WSW2.8	WSW2.8	WSW2.6	W3.1	W3.8	WNW3.4	WNW3.4	WNW3.6	WNW3.3	WNW3.5	WNW3.2	WNW2.6	WNW2.3	WNW2.3	WNW2.2	WNW2.1	WNW2.8	WNW2.7	WNW2.4	WNW2.9	Diurnal Average		
NW18	NW16	NW16	NW18	NW14	NW13	WNW16	NW24	NW27	NW25	NW26	NW23	NW21	NW23	NW23	NW17	NNE13	NW16	N17	N17	NW18	NW17	NNW15	NW17	Diurnal Maximum	

UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods



Wood Buffalo Environmental Association
Hourly Averages

Wind Speed 10m (WS10) - km/h
Jackfish 1 - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Wind Speed 10m (WS10) - km/h
Jackfish 1 - January 2025**

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	265	40.33	40.33
6 - 11	327	49.77	90.11
12 - 19	57	8.68	98.78
20 - 28	8	1.22	100.00
29 - 38	0	0.00	100.00
> 38	0	0.00	100.00

Total Number of Valid Hours: 657

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Wind Speed 10m (WS10) - km/h
Jackfish 1 - January 2025**

Wind Speed Ranges (km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	10	4	5	6	5	7	6	21	34	26	19	18	46	47	9	2	265
6 - 11	10	7	2	2	10	7	7	29	43	49	8	4	5	90	29	25	327
12 - 19	5	3	0	0	0	0	1	0	0	0	0	0	0	10	31	7	57
20 - 28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	8
29 - 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	25	14	7	8	15	14	14	50	77	75	27	22	51	147	77	34	657

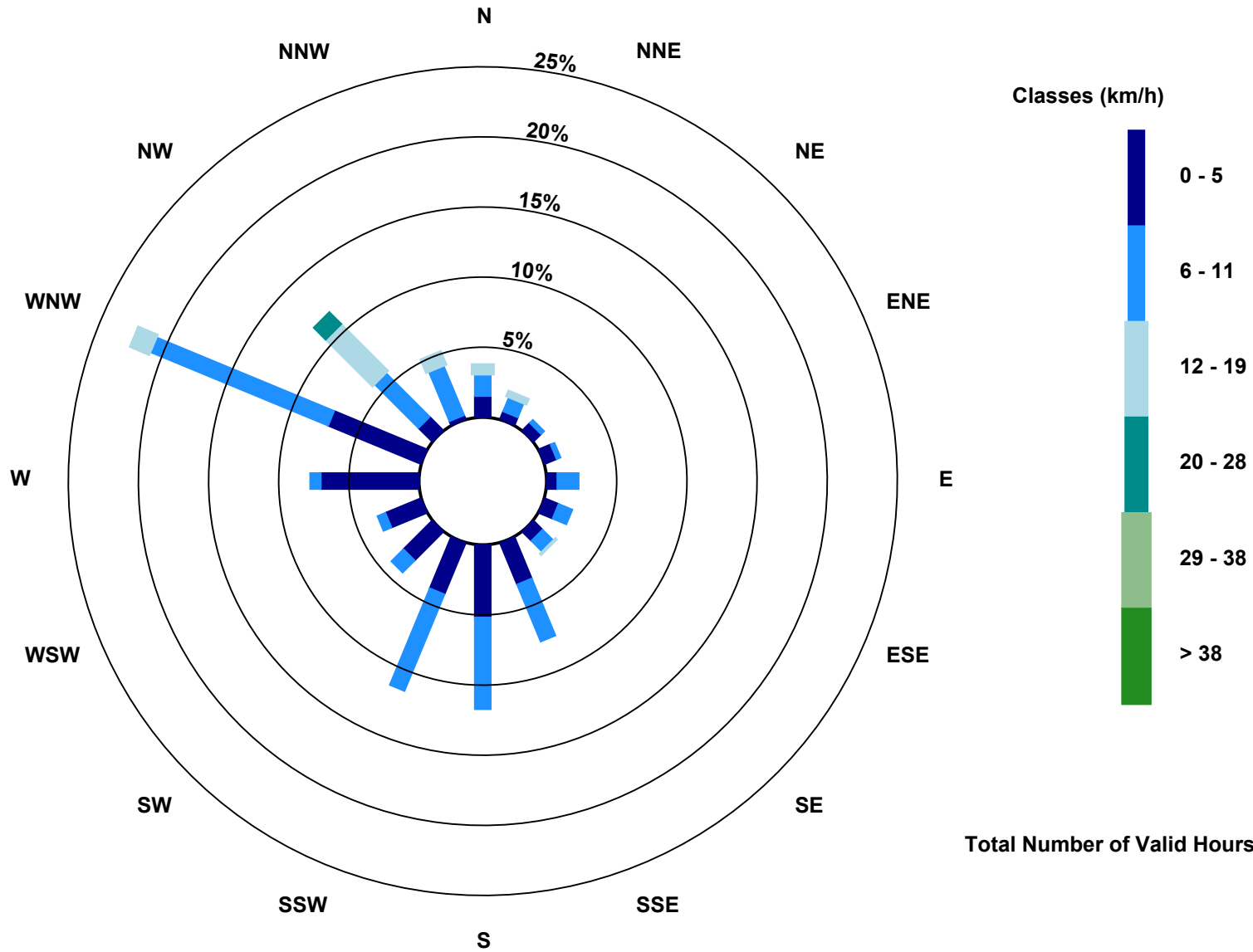
Total Number of Valid Hours: 657

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Wind Speed 10m (WS10) - km/h
Jackfish 1





Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Speed 10m (WS10) - km/h
Jackfish 1 - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 8 km/h on Jan 24 09:00 Minimum Value: 1 km/h on Jan 19 04:00 Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 1 Median = 2 Q ₃ = 3 P ₉₀ = 3 P ₉₉ = 6														Hours in Service: 744 Hours of Data: 657 Hours of Missing Data: 87 Hours of Calibration: 0 Percent Operational Time: 88.3												
Day	Hourly Period Ending At (MST)																								Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	1	2	1	1	1	1	1	2	2	2	2	2	2	2	2	1	2	1	1	2	1	2	2	2	2	2
2-Jan	2	2	2	1	1	2	2	2	1	1	1	1	1	1	2	1	1	1	2	1	1	1	1	1	1	2
3-Jan	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	1	1	2	2	2	2	2	1	1	2	2
4-Jan	2	2	2	2	2	2	1	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2
5-Jan	1	1	1	1	1	1	1	1	2	2	2	2	2	2	3	2	2	2	2	2	1	1	1	1	3	
6-Jan	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	3	3	2	2	3	
7-Jan	3	2	3	3	3	2	2	2	3	3	3	3	3	4	4	4	3	3	3	3	3	3	3	2	4	
8-Jan	3	3	3	2	3	2	2	2	2	2	2	3	4	3	3	3	2	2	2	1	2	1	2	1	4	
9-Jan	1	2	1	1	2	2	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	2	2	3	3	
10-Jan	3	3	3	3	3	3	3	3	3	3	2	2	1	1	1	1	1	1	1	1	2	UO	UO	UO	3	
11-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	
12-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	
13-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	
14-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	4	
15-Jan	2	2	3	2	2	2	2	2	2	2	2	3	4	4	4	3	3	3	3	3	2	2	2	3	3	
16-Jan	1	1	2	2	3	3	3	3	3	2	2	2	2	2	4	5	5	6	6	6	5	4	3	3	6	
17-Jan	4	3	4	4	4	3	2	2	2	2	2	3	2	2	3	3	3	3	2	2	2	2	3	3	4	
18-Jan	3	2	2	3	2	1	1	2	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	2	3	
19-Jan	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	1	1	1	2	2	
20-Jan	1	1	1	2	2	2	2	2	2	2	3	3	4	3	3	4	3	4	4	4	3	3	3	3	4	
21-Jan	2	2	2	2	2	2	2	3	2	2	2	2	2	2	3	2	2	4	4	4	5	4	4	3	5	
22-Jan	4	4	3	1	1	1	2	3	2	3	3	4	3	2	2	2	1	1	2	1	2	2	2	2	4	
23-Jan	1	2	3	3	2	3	3	3	3	2	2	1	2	2	2	2	2	2	2	3	2	2	2	2	3	
24-Jan	2	2	2	4	3	3	4	6	8	6	7	5	6	6	6	4	3	2	1	1	2	2	2	2	8	
25-Jan	1	1	2	2	2	2	2	2	2	2	2	3	2	2	2	2	1	2	2	2	2	2	1	2	3	
26-Jan	2	2	2	2	2	2	2	2	2	3	3	2	2	3	3	3	3	2	2	2	1	2	2	1	3	
27-Jan	2	2	2	1	1	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	3	3	3	2	4	
28-Jan	3	3	3	3	2	2	2	2	3	2	3	3	3	3	3	2	2	2	1	1	2	2	1	1	3	
29-Jan	1	1	1	1	1	1	2	1	1	1	2	1	1	1	1	2	2	2	2	3	3	3	3	4	4	
30-Jan	4	4	4	2	2	2	3	2	3	2	3	2	2	2	1	1	1	1	1	1	1	1	1	1	4	
31-Jan	1	1	1	1	2	2	2	2	2	2	2	2	2	2	3	3	4	4	4	4	2	2	3	2	4	
Diurnal Maximum																										
4 4 4 4 4 3 4 6 8 6 7 5 6 6 6 5 5 6 6 6 5 4 4 4																										
UO - Unstable Operation																										



Wood Buffalo Environmental Association
Summary of Hour Averages

Wind Direction 10m (WD10) - deg
Jackfish 1 - January 2025

Direction of Maximum Speed: 316 deg on Jan 24 09:00	Hours in Service: 744
Direction of Maximum Daily Speed Average: 309.6 deg on Jan 24	Hours of Data: 657
Direction of Minimum Speed: 104 deg on Jan 16 10:00	Hours of Missing Data: 87
Direction of Minimum Daily Speed Average: 0.8 deg on Jan 29	Percent Operational Time: 88.3
Monthly Average Direction: 279.6 deg	

Day	Hourly Period Ending At (MST)																								Daily Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	312	302	290	274	277	279	298	304	307	316	323	323	323	333	333	336	333	352	352	6	358	344	330	345	324.4
2-Jan	343	345	353	358	340	323	318	312	315	316	321	341	6	308	2	65	146	184	176	181	188	179	170	183	330.6
3-Jan	188	183	174	175	173	175	173	172	173	166	165	167	160	166	162	153	152	155	153	155	155	160	164	152	163.7
4-Jan	153	156	155	157	164	163	166	161	163	158	162	162	158	158	156	158	163	160	169	182	183	174	172	161.9	
5-Jan	179	181	186	203	272	299	303	308	318	330	326	325	327	325	322	329	330	356	22	16	11	23	60	91	330.1
6-Jan	353	61	132	141	149	139	153	158	163	169	168	169	171	177	171	186	182	186	192	190	189	199	192	190	174.5
7-Jan	202	190	204	197	195	186	192	194	190	200	213	211	198	199	197	201	194	189	194	194	185	195	203	192	196.8
8-Jan	214	226	237	276	283	286	286	287	292	293	291	291	297	296	293	294	300	300	295	273	282	284	280	283	286.1
9-Jan	285	283	284	290	288	280	273	275	274	282	280	301	314	358	125	207	190	185	175	169	165	168	164	170	235.9
10-Jan	171	167	164	166	170	178	181	185	202	213	202	274	278	285	291	298	296	298	301	309	314	UO	UO	UO	211.0
11-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--
12-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--
13-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--
14-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--
15-Jan	287	288	289	290	289	289	289	291	294	289	289	301	300	298	300	280	230	206	219	210	215	206	193	169	278.0
16-Jan	168	165	132	132	121	128	136	130	149	104	114	105	35	36	25	28	17	11	2	357	347	332	329	321	26.4
17-Jan	321	321	322	320	325	323	322	322	323	328	327	332	324	321	322	327	326	324	321	321	312	313	316	320	322.0
18-Jan	319	324	324	314	290	289	299	301	183	160	188	229	218	277	241	204	202	210	209	212	198	161	206	249	276.6
19-Jan	252	288	253	265	266	270	286	286	296	310	311	321	327	324	326	327	327	310	320	294	214	268	192	212	305.3
20-Jan	203	176	177	176	174	171	175	176	177	176	174	173	182	184	176	185	192	193	199	206	210	230	262	292	189.6
21-Jan	286	287	285	202	265	288	289	286	291	293	289	290	292	292	301	302	306	324	337	350	325	323	330	321	307.5
22-Jan	318	321	313	290	287	286	295	305	306	311	316	316	310	303	293	283	276	280	215	201	203	202	199	185	295.1
23-Jan	174	178	184	190	183	189	198	207	232	252	262	296	275	291	291	289	289	292	295	297	294	297	293	291	257.0
24-Jan	289	288	289	293	293	298	301	312	316	318	323	319	318	317	320	318	309	305	290	270	275	285	286	279	309.6
25-Jan	279	218	215	211	216	209	216	214	210	208	212	243	280	292	269	286	276	281	285	284	284	280	271	235	238.7
26-Jan	210	200	203	199	203	206	200	213	251	281	280	252	217	247	262	240	220	261	281	289	296	295	296	293	244.7
27-Jan	284	279	249	288	256	254	253	226	227	245	274	191	204	218	213	234	224	247	276	291	286	292	294	293	259.7
28-Jan	293	291	295	300	290	281	276	289	289	290	292	298	300	302	294	292	291	286	287	276	281	277	263	260	291.6
29-Jan	249	251	246	240	223	206	197	207	205	208	218	214	144	123	106	87	97	51	41	15	16	27	21	355	51.0
30-Jan	352	1	353	340	333	347	350	345	344	12	4	18	7	351	21	11	21	47	51	54	83	87	90	57	2.9
31-Jan	66	74	109	79	105	116	120	123	125	129	124	117	103	98	88	97	98	94	96	94	67	66	105	80	102.3

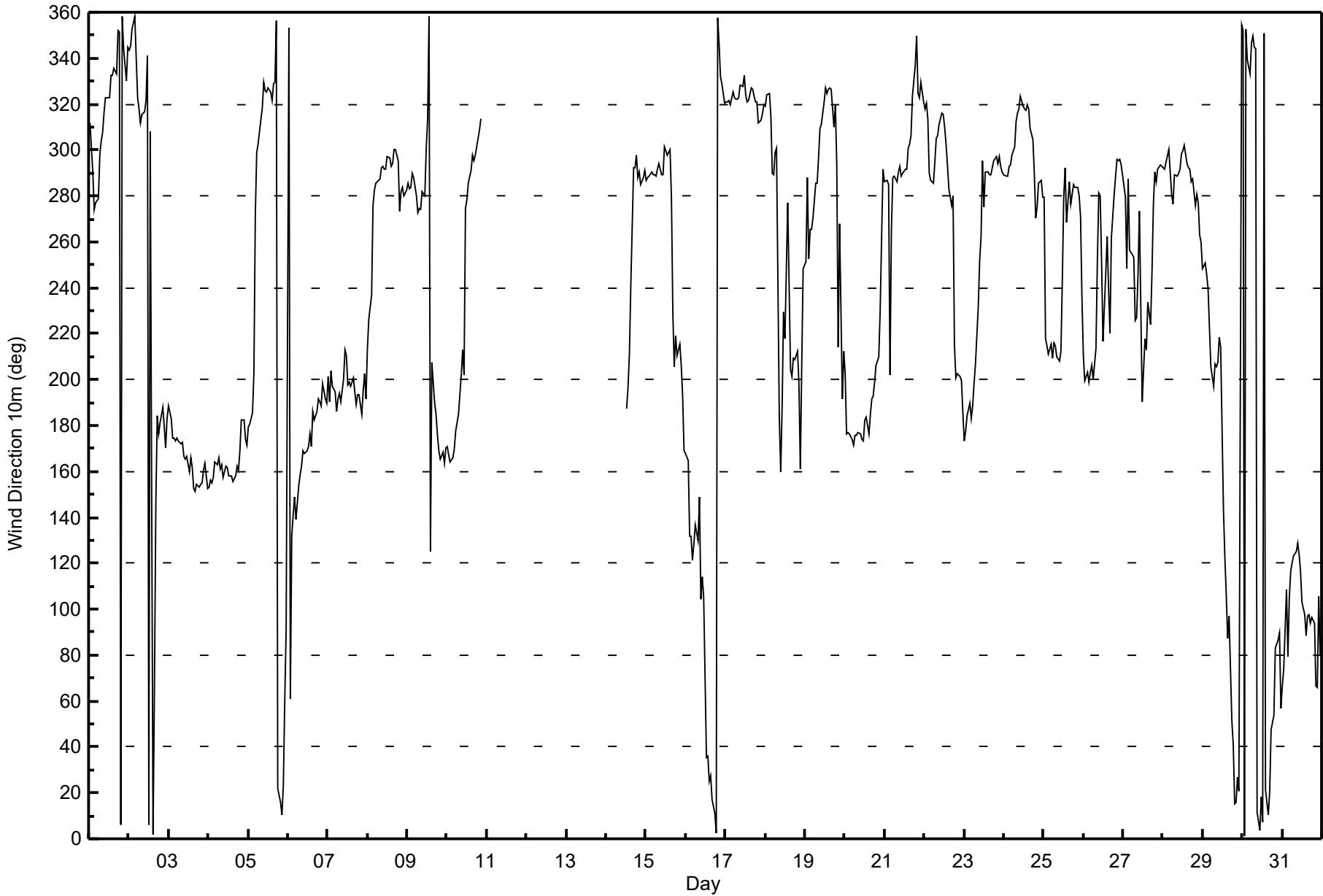
285.6 282.1 260.3 254.0 247.8 240.4 247.0 261.4 273.2 281.8 286.5 293.4 290.3 289.8 294.4 292.9 289.4 295.7 293.9 292.1 285.6 281.3 283.9 287.8
 Diurnal Average

UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods



Wood Buffalo Environmental Association
Hourly Averages

Wind Direction 10m (WD10) - deg
Jackfish 1 - January 2025





Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg
Jackfish 1 - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 97 deg on Jan 16 10:00	Hours of Data: 657
Minimum Value: 9 deg on Jan 19 10:00	Hours of Missing Data: 87
Percentiles: P ₁ = 11 P ₁₀ = 13 Q ₁ = 17 Median = 24 Q ₃ = 34 P ₉₀ = 52 P ₉₉ = 79	Hours of Calibration: 0
	Percent Operational Time: 88.3

Day	Hourly Period Ending At (MST)																								Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	9	22	20	28	34	24	29	29	22	12	14	14	15	20	18	13	17	20	22	22	21	20	17	23	34	
2-Jan	24	23	22	19	17	35	25	18	11	10	16	26	28	43	42	25	63	17	69	12	50	10	11	13	69	
3-Jan	13	10	11	11	11	11	14	11	11	14	16	21	23	23	20	15	11	14	13	13	13	16	13	12	23	
4-Jan	13	13	13	15	15	17	18	16	19	19	22	20	20	21	21	20	20	23	21	23	30	30	29	26	30	
5-Jan	26	20	25	27	45	22	19	15	14	15	15	15	15	15	15	15	14	30	24	29	24	22	31	25	45	
6-Jan	39	37	30	18	22	18	20	20	17	29	25	28	25	26	26	33	33	33	29	35	36	34	31	30	39	
7-Jan	32	25	28	22	24	25	29	23	28	31	32	39	36	42	37	41	63	47	42	46	41	37	49	55	63	
8-Jan	73	73	79	78	50	42	40	35	38	27	21	22	21	16	17	17	13	12	17	34	29	27	47	24	79	
9-Jan	23	26	23	14	23	35	43	69	43	23	34	16	20	70	39	34	16	16	15	13	11	14	19	19	70	
10-Jan	22	22	22	21	21	24	33	30	40	43	31	70	42	38	45	25	16	15	15	12	26	UO	UO	UO	70	
11-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	
12-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	
13-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	
14-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	28	35	51	79	82	66	73	49	39	33	42	42	82
15-Jan	36	52	59	34	26	26	24	20	16	22	25	14	16	20	16	67	39	23	25	23	20	17	25	12	67	
16-Jan	11	11	17	14	15	15	15	17	56	97	81	31	29	31	28	30	30	29	27	26	25	18	15	12	97	
17-Jan	12	12	12	12	14	13	12	12	12	15	14	21	14	14	14	16	14	12	10	11	12	11	12	11	21	
18-Jan	11	11	11	15	28	16	17	44	41	30	53	52	62	69	64	39	18	19	21	28	60	63	41	66	69	
19-Jan	40	34	32	12	20	27	30	17	14	9	14	13	16	14	14	16	15	21	17	34	33	87	33	21	87	
20-Jan	24	16	16	17	15	14	17	18	22	25	28	32	32	30	24	30	32	29	28	31	29	55	74	47	74	
21-Jan	37	28	38	30	50	37	33	35	49	45	31	26	25	22	14	12	13	14	22	25	15	14	16	13	50	
22-Jan	12	13	18	20	19	19	17	12	12	14	14	15	15	15	24	31	42	68	59	22	22	22	25	24	68	
23-Jan	17	23	26	28	28	29	34	51	62	75	80	27	51	36	42	50	28	17	14	13	16	13	17	19	80	
24-Jan	20	25	36	18	17	15	13	13	14	13	15	13	14	13	14	14	12	15	28	31	49	37	27	34	49	
25-Jan	48	75	26	20	22	19	24	21	21	21	24	62	58	68	59	38	40	55	38	31	37	40	58	61	75	
26-Jan	28	19	19	20	20	27	20	54	71	67	65	68	54	54	66	65	60	68	42	21	18	14	15	14	71	
27-Jan	27	36	53	78	39	32	24	28	27	55	70	36	44	49	48	69	68	76	77	56	42	23	20	18	78	
28-Jan	21	18	16	13	19	32	41	24	22	28	23	17	13	13	17	19	20	27	21	51	34	45	64	48	64	
29-Jan	55	46	49	36	36	21	19	23	19	34	38	49	31	17	20	26	25	32	29	25	27	29	28	30	55	
30-Jan	26	24	25	26	20	25	26	25	25	24	35	40	31	28	42	34	36	33	21	23	25	33	32	35	42	
31-Jan	50	29	21	26	23	17	14	13	14	15	18	22	24	24	26	24	24	26	26	28	25	24	23	29	50	
Diurnal Maximum																										
73 75 79 78 50 42 43 69 71 97 81 70 62 70 66 79 82 76 77 56 60 87 74 66																										

UO - Unstable Operation



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS508 KIRBY NORTH JANUARY 2025

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

February 28, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - KIRBY NORTH (AMS 508)
 JANUARY 2025

MONTHLY SUMMARY

Parameter	Hours of Data	Hours of Calibration	Hours without Data	Operational Time	Maximum 1-Hour Value	1-Hour Exceedances	Maximum 24-Hour Value	24-Hour Exceedances
SO2 (ppb) Average	709	35	35	100	6.4	0	3.2	0
H2S (ppb) Average	706	38	38	100	0.7	0	0.1	0
THC (ppm) Average	709	35	35	100	2.6	-	2.5	-
NO2 (ppb) Average	707	37	37	100	10.7	0	7.8	-
NO (ppb) Average	707	37	37	100	4.8	-	0.8	-
NOX (ppb) Average	707	37	37	100	11.3	-	8.2	-
Temperature 2 m (C) Average	744	0	0	100	5.2	-	0.6	-
Relative Humidity (%) Average	744	0	0	100	97.7	-	91.8	-
Wind Speed 10 m (km/h) Average	732	0	12	98.39	31	-	20	-
Wind Direction 10 m (deg) Average	732	0	12	98.39	-	-	-	-

Note : Operational time includes periods of data collection and instrument calibration

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - KIRBY NORTH (AMS508)
 JANUARY 2025

MONTHLY SUMMARY FOR AIR QUALITY/ METEOROLOGICAL MONITORING MEASUREMENTS

Parameter	Number	Mean	StnDev	Total	Percentile						
					Min	P10	Q1	Median	Q3	P90	Max
SO2 (ppb) Average	709	0.69	1	-	0	0	0.1	0.3	0.9	1.9	6.4
H2S (ppb) Average	706	0.08	0.1	-	0	0	0	0.1	0.1	0.1	0.7
THC (ppm) Average	709	2.34	0.1	-	2.2	2.2	2.3	2.3	2.4	2.4	2.6
NO2 (ppb) Average	707	2.24	1.8	-	0.1	0.6	1	1.7	2.8	4.6	10.7
NO (ppb) Average	707	0.28	0.5	-	0	0	0	0.1	0.3	0.8	4.8
NOX (ppb) Average	707	2.52	2.1	-	0.1	0.6	1.1	1.8	3.3	5.5	11.3
Temperature 2 m (C) Average	744	-11.23	9.3	-	-31.1	-24.6	-19.1	-9.1	-3.2	0.2	5.2
Relative Humidity (%) Average	744	78.54	11.1	-	38.5	64.2	75.3	79.9	85.6	91	97.7
Wind Speed 10 m (km/h) Average	732	11.9	6	-	1	5	8	12	15	19	31
Wind Direction 10 m (deg) Average	732	-	-	-	-	-	-	-	-	-	-

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - KIRBY NORTH (AMS508)
JANUARY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
Wind Speed, Wind Direction	11 Jan 2025 20:00	12 Jan 2025 06:00	11	Flat line in sensor output signal - Sensor frozen
Wind Speed, Wind Direction	13 Jan 2025 00:00	13 Jan 2025 00:00	1	Flat line in sensor output signal - Sensor frozen



Wood Buffalo Environmental Association
Summary of Hour Averages

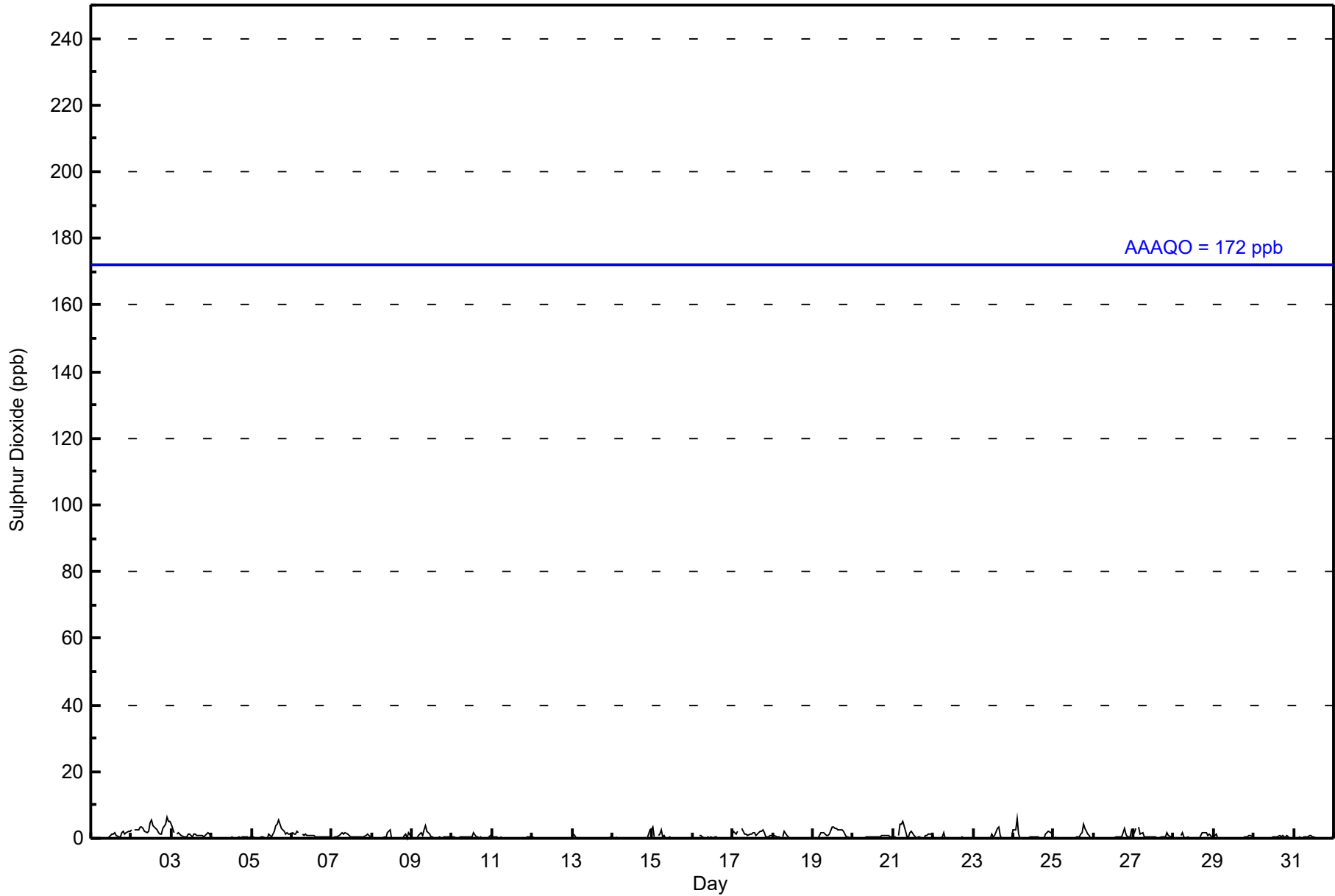
Sulphur Dioxide (SO₂) - ppb
Kirby North - January 2025

Number of Exceedences (AAAQO):		1-hr: 0 24-hr: 0		Hours in Service:		744																				
Maximum Value: 6.4 ppb on Jan 2 22:00		Maximum Daily Average: 3.2 ppb on Jan 2		Hours of Data:		709																				
Minimum Value: 0.0 ppb on Jan 4 05:00		Minimum Daily Average: 0.0 ppb on Jan 12		Hours of Missing Data:		35																				
Maximum Diurnal Average: 0.9 ppb at hour 6		Minimum Diurnal Average: 0.4 ppb at hour 10		Hours of Calibration:		35																				
Monthly Average: 0.69 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.3 Q ₃ = 0.9 P ₉₀ = 1.9 P ₉₉ = 4.8		Percent Operational Time:		100.0																				
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	Z	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.9	1.1	1.3	1.5	1.0	0.5	0.4	1.6	1.9	1.2	1.8	2.1	2.1	0.8	2.1
2-Jan	2.5	Z	2.4	2.6	2.7	3.4	3.5	3.0	2.0	1.5	2.1	4.8	5.4	3.8	2.9	2.6	1.8	1.2	1.2	2.9	4.2	6.4	5.3	5.0	3.2	6.4
3-Jan	4.3	1.9	Z	1.2	1.6	1.2	0.8	0.5	0.4	0.6	1.1	1.4	0.6	1.4	1.2	1.0	1.0	0.8	0.7	0.5	0.8	1.3	1.5	0.6	1.1	4.3
4-Jan	0.2	0.2	0.1	Z	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.3	0.3	0.2	0.3	0.2	0.4
5-Jan	0.3	0.2	0.1	0.2	Z	0.2	0.2	0.2	0.2	0.2	1.1	0.9	0.6	2.0	3.8	4.4	5.6	4.0	3.0	2.1	1.4	1.6	1.4	1.4	1.5	5.6
6-Jan	1.7	1.3	1.2	2.2	1.8	Z	1.2	1.0	1.1	0.8	0.9	0.9	0.8	0.6	0.5	0.6	0.5	0.6	0.3	0.3	0.3	0.4	0.3	0.4	0.9	2.2
7-Jan	Z	0.6	0.6	0.6	0.8	1.2	1.5	1.5	1.6	1.1	0.7	0.6	0.5	0.5	0.4	0.3	0.4	0.4	0.3	0.5	0.8	1.2	0.9	0.6	0.8	1.6
8-Jan	0.4	Z	0.2	0.1	0.1	0.0	0.0	0.3	0.1	1.7	2.1	2.5	0.1	C	C	C	C	0.0	0.0	0.8	1.2	0.1	1.6	0.3	0.6	2.5
9-Jan	0.1	0.0	Z	0.0	1.1	1.6	1.0	2.4	3.6	2.2	1.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.7	3.6
10-Jan	0.3	0.4	0.3	Z	0.3	0.3	0.3	0.3	0.4	0.5	0.4	0.4	0.5	1.6	0.5	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.6	0.7	0.4	1.6
11-Jan	0.6	0.5	0.4	0.4	Z	0.3	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.1	0.1	0.3	0.2	0.3	0.2	0.6
12-Jan	0.3	0.2	0.1	0.1	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.3
13-Jan	Z	1.3	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.5	0.1	1.3	
14-Jan	0.4	Z	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	2.6	2.7	0.3	2.7	
15-Jan	3.2	0.3	Z	0.9	1.5	2.4	0.5	0.7	0.1	0.0	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.5	3.2
16-Jan	0.0	0.0	0.2	Z	0.9	0.9	0.3	0.1	0.1	0.5	0.1	0.3	0.1	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.9
17-Jan	2.1	1.9	1.2	2.0	Z	3.2	2.2	1.3	1.4	1.0	1.1	1.3	1.8	1.6	1.0	1.8	2.3	2.2	2.6	1.8	0.4	0.4	0.7	0.8	1.6	3.2
18-Jan	0.9	0.7	0.4	0.5	0.5	Z	0.6	1.9	0.7	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.0	0.0	0.4	1.9
19-Jan	Z	0.0	0.0	0.1	1.1	1.6	1.6	1.2	0.9	0.7	1.5	3.5	3.4	3.1	2.8	2.4	2.5	2.4	2.2	1.4	0.6	0.2	0.0	0.0	1.4	3.5
20-Jan	0.0	Z	0.1	0.1	0.0	0.0	0.0	0.1	0.3	0.3	0.3	0.4	0.3	0.4	0.6	0.6	0.6	0.7	0.7	0.8	0.9	0.8	0.6	0.5	0.4	0.9
21-Jan	0.4	0.5	Z	0.9	4.3	4.3	4.9	2.3	0.4	0.5	1.7	2.0	1.0	0.6	0.1	0.3	0.3	0.1	0.1	0.9	0.8	1.4	1.3	1.4	1.3	4.9
22-Jan	0.1	0.1	0.1	Z	0.1	0.3	1.5	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.0	0.1	0.1	0.5	0.0	0.1	0.1	0.0	0.0	0.0	0.2	1.5
23-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.1	0.1	0.0	0.0	0.0	1.1	0.5	0.9	3.0	3.6	0.8	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.4	3.6
24-Jan	2.5	2.7	6.1	1.5	0.1	Z	0.0	0.0	0.0	0.1	0.4	0.5	0.4	0.4	0.2	0.3	0.1	0.0	0.0	1.1	1.7	1.9	1.8	0.9	1.0	6.1
25-Jan	Z	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.6	0.6	1.1	1.5	4.2	2.8	1.2	0.8	0.1	0.1	0.6	4.2
26-Jan	0.1	Z	0.2	0.1	0.1	0.0	0.0	0.1	0.2	0.1	0.2	0.2	0.2	0.3	0.3	0.2	0.3	0.2	2.8	1.1	0.3	0.5	0.4	2.7	0.5	2.8
27-Jan	1.8	3.1	Z	3.4	1.3	1.8	0.3	0.4	0.4	0.5	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.4	0.4	0.4	1.8	0.8	0.3	0.4	0.8	3.4
28-Jan	0.2	0.2	0.1	Z	0.9	1.5	0.6	0.2	0.3	0.2	0.1	0.1	0.2	0.1	0.0	0.0	0.7	1.6	1.8	1.5	0.8	1.1	0.7	0.0	0.6	1.8
29-Jan	0.6	1.3	0.0	0.1	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	1.0	0.9	0.2	0.2	1.3
30-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.3	0.4	0.5	0.5	0.8	0.6	0.8	0.2	0.5	0.7	0.1	0.1	0.1	0.2	0.8
31-Jan	Z	0.1	0.2	0.2	0.2	0.2	0.4	0.5	0.6	0.7	0.6	0.4	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.0	0.3	0.3	0.7
																								Diurnal Average		
																								Diurnal Maximum		
																								0.9 0.7 0.6 0.7 0.7 0.9 0.7 0.6 0.5 0.4 0.6 0.8 0.6 0.7 0.7 0.7 0.7 0.6 0.8 0.7 0.7 0.8 0.8 0.7		
																								4.3 3.1 6.1 3.4 4.3 4.3 4.9 3.0 3.6 2.2 2.1 4.8 5.4 3.8 3.8 4.4 5.6 4.0 4.2 2.9 4.2 6.4 5.3 5.0		
Z - zerospan C - Calibration																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb																										



Wood Buffalo Environmental Association
Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Kirby North - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Kirby North - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	709	100.00	100.00
11 - 20	0	0.00	100.00
21 - 60	0	0.00	100.00
61 - 110	0	0.00	100.00
111 - 172	0	0.00	100.00
> 172	0	0.00	100.00

Total Number of Valid Hours: 709

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Kirby North - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 10	51	39	22	12	17	7	9	18	81	130	59	41	28	81	44	59	698
11 - 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 - 60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61 - 110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111 - 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	51	39	22	12	17	7	9	18	81	130	59	41	28	81	44	59	698

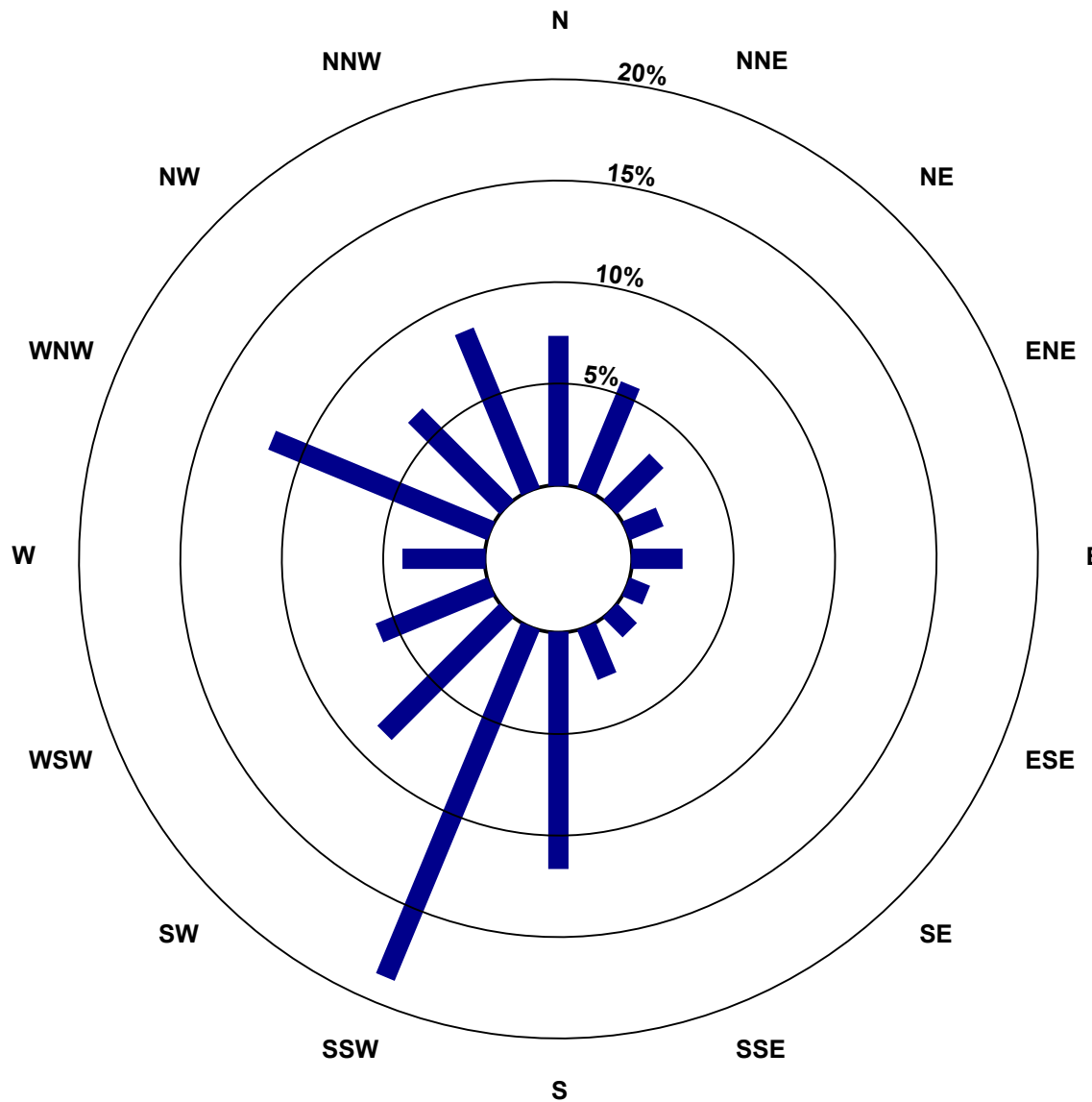
Total Number of Valid Hours: 698

Total Number of Hours: 744

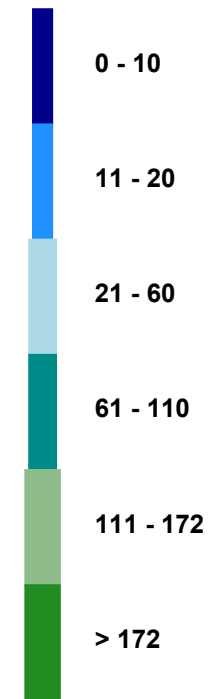


Wood Buffalo Environmental Association
Wind Rose Jan 2025

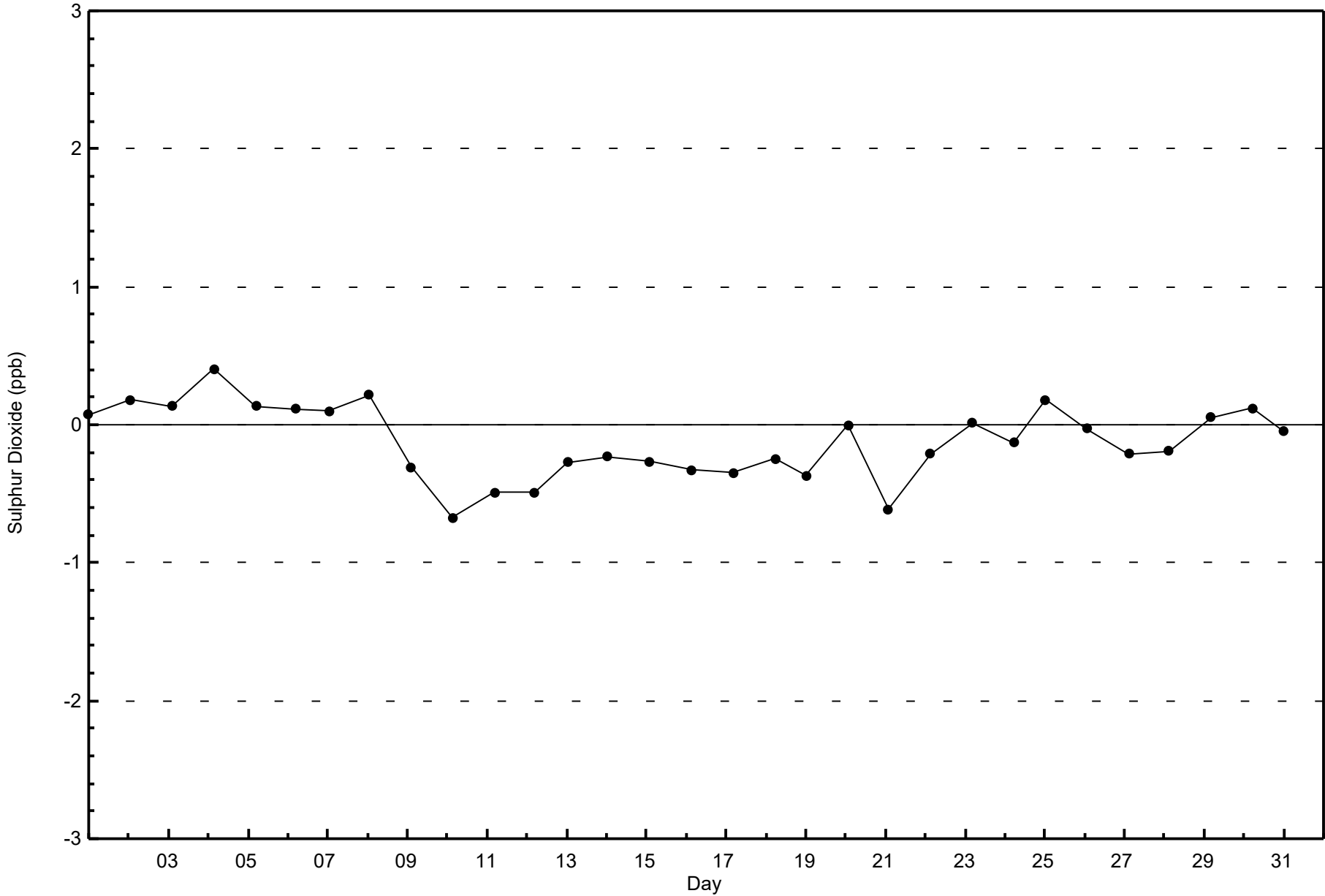
Sulphur Dioxide (SO₂) - ppb
Kirby North

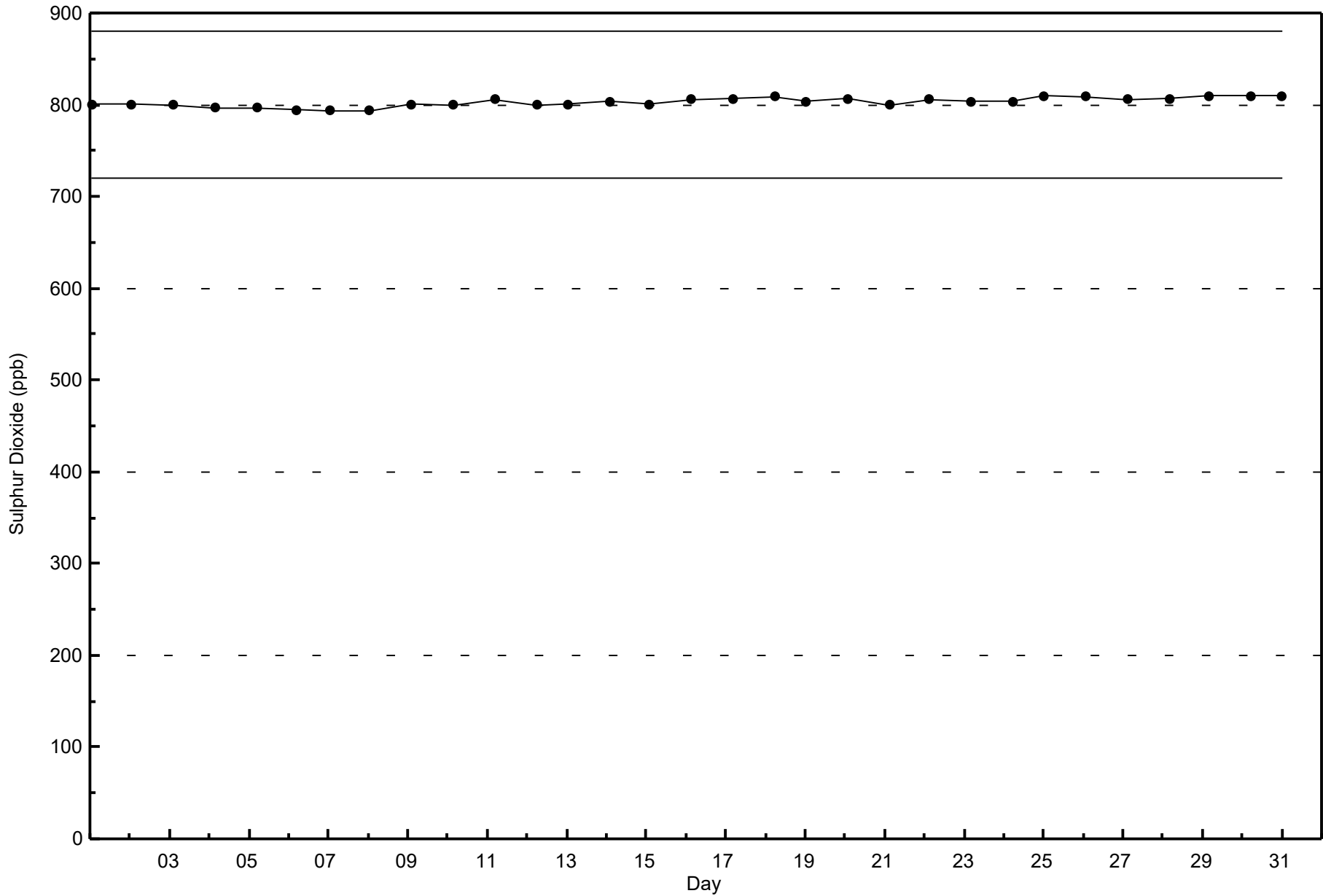


Classes (ppb)



Total Number of Valid Hours: 698

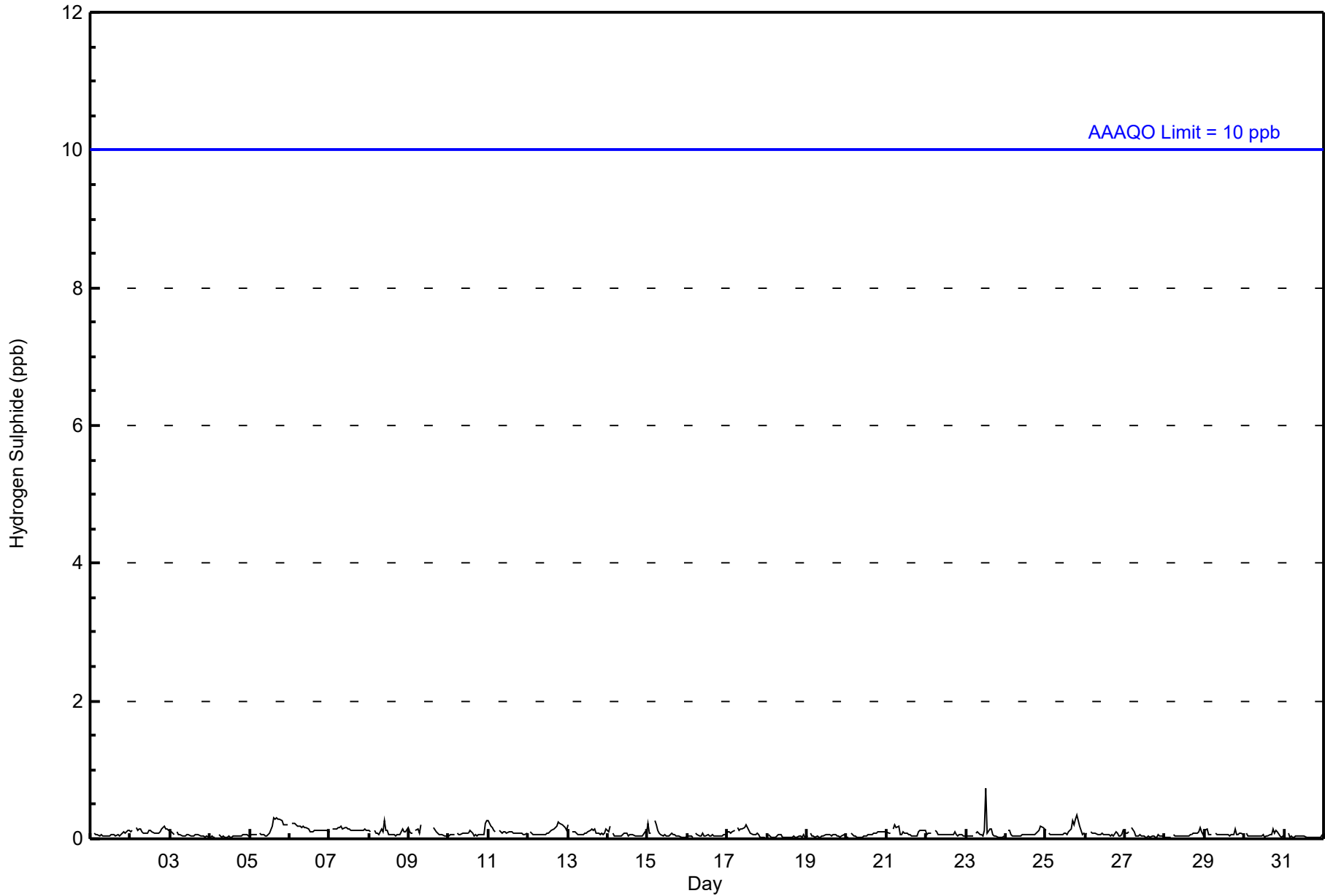






Wood Buffalo Environmental Association
Hourly Averages

Hydrogen Sulphide (H₂S) - ppb
Kirby North - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Hydrogen Sulphide (H₂S) - ppb
Kirby North - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	706	100.00	100.00
3 - 4	0	0.00	100.00
5 - 7	0	0.00	100.00
8 - 11	0	0.00	100.00
> 11	0	0.00	100.00

Total Number of Valid Hours: 706

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Hydrogen Sulphide (H₂S) - ppb
Kirby North - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2	50	40	22	13	16	8	9	18	83	128	57	43	28	77	45	58	695
3 - 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 - 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 - 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	50	40	22	13	16	8	9	18	83	128	57	43	28	77	45	58	695

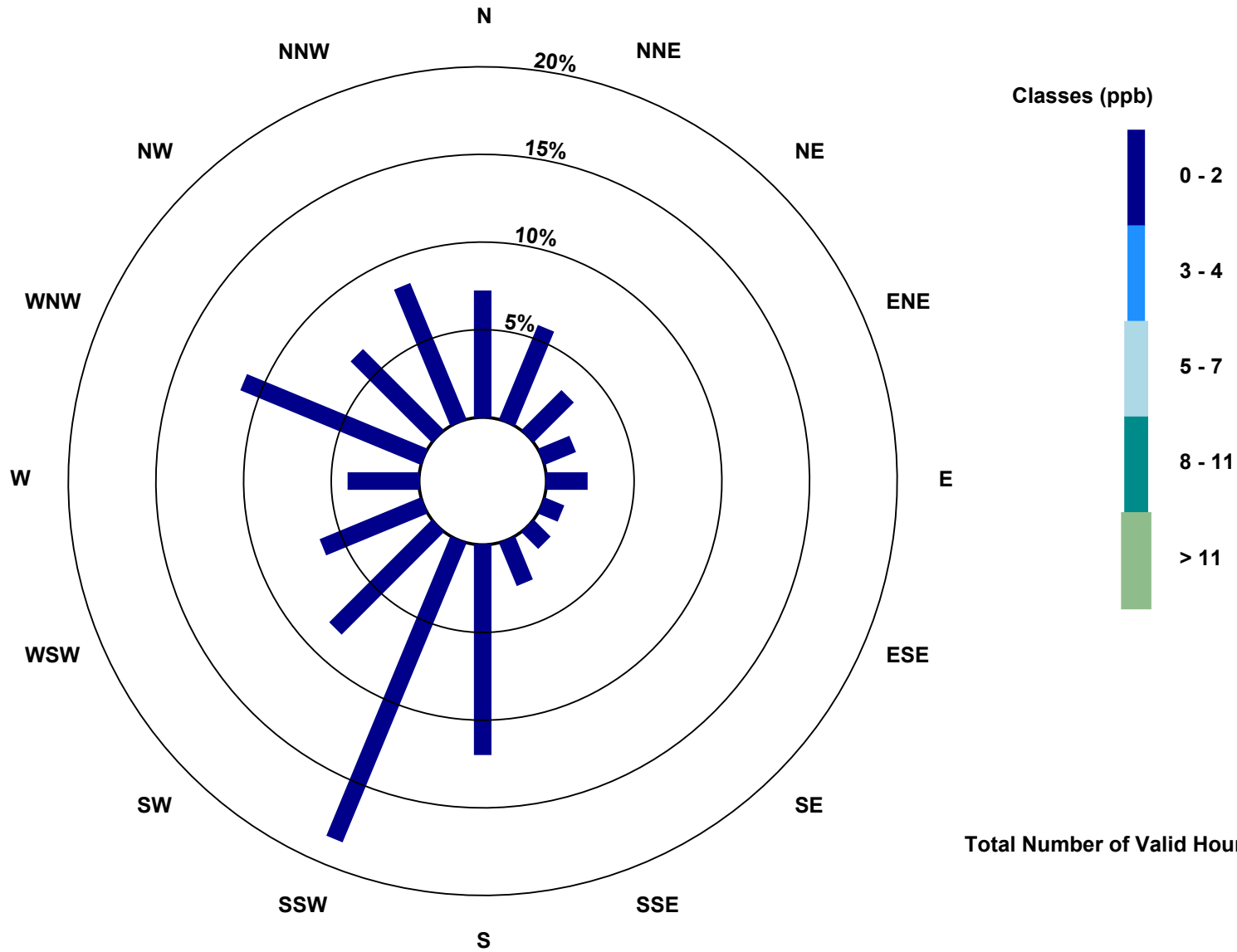
Total Number of Valid Hours: 695

Total Number of Hours: 744

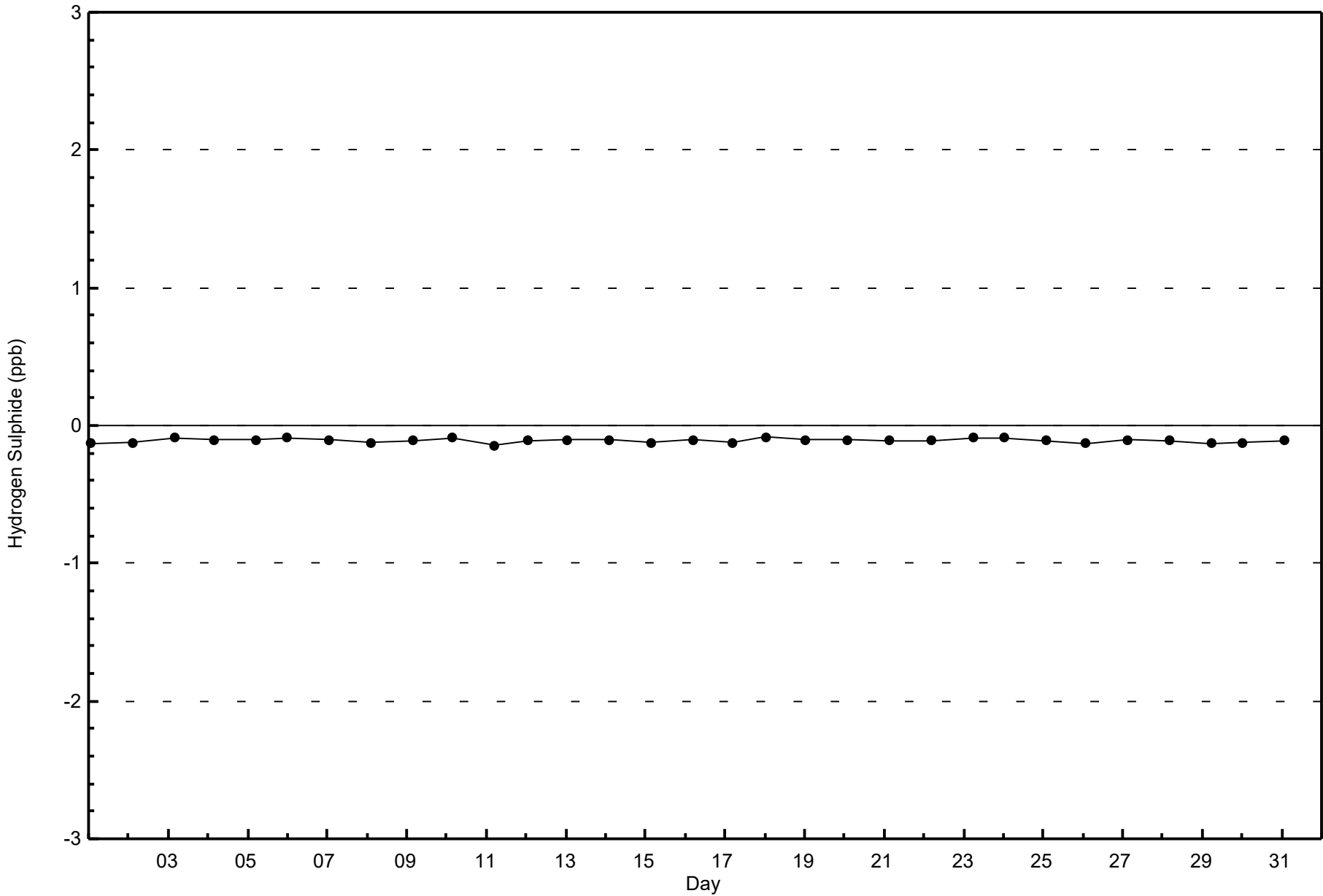


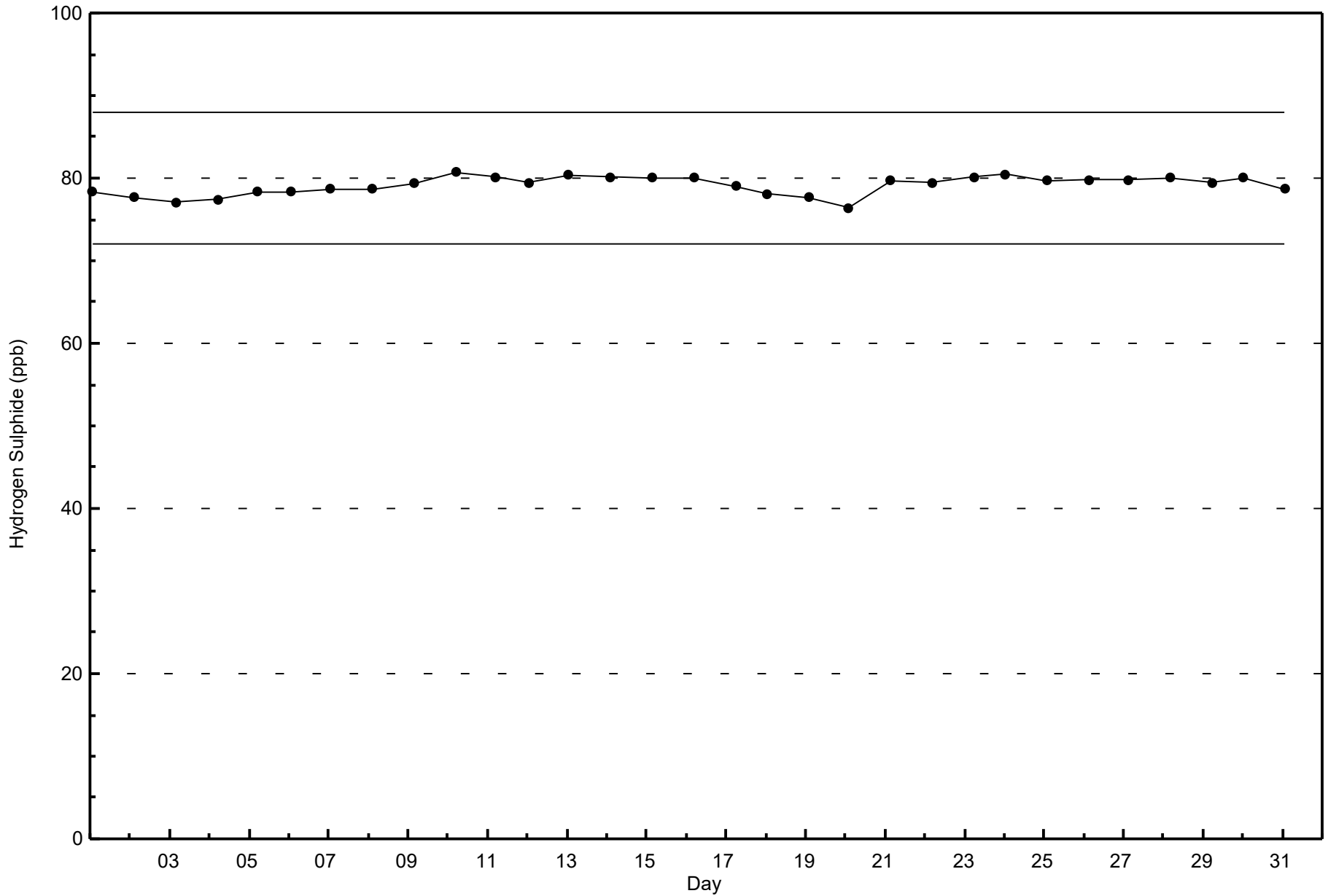
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Hydrogen Sulphide (H₂S) - ppb
Kirby North



Total Number of Valid Hours: 695







Wood Buffalo Environmental Association
Summary of Hour Averages

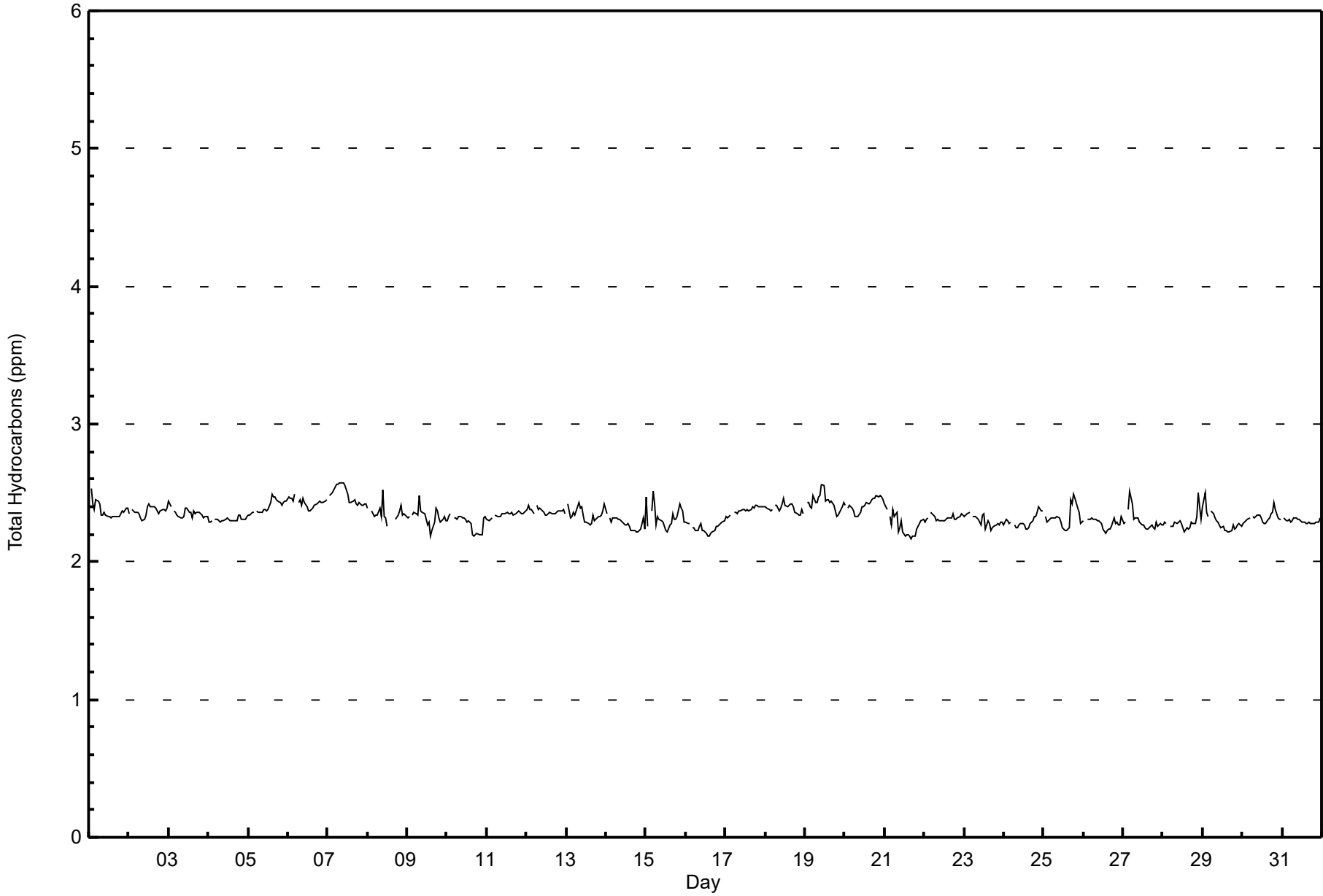
Total Hydrocarbons (THC) - ppm
Kirby North - January 2025

Maximum Value: 2.6 ppm on Jan 7 10:00		Maximum Daily Average: 2.5 ppm on Jan 7		Hours in Service: 744																																																
Minimum Value: 2.2 ppm on Jan 21 17:00		Minimum Daily Average: 2.2 ppm on Jan 16		Hours of Data: 709																																																
Maximum Diurnal Average: 2.4 ppm at hour 5		Minimum Diurnal Average: 2.3 ppm at hour 14		Hours of Missing Data: 35																																																
Monthly Average: 2.34 ppm		Percentiles: P ₁ = 2.2 P ₁₀ = 2.2 Q ₁ = 2.3 Median = 2.3 Q ₃ = 2.4 P ₉₀ = 2.4 P ₉₉ = 2.6		Hours of Calibration: 35																																																
				Percent Operational Time: 100.0																																																
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																										
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																												
1-Jan	Z	2.5	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.5																									
2-Jan	2.4	Z	2.4	2.4	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4																								
3-Jan	2.4	2.4	Z	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.3	2.4	2.3	2.4	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4																								
4-Jan	2.3	2.3	2.3	Z	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3																								
5-Jan	2.3	2.3	2.4	2.4	Z	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.5	2.5	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.5																								
6-Jan	2.5	2.5	2.5	2.4	2.5	Z	2.4	2.5	2.4	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.5	2.4	2.5																								
7-Jan	Z	2.5	2.5	2.5	2.5	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.5	2.4	2.4	2.4	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.5	2.6																								
8-Jan	2.4	Z	2.4	2.4	2.3	2.3	2.3	2.4	2.3	2.5	2.3	2.3	Z	C	C	C	C	2.3	2.3	2.4	2.4	2.3	2.3	2.3	2.3	2.4	2.5	2.5																								
9-Jan	2.3	2.3	Z	2.3	2.4	2.3	2.3	2.5	2.4	2.4	2.4	2.3	2.3	2.3	2.2	2.2	2.3	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.5																								
10-Jan	2.3	2.3	2.3	Z	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3																								
11-Jan	2.3	2.3	2.3	2.3	Z	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.3	2.4	2.3	2.3	2.4	2.4	2.4	2.3	2.3	2.4	2.3	2.3	2.4	2.4																								
12-Jan	2.4	2.4	2.4	2.4	2.4	Z	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.4	2.4	2.4	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.4	2.4																								
13-Jan	Z	2.4	2.3	2.3	2.4	2.3	2.4	2.4	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.3	2.4																								
14-Jan	2.3	Z	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3																								
15-Jan	2.5	2.3	Z	2.4	2.5	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.3	2.3	2.4	2.3	2.5																								
16-Jan	2.3	2.3	2.3	Z	2.2	2.2	2.2	2.2	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.3																								
17-Jan	2.3	2.3	2.3	2.3	Z	2.4	2.4	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4																								
18-Jan	2.4	2.4	2.4	2.4	2.4	Z	2.4	2.4	2.4	2.4	2.4	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.3	2.4	2.3	2.4	2.3	2.5																								
19-Jan	Z	2.4	2.4	2.4	2.4	2.5	2.4	2.4	2.5	2.5	2.6	2.6	2.4	2.5	2.5	2.4	2.4	2.4	2.4	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.6																								
20-Jan	2.4	Z	2.4	2.4	2.4	2.4	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.4	2.5																								
21-Jan	2.4	2.4	Z	2.3	2.3	2.4	2.3	2.4	2.2	2.2	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4																								
22-Jan	2.3	2.3	2.3	Z	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4																								
23-Jan	2.3	2.3	2.4	2.4	Z	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.3	2.3	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4																								
24-Jan	2.3	2.3	2.3	2.3	2.3	Z	2.3	2.2	2.2	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.4																								
25-Jan	Z	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.3	2.5	2.4	2.5	2.5	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.5																								
26-Jan	2.3	Z	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3																								
27-Jan	2.3	2.3	Z	2.4	2.5	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.3	2.3	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.5																								
28-Jan	2.3	2.3	2.3	Z	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.5	2.4	2.3	2.3	2.3	2.3	2.5																								
29-Jan	2.4	2.5	2.4	2.3	Z	2.4	2.4	2.3	2.3	2.3	2.3	2.2	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.5																								
30-Jan	2.3	2.3	2.3	2.3	2.3	Z	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.3	2.3	2.4																								
31-Jan	Z	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3																								
																								2.3	2.4	2.3	2.4	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	Diurnal Average	
																								2.5	2.5	2.5	2.5	2.5	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	Diurnal Maximum
Z - zerospan																								C - Calibration																												



Wood Buffalo Environmental Association
Hourly Averages

Total Hydrocarbons (THC) - ppm
Kirby North - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Hydrocarbons (THC) - ppm
Kirby North - January 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	0	0.00	0.00
2.1 - 3.0	709	100.00	100.00
3.1 - 10.0	0	0.00	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 709

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Total Hydrocarbons (THC) - ppm
Kirby North - January 2025**

Concentration Ranges (ppm)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.1 - 3.0	51	39	22	12	17	7	9	18	81	130	59	41	28	81	44	59	698
3.1 - 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	51	39	22	12	17	7	9	18	81	130	59	41	28	81	44	59	698

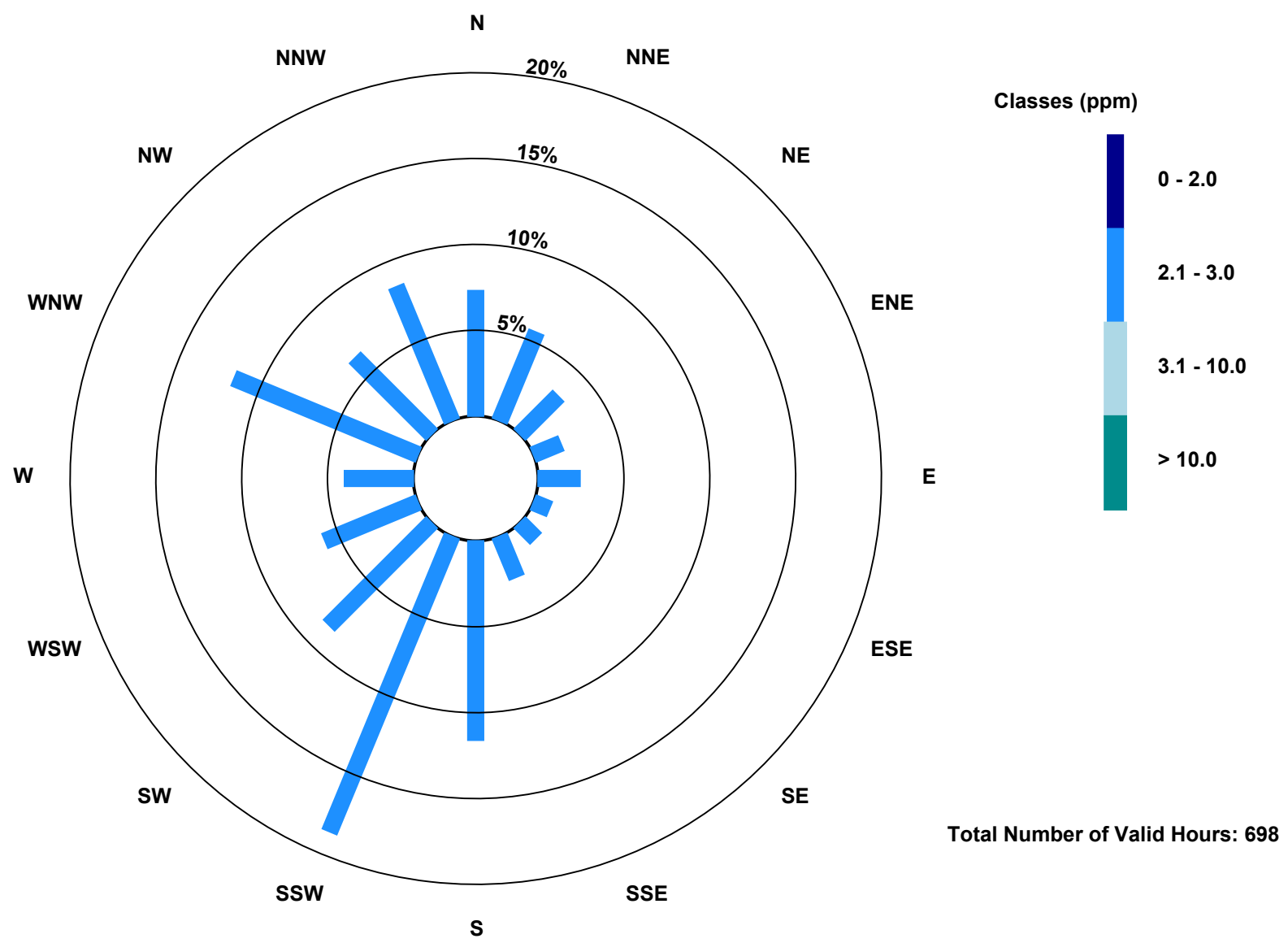
Total Number of Valid Hours: 698

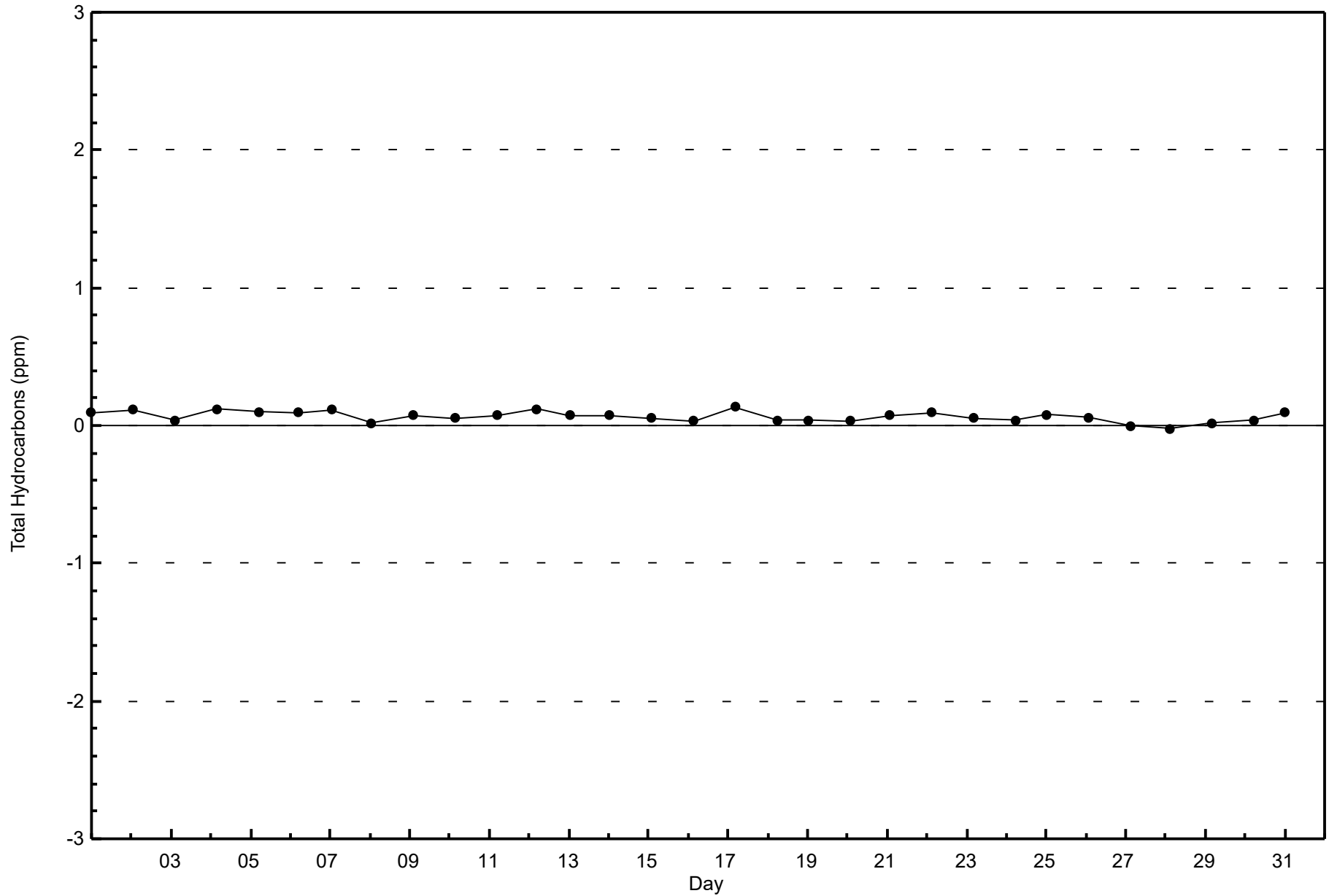
Total Number of Hours: 744

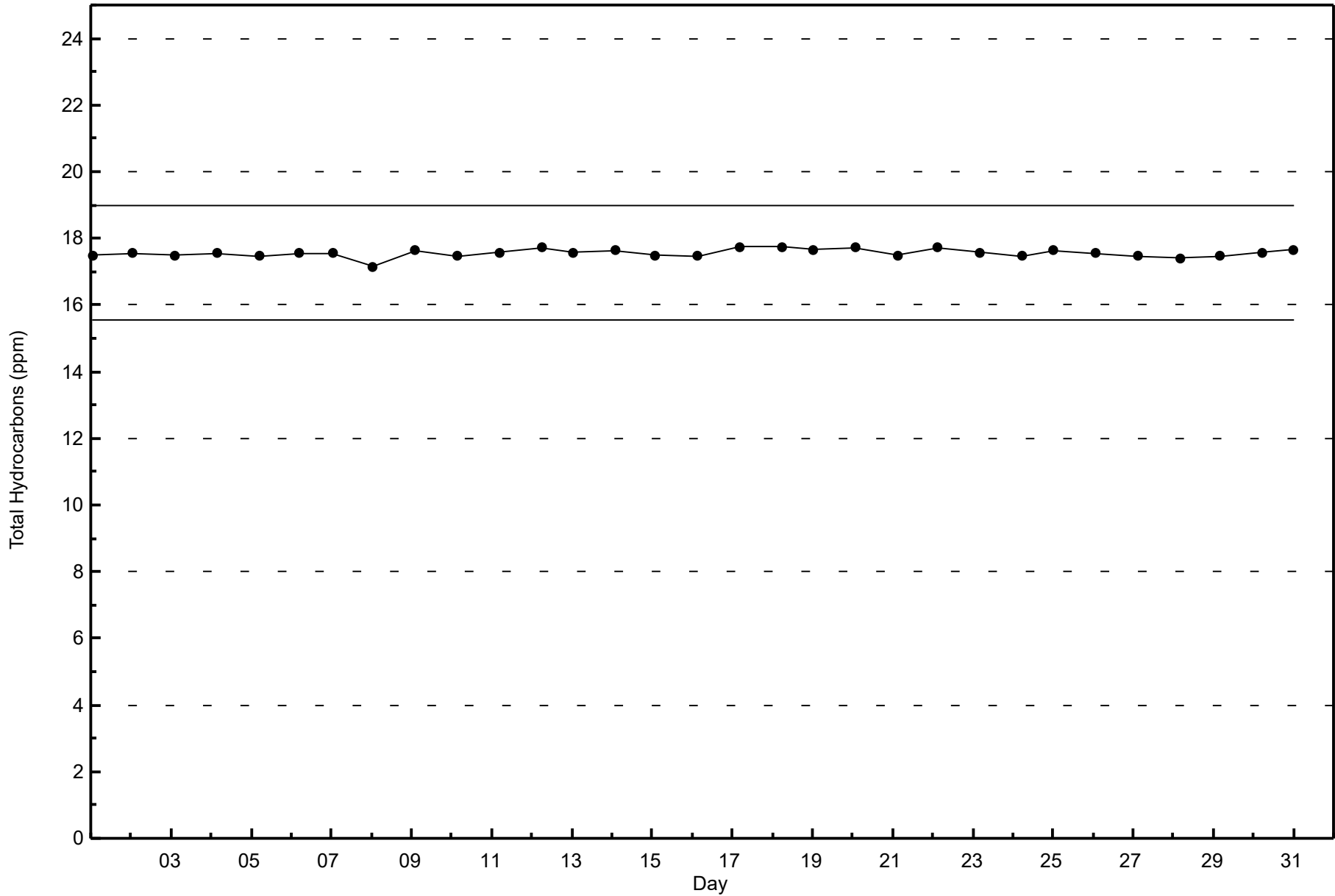


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Total Hydrocarbons (THC) - ppm
Kirby North









Wood Buffalo Environmental Association
Summary of Hour Averages

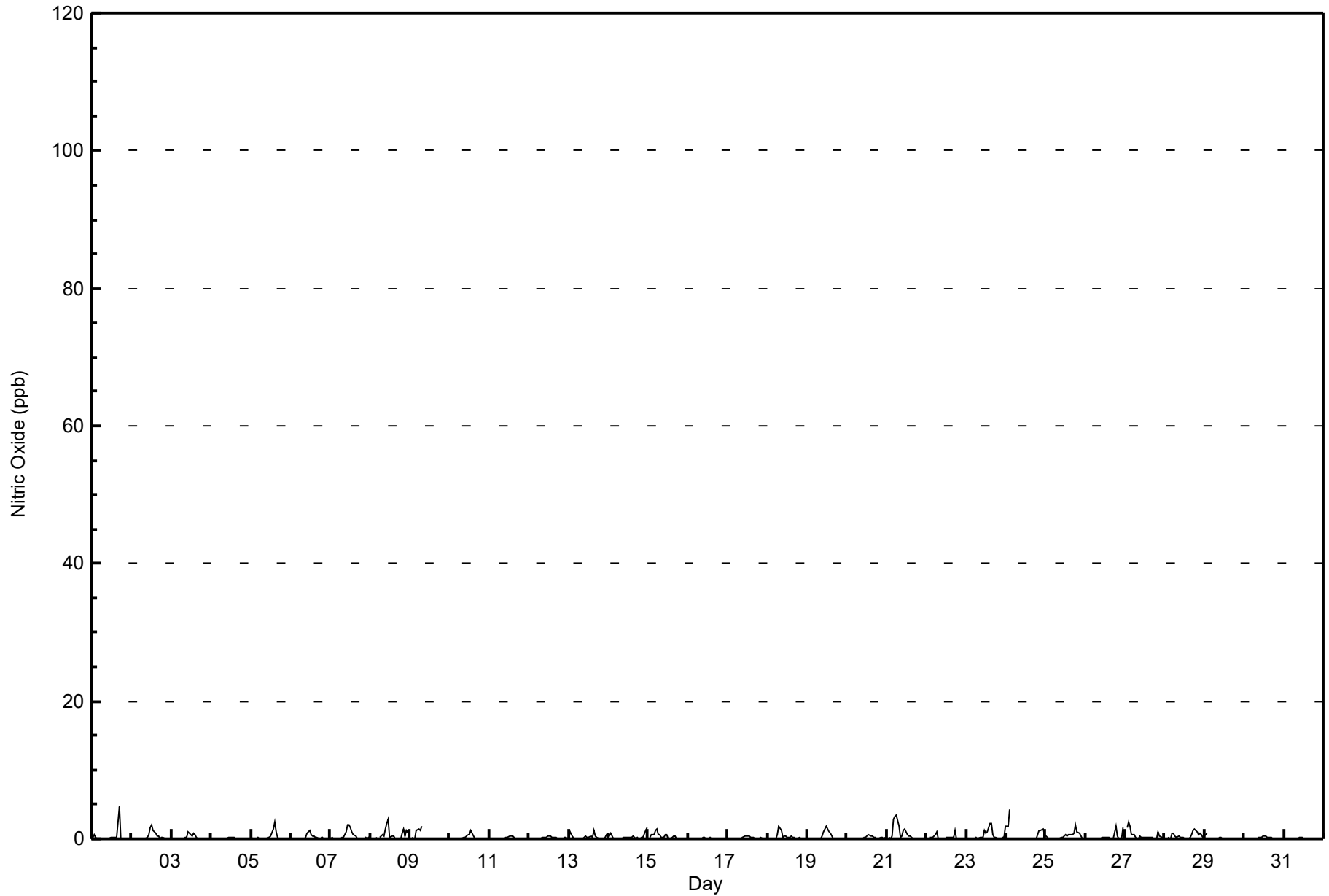
Nitric Oxide (NO) - ppb
Kirby North - January 2025

Maximum Value: 4.8 ppb on Jan 1 17:00 Maximum Daily Average: 0.8 ppb on Jan 21																				Hours in Service: 744 Hours of Data: 707 Hours of Missing Data: 37 Hours of Calibration: 37 Percent Operational Time: 100.0						
Minimum Value: 0.0 ppb on Jan 1 06:00 Minimum Daily Average: 0.0 ppb on Jan 16 Maximum Diurnal Average: 0.6 ppb at hour 12 Minimum Diurnal Average: 0.1 ppb at hour 9 Monthly Average: 0.28 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.3 P ₉₀ = 0.8 P ₉₉ = 2.3																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0.2	0.7	0.1	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.1	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	4.8
2-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.3	0.6	1.6	2.0	1.2	0.8	0.5	0.3	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.4	2.0
3-Jan	Z	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.2	0.3	0.9	0.9	0.5	0.8	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.9
4-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2
5-Jan	0.0	0.1	Z	0.0	0.2	0.1	0.0	0.1	0.0	0.1	0.2	0.3	0.5	1.5	2.3	0.9	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	2.3
6-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.2	0.9	1.1	0.6	0.5	0.4	0.3	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	1.1
7-Jan	0.0	0.2	0.1	0.1	Z	0.1	0.1	0.2	0.2	1.0	2.0	2.1	1.6	1.0	0.6	0.4	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.4	2.1
8-Jan	0.0	0.1	0.0	0.1	0.1	Z	0.1	0.5	0.5	1.5	2.2	2.8	0.2	0.3	0.3	0.0	0.0	0.0	0.1	0.8	1.5	0.5	1.3	0.7	0.6	2.8
9-Jan	Z	0.2	0.1	0.1	1.3	1.5	1.2	1.9	C	C	C	C	C	C	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	1.9
10-Jan	0.0	Z	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.2	0.4	0.7	0.6	1.2	0.4	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	1.2
11-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.5	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.5
12-Jan	0.0	0.0	0.0	Z	0.0	0.1	0.0	0.0	0.1	0.2	0.3	0.3	0.3	0.5	0.2	0.2	0.1	0.1	0.0	0.1	0.0	0.1	0.2	0.1	0.1	0.5
13-Jan	0.2	1.1	0.1	0.2	Z	0.1	0.0	0.0	0.1	0.2	0.4	0.3	0.2	0.4	0.3	1.3	0.4	0.1	0.1	0.0	0.0	0.1	0.2	0.7	0.3	1.3
14-Jan	0.5	0.8	0.5	0.1	0.0	Z	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.1	0.1	0.1	0.0	0.2	0.2	1.2	1.6	0.3	1.6
15-Jan	Z	0.2	0.6	0.5	1.3	1.4	0.6	0.6	0.1	0.1	0.7	0.5	0.1	0.0	0.3	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.4
16-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
17-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.4	0.4	0.3	0.2	0.2	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.4
18-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.5	1.9	1.1	0.2	0.5	0.3	0.2	0.1	0.3	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.2	1.9
19-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.5	1.0	1.7	1.4	1.1	0.9	0.4	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3	1.7
20-Jan	0.0	0.0	0.0	0.0	0.1	Z	0.1	0.1	0.0	0.1	0.2	0.3	0.4	0.5	0.5	0.4	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.5
21-Jan	Z	0.3	0.1	0.5	2.8	3.2	3.5	1.9	0.3	0.4	1.3	1.4	0.7	0.4	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.8	3.5
22-Jan	0.0	Z	0.1	0.1	0.2	0.6	0.9	0.0	0.0	0.0	0.0	0.0	0.3	0.1	0.2	0.2	0.1	1.3	0.0	0.0	0.1	0.0	0.0	0.0	0.2	1.3
23-Jan	0.0	0.0	Z	0.0	0.0	0.0	0.2	0.1	0.2	0.1	0.1	1.1	0.8	1.0	2.3	2.2	0.5	0.2	0.2	0.0	0.1	0.1	0.2	0.3	0.4	2.3
24-Jan	1.9	1.9	4.3	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.6	1.1	1.2	1.4	0.6	0.6	4.3
25-Jan	0.3	0.2	0.0	0.1	Z	0.0	0.0	0.0	0.1	0.2	0.3	0.5	0.7	0.5	0.7	0.7	0.6	0.9	2.1	1.0	0.7	0.5	0.1	0.0	0.4	2.1
26-Jan	0.0	0.0	0.0	0.0	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.0	0.0	0.0	1.7	0.4	0.1	0.1	0.1	1.6	0.2	1.7
27-Jan	Z	1.6	2.5	1.9	0.6	0.7	0.1	0.1	0.1	0.5	0.2	0.2	0.1	0.1	0.3	0.2	0.1	0.1	0.0	0.1	1.0	0.4	0.2	0.1	0.5	2.5
28-Jan	0.1	Z	0.1	0.1	0.8	0.9	0.4	0.3	0.4	0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.7	1.1	1.3	1.0	0.6	0.8	0.6	0.2	0.5	1.3
29-Jan	0.5	0.7	Z	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.7
30-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.5	0.4	0.4	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.5
31-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
																								Diurnal Average		
																								Diurnal Maximum		
0.2 0.3 0.3 0.2 0.3 0.3 0.3 0.3 0.1 0.2 0.5 0.6 0.4 0.4 0.4 0.3 0.3 0.2 0.2 0.2 0.2 0.1 0.2 0.2 1.9 1.9 4.3 1.9 2.8 3.2 3.5 1.9 1.1 1.5 2.2 2.8 2.0 1.5 2.3 2.2 4.8 1.3 2.1 1.0 1.5 1.2 1.4 1.6																										
Z - zerospan C - Calibration																										



Wood Buffalo Environmental Association
Hourly Averages

Nitric Oxide (NO) - ppb
Kirby North - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Nitric Oxide (NO) - ppb
Kirby North - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	707	100.00	100.00
21 - 40	0	0.00	100.00
41 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 707

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitric Oxide (NO) - ppb
Kirby North - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	50	40	22	13	16	8	9	16	83	128	56	45	28	78	48	56	696
21 - 40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	50	40	22	13	16	8	9	16	83	128	56	45	28	78	48	56	696

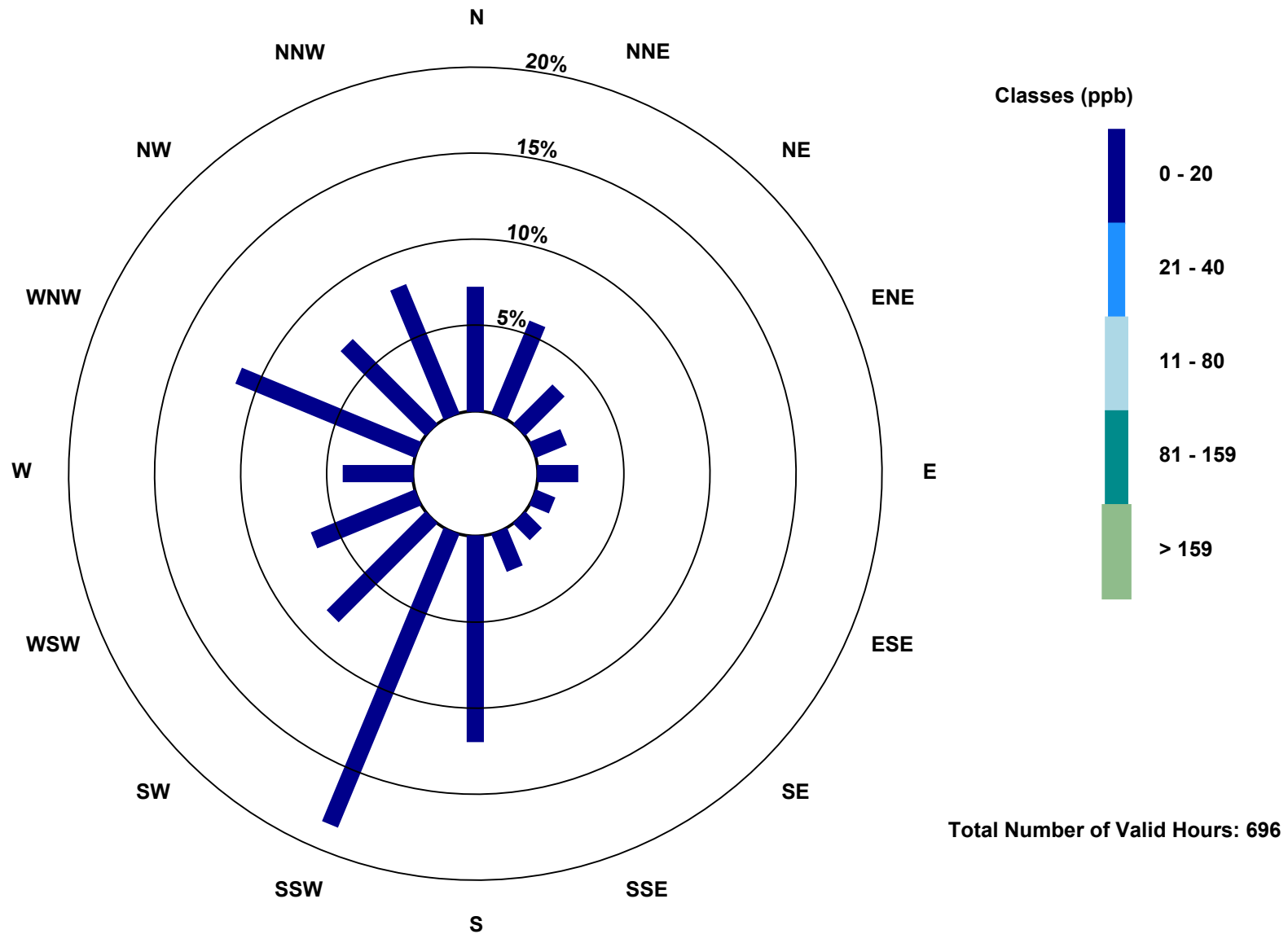
Total Number of Valid Hours: 696

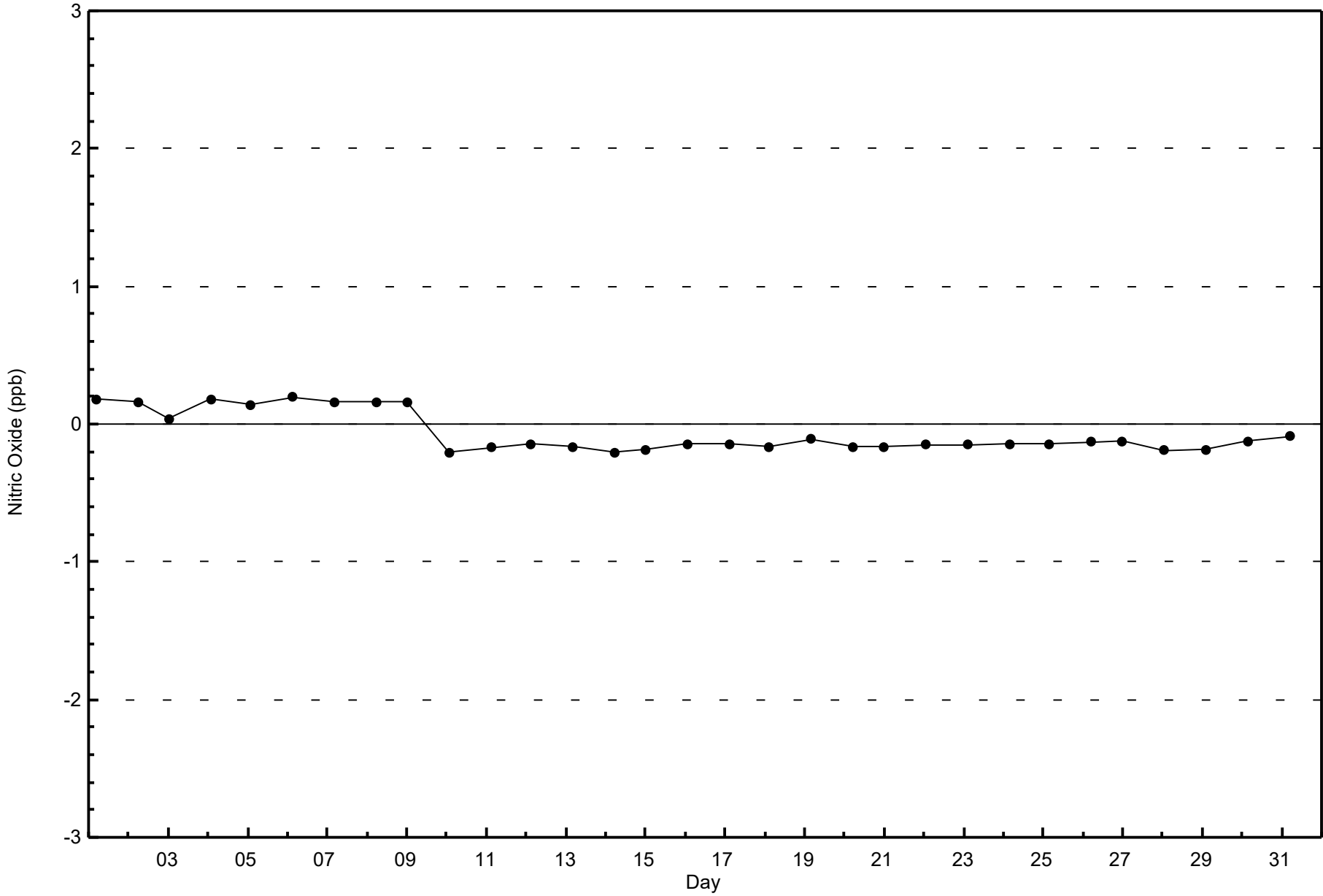
Total Number of Hours: 744

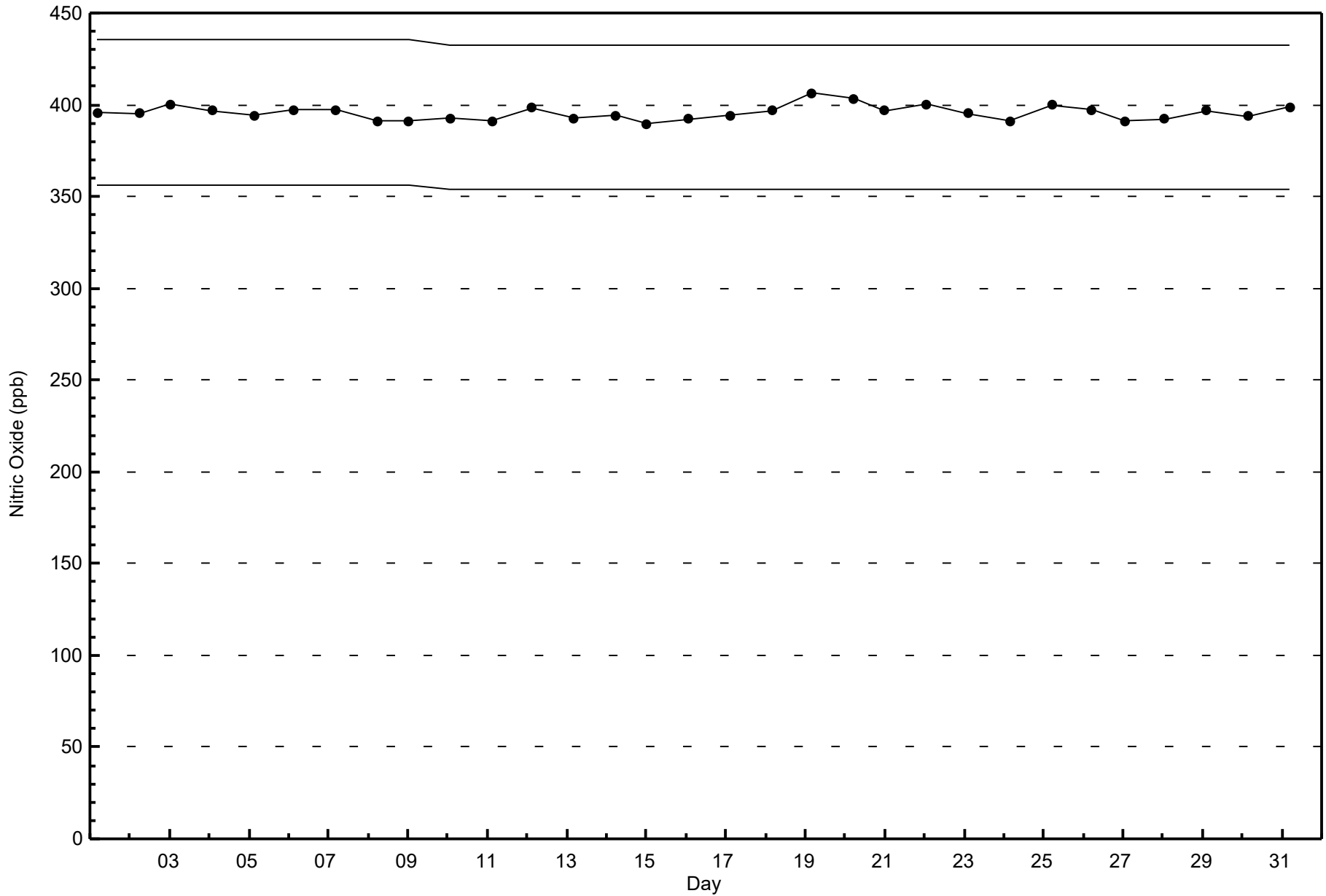


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitric Oxide (NO) - ppb
Kirby North









Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Dioxide (NO₂) - ppb

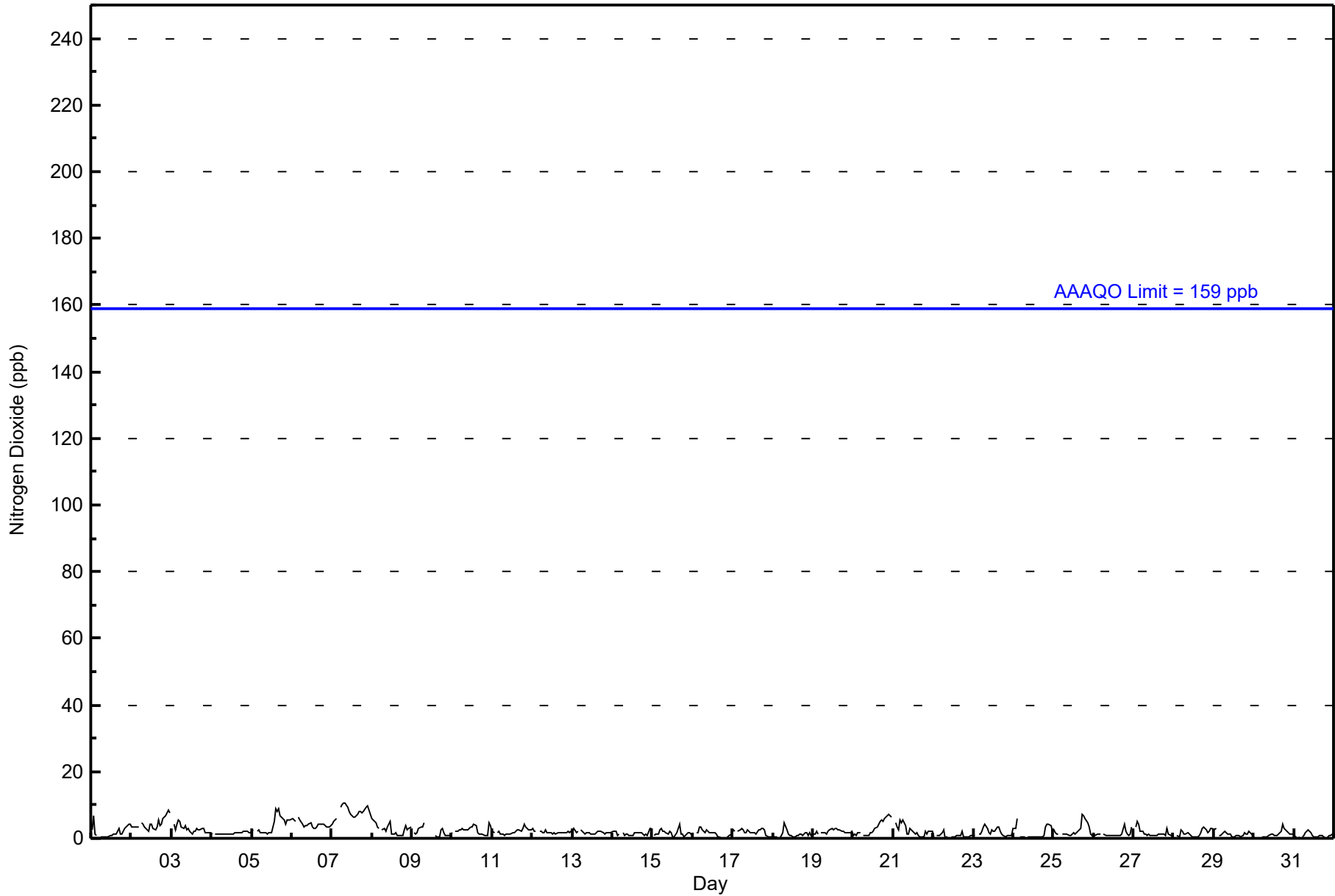
Kirby North - January 2025

Number of Exceedences (AAAQO):		1-hr: 0		24-hr: 0		Hours in Service:		744																																									
Maximum Value: 10.7 ppb on Jan 7 08:00		Maximum Daily Average: 7.8 ppb on Jan 7		Minimum Value: 0.1 ppb on Jan 30 02:00		Minimum Daily Average: 0.8 ppb on Jan 22		Hours of Data: 707																																									
Maximum Diurnal Average: 2.6 ppb at hour 23		Minimum Diurnal Average: 1.7 ppb at hour 13		Hours of Missing Data: 37		Hours of Calibration: 37		Percent Operational Time: 100.0																																									
Monthly Average: 2.24 ppb		Percentiles: P ₁ = 0.2 P ₁₀ = 0.6 Q ₁ = 1.0 Median = 1.7 Q ₃ = 2.8 P ₉₀ = 4.6 P ₉₉ = 9.0																																															
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	2.6	6.7	1.4	0.7	Z	0.6	0.3	0.3	0.4	0.4	0.4	0.8	0.9	1.2	1.4	1.3	2.9	1.1	1.4	2.0	2.8	3.2	4.4	4.3	1.8	6.7																							
2-Jan	3.2	3.2	3.2	3.4	3.5	Z	4.7	4.2	3.5	2.4	2.1	4.1	4.3	3.1	2.7	3.3	5.6	3.8	4.4	6.0	6.7	7.5	8.4	7.8	4.4	8.4																							
3-Jan	Z	4.2	2.7	4.1	5.7	5.2	3.4	3.0	3.8	2.7	3.0	2.2	1.4	2.1	2.3	2.9	2.5	2.4	3.0	2.8	1.8	1.7	1.6	1.6	2.9	5.7																							
4-Jan	1.4	Z	1.3	1.2	1.1	1.1	1.2	1.3	1.3	1.1	1.2	1.2	1.3	1.2	1.5	1.5	1.5	1.6	1.8	2.0	2.1	2.2	1.8	1.7	1.5	2.2																							
5-Jan	2.2	2.5	Z	2.2	2.4	1.9	1.8	1.9	1.5	1.4	1.7	1.5	1.9	5.2	9.0	8.1	9.0	6.9	6.2	5.5	4.4	5.6	5.4	5.3	4.1	9.0																							
6-Jan	5.8	5.4	5.1	Z	6.5	5.3	4.4	3.6	3.7	3.8	4.4	4.8	3.5	2.9	3.0	3.5	4.2	4.3	4.4	4.2	3.9	3.5	3.5	3.8	4.2	6.5																							
7-Jan	4.1	5.2	5.5	5.8	Z	9.3	10.3	10.7	10.4	9.2	7.9	7.3	6.8	6.4	6.2	7.3	8.2	8.1	7.5	8.2	9.4	9.8	8.4	7.4	7.8	10.7																							
8-Jan	6.1	5.6	4.5	3.2	2.8	Z	2.7	3.1	2.1	3.4	4.4	5.0	1.4	1.4	1.6	1.0	0.9	0.8	0.9	2.4	4.0	2.5	3.0	3.5	2.9	6.1																							
9-Jan	Z	1.6	1.1	1.6	3.0	3.6	3.2	4.8	C	C	C	C	C	C	0.7	0.5	0.6	2.7	3.1	1.5	0.8	0.9	0.7	1.1	--	4.8																							
10-Jan	1.6	Z	2.2	2.3	2.4	2.7	3.0	2.7	2.7	2.6	3.0	3.4	3.3	4.3	3.7	1.5	1.1	1.4	1.1	0.8	0.8	0.7	4.8	4.0	2.4	4.8																							
11-Jan	2.3	1.7	Z	1.7	2.1	1.3	1.1	0.7	1.1	1.1	1.3	1.2	1.6	1.9	2.2	2.5	2.4	2.2	3.0	4.1	3.5	2.8	2.4	2.6	2.0	4.1																							
12-Jan	2.8	2.3	2.0	Z	2.1	2.0	1.7	1.9	2.4	1.9	1.8	1.6	1.3	1.6	1.4	1.7	1.7	1.9	1.8	1.8	1.7	2.0	1.9	2.0	1.9	2.8																							
13-Jan	1.7	2.8	1.5	2.0	Z	2.5	2.3	1.4	1.5	1.5	1.5	1.4	1.2	1.4	1.7	2.2	2.1	2.1	1.7	1.3	1.5	1.5	1.6	1.9	1.8	2.8																							
14-Jan	2.0	2.2	2.3	1.0	1.3	Z	1.6	1.0	1.1	1.4	1.0	0.9	0.8	1.5	1.6	1.9	1.6	1.6	1.1	0.9	1.1	0.9	2.8	3.1	1.5	3.1																							
15-Jan	Z	0.9	1.3	1.2	2.4	3.1	2.1	2.0	1.5	1.1	2.3	1.8	0.6	0.6	1.5	3.1	4.2	1.3	1.1	0.6	1.2	1.7	1.8	1.2	1.7	4.2																							
16-Jan	0.9	Z	1.6	1.6	3.3	3.5	2.5	1.9	2.5	2.2	1.7	1.7	1.8	1.9	1.3	0.5	0.3	0.2	0.2	0.2	0.2	0.5	0.7	1.2	1.4	3.5																							
17-Jan	2.4	2.0	Z	2.1	2.6	2.9	2.7	1.6	1.9	2.4	1.9	1.7	1.6	1.5	1.4	2.5	2.7	2.8	2.9	2.7	1.0	0.3	0.3	0.5	1.9	2.9																							
18-Jan	0.3	0.3	0.3	Z	0.2	0.9	1.8	4.5	2.7	1.3	1.0	0.8	0.5	0.5	0.8	0.7	1.2	1.1	0.8	1.7	1.9	0.8	1.9	1.0	1.2	4.5																							
19-Jan	1.2	1.4	2.2	1.2	Z	1.6	1.9	1.7	1.4	2.2	2.4	3.1	2.7	2.9	2.9	2.4	2.6	2.3	2.2	1.7	1.6	1.8	1.6	2.1	2.0	3.1																							
20-Jan	0.9	1.3	0.8	1.7	1.6	Z	0.7	0.8	0.8	1.0	1.7	1.8	2.2	2.8	3.4	4.1	4.9	5.3	5.2	5.8	6.7	7.1	6.7	6.4	3.2	7.1																							
21-Jan	Z	4.7	3.5	2.7	5.7	4.8	5.7	3.7	1.1	1.2	2.8	2.4	1.7	1.3	1.9	1.0	0.3	0.3	0.5	2.1	1.4	2.0	2.1	2.3	2.4	5.7																							
22-Jan	0.3	Z	0.8	1.0	0.9	1.8	2.5	0.2	0.3	0.2	0.2	0.3	0.6	0.5	0.7	1.0	1.0	2.0	0.6	0.3	0.6	0.6	0.8	0.9	0.8	2.5																							
23-Jan	1.0	1.0	Z	1.3	1.3	2.1	3.4	4.2	3.1	1.9	1.2	2.4	2.1	2.3	3.5	3.6	2.3	1.1	0.8	0.6	0.7	0.8	0.9	0.9	1.8	4.2																							
24-Jan	3.1	2.9	5.9	Z	0.5	0.3	0.3	0.2	0.2	0.3	0.4	0.4	0.4	0.5	0.4	0.5	0.3	0.6	1.0	3.2	4.4	4.4	3.8	2.2	1.6	5.9																							
25-Jan	2.7	1.8	1.2	1.4	Z	1.2	1.2	1.2	1.1	0.9	0.9	1.1	1.7	1.3	1.8	2.4	3.0	7.1	6.7	5.9	4.7	3.5	1.3	0.8	2.4	7.1																							
26-Jan	1.1	1.0	1.1	1.1	1.1	Z	1.2	0.9	0.9	0.8	0.8	0.8	0.9	0.9	1.0	0.8	1.0	1.2	4.3	2.2	1.4	1.0	1.4	3.5	1.3	4.3																							
27-Jan	Z	3.5	4.9	4.2	2.2	2.3	1.3	1.2	0.9	1.4	0.9	0.9	0.8	0.8	1.0	1.2	1.3	1.2	1.1	1.0	3.0	1.3	0.9	0.9	1.7	4.9																							
28-Jan	0.7	Z	0.9	0.5	2.7	2.3	1.3	1.4	1.5	1.2	0.8	0.6	0.4	0.4	0.4	0.9	1.9	3.1	3.5	2.7	1.5	2.3	2.8	2.8	1.6	3.5																							
29-Jan	2.4	3.0	Z	0.7	0.7	1.1	2.2	1.5	1.1	1.3	1.3	0.6	0.5	0.9	0.9	0.8	0.6	1.0	1.7	1.4	1.3	2.2	1.8	0.7	1.3	3.0																							
30-Jan	0.2	0.1	0.2	Z	0.2	0.4	0.3	0.3	0.4	1.0	1.1	1.1	0.9	1.0	0.9	1.5	2.3	4.2	2.9	2.6	2.0	1.4	1.4	1.2	1.2	4.2																							
31-Jan	1.1	0.3	0.2	0.3	Z	0.4	0.8	1.7	2.4	2.1	1.7	1.0	0.4	0.3	0.4	0.9	0.7	0.8	0.5	0.2	0.6	1.0	0.7	1.2	0.9	2.4																							
																								2.1	2.6	2.2	1.9	2.3	2.5	2.4	2.2	2.0	1.8	1.9	1.9	1.7	1.8	2.0	2.2	2.4	2.5	2.5	2.5	2.5	2.5	2.6	2.6	Diurnal Average	
																								6.1	6.7	5.9	5.8	6.5	9.3	10.3	10.7	10.4	9.2	7.9	7.3	6.8	6.4	9.0	8.1	9.0	8.1	7.5	8.2	9.4	9.8	8.4	7.8	Diurnal Maximum	
Z - zerospan C - Calibration																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb																																																	



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
Kirby North - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Nitrogen Dioxide (NO₂) - ppb
Kirby North - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	707	100.00	100.00
21 - 40	0	0.00	100.00
41 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 707

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Dioxide (NO₂) - ppb
Kirby North - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	50	40	22	13	16	8	9	16	83	128	56	45	28	78	48	56	696
21 - 40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	50	40	22	13	16	8	9	16	83	128	56	45	28	78	48	56	696

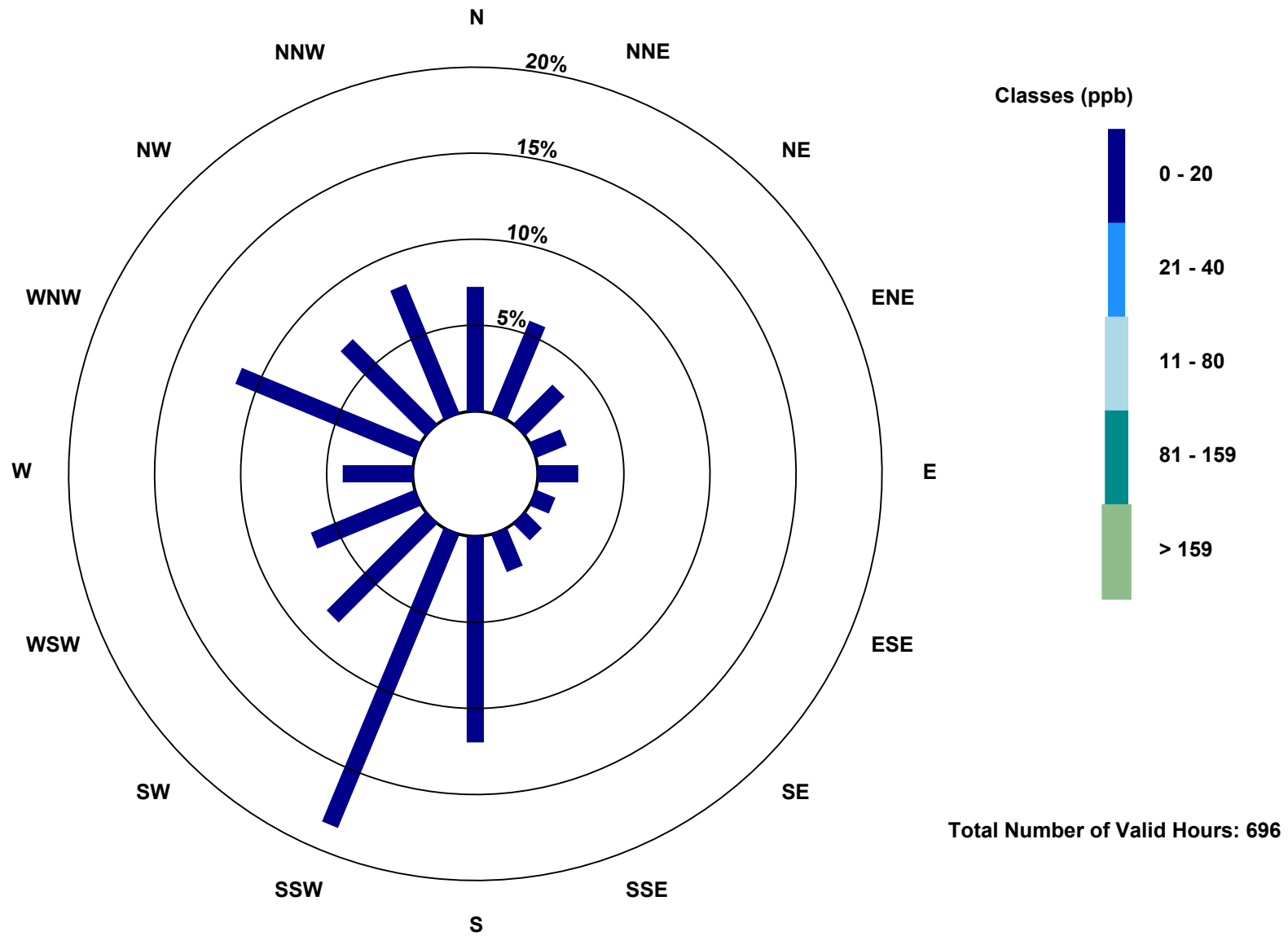
Total Number of Valid Hours: 696

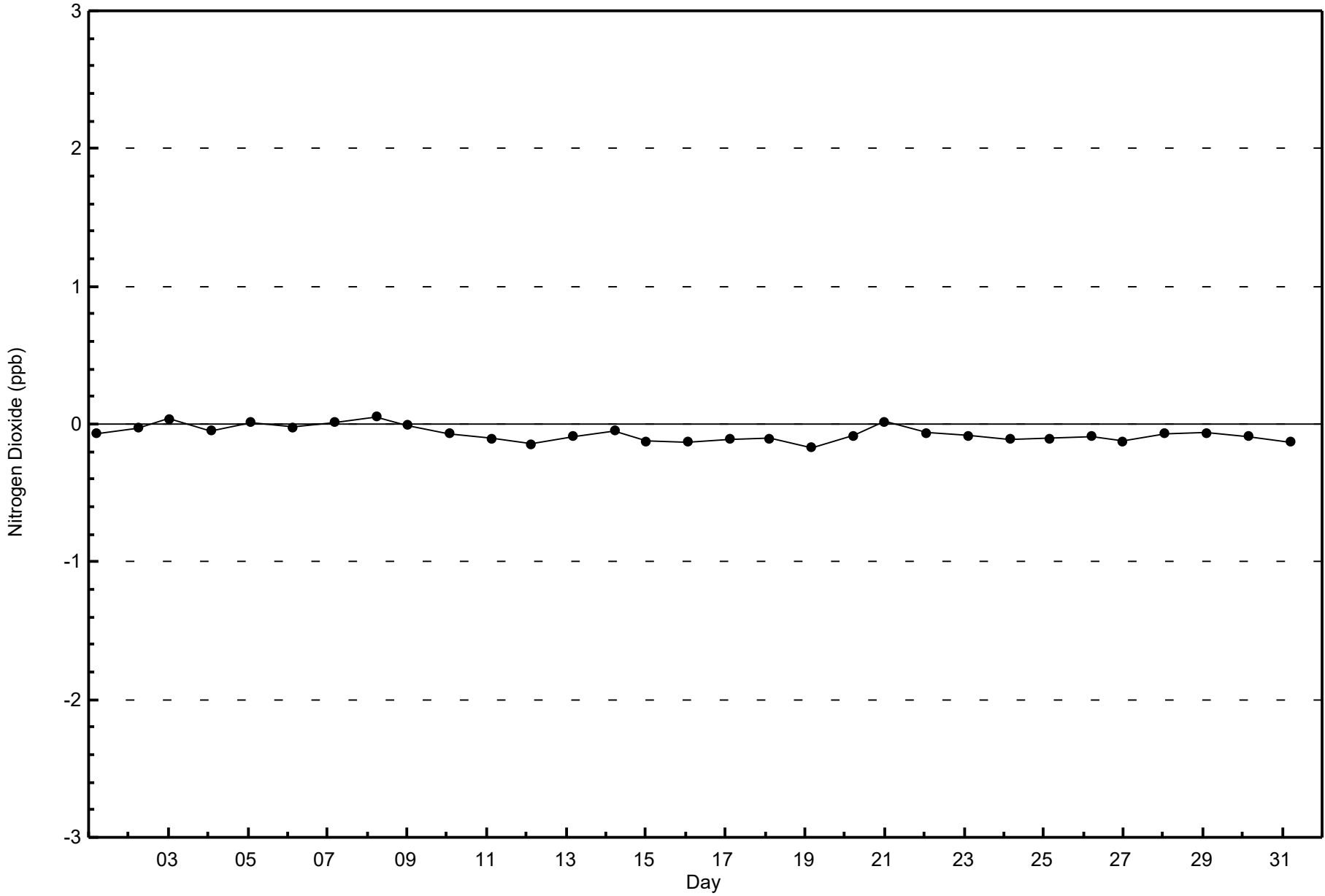
Total Number of Hours: 744

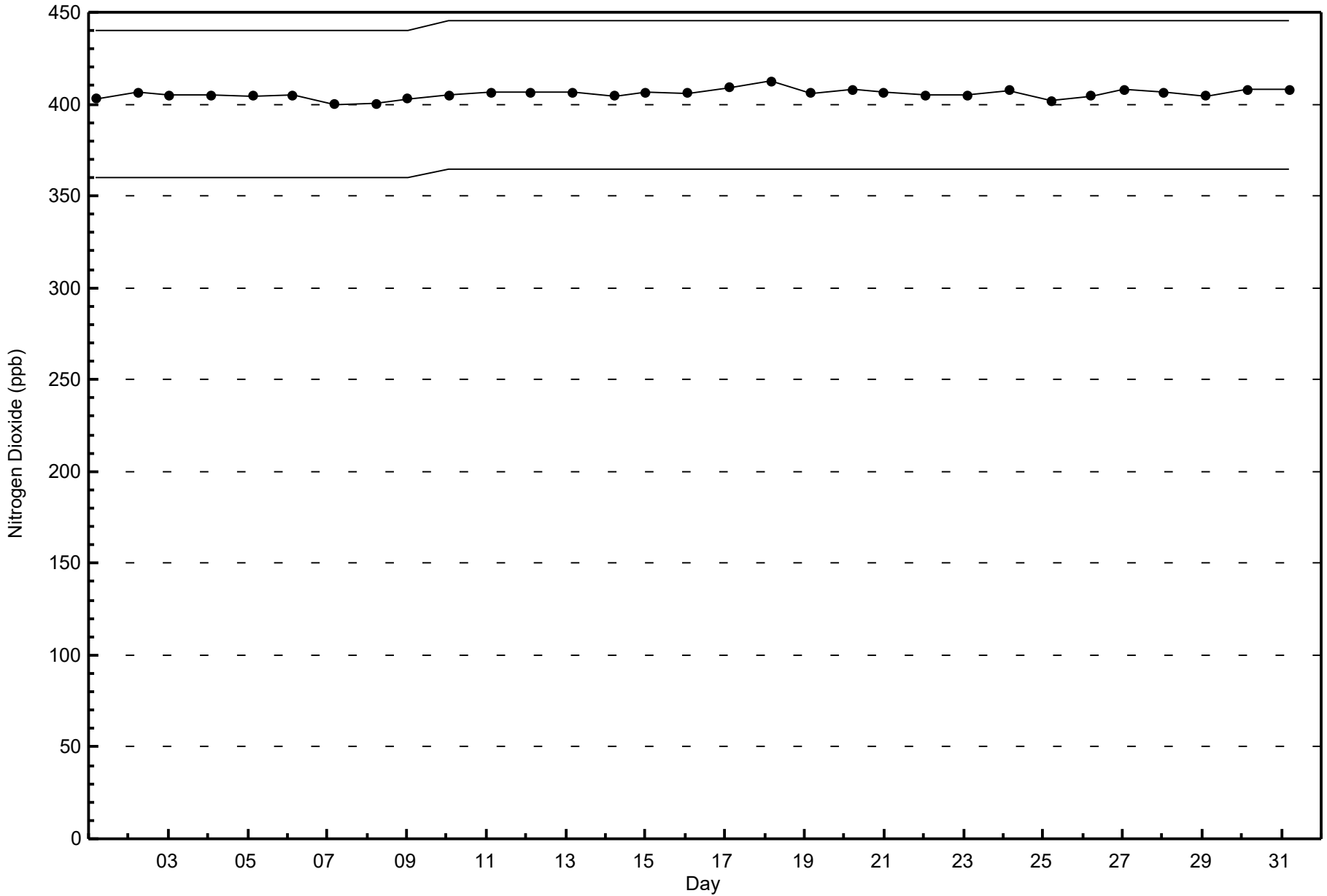


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Dioxide (NO₂) - ppb
Kirby North









Wood Buffalo Environmental Association
Summary of Hour Averages

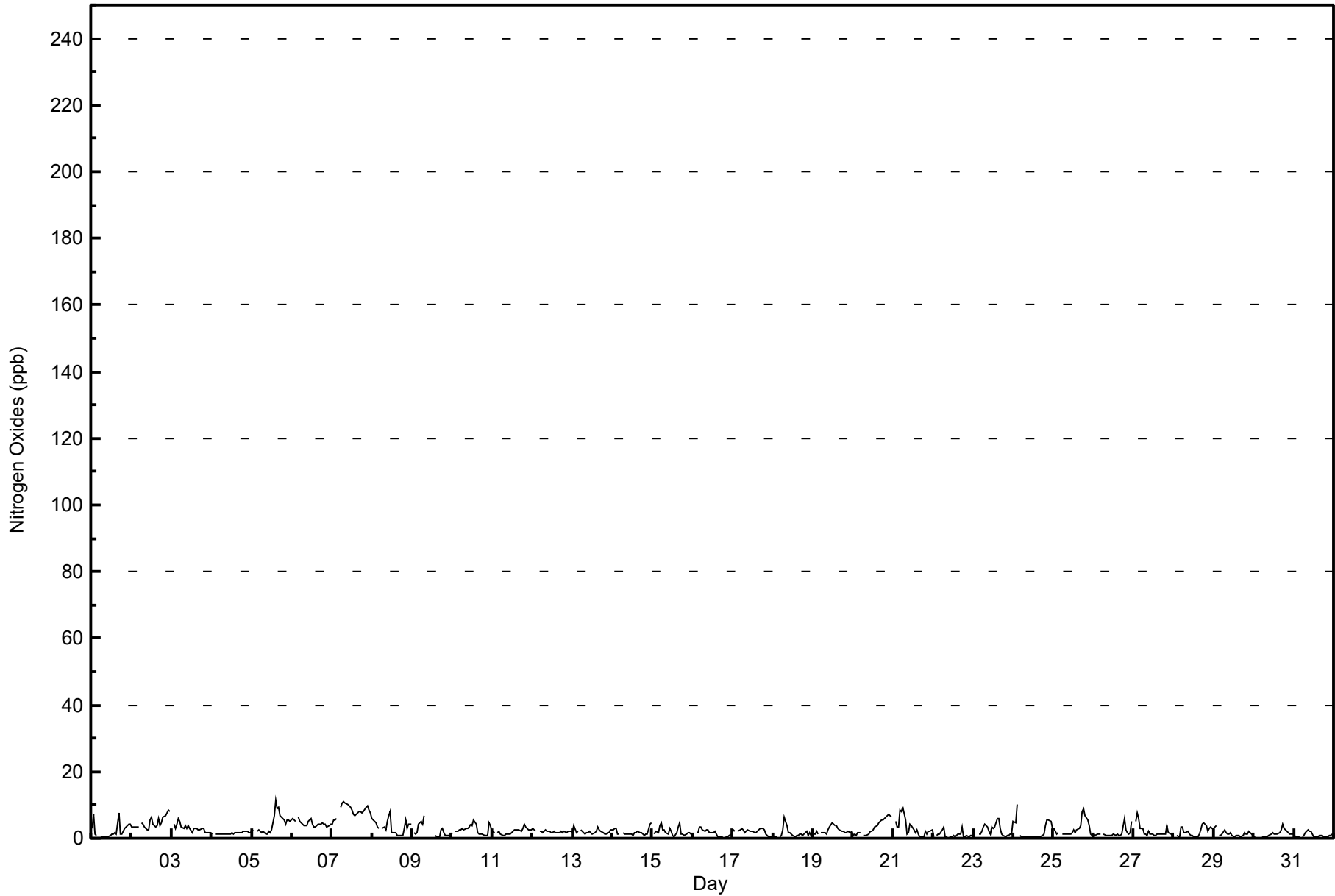
Nitrogen Oxides (NO_x) - ppb
Kirby North - January 2025

Maximum Value: 11.3 ppb on Jan 5 15:00		Maximum Daily Average: 8.2 ppb on Jan 7		Hours in Service: 744																																													
Minimum Value: 0.1 ppb on Jan 30 02:00		Minimum Daily Average: 0.9 ppb on Jan 31		Hours of Data: 707																																													
Maximum Diurnal Average: 2.9 ppb at hour 2		Minimum Diurnal Average: 2.1 ppb at hour 4		Hours of Missing Data: 37																																													
Monthly Average: 2.52 ppb		Percentiles: P ₁ = 0.2 P ₁₀ = 0.6 Q ₁ = 1.1 Median = 1.8 Q ₃ = 3.3 P ₉₀ = 5.5 P ₉₉ = 9.9		Hours of Calibration: 37																																													
				Percent Operational Time: 100.0																																													
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	2.8	7.4	1.5	0.7	Z	0.6	0.3	0.3	0.4	0.4	0.4	0.9	1.1	1.4	1.6	1.4	7.7	1.1	1.4	2.0	2.8	3.2	4.4	4.3	2.1	7.7																							
2-Jan	3.2	3.2	3.2	3.4	3.5	Z	4.7	4.2	3.5	2.7	2.7	5.7	6.3	4.3	3.5	3.8	5.9	3.9	4.5	6.2	6.8	7.6	8.5	7.9	4.8	8.5																							
3-Jan	Z	4.3	2.8	4.2	5.8	5.2	3.4	3.0	4.0	3.0	3.9	3.1	1.9	2.9	2.8	3.2	2.5	2.4	3.0	2.8	1.8	1.7	1.6	1.6	3.1	5.8																							
4-Jan	1.4	Z	1.3	1.2	1.1	1.1	1.2	1.3	1.3	1.2	1.4	1.4	1.5	1.4	1.6	1.5	1.5	1.6	1.8	2.0	2.1	2.2	1.8	1.7	1.5	2.2																							
5-Jan	2.2	2.6	Z	2.2	2.6	2.0	1.8	2.0	1.5	1.5	1.9	1.8	2.4	6.7	11.3	9.0	9.3	6.9	6.2	5.5	4.4	5.6	5.4	5.3	4.4	11.3																							
6-Jan	5.8	5.4	5.1	Z	6.5	5.3	4.4	3.6	3.7	4.0	5.3	5.9	4.1	3.4	3.4	3.8	4.3	4.3	4.5	4.3	4.0	3.6	3.6	4.0	4.5	6.5																							
7-Jan	4.1	5.4	5.6	5.9	Z	9.4	10.4	10.9	10.6	10.2	9.9	9.4	8.4	7.4	6.8	7.7	8.3	8.1	7.5	8.2	9.5	9.9	8.5	7.5	8.2	10.9																							
8-Jan	6.1	5.7	4.5	3.3	2.9	Z	2.8	3.6	2.6	4.9	6.6	7.8	1.6	1.7	1.9	1.0	0.9	0.8	1.0	3.2	5.5	3.0	4.3	4.2	3.5	7.8																							
9-Jan	Z	1.8	1.2	1.7	4.3	5.1	4.4	6.7	C	C	C	C	C	C	0.8	0.5	0.6	2.7	3.1	1.5	0.8	0.9	0.7	1.1	--	6.7																							
10-Jan	1.6	Z	2.2	2.3	2.5	2.7	3.1	2.7	2.8	2.8	3.4	4.1	3.9	5.5	4.1	1.6	1.1	1.4	1.1	0.9	0.8	0.7	4.8	4.0	2.6	5.5																							
11-Jan	2.3	1.7	Z	1.7	2.1	1.3	1.1	0.7	1.1	1.2	1.4	1.4	1.9	2.4	2.5	2.7	2.4	2.2	3.0	4.1	3.5	2.8	2.4	2.6	2.1	4.1																							
12-Jan	2.8	2.3	2.0	Z	2.1	2.1	1.7	1.9	2.5	2.1	2.1	1.9	1.6	2.1	1.6	1.9	1.8	2.0	1.8	1.9	1.7	2.1	2.1	2.1	2.0	2.8																							
13-Jan	1.9	3.9	1.6	2.2	Z	2.6	2.3	1.4	1.6	1.7	1.9	1.7	1.4	1.8	2.0	3.5	2.5	2.2	1.8	1.3	1.5	1.6	1.8	2.6	2.0	3.9																							
14-Jan	2.5	3.0	2.8	1.1	1.3	Z	1.7	1.1	1.2	1.5	1.1	1.1	1.0	1.7	1.8	2.2	1.7	1.7	1.2	0.9	1.3	1.1	4.0	4.7	1.8	4.7																							
15-Jan	Z	1.1	1.9	1.7	3.7	4.5	2.7	2.6	1.6	1.2	3.0	2.3	0.7	0.6	1.8	3.5	4.6	1.3	1.1	0.6	1.2	1.7	1.8	1.2	2.0	4.6																							
16-Jan	0.9	Z	1.6	1.6	3.3	3.5	2.5	1.9	2.5	2.5	1.8	1.7	1.9	2.0	1.3	0.5	0.3	0.2	0.2	0.2	0.2	0.5	0.7	1.2	1.4	3.5																							
17-Jan	2.4	2.0	Z	2.1	2.6	2.9	2.7	1.6	1.9	2.6	2.2	2.1	2.0	1.8	1.6	2.7	2.8	2.8	2.9	2.7	1.1	0.3	0.3	0.5	2.0	2.9																							
18-Jan	0.3	0.3	0.3	Z	0.2	0.9	2.3	6.4	3.8	1.5	1.5	1.1	0.7	0.6	1.1	0.8	1.3	1.2	0.8	1.8	1.9	0.8	1.9	1.0	1.4	6.4																							
19-Jan	1.2	1.4	2.2	1.2	Z	1.6	1.9	1.7	1.4	2.7	3.4	4.8	4.1	4.0	3.8	2.8	2.7	2.3	2.2	1.7	1.6	1.9	1.7	2.3	2.4	4.8																							
20-Jan	0.9	1.3	0.8	1.7	1.7	Z	0.8	0.9	0.8	1.1	1.9	2.1	2.6	3.3	3.9	4.5	5.1	5.5	5.3	5.9	6.8	7.3	6.8	6.5	3.4	7.3																							
21-Jan	Z	5.0	3.6	3.2	8.5	8.0	9.2	5.6	1.4	1.6	4.1	3.8	2.4	1.7	2.4	1.2	0.3	0.3	0.5	2.1	1.4	2.0	2.1	2.4	3.2	9.2																							
22-Jan	0.3	Z	0.9	1.1	1.1	2.4	3.4	0.2	0.3	0.2	0.2	0.3	0.9	0.6	0.9	1.2	1.1	3.3	0.6	0.3	0.7	0.6	0.8	0.9	1.0	3.4																							
23-Jan	1.0	1.0	Z	1.3	1.3	2.1	3.6	4.3	3.3	2.0	1.3	3.5	2.9	3.3	5.8	5.8	2.8	1.3	1.0	0.6	0.8	0.9	1.1	1.2	2.3	5.8																							
24-Jan	5.0	4.8	10.2	Z	0.6	0.3	0.3	0.2	0.2	0.3	0.4	0.5	0.4	0.5	0.4	0.5	0.3	0.7	1.1	3.8	5.5	5.6	5.2	2.8	2.2	10.2																							
25-Jan	3.0	2.0	1.2	1.5	Z	1.2	1.2	1.2	1.2	1.1	1.2	1.6	2.4	1.8	2.5	3.1	3.6	8.0	8.8	6.9	5.4	4.0	1.4	0.8	2.8	8.8																							
26-Jan	1.1	1.0	1.1	1.1	1.2	Z	1.3	1.0	1.0	0.9	0.9	0.9	1.1	1.1	1.2	0.8	1.0	1.2	6.0	2.6	1.5	1.1	1.5	5.1	1.6	6.0																							
27-Jan	Z	5.1	7.4	6.1	2.8	3.0	1.4	1.3	1.0	1.9	1.1	1.1	0.9	0.9	1.3	1.4	1.4	1.3	1.1	1.1	4.0	1.7	1.1	1.0	2.2	7.4																							
28-Jan	0.8	Z	1.0	0.6	3.5	3.2	1.7	1.7	1.9	1.4	0.9	0.8	0.5	0.5	0.5	1.1	2.6	4.2	4.8	3.7	2.1	3.1	3.4	3.0	2.0	4.8																							
29-Jan	2.9	3.7	Z	0.7	0.7	1.2	2.3	1.6	1.2	1.4	1.5	0.7	0.6	1.0	1.0	0.8	0.6	1.0	1.7	1.4	1.3	2.2	1.8	0.7	1.4	3.7																							
30-Jan	0.2	0.1	0.2	Z	0.2	0.4	0.3	0.3	0.4	1.1	1.4	1.6	1.3	1.4	1.2	1.7	2.4	4.2	2.9	2.6	2.0	1.4	1.4	1.2	1.3	4.2																							
31-Jan	1.1	0.3	0.2	0.3	Z	0.4	0.8	1.7	2.4	2.3	1.9	1.2	0.5	0.3	0.5	0.9	0.7	0.8	0.5	0.2	0.6	1.0	0.7	1.2	0.9	2.4																							
																								2.2	2.9	2.6	2.1	2.6	2.8	2.6	2.5	2.1	2.1	2.4	2.5	2.1	2.3	2.5	2.5	2.7	2.6	2.7	2.7	2.7	2.8	2.8	Diurnal Average		
																								6.1	7.4	10.2	6.1	8.5	9.4	10.4	10.9	10.6	10.2	9.9	9.4	8.4	7.4	11.3	9.0	9.3	8.1	8.8	8.2	9.5	9.9	8.5	7.9	Diurnal Maximum	
Z - zerospan																								C - Calibration																									



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Kirby North - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Kirby North - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	707	100.00	100.00
21 - 40	0	0.00	100.00
41 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 707

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Oxides (NO_x) - ppb
Kirby North - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	50	40	22	13	16	8	9	16	83	128	56	45	28	78	48	56	696
21 - 40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	50	40	22	13	16	8	9	16	83	128	56	45	28	78	48	56	696

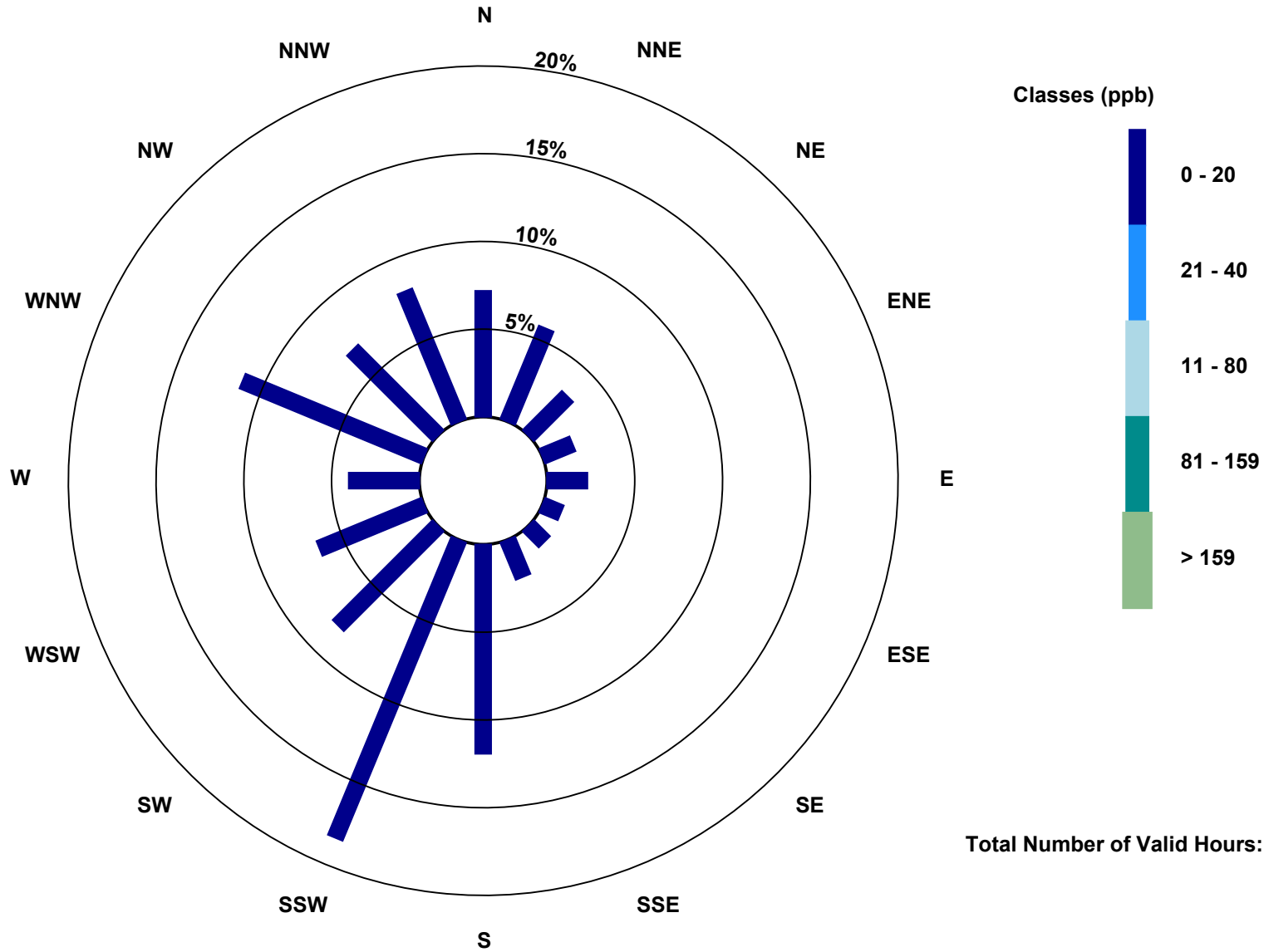
Total Number of Valid Hours: 696

Total Number of Hours: 744

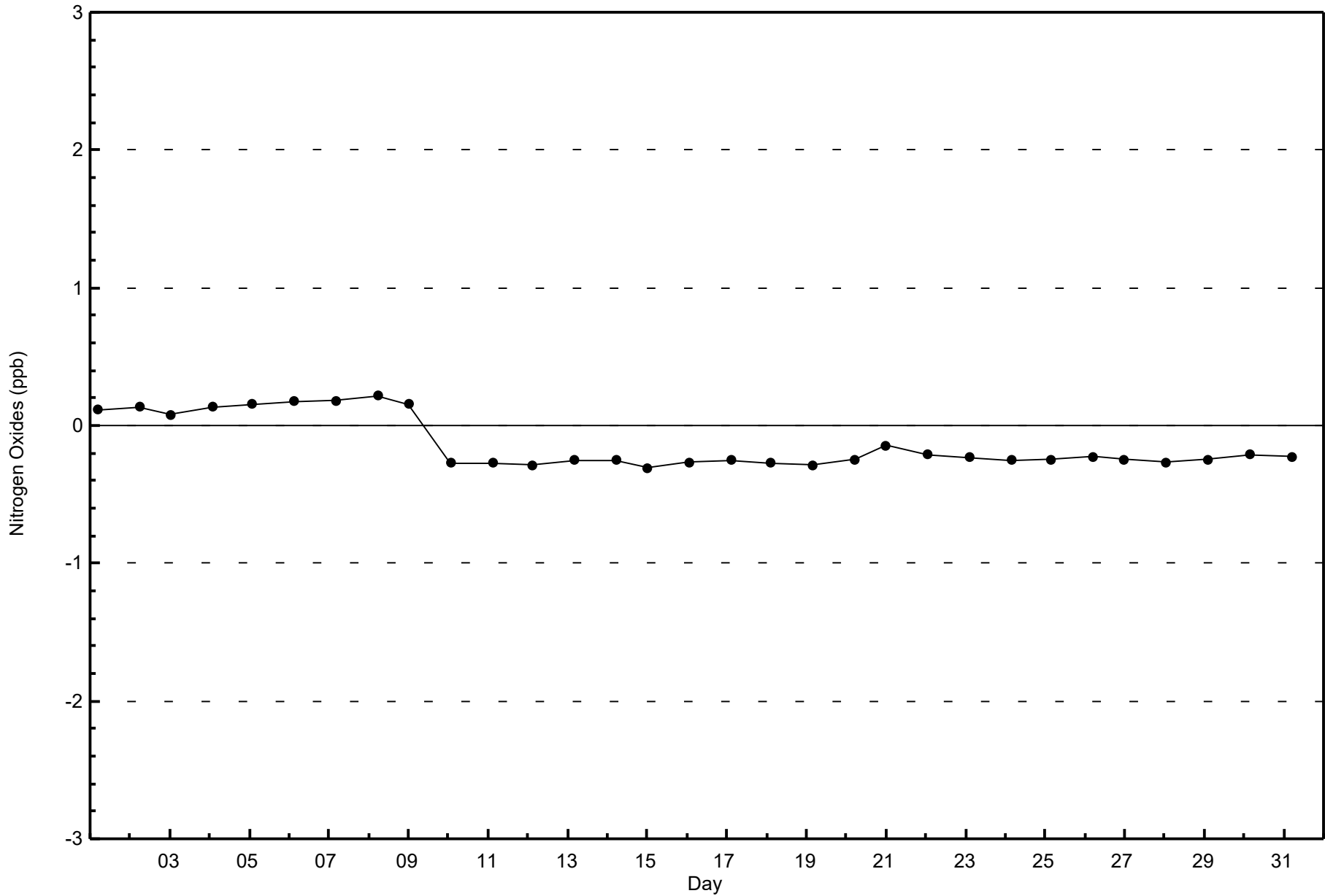


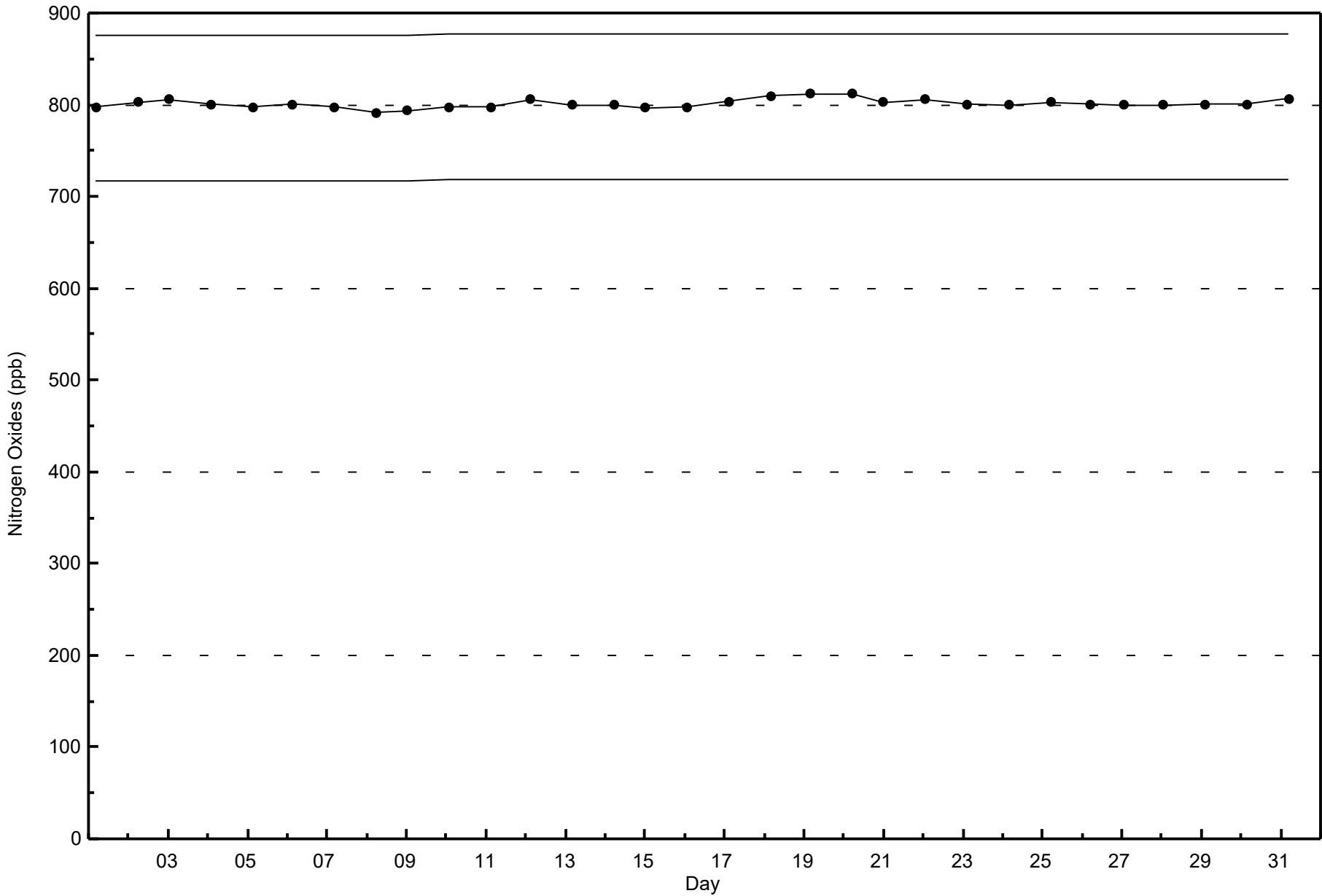
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Oxides (NO_x) - ppb
Kirby North



Total Number of Valid Hours: 696





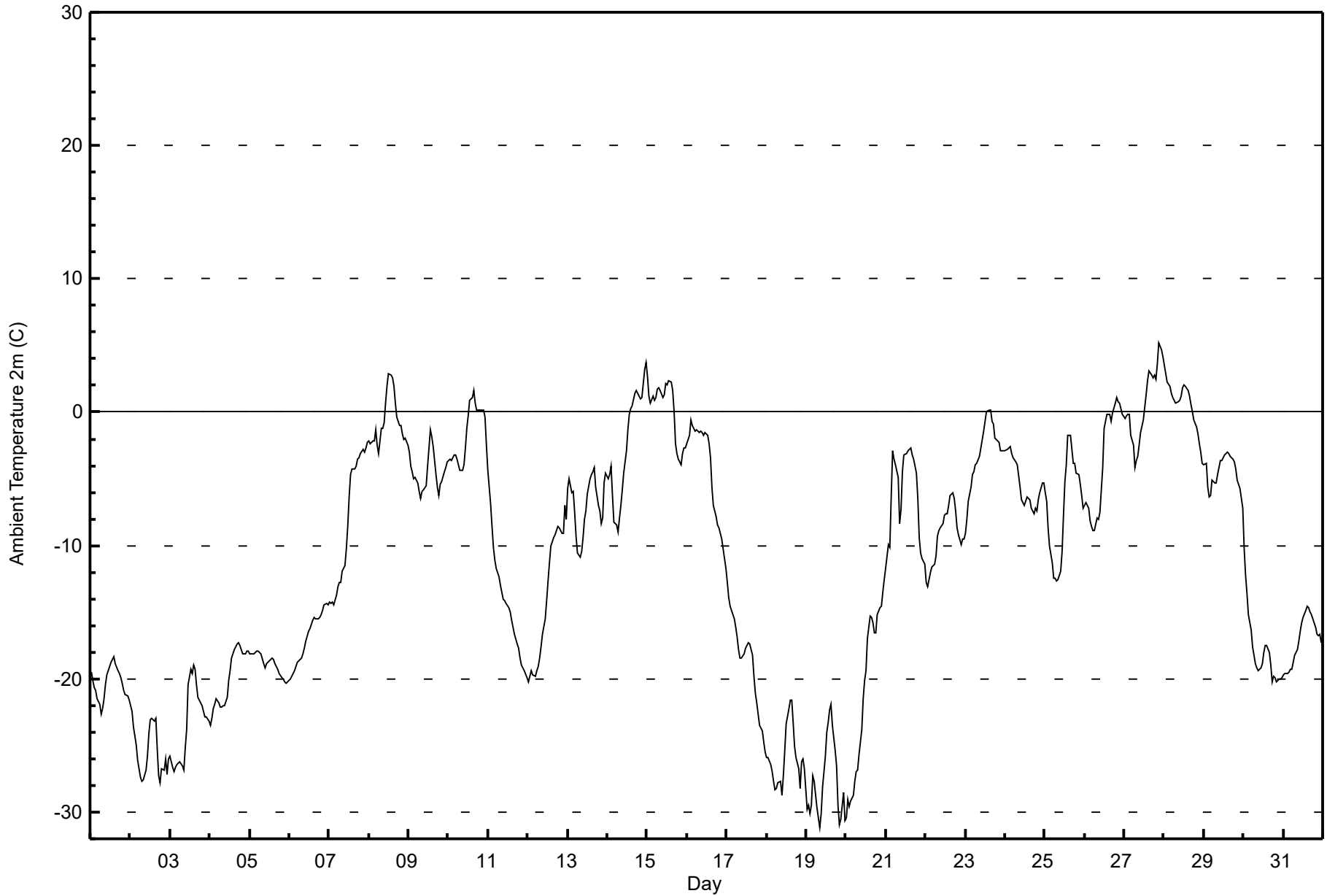


Maximum Value: 5.2 C on Jan 27 22:00																								Maximum Daily Average: 0.6 C on Jan 27																								Hours in Service: 744	
Minimum Value: -31.1 C on Jan 19 09:00																								Minimum Daily Average: -27.8 C on Jan 19																								Hours of Data: 744	
Maximum Diurnal Average: -8.8 C at hour 15																								Minimum Diurnal Average: -13.0 C at hour 7																								Hours of Missing Data: 0	
Monthly Average: -11.23 C																								Percentiles: P ₁ = -29.9 P ₁₀ = -24.6 Q ₁ = -19.1 Median = -9.1 Q ₃ = -3.2 P ₉₀ = 0.2 P ₉₉ = 3.0																								Hours of Calibration: 0	
																																																Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	-19.5	-20.1	-20.6	-20.8	-21.4	-21.9	-22.6	-22.3	-21.5	-20.5	-19.7	-19.1	-18.8	-18.6	-18.4	-18.8	-19.3	-19.6	-19.9	-20.3	-20.8	-21.1	-21.3	-21.6	-20.4	-18.4																							
2-Jan	-22.0	-22.5	-23.6	-25.0	-26.1	-26.8	-27.4	-27.7	-27.6	-26.8	-25.8	-24.1	-23.1	-23.0	-23.1	-23.0	-25.3	-27.3	-27.8	-26.8	-26.8	-26.0	-27.2	-26.0	-25.4	-22.0																							
3-Jan	-25.8	-26.6	-26.9	-26.6	-26.4	-26.3	-26.2	-26.6	-26.9	-25.1	-23.8	-20.5	-19.2	-19.6	-18.9	-19.3	-20.4	-21.4	-21.8	-22.0	-22.4	-22.8	-22.9	-23.1	-23.4	-18.9																							
4-Jan	-23.4	-23.0	-22.2	-21.9	-21.5	-21.8	-22.1	-22.1	-22.1	-22.0	-21.3	-20.2	-19.4	-18.4	-18.1	-17.8	-17.4	-17.3	-17.5	-17.8	-18.1	-18.1	-17.9	-17.9	-20.0	-17.3																							
5-Jan	-18.1	-18.2	-18.1	-18.0	-18.0	-18.0	-18.0	-18.1	-18.9	-19.1	-18.9	-18.8	-18.7	-18.5	-18.6	-18.9	-19.1	-19.3	-19.6	-19.9	-20.0	-20.2	-20.3	-20.2	-18.9	-18.0																							
6-Jan	-20.0	-19.8	-19.6	-19.4	-19.1	-18.8	-18.5	-18.4	-18.1	-17.8	-17.2	-16.5	-16.2	-16.0	-15.7	-15.4	-15.5	-15.5	-15.4	-15.2	-14.8	-14.4	-14.4	-14.4	-16.9	-14.4																							
7-Jan	-14.2	-14.3	-14.3	-14.4	-13.8	-13.1	-12.8	-12.7	-11.9	-11.6	-10.2	-8.6	-6.3	-4.7	-4.2	-4.2	-4.0	-3.6	-3.4	-3.1	-2.8	-3.0	-2.7	-2.2	-8.2	-2.2																							
8-Jan	-2.2	-2.3	-2.2	-2.1	-1.3	-2.5	-3.1	-1.2	-1.2	-0.8	0.7	2.0	2.8	2.8	2.5	1.9	0.7	-0.4	-1.0	-1.0	-1.7	-2.0	-1.9	-2.5	-0.7	2.8																							
9-Jan	-2.9	-4.0	-4.4	-5.0	-4.9	-5.3	-5.9	-6.5	-5.9	-5.9	-5.6	-4.1	-2.7	-1.3	-1.8	-2.6	-4.7	-5.7	-6.3	-5.4	-5.2	-4.5	-4.1	-3.8	-4.5	-1.3																							
10-Jan	-3.6	-3.5	-3.7	-3.2	-3.2	-3.5	-3.9	-4.4	-4.3	-4.0	-2.7	-1.2	-0.3	0.9	1.1	1.6	0.7	0.2	0.2	0.2	0.2	0.2	0.2	-0.4	-2.5	-1.6	1.6																						
11-Jan	-4.4	-6.8	-8.6	-10.2	-11.0	-11.7	-12.4	-13.0	-13.5	-14.0	-14.1	-14.3	-14.7	-15.0	-15.6	-16.1	-16.7	-17.4	-17.7	-18.4	-18.9	-19.2	-19.4	-20.0	-14.3	-4.4																							
12-Jan	-20.3	-19.8	-19.3	-19.7	-19.8	-19.4	-19.0	-18.5	-17.6	-16.6	-15.5	-14.1	-12.6	-11.2	-10.1	-9.4	-9.2	-8.8	-8.6	-8.7	-9.1	-9.1	-7.0	-8.1	-13.8	-7.0																							
13-Jan	-5.8	-5.0	-6.0	-6.0	-7.5	-9.3	-10.6	-10.9	-10.4	-9.4	-8.1	-7.4	-6.1	-5.0	-4.7	-4.4	-4.2	-5.6	-7.0	-7.4	-8.3	-8.0	-5.3	-4.5	-7.0	-4.2																							
14-Jan	-5.0	-4.6	-4.0	-6.2	-8.3	-8.5	-9.0	-7.9	-7.0	-5.8	-4.6	-2.9	-1.3	-0.2	0.3	0.5	1.4	1.6	1.4	1.2	1.0	1.1	3.2	3.7	-2.5	3.7																							
15-Jan	2.7	1.2	0.7	1.2	0.9	1.1	1.8	1.9	1.6	1.1	1.3	2.1	2.1	2.3	2.3	1.6	0.0	-2.3	-3.1	-3.6	-4.0	-3.1	-2.7	-2.7	0.2	2.7																							
16-Jan	-2.3	-1.8	-0.6	-1.0	-1.2	-1.4	-1.4	-1.5	-1.4	-1.6	-1.7	-1.5	-1.8	-2.4	-3.4	-5.7	-7.0	-7.8	-8.4	-8.7	-9.1	-9.6	-10.3	-11.7	-4.3	-0.6																							
17-Jan	-12.8	-14.0	-14.6	-14.9	-15.5	-16.1	-16.9	-17.8	-18.4	-18.5	-18.1	-17.7	-17.5	-17.3	-17.4	-18.2	-19.8	-21.0	-21.9	-22.7	-23.5	-23.9	-24.8	-25.5	-18.7	-12.8																							
18-Jan	-25.9	-25.9	-26.4	-27.0	-27.7	-28.3	-28.2	-27.8	-27.7	-28.7	-27.3	-25.4	-23.4	-22.2	-21.5	-21.6	-23.3	-25.0	-25.9	-26.8	-28.2	-26.2	-26.0	-26.8	-26.0	-21.5																							
19-Jan	-29.8	-29.5	-30.2	-29.4	-27.3	-27.7	-29.7	-30.4	-31.1	-30.1	-28.1	-25.8	-24.0	-23.3	-22.3	-21.9	-23.4	-25.4	-26.5	-29.4	-30.9	-30.6	-28.6	-30.6	-27.8	-21.9																							
20-Jan	-30.5	-29.0	-29.6	-29.2	-28.7	-27.6	-27.0	-26.9	-25.7	-23.8	-21.5	-20.2	-19.3	-16.9	-15.2	-15.4	-15.8	-16.6	-16.5	-15.2	-14.7	-14.6	-13.5	-12.6	-21.1	-12.6																							
21-Jan	-11.7	-9.9	-10.1	-6.3	-2.9	-3.5	-3.9	-4.9	-8.4	-7.4	-4.5	-3.2	-3.1	-2.9	-2.8	-2.7	-3.2	-3.6	-4.5	-6.4	-9.4	-10.5	-11.0	-11.4	-6.2	-2.7																							
22-Jan	-12.8	-13.1	-12.5	-12.0	-11.6	-11.4	-10.8	-9.3	-8.9	-8.7	-8.3	-7.7	-7.6	-7.6	-7.0	-6.2	-6.1	-6.4	-7.4	-8.6	-9.2	-9.9	-9.5	-9.5	-9.3	-6.1																							
23-Jan	-9.1	-8.1	-6.7	-5.6	-4.7	-4.4	-4.0	-3.8	-3.4	-2.7	-2.1	-1.4	-0.7	0.0	0.2	0.2	-0.7	-0.9	-1.9	-2.1	-2.3	-2.9	-2.9	-2.9	-3.0	0.2																							
24-Jan	-2.8	-2.8	-2.6	-2.6	-3.1	-3.4	-3.8	-4.0	-4.8	-5.7	-6.6	-7.0	-6.6	-6.4	-6.4	-6.5	-7.2	-7.6	-7.2	-7.4	-6.6	-6.0	-5.3	-5.3	-5.3	-2.6																							
25-Jan	-6.1	-6.7	-8.7	-10.0	-11.3	-12.4	-12.5	-12.6	-11.9	-10.5	-7.7	-5.2	-4.0	-1.8	-1.7	-2.7	-3.8	-3.8	-4.5	-4.7	-5.4	-6.3	-7.2	-7.2	-7.3	-1.7																							
26-Jan	-6.9	-6.7	-7.2	-8.1	-8.5	-8.9	-8.9	-8.0	-8.1	-7.5	-5.8	-4.2	-1.2	-0.2	-0.1	-0.1	-0.6	-0.1	0.7	1.1	0.8	0.7	0.3	-0.2	-3.7	1.1																							
27-Jan	-0.5	-0.3	-0.1	-0.1	-1.8	-2.4	-4.1	-3.7	-3.3	-2.5	-1.5	-0.5	0.3	1.3	2.4	3.1	2.7	2.5	2.8	2.5	3.6	5.2	4.7	4.2	0.6	5.2																							
28-Jan	3.6	2.9	2.3	2.0	1.5	1.1	0.8	0.7	0.8	0.9	1.3	1.8	2.0	1.9	1.6	1.2	0.6	0.0	-0.6	-1.1	-1.6	-2.4	-3.0	-3.9	0.6	3.6																							
29-Jan	-3.9	-3.8	-5.7	-6.4	-6.2	-5.1	-5.3	-5.3	-4.6	-4.1	-3.7	-3.6	-3.2	-3.1	-3.0	-3.1	-3.3	-3.5	-3.8	-4.2	-5.1	-5.5	-5.7	-7.2	-4.5	-3.0																							
30-Jan	-10.3	-12.3	-13.6	-15.2	-16.3	-17.6	-18.2	-18.9	-19.2	-19.4	-19.2	-18.9	-18.0	-17.5	-17.5	-18.0	-18.9	-20.2	-19.9	-19.9	-20.2	-20.0	-20.0	-19.9	-17.9	-10.3																							
31-Jan	-19.8	-19.6	-19.6	-19.5	-19.3	-19.3	-18.7	-18.3	-17.8	-17.2	-16.5	-15.8	-15.4	-14.8	-14.5	-14.7	-15.0	-15.2	-15.5	-16.1	-16.6	-16.7	-16.7	-17.3	-17.1	-14.5																							
																								-11.8	-11.9	-12.2	-12.3	-12.5	-12.7	-13.0	-12.9	-12.9	-12.5	-11.6	-10.5	-9.6	-9.1	-8.8	-8.9	-9.6	-10.2	-10.6	-10.9	-11.3	-11.2	-11.1	-11.4	Diurnal Average	
																								3.6	2.9	2.3	2.0	1.5	1.1	1.8	1.9	1.6	1.1	1.3	2.1	2.8	2.8	2.5	3.1	2.7	2.5	2.8	2.5	3.6	5.2	4.7	4.2	Diurnal Maximum	



Wood Buffalo Environmental Association
Hourly Averages

Ambient Temperature 2m (AT2) - C
Kirby North - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ambient Temperature 2m (AT2) - C
Kirby North - January 2025

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	146	19.62	19.62
-20 - 0	517	69.49	89.11
0 - 10	81	10.89	100.00
10 - 20	0	0.00	100.00
> 20	0	0.00	100.00

Total Number of Valid Hours: 744

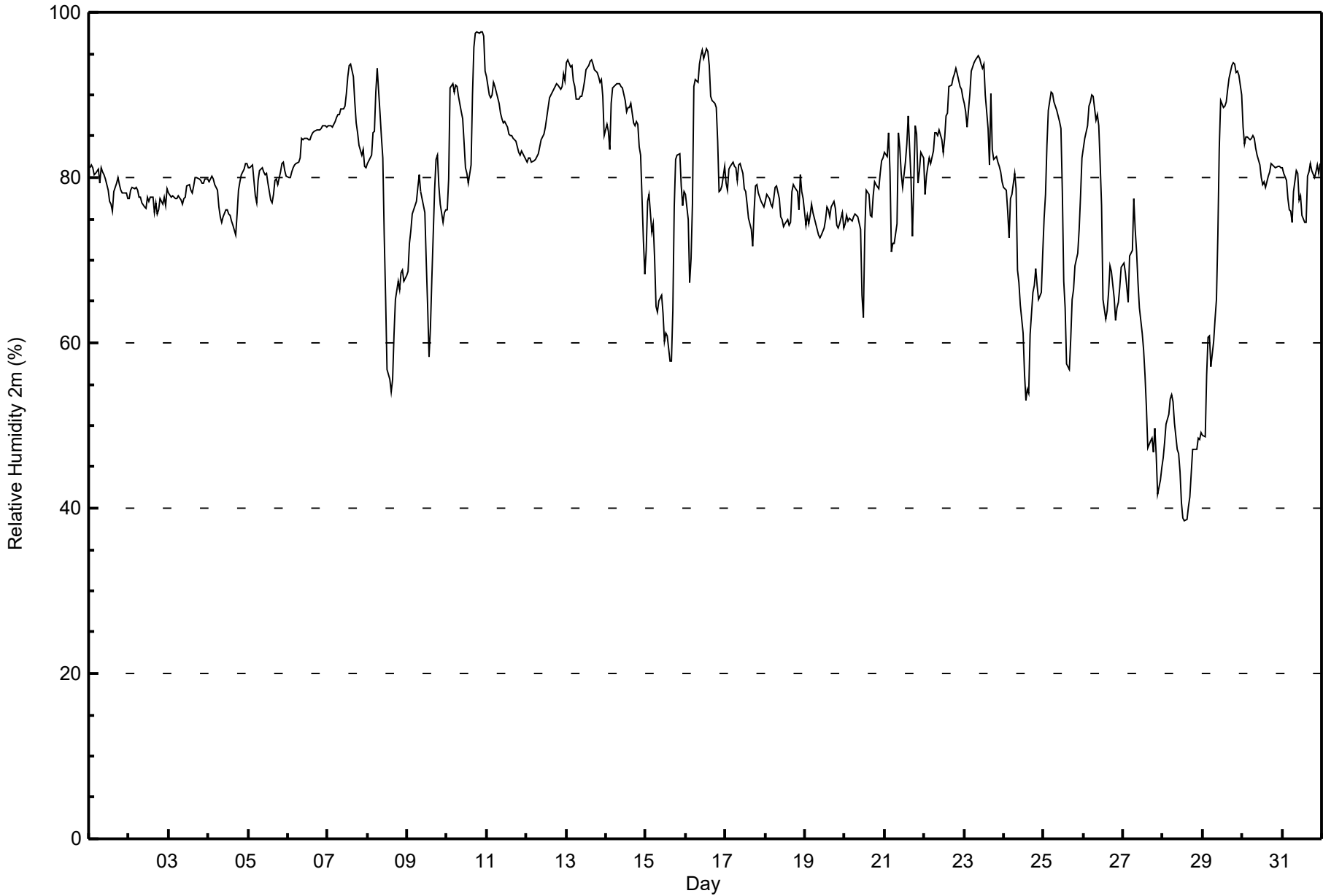
Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

Relative Humidity 2m (RH2) - %
Kirby North - January 2025

Maximum Value: 97.7 % on Jan 10 19:00		Maximum Daily Average: 91.8 % on Jan 13		Hours in Service: 744																																												
Minimum Value: 38.5 % on Jan 28 14:00		Minimum Daily Average: 46.4 % on Jan 28		Hours of Data: 744																																												
Maximum Diurnal Average: 80.7 % at hour 7		Minimum Diurnal Average: 75.5 % at hour 15		Hours of Missing Data: 0																																												
Monthly Average: 78.54 %		Percentiles: P ₁ = 43.8 P ₁₀ = 64.2 Q ₁ = 75.3 Median = 79.9 Q ₃ = 85.6 P ₉₀ = 91.0 P ₉₉ = 95.6		Hours of Calibration: 0																																												
				Percent Operational Time: 100.0																																												
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Jan	81.1	81.5	81.3	80.4	80.4	81.0	79.3	81.1	80.6	80.4	79.9	78.5	77.2	76.7	76.0	78.2	79.3	80.0	79.1	78.5	78.2	78.1	78.1	77.5	79.3	81.5																						
2-Jan	77.4	78.5	78.7	78.7	78.8	78.4	77.6	77.6	76.9	76.4	76.3	77.6	77.2	77.7	77.6	75.7	77.0	75.6	76.1	77.5	76.7	77.6	76.6	78.6	77.4	78.8																						
3-Jan	78.2	77.6	77.8	77.6	77.5	77.5	77.7	77.2	76.8	77.4	77.5	79.0	79.2	78.4	78.1	78.9	80.1	80.0	79.8	79.7	79.3	79.3	79.8	79.8	78.5	80.1																						
4-Jan	79.4	79.9	80.2	79.8	79.2	78.5	76.5	75.2	74.5	75.2	76.0	76.2	75.6	75.5	74.8	74.2	73.1	75.6	78.5	79.5	80.4	81.1	81.7	81.7	77.6	81.7																						
5-Jan	81.2	81.2	81.5	79.7	77.7	76.9	79.7	80.9	81.2	80.7	80.3	80.5	79.4	77.2	77.0	78.0	79.6	79.8	79.1	80.7	81.6	81.8	80.8	80.1	79.9	81.8																						
6-Jan	80.0	80.0	80.7	81.2	81.6	81.7	81.8	82.3	84.8	84.6	84.8	84.8	84.5	84.6	85.2	85.5	85.6	85.7	85.7	85.8	86.0	86.3	86.2	86.2	84.0	86.3																						
7-Jan	86.3	86.2	86.2	86.2	86.8	87.3	87.6	87.6	88.3	88.3	88.7	90.2	92.2	93.5	93.7	92.2	89.1	86.7	85.5	84.0	82.7	83.4	81.3	81.2	87.3	93.7																						
8-Jan	81.7	82.1	82.7	85.4	85.5	90.3	93.2	87.8	84.9	82.4	73.1	65.4	56.8	55.6	54.0	55.5	61.0	65.2	67.4	66.4	68.4	68.7	67.4	68.1	72.9	93.2																						
9-Jan	68.7	72.1	73.5	75.7	76.0	77.1	78.9	80.3	78.3	77.4	75.7	69.8	64.5	58.3	61.9	67.9	78.6	82.2	82.7	79.0	76.8	74.7	75.8	76.1	74.3	82.7																						
10-Jan	76.1	79.8	90.8	91.4	90.4	91.1	91.0	89.8	88.0	87.1	84.3	81.1	80.5	79.4	81.6	90.0	95.8	97.5	97.7	97.5	97.7	97.7	97.1	92.8	89.4	97.7																						
11-Jan	92.3	90.0	89.7	90.1	91.5	91.1	89.6	89.1	87.8	87.2	86.5	86.7	86.0	85.2	85.1	85.1	84.8	84.3	83.8	83.1	82.7	83.1	83.0	82.2	86.7	92.3																						
12-Jan	81.9	82.4	82.3	81.9	82.0	82.3	82.5	82.9	83.7	84.5	85.3	86.2	87.3	88.5	89.6	90.4	90.7	91.1	91.3	91.2	90.8	91.0	92.5	91.8	86.8	92.5																						
13-Jan	93.9	94.2	93.4	93.6	91.6	90.9	89.5	89.5	89.9	89.8	90.7	91.8	93.0	93.6	94.0	94.3	93.7	93.0	92.8	92.2	91.5	91.9	89.8	85.1	91.8	94.3																						
14-Jan	86.4	85.6	83.5	88.9	90.9	91.3	91.4	91.4	91.0	90.9	89.3	88.0	88.4	88.4	89.0	86.6	86.2	86.8	86.4	83.7	82.7	72.3	68.2	86.6	86.6	91.4																						
15-Jan	71.2	77.2	77.9	73.4	74.4	70.2	64.3	63.7	65.1	65.8	63.6	60.1	61.1	60.9	57.8	57.8	64.0	76.5	82.1	82.7	82.9	79.0	76.7	78.3	70.3	82.9																						
16-Jan	78.0	74.9	67.3	70.2	76.8	90.9	91.8	91.6	93.8	94.7	95.5	94.4	95.6	95.3	93.5	89.8	89.4	89.0	88.5	84.4	78.3	78.5	79.0	81.3	85.9	95.6																						
17-Jan	79.3	78.5	81.1	81.4	81.8	81.4	81.1	79.6	81.6	81.7	80.5	78.6	78.3	76.8	75.1	73.7	71.6	75.9	78.9	79.2	78.2	77.1	76.8	76.5	78.5	81.8																						
18-Jan	77.1	77.9	77.5	76.9	76.4	77.5	78.8	79.0	77.5	75.3	74.9	74.0	74.5	74.9	74.2	74.6	78.3	79.2	78.8	78.4	76.1	80.4	78.3	77.4	77.0	80.4																						
19-Jan	74.3	75.5	74.5	75.4	76.7	75.7	74.4	73.7	73.0	72.7	73.1	73.9	75.0	76.4	76.0	75.2	76.5	77.2	76.3	74.2	74.0	74.3	75.8	73.8	74.9	77.2																						
20-Jan	74.4	75.5	74.7	75.1	74.8	75.3	75.5	75.4	75.3	73.7	65.8	63.0	73.5	78.4	77.9	75.4	75.3	77.8	79.5	79.2	78.7	80.6	82.1	82.4	75.8	82.4																						
21-Jan	83.0	82.6	85.4	80.7	71.0	72.0	72.0	74.3	85.4	83.5	80.6	78.8	81.9	84.1	87.4	83.6	79.9	72.8	86.2	85.2	79.3	80.8	83.1	82.4	80.7	87.4																						
22-Jan	77.9	80.2	81.3	82.4	81.6	83.2	85.5	85.4	85.1	85.8	84.5	83.0	84.8	87.5	87.8	91.0	91.2	92.0	92.6	93.2	92.6	91.0	90.7	89.7	86.7	93.2																						
23-Jan	89.0	88.0	86.2	90.1	92.8	93.3	93.8	94.3	94.7	94.4	93.8	93.3	93.8	90.1	86.0	81.5	90.2	83.4	82.2	82.5	81.9	81.4	80.6	79.5	88.2	94.7																						
24-Jan	78.8	78.5	75.9	72.7	77.5	78.0	80.5	78.7	68.8	67.3	64.6	61.1	56.3	53.1	54.5	53.9	61.0	66.0	67.0	69.0	66.9	65.2	66.0	70.8	68.0	80.5																						
25-Jan	75.0	78.0	83.9	88.2	90.3	90.1	89.1	88.7	88.1	86.8	85.9	78.4	67.5	64.2	57.5	56.8	60.5	65.2	66.5	69.3	70.8	73.7	77.8	82.5	76.4	90.3																						
26-Jan	83.6	84.7	86.3	88.6	89.2	89.9	89.8	87.0	87.6	86.2	81.7	76.7	65.2	62.8	63.8	66.2	69.4	68.6	65.5	62.7	64.2	64.9	66.7	69.1	75.9	89.9																						
27-Jan	69.6	68.5	66.7	65.0	70.6	71.2	77.4	73.7	71.0	67.3	64.2	61.2	59.2	56.0	52.2	47.2	48.2	48.4	46.9	49.6	46.4	41.6	43.4	45.0	58.8	77.4																						
28-Jan	46.0	47.9	50.2	51.4	53.3	53.8	52.8	50.3	47.2	46.6	44.3	40.6	38.8	38.5	38.7	40.1	41.3	44.3	47.1	47.1	47.1	48.5	48.3	49.2	46.4	53.8																						
29-Jan	48.8	48.6	56.0	60.7	60.8	57.1	60.2	62.8	65.3	73.1	83.6	89.4	88.5	88.6	89.2	90.6	92.0	93.6	93.8	93.7	92.8	92.9	92.4	90.0	77.7	93.8																						
30-Jan	86.1	84.0	84.9	84.9	84.5	84.7	85.1	84.8	83.6	82.8	81.6	80.0	79.1	79.6	78.7	80.1	80.7	81.7	81.6	81.3	81.2	81.3	81.3	81.3	82.3	86.1																						
31-Jan	81.2	80.6	79.6	77.5	76.1	75.9	74.5	78.4	80.9	80.5	77.3	77.9	75.4	74.5	74.6	80.2	80.7	81.7	80.9	79.9	80.7	81.5	80.5	81.6	78.9	81.7																						
																								78.0	78.4	79.1	79.5	80.0	80.5	80.7	80.5	80.4	80.0	78.9	77.5	76.4	75.9	75.5	75.9	77.6	78.6	79.4	79.1	78.3	78.4	78.1	78.1	Diurnal Average
																								93.9	94.2	93.4	93.6	92.8	93.3	93.8	94.3	94.7	94.7	95.5	94.4	95.6	95.3	94.0	94.3	95.8	97.5	97.7	97.5	97.7	97.7	97.1	92.8	Diurnal Maximum





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Relative Humidity 2m (RH2) - %
Kirby North - January 2025

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	3	0.40	0.40
40 - 60	50	6.72	7.12
60 - 80	325	43.68	50.81
80 - 100	366	49.19	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744

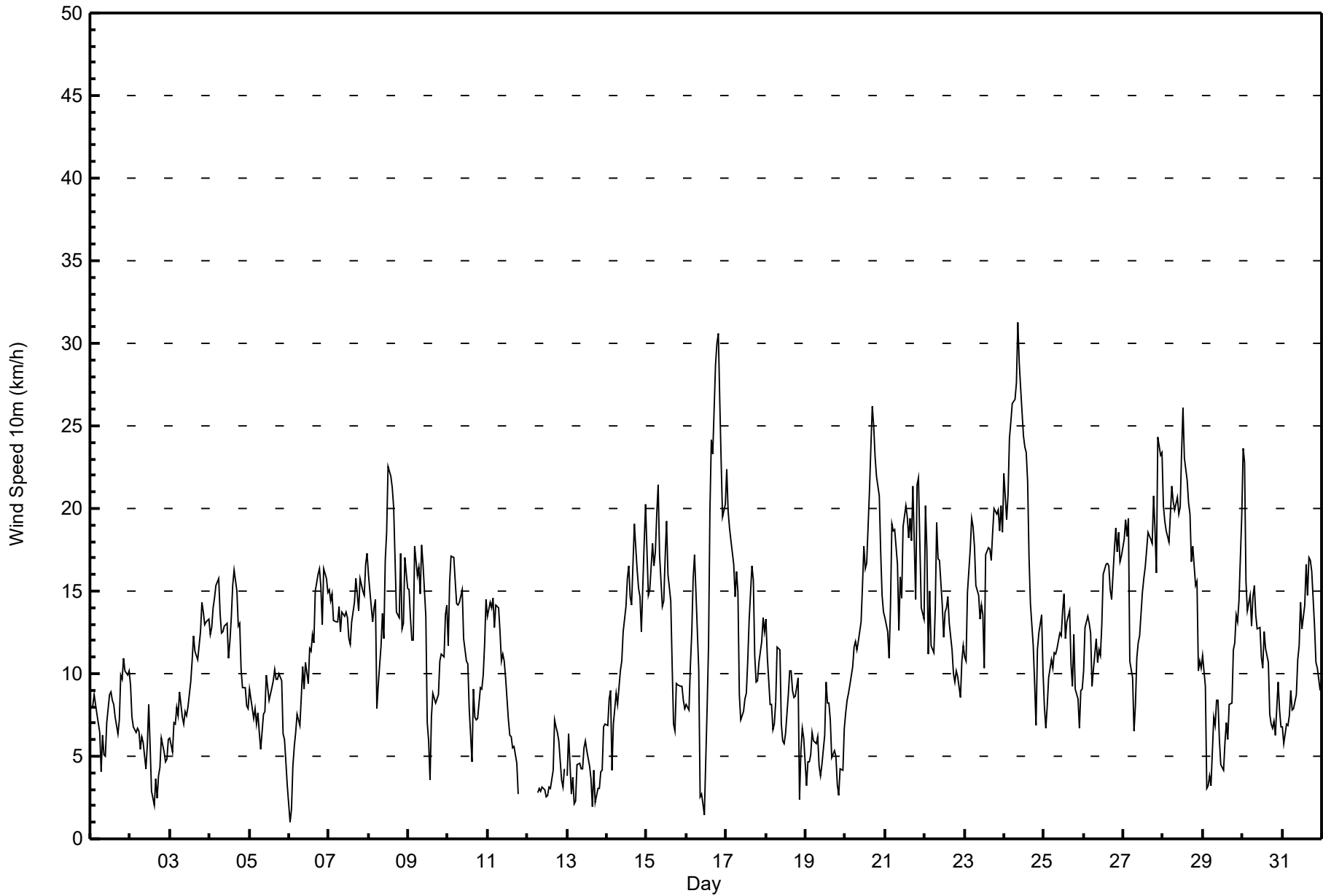


Maximum Speed: 31 km/h on Jan 24 09:00	Maximum Daily Speed Average: 18.3 km/h on Jan 28	Hours in Service: 744
Minimum Speed Value: 1 km/h on Jan 6 01:00	Minimum Daily Speed Average: 2.2 km/h on Jan 29	Hours of Data: 732
Maximum Diurnal Speed Average: 4.9 km/h at hour 13	Minimum Diurnal Speed Average: 3.4 km/h at hour 18	Hours of Missing Data: 12
Monthly Average Velocity: 4.2 km/h 267.8 deg	Percentiles: P ₁ = 2 P ₁₀ = 5 Q ₁ = 8 Median = 12 Q ₃ = 15 P ₉₀ = 19 P ₉₉ = 27	Percent Operational Time: 98.4

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	NW8	NW8	NW9	NW8	NW8	NW6	NNW4	NNW6	NNW5	NNW5	NNW7	NNW9	N9	N8	NNW8	NNW7	NNW6	N7	N10	N10	N11	N10	N10	N10	NNW7.6	N11
2-Jan	NNE9	N7	N7	NNE6	N7	N6	N5	NNE6	N6	N4	NNE6	NE8	NE6	NNE3	NE2	ENE4	SSE2	SE4	SSE4	S6	SSE5	SSE5	SSE5	SSE6	NE2.8	NNE9
3-Jan	SSE6	SSE5	S7	S7	S8	S7	S9	S7	S7	S8	S7	S8	S9	S11	S12	S11	S11	S11	S13	SSE14	S14	S13	S13	S13	S9.7	SSE14
4-Jan	S12	S13	S14	S15	S15	S16	S14	S12	S13	S13	S13	S11	S12	S13	S15	SSE16	S15	S13	S13	S10	SSW9	SSW9	SSW8	SSW8	S12.4	SSE16
5-Jan	SW9	SW8	SW7	WSW8	WNW7	NW8	NNW6	NNW5	NNW8	NNW8	N10	NNW9	NNW8	NNW9	NNW10	N10	N10	NNE10	NNE10	NNE10	NNE6	ENE6	E5	SE3	NNW4.7	N10
6-Jan	SW1	S2	SSE4	SSE6	S6	S8	S7	S9	S10	S9	S11	SSW9	SSW12	SSW11	SSW12	SSW12	SSW15	SSW16	SW16	SSW15	SSW13	SSW16	SSW16	SSW15	SSW10.2	SSW16
7-Jan	SSW15	SSW14	SSW15	SSW13	SSW13	SSW13	SSW14	SSW13	SSW14	SSW13	SSW14	SSW13	SSW12	SSW12	SSW13	SSW14	SSW16	S15	SSW14	SSW16	SSW15	SSW15	SSW17	SSW17	SSW14.1	SSW17
8-Jan	SSW16	SSW15	SSW13	SW14	WSW14	SW8	SW9	WSW12	WSW14	W12	WNW17	WNW19	NW23	NW22	WNW21	NW20	NW17	NW14	WNW13	WNW17	WNW13	WNW13	WNW17	WNW15	W12.7	NW23
9-Jan	WNW15	WNW13	WNW12	WNW12	WNW18	WNW16	WNW16	WNW15	WNW18	WNW17	WNW14	NW7	NW6	WNW4	SW7	SSW9	S8	S8	S9	S11	S11	S11	S14	S14	WSW7.3	WNW18
10-Jan	S12	S16	S17	S17	S16	S14	SSW14	SSW14	SSW15	SSW12	SW11	SW11	SW11	W8	WSW5	NW9	NNW7	NW7	NNW7	NW9	NW9	NNW10	N12	N14	SW5.5	S17
11-Jan	N14	N14	NNE14	NNE15	NNE13	NNE14	NNE14	NE13	NNE11	NNE11	NNE11	NE10	NE7	NNE6	NNE6	NNE5	NE6	NNE5	NNE3	UO	UO	UO	UO	UO	NNE9.8	NNE15
12-Jan	UO	UO	UO	UO	UO	UO	S3	S3	S3	S3	SSW3	SSW3	S3	SSW3	SSW3	SSW4	SSW7	SSW7	SSW6	SW6	SSW4	SW3	WSW4	UO	---	SSW7
13-Jan	WSW4	W6	WNW3	WNW4	SW2	SSW2	SSW5	S5	S4	S4	SSW6	SSW6	SSW5	SW4	SW4	SSW2	WSW4	SW2	SSW3	SSW3	SSW4	SW4	WSW7	WSW7	SW3.5	WSW7
14-Jan	WSW7	W8	WNW9	SW4	S7	SSW9	S8	SSW9	SSW10	SSW11	SSW13	SSW14	SSW16	SW17	SW15	SW14	WSW19	WSW18	WSW16	WSW15	WSW15	WSW13	WNW18	WNW20	SW11.0	WNW20
15-Jan	W17	WSW15	WSW15	WSW18	W17	W17	WNW20	WNW21	WNW17	WNW14	WNW14	WNW17	NW19	NW16	WNW14	WNW11	WSW7	SSW6	SSW9	S9	S9	S9	S8	SSE8	W10.5	WNW21
16-Jan	SSE8	SE8	SE10	SE12	SE16	SE17	SSE15	SSE10	S3	WSW3	ENE2	S1	NNE8	NNE12	NE20	NE24	NE23	NE29	NNE30	NNE31	NNE27	NNE23	N20	N20	NE9.7	NNE31
17-Jan	N22	N20	N19	N18	N17	N15	N16	N15	N9	N7	N8	N8	N9	N11	N13	N17	N16	N11	NNW9	NNW10	NNW11	NNW12	NNW13	NNW13	N13.1	N22
18-Jan	NNW13	NNW11	N8	NNW8	NNW7	NW7	WNW8	W12	WNW11	SW7	SW6	SSW6	SSW6	SW9	SW10	SW10	SSW9	SSW9	SSW9	SSW10	SSE2	SW5	WSW7	SW6	WSW4.9	NNW13
19-Jan	WSW3	NW5	NNW5	N5	NNW6	NW6	NW6	NW6	NNW4	NW4	NW4	NNW6	NNW10	NNW8	NNW8	N7	N5	N5	N5	N3	SSW3	WSW4	WSW4	S7	NNW4.1	NNW10
20-Jan	S8	S8	SSW9	S9	S10	SSW12	SSW12	SSW11	SSW12	SSW13	SSW15	SSW18	SSW16	SSW17	SSW21	SSW24	SSW26	SSW25	SSW23	SW22	SW21	SW17	SW15	SW14	SSW15.5	SSW26
21-Jan	SW13	SW13	SW11	WSW14	WNW19	W19	W19	W17	SW13	WSW16	W15	WNW19	WNW20	WNW19	NW18	NW19	NNW18	NNW21	NNW15	N21	N22	N18	N14	NNW13	WNW12.3	N22
22-Jan	NNW20	NNW18	NW11	NW15	NW12	WNW11	WNW14	NNW19	NNW17	NNW17	NNW14	NNW12	NW14	NW14	NW15	NW13	NW11	W10	SW10	SW10	SSW10	SSW9	SSW11	SSW12	WNW9.5	NNW20
23-Jan	SSW11	SSW11	SSW15	SSW18	SW19	SSW19	SW18	SW15	SW15	SW13	WSW14	W14	WNW10	WNW17	WNW18	W18	WNW17	WNW19	NW20	NW20	NW20	NW19	NW20	WNW19	W12.3	NW20
24-Jan	WNW22	WNW19	W21	WNW24	NW25	NW26	NW27	NNW28	NNW31	NNW29	NNW27	NNW24	NNW24	NNW23	NNW22	NNW17	NNW14	NW12	WNW9	W7	WNW11	WNW12	WNW14	WSW10	NW18.2	NNW31
25-Jan	WSW8	SW7	SSW8	SSW10	SSW11	SSW10	SSW11	SSW11	SSW12	SSW12	SSW12	SSW14	WSW15	SW12	WNW13	WNW14	W11	W9	W12	W9	W8	WSW7	SW9	SSW9	SW8.8	WSW15
26-Jan	SSW10	SSW13	SSW14	SSW13	SSW12	SSW9	SSW10	SSW12	SSW11	SSW11	SSW11	SSW13	WSW16	WSW17	SW17	SW17	SW15	WSW14	W18	WNW19	WNW17	WNW19	WNW17	WNW17	WSW11.4	WNW19
27-Jan	WNW18	WNW19	WNW18	WNW19	W11	W10	SW7	WSW8	WSW11	WSW12	SW12	SW15	SW16	SW16	SW17	WSW19	SW18	WSW18	WSW21	WSW19	W16	WNW24	WNW23	WNW23	W14.3	WNW24
28-Jan	NW20	WNW19	WNW19	WNW18	WNW20	WNW21	WNW20	WNW20	WNW21	WNW20	WNW20	NW23	NW26	NW23	NW22	WNW20	WNW20	WNW17	WNW18	WNW15	WNW16	W10	W11	WSW10	WNW18.3	NW26
29-Jan	WSW11	W9	S3	ESE3	ESE4	SSW3	SSW7	SSW7	SW8	SW8	SSW6	SSW4	SSE4	SE6	ESE7	E6	E8	ENE8	NE11	NE12	NNE14	NE13	NE14	NNE20	ENE2.2	NNE20
30-Jan	NNE24	NNE23	NNE16	NNE14	NNE15	NNE13	NNE15	NNE15	NNE14	NNE13	NNE13	NE11	NE10	NE13	NE12	NE11	ENE8	ENE7	ENE7	ENE7	NE6	ENE9	ENE8	ENE7	NE11.5	NNE24
31-Jan	ENE7	E6	E7	E7	E7	E9	ESE8	ESE8	ESE9	SE11	SE12	ESE14	ESE13	E14	E17	E15	E17	E17	E16	E13	E11	ENE10	E10	NE9	E10.5	E17

W4.9	W4.6	WSW4.0	W4.2	WSW4.5	WSW4.6	W4.4	WSW4.5	WSW4.5	W4.3	W4.4	W4.9	WNW4.7	W4.6	WNW4.3	W3.9	W3.4	W3.8	W3.6	W3.6	W3.8	W4.5	W4.5	Diurnal Average		
NNE24	NNE23	W21	WNW24	NW25	NW26	NW27	NNW28	NNW31	NNW29	NNW27	NNW24	NW26	NNW23	NW22	NE24	SSW26	NE29	NNE30	NNE31	NNE27	WNW24	WNW23	WNW23	Diurnal Maximum	

UO - Unstable Operation
All monthly, daily, and diurnal averages have been calculated using vector methods





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 10m (WS10) - km/h
Kirby North - January 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	85	11.61	11.61
6 - 11	280	38.25	49.86
12 - 19	297	40.57	90.44
20 - 28	65	8.88	99.32
29 - 38	5	0.68	100.00
> 38	0	0.00	100.00

Total Number of Valid Hours: 732

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Wind Speed 10m (WS10) - km/h
Kirby North - January 2025**

Wind Speed Ranges (km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	7	4	1	2	1	2	2	9	12	16	9	8	0	3	3	6	85
6 - 11	24	15	11	11	9	4	4	6	42	47	24	13	14	9	19	28	280
12 - 19	15	16	6	0	7	2	4	3	32	66	25	23	14	55	14	15	297
20 - 28	6	5	3	0	0	0	0	0	0	5	2	1	1	19	15	8	65
29 - 38	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	2	5
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	52	42	22	13	17	8	10	18	86	134	60	45	29	86	51	59	732

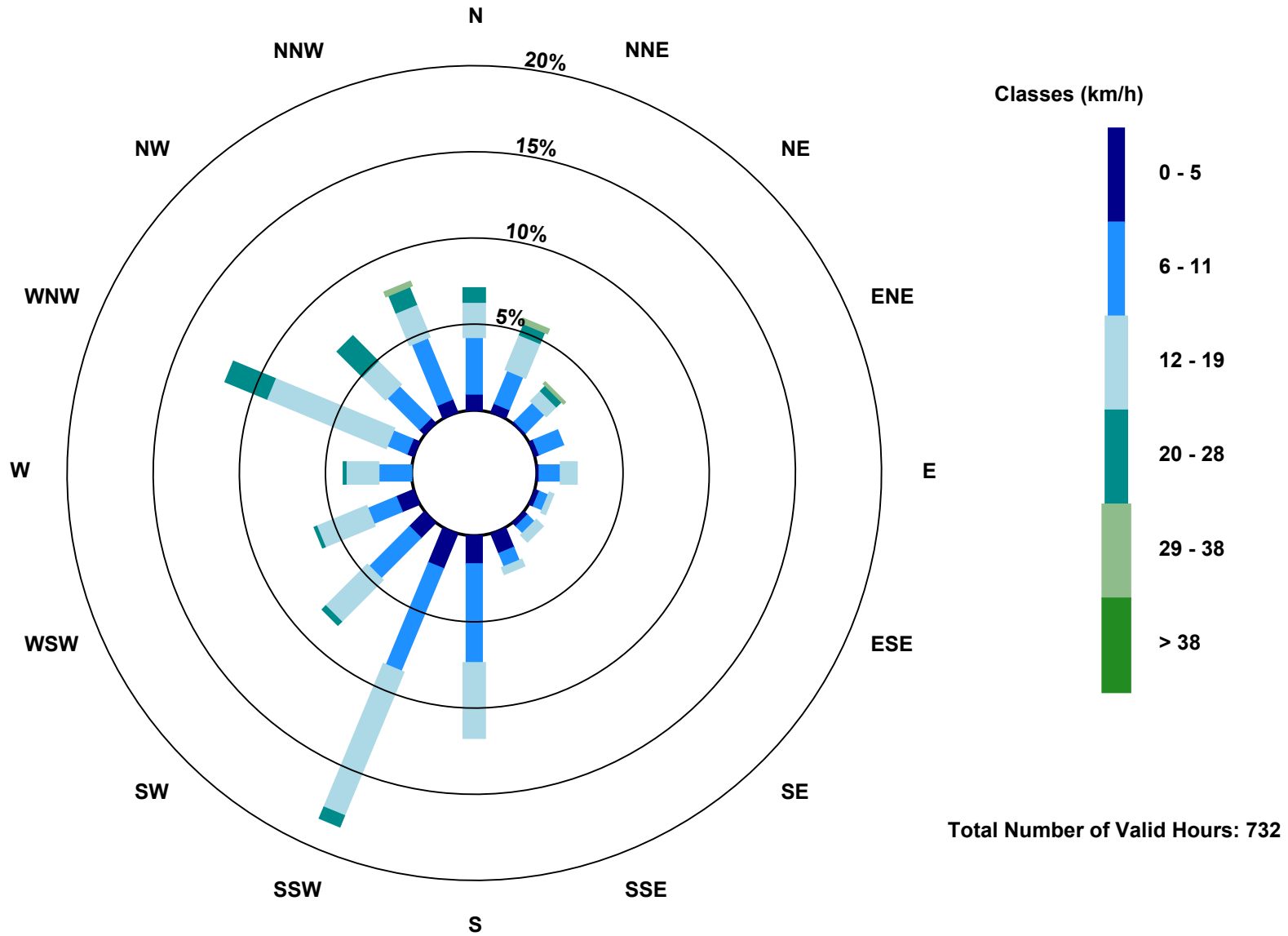
Total Number of Valid Hours: 732

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Wind Speed 10m (WS10) - km/h
Kirby North





Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Speed 10m (WS10) - km/h
Kirby North - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 9 km/h on Jan 24 10:00	Hours of Data: 732
Minimum Value: 0 km/h on Jan 12 07:00	Hours of Missing Data: 12
Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 2 Median = 3 Q ₃ = 4 P ₉₀ = 5 P ₉₉ = 7	Hours of Calibration: 0
	Percent Operational Time: 98.4

Day	Hourly Period Ending At (MST)																								Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	1	1	1	2	1	1	1	1	1	1	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2
2-Jan	2	1	1	1	1	1	1	0	1	1	2	2	2	1	1	1	0	1	1	1	1	1	1	1	1	1
3-Jan	1	1	1	1	1	1	1	1	1	1	2	2	2	3	3	3	2	3	3	4	4	3	4	4	4	4
4-Jan	3	4	4	4	4	4	3	3	3	3	4	3	4	4	4	5	4	4	4	3	3	2	2	2	2	5
5-Jan	2	2	2	2	2	2	2	1	1	2	2	2	2	2	2	2	2	2	2	2	1	2	1	1	1	2
6-Jan	1	1	2	2	2	2	2	2	3	3	3	3	3	4	3	3	4	4	4	3	3	4	4	4	3	4
7-Jan	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	3	3	4	3	3	3	3	3	4
8-Jan	3	3	3	3	3	2	2	3	3	3	5	5	7	6	5	5	4	3	3	4	4	3	4	3	4	7
9-Jan	3	3	3	3	4	4	4	6	5	4	4	3	2	1	2	3	2	1	2	2	2	3	3	4	6	
10-Jan	3	4	4	4	5	3	3	3	3	3	2	3	3	3	3	2	2	2	2	2	2	2	4	4	5	
11-Jan	3	3	3	3	3	2	3	3	2	2	2	2	1	1	1	1	1	1	1	UO	UO	UO	UO	UO	3	
12-Jan	UO	UO	UO	UO	UO	UO	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	UO	2	
13-Jan	1	2	1	1	1	2	1	1	1	1	1	1	1	1	2	1	1	2	1	1	1	1	1	1	2	
14-Jan	1	3	3	2	2	2	1	2	2	2	3	4	3	3	3	3	4	3	3	3	3	3	6	4	6	
15-Jan	4	3	3	4	4	5	4	5	4	4	4	4	5	4	3	4	3	2	2	1	1	2	1	2	5	
16-Jan	1	2	2	3	4	4	4	4	2	4	1	2	2	3	6	5	5	6	6	7	6	5	4	5	7	
17-Jan	6	5	4	5	4	4	4	3	3	1	2	2	2	3	3	4	3	2	2	2	3	3	3	3	6	
18-Jan	3	3	2	2	1	1	3	3	3	1	1	2	2	2	2	2	2	1	1	1	2	2	2	1	3	
19-Jan	1	1	1	1	1	1	1	1	2	2	1	3	2	2	2	2	1	2	1	1	2	2	2	2	3	
20-Jan	1	1	2	2	2	2	3	3	3	4	4	5	5	5	5	6	6	6	5	5	4	3	3	3	6	
21-Jan	3	3	2	3	5	4	4	4	2	3	4	5	5	5	4	5	5	5	5	5	6	5	3	5	6	
22-Jan	6	6	3	3	3	3	3	5	5	4	3	3	4	3	4	3	3	3	2	2	2	2	2	2	6	
23-Jan	3	3	4	4	5	4	4	3	3	3	3	3	3	4	4	4	5	5	5	5	5	5	5	4	5	
24-Jan	5	5	5	6	6	7	7	8	8	9	8	8	6	7	6	5	5	3	2	3	4	3	4	3	9	
25-Jan	2	2	2	2	2	2	2	2	2	2	2	3	3	3	5	4	3	3	3	2	3	3	2	2	5	
26-Jan	2	2	3	2	2	2	2	2	2	2	2	3	4	3	4	3	3	3	6	5	4	4	4	4	6	
27-Jan	4	4	4	6	2	5	2	2	3	2	3	4	3	4	4	4	4	4	4	4	5	6	6	6	6	
28-Jan	5	5	5	4	5	5	5	5	5	5	5	6	7	6	6	5	5	4	4	4	4	2	2	3	7	
29-Jan	3	3	2	2	1	2	2	2	3	2	1	1	1	1	2	2	2	2	2	2	3	3	3	5	5	
30-Jan	5	5	3	3	3	3	3	3	3	3	2	2	2	2	2	2	2	1	2	2	1	2	2	2	5	
31-Jan	2	2	2	2	2	3	2	2	3	3	3	4	4	4	4	4	4	4	5	3	3	2	2	2	5	
	6	6	5	6	6	7	7	8	8	9	8	8	7	7	6	6	6	6	6	6	7	6	6	6	6	

Diurnal Maximum

UO - Unstable Operation



Wood Buffalo Environmental Association
Summary of Hour Averages

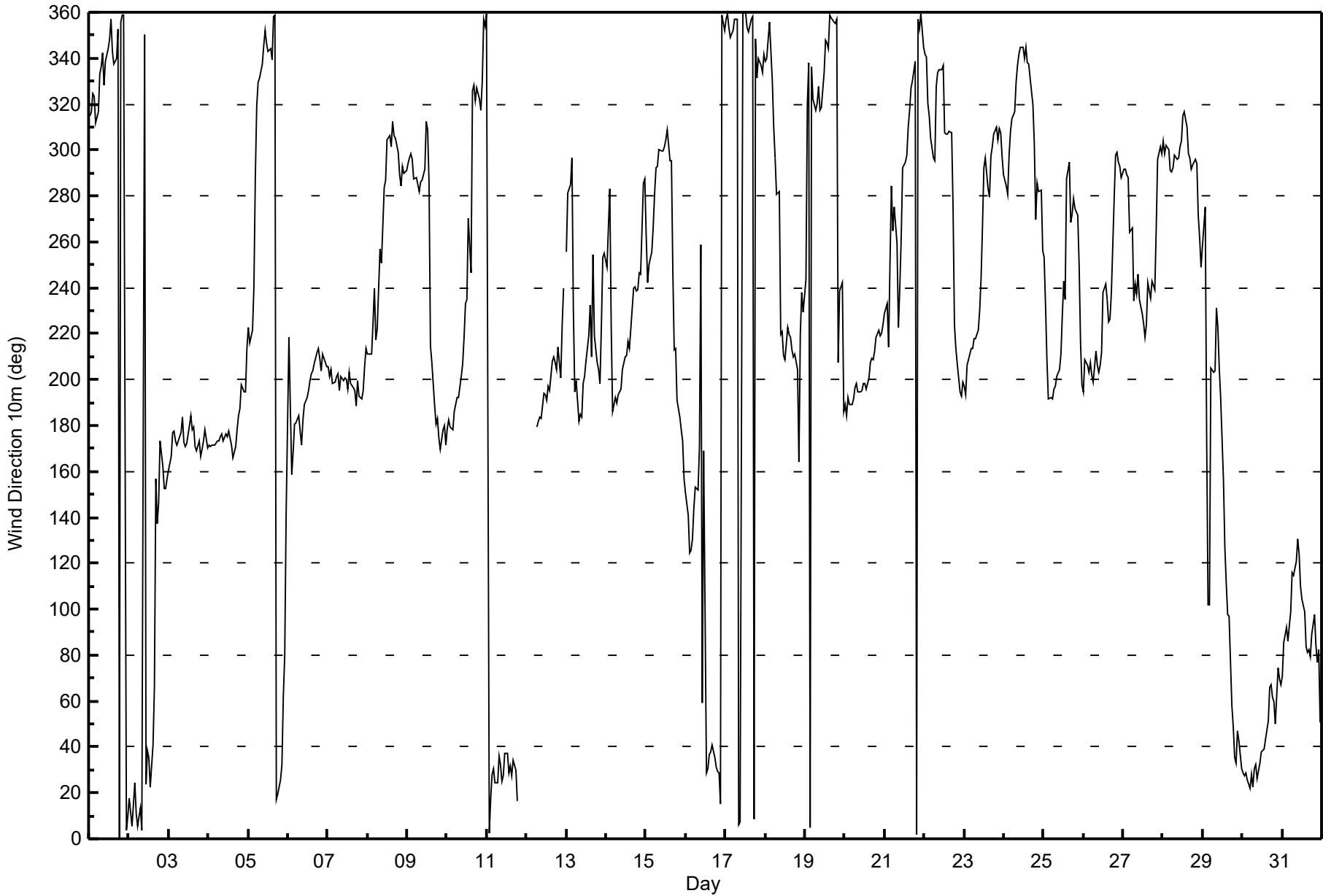
Wind Direction 10m (WD10) - deg
Kirby North - January 2025

Direction of Maximum Speed: 337 deg on Jan 24 09:00	Hours in Service: 744
Direction of Maximum Daily Speed Average: 297.3 deg on Jan 28	Hours of Data: 732
Direction of Minimum Speed: 218 deg on Jan 6 01:00	Hours of Missing Data: 12
Direction of Minimum Daily Speed Average: 2.2 deg on Jan 29	Percent Operational Time: 98.4
Monthly Average Direction: 267.8 deg	

Day	Hourly Period Ending At (MST)																								Daily Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	315	317	325	324	312	316	333	336	343	328	339	344	349	357	343	338	340	353	0	356	359	359	3	10	342.8
2-Jan	17	11	6	24	11	5	10	14	3	350	24	39	36	23	41	67	157	138	147	173	162	152	152	157	39.8
3-Jan	161	167	177	178	173	172	173	177	183	173	171	172	180	184	178	179	171	169	173	167	170	174	178	170	173.8
4-Jan	172	171	172	171	171	173	175	173	176	173	176	175	178	175	171	166	171	178	184	187	198	195	195	213	176.9
5-Jan	223	216	221	240	288	319	330	331	337	345	352	346	343	344	339	358	359	17	20	26	33	62	80	141	343.6
6-Jan	218	188	159	168	180	181	184	178	172	183	189	192	195	199	202	204	207	212	214	209	204	211	207	205	198.2
7-Jan	205	202	204	198	199	201	203	195	201	200	201	200	196	203	198	197	195	189	199	193	192	195	205	213	199.5
8-Jan	211	211	211	225	240	217	222	257	251	266	284	287	305	306	301	313	306	305	299	289	285	293	290	291	276.3
9-Jan	294	296	299	296	288	288	285	282	286	287	292	312	309	286	215	207	189	180	183	174	170	178	180	171	258.6
10-Jan	179	182	180	178	186	189	192	192	201	207	218	233	235	270	246	326	328	322	327	322	317	330	357	354	225.2
11-Jan	359	2	18	28	30	24	25	36	32	25	28	37	37	29	32	28	34	30	17	UO	UO	UO	UO	UO	24.6
12-Jan	UO	UO	UO	UO	UO	UO	179	182	184	183	194	193	191	197	195	208	210	208	205	214	201	224	240	UO	-
13-Jan	256	281	285	297	230	195	200	182	185	184	198	201	208	219	232	210	254	219	208	204	198	223	253	255	224.3
14-Jan	249	266	283	224	186	192	190	193	195	196	204	210	210	217	214	222	240	240	239	239	247	246	286	287	231.4
15-Jan	262	242	250	256	266	281	292	293	300	299	300	302	305	308	295	296	247	213	213	191	184	178	173	157	270.8
16-Jan	151	141	124	126	131	144	153	152	171	258	59	169	29	31	37	38	41	35	31	29	29	15	359	352	48.8
17-Jan	357	359	353	349	352	357	357	357	6	7	360	360	360	353	351	357	358	9	348	332	340	337	334	342	353.1
18-Jan	338	340	356	343	330	310	297	281	282	219	221	211	209	223	220	219	213	210	211	205	164	220	238	230	255.0
19-Jan	243	320	338	5	336	322	317	320	328	317	319	334	348	347	344	359	357	356	355	357	207	238	242	186	330.1
20-Jan	189	185	192	189	189	192	197	198	195	195	195	198	198	196	201	207	209	208	213	218	222	219	221	224	204.7
21-Jan	229	233	214	251	284	265	275	259	222	240	262	292	295	298	310	318	327	330	339	2	357	353	359	345	297.9
22-Jan	342	341	321	315	305	297	295	327	334	335	335	337	307	307	307	308	308	275	224	214	207	195	193	199	305.2
23-Jan	197	194	206	211	214	213	218	218	221	230	244	267	292	296	283	280	297	301	307	310	305	309	307	297	264.2
24-Jan	289	285	280	298	308	314	316	329	337	342	345	345	340	345	338	337	331	320	303	270	285	282	283	256	317.9
25-Jan	253	233	208	192	192	192	196	197	202	205	211	228	243	235	287	295	268	272	279	275	271	249	216	198	232.9
26-Jan	195	209	206	203	207	202	199	212	206	203	206	212	238	242	235	225	226	238	279	298	299	295	293	288	238.8
27-Jan	292	292	289	288	264	266	234	242	238	246	235	229	224	218	224	242	235	243	241	239	265	296	301	299	259.6
28-Jan	304	298	302	300	291	291	292	298	296	297	301	304	315	317	310	299	296	292	294	296	294	271	262	249	297.3
29-Jan	258	275	175	102	102	205	203	204	231	223	205	192	156	127	111	98	97	58	49	35	33	47	43	30	73.9
30-Jan	29	28	29	26	22	28	23	31	33	26	33	38	39	39	43	51	66	67	61	60	50	74	69	67	38.0
31-Jan	71	85	92	86	93	99	116	115	121	131	124	110	104	99	84	81	82	79	89	97	84	77	82	51	93.5

276.4 271.8 256.3 259.2 257.8 254.2 253.8 261.4 258.1 255.1 261.4 269.1 278.7 282.2 278.6 283.9 267.3 268.9 267.4 266.4 275.4 274.4 274.6 272.6
 Diurnal Average

UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods





Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg
Kirby North - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 83 deg on Jan 16 10:00 Minimum Value: 5 deg on Jan 2 08:00 Percentiles: P ₁ = 9 P ₁₀ = 12 Q ₁ = 14 Median = 16 Q ₃ = 18 P ₉₀ = 21 P ₉₉ = 57																	Hours in Service: 744 Hours of Data: 732 Hours of Missing Data: 12 Hours of Calibration: 0 Percent Operational Time: 98.4								
Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	12	10	11	13	13	13	17	9	13	18	19	17	17	16	16	14	14	15	14	14	14	13	15	13	19
2-Jan	11	10	12	6	8	6	9	5	9	12	15	14	25	35	19	20	36	19	18	12	13	16	11	7	36
3-Jan	7	12	14	13	13	13	13	14	13	16	17	18	19	18	17	18	16	17	17	17	18	19	19	20	20
4-Jan	18	19	19	18	18	19	18	19	20	18	19	20	20	21	18	18	19	21	20	23	21	19	19	18	23
5-Jan	14	14	15	18	26	15	13	12	14	15	15	19	16	16	16	15	15	14	12	13	22	15	15	35	35
6-Jan	77	72	23	21	21	17	20	19	19	19	21	23	22	21	19	18	18	15	16	16	18	17	16	17	77
7-Jan	16	17	16	17	17	16	16	16	17	17	17	17	17	16	17	16	17	16	16	18	17	15	15	13	18
8-Jan	14	13	16	17	14	23	19	17	14	15	18	15	16	15	16	15	14	15	14	13	18	14	13	12	23
9-Jan	13	14	14	14	12	13	11	15	13	12	13	19	20	35	17	17	15	12	16	15	14	17	18	18	35
10-Jan	20	19	18	18	18	18	17	16	17	15	16	17	15	32	53	14	15	15	16	14	14	15	22	16	53
11-Jan	16	15	14	13	11	11	13	12	12	11	14	15	21	23	18	17	16	20	24	UO	UO	UO	UO	UO	24
12-Jan	UO	UO	UO	UO	UO	UO	13	14	17	18	21	22	20	17	19	17	16	17	16	15	19	28	27	UO	28
13-Jan	24	18	42	22	46	50	14	15	19	16	18	17	16	18	22	34	24	29	24	20	15	22	13	13	50
14-Jan	16	20	32	28	15	17	16	16	16	17	17	17	16	15	15	16	11	11	10	11	13	16	16	14	32
15-Jan	13	15	17	13	13	15	14	14	15	16	17	15	15	16	16	16	30	20	12	11	13	13	12	14	30
16-Jan	10	18	14	15	14	16	19	23	78	83	61	83	14	14	12	12	12	12	11	11	11	13	17	17	83
17-Jan	17	15	18	16	15	16	16	14	15	13	15	17	20	17	16	15	16	12	13	12	14	15	12	12	20
18-Jan	15	17	17	13	15	13	22	16	17	17	19	24	24	14	12	14	14	9	11	10	55	29	14	14	55
19-Jan	40	14	11	11	12	10	10	14	22	22	16	27	16	16	15	13	20	18	13	22	71	29	21	26	71
20-Jan	10	12	14	15	16	16	17	17	19	20	20	20	20	21	17	16	15	15	14	14	14	14	16	14	21
21-Jan	18	17	15	19	16	15	15	15	13	15	20	16	15	15	15	15	16	15	17	16	18	17	16	17	20
22-Jan	15	17	16	13	15	14	16	15	16	15	16	19	16	16	16	16	15	29	14	11	14	15	16	16	29
23-Jan	17	21	17	15	15	15	15	14	13	14	13	24	18	15	18	19	16	15	15	14	15	15	14	14	24
24-Jan	14	18	15	16	15	15	15	16	18	18	18	19	18	18	17	15	13	14	18	25	20	21	20	30	30
25-Jan	26	37	16	19	15	15	15	15	15	14	15	14	14	16	26	17	17	20	16	16	18	31	17	16	37
26-Jan	17	13	14	14	13	15	17	13	15	15	17	17	15	13	14	13	13	12	21	15	14	14	13	15	21
27-Jan	12	12	14	13	15	26	26	17	16	16	15	15	13	14	14	13	16	13	11	13	25	15	15	14	26
28-Jan	16	14	15	15	13	13	14	15	14	14	15	16	16	16	15	15	14	14	13	14	14	17	21	14	21
29-Jan	20	18	54	30	22	58	22	19	23	20	19	19	28	22	17	18	19	21	12	11	27	13	15	18	58
30-Jan	11	11	12	15	11	11	11	14	15	12	14	16	17	14	15	16	14	11	14	15	18	16	15	15	18
31-Jan	16	20	17	20	20	17	21	17	17	19	17	15	17	16	15	16	15	14	16	16	16	14	15	19	21
77 72 54 30 46 58 26 23 78 83 61 83 28 35 53 34 36 29 24 25 71 31 27 35																								Diurnal Maximum	
UO - Unstable Operation																									



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS508 HANGINGSTONE EXPANSION JANUARY 2025

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

February 28, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - HANGINGSTONE EXPANSION (AMS512)
 JANUARY 2025

MONTHLY SUMMARY

Parameter	Hours of Data	Hours of Calibration	Hours without Data	Operational Time	Maximum 1-Hour Value	1-Hour Exceedances	Maximum 24-Hour Value	24-Hour Exceedances
SO2 (ppb) Average	709	35	35	100	158	0	30.4	0
H2S (ppb) Average	708	36	36	100	2	0	0.7	0
NO2 (ppb) Average	708	36	36	100	22.3	0	10.1	-
NO (ppb) Average	708	36	36	100	6.1	-	2	-
NOX (ppb) Average	708	36	36	100	25	-	12.1	-
Temperature 2 m (C) Average	744	0	0	100	6.3	-	1.7	-
Relative Humidity (%) Average	744	0	0	100	100	-	90.3	-
Wind Speed 10 m (km/h) Average	711	0	33	95.56	32	-	18	-
Wind Direction 10 m (deg) Average	711	0	33	95.56	-	-	-	-

Note : Operational time includes periods of data collection and instrument calibration

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - HANGINGSTONE EXPANSION (AMS512)
 JANUARY 2025

MONTHLY SUMMARY FOR AIR QUALITY/ METEOROLOGICAL MONITORING MEASUREMENTS

Parameter	Number	Mean	StnDev	Total	Percentile						
					Min	P10	Q1	Median	Q3	P90	Max
SO2 (ppb) Average	707	5.69	17.7	-	0	0.1	0.2	0.6	1.6	11.3	158.8
H2S (ppb) Average	705	0.2	0.3	-	0	0	0.1	0.1	0.2	0.4	2.5
NO2 (ppb) Average	705	3.33	3.4	-	0	0.2	1	2.5	4.6	6.9	21.2
NO (ppb) Average	705	0.41	1	-	0	0	0	0.1	0.4	1	9.5
NOX (ppb) Average	705	3.74	4	-	0	0.3	1.2	2.7	5	7.8	28.2
Temperature 2 m (C) Average	744	-10.44	8.6	-	-31.3	-22.4	-17.2	-9.3	-4	1	5.8
Relative Humidity (%) Average	744	82.93	9	-	45.3	72.9	78.9	83.1	90.2	93.5	98.5
Wind Speed 10 m (km/h) Average	732	8.8	4	-	0	3	6	8	12	15	25
Wind Direction 10 m (deg) Average	732	-	-	-	-	-	-	-	-	-	-

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - HANGINGSTONE EXPANSION (AMS512)
JANUARY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
Wind Speed, Wind Direction	11 Jan 2025 07:00	12 Jan 2025 13:00	31	Flat line in sensor output signal - Sensor frozen
Wind Speed, Wind Direction	19 Jan 2025 09:00	19 Jan 2025 10:00	2	Flat line in sensor output signal - Sensor frozen



Wood Buffalo Environmental Association

Summary of Hour Averages

Sulphur Dioxide (SO₂) - ppb

Hangingsstone Expansion - January 2025

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 158.0 ppb on Jan 27 16:00	Maximum Daily Average: 30.4 ppb on Jan 27		Hours of Data:	709
Minimum Value: 0.0 ppb on Jan 5 05:00	Minimum Daily Average: 0.0 ppb on Jan 30		Hours of Missing Data:	35
Maximum Diurnal Average: 8.7 ppb at hour 16	Minimum Diurnal Average: 2.4 ppb at hour 24		Hours of Calibration:	35
Monthly Average: 5.28 ppb	Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.2 Median = 0.6 Q ₃ = 2.3 P ₉₀ = 11.0 P ₉₉ = 85.0		Percent Operational Time:	100.0

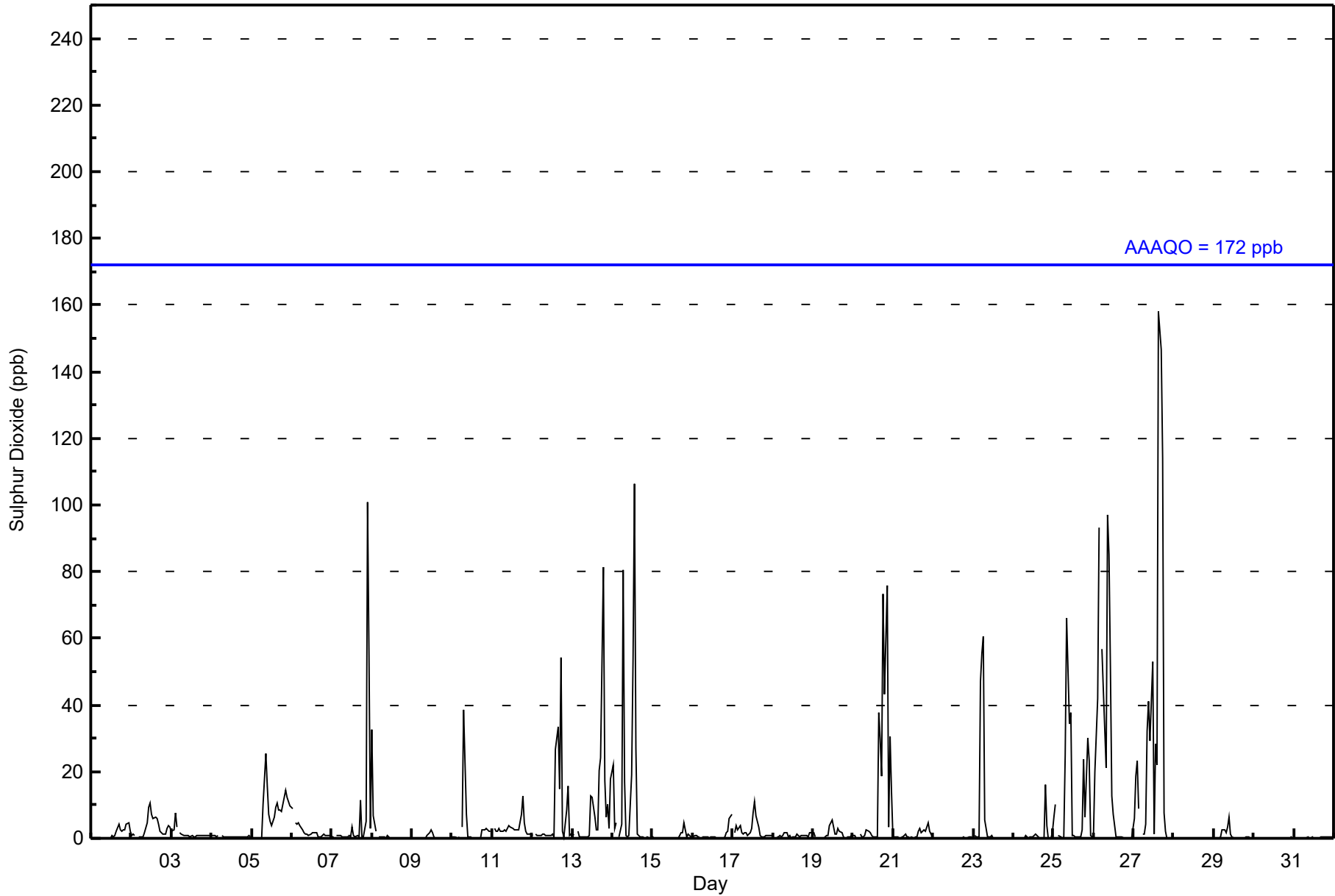
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Jan	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.9	0.5	0.8	2.0	4.3	2.4	2.0	2.4	2.7	4.4	4.6	2.0	1.3	4.6																							
2-Jan	0.8	1.1	1.0	Z	0.5	0.3	0.3	0.4	1.6	4.5	9.4	10.5	7.3	5.8	6.5	5.8	4.2	1.9	1.5	1.2	1.3	3.1	3.7	3.3	3.3	10.5																							
3-Jan	2.3	2.5	7.5	3.3	Z	1.6	1.1	0.9	0.8	0.7	0.7	0.5	0.7	0.6	0.4	0.6	0.7	0.8	0.8	0.9	0.9	0.7	0.8	0.9	1.3	7.5																							
4-Jan	0.9	1.0	0.8	0.6	0.7	Z	0.7	0.5	0.5	0.5	0.3	0.3	0.3	0.4	0.4	0.3	0.4	0.3	0.2	0.3	0.2	0.9	0.3	0.5	0.5	1.0																							
5-Jan	Z	0.1	0.0	0.0	0.0	0.0	0.0	10.1	25.5	15.5	7.3	5.2	3.6	6.4	9.3	10.5	8.7	8.6	8.2	12.5	14.4	12.3	10.9	9.9	7.8	25.5																							
6-Jan	8.9	Z	4.8	4.4	4.8	3.6	2.4	1.6	1.3	1.1	1.0	1.1	1.6	1.8	1.6	1.8	0.6	0.5	1.0	1.2	0.9	0.8	0.7	0.7	2.1	8.9																							
7-Jan	0.6	0.5	Z	0.7	0.7	0.8	0.4	0.4	0.4	0.4	0.6	0.6	3.5	0.9	0.6	0.7	0.6	11.6	0.6	0.5	5.2	101.0	55.6	3.1	8.3	101.0																							
8-Jan	32.5	6.7	2.1	Z	0.4	0.4	0.3	0.2	0.1	0.7	0.4	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	1.9	32.5																							
9-Jan	0.1	0.1	0.0	0.0	Z	0.1	0.1	0.0	0.0	0.7	1.8	2.4	1.9	0.6	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.4	2.4																							
10-Jan	0.3	0.5	0.3	0.2	0.3	Z	3.2	38.5	7.3	0.4	0.3	0.5	0.2	0.1	0.1	0.1	0.0	0.1	2.3	2.3	2.8	2.7	2.1	2.3	2.9	38.5																							
11-Jan	Z	3.1	2.3	2.2	2.8	2.1	2.3	2.4	2.0	2.9	3.8	3.6	3.0	2.4	2.4	2.4	2.4	7.3	12.6	4.5	2.3	1.3	1.3	1.3	3.2	12.6																							
12-Jan	0.8	Z	1.1	0.8	1.1	0.9	1.3	1.1	0.8	0.8	0.8	0.9	1.5	0.3	26.5	33.5	14.7	54.1	2.2	0.4	8.5	15.8	0.9	1.2	7.4	54.1																							
13-Jan	0.3	1.3	Z	2.1	0.5	0.2	0.3	0.3	0.6	0.6	0.8	12.9	12.3	6.2	2.6	2.4	20.4	24.3	81.4	17.6	6.3	10.1	2.9	17.6	9.7	81.4																							
14-Jan	21.9	2.9	4.5	Z	0.2	4.3	80.6	17.0	0.7	0.5	0.7	18.9	53.7	106.2	27.3	1.3	0.6	0.4	0.3	0.2	0.2	0.2	0.2	0.2	14.9	106.2																							
15-Jan	0.3	0.2	0.2	0.2	Z	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.9	1.7	1.8	4.8	0.2	1.4	0.8	0.3	0.6	4.8																							
16-Jan	0.3	0.8	0.9	0.6	0.4	Z	0.3	0.3	0.2	0.3	0.2	0.4	0.5	0.4	0.2	0.0	0.1	0.1	0.1	0.2	1.5	1.9	5.8	7.4	1.0	7.4																							
17-Jan	Z	1.6	3.6	2.5	3.9	1.7	1.2	1.9	1.9	1.1	1.9	3.0	7.7	11.2	6.9	3.5	0.6	0.3	0.3	0.5	0.7	0.8	0.9	0.9	2.6	11.2																							
18-Jan	0.7	Z	0.4	0.4	0.9	0.2	0.7	1.6	1.5	0.5	0.7	0.1	0.2	0.5	1.4	0.7	0.2	0.6	0.7	1.0	0.9	0.5	1.6	1.9	0.8	1.9																							
19-Jan	1.5	0.3	Z	0.2	0.2	0.2	0.2	0.4	0.7	0.7	3.9	5.4	3.2	1.3	1.2	3.0	2.0	1.5	0.5	0.2	0.2	0.4	0.2	1.3	1.2	5.4																							
20-Jan	0.8	0.7	0.1	Z	1.1	0.3	0.2	1.0	2.6	2.2	1.5	0.7	0.5	0.6	0.5	37.7	29.7	18.5	73.4	43.1	75.8	3.6	30.4	14.1	14.7	75.8																							
21-Jan	0.4	0.4	0.3	0.3	Z	0.3	0.3	1.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	2.2	3.2	1.9	2.5	2.3	3.2	4.6	1.9	0.3	1.2	4.6																							
22-Jan	0.2	0.1	0.1	0.2	0.1	Z	0.1	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.1	0.1	0.4	0.4	0.4	0.1	0.4																							
23-Jan	Z	0.7	0.3	0.4	47.0	55.6	60.7	5.4	0.4	0.3	0.3	0.8	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.2	7.6	60.7																							
24-Jan	0.1	Z	0.2	0.2	0.1	0.1	0.2	0.8	0.6	0.2	0.5	0.4	0.7	1.4	0.7	0.3	0.1	0.1	0.1	15.9	3.8	0.1	0.1	2.2	1.3	15.9																							
25-Jan	6.6	10.3	Z	0.8	0.4	0.2	0.2	25.1	66.2	34.3	37.8	0.8	0.9	0.4	0.3	0.3	0.2	2.7	23.8	6.2	30.2	23.3	1.1	0.5	11.8	66.2																							
26-Jan	0.4	20.1	41.8	93.1	Z	56.8	44.4	21.3	97.2	85.3	51.8	12.6	7.0	0.5	0.3	0.4	0.3	0.2	0.2	0.2	0.1	0.1	0.2	0.1	23.2	97.2																							
27-Jan	5.9	18.8	23.2	8.9	Z	1.4	1.2	4.4	32.4	41.2	29.4	52.8	1.2	28.5	21.9	158.0	146.6	113.9	7.6	2.2	0.2	0.1	0.1	0.1	30.4	158.0																							
28-Jan	0.1	0.1	0.1	0.1	0.1	Z	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1																						
29-Jan	Z	0.0	0.0	0.0	0.4	2.3	2.4	1.9	3.2	6.1	1.2	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.5	0.2	0.0	0.0	0.8	6.1																							
30-Jan	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.2	0.1	0.0	0.2																							
31-Jan	0.1	0.1	Z	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.5	0.5	0.6	0.3	0.5	0.4	0.3	0.2	0.2	0.6																							
																								3.3	2.9	3.8	4.5	2.7	5.1	6.6	4.6	8.3	6.7	5.3	4.4	3.6	5.7	3.6	8.7	7.8	8.2	7.3	3.9	5.3	6.2	4.2	2.4	Diurnal Average	
																								32.5	20.1	41.8	93.1	47.0	56.8	80.6	38.5	97.2	85.3	51.8	52.8	53.7	106.2	27.3	158.0	146.6	113.9	81.4	43.1	75.8	101.0	55.6	17.6	Diurnal Maximum	

Z - zerospan C - Calibration
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb



Wood Buffalo Environmental Association
Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Hangingsstone Expansion - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Hangingstone Expansion - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	637	89.84	89.84
11 - 20	23	3.24	93.09
21 - 60	35	4.94	98.03
61 - 110	11	1.55	99.58
111 - 172	3	0.42	100.00
> 172	0	0.00	100.00

Total Number of Valid Hours: 709

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Hangingsstone Expansion - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 10	44	35	19	14	14	13	7	29	48	83	42	99	51	59	26	23	606
11 - 20	2	0	3	0	0	0	0	0	0	0	11	5	0	0	0	1	22
21 - 60	1	0	0	0	0	0	0	0	0	0	18	16	0	0	0	0	35
61 - 110	0	0	0	0	0	0	0	0	0	0	8	3	0	0	0	0	11
111 - 172	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	3
> 172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	47	35	22	14	14	13	7	29	48	83	81	124	51	59	26	24	677

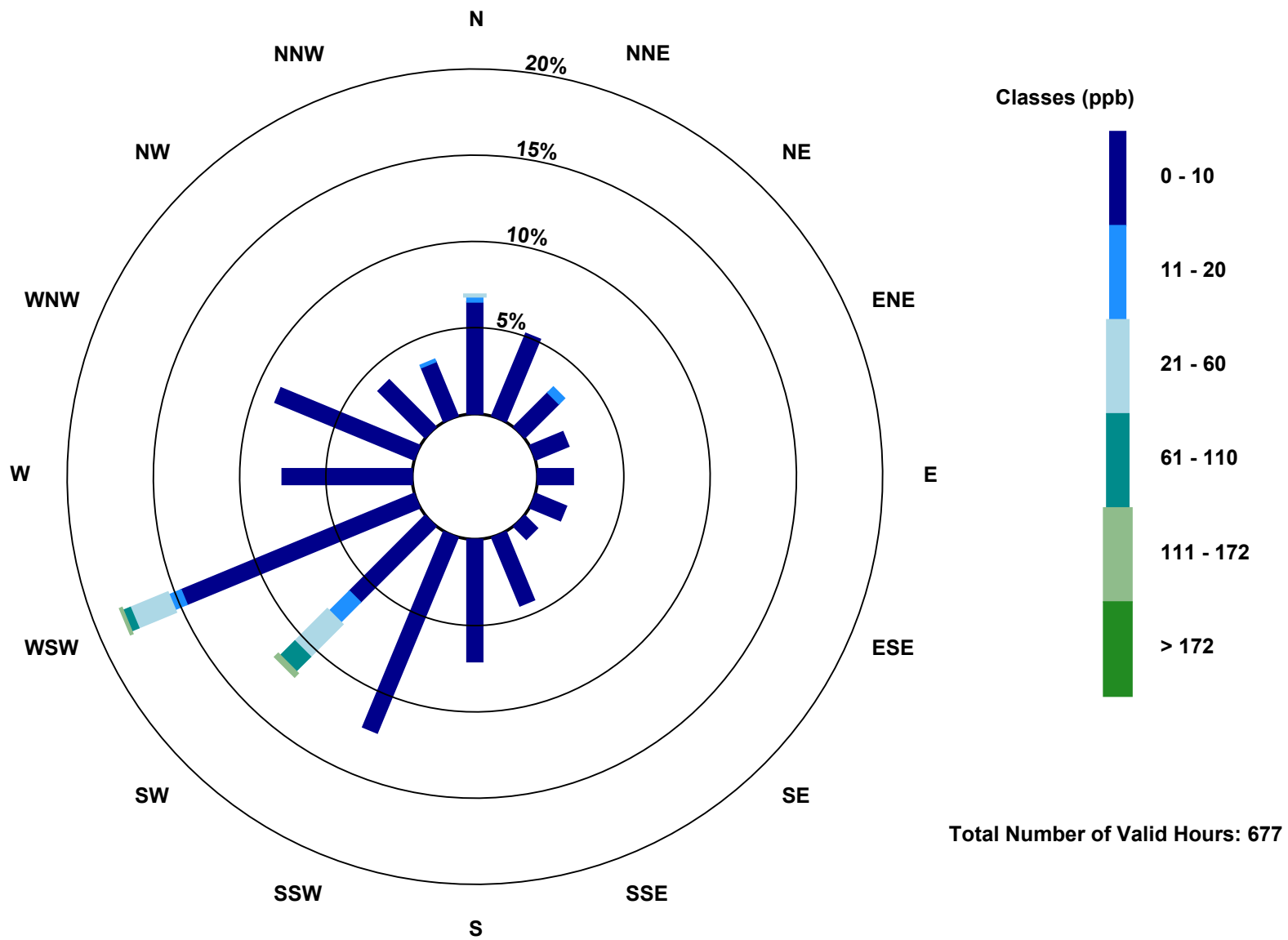
Total Number of Valid Hours: 677

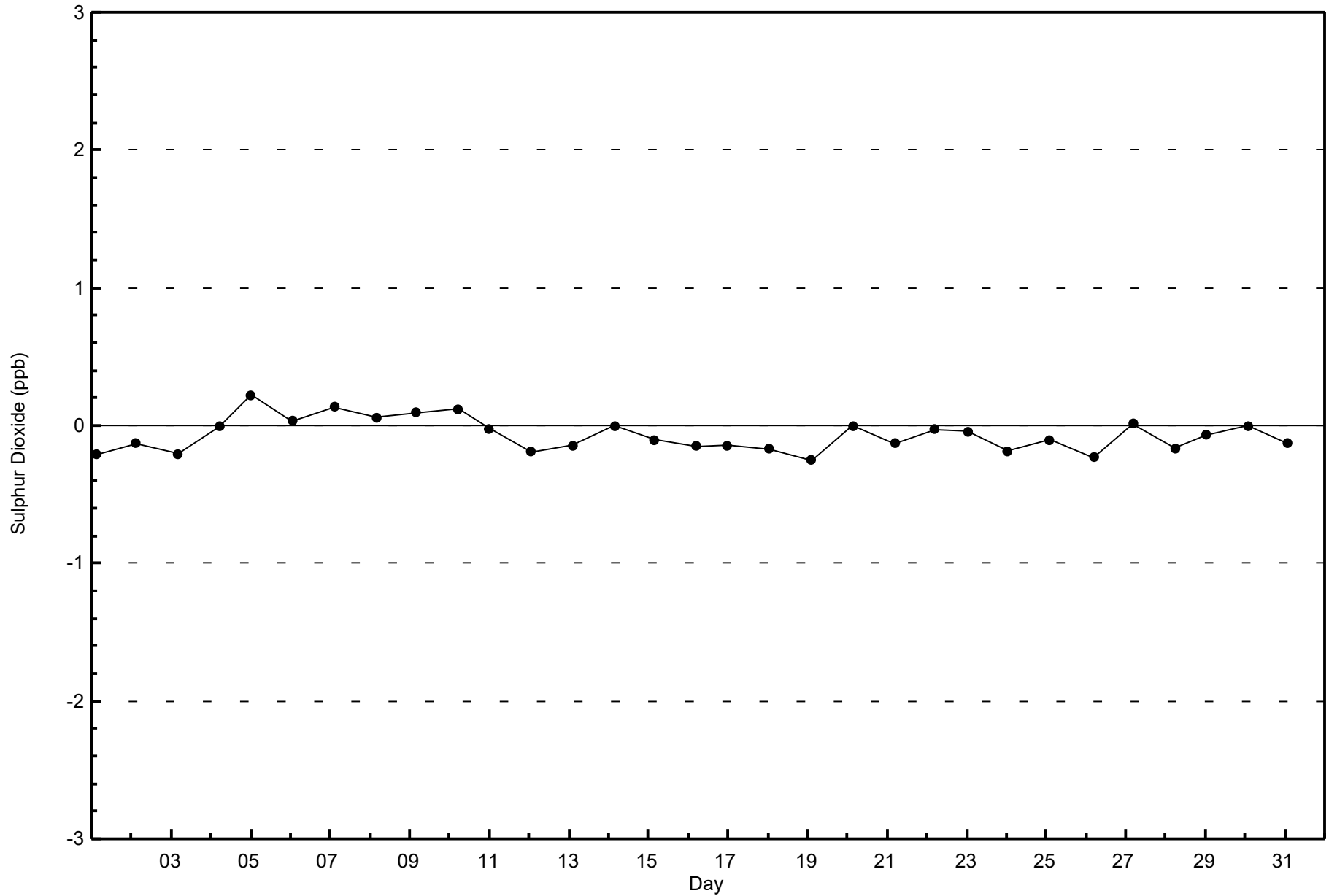
Total Number of Hours: 744

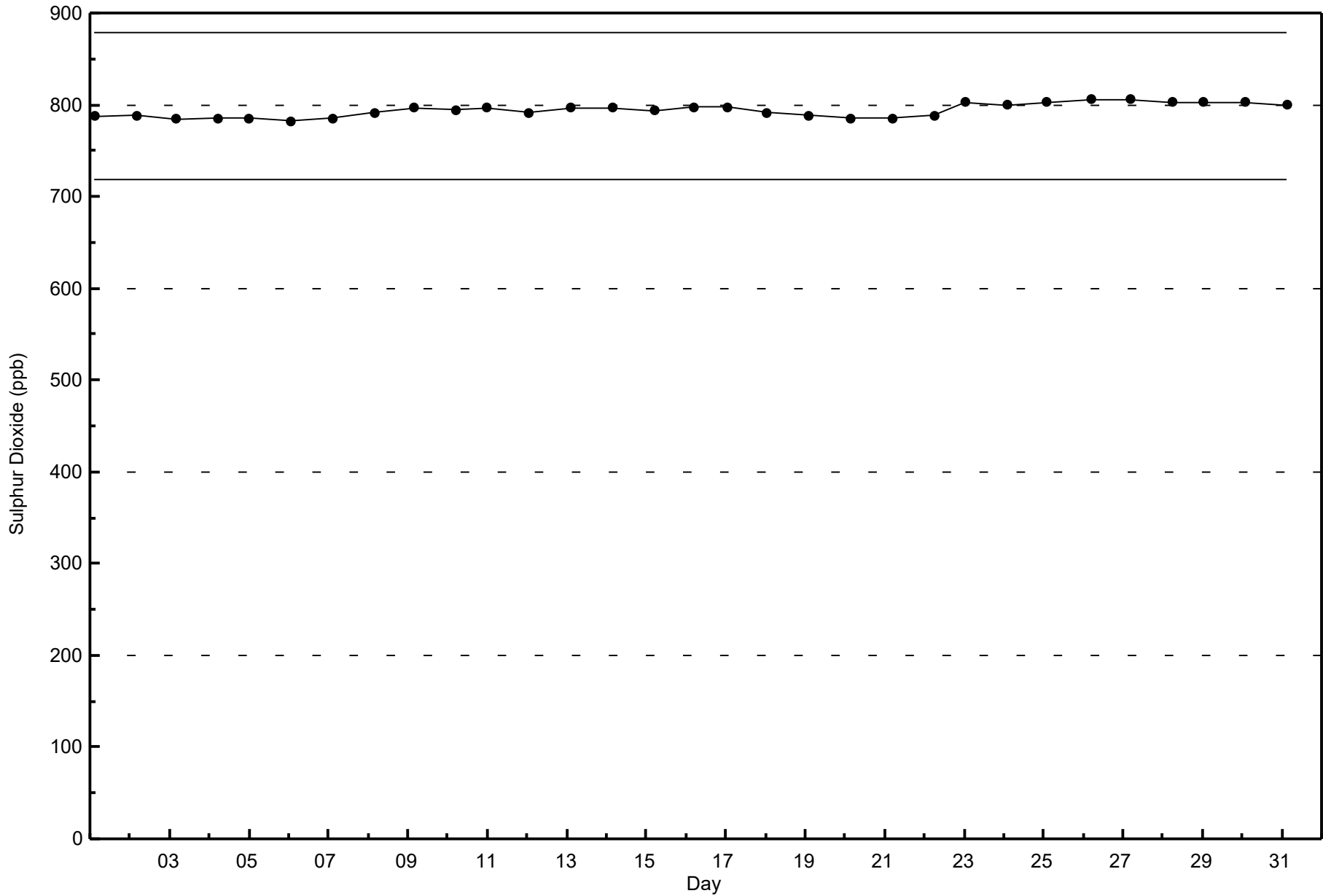


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Sulphur Dioxide (SO₂) - ppb
Hangingstone Expansion

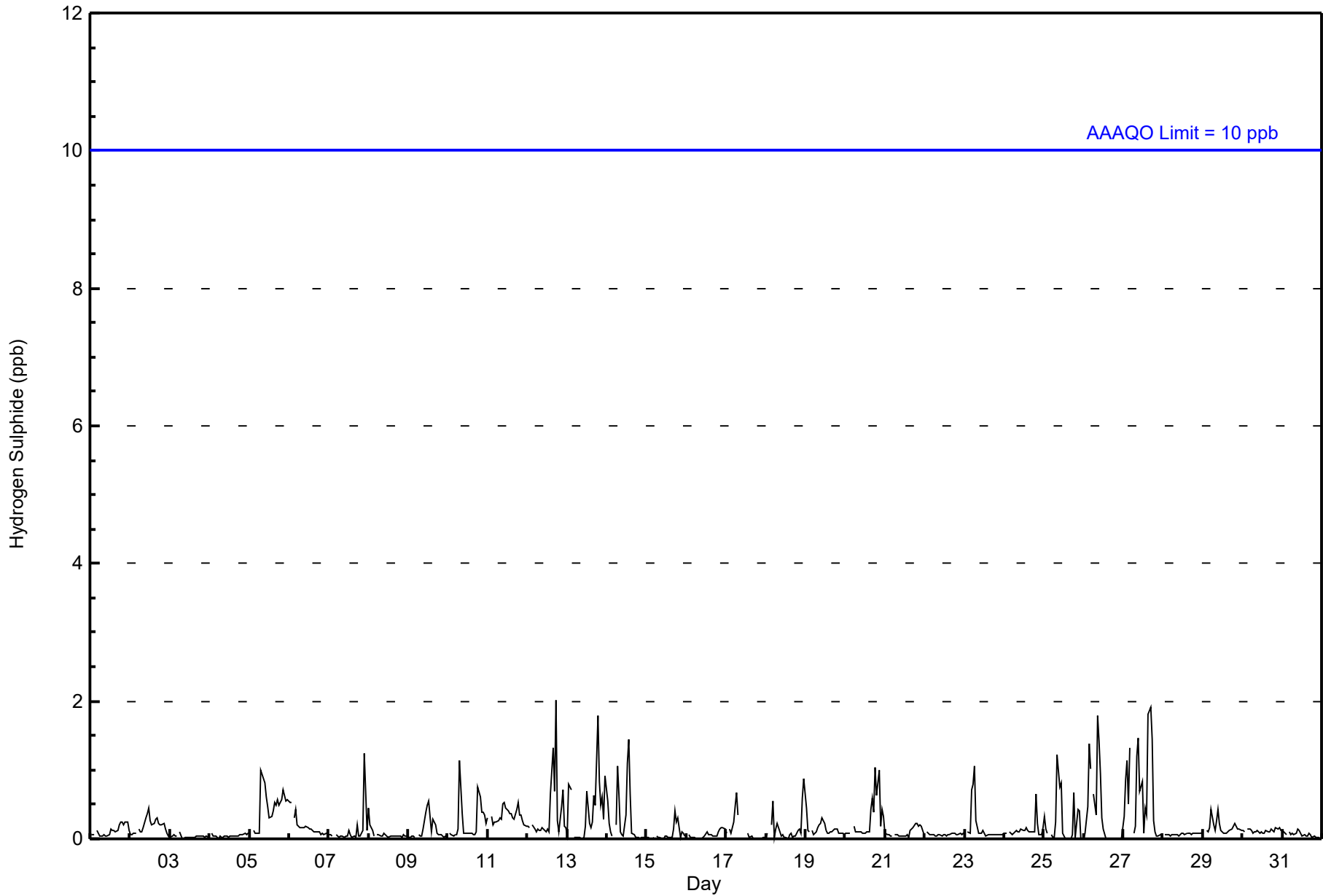








Number of Exceedences (AAAQO):		1-hr: 0		24-hr: 0		Hours in Service: 744														744						
Maximum Value: 2.0 ppb on Jan 12 18:00		Maximum Daily Average: 0.7 ppb on Jan 27		Hours of Data: 708														708								
Minimum Value: 0.0 ppb on Jan 14 21:00		Minimum Daily Average: 0.0 ppb on Jan 3		Hours of Missing Data: 36														36								
Maximum Diurnal Average: 0.3 ppb at hour 9		Minimum Diurnal Average: 0.1 ppb at hour 15		Hours of Calibration: 36														36								
Monthly Average: 0.19 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.2 P ₉₀ = 0.5 P ₉₉ = 1.4		Percent Operational Time: 100.0														100.0								
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	0.1	0.1	0.1	Z	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.3	0.1	0.1	0.3
2-Jan	0.1	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.2	0.3	0.4	0.4	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.0	0.2	0.4
3-Jan	0.0	0.0	0.1	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
4-Jan	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
5-Jan	0.1	Z	0.1	0.1	0.1	0.1	0.1	1.0	0.9	0.8	0.6	0.5	0.3	0.3	0.4	0.5	0.5	0.6	0.5	0.6	0.7	0.6	0.6	0.6	0.5	1.0
6-Jan	0.5	0.5	Z	0.3	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.5
7-Jan	0.1	0.1	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.1	1.2	0.7	0.1	0.1	1.2
8-Jan	0.4	0.2	0.1	0.0	Z	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.4
9-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.1	0.0	0.0	0.1	0.4	0.5	0.6	0.3	0.1	0.3	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.6
10-Jan	Z	0.1	0.1	0.0	0.1	0.1	0.1	1.1	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.7	0.6	0.4	0.4	0.3	0.2	0.2	1.1
11-Jan	0.3	Z	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.5	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.4	0.5	0.4	0.3	0.3	0.2	0.2	0.3	0.5
12-Jan	0.2	0.2	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.6	1.3	0.7	2.0	0.3	0.1	0.5	0.7	0.2	0.2	0.4	2.0
13-Jan	0.1	0.8	0.7	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.7	0.2	0.2	0.6	0.5	1.8	0.8	0.5	0.6	0.3	0.9	0.4	1.8	
14-Jan	0.5	0.2	0.1	0.0	Z	0.2	1.1	0.6	0.1	0.1	0.0	0.3	1.1	1.4	0.7	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.4
15-Jan	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.4	0.3	0.3	0.0	0.1	0.1	0.0	0.4	
16-Jan	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.1	0.1	0.2
17-Jan	0.1	Z	0.1	0.1	0.2	0.5	0.7	0.4	C	C	C	C	C	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.7
18-Jan	0.0	0.1	Z	0.2	0.5	0.0	0.1	0.2	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.6	0.9	0.2	0.9
19-Jan	0.4	0.1	0.1	Z	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.4
20-Jan	0.1	0.1	0.1	0.1	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.4	0.6	0.4	1.0	0.6	1.0	0.2	0.4	0.3	0.3	1.0
21-Jan	0.1	0.1	0.1	0.0	0.0	Z	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2
22-Jan	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
23-Jan	0.1	Z	0.1	0.1	0.7	0.8	1.0	0.3	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	1.0
24-Jan	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.7	0.2	0.1	0.1	0.2	0.7
25-Jan	0.3	0.1	0.1	Z	0.1	0.0	0.0	0.2	1.2	0.7	0.8	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.7	0.0	0.4	0.4	0.0	0.0	0.2	1.2
26-Jan	0.0	0.1	0.5	1.4	1.0	Z	0.7	0.4	1.8	1.4	1.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.8	
27-Jan	0.3	0.8	1.1	0.5	1.3	Z	0.1	0.2	1.2	1.5	0.7	0.8	0.1	0.4	0.4	1.8	1.9	1.4	0.3	0.1	0.0	0.0	0.1	0.0	0.7	1.9
28-Jan	Z	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
29-Jan	0.1	Z	0.1	0.1	0.2	0.4	0.2	0.1	0.3	0.4	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.4
30-Jan	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.2
31-Jan	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
																								Diurnal Average		
																								Diurnal Maximum		
																								0.2 0.2 0.2 0.2 0.2 0.1 0.2 0.2 0.3 0.2 0.2 0.2 0.2 0.1 0.2 0.2 0.3 0.3 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2		
																								0.5 0.8 1.1 1.4 1.3 0.8 1.1 1.1 1.8 1.5 1.0 0.8 1.1 1.4 0.7 1.8 1.9 2.0 1.8 0.8 1.0 1.2 0.7 0.9		
Z - zerospan C - Calibration																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																										





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Hydrogen Sulphide (H₂S) - ppb
Hangingstone Expansion - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	708	100.00	100.00
3 - 4	0	0.00	100.00
5 - 7	0	0.00	100.00
8 - 11	0	0.00	100.00
> 11	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Hydrogen Sulphide (H₂S) - ppb
Hangingstone Expansion - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 2	43	34	22	14	16	14	5	27	48	83	80	126	52	62	25	25	676
3 - 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 - 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 - 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	43	34	22	14	16	14	5	27	48	83	80	126	52	62	25	25	676

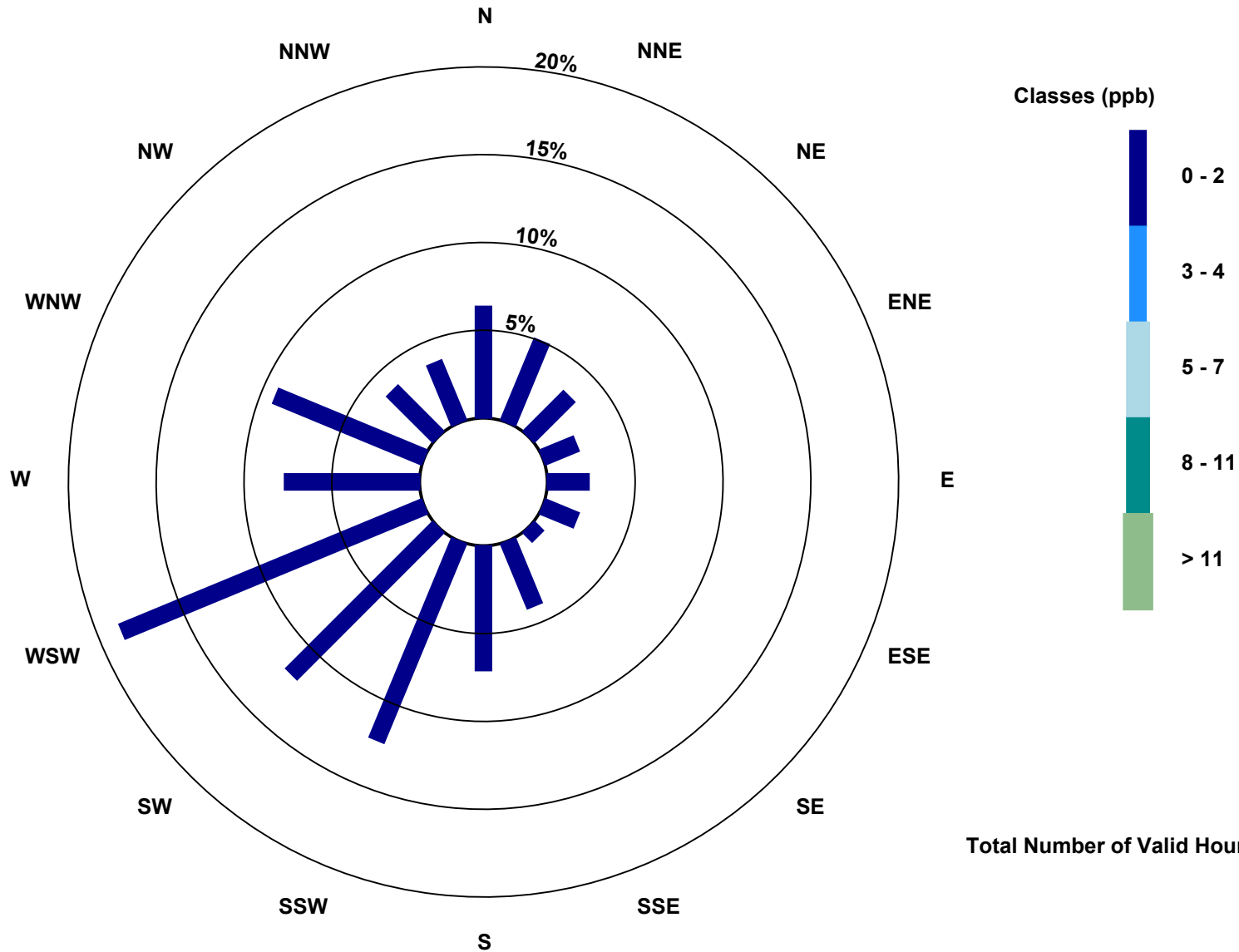
Total Number of Valid Hours: 676

Total Number of Hours: 744

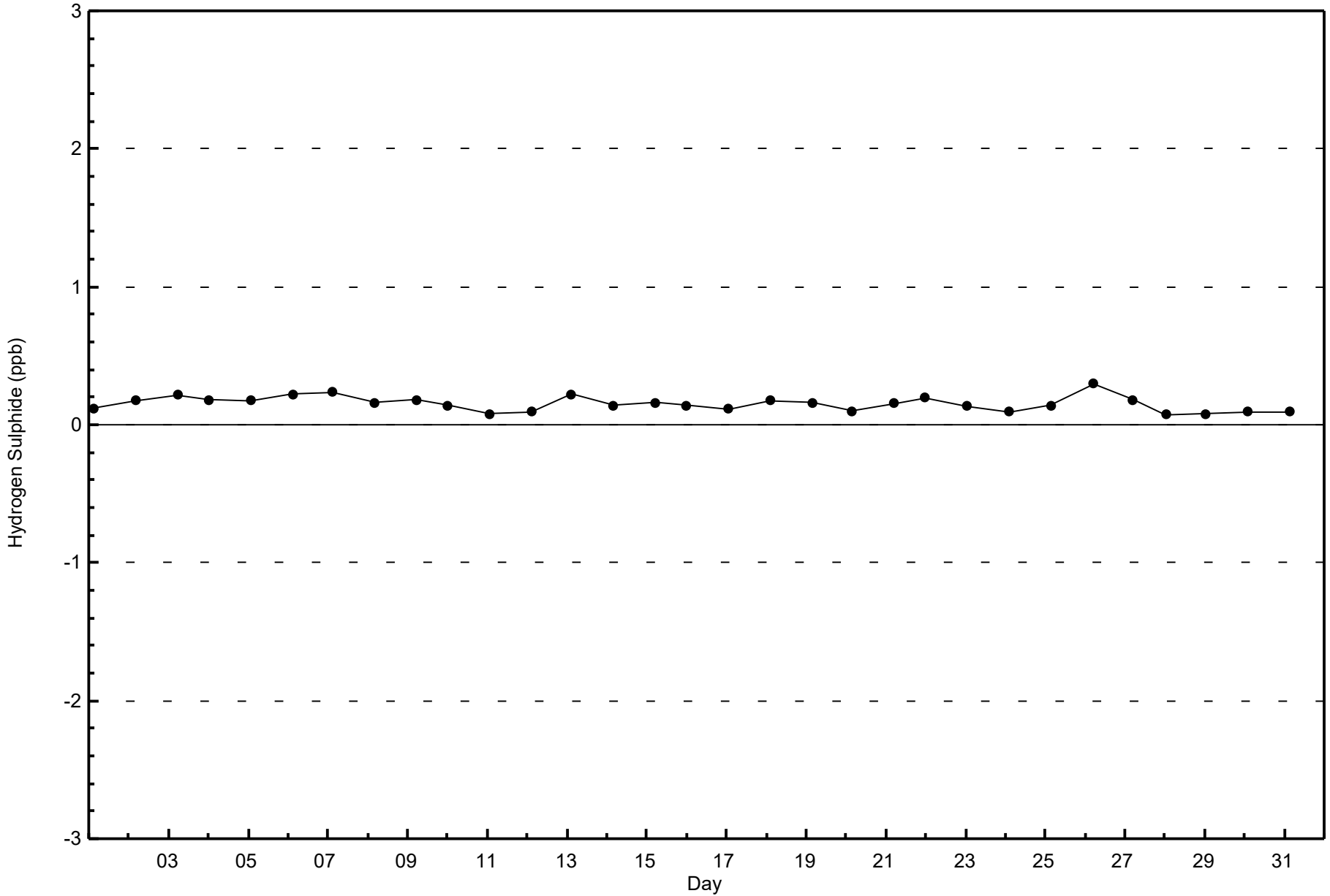


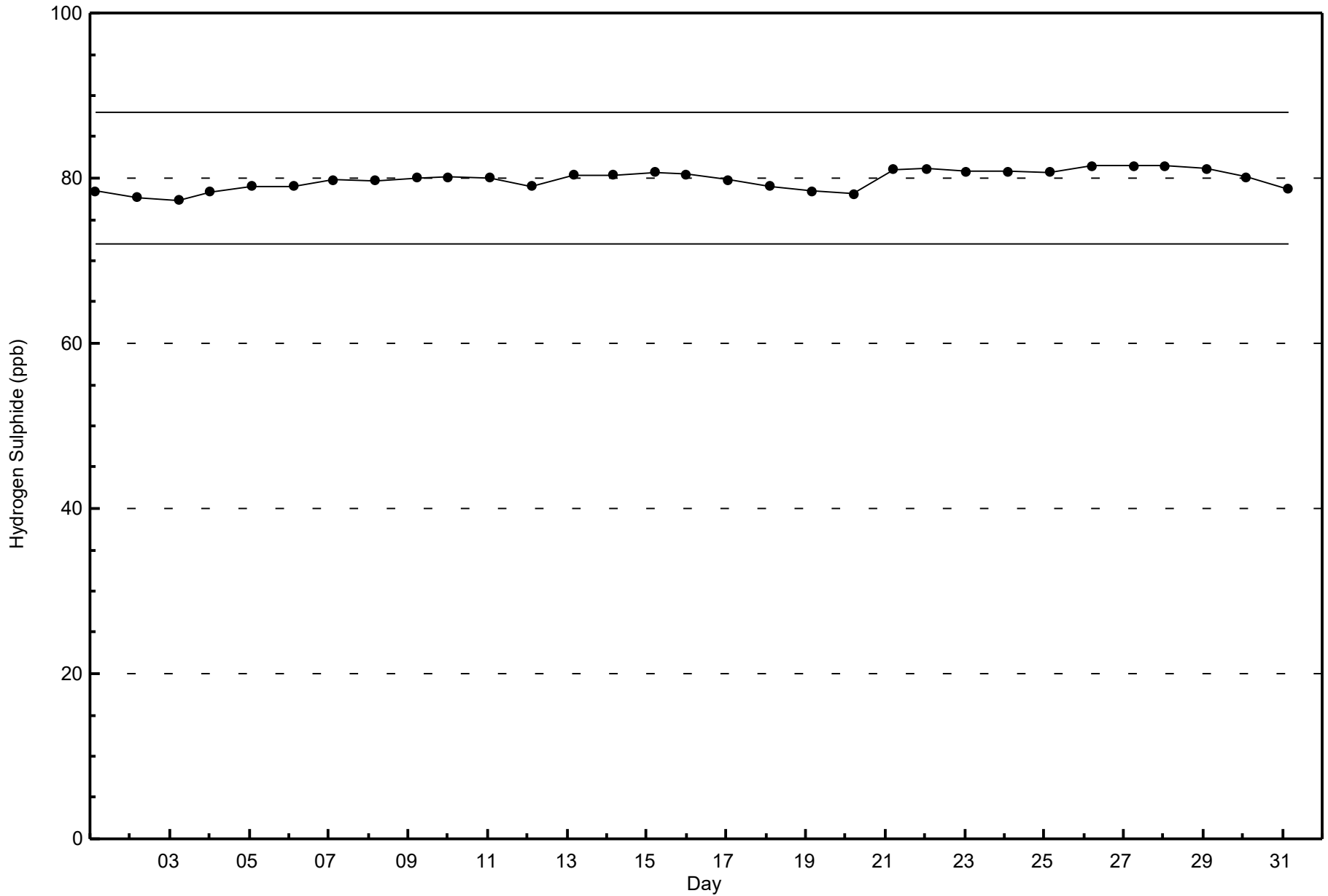
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Hydrogen Sulphide (H₂S) - ppb
Hangingstone Expansion



Total Number of Valid Hours: 676





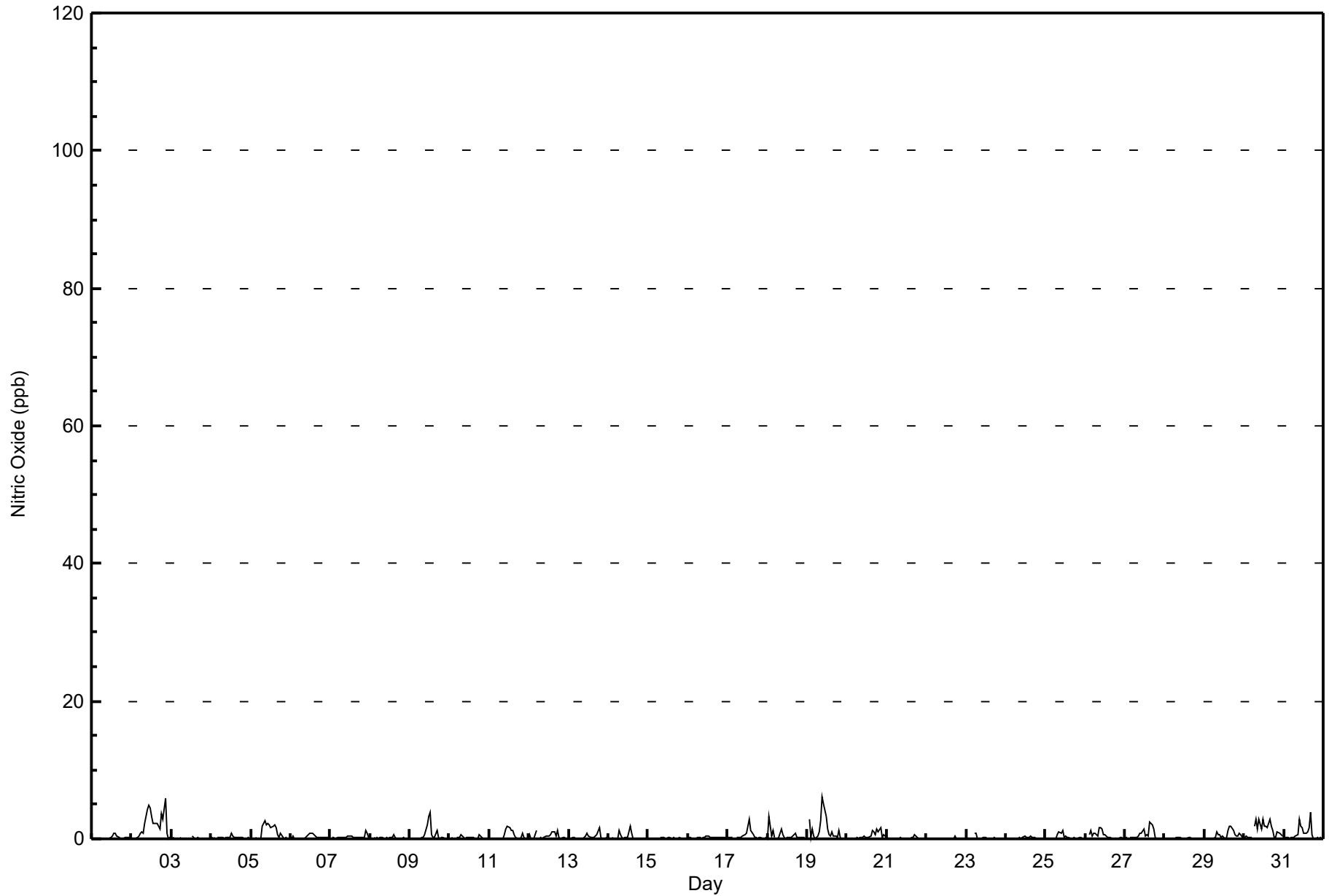


Maximum Value: 6.1 ppb on Jan 19 10:00		Maximum Daily Average: 2.0 ppb on Jan 2		Hours in Service: 744																							
Minimum Value: 0.0 ppb on Jan 3 01:00		Minimum Daily Average: 0.0 ppb on Jan 22		Hours of Data: 708																							
Maximum Diurnal Average: 0.9 ppb at hour 12		Minimum Diurnal Average: 0.1 ppb at hour 24		Hours of Missing Data: 36																							
Monthly Average: 0.43 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.1 Q ₃ = 0.4 P ₉₀ = 1.3 P ₉₉ = 3.8		Hours of Calibration: 36																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.4	0.7	0.8	0.3	0.1	0.0	0.1	0.1	0.1	0.1	0.2	0.0	0.2	0.8	
2-Jan	0.1	Z	0.1	0.2	0.5	0.7	1.0	0.8	2.2	4.4	4.8	4.5	3.2	2.2	2.3	1.8	1.5	3.6	2.9	5.9	0.8	0.1	0.2	2.0	5.9		
3-Jan	0.0	0.3	Z	0.0	0.1	0.1	0.1	C	C	C	C	C	0.5	0.2	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.5	
4-Jan	0.2	0.0	0.1	Z	0.1	0.2	0.1	0.2	0.0	0.2	0.2	0.2	0.8	0.3	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.8	
5-Jan	0.1	0.1	0.1	0.1	Z	0.1	0.1	1.9	2.7	2.0	2.2	2.0	1.5	1.8	2.0	1.6	0.5	0.2	0.8	0.1	0.1	0.1	0.0	0.0	0.9	2.7	
6-Jan	0.1	0.3	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.2	0.5	0.8	0.8	0.8	0.6	0.4	0.2	0.2	0.3	0.1	0.2	0.2	0.2	0.2	0.3	0.8	
7-Jan	Z	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.3	0.5	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.2	0.2	0.3	1.2	0.7	0.2	0.3	1.2	
8-Jan	0.5	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.5	0.3	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.5	
9-Jan	0.0	0.0	Z	0.1	0.0	0.1	0.1	0.1	0.1	0.6	2.0	3.2	3.9	0.6	0.2	0.3	1.2	0.2	0.1	0.1	0.2	0.1	0.0	0.1	0.6	3.9	
10-Jan	0.1	0.1	0.2	Z	0.1	0.1	0.2	0.6	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.6	0.1	0.1	0.1	0.0	0.0	0.2	0.6	
11-Jan	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.5	1.4	1.8	1.7	1.3	1.2	0.6	0.1	0.1	0.0	0.2	0.8	0.3	0.0	0.0	0.4	1.8	
12-Jan	0.7	0.0	0.0	0.0	1.2	Z	0.0	0.1	0.1	0.2	0.4	0.3	0.5	0.6	1.1	1.0	0.4	1.2	0.1	0.0	0.1	0.2	0.0	0.0	0.4	1.2	
13-Jan	Z	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.5	0.7	0.3	0.2	0.2	0.1	0.5	0.6	1.6	0.2	0.1	0.1	0.1	0.1	0.2	1.6	
14-Jan	0.3	Z	0.2	0.0	0.1	0.1	1.2	0.5	0.1	0.1	0.2	0.3	1.1	1.9	0.9	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.3	1.9	
15-Jan	0.1	0.1	Z	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	
16-Jan	0.2	0.3	0.1	Z	0.0	0.1	0.1	0.2	0.0	0.3	0.3	0.4	0.4	0.3	0.3	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.4
17-Jan	0.3	0.3	0.3	0.2	Z	0.2	0.3	0.2	0.2	0.4	0.6	0.8	1.9	2.8	1.3	0.6	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.5	2.8	
18-Jan	0.0	3.3	0.4	1.1	0.2	Z	0.0	0.2	1.5	0.6	0.3	0.0	0.1	0.2	0.2	0.5	0.7	0.9	0.1	0.1	0.2	0.2	0.1	0.1	0.5	3.3	
19-Jan	Z	2.9	0.3	1.4	0.3	0.1	0.4	1.0	2.6	6.1	5.1	3.3	1.4	0.7	0.5	1.1	0.5	0.4	0.3	1.3	0.1	0.1	0.1	0.1	1.3	6.1	
20-Jan	0.1	Z	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.3	0.3	0.2	0.3	0.3	1.2	1.1	0.6	1.5	1.0	1.6	0.2	0.6	0.4	0.4	1.6	
21-Jan	0.1	0.1	Z	0.1	0.1	0.1	0.0	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.2	0.2	0.6	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.6	
22-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	
23-Jan	0.1	0.1	0.0	0.0	Z	0.8	0.7	0.1	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.2	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.8	
24-Jan	0.0	0.1	0.0	0.0	0.1	Z	0.0	0.1	0.1	0.0	0.2	0.3	0.2	0.3	0.3	0.5	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.5	
25-Jan	Z	0.1	0.1	0.0	0.0	0.0	0.1	0.5	0.9	0.9	1.3	0.2	0.5	0.2	0.2	0.1	0.1	0.2	0.0	0.0	0.2	0.1	0.0	0.0	0.2	1.3	
26-Jan	0.0	Z	0.7	1.2	0.5	0.8	0.7	0.4	1.7	1.7	1.4	0.7	0.6	0.3	0.3	0.2	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	1.7	
27-Jan	0.1	0.2	Z	0.2	0.2	0.1	0.2	0.2	0.5	0.7	0.9	1.3	0.4	0.6	0.5	2.5	2.0	1.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	2.5	
28-Jan	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.1	0.2	0.2	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.2	
29-Jan	0.0	0.0	0.1	0.0	Z	0.1	0.2	1.1	0.5	0.7	0.2	0.5	0.1	0.2	1.2	1.8	1.9	1.2	0.5	0.4	0.3	0.8	0.6	0.1	0.5	1.9	
30-Jan	0.3	0.4	0.2	0.2	0.1	Z	1.8	2.9	1.3	2.9	1.5	2.8	1.9	1.8	1.7	2.9	1.9	1.3	0.2	0.2	1.0	0.7	0.7	0.4	1.3	2.9	
31-Jan	Z	0.1	0.1	0.1	0.2	0.3	0.2	0.4	0.6	2.9	1.9	1.6	0.9	0.7	1.1	1.6	3.9	0.6	0.0	0.1	0.2	0.0	0.1	0.0	0.8	3.9	
																								Diurnal Average			
																								Diurnal Maximum			
Z - zerospan C - Calibration																											



Wood Buffalo Environmental Association
Hourly Averages

Nitric Oxide (NO) - ppb
Hangingsstone Expansion - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Nitric Oxide (NO) - ppb
Hangingstone Expansion - January 2025**

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	708	100.00	100.00
21 - 40	0	0.00	100.00
41 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitric Oxide (NO) - ppb
Hangingsstone Expansion - January 2025

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	46	36	22	12	16	15	6	30	39	87	78	125	52	61	26	25	676
21 - 40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	46	36	22	12	16	15	6	30	39	87	78	125	52	61	26	25	676

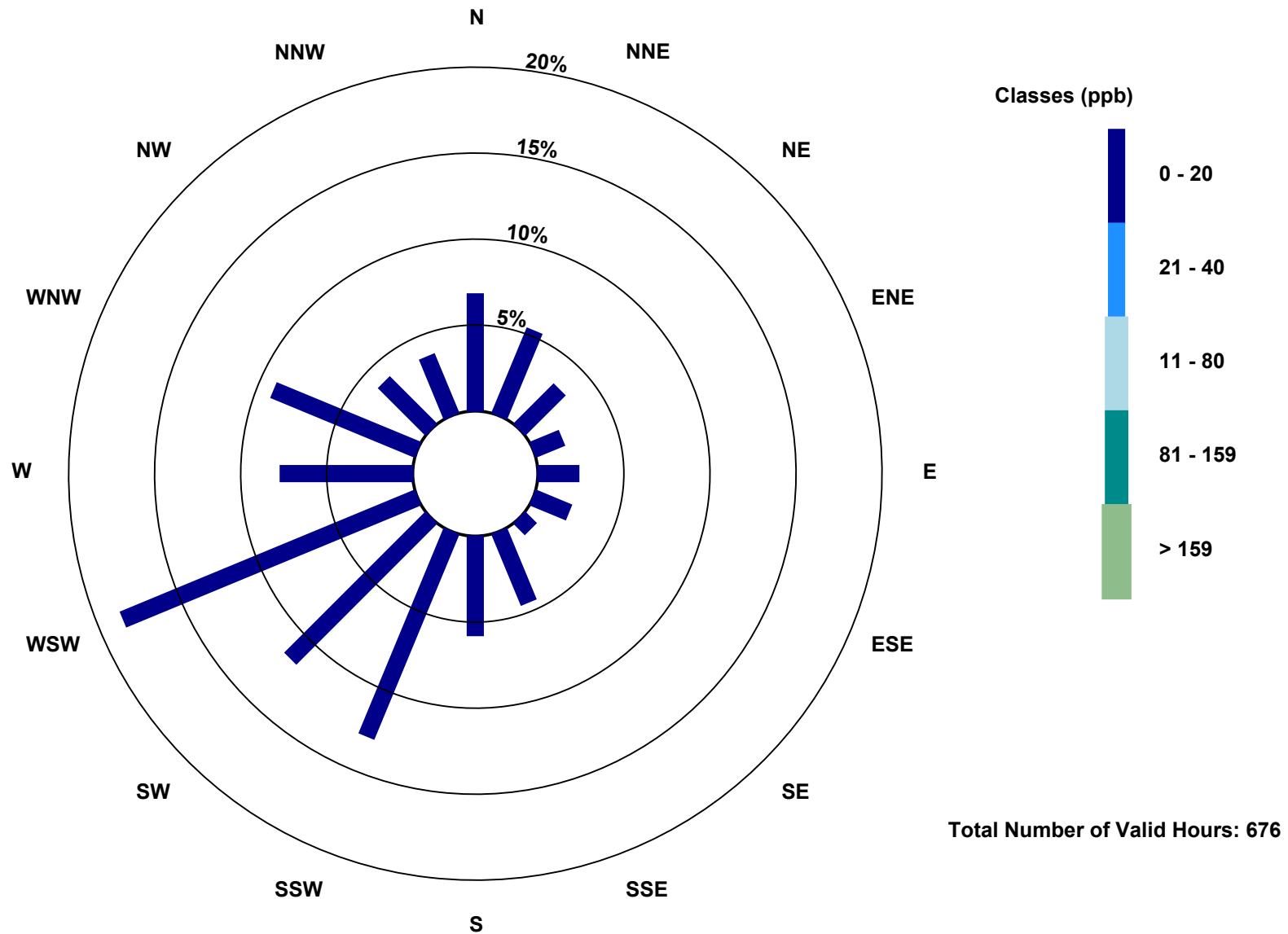
Total Number of Valid Hours: 676

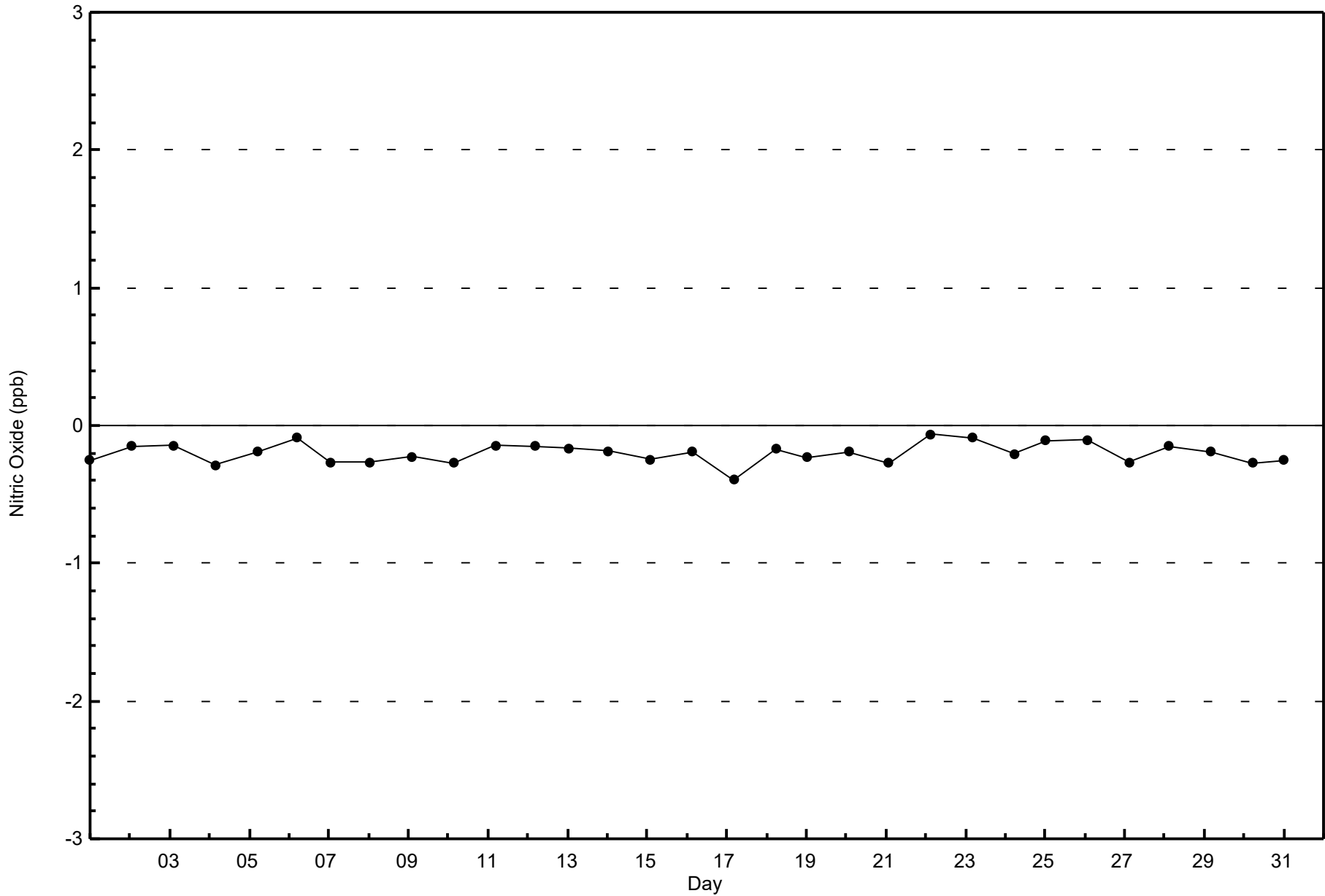
Total Number of Hours: 744

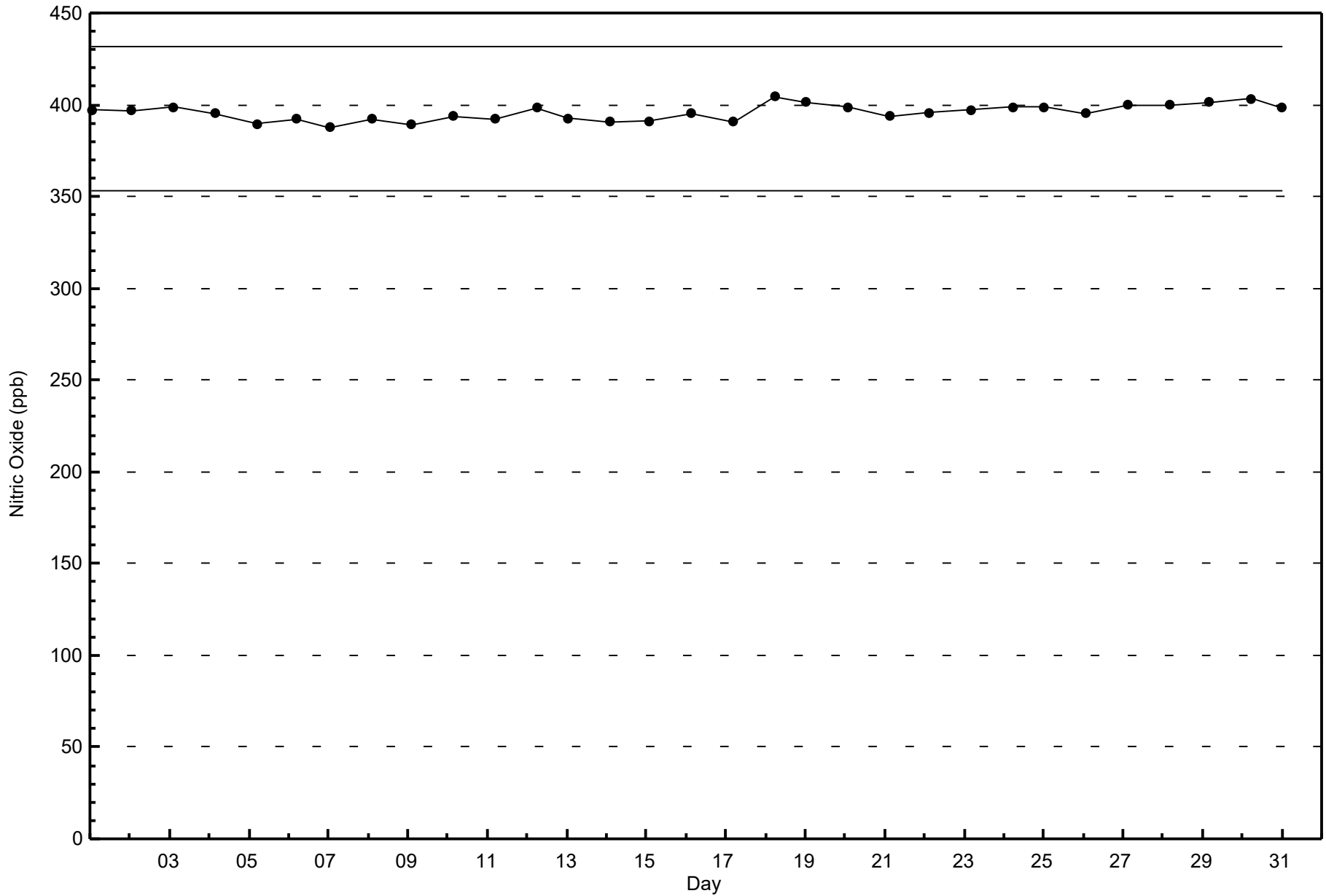


Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitric Oxide (NO) - ppb
Hangingstone Expansion









Wood Buffalo Environmental Association
Summary of Hour Averages

Nitrogen Dioxide (NO₂) - ppb
Hangingsstone Expansion - January 2025

Number of Exceedences (AAAQO):	1-hr: 0	24-hr: 0	Hours in Service:	744
Maximum Value: 22.3 ppb on Jan 5 09:00	Maximum Daily Average: 10.1 ppb on Jan 2		Hours of Data:	708
Minimum Value: 0.1 ppb on Jan 1 03:00	Minimum Daily Average: 0.3 ppb on Jan 28		Hours of Missing Data:	36
Maximum Diurnal Average: 4.7 ppb at hour 19	Minimum Diurnal Average: 2.0 ppb at hour 15		Hours of Calibration:	36
Monthly Average: 3.11 ppb	Percentiles: P ₁ = 0.1 P ₁₀ = 0.2 Q ₁ = 0.7 Median = 1.9 Q ₃ = 4.0 P ₉₀ = 7.5 P ₉₉ = 17.5		Percent Operational Time:	100.0

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	Z	0.2	0.1	0.2	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.2	1.1	2.4	3.1	4.1	6.4	9.6	9.5	9.6	8.1	9.0	8.5	5.5	3.4	9.6	
2-Jan	4.3	Z	4.5	7.1	8.0	8.7	8.6	8.5	14.5	14.2	10.3	7.9	6.7	5.8	6.7	10.4	17.5	15.9	18.1	14.9	17.0	10.8	6.1	5.4	10.1	18.1	
3-Jan	3.5	5.0	Z	4.1	3.9	2.6	2.7	C	C	C	C	C	1.4	1.0	1.0	1.6	2.3	2.4	2.5	2.2	2.1	1.9	2.0	1.4	2.4	5.0	
4-Jan	1.2	1.2	1.1	Z	1.1	1.1	1.2	1.2	1.1	1.0	1.1	1.2	1.6	1.2	1.1	1.2	1.3	1.5	1.4	1.5	1.7	1.9	2.4	1.6	1.3	2.4	
5-Jan	1.6	2.1	2.0	1.8	Z	1.5	1.6	20.8	22.3	16.2	8.7	5.5	4.3	5.7	7.6	10.3	11.4	12.5	12.8	14.9	15.6	14.7	13.5	14.2	9.6	22.3	
6-Jan	13.1	12.8	8.4	6.4	9.7	Z	4.6	3.7	3.9	3.9	3.6	3.7	3.7	3.6	3.5	3.9	4.2	4.3	4.8	4.3	3.9	3.8	3.5	3.4	5.2	13.1	
7-Jan	Z	3.2	3.0	2.8	2.6	2.3	1.9	1.9	2.0	2.5	2.8	2.3	2.2	2.2	2.5	2.9	2.9	3.6	2.9	3.0	3.6	8.0	5.7	2.1	3.0	8.0	
8-Jan	3.8	Z	1.7	0.9	0.7	0.5	0.4	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.4	0.3	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.1	0.5	3.8	
9-Jan	0.2	0.2	Z	0.3	0.3	0.2	0.2	0.3	0.2	3.1	6.6	5.8	6.6	1.6	1.2	2.1	12.3	3.8	1.0	0.9	0.5	0.6	0.6	0.5	2.1	12.3	
10-Jan	0.7	1.0	0.9	Z	1.6	2.1	3.3	4.7	2.9	1.9	1.9	1.8	1.5	1.3	1.2	1.0	0.9	1.4	17.6	8.8	6.6	4.9	3.4	2.8	3.2	17.6	
11-Jan	5.0	4.4	3.7	2.9	Z	3.5	3.4	4.9	5.8	7.4	6.2	5.3	4.4	3.8	4.3	4.5	4.5	5.4	8.1	9.1	15.5	9.9	4.5	3.9	5.7	15.5	
12-Jan	5.8	2.1	1.6	1.5	3.1	Z	2.7	3.0	1.9	2.4	2.3	1.9	1.7	2.0	3.1	3.8	2.6	4.9	1.4	1.3	1.8	2.6	1.1	1.1	2.4	5.8	
13-Jan	Z	1.7	2.1	1.3	1.1	1.4	2.3	2.0	2.6	2.3	2.7	3.5	2.6	1.5	1.5	1.6	3.4	3.2	6.1	2.5	1.4	1.7	1.2	2.6	2.3	6.1	
14-Jan	2.8	Z	1.5	1.0	1.0	1.4	5.3	3.0	1.8	1.8	1.6	1.7	4.0	6.1	2.9	0.9	0.8	0.5	0.4	0.3	0.4	0.4	0.3	0.3	1.7	6.1	
15-Jan	0.2	0.2	Z	0.4	0.5	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.6	1.7	2.2	2.1	2.8	2.3	1.7	2.5	0.8	2.8	
16-Jan	2.0	3.1	0.7	Z	1.0	0.7	0.8	0.9	0.7	1.4	1.6	1.9	1.8	1.2	0.7	0.4	0.3	0.4	1.2	2.3	1.9	2.4	5.1	6.2	1.7	6.2	
17-Jan	2.3	2.4	4.1	4.0	Z	3.6	4.2	3.3	3.5	2.6	3.0	4.0	5.8	8.3	5.1	3.7	2.5	1.9	1.3	1.8	0.3	0.3	1.2	0.8	3.0	8.3	
18-Jan	1.4	7.2	11.8	10.1	3.1	Z	1.3	3.6	4.6	3.5	1.2	0.2	0.3	0.4	0.8	0.8	3.0	7.3	5.2	4.2	3.5	3.1	2.7	3.0	3.6	11.8	
19-Jan	Z	8.3	6.1	6.9	4.9	6.3	9.7	12.1	17.8	15.7	10.8	6.3	2.9	1.3	1.5	4.9	5.3	14.4	12.3	14.3	4.2	4.2	2.9	2.8	7.6	17.8	
20-Jan	2.1	Z	0.9	1.6	1.8	1.4	1.2	1.2	2.1	1.9	1.7	1.7	2.0	1.9	2.3	4.6	5.7	4.8	7.1	6.3	7.5	2.8	3.8	2.8	3.0	7.5	
21-Jan	1.0	0.6	Z	0.6	0.4	0.4	0.4	0.5	0.4	0.3	0.3	0.4	0.3	0.3	0.3	3.9	5.6	5.4	4.4	3.9	4.6	5.9	4.0	1.4	2.0	5.9	
22-Jan	0.4	0.2	0.1	Z	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.4	3.4	1.9	0.8	1.3	1.4	1.5	1.1	0.6	3.4
23-Jan	1.6	1.9	1.4	1.2	Z	4.9	5.2	1.6	0.9	0.9	1.2	1.0	0.6	0.5	0.4	0.4	0.5	0.4	0.3	0.4	0.3	0.3	0.3	0.2	1.2	5.2	
24-Jan	0.2	0.2	0.3	0.2	0.2	Z	0.6	0.7	0.8	0.3	0.6	0.8	0.6	1.1	1.0	1.6	0.8	0.7	0.2	1.6	0.4	0.2	0.2	0.6	0.6	1.6	
25-Jan	Z	1.9	1.6	1.0	0.9	1.2	1.4	4.0	6.3	4.6	3.9	0.9	0.9	0.8	0.7	0.6	0.7	1.0	2.2	1.4	2.8	3.0	1.0	1.1	1.9	6.3	
26-Jan	0.8	Z	4.4	6.7	4.1	5.0	3.8	2.3	7.2	6.1	4.7	2.0	1.2	0.8	0.8	0.6	0.6	0.6	0.6	0.5	0.5	0.4	0.3	0.4	2.4	7.2	
27-Jan	1.2	2.6	Z	1.5	3.3	0.8	0.9	0.8	4.1	4.2	2.5	3.9	0.9	2.5	1.9	9.2	10.0	7.5	1.9	0.9	0.6	0.5	0.3	0.2	2.7	10.0	
28-Jan	0.2	0.1	0.2	Z	0.3	0.2	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.4
29-Jan	0.3	0.3	0.4	0.3	Z	2.3	2.8	2.9	3.4	2.8	1.0	0.9	0.4	0.9	2.2	4.7	7.6	9.1	7.6	5.6	4.8	4.9	3.7	2.8	3.1	9.1	
30-Jan	3.0	3.4	2.9	2.6	2.6	Z	4.4	4.9	5.0	6.0	2.9	3.1	2.1	2.2	2.6	4.2	6.4	8.0	8.6	7.3	18.4	18.5	12.6	8.8	6.1	18.5	
31-Jan	Z	2.9	1.4	0.7	0.5	1.1	1.3	1.5	6.2	11.5	5.5	3.6	1.4	1.2	1.1	1.9	4.6	2.6	1.4	1.0	1.0	1.5	2.8	0.7	2.5	11.5	

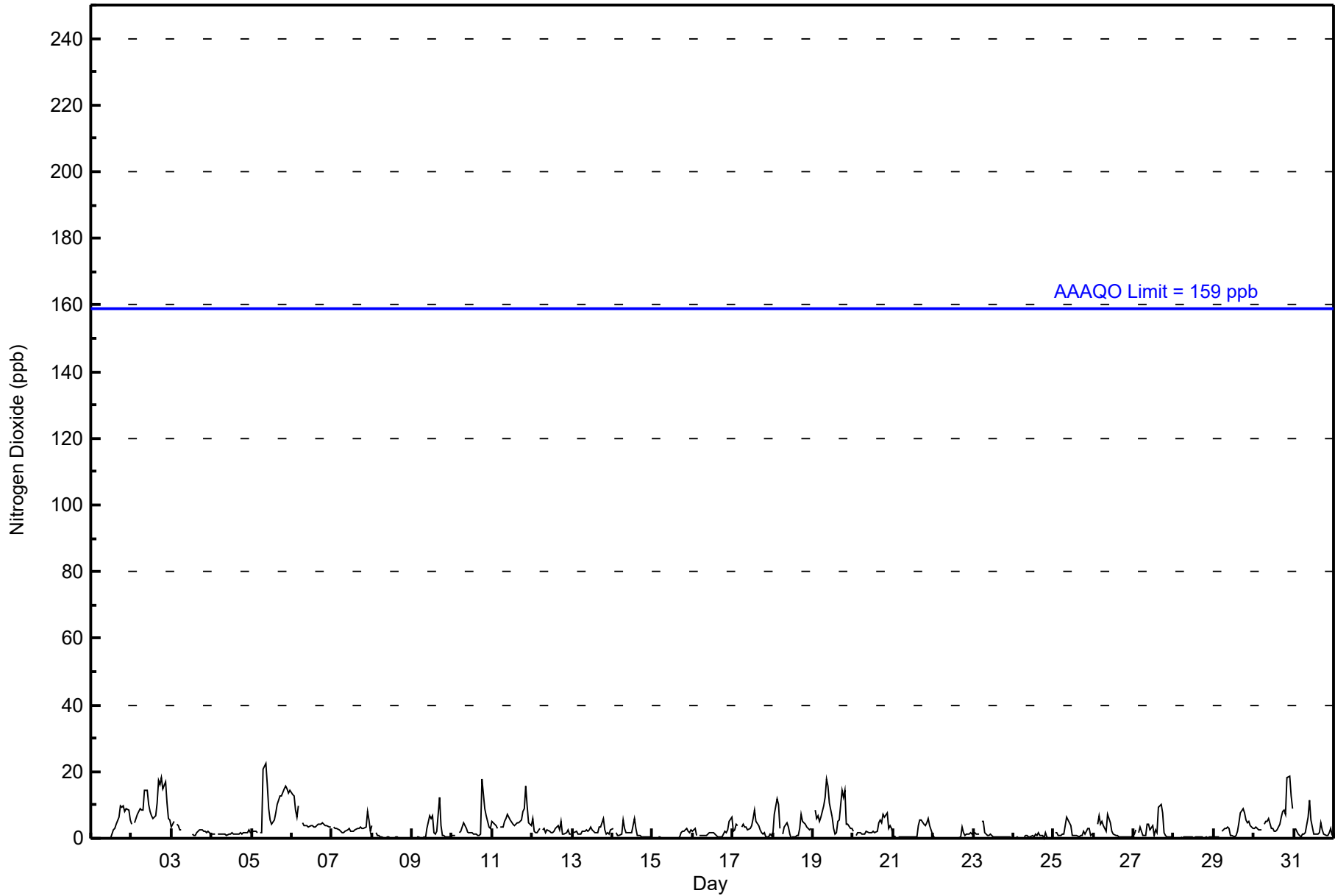
2.3	2.7	2.6	2.6	2.2	2.1	2.5	3.2	4.1	4.0	3.0	2.4	2.1	2.0	2.0	2.9	4.0	4.5	4.7	4.1	4.3	3.9	3.1	2.6	Diurnal Average	
13.1	12.8	11.8	10.1	9.7	8.7	9.7	20.8	22.3	16.2	10.8	7.9	6.7	8.3	7.6	10.4	17.5	15.9	18.1	14.9	18.4	18.5	13.5	14.2	Diurnal Maximum	

Z - zerospan C - Calibration
 Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
Hangingsstone Expansion - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Hangingstone Expansion - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	706	99.72	99.72
21 - 40	2	0.28	100.00
41 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Dioxide (NO₂) - ppb
Hangingstone Expansion - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	44	36	22	12	16	15	6	30	39	87	78	125	52	61	26	25	674
21 - 40	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
11 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	46	36	22	12	16	15	6	30	39	87	78	125	52	61	26	25	676

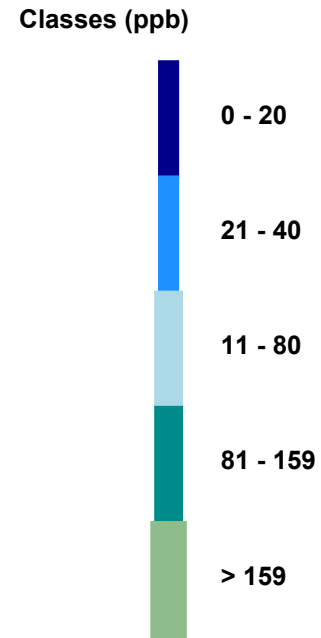
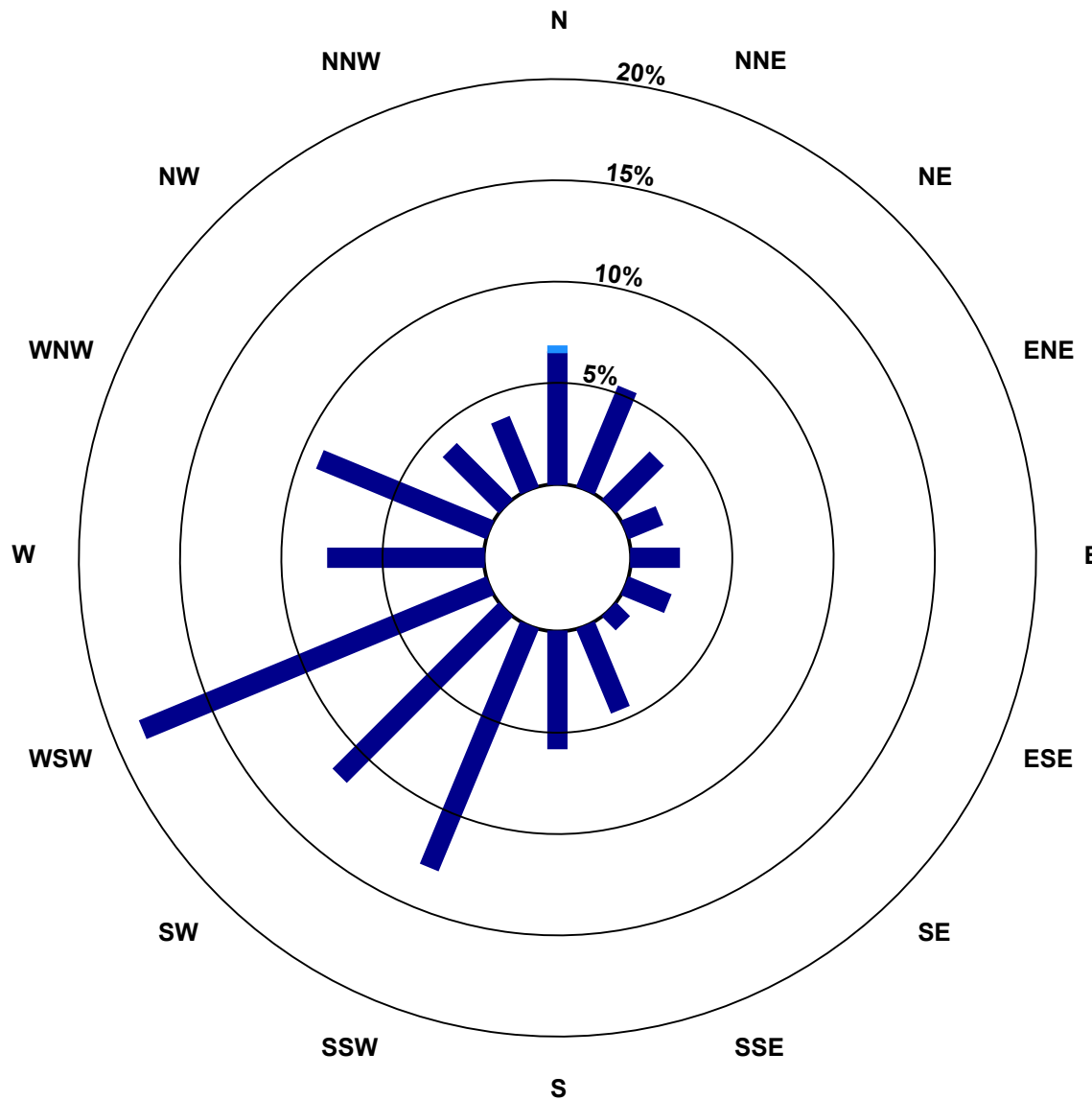
Total Number of Valid Hours: 676

Total Number of Hours: 744

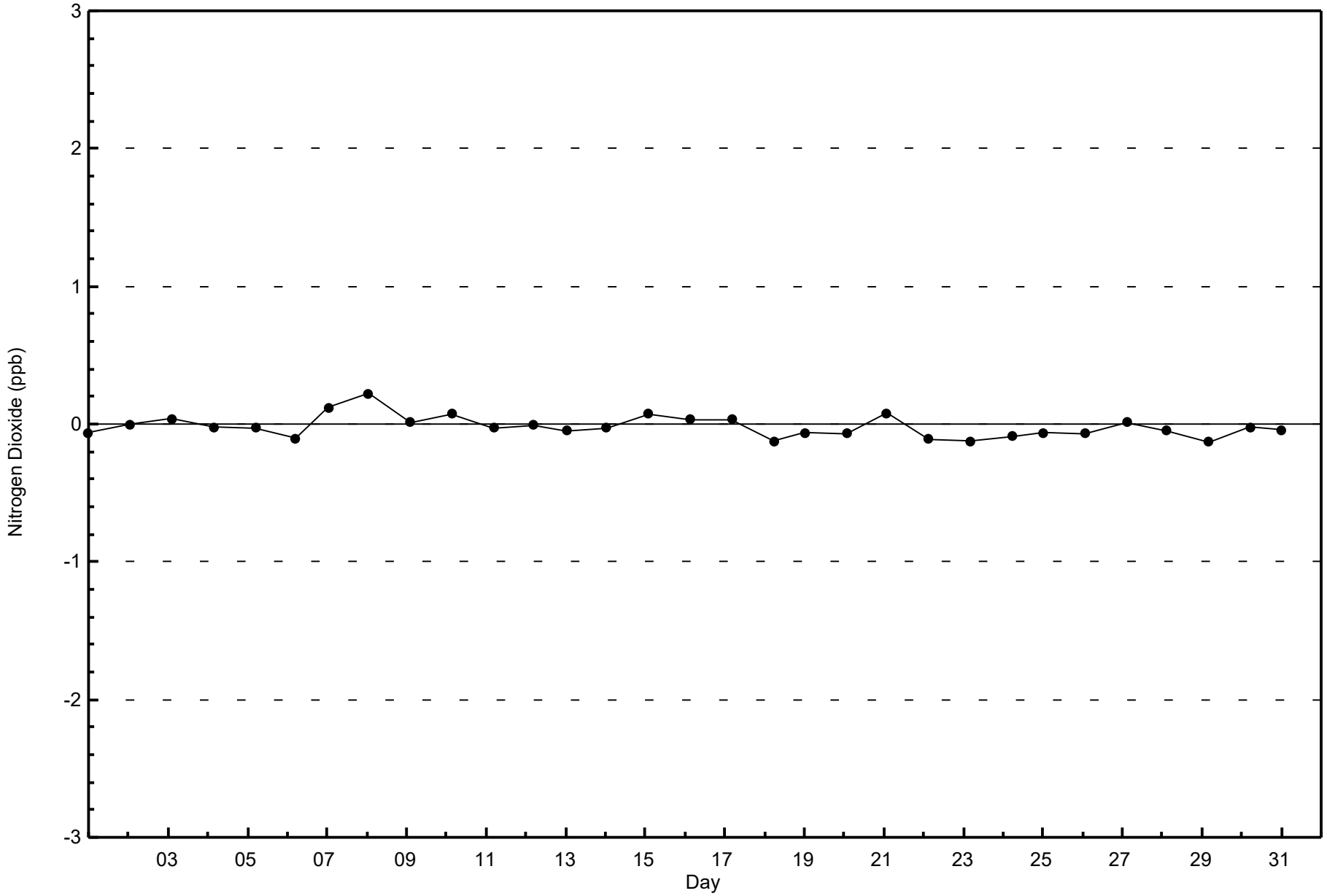


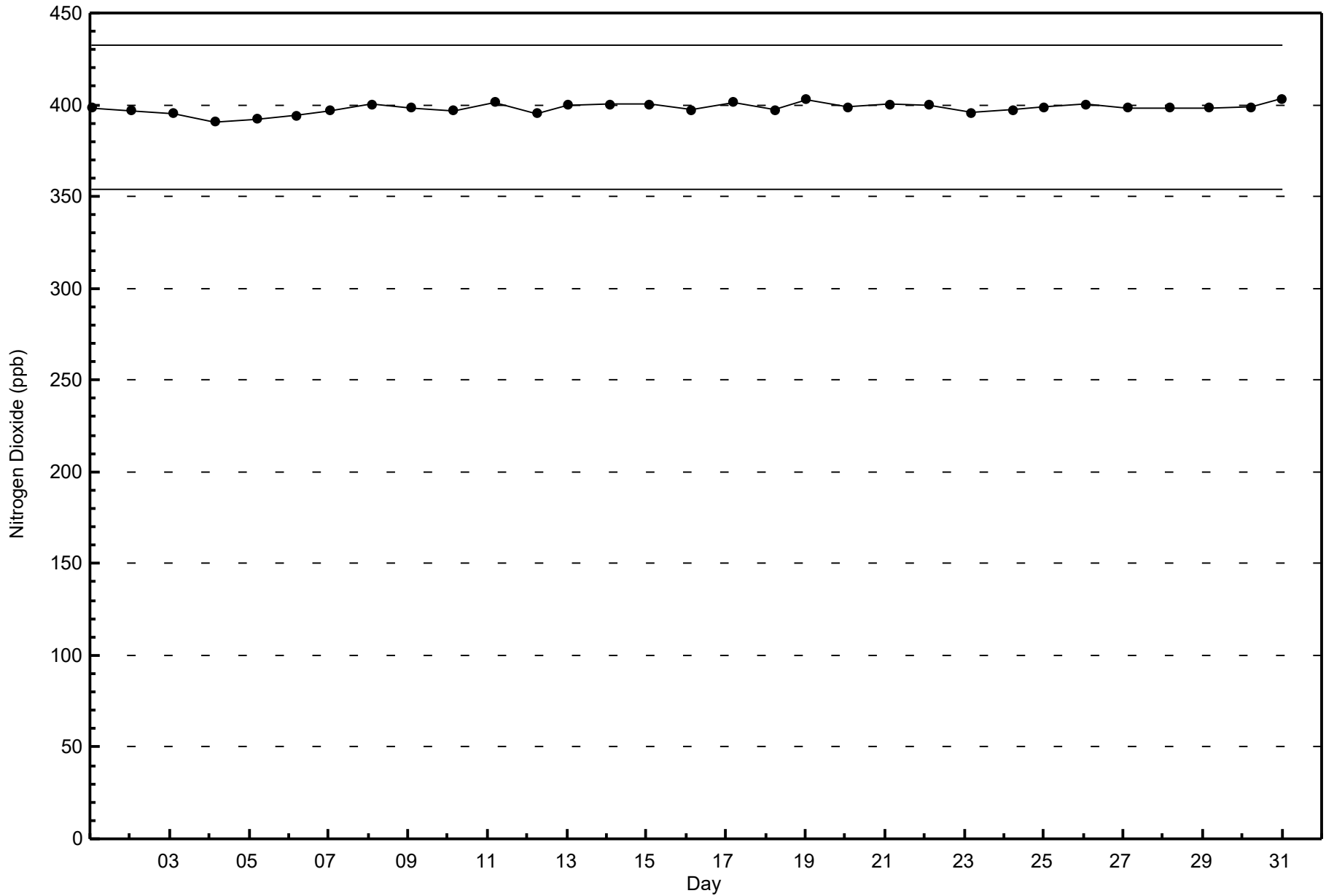
Wood Buffalo Environmental Association
 Wind Rose Jan 2025

Nitrogen Dioxide (NO₂) - ppb
 Hangingstone Expansion



Total Number of Valid Hours: 676







Wood Buffalo Environmental Association
Summary of Hour Averages

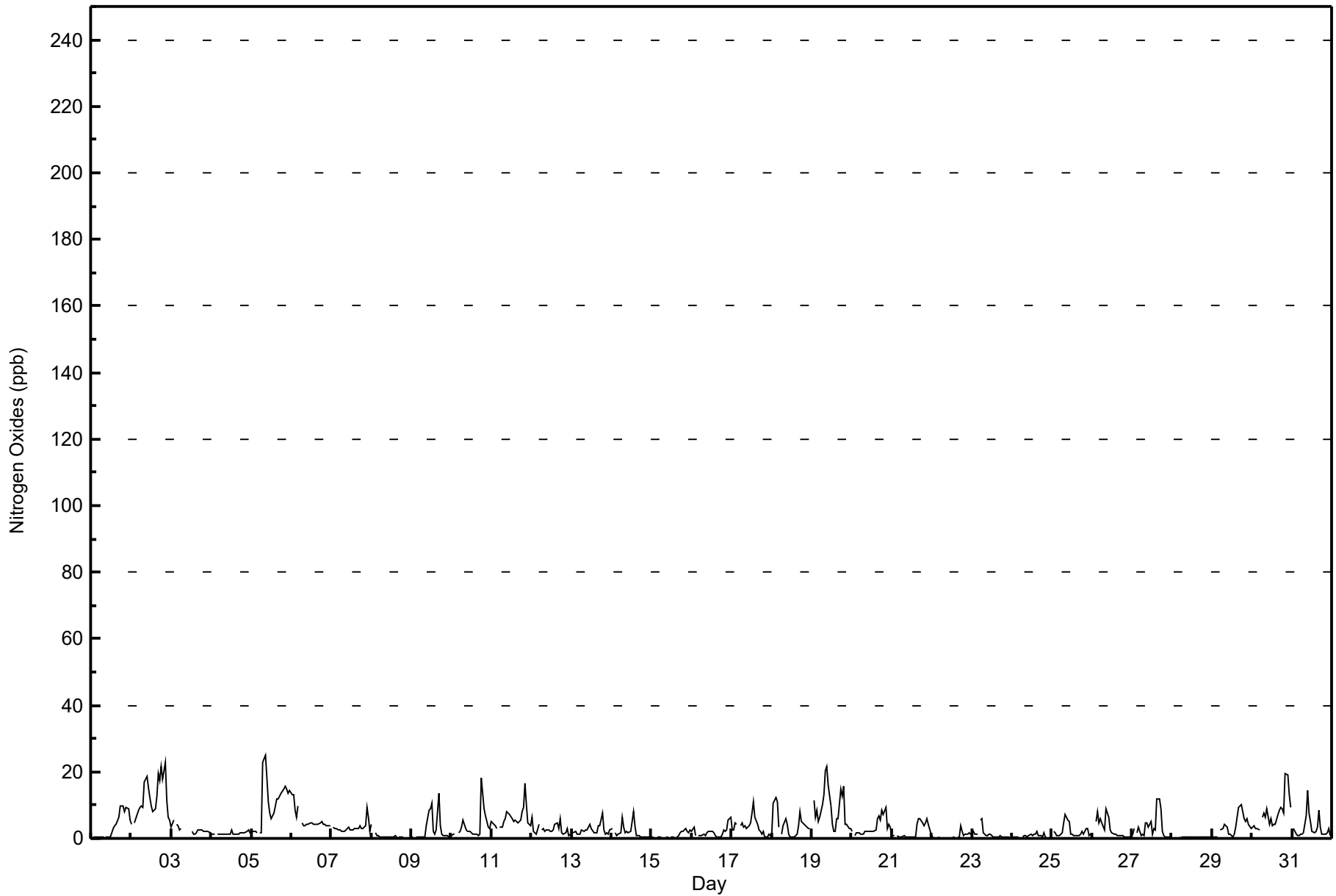
Nitrogen Oxides (NO_x) - ppb
Hangingsstone Expansion - January 2025

Maximum Value: 25.0 ppb on Jan 5 09:00		Maximum Daily Average: 12.1 ppb on Jan 2		Hours in Service: 744																							
Minimum Value: 0.1 ppb on Jan 22 07:00		Minimum Daily Average: 0.3 ppb on Jan 28		Hours of Data: 708																							
Maximum Diurnal Average: 5.1 ppb at hour 19		Minimum Diurnal Average: 2.2 ppb at hour 6		Hours of Missing Data: 36																							
Monthly Average: 3.54 ppb		Percentiles: P ₁ = 0.1 P ₁₀ = 0.3 Q ₁ = 0.8 Median = 2.1 Q ₃ = 4.5 P ₉₀ = 8.9 P ₉₉ = 19.3		Hours of Calibration: 36																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	Z	0.3	0.2	0.3	0.3	0.2	0.3	0.2	0.2	0.3	0.3	0.3	1.5	3.1	3.9	4.4	6.5	9.6	9.6	9.7	8.2	9.1	8.7	5.5	3.6	9.7	
2-Jan	4.4	Z	4.6	7.3	8.5	9.4	9.6	9.3	16.7	18.6	15.1	12.4	9.9	8.0	9.0	12.7	19.3	17.4	21.7	17.8	22.9	11.6	6.2	5.6	12.1	22.9	
3-Jan	3.5	5.3	Z	4.1	4.0	2.7	2.8	C	C	C	C	C	1.9	1.2	1.1	1.6	2.4	2.4	2.6	2.2	2.2	2.0	2.1	1.5	2.5	5.3	
4-Jan	1.4	1.2	1.2	Z	1.2	1.3	1.3	1.4	1.1	1.2	1.3	1.4	2.4	1.5	1.3	1.3	1.4	1.6	1.5	1.7	1.8	2.0	2.5	1.7	1.5	2.5	
5-Jan	1.7	2.2	2.1	1.9	Z	1.6	1.7	22.7	25.0	18.2	10.9	7.5	5.8	7.5	9.6	11.9	11.9	12.7	13.6	15.0	15.7	14.8	13.5	14.2	10.5	25.0	
6-Jan	13.2	13.1	8.4	6.4	9.7	Z	4.6	3.7	3.9	4.1	4.1	4.5	4.5	4.4	4.1	4.3	4.4	4.5	5.1	4.4	4.1	4.0	3.7	3.6	5.5	13.2	
7-Jan	Z	3.4	3.1	2.9	2.7	2.5	2.0	2.0	2.2	2.8	3.3	2.6	2.5	2.5	2.8	3.1	3.1	3.9	3.1	3.2	3.9	9.2	6.4	2.3	3.3	9.2	
8-Jan	4.3	Z	1.8	1.0	0.8	0.6	0.5	0.3	0.3	0.4	0.5	0.3	0.3	0.3	0.9	0.6	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.6	4.3	
9-Jan	0.2	0.2	Z	0.4	0.3	0.3	0.3	0.4	0.3	3.7	8.6	9.0	10.5	2.2	1.4	2.4	13.5	4.0	1.1	1.0	0.7	0.7	0.6	0.6	2.7	13.5	
10-Jan	0.8	1.1	1.1	Z	1.7	2.2	3.5	5.3	3.1	2.0	2.0	2.0	1.6	1.4	1.3	1.1	0.9	1.4	18.2	8.9	6.7	5.0	3.4	2.8	3.4	18.2	
11-Jan	5.0	4.4	3.7	2.9	Z	3.5	3.4	4.9	5.9	7.9	7.6	7.1	6.1	5.1	5.5	5.1	4.6	5.5	8.1	9.3	16.3	10.2	4.5	3.9	6.1	16.3	
12-Jan	6.5	2.1	1.6	1.5	4.3	Z	2.7	3.1	2.0	2.6	2.7	2.2	2.2	2.6	4.2	4.8	3.0	6.1	1.5	1.3	1.9	2.8	1.1	1.1	2.8	6.5	
13-Jan	Z	1.7	2.2	1.4	1.1	1.4	2.4	2.0	2.6	2.4	3.2	4.2	2.9	1.7	1.7	1.7	3.9	3.8	7.7	2.7	1.5	1.8	1.3	2.7	2.5	7.7	
14-Jan	3.1	Z	1.7	1.0	1.1	1.5	6.5	3.5	1.9	1.9	1.8	2.0	5.1	8.0	3.8	1.0	0.9	0.5	0.4	0.4	0.4	0.4	0.4	0.4	2.1	8.0	
15-Jan	0.3	0.3	Z	0.4	0.6	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.7	1.7	2.3	2.2	2.8	2.3	1.7	2.6	0.9	2.8	
16-Jan	2.2	3.4	0.8	Z	1.0	0.8	0.9	1.1	0.7	1.7	1.9	2.3	2.2	1.5	1.0	0.5	0.5	0.5	1.4	2.5	2.1	2.6	5.3	6.4	1.9	6.4	
17-Jan	2.6	2.7	4.4	4.2	Z	3.8	4.5	3.5	3.7	3.0	3.6	4.8	7.7	11.1	6.4	4.3	2.7	2.0	1.4	1.9	0.4	0.3	1.3	0.9	3.5	11.1	
18-Jan	1.4	10.5	12.2	11.2	3.3	Z	1.3	3.8	6.1	4.1	1.5	0.2	0.4	0.6	1.0	1.3	3.7	8.2	5.3	4.3	3.7	3.3	2.8	3.1	4.1	12.2	
19-Jan	Z	11.2	6.4	8.3	5.2	6.4	10.1	13.1	20.4	21.8	15.9	9.6	4.3	2.0	2.0	6.0	5.8	14.8	12.6	15.6	4.3	4.3	3.0	2.9	9.0	21.8	
20-Jan	2.2	Z	0.9	1.6	1.8	1.4	1.3	1.3	2.3	2.0	2.0	2.0	2.2	2.2	2.6	5.8	6.8	5.4	8.6	7.3	9.1	3.0	4.4	3.2	3.5	9.1	
21-Jan	1.1	0.7	Z	0.7	0.5	0.5	0.4	0.6	0.6	0.4	0.4	0.5	0.4	0.3	0.4	4.1	5.8	6.0	4.6	3.9	4.6	5.9	4.0	1.4	2.1	6.0	
22-Jan	0.4	0.2	0.1	Z	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.4	3.7	1.9	0.8	1.3	1.4	1.5	1.1	0.6	3.7
23-Jan	1.7	2.0	1.4	1.2	Z	5.7	5.9	1.7	0.9	0.9	1.4	1.2	0.7	0.6	0.6	0.5	0.4	0.7	0.4	0.4	0.4	0.3	0.4	0.2	1.3	5.9	
24-Jan	0.2	0.3	0.3	0.2	0.3	Z	0.6	0.8	0.9	0.3	0.8	1.1	0.8	1.4	1.3	2.1	0.9	0.8	0.2	1.7	0.4	0.2	0.2	0.6	0.7	2.1	
25-Jan	Z	2.0	1.7	1.0	0.9	1.2	1.5	4.5	7.2	5.5	5.2	1.1	1.4	1.0	0.9	0.7	0.8	1.2	2.2	1.4	3.0	3.1	1.0	1.1	2.2	7.2	
26-Jan	0.8	Z	5.1	7.9	4.6	5.8	4.5	2.7	8.9	7.8	6.1	2.7	1.8	1.1	1.1	0.8	0.7	0.6	0.7	0.6	0.6	0.5	0.4	0.4	2.9	8.9	
27-Jan	1.3	2.8	Z	1.7	3.5	0.9	1.1	1.0	4.6	4.9	3.4	5.2	1.3	3.1	2.4	11.7	12.0	8.8	2.1	0.9	0.6	0.5	0.3	0.2	3.2	12.0	
28-Jan	0.2	0.1	0.2	Z	0.3	0.2	0.4	0.5	0.5	0.5	0.3	0.3	0.2	0.4	0.5	0.5	0.4	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.5
29-Jan	0.3	0.3	0.5	0.3	Z	2.4	3.0	4.0	3.9	3.5	1.2	1.4	0.5	1.1	3.4	6.5	9.5	10.3	8.1	6.0	5.1	5.7	4.3	2.9	3.7	10.3	
30-Jan	3.3	3.8	3.1	2.8	2.7	Z	6.2	7.8	6.3	8.9	4.4	5.9	4.0	4.0	4.3	7.1	8.3	9.3	8.8	7.5	19.4	19.2	13.3	9.2	7.4	19.4	
31-Jan	Z	3.0	1.5	0.8	0.7	1.4	1.5	1.9	6.8	14.4	7.4	5.2	2.3	1.9	2.2	3.5	8.5	3.2	1.4	1.1	1.2	1.5	2.9	0.7	3.3	14.4	
																								Diurnal Average			
																								Diurnal Maximum			
																								Diurnal Average			
																								Diurnal Maximum			
Z - zerospan C - Calibration																											



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Hangingsstone Expansion - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Hangingstone Expansion - January 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	703	99.29	99.29
21 - 40	5	0.71	100.00
41 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Nitrogen Oxides (NO_x) - ppb
Hangingstone Expansion - January 2025**

Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	44	36	22	12	16	15	6	29	38	87	78	125	52	61	26	25	672
21 - 40	2	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	4
11 - 80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	46	36	22	12	16	15	6	30	39	87	78	125	52	61	26	25	676

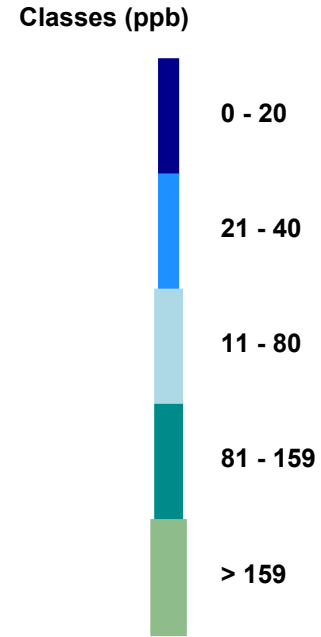
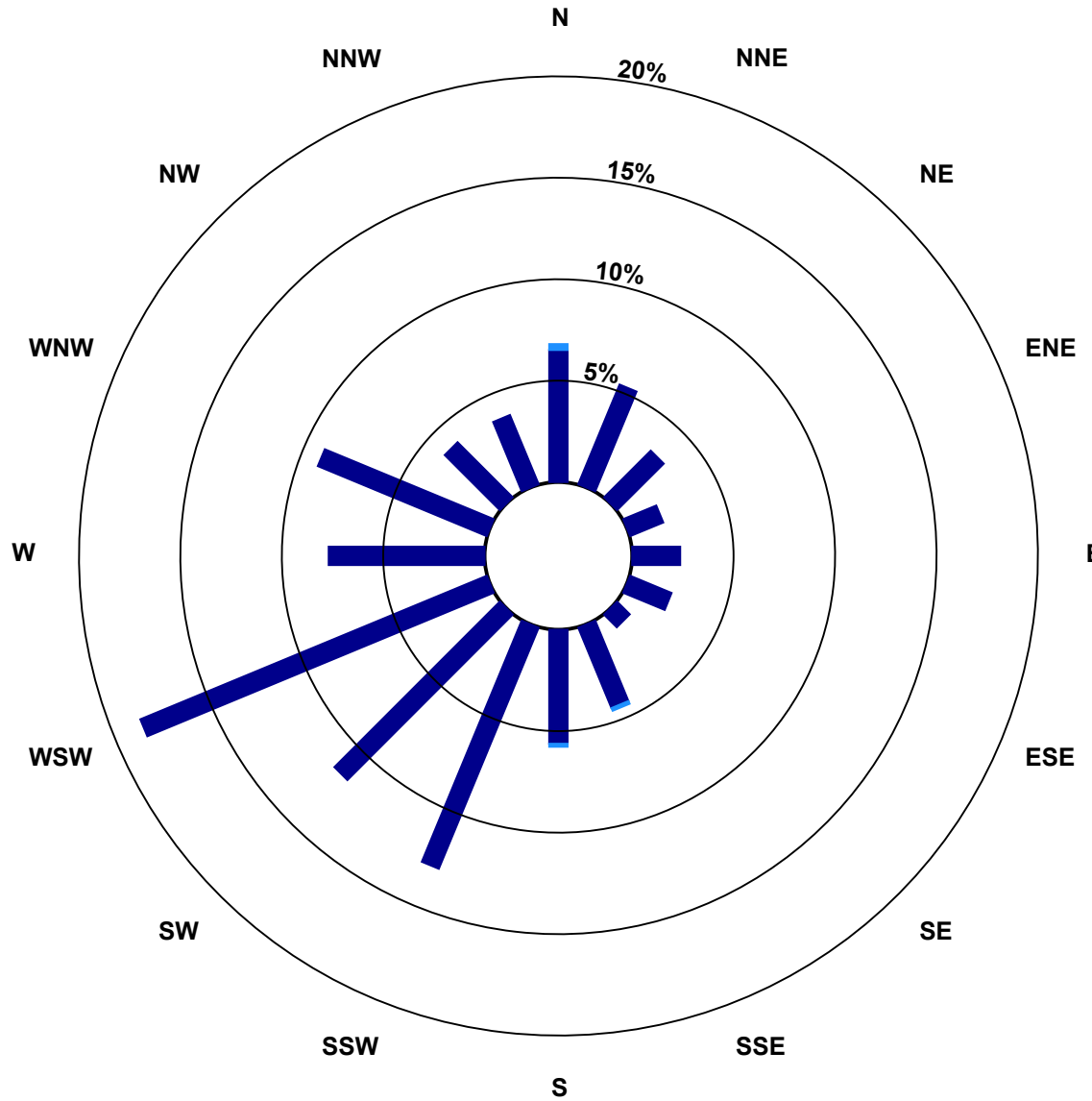
Total Number of Valid Hours: 676

Total Number of Hours: 744

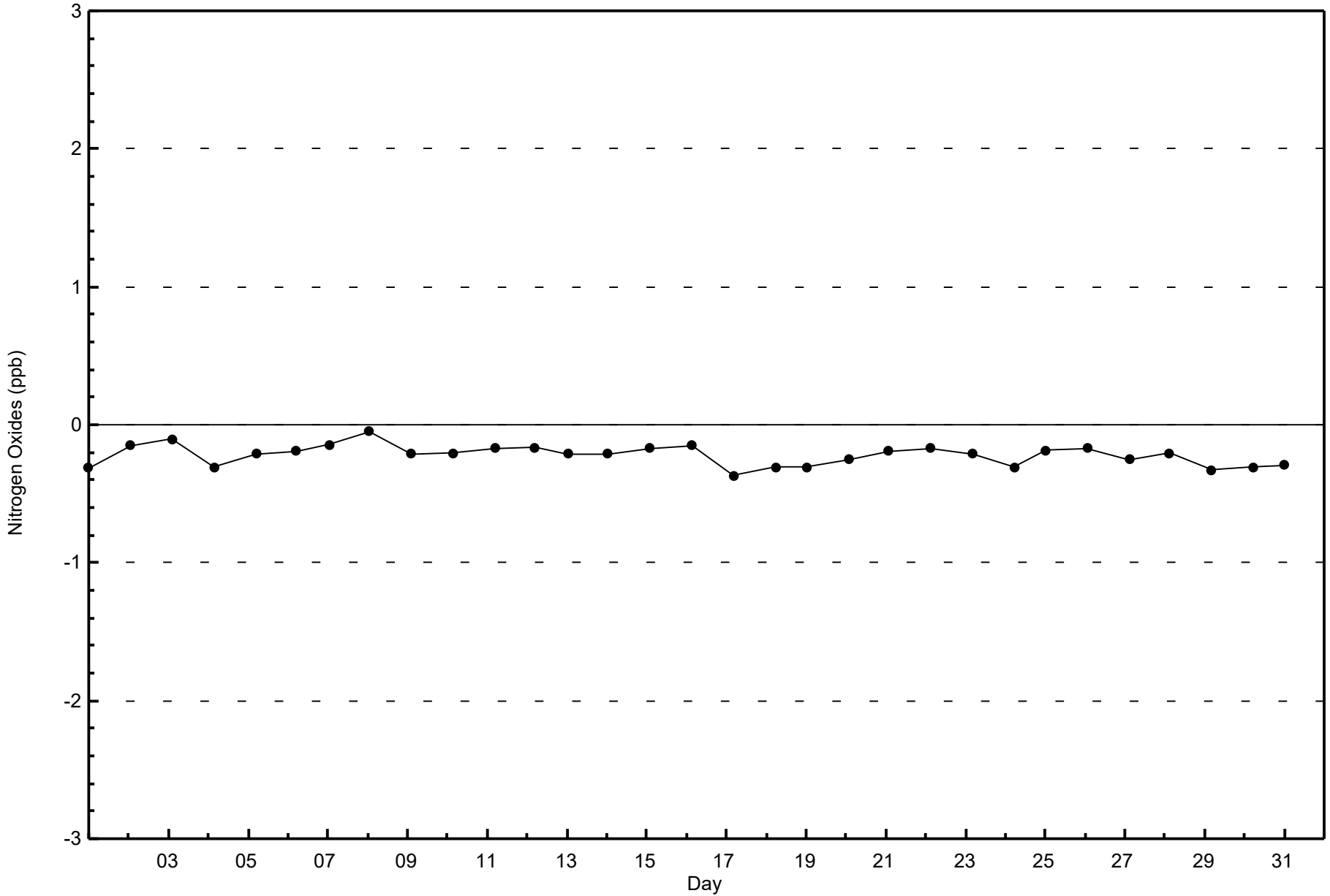


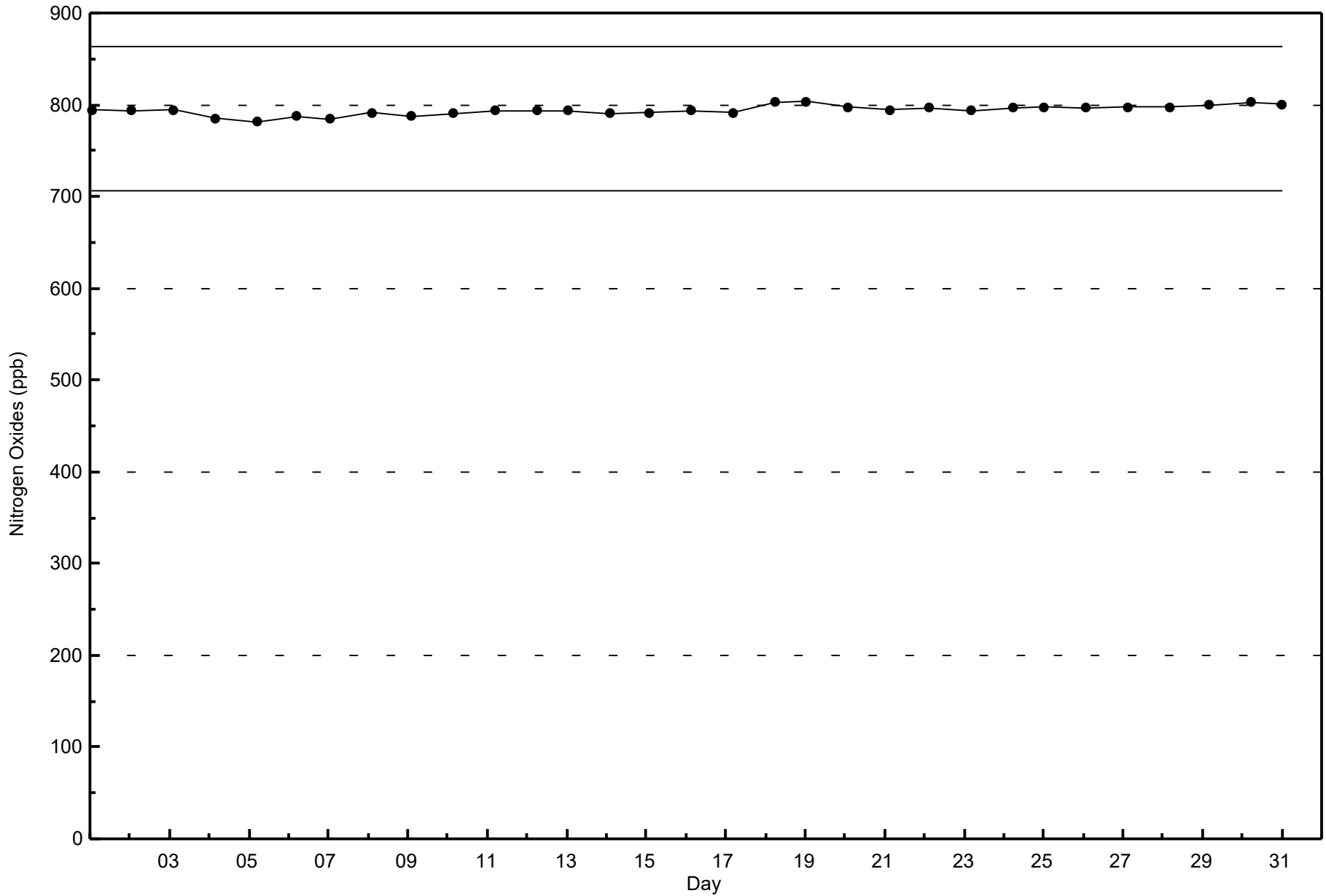
Wood Buffalo Environmental Association
Wind Rose Jan 2025

Nitrogen Oxides (NO_x) - ppb
Hangingstone Expansion



Total Number of Valid Hours: 676







Wood Buffalo Environmental Association
Summary of Hour Averages

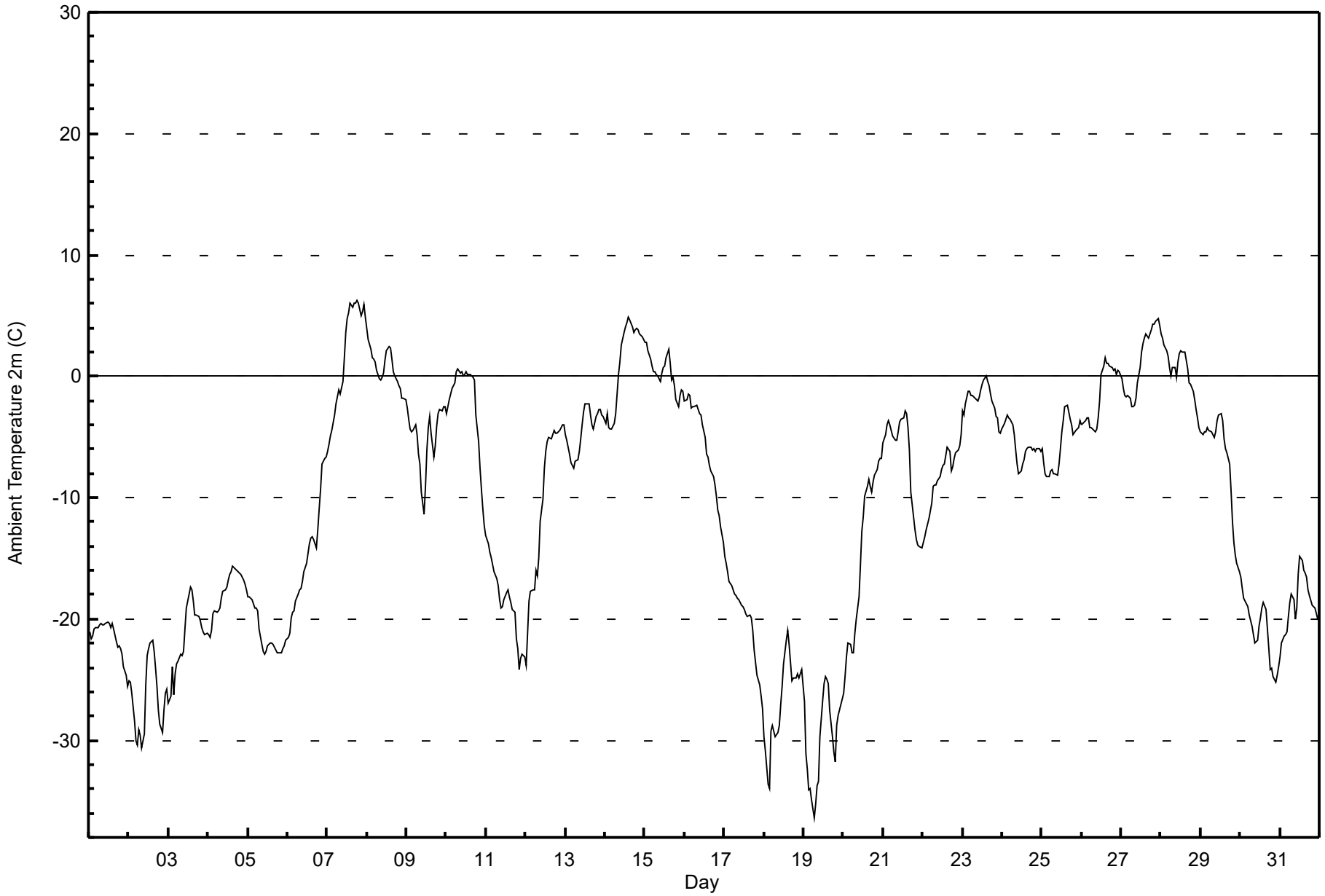
Ambient Temperature 2m (AT2) - C
Hangingsstone Expansion - January 2025

Maximum Value: 6.3 C on Jan 7 19:00		Maximum Daily Average: 1.7 C on Jan 7		Hours in Service: 744																						
Minimum Value: -36.4 C on Jan 19 07:00		Minimum Daily Average: -30.0 C on Jan 19		Hours of Data: 744																						
Maximum Diurnal Average: -8.3 C at hour 15		Minimum Diurnal Average: -11.9 C at hour 4		Hours of Missing Data: 0																						
Monthly Average: -10.74 C		Percentiles: P ₁ = -33.5 P ₁₀ = -24.4 Q ₁ = -19.7 Median = -7.4 Q ₃ = -2.5 P ₉₀ = 0.9 P ₉₉ = 5.3		Hours of Calibration: 0																						
				Percent Operational Time: 100.0																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	-21.1	-21.6	-21.4	-20.8	-20.7	-20.7	-20.5	-20.4	-20.4	-20.5	-20.3	-20.2	-20.4	-20.7	-20.3	-20.8	-21.8	-22.3	-22.2	-22.4	-22.9	-23.9	-24.6	-25.5	-21.5	-20.2
2-Jan	-25.1	-25.2	-26.2	-28.4	-30.1	-30.4	-29.2	-29.5	-30.6	-29.5	-25.4	-23.0	-22.4	-22.0	-21.8	-22.6	-24.1	-25.6	-27.5	-28.7	-29.4	-27.5	-26.1	-25.7	-26.5	-21.8
3-Jan	-27.0	-26.3	-23.9	-26.2	-24.5	-23.7	-23.5	-22.9	-23.0	-22.7	-20.8	-19.1	-18.0	-17.3	-17.6	-18.5	-19.6	-19.7	-19.8	-20.2	-20.7	-21.0	-21.3	-21.1	-21.6	-17.3
4-Jan	-21.3	-21.5	-20.9	-19.6	-19.3	-19.4	-19.3	-19.1	-18.3	-17.7	-17.6	-17.4	-16.8	-16.4	-16.1	-15.7	-15.9	-16.0	-16.1	-16.3	-16.4	-16.8	-17.1	-17.6	-17.9	-15.7
5-Jan	-18.2	-18.2	-18.4	-18.7	-19.1	-19.1	-19.3	-20.8	-22.1	-22.6	-22.9	-22.7	-22.3	-22.0	-22.0	-22.1	-22.3	-22.5	-22.8	-22.8	-22.4	-22.2	-21.8	-21.3	-18.2	-21.3
6-Jan	-21.5	-21.2	-19.9	-19.4	-19.3	-18.5	-18.0	-17.6	-17.5	-16.9	-16.1	-15.4	-14.6	-13.8	-13.3	-13.3	-13.5	-14.2	-12.6	-10.9	-9.3	-7.3	-6.8	-6.7	-14.9	-6.7
7-Jan	-6.2	-5.7	-4.9	-4.4	-3.2	-2.2	-1.7	-1.1	-1.5	-0.5	1.6	3.6	4.8	5.3	6.0	5.7	6.1	6.0	6.3	6.0	5.0	5.4	5.9	4.9	1.7	6.3
8-Jan	4.0	3.1	2.2	1.6	1.4	1.2	0.4	-0.2	-0.3	0.0	0.3	1.3	2.1	2.5	2.4	1.4	0.4	0.0	-0.4	-0.8	-1.0	-1.8	-1.8	-1.9	0.7	4.0
9-Jan	-2.7	-3.6	-4.4	-4.6	-4.4	-4.0	-4.8	-6.4	-7.2	-9.5	-11.3	-9.1	-6.1	-4.2	-3.3	-4.7	-6.7	-5.7	-4.1	-3.1	-2.8	-2.8	-2.5	-2.5	-5.0	-2.5
10-Jan	-3.1	-2.5	-2.0	-1.0	-0.8	-0.5	0.3	0.6	0.3	0.4	0.1	0.2	0.4	0.2	0.2	0.0	-0.1	-0.3	-3.2	-5.3	-7.5	-9.3	-10.9	-12.3	-2.3	0.6
11-Jan	-13.1	-13.8	-14.5	-15.0	-15.6	-16.1	-16.6	-17.3	-18.4	-19.1	-19.0	-18.5	-17.8	-17.7	-18.1	-18.7	-19.2	-19.5	-21.6	-22.4	-24.2	-23.3	-22.8	-23.1	-18.6	-13.1
12-Jan	-23.8	-21.1	-18.5	-17.8	-17.6	-17.6	-16.0	-16.5	-14.9	-12.0	-10.1	-7.6	-6.2	-5.4	-5.1	-5.1	-4.8	-4.5	-4.7	-4.7	-4.4	-4.3	-4.0	-3.9	-10.4	-3.9
13-Jan	-4.8	-5.3	-6.4	-7.1	-7.4	-7.6	-7.0	-6.8	-6.2	-5.2	-4.0	-3.0	-2.3	-2.3	-3.2	-4.0	-4.3	-3.3	-3.1	-2.8	-2.7	-3.2	-3.3	-4.5	-2.3	-4.5
14-Jan	-3.9	-3.1	-4.2	-4.3	-4.3	-3.9	-3.0	-1.4	0.1	1.2	2.6	3.6	4.1	4.5	4.9	4.6	4.0	3.6	3.8	4.0	3.9	3.5	3.3	3.1	1.1	4.9
15-Jan	2.8	2.9	2.1	1.4	0.8	0.4	0.3	0.2	0.1	-0.5	0.2	0.8	0.9	1.6	2.2	1.0	-0.3	-0.1	-0.7	-1.9	-2.6	-1.5	-1.2	-1.3	0.3	2.9
16-Jan	-2.0	-1.9	-1.4	-1.6	-2.6	-2.5	-2.4	-2.4	-2.7	-3.0	-3.2	-4.0	-5.0	-6.4	-6.7	-7.3	-7.9	-8.3	-9.0	-9.8	-11.0	-11.4	-12.4	-13.7	-5.8	-1.4
17-Jan	-14.8	-15.4	-16.1	-16.9	-17.3	-17.6	-18.0	-18.1	-18.3	-18.4	-18.8	-19.0	-19.3	-19.5	-19.8	-19.6	-19.9	-21.0	-22.6	-23.6	-24.6	-25.5	-26.3	-27.5	-19.9	-14.8
18-Jan	-29.7	-30.9	-33.6	-34.0	-29.3	-28.8	-29.2	-29.7	-29.4	-28.8	-27.0	-25.6	-23.7	-21.8	-21.0	-22.1	-23.6	-25.1	-24.9	-24.9	-24.6	-24.8	-24.5	-24.2	-26.7	-21.0
19-Jan	-26.8	-31.1	-32.4	-34.1	-33.9	-34.9	-36.4	-35.3	-33.7	-33.4	-29.7	-26.7	-25.3	-24.8	-25.0	-25.3	-27.6	-29.7	-30.9	-31.8	-28.7	-28.0	-27.1	-26.6	-30.0	-24.8
20-Jan	-26.1	-24.8	-23.2	-22.0	-22.1	-22.8	-22.8	-21.2	-20.0	-18.2	-15.5	-12.8	-11.6	-9.9	-9.1	-8.4	-9.1	-9.5	-8.8	-8.1	-7.7	-7.0	-6.8	-6.7	-14.8	-6.7
21-Jan	-5.5	-4.8	-4.0	-3.7	-4.0	-4.5	-4.9	-5.3	-5.2	-4.6	-3.8	-3.6	-3.4	-2.9	-3.1	-4.3	-6.1	-9.5	-11.6	-12.6	-13.5	-13.9	-14.0	-14.2	-6.8	-2.9
22-Jan	-13.7	-13.2	-12.7	-12.2	-11.7	-10.5	-9.1	-9.0	-8.9	-8.6	-8.2	-7.7	-7.4	-7.2	-6.6	-5.8	-6.2	-7.8	-7.5	-6.8	-6.3	-6.1	-5.8	-4.8	-8.5	-4.8
23-Jan	-2.8	-3.2	-2.3	-1.2	-1.2	-1.6	-1.6	-1.7	-1.9	-2.0	-1.7	-1.1	-0.7	-0.3	0.0	-0.4	-0.8	-1.5	-2.0	-2.6	-3.3	-3.5	-4.5	-4.7	-1.9	0.0
24-Jan	-4.3	-3.9	-3.6	-3.2	-3.4	-3.5	-4.0	-4.8	-6.1	-7.2	-8.0	-7.8	-7.2	-6.9	-6.2	-6.0	-5.8	-5.9	-6.1	-6.0	-6.1	-5.9	-6.0	-6.1	-5.6	-3.2
25-Jan	-6.0	-7.1	-8.0	-8.3	-8.3	-7.8	-7.7	-8.0	-8.0	-8.1	-7.3	-5.9	-4.6	-3.7	-2.6	-2.4	-3.0	-3.6	-4.1	-4.8	-4.5	-4.3	-4.2	-3.7	-5.7	-2.4
26-Jan	-4.0	-3.9	-3.6	-3.4	-3.4	-4.2	-4.2	-4.5	-4.6	-4.3	-3.4	-2.0	0.2	0.8	1.5	1.1	1.1	0.9	0.7	0.5	0.6	0.2	0.5	0.4	-1.6	1.5
27-Jan	-0.2	-1.0	-1.5	-1.7	-1.5	-1.8	-2.5	-2.5	-2.3	-1.8	-0.5	0.8	2.0	2.7	3.2	3.5	3.2	3.5	3.9	4.3	4.3	4.5	4.7	4.1	1.1	4.7
28-Jan	3.5	3.1	2.6	2.1	1.7	0.8	0.0	0.7	0.7	-0.1	1.2	1.9	2.1	2.0	2.0	1.3	0.6	-0.6	-0.7	-1.2	-2.0	-2.7	-3.5	-4.2	0.5	3.5
29-Jan	-4.6	-4.8	-4.6	-4.6	-4.3	-4.5	-4.6	-4.8	-5.0	-4.6	-3.6	-3.2	-3.0	-3.6	-5.2	-6.0	-6.3	-7.3	-9.4	-11.9	-13.7	-14.7	-15.4	-16.1	-6.9	-3.0
30-Jan	-16.6	-17.4	-18.3	-18.5	-19.0	-19.7	-20.1	-20.6	-21.3	-22.0	-21.7	-20.5	-19.9	-19.0	-18.6	-19.3	-20.9	-22.5	-24.2	-24.1	-24.7	-25.2	-24.7	-23.9	-21.0	-16.6
31-Jan	-23.2	-22.0	-21.4	-21.3	-21.0	-19.8	-18.6	-18.0	-18.4	-20.0	-19.1	-16.4	-14.8	-15.2	-16.0	-16.2	-16.5	-17.6	-18.1	-18.9	-19.0	-19.1	-19.6	-20.0	-18.8	-14.8
																								Diurnal Average		
																								Diurnal Maximum		



Wood Buffalo Environmental Association
Hourly Averages

Ambient Temperature 2m (AT2) - C
Hangingsstone Expansion - January 2025





**Wood Buffalo Environmental Association
Cumulative Frequency Distribution**

**Ambient Temperature 2m (AT2) - C
Hangingstone Expansion - January 2025**

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	177	23.79	23.79
-20 - 0	456	61.29	85.08
0 - 10	111	14.92	100.00
10 - 20	0	0.00	100.00
> 20	0	0.00	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Summary of Hour Averages

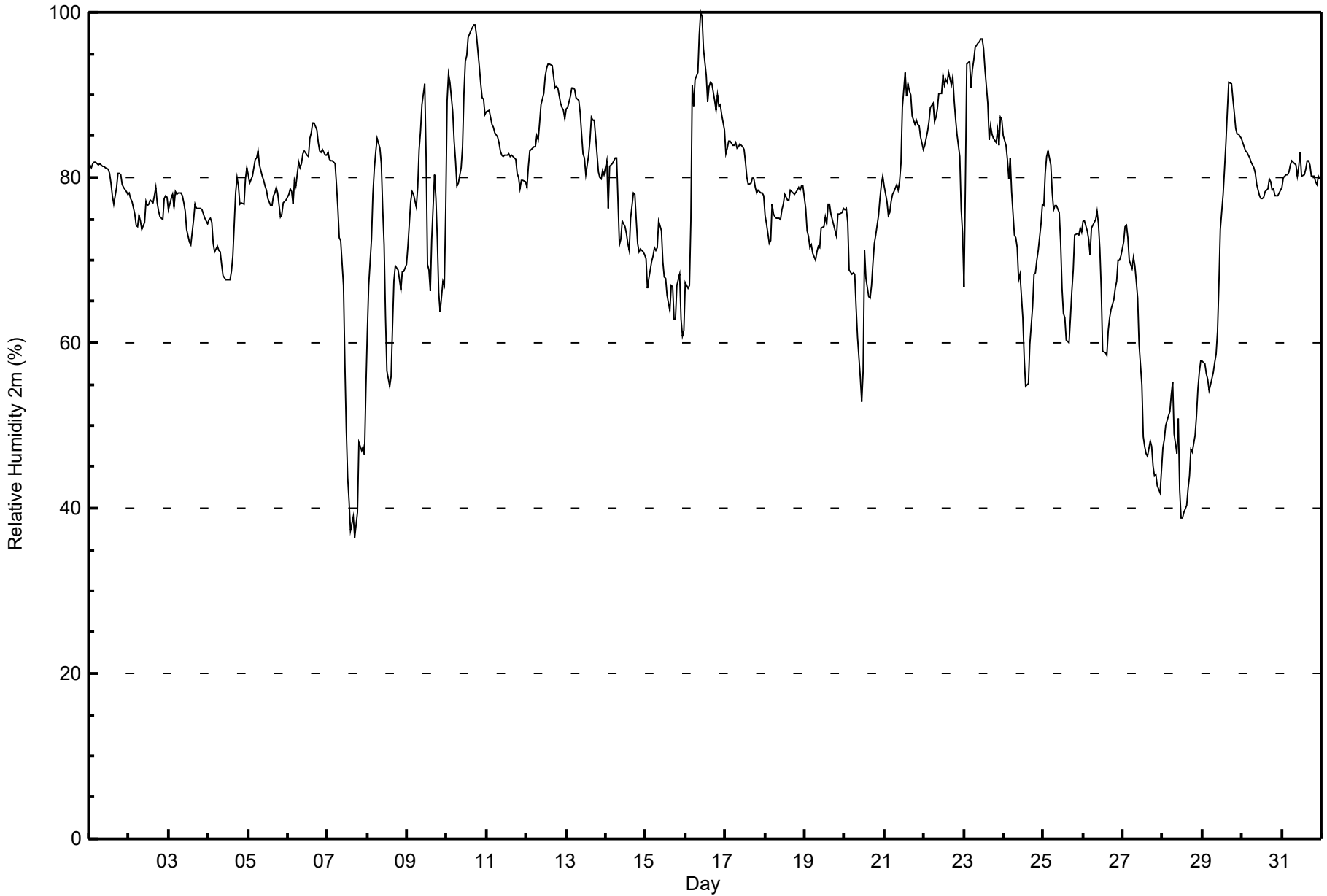
Relative Humidity 2m (RH2) - %
Hangingsstone Expansion - January 2025

Maximum Value: 100.0 % on Jan 16 10:00		Maximum Daily Average: 90.3 % on Jan 10		Hours in Service: 744																							
Minimum Value: 36.4 % on Jan 7 17:00		Minimum Daily Average: 48.0 % on Jan 28		Hours of Data: 744																							
Maximum Diurnal Average: 78.3 % at hour 5		Minimum Diurnal Average: 73.5 % at hour 15		Hours of Missing Data: 0																							
Monthly Average: 76.12 %		Percentiles: P ₁ = 39.9 P ₁₀ = 59.8 Q ₁ = 71.5 Median = 78.1 Q ₃ = 83.0 P ₉₀ = 89.3 P ₉₉ = 97.0		Hours of Calibration: 0																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Jan	81.5	81.2	81.7	81.8	81.8	81.6	81.6	81.6	81.4	81.3	81.2	80.9	80.5	79.4	77.7	76.9	78.8	80.5	80.4	80.3	79.1	78.8	78.4	78.0	80.3	81.8	
2-Jan	78.1	77.5	77.1	75.6	74.3	74.1	75.4	74.8	73.8	74.7	77.1	76.7	76.8	77.3	76.9	77.8	78.8	76.9	75.9	75.3	75.0	77.4	77.8	77.7	76.4	78.8	
3-Jan	76.2	77.5	77.9	76.4	78.4	78.0	78.1	78.1	77.9	76.9	75.9	73.8	72.2	71.8	73.3	74.8	76.7	76.3	76.2	76.3	76.2	75.6	75.0	74.4	76.0	78.4	
4-Jan	74.9	75.2	74.6	72.1	71.0	71.7	71.2	70.9	69.5	68.1	67.6	67.5	67.6	67.7	68.7	70.4	78.2	80.0	79.0	76.8	76.9	76.7	79.8	81.2	73.2	81.2	
5-Jan	80.3	79.2	80.1	81.2	82.2	82.4	83.2	81.5	80.2	79.7	79.0	78.4	77.5	76.6	76.7	77.7	78.2	78.9	78.1	75.3	75.5	76.9	77.2	77.3	78.9	83.2	
6-Jan	77.9	78.7	78.3	76.9	79.7	79.1	81.9	81.2	81.6	83.0	83.2	82.8	82.6	84.7	85.5	86.7	86.7	85.7	84.3	83.2	83.1	83.4	82.6	82.7	82.3	86.7	
7-Jan	83.0	82.3	82.1	82.0	81.7	79.1	76.2	72.7	72.4	66.9	57.4	49.5	43.8	40.8	37.3	39.0	36.4	37.9	39.5	47.9	46.9	47.4	46.5	54.4	58.5	83.0	
8-Jan	61.2	66.9	72.5	78.1	81.0	83.0	84.7	83.5	81.7	76.3	71.9	63.2	56.6	54.8	56.0	61.9	67.4	69.3	68.8	67.7	66.5	68.6	68.7	69.5	70.0	84.7	
9-Jan	71.7	74.4	77.1	78.3	78.0	76.5	78.9	83.4	85.6	88.8	91.4	82.4	69.5	68.9	66.2	72.6	80.4	77.4	72.5	66.1	63.7	67.5	66.9	76.2	75.6	91.4	
10-Jan	89.3	92.6	91.5	87.9	84.5	82.0	79.0	79.4	81.2	83.7	90.1	94.0	94.7	96.9	97.7	98.2	98.4	98.5	97.1	93.4	91.3	89.6	89.4	87.6	90.3	98.5	
11-Jan	87.9	88.1	87.2	86.5	86.1	85.5	84.9	84.2	83.3	82.7	82.5	82.7	82.7	82.8	82.6	82.7	82.6	82.3	80.6	80.1	78.7	79.6	79.7	79.5	83.1	88.1	
12-Jan	78.9	81.3	83.3	83.5	83.8	83.7	85.1	84.6	86.7	88.8	90.2	92.2	93.3	93.8	93.7	93.6	92.2	90.8	91.0	90.9	89.0	88.4	88.1	87.2	88.1	93.8	
13-Jan	88.4	88.4	89.9	90.9	90.9	90.6	89.6	89.4	87.7	85.2	82.9	82.4	80.4	82.7	84.5	87.3	87.0	87.0	82.9	80.7	80.1	79.8	80.8	80.3	85.4	90.9	
14-Jan	82.1	76.3	81.3	81.6	81.7	82.4	82.3	77.1	71.8	72.6	74.8	74.0	73.2	72.0	71.2	75.0	78.2	77.9	75.0	72.0	71.0	71.4	70.9	70.6	75.7	82.4	
15-Jan	70.2	66.6	67.7	69.9	70.6	71.5	71.1	71.6	74.8	73.5	69.8	68.0	67.9	65.7	63.9	67.0	66.8	62.8	63.0	67.0	68.3	62.8	60.8	61.6	67.6	74.8	
16-Jan	67.4	66.7	66.9	74.8	91.3	88.6	91.9	92.8	97.3	100.0	99.4	95.6	92.4	89.2	91.1	91.5	91.3	89.3	88.2	90.1	88.6	88.8	87.7	85.8	87.8	100.0	
17-Jan	83.0	83.6	84.5	84.5	83.9	83.9	84.2	83.6	83.8	84.0	83.7	83.3	81.9	80.1	79.2	79.4	80.1	79.8	78.8	78.2	78.4	78.1	78.2	77.8	81.5	84.5	
18-Jan	75.5	74.5	72.1	72.4	76.7	75.7	75.2	75.1	75.1	74.9	76.2	76.8	78.0	77.3	77.2	78.5	78.4	78.1	78.0	78.4	78.8	78.5	79.0	79.0	76.6	79.0	
19-Jan	76.2	73.5	72.9	71.6	71.9	70.8	70.0	71.0	71.6	71.6	73.9	74.1	75.3	74.3	76.7	76.7	75.5	74.2	73.6	72.8	75.6	75.6	75.8	76.3	73.8	76.7	
20-Jan	76.1	76.3	74.6	68.7	68.2	68.6	68.3	64.2	60.7	55.7	52.9	56.5	71.2	67.8	65.6	65.4	67.0	69.7	72.1	73.0	75.5	77.5	79.2	80.1	69.0	80.1	
21-Jan	78.9	77.2	75.5	75.7	77.1	77.9	78.3	79.1	78.5	79.6	81.7	88.5	92.8	89.9	91.4	90.6	90.0	87.5	86.5	87.0	86.4	86.3	85.0	83.4	83.5	92.8	
22-Jan	83.9	84.8	85.6	86.8	88.4	89.0	86.8	87.3	88.4	90.1	90.1	92.4	91.2	91.8	91.6	92.7	91.2	92.1	89.3	87.2	85.2	82.5	76.2	73.2	87.4	92.7	
23-Jan	66.8	79.2	93.8	94.1	90.8	93.0	94.2	95.7	96.3	96.5	96.8	95.6	93.1	89.0	84.6	86.2	85.3	84.7	84.2	85.8	83.8	87.2	87.0	89.2	89.2	96.8	
24-Jan	85.1	83.8	82.2	79.9	82.4	78.3	73.1	72.7	71.5	67.6	68.3	63.0	58.2	54.7	54.9	55.1	59.8	64.3	68.4	68.5	70.0	71.3	74.5	76.7	70.2	85.1	
25-Jan	76.7	80.5	82.6	83.2	81.4	78.1	76.2	76.5	76.6	75.8	72.2	66.6	63.5	63.1	60.4	60.0	63.1	66.3	68.9	73.1	73.2	73.1	74.0	73.4	72.4	83.2	
26-Jan	74.7	74.7	73.6	72.6	70.6	73.8	74.3	74.9	75.9	74.4	71.4	66.4	58.9	58.9	58.5	61.6	63.1	64.1	65.3	66.6	67.4	70.1	70.0	70.5	68.8	75.9	
27-Jan	72.2	74.1	74.2	72.6	70.0	69.0	70.4	69.4	67.5	65.4	59.8	54.9	48.7	47.5	46.7	46.4	48.1	47.4	45.1	43.9	44.1	42.7	41.9	44.7	56.9	74.2	
28-Jan	47.2	48.3	50.0	51.2	51.7	53.7	55.2	49.0	46.7	50.9	42.2	38.8	38.9	39.4	40.4	42.4	43.9	47.1	46.8	48.8	51.2	54.3	56.5	57.8	48.0	57.8	
29-Jan	57.8	57.4	56.2	55.7	54.2	54.9	56.4	57.6	58.6	61.3	67.1	73.7	78.0	81.1	84.2	87.9	91.6	91.4	89.5	87.7	86.0	85.3	85.3	84.7	72.6	91.6	
30-Jan	84.3	83.7	83.2	83.0	82.4	81.9	81.5	81.1	80.4	79.1	77.7	77.5	77.5	77.6	78.4	78.7	79.9	79.5	78.5	78.6	77.9	77.7	78.2	78.5	79.9	84.3	
31-Jan	78.9	80.0	80.3	80.3	80.7	81.5	82.0	81.9	81.4	80.2	81.4	83.0	80.1	80.3	81.0	82.1	82.0	81.5	80.2	80.2	79.5	79.2	80.1	79.8	80.7	83.0	
		76.3	76.9	77.8	77.7	78.3	78.1	78.1	77.6	77.4	77.1	76.4	75.4	74.2	73.6	73.5	74.7	76.1	76.1	75.4	75.2	75.0	75.1	75.2	75.7	Diurnal Average	
		89.3	92.6	93.8	94.1	91.3	93.0	94.2	95.7	97.3	100.0	99.4	96.8	95.6	96.9	97.7	98.2	98.4	98.5	97.1	93.4	91.3	89.6	89.4	87.6	Diurnal Maximum	



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 2m (RH2) - %
Hangingsstone Expansion - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Relative Humidity 2m (RH2) - %
Hangingstone Expansion - January 2025

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	8	1.08	1.08
40 - 60	68	9.14	10.22
60 - 80	373	50.13	60.35
80 - 100	294	39.52	99.87

Total Number of Valid Hours: 744

Total Number of Hours: 744



Maximum Speed: 32 km/h on Jan 24 07:00	Maximum Daily Speed Average: 16.3 km/h on Jan 28	Hours in Service: 744
Minimum Speed Value: 0 km/h on Jan 19 17:00	Minimum Daily Speed Average: 2.5 km/h on Jan 19	Hours of Data: 711
Maximum Diurnal Speed Average: 6.3 km/h at hour 13	Minimum Diurnal Speed Average: 3.6 km/h at hour 17	Hours of Missing Data: 33
Monthly Average Velocity: 5.2 km/h 248.4 deg	Percentiles: P ₁ = 2 P ₁₀ = 5 Q ₁ = 7 Median = 11 Q ₃ = 15 P ₉₀ = 19 P ₉₉ = 26	Percent Operational Time: 95.6

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	WNW5	W6	WNW6	NW7	NW7	NW5	NW5	NW5	NNW6	NNW5	NW7	NNW7	N7	N8	N7	N8	N6	NNE4	N3	N4	NE4	NNE6	NE5	ENE4	NNW4.8	N8
2-Jan	ENE4	ENE4	ENE4	E2	SE2	NNE1	SSE3	SSE5	SSE6	SSE6	SSE3	ESE1	WNW2	NW3	N3	E3	SE4	SSE6	S6	SSE7	SSE7	SSE8	S7	SSE8	SSE3.0	SSE8
3-Jan	S5	SSE6	S10	SSE4	SSE6	SSE9	S9	S9	S10	S10	S10	S10	S13	S17	SSE15	SSE11	SSE14	SSE19	SSE22	SSE23	SSE24	SSE25	SSE24	SSE24	SSE13.7	SSE25
4-Jan	SSE24	SSE27	SSE27	S21	SSW11	SSW9	SSW8	SSW10	SSW10	S11	S13	S14	S13	S11	S12	S10	S11	SSW9	SSW9	SSW8	SSW8	SSW8	SW6	W7	S11.6	SSE27
5-Jan	W8	W7	WNW7	WNW8	WNW5	WNW6	NW7	N9	N8	N6	N8	N5	NNW6	N7	N7	NE7	NE7	ENE4	NE4	NE2	NNW3	NE2	NNE1	NNW4.3	N9	
6-Jan	NNW2	ESE3	SSE3	SW2	ENE1	S5	S8	SSE11	S12	S13	S12	S12	SSW11	SSW11	SSW11	SSW10	SSW11	SSW10	SSW14	SSW15	SSW16	SSW18	SSW18	SW17	SSW9.5	SSW18
7-Jan	SSW16	SSW16	SSW16	SSW16	SSW15	SSW16	SW16	SW15	SW16	SSW14	SSW15	SSW18	SW18	SW17	SW16	SW15	SSW15	SW15	SSW15	SSW15	SW16	SW17	WSW19	WSW20	SW15.7	WSW20
8-Jan	WSW18	WSW18	WSW16	WSW15	W15	WSW14	W12	WSW10	WSW12	WSW13	WSW11	W11	WNW17	WNW21	NW26	WNW19	WNW13	WNW15	WNW13	WNW12	WNW16	WNW13	WNW15	WNW15	W13.8	NW26
9-Jan	WNW13	W10	W9	W10	W9	W10	W8	WSW8	WSW7	NNW4	NE3	NE3	NNE2	W5	SW4	WSW2	S5	S11	S12	S16	S19	S21	S21	S19	SSW6.0	S21
10-Jan	S18	S21	S21	S21	S19	SSW14	SW14	WSW12	WSW12	WSW12	WSW10	WSW9	W7	W6	W7	WNW8	NW7	NW6	NNE12	NNE12	NNE10	N10	N12	N16	WSW4.5	S21
11-Jan	N12	N12	NNE12	N7	N7	NNE6	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	---	N12
12-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	---	WSW13
13-Jan	WSW8	WSW9	SW8	SSW9	SSW10	SSW8	SSW10	SSW10	SSW10	SSW9	S9	SW9	WSW11	WSW8	WSW9	SW10	SW12	SW14	SW15	SW11	WSW12	WSW13	WSW12	SW11	SW9.8	SW15
14-Jan	SW10	SW10	SSW10	SSW10	SSW10	SW14	SW14	SW16	SSW14	SSW15	SW18	SW19	SW20	WSW19	WSW17	WSW15	WSW14	WSW13	WSW13	WSW15	WSW15	WSW12	W9	WSW11	SW13.3	SW20
15-Jan	W13	W12	WSW11	WSW8	WSW6	WSW7	WSW8	W8	W9	WSW10	W11	WNW14	WNW12	WNW10	W11	W8	SW7	WSW9	SW8	SSW8	SSW8	SSW6	SSW6	S5	WSW8.0	WNW14
16-Jan	SE6	SE6	SE13	SE13	ESE17	ESE16	ESE15	SE16	SE13	E10	NE10	NE13	ENE16	ENE16	NE18	NE24	NE25	NNE24	NNE21	NNE19	N20	N15	N13	N17	ENE11.1	NE25
17-Jan	N17	N17	N15	N12	N11	NNW7	NNW6	N7	N9	N8	NNE10	N10	N12	N11	N8	NNW9	NNW11	NW13	NW11	NW10	NW8	NW10	NNW6	NNW6	N9.6	N17
18-Jan	N5	NNW3	SW2	SSW5	WSW6	WSW7	SW5	SSW6	SSW6	SSW6	SW6	WSW4	WSW5	WSW5	WSW5	WSW6	SSW4	SSW5	SSW5	SW5	SSW5	SSW6	SW5	SW5	SW4.4	WSW7
19-Jan	SW4	WSW3	WSW4	SW4	SW4	WSW3	WSW3	WSW3	UO	UO	SW3	W3	WNW4	NW3	NNW4	N2	W0	SSE4	S4	S4	SSW4	SSW4	S5	SSW5	SW2.5	SSW5
20-Jan	S5	S6	S7	S10	SSW12	SSW15	S17	SSW19	SSW20	SSW21	SSW22	SSW22	SSW23	SSW21	SSW19	SW20	SW19	SW19	SW18	WSW20	WSW19	WSW22	WSW20	WSW18	SSW16.0	SSW23
21-Jan	WSW14	WSW12	W15	WSW15	WSW15	WSW16	WSW15	WSW16	WSW14	W13	W13	W16	WNW15	NW16	NW17	N14	NNE15	NNE15	N14	N11	N12	N11	NNW14	NW13	WNW9.8	NW17
22-Jan	NW9	WNW9	W10	W9	W8	WNW11	NW15	WNW12	NW11	WNW9	WNW10	WNW11	WNW12	WNW12	W11	W10	WSW8	SSW9	SSW11	SSW11	SSW11	SSW11	SSW11	SSW14	W8.1	NW15
23-Jan	SSW18	SW17	SSW17	SW18	SW18	WSW16	WSW15	WSW13	W10	W9	WSW9	W13	W13	W15	W18	WNW15	WNW16	WNW16	WNW13	WNW12	W12	WNW13	WSW11	WSW13	WSW12.4	SW18
24-Jan	W15	W16	WNW17	WNW23	NW24	NW26	NNW32	NNW31	NNW27	NNW25	NNW24	NNW25	NNW23	NNW22	NNW17	NW16	WNW8	W7	WSW6	SW12	WSW11	WSW10	WSW8	SW10	NW15.2	NNW32
25-Jan	SW9	SW10	SW11	SSW12	SSW12	SSW12	SSW12	SSW11	SSW11	SSW10	WSW12	WSW13	WSW13	WSW13	WSW12	WSW11	WSW10	WSW10	WSW13	WSW11	SW10	SW10	SW10	SSW12	SW10.9	WSW13
26-Jan	SW13	SW12	SW14	SW14	WSW15	SW14	WSW16	WSW16	SW13	SW13	SW11	WSW12	WSW14	WSW15	WSW15	WSW15	WSW12	W11	WNW10	WNW11	WNW11	W11	W10	WSW9	WSW12.0	WSW16
27-Jan	WSW9	WSW11	SW11	WSW10	SW11	WSW12	WSW11	WSW11	WSW12	WSW13	SW11	SW13	WSW16	WSW16	WSW18	SW16	SW16	WSW20	WSW19	WSW18	W15	WNW21	WNW23	NW25	WSW13.6	NW25
28-Jan	WNW25	WNW26	WNW23	WNW19	WNW18	W14	W13	WNW18	WNW17	W17	WNW21	WNW25	WNW25	WNW25	WNW22	WNW19	WNW16	WNW9	WNW10	W7	W7	WSW8	WSW8	WSW8	WNW16.3	WNW26
29-Jan	WSW9	WSW7	WSW9	WSW8	WSW8	SW7	SW7	SSW8	SW8	SW8	WSW9	WSW9	W5	N6	NNE13	NE11	NE11	NNE12	NNE14	NNE13	NNE14	NNE15	NNE16	NNE12	NNW3.2	NNE16
30-Jan	NNE13	NNE13	NNE12	NNE12	N11	N9	NNE12	NNE9	NNE10	NNE9	NNE8	NNE8	NNE8	NE8	NE7	NE9	NE7	NE7	ENE6	E5	ESE3	E5	ENE7	ENE5	NNE7.8	NNE13
31-Jan	ENE6	ESE5	E5	ESE10	E8	ENE6	ESE7	ESE6	E4	N5	N6	ESE4	ESE12	ESE14	ESE15	E14	E14	E15	E16	E15	E13	E11	E10	ENE10	E9.0	E16

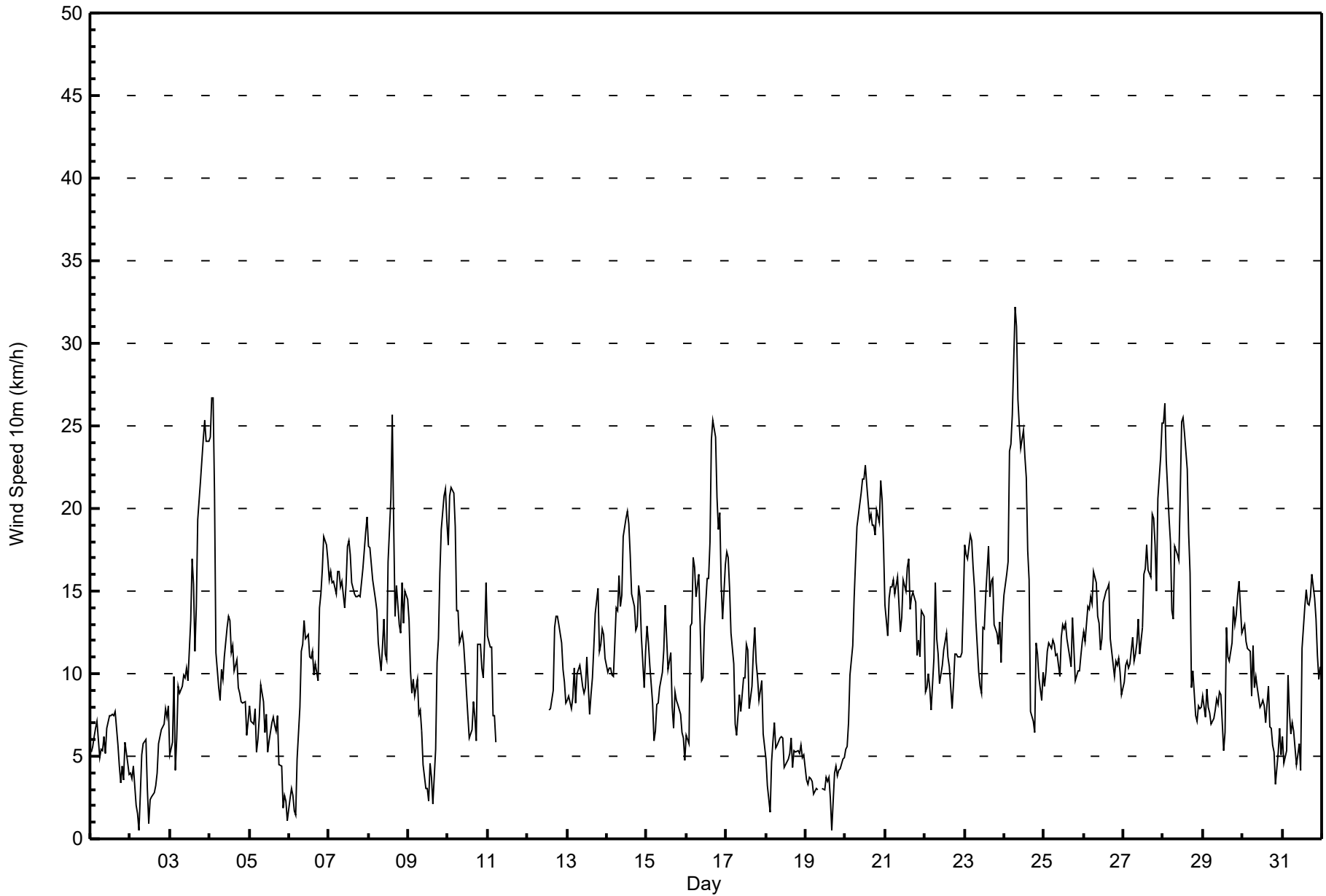
WSW5.3	WSW5.5	WSW5.7	WSW5.9	WSW5.8	WSW6.2	WSW6.2	WSW5.8	WSW5.7	WSW5.4	WSW5.5	WSW6.1	W6.3	W5.9	W5.3	W4.4	W3.6	WSW3.9	WSW4.0	WSW4.5	WSW4.8	WSW5.1	WSW4.9	WSW5.0	Diurnal Average
WNW25	SSE27	SSE27	WNW23	NW24	NW26	NNW32	NNW31	NNW27	NNW25	NNW24	WNW25	WNW25	WNW25	NW26	NE24	NE25	NNE24	SSE22	SSE23	SSE24	SSE25	SSE24	NW25	Diurnal Maximum

UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods



Wood Buffalo Environmental Association
Hourly Averages

Wind Speed 10m (WS10) - km/h
Hangingsstone Expansion - January 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 10m (WS10) - km/h
Hangingstone Expansion - January 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	100	14.06	14.06
6 - 11	289	40.65	54.71
12 - 19	265	37.27	91.98
20 - 28	55	7.74	99.72
29 - 38	2	0.28	100.00
> 38	0	0.00	100.00

Total Number of Valid Hours: 711

Total Number of Hours: 744



**Wood Buffalo Environmental Association
Frequency Distribution**

**Wind Speed 10m (WS10) - km/h
Hangingstone Expansion - January 2025**

Wind Speed Ranges (km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	7	4	7	7	6	5	2	6	8	9	10	10	4	4	5	6	100
6 - 11	27	10	11	5	4	3	2	12	19	41	34	50	32	18	12	9	289
12 - 19	14	20	2	2	6	7	3	3	16	32	38	65	19	30	6	2	265
20 - 28	1	2	2	0	0	0	0	9	6	6	2	5	0	12	4	6	55
29 - 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	49	36	22	14	16	15	7	30	49	88	84	130	55	64	27	25	711

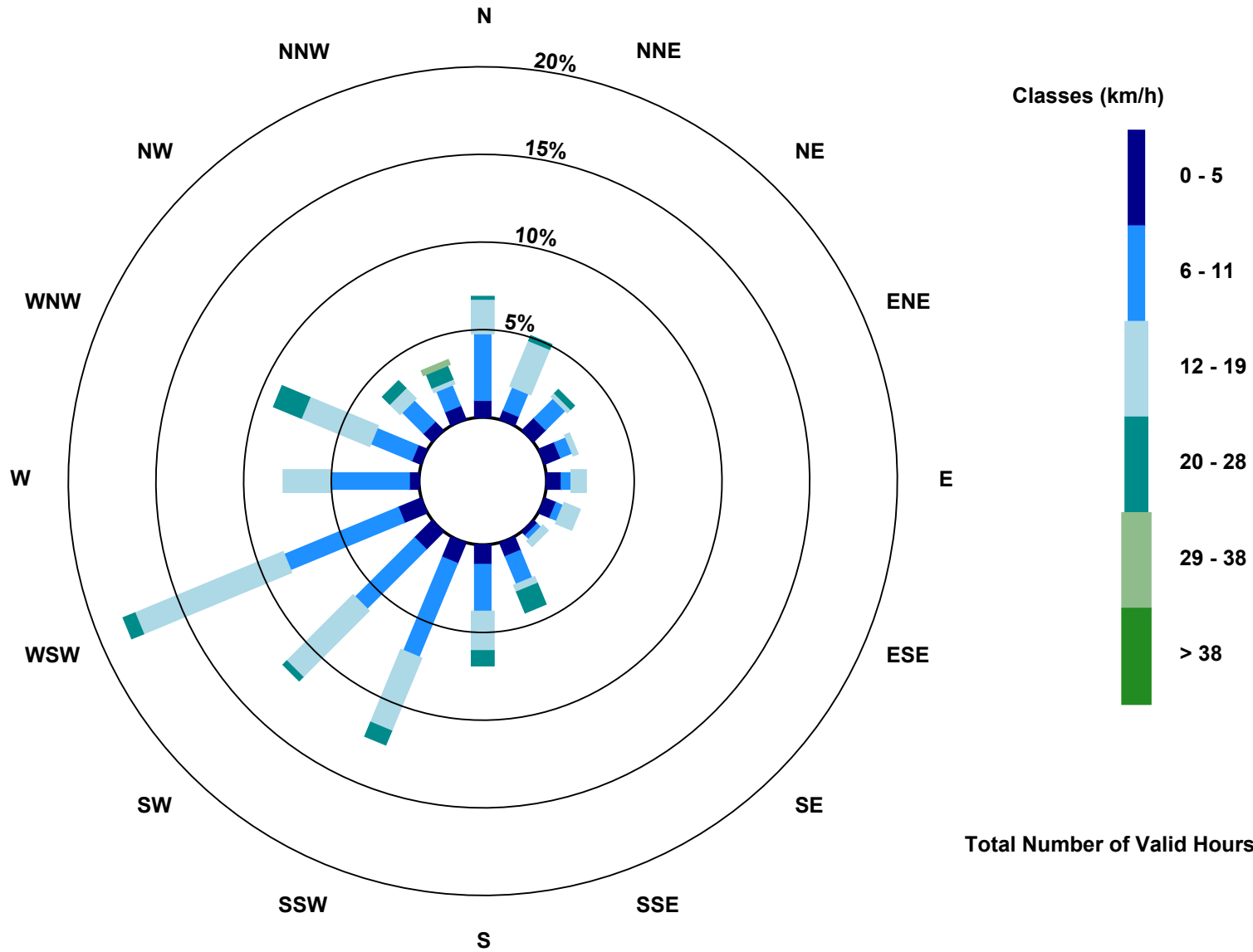
Total Number of Valid Hours: 711

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jan 2025

Wind Speed 10m (WS10) - km/h
Hangingstone Expansion





Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Speed 10m (WS10) - km/h
Hangingsone Expansion - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 8 km/h on Jan 24 08:00 Minimum Value: 0 km/h on Jan 19 07:00 Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 2 Median = 3 Q ₃ = 4 P ₉₀ = 5 P ₉₉ = 7																	Hours in Service: 744 Hours of Data: 711 Hours of Missing Data: 33 Hours of Calibration: 0 Percent Operational Time: 95.6									
Day	Hourly Period Ending At (MST)																								Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	2	1	1	1	2	1	1	1	1	1	2	1	2	2	2	2	1	1	1	2	1	1	1	1	2	2
2-Jan	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2
3-Jan	2	3	2	1	2	3	3	2	3	3	3	3	5	4	4	3	4	4	5	5	5	5	6	6	6	
4-Jan	5	6	7	8	4	3	3	3	4	4	5	5	5	6	3	4	3	3	3	2	2	2	2	2	8	
5-Jan	2	2	2	2	1	1	2	2	2	1	2	1	2	2	2	1	2	1	2	1	1	1	1	1	2	
6-Jan	1	1	1	1	1	2	2	3	3	3	3	3	3	3	3	3	3	3	4	4	4	5	5	5	5	
7-Jan	5	5	4	4	4	5	5	5	5	4	5	5	6	5	5	4	4	5	4	4	5	5	6	6	6	
8-Jan	6	5	5	4	4	4	4	3	3	4	3	3	6	6	6	5	4	4	4	3	4	3	3	3	6	
9-Jan	3	3	2	3	2	3	2	2	2	1	2	1	1	2	1	1	2	2	3	5	4	5	6	5	6	
10-Jan	5	6	6	5	5	4	4	4	4	3	3	3	2	2	2	2	2	3	2	3	2	3	3	4	6	
11-Jan	3	3	3	2	2	2	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	3	
12-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	3	3	3	4	4	4	4	3	3	2	4	
13-Jan	2	3	2	2	3	1	3	2	2	2	2	3	4	4	3	3	4	4	5	4	3	4	4	3	5	
14-Jan	3	3	3	2	2	4	4	5	4	4	6	6	6	6	6	4	4	3	4	5	4	4	3	3	6	
15-Jan	4	3	3	2	1	1	2	2	2	3	3	4	4	3	3	2	2	2	2	3	2	2	1	1	4	
16-Jan	2	3	3	4	4	5	5	4	5	2	2	3	5	4	5	6	6	6	5	4	5	4	3	5	6	
17-Jan	4	4	4	3	3	1	1	2	2	2	2	2	3	2	2	3	3	3	2	2	2	2	1	1	4	
18-Jan	1	1	1	2	1	2	1	1	2	2	2	1	1	1	2	3	1	1	1	1	1	1	1	1	3	
19-Jan	1	1	1	1	1	1	0	1	UO	UO	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
20-Jan	1	1	1	2	3	3	4	4	5	5	6	6	6	6	5	6	6	6	6	6	6	7	7	6	7	
21-Jan	4	4	5	4	4	5	5	5	4	4	4	4	3	4	5	4	4	4	3	3	3	3	4	3	5	
22-Jan	2	2	2	2	2	4	4	3	2	2	2	3	3	3	4	3	2	2	3	3	2	2	3	4	4	
23-Jan	6	5	5	6	6	5	5	4	3	3	3	3	4	5	6	4	4	5	4	4	3	5	3	4	6	
24-Jan	4	5	5	6	6	6	8	8	7	7	7	6	6	6	4	4	3	2	2	4	3	3	2	3	8	
25-Jan	3	3	3	3	3	3	3	3	4	3	4	4	4	4	4	3	3	4	4	3	4	3	3	3	4	
26-Jan	3	3	4	4	5	5	5	5	4	4	4	4	5	4	5	5	4	3	3	2	2	3	3	2	5	
27-Jan	3	3	3	3	3	4	3	4	4	4	4	4	5	5	5	5	5	6	6	6	5	5	6	6	6	
28-Jan	6	7	6	5	4	5	4	5	5	5	7	6	7	6	6	5	5	2	3	2	2	2	2	2	7	
29-Jan	2	2	3	2	2	2	2	2	2	3	3	2	1	2	3	2	2	2	3	3	3	4	4	3	4	
30-Jan	3	3	3	3	3	2	3	2	2	2	2	2	2	2	2	2	2	1	2	2	1	1	1	1	3	
31-Jan	2	2	2	2	1	2	2	2	2	2	3	4	3	3	3	4	4	4	4	4	4	3	4	3	4	
Diurnal Maximum																										
UO - Unstable Operation																										



Wood Buffalo Environmental Association
Summary of Hour Averages

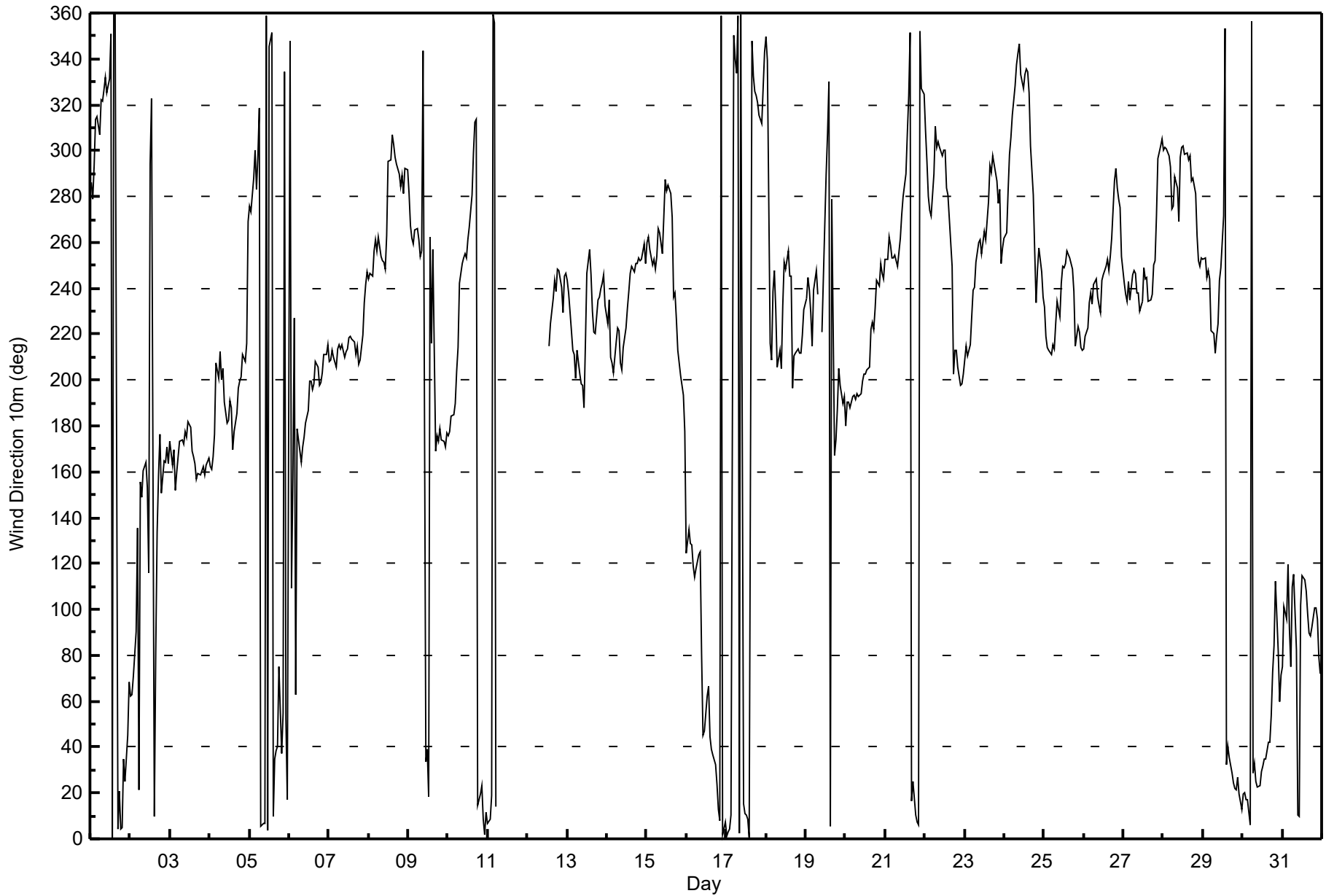
Wind Direction 10m (WD10) - deg
Hangingsstone Expansion - January 2025

Direction of Maximum Speed: 328 deg on Jan 24 07:00	Hours in Service: 744
Direction of Maximum Daily Speed Average: 290.9 deg on Jan 28	Hours of Data: 711
Direction of Minimum Speed: 279 deg on Jan 19 17:00	Hours of Missing Data: 33
Direction of Minimum Daily Speed Average: 2.5 deg on Jan 19	Percent Operational Time: 95.6
Monthly Average Direction: 248.4 deg	

Day	Hourly Period Ending At (MST)																								Daily Average	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Jan	286	279	293	314	315	307	322	322	327	332	325	331	351	0	359	359	4	21	4	5	35	25	45	68	341.0	
2-Jan	62	63	71	90	135	21	156	149	160	164	153	116	294	323	10	81	133	159	176	151	165	164	171	164	146.4	
3-Jan	173	163	170	152	160	167	173	174	172	178	175	182	179	169	167	163	157	159	158	161	162	159	163	166	165.5	
4-Jan	162	161	166	177	207	201	212	200	205	190	181	183	191	188	170	178	185	196	200	201	211	208	216	269	186.1	
5-Jan	276	273	288	300	283	298	319	5	6	7	359	4	345	352	10	35	38	40	75	37	55	334	52	17	348.7	
6-Jan	348	109	157	227	63	179	169	164	171	175	181	187	200	200	196	198	208	205	197	199	203	211	211	215	194.6	
7-Jan	208	209	213	210	206	213	215	214	215	210	212	213	218	219	218	217	211	215	207	209	220	234	242	247	217.0	
8-Jan	244	246	245	256	261	256	262	254	252	252	248	263	295	296	307	302	297	294	290	284	289	282	292	292	275.6	
9-Jan	282	268	262	259	266	266	261	254	256	343	34	39	18	262	216	257	169	176	174	179	174	173	171	177	211.1	
10-Jan	176	178	184	185	190	204	214	242	251	253	255	253	261	267	281	299	313	313	15	19	23	8	2	11	236.7	
11-Jan	6	9	19	359	356	14	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	
12-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	215	225	236	243	239	248	248	241	230	245	246	--
13-Jan	243	238	222	213	211	201	213	203	198	198	188	216	246	257	246	230	221	220	235	236	240	242	246	232	225.6	
14-Jan	224	235	210	207	203	216	222	221	208	204	214	222	231	239	246	249	247	251	251	253	252	252	259	251	232.2	
15-Jan	260	262	257	250	252	248	254	266	264	255	271	287	282	285	281	271	236	238	226	213	202	198	193	178	254.1	
16-Jan	125	135	129	128	119	114	118	124	125	80	45	47	62	66	45	39	37	33	24	13	8	359	2	7	57.3	
17-Jan	1	3	4	11	350	340	333	359	3	360	16	11	10	9	1	348	333	326	324	321	315	312	328	343	350.4	
18-Jan	349	340	216	209	238	248	230	205	213	205	232	251	248	256	245	246	197	210	212	214	211	212	219	231	229.1	
19-Jan	236	245	239	229	215	239	248	237	UO	UO	221	267	290	308	330	5	279	167	174	187	205	198	190	193	226.1	
20-Jan	180	191	191	188	193	194	191	194	193	194	200	202	203	204	205	222	225	222	231	244	241	251	246	244	213.5	
21-Jan	253	253	263	258	253	253	254	249	256	262	272	280	290	307	324	351	16	25	10	7	6	352	327	324	297.2	
22-Jan	308	295	280	274	271	290	311	302	304	301	297	300	300	284	280	270	250	202	213	213	205	197	198	203	267.2	
23-Jan	208	215	211	215	228	239	240	251	260	261	255	260	265	261	278	293	291	298	294	287	277	283	251	257	255.5	
24-Jan	262	264	283	298	306	316	328	337	343	347	333	327	333	336	335	325	302	281	257	233	248	258	247	236	311.5	
25-Jan	232	219	214	213	211	215	214	225	234	228	242	250	249	251	256	253	251	249	238	215	223	221	214	213	230.9	
26-Jan	214	219	223	233	238	233	242	244	236	233	229	244	246	249	252	248	254	262	287	292	284	279	275	254	246.7	
27-Jan	242	237	234	243	235	246	248	247	238	238	230	234	249	244	245	234	235	237	250	252	271	297	302	305	253.2	
28-Jan	300	301	301	298	293	275	276	288	283	269	297	302	302	299	299	296	298	287	288	281	263	252	250	253	290.9	
29-Jan	253	253	245	248	244	222	221	212	219	225	243	249	271	353	32	40	36	28	24	22	21	27	20	13	338.2	
30-Jan	20	20	17	17	6	356	28	33	25	22	23	29	32	35	35	42	42	54	73	84	112	82	60	71	32.4	
31-Jan	75	102	96	120	91	75	110	116	82	10	10	102	115	113	108	98	90	89	92	101	101	95	79	72	94.4	

247.2 241.5 233.2 236.5 241.2 241.5 243.9 240.5 241.2 240.8 250.2 258.7 265.3 266.8 274.8 277.5 261.4 246.1 243.6 238.6 237.9 244.0 246.8 248.5
 Diurnal Average

UO - Unstable Operation
 All monthly, daily, and diurnal averages have been calculated using vector methods





Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg
Hangingsstone Expansion - January 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0	Hours in Service: 744
Maximum Value: 84 deg on Jan 2 12:00	Hours of Data: 711
Minimum Value: 6 deg on Jan 2 18:00	Hours of Missing Data: 33
Percentiles: P ₁ = 9 P ₁₀ = 14 Q ₁ = 16 Median = 21 Q ₃ = 24 P ₉₀ = 27 P ₉₉ = 62	Hours of Calibration: 0
	Percent Operational Time: 95.6

Day	Hourly Period Ending At (MST)																								Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jan	13	14	15	13	14	15	14	13	12	15	15	19	19	16	17	14	11	12	18	22	23	13	16	16	23
2-Jan	21	22	13	18	43	62	66	12	7	9	20	84	52	34	56	21	11	6	15	9	8	8	12	13	84
3-Jan	28	62	11	28	19	14	19	15	17	16	19	21	21	17	15	15	13	13	13	13	13	14	14	62	
4-Jan	14	13	17	23	29	29	29	25	30	30	23	21	24	31	25	21	23	22	21	22	23	22	28	27	31
5-Jan	20	20	17	13	19	16	19	15	15	15	16	30	23	20	17	16	14	12	22	14	43	46	38	64	64
6-Jan	34	30	57	63	53	23	16	14	15	17	17	18	21	21	22	22	23	22	19	20	21	23	24	24	63
7-Jan	23	22	23	23	21	24	25	23	24	24	24	24	26	26	26	23	23	24	22	22	25	26	26	23	26
8-Jan	24	23	23	23	22	23	23	22	22	23	22	23	21	16	14	14	14	15	16	17	17	18	15	15	24
9-Jan	18	22	22	21	21	21	22	19	19	45	41	61	40	30	32	42	18	11	15	17	16	16	16	18	61
10-Jan	16	17	18	17	18	21	24	26	26	23	22	22	23	20	21	15	15	35	16	15	16	20	17	16	35
11-Jan	16	17	17	18	16	18	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	18
12-Jan	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	24	27	26	25	25	24	23	24	25	23	23	27
13-Jan	21	21	23	19	20	15	21	19	19	18	18	25	27	33	28	31	24	22	27	29	25	26	24	26	33
14-Jan	25	23	20	19	20	24	25	24	22	21	23	26	25	25	24	25	23	22	22	24	23	23	22	21	26
15-Jan	23	22	22	22	21	18	21	20	20	21	22	17	19	20	19	21	22	23	24	23	18	18	14	39	39
16-Jan	31	49	14	15	13	18	21	17	21	15	18	13	15	18	15	13	13	13	13	16	16	17	17	16	49
17-Jan	17	16	15	17	16	15	13	18	16	18	17	15	16	16	15	19	14	12	13	14	12	10	14	10	19
18-Jan	12	28	49	10	20	18	24	18	22	21	30	19	24	26	24	27	17	18	18	18	16	15	15	17	49
19-Jan	17	12	15	12	16	23	9	15	UO	UO	20	25	17	17	25	15	71	8	18	10	13	14	12	14	71
20-Jan	12	14	16	16	18	17	17	18	17	18	20	21	21	21	22	25	24	26	25	23	27	24	24	23	27
21-Jan	23	22	22	22	23	23	23	25	23	23	20	19	17	15	14	21	17	15	18	16	15	17	12	12	25
22-Jan	13	14	18	19	21	21	13	13	13	14	14	16	17	19	21	21	30	18	22	22	20	17	19	20	30
23-Jan	23	24	23	24	26	26	25	23	24	22	25	23	22	22	24	17	16	17	18	17	19	21	23	22	26
24-Jan	22	21	20	15	14	14	16	16	17	18	15	15	16	16	17	13	16	18	24	26	23	23	23	23	26
25-Jan	29	21	23	22	22	24	23	24	26	28	25	23	24	24	23	23	21	23	27	23	35	25	24	24	35
26-Jan	22	24	24	26	26	25	24	25	26	25	26	24	24	23	23	23	24	21	24	14	18	18	19	24	26
27-Jan	26	26	27	25	23	23	22	23	26	26	28	28	24	24	24	26	25	25	25	23	22	17	15	14	28
28-Jan	14	14	15	15	16	21	21	17	21	21	15	15	16	15	16	15	15	17	17	17	21	21	21	22	22
29-Jan	23	21	22	22	23	24	23	20	22	26	23	24	28	40	13	11	12	14	12	14	13	13	16	14	40
30-Jan	14	14	15	14	17	15	18	17	13	15	15	14	17	13	20	14	11	13	19	27	48	28	10	15	48
31-Jan	17	39	28	19	13	23	17	29	51	33	44	74	17	14	14	15	15	15	15	14	16	18	17	16	74
	34	62	57	63	53	62	66	29	51	45	44	84	52	40	56	42	71	35	27	29	48	46	38	64	

Diurnal Maximum

UO - Unstable Operation

**ELECTRONIC TRANSFER SYSTEM
AIRDATA
SUBMISSION REPORT**

February 27, 2025
2:48:22 PM
Request # 4774546

Submitted by: EN6138_DENNY
Submission Date: Feb 27, 2025 2:47:58 PM

File Type
Ambient Data

File Name
AMB-WBEA-202501-V00.xml

Total Number of Files: 1

*** End of Report ***

**ELECTRONIC TRANSFER SYSTEM
AIRDATA
SUBMISSION REPORT**

February 28, 2025
11:21:57 AM
Request # 4774832

Submitted by: EN6138_DENNY
Submission Date: Feb 28, 2025 11:19:19 AM

File Type
Airshed Monitoring Report

File Name
WBEA-202501.pdf

Total Number of Files: 1

*** End of Report ***

**ELECTRONIC TRANSFER SYSTEM
AIRDATA
SUBMISSION REPORT**

February 28, 2025
11:22:25 AM
Request # 4774835

Submitted by: EN6138_DENNY
Submission Date: Feb 28, 2025 11:22:16 AM

File Type

Calibration Report

File Name

CAL-WBEA-202501.pdf

Total Number of Files: 1

*** End of Report ***

**ELECTRONIC TRANSFER SYSTEM
AIRDATA
SUBMISSION REPORT**

February 27, 2025
2:48:22 PM
Request # 4774546

Submitted by: EN6138_DENNY
Submission Date: Feb 27, 2025 2:47:58 PM

File Type

Ambient Data

File Name

AMB-WBEA-202501-V00.xml

Total Number of Files: 1

*** End of Report ***

**ELECTRONIC TRANSFER SYSTEM
AIRDATA
SUBMISSION REPORT**

February 28, 2025
11:21:57 AM
Request # 4774832

Submitted by: EN6138_DENNY
Submission Date: Feb 28, 2025 11:19:19 AM

File Type
Airshed Monitoring Report

File Name
WBEA-202501.pdf

Total Number of Files: 1

*** End of Report ***

**ELECTRONIC TRANSFER SYSTEM
AIRDATA
SUBMISSION REPORT**

February 28, 2025
11:22:25 AM
Request # 4774835

Submitted by: EN6138_DENNY
Submission Date: Feb 28, 2025 11:22:16 AM

File Type

Calibration Report

File Name

CAL-WBEA-202501.pdf

Total Number of Files: 1

*** End of Report ***



End of Report