



**WOOD BUFFALO
ENVIRONMENTAL ASSOCIATION**

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Wood Buffalo Environmental Association

JULY 2025 MONTHLY REPORT

CONTINUOUS MONITORING

August 29, 2025

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





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August 29, 2025

Director, Environmental Monitoring and Evaluation Branch
Alberta Environment and Protected Areas
11th Floor, Oxbridge Place
9820 106 Street
Edmonton, Alberta T5K 2J6

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

Enclosed is the July 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 505 – Sawbones Bay
AMS 17 – Wapasu	AMS 507 – Kirby South
AMS 18 – Stony Mountain	

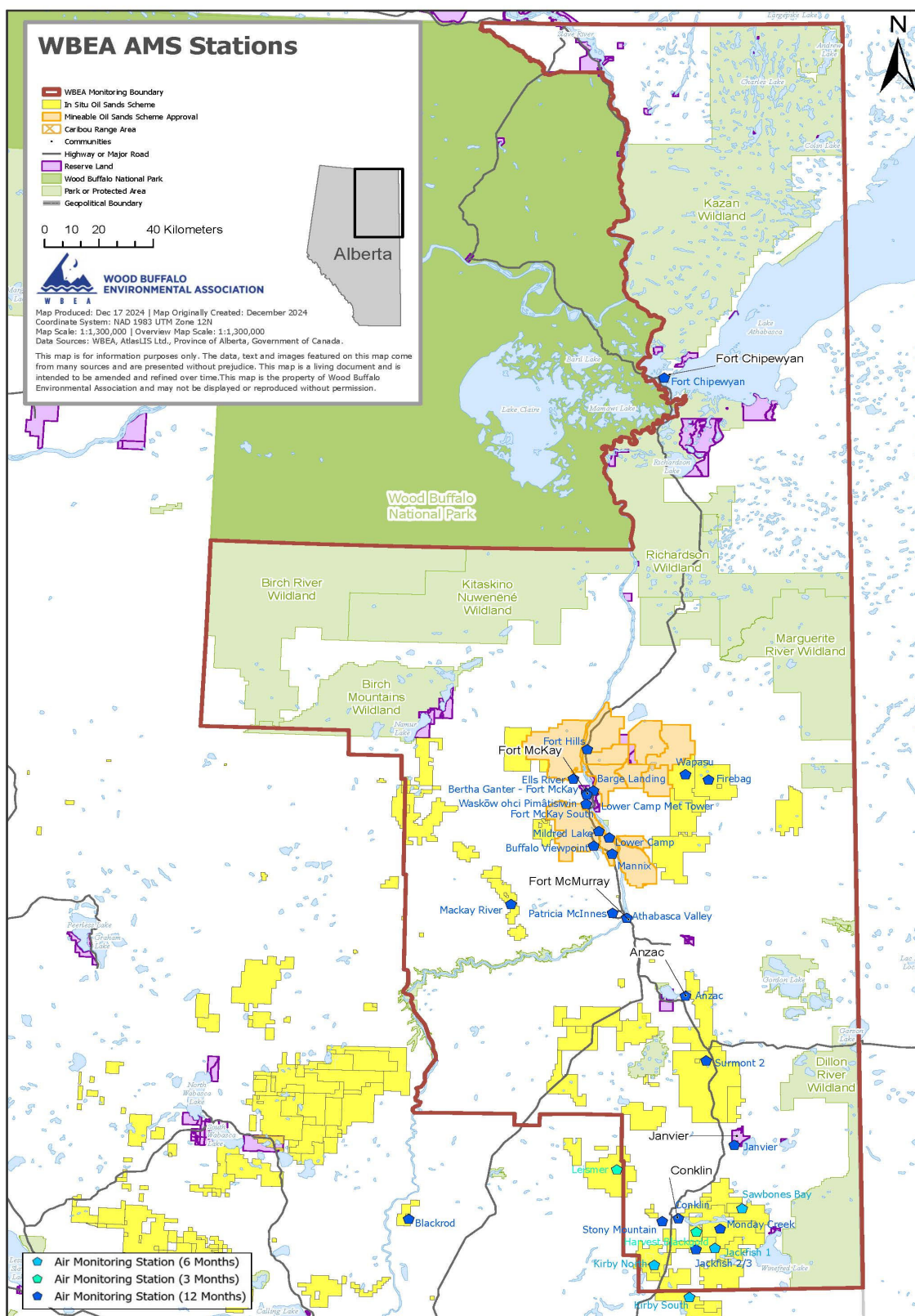


The WBEA submits this report on behalf of its members and for some members to satisfy the requirements contained in their EPEA Approvals (as amended):

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 Chipewyan Métis Nation	Smith's Landing First Nation
Fort McKay First Nation	



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, O₃, NH₃, and NO₂.

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

There were five ambient ground-level concentrations in excess of the 1-hour SO₂ objective reported to AEPA; following data validation and processing, the exceedances were confirmed.

There was one ambient ground-level concentrations in excess of the 24-hour SO₂ objective reported to AEPA; following data validation and processing, the exceedance was confirmed.

There were fifty-four ambient ground-level concentrations in excess of the 24-hour PM_{2.5} objective reported to AEPA; following data validation and processing, the exceedances were confirmed.

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

A detailed summary of ambient concentrations in excess of the Alberta Ambient Air Quality Objectives (AAAQOs) and Ambient Air Quality Guidelines (AAAQGs), including site, parameter, date & time, reference number, exceedance period, reported and final concentration and status, are included in Appendix I of the report.

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 July 2025, there were 3 instances of monitoring instruments operating less than 90% of the time.

Station	Parameter	Details
Ells River	PM _{2.5}	The PM _{2.5} analyzer at Ells River air monitoring station (AMS) operated for less than 90% of June and July 2025, which is a contravention of the Air Monitoring Directive (2016, as amended), Chapter 6, Clause DQ 4-C. This incident was reported to Alberta Environment and Protected Areas (AB EPA) on July 17, 2025 (reference number 443100).
		On July 11, during the routine calibration check of the PM _{2.5} analyzer, a significant change in the photomultiplier tube (PMT) value was observed following the cleaning of the measurement chamber. Upon review, the WBEA confirmed the analyzer had exhibited unstable operation from the previous calibration on June 18 to the July 11 calibration. Data for this period was invalidated, resulting in a total of 299 hours and an operational uptime of 58% for the month of June and 251 hours for July. No exceedances of the Alberta Ambient Air Quality Objectives or Guidelines were observed during this period.
Athabasca Valley	WS/WD	The Wind Speed (WS) and Wind Direction (WD) at Athabasca Valley AMS operated less than 90% of July 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 July 24, 2025 (reference number 443375).
		On July 10, during the daily system check a discrepancy in the readings of the Wind Speed (WS) and Wind Direction (WD) was observed. The WBEA investigated the issue and found an issue with the sensor's cable. On the same day, the cable was replaced, the sensor's performance was verified and normal operations resumed. Data from this incident was invalidated for a total for 91 hours thus far for the month of July 2025.
Fort McKay South	NO _x /NO/NO ₂	The NO/NO ₂ /NO _x analyzer at the Fort McKay South AMS operated for less than 90% of July 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 August 18, 2025 (reference number 444270).
		On July 16, the station operator performed maintenance on the NO/NO ₂ /NO _x analyzer during the monthly calibration; the instrument was left overnight to stabilize after the maintenance resulting in 21 hours of invalid data. On July 27, 28, and 29, during the daily system check, the daily zero span was outside of acceptable criteria; the analyzer was inspected on July 29 indicating the pump was malfunctioning. 80 hours of data were invalidated to remove those which failed the daily QA checks and 5 hours were invalidated for maintenance to replace the pump. A total of 106 hours of data were invalidated in July 2025 resulting in 86% of operational time.

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 2025 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.

The WBEA is reporting PM_{2.5} exceedances of the Alberta Ambient Air Quality Guideline and Objective (AAAQG&O) as per the Alberta Environment and Protected Areas Temporary Airshed Wildfire Bulk Reporting Protocol, effective from April 1 to October 31. This protocol requires only monthly notification of exceedances of the 24-hour AAAQO, removing the requirement for immediate notification and 7-day follow-up reports during this period. Fort Hills and Ells River air monitoring stations are included in this protocol for wildfire-related exceedances; however, for exceedances not attributed to wildfire smoke, these stations will continue to follow their site-specific reporting protocols as directed by the Alberta Energy Regulator.

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 1-2 hours following the daily spans have been reported as invalid for a total of 30 hours this month.

Maintenance to verify daily QA response of the SO₂ analyzer on July 3 resulted in 1 hour of downtime.

Maintenance to reset the modem on July 5 interrupted the normal operations of all air parameters for 3-6 hours.

Maintenance to verify daily QA response of the O₃ and THC/NMHC/CH₄ analyzers on July 5 resulted in 1 hour of downtime.

Maintenance to complete calibration of the NH₃ analyzer over two days on July 10 and 11 resulted in 19 hours of downtime.

A station power failure on July 13 interrupted the normal operations of all air quality analyzers for 5 hours.

Cleaning of the manifold on July 14 interrupted the normal operations of all gaseous analyzers, except for H₂S and TRS analyzers, for 2 hours.

Failure to record data of the PM_{2.5} analyzer on July 24 resulted in 1 hour of invalid data.



Maintenance to replace the support gas cylinder of the THC/NMHC/CH₄ analyzer on July 29 resulted in 3 hours of downtime.

Failure to record data of the precipitation collector on July 13 resulted in 4 hours of invalid data.

Flatlines in the output signal of the wind sensor on July 17 and 28 resulted in 4 hours of invalid data.

Station 2, Mildred Lake

Unstable operation due to excessive baseline noise of the THC/NMHC/CH₄ analyzer on July 21 and 22 resulted in 7 hours of invalid data.

Maintenance to replace the THC/NMHC/CH₄ analyzer and left the new instrument overnight for column conditioning on July 22 to 23 resulted in 24 hours of downtime.

Cleaning of the manifold on July 29 interrupted the normal operation of the SO₂ and THC/NMHC/CH₄ analyzers for 1 hour.

Note: Ambient condition impacted span check performance of the H₂S analyzer, affecting compliance with AMD criteria on some days for the month of July.

Station 3, Lower Camp – Meteorology

Unstable operation due to excessive baseline noise of the wind sensor at 163-meter elevation on July 3 and 6 resulted in 5 hours of invalid data.

Station 4, Buffalo Viewpoint

Cleaning of the manifold on July 24 interrupted the normal operations of all gaseous analyzers for 1 hour.

Maintenance to replace the THC/NMHC/CH₄ analyzer on July 28 resulted in 2 hours of downtime.

Unstable operation due to excessive baseline of the THC/NMHC/CH₄ analyzer on July 30 to 31 resulted in 5 hours of invalid data.

Station 5, Mannix

Excessive baseline noise in the output signal of the wind sensor at 90-meter elevation on July 3 resulted in 1 hour 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 1-2 hours following each daily span has been reported as invalid for a total of 52 hours this month.



Maintenance to replace the support gas cylinder of the THC/NMHC/CH₄ analyzer on July 4 to 5 resulted in 21 hours of downtime.

Cleaning of the manifold on July 9 interrupted the normal operations of all gaseous analyzers except for O₃ for 1 hour.

Station 7, Athabasca Valley

A station power failure on July 27 and 29 interrupted the normal operations of all air quality analyzers and the barometric sensor for 61 hours.

Unstable operation due to a flatline in the output signal of the wind speed and wind direction sensor through the month resulted in 87 hours of invalid data.

The relative humidity sensor operated out of range on July 7 resulting in 1 hour of invalid data.

Station 8, Fort Chipewyan

A station power failure on July 23 and 24 interrupted the normal operations of all air quality analyzers for 5 hours.

Failure to record data of the precipitation collector on July 5 to 7, 23, and 24 resulted in 58 hours of invalid data.

Station 9, Barge Landing

Maintenance to verify daily QA response of the TRS analyzer on July 1, 4, 21 and 31 resulted in 8 hours of downtime.

Cleaning of the manifold on July 9 interrupted the normal operations of TRS and NO_x/NO/NO₂ analyzers for 2 hours.

Note: Ambient condition impacted span check performance of the TRS analyzer, affecting compliance with AMD criteria on some days for the month of July.

Note: As part of WBEA's revised resource planning, the 10-meter wind speed and wind direction sensors were removed from the Barge Landing AMS on June 9. The removal calibrations are included in the June 2025 Calibration Report.

Station 11, Lower Camp

Cleaning of the manifold on July 22 interrupted the normal operations of the H₂S analyzer for 2 hours.

Maintenance to replace support gas cylinder for the THC/NMHC/CH₄ analyzer on July 29 resulted in 2 hours of invalid data.

Flatlines in the output signal of the wind sensor on July 15 resulted in 2 hours of invalid data.



Station 13, Fort McKay South

Unstable operation due to excessive baseline drift of the SO₂ analyzer on July 4 resulted in 6 hours of invalid data.

Ambient condition impacted span check performance of the TRS analyzer, affecting compliance with AMD criteria on several days for the month of July. Manual QA checks throughout July to verify the analyzer response resulted in a total of 9 hours of downtime.

Maintenance due to station operator activities on July 16 to 17 resulted in 21 hours of downtime.

Analyzer failure due to broken sample pump of the NO/NO₂/NO_x on July 26 to 29 resulted in 80 hours of invalid data. Subsequent maintenance to replace the sample pump on July 29 resulted in additional 5 hours of downtime.

The relative humidity sensor operated out of range on July 7 & 25 resulting in 3 hours of invalid data.

Flatline in the output signal of the wind sensor on July 28 resulted in 1 hour of invalid data.

Station 14, Anzac

Unstable operation due to a flatline on the output signal of the PM_{2.5} analyzer on July 1 and 2 resulted in 22 hours of invalid data.

Maintenance to verify daily QA response of all gaseous analyzers on July 3 resulted in 1 hour of downtime.

An internal audit on July 8 interrupted the normal operations of all air quality analyzers for 2-3 hours.

Failure to record data of the relative humidity and temperature sensor on July 1 and 2 resulted in 35 hours of invalid data.

Maintenance to reinstate the normal operations of the relative humidity and temperature sensor on July 2 resulted in 1 hour of invalid data.

Note: Automated daily span data for all gaseous analyzers were missing from July 1 to 4 due to the new calibrator configurations.

Station 17, Wapasu

Automated daily zero-response checks of the O₃ analyzer did not meet WBEA's QC acceptance criteria for June. Therefore, the calibrator zeros from the multi-point calibrations conducted in May and June were used to validate the analyzer baseline response.

Cleaning of the manifold on July 2 interrupted the normal operations of all gaseous analyzers except for O₃ analyzer for 3 hours.

An internal audit on July 3 interrupted the normal operations of all air quality analyzers for 2-3 hours.



The relative humidity sensor operated out of range on July 26 resulting in 3 hours of invalid data.

Station 18, Stony Mountain

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

A station power failure on July 28 interrupted the normal operations of all air quality analyzers for 3-10 hours.

Maintenance to reboot the O₃ analyzer on July 29 resulted in 7 hours of downtime.

The relative humidity sensor operated out of range on July 3 resulting in 1 hour of invalid data.

Maintenance to empty bucket of the precipitation collector on July 2 resulted in 1 hour of invalid data.

Failure to record data of the precipitation collector on July 28 to 29 resulted in 3 hours of invalid data.

Note: As part of WBEA's revised resource planning, the 10-meter wind speed and wind direction sensors were removed from the Stony Mountain AMS on July 30. The removal calibrations are included in the July 2025 Calibration Report.

Station 19, Firebag

Cleaning of the manifold on July 14 interrupted the normal operation of the SO₂ and THC analyzers for 1 hour.

Cleaning of the manifold on July 31 interrupted the normal operation of the H₂S and NO_x/NO/NO₂ analyzers for 1 hour.

Station 20, MacKay River

Cleaning of the manifold on July 22 interrupted the normal operation of the H₂S and NO_x/NO/NO₂ analyzers for 1 hour.

Flatlines in the output signal of the wind sensor on July 6 and 14 resulted in 3 hours of invalid data.

Station 21, Conklin

Maintenance to verify daily QA response of the TRS analyzer on July 8 resulted in 2 hours of downtime.

Unstable operation due to excessive baseline drift and noise of the THC/NMHC/CH₄ analyzer on July 30 and 31 resulted in 17 hours of invalid data.

Maintenance to replace the support gas cylinder of the THC/NMHC/CH₄ analyzer on July 30 resulted in 2 hours of downtime.



Intermittent flatlines in the output signal of the wind sensor throughout the month resulted in 15 hours of invalid data.

The relative humidity sensor operated out of range on July 14 and 27 resulting in 4 hours of invalid data.

Note: Ambient condition impacted span check performance of the TRS analyzer, affecting compliance with AMD criteria on several days for the month of July.

Station 22, Janvier

Cleaning of the manifold on July 23 interrupted the normal operation of all gaseous analyzers except for NO_x/NO/NO₂ analyzer for 2 hours.

Unstable operation due to excessive baseline drift of the TRS analyzer on July 24 to 25 resulted in 8 hours of invalid data.

The relative humidity sensor operated out of range throughout the month resulting in 15 hours of invalid data.

Intermittent flatlines in the output signal of the wind sensor throughout the month resulted in 4 hours of invalid data.

Note: Ambient condition impacted span check performance of the TRS analyzer, affecting compliance with AMD criteria on some days for the month of July.

Note: As part of WBEA's revised resource planning, the 10-meter wind speed and wind direction sensors were removed from the Janvier AMS on July 9. The removal calibrations are included in the July 2025 Calibration Report.

Station 23, Fort Hills

Cleaning of the manifold on July 10 interrupted the normal operations of all gaseous analyzers for 1-2 hours.

Flatline in the output signal of the wind sensor on July 16 resulted in 1 hour of invalid data.

Station 25, Waskōw ohci Pimâtisiwin

Failure to record data of all gaseous analyzers on July 3 resulted in 1 hour of invalid data.

A station power failure on July 13 interrupted the normal operations of all air quality analyzers for 6 hours.

Cleaning of the manifold on July 29 interrupted the normal operation of all gaseous analyzers for 1 hour.

Intermittent flatlines in the output signal of the wind sensor throughout the month resulted in 51 hours of invalid data.



Station 27, Jackfish 2/3

Unstable operation due to baseline drift of the H₂S analyzer throughout the month resulted in 20 hours of invalid data.

Note: Ambient condition impacted span check performance of the H₂S analyzer, affecting compliance with AMD criteria on July 3.

Station 29, Surmont 2

A station power failure on July 22 interrupted the normal operations of all air quality analyzers for 1 hour.

Intermittent flatlines in the output signal of the wind sensor on July 15 and 18 resulted in 8 hours of invalid data.

Station 30, Ells River

Unstable operation due to AMD non-compliance of the PM_{2.5} analyzer on July 1 to 11 resulted in 250 hours of invalid data.

Maintenance to verify daily QA response of the TRS analyzer on July 9 resulted in 3 hours of downtime.

Maintenance to reset the modem on July 9 interrupted the normal operations of all air quality analyzers for 1 hour.

Intermittent flatlines in the output signal of the wind sensor throughout the month resulted in 19 hours of invalid data.

Note: Ambient condition impacted span check performance of the TRS analyzer, affecting compliance with AMD criteria on several days for the month of July.

Station 31, Blackrod

An internal audit on July 10 interrupted the normal operations of all gaseous analyzers for 2 to 3 hours.

Station 33, Monday Creek

The station power failure on July 3 interrupted the normal operations of all air quality analyzers for 11 hours.

Maintenance to reinitiate the communication of the NO_x/NO/NO₂, and SO₂ analyzers on July 3 resulted in 1 hour of downtime.

The station power failure on July 3 and 4 interrupted the normal operations of wind, relative humidity, and temperature sensors for 35 hours.

A flatline in the output signal of the wind sensor on July 15 and 17 resulted in 3 hours of invalid data.



Station 505, Sawbones Bay

Maintenance to verify daily QA response of the NO_x/NO/NO₂ analyzer on July 25 resulted in 2 hours of downtime.

Note: The daily span check for the NO_x/NO/NO₂ analyzer was outside the 10% AMD criteria from July 25 to 29 due to interruptions with the in-situ calibrator.

Station 507, Kirby South

Maintenance to replace the support gas cylinder of the THC/NMHC/CH₄ analyzer on July 16 resulted in 2 hours of downtime.

Note: The Kirby South portable station commenced monitoring on July 9, 2025. The install calibration files are included with the routine calibration files in July 2025 calibration report.



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 Dianne McIssac, Operations Manager, WBEA.

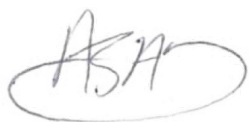
Level one (L1) data review was completed by the Field Technicians responsible for each respective air monitoring station. Level two (L2) data validation, report preparation, and submission were completed by Asad Hidayat, Denny Estador and Karina Fenwick of WBEA. The WBEA has retained the services of 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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Wood Buffalo Environmental Association
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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.



Asad Hidayat
Data Lead
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R00_2507



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION
MONTHLY AIR MONITORING SUMMARY

	July 2025 Page 1 of 3 Created: Aug 28 2025 14:45:14								
APPROVAL NUMBERS	REPORT DATE								
	MONTH	YEAR							
289664-00-00 241311-00-00 20809-02-00 149968-01-00 237382-00-00 48522-01-00 240008-00-00 48263-01-00 224816-00-00 151469-01-00 189942-00-00 206355-00-00 46586-00-00 73203-02-00 216466-01-00 137467-01-00 236394-00-00 254465-00-00 094-03-00 80105-01-00 305529-00-00 318401-00-00 026-03-00 364232-00-00 228044-00-00 247548-00-00 231302-00-00 246984-01-00 153125-01-00	7	2025	CONTINUOUS AMBIENT MONITORING						
			30-MIN AVERAGE		ONE-HOUR AVERAGE		24-HOUR AVERAGE		
PARAMETER	STN. NO.	% TIME OPERATIONAL	MAXIMUM CONCENTRATION	NO. READINGS > REGULATION	MAXIMUM CONCENTRATION	NO. READINGS > REGULATION	MAXIMUM CONCENTRATION	NO. READINGS > REGULATION	
SO2(ppb)	1	99	-	-	55	0	5.8	0	
SO2(ppb)	2	99	-	-	33.6	0	6.9	0	
SO2(ppb)	4	100	-	-	21.3	0	3.2	0	
SO2(ppb)	5	100	-	-	13.5	0	2.7	0	
SO2(ppb)	6	100	-	-	10.9	0	2.1	0	
SO2(ppb)	7	92	-	-	8.6	0	2.2	0	
SO2(ppb)	8	99	-	-	210.3	4	49.4	1	
SO2(ppb)	9	100	-	-	29.2	0	4.1	0	
SO2(ppb)	11	100	-	-	39.8	0	3.1	0	
SO2(ppb)	13	99	-	-	51.7	0	5.3	0	
SO2(ppb)	14	100	-	-	7.2	0	1.6	0	
SO2(ppb)	17	99	-	-	19.9	0	3.2	0	
SO2(ppb)	18	99	-	-	4.5	0	0.6	0	
SO2(ppb)	19	100	-	-	20.9	0	2.7	0	
SO2(ppb)	20	100	-	-	35.1	0	3.8	0	
SO2(ppb)	21	100	-	-	4.8	0	0.6	0	
SO2(ppb)	22	100	-	-	2.6	0	0.8	0	
SO2(ppb)	23	100	-	-	19.1	0	4.6	0	
SO2(ppb)	25	99	-	-	48.6	0	4.9	0	
SO2(ppb)	27	100	-	-	7.1	0	1.4	0	
SO2(ppb)	29	100	-	-	8.1	0	1.1	0	
SO2(ppb)	30	100	-	-	205.6	1	24.4	0	
SO2(ppb)	31	100	-	-	1.0	0	0.3	0	
SO2(ppb)	33	98	-	-	7.7	0	1.3	0	
SO2(ppb)	505	100	-	-	26.7	0	6.4	0	
SO2(ppb)	507	100	-	-	8.7	0	1.2	0	
H2S(ppb)	1	99	-	-	4.2	0	0.6	0	
H2S(ppb)	2	100	-	-	12.5	2	2.7	0	
H2S(ppb)	4	100	-	-	2.5	0	0.8	0	
H2S(ppb)	5	100	-	-	7.8	0	1.0	0	
H2S(ppb)	11	100	-	-	7.5	0	1.7	0	
H2S(ppb)	17	99	-	-	1.2	0	0.3	0	
H2S(ppb)	19	100	-	-	5.4	0	0.5	0	
H2S(ppb)	20	100	-	-	7.2	0	0.4	0	
H2S(ppb)	25	99	-	-	5.0	0	0.6	0	
H2S(ppb)	27	97	-	-	2.0	0	0.5	0	
H2S(ppb)	29	100	-	-	0.8	0	0.2	0	
H2S(ppb)	31	100	-	-	0.6	0	0.2	0	
H2S(ppb)	33	99	-	-	0.9	0	0.2	0	
H2S(ppb)	505	100	-	-	1.2	0	0.5	0	
H2S(ppb)	507	100	-	-	0.7	0	0.2	0	
TRS(ppb)	1	96	5	0	4.6	-	0.7	-	
TRS(ppb)	6	100	1	0	0.8	-	0.4	-	
TRS(ppb)	7	92	1.6	0	1.3	-	0.5	-	
TRS(ppb)	8	99	2.6	0	2.6	-	0.7	-	
TRS(ppb)	9	99	2.0	0	1.8	-	0.7	-	
TRS(ppb)	13	99	3.5	0	3.2	-	1.1	-	
TRS(ppb)	14	100	10.2	1	5.2	-	0.4	-	
TRS(ppb)	18	100	0.8	0	0.8	-	0.6	-	
TRS(ppb)	21	100	0.8	0	0.8	-	0.4	-	
TRS(ppb)	22	99	0.7	0	0.7	-	0.3	-	
TRS(ppb)	23	100	2.2	0	1.8	-	0.7	-	
TRS(ppb)	30	99	5.7	1	4.7	-	1.5	-	
THC(ppm)	1	98	-	-	3.3	-	2.3	-	
THC(ppm)	2	96	-	-	3.4	-	2.3	-	
THC(ppm)	4	99	-	-	2.8	-	2.3	-	
THC(ppm)	5	100	-	-	2.6	-	2.2	-	
THC(ppm)	6	97	-	-	3.1	-	2.3	-	
THC(ppm)	7	92	-	-	2.4	-	2.2	-	
THC(ppm)	9	100	-	-	2.8	-	2.2	-	
THC(ppm)	11	100	-	-	2.9	-	2.3	-	
THC(ppm)	13	100	-	-	3.4	-	2.4	-	

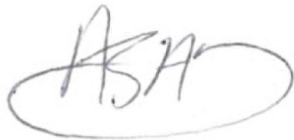
WOOD BUFFALO ENVIRONMENTAL ASSOCIATION
MONTHLY AIR MONITORING SUMMARY

July 2025
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	July 2025 Page 2 of 3 Created: Aug 28 2025 14:45:14								
APPROVAL NUMBERS	REPORT DATE								
	MONTH	YEAR							
289664-00-00 241311-00-00 20809-02-00 149968-01-00 237382-00-00 48522-01-00	7	2025							
CONTINUOUS AMBIENT MONITORING									
				30-MIN AVERAGE		ONE-HOUR AVERAGE		24-HOUR AVERAGE	
240008-00-00	PARAMETER	STN. NO.	% TIME OPERATIONAL	MAXIMUM CONCENTRATION	NO. READINGS > REGULATION	MAXIMUM CONCENTRATION	NO. READINGS > REGULATION	MAXIMUM CONCENTRATION	NO. READINGS > REGULATION
48263-01-00	THC(ppm)	14	100	-	-	2.2	-	2.0	-
224816-00-00	THC(ppm)	17	99	-	-	2.9	-	2.4	-
151469-01-00	THC(ppm)	18	99	-	-	2.3	-	2.2	-
189942-00-00	THC(ppm)	19	100	-	-	3.1	-	2.4	-
206355-00-00	THC(ppm)	20	100	-	-	3.4	-	2.5	-
46586-00-00	THC(ppm)	21	97	-	-	3.1	-	2.2	-
73203-02-00	THC(ppm)	22	100	-	-	2.2	-	2.1	-
216466-01-00	THC(ppm)	23	100	-	-	4.8	-	2.8	-
137467-01-00	THC(ppm)	29	100	-	-	2.8	-	2.4	-
236394-00-00	THC(ppm)	30	100	-	-	4.8	-	2.8	-
254465-00-00	THC(ppm)	507	100	-	-	3.2	-	2.5	-
094-03-00	O3(ppb)	1	99	-	-	64.3	0	34.6	-
80105-01-00	O3(ppb)	4	100	-	-	60.9	0	40.7	-
305529-00-00	O3(ppb)	6	100	-	-	67.7	0	37.5	-
318401-00-00	O3(ppb)	7	92	-	-	65.7	0	35.6	-
026-03-00	O3(ppb)	8	99	-	-	51.0	0	38.8	-
364232-00-00	O3(ppb)	13	100	-	-	72.3	0	37.8	-
228044-00-00	O3(ppb)	14	100	-	-	57.5	0	36.1	-
247548-00-00	O3(ppb)	17	100	-	-	62.5	0	42.6	-
231302-00-00	O3(ppb)	18	98	-	-	53.3	0	43.4	-
246984-01-00	O3(ppb)	21	100	-	-	58.3	0	39.4	-
153125-01-00	O3(ppb)	22	100	-	-	57.5	0	40.0	-
	NO2(ppb)	1	99	-	-	22.6	0	10.1	-
	NO2(ppb)	4	100	-	-	21.2	0	6.5	-
	NO2(ppb)	6	100	-	-	15.1	0	4.2	-
	NO2(ppb)	7	92	-	-	14.7	0	5.3	-
	NO2(ppb)	8	99	-	-	8.3	0	2.6	-
	NO2(ppb)	9	100	-	-	33.8	0	10.2	-
	NO2(ppb)	13	86	-	-	23.6	0	8.8	-
	NO2(ppb)	14	99	-	-	8.2	0	2.7	-
	NO2(ppb)	17	99	-	-	19.0	0	3.7	-
	NO2(ppb)	18	99	-	-	3.0	0	1.8	-
	NO2(ppb)	19	100	-	-	16.5	0	3.4	-
	NO2(ppb)	20	100	-	-	16.8	0	5.4	-
	NO2(ppb)	21	100	-	-	25.5	0	3.2	-
	NO2(ppb)	22	100	-	-	4.1	0	2.3	-
	NO2(ppb)	23	100	-	-	36.0	0	15.4	-
	NO2(ppb)	27	100	-	-	8.2	0	2.1	-
	NO2(ppb)	29	100	-	-	6.9	0	1.9	-
	NO2(ppb)	30	100	-	-	32.6	0	9.8	-
	NO2(ppb)	31	100	-	-	15.1	0	6.8	-
	NO2(ppb)	33	98	-	-	10.8	0	4.3	-
	NO2(ppb)	505	100	-	-	16.8	0	5.5	-
	NO2(ppb)	507	100	-	-	5.8	0	2.0	-
	CO(ppm)	7	92	-	-	1.2	0	0.7	-
	NH3(ppb)	1	92	-	-	12.4	0	3.2	-
	NH3(ppb)	6	93	-	-	15.2	0	2.9	-
	PM2.5(ug/m3)	1	99	-	-	285.5	0	153.2	6
	PM2.5(ug/m3)	4	100	-	-	239.3	0	135.8	4
	PM2.5(ug/m3)	6	100	-	-	264.4	0	143.9	4
	PM2.5(ug/m3)	7	92	-	-	265.0	0	157.2	4
	PM2.5(ug/m3)	8	99	-	-	113.0	0	43.8	1
	PM2.5(ug/m3)	9	100	-	-	291.6	0	157.6	5
	PM2.5(ug/m3)	13	100	-	-	248.2	0	143.7	4
	PM2.5(ug/m3)	14	97	-	-	291.1	0	132.8	3
	PM2.5(ug/m3)	17	100	-	-	236.5	0	135.0	3
	PM2.5(ug/m3)	18	100	-	-	197.5	0	90.5	3
	PM2.5(ug/m3)	21	100	-	-	184.8	0	90.4	3
	PM2.5(ug/m3)	22	100	-	-	356.3	0	119.1	3
	PM2.5(ug/m3)	23	100	-	-	296.3	0	137.3	4
	PM2.5(ug/m3)	29	100	-	-	286.4	0	101.4	3
	PM2.5(ug/m3)	30	66	-	-	248.5	0	132.8	4

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION
MONTHLY AIR MONITORING SUMMARY

July 2025
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APPROVAL NUMBERS	REPORT DATE								
	MONTH	YEAR							
289664-00-00	7	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	MAXIMUM CONCENTRATION	NO. READINGS > REGULATION
237382-00-00	WS(km/h)	1	99	-	-	-	-	-	-
48522-01-00	WS(km/h)	2	100	-	-	-	-	-	-
240008-00-00	WS(km/h)	4	100	-	-	-	-	-	-
48263-01-00	WS(km/h)	5	100	-	-	-	-	-	-
224816-00-00	WS(km/h)	6	100	-	-	-	-	-	-
151469-01-00	WS(km/h)	7	88	-	-	-	-	-	-
189942-00-00	WS(km/h)	8	100	-	-	-	-	-	-
206355-00-00	WS(km/h)	9	100	-	-	-	-	-	-
46586-00-00	WS(km/h)	11	100	-	-	-	-	-	-
73203-02-00	WS(km/h)	13	100	-	-	-	-	-	-
216466-01-00	WS(km/h)	14	100	-	-	-	-	-	-
137467-01-00	WS(km/h)	17	100	-	-	-	-	-	-
236394-00-00	WS(km/h)	18	100	-	-	-	-	-	-
254465-00-00	WS(km/h)	19	100	-	-	-	-	-	-
094-03-00	WS(km/h)	20	100	-	-	-	-	-	-
80105-01-00	WS(km/h)	21	98	-	-	-	-	-	-
305529-00-00	WS(km/h)	22	99	-	-	-	-	-	-
318401-00-00	WS(km/h)	23	100	-	-	-	-	-	-
026-03-00	WS(km/h)	25	93	-	-	-	-	-	-
364232-00-00	WS(km/h)	27	100	-	-	-	-	-	-
228044-00-00	WS(km/h)	29	99	-	-	-	-	-	-
247548-00-00	WS(km/h)	30	97	-	-	-	-	-	-
231302-00-00	WS(km/h)	31	100	-	-	-	-	-	-
246984-01-00	WS(km/h)	33	95	-	-	-	-	-	-
153125-01-00	WS(km/h)	505	100	-	-	-	-	-	-
	WS(km/h)	507	100	-	-	-	-	-	-
									
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 JULY 2025

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

August 29, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - FORT McKAY - BERTHA GANTER (AMS01)
JULY 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	701	32	43	98.52	-	-	54.9	0	5.8	0
H2S(ppb) Average	702	33	42	98.79	-	-	4.2	0	0.6	0
TRS(ppb) Average	678	36	66	95.97	5	0	4.6	-	0.7	-
THC(ppm) Average	698	32	46	98.12	-	-	3.3	-	2.3	-
NMHC(ppm) Average	698	32	46	98.12	-	-	0.384	-	0.127	-
CH4(ppm) Average	698	32	46	98.12	-	-	3.1	-	2.2	-
O3 (ppb) Average	700	33	44	98.52	-	-	64.3	0	34.6	-
NO2 (ppb) Average	698	35	46	98.52	-	-	22.6	0	10.1	-
NO (ppb) Average	698	35	46	98.52	-	-	37.5	-	4.7	-
NOX (ppb) Average	698	35	46	98.52	-	-	59.1	-	12.1	-
NH3 (ppb) Average	639	43	105	91.67	-	-	12.4	0	3.2	-
PM2.5 (ug/m3) Average	733	2	11	98.79	-	-	285.5	0	153.2	6
Temperature 2 m (C) Average	741	0	3	99.6	-	-	34	-	24.5	-
Temperature 10 m (C) Average	741	0	3	99.6	-	-	33.1	-	24.8	-
Relative Humidity (%) Average	741	0	3	99.6	-	-	98.4	-	94.2	-
Wind Speed 10 m (km/h) Average	737	0	7	99.06	-	-	24	-	13	-
Wind Direction 10 m (deg) Average	737	0	7	99.06	-	-	-	-	-	-
Precipitation (mm) Total	740	0	4	99.46	-	-	10	-	25.2	-
Leaf Wetness (% of range) Average	741	0	3	99.6	-	-	75.9	-	30.3	-
Global Solar Radiation (W/m2) Average	741	0	3	99.6	-	-	894.3	-	338.4	-

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

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - BERTHA GANTER FORT MCKAY (AMS01)
JULY 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	701	1.15	4.3	-	0	0	0	0.1	0.3	2.1	54.9
H2S (ppb) Average	702	0.21	0.3	-	0	0	0.1	0.1	0.2	0.4	4.2
TRS (ppb) Average	678	0.43	0.3	-	0.1	0.2	0.2	0.4	0.5	0.7	4.6
THC (ppm) Average	698	2.14	0.2	-	2	2	2	2.1	2.2	2.4	3.3
NMHC(ppm) Average	698	0.041	0.061	-	0	0	0	0	0.1	0.1	0.384
CH4(ppm) Average	698	2.1	0.1	-	2	2	2	2.1	2.1	2.3	3.1
O3 (ppb) Average	700	20.48	12.8	-	0	5.8	10.5	19.1	27.6	38.5	64.3
NO2 (ppb) Average	698	3.57	4.2	-	0	0	0.5	2.1	4.9	9.5	22.6
NO (ppb) Average	698	1.4	3.2	-	0	0	0	0.5	1.6	2.7	37.5
NOX (ppb) Average	698	4.97	6.5	-	0	0.6	1.6	2.6	5.6	12.2	59.1
NH3 (ppb) Average	639	0.11	1.1	-	0	0	0	0	0	0	12.4
PM2.5 (ug/m3) Average	733	24.73	32.8	-	1.2	3.5	7.6	17	30	47.4	285.5
Temperature 2 m (C) Average	741	17.54	6	-	3.3	10	13.1	16.8	21.8	26.3	34
Temperature 10 m (C) Average	741	17.54	5.5	-	4.3	10.7	13.4	16.9	21.4	25.5	33.1
Relative Humidity (%) Average	741	65.66	21.7	-	24.3	34.8	47.7	67.7	85	94.6	98.4
Wind Speed 10 m (km/h) Average	737	7	4	-	0	2	3	6	10	13	24
Wind Direction 10 m (deg) Average	737	-	-	-	-	-	-	-	-	-	-
Precipitation (mm) Total	740	-	-	82.1	-	-	-	-	-	-	-
Leaf Wetness (% of range) Average	741	8.86	14.8	-	0	0.3	0.8	1.6	10.5	32.2	75.9
Global Solar Radiation (W/m2) Average	741	246.22	272.9	-	0	0	0.5	124.2	462	699.9	894.3

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

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
SO2	03 Jul 2025 14:00	03 Jul 2025 14:00	1	Maintenance - verify daily QA response
All Parameters (except H2S, NO2, TRS, NH3)	05 Jul 2025 13:00	05 Jul 2025 15:00	3	Maintenance - station logger/modem reset
H2S, NO2, TRS	05 Jul 2025 13:00	05 Jul 2025 16:00	4	Maintenance - station logger/modem reset
NH3	05 Jul 2025 13:00	05 Jul 2025 18:00	6	Maintenance - station logger/modem reset
THC/NMHC/CH4	05 Jul 2025 08:00	05 Jul 2025 08:00	1	Maintenance - verify daily QA response
O3	05 Jul 2025 17:00	05 Jul 2025 17:00	1	Maintenance - verify daily QA response
AIR QUALITY ANALYZERS	13 Jul 2025 09:00	13 Jul 2025 13:00	5	Station power failure
All Gaseous Analyzers (except H2S & TRS)	14 Jul 2025 13:00	14 Jul 2025 14:00	2	Maintenance - sample manifold cleaned
NH3	01 Jul 2025 07:00	31 Jul 2025 07:00	30	Stabilization after daily QA check
NH3	10 Jul 2025 18:00	11 Jul 2025 12:00	19	Maintenance - calibration in progress
PM2.5	24 Jul 2025 03:00	24 Jul 2025 03:00	1	DAS Failure - data not recorded
THC/NMHC/CH4	29 Jul 2025 12:00	29 Jul 2025 14:00	3	Maintenance - replaced support gas cylinder
Wind Speed, Wind Direction	17 Jul 2025 07:00	17 Jul 2025 07:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	17 Jul 2025 23:00	17 Jul 2025 23:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	28 Jul 2025 21:00	28 Jul 2025 22:00	2	Flat line in sensor output signal
Precipitation Collector	13 Jul 2025 09:00	13 Jul 2025 12:00	4	DAS Failure - data not recorded



Wood Buffalo Environmental Association

Summary of Hour Averages

Sulphur Dioxide (SO₂) - ppb

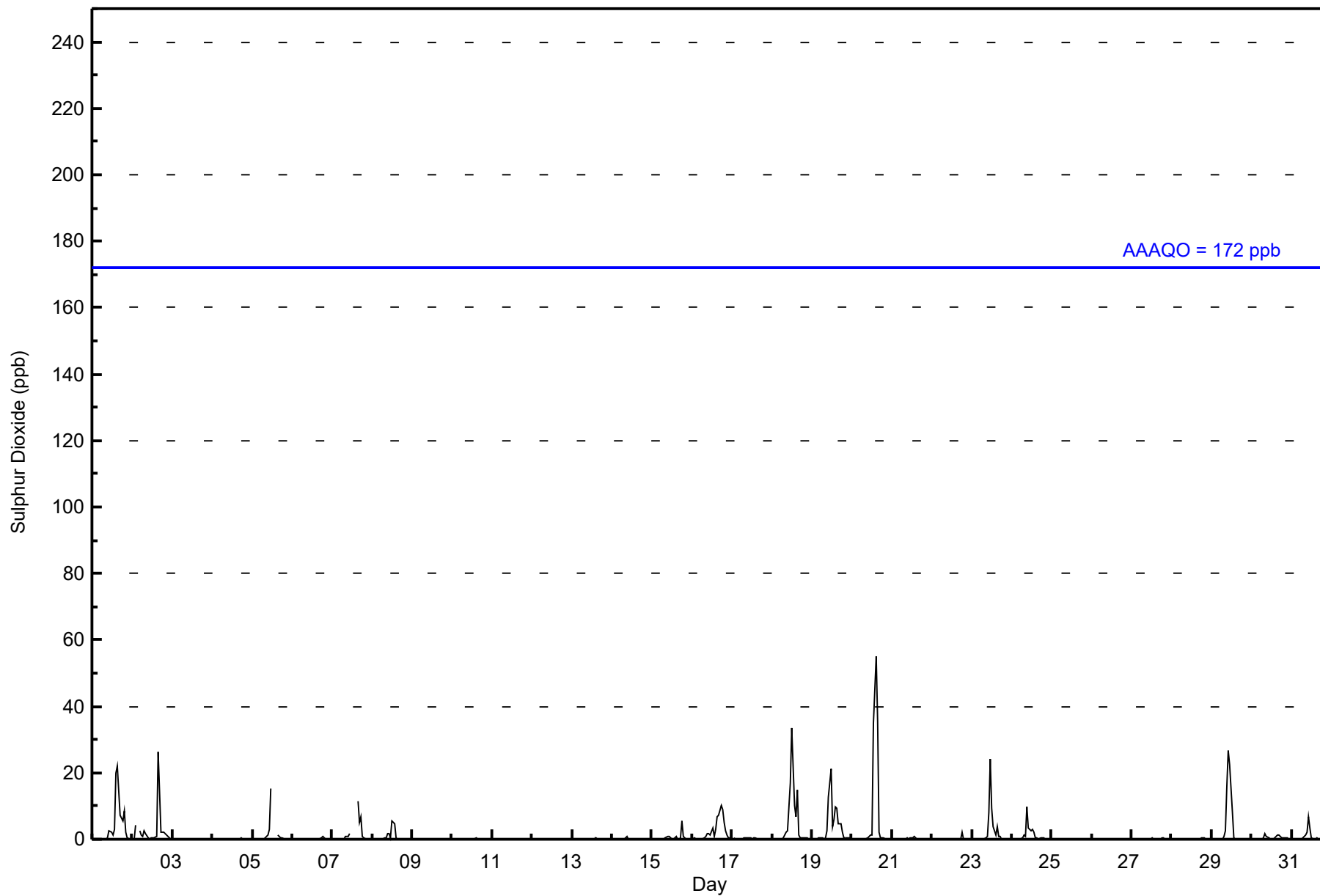
Fort McKay - Bertha Ganter - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 54.9 ppb on Jul 20 15:00 Maximum Daily Average: 5.8 ppb on Jul 20																			Hours in Service: 744							
Minimum Value: 0.0 ppb on Jul 1 01:00 Minimum Daily Average: 0.0 ppb on Jul 3 Maximum Diurnal Average: 4.3 ppb at hour 16 Minimum Diurnal Average: 0.0 ppb at hour 4 Monthly Average: 1.15 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.3 P ₉₀ = 2.1 P ₉₉ = 22.6																			Hours of Data: 701							
																			Hours of Missing Data: 43							
																			Hours of Calibration: 32							
																			Percent Operational Time: 98.5							
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-Jul	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.2	0.6	2.6	2.0	1.2	2.8	19.9	22.0	7.3	6.3	5.4	8.3	2.2	0.4	0.2	0.1	3.5	22.0
2-Jul	0.1	0.0	4.3	Z	2.4	1.1	1.0	2.3	1.6	0.4	0.2	0.2	0.3	0.4	0.9	26.2	14.3	2.3	2.1	2.1	1.1	0.8	0.3	0.2	2.8	26.2
3-Jul	0.0	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	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
4-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.6
5-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.7	1.5	2.9	15.1	M	M	M	1.3	0.8	0.5	0.3	0.2	0.0	0.0	0.0	0.0	1.1	15.1
6-Jul	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	0.0	0.0	0.0	0.1	0.3	0.6	0.3	0.0	0.0	0.0	0.0	0.1	0.6
7-Jul	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.7	0.7	1.5	C	C	C	C	11.6	5.2	6.7	1.0	0.3	0.2	0.1	0.2	0.2	1.5	11.6
8-Jul	0.2	0.1	0.1	Z	0.0	0.1	0.1	0.4	0.6	1.5	1.5	0.4	5.6	4.6	0.4	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.7	5.6
9-Jul	0.1	0.0	0.1	0.0	Z	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
10-Jul	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	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
11-Jul	Z	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	0.0	0.0	0.0	0.0	0.1
12-Jul	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	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	0.2	0.1	0.0	0.2
13-Jul	0.2	0.2	Z	0.2	0.2	0.2	0.1	0.2	PF	PF	PF	PF	PF	0.6	0.2	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.6
14-Jul	0.0	0.0	0.0	Z	0.0	0.1	0.0	0.0	0.5	0.8	0.0	0.0	M	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.8
15-Jul	0.0	0.0	0.0	0.0	Z	0.0	0.1	0.1	0.4	0.8	1.0	0.4	0.1	0.0	1.0	0.1	0.1	0.5	5.4	0.8	0.1	0.1	0.1	0.1	0.5	5.4
16-Jul	0.2	0.4	0.1	0.0	0.0	Z	0.2	0.3	0.9	1.6	1.6	1.1	3.5	0.7	3.0	6.8	7.0	10.2	8.9	5.2	2.6	1.5	0.6	0.5	2.5	10.2
17-Jul	Z	0.2	0.1	0.1	0.1	0.0	0.1	0.3	0.3	0.3	0.5	0.2	0.0	0.3	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.5
18-Jul	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.3	2.1	2.4	9.6	17.1	33.6	10.1	6.7	14.7	1.4	0.3	0.3	0.4	0.5	0.4	0.2	0.2	4.4	33.6
19-Jul	0.0	0.0	Z	0.1	0.3	0.3	0.3	0.2	0.5	2.4	12.6	21.0	4.0	5.9	9.9	9.1	4.8	4.7	2.2	0.6	0.4	0.3	0.3	0.3	3.5	21.0
20-Jul	0.2	0.2	0.2	Z	0.2	0.1	0.0	0.1	0.2	0.3	0.7	1.4	1.5	34.7	54.9	35.5	2.2	0.5	0.6	0.4	0.2	0.1	0.0	0.0	5.8	54.9
21-Jul	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.2	0.0	0.3	0.3	0.9	0.3	0.1	0.0	0.0	0.0	0.1	0.0	0.2	0.1	0.0	0.1	0.9
22-Jul	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	2.2	0.2	0.1	0.1	0.1	0.0	0.1	2.2
23-Jul	Z	0.1	0.1	0.0	0.0	0.0	0.1	0.2	0.4	0.7	7.9	24.1	9.3	3.7	1.3	3.7	0.8	1.0	0.1	0.1	0.1	0.1	0.2	0.1	2.4	24.1
24-Jul	0.0	Z	0.0	0.0	0.0	0.1	0.3	1.4	0.9	9.7	3.3	2.4	3.0	2.2	0.5	0.4	0.2	0.2	0.3	0.2	0.2	0.1	0.1	0.1	1.1	9.7
25-Jul	0.1	0.1	Z	0.1	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
26-Jul	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
27-Jul	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.1	0.0	0.0	0.0	0.2	0.4	0.2	0.1	0.1	0.1	0.0	0.1	0.4
28-Jul	0.1	0.0	0.1	0.1	0.1	Z	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2
29-Jul	Z	0.1	0.1	0.1	0.0	0.1	0.1	1.0	2.5	15.6	26.6	22.6	7.9	0.3	0.1	0.0	0.1	0.2	0.0	0.1	0.1	0.2	0.1	0.1	3.4	26.6
30-Jul	0.2	Z	0.1	0.1	0.1	0.0	0.1	0.4	1.8	0.8	0.3	0.1	0.1	0.1	0.5	1.4	1.5	0.8	0.5	0.6	0.5	0.2	0.2	0.1	0.4	1.8
31-Jul	0.1	0.1	Z	0.0	0.0	0.1	0.1	0.3	1.1	2.1	6.9	3.5	0.3	0.2	0.2	0.3	0.2	0.2	0.2	1.3	0.7	0.2	0.4	0.2	0.8	6.9
																									Diurnal Average	
																									Diurnal Maximum	
Z - zerospan C - Calibration M - Maintenance 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 McKay - Bertha Ganter - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	683	97.43	97.43
11 - 20	8	1.14	98.57
21 - 60	10	1.43	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: 701

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Fort McKay - Bertha Ganter - July 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	78	29	14	8	0	7	29	105	72	34	50	49	58	53	47	46	679
11 - 20	0	0	0	0	0	0	2	6	0	0	0	0	0	0	0	0	8
21 - 60	0	0	0	0	0	0	6	4	0	0	0	0	0	0	0	0	10
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	78	29	14	8	0	7	37	115	72	34	50	49	58	53	47	46	697

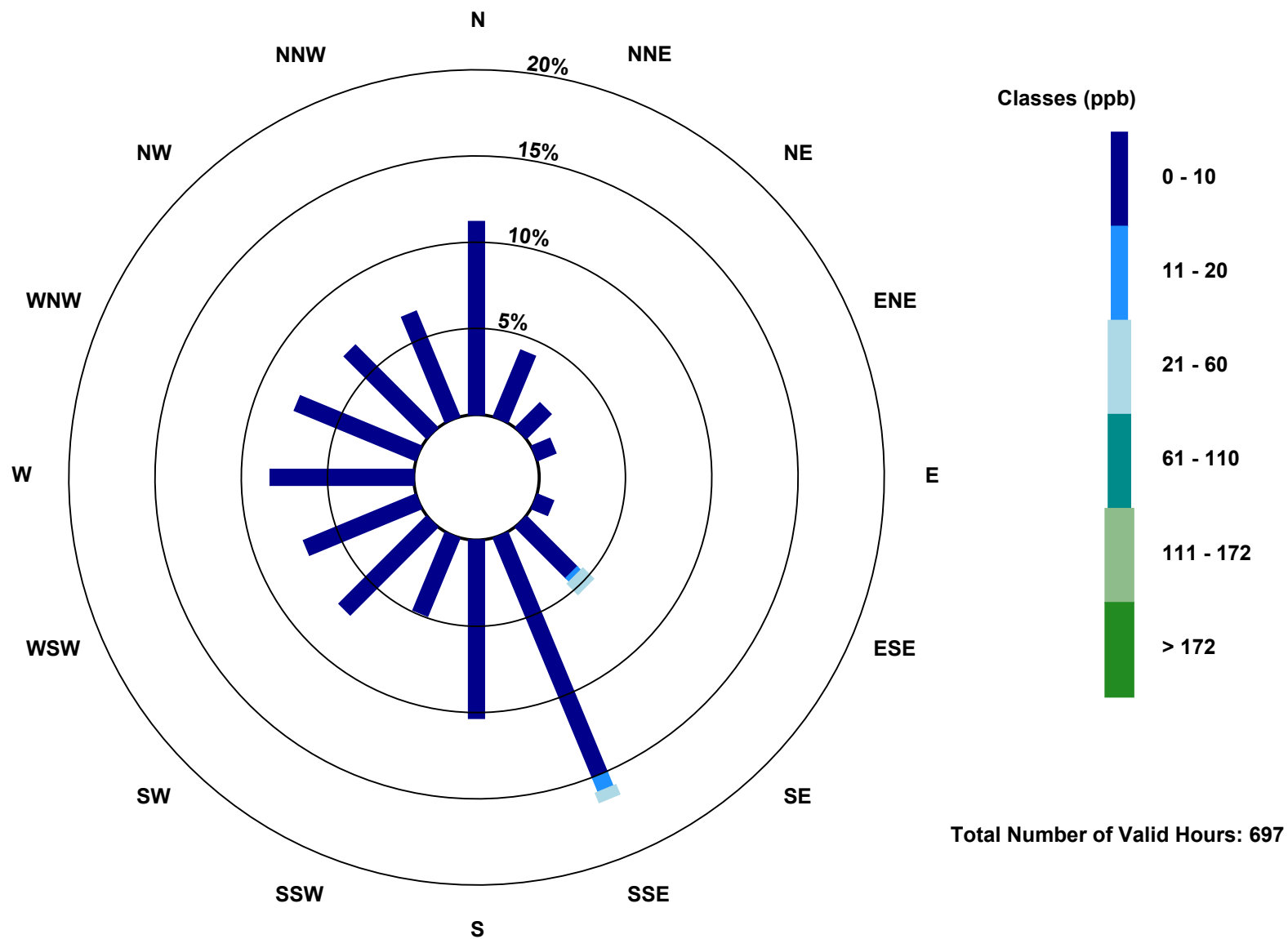
Total Number of Valid Hours: 697

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

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



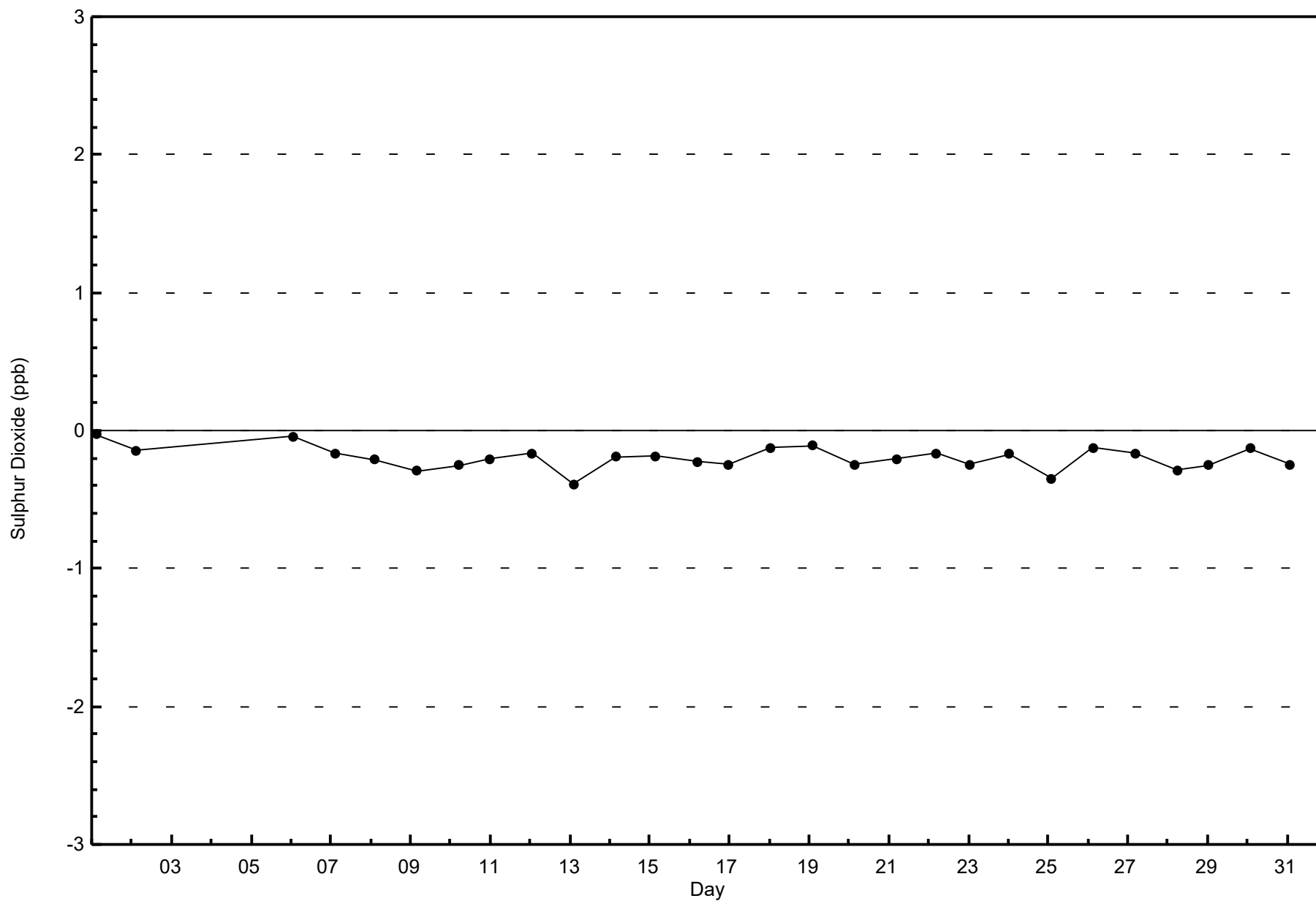


Wood Buffalo Environmental Association

Zero Responses

Sulphur Dioxide (SO₂) - ppb

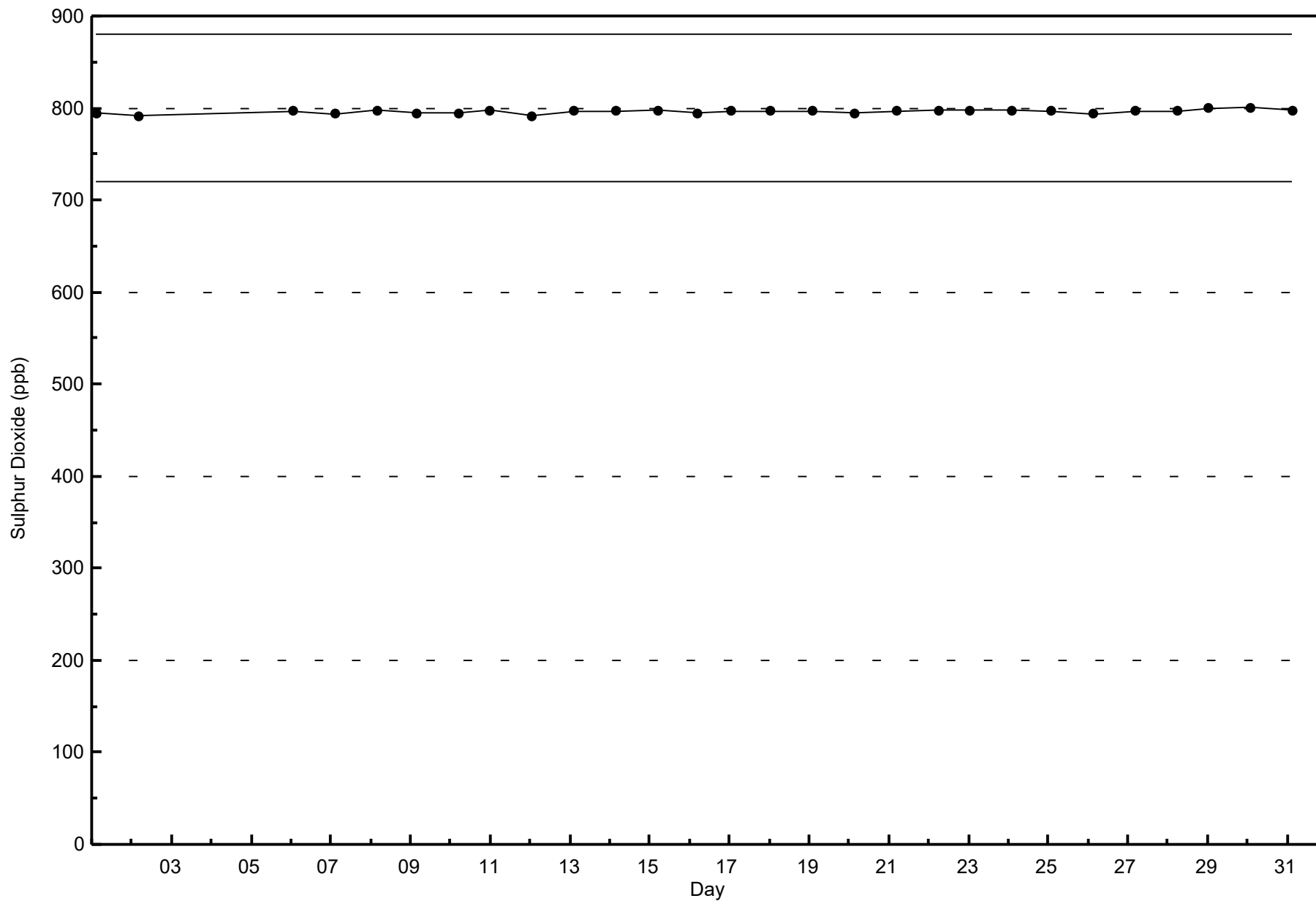
Fort McKay - Bertha Ganter - July 2025





Wood Buffalo Environmental Association
Span Responses

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Hydrogen Sulphide (H₂S) - ppb

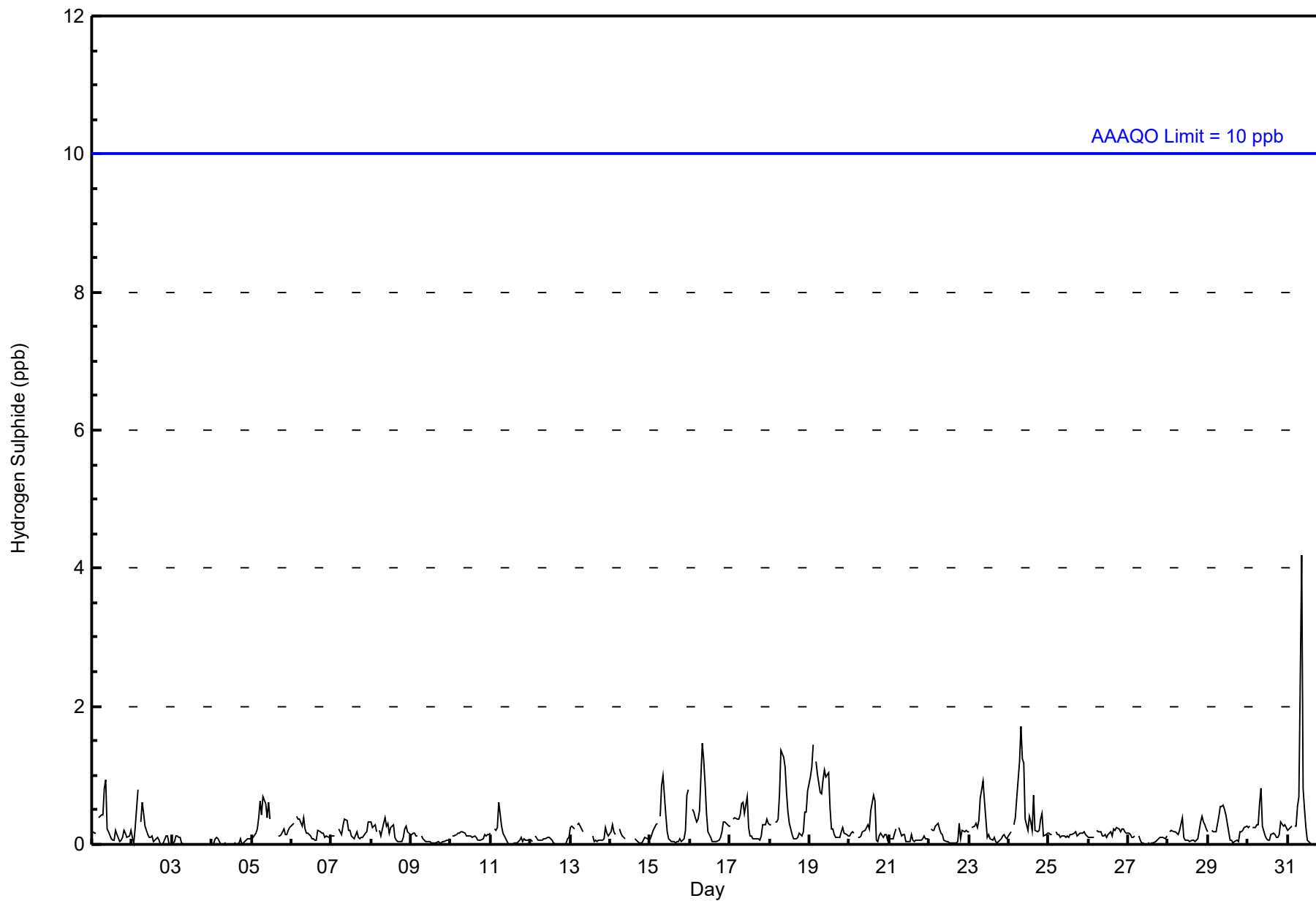
Fort McKay - Bertha Ganter - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																			Hours in Service: 744								
Maximum Value: 4.2 ppb on Jul 31 09:00 Maximum Daily Average: 0.6 ppb on Jul 19																			Hours of Data: 702								
Minimum Value: 0.0 ppb on Jul 2 19:00 Minimum Daily Average: 0.0 ppb on Jul 3																			Hours of Missing Data: 42								
Maximum Diurnal Average: 0.6 ppb at hour 9 Minimum Diurnal Average: 0.1 ppb at hour 17																			Hours of Calibration: 33								
Monthly Average: 0.21 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 = 1.2																			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-Jul	0.2	0.2	0.2	Z	0.4	0.4	0.4	0.8	0.9	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.0	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.9
2-Jul	0.1	0.0	0.2	0.8	Z	0.3	0.6	0.4	0.3	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	0.0	0.0	0.0	0.8
3-Jul	0.0	0.0	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	0.0	0.0	0.1
4-Jul	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	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1
5-Jul	0.1	0.1	0.2	0.2	0.4	0.6	0.4	0.7	0.6	0.4	0.6	0.4	M	M	M	M	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.3	0.7	
6-Jul	0.3	0.3	Z	0.4	0.4	0.4	0.3	0.4	0.2	0.2	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	0.1	0.1	0.2	0.4
7-Jul	0.1	0.1	0.1	Z	0.2	0.2	0.1	0.3	0.4	0.4	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.2	0.4	
8-Jul	0.3	0.2	0.3	0.2	Z	0.2	0.1	0.3	0.4	0.3	0.3	0.2	0.2	0.3	0.1	0.1	0.0	0.0	0.1	0.1	0.2	0.3	0.2	0.1	0.2	0.4	
9-Jul	0.2	0.2	0.2	0.1	0.1	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	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	
10-Jul	Z	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	0.1	0.1	0.1	0.1	0.2	
11-Jul	0.2	Z	0.2	0.2	0.3	0.6	0.3	0.2	0.1	0.1	0.0	0.0	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	0.6	
12-Jul	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	
13-Jul	0.2	0.3	0.2	Z	0.3	0.3	0.3	0.2	PF	PF	PF	PF	PF	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.3	
14-Jul	0.2	0.3	0.2	0.1	Z	0.2	0.2	0.1	0.1	0.1	C	C	C	C	C	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.3	
15-Jul	0.1	0.1	0.2	0.3	0.3	Z	0.4	0.9	1.0	0.4	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.2	0.7	0.8	0.3	1.0	
16-Jul	Z	0.5	0.5	0.4	0.3	0.4	0.5	1.5	1.2	0.9	0.5	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.3	0.3	0.3	0.4	1.5	
17-Jul	0.3	Z	0.4	0.4	0.4	0.4	0.4	0.6	0.6	0.5	0.7	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.4	0.3	0.3	0.7	
18-Jul	0.3	0.3	Z	0.3	0.3	0.4	0.7	1.4	1.3	1.1	0.8	0.5	0.3	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.5	0.5	0.8	0.4	1.4	
19-Jul	1.0	1.1	1.5	Z	1.2	1.0	0.8	0.7	0.9	1.1	1.0	1.0	0.5	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.6	1.5	
20-Jul	0.1	0.2	0.2	0.2	Z	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.2	0.5	0.7	0.6	0.1	0.0	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.7	
21-Jul	0.1	0.1	0.1	0.2	0.2	Z	0.2	0.1	0.1	0.1	0.0	0.0	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	0.2	
22-Jul	Z	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.1	0.2	0.2	0.2	0.2	0.1	0.3	
23-Jul	0.2	Z	0.2	0.3	0.3	0.2	0.3	0.7	0.9	0.6	0.4	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	0.2	0.9	
24-Jul	0.1	0.2	Z	0.3	0.4	0.7	1.2	1.7	1.2	1.2	0.4	0.2	0.4	0.3	0.2	0.7	0.2	0.2	0.2	0.4	0.5	0.1	0.1	0.2	0.5	1.7	
25-Jul	0.2	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	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.2	
26-Jul	0.1	0.1	0.1	0.1	Z	0.2	0.2	0.2	0.1	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	0.2	0.2	0.2	
27-Jul	0.2	0.1	0.1	0.1	0.1	Z	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	
28-Jul	Z	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.4	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.3	0.4	0.3	0.3	0.2	0.2	0.4	
29-Jul	0.2	Z	0.2	0.2	0.2	0.2	0.4	0.5	0.5	0.6	0.5	0.4	0.2	0.1	0.1	0.0	0.0	0.1	0.0	0.2	0.2	0.2	0.2	0.3	0.2	0.6	
30-Jul	0.2	0.3	Z	0.2	0.3	0.3	0.3	0.6	0.8	0.3	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.3	0.3	0.3	0.2	0.2	0.8	
31-Jul	0.2	0.2	0.3	Z	0.3	0.3	0.5	0.7	4.2	0.8	0.5	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.4	0.5	0.4	4.2	
0.2 0.2 0.2 0.2 0.3 0.3 0.3 0.4 0.6 0.3 0.3 0.2 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.2 0.2 0.2 0.2 0.2																									Diurnal Average		
1.0 1.1 1.5 0.8 1.2 1.0 1.2 1.7 4.2 1.2 1.0 1.0 0.5 0.5 0.7 0.7 0.2 0.2 0.3 0.4 0.5 0.5 0.7 0.8																									Diurnal Maximum		
Z - zerospan C - Calibration M - Maintenance PF - Power Failure																											
Alberta Ambient Air Quality Objective (AAAQO): 1-hour 10 ppb 24-hr 3 ppb																											



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	701	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: 702

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Hydrogen Sulphide (H₂S) - ppb
Fort McKay - Bertha Ganter - July 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	74	29	14	8	0	7	38	117	73	33	53	47	58	54	45	47	697
3 - 4	0	0	0	0	0	0	0	1	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	74	29	14	8	0	7	38	118	73	33	53	47	58	54	45	47	698

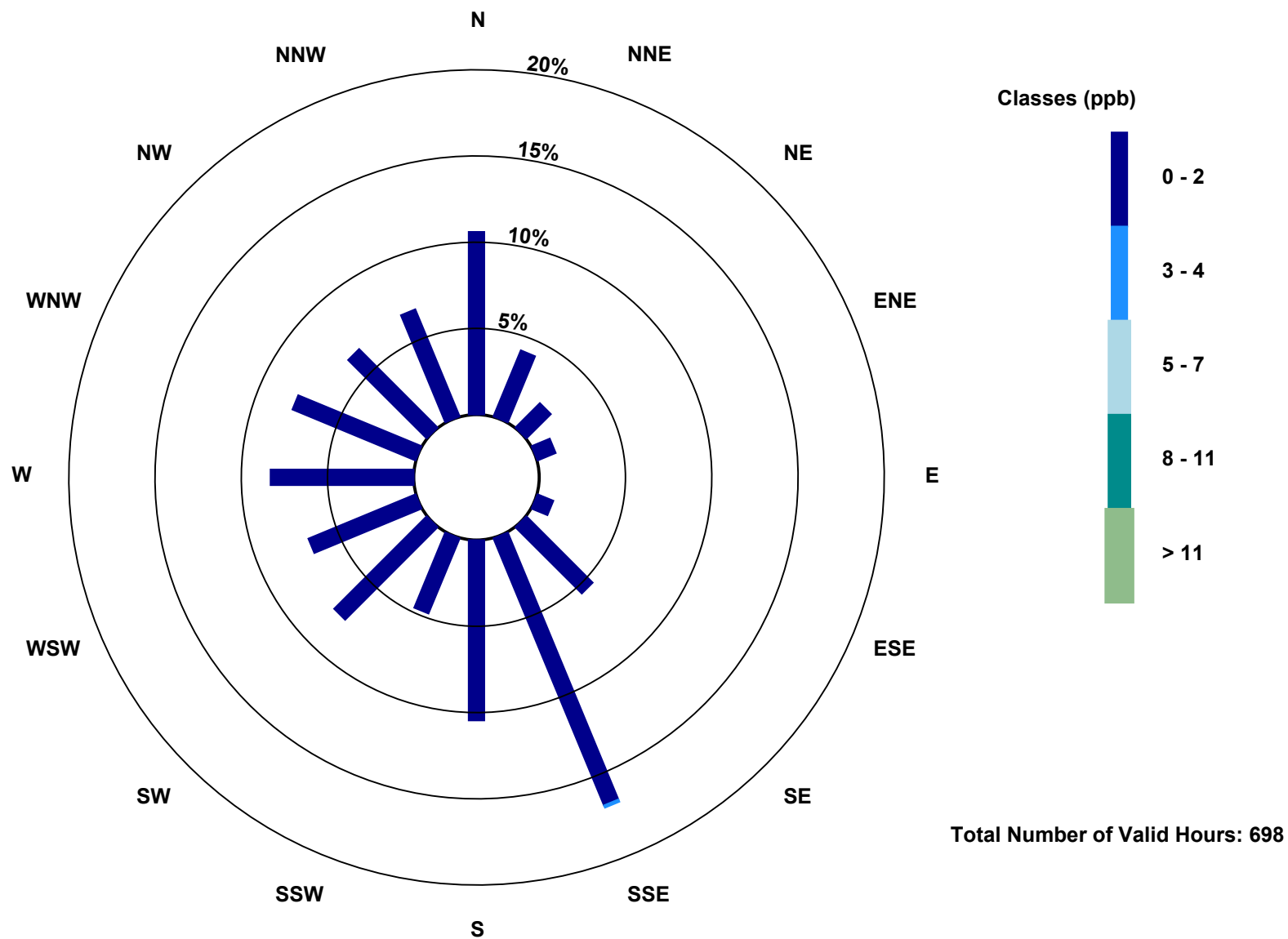
Total Number of Valid Hours: 698

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

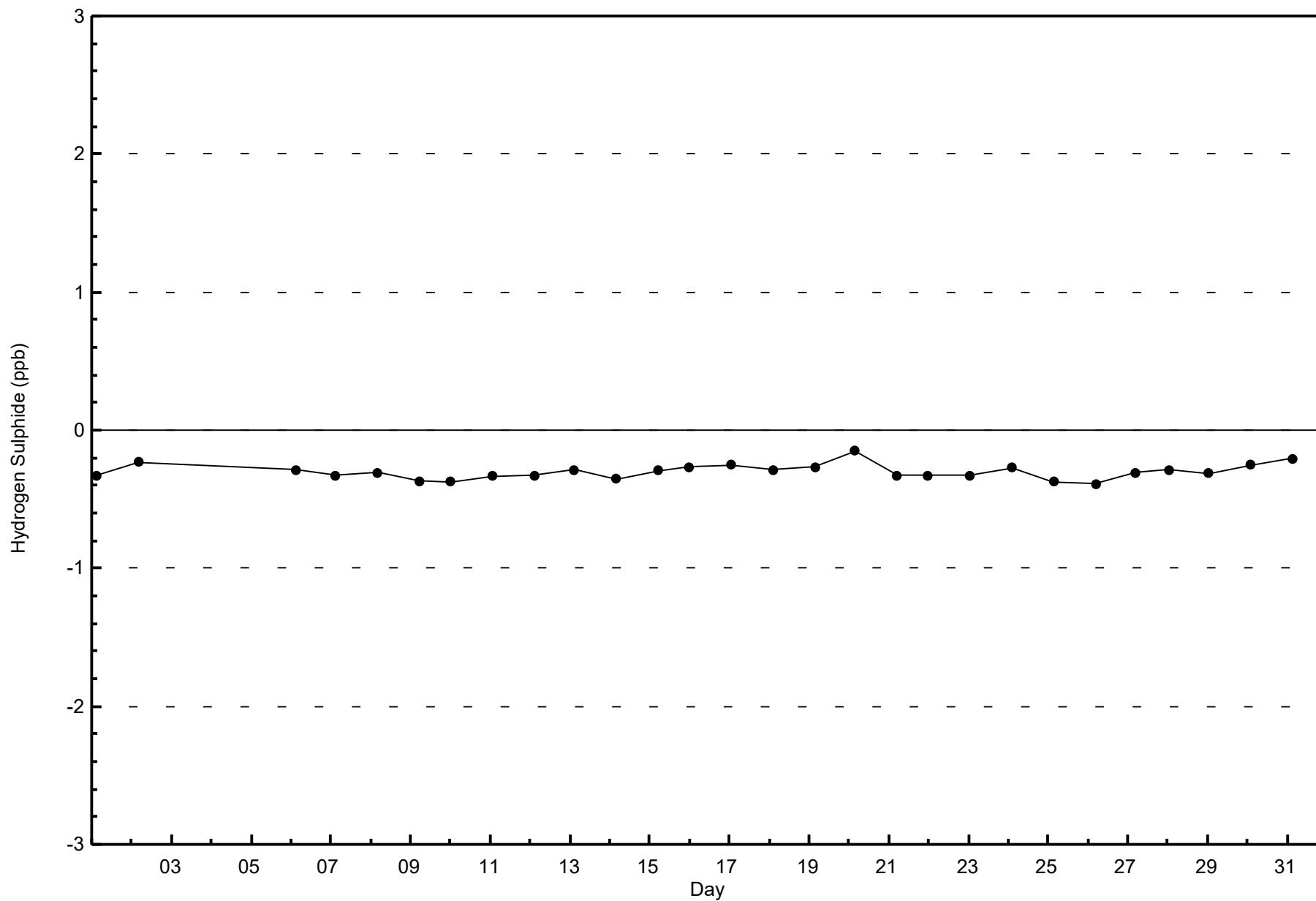
Hydrogen Sulphide (H_2S) - ppb
Fort McKay - Bertha Ganter





Wood Buffalo Environmental Association
Zero Responses

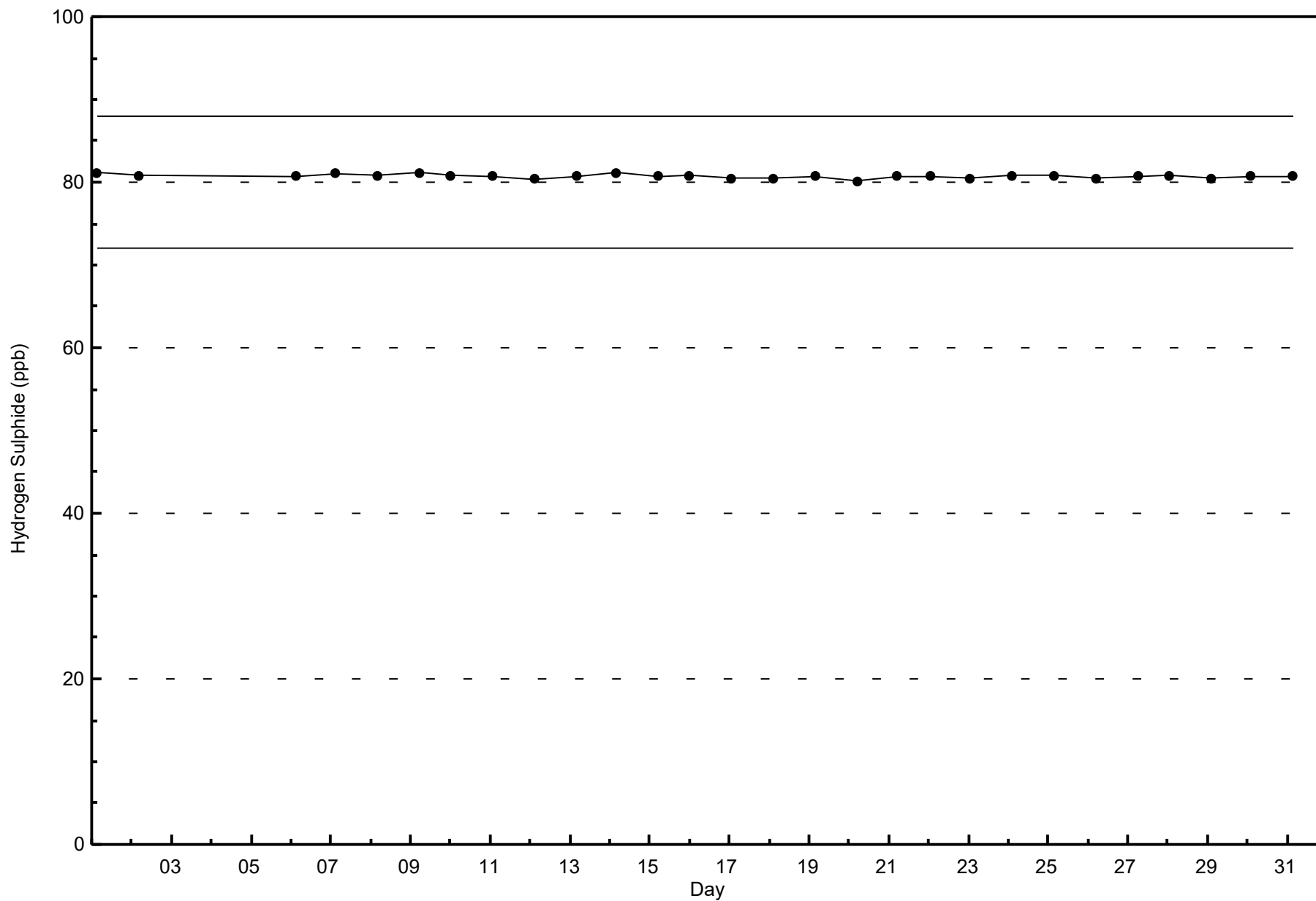
Hydrogen Sulphide (H₂S) - ppb
Fort McKay - Bertha Ganter - July 2025





Wood Buffalo Environmental Association
Span Responses

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





Wood Buffalo Environmental Association

Summary of 30-Minute Averages

Total Reduced Sulphur (TRS) - ppb

Fort McKay - Bertha Ganter - July 2025

Number of Exceedences (AAAQG): 30-Min: 0																			Periods in Service: 1488							
Maximum Value: 5.0 ppb on Jul 31 08:30										Maximum Daily Average: 0.7 ppb on Jul 19										Periods of Valid Data: 1356						
Minimum Value: 0.1 ppb on Jul 22 13:30										Minimum Daily Average: 0.2 ppb on Jul 25										Periods of Invalid Data: 132						
Maximum Diurnal Average: 0.7 ppb at hour 9										Minimum Diurnal Average: 0.3 ppb at hour 18										Periods of Calibration: 72						
Monthly Average: 0.43 ppb										Percentiles: P ₁ = 0.1 P ₁₀ = 0.2 Q ₁ = 0.2 Median = 0.4 Q ₃ = 0.5 P ₉₀ = 0.7 P ₉₉ = 1.3										Percent Operational Time: 96.0						
Day	Period Ending At (MST)																								Daily Average	Daily Maximum
	00:30 01:00	01:30 02:00	02:30 03:00	03:30 04:00	04:30 05:00	05:30 06:00	06:30 07:00	07:30 08:00	08:30 09:00	09:30 10:00	10:30 11:00	11:30 12:00	12:30 13:00	13:30 14:00	14:30 15:00	15:30 16:00	16:30 17:00	17:30 18:00	18:30 19:00	19:30 20:00	20:30 21:00	21:30 22:00	22:30 23:00	23:30 24:00		
1-Jul	0.5 0.5	0.5 0.5	0.5 0.6	Z SP	0.7 0.7	0.7 0.8	0.7 0.7	0.8 1.2	1.5 0.9	0.6 0.6	0.6 0.5	0.5 0.5	0.5 0.5	0.5 0.5	0.6 0.7	0.6 0.5	0.5 0.4	0.5 0.5	0.5 0.6	0.6 0.7	0.6 0.6	0.6 0.6	0.6 0.6	0.6 0.6	0.6	1.5
2-Jul	0.6 0.5	0.5 0.5	0.5 0.9	1.3 1.3	Z SP	0.7 0.6	0.7 1.4	0.8 0.9	0.8 0.6	0.6 0.5	0.5 0.5	0.6 0.6	0.6 0.6	0.5 0.5	0.6 0.6	0.6 0.6	0.6 0.6	0.5 0.5	0.5 0.5	0.5 0.6	0.6 0.7	0.6 0.6	0.5 0.4	0.4 0.5	0.6	1.4
3-Jul	0.5 0.5	0.5 0.6	0.6 0.6	0.6 0.6	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 0.4	0.4 0.4	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 0.4	0.4 0.4	0.4 0.4	0.5	0.6
4-Jul	0.4 0.4	0.4 0.5	0.5 0.5	0.5 0.5	0.5 0.4	0.4 0.4	0.4 0.4	0.4 M	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 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.4	0.5
5-Jul	0.4 0.4	0.4 0.4	0.4 0.5	0.4 0.5	0.6 0.7	0.9 0.9	0.7 0.6	0.9 1.0	0.9 0.8	0.7 0.7	0.7 1.2	0.9 0.6	0.5 M	M M	M M	M M	0.5 0.5	0.5 0.5	0.5 0.6	0.7 0.5	0.6 0.5	0.5 0.5	0.6 0.6	0.6 0.6	0.6	1.2
6-Jul	0.6 0.6	0.6 0.6	Z SP	0.6 0.6	0.6 0.6	0.5 0.6	0.4 0.5	0.7 0.6	0.6 0.5	0.5 0.5	0.5 0.5	0.5 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.6 0.6	0.6 0.6	0.5 0.6	0.6 0.6	0.5 0.6	0.5 0.5	0.5 0.5	0.5 0.5	0.5 0.5	0.5	0.7
7-Jul	0.5 0.5	0.5 0.5	0.5 0.5	Z SP	0.5 0.5	0.5 0.5	0.5 0.5	0.6 0.6	0.6 0.8	0.8 0.6	0.5 0.5	0.6 0.5	0.5 0.5	0.5 0.5	0.4 0.5	0.5 0.6	0.5 0.5	0.5 0.4	0.4 0.5	0.5 0.5	0.5 0.6	0.6 0.6	0.7 0.7	0.7 0.7	0.5	0.8
8-Jul	0.7 0.7	0.6 0.6	0.7 0.6	0.5 0.5	Z SP	0.4 0.4	0.4 0.4	0.5 0.7	0.7 0.7	0.5 0.6	0.7 0.6	0.5 0.6	0.5 0.6	0.7 0.5	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.5 0.5	0.6 0.6	0.7 0.6	0.6 0.5	0.5 0.5	0.5	0.7
9-Jul	0.4 0.5	0.4 0.5	0.5 0.4	0.4 0.4	0.4 0.5	Z SP	0.4 0.4	0.4 0.4	0.4 0.4	0.3 0.4	0.4 0.3	0.3 0.4	0.3 0.3	0.3 0.4	0.3 0.4	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.4 0.3	0.3 0.3	0.4 0.4	0.4 0.4	0.4 0.4	0.4	0.5
10-Jul	Z SP	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 0.4	0.5 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.5 0.4	0.4 0.5	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.5 0.5	0.5 0.5	0.5 0.5	0.5 0.5	0.4	0.5
11-Jul	0.5 0.5	Z SP	0.5 0.5	0.5 0.5	0.6 0.5	0.8 1.1	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 0.4	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 0.5	0.5 0.5	0.5	1.1
12-Jul	0.5 0.5	0.5 0.5	Z SP	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 0.5	0.5 0.5	0.4 0.4	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	0.5 0.5	0.5 0.6	0.5	0.6
13-Jul	0.6 0.7	0.7 0.7	0.6 0.6	Z SP	0.6 0.7	0.7 0.6	0.6 0.6	0.6 0.5	PF PF	PF PF	PF PF	PF PF	PF PF	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 0.4	0.4 0.4	0.5 0.7	0.6 0.5	0.5 0.5	0.5	0.7
14-Jul	0.5 0.6	0.6 0.6	0.4 0.2	0.2 0.2	Z SP	0.3 0.3	0.2 0.2	0.2 0.2	0.2 0.2	0.2 C	C C	C C	C C	C C	M M	M M	M M	M M	M M	M M	M M	M M	M M	M M	--	0.6
15-Jul	M M	M M	M M	M M	M M	M M	M M	M M	M M	M M	M M	C C	C C	C C	C C	C 0.2	0.2 0.2	0.2 0.2	0.3 0.2	0.2 0.2	0.2 0.2	0.3 0.3	1.0 0.7	0.8 1.1	--	1.1



Wood Buffalo Environmental Association

Summary of 30-Minute Averages

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

Day	Period Ending At (MST)																								Daily Average	Daily Maximum	
	00:30 01:00	01:30 02:00	02:30 03:00	03:30 04:00	04:30 05:00	05:30 06:00	06:30 07:00	07:30 08:00	08:30 09:00	09:30 10:00	10:30 11:00	11:30 12:00	12:30 13:00	13:30 14:00	14:30 15:00	15:30 16:00	16:30 17:00	17:30 18:00	18:30 19:00	19:30 20:00	20:30 21:00	21:30 22:00	22:30 23:00	23:30 24:00			
16-Jul	Z SP 0.6	0.6	0.6	0.5	0.4	0.5	0.5	1.1	1.4	1.1	0.7	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.4	0.5	0.4	0.5	2.1	
17-Jul	0.4	Z SP 0.4	0.5	0.5	0.5	0.4	0.4	0.5	0.6	0.5	0.6	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.4	0.4	0.4	0.4	0.8	
18-Jul	0.3	0.4	Z SP 0.4	0.4	0.4	0.4	0.7	1.3	1.2	1.2	1.0	0.5	0.4	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.4	0.6	0.6	0.5	1.5	
19-Jul	1.0	1.2	1.4	Z SP 1.3	1.3	1.1	0.9	0.8	0.9	1.1	1.2	1.0	0.8	0.3	0.4	0.3	0.3	0.2	0.3	0.3	0.5	0.3	0.3	0.2	0.7	1.6	
20-Jul	0.2	0.3	0.3	0.3	Z SP 0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.4	0.9	0.8	0.3	0.2	0.3	0.3	0.3	0.2	0.3	0.3	0.2	0.3	0.9	
21-Jul	0.1	0.2	0.2	0.3	0.3	Z SP 0.3	0.3	0.2	0.2	0.3	0.2	0.2	0.1	0.3	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3
22-Jul	Z SP 0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.6	
23-Jul	0.3	Z SP 0.3	0.3	0.3	0.4	0.3	0.3	0.7	0.9	0.7	0.6	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.3	0.2	0.2	0.2	0.3	1.0
24-Jul	0.2	0.3	Z SP 0.3	0.3	0.4	0.6	1.1	1.2	1.5	1.4	0.5	0.3	0.4	0.5	0.2	0.8	0.2	0.2	0.2	0.3	0.5	0.2	0.1	0.2	0.2	0.5	2.2
25-Jul	0.2	0.1	0.1	Z SP 0.1	0.1	0.1	0.1	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	0.2	0.2	0.2	0.2	0.2	0.3
26-Jul	0.2	0.2	0.1	0.2	Z SP 0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.3	0.4	0.3	0.4	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.4
27-Jul	0.3	0.3	0.3	0.3	0.3	Z SP 0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3
28-Jul	Z SP 0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.5	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.3	0.6	0.4	0.4	0.3	0.3	0.6		
29-Jul	0.3	Z SP 0.3	0.3	0.2	0.3	0.3	0.6	0.6	0.7	0.6	0.6	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.3	0.7		
30-Jul	0.3	0.4	Z SP 0.3	0.4	0.4	0.3	0.4	0.9	0.4	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.4	0.4	0.9		
31-Jul	0.4	0.4	0.4	Z SP 0.4	0.4	0.5	0.9	5.0	1.2	0.7	0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.4	0.5	0.6	0.6	5.0		
0.4 0.4 0.5 0.4 0.5 0.5 0.5 0.6 0.7 0.5 0.5 0.4 0.3 0.3 0.3 0.4 0.3 0.3 0.3 0.4 0.4 0.4 0.4 0.4 0.4																										Diurnal Average	
1.2 1.2 1.6 1.3 1.3 1.1 1.4 2.2 5.0 1.4 1.2 1.3 0.8 0.9 0.9 0.8 0.6 0.6 0.6 0.7 0.7 0.7 1.0 1.1																										Diurnal Maximum	
Z - zerospan C - Calibration M - Maintenance PF - Power Failure SP - Span																											
Alberta Ambient Air Quality Guideline (AAAQG): 30-Min: 5 ppb																											



Wood Buffalo Environmental Association

Summary of Hour Averages

Total Reduced Sulphur (TRS) - ppb

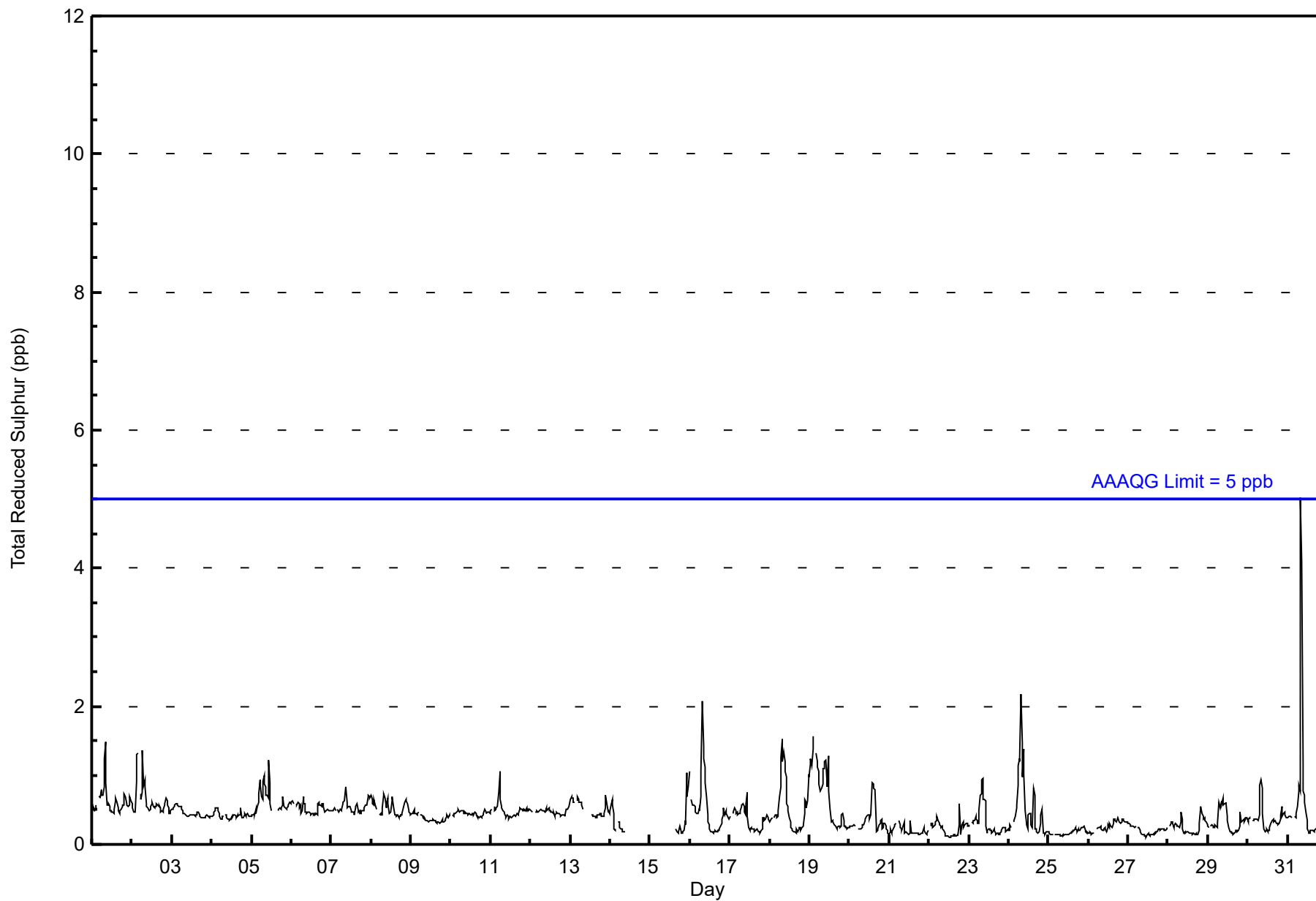
Fort McKay - Bertha Ganter - July 2025

Maximum Value: 4.6 ppb on Jul 31 09:00																			Maximum Daily Average: 0.7 ppb on Jul 19							Hours in Service: 744	
Minimum Value: 0.1 ppb on Jul 22 14:00																			Minimum Daily Average: 0.2 ppb on Jul 25							Hours of Data: 678	
Maximum Diurnal Average: 0.7 ppb at hour 9																			Minimum Diurnal Average: 0.3 ppb at hour 18							Hours of Missing Data: 66	
Monthly Average: 0.43 ppb																			Percentiles: P ₁ = 0.1 P ₁₀ = 0.2 Q ₁ = 0.2 Median = 0.4 Q ₃ = 0.5 P ₉₀ = 0.7 P ₉₉ = 1.3							Hours of Calibration: 36	
																										Percent Operational Time: 96.0	
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-Jul	0.5	0.5	0.5	Z	0.7	0.7	0.7	1.0	1.2	0.6	0.6	0.5	0.5	0.5	0.7	0.6	0.5	0.5	0.6	0.7	0.6	0.6	0.6	0.7	0.6	1.2	
2-Jul	0.6	0.5	0.7	1.3	Z	0.7	1.1	0.9	0.7	0.5	0.5	0.5	0.6	0.5	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.6	0.6	0.5	0.5	1.3	
3-Jul	0.5	0.5	0.6	0.6	0.6	0.5	0.5	0.4	0.4	0.4	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	0.5	0.6	
4-Jul	0.4	0.4	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	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	
5-Jul	0.4	0.4	0.5	0.5	0.7	0.9	0.7	1.0	0.9	0.7	1.0	0.7	M	M	M	M	0.5	0.5	0.5	0.6	0.5	0.5	0.6	0.6	0.6	1.0	
6-Jul	0.6	0.6	Z	0.6	0.6	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.6	
7-Jul	0.5	0.5	0.5	Z	0.5	0.5	0.5	0.6	0.7	0.7	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.6	0.7	0.7	0.5	0.7	
8-Jul	0.7	0.6	0.6	0.5	Z	0.4	0.4	0.6	0.7	0.6	0.6	0.5	0.5	0.6	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.6	0.5	0.5	0.5	0.7	
9-Jul	0.4	0.5	0.5	0.4	0.5	Z	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.5	
10-Jul	Z	0.4	0.4	0.5	0.5	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	0.5	0.5	0.5	0.4	0.5	
11-Jul	0.5	Z	0.5	0.5	0.5	0.9	0.6	0.5	0.5	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	0.9	
12-Jul	0.5	0.5	Z	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	
13-Jul	0.7	0.7	0.6	Z	0.7	0.6	0.6	0.5	PF	PF	PF	PF	PF	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.6	0.5	0.5	0.5	0.7	
14-Jul	0.5	0.6	0.3	0.2	Z	0.3	0.2	0.2	0.2	0.2	C	C	C	C	M	M	M	M	M	M	M	M	M	M	M	0.6	
15-Jul	M	M	M	M	M	M	M	M	M	M	M	C	C	C	C	C	0.2	0.2	0.2	0.2	0.2	0.3	0.9	0.9	0.9		
16-Jul	Z	0.6	0.6	0.5	0.5	0.5	0.6	1.6	1.3	1.0	0.6	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.5	0.5	0.4	0.4	0.5	1.6	
17-Jul	0.4	Z	0.5	0.5	0.5	0.4	0.5	0.6	0.6	0.5	0.7	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.4	0.4	0.4	0.4	0.7	
18-Jul	0.3	0.4	Z	0.4	0.4	0.4	0.8	1.4	1.3	1.1	0.8	0.5	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.5	0.6	0.8	0.5	1.4	
19-Jul	1.1	1.2	1.5	Z	1.3	1.1	0.8	0.8	1.0	1.1	1.0	1.1	0.6	0.3	0.3	0.3	0.2	0.3	0.2	0.3	0.4	0.3	0.2	0.2	0.7	1.5	
20-Jul	0.3	0.3	0.3	0.3	Z	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.4	0.7	0.9	0.8	0.2	0.2	0.3	0.4	0.2	0.3	0.2	0.2	0.3	0.9	
21-Jul	0.2	0.2	0.2	0.3	0.3	Z	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	
22-Jul	Z	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.4	0.2	0.3	0.3	0.3	0.3	0.2	0.4	
23-Jul	0.3	Z	0.3	0.3	0.4	0.3	0.4	0.7	0.9	0.7	0.5	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	0.9	
24-Jul	0.2	0.3	Z	0.3	0.5	0.7	1.2	1.7	1.2	1.2	0.4	0.3	0.4	0.4	0.2	0.8	0.2	0.2	0.2	0.4	0.5	0.2	0.2	0.2	0.5	1.7	
25-Jul	0.2	0.1	0.1	Z	0.1	0.1	0.1	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	0.2	0.2	0.2	0.2	0.2	
26-Jul	0.2	0.2	0.2	0.2	Z	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.3	0.4	0.4	0.4	0.3	0.3	0.4	0.3	0.3	0.3	0.4	
27-Jul	0.3	0.3	0.3	0.3	0.3	Z	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	0.2	0.2	0.2	0.2	0.2	0.3	
28-Jul	Z	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.4	0.5	0.4	0.4	0.3	0.3	0.5	
29-Jul	0.3	Z	0.3	0.3	0.3	0.3	0.5	0.6	0.6	0.6	0.6	0.5	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.3	0.4	0.3	0.4	0.3	0.6	
30-Jul	0.3	0.4	Z	0.3	0.4	0.4	0.3	0.6	0.9	0.3	0.2	0.2	0.2	0.2	0.3	0.4	0.3	0.3	0.3	0.3	0.5	0.4	0.4	0.4	0.4	0.9	
31-Jul	0.4	0.4	0.4	Z	0.4	0.4	0.7	0.8	4.6	1.0	0.7	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.4	0.5	0.6	0.6	4.6	
Diurnal Average																									Diurnal Maximum		
Diurnal Maximum																											
Z - zerospan C - Calibration M - Maintenance PF - Power Failure																											
Alberta Ambient Air Quality Objective (AAAQO): 1-hour NA 24-hr NA																											



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	677	99.85	99.85
3 - 4	0	0.00	99.85
5 - 7	1	0.15	100.00
8 - 11	0	0.00	100.00
> 11	0	0.00	100.00

Total Number of Valid Hours: 678

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Total Reduced Sulphur (TRS) - ppb
Fort McKay - Bertha Ganter - July 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	69	29	14	8	0	7	38	110	70	33	50	46	55	54	44	46	673
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	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	69	29	14	8	0	7	38	111	70	33	50	46	55	54	44	46	674

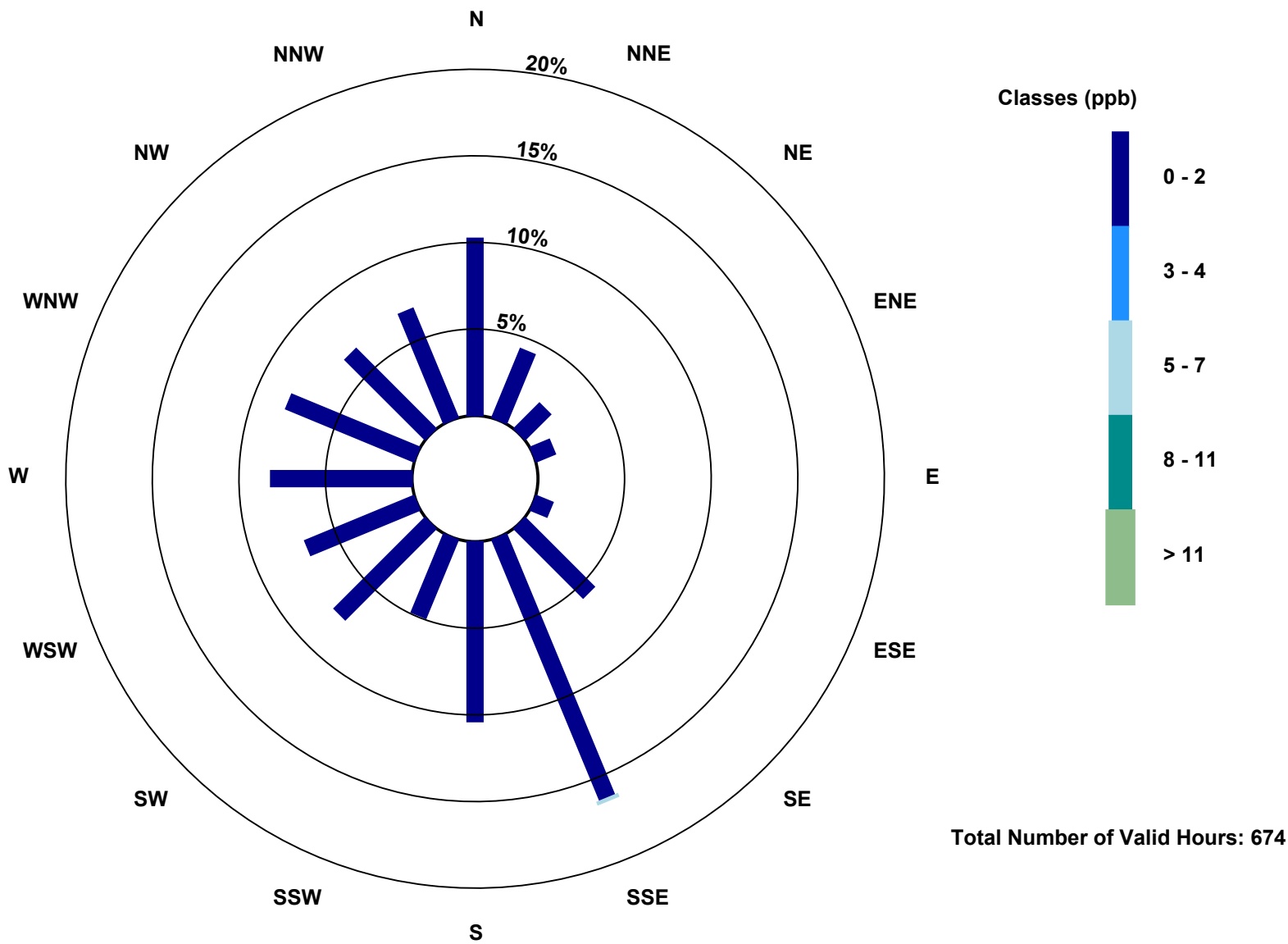
Total Number of Valid Hours: 674

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

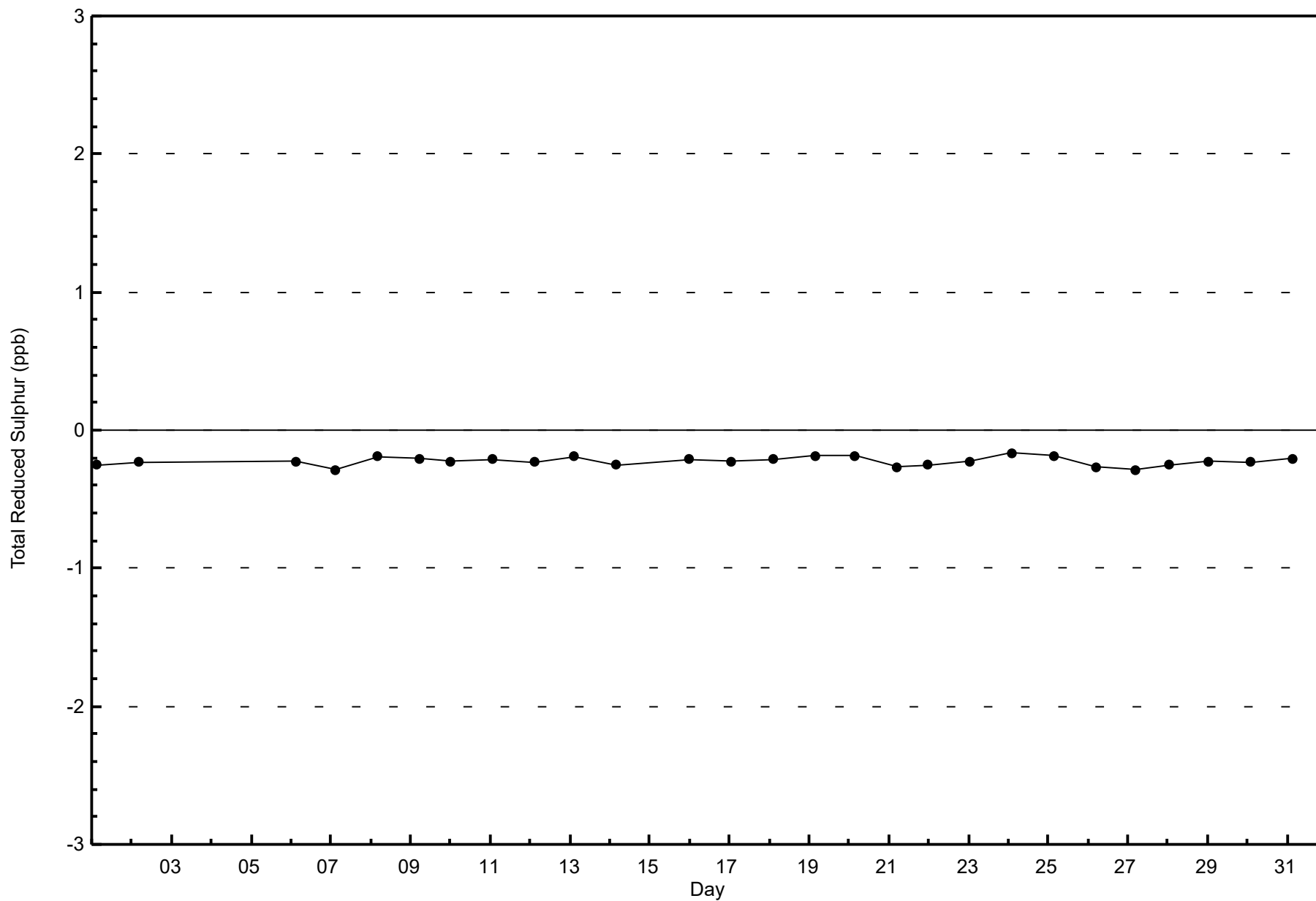
Total Reduced Sulphur (TRS) - ppb
Fort McKay - Bertha Ganter





Wood Buffalo Environmental Association
Zero Responses

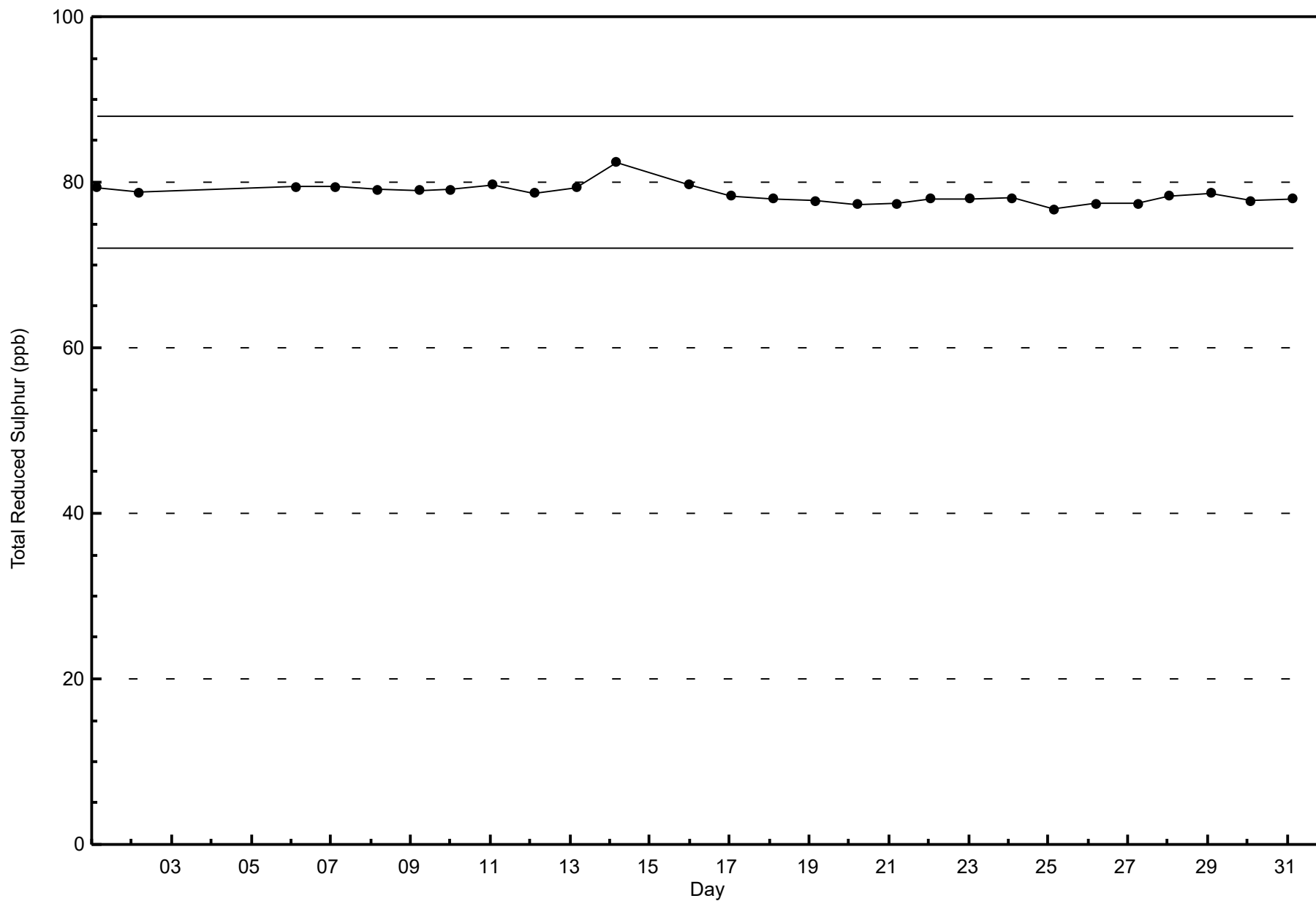
Total Reduced Sulphur (TRS) - ppb
Fort McKay - Bertha Ganter - July 2025





Wood Buffalo Environmental Association
Span Responses

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





Wood Buffalo Environmental Association

Summary of Hour Averages

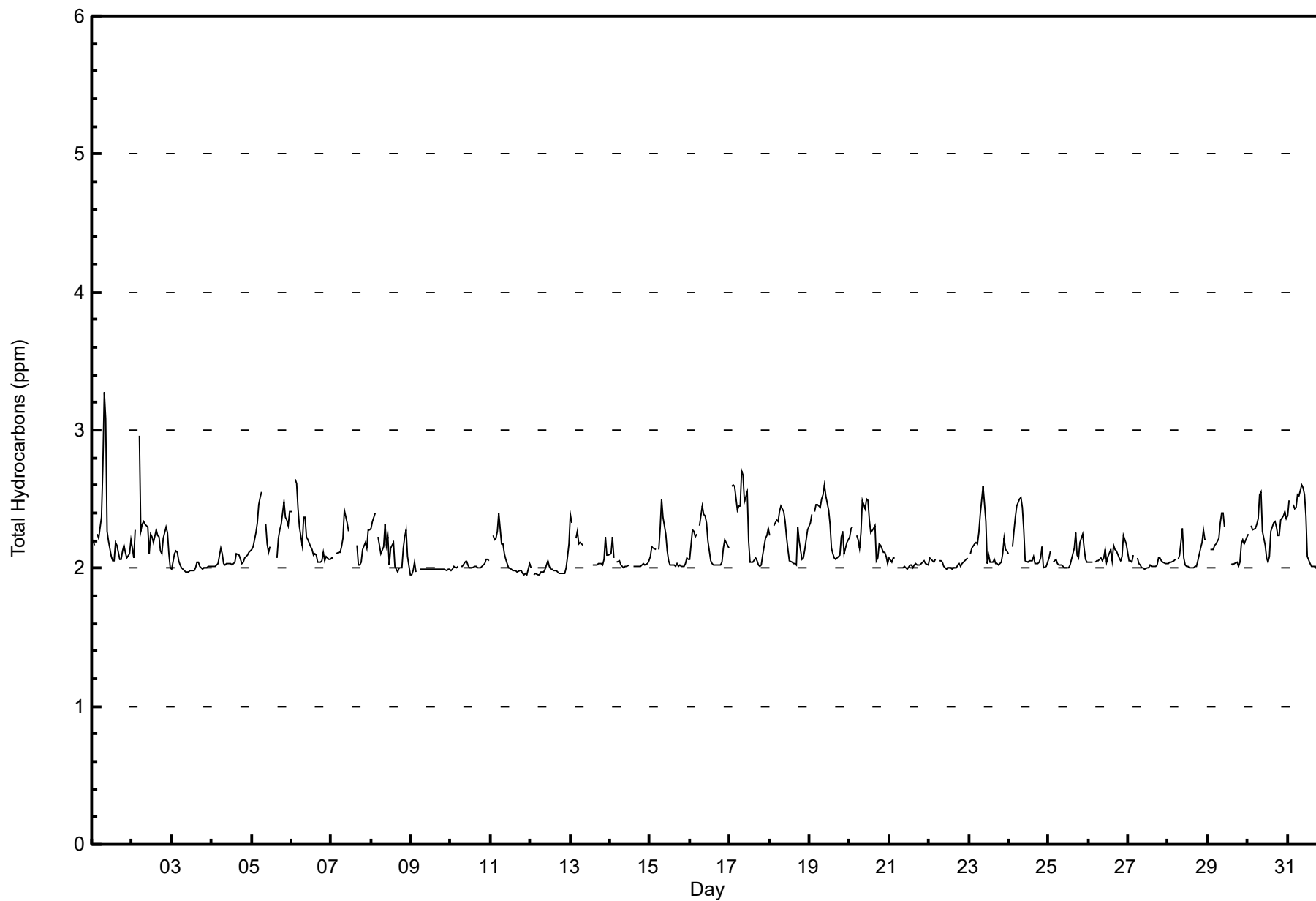
Total Hydrocarbons (THC) - ppm Fort McKay - Bertha Ganter - July 2025

Maximum Value: 3.3 ppm on Jul 1 08:00																			Maximum Daily Average: 2.3 ppm on Jul 31																			Hours in Service: 744	
Minimum Value: 2.0 ppm on Jul 11 21:00																			Minimum Daily Average: 2.0 ppm on Jul 9																			Hours of Data: 698	
Maximum Diurnal Average: 2.3 ppm at hour 9																			Minimum Diurnal Average: 2.1 ppm at hour 14																			Hours of Missing Data: 46	
Monthly Average: 2.14 ppm																			Percentiles: P ₁ = 2.0 P ₁₀ = 2.0 Q ₁ = 2.0 Median = 2.1 Q ₃ = 2.2 P ₉₀ = 2.4 P ₉₉ = 2.6																			Hours of Calibration: 32	
																																						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-Jul	2.2	2.2	Z	2.2	2.2	2.4	2.7	3.3	3.1	2.3	2.2	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.2	2.3	3.3													
2-Jul	2.1	2.1	2.3	Z	3.0	2.3	2.3	2.3	2.3	2.3	2.1	2.2	2.2	2.2	2.3	2.2	2.2	2.1	2.1	2.2	2.3	2.3	2.1	2.0	2.2	3.0													
3-Jul	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	2.0	2.0	2.0	2.0	2.0	2.0	2.1													
4-Jul	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	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1													
5-Jul	2.1	2.2	2.3	2.3	2.5	2.5	2.6	M	2.3	2.2	2.1	2.2	M	M	M	2.1	2.2	2.3	2.3	2.5	2.4	2.3	2.3	2.4	2.3	2.6													
6-Jul	2.4	Z	2.6	2.6	2.4	2.3	2.2	2.4	2.4	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.2	2.6													
7-Jul	2.1	2.1	Z	2.1	2.1	2.1	2.2	2.2	2.4	2.3	2.3	C	C	C	C	2.2	2.0	2.0	2.0	2.1	2.2	2.1	2.3	2.3	2.2	2.4													
8-Jul	2.3	2.3	2.4	Z	2.2	2.2	2.1	2.2	2.3	2.2	2.2	2.0	2.1	2.2	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.3	2.1	2.0	2.1	2.4													
9-Jul	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													
10-Jul	2.0	2.0	2.0	2.0	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	2.1	2.1	2.1	2.0	2.1													
11-Jul	Z	2.2	2.2	2.2	2.3	2.4	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	2.1	2.4													
12-Jul	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	2.1	2.2	2.0	2.2													
13-Jul	2.4	2.3	Z	2.2	2.3	2.2	2.2	2.2	PF	PF	PF	PF	PF	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.1	2.1	2.1	2.1													
14-Jul	2.1	2.2	2.1	Z	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	M	M	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.2	2.2													
15-Jul	2.1	2.2	2.1	2.1	Z	2.1	2.3	2.5	2.4	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	2.1	2.1	2.1	2.5													
16-Jul	2.1	2.3	2.3	2.2	2.3	Z	2.3	2.5	2.4	2.4	2.3	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.2	2.1	2.2	2.5													
17-Jul	Z	2.6	2.6	2.6	2.4	2.5	2.4	2.7	2.7	2.5	2.6	2.2	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.1	2.2	2.2	2.3	2.3	2.7													
18-Jul	2.2	Z	2.3	2.3	2.4	2.3	2.4	2.5	2.4	2.3	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.3	2.2	2.1	2.1	2.1	2.2	2.3	2.2	2.5													
19-Jul	2.3	2.4	Z	2.4	2.5	2.5	2.4	2.5	2.5	2.6	2.5	2.4	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.1	2.2	2.2	2.3	2.6													
20-Jul	2.2	2.3	2.3	Z	2.2	2.2	2.1	2.3	2.5	2.4	2.5	2.5	2.4	2.3	2.3	2.3	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.0	2.2	2.5													
21-Jul	2.1	2.0	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	2.0	2.0	2.0	2.1													
22-Jul	2.1	2.1	2.1	2.0	2.1	Z	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	2.1	2.1	2.0	2.1													
23-Jul	Z	2.1	2.1	2.2	2.2	2.2	2.3	2.4	2.6	2.5	2.3	2.0	2.1	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.1	2.2	2.1	2.1	2.2	2.6													
24-Jul	2.1	Z	2.2	2.3	2.4	2.5	2.5	2.5	2.4	2.3	2.1	2.0	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.2	2.0	2.0	2.0	2.2	2.5													
25-Jul	2.1	2.1	Z	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.3	2.1	2.1	2.2	2.3	2.1	2.1	2.0	2.1	2.3													
26-Jul	2.0	2.0	2.0	Z	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.1	2.2													
27-Jul	2.1	2.1	2.0	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	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.1													
28-Jul	2.0	2.0	2.0	2.1	2.1	Z	2.1	2.1	2.3	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.3	2.2	2.2	2.1	2.3													
29-Jul	Z	2.1	2.1	2.1	2.2	2.2	2.2	2.3	2.4	2.4	2.3	M	M	M	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.2	2.2	2.2	2.2	2.4													
30-Jul	2.2	Z	2.3	2.3	2.3	2.3	2.4	2.5	2.5	2.3	2.2	2.1	2.0	2.1	2.3	2.3	2.3	2.3	2.2	2.2	2.3	2.4	2.4	2.4	2.3	2.5													
31-Jul	2.4	2.5	Z	2.5	2.4	2.4	2.5	2.5	2.6	2.6	2.5	2.4	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.3	2.3	2.4	2.6	2.3	2.6													
2.1 2.2 2.2 2.2 2.2 2.2 2.2 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 2.1 2.1 2.1 2.1																										Diurnal Average													
2.4 2.6 2.6 2.6 3.0 2.5 2.7 3.3 3.1 2.6 2.6 2.5 2.4 2.3 2.3 2.3 2.3 2.3 2.3 2.5 2.4 2.4 2.4 2.6																										Diurnal Maximum													
Z - zerospan C - Calibration M - Maintenance PF - Power Failure																																							



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	281	40.26	40.26
2.1 - 3.0	415	59.46	99.71
3.1 - 10.0	2	0.29	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 698

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Total Hydrocarbons (THC) - ppm
Fort McKay - Bertha Ganter - July 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	30	8	3	3	0	3	8	25	27	14	28	25	24	31	25	27	281
2.1 - 3.0	46	21	11	5	0	4	28	87	45	20	23	24	34	22	22	19	411
3.1 - 10.0	2	0	0	0	0	0	0	0	0	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	78	29	14	8	0	7	36	112	72	34	51	49	58	53	47	46	694

Total Number of Valid Hours: 694

Total Number of Hours: 744

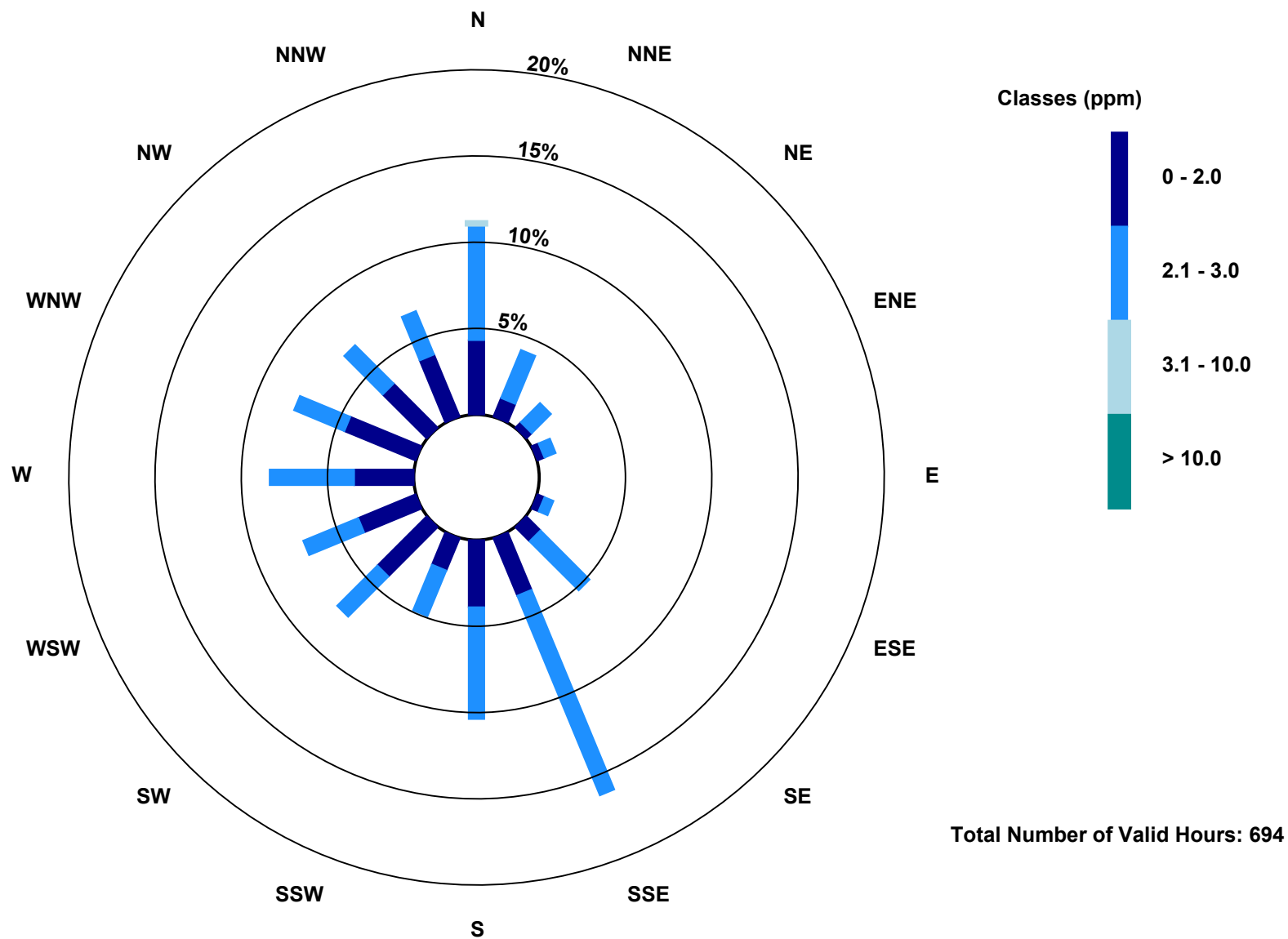


Wood Buffalo Environmental Association

Wind Rose Jul 2025

Total Hydrocarbons (THC) - ppm

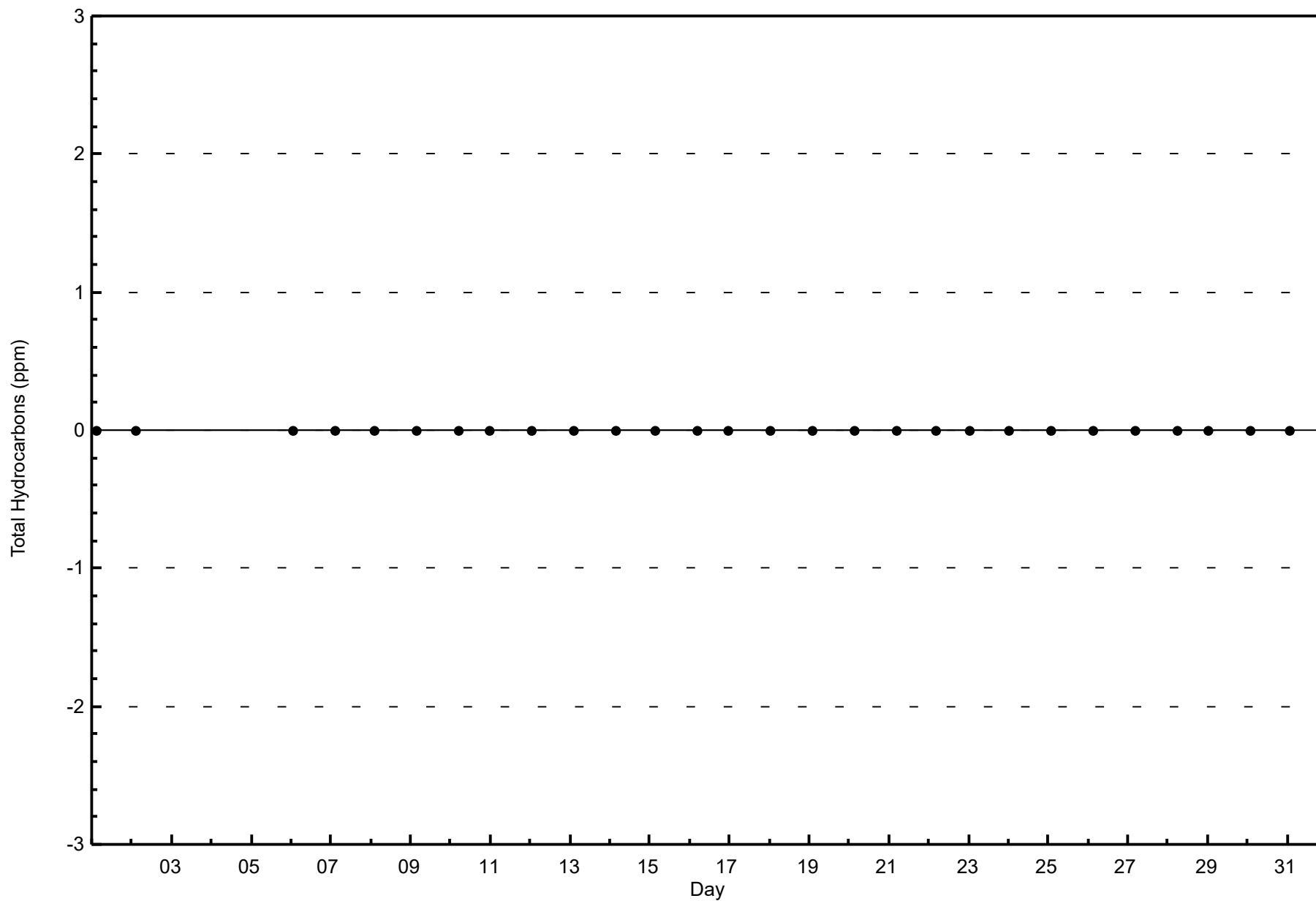
Fort McKay - Bertha Ganter





Wood Buffalo Environmental Association
Zero Responses

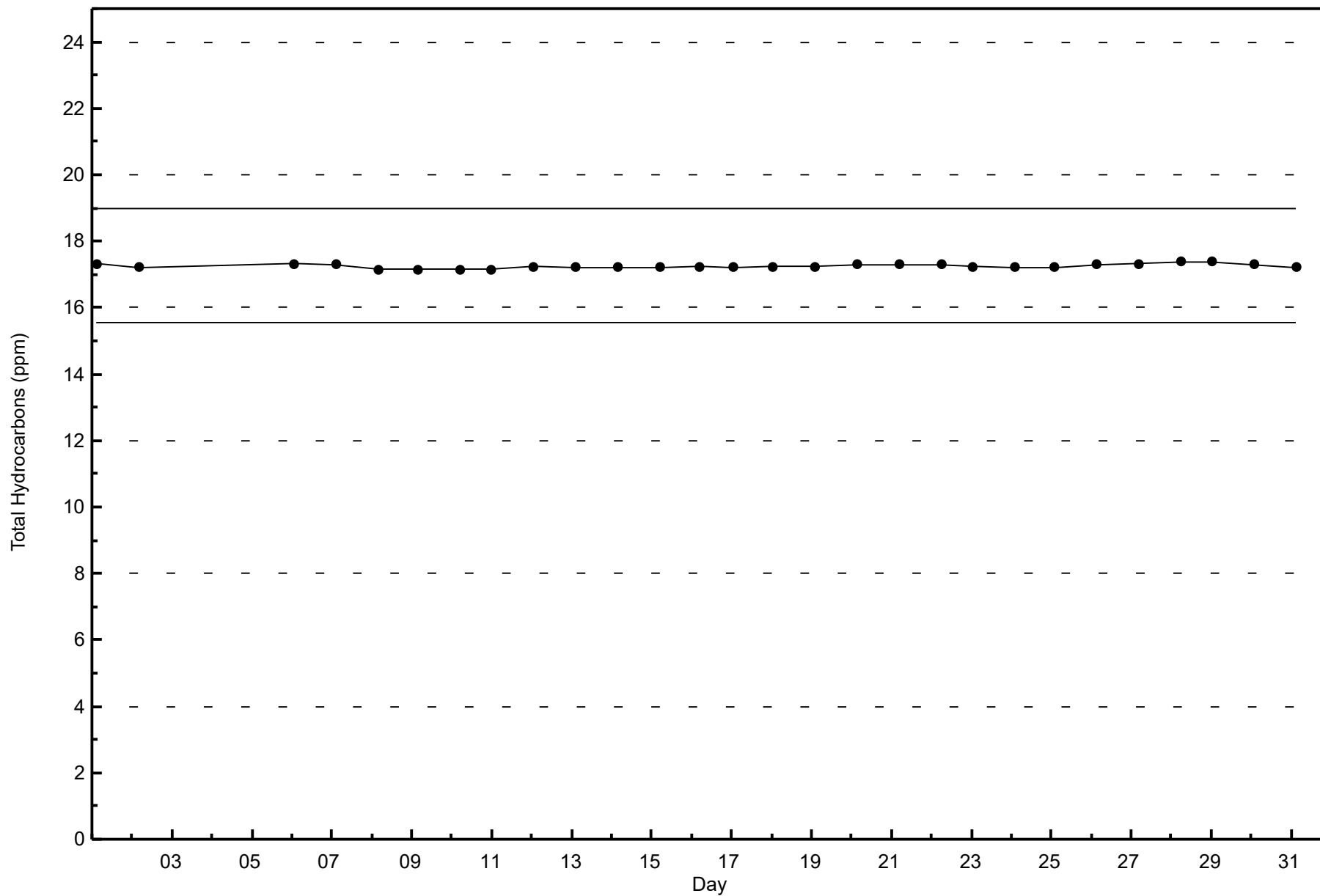
Total Hydrocarbons (THC) - ppm
Fort McKay - Bertha Ganter - July 2025





Wood Buffalo Environmental Association
Span Responses

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Non Methane Hydrocarbons (NMHC) - ppm

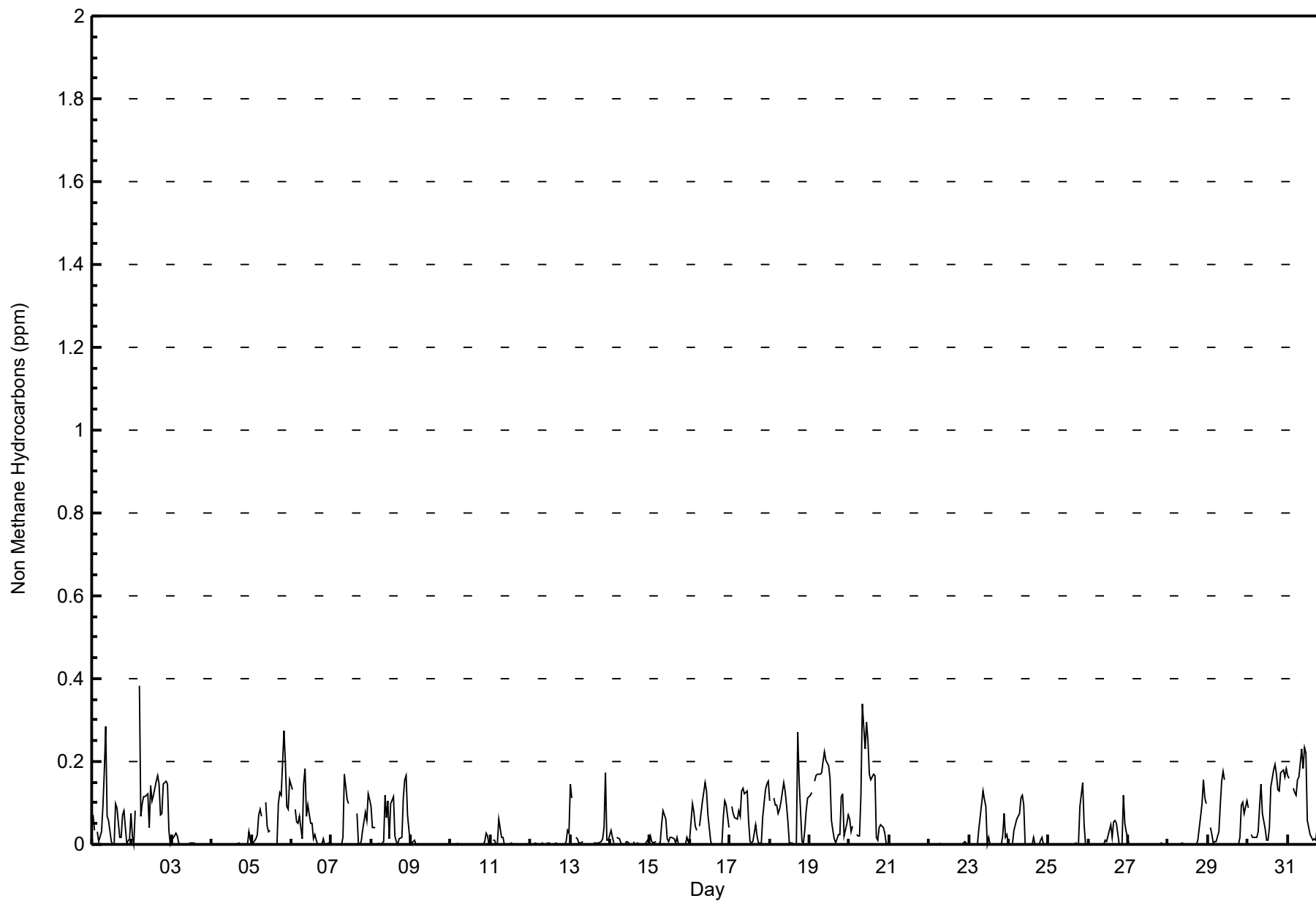
Fort McKay - Bertha Ganter - July 2025

Maximum Value: 0.384 ppm on Jul 2 05:00																			Maximum Daily Average: 0.127 ppm on Jul 31																			Hours in Service: 744	
Minimum Value: 0.000 ppm on Jul 1 13:00																			Minimum Daily Average: 0.000 ppm on Jul 21																			Hours of Data: 698	
Maximum Diurnal Average: 0.093 ppm at hour 9																			Minimum Diurnal Average: 0.019 ppm at hour 17																			Hours of Missing Data: 46	
Monthly Average: 0.041 ppm																			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 = 0.2																			Hours of Calibration: 32	
																																						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-Jul	0.070	0.035	Z	0.030	0.005	0.029	0.092	0.175	0.284	0.068	0.057	0.005	0.000	0.000	0.098	0.089	0.017	0.016	0.072	0.082	0.039	0.002	0.014	0.073	0.059	0.284													
2-Jul	0.020	0.000	0.082	Z	0.384	0.066	0.098	0.114	0.117	0.121	0.039	0.144	0.105	0.119	0.152	0.165	0.146	0.072	0.076	0.146	0.152	0.147	0.033	0.000	0.109	0.384													
3-Jul	0.010	0.021	0.028	0.021	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.002	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.028													
4-Jul	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.001	0.000	0.000	0.000	0.000	0.030	0.010	0.002	0.030													
5-Jul	0.000	0.004	0.013	0.025	0.072	0.083	0.069	M	0.103	0.043	0.030	0.035	M	M	M	0.001	0.099	0.124	0.119	0.275	0.195	0.091	0.086	0.154	0.081	0.275													
6-Jul	0.133	Z	0.085	0.053	0.050	0.068	0.014	0.145	0.183	0.069	0.094	0.051	0.050	0.015	0.025	0.011	0.000	0.000	0.000	0.015	0.000	0.000	0.002	0.000	0.046	0.183													
7-Jul	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.016	0.168	0.109	0.099	C	C	C	C	0.076	0.002	0.000	0.007	0.034	0.079	0.057	0.124	0.108	0.046	0.168													
8-Jul	0.091	0.040	0.042	Z	0.002	0.002	0.000	0.006	0.119	0.064	0.107	0.015	0.098	0.114	0.019	0.008	0.000	0.013	0.016	0.113	0.157	0.168	0.072	0.000	0.055	0.168													
9-Jul	0.002	0.005	0.009	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	0.001	0.009													
10-Jul	0.000	0.000	0.000	0.000	0.002	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	0.027	0.021	0.001	0.002	0.027													
11-Jul	Z	0.009	0.011	0.000	0.001	0.062	0.018	0.018	0.001	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	0.005	0.062													
12-Jul	0.000	Z	0.000	0.003	0.000	0.000	0.000	0.004	0.000	0.000	0.002	0.002	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.007	0.034	0.026	0.004	0.034													
13-Jul	0.145	0.112	Z	0.019	0.015	0.004	0.004	0.007	PF	PF	PF	PF	PF	PF	0.001	0.005	0.002	0.003	0.003	0.006	0.014	0.041	0.172	0.011	0.010	0.032	0.172												
14-Jul	0.033	0.016	0.004	Z	0.016	0.014	0.003	0.000	0.000	0.000	0.006	0.004	M	M	0.006	0.000	0.005	0.000	0.002	0.000	0.000	0.000	0.009	0.002	0.006	0.033													
15-Jul	0.020	0.007	0.005	0.007	Z	0.004	0.004	0.047	0.081	0.060	0.013	0.007	0.016	0.018	0.014	0.002	0.018	0.000	0.000	0.000	0.000	0.000	0.016	0.008	0.015	0.081													
16-Jul	0.015	0.099	0.079	0.044	0.033	Z	0.045	0.101	0.125	0.150	0.128	0.072	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.069	0.104	0.095	0.041	0.053	0.150													
17-Jul	Z	0.092	0.073	0.065	0.062	0.082	0.068	0.128	0.135	0.124	0.128	0.054	0.006	0.002	0.007	0.046	0.021	0.003	0.003	0.000	0.065	0.131	0.147	0.154	0.069	0.154													
18-Jul	0.105	Z	0.112	0.096	0.096	0.075	0.086	0.102	0.149	0.127	0.095	0.054	0.002	0.005	0.000	0.000	0.000	0.270	0.154	0.006	0.002	0.036	0.082	0.110	0.077	0.270													
19-Jul	0.120	0.124	Z	0.152	0.165	0.170	0.169	0.172	0.200	0.222	0.205	0.190	0.159	0.058	0.035	0.014	0.003	0.023	0.023	0.116	0.123	0.022	0.052	0.073	0.113	0.222													
20-Jul	0.062	0.030	0.043	Z	0.025	0.020	0.022	0.119	0.338	0.230	0.294	0.251	0.171	0.156	0.170	0.167	0.016	0.009	0.041	0.048	0.041	0.027	0.005	0.000	0.099	0.338													
21-Jul	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													
22-Jul	0.000	0.000	0.000	0.000	0.000	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	0.000	0.000	0.007	0.002	0.001	0.001	0.007													
23-Jul	Z	0.000	0.000	0.002	0.000	0.000	0.038	0.068	0.129	0.109	0.093	0.000	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.020	0.073	0.018	0.025	0.026	0.129													
24-Jul	0.003	Z	0.002	0.033	0.046	0.060	0.074	0.110	0.120	0.093	0.000	0.000	0.000	0.000	0.000	0.016	0.000	0.000	0.000	0.009	0.018	0.000	0.000	0.000	0.025	0.120													
25-Jul	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	0.003	0.001	0.002	0.093	0.148	0.047	0.000	0.000	0.013	0.148													
26-Jul	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.002	0.010	0.008	0.022	0.047	0.016	0.054	0.057	0.049	0.000	0.002	0.000	0.120	0.050	0.030	0.020	0.120													
27-Jul	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	0.003	0.000	0.000	0.000	0.000	0.003													
28-Jul	0.000	0.000	0.000	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	0.009	0.066	0.099	0.158	0.111	0.097	0.024	0.158													
29-Jul	Z	0.039	0.023	0.004	0.008	0.008	0.031	0.094	0.153	0.177	0.157	M	M	M	0.000	0.000	0.000	0.000	0.000	0.015	0.094	0.102	0.076	0.106	0.054	0.177													
30-Jul	0.089	Z	0.023	0.017	0.016	0.016	0.030	0.092	0.146	0.075	0.037	0.012	0.010	0.041	0.139	0.180	0.194	0.170	0.132	0.129	0.174	0.180	0.161	0.184	0.098	0.194													
31-Jul	0.167	0.160	Z	0.136	0.125	0.120	0.156	0.161	0.230	0.184	0.233	0.219	0.056	0.024	0.016	0.009	0.015	0.009	0.040	0.177	0.176	0.148	0.181	0.188	0.127	0.233													
0.040 0.030 0.025 0.027 0.042 0.033 0.033 0.056 0.093 0.068 0.061 0.040 0.028 0.022 0.024 0.027 0.019 0.025 0.023 0.043 0.055 0.059 0.046 0.045																										Diurnal Average													
0.167 0.160 0.112 0.152 0.384 0.170 0.169 0.175 0.338 0.230 0.294 0.251 0.171 0.156 0.170 0.180 0.194 0.270 0.154 0.275 0.195 0.180 0.181 0.188																										Diurnal Maximum													
Z - zerospan C - Calibration M - Maintenance PF - Power Failure																																							



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 0.005	352	50.43	50.43
0.006 - 0.05	152	21.78	72.21
0.06 - 0.1	135	19.34	91.55
> 0.1	59	8.45	100.00

Total Number of Valid Hours: 698

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Non Methane Hydrocarbons (NMHC) - ppm
Fort McKay - Bertha Ganter - July 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	36	7	5	2	0	2	12	32	31	22	32	32	38	38	32	31	352
0.006 - 0.05	20	11	3	3	0	2	8	23	22	7	11	8	8	5	10	11	152
0.06 - 0.1	14	7	4	2	0	3	11	37	14	5	7	7	8	5	5	3	132
> 0.1	8	4	2	1	0	0	5	20	5	0	1	2	4	5	0	1	58
Totals	78	29	14	8	0	7	36	112	72	34	51	49	58	53	47	46	694

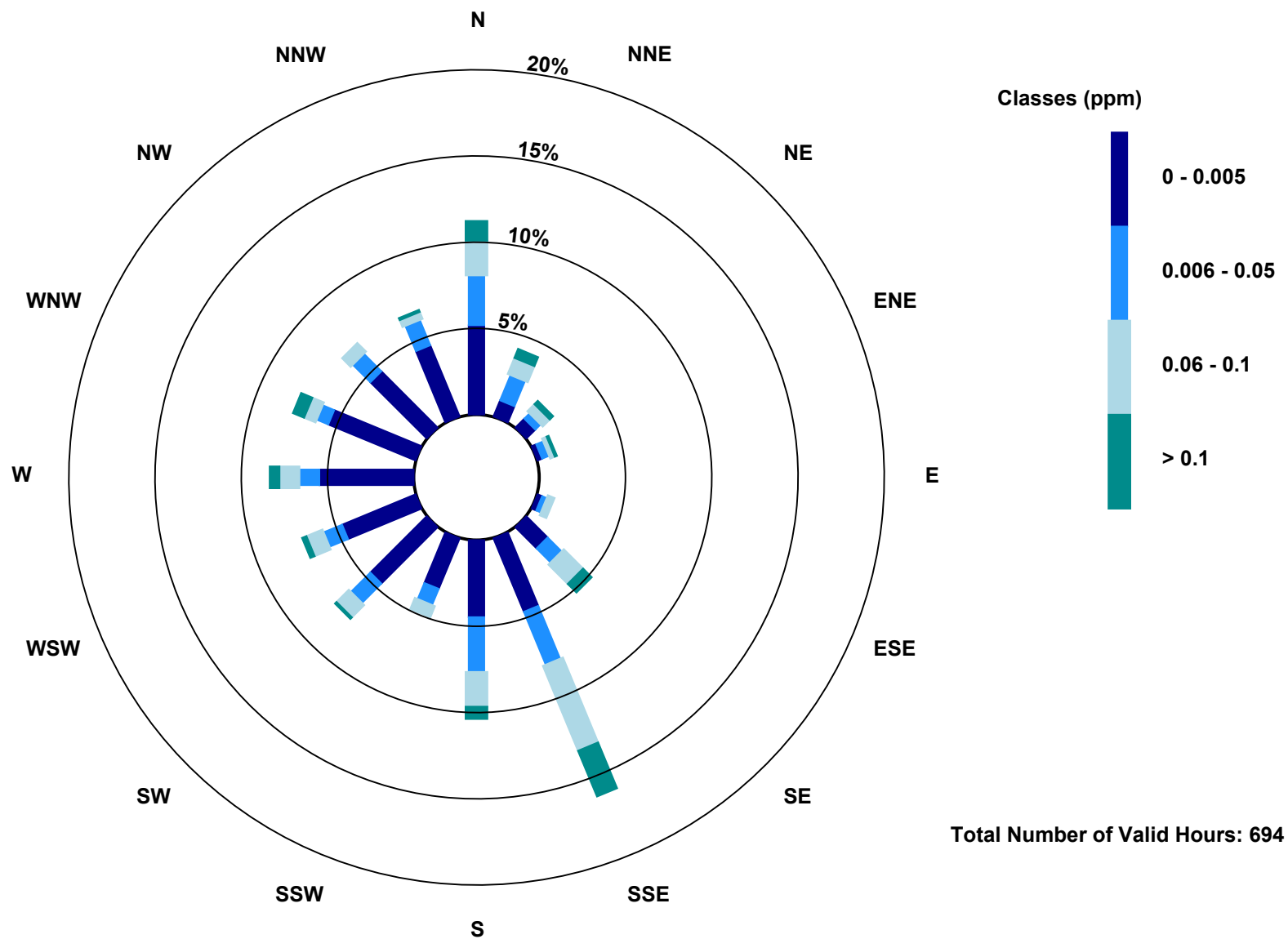
Total Number of Valid Hours: 694

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

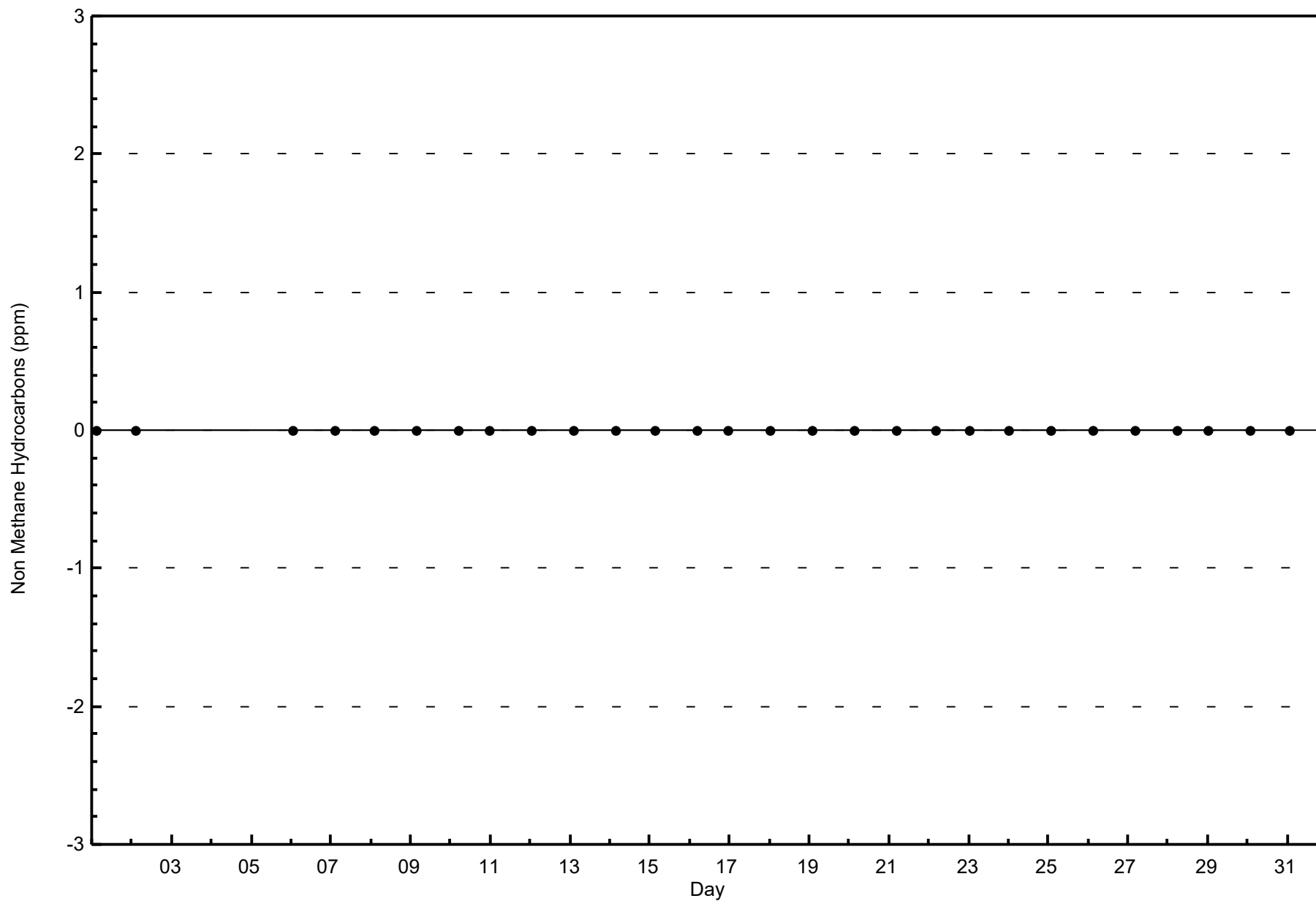
Non Methane Hydrocarbons (NMHC) - ppm
Fort McKay - Bertha Ganter





Wood Buffalo Environmental Association
Zero Responses

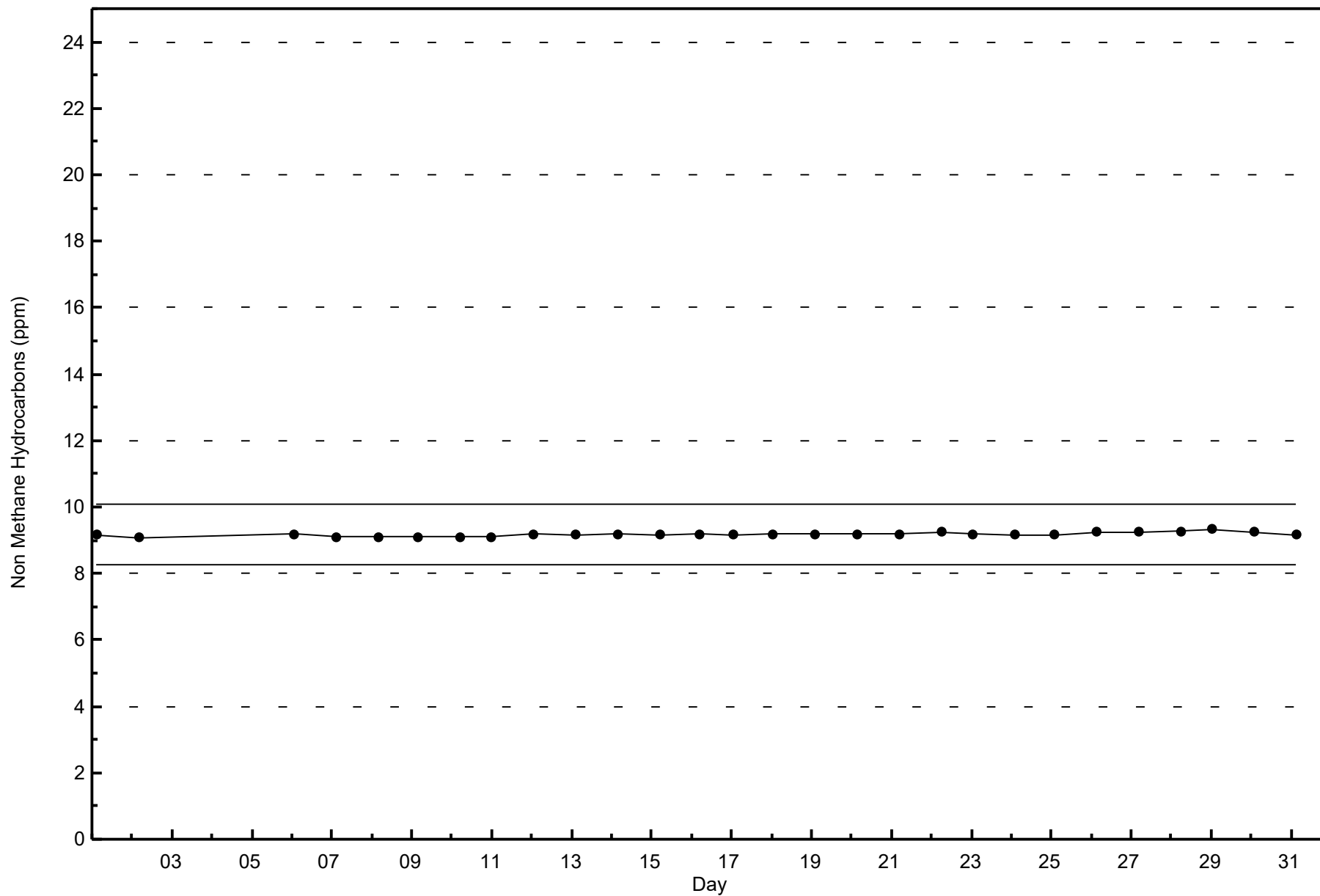
Non Methane Hydrocarbons (NMHC) - ppm
Fort McKay - Bertha Ganter - July 2025





Wood Buffalo Environmental Association
Span Responses

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Methane (CH₄) - ppm

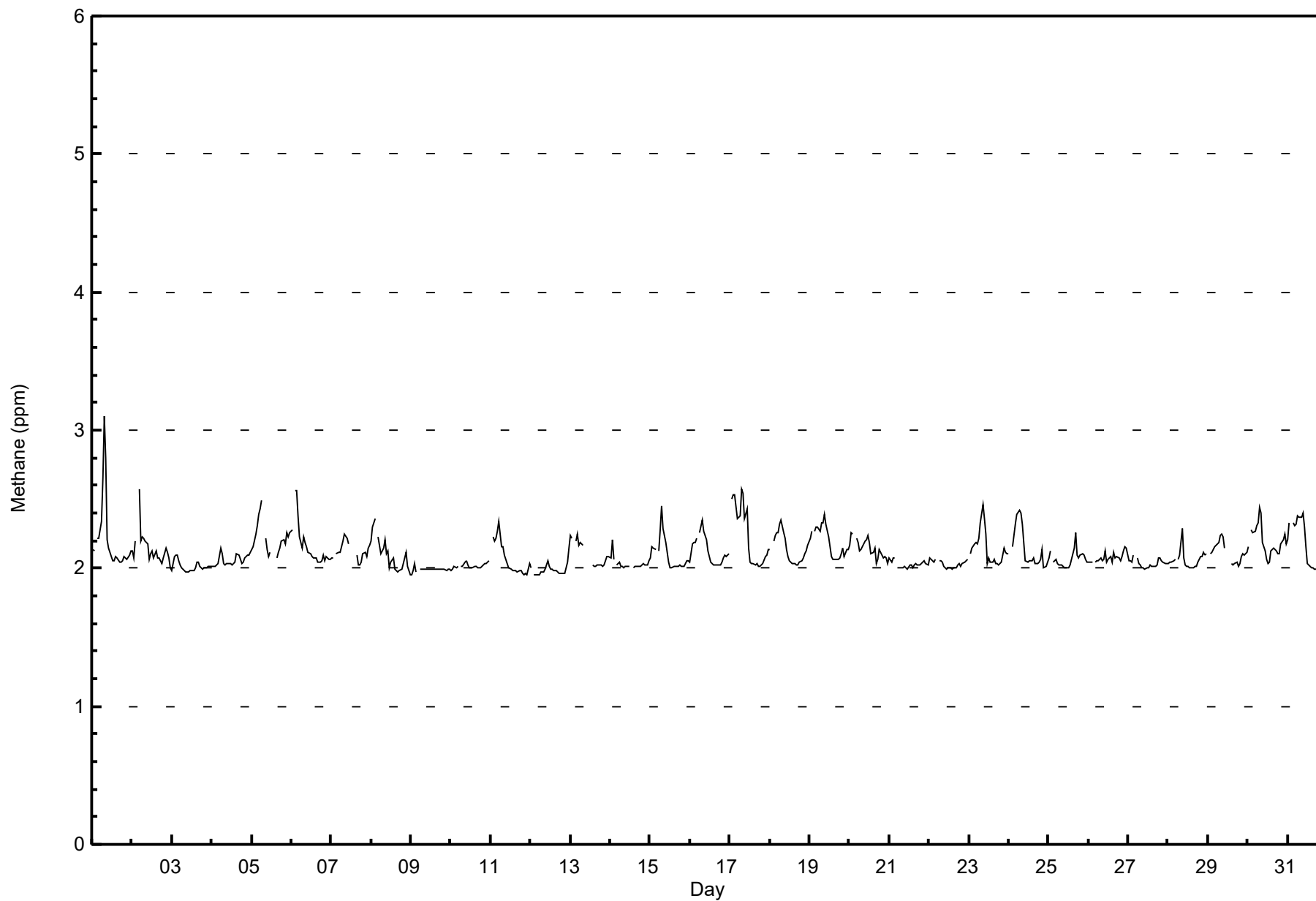
Fort McKay - Bertha Ganter - July 2025

Number of Exceedences (AAAQO): Maximum Value: 3.1 ppm on Jul 1 08:00																	1-hr: 0 24-hr: 0 Maximum Daily Average: 2.2 ppm on Jul 17										Hours in Service: 744	
Minimum Value: 2.0 ppm on Jul 11 21:00 Maximum Diurnal Average: 2.2 ppm at hour 8 Monthly Average: 2.10 ppm																	Minimum Daily Average: 2.0 ppm on Jul 12 Minimum Diurnal Average: 2.0 ppm at hour 14 Percentiles: P ₁ = 2.0 P ₁₀ = 2.0 Q ₁ = 2.0 Median = 2.1 Q ₃ = 2.1 P ₉₀ = 2.3 P ₉₉ = 2.5										Hours of Data: 698	
																											Hours of Missing Data: 46	
																											Hours of Calibration: 32	
																											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-Jul	2.1	2.1	Z	2.2	2.2	2.3	2.7	3.1	2.8	2.2	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	2.2	3.1		
2-Jul	2.1	2.1	2.2	Z	2.6	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	2.0	2.1	2.1	2.1	2.1	2.0	2.1	2.6		
3-Jul	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	2.0	2.0	2.0	2.0	2.0	2.0	2.1		
4-Jul	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	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1		
5-Jul	2.1	2.2	2.2	2.3	2.4	2.4	2.5	M	2.2	2.1	2.1	2.1	M	M	M	2.1	2.1	2.1	2.2	2.2	2.2	2.3	2.2	2.3	2.2	2.5		
6-Jul	2.3	Z	2.6	2.6	2.4	2.2	2.1	2.2	2.2	2.2	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	2.2	2.6		
7-Jul	2.1	2.1	Z	2.1	2.1	2.1	2.2	2.2	2.3	2.2	2.2	C	C	C	C	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.1	2.3		
8-Jul	2.2	2.3	2.4	Z	2.2	2.2	2.1	2.1	2.2	2.1	2.1	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.1	2.4		
9-Jul	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		
10-Jul	2.0	2.0	2.0	2.0	2.0	Z	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	2.1	2.0	2.1		
11-Jul	Z	2.2	2.2	2.2	2.3	2.3	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	2.1	2.3		
12-Jul	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	2.1	2.0	2.1		
13-Jul	2.2	2.2	Z	2.2	2.3	2.2	2.2	2.2	PF	PF	PF	PF	PF	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.3		
14-Jul	2.1	2.2	2.1	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	M	M	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.2		
15-Jul	2.1	2.2	2.1	2.1	Z	2.1	2.3	2.5	2.3	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	2.1	2.1	2.5		
16-Jul	2.0	2.2	2.2	2.2	2.2	Z	2.3	2.4	2.3	2.2	2.2	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	2.4		
17-Jul	Z	2.5	2.5	2.5	2.4	2.4	2.4	2.6	2.5	2.4	2.4	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	2.2	2.6		
18-Jul	2.1	Z	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.2	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	2.2	2.1	2.3		
19-Jul	2.2	2.3	Z	2.3	2.3	2.3	2.3	2.3	2.3	2.3	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	2.2	2.4		
20-Jul	2.2	2.3	2.3	Z	2.2	2.2	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.3		
21-Jul	2.1	2.0	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	2.0	2.0	2.0	2.1		
22-Jul	2.1	2.1	2.1	2.0	2.1	Z	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	2.1	2.0	2.1		
23-Jul	Z	2.1	2.1	2.2	2.2	2.2	2.2	2.3	2.5	2.4	2.2	2.0	2.1	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.5		
24-Jul	2.1	Z	2.2	2.2	2.3	2.4	2.4	2.4	2.3	2.2	2.1	2.0	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.1	2.4		
25-Jul	2.1	2.1	Z	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.3		
26-Jul	2.0	2.0	2.0	Z	2.0	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	2.1	2.1	2.1	2.2	2.1	2.1	2.2		
27-Jul	2.1	2.1	2.0	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	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.1		
28-Jul	2.0	2.0	2.0	2.1	2.1	Z	2.1	2.1	2.3	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.3		
29-Jul	Z	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.1	M	M	M	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.2		
30-Jul	2.2	Z	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.2	2.1	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.2	2.2	2.4		
31-Jul	2.2	2.3	Z	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.3	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.2	2.4	2.2	2.4		
2.1 2.1 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.1 2.1 2.1 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.1 2.1 2.1 2.1 2.1 2.1																										Diurnal Average		
2.3 2.5 2.6 2.6 2.6 2.4 2.7 3.1 2.8 2.4 2.4 2.2 2.2 2.1 2.1 2.1 2.3 2.1 2.2 2.2 2.2 2.3 2.3 2.4																										Diurnal Maximum		
Z - zerospan C - Calibration M - Maintenance PF - Power Failure																												



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	305	43.70	43.70
2.1 - 3.0	392	56.16	99.86
3.1 - 10.0	1	0.14	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 698

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Methane (CH₄) - ppm
Fort McKay - Bertha Ganter - July 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	30	10	6	3	0	3	10	30	30	15	28	27	25	32	28	28	305
2.1 - 3.0	47	19	8	5	0	4	26	82	42	19	23	22	33	21	19	18	388
3.1 - 10.0	1	0	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	78	29	14	8	0	7	36	112	72	34	51	49	58	53	47	46	694

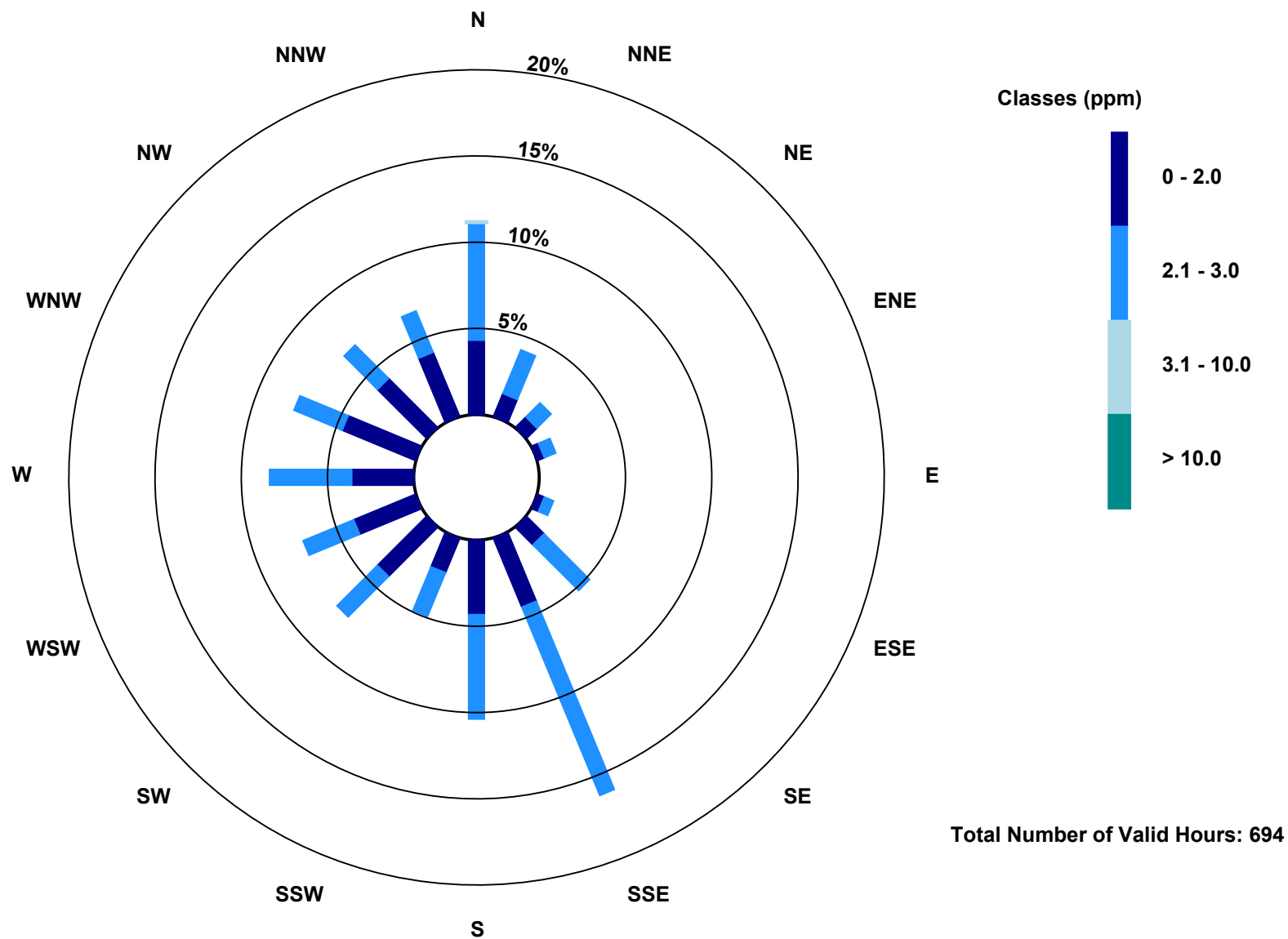
Total Number of Valid Hours: 694

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Methane (CH₄) - ppm
Fort McKay - Bertha Ganter



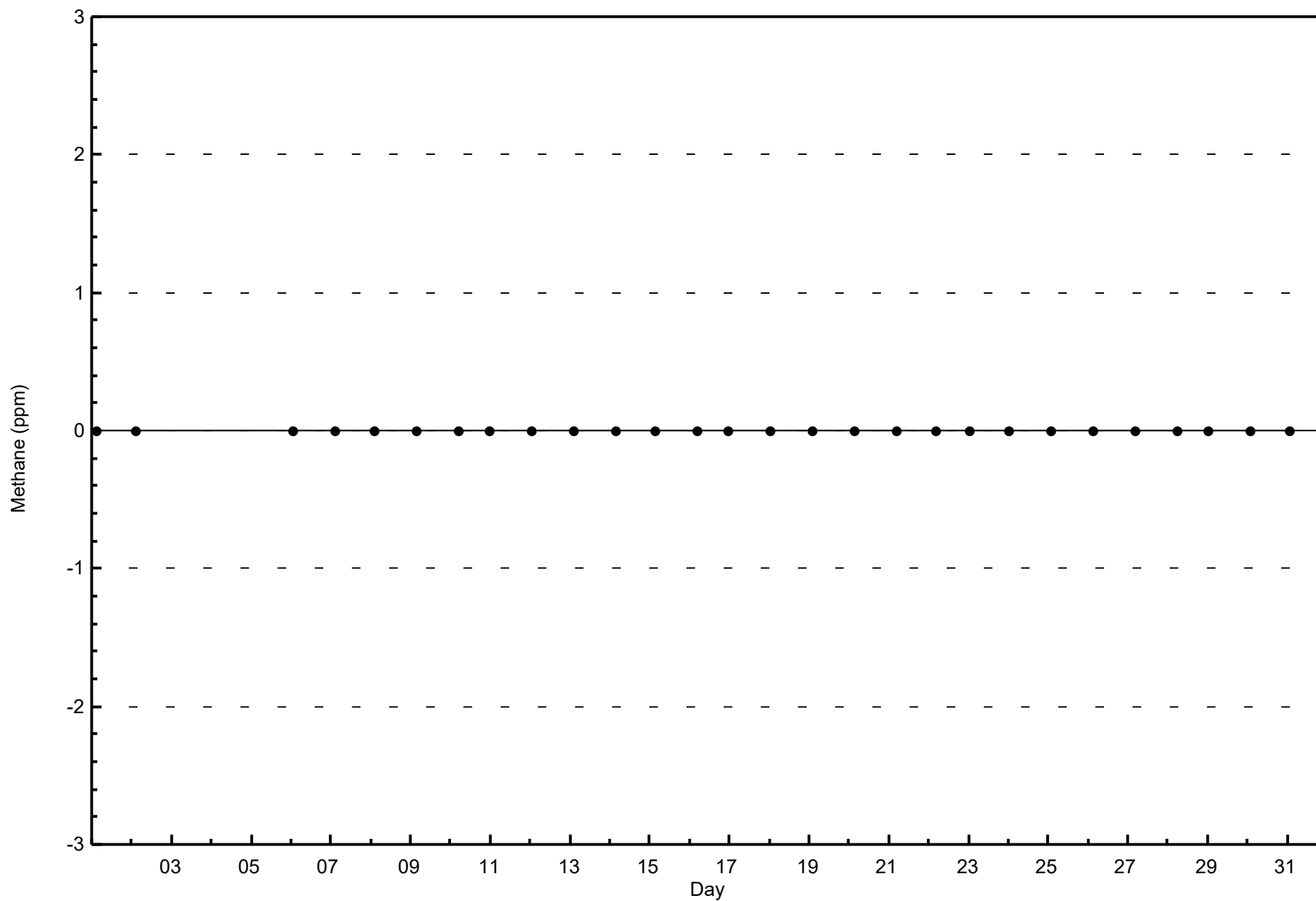


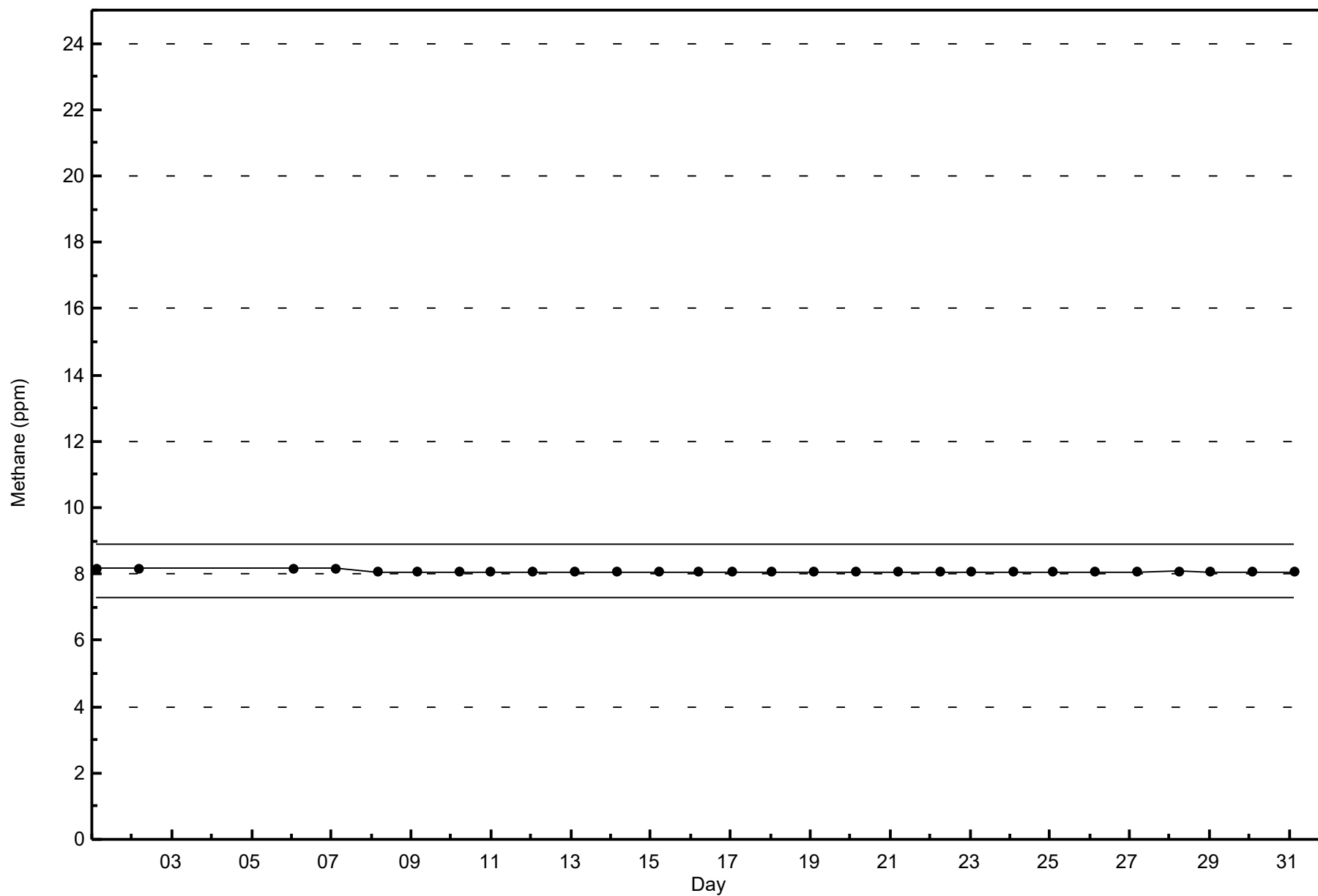
Wood Buffalo Environmental Association

Zero Responses

Methane (CH_4) - ppm

Fort McKay - Bertha Ganter - July 2025



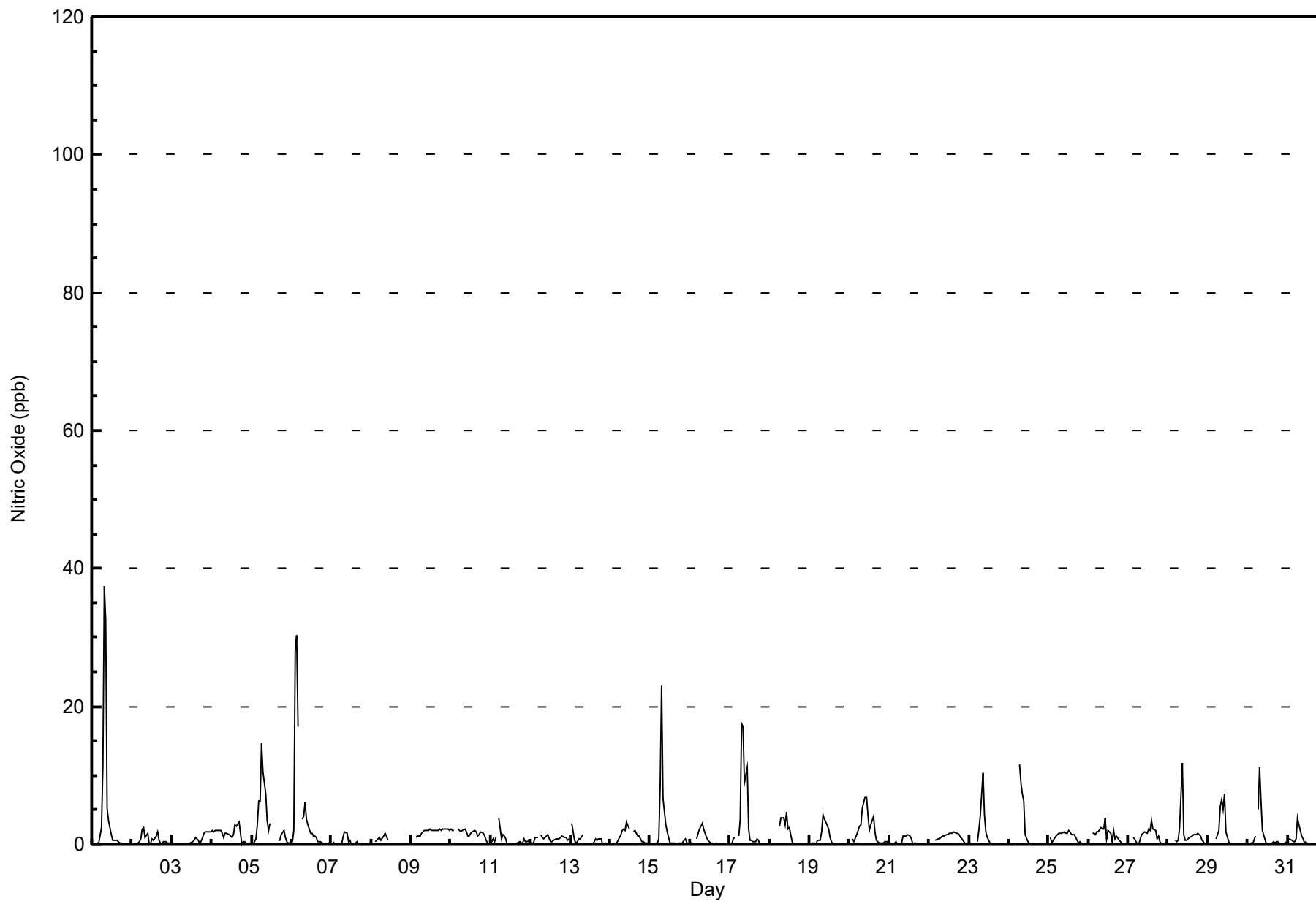


Maximum Value: 37.5 ppb on Jul 1 08:00																			Maximum Daily Average: 4.7 ppb on Jul 6							Hours in Service: 744	
Minimum Value: 0.0 ppb on Jul 1 19:00																			Minimum Daily Average: 0.3 ppb on Jul 7							Hours of Data: 698	
Maximum Diurnal Average: 5.2 ppb at hour 8																			Minimum Diurnal Average: 0.2 ppb at hour 1							Hours of Missing Data: 46	
Monthly Average: 1.40 ppb																			Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.5 Q ₃ = 1.6 P ₉₀ = 2.7 P ₉₉ = 17.1							Hours of Calibration: 35	
																										Percent Operational Time: 98.5	
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-Jul	Z	0.1	0.1	0.2	0.3	2.4	11.4	37.5	32.6	5.2	3.5	1.5	0.6	0.5	0.7	0.7	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	4.3	37.5	
2-Jul	0.0	Z	0.1	0.2	0.3	0.8	2.2	2.3	1.0	1.5	0.1	0.1	0.8	0.7	1.2	1.9	0.6	0.2	0.0	0.3	0.5	0.2	0.2	0.1	0.7	2.3	
3-Jul	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.7	1.0	0.9	0.6	0.0	1.1	1.6	1.8	1.9	1.8	1.9	0.6	1.9	
4-Jul	2.0	1.9	2.1	2.0	2.1	2.1	1.5	1.0	1.5	1.6	1.4	1.2	1.1	1.4	2.8	2.7	3.2	1.7	0.1	0.5	0.4	0.1	0.0	0.0	1.4	3.2	
5-Jul	0.0	0.0	0.8	2.8	6.3	6.4	14.7	10.5	7.3	3.4	2.0	3.0	M	M	M	M	0.5	0.7	1.4	2.1	1.1	0.3	0.2	0.2	3.2	14.7	
6-Jul	0.4	2.1	28.1	30.3	17.1	Z	3.7	4.2	6.0	3.7	2.9	1.7	1.7	1.3	1.3	1.0	0.4	0.3	0.2	0.1	0.1	0.1	0.2	0.3	4.7	30.3	
7-Jul	Z	0.4	0.0	0.0	0.0	0.0	0.0	1.0	1.9	1.6	0.5	0.6	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.9	
8-Jul	0.0	Z	0.5	0.6	0.9	1.0	0.6	1.2	1.6	1.2	0.5	C	C	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	1.6	
9-Jul	0.0	0.0	Z	1.0	1.2	1.2	1.6	1.9	2.0	2.0	2.1	2.2	2.0	2.1	2.1	2.0	2.0	2.2	2.1	2.1	2.2	2.2	2.2	2.1	1.8	2.2	
10-Jul	2.2	2.1	2.1	Z	2.3	2.0	1.9	2.0	2.2	1.9	1.3	1.1	1.5	1.8	2.0	1.8	1.3	1.5	1.7	1.6	1.2	0.6	0.2	0.0	1.6	2.3	
11-Jul	0.0	0.8	0.3	1.0	Z	3.8	0.9	1.5	1.3	0.8	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.2	0.3	0.7	0.5	0.4	0.5	0.6	3.8	
12-Jul	0.1	0.1	0.5	1.0	1.1	Z	1.4	1.1	0.9	1.0	1.5	0.7	0.3	0.5	0.6	0.8	0.8	0.9	1.0	1.1	1.0	1.0	0.7	0.9	0.8	1.5	
13-Jul	Z	3.1	0.7	0.1	0.5	0.8	0.9	1.4	PF	PF	PF	PF	PF	0.0	0.4	0.7	0.7	0.9	0.8	0.0	0.0	0.2	0.1	0.1	0.6	3.1	
14-Jul	0.0	Z	0.2	0.0	0.3	1.0	1.4	2.0	2.2	2.0	3.2	2.2	M	M	1.8	1.9	1.1	1.2	0.9	0.5	0.3	0.3	0.2	0.2	1.1	3.2	
15-Jul	0.0	0.0	Z	0.2	0.2	0.8	8.6	22.9	6.8	2.9	1.8	1.0	0.2	0.2	0.1	0.1	0.1	0.0	0.2	0.0	0.6	0.9	0.2	0.0	2.1	22.9	
16-Jul	0.2	0.2	0.0	Z	0.8	1.6	2.3	3.0	2.2	1.7	1.0	0.6	0.3	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	3.0	
17-Jul	0.0	0.0	0.7	1.1	Z	1.2	3.6	17.5	17.1	8.9	11.2	2.3	0.6	0.5	0.5	0.4	0.8	0.7	0.0	0.0	0.0	0.0	0.0	0.0	2.9	17.5	
18-Jul	0.0	0.0	0.0	0.0	0.1	Z	2.6	3.8	4.0	2.9	4.7	2.3	2.5	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	4.7	
19-Jul	Z	0.2	0.1	0.2	0.1	0.5	0.5	1.7	4.2	3.7	3.3	2.2	0.9	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	4.2	
20-Jul	0.1	Z	0.8	0.4	1.4	1.9	2.7	2.9	5.3	6.9	7.0	4.2	1.9	2.9	4.1	1.8	0.5	0.5	0.2	0.2	0.1	0.5	0.5	0.4	2.1	7.0	
21-Jul	0.0	0.1	Z	0.2	0.4	0.0	0.0	0.1	1.1	1.1	1.2	1.5	1.3	0.8	0.0	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.5	
22-Jul	0.0	0.0	0.0	Z	0.6	0.7	0.9	1.0	1.3	1.2	1.4	1.4	1.6	1.6	1.6	1.8	1.7	1.6	1.5	1.1	0.8	0.2	0.0	0.0	1.0	1.8	
23-Jul	0.0	0.0	0.0	0.0	Z	0.4	1.9	4.0	10.4	4.3	1.9	1.1	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	10.4	
24-Jul	0.0	0.0	0.0	0.0	0.1	Z	11.6	9.0	7.3	6.3	1.4	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	1.6	11.6	
25-Jul	Z	1.0	0.2	0.6	1.1	1.3	1.6	1.7	1.7	1.8	1.7	1.7	2.0	1.7	1.5	1.5	1.1	0.5	0.2	0.3	0.0	0.0	0.0	0.0	1.0	2.0	
26-Jul	0.0	Z	1.6	1.5	1.5	1.8	1.8	2.5	2.1	2.2	3.9	0.9	2.0	1.7	0.4	1.9	0.8	1.3	0.5	0.4	0.0	0.0	0.0	0.1	1.3	3.9	
27-Jul	0.0	0.0	Z	1.1	0.9	0.1	0.0	0.8	1.5	1.6	1.7	1.6	2.2	2.1	3.5	2.1	2.0	0.8	1.2	0.3	0.0	0.0	0.0	0.0	1.0	3.5	
28-Jul	0.0	0.0	0.0	Z	0.6	0.5	0.6	2.4	11.7	1.3	0.5	0.7	0.9	1.0	1.1	1.3	1.3	1.4	1.5	1.2	0.6	0.4	0.1	0.0	1.3	11.7	
29-Jul	0.1	0.0	0.0	0.0	Z	0.9	2.1	5.5	6.5	5.1	7.3	1.7	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	7.3	
30-Jul	0.0	0.0	0.3	0.0	1.2	Z	5.2	11.1	6.3	1.9	0.6	0.0	0.0	0.0	0.0	0.3	0.1	0.3	0.3	0.2	0.0	0.1	0.1	0.3	1.2	11.1	
31-Jul	Z	0.8	0.6	0.4	0.3	0.9	3.8	2.8	1.3	0.7	0.2	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	0.5	3.8	
																									Diurnal Average		
																									Diurnal Maximum		
Z - zerospan C - Calibration M - Maintenance PF - Power Failure																											



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	693	99.28	99.28
21 - 40	5	0.72	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: 698

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitric Oxide (NO) - ppb
Fort McKay - Bertha Ganter - July 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	76	29	13	8	0	7	38	115	67	33	53	47	58	56	43	46	689
21 - 40	3	0	0	0	0	0	0	1	0	0	0	0	0	0	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	79	29	13	8	0	7	38	116	67	33	53	47	58	56	44	46	694

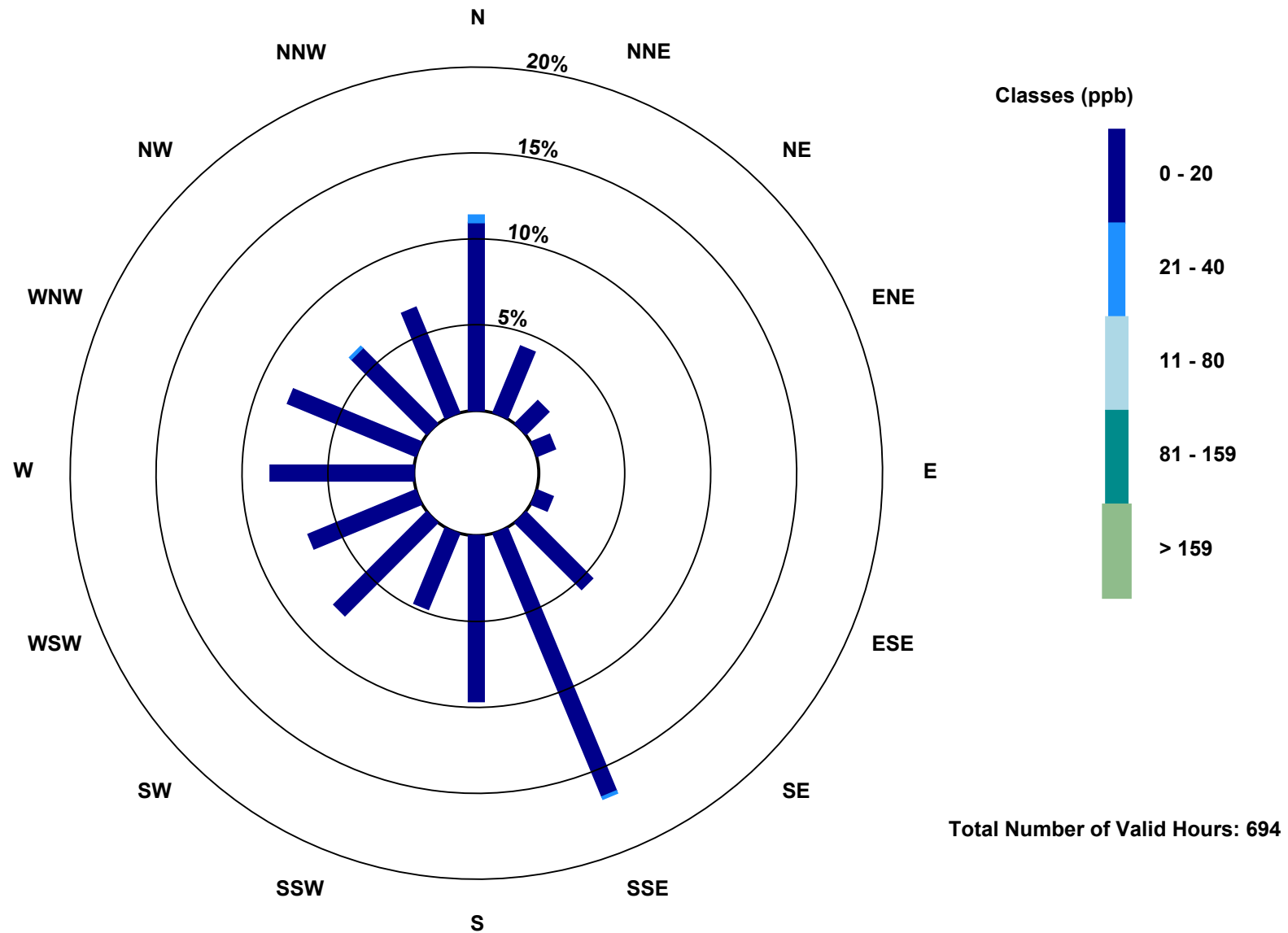
Total Number of Valid Hours: 694

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

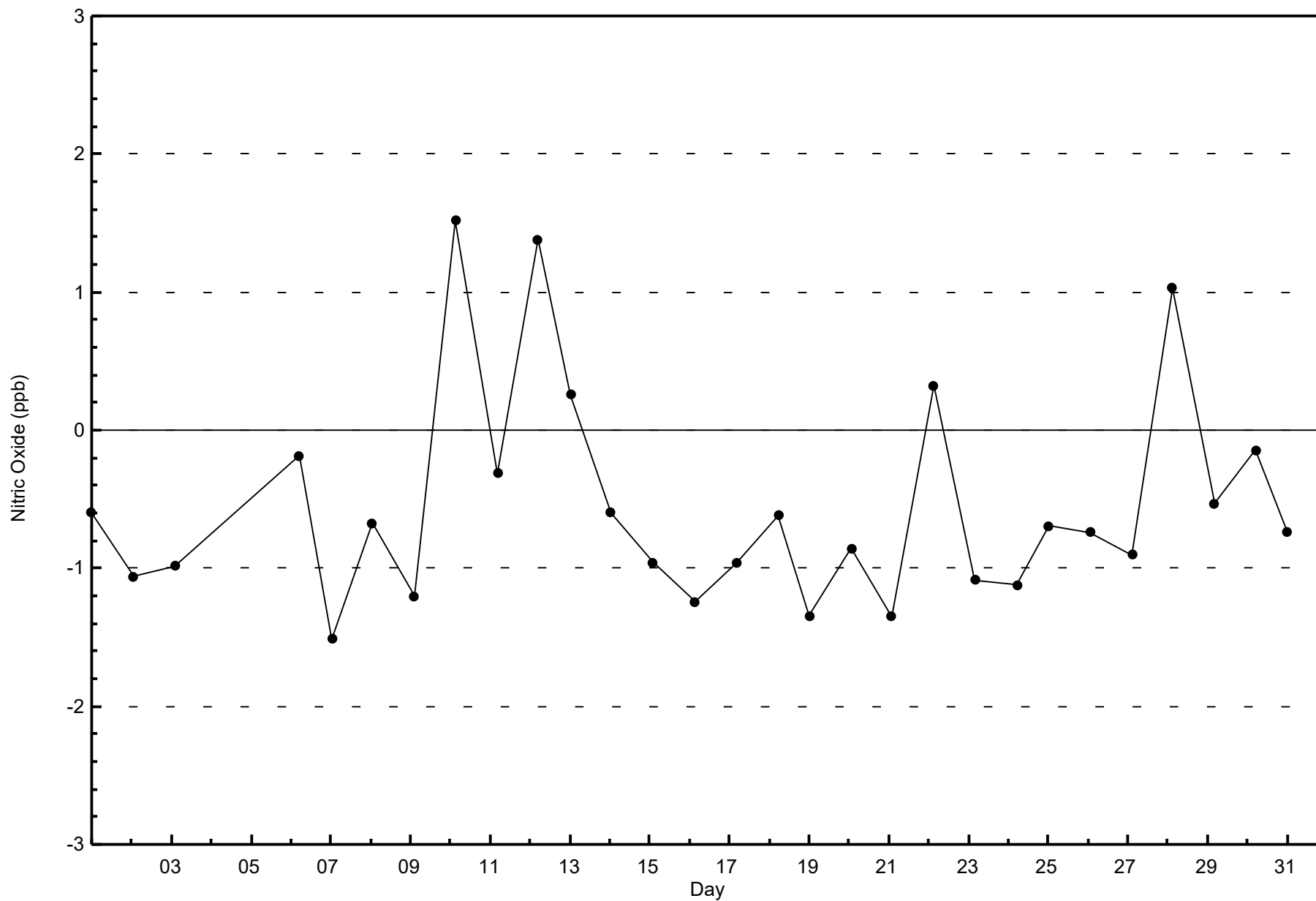
Nitric Oxide (NO) - ppb
Fort McKay - Bertha Ganter





Wood Buffalo Environmental Association
Zero Responses

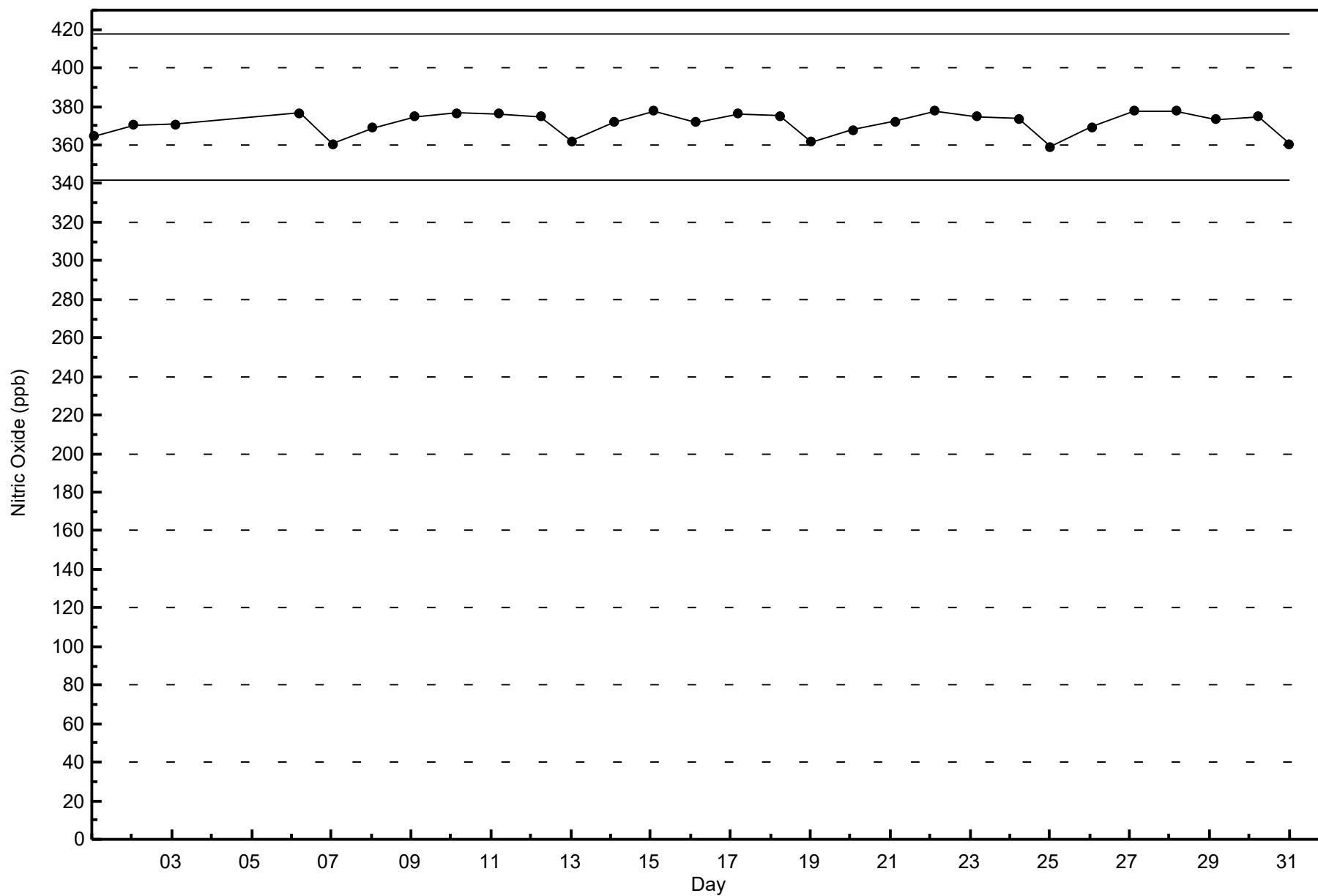
Nitric Oxide (NO) - ppb
Fort McKay - Bertha Ganter - July 2025





Wood Buffalo Environmental Association
Span Responses

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Dioxide (NO₂) - ppb

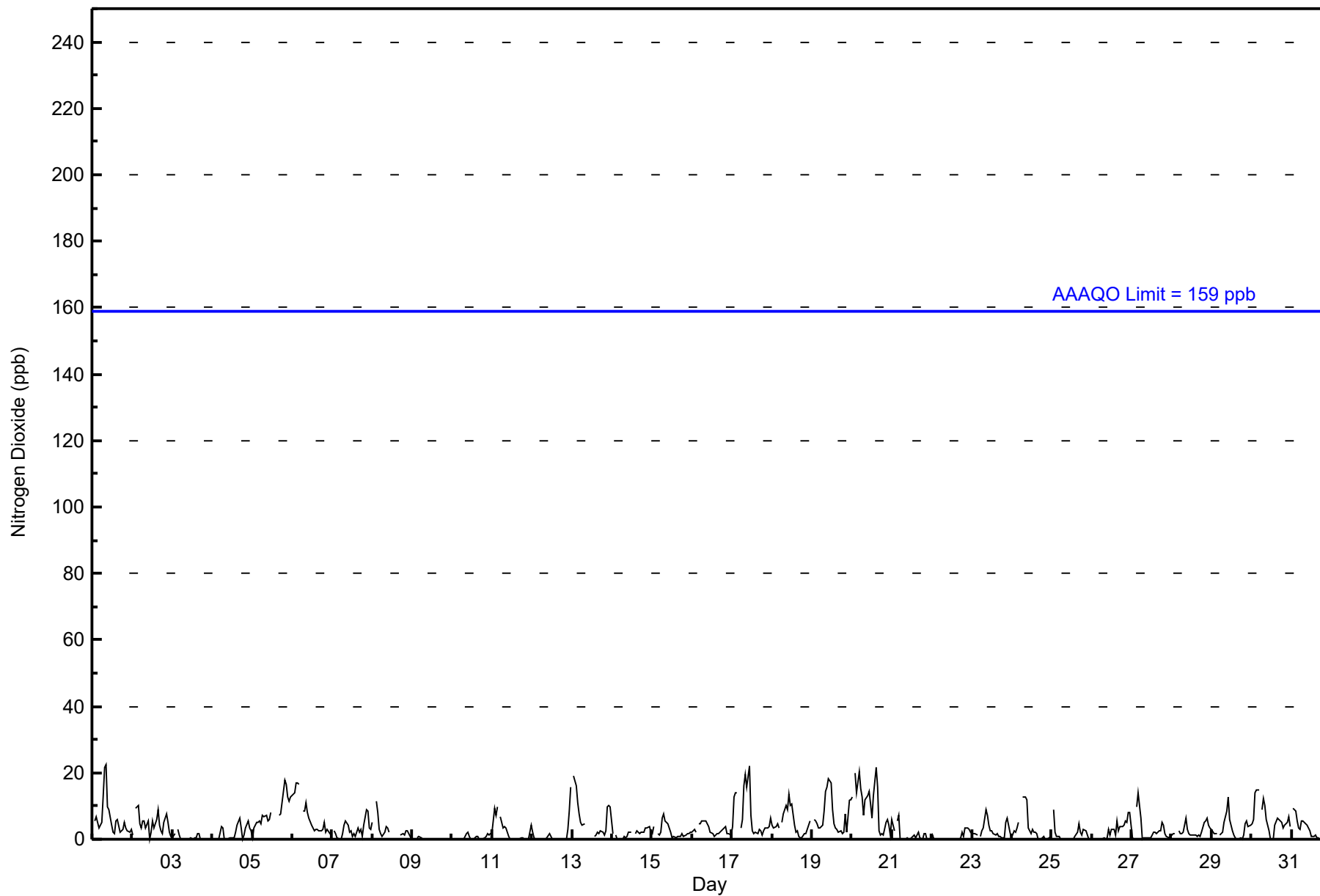
Fort McKay - Bertha Ganter - July 2025

Number of Exceedences (AAAQO): Maximum Value: 22.6 ppb on Jul 1 09:00																			1-hr: 0 24-hr: 0 Maximum Daily Average: 10.1 ppb on Jul 20																			Hours in Service: 744	
Minimum Value: 0.0 ppb on Jul 3 07:00 Maximum Diurnal Average: 5.9 ppb at hour 9 Monthly Average: 3.57 ppb																			Minimum Daily Average: 0.1 ppb on Jul 9 Minimum Diurnal Average: 1.8 ppb at hour 14 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.5 Median = 2.1 Q ₃ = 4.9 P ₉₀ = 9.5 P ₉₉ = 19.1																			Hours of Data: 698	
																																						Hours of Missing Data: 46	
																																						Hours of Calibration: 35	
																																						Percent Operational Time: 98.5	
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-Jul	Z	5.7	6.6	5.2	3.3	5.1	13.3	21.6	22.6	9.7	9.0	4.1	2.0	1.9	5.5	5.8	2.1	2.7	2.9	5.0	3.5	2.5	2.2	3.1	6.3	22.6													
2-Jul	1.4	Z	9.4	10.0	4.8	3.2	5.5	5.4	3.2	5.5	0.2	2.0	5.7	3.6	6.1	8.8	4.3	2.5	1.9	4.9	7.8	5.0	2.1	1.0	4.5	10.0													
3-Jul	0.3	1.7	Z	2.8	1.4	0.1	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.3	0.6	1.5	1.6	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.5	2.8													
4-Jul	0.0	0.0	0.0	0.0	0.0	3.8	3.2	0.0	0.0	0.0	0.3	0.4	0.3	0.4	2.0	4.1	6.5	3.3	0.2	1.1	3.4	5.3	3.4	2.7	1.7	6.5													
5-Jul	0.6	3.4	4.9	5.0	5.4	4.8	7.4	6.9	7.0	5.5	5.8	7.9	M	M	M	M	7.4	7.8	10.9	17.6	16.4	12.8	11.3	12.5	8.1	17.6													
6-Jul	13.5	14.0	16.8	16.9	16.6	Z	8.5	8.6	11.1	8.0	6.5	4.2	3.3	2.7	2.9	2.9	2.6	2.7	3.1	5.1	2.0	2.9	1.9	1.2	6.9	16.9													
7-Jul	Z	2.5	1.6	0.5	0.2	0.1	1.6	4.1	5.6	4.1	2.1	2.5	0.8	1.5	1.0	3.6	2.1	2.9	0.7	4.1	9.0	8.6	3.5	3.0	2.9	9.0													
8-Jul	5.1	Z	11.4	8.0	3.0	1.6	0.8	2.3	4.0	3.2	2.3	C	C	C	C	C	C	1.4	1.7	1.4	2.6	2.4	1.8	0.0	--	11.4													
9-Jul	0.0	0.0	Z	0.3	1.0	0.6	0.2	0.1	0.1	0.1	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	0.1	1.0													
10-Jul	0.0	0.1	0.0	Z	0.1	0.1	0.1	0.1	1.6	2.3	0.8	0.2	0.2	0.2	0.8	0.7	0.1	0.0	0.1	0.3	1.0	1.8	1.4	1.7	0.6	2.3													
11-Jul	1.8	9.5	7.0	9.7	Z	6.6	3.2	3.7	3.2	2.1	0.8	0.0	0.0	0.0	0.0	0.1	0.2	0.6	0.4	0.0	0.1	0.1	0.1	4.1	2.3	9.7													
12-Jul	2.1	0.4	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.3	1.5	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	8.4	15.7	1.4	15.7													
13-Jul	Z	19.1	16.3	10.9	7.5	5.1	4.2	4.7	PF	PF	PF	PF	PF	1.0	1.4	2.0	1.8	2.4	2.2	1.4	2.5	9.9	10.0	9.7	6.2	19.1													
14-Jul	1.8	Z	1.1	0.0	0.0	0.2	0.0	0.7	0.6	0.8	2.0	2.0	M	M	1.8	2.6	1.8	2.2	2.3	2.0	3.2	3.4	4.0	2.1	1.6	4.0													
15-Jul	1.7	4.0	Z	1.8	1.1	2.3	6.4	7.5	5.7	4.5	3.2	2.1	0.5	0.7	0.6	0.7	0.9	0.9	1.6	1.0	1.2	1.6	1.7	2.0	2.3	7.5													
16-Jul	2.2	3.0	2.0	Z	4.6	4.5	5.3	5.7	5.3	4.8	3.8	2.1	1.6	1.0	1.2	1.9	1.8	2.6	3.1	3.2	3.9	1.7	1.6	1.3	3.0	5.7													
17-Jul	3.9	12.6	14.0	14.0	Z	3.4	5.9	16.2	19.6	15.5	22.0	7.2	2.4	1.9	2.2	1.9	2.9	2.4	1.2	2.7	3.6	3.5	3.8	6.3	7.4	22.0													
18-Jul	4.3	3.5	3.8	4.7	3.4	Z	4.9	7.8	10.0	8.7	13.4	10.3	10.8	4.2	2.2	2.5	0.9	0.6	0.6	1.6	1.9	2.9	4.3	5.5	4.9	13.4													
19-Jul	Z	6.0	5.3	4.7	3.4	3.3	4.3	8.6	14.5	15.7	18.2	17.1	8.8	4.8	3.4	2.9	2.2	2.4	1.8	2.1	7.8	2.3	11.7	12.0	7.1	18.2													
20-Jul	12.5	Z	19.8	13.9	20.3	15.3	12.5	7.3	12.0	13.0	14.4	10.4	6.2	13.1	21.8	15.6	2.5	1.2	1.9	1.3	5.2	5.8	4.3	1.3	10.1	21.8													
21-Jul	5.9	2.5	Z	5.3	7.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	1.0	1.4	0.3	1.2	2.0	0.5	0.1	1.6	1.9	0.0	0.0	0.0	1.4	7.0													
22-Jul	1.3	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	0.1	0.0	0.3	2.3	0.9	3.3	3.5	2.9	2.1	0.7	3.5													
23-Jul	1.6	1.6	1.6	1.3	Z	1.0	2.7	3.6	8.9	7.0	4.4	2.7	2.7	1.6	1.2	1.6	0.8	1.0	0.5	0.3	4.9	6.2	4.1	2.1	2.8	8.9													
24-Jul	0.5	2.6	2.3	3.5	5.0	Z	12.6	12.6	12.7	12.0	3.4	1.9	2.9	2.0	2.0	1.9	0.0	0.0	0.3	0.8	0.2	0.0	0.4	1.4	3.5	12.7													
25-Jul	Z	8.7	2.0	0.8	0.8	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.9	2.3	4.7	2.0	1.1	2.8	2.6	1.2	0.0	0.0	1.3	8.7													
26-Jul	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.3	2.9	1.3	2.9	3.1	1.1	5.7	2.5	3.9	3.7	4.1	5.5	5.2	8.0	7.9	2.5	8.0													
27-Jul	0.3	0.0	Z	9.6	13.9	6.4	0.0	0.5	0.4	0.4	0.5	0.5	1.2	2.0	2.0	1.8	2.6	2.7	5.1	4.3	1.9	0.7	0.5	0.9	2.5	13.9													
28-Jul	1.4	1.6	1.7	Z	2.4	1.7	1.6	2.2	6.4	2.9	1.9	1.1	1.1	1.1	1.1	0.9	1.1	0.9	2.3	4.9	5.4	6.4	4.2	3.6	2.5	6.4													
29-Jul	2.8	1.9	1.8	1.6	Z	1.1	2.2	5.2	6.8	8.3	12.7	5.8	2.6	1.2	0.4	0.0	0.0	0.6	0.0	1.2	4.5	5.4	4.0	4.4	3.2	12.7													
30-Jul	4.8	6.0	13.9	14.9	14.7	Z	9.1	12.1	10.2	6.1	2.7	0.2	0.0	0.0	4.2	6.2	5.8	5.6	4.9	3.5	4.3	5.1	6.8	3.7	6.3	14.9													
31-Jul	Z	9.4	8.6	5.6	3.3	3.1	5.6	5.6	4.7	4.2	3.6	2.7	1.0	1.0	1.1	0.5	0.3	0.2	0.0	0.4	2.0	8.2	9.6	10.2	4.0	10.2													
2.8 4.6 5.8 5.6 4.6 2.8 3.9 5.0 5.9 4.8 4.6 3.1 2.2 1.8 2.3 2.8 2.1 1.8 1.8 2.6 3.6 3.8 3.8 3.9																										Diurnal Average													
13.5 19.1 19.8 16.9 20.3 15.3 13.3 21.6 22.6 15.7 22.0 17.1 10.8 13.1 21.8 15.6 7.4 7.8 10.9 17.6 16.4 12.8 11.7 15.7																										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
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	694	99.43	99.43
21 - 40	4	0.57	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: 698

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Fort McKay - Bertha Ganter - July 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	77	28	13	8	0	7	37	116	67	33	53	47	58	56	44	46	690
21 - 40	2	1	0	0	0	0	1	0	0	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	79	29	13	8	0	7	38	116	67	33	53	47	58	56	44	46	694

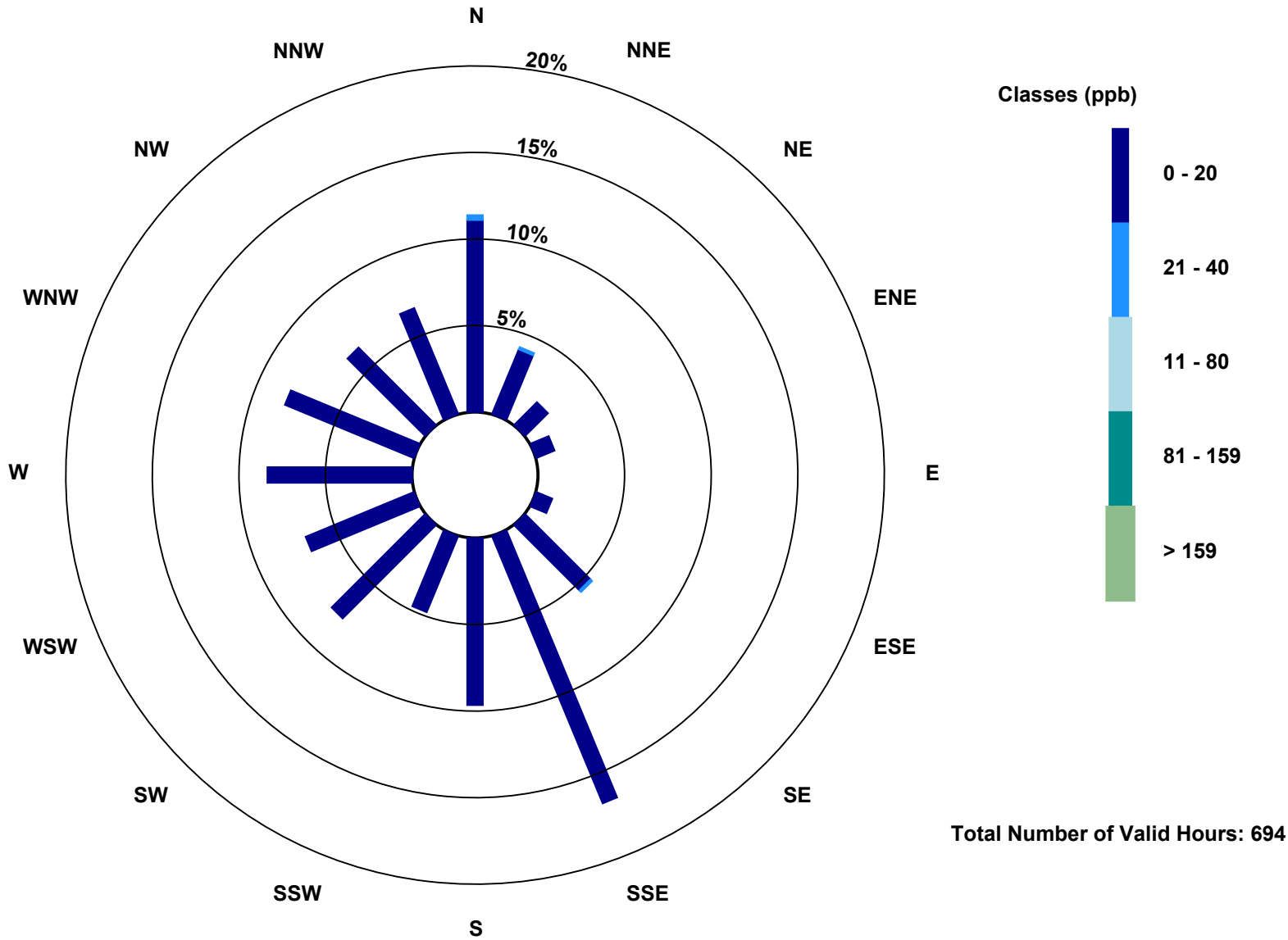
Total Number of Valid Hours: 694

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

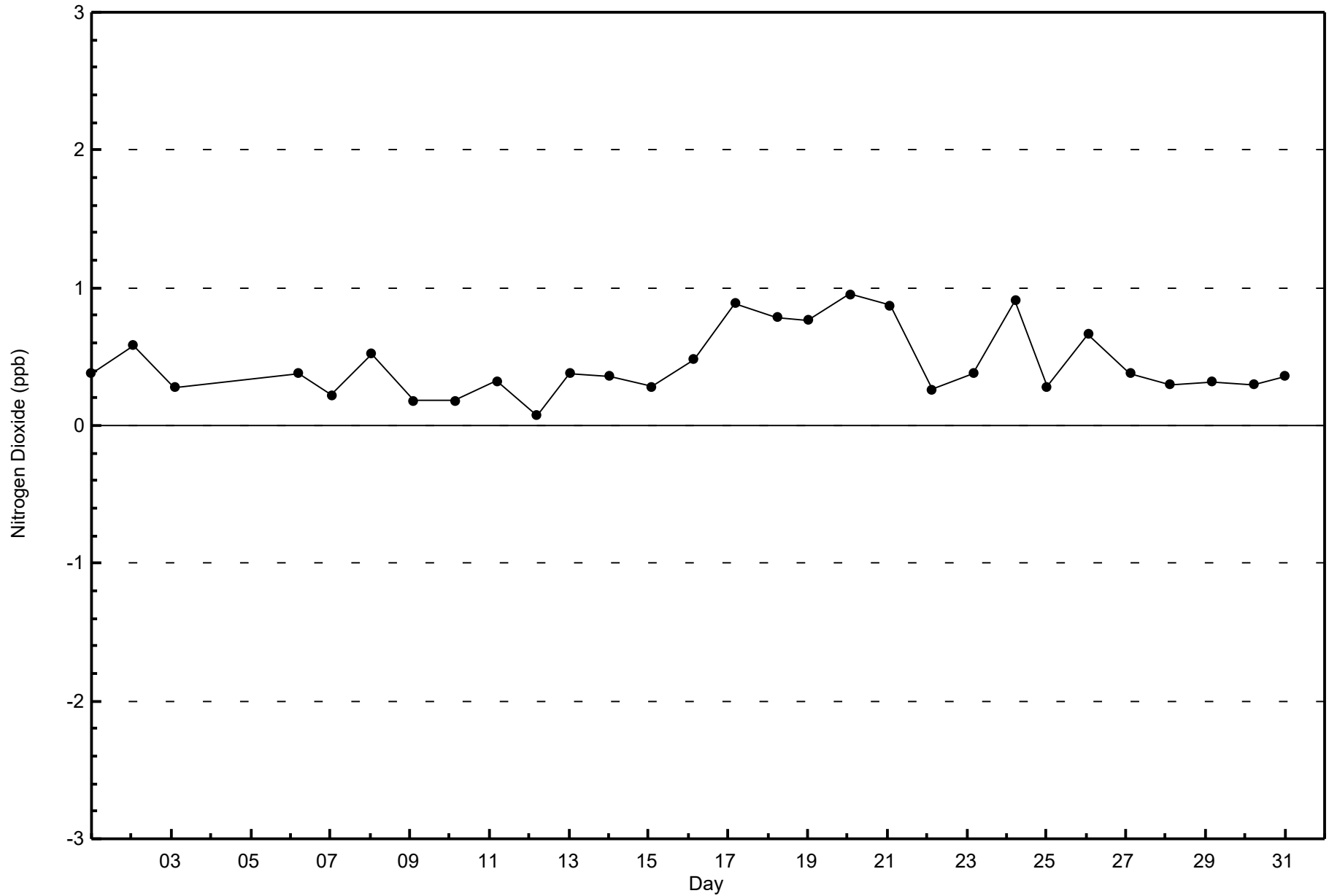
Nitrogen Dioxide (NO₂) - ppb
Fort McKay - Bertha Ganter





Wood Buffalo Environmental Association
Zero Responses

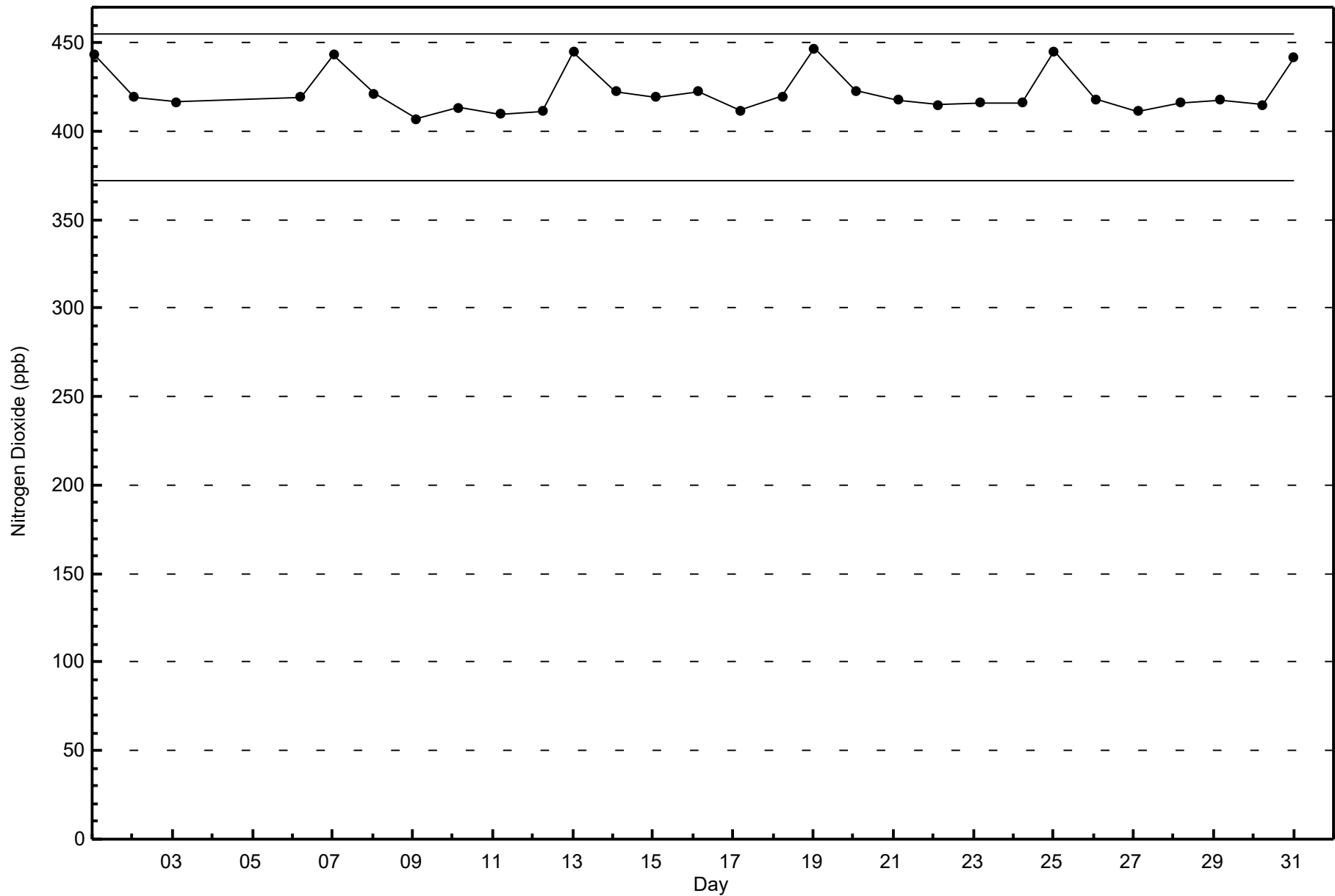
Nitrogen Dioxide (NO₂) - ppb
Fort McKay - Bertha Ganter - July 2025





Wood Buffalo Environmental Association
Span Responses

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Oxides (NO_x) - ppb

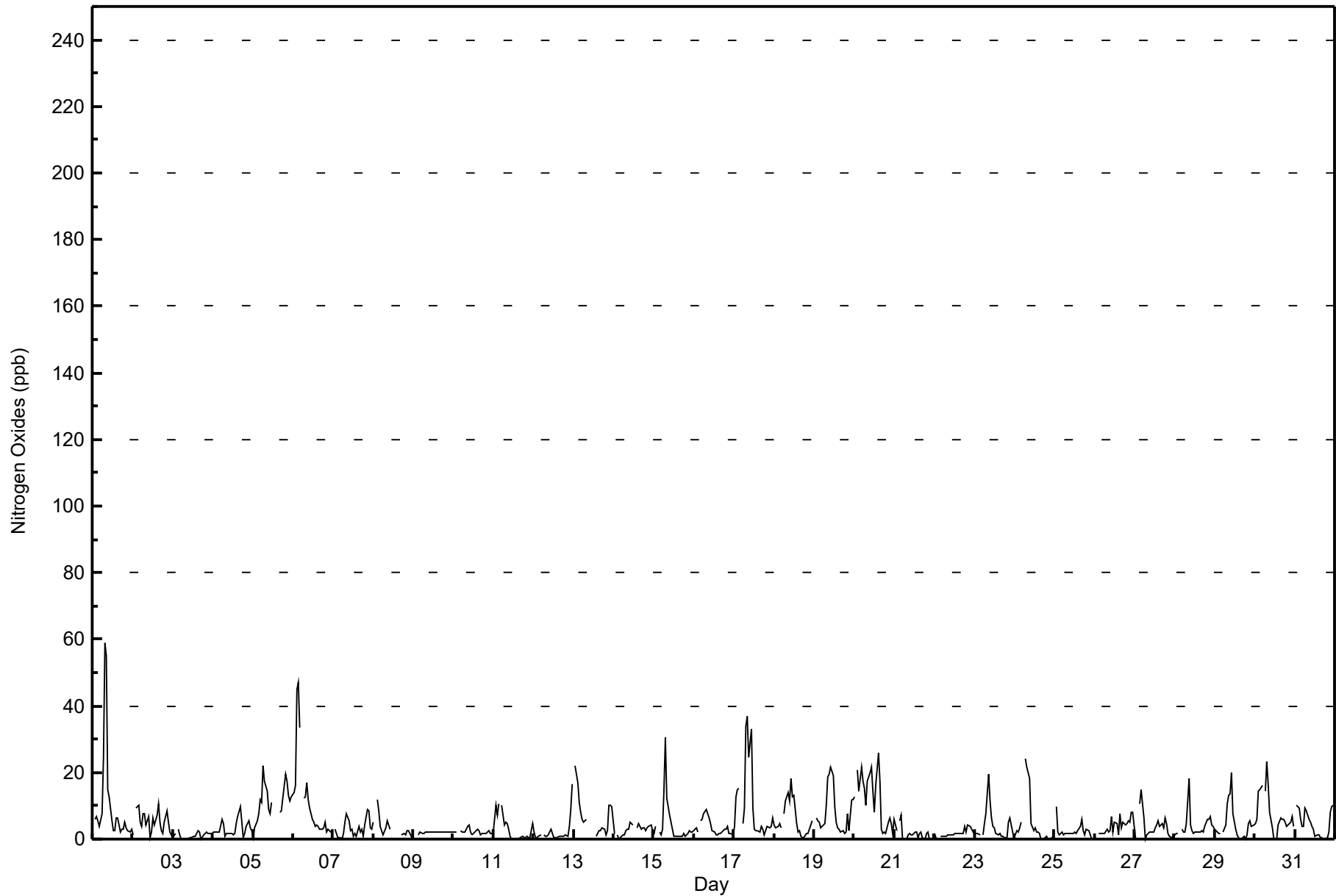
Fort McKay - Bertha Ganter - July 2025

Maximum Value: 59.1 ppb on Jul 1 08:00																			Maximum Daily Average: 12.1 ppb on Jul 20							Hours in Service: 744	
Minimum Value: 0.0 ppb on Jul 3 07:00																			Minimum Daily Average: 1.1 ppb on Jul 3							Hours of Data: 698	
Maximum Diurnal Average: 10.9 ppb at hour 9																			Minimum Diurnal Average: 2.3 ppb at hour 19							Hours of Missing Data: 46	
Monthly Average: 4.97 ppb																			Percentiles: P ₁ = 0.0 P ₁₀ = 0.6 Q ₁ = 1.6 Median = 2.6 Q ₃ = 5.6 P ₉₀ = 12.2 P ₉₉ = 33.3							Hours of Calibration: 35	
																										Percent Operational Time: 98.5	
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-Jul	Z	5.8	6.7	5.4	3.6	7.5	24.7	59.1	55.2	14.9	12.5	5.6	2.6	2.4	6.2	6.5	2.2	2.9	2.9	5.0	3.5	2.5	2.2	3.1	10.6	59.1	
2-Jul	1.4	Z	9.5	10.2	5.1	4.0	7.7	7.7	4.2	7.0	0.3	2.1	6.5	4.3	7.3	10.7	4.9	2.7	1.9	5.2	8.3	5.2	2.3	1.1	5.2	10.7	
3-Jul	0.3	1.7	Z	2.8	1.4	0.1	0.0	0.0	0.0	0.0	0.2	0.5	0.7	1.0	1.6	2.4	2.2	0.2	1.3	1.7	1.9	1.9	1.8	1.9	1.1	2.8	
4-Jul	2.0	1.9	2.1	2.0	2.1	5.9	4.7	1.0	1.5	1.6	1.7	1.6	1.4	1.8	4.8	6.8	9.7	5.0	0.3	1.6	3.8	5.4	3.4	2.7	3.1	9.7	
5-Jul	0.6	3.4	5.7	7.8	11.7	11.2	22.1	17.4	14.3	8.9	7.8	10.9	M	M	M	M	7.9	8.5	12.3	19.7	17.5	13.1	11.5	12.7	11.2	22.1	
6-Jul	13.9	16.1	44.9	47.2	33.7	Z	12.2	12.8	17.1	11.7	9.4	5.9	5.0	4.0	4.2	3.9	3.0	3.0	3.3	5.2	2.1	3.0	2.1	1.5	11.5	47.2	
7-Jul	Z	2.9	1.6	0.5	0.2	0.1	1.6	5.1	7.5	5.7	2.6	3.1	0.8	1.5	1.0	4.0	2.1	2.9	0.7	4.1	9.0	8.6	3.5	3.0	3.1	9.0	
8-Jul	5.1	Z	11.9	8.6	3.9	2.6	1.4	3.5	5.6	4.4	2.8	C	C	C	C	C	C	1.4	1.7	1.4	2.6	2.4	1.8	0.0	--	11.9	
9-Jul	0.0	0.0	Z	1.3	2.2	1.8	1.8	2.0	2.1	2.1	2.2	2.2	2.1	2.2	2.1	2.1	2.0	2.2	2.1	2.1	2.2	2.2	2.2	2.2	1.9	2.2	
10-Jul	2.2	2.2	2.1	Z	2.4	2.1	2.0	2.1	3.8	4.2	2.1	1.3	1.7	2.0	2.8	2.5	1.4	1.5	1.8	1.9	2.2	2.4	1.6	1.7	2.2	4.2	
11-Jul	1.8	10.3	7.3	10.7	Z	10.4	4.1	5.2	4.5	2.9	0.8	0.0	0.0	0.0	0.0	0.2	0.4	0.9	0.6	0.3	0.8	0.6	0.5	4.6	2.9	10.7	
12-Jul	2.2	0.5	0.5	1.0	1.1	Z	1.4	1.1	0.9	1.3	3.0	1.5	0.3	0.5	0.6	0.8	0.8	0.9	1.0	1.1	1.0	3.9	9.1	16.6	2.2	16.6	
13-Jul	Z	22.2	17.0	11.0	8.0	5.9	5.1	6.1	PF	PF	PF	PF	PF	1.0	1.8	2.7	2.5	3.3	3.0	1.4	2.5	10.1	10.1	9.8	6.9	22.2	
14-Jul	1.8	Z	1.3	0.0	0.3	1.2	1.4	2.7	2.8	2.8	5.2	4.2	M	M	3.6	4.5	2.9	3.4	3.2	2.5	3.5	3.7	4.2	2.3	2.7	5.2	
15-Jul	1.7	4.0	Z	2.0	1.3	3.1	15.0	30.4	12.5	7.4	5.0	3.1	0.7	0.9	0.7	0.8	1.0	0.9	1.8	1.0	1.8	2.5	1.9	2.0	4.4	30.4	
16-Jul	2.4	3.2	2.0	Z	5.4	6.1	7.6	8.7	7.5	6.5	4.8	2.7	1.9	1.3	1.2	1.9	1.9	2.6	3.1	3.2	3.9	1.7	1.6	1.3	3.6	8.7	
17-Jul	3.9	12.6	14.7	15.1	Z	4.6	9.5	33.7	36.7	24.4	33.2	9.5	3.0	2.4	2.7	2.3	3.7	3.1	1.2	2.7	3.6	3.5	3.8	6.3	10.3	36.7	
18-Jul	4.3	3.5	3.8	4.7	3.5	Z	7.5	11.6	14.0	11.6	18.1	12.6	13.3	4.6	2.3	2.5	0.9	0.6	0.6	1.6	1.9	2.9	4.3	5.5	5.9	18.1	
19-Jul	Z	6.2	5.4	4.9	3.5	3.8	4.8	10.3	18.7	19.4	21.5	19.3	9.7	5.2	3.4	2.9	2.2	2.4	1.8	2.1	7.8	2.3	11.7	12.0	7.9	21.5	
20-Jul	12.6	Z	20.6	14.3	21.7	17.2	15.2	10.2	17.3	19.9	21.4	14.6	8.1	16.0	25.9	17.4	3.0	1.7	2.1	1.5	5.3	6.3	4.8	1.7	12.1	25.9	
21-Jul	5.9	2.6	Z	5.5	7.4	0.0	0.0	0.1	1.1	1.5	1.2	1.5	2.3	2.2	0.3	1.5	2.2	0.5	0.1	1.6	1.9	0.0	0.0	0.0	1.7	7.4	
22-Jul	1.3	0.0	0.0	Z	0.7	0.7	0.9	1.0	1.3	1.2	1.4	1.4	1.6	1.6	1.6	1.9	1.7	1.9	3.8	2.0	4.1	3.7	2.9	2.1	1.7	4.1	
23-Jul	1.6	1.6	1.6	1.3	Z	1.4	4.6	7.6	19.3	11.3	6.3	3.8	3.2	1.8	1.2	1.6	0.8	1.0	0.5	0.3	4.9	6.2	4.1	2.1	3.8	19.3	
24-Jul	0.5	2.6	2.3	3.5	5.1	Z	24.2	21.6	20.0	18.3	4.8	2.4	3.2	2.0	2.0	1.9	0.0	0.0	0.3	0.8	0.2	0.0	0.4	1.4	5.1	24.2	
25-Jul	Z	9.7	2.2	1.4	1.9	1.4	1.7	1.7	1.7	1.8	1.7	1.7	2.0	1.8	2.4	3.8	5.8	2.5	1.3	3.1	2.6	1.2	0.0	0.0	2.3	9.7	
26-Jul	0.0	Z	1.6	1.5	1.5	1.8	1.8	2.9	2.1	2.5	6.8	2.2	4.9	4.8	1.5	7.6	3.3	5.2	4.2	4.5	5.5	5.2	8.0	8.0	3.8	8.0	
27-Jul	0.3	0.0	Z	10.7	14.8	6.5	0.0	1.3	1.9	2.0	2.2	2.1	3.4	4.1	5.5	3.9	4.6	3.5	6.3	4.6	1.9	0.7	0.5	0.9	3.5	14.8	
28-Jul	1.4	1.6	1.7	Z	3.0	2.2	2.2	4.6	18.1	4.2	2.4	1.8	2.0	2.1	2.2	2.2	2.4	2.3	3.8	6.1	6.0	6.8	4.3	3.6	3.8	18.1	
29-Jul	2.9	1.9	1.8	1.6	Z	2.0	4.3	10.7	13.3	13.4	20.0	7.5	3.1	1.2	0.4	0.0	0.0	0.6	0.0	1.2	4.5	5.4	4.0	4.4	4.5	20.0	
30-Jul	4.8	6.0	14.2	14.9	15.9	Z	14.3	23.2	16.5	8.0	3.3	0.2	0.0	0.0	4.2	6.5	5.9	5.9	5.2	3.7	4.3	5.2	6.9	4.0	7.5	23.2	
31-Jul	Z	10.2	9.2	6.0	3.6	4.0	9.4	8.4	6.0	4.9	3.8	3.0	1.0	1.1	1.1	0.5	0.3	0.2	0.0	0.4	2.0	8.2	9.6	10.2	4.5	10.2	
Diurnal Average																											
Diurnal Maximum																											
Z - zerospan C - Calibration M - Maintenance PF - Power Failure																											



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	677	96.99	96.99
21 - 40	17	2.44	99.43
41 - 80	4	0.57	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 698

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Fort McKay - Bertha Ganter - July 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	72	26	13	7	0	6	37	111	67	33	51	47	58	56	43	46	673
21 - 40	4	3	0	1	0	1	1	5	0	0	2	0	0	0	0	0	17
11 - 80	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	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	79	29	13	8	0	7	38	116	67	33	53	47	58	56	44	46	694

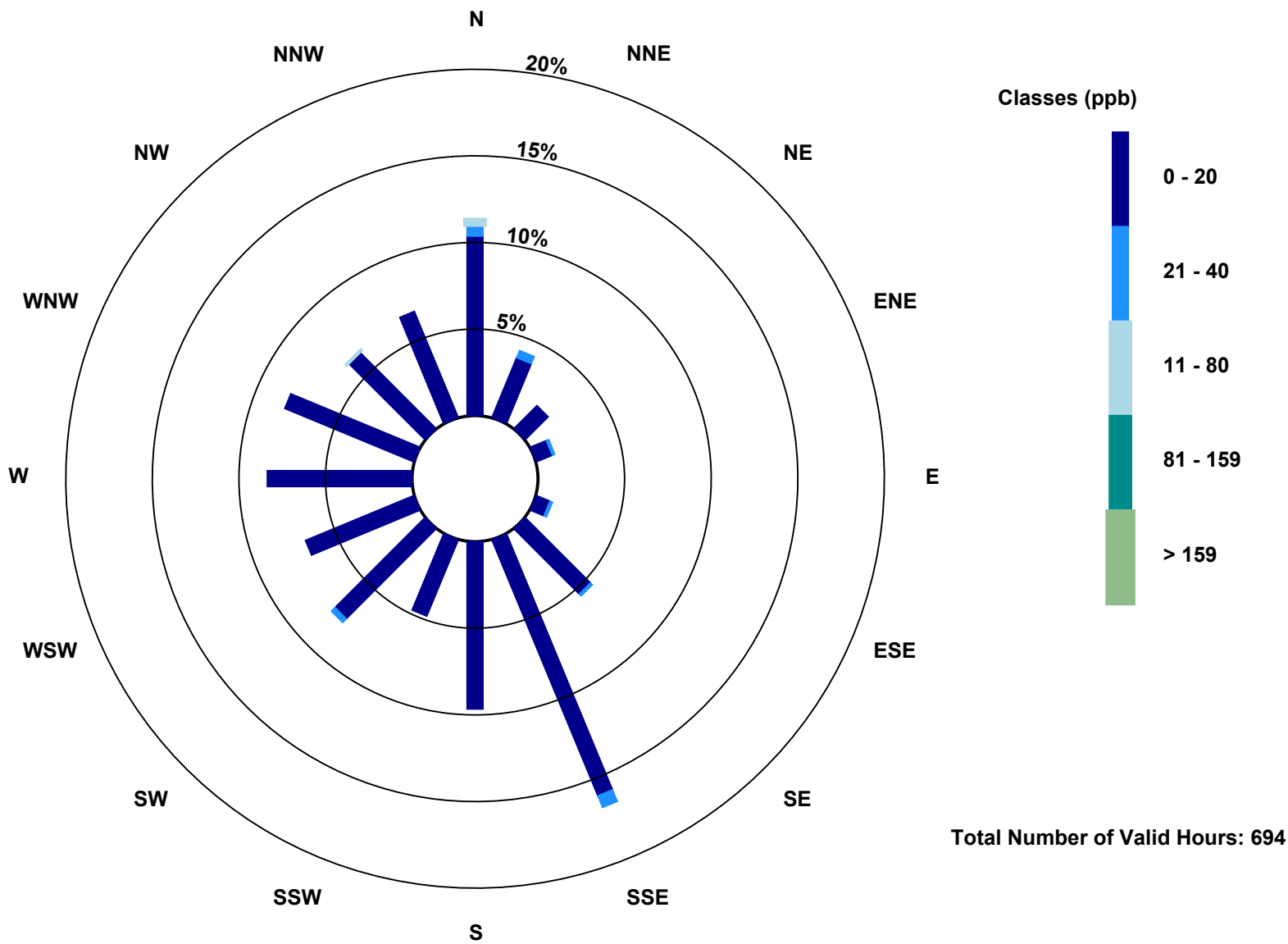
Total Number of Valid Hours: 694

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

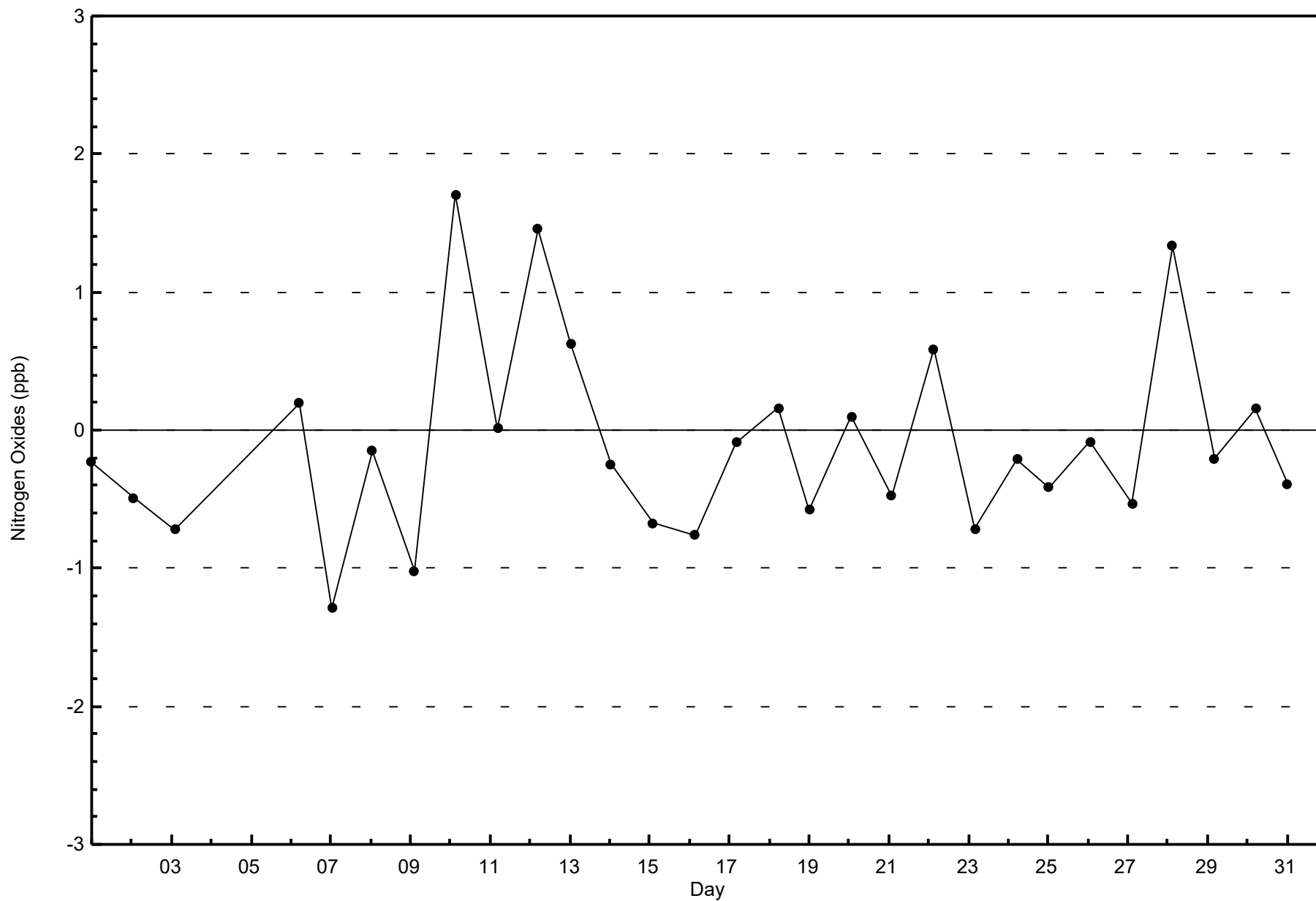
Nitrogen Oxides (NO_x) - ppb
Fort McKay - Bertha Ganter





Wood Buffalo Environmental Association
Zero Responses

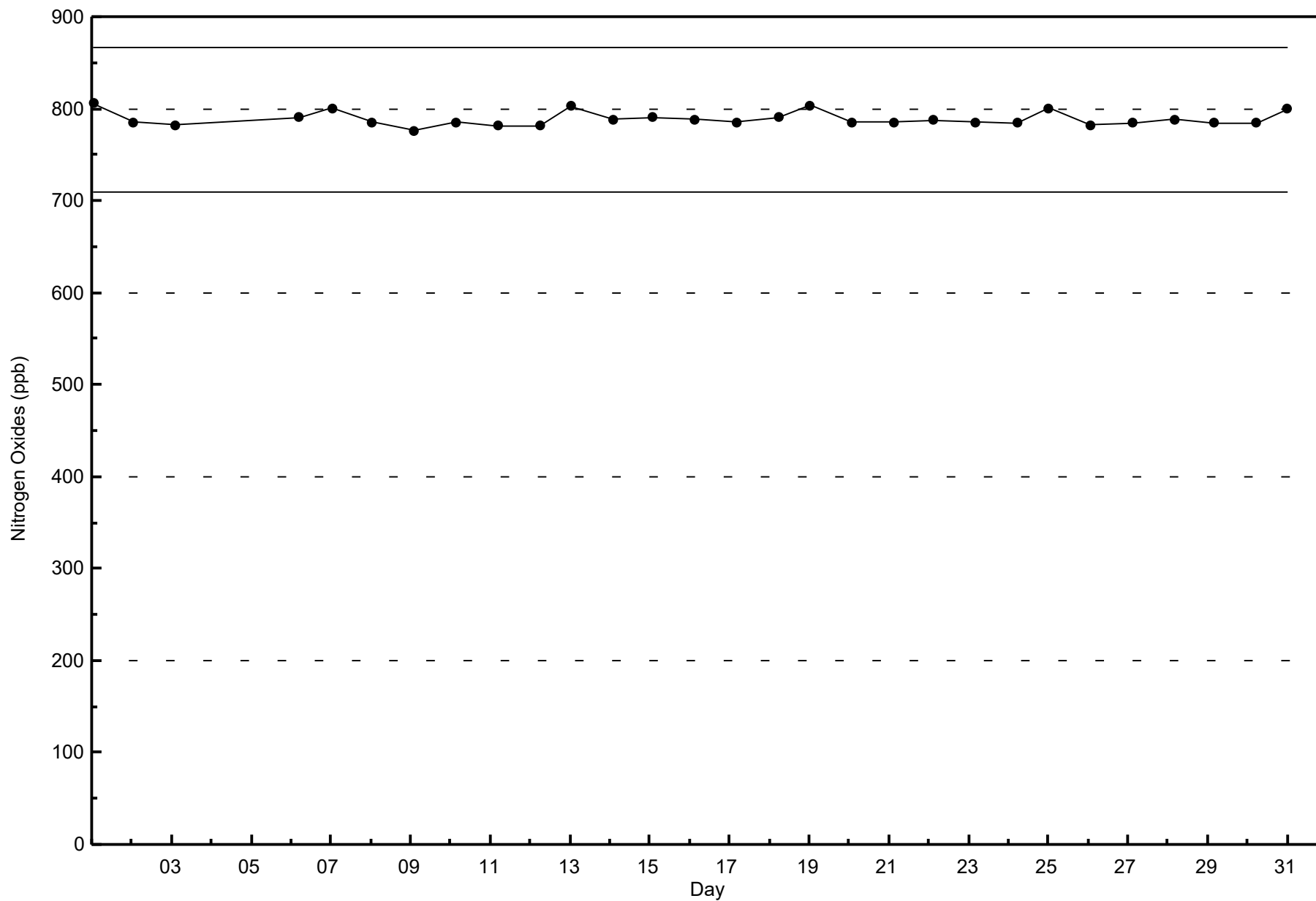
Nitrogen Oxides (NO_x) - ppb
Fort McKay - Bertha Ganter - July 2025





Wood Buffalo Environmental Association
Span Responses

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Ozone (O₃) - ppb

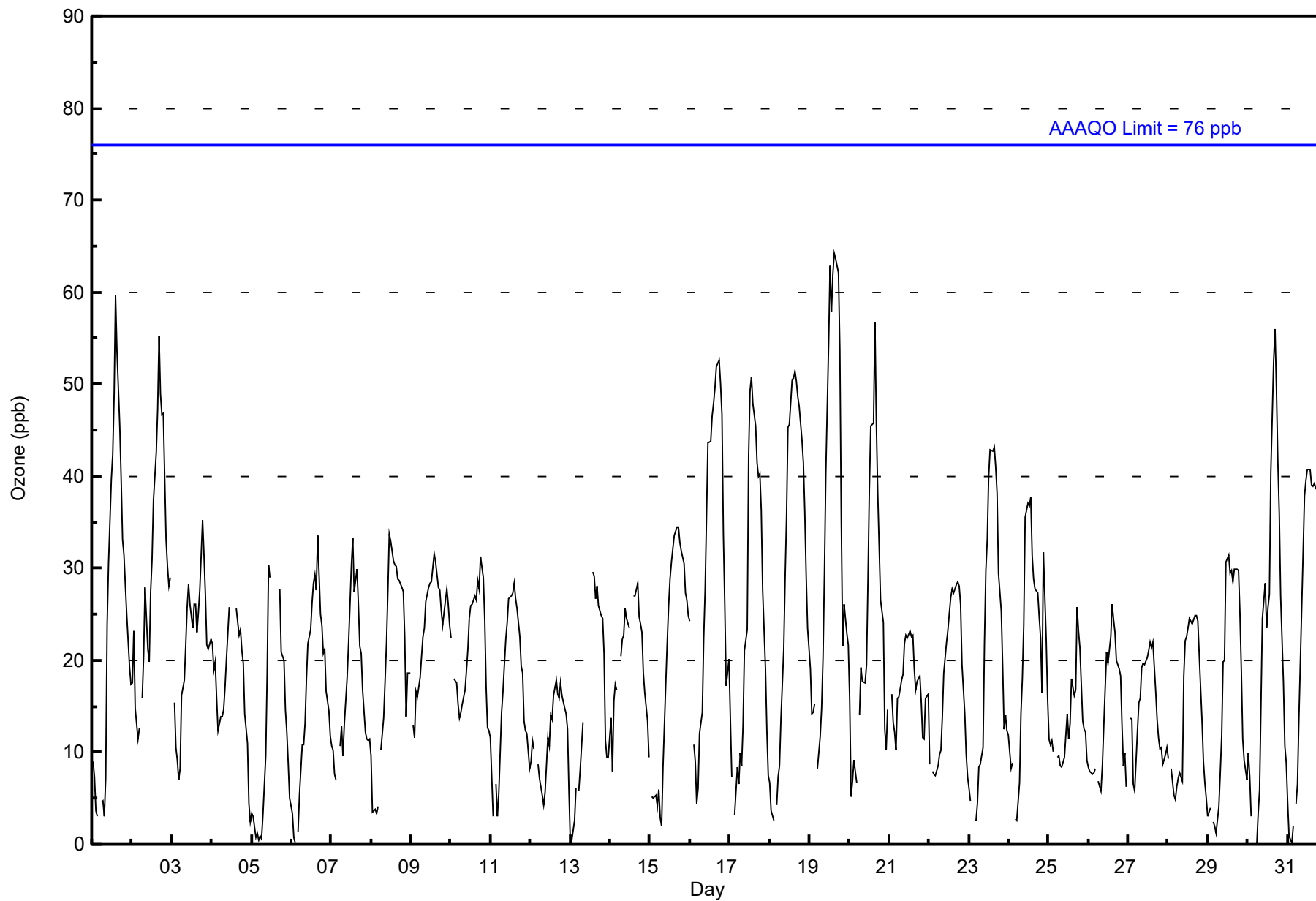
Fort McKay - Bertha Ganter - July 2025

Number of Exceedences (AAAQO): Maximum Value: 64.3 ppb on Jul 19 16:00																				1-hr: 0 Maximum Daily Average: 34.6 ppb on Jul 19				24-hr: 0 Minimum Daily Average: 11.5 ppb on Jul 12 Minimum Diurnal Average: 6.8 ppb at hour 5 Percentiles: P ₁ = 0.6 P ₁₀ = 5.8 Q ₁ = 10.5 Median = 19.1 Q ₃ = 27.6 P ₉₀ = 38.5 P ₉₉ = 56.7				Hours in Service: 744		Hours of Data: 700		Hours of Missing Data: 44		Hours of Calibration: 33		Percent Operational Time: 98.5			
Minimum Value: 0.0 ppb on Jul 30 05:00 Maximum Diurnal Average: 34.0 ppb at hour 16 Monthly Average: 20.48 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-Jul	9.0	7.3	3.7	3.1	Z	4.6	4.8	3.0	7.2	23.8	30.5	39.6	42.4	49.0	59.6	53.7	45.4	39.7	33.1	31.4	28.1	24.9	19.2	17.3	25.2	59.6													
2-Jul	17.6	23.1	14.8	11.5	12.6	Z	15.9	20.4	27.9	21.2	19.8	27.4	31.0	37.3	42.5	47.2	55.2	49.0	46.7	46.9	33.1	30.3	28.0	29.0	29.9	55.2													
3-Jul	Z	15.4	10.5	9.1	6.9	8.3	16.2	17.9	21.6	25.8	28.2	26.0	23.5	26.1	26.1	23.0	25.1	27.5	35.2	31.5	27.1	21.6	21.3	22.3	21.6	35.2													
4-Jul	21.8	19.0	19.8	15.9	12.4	13.9	13.9	14.7	17.0	20.2	25.8	C	C	C	C	25.7	22.7	23.3	21.0	19.6	14.2	11.0	4.4	2.5	16.9	25.8													
5-Jul	3.4	3.1	0.7	1.2	0.5	0.9	0.6	3.2	9.6	18.4	30.3	29.0	M	M	M	34.1	M	27.7	20.9	19.9	14.6	12.2	8.9	5.0	12.2	34.1													
6-Jul	3.3	0.8	0.2	Z	1.4	5.4	10.9	10.9	13.2	18.0	21.8	23.4	26.3	28.4	29.3	27.6	33.6	25.0	23.8	20.7	21.2	16.6	14.5	11.8	16.9	33.6													
7-Jul	10.6	10.2	7.7	7.0	Z	10.7	12.9	9.6	13.2	18.1	21.8	25.9	30.2	33.2	27.5	30.0	26.0	21.5	20.8	16.8	12.3	11.5	11.2	11.4	17.4	33.2													
8-Jul	9.6	3.5	3.8	3.3	4.1	Z	10.2	13.7	17.7	21.8	27.5	33.7	33.0	30.7	30.3	30.1	28.9	28.7	27.9	27.4	22.6	13.9	18.5	18.6	20.0	33.7													
9-Jul	Z	12.9	11.6	16.6	16.0	18.1	20.4	22.5	23.4	26.5	27.9	28.4	28.5	30.0	31.6	30.7	27.9	27.6	25.5	23.7	25.2	27.8	26.0	23.8	24.0	31.6													
10-Jul	22.5	Z	18.1	17.6	15.3	13.8	14.4	15.3	16.8	18.9	21.3	24.5	25.9	26.0	26.9	26.5	28.7	27.8	31.3	28.9	24.4	17.1	12.7	12.4	21.2	31.3													
11-Jul	11.6	3.0	Z	6.5	3.1	5.5	14.3	16.6	19.5	22.3	24.1	26.6	27.0	27.4	28.3	26.8	25.7	22.5	19.3	18.6	13.4	12.4	12.0	8.3	17.2	28.3													
12-Jul	9.1	11.3	10.3	Z	8.7	7.1	6.2	5.3	4.2	5.7	11.6	10.6	14.1	13.6	16.1	17.8	16.3	15.9	17.6	16.2	14.8	14.2	12.5	5.8	11.5	17.8													
13-Jul	0.2	0.5	2.7	6.1	Z	5.9	8.0	13.2	PF	PF	PF	PF	PF	29.6	29.2	26.8	28.0	26.0	24.9	24.6	20.8	11.3	9.5	9.5	15.4	29.6													
14-Jul	13.7	8.0	15.6	17.4	16.8	Z	20.4	22.2	22.8	25.7	24.6	23.4	M	M	27.1	27.0	28.4	24.8	24.0	23.0	18.6	16.5	13.4	9.5	20.1	28.4													
15-Jul	Z	5.2	5.0	5.3	4.2	6.0	2.8	2.0	8.4	17.6	21.9	26.0	28.8	30.6	33.5	34.0	34.5	34.5	32.7	31.8	30.5	27.4	26.5	24.8	20.6	34.5													
16-Jul	24.2	Z	10.8	9.0	4.4	6.1	12.1	14.3	22.4	27.6	35.5	43.6	43.7	46.6	47.9	49.6	51.9	52.6	50.0	46.6	33.7	26.0	17.2	20.1	30.3	52.6													
17-Jul	13.6	7.4	Z	3.2	8.4	6.6	9.9	8.5	12.9	21.1	23.4	42.2	49.3	50.9	47.9	45.4	41.5	39.9	40.3	36.4	27.7	19.0	12.3	7.5	25.0	50.9													
18-Jul	6.7	3.7	2.7	Z	4.2	7.3	8.5	13.5	21.2	29.1	35.6	45.3	45.5	50.5	50.7	51.5	50.3	48.6	47.7	43.9	41.5	36.1	29.1	23.4	30.3	51.5													
19-Jul	19.0	14.2	14.4	15.2	Z	8.2	11.8	14.8	20.2	29.4	40.4	54.5	62.8	57.7	61.9	64.3	63.7	62.0	53.7	35.1	21.5	26.1	22.8	21.7	34.6	64.3													
20-Jul	15.7	5.1	6.8	9.2	6.7	Z	14.0	19.2	17.7	17.5	19.6	28.5	38.4	45.4	45.8	56.7	45.7	38.2	32.3	26.5	24.0	12.5	10.3	14.6	23.9	56.7													
21-Jul	Z	16.3	13.2	12.3	10.2	15.9	16.1	17.8	18.4	21.8	22.7	22.5	23.2	22.5	22.7	19.1	16.7	17.7	18.3	15.4	11.6	11.5	15.9	16.4	17.3	23.2													
22-Jul	8.7	Z	7.9	7.7	7.4	8.6	9.7	10.3	13.9	18.7	22.0	23.4	25.1	26.9	27.7	27.3	28.2	28.6	28.1	26.1	19.6	14.2	9.7	7.4	17.7	28.6													
23-Jul	6.0	4.8	Z	2.7	2.5	4.4	8.4	8.7	10.5	21.7	29.8	33.0	40.0	42.8	42.7	43.2	41.0	38.2	29.4	25.3	19.3	12.5	14.0	12.4	21.5	43.2													
24-Jul	11.9	8.3	8.8	Z	2.8	2.5	6.7	14.2	18.0	23.9	35.6	37.1	36.8	37.7	31.5	28.9	27.8	27.2	24.6	22.5	16.5	31.7	22.3	15.9	21.4	37.7													
25-Jul	11.4	10.8	11.4	10.1	Z	9.5	9.6	8.5	8.5	9.4	11.8	14.2	11.5	13.1	18.0	16.2	16.7	25.8	23.2	21.4	13.4	12.6	12.2	9.1	13.4	25.8													
26-Jul	8.4	7.9	7.6	7.8	8.3	Z	6.8	5.8	8.6	12.9	17.0	20.9	19.7	22.6	26.1	24.4	23.0	19.9	19.1	18.3	12.8	8.5	9.9	6.2	14.0	26.1													
27-Jul	Z	13.7	13.5	6.6	5.8	12.4	15.4	15.9	19.2	19.6	19.5	20.3	21.0	22.0	21.3	22.0	16.6	13.6	11.6	10.4	10.5	8.7	9.8	10.5	14.8	22.0													
28-Jul	9.3	Z	8.2	5.3	4.8	6.2	7.2	7.8	6.9	18.4	22.2	22.6	23.5	24.6	24.0	24.5	24.8	24.8	24.3	17.0	13.3	9.0	6.7	5.0	14.8	24.8													
29-Jul	3.0	4.0	Z	2.4	2.0	1.3	4.2	7.8	11.7	19.8	20.0	30.6	31.4	29.4	29.7	28.5	29.8	29.9	29.7	25.2	19.0	11.5	9.2	7.1	16.8	31.4													
30-Jul	9.9	7.3	3.0	Z	0.0	0.0	3.4	5.9	15.3	24.6	28.3	23.5	25.7	27.2	40.4	52.5	56.0	49.4	41.7	36.0	27.0	17.5	10.7	8.8	22.3	56.0													
31-Jul	4.5	0.8	0.2	1.9	Z	4.4	6.6	13.6	25.7	31.5	37.8	39.5	40.7	40.7	39.0	39.0	39.1	38.8	38.5	34.4	29.4	19.7	12.5	10.2	23.9	40.7													
Diurnal Average																																							
Diurnal Maximum																																							
Z - zerospan C - Calibration M - Maintenance PF - Power Failure																																							
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 76 ppb																																							



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	378	54.00	54.00
21 - 50	302	43.14	97.14
51 - 82	20	2.86	100.00
> 83	0	0.00	100.00

Total Number of Valid Hours: 700

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

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

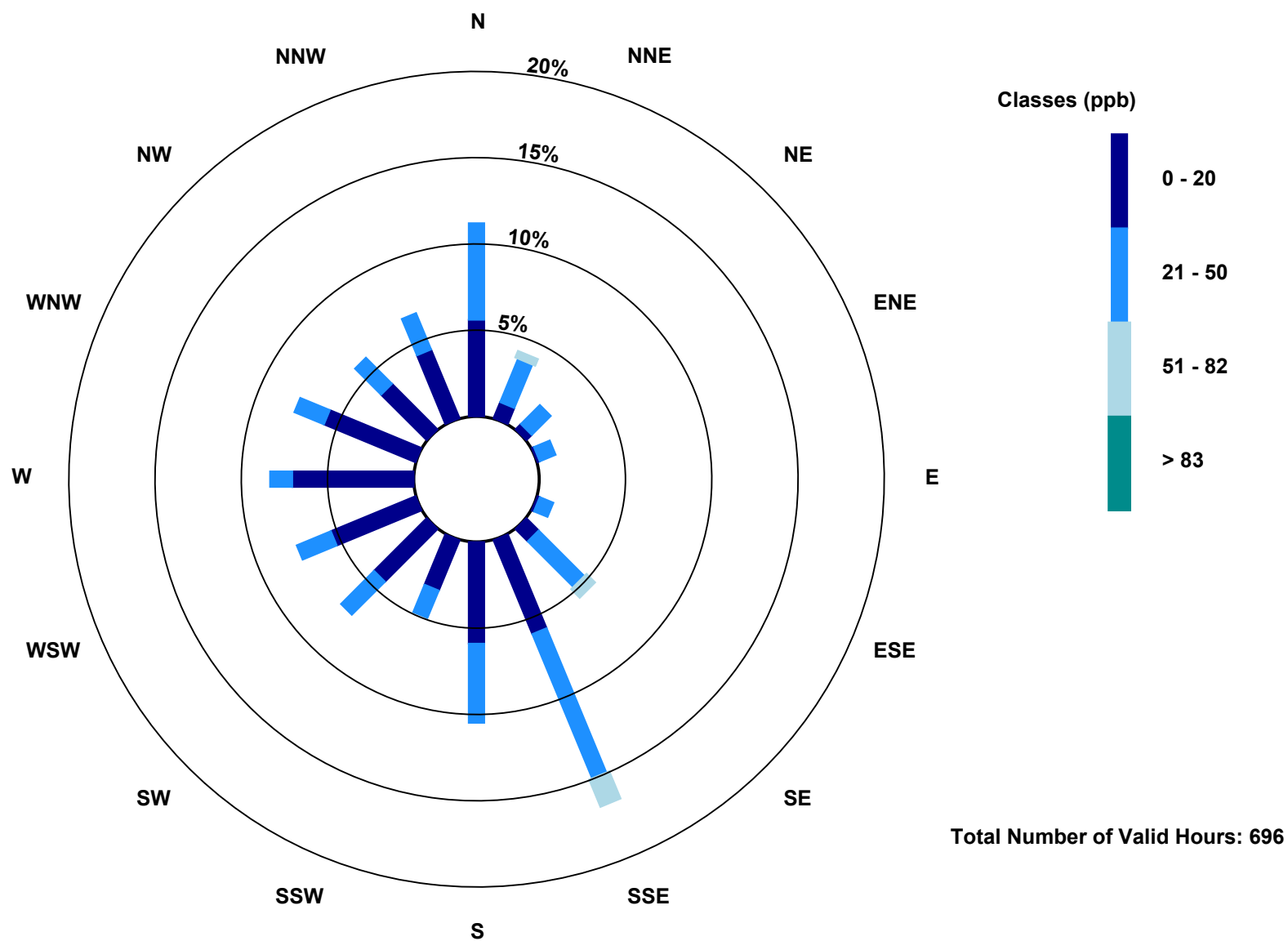
Concentration Ranges (ppb)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 20	39	7	3	1	0	1	7	41	41	22	30	37	49	40	26	30	374
21 - 50	39	19	11	7	0	6	26	63	32	12	19	15	9	13	15	16	302
51 - 82	0	3	0	0	0	0	5	12	0	0	0	0	0	0	0	0	20
> 83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	78	29	14	8	0	7	38	116	73	34	49	52	58	53	41	46	696

Total Number of Valid Hours: 696

Total Number of Hours: 744



Ozone (O₃) - ppb
Fort McKay - Bertha Ganter



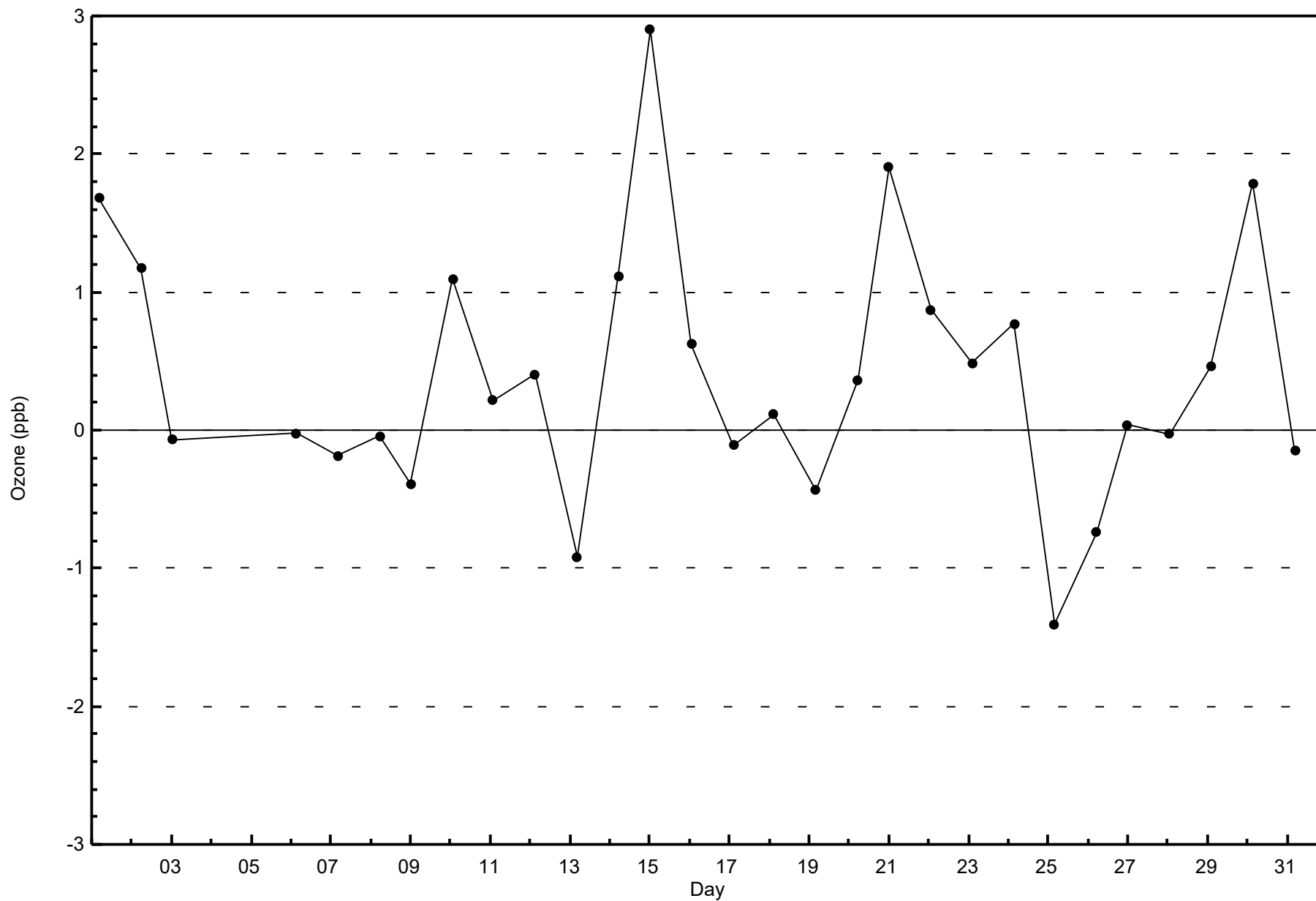


Wood Buffalo Environmental Association

Zero Responses

Ozone (O_3) - ppb

Fort McKay - Bertha Ganter - July 2025



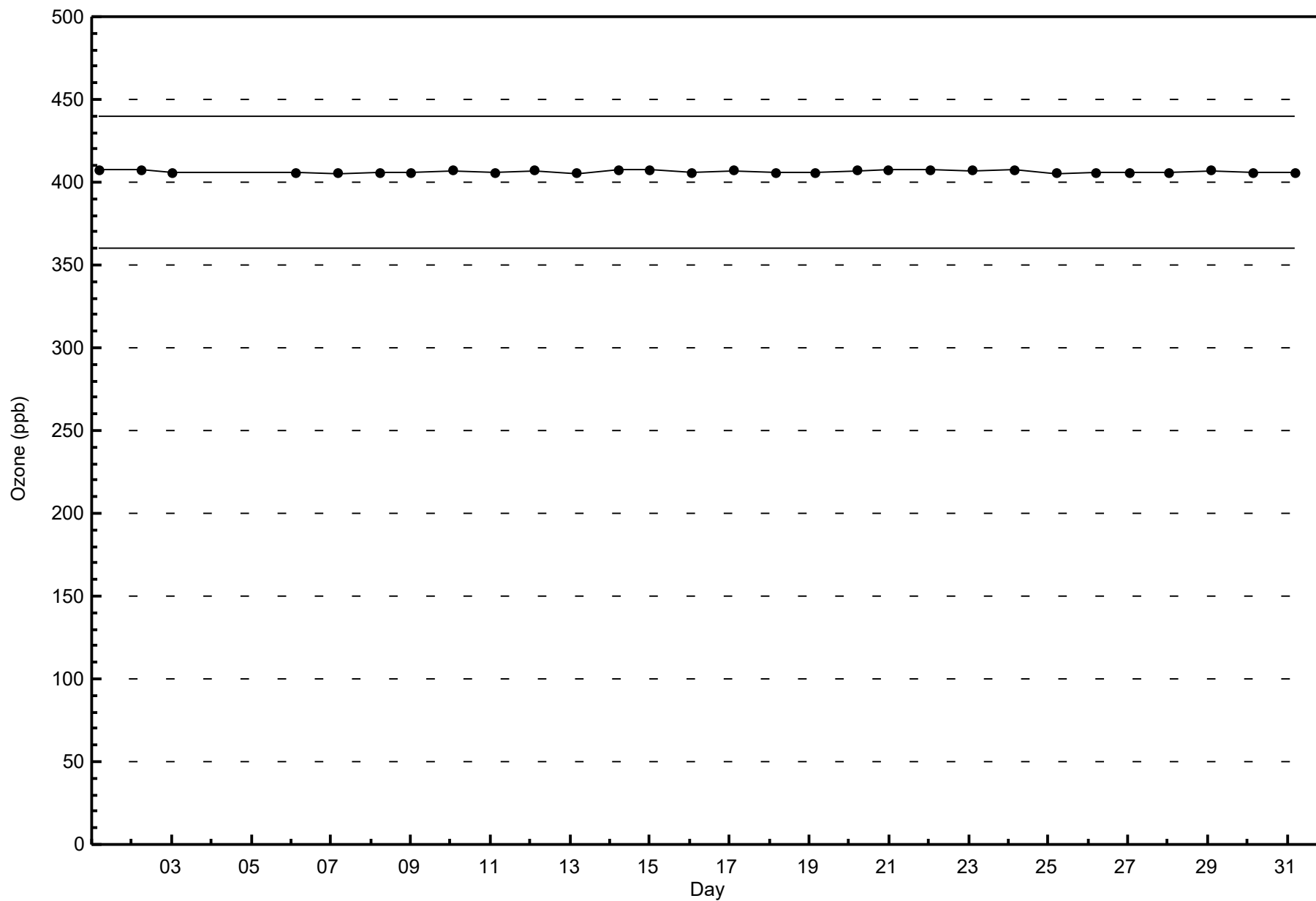


Wood Buffalo Environmental Association

Span Responses

Ozone (O₃) - ppb

Fort McKay - Bertha Ganter - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

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

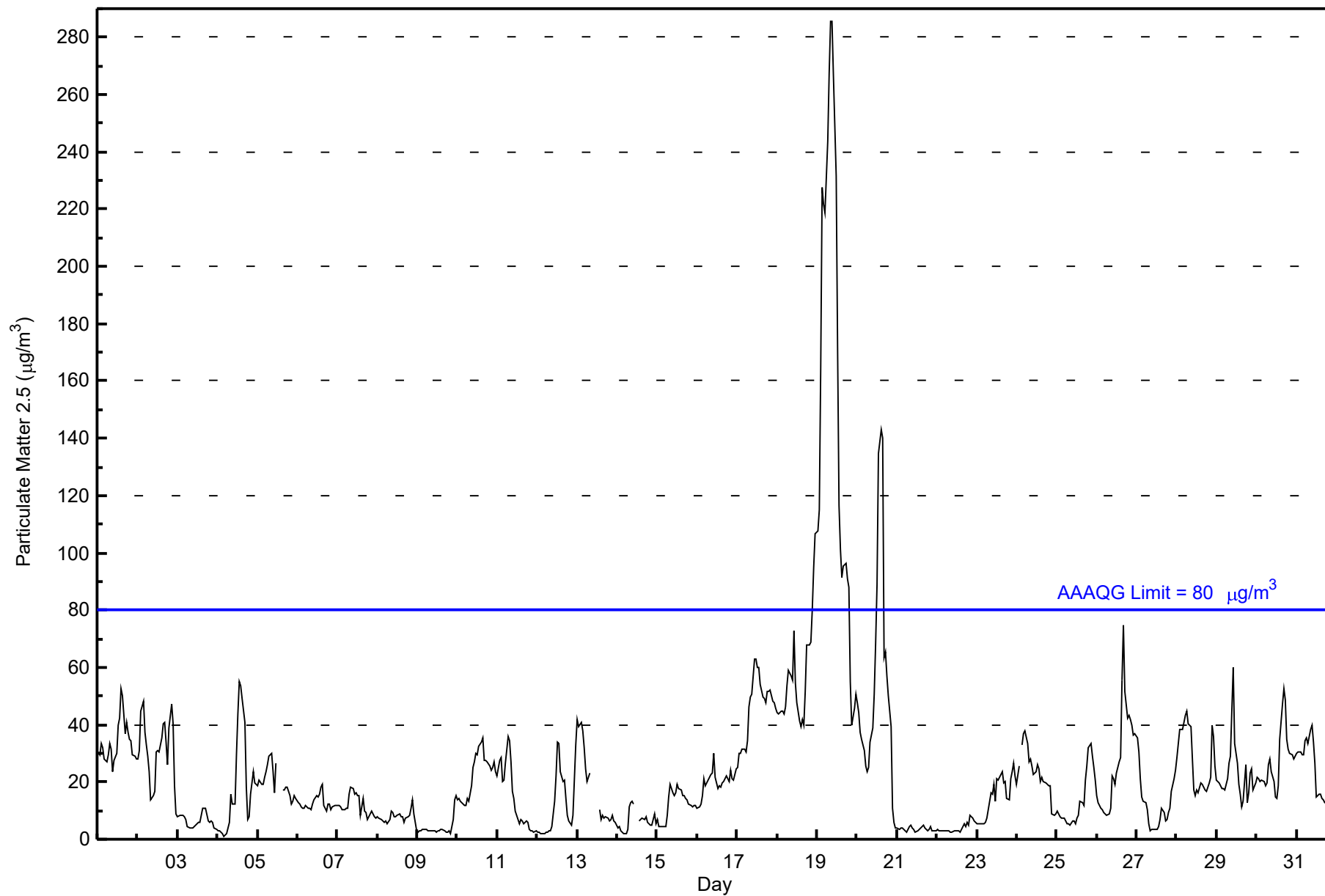
Fort McKay - Bertha Ganter - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 6 Maximum Value: 285.5 µg/m³ on Jul 19 09:00 Minimum Value: 1.2 µg/m³ on Jul 4 05:00 Maximum Diurnal Average: 29.7 µg/m³ at hour 11 Monthly Average: 24.73 µg/m³																					Maximum Daily Average: 153.2 µg/m³ on Jul 19 Minimum Daily Average: 3.6 µg/m³ on Jul 21 Minimum Diurnal Average: 20.8 µg/m³ at hour 1 Percentiles: P ₁ = 2.2 P ₁₀ = 3.5 Q ₁ = 7.6 Median = 17.0 Q ₃ = 30.0 P ₉₀ = 47.4 P ₉₉ = 220.6				Hours in Service: 744 Hours of Data: 733 Hours of Missing Data: 11 Hours of Calibration: 2 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-Jul	30.5	29.6	33.2	32.2	28.0	26.9	29.3	33.2	31.4	23.6	27.7	29.9	39.9	42.3	52.5	50.2	36.7	40.8	37.5	35.0	34.3	29.7	29.0	27.8	33.8	52.5
2-Jul	28.2	31.0	44.5	48.2	37.3	32.7	29.1	23.5	14.0	15.1	16.8	30.3	30.8	30.3	35.4	40.3	40.7	33.8	26.2	38.8	47.4	40.5	18.6	9.0	30.9	48.2
3-Jul	7.8	8.3	8.6	8.3	7.8	6.8	4.4	3.7	3.9	4.2	4.3	4.9	5.8	5.9	8.1	10.6	10.8	10.7	6.3	5.8	6.6	6.0	4.1	3.4	6.5	10.8
4-Jul	3.0	3.0	2.7	2.1	1.2	2.2	4.1	5.8	15.8	12.3	12.4	29.4	43.5	55.2	53.6	49.1	40.6	18.0	7.1	7.8	15.8	23.6	19.7	19.4	18.6	55.2
5-Jul	18.7	20.6	19.2	19.4	21.8	23.4	25.8	29.2	29.8	23.8	16.0	26.5	M	M	M	17.3	17.1	18.0	18.4	15.0	12.3	13.4	15.0	14.2	19.8	29.8
6-Jul	13.0	12.2	11.3	10.9	11.0	11.7	11.0	10.6	10.3	12.1	13.8	15.3	14.6	15.6	18.0	18.9	11.7	9.7	12.5	12.1	10.4	11.2	11.7	11.7	12.6	18.9
7-Jul	11.8	11.8	11.4	10.6	10.5	10.8	10.9	15.7	18.0	17.9	16.0	16.4	15.3	15.4	8.5	14.1	9.7	9.3	7.1	8.0	9.8	8.9	8.0	7.6	11.8	18.0
8-Jul	7.7	7.2	6.8	6.5	5.9	6.2	5.5	7.1	9.8	9.2	7.9	8.0	8.2	8.7	7.8	8.1	5.9	7.4	7.9	8.2	10.8	13.6	9.0	2.9	7.8	13.6
9-Jul	2.7	2.8	2.8	3.3	3.6	3.4	3.0	2.9	2.8	3.1	2.8	2.6	2.8	3.1	3.5	3.3	2.8	2.5	2.6	2.8	1.9	7.1	14.0	15.4	4.1	15.4
10-Jul	14.0	14.3	13.3	12.2	11.9	11.8	14.4	13.2	18.8	25.1	27.2	30.2	29.5	32.3	34.0	35.6	27.7	27.4	27.3	25.8	24.3	25.1	27.1	23.4	22.7	35.6
11-Jul	22.0	27.4	28.7	20.1	20.4	26.7	35.6	34.5	27.2	16.6	14.2	9.9	6.9	5.6	7.0	6.5	5.6	6.5	5.9	3.5	2.8	2.7	2.5	2.8	14.2	35.6
12-Jul	2.6	2.3	2.0	2.1	2.0	2.4	2.6	2.9	3.2	4.2	13.5	22.2	34.1	33.6	23.4	20.1	20.8	14.4	8.4	6.3	5.0	8.3	20.8	32.9	12.1	34.1
13-Jul	41.7	39.1	40.7	38.0	32.0	24.8	20.1	23.2	PF	PF	PF	PF	PF	10.4	6.7	8.1	7.6	7.7	7.3	6.4	7.0	8.5	6.5	5.9	18.0	41.7
14-Jul	3.8	4.4	3.1	2.5	1.9	2.0	3.7	11.3	13.0	13.4	12.0	C	C	6.2	6.8	7.6	6.9	7.7	5.7	5.2	5.0	5.0	8.7	5.6	6.4	13.4
15-Jul	7.0	4.6	4.4	4.2	4.2	4.5	8.4	14.6	19.0	16.3	15.0	16.2	19.1	17.6	17.0	15.3	15.4	14.4	13.7	12.4	11.9	11.5	11.9	11.6	12.1	19.1
16-Jul	11.0	11.5	12.4	15.3	21.2	18.7	19.8	21.4	22.6	23.1	29.9	21.7	17.6	18.5	18.3	19.5	19.9	21.9	21.0	20.0	24.1	21.3	20.6	24.6	19.8	29.9
17-Jul	25.2	30.1	29.9	31.2	31.5	30.5	34.6	46.1	49.5	50.7	62.8	62.8	59.7	59.7	54.1	49.7	48.9	47.8	51.4	51.8	52.2	48.3	47.4	45.9	45.9	62.8
18-Jul	44.4	43.5	44.6	44.8	43.9	46.4	53.3	58.8	57.0	55.8	72.9	54.5	47.8	41.1	39.2	41.9	39.8	51.6	67.8	67.9	68.7	80.1	94.8	106.8	57.0	106.8
19-Jul	107.6	115.2	164.7	227.5	221.5	218.8	243.6	267.3	285.5	285.4	266.9	231.3	170.5	116.5	101.2	91.2	95.3	96.4	90.9	88.1	55.1	39.6	45.6	50.6	153.2	285.5
20-Jul	47.8	44.4	37.5	35.0	30.8	25.4	23.6	25.1	33.7	38.9	50.5	68.1	89.2	134.6	142.8	140.2	63.2	65.6	57.0	50.0	39.2	10.7	5.9	3.9	52.6	142.8
21-Jul	4.0	3.2	4.0	3.7	3.6	2.9	2.7	4.2	5.0	4.1	3.5	2.4	3.2	3.5	4.0	4.7	5.0	3.7	2.9	3.7	4.4	3.1	3.1	3.1	3.6	5.0
22-Jul	3.4	3.2	3.0	3.1	3.0	2.9	2.8	2.7	2.5	2.6	2.8	2.9	2.8	2.9	2.7	3.3	5.3	4.2	5.7	4.8	8.6	7.4	6.5	6.0	4.0	8.6
23-Jul	5.6	5.5	5.4	5.3	5.5	5.8	7.6	10.5	16.3	15.7	19.1	13.3	21.2	20.4	22.5	23.6	19.5	20.3	14.4	13.6	21.3	23.6	26.4	22.1	15.2	26.4
24-Jul	19.3	25.7	DF	33.1	37.0	38.1	33.2	26.9	28.2	25.5	22.6	23.6	26.1	24.7	20.1	21.9	20.1	19.9	19.1	18.8	18.6	9.0	8.2	8.7	23.0	38.1
25-Jul	10.0	8.9	7.8	7.5	7.4	6.5	5.6	5.2	5.2	6.4	6.3	5.5	7.3	8.5	13.2	12.9	11.8	20.9	25.4	32.1	33.3	29.1	25.0	20.8	13.4	33.3
26-Jul	15.4	12.8	11.1	10.4	9.6	9.0	8.4	8.8	10.8	22.0	21.0	19.2	23.3	26.9	28.5	55.5	74.6	51.6	42.1	43.3	41.8	39.6	36.3	36.6	27.4	74.6
27-Jul	35.5	30.3	21.2	14.7	13.2	12.8	10.2	5.5	3.0	3.5	3.5	3.4	3.5	4.6	6.7	10.7	9.1	6.6	7.0	9.4	11.1	16.9	21.3	24.2	12.0	35.5
28-Jul	28.5	33.6	38.3	38.3	40.6	43.2	44.7	40.4	39.3	28.2	17.4	15.0	17.3	16.5	19.4	19.3	17.9	17.2	16.9	19.6	21.6	40.0	35.8	25.7	28.1	44.7
29-Jul	20.6	19.9	18.9	17.8	17.5	17.0	20.9	26.7	29.0	44.7	59.9	33.5	26.5	19.1	16.0	11.4	13.2	25.9	12.7	16.1	22.9	24.8	17.0	19.8	23.0	59.9
30-Jul	21.5	21.3	20.3	20.6	20.1	18.6	19.8	25.9	27.8	23.6	20.0	14.5	14.1	18.8	35.1	47.3	52.5	48.7	35.1	31.6	30.0	29.6	27.9	29.0	27.2	52.5
31-Jul	29.9	30.7	30.3	29.5	29.7	34.4	35.2	33.6	38.3	39.7	33.7	26.5	14.9	15.7	15.7	14.5	13.6	12.8	12.9	15.2	20.3	31.1	33.1	33.6	26.0	39.7
20.8 21.2 22.7 24.5 23.7 23.5 25.0 27.1 29.0 28.9 29.7 29.0 28.4 27.1 27.4 28.2 24.8 24.0 21.8 21.9 21.9 21.6 21.3 21.1																										Diurnal Average
107.6 115.2 164.7 227.5 221.5 218.8 243.6 267.3 285.5 285.4 266.9 231.3 170.5 134.6 142.8 140.2 95.3 96.4 90.9 88.1 68.7 80.1 94.8 106.8																										Diurnal Maximum
C - Calibration M - Maintenance DF - DAS Failure PF - Power Failure Alberta Ambient Air Quality Guideline/Objectives: 1-hr 80 µg/m³ 24-hr 29 µg/m³																										



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges ($\mu\text{g}/\text{m}^3$)	Number of Hours	%	Cumulative %
0 - 5	124	16.92	16.92
6 - 15	222	30.29	47.20
16 - 25	148	20.19	67.39
26 - 80	213	29.06	96.45
> 81.0	26	3.55	100.00

Total Number of Valid Hours: 733

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

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

Concentration Ranges (µg/m³)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	16	2	0	0	0	0	0	0	6	6	21	14	13	12	13	21	124
6 - 15	34	5	2	1	0	0	2	27	36	16	19	14	27	15	13	11	222
16 - 25	10	3	3	1	0	4	17	31	16	6	7	14	11	10	5	9	147
26 - 80	22	19	9	6	0	3	14	45	17	8	8	9	11	18	16	5	210
> 81.0	0	0	0	0	0	0	5	15	1	0	0	1	0	2	0	2	26
Totals	82	29	14	8	0	7	38	118	76	36	55	52	62	57	47	48	729

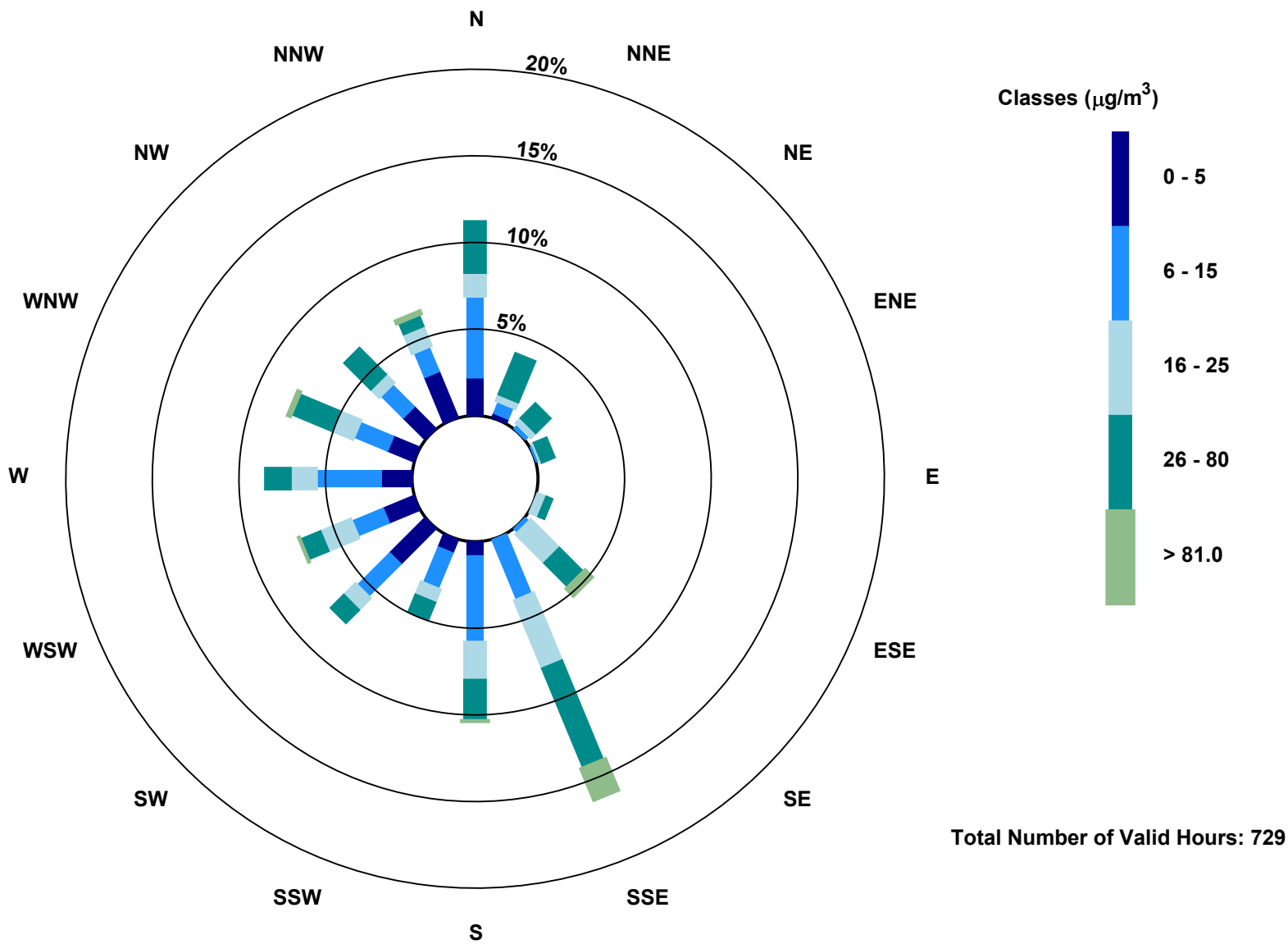
Total Number of Valid Hours: 729

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

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

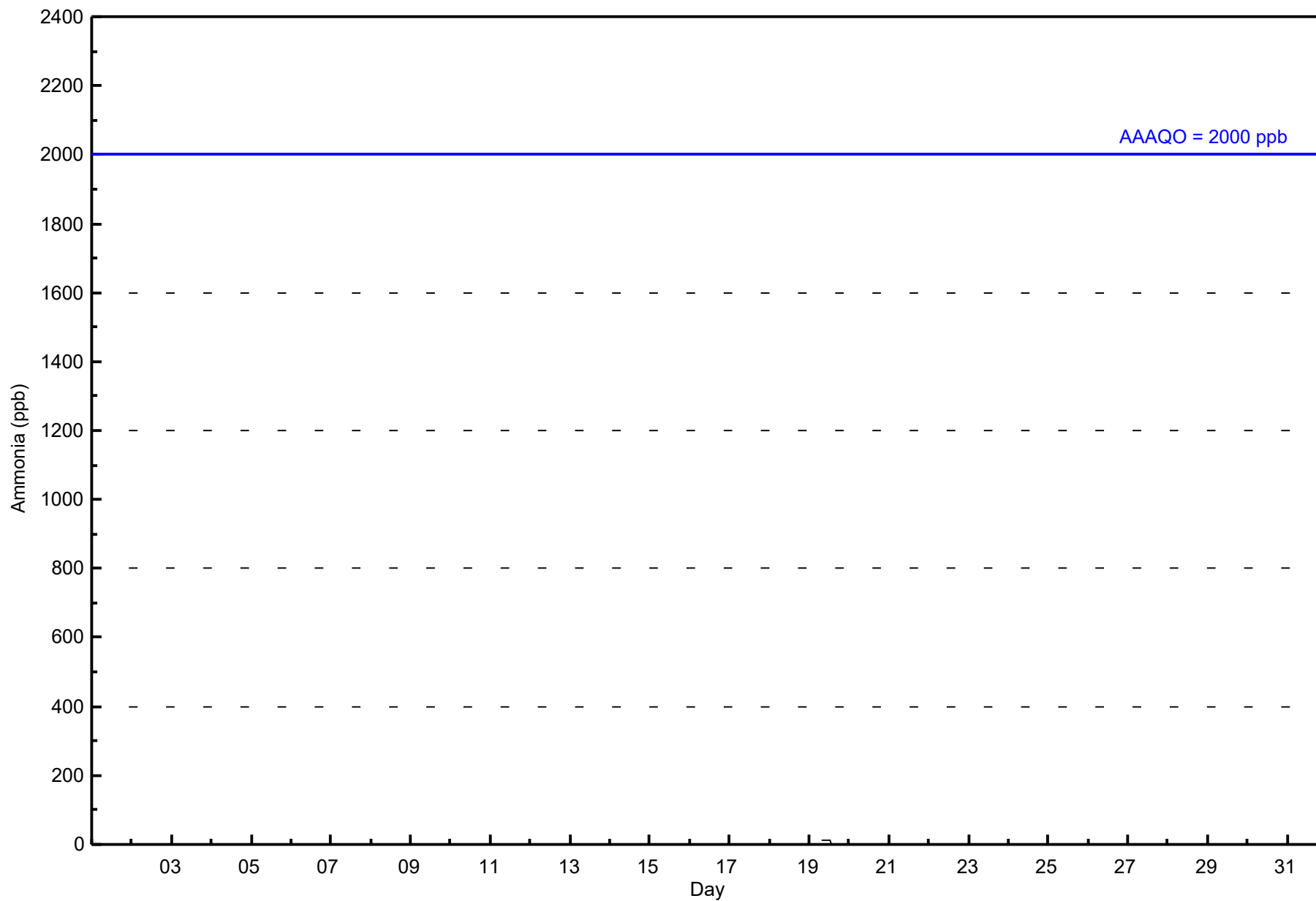


Number of Exceedences (AAAQO): Maximum Value: 12.4 ppb on Jul 19 08:00																			1-hr: 0 Maximum Daily Average: 3.2 ppb on Jul 19							Hours in Service: 744 Hours of Data: 639 Hours of Missing Data: 105 Hours of Calibration: 43 Percent Operational Time: 91.7			
Minimum Value: 0.0 ppb on Jul 1 01:00 Maximum Diurnal Average: 0.4 ppb at hour 11 Monthly Average: 0.11 ppb																			Minimum Daily Average: 0.0 ppb on Jul 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										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum			
1-Jul	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	
2-Jul	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	0.0	0.0	0.0	
3-Jul	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	
4-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	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	M	M	M	M	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
6-Jul	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	
7-Jul	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	
8-Jul	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	
9-Jul	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	
10-Jul	0.0	0.0	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C	C	C	C	C	C	M	M	M	M	M	M	M	M	M	M	-	
11-Jul	M	M	M	M	M	M	M	M	M	M	M	M	C	C	C	C	C	C	C	C	C	C	C	C	0.0	0.0	0.0	-	
12-Jul	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	0.0	
13-Jul	0.0	0.0	0.0	0.0	0.0	Z	RE	0.0	PF	PF	PF	PF	PF	PF	0.0	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-Jul	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	M	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	
15-Jul	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	
16-Jul	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	
17-Jul	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	
18-Jul	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	
19-Jul	0.0	0.0	0.0	0.0	0.0	Z	RE	12.4	12.2	12.3	12.3	11.9	10.2	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	3.2	
20-Jul	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	
21-Jul	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	
22-Jul	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	
23-Jul	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	
24-Jul	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	
25-Jul	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	
26-Jul	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	
27-Jul	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	
28-Jul	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	
29-Jul	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	
30-Jul	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	
31-Jul	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	
																								Diurnal Average					
																								Diurnal Maximum					
Z - zerospan C - Calibration M - Maintenance PF - Power Failure 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 - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 5	633	99.06	99.06
6 - 10	1	0.16	99.22
11 - 15	5	0.78	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: 639

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Ammonia (NH₃) - ppb
Fort McKay - Bertha Ganter - July 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	74	29	13	8	0	7	37	108	61	27	39	43	54	45	40	44	629
6 - 10	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
11 - 15	0	0	0	0	0	0	1	4	0	0	0	0	0	0	0	0	5
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	74	29	13	8	0	7	38	113	61	27	39	43	54	45	40	44	635

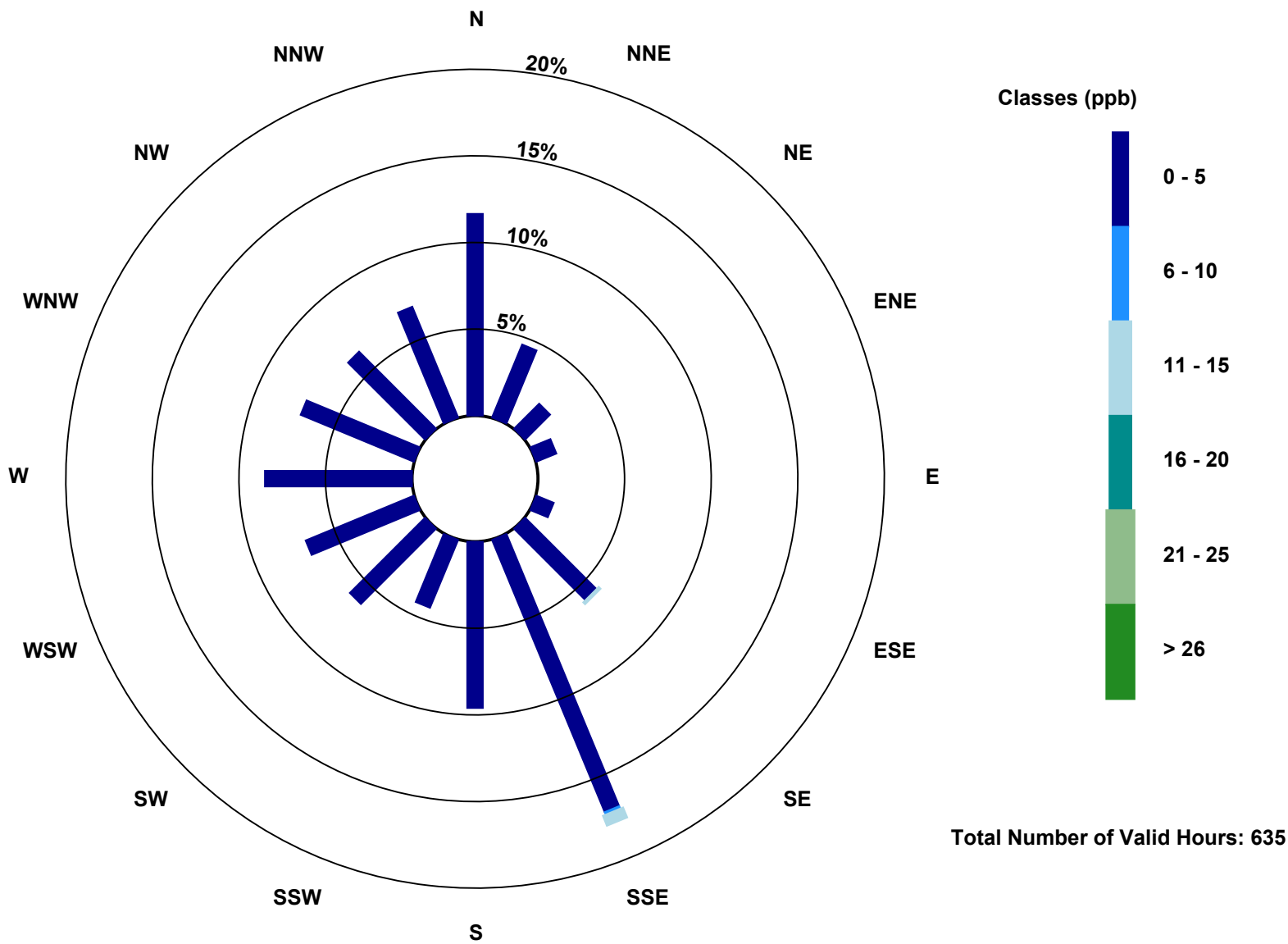
Total Number of Valid Hours: 635

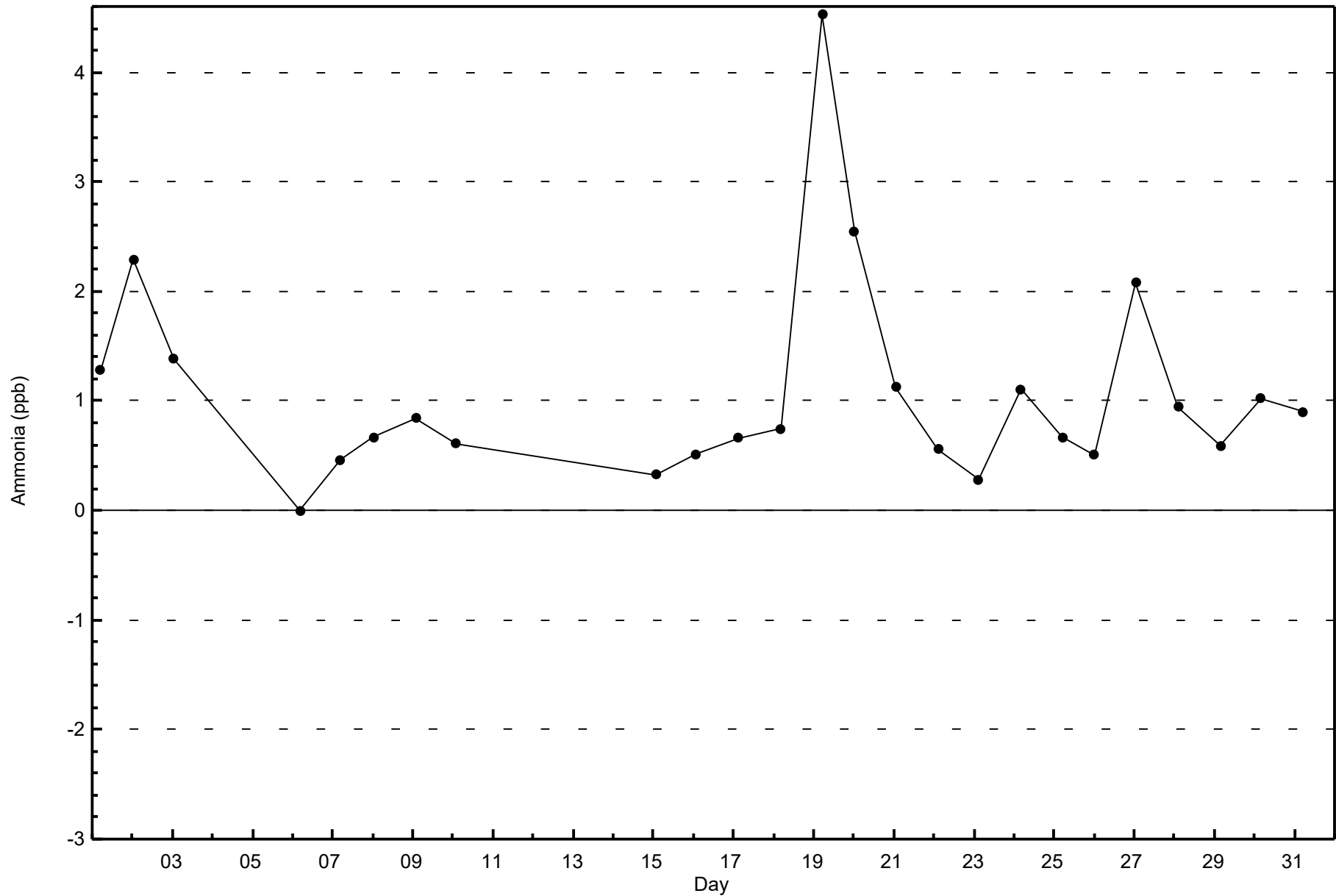
Total Number of Hours: 744

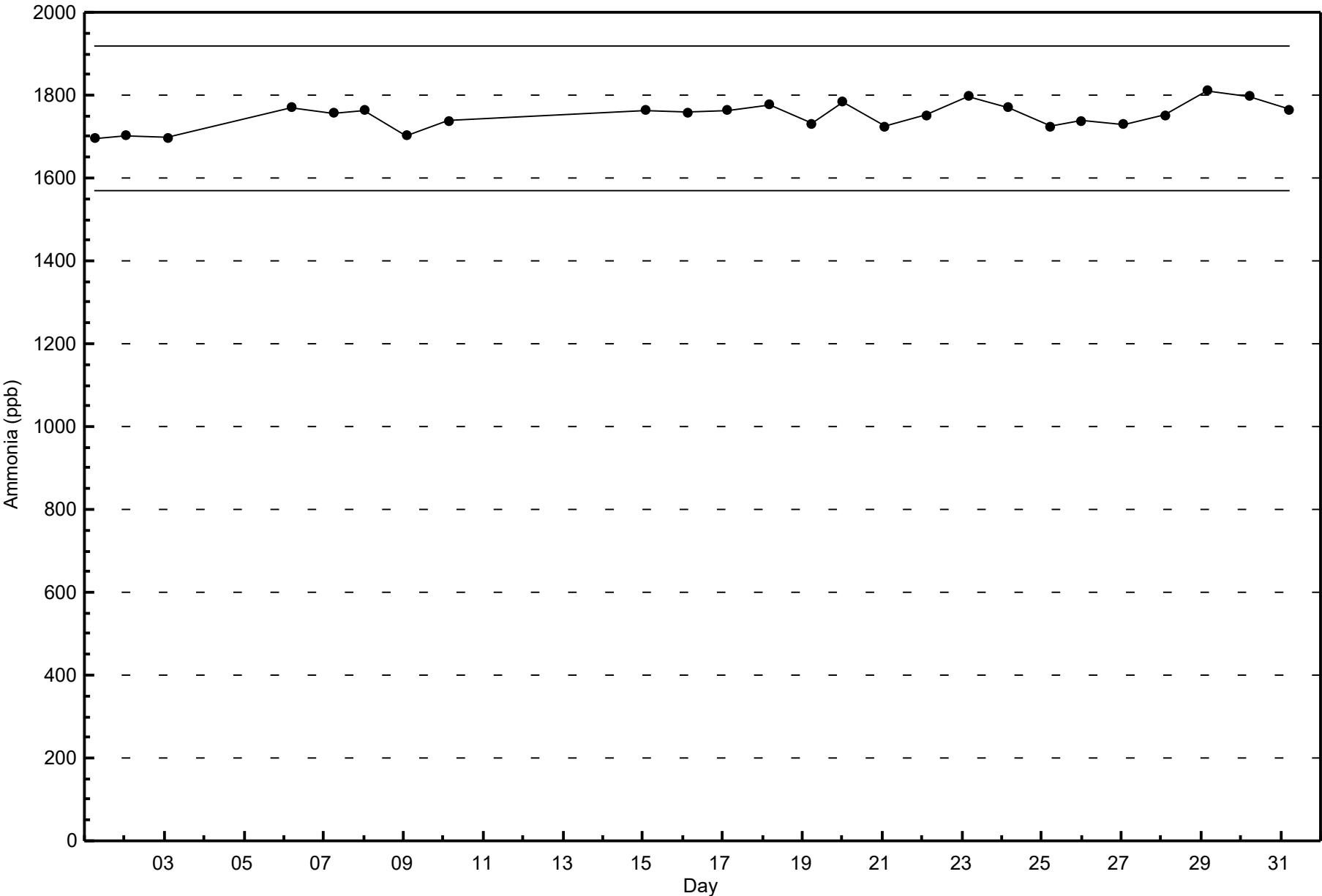


Wood Buffalo Environmental Association
Wind Rose Jul 2025

Ammonia (NH₃) - ppb
Fort McKay - Bertha Ganter









Wood Buffalo Environmental Association

Summary of Hour Averages

Ambient Temperature 10m (AT10) - C

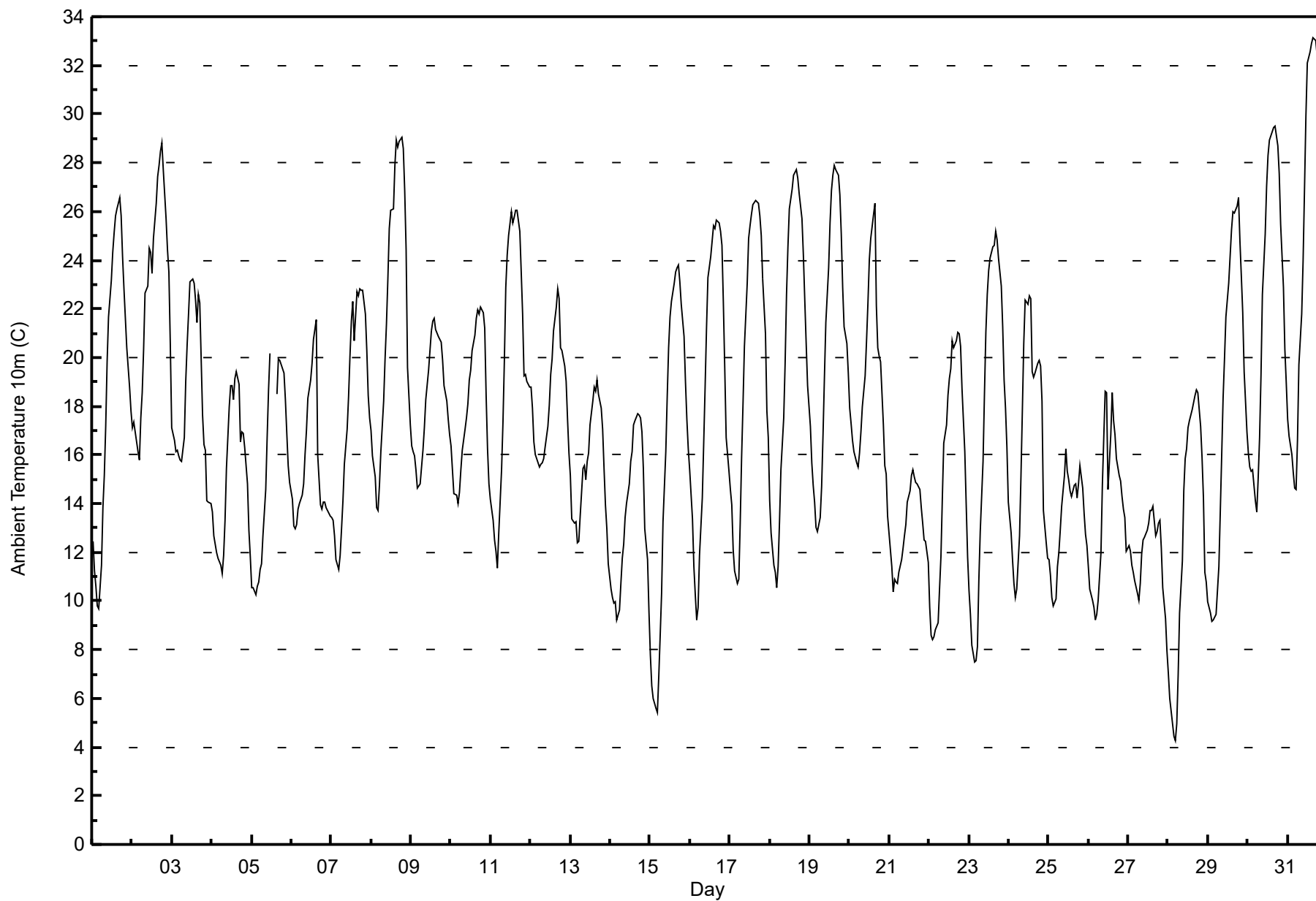
Fort McKay - Bertha Ganter - July 2025

Maximum Value: 33.1 C on Jul 31 16:00																				Maximum Daily Average: 24.8 C on Jul 31				Hours in Service: 744		
Minimum Value: 4.3 C on Jul 28 05:00																				Minimum Daily Average: 11.9 C on Jul 27				Hours of Data: 741		
Maximum Diurnal Average: 22.6 C at hour 16																				Minimum Diurnal Average: 11.4 C at hour 5				Hours of Missing Data: 3		
Monthly Average: 17.54 C																				Percentiles: P ₁ = 6.2 P ₁₀ = 10.7 Q ₁ = 13.4 Median = 16.9 Q ₃ = 21.4 P ₉₀ = 25.5 P ₉₉ = 30.7				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-Jul	12.4	11.2	10.6	9.8	9.7	11.5	13.8	15.1	17.2	19.8	21.7	23.1	24.3	25.1	25.8	26.1	26.5	25.8	24.1	22.8	21.6	20.4	18.8	17.8	19.0	26.5
2-Jul	17.1	17.3	16.9	16.1	15.8	17.5	18.6	20.4	22.6	22.9	24.5	24.3	23.4	24.9	26.3	27.5	27.9	28.5	28.8	27.7	25.7	24.4	23.5	20.6	22.6	28.8
3-Jul	17.1	16.6	16.1	16.2	16.0	15.8	15.8	16.7	19.0	20.5	21.8	23.1	23.2	23.1	22.4	21.4	22.6	22.2	17.6	16.4	16.2	14.1	14.0	14.0	18.4	23.2
4-Jul	13.7	12.7	12.3	12.0	11.8	11.5	11.1	11.9	13.3	15.5	18.0	18.9	18.8	18.3	19.1	19.4	18.9	16.5	17.0	16.9	16.3	14.8	12.9	11.8	15.1	19.4
5-Jul	10.5	10.6	10.3	10.6	10.8	11.3	11.5	12.7	14.6	16.7	18.7	20.2	M	M	M	18.5	19.9	19.9	19.7	19.3	18.3	16.9	15.6	14.9	15.3	20.2
6-Jul	14.1	13.1	12.9	13.1	13.8	14.0	14.4	14.8	16.0	17.0	18.3	19.1	19.8	20.7	21.2	21.6	16.0	14.0	13.8	14.1	14.1	13.8	13.6	13.5	15.7	21.6
7-Jul	13.4	13.3	12.7	11.7	11.3	11.9	13.0	14.1	15.6	17.0	18.4	20.0	21.5	22.3	20.7	22.7	22.6	22.8	22.8	22.8	21.8	20.3	18.4	17.5	17.9	22.8
8-Jul	17.0	16.0	15.1	13.9	13.7	14.8	16.1	18.2	20.0	21.4	23.2	25.3	26.0	26.1	27.9	28.9	28.6	28.9	29.0	28.6	26.8	24.5	19.6	17.3	21.9	29.0
9-Jul	16.3	16.1	16.0	15.4	14.7	14.8	15.5	16.2	17.1	18.3	19.5	20.3	21.1	21.5	21.6	21.2	20.9	20.8	20.6	19.9	18.9	18.2	17.4	16.8	18.3	21.6
10-Jul	16.4	15.4	14.4	14.4	14.0	14.5	15.4	16.2	17.1	17.5	18.1	19.1	19.5	20.3	20.9	21.6	22.0	21.8	22.1	21.8	21.2	18.4	16.3	14.8	18.0	22.1
11-Jul	14.2	13.3	12.5	12.0	11.3	12.8	15.4	17.3	19.9	22.9	24.2	25.0	26.0	25.6	25.8	26.0	26.0	25.2	23.5	21.8	19.2	19.3	19.0	18.8	19.9	26.0
12-Jul	18.8	17.9	16.6	16.0	15.7	15.5	15.6	15.7	15.9	16.3	17.2	18.0	19.3	20.0	21.1	22.1	22.8	22.4	20.4	20.3	19.7	19.0	17.4	16.1	18.3	22.8
13-Jul	15.2	13.4	13.2	13.3	12.4	12.4	13.5	15.4	15.6	15.0	15.8	16.1	17.2	18.2	18.8	18.6	19.1	18.5	18.0	17.0	15.5	13.9	12.9	11.5	15.4	19.1
14-Jul	10.5	10.1	9.9	10.0	9.2	9.6	10.7	11.7	12.3	13.4	14.0	14.8	15.7	16.1	17.2	17.4	17.7	17.6	17.5	16.9	15.4	13.0	11.7	9.6	13.4	17.7
15-Jul	7.8	6.5	6.0	5.6	5.4	6.9	8.6	10.3	13.3	16.1	18.4	20.4	21.7	22.3	23.1	23.5	23.7	23.8	23.1	22.2	20.9	19.0	17.5	16.3	15.9	23.8
16-Jul	15.4	13.4	11.4	10.2	9.2	9.8	11.9	14.2	16.5	18.8	21.2	23.3	24.1	24.8	25.4	25.3	25.6	25.5	25.2	24.6	22.3	19.5	16.7	15.4	18.7	25.6
17-Jul	14.6	13.9	12.1	11.3	10.7	10.9	13.2	15.9	18.1	20.4	23.1	24.9	25.4	25.9	26.3	26.4	26.4	26.4	25.8	25.0	23.2	21.0	17.8	16.7	19.8	26.4
18-Jul	14.1	12.8	11.5	11.2	10.5	11.4	13.3	15.4	17.5	19.8	22.6	24.5	26.1	26.9	27.5	27.6	27.7	27.4	26.7	25.7	24.2	22.3	20.6	18.8	20.3	27.7
19-Jul	17.2	15.7	14.8	14.0	13.0	12.8	13.4	14.7	16.8	19.2	21.4	23.7	25.5	26.8	27.5	27.9	27.7	27.5	26.7	25.1	22.9	21.3	20.5	19.4	20.6	27.9
20-Jul	17.9	17.3	16.6	16.1	15.7	15.5	16.1	17.0	18.0	19.2	20.7	22.3	24.0	24.9	25.9	26.3	22.1	20.4	20.0	19.8	17.2	15.6	15.2	13.5	19.1	26.3
21-Jul	12.8	11.4	10.3	10.9	10.8	10.7	11.2	11.7	12.1	12.7	13.1	14.1	14.5	15.2	15.4	15.1	14.9	14.8	14.6	13.9	13.2	12.5	12.4	11.6	12.9	15.4
22-Jul	9.7	8.6	8.4	8.5	8.8	9.1	10.5	11.8	14.2	16.5	17.2	18.5	19.1	19.5	20.7	20.4	20.7	21.0	21.0	20.5	18.7	16.1	13.9	11.8	15.2	21.0
23-Jul	10.4	9.4	8.2	7.5	7.5	8.1	10.9	12.9	15.7	18.5	21.1	22.6	23.5	24.1	24.6	24.6	25.2	24.8	24.1	22.9	21.2	19.1	17.9	16.3	17.5	25.2
24-Jul	14.1	12.8	11.7	10.7	10.2	10.5	12.7	15.1	17.8	20.6	22.4	22.2	22.5	22.4	19.4	19.2	19.4	19.8	19.9	19.6	18.2	13.7	12.4	11.8	16.6	22.5
25-Jul	11.7	11.1	10.2	9.8	10.1	11.4	12.0	12.9	13.9	15.2	16.2	15.3	15.0	14.5	14.3	14.8	14.8	14.2	14.8	15.6	14.7	13.6	12.7	12.3	13.4	16.2
26-Jul	11.4	10.5	10.0	9.7	9.2	9.4	10.1	12.0	14.7	16.7	18.6	18.5	14.6	16.8	18.5	17.4	16.8	15.9	15.2	14.9	14.3	13.8	13.4	12.1	13.9	18.6
27-Jul	12.3	12.0	11.5	11.2	10.8	10.3	10.0	10.7	11.9	12.5	12.6	12.9	13.2	13.7	13.7	13.9	12.7	12.8	13.2	13.3	12.2	10.5	9.3	7.9	11.9	13.9
28-Jul	7.0	6.0	5.5	4.4	4.3	5.0	7.0	9.5	11.6	14.5	15.9	16.3	17.1	17.4	17.9	18.2	18.5	18.7	18.6	17.2	15.9	14.3	11.2	10.8	12.6	18.7
29-Jul	10.0	9.5	9.2	9.2	9.3	9.4	11.4	13.7	16.0	18.3	19.9	21.7	23.1	24.2	25.2	26.0	25.9	26.2	26.5	24.8	23.3	21.8	19.4	17.0	18.4	26.5
30-Jul	16.1	15.5	15.4	15.4	14.1	13.7	15.0	16.7	19.3	22.6	25.1	27.0	28.3	29.0	29.1	29.5	29.5	29.1	28.7	27.6	25.4	22.9	20.3	19.0	22.3	29.5
31-Jul	17.5	16.8	16.0	15.3	14.7	14.6	16.6	19.7	21.8	24.0	26.9	29.9	32.1	32.6	32.9	33.1	33.1	33.0	32.4	31.3	28.9	26.1	23.9	22.5	24.8	33.1
Diurnal Average																										
Diurnal Maximum																										
M - Maintenance																										



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	0	0.00	0.00
-20 - 0	0	0.00	0.00
0 - 10	47	6.34	6.34
10 - 20	463	62.48	68.83
> 20	231	31.17	100.00

Total Number of Valid Hours: 741

Total Number of Hours: 744



Wood Buffalo Environmental Association

Summary of Hour Averages

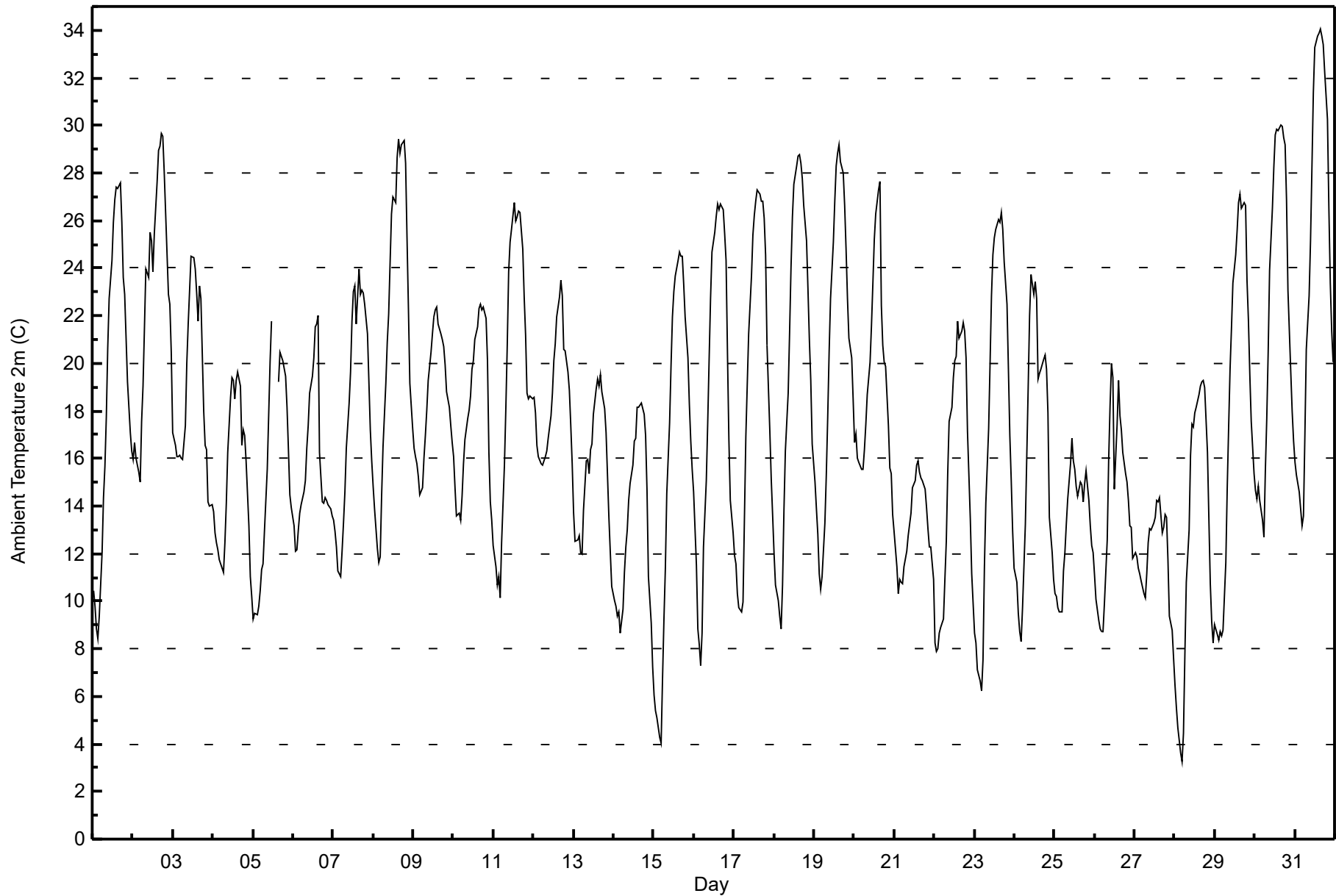
Ambient Temperature 2m (AT2) - C Fort McKay - Bertha Ganter - July 2025

Maximum Value: 34.0 C on Jul 31 16:00																				Maximum Daily Average: 24.5 C on Jul 31					Hours in Service: 744	
Minimum Value: 3.3 C on Jul 28 05:00																				Minimum Daily Average: 12.0 C on Jul 27					Hours of Data: 741	
Maximum Diurnal Average: 23.4 C at hour 16																				Minimum Diurnal Average: 10.7 C at hour 5					Hours of Missing Data: 3	
Monthly Average: 17.54 C																				Percentiles: P ₁ = 5.5 P ₁₀ = 10.0 Q ₁ = 13.1 Median = 16.8 Q ₃ = 21.8 P ₉₀ = 26.3 P ₉₉ = 30.9					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-Jul	10.5	9.8	8.8	8.4	9.3	12.0	14.4	15.7	17.8	20.7	22.7	24.3	26.0	26.9	27.4	27.3	27.6	25.9	23.6	22.9	21.0	19.2	17.1	16.3	19.0	27.6
2-Jul	15.9	16.7	16.0	15.4	15.0	17.6	19.0	21.5	23.9	23.6	25.5	25.2	23.9	25.5	27.6	28.9	29.1	29.6	29.5	28.0	24.6	22.9	22.5	20.5	22.8	29.6
3-Jul	17.1	16.5	16.1	16.1	16.1	16.0	16.0	17.4	20.0	21.6	23.1	24.5	24.4	23.9	23.0	21.8	23.3	22.7	17.9	16.5	16.4	14.2	14.0	14.0	18.9	24.5
4-Jul	13.8	12.9	12.4	12.1	11.8	11.4	11.2	12.5	14.1	16.2	18.6	19.4	19.3	18.5	19.3	19.6	19.1	16.5	17.2	16.9	15.9	13.2	11.1	10.2	15.1	19.6
5-Jul	9.3	9.5	9.4	9.8	10.4	11.3	11.6	12.9	15.5	17.8	20.0	21.8	M	M	M	19.2	20.5	20.3	20.1	19.4	18.2	16.4	14.5	13.9	15.3	21.8
6-Jul	13.2	12.1	12.2	13.0	13.7	14.1	14.6	15.1	16.4	17.4	18.8	19.4	20.3	21.5	21.6	22.0	16.3	14.2	14.1	14.3	14.3	14.1	13.9	13.6	15.8	22.0
7-Jul	13.4	12.9	12.3	11.2	11.0	12.1	13.3	14.6	16.4	18.3	19.6	21.8	23.0	23.2	21.6	23.9	22.9	23.1	23.0	22.5	21.2	19.2	17.2	15.9	18.1	23.9
8-Jul	14.9	13.9	12.2	11.6	11.9	14.4	16.5	19.2	20.9	22.1	24.2	26.3	27.0	26.7	28.6	29.4	28.9	29.2	29.3	28.4	25.3	22.3	19.1	17.3	21.6	29.4
9-Jul	16.4	16.1	15.8	15.2	14.5	14.8	16.0	17.0	18.0	19.3	20.4	21.3	22.0	22.2	22.4	21.7	21.2	21.0	20.7	19.9	18.8	18.2	17.4	16.7	18.6	22.4
10-Jul	16.0	14.7	13.6	13.7	13.4	14.4	15.8	16.8	17.7	18.0	18.6	19.8	20.1	21.0	21.5	22.3	22.5	22.3	22.4	21.9	20.1	16.3	14.2	13.4	17.9	22.5
11-Jul	12.4	11.4	10.7	11.0	10.2	12.5	15.7	18.1	20.8	23.8	25.1	25.6	26.7	26.0	26.1	26.4	26.3	24.8	22.8	21.2	18.7	18.5	18.6	18.5	19.7	26.7
12-Jul	18.6	17.9	16.6	16.1	15.8	15.7	15.9	16.1	16.3	16.8	17.8	18.7	20.1	20.8	21.9	22.8	23.5	22.8	20.6	20.5	19.6	18.9	17.4	15.8	18.6	23.5
13-Jul	13.7	12.5	12.6	12.8	12.0	12.0	13.8	15.9	15.9	15.3	16.4	16.6	17.8	18.9	19.3	19.0	19.5	18.8	18.1	17.1	15.3	13.6	12.0	10.6	15.4	19.5
14-Jul	10.0	9.8	9.4	9.6	8.7	9.7	11.2	12.3	13.0	14.2	15.0	15.7	16.7	16.9	18.2	18.2	18.3	18.1	17.8	16.9	14.7	11.1	9.1	7.2	13.4	18.3
15-Jul	6.1	5.4	5.1	4.3	4.0	6.8	9.2	11.4	14.5	17.5	19.9	21.9	23.0	23.7	24.3	24.7	24.5	24.5	23.3	22.0	20.2	18.2	16.7	15.6	16.1	24.7
16-Jul	14.6	11.5	8.8	8.2	7.3	8.7	12.3	15.0	17.5	20.1	22.7	24.7	25.5	26.2	26.7	26.5	26.7	26.4	25.4	24.3	20.4	16.8	14.3	12.9	18.5	26.7
17-Jul	11.9	11.6	10.3	9.7	9.5	10.0	13.5	16.9	19.1	21.2	23.6	25.4	26.2	26.8	27.3	27.1	26.8	26.8	26.1	24.6	20.7	17.1	15.1	13.6	19.2	27.3
18-Jul	12.0	10.7	10.0	9.4	8.8	10.7	13.8	16.3	18.8	21.3	24.0	26.1	27.5	28.3	28.7	28.8	28.4	27.7	26.6	25.1	23.1	21.0	19.3	16.6	20.1	28.8
19-Jul	15.0	13.9	12.8	11.2	10.5	11.0	13.3	15.3	17.8	20.5	22.7	25.1	26.8	28.3	28.9	29.2	28.5	28.0	26.6	24.8	22.7	21.1	20.2	18.5	20.5	29.2
20-Jul	16.7	17.0	16.0	15.8	15.6	15.5	16.3	17.4	18.7	20.0	21.6	23.4	25.2	26.3	27.3	27.6	22.4	20.8	20.0	19.8	17.4	15.6	15.3	13.7	19.4	27.6
21-Jul	12.9	11.5	10.3	10.9	10.8	10.7	11.5	12.1	12.7	13.2	13.7	14.8	15.1	15.7	15.9	15.5	15.2	15.1	14.7	13.9	13.1	12.3	12.3	10.9	13.1	15.9
22-Jul	8.3	7.9	8.0	8.7	8.9	9.3	10.9	12.5	15.4	17.6	18.2	19.4	20.1	20.3	21.8	21.0	21.4	21.7	21.4	20.2	17.2	13.5	11.1	9.9	15.2	21.8
23-Jul	8.7	8.3	7.1	6.6	6.2	7.5	11.5	14.1	17.3	20.0	22.8	24.6	25.3	25.6	26.0	25.9	26.4	25.6	24.3	22.5	19.7	16.9	15.1	12.9	17.5	26.4
24-Jul	11.4	10.8	9.5	8.7	8.3	9.7	13.2	16.1	19.0	22.0	23.7	22.9	23.4	22.7	19.3	19.6	19.7	20.1	20.4	19.8	17.9	13.5	12.0	10.9	16.5	23.7
25-Jul	10.3	10.2	9.7	9.5	9.6	11.3	12.0	13.2	14.3	15.8	16.8	15.9	15.5	14.8	14.4	15.0	14.9	14.2	15.0	15.5	14.3	13.2	12.3	12.1	13.3	16.8
26-Jul	11.1	10.1	9.2	8.9	8.7	8.7	9.9	12.6	15.9	18.2	20.0	19.4	14.7	17.5	19.3	17.8	17.2	16.3	15.4	15.0	14.2	13.2	13.1	11.8	14.1	20.0
27-Jul	12.0	11.9	11.4	11.1	10.8	10.3	10.1	11.2	12.5	13.1	13.0	13.3	13.5	14.2	14.2	14.4	12.9	13.1	13.7	13.5	11.7	9.4	8.8	7.6	12.0	14.4
28-Jul	6.5	5.5	4.7	3.6	3.3	4.5	7.7	10.8	13.0	16.2	17.4	17.3	17.9	18.1	18.7	19.0	19.2	19.3	19.0	16.3	13.5	10.8	9.1	8.2	12.5	19.3
29-Jul	9.0	8.6	8.4	8.7	8.6	8.8	11.6	14.8	17.4	19.8	21.5	23.3	24.5	25.6	26.8	27.1	26.5	26.7	26.6	23.5	21.9	19.5	17.5	15.3	18.4	27.1
30-Jul	14.6	14.3	14.8	14.2	13.4	12.7	15.5	17.7	20.5	23.9	26.5	28.3	29.6	29.9	29.8	30.0	29.9	29.5	29.2	26.9	23.1	19.7	18.0	16.7	22.0	30.0
31-Jul	15.8	15.3	14.6	13.9	13.1	13.6	17.0	20.6	22.8	25.2	28.2	31.4	33.3	33.8	33.9	34.0	33.7	33.4	32.3	30.2	26.5	23.3	21.3	20.0	24.5	34.0
Diurnal Average																										Diurnal Maximum
12.6 12.0 11.3 11.0 10.7 11.5 13.4 15.2 17.2 19.1 20.7 21.9 22.5 23.0 23.4 23.4 23.0 22.5 21.8 20.8 18.8 16.5 15.2 13.9																										
18.6 17.9 16.6 16.1 16.1 17.6 19.0 21.5 23.9 25.2 28.2 31.4 33.3 33.8 33.9 34.0 33.7 33.4 32.3 30.2 26.5 23.3 22.5 20.5																										
M - Maintenance																										



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	0	0.00	0.00
-20 - 0	0	0.00	0.00
0 - 10	74	9.99	9.99
10 - 20	419	56.55	66.53
> 20	248	33.47	100.00

Total Number of Valid Hours: 741

Total Number of Hours: 744



Wood Buffalo Environmental Association

Summary of Hour Averages

Relative Humidity 2m (RH2) - %

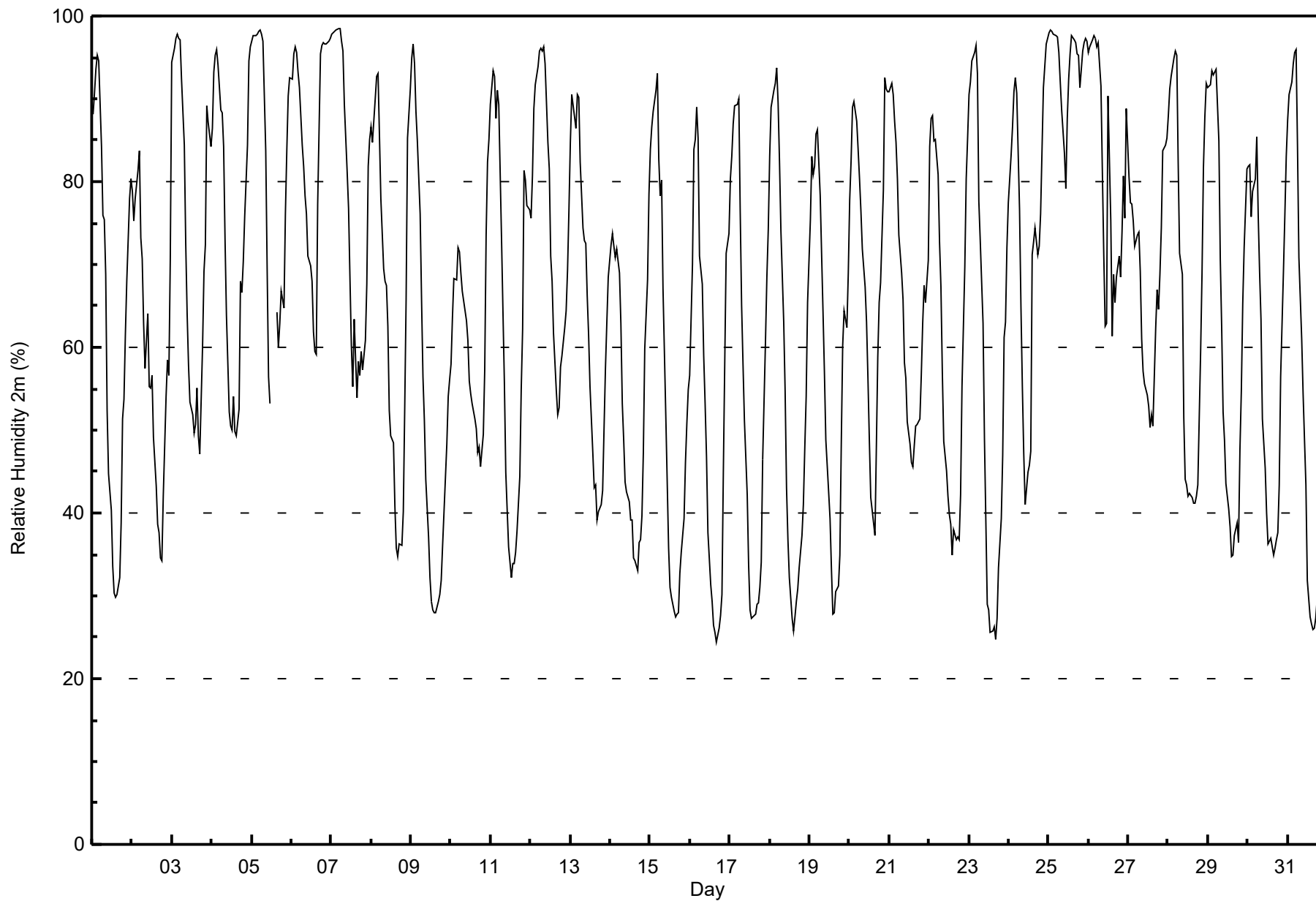
Fort McKay - Bertha Ganter - July 2025

Maximum Value: 98.4 % on Jul 7 05:00																				Maximum Daily Average: 94.2 % on Jul 25					Hours in Service: 744			
Minimum Value: 24.3 % on Jul 16 17:00																				Minimum Daily Average: 52.6 % on Jul 9					Hours of Data: 741			
Maximum Diurnal Average: 89.9 % at hour 5																				Minimum Diurnal Average: 43.1 % at hour 15					Hours of Missing Data: 3			
Monthly Average: 65.66 %																				Percentiles: P ₁ = 26.1 P ₁₀ = 34.8 Q ₁ = 47.7 Median = 67.7 Q ₃ = 85.0 P ₉₀ = 94.6 P ₉₉ = 98.1					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-Jul	88.1	90.7	93.5	95.3	94.5	84.2	76.0	75.4	68.7	52.4	44.7	40.3	33.6	30.4	29.9	30.1	32.1	38.8	51.3	53.7	61.6	68.0	78.0	80.4	62.2	95.3		
2-Jul	78.8	75.2	77.9	81.3	83.7	73.2	70.7	62.9	57.4	64.1	55.2	55.2	56.6	49.2	43.3	38.6	37.7	34.6	34.2	42.0	54.1	58.5	56.5	70.8	58.8	83.7		
3-Jul	94.5	96.2	97.3	97.7	97.2	97.2	92.4	84.5	72.5	64.0	57.7	53.3	51.9	49.6	50.6	55.1	49.3	47.1	60.1	69.1	72.3	89.2	87.1	84.3	73.8	97.7		
4-Jul	86.4	93.2	95.2	95.9	94.1	88.7	88.3	84.2	73.1	63.9	52.2	50.5	50.0	54.0	49.9	49.3	52.6	68.0	66.6	70.4	75.7	84.4	94.6	96.3	74.1	96.3		
5-Jul	97.0	97.6	97.7	97.8	98.2	98.3	97.7	97.0	83.7	69.4	56.4	53.2	M	M	M	64.2	60.0	62.9	66.7	64.7	76.1	83.7	90.3	92.5	81.2	98.3		
6-Jul	92.3	95.5	96.3	95.6	93.3	91.3	84.3	81.9	78.3	76.0	71.0	69.8	67.9	61.8	59.5	59.1	77.3	95.4	96.4	96.8	96.5	96.6	97.0	97.3	84.5	97.3		
7-Jul	97.8	98.0	98.1	98.3	98.4	98.4	96.9	95.7	89.4	81.1	76.7	68.3	60.1	55.2	63.3	53.9	58.4	56.6	59.5	57.3	60.9	67.6	81.9	85.1	77.4	98.4		
8-Jul	86.6	84.7	90.1	92.7	93.0	85.6	78.0	69.5	68.0	67.4	62.5	52.3	49.3	48.4	40.9	35.8	34.8	36.3	36.0	40.2	52.5	65.8	85.2	91.2	64.5	93.0		
9-Jul	94.9	96.6	94.2	88.5	84.9	76.1	65.8	56.5	51.2	44.0	37.1	32.2	29.3	28.2	27.9	28.0	29.3	30.1	31.9	36.1	40.2	48.4	54.1	56.1	52.6	96.6		
10-Jul	58.0	63.5	68.3	68.1	72.0	71.5	69.0	66.7	64.3	63.2	60.9	56.0	54.5	53.2	51.3	50.1	47.2	48.0	45.6	49.5	57.3	73.5	82.4	85.0	61.6	85.0		
11-Jul	89.4	93.4	92.7	87.7	91.0	89.3	73.0	64.3	55.7	44.9	40.4	36.0	32.2	33.9	33.9	35.3	37.7	44.4	54.9	62.3	81.4	80.2	77.1	76.7	62.8	93.4		
12-Jul	75.6	80.7	88.9	91.8	93.9	95.7	96.1	95.8	96.3	94.3	84.8	81.4	71.1	68.0	61.8	54.7	51.8	52.8	57.6	59.0	62.4	64.4	69.4	76.6	76.0	96.3		
13-Jul	84.8	90.4	87.9	86.5	90.6	90.1	82.3	74.4	72.8	72.6	66.2	61.6	55.3	47.3	43.1	43.4	39.1	40.2	41.0	42.6	50.1	57.5	63.1	68.4	64.6	90.6		
14-Jul	72.4	73.7	72.3	70.9	71.9	69.1	62.9	53.2	48.9	43.7	42.5	41.4	39.2	39.2	34.6	34.2	33.1	36.4	36.8	39.7	47.4	59.8	68.1	78.6	52.9	78.6		
15-Jul	83.9	86.7	88.4	91.1	93.0	82.7	78.2	80.2	67.2	51.7	43.7	35.7	31.0	29.9	28.1	27.4	27.8	28.0	32.7	35.2	39.3	46.2	50.8	54.9	54.7	93.0		
16-Jul	56.6	70.0	83.9	85.1	89.0	85.2	71.0	67.7	59.0	53.1	46.8	37.6	31.3	29.3	26.5	25.5	24.3	26.1	27.6	30.2	45.1	58.4	71.3	73.8	53.1	89.0		
17-Jul	80.3	83.1	86.9	89.2	89.4	90.0	76.4	65.1	58.0	51.3	42.2	33.8	28.2	27.3	27.5	27.7	28.9	29.2	31.1	34.1	46.4	60.8	68.5	74.2	55.4	90.0		
18-Jul	83.0	89.0	91.0	91.9	93.8	89.6	82.4	74.1	63.1	54.7	43.1	36.8	32.2	27.3	25.8	27.5	29.2	30.8	33.4	37.3	40.9	47.7	54.2	65.4	56.0	93.8		
19-Jul	75.5	83.0	80.8	81.9	85.8	86.3	78.2	71.2	64.2	56.9	48.8	42.5	39.3	33.3	27.8	28.0	30.5	31.2	34.9	48.3	60.1	64.4	62.4	68.9	57.7	86.3		
20-Jul	77.8	82.6	89.0	89.7	87.3	84.0	80.4	76.4	71.9	67.4	63.1	56.2	48.7	41.9	38.9	37.2	48.0	58.8	65.4	67.8	78.9	92.6	91.2	90.8	70.2	92.6		
21-Jul	90.8	91.8	90.5	87.4	84.8	80.4	73.6	69.0	65.7	58.2	56.2	51.1	48.3	46.1	45.6	48.2	50.6	50.7	51.4	56.6	62.8	67.5	65.4	70.6	65.1	91.8		
22-Jul	84.3	87.6	87.9	85.0	85.1	80.8	72.7	67.3	56.9	48.7	45.1	42.0	39.8	38.6	34.8	37.9	36.7	37.2	36.9	42.2	55.2	69.7	80.3	85.3	59.9	87.9		
23-Jul	90.6	92.0	94.6	95.6	96.4	93.1	77.7	72.9	62.9	49.0	39.0	29.0	28.3	25.6	25.8	26.2	24.7	27.4	33.3	39.3	46.9	61.1	63.0	72.0	56.9	96.4		
24-Jul	77.4	83.3	86.6	90.9	92.5	90.8	76.7	64.9	55.2	47.1	41.0	44.9	45.8	47.5	71.2	72.7	74.3	71.2	72.3	76.2	83.8	91.4	96.6	97.3	73.0	97.3		
25-Jul	98.0	98.4	98.1	97.7	97.6	97.5	95.7	92.0	88.6	83.3	79.2	87.6	92.4	95.4	97.6	97.2	96.8	95.3	95.3	91.4	95.8	96.8	97.2	96.9	94.2	98.4		
26-Jul	95.6	96.2	97.1	97.7	97.4	96.3	96.8	91.6	81.1	71.3	62.6	62.8	90.4	75.2	61.3	68.8	65.4	68.4	70.9	68.5	73.9	80.6	75.6	88.8	80.6	97.7		
27-Jul	80.5	77.5	77.2	75.3	72.2	73.5	73.9	69.2	61.0	57.1	55.6	54.3	52.9	50.4	51.9	50.5	62.4	67.0	64.6	68.8	74.4	83.7	84.3	85.2	67.6	85.2		
28-Jul	87.9	91.2	92.6	94.9	95.8	95.2	82.3	71.3	68.8	51.5	44.0	43.4	42.1	42.3	41.9	41.2	41.1	42.1	43.3	59.4	69.0	81.6	87.8	91.9	66.8	95.8		
29-Jul	91.4	91.8	93.4	92.8	93.2	93.5	84.9	70.7	62.4	52.2	48.9	43.5	40.6	38.3	34.7	35.0	37.3	38.8	36.5	47.5	54.8	65.3	72.1	81.5	62.5	93.5		
30-Jul	81.8	82.0	75.8	78.8	80.4	85.5	76.1	69.2	63.3	51.4	45.4	39.9	36.3	36.7	37.0	35.0	35.7	36.8	37.7	43.4	56.4	69.2	75.9	83.0	58.9	85.5		
31-Jul	87.5	90.5	92.0	94.2	95.6	95.9	84.4	70.9	61.0	54.5	48.8	43.4	31.8	27.4	26.6	25.9	26.2	27.2	29.7	35.8	45.5	56.0	66.3	71.0	57.8	95.9		
Diurnal Average																												
Diurnal Maximum																												
M - Maintenance																												



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Precipitation (PC) - mm

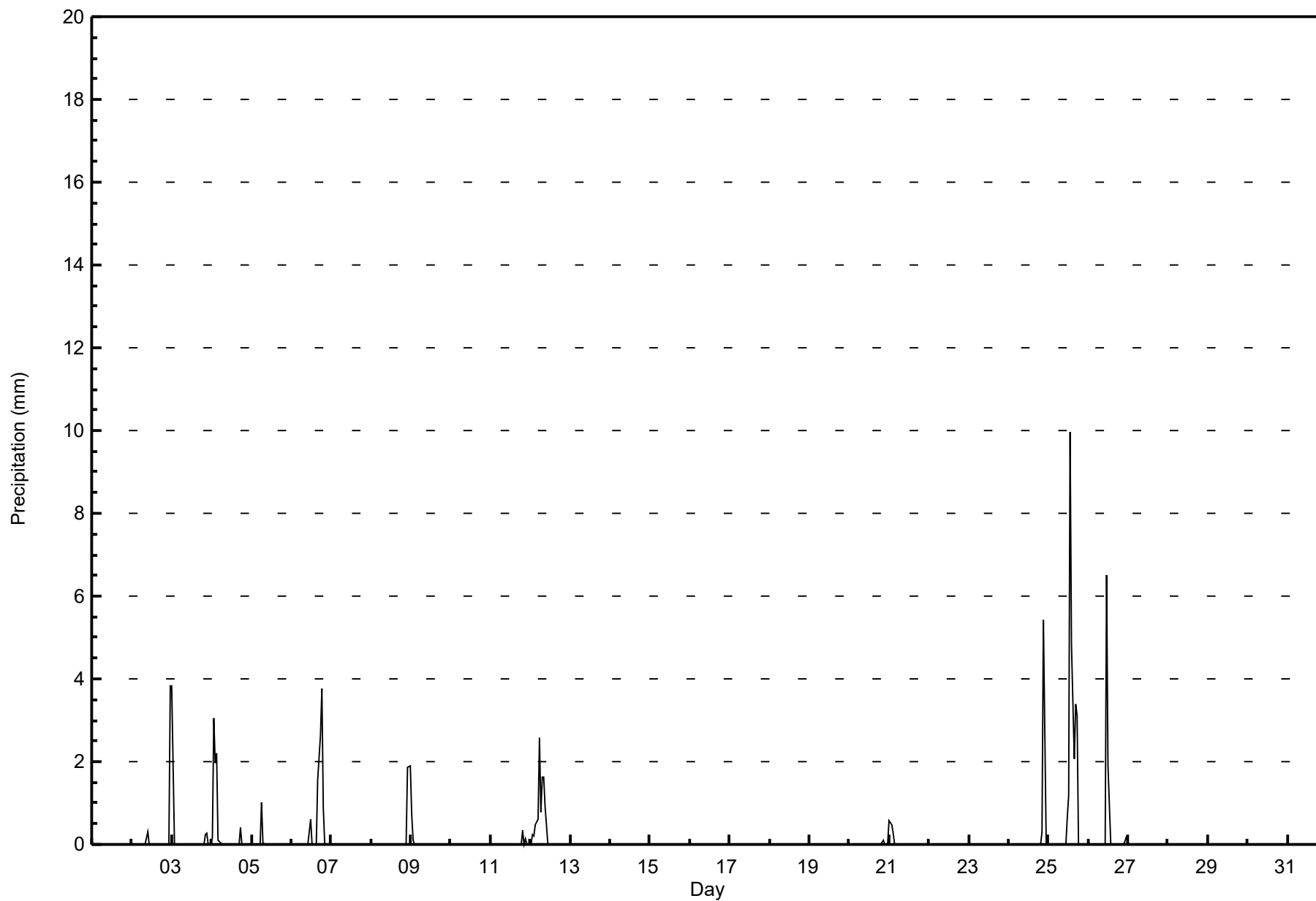
Fort McKay - Bertha Ganter - July 2025

Maximum Value: 10.0 mm on Jul 25 14:00																			Maximum Daily Total: 25.2 mm on Jul 25										Hours in Service: 744	
Minimum Value: 0.0 mm on Jul 1 01:00																			Minimum Daily Total: 0.0 mm on Jul 1										Hours of Data: 740	
Maximum Diurnal Total: 10.0 mm at hour 14																			Minimum Diurnal Total: 0.0 mm at hour 11										Hours of Missing Data: 4	
Monthly Total: 82.10 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 = 3.3										Hours of Calibration: 0	
																													Percent Operational Time: 99.5	
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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	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	0.0	0.0	0.0	0.0	0.0	0.0	3.8	4.1	3.8				
3-Jul	3.8	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	0.0	0.0	0.3	0.3	0.0	0.0	4.4	3.8				
4-Jul	0.2	3.1	2.0	2.2	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	0.4	0.0	0.0	0.0	0.0	0.0	0.0	8.0	3.1				
5-Jul	0.0	0.0	0.0	0.0	0.0	0.0	1.0	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	1.1	1.0				
6-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	1.6	2.7	3.8	0.9	0.0	0.0	0.0	0.0	9.5	3.8				
7-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	1.9	3.8	1.9				
9-Jul	0.7	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	0.8	0.7				
10-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.2	0.0	0.0	0.5	0.3				
12-Jul	0.0	0.2	0.2	0.5	0.6	2.6	0.8	1.6	1.6	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.1	2.6				
13-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DF	DF	DF	DF	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.1				
21-Jul	0.6	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	0.0	1.3	0.6				
22-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	5.4	0.0	0.0	5.7	5.4				
25-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.2	10.0	4.8	2.1	3.4	3.1	0.0	0.0	0.0	0.0	0.0	0.0	25.2	10.0				
26-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.5	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	8.7	6.5				
27-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
5.3 3.9 2.5 2.7 0.7 2.6 1.8 1.7 1.6 1.2 0.0 7.8 3.1 10.0 4.8 2.1 5.0 6.2 3.8 1.2 0.7 5.8 1.9 5.9																										Diurnal Average				
3.8 3.1 2.0 2.2 0.6 2.6 1.0 1.6 1.6 0.9 0.0 6.5 1.9 10.0 4.8 2.1 3.4 3.1 3.8 0.9 0.3 5.4 1.9 3.8																										Diurnal Maximum				
DF - DAS Failure																														



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (mm)	Number of Hours	%	Cumulative %
0 - 0.3	706	95.41	95.41
0.4 - 0.5	3	0.41	95.81
0.6 - 0.7	5	0.68	96.49
0.8 - 1.4	5	0.68	97.16
1.5 - 10	21	2.84	100.00
> 10	0	0.00	100.00

Total Number of Valid Hours: 740

Total Number of Hours: 744



Wood Buffalo Environmental Association

Summary of Hour Averages

Leaf Wetness (LW) - %

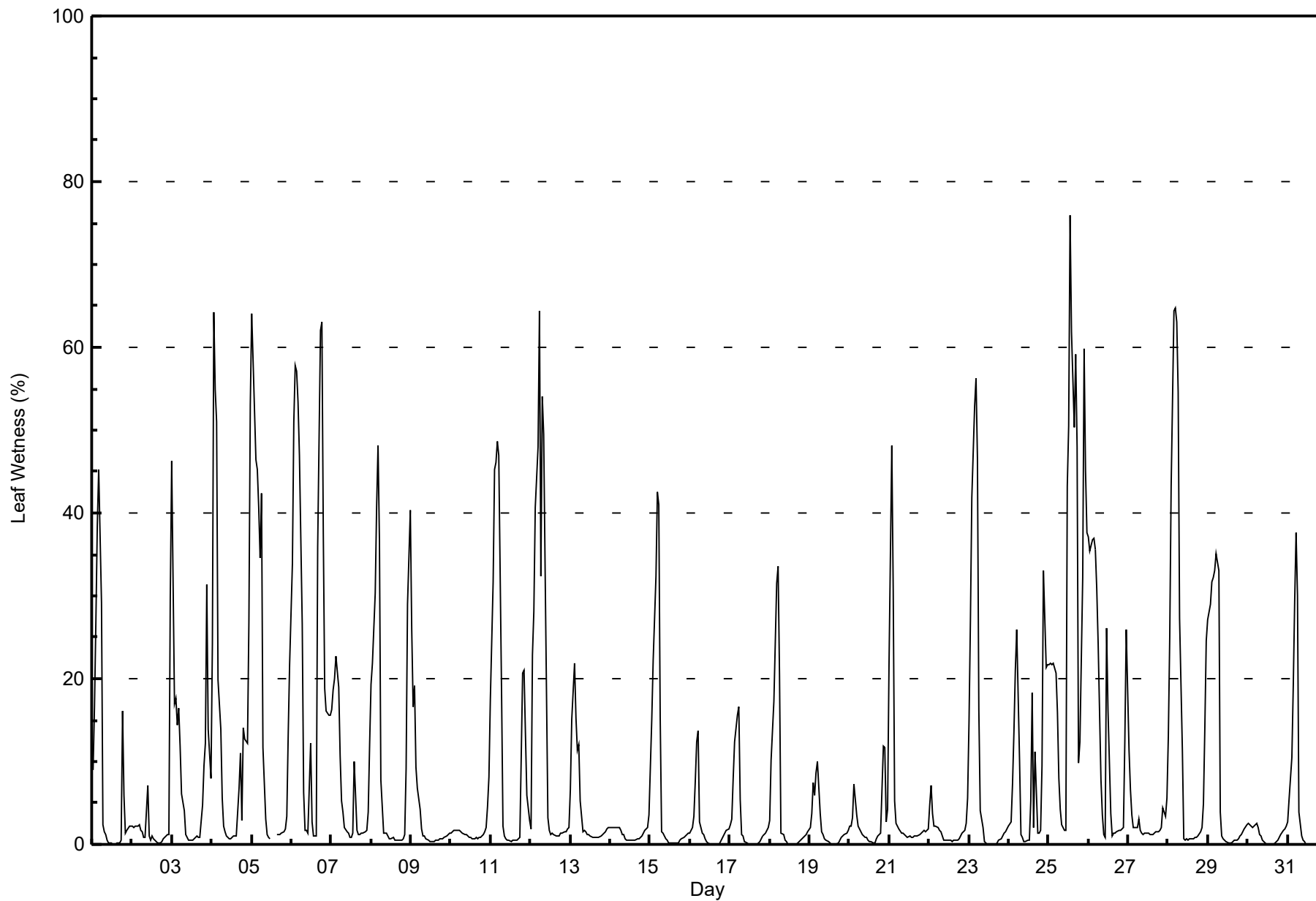
Fort McKay - Bertha Ganter - July 2025

Maximum Value: 75.9 % on Jul 25 14:00																				Maximum Daily Average: 30.3 % on Jul 25					Hours in Service: 744	
Minimum Value: 0.0 % on Jul 1 13:00																				Minimum Daily Average: 1.2 % on Jul 30					Hours of Data: 741	
Maximum Diurnal Average: 24.1 % at hour 5																				Minimum Diurnal Average: 0.8 % at hour 11					Hours of Missing Data: 3	
Monthly Average: 8.86 %																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.3 Q ₁ = 0.8 Median = 1.6 Q ₃ = 10.5 P ₉₀ = 32.2 P ₉₉ = 62.6					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-Jul	8.9	16.6	26.9	38.4	45.2	29.1	2.4	1.6	1.2	0.5	0.2	0.1	0.0	0.0	0.0	0.1	0.2	0.6	16.1	6.0	1.4	1.7	2.2	2.3	8.4	45.2
2-Jul	2.2	2.0	2.2	2.2	2.3	1.7	1.5	0.9	0.8	7.2	0.9	0.5	0.9	0.6	0.4	0.2	0.2	0.2	0.4	0.8	1.1	1.3	1.3	29.9	2.6	29.9
3-Jul	46.2	16.9	17.7	14.3	16.4	11.9	6.1	4.1	1.2	0.8	0.5	0.4	0.6	0.7	0.8	1.0	0.8	0.9	4.7	9.5	12.2	31.3	13.9	7.9	9.2	46.2
4-Jul	24.3	64.2	54.9	50.9	19.9	13.9	5.7	2.2	1.5	1.0	0.7	0.8	0.9	1.1	1.0	1.0	6.8	11.0	2.9	14.1	12.8	12.2	26.8	53.1	16.0	64.2
5-Jul	64.0	58.3	46.5	45.2	40.6	34.5	42.4	11.6	3.0	1.3	0.8	0.6	M	M	M	1.1	1.1	1.3	1.3	1.4	1.8	3.4	13.3	21.6	18.8	64.0
6-Jul	33.8	51.1	57.8	57.1	53.5	46.9	26.7	6.3	1.8	1.6	1.4	12.1	2.8	0.9	1.1	1.0	36.0	62.0	63.0	37.7	18.8	16.1	15.6	15.7	25.9	63.0
7-Jul	16.3	18.6	20.0	22.7	19.0	10.7	5.3	3.8	2.1	1.6	1.4	0.9	0.8	1.4	10.0	1.7	1.2	1.2	1.3	1.4	1.5	1.8	3.8	12.0	6.7	22.7
8-Jul	19.4	21.8	30.3	40.9	48.1	36.6	7.9	1.3	1.3	1.3	1.0	0.7	0.6	0.8	0.6	0.5	0.5	0.5	0.5	0.8	1.2	9.1	28.9	40.3	12.3	48.1
9-Jul	26.0	16.6	19.2	9.2	6.9	4.2	1.9	1.1	1.0	0.6	0.5	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.2	1.3	4.0	26.0
10-Jul	1.4	1.5	1.7	1.7	1.7	1.6	1.5	1.4	1.2	1.2	1.1	0.8	0.8	0.7	0.7	0.8	0.7	0.9	0.9	1.2	1.5	2.0	4.5	8.2	1.7	8.2
11-Jul	17.5	31.8	45.3	46.1	48.6	47.0	18.4	2.3	1.1	0.6	0.5	0.5	0.3	0.5	0.5	0.5	0.5	0.8	10.5	20.7	21.0	13.4	5.9	2.9	14.0	48.6
12-Jul	1.9	22.9	28.2	40.6	48.0	64.4	32.4	54.0	49.4	33.6	3.3	1.7	1.3	1.3	1.2	1.1	1.0	1.1	1.3	1.4	1.5	1.6	1.9	2.1	16.6	64.4
13-Jul	6.6	15.2	21.8	15.2	11.3	12.0	5.2	1.6	1.6	1.6	1.3	1.2	1.0	0.8	0.8	0.9	0.8	0.9	1.0	1.2	1.4	1.6	1.8	2.1	4.5	21.8
14-Jul	2.1	2.0	2.0	2.0	2.1	2.0	1.7	1.1	1.1	0.7	0.6	0.6	0.5	0.6	0.5	0.5	0.6	0.7	0.9	1.1	1.3	1.7	2.1	3.5	1.3	3.5
15-Jul	9.3	15.0	22.1	32.3	42.6	41.0	15.4	1.5	1.3	0.7	0.5	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.5	0.7	0.9	1.1	1.2	1.3	7.9	42.6
16-Jul	1.4	2.0	3.3	7.6	12.4	13.7	2.7	1.3	1.1	0.6	0.4	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.3	0.6	1.0	1.4	1.7	1.9	2.2	13.7
17-Jul	2.3	3.0	8.0	12.3	15.6	16.7	5.5	1.1	1.0	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.4	0.7	1.0	1.4	1.7	2.0	3.1	16.7
18-Jul	2.8	10.2	17.2	24.5	31.5	33.6	20.5	1.3	1.1	0.5	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.7	0.9	1.1	1.3	1.6	6.2	33.6
19-Jul	2.0	3.8	7.4	5.9	8.7	10.0	3.6	1.5	1.2	0.8	0.5	0.3	0.2	0.0	0.0	0.0	0.0	0.2	0.4	0.8	1.1	1.2	1.3	1.6	2.2	10.0
20-Jul	2.2	2.2	3.2	7.2	3.6	2.2	1.9	1.5	1.3	0.9	0.8	0.5	0.3	0.3	0.2	0.2	0.7	1.0	1.3	1.4	11.8	11.7	2.7	4.3	2.6	11.8
21-Jul	21.5	48.1	30.7	5.3	2.6	2.2	1.9	1.4	1.4	1.2	1.1	0.9	1.0	0.9	0.9	1.0	1.1	1.1	1.2	1.3	1.5	1.6	1.6	1.8	5.5	48.1
22-Jul	4.8	7.1	3.8	2.2	2.1	2.0	1.8	1.5	1.0	0.5	0.6	0.5	0.5	0.5	0.3	0.5	0.6	0.5	0.7	1.0	1.4	1.8	2.5	5.6	1.8	7.1
23-Jul	14.7	26.9	41.8	52.8	56.3	46.6	16.2	4.0	2.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.7	1.0	1.3	1.6	1.9	11.2	56.3
24-Jul	2.2	2.7	7.2	13.6	21.0	25.9	10.2	1.1	0.9	0.4	0.3	0.6	0.6	5.3	18.2	2.1	11.2	1.4	1.4	1.7	9.6	33.0	21.4	21.7	8.9	33.0
25-Jul	21.7	21.9	21.7	21.9	20.6	16.0	7.9	4.3	2.4	1.8	1.7	43.2	50.6	75.9	61.9	50.3	59.2	48.0	9.8	12.4	32.2	59.8	45.0	37.6	30.3	75.9
26-Jul	37.0	35.5	36.8	37.0	35.6	30.8	24.2	7.8	3.5	1.2	0.9	26.0	16.2	3.7	1.1	1.4	1.4	1.5	1.6	1.7	1.9	2.0	12.3	26.0	14.5	37.0
27-Jul	11.4	6.6	3.5	2.1	2.0	2.1	3.1	1.7	1.4	1.2	1.3	1.3	1.2	1.2	1.2	1.5	1.6	1.6	1.7	2.1	4.4	3.3	5.6	2.7	11.4	
28-Jul	13.1	25.1	43.2	64.4	64.7	63.1	54.5	27.2	11.4	0.7	0.4	0.7	0.5	0.7	0.6	0.7	0.8	0.9	1.0	1.5	2.1	5.0	14.0	24.5	17.5	64.7
29-Jul	27.2	29.0	31.8	32.3	33.1	35.1	33.0	3.9	1.1	0.6	0.5	0.3	0.2	0.2	0.1	0.3	0.5	0.5	0.7	1.0	1.2	1.5	1.8	2.4	9.9	35.1
30-Jul	2.5	2.3	2.2	2.1	2.3	2.5	2.1	1.3	1.0	0.5	0.1	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.5	0.8	1.2	1.6	1.9	2.3	1.2	2.5
31-Jul	2.7	5.4	10.5	19.1	29.3	37.6	29.9	4.0	1.0	0.6	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.6	0.9	1.2	1.5	1.7	6.1	37.6
14.5 18.9 21.6 23.5 24.1 22.5 12.7 5.1 3.3 2.1 0.8 3.1 2.8 3.3 3.4 2.2 4.1 4.5 4.1 4.1 4.8 7.4 7.7 11.2																								Diurnal Average		
64.0 64.2 57.8 64.4 64.7 64.4 54.5 54.0 49.4 33.6 3.3 43.2 50.6 75.9 61.9 50.3 59.2 62.0 63.0 37.7 32.2 59.8 45.0 53.1																								Diurnal Maximum		
M - Maintenance																										



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 0.3	86	11.61	11.61
0.4 - 0.5	51	6.88	18.49
0.6 - 0.7	44	5.94	24.43
0.8 - 1.4	171	23.08	47.50
1.5 - 10	193	26.05	73.55
> 10	188	25.37	98.92

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 McKay - Bertha Ganter - July 2025

Maximum Value: 894.3 W/m2 on Jul 9 13:00																					Maximum Daily Average: 338.4 W/m2 on Jul 14				Hours in Service: 744	
Minimum Value: 0.0 W/m2 on Jul 1 01:00																					Minimum Daily Average: 68.5 W/m2 on Jul 25				Hours of Data: 741	
Maximum Diurnal Average: 648.0 W/m2 at hour 13																					Minimum Diurnal Average: 0.0 W/m2 at hour 1				Hours of Missing Data: 3	
Monthly Average: 246.22 W/m2																					Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.5 Median = 124.2 Q ₃ = 462.0 P ₉₀ = 699.9 P ₉₉ = 833.2				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-Jul	0.0	0.0	0.0	3.8	45.3	140.4	199.5	219.0	430.3	677.7	760.7	821.8	838.2	848.0	719.2	473.4	322.8	112.2	105.4	137.8	34.6	3.5	0.0	0.0	287.2	848.0
2-Jul	0.0	0.0	0.0	1.9	36.3	102.5	254.1	467.6	616.8	414.1	681.5	608.1	398.6	428.3	774.0	690.5	531.4	400.4	263.2	100.2	23.9	1.8	0.0	0.2	283.1	774.0
3-Jul	0.0	0.0	0.0	0.0	5.2	29.3	74.9	364.3	566.5	692.4	802.7	803.6	819.5	445.3	302.1	239.7	540.9	283.7	106.9	28.0	10.6	0.4	0.0	0.0	254.8	819.5
4-Jul	0.0	0.0	0.0	0.2	4.4	13.9	38.9	262.2	520.8	652.0	744.0	629.8	438.1	247.4	207.3	325.0	252.0	191.6	123.6	68.5	29.1	3.8	0.0	0.0	198.0	744.0
5-Jul	0.0	0.0	0.0	1.1	17.8	35.1	31.1	169.8	490.5	540.3	782.6	845.2	M	M	M	723.4	320.1	182.7	199.6	90.9	33.8	3.5	0.0	0.0	212.7	845.2
6-Jul	0.0	0.0	0.0	1.1	11.8	64.2	141.7	206.9	263.8	319.1	393.7	475.7	718.2	743.3	496.2	442.1	23.5	19.5	22.6	41.8	23.3	1.0	0.0	0.0	183.7	743.3
7-Jul	0.0	0.0	0.0	2.1	28.5	86.4	121.4	167.1	284.1	473.3	516.0	823.7	737.7	458.6	602.8	656.1	257.1	185.3	162.1	74.6	30.0	3.8	0.0	0.0	236.3	823.7
8-Jul	0.0	0.0	0.0	2.5	31.3	88.3	141.9	382.1	345.9	348.2	560.0	793.0	784.1	607.6	753.5	554.9	300.2	346.2	282.5	124.2	21.1	0.7	0.1	0.0	269.5	793.0
9-Jul	0.0	0.0	0.0	2.3	21.3	111.7	315.1	470.2	609.7	732.5	822.7	879.3	894.3	690.2	723.1	464.1	318.3	218.0	138.4	74.7	5.3	0.4	0.0	0.0	312.1	894.3
10-Jul	0.0	0.0	0.0	1.4	19.1	73.8	136.1	176.2	298.7	281.8	317.9	711.0	490.4	690.9	506.1	469.6	449.9	317.1	257.5	108.7	26.9	3.0	0.0	0.0	222.3	711.0
11-Jul	0.0	0.0	0.0	2.3	22.8	96.4	264.9	411.6	576.1	700.6	735.8	632.2	612.8	328.9	330.5	320.8	220.4	39.3	38.6	18.9	8.1	0.4	0.0	0.0	223.4	735.8
12-Jul	0.0	0.0	0.0	0.3	9.5	21.4	75.4	49.6	61.8	176.2	304.5	377.0	562.4	326.1	457.8	405.8	336.8	226.2	107.9	86.7	17.7	0.8	0.0	0.0	150.2	562.4
13-Jul	0.0	0.0	0.0	0.5	14.7	56.0	190.0	282.9	323.1	327.7	538.7	563.0	680.7	779.1	682.6	467.6	554.5	379.8	255.5	110.5	20.3	2.1	0.0	0.0	259.6	779.1
14-Jul	0.0	0.0	0.0	1.8	19.7	112.1	293.1	437.4	590.7	716.5	817.0	820.8	861.9	641.8	820.5	656.7	551.3	389.1	266.0	99.2	24.7	2.4	0.0	0.0	338.4	861.9
15-Jul	0.0	0.0	0.0	1.4	22.8	105.0	217.4	365.3	545.0	668.9	755.2	816.8	835.2	817.8	761.0	661.9	538.0	407.7	257.2	87.5	21.9	1.8	0.0	0.0	328.6	835.2
16-Jul	0.0	0.0	0.0	0.8	15.5	69.9	210.6	346.3	490.9	621.0	717.1	780.0	783.6	774.0	724.0	622.0	510.7	377.2	242.2	81.3	23.3	1.4	0.0	0.0	308.0	783.6
17-Jul	0.0	0.0	0.0	0.8	18.2	78.6	217.7	369.2	502.8	623.4	699.3	752.8	763.1	774.1	700.2	594.9	360.4	320.5	191.8	82.5	22.2	0.9	0.0	0.0	294.7	774.1
18-Jul	0.0	0.0	0.0	0.4	19.0	79.0	220.3	358.5	501.0	618.2	713.9	774.4	797.9	781.8	715.9	606.1	465.9	309.0	180.6	71.7	19.1	0.9	0.0	0.0	301.4	797.9
19-Jul	0.0	0.0	0.0	0.2	13.1	61.6	133.6	242.6	405.0	524.4	599.6	675.9	712.8	727.7	669.8	573.5	451.3	314.4	155.6	75.0	13.2	0.7	0.0	0.0	264.6	727.7
20-Jul	0.0	0.0	0.0	0.2	13.8	60.7	157.0	274.7	426.1	513.8	544.6	652.5	681.6	661.7	606.7	449.2	179.2	85.9	54.8	22.5	2.8	0.1	0.0	0.0	224.5	681.6
21-Jul	0.0	0.0	0.0	0.0	12.7	88.3	232.6	353.3	462.0	437.9	444.2	494.8	377.8	401.0	334.1	213.7	159.1	143.6	72.6	21.3	10.3	0.3	0.0	0.0	177.5	494.8
22-Jul	0.0	0.0	0.0	0.0	9.0	76.9	141.3	253.9	557.4	621.6	527.9	601.6	614.1	615.5	718.4	327.3	345.0	316.3	256.9	60.9	17.6	0.8	0.0	0.0	252.6	718.4
23-Jul	0.0	0.0	0.0	0.2	13.0	68.1	247.8	414.4	563.0	676.9	770.0	825.5	838.3	753.4	652.3	549.4	531.9	292.9	165.2	59.2	13.4	0.6	0.0	0.0	309.8	838.3
24-Jul	0.0	0.0	0.0	0.0	12.5	71.7	234.5	385.6	488.9	640.2	674.0	347.1	420.7	173.1	134.0	193.1	190.6	139.0	164.8	53.7	8.0	0.1	0.0	0.0	180.5	674.0
25-Jul	0.0	0.0	0.0	0.1	16.0	44.3	64.7	137.6	190.8	267.1	236.4	133.5	127.8	37.7	50.5	89.4	26.0	37.6	108.2	60.2	16.5	0.3	0.0	0.0	68.5	267.1
26-Jul	0.0	0.0	0.0	0.0	9.1	45.4	137.0	283.5	450.2	568.5	734.8	461.9	312.7	589.9	656.9	381.6	364.8	272.7	76.1	26.3	4.0	0.0	0.0	0.0	224.0	734.8
27-Jul	0.0	0.0	0.0	0.0	3.5	14.5	59.5	246.7	407.6	486.3	242.9	230.9	221.9	252.5	271.4	241.4	96.3	80.6	113.0	68.2	14.8	0.2	0.0	0.0	127.2	486.3
28-Jul	0.0	0.0	0.0	0.0	9.7	59.9	219.6	375.8	539.7	663.7	749.6	384.0	680.0	406.9	493.3	459.6	360.0	282.9	153.6	47.0	13.3	0.0	0.0	0.0	245.8	749.6
29-Jul	0.0	0.0	0.0	0.0	5.6	54.4	211.0	383.4	535.8	643.7	653.4	765.7	830.3	674.7	768.2	508.6	307.8	345.3	187.6	43.7	9.1	0.0	0.0	0.0	288.7	830.3
30-Jul	0.0	0.0	0.0	0.0	5.2	48.1	189.5	366.9	516.3	634.6	726.9	788.0	813.8	786.8	713.4	598.3	468.1	343.7	203.6	44.3	10.4	0.0	0.0	0.0	302.4	813.8
31-Jul	0.0	0.0	0.0	0.0	6.4	47.8	206.6	358.6	504.0	620.4	708.1	761.0	792.9	699.9	712.5	619.9	492.4	363.5	211.4	42.6	9.4	0.0	0.0	0.0	298.2	792.9
																									Diurnal Average	
																									Diurnal Maximum	
M - Maintenance																										

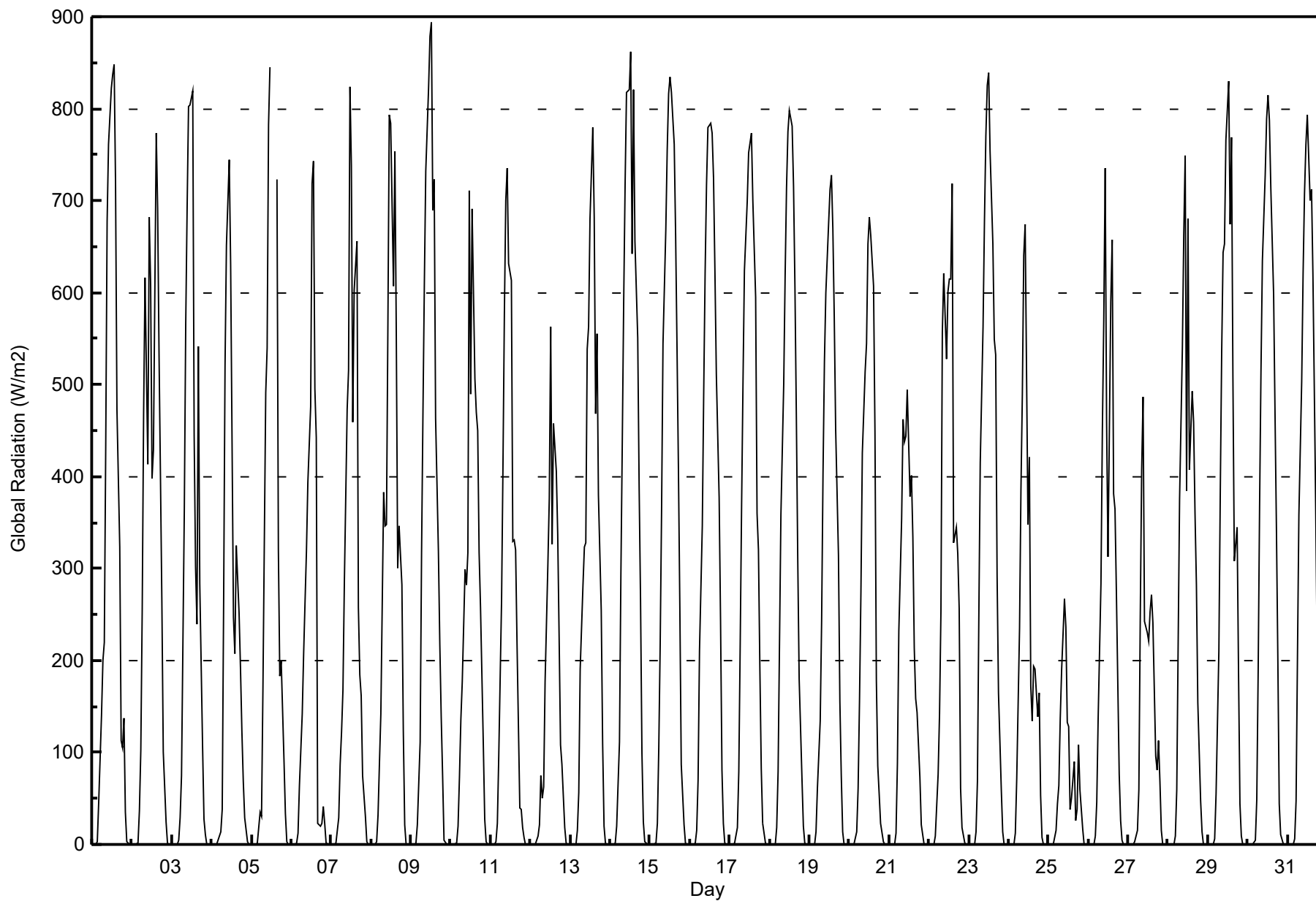


Wood Buffalo Environmental Association

Hourly Averages

Global Radiation (GR) - W/m²

Fort McKay - Bertha Ganter - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (W/m2)	Number of Hours	%	Cumulative %
0 - 20	264	35.63	35.63
21 - 100	92	12.42	48.04
101 - 300	114	15.38	63.43
301 - 600	145	19.57	83.00
601 - 900	126	17.00	100.00
> 900	0	0.00	100.00

Total Number of Valid Hours: 741

Total Number of Hours: 744



Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Speed 10m (WS10) - km/h

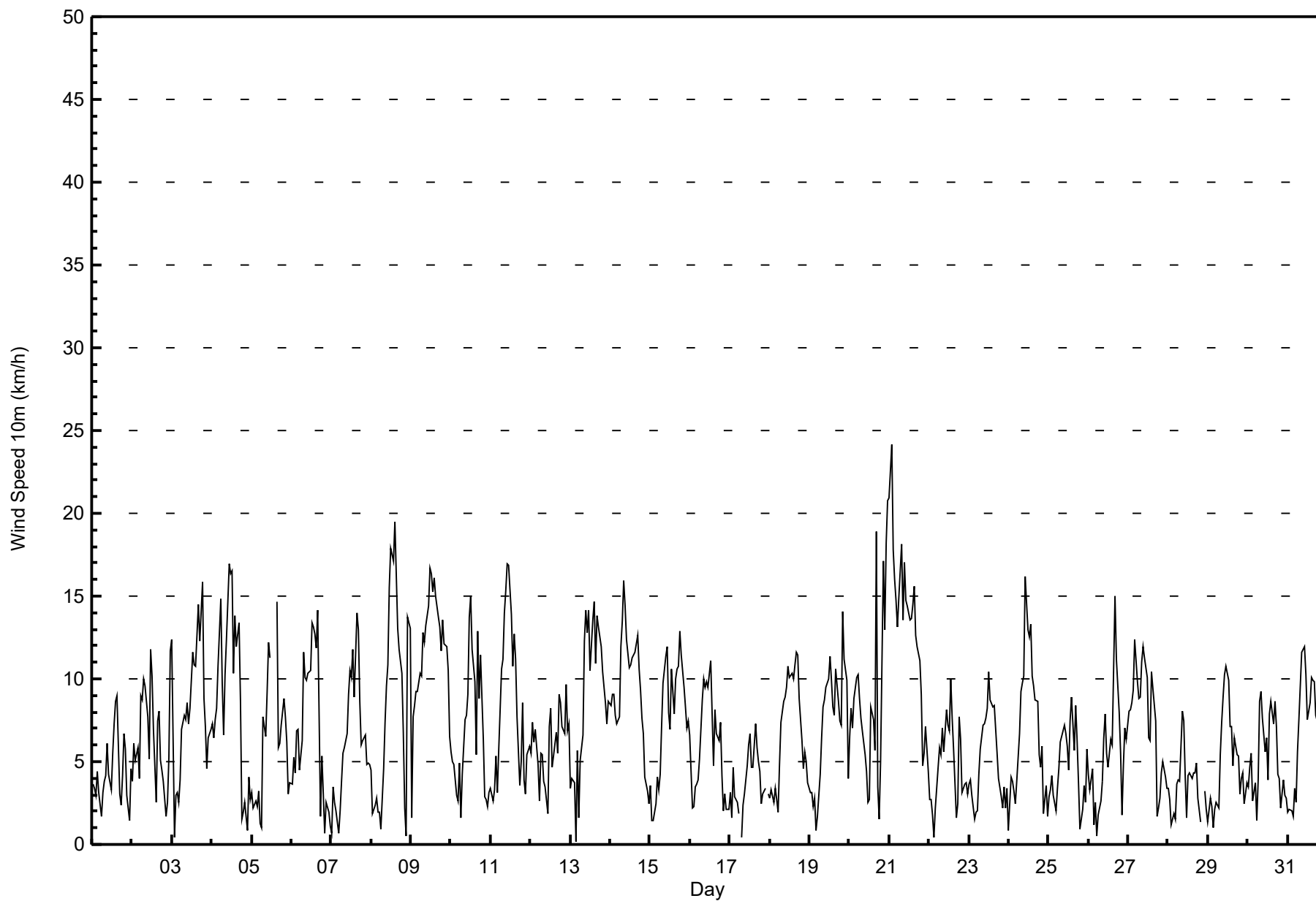
Fort McKay - Bertha Ganter - July 2025

Maximum Speed: 24 km/h on Jul 21 02:00																		Maximum Daily Speed Average: 13.2 km/h on Jul 21																		Hours in Service: 744	
Minimum Speed Value: 0 km/h on Jul 13 04:00																		Minimum Daily Speed Average: 0.5 km/h on Jul 30																		Hours of Data: 737	
Maximum Diurnal Speed Average: 2.8 km/h at hour 24																		Minimum Diurnal Speed Average: 0.5 km/h at hour 18																		Hours of Missing Data: 7	
Monthly Average Velocity: 1.1 km/h 258.0 deg																		Percentiles: P ₁ = 1 P ₁₀ = 2 Q ₁ = 3 Median = 6 Q ₃ = 10 P ₉₀ = 13 P ₉₉ = 18																		Percent Operational Time: 99.1	
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-Jul	WSW4	WNW3	WNW3	W4	W3	W2	N3	N4	N4	NNE6	NNE4	NE3	SE6	SE7	SE9	SSE9	SSE3	SE2	SSW4	SSE7	SSE6	SSE3	SW1	S5	SSE1.2	SSE9											
2-Jul	SSE4	SSW6	S5	S6	S4	SSE9	SSE9	SSE10	S10	SSW8	NNW5	N12	N10	NNE7	ENE3	SSE7	SE8	ESE5	NE5	ENE4	NE2	ESE3	ESE5	W12	SE2.1	N12											
3-Jul	NNW12	SW0	WNW3	WNW3	W3	W4	W7	W8	W8	WSW9	WSW7	SW8	SW12	SW11	SSW11	S13	S14	WSW12	WNW16	WNW9	W7	SW5	WSW6	WSW7	WSW6.2	WNW16											
4-Jul	W7	W6	W8	WNW8	NW11	NW15	NNW10	NNW7	NNW10	NW12	NW17	NW16	NW17	NW10	NW14	NNW12	N13	N9	NNE2	SSW2	NE3	WSW1	WSW4	SW3	NW7.7	NW17											
5-Jul	NW3	SSW2	SW3	S2	S3	WSW1	SW1	SSE8	SSE7	SSE9	SSE12	SSE11	M	M	M	N15	N6	N6	N7	N9	N8	N6	N3	NNW4	NE0.9	N15											
6-Jul	NNW4	N5	NW4	N7	N7	NE5	NE6	N12	N10	N10	N10	N10	N13	NNW13	NNW13	N12	SSE14	N2	N5	ENE3	WSW1	W3	W2	SSW1	N5.5	SSE14											
7-Jul	S1	S3	SW3	WSW2	SSW1	SSW2	S4	SSE5	SSE6	SSE7	SE9	SE10	SSE10	SSE12	SSE9	SSE14	SSE13	SSE9	SSE6	S6	SSE7	SSE5	SSE5	S5	SSE6.1	SSE14											
8-Jul	S4	NW2	NW2	WNW3	WSW2	SSE2	W1	SSE5	SSE7	SSE10	SSE11	S15	S18	S17	S19	S16	S13	S12	S10	S7	SW2	W1	NNW14	NNW13	S6.5	S19											
9-Jul	S2	S8	S8	SW9	SSW9	SSW10	SW10	SW13	SW12	SW13	SW14	SW17	SW16	WSW15	SW16	WSW15	WSW14	WSW13	WSW12	NNW14	NNW12	NNW12	NNW10	W6	WSW10.3	SW17											
10-Jul	WSW6	S5	SW5	W3	SW3	W5	WSW2	W4	NNW8	NW8	NW9	NNW14	NW15	NNW12	NW10	NNW5	NNW13	NNW9	NNW11	NW6	W3	WSW3	WSW2	S3	NNW5.7	NW15											
11-Jul	S3	SSW3	SW3	S5	SSW3	SSE6	SSE11	S11	S14	S15	S17	SSW17	SW14	SW11	SW13	SSW11	SW8	SW4	WNW5	WNW9	SW4	SSW3	S5	SSW6	SSW7.3	S17											
12-Jul	SSW5	WSW7	SW6	SW7	SW5	S3	W6	NNW5	W4	NNW3	W2	NNW7	NNW8	WSW5	WSW5	WSW7	SW6	WSW9	W9	WSW7	WSW7	NNW10	NNW7	N7	W4.7	NNW10											
13-Jul	NW3	SW4	WSW4	N0	NNW6	WNW2	WNW5	NNW7	N12	N14	N13	N14	N10	NNW14	N15	N11	N14	NNE13	NNE12	NNE10	NNE10	N9	NNW7	NW9	N8.0	N15											
14-Jul	NNW8	NW9	NW9	NNW8	NW7	NW8	NNW12	N13	N16	N14	N12	N11	N11	N11	N11	N12	N13	N11	N9	N8	NNW7	NW4	W3	W2	NNW8.9	N16											
15-Jul	W4	SW1	WSW1	SW2	SW4	S3	SSE4	SSE7	SSE10	SSE11	SSE12	SSE8	S7	SSE11	S8	S10	SSE11	SSE11	SSE13	SSE11	SSE10	S8	S7	S7	SSE7.1	SSE13											
16-Jul	S7	SW2	SW2	WSW3	SW4	S4	SSE5	SSE9	SSE10	SSE9	SE10	SSE9	SE11	SSE8	SE5	SE8	SSE7	SSE6	SSE7	SSW4	W2	W3	WSW2	NW2	SSE4.9	SE11											
17-Jul	WNW3	W2	WNW5	WSW3	W3	W2	UO	ESE0	ENE2	NNE3	NNE5	NNE6	NNE7	NNE5	ENE5	NNE7	N6	NE5	ENE4	NE2	NNW3	WNW3	UO	W3	N2.3	NNE7											
18-Jul	NNW3	W3	SW3	SSW3	SW3	S2	SSE5	SSE7	SE9	SE9	SSE9	SSE11	SE10	SSE10	SSE10	SSE11	SSE12	SSE11	SSE9	SSE6	S5	SSE6	SSE5	SSE4	SSE6.2	SSE12											
19-Jul	SSE3	SSE3	NNW2	WNW3	WNW1	WSW2	S4	SSE6	SSE8	SE9	SSE10	SSE10	SSE11	SSE10	SE8	SE8	SSE11	SSE9	SSE7	NNW7	N14	N11	N10	N4	SE2.9	N14											
20-Jul	NW6	N8	N7	N9	N10	N10	N9	NNE8	N7	N5	NNE4	NE3	SSE3	SSE8	SE8	SE6	NW19	NNE3	NW2	NNE5	N17	N13	N18	N21	N6.4	N21											
21-Jul	N21	N24	N18	N16	N15	NNW13	NNW15	N18	N14	N17	N15	N14	NNW14	NNW14	NNW15	NNW16	NNW13	NNW12	NNW11	N9	NNW5	NW6	NNW7	NW4	NNW13.2	N24											
22-Jul	W3	WNW3	WNW2	W0	SW2	W5	W6	W5	NNW7	W6	NW8	NNW7	NW7	NW10	NW8	NNW6	NNW2	NNE2	NNW8	NNW6	NW3	W4	W4	W3	NNW4.2	NW10											
23-Jul	W4	W4	SW3	SSW2	SW2	SSW2	S4	SE6	SE7	SE7	SE8	SE8	SE10	SE9	SE8	SSE8	SSE7	SSE6	SSW4	SSW3	SSW2	SSE3	SSW2	SSW3	SSE4.1	SE10											
24-Jul	WSW1	S4	S4	S3	SSW2	SSE4	SSE7	SSE9	SSE10	SSE10	SSE16	SSE13	SSE13	SSE13	SSE10	SE10	SE9	SE9	ESE5	SE5	NW6	WSW2	W4	SW2	SSE6.0	SSE16											
25-Jul	SSW3	S3	SSW4	WSW3	S2	SW3	SSW5	SW6	WSW7	WSW7	W7	W6	W5	NW7	NNW9	NW6	NNW8	NNW6	NNW4	SSE1	WSW2	NNW4	W3	NNW6	W3.4	NW9											
26-Jul	NW4	NW3	WNW5	SW1	WNW3	W1	S2	SSE3	S4	S6	S8	W6	NNE5	ENE6	NE6	NNE10	N15	NNE11	NNE8	NNE5	N2	NW5	NNW7	NW6	N2.4	N15											
27-Jul	NW8	NNW8	NNW9	NNW9	N12	N10	NNW9	NNW9	N11	NNE12	N11	NNW10	N6	NNW6	NNW10	NW9	N7	NNW2	W2	W3	WNW4	WNW5	W4	NNW3	NNW6.9	N12											
28-Jul	WNW3	WNW3	WSW1	SW2	S1	S4	SSW4	S4	SE8	SSE7	SSE4	SW2	NW4	N4	NE4	ENE4	ESE4	SE5	ESE3	NNW1	UO	UO	NW3	W2	SSE1.0	SE8											
29-Jul	SW1	WSW3	W2	W1	WSW2	SW3	SE2	SSE5	SE7	SSE9	SE10	SE11	SSE10	SSE7	SSE7	S5	S6	SSE5	S5	SSW3	S4	SW4	WSW2	W4	SSE3.9	SE11											
30-Jul	W3	NNW5	N5	SW3	W4	WSW1	SSE4	SSE9	SE9	S8	SW6	WSW6	SSW4	NE8	NE9	NNE7	NNE9	NNE7	NE4	NNE4	WNW2	WNW4	WNW3	W3	NNW0.5	SE9											
31-Jul	W2	WSW2	WSW2	SSW2	SW3	S3	SSE6	SSE8	SSE12	SSE12	SSE12	SSE10	SSW8	S9	S10	S10	S10	SSE8	S7	SSE4	S3	S3	S4	S4	S5.9	SSE12											
WNW2.6WNW2.1WNW2.5 W2.0WNW2.1 W1.5WSW1.3 S1.3 SSE1.5 S1.6 S1.5SSW1.3 SW1.5 SW1.3SSW1.0 SSE0.7SSW0.7 S0.5WNW0.8 NW1.1 NW1.9WNW2.0WNW2.6 W2.8																								Diurnal Average													
N21 N24 N18 N16 N15 NNW15 N18 N16 N17 S17 SSW17 S18 S17 S19 S16 NW19 NNE13WNW16NNW14 N17 N13 N18 N21																								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
Fort McKay - Bertha Ganter - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	317	43.01	43.01
6 - 11	306	41.52	84.53
12 - 19	111	15.06	99.59
20 - 28	3	0.41	100.00
29 - 38	0	0.00	100.00
> 38	0	0.00	100.00

Total Number of Valid Hours: 737

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Wind Speed 10m (WS10) - km/h
Fort McKay - Bertha Ganter - July 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	12	10	7	0	7	5	25	41	27	35	31	47	32	14	11	317
6 - 11	41	14	4	1	0	0	33	78	24	8	10	15	14	16	25	23	306
12 - 19	32	3	0	0	0	0	0	15	12	1	10	6	1	9	8	14	111
20 - 28	3	0	0	0	0	0	0	0	0	0	0	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	89	29	14	8	0	7	38	118	77	36	55	52	62	57	47	48	737

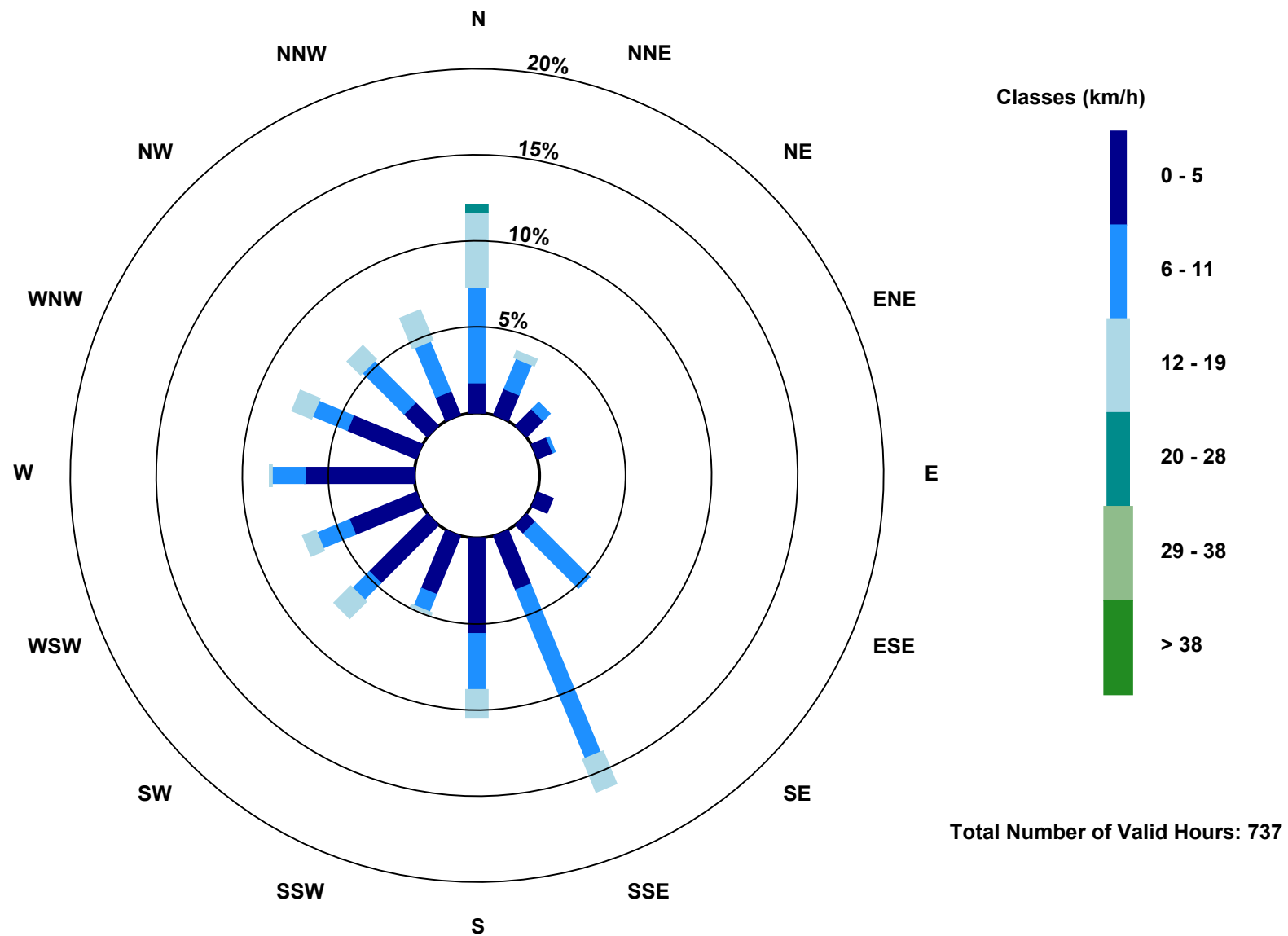
Total Number of Valid Hours: 737

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 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 - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 9 km/h on Jul 3 00:00																	Hours in Service: 744 Hours of Data: 737 Hours of Missing Data: 7 Hours of Calibration: 0 Percent Operational Time: 99.1								
Minimum Value: 0 km/h on Jul 14 23:00																									
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-Jul	1	1	1	1	1	1	1	1	2	3	3	2	2	3	3	3	2	1	2	2	1	1	1	2	3
2-Jul	2	2	1	2	2	2	3	2	3	3	3	3	3	2	2	3	3	2	2	2	1	2	2	9	9
3-Jul	5	2	1	3	2	2	3	3	3	4	3	4	5	5	4	4	5	6	8	3	4	2	3	3	8
4-Jul	3	2	3	3	3	3	5	3	4	4	6	5	5	2	3	3	3	4	1	1	1	1	2	2	6
5-Jul	2	2	1	1	1	2	2	3	1	2	3	3	M	M	M	3	2	2	2	2	2	2	1	1	3
6-Jul	1	2	2	2	2	2	3	3	3	2	3	3	3	3	3	3	7	2	2	2	2	1	1	1	7
7-Jul	1	1	1	1	1	1	1	2	2	2	2	3	3	3	3	3	3	3	2	1	1	1	1	1	3
8-Jul	1	1	2	2	2	1	1	2	2	2	3	5	5	5	5	6	4	4	3	2	2	1	7	5	7
9-Jul	2	2	2	3	3	4	4	5	5	6	7	8	7	7	8	7	6	7	6	6	5	5	4	3	8
10-Jul	3	1	2	1	2	2	2	2	4	3	4	4	5	5	4	4	4	4	4	2	1	1	1	1	5
11-Jul	1	1	1	1	1	2	2	3	4	4	5	6	6	5	6	5	3	2	4	3	2	2	1	1	6
12-Jul	2	4	3	3	2	1	3	2	1	2	2	3	4	2	3	3	2	6	4	3	3	4	2	2	6
13-Jul	1	1	2	2	4	1	2	2	4	3	3	3	4	5	5	4	4	4	4	3	2	2	1	1	5
14-Jul	1	1	1	1	1	2	2	4	3	4	4	4	4	4	4	4	3	3	3	2	1	1	0	1	4
15-Jul	1	1	1	1	1	1	1	1	2	2	3	3	3	4	4	4	4	3	3	3	2	2	1	1	4
16-Jul	2	1	1	1	1	1	1	2	2	2	2	3	4	3	3	2	2	2	2	1	2	2	2	2	4
17-Jul	1	2	2	1	2	1	UO	1	1	1	2	2	3	3	3	3	3	2	2	2	1	1	UO	2	3
18-Jul	2	1	2	1	1	1	2	2	2	2	2	2	2	4	4	4	3	2	2	1	1	1	1	0	4
19-Jul	1	1	1	2	1	1	1	1	1	1	2	2	2	3	3	2	2	2	2	5	3	2	2	2	5
20-Jul	2	2	1	2	2	2	2	2	2	2	2	2	3	2	2	2	6	2	2	6	5	3	5	4	6
21-Jul	5	7	4	4	4	3	3	4	4	4	4	4	3	4	5	3	3	3	3	3	1	2	1	2	7
22-Jul	1	1	1	1	1	2	2	2	3	3	3	3	4	4	4	3	2	1	2	2	1	1	1	2	4
23-Jul	1	1	1	1	1	1	1	1	1	2	2	3	3	3	3	3	3	3	3	1	1	1	1	1	3
24-Jul	2	1	1	1	2	1	2	2	2	3	4	3	3	3	3	2	2	2	2	7	2	1	2	7	
25-Jul	1	2	1	1	1	2	2	3	3	3	3	3	2	2	2	2	3	6	2	1	1	1	2	1	6
26-Jul	1	1	1	1	1	1	2	2	2	2	3	7	2	2	5	4	4	3	2	2	1	1	1	2	7
27-Jul	1	2	2	2	4	2	1	2	4	3	3	2	2	3	3	2	3	2	1	2	1	1	2	1	4
28-Jul	1	1	1	1	1	1	1	2	2	2	3	3	3	3	2	2	2	2	1	1	UO	UO	1	1	3
29-Jul	2	1	2	1	1	2	2	2	2	2	2	2	4	3	4	4	3	2	2	2	1	1	1	2	4
30-Jul	1	1	3	2	2	2	2	2	2	2	2	3	3	3	3	2	3	2	2	2	2	1	1	1	3
31-Jul	1	2	2	2	1	1	2	2	2	2	2	3	4	3	3	4	4	2	2	1	1	1	1	1	4
Diurnal Maximum																									
M - Maintenance UO - Unstable Operation																									



Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Direction 10m (WD10) - deg

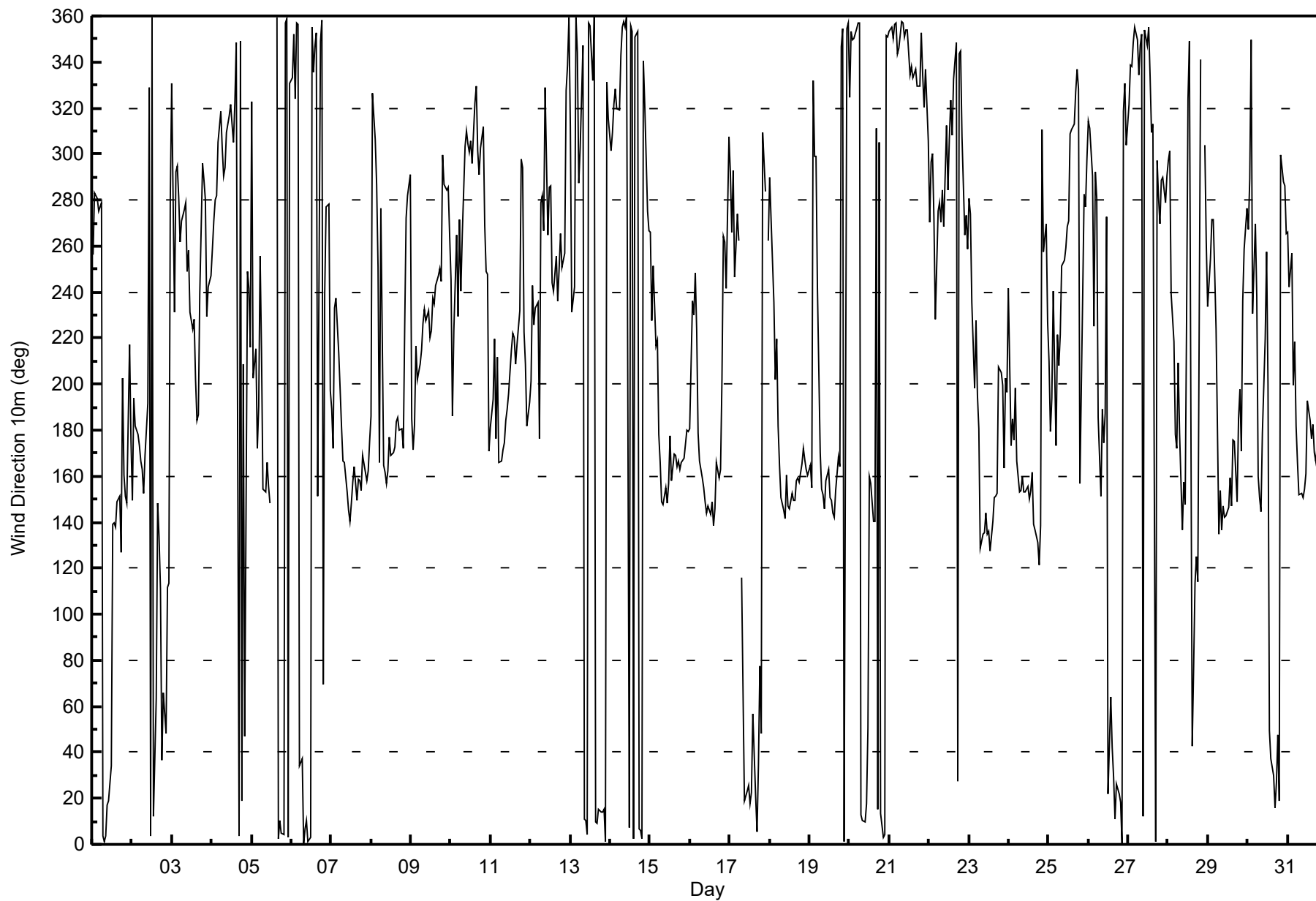
Fort McKay - Bertha Ganter - July 2025

Direction of Maximum Speed: 355 deg on Jul 21 02:00																					Hours in Service:		744		
Direction of Maximum Daily Speed Average: 345.9 deg on Jul 21																					Hours of Data:		737		
Direction of Minimum Speed: 359 deg on Jul 13 04:00										Direction of Minimum Daily Speed Average: 0.5 deg on Jul 30											Hours of Missing Data:		7		
Monthly Average Direction: 258.0 deg																					Percent Operational Time:		99.1		
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-Jul	256	283	282	281	275	279	3	1	3	17	19	34	139	140	138	149	151	127	202	161	151	148	217	176	153.2
2-Jul	149	194	182	178	173	167	163	153	169	192	329	4	359	12	63	149	134	111	37	66	48	111	113	281	143.9
3-Jul	331	231	292	295	281	262	271	276	279	249	258	231	224	228	202	184	187	239	296	288	280	230	242	247	250.0
4-Jul	259	271	280	282	305	319	303	290	294	310	317	322	313	305	322	348	4	349	19	209	47	249	242	216	311.3
5-Jul	323	203	216	172	190	256	214	154	153	166	156	148	M	M	M	359	3	10	5	4	357	359	3	331	48.8
6-Jul	333	352	324	357	357	34	38	0	7	10	1	3	355	335	347	353	152	349	358	69	239	277	278	197	358.7
7-Jul	189	172	233	237	213	198	181	167	166	153	145	140	148	158	164	150	159	158	154	169	162	158	162	175	160.1
8-Jul	186	326	306	287	251	166	277	165	162	157	162	177	169	170	173	184	186	180	181	172	225	272	282	291	186.5
9-Jul	185	171	182	216	202	209	215	226	233	227	232	221	223	238	235	243	247	250	245	300	287	284	285	265	237.3
10-Jul	245	186	223	265	229	271	240	265	303	310	305	301	306	296	322	330	301	291	303	312	269	249	248	171	290.9
11-Jul	181	193	220	176	212	166	167	171	174	184	189	196	215	222	220	209	217	232	298	294	223	208	182	192	200.0
12-Jul	202	243	226	233	235	177	279	282	267	329	265	285	286	244	240	256	236	250	265	251	257	328	339	359	265.6
13-Jul	312	231	242	359	344	288	303	347	11	11	4	357	356	332	360	10	9	15	14	14	15	1	331	315	355.9
14-Jul	302	310	322	329	320	319	343	355	357	355	360	7	356	353	3	351	353	7	6	2	341	322	275	267	346.0
15-Jul	266	227	251	216	219	178	166	149	148	155	148	157	178	158	169	169	164	167	163	166	168	174	180	179	167.5
16-Jul	181	236	230	248	223	179	167	159	155	149	144	147	143	149	139	146	166	159	163	202	264	262	242	308	165.5
17-Jul	292	266	293	246	274	262	UO	116	67	19	23	25	17	22	57	21	5	35	77	48	309	284	UO	262	3.9
18-Jul	290	271	235	202	220	182	165	151	145	141	161	147	146	153	150	149	158	159	158	165	172	167	163	160	159.6
19-Jul	165	155	332	299	299	242	170	155	152	146	158	163	151	150	144	142	154	168	164	347	354	1	354	357	144.6
20-Jul	325	353	349	350	355	357	357	13	10	10	17	51	160	157	140	140	311	15	305	13	3	4	351	351	357.3
21-Jul	353	355	350	356	357	343	346	357	357	351	354	354	335	338	333	335	337	330	329	353	335	321	337	306	345.9
22-Jul	270	296	300	272	228	275	279	271	284	269	312	284	307	323	308	332	348	28	344	344	308	265	273	259	300.7
23-Jul	281	274	236	198	228	195	181	129	135	136	144	135	136	128	141	151	151	153	207	205	200	164	203	197	157.5
24-Jul	241	173	185	176	198	167	153	154	160	153	153	156	150	154	162	139	137	131	122	139	310	257	270	227	156.4
25-Jul	210	179	194	240	173	221	208	222	251	254	259	268	271	309	311	313	327	337	328	157	239	283	277	298	271.6
26-Jul	314	311	291	225	292	280	186	151	189	175	187	273	22	64	42	29	11	26	22	18	0	319	331	304	358.2
27-Jul	322	339	338	348	355	350	334	347	352	12	354	347	355	334	309	313	1	297	281	270	288	290	279	291	337.0
28-Jul	297	301	239	219	178	172	210	179	137	157	148	229	324	349	43	76	114	125	114	341	UO	UO	304	262	154.3
29-Jul	233	255	272	271	249	224	135	154	137	147	142	143	147	160	147	176	175	149	185	198	171	236	258	276	167.2
30-Jul	267	289	350	231	270	238	160	150	145	179	220	258	200	50	37	30	16	27	48	19	300	288	286	266	347.9
31-Jul	266	242	257	200	218	182	166	152	152	151	154	161	193	184	176	182	170	166	173	161	177	169	179	187	171.9
288.8 281.7 282.1 277.3 287.8 265.8 240.2 180.1 165.2 169.3 181.5 210.5 222.9 214.2 207.4 160.5 192.1 170.5 284.5 320.7 309.7 297.2 290.8 278.8																									
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
Fort McKay - Bertha Ganter - July 2025





Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

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

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 102 deg on Jul 22 17:00																		Hours in Service: 744							
Minimum Value: 8 deg on Jul 14 00:00																		Hours of Data: 737							
																		Hours of Missing Data: 7							
Percentiles: P ₁ = 11 P ₁₀ = 15 Q ₁ = 19 Median = 28 Q ₃ = 45 P ₉₀ = 59 P ₉₉ = 94																		Hours of Calibration: 0							
																		Percent Operational Time: 99.1							
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-Jul	28	28	24	17	29	57	32	20	47	42	79	74	61	33	34	25	60	46	47	19	15	21	60	35	79
2-Jul	50	33	14	20	52	15	18	20	30	42	63	30	21	24	84	43	23	38	29	30	68	54	38	63	84
3-Jul	27	100	34	61	48	40	45	41	49	55	54	57	46	47	36	23	26	48	28	32	40	50	49	57	100
4-Jul	47	47	44	37	20	12	26	40	29	22	23	25	20	18	18	19	19	27	64	58	47	95	14	40	95
5-Jul	32	53	47	52	29	72	79	20	18	18	18	16	M	M	M	19	28	24	19	16	14	16	21	25	79
6-Jul	22	30	23	20	14	44	43	16	21	21	27	21	18	19	17	26	19	82	17	50	94	52	47	73	94
7-Jul	65	26	19	36	70	34	22	20	26	37	19	16	22	27	30	15	14	16	14	11	12	11	11	11	70
8-Jul	16	49	70	27	37	43	57	44	22	14	19	24	22	19	20	24	24	19	20	13	57	96	31	30	96
9-Jul	77	21	27	40	31	37	40	46	49	46	51	46	44	50	53	51	52	55	55	40	35	35	32	53	77
10-Jul	52	23	43	39	53	39	85	46	35	29	30	24	25	33	39	65	21	26	20	16	23	17	27	43	85
11-Jul	24	43	39	23	23	15	13	16	19	24	26	30	44	45	39	38	44	45	39	43	50	41	18	22	50
12-Jul	30	54	52	51	54	37	38	29	32	46	68	35	40	59	52	55	53	54	56	51	47	43	26	16	68
13-Jul	25	36	60	94	32	70	24	37	20	20	22	22	35	28	28	25	25	24	24	22	20	19	11	8	94
14-Jul	15	15	8	10	15	19	18	22	21	28	28	37	35	28	39	27	25	27	24	29	13	23	34	19	39
15-Jul	16	59	53	44	20	30	21	18	19	17	20	48	57	34	56	45	25	21	14	14	12	12	14	13	59
16-Jul	22	56	41	22	14	21	15	16	12	16	18	23	23	37	77	19	38	25	15	25	42	18	60	74	77
17-Jul	33	60	27	46	39	41	UO	84	61	53	44	39	49	73	69	46	41	39	39	48	22	15	UO	32	84
18-Jul	15	21	32	25	33	69	20	18	18	16	21	17	20	34	38	25	17	15	12	14	11	10	11	9	69
19-Jul	11	12	69	11	20	52	13	15	14	16	17	20	16	19	24	26	18	17	15	74	16	17	16	30	74
20-Jul	16	17	15	15	16	15	16	24	28	45	61	76	96	21	20	51	17	58	83	68	20	17	18	17	96
21-Jul	17	18	16	17	16	16	18	18	25	22	19	23	23	23	27	19	18	18	16	15	21	18	9	28	28
22-Jul	24	40	56	101	56	43	37	53	43	61	33	48	61	35	45	48	102	68	15	15	52	37	48	29	102
23-Jul	19	19	37	37	41	44	27	19	17	19	19	24	20	31	41	25	37	36	61	33	45	19	23	33	61
24-Jul	78	12	15	18	38	12	16	13	18	19	17	16	18	17	18	17	16	15	28	19	55	94	26	74	94
25-Jul	42	41	32	51	70	56	46	46	51	53	56	45	50	27	14	18	18	78	31	75	34	24	56	21	78
26-Jul	24	24	26	67	31	88	82	68	65	33	39	77	48	38	59	30	20	22	22	22	53	16	17	18	88
27-Jul	12	15	15	13	16	14	11	19	24	22	20	20	28	44	19	22	18	38	28	39	23	22	37	33	44
28-Jul	22	31	58	28	44	20	34	48	16	33	81	93	71	61	54	45	44	40	33	47	UO	UO	43	51	93
29-Jul	62	27	36	56	40	30	74	29	16	18	14	17	37	44	39	65	30	33	31	48	24	32	44	47	74
30-Jul	38	24	47	49	35	70	22	13	13	35	59	55	78	40	33	34	27	23	38	19	44	28	47	33	78
31-Jul	49	70	33	82	30	44	14	14	11	11	12	25	56	46	30	30	27	27	16	15	16	23	11	14	82
78 100 70 101 70 88 85 84 65 61 81 93 96 73 84 65 102 82 83 75 94 96 60 74																									
Diurnal Maximum																									
M - Maintenance UO - Unstable Operation																									



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS02 MILDRED LAKE JULY 2025

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

August 29, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - MILDRED LAKE (AMS02)
JULY 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	701	36	43	99.06	33.6	0	6.9	0
H2S (ppb) Average	708	36	36	100	12.5	2	2.7	0
THC (ppm) Average	674	38	70	95.7	3.4	-	2.3	-
NMHC(ppm) Average	674	38	70	95.7	0.165	-	0.061	-
CH4(ppm) Average	674	38	70	95.7	3.4	-	2.2	-
Temperature (C) Average	744	0	0	100	34	-	25.3	-
Relative Humidity (%) Average	744	0	0	100	100	-	89.5	-
Wind Speed 10 m (km/h) Average	743	0	1	99.87	27	-	18	-
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 - MILDRED LAKE (AMS02)
JULY 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	701	1.49	4.3	-	0	0	0.1	0.3	0.7	2.8	33.6
H2S (ppb) Average	708	0.5	1.1	-	0	0	0.1	0.2	0.5	1	12.5
THC (ppm) Average	674	2.04	0.2	-	1.9	1.9	1.9	2	2.1	2.2	3.4
NMHC(ppm) Average	674	0.011	0.022	-	0	0	0	0	0	0	0.165
CH4(ppm) Average	674	2.03	0.2	-	1.9	1.9	1.9	2	2.1	2.2	3.4
Temperature 2 m (C) Average	744	17.91	5.4	-	4	11.5	13.8	17.2	21.5	25.8	34
Relative Humidity (%) Average	744	62.6	20.7	-	22.8	33.5	46.3	62.9	79.8	90.7	100
Wind Speed 10 m (km/h) Average	743	8.4	5	-	1	3	5	8	11	15	27
Wind Direction 10 m (deg) Average	743	-	-	-	-	-	-	-	-	-	-

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

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
SO2, THC/NMHC/CH4	29 Jul 2025 13:00	29 Jul 2025 13:00	1	Maintenance - sample manifold cleaned
SO2	31 Jul 2025 02:00	31 Jul 2025 04:00	3	Unstable Operation - excessive baseline drift
SO2	31 Jul 2025 06:00	31 Jul 2025 08:00	3	Unstable Operation - excessive baseline drift
THC/NMHC/CH4	21 Jul 2025 03:00	21 Jul 2025 04:00	2	Unstable Operation - excessive baseline noise
THC/NMHC/CH4	21 Jul 2025 08:00	21 Jul 2025 08:00	1	Unstable Operation - excessive baseline noise
THC/NMHC/CH4	21 Jul 2025 22:00	22 Jul 2025 01:00	4	Unstable Operation - excessive baseline noise
THC/NMHC/CH4	22 Jul 2025 11:00	23 Jul 2025 10:00	24	Maintenance - analyzer replaced and column conditioning



Wood Buffalo Environmental Association

Summary of Hour Averages

Sulphur Dioxide (SO₂) - ppb

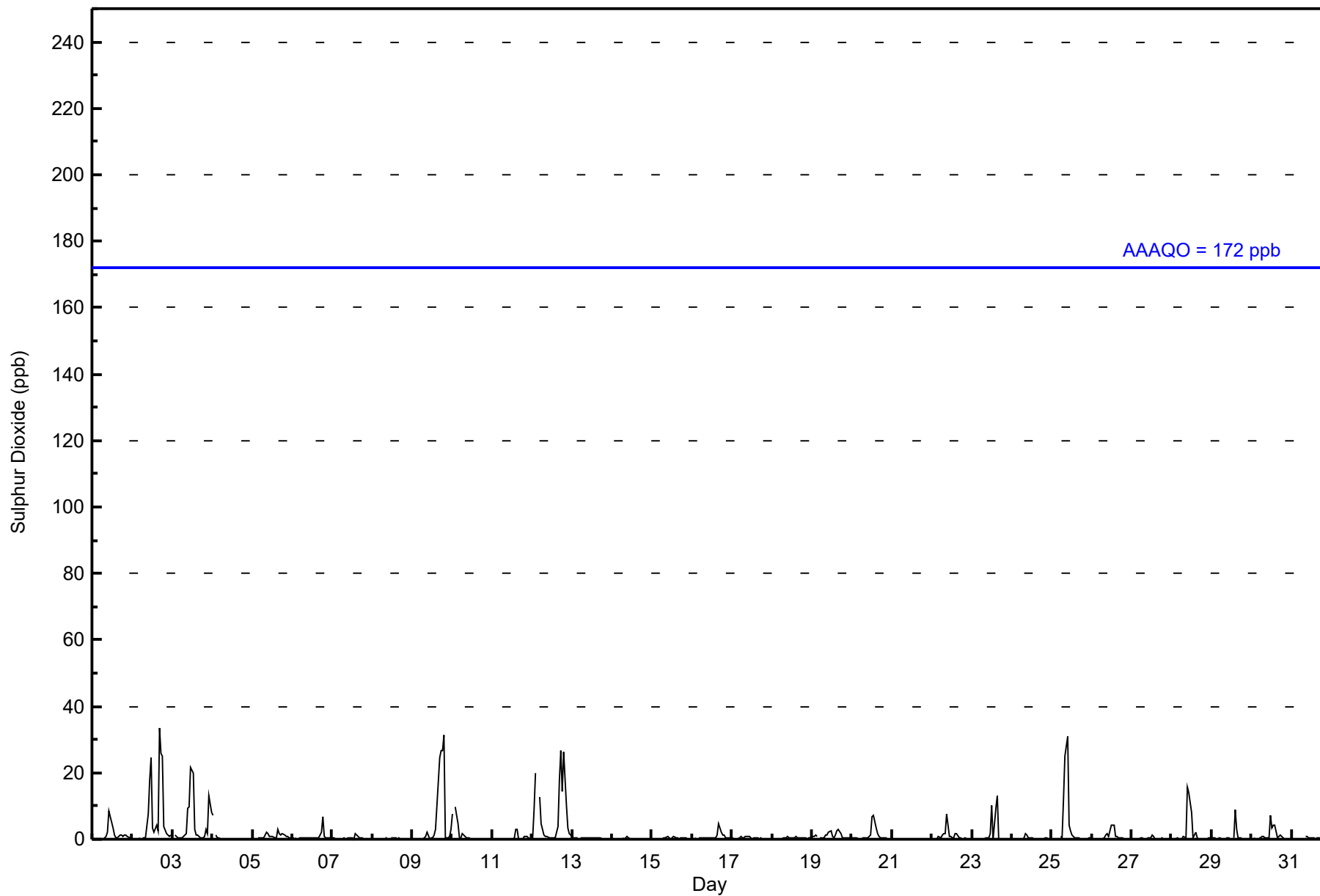
Mildred Lake - July 2025

Number of Exceedences (AAAQO): Maximum Value: 33.6 ppb on Jul 2 17:00																			1-hr: 0 24-hr: 0 Maximum Daily Average: 6.9 ppb on Jul 12						Hours in Service: 744 Hours of Data: 701	
Minimum Value: 0.0 ppb on Jul 2 04:00 Maximum Diurnal Average: 3.0 ppb at hour 17 Monthly Average: 1.49 ppb																			Minimum Daily Average: 0.0 ppb on Jul 21 Minimum Diurnal Average: 0.4 ppb at hour 4 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.3 Q ₃ = 0.7 P ₉₀ = 2.8 P ₉₉ = 25.8						Hours of Missing Data: 43 Hours of Calibration: 36 Percent Operational Time: 99.1	
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-Jul	0.2	0.1	0.0	0.1	Z	0.1	0.0	0.2	0.8	2.2	8.5	5.1	3.3	1.5	0.4	0.5	1.1	1.3	0.7	1.4	1.1	0.7	0.5	0.4	1.3	8.5
2-Jul	0.1	0.1	0.1	0.0	0.6	Z	0.5	0.5	0.5	7.4	17.8	24.8	3.6	1.9	4.1	2.6	33.6	25.8	24.9	3.7	1.7	1.2	0.7	1.4	6.8	33.6
3-Jul	Z	1.4	0.9	0.5	0.4	0.5	0.3	1.1	1.6	9.4	9.6	21.7	19.7	2.9	1.5	1.3	0.9	0.6	0.5	0.7	2.9	1.7	13.0	8.1	4.4	21.7
4-Jul	7.1	Z	1.2	0.5	0.4	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	0.4	7.1
5-Jul	0.0	0.0	Z	0.5	0.5	0.4	0.4	0.3	1.9	1.6	1.0	0.9	0.7	0.6	0.6	3.0	1.7	1.5	1.7	1.5	0.9	0.8	0.5	0.3	0.9	3.0
6-Jul	0.2	0.2	0.3	Z	0.4	0.4	0.3	0.3	0.3	0.4	0.4	0.2	0.3	0.3	0.4	0.6	0.5	2.3	6.8	0.8	0.4	0.3	0.3	0.4	0.7	6.8
7-Jul	0.3	0.3	0.2	0.1	Z	0.2	0.1	0.3	0.2	0.2	0.4	0.4	0.3	0.1	1.7	0.9	0.5	0.3	0.2	0.1	0.2	0.1	0.0	0.0	0.3	1.7
8-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.1	0.2	0.2	0.2	0.1	0.3	0.3	0.2	0.1	0.2	0.1	0.0	0.2	0.0	0.0	0.0	0.1	0.1	0.3
9-Jul	Z	0.2	0.1	0.1	0.0	0.0	0.0	0.4	0.8	2.2	0.0	0.2	0.2	1.3	3.1	10.3	24.5	26.6	26.7	31.3	0.6	0.5	0.7	2.8	5.8	31.3
10-Jul	7.5	Z	9.8	4.7	0.6	0.3	1.7	1.4	0.3	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.0	1.2	9.8
11-Jul	0.0	0.0	Z	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.5	2.8	2.9	0.2	0.0	0.0	0.8	0.7	0.7	0.5	0.1	0.4	2.9
12-Jul	0.3	8.8	19.8	Z	12.7	4.6	2.8	1.3	0.7	0.7	0.6	0.5	0.4	0.4	0.5	4.0	17.9	26.5	14.4	26.1	10.0	3.4	1.7	1.2	6.9	26.5
13-Jul	0.6	0.5	0.4	0.4	Z	0.5	0.6	0.4	0.4	0.3	0.3	0.3	0.2	0.4	0.4	0.3	0.3	0.3	0.2	0.1	0.2	0.2	0.1	0.1	0.3	0.6
14-Jul	0.2	0.2	0.0	0.0	0.1	Z	0.3	0.2	0.4	0.9	0.6	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.9
15-Jul	Z	0.1	0.1	0.1	0.0	0.0	0.0	0.2	0.6	0.8	0.3	0.2	0.6	0.6	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.1	0.2	0.3	0.8
16-Jul	0.2	0.2	0.3	Z	0.5	0.5	0.4	0.4	0.6	0.5	0.5	0.4	0.5	0.4	0.5	1.1	4.6	2.0	1.3	1.1	0.5	0.4	0.4	0.3	0.8	4.6
17-Jul	0.3	0.1	Z	0.2	0.4	0.6	0.4	0.5	0.7	0.9	1.0	0.5	0.2	0.4	0.5	0.3	0.1	0.2	0.1	0.2	0.2	0.1	0.0	0.0	0.3	1.0
18-Jul	0.0	0.0	0.1	Z	0.1	0.1	0.1	0.3	0.4	0.8	0.6	0.5	0.5	0.6	0.7	0.5	0.3	0.2	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.8
19-Jul	0.8	1.0	1.1	0.7	Z	0.5	0.5	0.5	1.2	1.1	2.3	2.4	0.8	0.3	1.1	2.4	3.0	1.8	0.3	0.3	0.4	0.4	0.5	0.3	1.0	3.0
20-Jul	0.3	0.4	0.3	0.3	0.2	Z	0.2	0.3	0.3	0.5	0.7	1.1	6.6	7.3	3.3	1.9	0.9	0.5	0.4	0.5	0.4	0.1	0.2	0.2	1.2	7.3
21-Jul	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0
22-Jul	0.0	Z	0.1	0.1	0.7	0.3	1.2	1.9	1.8	7.5	1.0	0.7	0.4	0.4	1.7	1.6	0.3	0.3	0.0	0.0	0.2	0.0	0.0	0.0	0.9	7.5
23-Jul	0.1	0.1	Z	0.1	0.0	0.0	0.1	0.0	0.3	0.4	0.4	1.7	10.1	0.0	9.2	13.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	13.3
24-Jul	0.0	0.0	0.1	Z	0.0	0.1	0.2	0.4	1.8	1.3	0.3	0.3	0.4	0.2	0.1	0.1	0.0	0.0	0.1	0.2	0.2	0.2	0.1	0.1	0.3	1.8
25-Jul	0.0	0.0	0.0	0.1	Z	0.7	0.5	11.8	25.2	31.1	4.4	2.7	1.2	0.7	0.6	0.4	0.3	0.2	0.1	0.1	0.2	0.2	0.3	0.3	3.5	31.1
26-Jul	0.1	0.1	0.0	0.0	0.0	Z	0.2	0.2	1.3	1.9	0.7	2.6	4.0	4.2	0.9	0.7	0.5	0.3	0.4	0.2	0.1	0.1	0.1	0.2	0.8	4.2
27-Jul	Z	0.2	0.1	0.0	0.1	0.2	0.2	0.1	0.2	0.1	0.4	0.5	1.1	0.7	0.1	0.1	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.2	1.1
28-Jul	0.1	Z	0.1	0.3	0.2	0.0	0.0	0.8	0.6	15.8	14.0	11.0	8.2	0.4	2.3	0.5	0.1	0.2	0.1	0.2	0.1	0.2	0.2	0.2	2.4	15.8
29-Jul	0.6	0.5	0.4	Z	0.3	0.3	0.2	0.1	0.1	0.3	0.3	0.4	M	0.3	9.0	3.1	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.8	9.0
30-Jul	0.2	0.1	0.3	Z	0.4	0.3	0.7	0.6	0.5	0.4	0.4	7.3	3.5	4.3	4.2	0.4	0.7	1.1	0.8	0.5	0.2	0.1	0.1	0.1	1.2	7.3
31-Jul	0.0	UO	UO	UO	Z	UO	UO	UO	1.0	0.8	0.5	0.4	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.0	--	1.0
Diurnal Average																										
Diurnal Maximum																										
Z - zerospan C - Calibration M - Maintenance UO - Unstable Operation																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb																										



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	676	96.43	96.43
11 - 20	12	1.71	98.15
21 - 60	13	1.85	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: 701

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Mildred Lake - July 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	79	48	11	11	9	21	47	98	79	54	33	15	34	42	42	52	675
11 - 20	0	0	0	0	0	0	0	0	0	0	0	6	3	0	1	2	12
21 - 60	0	0	1	1	0	0	0	0	0	0	1	6	4	0	0	0	13
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	79	48	12	12	9	21	47	98	79	54	34	27	41	42	43	54	700

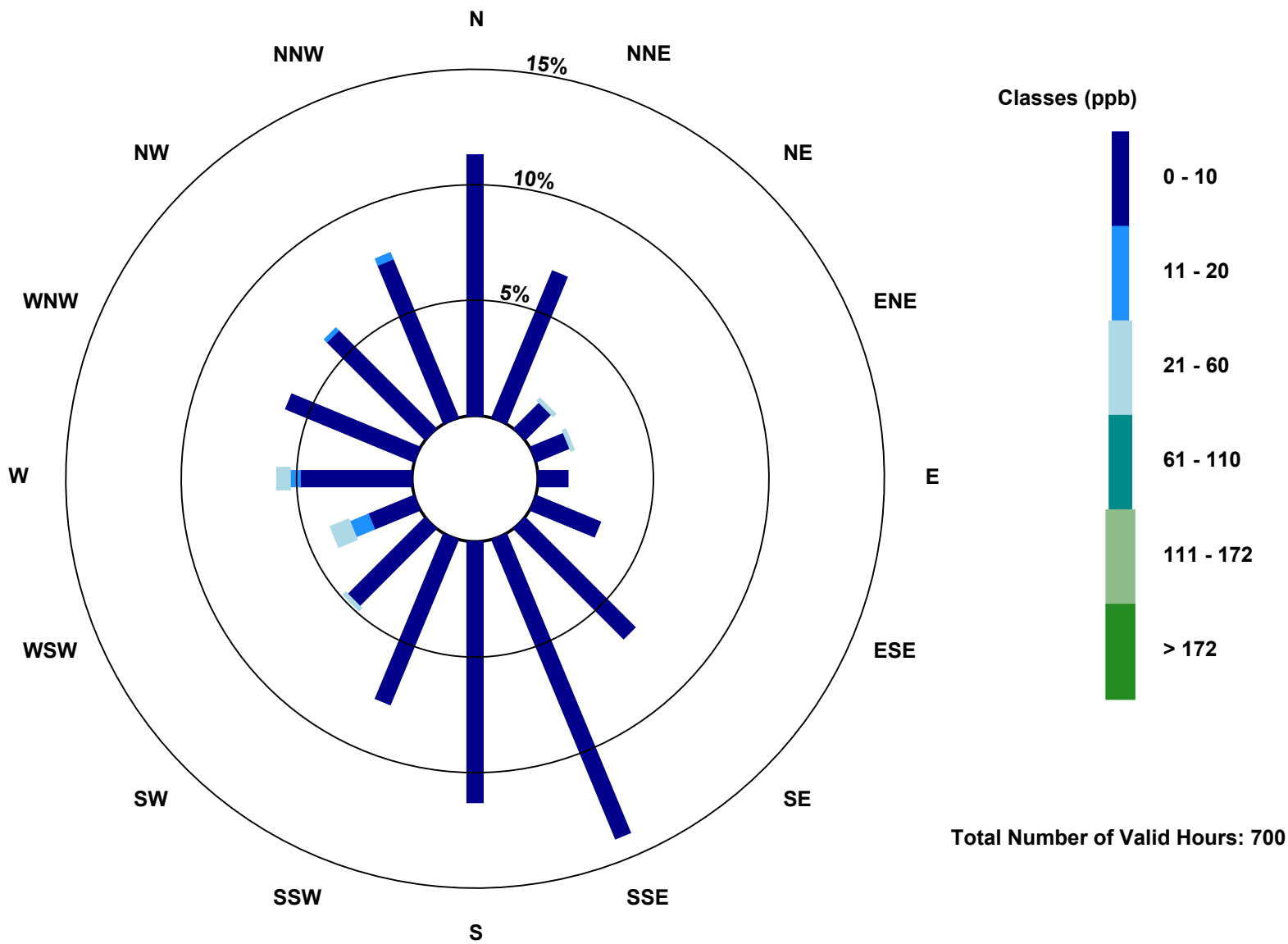
Total Number of Valid Hours: 700

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

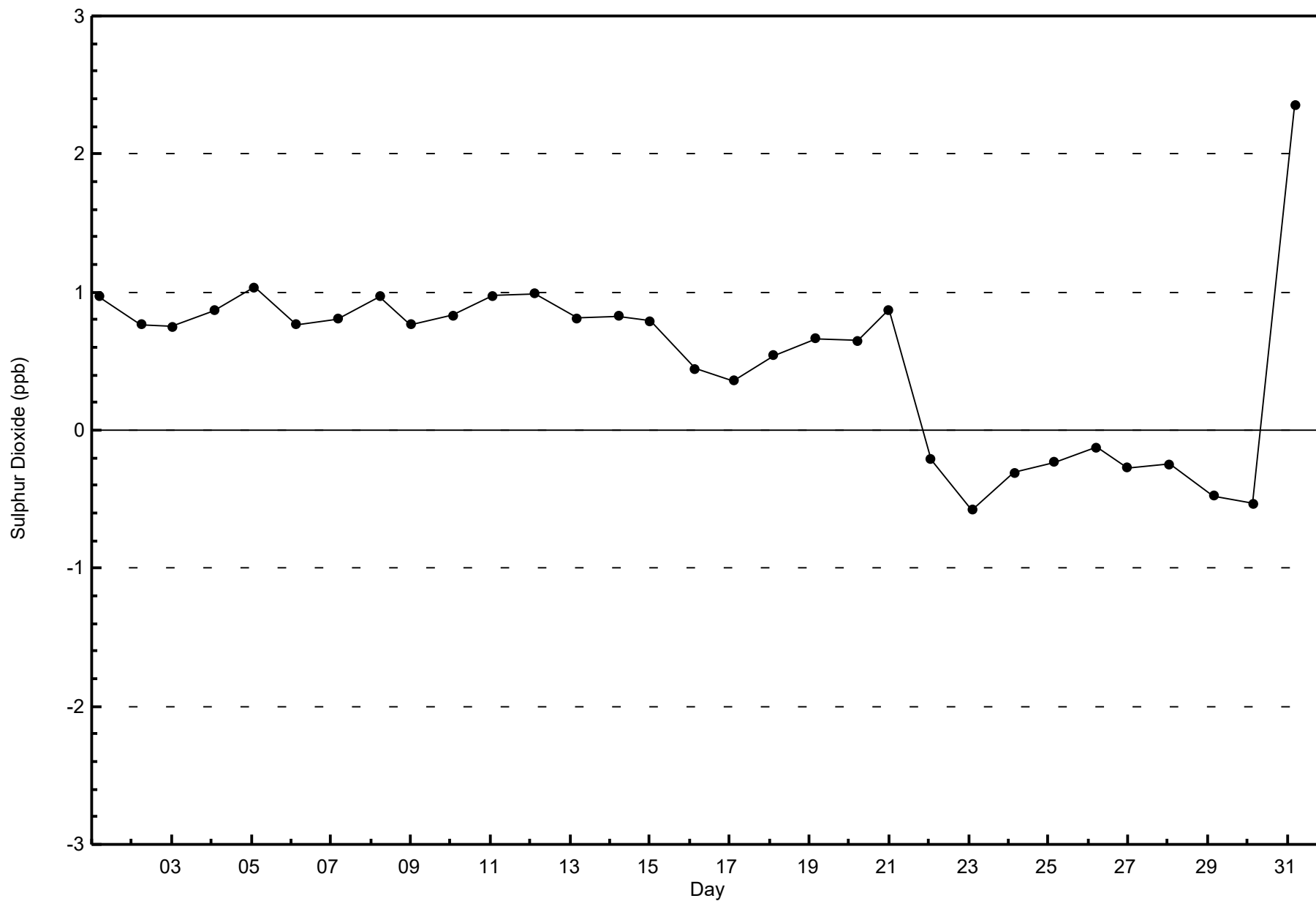
Sulphur Dioxide (SO₂) - ppb
Mildred Lake





Wood Buffalo Environmental Association
Zero Responses

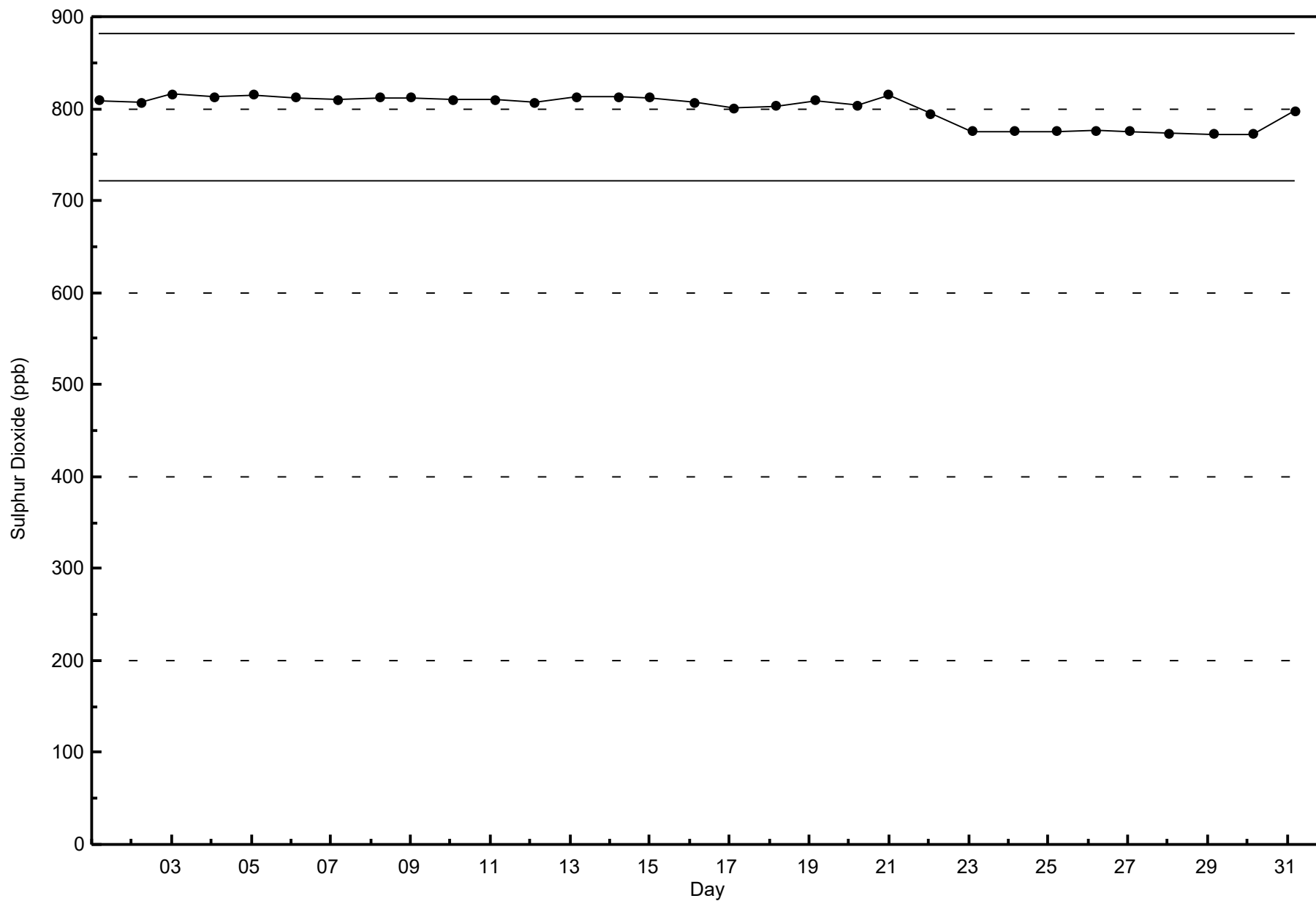
Sulphur Dioxide (SO₂) - ppb
Mildred Lake - July 2025





Wood Buffalo Environmental Association
Span Responses

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Hydrogen Sulphide (H₂S) - ppb

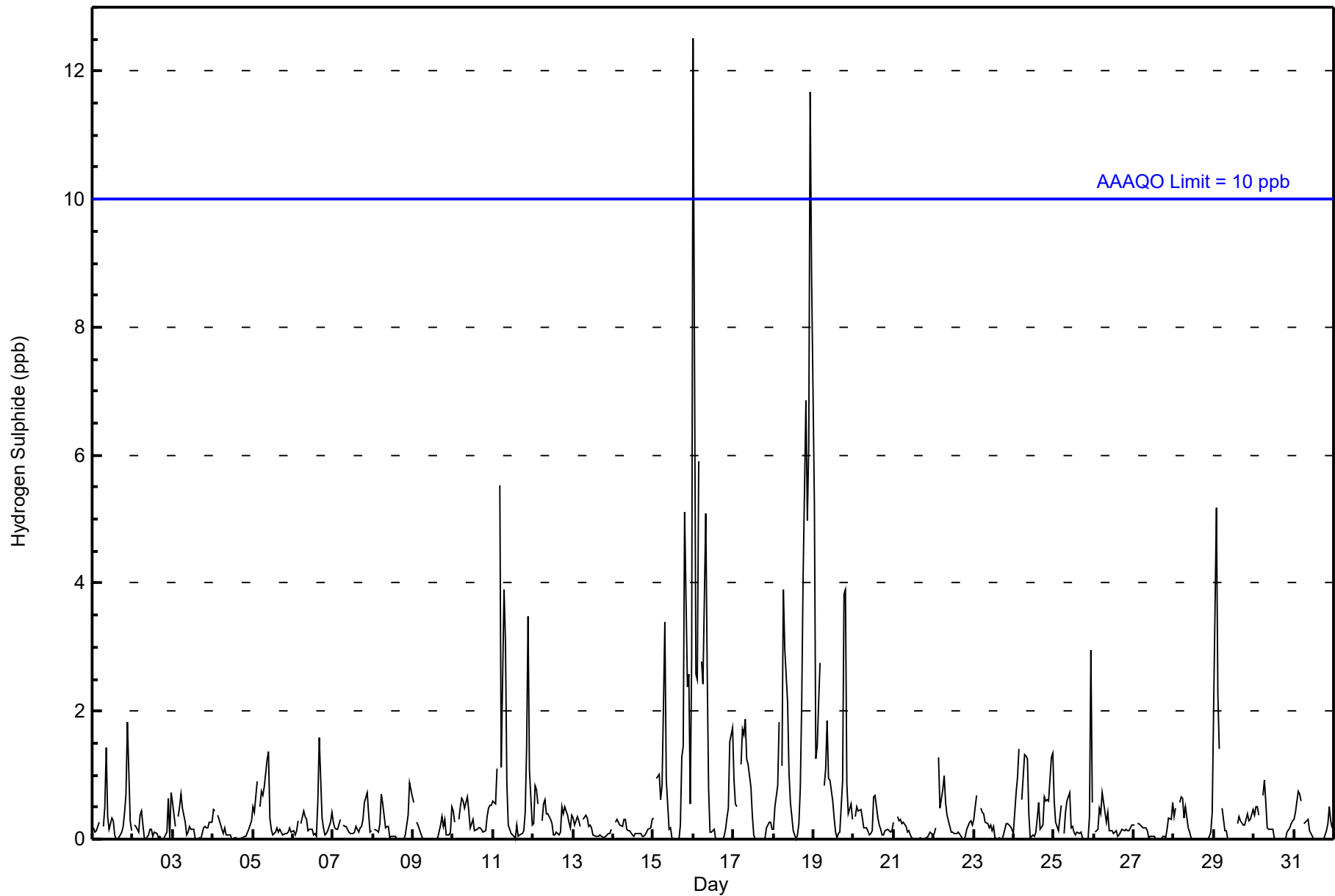
Mildred Lake - July 2025

Number of Exceedences (AAAQO): 1-hr: 2 24-hr: 0																				Hours in Service: 744						
Maximum Value: 12.5 ppb on Jul 16 01:00																				Maximum Daily Average: 2.7 ppb on Jul 18		Hours of Data: 708				
Minimum Value: 0.0 ppb on Jul 1 15:00																				Minimum Daily Average: 0.1 ppb on Jul 21		Hours of Missing Data: 36				
Maximum Diurnal Average: 1.1 ppb at hour 1																				Minimum Diurnal Average: 0.1 ppb at hour 14		Hours of Calibration: 36				
Monthly Average: 0.50 ppb																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.5 P ₉₀ = 1.0 P ₉₉ = 5.2		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-Jul	0.2	0.1	0.1	0.2	0.3	Z	0.2	0.5	1.4	0.4	0.2	0.3	0.3	0.1	0.0	0.0	0.1	0.1	0.2	0.4	0.7	1.8	0.3	0.1	0.3	1.8
2-Jul	Z	0.2	0.2	0.1	0.4	0.4	0.2	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.6	0.0	0.7	0.2	0.7
3-Jul	0.6	0.2	Z	0.4	0.5	0.7	0.5	0.3	0.1	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.7
4-Jul	0.5	0.4	Z	0.4	0.3	0.2	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	0.0	0.1	0.1	0.2	0.3	0.1	0.5
5-Jul	0.5	0.4	0.9	Z	0.5	0.7	0.7	0.8	1.2	1.4	0.3	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.4	1.4
6-Jul	0.1	0.1	0.1	0.3	Z	0.2	0.5	0.4	0.3	0.1	0.2	0.2	0.1	0.1	0.1	0.6	1.6	0.3	0.2	0.1	0.1	0.1	0.3	0.4	0.3	1.6
7-Jul	0.3	0.2	0.2	0.2	0.3	Z	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.3	0.6	0.7	0.4	0.1	0.1	0.2	0.7
8-Jul	Z	0.2	0.1	0.1	0.2	0.7	0.6	0.2	0.2	0.2	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.4	0.9	0.7	0.2	0.9
9-Jul	0.6	Z	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	0.0	0.2	0.4	0.2	0.3	0.1	0.1	0.1	0.5	0.1	0.6
10-Jul	0.4	0.3	Z	0.3	0.5	0.6	0.6	0.5	0.7	0.4	0.2	0.2	0.3	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.3	0.5	0.5	0.5	0.3	0.7
11-Jul	0.6	0.5	1.1	Z	5.5	1.1	3.9	3.1	0.9	0.2	0.2	0.1	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.4	1.4	3.5	1.1	0.2	1.1	5.5
12-Jul	0.2	0.8	0.8	0.6	Z	0.3	0.6	0.6	0.4	0.4	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.5	0.4	0.5	0.4	0.3	0.2	0.4	0.4	0.8
13-Jul	0.3	0.2	0.4	0.3	0.2	Z	0.3	0.4	0.3	0.2	0.2	0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.4
14-Jul	Z	0.3	0.3	0.3	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	0.0	0.0	0.1	0.1	0.1	0.2	0.3	0.2	0.3
15-Jul	0.3	Z	0.9	1.0	0.6	0.8	2.1	3.4	0.9	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.2	1.3	1.5	5.1	2.4	2.6	0.6	2.8	1.2	5.1
16-Jul	12.5	2.6	2.5	5.9	Z	2.8	2.4	5.1	2.7	0.8	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.5	1.5	1.7	1.8	12.5
17-Jul	0.9	0.6	0.5	Z	1.2	1.7	1.6	1.9	1.3	1.2	0.8	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.3	0.2	0.6	1.9
18-Jul	0.2	0.5	0.8	1.8	Z	1.1	3.9	3.0	2.1	1.0	0.6	0.4	0.1	0.0	0.1	0.2	0.8	2.1	4.1	6.8	5.0	6.1	11.7	8.8	2.7	11.7
19-Jul	5.3	1.2	1.5	2.1	2.8	Z	0.8	1.1	1.9	1.0	0.9	0.6	0.3	0.1	0.0	0.1	0.1	0.9	3.8	3.9	0.8	0.4	0.5	0.3	1.3	5.3
20-Jul	Z	0.3	0.5	0.4	0.5	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.7	0.7	0.3	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.7
21-Jul	0.3	Z	0.4	0.3	0.3	0.2	0.3	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.4
22-Jul	0.1	0.2	Z	1.3	0.5	0.8	1.0	0.6	0.4	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.2	0.3	0.3	0.2	0.3	1.3
23-Jul	0.3	0.5	0.7	Z	0.5	0.4	0.4	0.3	0.2	0.2	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.7
24-Jul	0.1	0.7	1.0	1.4	Z	0.6	1.3	1.3	1.3	0.4	0.0	0.1	0.0	0.1	0.3	0.6	0.2	0.2	0.7	0.6	0.6	0.6	1.3	1.3	0.6	1.4
25-Jul	0.6	0.3	0.2	0.1	0.5	Z	0.1	0.4	0.6	0.7	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.4	2.9	0.6	0.4	2.9
26-Jul	Z	0.1	0.2	0.5	0.4	0.7	0.6	0.3	0.4	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.7
27-Jul	0.2	Z	0.2	0.2	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	0.0	0.0	0.0	0.2	0.3	0.3	0.6	0.1	0.6
28-Jul	0.4	0.5	Z	0.6	0.7	0.6	0.3	0.5	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.2	0.7
29-Jul	2.0	5.2	2.3	1.4	Z	0.5	0.1	0.1	0.0	C	C	C	C	C	0.3	0.3	0.3	0.2	0.2	0.3	0.4	0.3	0.3	0.5	0.8	5.2
30-Jul	0.4	0.5	0.5	0.4	Z	0.7	0.9	0.6	0.2	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.3	0.2	0.9
31-Jul	0.3	0.4	0.8	0.7	0.6	Z	0.2	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	0.2	0.5	0.3	0.2	0.2	0.8
																									Diurnal Average	
																									Diurnal Maximum	
Z - zerospan C - Calibration																										
Alberta Ambient Air Quality Objective (AAAQO): 1-hour 10 ppb 24-hr 3 ppb																										



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	680	96.05	96.05
3 - 4	16	2.26	98.31
5 - 7	9	1.27	99.58
8 - 11	1	0.14	99.72
> 11	2	0.28	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Hydrogen Sulphide (H₂S) - ppb
Mildred Lake - July 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	81	46	13	11	9	21	41	84	71	56	35	27	41	42	42	59	679
3 - 4	0	0	0	0	0	0	4	8	3	0	0	1	0	0	0	0	16
5 - 7	0	0	0	0	1	1	2	5	0	0	0	0	0	0	0	0	9
8 - 11	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
> 11	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
Totals	81	46	13	11	10	22	49	98	74	56	35	28	41	42	42	59	707

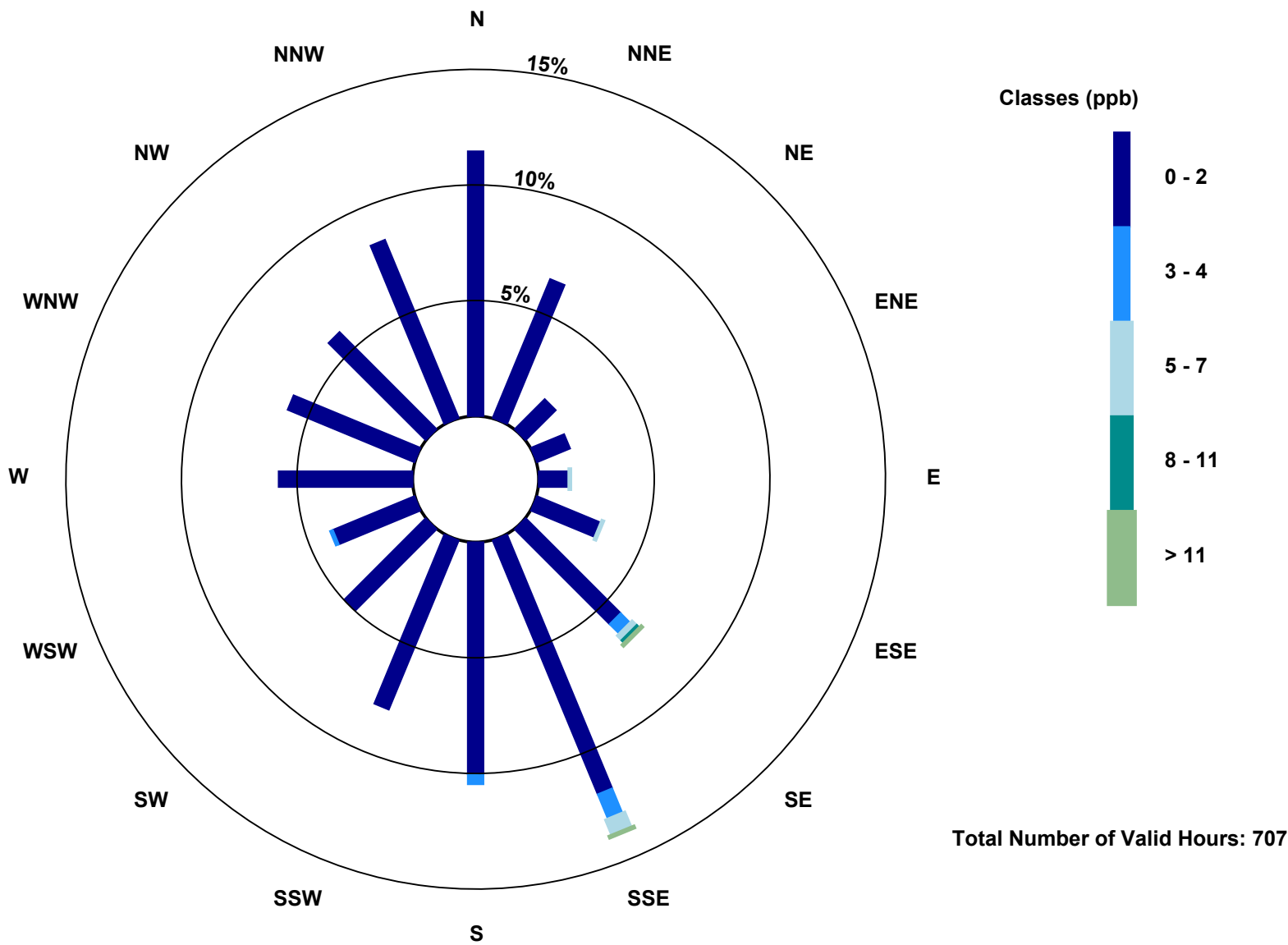
Total Number of Valid Hours: 707

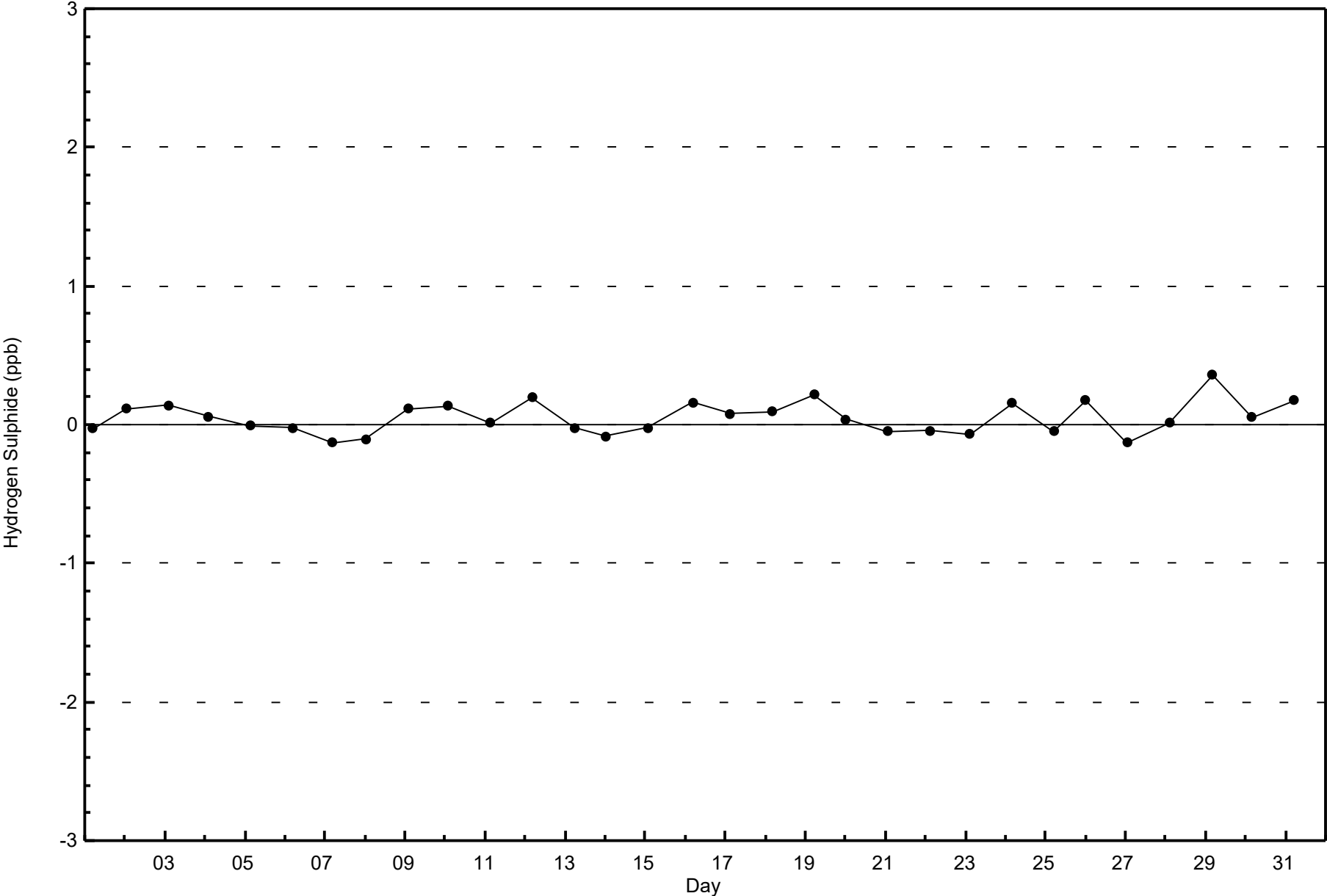
Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Hydrogen Sulphide (H₂S) - ppb
Mildred Lake

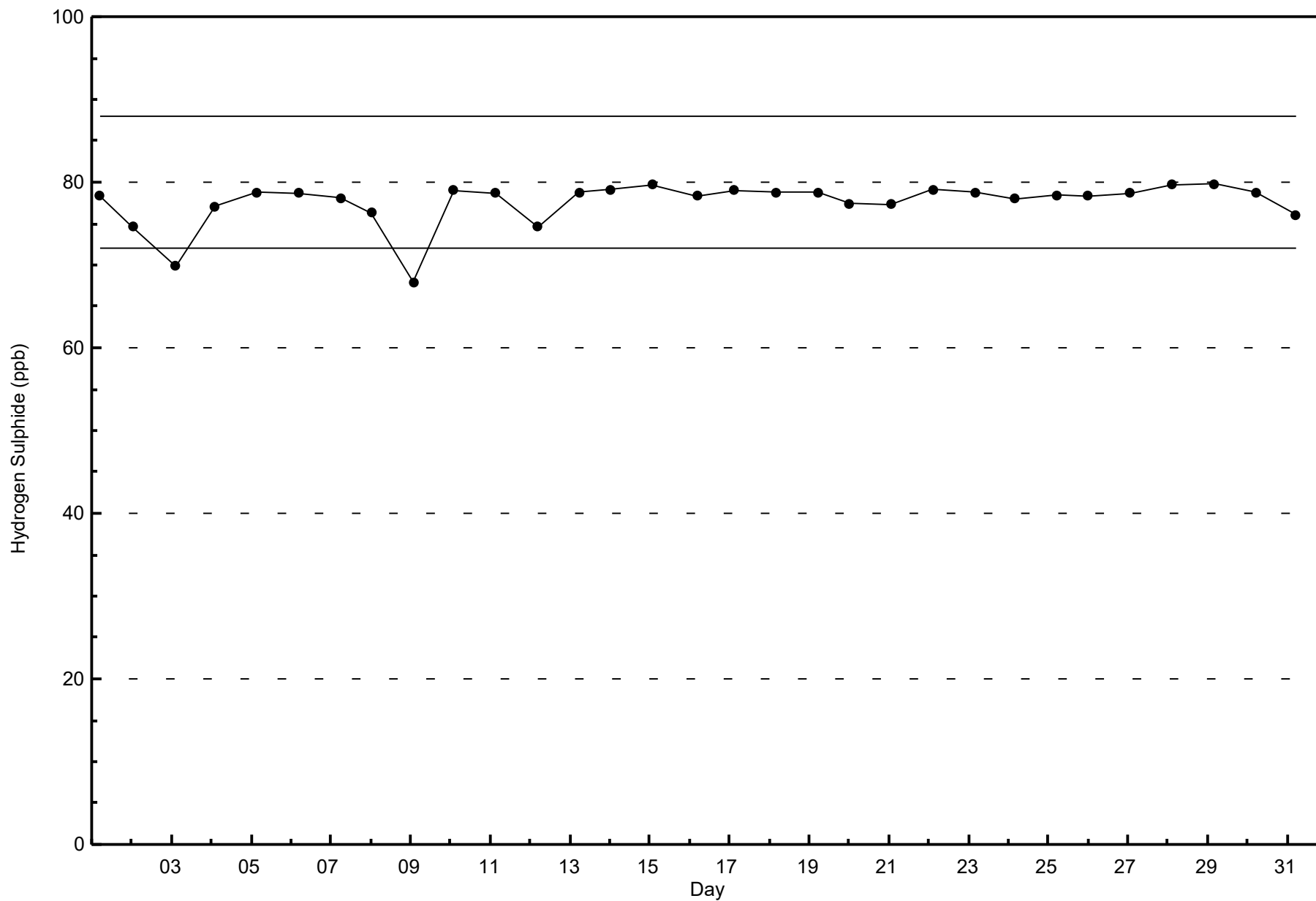






Wood Buffalo Environmental Association
Span Responses

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Total Hydrocarbons (THC) - ppm

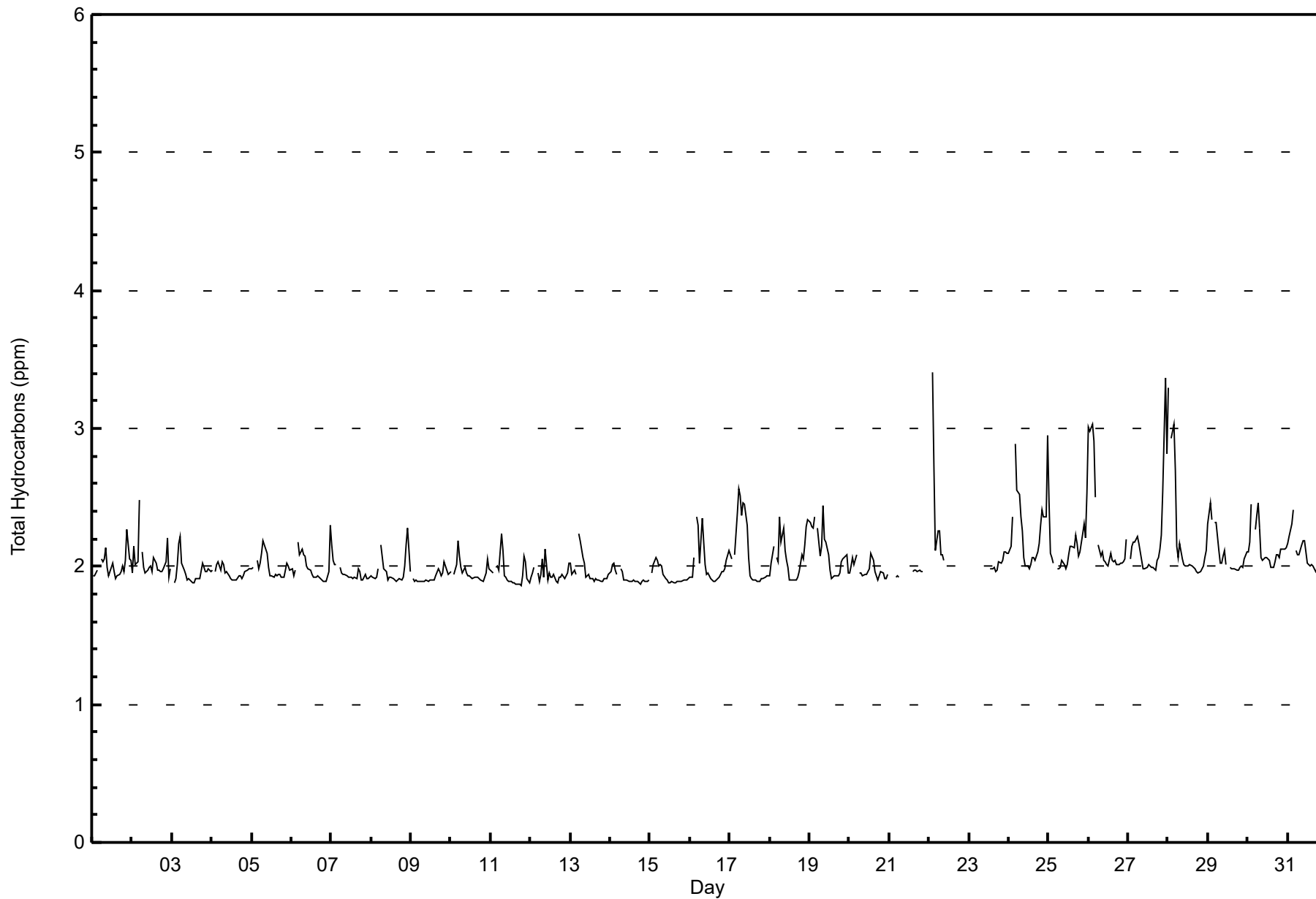
Mildred Lake - July 2025

Maximum Value: 3.4 ppm on Jul 22 03:00																		Maximum Daily Average: 2.3 ppm on Jul 24										Hours in Service: 744	
Minimum Value: 1.9 ppm on Jul 11 19:00																		Minimum Daily Average: 1.9 ppm on Jul 14										Hours of Data: 674	
Maximum Diurnal Average: 2.2 ppm at hour 3																		Minimum Diurnal Average: 1.9 ppm at hour 16										Hours of Missing Data: 70	
Monthly Average: 2.04 ppm																		Percentiles: P ₁ = 1.9 P ₁₀ = 1.9 Q ₁ = 1.9 Median = 2.0 Q ₃ = 2.1 P ₉₀ = 2.2 P ₉₉ = 3.0										Hours of Calibration: 38	
																												Percent Operational Time: 95.7	
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-Jul	1.9	1.9	2.0	2.0	Z	2.1	2.0	2.1	2.1	2.0	1.9	2.0	2.0	2.0	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.3	2.1	2.0	2.0	2.3			
2-Jul	2.0	2.1	2.0	2.0	2.5	Z	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	1.9	2.0	2.0	2.5			
3-Jul	Z	1.9	1.9	2.0	2.2	2.2	2.0	2.0	1.9	1.9	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	2.0	2.0	2.2			
4-Jul	2.0	Z	2.0	2.0	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	2.0	2.0	2.0	2.0	2.0	2.0			
5-Jul	2.0	2.0	Z	2.0	2.0	2.0	2.1	2.2	2.1	2.1	2.0	1.9	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	2.2			
6-Jul	2.0	1.9	2.0	Z	2.2	2.1	2.1	2.1	2.1	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	2.0	2.3	2.0	2.3			
7-Jul	2.2	2.0	2.0	2.0	Z	2.0	2.0	1.9	1.9	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	2.0	2.2			
8-Jul	1.9	1.9	1.9	1.9	2.0	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	1.9	2.0	2.2	2.3	2.0	2.0	2.3			
9-Jul	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	2.0	2.0	1.9	2.0	2.0	2.0	1.9	2.0	1.9	2.0			
10-Jul	2.0	Z	1.9	2.0	2.2	2.1	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	2.0	2.0	2.0	2.2			
11-Jul	2.0	1.9	Z	2.0	2.0	2.0	2.2	2.1	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.0	1.9	1.9	2.0	2.2			
12-Jul	1.9	2.0	2.0	Z	2.0	1.9	1.9	2.1	1.9	2.1	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	2.0	1.9	2.1			
13-Jul	2.0	1.9	2.0	1.9	Z	2.2	2.2	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	1.9	1.9	1.9	1.9	2.0	2.2			
14-Jul	2.0	2.0	2.0	2.0	1.9	Z	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	2.0			
15-Jul	Z	2.0	2.0	2.1	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	2.1			
16-Jul	1.9	1.9	2.1	Z	2.4	2.3	2.0	2.4	2.2	2.0	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.1	2.0	2.4			
17-Jul	2.1	2.1	Z	2.1	2.4	2.6	2.5	2.4	2.5	2.4	2.3	2.1	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.6			
18-Jul	1.9	2.0	2.1	Z	2.1	2.0	2.4	2.2	2.3	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.0	2.2	2.3	2.3	2.1	2.4			
19-Jul	2.3	2.3	2.3	2.4	Z	2.3	2.1	2.1	2.4	2.2	2.2	2.1	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.1	2.1	2.1	2.0	2.1	2.4			
20-Jul	2.0	2.0	2.1	2.0	2.1	Z	1.9	2.0	1.9	1.9	1.9	2.0	2.0	2.1	2.0	2.0	1.9	1.9	1.9	2.0	2.0	1.9	1.9	1.9	2.0	2.1			
21-Jul	Z	1.9	UO	UO	1.9	1.9	1.9	UO	1.9	C	C	C	C	C	2.0	2.0	2.0	2.0	2.0	2.0	2.0	UO	UO	UO	--	2.0			
22-Jul	UO	Z	3.4	2.7	2.1	2.3	2.3	2.1	2.1	2.0	M	M	M	M	M	M	M	M	M	M	M	M	M	M	--	3.4			
23-Jul	M	M	M	M	M	M	M	M	M	M	C	C	C	C	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	--	2.1			
24-Jul	2.1	2.1	2.4	Z	2.9	2.5	2.5	2.4	2.3	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.1	2.2	2.3	2.4	2.4	2.4	2.9	2.3	2.9			
25-Jul	2.5	2.1	2.1	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.2	2.3	2.2	2.5	2.1	2.5			
26-Jul	3.0	3.0	3.0	2.9	2.5	Z	2.2	2.1	2.1	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	2.1	2.2	2.2	3.0			
27-Jul	Z	2.1	2.1	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	2.1	2.1	2.2	2.5	3.4	2.8	2.2	3.4			
28-Jul	3.3	Z	2.9	3.0	2.7	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	2.1	2.1	2.2	3.3			
29-Jul	2.3	2.5	2.3	Z	2.3	2.3	2.1	2.0	2.0	2.1	2.1	2.0	M	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.5			
30-Jul	2.1	2.2	2.4	Z	2.3	2.4	2.5	2.3	2.1	2.0	2.1	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	2.5			
31-Jul	2.2	2.2	2.3	2.4	Z	2.1	2.1	2.1	2.2	2.2	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.2	2.0	2.1	2.4			
2.1 2.1 2.2 2.2 2.2 2.1 2.1 2.1 2.1 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 2.1 2.1 2.1																								Diurnal Average					
3.3 3.0 3.4 3.0 2.9 2.6 2.5 2.4 2.5 2.4 2.3 2.1 2.1 2.1 2.1 2.1 2.1 2.2 2.2 2.2 2.3 2.4 2.5 3.4 2.9																								Diurnal Maximum					
Z - zerospan C - Calibration M - Maintenance UO - Unstable Operation																													



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	473	70.18	70.18
2.1 - 3.0	198	29.38	99.55
3.1 - 10.0	3	0.45	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 674

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Total Hydrocarbons (THC) - ppm
Mildred Lake - July 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	36	11	10	4	11	25	55	58	36	32	24	32	28	21	38	472
2.1 - 3.0	24	10	0	1	5	9	20	41	20	17	2	3	8	11	16	11	198
3.1 - 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	75	46	11	11	9	20	45	96	78	53	34	27	40	39	40	49	673

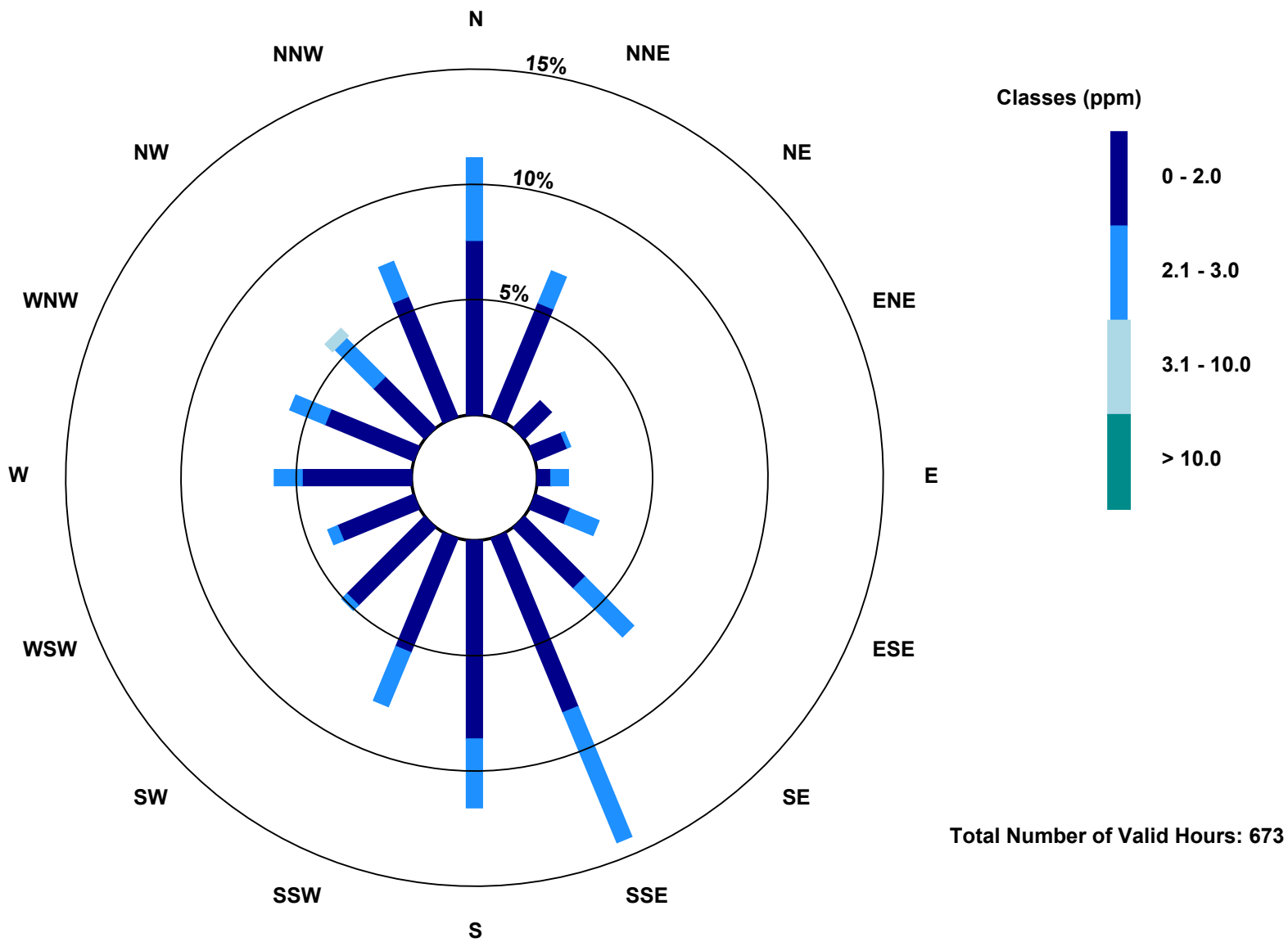
Total Number of Valid Hours: 673

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

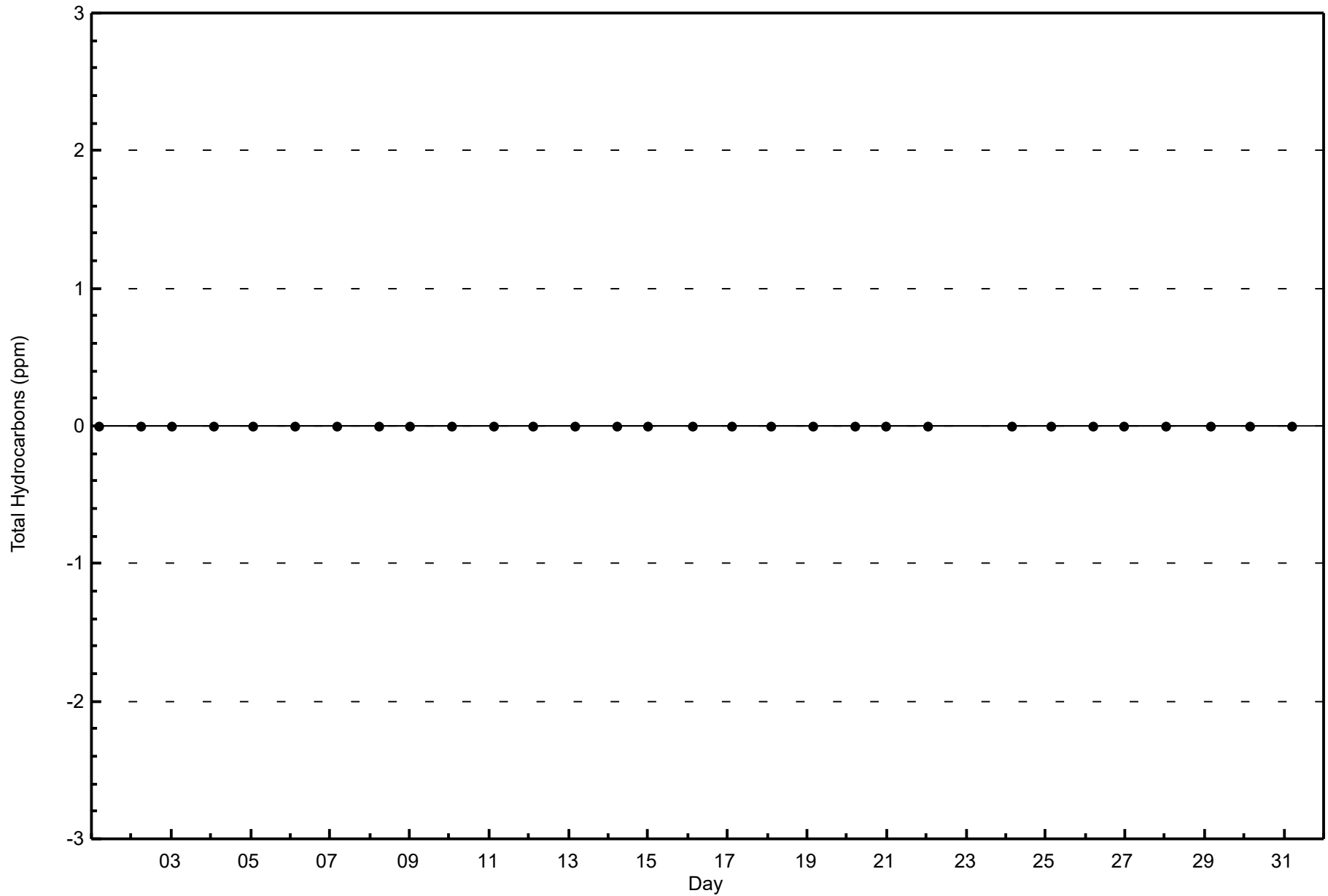
Total Hydrocarbons (THC) - ppm
Mildred Lake





Wood Buffalo Environmental Association
Zero Responses

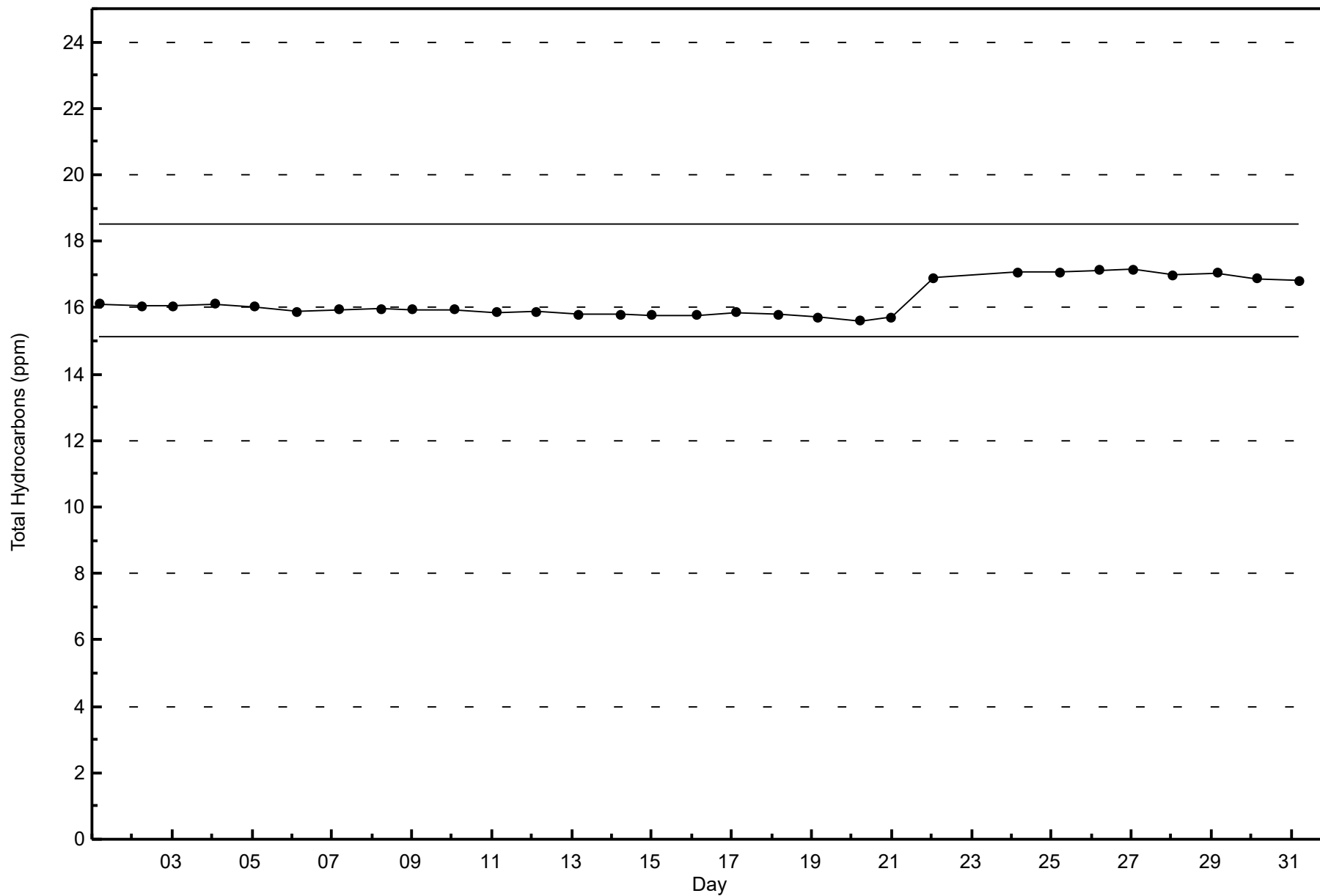
Total Hydrocarbons (THC) - ppm
Mildred Lake - July 2025





Wood Buffalo Environmental Association
Span Responses

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Non Methane Hydrocarbons (NMHC) - ppm

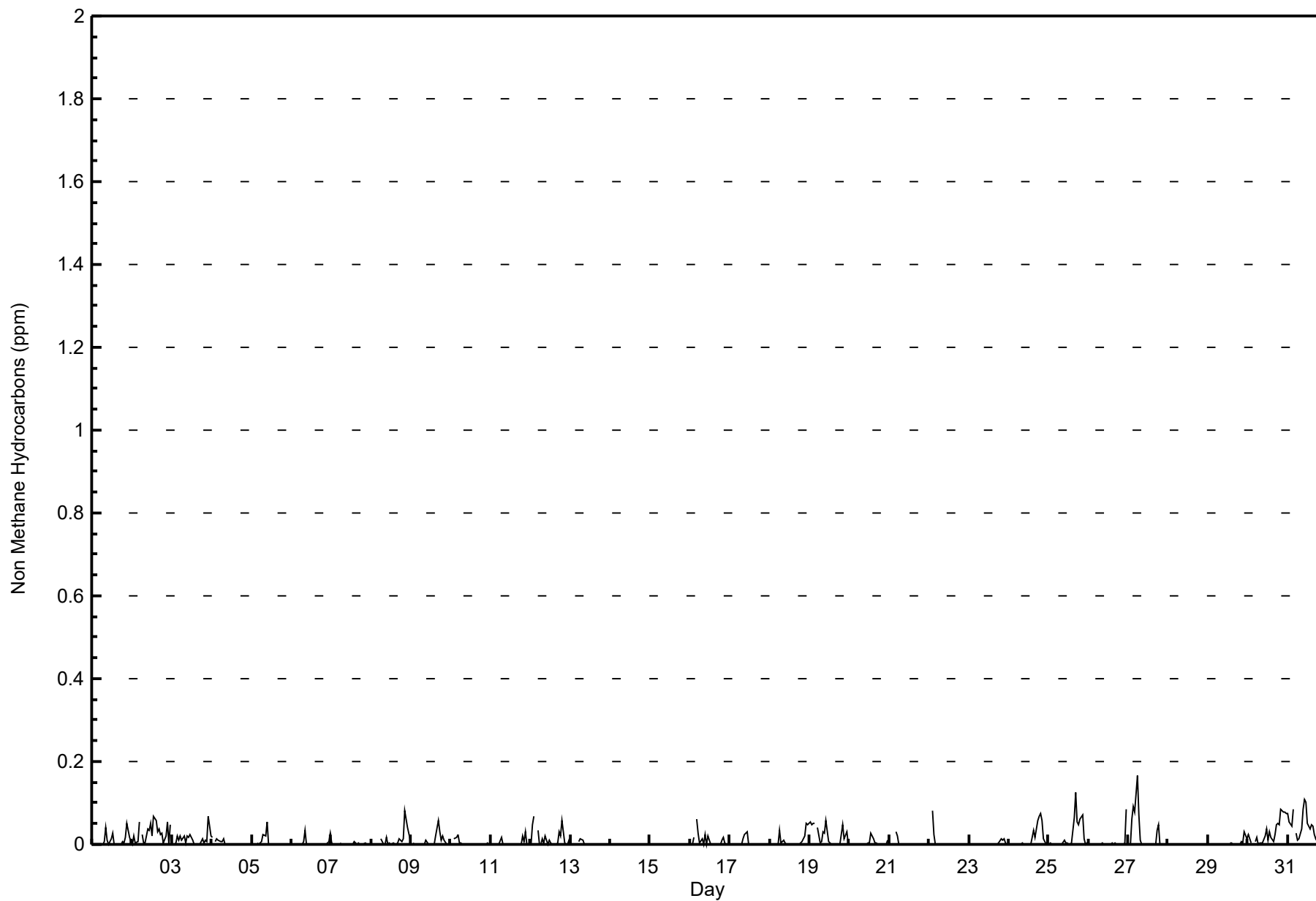
Mildred Lake - July 2025

Maximum Value: 0.165 ppm on Jul 27 06:00																			Maximum Daily Average: 0.061 ppm on Jul 31																			Hours in Service: 744	
Minimum Value: 0.000 ppm on Jul 1 01:00																			Minimum Daily Average: 0.000 ppm on Jul 14																			Hours of Data: 674	
Maximum Diurnal Average: 0.020 ppm at hour 21																			Minimum Diurnal Average: 0.005 ppm at hour 13																			Hours of Missing Data: 70	
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 = 0.1																			Hours of Calibration: 38	
																																						Percent Operational Time: 95.7	
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-Jul	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.005	0.041	0.011	0.001	0.013	0.026	0.000	0.000	0.000	0.000	0.000	0.008	0.003	0.018	0.051	0.016	0.006	0.009	0.051													
2-Jul	0.000	0.019	0.005	0.008	0.053	Z	0.025	0.005	0.005	0.037	0.032	0.050	0.021	0.068	0.057	0.031	0.036	0.025	0.026	0.003	0.021	0.054	0.001	0.047	0.027	0.068													
3-Jul	Z	0.000	0.005	0.020	0.009	0.019	0.009	0.020	0.002	0.019	0.017	0.022	0.009	0.000	0.000	0.000	0.000	0.000	0.012	0.003	0.009	0.008	0.067	0.022	0.012	0.067													
4-Jul	0.018	Z	0.007	0.012	0.010	0.007	0.007	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	0.000	0.000	0.000	0.003	0.018													
5-Jul	0.000	0.000	Z	0.004	0.001	0.003	0.006	0.023	0.021	0.053	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.053													
6-Jul	0.000	0.000	0.000	Z	0.001	0.000	0.000	0.006	0.034	0.000	0.000	0.000	0.001	0.000	0.000	0.001	0.000	0.001	0.000	0.000	0.000	0.000	0.006	0.026	0.003	0.034													
7-Jul	0.003	0.000	0.000	0.000	Z	0.002	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.007	0.000	0.003	0.001	0.000	0.000	0.005	0.000	0.000	0.000	0.001	0.007													
8-Jul	0.000	0.000	0.000	0.000	0.000	Z	0.015	0.000	0.000	0.017	0.000	0.002	0.000	0.005	0.001	0.000	0.004	0.013	0.006	0.013	0.081	0.060	0.042	0.009	0.012	0.081													
9-Jul	Z	0.003	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	0.019	0.057	0.032	0.012	0.022	0.009	0.000	0.000	0.000	0.007	0.057													
10-Jul	0.003	Z	0.015	0.018	0.024	0.002	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.001	0.000	0.000	0.000	0.003	0.000	0.003	0.024													
11-Jul	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	0.020	0.006	0.030	0.000	0.000	0.003	0.030													
12-Jul	0.000	0.048	0.067	Z	0.034	0.001	0.001	0.013	0.004	0.020	0.000	0.011	0.003	0.000	0.000	0.001	0.002	0.030	0.019	0.059	0.002	0.000	0.000	0.012	0.014	0.067													
13-Jul	0.002	0.000	0.000	0.000	Z	0.007	0.013	0.011	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	0.001	0.013													
14-Jul	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													
15-Jul	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-Jul	0.000	0.000	0.017	Z	0.060	0.028	0.002	0.013	0.001	0.025	0.000	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.015	0.002	0.000	0.000	0.008	0.060													
17-Jul	0.002	0.000	Z	0.000	0.000	0.001	0.000	0.000	0.013	0.024	0.031	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	0.003	0.031													
18-Jul	0.000	0.000	0.000	Z	0.000	0.001	0.033	0.002	0.012	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.013	0.020	0.050	0.046	0.008	0.050													
19-Jul	0.054	0.047	0.052	0.051	Z	0.041	0.004	0.007	0.032	0.028	0.057	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.025	0.049	0.012	0.030	0.000	0.022	0.057													
20-Jul	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.002	0.003	0.028	0.014	0.005	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.012	0.003	0.028													
21-Jul	Z	0.006	UO	UO	0.030	0.021	0.000	UO	0.000	C	C	C	C	C	0.000	0.000	0.000	0.000	0.000	0.000	0.000	UO	UO	UO	--	0.030													
22-Jul	UO	Z	0.080	0.023	0.000	0.000	0.001	0.000	0.000	0.000	M	M	M	M	M	M	M	M	M	M	M	M	M	M	--	0.080													
23-Jul	M	M	M	M	M	M	M	M	M	M	C	C	C	0.000	0.000	0.000	0.000	0.000	0.004	0.015	0.010	0.013	0.005	0.000	--	0.015													
24-Jul	0.000	0.001	0.000	Z	0.000	0.000	0.000	0.000	0.003	0.000	0.000	0.000	0.002	0.015	0.034	0.016	0.058	0.068	0.073	0.058	0.015	0.001	0.000	0.015	0.073														
25-Jul	0.000	0.002	0.000	0.000	Z	0.000	0.000	0.001	0.001	0.011	0.002	0.002	0.002	0.000	0.003	0.064	0.125	0.054	0.047	0.060	0.072	0.014	0.000	0.002	0.020	0.125													
26-Jul	0.001	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.002	0.001	0.000	0.001	0.000	0.000	0.004	0.000	0.004	0.000	0.000	0.000	0.000	0.000	0.005	0.084	0.004	0.084													
27-Jul	Z	0.001	0.061	0.093	0.079	0.165	0.070	0.011	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.034	0.047	0.000	0.000	0.000	0.000	0.000	0.024	0.165													
28-Jul	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	0.001	0.000	0.000	0.001													
29-Jul	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	M	0.003	0.004	0.000	0.001	0.000	0.000	0.001	0.007	0.002	0.029	0.015	0.003	0.029													
30-Jul	0.023	0.014	0.002	Z	0.007	0.016	0.001	0.004	0.005	0.003	0.019	0.038	0.012	0.030	0.017	0.007	0.025	0.048	0.052	0.047	0.084	0.079	0.077	0.075	0.030	0.084													
31-Jul	0.075	0.055	0.046	0.085	Z	0.028	0.012	0.014	0.037	0.086	0.109	0.102	0.051	0.036	0.049	0.043	0.025	0.013	0.022	0.100	0.130	0.140	0.115	0.039	0.061	0.140													
0.007 0.008 0.014 0.014 0.013 0.014 0.007 0.005 0.007 0.012 0.010 0.010 0.005 0.006 0.006 0.007 0.010 0.010 0.011 0.015 0.020 0.017 0.015 0.014																										Diurnal Average													
0.075 0.055 0.080 0.093 0.079 0.165 0.070 0.023 0.041 0.086 0.109 0.102 0.051 0.068 0.057 0.064 0.125 0.058 0.068 0.100 0.130 0.140 0.115 0.084																										Diurnal Maximum													
Z - zerospan C - Calibration M - Maintenance UO - Unstable Operation																																							



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 0.005	471	69.88	69.88
0.006 - 0.05	165	24.48	94.36
0.06 - 0.1	37	5.49	99.85
> 0.1	1	0.15	100.00

Total Number of Valid Hours: 674

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Non Methane Hydrocarbons (NMHC) - ppm
Mildred Lake - July 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	54	38	10	8	7	12	29	64	60	34	31	9	21	22	33	39	471
0.006 - 0.05	15	4	1	3	0	6	15	25	15	16	3	14	19	16	6	6	164
0.06 - 0.1	5	4	0	0	2	2	1	7	3	3	0	4	0	1	1	4	37
> 0.1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Totals	75	46	11	11	9	20	45	96	78	53	34	27	40	39	40	49	673

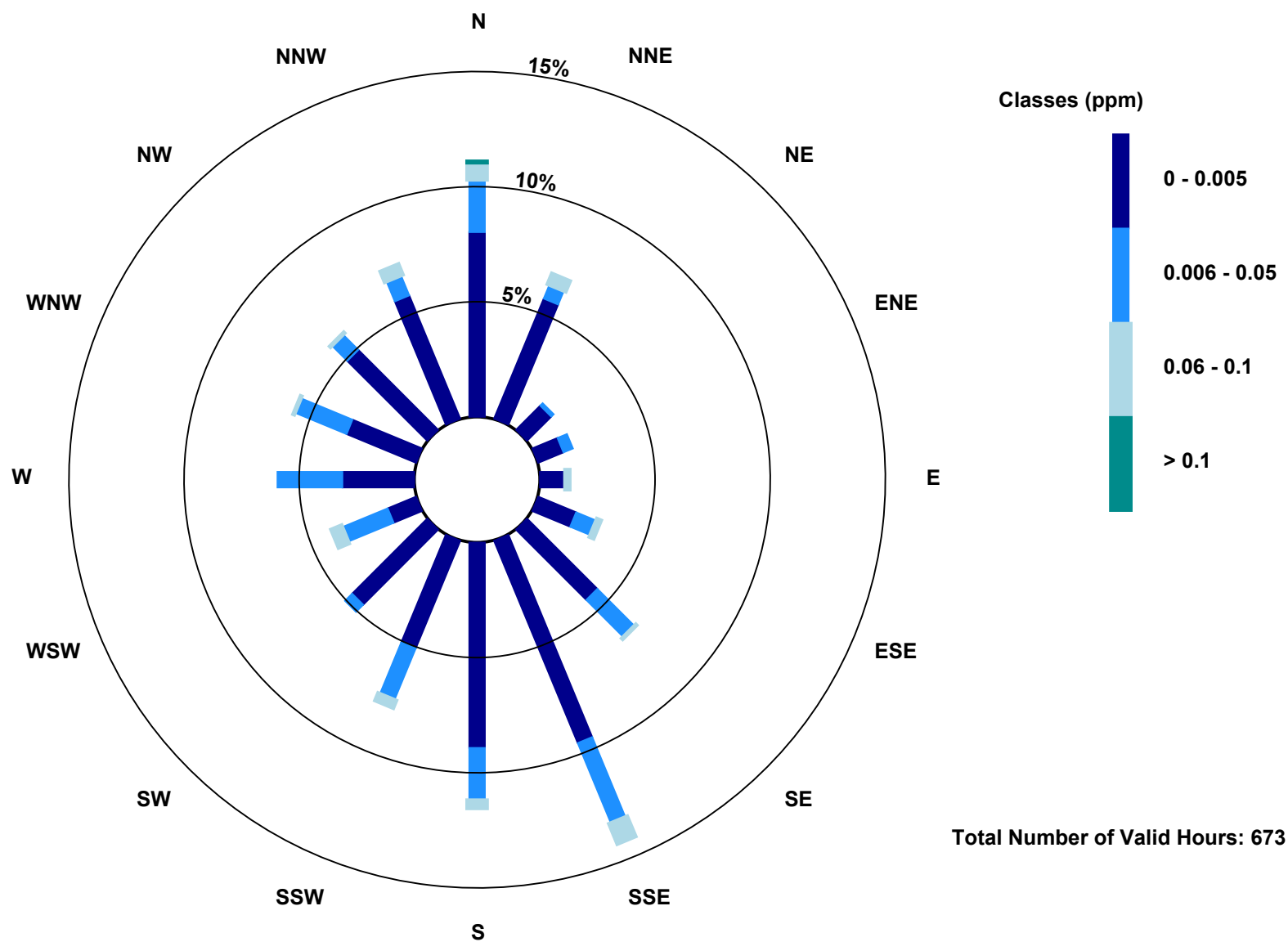
Total Number of Valid Hours: 673

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Non Methane Hydrocarbons (NMHC) - ppm
Mildred Lake



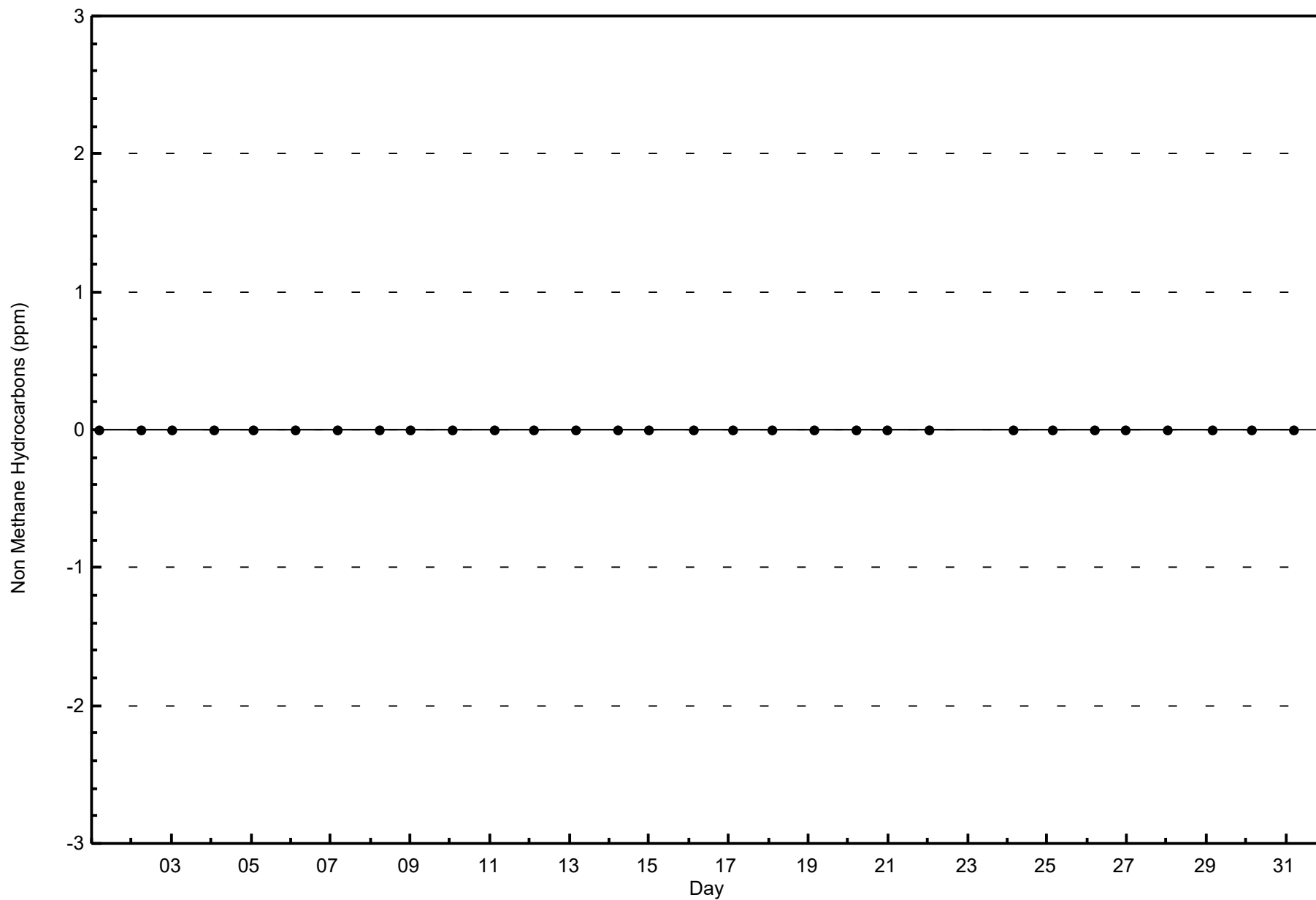


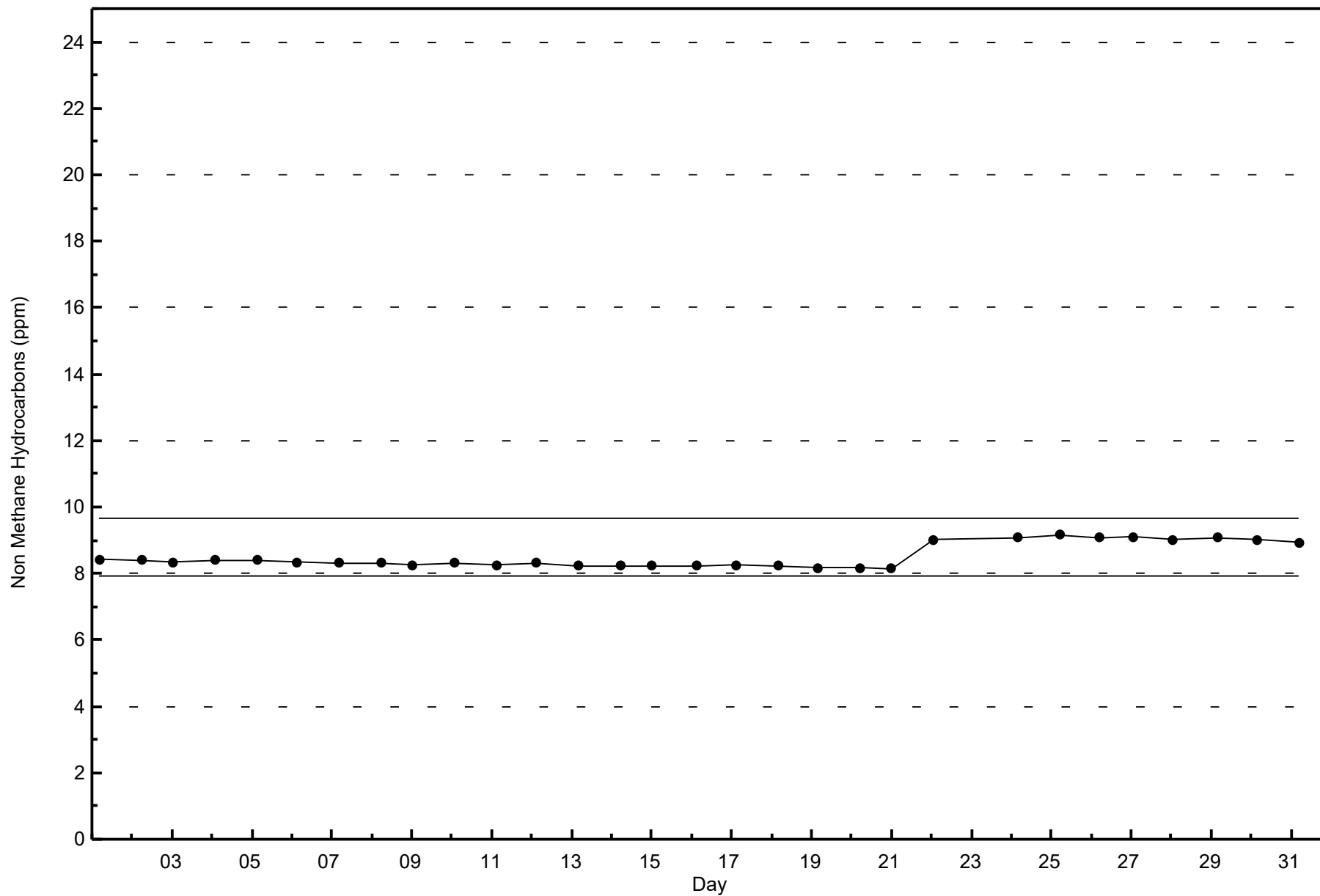
Wood Buffalo Environmental Association

Zero Responses

Non Methane Hydrocarbons (NMHC) - ppm

Mildred Lake - July 2025







Wood Buffalo Environmental Association

Summary of Hour Averages

Methane (CH₄) - ppm

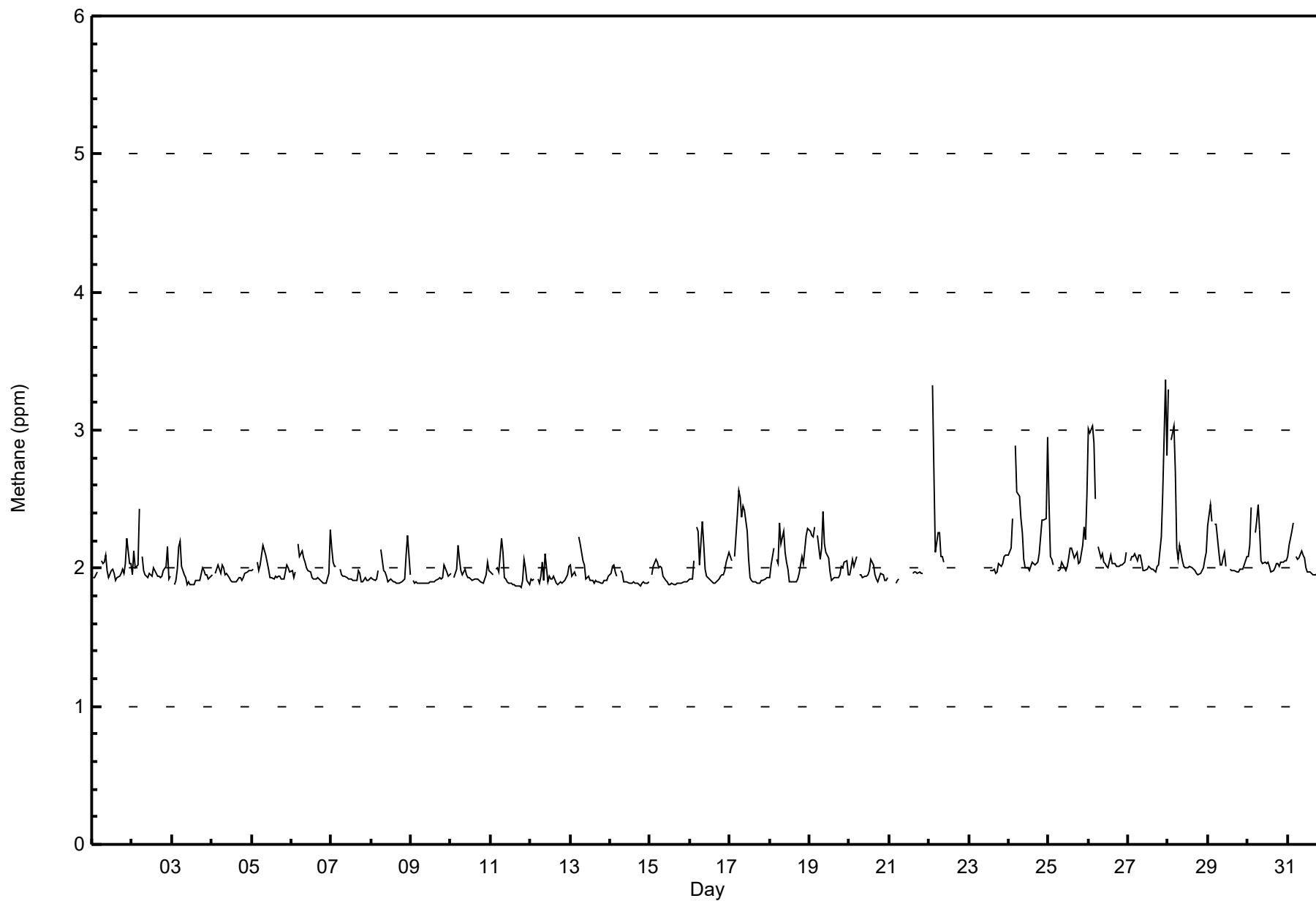
Mildred Lake - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 3.4 ppm on Jul 27 23:00 Maximum Daily Average: 2.2 ppm on Jul 24																			Hours in Service: 744								
Minimum Value: 1.9 ppm on Jul 11 19:00 Minimum Daily Average: 1.9 ppm on Jul 9 Maximum Diurnal Average: 2.2 ppm at hour 3 Minimum Diurnal Average: 1.9 ppm at hour 16 Monthly Average: 2.03 ppm Percentiles: P ₁ = 1.9 P ₁₀ = 1.9 Q ₁ = 1.9 Median = 2.0 Q ₃ = 2.1 P ₉₀ = 2.2 P ₉₉ = 3.0																			Hours of Data: 674								
																			Hours of Missing Data: 70								
																			Hours of Calibration: 38								
																			Percent Operational Time: 95.7								
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-Jul	1.9	1.9	2.0	2.0	Z	2.1	2.0	2.0	2.1	2.0	1.9	2.0	2.0	2.0	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.2	2.0	2.0	2.0	2.2	
2-Jul	2.0	2.1	2.0	2.0	2.4	Z	2.1	2.0	2.0	1.9	2.0	2.0	1.9	2.0	2.0	1.9	1.9	1.9	1.9	2.0	2.0	2.2	1.9	1.9	2.0	2.4	
3-Jul	Z	1.9	1.9	2.0	2.2	2.2	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	1.9	1.9	2.0	2.2	
4-Jul	2.0	Z	2.0	2.0	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	2.0	2.0	2.0	2.0	2.0	2.0	
5-Jul	2.0	2.0	Z	2.0	2.0	2.0	2.1	2.2	2.1	2.0	2.0	1.9	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	2.2	
6-Jul	2.0	1.9	2.0	Z	2.2	2.1	2.1	2.1	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	2.0	2.3	2.0	2.3	
7-Jul	2.2	2.0	2.0	2.0	Z	2.0	2.0	1.9	1.9	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	2.0	2.2	
8-Jul	1.9	1.9	1.9	1.9	2.0	Z	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	2.1	2.2	2.0	2.0	2.0	2.2	
9-Jul	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	2.0	2.0	1.9	2.0	1.9	2.0	
10-Jul	2.0	Z	1.9	2.0	2.2	2.1	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	2.0	2.0	2.0	2.2	
11-Jul	2.0	1.9	Z	2.0	2.0	2.0	2.2	2.1	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.0	1.9	1.9	1.9	2.2	
12-Jul	1.9	1.9	1.9	Z	1.9	1.9	1.9	2.0	1.9	2.1	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	1.9	2.1	
13-Jul	2.0	1.9	2.0	1.9	Z	2.2	2.2	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	1.9	1.9	1.9	1.9	2.0	2.2	
14-Jul	2.0	2.0	2.0	2.0	1.9	Z	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	2.0	
15-Jul	Z	2.0	2.0	2.1	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	2.1	
16-Jul	1.9	1.9	2.0	Z	2.3	2.3	2.0	2.3	2.2	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.1	2.0	2.3	
17-Jul	2.1	2.1	Z	2.1	2.4	2.6	2.5	2.4	2.4	2.4	2.3	2.1	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.6	
18-Jul	1.9	2.0	2.1	Z	2.1	2.0	2.3	2.2	2.3	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.0	2.1	2.2	2.3	2.1	2.3	
19-Jul	2.3	2.2	2.2	2.3	Z	2.2	2.1	2.1	2.4	2.2	2.1	2.1	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.1	2.0	2.1	2.4	
20-Jul	2.0	2.0	2.1	2.0	2.1	Z	1.9	2.0	1.9	1.9	1.9	2.0	2.0	2.1	2.0	2.0	1.9	1.9	1.9	2.0	2.0	1.9	1.9	1.9	2.0	2.1	
21-Jul	Z	1.9	UO	UO	1.9	1.9	1.9	UO	1.9	C	C	C	C	C	2.0	2.0	2.0	2.0	2.0	2.0	2.0	UO	UO	UO	--	2.0	
22-Jul	UO	Z	3.3	2.7	2.1	2.3	2.3	2.1	2.1	2.0	M	M	M	M	M	M	M	M	M	M	M	M	M	M	--	3.3	
23-Jul	M	M	M	M	M	M	M	M	M	M	C	C	C	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	--	2.1		
24-Jul	2.1	2.1	2.4	Z	2.9	2.5	2.5	2.4	2.3	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.3	2.3	2.4	2.9	2.2	2.9	
25-Jul	2.5	2.1	2.1	2.0	Z	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	2.0	2.0	2.2	2.3	2.2	2.5	2.1	2.5	
26-Jul	3.0	3.0	3.0	2.9	2.5	Z	2.2	2.1	2.1	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	2.1	2.1	2.2	3.0	
27-Jul	Z	2.0	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	2.1	2.2	2.5	3.4	2.8	2.2	3.4	
28-Jul	3.3	Z	2.9	3.0	2.7	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	2.1	2.1	2.2	3.3	
29-Jul	2.3	2.5	2.3	Z	2.3	2.3	2.1	2.0	2.0	2.1	2.1	2.0	M	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.5	
30-Jul	2.1	2.2	2.4	Z	2.3	2.4	2.5	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	2.1	2.1	2.5	
31-Jul	2.1	2.2	2.3	2.3	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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.3	
2.1 2.1 2.2 2.1 2.2 2.1 2.1 2.1 2.0 2.0 2.0 2.0 1.9 2.0 1.9 1.9 1.9 1.9 1.9 2.0 2.0 2.0 2.1 2.1																										Diurnal Average	
3.3 3.0 3.3 3.0 2.9 2.6 2.5 2.4 2.4 2.4 2.3 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.2 2.3 2.5 3.4 2.9																										Diurnal Maximum	
Z - zerospan C - Calibration M - Maintenance UO - Unstable Operation																											



Wood Buffalo Environmental Association
Hourly Averages

Methane (CH₄) - ppm
Mildred Lake - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Methane (CH₄) - ppm
Mildred Lake - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	504	74.78	74.78
2.1 - 3.0	167	24.78	99.55
3.1 - 10.0	3	0.45	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 674

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Methane (CH₄) - ppm
Mildred Lake - July 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	58	40	11	10	4	13	29	56	61	40	32	24	32	30	21	42	503
2.1 - 3.0	17	6	0	1	5	7	16	40	17	13	2	3	8	9	16	7	167
3.1 - 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	75	46	11	11	9	20	45	96	78	53	34	27	40	39	40	49	673

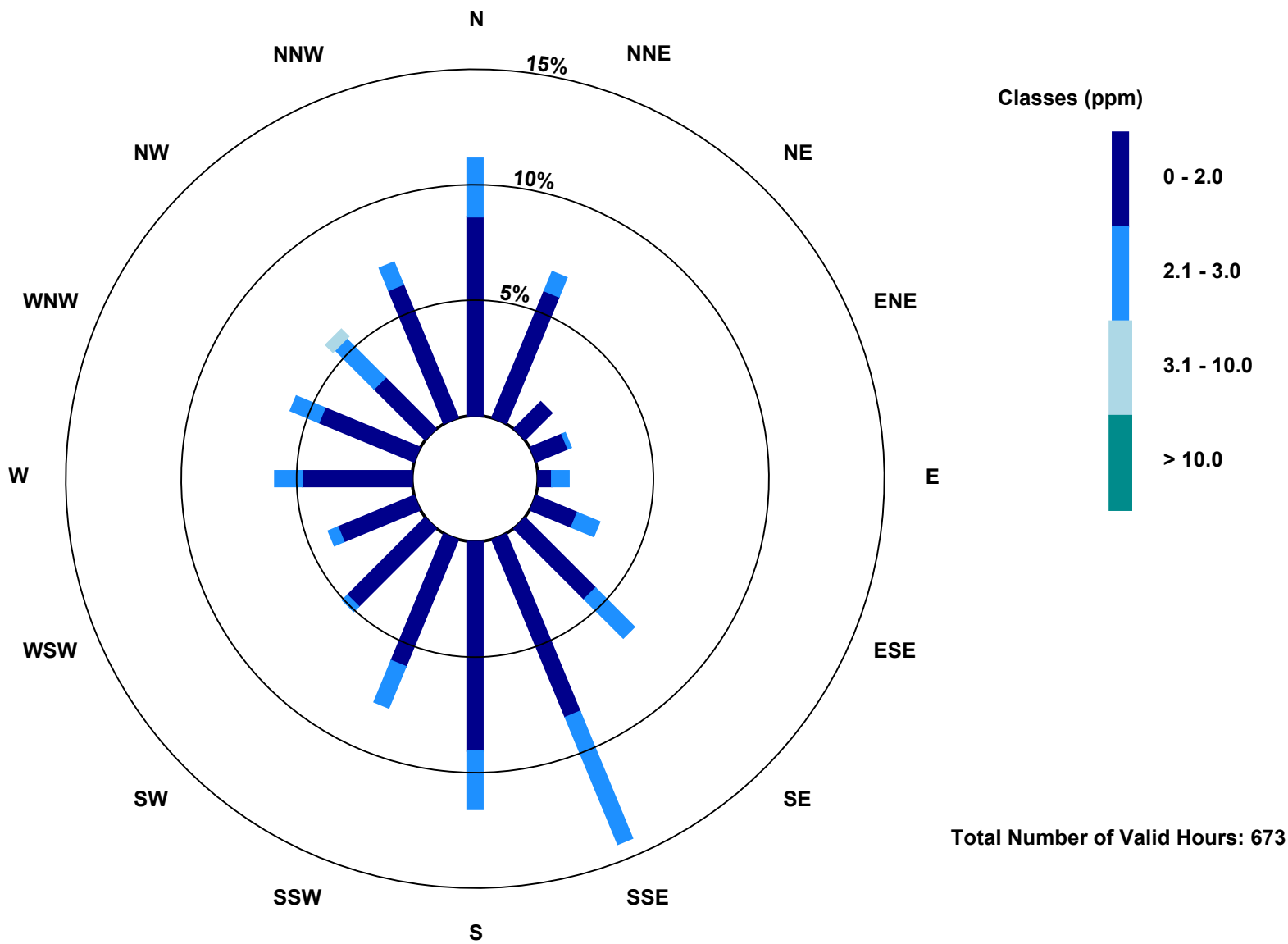
Total Number of Valid Hours: 673

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

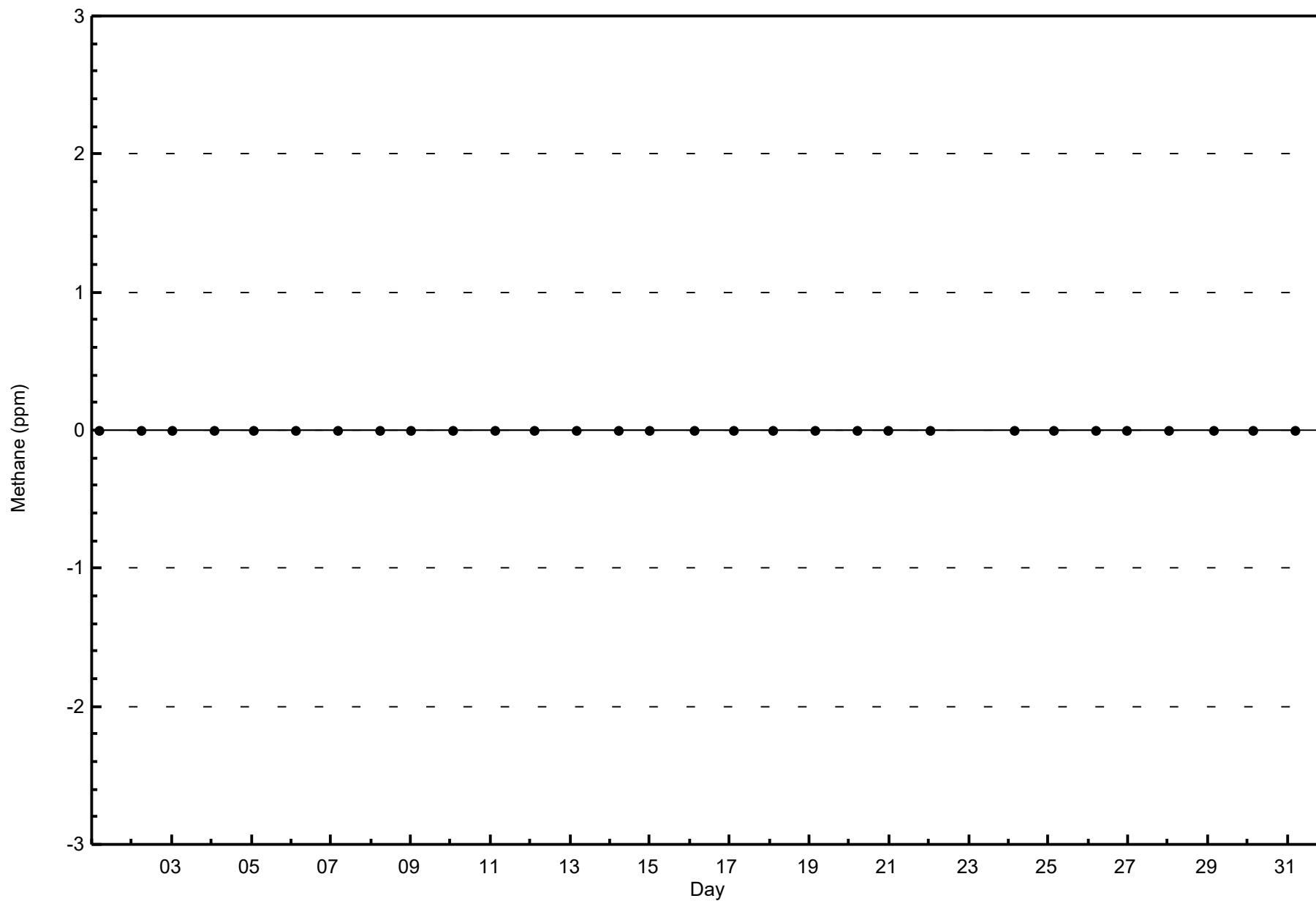
Methane (CH₄) - ppm
Mildred Lake





Wood Buffalo Environmental Association
Zero Responses

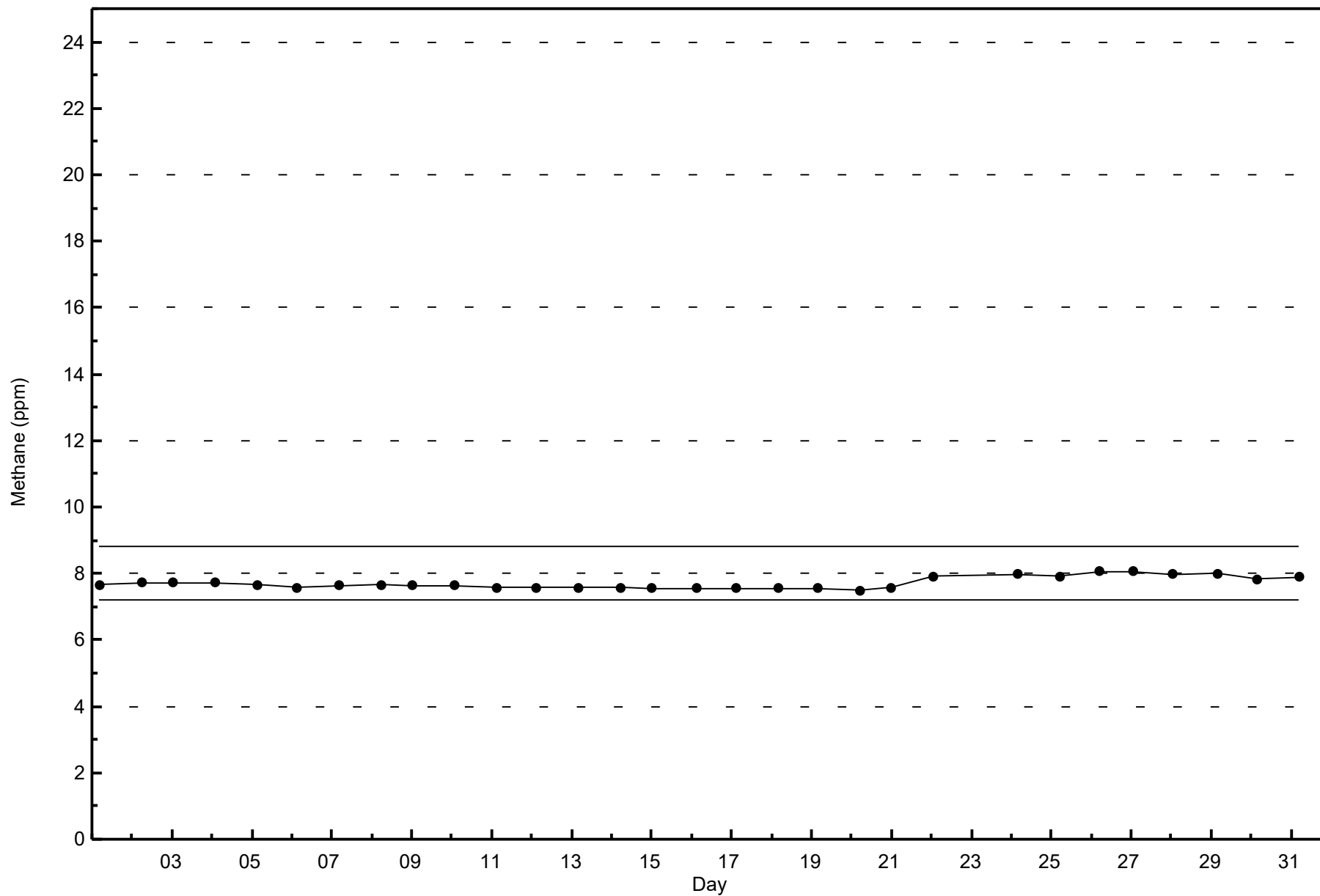
Methane (CH₄) - ppm
Mildred Lake - July 2025





Wood Buffalo Environmental Association
Span Responses

Methane (CH₄) - ppm
Mildred Lake - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Ambient Temperature 2m (AT2) - C

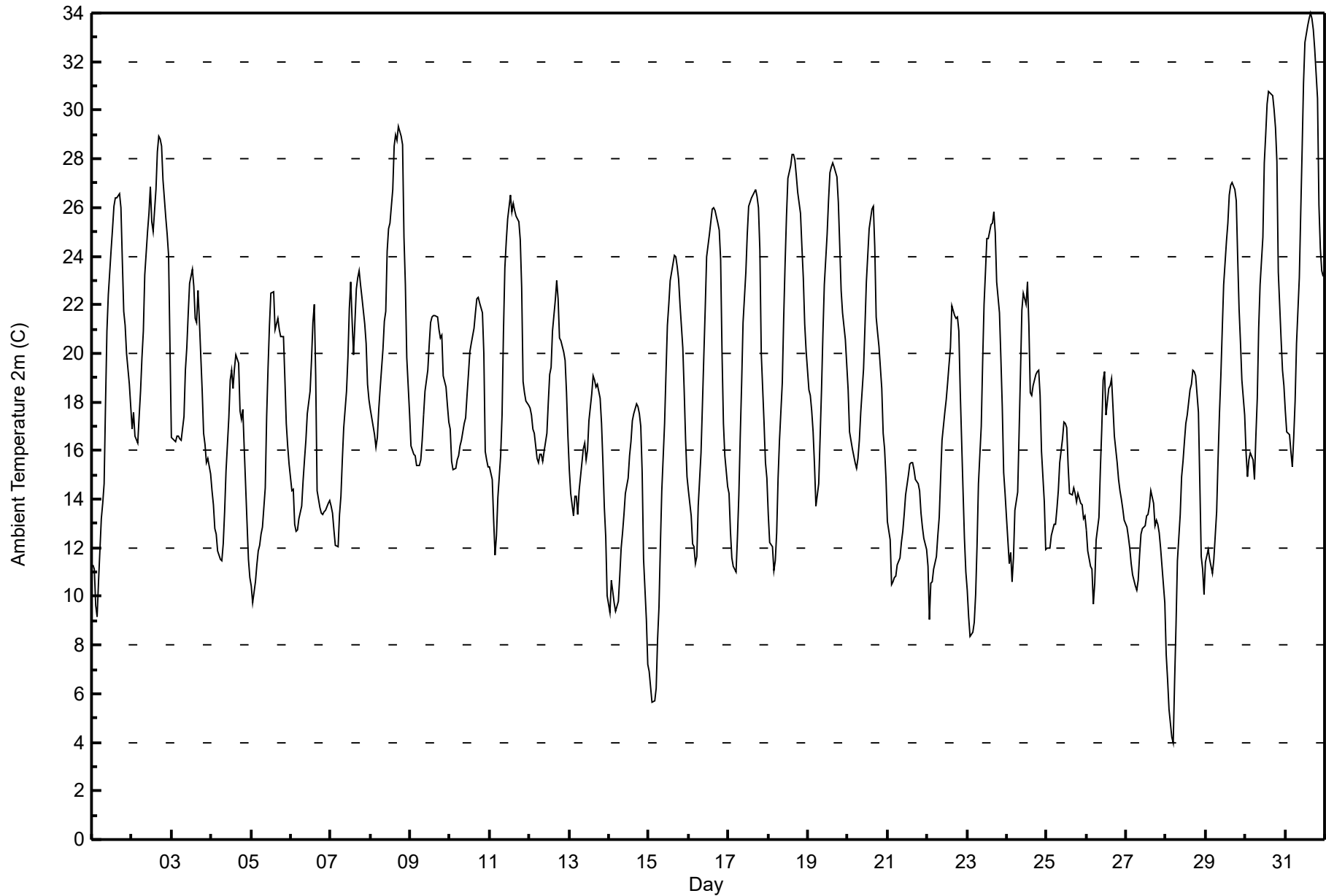
Mildred Lake - July 2025

Maximum Value: 34.0 C on Jul 31 16:00																				Maximum Daily Average: 25.3 C on Jul 31					Hours in Service: 744	
Minimum Value: 4.0 C on Jul 28 05:00																				Minimum Daily Average: 12.2 C on Jul 27					Hours of Data: 744	
Maximum Diurnal Average: 23.0 C at hour 16																				Minimum Diurnal Average: 12.4 C at hour 5					Hours of Missing Data: 0	
Monthly Average: 17.91 C																				Percentiles: P ₁ = 6.5 P ₁₀ = 11.5 Q ₁ = 13.8 Median = 17.2 Q ₃ = 21.5 P ₉₀ = 25.8 P ₉₉ = 31.0					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-Jul	11.3	11.1	9.6	9.1	10.6	13.2	13.9	14.6	17.9	20.9	22.4	24.3	25.2	26.0	26.4	26.4	26.6	26.0	23.8	21.7	21.1	20.0	18.7	17.8	19.1	26.6
2-Jul	16.9	17.6	16.6	16.3	17.4	18.4	19.8	20.9	23.2	25.0	25.8	26.8	25.4	25.0	26.7	28.3	28.9	28.8	28.5	27.1	25.6	24.9	24.0	20.3	23.3	28.9
3-Jul	16.6	16.4	16.3	16.6	16.6	16.5	16.4	17.4	19.3	20.2	21.6	22.8	23.5	22.8	21.4	21.3	22.6	21.3	18.5	16.7	16.3	15.5	15.7	15.0	18.6	23.5
4-Jul	14.4	13.8	12.8	12.6	11.9	11.5	11.5	12.1	13.5	15.2	17.4	18.9	19.3	18.6	19.4	20.0	19.6	17.6	17.3	17.7	16.1	13.0	11.5	10.8	15.3	20.0
5-Jul	10.4	9.7	10.6	11.3	11.9	12.1	12.6	12.9	14.5	17.4	19.4	21.1	22.5	22.6	21.0	21.2	21.4	21.0	20.7	20.7	19.0	17.1	16.2	15.5	16.8	22.6
6-Jul	14.3	14.4	13.0	12.7	12.8	13.2	13.7	14.8	15.6	16.4	17.5	18.5	19.7	21.3	22.0	19.1	14.4	13.6	13.4	13.4	13.5	13.5	13.8	13.9	15.3	22.0
7-Jul	13.7	13.4	12.7	12.1	12.1	13.3	14.1	15.6	16.9	18.4	19.8	21.8	22.9	21.3	19.9	22.6	23.1	23.4	22.8	22.3	21.2	20.4	18.7	18.1	18.4	23.4
8-Jul	17.7	17.4	16.7	16.1	16.5	17.7	18.6	20.2	21.3	21.8	24.2	25.1	25.4	26.8	28.5	29.0	28.7	29.3	29.0	28.6	24.8	22.8	19.8	17.5	22.6	29.3
9-Jul	16.2	16.0	15.8	15.8	15.4	15.4	15.6	16.4	17.4	18.5	19.3	20.4	21.2	21.5	21.5	21.5	21.5	21.0	20.6	20.8	19.1	18.6	17.9	17.2	18.5	21.5
10-Jul	16.9	15.5	15.2	15.3	15.6	15.8	16.2	16.4	17.1	17.3	18.3	19.2	20.1	20.4	21.0	21.7	22.3	22.3	22.1	21.7	20.0	16.0	15.6	15.4	18.2	22.3
11-Jul	15.3	14.8	13.1	11.7	12.5	14.1	15.8	17.5	20.9	23.5	24.6	25.5	26.5	25.8	26.1	25.9	25.7	25.4	24.7	22.7	18.9	18.4	18.0	17.9	20.2	26.5
12-Jul	17.7	17.5	16.9	16.7	15.6	15.5	15.8	15.9	15.5	15.9	16.7	18.0	19.1	19.4	20.9	22.2	23.0	22.3	20.6	20.5	20.1	19.7	18.4	16.6	18.4	23.0
13-Jul	15.2	14.2	13.3	14.1	14.1	13.4	14.4	15.5	16.1	16.3	15.6	16.0	17.2	18.3	19.1	18.9	18.6	18.7	18.1	17.1	15.5	13.7	12.4	10.0	15.7	19.1
14-Jul	9.3	10.7	10.2	9.7	9.4	9.8	10.8	12.0	12.6	13.4	14.2	14.9	15.8	16.4	17.2	17.5	17.9	17.8	17.5	17.0	15.1	11.5	9.0	7.2	13.2	17.9
15-Jul	6.9	6.3	5.6	5.7	6.2	8.3	9.6	12.1	14.4	17.1	19.2	21.1	22.0	23.0	23.7	24.0	23.9	23.6	23.1	22.0	20.2	18.4	16.4	14.9	16.2	24.0
16-Jul	14.4	13.3	12.2	12.0	11.4	11.6	13.7	15.9	17.9	19.9	21.8	24.0	24.9	25.4	25.9	26.0	25.9	25.3	25.1	23.9	20.0	17.1	15.8	14.5	19.1	26.0
17-Jul	14.2	12.7	11.6	11.2	11.0	12.5	14.2	16.6	18.8	21.3	23.3	24.9	26.1	26.2	26.4	26.6	26.7	26.4	26.0	24.3	20.0	17.1	15.5	14.9	19.5	26.7
18-Jul	13.3	12.2	12.0	11.0	11.5	12.6	14.9	16.4	18.8	21.4	23.7	25.7	27.2	27.7	28.2	28.2	27.9	27.3	26.6	25.8	24.4	23.1	21.2	20.1	20.9	28.2
19-Jul	18.5	18.3	17.6	16.8	15.4	13.7	14.6	16.5	18.5	20.8	22.8	24.9	26.3	27.4	27.7	27.8	27.6	27.2	26.2	24.4	22.6	21.7	20.6	19.5	21.6	27.8
20-Jul	18.5	16.8	16.4	16.1	15.5	15.3	15.7	16.4	17.6	19.4	21.1	22.9	24.0	25.1	25.9	26.1	24.4	21.5	20.9	20.3	18.5	16.7	16.1	14.9	19.4	26.1
21-Jul	13.1	12.3	10.5	10.6	10.8	10.8	11.3	11.6	12.2	12.7	13.4	14.2	15.0	15.5	15.5	15.5	15.2	14.8	14.6	14.3	13.4	12.9	12.4	11.9	13.1	15.5
22-Jul	11.3	9.0	10.5	10.6	11.1	11.7	12.5	13.2	14.9	16.4	17.6	18.1	18.8	19.5	20.2	22.0	21.6	21.4	21.5	20.9	18.4	14.3	12.4	11.0	15.8	22.0
23-Jul	10.2	9.1	8.3	8.5	9.0	10.1	12.1	14.6	17.0	19.6	22.0	23.4	24.7	24.7	25.3	25.4	25.8	25.0	23.0	21.7	19.8	17.8	15.1	14.2	17.8	25.8
24-Jul	13.3	11.4	11.8	10.6	11.6	13.6	14.3	16.7	19.2	21.8	22.5	22.0	22.9	21.1	18.4	18.3	18.7	19.2	19.2	19.3	18.2	16.0	13.9	11.9	16.9	22.9
25-Jul	12.0	12.0	12.0	12.5	13.0	13.0	13.6	14.4	15.5	16.5	17.2	17.1	16.9	15.4	14.2	14.2	14.4	14.2	13.9	14.2	13.8	13.8	13.2	13.3	14.2	17.2
26-Jul	12.7	11.9	11.2	11.1	9.7	10.6	12.4	13.3	15.2	16.9	18.9	19.2	17.4	18.6	18.7	19.0	17.8	16.6	15.5	14.8	14.4	14.0	13.6	13.1	14.9	19.2
27-Jul	12.8	12.4	12.0	11.3	10.9	10.5	10.3	10.7	11.7	12.5	12.8	12.9	13.3	13.4	13.7	14.3	13.8	12.9	13.1	13.0	12.6	12.0	10.5	9.7	12.2	14.3
28-Jul	7.6	6.6	5.4	4.2	4.0	6.5	8.8	11.4	13.4	14.9	15.6	16.4	17.1	17.5	18.5	18.7	19.3	19.3	19.1	17.6	14.6	11.6	11.1	10.1	12.9	19.3
29-Jul	11.4	11.9	11.5	11.2	11.0	11.5	13.5	15.6	17.5	19.1	21.0	22.8	24.6	25.3	26.5	26.9	27.0	26.7	26.3	24.0	21.9	20.4	18.9	17.5	19.3	27.0
30-Jul	15.9	15.0	15.6	15.9	15.6	14.8	16.6	18.1	21.0	22.8	24.8	27.9	29.0	30.2	30.8	30.7	30.6	30.0	29.3	27.9	23.3	20.5	19.3	18.7	22.7	30.8
31-Jul	17.6	16.8	16.6	16.0	15.3	16.5	18.1	20.4	23.1	25.7	28.4	31.1	32.8	33.5	33.8	34.0	33.7	33.3	32.5	30.5	26.1	24.3	23.4	23.2	25.3	34.0
Diurnal Average																										
Diurnal Maximum																										



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	0	0.00	0.00
-20 - 0	0	0.00	0.00
0 - 10	30	4.03	4.03
10 - 20	469	63.04	67.07
> 20	245	32.93	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) - %

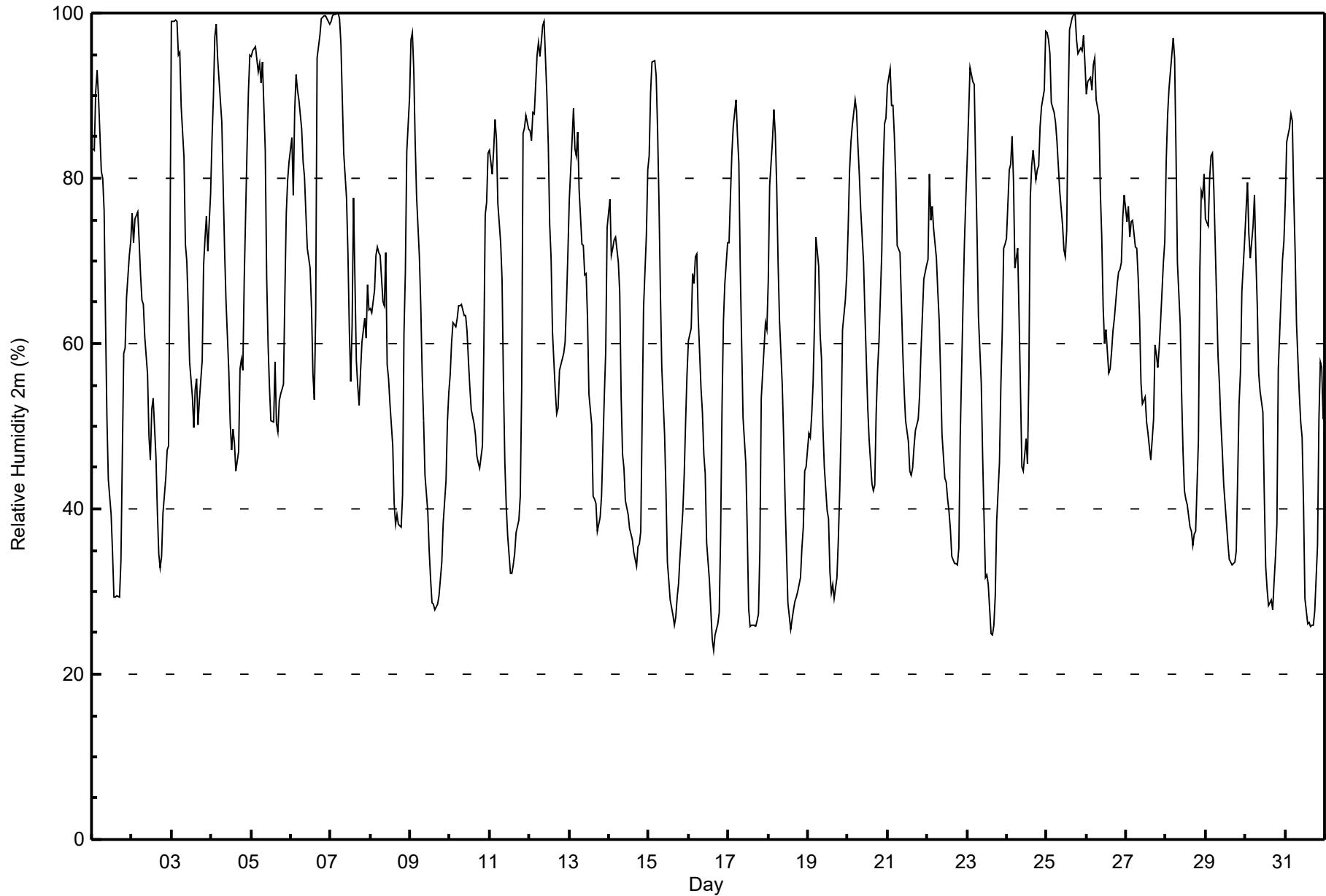
Mildred Lake - July 2025

Maximum Value: 100.0 % on Jul 7 05:00																				Maximum Daily Average: 89.5 % on Jul 25										Hours in Service: 744			
Minimum Value: 22.8 % on Jul 16 16:00																				Minimum Daily Average: 48.8 % on Jul 16										Hours of Data: 744			
Maximum Diurnal Average: 84.3 % at hour 4																				Minimum Diurnal Average: 42.3 % at hour 16										Hours of Missing Data: 0			
Monthly Average: 62.60 %																				Percentiles: P ₁ = 25.8 P ₁₀ = 33.5 Q ₁ = 46.3 Median = 62.9 Q ₃ = 79.8 P ₉₀ = 90.7 P ₉₉ = 99.6										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-Jul	83.5	83.3	90.6	93.0	89.9	80.9	80.1	76.1	62.8	51.0	43.5	39.4	34.8	29.3	29.4	29.6	29.3	33.7	46.4	58.8	59.5	65.6	70.6	72.4	59.7	93.0							
2-Jul	75.8	72.1	75.1	76.0	72.3	68.3	65.2	64.7	60.9	56.4	48.8	46.0	52.1	53.4	46.3	39.6	34.6	32.9	34.2	39.5	43.8	47.2	47.6	71.3	55.2	76.0							
3-Jul	99.0	99.0	99.2	99.0	94.9	95.3	88.7	82.5	72.0	70.0	64.6	57.8	53.5	49.7	54.4	55.7	50.2	53.2	57.9	69.5	72.7	75.5	71.3	78.2	73.5	99.2							
4-Jul	84.8	89.9	97.1	98.7	94.6	89.3	86.8	78.8	71.2	65.2	56.6	50.4	47.2	49.7	47.9	44.6	47.0	56.9	58.2	56.8	67.7	83.5	90.6	95.0	71.2	98.7							
5-Jul	94.7	95.5	95.9	94.5	92.9	93.9	91.5	94.1	83.5	68.1	60.1	54.8	50.6	50.5	57.8	50.3	49.3	53.0	53.9	55.1	66.0	75.7	79.8	82.0	72.6	95.9							
6-Jul	84.9	78.0	88.1	92.5	90.6	89.6	85.9	82.1	80.1	75.7	71.5	69.2	64.5	56.4	53.2	63.6	94.7	97.3	99.2	99.6	99.7	99.7	99.0	98.6	83.9	99.7							
7-Jul	99.1	99.6	99.8	99.9	100.0	99.3	96.3	89.5	83.1	77.6	71.1	61.7	55.5	62.2	77.6	58.0	54.9	52.6	56.5	60.1	63.0	60.7	67.2	64.0	75.4	100.0							
8-Jul	64.2	63.8	66.4	70.6	71.7	70.9	70.7	65.0	64.6	71.1	57.5	55.8	52.7	47.6	40.7	38.1	39.3	38.1	37.7	41.7	61.2	68.6	83.1	89.8	59.6	89.8							
9-Jul	96.8	97.6	93.0	84.5	77.8	70.4	64.6	56.3	50.7	44.1	39.7	34.8	31.5	28.7	28.5	27.8	28.6	29.5	31.6	33.5	38.3	43.4	50.5	54.1	51.5	97.6							
10-Jul	56.2	60.2	62.6	62.0	63.1	64.5	64.6	64.8	63.4	63.4	61.5	58.0	54.8	52.1	50.3	48.9	46.4	45.6	44.9	47.6	59.5	75.5	77.1	83.1	59.6	83.1							
11-Jul	83.4	80.6	83.3	87.1	84.7	77.0	72.1	67.8	55.3	45.5	40.4	36.8	32.2	32.2	33.2	34.6	37.2	38.6	41.6	54.3	85.4	86.2	87.6	86.0	61.0	87.6							
12-Jul	85.8	84.6	88.0	87.8	95.0	96.4	94.8	96.4	98.4	98.9	89.9	84.2	74.5	70.4	61.4	54.2	51.5	52.2	56.9	57.5	58.7	60.2	65.0	71.0	76.4	98.9							
13-Jul	77.5	80.9	88.5	83.6	82.6	85.5	78.6	72.1	71.9	68.3	68.5	63.1	54.0	50.2	41.5	41.1	40.6	37.2	38.9	41.5	47.6	53.7	59.1	74.0	62.5	88.5							
14-Jul	77.5	70.6	71.5	72.6	72.8	69.9	66.1	53.6	46.7	45.0	41.1	39.4	37.6	36.9	36.2	34.8	33.1	35.4	35.8	37.2	51.0	64.4	73.1	80.9	53.5	80.9							
15-Jul	82.8	90.4	94.1	94.3	92.3	85.9	77.0	66.3	57.1	49.0	42.0	33.5	31.4	29.0	27.2	25.9	26.9	29.3	31.1	34.2	39.6	44.1	50.4	56.3	53.8	94.3							
16-Jul	60.4	61.9	68.4	67.3	70.5	70.8	63.3	54.5	51.7	46.6	44.3	35.9	31.4	27.7	24.2	22.8	24.8	26.2	27.5	37.0	52.3	62.7	67.3	72.2	48.8	72.2							
17-Jul	72.1	77.8	82.9	86.2	89.5	85.2	81.8	69.1	60.0	51.0	45.4	37.2	27.9	25.7	26.0	25.9	25.8	26.4	27.3	35.0	53.4	59.4	62.5	61.8	54.0	89.5							
18-Jul	67.6	79.2	84.5	88.3	85.5	79.2	69.9	62.8	55.0	48.5	41.0	34.8	28.6	25.4	26.7	27.8	28.8	29.3	30.0	31.7	35.2	37.8	44.6	45.1	49.5	88.3							
19-Jul	49.2	48.7	51.4	55.3	62.6	72.9	69.4	61.2	58.2	49.9	45.1	39.8	38.9	32.4	29.9	30.9	29.2	31.7	36.3	42.2	49.9	61.6	65.3	68.4	49.2	72.9							
20-Jul	73.9	80.9	84.3	86.5	89.6	88.1	83.9	80.3	76.0	69.8	63.6	57.9	52.2	48.3	43.0	42.2	42.9	51.5	56.8	60.1	71.1	81.1	86.6	87.3	69.1	89.6							
21-Jul	91.3	93.3	88.8	88.8	85.1	79.8	71.8	71.0	65.1	58.9	54.2	50.6	48.1	44.5	44.1	44.8	47.5	49.5	50.9	53.8	59.2	63.4	67.7	69.4	64.2	93.3							
22-Jul	70.2	80.5	75.0	76.6	73.9	70.3	66.3	62.8	56.3	48.9	43.7	43.2	41.1	39.6	37.4	34.3	33.4	33.3	33.1	35.3	48.8	64.9	72.1	77.6	55.0	80.5							
23-Jul	82.4	87.8	93.5	91.7	91.3	81.8	73.3	63.2	55.2	46.2	38.8	31.8	32.0	30.8	24.9	24.7	25.9	29.5	38.5	45.6	54.8	61.6	71.5	72.1	56.2	93.5							
24-Jul	72.6	81.1	81.7	85.1	79.8	69.2	71.5	63.3	54.4	45.1	44.6	48.5	45.4	56.5	77.7	81.6	83.4	79.8	81.0	81.6	86.3	88.7	90.7	97.7	72.8	97.7							
25-Jul	97.6	96.7	95.1	89.1	87.9	86.7	84.5	81.6	78.5	74.4	71.4	70.5	73.7	88.4	98.0	99.5	99.9	99.9	96.8	95.0	95.7	95.5	97.3	94.0	89.5	99.9							
26-Jul	90.2	91.7	92.1	90.7	93.8	94.5	89.4	87.6	78.3	72.9	64.3	60.0	61.7	56.4	56.9	58.9	61.5	63.0	67.1	68.6	68.9	69.8	75.2	77.9	74.6	94.5							
27-Jul	74.7	76.6	72.8	74.7	75.0	71.7	71.5	68.0	63.0	55.2	52.8	53.6	50.6	49.1	47.4	46.0	50.8	59.7	58.7	57.1	59.5	62.7	69.8	72.3	62.2	76.6							
28-Jul	82.0	87.6	90.8	94.9	97.0	94.5	83.3	69.9	62.4	53.9	47.0	42.2	41.1	40.4	37.8	37.3	35.5	36.9	37.3	48.3	68.7	78.5	77.9	80.4	63.6	97.0							
29-Jul	75.1	74.2	80.1	82.8	83.1	78.6	65.2	58.4	55.1	50.5	47.1	43.0	38.2	35.9	33.9	33.6	33.2	33.5	34.9	43.7	52.7	56.7	66.2	72.6	55.3	83.1							
30-Jul	76.1	79.6	73.2	70.3	74.3	78.0	70.3	64.5	56.5	54.2	51.7	41.6	33.1	30.3	28.3	29.0	27.7	31.2	34.2	38.2	57.0	65.8	70.1	72.4	54.5	79.6							
31-Jul	77.3	84.4	86.2	87.9	86.9	78.2	71.2	62.4	54.0	50.4	48.7	40.4	29.2	26.1	26.2	25.8	26.0	25.9	27.6	35.6	50.9	57.8	57.0	50.8	52.8	87.9							
79.3 81.6 83.7 84.3 83.9 81.2 76.4 70.7 64.6 58.9 53.6 48.9 45.2 43.7 43.5 42.3 43.2 44.9 47.2 51.5 60.6 66.8 71.4 75.1																										Diurnal Average							
99.1 99.6 99.8 99.9 100.0 99.3 96.3 96.4 98.4 98.9 89.9 84.2 74.5 88.4 98.0 99.5 99.9 99.9 99.9 99.2 99.6 99.7 99.7 99.0 98.6																										Diurnal Maximum							



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Speed 10m (WS10) - km/h

Mildred Lake - July 2025

Maximum Speed: 27 km/h on Jul 9 15:00																		Maximum Daily Speed Average: 16.7 km/h on Jul 9								Hours in Service: 744	
Minimum Speed Value: 1 km/h on Jul 19 06:00																		Minimum Daily Speed Average: 0.9 km/h on Jul 30								Hours of Data: 743	
Maximum Diurnal Speed Average: 3.8 km/h at hour 14																		Minimum Diurnal Speed Average: 0.2 km/h at hour 20								Hours of Missing Data: 1	
Monthly Average Velocity: 1.8 km/h 255.8 deg																		Percentiles: P ₁ = 1 P ₁₀ = 3 Q ₁ = 5 Median = 8 Q ₃ = 11 P ₉₀ = 15 P ₉₉ = 21								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-Jul	N5	N5	NNE4	N3	N3	NNE1	NNE4	N4	W2	SE3	ESE2	SSW6	SSW7	SSE6	SE8	SE6	E8	ENE6	WNW3	SE10	SE9	SE9	SSE7	SSE6	ESE2.5	SE10	
2-Jul	SE8	SSE10	S6	SSE7	SSE9	SE12	SSE11	SSE10	SSE10	WSW10	W7	SW6	WNW3	NNW10	E1	S7	WSW4	NE5	ENE6	ESE7	ESE8	ESE11	ESE13	W11	SSE4.2	ESE13	
3-Jul	NNW12	NNE3	S1	W3	NNW7	W5	W12	WNW12	W9	WSW11	W10	W12	WSW14	SW16	SW14	SSW15	SW15	SW18	WNW18	W11	W10	WSW10	WSW12	W12	WSW9.0	SW18	
4-Jul	W15	W16	W16	W13	WNW15	NW16	WNW13	WNW16	WNW15	WNW13	NW16	NW17	NW20	NW14	NNW13	NNW14	N12	N16	N5	NNE5	NNE4	NE1	S1	S2	NW10.3	NW20	
5-Jul	S3	ESE2	SE2	SSE6	S5	SE5	NW4	ESE6	SE8	SE10	SSE11	SSE9	SE8	S8	S13	W1	E2	ENE5	NE6	NNE6	N8	N8	NNE5	NNE5	SE2.8	S13	
6-Jul	NE5	NE5	NNW8	N9	N8	N7	NNE8	N7	N7	N10	N11	N10	N9	NNW10	NNW10	SSE4	W1	N8	NNE7	ENE3	N2	SSW1	SSW2	N3	N5.5	N11	
7-Jul	NNE3	ENE4	SE3	NNE1	SSE3	S6	S7	S9	S9	SSE9	SSE9	SSE9	SSE8	SSW5	SSW5	SSE14	SSE14	SSE11	S10	SSE10	S8	S8	S8	S9	SSE6.9	SSE14	
8-Jul	S9	S10	SSE9	S6	ESE5	SE7	SE8	SSE9	SSE11	SSE10	S17	S17	S19	S17	S17	SSW17	S14	S11	S9	S6	SSE2	E2	W17	WNW15	S8.9	S19	
9-Jul	NNW2	S9	SSW11	SW15	SW17	SW18	SW18	SW18	SW18	SW19	SW20	SW21	SW22	SW26	WSW27	WSW25	WSW22	WSW21	WSW16	W18	WNW16	W17	W16	W16	WSW16.7	WSW27	
10-Jul	W12	SW9	WSW9	W10	WNW11	W9	W10	W8	W8	WNW9	W8	NW11	WNW13	NW16	WNW12	WNW12	WNW13	NW14	NW13	NW6	NW3	WNW2	SSW4	SSW5	WNW8.5	NW16	
11-Jul	SW5	SSW5	SSE6	SSE6	SSE7	SSE8	SSE9	SSE10	S13	SSW17	SSW20	SSW18	SW18	SW18	WSW18	SW17	SW14	SW14	SW10	WSW8	N2	SE2	S7	SSW6	SSW9.2	SSW20	
12-Jul	SSW6	WSW12	WSW15	WSW13	WSW9	WSW7	W11	WNW11	WNW9	NW7	NNW7	WNW10	WNW11	WNW10	WNW11	W11	W11	W18	W16	WSW14	W16	W15	NNW13	N9	W9.9	W18	
13-Jul	NNE6	WSW1	SW6	SW7	WSW5	N5	NW7	NNW9	NNE9	N14	N14	N11	N12	NNW14	NNW15	N12	N11	NNE14	NNE14	NNE10	NNE8	N7	N7	NNW4	N7.7	NNW15	
14-Jul	NNW6	NNW8	NNW7	N6	N7	N8	N11	N14	NNW16	NNW14	NNW13	N13	N12	NNW12	NNW13	N12	N10	NNE10	N10	NNE7	NNE4	NNE4	N5	ENE1	N9.1	NNW16	
15-Jul	SSW2	S2	SSE2	SSW3	S3	S5	S6	SSE7	S9	S8	S8	SSW11	S11	SSW9	SSW9	S11	S10	SSE11	S12	SSE12	SSE10	SSE9	SSE7	SE6	S7.5	S12	
16-Jul	SE5	S5	SE6	SE6	SSE5	S5	S7	SSE8	SE9	SSE9	SSE9	SSE7	SSE9	SSE7	S6	SSE4	SE5	ESE8	ESE6	ENE1	UO	SE2	SE2	S2	SSE5.5	SSE9	
17-Jul	N5	NW2	SSE1	NNW1	SSE1	E1	SE2	S3	S3	WSW3	NW2	NW4	NNE5	N9	N8	N10	N10	NNE8	NE6	NE3	NNE4	NE4	NE4	ENE5	NNE3.0	N10	
18-Jul	NNE1	SSW4	S4	SE4	S4	S7	SSE10	SSE9	SSE9	SSE8	SSE9	SE9	SSE9	SE9	SSE8	SSE11	SSE12	SSE12	SSE13	SSE12	SE11	SSE13	SSE9	SE9	SSE8.4	SSE13	
19-Jul	ESE8	SE10	SSE9	SSE8	S5	ENE1	S4	SSE4	SSE7	SSE8	SSE7	SSE9	SSE11	SSE8	SE5	SE8	SE9	SSE9	SSE8	SE4	N8	N12	NNE9	NNE7	SE4.6	N12	
20-Jul	NNE6	NNW4	N8	N9	N8	N10	N11	NNE9	NNE6	N5	NNW5	SSW2	SE5	SE6	SSE6	SE6	NW13	NNW10	ENE2	NNE4	N17	N16	N16	N20	N6.3	N20	
21-Jul	N20	N22	N20	N16	N15	N16	N16	NNW17	NNW19	NNW16	NNW16	NNW15	NNW15	NNW15	NW16	NNW15	NNW16	NW16	NNW13	NNW9	NNE4	NNE4	NNE3	NNW3	NNW13.7	N22	
22-Jul	NNW5	NW4	NW6	SSW1	SSW3	WNW5	W8	W9	W10	WNW10	WNW10	NW9	NW10	WNW8	WNW8	W9	NW7	N9	NNW10	NNW7	N5	NE2	ENE3	ESE1	NW5.4	NW10	
23-Jul	SSW2	SE2	ESE2	S4	SSW5	S7	S7	SSE5	SSE5	SSE5	SSE7	SE6	SSW10	S9	SSW3	NNW3	SW7	SSW9	SSW7	S6	SSW6	SSW3	ESE1	S3	S4.4	SSW10	
24-Jul	SSE5	SE4	ESE4	SSE4	SSE7	SE6	SE5	SE7	SE8	SE14	SSE15	SE12	SE14	SSE13	SE10	ESE10	ESE8	ESE8	ESE7	SE7	SSE3	WNW6	NW4	SW1	SE6.4	SSE15	
25-Jul	SSE6	S5	SSW6	SW11	SW10	SW11	SW14	WSW14	WSW11	W11	WNW10	WNW12	NW13	NW12	NW11	N13	NNW11	NNW12	N8	NNW4	WNW6	W5	WSW6	WNW8	W6.5	WSW14	
26-Jul	NW9	NW7	WNW8	WNW7	NW3	WSW5	SW4	SSW5	SSW5	SSW8	SSW12	SW12	SW6	N5	NNE8	NNE13	NNE14	NNE14	NNE11	NE7	NE5	N5	N6	NNW7	NNW3.1	NNE14	
27-Jul	NNW8	NNW6	N10	N9	N8	N11	N11	NNW12	NNW11	NNW11	NNW12	NW10	NNW11	NNW8	NNW12	NW11	NNW10	N6	NNW5	NW6	WNW7	NW8	NW7	NW7	NNW8.6	NNW12	
28-Jul	NW3	NW3	NW4	SSE1	SSW3	SSW5	SSW3	S3	S6	WSW4	NNW3	NW7	NW6	NW7	NW4	N5	NW4	NNW3	NNW2	ESE3	ENE2	E4	SSE4	E4	WNW1.2	NW7	
29-Jul	E5	E4	SSE1	E1	SE1	SE3	S9	S10	SSE6	SSE7	SSE8	SSE7	SSW7	SSW6	SSW9	SSW9	S9	S9	S9	S7	S7	WSW3	SSW4	S4	S5.3	S10	
30-Jul	SSW2	WSW3	N8	NE4	S5	S6	SSE4	SSE8	SSE10	SSE10	SE9	SSW6	WNW10	WNW9	NW7	NNE10	NNW10	N9	NNE7	NNE5	NNE4	NNE4	NNE3	NNE2	NNE0.9	NNE10	
31-Jul	SSE1	SSE3	SSW3	SSW5	S5	S9	S8	SSE6	SSE8	SSE9	SSE9	SSW8	SW9	SSW10	SSW9	SSW8	SSW8	S7	S7	S5	S4	S5	SSW6	S8	S6.3	SSW10	
NW1.4WSW1.0 W1.5WSW1.9WSW1.8 SW1.7 SW2.4 SW2.1SSW2.4 SW2.8 SW2.6WSW3.6WSW3.8 W3.8 W3.6WSW2.2 W2.1 NW1.5WNW1.3WSW0.2NNW1.1 NW0.9WNW1.2WNW1.7																								Diurnal Average			
N20 N22 N20 N16 SW17 SW18 SW18 SW18NNW19 SW19 SW20 SW21 SW22 SW26WSW27WSW25WSW22WSW21WNW18 W18 N17 W17 W17 N20																								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

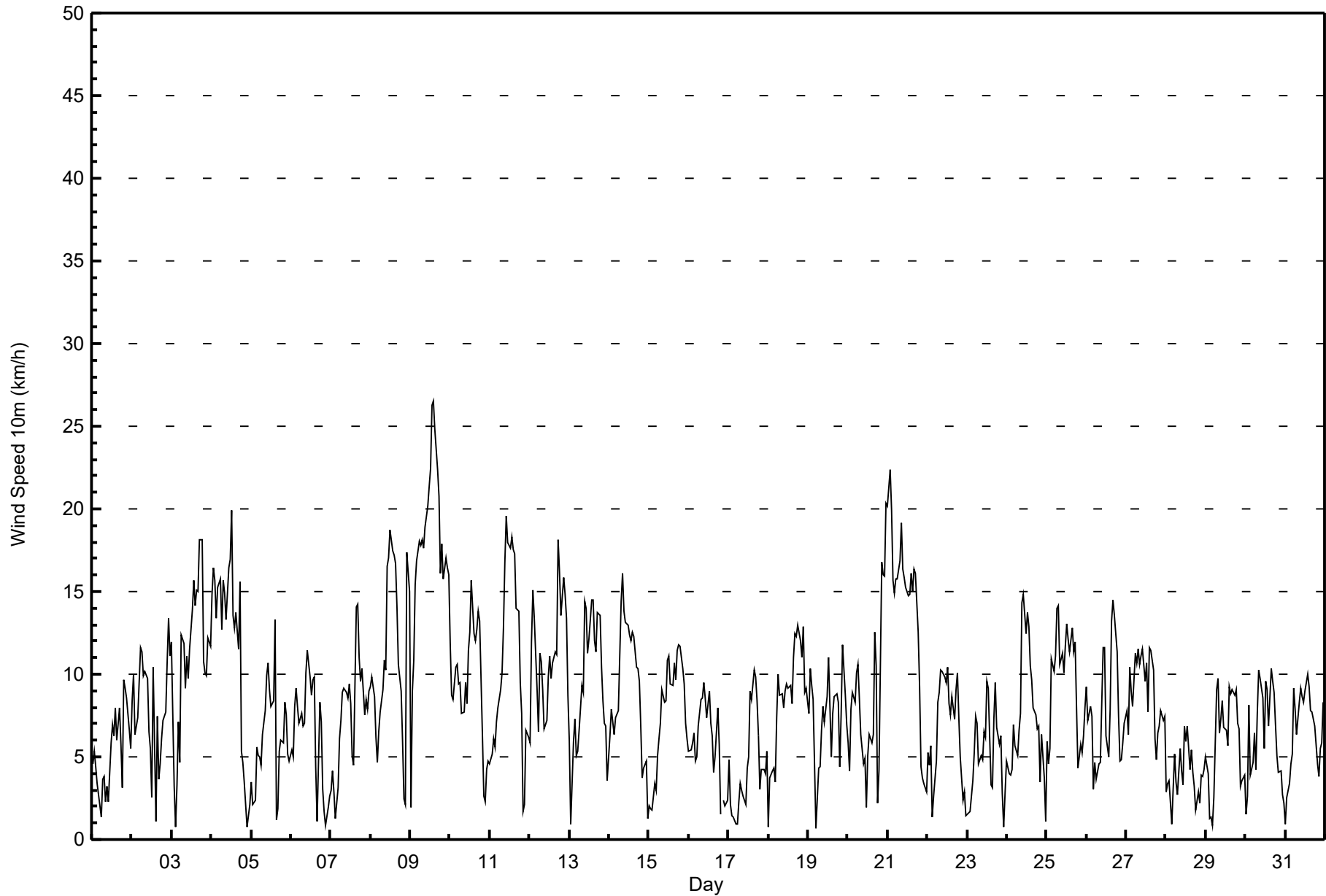
Wind Speed 10m (WS10) - km/h
Mildred Lake - July 2025

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



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	218	29.34	29.34
6 - 11	363	48.86	78.20
12 - 19	148	19.92	98.12
20 - 28	14	1.88	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
Mildred Lake - July 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	24	10	10	9	10	16	22	27	26	3	8	6	4	13	13	218
6 - 11	44	19	3	2	1	11	31	73	47	26	11	9	20	23	19	24	363
12 - 19	19	5	0	0	0	1	4	10	9	5	18	9	16	15	12	25	148
20 - 28	4	0	0	0	0	0	0	0	0	1	4	4	0	0	1	0	14
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	84	48	13	12	10	22	51	105	83	58	36	30	42	42	45	62	743

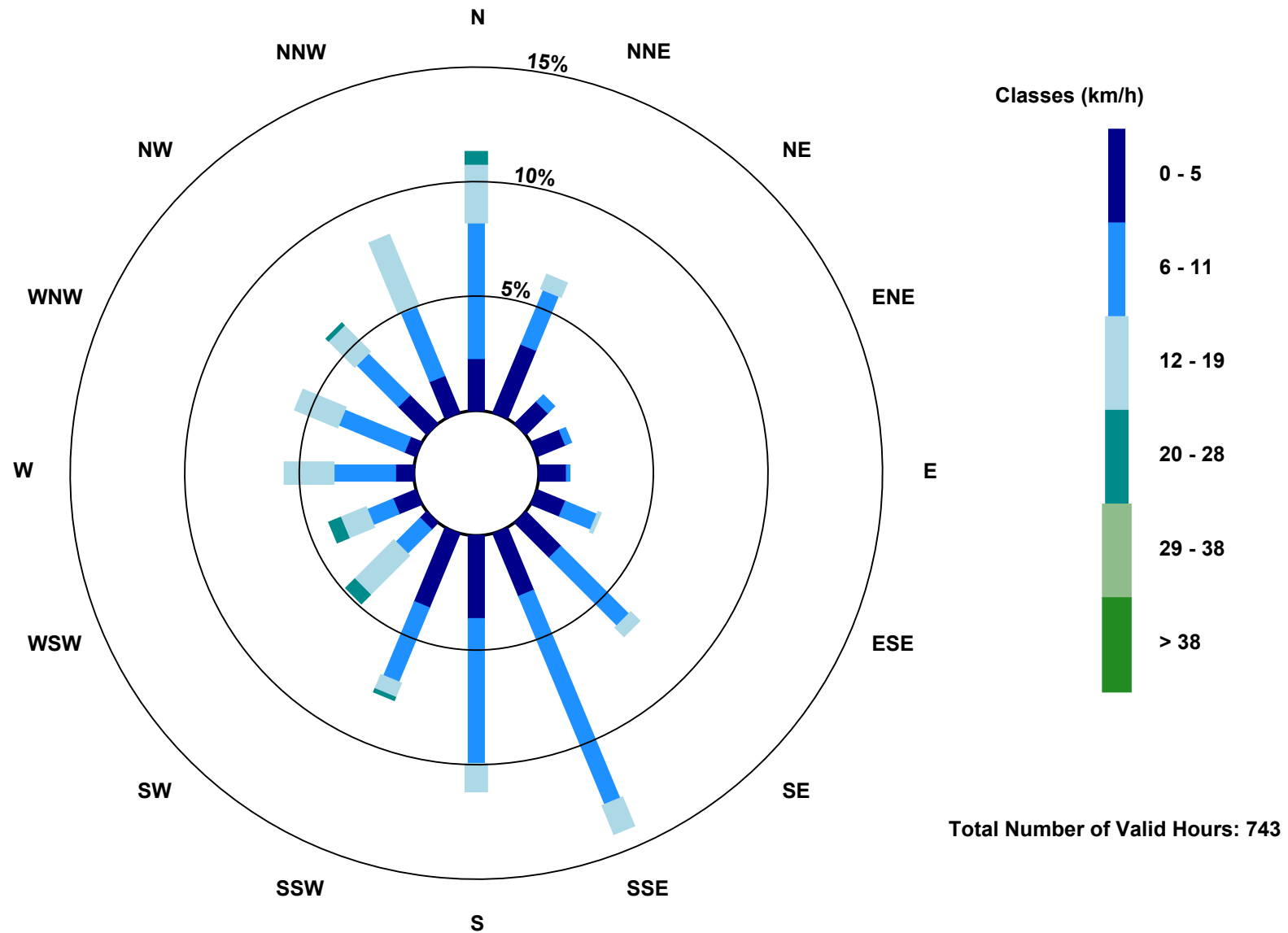
Total Number of Valid Hours: 743

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Direction 10m (WD10) - deg

Mildred Lake - July 2025

Direction of Maximum Speed: 239 deg on Jul 9 15:00 Direction of Maximum Daily Speed Average: 241.9 deg on Jul 9																				Hours in Service: 744					
Direction of Minimum Speed: 76 deg on Jul 19 06:00 Direction of Minimum Daily Speed Average: 0.9 deg on Jul 30																				Hours of Data: 743					
Direction of Minimum Speed: 76 deg on Jul 19 06:00 Direction of Minimum Daily Speed Average: 0.9 deg on Jul 30																				Hours of Missing Data: 1					
Monthly Average Direction: 255.8 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-Jul	9	3	12	2	357	21	30	360	262	136	111	196	192	150	140	141	98	78	285	127	128	141	162	155	122.5
2-Jul	144	151	172	159	156	145	151	160	165	241	281	230	302	347	87	177	237	45	75	105	109	114	115	265	154.1
3-Jul	333	22	172	276	330	262	276	282	263	255	270	259	241	222	215	205	216	224	285	281	270	258	256	269	256.4
4-Jul	273	271	280	281	298	311	302	300	292	293	304	308	316	322	330	341	354	356	1	21	27	51	190	172	308.5
5-Jul	180	118	139	164	180	129	326	106	129	145	153	152	139	186	170	271	79	76	43	15	354	6	14	26	125.6
6-Jul	47	54	347	352	357	10	18	7	352	360	1	0	350	340	328	153	266	2	16	71	352	205	207	6	1.3
7-Jul	28	67	127	23	166	170	177	172	169	163	155	163	154	199	192	156	157	160	176	167	174	178	186	182	165.7
8-Jul	187	182	166	170	103	131	143	156	158	168	186	186	178	180	181	196	190	187	190	177	159	94	278	282	184.3
9-Jul	338	183	213	235	225	229	228	233	233	235	233	226	227	233	239	243	249	248	241	271	292	279	275	273	241.9
10-Jul	268	233	258	277	284	276	266	265	274	302	281	304	300	304	301	292	300	317	315	325	319	296	202	199	287.4
11-Jul	226	209	167	155	165	165	159	150	171	193	201	212	221	235	237	234	228	231	231	251	357	142	174	204	207.1
12-Jul	208	245	254	254	249	254	278	282	283	307	333	290	292	299	291	281	264	265	267	254	275	275	347	356	276.9
13-Jul	14	240	221	232	251	1	311	332	24	6	357	359	351	341	338	4	10	18	12	23	23	10	356	333	355.3
14-Jul	332	335	340	352	355	359	350	352	342	345	344	356	353	346	337	358	11	28	9	14	23	13	356	70	353.7
15-Jul	200	186	149	198	182	181	172	158	170	178	181	193	188	197	204	185	171	163	171	167	167	166	161	146	176.2
16-Jul	146	171	145	146	149	186	171	153	141	152	155	158	165	158	178	162	135	103	103	76	UO	124	141	181	150.5
17-Jul	357	313	157	330	152	95	126	179	188	240	309	324	19	350	1	8	5	33	41	34	25	37	43	76	15.9
18-Jul	30	193	191	152	184	181	163	165	149	148	155	140	154	142	165	157	163	155	147	149	145	148	149	138	154.6
19-Jul	114	143	149	152	172	76	184	168	160	160	156	152	157	153	127	143	141	159	161	135	354	358	15	18	140.8
20-Jul	13	348	0	2	8	2	4	14	18	358	346	206	137	140	152	133	308	345	60	14	3	5	357	351	3.3
21-Jul	353	356	358	354	355	351	351	341	345	338	348	340	334	337	325	331	329	324	328	335	14	21	19	341	343.8
22-Jul	330	322	315	202	197	289	279	273	281	285	286	306	314	298	292	266	308	352	341	340	8	40	69	122	305.1
23-Jul	198	139	108	183	203	170	188	154	148	153	154	146	202	188	193	338	214	210	209	191	200	194	113	171	184.5
24-Jul	149	124	110	155	155	141	124	136	137	142	153	145	139	154	132	103	108	104	120	138	152	299	310	218	137.1
25-Jul	163	189	200	228	235	229	227	244	250	261	285	290	311	305	322	350	344	333	360	333	294	264	246	300	278.8
26-Jul	314	304	299	302	312	255	218	205	194	201	202	235	231	3	16	20	23	24	26	36	37	9	351	344	334.7
27-Jul	331	344	350	354	5	357	354	346	327	338	332	321	334	337	327	316	337	357	337	307	296	305	311	310	334.0
28-Jul	311	309	311	158	196	196	205	186	186	247	333	323	310	322	315	349	313	338	339	105	67	88	161	88	300.5
29-Jul	99	101	163	80	128	143	171	169	167	154	153	147	209	205	197	203	178	184	189	169	174	242	207	186	174.7
30-Jul	206	252	1	39	179	178	152	151	161	153	142	196	302	286	307	13	347	3	15	32	32	33	23	16	16.1
31-Jul	155	150	192	195	185	185	177	151	149	153	153	192	219	200	207	209	197	185	188	189	180	189	195	183	184.4
319.7 250.9 272.5 254.9 245.1 229.9 235.4 230.3 213.4 224.2 231.3 239.7 249.7 259.4 259.1 258.0 273.7 313.1 303.6 248.3 336.3 318.7 290.0 284.5																									
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

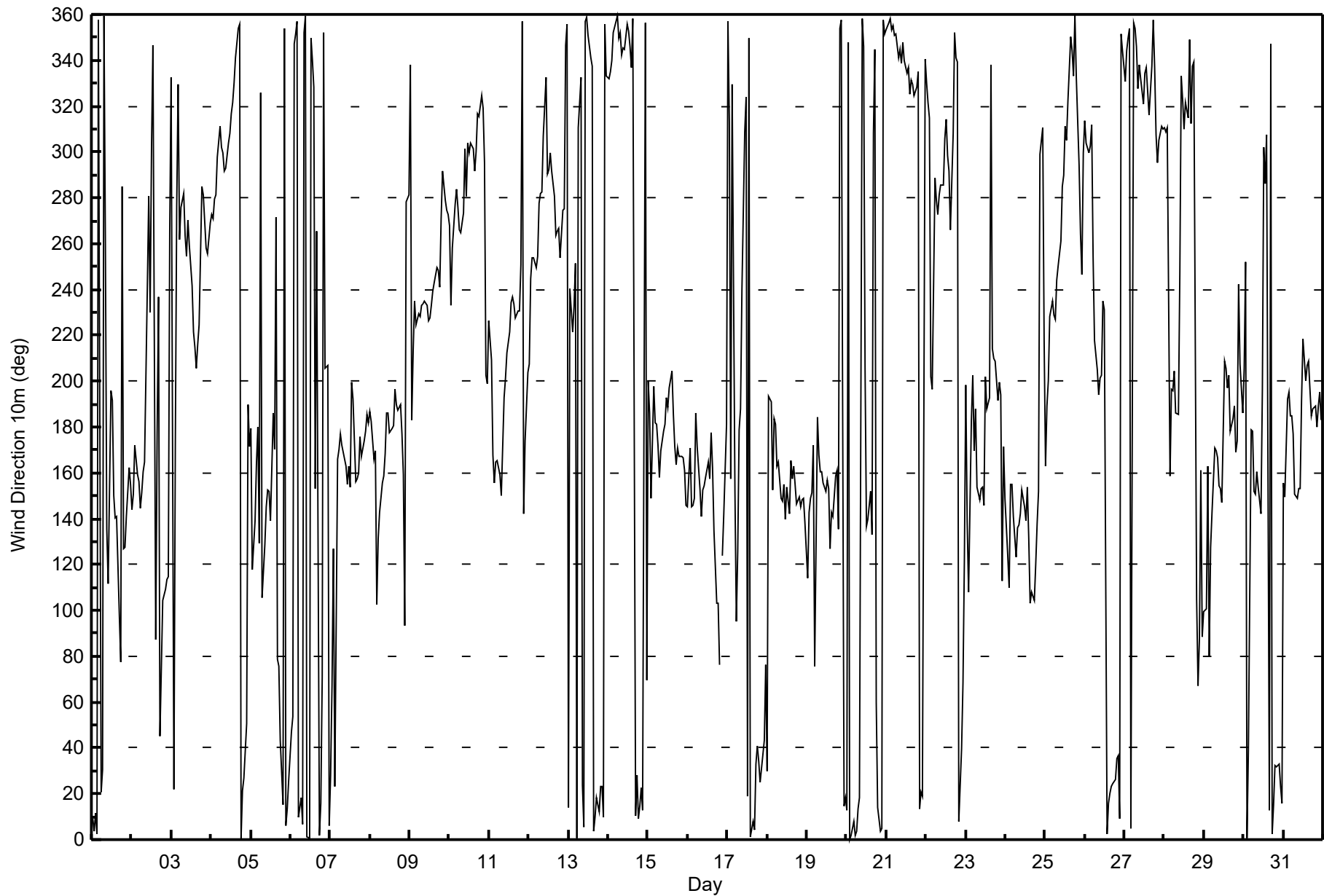
Mildred Lake - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																		Hours in Service: 744							
Maximum Value: 98 deg on Jul 2 13:00																		Hours of Data: 743							
Minimum Value: 9 deg on Jul 14 03:00																		Hours of Missing Data: 1							
Percentiles: P ₁ = 11 P ₁₀ = 15 Q ₁ = 18 Median = 24 Q ₃ = 33 P ₉₀ = 61 P ₉₉ = 86																		Hours of Calibration: 0							
																		Percent Operational Time: 99.9							
Day	Hourly Period Ending At (MST)																								Daily Maximum
1-Jul	17	10	16	38	42	78	28	35	76	77	91	38	33	50	34	44	28	14	70	21	17	18	16	26	91
2-Jul	20	21	23	18	15	12	15	17	24	33	49	57	98	18	90	44	83	69	21	13	14	18	19	86	98
3-Jul	25	67	77	82	27	46	23	23	36	34	33	32	28	25	25	23	24	23	26	21	24	31	28	28	82
4-Jul	24	22	20	22	19	14	19	19	22	24	21	20	16	15	22	24	18	19	22	21	25	72	65	73	73
5-Jul	32	74	58	27	26	28	87	18	22	26	24	29	30	39	21	86	69	34	19	23	11	18	20	24	87
6-Jul	22	24	13	11	14	20	19	18	16	19	17	20	24	28	24	93	86	18	29	37	62	74	66	26	93
7-Jul	19	22	16	43	50	17	21	18	18	22	23	27	35	66	50	18	17	18	20	15	20	14	13	12	66
8-Jul	14	15	17	44	31	15	20	16	17	21	19	18	17	18	19	21	20	18	17	17	35	65	24	24	65
9-Jul	84	17	33	23	22	23	22	25	26	27	24	25	26	25	24	27	27	26	26	27	24	22	23	21	84
10-Jul	28	29	33	26	22	23	32	30	25	29	27	24	26	24	26	26	24	20	14	13	20	52	17	17	52
11-Jul	30	28	14	19	13	23	16	15	19	19	24	25	27	24	26	26	23	24	25	35	73	74	23	45	74
12-Jul	29	28	27	27	29	33	20	20	22	24	15	31	22	22	24	25	31	25	25	25	21	22	20	15	33
13-Jul	24	80	18	29	48	25	22	21	31	23	20	20	27	21	28	23	26	24	22	21	19	17	15	18	80
14-Jul	15	10	9	12	12	15	13	18	23	22	29	31	30	29	28	27	35	30	24	26	23	15	9	65	65
15-Jul	23	41	43	25	33	24	25	19	22	28	31	24	27	32	39	24	29	19	15	14	14	14	14	19	43
16-Jul	12	20	11	13	64	41	17	19	19	16	19	38	37	49	53	76	60	23	26	83	UO	51	47	27	83
17-Jul	61	71	73	61	69	62	41	42	53	71	81	81	68	33	49	37	30	26	30	33	17	11	16	15	81
18-Jul	75	25	18	21	49	19	17	19	21	26	23	25	27	29	46	22	19	17	13	11	13	12	12	15	75
19-Jul	13	13	11	12	38	74	22	25	18	23	27	24	19	38	73	31	27	17	16	34	37	18	18	19	74
20-Jul	19	77	16	18	19	17	19	24	32	45	53	90	48	39	41	29	68	26	77	29	20	19	19	17	90
21-Jul	18	17	18	17	17	16	17	17	17	19	18	21	22	22	17	18	16	13	12	16	19	16	21	27	27
22-Jul	10	11	12	74	61	49	29	32	25	27	33	32	28	38	38	35	42	34	20	17	12	65	30	55	74
23-Jul	69	48	55	15	15	20	21	31	38	38	30	50	33	36	84	72	36	22	22	19	19	68	83	30	84
24-Jul	17	29	21	23	22	28	22	25	27	21	23	19	22	16	24	18	19	17	20	18	73	60	69	74	74
25-Jul	17	41	36	26	30	26	23	25	26	27	26	26	19	16	24	14	15	14	37	28	15	26	21	22	41
26-Jul	11	15	15	15	37	28	43	24	70	24	20	29	84	55	28	27	23	24	22	20	21	20	11	15	84
27-Jul	12	14	14	13	17	16	14	15	21	23	18	20	19	19	15	20	24	18	20	15	16	15	11	13	24
28-Jul	51	23	14	73	25	16	43	58	33	60	80	48	40	39	66	54	79	74	93	43	37	18	42	27	93
29-Jul	13	11	70	54	86	71	16	19	32	25	25	43	52	64	35	30	27	20	16	14	15	42	32	40	86
30-Jul	90	45	19	53	22	14	70	24	17	19	20	59	31	32	61	30	23	25	20	19	12	18	16	55	90
31-Jul	70	16	15	13	17	12	16	15	14	15	20	36	39	30	30	33	28	26	16	14	15	11	18	15	70
90 80 77 82 86 78 87 58 76 77 91 90 98 66 90 93 86 74 93 83 73 74 83 86																									
Diurnal Maximum																									
UO - Unstable Operation																									



Wood Buffalo Environmental Association
Hourly Averages

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





WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS03 LOWER CAMP METEOROLOGY JULY 2025

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

August 29, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - LOWER CAMP MET TOWER (AMS03)
JULY 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	744	0	0	100	33.5	-	25.6	-
Temperature 45 m (C) Average	744	0	0	100	34.9	-	26.5	-
Temperature 100 m (C) Average	744	0	0	100	32.7	-	26.5	-
Temperature 163 m (C) Average	744	0	0	100	32.1	-	26.9	-
Relative Humidity 20 m (%) Average	744	0	0	100	98.1	-	85.3	-
Relative Humidity 45 m (%) Average	744	0	0	100	99	-	84.9	-
Relative Humidity 100 m (%) Average	744	0	0	100	96.6	-	83.5	-
Relative Humidity 163 m (%) Average	744	0	0	100	95.9	-	81.7	-
Wind Speed 20 m (km/h) Average	744	0	0	100	36	-	23.0	-
Wind Speed 45 m (km/h) Average	744	0	0	100	44	-	29.0	-
Wind Speed 100 m (km/h) Average	744	0	0	100	52	-	35.0	-
Wind Speed 163 m (km/h) Average	739	0	5	99.33	55	-	39.0	-
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	744	0	0	100	-	-	-	-
Wind Direction 163 m (deg) Average	739	0	5	99.33	-	-	-	-
Vertical Wind Speed 20 m (km/h) Average	744	0	0	100	0.7	-	-0.1	-
Vertical Wind Speed 45 m (km/h) Average	744	0	0	100	1.3	-	0.4	-
Vertical Wind Speed 100 m (km/h) Average	744	0	0	100	2.7	-	0.5	-
Vertical Wind Speed 163 m (km/h) Average	739	0	5	99.33	5.6	-	1.8	-

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

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - LOWER CAMP MET TOWER (AMS03)
JULY 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	744	18.36	5.2	-	6.1	12.3	14.3	17.7	21.9	25.9	33.5
Temperature 45 m (C) Average	744	18.71	5.5	-	6.1	12.3	14.4	18.1	22.3	26.6	34.9
Temperature 100 m (C) Average	744	18.29	5	-	7.2	12.4	14.6	17.6	21.5	25.5	32.7
Temperature 163 m (C) Average	744	18.07	4.8	-	7.7	12.4	14.5	17.4	21.1	25	32.1
Relative Humidity 20 m (%) Average	744	61.2	20.6	-	23.2	31.5	45.1	60.9	78.9	89.4	98.1
Relative Humidity 45 m (%) Average	744	57.86	22	-	19.9	28.3	40	56.7	76	89.9	99
Relative Humidity 100 m (%) Average	744	57.22	19.2	-	23.5	29.7	41.5	56.6	71.9	83.7	96.6
Relative Humidity 163 m (%) Average	744	54.63	18.2	-	23.3	29.5	39.9	53.8	67.6	80.5	95.9
Wind Speed 20 m (km/h) Average	744	8.3	6	-	0	2	4	7	11	16	36
Wind Speed 45 m (km/h) Average	744	11.5	8	-	0	3	6	10	16	22	44
Wind Speed 100 m (km/h) Average	744	14.6	9	-	1	5	8	13	20	27	52
Wind Speed 163 m (km/h) Average	739	16.9	10	-	1	6	10	15	22	31	55
Wind Direction 20 m (deg) Average	744	-	-	-	-	-	-	-	-	-	-
Wind Direction 45 m (deg) Average	744	-	-	-	-	-	-	-	-	-	-
Wind Direction 100 m (deg) Average	744	-	-	-	-	-	-	-	-	-	-
Wind Direction 163 m (deg) Average	739	-	-	-	-	-	-	-	-	-	-
Vertical Wind Speed 20 m (km/h) Average	744	-0.27	0.3	-	-1.3	-0.7	-0.4	-0.2	0	0	0.7
Vertical Wind Speed 45 m (km/h) Average	744	0.13	0.3	-	-0.8	-0.3	-0.1	0.1	0.3	0.5	1.3
Vertical Wind Speed 100 m (km/h) Average	744	0.04	0.5	-	-1.2	-0.5	-0.2	0	0.2	0.6	2.7
Vertical Wind Speed 163 m (km/h) Average	739	0.5	0.8	-	-1.1	-0.3	0	0.3	0.9	1.6	5.6

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

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
Wind Speed, Wind Direction, Vertical Wind Speed, 163m	03 Jul 2025 00:00	03 Jul 2025 01:00	2	Unstable Operation - excessive baseline noise
Wind Speed, Wind Direction, Vertical Wind Speed, 163m	06 Jul 2025 16:00	06 Jul 2025 18:00	3	Unstable Operation - excessive baseline noise



Wood Buffalo Environmental Association

Summary of Hour Averages

Ambient Temperature 20m (AT20) - C

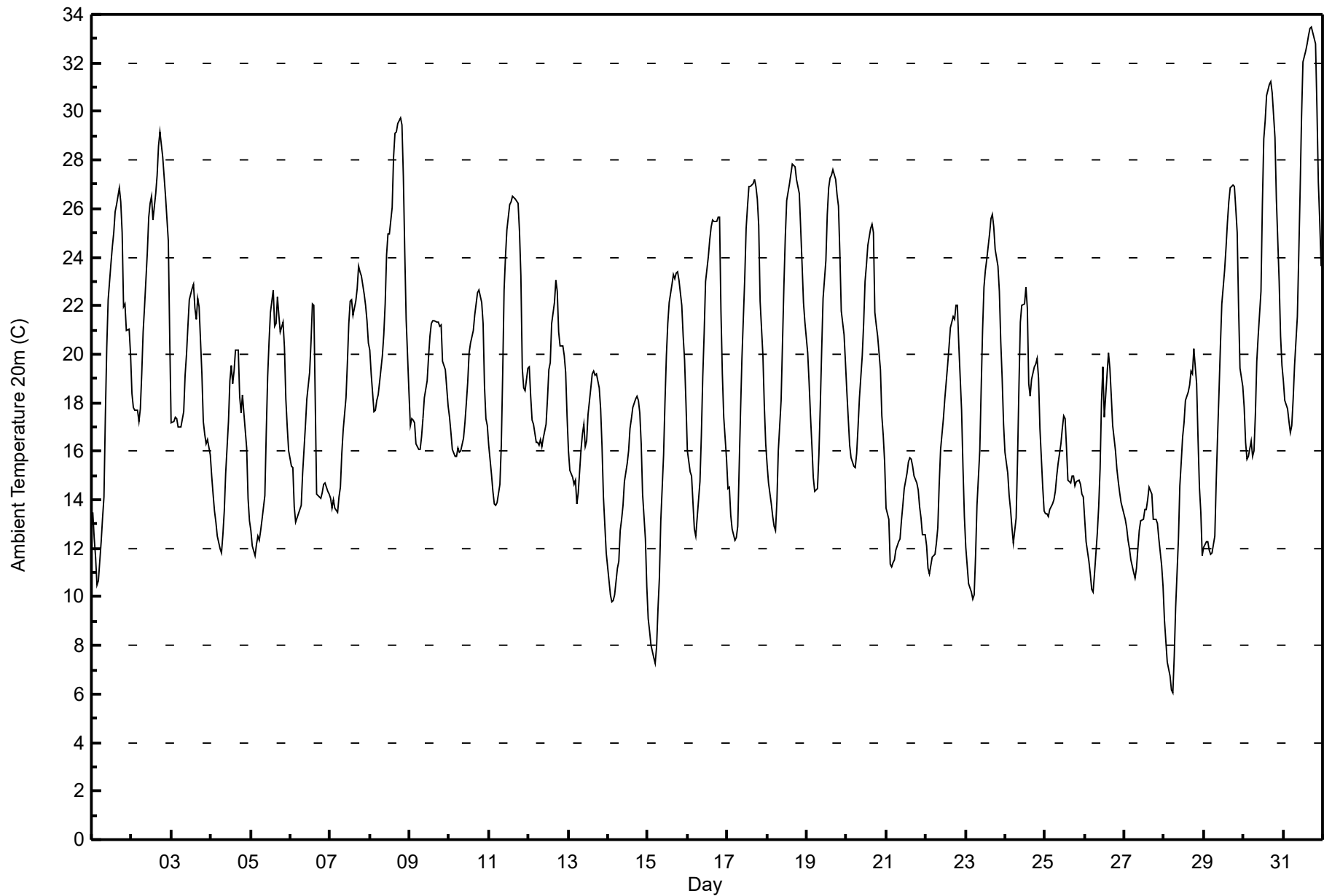
Lower Camp Met Tower - July 2025

Maximum Value: 33.5 C on Jul 31 18:00																				Maximum Daily Average: 25.6 C on Jul 31					Hours in Service: 744		
Minimum Value: 6.1 C on Jul 28 06:00																				Minimum Daily Average: 12.6 C on Jul 27					Hours of Data: 744		
Maximum Diurnal Average: 23.0 C at hour 17																				Minimum Diurnal Average: 13.2 C at hour 5					Hours of Missing Data: 0		
Monthly Average: 18.36 C																				Percentiles: P ₁ = 8.0 P ₁₀ = 12.3 Q ₁ = 14.3 Median = 17.7 Q ₃ = 21.9 P ₉₀ = 25.9 P ₉₉ = 31.7					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-Jul	13.5	12.4	11.6	10.5	10.7	12.3	13.2	14.1	17.4	20.3	22.2	23.7	24.4	25.0	25.9	26.2	26.9	26.3	25.0	21.9	22.0	21.0	21.0	20.0	19.5	26.9	
2-Jul	18.4	17.8	17.7	17.7	17.2	17.7	19.2	20.9	22.0	24.2	25.6	26.2	26.5	25.6	26.6	27.4	28.6	29.2	28.6	28.1	26.5	25.6	24.7	20.7	23.4	29.2	
3-Jul	17.2	17.2	17.4	17.3	17.0	17.0	17.0	17.6	19.1	20.0	21.2	22.3	22.7	22.9	21.9	21.4	22.3	21.9	19.2	17.2	16.7	16.3	16.5	15.8	19.0	22.9	
4-Jul	15.0	14.2	13.5	13.1	12.5	12.0	11.8	12.6	13.6	15.1	17.2	18.9	19.5	18.8	19.3	20.2	20.2	18.3	17.6	18.3	17.6	16.2	14.0	13.1	15.9	20.2	
5-Jul	12.8	12.1	11.7	12.2	12.5	12.4	12.8	13.2	14.2	16.8	19.1	20.5	21.7	22.6	21.1	21.3	22.3	21.6	20.9	21.3	20.3	18.2	17.0	16.0	17.3	22.6	
6-Jul	15.4	15.3	13.7	13.1	13.3	13.4	13.8	15.1	16.1	17.1	18.2	19.3	20.5	22.1	22.0	18.2	14.2	14.1	14.1	14.3	14.6	14.7	14.3	14.2	15.9	22.1	
7-Jul	14.1	13.7	14.0	13.6	13.5	14.1	14.5	15.9	16.9	18.2	19.7	21.3	22.2	22.3	21.6	22.2	22.7	23.6	23.4	23.3	22.5	22.0	21.4	20.5	19.0	23.6	
8-Jul	20.2	19.2	17.7	17.7	18.1	18.3	18.9	19.9	20.8	22.0	24.1	24.9	24.9	26.1	28.1	29.1	29.2	29.5	29.7	29.4	27.3	24.2	21.4	18.4	23.3	29.7	
9-Jul	17.1	17.3	17.3	17.2	16.3	16.1	16.1	16.6	17.4	18.2	18.9	19.9	20.7	21.3	21.4	21.4	21.3	21.3	21.2	21.2	19.7	19.4	18.6	17.9	18.9	21.4	
10-Jul	17.4	16.7	16.1	15.8	15.8	16.1	16.0	16.0	16.6	17.2	18.0	18.9	20.1	20.5	21.0	21.6	22.1	22.5	22.6	22.1	21.2	18.6	17.3	17.0	18.6	22.6	
11-Jul	16.3	15.0	14.3	13.8	13.8	13.9	14.6	16.2	19.2	22.7	24.1	25.1	26.2	26.3	26.5	26.4	26.4	26.2	25.1	23.2	19.4	18.6	18.5	19.4	20.5	26.5	
12-Jul	19.5	18.3	17.3	17.1	16.4	16.4	16.3	16.5	16.2	16.6	17.1	18.2	19.4	19.6	21.2	22.1	23.1	22.6	20.9	20.3	20.4	20.0	19.3	17.4	18.8	23.1	
13-Jul	16.0	15.2	14.9	14.7	14.8	13.8	14.3	16.1	16.7	17.1	16.2	16.4	17.5	18.6	19.2	19.3	19.1	19.2	18.6	17.7	16.2	14.1	12.9	11.8	16.3	19.3	
14-Jul	10.6	10.1	9.8	9.9	10.1	11.2	11.5	12.7	13.2	13.8	14.7	15.5	16.0	17.0	17.4	17.8	18.2	18.3	18.1	17.6	16.3	14.2	12.4	10.4	14.0	18.3	
15-Jul	9.1	8.6	8.0	7.5	7.3	7.9	9.5	10.8	13.2	15.9	18.0	20.0	21.2	22.1	22.9	23.3	23.1	23.4	23.4	23.1	22.0	20.8	19.7	18.0	16.6	23.4	
16-Jul	16.0	15.1	15.0	13.9	12.8	12.5	13.3	14.7	16.6	19.1	20.9	23.0	24.1	24.7	25.3	25.5	25.5	25.5	25.6	25.6	21.8	19.2	17.4	15.7	19.5	25.6	
17-Jul	14.5	14.5	13.4	12.8	12.3	12.4	12.9	15.3	17.6	19.8	23.1	25.2	26.1	26.9	26.9	27.0	27.2	26.9	26.4	25.3	22.2	20.0	17.9	16.3	20.1	27.2	
18-Jul	15.5	14.7	13.8	13.3	12.9	12.7	14.0	16.0	18.1	20.5	22.8	24.9	26.4	27.0	27.4	27.8	27.8	27.7	27.2	26.6	25.2	23.7	22.1	21.3	21.2	27.8	
19-Jul	20.1	18.8	17.5	16.3	14.9	14.3	14.4	15.8	17.9	20.2	22.3	23.9	25.8	26.9	27.3	27.4	27.6	27.2	26.5	26.1	24.1	21.8	20.8	19.6	21.6	27.6	
20-Jul	18.5	17.4	16.2	15.7	15.4	15.3	15.9	17.0	18.2	20.0	21.3	23.0	23.7	24.5	25.2	25.4	25.0	21.7	21.2	20.8	19.4	17.4	16.7	15.6	19.6	25.4	
21-Jul	13.6	13.2	11.4	11.2	11.4	11.5	11.9	12.3	12.4	13.1	13.7	14.5	15.1	15.5	15.7	15.7	15.4	15.0	14.7	14.4	13.7	13.2	12.6	12.6	13.5	15.7	
22-Jul	12.1	11.2	11.0	11.3	11.6	11.8	12.2	12.8	14.6	16.1	17.3	18.1	18.8	19.6	20.3	21.1	21.5	21.4	22.0	22.0	20.4	17.7	15.3	13.3	16.4	22.0	
23-Jul	12.0	11.3	10.6	10.2	9.9	10.1	11.7	13.8	16.0	18.6	21.0	22.8	23.4	23.9	24.9	25.6	25.8	25.2	24.3	23.6	22.6	20.5	19.0	17.1	18.5	25.8	
24-Jul	16.0	15.1	14.2	13.6	12.9	12.2	13.2	15.7	18.7	21.3	22.0	22.1	22.8	21.9	18.8	18.3	19.0	19.5	19.6	19.8	19.0	16.9	14.5	13.5	17.5	22.8	
25-Jul	13.4	13.4	13.3	13.6	13.8	14.0	14.3	15.0	15.5	16.3	17.0	17.5	17.3	16.1	14.8	14.7	15.0	15.0	14.6	14.8	14.8	14.7	14.2	14.1	14.9	17.5	
26-Jul	13.2	12.3	11.5	10.9	10.3	10.2	10.9	12.6	13.7	15.3	18.1	19.5	17.4	19.2	20.1	19.4	18.3	17.1	16.0	15.3	14.7	14.3	13.9	13.6	14.9	20.1	
27-Jul	13.2	12.8	12.4	12.0	11.5	11.0	10.8	11.2	12.0	12.7	13.1	13.2	13.6	13.6	14.0	14.5	14.2	13.2	13.2	13.2	13.0	12.4	11.3	10.5	12.6	14.5	
28-Jul	9.0	8.2	7.3	6.7	6.2	6.1	7.5	9.6	12.4	14.6	15.5	16.6	17.2	18.1	18.4	18.7	19.3	19.2	20.2	18.8	16.5	14.5	13.5	11.7	13.6	20.2	
29-Jul	12.0	12.3	12.3	11.9	11.8	11.8	12.5	14.7	16.7	18.4	20.3	22.1	23.5	24.4	25.4	26.3	26.8	27.0	26.9	26.0	25.0	21.9	19.4	18.6	19.5	27.0	
30-Jul	17.8	16.4	15.6	15.8	16.4	15.8	16.0	17.5	19.7	20.7	22.6	26.2	28.9	29.6	30.7	31.1	31.2	30.8	29.8	29.0	26.4	23.0	20.7	19.5	23.0	31.2	
31-Jul	18.9	18.1	17.8	17.2	16.8	17.1	18.2	19.5	21.5	24.1	26.8	29.8	32.1	32.5	32.8	33.1	33.4	33.5	33.3	32.8	30.1	27.1	25.5	23.6	25.6	33.5	
15.1 14.5 13.8 13.5 13.2 13.3 13.8 15.1 16.6 18.3 19.7 21.1 21.9 22.4 22.7 22.9 23.0 22.7 22.3 21.7 20.4 18.8 17.5 16.4																										Diurnal Average	
20.2 19.2 17.8 17.7 18.1 18.3 19.2 20.9 22.0 24.2 26.8 29.8 32.1 32.5 32.8 33.1 33.4 33.5 33.3 32.8 30.1 27.1 25.5 23.6																										Diurnal Maximum	



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	0	0.00	0.00
-20 - 0	0	0.00	0.00
0 - 10	18	2.42	2.42
10 - 20	467	62.77	65.19
> 20	259	34.81	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association

Summary of Hour Averages

Ambient Temperature 45m (AT45) - C

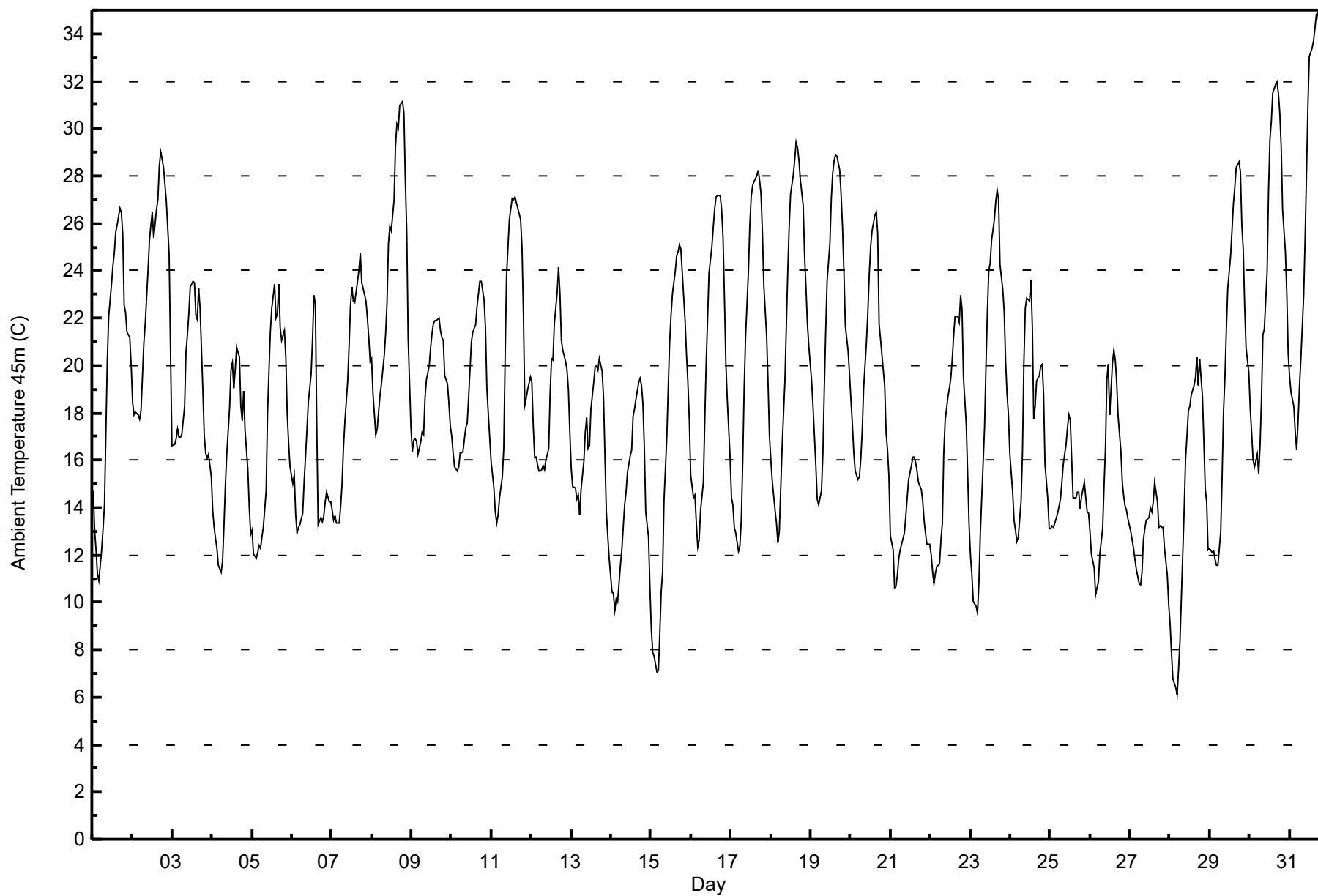
Lower Camp Met Tower - July 2025

Maximum Value: 34.9 C on Jul 31 18:00																				Maximum Daily Average: 26.5 C on Jul 31					Hours in Service: 744	
Minimum Value: 6.1 C on Jul 28 05:00																				Minimum Daily Average: 12.7 C on Jul 27					Hours of Data: 744	
Maximum Diurnal Average: 23.7 C at hour 17																				Minimum Diurnal Average: 13.0 C at hour 5					Hours of Missing Data: 0	
Monthly Average: 18.71 C																				Percentiles: P ₁ = 7.9 P ₁₀ = 12.3 Q ₁ = 14.4 Median = 18.1 Q ₃ = 22.3 P ₉₀ = 26.6 P ₉₉ = 32.6					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-Jul	14.7	13.0	12.2	11.2	10.9	12.2	13.1	14.1	17.2	20.1	22.1	23.4	24.2	24.7	25.6	25.9	26.7	26.4	25.6	22.5	22.3	21.4	21.2	20.0	19.6	26.7
2-Jul	18.4	17.9	18.0	17.9	17.7	18.1	19.5	21.0	21.8	24.0	25.3	25.9	26.5	25.4	26.6	27.0	28.4	29.0	28.7	28.3	27.0	25.8	24.7	20.5	23.5	29.0
3-Jul	16.6	16.7	16.9	17.3	17.0	17.0	17.1	18.3	20.6	21.3	22.2	23.3	23.6	23.5	22.1	22.0	23.3	22.4	18.9	17.0	16.3	16.1	16.3	15.3	19.2	23.6
4-Jul	13.9	13.1	12.7	12.3	11.6	11.3	11.7	13.2	14.9	16.3	18.2	19.8	20.1	19.0	19.8	20.8	20.4	18.2	17.7	18.9	17.3	15.6	14.0	12.9	16.0	20.8
5-Jul	13.0	12.0	11.9	12.1	12.4	12.3	12.7	13.1	14.7	18.0	19.8	21.4	22.4	23.4	22.0	22.2	23.4	21.6	21.1	21.4	20.4	18.0	16.8	15.7	17.6	23.4
6-Jul	15.0	15.4	13.7	13.0	13.1	13.3	13.8	15.1	16.1	17.3	18.4	19.6	21.1	22.9	22.6	17.5	13.3	13.6	13.4	13.6	14.3	14.6	14.3	14.2	15.8	22.9
7-Jul	13.9	13.5	13.6	13.4	13.3	14.0	15.0	16.5	17.6	19.4	20.8	22.5	23.3	22.7	22.7	23.6	24.0	24.8	23.5	23.3	22.7	22.0	21.2	20.2	19.5	24.8
8-Jul	20.3	18.8	17.1	17.4	18.1	18.7	19.2	20.4	21.4	22.7	25.1	25.9	25.7	27.0	29.2	30.2	30.0	30.9	31.1	30.7	27.8	25.7	21.2	17.4	23.8	31.1
9-Jul	16.3	16.8	16.9	16.8	16.2	16.8	17.2	17.1	18.6	19.4	20.0	20.8	21.3	21.8	21.9	21.9	22.0	21.5	21.2	21.1	19.6	19.2	18.4	17.5	19.2	22.0
10-Jul	17.0	16.3	15.7	15.5	15.7	16.3	16.3	16.4	17.4	17.6	18.6	19.8	21.0	21.4	21.7	22.5	23.0	23.6	23.6	22.8	21.6	19.0	18.0	17.0	19.1	23.6
11-Jul	16.0	14.8	13.8	13.3	13.7	14.4	15.3	16.5	20.3	23.8	25.0	26.2	27.1	27.0	27.1	26.9	26.6	26.2	25.0	22.2	18.3	18.7	19.0	19.5	20.7	27.1
12-Jul	19.3	17.4	16.1	16.2	15.6	15.5	15.6	15.8	15.6	16.0	16.5	18.8	20.3	20.2	21.8	23.1	24.1	23.0	21.0	20.6	20.2	19.8	19.0	17.2	18.7	24.1
13-Jul	15.7	14.9	14.8	14.4	14.5	13.7	14.8	16.0	17.2	17.8	16.5	16.6	18.1	19.3	19.9	20.0	19.8	20.3	19.8	18.6	16.2	13.8	12.8	11.9	16.6	20.3
14-Jul	10.5	10.4	9.7	10.1	10.0	11.6	12.2	13.2	14.1	14.7	15.5	16.2	16.5	17.8	18.1	18.6	19.3	19.4	19.2	18.4	16.5	13.8	12.7	10.6	14.5	19.4
15-Jul	8.8	7.9	7.7	7.1	7.1	8.6	10.5	11.2	14.3	17.0	19.0	21.0	22.1	23.0	24.0	24.6	24.8	25.1	24.9	23.9	21.9	20.5	19.3	17.7	17.2	25.1
16-Jul	15.4	14.4	14.5	13.3	12.3	12.6	13.9	15.1	17.7	20.1	22.0	23.9	25.0	25.8	26.6	27.1	27.2	27.1	26.6	25.4	22.8	20.1	18.6	16.1	20.2	27.2
17-Jul	14.4	14.1	13.2	12.9	12.2	12.4	13.6	15.9	19.0	21.2	23.9	25.8	27.1	27.6	27.8	28.0	28.3	27.8	27.2	25.6	23.4	21.2	19.3	17.0	20.8	28.3
18-Jul	16.0	15.1	13.9	13.3	12.5	13.0	14.8	16.6	19.3	21.7	23.9	25.8	27.2	28.0	28.7	29.4	29.2	28.7	27.8	26.8	24.6	23.3	21.8	20.8	21.8	29.4
19-Jul	19.3	18.3	17.0	15.8	14.4	14.1	14.7	16.3	19.0	21.4	23.5	25.1	27.0	28.1	28.7	28.9	28.8	28.3	27.2	25.8	23.9	21.7	20.6	19.6	22.0	28.9
20-Jul	18.5	17.5	16.3	15.6	15.2	15.3	16.1	17.3	19.1	21.0	22.3	23.9	25.1	25.7	26.4	26.4	25.5	21.8	21.1	20.5	19.1	17.1	16.4	15.3	19.9	26.4
21-Jul	12.8	12.2	10.6	10.7	11.2	11.8	12.2	12.7	12.9	13.7	14.4	15.2	15.8	16.1	16.1	15.9	15.6	15.1	14.8	14.3	13.5	13.0	12.4	12.5	13.6	16.1
22-Jul	12.0	11.4	10.8	11.2	11.5	11.6	12.6	13.4	16.3	17.7	18.7	19.1	19.5	20.2	21.3	22.1	22.1	21.8	23.0	22.4	19.5	17.5	15.4	13.3	16.8	23.0
23-Jul	12.0	11.2	10.0	9.8	9.5	10.8	12.9	14.4	17.4	19.9	22.2	24.0	24.3	25.3	26.1	27.0	27.4	27.0	24.3	23.2	22.2	20.2	18.8	17.9	19.1	27.4
24-Jul	16.3	14.6	13.5	13.0	12.6	12.7	14.3	16.3	20.2	22.4	22.8	22.7	23.6	21.6	17.7	18.3	19.3	19.6	20.0	20.0	18.8	15.9	14.4	13.1	17.7	23.6
25-Jul	13.1	13.2	13.2	13.3	13.7	14.1	14.4	15.1	15.8	16.7	17.4	17.9	17.7	16.0	14.4	14.4	14.7	14.6	13.9	14.5	15.1	14.4	13.8	13.7	14.8	17.9
26-Jul	13.0	12.1	11.4	10.3	10.6	10.8	12.0	13.1	14.9	16.5	19.4	20.0	17.9	20.1	20.6	20.2	19.3	17.9	16.4	15.0	14.5	14.1	13.9	13.5	15.3	20.6
27-Jul	13.0	12.6	12.3	11.8	11.4	10.8	10.7	11.2	12.6	13.1	13.4	13.6	14.0	13.9	14.2	15.1	14.2	13.1	13.2	13.2	13.2	12.3	11.2	9.9	12.7	15.1
28-Jul	9.1	7.8	6.7	6.4	6.1	7.2	8.4	10.2	13.9	16.1	17.0	18.1	18.3	18.8	19.2	19.5	20.3	19.2	20.3	18.7	16.8	14.8	14.3	12.2	14.1	20.3
29-Jul	12.3	12.1	12.1	11.8	11.6	11.6	13.0	15.4	18.1	19.5	21.6	23.2	24.6	25.7	26.8	27.5	28.4	28.6	28.2	25.9	24.9	22.5	20.8	19.7	20.2	28.6
30-Jul	18.1	17.1	16.0	15.7	16.3	15.4	16.6	18.6	21.3	21.6	24.0	27.4	29.5	30.3	31.5	31.9	32.0	31.5	30.7	29.3	26.6	24.8	23.0	20.5	23.7	32.0
31-Jul	19.5	18.9	18.3	17.2	16.5	17.6	19.1	20.3	22.9	25.3	28.1	30.9	33.0	33.4	33.7	34.3	34.8	34.9	34.4	33.3	31.2	27.8	25.5	24.1	26.5	34.9
15.0 14.2 13.6 13.2 13.0 13.4 14.3 15.5 17.5 19.1 20.6 21.9 22.7 23.1 23.4 23.6 23.7 23.3 22.7 21.8 20.4 18.9 17.7 16.3																										Diurnal Average
20.3 18.9 18.3 17.9 18.1 18.7 19.5 21.0 22.9 25.3 28.1 30.9 33.0 33.4 33.7 34.3 34.8 34.9 34.4 33.3 31.2 27.8 25.5 24.1																										Diurnal Maximum



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	0	0.00	0.00
-20 - 0	0	0.00	0.00
0 - 10	17	2.28	2.28
10 - 20	442	59.41	61.69
> 20	285	38.31	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

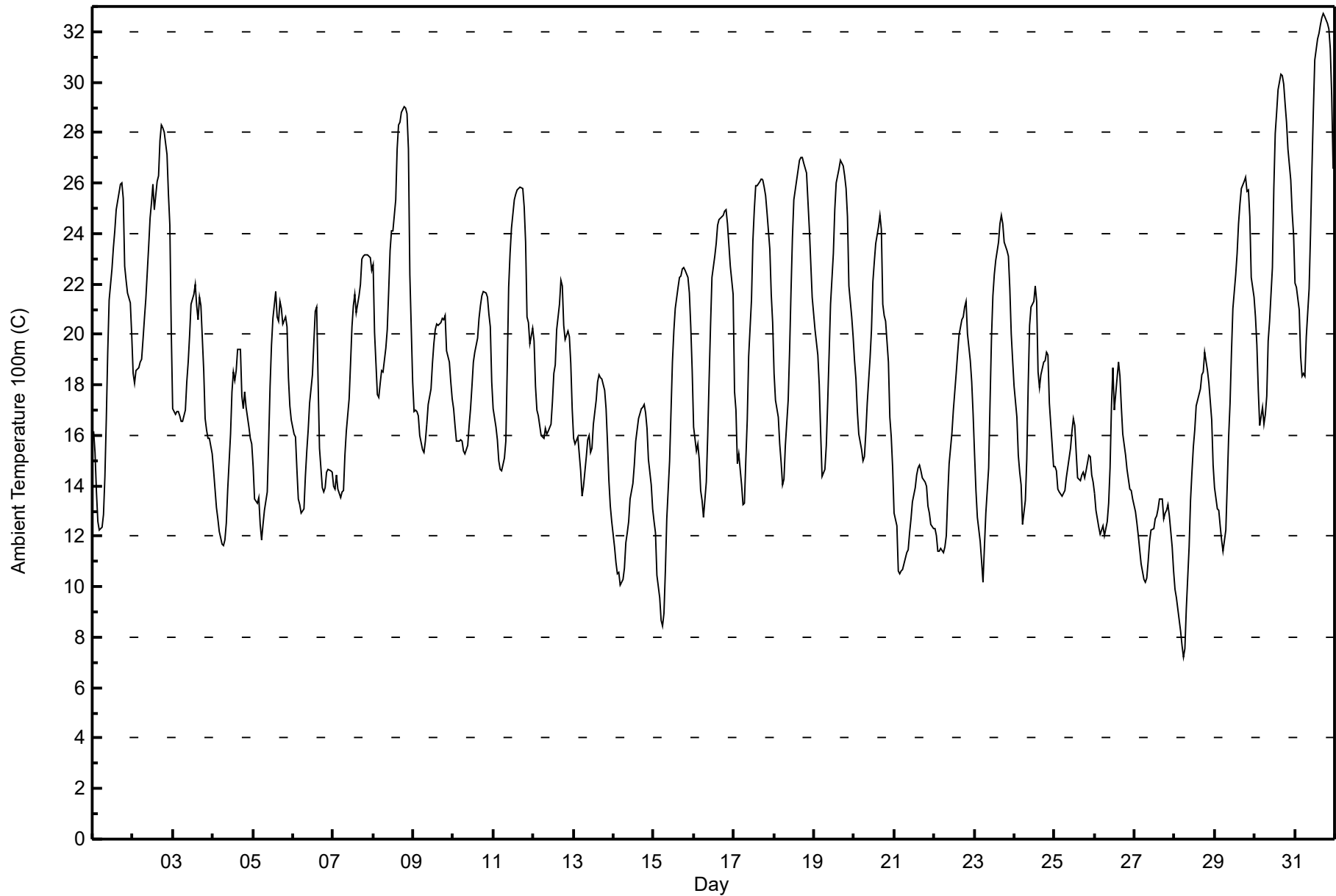
Lower Camp Met Tower - July 2025

Maximum Value: 32.7 C on Jul 31 18:00																				Maximum Daily Average: 26.5 C on Jul 31				Hours in Service: 744		
Minimum Value: 7.2 C on Jul 28 06:00																				Minimum Daily Average: 12.1 C on Jul 27				Hours of Data: 744		
Maximum Diurnal Average: 22.2 C at hour 17																				Minimum Diurnal Average: 13.4 C at hour 6				Hours of Missing Data: 0		
Monthly Average: 18.29 C																				Percentiles: P ₁ = 9.1 P ₁₀ = 12.4 Q ₁ = 14.6 Median = 17.6 Q ₃ = 21.5 P ₉₀ = 25.5 P ₉₉ = 31.5				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-Jul	16.2	15.3	13.7	12.6	12.2	12.3	12.9	14.4	16.6	19.3	21.3	22.6	23.5	24.1	24.9	25.3	25.9	26.0	25.4	22.7	22.1	21.7	21.3	20.0	19.7	26.0
2-Jul	18.5	18.0	18.6	18.7	18.9	19.0	19.8	20.7	21.4	23.5	24.6	25.2	25.9	24.9	26.0	26.3	27.7	28.3	28.2	28.0	27.1	25.6	24.3	20.2	23.3	28.3
3-Jul	17.1	16.8	17.0	17.0	16.8	16.6	16.5	17.0	18.1	18.9	19.9	21.2	21.6	22.0	21.1	20.6	21.5	21.2	18.6	16.7	16.2	15.9	15.9	15.3	18.3	22.0
4-Jul	14.6	13.8	13.1	12.7	12.2	11.7	11.6	11.9	12.5	13.9	16.0	17.7	18.5	18.2	18.6	19.4	19.4	17.5	17.0	17.7	17.1	16.3	15.9	15.7	15.6	19.4
5-Jul	14.8	13.5	13.3	13.5	12.5	11.9	12.5	13.0	13.8	15.8	17.9	19.6	20.6	21.7	20.7	20.5	21.3	21.0	20.4	20.7	20.3	18.3	17.2	16.6	17.1	21.7
6-Jul	16.1	15.9	14.6	13.5	13.3	12.9	13.1	14.4	15.4	16.2	17.3	18.4	19.7	20.9	21.1	18.2	15.5	13.9	13.7	13.9	14.6	14.7	14.6	14.5	15.7	21.1
7-Jul	14.0	13.8	14.4	13.9	13.5	13.8	13.8	15.2	16.1	17.4	18.8	20.3	21.2	21.6	20.9	21.5	22.0	23.0	23.1	23.2	23.1	23.1	23.1	22.5	18.9	23.2
8-Jul	22.8	20.1	17.6	17.5	18.1	18.6	18.5	19.5	20.2	21.7	23.3	24.1	24.1	25.3	27.4	28.3	28.4	28.8	29.0	29.0	28.7	27.4	22.4	18.1	23.3	29.0
9-Jul	16.9	17.0	16.9	16.8	16.0	15.5	15.3	15.8	16.4	17.2	17.9	18.8	19.7	20.2	20.4	20.4	20.5	20.6	20.6	20.7	19.4	18.9	18.1	17.4	18.2	20.7
10-Jul	17.1	16.4	15.8	15.8	15.9	15.8	15.4	15.3	15.6	16.4	17.0	17.9	18.9	19.3	19.8	20.6	21.2	21.5	21.7	21.7	21.5	20.8	20.3	18.1	18.3	21.7
11-Jul	17.1	16.4	15.8	15.0	14.7	14.6	15.1	15.8	18.7	21.8	23.2	24.2	25.3	25.6	25.7	25.8	25.8	25.8	25.0	23.7	20.7	20.5	19.7	20.3	20.7	25.8
12-Jul	19.8	17.9	17.0	16.8	16.0	16.0	15.9	16.3	16.0	16.2	16.5	17.3	18.5	18.8	20.2	21.2	22.1	22.0	20.4	19.8	20.1	19.9	18.8	17.1	18.4	22.1
13-Jul	15.9	15.6	15.9	15.3	14.6	13.6	14.0	15.2	15.8	16.0	15.3	15.5	16.5	17.4	18.1	18.4	18.3	18.3	17.8	17.1	15.7	14.2	13.2	12.6	15.8	18.4
14-Jul	11.6	11.0	10.5	10.6	10.0	10.3	10.7	11.7	12.1	12.6	13.5	14.1	14.8	15.8	16.2	16.7	17.1	17.1	17.2	16.9	16.3	15.1	14.0	13.1	13.7	17.2
15-Jul	12.6	12.1	10.5	9.6	8.7	8.4	9.0	10.6	12.7	15.0	17.0	18.9	20.2	21.0	21.8	22.3	22.3	22.6	22.7	22.6	22.3	21.7	20.3	18.6	16.8	22.7
16-Jul	16.4	15.4	15.7	15.1	13.8	13.4	12.8	14.2	16.0	18.2	20.3	22.3	23.1	23.6	24.3	24.6	24.6	24.7	24.9	24.9	24.4	23.5	22.7	21.6	20.0	24.9
17-Jul	17.7	17.0	14.9	15.3	14.1	13.3	13.3	15.1	16.6	19.1	21.3	23.7	25.0	25.9	25.9	26.0	26.2	26.1	25.8	25.5	24.8	23.4	21.6	20.5	20.8	26.2
18-Jul	18.5	17.4	16.7	15.7	14.9	14.0	14.3	15.6	17.4	19.4	21.7	23.9	25.3	26.1	26.5	26.9	27.0	27.0	26.8	26.4	25.3	24.2	22.8	21.5	21.5	27.0
19-Jul	20.2	19.7	19.2	18.0	16.1	14.4	14.7	15.6	17.3	19.3	21.2	23.2	24.9	26.0	26.3	26.6	26.9	26.7	26.3	25.8	24.7	21.9	20.7	19.9	21.5	26.9
20-Jul	18.9	18.2	16.9	16.0	15.4	15.0	15.2	16.1	17.3	19.1	20.2	22.1	22.9	23.6	24.3	24.7	24.2	21.2	20.8	20.5	18.9	16.7	15.9	14.7	19.1	24.7
21-Jul	12.9	12.4	10.6	10.5	10.7	10.7	10.9	11.4	11.5	12.1	12.7	13.4	13.9	14.4	14.7	14.8	14.6	14.3	14.1	14.0	13.2	12.9	12.5	12.3	12.7	14.8
22-Jul	12.3	12.0	11.4	11.4	11.5	11.3	11.6	12.0	13.6	14.9	16.1	17.0	17.8	18.4	19.2	20.0	20.6	20.7	21.1	21.3	20.1	19.0	18.1	16.8	16.2	21.3
23-Jul	15.3	13.8	12.7	11.8	11.0	10.2	11.6	12.9	14.7	17.3	19.9	21.6	22.4	22.9	23.7	24.4	24.7	24.4	23.7	23.3	23.1	21.8	20.0	19.0	18.6	24.7
24-Jul	17.9	16.7	15.2	14.5	14.0	12.5	13.4	15.1	18.0	20.3	21.1	21.3	21.9	21.3	18.5	17.9	18.4	18.9	19.0	19.3	19.2	17.3	15.6	14.8	17.6	21.9
25-Jul	14.8	14.6	13.8	13.7	13.6	13.7	13.8	14.3	14.7	15.5	16.1	16.7	16.4	15.3	14.3	14.2	14.4	14.6	14.3	14.6	15.2	15.2	14.4	14.1	14.7	16.7
26-Jul	13.7	13.0	12.4	12.1	12.2	12.4	12.0	12.6	13.3	14.7	17.2	18.7	17.0	18.3	18.9	18.3	17.1	16.0	15.2	14.6	14.2	13.9	13.8	13.5	14.8	18.9
27-Jul	13.0	12.5	12.0	11.4	10.9	10.3	10.2	10.4	11.0	11.8	12.3	12.3	12.7	12.8	13.1	13.5	13.5	12.7	12.9	13.0	13.3	12.8	11.6	10.6	12.1	13.5
28-Jul	9.9	9.6	9.1	8.2	7.6	7.2	7.6	9.1	11.6	13.4	14.5	15.5	16.2	17.2	17.6	17.8	18.4	18.5	19.3	18.6	18.1	17.3	16.6	14.8	13.9	19.3
29-Jul	13.9	13.1	13.0	12.4	11.9	11.4	12.3	14.0	16.0	17.3	19.3	21.0	22.4	23.2	24.4	25.2	25.8	26.1	26.3	25.7	25.7	24.6	22.3	21.5	19.5	26.3
30-Jul	20.7	19.6	17.8	16.4	17.1	16.5	16.8	17.6	19.7	20.5	22.7	25.8	27.9	28.8	29.7	30.3	30.3	29.9	29.2	28.4	27.4	26.1	24.8	23.9	23.7	30.3
31-Jul	22.0	21.9	21.0	19.1	18.4	18.5	18.4	19.9	21.8	24.0	26.6	28.9	30.9	31.7	32.0	32.3	32.6	32.7	32.6	32.3	32.1	31.3	29.5	26.5	26.5	32.7
16.2 15.5 14.8 14.2 13.8 13.4 13.6 14.6 15.9 17.4 18.8 20.1 21.0 21.5 21.8 22.0 22.2 22.0 21.7 21.4 20.8 19.9 18.8 17.6																										Diurnal Average
22.8 21.9 21.0 19.1 18.9 19.0 19.8 20.7 21.8 24.0 26.6 28.9 30.9 31.7 32.0 32.3 32.6 32.7 32.6 32.3 32.1 31.3 29.5 26.5																										Diurnal Maximum



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	0	0.00	0.00
-20 - 0	0	0.00	0.00
0 - 10	12	1.61	1.61
10 - 20	472	63.44	65.05
> 20	260	34.95	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

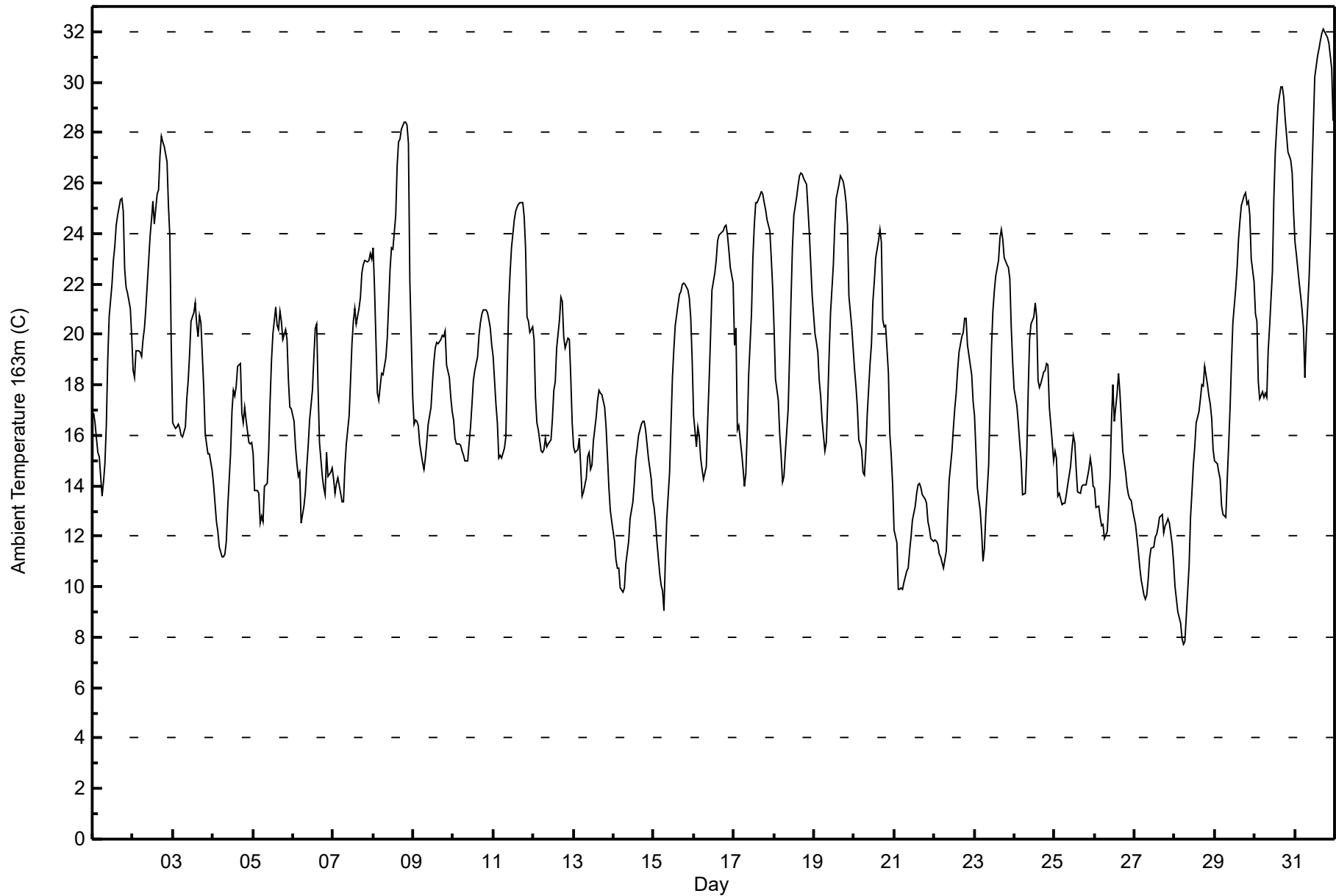
Lower Camp Met Tower - July 2025

Maximum Value: 32.1 C on Jul 31 18:00																				Maximum Daily Average: 26.9 C on Jul 31					Hours in Service: 744				
Minimum Value: 7.7 C on Jul 28 06:00																				Minimum Daily Average: 11.6 C on Jul 27					Hours of Data: 744				
Maximum Diurnal Average: 21.6 C at hour 17																				Minimum Diurnal Average: 13.6 C at hour 7					Hours of Missing Data: 0				
Monthly Average: 18.07 C																				Percentiles: P ₁ = 9.5 P ₁₀ = 12.4 Q ₁ = 14.5 Median = 17.4 Q ₃ = 21.1 P ₉₀ = 25.0 P ₉₉ = 31.1					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-Jul	16.9	16.5	15.9	15.3	15.1	13.6	14.2	14.9	16.4	19.0	20.7	22.0	22.9	23.5	24.3	24.7	25.3	25.4	24.9	22.6	21.9	21.6	21.1	19.9	19.9	25.4			
2-Jul	18.6	18.3	19.4	19.3	19.3	19.1	19.8	20.3	21.0	22.9	23.9	24.5	25.3	24.4	25.6	25.7	27.1	27.9	27.6	27.4	26.8	25.1	23.9	19.6	23.0	27.9			
3-Jul	16.5	16.3	16.4	16.4	16.3	16.0	15.9	16.4	17.5	18.2	19.2	20.5	20.9	21.3	20.4	19.9	20.8	20.5	17.9	16.1	15.6	15.3	15.3	14.6	17.7	21.3			
4-Jul	14.0	13.3	12.6	12.2	11.6	11.2	11.2	11.3	11.8	13.1	15.3	17.0	17.8	17.6	17.9	18.8	18.8	16.9	16.5	17.1	16.6	15.7	15.7	15.7	15.0	18.8			
5-Jul	15.3	13.8	13.8	13.7	12.5	12.8	12.6	14.0	14.1	15.4	17.4	18.9	20.0	21.1	20.3	20.2	20.9	20.5	19.8	20.2	19.8	18.2	17.1	17.1	17.1	21.1			
6-Jul	16.5	15.5	14.9	14.4	14.6	12.5	13.2	13.8	14.8	15.6	16.6	17.8	19.1	20.3	20.4	17.8	15.7	14.4	13.9	13.7	15.3	14.4	14.5	14.7	15.6	20.4			
7-Jul	14.2	13.7	14.1	14.3	13.7	13.4	13.4	14.8	15.7	16.8	18.2	19.7	20.5	21.0	20.4	21.0	21.5	22.5	22.8	22.9	22.9	22.9	23.2	23.0	18.6	23.2			
8-Jul	23.4	21.8	17.7	17.4	17.9	18.5	18.4	19.1	19.9	21.2	22.6	23.4	23.4	24.7	26.7	27.6	27.8	28.1	28.4	28.4	28.3	27.6	22.2	17.6	23.0	28.4			
9-Jul	16.5	16.6	16.5	16.4	15.7	14.9	14.7	15.1	15.7	16.5	17.1	18.1	18.9	19.4	19.7	19.6	19.8	20.0	19.9	20.1	18.8	18.3	17.5	16.9	17.6	20.1			
10-Jul	16.6	15.9	15.6	15.7	15.6	15.4	15.2	15.0	15.0	15.7	16.3	17.2	18.2	18.6	19.1	20.0	20.5	20.8	21.0	21.0	20.8	20.6	20.3	19.6	17.9	21.0			
11-Jul	19.2	17.2	16.5	15.1	15.2	15.1	15.5	16.0	18.6	21.1	22.4	23.4	24.6	24.9	25.0	25.2	25.2	25.2	24.7	23.4	20.7	20.5	20.1	20.3	20.6	25.2			
12-Jul	19.8	17.5	16.5	16.2	15.4	15.3	15.4	15.9	15.6	15.7	15.8	16.6	17.8	18.1	19.5	20.6	21.5	21.3	19.9	19.5	19.8	19.8	18.3	16.5	17.9	21.5			
13-Jul	15.6	15.3	15.5	15.9	14.8	13.6	13.8	14.3	15.2	15.3	14.6	14.8	15.8	16.7	17.4	17.8	17.7	17.6	17.1	16.3	15.2	13.9	13.1	12.6	15.4	17.8			
14-Jul	11.8	11.1	10.8	10.7	10.0	9.8	10.0	10.9	11.4	11.8	12.7	13.4	14.1	15.1	15.5	16.0	16.4	16.6	16.6	16.2	15.7	15.1	14.3	13.5	13.3	16.6			
15-Jul	13.1	12.6	11.8	10.5	10.0	9.9	9.1	11.1	12.7	14.5	16.4	18.3	19.4	20.4	21.2	21.6	21.7	22.0	22.0	22.0	21.7	21.4	20.6	19.0	16.8	22.0			
16-Jul	16.8	15.5	16.3	16.0	15.1	14.6	14.3	14.8	16.6	18.2	19.9	21.8	22.4	23.0	23.7	24.0	24.0	24.1	24.3	24.4	23.9	23.3	22.7	22.0	20.1	24.4			
17-Jul	19.6	20.2	16.2	16.4	15.3	14.7	14.0	14.5	16.2	18.4	20.8	23.0	24.3	25.2	25.3	25.5	25.7	25.6	25.2	25.0	24.6	24.1	23.0	21.9	21.0	25.7			
18-Jul	20.3	18.2	17.4	16.0	15.2	14.2	14.4	15.4	17.1	19.2	21.4	23.5	24.7	25.5	25.9	26.3	26.4	26.3	26.2	25.9	25.0	24.0	22.7	21.5	21.4	26.4			
19-Jul	20.0	19.7	19.3	18.2	17.5	16.6	15.4	15.7	17.4	19.2	20.9	22.8	24.3	25.4	25.7	25.9	26.3	26.1	25.7	25.3	24.3	21.6	20.3	19.5	21.4	26.3			
20-Jul	18.6	18.0	17.1	15.8	15.5	14.6	14.4	15.4	16.8	18.9	19.6	21.3	22.1	23.1	23.7	24.2	23.7	20.6	20.3	20.3	18.4	16.1	15.2	14.0	18.7	24.2			
21-Jul	12.2	11.7	9.9	9.9	9.9	9.9	10.2	10.6	10.8	11.4	12.0	12.6	13.2	13.7	14.0	14.1	13.9	13.6	13.5	13.3	12.6	12.3	11.9	11.8	12.1	14.1			
22-Jul	11.8	11.8	11.7	11.3	11.2	10.8	11.1	11.4	12.9	14.2	15.4	16.3	17.0	17.7	18.6	19.3	19.9	20.1	20.6	20.7	19.6	18.8	18.4	17.3	15.7	20.7			
23-Jul	16.8	15.4	14.0	13.1	12.2	11.0	11.5	12.8	14.8	17.2	19.4	20.9	21.7	22.3	22.9	23.8	24.2	23.8	23.1	22.8	22.6	22.2	20.3	18.9	18.7	24.2			
24-Jul	17.8	17.2	16.5	15.7	15.0	13.7	13.7	15.2	17.8	19.8	20.4	20.7	21.3	20.7	18.2	17.9	18.0	18.5	18.5	18.8	18.8	17.1	15.8	15.0	17.6	21.3			
25-Jul	15.4	15.1	13.6	13.7	13.2	13.3	13.3	13.7	14.0	14.8	15.5	16.0	15.7	14.7	13.8	13.7	14.0	14.1	14.0	14.1	14.7	15.1	14.7	14.0	14.3	16.0			
26-Jul	13.9	13.1	13.2	12.8	12.4	12.5	11.9	12.2	13.2	14.3	16.5	18.0	16.5	17.7	18.5	17.7	16.6	15.4	14.5	14.0	13.6	13.5	13.4	13.0	14.5	18.5			
27-Jul	12.5	12.0	11.4	10.8	10.3	9.7	9.5	9.7	10.3	11.1	11.5	11.6	12.0	12.1	12.4	12.8	12.8	12.1	12.4	12.5	12.7	12.6	11.7	11.0	11.6	12.8			
28-Jul	10.0	9.5	9.0	8.5	8.0	7.7	7.8	8.8	10.8	12.7	13.8	14.8	15.6	16.5	17.0	17.5	18.0	18.0	18.7	18.0	17.6	17.2	16.7	15.5	13.7	18.7			
29-Jul	15.0	14.9	14.5	14.3	13.2	12.9	12.8	14.3	15.6	17.0	18.9	20.4	21.8	22.7	23.8	24.5	25.1	25.5	25.6	25.2	25.3	24.7	23.0	22.1	19.7	25.6			
30-Jul	20.8	20.5	18.1	17.4	17.7	17.5	17.7	17.5	19.4	20.3	22.5	25.4	27.2	28.2	29.1	29.8	29.8	29.4	28.6	27.9	27.2	26.9	26.4	24.9	23.8	29.8			
31-Jul	23.7	23.2	22.0	21.5	21.0	20.2	18.3	19.9	22.3	24.0	26.3	28.3	30.2	31.0	31.3	31.6	32.0	32.1	32.0	31.8	31.6	31.1	30.6	28.5	26.9	32.1			
16.6 15.9 15.1 14.7 14.2 13.7 13.6 14.3 15.5 16.9 18.2 19.5 20.3 20.8 21.2 21.5 21.6 21.4 21.2 20.9 20.4 19.7 18.8 17.8																										Diurnal Average			
23.7 23.2 22.0 21.5 21.0 20.2 19.8 20.3 22.3 24.0 26.3 28.3 30.2 31.0 31.3 31.6 32.0 32.1 32.0 31.8 31.6 31.1 30.6 28.5																										Diurnal Maximum			



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	0	0.00	0.00
-20 - 0	0	0.00	0.00
0 - 10	19	2.55	2.55
10 - 20	480	64.52	67.07
> 20	245	32.93	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) - %

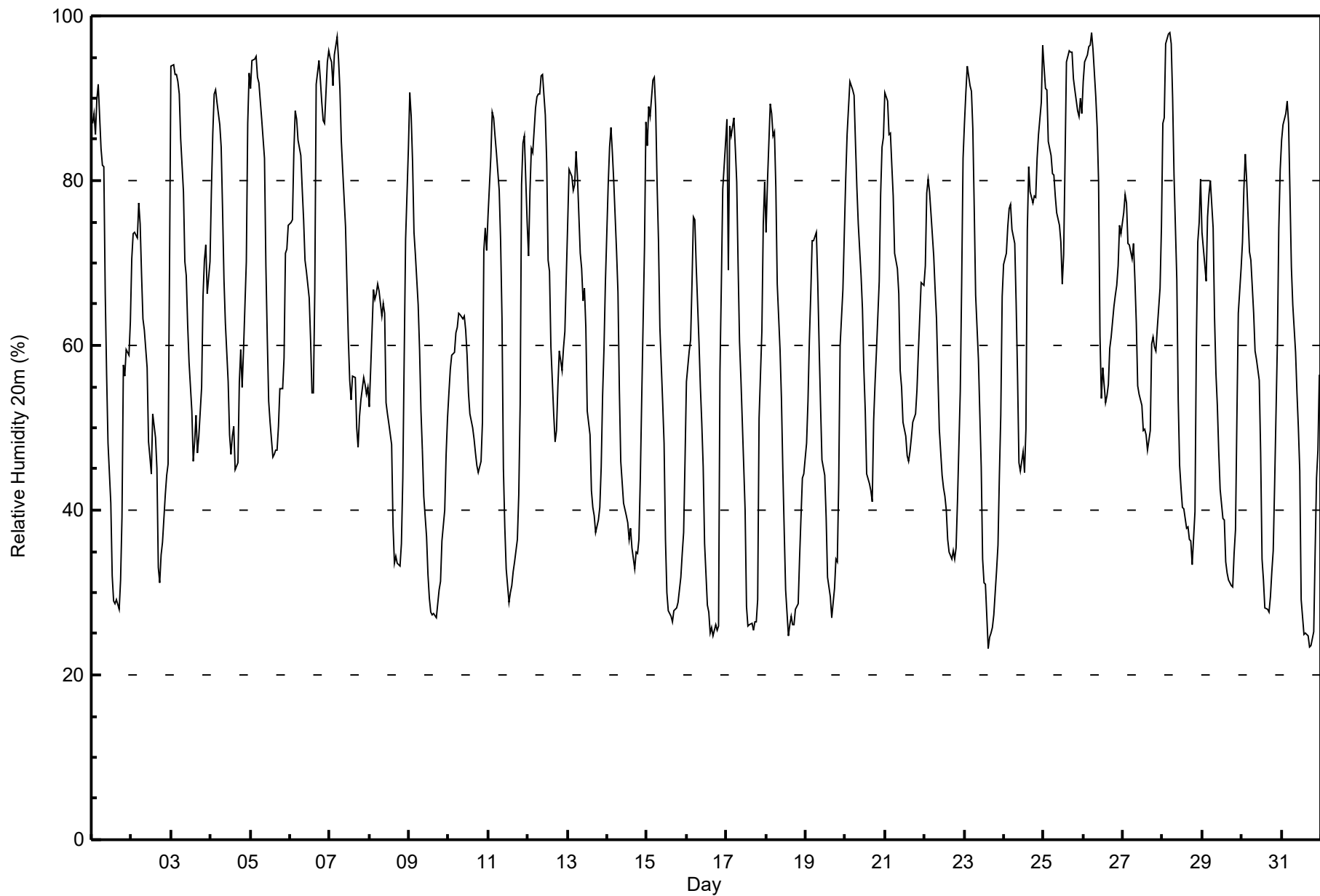
Lower Camp Met Tower - July 2025

Maximum Value: 98.1 % on Jul 26 06:00																				Maximum Daily Average: 85.3 % on Jul 25					Hours in Service: 744		
Minimum Value: 23.2 % on Jul 23 15:00																				Minimum Daily Average: 47.6 % on Jul 9					Hours of Data: 744		
Maximum Diurnal Average: 83.2 % at hour 4																				Minimum Diurnal Average: 41.6 % at hour 17					Hours of Missing Data: 0		
Monthly Average: 61.20 %																				Percentiles: P ₁ = 24.9 P ₁₀ = 31.5 Q ₁ = 45.1 Median = 60.9 Q ₃ = 78.9 P ₉₀ = 89.4 P ₉₉ = 96.3					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-Jul	87.0	88.1	85.6	89.8	91.6	83.9	81.8	81.8	66.5	56.5	48.1	40.9	32.0	28.9	28.6	29.2	27.9	31.5	39.2	57.6	56.3	59.5	58.8	62.9	58.9	91.6	
2-Jul	70.6	73.5	73.8	73.1	77.2	74.8	68.6	63.2	61.9	57.3	48.3	46.4	44.3	51.7	48.7	45.0	33.0	31.2	34.6	36.1	41.9	44.3	45.6	68.8	54.7	77.2	
3-Jul	93.8	94.1	92.9	92.8	92.0	90.5	85.1	78.7	70.2	68.4	62.6	57.9	52.1	46.0	48.3	51.4	47.0	49.0	55.0	65.9	70.3	72.1	66.3	70.1	69.7	94.1	
4-Jul	78.8	85.8	90.5	91.0	89.5	86.8	84.0	76.4	68.0	62.8	55.6	49.1	46.8	49.0	50.1	44.9	45.8	55.6	59.4	54.9	59.5	70.1	86.9	93.1	68.1	93.1	
5-Jul	91.1	94.6	94.7	95.1	92.6	91.8	89.7	87.5	82.8	69.7	60.8	53.1	50.6	46.4	46.8	47.4	47.3	50.2	54.7	54.7	58.4	71.2	71.7	74.6	69.9	95.1	
6-Jul	75.0	75.3	83.4	88.5	87.5	84.9	83.1	79.0	75.3	70.3	69.0	65.7	60.7	54.2	54.3	66.5	91.7	94.7	92.2	89.5	87.3	86.9	94.5	95.8	79.4	95.8	
7-Jul	94.8	94.5	91.5	95.3	97.4	94.7	91.0	84.8	81.1	74.4	67.6	60.8	55.7	53.3	56.2	56.2	50.0	47.7	51.3	53.4	56.1	55.3	54.1	54.9	69.7	97.4	
8-Jul	52.6	57.2	66.8	65.6	66.3	67.4	66.6	63.5	65.1	64.0	53.1	51.7	50.6	47.9	38.2	33.5	34.3	33.5	33.3	35.9	43.9	58.6	72.9	84.0	54.4	84.0	
9-Jul	90.8	87.7	82.2	73.7	70.9	64.9	59.4	52.0	47.3	41.7	36.8	32.1	29.4	27.6	27.4	27.4	27.0	28.7	30.4	31.4	36.3	39.9	46.8	51.3	47.6	90.8	
10-Jul	54.3	57.1	58.8	59.2	61.5	62.3	63.8	63.8	63.2	63.5	61.8	58.8	54.2	51.8	50.0	48.6	47.0	45.4	44.5	46.0	50.7	71.6	74.3	71.5	57.6	74.3	
11-Jul	75.7	82.8	88.3	87.6	85.4	83.4	78.9	72.7	63.2	45.1	38.0	32.9	28.9	29.9	30.9	32.5	33.7	36.4	41.9	52.8	79.5	84.6	85.5	74.9	60.2	88.3	
12-Jul	70.8	78.6	83.8	83.4	88.8	90.1	90.5	90.6	92.8	92.9	88.0	82.2	70.3	68.9	59.8	51.6	48.4	49.7	55.1	59.3	56.9	59.7	61.7	68.4	72.6	92.9	
13-Jul	74.7	81.4	80.4	78.9	79.5	83.5	80.4	71.2	69.4	65.4	66.9	62.2	52.0	49.2	42.3	40.3	39.3	37.3	38.8	40.4	45.2	53.9	59.7	67.7	60.8	83.5	
14-Jul	79.6	84.0	86.5	83.4	79.9	71.4	66.5	54.5	46.0	43.5	40.8	39.3	38.4	36.5	37.9	35.4	32.9	34.9	34.8	36.5	43.9	53.6	72.1	87.1	55.0	87.1	
15-Jul	84.3	89.0	87.8	92.2	92.5	88.7	79.7	72.8	62.2	53.1	48.2	36.4	30.1	27.8	27.0	26.4	27.8	28.0	28.2	28.8	31.9	34.7	37.3	46.0	52.5	92.5	
16-Jul	55.6	59.4	60.6	67.6	75.5	75.2	69.7	60.4	54.9	50.4	45.3	36.0	28.5	27.7	25.1	25.7	24.8	26.0	25.4	25.9	56.9	67.4	79.0	84.6	50.3	84.6	
17-Jul	87.5	69.2	86.5	85.5	87.6	83.9	79.8	69.6	60.5	56.0	45.4	40.0	28.4	26.0	26.0	26.3	25.4	26.4	26.5	29.2	51.2	61.7	74.8	79.8	55.5	87.6	
18-Jul	73.7	79.8	89.4	88.2	85.5	85.9	79.2	67.5	59.5	53.6	44.9	37.5	30.4	24.7	26.1	27.1	26.2	26.1	28.0	28.7	34.2	39.2	43.9	44.4	51.0	89.4	
19-Jul	48.2	53.2	60.6	66.3	72.6	72.7	73.7	67.6	59.8	52.7	46.1	44.2	39.2	31.9	30.7	29.4	27.0	30.5	34.0	33.8	43.5	59.9	66.7	73.6	50.7	73.7	
20-Jul	80.3	85.6	88.9	92.0	91.1	90.3	84.6	79.2	74.7	68.5	64.5	57.0	52.1	44.4	43.3	42.3	41.0	50.9	55.4	59.3	67.7	78.3	84.2	85.3	69.2	92.0	
21-Jul	90.7	89.6	85.7	85.8	81.8	78.1	71.2	69.3	66.2	57.0	54.9	50.7	49.0	46.6	45.9	47.2	48.9	50.6	51.7	54.6	59.1	63.4	67.7	67.2	63.9	90.7	
22-Jul	69.6	78.5	80.2	78.6	76.1	70.9	66.8	63.2	56.5	49.8	44.2	42.7	41.7	40.0	36.5	34.9	34.1	35.0	34.1	35.5	40.9	54.4	67.5	82.7	54.8	82.7	
23-Jul	87.0	90.7	93.9	91.6	90.9	86.3	76.6	66.0	58.4	51.7	45.2	34.1	31.2	31.0	23.2	24.5	25.1	25.7	27.4	32.7	35.7	44.2	51.6	65.9	53.8	93.9	
24-Jul	69.9	71.2	74.4	76.6	77.1	74.1	72.4	65.1	56.3	45.7	44.8	47.2	44.7	49.8	74.0	81.7	78.6	77.4	78.1	78.0	82.8	85.6	89.5	96.5	70.5	96.5	
25-Jul	93.8	91.2	91.0	84.8	83.1	80.8	80.7	78.2	76.1	74.6	72.6	67.5	71.0	82.4	94.3	95.8	95.7	95.5	92.4	91.0	88.4	87.8	90.0	88.1	85.3	95.8	
26-Jul	92.0	94.5	95.3	96.3	96.4	98.1	96.0	90.1	86.4	79.9	61.3	53.6	57.3	53.1	53.9	55.3	59.6	61.0	64.8	66.1	67.3	69.6	74.6	73.6	74.8	98.1	
27-Jul	76.0	78.3	77.3	72.4	72.2	70.5	72.4	67.9	62.7	55.0	54.1	52.8	49.7	49.8	49.2	47.2	49.6	60.2	61.0	59.8	59.4	62.0	66.9	74.3	62.5	78.3	
28-Jul	86.9	87.7	96.6	97.8	98.0	96.7	90.0	80.7	68.0	53.4	45.5	42.8	40.4	40.1	37.8	37.9	36.4	36.2	33.4	39.8	60.6	72.5	74.9	80.2	63.9	98.0	
29-Jul	73.8	69.8	67.8	75.5	78.3	79.9	74.2	63.4	56.7	52.7	47.2	42.6	39.0	38.7	33.8	32.4	31.5	30.9	30.7	34.7	37.6	51.2	63.9	69.4	53.2	79.9	
30-Jul	72.6	79.0	83.3	79.9	71.4	70.3	67.2	64.0	59.3	58.4	55.8	47.0	34.0	31.6	28.1	27.9	27.7	29.4	32.6	35.0	43.0	60.5	74.3	81.4	54.7	83.3	
31-Jul	84.8	86.7	88.2	89.6	86.9	78.3	69.5	64.8	59.1	54.3	50.0	44.8	29.1	24.9	25.2	24.9	24.7	23.5	23.5	25.3	35.0	43.9	47.2	56.5	51.7	89.6	
77.9 80.3 82.8 83.2 83.1 81.0 77.2 71.3 65.5 59.4 53.8 48.7 43.9 42.3 41.9 41.8 41.6 43.2 44.9 47.5 54.2 61.9 67.9 73.4																										Diurnal Average	
94.8 94.6 96.6 97.8 98.0 98.1 96.0 90.6 92.8 92.9 88.0 82.2 71.0 82.4 94.3 95.8 95.7 95.5 92.4 91.0 88.4 87.8 94.5 96.5																										Diurnal Maximum	



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	146	19.62	19.62
40 - 60	216	29.03	48.66
60 - 80	213	28.63	77.29
80 - 100	169	22.72	100.00

Total Number of Valid Hours: 744

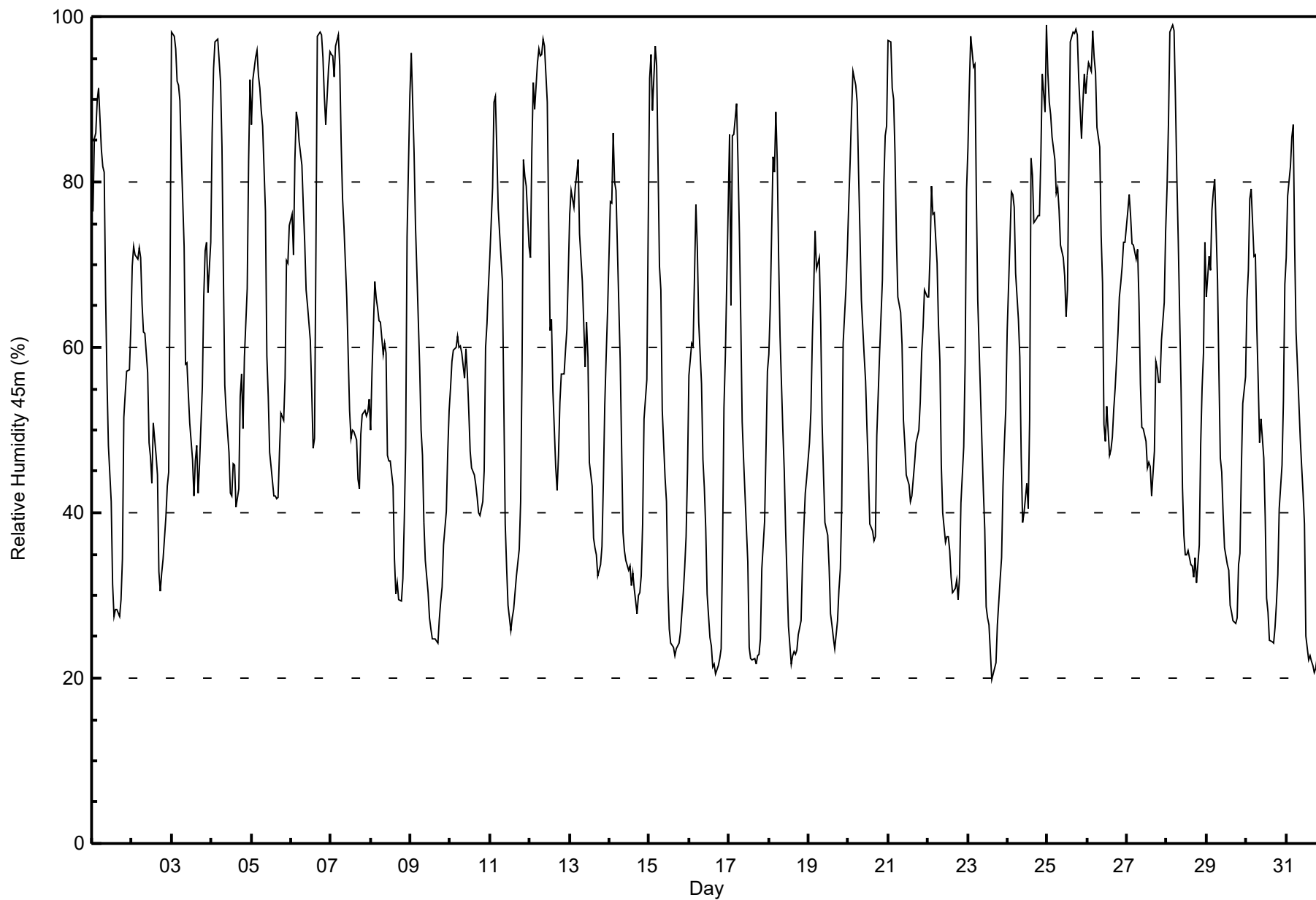
Total Number of Hours: 744

Maximum Value: 99.0 % on Jul 25 00:00															Maximum Daily Average: 84.9 % on Jul 25										Hours in Service: 744														
Minimum Value: 19.9 % on Jul 23 15:00															Minimum Daily Average: 44.8 % on Jul 16										Hours of Data: 744														
Maximum Diurnal Average: 83.8 % at hour 4															Minimum Diurnal Average: 38.4 % at hour 16										Hours of Missing Data: 0														
Monthly Average: 57.86 %															Percentiles: P ₁ = 21.5 P ₁₀ = 28.3 Q ₁ = 40.0 Median = 56.7 Q ₃ = 76.0 P ₉₀ = 89.9 P ₉₉ = 98.1										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-Jul	76.4	85.2	85.9	89.9	91.4	83.9	81.9	81.3	66.5	56.0	48.1	41.3	31.4	27.5	28.3	28.3	27.4	29.5	34.4	51.5	54.4	57.1	57.2	62.5	57.4	91.4													
2-Jul	69.8	72.1	71.2	70.7	72.1	70.8	65.3	61.8	61.7	56.9	48.5	46.7	43.5	50.9	47.0	44.6	33.0	30.6	32.7	34.4	39.5	43.1	44.9	69.4	53.4	72.1													
3-Jul	98.2	97.6	96.0	92.2	91.7	89.8	83.4	72.2	58.0	58.1	54.3	50.9	46.4	42.1	46.2	48.2	42.3	46.0	55.2	66.2	71.8	72.8	66.7	72.8	67.5	98.2													
4-Jul	85.9	93.8	97.0	97.2	97.2	92.1	84.3	69.0	55.5	52.2	47.3	42.4	42.0	45.9	45.7	40.6	42.9	54.1	56.8	50.1	58.8	67.1	82.6	92.4	66.4	97.2													
5-Jul	87.0	92.4	95.1	96.0	93.0	91.4	88.6	86.8	76.5	58.9	54.0	47.2	45.6	42.0	42.0	41.7	41.9	47.3	52.0	51.2	56.3	70.5	70.2	74.7	66.8	96.0													
6-Jul	76.0	71.2	82.7	88.5	87.5	84.9	82.1	77.0	72.7	66.9	65.0	60.9	54.8	47.7	49.0	71.6	97.6	98.2	97.7	95.0	90.3	87.0	93.7	95.8	78.9	98.2													
7-Jul	95.4	95.3	92.7	96.5	97.9	94.1	84.7	78.0	74.6	65.9	59.2	52.4	49.0	50.0	49.8	48.7	44.0	42.8	49.4	51.8	52.4	51.8	52.2	53.8	65.9	97.9													
8-Jul	50.0	57.1	68.1	65.9	64.7	63.2	63.1	59.1	60.6	59.4	47.0	46.3	46.3	43.1	34.4	30.1	31.4	29.5	29.4	32.0	39.0	47.8	73.3	90.5	51.3	90.5													
9-Jul	95.6	89.6	83.6	74.7	69.1	57.7	50.1	47.0	38.8	34.2	30.4	27.4	25.9	24.7	24.7	24.7	24.3	27.1	29.4	31.0	36.1	40.1	47.3	52.3	45.2	95.6													
10-Jul	55.1	58.3	59.7	59.9	61.3	60.0	60.1	59.4	56.2	59.8	56.7	52.4	47.5	45.4	44.6	43.4	41.9	40.0	39.6	41.3	45.0	60.0	62.9	67.3	53.2	67.3													
11-Jul	70.9	79.3	89.7	90.3	83.9	76.8	70.8	67.9	53.4	38.7	33.4	28.8	25.7	27.2	28.3	30.3	32.3	35.7	41.4	57.6	82.7	80.6	79.6	72.2	57.4	90.3													
12-Jul	70.9	83.9	92.1	88.8	94.4	96.2	95.3	95.4	97.3	96.4	89.7	75.1	62.1	63.4	54.8	45.5	42.7	47.0	53.4	56.8	56.8	59.7	62.2	69.1	72.9	97.3													
13-Jul	76.1	78.9	77.0	79.6	80.8	82.7	73.8	67.9	62.9	57.7	63.0	58.8	46.1	43.2	36.9	35.7	35.0	32.3	33.8	35.9	43.8	53.1	59.0	64.4	57.4	82.7													
14-Jul	77.7	77.5	85.9	80.1	79.0	65.3	58.5	47.9	37.7	35.5	34.2	33.1	33.6	31.2	32.7	30.9	27.9	30.0	30.3	32.4	38.6	51.3	56.1	75.0	49.3	85.9													
15-Jul	92.5	95.5	88.6	96.5	94.1	82.0	69.9	66.9	52.3	44.2	41.3	31.2	26.0	24.2	23.7	22.7	23.5	23.8	24.2	25.6	30.4	33.4	37.1	45.0	49.8	96.5													
16-Jul	56.6	60.5	60.2	68.6	77.4	72.0	63.0	55.5	46.5	43.0	38.2	30.1	24.9	23.9	21.4	21.7	20.5	21.5	22.4	23.5	35.8	52.8	59.0	76.8	44.8	77.4													
17-Jul	85.7	65.1	85.6	85.8	89.5	82.5	74.0	63.2	51.0	46.4	38.1	34.0	23.7	22.4	22.2	22.3	21.7	22.7	22.8	24.7	33.2	38.9	47.9	57.1	48.3	89.5													
18-Jul	59.1	64.8	83.1	81.2	88.5	82.6	70.8	61.4	50.1	45.1	37.9	32.0	26.3	21.7	22.8	23.3	22.9	23.5	25.3	26.9	33.9	38.3	42.3	44.2	46.2	88.5													
19-Jul	48.5	52.2	60.8	67.1	74.1	69.6	70.9	62.8	50.9	44.6	38.9	37.2	33.4	27.8	26.5	24.9	23.5	27.0	30.7	33.1	40.9	60.6	67.2	71.7	47.7	74.1													
20-Jul	77.4	82.6	88.5	93.3	91.6	89.6	81.2	73.8	65.7	58.9	55.9	50.2	45.1	38.6	37.8	36.7	37.1	49.3	54.2	59.3	68.1	79.7	85.6	86.9	66.1	93.3													
21-Jul	97.1	97.0	91.4	90.1	83.3	73.3	66.1	64.2	60.3	51.3	48.4	44.5	43.3	41.4	42.0	44.0	46.1	48.5	50.0	53.5	59.4	62.4	66.9	66.1	62.1	97.1													
22-Jul	66.2	71.1	79.5	76.1	76.3	70.2	62.7	58.3	45.8	40.1	36.5	37.1	37.2	35.5	32.2	30.4	30.9	31.8	29.5	32.3	41.2	48.0	58.2	79.1	50.3	79.5													
23-Jul	84.1	91.6	97.7	94.0	94.2	78.3	65.8	59.8	48.3	42.8	38.0	28.7	27.3	26.4	19.9	20.6	21.1	21.9	26.4	32.1	34.6	43.2	48.5	52.5	49.9	97.7													
24-Jul	62.1	73.1	78.8	78.5	77.0	69.0	63.4	58.8	46.8	38.8	40.0	43.6	40.6	51.2	82.9	80.9	75.2	75.6	75.9	76.0	83.0	93.1	88.5	99.0	68.8	99.0													
25-Jul	93.2	89.6	88.1	85.4	82.7	78.6	79.3	76.6	72.4	70.9	68.6	63.7	67.0	82.2	96.9	98.2	98.0	98.4	97.7	92.5	85.2	89.7	93.1	90.6	84.9	98.4													
26-Jul	92.9	94.4	93.3	98.2	95.0	93.2	86.6	84.3	73.6	67.8	50.7	48.6	52.9	46.9	47.7	49.2	52.6	55.2	61.7	66.1	67.8	69.8	72.8	72.7	70.6	98.2													
27-Jul	76.4	78.4	76.0	72.5	72.3	70.7	71.9	65.4	55.6	50.3	50.2	48.6	45.5	46.1	45.6	42.0	47.5	58.4	57.4	55.7	55.7	60.9	65.5	74.1	60.1	78.4													
28-Jul	79.3	87.0	98.1	99.0	98.4	90.0	80.6	72.9	55.0	43.0	37.2	35.0	35.0	35.4	33.7	33.6	32.1	34.6	31.6	36.1	48.3	55.1	59.3	72.7	57.6	99.0													
29-Jul	66.1	71.1	69.3	76.6	78.8	80.4	68.2	56.9	46.6	45.0	39.8	35.8	33.7	33.0	28.7	28.0	27.0	26.6	27.2	33.8	35.1	45.3	53.3	56.4	48.5	80.4													
30-Jul	65.8	69.3	78.0	79.1	71.0	71.2	62.6	55.9	48.4	51.4	46.7	39.6	29.6	27.9	24.6	24.5	24.3	26.2	29.0	32.5	40.4	45.8	53.6	67.7	48.5	79.1													
31-Jul	70.9	78.4	81.9	85.5	86.9	72.4	61.8	57.8	49.0	45.5	42.3	38.6	25.1	22.2	22.6	22.1	21.6	20.7	21.2	23.8	27.9	39.4	44.9	49.7	46.3	86.9													
															76.1	79.2	83.1	83.8	83.7	78.5	72.3	66.6	57.8	52.4	47.7	43.3	39.2	38.4	38.6	38.4	40.5	42.7	45.6	51.2	58.0	63.0	70.1	Diurnal Average	
															98.2	97.6	98.1	99.0	98.4	96.2	95.3	95.4	97.3	96.4	89.7	75.1	67.0	82.2	96.9	98.2	98.0	98.4	97.7	95.0	90.3	93.1	93.7	99.0	Diurnal Maximum



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	1	0.13	0.13
20 - 40	186	25.00	25.13
40 - 60	227	30.51	55.65
60 - 80	183	24.60	80.24
80 - 100	147	19.76	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) - %

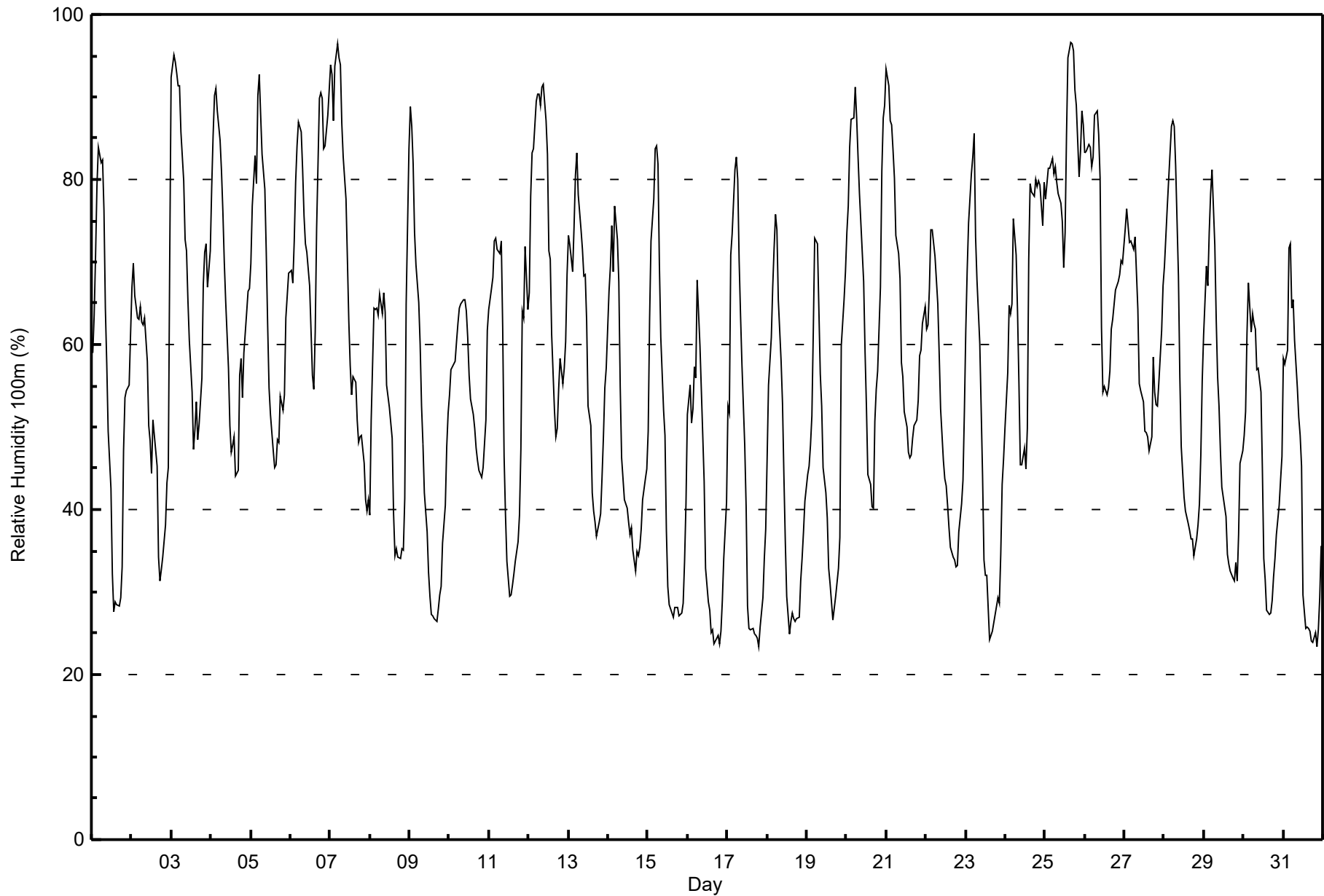
Lower Camp Met Tower - July 2025

Maximum Value: 96.6 % on Jul 25 16:00																				Maximum Daily Average: 83.5 % on Jul 25					Hours in Service: 744			
Minimum Value: 23.5 % on Jul 31 21:00																				Minimum Daily Average: 40.1 % on Jul 16					Hours of Data: 744			
Maximum Diurnal Average: 77.8 % at hour 6																				Minimum Diurnal Average: 41.2 % at hour 17					Hours of Missing Data: 0			
Monthly Average: 57.22 %																				Percentiles: P ₁ = 24.4 P ₁₀ = 29.7 Q ₁ = 41.5 Median = 56.6 Q ₃ = 71.9 P ₉₀ = 83.7 P ₉₉ = 94.1					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-Jul	59.1	63.6	70.9	79.4	83.8	82.0	82.4	76.3	64.5	57.7	49.4	42.5	32.2	27.6	28.9	28.5	28.2	29.4	33.0	47.0	53.6	54.4	55.1	61.2	53.8	83.8		
2-Jul	67.0	69.8	66.0	63.2	63.0	64.5	62.8	62.5	63.1	58.0	50.1	48.3	44.4	50.8	47.1	45.3	34.2	31.4	32.7	34.2	38.2	43.2	45.0	70.3	52.3	70.3		
3-Jul	92.4	95.1	94.3	93.0	91.4	91.3	85.7	79.8	72.7	71.4	65.4	60.5	54.2	47.3	49.6	53.1	48.4	50.4	55.9	67.2	71.1	72.1	67.0	71.4	70.9	95.1		
4-Jul	79.0	85.3	90.2	91.0	88.3	84.7	81.0	76.0	70.0	65.3	57.2	50.2	47.0	47.7	48.9	44.1	44.7	56.2	58.4	53.5	59.1	63.9	66.5	66.8	65.6	91.0		
5-Jul	69.9	76.8	82.9	79.5	90.1	92.7	87.9	83.0	78.7	71.2	62.4	54.8	51.5	47.1	45.1	45.5	48.5	48.1	53.7	52.1	53.8	63.2	66.0	68.7	65.5	92.7		
6-Jul	69.0	67.5	72.5	79.7	84.1	86.9	85.7	81.1	75.6	72.3	71.1	67.2	61.8	56.3	54.5	61.5	74.1	89.8	90.5	89.8	83.7	84.1	87.7	90.9	76.6	90.9		
7-Jul	94.0	92.7	87.1	93.7	96.4	94.7	93.8	86.8	82.8	77.6	70.3	62.8	57.4	53.8	56.2	55.4	50.9	48.2	48.9	48.9	45.5	41.2	39.8	41.2	67.5	96.4		
8-Jul	39.3	50.9	64.4	64.3	64.4	63.5	66.2	63.7	66.2	63.9	55.0	53.8	52.4	48.7	39.4	34.5	35.2	34.3	34.1	35.2	35.0	41.4	64.9	83.8	52.3	83.8		
9-Jul	88.7	86.4	81.8	73.6	69.6	65.1	60.1	52.6	48.0	42.1	37.2	32.4	29.5	27.3	27.1	26.8	26.5	27.9	29.7	30.7	36.0	40.5	47.6	51.8	47.5	88.7		
10-Jul	53.8	56.9	57.3	58.0	60.3	62.6	64.4	65.0	65.4	65.4	64.1	60.9	56.3	53.4	51.5	49.9	47.5	45.9	44.7	43.9	45.1	47.9	50.8	61.7	55.5	65.4		
11-Jul	64.2	66.8	68.1	72.6	72.9	71.6	70.9	72.6	62.0	46.4	39.3	33.8	29.5	29.7	30.9	32.2	33.8	36.0	39.4	47.2	64.1	63.2	71.9	64.2	53.5	72.9		
12-Jul	66.2	78.0	83.1	83.7	89.5	90.4	90.3	89.0	91.2	91.5	87.2	83.0	71.4	70.3	61.2	52.0	48.9	49.8	54.6	58.3	55.3	57.1	60.4	68.5	72.1	91.5		
13-Jul	73.3	72.1	68.8	74.2	80.5	83.3	78.2	73.8	71.6	68.2	68.4	63.0	52.6	50.2	42.0	39.8	38.4	36.8	38.5	39.6	43.9	48.9	54.7	57.2	59.1	83.3		
14-Jul	66.5	69.5	74.4	68.8	76.8	72.7	67.7	54.9	46.3	43.8	41.2	40.2	38.5	37.0	37.9	35.1	32.6	35.0	34.4	35.5	37.6	41.2	43.8	44.9	49.0	76.8		
15-Jul	49.4	63.1	72.6	77.6	83.7	84.1	81.8	69.7	60.8	52.0	49.0	37.4	30.7	28.5	27.5	26.9	28.1	28.1	28.1	27.1	27.5	28.7	33.7	40.7	47.4	84.1		
16-Jul	51.5	55.1	50.5	52.2	57.3	56.0	67.8	59.8	54.5	48.9	43.3	32.9	28.8	27.7	25.0	25.4	23.8	24.5	24.7	23.8	25.2	29.0	34.0	40.8	40.1	67.8		
17-Jul	52.6	51.6	70.8	73.4	81.2	82.7	79.9	70.1	63.6	57.6	47.8	40.3	28.3	25.5	25.4	25.5	24.9	24.8	24.4	23.5	25.8	29.4	34.1	37.6	45.9	82.7		
18-Jul	46.0	55.0	60.8	67.0	71.7	75.8	73.9	65.4	57.9	52.8	44.1	36.1	29.6	25.0	26.4	27.5	26.8	26.5	26.7	26.9	31.4	34.1	37.3	40.9	44.4	75.8		
19-Jul	44.3	45.2	47.7	51.3	61.6	72.9	72.2	64.2	56.4	52.5	45.0	42.1	39.0	32.8	30.9	28.8	26.6	29.5	31.2	32.9	36.6	59.8	65.4	68.8	47.4	72.9		
20-Jul	73.6	76.8	84.0	87.2	87.5	91.2	87.4	82.7	78.3	71.2	67.6	59.1	52.4	44.2	43.1	40.3	40.1	50.6	54.5	56.7	67.0	81.0	87.4	88.9	68.9	91.2		
21-Jul	93.3	91.4	87.2	86.7	83.5	80.2	73.3	71.0	67.9	57.8	56.1	51.9	49.9	46.9	46.2	46.6	48.6	50.2	50.9	53.1	58.6	59.3	62.5	64.5	64.1	93.3		
22-Jul	61.9	62.4	66.8	73.9	73.9	70.7	67.7	65.0	58.8	52.2	45.9	43.8	42.8	40.5	37.8	35.4	34.2	33.9	33.1	33.3	37.3	40.6	43.6	51.9	50.3	73.9		
23-Jul	61.7	69.0	74.7	80.7	82.7	85.6	73.1	67.8	60.2	52.2	44.1	33.9	32.1	32.1	24.2	24.7	25.3	26.3	27.3	29.2	28.7	34.6	43.0	46.2	48.3	85.6		
24-Jul	49.8	56.6	64.8	63.7	64.8	75.3	70.9	63.8	55.2	45.4	45.4	47.4	44.9	49.8	70.3	79.6	78.5	78.0	79.9	79.1	79.9	79.4	74.5	79.6	65.7	79.9		
25-Jul	77.7	79.4	81.3	81.4	82.6	80.6	81.5	79.7	78.2	77.1	74.9	69.3	73.6	85.4	94.7	96.6	96.5	95.6	90.8	89.0	80.4	83.4	88.3	86.7	83.5	96.6		
26-Jul	83.2	83.3	84.2	84.0	81.5	82.6	87.7	88.2	85.4	80.2	62.1	54.3	54.9	53.9	54.7	56.7	61.9	63.1	66.7	67.1	67.7	68.4	70.2	69.9	71.3	88.2		
27-Jul	74.1	76.4	74.4	72.3	72.5	71.5	73.1	68.7	64.2	55.2	54.3	53.0	49.5	49.2	48.8	47.1	48.8	58.5	54.2	52.7	52.6	55.5	61.7	67.1	60.6	76.4		
28-Jul	69.5	73.1	76.6	83.2	86.4	87.0	86.4	81.7	68.4	56.1	47.7	44.6	41.5	39.9	38.4	37.5	36.4	36.4	34.5	36.5	38.1	40.7	46.6	55.6	55.9	87.0		
29-Jul	61.1	69.4	67.1	73.5	78.4	81.2	72.0	63.1	56.1	52.5	47.2	42.7	40.3	39.2	34.6	33.5	32.6	31.7	31.3	33.6	31.3	36.9	45.6	47.1	50.1	81.2		
30-Jul	49.0	51.9	61.3	67.5	61.5	63.8	62.6	61.9	57.0	57.1	54.3	45.0	34.0	31.5	27.9	27.4	27.5	29.0	31.8	34.0	37.0	40.5	43.5	46.4	46.0	67.5		
31-Jul	58.3	57.6	59.3	71.8	72.1	64.4	65.4	60.6	54.7	51.2	49.0	45.3	29.6	25.5	25.8	25.6	25.3	24.1	23.9	25.0	23.5	25.4	29.3	35.6	42.8	72.1		
65.8 69.3 72.4 74.9 77.2 77.8 75.9 71.0 65.7 60.2 54.7 49.4 44.5 42.7 42.0 41.6 41.2 42.9 43.9 45.4 47.4 51.3 55.5 60.3																									Diurnal Average			
94.0 95.1 94.3 93.7 96.4 94.7 93.8 89.0 91.2 91.5 87.2 83.0 73.6 85.4 94.7 96.6 96.5 95.6 90.8 89.8 83.7 84.1 88.3 90.9																									Diurnal Maximum			



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	168	22.58	22.58
40 - 60	235	31.59	54.17
60 - 80	229	30.78	84.95
80 - 100	112	15.05	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) - %

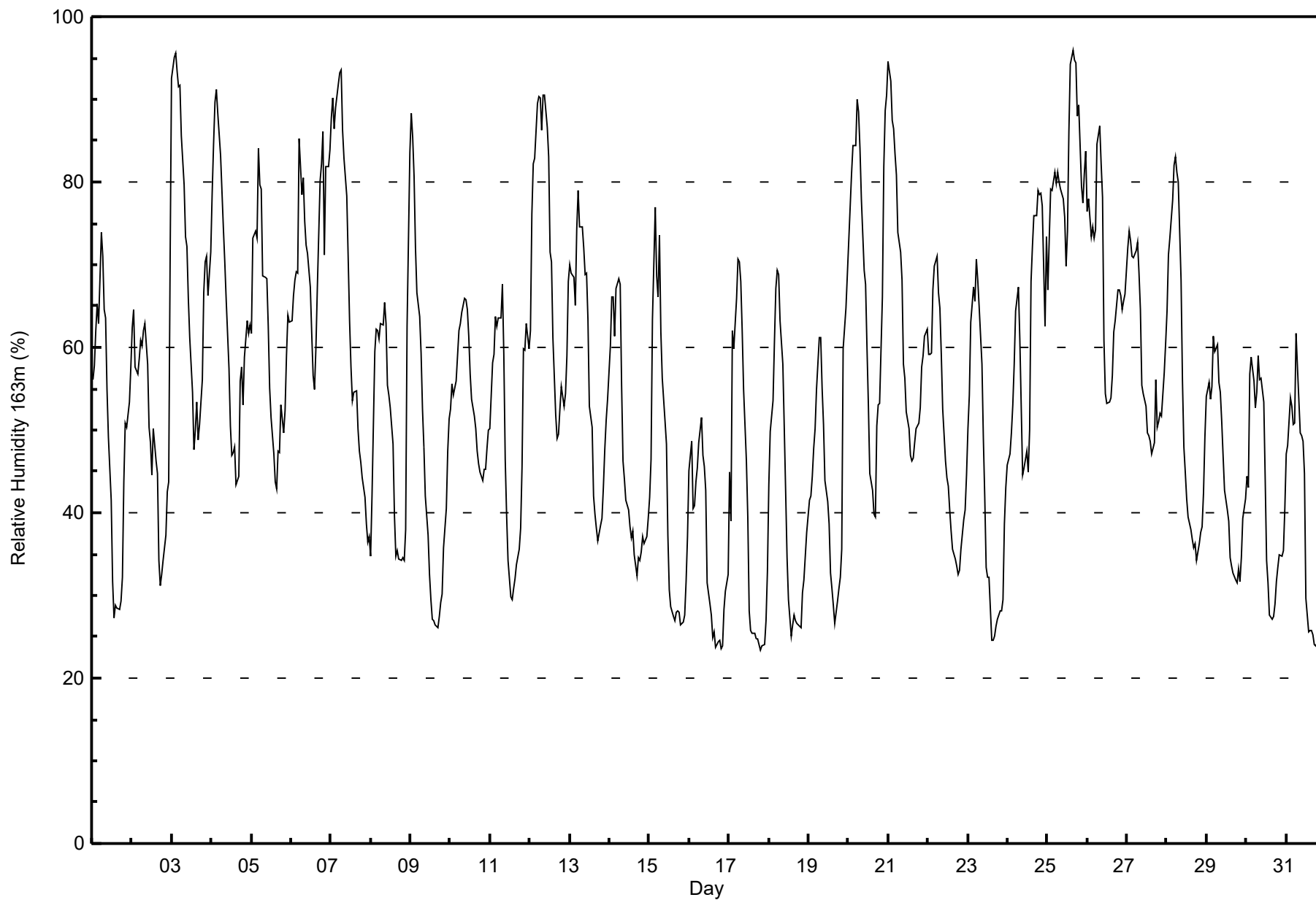
Lower Camp Met Tower - July 2025

Maximum Value: 95.9 % on Jul 25 16:00																				Maximum Daily Average: 81.7 % on Jul 25					Hours in Service: 744				
Minimum Value: 23.3 % on Jul 31 21:00																				Minimum Daily Average: 35.4 % on Jul 16					Hours of Data: 744				
Maximum Diurnal Average: 71.3 % at hour 7																				Minimum Diurnal Average: 40.7 % at hour 17					Hours of Missing Data: 0				
Monthly Average: 54.63 %																				Percentiles: P ₁ = 24.0 P ₁₀ = 29.5 Q ₁ = 39.9 Median = 53.8 Q ₃ = 67.6 P ₉₀ = 80.5 P ₉₉ = 93.5					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-Jul	56.2	57.9	62.1	65.2	62.9	73.9	71.0	64.5	63.5	54.9	49.1	41.5	31.8	27.3	28.8	28.4	28.4	29.3	32.2	43.7	50.8	50.4	53.3	57.6	49.4	73.9			
2-Jul	62.3	64.6	57.7	56.7	58.6	60.8	60.2	62.1	62.9	58.0	50.3	48.5	44.6	50.1	46.3	44.8	34.2	31.2	32.5	34.2	37.4	42.6	43.7	70.1	50.6	70.1			
3-Jul	92.5	95.0	95.6	93.5	91.5	91.8	85.6	79.7	73.4	72.2	65.9	61.1	54.6	47.6	49.9	53.5	48.8	50.7	56.2	66.6	70.4	71.0	66.3	71.6	71.0	95.6			
4-Jul	78.7	84.6	89.7	91.1	88.2	83.3	78.8	74.4	70.3	65.8	57.5	50.5	47.0	47.3	47.9	43.5	44.4	56.0	57.6	53.0	58.8	63.3	61.7	62.7	64.8	91.1			
5-Jul	61.7	73.2	74.1	73.3	84.0	79.7	79.2	68.6	68.5	68.4	62.5	55.0	51.5	47.1	43.7	42.9	47.5	47.3	53.0	49.7	52.4	59.0	63.8	63.1	61.2	84.0			
6-Jul	63.3	66.3	68.1	69.2	68.9	85.2	78.4	80.5	75.2	72.4	71.4	67.4	61.7	56.6	54.9	60.0	67.1	80.3	82.3	86.1	71.2	81.8	81.8	83.9	72.3	86.1			
7-Jul	87.8	90.2	86.4	88.9	91.8	93.3	93.5	86.3	82.8	78.4	70.9	63.3	57.6	53.6	54.6	54.7	50.3	47.4	46.0	44.2	41.8	38.6	36.5	37.1	65.7	93.5			
8-Jul	34.8	42.0	59.5	62.1	62.0	61.0	62.9	62.8	65.4	62.9	55.5	54.2	52.7	48.3	39.7	34.8	35.4	34.4	34.2	34.6	34.3	37.9	62.6	83.6	50.7	83.6			
9-Jul	88.3	85.4	80.7	72.0	66.7	63.8	59.4	52.6	47.9	42.0	37.3	32.5	29.6	27.1	27.0	26.5	26.0	27.4	29.2	30.2	35.7	40.5	47.5	51.3	46.9	88.3			
10-Jul	52.6	55.6	54.3	55.9	59.0	62.0	62.9	64.2	65.8	65.7	64.6	61.4	56.7	53.7	51.7	50.1	47.4	46.0	44.8	44.0	45.2	45.3	47.9	50.0	54.5	65.8			
11-Jul	50.1	58.1	59.2	63.7	62.5	63.6	63.5	67.7	59.1	46.4	39.6	34.2	29.8	29.5	30.8	32.0	33.7	35.5	38.1	45.5	59.8	59.6	62.9	59.8	49.4	67.7			
12-Jul	62.1	76.1	82.2	82.9	89.6	90.3	90.2	86.2	90.5	90.6	86.6	83.0	71.5	70.4	61.2	51.9	48.9	49.4	52.5	55.2	52.9	54.5	58.9	68.0	71.1	90.6			
13-Jul	70.0	68.9	68.5	65.1	74.2	78.9	74.6	74.6	72.0	68.8	69.0	63.4	52.8	50.4	42.1	39.8	38.2	36.6	38.4	39.4	43.1	47.7	51.1	53.7	57.6	78.9			
14-Jul	60.2	66.1	66.1	61.3	67.1	68.3	67.6	55.4	46.2	44.0	41.5	40.4	38.2	37.0	37.9	35.0	32.4	34.6	34.3	35.3	37.1	36.3	37.1	39.4	46.6	68.3			
15-Jul	41.9	46.5	63.4	77.0	68.7	66.2	73.6	61.8	56.3	51.0	48.2	37.2	30.7	28.6	27.5	26.9	28.0	28.1	28.0	26.5	26.8	27.6	31.6	37.2	43.3	77.0			
16-Jul	45.1	48.7	40.5	40.9	43.7	45.4	48.4	51.6	46.9	45.5	42.8	31.6	28.9	27.6	24.9	25.5	23.8	24.4	24.5	23.6	23.9	28.3	30.5	32.5	35.4	51.6			
17-Jul	45.0	39.0	62.0	59.8	65.9	70.6	70.4	68.0	62.0	54.8	46.3	39.6	28.1	25.7	25.5	25.5	24.8	24.7	24.1	23.4	23.9	24.1	27.0	32.8	41.4	70.6			
18-Jul	43.4	49.9	53.5	60.7	67.1	69.3	68.8	63.2	57.9	50.3	42.5	34.6	29.4	25.0	26.5	27.6	27.0	26.6	26.4	26.1	30.3	31.9	34.7	37.6	42.1	69.3			
19-Jul	41.5	42.1	44.3	47.7	50.3	54.8	61.2	61.1	55.1	50.6	43.9	41.4	38.6	32.7	30.8	28.8	26.6	29.4	30.8	32.3	35.5	59.8	64.7	68.8	44.7	68.8			
20-Jul	73.0	76.9	81.1	84.4	84.3	89.9	88.5	84.1	78.0	69.3	67.7	60.1	53.1	44.7	42.8	39.9	39.4	50.4	53.1	53.3	66.1	81.9	88.7	90.5	68.4	90.5			
21-Jul	94.5	92.1	87.5	86.5	83.5	80.9	73.9	71.6	68.1	58.0	56.3	52.1	50.2	47.0	46.3	46.5	48.4	50.2	50.9	52.8	57.6	58.9	61.4	62.2	64.1	94.5			
22-Jul	59.2	59.2	59.3	66.9	69.8	71.0	66.6	64.7	59.1	52.6	46.3	44.2	43.2	40.4	37.8	35.5	34.3	33.6	32.5	33.0	35.6	39.1	40.4	44.5	48.7	71.0			
23-Jul	50.1	54.2	63.0	67.3	65.7	70.7	68.1	65.0	58.0	49.0	41.9	33.5	32.2	32.2	24.6	24.6	25.1	26.4	27.1	28.1	28.1	29.4	38.6	43.1	43.6	70.7			
24-Jul	45.7	47.1	49.7	53.1	57.9	64.3	67.3	61.0	52.8	44.6	45.5	47.5	45.0	49.9	68.0	72.2	75.9	76.0	78.9	78.5	78.7	77.2	62.6	73.4	61.4	78.9			
25-Jul	66.9	73.1	79.1	78.9	81.2	79.8	81.2	80.0	79.1	78.0	75.7	69.8	74.1	86.1	94.3	95.9	94.8	94.4	87.9	89.3	79.4	77.5	81.0	83.7	81.7	95.9			
26-Jul	76.4	77.9	73.4	74.6	73.1	74.2	84.6	86.9	82.2	78.2	60.9	54.5	53.2	53.4	53.8	56.6	61.9	63.3	67.0	66.9	66.3	64.5	65.6	66.4	68.1	86.9			
27-Jul	72.1	74.0	72.9	71.0	70.8	71.7	72.8	69.0	64.5	55.5	54.5	52.8	49.7	49.3	48.7	47.1	48.5	56.0	50.4	51.1	52.1	51.7	57.0	60.4	59.3	74.0			
28-Jul	64.4	71.2	73.2	77.7	82.0	83.0	81.1	80.1	68.1	55.9	48.0	44.9	41.6	39.6	37.9	36.7	35.7	36.2	34.3	36.4	37.6	38.3	42.4	49.1	54.0	83.0			
29-Jul	54.1	55.8	53.7	55.2	61.4	59.4	60.3	55.8	54.6	51.1	46.8	42.8	40.3	39.0	34.6	33.6	32.7	31.8	31.6	33.2	31.7	34.6	39.3	41.7	44.8	61.4			
30-Jul	44.4	43.0	56.8	58.8	55.9	52.8	54.6	59.0	56.0	56.3	53.4	44.1	34.3	31.6	27.7	27.1	27.4	28.9	31.7	33.5	34.9	34.8	35.4	40.6	42.6	59.0			
31-Jul	47.2	48.1	54.0	52.8	50.7	50.8	61.6	57.7	49.6	49.2	48.7	44.8	29.7	25.6	25.8	25.7	25.3	24.1	23.9	24.6	23.3	24.4	23.6	27.5	38.3	61.6			
60.8 64.0 66.8 68.2 69.6 71.3 71.3 68.4 64.3 59.4 54.5 49.4 44.6 42.7 41.7 41.1 40.7 42.3 43.0 44.3 45.9 48.8 51.6 56.3																										Diurnal Average			
94.5 95.0 95.6 93.5 91.8 93.3 93.5 86.9 90.5 90.6 86.6 83.0 74.1 86.1 94.3 95.9 94.8 94.4 87.9 89.3 79.4 81.9 88.7 90.5																										Diurnal Maximum			



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	187	25.13	25.13
40 - 60	267	35.89	61.02
60 - 80	212	28.49	89.52
80 - 100	78	10.48	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 - July 2025

Maximum Speed: 36 km/h on Jul 9 15:00																		Maximum Daily Speed Average: 21.2 km/h on Jul 9										Hours in Service: 744	
Minimum Speed Value: 0 km/h on Jul 4 23:00																		Minimum Daily Speed Average: 0.6 km/h on Jul 28										Hours of Data: 744	
Maximum Diurnal Speed Average: 4.4 km/h at hour 13																		Minimum Diurnal Speed Average: 0.5 km/h at hour 23										Hours of Missing Data: 0	
Monthly Average Velocity: 1.9 km/h 225.4 deg																		Percentiles: P ₁ = 1 P ₁₀ = 2 Q ₁ = 4 Median = 7 Q ₃ = 11 P ₉₀ = 16 P ₉₉ = 29										Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum			
1-Jul	NNW1	N2	N1	N2	NW1	N1	NNW2	WNW3	N2	N2	SE1	ESE2	ESE4	ESE6	SSE6	SE7	ESE5	E4	WSW6	SE11	ESE12	ESE7	SE10	SE8	ESE2.7	ESE12			
2-Jul	SE6	SE3	S4	SE11	SE13	SE12	SE15	SE13	SE14	WSW5	W9	WSW9	SSW9	NNW6	NNE2	SE3	SW6	S3	SE7	SE5	ESE4	ESE12	ESE13	WSW14	SSE5.3	SE15			
3-Jul	NNW10	W0	SSW3	WSW5	NW5	WSW8	W10	WSW14	WSW14	WSW16	WSW13	WSW17	WSW24	SW23	SW24	SSW22	SSW22	SW24	W20	W11	WSW11	WSW12	WSW16	WSW16	WSW12.6	SW24			
4-Jul	W16	WSW18	WSW16	W14	WNW16	NW14	NW12	WNW16	WNW18	WNW13	NW13	NW14	NW13	NW10	NNW8	NNW11	NNW11	N15	NNW3	N2	N2	ENE1	ENE0	SSE1	WNW9.3	WNW18			
5-Jul	ESE3	NNE2	ESE4	ESE6	ESE5	SE7	N3	ESE4	ESE7	SE10	SE9	SSE9	ESE8	SSE8	SSE22	SE4	NNW3	NNE3	NW4	NNW3	NNW6	NNW5	NNE2	N3	SE3.0	SSE22			
6-Jul	NE2	NNE4	NNW7	NNW3	NNW2	N4	N5	NNW4	NNW4	N9	NNW9	NNW9	NNW9	NNW8	NW8	SSE12	NNW3	NNW5	NNE4	NNW1	WNW1	NW3	NNE1	N2	NNW3.7	SSE12			
7-Jul	NE1	E2	ESE2	N2	NE0	SE2	ESE3	SE8	SE7	S10	SSE10	SSE9	SE8	S9	SSW5	SSE17	SSE18	SSE19	SSE18	SSE18	SSE16	SSE14	SSE14	S11	SSE8.6	SSE19			
8-Jul	S17	S9	ENE5	ESE8	NE7	SE10	SE9	SE12	SE11	SSE13	S24	S28	S27	SSE22	S22	S28	S24	S19	SSW14	SSE11	SSE3	NW2	W18	WNW13	S11.7	S28			
9-Jul	N1	S10	SSW14	SW23	SW19	SW24	SW24	SW27	WSW25	WSW26	SW30	SW30	SW29	WSW33	WSW36	WSW33	WSW28	WSW26	WSW24	WSW19	NW13	WNW18	W15	W13	WSW21.2	WSW36			
10-Jul	WSW11	WSW10	WSW14	W12	W9	W10	WSW13	W12	WSW12	WSW9	W8	W9	WNW11	NW13	NW11	WNW9	WNW9	NW9	NW9	NW6	WNW1	SSE2	SE2	SE5	W7.5	WSW14			
11-Jul	SE4	SE6	SE7	ESE8	SE12	SE14	SE18	SE13	SE14	S26	SSW30	SSW30	SW29	WSW22	WSW24	WSW23	SW20	SW16	WSW7	WSW14	W1	SE5	ESE7	S6	SSW10.6	SSW30			
12-Jul	SSW8	WSW16	WSW11	WSW12	W9	WSW9	W11	WNW12	W9	NW5	NW5	NW4	WNW12	WNW6	WNW4	WSW12	WSW12	WSW21	WSW17	WSW15	WSW16	W14	NNW12	NNW8	W9.6	WSW21			
13-Jul	NNW4	SSW2	SSW5	SW9	WSW3	NNW5	NW4	N4	N8	N13	N13	N10	NNW10	NNW13	NNW11	N13	N11	N13	N14	NNE12	NNE8	N5	NNW5	N3	N6.7	N14			
14-Jul	ESE1	NNW2	N2	NNW4	NNW2	N4	NNW6	NNW11	NNW13	NNW14	NNW12	NNW10	NNW10	NNW11	NNW11	NNW10	N11	N9	N9	NNE7	NNE3	WNW1	NNW1	N1	NNW6.6	NNW14			
15-Jul	N2	SE1	ESE2	ESE2	ESE4	ESE5	SE7	SE8	SE9	SE9	SE7	SSW4	WSW7	WSW5	S3	S6	SSE13	SSE13	SSE16	SSE18	SSE20	SSE20	SSE23	SE14	SSE7.9	SSE23			
16-Jul	SE7	SE5	SE11	SE10	SE7	SE9	ESE6	ESE8	ESE10	SE7	SE9	ESE9	SSE7	SE7	SSE4	SE4	SE7	SE6	ESE3	E1	N1	N0	S1	NNW1	SE5.5	SE11			
17-Jul	NW1	E2	SSE1	ESE2	ESE3	E2	ESE5	ESE3	ESE2	ENE2	NNW4	NNW5	NW6	NNW7	NNW10	N8	N9	N8	NNE6	N3	NNW2	WNW2	NNW1	N0	N2.5	NNW10			
18-Jul	NNW2	SSW1	E1	SE3	ESE6	ESE6	ESE6	SE9	SE10	SE7	ESE8	ESE9	SE9	SSE10	SSE11	SSE10	S18	SSE16	SSE14	SSE13	SSE11	SE11	SE11	SE11	SE8.2	SSE18			
19-Jul	SSE6	SSE7	SE5	SE5	ENE2	ENE2	ESE4	ESE2	ESE5	ESE7	SE7	SE9	SE9	SSE10	SE8	SE9	SSE8	SSE10	SE8	SE6	NNE3	NNW8	NNW4	NNW3	SE4.5	SSE10			
20-Jul	N3	NNW3	NNW4	NNW4	NNW4	NNW5	NNW7	NNW6	NNW3	NW3	NW4	NNE2	SE3	ESE7	ESE6	ESE5	NW9	NNW8	NW1	NW2	N15	N14	NNW16	N20	N4.9	NNW20			
21-Jul	NNW18	N21	N20	N13	N14	N14	N15	NNW16	NNW16	NNW14	NNW13	NNW13	NNW11	NNW11	NNW11	NNW11	NNW11	NW10	NW10	NNW8	N3	NE2	NNW2	NW3	NNW11.4	N21			
22-Jul	NW4	NNW3	W1	SSW1	W2	W4	W9	W10	WSW12	WSW13	W7	W8	NNW5	NW6	WNW4	WNW8	NNW6	N7	N7	NW3	NW1	NNE1	NW1	N1	WNW4.0	WSW13			
23-Jul	N1	NNE1	N1	ESE3	ESE4	ESE4	SE7	ESE6	ESE5	E4	ESE6	E5	WSW8	SW10	W4	NNW4	NNE4	SW12	SSW13	SSW13	SSW12	SW4	SE5	SE3	S2.8	SSW13			
24-Jul	ESE6	ESE5	ESE4	ESE6	ESE8	ESE6	ESE6	SE5	SE6	SE12	SE14	SE12	SE12	SSE16	SE9	ESE6	ESE7	SE4	SSE4	SE6	SSE2	NW4	N3	ESE1	SE6.0	SSE16			
25-Jul	ESE3	SSW3	SE7	SW8	WSW11	SW15	SW13	WSW16	WSW14	WSW16	SW14	W11	NW9	NW10	NW6	NNW12	NNW9	NW8	NNW6	WNW5	WNW6	NW4	NNW3	WNW4	W6.1	WSW16			
26-Jul	NW3	NW1	NNW1	SSE1	N2	ESE3	ESE4	SE6	SE6	SE7	SW8	WSW14	WSW11	N3	NNW6	N12	NNE13	NNE13	NNE11	NNE5	NNW3	NNW3	NNW4	NNW5	N2.0	WSW14			
27-Jul	NW4	NNW3	NNW5	NNW9	N10	N11	N7	NNW8	NNW8	NNW9	NNW9	NW10	NW6	NW7	NW7	NNW10	NNW5	NW3	NW4	NW6	NNW5	NNW5	NW2	NNW6.6	N11				
28-Jul	NNW2	WNW1	ENE1	ENE1	ESE2	ESE7	ESE7	ESE6	SE4	SW3	SW5	SW7	SW9	N5	NNE2	NNE4	NE2	N1	NNE1	NNE2	SSW1	SSW1	SSE1	N1	SE0.6	SW9			
29-Jul	ESE3	ESE4	ESE4	E2	E2	ESE3	SE7	SE7	SE8	SE6	SE7	ESE6	ESE4	SE8	SSW6	SW6	SW4	S6	SSW10	SSE15	S11	ENE2	NW1	SE7	SSE4.4	SSE15			
30-Jul	SE4	SE5	N3	S0	SE7	SE8	ESE8	SE7	SE12	SE10	SE11	SE7	NW4	NNE3	NW7	N9	N9	NNW7	N6	N3	NNW2	NNW3	NNW3	NNW3	E2.0	SE12			
31-Jul	WNW1	WSW1	ESE1	SE1	ESE3	SE9	SE9	SE9	SE9	SE9	SE9	SE5	W9	SSW14	SSW14	SSW11	SSW7	SSW7	SSW10	SSW11	S6	SE3	ENE2	ESE4	S4.9	SSW14			
W0.6 SW0.9 SW0.8 SW1.4 S0.7 SSE1.4 S1.7SSW1.7 S2.1SSW2.6SSW3.4 SW3.9WSW4.4WSW3.4WSW4.1 SW2.7WSW2.2WSW2.6WSW2.5SSW2.5 SW1.3WSW0.8WSW0.5 W1.1																								Diurnal Average					
NNW18 N21 N20 SW23 SW19 SW24 SW24 SW27WSW25WSW26 SSW30 SW30 SW29WSW33WSW36WSW33WSW28WSW26WSW24WSW19 SSE20 SSE20 SSE23NNW20																								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

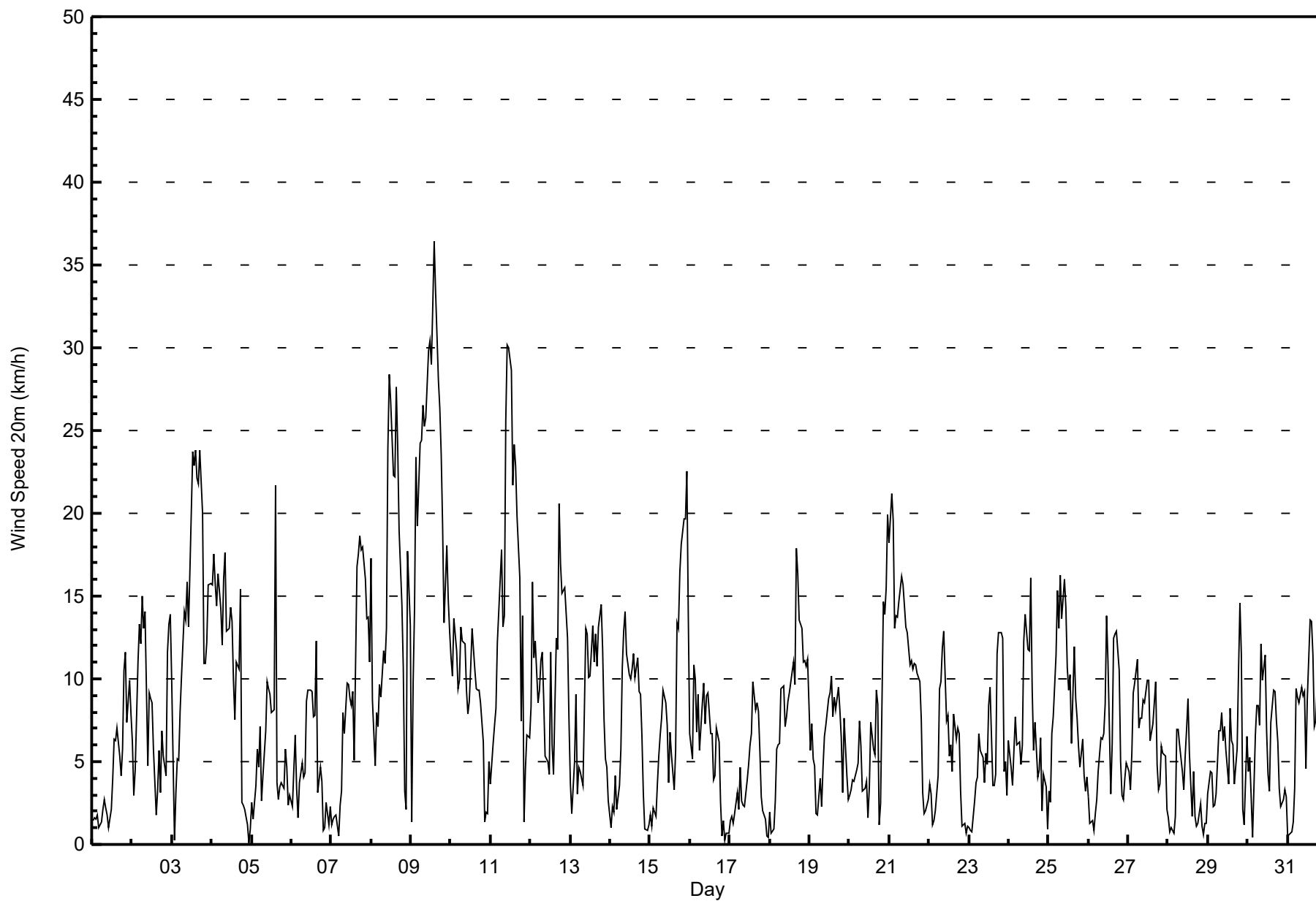
Lower Camp Met Tower - July 2025

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



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	287	38.58	38.58
6 - 11	276	37.10	75.67
12 - 19	136	18.28	93.95
20 - 28	36	4.84	98.79
29 - 38	9	1.21	100.00
> 38	0	0.00	100.00

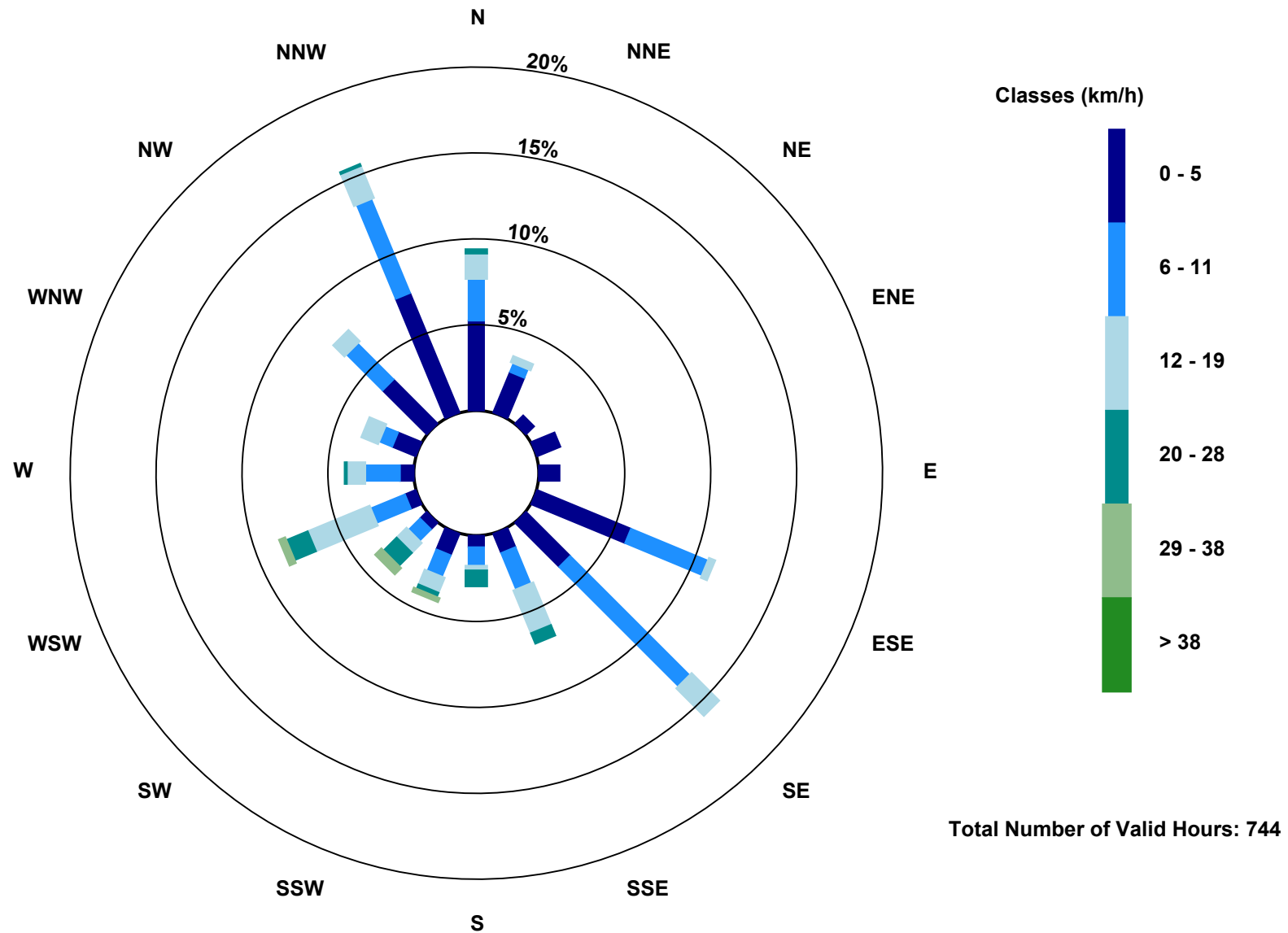
Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Speed 45m (WS45) - km/h

Lower Camp Met Tower - July 2025

Maximum Speed: 44 km/h on Jul 9 15:00																		Maximum Daily Speed Average: 27.2 km/h on Jul 9										Hours in Service: 744	
Minimum Speed Value: 0 km/h on Jul 31 02:00																		Minimum Daily Speed Average: 0.7 km/h on Jul 28										Hours of Data: 744	
Maximum Diurnal Speed Average: 5.4 km/h at hour 13																		Minimum Diurnal Speed Average: 0.8 km/h at hour 23										Hours of Missing Data: 0	
Monthly Average Velocity: 2.1 km/h 240.7 deg																		Percentiles: P ₁ = 1 P ₁₀ = 3 Q ₁ = 6 Median = 10 Q ₃ = 16 P ₉₀ = 22 P ₉₉ = 34										Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum			
1-Jul	NNW2	NNW4	NW2	NW3	WNW2	N2	N3	NW3	NNW2	NNW2	SE0	E2	ESE4	ESE8	SSE7	ESE9	ESE6	ENE7	W6	SE15	ESE18	ESE15	SE16	SE11	ESE3.8	ESE18			
2-Jul	SE10	ESE8	SSE7	SE15	SE19	SE18	SE19	SE16	SE19	WSW7	W12WSW10	SSW10	NNW10	N4	SE4	SW6	S3	ESE10	ESE8	ESE9	ESE19	ESE21	WSW18	SE7.2	ESE21				
3-Jul	NNW16	NNE1	SSW5	SW8	NW9	WSW10	WSW15	WSW20	WSW18	WSW20	WSW17	WSW20	WSW28	SW25	SW27	SSW24	SSW24	SW27	W28	W15	WSW16	WSW18	WSW23	WSW23	WSW16.0	WSW28			
4-Jul	W23	WSW26	WSW23	W21	WNW24	NW21	WNW19	NNW23	NNW24	NNW18	NW19	NW22	NW21	NW17	NNW12	NNW17	N17	N23	NNW5	N5	NNE4	ENE2	SW1	SE2	WNW13.7	WSW26			
5-Jul	SE4	NW0	SE5	SE8	SE7	SE11	N4	ESE7	ESE9	SE11	SE12	SSE10	ESE9	SSE9	SSE23	SE6	NW4	NNE6	NNW5	N6	N10	N9	NE5	NNE5	ESE4.0	SSE23			
6-Jul	E5	ENE6	N10	N7	N4	N6	N7	NNW6	NNW7	N12	NNW13	NNW12	NNW13	NNW11	NW12	SSE14	NNW5	N8	NNE7	NNE2	NNE1	WNW3	NNE1	N3	N5.4	SSE14			
7-Jul	NNE3	ENE3	ESE2	N2	ENE1	SSE4	ESE4	SE11	SE9	S10	SSE11	SSE10	SE11	S10	SSW6	SSE19	SSE20	SSE21	SSW20	SSE21	SSE20	S19	S19	S17	SSE10.4	SSE21			
8-Jul	S25	S13	E6	ESE10	ESE10	SE14	SE13	SE13	SE14	SSE15	S26	S30	S28	SSE24	S23	S29	S25	S20	SSW16	S12	SSE9	SE1	W25	WNW20	S13.7	S30			
9-Jul	N3	S12	SSW17	SW28	SW24	SW28	SW29	SW32	WSW31	WSW32	SW35	SW36	SW35	WSW40	WSW44	WSW43	WSW40	WSW37	WSW33	WSW28	WNW21	WNW27	W22	W19	WSW27.2	WSW44			
10-Jul	WSW16	WSW14	WSW19	W18	W15	W16	WSW19	W19	WSW16	WSW12	W11	W11	WNW16	NW19	NW15	WNW14	WNW14	NW15	NW14	NW10	NW5	WSW3	SSW3	S4	W11.6	WSW19			
11-Jul	S3	SE8	SE10	SE10	SE16	SE19	SE24	SE19	SE17	S27	SSW33	SSW33	SW33	WSW28	WSW31	WSW31	SW24	WSW21	WSW11	WSW19	W3	ESE7	SSE8	SSW10	SSW13.1	SSW33			
12-Jul	SSW12	WSW22	WSW18	WSW18	WSW13	WSW14	WSW18	NNW20	W14	NW9	NW7	NW7	WNW17	WNW9	W7	WSW18	WSW16	WSW30	WSW24	WSW22	WSW23	W22	NNW20	NNW13	W14.3	WSW30			
13-Jul	NNW8	WSW2	SW9	SW13	WSW5	NNW7	NW7	NNW5	N12	N19	N19	N16	N15	NNW18	NNW16	N19	N16	N20	N22	NNE19	NNE14	NNE10	NNW9	NNW6	N10.5	N22			
14-Jul	NW1	NNW6	NNW4	N8	N4	N5	NNW9	NNW16	NNW19	NNW20	NNW16	NNW14	NNW14	NNW15	N16	NNW15	N16	N13	N14	NNE11	NE8	NNW3	N3	NW1	N10.3	NNW20			
15-Jul	W1	SSE1	SE5	SSE3	SE5	SE7	SE7	ESE9	SE11	SE10	SE9	SSW4	WSW9	WSW7	S4	SSE6	SSE15	SSE14	SSE18	SSE21	SSE25	SSE26	SSE28	SSE21	SSE9.7	SSE28			
16-Jul	SE12	ESE9	SE14	SE15	SE11	SE13	ESE10	ESE12	ESE13	ESE9	SE10	ESE11	SE8	SE8	SSE4	SE5	ESE9	ESE9	E4	E2	N2	SW1	ESE1	W1	SE7.7	SE15			
17-Jul	NNW4	E2	SE1	SE5	SE6	ESE4	ESE6	E3	ESE3	NE3	NW5	NNW6	NW8	NNW9	NNW14	N12	N12	N12	NNE11	NNE7	NNW5	NNW3	N2	E3	N3.7	NNW14			
18-Jul	WNW2	SSE0	SE3	SE5	SE8	SE8	SE10	SE13	SE13	ESE10	ESE10	ESE11	SE11	SSE12	SSE12	SSE11	SSE19	SSE18	SSE16	SSE15	SE13	SE16	SE16	SE17	SE10.7	SSE19			
19-Jul	SE10	SE12	SE10	SE9	ESE3	ESE3	SE4	E3	ESE6	ESE8	ESE9	SE12	SE11	SSE11	SE9	SE11	SE10	SE12	SE12	SE8	N5	NNW15	NNW8	N7	ESE6.0	NNW15			
20-Jul	NNW7	NNW7	NNW10	NNW8	N8	NNW9	NNW11	N9	NNW5	NW4	NW5	N2	ESE3	ESE9	ESE8	ESE9	NW14	NNW15	NNW2	NNW4	N22	N21	N22	N29	N8.0	N29			
21-Jul	NNW28	N32	N28	N20	N20	N20	N21	NNW24	NNW25	NNW22	NNW19	NNW18	NNW16	NNW17	NNW15	NNW16	NNW18	NNW18	NW15	NNW12	N5	NE4	NNE4	NNW4	NNW17.3	N32			
22-Jul	NW7	NNW6	NW2	SW3	WSW4	W7	W13	W14	WSW14	WSW15	WNW10	NNW10	NW7	NW9	WNW6	NNW11	NNW8	N10	N10	NNW6	NNE2	NNE2	ENE1	NW0	WNW5.8	WSW15			
23-Jul	WSW1	SSW1	SSW1	SE5	SE4	ESE6	SE9	ESE7	ESE6	E5	ESE6	E5	WSW11	SW10	W5	N4	NNE6	SW12	SSW14	SSW15	SSW17	SW9	SE6	SSE6	S3.9	SSW17			
24-Jul	SE9	SE8	SE5	SE8	SE11	ESE9	ESE9	ESE7	SE8	ESE19	SE19	SE17	SE16	SSE19	SE12	ESE9	ESE12	ESE7	SE5	SE9	SE5	NW7	NNW5	E0	SE8.6	SE19			
25-Jul	SSE4	S5	SSE7	WSW13	WSW17	SW20	SW16	WSW23	WSW20	WSW20	WSW17	W14	NW13	NW15	NW10	NNW19	NNW15	NW13	NNW10	NW8	WNW9	WNW7	WNW5	WNW6	W9.1	WSW23			
26-Jul	NW7	NW5	NW4	W2	NW3	S3	SSE5	S7	ESE7	SE7	SW10	WSW17	WSW14	N4	N8	N19	NNE20	NNE20	NNE16	NNE8	N5	NNW4	NNW9	NNW10	NNW3.9	NNE20			
27-Jul	NNW9	NNW7	NNW10	N14	N14	N16	N12	NNW12	NNW11	NNW13	NNW13	NW14	NW15	NW10	NW11	NNW11	NNW15	NNW8	NW6	NW8	WNW11	NNW10	NNW10	NW5	NNW10.6	N16			
28-Jul	NW4	NW2	SSW1	SE1	SE4	SE7	SE7	ESE7	SE4	WSW4	WSW6	WSW8	WSW10	N6	NNE4	NNE6	NE2	N2	N2	NE3	E3	ESE3	SE5	ESE3	SE0.7	WSW10			
29-Jul	SE6	ESE7	ESE5	ESE3	ESE4	SE4	SE9	SE10	SE9	ESE8	SE9	ESE7	ESE4	SE10	SW7	SW7	WSW6	SSW7	SSW11	SSE17	S18	SSE6	NNW3	SE9	SSE5.9	S18			
30-Jul	SE9	SE10	NNE3	NE2	SE10	SE12	SE12	SE10	SE15	SE14	SE13	SE7	NW7	NNE5	NW12	N13	N13	N12	NNE10	NNE7	NNE5	N4	N4	N4	ENE3.3	SE15			
31-Jul	WNW1	WNW0	SE6	SE5	SE6	SE13	SE11	ESE11	ESE13	ESE12	SE12	ESE6	W12	SSW15	SSW15	SSW14	SW8	SSW8	SSW11	SSW13	S14	S11	S6	SSE9	S7.1	SSW15			
W1.1 SW1.0 SW1.5 SW2.1SSW1.3 SSE2.1 S2.0 SW1.8SSW1.9 SW2.4 SW3.2WSW4.3WSW5.4WSW4.1WSW4.7WSW3.0WNW2.9NNW3.1 W2.8 SW2.1 SW1.2WSW1.3 W0.8 W1.6																								Diurnal Average					
NNW28 N32 N28 SW28WNW24 SW28 SW29 SW32WSW31WSW32 SW35 SW36 SW35WSW40WSW44WSW43WSW40WSW37WSW33WSW28 SSE25WNW27 SSE28 N29																								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

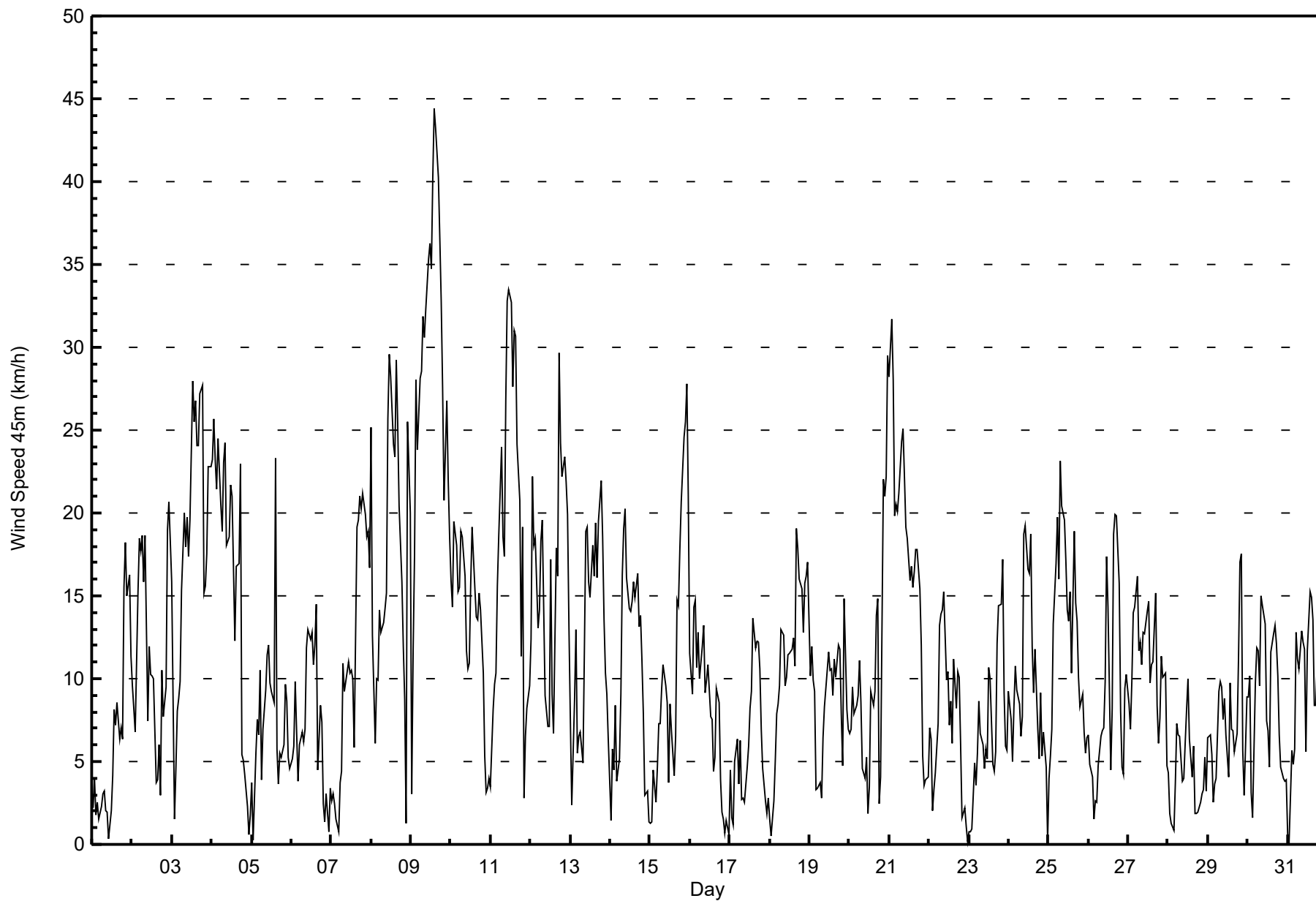
Lower Camp Met Tower - July 2025

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



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	179	24.06	24.06
6 - 11	251	33.74	57.80
12 - 19	207	27.82	85.62
20 - 28	84	11.29	96.91
29 - 38	19	2.55	99.46
> 38	4	0.54	100.00

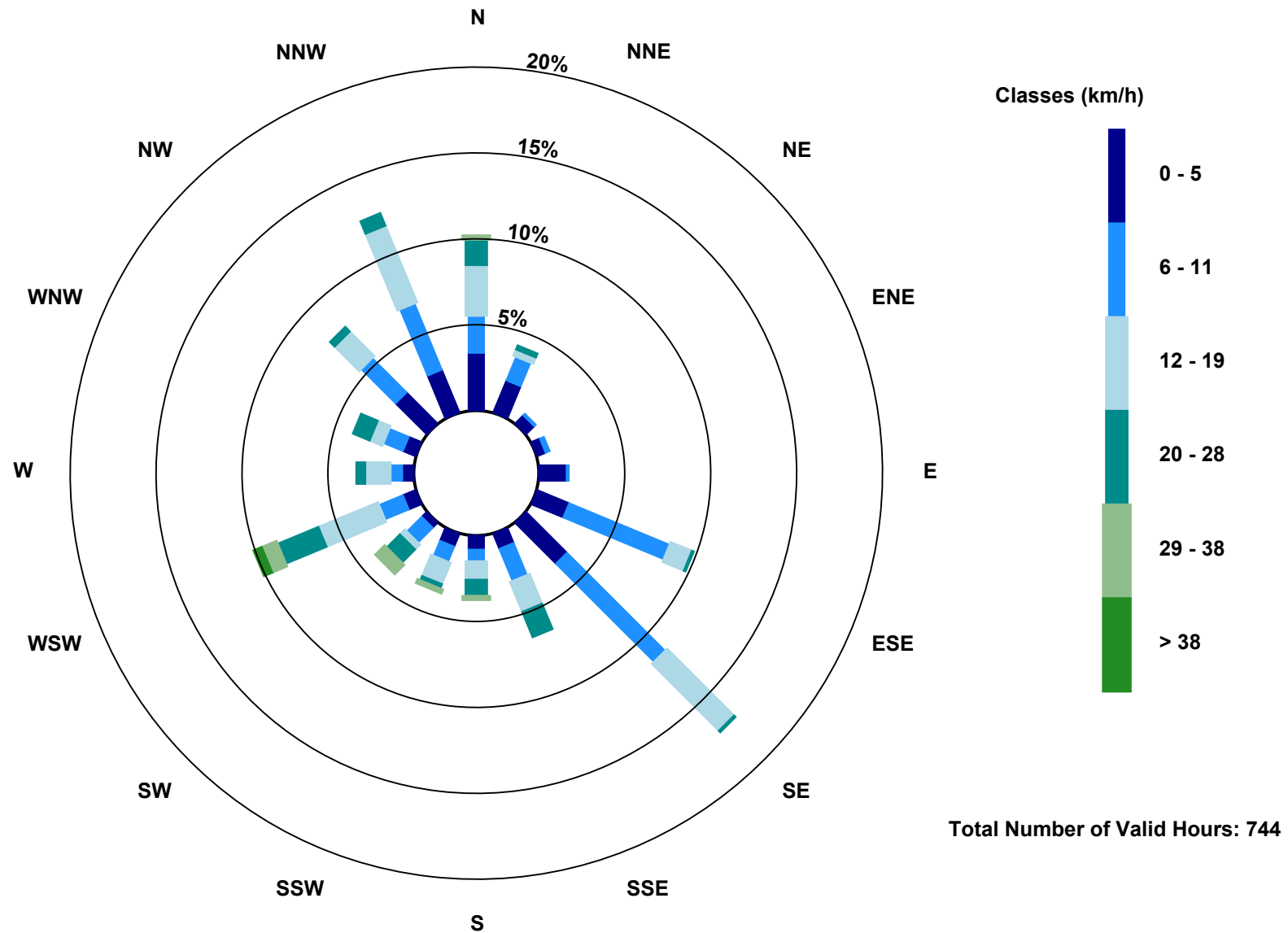
Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Speed 100m (WS100) - km/h

Lower Camp Met Tower - July 2025

Maximum Speed: 52 km/h on Jul 9 16:00															Maximum Daily Speed Average: 33.2 km/h on Jul 9															Hours in Service: 744	
Minimum Speed Value: 1 km/h on Jul 1 11:00															Minimum Daily Speed Average: 1.0 km/h on Jul 28															Hours of Data: 744	
Maximum Diurnal Speed Average: 6.3 km/h at hour 13															Minimum Diurnal Speed Average: 0.6 km/h at hour 21															Hours of Missing Data: 0	
Monthly Average Velocity: 3.2 km/h 244.6 deg															Percentiles: P ₁ = 2 P ₁₀ = 5 Q ₁ = 8 Median = 13 Q ₃ = 20 P ₉₀ = 27 P ₉₉ = 40															Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
1-Jul	NNE4	NNE6	NNE5	N5	N2	WNW1	NE4	NE3	WSW1	NW2	N1	E2	ESE4	ESE9	SSE8	ESE9	E7	ENE8	WSW3	SE21	SE24	SE24	SE24	SE18	ESE5.8	SE24					
2-Jul	SSE17	SE16	SE14	SSE20	SSE23	SE20	SE21	SSE16	SE18	WSW12	W13	WSW12	SSW12	NNW12	NNE4	SE4	SW6	S3	ESE11	ESE12	ESE19	ESE27	ESE29	WSW21	SSE9.7	ESE29					
3-Jul	NNW23	NNE5	SW5	WSW9	NW12	W12	W19	WSW24	WSW20	WSW23	WSW20	WSW21	WSW31	SW29	SW30	SSW27	SW26	SW31	WNW34	W20	WSW20	W22	WSW29	WSW28	WSW18.8	WNW34					
4-Jul	W30	W33	WSW29	W27	WNW31	NW29	NW27	WNW29	WNW28	WNW21	NW22	NW26	NW26	NW23	NNW16	NNW21	N20	N27	N8	N8	NNE8	E3	SSE2	SSW3	NW17.1	W33					
5-Jul	S5	SW3	SE6	SSE9	SSE8	SE15	NNW2	SE7	ESE13	SE13	SE14	SSE11	SE10	SSE8	SSE24	SE7	NNW3	NE7	NNE5	NNE9	NNE10	NNE11	ENE7	ENE6	ESE5.5	SSE24					
6-Jul	ESE13	ESE11	NNE8	N13	N8	N8	N8	N8	N9	N13	N15	N13	NNW14	NNW12	NW13	SSE17	WNW5	N12	NNE13	NE7	ENE6	W2	SW4	WNW4	N6.2	SSE17					
7-Jul	N4	NNE6	E5	SE2	SSW2	SSE7	SE7	SE11	SE11	S11	SSE12	SSE12	SE12	S11	SW8	SSE21	SSE20	SSE22	S24	SSE24	S20	SSW23	SSW30	SSW33	S12.3	SSW33					
8-Jul	SSW40	SSW23	SE8	SSE10	SSE10	SSE15	SE16	SSE14	SE15	S17	S27	S31	S30	S25	S25	S32	S27	S22	SSW18	S15	S12	ESE10	W30	WNW26	S16.8	SSW40					
9-Jul	NNW5	SSW16	SW26	SW37	SW33	SW35	SW33	WSW36	WSW34	WSW36	SW40	SW40	SW40	WSW47	WSW51	WSW52	WSW49	WSW45	WSW39	WSW35	WNW28	WNW32	W28	W25	WSW33.2	WSW52					
10-Jul	WSW22	WSW21	WSW26	W25	WNW22	W19	W23	W22	WSW18	W13	W12	W13	WNW18	NW22	NW18	WNW15	WNW17	NW19	NW18	NW14	NW8	WNW7	SW9	SW7	W15.3	WSW26					
11-Jul	SW7	S5	S10	S10	SSE15	SSE16	SSE18	SE20	SSE19	S29	SSW35	SSW38	SW37	WSW33	WSW37	WSW38	SW29	WSW27	WSW18	WSW27	WNW7	E5	S12	SW17	SSW17.0	WSW38					
12-Jul	SW20	WSW30	WSW25	WSW26	WSW18	WSW20	W24	WNW26	W20	WNW14	NW9	NW10	WNW20	WNW11	W9	WSW21	W20	WSW36	WSW32	WSW30	W31	W30	NNW26	N17	W19.1	WSW36					
13-Jul	N12	N2	SW12	WSW22	WSW12	N10	NW10	NNW6	N14	N21	N23	N20	N18	NNW22	NNW19	N22	N20	N23	N25	NNE22	NNE19	NNE19	N14	NNW13	N13.4	N25					
14-Jul	NNW8	NNW10	NNW12	N14	NNW8	N9	N11	NNW20	NNW22	NNW24	NNW19	NNW16	NNW16	NNW16	N18	NNW18	N19	N16	N16	NNE14	NE12	NNE10	N6	NNE4	N13.7	NNW24					
15-Jul	WSW2	SW4	SSE7	S5	SSE7	SSE7	SSE6	SE9	SE10	SE9	SE9	SW5	W10	WSW8	SSW6	S7	SSE15	SSE15	SSE19	SSE26	SSE31	SSE34	SSE35	SSE30	SSE11.9	SSE35					
16-Jul	SE16	SE12	SSE16	SSE18	SSE15	SSE15	SE14	SE13	SE13	SE11	SE9	SE11	SE9	SE8	S5	SE7	ESE10	ESE10	E5	E2	NE1	SSE4	SE6	SE6	SE9.5	SSE18					
17-Jul	N7	ESE3	SSE3	WSW3	SSE2	SSE4	S4	SE2	SE3	NW2	WNW5	NW6	NW9	NNW10	NNW15	N14	N14	N14	NNE13	NE10	NE10	ENE8	ESE13	NNE4.5	NNW15						
18-Jul	ESE9	SE6	SSE4	SE8	SSE10	SSE10	SE14	SE14	SE16	SE13	SE12	SE12	SE13	SSE14	SSE14	SSE13	S20	SSE19	SSE19	SSE19	SE19	SE21	SE22	SE22	SSE13.9	SE22					
19-Jul	SE15	SE17	SE17	SE16	SE11	ESE3	SSE2	ESE4	SE10	SE10	ESE11	SE12	SSE13	SSE10	SE10	SE12	SSE11	SE14	SE16	SE10	NNE6	N22	N12	NNE11	SE7.9	N22					
20-Jul	N10	NNW13	NNW15	NNW14	N15	N14	N14	N10	NNW5	NW4	NW6	NNW1	ESE4	ESE9	ESE9	ESE9	NW17	NNW19	N4	N7	N28	N25	N28	N35	N10.9	N35					
21-Jul	N35	N39	N36	N26	N27	N25	N26	NNW31	NNW32	NNW27	NNW23	NNW22	NNW20	NNW20	NNW19	NNW21	NNW23	NNW23	NW20	NNW16	N8	NNE6	NNE7	NNW6	NNW21.9	N39					
22-Jul	NNW10	NW10	NW6	SW8	W9	WSW11	W16	W16	WSW15	WSW17	WNW12	WNW12	NW9	NW11	WNW7	WNW13	NNW9	N12	N12	NNW9	NNE4	NE4	E7	SE9	WNW6.8	WSW17					
23-Jul	SE8	SE5	SE7	SE8	SSE6	SSE6	SSE8	ESE7	ESE7	ESE6	ESE6	ESE6	WSW11	SW10	W6	NNW4	N5	SW13	SSW15	SSW18	SW21	SW17	S7	SSW7	S5.7	SW21					
24-Jul	S7	SSE9	SSE12	SSE14	SSE14	SE12	SE11	SE10	ESE13	SE25	SE24	SE22	SE22	SSE22	SE16	ESE16	ESE17	ESE13	ESE9	SE13	SE11	WNW9	WNW6	NW4	SE11.7	SE25					
25-Jul	SSW9	SSW12	SSW10	WSW22	WSW24	SW27	SW22	WSW29	WSW24	WSW22	WSW19	W17	NNW17	NW18	NW15	N24	N20	NNW20	N15	NNW9	WNW9	W12	WSW13	WNW10	W12.4	WSW29					
26-Jul	NW13	NW11	NW9	WNW7	WNW7	WSW8	SW8	SW8	SSE5	S6	SW12	WSW20	WSW18	N4	N8	NNE21	NNE23	NNE24	NNE18	NNE10	NNE6	NNE5	NNW12	NNW15	NNW5.8	NNE24					
27-Jul	NNW13	N10	N14	N18	N18	N20	N16	NNW16	NNW13	NNW16	NNW16	NW17	NNW19	NW12	NW13	NW13	NNW19	N11	NNW9	NNW12	WNW16	WNW19	NW14	NW8	NNW13.8	N20					
28-Jul	WNW9	WNW6	W6	W1	SSW4	SSW7	SSW7	SSE5	SSW4	WSW5	WSW7	WSW9	WSW11	N6	NNE6	NNE6	NNE2	N2	NNW2	NNE3	ENE7	ESE12	SE9	ESE9	SW1.0	ESE12					
29-Jul	SE11	SE11	SSE9	SSE7	SE5	SE5	SE12	SE13	SE9	ESE9	SE9	ESE7	ESE4	SE10	SW9	WSW8	WSW7	SSW8	SSW12	S19	S18	SSW12	SW5	SSW6	SSE7.6	S19					
30-Jul	SW3	SW6	NW5	ENE8	SE12	SSE10	SSE11	SSE12	SSE14	SE14	SSE12	S8	NW8	N5	NW14	N14	N14	N14	NNE12	NE10	NE11	NE8	ENE4	ESE5	ENE2.1	SE14					
31-Jul	SE6	SE9	SE9	SSE9	SSE10	SSE17	SSE11	SE7	SE11	SE13	SE11	SE7	WSW13	SSW17	SSW16	SSW15	SW10	SSW9	SSW12	SSW14	SSW17	SSW22	SSW22	S22	S10.8	SSW22					
W2.4 SSW2.6 SSW2.9 SW4.3 SW3.4 SW3.8 SW4.0WSW3.4 SW2.8 SW3.6 SW3.9WSW5.3 W6.3 W5.2WSW5.6 W3.5WNW3.8WNW3.8 W3.0 SW2.1SSW0.6 SW1.3 SW2.6WSW3.4																									Diurnal Average						
SSW40 N39 N36 SW37 SW33 SW35 SW33WSW36WSW34WSW36 SW40 SW40WSW40WSW47WSW51WSW52WSW49WSW45WSW39WSW35 SSE31 SSE34 SSE35 N35																									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 100m (WS100) - km/h

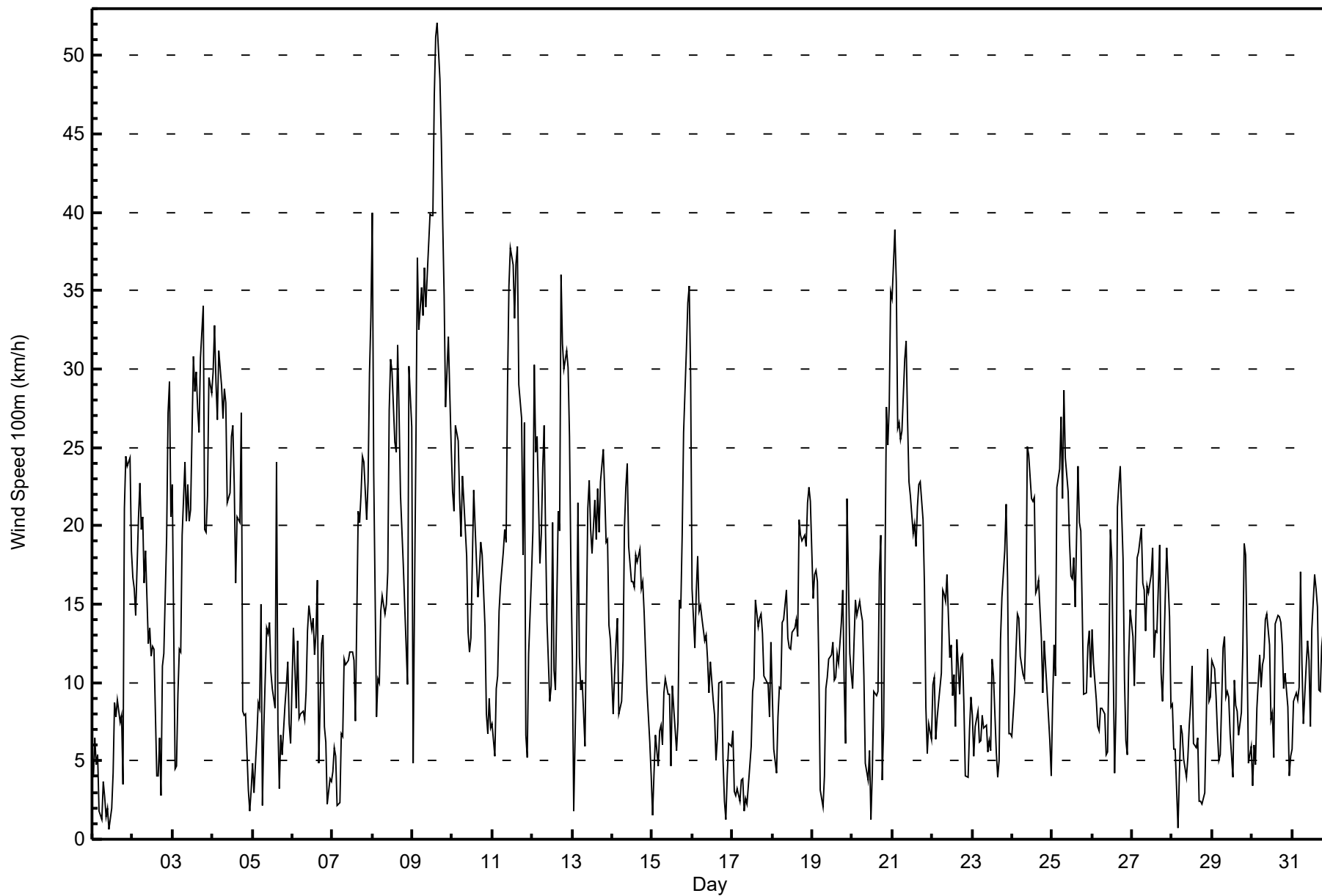
Lower Camp Met Tower - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 17 km/h on Jul 8 23:00																		Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0							
Minimum Value: 1 km/h on Jul 22 02:00																									
Percentiles: P ₁ = 1 P ₁₀ = 2 Q ₁ = 2 Median = 3 Q ₃ = 4 P ₉₀ = 6 P 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-Jul	1	1	1	2	1	1	1	2	1	1	2	2	2	2	3	2	3	2	7	4	3	3	6	7	7
2-Jul	5	7	3	5	3	2	2	2	3	7	6	3	5	5	3	3	3	3	4	4	4	4	5	17	17
3-Jul	7	4	2	8	4	6	5	5	3	4	3	6	4	6	5	4	5	5	9	5	5	4	4	4	9
4-Jul	4	5	4	5	5	4	4	4	4	5	8	6	6	5	4	4	3	7	3	3	3	1	1	2	8
5-Jul	2	3	2	3	3	3	6	5	3	3	3	3	3	6	5	7	2	2	2	2	2	3	2	1	7
6-Jul	6	4	4	2	3	2	3	2	2	3	2	2	2	3	3	13	3	3	5	4	4	2	2	2	13
7-Jul	1	1	2	2	1	2	3	2	2	2	2	3	3	6	5	6	4	3	3	3	4	2	2	2	6
8-Jul	2	12	3	3	2	2	3	3	2	6	5	4	5	6	5	5	4	3	3	3	2	2	17	8	17
9-Jul	5	6	6	4	5	5	5	5	7	6	6	7	7	8	8	9	7	6	6	8	5	7	7	5	9
10-Jul	4	4	3	4	5	4	3	2	2	4	3	4	5	5	4	5	5	4	4	3	1	2	2	2	5
11-Jul	3	2	2	2	2	2	2	2	3	6	6	7	7	7	6	6	5	5	5	9	8	3	4	2	9
12-Jul	4	6	5	4	3	3	3	4	3	5	3	5	5	4	7	4	5	7	6	4	4	4	5	4	7
13-Jul	4	2	7	3	3	2	2	4	6	3	4	4	4	4	5	5	5	5	4	5	4	2	3	3	7
14-Jul	3	3	3	2	2	3	3	6	4	5	4	5	6	6	5	5	5	5	4	3	1	2	1	1	6
15-Jul	2	2	1	1	3	1	2	2	2	2	2	3	3	4	4	6	3	3	3	3	2	2	1	4	6
16-Jul	3	2	2	2	2	1	2	1	2	2	2	3	5	3	3	4	2	2	2	1	1	3	1	1	5
17-Jul	4	1	2	1	1	1	1	1	1	2	2	2	3	4	5	6	4	3	3	2	1	3	3	2	6
18-Jul	3	2	2	2	2	2	2	3	3	1	1	2	3	5	4	5	3	3	4	4	3	4	3	3	5
19-Jul	3	2	1	2	4	1	1	2	1	1	2	2	3	4	3	3	3	3	2	4	8	6	2	2	8
20-Jul	3	3	1	2	1	2	3	2	2	2	2	1	2	2	3	2	14	7	4	4	11	5	4	6	14
21-Jul	5	7	8	4	5	5	5	6	5	5	5	4	5	6	4	5	4	4	3	4	3	1	2	2	8
22-Jul	1	1	2	3	3	3	3	4	4	3	6	4	3	4	4	5	3	3	2	2	2	2	1	2	6
23-Jul	1	2	3	1	2	3	2	1	1	1	1	2	6	4	3	3	3	6	2	3	3	2	2	2	6
24-Jul	1	2	1	2	2	2	2	4	4	5	4	5	4	5	3	4	3	4	3	2	6	6	1	3	6
25-Jul	2	3	2	8	4	3	4	4	4	3	3	4	4	3	4	3	4	4	4	2	3	3	5	3	8
26-Jul	2	3	2	2	2	3	3	2	2	2	4	7	12	4	2	7	5	5	5	3	2	2	2	3	12
27-Jul	2	3	4	3	4	3	3	3	4	5	4	3	3	3	6	4	3	4	1	2	2	2	3	2	6
28-Jul	2	2	1	1	1	2	2	2	2	3	3	4	4	2	4	3	2	2	2	2	1	2	2	4	4
29-Jul	1	2	2	1	2	2	3	3	2	1	2	2	2	4	4	3	3	4	3	2	1	6	3	2	6
30-Jul	2	3	5	3	3	2	5	3	2	2	2	4	4	4	4	4	2	2	2	2	2	3	1	2	5
31-Jul	1	3	3	1	1	4	3	2	1	2	2	4	4	4	6	5	4	4	2	2	1	2	4	4	6
7 12 8 8 5 6 6 6 7 7 8 7 12 8 8 13 14 7 9 9 11 7 17 17																									
Diurnal Maximum																									



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	94	12.63	12.63
6 - 11	231	31.05	43.68
12 - 19	224	30.11	73.79
20 - 28	132	17.74	91.53
29 - 38	52	6.99	98.52
> 38	11	1.48	100.00

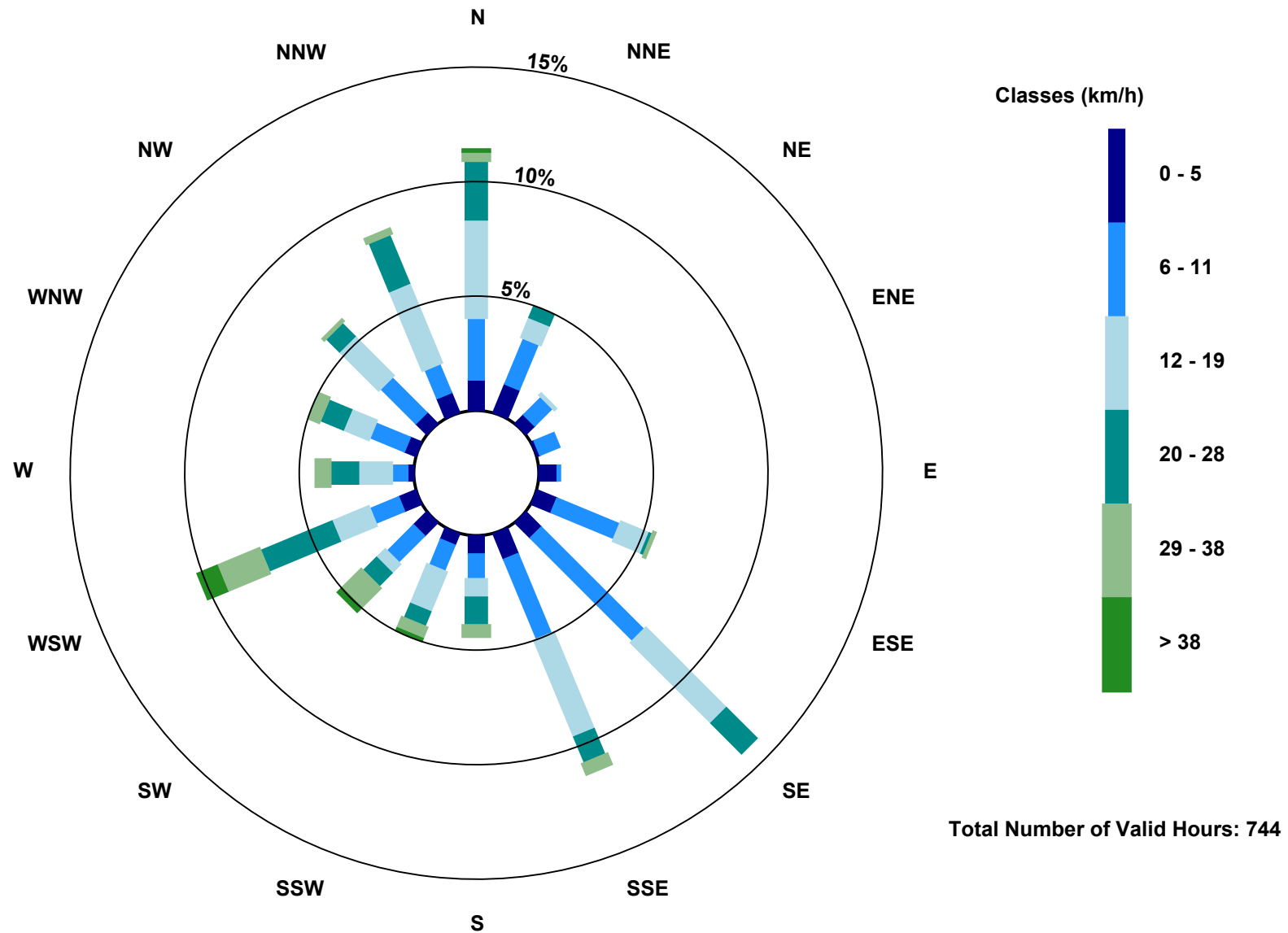
Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Speed 163m (WS163) - km/h

Lower Camp Met Tower - July 2025

Maximum Speed: 55 km/h on Jul 9 16:00										Maximum Daily Speed Average: 37.1 km/h on Jul 9										Hours in Service: 744						
Minimum Speed Value: 1 km/h on Jul 17 06:00										Minimum Daily Speed Average: 1.4 km/h on Jul 30										Hours of Data: 739						
Maximum Diurnal Speed Average: 6.9 km/h at hour 13										Minimum Diurnal Speed Average: 0.6 km/h at hour 22										Hours of Missing Data: 5						
Monthly Average Velocity: 4.3 km/h 251.3 deg										Percentiles: P ₁ = 1 P ₁₀ = 6 Q ₁ = 10 Median = 15 Q ₃ = 22 P ₉₀ = 31 P ₉₉ = 43										Percent Operational Time: 99.3						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
1-Jul	NE9	NNE9	NNE9	NE10	E5	SSW3	WNW1	E4	SW2	NNW1	NNE1	ESE2	ESE4	ESE9	SSE7	ESE9	ESE7	E7	NNE2	SE25	SE29	SE31	SE27	SSE27	ESE7.7	SE31
2-Jul	SSE27	SSE22	SSE23	SSE27	SSE24	SSE21	SSE22	SSE17	SSE17WSW16	W14WSW12	SSW13	NNW11	NE3	SE3	WSW7	SSW3	ESE10	ESE13	SE26	ESE34	ESE37	UO	SSE12.8	ESE37		
3-Jul	UO	NNE9	SW3	WSW8	NNW14	W13	W23	W27WSW20WSW24	W21WSW21WSW31	SW30	SW32	SSW29	SW28	SW34WNW38	W23	W22	W24	W34	W32	WSW20.8	WNW38					
4-Jul	W35	W37	W33WNW31WNW37	NW36	NW33	NW33WNW29WNW23	NW23	NW27	NW28	NW25	NNW20	NNW23	N21	N30	N10	NNE9	NE11	E5	ESE3	S4	NW19.4	W37				
5-Jul	SSW9	WSW4	S4	S8	SSE9	SSE14	SW4	ESE4	SE16	SE14	SE14	SSE12	SE10	S9	S23	SE8	NNE2	ENE7	NE9	NE12	NE12	ENE14	E10	ESE12	SE6.6	SSE23
6-Jul	ESE21	ESE17	E7	NNE11	NNE15	NNE12	NE13	NNE8	N10	N13	N15	N13	N14	NNW11	NW13	UO	UO	UO	NNE18	NE15	NE14	SW1	SW6	WSW5	NNE7.9	ESE21
7-Jul	N4	NNE6	ESE3	SSE7	S9	SSE11	SSE13	S13	SSE12	S12	SSE12	SSE13	SSE12	S13	SW9	SSE22	S21	SSE22	S25	S23	SSW20	SSW27	SW33	SSW36	S13.8	SSW36
8-Jul	SW41	SW32	S16	S19	S14	S17	SSE17	S16	SSE16	S20	S29	S31	S31	S27	S26	S33	S29	S23	SSW19	S17	S14	SE14	W34WNW34	SSW19.9	SW41	
9-Jul	WNW6	SW18	SW32WSW44	SW42WSW42	SW38WSW39WSW36WSW38WSW41WSW42WSW43WSW51WSW54WSW55WSW52WSW48WSW42	W38WNW32WNW36	W34	W31	WSW37.1	WSW55	WSW52WSW48WSW42	W38WNW32WNW36	W34	W31	WSW37.1	WSW55									WSW55	
10-Jul	W28WSW27	W32	W31WNW28WNW23	W23WNW22	W18	W14	W12WNW14	NW18	NW24	NW19WNW17WNW19	NW20	NW19	NW15	NW10	NW11	WSW8WSW14	WNW18.0	W32								
11-Jul	WSW18	SW13	SW13	SW14	SSW16	SSW17	S18	S19	S21	S31	SSW37	SW40	SW39WSW37WSW39WSW41WSW33WSW31WSW24WSW30	NW8	W1	SW12WSW19	SW21.4	WSW41								
12-Jul	WSW26WSW37	W31	W32WSW23WSW24	W26WNW29WNW21	NW17	NW10	NW12WNW21WNW12	W12	W22	W21	W39	W37	W35	W37	W36	N28	N20	W22.4	W39							
13-Jul	NNE18	NNE9WSW11WSW25WSW17	N15	NW14	NNW7	N14	N21	N23	N21	N19	NNW22	NNW21	N23	N20	NNE23	NNE26	NNE25	NNE25	NNE27	N23	N21	N15.7	NNE27			
14-Jul	N15	NNW17	N19	N22	N16	N13	N13	N21	NNW24	NNW25	NNW19	N17	N18	NNW17	N19	NNW18	N19	NNE17	N17	NNE15	NE13	NNE17	N12	NNE10	N16.7	NNW25
15-Jul	ENE4	SSW3	WSW4	WSW5	SSW6	S7	SSW8	SSW9	S11	S10	SSE8	SW5	W11	WSW9	SSW7	S8	SSE15	SSE15	S21	SSE27	SSE31	SSE37	SSE41	SSE37	S12.7	SSE41
16-Jul	S23	SSE14	S20	S17	SSE14	S12	S13	SSE10	S10	SSE11	SSE9	SSE12	SSE10	SE9	SSW6	ESE6	ESE9	ESE10	E5	E2	ENE2	SSE7	S7	S5	SSE9.3	S23
17-Jul	NNW3	SW1	S5	WSW4	NW3	WNW1	SSW4	SSW5	SW4	WSW4	WNW4	NW5	NNW10	N10	N15	N14	NNE15	NNE15	NE15	NE11	NE15	ENE17	ENE16	SE18	NNE4.6	SE18
18-Jul	SE12	S11	S11	SSE9	SSE11	SSE15	SSE15	SSE11	SE13	SSE12	SE11	SE11	SE13	SSE15	SSE15	SSE14	S21	SSE20	SSE21	SSE24	SE23	SSE26	SSE29	SSE29	SSE16.1	SSE29
19-Jul	SSE19	SE19	SSE19	SSE17	SSE15	SSE11	S6	SSE5	SSE8	SSE9	SE10	SSE12	SSE14	S10	SE10	SE12	SSE12	SSE14	SE17	SE12	NE7	N29	NNE18	NE17	SE8.6	N29
20-Jul	NNE14	N15	NNE21	N20	NNE23	N19	N16	N11	N5	N4	NNW6	NNW1	ESE5	SE9	SE9	SE9	NW17	NNW21	NNE6	N9	N30	N28	N30	N36	N12.8	N36
21-Jul	N37	N43	N40	N32	N32	N28	N28	N32	NNW35	NNW28	NNW24	NNW23	NNW20	NNW21	NNW20	NNW22	NNW25	NNW24	NW22	NNW19	NNE11	NNE8	NNE11	NNW10	N24.3	N43
22-Jul	NNW14	NW13	NW10WSW10	W10	W11	W18	W17	W15WSW17WNW14WNW13	NW10	NW12	WNW7WNW13	NNW10	N12	N12	N9	NNE9	ENE7	E8	SE14	WNW7.7	W18					
23-Jul	SSE8	S7	S6	SSE9	SSE14	S13	S10	S6	S6	SSE6	SE6	ESE5WSW13	SW10	W7	NW3	N4	SW13	SSW16	SSW20	SW21WSW19	SW14	SW14	SSW8.2	SW21		
24-Jul	SW9	SSW10	S12	S13	SSE15	SSE13	SSE10	SE13	SE17	SE28	SE27	SE24	SE23	SSE23	SE19	ESE25	ESE23	ESE19	SE14	SE15	SE17WNW12	NW10	WNW8	SE13.2	SE28	
25-Jul	SW11	SW16	SW15WSW32WSW32WSW33WSW27WSW32WSW26WSW23WSW20	W18	NW19	NW19	NW18	N25	N25	NNW22	NNE22	N9	NW9	W15	W19WNW17	W14.9	WSW33									
26-Jul	NW22	NW19	NW22WNW17WNW15	W11WSW13WSW10	SSW6	SSW8WSW14WSW20WSW20	N4	N8	NNE22	NNE23	NNE24	NNE20	NE12	NE10	NNE11	N15	N19	NNW8.8	NNE24							
27-Jul	NNW16	N13	N18	N22	N23	N22	N18	N16	NNW15	NNW17	NNW17	NW18	NNW19	NNW13	NW15	NW14	NNW20	N13	NNW12	NW14WNW15	NW20	NW20	NW15	NNW16.0	N23	
28-Jul	NW12	WNW9	WNW8	W6	W6	WSW8	SW9	SW8	SW6	SW5	WSW8	WSW9WSW11	NNW6	NNE4	NNE6	NNE3	N3	N2	NNE3	NE7	ESE11	SSE12	SSE8	W2.6	NW12	
29-Jul	SSE12	SSE14	SSE15	SSE13	SSE11	S16	S19	SSE16	S10	SE8	SSE9	SE7	SE3	SSE9	SW10	WSW9	WSW7	SSW9	SSW13	S18	SSW17	SW14	SW15WSW11	S10.1	S19	
30-Jul	W9	W14	NW9	ENE13	SSE13	SSE17	S17	S17	S15	SSE13	S11	SSW10	NW9	NNW6	NW14	N15	N15	N14	NNE13	NE12	NE14	ENE13	E10	ESE13	E1.4	S17
31-Jul	SSE10	SE9	SSE11	SSE17	SSE22	S24	S12	SSW8	S10	S12	S11	SSE8WSW14	SW18	SSW17	SSW16	SW10	SSW10	SSW13	SSW16	SSW18	SSW23	SW33	SSW37	SSW14.3	SSW37	
WSW4.0WSW4.6WSW5.0WSW6.3WSW5.1 SW5.6WSW6.5WSW6.1 SW5.0 SW5.3WSW5.0WSW6.1 W6.9 W6.1 W6.4 W3.9WNW4.0WNW3.9WNW3.0 SW1.8ENE0.7 W0.6WSW3.2WSW4.5																								Diurnal Average		
SW41 N43 N40 WSW44 SW42WSW42 SW38WSW39WSW36WSW38WSW41WSW42WSW43WSW51WSW54WSW55WSW52WSW48WSW42 W38 W37 SSE37 SSE41 SSE37																								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

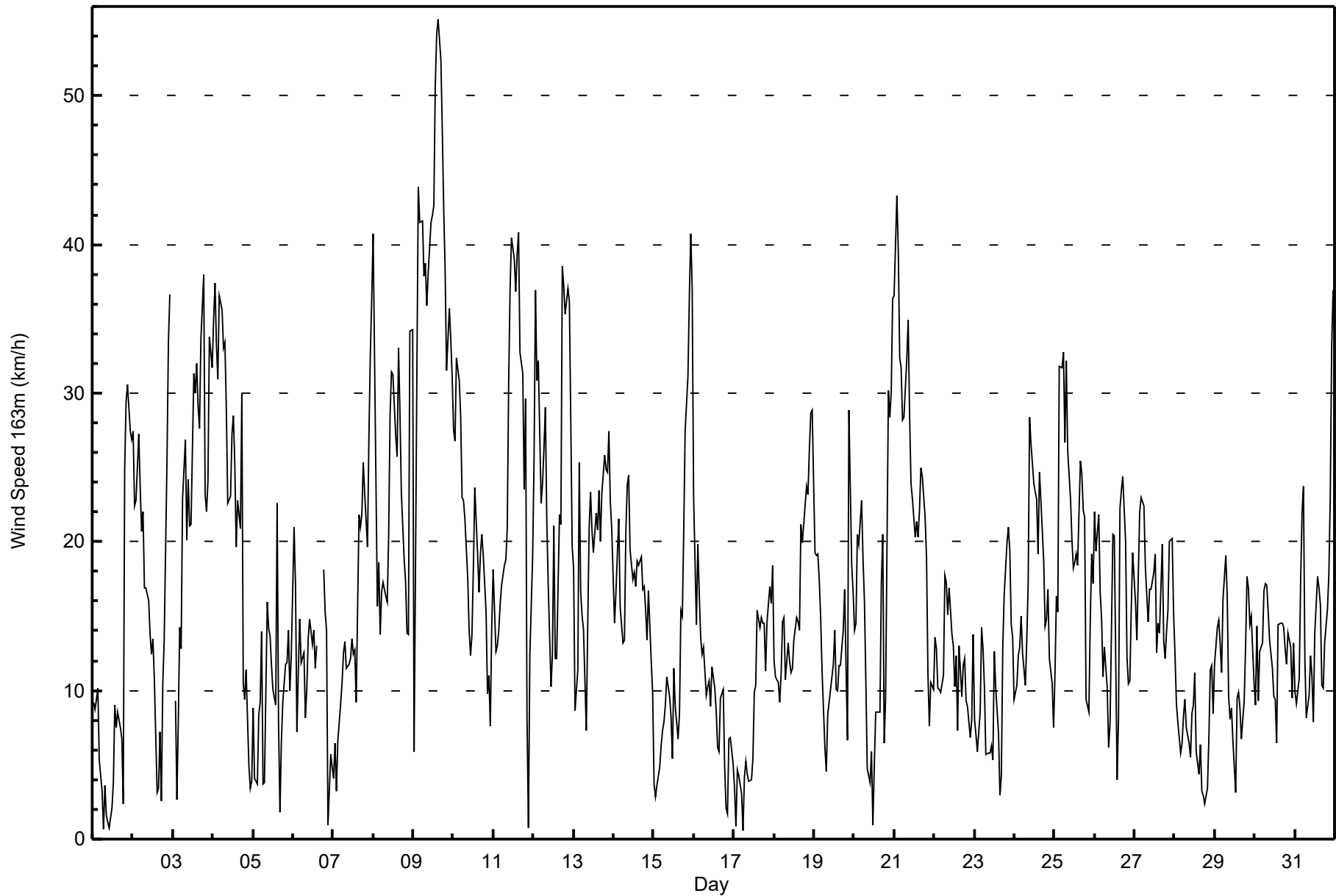
Wind Speed 163m (WS163) - km/h
Lower Camp Met Tower - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 20 km/h on Jul 8 23:00																	Hours in Service: 744 Hours of Data: 739 Hours of Missing Data: 5 Hours of Calibration: 0 Percent Operational Time: 99.3								
Minimum Value: 0 km/h on Jul 16 21:00																									
Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 2 Median = 3 Q ₃ = 4 P ₉₀ = 6 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-Jul	1	1	1	2	2	1	1	2	1	1	2	2	2	2	3	2	3	2	4	4	3	3	7	6	7
2-Jul	5	10	4	5	5	2	2	2	3	6	6	3	5	4	3	3	3	3	4	4	4	3	4	UO	10
3-Jul	UO	6	1	7	3	5	5	6	3	3	3	6	4	6	5	4	5	5	9	5	4	3	5	3	9
4-Jul	3	4	3	4	4	4	3	4	5	4	7	6	5	5	4	4	4	6	3	3	3	2	1	1	7
5-Jul	1	2	2	2	3	3	6	4	2	3	3	3	3	6	4	7	3	3	3	2	3	3	2	2	7
6-Jul	3	3	5	1	2	3	4	2	2	3	2	2	2	3	2	UO	UO	UO	3	5	3	2	2	2	5
7-Jul	2	1	2	2	2	2	3	3	2	2	3	4	3	6	4	6	4	3	3	3	4	4	1	2	6
8-Jul	1	11	5	4	4	2	3	3	4	5	5	4	5	6	5	5	4	3	3	2	2	2	20	8	20
9-Jul	7	6	6	4	4	5	4	5	6	6	5	6	6	7	6	8	5	5	6	8	5	6	6	5	8
10-Jul	4	4	2	4	6	6	3	2	2	3	3	4	5	5	4	5	4	3	3	4	1	1	2	2	6
11-Jul	3	2	1	2	3	1	2	2	4	6	5	6	7	6	5	6	4	5	4	8	6	3	4	2	8
12-Jul	4	6	5	4	3	3	2	3	2	4	2	5	5	4	8	3	5	7	5	3	3	4	5	4	8
13-Jul	3	4	7	3	6	3	3	3	6	3	3	4	4	4	5	5	4	5	5	5	3	2	4	3	7
14-Jul	3	3	2	2	2	2	3	5	3	5	4	5	5	6	4	5	4	5	4	3	1	1	3	3	6
15-Jul	2	1	1	1	1	2	1	1	2	3	3	3	3	4	4	6	4	3	3	2	1	2	1	2	6
16-Jul	5	4	2	2	3	2	3	1	2	2	2	3	5	3	4	3	2	2	3	1	0	4	2	1	5
17-Jul	3	1	3	2	1	1	1	1	1	1	2	2	3	4	5	6	3	3	2	2	2	1	4	3	6
18-Jul	1	2	3	1	2	2	2	2	3	1	1	2	3	4	4	6	3	3	4	5	4	5	6	4	6
19-Jul	6	2	2	2	2	1	3	1	2	1	1	2	3	4	3	3	3	3	2	4	9	6	4	3	9
20-Jul	4	5	2	3	2	1	3	3	2	1	2	2	2	2	2	2	14	7	3	3	11	5	4	6	14
21-Jul	5	7	8	5	5	5	5	5	5	4	5	4	4	5	5	5	3	4	2	3	3	1	2	2	8
22-Jul	1	1	2	3	3	3	3	5	4	3	5	5	4	4	4	5	3	3	2	2	2	2	2	1	5
23-Jul	2	2	1	4	2	2	3	1	1	1	1	2	6	4	3	4	3	6	2	2	3	1	3	3	6
24-Jul	2	1	1	2	2	2	2	2	3	4	4	5	4	5	3	3	3	4	3	2	4	5	2	2	5
25-Jul	1	2	3	6	4	3	4	4	4	2	3	4	4	3	2	3	3	3	5	2	3	4	3	3	6
26-Jul	2	3	4	4	3	2	2	1	3	2	3	8	12	3	2	7	6	5	5	3	4	3	3	5	12
27-Jul	2	3	4	3	4	4	3	3	4	5	4	3	2	3	5	3	3	5	1	2	2	3	2	3	5
28-Jul	2	2	1	1	1	1	1	2	2	3	3	4	4	2	4	3	3	3	2	2	2	3	2	3	4
29-Jul	2	3	2	2	2	3	4	2	2	2	2	3	3	4	4	3	4	4	3	1	1	2	4	3	4
30-Jul	4	2	3	3	3	2	6	4	2	2	2	4	4	4	4	3	2	2	2	2	1	1	3	2	6
31-Jul	2	2	1	3	3	3	3	1	2	2	3	4	4	4	6	5	4	4	3	2	1	2	2	2	6
7 11 8 7 6 6 6 6 6 6 7 8 12 7 8 8 14 7 9 8 11 6 20 8																									
Diurnal Maximum																									
UO - Unstable Operation																									



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	64	8.66	8.66
6 - 11	179	24.22	32.88
12 - 19	255	34.51	67.39
20 - 28	142	19.22	86.60
29 - 38	77	10.42	97.02
> 38	22	2.98	100.00

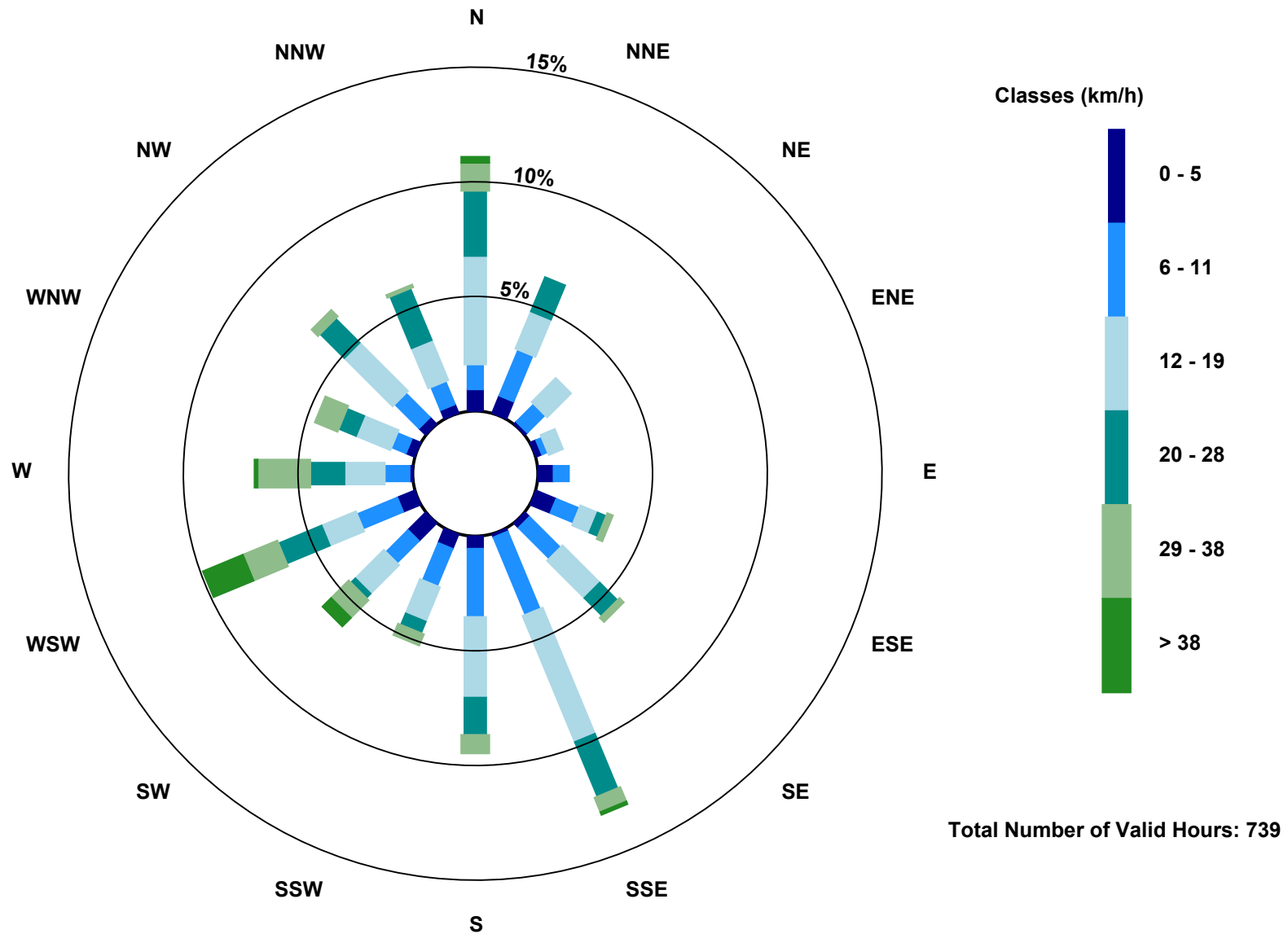
Total Number of Valid Hours: 739

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 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 - July 2025

Direction of Maximum Speed: 238 deg on Jul 9 15:00																					Hours in Service:		744		
Direction of Maximum Daily Speed Average: 241.6 deg on Jul 9																					Hours of Data:		744		
Direction of Minimum Speed: 68 deg on Jul 4 23:00										Direction of Minimum Daily Speed Average: 0.6 deg on Jul 28											Hours of Missing Data:		0		
Monthly Average Direction: 225.4 deg																					Percent Operational Time:		100.0		
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-Jul	335	354	1	349	317	9	340	292	357	9	144	104	108	108	155	126	115	79	253	142	123	122	138	137	122.4
2-Jul	129	133	170	136	136	134	137	141	135	241	261	240	194	332	26	125	219	171	126	130	116	121	118	246	152.6
3-Jul	333	264	204	241	307	248	259	255	246	243	254	237	238	221	217	196	212	225	281	274	253	256	255	257	241.9
4-Jul	261	258	257	276	295	307	304	300	295	294	311	312	317	322	331	342	348	351	330	356	352	59	68	147	302.3
5-Jul	121	24	116	121	118	125	6	107	123	144	137	165	118	163	164	130	327	17	319	337	346	343	20	357	128.0
6-Jul	56	20	346	340	333	7	357	335	339	351	342	342	334	330	307	155	340	348	14	341	297	322	33	349	344.9
7-Jul	45	95	108	353	41	139	112	134	136	176	165	157	137	170	206	151	148	150	159	155	157	163	167	173	155.4
8-Jul	185	171	70	104	120	127	131	141	135	152	181	180	173	161	182	184	179	180	193	166	154	316	277	298	173.4
9-Jul	357	184	201	227	221	226	229	236	239	241	234	236	236	239	238	245	256	250	249	258	304	283	279	266	241.6
10-Jul	252	238	249	266	272	265	254	261	250	254	262	270	298	314	314	288	296	314	324	313	291	161	127	137	273.6
11-Jul	141	134	134	123	139	135	133	134	136	177	193	212	221	240	241	245	234	236	252	242	262	136	118	182	196.6
12-Jul	213	244	255	254	259	251	261	282	278	314	326	318	298	293	283	255	258	254	255	249	258	261	340	335	267.1
13-Jul	337	196	200	226	240	333	307	352	352	355	352	349	347	341	343	356	355	2	5	16	23	5	333	350	348.8
14-Jul	111	337	356	331	339	0	332	344	334	342	347	341	343	336	348	340	359	358	358	15	28	298	346	354	346.8
15-Jul	8	124	111	102	114	108	126	128	132	133	133	212	249	255	176	169	149	156	157	164	164	159	155	145	153.5
16-Jul	129	126	141	137	124	127	120	119	123	128	137	123	155	144	166	137	125	128	114	99	351	0	189	347	131.0
17-Jul	326	92	159	110	118	88	114	110	112	70	337	348	312	347	337	350	359	357	22	9	340	296	339	351	4.8
18-Jul	333	195	97	139	118	113	122	135	136	126	116	119	137	162	165	162	169	167	158	152	149	138	135	138	145.2
19-Jul	152	147	139	131	61	68	117	108	112	119	125	132	141	168	143	132	149	148	140	134	22	336	338	348	132.7
20-Jul	351	334	333	346	347	339	339	346	328	316	319	26	131	118	110	105	318	336	312	326	351	349	344	349	348.8
21-Jul	344	352	351	353	352	350	349	341	334	338	339	335	329	338	339	341	333	325	317	328	357	44	330	324	341.2
22-Jul	322	348	262	195	269	270	261	266	250	248	276	280	330	325	290	296	347	358	354	326	315	29	306	3	291.7
23-Jul	5	22	5	113	102	107	124	123	115	94	122	87	245	219	272	344	16	217	213	196	207	233	133	139	179.1
24-Jul	119	114	104	119	123	106	106	129	142	130	135	141	134	160	145	112	110	127	156	138	157	319	355	112	130.3
25-Jul	119	193	138	236	250	227	224	250	254	237	235	267	319	322	305	341	336	323	338	293	293	312	329	297	269.1
26-Jul	323	323	345	166	358	122	121	141	124	136	230	243	247	8	347	7	15	12	17	15	337	339	335	331	351.4
27-Jul	321	332	336	347	355	360	349	337	328	332	327	311	322	316	324	322	343	332	306	319	305	332	341	318	332.1
28-Jul	327	299	65	63	114	116	121	117	135	233	232	234	230	7	19	26	51	1	18	26	192	211	166	1	140.9
29-Jul	115	109	109	79	91	115	133	133	128	128	134	104	109	131	213	230	236	191	200	161	173	73	325	133	148.0
30-Jul	129	133	4	174	127	127	122	126	134	131	130	137	315	27	317	351	349	345	5	7	347	339	331	327	80.8
31-Jul	295	252	113	132	118	130	134	129	129	129	129	127	260	211	205	212	212	200	210	201	185	136	70	115	173.1
260.7 218.7 214.3 219.1 186.5 161.5 178.2 202.2 189.0 206.1 211.6 227.1 243.3 237.8 237.1 235.6 253.7 249.5 245.5 202.6 218.3 255.3 258.1 259.5																									
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

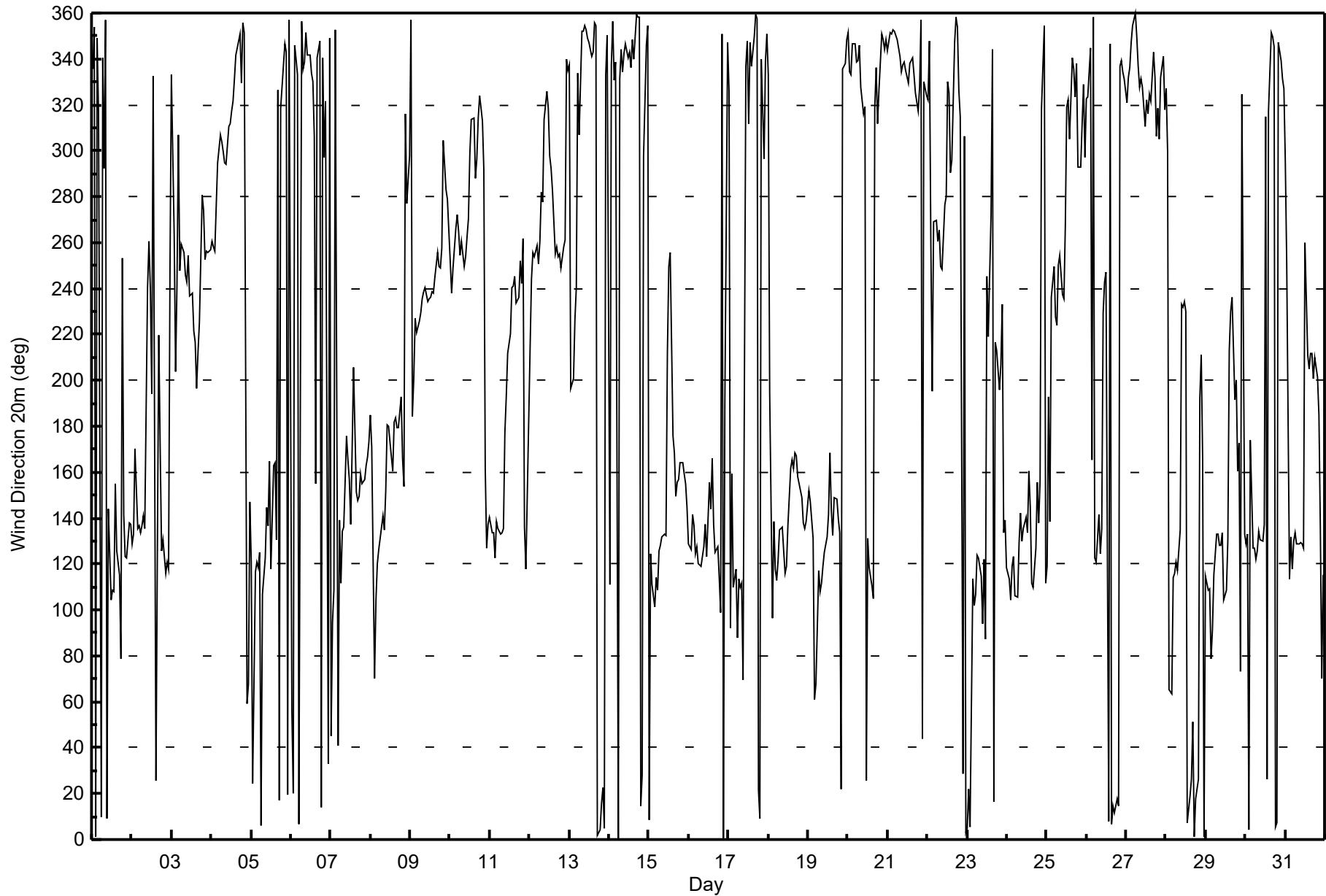
Lower Camp Met Tower - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 104 deg on Jul 4 23:00																		Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0							
Minimum Value: 6 deg on Jul 15 23:00																									
Percentiles: P ₁ = 8 P ₁₀ = 13 Q ₁ = 19 Median = 25 Q ₃ = 43 P ₉₀ = 67 P ₉₉ = 95																									
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-Jul	46	57	50	45	63	56	50	46	52	75	95	71	33	23	31	21	35	31	61	13	16	29	20	26	95
2-Jul	27	86	48	14	13	14	10	11	13	81	31	34	48	48	75	82	36	64	18	18	28	18	19	82	86
3-Jul	30	102	32	77	29	28	21	17	20	19	21	19	13	15	13	10	15	11	30	24	23	21	18	17	102
4-Jul	18	19	18	23	19	15	18	19	20	29	28	27	25	19	23	21	19	22	59	63	85	66	104	60	104
5-Jul	35	76	61	36	30	24	86	63	21	17	22	37	21	36	15	98	63	45	28	22	15	25	38	42	98
6-Jul	71	34	19	29	59	45	29	32	29	20	19	16	21	33	25	72	71	28	61	86	92	49	60	41	92
7-Jul	47	57	36	44	71	43	45	20	21	18	25	41	35	52	49	16	10	9	8	7	8	7	9	9	71
8-Jul	8	53	31	16	24	13	18	11	20	18	14	10	11	13	15	12	11	13	16	12	59	46	24	30	59
9-Jul	88	15	24	10	10	10	11	12	14	16	15	14	16	15	13	16	18	17	16	20	24	22	23	21	88
10-Jul	18	18	14	19	23	20	18	20	18	40	35	40	32	25	31	32	28	25	23	17	66	37	46	13	66
11-Jul	18	10	12	16	13	13	12	16	18	13	12	14	17	16	16	15	13	15	15	22	96	62	59	29	96
12-Jul	30	17	20	22	23	21	21	23	21	33	24	55	28	45	71	20	22	18	19	17	15	20	21	22	71
13-Jul	51	73	31	21	56	37	23	53	29	21	22	25	27	24	30	23	26	25	21	24	27	27	18	43	73
14-Jul	82	33	46	19	41	61	35	25	23	23	25	31	26	32	27	27	24	31	27	38	30	69	78	54	82
15-Jul	29	49	25	36	18	16	19	16	13	18	26	66	43	56	86	77	15	19	10	8	7	8	6	17	86
16-Jul	22	28	12	13	21	16	27	18	17	20	17	18	65	35	70	67	22	26	51	58	67	101	80	76	101
17-Jul	78	46	78	33	18	49	24	35	38	46	36	33	36	35	26	32	26	25	30	34	20	28	93	88	93
18-Jul	64	66	73	25	14	14	20	17	18	20	21	21	26	30	27	33	16	13	13	11	9	11	11	13	73
19-Jul	25	15	19	34	56	46	18	36	20	19	20	18	28	22	29	23	28	22	13	21	73	21	23	35	73
20-Jul	38	43	19	19	18	25	24	26	56	48	48	79	41	17	32	41	61	29	99	75	21	19	20	19	99
21-Jul	20	19	18	22	20	20	20	22	23	23	23	25	27	27	24	22	22	21	18	25	31	47	53	30	53
22-Jul	21	10	68	69	71	42	23	24	25	21	53	46	48	40	68	36	29	23	22	38	47	93	89	61	93
23-Jul	47	71	89	23	15	19	16	23	25	32	26	37	52	24	70	63	54	38	14	7	8	65	39	43	89
24-Jul	13	12	22	21	19	17	20	30	27	23	22	23	24	17	34	33	25	44	48	27	78	65	30	84	84
25-Jul	64	50	24	60	24	13	16	19	20	16	19	25	26	25	29	18	21	20	36	20	13	25	46	26	64
26-Jul	19	65	58	69	43	40	36	23	23	31	43	21	54	77	29	30	27	26	24	26	33	26	17	24	77
27-Jul	24	28	25	20	22	19	30	30	27	26	26	22	23	25	28	28	21	32	21	16	15	22	16	54	54
28-Jul	55	95	61	76	25	11	13	18	20	83	45	47	36	29	86	55	55	95	66	36	70	77	87	91	95
29-Jul	25	15	18	35	26	29	18	30	18	22	24	27	57	37	52	45	65	49	20	7	12	64	99	15	99
30-Jul	28	30	60	85	27	13	37	40	13	16	13	35	68	75	64	20	15	20	23	26	38	32	32	26	85
31-Jul	93	82	71	64	22	13	12	15	15	17	17	67	29	26	27	36	46	53	14	9	10	44	65	37	93
93 102 89 85 71 61 86 63 56 83 95 79 68 77 86 98 71 95 99 86 96 101 104 91																									
Diurnal Maximum																									



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Direction 45m (WD45) - deg

Lower Camp Met Tower - July 2025

Direction of Maximum Speed: 238 deg on Jul 9 15:00																					Hours in Service:		744		
Direction of Maximum Daily Speed Average: 242.9 deg on Jul 9																					Hours of Data:		744		
Direction of Minimum Speed: 286 deg on Jul 31 02:00										Direction of Minimum Daily Speed Average: 0.7 deg on Jul 28											Hours of Missing Data:		0		
Monthly Average Direction: 240.7 deg																					Percent Operational Time:		100.0		
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-Jul	335	341	325	316	299	6	354	313	332	348	130	90	105	110	148	122	105	71	260	136	122	118	127	127	114.9
2-Jul	126	123	147	135	135	131	135	140	132	240	263	244	195	333	9	126	227	173	121	113	108	117	113	250	143.9
3-Jul	333	30	209	236	309	252	257	255	248	244	255	239	239	222	216	198	212	224	281	273	252	256	253	257	245.2
4-Jul	259	257	255	274	293	305	301	298	294	294	312	311	317	320	331	339	351	353	346	7	13	57	217	144	303.0
5-Jul	140	324	132	134	127	126	4	105	120	134	128	160	119	158	163	125	323	30	331	359	352	0	40	19	116.2
6-Jul	87	73	351	349	351	5	356	343	343	353	344	344	337	332	310	155	340	354	18	25	28	286	18	359	351.4
7-Jul	32	62	102	11	71	149	110	131	130	176	160	154	139	170	212	150	147	150	163	157	161	171	175	178	156.3
8-Jul	189	174	87	110	123	129	129	139	130	156	181	181	173	161	182	184	181	180	193	172	161	140	274	297	174.2
9-Jul	355	187	206	228	222	226	229	236	239	240	235	235	236	238	238	244	254	250	248	257	302	283	276	265	242.9
10-Jul	252	241	248	264	276	267	253	261	252	256	262	274	298	312	312	291	297	315	321	315	312	245	193	170	275.9
11-Jul	185	132	136	130	134	134	132	128	134	178	194	212	221	240	240	244	233	237	249	243	264	120	151	198	197.6
12-Jul	213	243	254	253	254	248	258	282	278	306	324	320	299	290	281	255	258	253	255	248	258	260	343	343	267.3
13-Jul	344	238	218	229	253	343	305	348	356	357	358	352	349	343	342	358	358	5	7	18	25	12	340	335	350.8
14-Jul	317	329	347	349	354	354	337	345	336	342	347	347	341	337	351	339	360	2	1	20	34	347	6	315	349.0
15-Jul	272	149	131	153	134	129	125	121	126	130	127	212	258	258	185	166	149	155	158	164	163	160	156	148	154.8
16-Jul	124	122	135	130	129	128	121	120	121	120	130	122	144	140	163	128	122	120	97	88	358	231	114	260	126.2
17-Jul	342	88	139	131	131	118	123	100	108	41	323	335	312	346	340	353	4	2	29	31	346	342	356	87	10.3
18-Jul	289	168	136	128	127	125	126	128	126	122	119	118	133	158	159	156	168	166	155	155	141	138	135	131	141.5
19-Jul	125	133	132	131	117	102	125	100	112	118	123	128	141	167	135	127	145	142	130	136	10	343	345	353	123.5
20-Jul	348	331	336	347	350	345	344	349	331	314	320	3	121	118	110	107	319	339	341	332	353	353	349	352	351.0
21-Jul	348	355	354	356	355	353	354	343	337	340	340	336	331	339	339	341	335	327	317	329	1	34	16	340	343.9
22-Jul	325	340	323	221	255	260	259	265	254	250	287	285	322	319	296	298	345	356	350	339	17	19	71	315	295.4
23-Jul	256	192	194	128	130	120	128	113	109	99	111	100	241	224	272	351	13	219	211	196	209	224	138	149	182.3
24-Jul	132	128	134	137	131	112	113	117	125	123	127	130	124	153	137	106	109	109	141	133	140	315	345	94	126.3
25-Jul	167	188	167	237	247	228	226	249	254	238	237	265	318	323	307	342	340	326	346	313	292	283	287	289	271.8
26-Jul	326	318	308	260	309	174	156	169	122	139	234	246	247	6	353	9	20	15	19	18	353	348	336	338	345.1
27-Jul	329	340	342	350	356	2	353	341	327	333	328	313	324	320	322	320	345	341	318	317	294	311	333	322	332.5
28-Jul	313	315	194	145	142	145	135	116	143	239	238	240	237	1	15	25	41	354	6	17	87	118	132	102	145.7
29-Jul	124	119	120	110	114	124	130	124	125	119	126	111	113	127	222	235	243	197	202	163	173	158	342	136	149.0
30-Jul	132	135	26	46	132	131	125	132	134	127	126	143	320	12	317	352	350	349	17	30	31	355	3	353	77.2
31-Jul	303	286	133	126	129	130	128	122	121	123	126	123	259	212	206	211	219	201	210	203	191	183	174	152	171.7
273.1 218.5 220.6 218.9 200.4 166.6 186.7 219.4 196.5 216.6 222.4 237.9 255.4 257.0 252.7 256.4 283.9 282.7 271.9 214.2 220.3 247.9 271.8 264.2																									
Diurnal Average																									
All monthly, daily, and diurnal averages have been calculated using vector methods																									



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

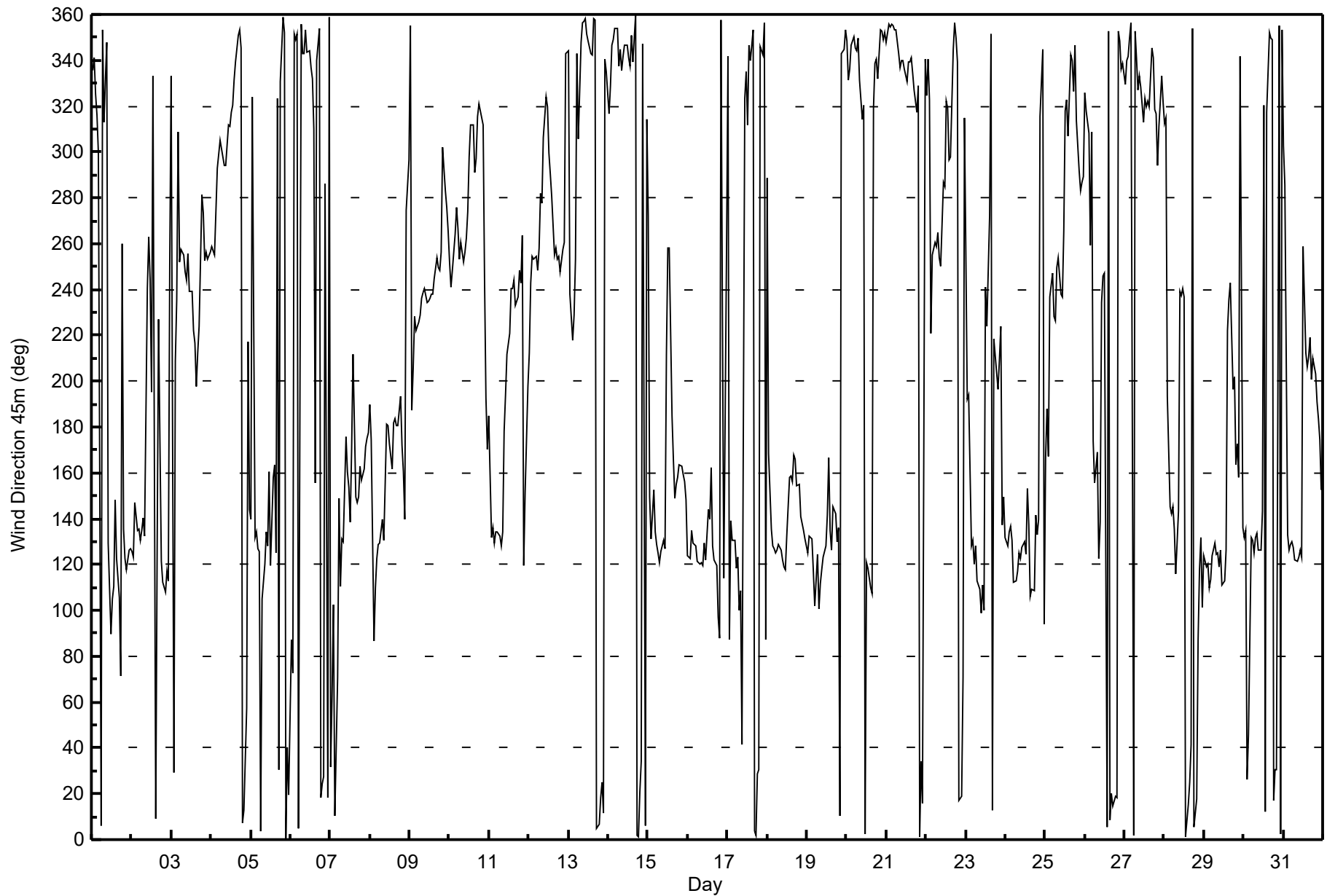
Wind Direction 45m (WD45) - deg
Lower Camp Met Tower - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 108 deg on Jul 1 11:00																		Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0							
Minimum Value: 4 deg on Jul 31 21:00																									
Percentiles: P ₁ = 6 P ₁₀ = 9 Q ₁ = 12 Median = 17 Q ₃ = 30 P ₉₀ = 54 P ₉₉ = 90																									
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-Jul	37	15	36	20	40	36	36	40	53	68	108	76	29	16	30	16	32	18	73	11	9	10	11	19	108
2-Jul	20	44	25	10	9	7	9	12	8	70	24	25	44	44	65	77	33	68	11	13	14	8	12	81	81
3-Jul	25	90	23	56	26	33	13	10	14	14	13	15	9	12	11	9	14	10	28	20	19	16	11	10	90
4-Jul	10	10	10	16	11	10	12	12	14	17	20	17	17	11	14	15	12	16	44	39	49	37	81	53	81
5-Jul	21	87	34	23	23	15	80	48	13	14	16	36	16	35	17	88	48	36	27	17	10	15	19	34	88
6-Jul	62	37	12	14	30	16	19	20	18	12	10	8	12	23	14	71	51	18	42	77	79	57	85	21	85
7-Jul	25	44	40	52	58	43	34	13	16	18	24	34	29	54	48	13	8	8	8	7	7	6	7	7	58
8-Jul	6	46	31	15	14	7	11	11	16	17	13	9	10	12	14	11	10	11	14	11	18	74	24	21	74
9-Jul	77	17	22	8	9	9	9	9	10	11	12	11	12	12	10	11	11	11	10	15	19	15	15	15	77
10-Jul	13	13	9	13	17	14	10	9	12	37	27	37	22	17	24	22	21	16	14	8	11	22	26	25	37
11-Jul	29	15	9	11	7	7	5	9	16	12	11	12	16	11	12	9	10	12	9	18	92	35	32	18	92
12-Jul	16	11	12	14	14	13	10	12	15	20	19	32	19	26	52	12	13	11	13	10	8	15	16	14	52
13-Jul	25	76	15	10	40	31	15	51	23	15	15	17	19	17	18	15	18	17	15	15	13	12	10	14	76
14-Jul	75	14	15	8	25	28	20	16	14	17	18	24	19	29	20	19	18	23	19	28	13	26	30	43	75
15-Jul	54	41	9	20	10	10	16	11	10	15	19	66	31	42	74	67	14	19	8	7	6	5	4	10	74
16-Jul	12	17	6	8	10	9	16	10	8	13	14	13	68	35	65	64	15	18	32	18	48	96	50	63	96
17-Jul	75	56	89	18	8	27	17	36	31	43	24	24	26	24	19	27	19	16	19	15	6	18	54	47	89
18-Jul	60	94	20	18	10	10	12	12	13	14	14	14	19	27	28	36	15	13	15	10	10	10	7	8	94
19-Jul	16	8	8	11	33	29	15	22	13	13	15	11	24	22	27	18	26	23	9	20	75	11	15	12	75
20-Jul	24	25	7	8	10	13	13	17	34	34	29	75	43	12	20	24	46	19	85	45	17	13	12	13	85
21-Jul	12	11	12	13	14	12	13	15	12	18	15	17	20	19	18	16	12	13	10	22	20	20	30	21	30
22-Jul	10	6	71	82	53	28	14	17	19	16	44	38	40	28	46	26	31	11	14	20	87	46	52	105	105
23-Jul	76	72	88	11	19	14	13	15	17	23	19	36	45	23	56	60	49	37	11	7	6	9	27	22	88
24-Jul	12	8	23	13	14	8	12	22	23	15	15	20	17	19	28	20	15	29	47	21	67	64	20	90	90
25-Jul	38	18	26	38	16	10	13	12	12	10	15	20	17	19	21	10	13	11	27	11	10	26	39	23	39
26-Jul	8	22	24	46	39	39	31	26	25	32	42	17	51	71	20	19	16	17	15	17	24	21	8	13	71
27-Jul	14	12	14	13	13	11	17	19	19	21	18	17	14	15	17	21	14	16	8	7	9	19	8	29	29
28-Jul	30	81	58	59	29	14	21	16	31	81	37	38	31	26	87	42	52	97	47	25	36	30	28	44	97
29-Jul	15	8	11	21	16	23	12	20	14	17	16	20	55	32	49	36	55	46	19	6	5	50	57	13	57
30-Jul	7	7	66	72	13	8	23	31	7	8	9	34	63	84	53	13	9	15	16	19	19	17	19	32	84
31-Jul	86	95	11	16	10	8	8	8	7	10	10	71	19	23	26	31	41	46	13	7	4	11	51	17	95
86 95 89 82 58 43 80 51 53 81 108 76 68 84 87 88 55 97 85 77 92 96 85 105																									
Diurnal Maximum																									



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Direction 100m (WD100) - deg

Lower Camp Met Tower - July 2025

Direction of Maximum Speed: 246 deg on Jul 9 16:00																				Hours in Service:		744			
Direction of Maximum Daily Speed Average: 244.6 deg on Jul 9																				Hours of Data:		744			
Direction of Minimum Speed: 0 deg on Jul 1 11:00										Direction of Minimum Daily Speed Average: 1.0 deg on Jul 28										Hours of Missing Data:		0			
Monthly Average Direction: 244.6 deg																				Percent Operational Time:				100.0	
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-Jul	22	17	16	356	351	290	41	34	245	318	0	100	110	111	152	119	101	77	252	128	128	128	135	139	116.4
2-Jul	148	133	142	152	147	141	146	153	144	245	266	242	197	336	25	133	235	178	121	111	116	117	112	253	149.3
3-Jul	331	15	218	243	318	260	259	258	249	246	258	242	242	224	218	202	215	226	283	274	255	259	255	258	249.6
4-Jul	260	259	258	275	294	310	304	298	295	295	311	311	318	321	331	340	353	357	359	11	29	90	155	197	304.6
5-Jul	181	222	142	164	150	136	328	125	119	130	129	161	125	160	166	130	335	43	16	31	13	27	64	74	122.8
6-Jul	104	111	14	358	359	0	7	354	352	354	351	351	344	332	314	158	286	354	23	42	57	274	236	302	2.3
7-Jul	6	29	91	144	198	157	143	145	144	176	161	154	146	176	217	155	156	154	174	165	179	196	201	198	170.3
8-Jul	205	198	140	147	151	153	141	153	142	171	183	184	175	169	185	187	185	184	196	181	172	118	272	292	184.1
9-Jul	327	201	217	234	228	230	231	237	240	240	236	235	236	240	239	246	254	250	249	258	300	282	274	267	244.6
10-Jul	258	247	253	268	285	277	259	269	258	265	266	279	300	311	311	294	299	317	319	319	318	293	230	220	279.9
11-Jul	225	180	181	169	157	167	153	140	147	182	197	213	222	241	240	244	234	239	247	246	300	86	184	224	211.7
12-Jul	226	246	255	255	254	251	260	285	279	300	322	314	300	284	279	255	260	254	256	251	261	267	344	353	268.8
13-Jul	360	350	230	239	257	351	307	337	0	359	359	355	349	343	343	359	1	7	11	22	28	18	356	347	352.5
14-Jul	338	333	345	358	348	355	350	348	339	341	346	348	344	341	351	342	2	6	4	23	35	13	1	13	352.5
15-Jul	258	226	147	191	153	166	150	134	144	145	136	215	259	255	199	172	155	160	163	165	163	159	159	157	164.0
16-Jul	143	130	151	148	154	157	140	130	128	136	146	136	140	138	180	127	121	117	94	86	56	160	134	138	138.6
17-Jul	9	104	151	242	163	156	172	124	143	318	303	319	317	347	346	1	7	9	33	39	34	47	67	118	19.3
18-Jul	121	146	159	140	147	162	146	138	132	129	125	126	135	161	158	154	169	166	154	159	139	146	145	143	146.8
19-Jul	136	136	140	142	136	114	154	113	127	125	123	136	148	168	135	127	147	145	132	139	19	356	1	12	126.2
20-Jul	5	345	347	348	354	351	350	354	340	325	326	333	110	119	119	110	319	342	8	351	359	358	354	354	355.5
21-Jul	351	356	357	357	357	354	354	346	340	343	343	338	334	338	340	343	336	328	319	331	11	22	19	342	346.1
22-Jul	331	322	307	236	259	258	259	265	258	252	289	287	313	312	298	295	337	358	350	346	26	50	94	134	294.8
23-Jul	134	146	131	146	163	160	157	123	109	110	105	109	244	225	278	346	6	218	208	200	219	232	183	197	187.9
24-Jul	177	153	151	156	154	135	137	124	121	128	129	131	126	151	136	103	110	112	121	134	142	283	295	304	134.5
25-Jul	212	210	208	243	249	236	234	250	254	241	241	266	315	322	312	350	349	334	2	334	303	272	256	288	272.6
26-Jul	314	311	310	286	286	250	228	217	155	170	236	248	251	3	359	13	23	19	24	24	18	12	344	348	330.0
27-Jul	335	352	352	354	359	1	356	344	330	336	330	317	327	324	320	320	346	353	326	317	295	301	316	307	333.3
28-Jul	300	289	281	260	213	205	192	158	203	245	246	240	240	349	25	26	20	353	347	17	57	106	142	122	226.1
29-Jul	126	139	147	148	139	143	145	140	143	118	130	120	120	130	227	240	240	202	202	170	182	197	223	194	163.4
30-Jul	233	230	322	58	143	164	155	159	150	141	150	183	313	352	315	352	350	355	24	37	49	53	78	121	75.8
31-Jul	143	127	138	148	156	160	154	144	130	143	143	135	258	213	200	210	219	201	211	206	201	201	206	190	183.7
259.5 231.9 228.8 232.9 232.0 220.4 223.8 237.4 216.4 227.3 231.5 241.6 259.2 261.6 256.6 260.3 288.0 292.5 281.0 218.2 197.2 228.7 225.5 236.3																									
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 100m (WD100) - deg

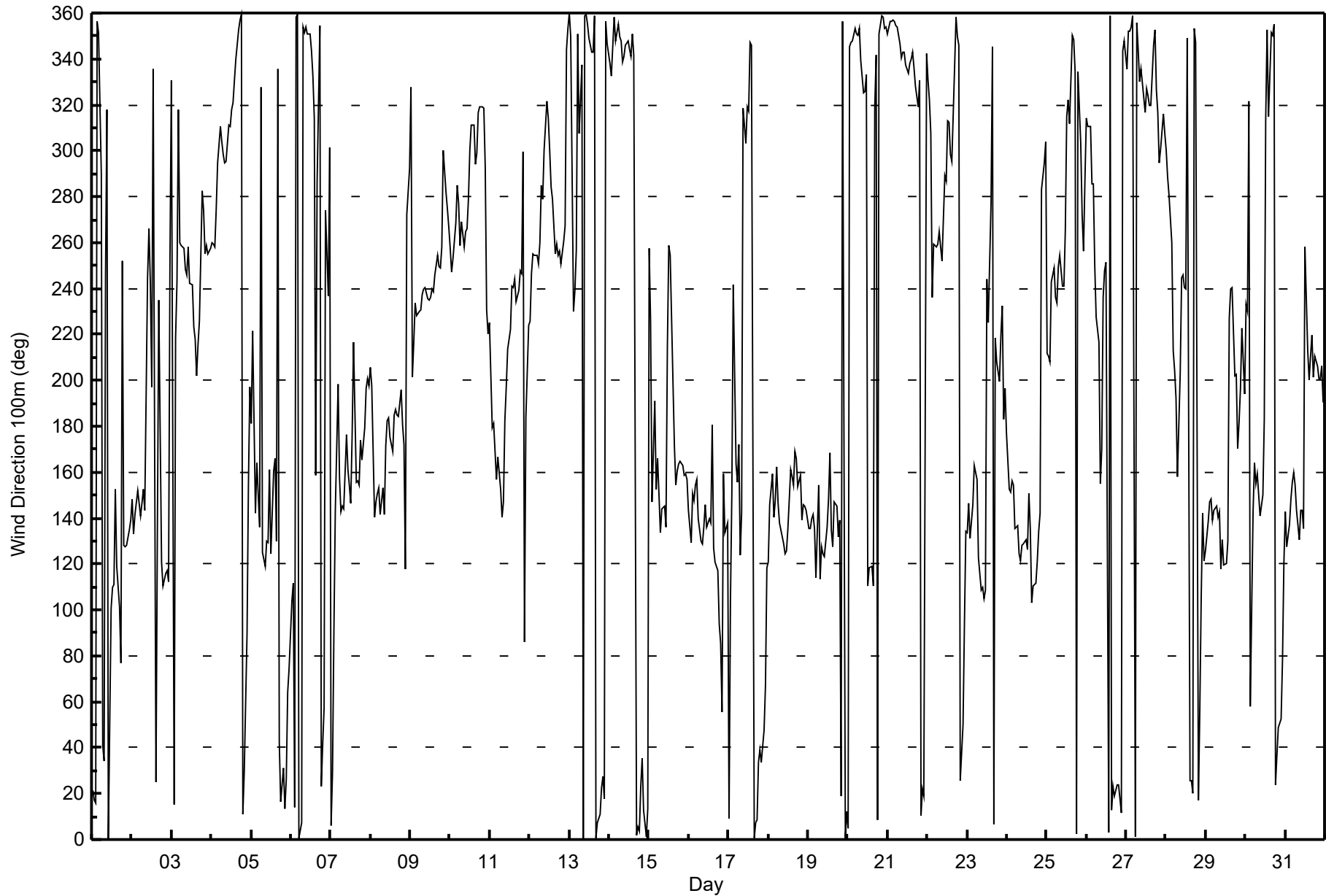
Lower Camp Met Tower - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 108 deg on Jul 1 11:00																	Hours in Service: 744								
Minimum Value: 2 deg on Jul 8 00:00																	Hours of Data: 744								
Percentiles: P ₁ = 4 P ₁₀ = 7 Q ₁ = 9 Median = 13 Q ₃ = 22 P ₉₀ = 42 P ₉₉ = 82																	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-Jul	21	13	16	11	78	77	20	60	73	52	108	78	24	13	28	10	25	9	88	11	4	4	7	14	108
2-Jul	15	17	12	9	6	5	7	12	9	42	22	20	36	47	59	74	33	67	15	9	8	5	8	81	81
3-Jul	22	70	30	46	28	35	11	7	11	11	9	14	8	10	10	8	11	8	25	16	16	14	8	7	70
4-Jul	7	7	7	14	8	7	11	8	9	14	16	14	13	9	12	13	8	13	31	23	35	26	37	34	37
5-Jul	24	48	21	23	21	8	95	59	9	9	10	26	15	37	19	85	52	41	34	15	10	13	17	18	95
6-Jul	18	11	46	9	11	11	14	11	9	6	7	7	9	16	12	73	40	6	23	35	29	72	15	36	73
7-Jul	10	13	24	46	35	19	29	15	13	15	19	24	25	52	47	10	8	7	9	9	9	6	6	2	52
8-Jul	5	31	29	21	19	11	10	10	16	12	11	9	9	11	12	11	9	10	11	8	14	17	40	17	40
9-Jul	69	17	16	6	7	7	7	8	8	9	10	10	10	9	8	8	8	7	7	13	16	13	12	11	69
10-Jul	11	8	5	11	12	12	7	6	10	33	27	33	19	13	20	19	16	12	10	7	9	22	12	17	33
11-Jul	14	26	11	15	11	9	10	8	15	10	11	10	14	9	9	6	8	10	7	15	66	42	11	12	66
12-Jul	8	7	7	10	11	8	6	7	13	14	17	24	14	23	48	8	10	9	9	6	5	11	13	10	48
13-Jul	20	70	13	5	27	19	14	40	14	13	9	11	14	14	15	11	15	14	13	11	9	7	10	10	70
14-Jul	12	5	8	7	15	14	14	11	11	13	14	22	13	28	19	16	18	18	15	24	11	10	14	10	28
15-Jul	93	39	13	15	10	11	28	11	20	18	19	62	22	38	63	62	15	17	7	3	4	3	2	4	93
16-Jul	11	11	7	6	6	5	8	6	7	10	13	16	64	31	60	42	13	12	24	18	67	44	22	11	67
17-Jul	48	28	59	21	30	23	12	45	39	66	24	25	21	22	17	23	17	15	16	7	5	9	23	7	66
18-Jul	10	13	32	13	8	6	7	8	6	6	8	12	13	24	26	28	12	11	14	9	9	9	7	8	32
19-Jul	9	6	5	6	9	19	30	28	7	7	6	15	19	34	22	14	24	21	6	16	75	9	13	12	75
20-Jul	14	6	6	7	4	7	9	9	26	30	25	84	45	12	17	13	52	15	61	21	11	10	8	8	84
21-Jul	8	7	7	7	7	7	8	10	10	15	10	15	17	15	14	13	10	11	6	20	11	9	19	18	20
22-Jul	4	7	17	20	27	13	10	12	15	12	36	32	33	27	38	22	34	9	11	11	32	27	16	10	38
23-Jul	6	25	17	17	10	13	14	12	7	13	10	24	33	22	43	63	56	40	9	6	8	5	30	26	63
24-Jul	21	11	6	6	7	11	10	12	11	8	9	14	11	17	21	10	8	11	20	16	59	60	14	55	60
25-Jul	16	12	19	15	11	7	9	8	9	7	16	17	17	16	21	7	10	8	24	11	13	13	16	21	24
26-Jul	6	8	10	19	17	12	13	17	38	42	25	14	48	73	16	18	12	11	11	11	20	19	6	8	73
27-Jul	7	9	10	7	8	6	9	12	14	17	14	14	9	11	14	15	11	11	5	7	6	6	6	13	17
28-Jul	12	19	10	75	24	12	25	29	48	65	26	34	22	27	54	30	52	89	52	23	15	17	27	24	89
29-Jul	7	8	11	9	13	15	10	15	19	6	13	19	53	22	41	30	49	37	17	4	5	25	47	26	53
30-Jul	44	24	67	42	24	11	20	23	9	8	13	36	57	84	40	10	8	19	12	15	8	12	18	20	84
31-Jul	15	17	8	18	16	8	10	19	13	11	14	65	15	22	25	28	34	34	11	6	2	4	6	8	65
93 70 67 75 78 77 95 60 73 66 108 84 64 84 63 85 56 89 88 35 75 72 47 81																									
Diurnal Maximum																									



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Direction 163m (WD163) - deg

Lower Camp Met Tower - July 2025

Direction of Maximum Speed: 249 deg on Jul 9 16:00 Direction of Maximum Daily Speed Average: 248.9 deg on Jul 9																				Hours in Service: 744					
Direction of Minimum Speed: 297 deg on Jul 17 06:00 Direction of Minimum Daily Speed Average: 1.4 deg on Jul 30																				Hours of Data: 739					
Monthly Average Direction: 251.3 deg																				Hours of Missing Data: 5					
																				Percent Operational Time: 99.3					
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-Jul	41	28	25	53	99	210	290	101	214	327	26	117	117	119	157	122	102	85	25	130	133	135	142	148	120.7
2-Jul	155	147	162	168	163	158	161	168	161	248	269	243	199	341	45	143	241	194	123	115	126	123	116	UO	156.0
3-Jul	UO	15	225	252	327	271	266	264	252	251	261	245	245	228	221	207	219	230	285	279	264	266	260	263	252.9
4-Jul	266	268	268	283	300	319	312	304	299	300	313	313	321	325	332	341	356	3	9	12	39	88	122	182	310.4
5-Jul	192	239	189	178	168	161	226	117	127	139	140	164	135	169	169	132	13	57	50	51	38	61	100	119	132.5
6-Jul	118	114	89	17	24	27	42	14	359	359	3	3	354	337	320	UO	UO	UO	27	54	56	228	234	252	27.0
7-Jul	350	26	105	167	173	166	157	170	167	179	166	162	156	183	217	163	171	163	185	179	199	212	215	209	182.9
8-Jul	220	217	181	189	191	189	168	172	164	185	187	187	179	177	188	191	189	189	199	190	185	132	275	292	196.3
9-Jul	302	217	229	241	236	237	236	241	244	242	239	238	238	243	242	249	257	252	253	262	299	283	278	274	248.9
10-Jul	268	255	266	281	295	291	278	288	272	278	274	287	306	314	315	301	303	319	318	325	323	315	250	250	289.3
11-Jul	239	230	222	217	198	211	189	171	169	188	201	217	226	243	243	247	238	244	250	251	318	264	214	245	225.2
12-Jul	240	254	260	260	257	258	272	298	289	307	325	309	303	282	279	259	261	259	263	260	269	278	350	5	274.8
13-Jul	16	17	242	242	258	350	320	333	7	4	3	358	354	346	345	2	5	14	18	29	33	24	11	7	359.2
14-Jul	350	346	359	11	359	3	358	354	343	344	347	351	351	348	355	348	6	12	10	27	38	19	11	24	359.7
15-Jul	71	208	237	237	199	180	196	194	187	171	158	227	259	257	196	177	160	166	169	168	168	166	168	168	177.0
16-Jul	172	165	186	183	167	170	181	168	175	164	167	150	148	146	201	122	122	120	96	100	66	159	176	187	163.6
17-Jul	344	231	188	252	314	297	193	198	218	258	299	318	325	350	354	9	13	16	37	44	46	60	73	126	25.2
18-Jul	146	174	180	168	152	163	151	156	146	150	141	142	141	168	163	159	172	167	157	159	143	149	150	152	155.6
19-Jul	151	145	148	152	151	164	186	156	165	154	135	149	157	176	142	130	151	154	137	143	41	7	18	34	136.0
20-Jul	30	8	13	11	12	4	0	0	359	358	338	336	114	127	133	126	323	344	17	349	6	6	1	358	6.6
21-Jul	357	1	2	1	1	357	357	351	346	348	347	342	337	340	342	345	340	332	324	336	17	15	17	346	350.6
22-Jul	335	325	310	255	266	267	266	269	265	257	293	291	313	310	298	296	332	359	351	349	26	61	82	124	302.3
23-Jul	165	191	174	167	164	169	178	169	169	153	126	115	245	224	277	318	2	217	206	201	221	239	226	230	202.6
24-Jul	218	192	173	171	163	167	162	143	132	134	134	135	133	152	138	110	117	123	126	140	138	302	308	288	143.2
25-Jul	225	232	232	251	256	247	242	253	257	247	247	268	316	323	312	3	2	346	17	358	316	277	269	299	279.0
26-Jul	320	321	322	303	299	281	256	248	211	213	240	250	255	352	5	18	29	26	31	34	36	32	360	356	331.4
27-Jul	344	358	357	0	5	3	356	349	338	340	334	323	331	328	322	324	347	360	330	324	301	311	321	311	338.6
28-Jul	315	287	292	275	260	244	236	223	229	233	245	247	244	339	22	26	23	0	350	20	54	107	156	149	260.6
29-Jul	152	151	159	157	166	171	169	167	173	137	155	136	134	150	231	242	238	205	204	180	201	218	226	240	181.9
30-Jul	267	271	324	58	153	161	174	178	170	164	178	207	304	336	315	351	355	2	30	44	55	64	81	122	95.7
31-Jul	166	146	158	162	160	172	181	192	170	175	170	161	257	214	203	211	221	206	212	210	205	209	220	210	195.2
250.3 254.4 249.6 246.1 244.7 235.1 238.7 248.3 235.9 235.6 239.1 244.4 260.6 262.5 259.4 268.9 288.7 287.9 292.9 225.0 72.9 261.5 242.0 241.6																									
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 163m (WD163) - deg

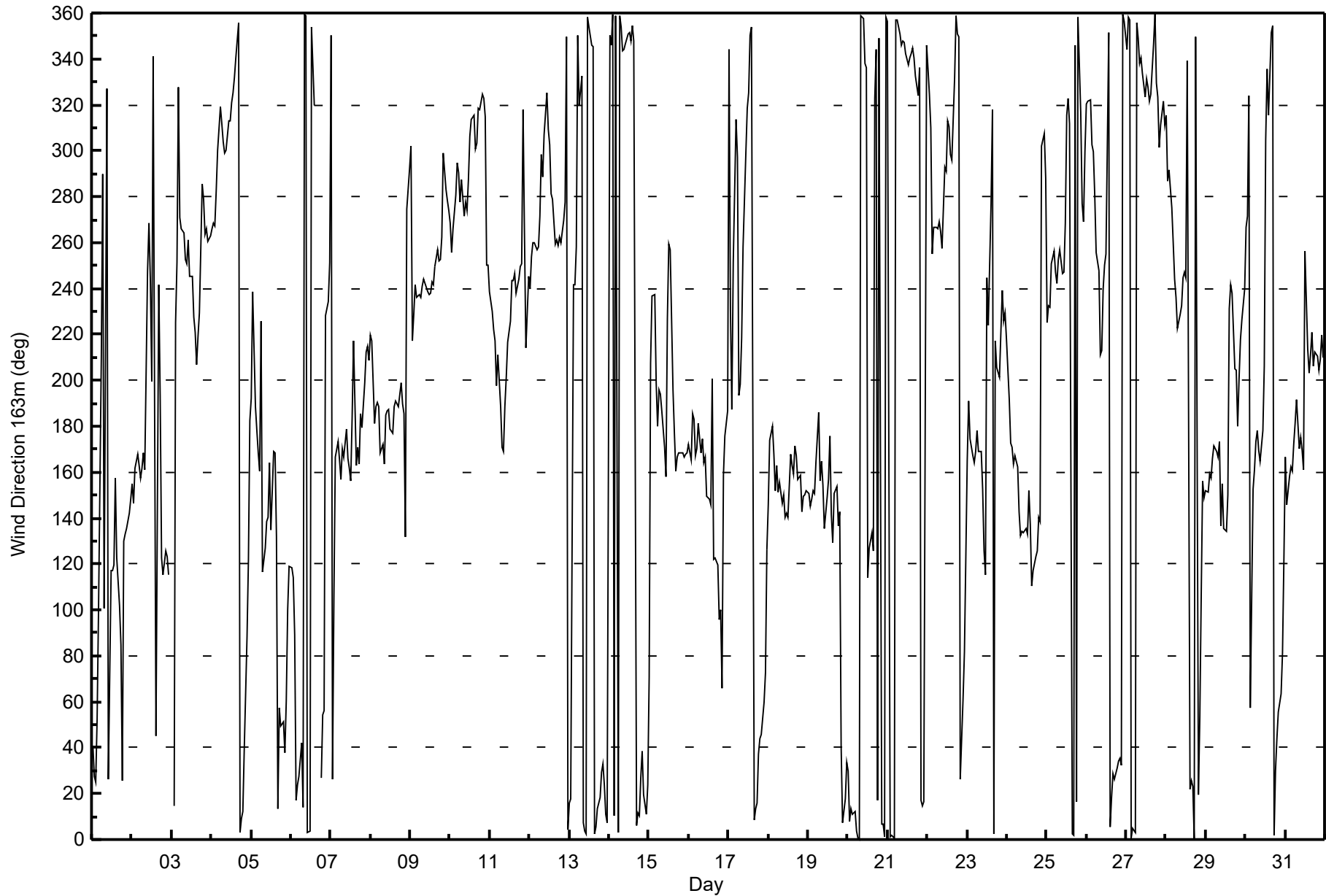
Lower Camp Met Tower - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 101 deg on Jul 1 11:00																		Hours in Service: 744 Hours of Data: 739 Hours of Missing Data: 5 Hours of Calibration: 0 Percent Operational Time: 99.3							
Minimum Value: 2 deg on Jul 15 22:00																									
Percentiles: P ₁ = 3 P ₁₀ = 6 Q ₁ = 8 Median = 11 Q ₃ = 18 P ₉₀ = 34 P ₉₉ = 84																									
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-Jul	8	9	8	8	32	25	81	17	63	94	101	75	25	13	27	9	22	10	61	9	4	4	7	10	101
2-Jul	7	12	10	6	8	5	7	11	14	29	22	16	32	53	67	72	31	75	18	8	6	4	7	UO	75
3-Jul	UO	35	60	59	23	35	8	6	11	9	9	13	6	9	9	6	10	8	23	14	15	14	6	6	60
4-Jul	6	7	5	11	7	5	11	7	8	13	15	12	11	7	11	12	7	11	21	16	25	19	25	32	32
5-Jul	9	35	30	30	18	8	71	81	6	11	14	21	14	35	21	72	94	37	19	15	7	9	24	7	94
6-Jul	6	8	43	7	6	12	12	12	8	7	8	8	10	14	12	UO	UO	UO	20	11	8	83	15	34	83
7-Jul	18	13	39	8	7	10	11	14	14	11	17	20	22	48	42	11	8	9	11	12	10	4	4	2	48
8-Jul	6	15	13	10	12	8	11	8	17	9	10	8	8	10	12	10	9	9	10	7	12	17	42	13	42
9-Jul	78	14	11	4	5	5	5	7	8	9	8	9	10	8	7	6	7	6	6	13	14	11	9	7	78
10-Jul	10	6	5	11	8	9	8	6	11	30	27	32	18	13	18	18	14	11	10	8	6	10	20	6	32
11-Jul	4	8	8	8	11	8	11	10	10	8	9	9	12	7	7	5	6	9	6	14	39	95	10	10	95
12-Jul	7	5	5	7	7	7	6	7	10	10	13	19	13	23	47	8	9	8	7	4	3	9	15	8	47
13-Jul	13	41	18	6	23	14	12	32	13	12	8	9	13	12	14	10	14	14	11	9	7	4	7	8	41
14-Jul	6	3	9	5	8	9	11	10	9	11	14	21	11	22	18	15	16	17	14	21	11	5	5	13	22
15-Jul	35	18	32	8	25	19	8	10	13	20	28	58	17	32	71	60	13	16	6	2	5	2	2	2	71
16-Jul	5	14	6	8	8	7	8	10	12	12	15	20	58	27	56	40	13	12	19	18	13	44	16	15	58
17-Jul	85	70	45	43	11	71	14	8	19	25	36	28	21	25	18	19	17	14	15	8	3	4	14	13	85
18-Jul	8	7	12	6	9	7	5	10	7	9	12	14	14	22	25	27	12	11	13	8	9	8	8	6	27
19-Jul	9	6	5	5	6	6	16	21	10	15	9	18	17	39	21	13	24	20	8	13	69	8	8	10	69
20-Jul	10	6	5	7	2	5	7	9	34	25	22	95	19	15	22	17	64	13	34	17	12	9	8	7	95
21-Jul	7	6	7	7	7	7	8	8	8	15	8	12	15	12	13	11	8	10	5	18	8	7	12	12	18
22-Jul	4	4	28	13	13	10	8	12	14	12	29	30	31	19	41	21	33	11	10	12	10	15	7	12	41
23-Jul	18	10	20	9	11	7	12	10	14	14	16	36	21	22	32	92	60	40	9	5	9	4	15	12	92
24-Jul	16	9	5	7	5	5	8	12	9	6	9	13	12	15	18	6	7	7	10	13	19	50	7	30	50
25-Jul	10	10	9	6	9	5	6	6	7	6	14	16	14	13	17	7	10	9	21	15	17	10	7	15	21
26-Jul	4	4	5	18	11	15	7	15	21	27	12	15	43	67	15	20	11	10	10	11	13	13	6	7	67
27-Jul	7	9	9	6	6	6	7	9	12	15	11	14	7	10	11	12	12	8	6	7	6	7	6	6	15
28-Jul	11	12	6	11	6	4	12	12	26	54	22	29	20	34	85	32	42	78	49	19	17	13	23	21	85
29-Jul	7	5	4	6	7	7	6	8	15	12	17	24	64	33	36	24	47	32	16	6	8	8	14	10	64
30-Jul	15	8	43	31	14	6	9	10	8	10	14	30	48	55	38	11	9	19	9	13	4	5	9	16	55
31-Jul	13	11	9	5	4	4	7	9	11	10	18	52	17	21	22	27	29	39	10	6	2	6	2	5	52
85 70 60 59 32 71 81 81 63 94 101 95 64 67 85 92 94 78 61 21 69 95 42 34																									
Diurnal Maximum																									
UO - Unstable Operation																									



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

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

Lower Camp Met Tower - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 5.1 km/h on Jul 9 16:00																				Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0					
Minimum Value: 0.1 km/h on Jul 17 00:00																									
Percentiles: P ₁ = 0.2 P ₁₀ = 0.4 Q ₁ = 0.8 Median = 1.6 Q ₃ = 2.1 P ₉₀ = 2.8 P ₉₉ = 4.0																									
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-Jul	0.2	0.2	0.2	0.2	0.2	0.5	0.7	0.9	0.9	1.3	1.5	1.6	1.3	1.5	1.5	1.5	1.4	0.8	1.1	1.3	2.0	1.7	2.0	1.9	2.0
2-Jul	1.5	1.7	0.8	1.5	1.8	1.9	1.9	1.8	2.5	2.1	2.1	1.9	1.4	1.8	1.4	1.7	1.4	1.0	1.3	0.8	0.9	2.3	2.9	4.1	4.1
3-Jul	2.4	0.8	0.5	1.2	1.1	1.2	2.0	2.5	2.4	2.6	2.7	2.4	3.0	2.7	2.7	2.4	2.5	2.7	4.0	2.2	1.9	2.1	3.0	3.1	4.0
4-Jul	3.0	3.3	2.8	3.0	3.2	2.5	2.4	3.0	3.3	2.9	2.9	3.3	3.0	2.3	1.8	2.4	2.2	3.3	1.0	0.9	0.6	0.4	0.2	0.2	3.3
5-Jul	0.3	0.4	0.6	0.7	1.0	1.7	1.2	1.1	1.5	1.9	2.2	1.7	1.9	1.8	2.2	1.6	1.2	0.9	0.7	0.7	0.7	0.9	0.6	0.6	2.2
6-Jul	0.8	0.9	1.1	0.7	0.5	0.9	1.1	1.1	1.1	1.6	1.9	1.6	2.0	1.9	1.8	2.4	0.6	1.1	1.3	1.0	0.5	0.4	0.3	0.4	2.4
7-Jul	0.3	0.5	0.4	0.2	0.1	0.6	1.1	1.8	1.6	1.4	1.7	1.8	1.9	2.1	1.5	2.0	1.8	1.8	1.5	1.4	1.2	0.9	1.1	1.1	2.1
8-Jul	1.7	1.6	1.2	1.3	1.3	1.5	1.7	1.4	1.7	1.7	2.4	2.5	2.7	2.3	2.4	2.6	2.1	1.9	1.6	1.1	0.4	0.4	3.8	3.1	3.8
9-Jul	1.2	1.2	2.2	2.9	2.4	2.9	2.9	3.3	3.5	3.6	3.7	3.9	3.8	4.6	4.8	5.1	5.0	4.6	3.9	3.6	2.9	3.7	3.2	2.6	5.1
10-Jul	1.9	1.7	2.1	2.2	1.8	1.9	2.5	2.5	2.2	1.7	1.9	2.0	2.6	3.0	2.4	2.2	2.0	2.3	2.0	1.1	0.2	0.2	0.3	0.5	3.0
11-Jul	0.5	0.4	0.7	1.0	1.7	2.2	2.9	2.7	2.3	2.6	3.2	3.5	3.7	3.2	3.3	3.5	2.7	2.3	1.3	2.1	1.0	0.7	0.8	1.0	3.7
12-Jul	1.3	2.7	2.2	2.5	1.8	1.9	2.4	2.5	1.7	1.3	0.9	1.5	2.5	1.5	1.7	2.4	2.4	3.8	3.2	2.8	2.7	2.6	2.5	1.8	3.8
13-Jul	0.9	0.4	0.8	1.4	1.1	1.0	0.8	1.1	2.1	2.7	2.6	2.4	2.3	2.8	2.5	2.8	2.4	2.9	3.1	2.9	1.9	1.2	0.8	0.5	3.1
14-Jul	0.2	0.3	0.4	0.6	0.5	1.0	1.7	2.5	3.0	3.1	2.6	2.6	2.4	2.6	2.5	2.4	2.5	2.2	2.1	1.8	0.7	0.2	0.2	0.2	3.1
15-Jul	0.2	0.2	0.2	0.2	0.4	0.9	1.2	1.6	1.7	1.8	1.9	1.6	1.9	1.9	1.8	1.7	1.6	1.6	1.6	1.7	1.7	1.6	1.7	2.1	2.1
16-Jul	1.5	1.0	1.1	1.6	1.3	1.7	1.6	1.9	2.2	1.9	1.7	1.8	1.8	1.9	1.7	1.3	1.5	1.3	0.7	0.1	0.2	0.2	0.2	0.1	2.2
17-Jul	0.5	0.2	0.2	0.3	0.4	0.4	0.9	1.0	1.1	1.1	1.4	1.4	1.8	1.8	2.2	2.1	2.0	1.7	1.4	0.4	0.2	0.2	0.4	0.3	2.2
18-Jul	0.2	0.1	0.1	0.2	0.7	0.9	1.3	1.9	2.0	2.0	2.0	2.1	1.9	2.0	1.9	1.9	1.8	1.5	1.7	1.4	1.1	1.4	1.4	1.9	2.1
19-Jul	1.3	1.1	0.9	1.0	0.5	0.4	0.5	0.8	1.1	1.6	1.9	1.8	1.7	1.6	1.8	1.6	1.5	1.6	1.3	0.9	1.2	1.7	0.8	0.5	1.9
20-Jul	0.6	0.4	0.6	0.7	0.8	1.2	1.7	1.4	1.3	1.5	1.4	1.1	1.4	1.7	1.5	1.5	2.5	2.1	0.9	0.6	3.1	2.9	3.1	4.0	4.0
21-Jul	3.8	4.1	3.8	2.9	3.0	2.9	3.1	3.4	3.8	3.2	2.9	2.9	2.6	2.6	2.4	2.5	2.5	2.5	2.0	1.6	0.9	0.4	0.5	0.4	4.1
22-Jul	0.4	0.2	0.2	0.6	0.8	1.1	1.8	2.1	2.4	2.4	2.2	2.1	1.7	1.8	1.7	2.1	1.5	1.4	1.4	0.8	0.3	0.2	0.2	0.2	2.4
23-Jul	0.1	0.2	0.1	0.3	0.4	0.7	1.2	1.6	1.6	1.5	1.8	1.8	2.2	1.9	1.8	1.8	1.6	1.8	1.3	1.3	1.2	0.7	0.5	0.5	2.2
24-Jul	0.5	0.5	0.6	1.0	1.3	1.2	1.2	1.5	1.4	2.8	2.9	2.5	2.5	1.9	1.5	1.5	1.7	1.3	0.9	1.1	1.2	1.7	0.5	0.2	2.9
25-Jul	0.5	0.5	0.7	1.8	2.1	2.0	1.9	2.9	2.7	2.2	2.0	2.0	2.2	2.2	1.5	2.3	1.8	1.7	1.4	0.6	0.5	0.7	1.0	0.7	2.9
26-Jul	0.4	0.3	0.2	0.3	0.3	0.5	0.8	1.0	1.4	1.4	1.8	2.2	2.4	1.6	1.8	3.1	3.2	3.2	2.5	1.3	0.7	0.5	0.7	1.1	3.2
27-Jul	0.9	0.8	1.2	2.0	2.0	2.3	1.8	2.0	1.9	2.1	2.0	2.0	2.2	1.4	1.7	1.9	2.1	1.2	0.5	0.6	0.9	1.0	0.9	0.5	2.3
28-Jul	0.3	0.3	0.2	0.2	0.3	0.7	1.0	1.5	1.4	1.6	1.7	1.9	1.9	1.5	1.7	1.2	0.9	0.8	0.4	0.3	0.3	0.2	0.3	0.3	1.9
29-Jul	0.4	0.5	0.5	0.3	0.4	0.6	1.4	1.8	1.8	1.7	1.9	1.8	1.6	2.0	1.9	1.7	1.6	1.4	1.3	1.0	1.1	0.7	0.5	0.6	2.0
30-Jul	0.5	0.7	0.7	0.6	0.9	1.1	1.5	1.5	1.9	2.1	2.1	1.8	2.0	1.6	2.1	1.9	1.6	1.5	1.3	0.6	0.3	0.4	0.3	0.3	2.1
31-Jul	0.2	0.2	0.3	0.3	0.5	1.2	1.3	1.5	1.8	2.0	1.9	1.8	2.3	2.1	2.2	2.1	1.6	1.2	1.1	1.0	0.6	0.7	0.7	0.9	2.3
3.8 4.1 3.8 3.0 3.2 2.9 3.1 3.4 3.8 3.6 3.7 3.9 3.8 4.6 4.8 5.1 5.0 4.6 4.0 3.6 3.1 3.7 3.8 4.1																									
Diurnal Maximum																									



Wood Buffalo Environmental Association

Summary of Hour Averages

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

Lower Camp Met Tower - July 2025

Maximum Value: 1.3 km/h on Jul 12 00:00																			Maximum Daily Average: 0.4 km/h on Jul 11										Hours in Service: 744	
Minimum Value: -0.8 km/h on Jul 14 10:00																			Minimum Daily Average: -0.2 km/h on Jul 21										Hours of Data: 744	
Maximum Diurnal Average: 0.2 km/h at hour 4																			Minimum Diurnal Average: 0.0 km/h at hour 17										Hours of Missing Data: 0	
Monthly Average: 0.13 km/h																			Percentiles: P ₁ = -0.5 P ₁₀ = -0.3 Q ₁ = -0.1 Median = 0.1 Q ₃ = 0.3 P ₉₀ = 0.5 P ₉₉ = 0.9										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-Jul	0.2	0.2	0.1	0.1	0.1	-0.1	-0.1	0.0	0.4	0.8	0.8	1.2	0.2	0.0	0.2	0.3	-0.1	-0.2	0.1	0.6	0.1	0.3	0.4	0.0	0.2	1.2				
2-Jul	-0.1	0.1	0.3	0.4	0.5	0.2	0.2	0.2	0.0	0.2	-0.2	0.1	0.7	0.2	0.3	0.3	0.1	0.6	0.3	0.4	0.6	0.2	0.4	0.2	0.3	0.7				
3-Jul	-0.2	0.1	0.3	0.5	-0.1	0.3	0.3	0.2	0.3	0.4	0.0	0.1	0.2	0.9	0.7	0.4	0.8	0.5	-0.5	0.0	0.5	0.3	0.4	0.0	0.3	0.9				
4-Jul	0.0	0.2	0.2	0.1	-0.5	-0.4	-0.4	-0.4	-0.5	-0.2	-0.4	-0.6	-0.3	-0.2	-0.2	-0.4	-0.2	-0.5	0.1	0.1	0.1	0.2	0.2	0.2	-0.2	0.2				
5-Jul	0.3	0.2	0.4	0.3	0.5	0.1	-0.1	-0.1	0.0	0.1	0.4	0.2	0.2	0.6	0.0	0.0	0.3	0.0	-0.1	0.1	0.0	0.1	0.0	-0.1	0.1	0.6				
6-Jul	0.1	0.0	-0.2	-0.1	0.1	-0.1	-0.1	0.0	0.2	-0.3	-0.3	-0.5	-0.5	-0.3	-0.2	0.2	0.0	-0.1	0.0	0.0	0.1	0.1	0.2	0.1	-0.1	0.2				
7-Jul	0.0	-0.3	0.1	0.1	0.1	0.3	0.0	-0.1	0.5	0.2	0.1	0.1	0.0	0.0	0.4	0.2	0.1	0.1	0.0	0.2	0.3	0.3	0.7	1.0	0.2	1.0				
8-Jul	1.0	0.7	-0.7	-0.7	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.3	0.4	0.5	0.5	0.0	-0.1	0.3	0.2	0.3	0.3	0.1	-0.4	0.1	1.0				
9-Jul	-0.3	0.3	0.4	0.9	0.6	0.4	0.6	0.4	0.4	0.6	0.5	0.7	0.5	0.7	0.7	0.7	-0.1	0.2	0.2	0.1	-0.3	-0.4	-0.1	-0.2	0.3	0.9				
10-Jul	0.0	0.4	0.1	0.1	0.1	0.2	0.1	0.3	0.4	0.5	0.4	0.1	-0.1	-0.3	-0.4	0.0	-0.1	-0.2	-0.2	-0.2	0.1	0.2	0.3	0.3	0.1	0.5				
11-Jul	0.2	0.7	0.8	0.2	0.6	0.2	-0.2	-0.2	0.0	0.5	0.6	0.5	0.8	0.6	0.5	0.5	0.4	0.4	0.1	0.3	0.2	0.5	0.2	1.3	0.4	1.3				
12-Jul	0.4	0.5	0.1	0.3	0.1	0.5	0.4	0.3	0.1	0.0	-0.1	0.4	-0.1	-0.2	0.3	0.0	0.1	0.1	0.2	0.3	-0.1	0.2	-0.3	0.0	0.1	0.5				
13-Jul	0.0	0.2	0.6	0.9	0.5	-0.2	0.0	-0.2	0.0	-0.5	-0.2	-0.2	-0.3	-0.4	-0.3	-0.3	-0.1	-0.4	-0.5	-0.2	-0.1	0.2	-0.1	0.1	-0.1	0.9				
14-Jul	0.2	0.1	0.2	0.0	0.0	0.1	0.3	-0.3	-0.3	-0.8	-0.5	-0.2	-0.5	-0.4	-0.5	-0.1	-0.5	-0.1	-0.2	-0.2	-0.1	0.2	0.2	0.2	-0.1	0.3				
15-Jul	0.2	0.1	0.2	0.2	0.3	0.3	0.1	0.3	-0.2	0.0	0.0	-0.2	0.4	0.1	0.7	0.2	0.0	0.1	0.3	0.1	-0.3	0.4	0.1	0.8	0.2	0.8				
16-Jul	0.5	0.0	0.5	0.6	0.2	-0.6	0.0	0.0	-0.1	0.5	0.0	-0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.6				
17-Jul	0.1	0.2	0.2	0.4	0.5	0.2	0.3	0.0	0.7	0.6	0.2	0.0	0.0	-0.3	-0.4	-0.2	-0.4	-0.1	-0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.7				
18-Jul	0.2	0.2	0.2	0.4	0.4	0.3	-0.1	-0.1	0.0	0.7	0.3	0.1	0.3	0.5	0.3	0.6	-0.2	0.1	0.8	0.7	-0.1	0.4	0.3	0.2	0.3	0.8				
19-Jul	0.0	0.5	0.8	0.6	0.3	0.2	0.2	0.0	0.0	0.2	0.5	0.0	0.0	0.1	0.5	0.1	0.3	0.3	0.2	0.0	-0.1	0.0	0.0	0.0	0.2	0.8				
20-Jul	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.2	-0.2	0.5	-0.2	0.9	0.1	0.2	0.1	-0.4	-0.2	-0.1	0.0	-0.3	-0.3	-0.4	-0.5	-0.1	0.9				
21-Jul	-0.5	-0.6	-0.4	-0.1	0.0	-0.3	-0.1	-0.4	-0.2	-0.4	-0.5	-0.5	-0.1	-0.3	-0.3	0.0	-0.1	-0.4	-0.5	-0.2	0.1	0.0	0.1	0.1	-0.2	0.1				
22-Jul	0.0	0.2	0.1	0.4	0.5	0.3	0.1	0.1	0.1	-0.1	-0.2	0.1	-0.3	0.1	0.0	0.1	-0.3	-0.3	-0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.5				
23-Jul	0.2	0.2	0.2	0.4	0.2	0.1	-0.1	0.6	0.7	0.3	0.8	0.4	0.2	0.3	-0.1	0.1	0.1	0.4	0.4	0.5	0.8	0.6	0.4	0.4	0.3	0.8				
24-Jul	0.7	0.6	0.2	0.3	0.1	-0.3	-0.1	0.4	0.3	0.4	0.6	0.6	0.5	0.5	0.3	0.2	0.1	0.2	0.4	0.3	0.4	0.2	0.1	0.2	0.3	0.7				
25-Jul	0.2	0.0	0.2	0.4	0.2	0.5	0.6	0.5	0.1	0.6	0.6	-0.3	-0.3	-0.3	0.0	-0.4	-0.1	-0.1	-0.1	-0.1	-0.2	0.0	0.3	-0.2	0.1	0.6				
26-Jul	0.0	0.0	0.1	0.1	0.1	0.2	0.3	0.3	-0.1	-0.1	0.1	-0.1	0.6	0.3	0.2	-0.2	-0.4	-0.4	-0.4	0.0	0.0	0.0	0.0	0.1	0.0	0.6				
27-Jul	0.0	0.0	0.1	0.0	-0.1	-0.2	0.3	0.1	0.1	-0.4	-0.2	-0.3	-0.5	-0.2	-0.2	-0.2	-0.1	0.1	0.0	-0.1	-0.2	-0.1	0.0	-0.1	-0.1	0.3				
28-Jul	0.1	0.2	0.2	0.2	0.3	0.5	0.2	0.0	0.0	0.3	0.2	-0.1	0.9	0.0	0.2	-0.2	0.0	-0.2	0.0	-0.1	0.2	0.3	0.3	0.3	0.2	0.9				
29-Jul	0.3	0.2	0.2	0.3	0.3	0.3	-0.1	-0.1	0.0	0.8	0.2	0.0	0.2	0.3	0.4	0.3	0.4	0.4	0.6	0.0	0.8	0.7	0.3	0.8	0.3	0.8				
30-Jul	0.7	0.9	0.2	0.1	0.2	0.2	0.1	0.0	0.0	-0.1	-0.1	0.5	0.0	-0.4	-0.1	-0.5	-0.4	0.0	0.1	0.2	0.1	0.1	0.3	0.3	0.1	0.9				
31-Jul	0.2	0.2	0.4	0.3	0.3	0.3	0.1	0.1	0.0	0.0	0.1	0.2	0.3	0.4	0.5	0.3	0.4	0.7	0.4	0.3	0.8	0.1	0.3	1.0	0.3	1.0				
Diurnal Average																														
Diurnal Maximum																														



Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

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

Lower Camp Met Tower - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 4.8 km/h on Jul 9 16:00																				Hours in Service: 744					
Minimum Value: 0.1 km/h on Jul 17 00:00																				Hours of Data: 744					
Percentiles: P ₁ = 0.2 P ₁₀ = 0.4 Q ₁ = 0.9 Median = 1.6 Q ₃ = 2.2 P ₉₀ = 2.8 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 Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jul	0.2	0.3	0.2	0.2	0.2	0.5	0.6	0.8	1.1	1.3	1.7	1.9	1.5	1.2	1.8	1.5	1.5	0.8	1.1	1.2	1.3	1.4	2.1	2.3	2.3
2-Jul	1.9	2.0	1.3	1.4	1.3	1.3	1.4	1.4	2.0	2.2	2.3	2.3	1.8	1.8	1.4	1.7	1.8	1.2	1.0	0.9	1.1	2.0	2.8	4.0	4.0
3-Jul	2.3	0.8	0.7	1.2	1.2	1.3	2.1	2.3	2.3	2.7	2.7	2.5	2.8	3.1	2.9	2.9	3.1	3.2	4.0	2.4	1.8	2.1	2.9	2.7	4.0
4-Jul	2.9	3.0	2.7	3.1	2.9	2.5	2.2	2.9	3.1	2.9	2.9	3.2	3.1	2.4	1.8	2.2	1.9	2.8	1.1	0.9	0.7	0.6	0.2	0.2	3.2
5-Jul	0.4	0.5	0.5	0.6	1.2	1.6	1.2	0.9	1.4	1.9	2.2	2.2	1.8	2.0	2.5	1.6	1.4	0.9	0.8	0.8	0.5	1.0	0.7	0.7	2.5
6-Jul	1.0	0.9	1.3	0.8	0.5	1.0	1.3	1.1	1.1	1.3	1.7	1.3	1.6	2.0	1.7	2.6	0.5	1.1	1.5	1.3	0.8	0.4	0.3	0.4	2.6
7-Jul	0.4	0.6	0.5	0.3	0.2	0.9	1.2	1.8	1.7	1.8	2.2	2.2	2.1	2.2	1.5	2.1	1.7	1.8	1.7	1.3	1.4	0.8	1.2	1.2	2.2
8-Jul	1.8	2.2	1.4	1.4	1.3	1.2	1.6	1.3	1.5	1.6	2.9	3.2	3.2	2.9	3.1	3.1	2.6	2.3	2.0	1.5	0.4	0.6	4.0	3.4	4.0
9-Jul	1.3	1.3	2.6	3.1	2.9	3.3	3.2	3.1	3.2	3.4	3.6	3.9	4.0	4.3	4.6	4.8	4.7	4.2	3.4	3.3	2.9	3.7	3.5	2.8	4.8
10-Jul	2.1	1.9	1.9	2.3	1.9	1.8	2.2	2.2	2.1	2.0	1.9	2.3	2.9	3.2	2.4	2.4	2.2	2.3	2.1	1.0	0.2	0.3	0.4	0.7	3.2
11-Jul	0.8	0.6	0.9	1.1	1.3	1.7	1.8	2.4	2.2	3.2	3.9	4.0	3.9	3.2	3.2	3.2	2.6	2.3	1.3	2.1	0.9	0.8	1.1	1.3	4.0
12-Jul	1.6	2.6	2.2	2.7	1.9	1.9	2.1	2.3	1.6	1.4	1.0	1.7	2.5	1.6	2.0	2.3	2.2	3.5	3.0	2.4	2.4	2.3	2.2	1.6	3.5
13-Jul	1.1	0.6	1.1	1.3	1.3	1.0	0.8	1.1	2.0	2.4	2.4	2.2	2.3	2.7	2.4	2.4	2.3	2.7	2.9	2.6	1.9	1.3	1.0	0.8	2.9
14-Jul	0.3	0.3	0.6	0.7	0.7	1.2	1.8	2.5	2.8	2.8	2.5	2.7	2.6	2.5	2.4	2.5	2.4	2.2	2.0	1.8	0.7	0.6	0.2	0.2	2.8
15-Jul	0.2	0.2	0.3	0.2	0.4	0.8	1.1	1.4	1.5	1.8	2.1	2.1	2.3	2.4	2.2	2.0	2.0	2.0	1.9	1.9	1.7	1.6	1.6	2.2	2.4
16-Jul	1.5	1.1	1.1	1.4	1.3	1.5	1.9	1.6	1.6	1.9	1.6	1.6	2.1	2.0	2.0	1.5	1.4	1.2	0.8	0.2	0.2	0.3	0.3	0.1	2.1
17-Jul	0.5	0.3	0.3	0.4	0.5	0.4	0.7	1.0	1.3	1.1	1.5	1.6	2.1	1.7	2.0	1.8	1.8	1.5	1.4	0.5	0.3	0.4	0.8	0.5	2.1
18-Jul	0.4	0.3	0.4	0.3	0.5	0.8	1.3	1.9	2.0	2.1	1.8	1.9	2.1	2.6	2.4	2.5	2.3	2.0	1.9	1.8	1.3	1.6	1.5	1.9	2.6
19-Jul	1.5	1.2	0.9	1.0	0.9	0.5	0.5	0.8	0.9	1.5	1.8	1.7	1.9	2.1	1.9	1.6	1.6	1.7	1.2	1.2	1.2	1.6	0.9	0.7	2.1
20-Jul	0.8	0.5	0.5	0.7	1.0	1.2	1.6	1.4	1.4	1.4	1.7	1.2	1.5	1.5	1.5	1.2	2.5	2.0	0.8	0.6	2.8	2.6	2.7	3.5	3.5
21-Jul	3.3	3.9	3.6	2.8	3.1	2.9	2.9	3.4	3.4	2.9	2.7	2.9	2.7	2.5	2.2	2.4	2.5	2.4	1.9	1.4	0.9	0.5	0.6	0.5	3.9
22-Jul	0.3	0.2	0.4	0.8	1.0	1.4	1.8	2.0	2.3	2.6	2.5	2.3	1.9	1.9	2.0	2.3	1.6	1.2	1.3	0.8	0.4	0.4	0.2	0.3	2.6
23-Jul	0.2	0.3	0.3	0.4	0.5	0.6	1.2	1.7	1.7	1.6	1.8	2.1	2.5	2.4	2.1	2.3	1.8	2.1	1.5	1.4	1.2	0.7	0.9	1.0	2.5
24-Jul	0.7	0.7	0.8	1.0	1.3	0.9	0.9	1.5	1.5	2.7	2.9	2.7	2.6	2.3	1.5	1.7	1.6	1.5	1.2	1.2	1.2	1.9	0.6	0.3	2.9
25-Jul	0.7	0.8	1.0	2.0	2.2	2.1	2.1	2.8	2.6	2.0	2.0	2.0	2.2	2.0	1.7	1.9	1.8	1.9	1.4	0.5	0.4	1.0	1.4	1.0	2.8
26-Jul	0.6	0.6	0.4	0.4	0.4	0.5	0.8	1.1	1.3	1.3	1.9	2.4	2.4	1.7	1.9	2.8	3.0	3.1	2.4	1.4	0.9	0.7	0.6	1.2	3.1
27-Jul	1.0	0.9	1.3	1.8	1.9	2.0	1.9	2.1	2.1	2.0	1.9	2.0	2.2	1.4	1.6	2.0	1.9	1.2	0.4	0.4	0.7	1.1	0.8	0.7	2.2
28-Jul	0.3	0.5	0.2	0.2	0.4	0.9	1.0	1.5	1.4	1.8	2.4	2.3	2.3	1.6	1.7	1.2	1.0	0.9	0.5	0.5	0.4	0.5	0.5	0.4	2.4
29-Jul	0.5	0.4	0.4	0.4	0.4	0.7	1.5	2.0	1.7	1.7	2.0	1.7	2.1	2.0	2.3	2.1	2.1	1.5	1.6	1.0	1.1	1.4	0.8	0.8	2.3
30-Jul	0.6	1.0	1.0	0.7	0.7	1.1	1.3	1.5	1.4	1.5	1.5	1.7	2.2	1.7	2.3	1.5	1.3	1.4	1.3	0.6	0.5	0.5	0.3	0.4	2.3
31-Jul	0.2	0.3	0.4	0.4	0.5	1.2	1.0	1.1	1.3	1.6	1.5	1.9	2.4	2.7	2.8	2.5	2.1	1.8	1.5	1.1	0.4	1.0	1.2	1.2	2.8
3.3 3.9 3.6 3.1 3.1 3.3 3.2 3.4 3.4 3.4 3.9 4.0 4.0 4.3 4.6 4.8 4.7 4.2 4.0 3.3 2.9 3.7 4.0 4.0																									
Diurnal Maximum																									



Wood Buffalo Environmental Association

Summary of Hour Averages

Vertical Wind Speed 100m (VW100) - km/h

Lower Camp Met Tower - July 2025

Maximum Value: 2.7 km/h on Jul 8 02:00																				Maximum Daily Average: 0.5 km/h on Jul 24					Hours in Service: 744				
Minimum Value: -1.2 km/h on Jul 8 04:00																				Minimum Daily Average: -0.4 km/h on Jul 4					Hours of Data: 744				
Maximum Diurnal Average: 0.3 km/h at hour 24																				Minimum Diurnal Average: -0.1 km/h at hour 12					Hours of Missing Data: 0				
Monthly Average: 0.04 km/h																				Percentiles: P ₁ = -0.9 P ₁₀ = -0.5 Q ₁ = -0.2 Median = 0.0 Q ₃ = 0.2 P ₉₀ = 0.6 P ₉₉ = 1.7					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-Jul	0.1	0.1	0.0	0.1	0.0	0.0	-0.2	-0.2	0.2	0.6	0.7	1.4	0.0	-0.2	0.4	0.1	-0.2	-0.2	0.0	0.4	-0.3	0.4	1.4	2.4	0.3	2.4			
2-Jul	2.0	1.5	-0.1	0.0	0.5	0.7	0.4	0.2	0.1	0.4	-0.7	-0.4	0.7	0.5	-0.1	0.3	-0.3	0.7	0.2	0.3	1.1	0.6	0.8	0.0	0.4	2.0			
3-Jul	-0.3	0.0	0.1	0.4	0.1	0.0	0.6	0.1	-0.2	0.1	-0.5	-0.3	-0.6	0.8	0.1	-0.2	1.1	0.2	-1.1	0.0	0.4	0.1	-0.1	-0.3	0.0	1.1			
4-Jul	-0.3	-0.4	-0.1	-0.2	-1.0	-1.0	-0.7	-1.0	-0.6	-0.3	-0.7	-1.2	-0.8	-0.8	-0.4	-0.6	-0.3	-0.3	0.0	-0.1	-0.1	-0.1	0.0	0.0	-0.4	0.0			
5-Jul	-0.1	0.0	0.3	-0.3	0.2	0.4	-0.1	-0.1	0.1	0.1	0.3	-0.3	-0.5	0.8	0.3	-0.3	0.0	0.1	0.1	0.4	0.0	0.4	-0.1	0.0	0.1	0.8			
6-Jul	0.9	0.2	-0.5	-0.6	-0.2	-0.4	-0.3	0.0	0.0	-0.7	-0.3	-0.4	-0.9	-0.1	-0.7	-0.1	-0.2	0.0	0.4	-0.4	0.4	0.0	0.1	-0.1	-0.2	0.9			
7-Jul	0.0	-0.4	0.2	0.0	-0.1	0.0	0.3	-0.1	0.5	0.3	0.1	0.3	-0.1	-0.1	0.6	0.0	-0.3	-0.1	-0.6	-0.2	0.0	0.6	1.5	2.5	0.2	2.5			
8-Jul	1.8	2.7	-0.3	-1.2	-0.3	-0.5	-0.2	-0.7	0.0	-0.3	-0.3	0.1	0.6	0.7	0.6	0.6	-0.3	-0.6	0.1	-0.1	0.2	0.4	-0.2	-0.8	0.1	2.7			
9-Jul	-0.6	0.4	0.4	0.4	0.4	0.1	0.3	0.1	0.3	0.3	0.3	0.7	0.3	0.3	0.8	0.5	-0.3	0.1	0.1	-0.2	-0.6	-0.7	-0.2	-0.3	0.1	0.8			
10-Jul	0.0	-0.1	-0.2	-0.5	-0.1	0.1	0.1	0.1	0.3	0.3	0.5	0.2	-0.2	-0.8	-0.8	0.2	-0.2	-0.2	-0.7	-0.6	-0.2	0.0	0.2	0.1	-0.1	0.5			
11-Jul	-0.1	0.0	-0.3	-0.5	0.3	-0.3	-0.7	-0.2	0.0	0.5	0.5	-0.2	0.2	0.5	0.2	0.2	0.4	0.2	-0.1	0.3	-0.3	0.2	0.0	1.7	0.1	1.7			
12-Jul	0.5	0.3	-0.1	0.1	0.0	0.5	0.7	0.0	-0.2	-0.5	-0.2	0.4	-0.6	-0.1	0.1	-0.2	-0.2	0.1	0.1	0.1	-0.4	-0.3	-0.5	0.1	0.0	0.7			
13-Jul	-0.3	0.0	0.5	1.5	0.7	-0.2	-0.3	-0.2	0.0	-0.6	0.2	-0.1	-0.4	-0.4	-0.5	-0.4	-0.2	0.3	-0.7	0.2	0.0	0.5	-0.3	-0.2	-0.1	1.5			
14-Jul	0.0	-0.1	-0.1	-0.1	-0.1	0.1	0.8	-0.1	-0.3	-0.9	-0.2	-0.1	-0.9	0.0	-0.7	-0.1	-0.4	0.0	-0.2	-0.1	-0.1	0.4	0.0	0.0	-0.1	0.8			
15-Jul	0.0	0.0	0.1	-0.1	0.2	0.0	-0.2	-0.1	-0.4	-0.2	-0.3	-0.4	0.2	-0.3	1.4	0.0	-0.4	0.3	-0.1	-0.4	-0.2	0.8	0.6	1.4	0.1	1.4			
16-Jul	1.0	-0.1	0.1	1.2	0.6	-0.4	0.5	-0.5	-0.9	0.2	0.0	-0.5	0.2	0.8	-0.1	0.5	-0.3	0.2	0.1	-0.1	0.0	-0.1	0.1	0.2	0.1	1.2			
17-Jul	0.1	0.1	-0.1	-0.1	0.0	0.1	0.0	0.0	0.6	0.4	0.0	0.1	-0.2	-0.2	-0.7	0.1	-0.3	-0.1	0.0	0.0	0.0	-0.2	0.0	0.2	0.0	0.6			
18-Jul	0.2	0.0	0.1	0.0	0.3	-0.1	0.0	0.3	0.2	0.1	0.3	-0.3	0.5	0.2	0.4	0.9	-0.4	-0.3	1.5	1.7	0.4	0.8	0.6	0.9	0.3	1.7			
19-Jul	0.5	0.5	1.5	1.4	0.2	0.1	0.0	0.0	-0.2	-0.1	0.0	0.2	0.1	0.5	0.8	-0.3	0.3	0.7	0.6	-0.5	-0.5	0.0	-0.2	-0.3	0.2	1.5			
20-Jul	-0.2	-0.2	-0.2	-0.3	-0.2	-0.1	-0.2	-0.3	-0.6	-0.5	0.2	-0.6	0.5	-0.5	0.1	0.3	-0.3	-0.4	-0.2	-0.3	0.0	-0.4	-0.1	-0.3	-0.2	0.5			
21-Jul	0.3	-0.2	-0.2	0.1	0.4	-0.1	-0.1	-0.4	-0.7	-0.6	-0.1	-0.9	0.2	-0.5	-0.4	0.2	-0.3	-0.9	-0.9	-0.2	0.2	-0.1	0.1	-0.3	-0.2	0.4			
22-Jul	-0.1	-0.2	-0.1	0.1	0.8	0.6	0.0	-0.2	0.4	-0.6	-0.7	0.1	-0.4	-0.3	-0.3	0.1	0.2	-0.5	-0.2	0.3	0.1	0.0	0.1	0.2	0.0	0.8			
23-Jul	0.1	0.0	0.1	0.3	-0.2	0.1	-0.3	0.2	0.3	0.1	0.2	-0.4	-0.5	0.5	0.3	0.2	0.4	0.8	-0.2	0.2	0.9	0.8	-0.1	-0.1	0.2	0.9			
24-Jul	0.1	0.1	0.2	0.2	0.5	-0.4	-0.4	0.4	0.4	1.1	1.2	1.6	1.4	1.5	0.7	0.4	-0.1	1.0	1.0	0.4	0.6	0.2	-0.2	-0.1	0.5	1.6			
25-Jul	0.3	0.1	0.0	0.4	0.1	0.5	0.5	0.5	-0.1	0.2	0.4	-0.2	-0.4	-0.5	-0.4	-0.3	0.1	-0.4	-0.2	-0.2	-0.2	0.1	0.6	-0.5	0.0	0.6			
26-Jul	-0.4	-0.4	-0.2	-0.1	-0.2	0.0	-0.1	0.0	-0.2	0.0	0.1	-0.4	0.6	0.2	-0.1	-0.1	0.1	0.3	0.0	0.0	-0.2	-0.1	-0.2	0.0	-0.1	0.6			
27-Jul	-0.3	0.1	0.2	-0.1	0.1	-0.1	0.7	0.2	0.0	-0.6	-0.4	-0.9	-1.1	-0.4	-0.4	-0.1	-0.2	0.1	-0.2	-0.3	-0.5	-0.4	-0.2	-0.6	-0.2	0.7			
28-Jul	-0.4	-0.1	-0.1	0.0	0.0	-0.2	-0.2	0.2	-0.6	0.5	0.2	-0.5	1.1	-0.3	0.2	-0.7	-0.2	-0.4	-0.3	-0.4	0.0	0.4	0.2	0.3	-0.1	1.1			
29-Jul	0.3	0.3	0.1	0.2	0.1	0.1	0.1	0.3	0.0	0.1	0.1	-0.5	-0.4	0.3	0.8	0.0	0.3	0.5	0.5	-0.3	0.7	0.7	0.0	-0.1	0.2	0.8			
30-Jul	0.0	0.1	-0.2	-0.1	0.0	-0.3	0.0	-0.2	-0.5	-0.3	-0.5	0.0	-0.1	0.0	-0.2	-0.8	-0.8	-0.1	0.1	0.0	0.0	-0.2	0.0	0.1	-0.2	0.1			
31-Jul	0.1	0.2	0.3	0.1	0.1	-0.2	0.0	-0.2	-0.2	0.0	-0.2	0.2	0.1	0.3	0.3	-0.4	0.7	0.6	-0.1	0.1	0.4	0.6	1.5	2.2	0.3	2.2			
																									Diurnal Average				
																									Diurnal Maximum				



Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

Vertical Wind Speed 100m (VW100) - km/h

Lower Camp Met Tower - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 4.5 km/h on Jul 11 11:00																				Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0					
Minimum Value: 0.2 km/h on Jul 16 20:00																									
Percentiles: P ₁ = 0.2 P ₁₀ = 0.5 Q ₁ = 1.0 Median = 1.5 Q ₃ = 2.4 P ₉₀ = 2.9 P ₉₉ = 4.2																									
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-Jul	0.4	0.3	0.3	0.4	0.3	0.3	0.5	0.7	1.2	1.3	1.9	2.1	1.5	1.4	2.1	1.4	1.9	0.9	1.0	1.5	1.3	1.6	2.2	2.7	2.7
2-Jul	2.7	2.4	1.6	1.7	1.4	1.0	1.4	1.5	1.8	2.5	2.6	2.6	2.1	2.0	1.6	1.7	2.1	1.6	1.1	1.1	1.2	1.7	2.8	4.0	4.0
3-Jul	2.2	0.8	0.8	1.3	1.3	1.2	2.2	2.1	1.9	2.7	2.3	2.7	2.8	3.5	3.3	2.7	3.7	3.3	4.1	2.6	1.9	1.9	2.4	2.4	4.1
4-Jul	2.6	2.8	2.4	3.0	2.9	2.5	1.9	2.7	3.3	3.5	3.2	3.4	3.1	2.0	1.9	2.2	1.6	2.4	1.1	0.9	0.8	0.7	0.2	0.2	3.5
5-Jul	0.7	0.5	0.6	0.7	1.1	1.1	1.2	0.5	1.1	1.5	2.0	2.5	1.6	2.5	2.4	1.4	1.8	1.2	1.2	1.2	0.7	1.2	0.9	0.8	2.5
6-Jul	1.3	1.1	1.1	0.9	0.7	1.1	1.2	1.2	1.1	1.1	1.4	1.2	1.6	2.6	1.6	3.2	0.6	0.7	1.9	1.7	1.4	0.5	0.5	0.5	3.2
7-Jul	0.4	0.5	0.7	0.3	0.5	1.4	1.4	1.7	1.5	2.3	2.3	2.8	2.4	2.5	1.8	2.1	1.8	2.1	1.5	1.3	1.5	1.0	0.9	0.7	2.8
8-Jul	1.0	2.3	1.8	1.8	1.5	1.3	1.6	1.6	1.5	1.8	3.2	3.7	3.8	3.3	4.1	3.9	3.0	2.7	2.7	1.5	0.5	0.9	3.8	3.8	4.1
9-Jul	1.2	1.2	2.7	2.7	2.8	3.2	3.3	3.4	3.3	3.5	3.7	4.2	4.3	4.4	4.3	4.2	4.1	3.7	3.1	3.1	3.1	3.9	3.6	3.0	4.4
10-Jul	2.0	1.8	1.5	2.2	2.3	2.2	1.6	1.5	1.7	2.1	2.2	2.9	3.2	3.5	2.7	2.9	2.6	2.5	1.9	0.9	0.4	0.4	0.7	1.0	3.5
11-Jul	1.0	0.8	0.9	1.1	1.4	1.1	1.4	1.8	2.3	3.4	4.5	4.2	4.3	3.2	2.9	2.7	2.6	2.3	1.0	2.0	1.0	1.3	1.4	1.3	4.5
12-Jul	1.5	2.1	2.0	2.4	2.0	1.9	1.7	1.7	1.4	1.2	1.0	1.9	2.9	1.7	2.1	1.9	2.1	3.1	2.7	1.8	1.8	2.1	1.9	1.7	3.1
13-Jul	1.5	0.8	1.1	1.1	1.5	1.1	0.8	1.0	2.1	2.2	2.2	2.2	2.5	2.9	2.7	2.4	2.4	2.9	2.9	2.8	2.0	1.2	1.6	1.3	2.9
14-Jul	0.4	0.4	0.8	1.0	1.2	1.4	2.2	2.5	3.1	3.0	2.8	3.4	2.7	3.1	2.7	2.8	2.6	2.7	2.2	1.8	0.6	0.9	0.3	0.2	3.4
15-Jul	0.2	0.3	0.3	0.3	0.4	0.8	1.0	0.9	1.2	1.5	2.0	2.6	2.9	2.9	3.1	2.7	2.6	2.5	2.0	1.2	0.6	1.0	0.6	1.4	3.1
16-Jul	1.4	1.3	1.3	1.1	1.2	0.9	1.3	1.0	1.0	1.0	1.2	1.8	2.7	2.4	2.8	1.8	1.5	1.5	1.0	0.2	0.2	0.6	0.4	0.2	2.8
17-Jul	0.6	0.3	0.6	0.3	0.2	0.3	0.3	0.7	1.2	1.0	1.5	1.9	2.5	2.1	2.0	2.4	2.4	1.9	1.6	0.5	0.6	0.9	1.3	0.7	2.5
18-Jul	0.6	0.4	0.6	0.4	0.6	0.6	1.1	1.5	1.3	1.1	1.1	1.6	2.2	3.1	3.0	2.9	2.8	2.5	2.3	2.1	1.7	2.0	2.1	2.1	3.1
19-Jul	1.5	1.1	0.9	0.9	1.3	0.3	0.4	0.5	0.6	0.9	1.1	1.6	2.5	2.8	2.2	1.7	2.1	2.1	1.3	1.6	1.5	1.6	1.2	1.3	2.8
20-Jul	1.2	0.5	0.7	0.9	0.7	1.3	1.7	1.4	1.5	1.4	2.0	1.3	1.4	1.2	1.5	1.2	2.4	1.6	0.8	0.9	2.4	2.6	2.6	3.0	3.0
21-Jul	3.0	3.5	3.3	2.5	2.9	2.9	3.1	3.1	3.2	2.8	3.1	3.0	2.8	2.6	2.5	2.5	2.5	1.8	1.5	1.3	1.1	0.3	0.8	0.8	3.5
22-Jul	0.5	0.3	0.4	1.0	1.0	1.5	1.8	1.9	2.5	2.6	2.9	2.9	2.3	2.4	2.3	2.7	1.8	1.2	1.2	0.9	0.8	0.8	0.5	0.4	2.9
23-Jul	0.4	0.4	0.4	0.6	0.5	0.6	0.7	1.2	0.9	0.9	1.1	1.7	2.8	3.3	2.9	2.3	1.9	2.8	1.6	1.0	0.5	0.5	1.4	1.3	3.3
24-Jul	0.8	0.6	0.8	0.9	1.5	0.8	1.0	1.1	1.8	2.6	2.9	2.6	2.7	2.7	1.7	1.9	1.6	1.8	1.6	1.3	1.3	2.1	0.7	0.4	2.9
25-Jul	1.1	1.1	1.2	1.8	2.2	1.8	2.1	2.3	2.5	1.9	2.0	2.2	2.4	1.9	1.6	1.3	1.4	1.5	1.4	0.6	0.6	1.2	1.8	1.4	2.5
26-Jul	1.0	0.8	1.0	0.8	0.7	0.6	1.0	1.2	1.0	1.2	2.4	2.7	2.6	2.0	1.8	3.2	3.5	3.1	2.6	1.6	1.3	1.0	0.8	1.5	3.5
27-Jul	0.9	1.2	1.7	1.9	2.0	2.1	2.3	2.1	2.2	1.8	1.9	2.0	1.9	1.4	1.6	2.3	1.7	1.0	0.4	0.3	0.5	0.8	1.1	0.8	2.3
28-Jul	0.5	0.5	0.3	0.3	0.5	0.7	1.0	1.2	1.3	2.6	2.7	2.7	3.2	1.7	2.3	1.5	1.1	1.0	0.7	0.6	0.4	0.4	0.6	0.6	3.2
29-Jul	0.6	0.6	0.6	0.6	0.6	0.8	1.3	1.5	1.2	1.0	1.2	1.7	2.4	2.4	3.2	2.6	2.6	2.1	2.1	0.7	1.0	1.6	1.3	1.0	3.2
30-Jul	0.8	0.8	0.7	0.9	0.6	0.8	1.2	1.9	1.4	1.1	1.2	2.1	2.4	2.1	2.8	2.0	1.5	1.7	1.5	0.8	0.6	1.0	0.4	0.5	2.8
31-Jul	0.4	0.4	0.5	0.6	0.9	1.2	1.0	0.5	0.8	1.1	1.3	2.1	2.6	3.4	3.7	3.3	2.7	2.4	2.1	1.2	0.3	0.4	1.6	1.6	3.7
3.0 3.5 3.3 3.0 2.9 3.2 3.3 3.4 3.3 3.5 4.5 4.2 4.3 4.4 4.3 4.2 4.1 3.7 4.1 3.1 3.1 3.9 3.8 4.0																									
Diurnal Maximum																									



Wood Buffalo Environmental Association

Summary of Hour Averages

Vertical Wind Speed 163m (VW163) - km/h

Lower Camp Met Tower - July 2025

Maximum Value: 5.6 km/h on Jul 8 02:00																			Maximum Daily Average: 1.8 km/h on Jul 9							Hours in Service: 744	
Minimum Value: -1.1 km/h on Jul 17 22:00																			Minimum Daily Average: -0.1 km/h on Jul 20							Hours of Data: 739	
Maximum Diurnal Average: 0.9 km/h at hour 24																			Minimum Diurnal Average: 0.3 km/h at hour 12							Hours of Missing Data: 5	
Monthly Average: 0.50 km/h																			Percentiles: P ₁ = -0.8 P ₁₀ = -0.3 Q ₁ = 0.0 Median = 0.3 Q ₃ = 0.9 P ₉₀ = 1.6 P ₉₉ = 3.3							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-Jul	0.0	0.4	0.1	-0.3	0.1	0.2	0.2	0.1	0.0	0.3	0.6	0.6	-0.2	-0.3	0.9	-0.1	0.0	-0.1	0.4	0.2	-0.7	0.5	1.6	4.4	0.4	4.4	
2-Jul	4.8	2.5	0.0	0.4	1.0	1.1	0.9	0.4	0.4	1.2	-0.3	0.0	1.4	1.0	-0.2	0.5	0.1	1.1	0.2	0.2	0.7	0.4	0.6	UO	0.8	4.8	
3-Jul	UO	0.1	0.6	1.0	0.6	0.7	2.2	1.1	0.7	1.1	0.6	0.7	0.5	1.7	1.1	0.8	2.3	1.6	1.0	1.7	1.4	1.2	1.3	1.2	1.1	2.3	
4-Jul	1.1	1.3	1.5	1.3	0.3	0.2	0.3	0.1	0.2	0.7	0.1	-0.5	0.0	-0.2	0.2	-0.3	-0.2	-0.3	0.2	0.0	0.1	0.1	0.2	0.2	0.3	1.5	
5-Jul	0.1	0.3	0.3	-0.1	0.5	0.7	0.4	0.1	0.2	0.4	-0.1	-0.1	-1.0	1.1	1.0	-0.2	0.3	0.2	0.2	0.4	-0.1	0.3	0.2	0.1	0.2	1.1	
6-Jul	1.3	0.1	0.2	-0.3	0.0	0.0	-0.2	0.1	0.1	-0.7	-0.1	-0.4	-0.9	0.3	-0.1	UO	UO	UO	0.5	-0.7	0.0	0.4	0.5	0.3	0.0	1.3	
7-Jul	0.4	-0.1	0.2	0.4	0.1	0.3	1.0	-0.2	0.6	0.9	0.6	0.7	-0.1	0.3	1.6	0.3	-0.4	-0.2	0.0	0.2	0.6	1.4	2.4	3.2	0.6	3.2	
8-Jul	3.4	5.6	0.9	-0.6	-0.1	-0.3	-0.1	-0.9	0.1	0.3	0.5	0.9	1.5	1.8	1.7	1.7	0.4	-0.2	0.5	0.3	0.5	0.6	1.3	1.1	0.9	5.6	
9-Jul	0.1	1.3	2.0	2.2	2.0	1.9	2.0	1.5	1.5	1.9	1.8	2.3	1.9	2.1	3.2	2.6	1.9	2.0	2.2	1.5	0.5	1.3	1.6	1.2	1.8	3.2	
10-Jul	1.3	1.0	1.0	0.7	1.0	1.1	1.3	0.7	1.1	1.1	1.1	0.7	0.6	0.1	-0.2	1.1	0.5	0.8	-0.2	-0.2	0.1	0.4	0.8	0.9	0.7	1.3	
11-Jul	0.9	0.7	0.3	0.0	0.6	0.6	-0.5	-0.2	0.3	1.5	1.2	1.1	1.5	2.1	1.9	1.7	1.9	1.6	1.1	1.7	0.0	0.1	0.9	2.3	1.0	2.3	
12-Jul	1.5	2.0	1.3	1.8	1.3	1.7	2.0	1.2	0.9	0.2	0.0	1.2	0.0	0.6	0.6	1.1	0.7	1.6	1.8	1.6	1.0	1.2	-0.3	0.0	1.0	2.0	
13-Jul	-0.2	0.2	1.1	3.1	1.9	0.0	0.1	0.1	-0.1	-0.4	0.0	-0.3	-0.5	0.0	-0.6	-0.3	-0.2	0.5	-0.5	0.1	0.2	0.7	-0.2	-0.3	0.2	3.1	
14-Jul	0.3	0.0	-0.1	-0.2	0.2	0.3	1.0	0.3	0.0	-0.9	0.5	0.3	-0.9	0.4	-0.7	0.0	-0.4	-0.4	-0.1	-0.2	0.1	0.9	0.1	0.1	0.0	1.0	
15-Jul	0.0	0.2	0.3	0.3	0.3	0.2	0.2	0.3	0.4	-0.3	-0.2	0.1	0.2	0.2	2.5	0.1	-0.3	0.5	0.1	0.0	0.5	2.0	2.4	3.4	0.5	3.4	
16-Jul	1.8	0.0	-0.1	0.7	0.5	-0.2	1.2	0.1	-0.1	0.3	0.0	-0.7	0.5	1.2	0.2	0.6	-0.5	0.2	0.2	0.0	0.2	0.3	0.4	0.3	0.3	1.8	
17-Jul	0.2	0.2	0.3	0.3	0.1	0.2	0.3	0.2	0.4	0.0	0.2	0.6	0.2	0.1	-0.6	0.3	-0.4	0.0	0.1	0.0	-0.2	-1.1	-0.5	0.3	0.0	0.6	
18-Jul	0.6	0.0	-0.1	0.3	0.8	0.3	0.7	0.5	0.2	0.1	0.4	-0.6	0.7	0.1	0.6	1.3	0.0	0.0	2.4	3.4	1.9	1.8	1.7	2.0	0.8	3.4	
19-Jul	1.5	0.9	2.0	1.8	0.5	0.6	0.2	0.2	0.1	0.2	0.0	0.4	0.4	1.3	0.8	-0.8	0.9	1.1	1.1	-0.7	0.2	0.2	-0.1	-0.3	0.5	2.0	
20-Jul	-0.1	-0.1	0.0	-0.3	-0.3	0.0	-0.1	-0.2	-0.4	-0.3	0.6	-0.8	0.2	-0.6	0.2	0.3	0.1	-0.2	-0.1	-0.2	0.4	-0.4	-0.3	-0.3	-0.1	0.6	
21-Jul	0.6	-0.2	0.0	0.0	0.1	-0.2	0.0	-0.4	-0.6	-0.5	0.1	-0.5	0.8	-0.1	-0.1	0.5	0.0	-0.6	-0.3	0.2	0.3	0.2	0.3	-0.2	0.0	0.8	
22-Jul	0.1	0.0	0.2	0.4	1.2	1.4	0.9	0.7	1.5	0.3	-0.5	1.0	0.3	-0.2	0.1	0.5	0.8	-0.4	-0.1	0.5	0.4	0.0	0.1	0.2	0.4	1.5	
23-Jul	0.2	0.2	0.2	0.2	0.0	0.7	-0.2	0.1	0.7	0.2	-0.1	-0.8	0.2	1.1	0.8	0.6	0.3	1.7	0.2	0.5	1.7	2.1	1.0	0.6	0.5	2.1	
24-Jul	0.6	0.2	-0.2	0.0	0.6	0.3	0.2	0.7	0.6	1.3	1.4	2.1	1.8	2.5	1.5	0.4	-0.4	1.2	1.9	1.1	1.0	0.8	0.4	0.4	0.8	2.5	
25-Jul	1.0	1.0	0.9	2.0	1.4	1.8	1.8	2.0	1.3	1.1	1.2	0.7	0.0	0.0	0.4	-0.2	0.3	0.1	-0.1	0.0	0.3	1.2	2.1	0.2	0.9	2.1	
26-Jul	-0.1	0.0	0.0	0.5	0.4	0.5	0.5	0.5	0.4	0.6	1.0	0.7	2.0	0.2	-0.2	-0.4	0.2	0.9	0.1	0.1	0.0	-0.2	-0.3	0.1	0.3	2.0	
27-Jul	0.1	0.1	0.2	-0.2	-0.2	-0.2	0.7	0.4	0.1	-0.3	0.1	-0.5	-0.8	0.0	-0.3	0.5	0.1	0.2	0.0	0.1	0.2	0.3	0.3	-0.3	0.0	0.7	
28-Jul	0.1	0.3	0.2	0.4	0.4	0.3	0.4	0.5	-0.3	0.6	0.7	-0.2	1.9	-0.3	-0.3	-0.7	-0.1	-0.1	-0.5	-0.2	0.1	0.2	0.3	0.6	0.2	1.9	
29-Jul	0.8	0.7	0.5	0.6	0.7	0.4	0.7	1.7	0.1	-0.2	0.1	-0.5	-0.2	0.3	1.7	0.2	1.1	1.3	1.4	0.2	1.4	1.2	1.0	0.6	0.7	1.7	
30-Jul	0.5	0.6	0.2	-0.3	0.5	0.6	0.6	0.0	-0.4	-0.5	-0.8	0.0	0.6	0.1	0.3	-1.0	-1.0	-0.1	0.2	0.0	-0.5	-0.5	-0.1	0.2	0.0	0.6	
31-Jul	0.2	0.4	0.4	1.0	0.8	-0.2	0.5	0.0	-0.1	0.5	-0.2	0.4	0.8	1.0	0.9	-0.1	1.2	1.2	0.3	0.7	0.7	1.4	3.5	5.0	0.8	5.0	
Diurnal Average																											
Diurnal Maximum																											
UO - Unstable Operation																											



Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

Vertical Wind Speed 163m (VW163) - km/h

Lower Camp Met Tower - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 4.5 km/h on Jul 8 15:00																			Hours in Service: 744 Hours of Data: 739 Hours of Missing Data: 5 Hours of Calibration: 0 Percent Operational Time: 99.3						
Minimum Value: 0.1 km/h on Jul 17 06:00																									
Percentiles: P ₁ = 0.3 P ₁₀ = 0.5 Q ₁ = 0.9 Median = 1.6 Q ₃ = 2.5 P ₉₀ = 3.2 P ₉₉ = 4.1																									
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-Jul	0.5	0.4	0.2	0.4	0.3	0.2	0.2	0.4	0.7	1.4	1.8	2.1	1.4	1.6	2.5	1.5	2.3	1.1	0.7	1.4	1.6	1.7	2.7	3.0	3.0
2-Jul	2.5	3.3	2.1	1.8	1.6	1.2	1.5	1.5	1.8	2.5	2.6	2.7	2.3	2.4	1.7	1.9	2.5	2.0	1.3	1.1	1.2	1.5	2.4	UO	3.3
3-Jul	UO	0.7	0.9	1.5	1.5	1.2	2.2	1.9	1.9	2.5	2.1	2.9	2.3	3.3	3.1	2.5	4.0	3.2	3.9	2.5	2.1	2.4	2.1	2.1	4.0
4-Jul	1.8	2.3	2.3	2.6	2.5	2.0	1.7	2.4	3.4	3.8	3.7	3.5	3.1	1.9	2.1	2.1	1.7	2.2	1.2	0.9	0.7	0.8	0.3	0.3	3.8
5-Jul	0.9	0.6	0.6	0.8	1.2	0.9	1.1	0.5	0.8	1.4	2.2	2.8	1.8	3.4	2.5	1.6	1.7	1.2	1.4	0.9	0.7	1.0	0.8	0.7	3.4
6-Jul	1.4	1.3	0.8	0.5	0.8	1.1	0.9	1.1	0.9	1.0	1.4	1.2	1.6	2.6	1.9	UO	UO	UO	1.7	1.9	1.2	0.7	0.9	0.8	2.6
7-Jul	0.6	0.5	0.4	0.4	0.6	1.1	1.7	1.6	1.8	2.6	2.5	3.4	2.6	2.7	1.6	2.2	1.8	2.3	1.5	1.6	1.9	1.1	0.7	0.5	3.4
8-Jul	0.4	2.6	2.4	1.6	1.5	1.2	1.6	1.6	1.7	1.8	3.6	4.1	4.2	3.4	4.5	4.2	3.0	2.5	2.6	1.3	0.5	1.0	3.3	4.1	4.5
9-Jul	1.5	1.3	2.5	2.2	2.2	2.6	2.8	3.3	3.3	3.6	3.7	4.2	4.3	3.9	4.1	3.6	3.8	3.2	2.9	3.2	3.3	3.8	3.3	2.5	4.3
10-Jul	2.2	1.6	1.3	1.8	2.2	2.4	1.6	1.4	1.7	2.3	2.4	3.2	3.6	4.0	2.9	3.1	2.8	2.7	1.9	0.8	0.5	0.4	0.6	0.7	4.0
11-Jul	0.8	0.7	0.7	0.9	1.1	1.1	1.3	1.7	2.4	3.6	4.3	3.9	4.0	2.9	2.7	2.5	2.3	2.0	0.9	2.6	1.1	1.4	1.2	1.0	4.3
12-Jul	1.2	1.6	1.9	2.0	1.7	1.5	1.5	1.5	1.4	1.0	1.2	2.1	2.6	2.0	2.2	2.1	2.3	2.7	2.4	1.4	1.2	2.0	1.8	1.7	2.7
13-Jul	1.6	1.0	1.3	1.0	1.7	1.1	1.0	1.1	2.2	2.4	2.5	2.1	2.6	3.6	2.8	2.7	2.4	3.4	3.0	2.7	1.6	0.9	1.6	1.1	3.6
14-Jul	0.6	0.4	1.0	1.0	0.9	1.2	2.3	2.7	3.2	3.2	3.6	3.6	2.6	3.4	3.2	3.1	3.0	3.3	2.3	1.7	0.7	0.7	0.4	0.4	3.6
15-Jul	0.3	0.4	0.3	0.2	0.3	0.8	0.9	0.8	1.3	1.8	1.9	3.2	3.1	3.1	3.4	3.3	2.8	2.8	2.0	0.6	0.5	0.7	0.4	0.5	3.4
16-Jul	1.5	1.9	1.3	1.2	1.2	1.0	1.2	0.8	1.2	1.2	1.4	2.2	3.3	2.6	3.3	2.0	1.7	1.6	1.1	0.3	0.3	0.6	0.5	0.3	3.3
17-Jul	0.6	0.4	0.5	0.4	0.2	0.1	0.3	0.4	0.5	0.8	1.4	1.9	2.8	2.7	2.5	2.9	2.8	2.1	1.8	0.7	0.2	0.6	1.4	0.8	2.9
18-Jul	0.5	0.7	0.9	0.4	0.7	0.8	0.8	1.0	1.2	1.1	1.1	1.5	2.5	3.7	3.6	3.4	3.5	2.8	2.5	2.3	1.8	2.7	3.0	2.6	3.7
19-Jul	2.1	1.6	1.1	1.2	1.2	0.5	0.5	0.4	0.5	0.9	1.2	1.9	2.9	3.3	2.4	2.0	2.4	2.3	1.8	1.9	1.7	1.6	1.6	1.4	3.3
20-Jul	1.5	0.7	0.8	1.0	0.5	0.9	1.6	1.5	1.1	1.3	2.0	1.3	1.4	1.2	1.7	1.5	2.4	1.4	0.9	1.0	2.3	2.8	2.8	3.0	3.0
21-Jul	3.1	3.3	3.4	2.7	3.0	2.9	3.3	3.2	3.0	2.8	3.1	3.1	3.2	3.1	2.9	2.5	2.2	1.7	1.3	1.3	1.0	0.4	0.9	0.9	3.4
22-Jul	0.6	0.3	0.7	1.2	1.1	1.3	1.7	2.0	2.6	2.4	3.5	3.0	2.4	2.4	2.4	2.9	2.3	1.3	1.3	0.9	0.8	0.8	0.5	0.6	3.5
23-Jul	0.5	0.5	0.4	0.5	0.7	0.8	0.7	0.9	0.7	0.7	1.1	1.4	3.4	3.7	3.5	2.4	2.1	3.3	1.5	0.6	0.5	0.5	1.2	1.1	3.7
24-Jul	0.7	0.5	0.6	0.9	1.4	0.8	0.8	1.4	1.8	3.0	3.3	3.2	3.2	3.1	2.2	1.5	1.7	1.9	1.4	1.6	1.2	2.1	0.8	0.4	3.3
25-Jul	0.8	0.9	1.2	1.4	1.9	1.8	2.0	2.3	2.2	1.9	2.0	2.1	2.1	1.6	1.4	1.3	1.3	1.2	1.5	0.9	0.8	1.3	1.7	1.4	2.3
26-Jul	1.0	0.9	1.0	0.9	0.9	0.7	1.0	1.1	1.0	1.4	2.7	2.9	3.1	1.6	1.6	3.2	3.7	3.3	2.4	1.6	1.3	1.0	0.9	1.7	3.7
27-Jul	0.9	1.5	2.1	1.7	1.7	1.9	2.2	2.1	2.2	2.3	2.0	2.0	1.7	1.5	1.5	2.4	1.8	1.0	0.4	0.3	0.6	0.5	1.1	1.0	2.4
28-Jul	0.5	0.6	0.3	0.4	0.4	0.4	0.9	0.9	1.4	2.7	3.3	2.9	3.5	2.1	2.2	1.4	1.1	1.1	0.7	0.7	0.3	0.4	0.7	1.0	3.5
29-Jul	0.7	0.7	0.7	0.7	0.8	1.2	1.5	1.6	1.3	0.8	1.6	1.7	2.2	2.7	3.8	2.8	2.8	2.6	2.5	0.8	1.0	1.3	1.6	0.6	3.8
30-Jul	0.9	0.8	0.7	0.8	0.8	1.3	1.4	2.2	1.3	1.3	1.4	2.6	2.6	2.2	3.0	2.3	1.7	1.9	1.6	0.8	0.5	0.7	0.5	0.7	3.0
31-Jul	0.5	0.6	0.6	0.6	1.0	1.1	1.0	0.6	1.1	1.4	1.7	2.6	2.9	4.0	4.2	3.6	3.1	3.0	2.2	1.1	0.3	0.5	1.1	1.0	4.2
3.1 3.3 3.4 2.7 3.0 2.9 3.3 3.3 3.4 3.8 4.3 4.2 4.3 4.0 4.5 4.2 4.0 3.4 3.9 3.2 3.3 3.8 3.3 4.1 Diurnal Maximum																									
UO - Unstable Operation																									



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS04 BUFFALO VIEWPOINT JULY 2025

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

August 29, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - BUFFALO VIEWPOINT (AMS04)

JULY 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	35	36	99.87	21.3	0	3.2	0
H2S (ppb) Average	708	35	36	99.87	2.5	0	0.8	0
THC (ppm) Average	698	38	46	98.92	2.8	-	2.3	-
NMHC(ppm) Average	698	38	46	98.92	0.317	-	0.127	-
CH4(ppm) Average	698	38	46	98.92	2.7	-	2.3	-
O3(ppb) Average	709	34	35	99.87	60.9	0	40.7	-
NO2(ppb) Average	707	36	37	99.87	21.2	0	6.5	-
NO(ppb) Average	707	36	37	99.87	18.2	-	2.9	-
NOX(ppb) Average	707	36	37	99.87	36	-	9.3	-
PM2.5(ug/m3) Average	742	2	2	100	239.3	0	135.8	4
Temperature (C) Average	744	0	0	100	33.6	-	25.1	-
Relative Humidity (%) Average	744	0	0	100	97.8	-	87.1	-
Wind Speed 10 m (km/h) Average	744	0	0	100	27	-	18	-
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 - BUFFALO VIEWPOINT (AMS04)
JULY 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	0.63	2	-	0	0	0	0.1	0.3	1.2	21.3
H2S (ppb) Average	708	0.27	0.3	-	0	0.1	0.1	0.2	0.3	0.6	2.5
THC (ppm) Average	698	2.08	0.1	-	1.9	2	2	2	2.1	2.2	2.8
NMHC(ppm) Average	698	0.008	0.038	-	0	0	0	0	0	0	0.317
CH4(ppm) Average	698	2.07	0.1	-	1.9	2	2	2	2.1	2.2	2.7
O3(ppb) Average	709	26.02	11.7	-	2.2	11.1	17.7	24.9	32.2	43.3	60.9
NO2(ppb) Average	707	2.31	3.1	-	0	0.2	0.5	1.2	2.9	5.7	21.2
NO(ppb) Average	707	0.57	1.7	-	0	0	0	0.1	0.3	1	18.2
NOX(ppb) Average	707	2.88	4.4	-	0	0.3	0.6	1.4	3.2	6.8	36
PM2.5(ug/m3) Average	742	17.39	28.5	-	0.9	3.3	5.2	9.2	19.4	31.2	239.3
Temperature 2 m (C) Average	744	17.76	5.5	-	4.2	11.2	13.7	17	21.4	25.7	33.6
Relative Humidity (%) Average	744	63.04	20.4	-	25.8	33.9	46.6	63.4	80.3	91.3	97.8
Wind Speed 10 m (km/h) Average	744	8.2	5	-	1	4	5	7	11	15	27
Wind Direction 10 m (deg) Average	744	-	-	-	-	-	-	-	-	-	-

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

OPERATIONAL NOTES

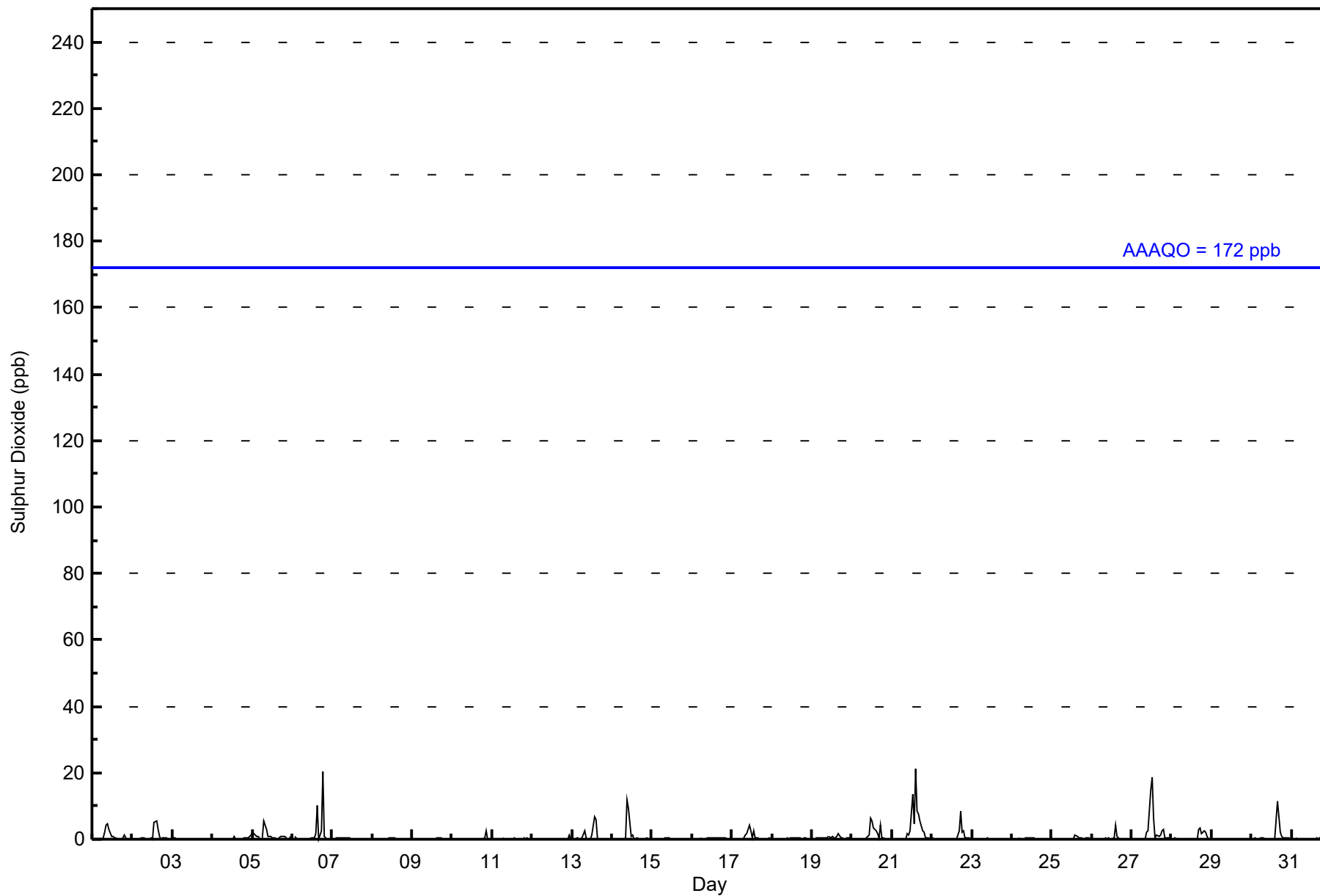
Parameter	Period Start	Period End	Duration (Hours)	Notes
ALL GASEOUS ANALYZERS	24 Jul 2025 07:00	24 Jul 2025 07:00	1	Maintenance - sample manifold cleaned
THC/NMHC/CH4	28 Jul 2025 07:00	28 Jul 2025 08:00	2	Maintenance - analyzer replaced
THC/NMHC/CH4	30 Jul 2025 17:00	30 Jul 2025 17:00	1	Unstable Operation - excessive baseline noise
THC/NMHC/CH4	31 Jul 2025 14:00	31 Jul 2025 17:00	4	Unstable Operation - excessive baseline noise

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																	Hours in Service: 744									
Maximum Value: 21.3 ppb on Jul 21 15:00 Maximum Daily Average: 3.2 ppb on Jul 21																	Hours of Data: 708									
Minimum Value: 0.0 ppb on Jul 1 23:00 Minimum Daily Average: 0.0 ppb on Jul 29																	Hours of Missing Data: 36									
Maximum Diurnal Average: 1.5 ppb at hour 15 Minimum Diurnal Average: 0.1 ppb at hour 5																	Hours of Calibration: 35									
Monthly Average: 0.63 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.3 P ₉₀ = 1.2 P ₉₉ = 10.0																	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-Jul	0.1	Z	0.1	0.0	0.0	0.0	0.3	1.9	4.4	4.8	3.1	0.9	0.7	0.4	0.2	0.1	0.2	0.2	0.3	1.2	0.2	0.1	0.0	0.0	0.8	4.8
2-Jul	0.1	0.0	Z	0.0	0.1	0.2	0.3	0.2	0.2	0.1	0.1	0.3	0.1	5.1	5.4	2.9	0.8	0.1	0.5	0.4	0.4	0.1	0.1	0.1	0.8	5.4
3-Jul	0.4	0.3	0.2	Z	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	0.0	0.0	0.0	0.0	0.1	0.4	
4-Jul	0.0	0.0	0.0	0.0	Z	C	C	C	C	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.1	0.1	0.4	0.4	0.6	0.7	1.1	0.2	1.1
5-Jul	2.1	1.6	1.0	0.7	0.4	Z	0.4	5.3	2.9	0.9	1.0	0.7	0.5	0.3	0.1	0.0	0.2	0.7	0.9	1.0	0.5	0.1	0.1	0.9	1.0	5.3
6-Jul	Z	0.8	0.3	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.3	0.2	0.2	1.6	10.0	0.2	2.6	20.4	0.7	0.2	0.2	0.1	0.1	1.7	20.4
7-Jul	0.5	Z	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.5
8-Jul	0.0	0.0	Z	0.0	0.0	0.1	0.0	0.1	0.1	0.2	0.2	0.3	0.4	0.3	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.4
9-Jul	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	0.2	0.2	0.3	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.3
10-Jul	0.0	0.0	0.0	0.0	Z	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	0.0	0.4	2.4	0.1	0.0	0.0	0.1	2.4
11-Jul	0.0	0.0	0.0	0.0	0.2	Z	0.2	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	0.2	0.2
12-Jul	Z	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.1	0.1	1.3
13-Jul	0.0	Z	0.3	0.4	0.1	0.1	0.3	2.5	0.6	0.1	0.0	0.1	1.5	6.6	5.9	0.3	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.2	0.8	6.6
14-Jul	0.2	0.1	Z	0.2	0.1	0.1	0.2	0.1	0.3	12.0	9.3	0.9	1.3	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.1	0.3	0.0	0.1	1.1	12.0
15-Jul	0.0	0.0	0.0	Z	0.1	0.1	0.1	0.1	0.4	0.4	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.4
16-Jul	0.1	0.2	0.2	0.2	Z	0.2	0.1	0.1	0.1	0.2	0.4	0.5	0.4	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.1	0.0	0.1	0.2	0.5
17-Jul	0.0	0.0	0.0	0.1	0.1	Z	0.2	0.3	1.1	1.6	4.4	2.6	0.4	2.4	0.4	0.2	0.1	0.0	0.1	0.1	0.2	0.3	0.2	0.2	0.7	4.4
18-Jul	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.3	0.4	0.6	0.5	0.4	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.6
19-Jul	0.2	Z	0.3	0.4	0.3	0.3	0.3	0.3	0.4	0.5	0.7	0.6	0.8	0.4	0.4	0.9	1.7	0.2	0.3	0.2	0.2	0.3	0.4	0.3	0.5	1.7
20-Jul	0.1	0.1	Z	0.1	0.1	0.1	0.0	0.0	0.1	0.9	1.4	6.5	5.6	3.3	2.6	1.5	0.3	4.4	0.5	0.3	0.0	0.0	0.0	0.0	1.2	6.5
21-Jul	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	1.7	1.5	2.4	13.4	4.8	21.3	8.3	7.7	5.3	2.8	2.0	0.4	0.4	0.4	0.2	3.2	21.3
22-Jul	0.3	0.2	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1	2.6	8.3	2.0	2.4	0.3	0.3	0.2	0.1	0.8	8.3
23-Jul	0.1	0.0	0.0	0.0	0.0	Z	0.1	0.0	0.1	0.3	0.2	0.1	0.1	0.1	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.3
24-Jul	Z	0.1	0.1	0.0	0.1	0.2	M	0.2	0.3	0.2	0.4	0.4	0.4	0.3	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4
25-Jul	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.2	0.0	1.2	0.7	0.2	0.6	0.3	0.2	0.3	0.3	0.2	0.2	0.2	1.2
26-Jul	0.1	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.4	4.2	0.8	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.4	4.2
27-Jul	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	2.1	2.5	15.0	18.6	6.4	0.5	1.3	0.7	1.2	2.5	3.0	0.3	0.2	0.2	0.2	2.4	18.6
28-Jul	0.2	0.2	0.2	0.2	Z	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.1	0.1	3.1	3.2	1.8	2.5	2.2	0.8	0.2	0.1	0.7	3.2
29-Jul	0.1	0.2	0.1	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.2
30-Jul	Z	0.2	0.2	0.2	0.1	0.2	0.4	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.2	11.5	6.6	2.3	0.7	0.5	0.4	0.5	0.6	0.1	1.1	11.5
31-Jul	0.0	Z	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.1	0.1	0.1	0.3
0.2 0.2 0.1 0.1 0.1 0.1 0.2 0.4 0.4 0.9 0.9 1.1 1.5 1.1 1.5 1.3 0.9 1.0 1.1 0.5 0.3 0.2 0.2 0.2																									Diurnal Average	
2.1 1.6 1.0 0.7 0.4 0.3 0.4 5.3 4.4 12.0 9.3 15.0 18.6 6.6 21.3 11.5 7.7 8.3 20.4 3.0 2.4 0.8 1.3 1.1																									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
Buffalo Viewpoint - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	701	99.01	99.01
11 - 20	6	0.85	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
Buffalo Viewpoint - July 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	83	41	24	6	4	18	55	114	63	48	34	50	59	38	35	29	701
11 - 20	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	4	6
21 - 60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	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	84	41	25	6	4	18	55	114	63	48	34	50	59	38	35	34	708

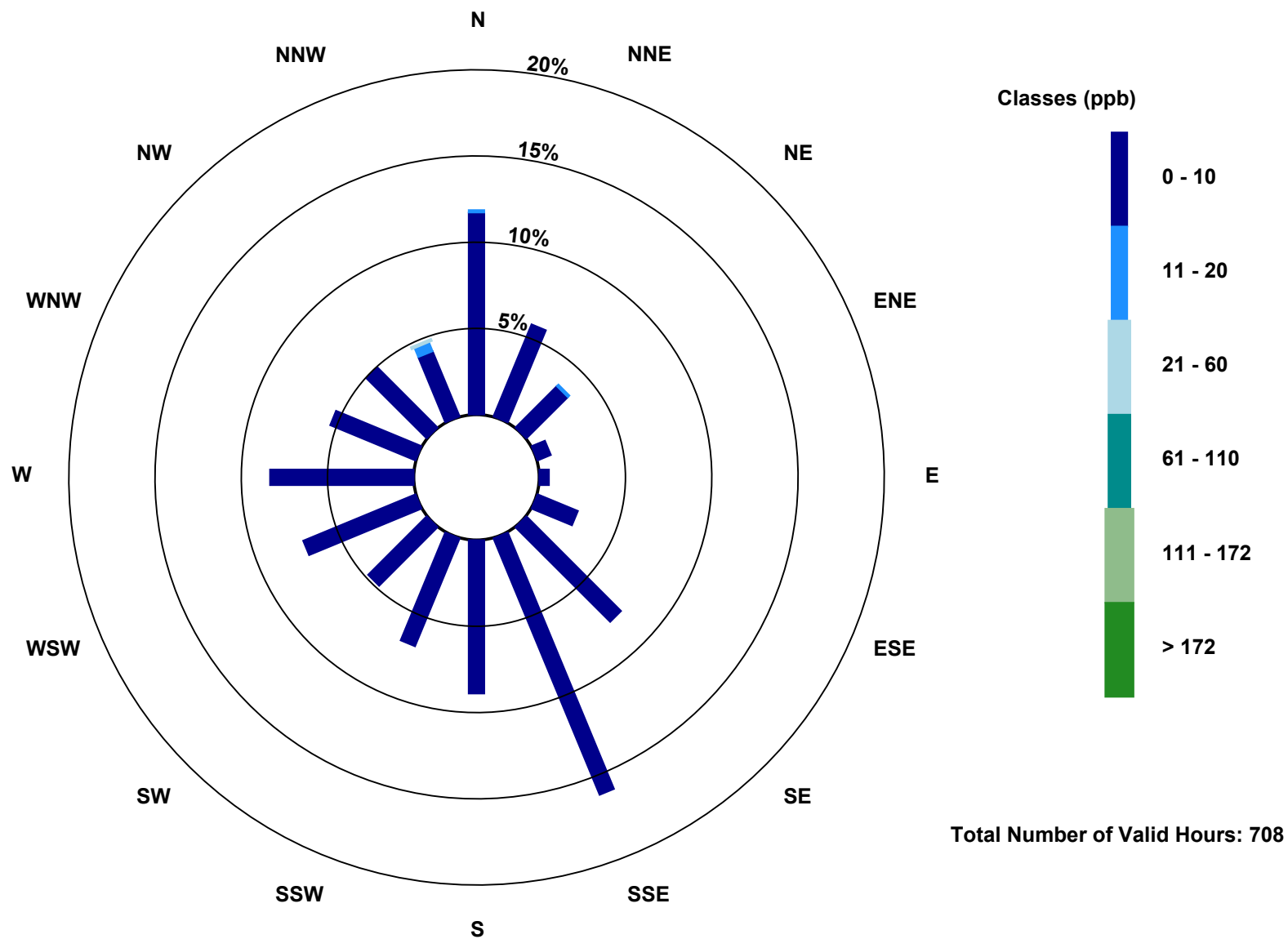
Total Number of Valid Hours: 708

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

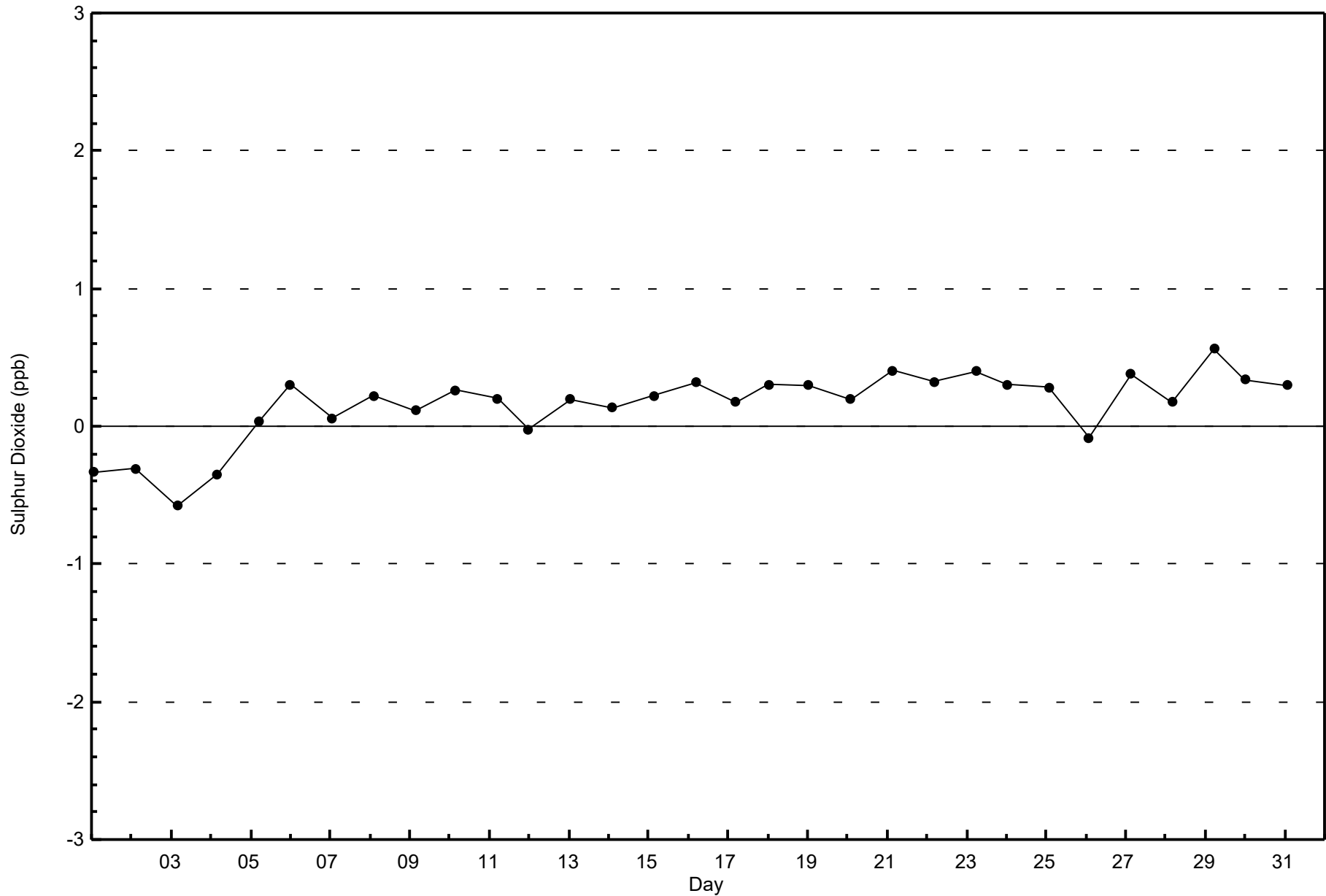
Sulphur Dioxide (SO₂) - ppb
Buffalo Viewpoint





Wood Buffalo Environmental Association
Zero Responses

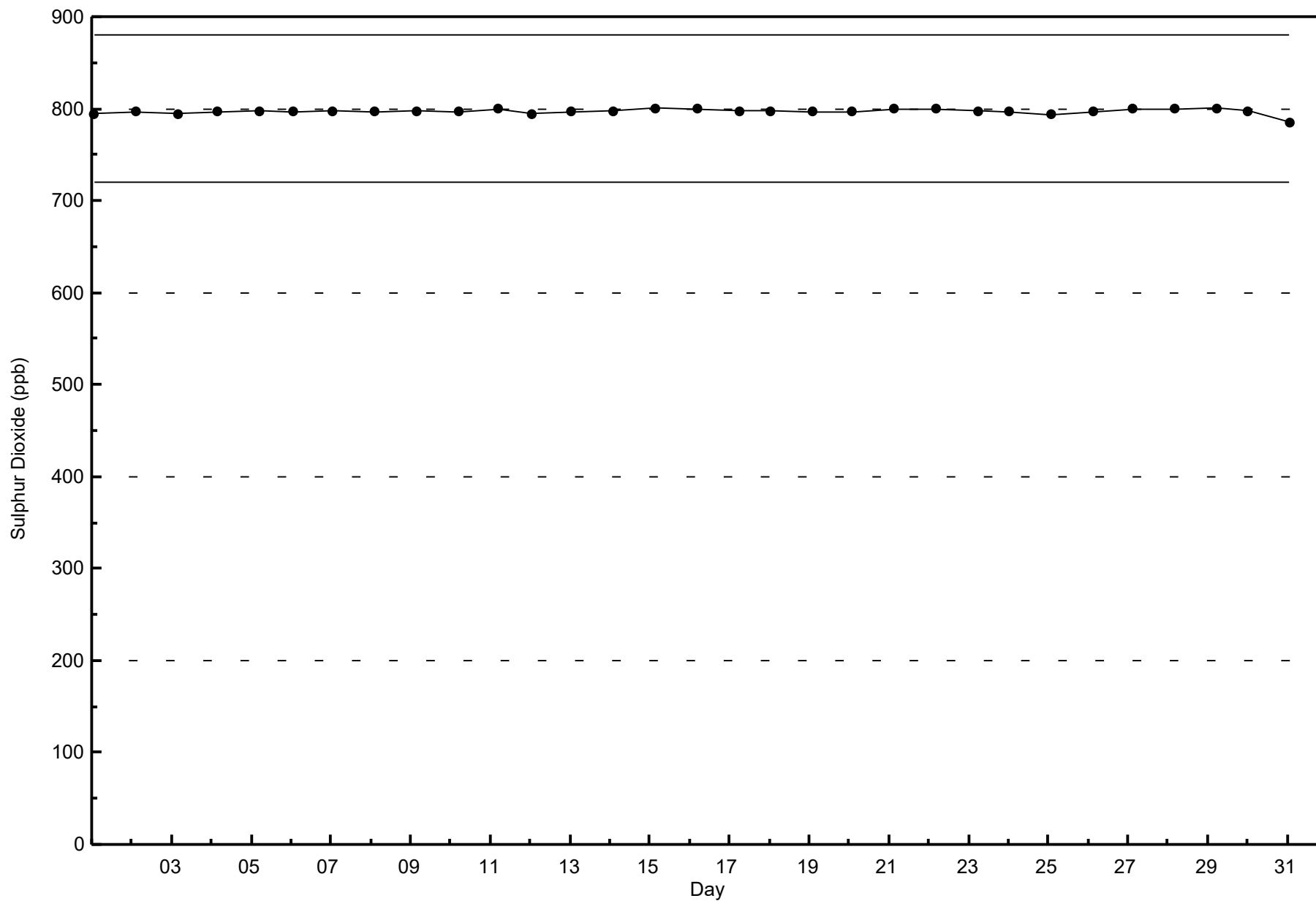
Sulphur Dioxide (SO₂) - ppb
Buffalo Viewpoint - July 2025





Wood Buffalo Environmental Association
Span Responses

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Hydrogen Sulphide (H₂S) - ppb

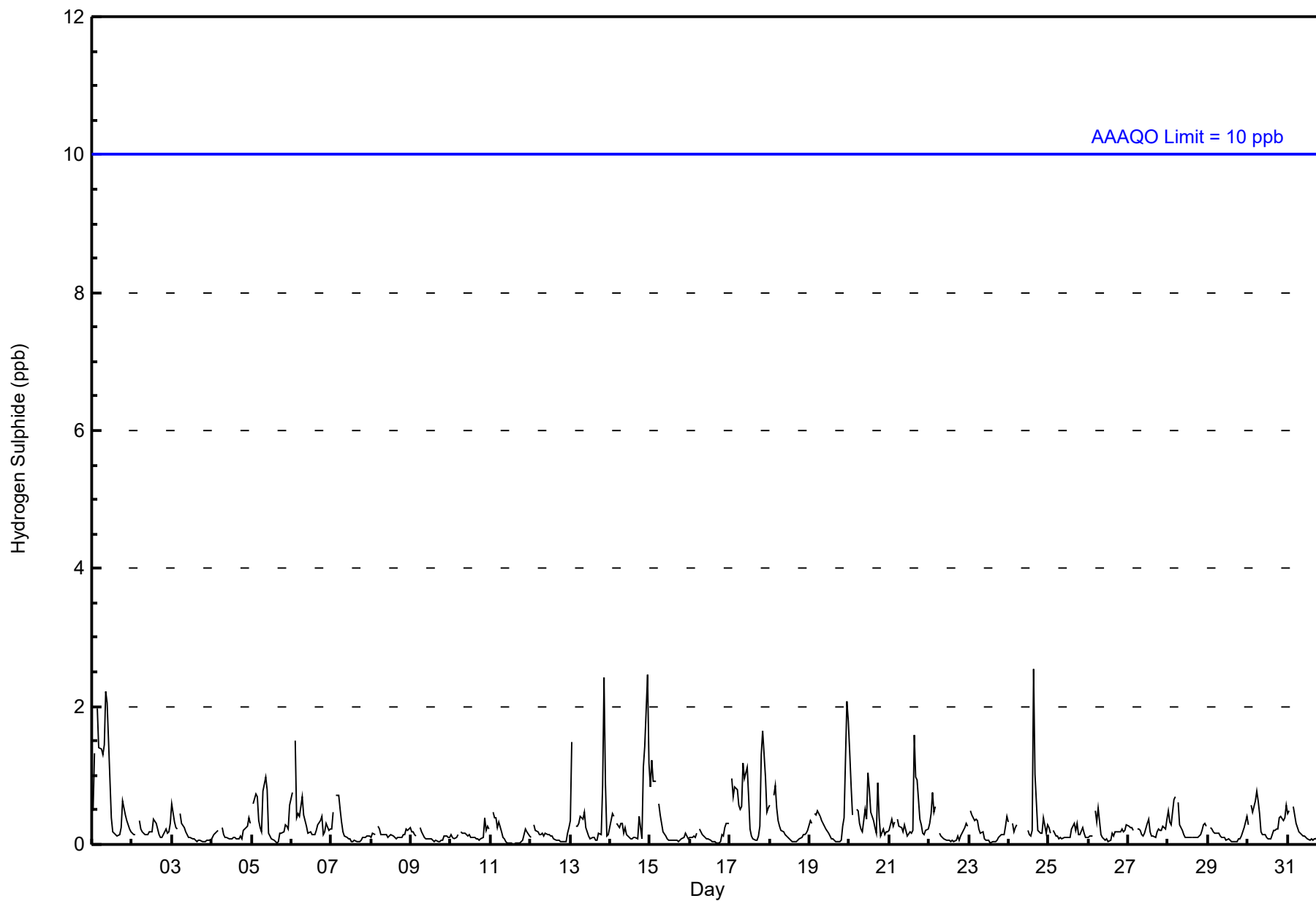
Buffalo Viewpoint - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																	Hours in Service: 744										
Maximum Value: 2.5 ppb on Jul 24 16:00 Maximum Daily Average: 0.8 ppb on Jul 1																	Hours of Data: 708										
Minimum Value: 0.0 ppb on Jul 11 15:00 Minimum Daily Average: 0.1 ppb on Jul 9																	Hours of Missing Data: 36										
Maximum Diurnal Average: 0.5 ppb at hour 2 Minimum Diurnal Average: 0.1 ppb at hour 15																	Hours of Calibration: 35										
Monthly Average: 0.27 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.3 P ₉₀ = 0.6 P ₉₉ = 1.8																	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-Jul	0.5	1.3	Z	2.0	1.4	1.4	1.3	1.4	2.2	2.1	1.5	0.4	0.2	0.2	0.1	0.1	0.1	0.2	0.6	0.5	0.4	0.3	0.2	0.2	0.8	2.2	
2-Jul	0.2	0.1	0.1	Z	0.3	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.4	0.3	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.2	0.4	
3-Jul	0.6	0.3	0.2	0.2	Z	0.4	0.3	0.2	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	0.1	0.1	0.1	0.2	0.6	
4-Jul	0.1	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	0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.3	0.2	0.4	
5-Jul	Z	0.6	0.7	0.7	0.3	0.2	0.2	0.8	1.0	0.8	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.2	0.2	0.2	0.3	0.3	0.2	0.6	0.3	1.0	
6-Jul	0.8	Z	1.5	0.4	0.5	0.4	0.7	0.4	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.2	0.3	0.3	0.4	0.2	0.2	0.3	0.2	0.2	0.4	1.5	
7-Jul	0.2	0.5	Z	0.7	0.7	0.5	0.3	0.2	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	0.1	0.1	0.1	0.2	0.7	
8-Jul	0.1	0.2	0.1	Z	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	0.2	0.2	0.2	0.2	0.1	0.3	
9-Jul	0.2	0.2	0.1	0.1	Z	0.3	0.2	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	0.1	0.1	0.1	0.3	
10-Jul	0.1	0.1	0.1	0.1	0.1	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	0.4	0.2	0.3	0.2	0.1	0.4	
11-Jul	Z	0.5	0.4	0.4	0.2	0.3	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.1	0.1	0.5	
12-Jul	0.1	Z	0.3	0.2	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	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.3	
13-Jul	0.3	1.5	Z	0.3	0.3	0.3	0.4	0.4	0.5	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.8	2.4	0.9	0.1	0.1	0.4	2.4	
14-Jul	0.3	0.4	0.4	Z	0.3	0.2	0.3	0.3	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.4	0.2	0.1	1.1	1.4	2.5	1.2	0.5	2.5	
15-Jul	0.8	1.2	0.9	0.9	Z	0.6	0.4	0.3	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	0.2	0.1	0.1	0.3	1.2	
16-Jul	0.1	0.1	0.1	0.1	0.2	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.3	0.1	0.3	
17-Jul	Z	1.0	0.7	0.8	0.8	0.6	0.5	0.5	1.2	1.0	1.1	0.7	0.2	0.1	0.1	0.1	0.1	0.1	0.3	1.3	1.6	1.0	0.5	0.5	0.6	1.6	
18-Jul	0.6	Z	0.7	0.9	0.5	0.4	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.9	
19-Jul	0.3	0.3	Z	0.4	0.4	0.5	0.4	0.3	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.3	0.4	2.1	1.8	0.4	2.1	
20-Jul	1.4	0.9	0.4	Z	0.5	0.5	0.3	0.2	0.2	0.5	0.4	1.0	0.8	0.5	0.4	0.2	0.2	0.9	0.4	0.1	0.2	0.1	0.2	0.2	0.5	1.4	
21-Jul	0.2	0.4	0.3	0.3	Z	0.4	0.3	0.2	0.2	0.3	0.2	0.1	0.2	0.2	0.2	1.6	1.0	0.9	0.4	0.3	0.2	0.1	0.2	0.2	0.4	1.6	
22-Jul	0.3	0.5	0.8	0.5	0.5	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.3	0.2	0.8	
23-Jul	Z	0.5	0.4	0.4	0.4	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.3	0.4	0.2	0.5	
24-Jul	0.3	Z	0.3	0.2	0.3	0.3	M	C	C	C	C	0.2	0.1	0.1	0.2	2.5	1.0	0.2	0.2	0.2	0.2	0.4	0.2	0.3	0.4	2.5	
25-Jul	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	0.3	0.2	0.3	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.3	
26-Jul	0.1	0.1	0.1	Z	0.5	0.3	0.5	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	0.2	0.2	0.3	0.2	0.5	
27-Jul	0.3	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.1	0.1	0.2	0.3	0.4	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.2	0.4	0.2	0.4	
28-Jul	0.5	0.3	0.3	0.6	0.7	Z	0.6	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	0.2	0.3	0.3	0.3	0.3	0.7	
29-Jul	Z	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.4	0.1	0.4	
30-Jul	0.3	Z	0.6	0.5	0.6	0.8	0.6	0.4	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.4	0.4	0.3	0.4	0.6	0.3	0.8	
31-Jul	0.4	0.5	Z	0.5	0.4	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.4	0.3	0.2	0.5	
0.4 0.5 0.4 0.5 0.4 0.4 0.3 0.3 0.3 0.3 0.2 0.2 0.1 0.1 0.1 0.2 0.2 0.2 0.2 0.2 0.3 0.3 0.4 0.3																										Diurnal Average	
1.4 1.5 1.5 2.0 1.4 1.4 1.3 1.4 2.2 2.1 1.5 1.0 0.8 0.5 0.4 2.5 1.0 0.9 0.6 1.3 2.4 1.4 2.5 1.8																										Diurnal Maximum	
Z - zerospan C - Calibration M - Maintenance																											
Alberta Ambient Air Quality Objective (AAAQO): 1-hour 10 ppb 24-hr 3 ppb																											



Wood Buffalo Environmental Association
Hourly Averages

Hydrogen Sulphide (H₂S) - ppb
Buffalo Viewpoint - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Hydrogen Sulphide (H₂S) - ppb
Buffalo Viewpoint - July 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
Buffalo Viewpoint - July 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	41	25	7	5	17	50	114	63	48	33	52	58	39	36	34	707
3 - 4	0	0	0	0	0	1	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	85	41	25	7	5	18	50	114	63	48	33	52	58	39	36	34	708

Total Number of Valid Hours: 708

Total Number of Hours: 744



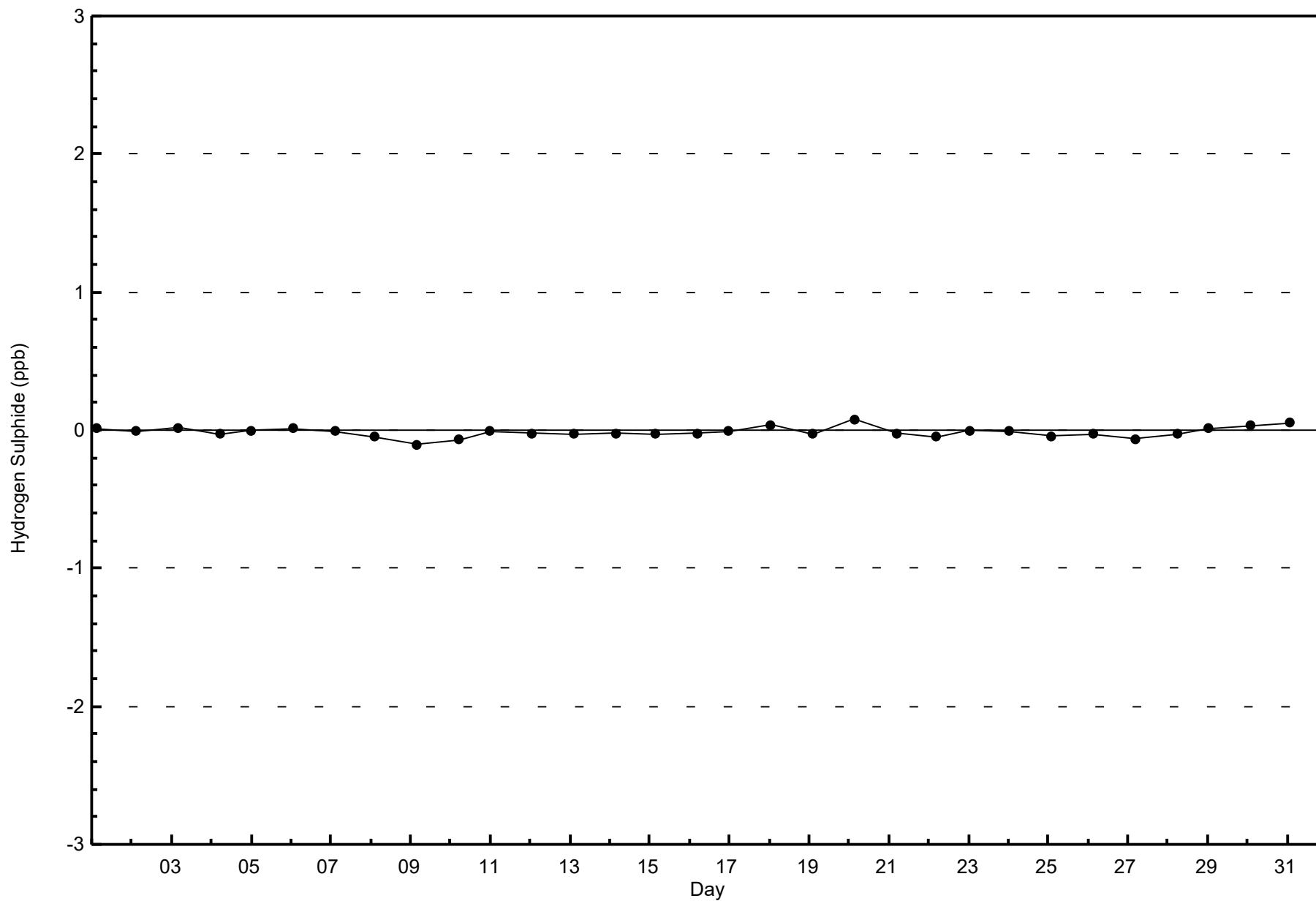
Hydrogen Sulphide (H₂S) - ppb
Buffalo Viewpoint

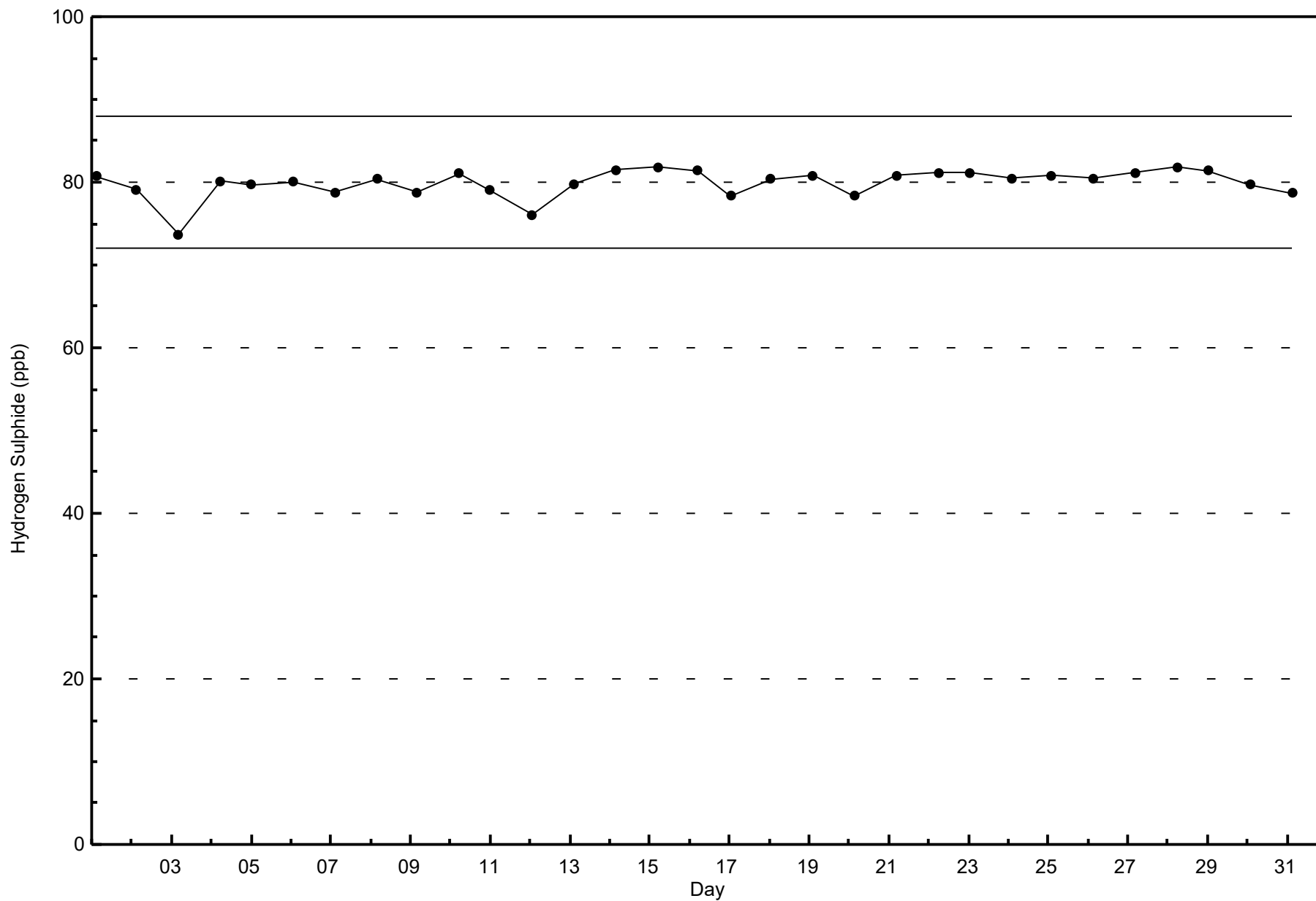




Wood Buffalo Environmental Association
Zero Responses

Hydrogen Sulphide (H₂S) - ppb
Buffalo Viewpoint - July 2025







Wood Buffalo Environmental Association

Summary of Hour Averages

Total Hydrocarbons (THC) - ppm

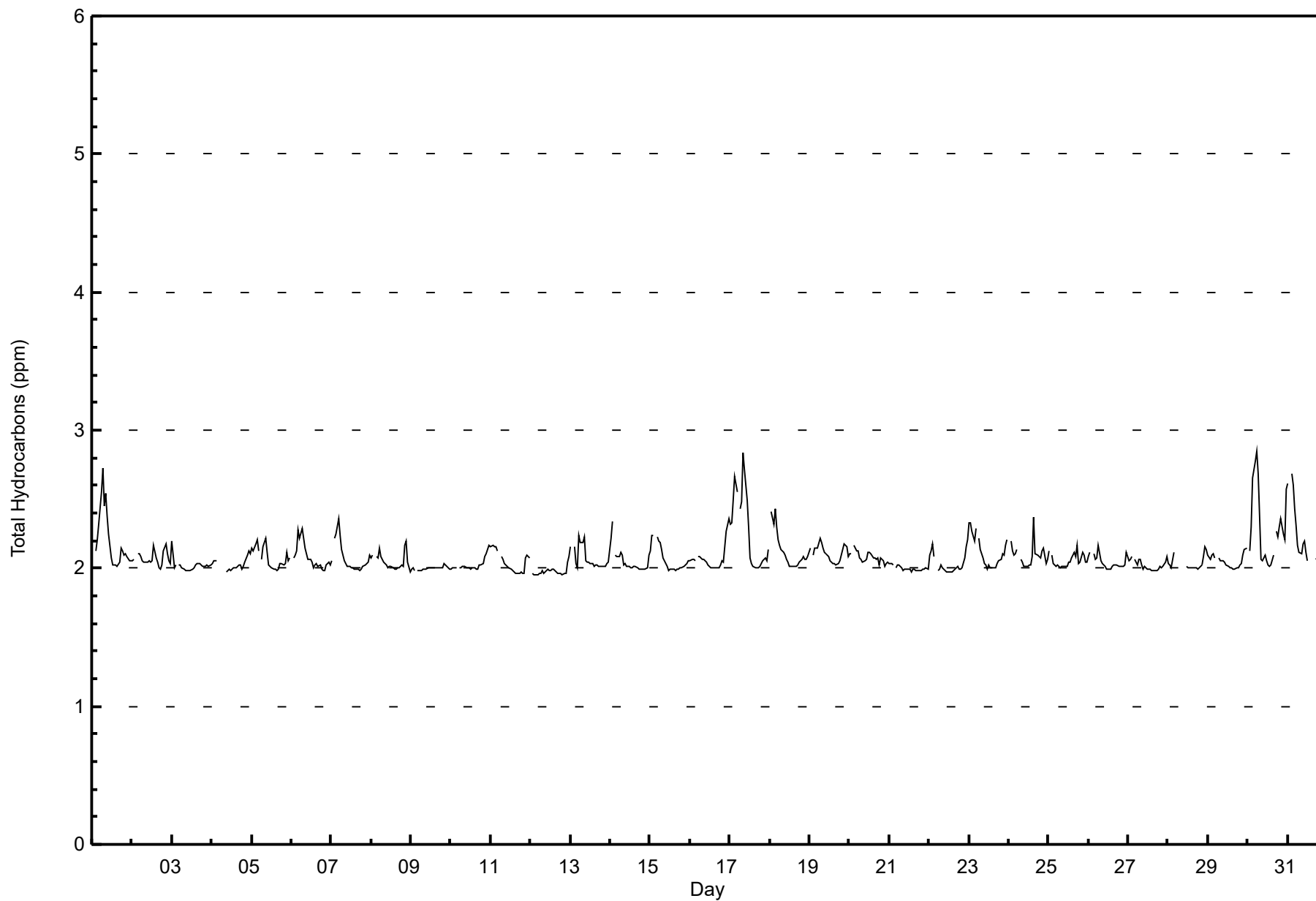
Buffalo Viewpoint - July 2025

Maximum Value: 2.8 ppm on Jul 30 06:00																	Maximum Daily Average: 2.3 ppm on Jul 30										Hours in Service: 744	
Minimum Value: 1.9 ppm on Jul 12 04:00																	Minimum Daily Average: 2.0 ppm on Jul 12										Hours of Data: 698	
Maximum Diurnal Average: 2.2 ppm at hour 4																	Minimum Diurnal Average: 2.0 ppm at hour 17										Hours of Missing Data: 46	
Monthly Average: 2.08 ppm																	Percentiles: P ₁ = 2.0 P ₁₀ = 2.0 Q ₁ = 2.0 Median = 2.0 Q ₃ = 2.1 P ₉₀ = 2.2 P ₉₉ = 2.7										Hours of Calibration: 38	
																											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-Jul	2.1	Z	2.1	2.2	2.3	2.5	2.7	2.5	2.5	2.4	2.3	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	2.2	2.7		
2-Jul	2.0	2.1	Z	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.0	2.1	2.2	2.1	2.0	2.0	2.0	2.0	2.1	2.2	2.1	2.1	2.0	2.1	2.2		
3-Jul	2.2	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	2.2		
4-Jul	2.0	2.1	2.1	2.1	Z	C	C	C	C	2.0	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		
5-Jul	2.1	2.1	2.2	2.2	2.1	Z	2.1	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	2.1	2.1	2.1	2.2		
6-Jul	Z	2.1	2.1	2.1	2.3	2.2	2.3	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	2.1	2.3		
7-Jul	2.1	Z	2.2	2.3	2.4	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	2.0	2.1	2.1	2.4		
8-Jul	2.1	2.1	Z	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	2.2	2.2	2.0	2.0	2.0	2.2		
9-Jul	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		
10-Jul	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	2.1	2.1	2.2	2.0	2.2		
11-Jul	2.2	2.2	2.2	2.2	2.1	Z	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	2.1	2.1	2.0	2.2		
12-Jul	Z	2.0	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	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.1		
13-Jul	2.2	Z	2.2	2.0	2.0	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	2.0	2.0	2.0	2.1	2.2		
14-Jul	2.2	2.3	Z	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	2.1	2.1	2.3		
15-Jul	2.1	2.2	2.2	Z	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	2.1	2.1	2.2		
16-Jul	2.1	2.1	2.1	2.1	Z	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	2.0	2.2	2.3	2.4	2.1	2.4		
17-Jul	2.3	2.3	2.5	2.7	2.6	Z	2.4	2.5	2.8	2.7	2.5	2.3	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.3	2.8		
18-Jul	Z	2.4	2.3	2.4	2.3	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	2.1	2.1	2.1	2.1	2.1	2.1	2.4		
19-Jul	2.1	Z	2.1	2.1	2.1	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	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.2		
20-Jul	2.1	2.1	Z	2.2	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	2.0	2.1	2.1	2.0	2.0	2.0	2.1	2.2		
21-Jul	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-Jul	2.1	2.1	2.2	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	2.1	2.2	2.2	2.2	2.0	2.2		
23-Jul	2.3	2.3	2.3	2.2	2.3	Z	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.3		
24-Jul	Z	2.2	2.1	2.1	2.1	2.1	M	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.4	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.4		
25-Jul	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	2.1	2.1	2.1	2.2	2.0	2.0	2.1	2.1	2.0	2.0	2.1	2.2		
26-Jul	2.1	2.1	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	2.1	2.0	2.2		
27-Jul	2.1	2.1	2.1	Z	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	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.1		
28-Jul	2.0	2.0	2.0	2.1	Z	2.2	M	M	C	C	C	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	2.2			
29-Jul	2.1	2.1	2.1	2.1	2.1	Z	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	2.1	2.1	2.1	2.1	2.0	2.1		
30-Jul	Z	2.1	2.3	2.7	2.8	2.8	2.7	2.4	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.1	UO	2.3	2.2	2.3	2.4	2.2	2.2	2.6	2.3	2.8		
31-Jul	2.6	Z	2.7	2.6	2.4	2.3	2.2	2.1	2.1	2.2	2.2	2.1	2.1	UO	UO	UO	UO	2.1	2.1	2.2	2.4	2.4	2.4	2.2	2.3	2.7		
2.1 2.1 2.2 2.2 2.2 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 2.1 2.1 2.1 2.1																								Diurnal Average				
2.6 2.4 2.7 2.7 2.8 2.8 2.7 2.5 2.8 2.7 2.5 2.3 2.1 2.2 2.1 2.4 2.1 2.3 2.2 2.3 2.4 2.4 2.4 2.6																								Diurnal Maximum				
Z - zerospan C - Calibration M - Maintenance UO - Unstable Operation																												



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	390	55.87	55.87
2.1 - 3.0	308	44.13	100.00
3.1 - 10.0	0	0.00	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 698

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Total Hydrocarbons (THC) - ppm
Buffalo Viewpoint - July 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	26	15	3	2	6	22	25	24	24	24	47	51	25	28	27	390
2.1 - 3.0	42	15	10	3	2	12	33	88	38	20	9	3	6	13	7	7	308
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	83	41	25	6	4	18	55	113	62	44	33	50	57	38	35	34	698

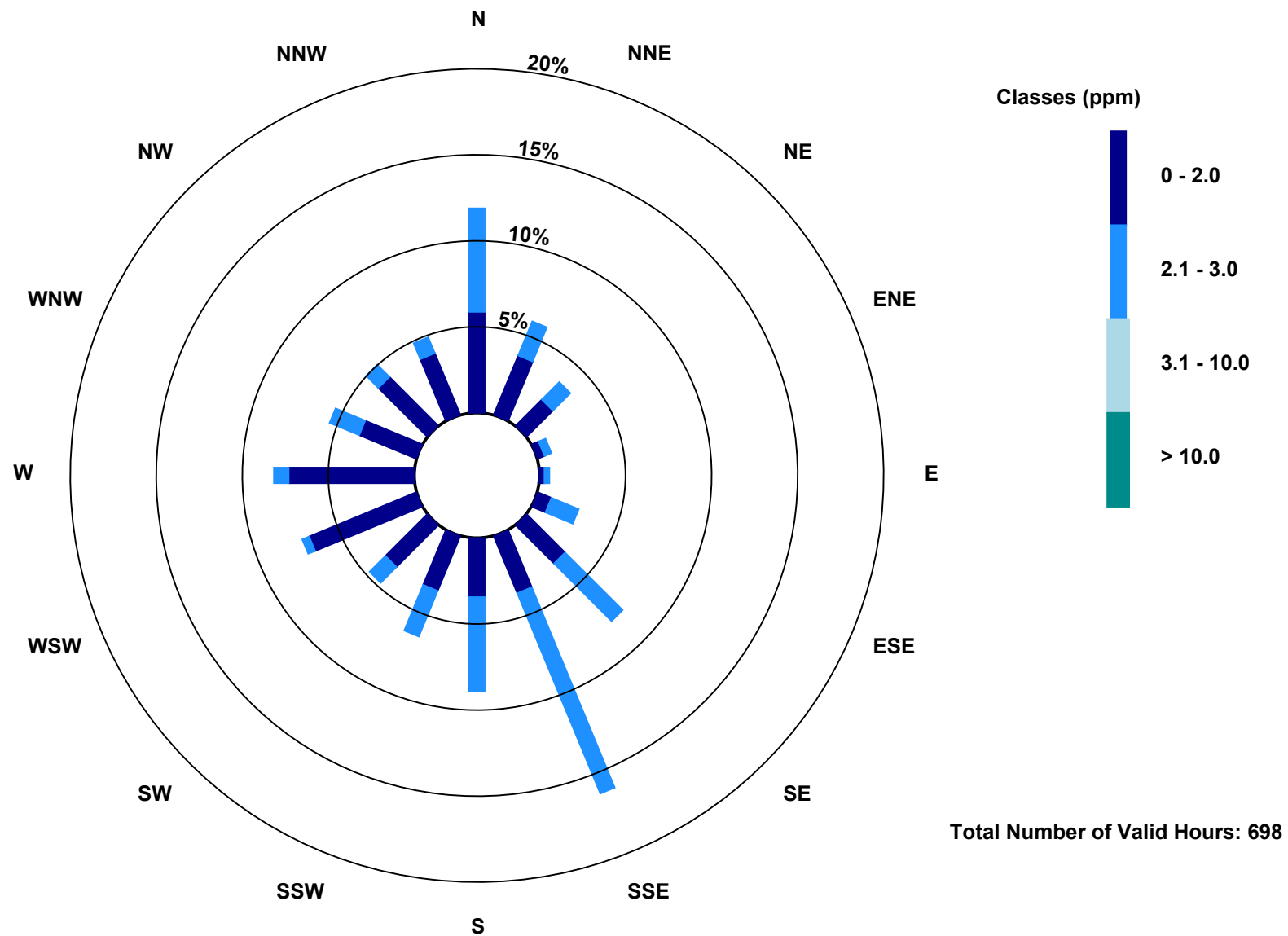
Total Number of Valid Hours: 698

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Total Hydrocarbons (THC) - ppm
Buffalo Viewpoint



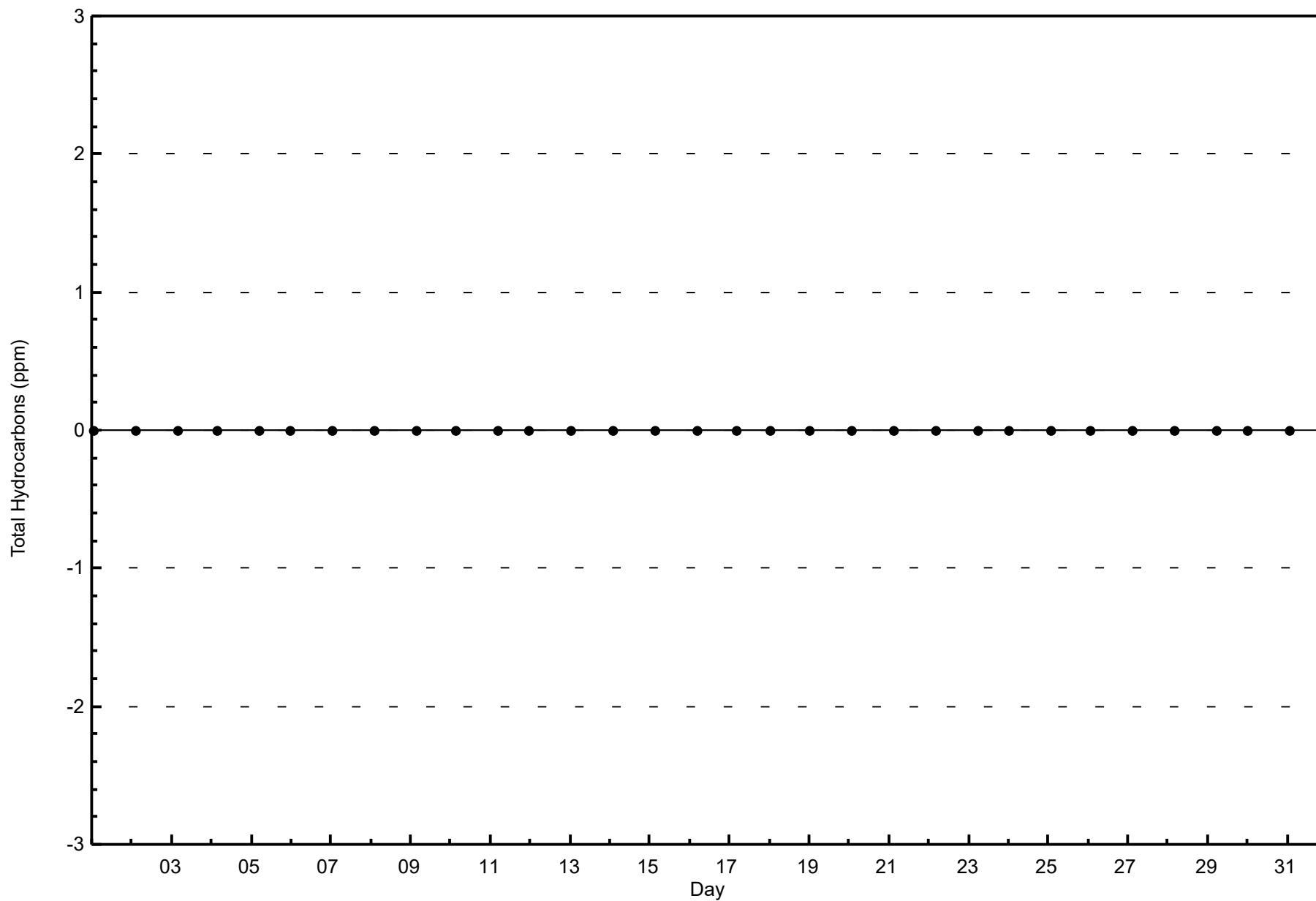


Wood Buffalo Environmental Association

Zero Responses

Total Hydrocarbons (THC) - ppm

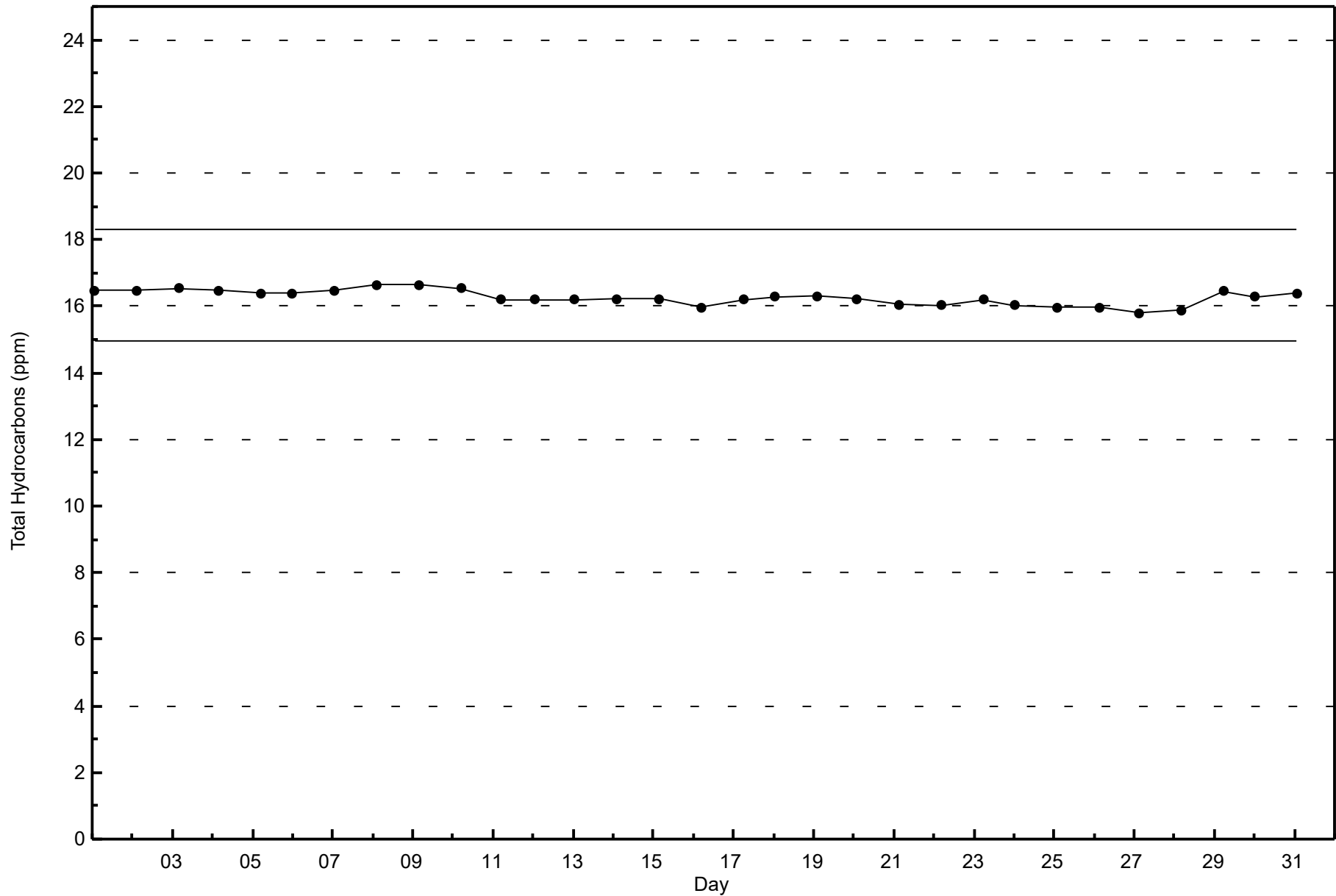
Buffalo Viewpoint - July 2025





Wood Buffalo Environmental Association
Span Responses

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Non Methane Hydrocarbons (NMHC) - ppm

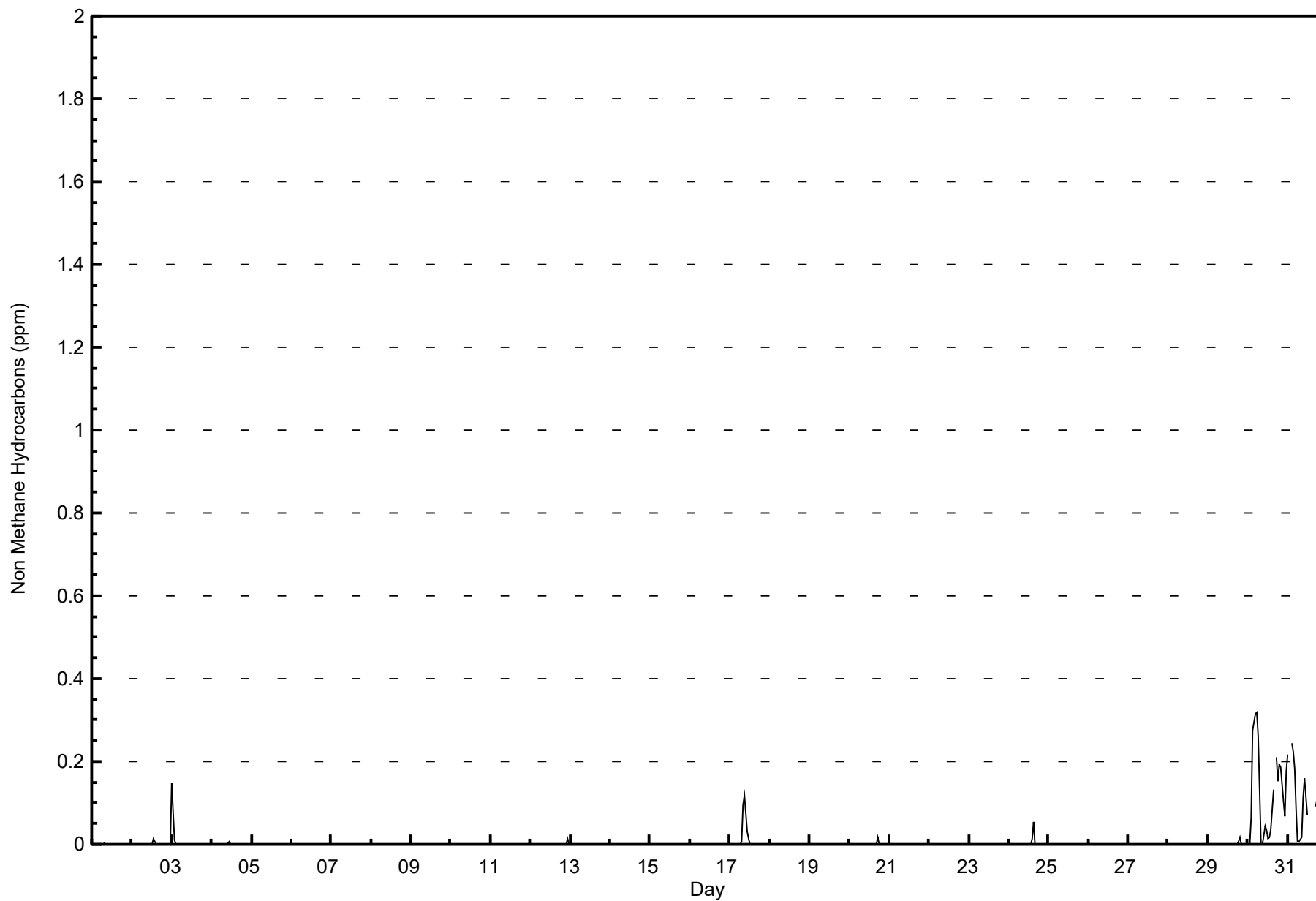
Buffalo Viewpoint - July 2025

Maximum Value: 0.317 ppm on Jul 30 06:00																		Maximum Daily Average: 0.127 ppm on Jul 31								Hours in Service: 744	
Minimum Value: 0.000 ppm on Jul 1 01:00																		Minimum Daily Average: 0.000 ppm on Jul 5								Hours of Data: 698	
Maximum Diurnal Average: 0.019 ppm at hour 4																		Minimum Diurnal Average: 0.000 ppm at hour 17								Hours of Missing Data: 46	
Monthly Average: 0.008 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: 38	
																										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-Jul	0.000	Z	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	0.000	0.000	0.000	0.000	0.000	0.004
2-Jul	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	0.014	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
3-Jul	0.148	0.009	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	0.007	0.148
4-Jul	0.000	0.000	0.000	0.000	Z	C	C	C	C	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	0.005
5-Jul	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
6-Jul	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
7-Jul	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
8-Jul	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
9-Jul	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
10-Jul	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
11-Jul	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
12-Jul	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	0.014	0.000	0.001	0.014
13-Jul	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
14-Jul	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
15-Jul	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
16-Jul	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
17-Jul	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.007	0.096	0.119	0.031	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	0.012	0.119
18-Jul	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
19-Jul	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
20-Jul	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	0.000	0.000	0.000	0.001	0.018
21-Jul	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
22-Jul	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
23-Jul	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
24-Jul	Z	0.000	0.000	0.000	0.000	0.000	M	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.015	0.054	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.054
25-Jul	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
26-Jul	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
27-Jul	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
28-Jul	0.000	0.000	0.000	0.000	Z	0.000	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	0.000	0.000	0.000
29-Jul	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	0.002	0.005	0.016	0.000	0.002	0.000	0.000	0.000	0.001	0.016
30-Jul	Z	0.000	0.066	0.274	0.314	0.317	0.261	0.131	0.000	0.000	0.044	0.034	0.015	0.017	0.037	0.134	UO	0.211	0.154	0.193	0.187	0.105	0.067	0.175	0.124	0.317	0.124
31-Jul	0.218	Z	0.245	0.225	0.182	0.084	0.007	0.006	0.019	0.111	0.159	0.115	0.073	UO	UO	UO	UO	0.091	0.112	0.163	0.192	0.190	0.166	0.057	0.127	0.245	0.127
0.014 0.000 0.012 0.019 0.019 0.016 0.010 0.005 0.004 0.008 0.008 0.005 0.003 0.001 0.002 0.006 0.000 0.010 0.009 0.012 0.012 0.010 0.008 0.007																										Diurnal Average	
0.218 0.009 0.245 0.274 0.314 0.317 0.261 0.131 0.096 0.119 0.159 0.115 0.073 0.017 0.037 0.134 0.000 0.211 0.154 0.193 0.192 0.190 0.166 0.175																										Diurnal Maximum	
Z - zerospan C - Calibration M - Maintenance UO - Unstable Operation																											



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 0.005	647	92.69	92.69
0.006 - 0.05	18	2.58	95.27
0.06 - 0.1	15	2.15	97.42
> 0.1	18	2.58	100.00

Total Number of Valid Hours: 698

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Non Methane Hydrocarbons (NMHC) - ppm
Buffalo Viewpoint - July 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	79	38	23	4	4	16	52	102	53	42	30	49	57	36	32	30	647
0.006 - 0.05	1	1	0	0	0	2	2	2	2	0	0	1	0	2	3	2	18
0.06 - 0.1	2	0	0	2	0	0	0	3	2	1	3	0	0	0	0	2	15
> 0.1	1	2	2	0	0	0	1	6	5	1	0	0	0	0	0	0	18
Totals	83	41	25	6	4	18	55	113	62	44	33	50	57	38	35	34	698

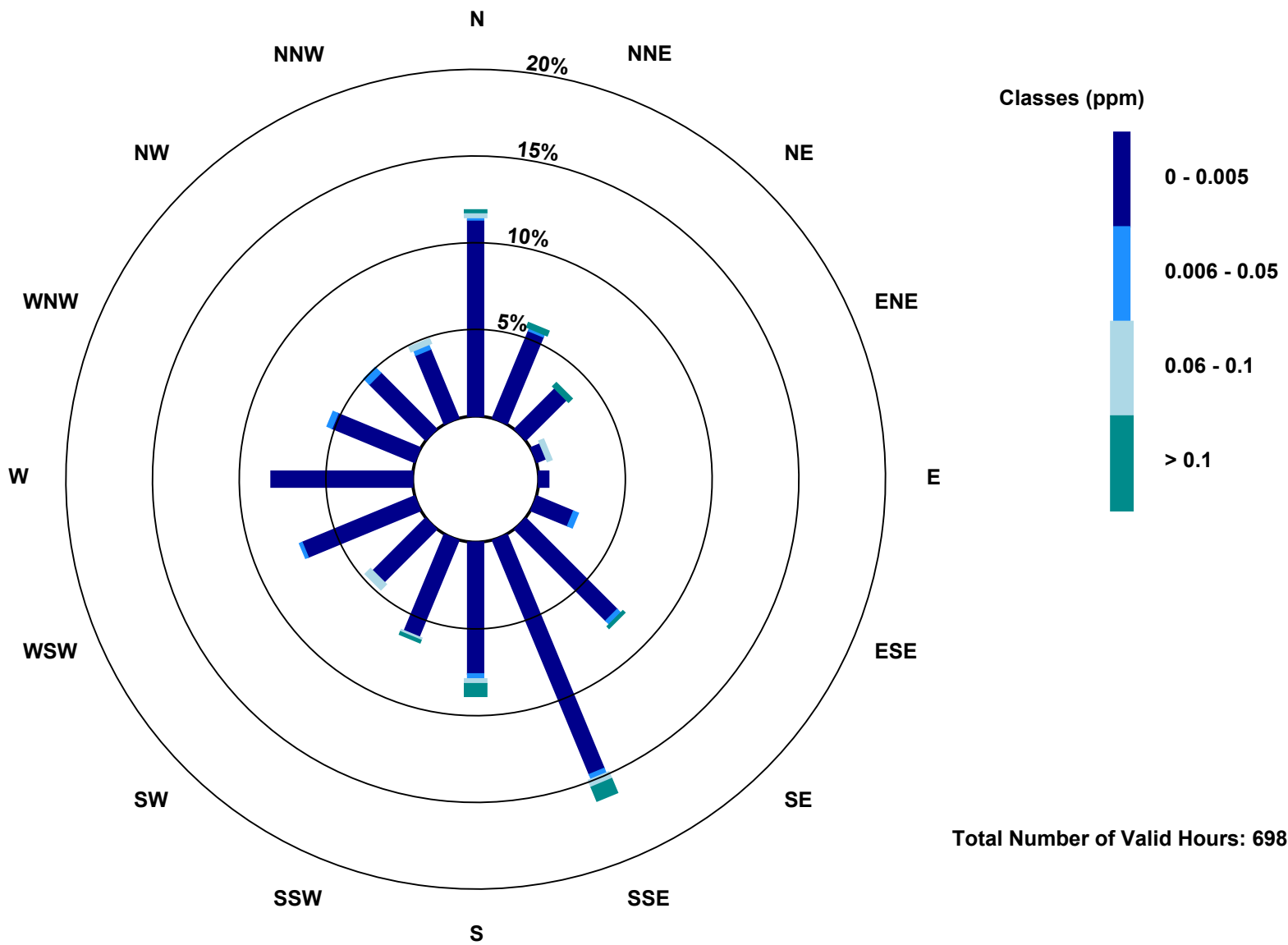
Total Number of Valid Hours: 698

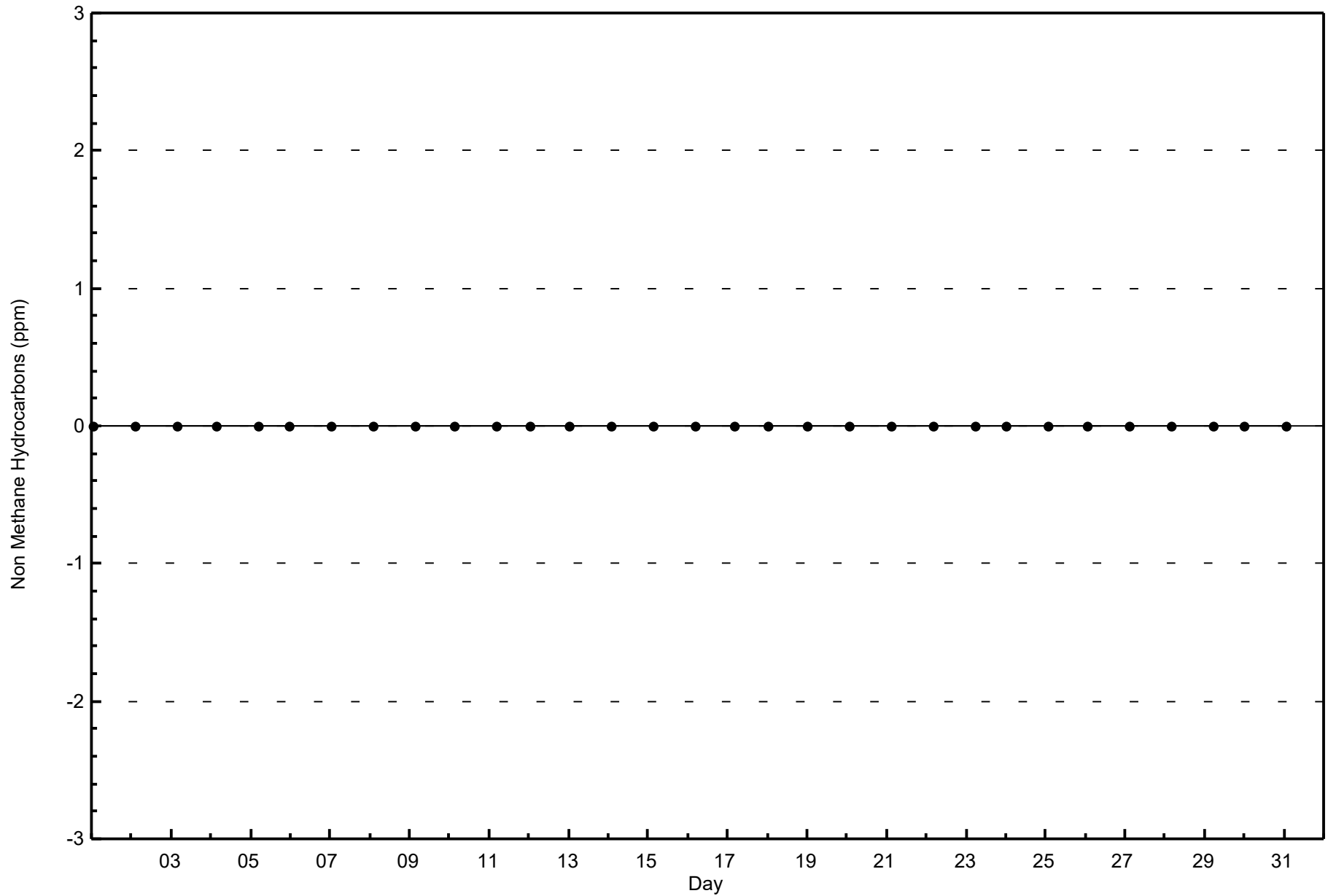
Total Number of Hours: 744

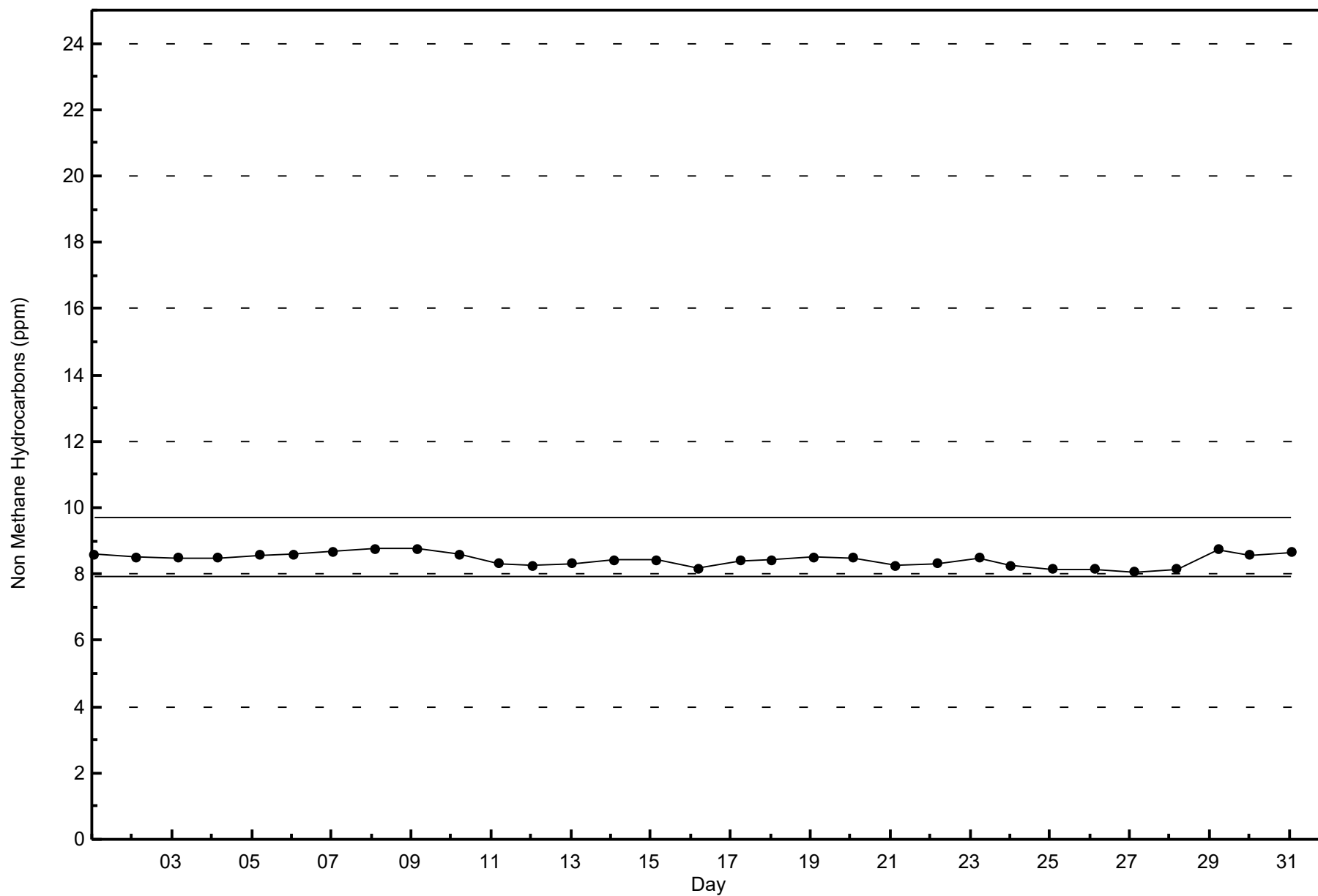


Wood Buffalo Environmental Association
Wind Rose Jul 2025

Non Methane Hydrocarbons (NMHC) - ppm
Buffalo Viewpoint









Wood Buffalo Environmental Association

Summary of Hour Averages

Methane (CH₄) - ppm

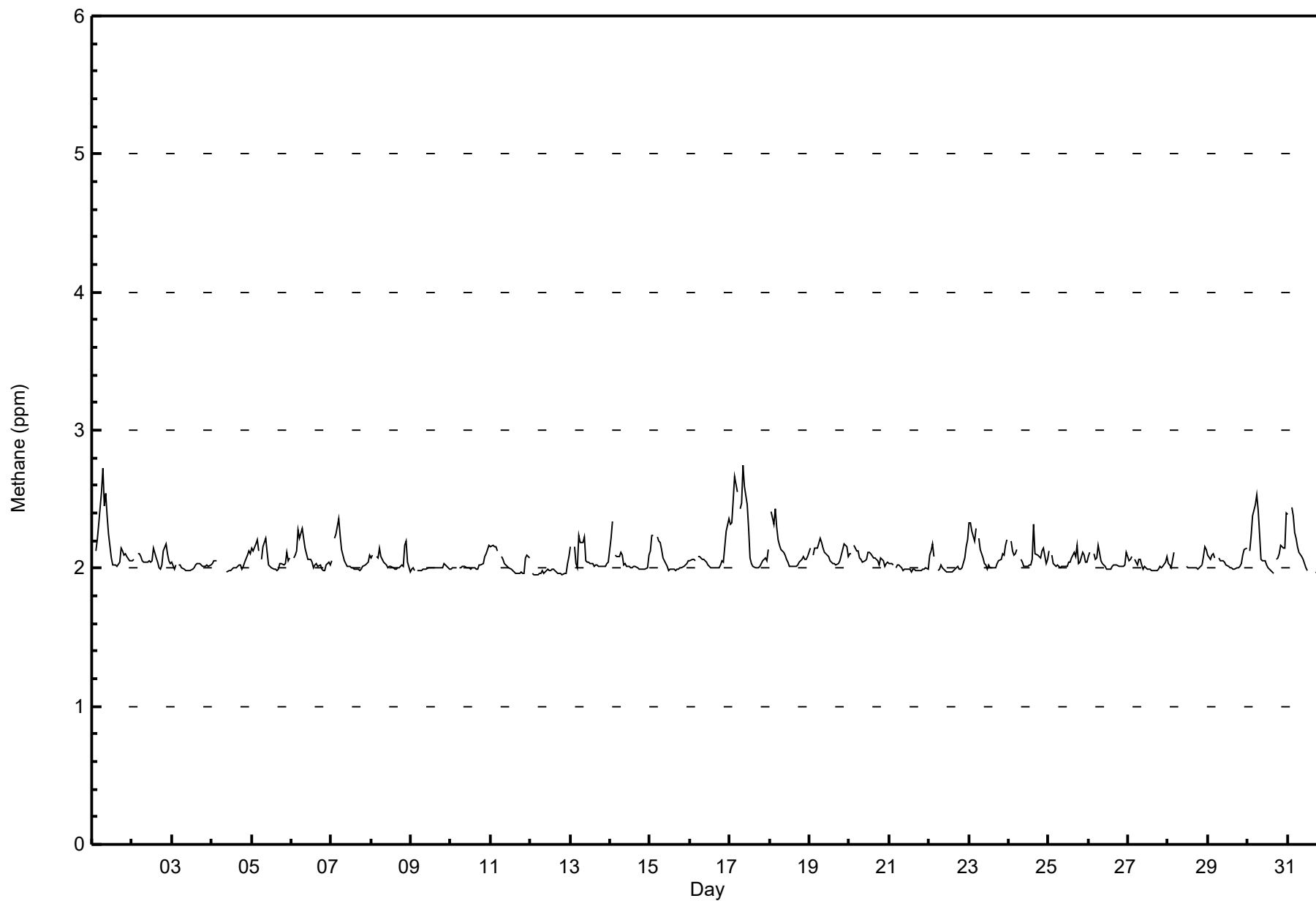
Buffalo Viewpoint - July 2025

Number of Exceedences (AAAQO): Maximum Value: 2.7 ppm on Jul 17 09:00																		1-hr: 0 24-hr: 0 Maximum Daily Average: 2.3 ppm on Jul 17																		Hours in Service: 744 Hours of Data: 698 Hours of Missing Data: 46 Hours of Calibration: 38 Percent Operational Time: 98.9			
Minimum Value: 1.9 ppm on Jul 12 04:00 Maximum Diurnal Average: 2.2 ppm at hour 4 Monthly Average: 2.07 ppm																		Minimum Daily Average: 2.0 ppm on Jul 12 Minimum Diurnal Average: 2.0 ppm at hour 15 Percentiles: P ₁ = 2.0 P ₁₀ = 2.0 Q ₁ = 2.0 Median = 2.0 Q ₃ = 2.1 P ₉₀ = 2.2 P ₉₉ = 2.5																					
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-Jul	2.1	Z	2.1	2.2	2.3	2.5	2.7	2.5	2.5	2.4	2.3	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	2.7												
2-Jul	2.0	2.1	Z	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.1	2.1	2.0	2.1	2.2												
3-Jul	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												
4-Jul	2.0	2.1	2.1	2.1	Z	C	C	C	C	2.0	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													
5-Jul	2.1	2.1	2.2	2.2	2.1	Z	2.1	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	2.1	2.1	2.1	2.2													
6-Jul	Z	2.1	2.1	2.1	2.3	2.2	2.3	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	2.1	2.3													
7-Jul	2.1	Z	2.2	2.3	2.4	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	2.0	2.1	2.1	2.4													
8-Jul	2.1	2.1	Z	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	2.2	2.2	2.0	2.0	2.0	2.2													
9-Jul	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													
10-Jul	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	2.1	2.1	2.2	2.0	2.2													
11-Jul	2.2	2.2	2.2	2.2	2.1	Z	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	2.1	2.1	2.0	2.2													
12-Jul	Z	2.0	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	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.1													
13-Jul	2.2	Z	2.2	2.0	2.0	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	2.0	2.0	2.0	2.1	2.2													
14-Jul	2.2	2.3	Z	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	2.1	2.1	2.3													
15-Jul	2.1	2.2	2.2	Z	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	2.1	2.1	2.2													
16-Jul	2.1	2.1	2.1	2.1	Z	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	2.1	2.0	2.2	2.3	2.4	2.1													
17-Jul	2.3	2.3	2.5	2.7	2.6	Z	2.4	2.5	2.7	2.6	2.5	2.3	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	2.3													
18-Jul	Z	2.4	2.3	2.4	2.3	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	2.1	2.1	2.1	2.1	2.1	2.4													
19-Jul	2.1	Z	2.1	2.1	2.1	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	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.2													
20-Jul	2.1	2.1	Z	2.2	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	2.0	2.1	2.1	2.0	2.0	2.0	2.1	2.2													
21-Jul	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-Jul	2.1	2.1	2.2	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	2.1	2.2	2.2	2.2	2.0	2.2													
23-Jul	2.3	2.3	2.3	2.2	2.3	Z	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.3													
24-Jul	Z	2.2	2.1	2.1	2.1	2.1	M	2.1	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	2.1	2.0	2.1	2.1	2.3													
25-Jul	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	2.1	2.1	2.1	2.2	2.0	2.0	2.1	2.1	2.0	2.0	2.1	2.2													
26-Jul	2.1	2.1	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	2.1	2.0	2.2													
27-Jul	2.1	2.1	2.1	Z	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	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.1													
28-Jul	2.0	2.0	2.0	2.1	Z	2.2	M	M	C	C	C	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	2.2	2.2													
29-Jul	2.1	2.1	2.1	2.1	2.1	Z	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	2.1	2.1	2.1	2.1	2.0	2.1													
30-Jul	Z	2.1	2.2	2.4	2.5	2.5	2.4	2.2	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	UO	2.1	2.1	2.1	2.2	2.1	2.1	2.4	2.2													
31-Jul	2.4	Z	2.4	2.4	2.3	2.2	2.2	2.1	2.1	2.1	2.0	2.0	2.0	UO	UO	UO	UO	2.0	2.0	2.0	2.2	2.2	2.3	2.1	2.2	2.4													
2.1																										Diurnal Average													
2.4																										Diurnal Maximum													
Z - zerospan C - Calibration M - Maintenance UO - Unstable Operation																																							



Wood Buffalo Environmental Association
Hourly Averages

Methane (CH₄) - ppm
Buffalo Viewpoint - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Methane (CH₄) - ppm
Buffalo Viewpoint - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	399	57.16	57.16
2.1 - 3.0	299	42.84	100.00
3.1 - 10.0	0	0.00	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 698

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Methane (CH₄) - ppm
Buffalo Viewpoint - July 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	42	26	15	3	2	6	22	25	27	25	26	48	51	25	28	28	399
2.1 - 3.0	41	15	10	3	2	12	33	88	35	19	7	2	6	13	7	6	299
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	83	41	25	6	4	18	55	113	62	44	33	50	57	38	35	34	698

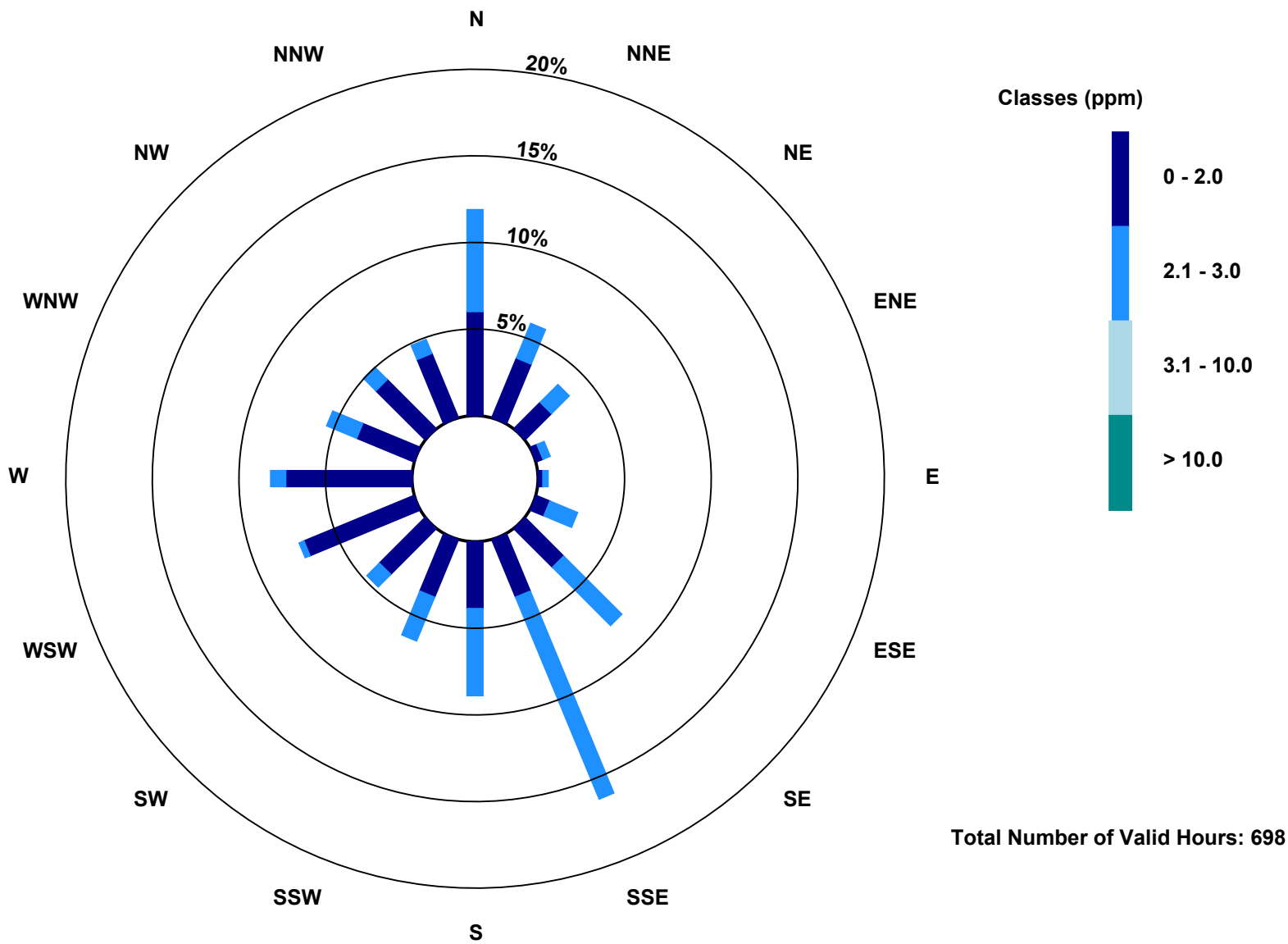
Total Number of Valid Hours: 698

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Methane (CH₄) - ppm
Buffalo Viewpoint

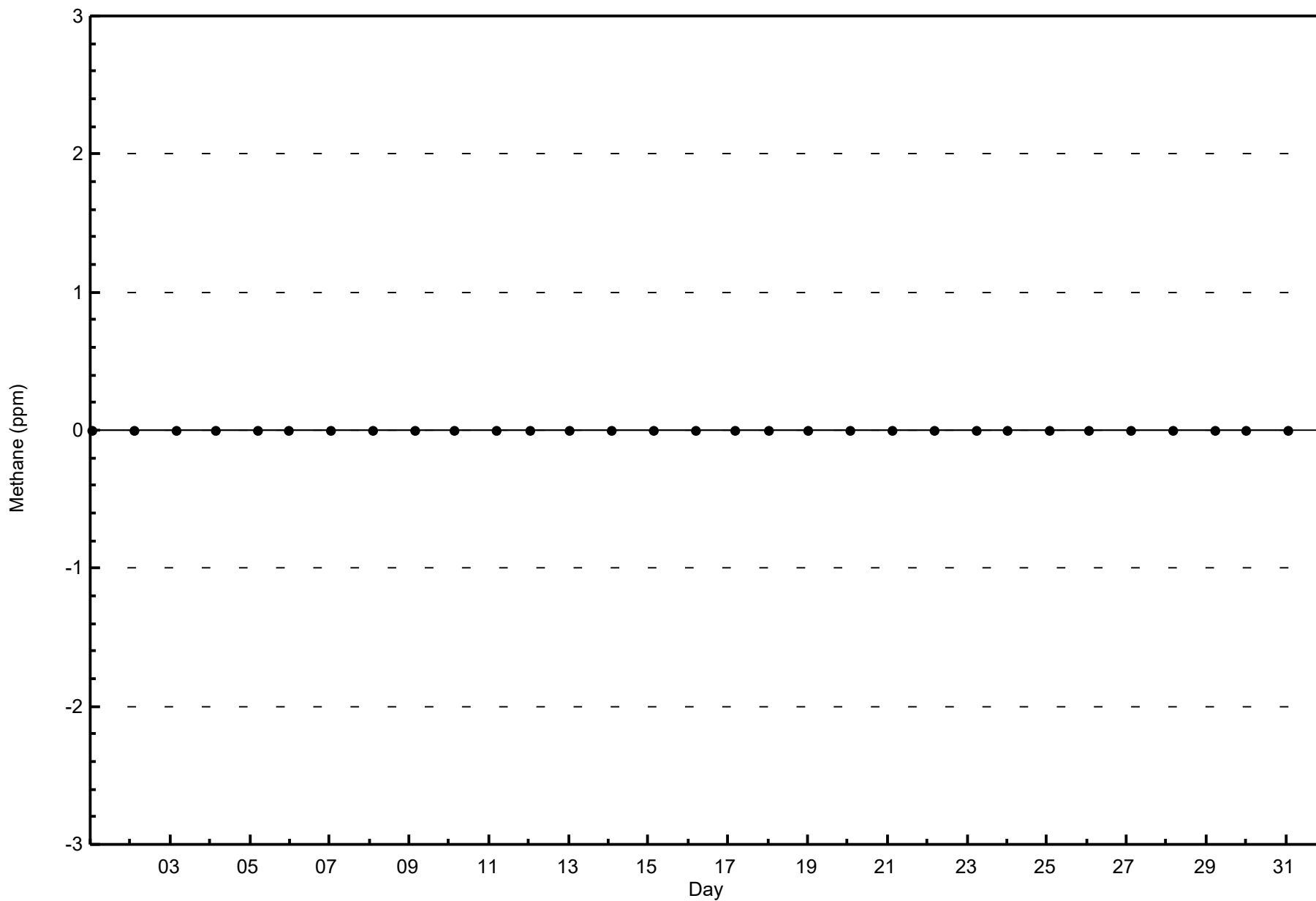


Total Number of Valid Hours: 698



Wood Buffalo Environmental Association
Zero Responses

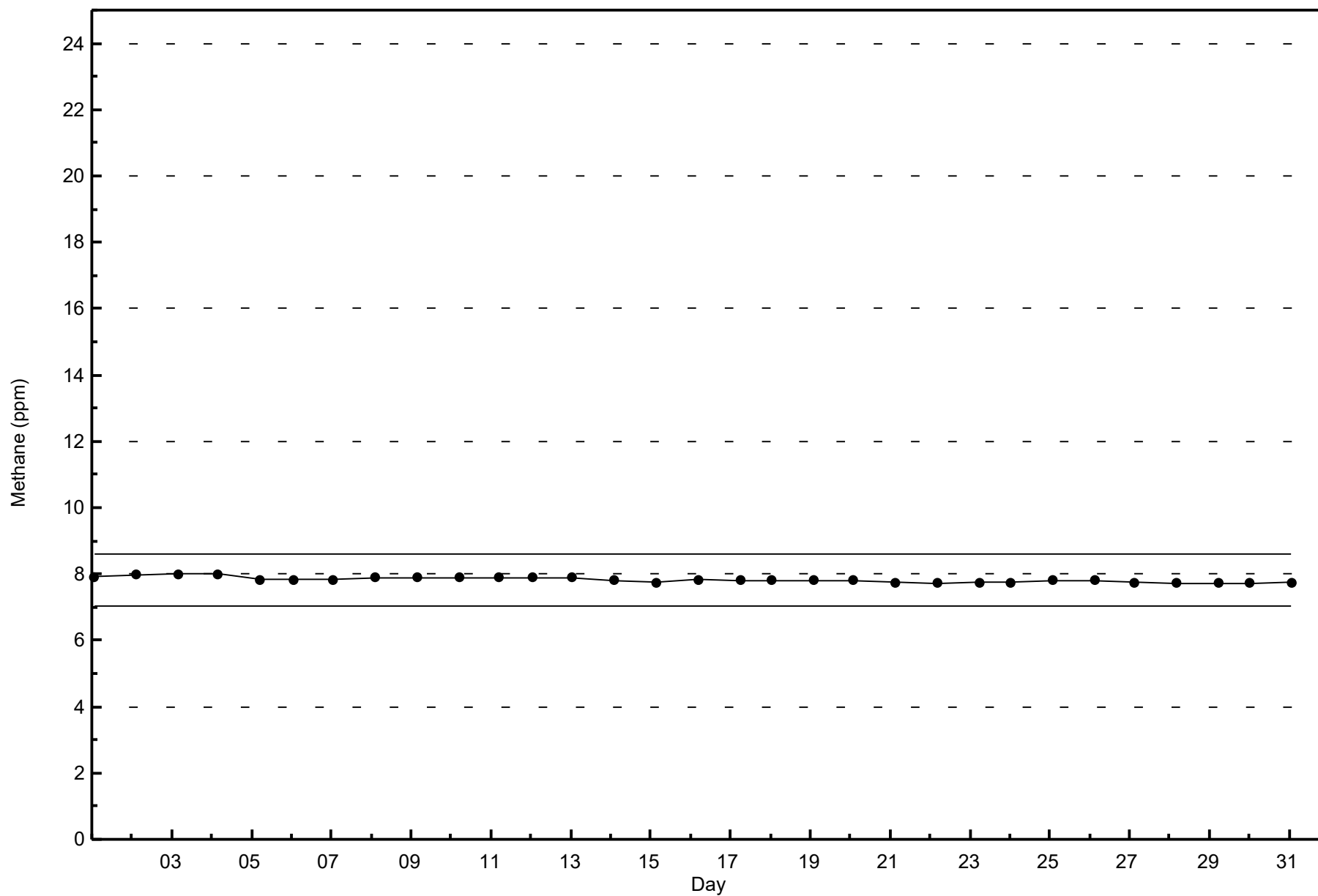
Methane (CH₄) - ppm
Buffalo Viewpoint - July 2025





Wood Buffalo Environmental Association
Span Responses

Methane (CH₄) - ppm
Buffalo Viewpoint - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitric Oxide (NO) - ppb

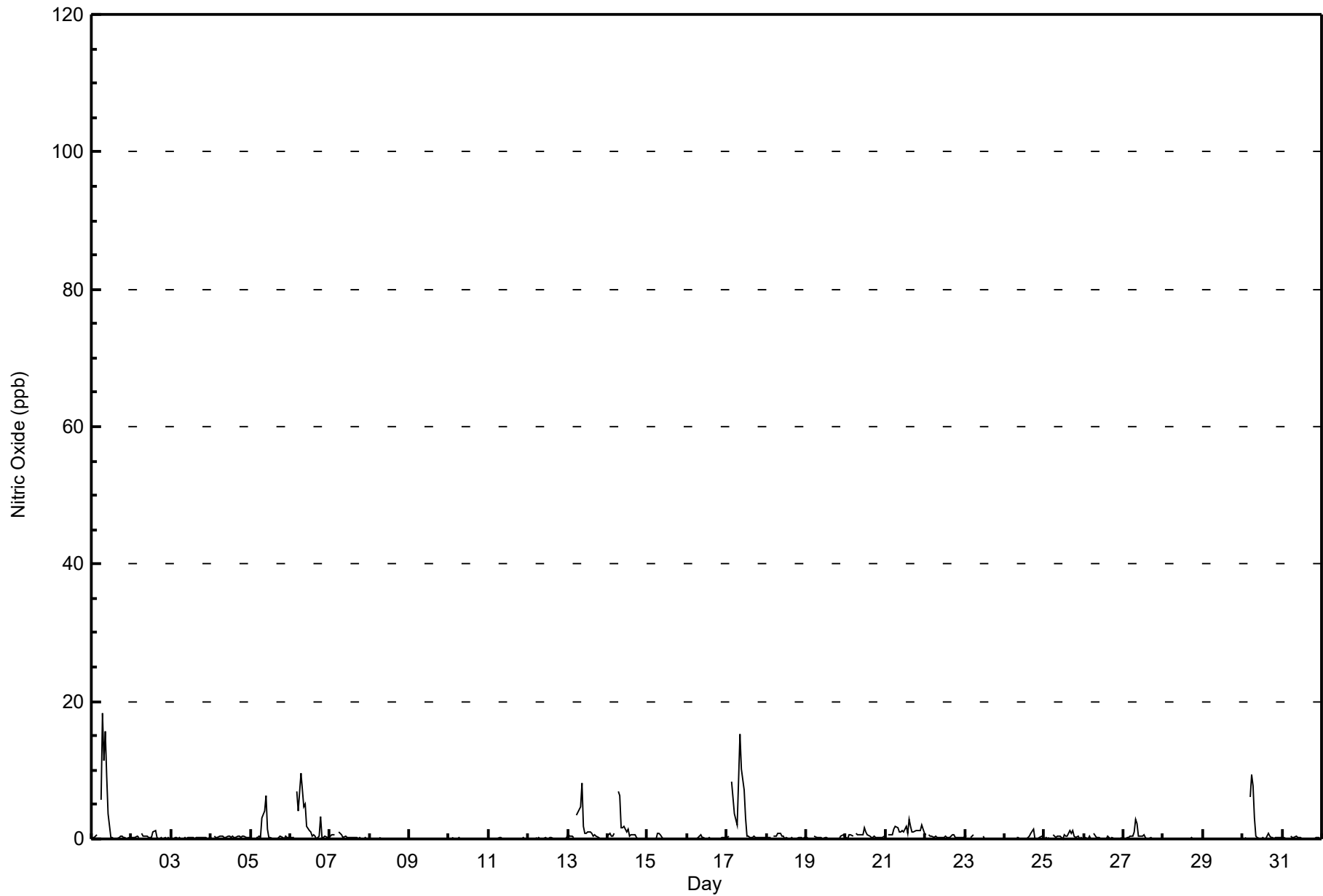
Buffalo Viewpoint - July 2025

Maximum Value: 18.2 ppb on Jul 1 07:00																			Maximum Daily Average: 2.9 ppb on Jul 1							Hours in Service: 744	
Minimum Value: 0.0 ppb on Jul 1 16:00																			Minimum Daily Average: 0.0 ppb on Jul 9							Hours of Data: 707	
Maximum Diurnal Average: 2.0 ppb at hour 7																			Minimum Diurnal Average: 0.1 ppb at hour 20							Hours of Missing Data: 37	
Monthly Average: 0.57 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 = 9.1							Hours of Calibration: 36	
																										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-Jul	0.2	0.2	0.5	0.6	Z	5.8	18.2	11.4	15.6	9.2	3.7	0.3	0.2	0.1	0.1	0.0	0.1	0.4	0.3	0.2	0.2	0.1	0.2	0.3	2.9	18.2	
2-Jul	0.2	0.2	0.3	0.4	0.2	Z	0.7	0.4	0.4	0.4	0.3	0.1	0.2	1.0	1.3	0.2	0.0	0.0	0.1	0.1	0.2	0.1	0.2	0.0	0.3	1.3	
3-Jul	Z	0.0	0.2	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.2	0.1	0.1	0.1	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	
4-Jul	0.2	Z	0.3	0.2	0.2	0.3	0.4	0.4	0.2	0.2	0.4	0.3	0.3	0.4	0.2	0.3	0.5	0.3	0.2	0.4	0.4	0.1	0.2	0.1	0.3	0.5	
5-Jul	0.1	0.0	Z	0.3	0.1	0.3	0.1	3.0	4.0	6.4	1.4	0.2	0.2	0.1	0.0	0.0	0.1	0.3	0.3	0.2	0.0	0.3	0.1	0.2	0.8	6.4	
6-Jul	0.2	0.3	0.3	Z	6.9	4.0	9.6	7.1	4.6	5.0	1.8	1.3	1.0	0.4	0.6	0.3	0.1	0.4	3.3	0.3	0.2	0.3	0.3	0.3	2.1	9.6	
7-Jul	0.3	0.7	0.7	0.5	Z	1.0	0.9	0.7	0.2	0.3	0.2	0.2	0.1	0.1	0.3	0.3	0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.3	1.0	
8-Jul	0.1	0.0	0.0	0.0	0.0	Z	0.3	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	0.3	
9-Jul	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	
10-Jul	0.0	Z	0.1	0.0	0.0	0.0	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	0.0	0.2	
11-Jul	0.0	0.0	Z	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	0.0	0.0	0.2	0.0	0.0	0.0	0.2	
12-Jul	0.0	0.0	0.0	Z	0.2	0.0	0.1	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	0.1	0.3	0.1	0.3	
13-Jul	0.7	0.4	0.3	0.3	Z	3.5	3.8	4.7	8.2	1.8	0.9	0.8	0.9	1.0	0.7	0.5	0.6	0.5	0.2	0.0	0.1	0.0	0.0	0.1	1.3	8.2	
14-Jul	0.6	0.8	0.5	0.5	0.9	Z	6.9	6.3	1.5	1.7	1.8	1.1	1.5	0.4	0.6	0.6	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0	1.1	6.9	
15-Jul	Z	0.1	0.0	0.0	0.1	0.1	0.7	0.9	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	0.1	0.9	
16-Jul	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.3	0.5	0.2	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.1	0.2	0.1	0.5	
17-Jul	0.3	0.4	Z	8.3	3.7	2.9	2.0	8.4	15.2	10.2	7.0	3.1	0.5	0.3	0.1	0.3	0.3	0.3	0.1	0.2	0.3	0.2	0.2	0.3	2.8	15.2	
18-Jul	0.2	0.2	0.2	Z	0.4	0.4	0.4	0.8	0.9	0.3	0.3	0.1	0.2	0.0	0.0	0.2	0.0	0.1	0.0	0.1	0.2	0.1	0.1	0.2	0.2	0.9	
19-Jul	0.1	0.0	0.0	0.1	Z	0.5	0.2	0.2	0.3	0.3	0.1	0.1	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.3	0.6	0.2	0.1	0.6	
20-Jul	0.3	0.0	0.6	0.6	0.4	Z	0.9	0.7	0.6	0.5	0.7	1.6	1.1	0.6	0.4	0.2	0.3	0.3	0.1	0.2	0.3	0.3	0.3	0.4	0.5	1.6	
21-Jul	Z	0.6	0.5	0.7	0.6	1.5	1.7	1.6	0.9	1.0	1.2	1.1	1.7	0.8	2.9	1.9	1.0	1.0	1.1	1.3	1.1	1.2	2.0	0.9	1.2	2.9	
22-Jul	0.6	Z	0.7	0.4	0.3	0.2	0.4	0.2	0.3	0.3	0.2	0.2	0.3	0.1	0.3	0.3	0.6	0.7	0.3	0.3	0.1	0.2	0.3	0.3	0.3	0.7	
23-Jul	0.3	0.3	Z	0.3	0.4	0.5	C	C	C	C	C	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	0.1	0.5	
24-Jul	0.0	0.0	0.0	Z	0.0	0.0	M	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.8	1.5	0.1	0.0	0.1	0.3	0.3	0.2	0.2	1.5	
25-Jul	0.0	0.2	0.1	0.1	Z	0.5	0.3	0.3	0.4	0.3	0.2	0.1	0.6	0.4	0.5	1.3	0.9	1.2	0.3	0.1	0.3	0.1	0.1	0.1	0.4	1.3	
26-Jul	0.0	0.2	0.1	0.5	0.1	Z	0.7	0.2	0.1	0.1	0.0	0.0	0.0	0.1	0.4	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.7	
27-Jul	Z	0.0	0.1	0.2	0.4	0.3	1.0	2.8	2.2	0.3	0.4	0.3	0.6	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.4	2.8	
28-Jul	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	0.1	
29-Jul	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	
30-Jul	0.0	0.0	0.2	Z	6.0	9.4	7.7	3.1	0.4	0.2	0.1	0.0	0.2	0.0	0.1	0.9	0.3	0.2	0.1	0.0	0.2	0.1	0.3	0.2	1.3	9.4	
31-Jul	0.2	0.2	0.1	0.0	Z	0.4	0.3	0.2	0.4	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.3	0.3	0.2	0.1	0.1	0.4	
																								Diurnal Average			
																								Diurnal Maximum			
Z - zerospan C - Calibration M - Maintenance																											



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitric Oxide (NO) - ppb
Buffalo Viewpoint - July 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
Buffalo Viewpoint - July 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	84	40	26	7	5	18	55	115	62	46	31	47	60	39	39	33	707
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	84	40	26	7	5	18	55	115	62	46	31	47	60	39	39	33	707

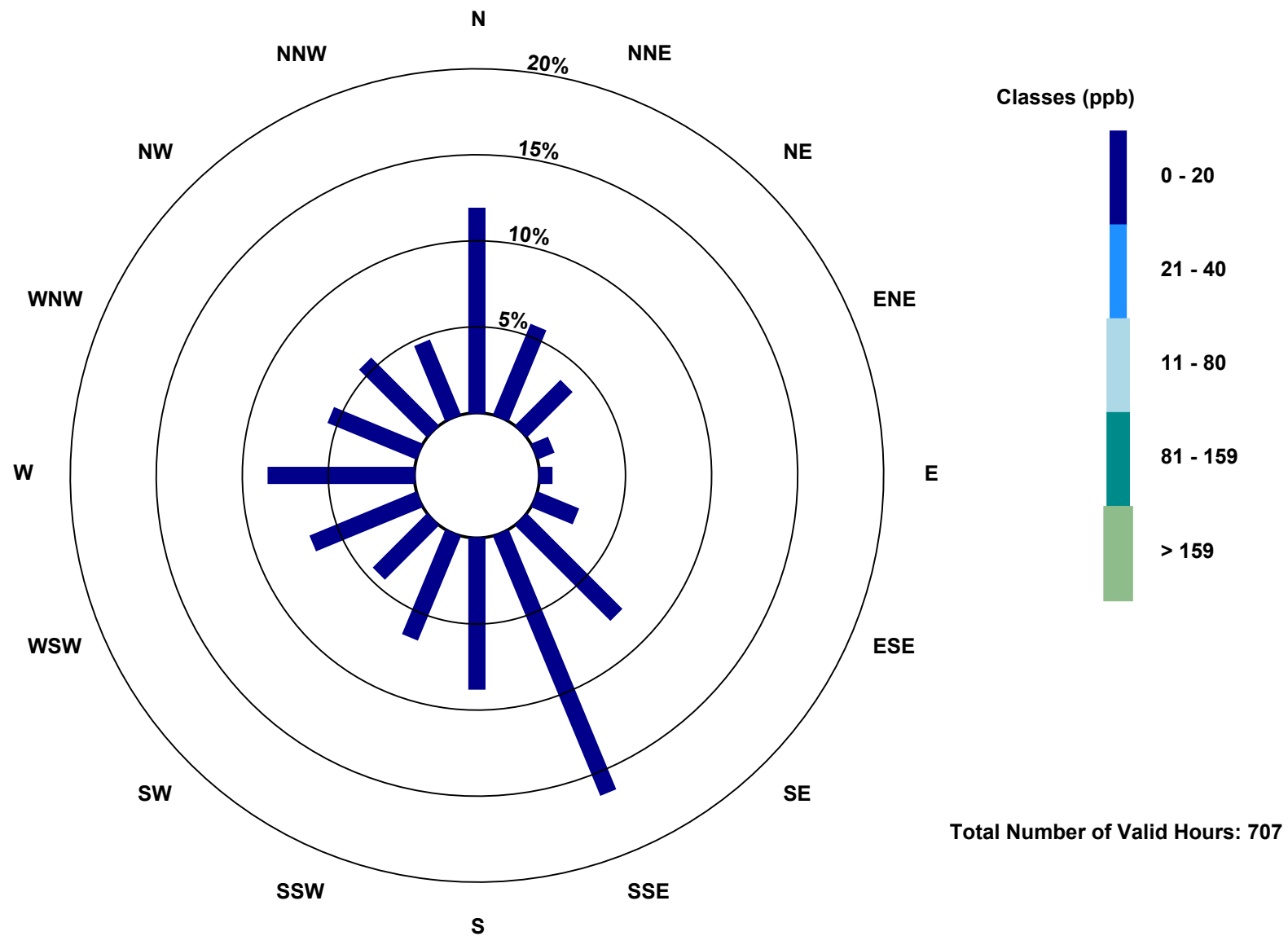
Total Number of Valid Hours: 707

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

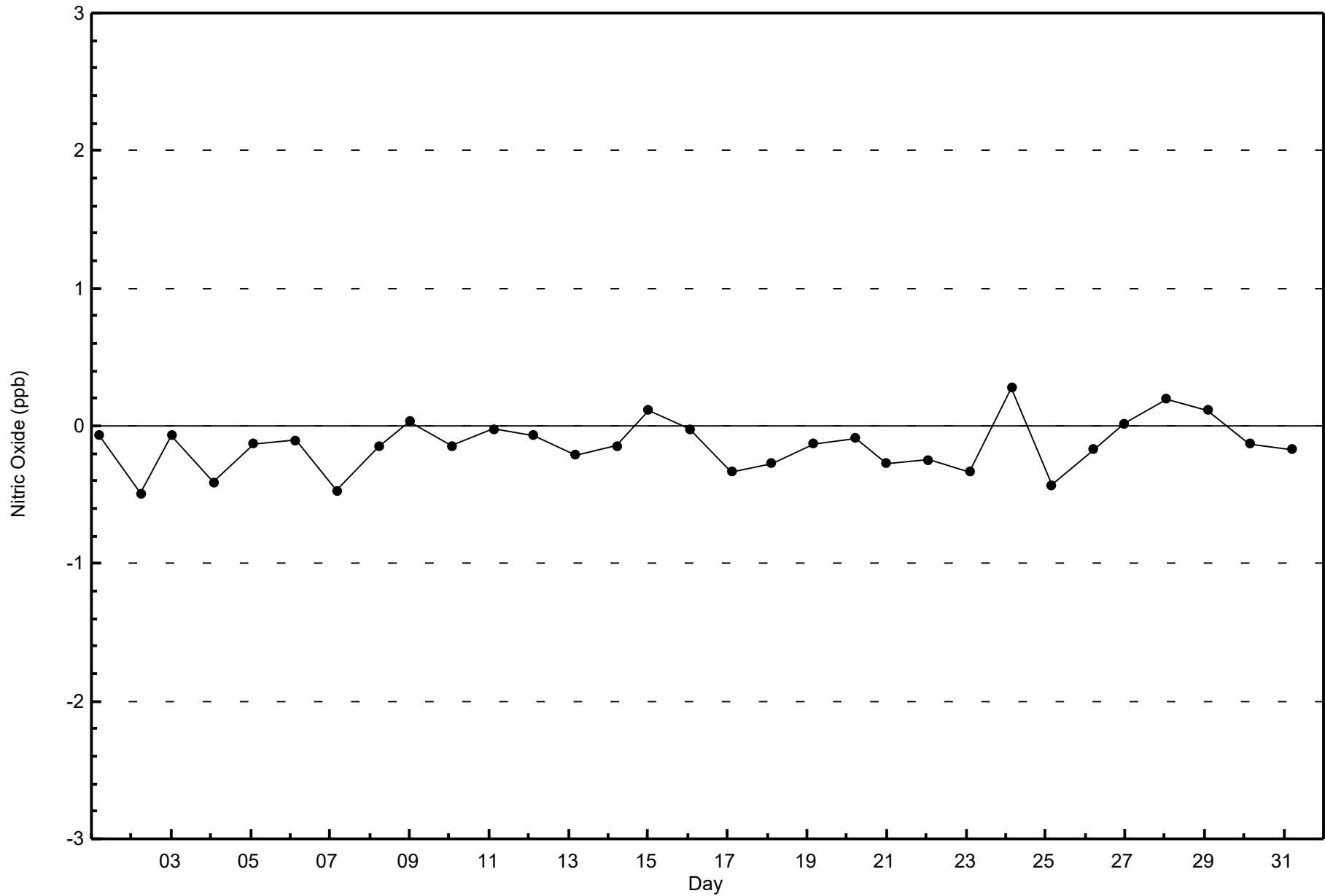
Nitric Oxide (NO) - ppb
Buffalo Viewpoint





Wood Buffalo Environmental Association
Zero Responses

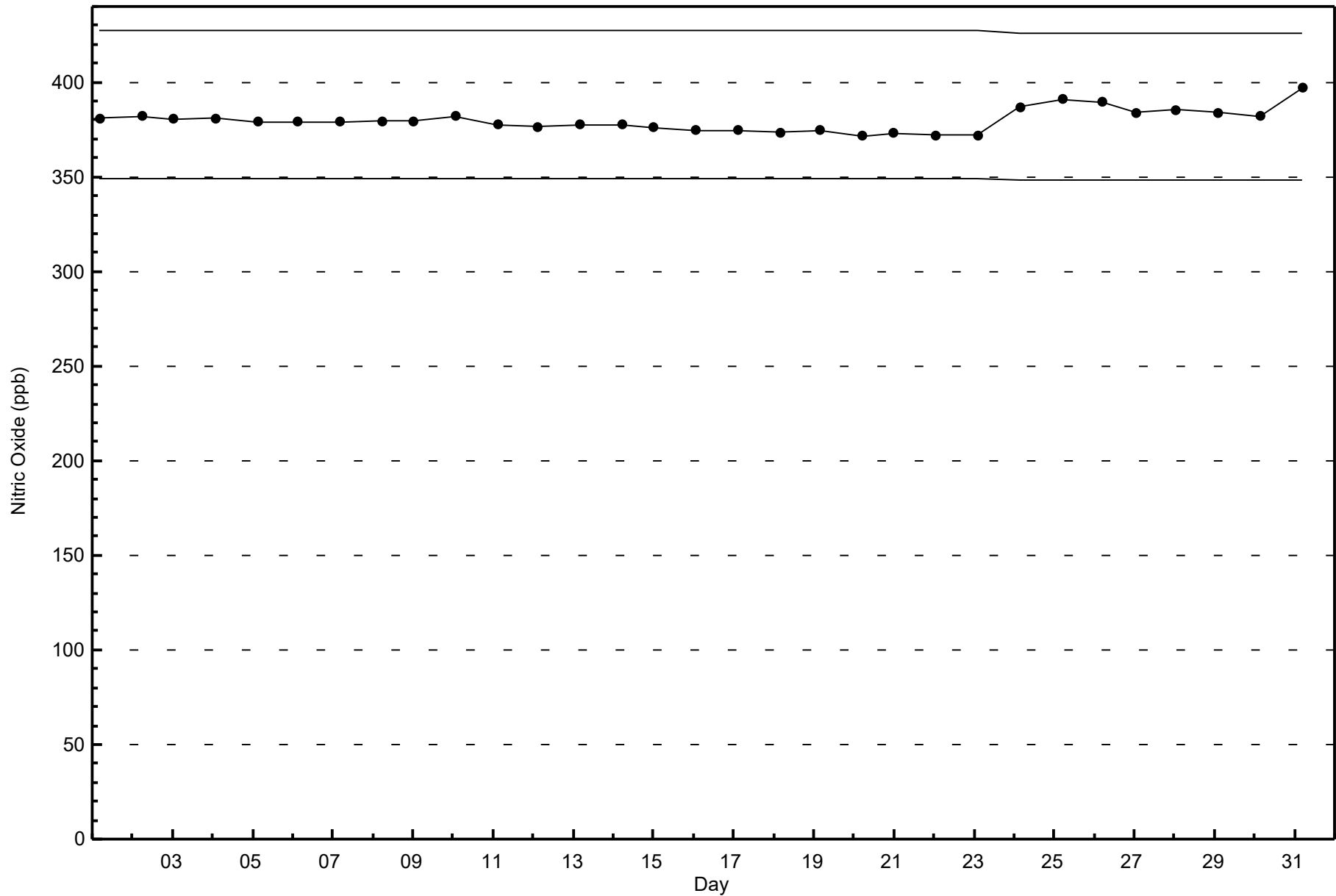
Nitric Oxide (NO) - ppb
Buffalo Viewpoint - July 2025





Wood Buffalo Environmental Association
Span Responses

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Dioxide (NO₂) - ppb

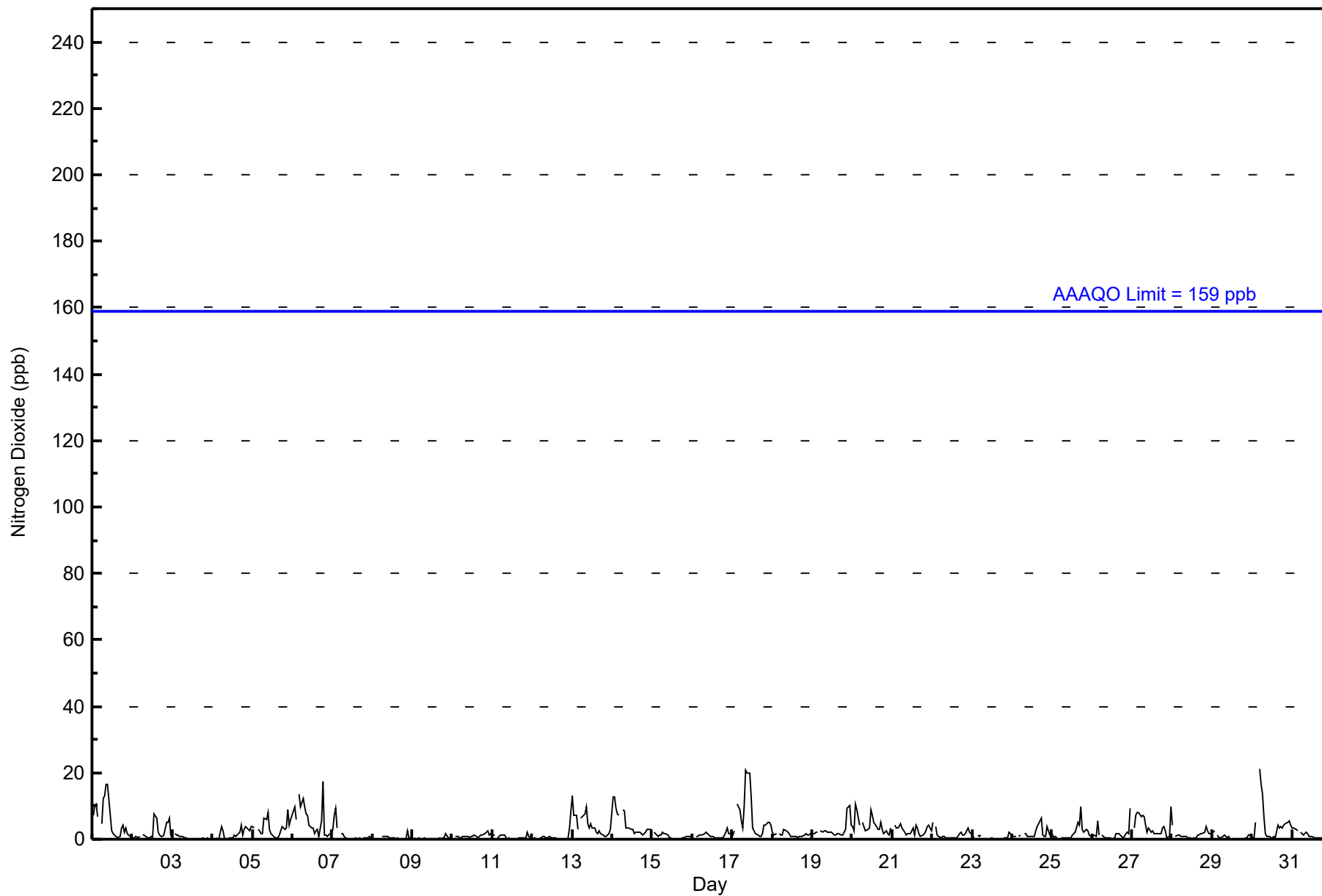
Buffalo Viewpoint - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																			Hours in Service: 744								
Maximum Value: 21.2 ppb on Jul 30 05:00																			Maximum Daily Average: 6.5 ppb on Jul 17		Hours of Data: 707						
Minimum Value: 0.0 ppb on Jul 3 15:00																			Minimum Daily Average: 0.3 ppb on Jul 9		Hours of Missing Data: 37						
Maximum Diurnal Average: 3.4 ppb at hour 3																			Minimum Diurnal Average: 1.3 ppb at hour 14		Hours of Calibration: 36						
Monthly Average: 2.31 ppb																			Percentiles: P ₁ = 0.0 P ₁₀ = 0.2 Q ₁ = 0.5 Median = 1.2 Q ₃ = 2.9 P ₉₀ = 5.7 P ₉₉ = 16.2		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-Jul	7.4	10.3	10.4	6.7	Z	4.7	12.4	13.3	16.5	16.7	11.7	2.6	1.6	1.2	0.7	0.4	1.0	3.2	4.3	2.3	3.4	1.9	0.7	0.3	5.8	16.7	
2-Jul	0.3	0.4	0.8	0.6	0.7	Z	1.4	1.3	0.7	0.4	0.4	0.7	0.4	7.8	6.5	2.1	1.2	0.8	0.9	1.2	5.2	4.9	6.2	0.9	2.0	7.8	
3-Jul	Z	1.7	1.4	1.2	0.8	0.7	0.9	0.5	0.4	0.2	0.2	0.2	0.2	0.1	0.0	0.1	0.1	0.2	0.4	0.0	0.2	0.4	0.1	0.1	0.4	1.7	
4-Jul	0.1	Z	0.3	0.2	0.0	4.0	2.5	0.3	0.0	0.1	0.5	0.6	0.6	1.4	1.0	1.2	2.0	4.3	1.3	3.0	3.9	2.9	2.6	3.8	1.6	4.3	
5-Jul	3.8	3.6	Z	3.0	2.5	1.6	1.6	6.5	6.0	7.9	2.9	1.7	1.2	0.6	0.5	0.5	1.1	2.6	3.7	3.1	3.3	8.9	4.3	5.8	3.3	8.9	
6-Jul	8.4	9.9	5.9	Z	13.6	9.9	12.4	9.7	7.7	7.1	4.2	3.5	3.3	1.6	2.7	2.9	1.0	5.3	17.3	1.4	1.3	1.0	1.6	1.6	5.8	17.3	
7-Jul	3.1	7.3	9.3	3.6	Z	1.6	1.5	1.0	0.5	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.3	0.1	0.2	0.5	0.4	0.4	0.7	0.4	1.4	9.3	
8-Jul	0.2	0.2	0.1	0.2	0.2	Z	0.8	0.7	1.0	1.0	0.5	0.6	0.6	0.5	0.2	0.3	0.2	0.2	0.0	0.1	0.5	2.4	0.3	0.3	0.5	2.4	
9-Jul	Z	0.4	0.2	0.0	0.3	0.1	0.2	0.3	0.1	0.1	0.0	0.2	0.0	0.1	0.1	0.2	0.3	0.1	0.3	0.3	1.8	0.4	0.3	0.5	0.3	1.8	
10-Jul	0.3	Z	0.9	0.9	0.5	0.6	0.9	0.7	0.8	0.8	0.5	0.8	0.7	1.1	1.0	0.6	0.7	1.1	1.3	1.9	2.1	2.6	1.4	1.8	1.0	2.6	
11-Jul	1.4	1.2	Z	0.5	0.8	1.1	1.1	1.1	0.3	0.2	0.3	0.2	0.2	0.1	0.0	0.2	0.3	0.3	0.3	0.3	0.5	2.1	0.7	0.3	0.6	2.1	
12-Jul	0.2	0.3	0.3	Z	0.5	0.5	0.7	0.7	0.4	0.4	0.7	0.4	0.4	0.6	0.6	0.2	0.2	0.2	0.1	0.2	0.2	0.3	3.3	8.3	0.9	8.3	
13-Jul	13.1	7.1	7.0	2.9	Z	6.5	6.7	7.8	9.9	4.6	3.5	4.5	3.4	3.2	2.1	1.9	2.5	1.8	1.4	0.9	0.8	1.2	1.9	3.1	4.3	13.1	
14-Jul	12.8	12.9	9.3	7.6	7.2	Z	8.7	8.5	3.5	3.2	3.2	2.8	3.1	1.5	2.1	2.2	2.2	1.6	1.4	1.5	2.2	3.0	3.0	2.8	4.6	12.9	
15-Jul	Z	2.3	1.9	1.0	1.3	1.1	2.0	1.8	1.7	1.2	0.3	0.3	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.7	0.7	0.9	0.7	0.8	2.3	
16-Jul	0.6	Z	0.7	0.7	1.2	1.2	1.3	1.6	2.2	1.5	1.2	0.9	0.7	0.4	0.5	0.3	0.5	0.6	0.4	1.4	2.0	3.2	1.7	1.5	1.1	3.2	
17-Jul	1.1	2.4	Z	10.7	8.7	5.7	3.4	9.6	20.8	19.9	20.1	12.6	3.4	2.7	1.6	1.1	0.9	0.8	1.6	4.1	4.4	5.2	5.0	4.2	6.5	20.8	
18-Jul	2.2	1.1	1.6	Z	1.6	1.3	1.1	2.8	2.6	2.1	1.7	1.0	0.7	0.7	0.7	0.6	0.7	1.0	1.0	1.2	1.5	1.3	1.1	1.9	1.4	2.8	
19-Jul	1.6	1.6	2.0	2.1	Z	2.5	2.2	2.6	2.7	2.0	2.0	2.0	1.6	1.4	1.3	1.5	1.6	1.4	1.4	2.0	3.1	9.3	10.2	4.2	2.7	10.2	
20-Jul	3.8	2.7	10.6	8.9	4.4	Z	4.9	3.9	2.4	2.9	3.6	8.9	7.3	5.2	3.9	2.8	3.0	5.1	3.0	1.9	2.7	1.8	1.1	3.2	4.3	10.6	
21-Jul	Z	4.2	3.4	3.2	3.7	4.6	3.2	2.3	1.4	1.6	1.9	1.9	3.2	1.2	4.4	3.4	1.8	0.9	1.4	1.9	2.5	3.9	4.3	2.4	2.7	4.6	
22-Jul	5.0	Z	3.8	1.3	0.8	0.5	0.7	0.7	0.3	0.3	0.4	0.5	0.4	0.4	0.4	0.3	1.9	2.2	1.2	1.2	1.6	3.4	2.3	1.8	1.4	5.0	
23-Jul	1.3	0.6	Z	1.1	0.7	1.2	C	C	C	C	C	0.3	0.3	0.2	0.2	0.2	0.0	0.0	0.0	0.5	0.3	0.3	2.2	1.7	0.6	2.2	
24-Jul	0.9	0.7	0.9	Z	1.0	1.3	M	1.8	1.9	0.9	0.8	1.0	0.9	1.0	2.4	4.0	4.8	6.3	1.3	0.9	0.8	3.8	1.4	0.9	1.8	6.3	
25-Jul	1.1	0.5	0.7	0.4	Z	0.4	0.4	0.3	0.6	0.4	0.3	0.3	1.1	1.6	2.1	5.2	4.4	9.6	3.1	2.3	2.9	2.7	1.1	0.7	1.8	9.6	
26-Jul	0.7	1.3	0.9	5.3	1.4	Z	1.1	0.6	0.3	0.4	0.3	0.3	0.2	0.6	1.7	1.7	1.8	1.3	0.6	0.9	1.5	2.1	1.9	9.2	1.6	9.2	
27-Jul	Z	3.2	7.3	8.0	8.2	6.9	7.1	6.7	4.2	2.2	3.3	2.0	2.7	1.9	1.6	1.6	1.9	1.8	3.5	4.0	2.6	0.3	0.7	9.6	4.0	9.6	
28-Jul	4.3	Z	0.8	1.3	1.2	0.7	0.8	0.9	0.7	0.3	0.4	0.3	0.1	0.3	0.6	1.2	1.1	1.9	1.7	2.1	3.8	2.7	1.7	1.6	1.3	4.3	
29-Jul	1.5	2.4	Z	1.1	0.5	0.5	0.9	1.1	0.9	0.4	0.7	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.6	1.1	1.2	0.6	2.4	
30-Jul	0.3	0.3	5.1	Z	21.2	16.4	13.6	6.6	1.6	0.7	0.7	0.3	0.6	0.7	0.5	4.3	3.5	3.7	3.4	4.2	4.8	5.2	5.4	4.2	4.7	21.2	
31-Jul	3.2	3.3	2.9	2.5	Z	2.2	1.7	1.4	2.0	1.6	0.8	1.0	0.7	0.3	0.3	0.5	0.4	0.3	0.4	0.3	4.1	2.4	1.8	0.4	1.5	4.1	
3.0 3.2 3.4 2.9 3.3 3.0 3.3 3.2 3.1 2.7 2.2 1.7 1.3 1.3 1.3 1.3 1.3 1.9 1.8 1.5 2.1 2.6 2.3 2.6																										Diurnal Average	
13.1 12.9 10.6 10.7 21.2 16.4 13.6 13.3 20.8 19.9 20.1 12.6 7.3 7.8 6.5 5.2 4.8 9.6 17.3 4.2 5.2 9.3 10.2 9.6																										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
Buffalo Viewpoint - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	705	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: 707

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Buffalo Viewpoint - July 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	84	40	26	7	5	18	55	115	61	46	30	47	60	39	39	33	705
21 - 40	0	0	0	0	0	0	0	0	1	0	1	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	84	40	26	7	5	18	55	115	62	46	31	47	60	39	39	33	707

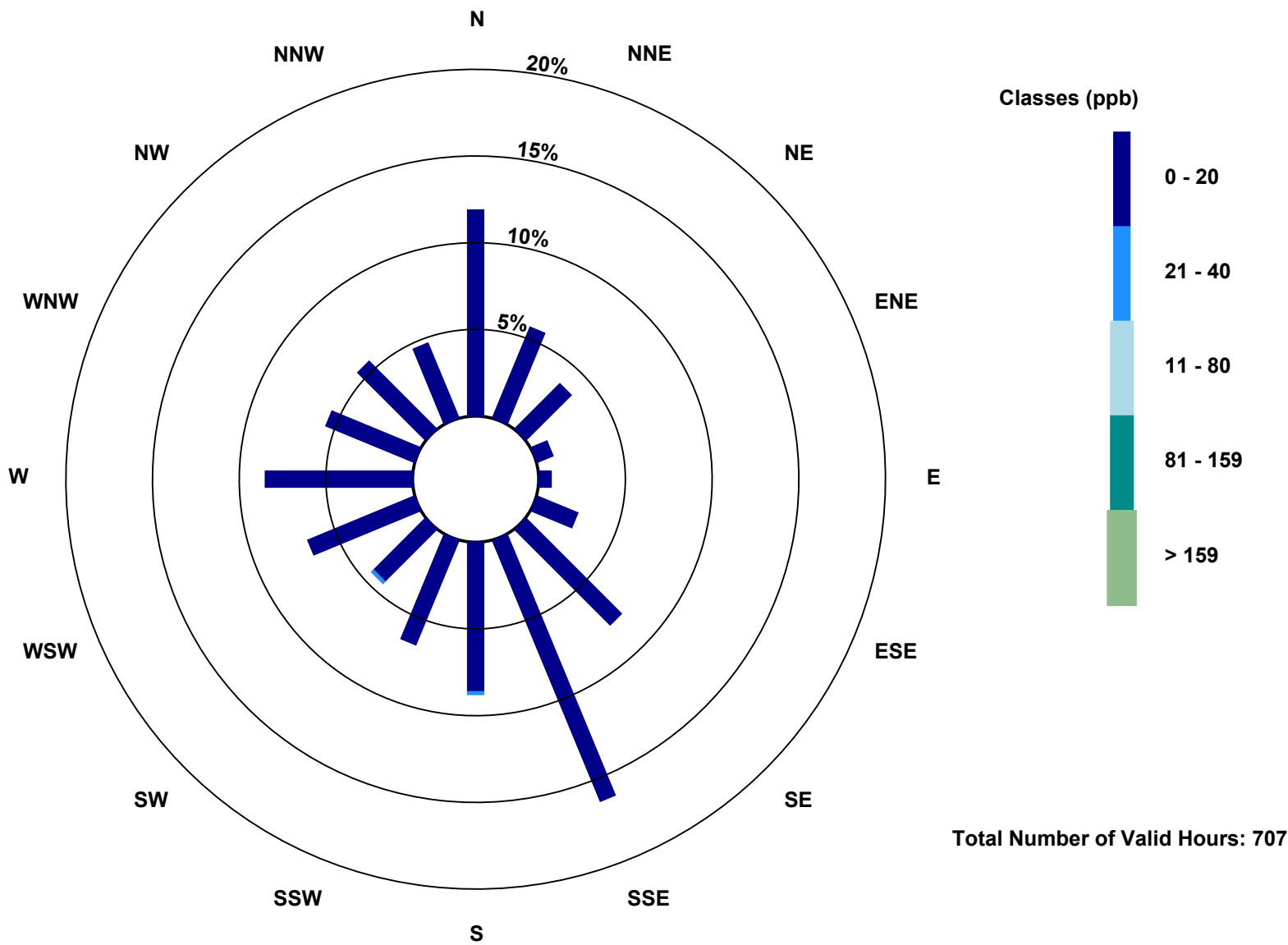
Total Number of Valid Hours: 707

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

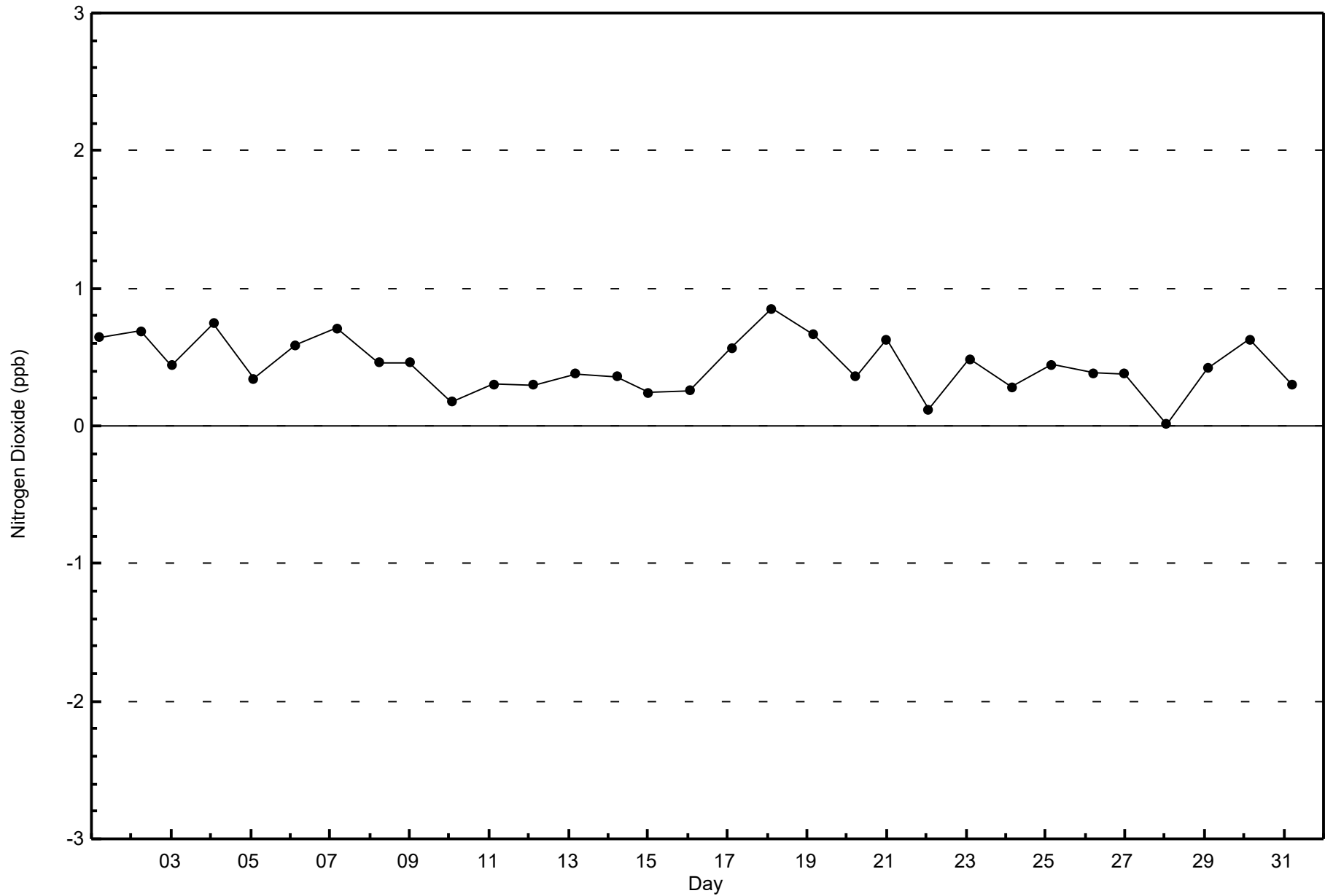
Nitrogen Dioxide (NO₂) - ppb
Buffalo Viewpoint





Wood Buffalo Environmental Association
Zero Responses

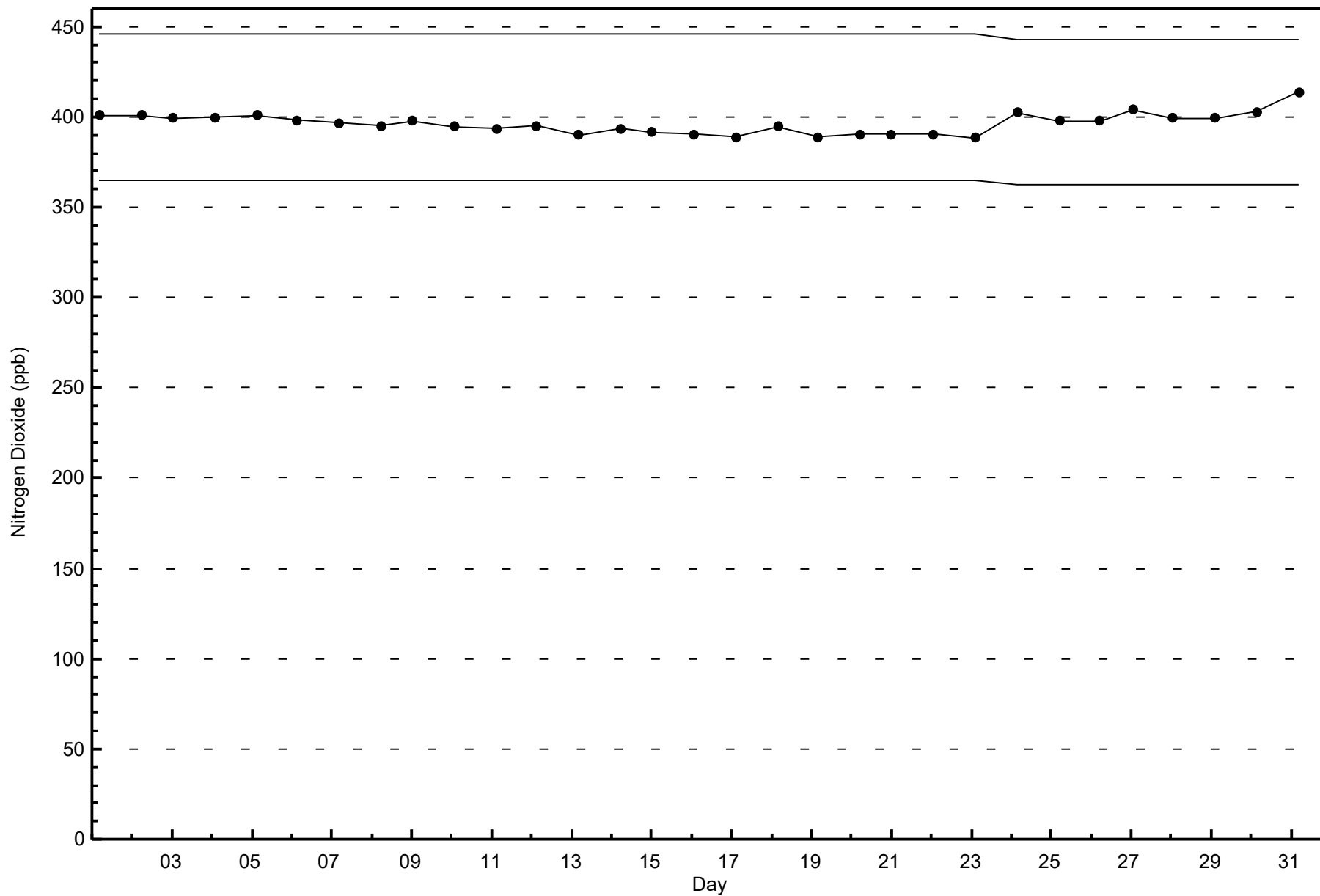
Nitrogen Dioxide (NO₂) - ppb
Buffalo Viewpoint - July 2025





Wood Buffalo Environmental Association
Span Responses

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Oxides (NO_x) - ppb

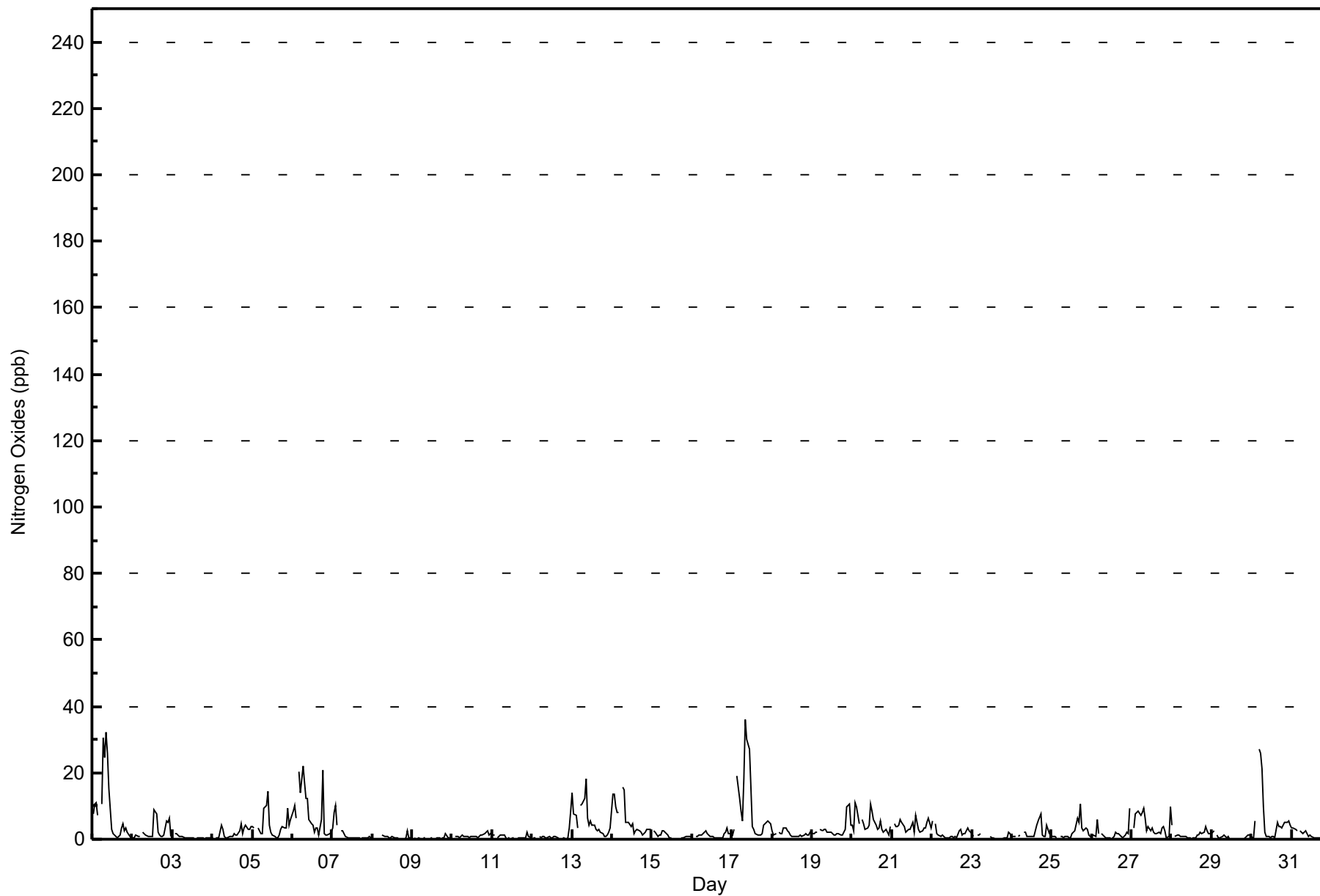
Buffalo Viewpoint - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																			Hours in Service: 744								
Maximum Value: 36.0 ppb on Jul 17 09:00																			Maximum Daily Average: 9.3 ppb on Jul 17		Hours of Data: 707						
Minimum Value: 0.0 ppb on Jul 8 19:00																			Minimum Daily Average: 0.3 ppb on Jul 9		Hours of Missing Data: 37						
Maximum Diurnal Average: 5.3 ppb at hour 7																			Minimum Diurnal Average: 1.5 ppb at hour 14		Hours of Calibration: 36						
Monthly Average: 2.88 ppb																			Percentiles: P ₁ = 0.0 P ₁₀ = 0.3 Q ₁ = 0.6 Median = 1.4 Q ₃ = 3.2 P ₉₀ = 6.8 P ₉₉ = 25.7		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-Jul	7.6	10.5	10.9	7.3	Z	10.5	30.6	24.7	32.1	25.9	15.4	2.9	1.8	1.3	0.8	0.4	1.1	3.6	4.6	2.5	3.6	2.0	0.9	0.6	8.8	32.1	
2-Jul	0.5	0.6	1.1	1.0	0.9	Z	2.1	1.7	1.1	0.8	0.7	0.8	0.6	8.8	7.8	2.3	1.2	0.8	1.0	1.3	5.4	5.0	6.4	0.9	2.3	8.8	
3-Jul	Z	1.7	1.6	1.3	0.9	0.8	0.9	0.6	0.5	0.2	0.4	0.3	0.3	0.2	0.0	0.2	0.2	0.4	0.5	0.1	0.3	0.5	0.2	0.3	0.6	1.7	
4-Jul	0.3	Z	0.6	0.4	0.2	4.3	2.9	0.7	0.2	0.3	0.9	0.9	0.9	1.8	1.2	1.5	2.5	4.6	1.5	3.4	4.3	3.0	2.8	3.9	1.9	4.6	
5-Jul	3.9	3.6	Z	3.3	2.6	1.9	1.7	9.5	10.0	14.3	4.3	1.9	1.4	0.7	0.5	0.5	1.2	2.9	4.0	3.3	3.3	9.2	4.4	6.0	4.1	14.3	
6-Jul	8.6	10.2	6.2	Z	20.5	13.9	22.0	16.8	12.3	12.1	6.0	4.8	4.3	2.0	3.3	3.2	1.1	5.7	20.6	1.7	1.5	1.3	1.9	1.9	7.9	22.0	
7-Jul	3.4	8.0	10.0	4.1	Z	2.6	2.4	1.7	0.7	0.4	0.3	0.3	0.3	0.6	0.5	0.5	0.2	0.3	0.5	0.5	0.5	0.7	0.4	1.7	10.0		
8-Jul	0.3	0.2	0.1	0.2	0.2	Z	1.1	0.7	1.0	1.0	0.5	0.6	0.7	0.5	0.2	0.3	0.2	0.2	0.0	0.1	0.5	2.4	0.3	0.3	0.5	2.4	
9-Jul	Z	0.4	0.2	0.0	0.3	0.1	0.2	0.3	0.1	0.1	0.0	0.2	0.0	0.1	0.1	0.2	0.3	0.1	0.3	0.3	1.8	0.4	0.3	0.5	0.3	1.8	
10-Jul	0.3	Z	1.0	0.9	0.5	0.6	1.1	0.7	0.9	0.9	0.5	0.8	0.7	1.1	1.0	0.6	0.7	1.1	1.3	1.9	2.1	2.6	1.4	1.8	1.1	2.6	
11-Jul	1.4	1.2	Z	0.5	0.8	1.2	1.3	1.3	0.3	0.2	0.3	0.2	0.2	0.1	0.0	0.2	0.3	0.3	0.3	0.3	0.5	2.3	0.7	0.3	0.6	2.3	
12-Jul	0.2	0.3	0.3	Z	0.7	0.5	0.8	0.7	0.4	0.5	0.8	0.4	0.5	0.7	0.7	0.2	0.2	0.2	0.1	0.2	0.2	0.3	3.4	8.6	0.9	8.6	
13-Jul	13.8	7.5	7.3	3.2	Z	10.0	10.5	12.5	18.1	6.4	4.4	5.3	4.3	4.2	2.8	2.4	3.1	2.3	1.6	0.9	0.9	1.2	1.9	3.2	5.5	18.1	
14-Jul	13.4	13.7	9.8	8.1	8.1	Z	15.6	14.8	5.0	4.9	5.0	3.9	4.6	1.9	2.7	2.8	2.7	1.9	1.4	1.5	2.2	3.0	3.0	2.8	5.8	15.6	
15-Jul	Z	2.4	1.9	1.0	1.4	1.2	2.7	2.7	2.3	1.2	0.3	0.3	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.7	0.7	0.9	0.7	0.9	2.7	
16-Jul	0.6	Z	0.7	0.7	1.2	1.2	1.4	1.9	2.7	1.7	1.4	0.9	0.7	0.5	0.5	0.3	0.5	0.6	0.4	1.5	2.0	3.4	1.8	1.7	1.2	3.4	
17-Jul	1.4	2.8	Z	19.0	12.4	8.6	5.4	18.0	36.0	30.1	27.1	15.7	3.9	3.0	1.7	1.4	1.2	1.1	1.7	4.3	4.7	5.4	5.2	4.5	9.3	36.0	
18-Jul	2.4	1.3	1.8	Z	2.0	1.7	1.5	3.6	3.5	2.4	2.0	1.1	0.9	0.7	0.7	0.8	0.7	1.1	1.0	1.3	1.7	1.4	1.2	2.1	1.6	3.6	
19-Jul	1.7	1.6	2.0	2.2	Z	3.0	2.4	2.8	3.0	2.3	2.1	2.1	1.8	1.4	1.3	1.5	1.7	1.4	1.4	2.0	3.1	9.6	10.8	4.4	2.8	10.8	
20-Jul	4.1	2.7	11.2	9.5	4.8	Z	5.8	4.6	3.0	3.4	4.3	10.5	8.4	5.8	4.3	3.0	3.3	5.4	3.1	2.1	3.0	2.1	1.4	3.6	4.8	11.2	
21-Jul	Z	4.8	3.9	3.9	4.3	6.1	4.9	3.9	2.3	2.6	3.1	3.0	4.9	2.0	7.3	5.3	2.8	1.9	2.5	3.2	3.6	5.1	6.3	3.3	3.9	7.3	
22-Jul	5.6	Z	4.5	1.7	1.1	0.7	1.1	0.9	0.6	0.6	0.6	0.7	0.7	0.5	0.7	0.6	2.5	2.9	1.5	1.5	1.7	3.6	2.6	2.1	1.7	5.6	
23-Jul	1.6	0.9	Z	1.4	1.1	1.7	C	C	C	C	C	0.7	0.3	0.2	0.2	0.2	0.0	0.0	0.0	0.5	0.3	0.3	2.2	1.7	0.7	2.2	
24-Jul	0.9	0.7	0.9	Z	1.0	1.3	M	2.0	2.1	0.9	0.8	1.0	0.9	1.0	2.6	4.4	5.6	7.8	1.4	0.9	0.9	4.1	1.7	1.1	2.0	7.8	
25-Jul	1.1	0.7	0.8	0.5	Z	0.9	0.7	0.6	1.0	0.7	0.5	0.4	1.7	2.0	2.6	6.5	5.3	10.8	3.4	2.4	3.2	2.8	1.2	0.8	2.2	10.8	
26-Jul	0.7	1.5	1.0	5.8	1.5	Z	1.8	0.8	0.4	0.5	0.3	0.3	0.2	0.7	2.1	1.8	1.8	1.5	0.6	0.9	1.5	2.1	1.9	9.4	1.7	9.4	
27-Jul	Z	3.2	7.4	8.2	8.6	7.2	8.1	9.5	6.4	2.5	3.7	2.3	3.3	2.0	1.6	1.6	2.0	1.8	3.6	4.0	2.6	0.3	0.7	9.8	4.4	9.8	
28-Jul	4.3	Z	0.8	1.3	1.2	0.7	0.8	0.9	0.7	0.3	0.4	0.3	0.1	0.3	0.6	1.2	1.1	2.0	1.7	2.1	3.8	2.7	1.7	1.6	1.3	4.3	
29-Jul	1.5	2.4	Z	1.1	0.5	0.5	0.9	1.1	0.9	0.4	0.7	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.6	1.1	1.2	0.6	2.4	
30-Jul	0.3	0.3	5.3	Z	27.2	25.8	21.3	9.7	2.0	0.9	0.8	0.3	0.8	0.7	0.6	5.2	3.8	3.9	3.5	4.2	5.0	5.3	5.7	4.4	6.0	27.2	
31-Jul	3.4	3.5	3.0	2.5	Z	2.6	2.0	1.6	2.4	1.8	1.0	1.2	0.8	0.3	0.3	0.5	0.4	0.4	0.4	0.4	4.4	2.7	2.0	0.5	1.7	4.4	
3.2 3.3 3.6 3.4 4.2 4.2 5.3 5.0 5.1 4.0 3.0 2.1 1.6 1.5 1.6 1.6 1.5 2.2 2.1 1.6 2.2 2.8 2.5 2.7																										Diurnal Average	
13.8 13.7 11.2 19.0 27.2 25.8 30.6 24.7 36.0 30.1 27.1 15.7 8.4 8.8 7.8 6.5 5.6 10.8 20.6 4.3 5.4 9.6 10.8 9.8																										Diurnal Maximum	
Z - zerospan C - Calibration M - Maintenance																											



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	694	98.16	98.16
21 - 40	13	1.84	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
Buffalo Viewpoint - July 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	37	25	7	5	18	54	114	61	46	30	46	60	39	39	33	694
21 - 40	4	3	1	0	0	0	1	1	1	0	1	1	0	0	0	0	13
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	84	40	26	7	5	18	55	115	62	46	31	47	60	39	39	33	707

Total Number of Valid Hours: 707

Total Number of Hours: 744



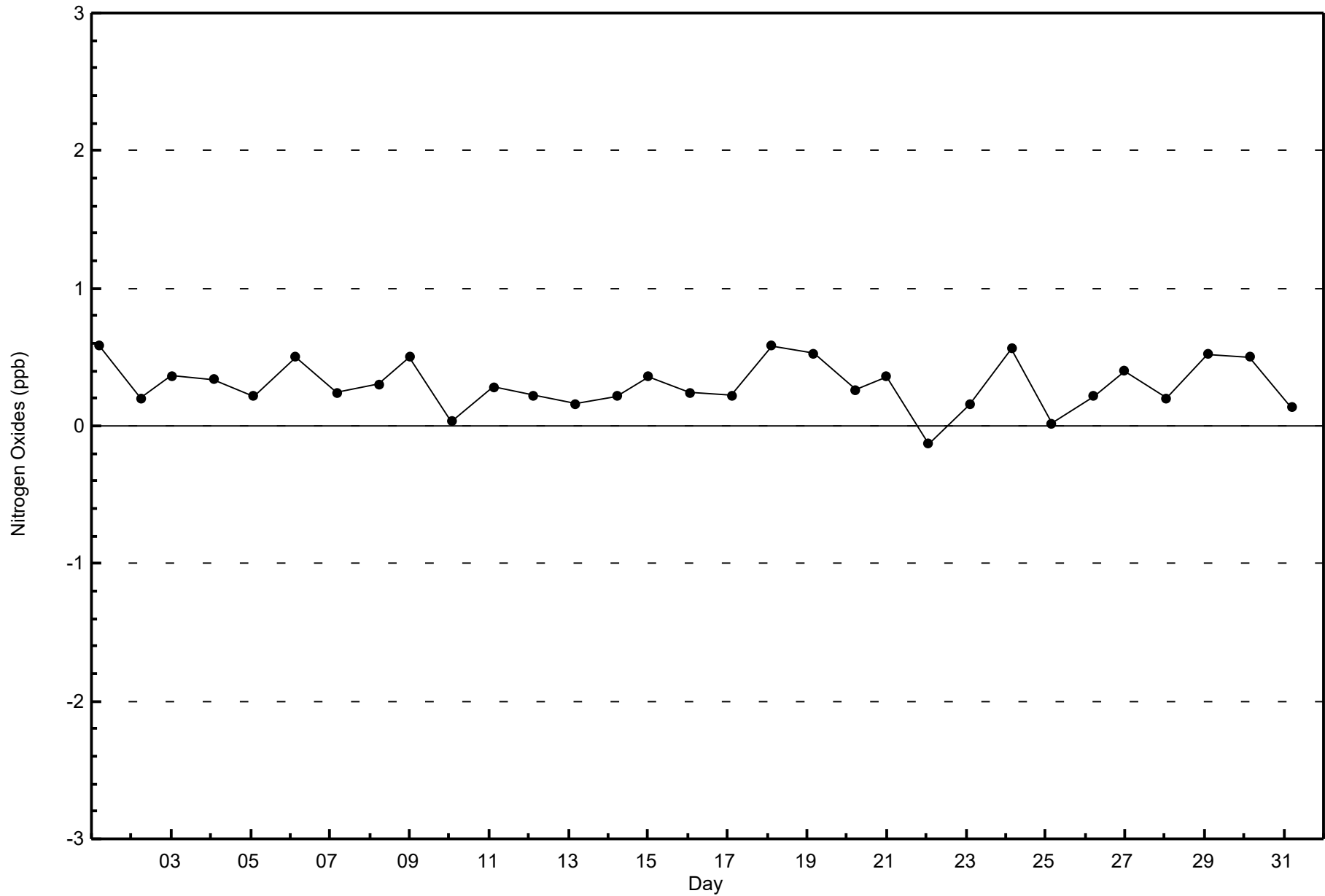
Nitrogen Oxides (NO_x) - ppb
Buffalo Viewpoint





Wood Buffalo Environmental Association
Zero Responses

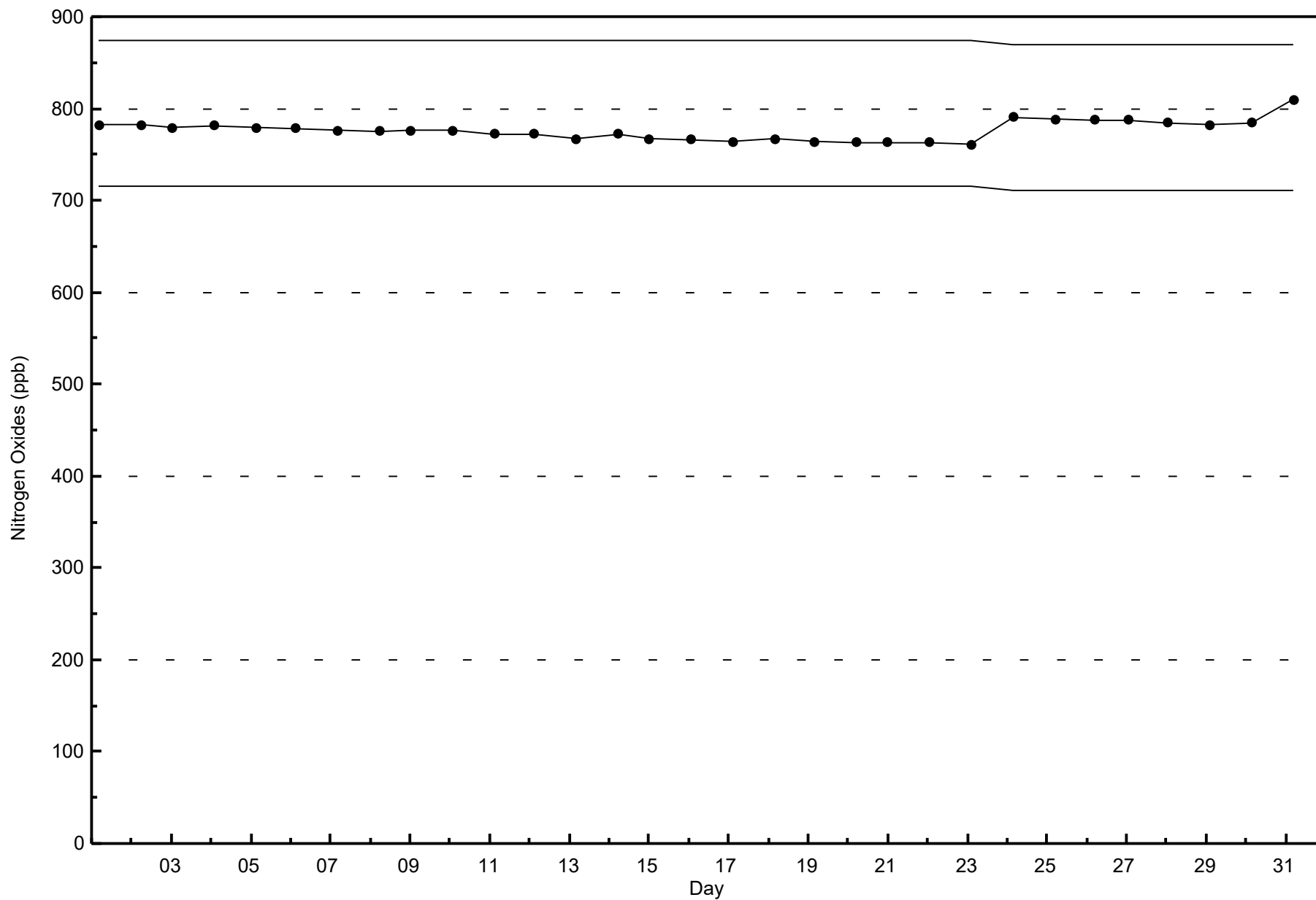
Nitrogen Oxides (NO_x) - ppb
Buffalo Viewpoint - July 2025





Wood Buffalo Environmental Association
Span Responses

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Ozone (O₃) - ppb

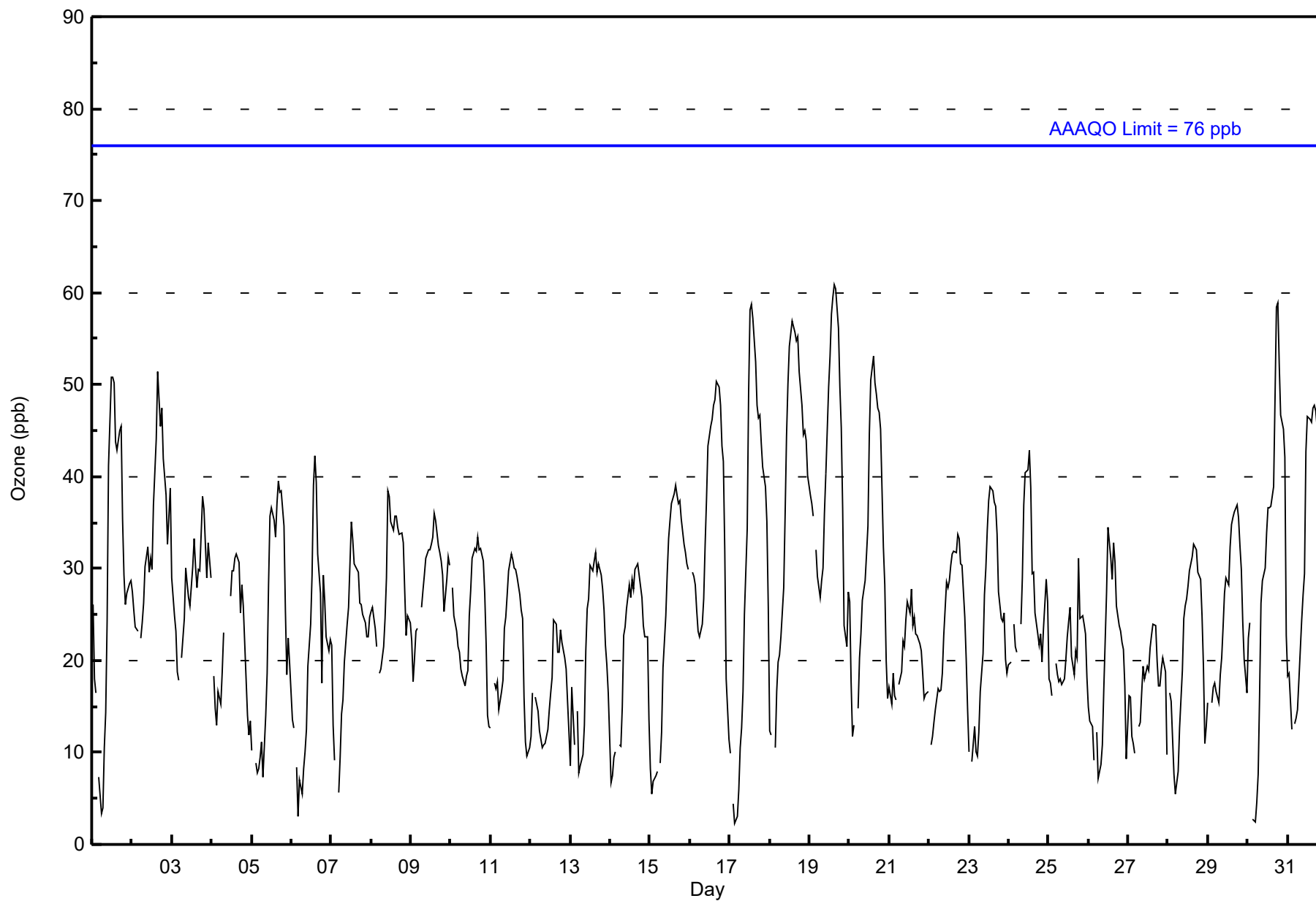
Buffalo Viewpoint - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 60.9 ppb on Jul 19 16:00 Maximum Daily Average: 40.7 ppb on Jul 19																				Hours in Service: 744 Hours of Data: 709 Hours of Missing Data: 35 Hours of Calibration: 34 Percent Operational Time: 99.9						
Minimum Value: 2.2 ppb on Jul 17 04:00 Minimum Daily Average: 16.5 ppb on Jul 12 Maximum Diurnal Average: 36.7 ppb at hour 16 Minimum Diurnal Average: 14.0 ppb at hour 6 Monthly Average: 26.02 ppb Percentiles: P ₁ = 4.5 P ₁₀ = 11.1 Q ₁ = 17.7 Median = 24.9 Q ₃ = 32.2 P ₉₀ = 43.3 P ₉₉ = 57.6																										
Day	Hourly Period Ending At (MST)																				Daily Average	Daily Maximum				
1-Jul	26.1	18.0	16.5	Z	7.3	3.4	4.0	10.6	14.3	24.2	41.2	50.8	50.8	50.3	43.8	42.9	45.0	45.5	35.5	29.3	26.0	27.2	28.3	28.7	29.1	50.8
2-Jul	27.4	25.5	23.7	23.2	Z	22.4	24.1	26.2	30.2	32.4	29.7	31.1	29.9	36.9	44.2	51.4	48.4	45.5	47.4	42.0	38.0	32.7	35.7	38.7	34.2	51.4
3-Jul	29.0	24.9	23.1	18.8	17.9	Z	20.2	24.6	30.0	28.3	26.8	25.9	30.3	33.3	30.2	27.9	29.9	29.8	37.9	36.5	32.7	29.0	32.8	29.0	28.2	37.9
4-Jul	Z	18.3	14.8	12.9	16.7	15.2	18.7	23.0	C	C	C	27.0	29.8	29.7	31.1	31.5	30.6	25.2	28.3	25.9	21.9	14.0	11.9	13.4	22.0	31.5
5-Jul	10.3	Z	8.8	7.7	8.2	9.4	11.1	7.4	14.1	18.6	28.2	35.6	36.6	35.2	33.5	37.1	39.5	38.3	38.4	34.6	25.5	18.5	22.4	19.7	23.4	39.5
6-Jul	13.6	12.7	Z	8.3	3.0	7.0	5.5	8.2	10.0	12.4	19.4	24.0	29.3	39.1	42.2	39.4	31.6	27.3	17.6	29.2	26.6	22.5	21.1	22.3	20.5	42.2
7-Jul	21.7	12.9	9.2	Z	5.6	9.5	14.2	15.7	19.8	24.0	25.7	30.5	33.1	30.6	29.9	29.5	26.3	26.1	25.0	24.1	22.6	22.6	24.7	22.5	35.0	
8-Jul	25.3	25.8	23.5	21.4	Z	18.6	19.1	21.5	24.6	29.0	38.5	37.8	35.1	34.1	35.8	35.7	34.5	33.7	33.8	32.8	27.6	22.7	24.9	24.1	28.7	38.5
9-Jul	22.2	17.7	20.2	23.2	23.5	Z	25.8	27.6	29.3	31.1	32.0	32.0	32.7	33.5	36.0	35.2	32.5	31.7	30.7	29.3	25.4	28.9	31.3	30.4	28.8	36.0
10-Jul	Z	27.9	24.8	23.2	21.4	20.9	19.0	18.3	17.3	18.4	19.0	24.8	27.6	31.1	32.2	31.9	33.4	32.0	32.2	30.8	27.3	21.8	14.0	12.9	24.5	33.4
11-Jul	12.7	Z	17.6	17.0	17.8	14.7	16.6	17.9	23.5	24.7	27.2	29.7	31.6	31.0	30.0	29.9	29.1	27.2	25.4	24.5	16.0	11.1	9.6	10.5	21.5	31.6
12-Jul	11.8	16.4	Z	16.0	14.5	12.4	11.4	10.6	10.9	10.9	12.5	14.6	16.4	18.2	24.4	24.0	20.8	20.9	23.3	22.0	20.3	19.1	15.6	12.2	16.5	24.4
13-Jul	8.5	17.1	10.8	Z	14.5	7.8	8.5	9.7	13.0	21.1	25.7	26.7	30.3	29.7	30.8	31.8	29.6	30.5	29.2	27.7	25.5	21.7	19.5	16.4	21.1	31.8
14-Jul	6.7	7.5	9.4	10.1	Z	10.8	10.7	15.0	22.8	23.7	25.6	28.3	26.9	28.8	27.8	29.9	30.5	29.3	28.0	26.9	23.9	22.6	22.6	13.6	20.9	30.5
15-Jul	8.2	5.4	6.8	7.5	7.9	Z	8.9	12.2	19.2	24.8	29.4	33.3	35.2	37.1	38.1	39.1	38.0	37.1	37.4	35.4	32.7	31.7	30.6	30.0	25.5	39.1
16-Jul	Z	29.7	29.1	28.2	25.5	23.2	22.6	24.0	26.7	32.5	37.6	43.3	45.4	46.3	47.7	48.3	50.4	49.8	47.8	43.3	41.6	32.1	17.9	11.4	35.0	50.4
17-Jul	9.9	Z	4.5	2.2	3.1	6.0	10.6	12.6	16.7	25.0	34.3	49.2	58.1	58.7	57.2	52.5	47.7	46.3	46.6	43.7	41.0	38.8	35.1	25.8	31.5	58.7
18-Jul	12.3	11.9	Z	10.6	16.7	19.9	20.6	22.6	27.9	35.9	44.4	50.1	54.2	56.9	56.3	55.7	54.7	55.3	51.4	47.7	44.5	44.9	43.9	40.1	38.2	56.9
19-Jul	37.9	37.1	35.8	Z	32.1	29.1	26.8	28.7	30.0	36.0	40.3	49.7	53.1	57.6	59.5	60.9	60.4	56.2	49.7	45.4	36.5	23.7	21.5	27.5	40.7	60.9
20-Jul	26.3	17.7	11.8	12.9	Z	14.8	20.3	22.9	26.6	28.7	31.6	34.6	44.8	50.5	53.2	50.2	49.0	47.4	47.0	45.2	32.4	28.2	20.0	15.9	31.8	53.2
21-Jul	17.2	15.3	18.6	16.2	15.6	Z	17.4	18.8	22.1	21.5	24.5	26.5	25.2	27.8	23.7	24.8	22.9	22.8	21.7	21.0	18.6	15.8	16.4	16.7	20.5	27.8
22-Jul	Z	10.8	11.8	13.2	14.6	17.0	16.7	16.8	18.6	22.7	28.6	27.9	28.7	30.3	31.6	32.0	31.7	33.7	33.3	30.5	30.4	24.8	20.1	14.6	23.5	33.7
23-Jul	10.1	Z	8.9	12.8	10.1	9.6	12.1	16.7	20.8	27.2	30.0	34.2	37.4	38.9	38.4	37.2	36.7	33.6	27.4	24.5	24.3	25.2	20.2	18.5	24.1	38.9
24-Jul	19.5	19.9	Z	23.9	21.5	21.0	M	24.0	29.0	36.9	40.4	40.7	42.8	38.8	29.5	29.6	25.2	22.9	21.6	23.0	19.9	23.4	28.9	26.3	27.7	42.8
25-Jul	18.0	17.5	16.1	Z	19.7	18.5	17.7	18.0	17.4	18.0	20.1	22.6	24.3	25.8	20.4	18.5	21.0	20.3	31.1	24.5	24.8	23.9	22.9	18.1	20.8	31.1
26-Jul	15.0	13.5	12.9	9.2	Z	12.2	7.2	8.7	10.8	16.7	22.1	27.5	34.6	31.1	28.8	32.8	30.7	25.9	23.8	23.3	22.0	21.2	17.2	9.3	19.8	34.6
27-Jul	16.1	16.0	11.7	11.0	9.9	Z	12.8	13.2	16.5	19.4	18.0	19.4	18.9	21.3	22.7	24.0	23.8	19.9	17.2	17.3	19.1	20.4	18.8	9.8	17.3	24.0
28-Jul	Z	16.5	15.6	7.6	5.4	6.8	7.9	12.7	18.9	24.5	26.0	26.8	28.1	29.8	31.3	32.6	32.4	32.1	29.6	28.8	24.8	19.4	11.0	12.9	20.9	32.6
29-Jul	15.4	Z	15.5	17.0	17.5	16.6	15.5	18.5	20.3	23.6	27.2	28.9	28.1	32.3	34.8	35.5	36.1	36.9	35.5	32.5	30.0	24.3	20.1	16.4	25.2	36.9
30-Jul	22.4	24.1	Z	2.7	2.5	4.6	7.7	16.2	26.3	28.7	30.1	33.9	36.6	36.6	36.8	38.9	48.5	58.5	58.9	52.2	46.7	45.2	42.1	22.8	31.4	58.9
31-Jul	18.3	18.6	12.5	Z	13.1	13.7	14.7	17.9	24.4	27.1	29.4	42.8	46.5	46.2	45.9	47.5	47.7	47.1	45.3	40.2	25.0	20.5	18.9	29.5	30.1	47.7
17.8 18.4 15.9 14.3 14.1 14.0 14.9 17.4 21.1 24.9 28.8 32.6 35.0 36.4 36.4 36.7 36.2 35.1 34.2 32.1 28.2 25.1 23.2 20.7 Diurnal Average																										
37.9 37.1 35.8 28.2 32.1 29.1 26.8 28.7 30.2 36.9 44.4 50.8 58.1 58.7 59.5 60.9 60.4 58.5 58.9 52.2 46.7 45.2 43.9 40.1 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
Buffalo Viewpoint - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ozone (O₃) - ppb
Buffalo Viewpoint - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	247	34.84	34.84
21 - 50	438	61.78	96.62
51 - 82	24	3.39	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
Buffalo Viewpoint - July 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	11	5	1	0	1	11	58	24	16	7	17	20	15	11	4	247
21 - 50	35	28	20	6	5	17	39	54	33	33	25	32	38	20	26	27	438
51 - 82	2	2	1	0	0	0	6	5	5	0	0	1	0	1	1	0	24
> 83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	83	41	26	7	5	18	56	117	62	49	32	50	58	36	38	31	709

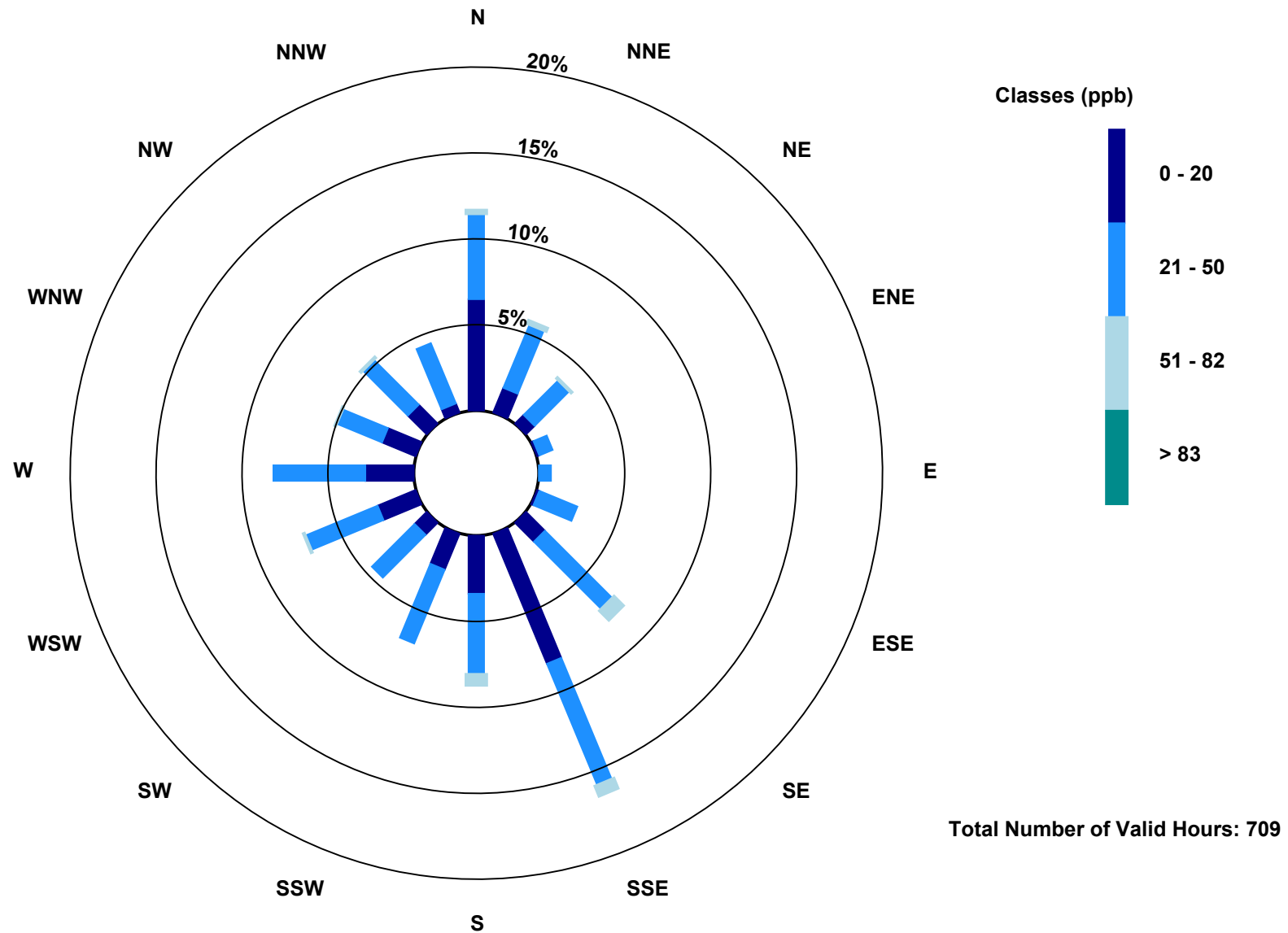
Total Number of Valid Hours: 709

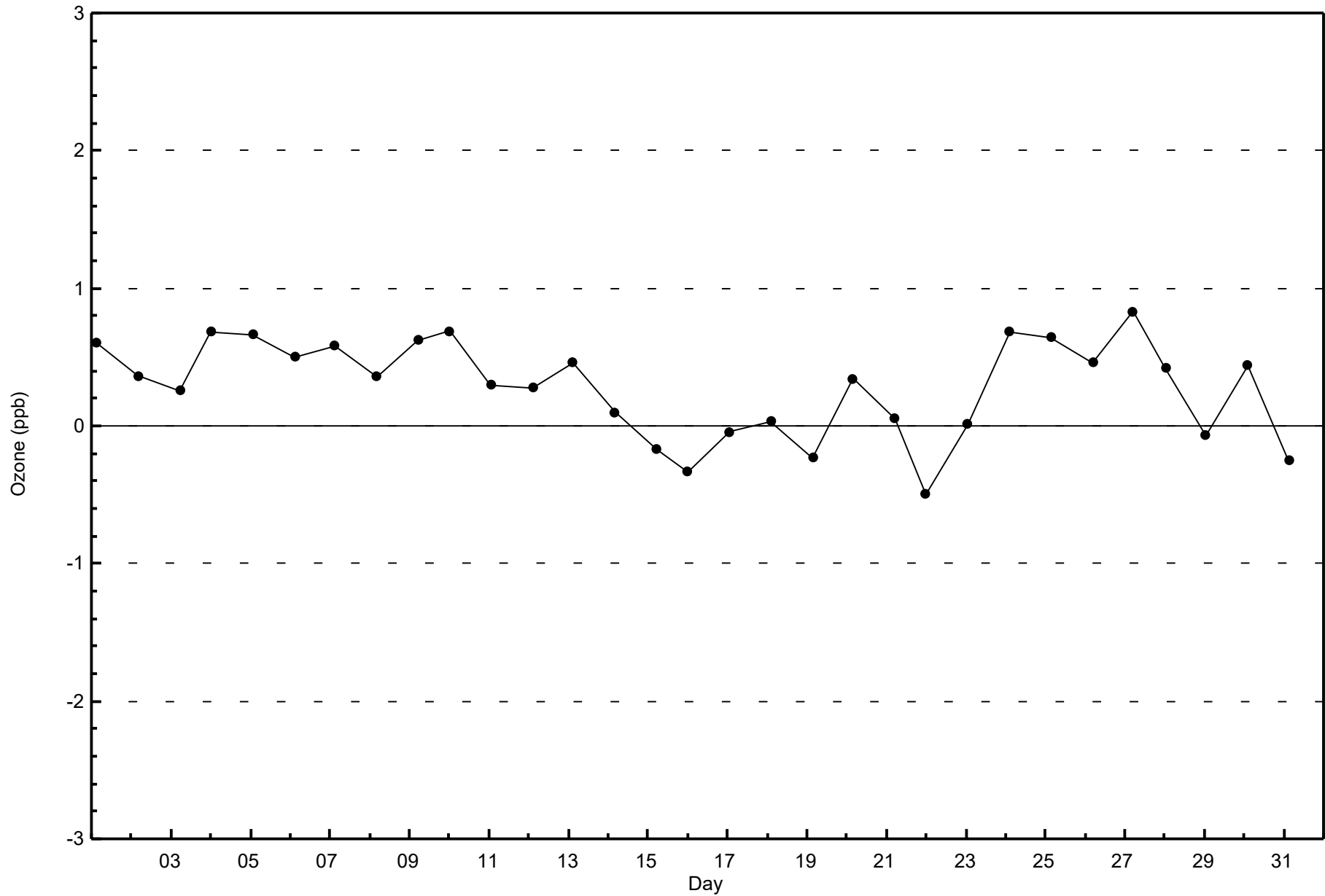
Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Ozone (O_3) - ppb
Buffalo Viewpoint

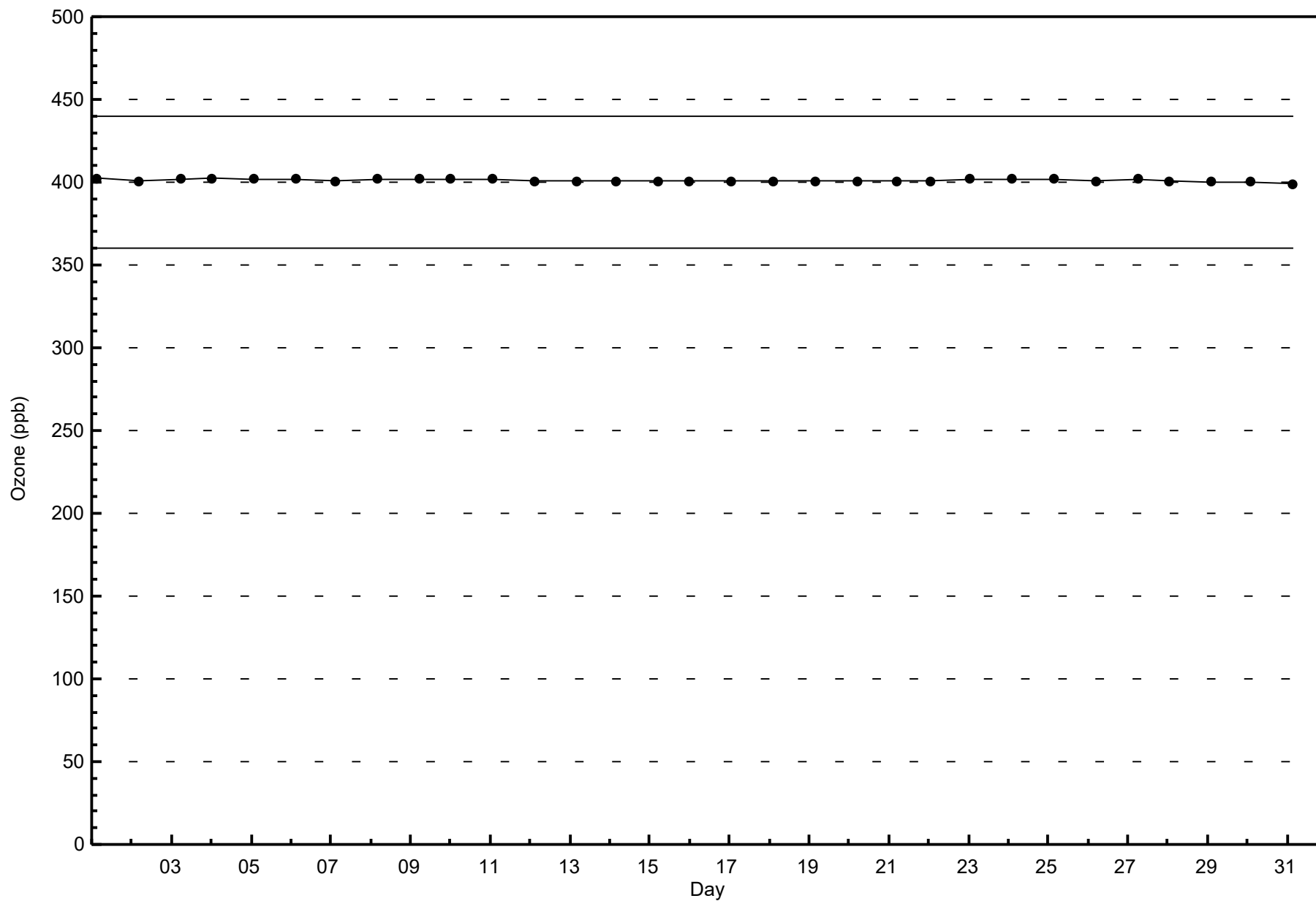






Wood Buffalo Environmental Association
Span Responses

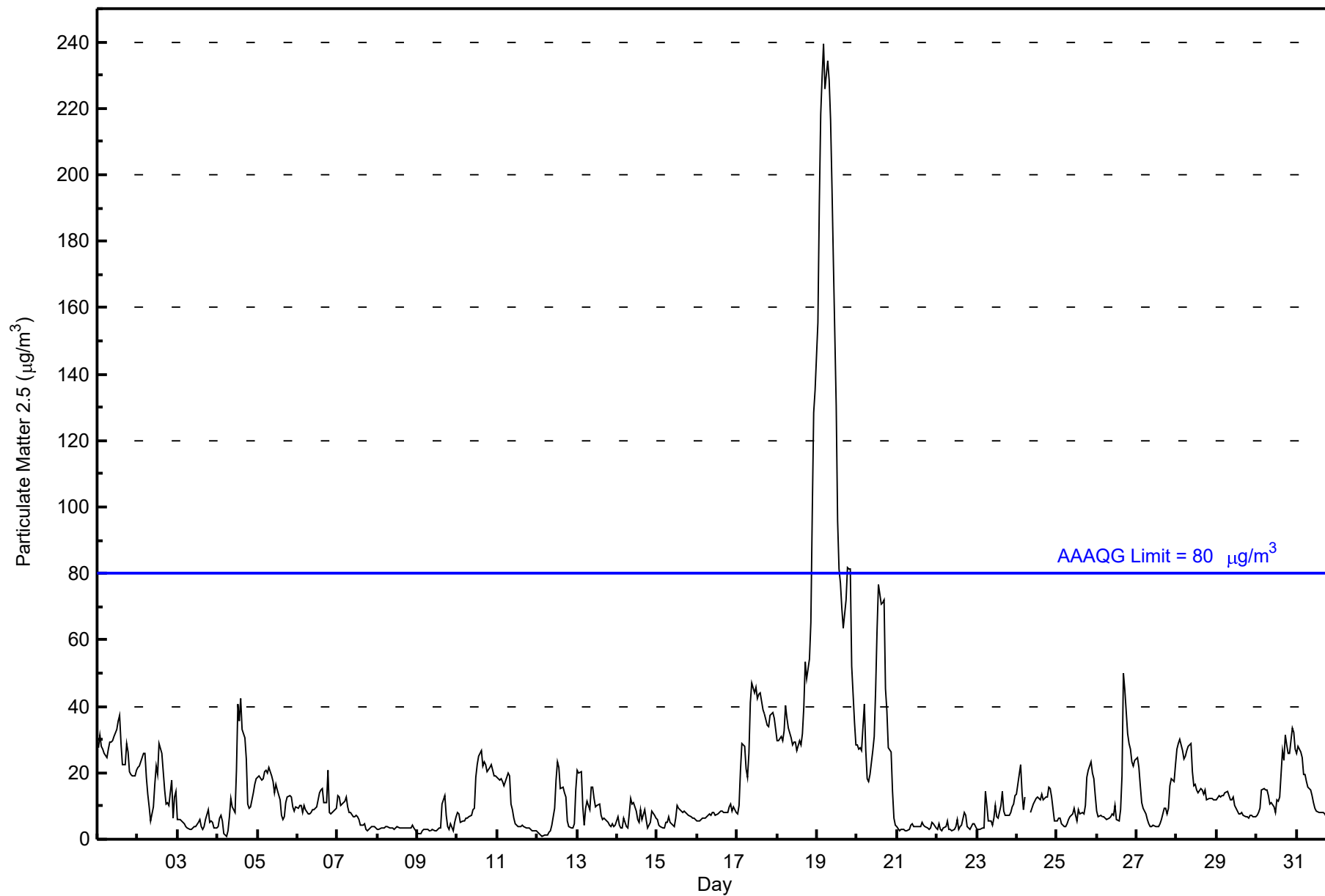
Ozone (O₃) - ppb
Buffalo Viewpoint - July 2025





Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges ($\mu\text{g}/\text{m}^3$)	Number of Hours	%	Cumulative %
0 - 5	201	27.09	27.09
6 - 15	310	41.78	68.87
16 - 25	97	13.07	81.94
26 - 80	114	15.36	97.30
> 81.0	20	2.70	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
Buffalo Viewpoint - July 2025

Concentration Ranges (µg/m³)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	23	10	3	0	0	1	9	21	15	12	12	33	33	6	9	14	201
6 - 15	35	15	12	4	2	9	29	50	26	28	18	16	20	18	14	14	310
16 - 25	12	3	2	0	1	3	5	24	10	4	2	1	8	13	7	2	97
26 - 80	18	14	9	2	2	5	10	16	11	6	2	3	0	3	9	4	114
> 81.0	0	0	0	1	0	0	4	11	4	0	0	0	0	0	0	0	20
Totals	88	42	26	7	5	18	57	122	66	50	34	53	61	40	39	34	742

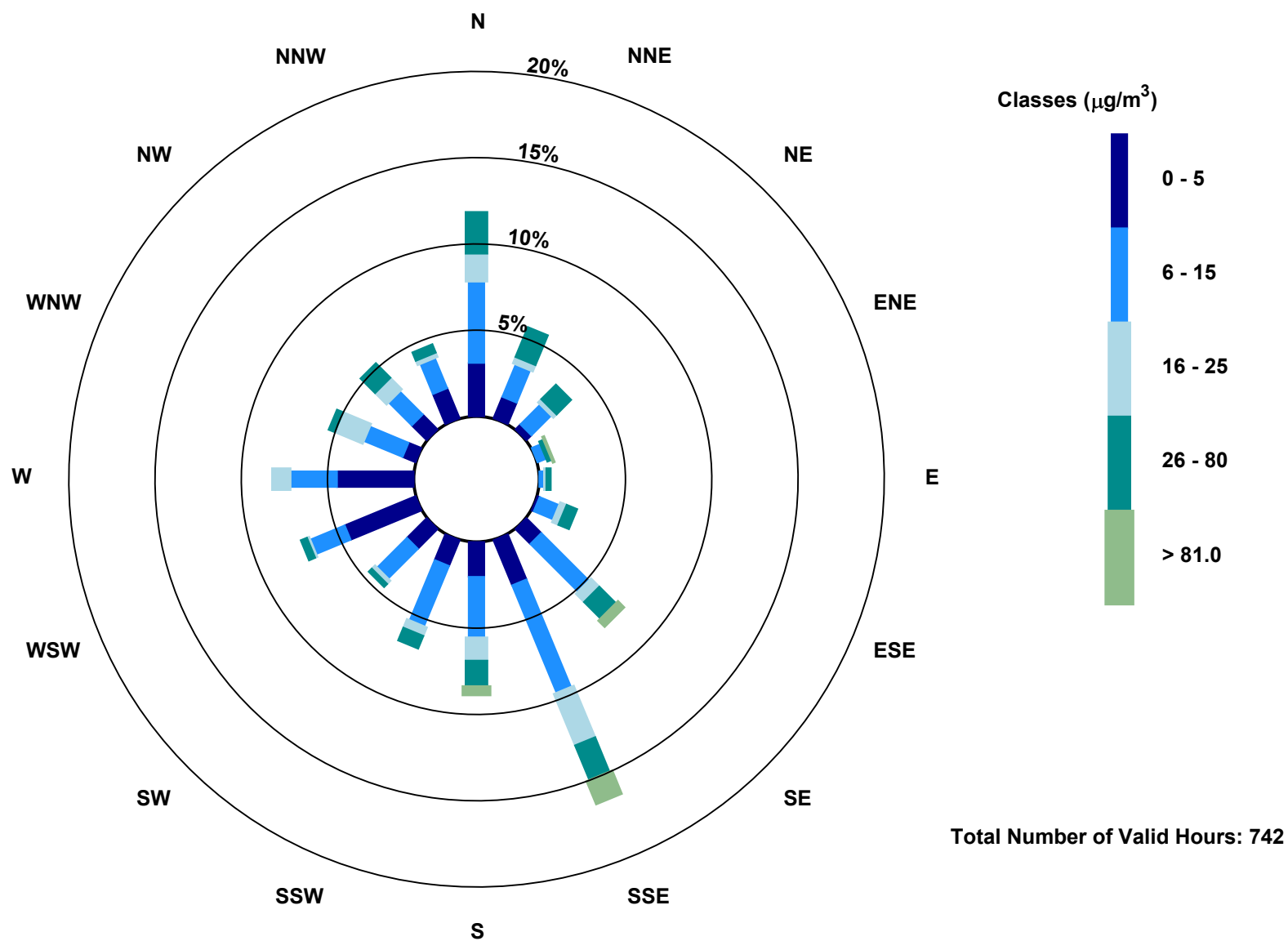
Total Number of Valid Hours: 742

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 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

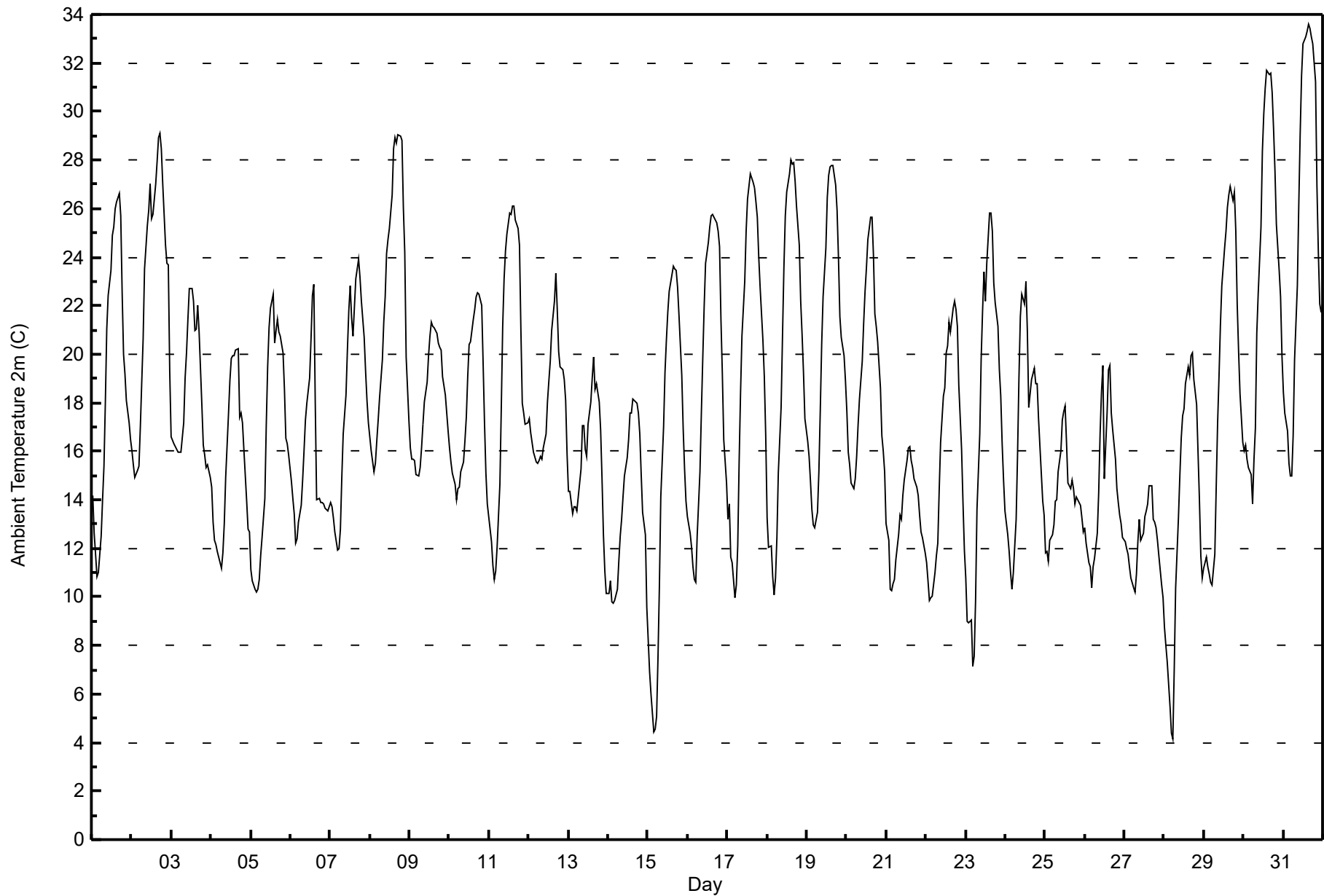
Buffalo Viewpoint - July 2025

Maximum Value: 33.6 C on Jul 31 16:00																				Maximum Daily Average: 25.1 C on Jul 31										Hours in Service: 744			
Minimum Value: 4.2 C on Jul 28 06:00																				Minimum Daily Average: 12.2 C on Jul 27										Hours of Data: 744			
Maximum Diurnal Average: 23.0 C at hour 16																				Minimum Diurnal Average: 11.7 C at hour 5										Hours of Missing Data: 0			
Monthly Average: 17.76 C																				Percentiles: P ₁ = 7.0 P ₁₀ = 11.2 Q ₁ = 13.7 Median = 17.0 Q ₃ = 21.4 P ₉₀ = 25.7 P ₉₉ = 31.6										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-Jul	14.2	12.6	11.8	10.9	11.0	12.5	14.0	15.4	18.0	21.0	22.4	23.5	24.9	25.2	26.0	26.3	26.6	25.7	22.5	20.0	19.2	18.1	17.2	16.5	19.0	26.6							
2-Jul	16.0	15.5	14.9	15.2	15.4	17.0	18.8	20.6	23.5	25.3	25.9	27.1	25.6	25.8	27.0	28.0	28.9	29.1	28.5	27.0	24.5	23.7	23.7	19.3	22.8	29.1							
3-Jul	16.6	16.3	16.2	16.1	15.9	16.0	16.0	17.2	19.0	20.1	21.4	22.7	22.7	22.2	21.0	21.0	22.0	20.9	17.8	16.3	15.9	15.3	15.4	14.9	18.3	22.7							
4-Jul	14.5	13.1	12.3	12.1	11.9	11.4	11.2	11.8	13.0	14.9	17.5	18.9	19.8	20.0	19.9	20.1	20.2	17.4	17.5	17.2	16.1	13.9	12.8	12.7	15.4	20.2							
5-Jul	11.1	10.7	10.3	10.2	10.3	10.7	11.7	12.5	14.1	17.1	19.5	21.1	21.9	22.5	20.4	21.0	21.4	20.9	20.8	20.0	18.5	16.6	16.3	15.8	16.5	22.5							
6-Jul	14.8	14.1	13.4	12.2	12.4	13.1	13.8	14.8	16.0	17.3	18.0	19.0	20.6	22.4	22.9	18.1	14.0	14.1	13.9	13.9	13.8	13.7	13.6	13.7	15.6	22.9							
7-Jul	13.9	13.7	13.2	12.7	11.9	12.0	12.8	14.9	16.7	18.3	20.2	21.8	22.8	21.5	20.8	23.1	23.5	23.9	23.2	22.2	20.7	19.3	18.1	17.2	18.3	23.9							
8-Jul	16.6	16.0	15.1	15.5	16.4	17.3	18.2	19.8	21.3	22.3	24.2	24.7	25.2	26.5	28.5	28.9	28.7	29.1	29.0	28.8	26.0	24.2	19.9	17.2	22.5	29.1							
9-Jul	16.2	15.7	15.7	15.6	15.0	15.0	15.3	16.2	17.1	18.0	18.9	19.9	20.7	21.3	21.2	21.1	20.8	20.5	20.3	20.2	19.1	18.3	17.5	16.9	18.2	21.3							
10-Jul	16.1	15.6	15.1	14.6	14.0	14.5	14.5	15.1	15.6	16.5	17.4	19.1	20.4	20.5	21.4	21.8	22.4	22.5	22.5	22.0	19.6	17.2	15.1	13.8	17.8	22.5							
11-Jul	13.3	12.3	11.3	10.7	11.1	12.1	14.7	17.8	21.1	23.1	24.3	24.9	25.8	25.7	26.1	26.1	25.6	25.2	24.5	21.0	18.0	17.6	17.1	17.2	19.4	26.1							
12-Jul	17.3	16.8	16.4	15.9	15.6	15.5	15.6	15.8	15.7	16.1	16.7	18.0	18.9	19.7	21.0	22.2	23.3	21.8	20.1	19.5	19.4	19.0	18.1	15.9	18.1	23.3							
13-Jul	14.4	14.3	13.4	13.7	13.7	13.5	14.1	15.3	17.0	17.1	16.1	15.8	17.1	18.0	19.0	19.9	18.6	18.8	18.1	16.9	14.9	12.5	11.0	10.2	15.6	19.9							
14-Jul	10.2	10.7	9.8	9.7	9.9	10.3	11.5	12.5	13.2	14.1	15.0	15.7	16.5	17.6	17.6	18.2	18.0	18.0	17.6	16.7	15.0	13.5	12.5	9.5	13.9	18.2							
15-Jul	8.2	6.9	6.0	4.4	4.6	5.1	7.5	10.4	14.1	17.0	19.3	20.5	21.7	22.6	23.3	23.6	23.5	23.4	22.8	21.6	19.1	16.9	15.3	14.0	15.5	23.6							
16-Jul	13.3	12.6	12.1	11.3	10.7	10.6	12.5	15.1	17.6	19.8	22.0	23.7	24.6	25.3	25.7	25.7	25.7	25.4	25.1	24.5	21.4	19.2	16.5	14.7	19.0	25.7							
17-Jul	13.2	13.8	11.6	11.4	10.0	10.5	12.1	15.5	18.4	20.7	23.0	25.1	26.4	26.9	27.4	27.1	26.9	26.3	25.6	24.0	22.8	20.6	19.1	16.7	19.8	27.4							
18-Jul	13.3	12.0	12.1	10.9	10.1	10.8	12.4	15.1	17.8	20.7	23.6	25.7	26.7	27.4	28.0	27.9	27.9	27.2	26.1	24.5	22.2	20.8	19.2	17.4	20.0	28.0							
19-Jul	16.4	15.8	14.8	13.6	13.0	12.8	13.5	15.1	17.7	20.4	22.4	24.4	26.4	27.4	27.7	27.8	27.8	27.0	25.9	24.0	21.6	20.7	20.0	18.9	20.6	27.8							
20-Jul	17.6	16.0	15.4	14.7	14.5	14.9	15.8	17.0	18.1	19.7	21.3	22.6	23.6	24.7	25.6	25.7	24.1	21.7	21.2	20.5	18.6	16.7	16.0	15.1	19.2	25.7							
21-Jul	13.0	12.4	10.3	10.3	10.6	10.7	11.5	12.6	13.4	13.2	14.2	14.8	15.6	16.1	16.2	15.6	15.3	14.9	14.5	14.2	13.4	12.7	12.4	11.8	13.3	16.2							
22-Jul	11.4	10.7	9.9	10.0	10.0	11.0	11.7	12.2	14.4	16.4	18.3	18.6	20.1	20.4	21.3	20.9	21.9	22.2	21.8	21.1	18.7	16.1	13.9	11.9	16.0	22.2							
23-Jul	10.8	9.0	8.9	9.0	7.1	7.5	9.9	13.6	16.7	19.8	21.8	23.4	22.2	23.7	25.8	25.8	25.1	22.9	22.1	21.1	19.3	18.3	16.3	14.8	17.3	25.8							
24-Jul	13.5	12.6	11.9	11.0	10.3	11.0	13.2	15.8	19.0	21.6	22.5	22.1	23.0	21.0	17.8	18.4	19.0	19.4	18.8	18.8	17.4	16.2	13.9	13.4	16.7	23.0							
25-Jul	11.8	11.9	11.5	12.3	12.6	13.0	13.9	14.0	15.2	16.0	17.3	17.7	17.9	16.4	14.7	14.5	14.8	14.5	13.8	14.1	13.9	13.8	13.3	12.7	14.2	17.9							
26-Jul	12.9	12.2	11.4	11.3	10.4	11.2	11.6	12.6	14.3	16.7	18.5	19.6	14.9	17.6	19.3	19.5	17.6	16.9	15.7	14.5	13.9	13.3	13.0	12.4	14.6	19.6							
27-Jul	12.3	12.0	11.7	11.2	10.8	10.4	10.2	10.9	12.3	13.2	12.3	12.6	13.3	13.5	13.8	14.6	14.6	13.2	13.1	12.9	12.3	11.7	10.5	10.0	12.2	14.6							
28-Jul	8.7	8.0	7.3	5.5	4.4	4.2	7.0	10.4	13.2	15.0	16.5	17.5	17.7	18.8	19.5	19.1	20.0	20.1	19.0	17.9	16.0	14.0	11.7	10.8	13.4	20.1							
29-Jul	11.2	11.6	11.2	10.9	10.6	10.5	11.8	14.5	17.2	19.1	21.2	22.8	24.4	25.1	26.0	26.6	26.9	26.3	26.7	25.0	22.0	20.1	18.4	16.4	19.0	26.9							
30-Jul	16.0	16.2	15.7	15.4	15.0	13.8	15.7	16.9	20.9	22.5	25.2	28.4	29.9	30.9	31.7	31.5	31.6	30.8	29.3	27.6	25.4	23.5	22.4	19.9	23.2	31.7							
31-Jul	18.4	17.6	16.8	15.5	15.0	15.0	16.7	19.7	22.8	26.1	29.0	31.4	32.8	33.1	33.3	33.6	33.4	33.1	32.8	31.2	26.9	24.2	22.1	21.7	25.1	33.6							
Diurnal Average																																	
Diurnal Maximum																																	



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	0	0.00	0.00
-20 - 0	0	0.00	0.00
0 - 10	28	3.76	3.76
10 - 20	472	63.44	67.20
> 20	244	32.80	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) - %

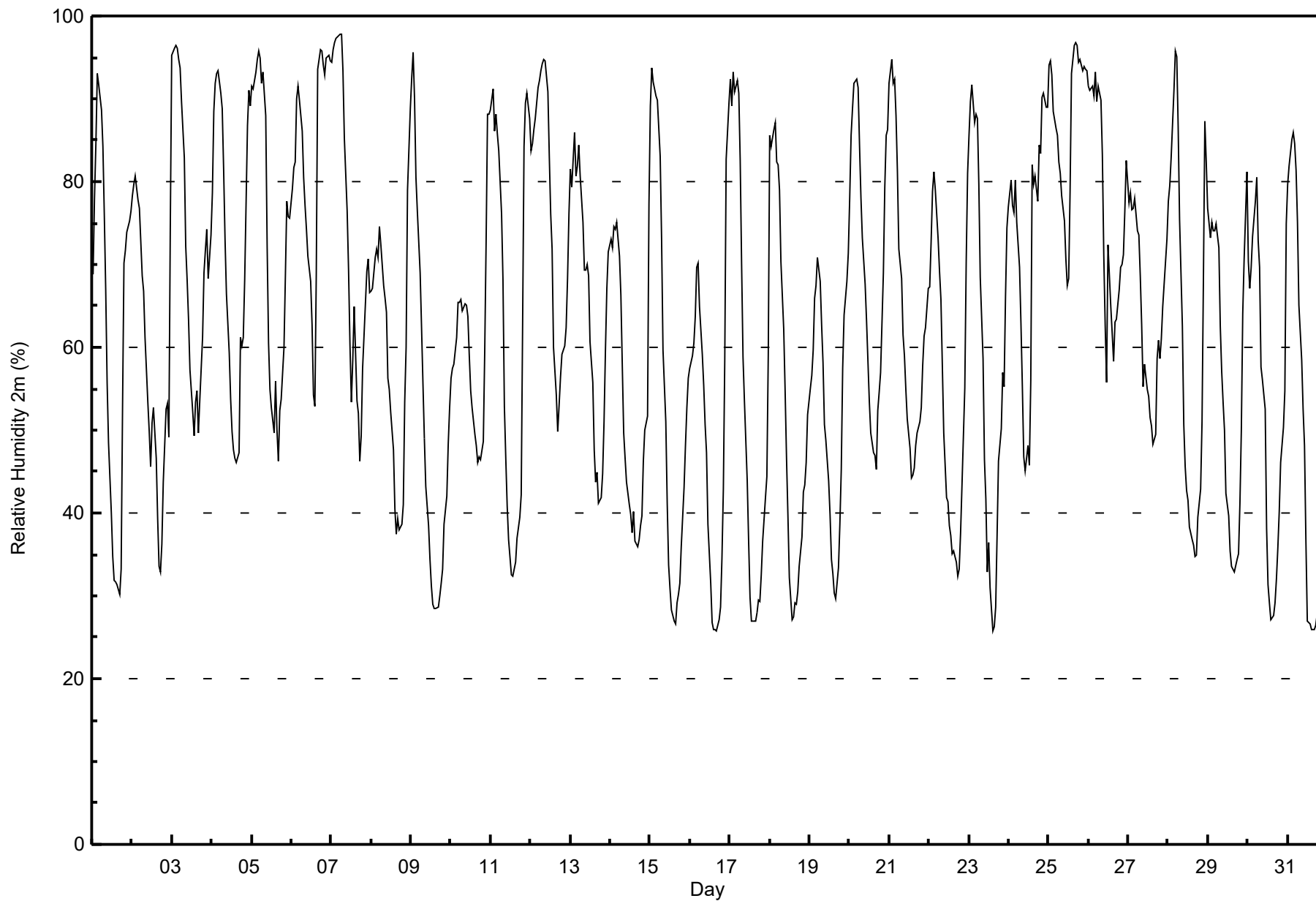
Buffalo Viewpoint - July 2025

Maximum Value: 97.8 % on Jul 7 06:00																				Maximum Daily Average: 87.1 % on Jul 25					Hours in Service: 744				
Minimum Value: 25.8 % on Jul 16 17:00																				Minimum Daily Average: 49.9 % on Jul 16					Hours of Data: 744				
Maximum Diurnal Average: 84.1 % at hour 5																				Minimum Diurnal Average: 42.7 % at hour 16					Hours of Missing Data: 0				
Monthly Average: 63.04 %																				Percentiles: P ₁ = 26.4 P ₁₀ = 33.9 Q ₁ = 46.6 Median = 63.4 Q ₃ = 80.3 P ₉₀ = 91.3 P ₉₉ = 96.4					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-Jul	68.8	78.0	84.6	93.1	91.7	88.7	84.3	76.0	67.0	55.7	48.4	40.1	34.8	31.9	31.7	31.3	30.2	33.3	52.9	70.2	71.7	73.8	75.2	76.5	62.1	93.1			
2-Jul	78.2	79.6	80.8	77.8	76.8	72.8	68.6	66.8	61.1	53.4	49.9	45.6	50.9	52.7	46.6	39.3	33.5	32.9	36.4	43.7	52.5	53.2	49.1	74.5	57.4	80.8			
3-Jul	95.2	96.1	96.4	96.2	94.7	93.7	89.7	82.8	72.1	68.2	63.5	57.3	52.2	49.3	53.3	54.7	49.7	53.5	61.2	68.9	71.7	74.2	68.3	73.5	72.3	96.4			
4-Jul	78.7	88.4	91.8	93.0	93.4	90.7	88.9	81.5	73.1	66.5	59.3	53.7	49.8	47.6	46.6	46.2	47.2	61.2	60.2	61.1	68.1	86.7	91.1	89.2	71.4	93.4			
5-Jul	91.4	91.1	93.2	94.8	95.7	94.8	91.9	93.2	88.0	72.2	60.5	54.9	52.7	49.7	55.9	50.0	46.3	52.5	53.8	59.9	68.6	77.7	75.7	75.5	72.5	95.7			
6-Jul	79.1	81.7	82.3	90.1	91.6	89.8	86.2	80.6	77.2	74.2	70.9	67.9	62.8	54.2	52.9	68.8	93.5	96.0	95.7	94.2	92.8	94.9	95.2	94.7	82.0	96.0			
7-Jul	94.4	95.9	96.8	97.3	97.6	97.8	97.8	93.3	85.2	76.5	69.3	60.4	53.4	58.5	65.0	53.6	52.0	46.2	49.3	57.4	65.3	69.1	70.7	66.7	73.7	97.8			
8-Jul	66.9	67.2	70.8	71.8	70.8	74.6	72.3	67.5	66.0	64.2	56.3	54.9	52.1	47.7	40.5	37.4	39.4	37.9	38.6	41.0	53.4	59.9	79.0	88.8	59.1	88.8			
9-Jul	92.5	95.6	90.0	80.5	76.4	68.9	62.4	55.6	49.0	43.3	38.5	34.5	31.2	29.0	28.5	28.5	28.7	30.0	31.5	33.2	38.7	42.0	48.4	52.8	50.4	95.6			
10-Jul	56.2	57.4	58.0	61.2	65.4	65.4	65.8	64.5	65.3	65.1	63.8	59.0	54.7	52.8	49.4	48.2	46.0	46.7	46.5	48.6	59.5	72.9	88.1	88.2	60.4	88.2			
11-Jul	88.6	91.1	86.1	88.2	85.7	83.7	76.1	68.1	52.9	46.5	40.9	36.7	32.5	32.4	33.3	34.1	36.9	39.4	42.2	62.9	84.3	89.5	90.6	87.6	62.9	91.1			
12-Jul	83.7	84.6	86.3	87.7	91.4	92.2	93.4	94.3	94.8	94.6	90.9	83.1	76.1	71.8	60.1	54.2	49.8	53.1	56.5	59.2	60.1	62.4	68.2	76.2	76.0	94.8			
13-Jul	81.5	79.2	86.0	80.6	81.9	84.4	80.6	75.2	69.3	69.3	70.0	68.6	60.6	55.8	47.6	43.7	45.0	41.2	41.8	44.7	51.0	59.7	67.2	71.5	64.8	86.0			
14-Jul	73.1	72.1	74.6	74.2	75.1	70.9	66.3	57.9	49.7	46.6	43.6	41.0	39.9	37.6	40.2	36.6	36.0	36.8	38.4	39.7	46.3	49.9	51.7	77.2	53.1	77.2			
15-Jul	89.1	93.8	92.1	90.4	89.8	86.4	83.0	73.1	59.7	51.0	41.3	33.8	30.8	28.3	27.0	26.6	29.2	30.2	31.5	35.9	43.0	48.2	52.7	56.3	55.1	93.8			
16-Jul	57.5	59.0	60.5	63.7	69.6	70.2	64.9	59.2	55.5	50.6	47.2	38.6	31.6	26.8	25.9	25.9	25.8	27.0	28.7	34.6	42.8	58.5	82.8	89.5	49.9	89.5			
17-Jul	92.4	89.1	93.3	90.9	92.3	90.6	82.5	69.9	58.8	53.6	43.9	36.6	29.8	27.0	26.9	26.9	27.9	29.5	29.3	32.6	36.6	41.9	44.4	59.2	54.4	93.3			
18-Jul	85.6	84.2	86.4	87.1	82.4	82.1	78.9	70.4	62.3	54.7	46.6	39.7	32.3	27.0	27.4	29.2	28.9	30.4	33.5	37.2	42.5	43.5	46.1	51.9	53.8	87.1			
19-Jul	55.1	56.6	59.7	65.9	67.4	70.8	68.0	62.7	58.1	50.8	48.9	44.0	39.9	34.4	32.7	30.3	29.6	33.3	38.6	45.2	57.4	63.9	68.0	71.3	52.2	71.3			
20-Jul	78.0	85.6	88.8	91.8	92.4	91.3	84.4	78.1	73.2	67.6	63.3	58.3	53.4	49.7	47.3	47.0	45.3	52.3	54.7	56.9	69.0	79.4	85.6	86.3	70.0	92.4			
21-Jul	91.8	94.7	91.9	92.3	87.9	81.2	71.9	68.3	61.6	59.0	55.0	51.3	47.7	44.2	44.5	45.4	48.1	49.7	51.0	52.7	57.7	61.4	62.4	67.0	64.1	94.7			
22-Jul	67.3	72.8	78.8	81.2	79.0	73.1	69.1	65.7	57.9	49.7	41.9	41.4	38.5	37.2	35.0	35.4	34.1	32.4	33.2	37.6	43.4	55.1	70.4	80.9	54.6	81.2			
23-Jul	85.7	89.7	91.7	87.2	88.1	87.6	79.6	68.5	58.7	46.4	41.7	32.9	36.4	31.1	25.8	26.3	28.7	37.3	46.3	50.1	56.9	55.3	66.0	74.4	58.0	91.7			
24-Jul	76.9	80.2	77.1	76.3	80.2	75.1	69.6	62.8	55.3	46.8	45.0	48.2	45.8	56.0	82.1	79.7	80.6	77.7	84.4	83.5	90.2	90.7	89.0	89.0	72.6	90.7			
25-Jul	94.1	94.7	92.8	88.4	86.5	85.6	82.4	81.1	78.2	75.2	70.6	67.4	68.3	78.8	93.0	96.4	96.8	96.4	94.4	94.7	93.3	94.0	93.5	93.5	87.1	96.8			
26-Jul	91.5	91.1	91.5	90.3	93.3	89.7	91.5	89.8	83.2	71.2	62.7	55.7	72.4	64.9	61.6	58.3	63.0	63.4	66.9	69.6	70.0	71.2	76.4	82.5	75.9	93.3			
27-Jul	77.5	78.6	76.6	76.7	77.9	74.1	73.6	68.6	62.7	55.3	58.0	54.8	54.1	51.6	50.4	48.3	49.5	58.7	60.8	58.7	61.1	65.0	70.4	73.1	64.0	78.6			
28-Jul	77.7	79.5	82.8	91.0	95.7	95.1	86.6	75.5	62.5	50.6	45.5	42.8	41.5	38.4	36.8	36.0	34.7	34.9	39.4	43.0	50.9	68.5	87.3	82.4	61.6	95.7			
29-Jul	76.7	73.2	75.1	74.1	74.0	74.9	72.1	62.6	57.2	53.4	50.0	42.4	39.7	35.4	33.5	33.2	32.9	34.5	35.2	41.1	50.0	64.1	70.7	81.2	55.7	81.2			
30-Jul	70.3	67.0	69.7	73.5	77.6	80.6	72.9	69.6	57.6	56.0	52.5	38.1	31.3	29.1	27.1	27.6	29.1	32.0	35.7	40.2	46.2	50.3	54.8	74.9	52.7	80.6			
31-Jul	79.7	81.9	85.1	86.0	84.6	81.4	75.1	65.1	58.4	52.5	48.1	36.6	26.9	26.7	26.0	25.9	26.0	26.5	27.8	34.2	56.1	66.7	73.5	56.6	54.5	86.0			
79.8 81.6 83.0 83.7 84.1 82.5 78.4 72.5 65.5 59.4 54.4 49.0 45.9 43.8 43.7 42.7 43.4 45.4 48.3 52.7 59.7 65.9 71.4 76.2																										Diurnal Average			
95.2 96.1 96.8 97.3 97.6 97.8 97.8 94.3 94.8 94.6 90.9 83.1 76.1 78.8 93.0 96.4 96.8 96.4 95.7 94.7 93.3 94.9 95.2 94.7																										Diurnal Maximum			



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Speed 10m (WS10) - km/h

Buffalo Viewpoint - July 2025

Maximum Speed: 27 km/h on Jul 9 15:00										Maximum Daily Speed Average: 16.9 km/h on Jul 9										Hours in Service: 744						
Minimum Speed Value: 1 km/h on Jul 16 21:00										Minimum Daily Speed Average: 0.9 km/h on Jul 30										Hours of Data: 744						
Maximum Diurnal Speed Average: 4.5 km/h at hour 13										Minimum Diurnal Speed Average: 0.6 km/h at hour 22										Hours of Missing Data: 0						
Monthly Average Velocity: 2.0 km/h 264.4 deg										Percentiles: P ₁ = 1 P ₁₀ = 4 Q ₁ = 5 Median = 7 Q ₃ = 11 P ₉₀ = 15 P ₉₉ = 21										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-Jul	NE4	NNE5	NW1	N2	SSW2	W1	NNE4	NNE4	WSW2	N5	ESE1	SE4	S5	ESE6	ESE8	ESE8	E9	E6	NNE6	SE8	SE6	S6	S10	S11	ESE2.6	S11
2-Jul	SSE11	S8	S6	SSE7	SSE6	SSE5	SSE7	SSE6	S7	W12	WNW8	W7	SW6	NNW8	NE3	WSW2	NNW3	ENE3	SE8	ESE5	ESE5	ESE7	ESE12	W18	S2.8	W18
3-Jul	NNW14	NNE2	SW3	WSW8	W6	W10	W13	W13	W13	W14	W12WSW15	W18	SW16	SW14	SW14	SW14	SW15	W19	W14	W11	W12WSW13	W14	WSW11.1	W19	WSW11.1	W19
4-Jul	W14	W15	W16	W17	NW18	NW16	NW15	NW17	NNW18	NNW14	NW14	NW17	NW17	NW16	NW16	NW13	NNW10	N15	N6	NE5	SSW2	SSW4	SSW4	SSE5	NW10.3	NW18
5-Jul	SSE7	SW1	S5	SE7	SSE5	SSE5	WNW1	ESE5	SSE5	SSE8	SE8	S7	SE6	S8	SE9	WSW2	NE2	ENE3	ENE5	NNE6	NNE7	NNE8	NE7	NE5	SE3.0	SE9
6-Jul	NE6	NE4	NNE5	NNE7	N6	N7	NNE7	N6	N6	N9	N11	NNE10	N10	N8	NW7	S5	NNW4	NNE9	NE9	NE4	NNE2	WSW2	WSW3	NNW3	N5.1	N11
7-Jul	NE3	ENE4	SE4	S4	SE4	SSE4	SSE6	SSE6	SSE6	S7	SSE7	S7	S6	W6	S4	S10	SSE9	SSW9	S5	SSE6	SE6	SSE5	SSE6	SSE5	SSE4.9	S10
8-Jul	SE6	SE7	SE8	SE8	SE7	SE7	SSE7	SSE7	S7	S9	SSW14	SSW15	S14	S12	S13	SSW14	SSW10	SSW9	SSW7	S5	SE4	S3	W18	W17	S7.2	W18
9-Jul	WSW3	S6	SW11	WSW15	SW14	WSW15	WSW15	WSW16	WSW19	WSW20	WSW22	WSW21	WSW22	WSW24	WSW27	W27	W25	WSW22	WSW20	W17	WNW16	W17	W16	W17	WSW16.9	WSW27
10-Jul	WSW12	WSW12	WSW14	W13	W10	W13	W13	W13	W12	W12	WSW8	NNW10	NW12	NW15	NW13	WNW13	WNW12	NW11	NW10	NNW6	WNW2	SSW5	S6	SSE6	W8.8	NW15
11-Jul	SSE6	SSE7	SSE8	SSE9	SSE7	SSE6	SSE7	SSE7	SSW10	SSW13	SW17	SW19	SW18	WSW18	WSW18	WSW20	WSW14	WSW12	WSW9	W15	NW5	SSE4	SSE7	SSE8	SSW8.4	WSW20
12-Jul	SSW8	WSW15	W16	WSW15	WSW10	WSW11	W12	WNW12	W13	WNW9	WNW9	NNW12	NNW11	NW7	WNW11	W11	W12	W20	WSW17	WSW14	W15	W16	NW12	N7	W11.3	W20
13-Jul	N2	WNW1	SSW7	SW7	WSW4	NNW7	WNW7	NW8	NNE8	N12	N14	N11	N12	NNW11	NNW11	N14	NNE13	NNE14	NNE15	NNE12	NNE9	NNE7	N6	N6	N7.3	NNE15
14-Jul	N6	N4	N5	NNE3	N6	N7	NNE7	N12	N16	NNW12	NNW11	N14	N12	N11	N12	N12	NNE12	NE11	NNE11	NNE9	NE6	NE5	NE5	SSW3	N8.1	N16
15-Jul	SSW5	SSW4	SSE7	SSE6	SSE6	S6	SSE6	S5	S6	S6	SSW6	SSW6	SW6	SW8	SSW6	SSW4	SE8	SSE8	SSE8	SSE7	SSE7	SSE6	SSE7	SSE6	S5.8	SSE8
16-Jul	SSE7	SSE6	SSE7	SSE5	SE5	SSE6	SSE6	SE5	SE6	SSE6	SE6	SE6	SSE6	SSW6	SSW5	E4	SSE5	SE6	SE4	ESE2	SSW1	SE4	SSE4	S5	SSE4.7	SSE7
17-Jul	SSE1	NNW1	SSW2	SSE3	SSE6	SSE5	SE5	S2	SW2	N3	N5	NW4	NW6	WNW8	N9	NNE8	NNE8	NNE8	NE8	NE6	NE5	E3	NE4	ESE2	NNE2.1	N9
18-Jul	S4	S6	SSW4	SSE6	S8	SSE9	SSE9	SSE6	ESE6	SE6	SSE7	SE7	SE8	SE8	S7	SE10	SSE7	SE8	SE7	SE5	SE5	SSE7	SSE6	SSE5	SSE6.4	SE10
19-Jul	SSE6	SSE6	SSE5	S6	SSE4	SSE4	SSE5	S5	SSE6	S6	SE6	SE7	SSE7	S7	SSE6	SSE6	S6	SSE7	SE5	SE5	ENE2	N14	NNE11	NNE7	SE3.8	N14
20-Jul	N2	N6	N10	N9	N9	N10	N11	N9	NNE6	N4	N4	N3	SW6	S6	S5	SSW4	NW13	NNW10	NNW3	WNW6	N16	NNE17	N18	N21	N6.7	N21
21-Jul	N22	N21	N20	N16	N18	N20	N19	N19	N21	NNW16	NNW14	N13	NNW14	NNW13	NNW14	NNW14	NNW15	NNW16	NNW14	NNW13	N7	NNE5	NE5	N4	N14.3	N22
22-Jul	NNW6	WNW6	SW4	SSW4	WSW3	W8	W10	W11	W12	W9	NW10	W10	NNW10	WNW8	W7	NW5	NNW5	WNW4	NE3	N5	NNE4	ESE2	SE4	SSE5	WNW4.7	W12
23-Jul	S6	SSE4	S4	SSE7	SSE7	SSE6	S6	SSE4	SW4	SW3	SSW5	SSW4	SW9	ESE4	N6	N8	WSW5	SW7	SSW4	SSE4	SSW6	SSW6	S7	SSE7	S3.7	SW9
24-Jul	SE8	SE6	SSE5	SSE5	SSE6	SSE5	SSE5	SSE6	SE8	SE11	SE11	SE10	SE11	SSE8	ESE6	ESE7	ESE6	SE6	SE4	SSE5	SSE4	WNW6	WNW4	W5	SE5.3	SE11
25-Jul	SSE6	SSW7	SSW7	WSW11	WSW13	SW11	SW12	WSW14	W11	W14	W14	W9	NW11	NW12	NW11	N12	N12	N13	N11	NNW5	WNW6	W10	W9	W8	WNW6.9	WSW14
26-Jul	WNW8	WNW8	W8	WNW8	WNW4	SW5	SSW4	SW3	SSW6	SW6	SW8	WSW13	SW13	SSE3	N5	NNE13	NNE14	NNE16	NE13	NNE9	NE6	NE4	N4	N8	NW2.8	NNE16
27-Jul	N10	N10	N11	N12	N9	N13	N10	N12	N10	N11	NW10	NNW10	NNW9	NNW8	NW9	NW11	NW10	N8	N3	NW7	WNW7	WNW8	NW8	WNW8	NNW8.7	N13
28-Jul	WNW5	WSW4	WSW5	SSW4	S5	SSE6	SSE5	S3	SSW5	W7	W6	W7	NW5	NNW6	NW5	NW4	WNW6	WNW3	NE2	SE2	ESE3	SSE4	S6	SSE5	WSW2.1	W7
29-Jul	SE6	SSE5	S4	SSE5	SSE5	SSE6	SSE7	S8	S5	SSE5	S5	SW5	SSW5	WNW3	WSW5	SSW3	S5	SW5	SSW5	S4	SSE5	SE6	S5	SE4	S4.4	S8
30-Jul	E2	NW4	NNW4	NNE4	S6	SE7	SSE6	S7	S7	S7	SSE5	WSW8	WNW9	NW10	WNW8	N9	N9	N9	NNE8	NE6	NE7	ENE4	ENE3	SSW2	NNW0.9	NW10
31-Jul	SSE4	SSE3	S6	S6	SSE8	SSE8	SSE6	SE5	SE6	SSE7	S6	SW7	SW9	SSW10	SSW9	SSW8	SW8	S5	SSW5	S4	SSE5	SSE6	SE8	SSE8	S5.8	SSW10
SW0.7WSW1.4 SW2.3 SW2.6 SW2.2 SW1.6WSW2.0 W2.1WSW2.6WSW3.4WSW3.2 W4.2 W4.5 W4.2 W3.8WNW2.8WNW3.0 NW2.2NNW1.7 NW0.9 N0.9 W0.6WSW0.7WSW1.9																								Diurnal Average		
N22 N21 N20 W17 NW18 N20 N19 N19 N21 WSW20WSW22WSW21WSW22WSW24WSW27 W27 W25WSW22WSW20 W17 N16 NNE17 N18 N21																								Diurnal Maximum		
All monthly, daily, and diurnal averages have been calculated using vector methods																										



Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

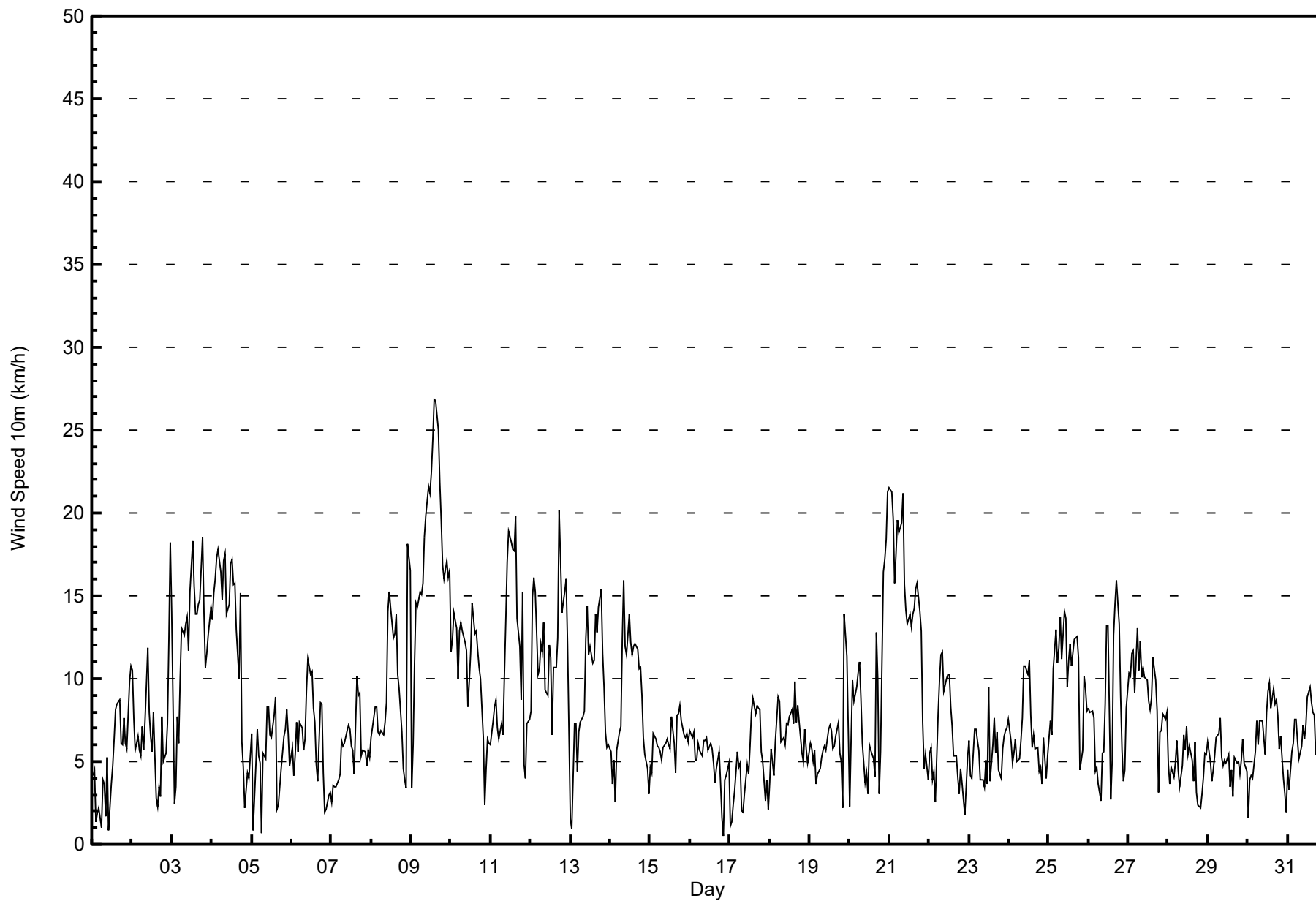
Wind Speed 10m (WS10) - km/h
Buffalo Viewpoint - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																	Hours in Service: 744									
Maximum Value: 13 km/h on Jul 3 00:00																	Hours of Data: 744									
Minimum Value: 0 km/h on Jul 7 04:00																	Hours of Missing Data: 0									
Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 2 Median = 2 Q ₃ = 3 P ₉₀ = 5 P ₉₉ = 7																	Hours of Calibration: 0									
																	Percent Operational Time: 100.0									
Day	Hourly Period Ending At (MST)																								Daily	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Maximum	
1-Jul	2	2	1	2	1	1	2	1	1	2	2	2	2	2	3	3	2	2	4	3	2	2	3	3	4	
2-Jul	3	2	2	3	2	2	3	2	3	5	3	3	2	2	2	2	2	2	2	1	2	2	4	13	13	
3-Jul	5	2	1	4	4	4	3	3	4	4	3	4	5	5	4	4	4	4	7	4	3	4	4	3	7	
4-Jul	3	4	4	4	5	5	4	6	5	4	4	5	6	5	4	4	3	6	2	2	1	1	1	1	6	
5-Jul	1	1	1	1	1	1	4	1	2	3	3	3	2	4	4	2	1	1	2	2	1	2	2	1	4	
6-Jul	2	1	2	1	2	2	2	2	2	3	3	2	3	3	2	6	1	2	3	1	2	1	1	1	6	
7-Jul	2	1	1	0	1	1	2	2	2	2	3	3	3	6	2	4	3	3	3	2	2	1	1	1	6	
8-Jul	1	1	2	2	1	1	2	2	2	3	5	5	5	4	4	4	4	3	2	2	2	1	10	5	10	
9-Jul	4	2	5	4	4	5	5	5	6	6	7	7	7	8	8	8	7	7	6	5	5	5	4	4	8	
10-Jul	3	4	4	4	3	4	3	3	3	3	3	4	4	4	4	4	4	3	3	3	1	1	1	1	4	
11-Jul	1	1	1	1	2	2	2	2	3	4	6	6	6	6	6	6	5	4	2	6	3	2	1	1	6	
12-Jul	3	5	6	4	3	3	3	3	3	3	3	4	3	3	3	3	5	5	5	4	3	4	5	2	6	
13-Jul	2	1	1	2	2	3	2	2	3	4	4	3	4	4	3	5	4	4	4	3	3	1	1	1	5	
14-Jul	1	2	3	1	3	2	3	4	4	4	5	5	4	4	4	4	4	3	3	3	1	1	1	2	5	
15-Jul	1	1	1	1	1	1	2	1	2	2	2	2	3	3	3	2	3	3	3	2	2	2	2	2	3	
16-Jul	2	2	2	1	1	1	2	2	2	2	2	3	3	2	3	2	2	2	2	1	1	3	1	1	3	
17-Jul	2	1	2	1	1	2	1	1	1	1	2	2	2	2	3	3	3	3	2	2	2	2	1	2	3	
18-Jul	2	1	2	1	1	2	2	2	2	2	2	3	3	3	3	3	3	3	2	2	1	2	2	1	3	
19-Jul	2	2	2	2	1	1	1	1	2	2	2	2	3	3	3	3	2	3	2	1	3	4	3	3	4	
20-Jul	2	2	2	2	2	2	3	3	3	1	2	2	2	2	2	1	8	5	3	2	9	5	5	6	9	
21-Jul	6	7	6	4	5	5	5	5	6	5	4	5	4	4	4	4	4	4	4	3	3	1	2	2	7	
22-Jul	2	1	2	2	2	2	3	3	3	4	3	3	4	3	3	2	2	2	2	1	2	2	2	2	4	
23-Jul	1	2	2	1	1	2	1	1	2	2	2	2	4	2	2	2	3	2	1	1	1	1	1	2	4	
24-Jul	2	1	1	1	1	1	2	2	2	4	4	4	4	4	2	2	2	2	2	2	3	2	1	4	4	
25-Jul	2	2	1	4	4	3	4	4	4	4	4	3	3	3	3	4	4	4	5	1	2	3	2	2	5	
26-Jul	2	2	2	3	2	2	2	2	2	2	3	7	5	2	2	5	4	4	4	3	2	1	2	2	7	
27-Jul	3	3	3	3	3	4	3	3	3	5	3	3	3	2	3	3	3	3	2	2	2	2	2	2	5	
28-Jul	2	1	1	1	1	1	1	1	2	2	2	3	2	3	3	2	2	2	2	1	1	2	0	1	3	
29-Jul	1	1	1	1	1	1	2	2	2	2	2	2	2	2	3	3	2	2	1	1	1	1	1	2	3	
30-Jul	2	2	3	3	2	1	2	2	2	2	2	3	3	3	3	3	3	2	2	1	2	2	2	2	3	
31-Jul	1	1	1	1	1	2	1	1	2	2	2	3	4	3	4	3	2	2	2	1	1	1	1	1	4	
6 7 6 4 5 5 5 6 6 6 7 7 7 8 8 8 8 7 7 6 9 5 10 13																										
Diurnal Maximum																										



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	222	29.84	29.84
6 - 11	356	47.85	77.69
12 - 19	148	19.89	97.58
20 - 28	18	2.42	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
Buffalo Viewpoint - July 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	10	16	7	3	9	18	43	24	27	9	13	2	9	8	8	222
6 - 11	41	22	10	0	2	8	39	81	39	19	14	8	21	23	15	14	356
12 - 19	25	10	0	0	0	1	0	0	3	4	11	23	35	8	16	12	148
20 - 28	6	0	0	0	0	0	0	0	0	0	0	9	3	0	0	0	18
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	42	26	7	5	18	57	124	66	50	34	53	61	40	39	34	744

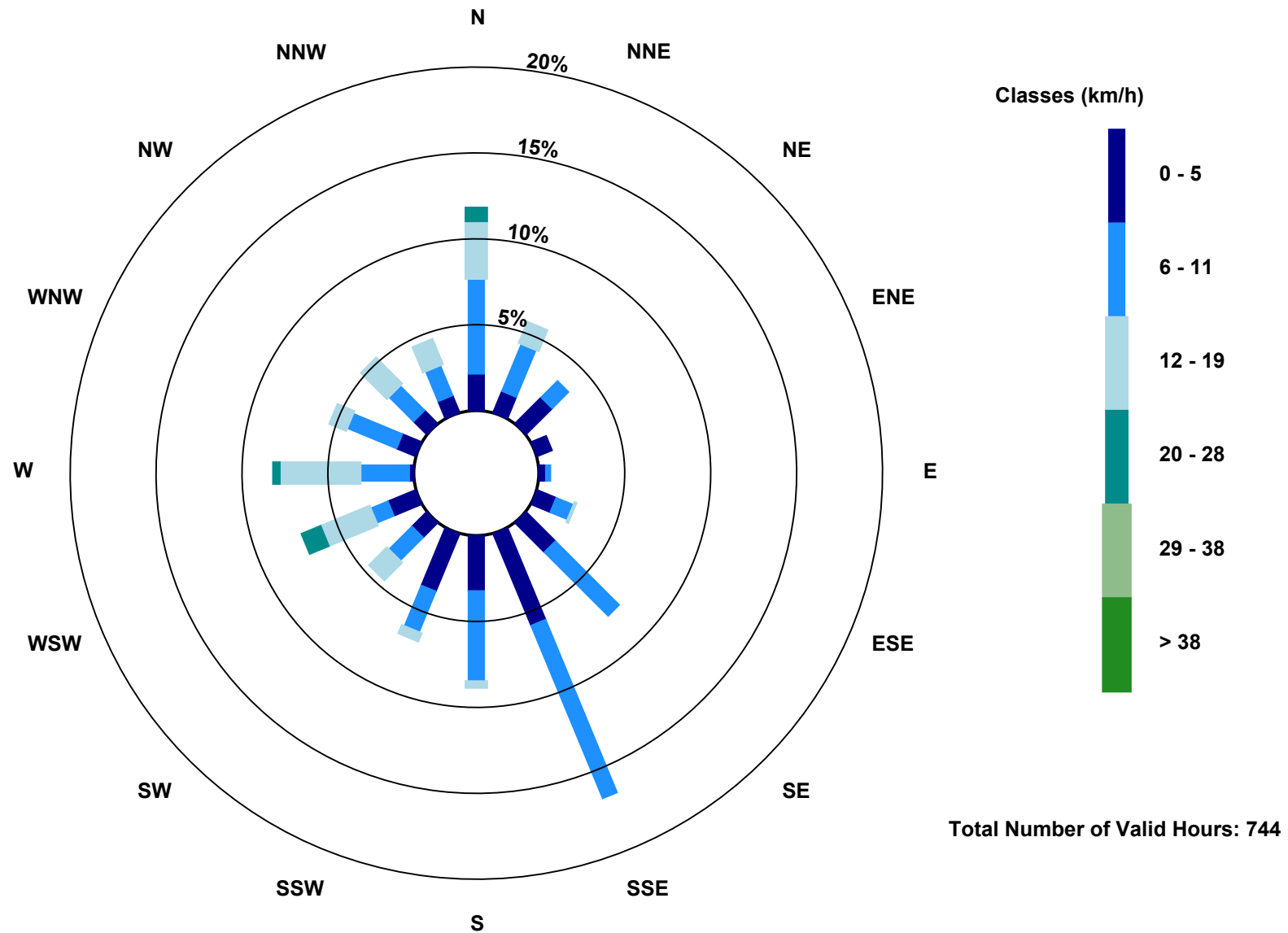
Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Direction 10m (WD10) - deg

Buffalo Viewpoint - July 2025

Direction of Maximum Speed: 247 deg on Jul 9 15:00 Direction of Maximum Daily Speed Average: 251.5 deg on Jul 9																					Hours in Service:		744		
Direction of Minimum Speed: 200 deg on Jul 16 21:00 Direction of Minimum Daily Speed Average: 0.9 deg on Jul 30																					Hours of Data:		744		
																					Hours of Missing Data:		0		
Monthly Average Direction: 264.4 deg																					Percent Operational Time:		100.0		
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-Jul	45	12	324	2	197	260	20	16	258	360	105	135	181	122	106	118	95	90	16	126	141	174	172	170	115.8
2-Jul	161	169	179	158	163	153	157	167	178	276	284	261	226	340	44	240	334	72	125	123	123	122	113	268	181.2
3-Jul	331	12	222	255	279	262	266	267	260	259	270	251	262	230	218	218	223	232	277	270	263	260	256	264	256.6
4-Jul	267	267	265	272	305	320	309	313	302	302	313	309	314	324	308	321	343	3	10	39	201	197	197	155	305.2
5-Jul	157	229	187	145	163	160	285	121	155	152	145	174	133	191	146	255	37	77	62	29	15	24	55	53	127.5
6-Jul	48	38	28	21	11	10	25	8	359	359	7	14	1	356	310	174	327	12	35	56	17	244	237	330	8.7
7-Jul	37	76	128	174	140	154	163	164	166	172	167	178	174	262	182	182	164	193	191	163	146	162	155	157	167.9
8-Jul	145	141	141	146	138	139	149	153	171	183	199	196	188	184	189	203	199	202	204	179	132	171	278	281	188.5
9-Jul	256	171	226	237	228	237	237	240	250	248	242	242	242	246	247	259	263	257	258	260	301	281	276	268	251.5
10-Jul	254	246	257	263	265	264	259	271	267	260	252	303	304	313	309	295	303	312	324	329	292	207	189	165	276.5
11-Jul	165	147	150	149	162	151	156	159	199	192	214	220	232	242	245	254	242	245	239	263	312	164	153	164	213.4
12-Jul	206	254	263	257	248	256	272	289	268	296	290	288	291	304	285	277	272	263	256	251	260	269	326	350	271.4
13-Jul	4	298	206	233	247	342	298	310	12	7	3	6	3	344	332	4	12	18	17	25	31	24	2	360	358.3
14-Jul	359	350	7	19	353	5	12	0	0	334	338	2	2	358	0	9	13	36	22	18	53	49	41	204	6.5
15-Jul	210	193	163	160	164	173	156	171	182	183	204	205	226	225	193	194	141	157	153	162	166	165	159	159	175.5
16-Jul	155	161	152	158	145	151	153	143	139	168	126	139	147	205	205	97	152	126	129	117	200	137	164	184	151.9
17-Jul	166	337	207	168	155	159	143	182	224	357	10	326	323	295	5	29	20	29	35	47	50	82	44	104	28.0
18-Jul	176	183	193	157	170	160	162	148	122	127	147	136	124	126	171	129	160	143	141	141	143	157	163	168	150.0
19-Jul	156	153	157	169	166	160	165	179	167	171	137	141	161	171	162	154	173	155	145	130	62	11	31	28	143.5
20-Jul	354	354	359	0	5	359	0	8	13	9	352	10	221	190	173	196	313	345	333	288	2	15	1	359	354.1
21-Jul	355	357	356	355	355	356	359	359	358	338	348	354	332	330	334	331	335	337	331	332	9	23	36	356	349.0
22-Jul	338	286	236	207	246	279	277	275	281	268	312	272	291	298	281	326	329	289	44	1	12	105	142	158	287.3
23-Jul	178	152	170	163	164	155	176	156	215	214	200	213	225	103	9	7	249	226	205	166	200	200	169	160	185.7
24-Jul	146	145	156	167	155	158	159	149	126	140	143	129	131	154	119	106	123	140	131	148	163	290	287	263	145.3
25-Jul	161	199	193	248	254	229	236	251	259	259	263	281	312	318	317	357	358	349	5	347	296	276	280	275	281.4
26-Jul	294	288	279	282	289	232	200	227	206	218	222	257	228	168	356	21	27	26	34	33	51	48	359	354	323.8
27-Jul	354	359	358	358	2	1	354	357	2	352	322	330	332	327	322	323	324	6	4	326	299	297	311	301	340.3
28-Jul	284	252	258	209	179	155	155	186	208	264	277	275	310	330	323	314	282	290	46	129	122	156	175	151	241.0
29-Jul	127	154	178	168	162	152	157	173	188	166	169	220	195	284	238	193	187	217	201	181	161	146	185	144	176.0
30-Jul	80	306	344	29	185	145	163	176	182	174	158	239	301	314	293	357	351	358	20	40	49	65	57	202	341.3
31-Jul	156	151	184	172	166	165	160	145	132	161	175	232	226	208	200	196	214	191	192	188	150	151	146	147	177.8
231.6 240.4 233.2 226.9 222.2 229.9 236.9 260.2 254.1 255.7 256.9 261.1 263.8 275.5 273.9 291.8 300.9 316.4 337.3 314.5 355.1 263.0 253.1 252.6																									
Diurnal Average																									
All monthly, daily, and diurnal averages have been calculated using vector methods																									



Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

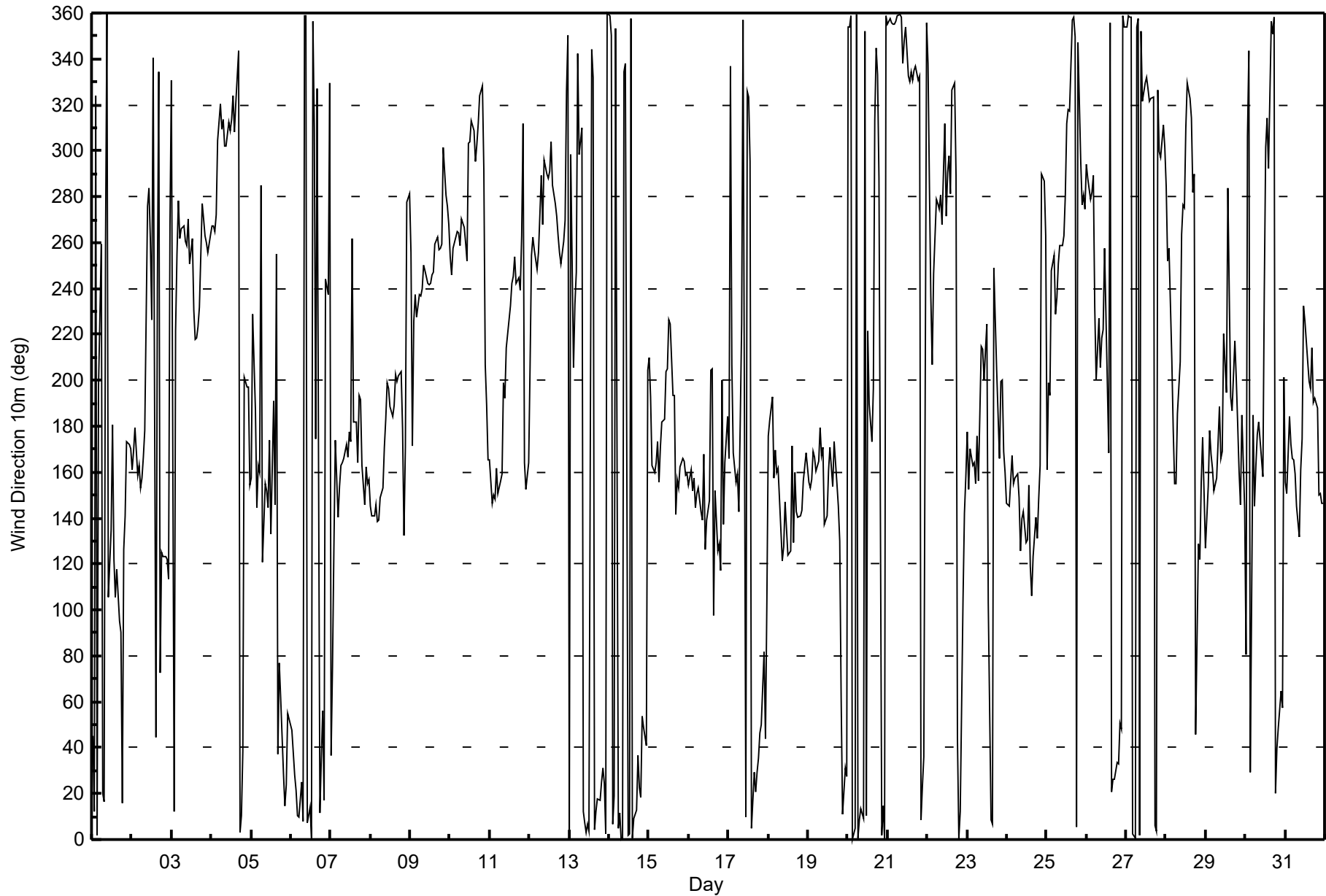
Wind Direction 10m (WD10) - deg
Buffalo Viewpoint - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 105 deg on Jul 1 11:00																		Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0							
Minimum Value: 9 deg on Jul 10 23:00																									
Percentiles: P ₁ = 11 P ₁₀ = 17 Q ₁ = 21 Median = 26 Q ₃ = 37 P ₉₀ = 55 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-Jul	15	19	61	59	71	91	33	45	88	43	105	71	64	43	34	29	30	18	45	32	31	43	30	28	105
2-Jul	29	35	30	31	34	38	36	36	34	33	34	51	49	29	82	88	76	66	25	23	25	27	25	72	88
3-Jul	22	73	45	39	28	17	15	17	22	24	25	24	20	21	22	23	23	21	26	19	22	20	19	16	73
4-Jul	15	14	15	17	24	21	25	24	24	25	26	25	25	23	24	22	36	23	25	28	78	35	43	13	78
5-Jul	16	87	41	25	20	26	98	20	35	38	39	48	39	53	38	79	77	46	32	18	15	16	16	16	98
6-Jul	19	17	25	16	24	20	23	21	23	22	23	23	22	31	30	91	47	19	26	21	60	64	36	21	91
7-Jul	19	11	29	30	21	29	33	37	35	31	39	45	51	84	55	36	41	32	32	26	34	27	16	18	84
8-Jul	17	18	21	19	22	20	29	28	30	34	30	26	30	30	33	26	28	27	26	26	17	48	28	21	48
9-Jul	76	31	37	21	19	21	20	22	23	22	24	24	23	23	21	19	19	20	17	18	26	21	18	17	76
10-Jul	19	20	18	17	17	19	17	18	18	16	27	28	26	26	24	26	26	25	24	20	55	27	9	12	55
11-Jul	19	14	15	16	21	22	27	34	27	29	25	21	24	24	22	20	21	21	19	23	49	60	13	14	60
12-Jul	29	19	17	18	21	20	18	22	17	26	24	23	25	42	28	23	23	17	19	20	15	18	36	21	42
13-Jul	91	89	15	21	45	28	26	26	35	23	23	22	25	26	29	30	24	25	22	22	21	20	13	12	91
14-Jul	16	28	26	32	25	17	24	23	23	25	29	27	29	29	26	28	29	27	24	21	15	11	9	71	71
15-Jul	20	30	18	13	10	14	23	26	34	40	44	48	57	40	58	61	40	36	33	30	29	29	31	32	61
16-Jul	33	30	20	18	20	19	25	33	32	38	38	54	59	47	71	76	47	37	24	69	93	55	17	14	93
17-Jul	95	86	55	57	16	16	16	45	82	59	33	56	50	32	36	38	32	28	21	16	23	36	16	70	95
18-Jul	21	24	28	18	20	19	20	29	29	34	37	41	42	43	52	33	47	35	32	32	28	31	33	32	52
19-Jul	33	39	39	34	33	19	30	30	33	36	39	37	42	48	56	51	41	35	35	24	68	24	19	26	68
20-Jul	68	13	16	15	16	19	21	23	30	40	43	66	34	49	47	52	49	26	59	31	24	23	22	23	68
21-Jul	23	23	22	21	22	22	22	24	23	28	27	28	24	25	23	23	21	20	20	20	25	27	27	25	28
22-Jul	23	26	40	38	69	24	20	18	24	42	32	25	34	40	48	43	43	58	43	25	16	62	48	9	69
23-Jul	10	26	21	17	15	20	26	41	52	71	57	84	31	61	50	26	53	14	21	32	15	19	29	27	84
24-Jul	21	17	18	16	17	31	36	32	30	37	38	32	32	33	37	27	36	34	47	37	53	56	31	38	56
25-Jul	23	25	23	26	19	20	22	22	23	21	23	28	27	23	25	23	21	21	29	29	18	17	17	16	29
26-Jul	20	28	15	16	63	42	44	80	37	38	28	31	31	78	55	31	22	22	22	21	18	17	24	17	80
27-Jul	18	19	20	20	22	21	20	20	24	28	24	21	24	24	29	24	26	22	26	20	25	19	22	23	29
28-Jul	29	37	12	32	17	9	22	35	39	35	55	45	54	53	63	65	42	73	57	34	40	28	13	20	73
29-Jul	14	25	24	21	22	19	21	27	34	50	53	60	59	81	62	80	50	38	24	23	16	12	22	53	81
30-Jul	69	34	69	65	35	13	22	24	30	34	47	37	35	29	32	35	25	22	22	17	15	42	55	65	69
31-Jul	14	19	14	16	15	16	22	29	32	36	45	48	40	35	58	37	29	36	29	22	16	13	11	16	58
95 89 69 65 71 91 98 80 88 71 105 84 64 84 82 91 77 73 59 69 93 64 55 72																									
Diurnal Maximum																									



Wood Buffalo Environmental Association
Hourly Averages

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





WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

**AMS05
MANNIX
JULY 2025**

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

August 29, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - MANNIX (AMS05)
JULY 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	706	38	38	100	13.5	0	2.7	0
H2S (ppb) Average	708	36	36	100	8	0	1	0
THC (ppm) Average	707	37	37	100	2.6	-	2.2	-
NMHC(ppm) Average	707	37	37	100	0.312	-	0.038	-
CH4(ppm) Average	707	37	37	100	2.6	-	2.1	-
Temperature 2 m (C) Average	744	0	0	100	33.9	-	24.7	-
Temperature 20 m (C) Average	744	0	0	100	33	-	26	-
Temperature 45 m (C) Average	744	0	0	100	32.7	-	26.3	-
Temperature 75 m (C) Average	744	0	0	100	32.1	-	26.4	-
Temperature 90 m (C) Average	744	0	0	100	32.1	-	26.5	-
Relative Humidity 2 m (%) Average	744	0	0	100	100	-	95	-
Relative Humidity 20 m (%) Average	744	0	0	100	97	-	87	-
Relative Humidity 45 m (%) Average	744	0	0	100	97	-	84	-
Relative Humidity 75 m (%) Average	744	0	0	100	98	-	84	-
Relative Humidity 90 m (%) Average	744	0	0	100	98	-	83	-
Wind Speed 20 m (km/h) Average	744	0	0	100	37	-	23	-
Wind Speed 45 m (km/h) Average	744	0	0	100	46	-	30	-
Wind Speed 75 m (km/h) Average	744	0	0	100	51	-	33	-
Wind Speed 90 m (km/h) Average	743	0	1	99.87	53	-	35	-
Wind Direction 20 m (deg) Average	744	0	0	100	-	-	-	-
Wind Direction 45 m (deg) Average	744	0	0	100	-	-	-	-
Wind Direction 75 m (deg) Average	744	0	0	100	-	-	-	-
Wind Direction 90 m (deg) Average	743	0	1	99.87	-	-	-	-
Vertical Wind Speed 20 m (km/h) Average	744	0	0	100	1.2	-	0.4	-
Vertical Wind Speed 45 m (km/h) Average	744	0	0	100	2.3	-	1.1	-
Vertical Wind Speed 75 m (km/h) Average	744	0	0	100	2.5	-	0.8	-
Vertical Wind Speed 90 m (km/h) Average	743	0	1	99.87	3	-	0.5	-

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

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - MANNIX (AMS05)
JULY 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	0.45	1.3	-	0	0	0	0.1	0.3	0.8	13.5
H2S (ppb) Average	708	0.37	0.6	-	0	0.1	0.1	0.2	0.3	0.7	7.8
THC (ppm) Average	707	2.04	0.1	-	1.9	2	2	2	2.1	2.1	2.6
NMHC(ppm) Average	707	0.009	0.026	-	0	0	0	0	0	0	0.312
CH4(ppm) Average	707	2.03	0.1	-	1.9	2	2	2	2.1	2.1	2.6
Temperature 2 m (C) Average	744	17.47	5.5	-	4.1	10.8	13.3	16.9	21.6	25.3	33.9
Temperature 20 m (C) Average	744	17.92	5.1	-	5.8	11.9	14	17.2	21.3	25.4	33
Temperature 45 m (C) Average	744	17.93	5	-	6	12	14.2	17.3	21.2	25.3	32.7
Temperature 75 m (C) Average	744	17.95	4.8	-	7.1	12.3	14.3	17.4	21	25	32.1
Temperature 90 m (C) Average	744	17.73	4.9	-	7	11.8	14	17.1	20.7	24.9	32.1
Relative Humidity 2 m (%) Average	744	66.9	20	-	28	39	50	66	83	97	100
Relative Humidity 20 m (%) Average	744	58.9	19	-	24	33	43	59	73	87	97
Relative Humidity 45 m (%) Average	744	57	19	-	24	31	42	56	70	84	97
Relative Humidity 75 m (%) Average	744	56.5	18	-	24	31	42	56	70	82	98
Relative Humidity 90 m (%) Average	744	55.8	18	-	24	31	42	55	69	81	98
Wind Speed 20 m (km/h) Average	744	9.7	5	-	1	4	6	9	12	17	37
Wind Speed 45 m (km/h) Average	744	14.1	7	-	1	6	9	13	18	24	46
Wind Speed 75 m (km/h) Average	744	16	8	-	1	6	10	15	21	28	51
Wind Speed 90 m (km/h) Average	743	16.8	9	-	1	6	10	16	22	29	53
Wind Direction 20 m (deg) Average	744	-	-	-	-	-	-	-	-	-	-
Wind Direction 45 m (deg) Average	744	-	-	-	-	-	-	-	-	-	-
Wind Direction 75 m (deg) Average	744	-	-	-	-	-	-	-	-	-	-
Wind Direction 90 m (deg) Average	743	-	-	-	-	-	-	-	-	-	-
Vertical Wind Speed 20 m (km/h) Average	744	0.06	0.3	-	-0.9	-0.3	-0.1	0	0.3	0.5	1.2
Vertical Wind Speed 45 m (km/h) Average	744	0.28	0.7	-	-1.7	-0.6	-0.2	0.2	0.8	1.2	2.3
Vertical Wind Speed 75 m (km/h) Average	744	0.18	0.4	-	-1	-0.4	-0.1	0.2	0.5	0.8	2.5
Vertical Wind Speed 90 m (km/h) Average	743	0.33	0.4	-	-1	-0.1	0.1	0.3	0.5	0.8	3

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - MANNIX (AMS05)
JULY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
Wind Speed, Wind Direction, Vertical Wind Speed, 90m	03 Jul 2025 00:00	03 Jul 2025 00:00	1	Unstable Operation - excessive baseline noise



Wood Buffalo Environmental Association

Summary of Hour Averages

Sulphur Dioxide (SO₂) - ppb

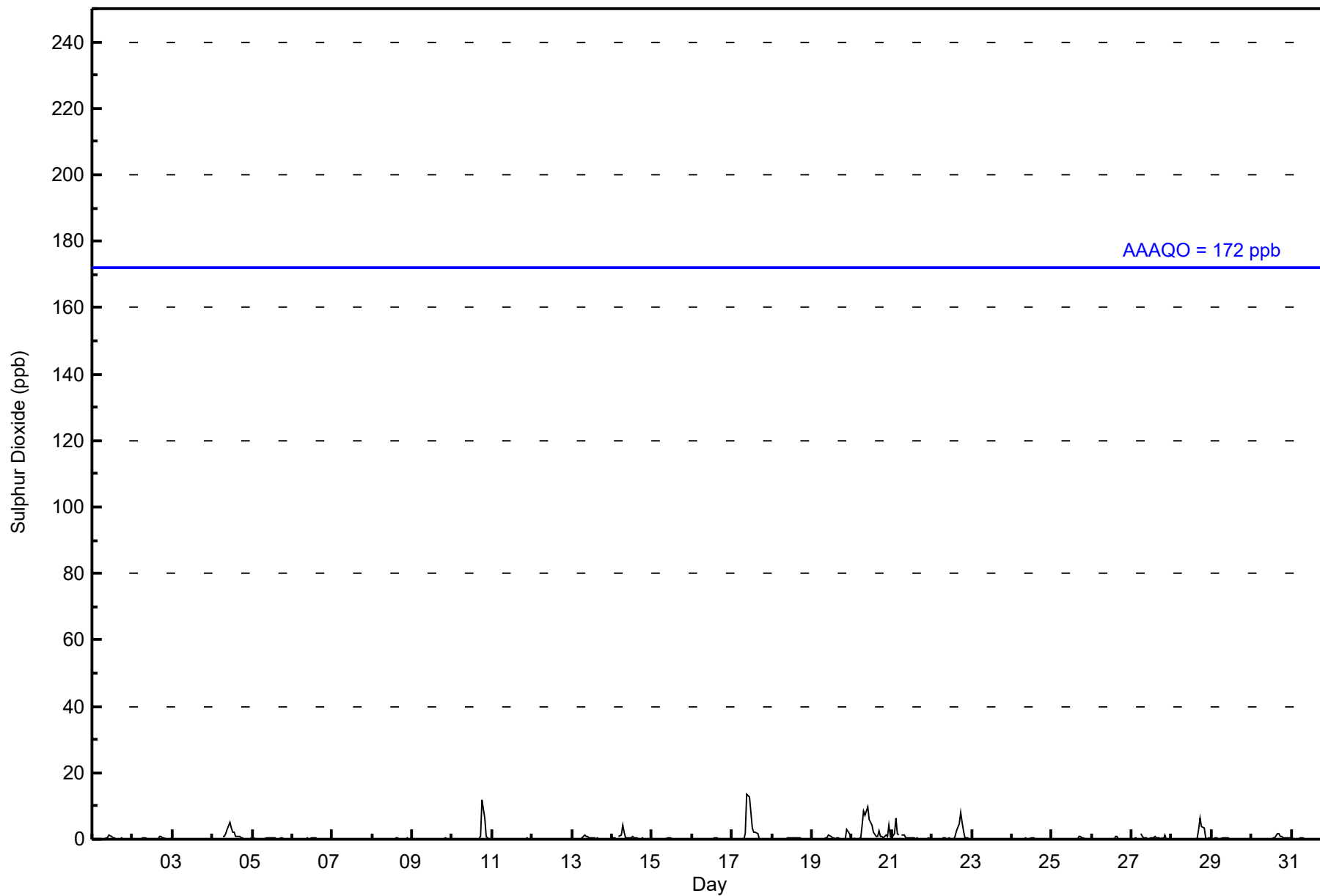
Mannix - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 13.5 ppb on Jul 17 10:00 Maximum Daily Average: 2.7 ppb on Jul 20																			Hours in Service: 744 Hours of Data: 706 Hours of Missing Data: 38 Hours of Calibration: 38 Percent Operational Time: 100.0							
Minimum Value: 0.0 ppb on Jul 1 23:00 Minimum Daily Average: 0.0 ppb on Jul 3 Maximum Diurnal Average: 1.1 ppb at hour 10 Minimum Diurnal Average: 0.1 ppb at hour 1 Monthly Average: 0.45 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 = 7.4																										
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-Jul	0.0	0.1	Z	0.1	0.1	0.1	0.1	0.2	0.3	0.5	1.1	0.6	0.5	0.2	0.1	0.1	0.2	0.3	0.2	0.1	0.1	0.0	0.0	0.0	0.2	1.1
2-Jul	0.0	0.0	0.0	Z	0.0	0.1	0.3	0.3	0.2	0.1	0.1	0.0	0.0	0.0	0.1	0.2	0.8	0.8	0.5	0.3	0.1	0.1	0.0	0.0	0.2	0.8
3-Jul	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
4-Jul	0.1	0.1	0.0	0.1	0.1	Z	0.7	1.0	1.9	2.9	4.9	3.5	1.9	2.0	0.7	1.0	0.9	0.5	0.3	0.2	0.2	0.1	0.2	0.3	1.0	4.9
5-Jul	Z	0.2	0.2	0.0	0.0	0.0	0.0	0.1	0.3	0.4	0.3	0.4	0.4	0.3	0.1	0.1	0.2	0.4	0.3	0.0	0.1	0.1	0.1	0.0	0.2	0.4
6-Jul	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.3	0.3	0.4	0.4	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4
7-Jul	0.0	0.1	Z	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	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
8-Jul	0.1	0.1	0.1	Z	0.1	0.1	0.1	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	0.2	0.2	0.1	0.1	0.2	0.2
9-Jul	0.0	0.1	0.0	0.1	Z	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.6	0.0	0.0	0.0	0.1	0.6
10-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	C	C	C	C	C	C	C	0.2	0.8	11.8	6.5	1.0	0.5	0.1	0.1	--	11.8
11-Jul	Z	0.1	0.1	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	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.2
12-Jul	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	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2
13-Jul	0.3	0.1	Z	0.1	0.1	0.1	0.3	1.1	0.7	0.7	0.6	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.2	1.1
14-Jul	0.4	0.3	0.4	Z	0.6	1.4	4.3	2.2	0.4	0.4	0.6	0.5	0.8	0.6	0.2	0.4	0.2	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.6	4.3
15-Jul	0.0	0.0	0.0	0.0	Z	0.0	0.1	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	0.0	0.0	0.0	0.1	0.3
16-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.3
17-Jul	Z	0.1	0.0	0.1	0.0	0.1	0.0	0.1	1.6	13.5	12.8	8.1	3.4	2.1	2.3	1.6	0.2	0.1	0.0	0.1	0.1	0.1	0.1	0.2	2.0	13.5
18-Jul	0.1	Z	0.1	0.0	0.0	0.1	0.1	0.1	0.2	0.3	0.3	0.2	0.6	0.6	0.5	0.3	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.6
19-Jul	0.1	0.1	Z	0.1	0.0	0.1	0.0	0.2	0.3	0.5	1.3	0.7	0.5	0.2	0.1	0.3	0.3	0.1	0.1	0.1	0.0	3.0	1.8	0.4	0.4	3.0
20-Jul	0.2	0.1	0.2	Z	0.3	0.2	4.1	8.5	7.4	9.8	5.9	5.1	4.4	2.1	1.0	0.7	2.7	0.7	0.8	0.5	1.1	0.7	4.4	1.0	2.7	9.8
21-Jul	0.6	1.6	6.2	1.7	1.2	Z	1.4	1.1	0.4	0.4	0.4	0.3	0.4	0.3	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.8	6.2
22-Jul	0.2	0.1	0.2	0.2	0.2	Z	0.3	0.2	0.3	0.2	0.6	0.2	0.2	0.1	1.0	2.5	4.7	8.0	4.9	2.4	0.2	0.3	0.1	0.0	1.2	8.0
23-Jul	Z	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
24-Jul	0.0	Z	0.0	0.0	0.0	0.1	0.2	0.1	0.3	0.1	0.2	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.3
25-Jul	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	0.1	0.1	0.6	1.0	0.4	0.2	0.2	0.1	0.1	0.1	0.2	1.0
26-Jul	0.1	0.1	0.1	Z	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.9	0.7	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.2	0.9
27-Jul	0.1	0.2	0.2	0.4	Z	1.6	0.9	0.6	0.4	0.2	0.2	0.3	0.6	0.6	1.0	0.3	0.3	0.2	0.2	0.2	1.1	0.2	0.1	0.1	0.4	1.6
28-Jul	0.0	0.0	0.0	0.1	0.0	Z	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.2	3.0	6.5	3.9	3.4	0.5	0.2	0.3	0.3	0.8	6.5
29-Jul	Z	0.5	0.3	0.2	0.1	0.2	0.3	0.3	0.3	0.3	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	0.5
30-Jul	0.0	Z	0.0	0.1	0.0	0.0	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.4	0.3	1.7	1.7	0.9	0.8	0.5	0.4	0.4	0.5	0.3	0.4	1.7
31-Jul	0.2	0.3	Z	0.2	0.2	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.3
0.1 0.2 0.3 0.1 0.1 0.2 0.5 0.6 0.5 1.1 1.0 0.7 0.5 0.4 0.3 0.4 0.6 0.7 0.8 0.5 0.2 0.2 0.3 0.1 Diurnal Average																										
0.6 1.6 6.2 1.7 1.2 1.6 4.3 8.5 7.4 13.5 12.8 8.1 4.4 2.1 2.3 2.5 4.7 8.0 11.8 6.5 1.1 3.0 4.4 1.0 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
Mannix - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Mannix - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	703	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: 706

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Mannix - July 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	45	41	22	11	12	13	49	136	56	39	37	68	60	41	14	59	703
11 - 20	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	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	45	41	22	11	12	13	49	136	56	39	37	69	60	41	16	59	706

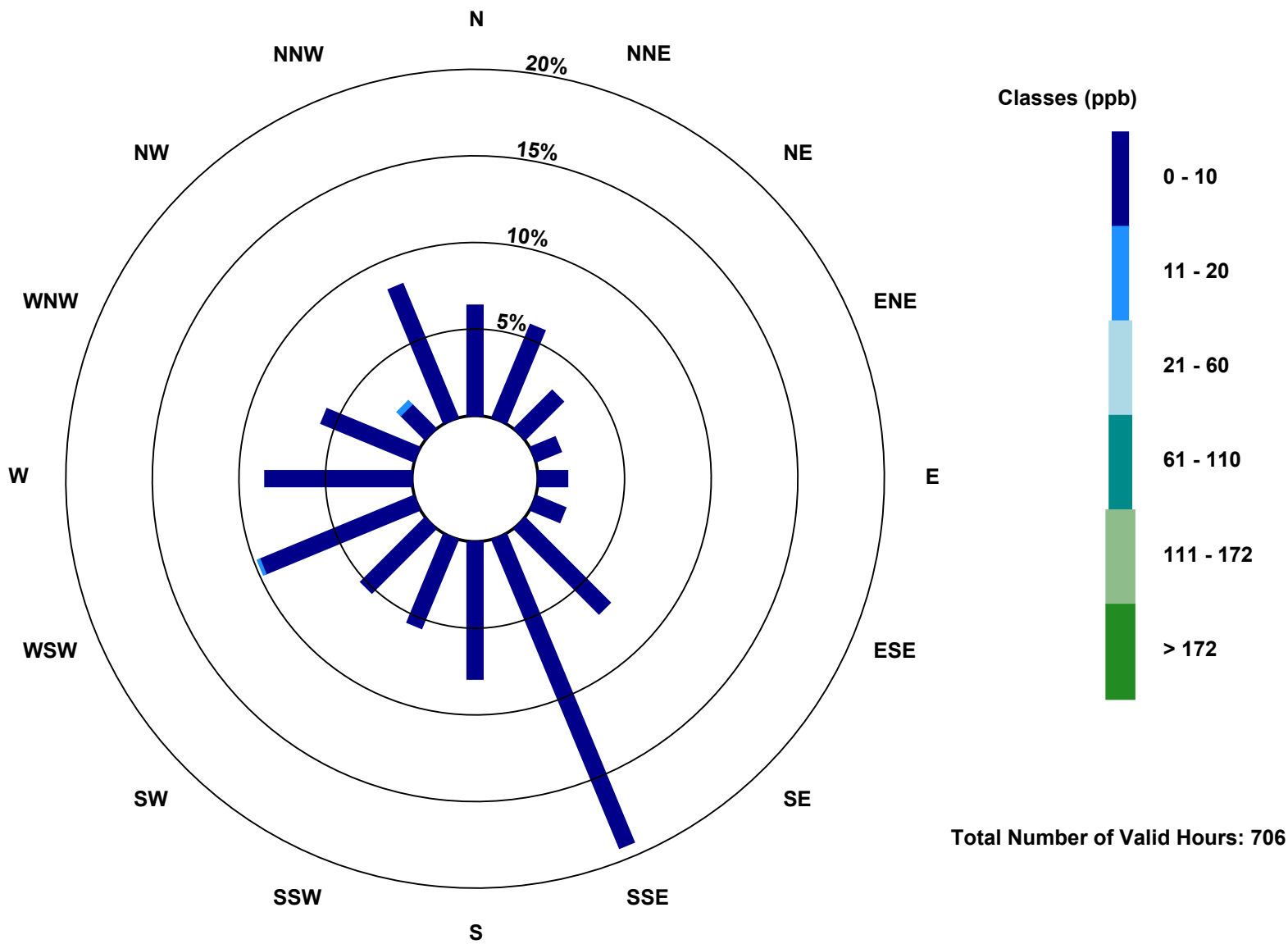
Total Number of Valid Hours: 706

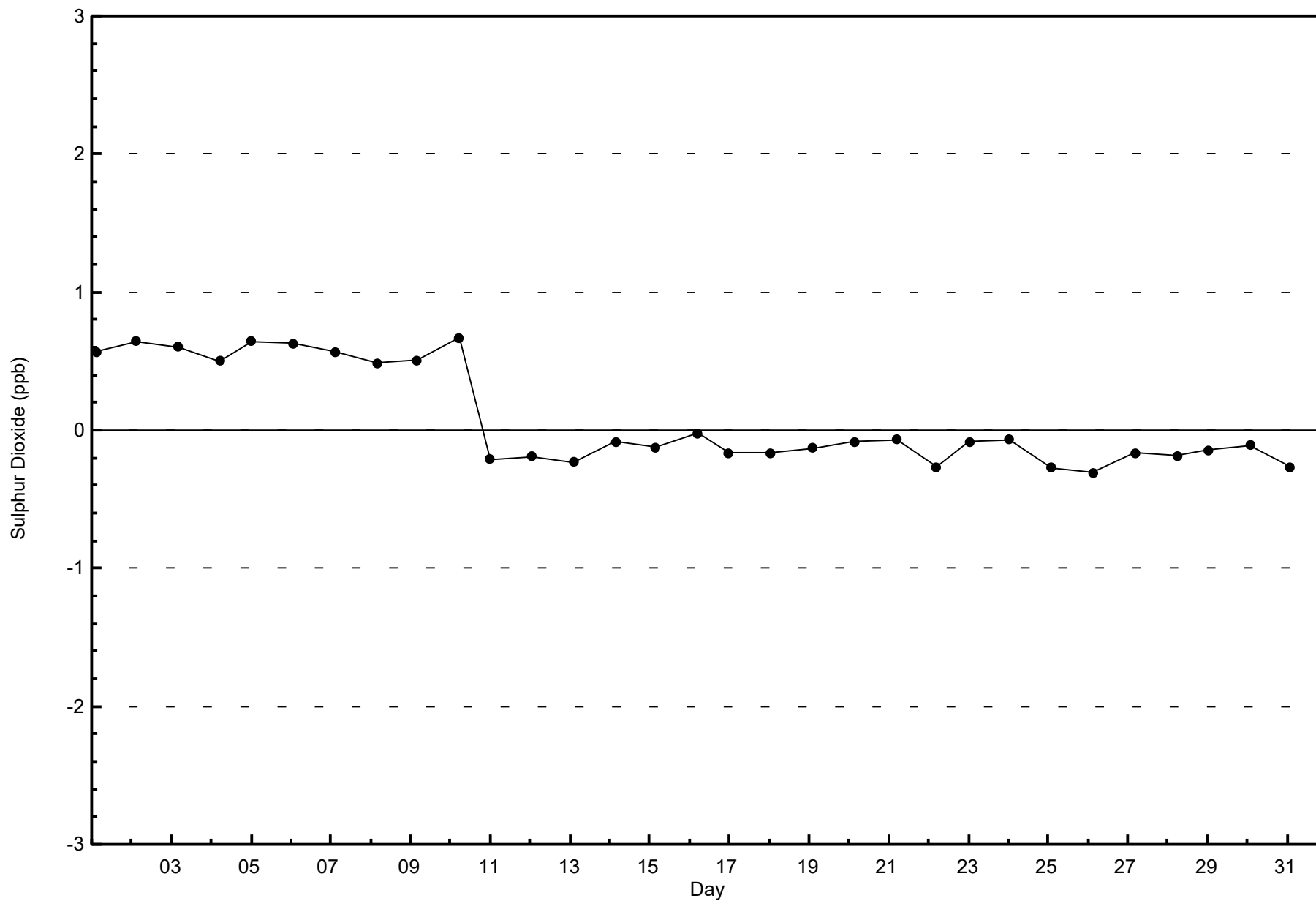
Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Sulphur Dioxide (SO₂) - ppb
Mannix

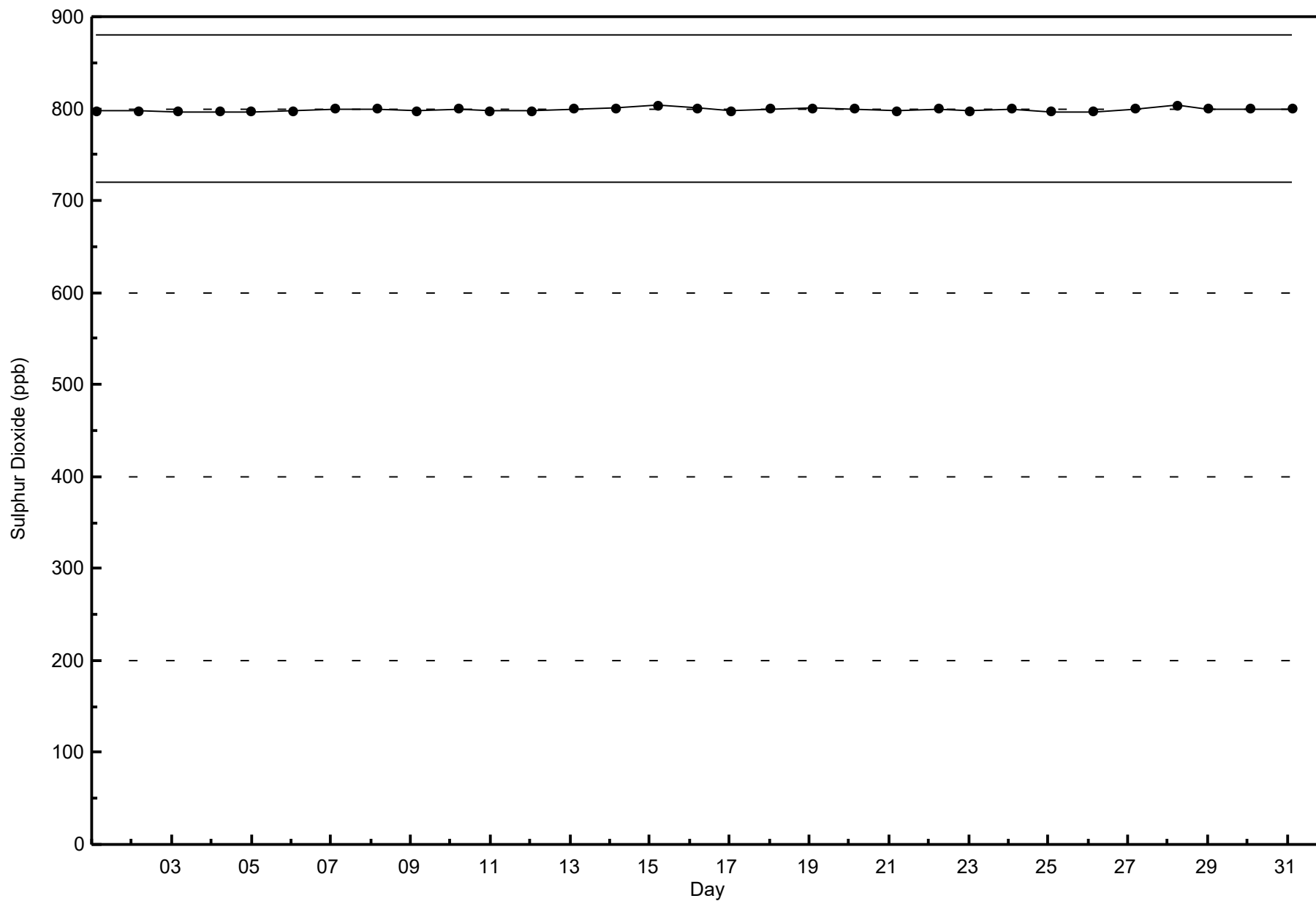






Wood Buffalo Environmental Association
Span Responses

Sulphur Dioxide (SO₂) - ppb
Mannix - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Hydrogen Sulphide (H₂S) - ppb

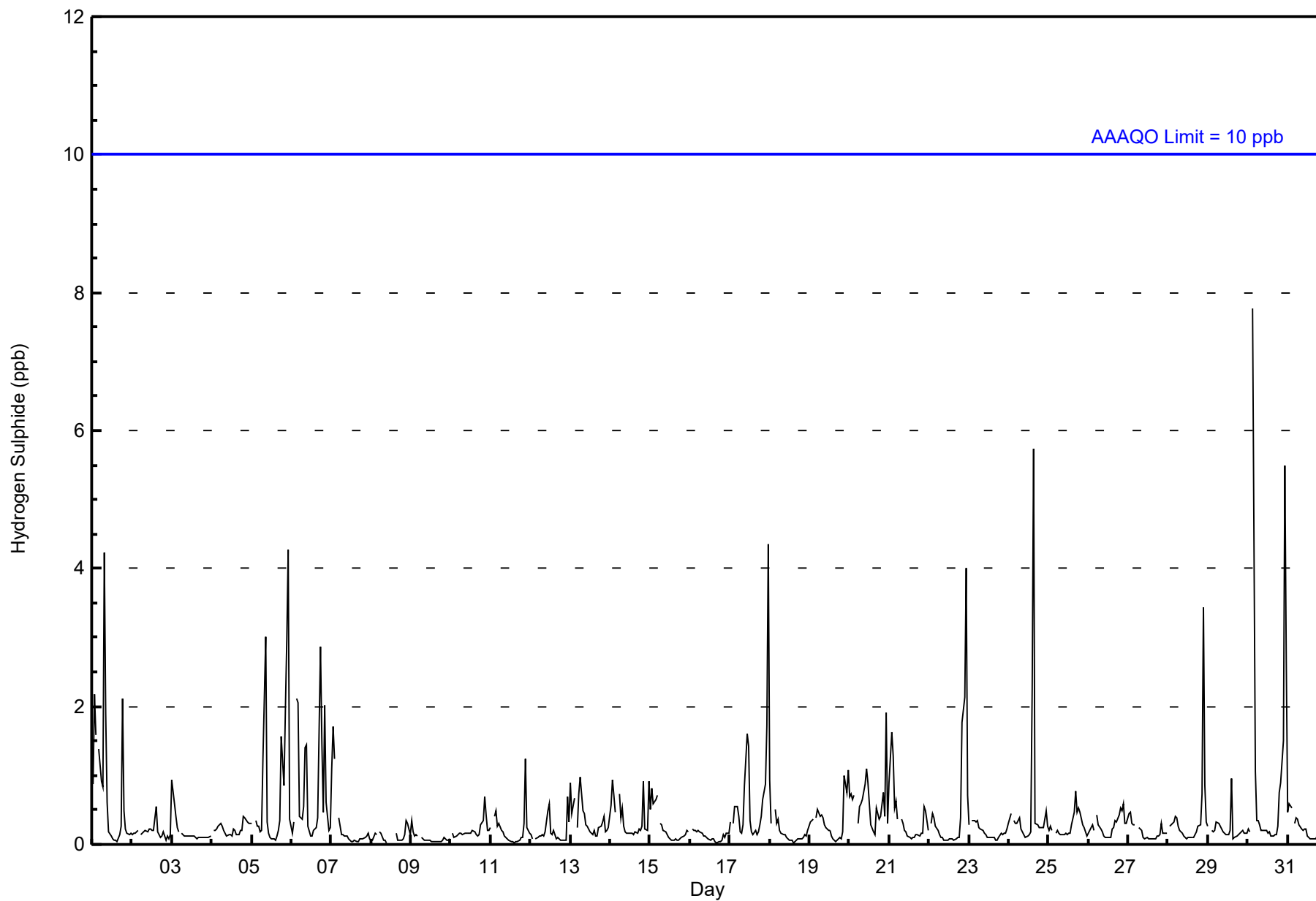
Mannix - July 2025

Number of Exceedences (AAAQO): Maximum Value: 7.8 ppb on Jul 30 04:00																			1-hr: 0 24-hr: 0 Maximum Daily Average: 1.0 ppb on Jul 30																			Hours in Service: 744 Hours of Data: 708			
Minimum Value: 0.0 ppb on Jul 16 17:00 Maximum Diurnal Average: 0.8 ppb at hour 23 Monthly Average: 0.37 ppb																			Minimum Daily Average: 0.1 ppb on Jul 9 Minimum Diurnal Average: 0.1 ppb at hour 14 Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.3 P ₉₀ = 0.7 P ₉₉ = 3.4																			Hours of Missing Data: 36 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-Jul	0.9	2.2	1.6	Z	1.4	0.9	0.8	4.2	1.9	0.6	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.3	2.1	0.5	0.2	0.2	0.2	0.2	0.8	4.2															
2-Jul	0.1	0.2	0.2	0.2	Z	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.5															
3-Jul	0.9	0.6	0.4	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	0.2	0.9															
4-Jul	Z	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	0.2	0.1	0.1	0.2	0.2	0.4	0.4	0.3	0.3	0.3	0.2	0.4															
5-Jul	0.3	Z	0.4	0.3	0.3	0.2	0.2	1.2	3.0	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.3	1.6	0.9	1.9	3.0	4.3	0.4	0.8	4.3															
6-Jul	0.2	0.3	Z	2.1	2.1	0.4	0.4	0.5	1.4	1.4	0.3	0.1	0.1	0.2	0.2	0.2	0.4	2.9	1.5	0.5	2.0	0.6	0.2	0.2	0.8	2.9															
7-Jul	1.1	1.7	1.2	Z	0.4	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.3	1.7															
8-Jul	0.1	0.1	0.2	0.1	Z	0.2	0.2	0.1	0.1	0.0	C	C	C	C	C	0.2	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.1	0.1	0.3															
9-Jul	0.3	0.2	0.1	0.1	0.1	Z	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	0.3															
10-Jul	Z	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	0.1	0.1	0.3	0.4	0.7	0.4	0.2	0.2	0.2	0.7															
11-Jul	0.2	Z	0.4	0.5	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.3	1.2	0.2	0.2	0.2	1.2															
12-Jul	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.5	0.6	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.7	0.3	0.2	0.7															
13-Jul	0.9	0.4	0.7	Z	0.3	0.7	1.0	0.5	0.4	0.3	0.3	0.2	0.2	0.1	0.2	0.1	0.1	0.2	0.3	0.3	0.4	0.2	0.2	0.2	0.4	1.0															
14-Jul	0.6	0.9	0.7	0.5	Z	0.7	0.4	0.5	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.9	0.2	0.2	0.9	0.4	0.9															
15-Jul	0.5	0.8	0.6	0.7	0.7	Z	0.3	0.3	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	0.3	0.8															
16-Jul	Z	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	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.1	0.2															
17-Jul	0.3	Z	0.3	0.5	0.5	0.4	0.2	0.2	0.3	0.8	1.6	1.4	0.3	0.2	0.1	0.2	0.2	0.2	0.3	0.4	0.7	0.9	1.7	4.3	0.7	4.3															
18-Jul	0.9	0.3	Z	0.5	0.3	0.4	0.2	0.2	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	0.2	0.2	0.9															
19-Jul	0.3	0.4	0.4	Z	0.4	0.5	0.4	0.4	0.4	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.2	1.0	0.7	1.1	0.3	1.1															
20-Jul	0.7	0.7	0.7	0.7	Z	0.3	0.5	0.6	0.6	0.9	1.1	0.9	0.6	0.3	0.2	0.2	0.5	0.4	0.4	0.4	0.7	0.4	1.9	0.3	0.6	1.9															
21-Jul	0.9	1.6	1.3	0.5	0.6	0.4	Z	0.4	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.5	0.5	0.2	0.4	1.6															
22-Jul	Z	0.3	0.5	0.4	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	1.8	2.1	4.0	0.7	0.5	4.0															
23-Jul	0.3	Z	0.4	0.4	0.3	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	0.2	0.1	0.2	0.2	0.2	0.2	0.4															
24-Jul	0.3	0.4	Z	0.3	0.3	0.3	0.4	0.2	0.2	0.1	0.1	0.1	0.1	0.2	2.3	5.7	0.3	0.3	0.2	0.3	0.2	0.2	0.5	0.3	0.6	5.7															
25-Jul	0.2	0.3	0.2	Z	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.3	0.5	0.8	0.5	0.5	0.5	0.3	0.2	0.2	0.1	0.3	0.8															
26-Jul	0.2	0.2	0.3	0.2	Z	0.4	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.5	0.5	0.6	0.3	0.3	0.3	0.6															
27-Jul	0.4	0.5	0.3	0.3	0.3	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	0.3	0.2	0.2	0.2	0.2	0.5															
28-Jul	Z	0.3	0.3	0.3	0.4	0.4	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.7	3.4	0.9	0.3	0.4	3.4															
29-Jul	0.3	Z	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.2	1.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	1.0															
30-Jul	0.2	0.2	Z	7.8	1.1	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.3	0.8	0.9	1.5	5.5	2.7	1.0	7.8															
31-Jul	0.5	0.6	0.5	Z	0.3	0.4	0.4	0.3	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	0.2	0.2	0.6															
0.5 0.5 0.5 0.7 0.4 0.4 0.3 0.4 0.4 0.3 0.2 0.2 0.1 0.1 0.2 0.3 0.2 0.3 0.3 0.3 0.5 0.6 0.8 0.5																										Diurnal Average															
1.1 2.2 1.6 7.8 2.1 0.9 1.0 4.2 3.0 1.4 1.6 1.4 0.6 0.3 2.3 5.7 0.8 2.9 2.1 0.9 2.0 3.4 5.5 4.3																										Diurnal Maximum															
Z - zerospan C - Calibration																																									
Alberta Ambient Air Quality Objective (AAAQO): 1-hour 10 ppb 24-hr 3 ppb																																									



Wood Buffalo Environmental Association
Hourly Averages

Hydrogen Sulphide (H₂S) - ppb
Mannix - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Hydrogen Sulphide (H₂S) - ppb
Mannix - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	696	98.31	98.31
3 - 4	9	1.27	99.58
5 - 7	2	0.28	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

Hydrogen Sulphide (H₂S) - ppb
Mannix - July 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	45	41	21	7	7	11	48	135	52	40	39	69	62	45	15	59	696
3 - 4	1	0	0	2	4	0	1	0	0	0	1	0	0	0	0	0	9
5 - 7	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
8 - 11	0	0	1	0	0	0	0	0	0	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	46	41	22	10	12	11	49	135	52	40	40	69	62	45	15	59	708

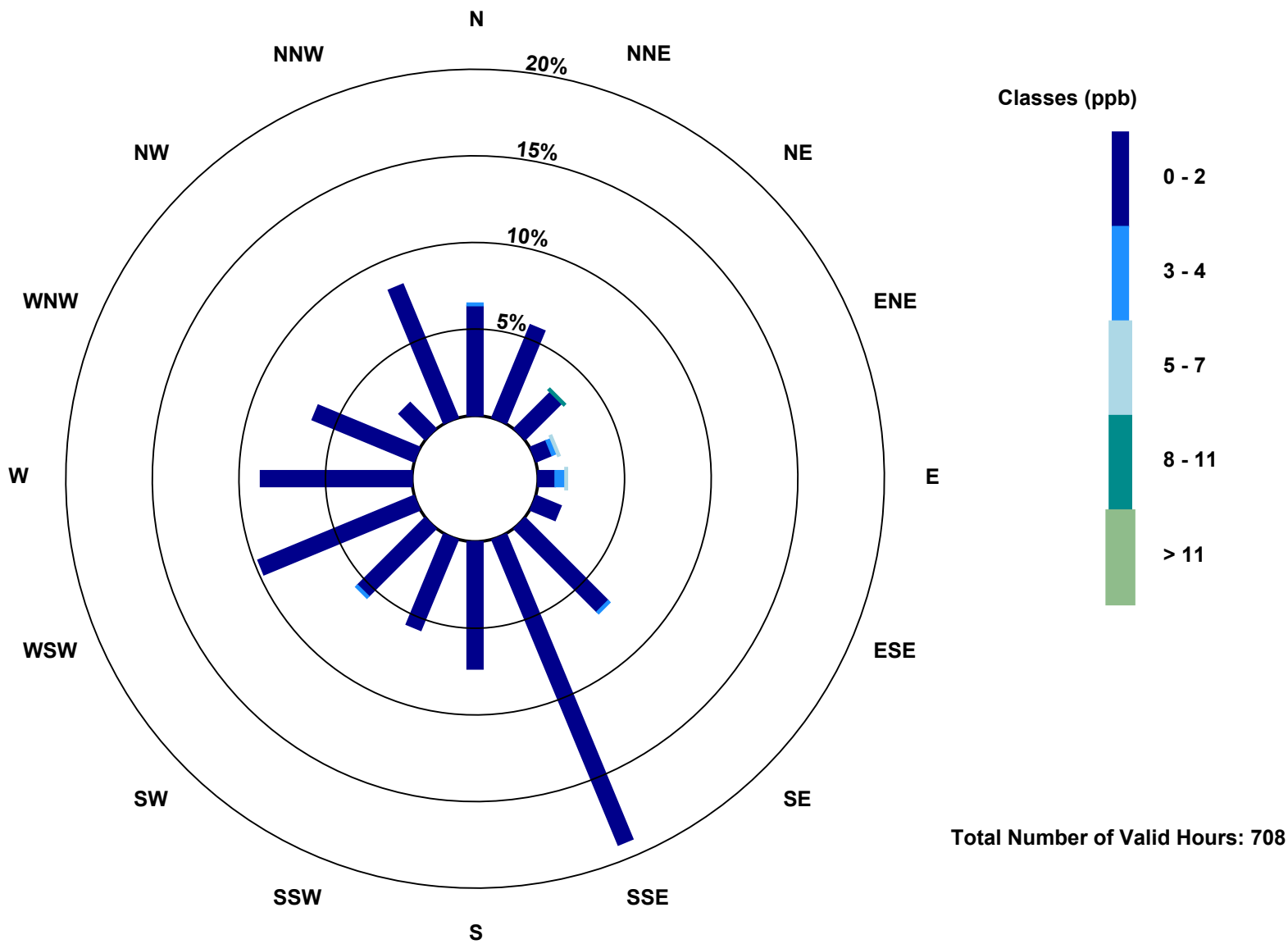
Total Number of Valid Hours: 708

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Hydrogen Sulphide (H₂S) - ppb
Mannix



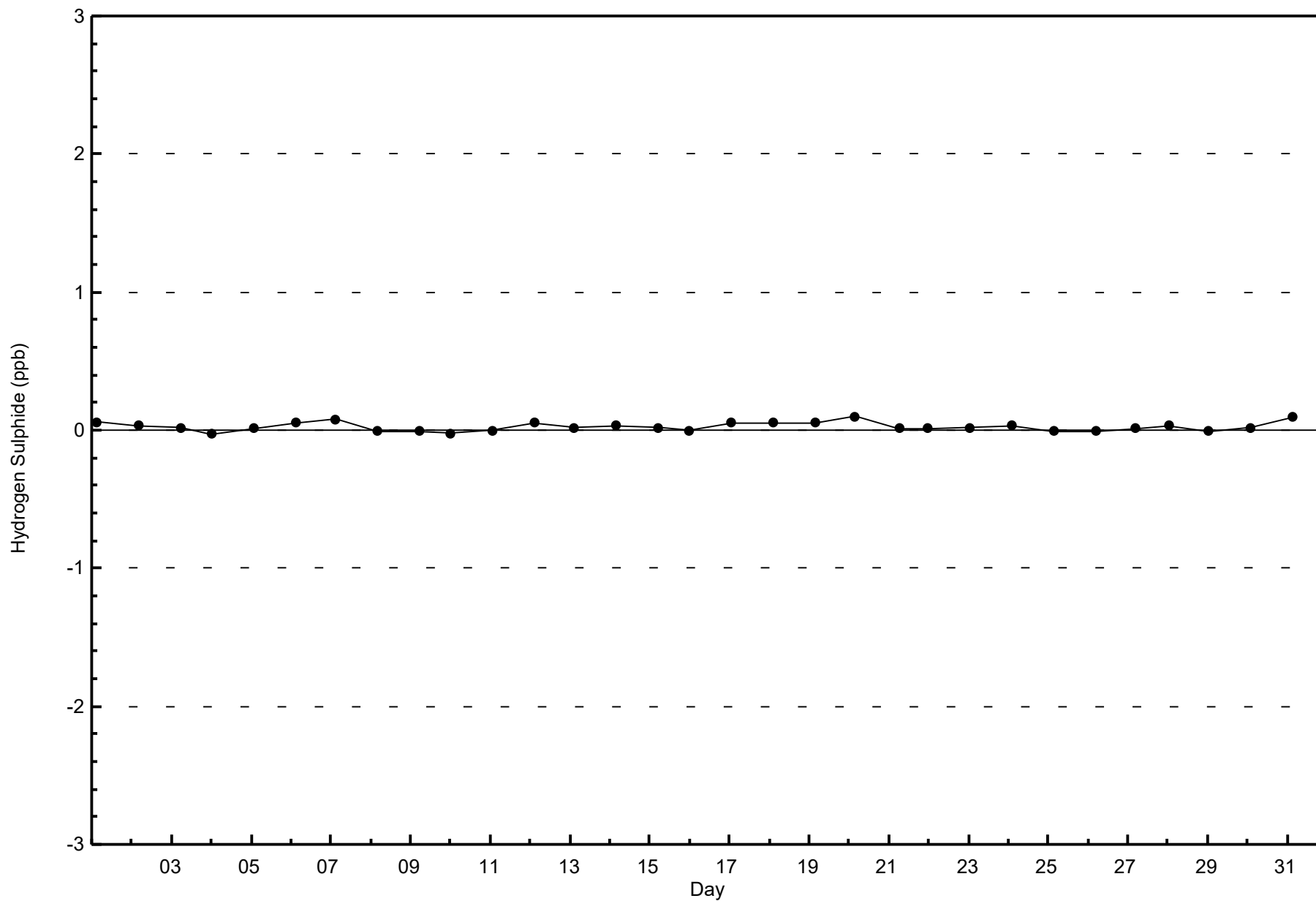


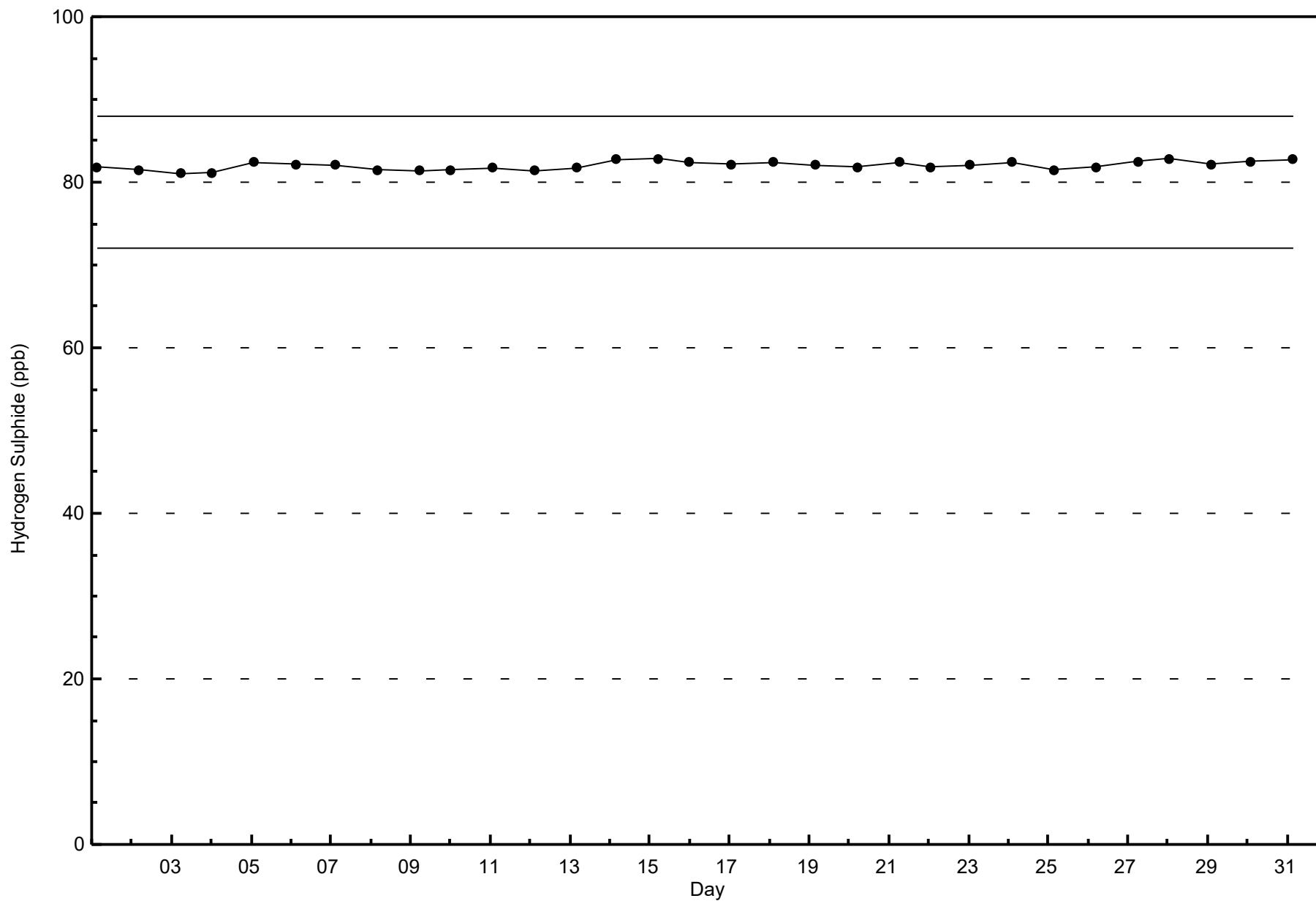
Wood Buffalo Environmental Association

Zero Responses

Hydrogen Sulphide (H_2S) - ppb

Mannix - July 2025







Wood Buffalo Environmental Association

Summary of Hour Averages

Total Hydrocarbons (THC) - ppm

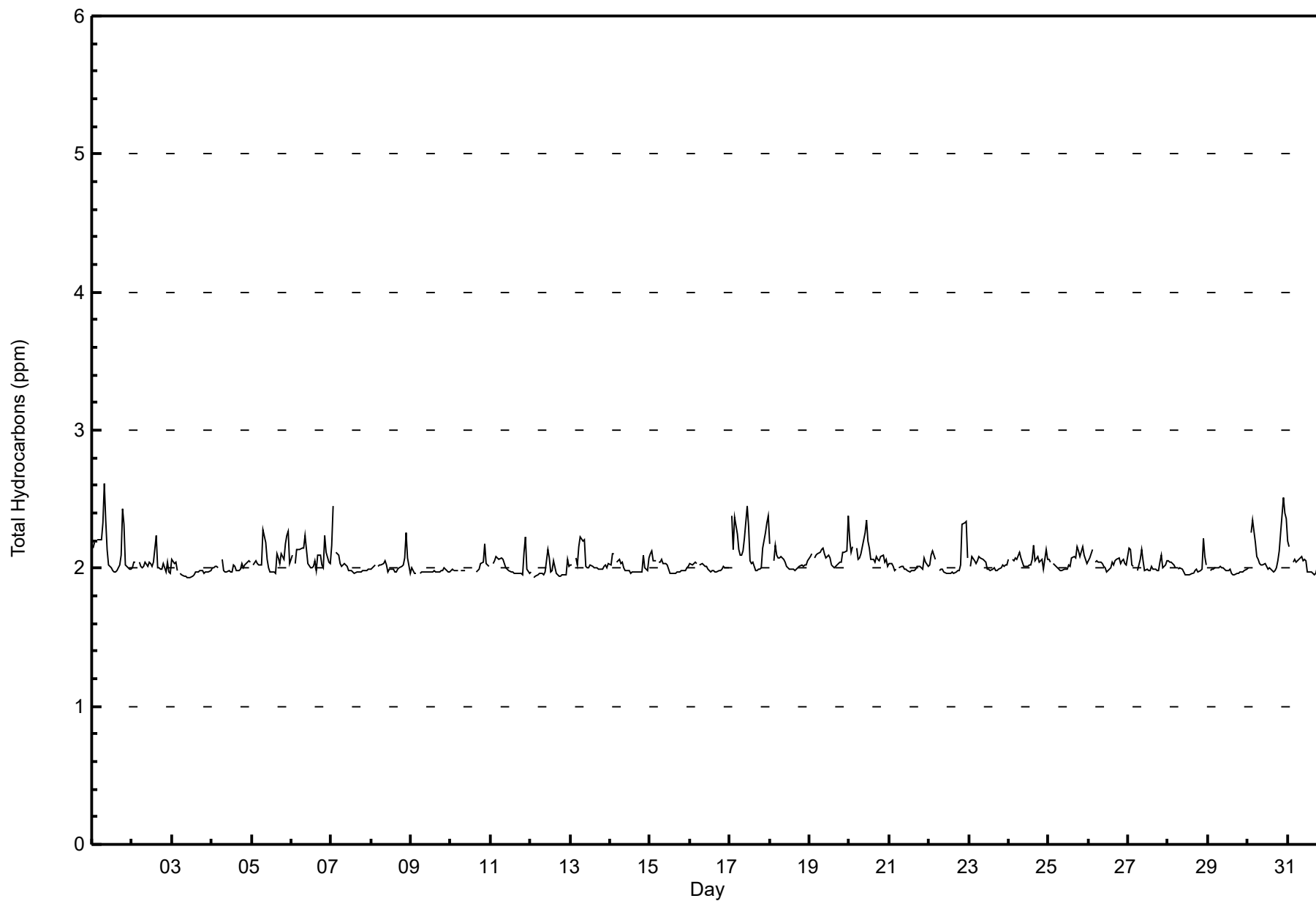
Mannix - July 2025

Maximum Value: 2.6 ppm on Jul 1 08:00										Maximum Daily Average: 2.2 ppm on Jul 17										Hours in Service: 744							
Minimum Value: 1.9 ppm on Jul 3 11:00										Minimum Daily Average: 2.0 ppm on Jul 3										Hours of Data: 707							
Maximum Diurnal Average: 2.1 ppm at hour 2										Minimum Diurnal Average: 2.0 ppm at hour 14										Hours of Missing Data: 37							
Monthly Average: 2.04 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										Hours of Calibration: 37							
																				Percent Operational Time: 100.0							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
1-Jul	2.1	2.2	Z	2.2	2.2	2.2	2.3	2.6	2.4	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.4	2.3	2.0	2.0	2.0	2.0	2.0	2.1	2.6
2-Jul	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	2.2	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-Jul	2.1	2.0	2.0	2.0	Z	2.0	2.0	1.9	1.9	1.9	1.9	1.9	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	2.1
4-Jul	2.0	2.0	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	2.1	2.0	2.0	2.1	
5-Jul	Z	2.0	2.1	2.0	2.0	2.0	2.0	2.3	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.1	2.1	2.2	2.2	2.3	2.0	2.1	2.3	
6-Jul	2.1	Z	2.0	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.0	2.0	2.0	2.0	2.1	2.0	2.1	2.1	2.0	2.0	2.2	2.1	2.0	2.0	2.1	2.2	
7-Jul	2.2	2.5	Z	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	2.5	
8-Jul	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	2.3	2.1	2.0	2.0	2.3	
9-Jul	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	
10-Jul	2.0	2.0	2.0	2.0	2.0	Z	2.0	2.0	2.0	C	C	C	C	C	C	2.0	2.0	2.0	2.0	2.0	2.2	2.0	2.0	2.0	--	2.2	
11-Jul	Z	2.0	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	2.0	2.0	2.0	2.2	
12-Jul	2.0	Z	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.1	2.0	1.9	1.9	1.9	2.0	1.9	2.0	2.1	2.0	2.0	2.1	
13-Jul	2.0	2.0	Z	2.1	2.0	2.2	2.2	2.2	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	2.0	2.0	2.2	
14-Jul	2.0	2.1	2.1	Z	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	2.1	2.0	2.0	2.1	2.0	2.1	
15-Jul	2.1	2.1	2.1	2.1	Z	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	2.1	
16-Jul	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	
17-Jul	Z	2.4	2.1	2.4	2.3	2.1	2.1	2.1	2.1	2.2	2.4	2.3	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.3	2.3	2.4	2.2	2.4	
18-Jul	2.2	Z	2.1	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	2.0	2.1	2.0	2.2	
19-Jul	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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.4	2.1	2.4	
20-Jul	2.2	2.1	2.2	Z	2.1	2.1	2.1	2.1	2.2	2.3	2.4	2.2	2.1	2.1	2.1	2.0	2.1	2.1	2.0	2.1	2.1	2.0	2.1	2.0	2.1	2.4	
21-Jul	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	2.1	2.0	2.0	2.0	2.0	2.1	
22-Jul	2.0	2.1	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	2.3	2.3	2.3	2.1	2.1	2.3	
23-Jul	Z	2.0	2.1	2.1	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	2.1	
24-Jul	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	2.1	2.2	2.1	2.1	2.0	2.1	2.1	2.0	2.1	2.1	2.1	2.2	
25-Jul	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	2.1	2.1	2.1	2.2	2.1	2.1	2.2	2.1	2.1	2.0	2.0	2.2	
26-Jul	2.1	2.1	2.1	Z	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	2.1	2.1	2.0	2.1	2.1	2.0	2.0	2.0	2.1	
27-Jul	2.1	2.1	2.0	2.0	Z	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	2.0	2.0	2.1	2.0	2.1	2.1	
28-Jul	2.1	2.0	2.0	2.0	2.0	Z	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	2.2	2.1	2.0	2.0	2.0	2.2	
29-Jul	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	
30-Jul	2.0	Z	2.3	2.4	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	2.1	2.1	2.3	2.5	2.4	2.4	2.1	2.5	
31-Jul	2.2	2.2	Z	2.0	2.1	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	2.2	
2.1																								Diurnal Average			
2.2																								Diurnal Maximum			
Z - zerospan C - Calibration																											



Wood Buffalo Environmental Association
Hourly Averages

Total Hydrocarbons (THC) - ppm
Mannix - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Hydrocarbons (THC) - ppm
Mannix - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	493	69.73	69.73
2.1 - 3.0	214	30.27	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

Total Hydrocarbons (THC) - ppm
Mannix - July 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	26	20	10	1	1	8	34	95	39	33	30	60	50	25	13	48	493
2.1 - 3.0	19	21	12	10	11	5	15	41	17	6	7	9	10	17	3	11	214
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	45	41	22	11	12	13	49	136	56	39	37	69	60	42	16	59	707

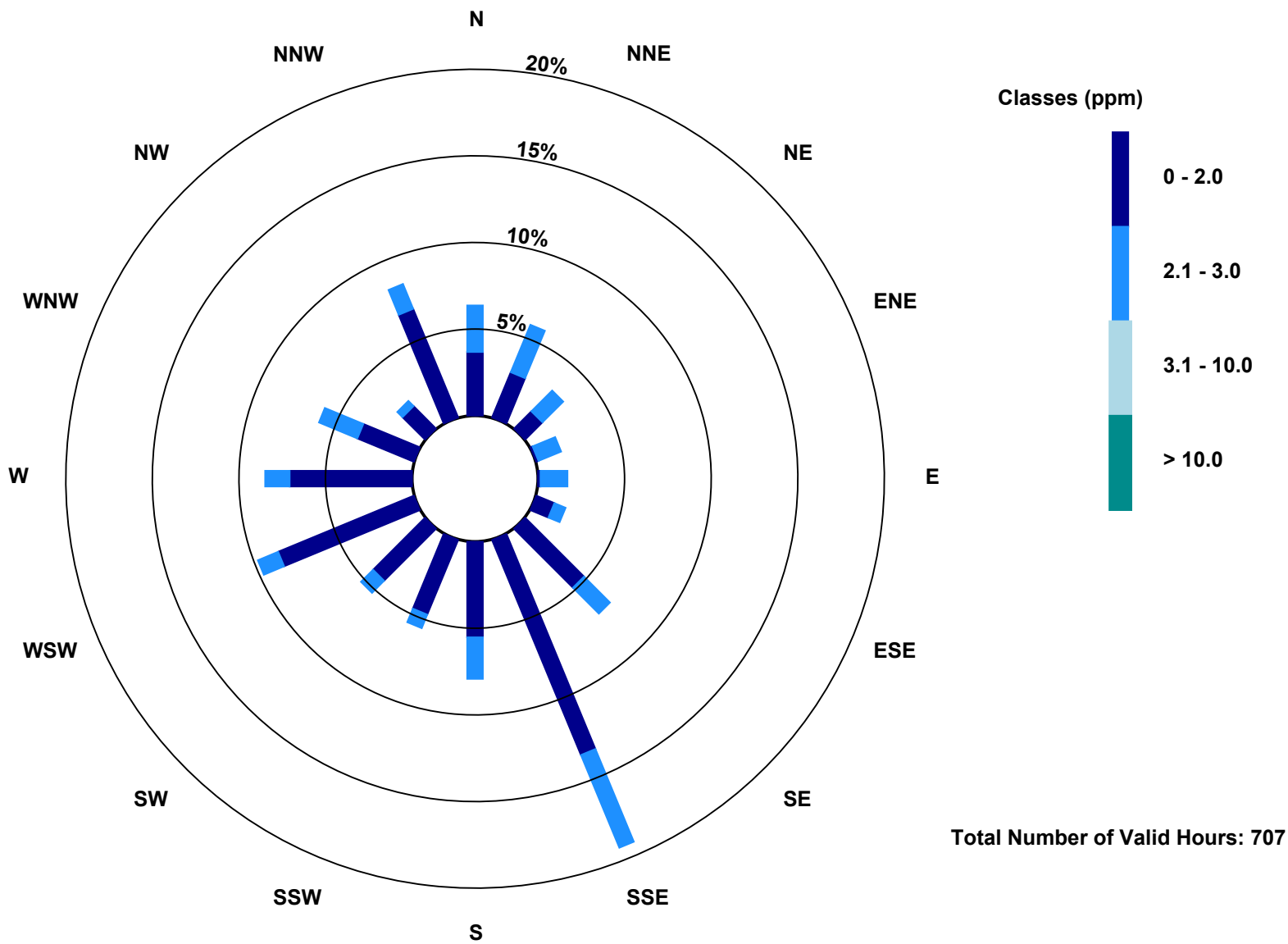
Total Number of Valid Hours: 707

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Total Hydrocarbons (THC) - ppm
Mannix



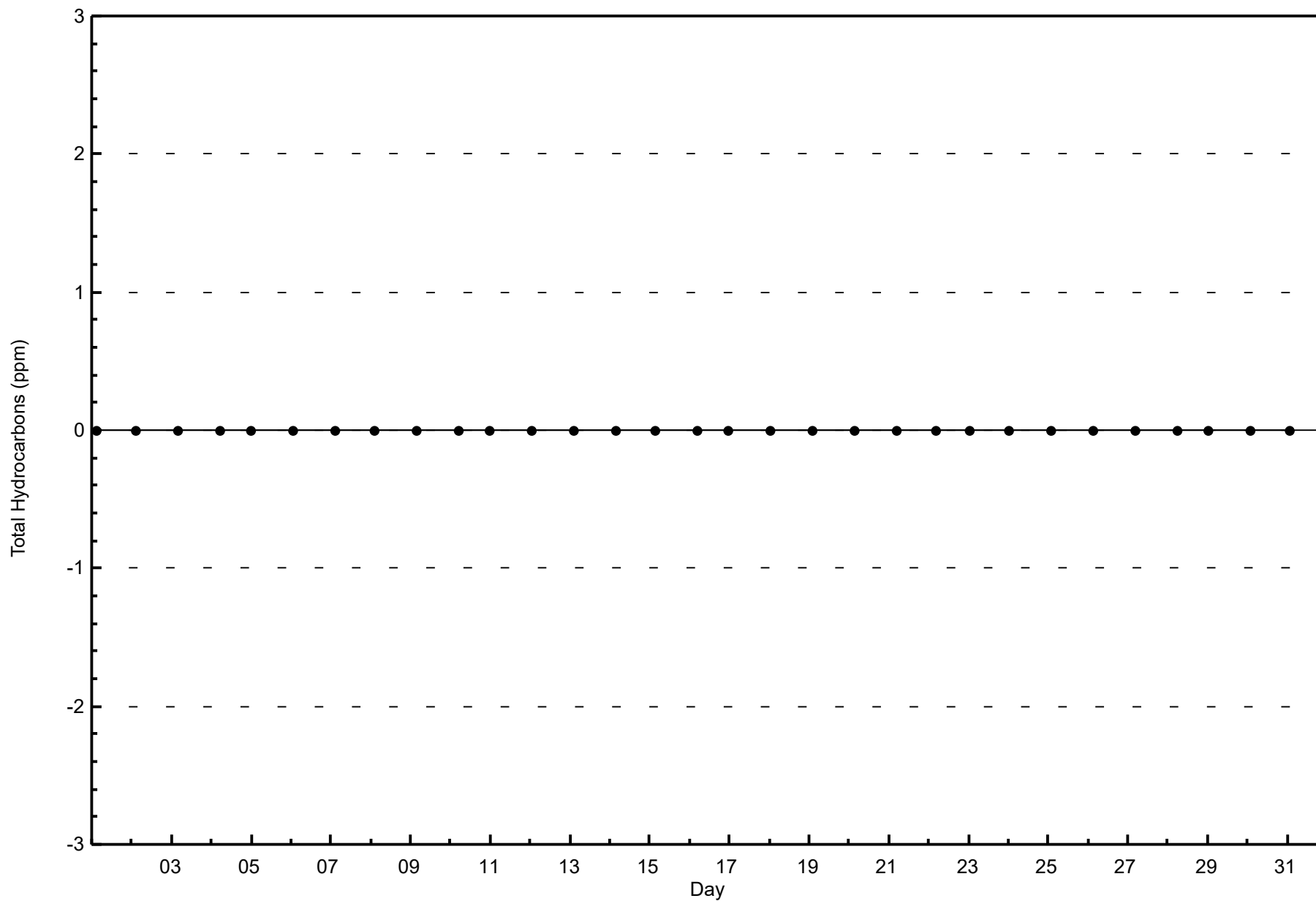


Wood Buffalo Environmental Association

Zero Responses

Total Hydrocarbons (THC) - ppm

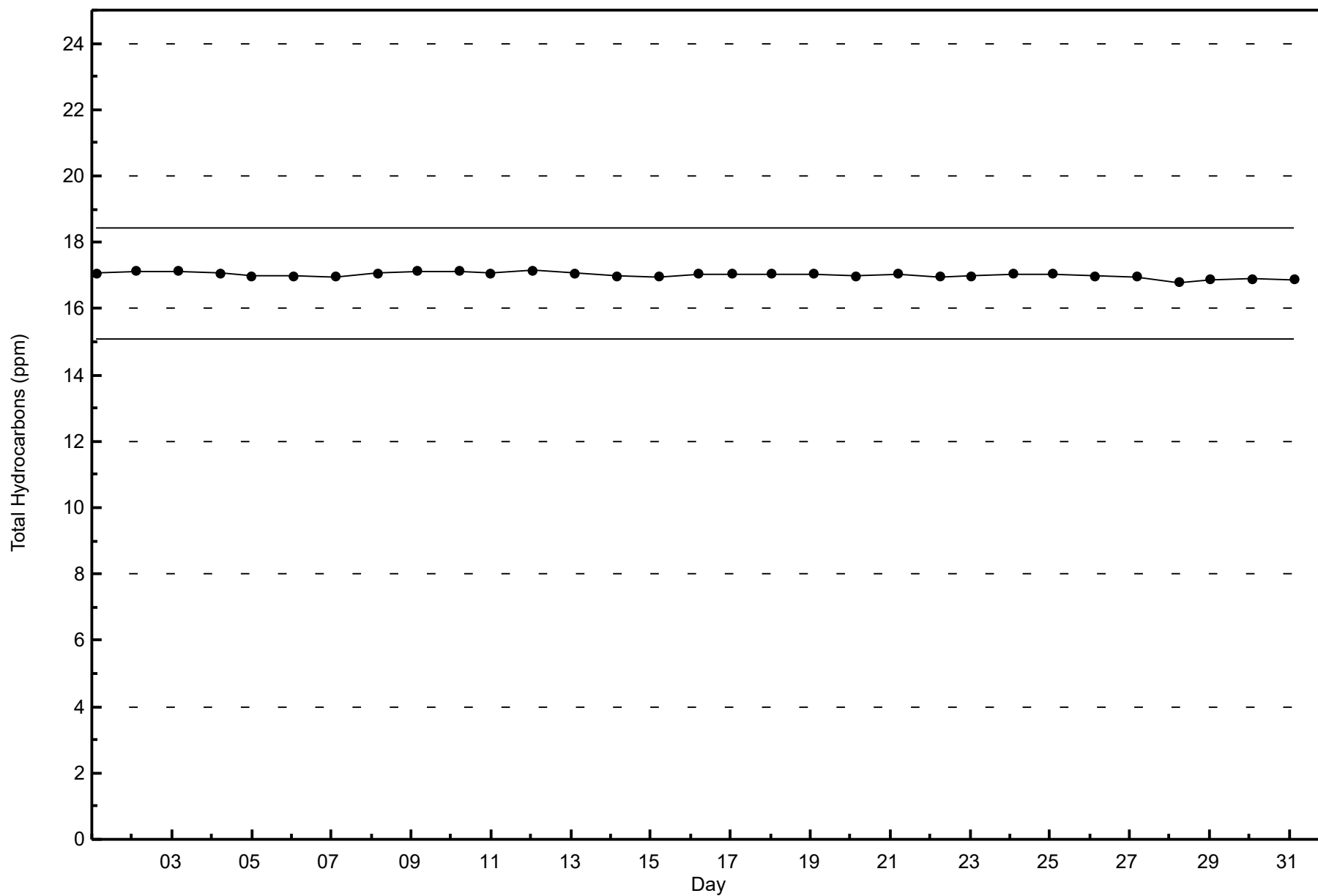
Mannix - July 2025





Wood Buffalo Environmental Association
Span Responses

Total Hydrocarbons (THC) - ppm
Mannix - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Non Methane Hydrocarbons (NMHC) - ppm

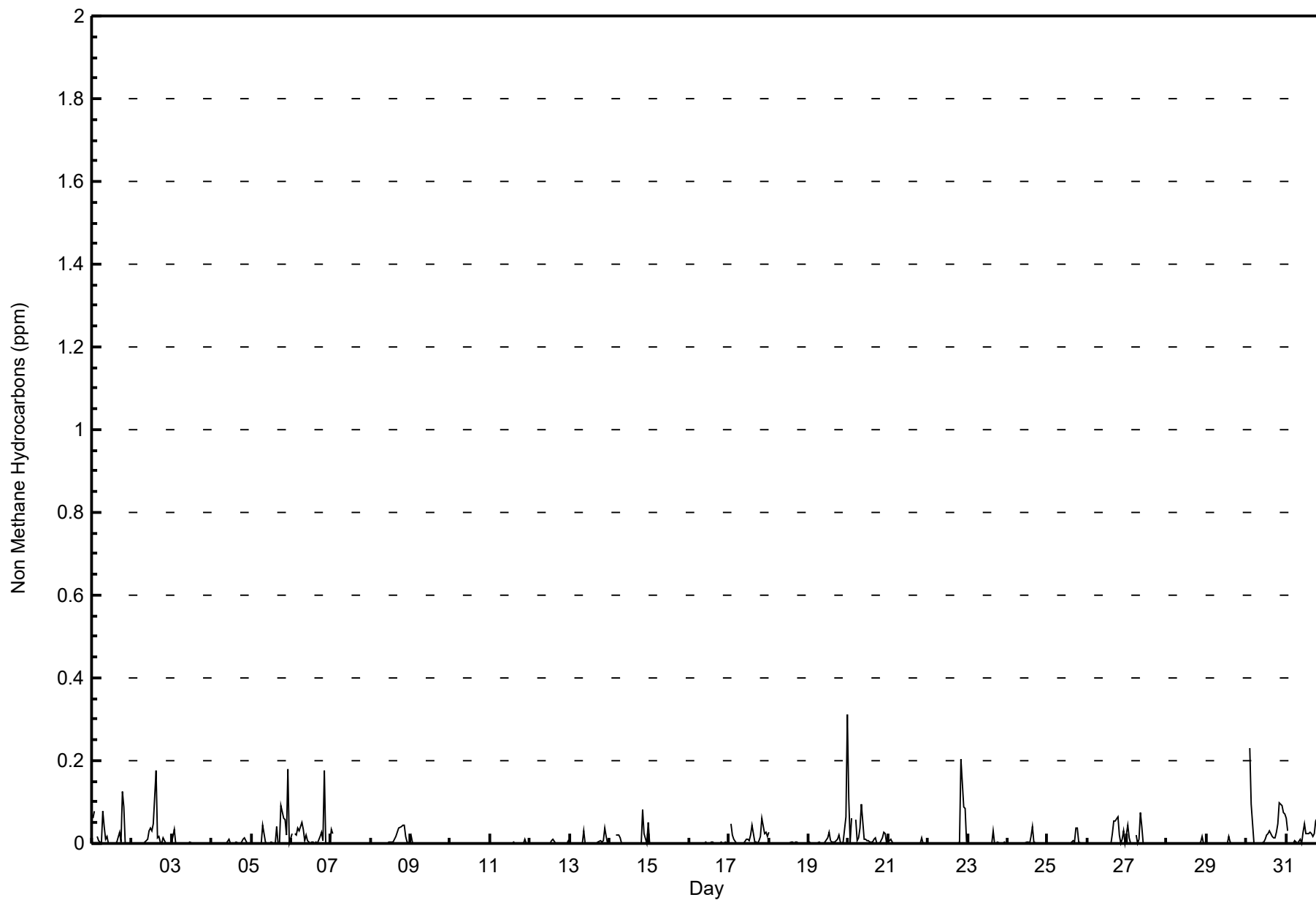
Mannix - July 2025

Maximum Value: 0.312 ppm on Jul 20 00:00																			Maximum Daily Average: 0.038 ppm on Jul 30																			Hours in Service: 744	
Minimum Value: 0.000 ppm on Jul 1 06:00																			Minimum Daily Average: 0.000 ppm on Jul 15																			Hours of Data: 707	
Maximum Diurnal Average: 0.026 ppm at hour 21																			Minimum Diurnal Average: 0.003 ppm at hour 6																			Hours of Missing Data: 37	
Monthly Average: 0.009 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: 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-Jul	0.061	0.080	Z	0.018	0.008	0.000	0.079	0.040	0.010	0.018	0.000	0.000	0.000	0.000	0.000	0.003	0.029	0.005	0.125	0.087	0.000	0.000	0.000	0.000	0.024	0.125													
2-Jul	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.002	0.010	0.030	0.038	0.029	0.046	0.175	0.013	0.016	0.005	0.001	0.013	0.000	0.001	0.000	0.001	0.017	0.175													
3-Jul	0.000	0.033	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.001	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.033														
4-Jul	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.009	0.000	0.000	0.000	0.000	0.002	0.000	0.001	0.002	0.011	0.014	0.000	0.000	0.000	0.002	0.014													
5-Jul	Z	0.001	0.001	0.000	0.000	0.000	0.000	0.043	0.005	0.000	0.001	0.000	0.002	0.001	0.000	0.040	0.000	0.001	0.092	0.062	0.058	0.021	0.180	0.000	0.022	0.180													
6-Jul	0.025	Z	0.024	0.020	0.037	0.030	0.051	0.033	0.006	0.021	0.006	0.001	0.002	0.003	0.002	0.004	0.000	0.016	0.027	0.007	0.176	0.000	0.000	0.000	0.021	0.176													
7-Jul	0.033	0.025	Z	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.033													
8-Jul	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.002	0.005	0.011	0.017	0.028	0.036	0.042	0.045	0.045	0.015	0.005	0.000	0.011	0.045													
9-Jul	0.018	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	0.001	0.018													
10-Jul	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	C	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													
11-Jul	Z	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	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.009	0.000	0.000	0.001	0.009													
12-Jul	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	0.006	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008	0.001	0.010													
13-Jul	0.001	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.006	0.003	0.008	0.036	0.016	0.001	0.004	0.036													
14-Jul	0.000	0.000	0.000	Z	0.020	0.019	0.012	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.080	0.025	0.001	0.052	0.009	0.080													
15-Jul	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.001	0.000	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001													
16-Jul	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.003	0.001	0.001	0.003	0.002	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.002	0.000	0.001	0.003													
17-Jul	Z	0.046	0.021	0.009	0.000	0.000	0.000	0.000	0.000	0.001	0.012	0.011	0.007	0.019	0.045	0.004	0.003	0.000	0.006	0.015	0.061	0.023	0.027	0.019	0.014	0.061													
18-Jul	0.027	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.003	0.003	0.001	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.027													
19-Jul	0.002	0.000	Z	0.001	0.000	0.000	0.003	0.000	0.000	0.000	0.002	0.015	0.026	0.006	0.002	0.003	0.004	0.012	0.019	0.004	0.000	0.003	0.065	0.312	0.021	0.312													
20-Jul	0.110	0.003	0.061	Z	0.058	0.008	0.014	0.036	0.094	0.010	0.011	0.008	0.006	0.005	0.004	0.009	0.015	0.000	0.002	0.000	0.015	0.026	0.023	0.000	0.022	0.110													
21-Jul	0.003	0.010	0.002	0.000	0.000	Z	0.000	0.001	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.012	0.001	0.000	0.000	0.001	0.012													
22-Jul	0.000	0.000	0.000	0.000	0.000	Z	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	0.003	0.203	0.087	0.085	0.003	0.017	0.203													
23-Jul	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	0.030	0.000	0.000	0.002	0.001	0.000	0.000	0.003	0.000	0.002	0.002	0.030													
24-Jul	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.003	0.000	0.018	0.042	0.002	0.001	0.002	0.000	0.000	0.000	0.000	0.000	0.003	0.042													
25-Jul	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	0.006	0.004	0.038	0.039	0.004	0.001	0.000	0.000	0.000	0.004	0.039													
26-Jul	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	0.023	0.054	0.053	0.063	0.021	0.002	0.011	0.031	0.001	0.011	0.063													
27-Jul	0.045	0.013	0.000	0.001	Z	0.021	0.000	0.010	0.073	0.041	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.009	0.073													
28-Jul	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	0.003	0.018	0.000	0.000	0.000	0.001	0.018													
29-Jul	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	0.016	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.016													
30-Jul	0.000	Z	0.230	0.095	0.001	0.000	0.000	0.000	0.000	0.000	0.002	0.011	0.020	0.022	0.032	0.016	0.013	0.012	0.028	0.046	0.099	0.092	0.074	0.072	0.038	0.230													
31-Jul	0.061	0.032	Z	0.001	0.000	0.006	0.002	0.000	0.009	0.000	0.026	0.047	0.023	0.024	0.026	0.024	0.017	0.025	0.055	0.069	0.040	0.010	0.002	0.001	0.022	0.069													
																									Diurnal Average														
																									Diurnal Maximum														
Z - zerospan C - Calibration																																							



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 0.005	541	76.52	76.52
0.006 - 0.05	133	18.81	95.33
0.06 - 0.1	27	3.82	99.15
> 0.1	6	0.85	100.00

Total Number of Valid Hours: 707

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Non Methane Hydrocarbons (NMHC) - ppm
Mannix - July 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	11	7	2	0	7	42	127	50	26	28	66	56	34	15	50	541
0.006 - 0.05	22	23	8	5	8	3	7	9	6	11	7	3	4	8	1	8	133
0.06 - 0.1	3	6	6	3	3	1	0	0	0	2	2	0	0	0	0	1	27
> 0.1	0	1	1	1	1	2	0	0	0	0	0	0	0	0	0	0	6
Totals	45	41	22	11	12	13	49	136	56	39	37	69	60	42	16	59	707

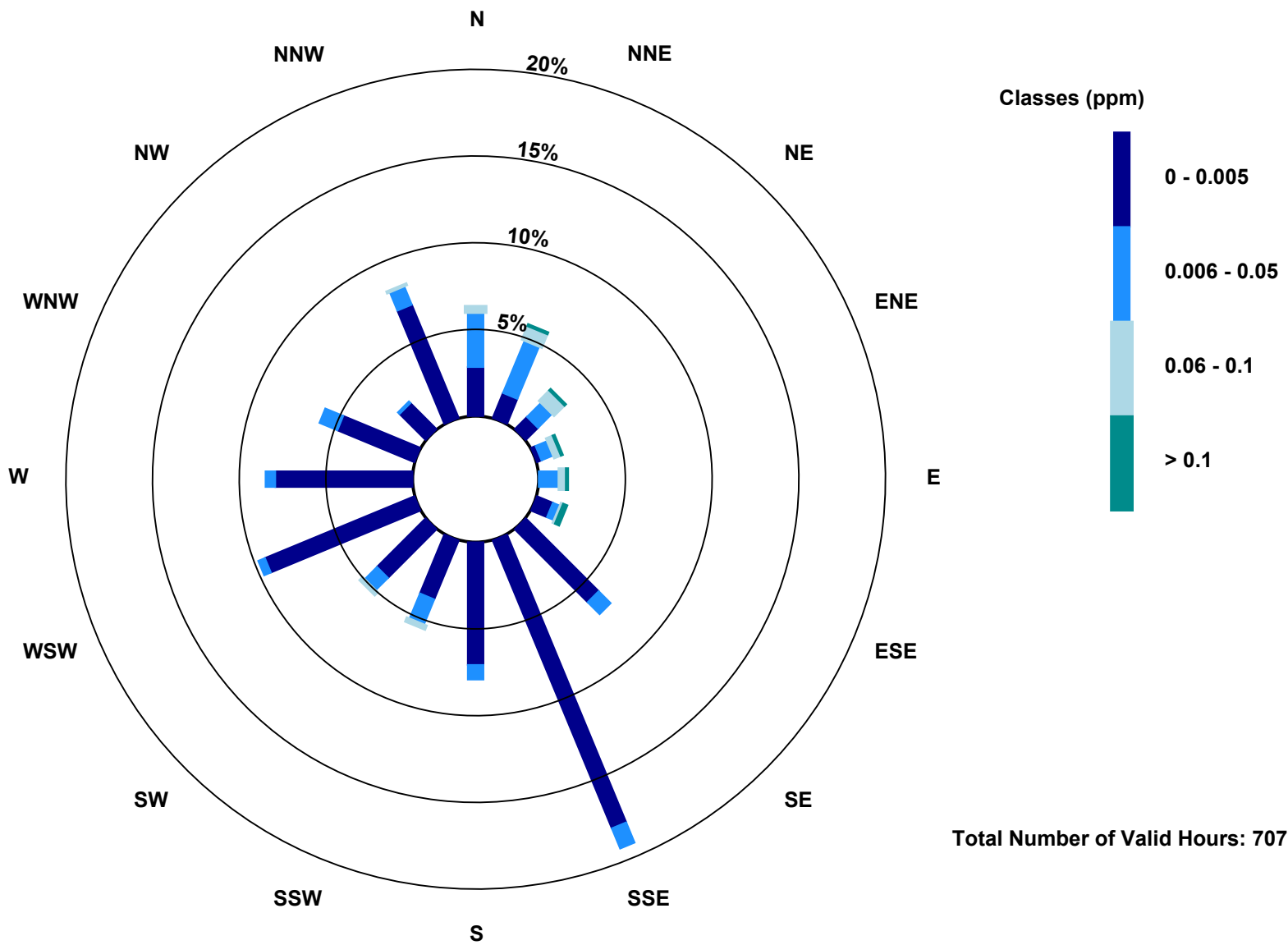
Total Number of Valid Hours: 707

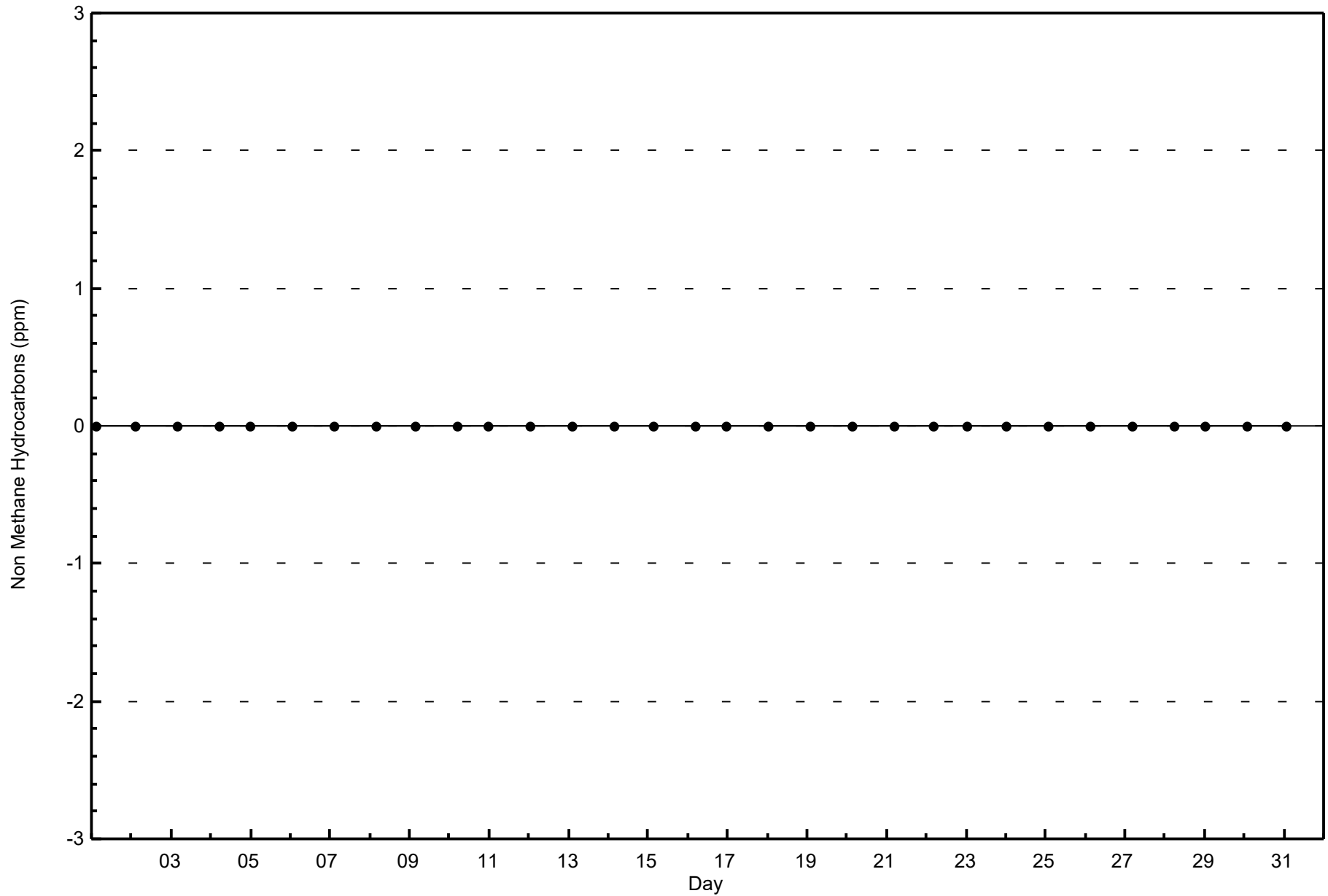
Total Number of Hours: 744

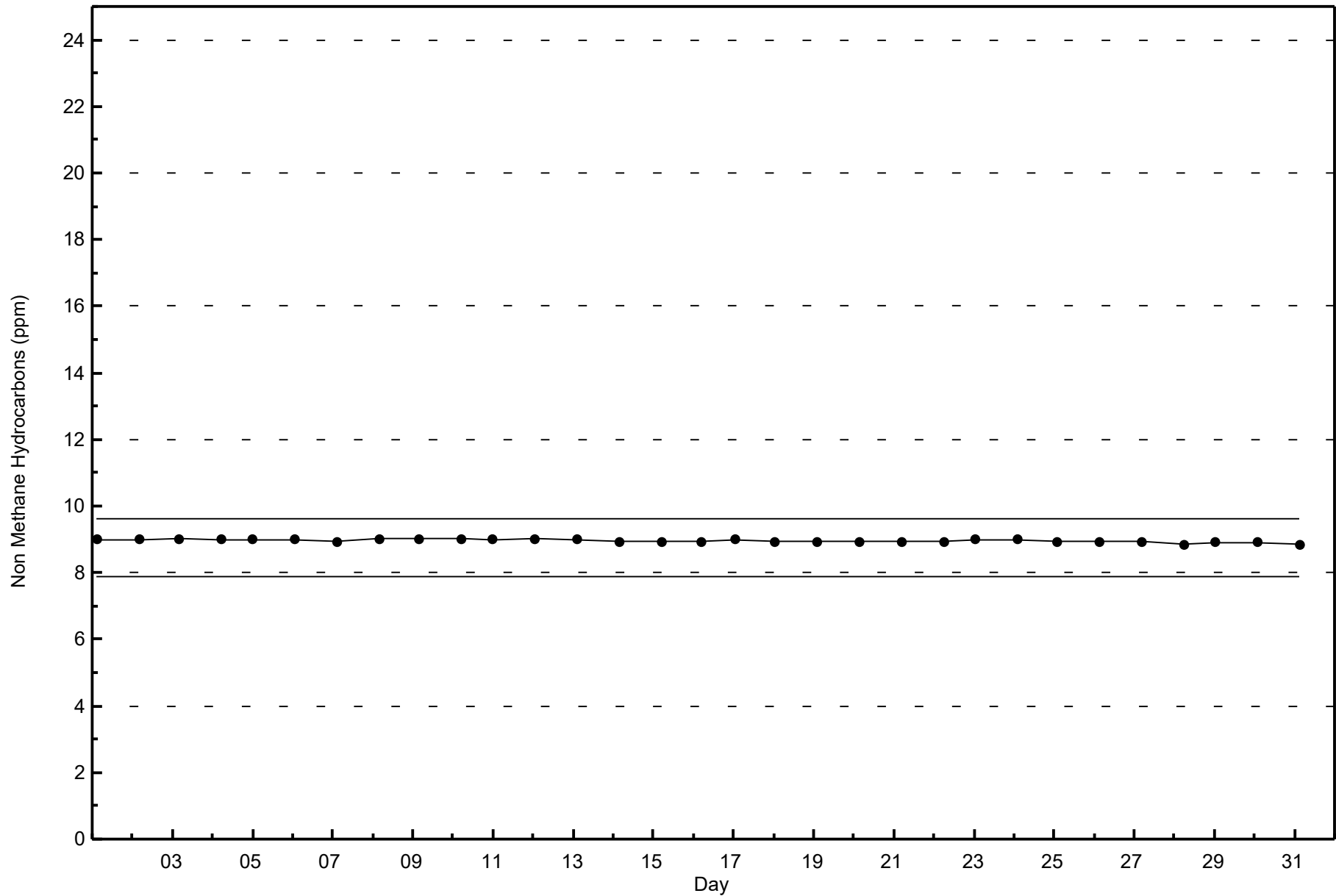


Wood Buffalo Environmental Association
Wind Rose Jul 2025

Non Methane Hydrocarbons (NMHC) - ppm
Mannix









Wood Buffalo Environmental Association

Summary of Hour Averages

Methane (CH₄) - ppm

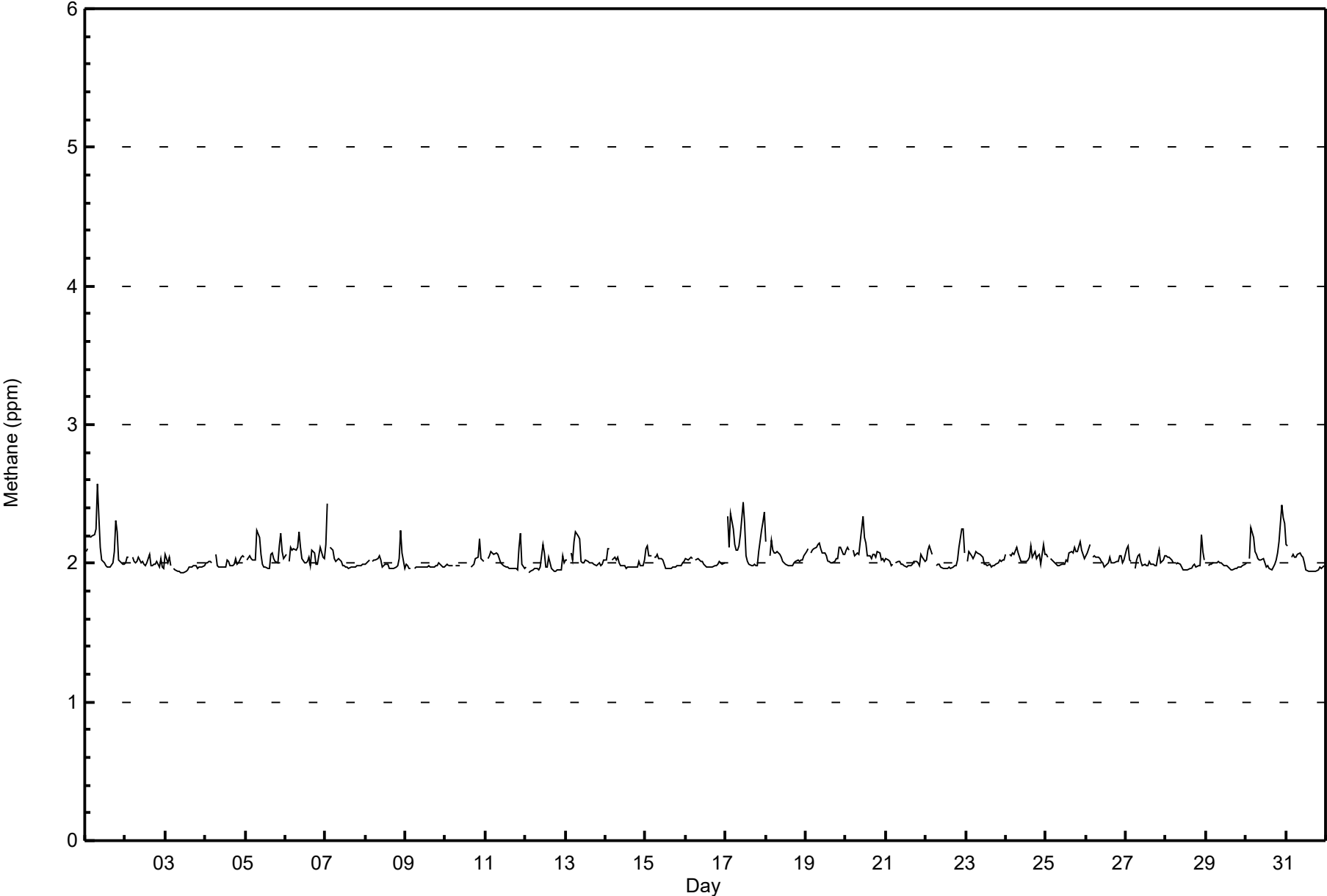
Mannix - July 2025

Number of Exceedences (AAAQO): Maximum Value: 2.6 ppm on Jul 1 08:00																	1-hr: 0 24-hr: 0 Maximum Daily Average: 2.1 ppm on Jul 17																	Hours in Service: 744	
Minimum Value: 1.9 ppm on Jul 3 12:00 Maximum Diurnal Average: 2.1 ppm at hour 2 Monthly Average: 2.03 ppm																	Minimum Daily Average: 2.0 ppm on Jul 3 Minimum Diurnal Average: 2.0 ppm at hour 14 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 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-Jul	2.1	2.1	Z	2.2	2.2	2.2	2.2	2.6	2.3	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.3	2.2	2.0	2.0	2.0	2.0	2.0	2.1	2.6								
2-Jul	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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1								
3-Jul	2.1	2.0	2.0	2.0	Z	2.0	2.0	1.9	1.9	1.9	1.9	1.9	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	2.1									
4-Jul	2.0	2.0	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	2.1	2.0	2.0	2.1									
5-Jul	Z	2.0	2.1	2.0	2.0	2.0	2.0	2.2	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.1	2.2	2.1	2.0	2.1	2.2									
6-Jul	2.1	Z	2.0	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.1	2.1	2.0	2.0	2.1	2.2									
7-Jul	2.1	2.4	Z	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	2.4									
8-Jul	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	2.2	2.1	2.0	2.0	2.2									
9-Jul	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									
10-Jul	2.0	2.0	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	C	C	C	C	C	C	2.0	2.0	2.0	2.0	2.2	2.0	2.0	2.0	–	2.2									
11-Jul	Z	2.0	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	2.0	2.0	2.0	2.2									
12-Jul	2.0	Z	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0	1.9	1.9	1.9	2.0	1.9	2.0	2.1	2.0	2.0	2.1									
13-Jul	2.0	2.0	Z	2.1	2.0	2.2	2.2	2.2	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	2.0	2.0	2.2									
14-Jul	2.0	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	2.1									
15-Jul	2.1	2.1	2.1	2.1	Z	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	2.1									
16-Jul	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									
17-Jul	Z	2.3	2.1	2.4	2.3	2.1	2.1	2.1	2.1	2.2	2.4	2.3	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.3	2.4	2.1	2.4									
18-Jul	2.2	Z	2.1	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	2.0	2.1	2.0	2.2									
19-Jul	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	2.0	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-Jul	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.2	2.1	2.1	2.1	2.0	2.1	2.1	2.0	2.1	2.1	2.0	2.0	2.0	2.1	2.3									
21-Jul	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	2.1	2.0	2.0	2.0	2.0	2.1									
22-Jul	2.0	2.1	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	2.1	2.2	2.2	2.1	2.0	2.2									
23-Jul	Z	2.0	2.1	2.1	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	2.1									
24-Jul	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	2.0	2.1	2.0	2.1	2.1	2.0	2.1	2.1	2.1	2.1									
25-Jul	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	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.0	2.0	2.2									
26-Jul	2.1	2.1	2.1	Z	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	2.1	2.1	2.0	2.0	2.0	2.1									
27-Jul	2.1	2.1	2.0	2.0	Z	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	2.1	2.0	2.0	2.1	2.0	2.1									
28-Jul	2.1	2.0	2.0	2.0	2.0	Z	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	2.2	2.1	2.0	2.0	2.0	2.2									
29-Jul	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									
30-Jul	2.0	Z	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	2.1	2.2	2.4	2.3	2.3	2.1	2.4									
31-Jul	2.1	2.1	Z	2.0	2.1	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	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 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 2.0 2.0 2.0 2.0																								Diurnal Average											
2.2 2.4 2.1 2.4 2.3 2.2 2.2 2.6 2.3 2.2 2.4 2.3 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.3 2.2 2.2 2.4 2.3 2.4																								Diurnal Maximum											
Z - zerospan C - Calibration																																			



Wood Buffalo Environmental Association
Hourly Averages

Methane (CH₄) - ppm
Mannix - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Methane (CH₄) - ppm
Mannix - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	514	72.70	72.70
2.1 - 3.0	193	27.30	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
Mannix - July 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	28	25	12	2	3	10	35	98	39	33	30	60	50	27	13	49	514
2.1 - 3.0	17	16	10	9	9	3	14	38	17	6	7	9	10	15	3	10	193
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	45	41	22	11	12	13	49	136	56	39	37	69	60	42	16	59	707

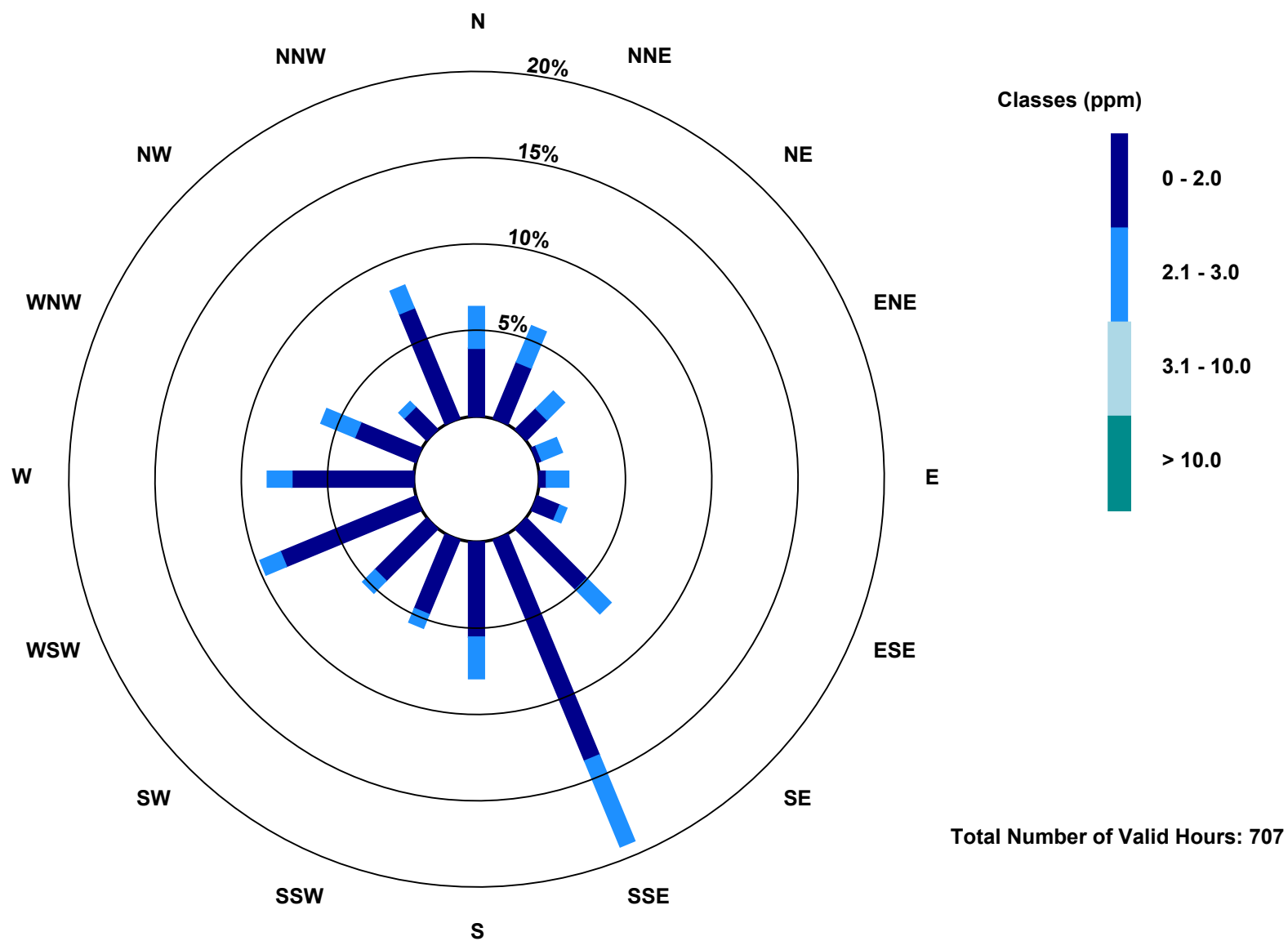
Total Number of Valid Hours: 707

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

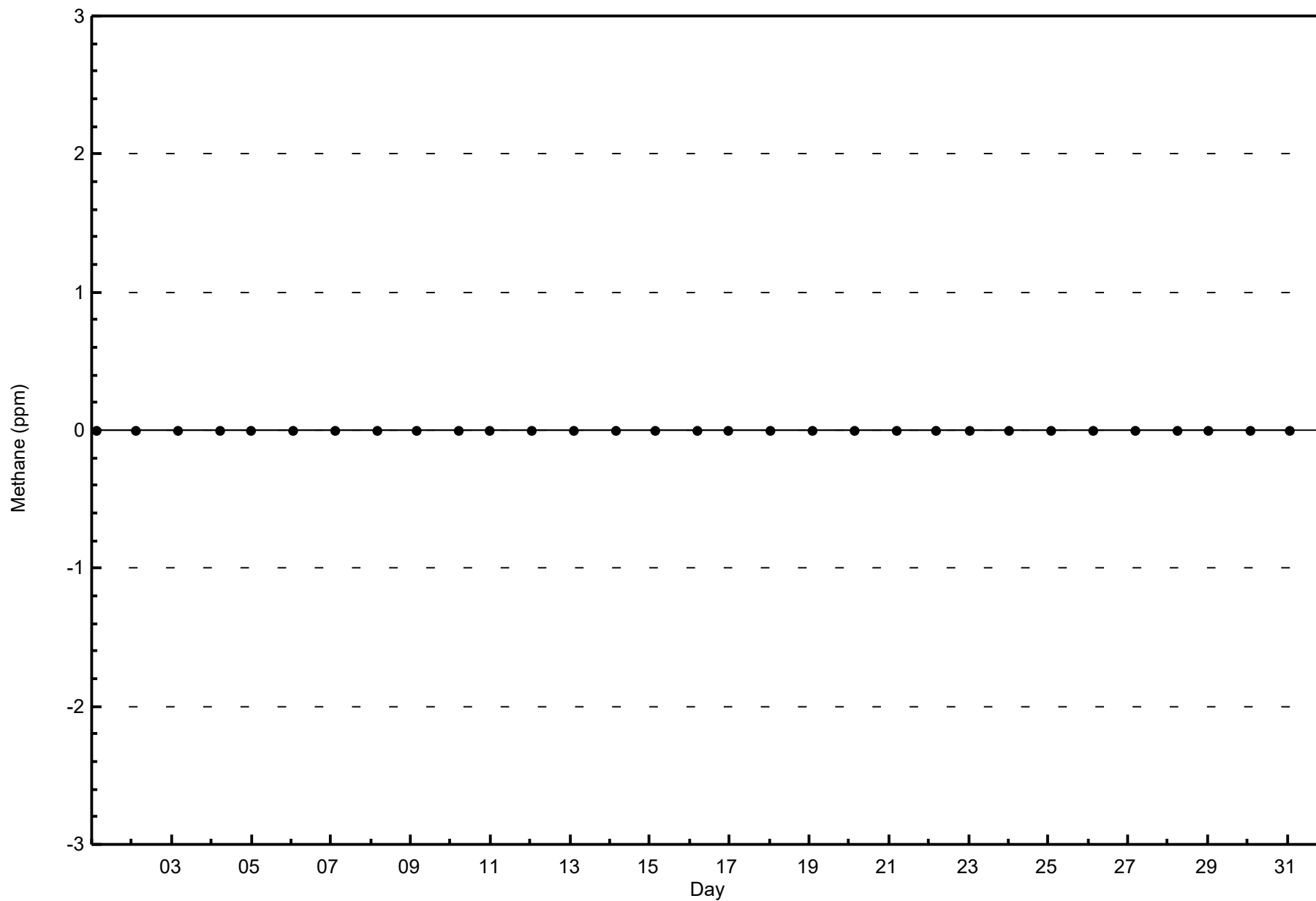
Methane (CH₄) - ppm
Mannix





Wood Buffalo Environmental Association
Zero Responses

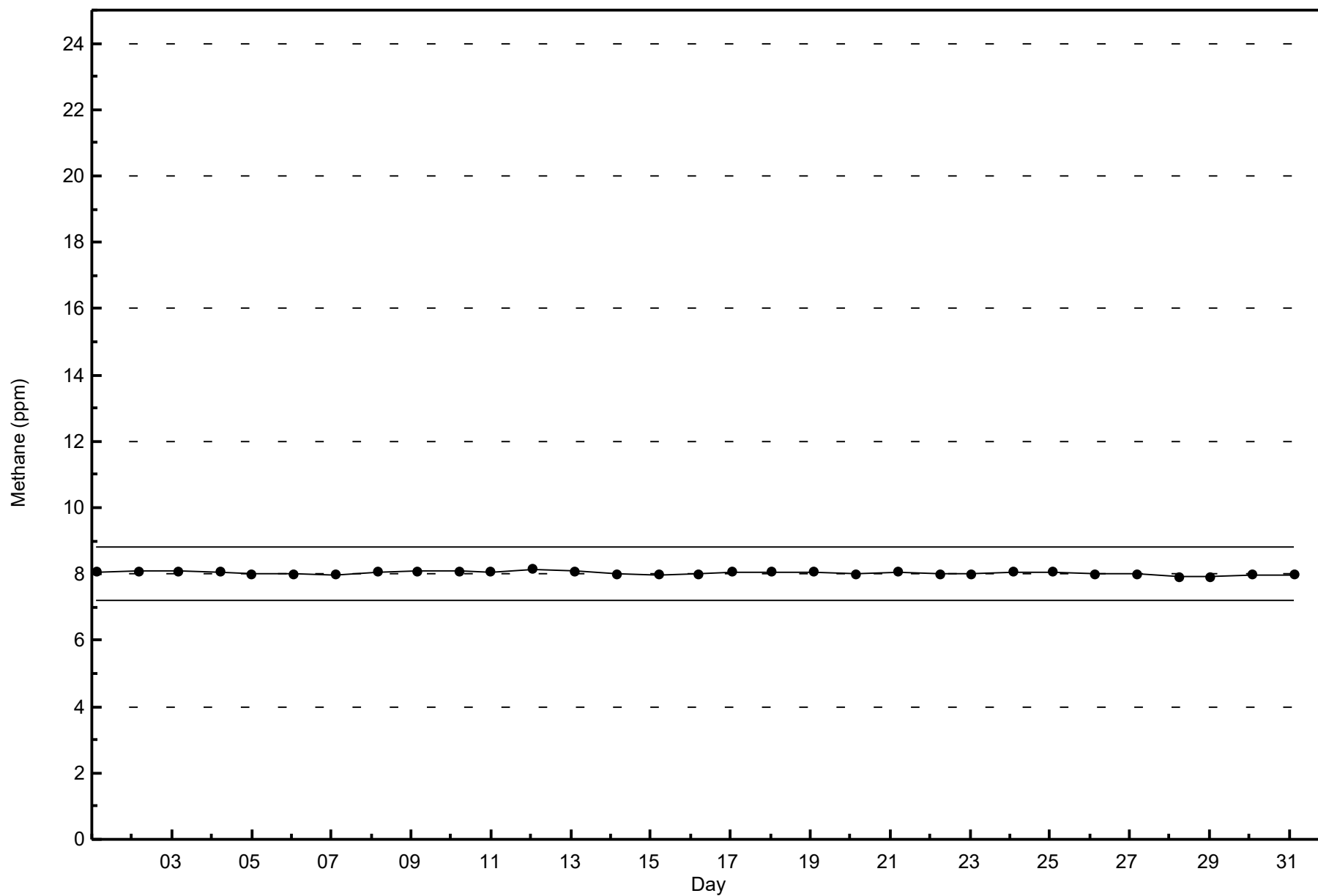
Methane (CH₄) - ppm
Mannix - July 2025





Wood Buffalo Environmental Association
Span Responses

Methane (CH₄) - ppm
Mannix - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Ambient Temperature 2m (AT2) - C

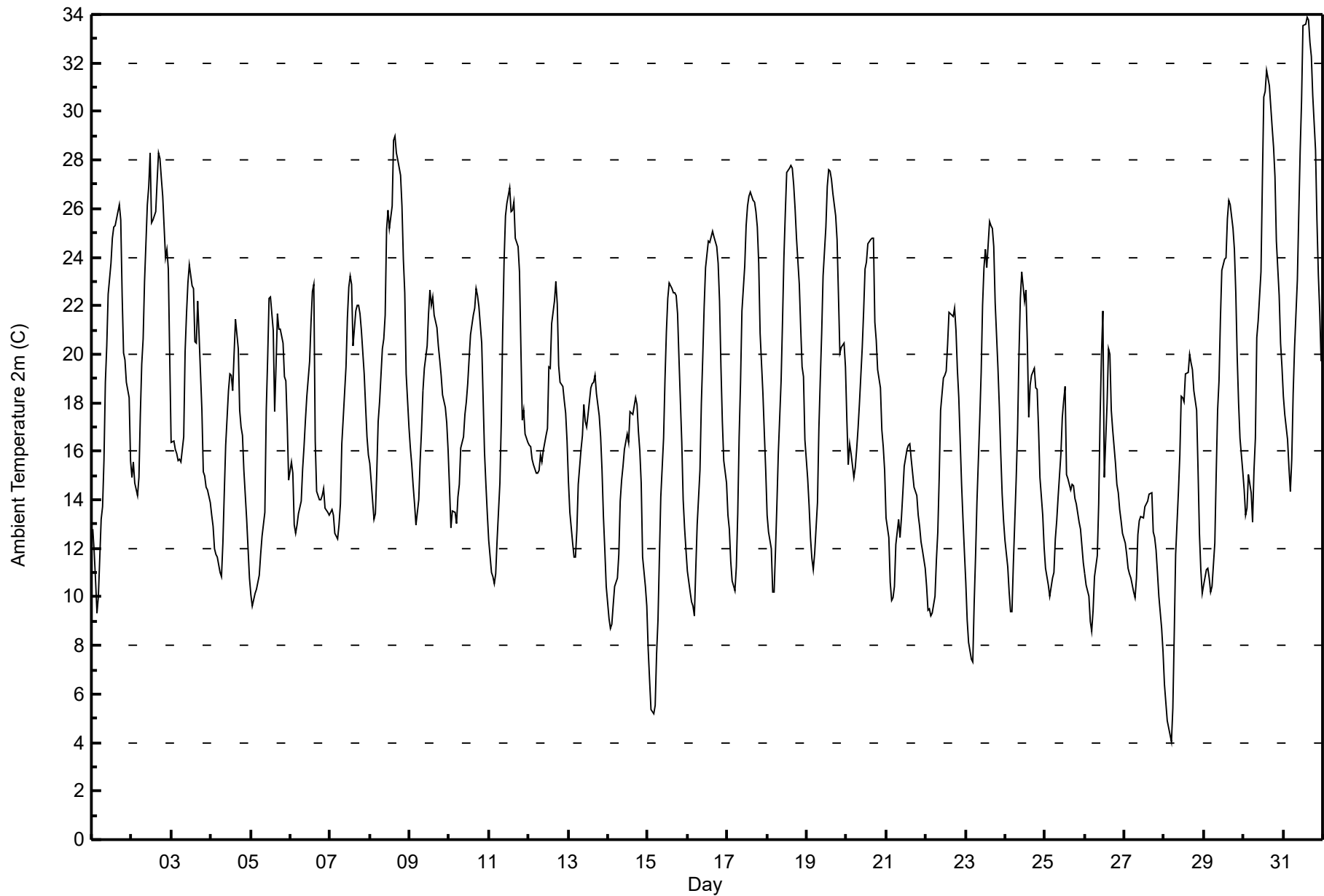
Mannix - July 2025

Maximum Value: 33.9 C on Jul 31 15:00																				Maximum Daily Average: 24.7 C on Jul 31					Hours in Service: 744	
Minimum Value: 4.1 C on Jul 28 05:00																				Minimum Daily Average: 11.9 C on Jul 27					Hours of Data: 744	
Maximum Diurnal Average: 22.7 C at hour 16																				Minimum Diurnal Average: 11.2 C at hour 5					Hours of Missing Data: 0	
Monthly Average: 17.47 C																				Percentiles: P ₁ = 6.0 P ₁₀ = 10.8 Q ₁ = 13.3 Median = 16.9 Q ₃ = 21.6 P ₉₀ = 25.3 P ₉₉ = 31.0					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-Jul	12.8	11.9	10.7	9.3	10.0	13.2	13.7	15.6	18.8	20.4	22.5	23.7	24.8	25.2	25.3	25.6	26.2	25.5	22.4	20.1	19.8	18.9	18.2	15.6	18.8	26.2
2-Jul	14.9	15.6	14.7	14.2	14.9	17.5	19.6	20.7	23.0	26.2	26.9	28.3	25.4	25.5	25.9	27.2	28.3	28.0	27.3	26.5	24.0	24.3	23.5	19.9	22.6	28.3
3-Jul	16.4	16.4	16.1	15.9	15.6	15.7	15.6	16.6	20.1	21.7	22.9	23.7	22.8	22.7	20.5	20.5	22.2	20.8	17.7	15.2	15.0	14.5	14.4	13.9	18.2	23.7
4-Jul	13.4	12.9	12.0	11.7	11.6	11.0	10.8	12.2	14.3	16.2	18.5	19.2	19.1	18.5	20.0	21.5	20.2	17.7	17.0	16.7	15.2	13.2	12.0	10.8	15.2	21.5
5-Jul	10.1	9.6	10.1	10.3	10.6	10.9	11.7	12.5	13.5	17.7	19.8	22.3	22.4	21.0	17.6	19.5	21.7	21.0	21.0	20.4	19.1	18.9	17.1	14.8	16.4	22.4
6-Jul	15.6	15.1	13.0	12.6	13.0	13.4	13.9	15.3	16.2	17.3	18.3	19.7	21.3	22.6	22.9	16.4	14.4	14.0	14.0	14.2	14.5	13.7	13.5	13.4	15.8	22.9
7-Jul	13.5	13.6	13.3	12.6	12.4	13.0	13.8	16.3	17.3	19.5	21.5	22.8	23.2	22.9	20.3	21.8	22.0	22.0	21.7	21.0	19.2	17.9	16.6	15.8	18.1	23.2
8-Jul	15.5	14.8	13.2	13.4	15.1	17.3	18.0	20.2	20.6	21.6	25.1	25.9	25.2	26.1	28.8	29.0	28.3	28.0	27.4	26.1	23.9	22.5	19.2	17.0	21.8	29.0
9-Jul	16.1	15.4	14.6	13.8	12.9	14.0	15.6	16.9	18.5	19.4	20.3	21.6	22.6	22.0	22.4	21.6	21.1	20.3	19.8	19.1	18.3	17.8	17.2	16.0	18.2	22.6
10-Jul	14.5	12.8	13.6	13.5	13.0	14.1	14.7	16.1	16.6	17.5	18.1	18.8	19.8	20.8	21.6	21.9	22.7	22.4	21.9	20.5	18.2	16.0	14.7	13.4	17.4	22.7
11-Jul	12.3	11.0	10.8	10.5	10.9	12.3	14.7	17.2	20.9	23.9	25.7	26.2	26.9	25.9	25.9	26.3	24.8	24.4	23.4	20.3	17.3	17.7	16.7	16.4	19.3	26.9
12-Jul	16.2	16.2	15.7	15.5	15.1	15.1	15.2	15.8	15.6	16.0	16.6	16.9	19.5	19.4	21.3	22.2	23.0	22.1	19.6	18.8	18.7	18.1	17.6	16.4	17.8	23.0
13-Jul	14.8	13.5	12.2	11.6	11.6	12.7	14.7	16.1	16.6	17.9	17.2	17.0	17.5	18.6	18.8	18.8	19.1	18.4	17.5	16.6	15.2	13.3	11.9	10.4	15.5	19.1
14-Jul	9.1	8.7	8.9	9.7	10.4	10.8	11.8	14.0	14.8	15.4	16.1	16.7	16.4	17.7	17.6	17.5	18.2	17.9	16.8	16.0	14.7	11.6	10.4	9.6	13.8	18.2
15-Jul	7.9	6.6	5.3	5.2	5.5	7.7	9.1	11.7	14.1	16.5	19.0	20.9	22.3	22.9	22.7	22.6	22.5	22.4	21.7	19.8	16.3	14.0	12.8	11.9	15.1	22.9
16-Jul	11.0	10.2	9.8	9.6	9.2	11.1	13.0	15.2	18.0	19.9	22.0	23.6	24.7	24.6	24.8	25.1	24.8	24.4	23.8	22.2	19.5	17.2	15.6	14.7	18.1	25.1
17-Jul	13.4	12.8	11.5	10.7	10.3	11.2	13.4	16.6	18.8	21.8	23.6	25.3	26.1	26.5	26.7	26.3	26.3	25.9	25.3	23.7	20.8	18.4	16.7	15.2	19.5	26.7
18-Jul	13.4	12.7	12.0	10.2	10.2	11.9	13.8	15.9	18.9	21.3	24.0	25.8	27.5	27.7	27.8	27.7	27.0	26.0	24.8	22.9	21.1	19.5	19.1	16.5	19.9	27.8
19-Jul	14.9	13.8	12.5	11.6	11.1	11.8	13.9	17.0	18.9	20.8	23.2	25.3	26.9	27.6	27.5	27.2	26.6	25.7	24.7	22.4	20.1	20.3	20.4	19.5	20.2	27.6
20-Jul	17.3	15.5	16.3	15.9	14.9	15.3	16.1	17.0	18.0	20.3	21.8	23.5	23.8	24.5	24.7	24.8	24.8	21.3	20.6	19.4	18.6	16.9	16.2	15.2	19.3	24.8
21-Jul	13.2	12.4	10.6	9.8	10.0	10.5	12.2	13.2	12.4	13.2	14.3	15.4	16.1	16.2	16.3	15.7	15.1	14.5	14.2	13.4	12.9	12.3	11.9	11.2	13.2	16.3
22-Jul	10.4	9.4	9.5	9.2	9.4	10.0	11.5	12.7	14.9	17.7	19.0	19.1	19.3	20.4	21.7	21.7	21.6	21.9	21.0	19.3	18.2	14.7	13.2	11.9	15.7	21.9
23-Jul	10.6	9.1	8.1	7.4	7.3	9.7	11.7	14.0	17.3	19.3	22.0	23.6	24.3	23.6	25.5	25.3	25.2	24.5	22.1	19.4	17.8	15.9	14.2	13.1	17.1	25.5
24-Jul	12.3	11.2	10.2	9.4	9.4	11.3	14.8	16.9	19.9	22.3	23.4	22.2	22.7	20.5	17.4	18.7	19.1	19.4	18.6	18.6	17.0	14.9	13.4	12.0	16.5	23.4
25-Jul	11.2	10.8	10.5	10.0	10.8	11.0	12.4	13.2	14.1	15.9	17.4	18.1	18.6	15.1	14.9	14.4	14.6	14.6	14.0	13.8	13.1	12.8	12.1	11.4	13.5	18.6
26-Jul	11.0	10.5	10.0	9.0	8.6	9.5	10.9	11.7	13.9	17.4	20.0	21.8	14.9	18.0	20.2	20.0	17.7	16.9	15.5	14.6	14.3	13.6	13.1	12.6	14.4	21.8
27-Jul	12.2	11.7	11.2	10.9	10.8	10.2	10.0	10.8	12.6	13.2	13.3	13.3	13.7	13.8	14.0	14.3	14.3	12.7	12.4	11.9	11.0	10.0	8.7	7.7	11.9	14.3
28-Jul	6.4	5.7	4.9	4.3	4.1	5.4	8.5	11.7	14.4	15.9	18.3	18.2	18.0	19.2	19.3	20.0	19.7	19.4	18.5	17.7	15.2	12.6	11.1	10.2	13.3	20.0
29-Jul	10.5	11.1	11.2	10.8	10.2	10.4	12.2	15.1	17.7	18.9	21.5	23.4	23.9	24.0	25.6	26.4	26.1	25.2	24.3	22.5	19.9	18.0	16.6	15.1	18.4	26.4
30-Jul	14.4	13.4	13.7	15.0	14.3	13.1	15.2	16.6	20.7	21.4	23.4	27.1	30.6	30.8	31.7	31.1	30.2	29.3	28.5	27.3	24.6	22.4	20.5	19.5	22.3	31.7
31-Jul	18.3	17.5	16.5	15.3	14.3	15.7	18.4	20.3	23.0	25.8	28.4	30.4	33.6	33.6	33.9	33.8	32.9	32.3	30.6	28.4	25.5	23.3	21.7	19.7	24.7	33.9
13.0 12.3 11.7 11.3 11.2 12.2 13.6 15.3 17.2 19.1 20.8 21.9 22.4 22.5 22.7 22.7 22.6 21.9 20.9 19.6 18.0 16.6 15.5 14.2																										Diurnal Average
18.3 17.5 16.5 15.9 15.6 17.5 19.6 20.7 23.0 26.2 28.4 30.4 33.6 33.6 33.9 33.8 32.9 32.3 30.6 28.4 25.5 24.3 23.5 19.9																										Diurnal Maximum



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	0	0.00	0.00
-20 - 0	0	0.00	0.00
0 - 10	43	5.78	5.78
10 - 20	466	62.63	68.41
> 20	235	31.59	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association

Summary of Hour Averages

Ambient Temperature 20m (AT20) - C

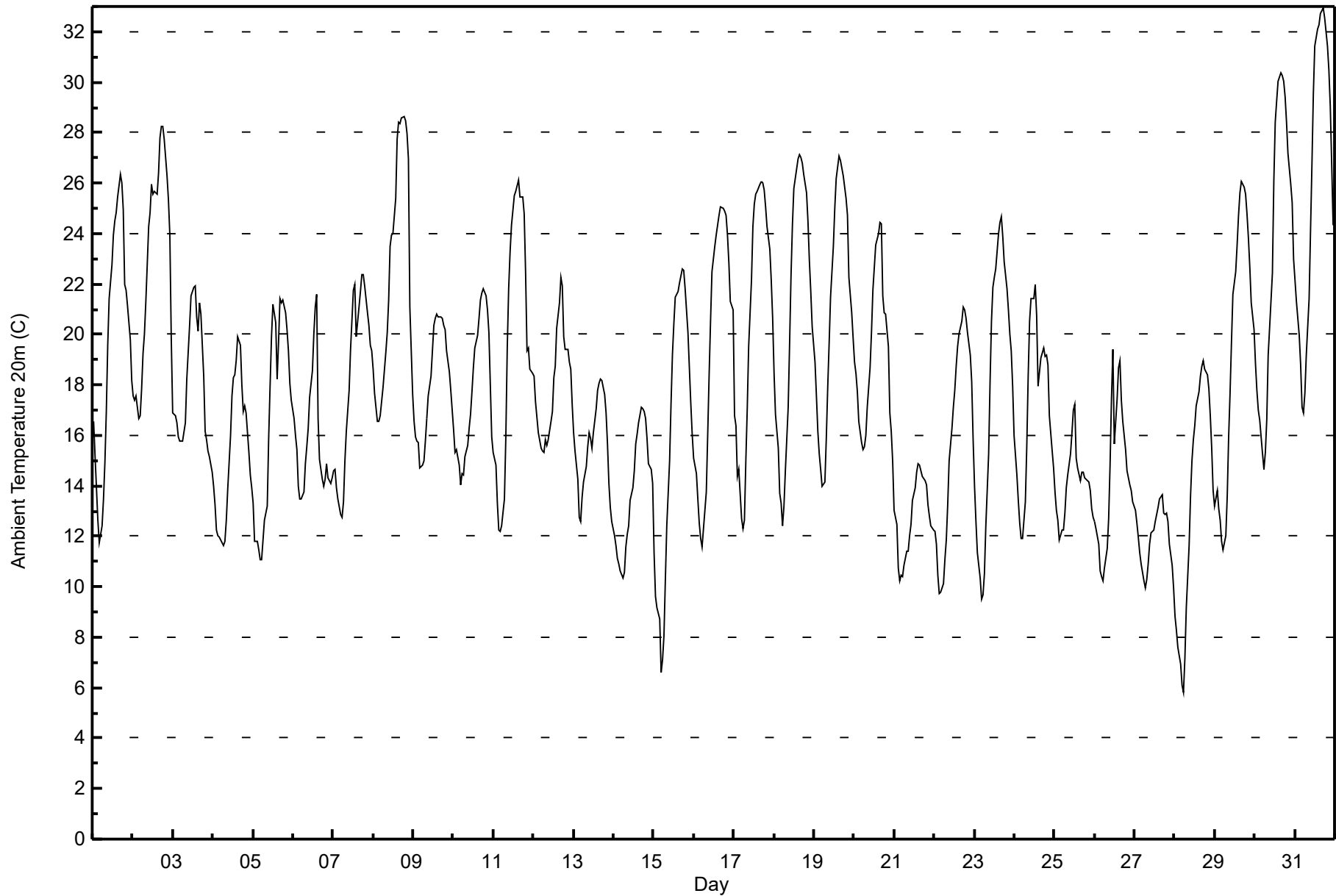
Mannix - July 2025

Maximum Value: 33.0 C on Jul 31 18:00																				Maximum Daily Average: 26.0 C on Jul 31										Hours in Service: 744	
Minimum Value: 5.8 C on Jul 28 06:00																				Minimum Daily Average: 12.0 C on Jul 27										Hours of Data: 744	
Maximum Diurnal Average: 22.3 C at hour 17																				Minimum Diurnal Average: 12.6 C at hour 6										Hours of Missing Data: 0	
Monthly Average: 17.92 C																				Percentiles: P ₁ = 8.1 P ₁₀ = 11.9 Q ₁ = 14.0 Median = 17.2 Q ₃ = 21.3 P ₉₀ = 25.4 P ₉₉ = 31.0										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-Jul	16.5	15.2	13.9	12.6	11.7	12.4	13.5	15.0	16.9	19.6	21.4	22.8	23.9	24.5	24.8	25.5	26.3	26.0	24.9	22.0	21.8	21.1	19.8	18.2	19.6	26.3					
2-Jul	17.6	17.4	17.6	16.7	16.8	17.8	19.2	20.0	21.3	24.3	24.8	26.0	25.6	25.7	25.6	26.4	27.8	28.2	28.3	27.7	26.3	25.3	24.0	19.9	22.9	28.3					
3-Jul	16.9	16.8	16.5	15.9	15.8	15.8	15.8	16.5	18.2	19.3	20.4	21.5	21.9	21.9	20.7	20.1	21.2	20.8	18.3	16.1	15.8	15.4	15.1	14.5	18.0	21.9					
4-Jul	14.0	13.2	12.3	12.0	11.9	11.8	11.7	11.8	12.6	13.9	16.0	17.6	18.3	18.4	19.0	19.9	19.6	18.0	16.9	17.2	16.9	15.3	14.4	13.9	15.3	19.9					
5-Jul	13.3	11.8	11.8	11.5	11.1	11.1	11.8	12.6	13.2	15.9	17.9	19.9	21.2	20.5	18.3	19.7	21.4	21.3	21.4	20.9	20.2	19.4	18.1	17.4	16.7	21.4					
6-Jul	16.6	16.0	15.4	14.0	13.5	13.5	13.8	14.9	15.6	16.3	17.5	18.6	20.0	21.1	21.6	16.7	15.0	14.3	14.0	14.3	14.9	14.3	14.1	14.3	15.8	21.6					
7-Jul	14.6	14.7	13.9	13.5	12.9	12.7	13.4	15.0	16.2	17.8	19.4	20.6	21.8	22.0	19.9	21.1	21.7	22.4	22.4	21.9	20.8	20.4	19.6	19.3	18.2	22.4					
8-Jul	18.6	17.7	16.5	16.6	16.8	17.3	17.9	19.3	20.1	21.4	23.5	24.0	24.0	25.4	27.7	28.4	28.3	28.6	28.6	28.4	28.0	27.0	21.1	17.6	22.6	28.6					
9-Jul	16.6	16.0	15.7	15.7	14.7	14.8	15.0	15.8	16.7	17.6	18.3	19.3	20.3	20.7	20.8	20.7	20.7	20.7	20.4	20.2	19.3	18.5	17.8	17.0	18.1	20.8					
10-Jul	16.2	15.3	15.5	14.8	14.1	14.5	14.5	15.2	15.6	16.3	16.8	17.8	18.7	19.4	20.0	20.6	21.4	21.6	21.8	21.5	21.0	20.1	18.0	15.9	17.8	21.8					
11-Jul	15.3	14.8	13.3	12.2	12.2	12.4	13.5	16.0	19.5	21.8	23.3	24.3	25.5	25.7	25.9	26.1	25.4	25.4	24.8	22.4	19.3	19.5	18.6	18.5	19.8	26.1					
12-Jul	18.4	17.4	16.7	16.1	15.5	15.4	15.3	15.8	15.6	15.8	16.6	17.0	18.3	18.7	20.2	21.2	22.3	21.9	19.9	19.4	19.4	18.9	18.6	17.2	18.0	22.3					
13-Jul	16.1	15.4	14.2	12.7	12.6	13.5	14.1	14.8	15.6	16.1	15.9	15.5	16.1	17.1	17.8	18.1	18.2	18.2	17.6	16.9	15.6	14.1	13.1	12.6	15.5	18.2					
14-Jul	12.0	11.6	11.1	10.9	10.6	10.4	10.6	11.6	12.1	12.4	13.4	13.9	14.6	15.7	16.0	16.5	17.1	17.1	17.0	16.6	15.9	14.9	14.7	14.1	13.8	17.1					
15-Jul	11.3	9.6	9.2	8.7	6.6	7.1	8.0	10.3	12.4	15.0	17.2	19.2	20.4	21.5	21.7	22.0	22.3	22.6	22.5	21.8	20.1	18.7	17.3	16.0	15.9	22.6					
16-Jul	15.1	14.5	13.5	12.5	11.9	11.6	12.3	13.8	16.1	18.4	20.6	22.5	23.5	23.9	24.3	24.7	25.0	25.0	24.9	24.7	24.0	22.8	21.3	21.0	19.5	25.0					
17-Jul	16.8	16.4	14.4	14.6	12.7	12.3	12.6	15.0	17.1	19.5	22.2	24.3	25.2	25.6	25.7	26.0	26.1	26.0	25.7	25.1	24.3	23.4	22.1	20.7	20.6	26.1					
18-Jul	18.5	16.8	15.5	13.7	13.3	12.4	13.2	14.6	17.1	19.6	22.3	24.3	25.8	26.6	26.9	27.1	27.0	26.8	26.3	25.6	24.5	22.9	21.7	20.3	21.0	27.1					
19-Jul	18.9	17.6	16.2	15.3	14.7	14.0	14.2	15.9	17.9	19.6	21.5	23.5	25.0	26.2	26.6	27.1	26.9	26.3	25.8	25.4	24.7	22.3	20.9	19.8	21.1	27.1					
20-Jul	18.9	18.5	17.7	16.6	15.7	15.5	15.5	16.0	17.1	18.7	20.1	21.7	22.6	23.5	24.0	24.4	24.4	21.5	20.9	20.8	19.5	16.9	16.2	15.0	19.2	24.4					
21-Jul	13.0	12.5	10.8	10.2	10.5	10.4	10.9	11.4	11.4	12.0	12.5	13.4	13.9	14.5	14.9	14.8	14.6	14.4	14.2	14.0	13.3	12.8	12.4	12.3	12.7	14.9					
22-Jul	12.2	11.7	10.5	9.7	9.8	10.1	11.1	11.8	13.3	15.0	16.3	17.1	17.8	18.7	19.5	20.0	20.5	21.1	21.0	20.6	20.1	19.2	18.1	15.8	15.9	21.1					
23-Jul	14.0	12.6	11.3	10.4	9.5	9.7	10.5	12.4	15.3	18.1	20.5	21.9	22.3	22.6	24.0	24.4	24.7	23.9	22.9	21.8	21.0	20.0	19.3	18.0	18.0	24.7					
24-Jul	16.0	14.4	13.4	12.5	11.9	11.9	13.3	15.5	18.3	20.5	21.4	21.4	22.0	20.7	18.0	18.5	19.1	19.5	19.1	19.2	18.8	16.8	15.4	14.7	17.2	22.0					
25-Jul	13.8	13.0	12.7	11.9	12.2	12.3	12.9	13.9	14.4	15.3	16.1	17.0	17.2	15.1	14.7	14.2	14.6	14.5	14.3	14.2	14.2	13.8	13.1	12.8	14.1	17.2					
26-Jul	12.6	12.3	11.7	10.6	10.4	10.2	10.7	11.5	12.7	14.8	17.4	19.4	15.7	17.4	18.7	19.0	17.4	16.6	15.4	14.6	14.3	14.0	13.8	13.4	14.4	19.4					
27-Jul	13.0	12.5	12.0	11.4	10.9	10.3	10.0	10.3	10.9	11.7	12.1	12.3	12.6	12.9	13.2	13.5	13.6	12.9	12.9	12.9	12.6	11.7	10.9	10.0	12.0	13.6					
28-Jul	8.8	8.3	7.6	6.9	6.1	5.8	7.2	9.2	11.7	13.6	15.0	15.8	16.4	17.2	17.7	18.4	18.7	19.0	18.6	18.4	17.9	16.8	15.5	13.8	13.5	19.0					
29-Jul	13.2	13.8	13.1	12.6	11.8	11.4	12.0	13.6	16.0	17.7	19.7	21.6	22.5	23.5	24.7	25.6	26.1	25.8	25.6	24.8	23.8	22.7	21.3	20.2	19.3	26.1					
30-Jul	18.9	17.8	17.0	16.6	15.3	14.6	15.3	16.6	19.2	20.2	22.5	26.1	28.4	29.3	30.0	30.4	30.3	30.0	29.4	28.4	27.2	26.0	25.2	23.0	23.2	30.4					
31-Jul	22.1	21.3	19.9	18.8	17.1	16.9	17.7	19.2	21.4	24.1	26.7	29.5	31.5	32.1	32.3	32.7	32.9	33.0	32.5	31.4	30.5	29.0	26.7	24.3	26.0	33.0					
Diurnal Average																															
Diurnal Maximum																															



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	0	0.00	0.00
-20 - 0	0	0.00	0.00
0 - 10	20	2.69	2.69
10 - 20	480	64.52	67.20
> 20	244	32.80	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association

Summary of Hour Averages

Ambient Temperature 45m (AT45) - C

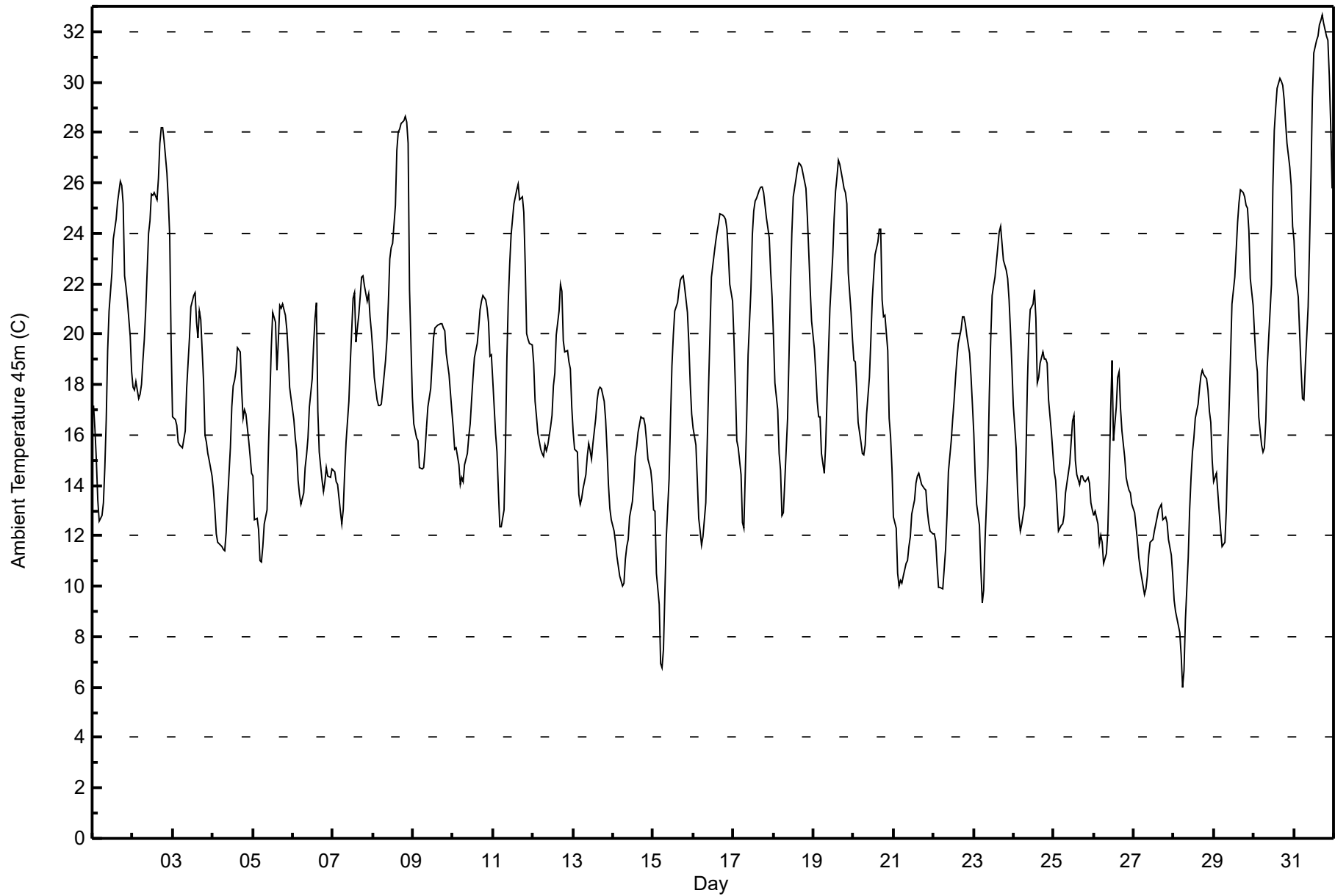
Mannix - July 2025

Maximum Value: 32.7 C on Jul 31 18:00																				Maximum Daily Average: 26.3 C on Jul 31										Hours in Service: 744									
Minimum Value: 6.0 C on Jul 28 06:00																				Minimum Daily Average: 11.7 C on Jul 27										Hours of Data: 744									
Maximum Diurnal Average: 22.0 C at hour 17																				Minimum Diurnal Average: 12.7 C at hour 6										Hours of Missing Data: 0									
Monthly Average: 17.93 C																				Percentiles: P ₁ = 8.7 P ₁₀ = 12.0 Q ₁ = 14.2 Median = 17.3 Q ₃ = 21.2 P ₉₀ = 25.3 P ₉₉ = 31.4										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-Jul	17.2	16.2	15.0	13.4	12.6	12.8	13.3	14.7	16.6	19.4	20.9	22.4	23.8	24.2	24.5	25.3	26.1	25.9	25.2	22.3	21.9	21.3	19.9	18.5	19.7	26.1													
2-Jul	17.9	17.8	18.1	17.4	17.6	18.0	19.0	19.8	21.0	24.0	24.5	25.6	25.5	25.6	25.4	26.2	27.6	28.2	28.2	27.7	26.4	25.3	23.9	19.6	22.9	28.2													
3-Jul	16.7	16.6	16.4	15.7	15.6	15.5	15.5	16.2	17.8	18.8	19.8	21.1	21.5	21.6	20.5	19.8	20.9	20.6	18.1	16.0	15.7	15.2	15.0	14.4	17.7	21.6													
4-Jul	13.8	13.0	12.1	11.7	11.7	11.6	11.4	11.4	12.1	13.3	15.5	17.1	18.0	18.2	18.6	19.5	19.3	17.8	16.6	17.0	16.9	15.8	15.1	14.5	15.1	19.5													
5-Jul	14.4	12.6	12.7	12.2	11.0	10.9	11.6	12.5	13.0	15.5	17.5	19.5	20.9	20.4	18.6	19.8	21.1	21.1	21.2	20.8	20.2	19.2	17.9	17.4	16.8	21.2													
6-Jul	16.6	15.9	15.4	14.2	13.6	13.3	13.7	14.7	15.2	15.9	17.1	18.2	19.6	20.7	21.2	17.0	15.3	14.2	13.8	14.2	14.7	14.4	14.3	14.6	15.7	21.2													
7-Jul	14.6	14.5	14.2	14.0	13.0	12.4	13.0	14.5	15.7	17.3	18.9	20.2	21.4	21.7	19.7	20.8	21.5	22.3	22.3	21.9	21.3	21.6	20.7	20.1	18.2	22.3													
8-Jul	19.3	18.3	17.4	17.2	17.2	17.2	17.8	19.0	19.8	21.2	23.0	23.4	23.6	25.1	27.3	28.0	28.1	28.4	28.4	28.7	28.4	27.6	21.8	17.5	22.7	28.7													
9-Jul	16.4	16.2	15.9	15.8	14.7	14.7	14.7	15.4	16.3	17.1	17.8	18.8	19.8	20.2	20.3	20.3	20.4	20.4	20.2	20.1	19.2	18.4	17.7	17.0	17.8	20.4													
10-Jul	16.3	15.4	15.5	14.8	14.0	14.3	14.2	14.8	15.2	15.9	16.4	17.4	18.3	19.1	19.6	20.2	21.0	21.3	21.6	21.4	21.0	20.4	19.2	19.2	17.8	21.6													
11-Jul	18.2	16.0	15.3	13.8	12.4	12.4	13.1	15.5	19.0	21.3	22.8	23.9	25.2	25.5	25.7	25.9	25.3	25.4	24.8	22.8	20.0	19.8	19.6	19.6	20.1	25.9													
12-Jul	18.8	17.3	16.7	16.0	15.4	15.3	15.1	15.6	15.4	15.6	16.4	16.8	17.9	18.4	19.9	20.9	22.0	21.7	19.8	19.3	19.3	18.9	18.6	17.1	17.9	22.0													
13-Jul	16.1	15.4	15.3	13.6	13.3	13.5	13.9	14.4	15.2	15.7	15.4	15.1	15.7	16.7	17.4	17.8	17.9	17.9	17.4	16.6	15.5	14.1	13.1	12.7	15.4	17.9													
14-Jul	12.2	11.7	11.2	10.8	10.4	10.0	10.2	11.1	11.6	11.9	12.8	13.4	14.1	15.2	15.6	16.1	16.7	16.7	16.7	16.4	15.8	15.0	14.6	14.1	13.5	16.7													
15-Jul	13.0	13.0	10.5	9.3	7.0	6.8	7.5	9.7	11.9	14.3	16.6	18.7	20.0	20.9	21.3	21.7	22.2	22.3	22.3	21.9	20.8	19.6	18.0	16.9	16.1	22.3													
16-Jul	16.3	15.6	14.2	12.7	12.2	11.7	12.0	13.3	15.6	17.9	20.1	22.3	23.2	23.7	24.0	24.4	24.8	24.7	24.7	24.5	24.2	23.2	22.0	21.3	19.5	24.8													
17-Jul	19.7	17.9	15.8	15.5	14.5	12.5	12.3	14.5	16.6	19.2	21.8	23.9	24.9	25.3	25.4	25.7	25.8	25.8	25.6	25.1	24.6	23.9	22.5	21.5	20.8	25.8													
18-Jul	19.9	18.1	17.0	15.3	14.6	12.8	12.9	14.2	16.7	19.1	21.9	24.0	25.5	26.2	26.6	26.8	26.7	26.6	26.3	25.8	24.7	23.3	21.8	20.5	21.1	26.8													
19-Jul	19.4	18.5	17.3	16.7	16.7	15.3	14.5	15.6	17.5	19.3	21.0	23.1	24.6	25.7	26.3	26.9	26.7	26.1	25.8	25.6	25.2	22.4	20.8	19.8	21.3	26.9													
20-Jul	19.0	18.9	17.8	16.5	15.7	15.3	15.2	15.6	16.8	18.3	19.8	21.4	22.3	23.1	23.7	24.2	24.1	21.3	20.7	20.8	19.4	16.7	16.0	14.7	19.0	24.2													
21-Jul	12.8	12.3	10.5	10.0	10.2	10.1	10.4	10.9	11.0	11.6	12.0	12.9	13.4	14.1	14.4	14.5	14.3	14.0	13.9	13.8	13.0	12.5	12.2	12.1	12.4	14.5													
22-Jul	12.1	11.8	10.8	10.0	10.0	9.9	10.7	11.4	12.8	14.5	15.7	16.6	17.4	18.3	19.0	19.6	20.2	20.7	20.7	20.4	20.0	19.2	18.3	17.2	15.7	20.7													
23-Jul	16.1	14.4	13.2	12.4	10.7	9.4	9.9	11.8	14.8	17.6	19.8	21.5	21.9	22.2	23.4	24.0	24.3	23.6	22.9	22.6	22.2	21.4	20.1	18.7	18.3	24.3													
24-Jul	17.2	15.5	13.8	12.8	12.2	12.5	13.2	15.2	18.1	20.0	21.0	21.2	21.8	20.6	18.1	18.3	18.9	19.3	19.0	19.0	18.8	17.4	16.1	15.3	17.3	21.8													
25-Jul	14.5	14.2	13.3	12.2	12.4	12.5	12.8	13.7	14.1	14.9	15.7	16.6	16.8	15.0	14.4	14.0	14.4	14.4	14.2	14.2	14.3	14.1	13.3	13.0	14.1	16.8													
26-Jul	12.8	13.0	12.5	11.7	12.0	11.7	10.9	11.3	12.2	14.4	17.0	19.0	15.8	17.1	18.3	18.5	17.0	16.2	15.1	14.3	14.1	13.8	13.7	13.3	14.4	19.0													
27-Jul	12.9	12.4	11.8	11.1	10.7	10.0	9.7	9.9	10.4	11.2	11.7	11.9	12.2	12.5	12.8	13.0	13.3	12.7	12.7	12.8	12.5	11.9	11.2	10.5	11.7	13.3													
28-Jul	9.5	9.0	8.7	8.2	7.3	6.0	6.6	8.7	11.1	13.0	14.3	15.3	15.9	16.6	17.2	17.8	18.3	18.6	18.4	18.2	17.8	17.0	16.5	15.0	13.6	18.6													
29-Jul	14.1	14.5	13.7	12.9	12.2	11.6	11.8	13.0	15.4	17.1	19.2	21.2	22.2	23.3	24.4	25.2	25.7	25.6	25.4	25.1	25.0	24.1	22.2	21.1	19.4	25.7													
30-Jul	20.0	19.0	18.5	16.7	15.6	15.3	15.5	16.6	18.7	19.8	22.0	25.9	28.1	28.9	29.7	30.1	30.1	29.9	29.3	28.4	27.5	26.6	25.9	24.3	23.4	30.1													
31-Jul	23.7	22.3	21.5	20.0	18.6	17.4	17.4	18.7	21.1	23.6	26.2	29.4	31.1	31.7	31.8	32.3	32.5	32.7	32.3	31.8	31.6	30.2	28.3	25.8	26.3	32.7													
Diurnal Average																																							
Diurnal Maximum																																							



Wood Buffalo Environmental Association
Hourly Averages

Ambient Temperature 45m (AT45) - C
Mannix - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ambient Temperature 45m (AT45) - C
Mannix - July 2025

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	0	0.00	0.00
-20 - 0	0	0.00	0.00
0 - 10	21	2.82	2.82
10 - 20	485	65.19	68.01
> 20	238	31.99	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association

Summary of Hour Averages

Ambient Temperature 75m (AT75) - C

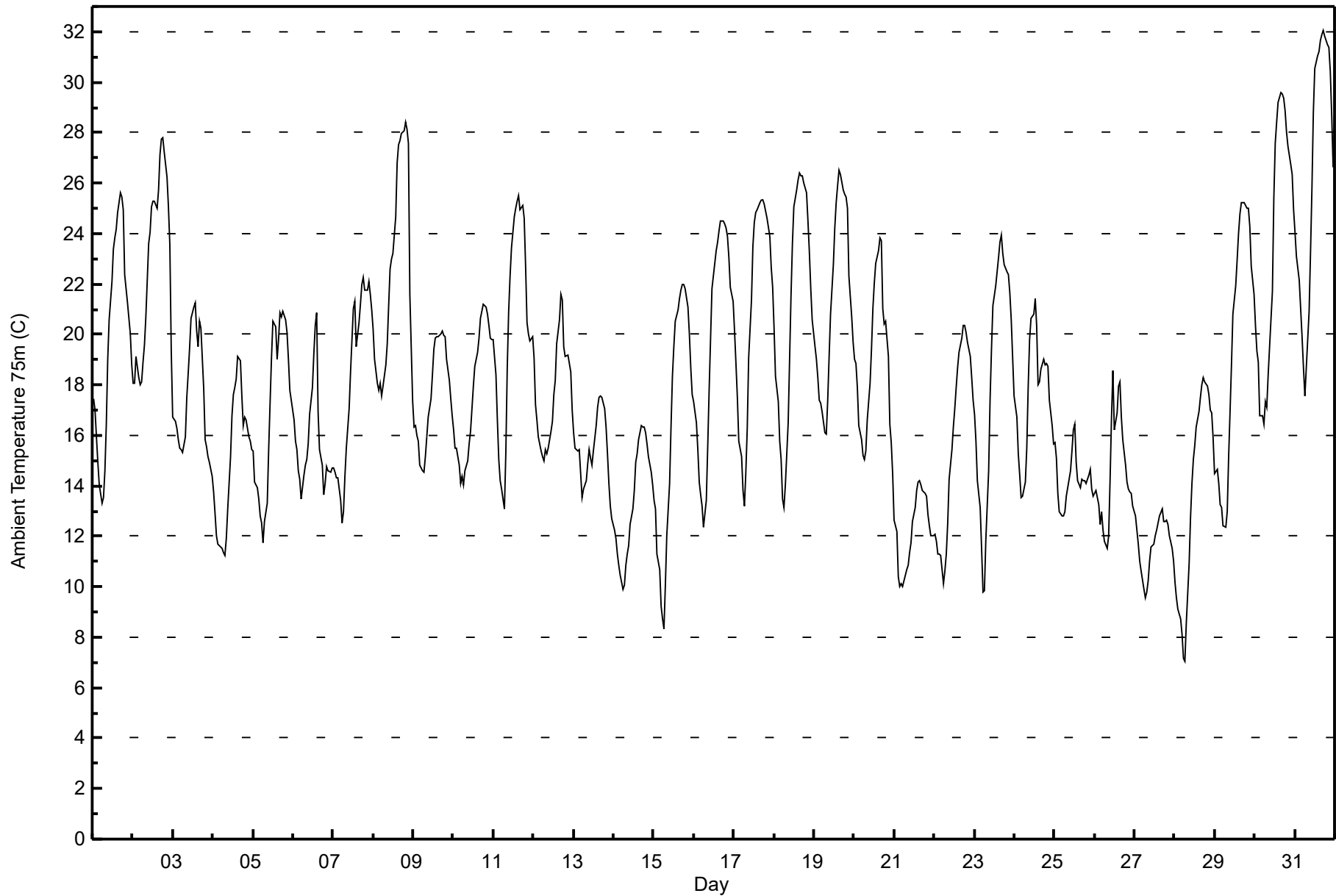
Mannix - July 2025

Maximum Value: 32.1 C on Jul 31 18:00																				Maximum Daily Average: 26.4 C on Jul 31					Hours in Service: 744	
Minimum Value: 7.1 C on Jul 28 07:00																				Minimum Daily Average: 11.7 C on Jul 27					Hours of Data: 744	
Maximum Diurnal Average: 21.7 C at hour 17																				Minimum Diurnal Average: 13.2 C at hour 7					Hours of Missing Data: 0	
Monthly Average: 17.95 C																				Percentiles: P ₁ = 9.1 P ₁₀ = 12.3 Q ₁ = 14.3 Median = 17.4 Q ₃ = 21.0 P ₉₀ = 25.0 P ₉₉ = 30.8					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-Jul	17.5	17.0	15.9	14.9	14.0	13.3	13.5	14.6	16.5	19.0	20.6	22.1	23.4	23.8	24.2	24.9	25.6	25.5	24.9	22.4	21.8	21.3	20.0	18.8	19.8	25.6
2-Jul	18.1	18.1	19.1	18.3	18.0	18.1	18.9	19.5	20.7	23.6	24.0	25.1	25.3	25.3	25.0	25.7	27.1	27.8	27.8	27.3	26.2	25.0	23.5	19.3	22.8	27.8
3-Jul	16.7	16.5	16.3	15.8	15.5	15.5	15.3	15.9	17.5	18.5	19.5	20.6	21.1	21.2	20.2	19.5	20.5	20.3	17.9	15.8	15.6	15.1	14.9	14.4	17.5	21.2
4-Jul	13.8	12.9	12.0	11.7	11.6	11.5	11.4	11.3	11.9	13.1	15.2	16.8	17.6	17.9	18.3	19.1	19.0	17.5	16.4	16.7	16.6	15.9	15.8	15.5	15.0	19.1
5-Jul	15.4	14.1	13.9	13.5	12.8	12.5	11.7	12.6	13.3	15.4	17.3	19.1	20.5	20.3	19.0	19.8	20.8	20.7	20.9	20.6	20.1	19.0	17.8	17.4	17.0	20.9
6-Jul	16.6	15.8	15.4	14.6	14.3	13.5	14.4	14.8	15.1	15.7	16.8	17.9	19.2	20.3	20.9	16.9	15.5	14.8	13.7	14.1	14.8	14.6	14.5	14.7	15.8	20.9
7-Jul	14.7	14.6	14.3	14.3	13.4	12.5	13.0	14.4	15.5	17.0	18.5	19.8	21.0	21.3	19.5	20.5	21.2	22.0	22.3	21.8	21.8	22.1	21.6	21.0	18.3	22.3
8-Jul	20.2	19.0	18.1	17.8	18.1	17.5	17.9	18.8	19.6	21.1	22.6	23.0	23.2	24.7	26.8	27.5	27.7	27.9	28.1	28.4	28.2	27.6	21.6	17.3	22.6	28.4
9-Jul	16.3	16.4	16.0	15.8	14.8	14.6	14.6	15.2	15.9	16.7	17.4	18.4	19.4	19.8	19.9	19.9	20.0	20.1	20.0	19.9	19.0	18.2	17.5	16.8	17.6	20.1
10-Jul	16.2	15.5	15.5	14.8	14.1	14.4	14.1	14.6	15.0	15.7	16.2	17.1	18.0	18.7	19.3	19.9	20.6	20.9	21.2	21.1	20.8	20.4	19.9	19.8	17.6	21.2
11-Jul	19.8	18.4	16.6	15.1	14.2	13.9	13.1	15.4	18.7	20.9	22.3	23.5	24.7	25.0	25.3	25.5	24.9	25.1	24.6	22.7	20.5	20.0	19.8	19.9	20.4	25.5
12-Jul	19.1	17.2	16.6	16.0	15.4	15.2	15.0	15.4	15.3	15.5	16.1	16.6	17.6	18.2	19.6	20.6	21.6	21.3	19.5	19.1	19.2	18.8	18.5	17.0	17.7	21.6
13-Jul	16.1	15.5	15.4	15.4	14.5	13.5	13.9	14.2	14.9	15.4	15.1	14.8	15.4	16.4	17.1	17.5	17.6	17.5	17.1	16.4	15.3	14.1	13.2	12.7	15.4	17.6
14-Jul	12.3	11.9	11.3	10.8	10.4	9.9	10.1	10.9	11.3	11.6	12.5	13.1	13.8	14.9	15.3	15.8	16.4	16.4	16.4	16.1	15.7	15.2	14.6	14.0	13.4	16.4
15-Jul	13.4	13.1	11.3	10.7	9.2	8.7	8.3	10.1	12.0	14.1	16.4	18.3	19.5	20.5	21.0	21.4	21.8	22.0	22.0	21.8	21.1	20.0	18.7	17.6	16.4	22.0
16-Jul	17.4	16.5	15.4	14.1	13.6	13.2	12.4	13.4	15.6	17.8	19.8	21.8	22.8	23.3	23.7	24.1	24.5	24.5	24.4	24.2	23.9	23.1	21.9	21.3	19.7	24.5
17-Jul	20.2	18.9	17.5	15.8	15.1	13.8	13.2	14.5	16.3	19.1	21.4	23.5	24.4	24.8	24.9	25.2	25.4	25.3	25.2	24.9	24.6	23.9	22.6	21.9	20.9	25.4
18-Jul	20.2	18.3	17.4	15.8	15.1	13.5	13.2	14.1	16.5	19.0	21.5	23.6	25.1	25.7	26.1	26.4	26.3	26.3	26.0	25.6	24.5	23.2	21.8	20.6	21.1	26.4
19-Jul	19.5	19.0	18.3	17.4	17.3	16.9	16.1	16.1	17.4	19.1	20.8	22.8	24.2	25.2	25.9	26.5	26.3	25.7	25.5	25.5	25.0	22.3	20.7	19.7	21.4	26.5
20-Jul	19.0	18.8	17.9	16.4	15.8	15.2	15.0	15.4	16.6	18.1	19.4	21.0	22.0	22.8	23.3	23.8	23.7	21.0	20.4	20.5	19.1	16.4	15.7	14.5	18.8	23.8
21-Jul	12.6	12.2	10.4	10.0	10.1	10.0	10.3	10.7	10.8	11.4	11.7	12.6	13.2	13.8	14.1	14.2	14.0	13.8	13.7	13.6	12.8	12.4	12.0	12.0	12.2	14.2
22-Jul	12.1	11.8	11.3	11.3	11.2	10.1	10.6	11.3	12.5	14.3	15.4	16.3	17.0	17.9	18.7	19.3	19.9	20.3	20.4	20.1	19.7	19.1	18.3	17.4	15.7	20.4
23-Jul	16.8	15.8	14.2	13.2	11.5	9.8	9.9	11.9	14.6	17.4	19.4	21.1	21.5	21.9	23.1	23.7	23.9	23.2	22.7	22.5	22.3	21.7	20.6	19.1	18.4	23.9
24-Jul	17.6	16.7	15.2	14.4	13.5	13.6	14.1	15.5	17.9	19.8	20.7	20.8	21.4	20.3	18.0	18.1	18.6	19.0	18.8	18.8	18.7	17.4	16.4	15.7	17.6	21.4
25-Jul	15.7	15.1	13.7	13.0	12.8	12.8	13.0	13.6	13.9	14.6	15.4	16.2	16.5	15.0	14.2	13.9	14.3	14.2	14.2	14.1	14.4	14.7	13.9	13.6	14.3	16.5
26-Jul	13.7	13.8	13.3	12.5	13.0	12.3	11.8	11.5	12.0	14.2	16.7	18.6	16.2	16.9	18.0	18.1	16.7	15.8	14.8	14.1	13.9	13.8	13.7	13.2	14.5	18.6
27-Jul	12.8	12.3	11.7	11.0	10.6	9.9	9.6	9.8	10.2	11.0	11.6	11.7	12.0	12.3	12.5	12.8	13.1	12.6	12.6	12.7	12.5	12.0	11.5	11.0	11.7	13.1
28-Jul	10.2	9.6	9.1	8.7	8.1	7.1	7.1	8.6	10.9	12.8	14.1	15.0	15.6	16.4	16.9	17.5	18.0	18.3	18.1	18.0	17.6	17.0	16.9	15.9	13.6	18.3
29-Jul	14.5	14.7	14.1	13.3	13.2	12.4	12.4	13.0	15.2	16.9	18.8	20.8	21.9	22.9	24.0	24.8	25.2	25.2	25.1	25.0	25.0	24.2	22.7	21.6	19.5	25.2
30-Jul	20.3	19.3	18.9	16.8	16.8	16.5	17.4	17.1	18.4	19.5	21.7	25.4	27.6	28.4	29.2	29.6	29.5	29.3	28.8	28.0	27.4	26.7	26.3	24.9	23.5	29.6
31-Jul	24.0	23.1	22.2	21.0	19.9	18.7	17.5	18.7	20.9	23.3	25.8	28.8	30.6	31.1	31.2	31.6	31.9	32.1	31.8	31.5	31.4	30.4	28.7	26.6	26.4	32.1
16.5 15.9 15.1 14.3 13.8 13.2 13.2 14.0 15.3 16.8 18.2 19.6 20.4 20.9 21.1 21.4 21.7 21.5 21.1 20.7 20.3 19.5 18.6 17.6																										Diurnal Average
24.0 23.1 22.2 21.0 19.9 18.7 18.9 19.5 20.9 23.6 25.8 28.8 30.6 31.1 31.2 31.6 31.9 32.1 31.8 31.5 31.4 30.4 28.7 26.6																										Diurnal Maximum



Wood Buffalo Environmental Association
Hourly Averages

Ambient Temperature 75m (AT75) - C
Mannix - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ambient Temperature 75m (AT75) - C
Mannix - July 2025

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	0	0.00	0.00
-20 - 0	0	0.00	0.00
0 - 10	17	2.28	2.28
10 - 20	493	66.26	68.55
> 20	234	31.45	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association

Summary of Hour Averages

Ambient Temperature 90m (AT90) - C

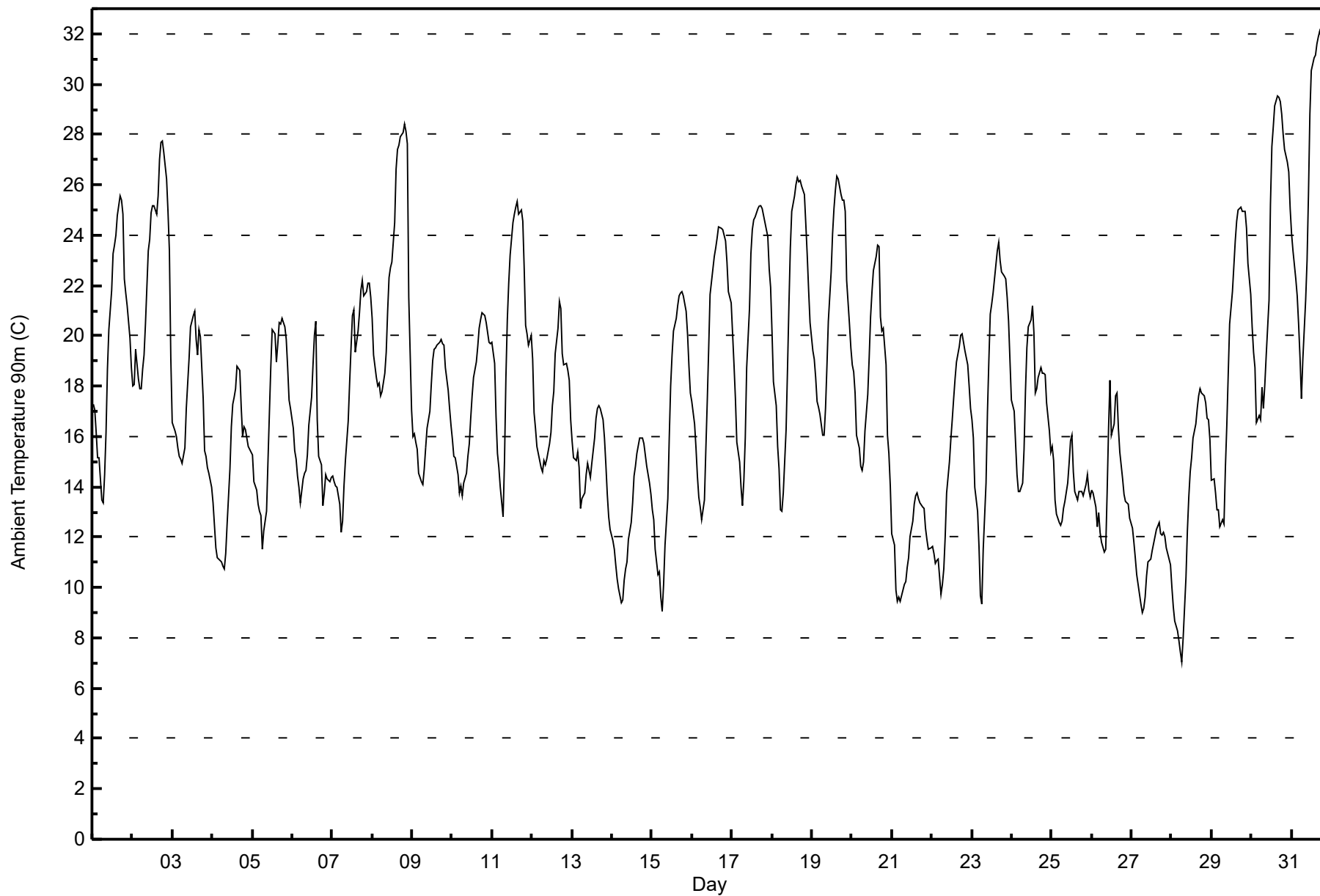
Mannix - July 2025

Maximum Value: 32.1 C on Jul 31 18:00																				Maximum Daily Average: 26.5 C on Jul 31					Hours in Service: 744	
Minimum Value: 7.0 C on Jul 28 07:00																				Minimum Daily Average: 11.2 C on Jul 27					Hours of Data: 744	
Maximum Diurnal Average: 21.4 C at hour 17																				Minimum Diurnal Average: 13.0 C at hour 7					Hours of Missing Data: 0	
Monthly Average: 17.73 C																				Percentiles: P ₁ = 9.1 P ₁₀ = 11.8 Q ₁ = 14.0 Median = 17.1 Q ₃ = 20.7 P ₉₀ = 24.9 P ₉₉ = 30.9					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-Jul	17.3	17.1	16.2	15.2	15.2	13.5	13.4	14.5	16.2	18.7	20.2	21.8	23.3	23.6	24.0	24.8	25.6	25.4	24.8	22.3	21.7	21.2	19.9	18.8	19.8	25.6
2-Jul	18.0	18.1	19.5	18.3	17.9	17.9	18.7	19.3	20.5	23.4	23.8	24.9	25.2	25.1	24.8	25.6	27.0	27.7	27.7	27.3	26.2	24.9	23.4	19.1	22.7	27.7
3-Jul	16.5	16.2	16.0	15.5	15.2	15.1	14.9	15.6	17.1	18.1	19.1	20.4	20.8	21.0	19.9	19.2	20.2	20.0	17.5	15.4	15.2	14.8	14.6	14.0	17.2	21.0
4-Jul	13.4	12.5	11.6	11.2	11.1	11.0	10.9	10.7	11.4	12.6	14.7	16.4	17.3	17.5	17.9	18.8	18.6	17.2	16.0	16.4	16.3	15.6	15.5	15.4	14.6	18.8
5-Jul	15.3	14.2	13.9	13.3	13.1	12.9	11.5	12.3	13.0	15.0	16.9	18.7	20.3	20.1	18.9	19.7	20.5	20.5	20.7	20.4	19.8	18.7	17.5	17.1	16.8	20.7
6-Jul	16.3	15.5	15.1	14.4	14.0	13.4	14.3	14.5	14.7	15.3	16.5	17.5	18.9	20.0	20.6	16.7	15.2	14.9	13.3	13.7	14.5	14.3	14.2	14.4	15.5	20.6
7-Jul	14.4	14.2	14.0	14.0	13.3	12.2	12.6	14.0	15.1	16.6	18.1	19.5	20.8	21.0	19.4	20.2	20.9	21.8	22.2	21.6	21.8	22.1	22.1	21.5	18.1	22.2
8-Jul	20.7	19.2	18.3	18.0	18.1	17.6	17.8	18.5	19.4	21.0	22.3	22.7	22.9	24.5	26.6	27.4	27.6	27.9	28.1	28.4	28.2	27.6	21.5	17.0	22.6	28.4
9-Jul	16.0	16.1	15.8	15.5	14.5	14.2	14.1	14.7	15.5	16.3	17.0	18.0	19.0	19.5	19.5	19.6	19.7	19.8	19.7	19.7	18.7	17.8	17.1	16.5	17.3	19.8
10-Jul	15.9	15.2	15.2	14.5	13.7	14.1	13.7	14.2	14.5	15.2	15.7	16.7	17.6	18.4	19.0	19.6	20.3	20.6	20.9	20.8	20.5	20.2	19.8	19.7	17.3	20.9
11-Jul	19.7	18.9	16.8	15.4	14.8	14.0	12.8	15.0	18.3	20.6	22.1	23.2	24.5	24.8	25.1	25.3	24.8	25.0	24.5	22.6	20.4	20.1	19.6	20.0	20.4	25.3
12-Jul	19.1	16.9	16.3	15.6	15.0	14.8	14.6	15.0	14.9	15.1	15.7	16.2	17.2	17.8	19.3	20.3	21.3	21.1	19.3	18.9	18.9	18.6	18.2	16.7	17.4	21.3
13-Jul	15.8	15.2	15.0	15.4	14.8	13.2	13.5	13.8	14.5	15.0	14.6	14.4	14.9	15.9	16.7	17.1	17.2	17.1	16.6	15.9	14.9	13.7	12.8	12.3	15.0	17.2
14-Jul	11.9	11.5	10.9	10.3	10.0	9.4	9.5	10.3	10.8	11.0	11.9	12.6	13.3	14.4	14.8	15.3	15.9	15.9	15.9	15.7	15.3	14.8	14.2	13.7	12.9	15.9
15-Jul	13.1	12.7	11.5	10.5	10.6	9.6	9.1	10.1	11.7	13.5	15.9	18.0	19.2	20.2	20.7	21.2	21.6	21.7	21.7	21.6	21.0	20.1	18.8	17.7	16.3	21.7
16-Jul	17.4	16.5	15.6	14.4	13.6	13.2	12.7	13.5	15.5	17.4	19.5	21.7	22.7	23.2	23.5	23.9	24.3	24.3	24.2	24.0	23.8	23.0	21.8	21.3	19.6	24.3
17-Jul	20.1	18.8	17.5	15.8	15.0	14.0	13.3	14.2	15.9	18.7	21.1	23.3	24.2	24.6	24.7	25.0	25.2	25.2	25.0	24.8	24.5	23.9	22.7	21.9	20.8	25.2
18-Jul	20.1	18.2	17.2	15.6	14.7	13.1	13.0	13.8	16.3	18.7	21.2	23.5	24.9	25.6	26.0	26.3	26.1	26.2	26.0	25.6	24.5	23.2	21.8	20.5	20.9	26.3
19-Jul	19.4	19.1	18.3	17.4	17.2	16.9	16.0	16.1	17.1	18.8	20.6	22.5	24.0	25.1	25.8	26.4	26.2	25.6	25.4	25.4	24.9	22.2	20.5	19.5	21.3	26.4
20-Jul	18.8	18.6	17.7	16.1	15.5	14.8	14.6	15.0	16.2	17.7	19.1	20.7	21.7	22.6	23.1	23.6	23.5	20.8	20.2	20.3	18.8	16.0	15.3	14.0	18.5	23.6
21-Jul	12.2	11.7	9.9	9.5	9.6	9.5	9.7	10.1	10.2	10.8	11.2	12.0	12.6	13.3	13.6	13.8	13.6	13.3	13.2	13.1	12.4	11.9	11.5	11.6	11.7	13.8
22-Jul	11.6	11.3	11.0	11.1	11.2	9.7	10.1	10.8	12.0	13.7	15.0	15.9	16.7	17.5	18.3	18.9	19.6	20.0	20.1	19.8	19.4	18.9	18.0	17.1	15.3	20.1
23-Jul	16.7	15.9	14.0	13.0	11.7	9.7	9.4	11.5	14.1	17.0	19.0	20.8	21.2	21.7	22.8	23.4	23.7	23.0	22.6	22.4	22.2	21.5	20.6	19.0	18.2	23.7
24-Jul	17.4	17.0	15.7	14.5	13.8	13.8	14.2	15.5	17.8	19.5	20.4	20.6	21.2	20.1	17.7	17.9	18.4	18.7	18.5	18.5	18.5	17.4	16.2	15.4	17.4	21.2
25-Jul	15.6	15.0	13.5	12.9	12.6	12.5	12.7	13.1	13.4	14.1	14.9	15.8	16.1	14.6	13.8	13.5	13.8	13.8	13.8	13.7	14.1	14.5	13.9	13.6	14.0	16.1
26-Jul	13.8	13.7	13.2	12.4	13.0	12.2	11.8	11.4	11.5	13.7	16.3	18.2	16.1	16.5	17.6	17.7	16.3	15.4	14.3	13.7	13.4	13.4	13.3	12.8	14.2	18.2
27-Jul	12.3	11.8	11.2	10.5	10.1	9.4	9.0	9.2	9.6	10.5	11.0	11.1	11.5	11.7	12.0	12.3	12.6	12.1	12.1	12.2	12.0	11.6	11.2	10.9	11.2	12.6
28-Jul	10.0	9.3	8.7	8.3	7.9	7.4	7.0	8.0	10.4	12.2	13.6	14.6	15.2	15.9	16.5	17.1	17.6	17.9	17.7	17.6	17.3	16.7	16.7	15.9	13.3	17.9
29-Jul	14.2	14.3	13.8	13.1	13.1	12.4	12.7	12.6	14.8	16.5	18.5	20.5	21.8	22.8	23.8	24.6	25.0	25.1	25.0	24.9	25.0	24.3	22.9	21.7	19.3	25.1
30-Jul	20.4	19.3	18.8	16.6	16.8	16.6	17.9	17.1	18.1	19.2	21.4	25.2	27.5	28.3	29.1	29.5	29.5	29.3	28.8	28.0	27.4	26.9	26.5	25.1	23.5	29.5
31-Jul	24.1	23.4	22.2	21.6	20.5	19.1	17.5	19.1	21.4	23.0	25.6	28.8	30.5	31.0	31.2	31.6	31.9	32.1	31.9	31.6	31.5	30.6	29.0	27.0	26.5	32.1
16.4 15.7 15.0 14.2 13.8 13.1 13.0 13.7 14.9 16.4 17.8 19.2 20.1 20.6 20.9 21.2 21.4 21.3 20.9 20.5 20.1 19.4 18.4 17.5																									Diurnal Average	
24.1 23.4 22.2 21.6 20.5 19.1 18.7 19.3 21.4 23.4 25.6 28.8 30.5 31.0 31.2 31.6 31.9 32.1 31.9 31.6 31.5 30.6 29.0 27.0																									Diurnal Maximum	



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	0	0.00	0.00
-20 - 0	0	0.00	0.00
0 - 10	25	3.36	3.36
10 - 20	490	65.86	69.22
> 20	229	30.78	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association

Summary of Hour Averages

Relative Humidity (RH) - %

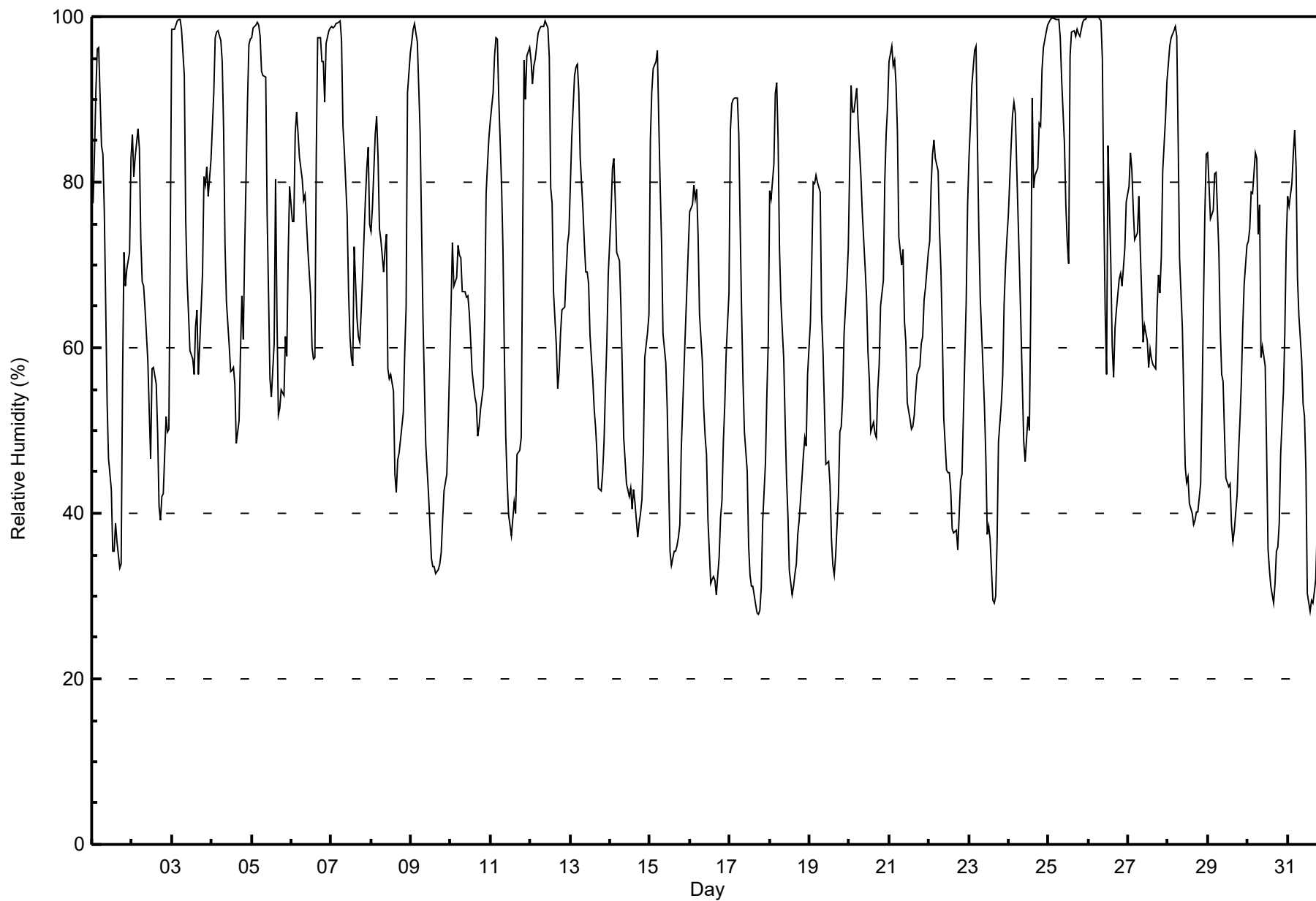
Mannix - July 2025

Maximum Value: 100 % on Jul 26 01:00																		Maximum Daily Average: 94.7 % on Jul 25																		Hours in Service: 744					
Minimum Value: 28 % on Jul 17 18:00																		Minimum Daily Average: 53.2 % on Jul 16																		Hours of Data: 744					
Maximum Diurnal Average: 89.9 % at hour 5																		Minimum Diurnal Average: 47.8 % at hour 17																		Hours of Missing Data: 0					
Monthly Average: 66.9 %																		Percentiles: P ₁ = 29 P ₁₀ = 39 Q ₁ = 50 Median = 66 Q ₃ = 83 P ₉₀ = 97 P ₉₉ = 100																		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-Jul	77	83	91	96	96	84	83	76	65	53	47	43	35	35	39	37	33	34	56	72	67	70	71	83	63.7	96															
2-Jul	86	81	83	86	84	73	68	67	65	58	52	47	57	58	56	50	41	39	42	42	52	50	50	73	60.8	86															
3-Jul	98	98	99	100	100	100	99	93	75	68	64	60	59	57	63	65	57	60	69	81	80	82	78	83	78.6	100															
4-Jul	87	91	97	98	98	97	95	86	72	66	60	57	57	58	56	49	51	60	66	61	72	90	97	97	75.7	98															
5-Jul	97	99	99	99	99	98	93	93	93	76	66	56	54	61	80	64	52	53	55	54	61	59	71	80	75.5	99															
6-Jul	75	75	86	88	86	83	80	78	78	75	72	66	60	59	59	83	97	98	95	95	90	97	98	99	82.2	99															
7-Jul	99	99	99	99	99	99	97	87	84	76	67	61	59	58	72	64	61	61	64	69	78	82	84	75	78.9	99															
8-Jul	74	77	86	88	83	74	73	69	72	74	57	56	57	55	45	43	46	47	50	52	59	65	91	96	66.2	96															
9-Jul	97	99	99	98	97	86	75	64	56	48	42	38	35	34	34	33	33	34	35	39	43	45	51	58	57.1	99															
10-Jul	65	73	67	68	72	71	71	67	67	66	66	64	61	57	54	53	49	51	53	55	64	79	82	85	65.0	85															
11-Jul	87	91	95	97	97	90	80	72	59	49	44	40	37	39	41	40	47	48	49	73	95	90	95	96	68.8	97															
12-Jul	95	92	94	95	98	98	99	99	99	99	99	95	79	78	67	60	55	57	62	65	65	69	72	74	81.8	99															
13-Jul	80	85	93	94	94	91	83	77	73	69	69	68	62	56	53	50	47	43	43	45	49	55	61	69	67.0	94															
14-Jul	76	82	83	78	72	71	65	57	49	46	44	42	43	41	43	41	37	39	40	42	47	59	62	64	55.1	83															
15-Jul	85	91	94	95	96	87	79	73	62	58	53	44	35	34	35	35	36	37	39	48	58	62	67	72	61.4	96															
16-Jul	76	77	80	78	79	74	64	59	53	49	47	39	32	32	32	32	30	35	39	42	49	53	59	67	53.2	80															
17-Jul	86	89	90	90	90	86	74	64	56	50	45	36	33	31	31	29	28	28	28	31	39	46	54	61	54.1	90															
18-Jul	79	78	82	91	92	85	72	66	59	51	44	40	33	30	31	33	34	37	39	44	47	49	48	57	55.0	92															
19-Jul	63	71	80	80	81	80	79	64	59	53	46	46	43	37	34	33	35	42	50	51	54	62	68	72	57.6	81															
20-Jul	82	92	89	89	91	87	84	81	76	70	66	60	56	50	51	50	49	55	58	65	68	80	86	89	71.8	92															
21-Jul	95	96	94	95	92	86	73	70	72	63	61	53	51	50	50	52	55	57	58	61	61	66	67	71	68.7	96															
22-Jul	73	79	83	85	83	81	74	69	62	52	45	45	45	43	38	38	38	36	40	44	45	59	66	77	58.3	85															
23-Jul	83	87	92	96	96	85	74	66	57	53	47	37	39	37	30	29	30	37	49	53	57	65	70	73	60.0	96															
24-Jul	76	84	88	90	88	82	69	63	55	49	46	52	50	65	90	79	81	82	87	87	94	96	98	99	77.1	99															
25-Jul	99	100	100	100	100	100	100	97	92	85	77	73	70	95	98	98	98	98	98	98	99	100	100	100	94.7	100															
26-Jul	100	100	100	100	100	100	100	100	95	77	64	57	84	70	60	56	62	65	68	69	68	70	72	78	79.8	100															
27-Jul	79	84	82	77	73	74	78	72	67	61	63	61	58	60	59	58	57	65	69	67	71	81	88	92	70.6	92															
28-Jul	94	96	97	98	99	98	85	71	62	54	46	44	44	41	40	39	39	40	40	43	53	65	76	83	64.6	99															
29-Jul	84	76	76	77	81	81	72	62	57	56	50	44	43	44	39	37	38	42	47	51	56	63	68	72	58.9	84															
30-Jul	73	74	79	79	84	83	74	77	59	60	58	48	36	33	31	29	32	35	36	39	47	55	62	73	56.4	84															
31-Jul	78	77	80	83	86	82	68	64	59	53	52	45	30	28	29	29	30	32	38	42	48	52	56	61	54.4	86															
83.9 86.3 88.9 89.9 89.9 86.0 80.0 74.2 68.0 61.9 56.7 52.2 49.6 49.1 49.7 47.9 47.8 49.8 53.6 57.3 62.4 68.2 73.2 78.4																								Diurnal Average																	
100 100 100 100 100 100 100 100 100 99 99 99 95 84 95 98 98 98 98 98 99 100 100 100 100																								Diurnal Maximum																	



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity (RH) - %
Mannix - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Relative Humidity (RH) - %
Mannix - July 2025

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	92	12.37	12.37
40 - 60	204	27.42	39.79
60 - 80	225	30.24	70.03
80 - 100	216	29.03	99.06

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association

Summary of Hour Averages

Relative Humidity 20m (RH20) - %

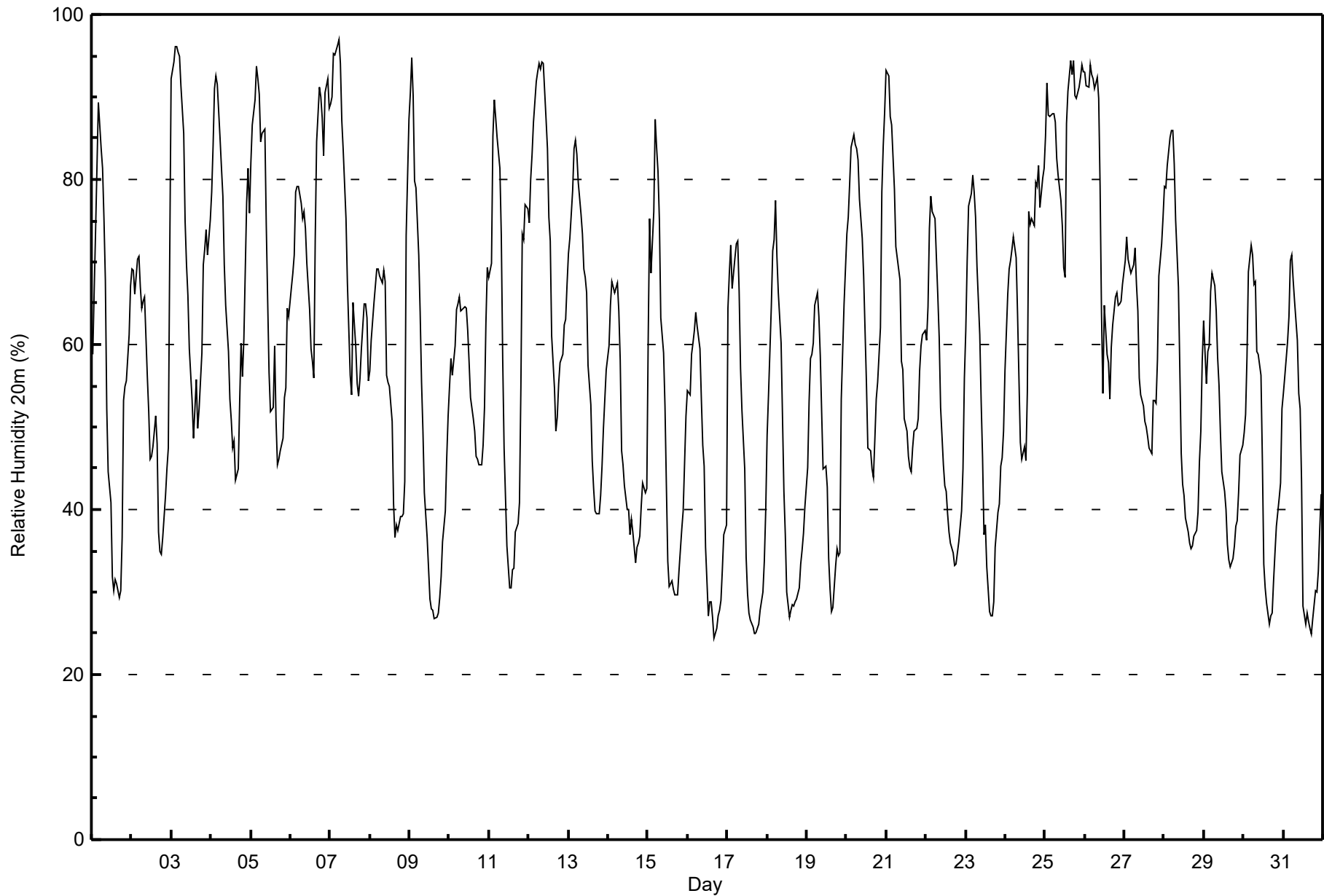
Mannix - July 2025

Maximum Value: 97 % on Jul 7 06:00																Maximum Daily Average: 86.6 % on Jul 25										Hours in Service: 744	
Minimum Value: 24 % on Jul 16 17:00																Minimum Daily Average: 42.1 % on Jul 16										Hours of Data: 744	
Maximum Diurnal Average: 79.0 % at hour 5																Minimum Diurnal Average: 42.0 % at hour 17										Hours of Missing Data: 0	
Monthly Average: 58.9 %																Percentiles: P ₁ = 26 P ₁₀ = 33 Q ₁ = 43 Median = 59 Q ₃ = 73 P ₉₀ = 87 P ₉₉ = 95										Hours of Calibration: 0	
																Percent Operational Time: 100.0											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
1-Jul	59	66	74	82	89	84	81	75	68	52	45	41	32	30	31	31	29	30	37	53	55	56	61	67	55.3	89	
2-Jul	69	69	66	70	71	67	64	65	66	56	52	46	46	48	51	48	37	35	35	37	42	45	47	71	54.3	71	
3-Jul	92	94	96	96	95	95	91	86	75	70	66	59	53	49	52	56	50	52	59	70	72	74	71	75	72.8	96	
4-Jul	78	84	91	92	91	85	81	78	70	65	59	53	51	47	48	44	45	53	60	56	61	77	81	76	67.8	92	
5-Jul	82	87	90	94	92	90	85	86	86	75	65	57	52	52	60	51	45	46	47	49	53	55	64	63	67.7	94	
6-Jul	67	69	71	78	79	79	77	75	76	74	70	64	60	58	56	73	85	91	90	87	83	91	92	89	76.4	92	
7-Jul	89	90	95	95	96	97	94	87	83	75	67	62	56	54	65	60	55	54	56	59	65	65	63	56	72.5	97	
8-Jul	57	60	65	67	69	69	68	67	69	68	56	55	55	51	41	37	38	38	39	39	39	43	73	87	56.3	87	
9-Jul	90	95	90	80	79	71	64	55	49	42	37	33	29	28	28	27	27	28	29	32	36	40	46	51	49.4	95	
10-Jul	55	58	56	60	64	65	66	64	64	65	64	62	58	54	51	50	46	46	45	45	48	52	63	69	57.1	69	
11-Jul	68	70	85	90	87	85	81	73	58	47	42	36	31	31	33	33	37	38	41	55	73	73	77	76	59.2	90	
12-Jul	75	80	83	87	92	93	94	93	94	94	87	84	75	73	61	55	50	51	55	58	59	62	63	67	74.4	94	
13-Jul	71	73	79	84	85	83	80	76	73	69	68	66	57	53	46	43	40	39	39	42	45	50	53	57	61.3	85	
14-Jul	60	65	68	67	66	67	64	58	47	45	43	40	40	37	39	37	34	35	36	37	40	43	42	43	48.0	68	
15-Jul	61	75	69	76	87	84	81	75	63	59	53	43	34	31	31	30	30	30	30	33	38	40	46	51	52.0	87	
16-Jul	54	54	59	60	62	64	62	59	53	48	45	35	27	29	29	27	24	26	27	28	29	33	37	38	42.1	64	
17-Jul	64	69	72	67	71	72	73	66	57	52	45	34	30	27	27	26	25	25	26	26	28	30	34	40	45.2	73	
18-Jul	49	54	65	71	73	78	71	66	60	51	42	37	30	27	28	28	28	29	29	31	33	35	37	40	45.5	78	
19-Jul	45	53	58	59	60	65	66	63	59	52	45	45	43	34	30	28	28	33	35	34	35	53	65	69	48.3	69	
20-Jul	73	75	80	84	85	84	84	82	78	73	68	62	55	48	47	45	44	48	53	55	62	78	84	88	68.2	88	
21-Jul	93	93	88	87	83	79	72	69	68	58	57	51	50	46	45	45	48	49	50	51	57	60	61	62	63.3	93	
22-Jul	61	65	74	78	76	75	70	66	61	52	45	43	42	40	37	36	35	33	33	35	36	40	45	56	51.4	78	
23-Jul	62	70	77	78	80	78	75	69	61	53	46	37	38	33	28	27	27	29	35	40	41	45	46	49	51.1	80	
24-Jul	57	66	69	70	72	73	70	64	56	48	46	48	46	54	76	75	75	74	80	79	82	77	80	81	67.4	82	
25-Jul	85	92	88	88	88	88	87	83	81	78	74	69	68	87	91	94	93	94	90	90	91	92	94	93	86.6	94	
26-Jul	93	91	91	94	93	92	91	92	90	79	64	54	65	59	58	53	60	62	66	66	65	65	65	67	74.0	94	
27-Jul	70	73	70	70	69	70	72	67	64	56	54	53	51	50	49	47	47	53	53	53	58	68	72	75	61.0	75	
28-Jul	79	79	82	85	86	86	82	75	67	57	47	43	42	39	37	36	35	36	37	38	40	46	50	58	56.6	86	
29-Jul	63	55	59	60	66	69	67	64	58	55	49	45	42	40	36	34	33	34	36	38	39	42	47	48	49.1	69	
30-Jul	49	52	58	69	72	71	67	68	59	59	56	46	33	31	29	26	27	27	31	35	38	41	43	52	47.5	72	
31-Jul	54	56	60	63	70	71	68	65	61	54	52	43	28	26	27	26	26	25	27	30	30	33	38	42	44.8	71	
68.6 72.0 75.1 77.4 79.0 78.4 75.8 72.1 66.9 60.7 55.2 49.9 45.8 44.0 44.1 42.8 42.0 43.4 45.4 47.7 50.7 55.0 59.4 63.2																									Diurnal Average		
93 95 96 96 96 97 94 93 94 94 87 84 75 87 91 94 93 94 90 90 91 92 94 93																									Diurnal Maximum		



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	157	21.10	21.10
40 - 60	233	31.32	52.42
60 - 80	234	31.45	83.87
80 - 100	120	16.13	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association

Summary of Hour Averages

Relative Humidity 45m (RH45) - %

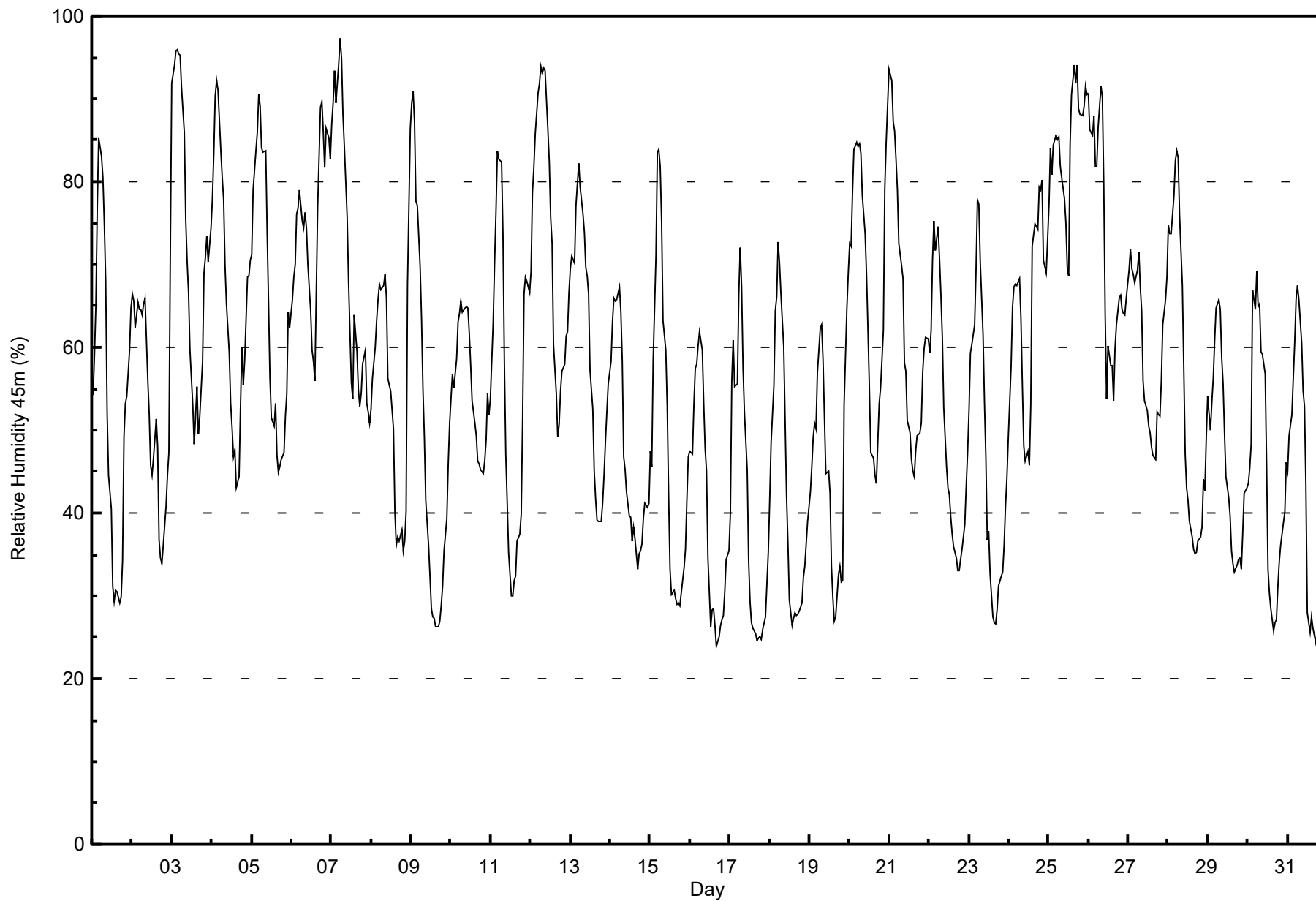
Mannix - July 2025

Maximum Value: 97 % on Jul 7 06:00																	Maximum Daily Average: 84.5 % on Jul 25										Hours in Service: 744			
Minimum Value: 24 % on Jul 16 17:00																	Minimum Daily Average: 40.2 % on Jul 16										Hours of Data: 744			
Maximum Diurnal Average: 76.2 % at hour 6																	Minimum Diurnal Average: 41.4 % at hour 17										Hours of Missing Data: 0			
Monthly Average: 57.0 %																	Percentiles: P ₁ = 25 P ₁₀ = 31 Q ₁ = 42 Median = 56 Q ₃ = 70 P ₉₀ = 84 P ₉₉ = 94										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-Jul	54	59	65	77	85	83	81	75	68	52	45	41	31	29	31	30	29	30	34	49	53	54	60	65	53.3	85				
2-Jul	66	66	62	65	65	65	64	65	66	56	52	46	45	47	51	48	37	35	34	36	41	45	47	71	53.1	71				
3-Jul	92	94	96	96	96	95	91	86	76	70	67	60	53	48	52	55	50	52	58	69	71	73	70	74	72.7	96				
4-Jul	78	83	90	92	91	84	81	78	70	65	59	53	50	47	48	43	44	53	60	55	58	69	69	71	66.3	92				
5-Jul	71	79	84	86	90	89	84	83	84	74	65	56	51	50	53	47	45	46	47	47	52	54	64	62	65.2	90				
6-Jul	66	68	70	76	77	79	75	74	76	74	70	64	60	58	56	67	77	89	90	86	82	87	85	83	74.5	90				
7-Jul	87	89	93	89	94	97	95	88	84	76	68	62	56	54	64	59	55	53	54	58	60	53	52	51	70.5	97				
8-Jul	53	56	60	63	66	68	67	67	69	66	56	55	55	50	40	36	37	37	38	36	37	40	68	86	54.4	86				
9-Jul	89	91	87	78	77	70	63	55	49	42	36	32	29	27	27	26	26	27	29	31	35	39	46	51	48.5	91				
10-Jul	54	57	55	59	63	64	66	64	65	65	65	62	58	54	51	49	46	46	45	45	46	49	54	52	55.5	66				
11-Jul	54	63	70	76	84	83	82	74	58	47	41	35	30	30	32	32	37	37	40	51	66	68	68	67	55.3	84				
12-Jul	69	79	82	86	91	92	94	93	94	93	86	82	76	73	60	54	49	51	55	57	58	61	62	67	73.5	94				
13-Jul	70	71	70	77	80	82	79	76	74	70	69	66	57	53	45	42	39	39	39	41	45	49	52	56	60.0	82				
14-Jul	58	63	66	66	66	67	64	58	47	45	43	40	39	37	38	37	33	35	35	36	39	41	41	41	47.4	67				
15-Jul	47	46	59	71	84	84	82	75	63	60	53	42	33	30	31	30	29	29	29	30	33	36	42	47	48.5	84				
16-Jul	47	47	53	57	58	60	62	60	53	48	45	35	26	28	28	26	24	25	26	27	28	30	34	35	40.2	62				
17-Jul	40	56	61	55	56	66	72	67	58	52	45	34	29	27	26	25	25	25	25	25	26	27	31	35	41.2	72				
18-Jul	41	49	55	64	66	73	70	66	60	51	42	36	29	26	27	28	28	28	28	29	32	34	36	39	43.3	73				
19-Jul	42	46	49	51	50	57	62	63	58	52	45	45	42	34	30	27	27	33	34	32	32	53	65	69	45.7	69				
20-Jul	73	72	79	84	85	84	85	83	78	74	69	62	55	47	47	45	43	48	53	55	62	79	85	89	68.2	89				
21-Jul	94	92	87	86	83	79	73	70	68	58	57	51	50	46	45	44	47	49	50	51	57	60	61	61	63.3	94				
22-Jul	59	62	71	75	72	75	71	66	61	53	46	43	42	40	37	36	35	33	33	34	36	39	43	47	50.3	75				
23-Jul	52	59	60	63	69	78	77	70	61	53	47	37	38	33	27	27	27	28	31	32	33	36	41	44	46.9	78				
24-Jul	49	58	65	67	68	67	68	63	55	48	46	47	46	53	72	74	75	74	79	79	80	71	69	73	64.5	80				
25-Jul	77	84	81	84	86	85	85	82	81	78	75	70	69	84	90	94	92	94	89	88	88	89	91	90	84.5	94				
26-Jul	91	86	86	88	82	82	87	92	90	80	64	54	60	58	58	54	60	63	66	66	65	64	64	66	71.8	92				
27-Jul	69	72	69	69	68	69	72	67	64	56	54	52	51	50	48	47	46	52	52	52	56	63	66	68	59.7	72				
28-Jul	75	74	74	78	83	84	83	76	67	57	47	43	42	39	37	36	35	35	37	37	38	44	43	49	54.7	84				
29-Jul	54	50	53	56	61	65	66	65	59	56	50	44	42	40	35	34	33	34	34	35	33	38	42	43	46.7	66				
30-Jul	43	45	48	67	65	69	65	65	60	59	57	46	33	30	28	26	27	27	31	34	36	39	40	46	45.3	69				
31-Jul	45	49	52	56	61	66	67	66	61	55	53	43	28	26	27	26	25	24	26	27	25	29	32	36	41.9	67				
																								Diurnal Average						
																								Diurnal Maximum						



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	166	22.31	22.31
40 - 60	253	34.01	56.32
60 - 80	220	29.57	85.89
80 - 100	105	14.11	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association

Summary of Hour Averages

Relative Humidity 75m (RH75) - %

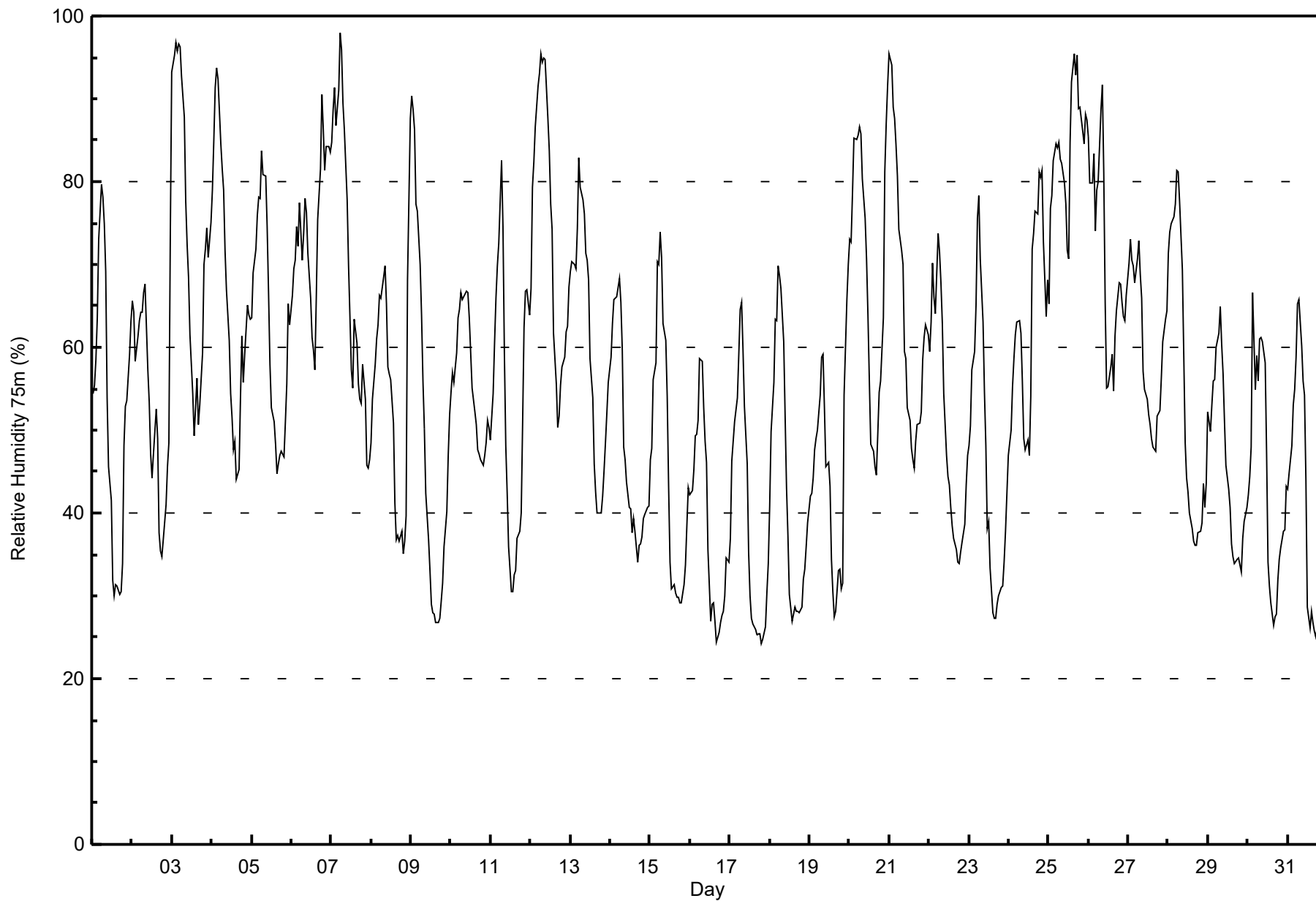
Mannix - July 2025

Maximum Value: 98 % on Jul 7 06:00															Maximum Daily Average: 83.5 % on Jul 25										Hours in Service: 744	
Minimum Value: 24 % on Jul 17 20:00															Minimum Daily Average: 38.5 % on Jul 16										Hours of Data: 744	
Maximum Diurnal Average: 73.6 % at hour 7															Minimum Diurnal Average: 42.2 % at hour 17										Hours of Missing Data: 0	
Monthly Average: 56.5 %															Percentiles: P ₁ = 26 P ₁₀ = 31 Q ₁ = 42 Median = 56 Q ₃ = 70 P ₉₀ = 82 P ₉₉ = 95										Hours of Calibration: 0	
															Percent Operational Time: 100.0											
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
1-Jul	54	55	59	64	73	80	78	75	69	54	46	42	32	30	31	31	30	30	34	48	53	54	59	63	51.8	80
2-Jul	66	64	58	61	63	64	64	67	68	57	53	47	44	47	53	49	38	35	35	37	41	46	48	73	53.3	73
3-Jul	93	95	97	96	97	96	93	88	78	72	69	61	54	49	53	56	51	53	59	70	72	74	71	75	73.8	97
4-Jul	79	85	91	94	92	85	82	79	72	67	61	54	52	48	49	44	45	54	61	56	59	65	64	63	66.7	94
5-Jul	64	69	72	76	78	78	84	81	81	75	67	58	53	51	48	45	46	47	48	47	51	56	65	63	62.5	84
6-Jul	66	70	71	75	72	77	70	74	78	76	71	66	61	60	57	66	75	82	91	86	81	84	84	84	74.1	91
7-Jul	85	89	91	87	91	98	96	89	86	78	70	64	57	55	63	60	56	54	53	58	54	46	45	46	69.6	98
8-Jul	48	54	58	61	63	66	66	68	70	65	58	57	56	51	41	37	37	37	38	35	37	40	68	88	54.1	88
9-Jul	90	89	86	77	76	70	64	56	50	42	37	33	29	28	28	27	27	27	29	32	36	40	47	52	48.9	90
10-Jul	55	57	56	59	64	65	67	66	66	67	67	64	59	55	52	51	48	47	46	46	47	49	51	50	56.3	67
11-Jul	49	54	60	66	70	73	83	75	59	48	42	36	31	30	33	33	37	38	40	51	62	67	67	64	52.8	83
12-Jul	67	79	82	87	92	93	95	94	95	95	88	84	77	74	62	56	50	52	55	58	59	62	63	67	74.4	95
13-Jul	69	70	70	69	74	83	79	78	76	71	70	68	59	54	46	43	40	40	40	42	45	48	52	56	60.1	83
14-Jul	59	63	66	66	66	68	65	60	48	46	44	41	40	38	39	38	34	36	36	37	39	40	41	41	48.0	68
15-Jul	46	48	56	58	70	70	74	71	63	61	54	43	34	31	31	30	30	30	29	29	31	34	38	43	46.1	74
16-Jul	42	43	45	49	49	51	59	58	53	49	46	36	27	29	29	27	24	26	27	28	28	30	35	34	38.5	59
17-Jul	37	46	49	51	54	59	65	65	60	53	46	35	30	27	27	26	25	25	25	24	25	26	30	34	39.4	65
18-Jul	41	50	56	63	63	70	69	67	61	52	43	37	30	27	28	29	28	28	28	29	32	33	36	39	43.2	70
19-Jul	42	42	44	48	49	50	54	59	59	53	46	46	43	34	31	27	28	33	33	31	32	54	66	70	44.8	70
20-Jul	73	73	79	85	85	86	87	86	80	76	71	64	56	48	47	46	45	50	55	56	64	81	87	92	69.5	92
21-Jul	95	94	89	88	84	81	74	72	70	60	59	53	51	48	46	46	49	51	51	52	58	61	63	61	64.8	95
22-Jul	59	63	70	66	64	74	72	68	63	54	47	44	43	41	39	37	36	34	34	35	36	39	43	47	50.3	74
23-Jul	48	51	57	59	65	76	78	71	63	54	48	38	39	33	28	27	27	29	30	31	31	34	38	42	45.8	78
24-Jul	47	50	55	59	61	63	63	62	56	49	48	49	47	54	72	74	76	76	81	81	81	73	64	68	62.9	81
25-Jul	65	77	78	82	85	84	85	83	82	80	77	72	71	85	92	95	93	95	89	89	86	85	88	87	83.5	95
26-Jul	86	80	80	83	74	79	80	89	92	81	65	55	55	58	59	55	61	64	68	68	65	64	63	66	70.4	92
27-Jul	70	73	71	70	68	71	73	69	66	57	55	54	52	51	49	48	47	52	52	52	56	61	63	64	60.1	73
28-Jul	71	74	75	76	77	81	81	78	69	59	49	44	43	40	38	37	36	36	38	38	39	44	41	44	54.4	81
29-Jul	52	50	53	56	56	60	62	65	60	57	51	46	43	41	36	35	34	34	35	34	33	37	39	41	46.2	65
30-Jul	42	44	48	67	55	59	56	61	61	61	58	47	34	31	29	26	27	28	32	34	36	38	38	43	44.0	67
31-Jul	43	45	48	53	55	59	65	66	60	56	54	44	29	26	28	27	26	25	26	27	25	28	30	33	40.7	66
61.5 64.4 66.8 69.4 70.5 73.2 73.6 72.1 68.2 62.1 56.7 51.0 46.2 44.3 44.0 42.8 42.2 43.5 45.1 46.4 48.2 51.3 54.4 57.9																									Diurnal Average	
95 95 97 96 97 98 96 94 95 95 88 84 77 85 92 95 93 95 91 89 86 85 88 92																									Diurnal Maximum	



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	167	22.45	22.45
40 - 60	264	35.48	57.93
60 - 80	221	29.70	87.63
80 - 100	92	12.37	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association

Summary of Hour Averages

Relative Humidity 90m (RH90) - %

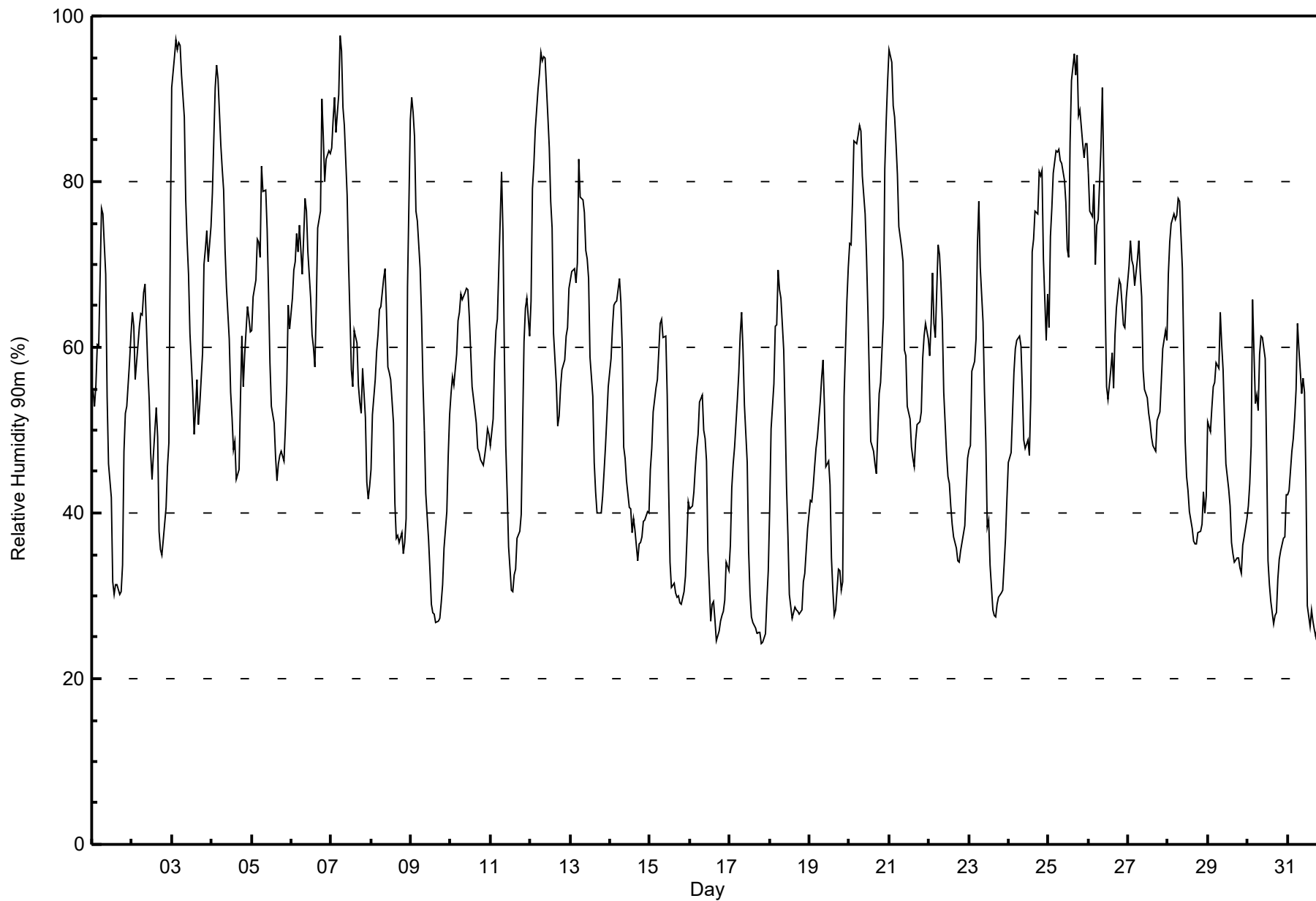
Mannix - July 2025

Maximum Value: 98 % on Jul 7 06:00															Maximum Daily Average: 82.7 % on Jul 25										Hours in Service: 744		
Minimum Value: 24 % on Jul 17 20:00															Minimum Daily Average: 37.4 % on Jul 16										Hours of Data: 744		
Maximum Diurnal Average: 71.9 % at hour 7															Minimum Diurnal Average: 42.2 % at hour 17										Hours of Missing Data: 0		
Monthly Average: 55.8 %															Percentiles: P ₁ = 26 P ₁₀ = 31 Q ₁ = 42 Median = 55 Q ₃ = 69 P ₉₀ = 81 P ₉₉ = 96										Hours of Calibration: 0		
																									Percent Operational Time: 100.0		
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
1-Jul	55	53	56	60	60	77	76	72	69	54	46	42	32	30	31	31	30	30	34	48	52	53	58	62	50.4	77	
2-Jul	64	63	56	60	63	64	64	67	68	57	54	47	44	47	53	49	38	36	35	37	41	46	48	73	53.0	73	
3-Jul	91	95	97	96	97	96	93	88	78	73	69	62	54	49	53	56	51	53	59	70	72	74	70	75	73.8	97	
4-Jul	79	85	91	94	92	84	81	79	72	67	61	55	52	48	49	44	45	54	61	55	59	65	64	62	66.6	94	
5-Jul	62	66	68	73	73	71	82	79	79	74	67	58	53	51	47	44	46	47	47	46	50	56	65	62	61.1	82	
6-Jul	66	69	70	74	71	75	69	73	78	76	72	66	61	60	58	65	74	76	90	85	80	83	84	83	73.3	90	
7-Jul	84	87	90	86	90	98	96	89	87	78	70	64	57	55	62	60	55	53	52	57	51	44	42	43	68.9	98	
8-Jul	45	52	56	59	61	65	65	68	70	64	58	57	56	51	41	37	37	36	38	35	36	39	67	87	53.4	87	
9-Jul	90	88	85	76	75	69	64	56	50	42	37	33	29	28	28	27	27	27	29	31	36	40	47	52	48.7	90	
10-Jul	54	56	55	59	63	64	66	66	67	67	67	64	60	55	52	51	48	47	47	46	47	48	50	50	56.2	67	
11-Jul	48	51	58	62	63	69	81	74	59	48	42	36	31	31	33	33	37	38	40	50	61	65	66	61	51.6	81	
12-Jul	66	79	82	86	91	93	96	95	95	95	88	84	78	74	62	56	50	52	55	57	59	61	62	67	74.3	96	
13-Jul	68	69	70	68	70	83	78	78	76	72	71	68	59	54	46	43	40	40	40	42	45	48	51	55	59.7	83	
14-Jul	59	62	65	65	66	68	66	60	48	47	44	41	40	38	39	38	34	36	36	37	39	39	40	40	47.8	68	
15-Jul	45	48	52	55	56	59	63	63	61	61	54	43	34	31	31	30	30	30	29	29	31	32	37	41	43.7	63	
16-Jul	40	41	42	45	48	49	53	54	50	49	46	35	27	29	29	27	25	26	27	28	28	29	34	33	37.4	54	
17-Jul	36	43	46	48	54	57	61	64	60	53	46	35	30	28	27	26	25	26	26	24	24	25	30	33	38.7	64	
18-Jul	40	50	56	63	63	69	67	66	60	52	43	37	30	27	28	29	28	28	28	28	32	33	35	38	42.9	69	
19-Jul	41	41	43	46	48	49	53	56	59	53	46	46	43	35	31	28	28	33	33	31	32	54	66	70	44.3	70	
20-Jul	72	72	78	85	85	86	87	86	81	76	71	64	56	49	47	46	45	50	54	56	64	81	87	92	69.6	92	
21-Jul	96	94	89	88	85	81	75	72	70	60	59	53	51	48	47	46	49	51	51	52	59	61	63	61	65.0	96	
22-Jul	59	63	69	63	61	72	71	68	63	55	47	44	44	41	39	37	36	34	34	35	36	38	43	47	50.0	72	
23-Jul	48	48	57	58	61	72	78	70	63	55	48	38	39	34	28	28	28	29	30	30	31	34	37	42	45.2	78	
24-Jul	46	47	52	57	60	61	61	60	55	49	48	49	47	54	71	73	77	76	81	81	81	71	61	67	61.8	81	
25-Jul	62	73	77	81	84	84	84	83	82	80	78	72	71	85	92	95	93	95	88	89	85	83	85	85	82.7	95	
26-Jul	81	76	76	80	70	75	75	84	91	81	66	55	54	57	59	55	62	65	68	68	65	63	62	66	68.9	91	
27-Jul	70	73	71	70	67	71	73	69	66	57	55	54	52	51	49	48	47	51	52	52	56	60	62	61	59.9	73	
28-Jul	69	73	75	76	75	76	78	78	69	59	49	44	43	40	38	37	36	36	38	38	39	43	40	42	53.8	78	
29-Jul	51	50	53	55	56	58	57	64	60	57	51	46	43	41	37	35	34	35	35	33	33	36	37	39	45.7	64	
30-Jul	41	44	48	66	53	54	52	59	61	61	59	47	34	31	29	27	28	28	32	34	35	37	37	42	43.4	66	
31-Jul	42	43	48	49	52	55	63	60	54	56	55	44	29	26	28	27	26	25	26	27	24	27	29	32	39.4	63	
		60.4	63.1	65.5	67.9	68.2	71.1	71.9	70.9	67.8	62.3	56.9	51.1	46.2	44.4	44.0	42.8	42.2	43.4	45.0	46.2	47.8	50.6	53.5	56.8	Diurnal Average	
		96	95	97	96	97	98	96	95	95	95	88	84	78	85	92	95	93	95	90	89	85	83	87	92	Diurnal Maximum	



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	167	22.45	22.45
40 - 60	275	36.96	59.41
60 - 80	216	29.03	88.44
80 - 100	86	11.56	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

Mannix - July 2025

Maximum Speed: 37 km/h on Jul 9 16:00																		Maximum Daily Speed Average: 22.1 km/h on Jul 9										Hours in Service: 744			
Minimum Speed Value: 1 km/h on Jul 1 08:00																		Minimum Daily Speed Average: 0.6 km/h on Jul 30										Hours of Data: 744			
Maximum Diurnal Speed Average: 5.8 km/h at hour 13																		Minimum Diurnal Speed Average: 0.3 km/h at hour 20										Hours of Missing Data: 0			
Monthly Average Velocity: 2.8 km/h 243.1 deg																		Percentiles: P ₁ = 2 P ₁₀ = 4 Q ₁ = 6 Median = 9 Q ₃ = 12 P ₉₀ = 17 P ₉₉ = 28										Percent Operational Time: 100.0			
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum					
1-Jul	NNE6	NNE5	N2	ENE1	SSW2	SW2	E3	ENE1	SW2	E5	SE3	ESE3	SE4	S5	SSE7	ESE8	E8	ENE7	N7	ESE10	SE14	SE14	SSE13	SSE10	SE3.9	SE14					
2-Jul	SSE14	SSE13	SSE9	SSE10	SE11	SE10	SSE10	SSE8	SE9	SW11	W13	WSW11	SSW9	WSW3	ESE4	S4	WNW4	SE3	SE5	ESE8	SE14	ESE12	ESE14	WSW16	SSE6.2	WSW16					
3-Jul	NNW12	N4	SSW5	WSW10	WSW9	WSW11	WSW13	W13	WSW16	WSW16	W13	WSW18	WSW20	SW21	SW18	SSW13	SSW17	SW20	W25	W14	WSW11	W13	WSW13	WSW13	WSW12.7	W25					
4-Jul	WSW14	WSW18	W19	W22	WNW21	WNW20	WNW19	WNW19	WNW22	WNW20	WNW17	WNW18	WNW20	NW15	NW10	NW14	NNW11	N17	NNW7	NE7	N2	WSW5	WSW5	SW4	WNW12.3	WNW22					
5-Jul	SSW4	W3	SSE4	SSE7	SSE8	SSE7	SSW3	ENE6	SE6	SE8	SSE11	SSE8	SE6	S10	SSE12	SE8	NNW2	ENE6	E4	ENE8	NE7	ENE9	E6	SE3	SE4.5	SSE12					
6-Jul	ESE12	E8	ESE4	N7	NNE7	NNE6	NNE8	NNE4	NNW4	N8	N10	N11	N8	NNW5	WNW6	S4	NNW6	N11	NE9	N5	ENE6	WSW6	WSW5	WNW3	NNE4.2	ESE12					
7-Jul	NNE2	E4	SW3	S6	S6	SSE8	SSE10	SSE9	SSE7	S9	S8	SSE9	SE9	S8	SW5	SSE14	SE8	SSE13	SSE11	SSE11	SSE10	SSE10	S9	S9	SSE7.6	SSE14					
8-Jul	S10	S9	SSE12	S11	SSE7	SSE8	SSE9	SSE7	SSE9	S10	S17	S16	S17	SSE15	SSW14	SSW15	SSW12	SSW11	SSW7	S6	SE7	SE5	W23	W21	S9.4	W23					
9-Jul	WNW4	SSW9	SSW11	SW19	SW17	SW19	SW18	SW24	WSW23	WSW27	WSW30	WSW29	WSW28	WSW31	WSW36	WSW37	WSW32	WSW31	WSW26	WSW18	W18	W23	W23	W17	WSW22.1	WSW37					
10-Jul	WSW10	SW8	W14	W15	W12	W12	WSW13	W15	W15	W13	W13	W11	W16	WNW17	WNW14	W16	W18	WNW15	NW12	NW9	WNW4	WSW7	SW7	WSW10	W11.7	W18					
11-Jul	WSW9	S6	SSE8	SSE8	SSE9	SSE10	SE9	SSE11	S14	SSW17	SSW21	SW23	SW25	SW24	WSW19	WSW23	SW17	WSW13	WSW11	W14	WNW8	SE1	SSW7	SSW8	SSW10.8	SW25					
12-Jul	SW11	WSW18	W18	WSW18	WSW11	WSW9	W15	WNW16	W15	WNW10	WNW8	WNW7	W18	W10	WNW11	W15	W16	WSW24	WSW22	WSW18	W20	W19	NW13	N11	W13.4	WSW24					
13-Jul	NNE8	N2	SW9	WSW11	SW9	NNW6	WNW8	WNW8	NNE8	N12	NNW12	NNW13	NNW13	NNW13	NNW12	NNW13	NNW12	NNE15	NNE17	NE14	NE11	NNE11	NNE10	N9	N7.8	NNE17					
14-Jul	N9	NNW5	N8	N11	N9	N7	N10	NNW11	NNW14	NNW14	NNW12	NNW12	NNW10	NNW11	NNW11	N11	N12	NNE11	NNE10	NNE10	NE7	NNE6	NNE5	NNE4	N9.2	NNW14					
15-Jul	W6	W4	SSW6	S2	SSE6	SSE6	SSE5	SSE5	SSE6	SSE6	SSE6	SSE7	SSW5	SSW5	SSE8	SE8	SE10	SSE10	SSE12	SSE11	SSE12	SSE12	SSE11	SSE11	SSE6.8	SSE12					
16-Jul	SSE9	SSE9	SSE9	SSE9	SE8	SSE8	SSE10	SE8	SSE7	SE7	SE6	SE7	SE9	ESE6	ESE7	SSE5	SSE5	SSE6	S4	S3	SSE4	S5	SE1	SSW3	SSE6.2	SSE10					
17-Jul	W4	E2	SW4	SW5	SSW6	S5	S4	S2	SSW3	WSW2	NW2	NNE3	NE2	NNW5	N9	NNE9	NE10	NE11	NE10	NE8	NE7	NE8	ENE7	E4	NE2.3	NE11					
18-Jul	S7	S8	S6	S7	SSE8	SSE8	SSE11	SSE10	SSE8	SSE8	SE8	SE8	SSE8	SSE9	SSE8	SSE10	SSE12	SSE12	SSE11	SSE10	SE11	SSE13	SE12	SSE10	SSE9.1	SSE13					
19-Jul	SSE10	SSE10	SSE10	SSE11	SSE8	S5	S4	S2	SSE4	SE6	SSE7	SSE9	SSE9	S8	S4	S3	SSE8	SSE11	SSE8	SSE8	SE5	N16	NNE14	NNE13	SSE4.9	N16					
20-Jul	NNE6	N8	N12	N10	N14	N17	N11	NNE8	NNE4	W3	W4	WSW3	SSE4	S5	SSE6	S3	WNW10	NNW14	NNE4	WNW6	N17	NNE22	N19	NNW21	N7.1	NNE22					
21-Jul	N20	N20	N21	N17	NNW20	NNW20	NNW17	NNW17	NNW19	NNW17	NNW15	NNW15	NNW14	NNW13	NNW14	NNW14	NNW15	NNW15	NNW13	NNW12	NNE9	NE5	NNE6	N8	NNW14.5	N21					
22-Jul	NW7	WNW6	WSW7	WSW8	WSW9	WSW7	WSW10	WSW13	W11	WSW12	WNW9	W13	W11	W12	W10	W11	W8	N4	NNW6	NE4	NE6	ENE4	E4	SW5	W6.2	W13					
23-Jul	SW6	SSW5	S4	SSE8	S7	SSE7	SSE5	SSE5	S3	SE3	SSE4	S4	WSW8	W6	NW5	NNW1	S5	SW10	SSW7	SSW8	SW10	SW7	SSW5	S6	SSW4.5	SW10					
24-Jul	SSE7	SSE7	SSE7	SE7	SE6	SSE7	SSE6	SSE8	SE9	SE12	SE15	SE14	SE14	SSE11	E6	E13	ESE11	SE9	SE9	SSE7	SSE8	W9	WNW7	W5	SE7.1	SE15					
25-Jul	SSW7	SSW6	SSW7	WSW10	WSW9	SSW9	SW12	WSW14	WSW14	WSW17	WSW14	W13	WNW13	W10	NW12	N12	N14	NNW10	N11	NNW6	W9	W12	WSW10	W10	W7.6	WSW17					
26-Jul	WNW7	WNW10	WNW9	WSW10	W8	SW7	WSW8	S3	SSW6	SW6	SW9	WSW12	WSW19	W8	NNW5	N13	NNE17	NNE19	NNE16	NNE12	NE9	NNE7	NNE8	N9	NW4.0	WSW19					
27-Jul	N7	N8	N11	N15	NNE17	NNE15	N9	N9	NNW9	NNW12	NW10	NW11	NNW11	NW8	NW8	NNW9	NNW10	NNW10	NNW6	WNW7	WNW8	W8	W9	W9	NNW8.6	NNE17					
28-Jul	W6	W7	W7	WSW6	SW6	SSW5	SSW4	SW4	SW4	W4	W6	WNW6	W8	WNW7	WNW7	WNW9	WNW7	NW6	NNE6	NE6	NE5	E2	S7	S4	W3.5	WNW9					
29-Jul	SE8	SSE9	SSE8	SSE8	SSE7	SSE8	SSE9	SSE7	SSE6	SSE5	SSE6	SSE4	SE7	SE5	NNW3	WSW4	SSW5	SSE7	SSE8	SSE9	S10	S8	S7	S5	SSE6.1	S10					
30-Jul	SSE5	SSE6	ESE2	NE3	S5	SSE5	SSE9	S9	SSE11	SE7	SE6	SSE1	WNW11	WNW9	WNW11	N11	N11	NNW9	NNE9	NE8	NE8	NE7	ENE6	SW5	NE0.6	WNW11					
31-Jul	SSW6	SE3	SSE8	SSE8	SSE8	SSE9	SSE9	SSE6	SE6	SSE7	SE7	SSE4	SW10	SSW11	SSW10	SW10	SSW8	SW7	SW7	SSW6	SSW9	S9	S9	S10	S6.9	SSW11					
SW1.9 SW2.0 SW3.2 SW3.8 SW3.0SSW2.4 SW3.2 SW3.2 SW3.4WSW3.9WSW4.2WSW4.7WSW5.8WSW5.4 W4.6WSW3.5 W3.0WNW2.2WNW1.6WSW0.3 SSE0.5WSW0.9WSW1.5WSW3.0																								Diurnal Average							
N20 N20 N21 W22WNW21NNW20WNW19 SW24WSW23WSW27WSW30WSW29WSW28WSW31WSW36WSW37WSW32WSW31WSW26WSW18 W20 W23 W23 W21																								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

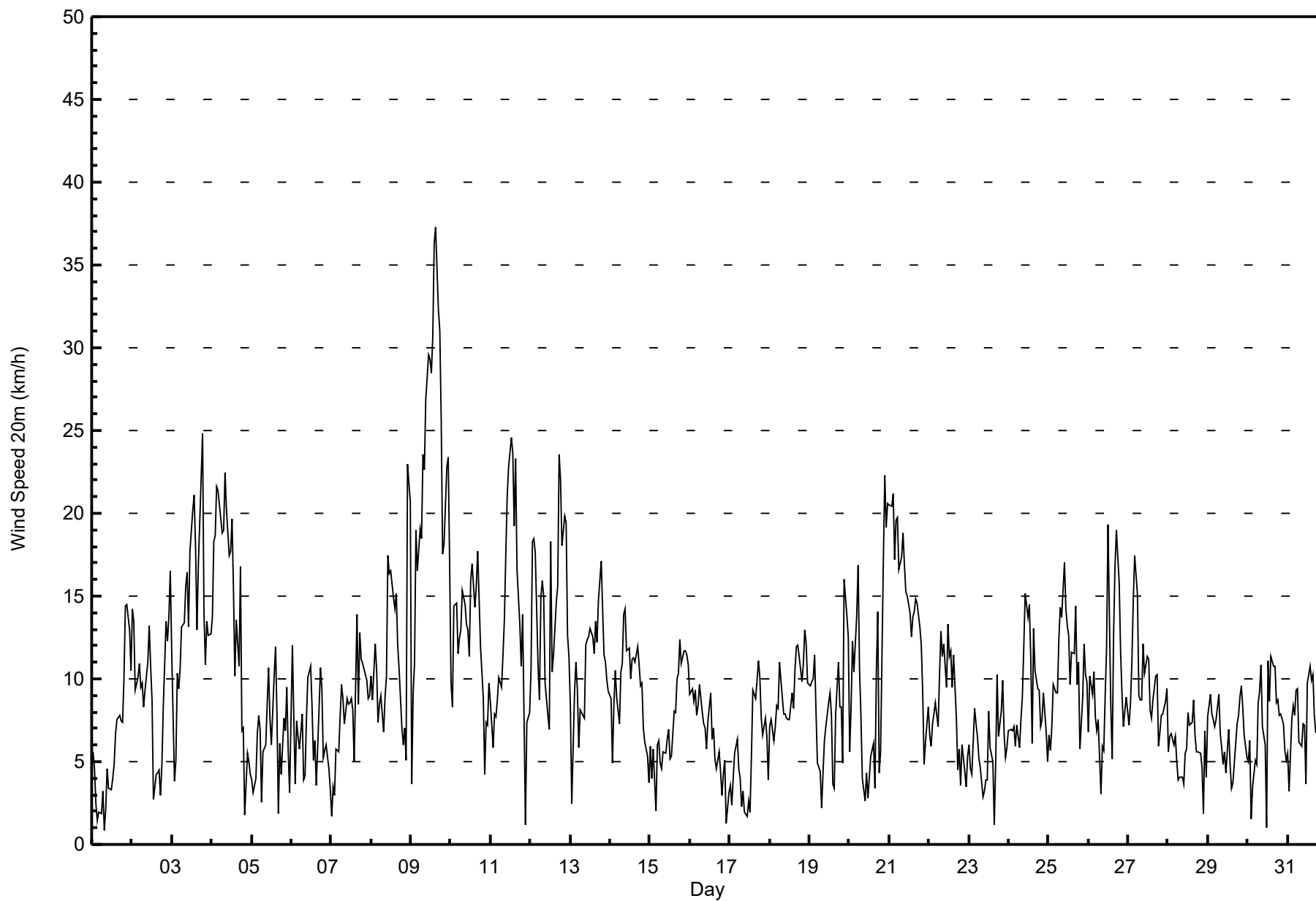
Mannix - July 2025

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



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	140	18.82	18.82
6 - 11	398	53.49	72.31
12 - 19	165	22.18	94.49
20 - 28	34	4.57	99.06
29 - 38	7	0.94	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 20m (WS20) - km/h
Mannix - July 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	8	5	3	8	4	11	18	25	13	11	7	7	4	2	9	140
6 - 11	28	22	16	8	4	6	32	110	29	22	17	28	22	26	9	19	398
12 - 19	12	11	1	0	1	3	7	15	4	6	7	24	30	10	5	29	165
20 - 28	3	1	0	0	0	0	0	0	0	1	6	8	7	5	0	3	34
29 - 38	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	7
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	48	42	22	11	13	13	50	143	58	42	41	74	66	45	16	60	744

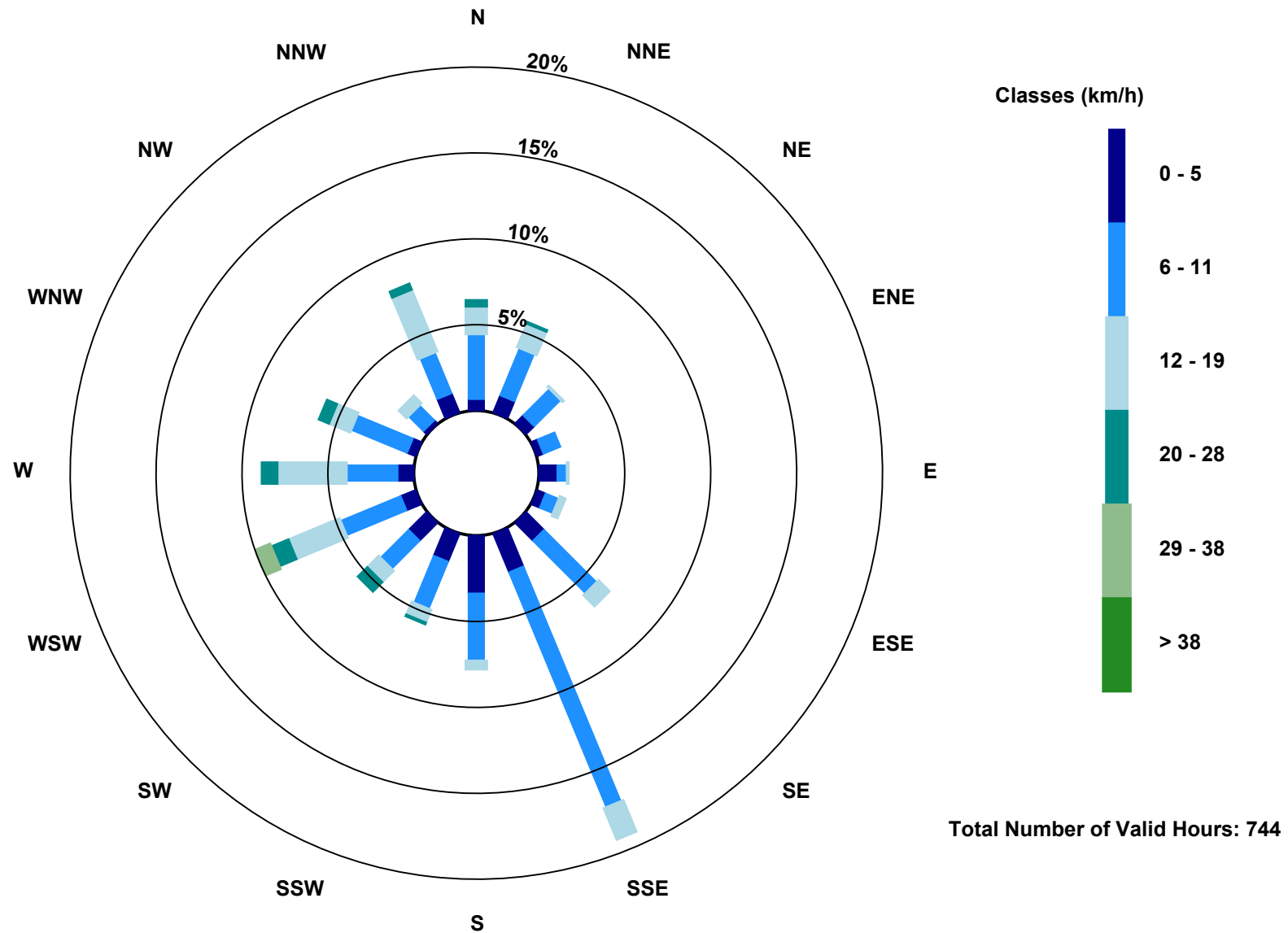
Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Speed 45m (WS45) - km/h

Mannix - July 2025

Maximum Speed: 46 km/h on Jul 9 16:00																		Maximum Daily Speed Average: 28.7 km/h on Jul 9										Hours in Service: 744	
Minimum Speed Value: 1 km/h on Jul 30 03:00																		Minimum Daily Speed Average: 0.7 km/h on Jul 30										Hours of Data: 744	
Maximum Diurnal Speed Average: 7.5 km/h at hour 13																		Minimum Diurnal Speed Average: 0.6 km/h at hour 20										Hours of Missing Data: 0	
Monthly Average Velocity: 3.7 km/h 237.5 deg																		Percentiles: P ₁ = 2 P ₁₀ = 6 Q ₁ = 9 Median = 13 Q ₃ = 18 P ₉₀ = 24 P ₉₉ = 36										Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum			
1-Jul	NNE7	NNE8	NNE6	NE4	SE2	S2	ENE3	ENE1	SSW2	E5	SSE4	ESE3	SE5	S7	SSE9	ESE9	E9	ENE9	N11	ESE13	SE20	SE21	SE20	SSE18	ESE5.5	SE21			
2-Jul	SSE24	SSE21	SSE17	SSE17	SE19	SE17	SSE16	SSE11	SSE13	SW15	W16	SW14	SSW15	WSW3	ESE5	S5	WNW6	SE3	SE6	E11	SE20	ESE15	ESE17	WSW22	SSE9.5	SSE24			
3-Jul	NNW19	N7	SSW7	WSW14	W13	WSW14	WSW17	W16	WSW18	WSW20	W17	WSW21	WSW25	SW28	SW26	SSW21	SSW24	SW27	W32	W18	WSW15	W18	WSW18	WSW18	WSW16.7	W32			
4-Jul	WSW19	WSW23	W23	W26	WNW28	WNW30	WNW27	WNW26	WNW29	WNW26	WNW23	WNW24	WNW26	NW24	NW16	NW20	NNW16	N24	NNW10	NNE9	N4	WSW6	SW11	SSW6	WNW16.8	WNW30			
5-Jul	S8	SW6	SSE8	SSE13	SSE14	SE12	SSW4	NE7	ESE9	SE11	SE14	SSE11	SE8	S14	SE18	SE10	NW3	ENE7	E6	ENE10	NE9	ENE12	ENE8	ESE4	SE6.8	SE18			
6-Jul	ESE16	E9	ESE6	N12	N10	N8	NNE11	NNE6	NNW6	N10	N14	N14	N10	NNW8	WNW9	S6	NW9	N15	NE12	NNE8	ENE8	WSW6	WSW6	WNW5	N5.7	ESE16			
7-Jul	NE3	ENE4	SSW1	SSE10	S11	SSE12	SSE15	SSE12	SSE10	S12	S12	SSE12	SE12	S12	SW7	SSE19	SE11	SSE17	SSE18	SSE17	SSE18	S18	S18	S19	SSE11.6	S19			
8-Jul	S21	S18	S21	S20	S15	SSE14	SSE15	SSE10	SSE12	S16	S26	S27	S25	SSE20	S22	SSW24	SSW20	SSW18	SSW13	S12	SE10	SE10	W29	W26	S15.7	W29			
9-Jul	WNW6	SSW15	SSW19	SW27	SW25	SW26	SW25	SW31	SW29	SW34	WSW38	SW37	WSW37	WSW38	WSW46	WSW46	WSW40	WSW39	WSW33	WSW24	W25	W28	W28	W22	WSW28.7	WSW46			
10-Jul	WSW15	WSW14	W20	W20	W17	W17	WSW18	W18	W17	W15	WSW15	W14	W20	WNW23	WNW20	W20	W21	WNW20	WNW17	NW13	WNW7	WSW8	SW13	SW19	W15.7	WNW23			
11-Jul	SW18	SSW10	S13	S12	SSE15	SSE16	SE14	SSE16	S19	S28	SSW32	SSW33	SW34	SW31	WSW26	WSW30	SW23	WSW19	WSW16	W21	NW14	E2	SSW13	SSW15	SSW16.2	SW34			
12-Jul	SW19	WSW25	W24	WSW24	WSW16	WSW13	W18	WNW22	W19	WNW15	WNW11	WNW10	W21	W13	W15	W17	W19	WSW29	WSW29	WSW24	W25	W25	NW18	N17	W17.5	WSW29			
13-Jul	NNE14	N5	WSW12	WSW19	WSW16	NNW10	WNW11	WNW11	NNE10	N16	NNW18	NNW18	NNW19	NNW17	NNW17	NNW20	NNW18	NNE20	NNE23	NNE20	NNE16	NNE17	NNE16	N14	NNW11.7	NNE23			
14-Jul	N14	NNW10	N13	N16	N14	N12	N15	NNW16	NNW20	NNW20	NNW16	NNW17	NNW15	NNW16	NNW16	N15	N16	N15	NNE13	NNE14	NE10	NNE10	N7	NE6	N13.4	NNW20			
15-Jul	WNW2	W4	S4	S4	SSE12	SSE9	SSE6	SSE6	SSE7	SSE8	SSE8	SSE9	S7	SSW7	SE11	SE11	SE12	SSE14	SSE16	SSE18	SSE21	SSE22	SSE22	SSE20	SSE10.2	SSE22			
16-Jul	SSE19	SSE20	SSE17	SSE16	SSE16	SSE16	SSE13	SSE10	SSE10	SE9	SE8	SE9	SE11	SE8	ESE8	SSE6	SSE6	SSE7	SSE6	S4	SSE7	S9	S4	SSE4	SSE9.8	SSE20			
17-Jul	SSW4	NE3	S6	SSW6	S9	S8	S6	S3	SSW4	WSW2	NW3	NNE3	N2	NNW9	NNW13	NNE11	NNE13	NE14	NNE13	NNE12	NE12	NE13	ENE10	E6	NE3.2	NE14			
18-Jul	SE12	SSE15	SSE11	SSE13	SSE16	SSE15	SE16	SE14	SE10	SSE10	SE10	SSE10	SSE13	SSE11	SSE15	SSE17	SSE16	SE16	SE16	SE18	SSE21	SE20	SSE16	SSE14.1	SSE21				
19-Jul	SSE16	SSE18	SSE18	SSE18	SE15	SSE10	SSE9	S3	SSE6	SE8	SSE9	SSE11	SSE13	S11	S5	SSE5	SSE10	SSE15	SSE12	SE13	SE10	N24	NNE21	NNE19	SE7.8	N24			
20-Jul	NNE10	N13	N19	N15	N21	N24	N16	N10	NNE4	WNW3	WNW5	WSW3	SSE5	S7	SSE8	SSW5	WNW15	NNW21	N6	WNW9	N25	N31	N28	NNW30	N10.5	N31			
21-Jul	N29	N29	N31	N25	NNW29	NNW29	NNW25	NNW25	NNW27	NNW25	NNW23	NNW21	NNW19	NNW18	NNW20	NNW21	NNW22	NNW21	NNW20	NNW18	NNE11	NNE6	NNE8	NNW13	NNW21.1	N31			
22-Jul	NW11	WNW10	W10	WSW11	WSW13	WSW11	W13	WSW15	W13	WSW14	WNW13	W16	W14	W15	W12	W13	W9	N6	NNW8	NNE4	NE8	NE6	E7	SSE5	W7.8	W16			
23-Jul	SSE10	SSE11	SSE10	SSE16	SSE16	SSE11	SSE8	SSE6	SSE4	SE4	SSE6	S4	WSW9	W7	NW7	WNW2	S7	SW14	SSW10	SSW15	SW16	SW13	SW9	SSW10	S7.3	SW16			
24-Jul	S10	SSE15	SSE14	SSE14	SSE13	SSE13	SSE8	SE10	SE13	SE17	SE20	SE19	SE19	SE17	E9	E16	ESE12	SE14	SE14	SSE10	SSE12	WSW13	WNW13	W10	SE10.4	SE20			
25-Jul	SW10	SSW14	SW14	WSW18	WSW16	SW17	SW20	WSW20	WSW18	WSW22	WSW17	W17	WNW17	W13	WNW18	N18	N21	NNW15	N17	NNW9	WNW12	W19	W16	W16	W11.6	WSW22			
26-Jul	WNW14	WNW18	WNW17	W14	WNW15	W11	WSW10	SSW5	SSW8	SW7	SW11	WSW15	WSW27	W10	NNW7	N18	NNE22	NNE25	NNE22	NNE16	NE12	NNE10	NNE13	N13	NW7.0	WSW27			
27-Jul	N11	N13	N17	N21	N25	N22	NNW14	N13	NNW12	NNW17	NW15	NW16	NNW15	NW12	NW12	NW13	NNW16	NNW16	NNW11	NW11	WNW12	WNW12	WNW14	WNW15	NNW13.4	N25			
28-Jul	WNW9	W11	W12	WNW9	W7	SW9	SSW5	SW5	SSW5	WSW5	W7	WNW8	W10	WNW9	WNW10	WNW11	WNW8	NW7	NNE7	NE7	NE7	E4	S12	SSE11	W4.7	S12			
29-Jul	SE14	SE16	SE15	SE14	SSE14	SSE14	SSE15	SSE9	SSE8	SSE6	SSE8	SSE6	SE8	SE6	NW4	SW6	SSW7	SSE10	SSE11	SSE15	S17	S15	SSW9	SSW8	SSE9.6	S17			
30-Jul	SSW7	S5	E1	NE6	S10	S6	SSE14	S18	SSE15	SE11	SE8	S2	WNW15	WNW12	WNW14	NNW14	N15	NNW12	NNE11	NE11	NE13	NE12	ENE10	SSE4	ENE0.7	S18			
31-Jul	SSE11	SE8	SE13	SSE18	SSE16	SSE19	SSE14	SSE8	SE8	SE10	SE10	SSE4	SW13	SSW15	SSW14	SSW14	SSW12	SSW10	SW10	SSW11	SSW14	S16	SSW16	S19	S11.2	SSE19			
SW3.0SSW3.3SSW4.2 SW5.1SSW4.4SSW3.7SSW4.2 SW4.2 SW4.3 SW5.1WSW5.5WSW6.1WSW7.5WSW7.0 W6.2WSW4.7 W4.2WNW3.3WNW2.3 SW0.6 SE1.1 SW1.0WSW2.6WSW4.3																										Diurnal Average			
N29 N29 N31 SW27NNW29WNW30WNW27 SW31WNW29WSW34WSW38 SW37WSW37WSW38WSW46WSW46WSW40WSW39WSW33WSW24WNW25 N31 W29NNW30																										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

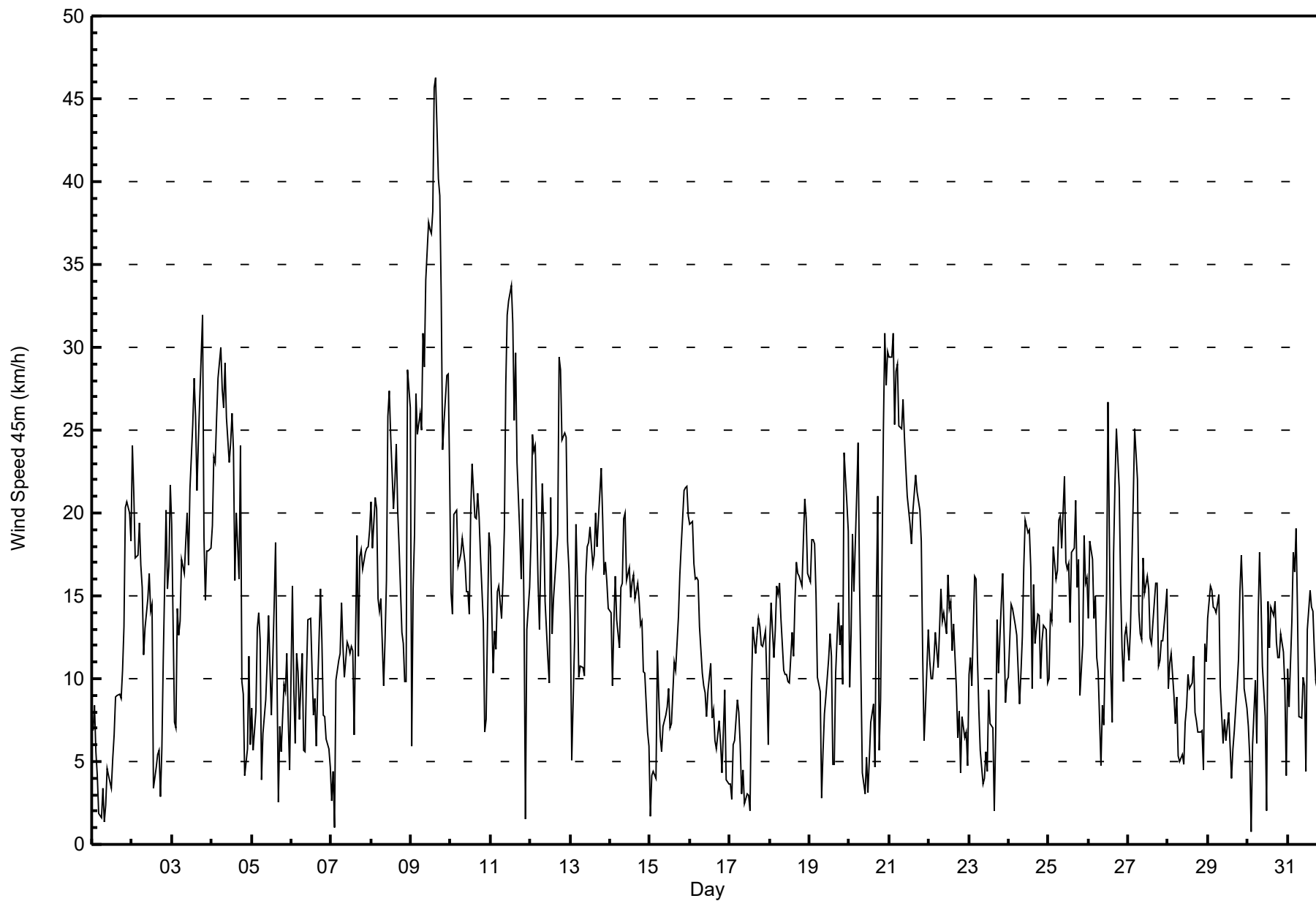
Mannix - July 2025

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



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	66	8.87	8.87
6 - 11	225	30.24	39.11
12 - 19	311	41.80	80.91
20 - 28	112	15.05	95.97
29 - 38	26	3.49	99.46
> 38	4	0.54	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Wind Speed 45m (WS45) - km/h
Mannix - July 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	3	3	3	3	4	3	4	8	12	9	1	4	0	6	3	0	66
6 - 11	11	17	10	7	7	4	28	51	15	15	10	8	10	17	4	11	225
12 - 19	28	12	7	1	1	5	27	67	20	15	12	30	30	19	9	28	311
20 - 28	10	8	0	0	0	0	6	10	7	4	9	13	16	12	2	15	112
29 - 38	4	0	0	0	0	0	0	0	0	2	5	8	2	2	0	3	26
> 38	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4
Totals	56	40	20	11	12	12	65	136	54	45	37	67	58	56	18	57	744

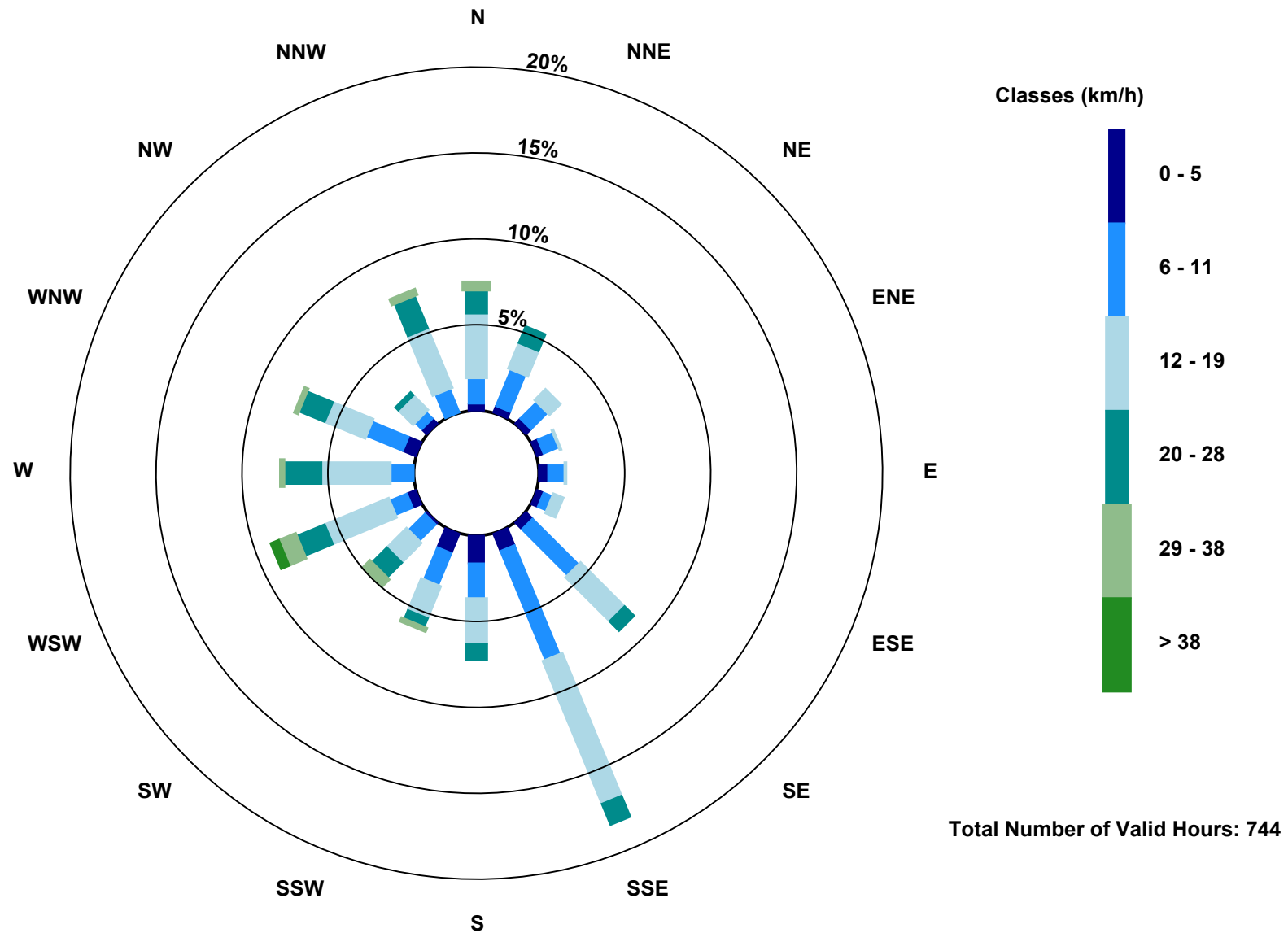
Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Speed 75m (WS75) - km/h

Mannix - July 2025

Maximum Speed: 51 km/h on Jul 9 16:00																Maximum Daily Speed Average: 32.1 km/h on Jul 9										Hours in Service: 744	
Minimum Speed Value: 1 km/h on Jul 15 02:00																Minimum Daily Speed Average: 1.0 km/h on Jul 30										Hours of Data: 744	
Maximum Diurnal Speed Average: 7.8 km/h at hour 13																Minimum Diurnal Speed Average: 0.4 km/h at hour 22										Hours of Missing Data: 0	
Monthly Average Velocity: 3.8 km/h 240.1 deg																Percentiles: P ₁ = 2 P ₁₀ = 6 Q ₁ = 10 Median = 15 Q ₃ = 21 P ₉₀ = 28 P ₉₉ = 39										Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
1-Jul	NE5	NE8	NE7	NE7	E3	S2	ENE5	E3	SSW2	E5	SSE4	SE4	SE5	S7	S9	ESE9	E9	ENE10	NNE11	E12	SE17	SE21	SE26	SSE24	ESE6.4	SSE26	
2-Jul	SSE31	SSE29	SSE25	SSE22	SSE25	SSE22	SSE20	SSE13	SSE14	SW16	W16	WSW15	SSW17	SW4	ESE5	S5	WNW5	SE2	SE6	ESE11	SE21	ESE12	ESE15	WSW24	SSE11.4	SSE31	
3-Jul	NNW23	NNE10	SW7	WSW16	W14	W15	W20	W18	WSW19	WSW21	W17	W23	WSW28	SW30	SW29	SSW25	SW27	SW30	W34	W21	W17	W21	WSW22	WSW22	WSW18.2	W34	
4-Jul	WSW24	W26	W26	W28	WNW31	NW33	NW30	WNW29	WNW30	WNW26	WNW24	WNW25	WNW27	NNW27	NNW17	NW21	N18	N27	N11	NE11	NNE7	WSW3	SW10	SSW7	WNW17.8	NW33	
5-Jul	S7	WSW6	SSE5	SSE11	SSE19	SSE18	S6	NE8	ESE7	SE10	SSE14	S12	SE8	S15	SSE20	SE8	N3	ENE8	E6	E10	NE11	E12	E8	ESE5	SE7.0	SSE20	
6-Jul	ESE12	E9	ESE6	NNE10	NNE14	NNE10	NE15	NE7	N5	N11	NNE15	NNE14	N11	NNW8	NW9	S8	NNW10	N18	NE14	NE10	ENE10	SW4	SSW5	WSW3	NNE6.5	N18	
7-Jul	ENE3	E4	SE2	SSE11	SSE14	SSE15	SSE17	S13	SSE11	S13	S13	SSE12	SSE12	S12	SW8	SSE20	SSE13	SSE20	S22	SSE20	S20	S21	SSW27	SSW29	S13.7	SSW29	
8-Jul	SSW30	SSW25	S26	SSW27	SSW19	S18	S19	SSE12	SSE14	S19	S28	SSW30	S27	S23	SSW24	SSW27	SSW23	SSW21	SSW15	SSW15	SSE10	SE10	W30	W29	SSW18.8	SSW30	
9-Jul	WNW8	SSW17	SW23	WSW32	SW31	SW30	SW28	WSW33	WSW31	WSW37	WSW41	WSW40	WSW40	WSW42	WSW50	WSW51	WSW44	WSW43	WSW37	WSW28	WNW28	W31	W31	W25	WSW32.1	WSW51	
10-Jul	W19	WSW19	W24	W24	W21	W20	W20	W19	W17	W15	W16	W14	WNW20	WNW23	WNW20	WNW20	WNW21	WNW20	NW18	NW14	NW7	W5	SW12	SW16	W16.7	W24	
11-Jul	SW18	SW18	SSW12	SSW13	S20	S15	SSE16	S18	S21	SSW30	SSW35	SW37	SW38	SW35	WSW28	WSW33	SW26	WSW22	WSW20	W25	NW18	NE3	SSW11	SW16	SW18.7	SW38	
12-Jul	SW24	WSW29	W27	WSW28	WSW19	WSW15	W20	WNW24	W22	WNW17	NW12	NW10	W21	WNW13	WNW15	W18	W20	W32	WSW33	WSW29	W28	W28	NW20	NNE19	W19.6	WSW33	
13-Jul	NNE18	NNE9	WSW10	WSW25	WSW20	NNW13	NW12	NW11	NNE11	N17	N19	N20	N21	NNW18	NNW19	N22	N19	NNE22	NNE26	NE23	NE20	NNE23	NNE22	NNE18	N13.7	NNE26	
14-Jul	N16	N12	N16	N19	N17	N15	N17	N17	NNW21	NNW21	N18	NNW17	N16	NNW16	N17	N16	N17	NNE16	NNE15	NNE16	NE13	NE14	NNE8	NE8	N15.1	NNW21	
15-Jul	ENE3	SSW1	SSW3	S5	S13	S11	S7	S5	SSE7	SSE8	SSE9	SSE10	SSW8	SSW7	SSE11	SE10	SE11	SSE14	SSE18	SSE22	SSE27	SSE28	SSE30	SSE29	SSE11.9	SSE30	
16-Jul	S28	S27	S23	SSE24	SSE20	SSE20	SSE16	SSE12	SSE10	SSE9	SSE8	SE8	SE10	SE7	ESE9	SSE6	SSE6	SSE8	SSE7	S5	SSE8	S12	SSE5	SSE5	SSE11.8	S28	
17-Jul	SSE5	E2	SSE8	S6	S5	SSE6	S7	S4	SSW5	WSW2	NNW4	NNE3	NNE2	NNW10	N14	NNE13	NNE14	NE15	NE15	NE16	NE16	NE17	ENE12	ESE6	NE4.5	NE17	
18-Jul	SE14	SSE16	SSE15	SSE11	SE20	SSE20	SE20	SSE16	SSE11	SSE11	SSE10	SSE10	SSE9	S14	SSE12	SSE15	SSE19	SSE18	SSE20	SE20	SE23	SSE27	SSE26	SSE23	SSE16.5	SSE27	
19-Jul	SSE20	SSE23	SE22	SE21	SE18	SE11	SE9	SE4	SSE6	SSE8	SSE9	SSE12	SSE13	S12	S5	S5	SSE11	SSE16	SSE14	SE15	SE10	N28	NNE26	NNE24	SE9.0	N28	
20-Jul	NE13	NNE14	NNE23	NNE18	NNE26	NNE28	NNE18	NNE12	NNE4	WNW3	WNW5	WSW3	SSE5	S8	SSE9	SSW5	WNW15	NNW23	NNE7	WNW10	N29	NNE35	N31	N34	N12.2	NNE35	
21-Jul	N34	N33	N35	N29	N33	N32	N28	N28	NNW30	NNW27	NNW24	N22	NNW20	NNW19	NNW21	NNW23	NNW24	NNW23	NNW22	NNW20	NNE12	NE7	NNE9	N16	N23.4	N35	
22-Jul	NNW13	NW10	NNW10	W14	W16	W14	W14	W16	W14	W14	WNW13	WNW16	W15	WNW15	W12	W13	W9	N7	NNW8	NE5	NE9	ENE8	E8	SE6	WNW8.2	WNW16	
23-Jul	SSE11	SSE14	SE11	SSE18	SSE22	SSE16	SSE10	SSE5	S4	SSE4	SSE6	S5	WSW10	W7	NW6	NW1	S7	SW14	SSW12	SSW16	SW17	WSW14	SW12	SW14	S8.3	SSE22	
24-Jul	SSW11	S15	S19	SSE19	SSE22	SE13	SE10	SE12	SE13	SSE17	SE19	SE18	SE18	SSE18	ESE11	E15	ESE11	SE15	SE14	SSE11	SSE13	WSW14	NW13	WNW11	SSE11.2	SSE22	
25-Jul	SW11	SSW15	SW18	WSW27	WSW23	SW21	SW25	WSW23	WSW20	WSW23	WSW18	W17	WNW17	WNW15	NW19	N21	N24	NNW18	N21	N10	WNW12	WNW22	W22	WNW22	W13.8	WSW27	
26-Jul	WNW22	NW22	NW21	WNW18	NW18	WNW14	W13	SW7	SSW9	SW7	SW12	WSW16	WSW31	W11	NNW7	N19	NNE24	NNE28	NNE24	NE18	NE14	NE13	NNE17	NNE16	NNW8.8	WSW31	
27-Jul	N14	N15	N20	N23	NNE29	NNE26	N16	N14	NNW13	NNW18	NNW16	NW16	NNW16	NNW13	NW13	NNW14	NNW17	N19	NNW12	NW12	WNW14	WNW16	NNW18	WNW19	NNW15.2	NNE29	
28-Jul	NW13	NW11	WNW11	WNW10	WNW10	WSW11	SW6	SW5	SW6	WSW5	W7	WNW8	WNW10	WNW9	WNW10	WNW11	WNW8	NW7	NNE7	NE7	ENE8	ESE6	SSE14	SSE16	WNW4.7	SSE16	
29-Jul	SE14	SE15	SSE18	SSE19	SSE23	SSE23	SSE22	SSE12	SSE8	SSE6	SSE8	S6	SE8	SE6	NW4	SW6	SSW7	SSE10	SSE13	S17	S17	SSW15	SW11	SW13	SSE11.2	SSE23	
30-Jul	SW11	SW7	NNW4	NE7	SSE13	S11	S18	S25	SSE15	SSE12	SSE8	SSW3	WNW15	WNW12	WNW14	N14	N16	N13	NNE12	NE14	NE16	ENE16	E12	SSE7	ESE1.0	S25	
31-Jul	SSE13	SE11	SE16	SSE23	SSE25	S25	SSE18	S8	SSE8	SSE11	SSE10	S5	SW14	SSW17	SSW16	SW15	SSW13	SSW10	SW12	SSW13	SSW15	SSW19	SSW22	SSW24	S13.5	S25	
SW3.4SSW4.0 SW4.3 SW6.0SSW5.6SSW4.4SSW4.9WSW4.5 SW4.5WSW5.3WSW5.6WSW6.3WSW7.8WSW7.1 W6.2 W4.7WNW4.1 NW3.3 NW2.0SSW0.4 ESE1.4 SW0.4WSW2.6WSW4.8																									Diurnal Average		
N34 N33 N35 WSW32 N33 NW33 NW30 WSW33WSW31WSW37WSW41WSW40WSW40WSW42WSW50WSW51WSW44WSW43WSW37WSW29 N29 NNE35 N31 N34																									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 75m (WS75) - km/h

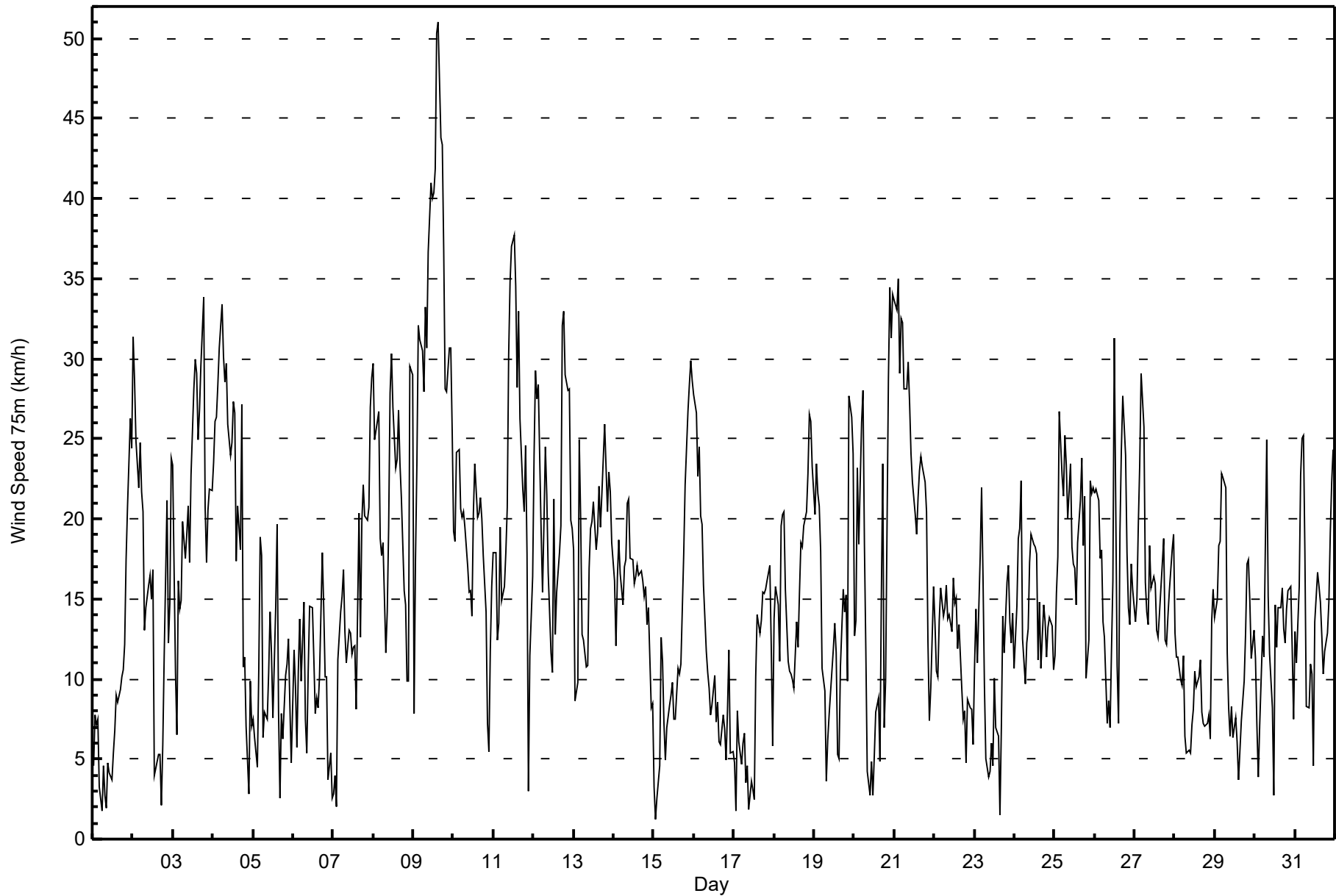
Mannix - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 16 km/h on Jul 3 00:00																	Hours in Service: 744								
Minimum Value: 0 km/h on Jul 28 03:00																	Hours of Data: 744								
Percentiles: P ₁ = 1 P ₁₀ = 2 Q ₁ = 2 Median = 3 Q ₃ = 4 P ₉₀ = 5 P ₉₉ = 10																	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-Jul	2	3	2	2	2	1	2	2	2	2	2	2	2	3	2	3	3	2	8	6	6	6	5	3	8
2-Jul	4	4	5	2	2	1	4	4	3	5	6	4	3	5	5	4	2	3	3	4	5	5	5	16	16
3-Jul	5	5	3	6	3	3	3	5	4	4	4	5	5	6	5	4	5	6	10	4	4	3	4	3	10
4-Jul	3	4	4	4	4	5	5	4	4	5	4	5	5	5	5	5	4	7	4	3	2	3	2	2	7
5-Jul	1	3	2	4	3	1	4	3	3	4	4	4	4	15	6	4	2	3	2	2	2	2	4	3	15
6-Jul	3	4	3	4	1	2	4	5	2	2	2	2	4	4	3	12	3	2	4	4	5	3	1	1	12
7-Jul	1	2	2	2	1	2	4	2	2	3	3	4	4	4	5	7	4	5	2	3	2	1	2	2	7
8-Jul	2	2	2	2	2	1	3	3	3	4	6	6	5	4	6	5	5	4	2	3	2	4	16	7	16
9-Jul	7	6	4	5	3	5	5	6	7	7	7	8	8	8	8	10	11	8	8	4	5	5	5	4	11
10-Jul	3	3	3	4	2	3	3	3	3	2	3	5	3	4	4	5	4	3	3	3	2	1	3	1	5
11-Jul	3	4	1	2	3	2	2	3	4	5	7	7	8	6	7	7	8	5	3	7	5	4	2	1	8
12-Jul	5	5	5	4	5	3	3	4	4	3	2	6	4	5	6	3	5	7	5	4	4	4	5	4	7
13-Jul	4	4	6	2	4	3	3	2	3	4	4	4	4	4	4	4	5	5	5	5	3	3	4	4	6
14-Jul	2	3	2	3	4	3	3	4	4	5	6	5	5	5	4	4	5	4	4	3	2	1	2	1	6
15-Jul	2	1	1	1	2	3	3	1	2	2	2	4	3	4	4	4	4	3	3	3	1	2	2	2	4
16-Jul	2	2	1	1	2	1	2	1	1	2	2	4	3	4	3	2	3	2	1	2	1	2	2	1	4
17-Jul	2	1	2	1	1	1	2	2	2	1	2	2	3	5	5	4	4	3	3	1	2	1	3	3	5
18-Jul	3	2	2	2	3	2	2	3	3	2	2	3	4	6	5	6	3	3	3	2	3	3	4	3	6
19-Jul	1	1	1	1	2	3	3	2	2	2	2	3	3	3	4	3	3	2	2	1	4	6	5	3	6
20-Jul	6	4	3	3	5	3	6	4	3	2	2	2	2	3	2	1	13	7	3	4	15	5	5	6	15
21-Jul	7	6	8	6	6	5	7	6	6	6	5	5	4	4	5	5	5	4	4	3	5	2	3	5	8
22-Jul	3	2	2	2	2	2	2	2	3	3	3	5	4	5	5	3	3	4	3	2	1	2	3	2	5
23-Jul	2	1	2	3	2	6	1	2	2	2	2	3	5	3	4	3	4	2	1	1	1	2	3	2	6
24-Jul	2	3	1	2	1	5	4	3	4	6	5	5	5	4	4	4	3	4	6	3	7	8	2	2	8
25-Jul	2	2	3	2	5	2	3	4	4	3	4	4	4	5	3	4	7	4	5	3	5	1	2	1	7
26-Jul	2	2	2	2	2	2	4	4	3	2	3	4	10	4	2	8	4	4	4	3	2	2	3	4	10
27-Jul	3	5	4	5	3	5	4	3	3	4	3	3	3	3	4	4	3	3	2	2	2	1	2	1	5
28-Jul	2	1	0	1	1	1	2	2	2	2	3	4	4	4	3	3	4	4	3	2	2	3	2	2	4
29-Jul	3	4	1	1	1	2	3	3	2	2	2	3	3	3	3	3	3	3	3	1	1	1	2	3	4
30-Jul	4	2	2	3	3	1	5	4	2	3	3	4	4	5	4	5	4	3	2	1	1	2	4	4	5
31-Jul	1	4	4	1	3	2	4	2	3	2	3	4	5	5	5	5	5	4	2	1	2	1	3	1	5
7 6 8 6 6 6 7 6 7 7 7 8 10 15 8 12 13 8 10 7 15 8 16 16																									
Diurnal Maximum																									



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	66	8.87	8.87
6 - 11	179	24.06	32.93
12 - 19	270	36.29	69.22
20 - 28	171	22.98	92.20
29 - 38	50	6.72	98.92
> 38	8	1.08	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Wind Speed 75m (WS75) - km/h
Mannix - July 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	3	3	3	5	2	5	8	11	8	3	5	1	3	2	2	66
6 - 11	5	11	13	5	6	9	18	45	13	8	12	4	3	14	8	5	179
12 - 19	28	19	15	2	3	4	13	49	19	18	16	10	25	19	12	18	270
20 - 28	13	13	2	0	0	0	7	32	14	11	6	18	22	15	4	14	171
29 - 38	9	2	0	0	0	0	0	4	0	5	8	10	6	3	2	1	50
> 38	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	8
Totals	57	48	33	10	14	15	43	138	57	50	45	55	57	54	28	40	744

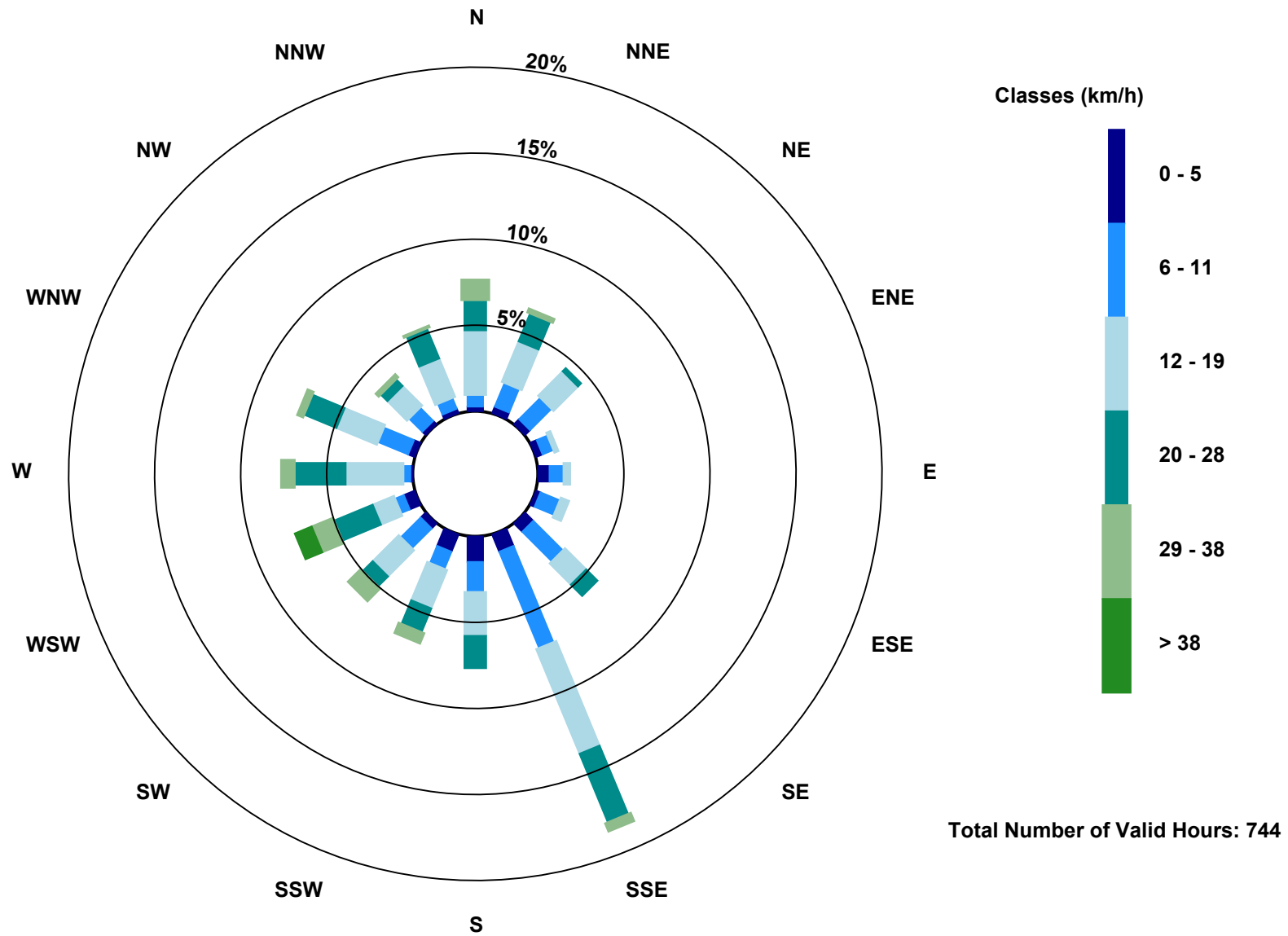
Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Speed 90m (WS90) - km/h

Mannix - July 2025

Maximum Speed: 53 km/h on Jul 9 16:00																		Maximum Daily Speed Average: 33.8 km/h on Jul 9										Hours in Service: 744	
Minimum Speed Value: 1 km/h on Jul 23 16:00																		Minimum Daily Speed Average: 0.7 km/h on Jul 30										Hours of Data: 743	
Maximum Diurnal Speed Average: 8.2 km/h at hour 13																		Minimum Diurnal Speed Average: 0.3 km/h at hour 22										Hours of Missing Data: 1	
Monthly Average Velocity: 4.3 km/h 244.6 deg																		Percentiles: P ₁ = 2 P ₁₀ = 6 Q ₁ = 10 Median = 16 Q ₃ = 22 P ₉₀ = 29 P ₉₉ = 40										Percent Operational Time: 99.9	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum			
1-Jul	ENE4	NE7	NE8	NE10	E7	SSE3	E5	E3	SSW2	E5	SSE4	SE4	SE5	S7	S9	ESE9	E10	E10	NNE10	ESE15	SE20	SE23	SE28	SSE27	ESE7.4	SE28			
2-Jul	SSE34	SSE32	SSE27	SSE23	SSE25	SSE22	SSE22	SSE14	SSE15	SW16	W17	WSW15	SSW17	SW4	ESE5	SSW5	WNW6	SE2	SE6	ESE13	SE24	ESE18	ESE22	UO	SSE12.8	SSE34			
3-Jul	NNW25	NNE12	SW6	WSW17	W16	W16	W21	W19	WSW20	WSW21	W18	W23	WSW29	SW31	SW30	SSW26	SW27	SW31	W36	W22	W18	W23	WSW24	WSW24	WSW19.2	W36			
4-Jul	WSW26	W28	W29	W31	WNW33	NW36	NW33	WNW30	WNW31	WNW27	WNW25	WNW26	WNW29	NNW28	NW18	NW22	N19	N28	N11	NNE12	NNE8	SW2	SW8	SSW6	WNW19.1	NW36			
5-Jul	S7	WSW8	S4	SSE9	SSE18	SSE17	S8	NE8	ESE10	SE11	SSE14	S11	SE8	S13	SE20	SE9	N3	ENE8	E7	ENE10	NE11	E13	E8	ESE7	SE7.2	SE20			
6-Jul	ESE16	ESE12	ESE7	NNE9	NNE13	NNE11	NE15	NE8	N5	N11	N15	N15	N11	NNW8	NW9	S12	NW9	N18	NE15	NE12	ENE11	S3	S6	SSW3	NNE6.3	N18			
7-Jul	ENE2	ESE4	SE3	SSE11	S14	SSE17	SSE18	S13	SSE11	S13	S13	SSE12	SE13	S12	SW9	SSE20	SSE13	SSE21	S23	SSE21	S19	SSW21	SSW30	SSW33	S14.3	SSW33			
8-Jul	SSW34	SSW28	SSW28	SSW28	SSW20	S19	S20	S12	S15	S21	S28	SSW31	S27	S24	SSW24	SSW27	SSW24	SSW22	SSW16	SSW15	SSE10	SE12	W31	W33	SSW19.9	SSW34			
9-Jul	WNW9	SSW18	SW25	WSW35	SW34	SW33	SW30	WSW34	WSW32	WSW38	WSW42	WSW41	WSW42	WSW43	WSW52	WSW53	WSW45	WSW45	WSW38	WSW30	WNW30	W33	W32	W27	WSW33.8	WSW53			
10-Jul	W21	WSW21	W27	W27	W23	W23	W22	W21	W18	W16	W16	W14	WNW21	WNW25	WNW21	WNW21	WNW22	WNW21	NW19	NW15	NW8	W5	SW11	WSW15	W17.9	W27			
11-Jul	SW18	SW18	SW15	SW15	S17	SSW14	SSE16	S19	S21	SSW31	SSW35	SW38	SW39	SW36	WSW29	WSW34	SW28	WSW23	WSW23	W27	NW20	NNE3	SW11	SW16	SW19.7	SW39			
12-Jul	SW27	WSW32	W30	WSW31	WSW21	WSW17	W22	WNW27	W24	WNW19	NW12	WNW11	W22	WNW14	WNW16	W18	W20	W34	WSW35	WSW31	W30	W31	NW22	NNE20	W21.4	WSW35			
13-Jul	NNE19	NNE10	WSW9	WSW25	WSW22	NNW14	NW14	NW11	NNE11	N17	N20	N21	NNW22	NNW19	NNW20	NNW23	N20	NNE22	NNE27	NE24	NE22	NNE25	NNE24	NNE20	N14.7	NNE27			
14-Jul	N17	N13	N17	N20	N18	N15	N18	N18	NNW22	NNW22	NNW18	NNW18	N17	NNW17	NNW18	N17	N17	N16	NNE16	NNE16	NE14	NE15	NNE9	NE9	N15.7	NNW22			
15-Jul	ENE4	S2	SSW2	S4	S7	S11	SSW8	SSW5	S7	SSE9	SSE9	SSE10	SSW8	SSW8	SSE11	SE11	SE12	SSE14	SSE18	SSE23	SSE28	SSE31	SSE33	S31	SSE12.0	SSE33			
16-Jul	S29	S28	S23	S24	S18	SSE16	SSE15	SSE12	SSE10	SSE9	SSE8	SE10	SE11	SE8	ESE9	SSE6	SSE6	SSE8	SSE7	S5	SSE9	SSE13	SSE7	SSE6	SSE11.8	S29			
17-Jul	SSE5	ESE2	SSE10	S5	SSW3	SSE4	SSE5	S4	SSW5	WSW2	NNW4	NNE3	NNE3	NNW11	N14	NNE13	NNE14	NE16	NNE16	NE16	NE17	NE19	ENE14	ESE9	NE4.8	NE19			
18-Jul	SE14	SSE16	SSE15	SE10	SE20	SSE21	SE21	SSE16	SSE11	SSE10	SSE10	SSE10	S14	SSE12	SSE16	SSE19	SSE18	SSE21	SE21	SE24	SSE28	SSE28	SSE26	SSE17.0	SSE28				
19-Jul	SSE22	SSE26	SSE24	SSE22	SE20	SE15	SE11	SE6	SSE7	SSE8	SSE9	SSE12	SSE13	S12	S6	S5	SSE11	SSE16	SSE15	SE15	SE11	N29	NNE28	NNE26	SE9.6	N29			
20-Jul	NE14	NNE14	NNE24	NNE19	NNE27	NNE29	N19	N12	NNE4	WNW3	WNW5	WSW3	SSE5	S8	SSE9	SSW5	WNW16	NNW25	NNE7	WNW11	N30	NNE35	N32	N36	N12.7	N36			
21-Jul	N35	N35	N36	N31	N34	N34	N29	NNW29	NNW31	NNW28	NNW25	NNW23	NNW21	NNW20	NNW22	NNW24	NNW25	NNW24	NNW23	NNW21	NNE13	NE8	NNE10	N17	N24.4	N36			
22-Jul	NNW15	NNW11	WNW11	W13	W16	W16	W16	W17	W14	W15	WNW14	WNW17	W15	WNW16	W12	W14	W10	N8	NNW8	NE5	NE9	ENE8	E9	SE6	WNW8.7	WNW17			
23-Jul	SSE11	SSE14	SE12	SSE17	SSE22	SSE19	S10	SSE5	S4	SSE5	SSE6	S4	WSW10	W7	NW7	NW1	S7	SW14	SSW12	SW16	SW17	WSW14	SW14	SW16	SSW8.4	SSE22			
24-Jul	SSW11	SSW13	S16	S17	SSE22	SE12	SE11	SE14	SE15	SE18	SE20	SE19	SE20	SSE18	ESE12	E18	ESE14	SE16	SE14	SSE12	SSE14	W13	NW14	WNW10	SSE11.3	SSE22			
25-Jul	SW11	SW15	SW20	WSW31	WSW26	WSW24	WSW28	WSW25	WSW21	WSW24	WSW19	W18	WNW17	WNW16	NW20	N23	N25	NNW20	N24	N11	WNW13	WNW23	W25	WNW25	W15.3	WSW31			
26-Jul	NW25	NW24	NW24	NW20	NW18	WNW14	W14	WSW9	SSW9	SW7	SW12	WSW17	WSW33	W12	NNW7	N20	NNE25	NNE28	NNE24	NNE18	NE15	NNE15	NNE18	N17	NNW9.9	WSW33			
27-Jul	N15	N16	N21	N24	NNE30	NNE27	N17	N15	NNW14	NNW19	NW16	NW17	NNW16	NNW13	NW13	NW15	NNW18	N19	NNW13	NW13	WNW15	WNW17	WNW20	NW20	NNW16.1	NNE30			
28-Jul	NW14	NW12	NW12	NW9	WNW8	W10	WSW7	SW6	SW6	WSW6	W8	WNW8	WNW11	WNW10	WNW11	WNW12	WNW8	NW8	NNE7	NE7	NE8	ESE8	SSE13	SSE17	WNW4.8	SSE17			
29-Jul	SE15	SE16	SSE18	SSE19	SSE22	SSE24	S23	S13	S8	SSE6	SSE8	S6	SE8	SE6	NW4	WSW6	SSW7	SSE10	SSE13	S17	S17	SSW15	SW14	SW16	S11.4	SSE24			
30-Jul	SW15	SW9	NNW6	NE8	SSE12	S14	S19	S26	S15	SSE12	SSE9	SSW3	WNW15	WNW13	WNW15	NNW15	N16	N14	NNE12	NE15	NE16	ENE17	E13	SE9	SE0.7	S26			
31-Jul	SSE13	SE14	SE17	SSE23	SSE26	S26	S19	S8	SSE9	SSE11	SSE10	S5	SW14	SSW17	SSW16	SW15	SSW13	SSW11	SW12	SW13	SSW15	SSW19	SW25	SSW27	S14.0	SSW27			
SW3.6 SW4.2 SW4.9 SW6.6 SW5.6 SW4.7 SW5.4WSW5.2 SW4.9WSW5.8WSW6.0WSW6.7WSW8.2WSW7.6 W6.7 W5.1WNW4.5WNW3.9WNW2.6WSW0.5 E1.1 W0.3WSW2.9WSW4.7																									Diurnal Average				
N35 N35 N36 WSW35 SW34 NW36 NW33 WSW34WSW32WSW38WSW42WSW41WSW42WSW43WSW52WSW53WSW45WSW45WSW38WSW31 W30 NNE35 SSE33 N36																									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 90m (WS90) - km/h

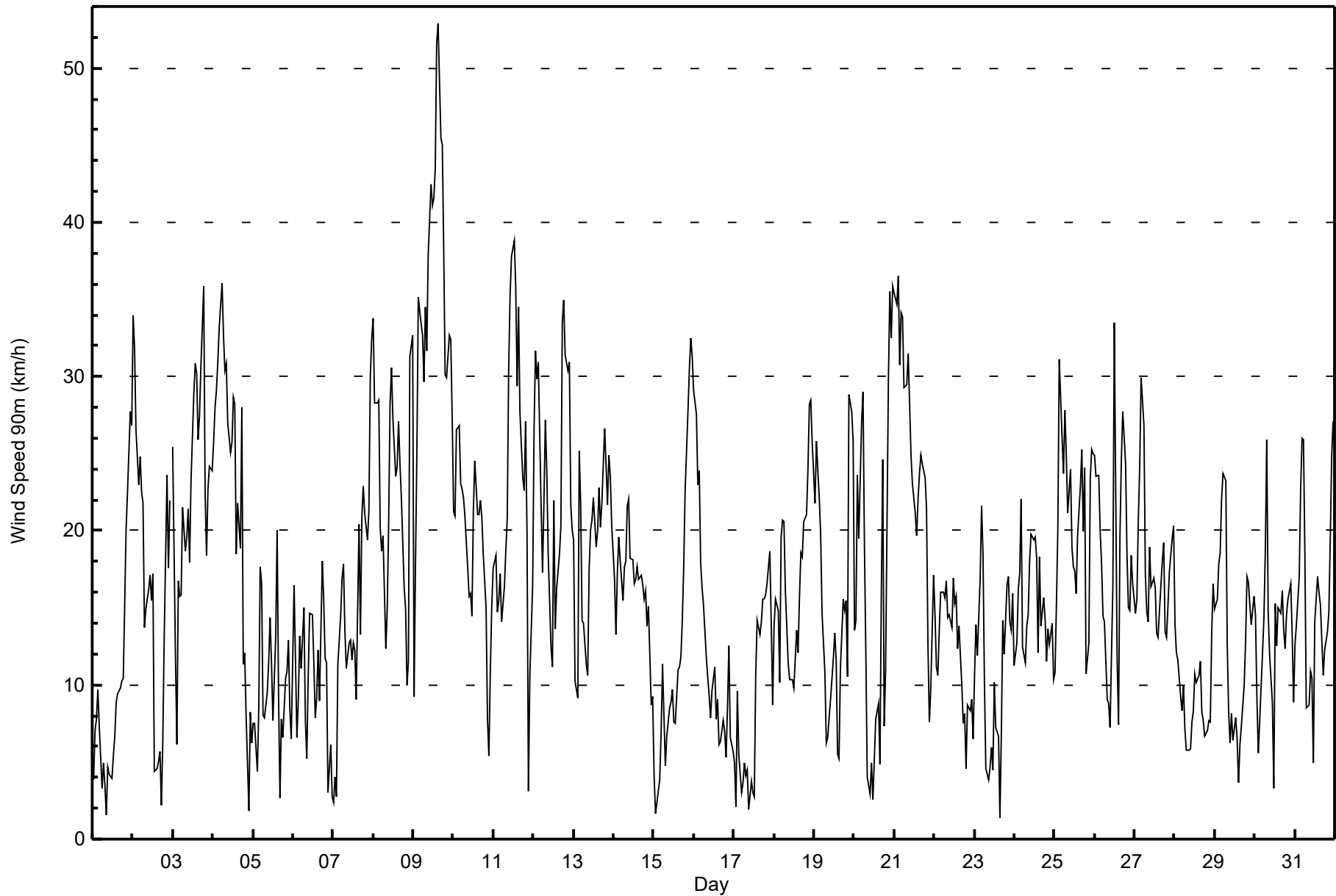
Mannix - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																	Hours in Service: 744								
Maximum Value: 17 km/h on Jul 8 23:00																	Hours of Data: 743								
Minimum Value: 1 km/h on Jul 10 22:00																	Hours of Missing Data: 1								
Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 2 Median = 3 Q ₃ = 4 P ₉₀ = 5 P ₉₉ = 10																	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-Jul	2	2	1	2	2	2	2	2	2	2	2	3	2	3	2	2	2	2	7	5	4	5	4	3	7
2-Jul	4	3	5	2	2	1	3	3	3	5	6	4	3	5	5	4	3	3	2	3	4	6	5	UO	6
3-Jul	5	5	3	7	3	3	3	5	4	4	4	5	5	6	5	4	5	6	10	4	4	3	4	3	10
4-Jul	3	4	4	4	5	4	5	4	4	5	5	5	5	5	5	5	4	7	4	3	2	2	2	1	7
5-Jul	1	3	2	4	3	2	5	3	3	3	3	3	3	15	5	4	2	3	2	2	2	2	4	3	15
6-Jul	3	5	3	4	1	2	3	5	3	2	2	2	4	4	3	13	2	3	4	4	5	2	1	1	13
7-Jul	1	1	2	2	1	2	4	3	2	3	3	3	4	4	6	7	3	5	2	3	2	2	2	2	7
8-Jul	2	2	2	2	3	1	3	3	4	4	5	5	5	4	5	5	5	4	2	3	2	3	17	7	17
9-Jul	8	5	4	5	3	5	5	6	7	7	7	8	8	8	8	9	11	8	8	4	6	5	5	5	11
10-Jul	3	3	3	4	2	3	3	3	3	2	3	5	3	4	4	5	4	3	3	4	2	1	4	1	5
11-Jul	2	2	2	3	3	2	2	3	4	5	7	7	7	6	7	7	8	5	3	8	6	4	2	1	8
12-Jul	5	5	6	4	6	3	3	4	4	3	2	7	4	5	6	3	5	7	5	4	4	3	5	4	7
13-Jul	4	5	6	2	3	3	3	2	3	4	4	4	4	4	4	4	5	5	5	5	3	3	4	4	6
14-Jul	2	3	2	4	4	3	3	4	4	5	6	5	5	5	4	4	5	4	4	3	2	1	2	1	6
15-Jul	2	1	1	1	2	1	3	1	2	2	2	4	4	4	3	4	3	3	3	2	1	2	2	1	4
16-Jul	3	2	1	1	3	1	2	1	1	2	2	3	3	4	3	2	3	2	1	2	1	1	2	1	4
17-Jul	3	1	1	1	1	1	1	2	1	1	2	2	3	5	5	4	4	3	3	1	2	1	3	3	5
18-Jul	2	2	3	2	2	2	2	3	3	2	2	2	3	6	5	5	3	3	3	1	3	3	3	3	6
19-Jul	1	1	1	1	1	3	3	2	2	1	2	3	2	3	4	3	3	2	2	1	4	6	5	3	6
20-Jul	6	5	2	2	4	3	6	4	2	2	2	2	2	3	2	1	14	7	3	4	15	5	5	6	15
21-Jul	7	7	9	6	6	5	7	6	6	6	5	5	4	4	5	5	5	4	4	3	5	2	3	5	9
22-Jul	3	2	1	2	2	1	2	2	3	3	3	5	4	5	5	3	3	4	3	2	1	2	2	2	5
23-Jul	2	2	2	2	2	6	1	2	2	2	2	3	5	3	4	3	4	2	1	1	1	2	3	2	6
24-Jul	2	2	1	2	2	4	3	2	3	5	5	4	4	4	3	3	4	4	5	2	7	6	2	1	7
25-Jul	2	2	4	2	6	2	3	4	3	3	4	4	4	5	3	4	7	4	5	4	5	2	2	1	7
26-Jul	1	2	2	2	2	1	3	4	3	2	3	4	11	4	2	8	4	4	3	3	3	2	3	4	11
27-Jul	3	5	4	5	3	5	4	4	4	4	3	3	3	3	4	4	3	3	2	2	2	1	2	2	5
28-Jul	2	1	1	1	1	2	1	2	2	2	3	4	4	4	3	4	4	4	3	2	2	2	2	1	4
29-Jul	2	3	1	1	2	2	2	3	2	2	2	3	3	3	3	3	3	3	3	1	2	1	3	3	3
30-Jul	3	3	2	2	2	1	4	4	2	3	3	4	4	5	4	5	4	3	2	1	1	1	3	3	5
31-Jul	1	3	2	2	2	1	4	2	3	2	2	4	5	5	5	4	5	4	2	1	2	2	3	2	5
8 7 9 7 6 6 7 6 7 7 7 8 11 15 8 13 14 8 10 8 15 6 17 7																									
Diurnal Maximum																									
UO - Unstable Operation																									



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	58	7.81	7.81
6 - 11	169	22.75	30.55
12 - 19	264	35.53	66.08
20 - 28	174	23.42	89.50
29 - 38	69	9.29	98.79
> 38	9	1.21	100.00

Total Number of Valid Hours: 743

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Wind Speed 90m (WS90) - km/h
Mannix - July 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	4	1	3	3	3	4	8	11	9	2	2	1	3	1	1	58
6 - 11	5	10	11	5	6	7	17	38	16	8	9	8	4	12	8	5	169
12 - 19	27	17	13	2	3	7	18	42	24	13	20	7	25	17	15	14	264
20 - 28	10	14	2	0	0	1	12	26	13	11	6	17	19	13	9	21	174
29 - 38	11	3	0	0	0	0	0	4	2	6	7	16	11	5	2	2	69
> 38	0	0	0	0	0	0	0	0	0	0	1	8	0	0	0	0	9
Totals	55	48	27	10	12	18	51	118	66	47	45	58	60	50	35	43	743

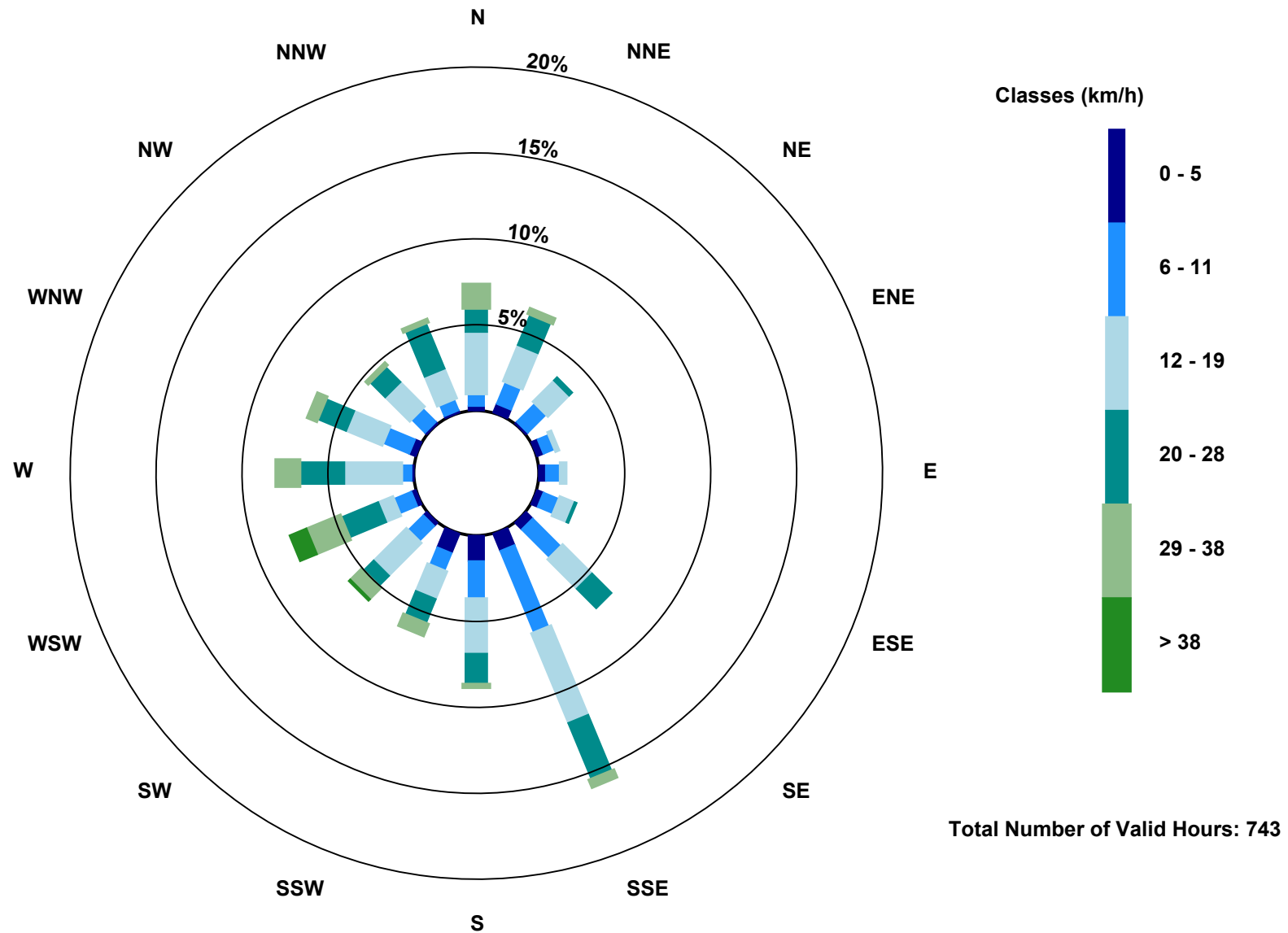
Total Number of Valid Hours: 743

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Direction 20m (WD20) - deg

Mannix - July 2025

Direction of Maximum Speed: 245 deg on Jul 9 16:00																				Hours in Service:		744			
Direction of Maximum Daily Speed Average: 245.5 deg on Jul 9																				Hours of Data:		744			
Direction of Minimum Speed: 57 deg on Jul 1 08:00										Direction of Minimum Daily Speed Average: 0.6 deg on Jul 30										Hours of Missing Data:		0			
Monthly Average Direction: 243.1 deg																				Percent Operational Time:		100.0			
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-Jul	12	27	2	58	206	216	86	57	218	91	145	117	146	177	168	119	90	77	2	111	139	146	149	159	124.1
2-Jul	161	158	156	157	145	145	150	153	145	222	279	238	194	250	116	188	289	134	128	102	141	119	106	245	164.6
3-Jul	333	10	212	241	255	249	253	262	256	257	271	256	245	231	222	200	213	231	272	265	252	262	248	247	249.2
4-Jul	247	258	261	264	287	302	302	292	290	289	291	291	290	326	324	314	347	358	342	36	349	241	250	222	293.4
5-Jul	198	261	163	168	157	148	200	64	126	142	147	168	139	185	151	135	340	70	97	75	41	72	82	141	132.9
6-Jul	104	89	121	359	12	12	20	15	346	357	8	2	1	327	301	169	334	4	53	8	60	242	248	302	11.9
7-Jul	28	81	229	184	174	159	165	168	152	176	175	152	142	176	225	152	143	155	168	159	163	166	175	188	164.4
8-Jul	188	177	163	171	160	155	161	154	156	172	183	191	174	165	193	196	196	195	192	185	146	141	272	273	187.5
9-Jul	282	200	200	236	225	232	232	235	237	240	242	238	242	248	244	245	251	253	252	250	281	273	271	262	245.5
10-Jul	251	236	261	263	261	266	251	271	269	264	260	264	281	295	296	281	279	291	305	304	291	238	236	240	271.0
11-Jul	237	187	165	157	152	157	145	158	171	193	203	215	226	228	239	244	228	243	242	261	301	141	199	192	212.4
12-Jul	214	253	262	251	238	242	265	282	276	290	302	296	273	279	283	261	265	257	251	253	264	268	311	10	266.8
13-Jul	14	349	234	239	231	334	284	294	17	351	348	344	342	341	341	341	342	28	27	36	36	23	15	4	351.1
14-Jul	355	339	350	2	6	4	359	347	339	339	346	332	348	333	341	359	5	12	17	25	34	18	15	27	356.0
15-Jul	267	262	198	185	163	157	158	153	147	149	149	162	193	199	147	133	143	157	166	165	164	162	161	156	163.6
16-Jul	157	164	150	149	146	148	151	146	149	143	143	131	129	119	110	154	156	163	172	183	168	180	144	200	149.4
17-Jul	266	80	222	222	202	180	175	185	204	256	318	29	49	338	349	23	34	49	34	36	39	44	58	79	34.5
18-Jul	173	176	189	182	168	163	150	149	148	152	144	146	152	168	160	162	168	159	150	148	145	150	143	150	156.8
19-Jul	158	152	157	164	161	173	171	188	151	144	153	159	168	183	184	171	158	164	159	153	135	2	26	31	148.4
20-Jul	17	355	10	11	10	11	6	13	33	274	280	240	154	181	162	191	290	337	13	300	2	13	1	343	356.7
21-Jul	351	2	352	349	346	343	345	340	335	343	330	346	337	337	336	332	335	336	329	337	12	36	21	349	344.2
22-Jul	324	291	247	244	250	244	257	255	260	257	285	273	268	280	266	267	275	353	338	45	56	60	84	230	271.5
23-Jul	230	210	175	167	174	154	155	162	174	132	158	171	241	277	306	335	182	225	200	205	217	225	195	176	198.7
24-Jul	157	147	147	142	145	156	161	153	143	146	146	141	141	150	95	90	113	139	137	157	156	263	297	269	145.0
25-Jul	202	211	206	244	238	209	225	240	250	246	252	268	286	268	304	353	5	344	356	343	276	278	254	268	268.0
26-Jul	282	288	282	255	273	235	242	190	194	217	230	243	257	263	331	5	24	20	27	33	45	30	14	3	316.1
27-Jul	355	2	352	5	14	12	351	354	337	338	321	313	336	325	309	319	333	346	335	300	283	275	278	277	334.8
28-Jul	266	260	259	243	227	210	198	223	219	260	278	285	280	285	296	282	282	305	26	41	47	85	191	178	264.4
29-Jul	145	148	154	148	155	155	162	150	157	152	159	160	142	132	337	239	201	152	168	168	174	174	175	173	160.6
30-Jul	160	152	108	41	185	153	156	175	163	141	132	160	287	298	286	349	354	343	19	40	36	45	64	221	51.4
31-Jul	206	130	158	151	158	163	163	153	143	147	143	167	235	195	207	219	201	215	217	207	193	177	182	171	181.6
233.6 218.8 222.6 227.3 219.9 211.5 219.3 235.7 231.1 237.5 240.0 243.7 248.3 251.0 262.0 258.7 279.0 292.7 297.7 248.3 161.1 244.3 252.7 251.9																									
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 20m (WD20) - deg

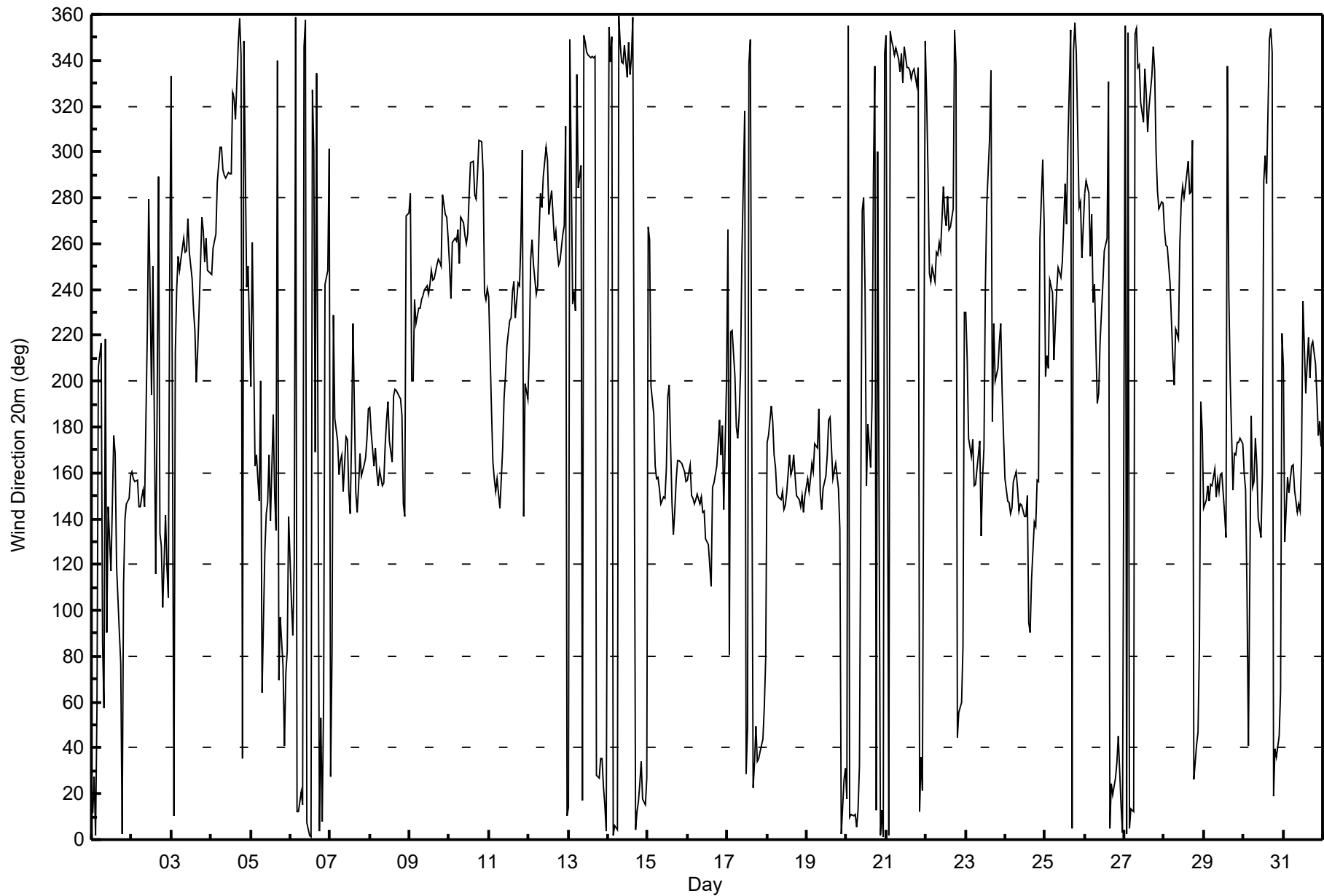
Mannix - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 97 deg on Jul 23 16:00																	Hours in Service: 744								
Minimum Value: 6 deg on Jul 11 00:00																	Hours of Data: 744								
Percentiles: P ₁ = 7 P ₁₀ = 11 Q ₁ = 14 Median = 18 Q ₃ = 28 P ₉₀ = 47 P ₉₉ = 83																	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-Jul	14	36	48	60	64	54	29	96	65	31	43	51	46	43	31	28	24	15	40	38	11	11	11	14	96
2-Jul	11	10	18	14	9	11	15	17	18	32	23	30	27	68	77	65	42	84	29	25	12	18	13	76	84
3-Jul	26	64	37	14	13	11	13	13	16	18	18	17	14	15	17	20	19	15	26	18	15	12	12	15	64
4-Jul	12	11	10	9	13	15	16	14	13	15	16	17	18	17	25	28	20	22	31	19	63	17	60	26	63
5-Jul	22	77	38	29	15	17	77	45	28	18	21	30	37	30	16	18	89	29	42	28	15	15	34	73	89
6-Jul	21	26	42	11	14	15	13	29	26	20	19	18	33	60	46	95	23	13	25	37	40	20	22	37	95
7-Jul	51	23	36	14	17	13	15	16	19	23	29	27	26	48	58	18	17	17	12	12	11	8	12	11	58
8-Jul	12	14	8	10	13	12	14	21	14	19	19	20	18	17	23	22	20	19	18	18	10	24	26	15	26
9-Jul	90	21	23	12	12	12	13	12	15	14	14	15	15	15	14	14	13	13	13	13	20	11	10	11	90
10-Jul	14	14	11	11	9	12	13	11	13	14	15	20	15	17	20	17	14	17	17	20	26	9	7	6	26
11-Jul	9	23	9	14	13	15	14	16	17	19	19	17	17	15	16	14	14	16	12	25	31	80	17	10	80
12-Jul	24	12	15	12	12	15	10	12	10	14	17	38	12	26	25	16	16	12	13	12	9	8	37	15	38
13-Jul	21	54	12	9	8	39	28	33	22	22	22	18	18	22	23	19	22	20	16	17	16	13	18	13	54
14-Jul	10	22	16	14	17	22	20	23	23	25	31	26	35	31	29	31	31	40	27	23	24	14	11	36	40
15-Jul	16	48	34	33	14	17	22	21	18	26	27	35	58	57	25	28	25	17	13	11	9	8	9	8	58
16-Jul	8	10	11	10	12	12	13	14	18	19	25	19	25	46	48	47	46	28	25	38	21	25	72	19	72
17-Jul	50	66	49	17	12	21	28	62	45	59	73	74	90	67	33	38	34	19	15	14	11	7	14	31	90
18-Jul	17	9	15	18	14	20	13	16	19	18	21	22	33	30	35	30	19	13	13	10	11	12	13	12	35
19-Jul	8	7	8	6	8	15	51	36	24	19	20	21	22	27	81	80	23	15	12	9	47	14	14	17	81
20-Jul	35	16	14	16	15	12	21	22	41	54	35	57	40	29	26	37	43	18	47	25	20	12	19	15	57
21-Jul	17	16	18	17	17	15	19	18	17	17	19	22	22	24	24	21	20	19	17	17	16	24	27	18	27
22-Jul	27	26	9	12	10	13	15	13	15	19	27	22	22	25	33	19	25	64	35	45	22	20	69	15	69
23-Jul	11	13	17	11	12	18	23	24	47	54	43	61	49	41	54	97	65	16	16	11	10	32	34	21	97
24-Jul	15	11	12	12	12	14	17	17	17	17	18	14	15	15	49	14	14	15	19	15	30	41	18	72	72
25-Jul	14	17	15	16	16	16	16	12	12	11	14	20	24	21	17	21	15	21	29	39	13	11	9	13	39
26-Jul	11	11	16	12	14	9	17	63	26	30	22	21	41	39	52	31	15	15	16	14	16	14	15	15	63
27-Jul	22	16	17	14	13	16	21	21	24	21	20	22	25	22	28	24	20	15	18	19	17	7	6	6	28
28-Jul	13	6	7	15	14	13	23	26	31	56	42	67	30	46	38	39	49	47	28	19	17	48	17	51	67
29-Jul	16	11	12	12	10	13	14	20	25	26	32	66	30	56	80	70	55	21	13	10	8	9	8	26	80
30-Jul	13	13	79	57	31	27	14	16	20	18	22	86	27	35	24	41	22	22	18	13	8	10	21	53	86
31-Jul	30	27	16	9	9	13	13	20	18	20	20	55	30	30	30	25	26	28	19	13	6	10	17	10	55
90 77 79 60 64 54 77 96 65 59 73 86 90 68 81 97 89 84 47 45 63 80 72 76																									
Diurnal Maximum																									



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Direction 45m (WD45) - deg

Mannix - July 2025

Direction of Maximum Speed: 243 deg on Jul 9 16:00																				Hours in Service:		744			
Direction of Maximum Daily Speed Average: 242.9 deg on Jul 9																				Hours of Data:		744			
Direction of Minimum Speed: 80 deg on Jul 30 03:00										Direction of Minimum Daily Speed Average: 0.7 deg on Jul 30										Hours of Missing Data:		0			
Monthly Average Direction: 237.5 deg																				Percent Operational Time:		100.0			
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-Jul	24	22	31	39	129	184	65	63	212	84	149	119	142	176	167	116	88	71	360	103	132	138	145	153	116.8
2-Jul	159	152	153	154	142	142	147	153	147	218	277	233	193	252	109	186	289	134	126	101	135	117	104	245	160.8
3-Jul	332	3	213	240	259	252	253	260	255	254	269	255	244	228	218	197	211	228	269	265	254	262	248	248	247.8
4-Jul	247	256	259	262	287	303	301	292	288	288	290	292	290	324	322	313	345	355	339	29	5	244	236	202	293.7
5-Jul	169	227	149	160	153	145	192	48	123	138	146	167	142	185	145	128	325	65	95	75	41	71	75	121	133.4
6-Jul	105	88	119	360	11	10	25	22	344	356	3	2	360	330	302	173	326	358	44	14	58	238	238	292	10.3
7-Jul	39	76	196	164	170	159	163	166	153	174	176	153	141	171	221	149	142	153	165	155	161	171	183	185	163.3
8-Jul	189	186	169	175	169	158	162	157	156	174	180	188	172	164	191	193	192	193	192	187	144	133	267	274	185.3
9-Jul	283	196	202	234	223	231	230	234	235	236	239	234	240	246	242	243	249	251	249	250	281	271	270	262	242.9
10-Jul	252	240	259	262	265	268	252	271	267	262	258	264	279	294	295	280	279	291	303	305	303	248	230	235	270.1
11-Jul	231	205	171	173	153	159	146	159	171	190	199	211	223	224	237	241	225	240	241	259	307	89	202	202	210.6
12-Jul	216	252	260	250	239	244	264	282	275	290	303	300	272	278	281	259	263	255	250	252	262	267	312	9	265.8
13-Jul	12	11	239	241	243	331	291	300	15	349	348	343	343	338	339	340	344	24	23	31	31	20	14	4	348.5
14-Jul	353	337	350	1	2	2	360	347	339	339	344	333	347	334	339	355	360	5	13	23	36	26	11	34	354.8
15-Jul	293	281	188	172	156	156	162	158	148	149	151	160	191	195	143	133	139	157	162	160	159	159	160	162	159.4
16-Jul	165	167	154	149	149	149	152	150	149	141	143	129	126	127	109	155	156	160	167	176	158	170	184	167	151.5
17-Jul	213	42	189	203	179	174	174	190	201	251	312	19	4	336	344	13	24	42	28	30	36	45	61	96	35.8
18-Jul	146	163	161	158	147	152	145	146	146	148	143	143	148	167	157	159	165	155	146	143	142	147	142	148	150.5
19-Jul	154	150	147	147	135	152	157	176	150	143	151	159	165	178	183	166	154	161	154	141	126	1	20	24	139.8
20-Jul	23	1	8	8	9	7	4	11	24	284	284	243	159	180	160	193	292	335	10	291	1	10	358	343	355.3
21-Jul	351	0	352	349	346	342	346	341	335	340	329	344	337	334	333	331	333	333	329	333	12	33	19	346	342.9
22-Jul	325	298	262	256	257	256	259	255	259	255	285	274	269	281	268	266	277	354	336	31	47	55	84	147	276.6
23-Jul	167	166	150	149	159	154	155	160	168	141	163	172	237	274	305	302	175	222	198	206	214	233	218	199	189.4
24-Jul	174	157	153	147	148	154	149	146	139	144	142	137	137	145	97	90	109	136	132	154	148	254	302	281	145.0
25-Jul	225	198	215	246	245	220	225	239	248	245	251	268	285	275	301	351	3	341	353	347	286	279	262	274	268.9
26-Jul	287	293	299	279	292	263	246	207	194	215	229	239	251	260	329	2	21	17	23	28	37	30	15	5	317.0
27-Jul	350	2	353	3	10	11	348	350	335	336	320	312	335	325	310	318	332	346	334	305	289	285	289	288	333.7
28-Jul	290	279	280	282	259	233	202	216	212	245	276	287	281	283	295	282	286	309	22	38	49	90	169	165	270.3
29-Jul	137	136	146	141	152	153	158	153	160	150	160	160	136	137	323	230	204	150	164	167	174	184	195	201	160.3
30-Jul	211	180	80	34	177	177	159	175	162	142	134	190	285	298	290	345	352	344	17	36	37	49	68	165	57.2
31-Jul	165	137	138	150	150	159	161	154	145	146	141	166	230	192	206	213	201	211	214	209	200	185	198	183	178.6
217.0 207.7 208.2 215.7 203.2 205.6 213.3 234.8 227.7 233.5 238.5 241.3 246.3 250.2 261.9 257.9 280.3 294.2 295.2 233.2 135.7 221.2 242.3 242.5																									
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

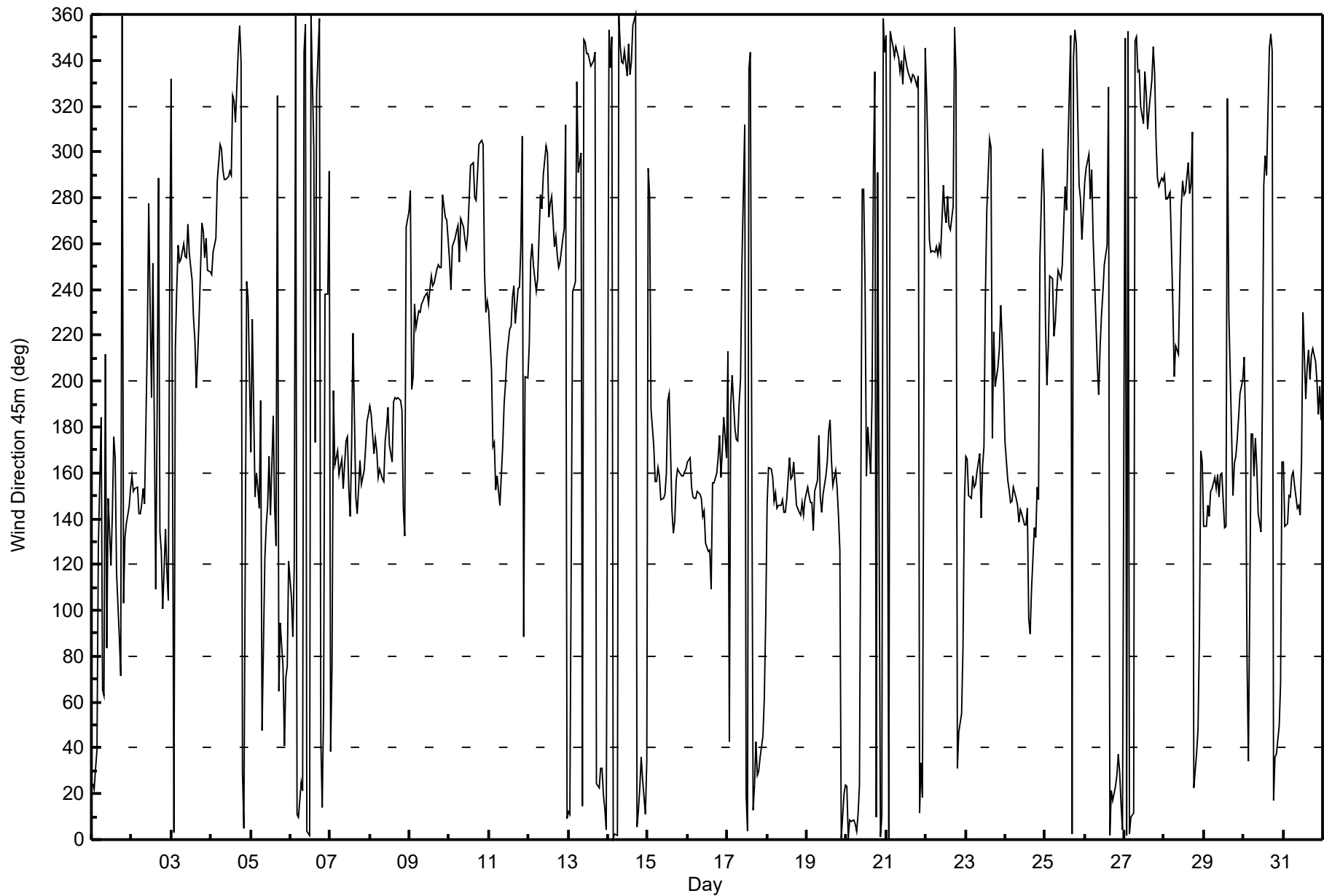
Mannix - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																		Hours in Service: 744							
Maximum Value: 95 deg on Jul 6 16:00																		Hours of Data: 744							
Minimum Value: 2 deg on Jul 11 00:00																		Hours of Missing Data: 0							
Percentiles: P ₁ = 3 P ₁₀ = 6 Q ₁ = 9 Median = 13 Q ₃ = 22 P ₉₀ = 39 P ₉₉ = 80																		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-Jul	14	15	14	20	50	59	31	76	68	29	41	55	29	34	26	25	22	15	37	37	6	8	6	8	76
2-Jul	7	5	10	9	5	5	9	13	13	27	20	25	21	73	69	57	33	86	27	23	7	13	11	76	86
3-Jul	22	51	37	12	9	9	8	10	13	16	14	14	10	10	12	10	13	10	23	15	13	9	8	11	51
4-Jul	8	8	7	7	9	9	12	9	9	11	12	12	15	10	20	23	12	18	26	12	43	71	7	33	71
5-Jul	9	44	21	16	8	9	76	43	24	12	15	21	31	25	14	14	85	24	39	22	13	15	29	72	85
6-Jul	17	20	30	10	10	14	8	24	18	12	11	11	22	51	37	95	19	8	21	28	31	34	23	39	95
7-Jul	30	15	88	11	7	9	8	9	12	16	18	19	21	46	52	16	10	14	6	6	6	3	6	5	88
8-Jul	4	8	3	4	9	6	8	16	9	12	13	10	9	13	14	13	11	9	10	9	10	13	33	13	33
9-Jul	85	18	19	7	7	8	8	9	11	10	11	11	12	12	11	11	10	10	9	9	18	9	7	8	85
10-Jul	9	10	8	8	5	8	8	8	10	12	12	17	11	12	15	13	12	13	13	15	16	13	6	2	17
11-Jul	3	21	6	16	7	9	7	9	9	9	10	11	12	10	13	10	9	11	8	22	25	78	8	5	78
12-Jul	16	8	12	8	7	10	7	8	7	10	13	33	10	22	21	13	12	9	9	8	6	6	35	10	35
13-Jul	14	45	26	4	4	35	26	27	15	17	14	12	10	17	17	12	15	14	11	11	10	8	12	9	45
14-Jul	6	12	10	8	11	15	12	15	16	17	23	19	28	26	23	24	26	36	21	17	12	8	11	9	36
15-Jul	64	13	61	8	6	11	15	14	11	17	19	30	46	46	18	22	20	12	8	5	4	3	3	4	64
16-Jul	3	4	6	5	5	5	6	7	8	10	19	13	22	44	40	40	38	18	19	28	13	16	29	15	44
17-Jul	62	60	32	11	13	17	21	62	31	51	57	72	93	42	22	33	29	14	11	9	6	6	15	23	93
18-Jul	7	5	6	12	8	11	7	8	8	10	10	15	27	24	25	22	13	9	7	6	5	6	8	7	27
19-Jul	3	3	3	4	3	8	54	28	16	12	12	14	16	16	68	63	19	10	8	4	35	9	8	11	68
20-Jul	23	10	9	10	8	6	13	13	41	45	27	57	30	19	18	26	39	13	41	17	16	7	16	9	57
21-Jul	12	11	13	9	10	9	12	11	11	12	12	13	16	17	18	15	14	13	10	12	16	16	20	13	20
22-Jul	22	19	8	10	7	8	10	7	12	16	22	18	17	23	31	16	19	54	31	40	18	23	26	19	54
23-Jul	7	13	8	5	9	11	14	16	37	42	32	63	60	31	44	88	60	11	14	9	7	9	19	13	88
24-Jul	22	6	6	7	6	10	14	11	10	11	14	9	10	10	40	12	13	10	14	14	28	42	8	28	42
25-Jul	9	8	10	10	10	11	10	8	8	8	11	15	20	18	12	16	10	15	25	34	10	8	5	9	34
26-Jul	7	6	6	7	5	10	13	55	18	21	16	18	35	37	44	25	10	9	9	9	12	9	9	10	55
27-Jul	18	10	12	10	6	9	15	14	16	14	13	15	19	15	19	16	13	7	11	12	14	5	4	3	19
28-Jul	6	3	5	8	13	7	17	21	25	47	35	39	25	32	32	33	44	35	21	12	16	35	11	22	47
29-Jul	7	5	8	5	5	7	6	14	20	19	24	48	24	55	80	57	30	16	8	4	6	7	10	21	80
30-Jul	18	28	80	47	23	28	9	7	12	10	19	79	23	26	18	38	13	15	13	7	6	7	12	41	80
31-Jul	16	14	6	5	7	4	7	11	13	11	13	54	22	23	22	19	16	19	14	4	4	11	18	9	54
85 60 88 47 50 59 76 76 68 51 57 79 93 73 80 95 85 86 41 40 43 78 35 76																									
Diurnal Maximum																									



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Direction 75m (WD75) - deg

Mannix - July 2025

Direction of Maximum Speed: 247 deg on Jul 9 16:00																				Hours in Service:		744			
Direction of Maximum Daily Speed Average: 247.3 deg on Jul 9																				Hours of Data:		744			
Direction of Minimum Speed: 202 deg on Jul 15 02:00										Direction of Minimum Daily Speed Average: 1.0 deg on Jul 30										Hours of Missing Data:		0			
Monthly Average Direction: 240.1 deg																				Percent Operational Time:				100.0	
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-Jul	51	36	46	38	90	176	75	86	207	84	148	128	143	178	170	119	91	78	16	101	135	139	146	154	118.5
2-Jul	162	156	162	160	154	149	152	163	157	222	280	238	199	230	108	191	297	132	126	108	139	119	109	252	167.0
3-Jul	339	16	218	247	272	262	260	264	258	256	273	260	249	231	221	202	216	231	274	271	261	269	255	255	253.5
4-Jul	252	262	265	269	294	312	309	299	293	293	295	298	297	332	328	320	352	3	352	35	24	240	235	205	301.3
5-Jul	183	246	157	162	164	154	173	47	118	141	151	170	146	191	148	130	353	70	98	80	55	80	84	113	137.0
6-Jul	113	99	116	14	26	25	44	46	358	5	14	12	8	345	310	183	332	360	47	34	62	220	203	246	25.7
7-Jul	57	91	131	164	168	164	165	170	163	177	178	160	147	175	224	155	151	159	171	158	174	189	198	194	171.0
8-Jul	199	201	186	193	197	176	172	168	165	182	184	192	176	170	195	196	197	198	199	193	155	135	272	280	193.8
9-Jul	292	207	214	239	228	235	235	237	239	240	242	237	244	250	245	247	253	256	254	253	287	277	276	268	247.3
10-Jul	260	249	264	268	274	278	260	276	273	265	262	270	285	299	301	286	285	296	309	314	318	263	232	236	276.2
11-Jul	233	223	208	208	171	182	157	170	177	194	203	215	226	227	241	245	229	245	245	263	315	54	212	219	219.2
12-Jul	227	257	265	256	246	252	269	288	281	296	312	305	278	283	285	263	267	260	255	257	267	273	321	16	271.0
13-Jul	19	26	245	244	256	337	308	312	27	358	356	351	350	345	346	349	354	33	29	37	38	28	20	14	358.4
14-Jul	2	352	3	10	10	11	8	357	347	346	351	344	357	343	349	4	10	14	23	31	48	37	25	46	5.3
15-Jul	69	202	204	172	170	170	187	176	162	157	161	165	197	198	147	139	145	161	164	163	161	162	164	168	164.2
16-Jul	171	176	171	166	168	162	161	159	151	150	151	134	129	136	111	155	156	160	166	170	157	169	168	151	160.5
17-Jul	163	82	159	190	180	166	170	178	202	247	328	25	18	347	353	22	30	49	35	37	46	56	73	121	50.8
18-Jul	145	159	151	148	146	148	146	149	150	154	150	147	149	170	160	162	167	158	148	145	146	151	148	153	151.9
19-Jul	157	150	144	144	140	136	136	137	155	149	154	161	165	181	180	169	158	164	156	141	132	9	25	32	135.8
20-Jul	43	16	16	18	16	15	12	16	33	301	293	247	165	179	162	198	301	343	20	295	10	18	5	353	5.7
21-Jul	359	7	0	358	356	351	355	350	344	348	339	351	344	342	340	338	340	341	336	340	22	42	26	353	351.2
22-Jul	336	310	285	273	270	269	266	261	265	261	292	282	274	285	275	270	281	5	346	43	52	61	87	139	286.5
23-Jul	153	161	141	150	159	160	164	165	174	151	165	175	238	273	311	309	177	225	199	213	216	237	231	217	190.4
24-Jul	196	179	173	166	159	146	138	142	140	148	146	143	142	148	105	97	116	141	137	154	151	254	318	288	152.1
25-Jul	234	210	230	254	254	235	235	244	252	250	256	273	291	287	307	0	10	347	3	6	300	287	271	286	276.0
26-Jul	300	310	316	301	310	286	264	234	205	220	234	242	254	264	342	10	30	25	31	35	44	36	23	13	329.2
27-Jul	357	9	1	9	17	19	355	357	343	344	327	321	342	335	318	327	339	355	341	317	299	298	301	302	342.1
28-Jul	307	304	300	300	286	258	230	223	214	240	279	291	286	291	303	289	292	322	33	48	57	108	163	165	281.7
29-Jul	144	140	148	149	160	162	166	164	166	157	165	171	139	143	326	236	206	157	167	173	185	205	218	218	168.7
30-Jul	229	223	346	35	163	178	174	183	167	155	148	205	289	303	297	352	359	353	26	45	50	58	83	150	112.5
31-Jul	158	137	142	157	160	169	166	169	157	158	151	177	228	196	209	215	203	211	218	213	204	201	212	205	184.9
223.3 212.3 215.8 223.4 206.6 209.1 213.1 236.7 231.9 236.9 242.2 245.2 250.5 254.1 265.6 263.3 287.1 304.7 304.0 197.9 107.6 225.4 241.7 242.1																									
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 75m (WD75) - deg

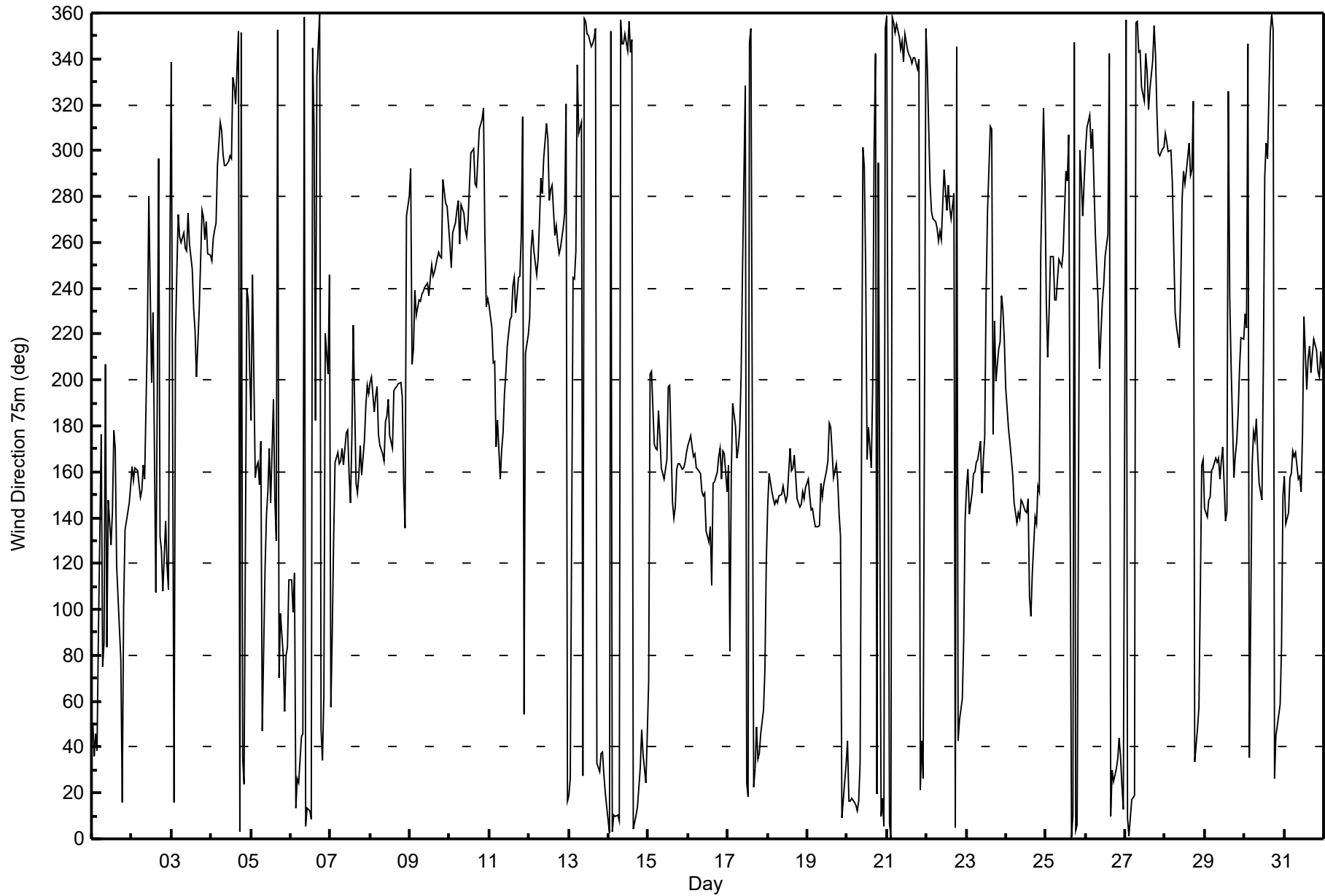
Mannix - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 95 deg on Jul 23 16:00																		Hours in Service: 744							
Minimum Value: 1 deg on Jul 11 01:00																		Hours of Data: 744							
																		Hours of Missing Data: 0							
Percentiles: P ₁ = 3 P ₁₀ = 5 Q ₁ = 8 Median = 11 Q ₃ = 19 P ₉₀ = 35 P ₉₉ = 77																		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-Jul	16	12	9	8	23	51	20	51	76	23	42	43	26	31	25	24	20	11	38	34	8	8	5	6	76
2-Jul	6	5	7	6	5	3	8	14	13	27	19	22	19	72	66	59	33	87	26	22	7	14	12	77	87
3-Jul	21	43	42	12	13	12	7	10	12	16	13	12	8	8	10	8	11	8	24	14	11	8	7	9	43
4-Jul	6	7	7	7	8	8	12	8	8	10	12	12	15	9	20	22	11	17	24	10	21	70	7	21	70
5-Jul	13	44	32	12	4	7	80	40	20	15	14	18	29	28	17	14	80	19	36	17	13	14	24	43	80
6-Jul	15	16	25	21	11	13	7	18	19	10	9	9	19	47	34	94	16	10	18	18	21	72	28	55	94
7-Jul	21	16	68	9	7	9	7	9	10	13	14	19	19	46	46	14	9	12	6	5	10	5	5	4	68
8-Jul	3	6	4	6	11	6	8	13	9	10	12	9	8	12	13	11	10	8	9	8	13	12	40	13	40
9-Jul	78	20	16	6	6	7	8	8	10	10	9	11	11	11	10	10	10	9	8	8	18	8	7	8	78
10-Jul	8	8	7	7	4	8	7	8	10	11	11	17	11	11	14	12	12	12	13	16	13	19	8	6	19
11-Jul	1	10	7	12	10	16	6	9	8	8	9	9	11	10	12	10	8	11	7	20	26	73	12	7	73
12-Jul	11	7	11	8	6	9	8	7	6	10	13	30	10	23	21	12	12	8	8	7	6	7	35	7	35
13-Jul	10	35	39	6	6	33	27	27	13	15	12	10	9	16	16	9	15	12	9	9	8	5	9	8	39
14-Jul	5	10	10	7	8	12	10	14	14	17	19	17	27	27	21	22	25	33	18	13	8	6	10	7	33
15-Jul	32	50	40	7	4	7	17	24	12	16	18	28	39	43	18	22	21	11	7	3	4	2	2	3	50
16-Jul	2	3	6	4	3	3	5	6	8	10	17	14	22	41	32	35	31	16	15	23	11	10	20	8	41
17-Jul	74	48	17	17	18	11	16	46	21	69	48	65	86	32	21	29	26	11	9	7	5	5	19	17	86
18-Jul	6	6	4	5	5	4	4	7	10	10	10	13	26	22	23	21	11	8	6	4	4	5	6	5	26
19-Jul	3	3	2	3	4	7	8	21	12	11	11	11	14	14	75	64	17	8	7	4	27	8	6	9	75
20-Jul	17	7	5	7	4	4	10	10	46	48	31	65	23	16	16	23	40	12	35	12	15	6	13	7	65
21-Jul	10	9	11	8	9	8	11	10	9	10	11	12	16	16	16	14	13	12	8	10	16	13	17	11	17
22-Jul	19	15	9	7	6	6	8	7	11	16	22	18	17	19	31	15	19	50	30	37	15	20	13	23	50
23-Jul	8	8	7	6	6	8	9	19	36	35	26	62	48	29	49	95	41	10	14	9	4	9	9	10	95
24-Jul	21	10	3	5	3	10	11	10	9	11	12	9	10	10	33	12	13	10	12	12	26	47	8	23	47
25-Jul	11	10	9	6	7	8	7	7	7	7	9	14	20	15	12	13	8	13	23	32	10	8	3	10	32
26-Jul	5	5	6	5	6	11	11	29	15	19	15	16	31	39	46	24	8	7	7	8	10	6	7	8	46
27-Jul	18	10	11	9	4	8	14	13	14	13	12	15	18	15	20	16	12	4	10	11	13	3	3	3	20
28-Jul	6	3	4	7	14	5	23	23	25	40	35	36	23	34	30	33	46	39	19	10	15	31	9	6	46
29-Jul	8	6	5	4	3	3	5	12	17	19	21	44	24	45	80	61	30	16	8	4	7	7	7	15	80
30-Jul	10	23	45	46	15	11	6	4	10	11	17	72	23	27	18	39	11	13	11	5	4	6	16	16	72
31-Jul	8	11	6	5	6	2	5	12	16	11	13	52	23	21	18	19	12	18	13	3	5	10	14	7	52
78 50 68 46 23 51 80 51 76 69 48 72 86 72 80 95 80 87 38 37 27 73 40 77																									
Diurnal Maximum																									



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

Wind Direction 90m (WD90) - deg

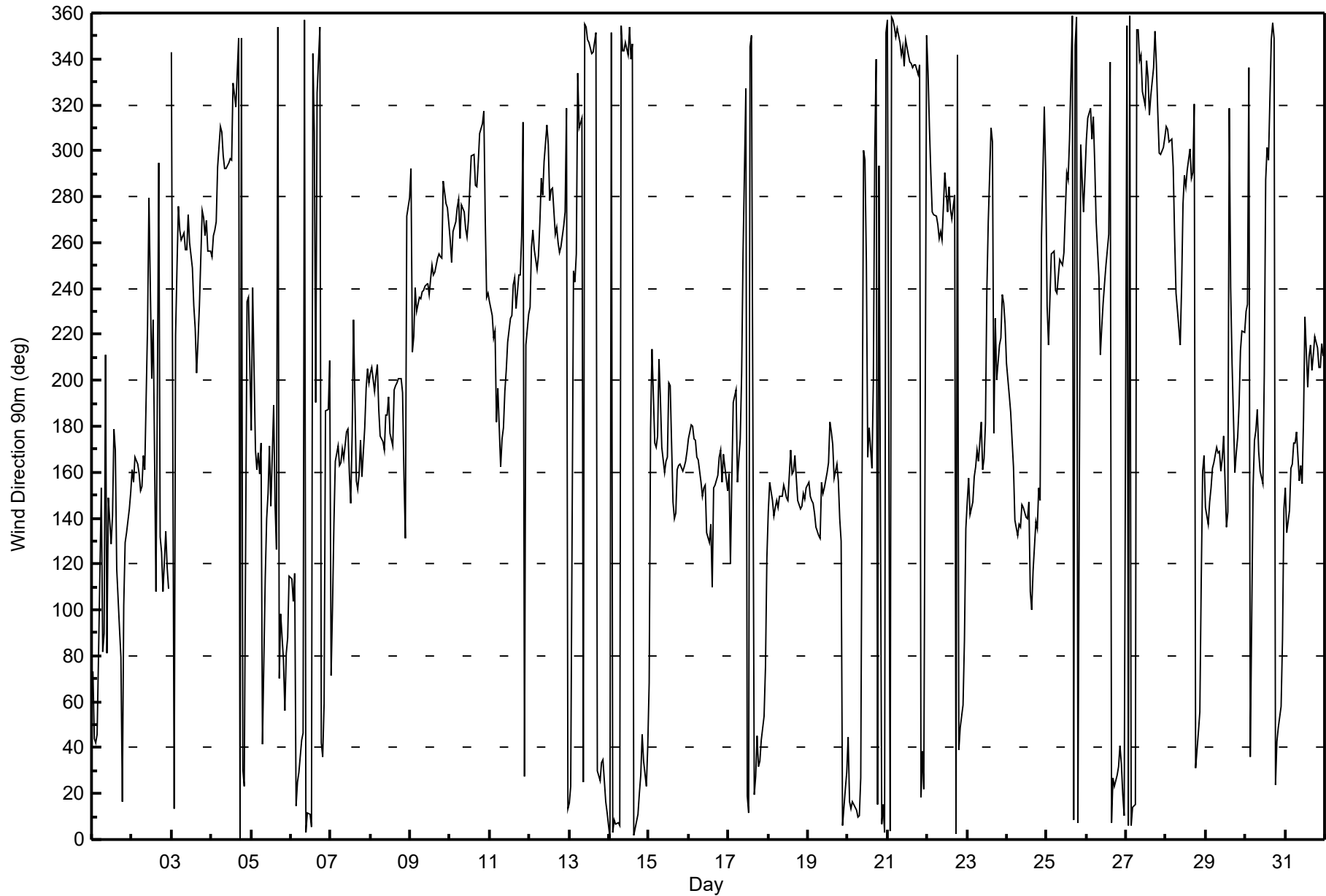
Mannix - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 96 deg on Jul 23 16:00																		Hours in Service: 744							
Minimum Value: 1 deg on Jul 15 23:00																		Hours of Data: 743							
Percentiles: P ₁ = 2 P ₁₀ = 5 Q ₁ = 7 Median = 11 Q ₃ = 19 P ₉₀ = 32 P ₉₉ = 76																		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-Jul	25	15	9	8	15	30	32	44	81	25	44	45	26	28	26	24	20	12	39	32	6	7	5	6	81
2-Jul	5	4	8	5	5	3	8	13	13	26	19	21	18	68	67	56	30	94	25	21	6	10	9	UO	94
3-Jul	16	39	44	13	15	13	7	9	12	15	12	11	8	8	10	7	11	8	23	13	10	8	7	9	44
4-Jul	5	7	6	7	8	8	11	7	8	9	11	11	14	8	19	21	11	16	23	8	18	75	8	13	75
5-Jul	15	25	37	17	4	9	79	40	16	14	13	17	28	30	19	11	80	19	36	17	14	14	25	31	80
6-Jul	11	16	22	27	11	11	9	21	23	10	8	8	18	41	32	69	17	13	17	15	19	74	23	43	74
7-Jul	33	17	32	9	5	8	7	10	10	12	13	18	19	46	43	16	9	12	6	4	12	5	5	4	46
8-Jul	3	5	4	6	8	7	9	12	9	9	12	8	8	12	13	11	10	8	8	8	15	10	41	11	41
9-Jul	75	19	14	6	5	6	7	7	10	9	9	10	10	11	9	9	9	9	8	7	17	8	7	7	75
10-Jul	7	7	7	6	4	7	6	7	9	11	10	16	10	10	13	11	11	11	12	15	12	17	9	6	17
11-Jul	2	8	5	8	12	19	6	9	8	8	9	8	10	9	12	9	8	10	6	19	25	74	17	7	74
12-Jul	9	6	10	7	6	8	7	7	6	10	12	28	9	22	19	12	11	8	8	6	6	6	34	7	34
13-Jul	10	29	38	4	8	32	25	26	12	15	12	10	8	15	16	8	14	12	9	9	8	4	8	7	38
14-Jul	5	9	8	6	7	10	9	13	14	16	17	17	25	25	20	22	24	33	18	13	8	6	9	7	33
15-Jul	26	33	39	12	7	5	23	29	13	16	19	29	40	43	19	20	21	11	7	3	4	2	1	2	43
16-Jul	2	3	6	3	4	3	4	8	7	10	18	13	21	41	30	34	29	16	15	22	10	8	17	7	41
17-Jul	72	28	8	19	23	17	15	31	20	76	40	64	84	31	21	28	25	11	9	7	5	5	21	10	84
18-Jul	6	6	5	6	5	3	3	7	11	10	10	11	26	23	24	20	10	8	5	3	4	5	5	4	26
19-Jul	2	2	2	3	2	5	6	14	13	11	12	12	14	14	67	53	16	7	7	3	25	8	6	9	67
20-Jul	14	7	4	7	4	4	8	9	43	40	31	68	21	16	16	21	38	11	33	11	14	6	13	7	68
21-Jul	10	9	11	7	8	8	10	9	9	10	10	12	15	16	15	13	12	11	7	9	16	13	16	10	16
22-Jul	16	13	10	7	5	5	7	7	10	15	21	17	16	16	30	14	17	49	29	38	15	21	13	20	49
23-Jul	7	8	6	8	5	6	7	23	40	37	26	64	51	27	50	96	41	10	13	9	5	9	8	10	96
24-Jul	20	10	5	6	5	9	8	8	8	11	13	10	11	11	30	11	11	10	11	13	26	50	9	24	50
25-Jul	10	11	7	5	6	7	6	6	7	6	8	13	19	14	12	13	7	12	22	31	12	7	3	12	31
26-Jul	5	5	5	6	7	11	10	26	15	17	15	15	29	37	46	24	8	6	7	7	9	6	6	8	46
27-Jul	17	10	10	9	4	7	13	13	13	13	12	14	17	15	20	15	11	4	9	9	11	2	3	4	20
28-Jul	6	4	3	8	10	7	17	22	31	36	31	33	21	32	28	30	44	36	22	12	15	32	8	4	44
29-Jul	11	6	5	3	2	3	4	11	18	18	21	45	23	39	80	50	28	17	9	4	9	6	5	12	80
30-Jul	8	17	32	48	15	6	6	4	10	10	15	68	22	26	17	38	11	12	11	5	5	6	15	13	68
31-Jul	7	5	7	4	6	2	5	11	14	11	14	51	22	19	17	18	11	17	13	4	5	10	13	5	51
75 39 44 48 23 32 79 44 81 76 44 68 84 68 80 96 80 94 39 38 26 75 41 43																									
Diurnal Maximum																									
UO - Unstable Operation																									



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association

Summary of Hour Averages

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

Mannix - July 2025

Maximum Value: 1.2 km/h on Jul 2 22:00																		Maximum Daily Average: 0.4 km/h on Jul 18																		Hours in Service: 744					
Minimum Value: -0.9 km/h on Jul 21 01:00																		Minimum Daily Average: -0.5 km/h on Jul 21																		Hours of Data: 744					
Maximum Diurnal Average: 0.2 km/h at hour 7																		Minimum Diurnal Average: 0.0 km/h at hour 24																		Hours of Missing Data: 0					
Monthly Average: 0.06 km/h																		Percentiles: P ₁ = -0.7 P ₁₀ = -0.3 Q ₁ = -0.1 Median = 0.0 Q ₃ = 0.3 P ₉₀ = 0.5 P ₉₉ = 0.8																		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-Jul	-0.2	-0.1	0.0	0.0	-0.1	0.0	0.1	0.2	0.1	0.1	0.3	0.3	0.1	0.0	0.3	0.5	0.6	0.6	-0.1	0.6	0.6	0.5	0.6	0.5	0.2	0.6															
2-Jul	0.7	0.7	0.5	0.4	0.5	0.5	0.7	0.5	0.6	0.1	-0.3	0.1	0.1	0.0	0.2	0.1	0.1	0.2	0.4	0.7	0.5	1.2	0.8	0.1	0.4	1.2															
3-Jul	-0.5	0.1	0.1	0.0	0.0	-0.1	0.0	-0.1	0.0	0.1	0.3	0.1	0.1	0.1	0.2	0.1	0.0	0.2	-0.2	0.2	0.0	0.1	0.2	0.0	0.0	0.3															
4-Jul	0.1	0.0	0.0	0.0	-0.3	-0.7	-0.7	-0.5	-0.5	-0.5	-0.3	-0.1	-0.3	-0.6	-0.1	-0.3	-0.2	-0.6	-0.1	0.0	-0.1	-0.1	-0.1	-0.1	-0.3	0.1															
5-Jul	0.0	0.0	0.1	0.2	0.5	0.4	0.2	0.2	0.4	0.6	0.5	0.4	0.4	0.1	0.6	0.5	0.1	0.4	0.5	0.3	0.0	0.4	0.3	0.1	0.3	0.6															
6-Jul	1.0	0.6	0.3	-0.3	-0.2	-0.2	-0.2	0.1	0.0	-0.1	-0.1	-0.5	-0.2	0.0	0.0	0.1	-0.2	-0.4	0.2	-0.1	0.3	-0.1	-0.1	-0.1	0.0	1.0															
7-Jul	0.0	0.2	0.0	0.0	0.2	0.5	0.5	0.4	0.4	0.2	0.2	0.6	0.8	0.5	0.1	0.8	0.5	0.6	0.4	0.6	0.5	0.4	0.2	0.0	0.4	0.8															
8-Jul	0.0	0.2	0.6	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.1	0.2	0.5	0.6	0.2	0.1	0.2	0.2	0.2	0.0	0.3	0.4	-0.1	0.0	0.3	0.6															
9-Jul	0.2	0.0	0.0	0.2	-0.3	-0.1	0.1	0.1	0.0	0.1	0.2	0.1	0.4	0.1	0.0	-0.1	0.0	-0.1	-0.2	0.1	-0.2	0.1	0.0	0.0	0.0	0.4															
10-Jul	0.1	0.0	0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	-0.1	-0.3	-0.3	-0.1	-0.1	-0.3	-0.4	-0.2	-0.1	-0.1	-0.1	0.0	-0.1	0.1															
11-Jul	0.0	-0.1	0.2	0.2	0.4	0.6	0.6	0.6	0.4	0.1	-0.1	0.0	0.1	-0.1	0.1	0.3	-0.1	0.2	0.0	0.0	-0.3	-0.1	-0.1	-0.1	0.1	0.6															
12-Jul	0.0	0.0	-0.2	0.0	0.0	0.0	-0.1	0.3	0.1	-0.1	-0.3	-0.1	0.0	0.1	-0.1	0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	-0.4	-0.3	-0.1	0.3															
13-Jul	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	0.1	-0.5	-0.1	-0.4	-0.4	-0.6	-0.3	-0.5	-0.2	-0.2	-0.4	0.0	0.0	-0.3	-0.3	-0.4	-0.2	0.1															
14-Jul	-0.5	-0.1	-0.3	-0.4	-0.1	0.0	-0.2	-0.1	-0.3	-0.6	-0.2	-0.3	0.0	-0.5	-0.3	-0.2	-0.3	-0.1	0.0	-0.2	-0.1	-0.3	-0.1	0.0	-0.2	0.0															
15-Jul	-0.2	0.0	-0.1	0.0	0.2	0.3	0.2	0.2	0.3	0.4	0.2	0.3	0.2	0.1	0.6	0.6	0.4	0.5	0.4	0.6	0.5	0.6	0.6	0.7	0.3	0.7															
16-Jul	0.6	0.5	0.4	0.4	0.3	0.3	0.4	0.3	0.5	0.4	0.2	0.4	1.0	0.3	0.3	0.1	0.1	0.2	0.1	0.0	0.1	0.0	0.0	-0.1	0.3	1.0															
17-Jul	-0.2	-0.1	-0.1	-0.2	-0.2	0.0	0.2	0.4	0.3	0.1	0.3	0.3	0.3	0.0	-0.2	0.1	0.2	0.1	-0.2	0.0	0.0	-0.1	0.1	0.1	0.1	0.4															
18-Jul	0.0	0.1	0.1	0.2	0.3	0.3	0.5	0.6	0.5	0.4	0.4	0.3	0.3	0.4	0.4	0.4	0.4	0.6	0.6	0.5	0.5	0.7	0.7	0.5	0.4	0.7															
19-Jul	0.6	0.5	0.5	0.4	0.5	0.4	0.4	0.1	0.3	0.2	0.1	0.2	0.3	0.3	0.2	0.1	0.2	0.4	0.4	0.4	0.2	-0.6	0.0	-0.1	0.3	0.6															
20-Jul	-0.2	-0.3	-0.4	-0.4	-0.5	-0.6	-0.1	-0.2	-0.2	-0.2	-0.1	0.3	0.2	0.0	0.4	0.0	-0.3	-0.5	0.0	-0.1	-0.5	-0.6	-0.5	-0.9	-0.2	0.4															
21-Jul	-0.9	-0.4	-0.7	-0.6	-0.6	-0.7	-0.3	-0.7	-0.7	-0.7	-0.6	-0.5	-0.7	-0.4	-0.5	-0.5	-0.4	-0.6	-0.6	-0.4	-0.3	0.1	-0.1	-0.3	-0.5	0.1															
22-Jul	-0.2	-0.2	0.0	0.0	-0.2	-0.1	0.0	-0.1	0.1	-0.1	0.0	-0.1	-0.2	-0.2	-0.1	-0.3	-0.2	0.1	-0.1	0.1	0.2	0.1	0.1	-0.1	-0.1	0.2															
23-Jul	-0.1	0.0	0.1	0.3	0.2	0.5	0.6	0.2	0.3	0.4	0.4	-0.2	0.1	0.1	0.3	0.5	0.4	0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	0.1	0.6															
24-Jul	0.2	0.2	0.3	0.3	0.2	0.3	0.3	0.2	0.3	0.7	0.8	0.6	0.7	0.6	0.4	0.8	1.0	0.6	0.5	0.4	0.4	-0.1	-0.1	0.0	0.4	1.0															
25-Jul	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	0.2	0.0	0.1	0.0	0.1	-0.2	0.0	-0.4	-0.4	-0.6	-0.3	-0.3	-0.2	-0.1	-0.2	-0.2	-0.2	-0.1	0.2															
26-Jul	-0.1	-0.3	-0.2	-0.2	0.0	-0.2	-0.1	0.1	0.2	-0.1	0.0	0.1	-0.1	-0.2	-0.1	-0.3	-0.4	-0.4	-0.2	-0.2	0.0	-0.1	-0.1	-0.3	-0.1	0.2															
27-Jul	-0.3	-0.4	-0.4	-0.6	-0.5	-0.3	-0.1	-0.2	-0.2	-0.5	-0.3	-0.3	-0.5	-0.2	0.1	-0.1	-0.2	-0.3	-0.1	-0.1	0.0	0.1	0.0	0.0	-0.2	0.1															
28-Jul	0.0	0.0	-0.1	-0.2	-0.3	-0.1	0.0	-0.1	0.1	-0.2	0.1	-0.1	0.0	0.0	-0.3	-0.1	0.0	0.0	-0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1															
29-Jul	0.5	0.4	0.4	0.3	0.5	0.4	0.6	0.6	0.4	0.2	0.2	0.0	0.3	0.2	0.3	0.1	0.2	0.3	0.4	0.4	0.3	0.2	0.0	0.0	0.3	0.6															
30-Jul	-0.1	0.1	0.0	0.0	0.0	0.1	0.3	0.3	0.4	0.6	0.4	0.4	-0.3	-0.1	-0.2	-0.4	-0.2	-0.3	-0.2	0.0	-0.2	-0.1	0.1	-0.2	0.0	0.6															
31-Jul	-0.1	0.2	0.3	0.3	0.4	0.6	0.5	0.5	0.3	0.4	0.5	0.1	0.1	0.2	0.0	0.0	0.1	0.2	0.1	0.0	-0.1	0.2	0.1	0.3	0.2	0.6															
0.0																								Diurnal Average																	
1.0																								Diurnal Maximum																	



Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

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

Mannix - July 2025

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



Wood Buffalo Environmental Association

Summary of Hour Averages

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

Mannix - July 2025

Maximum Value: 2.3 km/h on Jul 24 17:00																				Maximum Daily Average: 1.1 km/h on Jul 18					Hours in Service: 744	
Minimum Value: -1.7 km/h on Jul 21 00:00																				Minimum Daily Average: -1.0 km/h on Jul 21					Hours of Data: 744	
Maximum Diurnal Average: 0.5 km/h at hour 7																				Minimum Diurnal Average: 0.1 km/h at hour 18					Hours of Missing Data: 0	
Monthly Average: 0.28 km/h																				Percentiles: P ₁ = -1.3 P ₁₀ = -0.6 Q ₁ = -0.2 Median = 0.2 Q ₃ = 0.8 P ₉₀ = 1.2 P ₉₉ = 1.8					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-Jul	-0.2	-0.2	-0.1	-0.1	0.2	0.2	0.1	0.3	0.3	0.3	0.7	0.7	0.7	0.5	0.6	0.7	0.6	0.5	-0.2	0.9	1.0	1.3	1.6	1.3	0.5	1.6
2-Jul	1.7	1.7	1.5	1.2	1.5	1.4	1.8	1.1	1.1	0.7	-0.3	0.4	0.5	0.3	0.4	0.6	0.1	0.7	0.9	0.7	1.2	2.0	0.7	0.5	0.9	2.0
3-Jul	-1.0	0.0	0.3	0.2	0.0	0.0	0.1	0.2	0.0	0.0	0.3	0.1	0.4	0.5	0.8	0.8	0.7	0.6	-0.1	0.1	0.3	0.1	0.1	0.1	0.2	0.8
4-Jul	0.1	-0.1	0.1	0.3	-0.1	-0.6	-0.7	-0.5	-0.6	-0.3	-0.3	0.0	-0.3	-1.5	-0.2	-0.2	-0.7	-1.2	-0.3	-0.1	-0.1	-0.1	0.0	0.2	-0.3	0.3
5-Jul	0.6	0.1	0.6	0.9	1.4	1.0	0.6	0.1	0.9	1.3	1.0	1.2	1.0	0.6	1.5	1.1	0.3	0.3	0.7	0.4	-0.1	0.3	0.4	0.5	0.7	1.5
6-Jul	1.5	0.9	0.6	-0.5	-0.4	-0.3	-0.4	0.1	-0.2	-0.1	-0.3	-0.8	-0.7	0.1	0.3	0.7	-0.4	-0.9	0.0	-0.2	0.2	0.1	0.0	-0.1	0.0	1.5
7-Jul	0.0	0.1	0.1	0.6	0.7	1.1	1.2	0.8	0.9	0.7	1.0	1.2	1.8	1.3	0.4	1.9	1.1	1.3	1.3	1.5	1.3	1.1	0.8	0.7	1.0	1.9
8-Jul	0.6	0.8	1.4	1.4	1.0	1.2	1.3	1.0	1.1	1.3	1.5	1.7	1.9	1.9	1.4	1.2	1.1	0.7	0.5	0.5	0.8	1.2	0.3	0.3	1.1	1.9
9-Jul	0.2	0.5	0.5	0.3	0.4	0.3	0.5	0.6	0.4	0.4	0.6	0.5	1.0	0.6	0.2	0.6	0.2	0.1	-0.2	0.1	-0.3	0.1	0.0	0.1	0.3	1.0
10-Jul	0.2	0.2	0.1	0.0	0.0	0.0	0.1	0.0	-0.1	0.2	0.0	0.1	-0.2	-0.1	0.0	0.0	-0.1	-0.5	-0.3	-0.3	-0.2	-0.1	0.0	0.1	0.0	0.2
11-Jul	0.2	0.3	0.6	0.5	1.2	1.2	1.2	1.4	1.5	1.0	0.7	1.2	1.1	0.5	0.5	0.6	0.3	0.2	0.2	-0.1	-0.5	-0.1	0.3	0.2	0.6	1.5
12-Jul	0.4	0.0	0.0	0.0	0.2	0.1	0.1	0.3	0.2	-0.2	-0.1	-0.1	-0.2	-0.1	-0.1	0.0	-0.2	0.1	0.0	0.0	0.0	-0.1	-0.7	-0.6	0.0	0.4
13-Jul	-0.4	-0.1	0.1	0.0	-0.2	-0.3	-0.1	0.2	0.2	-0.9	-0.3	-1.1	-1.1	-1.3	-0.6	-1.4	-0.9	-0.4	-0.6	-0.4	-0.2	-0.6	-0.6	-0.6	-0.5	0.2
14-Jul	-0.7	-0.1	-0.7	-0.7	-0.2	-0.2	-0.4	-0.4	-0.8	-1.2	-0.7	-0.5	0.0	-0.4	-0.5	-0.1	-0.6	-0.4	-0.1	-0.4	-0.2	-0.4	-0.3	-0.1	-0.4	0.0
15-Jul	0.0	0.0	0.2	0.3	0.7	0.7	0.4	0.4	0.4	0.7	0.7	0.8	0.5	0.5	1.4	1.1	0.7	1.2	1.2	1.5	1.7	1.7	1.7	1.5	0.8	1.7
16-Jul	1.4	1.5	1.3	1.1	1.3	1.2	1.2	0.9	0.7	0.9	0.5	0.9	1.8	0.4	0.9	0.6	0.3	0.5	0.3	0.3	0.5	0.5	0.2	0.2	0.8	1.8
17-Jul	0.1	0.0	0.2	0.1	0.3	0.3	0.4	0.7	0.3	0.0	0.4	0.5	0.8	-0.1	-0.5	0.4	0.1	0.1	-0.1	-0.2	-0.3	-0.3	0.0	0.3	0.1	0.8
18-Jul	0.8	0.8	0.8	1.1	1.2	1.0	1.2	1.3	0.9	0.9	1.0	0.6	1.1	1.3	0.7	1.0	1.1	1.2	1.4	1.1	1.2	1.7	1.7	1.3	1.1	1.7
19-Jul	1.2	1.4	1.4	1.4	1.4	1.3	1.3	0.3	0.6	0.4	0.3	0.7	1.0	0.8	0.7	0.4	0.7	1.2	0.8	0.8	0.6	-0.9	-0.6	-0.6	0.7	1.4
20-Jul	-0.3	-0.6	-0.6	-0.6	-1.0	-1.2	-0.3	-0.4	-0.2	-0.1	0.1	1.2	0.3	0.1	1.0	0.1	-0.2	-1.2	0.0	0.0	-1.2	-1.3	-1.3	-1.7	-0.4	1.2
21-Jul	-1.5	-0.5	-0.9	-1.0	-1.2	-1.5	-0.8	-1.3	-1.5	-1.5	-1.1	-0.9	-0.9	-0.6	-1.0	-1.1	-1.1	-1.1	-1.0	-0.9	-0.5	-0.2	-0.3	-0.8	-1.0	-0.2
22-Jul	-0.5	-0.2	0.0	0.0	-0.1	0.1	0.4	-0.1	0.7	0.3	0.1	-0.1	-0.2	0.0	0.3	-0.2	-0.4	-0.1	-0.1	0.3	0.0	-0.1	0.1	0.4	0.0	0.7
23-Jul	0.9	0.7	0.9	1.4	1.0	1.0	0.8	0.5	0.6	0.9	1.3	0.2	0.5	-0.1	0.5	0.8	1.1	0.5	0.3	0.2	0.2	0.1	0.0	0.2	0.6	1.4
24-Jul	0.6	0.9	1.0	0.9	0.9	1.1	0.9	0.5	0.7	1.4	1.7	1.1	1.3	1.1	0.6	0.7	2.3	1.0	0.9	0.6	0.7	0.0	-0.2	-0.1	0.9	2.3
25-Jul	0.0	0.4	0.3	0.0	0.0	0.1	0.3	0.3	0.1	0.0	0.1	0.2	-0.2	-0.1	-0.5	-0.8	-1.1	-0.6	-0.5	-0.4	-0.2	-0.3	-0.2	-0.3	-0.1	0.4
26-Jul	-0.3	-0.5	-0.5	-0.3	-0.3	-0.2	-0.1	0.3	0.5	0.3	0.2	0.5	0.2	0.1	-0.2	-0.5	-0.7	-0.9	-0.7	-0.5	-0.1	-0.2	-0.2	-0.5	-0.2	0.5
27-Jul	-0.3	-0.8	-0.7	-1.0	-1.3	-0.4	-0.4	-0.2	-0.5	-1.1	-0.6	-0.7	-0.9	-0.2	0.1	0.1	-0.7	-0.9	-0.6	-0.2	-0.2	-0.2	-0.4	-0.5	-0.5	0.1
28-Jul	-0.2	-0.2	-0.2	-0.3	-0.1	0.0	0.3	0.2	0.3	0.1	0.2	0.2	0.0	0.2	-0.3	0.1	0.6	0.2	-0.2	0.2	0.1	0.3	0.9	0.7	0.1	0.9
29-Jul	1.3	1.2	1.3	1.1	1.2	1.3	1.2	1.2	0.9	0.7	0.8	0.7	0.6	0.6	0.6	0.5	0.6	0.8	0.9	0.9	1.0	0.8	0.3	0.3	0.9	1.3
30-Jul	0.0	0.2	-0.1	-0.1	0.5	0.3	1.0	1.1	1.2	1.3	0.7	0.9	-0.1	0.3	-0.1	-0.5	-0.8	-0.6	-0.3	-0.1	-0.3	-0.2	0.1	0.3	0.2	1.3
31-Jul	0.7	1.0	1.0	1.1	1.3	1.9	1.0	0.7	0.7	0.9	0.8	0.6	0.7	1.0	0.5	0.7	0.3	0.7	0.5	0.2	0.3	0.7	0.6	0.9	0.8	1.9
Diurnal Average																										
Diurnal Maximum																										



Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

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

Mannix - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 5.0 km/h on Jul 9 16:00																			Hours in Service: 744						
Minimum Value: 0.1 km/h on Jul 28 05:00																			Hours of Data: 744						
Percentiles: P ₁ = 0.2 P ₁₀ = 0.5 Q ₁ = 0.9 Median = 1.6 Q ₃ = 2.3 P ₉₀ = 2.7 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 Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1-Jul	0.3	0.3	0.2	0.2	0.2	0.4	0.5	0.9	1.4	1.6	2.0	1.9	2.1	2.1	1.7	1.7	1.9	1.5	1.3	1.9	1.8	1.9	1.9	1.3	2.1
2-Jul	1.8	1.7	1.6	0.7	0.8	1.2	1.8	1.4	1.7	2.4	2.1	2.5	1.3	1.5	1.9	2.0	1.9	1.7	1.2	1.1	1.9	2.9	2.9	3.5	3.5
3-Jul	2.4	1.4	0.6	1.1	1.1	1.2	1.8	1.8	2.2	2.6	2.4	2.7	2.9	2.8	2.6	2.3	2.7	2.9	2.9	2.0	1.8	1.5	1.9	1.5	2.9
4-Jul	2.0	2.3	2.2	2.2	2.6	2.9	2.7	2.7	2.7	2.9	3.0	2.9	2.7	2.7	2.7	2.9	2.3	2.7	1.4	1.3	1.0	0.4	0.4	0.3	3.0
5-Jul	0.3	0.3	0.6	0.8	0.9	1.0	1.4	0.8	1.2	2.1	2.0	2.5	2.4	1.8	1.7	1.3	1.5	1.5	1.1	0.8	0.8	1.2	1.0	1.1	2.5
6-Jul	1.6	1.5	1.1	0.6	0.7	0.8	1.0	1.0	1.0	1.8	2.0	2.0	2.4	2.5	2.1	2.3	0.6	0.9	1.7	1.2	1.1	0.5	0.2	0.3	2.5
7-Jul	0.4	0.5	0.3	0.3	0.5	1.3	1.3	1.4	1.5	1.9	2.2	2.3	2.6	2.5	1.6	2.4	1.7	1.7	1.4	1.2	0.9	0.5	1.1	1.0	2.6
8-Jul	1.0	0.9	0.7	0.9	0.7	1.0	1.2	1.3	1.2	1.7	2.9	3.1	2.6	2.4	2.9	3.1	2.4	1.9	1.3	0.6	0.4	1.1	3.0	2.5	3.1
9-Jul	1.2	0.9	2.0	2.5	2.1	2.7	2.7	3.3	3.2	3.6	4.3	3.9	4.3	4.6	4.8	5.0	4.4	4.1	3.6	2.8	2.4	2.5	2.4	2.3	5.0
10-Jul	1.6	1.5	2.0	1.6	1.0	1.3	1.6	1.6	1.8	1.8	1.8	2.0	2.2	2.9	2.5	2.3	2.3	1.9	1.9	1.3	0.5	0.1	0.4	0.3	2.9
11-Jul	0.3	0.4	0.4	0.5	1.1	0.9	1.4	1.6	2.2	2.7	3.3	3.9	3.9	3.4	3.3	3.4	2.7	2.3	1.7	1.8	1.4	0.8	0.4	0.4	3.9
12-Jul	1.5	2.4	2.3	2.5	1.5	1.4	1.4	2.1	1.5	1.5	1.3	1.4	2.3	1.7	1.9	2.0	2.0	3.1	2.9	2.5	2.1	1.9	1.9	1.6	3.1
13-Jul	1.6	0.8	0.4	0.5	0.4	1.3	1.2	1.6	2.0	2.6	2.7	2.4	2.7	2.6	2.7	2.6	2.6	2.7	2.6	2.4	1.9	1.7	1.9	1.5	2.7
14-Jul	0.9	0.9	1.3	1.5	1.6	1.7	2.3	2.6	2.9	3.0	3.2	3.3	3.1	3.0	2.8	2.9	3.0	2.7	2.3	1.8	1.1	0.8	0.7	0.5	3.3
15-Jul	0.3	0.2	0.3	0.3	0.6	0.8	1.0	1.1	1.3	2.1	2.2	2.5	2.5	2.2	2.5	2.3	2.4	1.7	1.4	1.1	0.7	0.7	0.9	0.8	2.5
16-Jul	0.7	0.7	0.9	1.2	1.0	1.1	1.2	1.2	1.6	1.7	1.9	2.2	2.6	2.3	2.7	2.1	1.9	1.5	1.1	0.7	0.5	0.4	0.3	0.2	2.7
17-Jul	0.6	0.4	0.4	0.3	0.3	0.3	0.8	1.2	1.5	1.5	2.0	1.9	2.2	2.5	2.7	2.4	2.4	2.1	1.6	1.2	0.7	0.4	0.7	0.6	2.7
18-Jul	0.4	0.4	0.4	0.3	0.5	1.0	1.7	1.8	1.6	1.8	1.9	2.1	2.3	2.5	2.4	2.4	1.8	1.7	1.7	1.2	1.5	1.7	2.1	1.6	2.5
19-Jul	0.7	0.5	0.6	0.3	0.4	0.4	0.9	0.9	1.3	1.6	1.7	2.0	2.1	2.1	2.0	1.8	1.6	1.5	1.1	0.7	0.9	2.3	2.3	1.9	2.3
20-Jul	1.0	0.7	1.7	1.3	1.8	1.9	2.1	1.6	1.3	1.6	1.7	1.8	1.9	1.7	1.7	1.3	2.2	2.5	1.2	0.9	2.9	3.0	2.8	3.4	3.4
21-Jul	3.5	3.8	4.0	3.1	3.6	3.5	3.5	3.3	3.3	3.1	2.9	3.5	3.0	3.1	2.7	2.6	2.8	2.6	2.3	2.1	1.6	1.2	1.2	1.4	4.0
22-Jul	1.1	0.6	0.4	0.5	0.7	1.1	1.4	1.6	2.1	2.6	2.4	2.5	2.5	2.5	2.7	2.2	2.0	2.2	1.7	1.1	0.7	0.5	0.6	0.5	2.7
23-Jul	0.3	0.3	0.4	0.3	0.6	1.2	1.2	1.4	1.7	1.8	2.3	2.5	2.6	2.0	2.5	2.2	2.2	1.8	0.6	0.3	0.3	0.3	0.3	0.6	2.6
24-Jul	0.6	0.6	0.8	1.0	1.0	0.8	1.0	1.4	1.9	2.6	2.7	2.3	2.4	1.7	1.3	1.7	2.1	1.8	1.2	1.1	0.8	1.6	0.6	0.6	2.7
25-Jul	0.3	0.5	1.0	0.9	1.2	0.8	1.6	2.2	1.9	2.1	2.2	2.2	2.0	1.3	1.6	2.2	2.3	2.1	2.5	1.3	0.6	0.7	0.6	0.7	2.5
26-Jul	1.0	0.6	0.6	0.4	0.4	0.3	0.7	0.7	1.3	1.6	2.1	2.6	2.8	2.0	2.1	3.1	2.5	2.6	2.3	1.7	1.7	1.2	1.5	1.7	3.1
27-Jul	1.6	1.7	2.2	2.0	2.1	2.7	2.2	2.2	2.3	2.6	2.2	2.1	2.2	2.0	1.8	2.2	2.0	1.5	1.3	1.2	0.8	0.6	0.6	0.6	2.7
28-Jul	0.4	0.2	0.2	0.2	0.1	0.4	1.1	1.3	1.8	2.2	2.2	2.8	2.3	2.6	2.4	2.5	2.4	2.0	1.5	1.2	0.8	0.7	0.3	0.5	2.8
29-Jul	0.7	0.6	0.5	0.8	0.8	1.1	1.3	1.4	1.7	1.7	2.1	2.5	2.4	2.3	2.5	2.5	2.1	1.5	1.0	0.6	0.3	0.4	0.5	0.7	2.5
30-Jul	0.7	0.8	0.5	0.9	0.5	0.4	0.9	1.5	1.8	1.6	1.5	1.8	2.5	2.6	2.4	2.7	2.5	1.8	1.4	1.0	0.6	0.6	0.6	0.4	2.7
31-Jul	0.6	0.8	0.5	0.5	0.6	0.9	1.3	1.1	1.4	1.6	1.8	1.8	2.5	2.4	2.5	2.3	1.8	1.6	1.2	0.3	0.3	0.5	0.9	0.6	2.5
3.5 3.8 4.0 3.1 3.6 3.5 3.5 3.3 3.3 3.6 4.3 3.9 4.3 4.6 4.8 5.0 4.4 4.1 3.6 2.8 2.9 3.0 3.0 3.5																									
Diurnal Maximum																									



Wood Buffalo Environmental Association

Summary of Hour Averages

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

Mannix - July 2025

Maximum Value: 2.5 km/h on Jul 24 17:00																			Maximum Daily Average: 0.8 km/h on Jul 9										Hours in Service: 744	
Minimum Value: -1.0 km/h on Jul 20 22:00																			Minimum Daily Average: -0.2 km/h on Jul 20										Hours of Data: 744	
Maximum Diurnal Average: 0.4 km/h at hour 13																			Minimum Diurnal Average: -0.1 km/h at hour 21										Hours of Missing Data: 0	
Monthly Average: 0.18 km/h																			Percentiles: P ₁ = -0.8 P ₁₀ = -0.4 Q ₁ = -0.1 Median = 0.2 Q ₃ = 0.5 P ₉₀ = 0.8 P ₉₉ = 1.2										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-Jul	-0.1	-0.1	-0.2	-0.2	0.1	0.0	-0.2	0.0	0.2	0.2	0.4	0.7	0.3	0.1	-0.2	0.1	0.1	0.0	-0.1	-0.1	-0.9	-0.8	-0.3	0.0	0.0	0.7				
2-Jul	0.4	0.2	0.7	0.2	0.2	0.0	0.5	0.4	0.3	0.7	0.2	0.2	0.0	0.5	0.0	0.7	0.2	0.7	0.5	-0.3	-0.8	0.9	-0.8	0.8	0.3	0.9				
3-Jul	-0.1	0.1	0.2	0.3	0.5	0.2	0.4	0.6	0.5	0.6	0.8	0.4	0.9	0.7	0.4	0.1	0.2	0.5	1.2	0.7	0.6	0.5	0.6	0.4	0.5	1.2				
4-Jul	0.5	0.6	0.8	1.3	1.2	0.8	0.8	0.9	0.9	0.8	0.7	1.4	1.0	-0.4	0.7	1.0	-0.5	-0.6	0.0	-0.2	0.0	0.0	0.1	0.1	0.5	1.4				
5-Jul	0.2	0.1	0.0	0.2	0.8	0.2	0.4	-0.2	0.2	0.4	-0.1	0.7	0.5	-0.1	-0.2	0.3	0.6	0.1	0.4	-0.2	-0.2	-0.4	0.1	0.2	0.2	0.8				
6-Jul	0.2	0.2	0.1	-0.1	-0.4	-0.2	-0.4	-0.1	-0.1	0.0	-0.2	-0.7	-0.7	0.5	0.8	0.3	0.1	-0.5	-0.1	-0.3	-0.1	0.0	0.0	0.0	-0.1	0.8				
7-Jul	-0.2	-0.2	0.0	0.0	0.2	0.4	0.4	0.1	0.3	0.2	0.3	0.5	1.0	0.6	0.3	0.4	0.2	0.1	0.6	0.5	0.5	0.3	0.1	0.3	0.3	1.0				
8-Jul	0.0	0.1	0.3	0.4	0.4	0.5	0.8	0.4	0.4	0.5	0.5	0.6	0.8	0.8	0.7	0.5	0.3	-0.1	0.1	0.1	0.0	0.3	1.3	1.2	0.5	1.3				
9-Jul	0.3	0.0	0.2	0.5	0.4	0.5	0.5	0.9	0.8	0.9	1.1	0.8	1.6	1.3	0.8	1.2	1.0	1.1	0.5	0.6	0.9	1.2	1.0	0.8	0.8	1.6				
10-Jul	0.6	0.4	0.7	0.6	0.5	0.7	0.4	0.5	0.3	0.7	0.5	0.7	0.6	1.2	1.1	0.8	0.9	0.4	0.8	0.4	0.0	0.0	0.1	0.2	0.5	1.2				
11-Jul	0.3	0.3	0.0	0.0	0.5	0.4	0.3	0.6	0.6	0.0	-0.3	0.6	0.7	0.6	0.9	0.9	0.2	0.4	0.4	0.4	0.1	-0.1	0.1	0.0	0.3	0.9				
12-Jul	0.2	0.6	0.6	0.6	0.3	0.4	0.6	1.1	1.0	0.4	0.5	0.3	0.4	0.3	0.3	0.6	0.1	0.9	0.8	0.6	0.8	0.7	0.2	-0.3	0.5	1.1				
13-Jul	-0.2	0.0	0.0	0.3	0.1	0.1	0.4	0.6	0.4	-0.1	0.4	-0.4	-0.6	-0.5	0.2	-0.7	-0.3	-0.2	-0.4	-0.5	-0.4	-0.6	-0.5	-0.1	-0.1	0.6				
14-Jul	-0.3	0.4	-0.4	-0.4	0.1	0.0	-0.1	0.2	0.0	-0.5	-0.6	0.3	0.3	0.5	0.1	0.4	-0.2	0.1	0.3	-0.2	-0.3	-0.4	-0.4	-0.4	0.0	0.5				
15-Jul	-0.1	0.0	0.1	0.2	0.2	0.2	0.0	-0.2	-0.2	-0.1	0.4	0.7	0.0	0.2	0.5	0.1	-0.2	0.6	0.4	0.6	0.7	0.9	1.0	0.8	0.3	1.0				
16-Jul	0.8	1.0	0.6	0.4	0.4	0.5	0.5	0.2	-0.3	0.1	-0.1	-0.2	1.1	-0.4	0.5	0.4	-0.3	0.1	-0.4	0.0	0.1	0.1	0.2	0.0	0.2	1.1				
17-Jul	0.2	-0.1	0.1	0.1	0.0	0.0	0.1	0.4	0.0	0.1	0.3	0.6	0.9	0.4	-0.2	0.9	0.0	-0.3	-0.2	-0.4	-0.5	-0.5	-0.3	-0.2	0.1	0.9				
18-Jul	-0.2	0.2	0.0	0.1	-0.2	-0.2	-0.3	0.0	-0.3	0.1	0.1	-0.4	0.6	0.5	-0.1	-0.2	0.3	0.1	-0.2	-0.5	-0.5	-0.2	-0.1	0.0	-0.1	0.6				
19-Jul	0.3	-0.1	-0.1	-0.3	-0.3	-0.3	0.1	0.2	-0.1	-0.3	-0.6	0.1	0.4	0.3	0.3	0.0	0.0	0.5	0.0	-0.7	-0.8	-0.3	-0.6	-0.6	-0.1	0.5				
20-Jul	-0.2	-0.3	-0.2	-0.3	-0.5	-0.8	0.3	-0.5	-0.4	0.0	0.3	1.4	-0.3	-0.4	0.3	-0.3	0.4	-0.3	-0.3	0.4	-0.3	-1.0	-0.6	-0.4	-0.2	1.4				
21-Jul	-0.3	1.0	0.6	0.0	-0.1	-0.4	0.5	-0.5	-0.4	-0.5	-0.3	-0.1	-0.3	0.2	-0.1	-0.2	0.0	-0.3	-0.2	-0.2	-0.4	-0.4	-0.4	-0.3	-0.1	1.0				
22-Jul	-0.1	0.2	0.2	0.3	0.2	0.4	0.7	0.3	0.9	0.6	0.7	0.5	0.2	0.8	0.5	0.0	-0.2	-0.3	0.5	0.3	-0.3	-0.3	-0.4	-0.1	0.2	0.9				
23-Jul	0.1	0.3	-0.2	0.1	0.3	0.3	0.2	0.2	0.3	0.6	1.0	-0.3	0.2	-0.2	0.6	1.0	0.9	0.2	0.0	0.0	0.1	0.2	0.1	0.1	0.2	1.0				
24-Jul	0.1	0.3	0.4	0.3	0.5	0.1	0.2	-0.5	-0.7	0.1	0.0	-0.7	-0.2	-0.4	-0.3	-0.6	2.5	-0.2	-0.6	-0.1	-0.6	0.4	0.2	0.4	0.0	2.5				
25-Jul	0.1	0.0	0.2	0.5	0.5	0.2	0.4	0.7	0.4	0.2	0.4	0.6	0.4	0.5	0.4	0.1	-0.3	0.2	-0.1	-0.2	0.2	0.5	0.2	0.4	0.3	0.7				
26-Jul	0.6	0.3	0.2	0.1	0.3	0.1	0.2	0.0	0.3	0.3	0.1	0.5	0.8	0.4	0.1	-0.3	-0.6	-0.9	-0.7	-0.7	-0.4	-0.4	-0.2	-0.1	0.0	0.8				
27-Jul	0.2	-0.2	0.1	-0.3	-0.9	0.2	0.3	0.2	0.2	-0.6	0.0	-0.1	-0.2	0.5	0.7	0.9	0.0	-0.5	-0.3	0.2	0.3	0.4	0.6	0.4	0.1	0.9				
28-Jul	0.3	0.3	0.2	0.0	0.1	0.2	0.2	0.0	0.0	0.0	0.5	0.8	0.2	0.4	0.0	0.6	1.0	0.5	-0.3	-0.1	-0.2	0.3	0.3	0.4	0.2	1.0				
29-Jul	0.0	-0.4	0.0	-0.1	0.8	0.8	0.4	0.6	0.5	0.2	0.3	0.5	0.0	0.0	0.7	0.3	0.2	-0.1	0.4	0.3	0.4	0.1	0.1	0.1	0.3	0.8				
30-Jul	0.1	0.1	0.0	-0.2	0.2	0.2	0.5	0.6	0.7	0.4	0.1	1.2	0.5	0.9	0.5	-0.3	-0.6	-0.5	-0.3	-0.4	-0.6	-0.6	-0.4	0.2	0.1	1.2				
31-Jul	0.1	-0.1	-0.4	0.3	0.5	1.1	0.3	0.0	0.0	0.0	0.1	0.4	0.6	0.5	0.0	0.5	-0.3	0.4	0.2	-0.1	0.0	0.2	0.2	0.0	0.2	1.1				
0.1 0.2 0.1 0.2 0.2 0.2 0.3 0.3 0.2 0.2 0.2 0.4 0.4 0.3 0.3 0.3 0.2 0.1 0.1 0.0 -0.1 0.0 0.0 0.1																									Diurnal Average					
0.8 1.0 0.8 1.3 1.2 1.1 0.8 1.1 1.0 0.9 1.1 1.4 1.6 1.3 1.1 1.2 2.5 1.1 1.2 0.7 0.9 1.2 1.3 1.2																									Diurnal Maximum					



Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

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

Mannix - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 4.8 km/h on Jul 9 16:00																				Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0					
Minimum Value: 0.1 km/h on Jul 17 00:00																									
Percentiles: P ₁ = 0.2 P ₁₀ = 0.4 Q ₁ = 0.8 Median = 1.6 Q ₃ = 2.5 P ₉₀ = 2.9 P ₉₉ = 4.0																									
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-Jul	0.3	0.3	0.2	0.2	0.6	0.2	0.4	0.9	1.3	1.9	2.2	2.0	2.8	2.3	2.0	2.2	2.3	1.6	1.0	2.1	1.8	1.8	1.8	1.3	2.8
2-Jul	1.5	1.7	1.7	0.8	0.7	0.7	1.6	1.4	1.8	2.5	2.3	2.6	1.1	1.6	2.0	2.2	2.3	2.1	1.5	1.4	1.8	3.6	3.6	3.8	3.8
3-Jul	2.3	1.3	0.6	0.9	1.0	1.1	1.7	1.9	2.4	2.8	2.6	2.7	2.8	2.9	2.5	2.2	2.7	3.1	3.2	2.0	1.8	1.5	1.8	1.5	3.2
4-Jul	1.7	2.1	2.2	2.3	2.7	2.9	2.8	2.8	3.0	3.2	3.5	3.5	3.0	2.3	2.9	3.2	2.3	2.5	1.5	1.2	1.1	0.4	0.3	0.4	3.5
5-Jul	0.2	0.3	0.5	0.6	0.6	0.6	1.3	0.5	1.5	2.2	2.1	2.8	2.6	1.9	1.6	1.5	1.8	1.8	1.3	0.7	0.7	1.5	1.2	1.5	2.8
6-Jul	2.8	2.2	1.2	0.6	0.5	0.7	0.7	0.8	1.0	1.7	1.8	1.8	2.5	2.9	2.5	2.3	0.7	0.7	1.6	1.3	1.2	0.6	0.4	0.4	2.9
7-Jul	0.5	0.7	0.4	0.2	0.3	1.2	1.1	1.3	1.5	2.1	2.4	2.6	2.8	2.8	1.6	2.4	1.6	1.7	1.2	1.1	1.0	0.6	0.9	0.8	2.8
8-Jul	0.7	0.7	0.7	0.8	0.6	0.6	1.0	1.1	1.1	1.8	2.9	3.3	2.7	2.3	3.2	3.2	2.4	1.8	1.4	0.5	0.5	1.5	3.2	2.8	3.3
9-Jul	1.4	0.8	2.0	2.5	2.0	2.9	2.9	3.6	3.3	3.8	4.3	4.0	4.2	4.7	4.8	4.8	4.6	4.2	3.6	2.7	2.6	2.7	2.8	2.6	4.8
10-Jul	1.6	1.6	2.0	1.5	1.0	1.4	1.3	1.6	1.8	2.0	1.9	2.4	2.3	3.2	3.1	2.7	2.7	2.3	2.2	1.5	0.5	0.3	0.2	0.3	3.2
11-Jul	0.2	0.5	0.3	0.6	0.8	0.8	1.1	1.5	2.2	2.9	3.3	3.5	3.9	3.4	3.3	3.4	2.6	2.3	1.6	1.8	1.6	0.8	0.5	0.5	3.9
12-Jul	1.4	2.3	2.7	2.5	1.6	1.5	1.5	2.1	1.6	1.5	1.4	1.5	2.5	1.8	2.0	2.3	2.3	2.9	2.7	2.2	2.2	2.1	2.1	1.3	2.9
13-Jul	1.5	0.9	0.3	0.3	0.3	1.3	1.2	1.6	2.3	2.6	2.6	2.3	2.6	2.9	2.9	2.4	2.4	2.8	2.5	2.1	1.7	1.4	1.5	1.4	2.9
14-Jul	1.1	1.0	1.5	1.5	1.7	1.5	2.2	3.0	3.2	3.3	3.5	3.7	3.5	3.5	2.9	2.9	3.1	3.0	2.5	1.7	0.9	0.5	0.8	0.4	3.7
15-Jul	0.3	0.2	0.2	0.2	0.4	0.6	0.8	0.8	1.0	2.0	2.4	2.8	2.9	2.6	2.9	2.8	2.7	2.1	1.4	0.8	0.5	0.6	0.5	0.6	2.9
16-Jul	0.4	0.5	0.6	0.8	0.7	0.6	0.8	0.8	1.2	1.5	1.8	2.4	3.3	2.6	3.4	2.5	2.2	1.8	1.2	0.7	0.5	0.4	0.4	0.1	3.4
17-Jul	0.4	0.3	0.4	0.2	0.2	0.2	0.4	1.2	1.5	1.5	2.0	2.5	2.6	3.1	3.0	2.6	2.8	2.3	1.6	0.6	0.4	0.4	1.2	1.1	3.1
18-Jul	0.5	0.5	0.4	0.4	0.5	0.6	1.2	1.4	1.5	1.7	2.2	2.3	2.7	2.9	2.8	2.7	1.8	1.5	1.5	1.0	1.4	1.6	1.8	1.5	2.9
19-Jul	0.6	0.3	0.4	0.4	0.7	1.0	1.1	0.9	1.3	1.7	1.6	2.3	2.4	2.5	2.3	2.1	1.7	1.4	0.9	0.6	1.1	2.2	1.9	1.6	2.5
20-Jul	0.9	0.8	1.2	1.1	1.2	1.4	1.9	1.5	1.5	1.7	2.0	2.2	2.0	1.8	1.8	1.4	2.1	2.0	1.2	1.0	2.6	2.6	2.6	3.1	3.1
21-Jul	3.5	3.7	4.0	3.2	3.8	3.6	3.4	3.3	3.2	3.1	2.9	3.8	3.2	3.5	3.0	2.6	2.8	2.5	2.2	1.9	1.7	1.4	1.4	1.2	4.0
22-Jul	0.9	0.9	0.3	0.4	0.4	0.7	1.4	1.7	2.4	2.9	2.8	3.0	2.9	3.1	3.1	2.6	2.3	2.7	2.0	1.3	0.7	0.5	0.8	0.6	3.1
23-Jul	0.3	0.3	0.6	0.4	0.4	0.9	1.0	1.2	1.7	2.1	2.5	3.0	2.7	2.2	2.9	2.6	2.5	2.0	0.5	0.2	0.3	0.3	0.3	0.6	3.0
24-Jul	0.5	0.4	0.4	0.5	0.5	0.8	1.1	1.4	1.9	2.8	3.1	2.4	2.6	1.7	1.5	2.3	2.8	2.1	1.4	1.0	1.2	1.7	0.6	0.7	3.1
25-Jul	0.4	0.5	1.3	0.9	1.2	0.8	1.4	2.1	1.8	1.9	2.3	2.2	2.3	1.5	1.5	2.0	2.0	2.2	2.1	1.4	0.7	0.6	0.6	0.5	2.3
26-Jul	0.8	0.5	0.5	0.4	0.5	0.3	0.6	0.8	1.3	1.7	2.3	2.9	2.8	2.1	2.4	3.2	2.4	2.3	2.1	1.8	1.7	1.1	1.1	1.7	3.2
27-Jul	1.8	1.7	2.3	1.8	1.5	2.5	2.2	2.2	2.5	2.7	2.5	2.2	2.3	2.3	1.9	2.4	2.3	1.1	1.2	1.3	0.8	0.6	0.5	0.5	2.7
28-Jul	0.4	0.3	0.3	0.2	0.2	0.3	0.9	1.3	2.0	2.5	2.5	3.1	2.7	3.1	2.8	2.9	2.8	2.2	1.7	1.3	0.8	1.1	0.3	0.4	3.1
29-Jul	0.8	0.8	0.5	0.4	0.4	0.9	1.0	1.3	2.0	1.8	2.3	2.8	2.8	2.4	2.9	2.8	2.5	1.6	0.9	0.5	0.3	0.4	0.7	1.0	2.9
30-Jul	0.9	0.9	0.6	1.0	0.6	0.3	0.7	1.1	1.8	1.4	1.5	2.1	2.8	3.0	2.9	2.8	2.5	2.0	1.5	0.6	0.3	0.6	0.7	0.7	3.0
31-Jul	0.4	1.0	0.6	0.4	0.8	0.6	0.9	0.9	1.2	1.5	1.8	1.9	2.9	2.7	2.9	2.4	1.9	1.8	1.1	0.2	0.2	0.4	0.8	0.5	2.9
3.5 3.7 4.0 3.2 3.8 3.6 3.4 3.6 3.3 3.8 4.3 4.0 4.2 4.7 4.8 4.8 4.6 4.2 3.6 2.7 2.6 3.6 3.6 3.8																									
Diurnal Maximum																									



Wood Buffalo Environmental Association

Summary of Hour Averages

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

Mannix - July 2025

Maximum Value: 3.0 km/h on Jul 24 17:00																		Maximum Daily Average: 0.5 km/h on Jul 2																		Hours in Service: 744	
Minimum Value: -1.0 km/h on Jul 1 21:00																		Minimum Daily Average: 0.1 km/h on Jul 11																		Hours of Data: 743	
Maximum Diurnal Average: 0.4 km/h at hour 16																		Minimum Diurnal Average: 0.2 km/h at hour 21																		Hours of Missing Data: 1	
Monthly Average: 0.33 km/h																		Percentiles: P ₁ = -0.4 P ₁₀ = -0.1 Q ₁ = 0.1 Median = 0.3 Q ₃ = 0.5 P ₉₀ = 0.8 P ₉₉ = 1.3																		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-Jul	0.2	0.2	0.1	0.1	0.2	0.3	0.1	0.2	0.3	0.6	0.5	1.0	0.5	0.2	-0.1	0.6	0.7	0.5	0.3	0.5	-1.0	-0.4	0.9	0.6	0.3	1.0											
2-Jul	0.5	0.6	0.8	0.4	0.6	0.8	1.2	0.5	0.6	0.5	0.0	0.1	-0.1	0.7	0.3	0.9	0.5	1.0	0.8	0.4	-0.1	1.2	0.1	UO	0.5	1.2											
3-Jul	0.4	0.5	0.2	0.2	0.4	0.1	0.2	0.4	0.2	0.4	0.6	0.1	0.4	0.3	0.0	-0.3	-0.3	0.1	0.5	0.4	0.4	0.2	0.3	0.2	0.2	0.6											
4-Jul	0.2	0.3	0.2	0.5	0.5	0.3	0.6	0.6	0.7	0.5	0.5	1.0	0.7	-0.3	0.8	1.2	-0.1	0.2	0.3	0.4	0.4	0.1	0.0	0.1	0.4	1.2											
5-Jul	0.3	0.1	0.1	0.3	0.6	0.5	0.6	0.2	0.6	0.7	0.3	0.8	0.8	-0.1	0.5	0.5	0.9	0.7	0.9	0.4	0.4	0.2	0.6	0.6	0.5	0.9											
6-Jul	1.0	0.7	0.6	0.3	0.2	0.3	0.3	0.4	0.2	0.3	0.3	-0.1	-0.4	0.7	1.1	0.6	0.3	-0.1	0.5	0.2	0.4	0.1	0.0	0.0	0.3	1.1											
7-Jul	0.1	0.1	0.2	0.1	0.1	0.5	0.5	0.2	0.3	0.2	0.2	0.7	1.4	0.7	0.3	0.8	0.5	0.3	0.5	0.7	0.3	0.0	-0.3	-0.2	0.3	1.4											
8-Jul	-0.4	-0.2	-0.1	0.0	0.2	0.4	0.7	0.5	0.4	0.3	0.3	0.3	0.6	0.8	0.5	0.2	0.2	-0.3	0.1	-0.1	0.2	0.7	0.5	0.6	0.3	0.8											
9-Jul	0.3	-0.2	-0.1	-0.2	-0.1	0.0	0.0	0.3	0.2	0.3	0.2	0.1	1.0	0.6	-0.2	0.1	0.3	0.4	-0.1	0.1	0.6	0.5	0.5	0.4	0.2	1.0											
10-Jul	0.6	0.3	0.5	0.3	0.3	0.4	0.1	0.2	0.1	0.5	0.4	0.5	0.3	1.2	1.1	0.4	0.5	0.3	1.0	0.4	0.2	0.1	0.0	0.1	0.4	1.2											
11-Jul	0.1	0.2	0.0	0.0	0.3	0.3	0.4	0.5	0.4	-0.5	-0.8	0.1	0.0	0.0	0.6	0.2	-0.2	0.1	0.1	0.1	0.1	0.2	0.2	-0.1	0.1	0.6											
12-Jul	0.0	0.0	0.2	0.1	0.2	0.1	0.1	0.5	0.5	0.3	0.4	0.3	0.1	0.2	0.3	0.3	-0.1	0.3	0.3	0.0	0.4	0.3	0.2	0.4	0.2	0.5											
13-Jul	0.7	0.5	0.0	-0.1	-0.1	0.5	0.5	0.6	1.0	0.4	0.8	0.0	-0.3	-0.2	0.7	-0.4	0.1	0.9	0.7	0.5	0.6	0.4	0.3	0.7	0.4	1.0											
14-Jul	0.2	0.9	0.2	0.3	0.8	0.8	0.5	0.8	0.3	-0.4	-0.4	0.4	0.9	1.0	0.6	1.1	0.5	0.7	1.1	0.6	0.5	0.3	0.0	0.1	0.5	1.1											
15-Jul	0.2	0.1	0.2	0.2	0.2	0.2	-0.1	-0.1	-0.2	0.2	0.6	0.8	0.0	0.2	0.8	0.4	0.0	0.8	0.6	0.5	0.6	0.8	0.9	0.5	0.3	0.9											
16-Jul	0.8	0.8	0.4	0.4	0.3	0.3	0.5	0.4	0.1	0.3	0.0	0.0	1.4	0.0	0.9	0.6	-0.3	0.3	-0.4	0.2	0.3	0.2	0.3	0.2	0.3	1.4											
17-Jul	0.4	0.1	0.4	0.2	0.1	0.1	0.2	0.5	0.0	0.2	0.5	0.9	1.0	0.8	0.0	1.4	0.5	0.4	0.4	0.3	0.3	0.2	0.3	0.0	0.4	1.4											
18-Jul	0.5	0.4	0.4	0.5	0.9	0.7	0.7	0.5	0.0	0.2	0.3	-0.2	0.9	0.6	-0.1	-0.2	0.3	0.3	0.5	0.6	0.6	0.6	1.1	0.7	0.5	1.1											
19-Jul	0.5	1.0	1.1	0.9	1.2	0.2	0.2	0.4	0.0	-0.1	-0.4	0.3	0.4	0.2	0.2	0.2	0.2	0.5	0.3	0.0	-0.5	0.6	0.5	0.5	0.4	1.2											
20-Jul	0.5	0.2	0.6	0.3	0.4	0.1	0.9	0.0	-0.2	0.2	0.3	1.6	-0.1	-0.4	0.4	-0.1	0.3	0.0	0.0	0.5	0.7	0.1	0.3	0.3	0.3	1.6											
21-Jul	0.5	2.5	1.8	0.9	0.4	0.2	1.3	-0.1	-0.2	-0.2	-0.2	0.2	-0.2	0.4	0.1	0.0	0.2	-0.1	-0.1	0.0	0.1	0.0	0.0	0.2	0.3	2.5											
22-Jul	0.1	0.2	0.2	0.2	0.1	0.4	0.5	0.1	0.8	0.4	0.6	0.3	0.0	0.6	0.3	-0.2	-0.2	0.1	0.7	0.6	0.2	0.1	0.2	0.2	0.3	0.8											
23-Jul	0.4	0.5	0.4	0.7	0.4	0.4	0.2	0.3	0.3	0.6	1.1	-0.2	0.0	-0.2	0.5	1.1	1.1	-0.1	-0.1	-0.2	-0.1	0.1	0.0	0.0	0.3	1.1											
24-Jul	0.1	0.1	0.1	0.3	0.6	0.5	0.5	-0.2	-0.4	0.4	0.4	-0.3	0.3	0.0	0.2	0.4	3.0	0.3	0.0	0.2	-0.1	0.2	0.2	0.4	0.3	3.0											
25-Jul	0.0	0.0	0.1	0.2	0.3	0.0	0.1	0.3	0.0	-0.1	0.1	0.3	0.3	0.4	0.3	0.6	0.4	0.6	0.4	0.2	0.1	0.3	0.0	0.1	0.2	0.6											
26-Jul	0.5	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.3	0.2	0.0	0.2	0.3	0.4	0.3	0.2	0.5	0.0	0.2	0.1	0.3	0.2	0.6	0.7	0.3	0.7											
27-Jul	0.7	0.5	0.8	0.5	0.0	1.2	0.9	0.7	0.5	-0.4	0.1	-0.1	0.1	0.7	0.7	1.1	0.3	-0.2	-0.1	0.2	0.2	0.4	0.4	0.3	0.4	1.2											
28-Jul	0.3	0.2	0.2	0.1	0.1	0.2	0.3	0.1	0.0	-0.1	0.5	1.0	0.0	0.4	-0.1	0.6	1.0	0.7	0.1	0.3	0.2	1.0	0.4	0.3	0.3	1.0											
29-Jul	0.6	0.3	0.8	0.6	0.8	0.9	0.3	0.8	0.6	0.5	0.5	0.6	0.2	0.4	0.9	0.3	0.2	0.1	0.5	0.2	0.1	0.1	0.1	0.0	0.4	0.9											
30-Jul	0.1	0.2	0.2	0.3	0.4	0.4	0.4	0.4	0.7	0.6	0.3	1.4	0.4	0.9	0.4	0.1	-0.3	-0.2	0.3	0.2	0.1	0.1	0.2	0.5	0.3	1.4											
31-Jul	0.4	0.2	0.4	0.4	0.6	0.8	0.2	0.0	0.2	0.2	0.3	0.7	0.4	0.4	-0.3	0.4	-0.4	0.4	0.2	-0.1	-0.1	0.0	0.0	-0.2	0.2	0.8											
0.3 0.4 0.4 0.3 0.4 0.4 0.4 0.3 0.3 0.2 0.3 0.4 0.4 0.4 0.4 0.4 0.3 0.3 0.3 0.3 0.2 0.3 0.3 0.3 0.3																										Diurnal Average											
1.0 2.5 1.8 0.9 1.2 1.2 1.3 0.8 1.0 0.7 1.1 1.6 1.4 1.2 1.1 1.4 3.0 1.0 1.1 0.7 0.7 1.2 1.1 0.7																										Diurnal Maximum											
UO - Unstable Operation																																					



Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

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

Mannix - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 4.9 km/h on Jul 9 16:00																		Hours in Service: 744							
Minimum Value: 0.1 km/h on Jul 31 21:00																		Hours of Data: 743							
Percentiles: P ₁ = 0.2 P ₁₀ = 0.4 Q ₁ = 0.8 Median = 1.6 Q ₃ = 2.5 P ₉₀ = 3.0 P ₉₉ = 4.2																		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-Jul	0.4	0.3	0.2	0.2	0.2	0.3	0.3	0.8	1.3	1.9	2.2	2.0	2.9	2.4	2.0	2.2	2.4	1.6	1.1	2.0	1.8	1.8	1.8	1.3	2.9
2-Jul	1.5	1.7	1.8	0.8	0.6	0.7	1.7	1.4	1.8	2.6	2.3	2.8	1.0	1.7	2.0	2.3	2.4	2.2	1.6	1.1	1.7	3.2	2.9	UO	3.2
3-Jul	2.3	1.3	0.7	0.8	1.0	1.1	1.7	1.9	2.3	2.9	2.7	2.8	2.8	3.0	2.6	2.2	2.6	3.2	3.1	2.0	1.9	1.5	1.8	1.4	3.2
4-Jul	1.5	2.0	2.2	2.3	2.8	2.8	2.8	2.8	3.1	3.3	3.5	3.5	3.1	2.3	2.9	3.3	2.4	2.5	1.5	1.1	1.1	0.4	0.2	0.4	3.5
5-Jul	0.2	0.3	0.4	0.5	0.6	0.4	1.2	0.6	1.2	2.2	2.1	2.8	2.7	1.9	1.7	1.5	1.9	1.9	1.3	0.7	0.8	1.5	1.2	1.5	2.8
6-Jul	2.2	2.0	1.3	0.7	0.4	0.6	0.5	0.8	1.0	1.7	1.7	1.7	2.7	3.1	2.7	2.6	0.9	0.6	1.4	1.3	1.1	0.7	0.5	0.4	3.1
7-Jul	0.5	0.6	0.4	0.2	0.2	1.1	1.0	1.3	1.5	2.2	2.5	2.7	3.0	2.9	1.8	2.4	1.5	1.6	1.1	1.1	1.1	0.7	0.7	0.7	3.0
8-Jul	0.6	0.7	0.6	0.7	0.6	0.6	1.0	1.1	1.0	1.9	2.9	3.2	2.7	2.4	3.3	3.2	2.4	1.6	1.4	0.5	0.4	1.5	3.1	2.8	3.3
9-Jul	1.3	0.9	2.2	2.6	2.0	3.0	3.0	3.6	3.4	4.0	4.3	4.2	4.5	4.9	4.8	4.9	4.7	4.3	3.7	2.6	2.6	2.8	2.7	2.5	4.9
10-Jul	1.6	1.7	2.0	1.5	1.0	1.5	1.2	1.6	1.8	2.0	2.0	2.3	2.5	3.3	3.2	2.8	2.8	2.4	2.4	1.4	0.6	0.3	0.2	0.2	3.3
11-Jul	0.2	0.5	0.3	0.6	0.7	0.8	1.0	1.5	2.1	2.9	3.4	3.7	4.0	3.6	3.4	3.4	2.5	2.3	1.7	1.8	1.7	0.9	0.5	0.6	4.0
12-Jul	1.3	2.3	2.7	2.5	1.6	1.5	1.4	1.9	1.6	1.4	1.4	1.5	2.4	1.8	2.1	2.4	2.3	2.8	2.6	2.2	2.1	2.1	1.9	1.4	2.8
13-Jul	1.5	0.9	0.3	0.2	0.3	1.3	1.2	1.7	2.4	2.6	2.7	2.4	2.6	3.0	3.2	2.5	2.6	3.0	2.5	1.9	1.6	1.2	1.5	1.5	3.2
14-Jul	1.3	1.1	1.6	1.6	1.7	1.5	2.4	3.2	3.5	3.5	3.4	3.8	3.8	3.7	3.1	3.0	3.3	3.0	2.6	1.6	0.9	0.4	0.8	0.3	3.8
15-Jul	0.3	0.2	0.2	0.2	0.3	0.6	0.7	0.7	0.9	2.0	2.4	2.9	3.1	2.6	3.0	2.9	2.7	2.2	1.6	0.8	0.5	0.5	0.4	0.5	3.1
16-Jul	0.4	0.5	0.7	0.8	0.7	0.5	0.7	0.7	1.0	1.4	1.8	2.6	3.3	2.8	3.5	2.6	2.4	1.9	1.2	0.7	0.6	0.4	0.4	0.2	3.5
17-Jul	0.4	0.3	0.4	0.2	0.2	0.2	0.4	1.1	1.3	1.5	2.0	2.5	2.6	3.4	3.0	2.6	2.9	2.4	1.4	0.4	0.3	0.4	1.0	0.8	3.4
18-Jul	0.5	0.5	0.4	0.5	0.6	0.6	1.0	1.3	1.4	1.6	2.2	2.3	2.8	3.0	2.9	2.9	1.9	1.5	1.4	1.0	1.5	1.6	1.9	1.4	3.0
19-Jul	0.6	0.3	0.5	0.5	0.6	0.7	0.9	1.0	1.2	1.7	1.6	2.4	2.5	2.6	2.3	2.2	1.8	1.5	0.9	0.5	1.0	2.3	1.7	1.5	2.6
20-Jul	0.9	0.8	1.1	1.1	1.0	1.3	1.9	1.5	1.5	1.8	2.0	2.2	2.0	1.8	1.9	1.4	2.0	1.9	1.0	1.0	2.6	2.4	2.7	3.0	3.0
21-Jul	3.4	4.0	4.2	3.3	3.7	3.5	3.6	3.3	3.0	3.1	2.9	3.9	3.2	3.6	2.9	2.7	2.8	2.6	2.2	1.9	1.7	1.4	1.5	1.1	4.2
22-Jul	1.0	1.1	0.3	0.3	0.3	0.5	1.3	1.7	2.4	2.9	2.9	3.0	3.0	3.3	3.3	2.6	2.3	2.8	2.1	1.2	0.7	0.6	0.6	0.5	3.3
23-Jul	0.3	0.3	0.5	0.4	0.4	0.9	0.9	1.1	1.6	2.2	2.5	3.1	2.7	2.1	2.9	2.8	2.6	2.0	0.5	0.2	0.3	0.3	0.3	0.6	3.1
24-Jul	0.5	0.4	0.4	0.4	0.4	0.9	1.0	1.3	1.8	2.8	3.3	2.4	2.6	1.8	1.5	1.8	2.6	2.0	1.3	1.1	1.1	1.3	0.6	0.7	3.3
25-Jul	0.4	0.6	1.5	0.8	1.3	0.8	1.2	2.2	1.8	1.9	2.4	2.2	2.4	1.6	1.5	2.1	2.0	2.1	2.1	1.4	0.7	0.6	0.5	0.6	2.4
26-Jul	0.6	0.5	0.6	0.4	0.4	0.3	0.6	0.7	1.4	1.7	2.4	2.9	2.5	2.0	2.5	3.1	2.4	2.2	2.0	1.8	1.7	0.9	1.0	1.8	3.1
27-Jul	1.9	1.7	2.4	1.9	1.5	2.6	2.3	2.3	2.5	2.5	2.1	2.5	2.5	2.1	2.5	2.1	2.3	0.9	1.2	1.3	0.8	0.5	0.5	0.4	2.6
28-Jul	0.5	0.3	0.3	0.2	0.2	0.2	0.8	1.3	2.1	2.6	2.5	3.2	2.8	3.2	3.0	2.9	2.9	2.4	1.7	1.4	0.8	1.1	0.3	0.4	3.2
29-Jul	0.6	0.9	0.5	0.4	0.3	0.7	0.9	1.3	2.0	1.9	2.2	3.0	2.9	2.5	3.0	2.9	2.5	1.8	0.9	0.5	0.3	0.4	0.9	1.1	3.0
30-Jul	1.0	1.1	0.7	0.8	0.6	0.3	0.6	1.0	1.8	1.4	1.4	2.1	2.9	3.1	3.0	3.0	2.5	2.2	1.5	0.5	0.3	0.4	0.5	0.9	3.1
31-Jul	0.4	0.8	0.6	0.3	0.5	0.5	0.7	0.9	1.1	1.6	1.9	1.9	3.1	2.9	3.0	2.5	1.9	1.9	1.2	0.3	0.1	0.4	0.8	0.5	3.1
Diurnal Maximum																									
UO - Unstable Operation																									



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS06
PATRICIA MCINNES
JULY 2025

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

August 29, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - PATRICIA McINNES (AMS06)
JULY 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	702	41	42	99.87	-	-	10.9	0	2.1	0
TRS (ppb) Average	706	37	38	99.87	1	0	0.8	0	0.4	0
THC (ppm) Average	685	37	59	97.04	-	-	3.1	-	2.3	-
NMHC(ppm) Average	685	37	59	97.04	-	-	0.088	-	0.004	-
CH4(ppm) Average	685	37	59	97.04	-	-	3.1	-	2.3	-
O3 (ppb) Average	709	35	35	100	-	-	67.7	0	37.5	-
NO2 (ppb) Average	707	36	37	99.87	-	-	15.1	0	4.2	-
NO (ppb) Average	707	36	37	99.87	-	-	12.8	-	1.8	-
NOX (ppb) Average	707	36	37	99.87	-	-	25.2	-	6	-
NH3 (ppb) Average	649	42	95	92.88	-	-	15.2	0	2.9	-
PM2.5 (ug/m3) Average	742	2	2	100	-	-	264.4	0	143.9	4
Temperature 2 m (C) Average	744	0	0	100	-	-	33.3	-	24.7	-
Relative Humidity (%) Average	744	0	0	100	-	-	99.4	-	85.4	-
Wind Speed 10 m (km/h) Average	744	0	0	100	-	-	36	-	22	-
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)
JULY 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	702	0.43	1.1	-	0	0	0	0.1	0.3	0.9	10.9
TRS (ppb) Average	706	0.18	0.1	-	0	0.1	0.1	0.1	0.2	0.3	0.8
THC (ppm) Average	685	2.05	0.2	-	1.9	1.9	2	2	2	2.2	3.1
NMHC(ppm) Average	685	0	0.004	-	0	0	0	0	0	0	0.088
CH4(ppm) Average	685	2.05	0.2	-	1.9	1.9	2	2	2	2.2	3.1
O3 (ppb) Average	709	26.13	11.2	-	1.6	12.5	17.5	25.7	32.6	41.8	67.7
NO2 (ppb) Average	707	1.75	2	-	0	0	0.1	1.3	2.6	4	15.1
NO (ppb) Average	707	0.61	1	-	0	0.1	0.1	0.3	0.6	1.4	12.8
NOX (ppb) Average	707	2.35	2.7	-	0	0.1	0.3	1.7	3.3	5.1	25.2
NH3 (ppb) Average	649	0.13	1.3	-	0	0	0	0	0	0	15.2
PM2.5 (ug/m3) Average	742	19.07	31	-	1.4	3.2	5.3	9.8	21.4	33.3	264.4
Temperature 2 m (C) Average	744	17.49	5.9	-	2.7	10.2	13.1	17.1	21.4	26	33.3
Relative Humidity (%) Average	744	61.88	21.2	-	24.1	32.2	43.7	62	79.9	90.5	99.4
Wind Speed 10 m (km/h) Average	744	9.6	6	-	0	3	5	8	13	17	36
Wind Direction 10 m (deg) Average	744	-	-	-	-	-	-	-	-	-	-

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

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
ALL GASEOUS ANALYZERS (except O3)	09 Jul 2025 13:00	09 Jul 2025 13:00	1	Maintenance - sample manifold cleaned
THC/NMHC/CH4	04 Jul 2025 13:00	05 Jul 2025 09:00	21	Maintenance - replaced support gas cylinder
NH3	01 Jul 2025 07:00	31 Jul 2025 08:00	52	Stabilization after daily QA check



Wood Buffalo Environmental Association

Summary of Hour Averages

Sulphur Dioxide (SO₂) - ppb

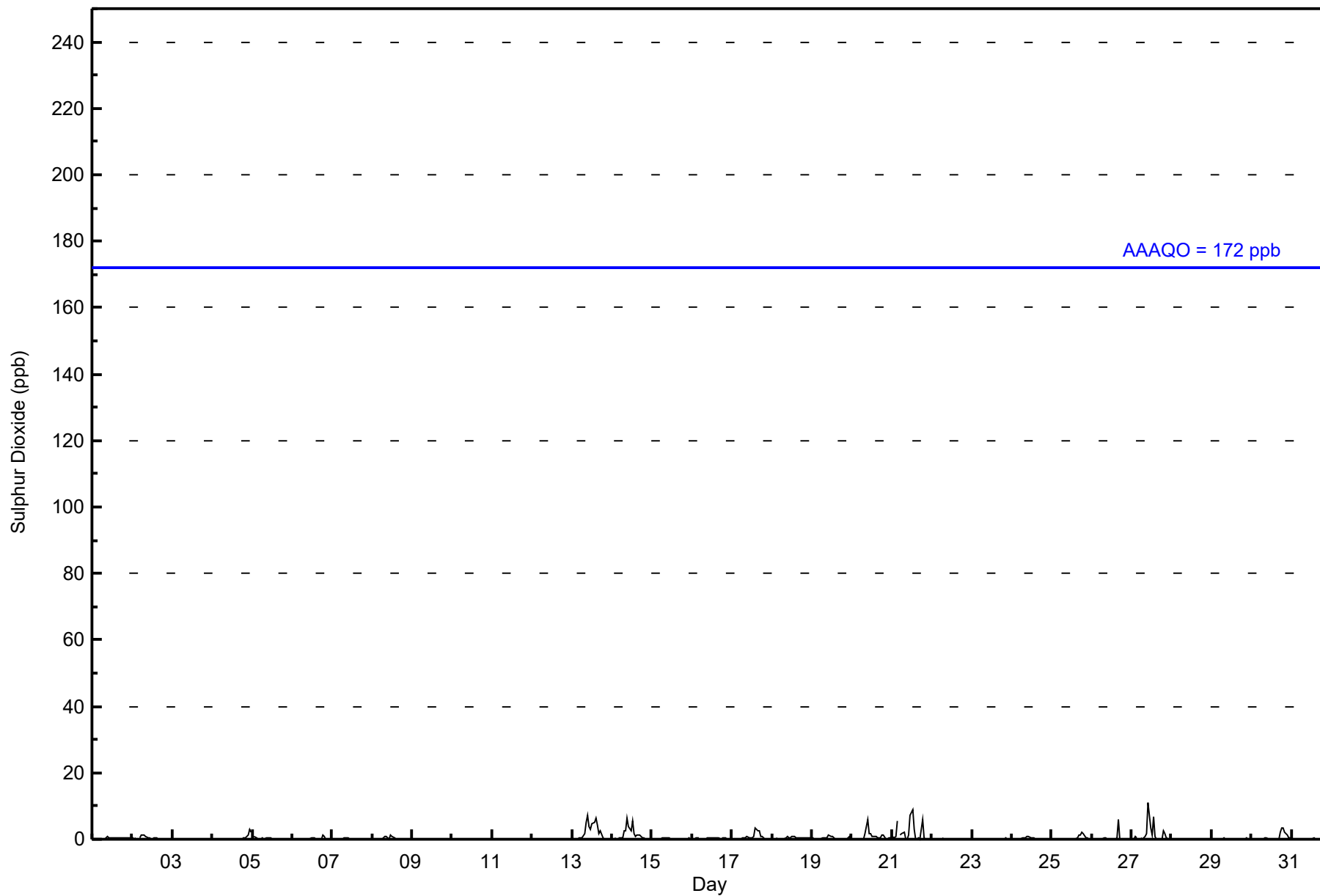
Patricia McInnes - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 10.9 ppb on Jul 27 11:00 Maximum Daily Average: 2.1 ppb on Jul 13																			Hours in Service: 744 Hours of Data: 702 Hours of Missing Data: 42 Hours of Calibration: 41 Percent Operational Time: 99.9							
Minimum Value: 0.0 ppb on Jul 2 22:00 Maximum Diurnal Average: 1.0 ppb at hour 10 Monthly Average: 0.43 ppb																			Minimum Daily Average: 0.0 ppb on Jul 9 Minimum Diurnal Average: 0.1 ppb at hour 2 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.3 P ₉₀ = 0.9 P ₉₉ = 6.1							
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-Jul	0.1	0.0	Z	0.1	0.2	0.1	0.1	0.2	0.4	0.7	0.5	0.4	0.3	0.4	0.4	0.4	0.5	0.6	0.5	0.4	0.3	0.2	0.2	0.2	0.3	0.7
2-Jul	0.2	0.2	0.2	Z	0.6	1.1	1.4	1.1	0.7	0.4	0.3	0.2	0.2	0.4	0.3	0.2	0.2	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.3	1.4
3-Jul	0.0	0.0	0.0	0.0	Z	0.0	0.0	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	0.0	0.0	0.0	0.2
4-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.1	C	C	C	C	C	C	C	C	C	C	0.2	0.2	0.6	1.2	3.0	2.3	--	3.0
5-Jul	Z	0.7	0.5	0.2	0.0	0.1	0.2	0.2	0.2	0.4	0.4	0.5	0.2	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.2	0.7
6-Jul	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.5	0.2	0.3	0.1	0.0	0.0	0.0	1.4	0.7	0.1	0.1	0.1	0.0	0.2	1.4
7-Jul	0.0	0.2	Z	0.1	0.0	0.1	0.1	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.3
8-Jul	0.1	0.0	0.1	Z	0.1	0.1	0.2	0.8	0.7	0.4	0.2	1.3	0.9	0.3	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.2	1.3
9-Jul	0.0	0.0	0.0	0.0	Z	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	0.0
10-Jul	0.1	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.2
11-Jul	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.2
12-Jul	0.2	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	0.2	0.0	0.1	0.1	0.1	0.1	0.2
13-Jul	0.0	0.2	Z	0.2	0.5	0.5	0.2	1.7	5.2	7.4	3.9	3.0	4.5	5.3	6.5	4.3	1.5	2.3	0.2	0.1	0.1	0.1	0.1	0.1	2.1	7.4
14-Jul	0.1	0.1	0.3	Z	0.3	0.3	0.3	2.4	2.6	6.4	3.9	2.4	5.4	1.7	0.9	1.3	1.3	1.0	0.4	0.2	0.2	0.2	0.1	0.0	1.4	6.4
15-Jul	0.0	0.0	0.0	0.1	Z	0.2	0.2	0.2	0.4	0.5	0.3	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.2	0.3	0.1	0.1	0.5
16-Jul	0.1	0.2	0.3	0.4	0.3	Z	0.2	0.1	0.2	0.2	0.4	0.4	0.5	0.5	0.4	0.3	0.3	0.2	0.2	0.3	0.3	0.1	0.0	0.0	0.2	0.5
17-Jul	Z	0.1	0.0	0.1	0.0	0.0	0.3	0.6	0.6	0.9	0.6	0.4	0.3	0.7	3.2	2.5	2.6	1.0	0.7	0.2	0.2	0.1	0.2	0.2	0.7	3.2
18-Jul	0.2	Z	0.2	0.1	0.1	0.1	0.1	0.2	0.5	1.0	0.5	0.5	0.7	0.7	0.4	0.5	0.5	0.4	0.4	0.3	0.3	0.4	0.4	0.4	0.4	1.0
19-Jul	0.3	0.1	Z	0.1	0.1	0.2	0.3	0.3	0.5	0.6	1.1	0.8	0.7	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.8	0.2	0.3	1.1
20-Jul	0.0	0.0	0.0	Z	0.0	0.1	0.0	0.0	1.7	5.9	1.9	1.7	0.8	0.8	0.7	0.4	0.4	0.3	1.4	1.1	0.1	0.1	0.2	0.4	0.8	5.9
21-Jul	0.7	0.4	0.7	5.3	Z	1.2	1.8	2.2	0.1	0.1	1.3	7.3	8.8	2.8	0.2	0.1	0.2	0.0	5.9	0.2	0.1	0.1	0.1	0.1	1.7	8.8
22-Jul	0.1	0.1	0.1	0.1	0.0	Z	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
23-Jul	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	0.1	0.3	0.2	0.1	0.1	0.1	0.0	0.3
24-Jul	0.0	Z	0.1	0.0	0.1	0.1	0.3	0.3	0.5	0.9	0.8	0.5	0.5	0.5	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.3	0.9
25-Jul	0.1	0.1	Z	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.6	1.1	1.2	2.1	1.7	0.4	0.3	0.1	0.0	0.4	2.1
26-Jul	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.3	6.1	0.2	0.1	0.2	0.1	0.0	0.0	0.0	0.3	6.1
27-Jul	0.1	0.0	0.9	0.3	Z	0.2	0.1	0.4	0.9	1.7	10.9	3.3	1.2	7.0	0.9	0.1	0.0	0.1	0.2	2.6	1.6	0.5	0.2	0.0	1.4	10.9
28-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.2
29-Jul	Z	0.0	0.0	0.0	0.1	0.1	0.1	0.4	0.1	0.2	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	0.2	0.1	0.4
30-Jul	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.4	0.3	0.2	0.1	0.1	0.1	0.1	0.0	0.1	2.0	3.5	3.4	2.3	1.4	0.5	0.2	0.7	3.5
31-Jul	0.2	0.2	Z	0.2	0.1	0.2	0.1	0.1	0.2	0.1	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.2
0.1 0.1 0.1 0.3 0.1 0.2 0.2 0.4 0.6 1.0 0.9 0.8 0.9 0.7 0.5 0.4 0.5 0.3 0.6 0.4 0.3 0.2 0.2 0.2 0.2																										Diurnal Average
0.7 0.7 0.9 5.3 0.6 1.2 1.8 2.4 5.2 7.4 10.9 7.3 8.8 7.0 6.5 4.3 6.1 2.3 5.9 3.4 2.3 1.4 3.0 2.3																										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
Patricia McInnes - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	701	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: 702

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Patricia McInnes - July 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	60	22	7	5	14	44	53	40	43	61	57	85	52	48	47	63	701
11 - 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	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	60	22	7	5	14	44	53	40	43	61	57	85	52	48	47	64	702

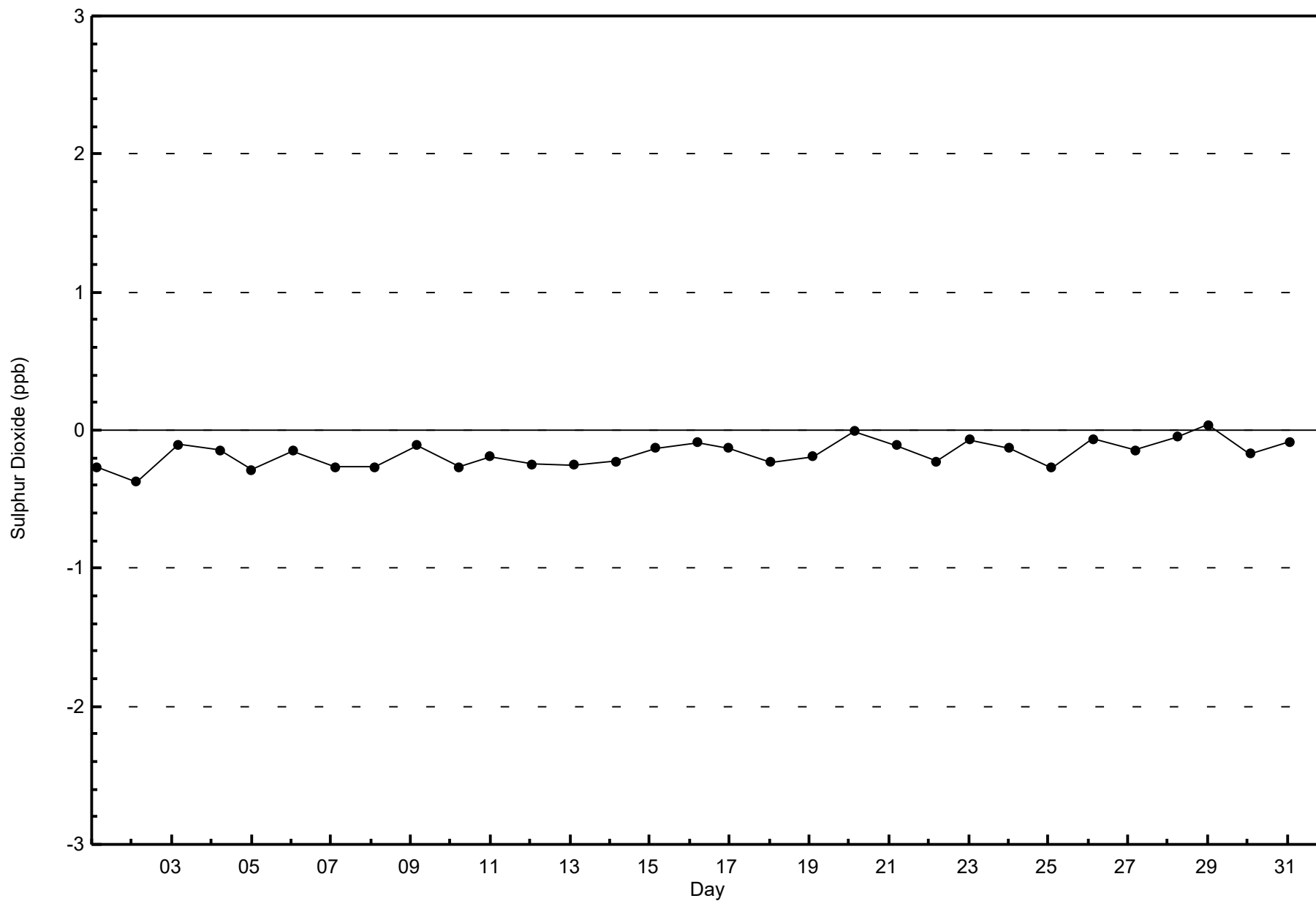
Total Number of Valid Hours: 702

Total Number of Hours: 744



Sulphur Dioxide (SO₂) - ppb
Patricia McInnes

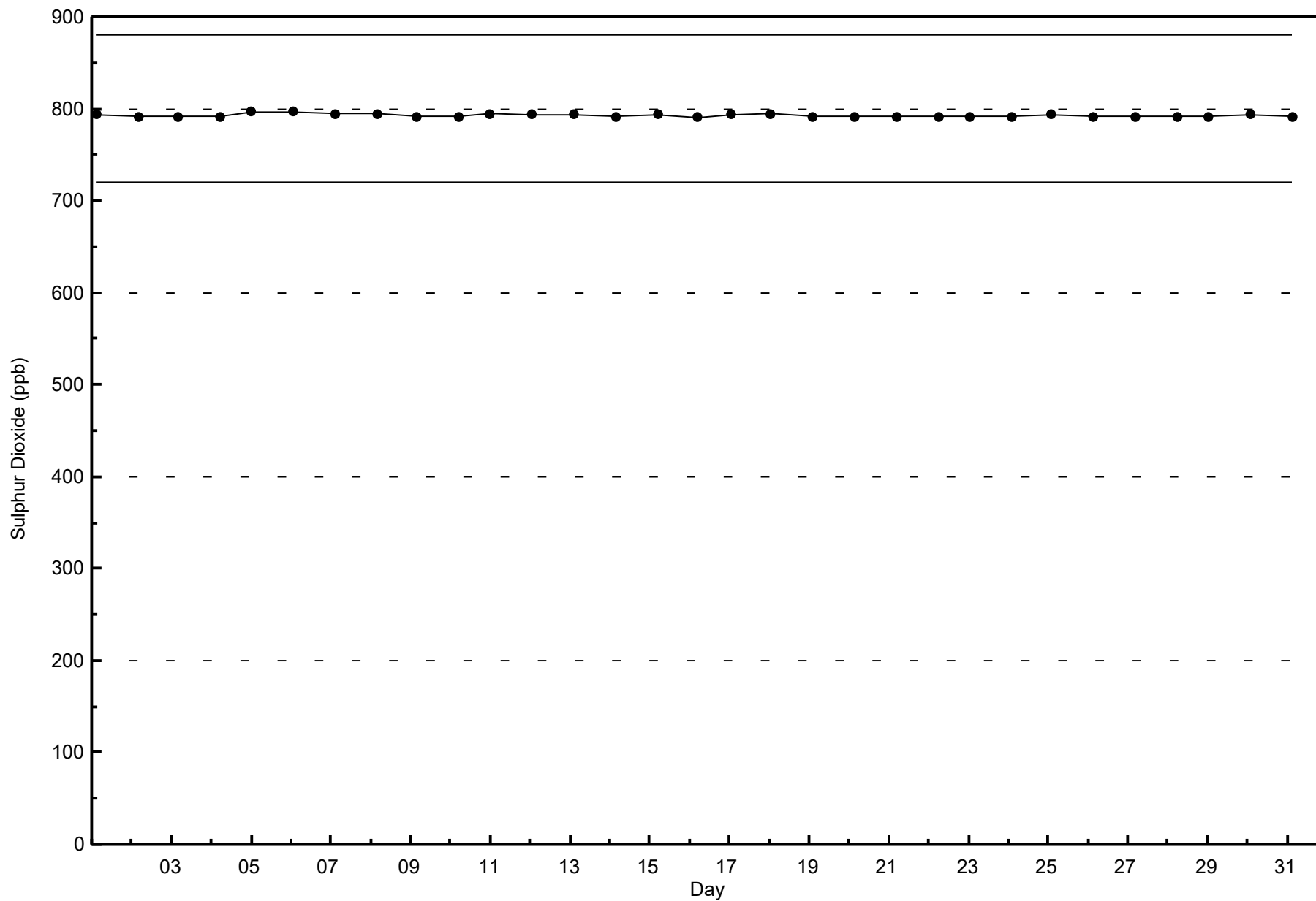






Wood Buffalo Environmental Association
Span Responses

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





Wood Buffalo Environmental Association

Summary of 30-Minute Averages

Total Reduced Sulphur (TRS) - ppb

Patricia McInnes - July 2025

Number of Exceedences (AAAQG): 30-Min: 0																		Periods in Service: 1488																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
Maximum Value: 1.0 ppb on Jul 6 07:00 Maximum Daily Average: 0.4 ppb on Jul 20																		Periods of Valid Data: 1411																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
Minimum Value: 0.0 ppb on Jul 22 12:30 Minimum Daily Average: 0.1 ppb on Jul 12																		Periods of Invalid Data: 77																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
Maximum Diurnal Average: 0.3 ppb at hour 3 Minimum Diurnal Average: 0.1 ppb at hour 15																		Periods of Calibration: 74																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
Monthly Average: 0.18 ppb Percentiles: P ₁ = 0.1 P ₁₀ = 0.1 Q ₁ = 0.1 Median = 0.1 Q ₃ = 0.2 P ₉₀ = 0.3 P ₉₉ = 0.7																		Percent Operational Time: 99.8																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
Day	Period Ending At (MST)																								Daily Average	Daily Maximum																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
	00:30 01:00	01:30 02:00	02:30 03:00	03:30 04:00	04:30 05:00	05:30 06:00	06:30 07:00	07:30 08:00	08:30 09:00	09:30 10:00	10:30 11:00	11:30 12:00	12:30 13:00	13:30 14:00	14:30 15:00	15:30 16:00	16:30 17:00	17:30 18:00	18:30 19:00	19:30 20:00	20:30 21:00	21:30 22:00	22:30 23:00	23:30 24:00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
1-Jul	0.4 0.7	0.7 0.6	0.7 0.6	Z SP	0.8 0.7	0.6 0.4	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	0.1 0.1	0.1 0.1	0.1 0.2	0.2 0.2	0.2 0.2	0.2 0.1	0.2 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	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2



Wood Buffalo Environmental Association

Summary of 30-Minute Averages

Total Reduced Sulphur (TRS) - ppb

Patricia McInnes - July 2025

Day	Period Ending At (MST)																								Daily Average	Daily Maximum
	00:30 01:00	01:30 02:00	02:30 03:00	03:30 04:00	04:30 05:00	05:30 06:00	06:30 07:00	07:30 08:00	08:30 09:00	09:30 10:00	10:30 11:00	11:30 12:00	12:30 13:00	13:30 14:00	14:30 15:00	15:30 16:00	16:30 17:00	17:30 18:00	18:30 19:00	19:30 20:00	20:30 21:00	21:30 22:00	22:30 23:00	23:30 24:00		
16-Jul	Z SP	0.2 0.3	0.3 0.4	0.3 0.1	0.3 0.4	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 0.1	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	0.2 0.2	0.2 0.2	0.3 0.2	0.2 0.2	
17-Jul	0.3 0.3	Z SP	0.4 0.3	0.5 0.5	0.4 0.4	0.3 0.2	0.2 0.3	0.3 0.3	0.3 0.3	C C	C C	C C	C C	C C	C C	0.2 0.2	0.2 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.2 0.2	0.2 0.3	0.3 0.4	0.4 0.4	-- --	0.5 0.5
18-Jul	0.4 0.4	0.6 0.6	Z SP	0.7 0.5	0.4 0.4	0.3 0.4	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 0.1	0.1 0.1	0.1 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	
19-Jul	0.2 0.3	0.3 0.3	0.4 0.5	Z SP	0.5 0.5	0.5 0.4	0.4 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	0.1 0.1	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	0.2 0.2	0.3 0.5	0.4 0.4	0.2 0.2	0.5 0.4
20-Jul	0.4 0.4	0.6 0.6	0.6 0.6	0.5 0.5	Z SP	0.5 0.6	0.6 0.5	0.4 0.4	0.3 0.4	0.5 0.4	0.4 0.4	0.4 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	0.1 0.2	0.2 0.2	0.1 0.5	0.3 0.1	0.7 0.1	0.3 0.1	0.4 0.2
21-Jul	0.3 0.4	0.3 0.2	0.2 0.3	0.3 0.4	0.5 0.5	Z SP	0.3 0.4	0.4 0.3	0.3 0.2	0.2 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	0.4 0.5	0.2 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.2 0.3	0.2 0.1	0.5 0.3
22-Jul	Z SP	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 0.1	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 0.1	0.1 0.2	0.1 0.2	0.1 0.2	0.2 0.2	0.1 0.2	0.3 0.2
23-Jul	0.2 0.3	Z SP	0.2 0.2	0.2 0.2	0.3 0.3	0.2 0.3	0.2 0.2	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.3 0.1
24-Jul	0.1 0.1	0.1 0.2	Z SP	0.2 0.3	0.3 0.3	0.3 0.2	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	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.3 0.1
25-Jul	0.1 0.2	0.1 0.1	0.1 0.1	Z SP	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	0.1 0.1	0.1 0.1	0.2 0.2	0.2 0.3	0.3 0.3	0.3 0.6	0.5 0.4	0.2 0.2	0.2 0.1	0.2 0.1	0.1 0.1	0.2 0.1	0.6 0.2
26-Jul	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	Z SP	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	0.0 0.1	0.1 0.1	0.2 0.2	0.2 0.2	0.3 0.2	0.2 0.2	0.2 0.1	0.2 0.2	0.1 0.2	0.4 0.6	0.1 0.1	0.6 0.6
27-Jul	0.5 0.2	0.3 0.2	0.2 0.3	0.2 0.2	0.2 0.2	Z SP	0.2 0.1	0.2 0.1	0.2 0.2	0.3 0.1	0.2 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	0.1 0.1	0.1 0.2	0.1 0.1	0.1 0.2	0.1 0.1	0.1 0.1	0.2 0.1	0.1 0.1	0.5 0.2
28-Jul	Z SP	0.2 0.2	0.2 0.4	0.2 0.2	0.2 0.2	0.2 0.3	0.3 0.2	0.2 0.2	0.2 0.2	0.1 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 0.1	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	0.4 0.2
29-Jul	0.2 0.3	Z SP	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 0.2	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	0.1 0.2	0.1 0.1	0.1 0.2	0.2 0.2	0.2 0.1	0.1 0.1	0.2 0.1	0.3 0.1
30-Jul	0.2 0.1	0.1 0.1	Z SP	0.2 0.1	0.2 0.2	0.2 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 0.1	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	0.3 0.3	0.3 0.3	0.2 0.2	0.3 0.3
31-Jul	0.3 0.3	0.3 0.4	0.4 0.5	Z SP	0.5 0.4	0.3 0.2	0.2 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	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.2 0.1	0.2 0.2	0.2 0.2	0.2 0.1	0.5 0.2
																								Diurnal Average		
																								Diurnal Maximum		
Z - zerospan C - Calibration M - Maintenance SP - Span																										
Alberta Ambient Air Quality Guideline (AAAQG): 30-Min: 5 ppb																										



Wood Buffalo Environmental Association

Summary of Hour Averages

Total Reduced Sulphur (TRS) - ppb

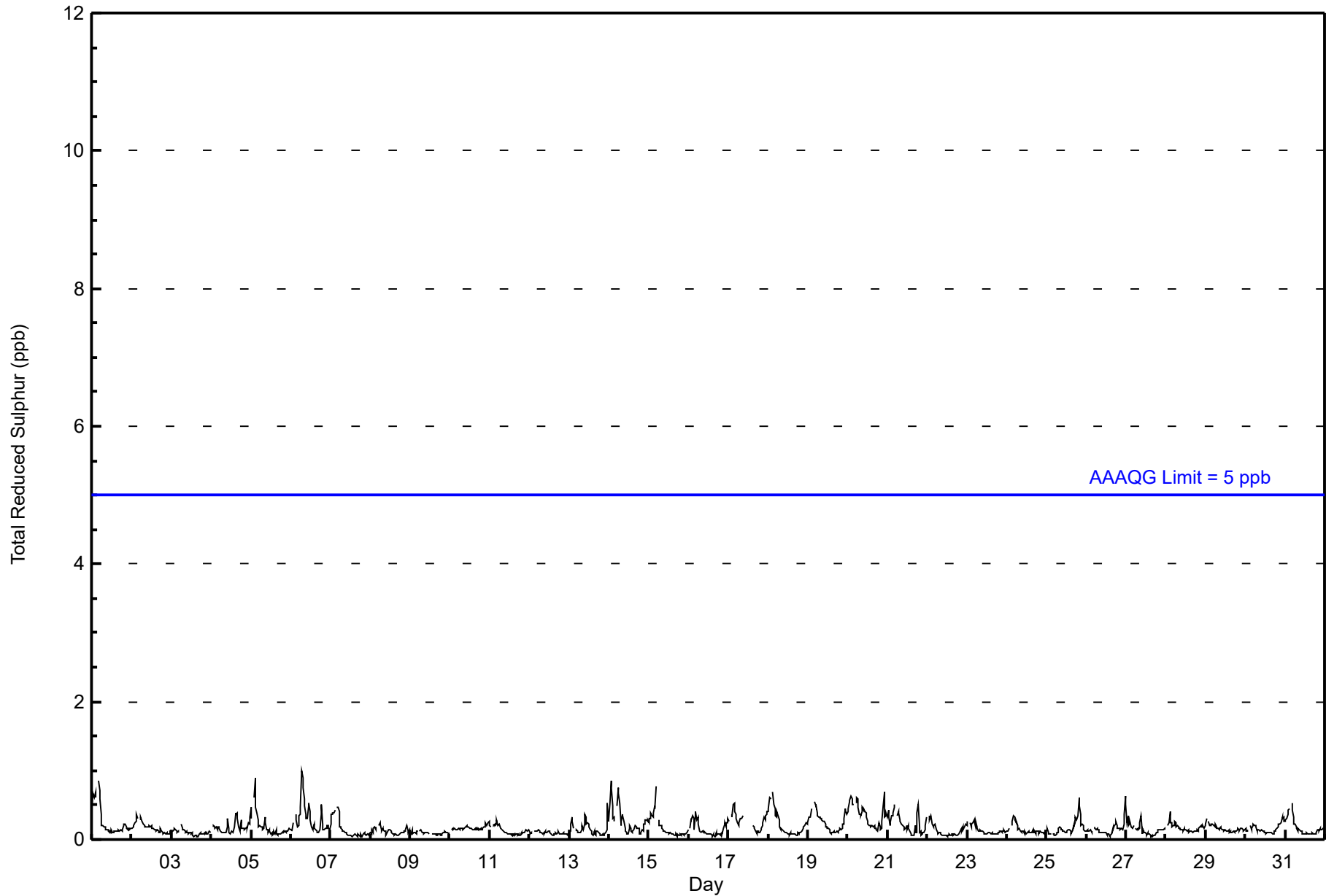
Patricia McInnes - July 2025

Maximum Value: 0.8 ppb on Jul 6 08:00																		Maximum Daily Average: 0.4 ppb on Jul 20										Hours in Service: 744	
Minimum Value: 0.0 ppb on Jul 22 13:00																		Minimum Daily Average: 0.1 ppb on Jul 9										Hours of Data: 706	
Maximum Diurnal Average: 0.3 ppb at hour 3																		Minimum Diurnal Average: 0.1 ppb at hour 15										Hours of Missing Data: 38	
Monthly Average: 0.18 ppb																		Percentiles: P ₁ = 0.1 P ₁₀ = 0.1 Q ₁ = 0.1 Median = 0.1 Q ₃ = 0.2 P ₉₀ = 0.3 P ₉₉ = 0.6										Hours of Calibration: 37	
																												Percent Operational Time: 99.9	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum			
1-Jul	0.5	0.6	0.7	Z	0.8	0.5	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	0.2	0.2	0.2	0.2	0.1	0.2	0.8			
2-Jul	0.2	0.2	0.3	0.3	Z	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3			
3-Jul	0.1	0.1	0.2	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	0.2			
4-Jul	Z	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.3	0.4	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.4			
5-Jul	0.4	Z	0.8	0.4	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	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.8			
6-Jul	0.1	0.2	Z	0.3	0.2	0.4	0.7	0.8	0.5	0.3	0.4	0.5	0.2	0.2	0.2	0.1	0.1	0.1	0.4	0.2	0.1	0.2	0.2	0.2	0.3	0.8			
7-Jul	0.3	0.4	0.4	Z	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	0.1	0.1	0.1	0.1	0.1	0.5			
8-Jul	0.1	0.1	0.2	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	0.2	0.1	0.1	0.2			
9-Jul	0.1	0.1	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	M	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1			
10-Jul	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	0.1	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2			
11-Jul	0.2	Z	0.2	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3			
12-Jul	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			
13-Jul	0.1	0.3	0.2	Z	0.1	0.1	0.1	0.1	0.2	0.3	0.3	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	0.2	0.4			
14-Jul	0.4	0.8	0.4	0.3	Z	0.6	0.6	0.2	0.4	0.2	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.3	0.3	0.3	0.8			
15-Jul	0.3	0.3	0.3	0.4	0.6	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	0.2	0.6			
16-Jul	Z	0.2	0.3	0.2	0.4	0.3	0.2	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	0.3	0.4			
17-Jul	0.3	Z	0.3	0.5	0.4	0.3	0.2	0.3	0.3	C	C	C	C	C	C	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.4	--	0.5		
18-Jul	0.4	0.6	Z	0.6	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	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.6			
19-Jul	0.3	0.3	0.4	Z	0.5	0.4	0.3	0.3	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	0.2	0.2	0.4	0.4	0.2	0.5		
20-Jul	0.4	0.6	0.6	0.5	Z	0.6	0.5	0.4	0.4	0.5	0.4	0.4	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.4	0.5	0.4	0.4	0.6			
21-Jul	0.4	0.3	0.3	0.4	0.5	Z	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.4	0.1	0.1	0.1	0.1	0.3	0.2	0.5			
22-Jul	Z	0.3	0.3	0.2	0.2	0.2	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	0.2	0.2	0.2	0.1	0.3			
23-Jul	0.2	Z	0.2	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3			
24-Jul	0.1	0.1	Z	0.2	0.3	0.3	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	0.3			
25-Jul	0.1	0.1	0.1	Z	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	0.2	0.3	0.3	0.5	0.4	0.2	0.2	0.1	0.2	0.5		
26-Jul	0.1	0.1	0.1	0.1	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	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.1	0.5			
27-Jul	0.4	0.3	0.3	0.2	0.2	Z	0.2	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	0.1	0.1	0.1	0.2	0.1	0.4			
28-Jul	Z	0.2	0.3	0.2	0.2	0.2	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	0.1	0.2	0.2	0.2	0.2	0.2	0.3		
29-Jul	0.3	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	0.2	0.1	0.2	0.1	0.1	0.2	0.3		
30-Jul	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	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.2	0.3		
31-Jul	0.3	0.3	0.4	Z	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	0.1	0.2	0.2	0.2	0.2	0.2	0.5		
0.2 0.3 0.3 0.3 0.3 0.3 0.2 0.2 0.2 0.2 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.2 0.2 0.2																								Diurnal Average					
0.5 0.8 0.8 0.6 0.8 0.6 0.7 0.8 0.5 0.5 0.4 0.5 0.2 0.2 0.3 0.4 0.2 0.3 0.4 0.5 0.4 0.4 0.5 0.5																								Diurnal Maximum					
Z - zerospan C - Calibration M - Maintenance																													
Alberta Ambient Air Quality Objective (AAAQO): 1-hour NA 24-hr NA																													



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Reduced Sulphur (TRS) - ppb
Patricia McInnes - July 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 - July 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	59	19	9	4	14	44	53	40	43	60	59	84	50	49	55	64	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	59	19	9	4	14	44	53	40	43	60	59	84	50	49	55	64	706

Total Number of Valid Hours: 706

Total Number of Hours: 744

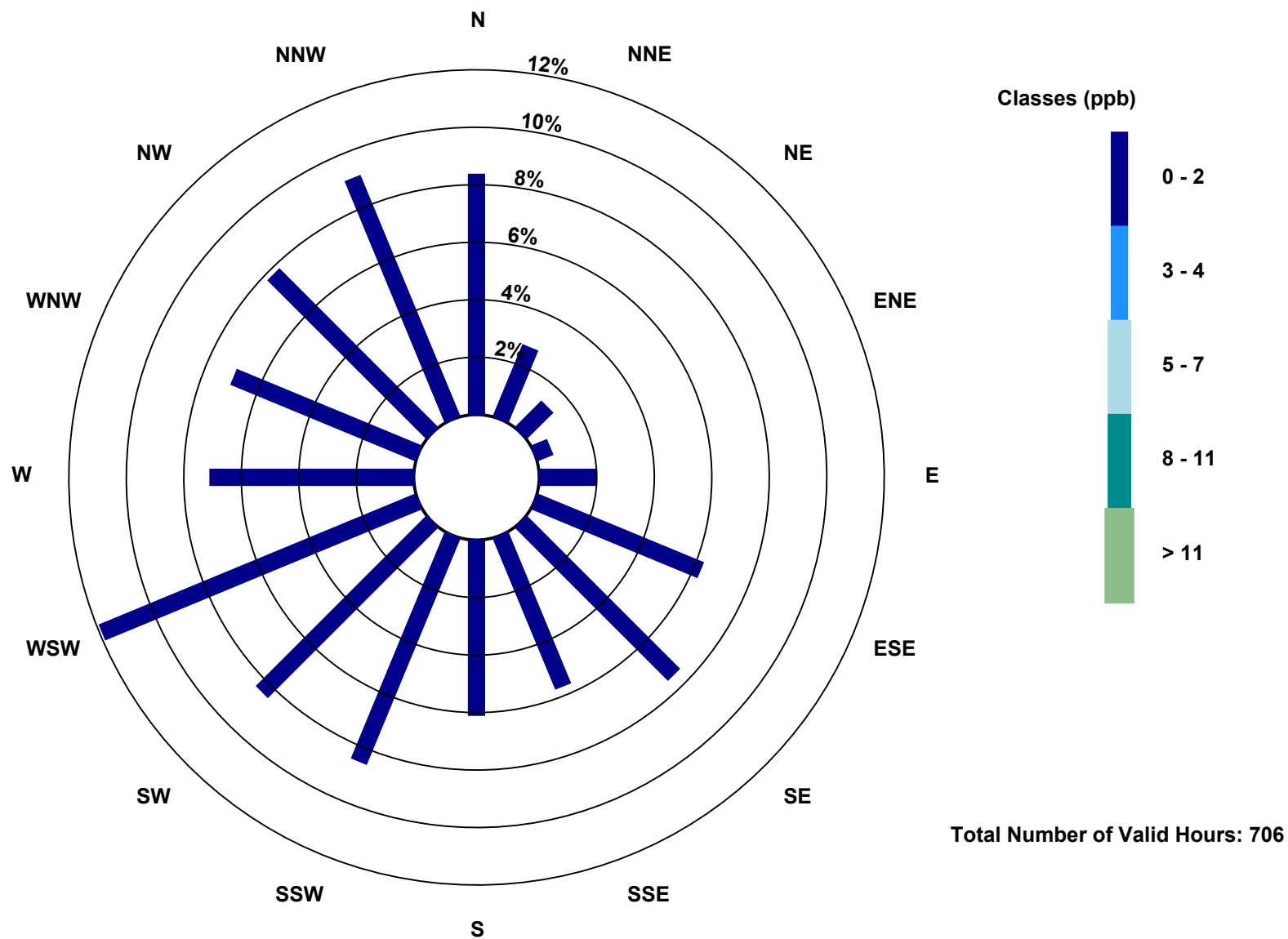


Wood Buffalo Environmental Association

Wind Rose Jul 2025

Total Reduced Sulphur (TRS) - ppb

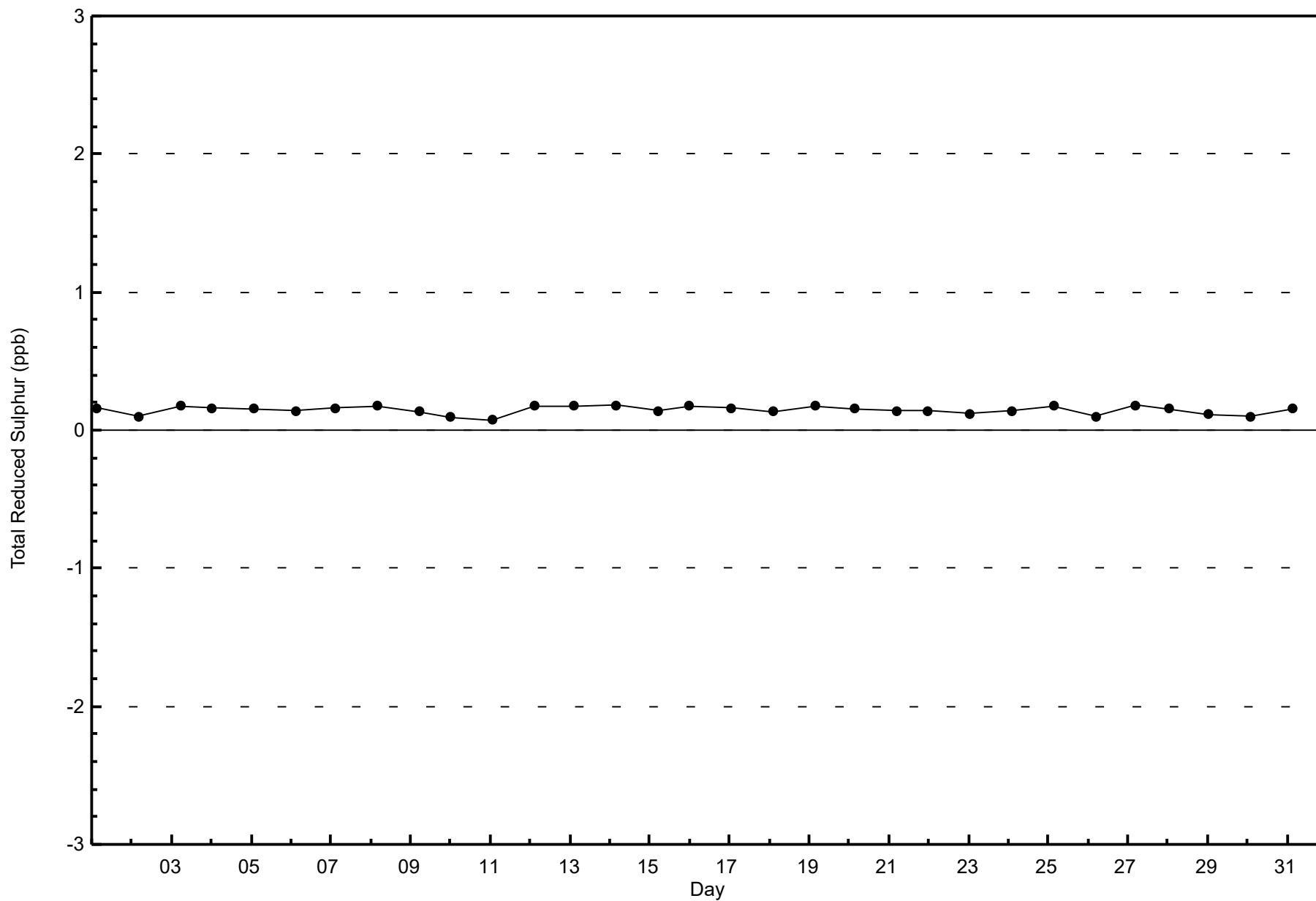
Patricia McInnes

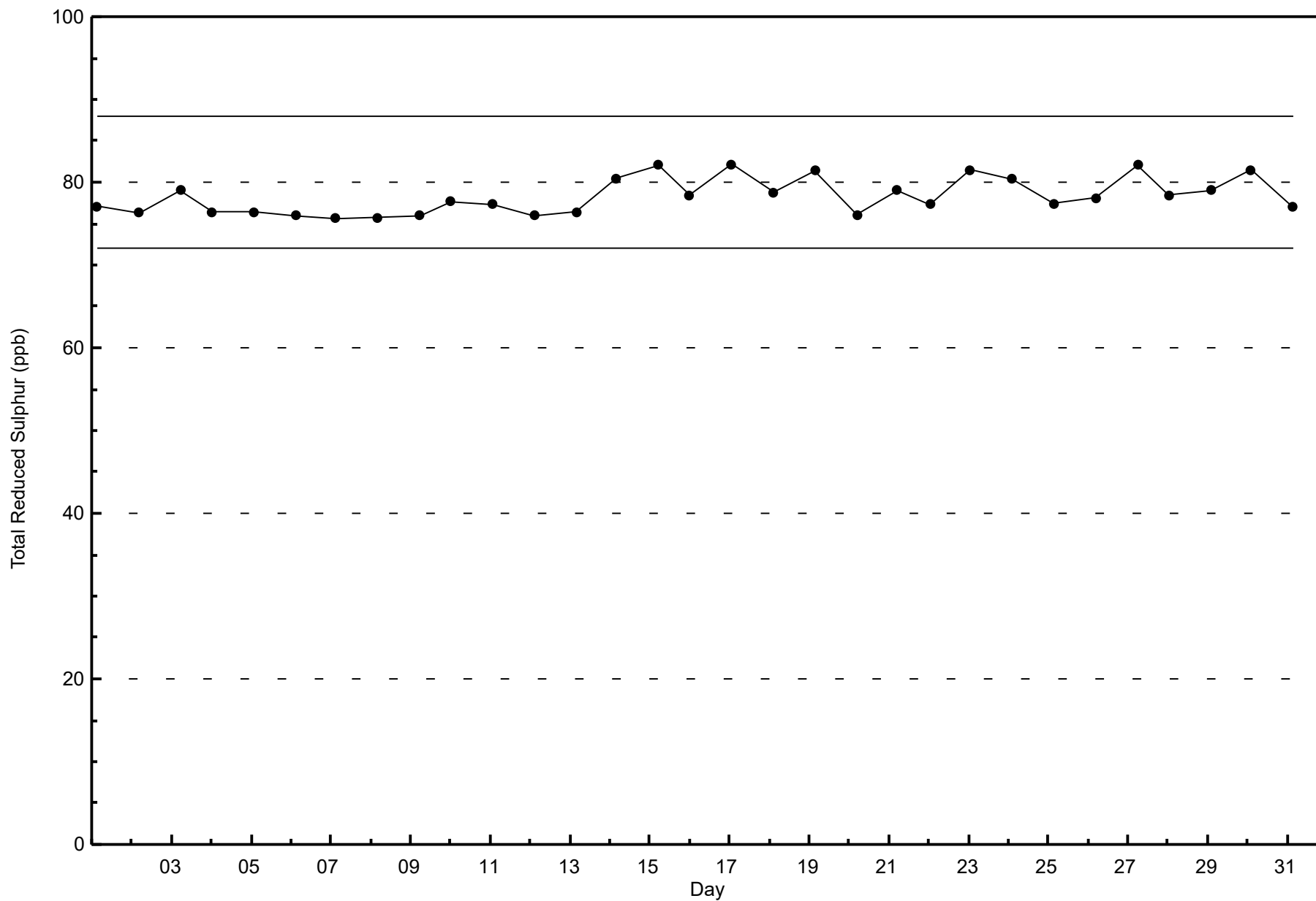




Wood Buffalo Environmental Association
Zero Responses

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







Wood Buffalo Environmental Association

Summary of Hour Averages

Total Hydrocarbons (THC) - ppm

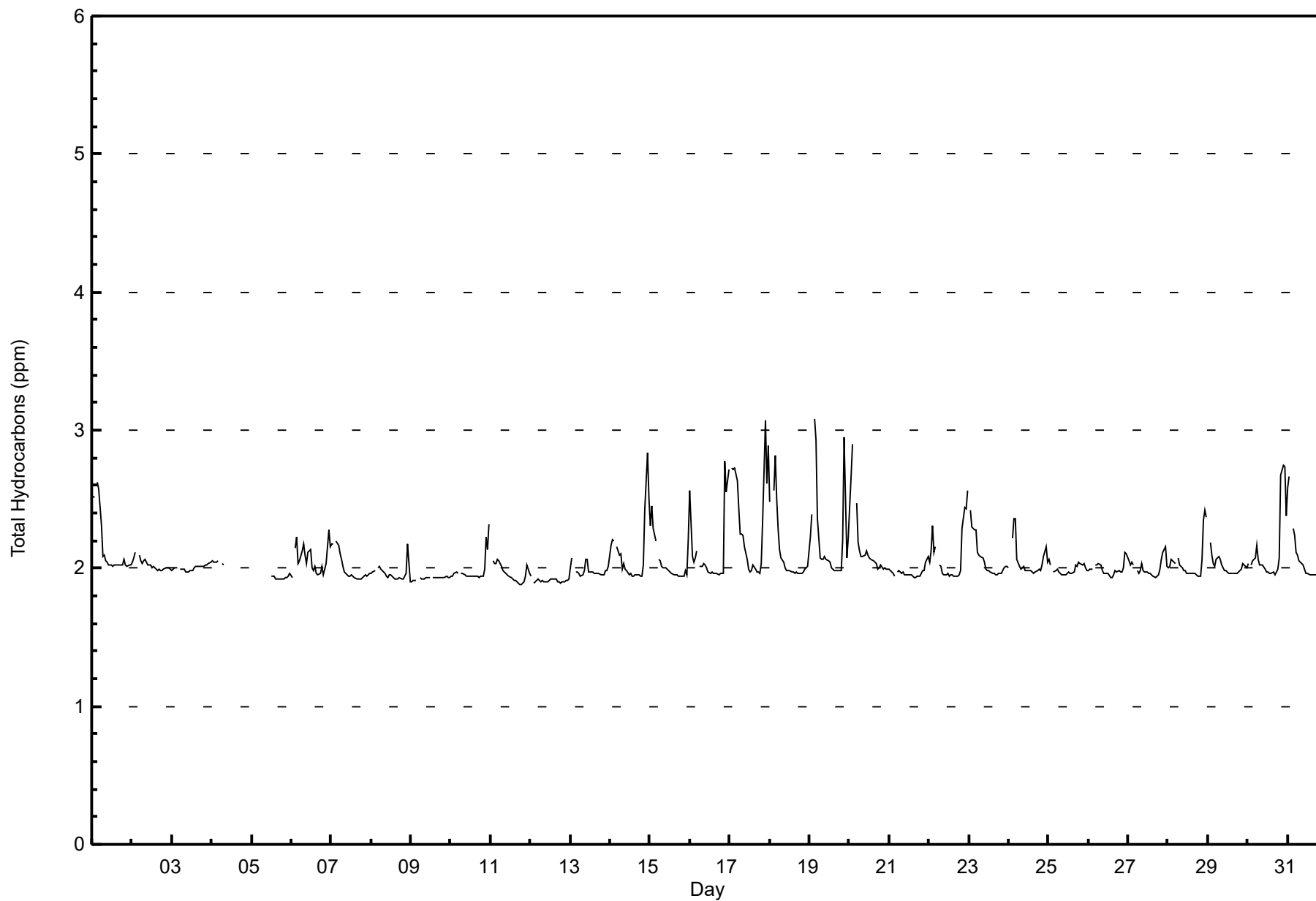
Patricia McInnes - July 2025

Maximum Value: 3.1 ppm on Jul 19 04:00																		Maximum Daily Average: 2.3 ppm on Jul 17										Hours in Service: 744	
Minimum Value: 1.9 ppm on Jul 11 19:00																		Minimum Daily Average: 1.9 ppm on Jul 12										Hours of Data: 685	
Maximum Diurnal Average: 2.2 ppm at hour 4																		Minimum Diurnal Average: 2.0 ppm at hour 18										Hours of Missing Data: 59	
Monthly Average: 2.05 ppm																		Percentiles: P ₁ = 1.9 P ₁₀ = 1.9 Q ₁ = 2.0 Median = 2.0 Q ₃ = 2.0 P ₉₀ = 2.2 P ₉₉ = 2.8										Hours of Calibration: 37	
																												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-Jul	2.5	2.5	Z	2.6	2.6	2.3	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	2.0	2.0	2.0	2.0	2.0	2.1	2.6		
2-Jul	2.0	2.1	2.1	Z	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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1		
3-Jul	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		
4-Jul	2.1	2.0	2.0	2.0	2.1	Z	2.0	2.0	C	C	C	C	M	M	M	M	M	M	M	M	M	M	M	M	M	--	2.1		
5-Jul	M	M	M	M	M	M	M	M	M	C	C	C	C	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	--	2.0			
6-Jul	1.9	Z	2.1	2.2	2.0	2.1	2.1	2.2	2.1	2.0	2.1	2.1	2.0	2.0	2.0	2.0	1.9	2.0	2.0	1.9	2.0	2.0	2.3	2.2	2.1	2.3			
7-Jul	2.2	2.2	Z	2.2	2.2	2.1	2.1	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	2.0	1.9	1.9	2.0	2.0	2.2			
8-Jul	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	1.9	1.9	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.2	1.9	2.0	2.2			
9-Jul	1.9	1.9	1.9	1.9	Z	1.9	1.9	1.9	1.9	1.9	1.9	1.9	M	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			
10-Jul	1.9	1.9	2.0	2.0	2.0	Z	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	2.0	2.2	2.1	2.3	2.0	2.3			
11-Jul	Z	2.0	2.0	2.0	2.1	2.1	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	2.0	2.0	2.0	2.1			
12-Jul	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	1.9	1.9	1.9	1.9			
13-Jul	2.0	2.1	Z	2.0	2.0	2.0	1.9	1.9	1.9	2.0	2.1	2.1	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	2.1			
14-Jul	2.2	2.2	2.2	Z	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	2.0	1.9	1.9	1.9	2.0	2.4	2.8	2.5	2.1	2.8			
15-Jul	2.3	2.5	2.3	2.2	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	1.9	1.9	2.0	1.9	2.2	2.0	2.5			
16-Jul	2.6	2.1	2.0	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	2.8	2.6	2.7	2.1	2.8			
17-Jul	Z	2.7	2.7	2.7	2.6	2.4	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	2.4	3.1	2.6	2.9	2.3	3.1			
18-Jul	2.5	Z	2.6	2.8	2.5	2.3	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	2.8			
19-Jul	2.2	2.4	Z	3.1	2.9	2.4	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	2.2	3.0	2.1	2.2	2.2	3.1			
20-Jul	2.4	2.7	2.9	Z	2.5	2.2	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	2.2	2.9			
21-Jul	2.0	2.0	2.0	1.9	Z	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.1	2.0	2.1			
22-Jul	2.0	2.1	2.3	2.1	2.2	Z	2.0	2.0	2.0	1.9	2.0	2.0	1.9	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.3	2.4	2.4	2.6	2.1	2.6			
23-Jul	Z	2.4	2.3	2.3	2.3	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	2.4			
24-Jul	2.0	Z	2.2	2.4	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	2.0	2.1	2.2	2.0	2.0	2.4			
25-Jul	2.1	2.0	Z	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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1			
26-Jul	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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.1			
27-Jul	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	1.9	1.9	1.9	1.9	2.0	2.1	2.1	2.2	2.0	2.0	2.2			
28-Jul	2.0	2.0	2.1	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	1.9	1.9	1.9	2.1	2.4	2.4	2.4	2.0	2.4			
29-Jul	Z	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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2			
30-Jul	2.0	Z	2.0	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	2.1	2.7	2.7	2.7	2.4	2.1	2.7			
31-Jul	2.6	2.7	Z	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	2.0	2.0	2.0	2.1	2.0	2.1	2.7			
Diurnal Average																													
Diurnal Maximum																													
Z - zerospan C - Calibration M - Maintenance																													



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	515	75.18	75.18
2.1 - 3.0	168	24.53	99.71
3.1 - 10.0	2	0.29	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 685

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Total Hydrocarbons (THC) - ppm
Patricia McInnes - July 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	20	7	2	12	32	39	24	26	38	50	69	39	35	27	54	515
2.1 - 3.0	18	1	0	2	2	10	11	13	17	22	7	12	12	13	18	10	168
3.1 - 10.0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	59	21	7	4	14	42	50	37	43	60	57	81	52	48	46	64	685

Total Number of Valid Hours: 685

Total Number of Hours: 744

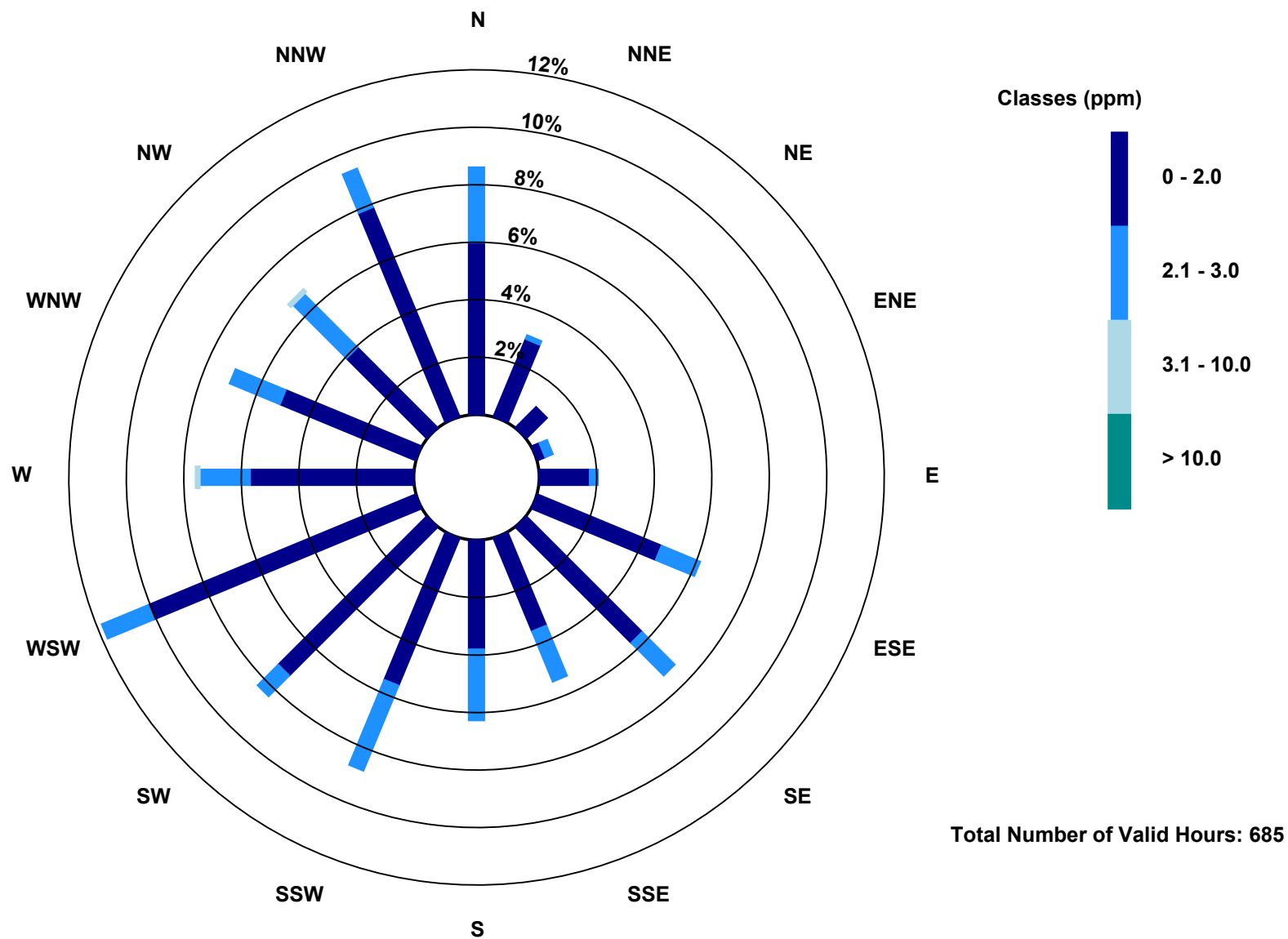


Wood Buffalo Environmental Association

Wind Rose Jul 2025

Total Hydrocarbons (THC) - ppm

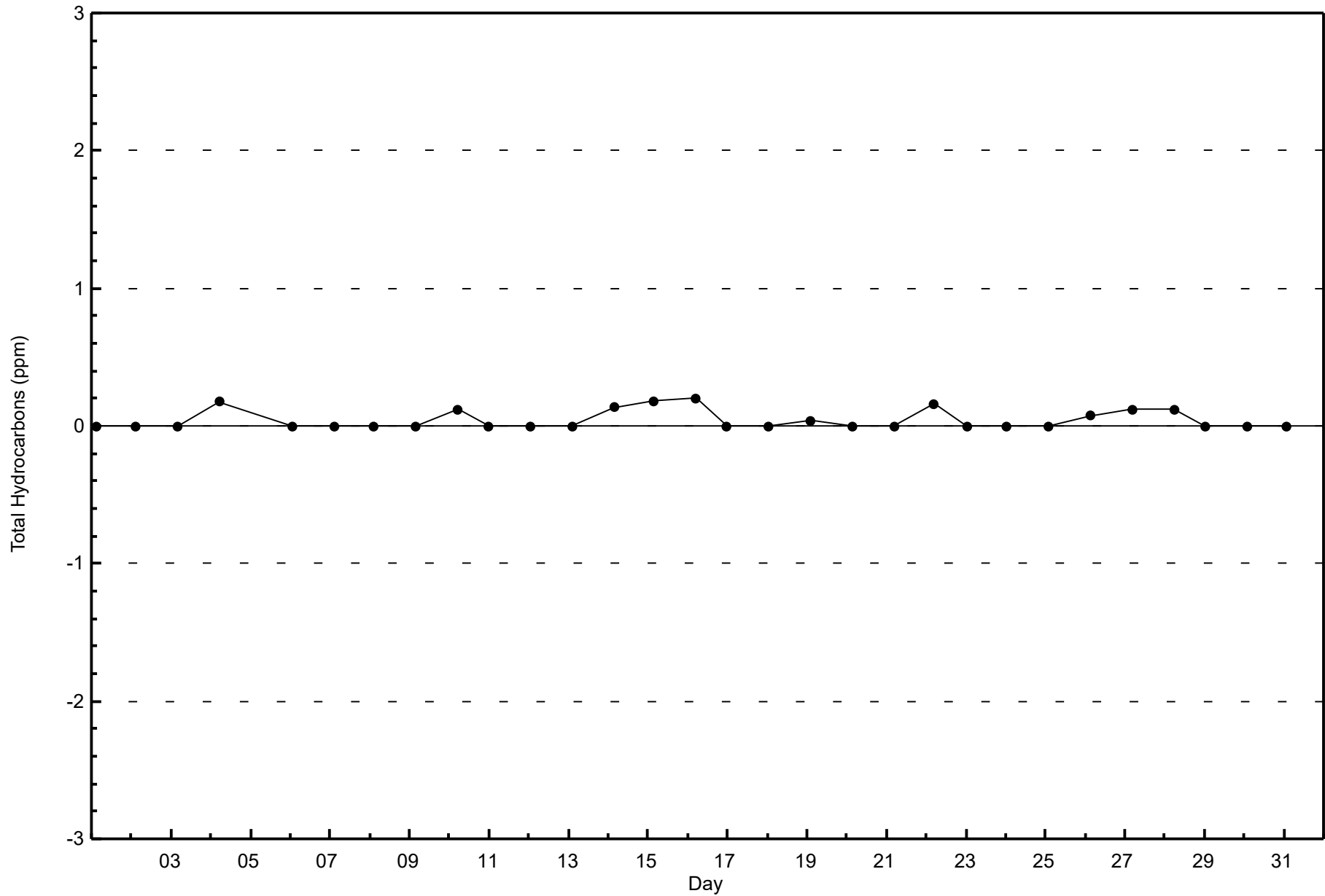
Patricia McInnes





Wood Buffalo Environmental Association
Zero Responses

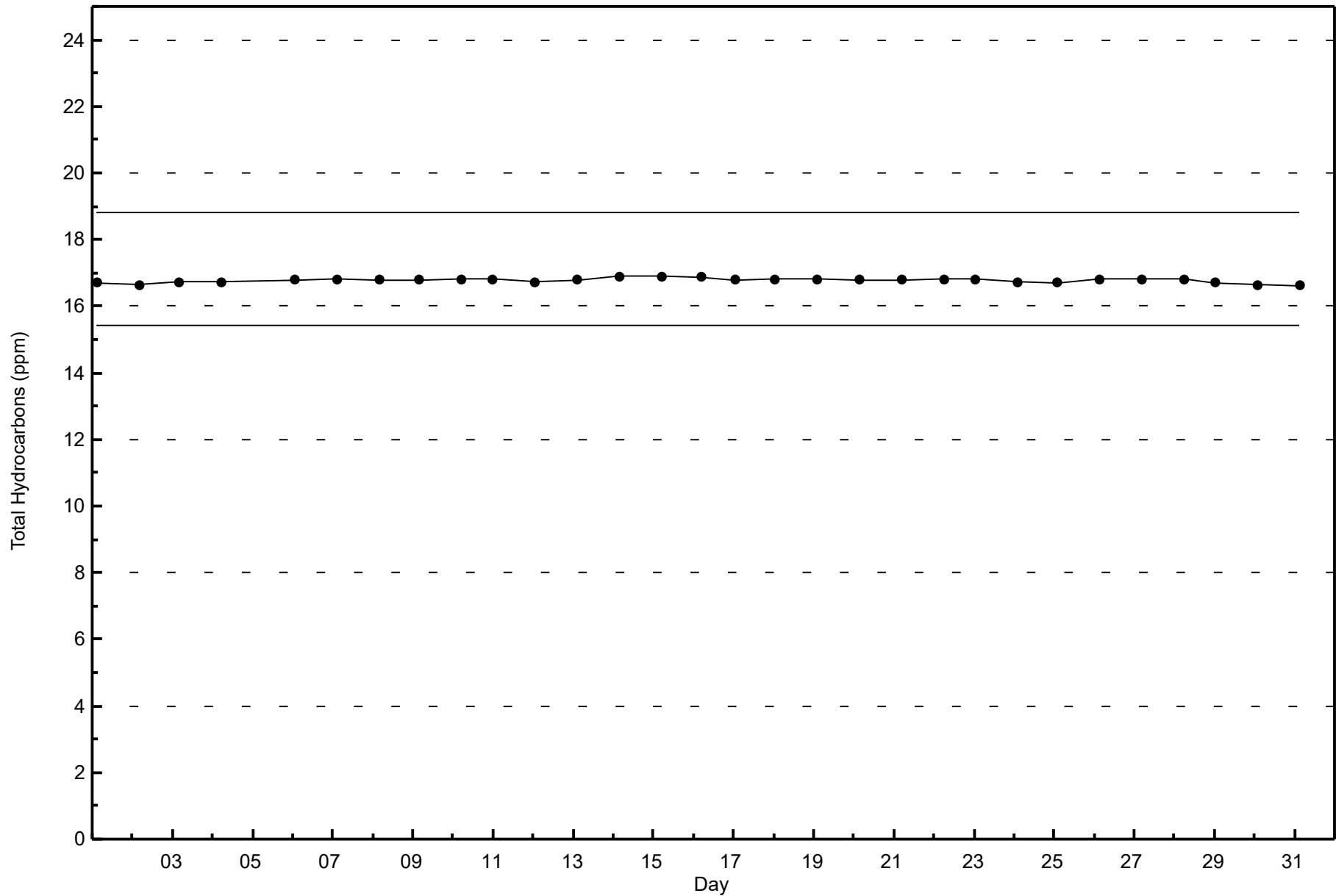
Total Hydrocarbons (THC) - ppm
Patricia McInnes - July 2025





Wood Buffalo Environmental Association
Span Responses

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Non Methane Hydrocarbons (NMHC) - ppm

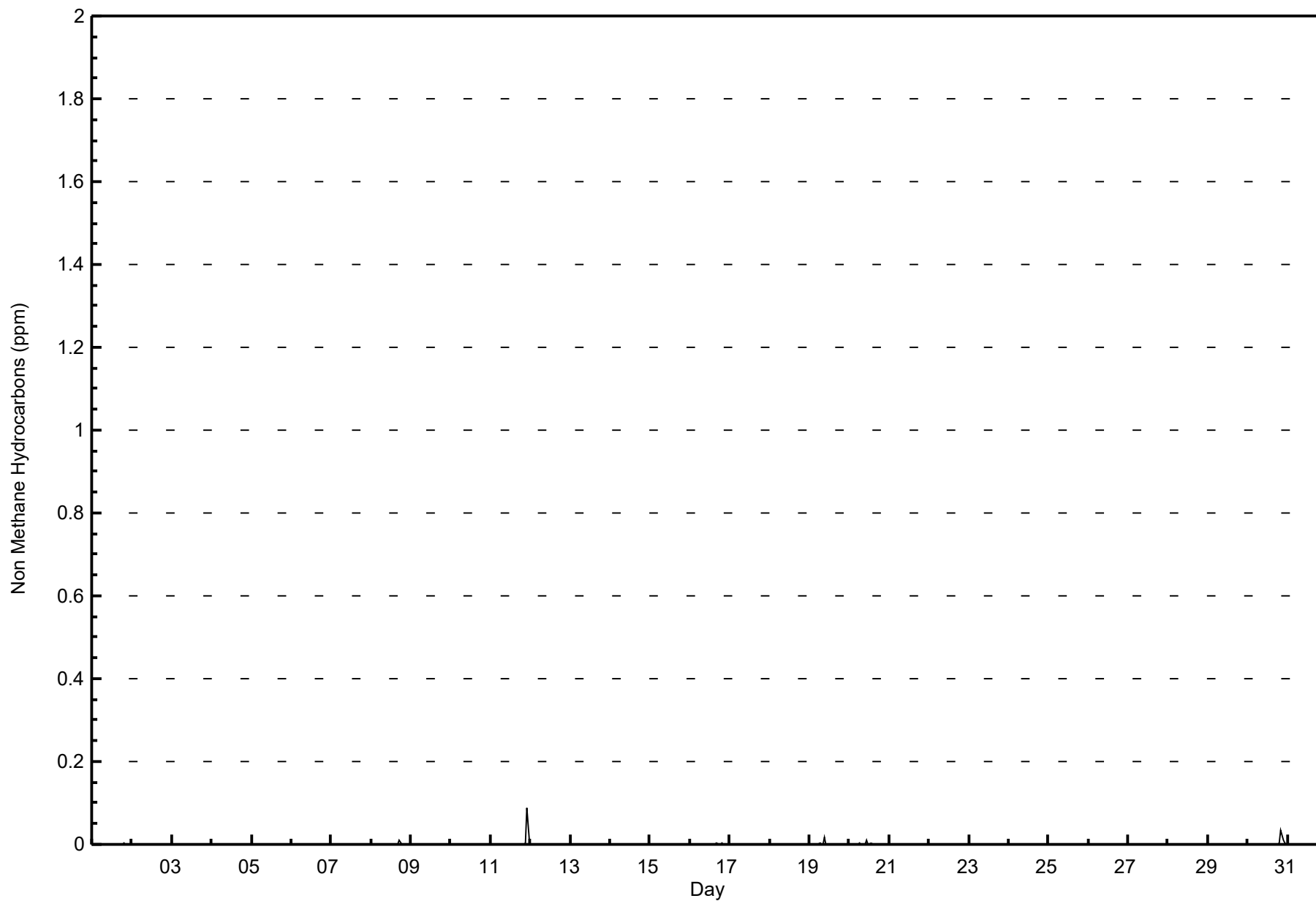
Patricia McInnes - July 2025

Maximum Value: 0.088 ppm on Jul 11 23:00																		Maximum Daily Average: 0.004 ppm on Jul 11										Hours in Service: 744	
Minimum Value: 0.000 ppm on Jul 1 01:00																		Minimum Daily Average: 0.000 ppm on Jul 2										Hours of Data: 685	
Maximum Diurnal Average: 0.003 ppm at hour 23																		Minimum Diurnal Average: 0.000 ppm at hour 1										Hours of Missing Data: 59	
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: 37	
																												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-Jul	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	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.002	
2-Jul	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	
3-Jul	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		
4-Jul	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	C	C	C	C	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	0.000	
5-Jul	M	M	M	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	0.000	0.000		
6-Jul	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		
7-Jul	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		
8-Jul	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	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010		
9-Jul	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	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		
10-Jul	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		
11-Jul	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	0.088	0.000	0.004	0.088		
12-Jul	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		
13-Jul	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		
14-Jul	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	0.000	0.001		
15-Jul	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		
16-Jul	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	0.002	0.000	0.000	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.003		
17-Jul	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		
18-Jul	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		
19-Jul	0.000	0.000	Z	0.000	0.000	0.000	0.002	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	0.001	0.000	0.000	0.001	0.016		
20-Jul	0.000	0.000	0.000	Z	0.000	0.000	0.002	0.000	0.000	0.000	0.010	0.001	0.000	0.004	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010		
21-Jul	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		
22-Jul	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		
23-Jul	Z	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	0.001		
24-Jul	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		
25-Jul	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-Jul	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		
27-Jul	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		
28-Jul	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		
29-Jul	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	0.001		
30-Jul	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	0.003	0.035	0.012	0.004	0.000	0.002	0.035		
31-Jul	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	0.000	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 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.001 0.001 0.003 0.000																								Diurnal Average					
0.000 0.001 0.000 0.000 0.000 0.000 0.002 0.000 0.000 0.000 0.016 0.010 0.001 0.000 0.004 0.000 0.001 0.002 0.010 0.000 0.003 0.035 0.012 0.088 0.000																								Diurnal Maximum					
Z - zerospan		C - Calibration				M - Maintenance																							



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 0.005	679	99.12	99.12
0.006 - 0.05	5	0.73	99.85
0.06 - 0.1	1	0.15	100.00
> 0.1	0	0.00	100.00

Total Number of Valid Hours: 685

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Non Methane Hydrocarbons (NMHC) - ppm
Patricia McInnes - July 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	58	21	7	4	14	40	50	37	42	60	57	80	52	48	45	64	679
0.006 - 0.05	1	0	0	0	0	2	0	0	0	0	0	1	0	0	1	0	5
0.06 - 0.1	0	0	0	0	0	0	0	0	1	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
Totals	59	21	7	4	14	42	50	37	43	60	57	81	52	48	46	64	685

Total Number of Valid Hours: 685

Total Number of Hours: 744

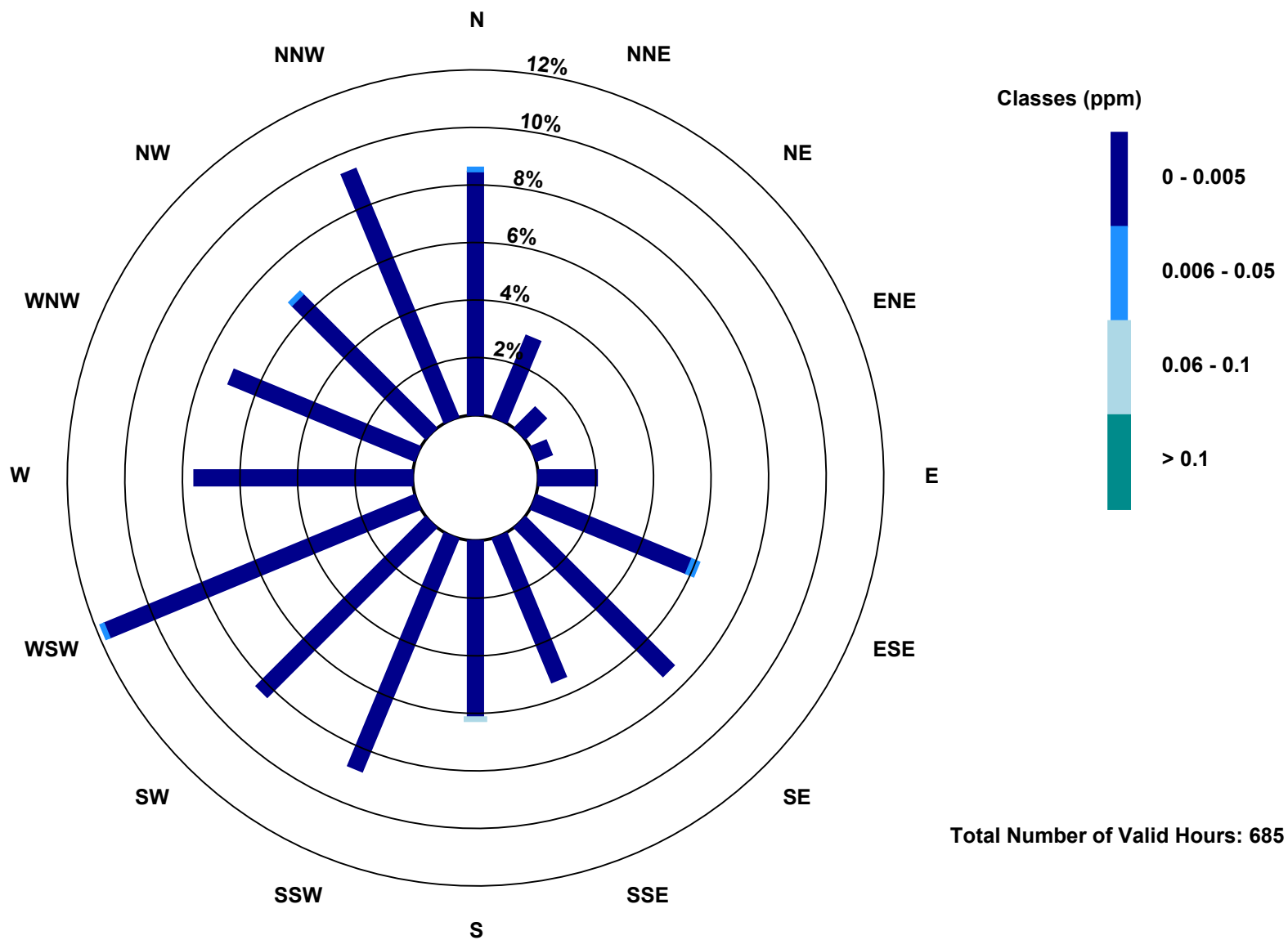


Wood Buffalo Environmental Association

Wind Rose Jul 2025

Non Methane Hydrocarbons (NMHC) - ppm

Patricia McInnes



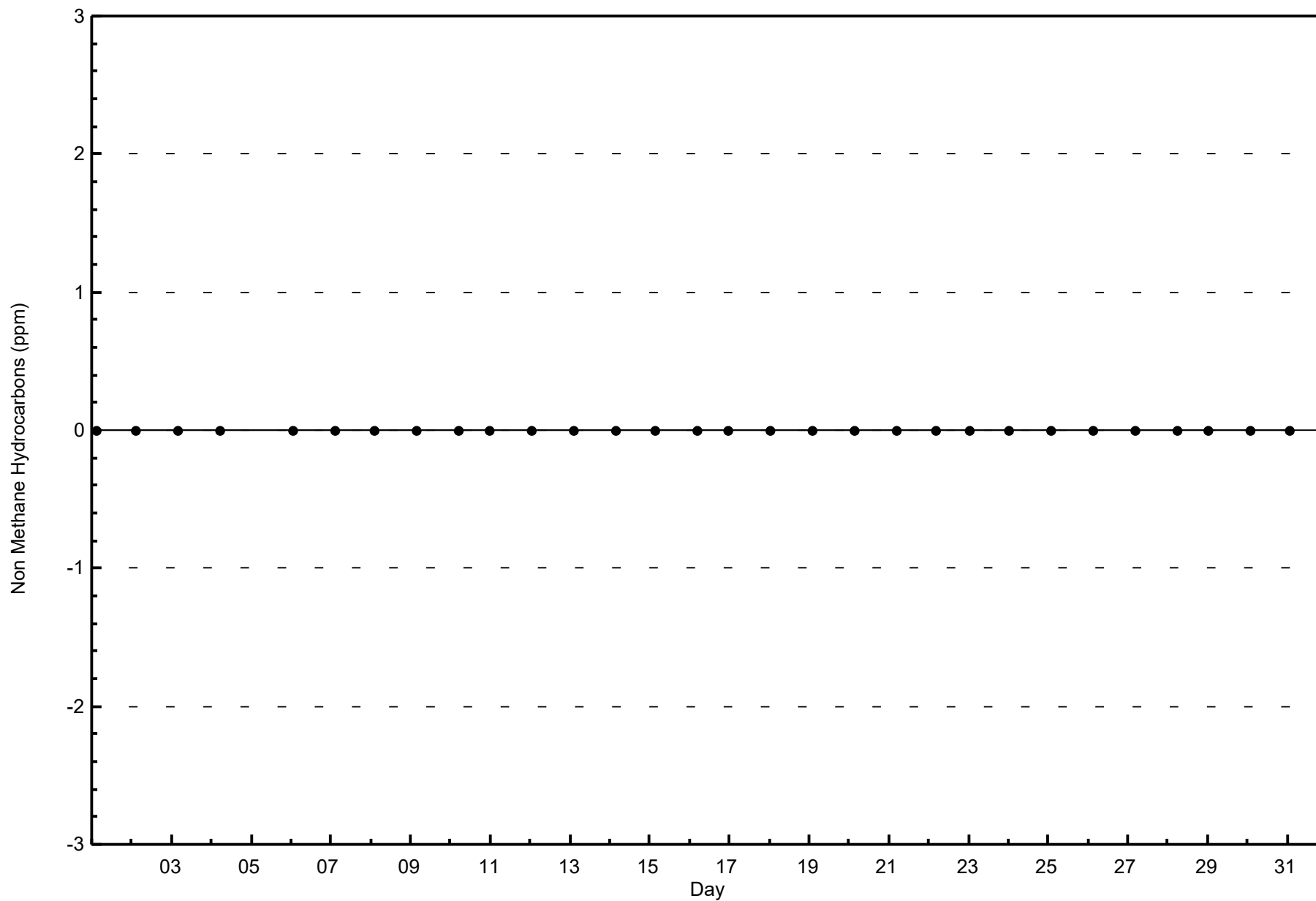


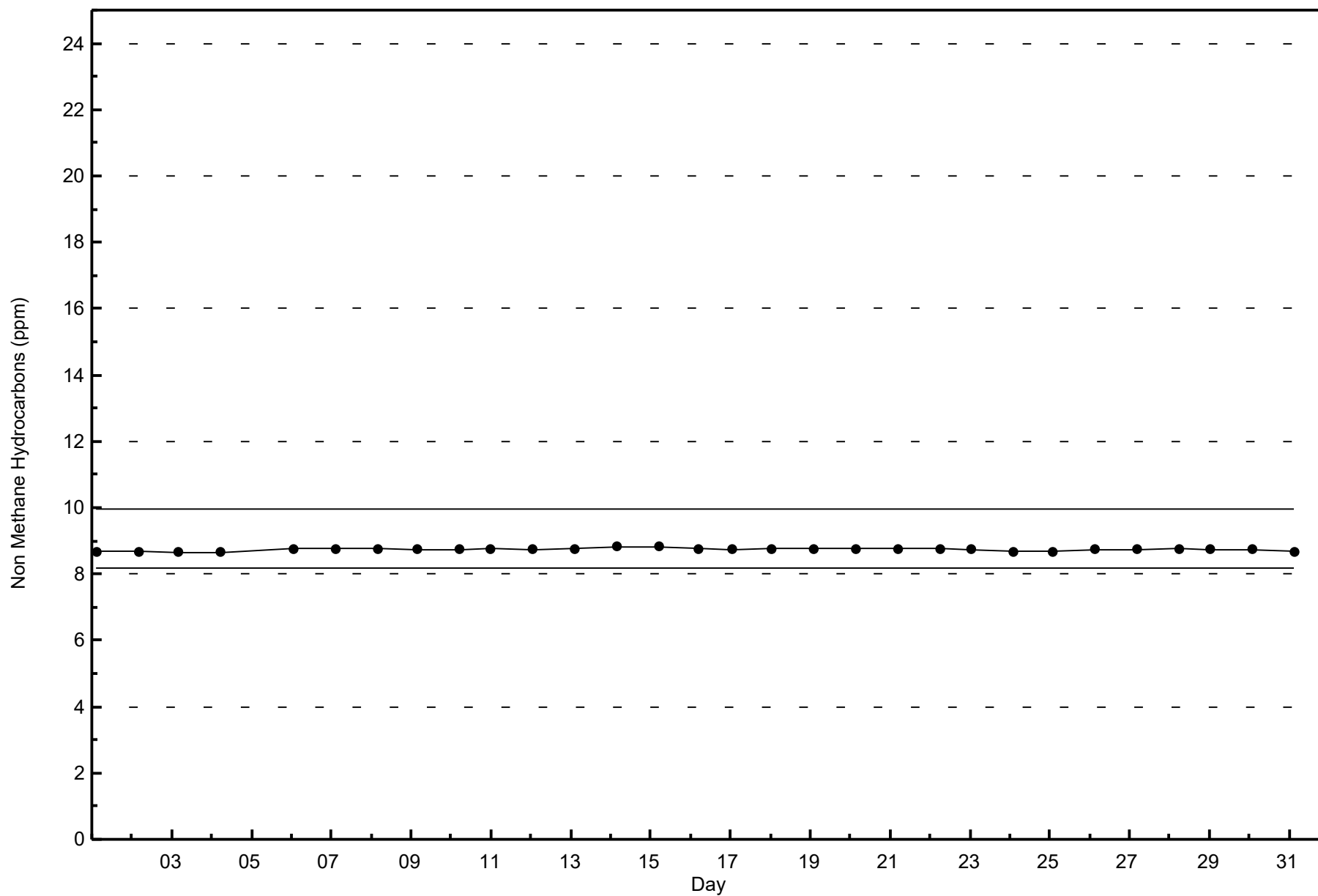
Wood Buffalo Environmental Association

Zero Responses

Non Methane Hydrocarbons (NMHC) - ppm

Patricia McInnes - July 2025







Wood Buffalo Environmental Association

Summary of Hour Averages

Methane (CH₄) - ppm

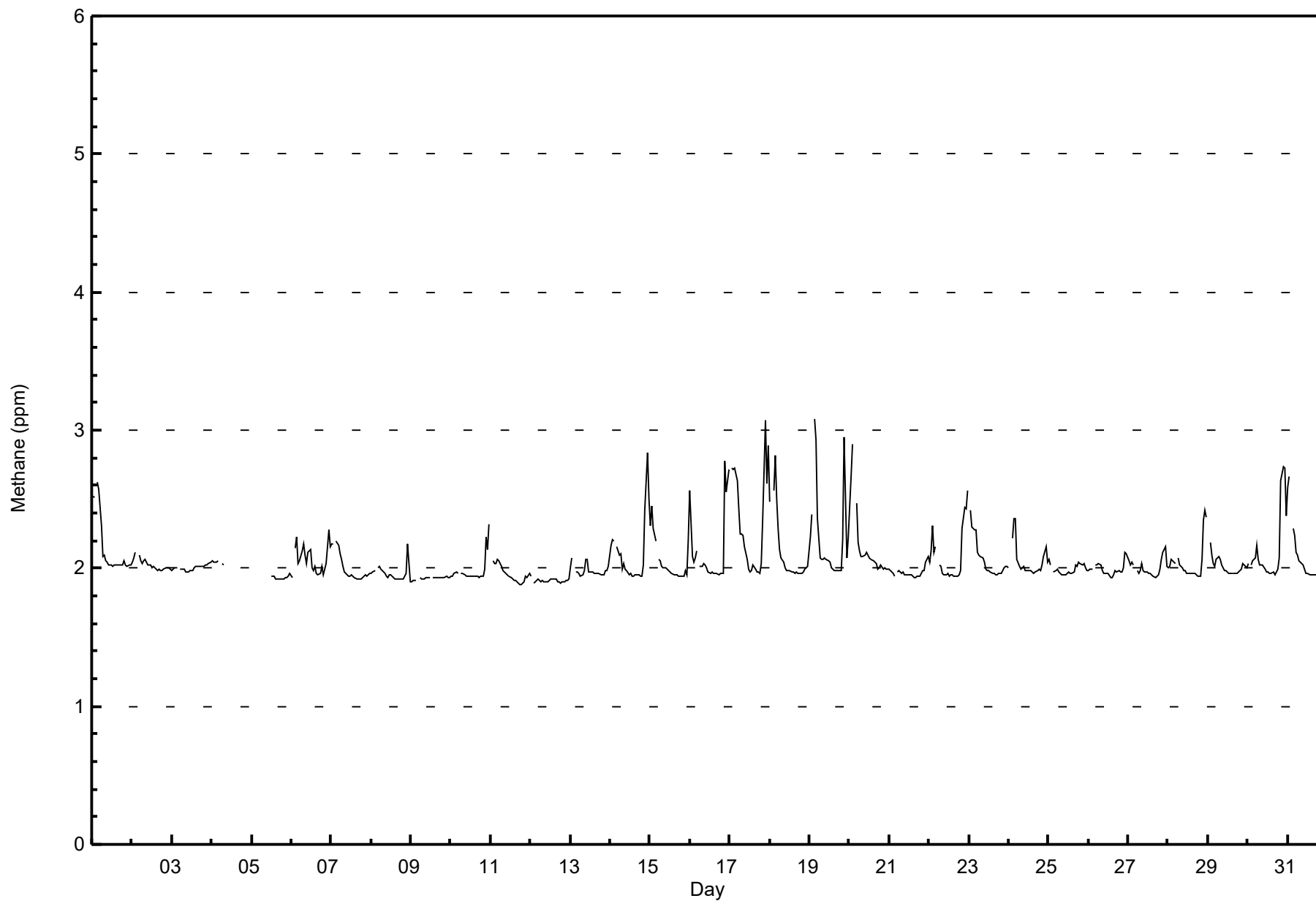
Patricia McInnes - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																	Hours in Service: 744										
Maximum Value: 3.1 ppm on Jul 19 04:00 Maximum Daily Average: 2.3 ppm on Jul 17																	Hours of Data: 685										
Minimum Value: 1.9 ppm on Jul 11 19:00 Minimum Daily Average: 1.9 ppm on Jul 12																	Hours of Missing Data: 59										
Maximum Diurnal Average: 2.2 ppm at hour 4 Minimum Diurnal Average: 2.0 ppm at hour 18																	Hours of Calibration: 37										
Monthly Average: 2.05 ppm Percentiles: P ₁ = 1.9 P ₁₀ = 1.9 Q ₁ = 2.0 Median = 2.0 Q ₃ = 2.0 P ₉₀ = 2.2 P ₉₉ = 2.8																	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-Jul	2.5	2.5	Z	2.6	2.6	2.3	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	2.0	2.0	2.0	2.0	2.0	2.1	2.6
2-Jul	2.0	2.1	2.1	Z	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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1
3-Jul	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	
4-Jul	2.1	2.0	2.0	2.0	2.1	Z	2.0	2.0	C	C	C	C	M	M	M	M	M	M	M	M	M	M	M	M	M	--	2.1
5-Jul	M	M	M	M	M	M	M	M	M	C	C	C	C	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	--	2.0	
6-Jul	1.9	Z	2.1	2.2	2.0	2.1	2.1	2.2	2.1	2.0	2.1	2.1	2.0	2.0	2.0	2.0	1.9	2.0	2.0	1.9	2.0	2.0	2.3	2.2	2.1	2.3	
7-Jul	2.2	2.2	Z	2.2	2.2	2.1	2.1	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	2.0	1.9	1.9	2.0	2.0	2.2	
8-Jul	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	1.9	1.9	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.2	1.9	2.0	2.2	
9-Jul	1.9	1.9	1.9	1.9	Z	1.9	1.9	1.9	1.9	1.9	1.9	1.9	M	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	
10-Jul	1.9	1.9	2.0	2.0	2.0	Z	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	2.0	2.2	2.1	2.3	2.0	2.3	
11-Jul	Z	2.0	2.0	2.0	2.1	2.1	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	2.0	2.0	2.1	
12-Jul	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	1.9	1.9	1.9	1.9	
13-Jul	2.0	2.1	Z	2.0	2.0	2.0	1.9	1.9	1.9	2.0	2.1	2.1	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	2.1	
14-Jul	2.2	2.2	2.2	Z	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	2.0	1.9	1.9	1.9	2.0	2.4	2.8	2.5	2.1	2.8	
15-Jul	2.3	2.5	2.3	2.2	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	1.9	1.9	2.0	1.9	2.2	2.0	2.5	
16-Jul	2.6	2.1	2.0	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	2.8	2.6	2.7	2.1	2.8	
17-Jul	Z	2.7	2.7	2.7	2.6	2.4	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	2.4	3.1	2.6	2.9	2.3	3.1	
18-Jul	2.5	Z	2.6	2.8	2.5	2.3	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	2.8	
19-Jul	2.2	2.4	Z	3.1	2.9	2.4	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	2.2	3.0	2.1	2.2	2.2	3.1	
20-Jul	2.4	2.7	2.9	Z	2.5	2.2	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	2.2	2.9	
21-Jul	2.0	2.0	2.0	1.9	Z	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.1	2.0	2.1	
22-Jul	2.0	2.1	2.3	2.1	2.2	Z	2.0	2.0	2.0	1.9	2.0	2.0	1.9	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.3	2.4	2.4	2.6	2.1	2.6	
23-Jul	Z	2.4	2.3	2.3	2.3	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	2.4	
24-Jul	2.0	Z	2.2	2.4	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	2.0	2.1	2.2	2.0	2.0	2.4	
25-Jul	2.1	2.0	Z	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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	
26-Jul	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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.1	
27-Jul	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	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.1	2.2	2.0	2.2	
28-Jul	2.0	2.0	2.1	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	1.9	1.9	1.9	2.1	2.4	2.4	2.4	2.0	2.4	
29-Jul	Z	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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	
30-Jul	2.0	Z	2.0	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	2.1	2.6	2.7	2.7	2.4	2.1	2.7	
31-Jul	2.6	2.7	Z	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	2.0	2.0	2.0	2.1	2.0	2.1	2.7	
2.1 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 2.0 2.0 2.0 2.2 2.1 2.1																									Diurnal Average		
2.6 2.7 2.9 3.1 2.9 2.4 2.2 2.2 2.2 2.2 2.1 2.1 2.1 2.1 2.1 2.1 2.0 2.0 2.0 2.0 2.1 2.6 3.1 2.8 2.9																									Diurnal Maximum		
Z - zerospan C - Calibration M - Maintenance																											



Wood Buffalo Environmental Association
Hourly Averages

Methane (CH₄) - ppm
Patricia McInnes - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Methane (CH₄) - ppm
Patricia McInnes - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	515	75.18	75.18
2.1 - 3.0	168	24.53	99.71
3.1 - 10.0	2	0.29	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 685

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Methane (CH₄) - ppm
Patricia McInnes - July 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	20	7	2	12	32	39	24	26	38	50	69	39	35	27	54	515
2.1 - 3.0	18	1	0	2	2	10	11	13	17	22	7	12	12	13	18	10	168
3.1 - 10.0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	59	21	7	4	14	42	50	37	43	60	57	81	52	48	46	64	685

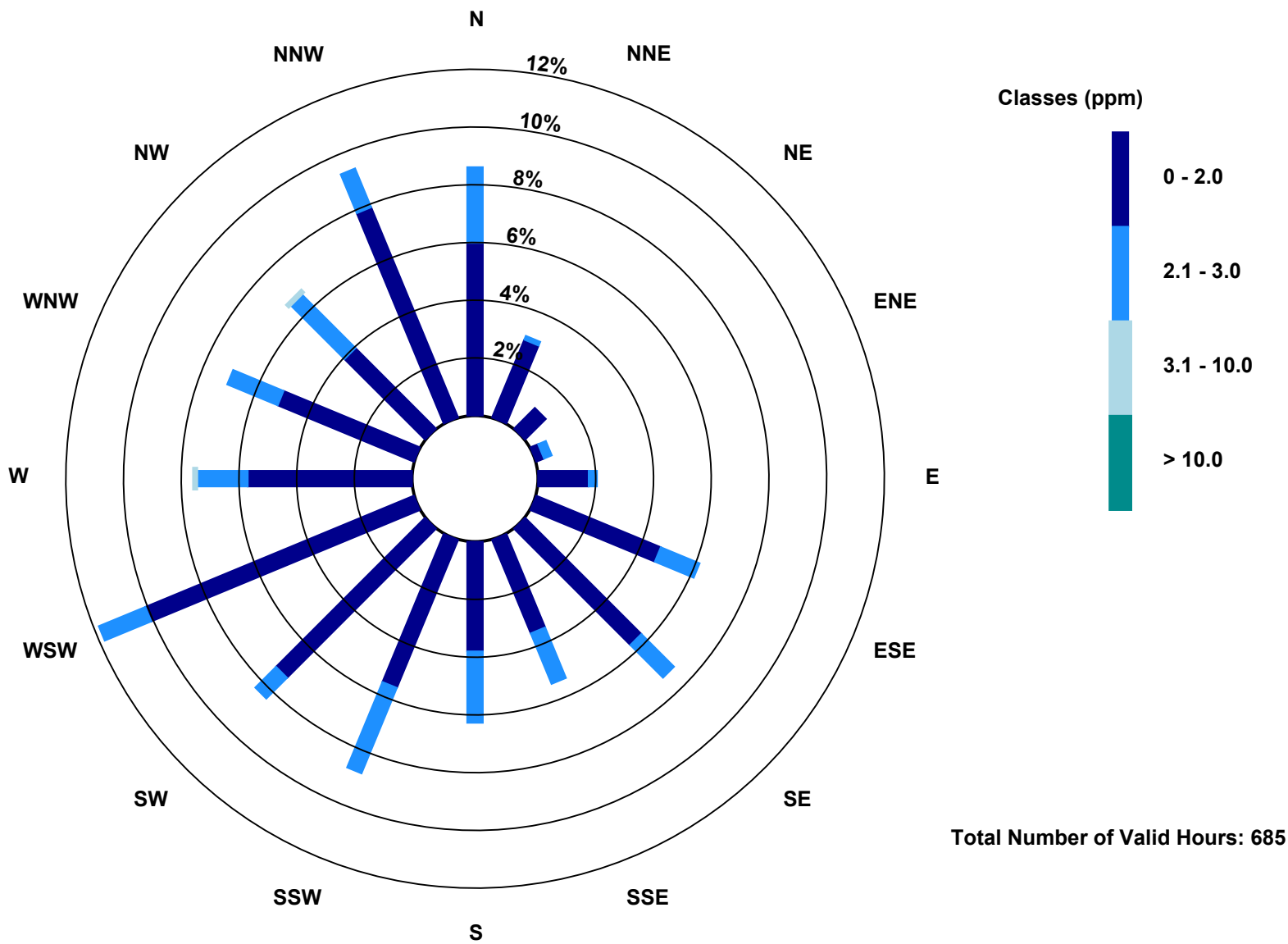
Total Number of Valid Hours: 685

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

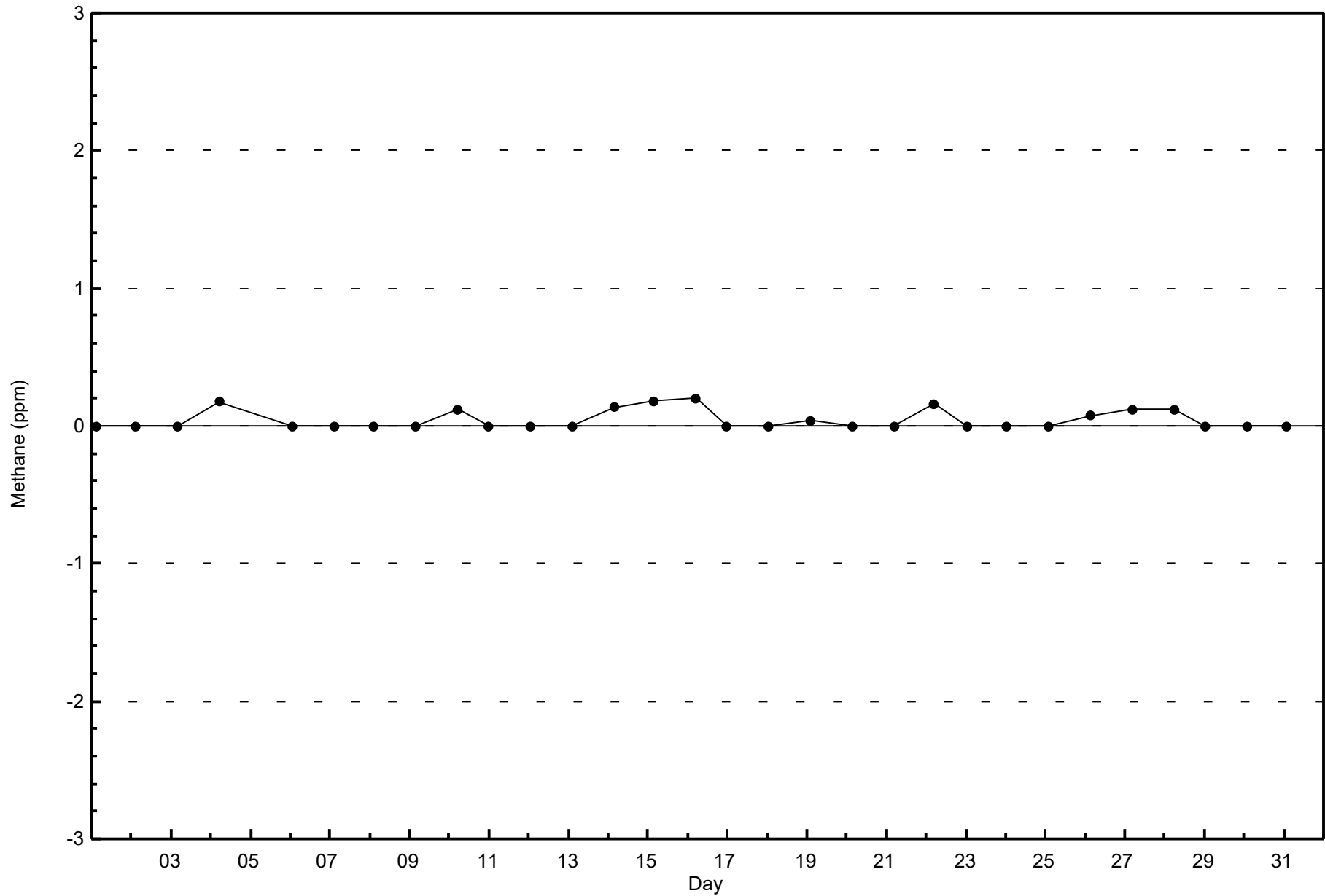
Methane (CH₄) - ppm
Patricia McInnes





Wood Buffalo Environmental Association
Zero Responses

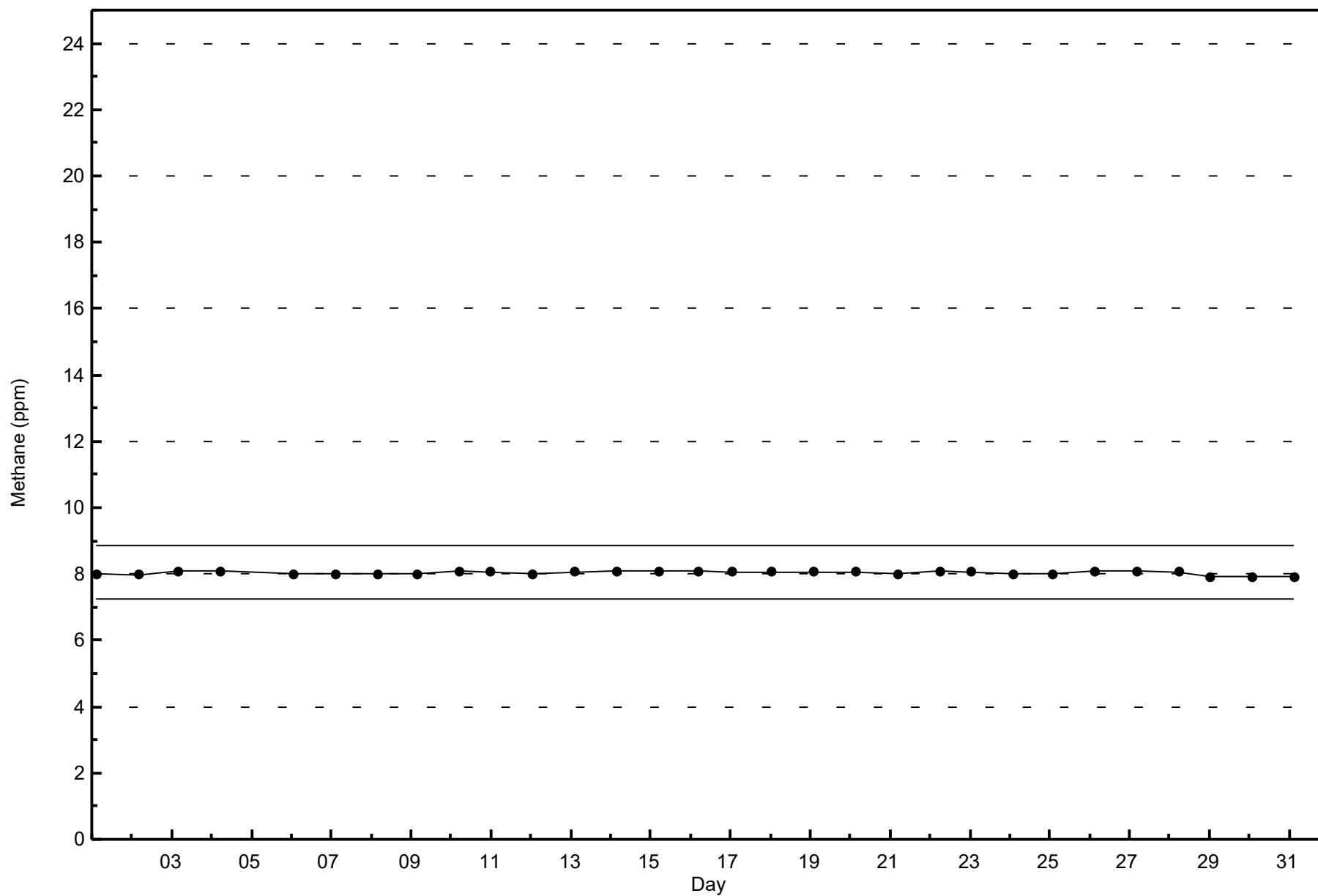
Methane (CH₄) - ppm
Patricia McInnes - July 2025





Wood Buffalo Environmental Association
Span Responses

Methane (CH₄) - ppm
Patricia McInnes - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Ozone (O₃) - ppb

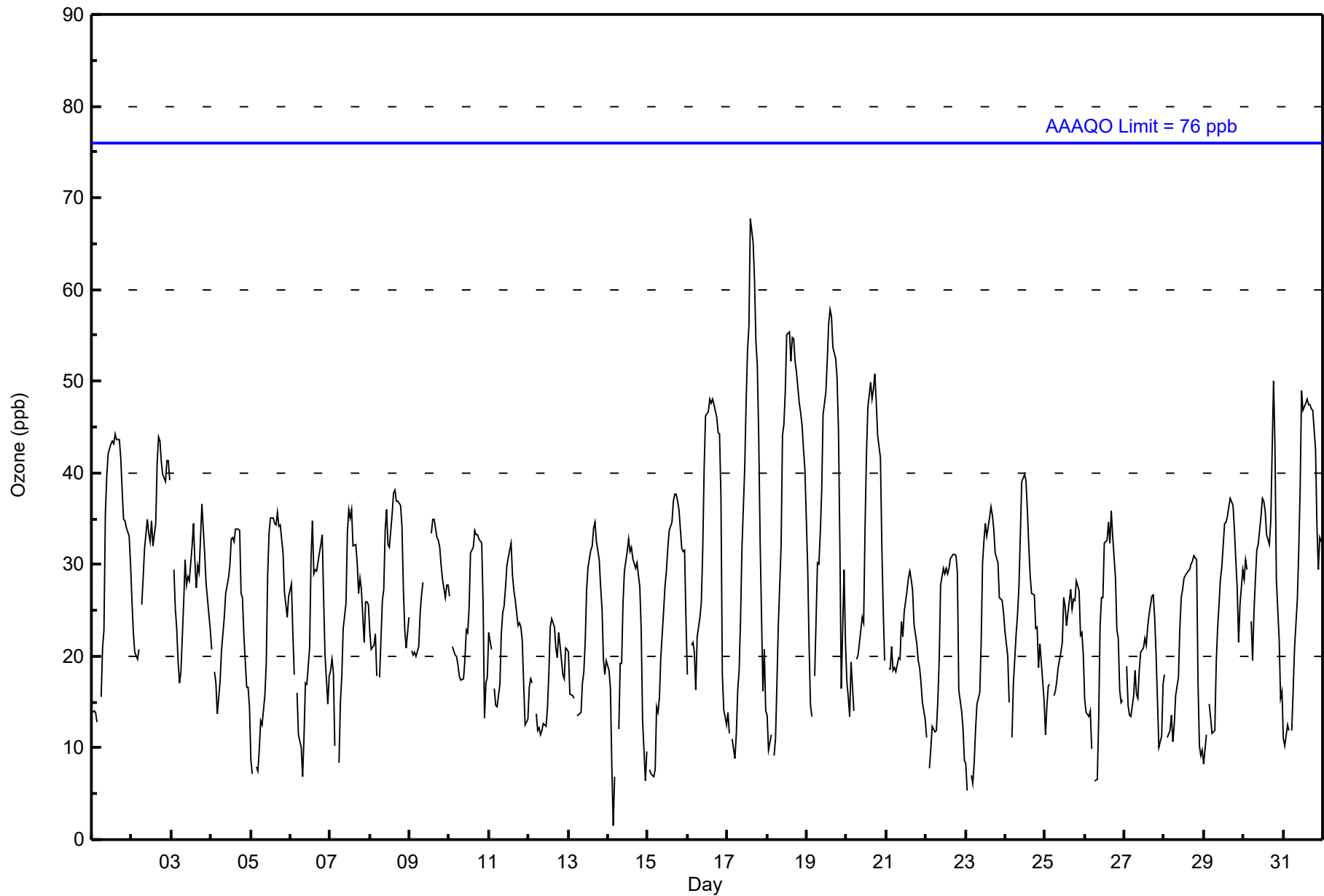
Patricia McInnes - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 67.7 ppb on Jul 17 15:00 Maximum Daily Average: 37.5 ppb on Jul 18																				Hours in Service: 744 Hours of Data: 709						
Minimum Value: 1.6 ppb on Jul 14 04:00 Minimum Daily Average: 17.5 ppb on Jul 12 Maximum Diurnal Average: 36.4 ppb at hour 16 Minimum Diurnal Average: 14.1 ppb at hour 5 Monthly Average: 26.13 ppb Percentiles: P ₁ = 6.9 P ₁₀ = 12.5 Q ₁ = 17.5 Median = 25.7 Q ₃ = 32.6 P ₉₀ = 41.8 P ₉₉ = 55.3																				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-Jul	13.9	14.0	14.0	12.8	Z	15.5	20.9	22.8	35.6	39.6	42.2	43.1	43.4	43.2	44.2	43.7	43.6	41.7	38.1	35.0	34.8	34.1	33.1	30.0	32.1	44.2
2-Jul	26.1	22.6	20.4	19.6	20.7	Z	25.7	28.5	31.7	35.0	33.5	32.5	34.7	32.1	34.5	41.0	44.0	43.5	41.2	39.8	39.1	41.3	41.3	39.3	33.4	44.0
3-Jul	Z	29.5	25.1	23.0	19.4	17.1	18.3	25.9	30.6	27.8	28.7	28.3	32.1	34.4	30.3	27.5	30.0	29.1	36.6	33.9	31.1	28.0	26.3	22.9	27.6	36.6
4-Jul	20.7	Z	18.4	17.0	13.7	17.2	20.5	22.4	24.2	26.8	28.5	29.9	32.8	32.9	32.5	33.9	33.8	33.7	26.9	26.4	22.3	16.7	16.7	14.5	24.4	33.9
5-Jul	8.6	7.1	Z	7.9	7.5	9.7	13.0	12.5	15.6	19.2	28.8	33.5	35.1	35.1	34.5	34.4	35.8	34.2	34.3	31.2	27.0	25.6	24.2	26.5	23.5	35.8
6-Jul	28.0	22.6	18.0	Z	16.0	11.5	10.1	6.9	11.3	17.0	17.0	20.9	30.5	34.8	29.0	29.5	29.4	31.2	32.2	33.2	26.4	20.1	14.7	17.8	22.1	34.8
7-Jul	18.4	19.7	18.1	10.2	Z	8.4	14.9	17.8	23.1	25.8	33.6	35.9	35.1	36.0	32.0	32.2	30.3	26.9	28.5	27.2	21.5	25.9	25.9	25.6	24.9	36.0
8-Jul	22.7	20.7	21.2	22.4	17.9	Z	17.7	26.1	27.3	33.7	36.0	32.2	31.9	35.6	37.8	38.1	36.9	37.0	36.4	34.1	27.4	22.9	20.9	24.3	28.7	38.1
9-Jul	Z	20.6	20.2	20.4	20.0	21.0	24.7	26.7	28.1	C	C	C	C	33.4	34.9	35.0	32.9	32.6	31.9	29.8	28.4	26.4	27.7	27.8	27.5	35.0
10-Jul	26.6	Z	21.0	20.2	20.0	19.0	17.9	17.4	17.5	19.7	22.9	22.6	25.3	31.3	31.8	33.7	33.2	33.3	32.7	32.3	25.8	13.3	17.1	17.7	24.0	33.7
11-Jul	22.5	20.7	Z	16.5	14.7	14.5	16.9	22.4	24.8	25.5	27.4	29.9	31.6	32.4	28.8	27.2	26.1	23.4	23.6	23.2	21.7	17.0	12.5	13.0	22.4	32.4
12-Jul	16.7	17.5	17.1	Z	13.7	11.9	12.2	11.4	11.9	12.6	12.4	14.3	18.1	23.2	24.1	23.2	20.9	19.8	22.6	21.2	18.1	17.6	20.9	20.7	17.5	24.1
13-Jul	20.5	15.9	15.7	15.4	Z	13.6	13.5	13.9	17.1	18.3	21.6	27.3	29.8	31.5	32.1	34.0	34.7	32.5	30.6	27.6	25.2	19.7	18.1	19.5	23.0	34.7
14-Jul	18.5	16.5	8.0	1.6	6.8	Z	12.1	19.3	19.2	25.8	29.3	31.4	32.9	31.5	31.8	30.7	29.7	30.1	28.9	27.6	23.0	12.9	6.4	9.7	21.0	32.9
15-Jul	Z	7.6	7.2	6.9	7.6	14.5	13.9	15.4	19.8	24.9	27.5	29.4	31.8	33.8	34.7	37.0	37.7	37.7	37.0	35.9	31.8	31.5	31.5	24.0	25.2	37.7
16-Jul	18.0	Z	21.2	21.4	20.4	16.4	22.1	24.3	25.9	31.7	40.5	46.2	46.7	48.1	47.6	48.0	47.4	46.1	44.3	44.3	37.3	18.1	14.2	12.5	32.3	48.1
17-Jul	13.9	11.5	Z	11.0	8.9	11.5	16.4	18.4	23.9	31.8	40.6	47.8	53.4	55.9	67.7	65.1	61.0	54.3	51.7	44.0	32.6	16.2	20.8	14.0	33.6	67.7
18-Jul	13.6	9.8	11.4	Z	9.2	11.0	16.9	23.3	32.1	44.1	45.4	49.0	55.1	55.3	52.2	54.7	54.7	52.2	51.0	47.7	46.5	45.2	42.6	40.4	37.5	55.3
19-Jul	29.7	21.2	14.6	13.5	Z	17.9	30.2	30.1	33.5	38.0	46.4	48.8	52.3	56.3	57.8	57.1	53.7	52.5	50.3	44.7	32.3	16.5	29.4	21.6	36.9	57.8
20-Jul	17.3	15.5	13.4	19.4	14.0	Z	19.7	20.1	21.5	24.3	23.7	34.0	41.9	47.1	49.9	48.0	49.1	50.8	47.8	44.0	41.6	32.0	25.0	19.5	31.3	50.8
21-Jul	Z	18.6	18.7	21.0	18.4	18.8	18.3	19.8	19.7	23.7	22.2	24.8	27.2	28.5	29.2	28.4	27.1	23.5	21.4	19.5	18.8	17.2	15.0	13.1	21.4	29.2
22-Jul	11.2	Z	7.8	10.0	12.4	11.7	11.9	15.1	19.5	27.8	29.6	29.0	29.6	28.9	29.7	30.7	31.1	31.1	31.0	29.2	16.3	14.1	12.2	8.7	20.8	31.1
23-Jul	8.2	5.3	Z	7.1	6.0	8.4	12.0	14.7	16.1	21.5	30.1	32.6	34.4	33.2	35.1	36.3	35.5	33.9	31.2	30.1	26.4	26.2	26.0	24.7	23.3	36.3
24-Jul	22.8	20.0	14.9	Z	11.1	16.9	22.4	24.5	27.5	33.2	39.0	39.9	39.2	36.0	32.2	28.8	26.9	26.7	23.0	23.2	18.7	21.3	17.3	15.2	25.3	39.9
25-Jul	11.5	14.7	16.7	17.0	Z	15.7	16.1	17.2	18.8	20.4	21.5	26.4	25.5	23.3	24.8	27.3	25.2	26.2	26.1	28.2	27.1	22.2	22.5	20.2	21.5	28.2
26-Jul	15.2	13.9	13.5	14.1	9.9	Z	6.4	6.5	13.2	23.3	26.4	26.3	32.4	32.6	34.7	32.4	35.8	33.2	28.6	22.9	22.0	16.4	14.9	15.2	21.3	35.8
27-Jul	Z	19.0	14.7	13.5	13.4	15.7	18.4	15.9	15.4	18.5	20.5	20.9	21.9	21.1	23.1	24.5	26.5	26.7	24.3	20.3	15.3	10.1	11.2	16.9	18.6	26.7
28-Jul	17.9	Z	11.1	12.0	13.5	10.7	12.5	15.7	17.8	23.1	26.3	27.3	28.5	28.9	29.3	29.4	30.1	30.3	31.0	30.5	17.0	10.2	9.2	9.7	20.5	31.0
29-Jul	8.2	11.5	Z	14.8	13.2	11.6	11.9	19.1	23.1	25.7	28.4	29.7	34.4	34.7	35.2	36.2	37.3	36.5	33.9	30.4	27.4	21.5	25.7	29.5	25.2	37.3
30-Jul	28.4	30.5	29.4	Z	23.8	19.5	24.8	28.3	31.6	32.3	35.3	37.1	36.9	35.9	33.2	32.2	34.9	42.6	50.0	42.9	28.4	21.8	15.4	16.1	30.9	50.0
31-Jul	10.9	10.2	12.5	11.9	Z	11.9	16.3	20.9	26.3	31.5	38.4	49.0	46.8	47.7	48.1	47.5	47.5	47.0	46.8	42.6	34.2	29.5	33.0	32.6	32.3	49.0
Diurnal Average																										
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
Patricia McInnes - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ozone (O₃) - ppb
Patricia McInnes - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	246	34.70	34.70
21 - 50	442	62.34	97.04
51 - 82	21	2.96	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
Patricia McInnes - July 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	5	1	1	0	2	11	14	21	22	19	40	20	24	19	17	246
21 - 50	24	15	8	4	13	39	34	25	19	41	39	44	29	26	35	47	442
51 - 82	5	2	0	0	1	3	8	1	0	0	0	0	0	0	0	1	21
> 83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	59	22	9	5	14	44	53	40	40	63	58	84	49	50	54	65	709

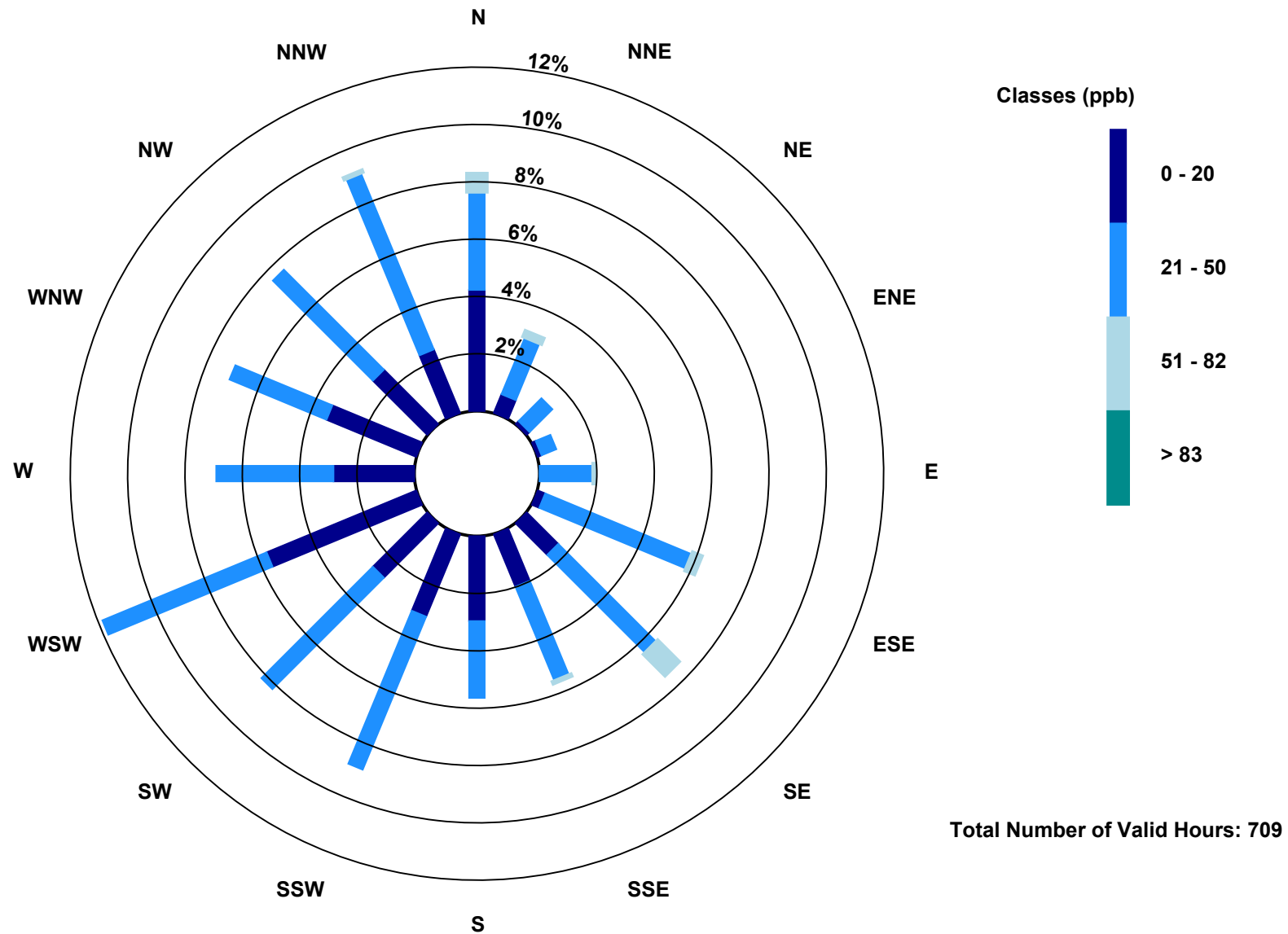
Total Number of Valid Hours: 709

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Ozone (O_3) - ppb
Patricia McInnes



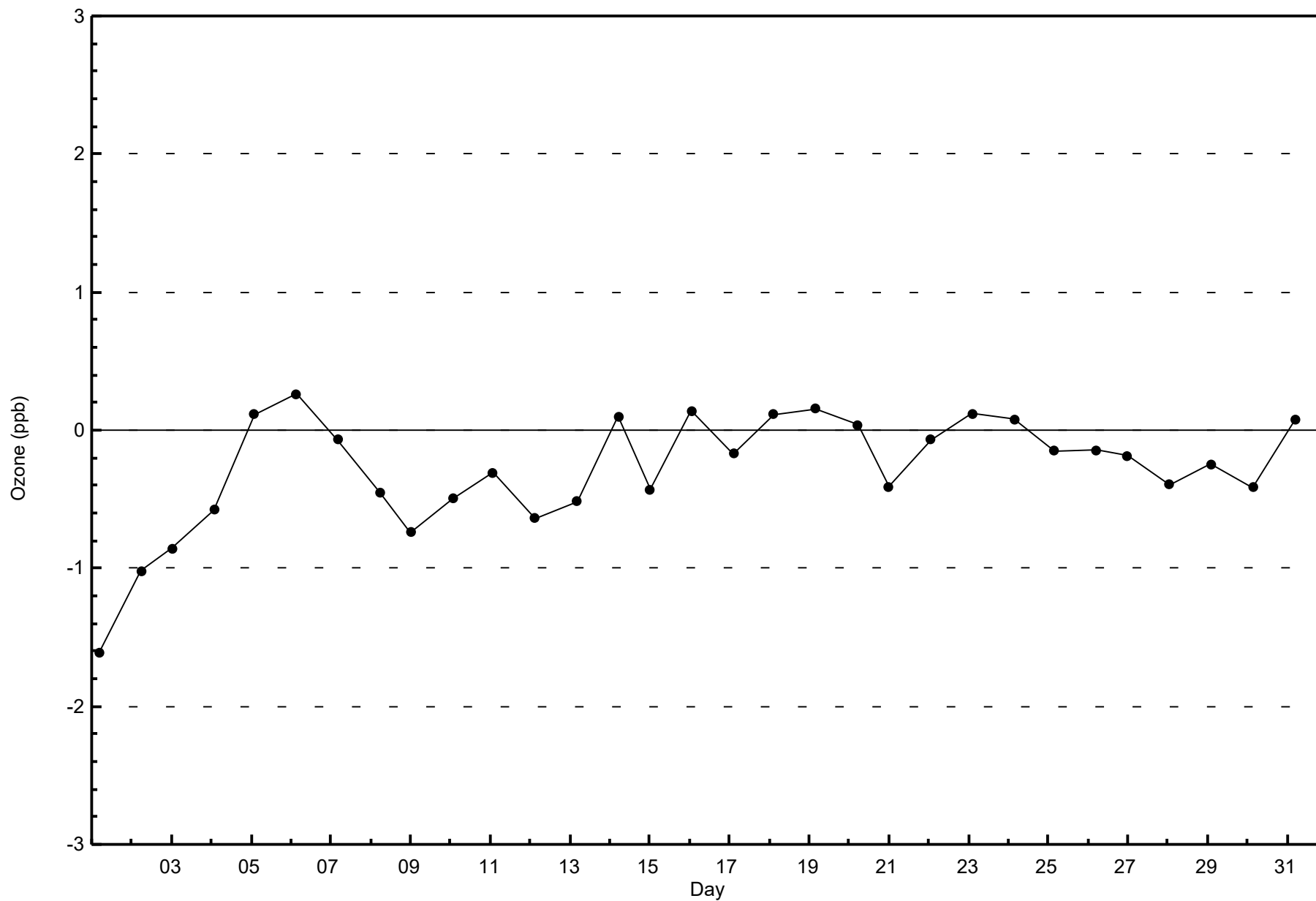


Wood Buffalo Environmental Association

Zero Responses

Ozone (O₃) - ppb

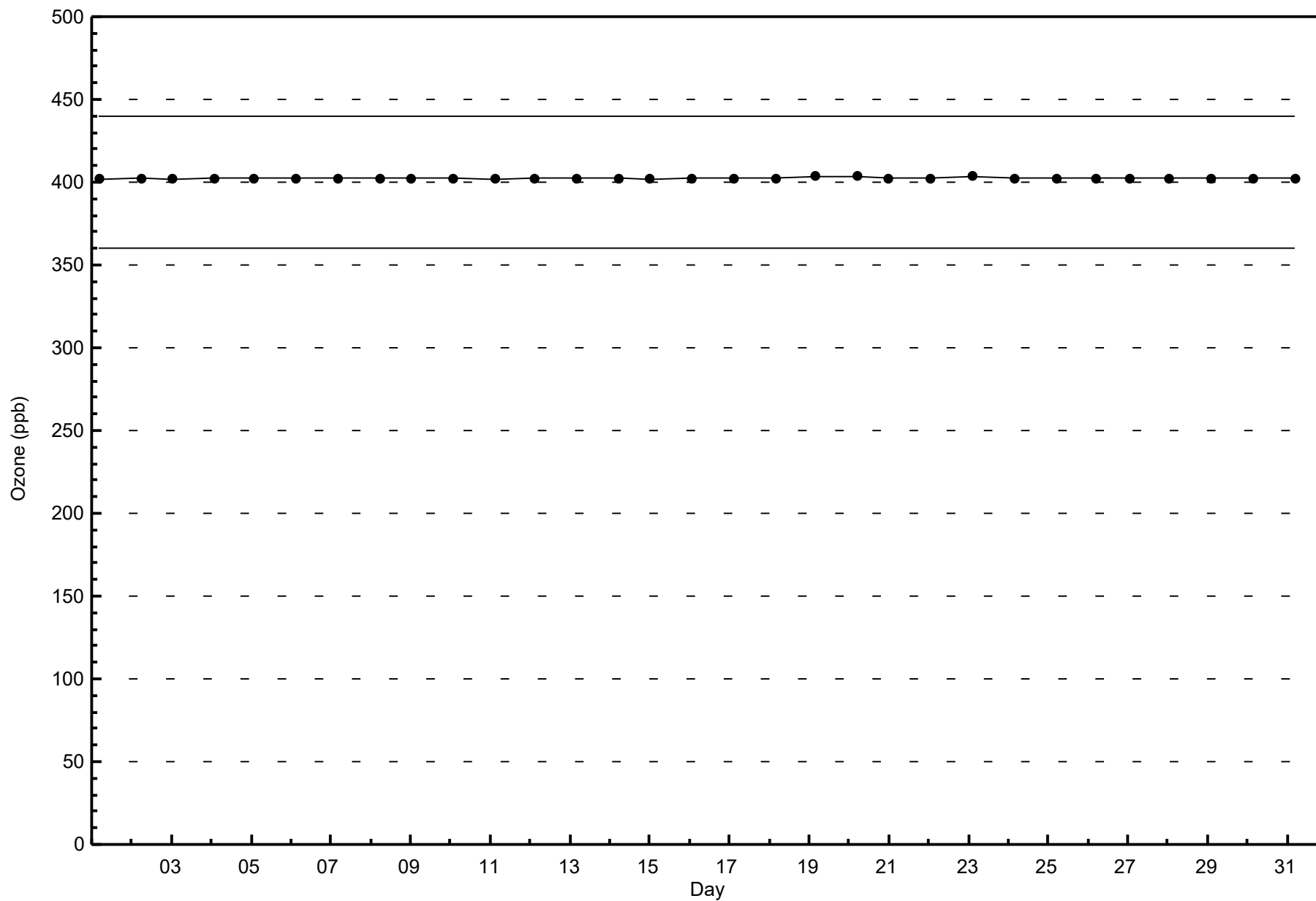
Patricia McInnes - July 2025





Wood Buffalo Environmental Association
Span Responses

Ozone (O₃) - ppb
Patricia McInnes - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitric Oxide (NO) - ppb

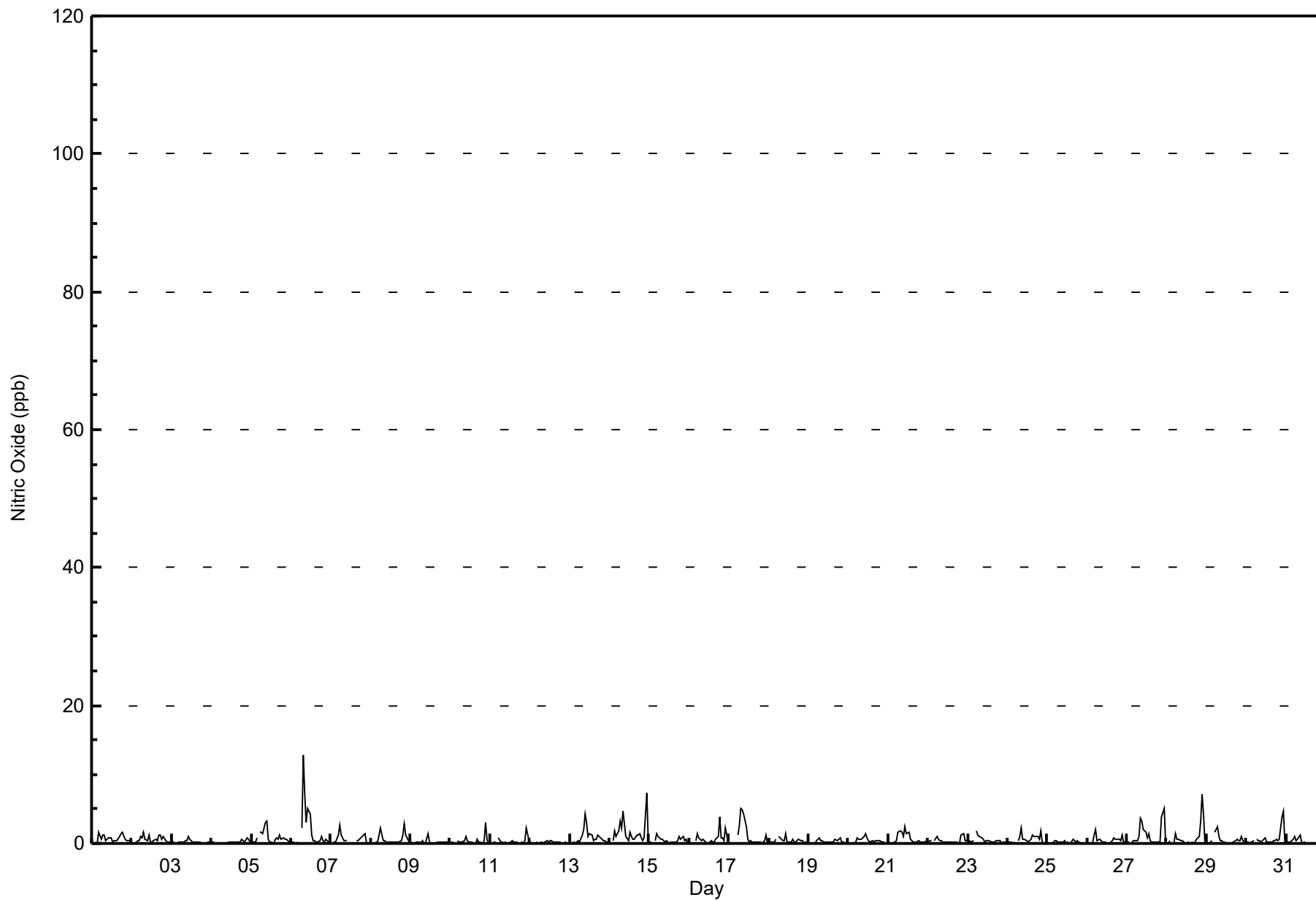
Patricia McInnes - July 2025

Maximum Value: 12.8 ppb on Jul 6 08:00																			Maximum Daily Average: 1.8 ppb on Jul 6																			Hours in Service: 744	
Minimum Value: 0.0 ppb on Jul 8 00:00																			Minimum Daily Average: 0.2 ppb on Jul 12																			Hours of Data: 707	
Maximum Diurnal Average: 1.3 ppb at hour 9																			Minimum Diurnal Average: 0.1 ppb at hour 3																			Hours of Missing Data: 37	
Monthly Average: 0.61 ppb																			Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.1 Median = 0.3 Q ₃ = 0.6 P ₉₀ = 1.4 P ₉₉ = 4.9																			Hours of Calibration: 36	
																																						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-Jul	Z	0.1	0.0	0.1	1.6	0.6	1.2	1.2	0.4	0.6	0.7	0.8	0.2	0.4	0.4	0.4	0.9	1.5	1.6	1.1	0.6	0.5	0.3	0.4	0.7	1.6													
2-Jul	0.2	Z	0.1	0.5	0.5	0.9	0.7	1.6	0.7	0.3	1.3	0.3	0.3	0.4	0.7	0.5	1.1	1.3	0.6	1.0	0.4	0.3	0.2	0.2	0.6	1.6													
3-Jul	0.1	0.1	Z	0.1	0.3	0.2	0.2	0.3	0.3	0.4	1.1	0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	1.1													
4-Jul	0.2	0.1	0.0	Z	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.2	0.1	0.2	0.1	0.2	0.2	0.6	0.4	0.3	0.7	0.5	0.1	0.2	0.7													
5-Jul	0.4	0.2	0.3	0.9	Z	1.7	1.6	1.5	3.0	3.3	0.6	0.2	0.3	0.1	0.6	0.8	0.7	1.3	0.5	0.8	0.7	0.5	0.4	0.1	0.9	3.3													
6-Jul	0.3	0.2	0.0	0.1	0.3	Z	2.3	12.8	7.2	3.1	5.0	4.3	1.2	0.4	0.4	0.2	0.3	0.4	1.0	0.4	0.3	0.7	0.1	0.2	1.8	12.8													
7-Jul	Z	0.1	0.2	0.2	1.2	2.6	1.1	0.8	0.5	0.3	C	C	C	C	C	0.5	0.5	0.6	0.8	1.1	1.5	0.3	0.1	0.0	0.7	2.6													
8-Jul	0.0	Z	0.0	0.1	0.2	1.3	2.2	0.4	0.3	0.3	0.2	0.2	0.3	0.2	0.1	0.2	0.2	0.3	0.4	1.3	2.8	1.1	0.9	0.1	0.6	2.8													
9-Jul	0.0	0.1	Z	0.1	0.3	0.2	0.1	0.3	0.1	0.1	1.5	0.2	M	0.1	0.0	0.1	0.2	0.2	0.1	0.2	0.3	0.2	0.1	0.1	0.2	1.5													
10-Jul	0.1	0.2	0.2	Z	0.4	0.2	0.3	0.1	0.3	1.1	0.4	0.3	0.2	0.2	0.0	0.1	0.5	0.3	0.2	0.1	0.4	3.1	0.6	0.0	0.4	3.1													
11-Jul	0.1	0.1	0.1	0.1	Z	0.8	0.3	0.2	0.1	0.2	0.1	0.1	0.1	0.3	0.2	0.2	0.2	0.1	0.1	0.2	0.0	0.5	2.3	0.3	0.3	2.3													
12-Jul	0.1	0.0	0.0	0.0	0.2	Z	0.3	0.2	0.1	0.2	0.4	0.3	0.4	0.4	0.2	0.3	0.3	0.3	0.1	0.0	0.0	0.1	0.0	0.1	0.2	0.4													
13-Jul	Z	0.0	0.1	0.1	0.2	0.5	0.2	1.1	1.9	4.3	3.0	1.1	1.5	1.2	0.5	0.6	0.6	1.3	0.9	0.7	0.5	0.5	0.2	0.1	0.9	4.3													
14-Jul	0.1	Z	0.3	1.9	1.0	1.7	3.3	2.3	4.8	2.8	1.0	0.5	1.5	1.0	0.5	0.5	1.1	1.1	1.5	0.9	0.4	0.8	7.3	0.4	1.6	7.3													
15-Jul	0.3	0.2	Z	0.3	1.4	1.1	0.9	0.7	0.7	0.2	0.4	0.3	0.0	0.2	0.1	0.2	0.2	0.4	1.0	0.6	0.9	0.4	0.6	0.0	0.5	1.4													
16-Jul	0.0	0.1	0.0	Z	0.5	1.5	0.8	0.4	0.6	0.4	0.2	0.0	0.2	0.4	0.1	0.2	0.5	1.1	3.8	0.7	0.7	0.5	2.2	0.2	0.7	3.8													
17-Jul	0.0	0.0	0.0	0.1	Z	1.2	2.6	5.0	4.9	4.2	2.4	0.6	0.2	0.3	0.2	0.3	0.2	0.1	0.1	0.2	0.1	0.5	1.1	0.1	1.1	5.0													
18-Jul	0.2	0.3	0.2	0.3	0.6	Z	1.0	0.7	0.5	0.4	1.4	0.2	0.2	0.2	0.6	0.2	0.1	0.3	0.6	0.3	0.4	0.1	0.2	0.2	0.4	1.4													
19-Jul	Z	0.1	0.0	0.0	0.1	0.4	0.9	0.4	0.4	0.2	0.3	0.2	0.1	0.2	0.3	0.3	0.6	0.4	0.5	0.8	0.2	0.3	0.1	0.0	0.3	0.9													
20-Jul	0.0	Z	0.0	0.1	0.2	0.7	0.6	0.5	0.7	1.0	1.5	0.9	0.5	0.3	0.4	0.2	0.4	0.3	0.3	0.4	0.2	0.1	0.0	0.1	0.4	1.5													
21-Jul	0.1	0.1	Z	0.2	0.2	0.4	1.6	1.8	1.6	1.0	2.5	1.5	1.6	0.7	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.2	0.3	0.4	0.7	2.5													
22-Jul	0.3	0.4	0.4	Z	0.4	1.1	0.6	0.3	0.4	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	1.1	1.4	0.3	0.4	0.4	1.4													
23-Jul	0.5	0.4	0.3	0.3	Z	1.7	1.3	0.9	0.8	0.5	0.3	0.3	0.4	0.3	0.2	0.3	0.3	0.3	0.4	0.3	0.1	0.1	0.3	0.1	0.5	1.7													
24-Jul	0.1	0.2	0.2	0.1	0.1	Z	0.5	1.0	2.2	0.6	0.6	0.4	0.3	0.4	0.5	1.2	0.9	1.1	1.1	0.7	1.9	0.1	0.0	0.1	0.6	2.2													
25-Jul	Z	0.0	0.0	0.0	0.4	0.4	0.3	0.3	0.3	0.2	0.3	0.1	0.2	0.1	0.1	0.7	0.4	0.2	0.4	0.2	0.0	0.0	0.0	0.0	0.2	0.7													
26-Jul	0.0	Z	0.0	0.1	1.2	2.1	0.4	0.7	0.5	0.1	0.2	0.1	0.1	0.1	0.3	0.3	0.7	0.5	0.6	0.5	0.4	1.1	0.2	0.1	0.4	2.1													
27-Jul	0.2	0.2	Z	0.3	0.4	0.4	0.4	1.0	3.7	3.2	2.0	1.6	0.7	1.5	0.3	0.2	0.1	0.1	0.1	0.2	0.2	3.8	5.1	0.0	1.1	5.1													
28-Jul	0.0	0.0	0.4	Z	0.2	1.4	0.6	0.7	0.5	0.4	0.2	0.0	0.0	0.2	0.0	0.1	0.0	0.2	0.5	1.0	3.2	7.2	4.3	0.1	0.9	7.2													
29-Jul	0.1	0.1	0.2	0.5	Z	1.5	2.5	0.9	0.3	0.4	0.2	0.1	0.1	0.0	0.0	0.0	0.1	0.3	0.6	0.3	0.5	1.0	0.3	0.3	0.5	2.5													
30-Jul	0.3	0.2	0.1	0.1	0.3	Z	0.6	0.5	0.5	0.2	0.6	0.9	0.1	0.2	0.2	0.2	0.3	0.5	0.5	0.5	0.5	3.9	4.7	0.3	0.7	4.7													
31-Jul	Z	0.2	0.3	0.5	0.6	1.0	0.5	0.6	1.1	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.1													
Diurnal Average																										Diurnal Maximum													
0.1 0.1 0.1 0.3 0.5 1.0 1.0 1.3 1.3 1.0 1.0 0.5 0.4 0.3 0.3 0.3 0.4 0.5 0.6 0.5 0.6 1.0 1.1 0.1																																							
0.5 0.4 0.4 1.9 1.6 2.6 3.3 12.8 7.2 4.3 5.0 4.3 1.6 1.5 0.7 1.2 1.1 1.5 3.8 1.3 3.2 7.2 7.3 0.4																										Diurnal Maximum													
Z - zerospan C - Calibration M - Maintenance																																							



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitric Oxide (NO) - ppb
Patricia McInnes - July 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
Patricia McInnes - July 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	22	9	5	14	44	50	41	43	55	57	89	51	50	53	64	707
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	60	22	9	5	14	44	50	41	43	55	57	89	51	50	53	64	707

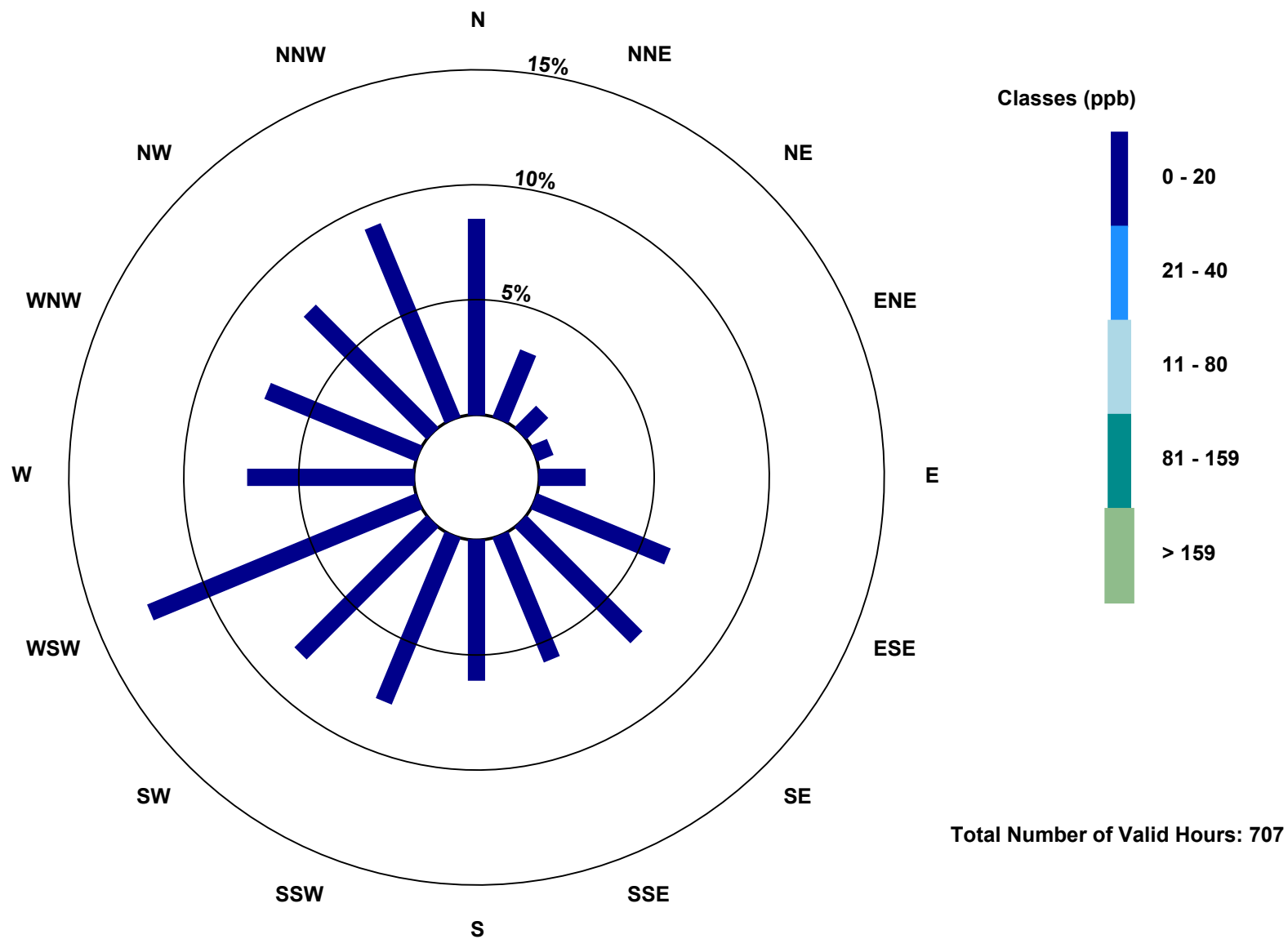
Total Number of Valid Hours: 707

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

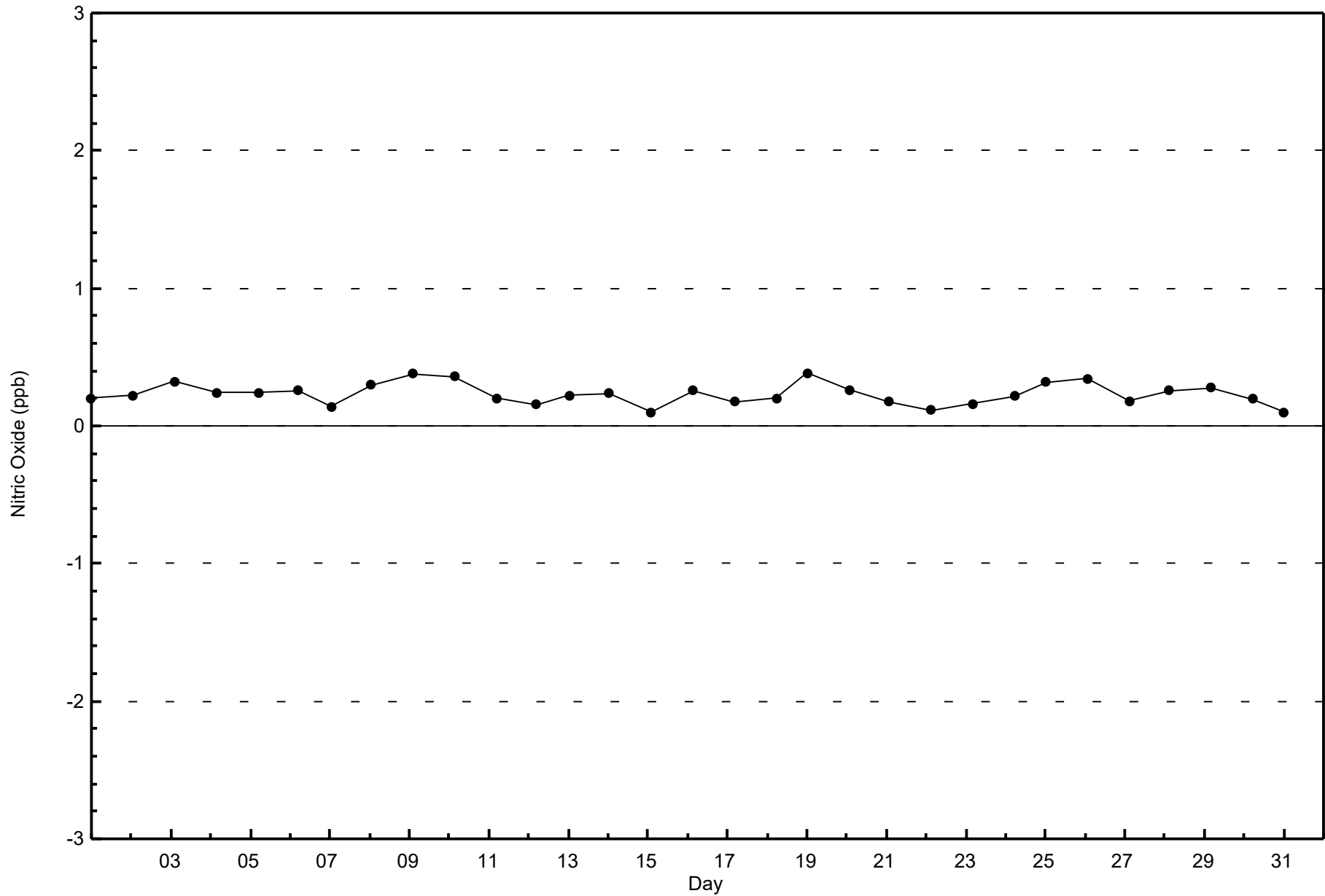
Nitric Oxide (NO) - ppb
Patricia McInnes

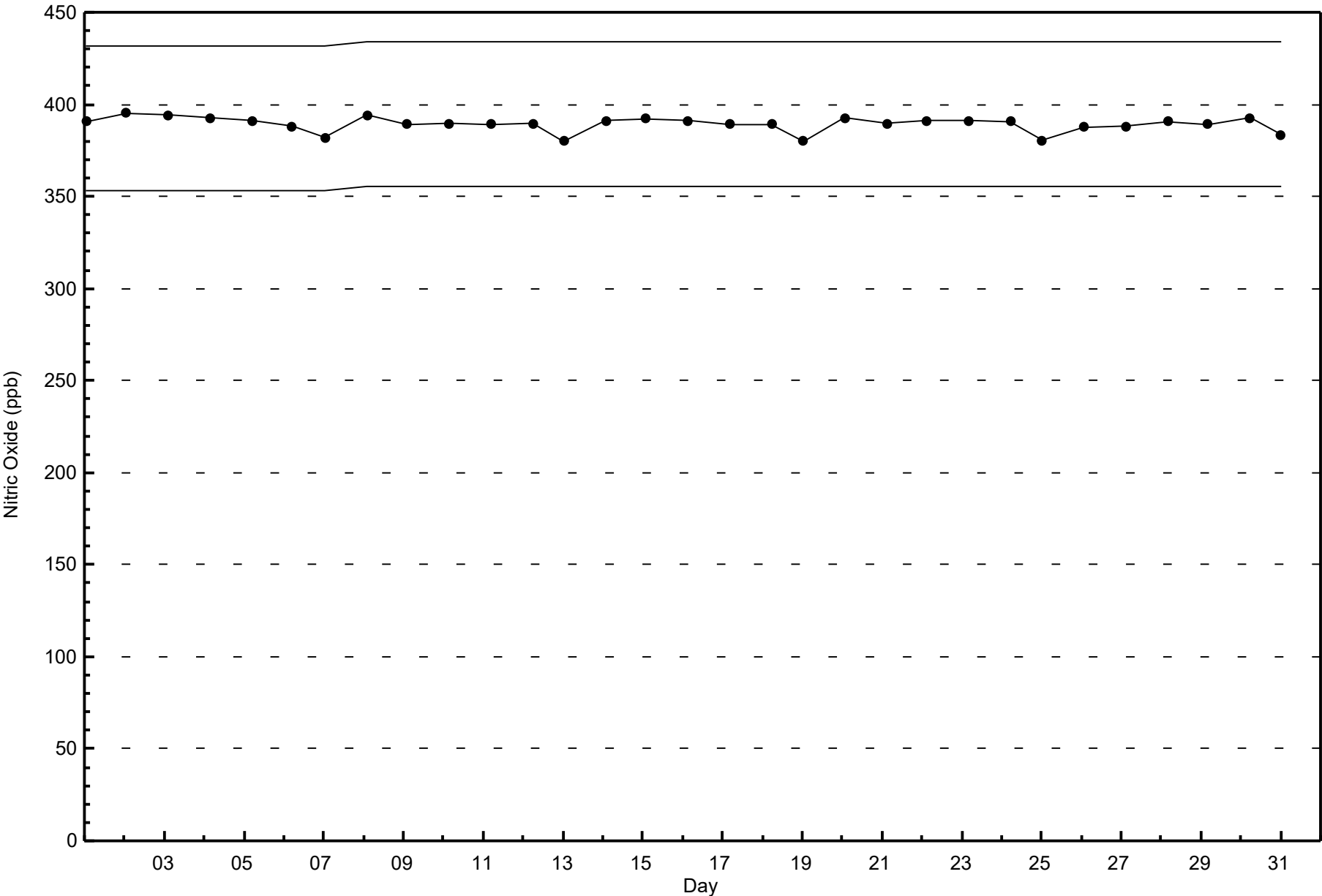




Wood Buffalo Environmental Association
Zero Responses

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







Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Dioxide (NO₂) - ppb

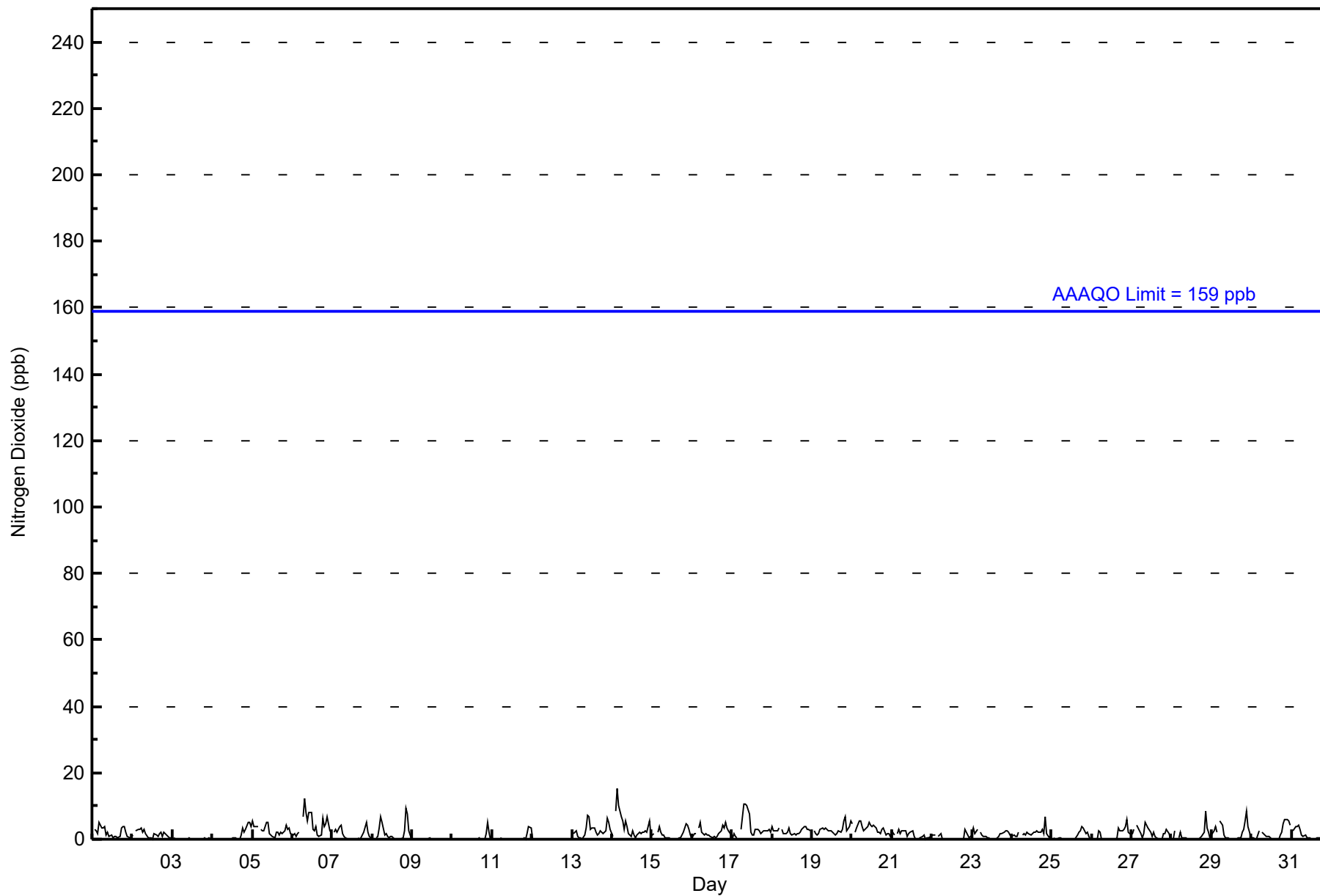
Patricia McInnes - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 15.1 ppb on Jul 14 04:00 Maximum Daily Average: 4.2 ppb on Jul 6																			Hours in Service: 744 Hours of Data: 707 Hours of Missing Data: 37 Hours of Calibration: 36 Percent Operational Time: 99.9							
Minimum Value: 0.0 ppb on Jul 3 04:00 Minimum Daily Average: 0.0 ppb on Jul 12 Maximum Diurnal Average: 3.4 ppb at hour 21 Minimum Diurnal Average: 0.7 ppb at hour 16 Monthly Average: 1.75 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 1.3 Q ₃ = 2.6 P ₉₀ = 4.0 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-Jul	Z	2.8	2.6	1.8	5.1	3.5	3.2	3.7	1.4	2.1	0.8	1.2	0.5	0.8	0.6	1.0	3.2	3.9	4.0	2.3	0.9	0.4	0.4	2.0	5.1	
2-Jul	1.4	Z	2.6	2.8	3.1	3.3	2.1	2.8	1.5	0.4	0.6	0.3	0.1	1.5	1.3	1.0	1.9	2.1	0.9	2.2	1.4	1.0	0.5	0.4	1.5	3.3
3-Jul	0.1	0.4	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.2	0.0	0.2	0.1	0.1	0.0	0.4	0.1	0.0	0.4	0.0	0.1	0.4
4-Jul	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.3	0.2	0.2	1.3	3.2	2.3	3.0	5.2	5.0	3.9	1.1	5.2
5-Jul	5.5	3.7	3.8	4.0	Z	2.9	2.6	2.7	5.1	4.9	1.6	1.1	0.7	0.3	2.1	2.1	1.3	2.3	1.9	2.6	4.4	3.0	3.4	1.8	2.8	5.5
6-Jul	1.2	1.5	1.0	1.9	2.2	Z	6.9	12.4	8.2	5.4	8.2	8.2	3.1	2.5	3.9	1.2	0.8	1.4	6.5	3.8	4.6	6.8	2.5	2.4	4.2	12.4
7-Jul	Z	2.2	3.1	2.3	3.9	4.2	1.6	0.7	0.3	0.2	C	C	C	C	C	0.5	0.2	0.4	1.2	2.3	5.1	2.1	0.7	0.3	1.7	5.1
8-Jul	0.4	Z	0.3	0.7	3.2	6.8	5.2	1.2	1.5	0.7	0.6	0.9	0.8	0.2	0.0	0.0	0.0	0.1	0.5	2.4	9.3	7.7	2.6	0.0	2.0	9.3
9-Jul	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	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	0.5
10-Jul	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	0.3	0.0	0.0	0.0	1.6	5.2	2.1	0.0	0.4	5.2
11-Jul	0.0	0.1	0.0	0.0	Z	0.3	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	0.0	1.9	3.7	3.2	0.4	3.7
12-Jul	0.0	0.0	0.0	0.0	0.2	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	0.2
13-Jul	Z	1.8	2.5	1.0	0.5	0.3	0.0	1.1	3.4	7.4	6.8	3.0	3.2	3.6	2.2	1.2	1.9	2.7	1.7	2.1	2.4	6.5	5.2	2.8	2.8	7.4
14-Jul	0.8	Z	8.4	15.1	10.3	6.6	5.5	2.8	5.3	3.9	1.6	0.8	2.7	1.2	0.6	1.1	2.2	1.9	2.1	2.2	2.7	2.0	5.5	1.4	3.8	15.1
15-Jul	1.4	1.6	Z	2.1	3.7	2.0	1.3	1.1	0.6	0.4	0.3	0.0	0.0	0.0	0.0	0.1	0.5	0.6	1.1	2.0	4.6	4.4	2.9	1.1	1.4	4.6
16-Jul	0.5	1.6	1.5	Z	3.5	5.2	2.1	1.4	1.5	1.3	1.3	1.0	0.6	1.0	0.5	0.8	1.6	2.4	4.1	3.3	5.2	3.6	2.5	1.1	2.1	5.2
17-Jul	0.6	1.7	1.0	0.6	Z	2.9	6.7	10.5	10.5	10.0	7.5	2.3	1.3	1.4	2.9	2.9	2.6	1.7	2.0	2.7	2.7	2.5	3.1	2.3	3.6	10.5
18-Jul	3.9	2.7	2.6	2.4	3.5	Z	2.8	1.8	1.5	2.0	3.2	1.5	1.4	1.6	1.3	1.7	1.9	2.0	2.9	3.9	4.0	3.0	3.0	2.6	2.5	4.0
19-Jul	Z	2.6	1.6	1.4	1.9	3.0	3.2	3.0	3.2	2.9	2.6	2.4	2.2	1.6	1.4	1.7	2.4	2.3	2.9	5.5	6.9	2.7	3.8	5.4	2.9	6.9
20-Jul	4.7	Z	2.2	3.4	5.3	5.7	3.7	2.6	2.8	3.7	4.9	4.2	3.8	4.1	3.6	2.3	2.0	1.5	2.9	3.3	1.4	1.9	1.5	0.9	3.1	5.7
21-Jul	2.6	1.2	Z	1.7	2.9	1.7	2.7	2.4	2.6	1.0	1.9	2.3	2.5	0.9	0.2	0.1	0.0	0.3	1.0	1.1	0.0	0.3	0.4	1.0	1.3	2.9
22-Jul	1.4	1.3	1.1	Z	0.7	1.7	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	2.9	1.3	0.4	0.9	0.5	2.9
23-Jul	1.3	3.3	1.5	3.1	Z	2.3	1.2	0.7	0.7	0.6	0.4	0.1	0.0	0.1	0.0	0.4	1.0	1.6	1.8	2.2	2.7	2.5	2.0	1.2	1.3	3.3
24-Jul	1.0	1.3	0.9	0.8	2.1	Z	1.3	1.6	1.4	2.0	1.7	1.3	1.5	2.2	2.2	2.5	2.3	2.3	3.0	1.8	6.8	1.8	0.4	1.5	1.9	6.8
25-Jul	Z	0.3	0.2	0.2	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	1.1	2.0	2.7	3.8	3.6	1.5	2.1	1.0	0.0	0.8	3.8
26-Jul	0.0	Z	0.0	0.0	2.4	2.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	3.3	2.6	2.7	2.9	4.0	6.0	2.3	1.9	1.4	6.0
27-Jul	1.6	3.0	Z	4.3	3.3	1.8	0.6	1.8	5.0	4.3	3.2	2.3	0.9	2.3	0.7	0.3	0.0	0.0	0.2	1.7	1.9	2.9	1.7	0.0	1.9	5.0
28-Jul	0.0	0.2	2.5	Z	0.4	2.1	0.4	0.3	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.5	0.8	2.3	8.4	3.4	2.3	0.6	1.1	8.4
29-Jul	1.4	2.7	3.8	2.3	Z	5.5	4.4	1.4	0.4	0.5	0.3	0.1	0.0	0.0	0.0	0.0	0.3	0.5	2.0	3.0	5.3	8.3	3.9	0.9	2.0	8.3
30-Jul	0.6	0.6	0.2	0.2	2.5	Z	2.1	1.6	1.3	0.7	0.7	0.5	0.0	0.0	0.0	0.0	0.0	1.3	2.0	4.5	6.1	5.8	5.5	4.1	1.8	6.1
31-Jul	Z	2.7	3.9	4.0	4.1	3.0	1.1	0.8	1.1	0.3	0.4	0.4	0.2	0.2	0.2	0.4	0.3	0.3	0.6	1.4	5.1	4.8	1.7	1.1	1.7	5.1
1.2 1.5 1.8 2.2 2.5 2.6 2.0 1.9 1.9 1.8 1.7 1.1 0.9 0.9 0.8 0.7 1.0 1.2 1.8 2.3 3.4 3.2 2.3 1.4																									Diurnal Average	
5.5 3.7 8.4 15.1 10.3 6.8 6.9 12.4 10.5 10.0 8.2 8.2 3.8 4.1 3.9 2.9 3.3 3.2 6.5 5.5 9.3 8.3 5.5 5.4																									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
Patricia McInnes - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Patricia McInnes - July 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
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> 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
Patricia McInnes - July 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	22	9	5	14	44	50	41	43	55	57	89	51	50	53	64	707
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	60	22	9	5	14	44	50	41	43	55	57	89	51	50	53	64	707

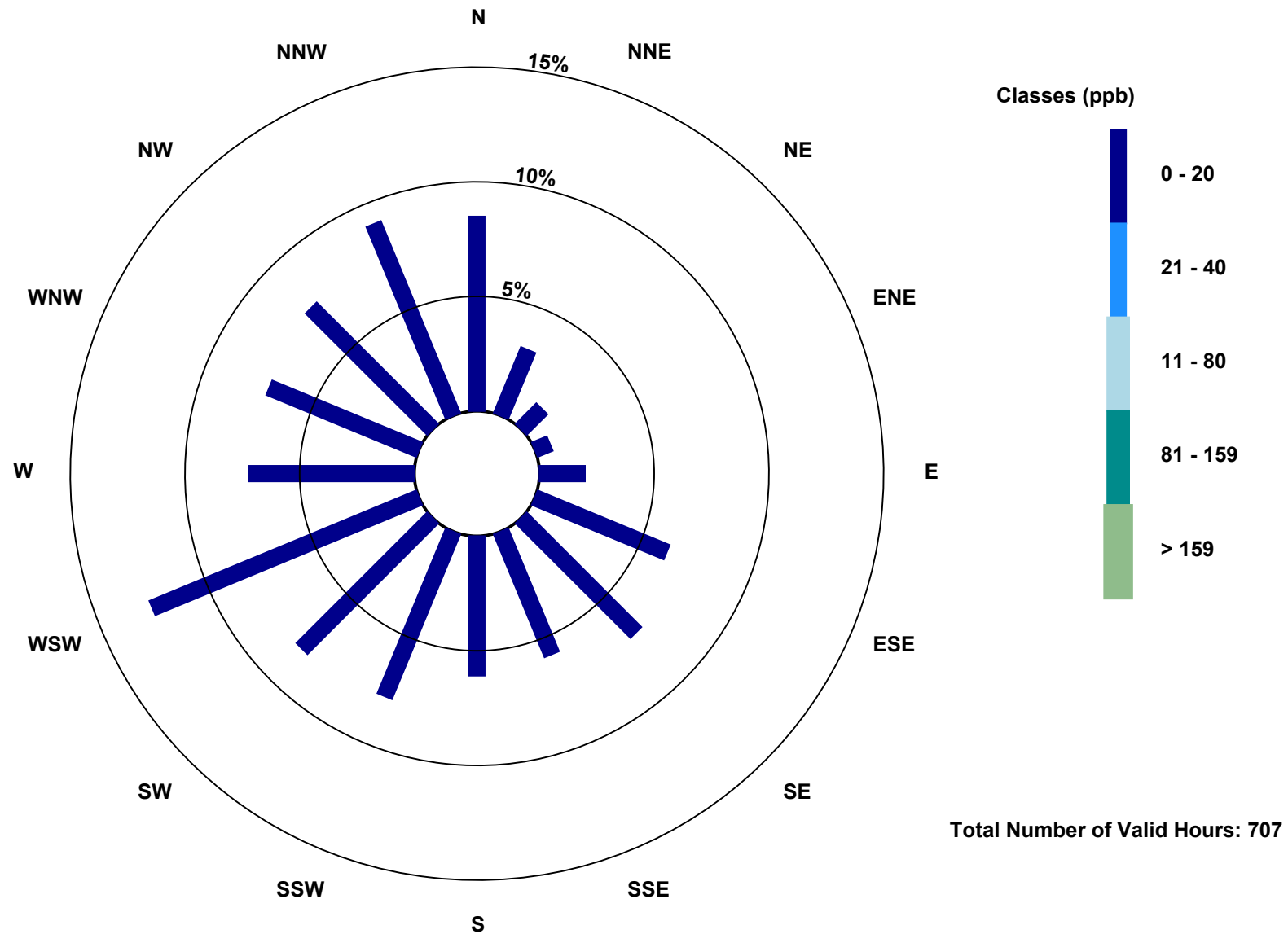
Total Number of Valid Hours: 707

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Nitrogen Dioxide (NO₂) - ppb
Patricia McInnes



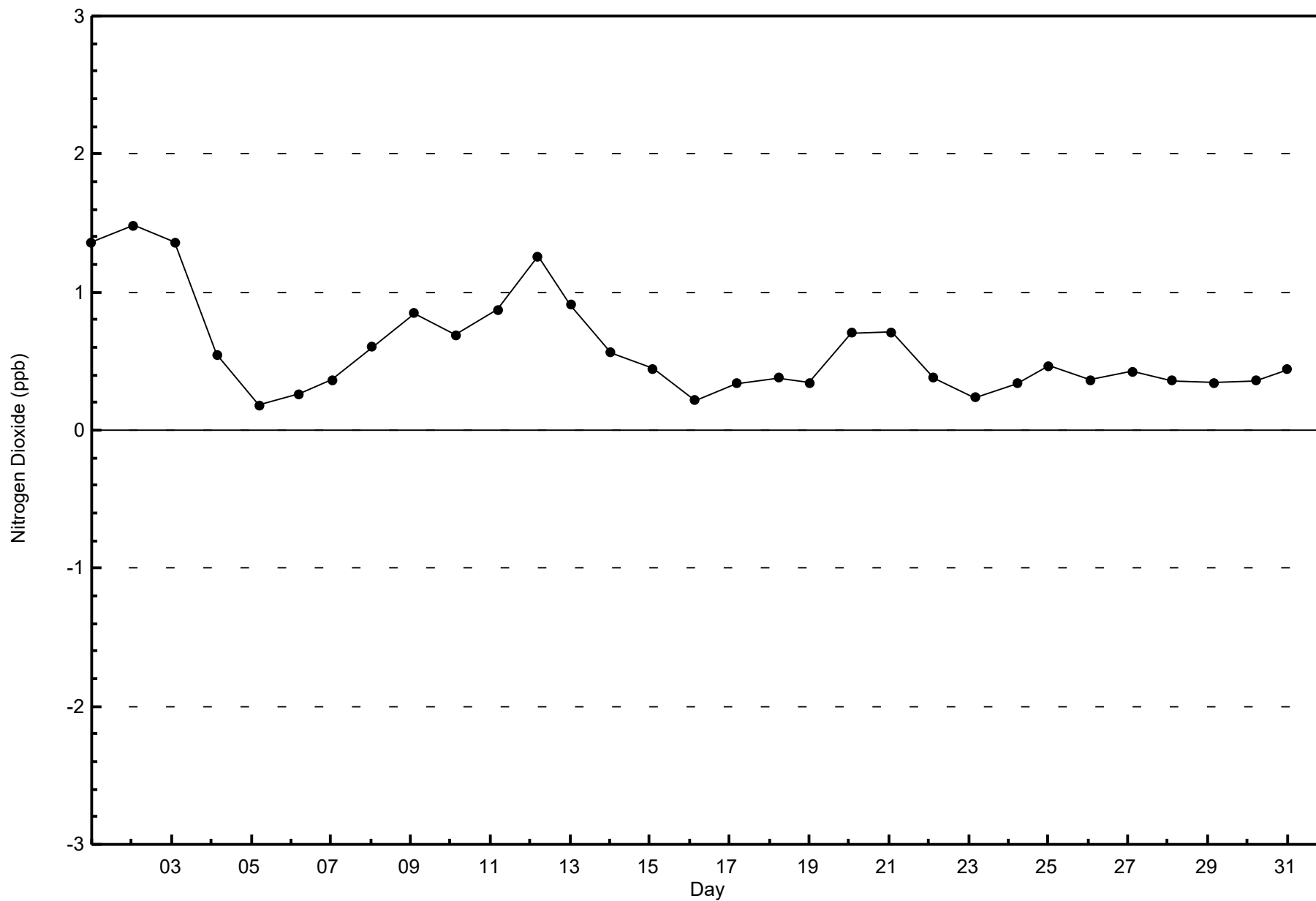


Wood Buffalo Environmental Association

Zero Responses

Nitrogen Dioxide (NO₂) - ppb

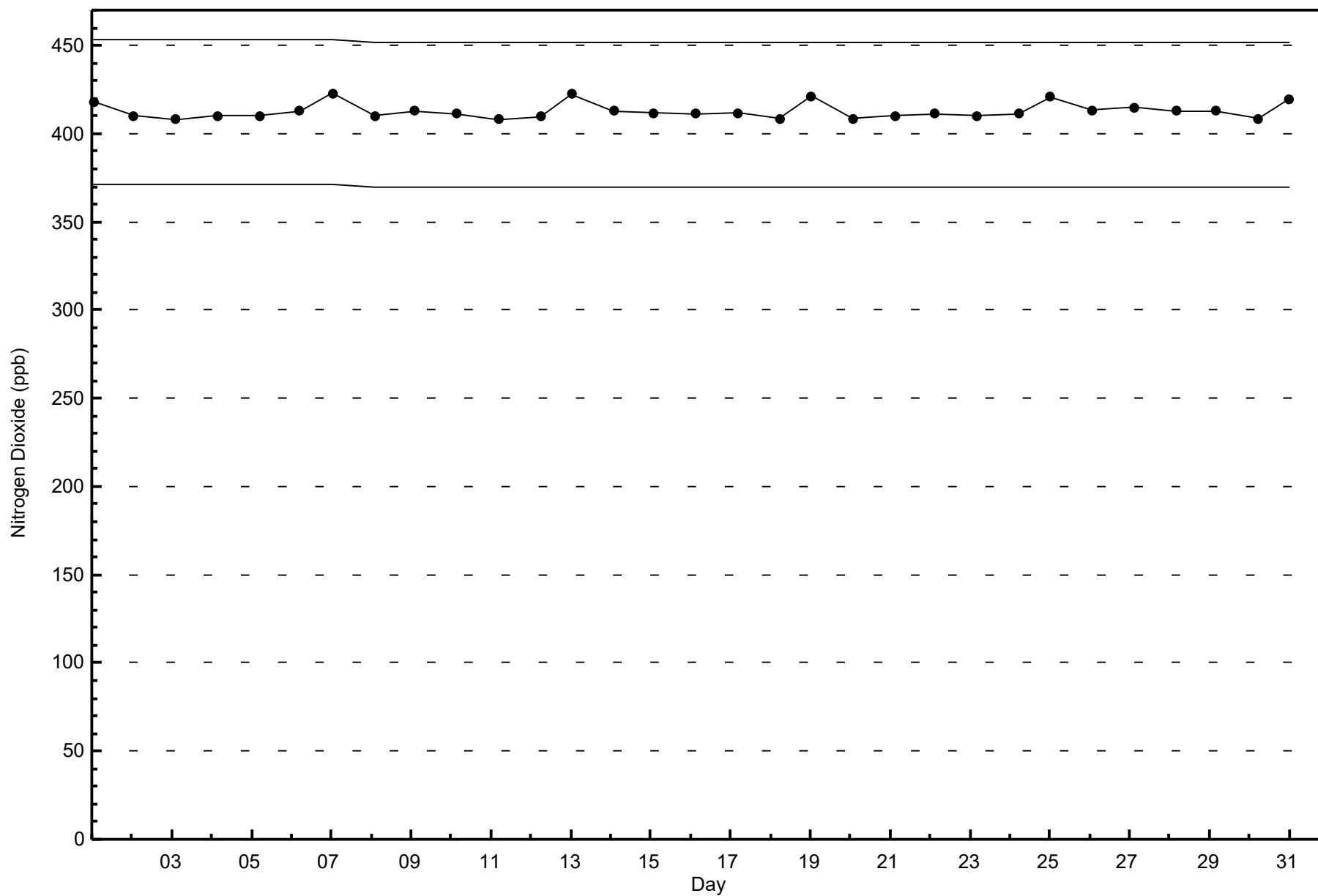
Patricia McInnes - July 2025





Wood Buffalo Environmental Association
Span Responses

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





Wood Buffalo Environmental Association

Summary of Hour Averages

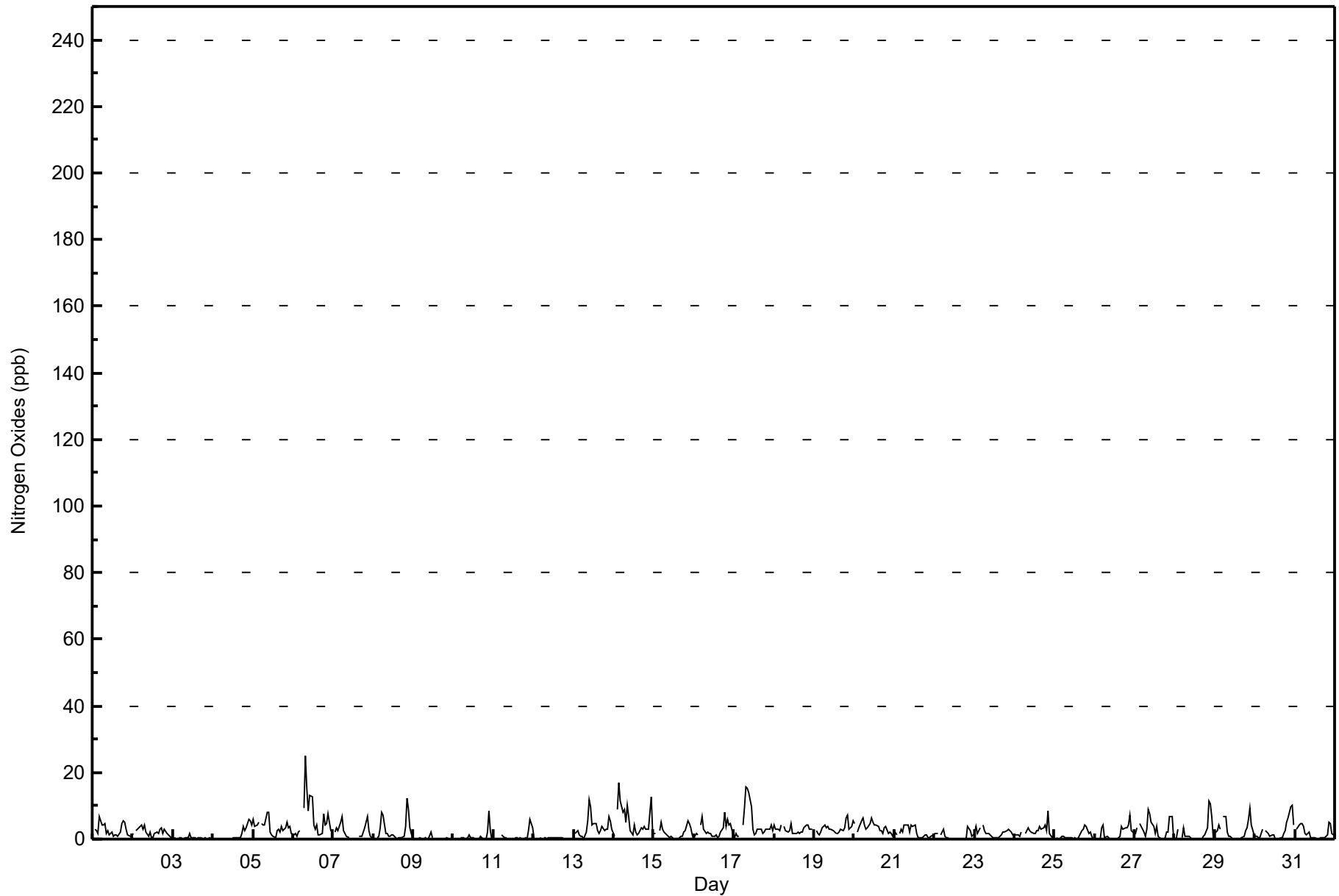
Nitrogen Oxides (NO_x) - ppb
Patricia McInnes - July 2025

Maximum Value: 25.2 ppb on Jul 6 08:00																			Maximum Daily Average: 6.0 ppb on Jul 6							Hours in Service: 744	
Minimum Value: 0.0 ppb on Jul 9 01:00																			Minimum Daily Average: 0.2 ppb on Jul 12							Hours of Data: 707	
Maximum Diurnal Average: 4.2 ppb at hour 22																			Minimum Diurnal Average: 1.0 ppb at hour 16							Hours of Missing Data: 37	
Monthly Average: 2.35 ppb																			Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.3 Median = 1.7 Q ₃ = 3.3 P ₉₀ = 5.1 P ₉₉ = 12.8							Hours of Calibration: 36	
																										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-Jul	Z	2.9	2.6	1.9	6.7	4.1	4.4	4.9	1.8	2.7	1.5	2.0	0.7	1.2	1.2	1.0	1.9	4.7	5.5	5.1	2.9	1.4	0.7	0.8	2.7	6.7	
2-Jul	1.6	Z	2.7	3.3	3.6	4.2	2.8	4.4	2.2	0.7	1.9	0.6	0.4	1.9	2.0	1.5	3.0	3.4	1.5	3.2	1.8	1.3	0.7	0.6	2.1	4.4	
3-Jul	0.2	0.5	Z	0.1	0.3	0.2	0.2	0.3	0.3	0.4	1.5	0.5	0.2	0.4	0.2	0.4	0.3	0.3	0.1	0.5	0.2	0.1	0.5	0.2	0.3	1.5	
4-Jul	0.2	0.1	0.0	Z	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.6	0.5	0.5	0.3	0.4	1.5	3.8	2.7	3.3	5.9	5.5	4.0	1.3	5.9	
5-Jul	5.9	3.9	4.1	4.9	Z	4.6	4.2	4.2	8.1	8.2	2.2	1.3	1.0	0.4	2.7	2.9	2.0	3.6	2.4	3.4	5.1	3.5	3.8	1.9	3.7	8.2	
6-Jul	1.5	1.7	1.0	2.0	2.5	Z	9.2	25.2	15.4	8.5	13.2	12.5	4.3	2.9	4.3	1.4	1.1	1.8	7.5	4.2	4.9	7.5	2.6	2.6	6.0	25.2	
7-Jul	Z	2.3	3.3	2.5	5.1	6.8	2.7	1.5	0.8	0.5	C	C	C	C	C	1.0	0.7	1.0	2.0	3.4	6.6	2.4	0.8	0.3	2.4	6.8	
8-Jul	0.4	Z	0.3	0.8	3.4	8.1	7.4	1.6	1.8	1.0	0.8	1.1	1.1	0.4	0.1	0.2	0.2	0.4	0.9	3.7	12.1	8.8	3.5	0.1	2.5	12.1	
9-Jul	0.0	0.1	Z	0.1	0.3	0.2	0.1	0.3	0.1	0.1	2.0	0.2	M	0.1	0.0	0.1	0.2	0.2	0.1	0.2	0.3	0.2	0.1	0.1	0.2	2.0	
10-Jul	0.1	0.2	0.2	Z	0.4	0.2	0.3	0.1	0.3	1.1	0.4	0.3	0.2	0.2	0.0	0.1	0.8	0.3	0.2	0.1	2.0	8.3	2.7	0.0	0.8	8.3	
11-Jul	0.1	0.2	0.1	0.1	Z	1.1	0.4	0.3	0.1	0.2	0.1	0.1	0.1	0.3	0.2	0.2	0.2	0.1	0.1	0.5	0.0	2.4	6.0	3.5	0.7	6.0	
12-Jul	0.1	0.0	0.0	0.0	0.4	Z	0.3	0.2	0.1	0.2	0.4	0.3	0.4	0.4	0.2	0.3	0.3	0.3	0.1	0.0	0.0	0.1	0.0	0.1	0.2	0.4	
13-Jul	Z	1.8	2.6	1.1	0.7	0.8	0.2	2.2	5.3	11.7	9.8	4.1	4.7	4.8	2.7	1.8	2.5	4.0	2.6	2.8	2.9	7.0	5.4	2.9	3.7	11.7	
14-Jul	0.9	Z	8.7	17.0	11.3	8.3	8.8	5.1	10.1	6.7	2.6	1.3	4.2	2.2	1.1	1.6	3.3	3.0	3.6	3.1	3.1	2.8	12.8	1.8	5.4	17.0	
15-Jul	1.7	1.8	Z	2.4	5.1	3.1	2.2	1.8	1.3	0.6	0.7	0.3	0.0	0.2	0.1	0.3	0.7	1.0	2.1	2.6	5.5	4.8	3.5	1.1	1.9	5.5	
16-Jul	0.5	1.7	1.5	Z	4.0	6.7	2.9	1.8	2.1	1.7	1.5	1.0	0.8	1.4	0.6	1.0	2.1	3.5	7.9	4.0	5.9	4.1	4.7	1.3	2.7	7.9	
17-Jul	0.6	1.7	1.0	0.7	Z	4.1	9.3	15.5	15.4	14.2	9.9	2.9	1.5	1.7	3.1	3.2	2.8	1.8	2.1	2.9	2.8	3.0	4.2	2.4	4.6	15.5	
18-Jul	4.1	3.0	2.8	2.7	4.1	Z	3.8	2.5	2.0	2.4	4.6	1.7	1.6	1.8	1.9	1.9	2.0	2.3	3.5	4.2	4.4	3.1	3.2	2.8	2.9	4.6	
19-Jul	Z	2.7	1.6	1.4	2.0	3.4	4.1	3.4	3.6	3.1	2.9	2.6	2.3	1.8	1.7	2.0	3.0	2.7	3.4	6.3	7.1	3.0	3.9	5.4	3.2	7.1	
20-Jul	4.7	Z	2.2	3.5	5.5	6.4	4.3	3.1	3.5	4.7	6.4	5.1	4.3	4.4	4.0	2.5	2.4	1.8	3.2	3.7	1.6	2.0	1.5	1.0	3.5	6.4	
21-Jul	2.7	1.3	Z	1.9	3.1	2.1	4.3	4.2	4.2	2.0	4.4	3.8	4.1	1.6	0.5	0.4	0.3	0.6	1.4	1.4	0.3	0.5	0.7	1.4	2.1	4.4	
22-Jul	1.7	1.7	1.5	Z	1.1	2.8	0.8	0.3	0.4	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	4.0	2.7	0.7	1.3	0.9	4.0	
23-Jul	1.8	3.7	1.8	3.4	Z	4.0	2.5	1.6	1.5	1.1	0.7	0.4	0.4	0.4	0.2	0.7	1.3	1.9	2.2	2.5	2.8	2.6	2.3	1.3	1.8	4.0	
24-Jul	1.1	1.5	1.1	0.9	2.2	Z	1.8	2.6	3.6	2.6	2.3	1.7	1.8	2.6	2.7	3.7	3.2	3.4	4.1	2.5	8.7	1.9	0.4	1.6	2.5	8.7	
25-Jul	Z	0.3	0.2	0.2	0.7	0.7	0.3	0.3	0.3	0.2	0.3	0.1	0.4	0.1	0.1	1.8	2.4	2.9	4.2	3.8	1.5	2.1	1.0	0.0	1.0	4.2	
26-Jul	0.0	Z	0.0	0.1	3.6	4.2	0.5	0.9	0.5	0.1	0.2	0.1	0.1	0.1	0.3	0.9	4.0	3.1	3.3	3.4	4.4	7.1	2.5	2.0	1.8	7.1	
27-Jul	1.8	3.2	Z	4.6	3.7	2.2	1.0	2.8	8.7	7.5	5.2	3.9	1.6	3.8	1.0	0.5	0.1	0.1	0.3	1.9	2.1	6.7	6.8	0.0	3.0	8.7	
28-Jul	0.0	0.2	2.9	Z	0.6	3.5	1.0	1.0	0.8	0.5	0.2	0.0	0.0	0.2	0.0	0.2	0.0	0.7	1.3	3.3	11.6	10.6	6.6	0.7	2.0	11.6	
29-Jul	1.5	2.8	4.0	2.8	Z	7.0	6.9	2.3	0.7	0.9	0.5	0.2	0.1	0.0	0.0	0.0	0.4	0.8	2.6	3.3	5.8	9.3	4.2	1.2	2.5	9.3	
30-Jul	0.9	0.8	0.3	0.3	2.8	Z	2.7	2.1	1.8	0.9	1.3	1.4	0.1	0.2	0.2	0.2	0.3	1.8	2.5	5.0	6.6	9.7	10.2	4.4	2.5	10.2	
31-Jul	Z	2.9	4.2	4.5	4.7	4.0	1.6	1.4	2.2	0.5	0.5	0.5	0.3	0.2	0.2	0.4	0.4	0.3	0.6	1.4	5.1	4.8	1.7	1.1	1.9	5.1	
1.4 1.7 1.9 2.4 3.0 3.6 2.9 3.2 3.2 2.8 2.6 1.7 1.3 1.2 1.1 1.0 1.4 1.7 2.4 2.8 4.0 4.2 3.3 1.5																										Diurnal Average	
5.9 3.9 8.7 17.0 11.3 8.3 9.3 25.2 15.4 14.2 13.2 12.5 4.7 4.8 4.3 3.7 4.0 4.7 7.9 6.3 12.1 10.6 12.8 5.4																										Diurnal Maximum	
Z - zerospan C - Calibration M - Maintenance																											



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Patricia McInnes - July 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
Patricia McInnes - July 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	22	9	5	14	44	50	41	43	55	57	89	51	50	53	64	706
21 - 40	1	0	0	0	0	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	60	22	9	5	14	44	50	41	43	55	57	89	51	50	53	64	707

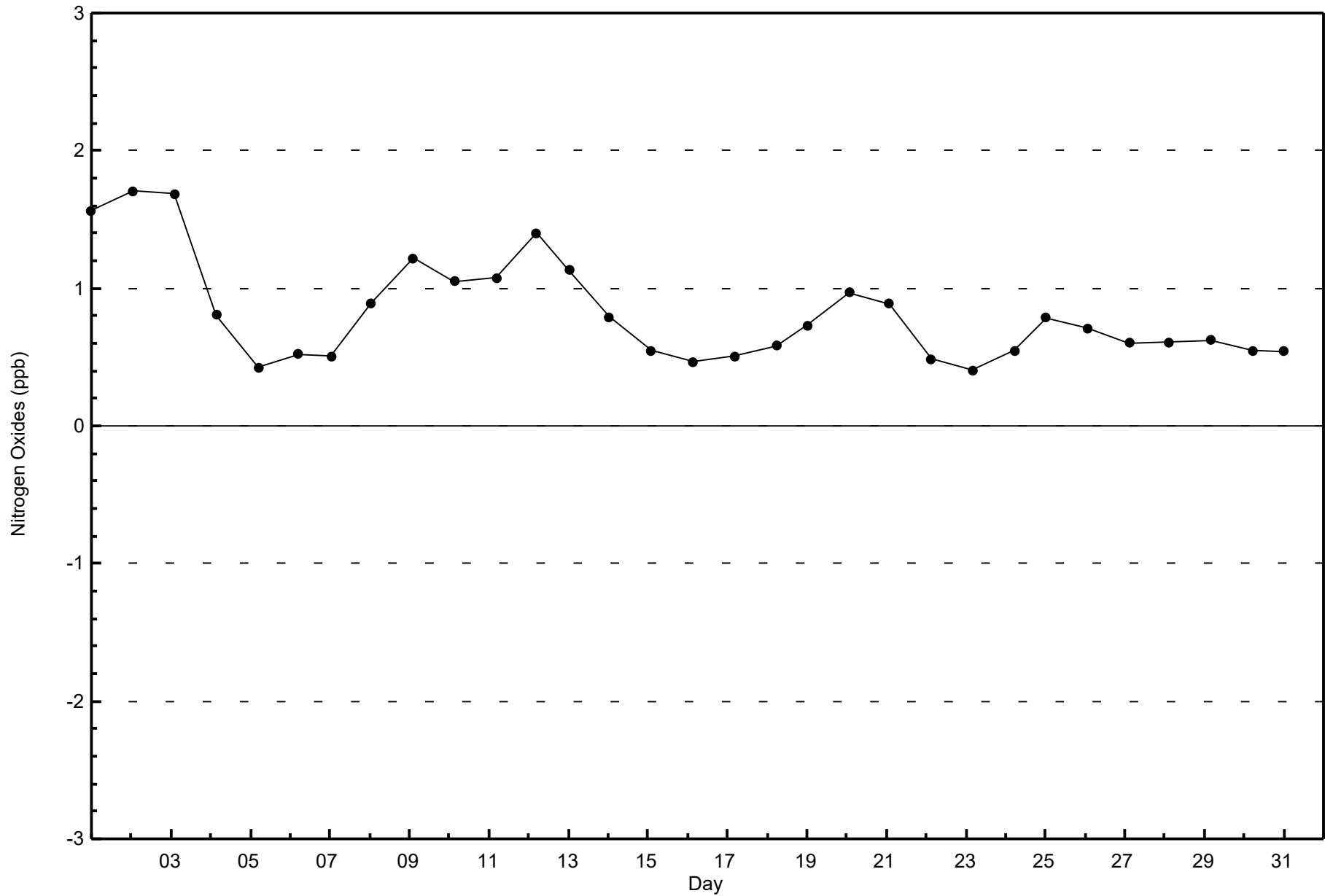
Total Number of Valid Hours: 707

Total Number of Hours: 744



Nitrogen Oxides (NO_x) - ppb
Patricia McInnes

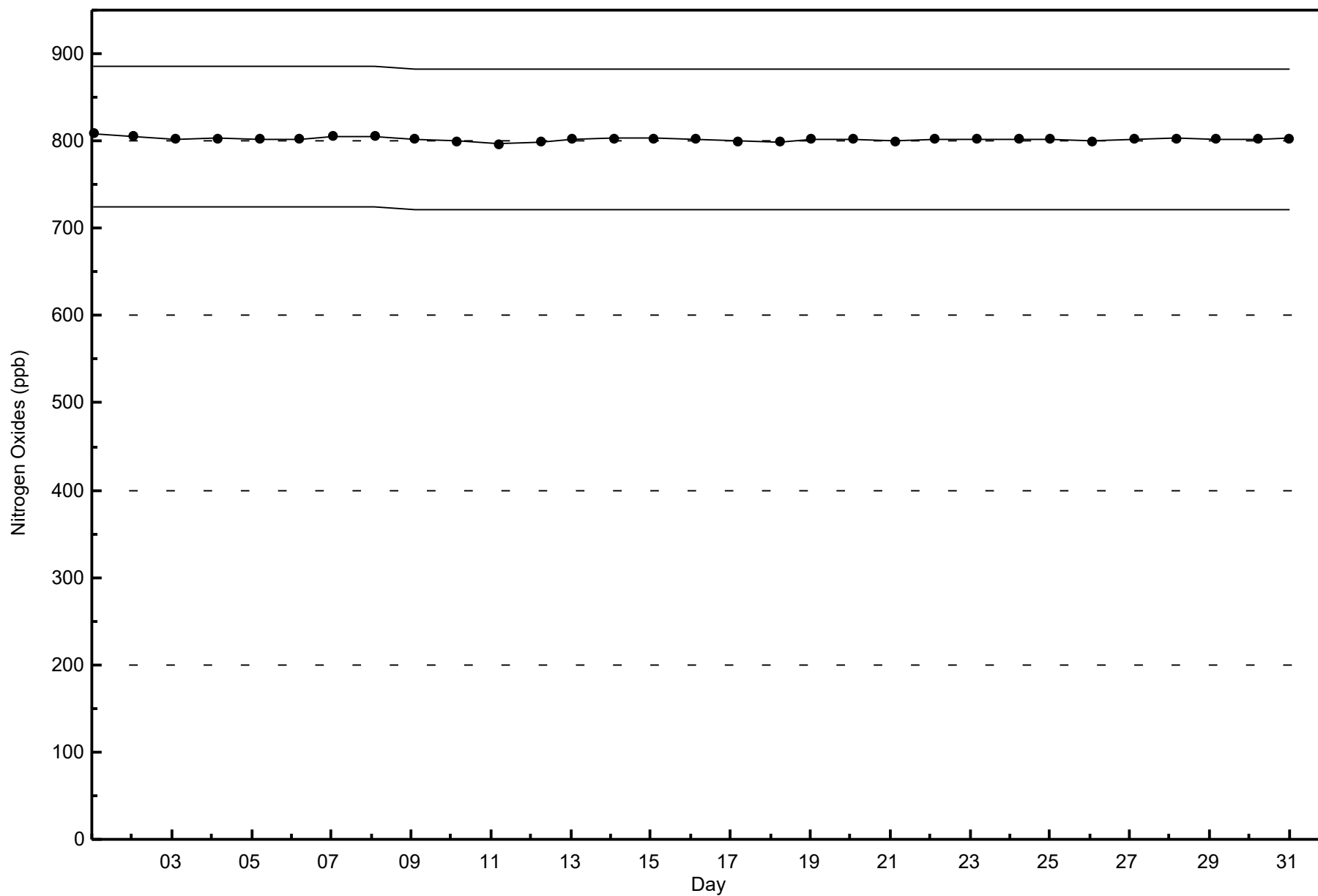






Wood Buffalo Environmental Association
Span Responses

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Ammonia (NH₃) - ppb

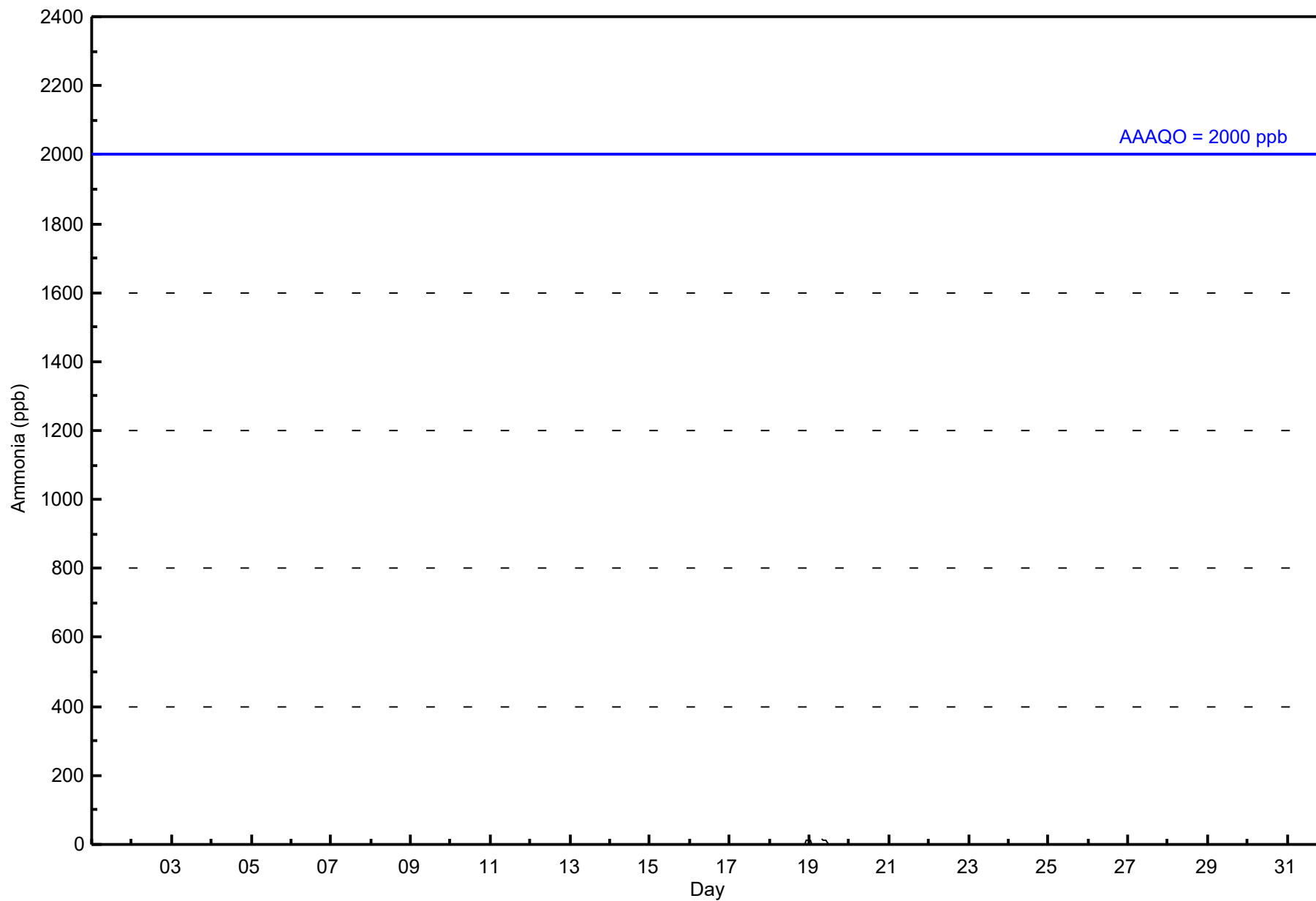
Patricia McInnes - July 2025

Number of Exceedences (AAAQO): 1-hr: 0																			Hours in Service: 744											
Maximum Value: 15.2 ppb on Jul 19 08:00																			Maximum Daily Average: 2.9 ppb on Jul 19						Hours of Data: 649					
Minimum Value: 0.0 ppb on Jul 1 01:00																			Minimum Daily Average: 0.0 ppb on Jul 1						Hours of Missing Data: 95					
Maximum Diurnal Average: 0.6 ppb at hour 8																			Minimum Diurnal Average: 0.0 ppb at hour 2						Hours of Calibration: 42					
Monthly Average: 0.13 ppb																			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 = 5.6						Percent Operational Time: 92.9					
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum				
1-Jul	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			
2-Jul	Z	RE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C	C	C	C	C	C	C	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
3-Jul	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			
4-Jul	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			
5-Jul	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			
6-Jul	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			
7-Jul	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			
8-Jul	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	0.0	0.0			
9-Jul	0.0	Z	RE	RE	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	0.0	0.0			
10-Jul	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			
11-Jul	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			
12-Jul	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			
13-Jul	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			
14-Jul	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	0.0	0.0			
15-Jul	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	0.0			
16-Jul	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			
17-Jul	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			
18-Jul	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	10.7	12.7	1.1	12.7			
19-Jul	11.7	0.0	0.0	0.0	0.0	Z	RE	15.2	13.2	12.2	11.2	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	2.9	15.2			
20-Jul	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	0.0	0.0			
21-Jul	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	0.0			
22-Jul	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			
23-Jul	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			
24-Jul	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			
25-Jul	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			
26-Jul	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	0.0	0.0			
27-Jul	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	0.0			
28-Jul	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			
29-Jul	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			
30-Jul	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			
31-Jul	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			
0.4 0.0 0.0 0.0 0.0 0.0 0.0 0.6 0.4 0.4 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 0.3 0.4																									Diurnal Average					
11.7 0.0 0.0 0.0 0.0 0.0 0.0 15.2 13.2 12.2 11.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 10.7 12.7																									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 - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ammonia (NH₃) - ppb
Patricia McInnes - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 5	642	98.92	98.92
6 - 10	0	0.00	98.92
11 - 15	7	1.08	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: 649

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Ammonia (NH₃) - ppb
Patricia McInnes - July 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	54	22	8	5	12	39	42	34	38	50	52	80	49	47	50	60	642
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	2	5	0	0	0	0	0	0	0	0	0	7
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	54	22	8	5	12	41	47	34	38	50	52	80	49	47	50	60	649

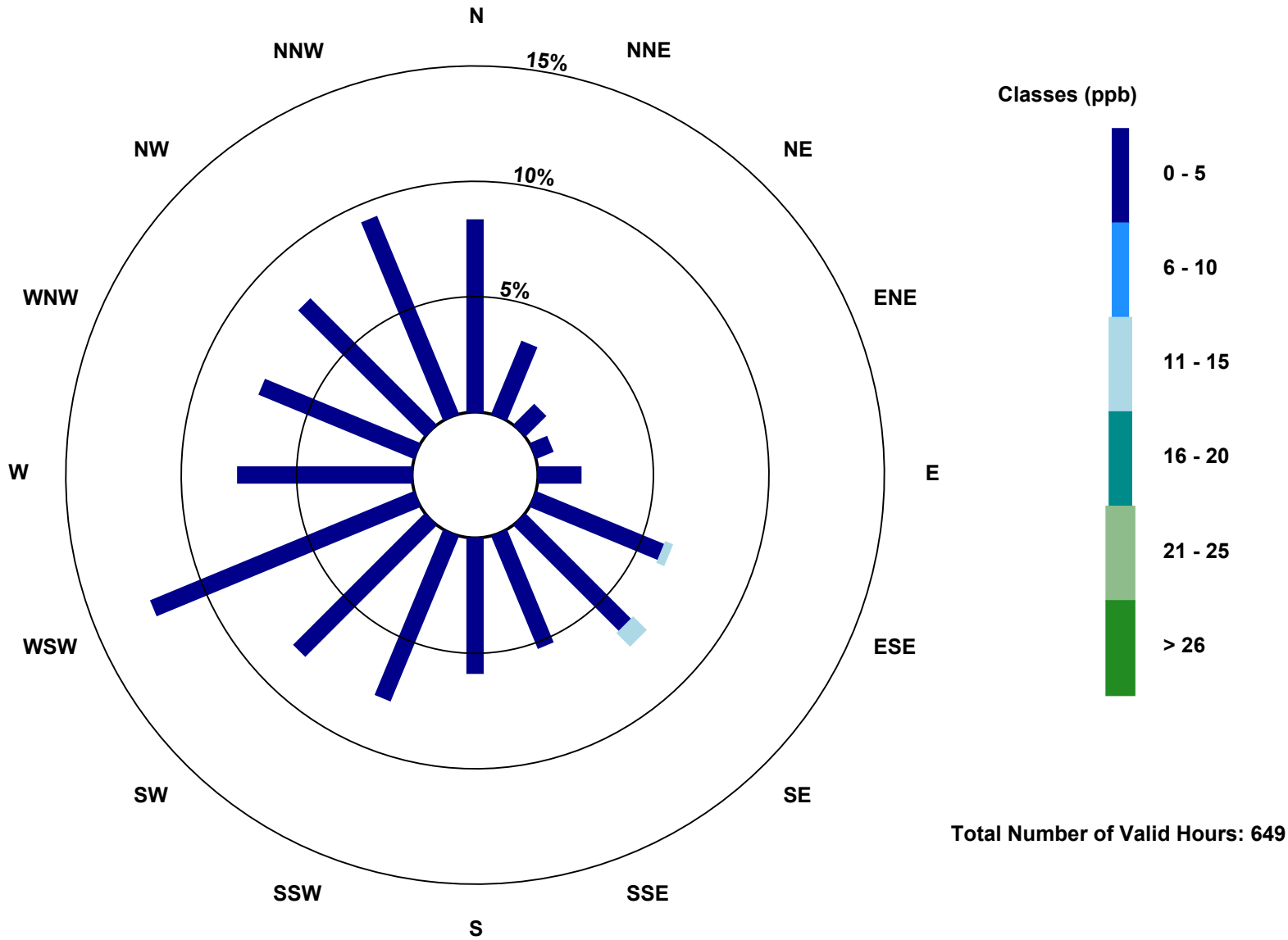
Total Number of Valid Hours: 649

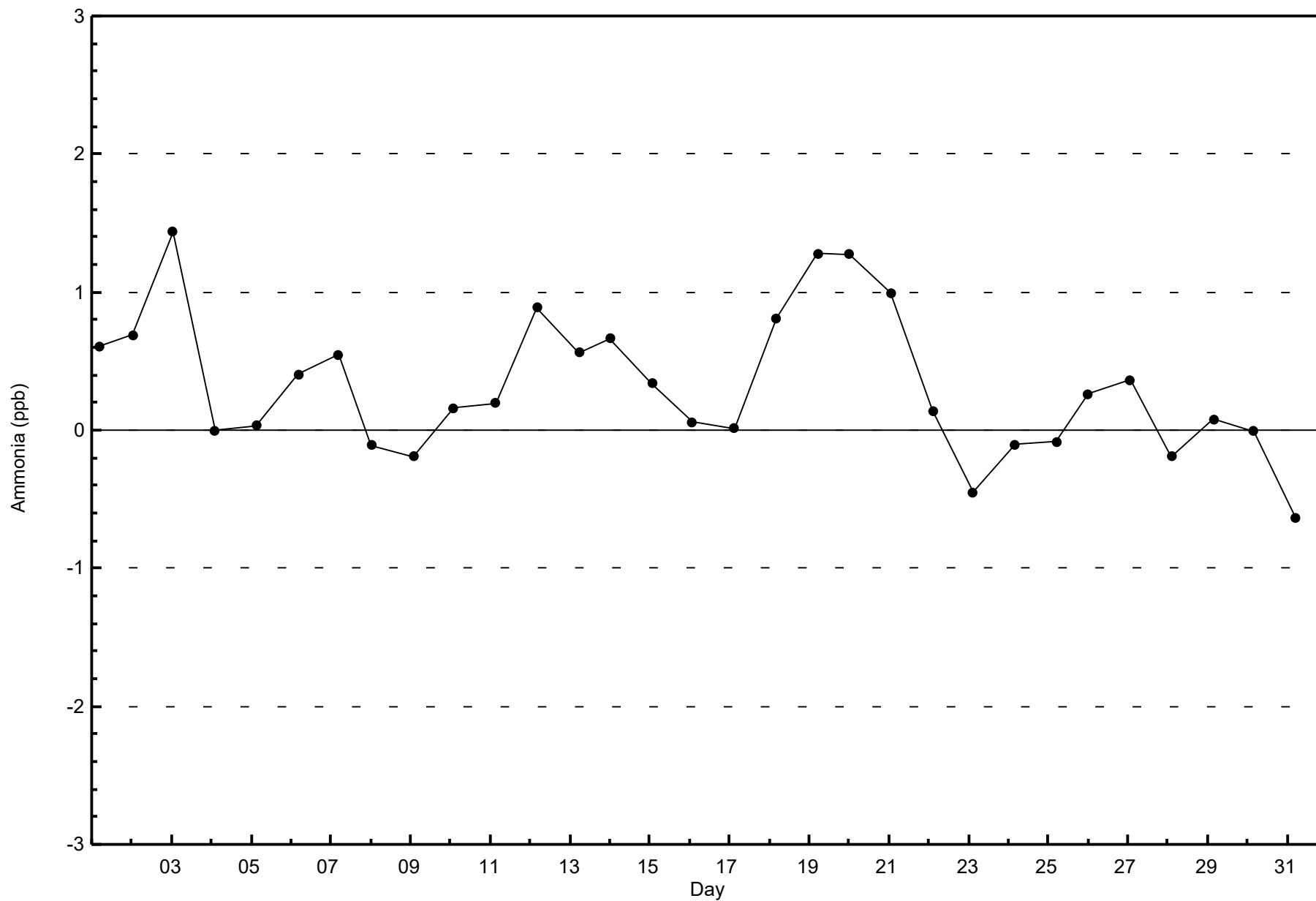
Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Ammonia (NH₃) - ppb
Patricia McInnes

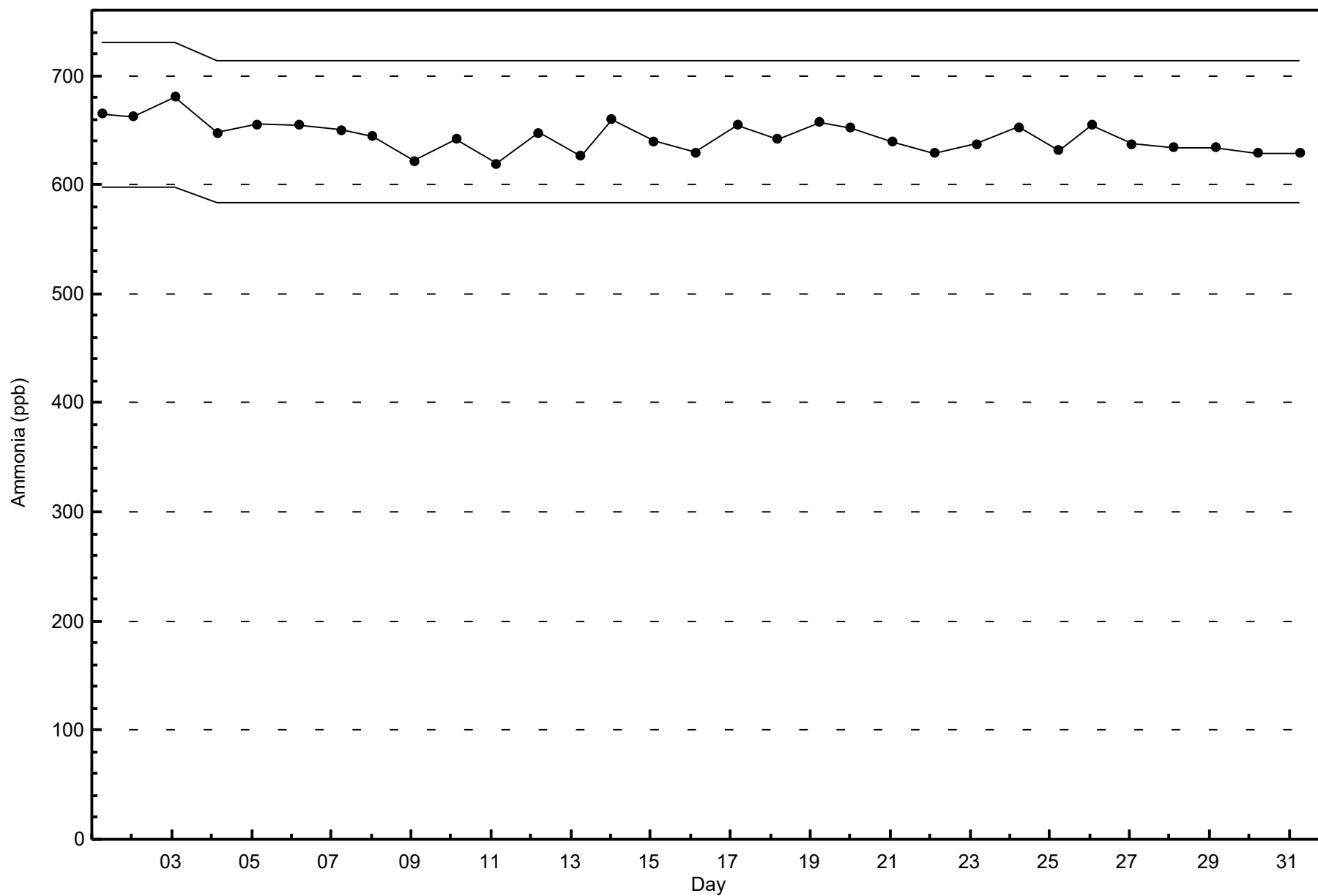






Wood Buffalo Environmental Association
Span Responses

Ammonia (NH₃) - ppb
Patricia McInnes - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

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

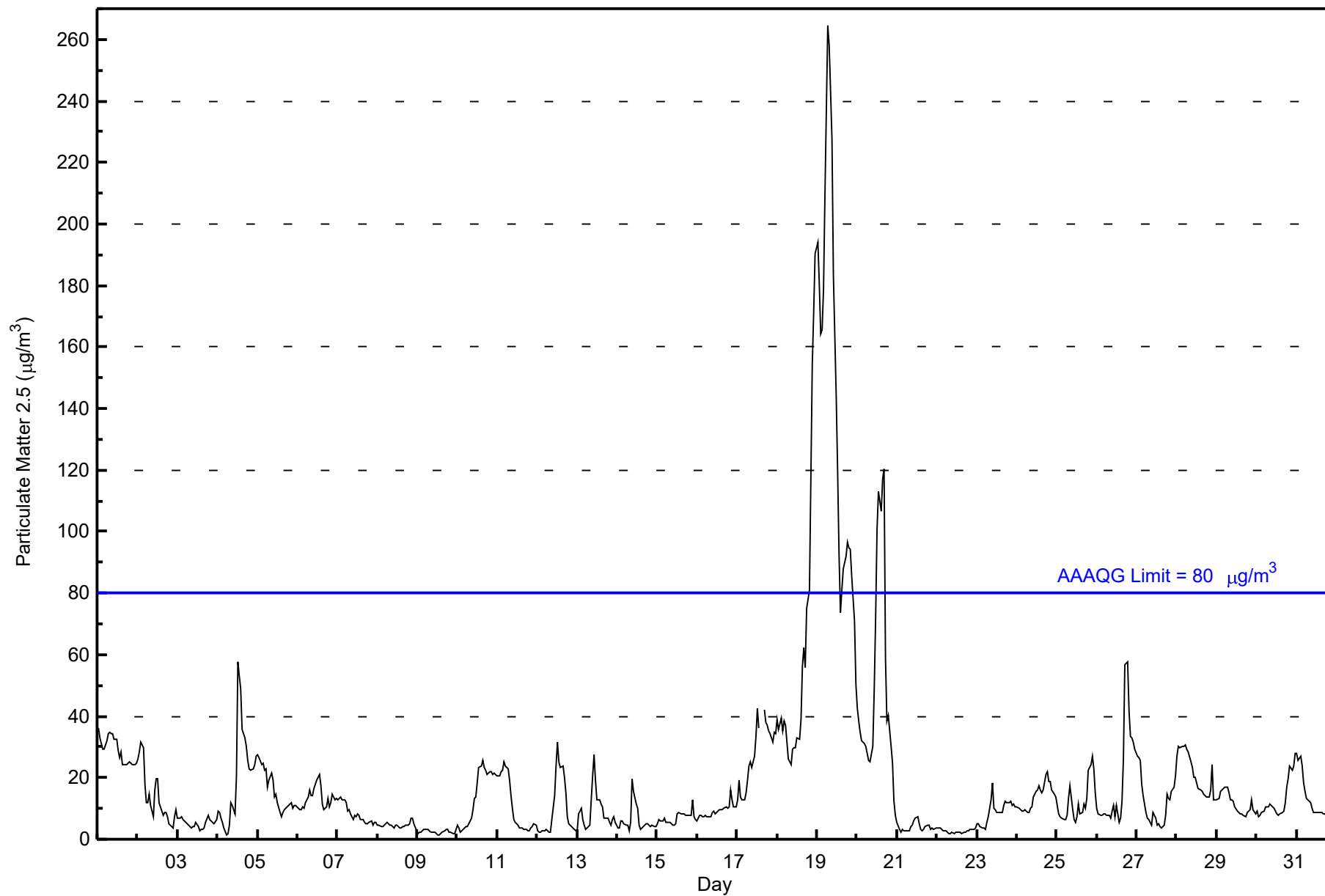
Patricia McInnes - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 4 Maximum Value: 264.4 µg/m³ on Jul 19 07:00 Minimum Value: 1.4 µg/m³ on Jul 9 13:00 Maximum Diurnal Average: 20.9 µg/m³ at hour 13 Monthly Average: 19.07 µg/m³																				Maximum Daily Average: 143.9 µg/m³ on Jul 19 Minimum Daily Average: 2.4 µg/m³ on Jul 9 Minimum Diurnal Average: 17.3 µg/m³ at hour 15 Percentiles: P ₁ = 1.8 P ₁₀ = 3.2 Q ₁ = 5.3 Median = 9.8 Q ₃ = 21.4 P ₉₀ = 33.3 P ₉₉ = 182.2				Hours in Service: 744 Hours of Data: 742 Hours of Missing Data: 2 Hours of Calibration: 2 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-Jul	36.3	32.9	31.0	29.2	29.3	32.2	34.5	34.9	34.4	34.3	32.6	32.4	28.7	26.6	28.2	24.2	24.3	24.1	24.8	25.1	24.6	24.3	24.2	24.9	29.1	36.3
2-Jul	26.3	28.3	31.4	29.8	18.1	11.8	11.9	14.8	11.1	7.1	15.9	19.8	19.8	11.7	9.3	8.0	8.8	8.6	7.3	5.0	4.3	3.8	7.4	9.5	13.7	31.4
3-Jul	6.9	6.9	7.2	6.6	5.8	5.6	4.9	4.3	3.7	4.1	4.2	5.5	4.0	2.8	3.0	3.3	3.5	5.7	7.7	6.2	5.8	5.5	5.2	6.3	5.2	7.7
4-Jul	9.4	8.8	7.0	5.3	3.8	1.5	1.7	4.6	12.1	10.8	8.1	20.5	57.8	53.0	49.0	35.7	33.0	30.1	25.8	22.9	22.3	22.8	24.4	26.9	20.7	57.8
5-Jul	27.7	26.5	24.4	24.7	22.6	22.8	17.1	19.1	21.5	19.2	13.7	14.5	12.1	8.9	7.1	8.6	9.6	10.2	10.7	11.3	12.1	9.9	11.1	10.9	15.7	27.7
6-Jul	10.0	9.7	9.4	10.4	10.0	12.0	13.9	15.9	14.3	14.3	16.5	19.1	20.0	20.9	17.4	11.4	9.6	10.7	13.1	10.7	11.8	14.6	13.0	13.4	13.4	20.9
7-Jul	13.0	13.2	13.9	12.8	12.6	12.1	9.2	9.4	8.2	6.4	7.6	7.4	8.4	7.7	6.5	6.2	5.6	4.9	4.9	5.4	5.7	4.4	5.7	5.3	8.2	13.9
8-Jul	4.6	4.5	4.2	4.0	4.5	5.1	5.7	4.7	4.5	4.1	3.7	4.5	4.6	3.9	3.5	3.9	4.1	4.4	4.6	5.3	7.0	6.7	4.9	2.6	4.6	7.0
9-Jul	1.8	2.2	2.3	2.8	3.3	3.3	3.1	2.7	2.4	2.2	2.3	1.7	1.4	1.5	1.8	2.3	2.7	3.2	3.0	2.5	2.3	1.7	1.8	3.1	2.4	3.3
10-Jul	4.5	3.5	2.3	3.1	3.5	4.0	4.3	4.9	6.7	9.4	13.3	13.9	18.1	23.5	23.8	25.4	23.5	22.3	21.2	21.8	21.9	21.3	21.5	21.1	14.1	25.4
11-Jul	20.6	20.8	21.8	22.5	25.3	23.9	22.7	19.3	14.4	10.1	6.4	5.4	4.5	3.8	3.6	3.8	3.2	3.2	2.5	2.7	3.6	4.1	4.9	4.8	10.7	25.3
12-Jul	2.9	2.5	2.2	2.6	3.0	3.2	2.7	2.2	2.4	6.6	14.1	23.7	31.8	25.1	23.2	23.6	20.1	14.9	7.2	4.9	3.9	3.6	3.1	2.8	9.7	31.8
13-Jul	3.0	8.4	9.9	6.6	4.5	3.1	3.5	4.6	12.7	20.4	27.3	19.4	13.0	12.8	11.5	10.5	7.0	6.8	6.7	5.3	4.7	6.3	7.3	5.6	9.2	27.3
14-Jul	3.7	3.7	5.8	5.7	4.9	4.4	4.4	2.7	5.5	19.7	15.4	11.5	10.0	4.8	3.1	3.4	4.5	5.0	5.1	4.7	4.3	4.4	4.2	4.3	6.1	19.7
15-Jul	5.2	6.5	6.1	6.2	6.7	5.7	5.5	5.5	5.4	4.8	4.4	4.9	8.2	8.5	8.2	8.1	8.1	7.9	7.9	7.9	7.7	12.9	7.2	6.3	6.9	12.9
16-Jul	6.0	7.8	7.7	7.4	7.5	7.7	7.5	7.3	7.5	8.6	9.3	8.5	9.3	9.5	9.5	9.5	10.3	10.6	10.0	10.6	16.1	13.0	10.6	10.3	9.3	16.1
17-Jul	12.6	19.3	13.7	12.9	12.8	15.2	19.4	24.0	25.0	23.5	26.8	33.4	42.4	36.4	C	C	42.3	38.1	36.9	35.3	34.3	31.6	34.7	34.4	27.5	42.4
18-Jul	38.9	35.6	39.1	35.2	38.5	37.1	31.7	26.1	24.4	29.1	29.7	29.6	32.8	32.6	39.1	56.3	62.4	55.9	75.2	81.0	117.4	154.3	171.1	190.2	61.0	190.2
19-Jul	194.3	180.4	164.2	165.7	178.9	209.5	264.4	258.3	242.9	227.7	183.5	144.2	119.9	93.0	73.5	81.1	87.7	91.9	96.5	94.8	94.1	85.6	71.0	50.4	143.9	264.4
20-Jul	42.5	38.5	34.6	32.2	31.3	30.1	27.8	25.4	25.4	30.3	48.4	71.8	100.8	113.0	106.8	117.2	120.2	59.2	38.5	40.3	30.0	24.7	12.5	7.7	50.4	120.2
21-Jul	5.4	3.4	2.1	3.0	2.9	2.8	2.5	2.8	4.2	4.5	6.0	7.0	7.4	5.0	3.1	3.0	3.4	4.0	4.4	4.8	3.1	3.5	3.1	3.8	4.0	7.4
22-Jul	3.9	3.8	3.6	3.2	2.7	2.6	2.1	2.0	1.9	2.2	1.7	2.4	2.2	2.2	2.3	2.0	2.3	2.5	2.8	2.8	3.1	3.4	3.2	3.6	2.7	3.9
23-Jul	5.1	5.1	4.0	3.7	3.5	3.2	5.3	7.2	12.8	18.5	10.0	9.7	8.8	8.7	8.6	8.7	11.1	12.3	12.0	11.8	12.2	11.0	11.3	10.6	9.0	18.5
24-Jul	10.6	10.2	9.6	9.1	9.2	9.5	8.8	8.7	10.0	10.5	13.7	15.5	16.1	17.2	16.1	14.9	16.1	20.8	21.8	18.9	18.7	16.1	14.8	13.8	13.8	21.8
25-Jul	11.1	8.4	7.2	6.7	6.4	6.3	7.8	13.1	17.2	9.5	6.6	5.3	7.3	11.2	8.2	8.5	11.5	9.9	13.1	22.2	24.1	26.9	23.0	15.1	11.9	26.9
26-Jul	9.9	8.1	7.9	7.7	8.3	8.3	8.0	7.6	6.8	9.1	10.8	7.2	11.1	5.4	6.8	12.6	25.9	56.9	57.8	41.7	33.2	33.0	31.4	29.1	18.5	57.8
27-Jul	26.9	26.5	25.7	17.8	14.2	8.5	6.7	6.4	5.5	4.7	8.8	6.7	4.5	5.1	3.9	3.7	4.6	8.0	14.5	13.5	12.9	15.7	16.9	20.7	11.8	26.9
28-Jul	27.2	30.1	29.9	30.2	30.3	30.8	29.1	28.5	25.3	23.5	20.1	20.1	18.3	16.6	16.1	15.5	14.8	14.1	13.7	13.8	16.2	24.3	13.0	12.9	21.4	30.8
29-Jul	12.8	13.4	15.7	15.9	16.4	16.9	16.9	15.1	12.8	12.9	12.2	10.5	9.3	8.7	8.4	8.2	7.6	7.5	8.5	9.0	9.7	12.9	9.8	8.1	11.6	16.9
30-Jul	8.9	7.5	8.0	8.6	9.3	10.5	10.3	10.4	11.3	11.0	10.1	9.0	8.1	7.8	8.2	8.7	9.0	12.1	16.9	19.7	24.0	22.4	23.6	27.7	12.6	27.7
31-Jul	27.8	25.5	27.1	23.6	18.2	15.6	13.3	13.0	11.9	10.2	8.8	8.6	8.6	8.9	8.6	8.7	8.3	8.1	7.9	8.5	9.0	9.4	9.4	9.8	12.9	27.8
20.0 19.4 18.7 17.9 17.7 18.2 19.6 19.5 19.5 19.7 19.1 19.2 20.9 19.2 17.3 17.9 19.5 18.5 18.8 18.4 19.4 20.5 19.5 19.2 194.3 180.4 164.2 165.7 178.9 209.5 264.4 258.3 242.9 227.7 183.5 144.2 119.9 113.0 106.8 117.2 120.2 91.9 96.5 94.8 117.4 154.3 171.1 190.2																									Diurnal Average	Diurnal Maximum
C - Calibration Alberta Ambient Air Quality Guideline/Objectives: 1-hr 80 µg/m³ 24-hr 29 µg/m³																										



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges ($\mu\text{g}/\text{m}^3$)	Number of Hours	%	Cumulative %
0 - 5	193	26.01	26.01
6 - 15	304	40.97	66.98
16 - 25	112	15.09	82.08
26 - 80	102	13.75	95.82
> 81.0	31	4.18	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
Patricia McInnes - July 2025

Concentration Ranges (µg/m³)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	17	5	2	0	0	3	3	2	13	15	16	42	27	16	14	18	193
6 - 15	17	8	6	2	4	16	14	21	26	38	34	38	18	17	20	25	304
16 - 25	9	2	0	1	4	8	13	10	4	3	9	8	6	11	10	14	112
26 - 80	18	6	1	1	5	10	8	7	2	9	3	4	2	5	12	9	102
> 81.0	1	0	0	1	1	7	16	2	1	0	0	0	1	1	0	0	31
Totals	62	21	9	5	14	44	54	42	46	65	62	92	54	50	56	66	742

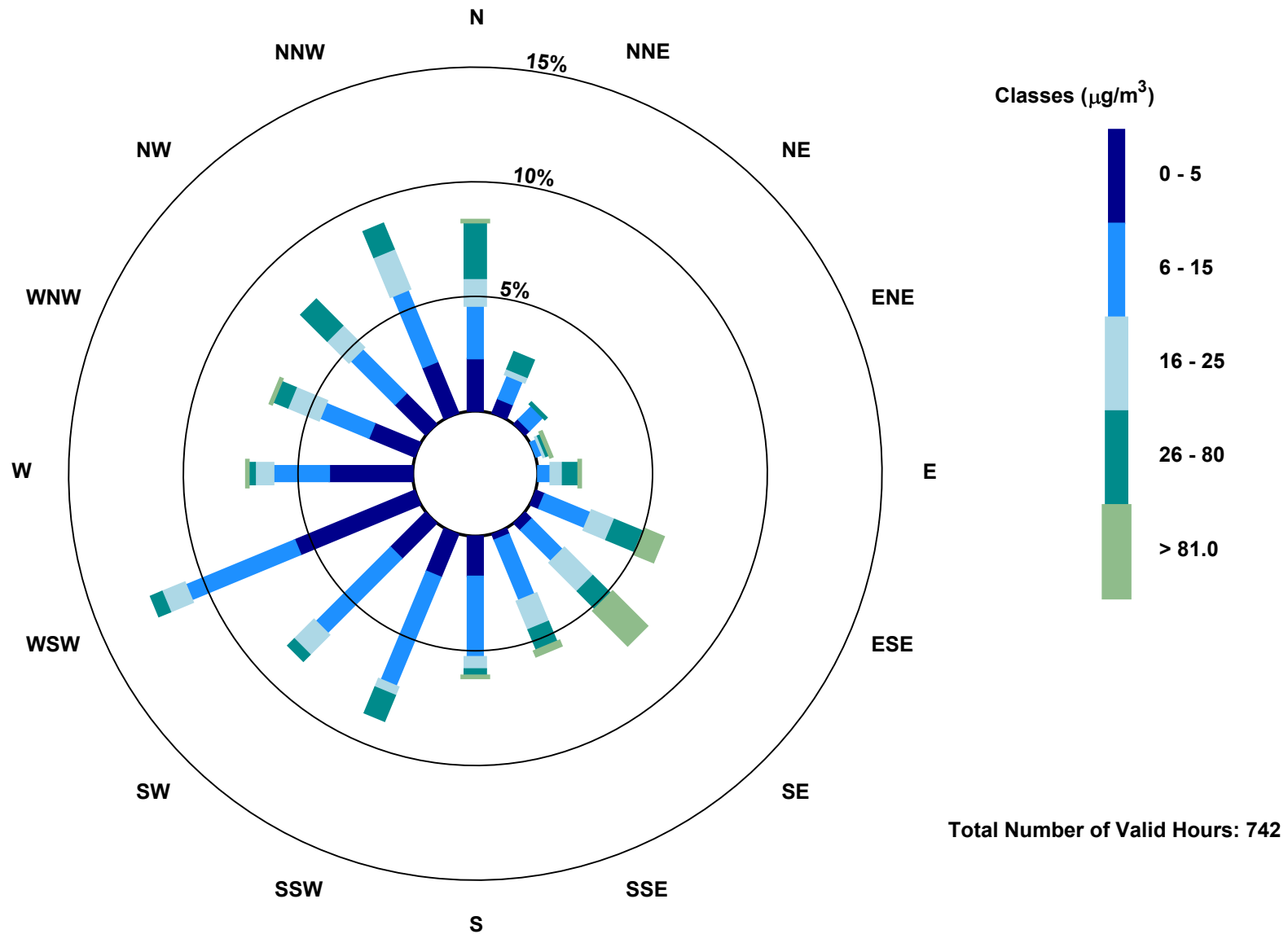
Total Number of Valid Hours: 742

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Ambient Temperature 2m (AT2) - C

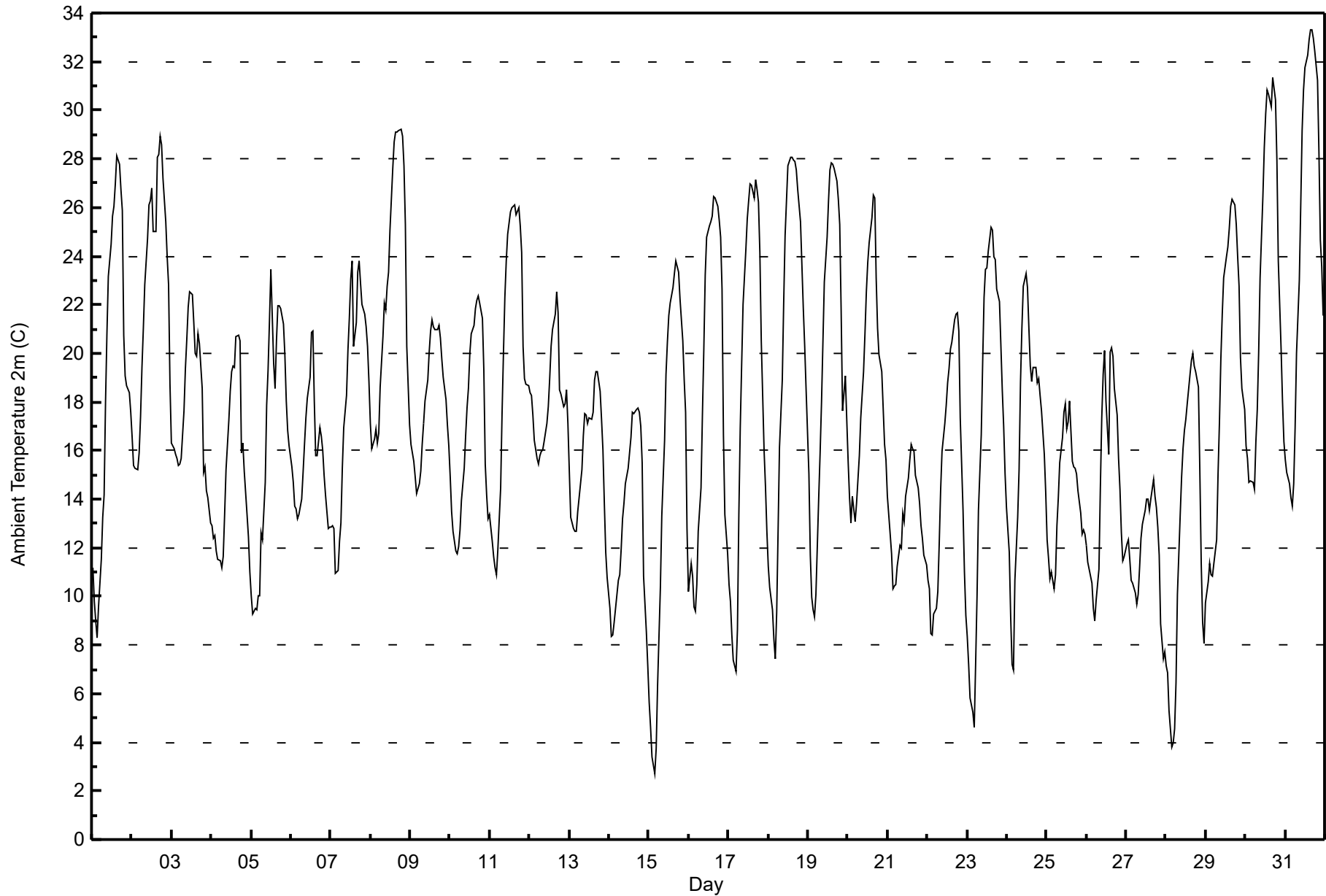
Patricia McInnes - July 2025

Maximum Value: 33.3 C on Jul 31 16:00																				Maximum Daily Average: 24.7 C on Jul 31										Hours in Service: 744	
Minimum Value: 2.7 C on Jul 15 04:00																				Minimum Daily Average: 11.8 C on Jul 27										Hours of Data: 744	
Maximum Diurnal Average: 23.1 C at hour 17																				Minimum Diurnal Average: 10.7 C at hour 5										Hours of Missing Data: 0	
Monthly Average: 17.49 C																				Percentiles: P ₁ = 4.9 P ₁₀ = 10.2 Q ₁ = 13.1 Median = 17.1 Q ₃ = 21.4 P ₉₀ = 26.0 P ₉₉ = 31.3										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-Jul	11.2	9.8	9.0	8.3	9.6	11.5	13.3	14.2	18.0	20.8	23.2	24.5	25.6	26.0	27.0	28.1	27.8	26.8	25.9	20.8	19.1	18.7	18.4	17.6	19.0	28.1					
2-Jul	16.5	15.4	15.3	15.2	15.9	17.4	19.4	21.1	22.8	24.7	26.1	26.3	26.8	25.0	25.0	28.0	28.2	28.9	28.6	27.2	25.4	24.0	22.8	18.8	22.7	28.9					
3-Jul	16.3	16.1	15.8	15.7	15.4	15.5	15.7	17.6	19.4	20.6	21.9	22.5	22.4	21.3	20.0	19.9	20.8	20.4	18.5	15.1	15.3	14.3	14.0	13.0	17.8	22.5					
4-Jul	12.9	12.4	12.5	11.9	11.5	11.5	11.2	11.6	13.4	15.2	17.2	18.5	19.3	19.5	19.4	20.7	20.8	20.5	15.9	16.3	15.2	13.4	12.4	11.0	15.2	20.8					
5-Jul	10.0	9.3	9.5	9.5	10.1	10.0	12.6	12.3	14.7	17.9	19.3	21.3	23.4	19.6	18.6	20.5	22.0	21.9	21.9	21.2	19.9	18.1	16.8	16.2	16.5	23.4					
6-Jul	15.3	14.7	13.7	13.6	13.2	13.4	14.0	15.1	16.2	17.3	18.2	19.0	20.9	20.9	18.0	15.8	15.8	17.0	16.6	16.0	15.0	14.2	12.8	12.9	15.8	20.9					
7-Jul	12.9	12.9	12.8	10.9	11.1	12.3	13.0	15.3	16.9	18.2	20.1	21.4	23.0	23.8	20.3	21.3	23.3	23.8	22.9	22.0	21.6	21.1	20.3	18.9	18.3	23.8					
8-Jul	17.1	16.1	16.5	16.9	16.3	16.7	18.6	20.7	22.1	21.8	22.8	23.3	25.1	27.6	28.7	29.1	29.1	29.1	29.2	29.0	27.7	25.3	20.3	17.1	22.8	29.2					
9-Jul	16.3	15.9	15.6	14.9	14.3	14.7	15.1	16.3	17.1	18.0	18.9	20.0	20.9	21.4	21.1	21.0	21.0	21.2	20.6	19.8	19.0	18.1	17.0	16.2	18.1	21.4					
10-Jul	14.9	13.5	12.7	11.9	11.8	12.1	12.7	14.0	15.3	16.6	17.7	18.5	20.0	20.8	21.2	21.8	22.2	22.4	22.1	21.4	19.3	15.5	14.2	13.2	16.9	22.4					
11-Jul	13.4	12.3	11.6	11.2	10.9	11.9	14.4	17.5	20.0	22.3	23.8	24.9	25.8	26.0	26.0	26.1	25.7	26.0	25.2	24.1	20.3	19.0	18.7	18.7	19.8	26.1					
12-Jul	18.4	18.3	17.5	16.4	15.6	15.4	15.8	15.9	16.0	16.4	17.1	17.8	18.9	20.3	21.0	21.6	22.5	21.7	18.5	18.3	17.8	17.9	18.5	17.1	18.1	22.5					
13-Jul	15.1	13.2	12.8	12.7	12.7	13.5	14.1	15.2	16.6	17.5	17.4	17.1	17.4	17.3	17.6	18.9	19.2	19.3	18.5	17.3	16.0	13.8	11.8	10.8	15.7	19.3					
14-Jul	9.5	8.4	8.4	8.9	9.5	10.7	10.9	11.9	13.2	13.8	14.6	15.3	15.9	16.5	17.6	17.5	17.7	17.8	17.6	17.0	15.5	10.8	8.5	7.2	13.1	17.8					
15-Jul	5.7	4.6	3.4	2.7	3.8	6.3	8.3	10.4	13.3	16.4	19.1	20.4	21.5	22.1	22.7	23.3	23.8	23.6	23.3	22.2	20.5	18.9	17.6	12.8	15.3	23.8					
16-Jul	10.2	11.3	10.8	9.5	9.4	10.5	12.7	14.5	17.5	20.2	23.2	24.8	25.3	25.4	25.6	26.4	26.4	26.0	25.5	24.8	22.6	16.7	13.4	11.7	18.5	26.4					
17-Jul	10.5	9.8	8.4	7.4	6.9	8.6	13.4	16.9	19.6	22.0	24.2	25.5	26.3	26.9	26.9	26.4	27.1	26.7	26.2	24.2	20.5	16.0	14.5	12.7	18.7	27.1					
18-Jul	11.3	10.4	9.4	8.2	7.4	9.4	12.7	16.1	18.9	22.1	24.8	26.3	27.7	28.1	28.1	28.0	27.9	27.6	26.7	25.4	23.6	21.8	20.3	18.5	20.0	28.1					
19-Jul	15.0	11.7	10.0	9.5	9.2	10.1	14.1	15.9	18.0	20.4	23.0	24.8	26.3	27.6	27.8	27.8	27.6	27.1	26.3	25.3	21.8	17.6	19.1	17.3	19.7	27.8					
20-Jul	15.6	14.1	13.0	14.1	13.1	13.8	14.8	15.8	17.4	19.3	20.8	22.6	23.8	24.6	25.6	26.5	26.4	23.1	21.0	19.9	19.3	17.8	16.3	15.6	18.9	26.5					
21-Jul	14.1	12.6	11.7	10.3	10.4	10.5	11.2	12.1	12.0	13.4	13.1	14.1	14.9	15.6	16.3	16.1	15.9	15.0	14.5	13.8	12.9	12.4	11.7	11.3	13.2	16.3					
22-Jul	10.7	10.3	8.5	8.4	9.3	9.5	10.2	12.1	14.4	16.0	17.1	17.9	18.8	19.4	20.2	20.5	21.4	21.6	21.7	20.9	17.3	13.5	11.0	9.2	15.0	21.7					
23-Jul	8.3	7.2	5.8	5.2	4.6	7.3	10.0	13.5	16.7	19.6	22.3	23.4	23.5	24.2	25.2	25.0	24.0	23.8	22.7	22.2	20.4	18.5	17.0	15.1	16.9	25.2					
24-Jul	13.7	11.8	9.2	7.2	7.0	10.7	13.3	15.2	18.8	21.1	22.7	23.3	22.7	21.0	19.5	18.8	19.4	19.4	18.8	18.9	18.3	17.6	15.9	14.3	16.6	23.3					
25-Jul	12.3	11.6	10.7	11.0	10.3	10.9	12.9	14.1	15.5	16.6	17.6	17.9	16.9	17.2	18.0	15.6	15.3	15.3	15.1	14.4	13.4	12.5	12.8	12.6	14.2	18.0					
26-Jul	12.1	11.4	10.8	10.5	9.5	9.0	9.9	11.1	14.5	17.3	19.1	20.1	18.0	15.9	20.0	20.3	19.9	18.6	17.4	15.7	14.4	12.6	11.4	11.7	14.6	20.3					
27-Jul	12.2	12.4	11.5	10.7	10.5	10.1	9.7	10.1	11.2	12.4	13.0	13.6	14.0	14.0	13.5	14.0	14.8	14.1	13.7	12.9	11.7	8.9	7.4	7.7	11.8	14.8					
28-Jul	7.2	6.9	5.3	3.8	4.0	4.5	6.4	10.1	13.3	14.9	16.1	16.8	17.3	17.9	19.1	19.7	20.0	19.5	19.3	18.6	15.2	11.3	8.9	8.0	12.7	20.0					
29-Jul	9.7	10.6	11.3	10.9	10.9	11.4	12.3	15.0	17.2	19.7	21.6	23.1	24.0	24.4	25.2	26.1	26.4	26.1	25.3	24.0	22.8	19.8	18.5	17.7	18.9	26.4					
30-Jul	16.2	15.7	14.7	14.7	14.7	14.4	16.4	17.7	20.1	23.1	26.4	28.5	29.8	30.8	30.7	30.2	31.3	30.9	30.4	27.9	23.8	20.2	18.0	16.4	22.6	31.3					
31-Jul	15.6	15.1	14.7	14.1	13.7	14.6	16.9	20.0	23.0	26.1	29.1	30.8	31.8	32.3	32.9	33.3	33.3	33.0	32.5	31.2	28.3	24.7	23.6	21.5	24.7	33.3					
Diurnal Average																															
Diurnal Maximum																															



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	0	0.00	0.00
-20 - 0	0	0.00	0.00
0 - 10	66	8.87	8.87
10 - 20	435	58.47	67.34
> 20	243	32.66	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) - %

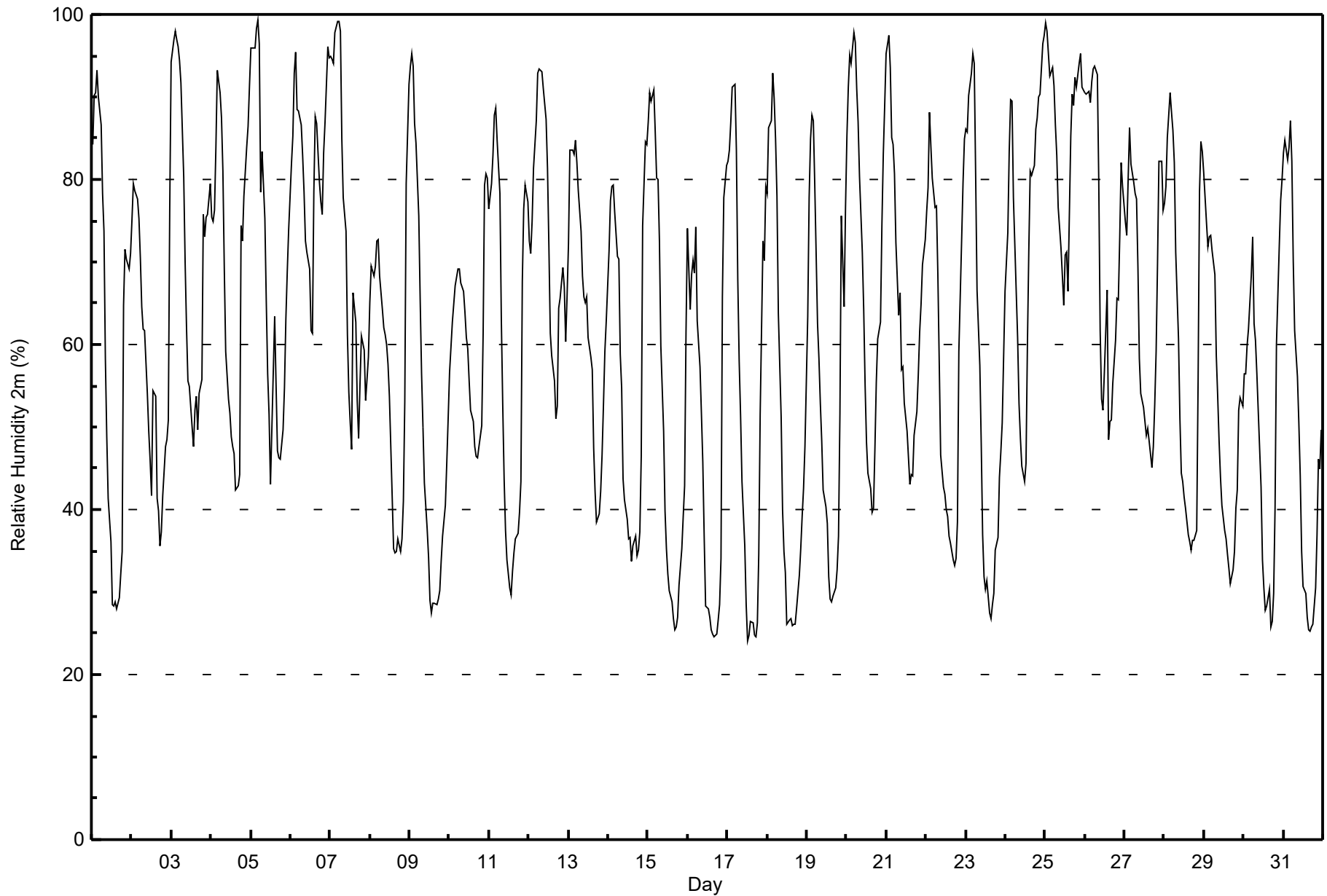
Patricia McInnes - July 2025

Maximum Value: 99.4 % on Jul 5 05:00																				Maximum Daily Average: 85.4 % on Jul 25					Hours in Service: 744					Hours of Data: 744				
Minimum Value: 24.1 % on Jul 17 13:00										Minimum Daily Average: 48.8 % on Jul 16										Hours of Missing Data: 0					Hours of Calibration: 0									
Maximum Diurnal Average: 85.7 % at hour 5										Minimum Diurnal Average: 41.5 % at hour 17										Percent Operational Time: 100.0														
Monthly Average: 61.88 %										Percentiles: P ₁ = 25.3 P ₁₀ = 32.2 Q ₁ = 43.7 Median = 62.0 Q ₃ = 79.9 P ₉₀ = 90.5 P ₉₉ = 97.9																								
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-Jul	84.2	90.1	90.4	93.3	90.1	86.6	78.2	73.8	58.3	48.9	41.4	36.1	28.4	28.4	28.8	27.9	29.3	32.3	35.0	64.8	71.6	70.3	69.2	71.0	59.5	93.3								
2-Jul	75.1	79.6	78.7	77.7	75.2	70.5	64.6	61.8	61.7	54.1	49.4	45.9	41.7	54.4	53.8	41.3	39.9	35.5	37.3	41.6	47.6	48.5	50.8	76.4	56.8	79.6								
3-Jul	94.2	97.0	98.0	96.9	96.1	94.4	91.8	80.3	70.0	62.0	55.6	54.9	50.0	47.6	52.1	53.8	49.7	54.1	55.8	75.7	73.0	75.5	75.8	79.6	72.2	98.0								
4-Jul	75.4	74.9	76.4	83.9	93.3	90.5	87.4	81.0	69.2	59.2	53.4	51.6	48.8	47.5	46.8	42.4	42.9	44.2	74.4	72.5	78.0	83.9	86.5	91.4	69.0	93.3								
5-Jul	96.0	96.0	95.9	98.2	99.4	96.4	78.5	83.4	75.3	65.2	56.5	51.5	43.0	56.6	63.4	55.1	47.2	46.3	46.1	49.7	54.8	63.0	68.8	74.0	69.2	99.4								
6-Jul	81.9	85.3	92.9	95.4	88.5	88.3	86.6	82.8	78.5	72.6	71.2	69.2	61.6	61.3	78.5	87.6	86.8	79.6	77.3	75.8	83.3	86.9	96.1	94.8	81.8	96.1								
7-Jul	95.0	94.7	94.1	97.8	99.1	99.2	98.0	84.9	77.8	73.7	61.1	54.2	50.5	47.3	66.2	62.7	53.3	48.6	55.2	61.0	59.4	53.2	55.8	58.5	70.9	99.2								
8-Jul	65.0	69.4	68.2	69.5	72.5	72.8	68.3	64.2	62.0	61.2	60.0	57.6	53.7	41.6	35.2	34.8	34.9	36.4	35.0	36.4	41.0	53.1	79.5	91.6	56.8	91.6								
9-Jul	93.8	95.3	93.7	86.8	84.5	75.6	65.5	56.4	50.1	43.2	37.7	34.2	28.9	27.4	28.6	28.7	28.5	29.2	30.1	33.7	36.8	40.4	45.6	51.0	51.1	95.3								
10-Jul	56.6	59.6	62.8	67.0	68.2	69.1	69.2	67.4	66.5	63.9	60.8	59.6	55.5	52.0	50.7	47.6	46.4	46.3	47.6	50.2	61.4	79.3	80.6	80.1	61.2	80.6								
11-Jul	76.4	79.4	82.9	87.8	88.6	84.7	78.4	63.0	52.8	43.8	37.4	33.9	30.5	29.6	32.5	34.7	36.4	37.2	39.6	43.4	67.6	76.5	79.3	77.3	58.1	88.6								
12-Jul	72.6	71.0	75.0	81.4	87.2	92.9	93.5	93.2	93.1	91.0	87.3	81.4	71.9	61.4	58.7	55.6	51.0	52.5	64.5	65.6	69.3	66.9	60.3	65.9	73.5	93.5								
13-Jul	72.2	83.6	83.6	83.0	84.8	82.1	78.6	73.8	68.4	65.7	65.1	65.8	60.8	58.4	56.9	47.5	42.3	38.5	39.4	42.2	46.5	52.7	59.1	62.9	63.1	84.8								
14-Jul	71.3	77.4	79.2	79.2	76.1	70.6	70.4	58.8	54.8	43.8	41.1	38.9	36.5	36.5	33.7	35.5	36.8	34.5	35.1	37.3	46.5	74.4	84.6	84.2	55.7	84.6								
15-Jul	86.9	90.6	89.5	90.9	85.7	80.1	79.9	72.6	59.8	49.5	39.9	35.3	32.2	30.2	28.8	26.8	25.5	25.8	26.9	30.8	35.3	39.2	42.8	61.5	52.8	90.9								
16-Jul	74.0	64.2	68.4	70.1	68.6	74.3	62.9	57.2	51.7	45.8	36.6	28.4	28.0	27.0	25.4	24.8	24.5	25.0	26.6	28.5	34.1	65.8	77.8	81.7	48.8	81.7								
17-Jul	82.2	83.6	86.9	91.2	91.6	83.5	67.7	57.9	51.3	43.4	35.6	28.4	24.1	24.7	26.5	26.3	24.7	24.6	26.3	34.6	51.5	72.5	70.1	79.1	53.7	91.6								
18-Jul	78.3	86.3	87.1	92.8	89.9	85.0	78.0	63.8	51.1	39.9	35.0	32.3	26.1	26.5	26.7	26.0	26.1	26.1	28.1	32.0	35.2	39.1	42.6	47.6	50.1	92.8								
19-Jul	63.4	77.7	85.0	87.8	87.2	79.5	62.6	58.4	52.9	48.2	42.4	40.4	38.3	31.8	29.1	28.8	29.6	30.6	32.8	36.7	51.6	75.5	64.6	76.6	54.6	87.8								
20-Jul	85.3	91.2	95.1	94.1	97.8	96.6	91.0	87.0	80.4	71.2	64.2	55.1	48.2	44.5	42.6	39.7	40.1	47.3	55.4	60.7	62.7	74.4	83.1	88.9	70.7	97.8								
21-Jul	95.3	97.4	93.5	85.1	84.3	80.7	72.4	63.5	66.3	56.9	57.2	52.9	49.6	46.2	43.1	44.3	44.1	48.9	51.9	56.2	61.6	65.0	69.7	72.7	65.0	97.4								
22-Jul	76.1	78.9	88.1	84.1	80.2	76.6	76.7	68.4	57.6	46.7	42.7	41.9	40.0	39.2	36.8	36.0	33.8	33.2	34.1	38.6	59.2	72.7	79.7	84.9	58.6	88.1								
23-Jul	86.1	85.8	90.2	92.8	95.2	94.2	80.7	66.6	57.5	48.0	36.9	31.9	30.3	31.4	27.4	26.8	28.4	29.9	35.1	36.6	44.0	46.9	50.5	58.4	54.7	95.2								
24-Jul	66.4	73.6	83.4	89.7	89.6	77.8	66.4	60.8	52.9	48.7	45.2	43.5	45.6	59.9	71.4	81.0	80.5	81.7	86.1	87.5	90.1	90.4	96.5	97.4	73.6	97.4								
25-Jul	98.9	97.9	95.2	92.6	93.6	91.4	86.6	82.9	76.7	71.7	68.4	64.8	70.8	71.1	66.4	85.3	90.4	89.0	92.4	91.2	94.1	95.3	91.1	90.8	85.4	98.9								
26-Jul	90.6	90.3	90.7	89.3	91.8	93.3	93.7	92.7	79.8	61.6	53.4	52.1	56.6	66.6	48.5	50.6	50.8	55.3	60.6	65.6	65.4	73.1	82.0	79.2	72.2	93.7								
27-Jul	74.9	73.2	80.0	86.3	81.8	79.7	78.3	77.6	69.4	58.4	54.0	52.4	50.6	48.9	49.8	48.4	45.1	47.6	52.7	59.1	69.9	82.2	82.3	76.2	65.8	86.3								
28-Jul	77.2	79.2	85.0	90.5	88.2	85.9	82.1	71.1	60.6	51.0	44.5	43.4	41.6	40.2	37.0	36.1	35.1	36.3	36.2	37.5	55.6	78.4	84.6	83.4	60.9	90.5								
29-Jul	80.8	74.7	71.9	73.1	73.2	71.3	68.5	58.7	53.8	48.4	43.9	40.4	37.4	36.5	34.6	32.8	31.0	32.7	34.9	40.2	42.4	52.1	53.6	52.6	51.6	80.8								
30-Jul	56.5	56.5	59.8	61.8	68.4	73.1	62.5	60.6	56.4	51.9	42.7	33.9	30.5	27.8	28.2	30.4	25.8	26.5	29.9	40.1	59.9	71.8	77.4	80.0	50.5	80.0								
31-Jul	83.2	84.7	82.3	84.0	87.1	82.3	70.2	61.7	56.2	50.6	44.0	35.0	30.7	29.8	27.0	25.4	25.2	25.7	26.2	30.6	36.9	46.1	45.0	49.6	50.8	87.1								
79.5 81.9 84.0 85.6 85.7 83.2 77.1 70.5 63.6 56.1 50.5 46.7 43.3 43.0 43.1 42.7 41.5 42.0 45.4 50.2 57.6 66.6 70.5 74.8																										Diurnal Average								
98.9 97.9 98.0 98.2 99.4 99.2 98.0 93.2 93.1 91.0 87.3 81.4 71.9 71.1 78.5 87.6 90.4 89.0 92.4 91.2 94.1 95.3 96.5 97.4																										Diurnal Maximum								



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Speed 10m (WS10) - km/h

Patricia McInnes - July 2025

Maximum Speed: 36 km/h on Jul 9 15:00																		Maximum Daily Speed Average: 21.0 km/h on Jul 9										Hours in Service: 744	
Minimum Speed Value: 0 km/h on Jul 17 07:00																		Minimum Daily Speed Average: 2.2 km/h on Jul 28										Hours of Data: 744	
Maximum Diurnal Speed Average: 6.3 km/h at hour 14																		Minimum Diurnal Speed Average: 0.6 km/h at hour 21										Hours of Missing Data: 0	
Monthly Average Velocity: 3.4 km/h 270.4 deg																		Percentiles: P ₁ = 1 P ₁₀ = 3 Q ₁ = 5 Median = 8 Q ₃ = 13 P ₉₀ = 17 P ₉₉ = 28										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-Jul	W3	NNW3	WSW3	NW2	W2	SSW1	E5	ESE3	ESE2	E5	ESE4	SSE6	ESE7	E8	E7	E9	E11	E10	E10	N6	ESE13	SE13	SE17	SE13	ESE5.2	SE17			
2-Jul	SE6	SE6	SSE7	S6	SSE7	SSE7	SSE8	SE8	SSW10	WSW14	W13	SW10	SW10	SSE13	SSW7	NE2	ESE8	E8	ESE11	ESE12	ESE13	ESE15	E12	NNW16	SSE4.8	NNW16			
3-Jul	NNW13	NW3	SSW7	WSW12	WSW14	WSW16	WSW14	W16	W18	W19	W19	W20	WSW22	WSW22	SW17	SSW14	SW17	SW22	W23	WSW10	W10	WSW11	SW9	WSW14	WSW13.8	W23			
4-Jul	WSW15	WSW13	W16	W22	NNW17	NW20	NW19	NW21	NW22	NW22	NW19	NW21	NW22	NW21	NW19	NNW21	NW15	NNW14	N13	NW5	WSW5	WSW6	WSW7	WSW5	NNW14.1	NW22			
5-Jul	SSE2	SSW2	SSE3	SSE4	SE5	SE5	SE5	NNE9	ENE7	ESE9	ESE9	SSE7	SSE7	NW9	NE10	ESE8	SE12	ESE9	ESE9	ESE7	SE5	ESE5	ESE3	SSE7	ESE4.6	SE12			
6-Jul	ESE11	NE1	W2	WSW1	NNW7	N5	N5	N5	NNE7	NNE7	NNW9	NNW11	N8	W5	SW12	WSW16	NNW6	NNE11	NE13	NNE11	N4	SE1	NW3	N4	N3.5	WSW16			
7-Jul	NNW4	NW2	SE2	SW2	S3	SSE4	SSW5	S6	SSW7	SSW9	SSW9	SSW10	S9	S9	SW10	S6	SSE10	SSE11	SE12	SE9	S4	SSW6	SSW7	SSW7	S5.6	SE12			
8-Jul	SSW6	SSW7	SSW7	SSW6	SSW4	S3	SSE5	S8	S11	SSW15	SSW16	SSW14	S13	S14	SSW16	SW16	WSW15	WSW10	WSW9	SE4	ESE5	SE3	NNW22	NW20	SW8.0	NNW22			
9-Jul	NW1	SW11	SW13	SW15	SW15	WSW15	WSW17	WSW22	WSW23	WSW26	WSW28	WSW27	WSW31	WSW36	WSW36	WSW36	W32	WSW30	W28	WSW19	W14	NNW15	W15	W13	WSW21.0	WSW36			
10-Jul	WSW11	SW12	SW9	SW12	WSW12	WSW14	WSW14	WSW16	W12	W13	NNW13	NNW11	NW13	NW16	NNW18	NNW14	NNW14	NNW13	NNW12	NNW8	W4	WSW3	SW5	WSW5	NNW8.7	NNW18			
11-Jul	SW6	SW7	SW11	SW11	SSW7	SSW7	SSW8	SW14	SW18	SW19	SW25	SW28	SW26	SW26	WSW27	WSW27	WSW19	WSW23	WSW17	SW12	NW11	W0	S3	S4	SW13.9	SW28			
12-Jul	WSW11	W16	W10	W6	WSW7	WSW6	W13	NNW16	NNW16	NNW15	NNW12	NNW14	NNW16	NNW19	NNW15	W13	W16	NNW19	W18	WSW17	WSW14	W14	NNW17	W8	W13.1	NNW19			
13-Jul	NW7	NNW5	W7	WSW10	WSW10	NNW5	N10	NNW12	N11	N10	N10	N15	N19	N15	NNW13	NNW13	N15	NNE17	NNE15	NNE13	NE10	NNE7	N10	N8	N8.9	N19			
14-Jul	NNW7	NW7	NW5	NNW8	NNW10	N10	N12	NNE16	N16	N16	N17	NNW18	NNW16	N14	N13	N16	N13	NNE12	NE12	NNE9	NNE5	NW4	NNW4	NNW4	N10.2	NNW18			
15-Jul	W3	WSW1	SSW2	SSW3	S4	SSW7	S6	S6	S7	S6	SSE7	S6	SW7	WSW9	SSW9	SSW9	SSE9	S10	SSE10	SE11	SE8	SSE8	SSE8	SSW4	S5.8	SE11			
16-Jul	SSW2	S5	S6	SSW5	S7	S6	SSE6	S5	SSE6	SSE6	SE6	SE6	SSE6	SSE4	SW2	NE2	ESE7	ESE6	ENE8	ESE7	SE7	WSW2	NNW3	W3	SSE3.6	ENE8			
17-Jul	SW1	S1	WSW2	W3	WSW2	SW2	WSW0	ESE1	NW2	NNW2	ENE4	NNE5	N7	NNE8	NNE10	N10	N10	N9	NNW7	NW5	NW5	NW4	NW3	NW3	N3.6	N10			
18-Jul	SW2	NE2	SE2	SSW1	SW2	S3	SSE6	SSE6	SSE8	SE7	ESE7	ESE8	E8	ESE10	SE12	SSE13	SE14	SE13	SE13	SE9	SE10	SE11	SE9	SE8	SE7.1	SE14			
19-Jul	SE3	SE2	SSE3	W3	S1	SSE5	SE8	SE8	SE7	ESE6	ESE5	ESE8	SE10	SE7	ESE7	SE9	ESE11	SE11	SE9	ESE7	ESE2	N1	N9	N6	ESE4.7	SE11			
20-Jul	NNW5	NNW4	N5	N6	N5	N8	N10	N9	NNW7	NW3	ESE4	ESE5	E5	ENE5	ESE6	SE4	NNW5	NNW20	NNW11	NNW9	NNW10	NNE19	NNW14	N15	N6.2	NNW20			
21-Jul	N20	N21	N23	N24	N20	N17	N20	N22	NNW18	N21	NNW17	NNW17	NNW15	NNW17	NNW18	NNW17	NNW20	NNW15	NNW12	NW8	NNW8	NNW6	NW6	NW4	NNW15.6	N24			
22-Jul	W4	W4	NNW4	W5	W4	SW6	SW9	WSW12	WSW13	W11	NNW11	NNW11	NW11	NNW11	W7	NNW8	WSW10	WSW8	NNW6	NW4	NNW3	NW4	W3	WSW2	W6.3	WSW13			
23-Jul	WSW1	S2	SSW1	S2	SSW3	S4	S7	S5	SE5	SSE6	S6	SSW4	NNW7	NNW11	NNW4	E1	SSE9	S9	SSW6	SSW6	SW5	SW7	SW7	SW7	SSW3.3	NNW11			
24-Jul	SSW6	SSW4	SSW3	S3	SE2	SE6	SE10	SE10	SE9	ESE13	ESE14	SE16	ESE14	ESE9	E8	E6	ESE11	ESE8	SE8	SSE7	SE5	NNW7	NW7	WSW0	SE5.9	SE16			
25-Jul	SSW4	SW9	WSW10	WSW11	SW11	WSW12	WSW12	WSW15	WSW20	WSW23	W18	W15	NNW13	W13	NNW16	NW18	NNW16	N17	NNW17	NNW11	NW10	NNW11	NNW11	NNW12	NNW10.3	WSW23			
26-Jul	NW13	NNW10	NNW10	NNW7	WSW2	SW6	SW7	SW8	WSW9	WSW14	WSW16	W14	NNW21	W19	NNW11	NNW11	N17	NNE17	NNE18	NNE15	NNE10	N4	NNW5	NW5	NW7.2	NNW21			
27-Jul	N8	N9	N11	NNW8	N8	N10	N10	NNW7	NNW10	NNW11	NNW14	NNW15	NNW14	N12	NNW13	NNW12	NNW13	NW12	NNW9	NNW6	NW4	NNW5	NNW6	NNW8	NNW9.5	NNW15			
28-Jul	NNW8	NW3	SSW3	SW4	WSW7	SSW4	SSW6	SSW5	S6	WSW7	NNW7	NW8	NW5	NNW5	NNW6	N9	NNW5	NNE7	NE6	ENE7	SE1	W3	WSW3	SW3	NNW2.2	N9			
29-Jul	SW1	S3	SE4	SE5	SE4	SSE5	SSE5	S8	SSW8	S6	SSW6	WSW6	W12	W11	NNW7	NNW6	W3	WSW7	SSW6	SSW5	SSW5	SW5	SW7	SW8	SW4.2	W12			
30-Jul	SW9	WSW9	SW9	W4	WSW4	SW3	S5	S6	S9	S10	SSW11	WSW16	WSW14	NNW15	NW11	W11	NW11	NNW7	NNW8	NW5	N4	NW3	NNW4	WSW2	WSW5.2	WSW16			
31-Jul	SSW2	SSE2	SSW3	SSE4	S4	S4	SSW6	SSW8	SSW9	SSW9	SSW8	WSW14	SW12	SW12	SW10	SSW10	WSW11	WSW9	SW9	SW5	SSW5	SW6	SSW7	SW7	SW6.9	WSW14			
W3.0 W3.0WSW3.3WSW4.0WSW3.8WSW3.0WSW2.8WSW3.2WSW4.4WSW4.6 W4.8 W5.5 W5.7 W6.3 W5.3NNW5.0NNW3.3 NW3.2NNW2.6NNW1.1NNW0.6 W1.6 W3.2 W4.0																										Diurnal Average			
N20 N21 N23 N24 N20 NW20 N20 N22 WSW23WSW26WSW28 SW28WSW31WSW36WSW36WSW36 W32WSW30 W28WSW19 W14 NNE19NNW22 NW20																										Diurnal Maximum			
All monthly, daily, and diurnal averages have been calculated using vector methods																													

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

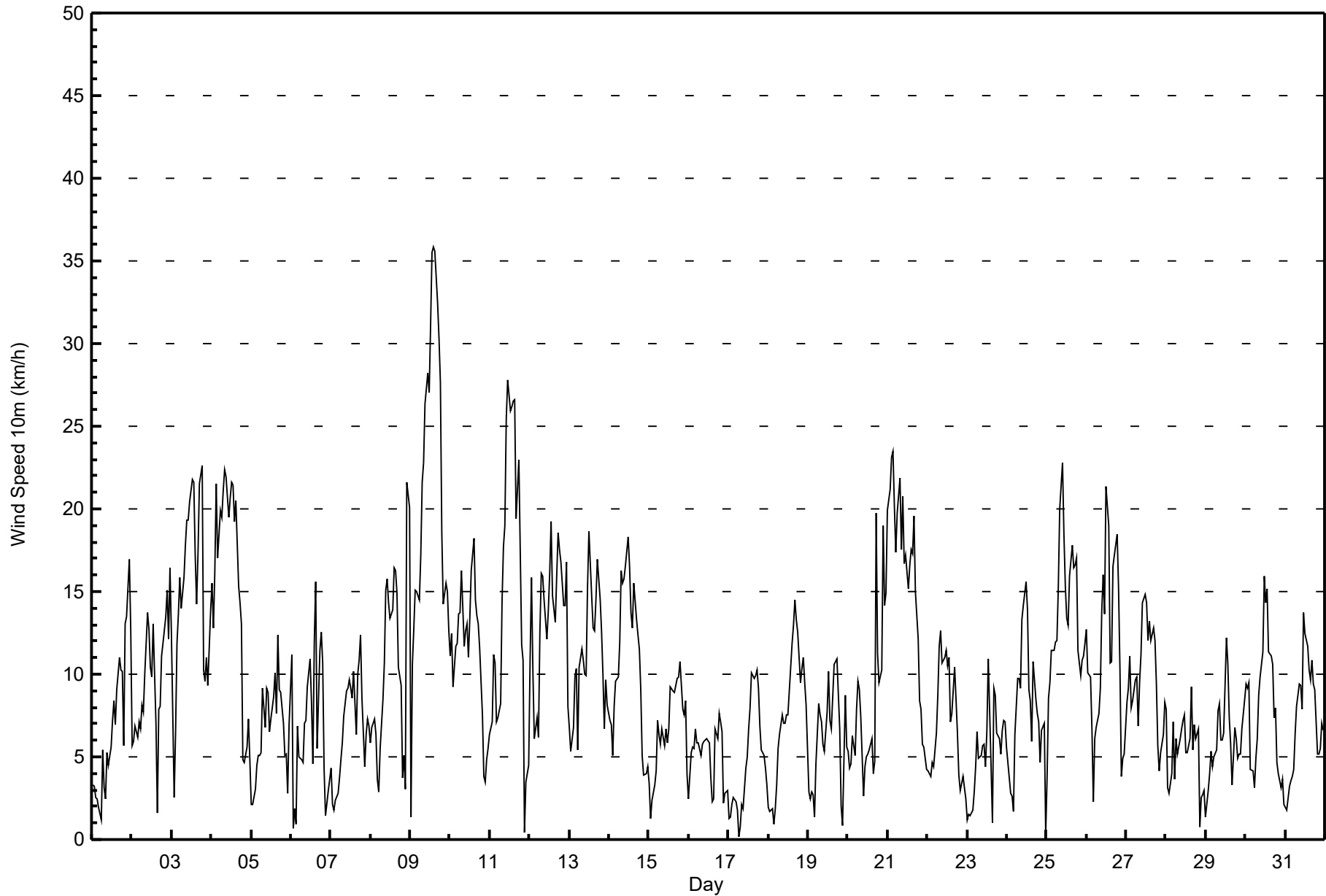
Patricia McInnes - July 2025

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



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

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

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	200	26.88	26.88
6 - 11	314	42.20	69.09
12 - 19	182	24.46	93.55
20 - 28	42	5.65	99.19
29 - 38	6	0.81	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
Patricia McInnes - July 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	4	2	4	11	17	14	20	24	14	18	18	12	23	7	200
6 - 11	27	11	3	3	9	26	27	26	25	35	29	25	9	18	14	27	314
12 - 19	18	9	2	0	1	7	10	2	1	6	14	32	22	18	10	30	182
20 - 28	8	0	0	0	0	0	0	0	0	0	5	12	4	2	9	2	42
29 - 38	0	0	0	0	0	0	0	0	0	0	0	5	1	0	0	0	6
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	63	22	9	5	14	44	54	42	46	65	62	92	54	50	56	66	744

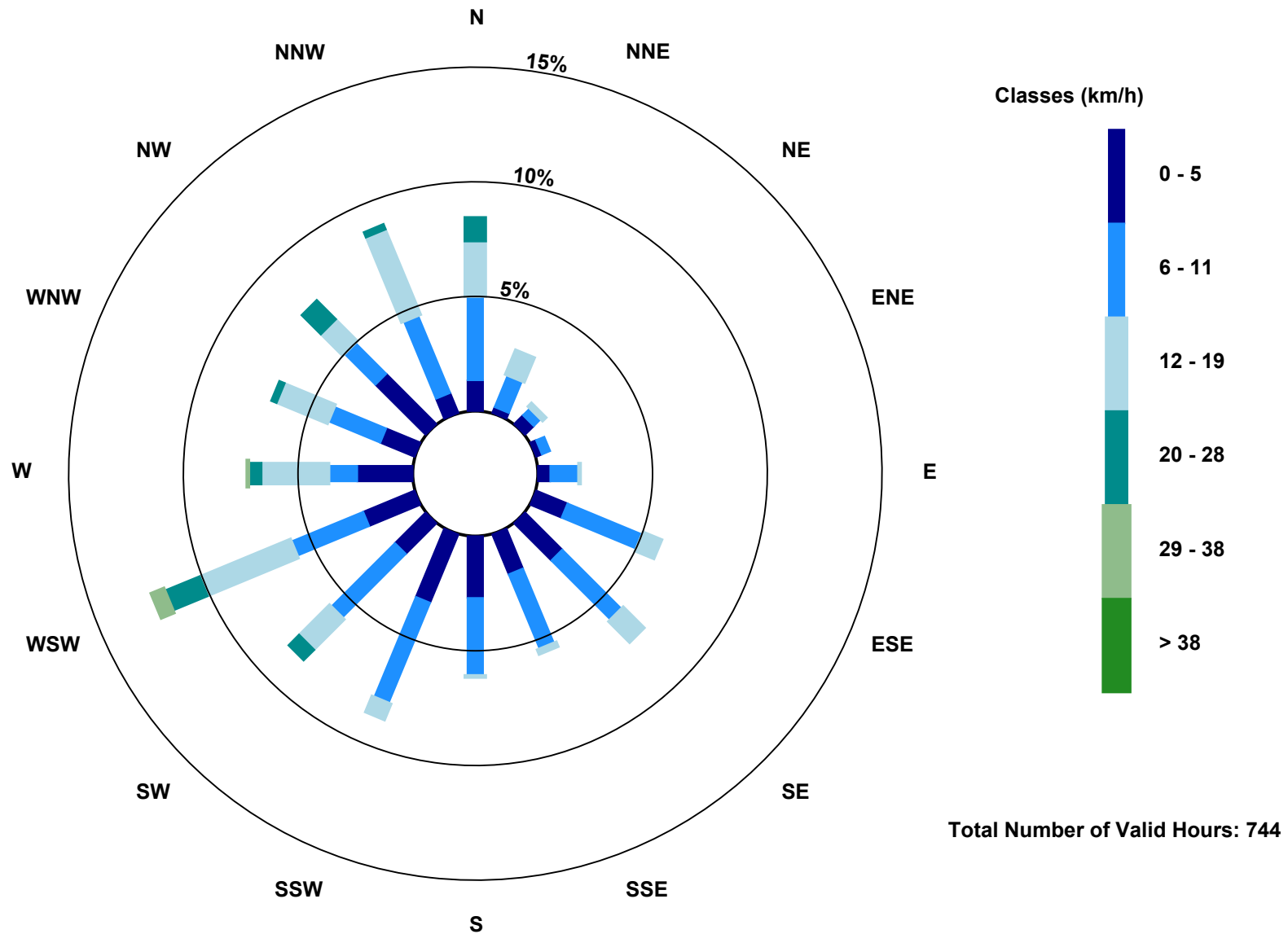
Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Direction 10m (WD10) - deg

Patricia McInnes - July 2025

Direction of Maximum Speed: 250 deg on Jul 9 15:00																				Hours in Service:		744			
Direction of Maximum Daily Speed Average: 251.5 deg on Jul 9																				Hours of Data:		744			
Direction of Minimum Speed: 252 deg on Jul 17 07:00										Direction of Minimum Daily Speed Average: 2.2 deg on Jul 28										Hours of Missing Data:		0			
Monthly Average Direction: 270.4 deg																				Percent Operational Time:		100.0			
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-Jul	260	330	245	306	281	208	97	120	109	92	122	147	106	95	100	99	97	101	92	359	119	129	135	145	113.2
2-Jul	145	142	152	170	166	151	150	146	211	243	275	231	234	162	194	39	107	93	106	110	109	106	91	285	158.2
3-Jul	333	310	205	252	252	255	256	273	261	267	267	260	251	240	225	212	224	236	272	249	263	252	232	239	251.9
4-Jul	247	246	262	270	283	309	313	304	307	314	324	313	316	304	314	303	325	340	358	309	252	250	249	245	300.8
5-Jul	163	213	155	166	140	136	136	29	66	123	122	161	165	319	49	109	134	114	114	111	134	118	116	161	120.1
6-Jul	111	45	280	250	332	1	354	8	22	19	346	341	359	260	220	244	284	14	36	16	4	144	324	350	349.5
7-Jul	329	324	132	224	191	152	192	176	207	202	199	197	176	187	231	185	163	163	128	131	178	199	198	202	183.8
8-Jul	206	209	198	198	205	181	159	178	190	193	204	198	191	190	212	219	237	242	238	146	110	139	286	305	214.1
9-Jul	312	224	222	236	232	242	243	249	257	256	240	247	239	249	250	253	260	256	264	257	261	292	276	264	251.5
10-Jul	241	231	224	223	240	245	249	254	259	277	304	283	306	314	329	329	329	338	339	336	280	250	235	243	281.8
11-Jul	230	221	229	223	201	201	205	221	217	215	224	225	227	235	247	250	240	252	247	232	326	271	170	190	231.9
12-Jul	249	274	264	262	239	242	265	289	298	295	297	290	290	289	289	279	276	285	261	255	257	273	297	279	277.5
13-Jul	324	303	262	249	245	286	354	332	350	3	6	10	357	350	338	345	352	17	21	27	34	23	356	351	350.7
14-Jul	329	321	316	331	334	357	350	20	355	350	349	335	348	2	4	355	355	27	36	32	14	307	291	296	353.3
15-Jul	269	248	213	211	185	200	190	172	181	188	167	173	214	237	194	203	165	174	152	132	146	163	161	204	181.1
16-Jul	207	190	188	207	189	176	158	170	149	154	130	126	159	165	224	36	116	111	76	113	131	244	284	277	153.9
17-Jul	228	180	242	273	255	224	252	108	309	347	60	26	356	29	21	357	7	357	352	335	326	309	311	317	350.7
18-Jul	228	42	135	211	218	174	168	165	165	139	116	121	95	118	144	152	141	143	129	132	129	129	134	135	137.8
19-Jul	144	140	164	275	176	158	135	133	134	111	112	109	131	140	111	130	114	126	127	107	115	4	359	9	121.1
20-Jul	346	331	349	351	352	351	6	5	344	322	106	111	92	76	123	144	287	337	347	340	346	12	346	351	358.2
21-Jul	355	2	356	2	1	354	359	2	348	355	340	343	345	343	343	337	335	336	345	324	301	332	326	326	348.2
22-Jul	278	272	287	270	280	218	225	248	248	281	289	300	304	296	273	282	251	253	336	309	292	317	267	247	274.3
23-Jul	256	185	212	186	204	182	190	169	138	154	176	197	299	328	341	91	155	188	210	203	217	225	216	221	202.3
24-Jul	213	202	193	189	146	134	126	127	124	112	120	128	123	123	93	88	113	120	127	164	130	299	317	252	127.4
25-Jul	196	223	241	247	235	240	246	245	251	247	262	270	300	281	282	324	347	1	341	346	314	302	295	296	281.3
26-Jul	305	308	310	282	243	219	223	217	242	254	255	265	311	278	317	331	360	15	14	23	21	353	296	308	308.7
27-Jul	349	350	350	345	352	353	356	341	341	343	332	345	339	349	334	337	336	323	336	331	307	286	284	300	337.3
28-Jul	302	325	192	219	242	198	210	207	181	237	292	315	311	302	344	358	331	14	37	67	133	276	246	227	291.1
29-Jul	232	177	132	131	146	158	152	174	194	170	192	244	266	274	289	294	273	238	203	210	210	216	227	235	217.0
30-Jul	228	237	229	273	253	215	181	170	181	187	208	242	257	288	316	280	305	341	341	306	6	320	296	250	258.1
31-Jul	206	151	194	166	189	190	199	203	203	203	213	253	232	230	217	205	237	241	222	226	205	220	210	221	217.5
277.8 265.2 248.3 255.7 251.6 243.9 241.4 254.0 253.3 256.4 261.7 266.1 278.0 276.4 280.2 282.6 288.3 312.8 339.3 342.0 288.1 273.5 273.9 270.2																									
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 10m (WD10) - deg

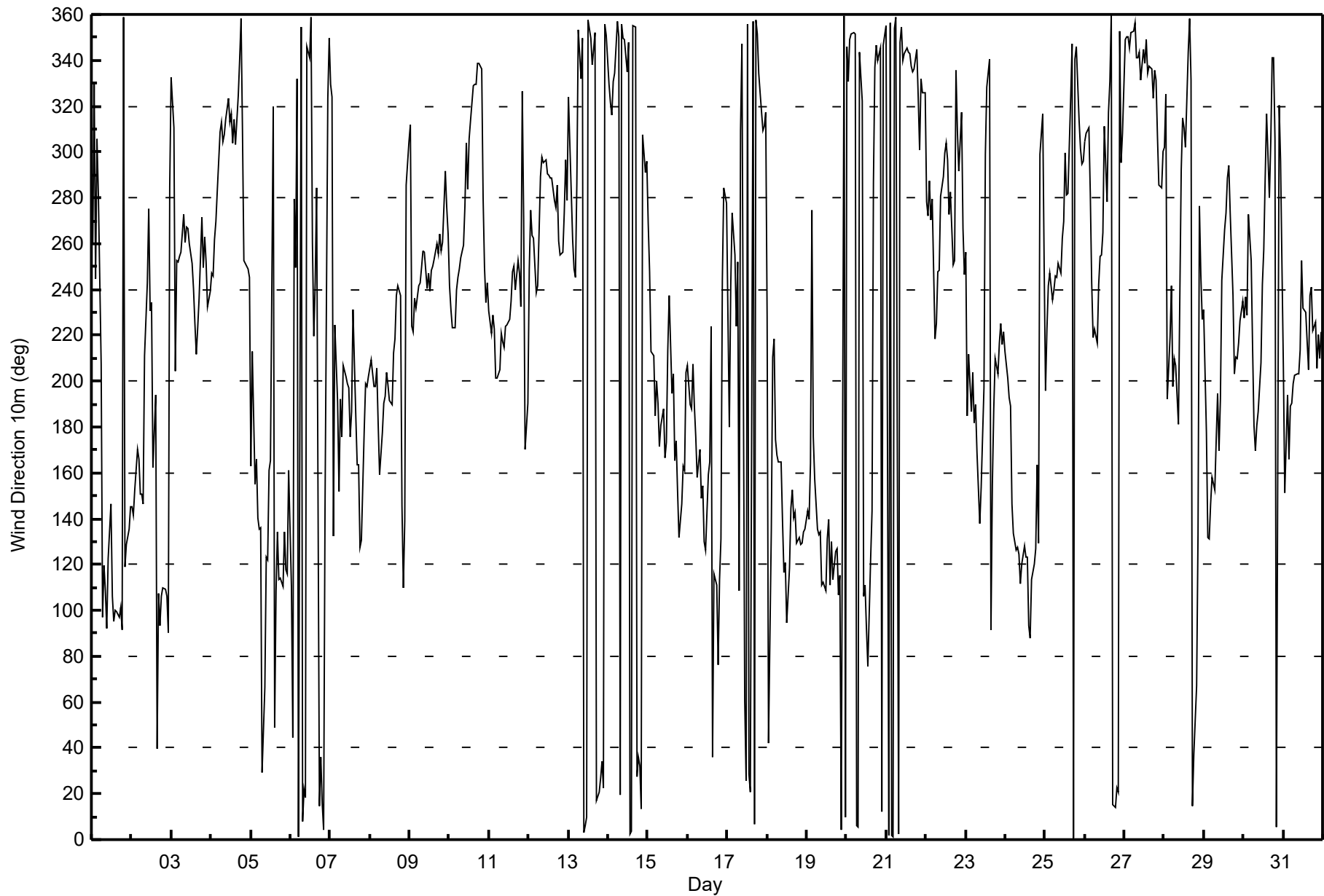
Patricia McInnes - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 100 deg on Jul 17 07:00																									Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0
Minimum Value: 5 deg on Jul 14 23:00																									
Percentiles: P ₁ = 8 P ₁₀ = 12 Q ₁ = 15 Median = 19 Q ₃ = 30 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-Jul	51	46	54	68	45	80	17	64	83	44	58	54	40	31	52	40	23	16	17	83	17	12	14	14	83
2-Jul	17	10	13	12	11	12	14	18	29	21	26	24	41	20	40	93	44	25	20	13	13	19	14	79	93
3-Jul	56	70	24	10	11	12	12	13	14	15	20	16	16	13	15	18	19	14	26	15	24	15	12	11	70
4-Jul	11	10	11	11	15	12	11	11	14	15	18	18	17	15	16	15	20	34	19	32	27	18	9	21	34
5-Jul	68	50	36	30	28	23	32	35	31	20	22	60	55	88	20	23	23	24	17	15	13	21	71	58	88
6-Jul	18	87	52	71	14	19	25	35	18	20	24	18	34	55	19	11	53	22	17	14	35	71	32	22	87
7-Jul	17	45	81	30	41	34	26	27	22	27	27	29	39	37	52	29	24	18	16	20	26	15	16	16	81
8-Jul	14	13	16	16	12	19	17	17	21	21	18	19	19	22	21	21	25	20	21	33	17	50	16	15	50
9-Jul	94	17	13	12	12	12	16	15	13	15	14	16	16	15	14	14	13	13	13	11	16	13	13	11	94
10-Jul	11	10	13	13	12	11	11	13	11	22	20	22	19	18	17	21	17	18	15	10	19	21	22	15	22
11-Jul	19	18	14	13	16	18	18	20	18	17	16	15	18	15	14	13	14	14	12	12	17	94	25	20	94
12-Jul	15	17	17	13	14	12	16	14	11	14	13	18	17	15	19	16	15	15	10	11	9	15	11	21	21
13-Jul	29	27	16	8	20	55	25	14	21	28	26	22	19	19	19	24	27	19	17	14	13	14	14	14	55
14-Jul	12	9	10	8	9	18	15	16	20	25	21	22	28	28	33	25	25	22	21	20	25	19	5	12	33
15-Jul	26	72	21	21	18	17	21	21	27	45	38	71	63	53	42	36	39	26	26	13	13	11	15	21	72
16-Jul	52	13	12	15	13	16	18	26	27	33	35	51	63	95	86	88	48	47	26	20	10	53	45	17	95
17-Jul	44	70	45	45	40	52	100	99	65	77	47	74	49	48	35	38	30	22	21	13	6	12	8	52	100
18-Jul	42	57	56	91	37	20	17	19	20	25	28	38	40	52	37	24	17	17	14	13	12	11	12	12	91
19-Jul	42	36	14	34	66	31	14	17	22	26	34	27	28	40	64	33	19	18	16	12	40	63	17	14	66
20-Jul	18	21	23	15	13	15	14	18	15	60	75	38	40	44	35	56	69	13	17	11	12	14	16	19	75
21-Jul	18	18	19	17	16	17	18	19	17	19	16	17	19	22	20	15	14	12	14	16	9	15	18	16	22
22-Jul	17	23	9	13	36	19	13	16	17	32	36	31	38	19	53	42	21	36	31	19	12	36	21	43	53
23-Jul	75	74	21	15	16	19	24	31	28	29	48	81	42	22	69	96	24	21	17	17	17	11	15	11	96
24-Jul	15	15	14	16	23	14	15	17	20	18	19	21	18	15	16	33	16	17	16	21	18	54	20	95	95
25-Jul	42	15	13	11	14	12	15	12	14	13	16	14	15	16	21	11	16	17	13	20	13	9	9	11	42
26-Jul	9	11	8	16	68	19	16	17	20	14	18	23	28	30	25	15	24	17	13	14	14	45	13	8	68
27-Jul	15	21	17	13	15	16	17	17	19	25	16	17	14	25	19	17	21	15	15	18	10	12	10	8	25
28-Jul	8	56	20	16	15	19	19	30	43	64	43	39	74	64	66	35	48	43	37	19	61	29	24	28	74
29-Jul	55	27	27	23	20	17	18	18	24	39	44	58	25	27	33	58	59	44	21	16	13	10	8	10	59
30-Jul	14	10	12	60	27	62	28	21	18	23	24	25	28	25	19	22	27	37	18	38	17	23	34	37	62
31-Jul	34	69	40	17	20	19	19	20	21	24	35	25	31	34	32	29	34	24	16	23	14	15	13	12	69
94 87 81 91 68 80 100 99 83 77 75 81 74 95 86 96 69 47 37 83 61 94 71 95																									
Diurnal Maximum																									



Wood Buffalo Environmental Association
Hourly Averages

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





WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS07 ATHABASCA VALLEY JULY 2025

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

August 29, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - ATHABASCA VALLEY (AMS07)
JULY 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	651	32	93	91.8	-	-	8.6	0	2.2	0
TRS (ppb) Average	649	34	95	91.8	1.6	0	1.3	0	0.5	0
THC (ppm) Average	651	32	93	91.8	-	-	2.4	-	2.2	-
NMHC (ppm) Average	651	32	93	91.8	-	-	0.243	-	0.024	-
CH4(ppm) Average	651	32	93	91.8	-	-	2.4	-	2.2	-
O3 (ppb) Average	651	32	93	91.8	-	-	65.7	0	35.6	-
NO2 (ppb) Average	647	36	97	91.8	-	-	14.7	0	5.3	-
NO (ppb) Average	647	36	97	91.8	-	-	9.7	-	1.9	-
NOX (ppb) Average	647	36	97	91.8	-	-	23	-	7.2	-
PM2.5 (ug/m3) Average	682	1	62	91.8	-	-	265	0	157.2	4
CO(ppm) Average	651	32	93	91.8	-	-	1.2	0	0.7	-
Temperature 2 m (C) Average	744	0	0	100	-	-	34.5	-	25.6	-
Relative Humidity (%) Average	743	0	1	99.87	-	-	97.3	-	82.6	-
Barometric Pressure (inHg) Average	683	0	61	91.8	-	-	29.4	-	29.3	-
Wind Speed 10 m (km/h) Average	653	4	91	88.31	-	-	25	-	16	-
Wind Direction 10 m (deg) Average	653	4	91	88.31	-	-	-	-	-	-

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

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - ATHABASCA VALLEY (AMS07)

JULY 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	651	0.35	1	-	0	0	0.1	0.1	0.2	0.5	8.6
TRS (ppb) Average	649	0.23	0.2	-	0.1	0.1	0.1	0.2	0.3	0.4	1.3
THC (ppm) Average	651	2.07	0.1	-	1.9	2	2	2	2.1	2.2	2.4
NMHC (ppm) Average	651	0.004	0.017	-	0	0	0	0	0	0	0.243
CH4(ppm) Average	651	2.07	0.1	-	1.9	2	2	2	2.1	2.2	2.4
O3 (ppb) Average	651	25.16	11.7	-	4	11.1	15.6	24.2	32.9	41.1	65.7
NO2 (ppb) Average	647	3.15	2.2	-	0.3	0.8	1.4	2.7	4.4	5.9	14.7
NO (ppb) Average	647	0.82	1.2	-	0	0	0.1	0.4	1	2	9.7
NOX (ppb) Average	647	3.97	3	-	0.3	1	1.8	3.2	5.4	7.5	23
PM2.5 (ug/m3) Average	682	21.45	36	-	1.7	3.5	5.4	9.6	21.9	40.2	265
CO(ppm) Average	651	0.2	0.1	-	0.1	0.1	0.1	0.2	0.2	0.3	1.2
Temperature 2 m (C) Average	744	18.31	5.6	-	5.1	11.7	14.2	17.7	22.1	26.3	34.5
Relative Humidity (%) Average	743	62.13	19.9	-	24.1	32.5	45.5	63.8	79.6	87.1	97.3
Barometric Pressure (inHg) Average	683	28.98	0.2	-	28.6	28.7	28.8	29	29.1	29.2	29.4
Wind Speed 10 m (km/h) Average	653	8.6	6	-	0	3	4	7	11	17	25
Wind Direction 10 m (deg) Average	653	-	-	-	-	-	-	-	-	-	-

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

OPERATIONAL NOTES

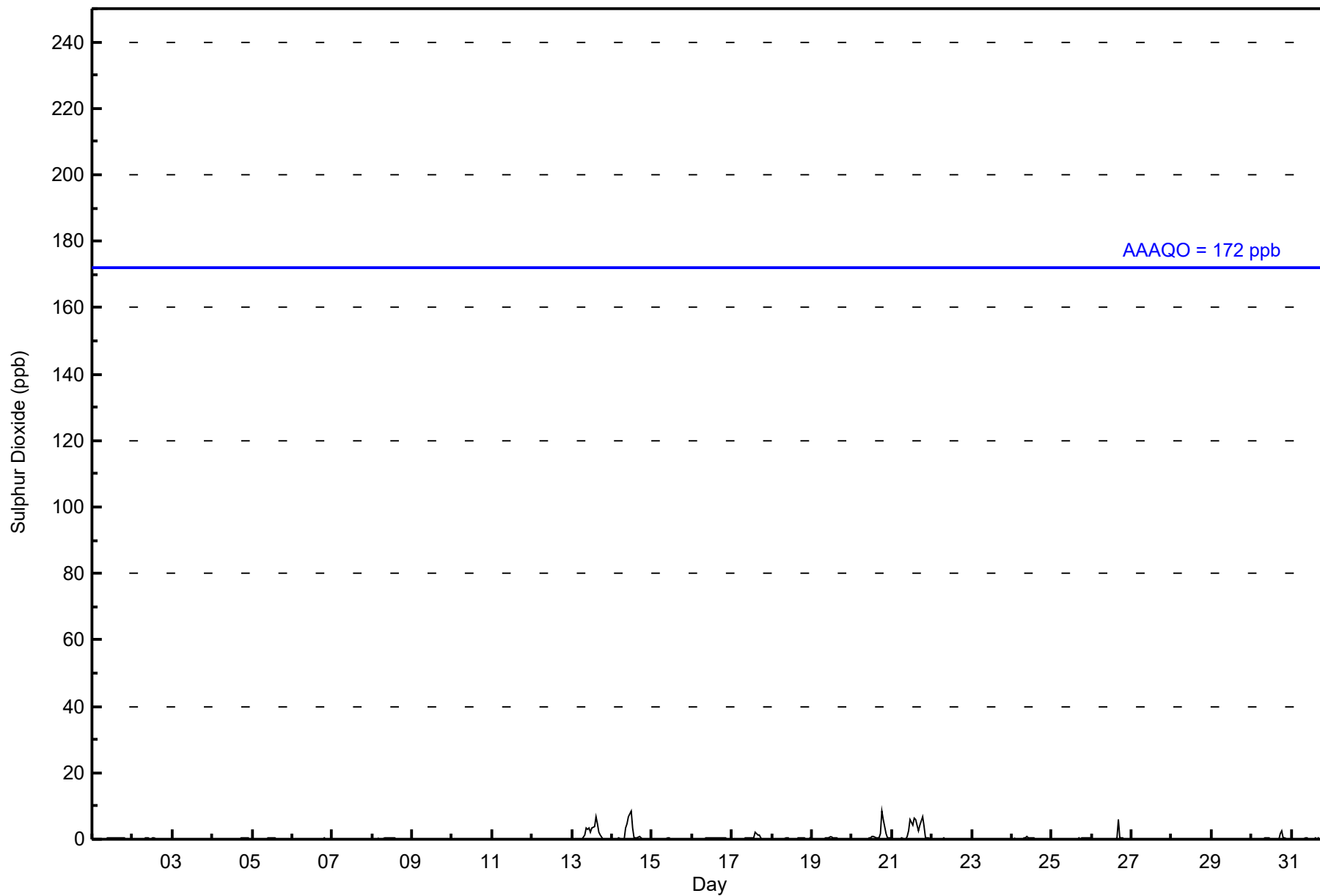
Parameter	Period Start	Period End	Duration (Hours)	Notes
AIR QUALITY ANALYZERS	27 Jul 2025 03:00	29 Jul 2025 15:00	61	Station power failure
Relative Humidity	07 Jul 2025 05:00	07 Jul 2025 05:00	1	Sensor operated out of range
Barometric Pressure	27 Jul 2025 03:00	29 Jul 2025 15:00	61	Station power failure
Wind Speed, Wind Direction	05 Jul 2025 05:00	10 Jul 2025 10:00	87	Unstable Operations - flatline sensor output signal

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 8.6 ppb on Jul 14 12:00 Maximum Daily Average: 2.2 ppb on Jul 21																		Hours in Service: 744								
Minimum Value: 0.0 ppb on Jul 9 03:00 Minimum Daily Average: 0.0 ppb on Jul 9 Maximum Diurnal Average: 0.8 ppb at hour 12 Minimum Diurnal Average: 0.1 ppb at hour 3 Monthly Average: 0.35 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 = 6.0																		Hours of Data: 651								
																		Hours of Missing Data: 93								
																		Hours of Calibration: 32								
																		Percent Operational Time: 91.8								
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-Jul	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.4	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.2	0.4
2-Jul	0.1	0.1	Z	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.3
3-Jul	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	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
4-Jul	0.0	0.0	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.4	0.5	0.3	0.2	0.2	0.1	0.1	0.5
5-Jul	0.1	0.1	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.2	0.4	0.5	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5
6-Jul	Z	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.1	0.2
7-Jul	0.0	Z	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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
8-Jul	0.1	0.2	Z	0.3	0.2	0.1	0.2	0.2	0.3	0.4	0.3	0.5	0.4	0.4	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.0	0.2
9-Jul	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	0.1	0.0	0.1
10-Jul	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	0.1	0.0	0.0	0.0	0.0	0.1
11-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.1	0.1	0.2	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2
12-Jul	Z	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
13-Jul	0.1	Z	0.1	0.1	0.1	0.1	0.2	1.4	3.4	2.9	3.2	2.2	3.4	3.7	6.8	4.7	2.1	1.1	0.1	0.1	0.1	0.1	0.2	0.1	1.6	6.8
14-Jul	0.1	0.1	Z	0.1	0.2	0.2	0.1	0.1	3.2	4.6	6.6	8.6	3.4	0.6	0.2	0.5	0.8	0.5	0.2	0.1	0.1	0.1	0.1	0.1	1.3	8.6
15-Jul	0.1	0.0	0.0	Z	0.1	0.0	0.1	0.1	0.2	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3
16-Jul	0.1	0.1	0.1	0.1	Z	0.1	0.1	0.2	0.5	0.5	0.5	0.6	0.4	0.3	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.3	0.6
17-Jul	0.1	0.1	0.1	0.1	0.1	Z	0.1	0.1	0.3	0.3	0.3	0.2	0.4	1.9	1.2	1.3	0.5	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.3	1.9
18-Jul	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.4	0.3	C	C	C	C	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.4
19-Jul	0.2	Z	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.4	0.5	0.8	0.6	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.3	0.8
20-Jul	0.2	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.6	0.9	1.0	0.6	0.5	0.4	1.6	8.4	5.8	1.9	0.5	0.2	0.2	1.1	8.4
21-Jul	0.2	0.2	0.1	Z	0.1	0.2	0.2	0.1	0.1	0.8	2.5	6.0	4.1	6.5	5.9	4.4	2.6	4.0	6.9	3.7	0.3	0.2	0.3	0.1	2.2	6.9
22-Jul	0.1	0.1	0.1	0.1	Z	0.2	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	0.1	0.1	0.1	0.1	0.1	0.2
23-Jul	0.1	0.1	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2
24-Jul	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.9	0.6	0.5	0.6	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.9
25-Jul	0.0	Z	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	0.5	0.2	0.3	0.4	0.3	0.4	0.4	0.2	0.2	0.5
26-Jul	0.2	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.6	6.0	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.4	6.0
27-Jul	0.1	0.1	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	0.1
28-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	--
29-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
30-Jul	Z	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.4	0.5	0.5	0.1	0.0	0.0	0.0	0.0	0.0	1.6	2.4	0.5	0.2	0.2	0.2	0.1	0.3	2.4
31-Jul	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	0.2	0.3	0.2	0.3	0.2	0.1	0.2	0.2	0.1	0.2	0.6	0.2	0.6
																									Diurnal Average	
																									Diurnal Maximum	
Z - zerospan C - Calibration 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
Athabasca Valley - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Athabasca Valley - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	651	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: 651

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Athabasca Valley - July 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	11	13	10	28	51	98	51	16	19	39	43	29	28	25	49	53	563
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	11	13	10	28	51	98	51	16	19	39	43	29	28	25	49	53	563

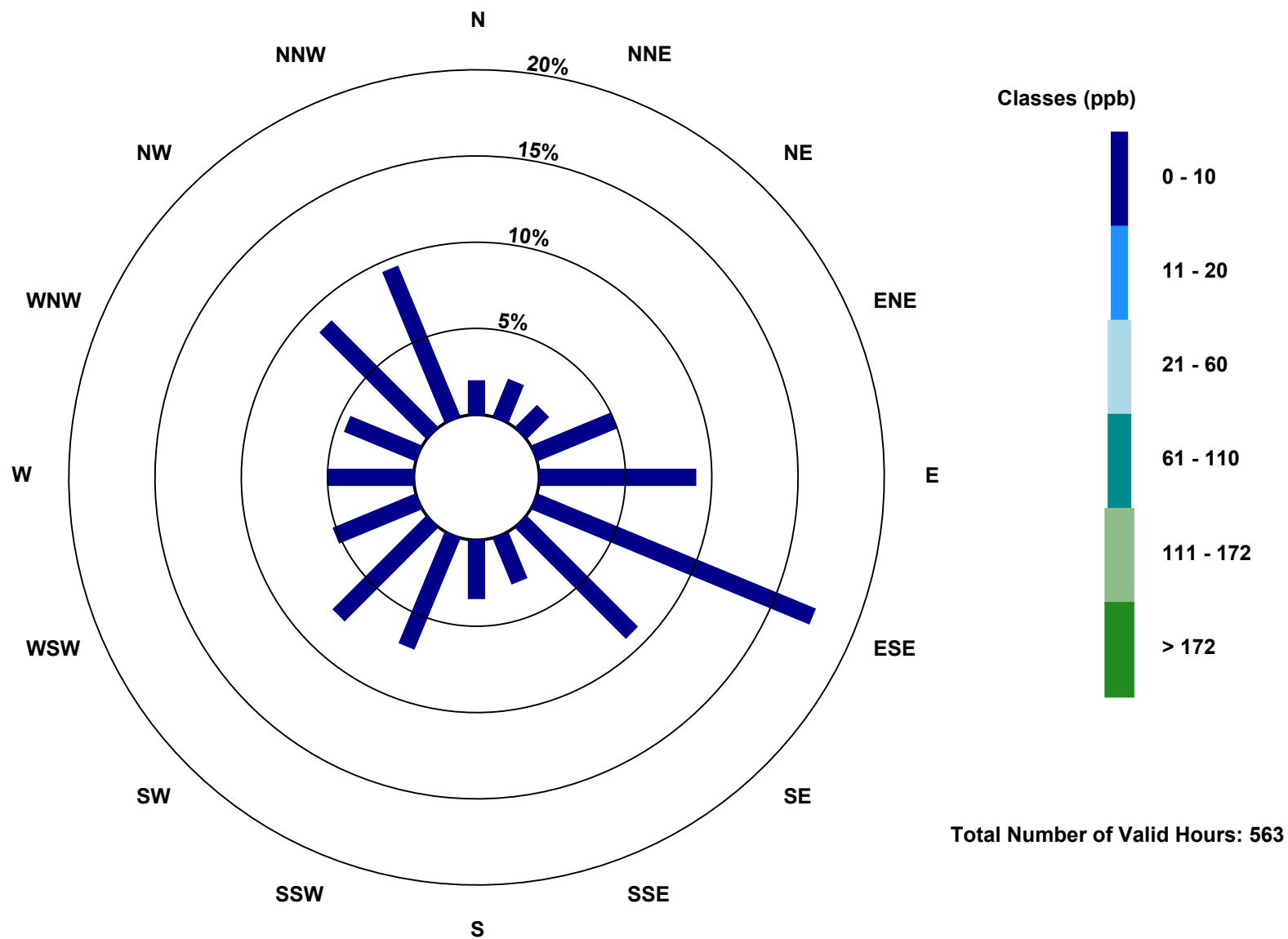
Total Number of Valid Hours: 563

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

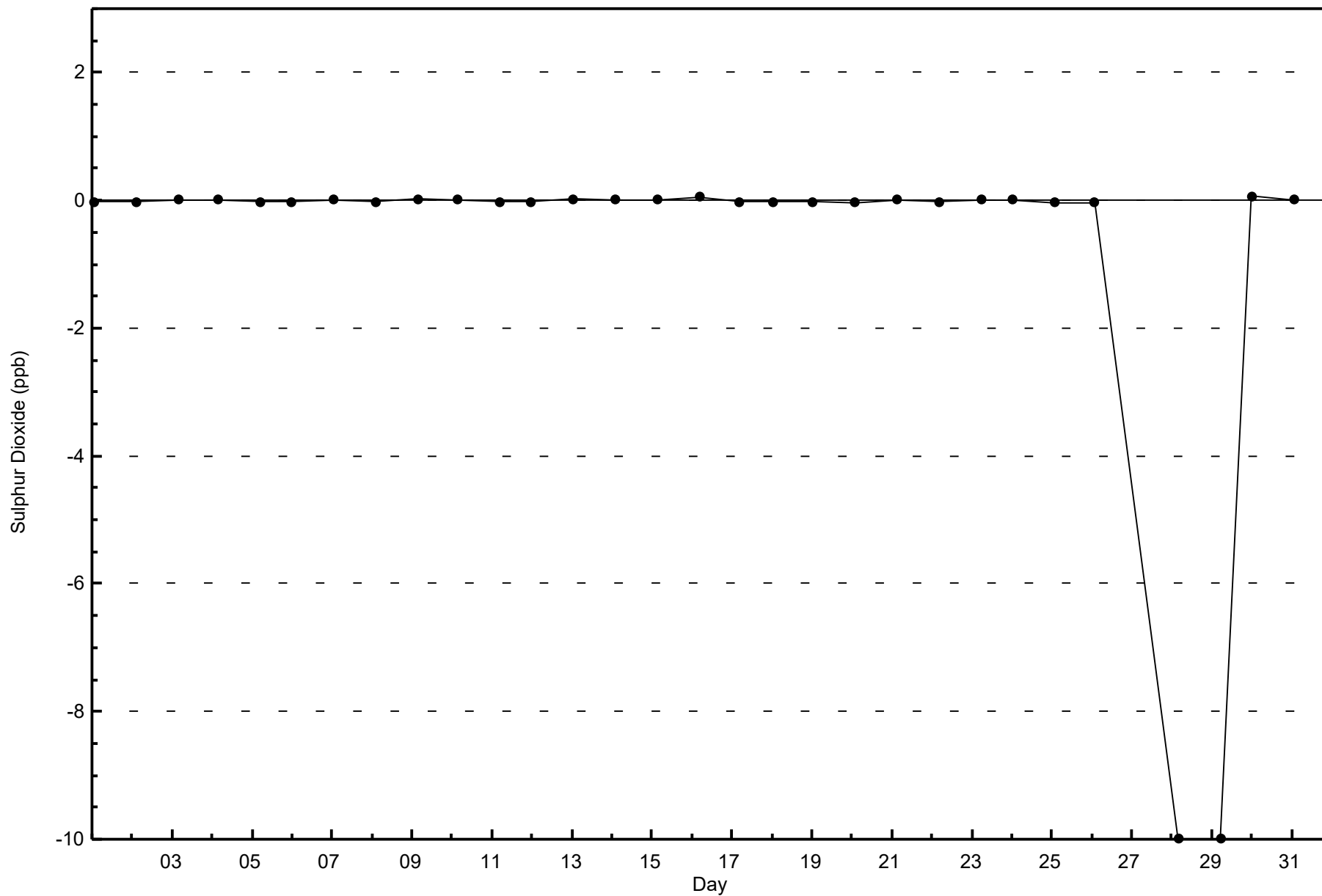
Sulphur Dioxide (SO₂) - ppb
Athabasca Valley





Wood Buffalo Environmental Association
Zero Responses

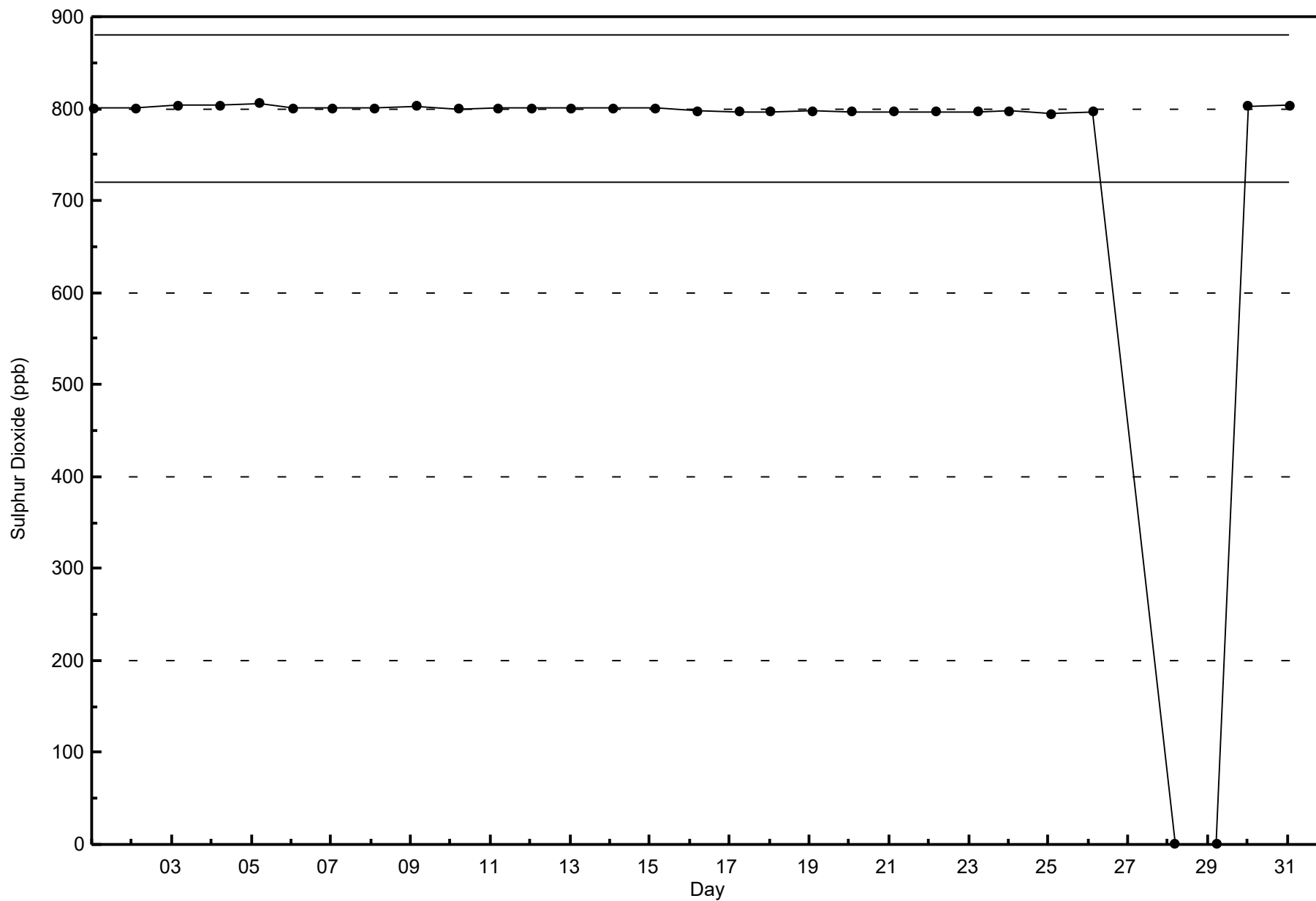
Sulphur Dioxide (SO₂) - ppb
Athabasca Valley - July 2025





Wood Buffalo Environmental Association
Span Responses

Sulphur Dioxide (SO₂) - ppb
Athabasca Valley - July 2025





Wood Buffalo Environmental Association

Summary of 30-Minute Averages

Total Reduced Sulphur (TRS) - ppb

Athabasca Valley - July 2025

Number of Exceedences (AAAQG): 30-Min: 0																			Periods in Service: 1488							
Maximum Value: 1.6 ppb on Jul 27 01:00 Maximum Daily Average: 0.5 ppb on Jul 20																			Periods of Valid Data: 1300							
Minimum Value: 0.1 ppb on Jul 29 17:00 Minimum Daily Average: 0.1 ppb on Jul 9																			Periods of Invalid Data: 188							
Maximum Diurnal Average: 0.3 ppb at hour 6 Minimum Diurnal Average: 0.1 ppb at hour 15																			Periods of Calibration: 67							
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 = 1.0																			Percent Operational Time: 91.9							
Day	Period Ending At (MST)																								Daily Average	Daily Maximum
	00:30 01:00	01:30 02:00	02:30 03:00	03:30 04:00	04:30 05:00	05:30 06:00	06:30 07:00	07:30 08:00	08:30 09:00	09:30 10:00	10:30 11:00	11:30 12:00	12:30 13:00	13:30 14:00	14:30 15:00	15:30 16:00	16:30 17:00	17:30 18:00	18:30 19:00	19:30 20:00	20:30 21:00	21:30 22:00	22:30 23:00	23:30 24:00		
1-Jul	0.3 0.3	0.3 0.3	Z SP	0.3 0.3	0.3 0.3	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 0.2	0.2 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	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2	0.3
2-Jul	0.2 0.2	0.2 0.2	0.2 0.2	Z SP	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	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 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
3-Jul	0.1 0.2	0.2 0.1	0.1 0.1	0.1 0.1	Z SP	0.4 0.3	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 0.1	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	0.1	0.4
4-Jul	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	Z SP	0.3 0.2	0.2 0.2	0.2 0.1	0.1 0.1	0.2 0.2	0.1 0.1	0.1 0.2	0.2 0.2	0.1 0.2	0.2 0.1	0.1 0.1	0.1 0.2	0.4 0.2	0.3 0.3	0.2 0.2	0.2 0.1	0.2 0.1	0.2 0.2	0.2	0.4
5-Jul	Z SP	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	0.3 0.4	0.3 0.2	0.2 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.2	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	0.4
6-Jul	0.2 0.1	Z SP	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.6	0.5 0.8	0.7 0.9	0.9 0.6	0.7 0.7	0.7 0.6	0.4 0.2	0.3 0.2	0.3 0.2	0.2 0.2	0.1 0.2	0.1 0.1	0.2 0.3	0.3 0.3	0.4 0.2	0.4 0.3	0.3 0.2	0.6 1.0	0.4	1.0
7-Jul	1.0 0.3	0.3 0.3	Z SP	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 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 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 0.1	0.2 0.2	0.2	1.0
8-Jul	0.2 0.2	0.2 0.2	0.2 0.2	Z SP	0.3 0.3	0.3 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 C	C C	C C	C C	C C	C C	0.4 0.3	0.3 0.2	0.2 0.1	0.1 0.1	0.2 0.2	0.2 0.2	0.2 0.1	0.2 0.1	0.1 0.1	--	0.4
9-Jul	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	Z SP	0.4 0.3	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 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1	0.4
10-Jul	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	Z SP	0.2 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	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.2	0.2 0.1	0.1 0.1	0.2 0.2	0.2 0.2	0.2 0.2	0.2	0.2
11-Jul	Z SP	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	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	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	0.2 0.1	0.2 0.1	0.1	0.3
12-Jul	0.1 0.2	Z SP	0.4 0.3	0.2 0.2	0.2 0.2	0.1 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	0.2 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	0.4
13-Jul	0.1 0.5	0.8 0.6	Z SP	0.4 0.3	0.2 0.2	0.2 0.3	0.2 0.3	0.4 0.3	0.4 0.4	0.5 0.5	0.4 0.4	0.3 0.4	0.3 0.3	0.2 0.2	0.2 0.2	0.2 0.1	0.2 0.2	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.6 1.5	1.0 1.4	0.3	1.5	
14-Jul	0.9 0.4	0.3 0.3	0.3 0.5	Z SP	1.2 1.5	1.1 0.8	0.8 1.0	0.5 0.3	0.5 0.5	0.4 0.3	0.3 0.3	0.2 0.2	0.3 0.2	0.2 0.2	0.1 0.1	0.2 0.2	0.2 0.2	0.2 0.1	0.1 0.1	0.1 0.1	0.1 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.4	1.5
15-Jul	0.2 0.3	0.2 0.2	0.2 0.2	0.2 0.2	Z SP	0.3 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	0.1 0.1	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	0.3



Wood Buffalo Environmental Association

Summary of 30-Minute Averages

Total Reduced Sulphur (TRS) - ppb

Athabasca Valley - July 2025

Day	Period Ending At (MST)																								Daily Average	Daily Maximum
	00:30 01:00	01:30 02:00	02:30 03:00	03:30 04:00	04:30 05:00	05:30 06:00	06:30 07:00	07:30 08:00	08:30 09:00	09:30 10:00	10:30 11:00	11:30 12:00	12:30 13:00	13:30 14:00	14:30 15:00	15:30 16:00	16:30 17:00	17:30 18:00	18:30 19:00	19:30 20:00	20:30 21:00	21:30 22:00	22:30 23:00	23:30 24:00		
16-Jul	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	Z SP	0.3 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 0.1	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	0.3
17-Jul	Z SP	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 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.1	0.1 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	0.3 0.6	0.6 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2	0.6
18-Jul	0.2 0.2	Z SP	0.3 0.3	0.2 0.2	0.2 0.3	0.2 0.3	0.3 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 0.1	0.1 0.1	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.3	0.3 0.3	0.2	0.3
19-Jul	0.3 0.3	0.3 0.3	Z SP	0.4 0.4	0.4 0.5	0.4 0.5	0.5 0.4	0.4 0.5	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.3	0.3 0.2	0.2 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 0.3	0.4 0.3	1.1 0.9	0.6 0.4	0.3	1.1
20-Jul	0.3 0.4	0.3 0.4	0.3 0.3	Z SP	0.4 0.3	0.3 0.3	0.3 0.3	0.3 0.4	0.4 0.5	0.7 0.7	0.5 0.4	0.3 0.3	0.3 0.2	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.4	1.1 1.1	1.4 1.1	1.2 1.3	0.3 0.2	0.3 0.7	0.5 0.6	0.5	1.4
21-Jul	0.7 0.4	0.5 0.2	0.3 0.6	0.9 0.6	Z SP	0.6 0.5	0.4 0.6	0.8 0.6	0.4 0.3	0.4 0.4	0.3 0.3	0.4 0.3	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.3 0.4	0.3 0.4	0.5 0.4	0.1 0.1	0.2 0.1	0.2 0.1	0.1 0.1	0.3	0.9
22-Jul	0.1 0.2	0.3 0.4	0.4 0.4	0.3 0.2	0.2 0.2	Z SP	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	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.2	0.1 0.2	0.2 0.2	0.2 0.2	0.3 0.2	0.2	0.4
23-Jul	Z SP	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 0.2	0.2 0.2	0.2 0.2	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 0.2	0.2 0.3	0.3 0.3	0.3 0.2	0.2	0.3	
24-Jul	0.3 0.3	Z SP	0.3 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	0.2 0.1	0.2 0.2	0.2 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	0.1 0.2	0.2 0.2	0.5 0.3	0.2	0.5
25-Jul	0.2 0.3	0.1 0.1	Z SP	0.3 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	0.1 0.2	0.1 0.2	0.2 0.1	0.3 0.7	0.9 0.8	0.6 0.5	0.6 0.4	0.8 0.8	0.7 0.5	0.4 0.2	0.2 0.2	0.3	0.9	
26-Jul	0.2 0.2	0.2 0.2	0.3 0.2	Z SP	0.3 0.3	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.2 0.1	0.1 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	0.3 0.3	0.2 0.4	0.2	0.4	
27-Jul	0.5 1.6	0.9 1.0	0.7 PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	--	1.6
28-Jul	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	--	--
29-Jul	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	PF PF	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.2	0.2 0.3	0.2 0.2	0.3 0.3	0.3 0.2	--	0.3
30-Jul	0.2 0.2	Z SP	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 0.2	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	0.3 0.3	0.2 0.2	0.2 0.3	0.3 0.3	0.3 0.3	0.2	0.3	
31-Jul	0.3 0.3	0.3 0.3	Z SP	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	0.1 0.1	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	0.2 0.2	0.3 0.3	0.3 0.2	0.2 0.2	0.2	0.4
0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.2 0.2 0.2 0.2 0.1 0.1 0.1 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.3 0.3																								Diurnal Average		
1.6 1.0 0.7 0.9 1.5 1.1 1.0 0.8 0.9 0.9 0.7 0.7 0.4 0.3 0.3 0.4 0.7 0.9 1.1 1.4 1.3 0.7 1.5 1.4																								Diurnal Maximum		

Z - zerospan C - Calibration PF - Power Failure SP - Span
Alberta Ambient Air Quality Guideline (AAAQG): 30-Min: 5 ppb



Wood Buffalo Environmental Association

Summary of Hour Averages

Total Reduced Sulphur (TRS) - ppb

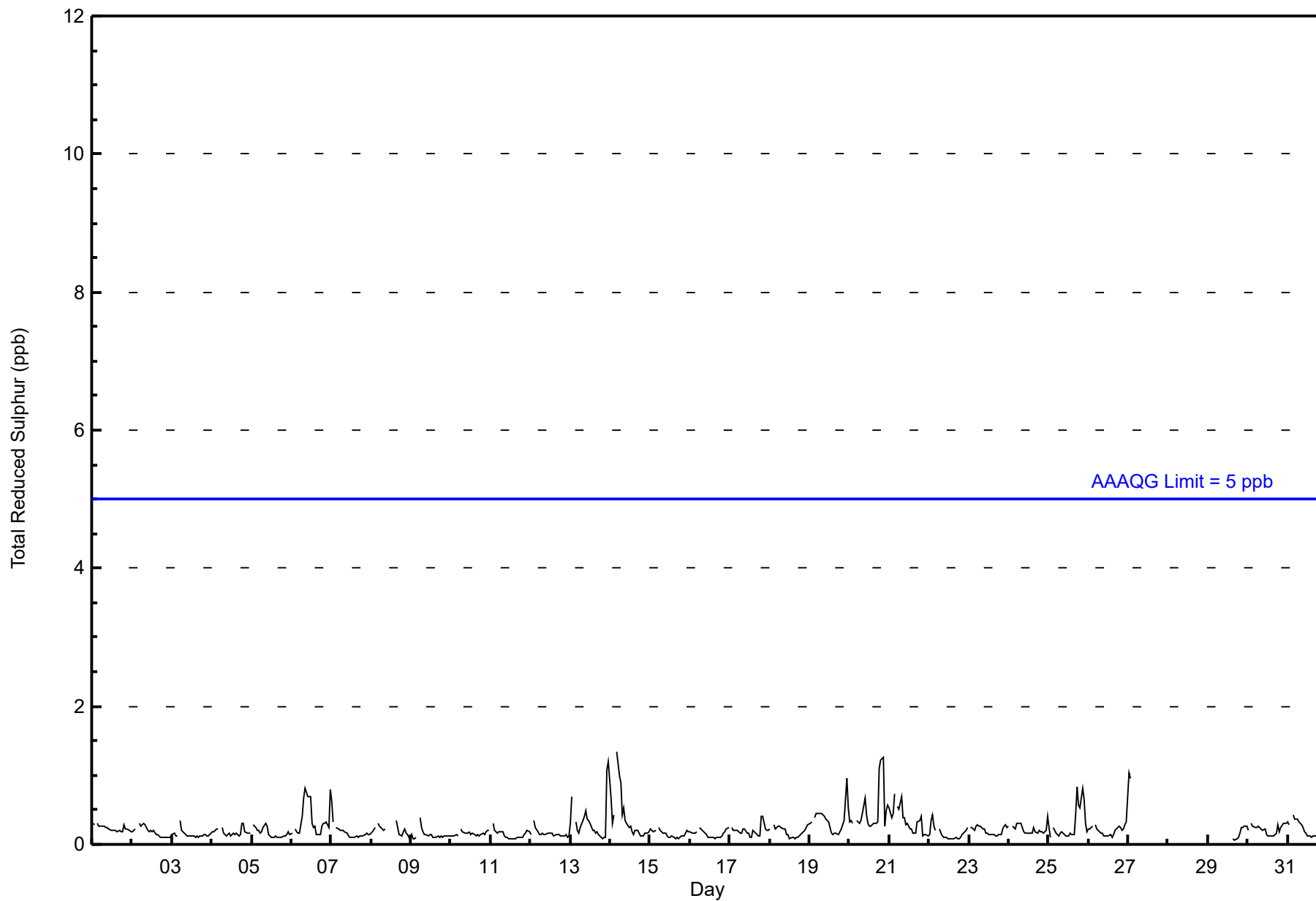
Athabasca Valley - July 2025

Maximum Value: 1.3 ppb on Jul 14 05:00																			Maximum Daily Average: 0.5 ppb on Jul 20																			Hours in Service: 744	
Minimum Value: 0.1 ppb on Jul 29 17:00																			Minimum Daily Average: 0.1 ppb on Jul 9																			Hours of Data: 649	
Maximum Diurnal Average: 0.3 ppb at hour 6																			Minimum Diurnal Average: 0.1 ppb at hour 15																			Hours of Missing Data: 95	
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 = 1.0																			Hours of Calibration: 34	
																																						Percent Operational Time: 91.8	
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-Jul	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	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3												
2-Jul	0.2	0.2	0.2	Z	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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1												
3-Jul	0.1	0.2	0.1	0.1	Z	0.4	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	0.1	0.4												
4-Jul	0.2	0.2	0.2	0.2	0.2	Z	0.3	0.2	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2												
5-Jul	Z	0.3	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	0.1	0.1	0.2	0.1	0.2	0.2	0.3												
6-Jul	0.2	Z	0.2	0.2	0.2	0.2	0.4	0.7	0.8	0.8	0.7	0.7	0.3	0.3	0.3	0.2	0.1	0.1	0.1	0.3	0.3	0.3	0.3	0.2	0.8	0.4	0.8												
7-Jul	0.6	0.3	Z	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.6												
8-Jul	0.2	0.2	0.2	Z	0.3	0.3	0.2	0.2	0.2	0.2	C	C	C	C	C	C	0.3	0.2	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.3												
9-Jul	0.1	0.1	0.1	0.1	Z	0.4	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	0.4												
10-Jul	0.1	0.1	0.1	0.1	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	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2												
11-Jul	Z	0.3	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	0.2	0.2	0.2	0.2	0.1	0.3												
12-Jul	0.2	Z	0.3	0.2	0.2	0.1	0.2	0.2	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	0.2	0.3												
13-Jul	0.3	0.7	Z	0.3	0.2	0.2	0.3	0.3	0.4	0.5	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	1.1	1.2	0.3	1.2	0.3												
14-Jul	0.7	0.3	0.4	Z	1.3	1.0	0.9	0.4	0.5	0.3	0.3	0.2	0.3	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.4	1.3	0.4												
15-Jul	0.2	0.2	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	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2												
16-Jul	0.2	0.2	0.2	0.2	0.2	Z	0.3	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	0.2	0.2	0.2	0.2	0.2	0.3												
17-Jul	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	0.1	0.1	0.1	0.4	0.4	0.2	0.2	0.2	0.2	0.4												
18-Jul	0.2	Z	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.2	0.3												
19-Jul	0.3	0.3	Z	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.3	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.3	0.3	1.0	0.5	0.3	1.0												
20-Jul	0.3	0.4	0.3	Z	0.4	0.3	0.3	0.3	0.4	0.7	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	1.1	1.2	1.3	0.3	0.5	0.6	0.5	1.3												
21-Jul	0.5	0.4	0.5	0.7	Z	0.5	0.5	0.7	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.1	0.1	0.1	0.1	0.3	0.7												
22-Jul	0.1	0.3	0.4	0.3	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	0.2	0.2	0.2	0.2	0.4												
23-Jul	Z	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.2	0.2	0.3	0.2												
24-Jul	0.3	Z	0.3	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.2	0.4	0.2												
25-Jul	0.2	0.1	Z	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.5	0.8	0.6	0.5	0.8	0.6	0.3	0.2	0.3	0.8												
26-Jul	0.2	0.2	0.3	Z	0.3	0.2	0.2	0.2	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	0.2	0.3	0.3	0.2	0.3	0.2												
27-Jul	1.0	0.9	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	1.0												
28-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--												
29-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	--	0.3												
30-Jul	0.2	Z	0.3	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.3												
31-Jul	0.3	0.3	Z	0.4	0.4	0.4	0.4	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	0.2	0.3	0.2	0.2	0.2	0.2	0.4												
0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.2 0.2 0.2 0.2 0.1 0.1 0.1 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.3 0.3																									Diurnal Average														
1.0 0.9 0.5 0.7 1.3 1.0 0.9 0.7 0.8 0.8 0.7 0.7 0.3 0.3 0.3 0.3 0.5 0.8 1.1 1.2 1.3 0.6 1.1 1.2																									Diurnal Maximum														
Z - zerospan C - Calibration PF - Power Failure																																							
Alberta Ambient Air Quality Objective (AAAQO): 1-hour NA 24-hr NA																																							



Wood Buffalo Environmental Association
Hourly Averages

Total Reduced Sulphur (TRS) - ppb
Athabasca Valley - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Reduced Sulphur (TRS) - ppb
Athabasca Valley - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	649	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: 649

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Total Reduced Sulphur (TRS) - ppb
Athabasca Valley - July 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	13	10	32	52	96	49	18	17	41	44	28	29	24	49	53	566
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	13	10	32	52	96	49	18	17	41	44	28	29	24	49	53	566

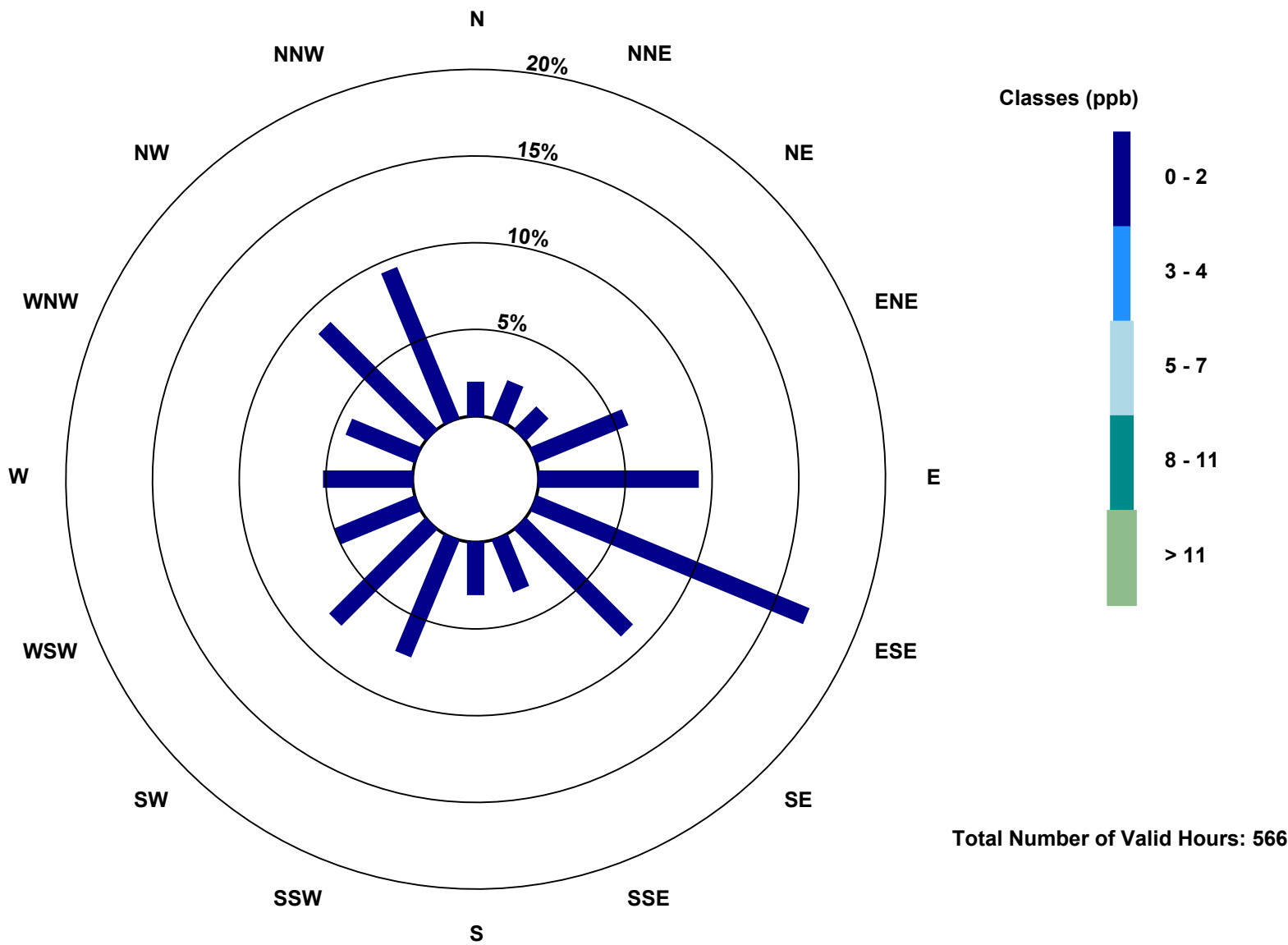
Total Number of Valid Hours: 566

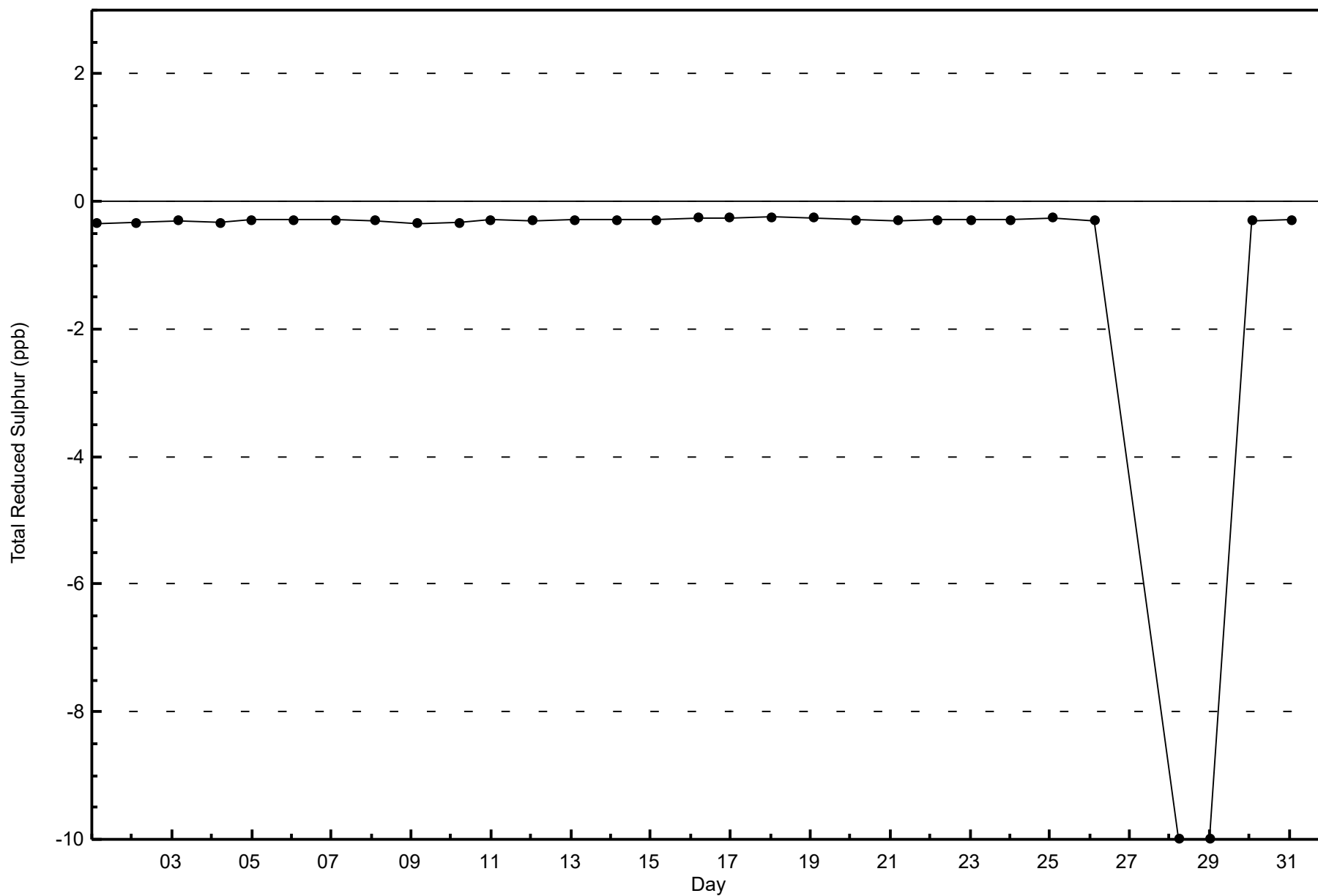
Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Total Reduced Sulphur (TRS) - ppb
Athabasca Valley

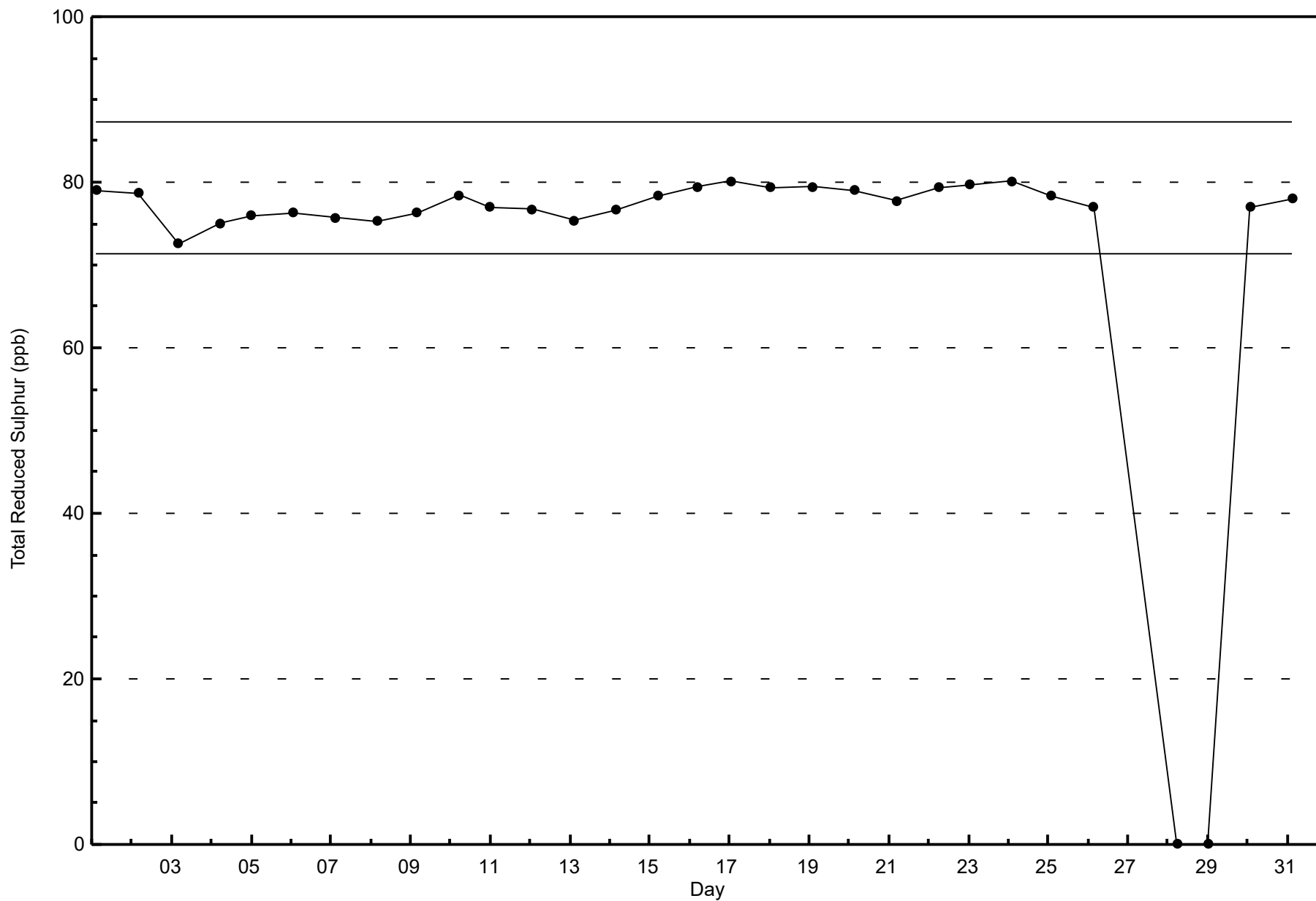






Wood Buffalo Environmental Association
Span Responses

Total Reduced Sulphur (TRS) - ppb
Athabasca Valley - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Total Hydrocarbons (THC) - ppm

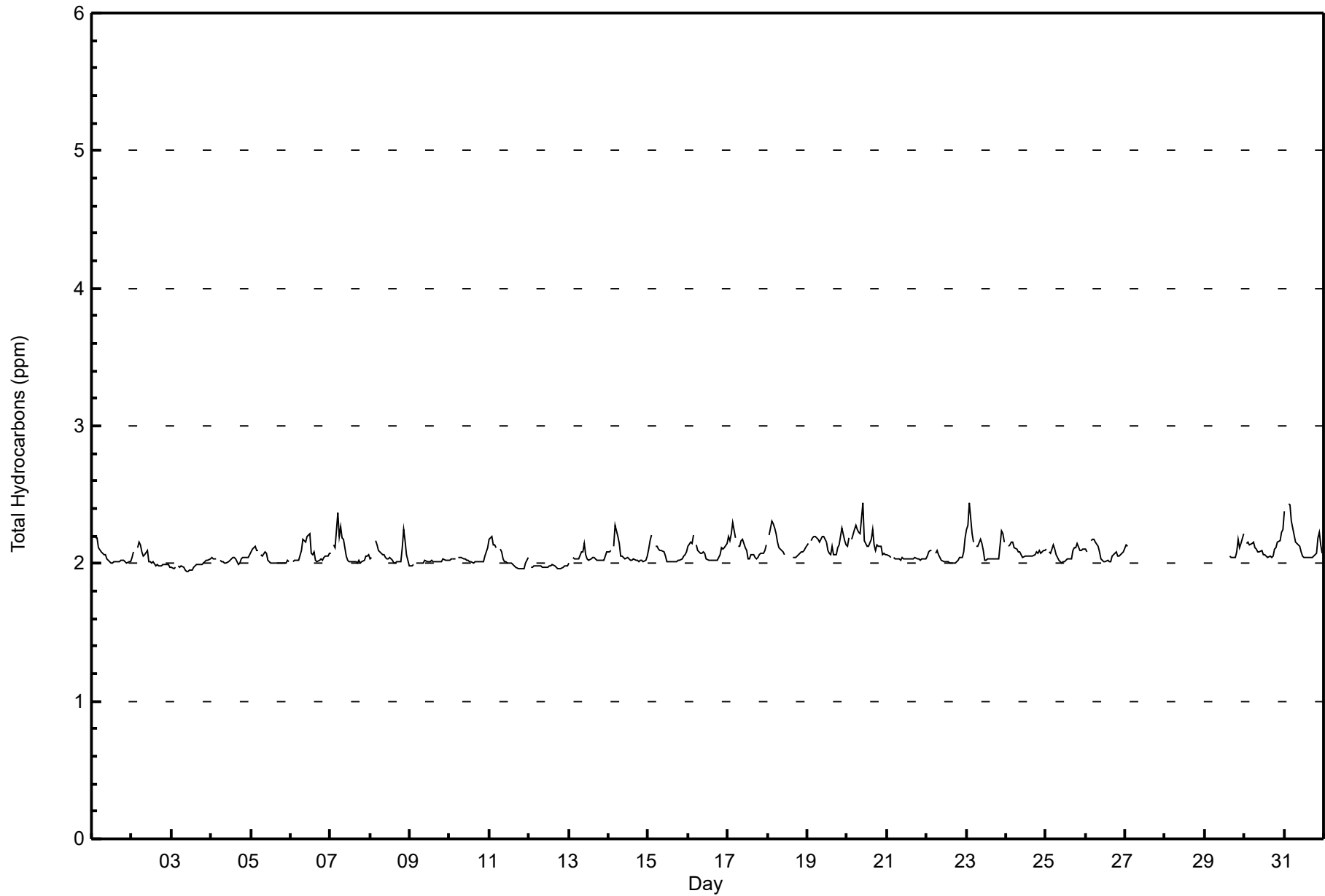
Athabasca Valley - July 2025

Maximum Value: 2.4 ppm on Jul 23 03:00																		Maximum Daily Average: 2.2 ppm on Jul 20										Hours in Service: 744	
Minimum Value: 1.9 ppm on Jul 3 10:00																		Minimum Daily Average: 2.0 ppm on Jul 12										Hours of Data: 651	
Maximum Diurnal Average: 2.1 ppm at hour 4																		Minimum Diurnal Average: 2.0 ppm at hour 17										Hours of Missing Data: 93	
Monthly Average: 2.07 ppm																		Percentiles: P ₁ = 2.0 P ₁₀ = 2.0 Q ₁ = 2.0 Median = 2.0 Q ₃ = 2.1 P ₉₀ = 2.2 P ₉₉ = 2.3										Hours of Calibration: 32	
																		Percent Operational Time: 91.8											
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-Jul	2.1	Z	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	2.0	2.0	2.0	2.0	2.2		
2-Jul	2.0	2.1	Z	2.1	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	2.0	2.0	2.0	2.2		
3-Jul	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	1.9	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		
4-Jul	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	2.1			
5-Jul	2.1	2.1	2.1	2.1	2.1	Z	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	2.0	2.0	2.0	2.0	2.0	2.1			
6-Jul	Z	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.2	2.2	2.2	2.2	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	2.2			
7-Jul	2.1	Z	2.1	2.1	2.4	2.2	2.3	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	2.1	2.1	2.1	2.4			
8-Jul	2.0	2.0	Z	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	2.1	2.3	2.2	2.1	2.0	2.3			
9-Jul	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			
10-Jul	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	2.1	2.1	2.0	2.1			
11-Jul	2.2	2.2	2.1	2.1	2.1	Z	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	2.2			
12-Jul	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			
13-Jul	2.0	Z	2.0	2.0	2.0	2.0	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	2.1	2.1	2.0	2.1			
14-Jul	2.1	2.1	Z	2.1	2.3	2.2	2.1	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.3			
15-Jul	2.1	2.2	2.2	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	2.1	2.1	2.1	2.1	2.2			
16-Jul	2.1	2.2	2.1	2.2	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	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.2			
17-Jul	2.2	2.2	2.2	2.3	2.2	Z	2.1	2.1	2.2	2.2	2.1	2.1	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.3			
18-Jul	Z	2.2	2.3	2.3	2.3	2.2	2.2	2.1	2.1	2.1	2.1	C	C	C	C	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3			
19-Jul	2.1	Z	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	2.2	2.3	2.2	2.1	2.1	2.3			
20-Jul	2.1	2.2	Z	2.2	2.2	2.3	2.2	2.2	2.2	2.4	2.2	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	2.4			
21-Jul	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	2.0	2.0	2.1			
22-Jul	2.1	2.1	2.1	2.1	Z	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	2.2	2.0	2.2			
23-Jul	2.2	2.3	2.4	2.2	2.2	Z	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	2.1	2.2	2.2	2.2	2.1	2.4			
24-Jul	Z	2.1	2.1	2.2	2.2	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	2.2			
25-Jul	2.1	Z	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	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1			
26-Jul	2.1	2.1	Z	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	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2			
27-Jul	2.1	2.1	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	2.1			
28-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--			
29-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	2.1	2.0	2.0	2.0	2.1	2.2	2.1	2.1	2.2	--			
30-Jul	Z	2.1	2.2	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.0	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2			
31-Jul	2.4	Z	2.4	2.4	2.3	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.2	2.1	2.1	2.2	2.4			
2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.1 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																								Diurnal Average					
2.4 2.3 2.4 2.4 2.4 2.3 2.3 2.2 2.2 2.4 2.2 2.2 2.1 2.1 2.2 2.2 2.1 2.1 2.1 2.1 2.3 2.3 2.2 2.2																								Diurnal Maximum					
Z - zerospan C - Calibration PF - Power Failure																													



Wood Buffalo Environmental Association
Hourly Averages

Total Hydrocarbons (THC) - ppm
Athabasca Valley - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Hydrocarbons (THC) - ppm
Athabasca Valley - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	338	51.92	51.92
2.1 - 3.0	313	48.08	100.00
3.1 - 10.0	0	0.00	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 651

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Total Hydrocarbons (THC) - ppm
Athabasca Valley - July 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	10	3	12	9	17	10	6	13	23	38	25	20	19	31	31	273
2.1 - 3.0	5	3	7	16	42	81	41	10	6	16	5	4	8	6	18	22	290
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	11	13	10	28	51	98	51	16	19	39	43	29	28	25	49	53	563

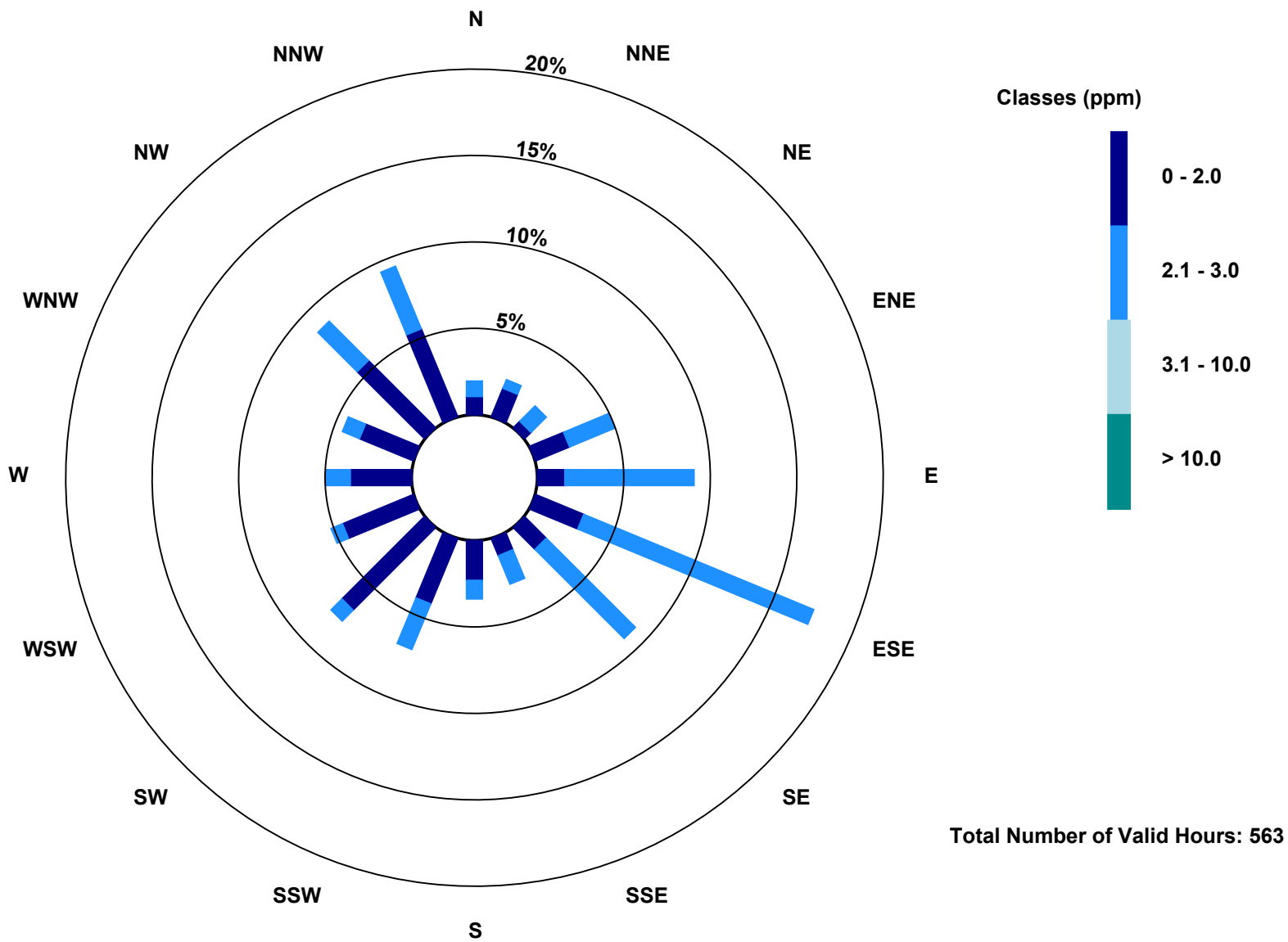
Total Number of Valid Hours: 563

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

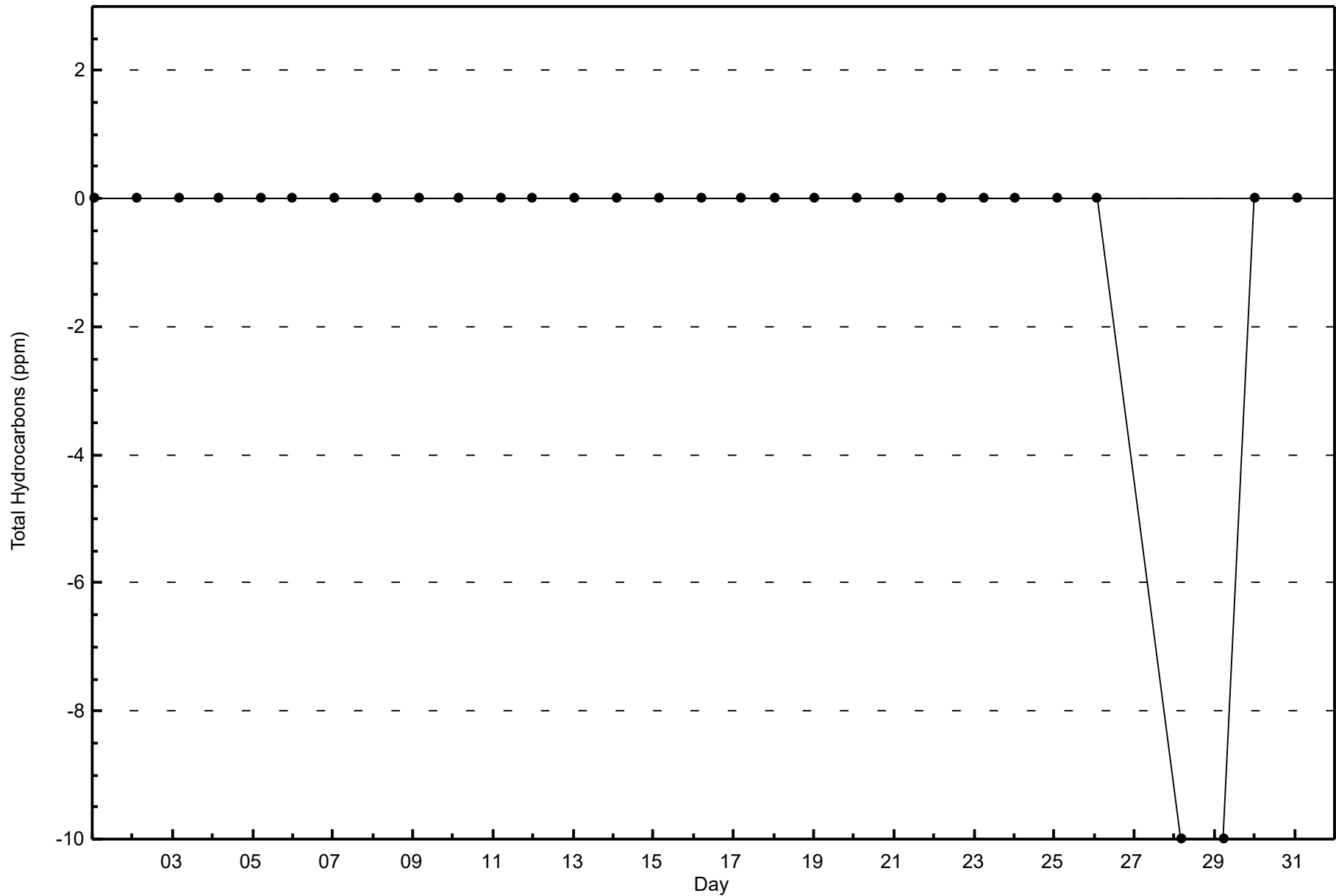
Total Hydrocarbons (THC) - ppm
Athabasca Valley





Wood Buffalo Environmental Association
Zero Responses

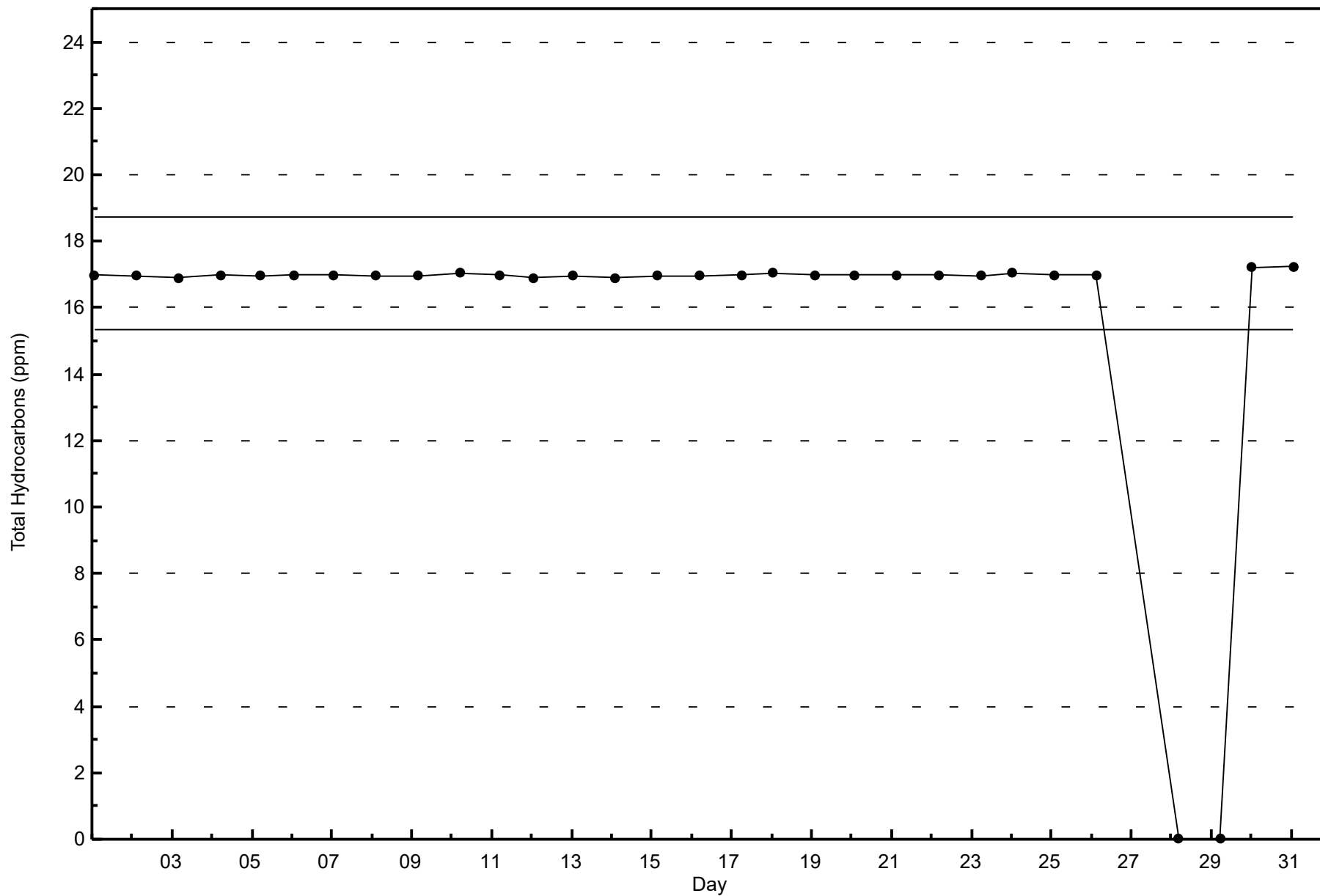
Total Hydrocarbons (THC) - ppm
Athabasca Valley - July 2025





Wood Buffalo Environmental Association
Span Responses

Total Hydrocarbons (THC) - ppm
Athabasca Valley - July 2025

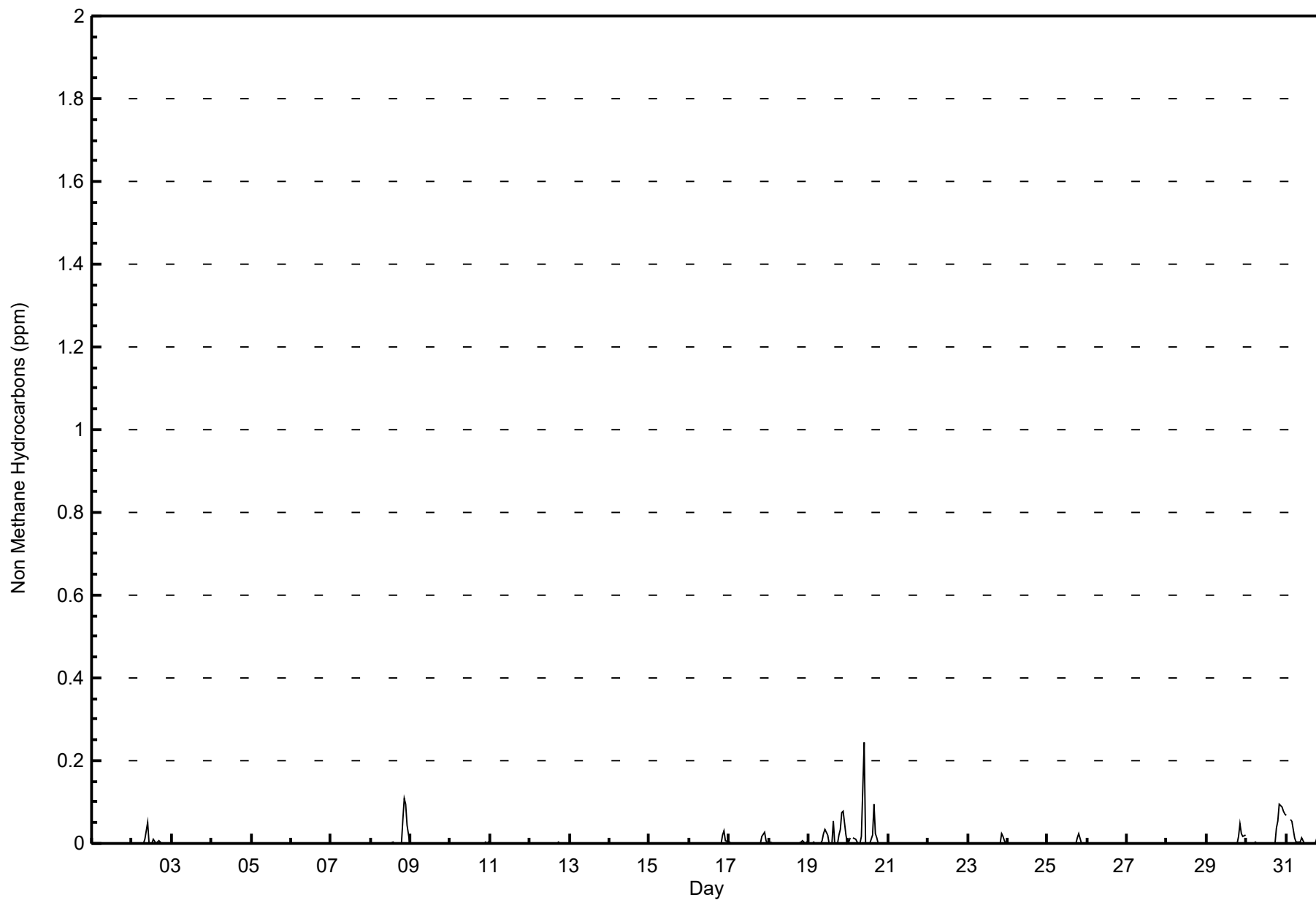


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Wood Buffalo Environmental Association
Hourly Averages

Non Methane Hydrocarbons (NMHC) - ppm
Athabasca Valley - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Non Methane Hydrocarbons (NMHC) - ppm
Athabasca Valley - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 0.005	590	90.63	90.63
0.006 - 0.05	45	6.91	97.54
0.06 - 0.1	15	2.30	99.85
> 0.1	1	0.15	100.00

Total Number of Valid Hours: 651

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Non Methane Hydrocarbons (NMHC) - ppm
Athabasca Valley - July 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	11	13	7	27	42	84	43	12	18	33	41	27	27	25	45	51	506
0.006 - 0.05	0	0	2	0	7	11	7	2	1	5	2	1	1	0	3	2	44
0.06 - 0.1	0	0	1	1	2	2	1	2	0	1	0	1	0	0	1	0	12
> 0.1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Totals	11	13	10	28	51	98	51	16	19	39	43	29	28	25	49	53	563

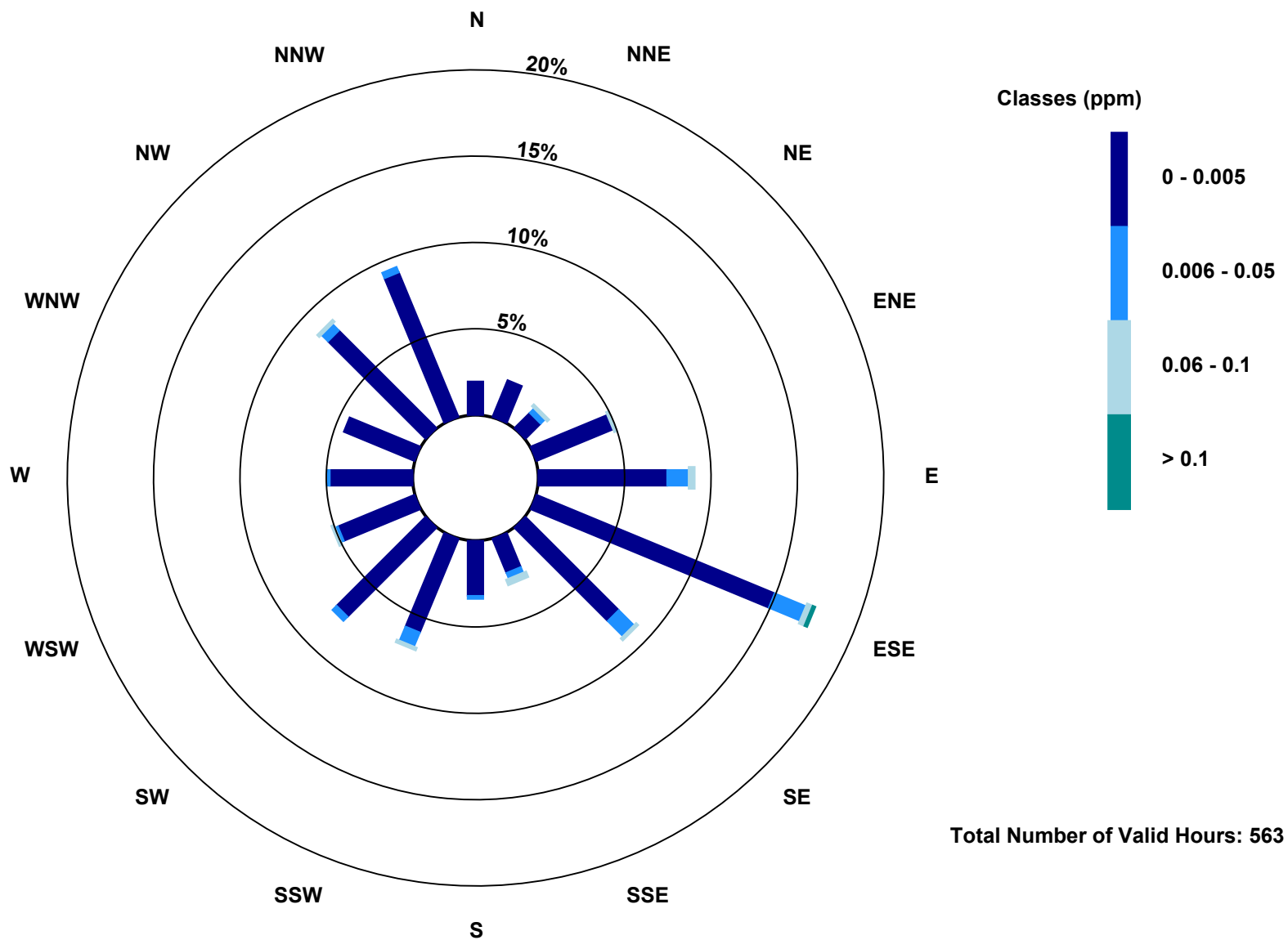
Total Number of Valid Hours: 563

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

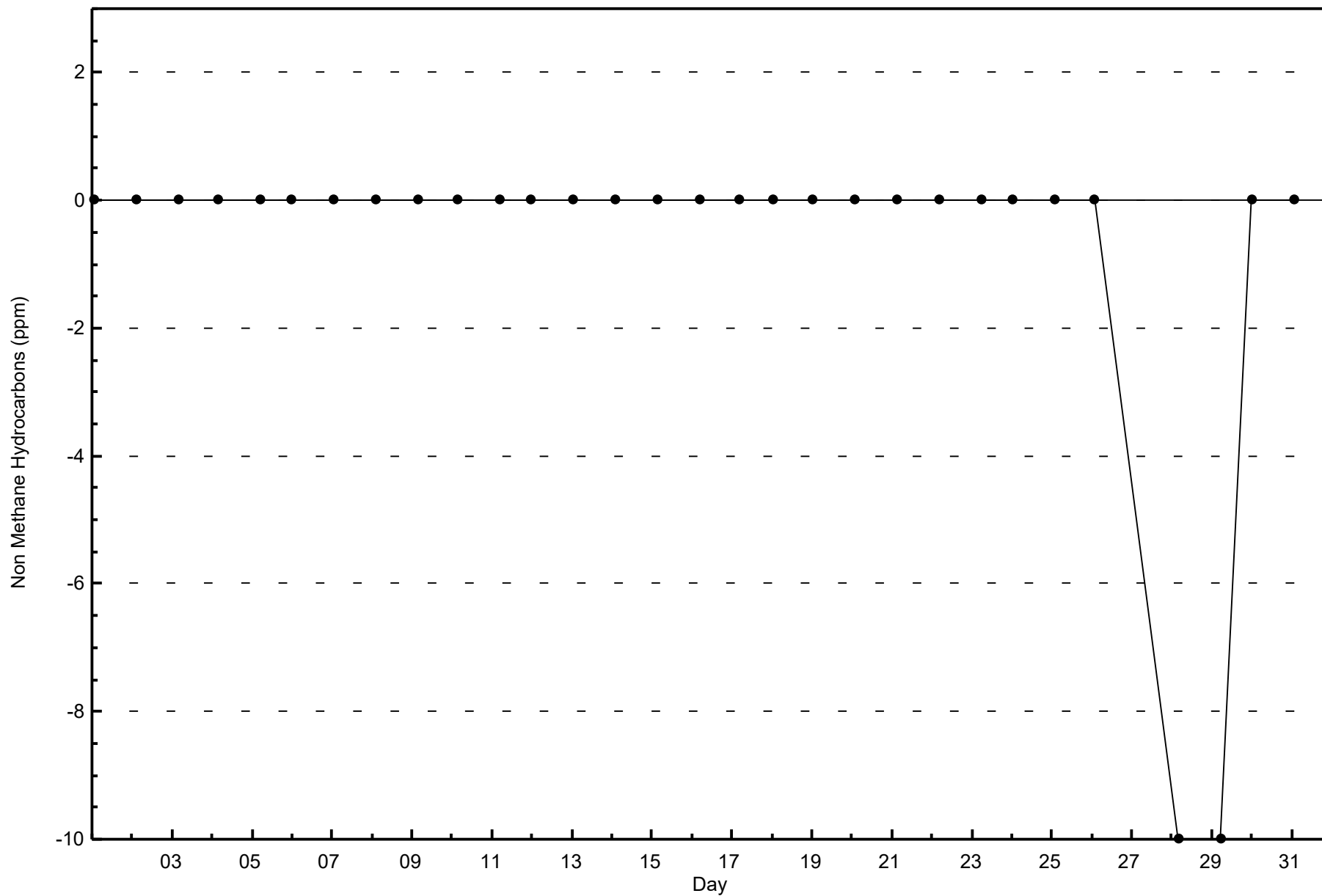
Non Methane Hydrocarbons (NMHC) - ppm
Athabasca Valley

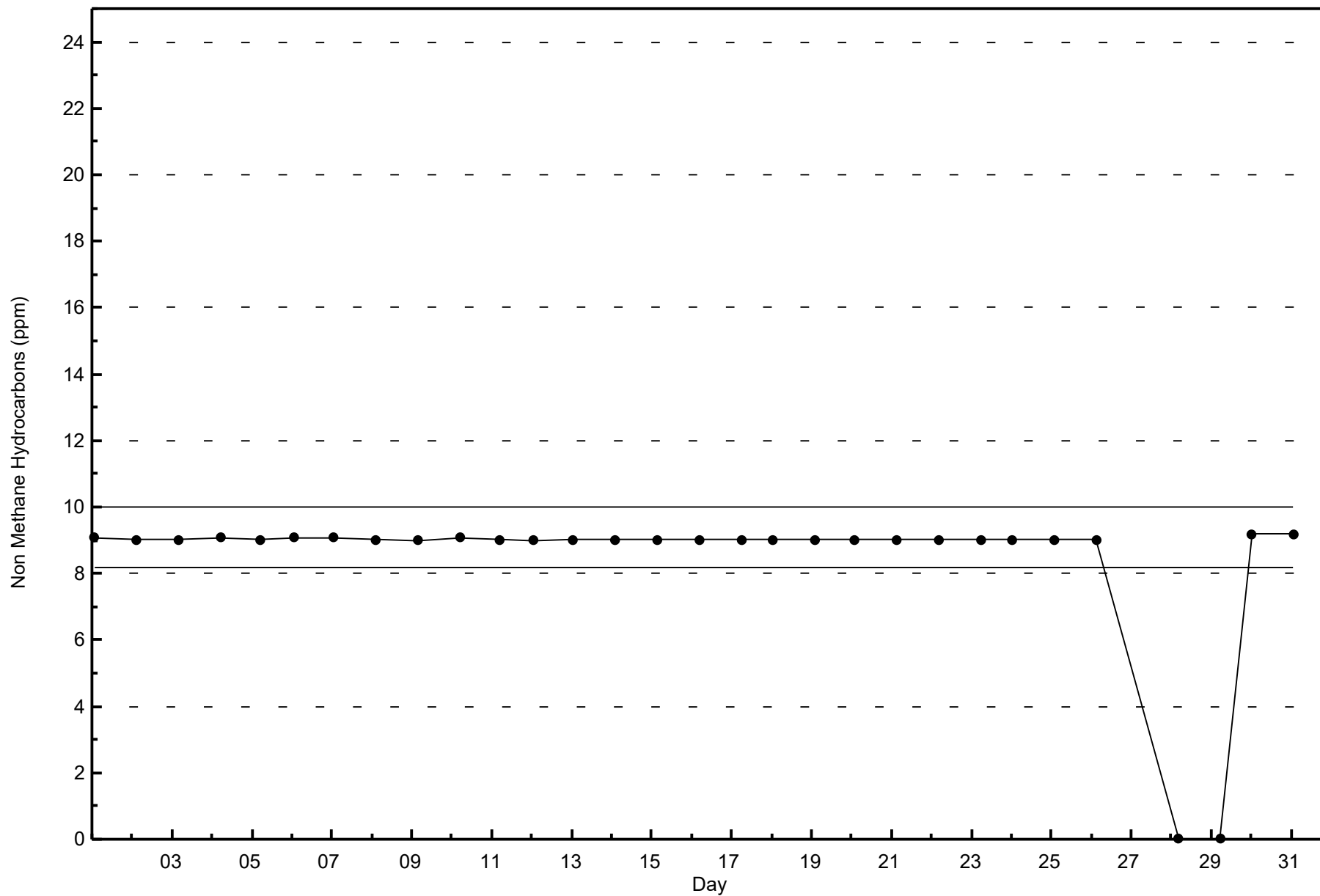




Wood Buffalo Environmental Association
Zero Responses

Non Methane Hydrocarbons (NMHC) - ppm
Athabasca Valley - July 2025







Wood Buffalo Environmental Association

Summary of Hour Averages

Methane (CH₄) - ppm

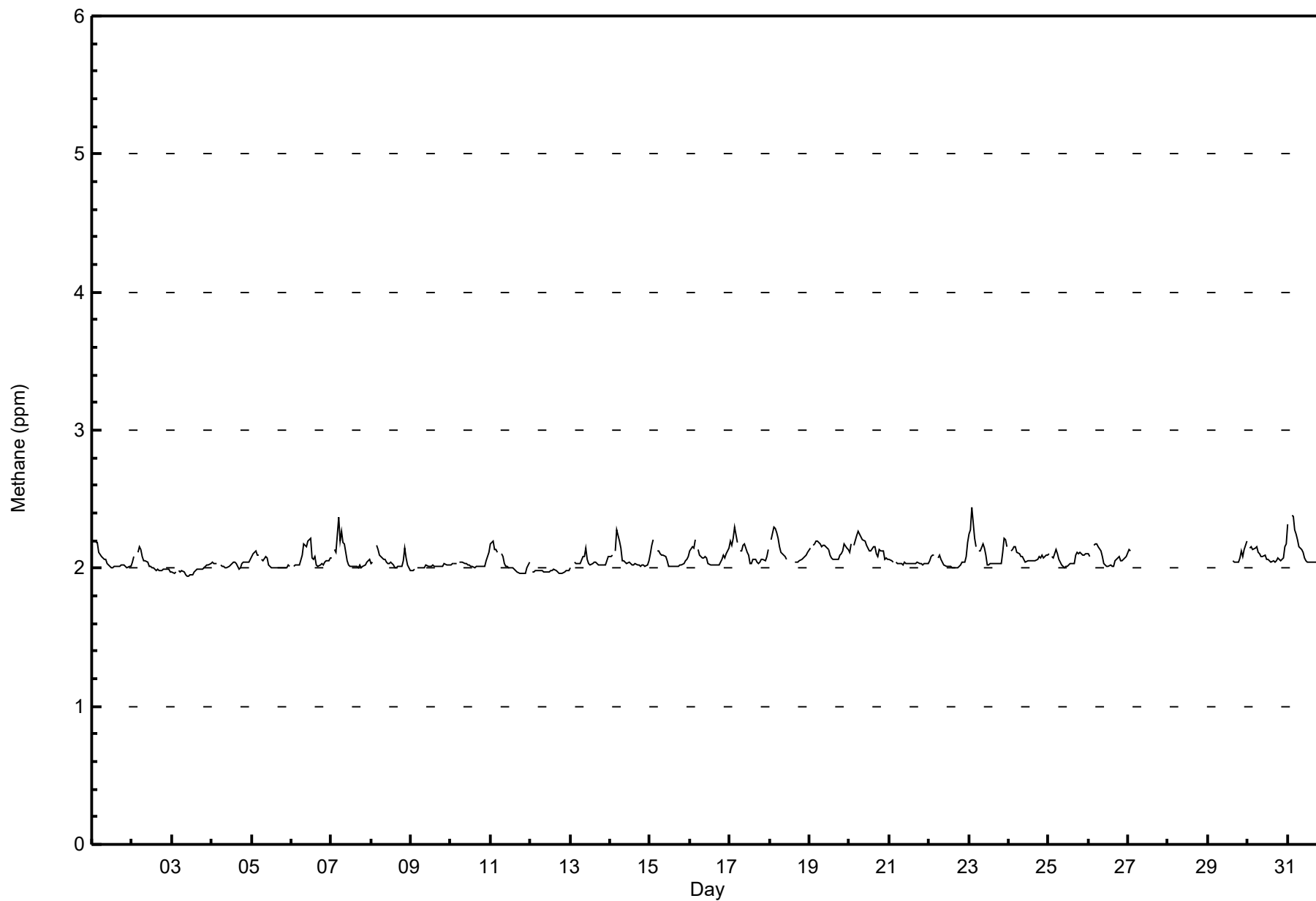
Athabasca Valley - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																		Hours in Service: 744								
Maximum Value: 2.4 ppm on Jul 23 03:00 Maximum Daily Average: 2.2 ppm on Jul 20																		Hours of Data: 651								
Minimum Value: 1.9 ppm on Jul 3 10:00 Minimum Daily Average: 2.0 ppm on Jul 12																		Hours of Missing Data: 93								
Maximum Diurnal Average: 2.1 ppm at hour 4 Minimum Diurnal Average: 2.0 ppm at hour 17																		Hours of Calibration: 32								
Monthly Average: 2.07 ppm Percentiles: P ₁ = 2.0 P ₁₀ = 2.0 Q ₁ = 2.0 Median = 2.0 Q ₃ = 2.1 P ₉₀ = 2.2 P ₉₉ = 2.3																		Percent Operational Time: 91.8								
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-Jul	2.1	Z	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	2.0	2.0	2.0	2.0
2-Jul	2.0	2.1	Z	2.1	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	2.0	2.0
3-Jul	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	1.9	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
4-Jul	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	2.1
5-Jul	2.1	2.1	2.1	2.1	2.1	Z	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	2.0	2.0	2.0	2.0	2.0	2.0
6-Jul	Z	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.2	2.2	2.2	2.2	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	2.2
7-Jul	2.1	Z	2.1	2.1	2.4	2.2	2.3	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	2.1	2.1	2.1	2.4
8-Jul	2.0	2.0	Z	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	2.1	2.1	2.1	2.0	2.0	2.2
9-Jul	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
10-Jul	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	2.1	2.1	2.0	2.1
11-Jul	2.2	2.2	2.1	2.1	2.1	Z	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	2.2
12-Jul	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
13-Jul	2.0	Z	2.0	2.0	2.0	2.0	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	2.1	2.1	2.0	2.1
14-Jul	2.1	2.1	Z	2.1	2.3	2.2	2.1	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.3
15-Jul	2.1	2.2	2.2	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	2.1	2.1	2.1	2.1	2.2
16-Jul	2.1	2.2	2.1	2.2	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	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.2
17-Jul	2.2	2.2	2.2	2.3	2.2	Z	2.1	2.1	2.2	2.2	2.1	2.1	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.3
18-Jul	Z	2.2	2.3	2.3	2.3	2.2	2.2	2.1	2.1	2.1	2.1	C	C	C	C	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.3
19-Jul	2.1	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	2.1	2.2	2.1	2.1	2.1	2.2
20-Jul	2.1	2.2	Z	2.2	2.2	2.3	2.2	2.2	2.2	2.2	2.2	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	2.3
21-Jul	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	2.0	2.0	2.1
22-Jul	2.1	2.1	2.1	2.1	Z	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	2.2	2.0	2.2
23-Jul	2.2	2.3	2.4	2.2	2.2	Z	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	2.1	2.2	2.2	2.2	2.1	2.4
24-Jul	Z	2.1	2.1	2.2	2.2	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	2.2
25-Jul	2.1	Z	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	2.1	2.1	2.1	2.1	2.1
26-Jul	2.1	2.1	Z	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	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2
27-Jul	2.1	2.1	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	2.1
28-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--
29-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.2	--
30-Jul	Z	2.1	2.2	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.2
31-Jul	2.3	Z	2.4	2.4	2.3	2.2	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	2.1	2.1	2.1	2.1	2.1	2.1	2.4
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 2.1 2.1																									Diurnal Average	
2.3 2.3 2.4 2.4 2.4 2.3 2.3 2.2 2.2 2.2 2.2 2.2 2.1 2.1 2.2 2.2 2.1 2.1 2.1 2.1 2.1 2.2 2.2 2.2																									Diurnal Maximum	
Z - zerospan C - Calibration PF - Power Failure																										



Wood Buffalo Environmental Association
Hourly Averages

Methane (CH₄) - ppm
Athabasca Valley - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Methane (CH₄) - ppm
Athabasca Valley - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	341	52.38	52.38
2.1 - 3.0	310	47.62	100.00
3.1 - 10.0	0	0.00	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 651

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Methane (CH₄) - ppm
Athabasca Valley - July 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	10	3	12	9	17	10	6	13	24	39	25	20	19	31	31	275
2.1 - 3.0	5	3	7	16	42	81	41	10	6	15	4	4	8	6	18	22	288
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	11	13	10	28	51	98	51	16	19	39	43	29	28	25	49	53	563

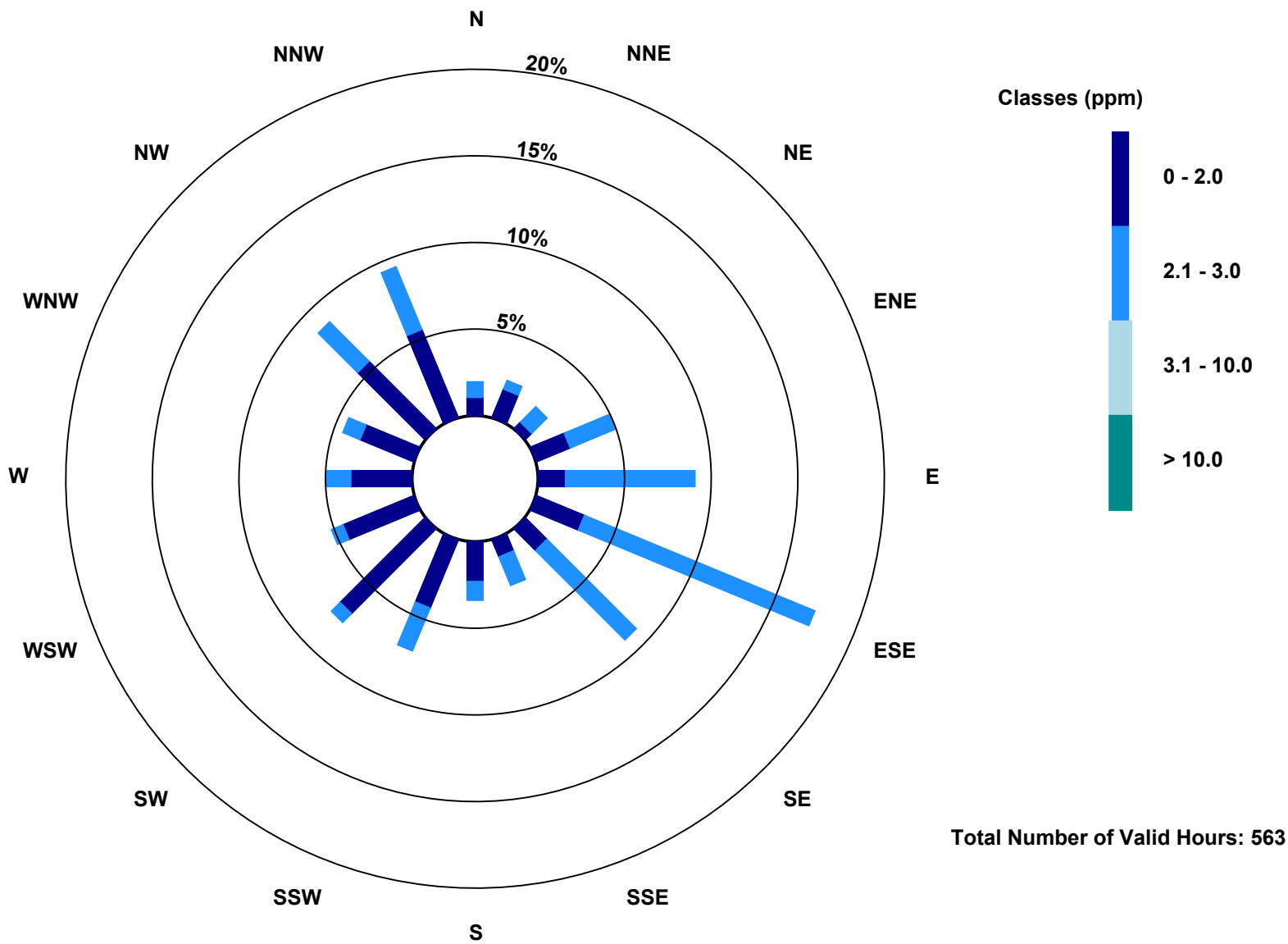
Total Number of Valid Hours: 563

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

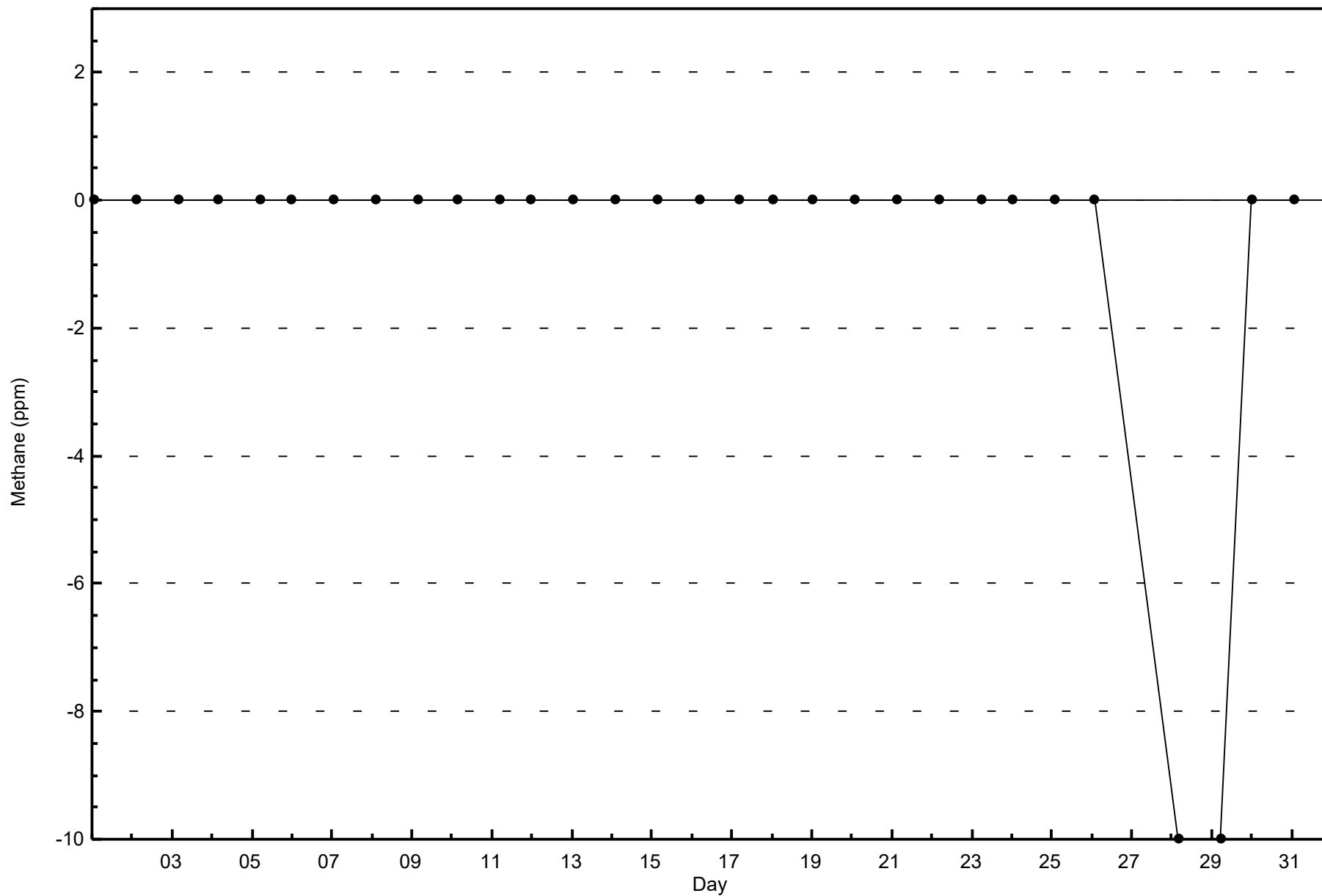
Methane (CH₄) - ppm
Athabasca Valley





Wood Buffalo Environmental Association
Zero Responses

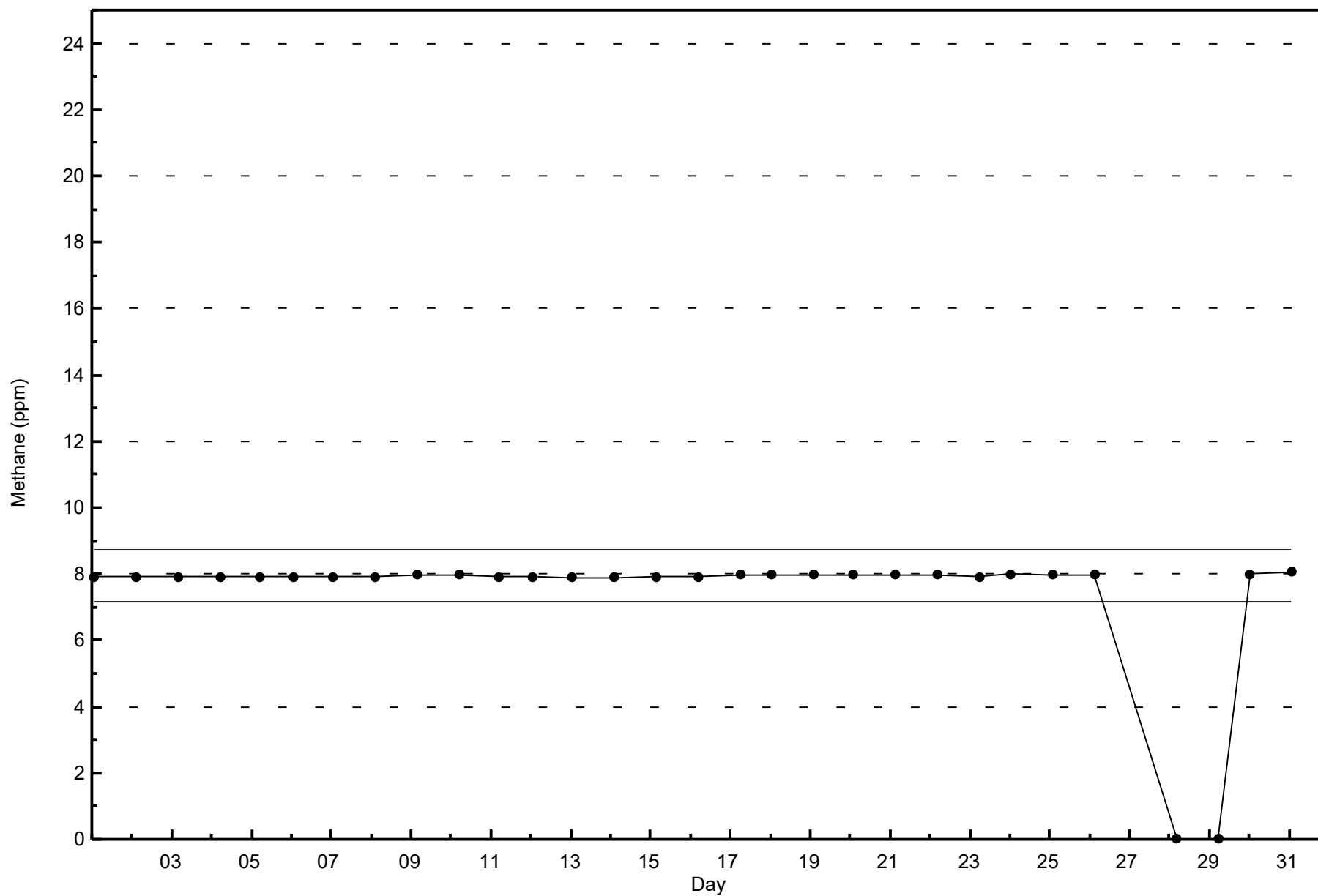
Methane (CH_4) - ppm
Athabasca Valley - July 2025





Wood Buffalo Environmental Association
Span Responses

Methane (CH_4) - ppm
Athabasca Valley - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Ozone (O₃) - ppb

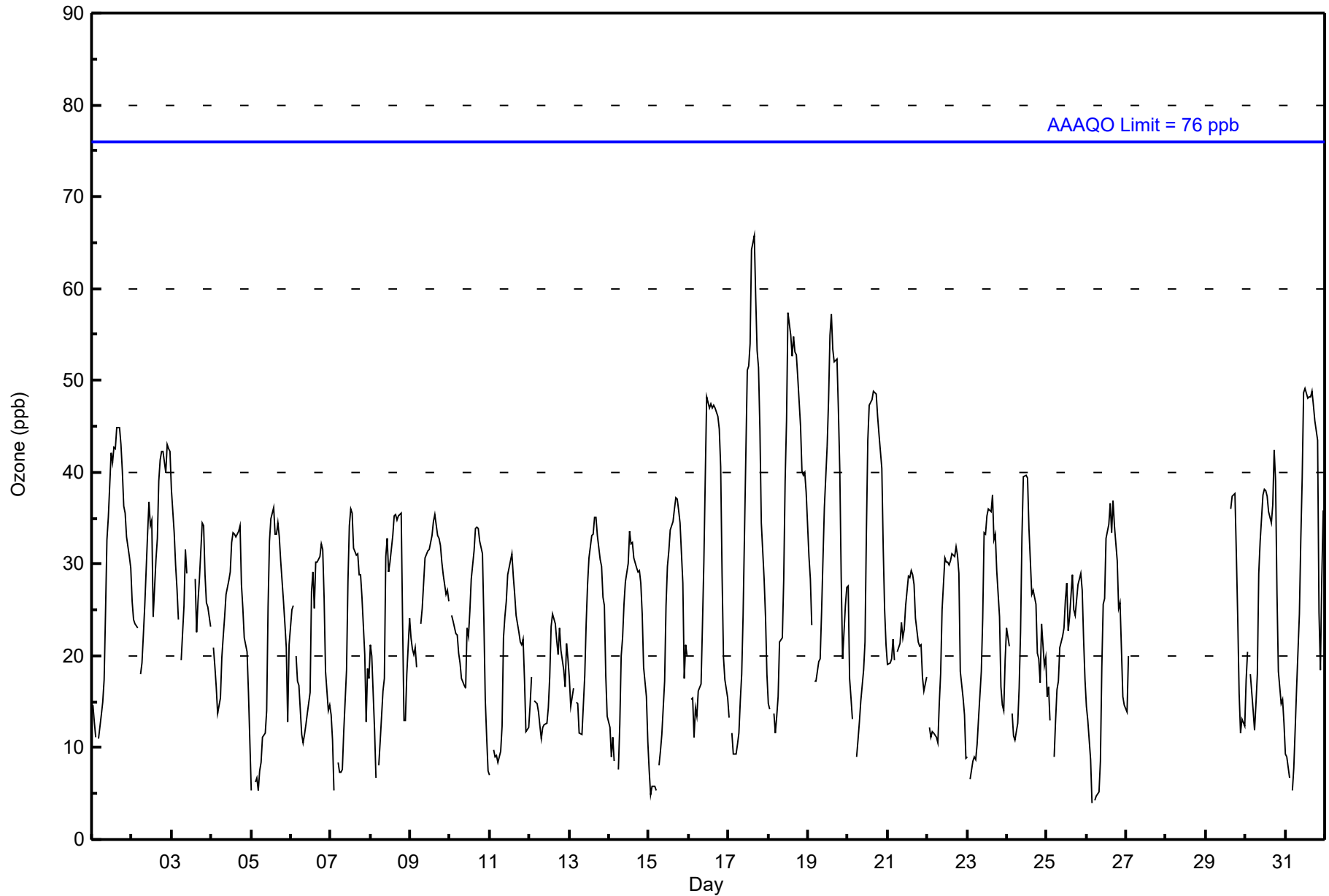
Athabasca Valley - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 65.7 ppb on Jul 17 16:00 Maximum Daily Average: 35.6 ppb on Jul 18																				Hours in Service: 744 Hours of Data: 651						
Minimum Value: 4.0 ppb on Jul 26 04:00 Minimum Daily Average: 17.5 ppb on Jul 12 Maximum Diurnal Average: 36.5 ppb at hour 16 Minimum Diurnal Average: 11.8 ppb at hour 6 Monthly Average: 25.16 ppb Percentiles: P ₁ = 5.4 P ₁₀ = 11.1 Q ₁ = 15.6 Median = 24.2 Q ₃ = 32.9 P ₉₀ = 41.1 P ₉₉ = 54.8																				Hours of Missing Data: 93 Hours of Calibration: 32 Percent Operational Time: 91.8						
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-Jul	14.7	12.9	11.2	Z	10.9	13.5	14.9	17.3	24.7	32.6	35.1	42.2	41.1	42.6	42.5	44.9	44.8	43.0	40.2	36.4	35.5	32.9	30.8	29.5	30.2	44.9
2-Jul	25.9	24.0	23.5	23.1	Z	18.0	19.2	22.2	25.5	33.2	36.8	34.2	34.7	24.2	30.5	32.9	39.0	41.4	42.2	42.3	40.0	43.0	42.5	42.2	32.2	43.0
3-Jul	38.1	33.4	29.8	27.4	24.0	Z	19.5	25.4	31.6	28.9	C	C	C	C	28.3	22.5	25.9	28.4	34.4	34.2	28.8	25.8	25.4	23.1	28.2	38.1
4-Jul	Z	20.8	18.9	16.6	13.8	15.3	19.9	22.1	24.2	26.6	28.2	29.2	32.3	33.4	33.2	33.0	33.6	34.1	27.7	25.2	22.0	20.4	16.1	10.6	24.2	34.1
5-Jul	5.4	Z	6.3	6.7	5.4	7.5	8.4	11.1	11.7	14.1	25.3	32.5	34.9	36.1	33.2	33.2	34.5	33.0	30.3	26.0	23.5	20.9	12.8	21.1	20.6	36.1
6-Jul	25.0	25.5	Z	20.0	17.3	16.8	11.4	10.5	11.4	12.5	13.8	16.0	27.1	29.1	25.1	30.2	30.1	30.8	32.1	31.5	26.2	18.4	14.1	14.6	21.3	32.1
7-Jul	13.6	10.8	5.3	Z	8.4	7.4	7.4	7.6	11.7	18.5	28.0	34.1	36.0	35.6	31.7	30.9	31.1	28.8	28.9	26.3	20.2	12.8	18.7	17.5	20.5	36.0
8-Jul	21.2	20.0	11.9	6.7	Z	8.1	10.7	16.2	17.6	30.8	32.7	29.2	30.3	33.1	35.2	35.5	34.8	35.3	35.6	23.7	13.0	13.0	18.1	24.0	23.3	35.6
9-Jul	21.9	20.7	20.1	20.9	18.8	Z	23.5	25.2	27.9	30.6	31.5	31.6	32.3	33.1	34.6	35.3	33.2	32.8	32.1	30.2	28.8	26.7	27.1	25.9	28.0	35.3
10-Jul	Z	24.3	23.9	22.4	22.2	20.3	19.2	17.5	16.7	16.4	23.0	22.1	24.8	28.3	31.4	33.9	34.0	33.9	32.4	31.1	24.0	15.3	11.1	7.5	23.3	34.0
11-Jul	7.0	Z	9.7	9.0	9.2	8.4	9.7	12.3	22.0	24.2	25.9	28.8	30.4	31.2	28.7	26.7	24.4	22.6	21.5	21.2	21.8	17.4	11.8	12.2	19.0	31.2
12-Jul	14.6	17.7	Z	15.1	14.8	13.9	12.4	11.0	12.2	12.5	12.6	14.4	17.7	23.2	24.6	23.6	21.6	20.1	23.0	20.6	18.5	16.7	21.4	19.7	17.5	24.6
13-Jul	17.5	14.5	16.4	Z	15.0	14.8	11.6	11.5	14.6	17.8	23.5	27.7	30.6	33.1	33.3	35.1	35.1	33.1	30.5	29.7	26.3	25.5	17.8	13.4	23.0	35.1
14-Jul	12.2	9.0	11.1	8.5	Z	7.7	12.5	20.0	21.9	25.6	28.1	30.1	33.5	32.1	32.4	30.6	29.6	29.1	29.3	27.9	24.5	18.8	15.5	10.6	21.8	33.5
15-Jul	7.5	4.9	5.8	5.8	5.4	Z	8.1	9.6	11.4	17.2	25.5	29.7	31.5	33.7	34.6	36.0	37.2	37.1	35.9	34.5	27.9	17.5	21.3	20.1	21.7	37.2
16-Jul	Z	15.2	15.5	11.2	14.4	13.4	16.1	16.9	23.4	30.2	39.3	48.2	47.0	47.5	47.0	47.2	47.0	46.1	44.8	40.6	28.9	19.8	17.4	15.4	30.1	48.2
17-Jul	13.2	Z	11.6	9.2	9.3	10.4	11.5	15.2	18.0	24.4	42.2	51.0	51.6	54.0	64.3	65.7	59.0	53.2	51.4	44.6	34.5	28.3	24.3	18.0	33.3	65.7
18-Jul	14.8	14.2	Z	13.7	11.7	13.5	15.6	21.5	22.0	28.3	39.1	45.6	57.4	54.8	52.6	54.8	53.0	52.7	50.4	45.0	40.1	39.7	40.0	37.8	35.6	57.4
19-Jul	30.8	28.3	23.4	Z	17.3	17.2	19.3	19.7	24.7	30.4	36.1	42.9	47.8	55.0	57.2	53.5	52.0	52.4	46.9	40.2	28.6	19.7	25.5	27.4	34.6	57.2
20-Jul	27.7	17.5	15.3	13.2	Z	9.0	10.9	12.8	15.1	18.5	21.5	33.6	43.4	47.3	47.8	48.8	48.7	48.5	46.1	44.0	40.5	31.7	25.0	21.2	29.9	48.8
21-Jul	19.1	19.2	19.7	21.8	19.6	Z	20.5	21.3	23.7	22.0	23.0	25.5	28.6	28.5	29.2	28.8	27.8	24.1	21.5	21.1	21.1	17.8	16.2	17.7	22.5	29.2
22-Jul	Z	12.1	11.1	11.7	11.6	11.2	10.6	14.8	18.2	25.0	30.7	30.2	30.2	29.9	30.4	31.1	30.8	31.9	31.0	29.0	18.3	15.4	13.6	8.9	21.2	31.9
23-Jul	9.0	Z	6.5	8.6	9.1	8.7	10.4	13.1	18.3	24.1	33.4	33.3	35.3	36.0	35.8	37.6	32.6	33.2	29.3	24.2	16.7	14.6	14.0	19.5	21.9	37.6
24-Jul	23.1	21.0	Z	13.7	11.3	10.8	12.7	16.5	22.6	33.0	39.5	39.6	39.4	33.9	30.3	26.7	27.2	25.6	20.3	19.7	17.1	23.6	19.0	19.9	23.8	39.6
25-Jul	15.6	16.6	13.0	Z	9.0	12.9	16.3	17.2	20.9	22.2	23.0	26.1	27.9	22.7	24.3	28.8	25.0	24.4	26.0	27.8	29.0	27.1	21.8	17.4	21.5	29.0
26-Jul	14.5	12.9	8.7	4.0	Z	4.3	4.7	5.1	8.6	18.8	25.7	26.2	32.8	34.3	36.6	33.4	36.9	34.1	30.3	25.2	25.8	20.7	15.6	14.6	20.6	36.9
27-Jul	13.9	19.9	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	19.9
28-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	--
29-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	35.9	37.3	37.7	31.1	24.1	15.8	11.6	13.2	12.4	--	37.7
30-Jul	17.4	20.5	Z	17.9	14.0	11.9	14.9	18.0	29.0	32.5	37.6	38.1	38.0	37.4	35.8	34.4	36.5	42.4	39.0	26.9	18.3	14.8	15.3	12.6	26.2	42.4
31-Jul	9.3	9.0	6.7	Z	5.4	7.7	12.1	16.4	24.5	32.6	39.4	48.6	49.1	48.0	48.2	48.2	48.8	47.2	45.6	43.4	24.8	18.5	28.6	35.9	30.4	49.1
																										Diurnal Average
																										Diurnal Maximum
Z - zerospan C - Calibration PF - Power Failure Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 76 ppb																										



Wood Buffalo Environmental Association
Hourly Averages

Ozone (O₃) - ppb
Athabasca Valley - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ozone (O₃) - ppb
Athabasca Valley - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	255	39.17	39.17
21 - 50	377	57.91	97.08
51 - 82	19	2.92	100.00
> 83	0	0.00	100.00

Total Number of Valid Hours: 651

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Ozone (O₃) - ppb
Athabasca Valley - July 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	1	5	12	27	62	32	7	6	15	8	12	11	5	7	14	225
21 - 50	10	12	4	19	22	30	17	9	12	25	32	16	17	20	35	38	318
51 - 82	0	0	0	1	4	5	1	0	0	0	0	0	1	0	5	2	19
> 83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	11	13	9	32	53	97	50	16	18	40	40	28	29	25	47	54	562

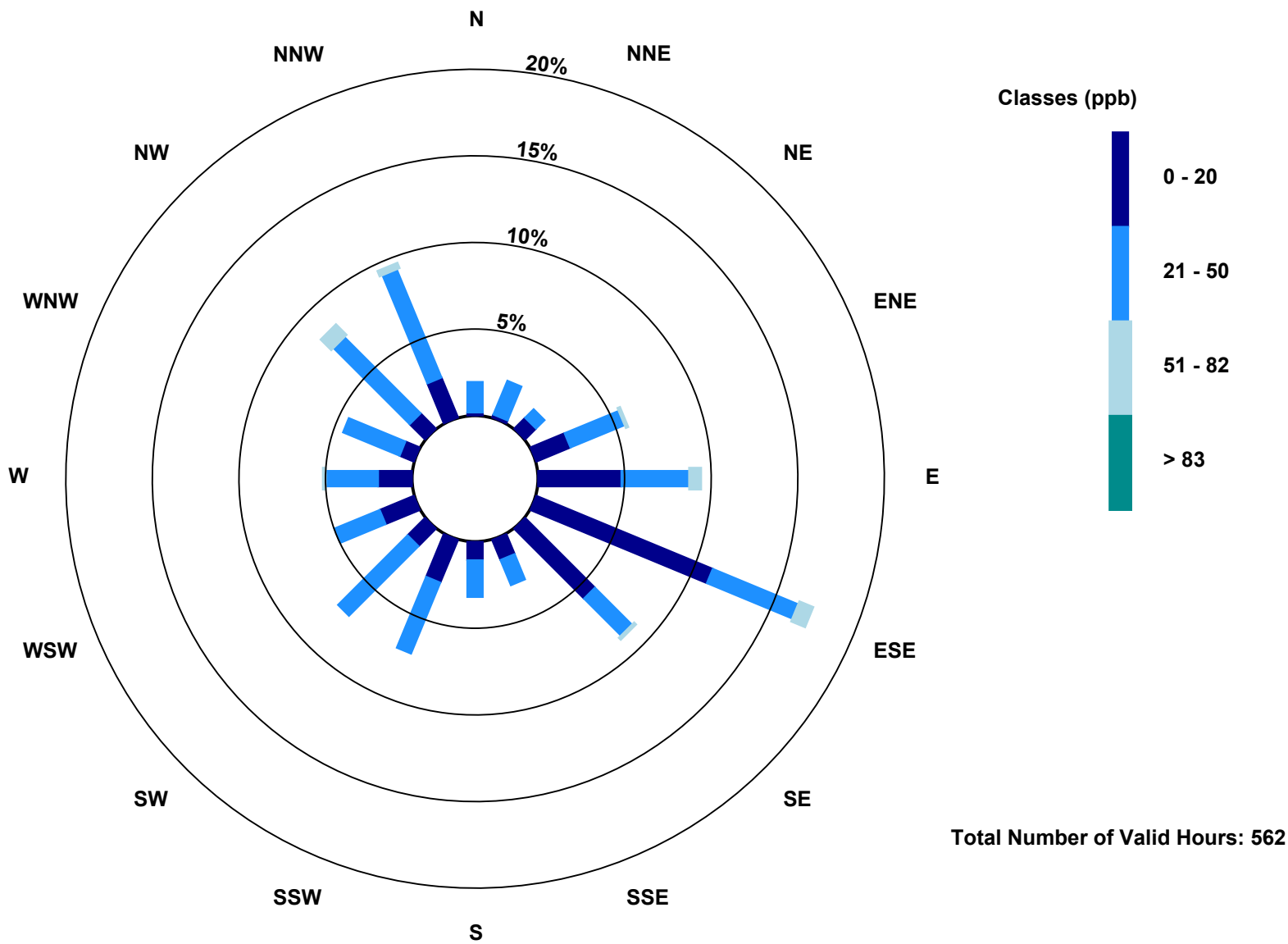
Total Number of Valid Hours: 562

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

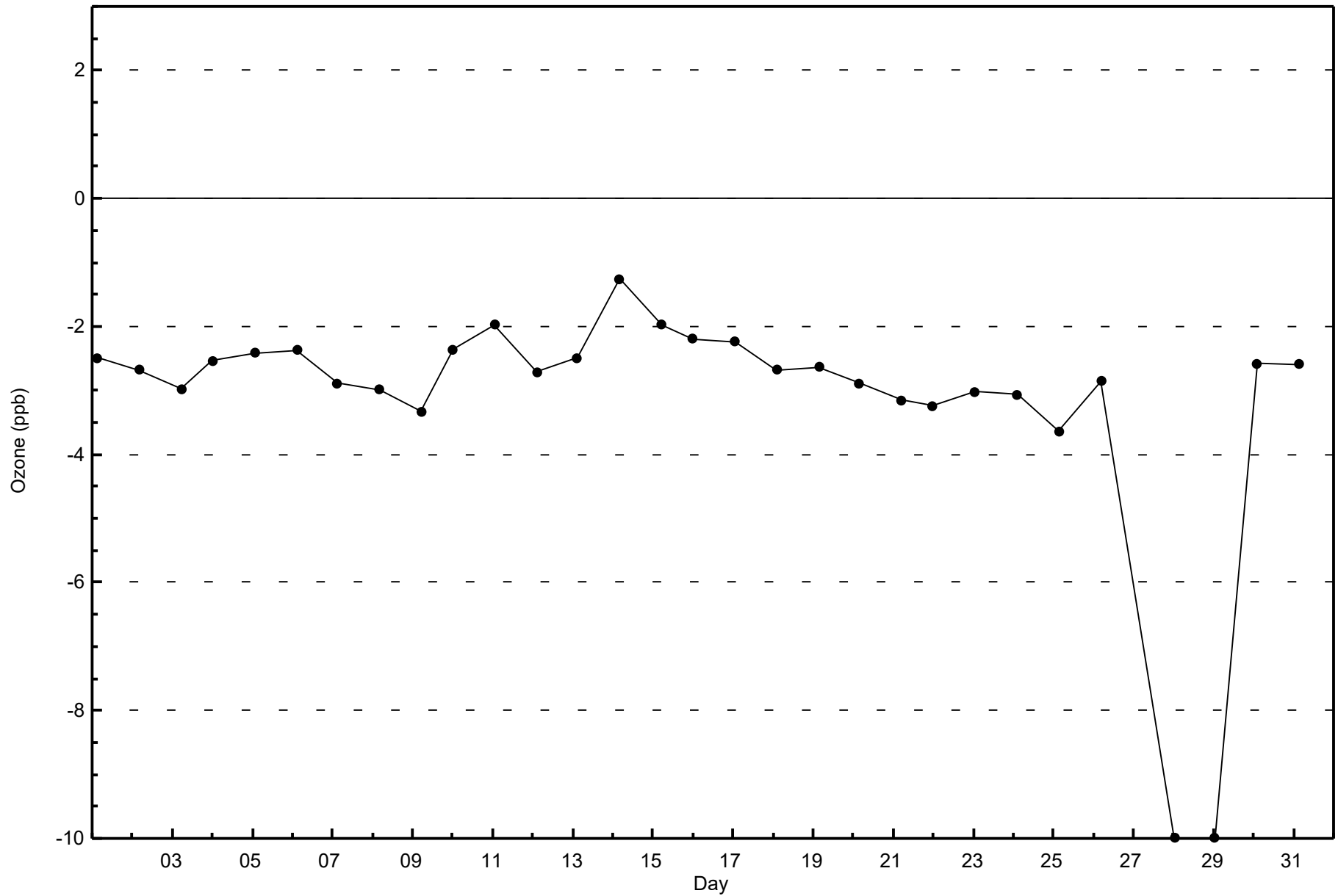
Ozone (O₃) - ppb
Athabasca Valley





Wood Buffalo Environmental Association
Zero Responses

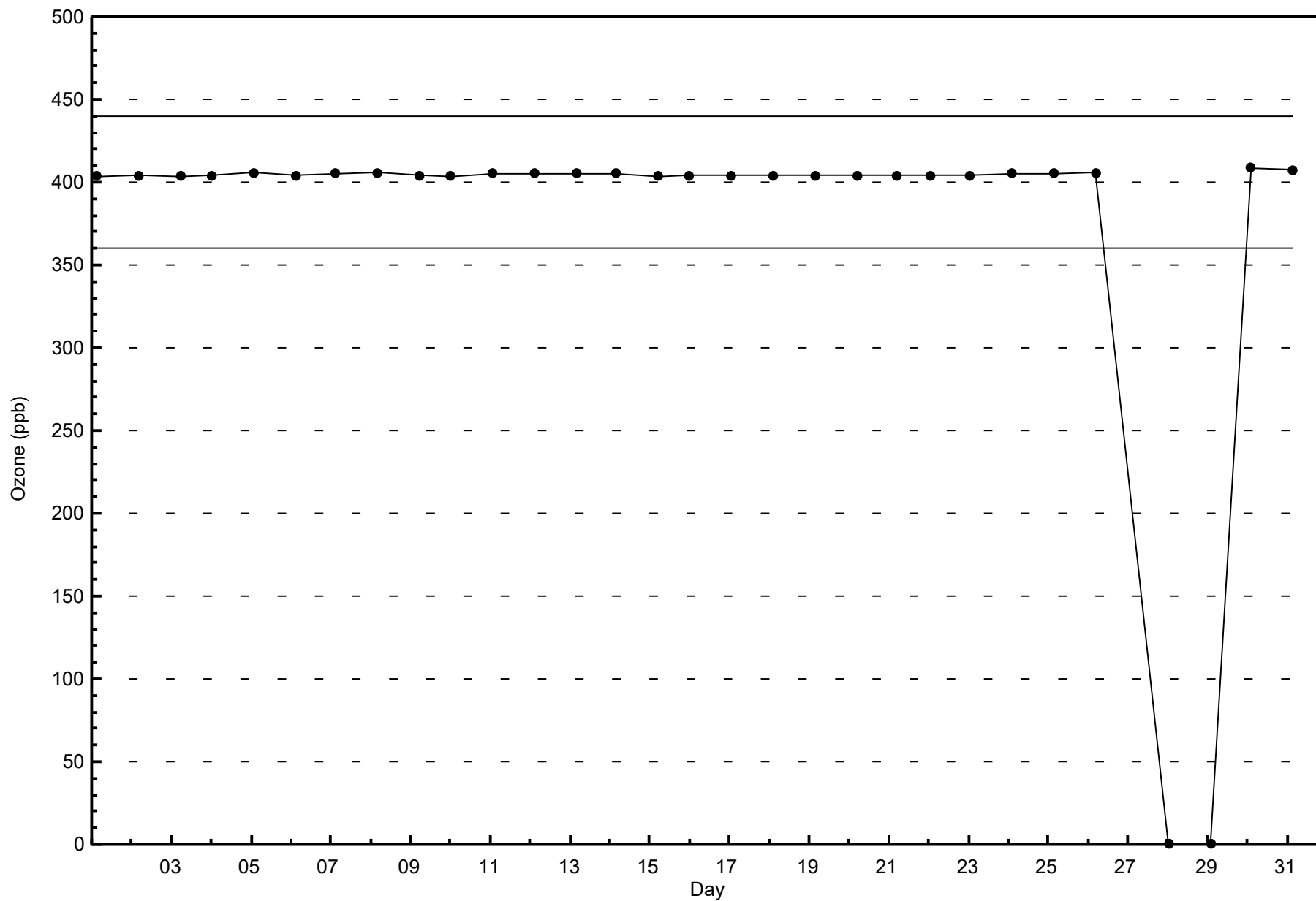
Ozone (O₃) - ppb
Athabasca Valley - July 2025





Wood Buffalo Environmental Association
Span Responses

Ozone (O₃) - ppb
Athabasca Valley - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitric Oxide (NO) - ppb

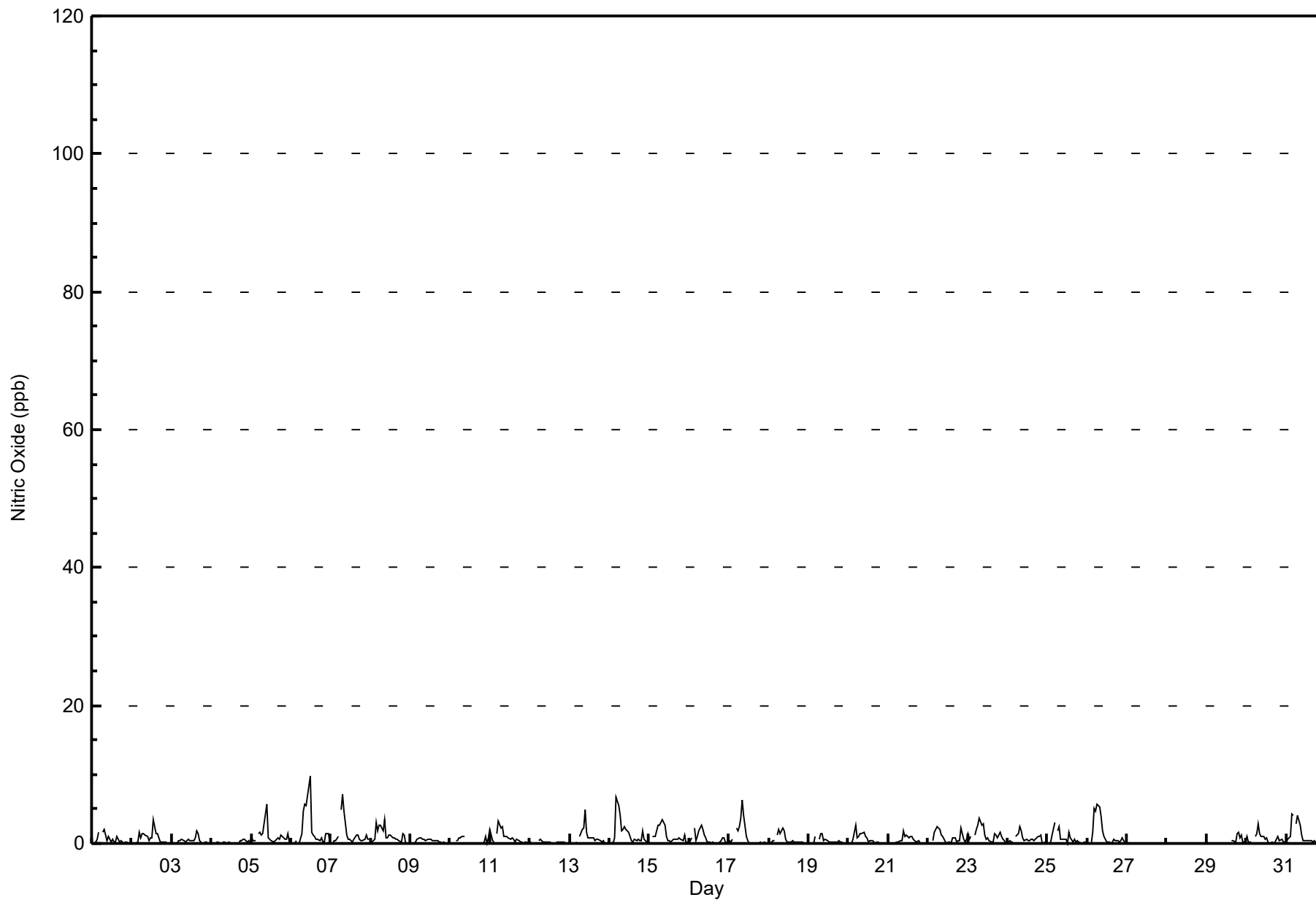
Athabasca Valley - July 2025

Maximum Value: 9.7 ppb on Jul 6 12:00																		Maximum Daily Average: 1.9 ppb on Jul 6										Hours in Service: 744	
Minimum Value: 0.0 ppb on Jul 1 02:00																		Minimum Daily Average: 0.2 ppb on Jul 12										Hours of Data: 647	
Maximum Diurnal Average: 2.3 ppb at hour 8																		Minimum Diurnal Average: 0.2 ppb at hour 24										Hours of Missing Data: 97	
Monthly Average: 0.82 ppb																		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.4 Q ₃ = 1.0 P ₉₀ = 2.0 P ₉₉ = 5.6										Hours of Calibration: 36	
																												Percent Operational Time: 91.8	
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-Jul	0.1	0.0	0.2	0.7	1.7	Z	1.7	2.0	1.1	0.4	1.0	0.3	0.6	0.2	0.2	1.0	0.2	0.3	0.3	0.0	0.3	0.1	0.1	0.1	0.5	2.0			
2-Jul	Z	0.0	0.0	0.1	1.5	0.9	1.4	1.4	1.3	0.9	0.5	0.9	0.8	3.5	1.4	1.5	0.9	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.8	3.5			
3-Jul	0.0	Z	0.0	0.0	0.3	0.5	0.7	0.4	0.3	0.4	0.5	0.4	0.4	0.4	0.7	1.9	1.4	0.4	0.1	0.1	0.2	0.1	0.0	0.0	0.4	1.9			
4-Jul	0.0	0.0	Z	0.2	0.2	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.7	0.6	0.3	0.4	0.3	0.2	0.7			
5-Jul	1.0	0.5	0.5	Z	1.4	1.5	1.3	1.4	4.4	5.7	0.8	0.6	0.3	0.2	0.5	0.6	0.9	0.6	1.3	0.8	0.7	0.5	1.4	0.3	1.2	5.7			
6-Jul	0.0	0.0	0.0	0.4	Z	0.0	1.5	4.7	5.6	5.5	7.0	9.7	1.6	1.1	1.1	0.6	0.5	0.5	0.9	0.3	0.3	1.4	1.3	0.0	1.9	9.7			
7-Jul	0.0	0.1	0.4	0.4	1.0	Z	4.8	7.1	4.6	1.3	0.6	0.6	0.3	0.3	0.7	1.1	1.3	0.6	0.4	0.5	0.6	1.2	0.5	0.7	1.3	7.1			
8-Jul	Z	0.1	0.7	3.1	1.9	2.7	2.6	1.8	3.4	0.8	0.8	1.2	1.1	0.7	0.8	0.7	0.6	0.5	0.2	1.5	1.3	0.0	0.0	0.0	1.2	3.4			
9-Jul	0.1	Z	0.0	0.1	0.7	0.8	0.8	0.7	0.5	0.4	0.6	0.7	0.5	0.4	0.3	0.4	0.3	0.3	0.2	0.1	0.1	0.0	0.0	0.1	0.3	0.8			
10-Jul	0.0	0.0	Z	0.3	0.4	0.8	0.7	1.0	0.9	C	C	C	C	C	C	C	C	0.0	0.0	0.0	0.0	0.2	0.9	0.0	–	1.0			
11-Jul	2.1	0.3	0.2	Z	1.3	3.2	2.3	2.4	1.1	1.0	1.0	0.9	0.7	0.8	0.6	0.3	0.6	0.4	0.3	0.2	0.0	0.1	0.1	0.1	0.9	3.2			
12-Jul	0.2	0.0	0.0	0.0	Z	0.4	0.6	0.4	0.2	0.3	0.3	0.3	0.1	0.1	0.1	0.1	0.3	0.1	0.2	0.3	0.2	0.1	0.0	0.0	0.2	0.6			
13-Jul	0.1	0.0	0.1	0.1	0.1	Z	1.0	2.0	2.3	4.9	1.6	0.8	0.9	0.9	0.7	0.5	0.6	0.6	0.4	0.2	0.4	0.1	0.0	0.0	0.8	4.9			
14-Jul	Z	0.1	0.1	0.8	6.7	5.5	4.0	1.8	2.1	2.4	2.0	1.5	1.1	0.3	0.2	0.6	0.5	0.5	0.4	0.5	1.8	0.6	0.1	0.1	1.5	6.7			
15-Jul	0.1	Z	1.0	0.9	1.7	2.6	2.6	3.1	3.5	2.6	0.9	0.4	0.4	0.2	0.6	0.5	0.6	0.6	0.8	0.5	0.4	1.1	0.1	0.3	1.1	3.5			
16-Jul	0.1	0.7	Z	2.3	0.5	1.0	1.8	2.7	2.1	1.2	0.9	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.3	0.4	0.9	0.8	0.1	0.1	0.7	2.7			
17-Jul	0.3	0.2	0.6	Z	2.3	1.9	2.5	3.6	6.3	4.0	1.0	0.4	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.3	0.1	0.1	0.0	0.0	1.0	6.3			
18-Jul	0.0	0.0	0.4	0.3	Z	1.2	2.1	1.4	2.2	1.9	0.7	0.3	0.2	0.2	0.4	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.5	2.2			
19-Jul	0.0	0.0	0.0	0.0	1.0	Z	0.6	1.4	1.4	0.4	0.7	0.4	0.3	0.1	0.2	0.1	0.1	0.1	0.3	0.2	0.2	0.0	0.0	0.0	0.3	1.4			
20-Jul	Z	0.0	0.0	0.5	2.6	0.9	1.0	1.3	1.4	1.7	1.1	0.9	0.3	0.3	0.4	0.2	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.6	2.6			
21-Jul	0.0	Z	0.0	0.0	0.0	0.1	0.2	0.5	0.4	1.7	1.1	1.3	0.8	1.0	0.9	0.7	0.4	0.3	0.3	0.1	0.0	0.0	0.0	0.0	0.4	1.7			
22-Jul	0.0	0.0	Z	0.5	1.7	2.4	2.2	2.1	1.1	0.9	0.1	0.0	0.2	0.1	0.1	0.8	0.8	0.2	0.3	0.4	2.2	0.5	0.2	0.5	0.8	2.4			
23-Jul	1.4	0.5	1.0	Z	1.3	2.0	2.7	3.7	2.7	2.8	1.2	0.7	0.9	0.5	0.1	0.3	1.4	1.1	0.9	1.7	1.1	0.7	0.4	0.0	1.3	3.7			
24-Jul	0.0	0.5	0.1	0.2	Z	1.1	1.4	2.5	1.8	0.8	0.5	0.6	0.4	0.5	0.5	0.6	0.4	0.8	1.0	1.1	1.3	0.0	0.2	0.2	0.7	2.5			
25-Jul	0.0	0.1	0.1	1.2	3.1	Z	1.9	2.5	0.7	0.7	0.5	0.5	0.1	1.7	0.8	0.2	0.5	0.2	0.3	0.1	0.0	0.0	0.3	0.2	0.7	3.1			
26-Jul	Z	0.1	0.1	1.6	5.0	4.6	5.7	5.3	3.8	1.7	1.1	0.6	0.3	0.3	0.1	0.1	0.7	0.3	0.4	0.2	0.5	0.9	0.4	0.1	1.5	5.7			
27-Jul	0.0	Z	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	–	0.0			
28-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	–	–			
29-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	0.4	0.4	0.3	1.4	1.7	0.9	1.2	0.2	0.2	–	1.7		
30-Jul	1.0	0.1	0.2	0.2	Z	1.1	1.4	2.9	1.3	1.0	1.1	0.7	0.7	0.2	0.1	0.3	0.1	0.1	0.6	1.0	0.4	0.7	0.3	0.2	0.7	2.9			
31-Jul	0.3	0.6	0.9	4.2	4.0	Z	2.9	4.0	2.7	1.1	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.4	0.3	0.1	1.6	0.8	0.1	0.2	1.2	4.2			
																									Diurnal Average				
																									Diurnal Maximum				
Z - zerospan C - Calibration PF - Power Failure																													



Wood Buffalo Environmental Association
Hourly Averages

Nitric Oxide (NO) - ppb
Athabasca Valley - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitric Oxide (NO) - ppb
Athabasca Valley - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	647	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: 647

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitric Oxide (NO) - ppb
Athabasca Valley - July 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	13	10	32	52	100	48	16	19	41	43	29	27	23	48	51	563
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	11	13	10	32	52	100	48	16	19	41	43	29	27	23	48	51	563

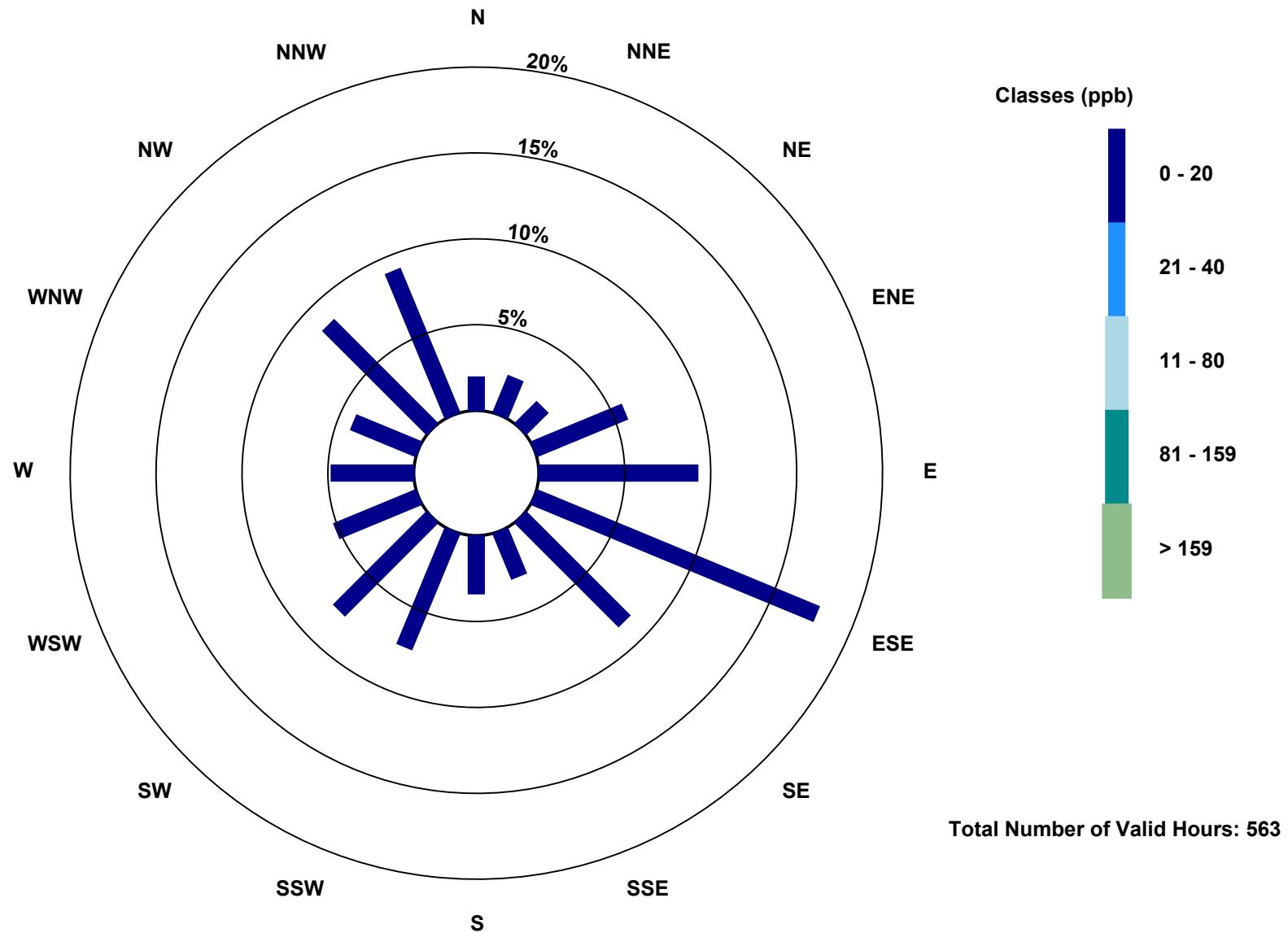
Total Number of Valid Hours: 563

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

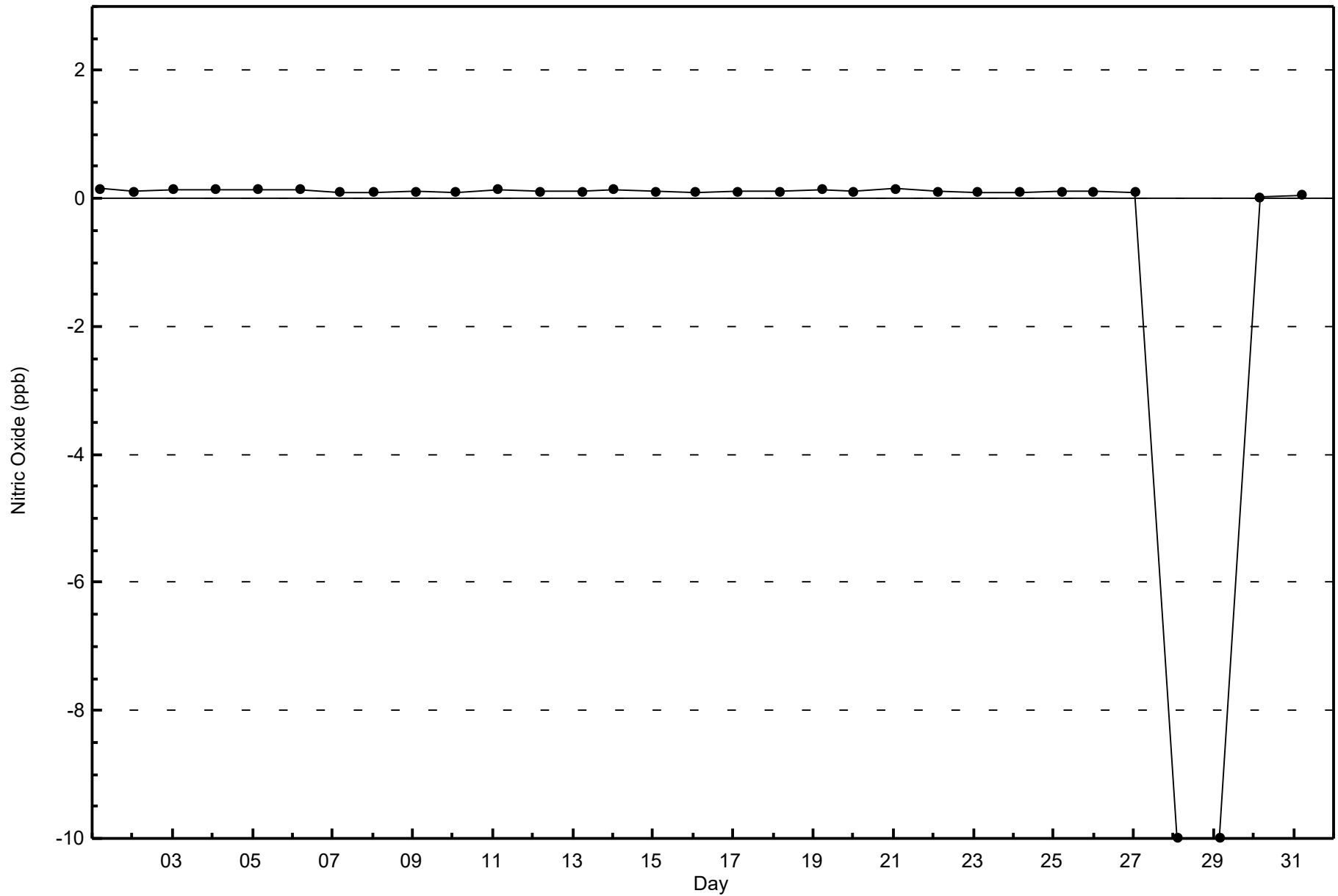
Nitric Oxide (NO) - ppb
Athabasca Valley





Wood Buffalo Environmental Association
Zero Responses

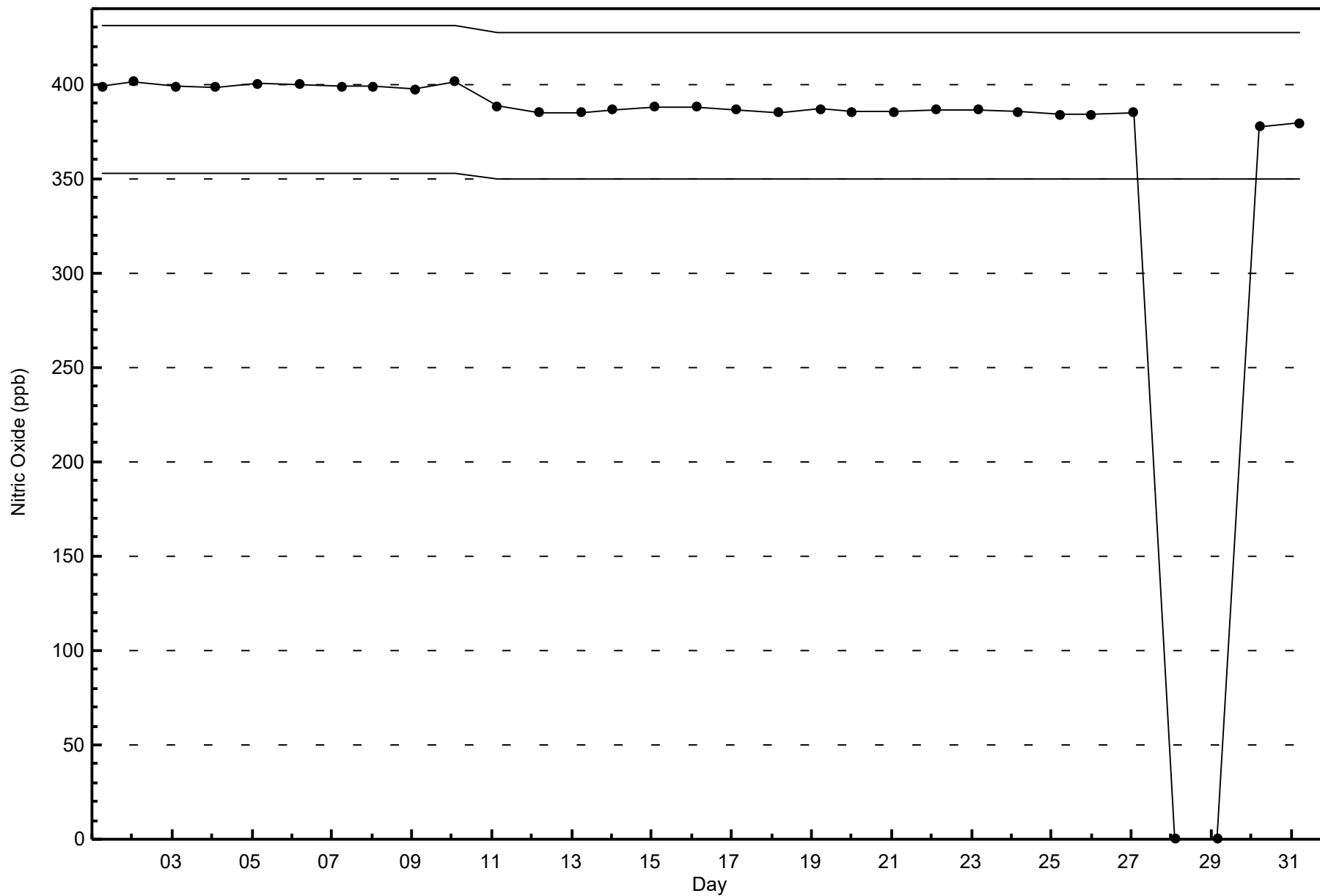
Nitric Oxide (NO) - ppb
Athabasca Valley - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitric Oxide (NO) - ppb
Athabasca Valley - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Dioxide (NO₂) - ppb

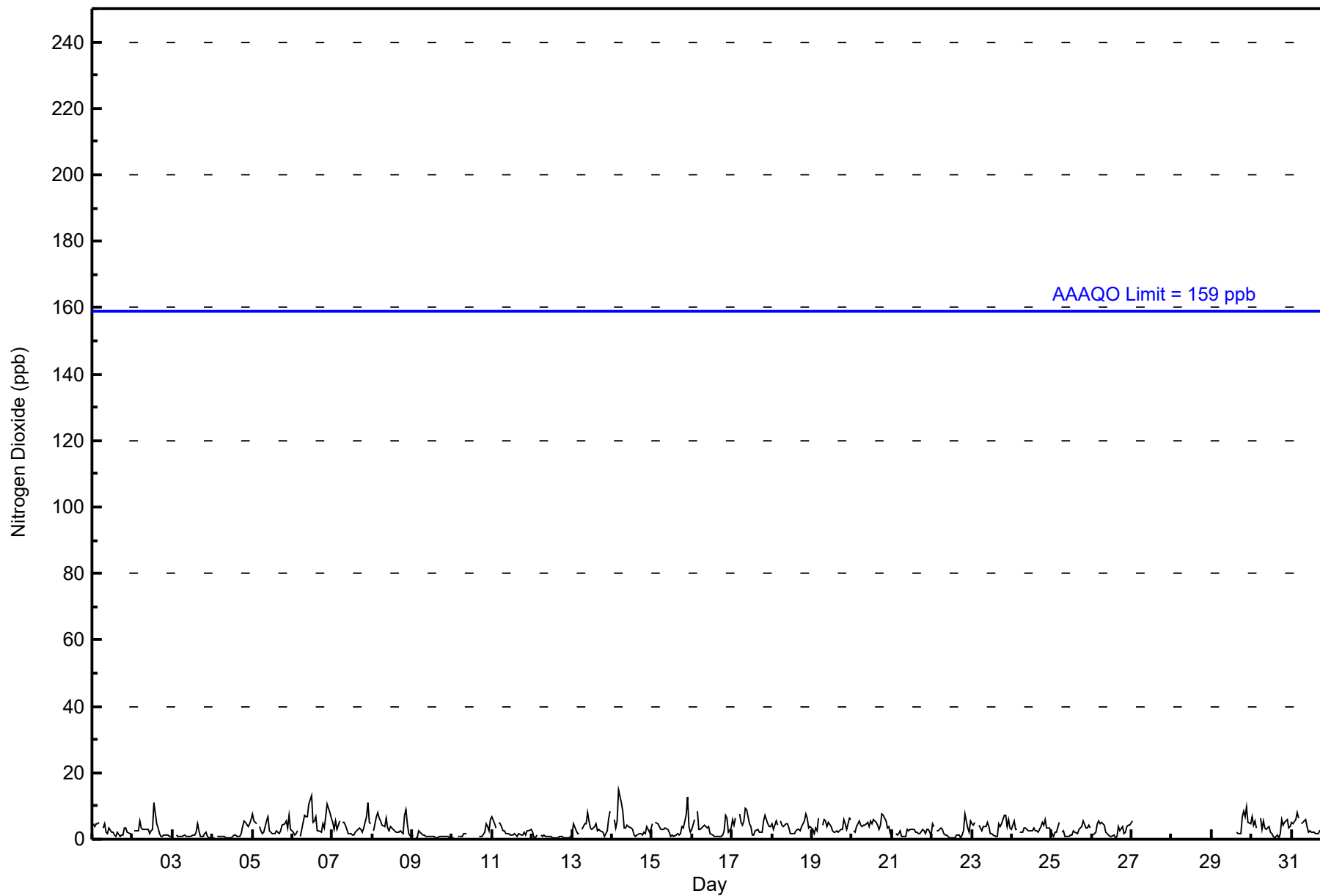
Athabasca Valley - July 2025

Number of Exceedences (AAAQO): Maximum Value: 14.7 ppb on Jul 14 05:00																			1-hr: 0 24-hr: 0 Maximum Daily Average: 5.3 ppb on Jul 6							Hours in Service: 744	
Minimum Value: 0.3 ppb on Jul 4 10:00 Maximum Diurnal Average: 4.9 ppb at hour 21 Monthly Average: 3.15 ppb																			Minimum Daily Average: 0.8 ppb on Jul 12 Minimum Diurnal Average: 2.0 ppb at hour 13 Percentiles: P ₁ = 0.4 P ₁₀ = 0.8 Q ₁ = 1.4 Median = 2.7 Q ₃ = 4.4 P ₉₀ = 5.9 P ₉₉ = 11.0							Hours of Data: 647	
																										Hours of Missing Data: 97	
																										Hours of Calibration: 36	
																										Percent Operational Time: 91.8	
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-Jul	4.6	4.0	4.6	4.5	5.1	Z	3.5	4.5	2.0	1.8	3.6	2.1	2.0	1.2	0.9	2.0	0.9	1.2	1.3	3.4	3.3	2.2	1.6	1.6	2.7	5.1	
2-Jul	Z	2.4	2.4	2.4	5.7	3.5	3.0	3.1	3.1	3.1	1.9	2.5	2.8	11.2	4.8	3.3	1.9	0.8	0.9	1.2	1.2	1.2	0.7	1.0	2.8	11.2	
3-Jul	1.1	Z	1.1	0.8	0.8	1.0	1.0	1.1	1.0	0.8	1.0	1.0	1.1	1.2	2.3	4.7	2.6	1.0	1.0	1.9	2.0	1.0	0.5	0.5	1.3	4.7	
4-Jul	0.5	0.4	Z	0.7	1.0	1.0	0.9	0.9	0.4	0.3	0.4	0.5	1.0	1.1	1.1	1.0	0.9	1.6	3.8	5.3	4.9	3.7	4.5	5.9	1.8	5.9	
5-Jul	7.6	5.4	4.5	Z	3.8	2.7	1.6	2.3	5.6	6.7	2.4	2.1	1.8	1.5	2.4	2.3	1.9	2.5	4.4	4.6	5.7	3.3	7.3	2.9	3.7	7.6	
6-Jul	2.1	1.4	1.7	2.6	Z	1.0	5.0	7.4	6.6	6.8	10.4	13.3	5.0	5.5	6.7	2.6	2.5	2.0	4.6	3.5	6.8	10.8	8.0	6.4	5.3	13.3	
7-Jul	5.2	3.1	5.3	3.1	5.5	Z	5.0	5.1	4.1	1.8	1.5	1.7	1.1	1.1	2.2	2.9	3.3	3.0	2.0	3.6	6.8	11.2	5.0	4.8	3.8	11.2	
8-Jul	Z	2.5	6.6	8.1	6.5	5.4	4.3	3.7	6.3	3.4	2.7	3.9	3.4	2.4	2.1	2.2	2.2	2.4	1.7	7.2	9.0	4.7	1.5	0.4	4.0	9.0	
9-Jul	1.4	Z	0.6	0.6	2.4	1.7	1.3	1.1	1.0	0.7	0.8	0.9	0.7	0.7	0.6	0.6	0.8	0.7	0.7	0.9	0.9	0.7	0.5	0.6	0.9	2.4	
10-Jul	0.3	0.3	Z	0.8	0.7	1.0	1.0	1.5	1.6	C	C	C	C	C	C	C	0.8	0.7	0.8	2.0	4.8	3.8	2.4	5.8	--	5.8	
11-Jul	6.7	4.8	3.4	Z	5.0	4.7	2.5	2.7	1.8	1.6	1.5	1.3	1.1	1.7	1.3	0.8	1.8	1.4	1.4	2.2	1.1	2.4	2.6	2.9	2.5	6.7	
12-Jul	2.0	0.4	0.4	1.3	Z	1.3	1.0	1.1	0.7	0.7	0.9	0.8	0.6	0.4	0.5	0.6	0.7	0.8	0.7	0.6	0.4	0.5	0.4	0.7	0.8	2.0	
13-Jul	1.7	4.5	2.7	1.9	1.5	Z	2.8	4.7	4.5	8.1	5.5	3.2	2.9	4.0	4.8	2.5	3.1	2.4	2.0	0.8	1.7	2.5	6.5	8.6	3.6	8.6	
14-Jul	Z	6.0	3.2	5.7	14.7	11.2	8.4	3.2	3.4	4.2	3.7	3.5	2.8	1.3	1.0	1.4	1.7	1.9	1.4	2.3	1.9	4.0	2.1	2.9	4.0	14.7	
15-Jul	4.7	Z	5.0	4.5	3.8	3.0	2.9	2.8	3.2	3.1	2.0	1.0	1.1	0.9	1.4	1.5	1.4	1.9	3.7	3.3	7.2	12.5	3.8	2.1	3.3	12.5	
16-Jul	3.0	6.0	Z	8.6	2.9	3.0	3.3	4.1	3.9	3.5	3.7	1.5	1.1	0.9	1.0	0.9	0.8	0.9	1.3	2.5	7.3	6.4	2.3	3.2	3.1	8.6	
17-Jul	6.0	4.4	6.5	Z	7.6	5.2	4.1	5.4	9.2	8.8	4.8	3.8	1.4	1.3	2.5	2.9	2.2	2.1	2.2	5.5	7.4	4.6	3.8	3.9	4.6	9.2	
18-Jul	4.7	3.0	5.6	4.2	Z	5.7	4.4	3.9	4.7	4.7	3.2	1.7	1.8	1.9	2.6	2.9	3.1	2.6	3.8	5.7	7.5	6.4	3.6	3.8	4.0	7.5	
19-Jul	3.1	1.9	3.5	2.5	6.2	Z	4.3	5.8	5.6	3.9	4.9	3.8	2.7	2.1	2.2	2.4	2.3	2.8	2.8	5.8	4.6	3.1	6.4	5.8	3.8	6.4	
20-Jul	Z	2.4	2.3	3.7	5.3	4.2	3.8	4.4	4.4	5.0	3.7	5.4	4.5	5.8	4.9	4.1	3.0	4.1	7.7	7.0	5.7	3.6	3.9	1.6	4.4	7.7	
21-Jul	1.5	Z	1.6	1.4	1.6	2.7	0.9	0.9	1.0	3.1	2.6	2.9	2.9	2.8	2.2	2.0	1.6	1.9	3.0	2.5	1.5	3.0	2.9	1.1	2.1	3.1	
22-Jul	4.5	3.7	Z	2.5	2.7	3.4	3.0	1.9	1.2	1.2	0.4	0.4	0.6	0.5	0.3	1.3	1.3	0.6	1.4	2.6	7.7	3.2	2.3	5.6	2.3	7.7	
23-Jul	4.5	4.4	5.2	Z	4.1	3.3	2.7	3.8	3.9	5.2	4.0	1.6	1.8	1.3	0.7	1.0	4.6	3.7	4.8	7.3	7.0	3.7	5.9	3.6	3.8	7.3	
24-Jul	3.0	5.3	2.8	3.0	Z	2.3	2.2	3.4	3.4	2.8	2.4	2.4	2.7	3.4	2.5	2.4	2.1	4.0	5.2	4.2	6.1	3.4	3.4	2.6	3.3	6.1	
25-Jul	1.8	0.7	2.1	2.2	5.1	Z	2.2	2.5	0.9	0.8	0.8	1.4	1.1	2.6	2.1	1.7	3.0	3.4	3.8	5.3	3.6	3.6	4.4	3.6	2.6	5.3	
26-Jul	Z	1.4	2.1	4.7	5.5	4.7	4.9	4.1	2.2	1.7	1.4	0.9	0.9	1.4	0.4	1.0	3.7	2.7	3.7	1.5	2.3	3.9	4.2	4.3	2.8	5.5	
27-Jul	5.7	Z	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	5.7	
28-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	--	
29-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	2.0	1.6	1.5	6.9	8.5	6.6	9.9	4.9	4.5	--	9.9	
30-Jul	6.7	4.1	5.3	3.2	Z	6.4	2.9	5.6	3.2	2.9	3.8	2.0	1.9	0.8	0.4	1.2	0.6	1.6	6.1	4.1	5.1	5.8	3.3	3.8	3.5	6.7	
31-Jul	4.9	4.6	5.9	7.9	6.5	Z	4.6	4.9	6.1	3.8	2.2	2.4	2.0	2.0	1.9	1.7	1.8	2.5	3.1	3.9	12.2	8.8	4.2	3.0	4.4	12.2	
3.6 3.2 3.5 3.4 4.5 3.6 3.1 3.4 3.4 3.4 2.8 2.5 2.0 2.3 2.1 2.0 2.0 2.0 3.0 3.8 4.9 4.6 3.5 3.4																										Diurnal Average	
7.6 6.0 6.6 8.6 14.7 11.2 8.4 7.4 9.2 8.8 10.4 13.3 5.0 11.2 6.7 4.7 4.6 4.1 7.7 8.5 12.2 12.5 8.0 8.6																										Diurnal Maximum	
Z - zerospan C - Calibration PF - Power Failure																											
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb																											



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
Athabasca Valley - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Athabasca Valley - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	647	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: 647

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Athabasca Valley - July 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	13	10	32	52	100	48	16	19	41	43	29	27	23	48	51	563
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	11	13	10	32	52	100	48	16	19	41	43	29	27	23	48	51	563

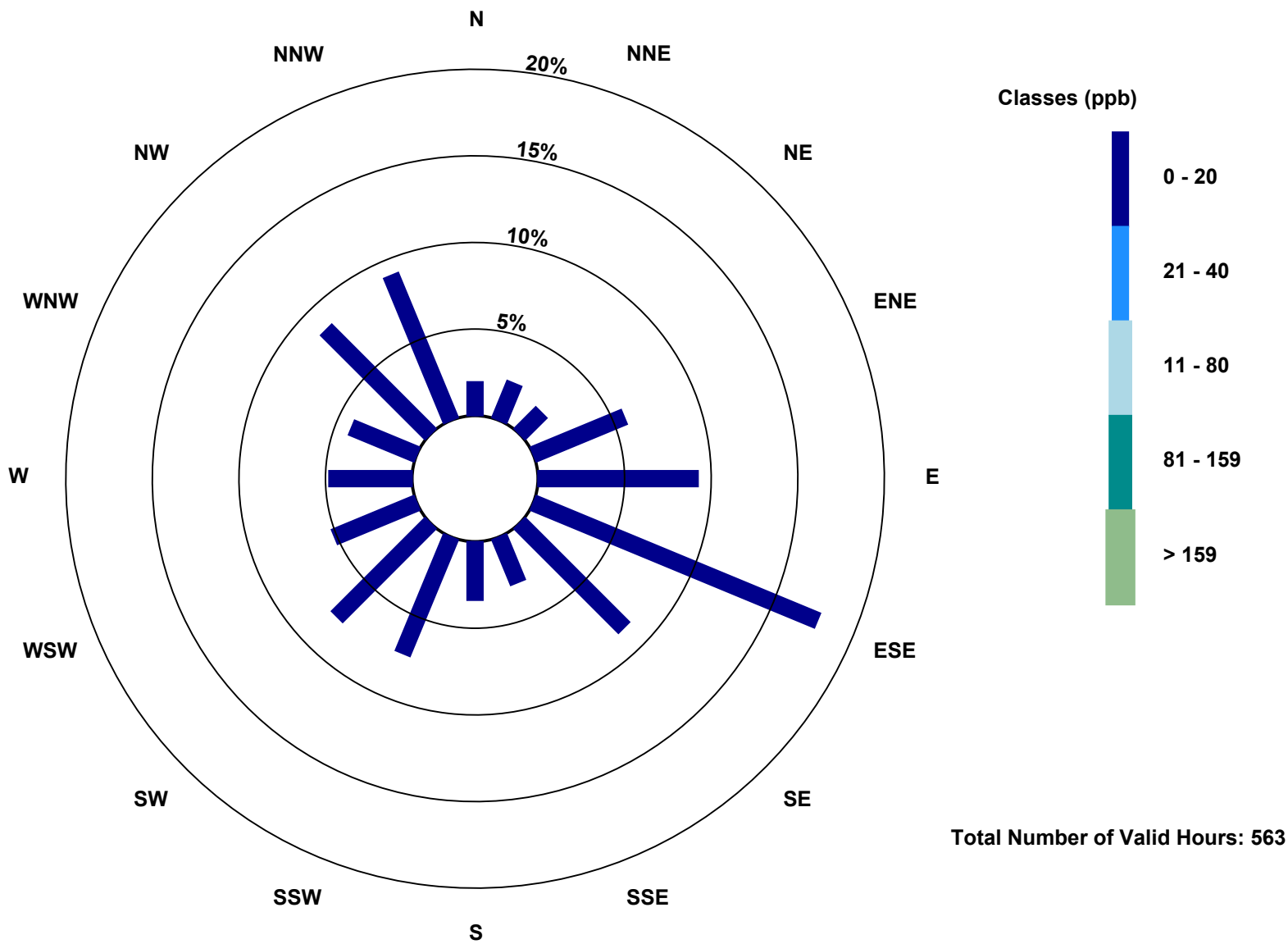
Total Number of Valid Hours: 563

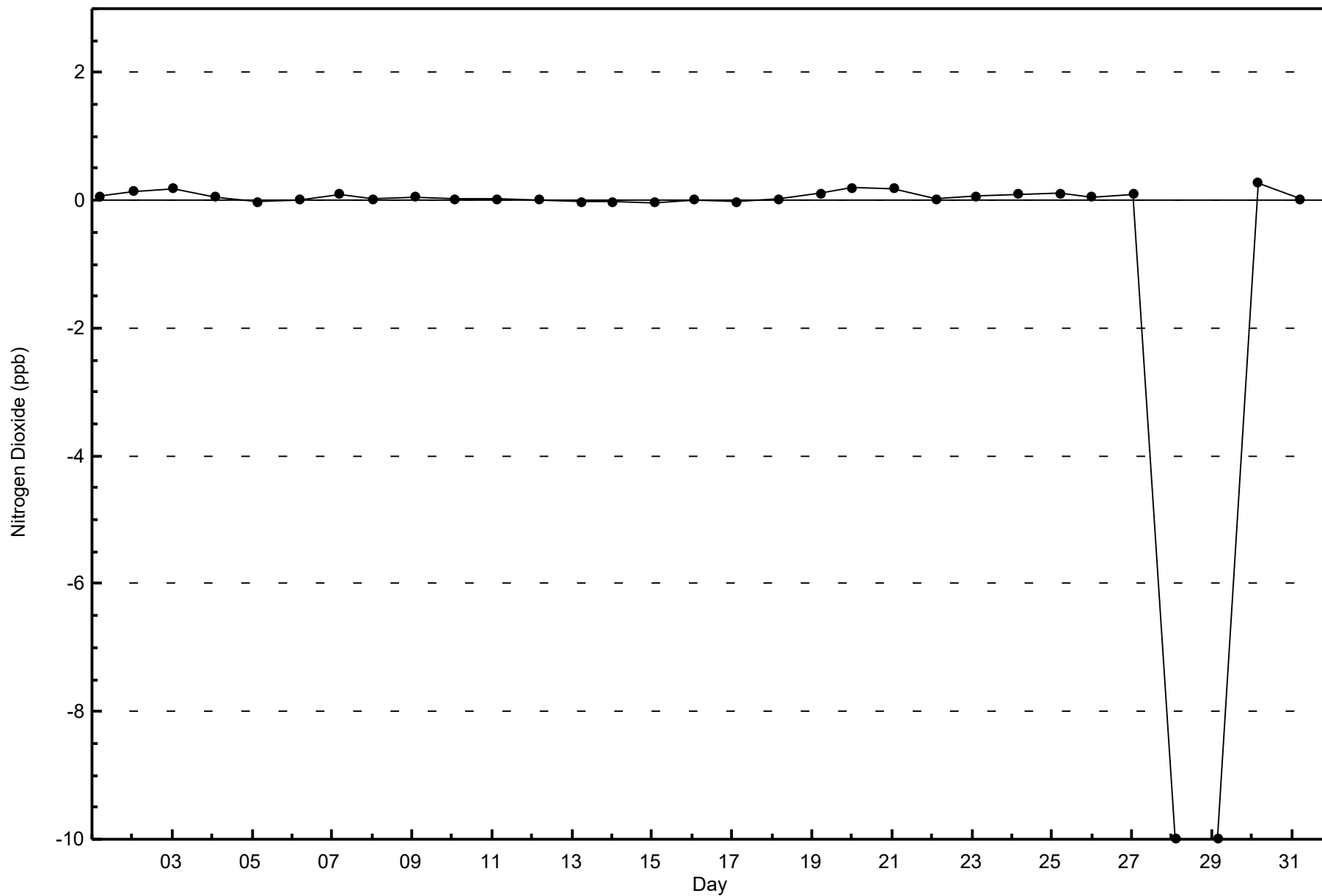
Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Nitrogen Dioxide (NO₂) - ppb
Athabasca Valley

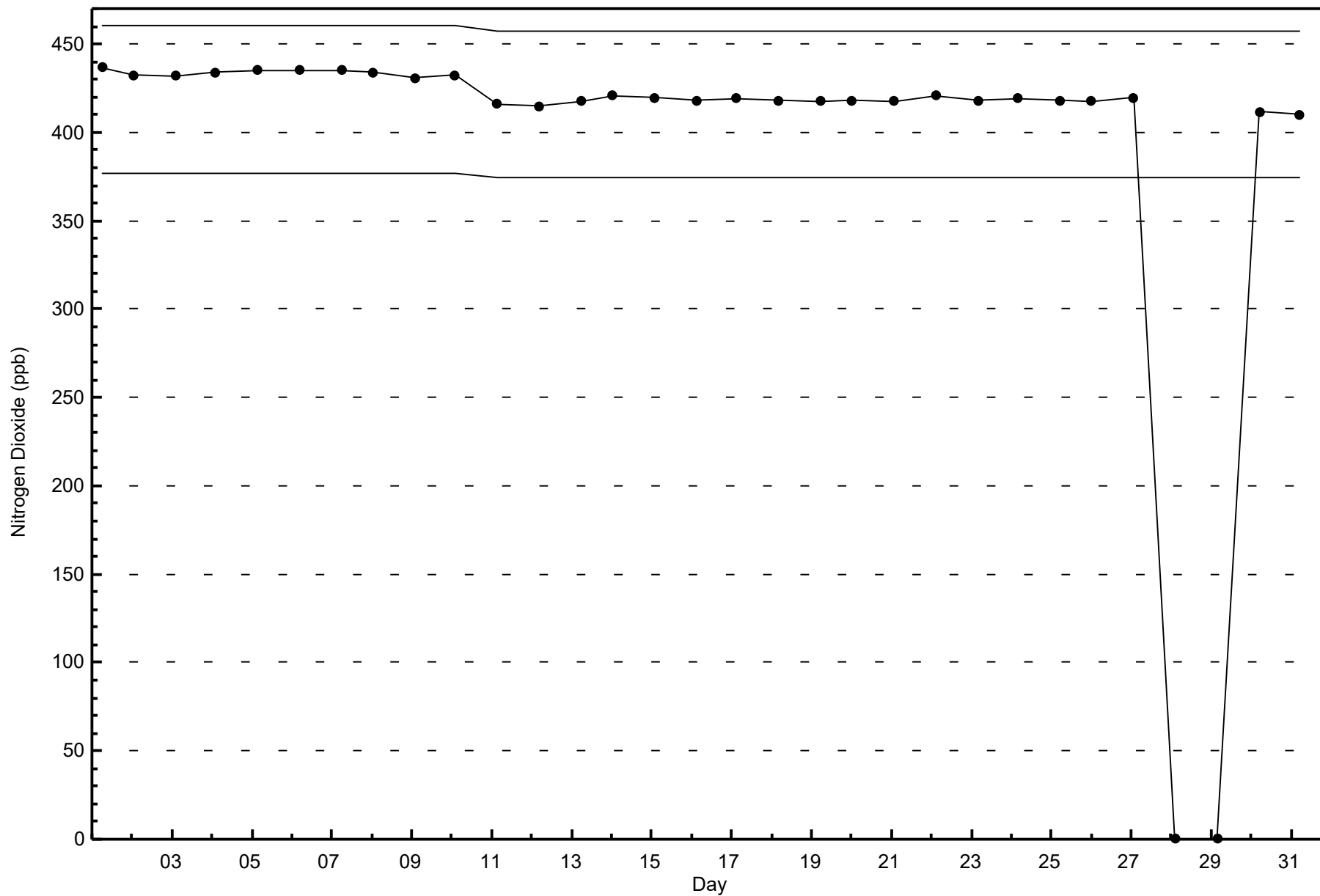






Wood Buffalo Environmental Association
Span Responses

Nitrogen Dioxide (NO₂) - ppb
Athabasca Valley - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Oxides (NO_x) - ppb

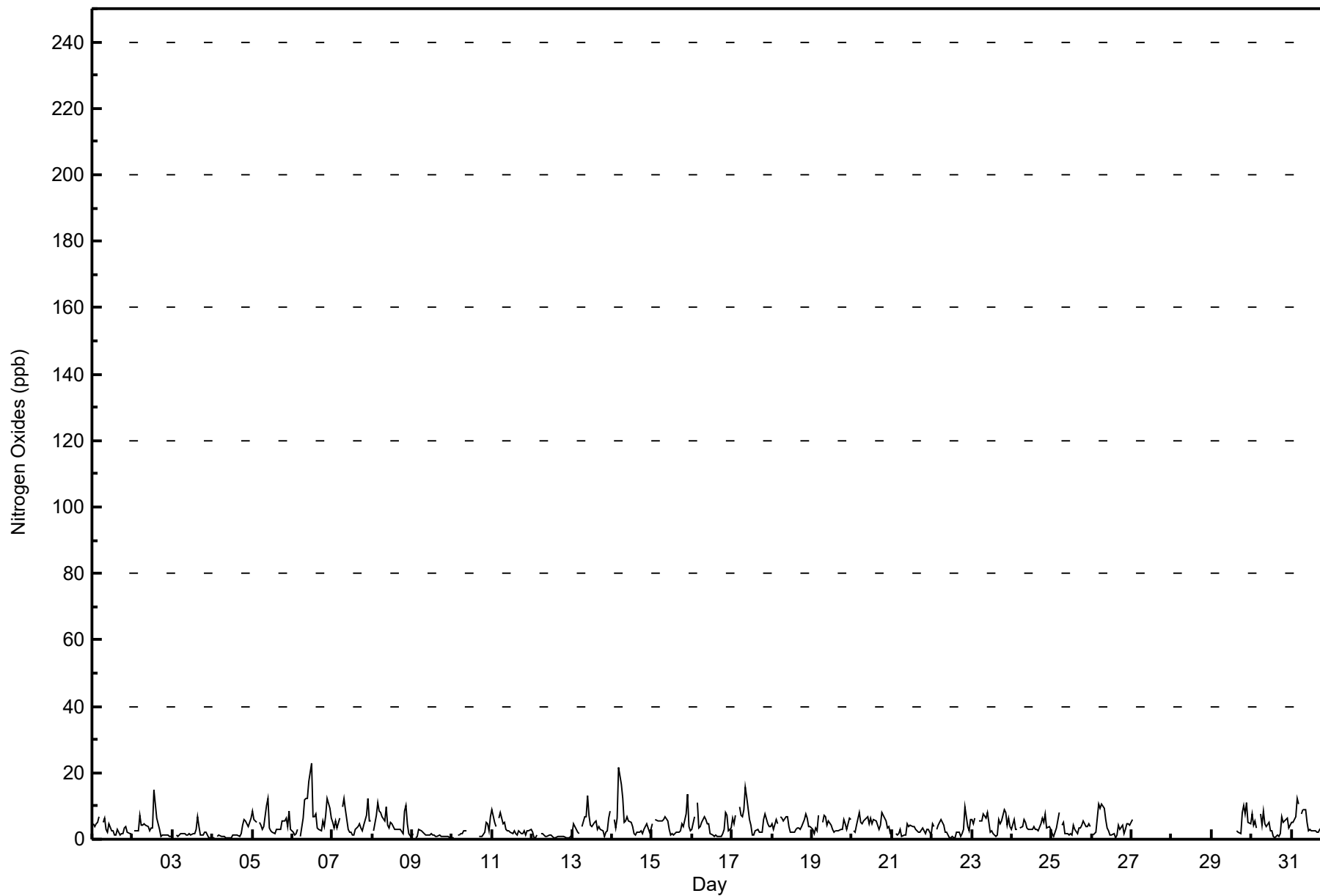
Athabasca Valley - July 2025

Maximum Value: 23.0 ppb on Jul 6 12:00																			Maximum Daily Average: 7.2 ppb on Jul 6							Hours in Service: 744	
Minimum Value: 0.3 ppb on Jul 10 02:00																			Minimum Daily Average: 0.9 ppb on Jul 12							Hours of Data: 647	
Maximum Diurnal Average: 6.3 ppb at hour 5																			Minimum Diurnal Average: 2.4 ppb at hour 18							Hours of Missing Data: 97	
Monthly Average: 3.97 ppb																			Percentiles: P ₁ = 0.4 P ₁₀ = 1.0 Q ₁ = 1.8 Median = 3.2 Q ₃ = 5.4 P ₉₀ = 7.5 P ₉₉ = 13.7							Hours of Calibration: 36	
																										Percent Operational Time: 91.8	
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-Jul	4.7	4.0	4.8	5.2	6.8	Z	5.2	6.5	3.1	2.2	4.6	2.4	2.6	1.4	1.1	3.0	1.1	1.5	1.6	3.4	3.6	2.3	1.7	1.7	3.2	6.8	
2-Jul	Z	2.4	2.4	2.5	7.2	4.4	4.4	4.5	4.4	4.0	2.4	3.4	3.6	14.7	6.2	4.8	2.8	1.0	1.1	1.3	1.3	1.3	0.7	1.0	3.6	14.7	
3-Jul	1.1	Z	1.1	0.8	1.1	1.5	1.7	1.5	1.3	1.2	1.5	1.4	1.5	1.6	3.0	6.6	4.0	1.4	1.1	2.0	2.2	1.1	0.5	0.5	1.7	6.6	
4-Jul	0.5	0.4	Z	0.9	1.2	1.0	0.9	1.0	0.5	0.3	0.5	0.6	1.1	1.2	1.2	1.1	1.0	1.9	4.1	6.0	5.5	4.0	4.9	6.2	2.0	6.2	
5-Jul	8.6	5.9	5.0	Z	5.2	4.2	2.9	3.7	10.0	12.4	3.2	2.7	2.1	1.7	2.9	2.9	2.8	3.1	5.7	5.4	6.4	3.8	8.7	3.2	4.9	12.4	
6-Jul	2.1	1.4	1.7	3.0	Z	1.0	6.5	12.1	12.2	12.3	17.4	23.0	6.6	6.6	7.8	3.2	3.0	2.5	5.5	3.8	7.1	12.2	9.3	6.4	7.2	23.0	
7-Jul	5.2	3.2	5.7	3.5	6.5	Z	9.8	12.2	8.7	3.1	2.1	2.3	1.4	1.4	2.9	4.0	4.6	3.6	2.4	4.1	7.4	12.4	5.5	5.5	5.1	12.4	
8-Jul	Z	2.6	7.3	11.2	8.4	8.1	6.9	5.5	9.7	4.2	3.5	5.1	4.5	3.1	2.9	2.9	2.8	2.9	1.9	8.7	10.3	4.7	1.5	0.4	5.2	11.2	
9-Jul	1.5	Z	0.6	0.7	3.1	2.5	2.1	1.8	1.5	1.1	1.4	1.6	1.2	1.1	0.9	1.0	1.1	1.0	0.9	1.0	1.0	0.7	0.5	0.7	1.3	3.1	
10-Jul	0.3	0.3	Z	1.1	1.1	1.8	1.7	2.5	2.5	C	C	C	C	C	C	C	0.8	0.7	0.8	2.0	5.0	4.7	2.4	6.6	--	6.6	
11-Jul	8.8	5.1	3.6	Z	6.3	7.9	4.8	5.1	2.9	2.6	2.5	2.2	1.8	2.5	1.9	1.1	2.4	1.8	1.7	2.4	1.1	2.5	2.7	3.0	3.3	8.8	
12-Jul	2.2	0.4	0.4	1.3	Z	1.7	1.6	1.5	0.9	1.0	1.2	1.1	0.7	0.5	0.6	0.7	1.0	0.9	0.9	0.9	0.6	0.6	0.4	0.7	0.9	2.2	
13-Jul	1.8	4.5	2.8	2.0	1.6	Z	3.8	6.7	6.8	13.0	7.1	4.0	3.8	4.9	5.5	3.0	3.7	3.0	2.4	1.0	2.1	2.6	6.5	8.6	4.4	13.0	
14-Jul	Z	6.1	3.3	6.5	21.4	16.7	12.4	5.0	5.5	6.6	5.7	5.0	3.9	1.6	1.2	2.0	2.2	2.4	1.8	2.8	3.7	4.6	2.2	3.0	5.4	21.4	
15-Jul	4.8	Z	6.0	5.4	5.5	5.6	5.5	5.9	6.7	5.7	2.9	1.4	1.5	1.1	2.0	2.0	2.0	2.5	4.5	3.8	7.6	13.6	3.9	2.4	4.4	13.6	
16-Jul	3.1	6.7	Z	10.9	3.4	4.0	5.1	6.8	6.0	4.7	4.6	1.7	1.3	1.0	1.1	0.9	0.8	0.9	1.6	2.9	8.2	7.2	2.4	3.3	3.9	10.9	
17-Jul	6.3	4.6	7.1	Z	9.9	7.1	6.6	9.0	15.5	12.8	5.8	4.2	1.4	1.3	2.5	3.0	2.2	2.2	5.8	7.5	4.7	3.8	3.9	5.6	15.5		
18-Jul	4.7	3.0	6.0	4.5	Z	6.9	6.5	5.3	6.9	6.6	3.9	2.0	2.0	2.1	3.0	3.2	3.4	2.8	4.0	5.9	7.6	6.5	3.6	3.8	4.5	7.6	
19-Jul	3.1	1.9	3.5	2.5	7.2	Z	4.9	7.2	7.0	4.3	5.6	4.2	3.0	2.2	2.4	2.5	2.4	2.9	3.1	6.0	4.8	3.1	6.4	5.8	4.2	7.2	
20-Jul	Z	2.4	2.3	4.2	7.9	5.1	4.8	5.7	5.8	6.7	4.8	6.3	4.8	6.1	5.3	4.3	3.0	4.2	7.9	7.0	5.7	3.6	3.9	1.6	4.9	7.9	
21-Jul	1.5	Z	1.6	1.4	1.6	2.8	1.1	1.4	1.4	4.8	3.7	4.2	3.7	3.8	3.1	2.7	2.0	2.2	3.3	2.6	1.5	3.0	2.9	1.1	2.5	4.8	
22-Jul	4.5	3.7	Z	3.0	4.4	5.8	5.2	4.0	2.3	2.1	0.5	0.4	0.8	0.6	0.4	2.1	2.1	0.8	1.7	3.0	9.9	3.7	2.5	6.1	3.0	9.9	
23-Jul	5.9	4.9	6.2	Z	5.4	5.3	5.4	7.5	6.6	8.0	5.2	2.3	2.7	1.8	0.8	1.3	6.0	4.8	5.7	9.0	8.1	4.4	6.3	3.6	5.1	9.0	
24-Jul	3.0	5.8	2.9	3.2	Z	3.4	3.6	5.9	5.2	3.6	2.9	3.0	3.1	3.9	3.0	3.0	2.5	4.8	6.2	5.3	7.4	3.4	3.6	2.8	4.0	7.4	
25-Jul	1.8	0.8	2.2	3.4	8.2	Z	4.1	5.0	1.6	1.5	1.3	1.9	1.2	4.3	2.9	1.9	3.5	3.6	4.1	5.4	3.6	3.6	4.7	3.8	3.2	8.2	
26-Jul	Z	1.5	2.2	6.3	10.5	9.3	10.6	9.4	6.0	3.4	2.5	1.5	1.2	1.7	0.5	1.1	4.4	3.0	4.1	1.7	2.8	4.8	4.6	4.4	4.2	10.6	
27-Jul	5.7	Z	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	5.7	
28-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	--	
29-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	2.4	2.0	1.8	8.3	10.2	7.5	11.1	5.1	4.7	--	11.1	
30-Jul	7.7	4.2	5.5	3.4	Z	7.5	4.3	8.5	4.5	3.9	4.9	2.7	2.6	1.0	0.5	1.5	0.7	1.7	6.7	5.1	5.5	6.5	3.6	4.0	4.2	8.5	
31-Jul	5.2	5.2	6.8	12.1	10.5	Z	7.5	8.9	8.8	4.9	2.7	2.9	2.4	2.4	2.3	2.0	2.1	2.9	3.4	4.0	13.8	9.6	4.3	3.2	5.6	13.8	
3.9 3.4 3.8 4.1 6.3 5.2 5.0 5.7 5.5 5.1 3.9 3.5 2.5 2.8 2.5 2.5 2.5 2.4 3.4 4.2 5.5 5.0 3.8 3.5																									Diurnal Average		
8.8 6.7 7.3 12.1 21.4 16.7 12.4 12.2 15.5 13.0 17.4 23.0 6.6 14.7 7.8 6.6 6.0 4.8 8.3 10.2 13.8 13.6 9.3 8.6																									Diurnal Maximum		
Z - zerospan C - Calibration PF - Power Failure																											



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Athabasca Valley - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Athabasca Valley - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	645	99.69	99.69
21 - 40	2	0.31	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: 647

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Athabasca Valley - July 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	13	10	32	52	100	48	16	19	41	43	29	27	23	47	51	562
21 - 40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	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	11	13	10	32	52	100	48	16	19	41	43	29	27	23	48	51	563

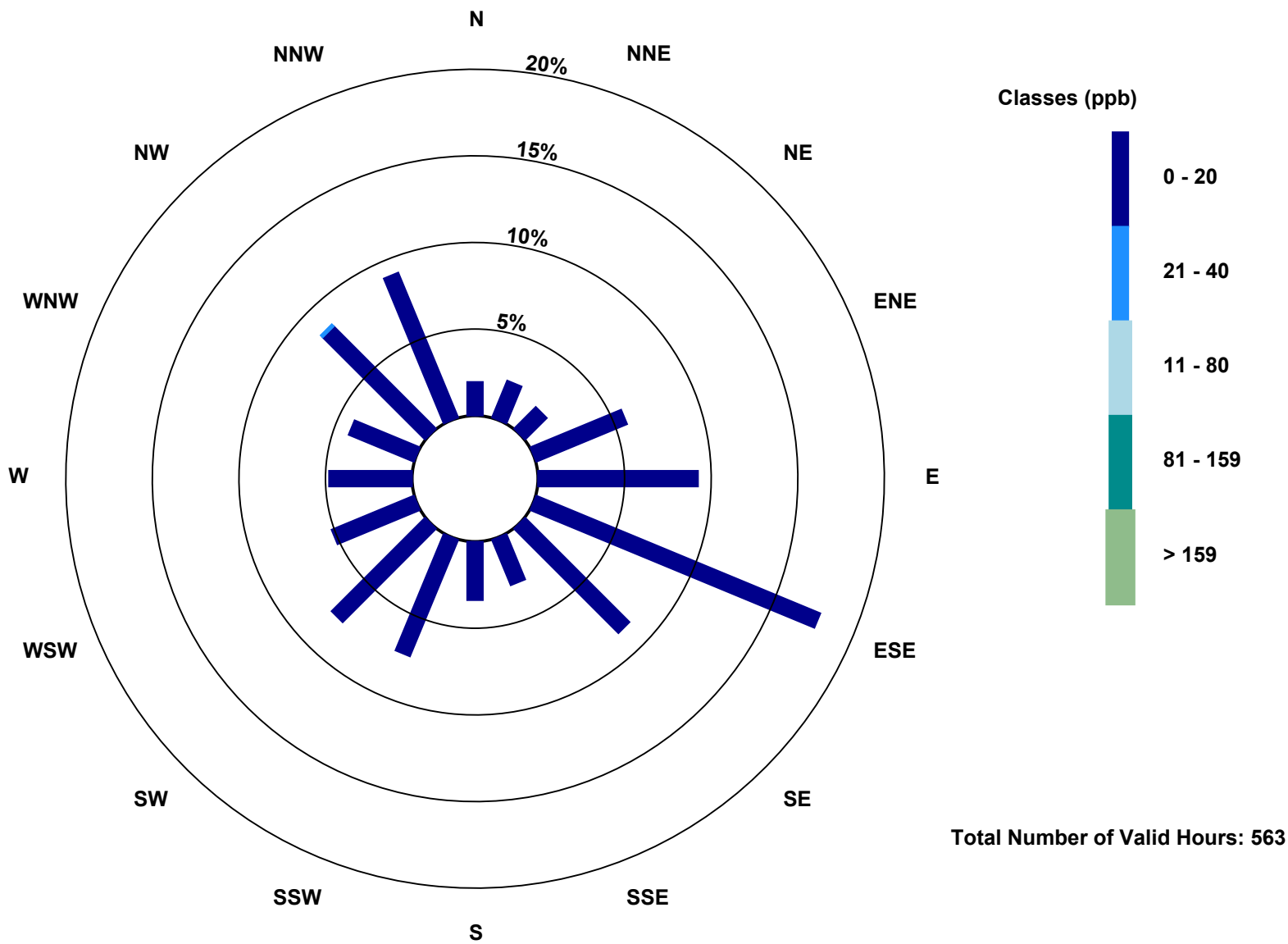
Total Number of Valid Hours: 563

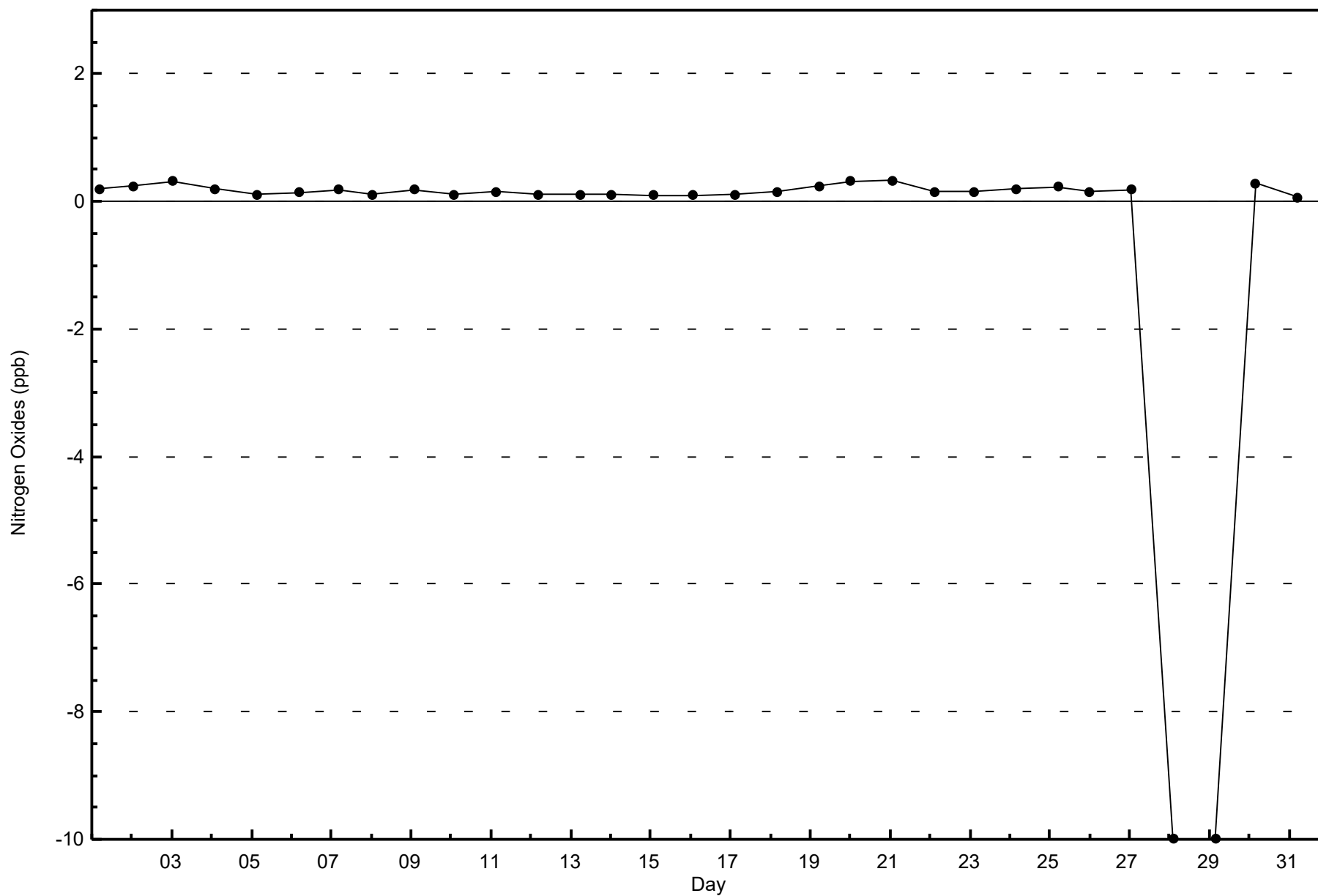
Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Nitrogen Oxides (NO_x) - ppb
Athabasca Valley

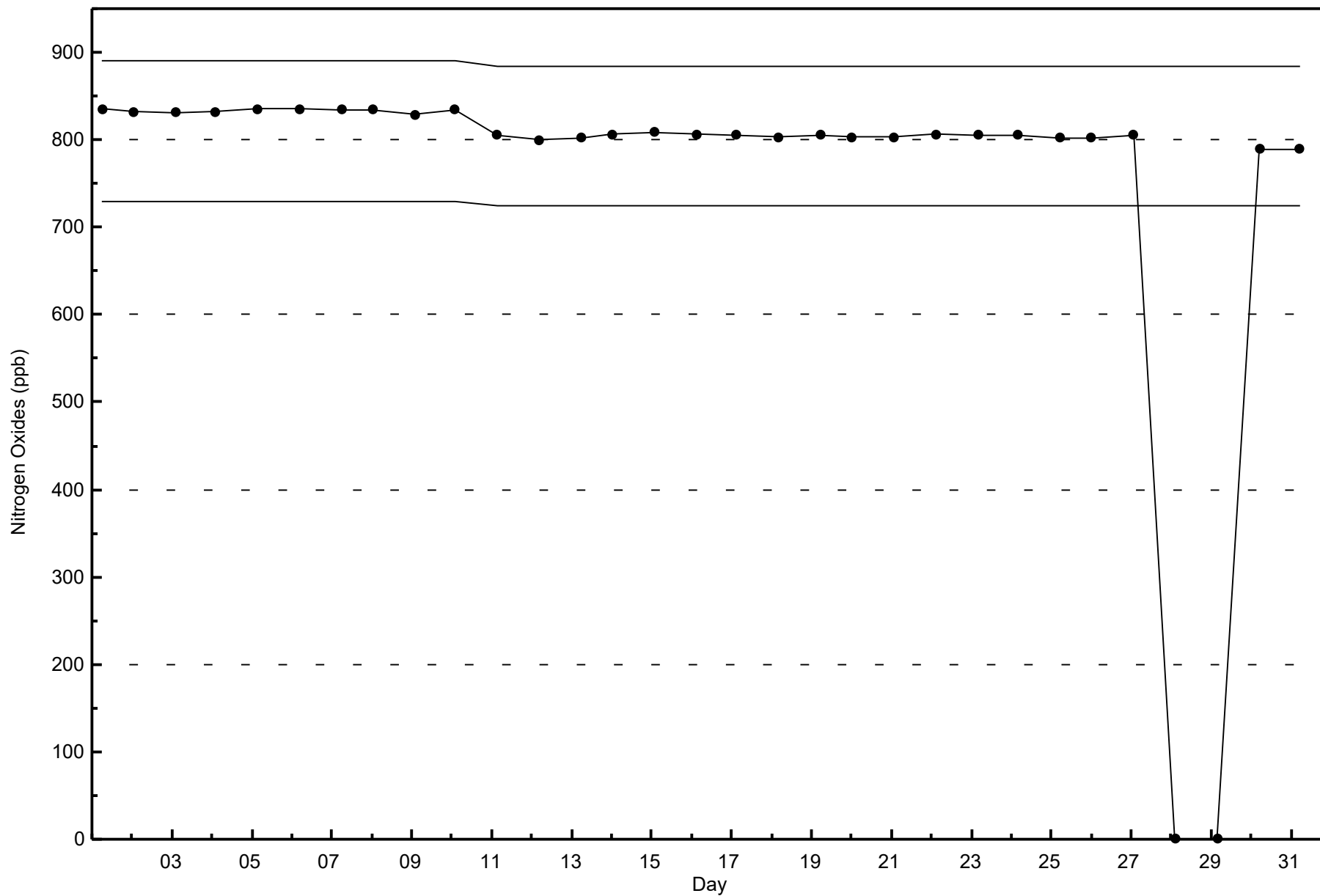






Wood Buffalo Environmental Association
Span Responses

Nitrogen Oxides (NO_x) - ppb
Athabasca Valley - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

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

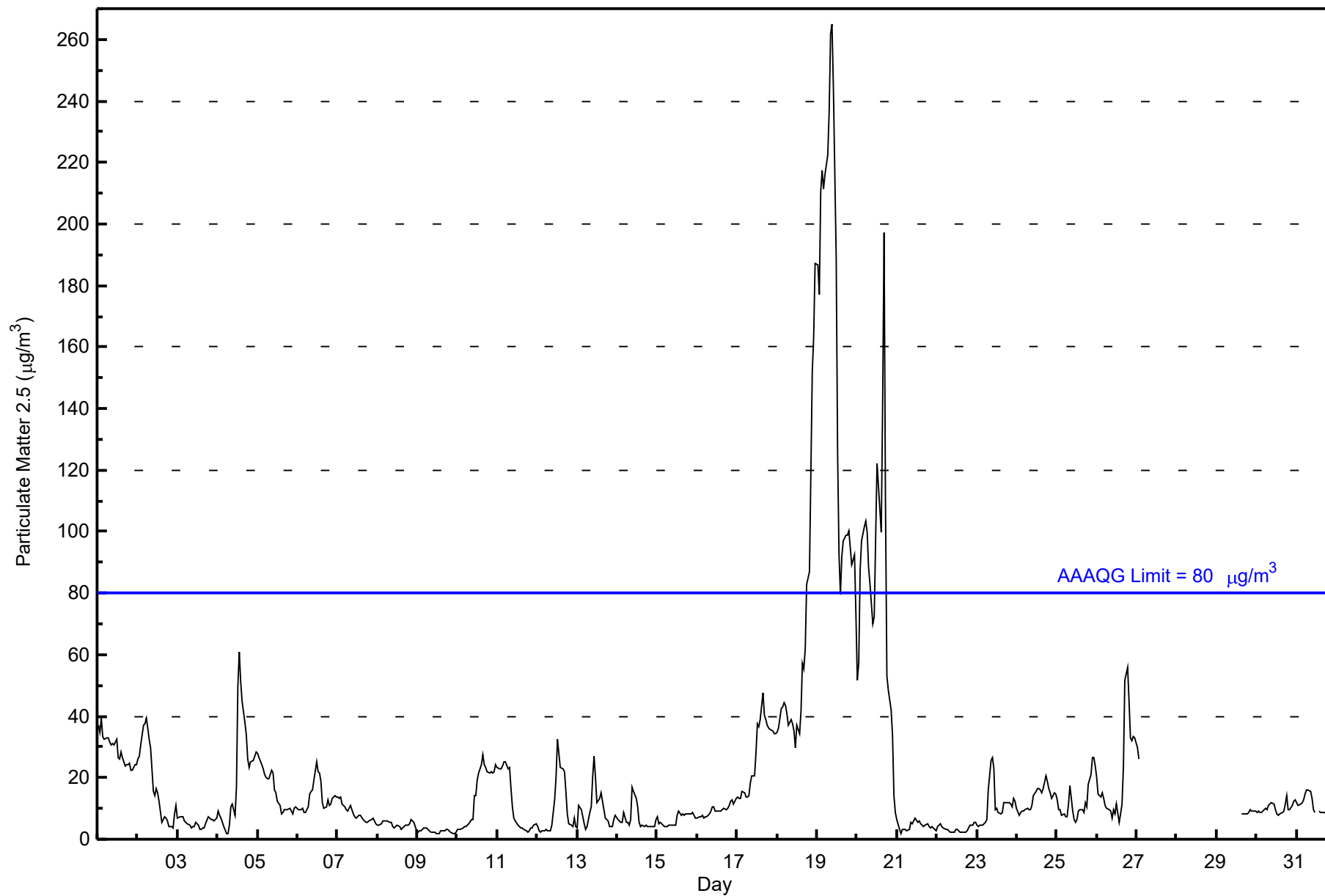
Athabasca Valley - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 4 Maximum Value: 265.0 µg/m³ on Jul 19 10:00 Minimum Value: 1.7 µg/m³ on Jul 4 07:00 Maximum Diurnal Average: 24.5 µg/m³ at hour 9 Monthly Average: 21.45 µg/m³																								Hours in Service: 744 Hours of Data: 682 Hours of Missing Data: 62 Hours of Calibration: 1 Percent Operational Time: 91.8			
Maximum Daily Average: 157.2 µg/m³ on Jul 19 Minimum Daily Average: 2.6 µg/m³ on Jul 9 Minimum Diurnal Average: 18.9 µg/m³ at hour 20 Percentiles: P ₁ = 2.0 P ₁₀ = 3.5 Q ₁ = 5.4 Median = 9.6 Q ₃ = 21.9 P ₉₀ = 40.2 P ₉₉ = 212.5																											
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-Jul	37.2	34.7	39.3	33.5	32.4	32.9	33.0	31.8	30.6	31.3	30.9	32.3	26.6	26.2	28.2	26.8	23.6	24.1	24.4	24.7	22.5	22.3	24.2	24.1	29.1	39.3	
2-Jul	25.9	27.2	30.5	37.0	37.7	39.2	36.0	32.5	29.7	15.5	14.3	16.3	15.1	12.2	5.3	6.4	7.5	7.0	5.9	4.1	4.0	3.8	8.3	11.0	18.0	39.2	
3-Jul	6.8	7.1	7.3	7.3	5.9	5.6	5.2	4.7	3.9	4.0	4.1	5.6	4.4	3.0	3.2	3.5	3.5	5.0	7.5	6.8	6.6	6.4	5.8	6.9	5.4	7.5	
4-Jul	9.3	8.0	6.7	5.6	4.1	2.0	1.7	4.4	10.3	11.2	7.8	17.2	49.9	60.7	51.1	45.0	38.0	33.6	26.2	23.4	25.0	25.8	26.9	28.6	21.8	60.7	
5-Jul	27.8	26.3	24.2	22.9	21.0	20.2	19.9	19.5	22.4	21.5	16.2	15.1	12.1	10.9	8.1	8.6	9.5	9.8	9.8	9.8	8.9	8.4	9.9	10.6	15.6	27.8	
6-Jul	9.8	9.6	9.8	10.3	8.7	8.7	10.6	14.5	15.7	15.8	19.3	25.1	22.0	21.4	18.8	12.0	10.2	10.6	12.8	10.8	11.6	13.5	14.1	13.6	13.7	25.1	
7-Jul	13.8	13.4	13.9	11.6	10.6	9.8	9.3	10.1	11.0	8.0	7.4	7.1	7.5	7.7	7.7	6.3	6.0	5.5	5.5	5.8	6.5	7.0	5.9	5.0	8.4	13.9	
8-Jul	4.6	4.7	5.2	5.8	5.8	5.9	5.8	5.6	5.3	4.2	3.8	4.2	4.4	3.9	3.4	3.7	4.1	4.4	4.4	5.0	6.3	5.9	5.3	2.8	4.8	6.3	
9-Jul	2.5	2.6	2.6	3.0	3.6	3.6	3.2	2.8	2.4	2.1	2.2	1.8	1.9	1.9	2.5	2.8	2.7	3.2	3.1	2.7	2.4	1.9	1.8	2.3	2.6	3.6	
10-Jul	3.3	3.2	3.1	3.6	3.9	4.3	4.6	5.1	6.5	6.6	14.0	14.4	19.0	21.7	24.4	27.4	24.3	23.2	21.8	21.6	21.8	21.3	21.9	24.1	14.4	27.4	
11-Jul	23.2	23.0	22.7	23.8	25.2	25.0	22.9	23.2	16.6	10.4	6.7	5.9	4.8	4.0	3.6	3.4	3.3	2.7	2.3	2.7	3.5	3.9	4.5	5.1	11.3	25.2	
12-Jul	4.1	2.7	2.4	2.7	2.9	3.1	2.9	2.5	2.7	4.6	12.7	20.0	32.5	27.8	23.3	22.8	22.0	15.4	8.2	5.2	4.7	4.3	7.0	4.0	10.0	32.5	
13-Jul	3.7	11.0	9.7	7.3	5.2	3.3	4.2	8.5	10.5	20.0	27.2	20.0	12.1	13.2	15.0	12.5	9.5	7.1	6.0	4.1	4.0	4.1	6.2	7.6	9.7	27.2	
14-Jul	6.4	5.9	5.4	5.3	8.9	5.4	5.5	4.7	6.4	16.8	15.7	13.4	10.5	5.6	3.9	4.4	4.3	4.8	4.2	3.9	4.0	3.9	4.3	6.4	6.7	16.8	
15-Jul	7.1	5.0	5.4	4.8	4.1	4.3	4.3	4.4	4.6	4.8	4.6	4.8	7.7	9.4	8.0	8.1	8.0	8.2	8.3	8.2	8.3	8.5	7.8	6.9	6.5	9.4	
16-Jul	6.9	7.2	7.3	7.7	7.1	7.1	7.3	8.1	9.2	10.4	10.7	9.1	8.9	9.0	9.4	9.7	9.9	9.5	10.1	10.9	12.3	12.8	11.4	13.3	9.4	13.3	
17-Jul	13.9	13.3	13.2	15.4	15.2	13.9	13.6	14.1	18.5	20.6	20.4	28.1	37.4	36.4	38.7	47.5	40.3	38.9	37.1	36.1	35.8	35.1	34.5	34.3	27.2	47.5	
18-Jul	34.6	36.3	42.6	42.9	44.6	43.6	40.9	37.2	38.8	37.7	35.3	29.8	36.9	34.2	41.5	57.2	55.5	61.8	83.0	86.9	118.9	151.9	163.3	187.0	64.3	187.0	
19-Jul	186.5	177.3	210.5	217.6	211.6	216.2	222.6	236.4	261.5	265.0	244.2	188.8	125.2	92.6	79.5	91.9	97.2	98.9	98.7	100.4	94.5	89.3	92.2	73.3	157.2	265.0	
20-Jul	51.6	57.1	87.3	97.1	101.4	103.6	99.6	88.2	82.6	70.2	72.2	97.5	122.0	114.9	99.6	142.3	197.1	108.7	52.9	48.3	42.3	33.9	14.0	8.6	83.0	197.1	
21-Jul	6.3	3.1	1.9	3.3	3.0	3.0	2.7	3.4	5.3	5.1	6.1	6.7	5.6	6.0	4.8	4.5	4.3	4.7	4.9	4.3	3.4	3.9	3.9	2.8	4.3	6.7	
22-Jul	4.1	4.6	4.8	3.9	3.4	3.2	3.1	2.8	2.4	2.1	2.3	3.2	3.0	2.8	2.4	2.2	2.4	2.3	2.5	3.7	4.5	4.4	5.3	5.6	3.4	5.6	
23-Jul	4.5	4.1	4.5	4.8	5.0	5.5	6.6	15.9	25.8	26.7	23.0	9.7	9.9	8.8	8.3	8.6	11.7	12.0	11.7	12.0	11.5	10.5	13.1	12.1	11.1	26.7	
24-Jul	10.0	7.9	8.9	8.9	9.2	9.4	10.1	9.7	9.5	10.8	14.2	15.7	16.4	16.7	16.1	15.1	16.6	20.5	19.0	16.4	15.0	13.4	15.3	14.6	13.3	20.5	
25-Jul	12.6	9.7	9.5	7.8	8.0	7.1	7.3	11.6	17.5	9.1	6.5	5.4	6.5	9.2	9.7	9.6	8.5	12.1	10.7	18.0	21.0	26.5	26.6	23.8	12.3	26.6	
26-Jul	20.0	14.6	13.6	15.3	13.3	11.0	10.3	9.6	9.0	7.0	9.4	8.1	11.3	5.7	8.0	11.5	23.5	51.6	55.8	44.7	32.9	32.1	33.5	33.0	20.2	55.8	
27-Jul	29.7	26.0	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	29.7
28-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	--
29-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	9.5
30-Jul	8.5	8.9	8.8	8.6	9.6	9.9	9.4	10.9	11.6	11.8	11.3	9.5	8.5	7.9	8.3	8.6	9.2	11.4	14.1	9.4	9.8	11.0	12.2	12.7	10.1	14.1	
31-Jul	11.8	11.0	11.3	11.7	13.0	14.5	16.0	16.0	15.5	13.1	9.4	8.8	C	9.0	8.9	8.7	8.7	8.5	8.4	8.4	9.1	9.5	9.5	10.2	10.9	16.0	
20.2 19.5 21.9 22.5 22.3 22.2 22.1 22.8 24.5 23.8 23.3 22.3 23.0 20.8 19.4 21.3 23.1 21.2 19.6 18.9 19.3 20.2 20.6 20.7																								Diurnal Average			
186.5 177.3 210.5 217.6 211.6 216.2 222.6 236.4 261.5 265.0 244.2 188.8 125.2 114.9 99.6 142.3 197.1 108.7 98.7 100.4 118.9 151.9 163.3 187.0																								Diurnal Maximum			
C - Calibration PF - Power Failure																											
Alberta Ambient Air Quality Guideline/Objectives: 1-hr 80 µg/m³ 24-hr 29 µg/m³																											



Wood Buffalo Environmental Association
Hourly Averages

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Athabasca Valley - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - µg/m³
Athabasca Valley - July 2025

Concentration Ranges (µg/m³)	Number of Hours	%	Cumulative %
0 - 5	177	25.95	25.95
6 - 15	290	42.52	68.48
16 - 25	78	11.44	79.91
26 - 80	95	13.93	93.84
> 81.0	42	6.16	100.00

Total Number of Valid Hours: 682

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - µg/m³
Athabasca Valley - July 2025

Concentration Ranges (µg/m³)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	2	5	2	2	4	13	6	3	4	14	18	19	7	6	10	16	131
6 - 15	5	7	3	15	26	43	29	12	11	22	22	8	10	11	19	18	261
16 - 25	0	0	2	6	7	13	6	0	1	2	2	1	6	3	7	6	62
26 - 80	4	1	2	7	9	21	8	2	1	4	2	1	5	5	11	12	95
> 81.0	0	0	1	2	9	16	5	1	2	0	0	1	1	0	2	2	42
Totals	11	13	10	32	55	106	54	18	19	42	44	30	29	25	49	54	591

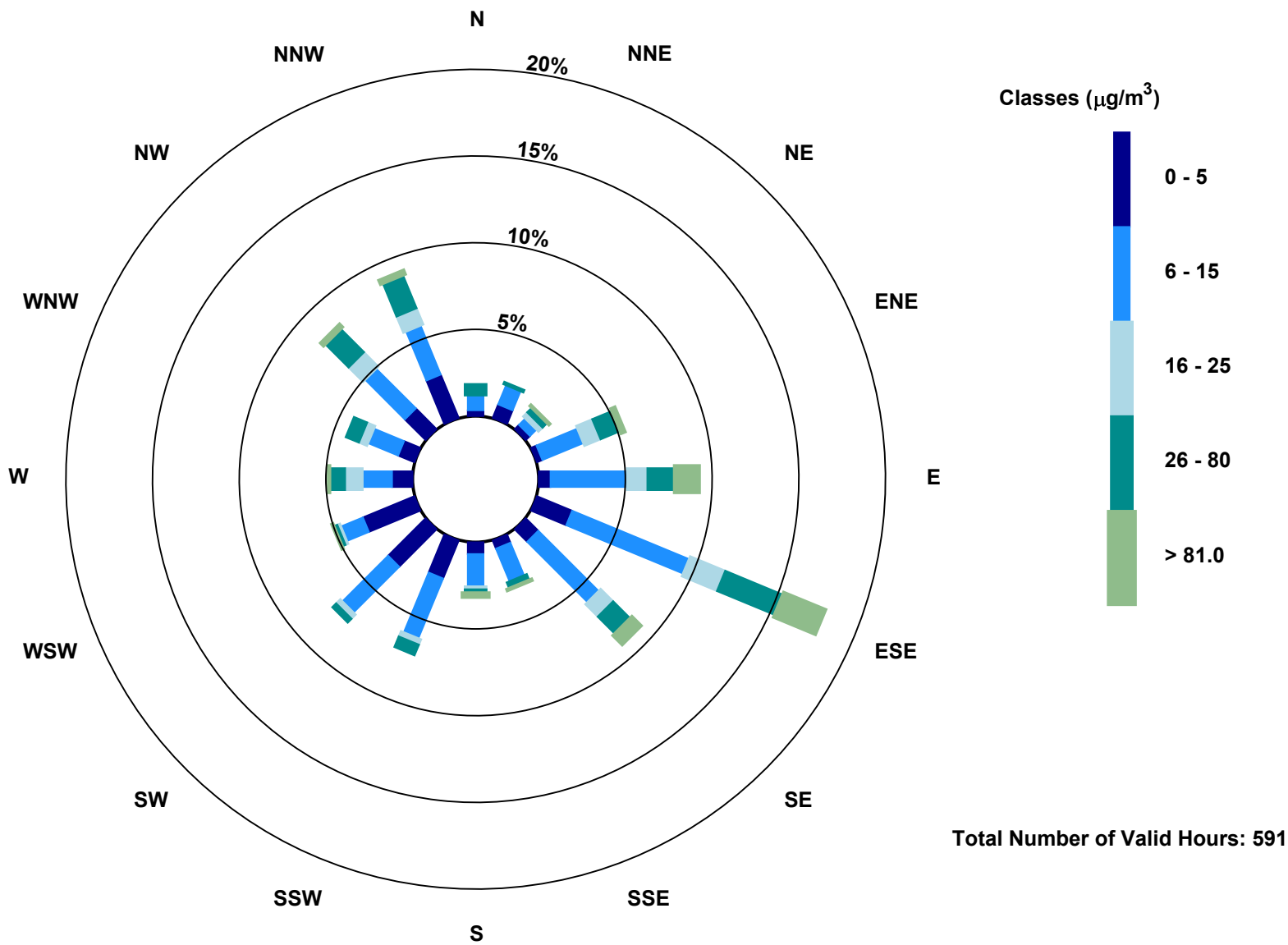
Total Number of Valid Hours: 591

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Carbon Monoxide (CO) - ppm

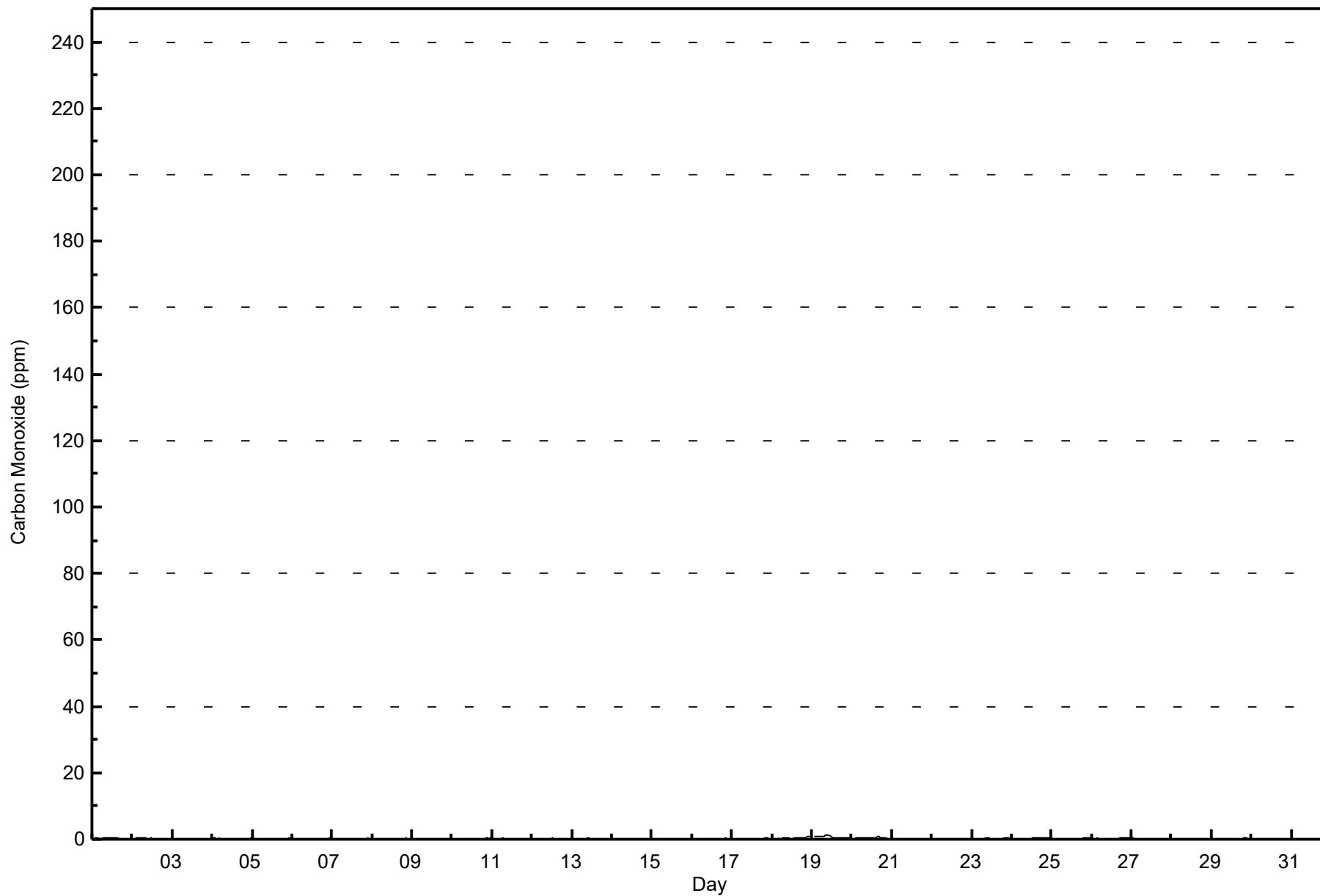
Athabasca Valley - July 2025

Number of Exceedences (AAAQO): Maximum Value: 1.2 ppm on Jul 19 10:00																			1-hr: 0 24-hr: 0 Maximum Daily Average: 0.7 ppm on Jul 19																			Hours in Service: 744 Hours of Data: 651 Hours of Missing Data: 93 Hours of Calibration: 32 Percent Operational Time: 91.8			
Minimum Value: 0.1 ppm on Jul 12 03:00 Maximum Diurnal Average: 0.2 ppm at hour 21 Monthly Average: 0.20 ppm																			Minimum Daily Average: 0.1 ppm on Jul 9 Minimum Diurnal Average: 0.2 ppm at hour 1 Percentiles: P ₁ = 0.1 P ₁₀ = 0.1 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.2 P ₉₀ = 0.3 P ₉₉ = 1.0																						
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-Jul	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	0.2	0.2															
2-Jul	0.2	Z	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.3	0.2	0.2	0.2	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															
3-Jul	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	0.2	0.1															
4-Jul	0.3	0.2	0.2	Z	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															
5-Jul	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-Jul	0.2	0.1	0.1	0.1	0.1	Z	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	0.3	0.2	0.2															
7-Jul	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	0.1	0.2															
8-Jul	0.1	Z	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	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1															
9-Jul	0.1	0.1	Z	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	0.1															
10-Jul	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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2															
11-Jul	0.2	0.2	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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1															
12-Jul	0.1	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	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1															
13-Jul	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	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-Jul	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															
15-Jul	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	C	C	C	C	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1															
16-Jul	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	0.2	0.2	0.2	0.2	0.2	0.1															
17-Jul	0.2	0.1	0.1	0.1	Z	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	0.2	0.2	0.2															
18-Jul	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	0.3	0.3	0.3	0.3	0.4	0.4	0.6	0.7	0.8	0.9	0.3															
19-Jul	Z	0.9	1.0	1.0	1.0	1.0	1.0	1.1	1.2	1.2	1.1	0.9	0.6	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.7															
20-Jul	0.3	Z	0.4	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.9	0.8	0.5	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.4															
21-Jul	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															
22-Jul	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	0.1															
23-Jul	0.1	0.1	0.1	0.1	Z	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	0.3	0.2	0.2	0.2	0.2															
24-Jul	0.2	0.2	0.1	0.1	0.1	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	0.3	0.3	0.3	0.2	0.2	0.3	0.2															
25-Jul	Z	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	0.3	0.3	0.3	0.3	0.2															
26-Jul	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2															
27-Jul	0.2	0.2	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--															
28-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--															
29-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	--															
30-Jul	0.2	0.2	0.2	0.1	0.2	Z	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2															
31-Jul	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	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2															
Diurnal Average																										Diurnal Maximum															
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 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2																																									
Z - zerospan C - Calibration PF - Power Failure																																									
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 13 ppm																																									



Wood Buffalo Environmental Association
Hourly Averages

Carbon Monoxide (CO) - ppm
Athabasca Valley - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Carbon Monoxide (CO) - ppm
Athabasca Valley - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 0.3	606	93.09	93.09
0.4 - 0.5	27	4.15	97.24
0.6 - 0.7	3	0.46	97.70
0.8 - 1.4	15	2.30	100.00
1.5 - 10	0	0.00	100.00
> 10	0	0.00	100.00

Total Number of Valid Hours: 651

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Carbon Monoxide (CO) - ppm
Athabasca Valley - July 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	11	13	9	28	43	82	44	16	15	39	44	26	28	24	46	50	518
0.4 - 0.5	0	0	1	2	9	10	0	0	0	0	0	1	1	0	1	2	27
0.6 - 0.7	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
0.8 - 1.4	0	0	0	0	2	3	5	1	2	0	0	0	0	0	1	1	15
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	11	13	10	30	54	98	49	17	17	39	44	27	29	24	48	53	563

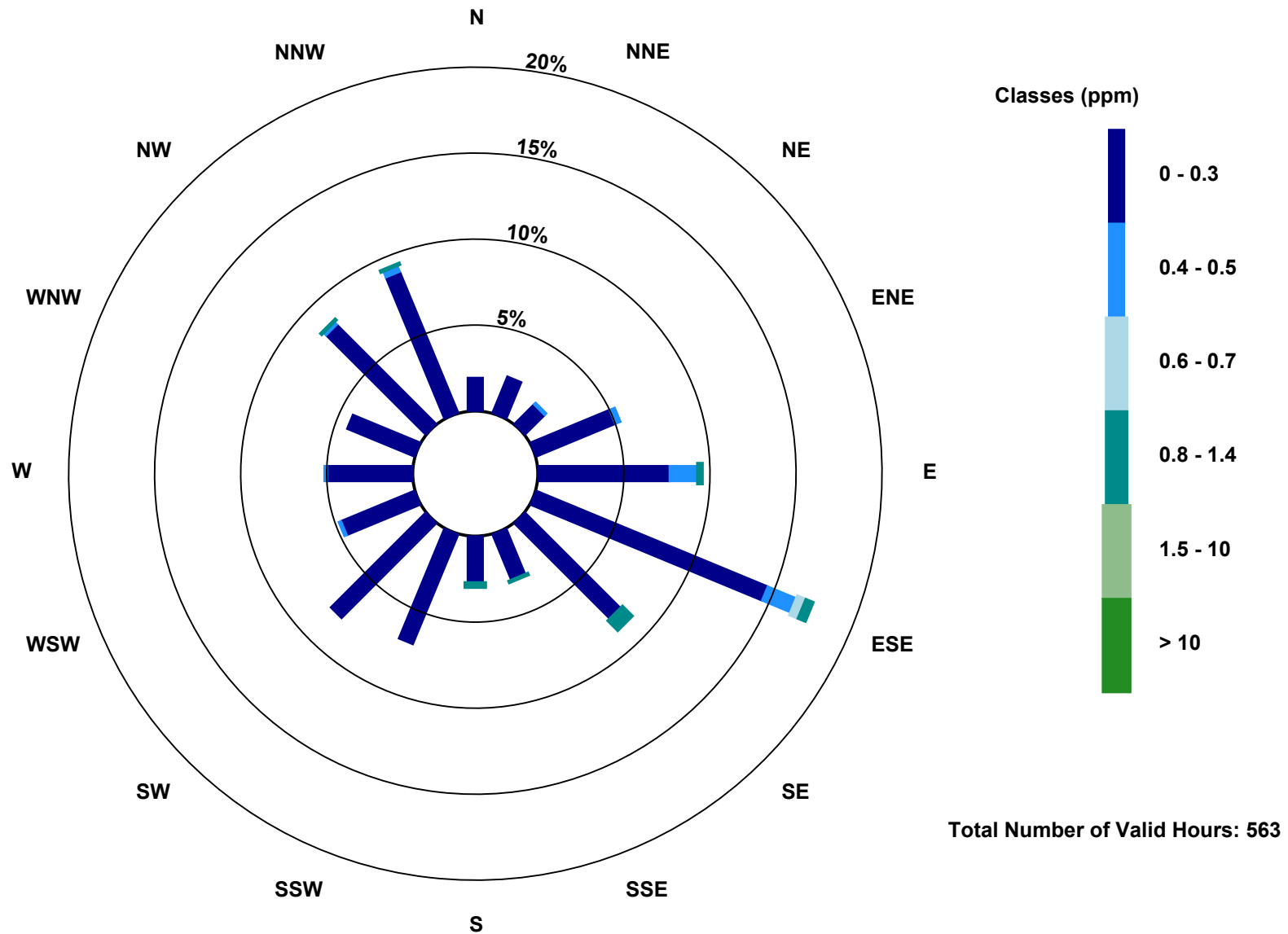
Total Number of Valid Hours: 563

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

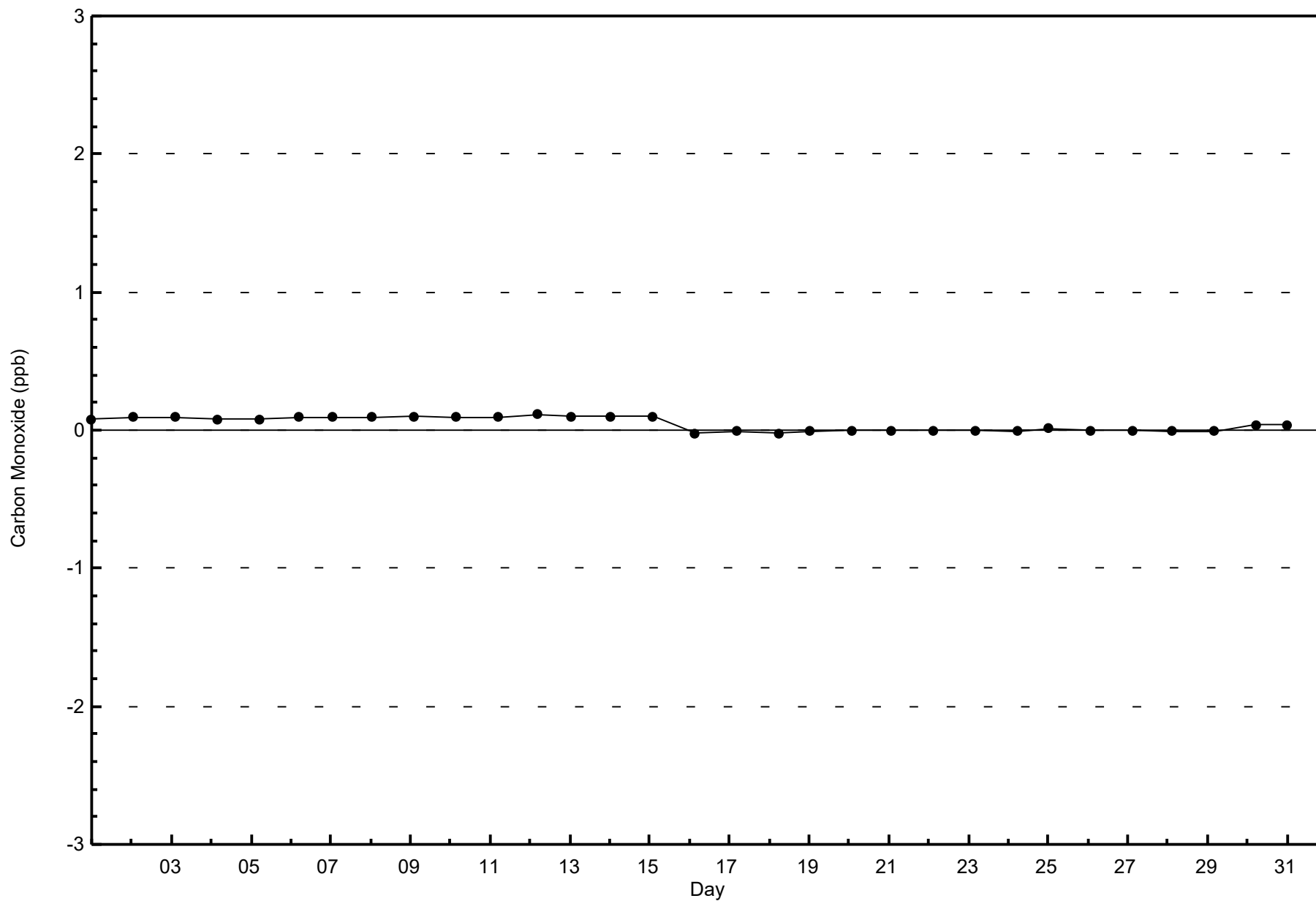
Carbon Monoxide (CO) - ppm
Athabasca Valley





Wood Buffalo Environmental Association
Zero Responses

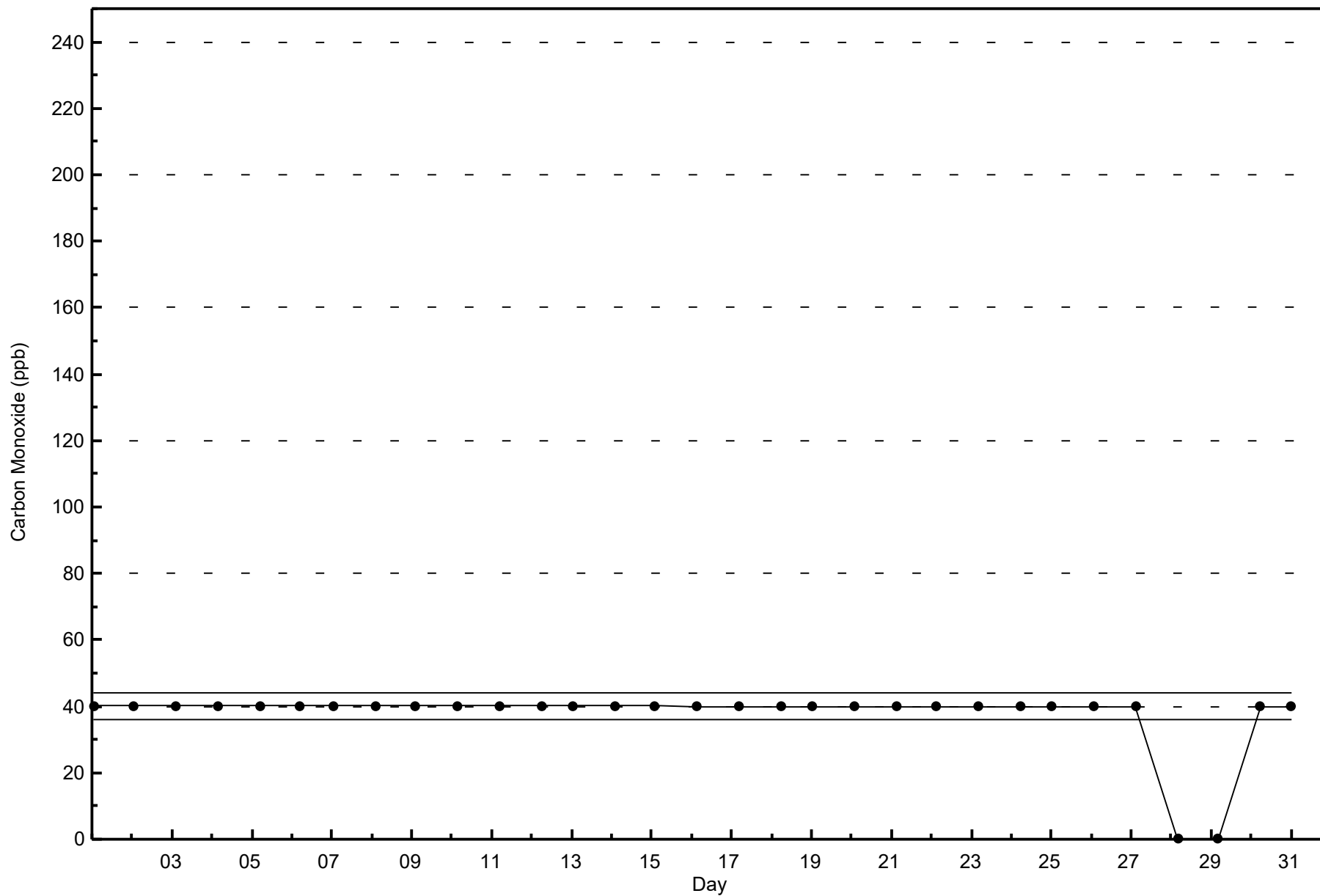
Carbon Monoxide (CO) - ppb
Athabasca Valley - July 2025





Wood Buffalo Environmental Association
Span Responses

Carbon Monoxide (CO) - ppb
Athabasca Valley - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Ambient Temperature 2m (AT2) - C

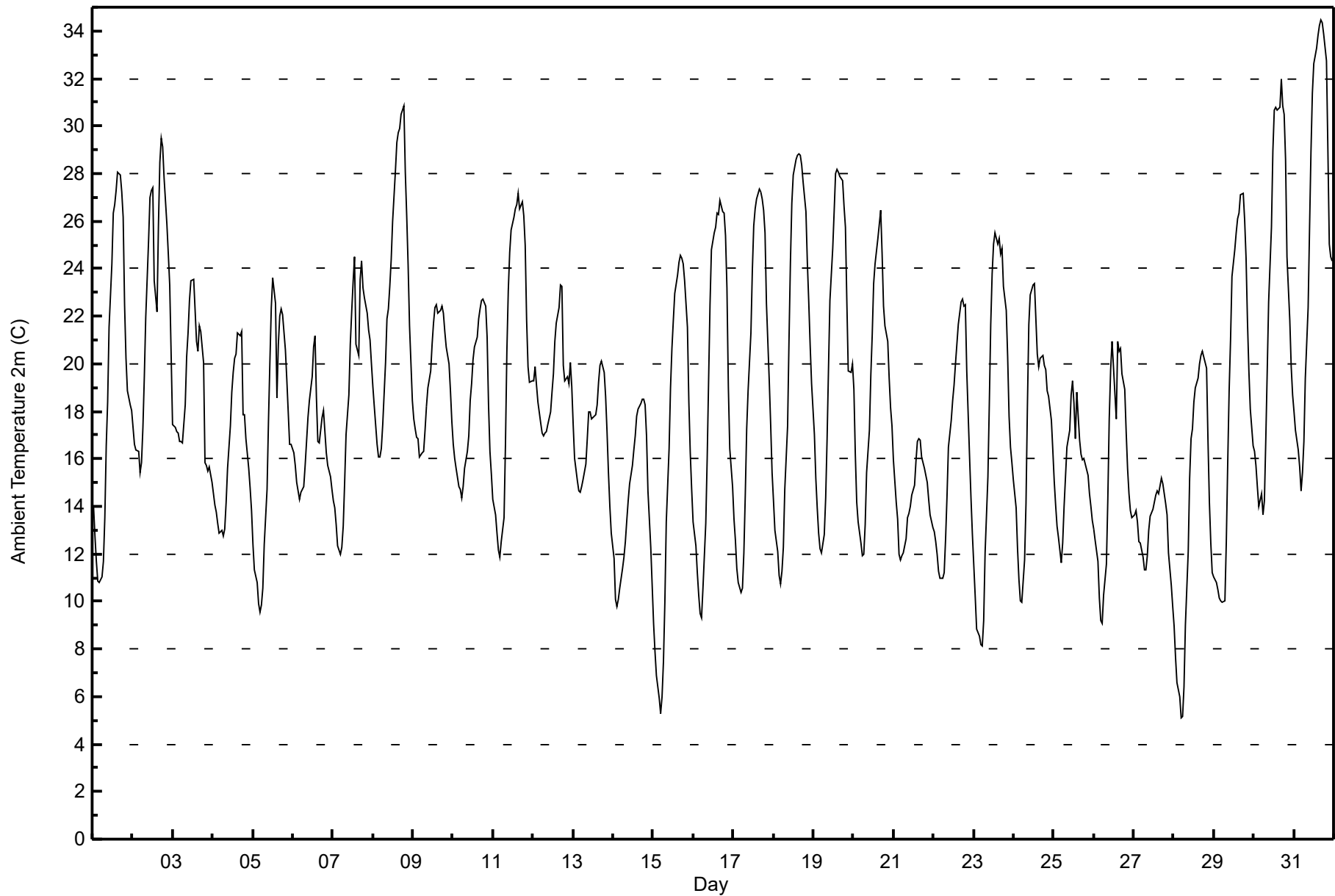
Athabasca Valley - July 2025

Maximum Value: 34.5 C on Jul 31 17:00																				Maximum Daily Average: 25.6 C on Jul 31					Hours in Service: 744	
Minimum Value: 5.1 C on Jul 28 05:00																				Minimum Daily Average: 13.1 C on Jul 27					Hours of Data: 744	
Maximum Diurnal Average: 23.7 C at hour 17																				Minimum Diurnal Average: 12.0 C at hour 5					Hours of Missing Data: 0	
Monthly Average: 18.31 C																				Percentiles: P ₁ = 6.7 P ₁₀ = 11.7 Q ₁ = 14.2 Median = 17.7 Q ₃ = 22.1 P ₉₀ = 26.3 P ₉₉ = 32.3					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-Jul	14.0	12.7	11.7	10.8	10.8	11.0	11.7	13.5	16.6	18.4	21.5	24.2	26.3	26.7	27.3	28.1	27.9	27.2	26.1	22.5	20.3	18.9	18.3	18.0	19.4	28.1
2-Jul	17.3	16.6	16.4	16.3	15.4	15.8	17.3	19.5	22.0	25.2	27.0	27.3	27.4	23.5	22.2	25.8	28.5	29.5	29.1	27.8	25.8	24.6	23.3	20.4	22.7	29.5
3-Jul	17.4	17.3	17.2	17.1	16.7	16.8	16.7	18.3	20.3	21.3	22.7	23.5	23.6	22.3	20.9	20.5	21.6	21.4	20.1	15.9	15.7	15.5	15.6	15.0	18.9	23.6
4-Jul	14.5	14.1	13.8	13.3	12.9	13.0	12.7	13.0	14.2	15.6	17.4	18.8	19.6	20.3	20.4	21.3	21.2	21.4	17.9	17.9	16.8	15.6	14.8	13.8	16.4	21.4
5-Jul	12.4	11.3	10.8	9.9	9.6	9.8	10.6	12.4	14.7	17.5	20.1	22.4	23.6	22.5	18.6	20.8	22.0	22.3	22.0	20.6	19.4	18.0	16.6	16.6	16.9	23.6
6-Jul	16.2	15.7	15.0	14.7	14.3	14.6	14.8	15.7	16.7	17.7	18.4	19.5	20.7	21.2	18.6	16.7	16.7	17.8	18.1	17.2	16.2	15.7	15.2	14.7	16.8	21.2
7-Jul	14.2	14.0	13.2	12.4	12.0	12.3	13.2	15.0	17.0	18.7	20.8	22.2	23.4	24.5	20.8	20.3	23.6	24.3	23.2	22.8	22.1	21.4	21.0	20.0	18.8	24.5
8-Jul	19.0	18.2	16.6	16.1	16.1	16.4	17.5	20.1	21.9	22.3	23.3	24.4	26.0	28.1	29.3	29.7	29.9	30.5	30.9	28.0	26.2	24.1	21.6	18.5	23.1	30.9
9-Jul	17.7	17.3	16.9	16.8	16.1	16.2	16.3	17.2	18.2	19.0	19.7	20.8	21.7	22.4	22.5	22.1	22.3	22.4	22.1	21.4	20.7	20.0	18.9	17.6	19.4	22.5
10-Jul	16.6	16.0	15.6	14.9	14.7	14.4	14.8	15.6	16.3	16.9	18.4	19.2	20.2	20.7	21.1	21.9	22.3	22.7	22.7	22.4	21.1	18.3	16.3	15.4	18.3	22.7
11-Jul	14.3	13.7	12.9	12.2	11.9	12.5	13.5	16.6	20.5	23.1	24.7	25.6	26.2	26.5	26.7	27.2	26.5	26.8	26.2	25.0	21.8	19.9	19.2	19.3	20.5	27.2
12-Jul	19.3	19.9	19.1	18.4	17.5	17.1	17.0	17.1	17.1	17.5	18.0	18.8	19.6	20.9	21.7	22.4	23.3	23.3	19.9	19.3	19.5	19.2	20.0	19.0	19.4	23.3
13-Jul	17.4	16.0	15.1	14.6	14.6	14.8	15.1	15.8	16.9	18.0	18.0	17.7	17.7	17.8	18.3	19.2	19.9	20.1	19.6	18.6	17.1	15.4	14.0	12.9	16.9	20.1
14-Jul	11.8	10.1	9.8	10.1	10.6	11.4	11.8	12.5	13.4	14.3	14.9	15.7	16.4	17.0	17.8	18.1	18.3	18.5	18.5	18.3	17.0	14.7	12.3	10.7	14.3	18.5
15-Jul	9.1	7.9	6.9	6.0	5.3	6.0	7.5	10.0	13.3	16.4	19.0	20.6	21.8	22.9	23.7	24.2	24.5	24.4	24.2	23.5	21.5	18.4	16.2	14.7	16.2	24.5
16-Jul	13.4	12.3	11.2	10.3	9.5	9.3	10.6	13.3	16.0	19.3	22.5	24.8	25.5	25.7	26.3	26.3	26.9	26.4	26.3	25.4	23.2	19.0	16.4	14.8	18.9	26.9
17-Jul	13.5	12.6	11.4	10.8	10.4	10.5	12.0	14.5	17.2	18.8	21.3	23.9	25.8	26.5	27.0	27.4	27.2	26.9	26.5	25.5	22.6	19.3	17.4	15.4	19.3	27.4
18-Jul	14.2	13.0	12.1	11.1	10.7	11.3	12.3	14.7	17.4	21.0	24.3	26.8	27.9	28.6	28.8	28.8	28.8	28.4	27.7	26.4	24.2	22.6	20.8	19.2	20.9	28.8
19-Jul	17.0	15.2	13.9	12.9	12.2	12.1	12.8	14.4	16.9	19.8	22.7	24.8	26.4	28.0	28.2	28.1	27.9	27.7	26.6	25.7	22.6	19.7	19.7	20.0	20.6	28.2
20-Jul	18.9	16.2	14.2	13.3	12.4	11.9	12.0	13.2	15.5	17.2	19.5	21.2	23.4	24.2	25.3	25.8	26.5	24.6	22.4	21.6	20.9	19.4	18.2	17.4	19.0	26.5
21-Jul	16.0	14.2	13.5	12.0	11.8	11.9	12.0	12.6	13.5	13.7	14.0	14.5	14.9	15.9	16.7	16.8	16.8	16.1	15.6	15.3	15.0	14.3	13.7	13.1	14.3	16.8
22-Jul	12.9	12.5	12.0	11.3	11.0	11.0	11.2	12.7	14.4	16.5	17.6	18.5	19.1	20.0	20.8	21.6	22.6	22.7	22.4	22.5	19.7	16.1	14.4	12.8	16.5	22.7
23-Jul	11.5	10.2	8.9	8.5	8.2	8.1	9.2	12.0	15.2	18.3	21.6	23.8	25.0	25.5	25.0	25.3	24.6	24.9	23.3	22.2	20.3	17.8	16.5	15.8	17.6	25.5
24-Jul	15.1	14.0	12.2	10.9	10.0	9.9	11.7	14.1	18.2	21.6	22.9	23.3	23.4	21.9	20.4	19.9	20.2	20.3	19.9	19.7	18.9	18.6	17.6	16.4	17.6	23.4
25-Jul	15.1	14.1	13.2	12.7	11.7	12.4	14.0	15.3	16.5	17.2	18.7	19.3	18.3	16.9	18.8	16.8	16.2	16.0	16.0	15.8	15.3	14.6	14.0	13.4	15.5	19.3
26-Jul	13.0	12.6	11.7	10.2	9.2	9.1	10.3	11.6	14.3	17.7	19.8	21.0	19.9	17.7	20.9	20.5	20.7	19.6	18.9	17.2	15.6	14.6	13.8	13.6	15.5	21.0
27-Jul	13.7	13.8	13.3	12.5	12.4	11.9	11.4	11.3	11.9	13.0	13.6	13.9	14.2	14.5	14.7	14.6	15.2	14.9	14.5	14.1	13.6	12.0	10.7	9.8	13.1	15.2
28-Jul	9.0	7.6	6.6	6.0	5.1	5.2	6.4	9.0	12.1	15.2	16.8	17.2	18.4	19.0	19.4	20.0	20.4	20.5	20.3	19.8	16.8	14.2	12.4	11.2	13.7	20.5
29-Jul	11.0	10.8	10.5	10.1	10.0	10.0	10.0	12.5	15.9	18.9	21.0	23.7	24.8	25.5	26.1	26.3	27.1	27.2	26.0	24.4	21.8	19.7	18.1	16.5	18.7	27.2
30-Jul	16.3	15.7	14.8	14.0	14.5	13.6	14.2	16.8	19.7	22.6	25.7	29.0	30.7	30.8	30.7	30.8	32.0	30.9	30.5	28.6	24.5	21.8	19.9	18.7	22.8	32.0
31-Jul	18.0	17.2	16.4	15.6	14.7	15.4	16.7	19.4	22.3	25.7	28.9	31.4	32.6	33.3	33.8	34.2	34.5	34.4	33.9	32.7	29.0	25.1	24.5	24.3	25.6	34.5
14.8 14.0 13.1 12.4 12.0 12.1 12.8 14.5 16.7 18.7 20.5 21.9 22.7 22.9 23.0 23.3 23.7 23.7 23.0 21.9 20.2 18.3 17.1 16.1																									Diurnal Average	
19.3 19.9 19.1 18.4 17.5 17.1 17.5 20.1 22.3 25.7 28.9 31.4 32.6 33.3 33.8 34.2 34.5 34.4 33.9 32.7 29.0 25.1 24.5 24.3																									Diurnal Maximum	



Wood Buffalo Environmental Association
Hourly Averages

Ambient Temperature 2m (AT2) - C
Athabasca Valley - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ambient Temperature 2m (AT2) - C
Athabasca Valley - July 2025

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	0	0.00	0.00
-20 - 0	0	0.00	0.00
0 - 10	32	4.30	4.30
10 - 20	451	60.62	64.92
> 20	261	35.08	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

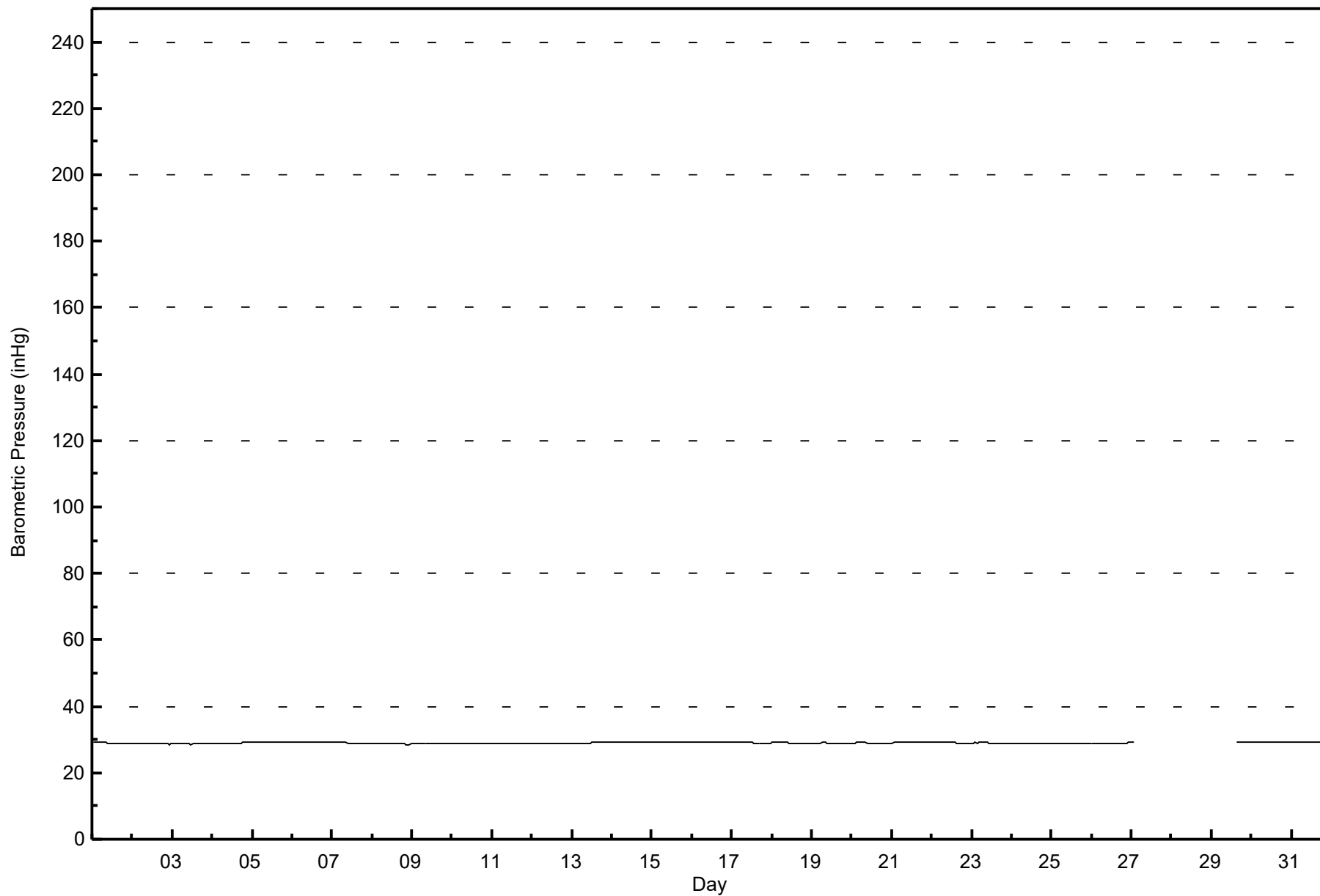
Athabasca Valley - July 2025

Maximum Value: 29.4 inHg on Jul 15 07:00																				Maximum Daily Average: 29.3 inHg on Jul 15				Hours in Service: 744		
Minimum Value: 28.6 inHg on Jul 8 22:00																				Minimum Daily Average: 28.6 inHg on Jul 3				Hours of Data: 683		
Maximum Diurnal Average: 29.0 inHg at hour 9																				Minimum Diurnal Average: 28.9 inHg at hour 19				Hours of Missing Data: 61		
Monthly Average: 28.98 inHg																				Percentiles: P ₁ = 28.6 P ₁₀ = 28.7 Q ₁ = 28.8 Median = 29.0 Q ₃ = 29.1 P ₉₀ = 29.2 P ₉₉ = 29.4				Hours of Calibration: 0		
																								Percent Operational Time: 91.8		
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-Jul	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	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.8	29.0	29.0
2-Jul	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	28.7	28.6	28.6	28.6	28.6	28.6	28.7	28.8
3-Jul	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.7	28.7	28.7	28.7	28.7	28.6	28.7
4-Jul	28.7	28.7	28.7	28.7	28.7	28.8	28.8	28.9	28.9	28.9	28.9	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.1	29.1	29.1	29.1	29.1	29.1	28.9	29.1
5-Jul	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	29.2	29.2	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.2	29.2
6-Jul	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	29.1	29.1
7-Jul	29.1	29.1	29.1	29.1	29.1	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	28.9	28.9	28.9	28.9	28.9	28.9	29.0	29.1
8-Jul	28.9	28.9	28.9	28.9	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	28.6	28.6	28.7	28.7	28.9
9-Jul	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	28.7	28.7	28.7	28.8	28.8	28.7	28.8
10-Jul	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	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	28.9	29.0
11-Jul	29.0	29.0	29.0	29.0	29.0	29.0	29.0	28.9	28.9	28.9	28.9	28.8	28.8	28.8	28.8	28.8	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.8	29.0
12-Jul	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	28.9	28.8	28.9
13-Jul	28.9	28.9	28.9	28.9	28.9	28.9	29.0	29.0	29.0	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	29.2	29.2	29.0	29.2
14-Jul	29.2	29.2	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	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.3	29.4
15-Jul	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	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.3	29.4
16-Jul	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	29.1	29.1	29.1	29.0	29.0	29.0	29.0	29.1	29.1	29.1	29.1	29.2
17-Jul	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	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.1
18-Jul	29.0	29.0	29.0	29.0	29.0	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
19-Jul	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	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0
20-Jul	29.0	29.0	29.0	29.0	29.0	29.0	29.1	29.1	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	29.0	29.0	29.0	29.1	29.1
21-Jul	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	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1
22-Jul	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	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.1	29.1
23-Jul	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.1	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	29.0	29.0	29.1
24-Jul	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.8	28.9
25-Jul	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	28.8	28.9	28.9	28.9	28.8	28.9
26-Jul	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	29.0	29.0	29.0	29.1	28.9	29.1
27-Jul	29.1	29.1	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	29.1
28-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	--
29-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	--	29.2
30-Jul	29.2	29.2	29.2	29.2	29.3	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
31-Jul	29.1	29.1	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	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.2
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 28.9 29.0 29.0 29.0 29.0 29.0 29.0 29.0																										Diurnal Average
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 29.3 29.3 29.3 29.4 29.4 29.4 29.4 29.4 29.4 29.4 29.4 29.4																										Diurnal Maximum
PF - Power Failure																										



Wood Buffalo Environmental Association
Hourly Averages

Barometric Pressure (BP) - inHg
Athabasca Valley - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Relative Humidity 2m (RH2) - %

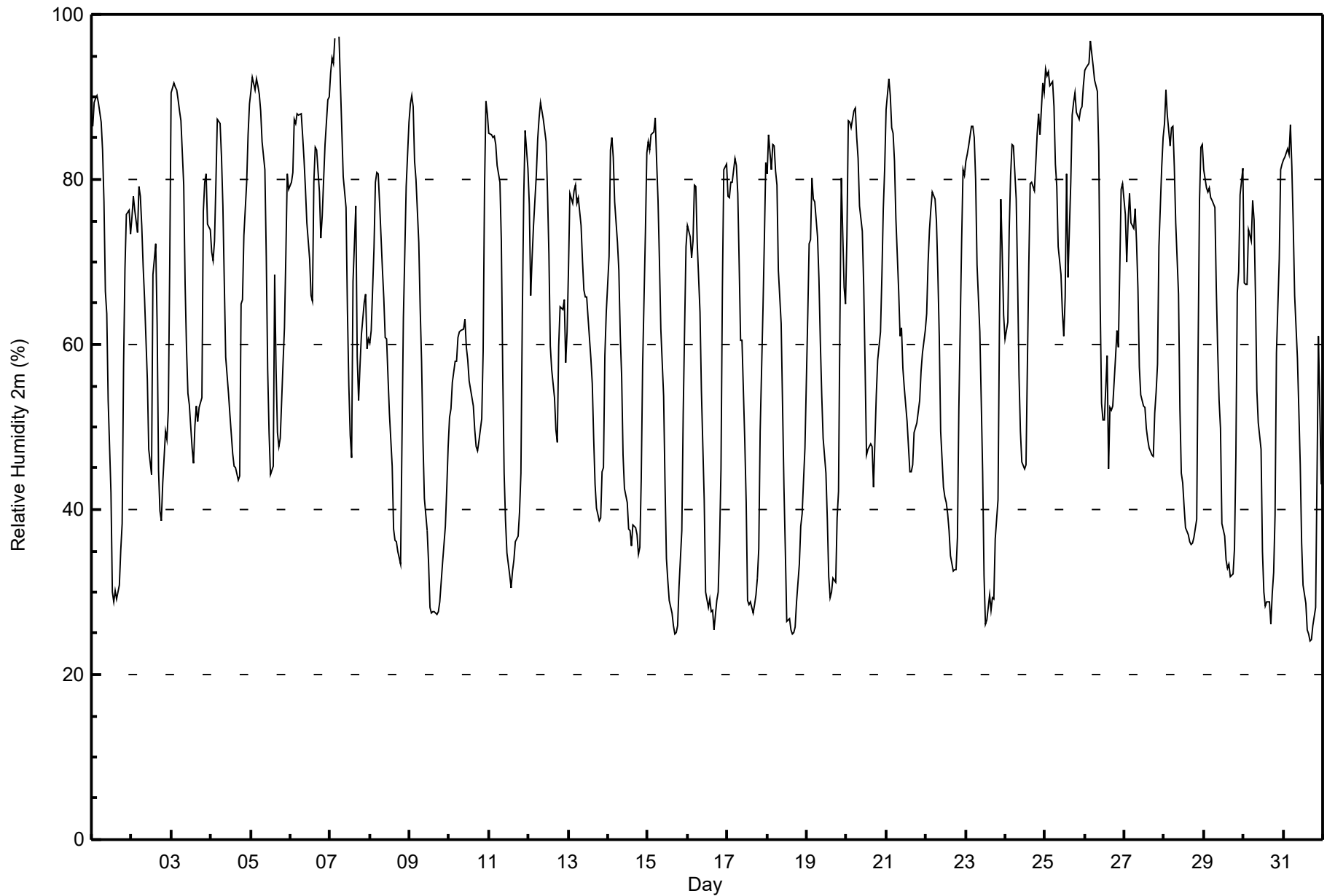
Athabasca Valley - July 2025

Maximum Value: 97.3 % on Jul 7 06:00																			Maximum Daily Average: 82.6 % on Jul 25						Hours in Service: 744	
Minimum Value: 24.1 % on Jul 31 17:00																			Minimum Daily Average: 48.9 % on Jul 9						Hours of Data: 743	
Maximum Diurnal Average: 82.8 % at hour 5																			Minimum Diurnal Average: 42.2 % at hour 17						Hours of Missing Data: 1	
Monthly Average: 62.13 %																			Percentiles: P ₁ = 25.4 P ₁₀ = 32.5 Q ₁ = 45.5 Median = 63.8 Q ₃ = 79.6 P ₉₀ = 87.1 P ₉₉ = 93.7						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-Jul	86.4	89.3	89.8	90.2	89.4	87.0	83.6	77.3	66.5	63.7	53.2	42.0	30.0	28.9	30.2	29.2	30.9	35.0	38.4	57.2	69.1	75.7	76.2	73.5	62.2	90.2
2-Jul	75.4	78.0	76.3	73.6	79.2	77.9	74.4	69.6	65.7	55.8	47.2	45.8	44.3	68.4	72.2	62.3	44.8	39.8	38.6	43.2	49.4	48.4	52.1	69.7	60.5	79.2
3-Jul	90.5	91.7	91.3	90.8	89.6	88.4	87.1	79.3	67.4	59.5	54.1	52.8	47.5	45.6	50.1	52.5	50.7	52.4	53.6	76.0	79.7	80.7	74.6	73.9	70.0	91.7
4-Jul	71.3	70.2	72.5	79.4	87.3	86.7	82.7	76.7	67.4	58.5	54.2	51.6	49.2	46.8	45.2	45.1	43.6	44.0	64.9	65.3	73.2	79.6	85.4	89.1	66.2	89.1
5-Jul	90.7	92.3	90.8	92.2	91.4	90.3	88.2	84.6	81.2	70.6	56.9	49.3	44.2	45.3	68.5	57.0	49.4	47.7	48.6	57.7	62.0	70.8	80.7	78.9	70.4	92.3
6-Jul	79.7	80.8	87.3	86.7	88.0	87.8	88.1	85.2	82.3	78.8	74.8	70.4	65.9	65.2	79.7	84.0	83.5	78.6	72.9	75.7	80.1	84.3	89.7	89.9	80.8	89.9
7-Jul	92.8	94.7	94.1	97.2	OR	97.3	91.5	85.9	80.3	76.6	64.2	55.1	49.0	46.3	67.7	76.8	58.5	53.3	57.5	61.1	65.1	66.2	59.6	60.6	71.8	97.3
8-Jul	60.2	61.7	71.6	79.7	80.9	80.7	77.1	69.1	65.6	60.9	60.7	56.1	51.6	45.2	37.6	36.3	36.0	34.9	33.4	48.5	63.2	71.0	79.2	87.0	60.4	87.0
9-Jul	89.2	90.2	88.8	82.2	79.9	72.3	64.4	58.0	48.4	41.4	37.5	33.6	28.1	27.4	27.6	27.6	27.2	27.7	28.8	31.2	33.6	38.0	42.5	47.6	48.9	90.2
10-Jul	51.2	52.2	55.4	57.9	58.0	60.8	61.5	61.6	61.9	63.1	59.7	58.1	55.6	54.6	52.5	49.7	47.7	47.1	48.4	50.9	59.2	79.0	89.5	88.0	59.3	89.5
11-Jul	85.5	85.4	85.1	85.2	84.2	81.7	79.6	72.5	56.7	44.4	38.6	34.7	32.0	30.5	32.5	33.9	36.1	36.7	39.6	44.4	63.6	77.9	86.0	81.4	59.5	86.0
12-Jul	76.9	66.0	70.5	74.4	80.5	85.0	87.5	89.3	88.3	87.3	84.5	78.5	71.0	59.8	56.9	53.6	49.6	48.1	59.8	64.5	64.2	65.4	57.9	61.6	70.0	89.3
13-Jul	69.2	78.3	77.2	78.6	79.4	77.1	77.9	74.4	70.2	66.6	65.7	65.7	63.3	58.3	55.3	48.7	43.1	40.2	38.6	39.0	44.6	45.2	58.6	63.8	61.6	79.4
14-Jul	70.7	83.5	85.2	82.7	77.2	72.3	68.9	61.3	56.1	46.5	42.6	40.8	37.7	37.4	35.5	38.1	37.9	37.0	34.6	35.4	43.8	57.4	73.8	83.2	55.8	85.2
15-Jul	84.5	83.5	85.4	85.7	87.4	82.2	77.4	70.2	61.8	53.7	43.0	34.1	31.4	29.1	27.5	25.9	24.9	25.0	25.9	30.7	37.4	51.7	62.1	71.8	53.8	87.4
16-Jul	74.4	73.1	70.6	72.5	79.3	79.2	72.3	63.9	54.4	47.8	41.2	29.9	28.2	29.1	27.6	27.7	25.4	28.9	29.9	36.1	44.8	66.8	81.1	81.9	52.8	81.9
17-Jul	77.9	77.8	79.7	79.7	82.5	81.6	78.3	69.7	60.5	60.6	48.3	40.8	29.0	28.5	28.8	27.5	28.5	29.7	31.7	35.3	49.5	64.3	72.7	82.1	56.0	82.5
18-Jul	80.7	85.4	81.2	84.3	84.0	81.0	79.3	69.1	62.6	52.7	42.7	35.0	26.5	26.8	25.5	24.8	25.1	25.7	28.8	33.4	38.0	39.6	43.5	47.4	51.0	85.4
19-Jul	63.3	72.1	72.7	80.1	77.6	77.2	73.0	68.0	60.3	53.9	48.7	44.4	38.8	31.9	29.3	30.0	31.7	31.2	38.9	42.1	62.7	80.2	67.0	64.9	55.8	80.2
20-Jul	73.0	87.1	86.9	86.3	88.3	88.6	85.1	82.5	76.8	73.7	67.2	57.2	46.5	47.3	47.9	47.6	42.7	48.4	53.9	58.1	61.5	68.3	76.4	81.4	68.0	88.6
21-Jul	88.4	92.3	90.2	86.4	85.6	82.1	75.3	66.4	61.0	62.1	57.1	54.7	50.6	47.7	44.5	44.5	45.4	49.4	50.5	51.9	53.3	56.8	58.9	61.7	63.2	92.3
22-Jul	63.8	69.9	73.9	76.4	78.5	77.6	74.9	68.7	60.9	49.5	42.7	41.5	40.8	39.5	37.4	34.4	32.5	32.6	32.6	36.5	52.1	72.5	81.2	80.5	56.3	81.2
23-Jul	82.1	83.1	84.1	86.4	86.5	85.1	80.1	69.6	61.6	53.3	44.6	32.1	26.2	26.5	29.6	27.8	29.3	29.1	36.5	41.1	62.0	77.6	71.2	63.6	57.0	86.5
24-Jul	60.6	62.7	73.8	80.4	84.3	84.1	77.6	67.8	56.2	49.4	45.7	45.0	45.5	57.6	69.6	79.5	79.7	78.7	82.0	85.6	87.9	85.4	91.6	90.5	71.7	91.6
25-Jul	93.4	92.5	93.1	91.3	91.8	88.8	81.8	79.1	71.9	68.5	63.8	61.0	65.8	80.7	68.2	79.7	87.9	89.4	90.5	88.2	87.4	88.5	88.9	91.3	82.6	93.4
26-Jul	93.3	93.5	94.1	96.8	95.2	93.7	92.0	90.6	83.3	65.0	52.8	50.9	50.8	58.7	44.9	52.3	52.0	52.5	58.4	61.7	59.7	69.0	78.8	79.4	71.6	96.8
27-Jul	75.8	70.1	75.1	78.3	74.8	74.1	76.5	72.4	66.7	57.3	53.9	52.5	52.3	49.8	48.6	47.5	46.5	46.4	51.6	54.3	57.6	71.9	81.5	85.0	63.4	85.0
28-Jul	86.7	90.8	87.7	84.0	86.3	86.4	81.6	74.8	66.1	52.1	44.4	43.3	40.4	37.8	37.0	36.1	35.7	35.9	36.7	38.9	59.1	77.5	83.9	84.2	62.0	90.8
29-Jul	81.2	79.0	78.5	79.0	77.7	77.4	76.6	66.8	59.3	53.2	49.8	38.3	36.7	33.9	32.8	33.4	31.9	32.3	35.3	46.4	66.2	68.8	78.1	81.3	58.1	81.3
30-Jul	67.5	67.3	67.3	73.8	72.5	77.5	75.1	65.9	54.5	50.5	47.2	34.9	30.0	28.4	28.8	28.8	26.1	29.9	32.4	39.3	59.0	70.4	81.2	81.8	53.7	81.8
31-Jul	82.3	82.7	83.8	83.1	86.6	81.5	74.3	66.0	58.4	52.1	45.4	35.9	30.8	28.7	25.4	24.8	24.1	24.3	26.0	28.2	44.1	61.0	52.4	43.0	51.9	86.6
78.0 79.9 81.1 82.4 82.8 82.1 78.8 72.8 65.6 59.0 52.7 47.3 43.2 43.3 44.0 44.1 42.2 42.3 45.1 50.3 59.1 68.1 72.8 74.8																									Diurnal Average	
93.4 94.7 94.1 97.2 95.2 97.3 92.0 90.6 88.3 87.3 84.5 78.5 71.0 80.7 79.7 84.0 87.9 89.4 90.5 88.2 87.9 88.5 91.6 91.3																									Diurnal Maximum	
OR - Out of Range																										



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 2m (RH2) - %
Athabasca Valley - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Speed 10m (WS10) - km/h

Athabasca Valley - July 2025

Maximum Speed: 25 km/h on Jul 3 19:00																	Maximum Daily Speed Average: 16.0 km/h on Jul 21										Hours in Service: 744	
Minimum Speed Value: 0 km/h on Jul 28 14:00																	Minimum Daily Speed Average: 1.6 km/h on Jul 28										Hours of Data: 653	
Maximum Diurnal Speed Average: 6.0 km/h at hour 13																	Minimum Diurnal Speed Average: 0.3 km/h at hour 1										Hours of Missing Data: 91	
Monthly Average Velocity: 1.4 km/h 269.3 deg																	Percentiles: P ₁ = 1 P ₁₀ = 3 Q ₁ = 4 Median = 7 Q ₃ = 11 P ₉₀ = 17 P ₉₉ = 24										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-Jul	ENE2	ENE3	ESE2	E5	ESE5	E6	ESE7	SE2	NNE3	WNW4	WSW4	W4	SSE3	ENE5	ENE10	NE12	ENE11	ENE9	ENE7	NNW10	ESE11	SE11	ESE11	SE11	E4.1	NE12		
2-Jul	SSE6	SE5	SE8	ESE10	SE4	ESE9	ESE10	SE11	E8	SSW6	WSW12	SW9	S10	SE12	ESE11	E6	E5	ENE7	ENE10	E9	E8	E10	ENE4	W25	SE4.7	W25		
3-Jul	NW10	W5	SSE9	SW13	SW20	SW17	SW17	WSW13	WSW17	WSW21	WSW19	SW18	SW23	SW23	SW17	S9	SSW12	SW20	WSW25	SW10	SSW10	SW12	SW15	SW19	SW14.4	WSW25		
4-Jul	SW20	SW18	SW16	WSW20	WSW20	NNW20	NNW23	W22	NNW24	NNW25	NW20	NW23	NNW24	NNW24	NNW24	NW16	NW5	NNW5	NW6	WNW5	SSW7	SSW7	S4	ESE3	W13.2	WNW25		
5-Jul	ESE4	E3	ESE7	ESE5	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	NNE4	E5	ESE7	UO	SE7	SE6	SE6	ESE6	ESE1	S5	---	ESE7		
6-Jul	ESE14	ESE6	ESE5	SSE7	E3	ENE3	N3	NNW5	UO	UO	UO	UO	UO	UO	UO	UO	UO	N7	NNE8	UO	UO	UO	NW1	N4	---	ESE14		
7-Jul	NW4	ENE1	E5	ESE6	ESE7	SE7	SE4	UO	UO	UO	UO	UO	UO	UO	UO	NNE2	SE6	ESE9	E10	UO	UO	UO	SSE6	SE4	---	E10		
8-Jul	SSE7	SE8	SSE4	SE4	SE5	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	---	SE8		
9-Jul	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	---	---		
10-Jul	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	C	C	C	C	NW19	NNW16	NW14	NW13	NW11	NW8	WSW4	SE1	E3	E4	---	NW19	
11-Jul	SE4	ESE6	ESE7	ESE8	ESE10	ESE9	ESE10	E7	SSW9	SSW15	SSW18	SW22	SW24	SW21	SW20	WSW24	SW13	SW17	SW11	SSW6	NNW12	W2	ESE2	SE4	SSW7.6	WSW24		
12-Jul	SW2	WSW14	WSW6	WSW5	WSW10	WSW7	SW11	W14	W18	W13	W12	W16	W20	W22	W18	W17	W17	W24	WSW20	SW18	SW19	SW18	W18	WSW12	WSW14.1	W24		
13-Jul	WNW5	W4	SSW9	SSW10	S4	SW7	NW7	NW10	NNW8	NNW10	NNW10	NNW13	NNW19	NNW14	NNW13	NW12	NNW13	NNW13	N13	NNE12	NNE7	N8	NNW7	NNW6	NNW7.1	NNW19		
14-Jul	WNW3	SE1	SSW5	WSW5	NW7	NW12	NNW15	NNW16	NNW14	NNW14	NNW15	NNW14	NNW15	NW16	NW13	NW17	NNW14	NNW11	N11	NNE7	NNE5	WSW3	SSW3	ENE1	NNW8.6	NW17		
15-Jul	E4	SE4	ESE5	ESE6	ESE9	ESE10	ESE8	ESE7	E5	ENE4	SSW1	SW6	S7	SSW6	SSW8	S7	S6	SSE8	SE9	ESE8	ESE8	SE2	ENE4	E2	SE4.4	ESE10		
16-Jul	SSE1	SE3	SE5	SE5	SE10	ESE12	ESE11	ESE7	ESE7	E6	ENE4	NE3	NNE4	N6	N5	WNW6	NNE3	NNW5	ENE6	E5	ESE3	ESE1	NE2	ENE2	E3.1	ESE12		
17-Jul	SE4	ESE5	SE4	SE4	SE5	ESE5	ENE6	ENE6	NE4	WNW3	W3	W4	NW8	NW12	NW13	NNW12	NNW11	NW11	NNW9	NNW6	W3	SW7	SSW4	ESE1	NNW2.4	NW13		
18-Jul	ESE2	ESE3	ESE3	E2	SE3	ESE8	SE9	ESE8	SE6	ESE5	E6	ENE8	ENE8	E8	SE12	ESE11	ESE10	ESE13	ESE9	ESE8	ESE8	ESE9	ESE9	SSE5	ESE6.9	ESE13		
19-Jul	ESE3	E4	S4	S2	SE5	SE4	ESE5	SE6	SE5	E4	SE4	ESE8	ESE11	ESE8	E8	ESE9	E9	E8	E7	ESE4	ENE2	NE3	NNW10	NNW6	ESE4.1	ESE11		
20-Jul	NNW5	ESE3	E5	ESE6	ESE4	E5	ESE8	E5	E6	ESE8	E7	ESE7	ENE3	W3	WSW4	NW5	NNW7	NW18	NNW13	NW12	NW8	NNW16	NW15	NNW18	N3.6	NNW18		
21-Jul	NNW20	NNW21	NNW23	NNW22	NNW19	NW20	NNW20	NNW19	NNW20	NNW20	NW20	NW16	NW14	NNW16	NNW14	NNW17	NW19	NNW16	NW16	NW13	WNW14	NNW7	NNE4	NE4	NNW16.0	NNW23		
22-Jul	NE2	SSW6	SSW5	SSW7	SSW7	S7	SE5	SSW9	SSW9	SSW10	WNW9	NW11	NNW10	W14	W11	WSW7	SSW11	WSW6	SSW4	WSW3	S4	SW3	ENE2	ESE3	SW4.6	W14		
23-Jul	ESE4	SE5	SSE5	ESE7	ESE8	ESE10	ESE9	ESE7	ENE7	NE5	NE4	SSW8	SSW11	WSW8	NNW8	ENE2	S9	S7	SSW6	S5	SE2	E2	SE4	E7	SE3.4	SSW11		
24-Jul	E6	SE5	ESE10	ESE7	ESE8	ESE7	E6	SE7	ESE7	E10	E13	E14	E11	E9	ENE6	NNE3	E7	SE6	ESE5	SE8	ESE3	WNW5	WNW2	W4	ESE5.8	E14		
25-Jul	S3	SSE7	SE2	SSW7	ESE4	E2	SSE4	SSW11	SW20	SW22	WSW19	WSW14	WNW13	ENE3	WNW13	NW18	NW17	NW19	NW19	NW11	NW9	NW6	SSW5	S3	W6.4	SW22		
26-Jul	W1	WSW5	SSW1	E3	ESE4	ESE6	E5	E5	E4	SSW9	SSW11	SW11	NNW21	W19	NNW16	NW10	NNW13	N13	NNW13	N11	N8	N3	SSW3	SW6	NNW3.3	NNW21		
27-Jul	NW6	NNW8	NW13	NW11	NW12	NNW10	NW12	NW9	NNW10	NNW10	NW11	NW16	NW16	NNW13	NW15	NW15	NW14	NW13	NW13	NW8	NW6	WSW3	SSW4	S3	NW9.8	NW16		
28-Jul	S2	ENE4	ESE3	SE5	ESE5	ESE6	ESE6	E6	ESE5	S5	S8	NW5	NNE2	SSE0	NNE3	N5	ENE5	NNW7	NNW5	NNE4	SW2	SSE1	E2	ESE3	E1.6	S8		
29-Jul	SE3	ESE8	ESE8	ESE10	ESE10	ESE11	ESE11	ESE9	E7	NE6	W3	SSW8	SW8	SW10	SW7	NNE1	ESE2	ESE1	S4	S4	E2	SE3	NE1	E3	SE3.6	ESE11		
30-Jul	ESE3	E4	SE6	E5	SE4	ESE8	ESE9	ESE6	ESE9	ESE8	ENE4	SSW13	SW14	W17	NW17	W14	NW9	WNW6	SW6	SSW6	WSW4	SSW3	E2	SE2	SSW1.9	W17		
31-Jul	E2	SE2	ESE2	SSE4	ESE2	ESE4	ESE6	E4	ENE4	SE3	SSW8	SSW10	SW9	SW8	SW12	SW8	SW9	SW8	SW7	SSW5	SSE2	SSE3	SSE6	SSE8	S3.9	SW12		
SE0.3 SSE1.4 SSE2.3 SSE2.7 SSE2.6 SE2.5 ESE1.9 SE0.3 W1.0 W2.5 W4.2 W5.1 W6.0 W5.8WNW5.8WNW5.0 NW3.0 NW4.1 NW2.8 NW1.4 W0.7 SW0.9SSW0.5 SW1.2																										Diurnal Average		
NNW20 NNW21 NNW23 NNW22 WSW20 NW20WNW23 W22WNW24WNW25 NW20 NNW23WNW24WNW24WNW24WSW24 NW19 W24WSW25 SW18 SW19WSW18 W18 W25																										Diurnal Maximum		
C - Calibration UO - Unstable Operation																												
All monthly, daily, and diurnal averages have been calculated using vector methods																												



Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

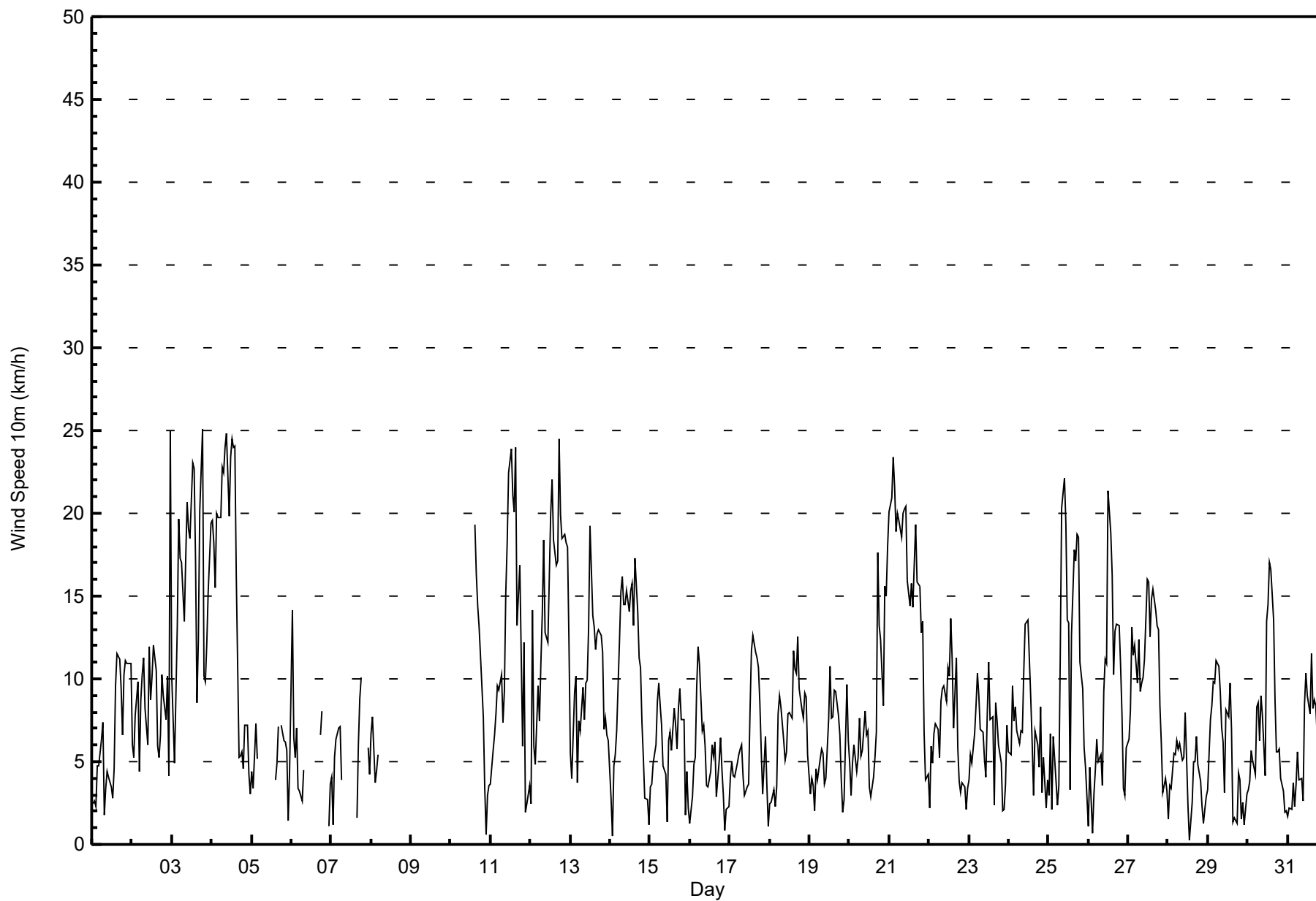
Wind Speed 10m (WS10) - km/h
Athabasca Valley - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0															Hours in Service: 744										
Maximum Value: 19 km/h on Jul 3 00:00															Hours of Data: 653										
Minimum Value: 1 km/h on Jul 17 12:00															Hours of Missing Data: 91										
Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 2 Median = 2 Q ₃ = 3 P ₉₀ = 5 P ₉₉ = 8															Hours of Calibration: 4										
															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-Jul	1	1	1	1	1	1	2	1	1	1	2	1	2	2	2	2	3	2	2	13	3	3	3	4	
2-Jul	2	1	3	2	2	2	3	3	2	2	4	3	4	5	6	2	2	3	3	3	2	4	2	19	
3-Jul	7	2	2	4	4	3	3	4	5	5	5	5	5	5	6	2	5	5	12	3	2	3	2	5	
4-Jul	4	3	3	4	3	4	4	4	5	5	5	5	5	5	5	4	8	6	8	2	3	1	1	1	
5-Jul	2	1	3	5	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	6	3	7	UO	2	3	3	2	2	4	
6-Jul	4	3	2	2	2	1	1	1	UO	UO	UO	UO	UO	UO	UO	UO	UO	3	3	UO	UO	UO	2	2	
7-Jul	2	1	2	2	2	2	4	UO	UO	UO	UO	UO	UO	UO	UO	2	3	3	3	UO	UO	UO	3	3	
8-Jul	4	2	2	2	2	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	
9-Jul	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	
10-Jul	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	C	C	C	C	4	4	4	3	2	2	1	2	1	1	
11-Jul	1	2	1	2	2	2	2	2	3	4	5	5	5	5	5	6	6	7	3	2	8	1	2	3	
12-Jul	4	3	2	1	3	2	3	5	4	3	3	3	4	4	3	3	7	7	8	3	3	3	5	3	
13-Jul	2	2	3	3	2	3	3	3	2	2	3	4	4	4	4	4	4	4	3	3	2	2	1	1	
14-Jul	2	2	2	1	2	3	3	4	4	4	4	4	4	5	4	5	4	4	3	2	2	2	2	1	
15-Jul	1	1	1	1	2	2	2	1	1	1	2	2	3	3	3	4	3	2	2	2	2	1	1	1	
16-Jul	2	2	2	1	3	3	3	1	2	2	1	2	3	3	3	3	2	2	1	1	2	1	2	2	
17-Jul	2	2	2	1	2	1	1	1	1	1	1	1	2	2	3	3	3	3	2	1	1	3	3	1	
18-Jul	2	1	1	1	1	3	2	2	1	2	2	3	3	3	4	3	3	3	3	3	2	3	2	2	
19-Jul	1	1	1	1	2	2	2	1	1	1	2	2	3	3	2	3	2	2	2	2	2	3	2	3	
20-Jul	2	2	1	2	1	1	2	1	1	2	2	2	2	1	1	2	1	8	5	3	3	5	3	5	
21-Jul	6	6	8	5	5	4	6	5	5	5	6	5	4	5	5	5	5	4	3	2	2	4	1	1	
22-Jul	1	1	1	1	1	2	2	3	3	4	4	5	4	4	5	4	3	3	2	1	1	1	2	1	
23-Jul	1	1	1	2	2	3	2	1	2	1	1	3	3	3	2	2	2	2	1	1	1	1	2	2	
24-Jul	2	2	2	2	2	2	2	2	2	4	4	4	3	3	2	2	3	3	2	5	1	7	2	2	
25-Jul	2	3	2	5	2	1	3	4	5	5	5	3	5	2	7	5	4	3	3	4	3	2	2	2	
26-Jul	1	2	2	2	1	2	1	1	2	3	3	4	10	6	5	5	5	4	4	3	2	1	2	1	
27-Jul	2	3	3	3	3	3	3	2	2	3	4	4	3	3	4	3	3	3	3	1	2	2	2	2	
28-Jul	2	1	1	1	1	1	1	1	2	3	3	3	2	2	3	3	2	2	2	1	1	2	1	2	
29-Jul	1	2	2	2	2	2	2	2	2	2	1	3	5	4	5	2	2	2	1	1	1	2	1	1	
30-Jul	1	1	2	2	3	3	3	2	2	2	2	3	4	5	4	4	4	2	3	3	1	3	2	2	
31-Jul	1	2	2	2	1	2	1	1	1	2	2	3	3	4	4	3	3	2	2	1	1	2	2	2	
7 6 8 5 5 4 6 5 5 5 6 5 10 6 7 6 8 8 12 13 8 7 5 19																									
Diurnal Maximum																									
C - Calibration UO - Unstable Operation																									



Wood Buffalo Environmental Association
Hourly Averages

Wind Speed 10m (WS10) - km/h
Athabasca Valley - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 10m (WS10) - km/h
Athabasca Valley - July 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	233	35.68	35.68
6 - 11	259	39.66	75.34
12 - 19	120	18.38	93.72
20 - 28	41	6.28	100.00
29 - 38	0	0.00	100.00
> 38	0	0.00	100.00

Total Number of Valid Hours: 653

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Wind Speed 10m (WS10) - km/h
Athabasca Valley - July 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	12	9	21	30	41	37	11	14	12	3	10	11	7	4	7	233
6 - 11	6	3	1	13	26	75	17	9	9	28	19	6	1	5	23	18	259
12 - 19	2	1	1	0	2	3	2	0	0	4	16	9	13	5	35	27	120
20 - 28	0	0	0	0	0	0	0	0	0	0	11	6	5	8	4	7	41
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	12	16	11	34	58	119	56	20	23	44	49	31	30	25	66	59	653

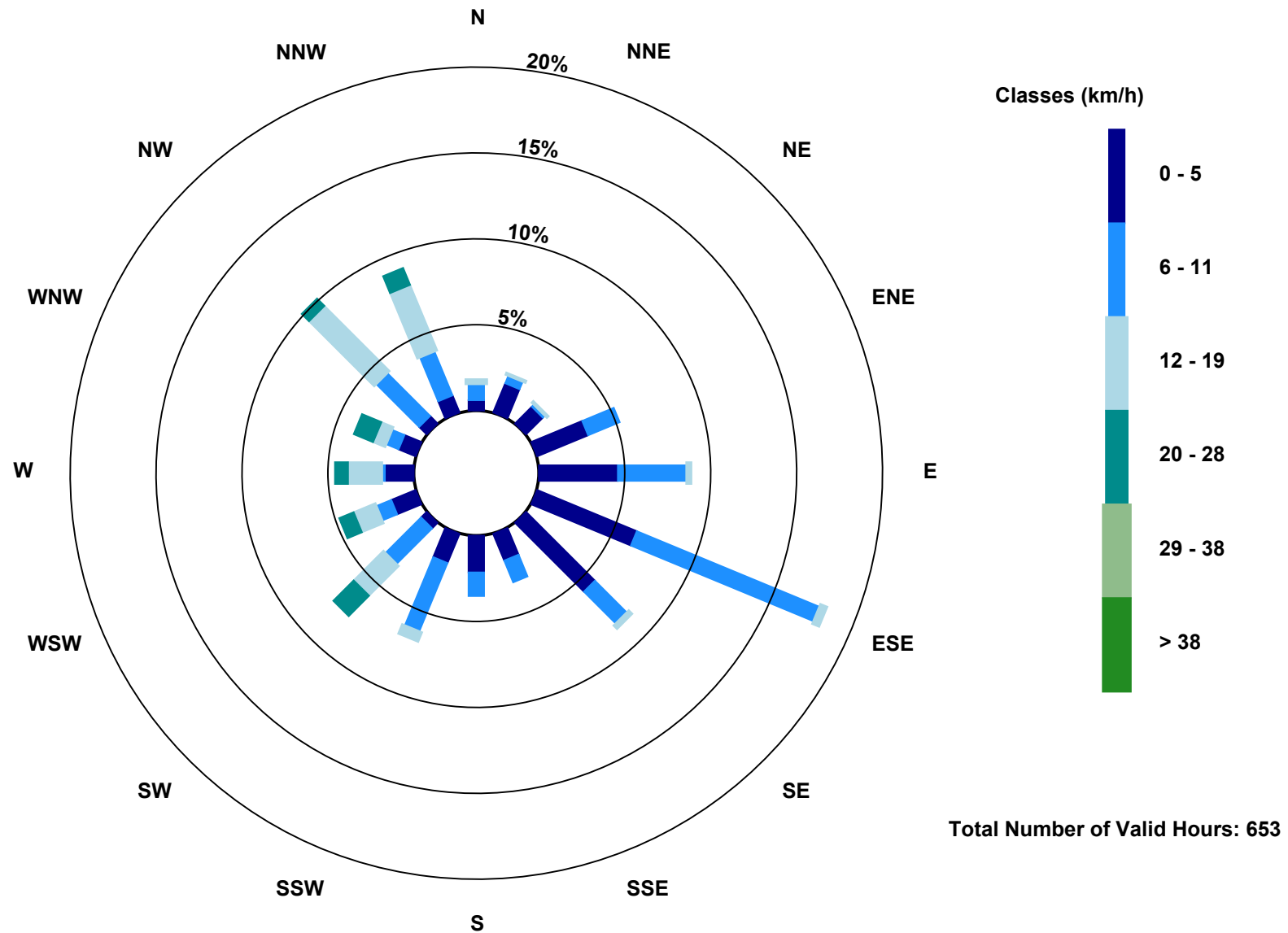
Total Number of Valid Hours: 653

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Wind Speed 10m (WS10) - km/h
Athabasca Valley





Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Direction 10m (WD10) - deg

Athabasca Valley - July 2025

Direction of Maximum Speed: 257 deg on Jul 3 19:00 Direction of Maximum Daily Speed Average: 328.3 deg on Jul 21																				Hours in Service: 744					
Direction of Minimum Speed: 147 deg on Jul 28 14:00 Direction of Minimum Daily Speed Average: 1.6 deg on Jul 28																				Hours of Data: 653					
Monthly Average Direction: 269.3 deg																				Hours of Missing Data: 91					
																				Percent Operational Time: 88.3					
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-Jul	61	66	107	96	118	100	120	145	20	286	252	277	149	68	60	55	59	66	73	330	120	124	108	134	87.4
2-Jul	151	146	126	121	133	123	121	125	99	202	244	222	180	133	123	96	91	59	76	80	83	92	60	273	128.9
3-Jul	321	274	167	219	219	231	224	252	244	249	242	235	229	226	217	170	206	223	257	226	213	227	224	230	230.7
4-Jul	232	232	231	243	253	285	289	279	288	302	309	306	290	294	294	318	326	346	323	302	207	203	174	119	279.5
5-Jul	116	94	114	123	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	15	90	112	UO	127	136	124	107	111	173	--
6-Jul	108	117	113	155	80	61	360	328	UO	UO	UO	UO	UO	UO	UO	UO	UO	9	13	UO	UO	UO	325	349	--
7-Jul	315	68	100	117	121	135	143	UO	UO	UO	UO	UO	UO	UO	UO	31	132	115	99	UO	UO	UO	148	142	--
8-Jul	158	146	148	134	127	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--
9-Jul	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--
10-Jul	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	C	C	C	C	318	303	307	315	318	310	257	146	79	100	--
11-Jul	124	120	119	123	121	117	113	91	196	195	211	219	223	221	227	237	231	236	232	201	328	278	102	133	206.0
12-Jul	215	247	241	256	237	239	235	259	271	273	272	277	273	267	263	266	259	267	238	223	230	236	268	248	255.3
13-Jul	283	279	209	198	190	231	307	321	335	338	327	340	328	333	330	314	346	346	1	12	27	7	337	333	329.0
14-Jul	283	126	209	237	308	326	323	332	335	332	340	340	338	319	326	322	330	344	6	17	33	254	202	66	330.6
15-Jul	82	124	114	111	115	117	111	107	89	59	198	223	189	205	199	191	172	157	142	107	118	146	72	87	135.2
16-Jul	162	127	134	127	124	120	121	119	111	99	76	39	33	354	1	296	21	340	64	84	108	118	53	69	90.2
17-Jul	146	120	145	139	129	115	66	67	52	300	278	271	321	325	325	330	327	326	326	331	275	221	205	104	331.2
18-Jul	108	116	121	90	124	116	126	119	128	105	86	77	73	99	131	122	115	104	108	112	116	114	114	156	112.0
19-Jul	118	86	171	175	136	138	123	134	125	79	125	117	119	102	89	110	81	95	79	104	58	56	331	341	101.4
20-Jul	340	103	81	116	106	98	107	97	90	106	88	110	68	277	255	316	327	324	329	319	321	342	317	330	356.5
21-Jul	330	334	331	331	330	326	338	338	333	330	315	314	324	330	335	333	326	329	324	306	292	332	25	39	328.3
22-Jul	44	200	212	206	203	175	135	200	195	213	282	305	285	275	274	249	210	252	196	253	181	215	78	117	230.6
23-Jul	109	143	158	116	122	115	110	111	66	48	49	208	204	241	348	66	184	177	199	186	136	101	124	83	137.2
24-Jul	87	124	114	106	119	117	93	124	120	90	97	98	99	95	69	19	98	126	117	133	110	297	291	274	104.3
25-Jul	180	168	142	204	103	94	161	213	232	232	241	241	289	64	284	310	319	323	323	314	304	312	211	186	269.8
26-Jul	280	242	194	79	115	108	98	100	91	195	211	234	288	262	295	307	346	352	341	7	360	10	209	218	298.0
27-Jul	306	339	323	318	325	348	318	311	317	336	325	319	322	334	321	310	311	321	319	314	317	240	201	189	319.3
28-Jul	169	70	103	126	122	109	108	90	107	183	191	308	24	147	19	359	62	333	329	25	223	159	88	114	92.4
29-Jul	131	114	114	122	114	114	116	116	98	54	277	204	236	218	224	13	103	118	190	175	97	140	38	93	135.8
30-Jul	102	87	131	94	132	110	112	113	114	110	68	198	224	271	311	259	309	297	232	204	251	201	87	133	201.8
31-Jul	84	129	120	153	107	106	118	97	64	140	208	208	223	217	216	232	231	222	218	206	151	156	155	155	190.3
141.0 159.0 147.5 157.5 150.4 124.6 113.7 132.0 280.1 272.2 268.5 262.1 271.2 273.7 293.4 300.2 311.9 313.8 318.0 308.4 260.6 217.3 195.9 220.6																									
Diurnal Average																									
C - Calibration 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

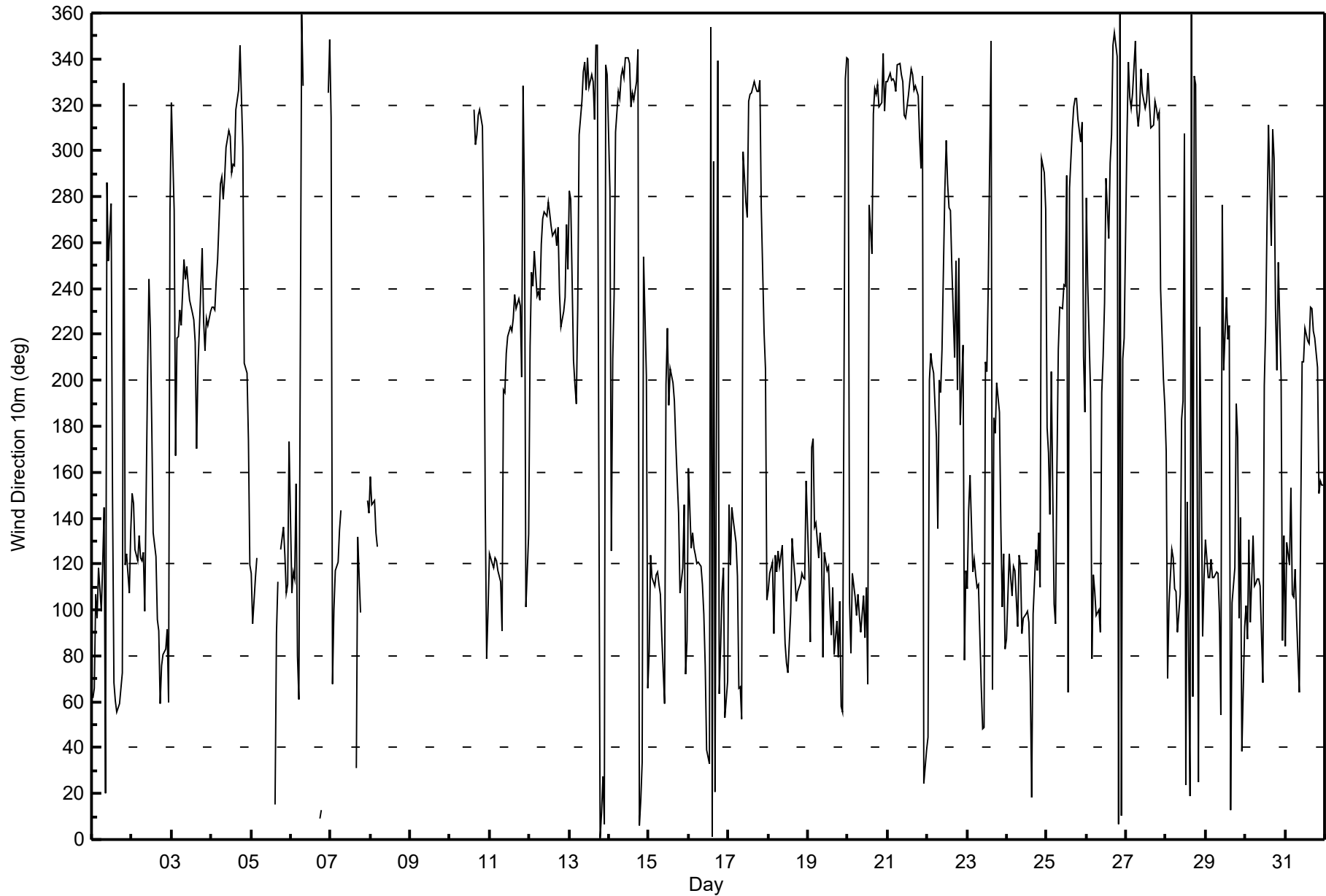
Athabasca Valley - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																			Hours in Service: 744						
Maximum Value: 101 deg on Jul 26 03:00																			Hours of Data: 653						
Minimum Value: 9 deg on Jul 3 23:00																			Hours of Missing Data: 91						
Percentiles: P ₁ = 10 P ₁₀ = 14 Q ₁ = 17 Median = 24 Q ₃ = 42 P ₉₀ = 65 P ₉₉ = 93																			Hours of Calibration: 4						
																			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-Jul	76	66	50	35	33	27	21	86	43	15	19	53	82	65	13	19	18	10	16	68	25	16	16	22	86
2-Jul	22	31	25	15	49	14	17	17	28	44	26	38	27	22	29	28	31	30	17	18	21	24	46	76	76
3-Jul	57	51	21	11	9	12	10	18	14	17	22	18	17	12	23	28	27	13	21	14	17	11	9	11	57
4-Jul	11	12	11	12	13	11	9	12	15	13	15	18	17	17	17	22	22	23	22	33	11	19	36	51	51
5-Jul	33	34	19	23	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	84	38	36	UO	29	22	22	27	75	84	84
6-Jul	13	29	42	22	42	35	52	26	UO	UO	UO	UO	UO	UO	UO	UO	UO	34	24	UO	UO	UO	67	18	67
7-Jul	35	87	19	25	14	21	53	UO	UO	UO	UO	UO	UO	UO	UO	74	50	23	17	UO	UO	UO	10	14	87
8-Jul	12	14	28	40	17	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	40
9-Jul	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--
10-Jul	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	C	C	C	C	12	16	20	18	15	12	40	98	31	32	98
11-Jul	32	20	23	14	14	11	11	35	16	16	20	17	15	15	14	16	22	27	16	20	46	67	67	46	67
12-Jul	97	21	25	46	29	17	17	17	13	16	15	18	16	11	11	18	24	15	16	9	10	11	15	20	97
13-Jul	52	57	18	21	56	38	28	17	23	21	15	19	15	19	19	24	22	25	20	17	16	16	16	15	57
14-Jul	93	100	44	22	29	14	12	16	19	19	24	26	23	21	21	15	23	26	27	22	24	60	75	87	100
15-Jul	22	35	24	18	14	13	12	15	40	43	92	33	45	69	39	45	47	29	27	24	17	89	37	76	92
16-Jul	83	55	34	25	18	14	14	20	20	34	63	52	64	56	53	36	64	37	11	26	64	75	46	73	83
17-Jul	38	32	30	28	20	15	18	23	34	45	21	17	11	12	14	17	17	14	13	15	64	17	78	81	81
18-Jul	59	59	41	56	47	18	16	16	26	44	37	31	37	53	37	30	28	21	20	18	19	16	19	32	59
19-Jul	45	20	41	70	33	50	27	23	34	60	67	33	21	43	34	29	21	23	16	41	75	56	19	24	75
20-Jul	39	58	17	23	25	20	14	22	23	19	32	29	64	69	25	21	15	16	17	10	19	21	17	21	69
21-Jul	18	19	19	18	17	15	20	19	19	19	19	19	20	21	26	21	21	15	13	11	10	28	33	26	33
22-Jul	61	15	16	10	20	25	33	29	18	57	42	31	32	24	33	51	25	51	57	37	43	73	74	42	74
23-Jul	42	24	18	18	15	13	13	15	27	15	53	33	18	52	32	87	27	28	12	12	41	47	51	29	87
24-Jul	26	21	16	18	16	22	30	22	25	30	21	20	24	24	26	66	55	34	43	32	49	94	73	48	94
25-Jul	59	37	55	53	53	85	61	17	16	16	18	18	27	50	50	14	13	10	10	14	20	27	39	60	85
26-Jul	89	35	101	68	27	23	30	20	76	33	26	36	39	35	22	27	22	21	19	19	16	25	79	14	101
27-Jul	36	31	12	11	17	23	18	16	22	25	21	17	16	20	23	15	17	17	11	12	19	54	51	77	77
28-Jul	84	21	38	17	17	16	14	22	38	63	33	58	91	100	84	68	33	32	36	20	50	88	62	60	100
29-Jul	49	25	17	15	15	14	14	16	29	16	52	27	49	28	59	88	89	93	35	18	77	68	94	35	94
30-Jul	43	36	14	59	57	20	23	29	17	22	66	13	24	29	16	18	40	44	26	69	26	74	72	65	74
31-Jul	69	64	56	38	51	37	17	61	42	73	19	18	37	48	22	38	19	20	15	12	60	46	36	19	73
97 100 101 70 57 85 61 86 76 73 92 58 91 100 84 88 89 93 57 69 77 98 94 87																									
Diurnal Maximum																									
C - Calibration UO - Unstable Operation																									



Wood Buffalo Environmental Association
Hourly Averages

Wind Direction 10m (WD10) - deg
Athabasca Valley - July 2025





WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS08 FORT CHIPEWYAN JULY 2025

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

August 29, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - FORT CHIPEWYAN (AMS08)
JULY 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	705	34	39	99.33	-	-	210.3	4	49.4	1
TRS (ppb) Average	704	35	40	99.33	2.6	0	2.6	-	0.7	-
O3(ppb) Average	703	36	41	99.33	-	-	51	0	38.8	-
NO2(ppb) Average	703	36	41	99.33	-	-	8.3	0	2.6	-
NO(ppb) Average	703	36	41	99.33	-	-	2.6	-	0.3	-
NOX(ppb) Average	703	36	41	99.33	-	-	8.7	-	2.7	-
PM2.5(ug/m3) Average	737	2	7	99.33	-	-	113	0	43.8	1
Temperature 2 m (C) Average	744	0	0	100	-	-	32.8	-	24.1	-
Relative Humidity (%) Average	744	0	0	100	-	-	99.1	-	94	-
Wind Speed 10 m (km/h) Average	744	0	0	100	-	-	36	-	26	-
Wind Direction 10 m (deg) Average	744	0	0	100	-	-	-	-	-	-
PC(mm) Total	686	0	58	92.2	-	-	6.3	-	14.6	-
Leaf Wetness (% of range) Average	744	0	0	100	-	-	50	-	13.6	-
Global Solar Radiation (W/m2) Average	744	0	0	100	-	-	878.5	-	347.2	-

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

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - FORT CHIPEWYAN (AMS08)
JULY 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	705	1.67	16	-	0	0	0	0	0	0.2	210.3
TRS (ppb) Average	704	0.18	0.2	-	0.1	0.1	0.1	0.1	0.2	0.2	2.6
O3(ppb) Average	703	27.42	7.6	-	10.8	17.6	21.7	27	31.8	37.4	51
NO2(ppb) Average	703	0.65	0.9	-	0.1	0.2	0.3	0.4	0.6	1.3	8.3
NO(ppb) Average	703	0.06	0.2	-	0	0	0	0	0	0.1	2.6
NOX(ppb) Average	703	0.71	1	-	0.1	0.2	0.3	0.4	0.7	1.4	8.7
PM2.5(ug/m3) Average	737	8.69	11.9	-	0.4	1.5	2.9	5.1	9.8	18.3	113
Temperature 2 m (C) Average	744	17.07	4.5	-	5.7	11.6	14.3	17	19.7	22.6	32.8
Relative Humidity (%) Average	744	65.57	16.1	-	28.8	45.1	53.4	64.2	77	90.4	99.1
Wind Speed 10 m (km/h) Average	744	12.6	6	-	0	6	8	12	16	20	36
Wind Direction 10 m (deg) Average	744	-	-	-	-	-	-	-	-	-	-
Precipitation (mm) Total	686	-	-	58.64	-	-	-	0	0	0	6.3
Leaf Wetness (% of range) Average	744	2.99	6.5	-	0.2	0.7	0.8	1.1	1.4	7.1	50
Global Solar Radiation (W/m2) Average	744	257.96	269	-	0	0	2.1	168	492.4	677.8	878.5

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - FORT CHIPEWYAN (AMS08)
JULY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
AIR QUALITY ANALYZERS	23 Jul 2025 09:00	23 Jul 2025 10:00	2	Station power failure
AIR QUALITY ANALYZERS	24 Jul 2025 09:00	24 Jul 2025 10:00	2	Station power failure
AIR QUALITY ANALYZERS	24 Jul 2025 15:00	24 Jul 2025 15:00	1	Station power failure
Precipitation Collector	05 Jul 2025 09:00	07 Jul 2025 16:00	56	Data logger program uploaded - data not recorded
Precipitation Collector	23 Jul 2025 09:00	23 Jul 2025 09:00	1	Data logger program uploaded - data not recorded
Precipitation Collector	24 Jul 2025 09:00	24 Jul 2025 09:00	1	Data logger program uploaded - data not recorded



Wood Buffalo Environmental Association

Summary of Hour Averages

Sulphur Dioxide (SO₂) - ppb

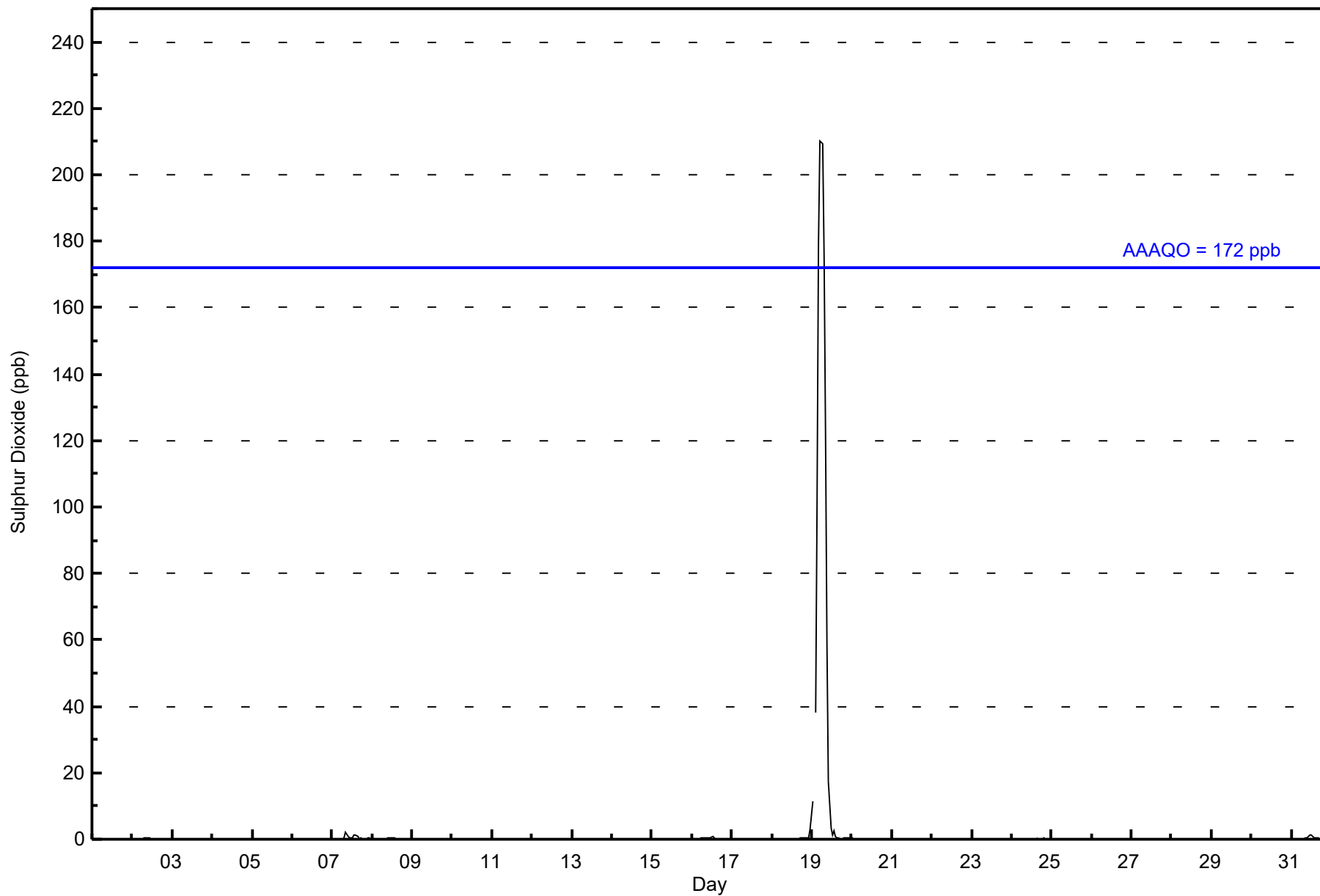
Fort Chipewyan - July 2025

Number of Exceedences (AAAQO): 1-hr: 4 24-hr: 1 Maximum Value: 210.3 ppb on Jul 19 06:00 Maximum Daily Average: 49.4 ppb on Jul 19																				Hours in Service: 744 Hours of Data: 705						
Minimum Value: 0.0 ppb on Jul 1 01:00 Minimum Daily Average: 0.0 ppb on Jul 14 Maximum Diurnal Average: 8.1 ppb at hour 6 Minimum Diurnal Average: 0.0 ppb at hour 2 Monthly Average: 1.67 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.2 P ₉₉ = 37.2																				Hours of Missing Data: 39 Hours of Calibration: 34 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-Jul	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
2-Jul	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.2	0.4	0.6	0.4	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1
3-Jul	0.1	0.1	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
4-Jul	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
5-Jul	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
6-Jul	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	0.0	0.0	0.0	0.1
7-Jul	0.1	Z	0.2	0.1	0.1	0.1	0.1	0.3	2.2	1.0	0.4	0.3	0.3	1.2	1.3	0.7	0.2	0.3	0.0	0.0	0.0	0.2	0.3	0.2	0.4	2.2
8-Jul	0.2	0.3	Z	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.2	0.3	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3
9-Jul	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	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	0.0
10-Jul	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
11-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.1	0.1	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	0.1	0.2
12-Jul	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
13-Jul	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
14-Jul	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
15-Jul	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	0.0	0.1
16-Jul	0.0	0.0	0.0	0.1	Z	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.7	0.4	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.7
17-Jul	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
18-Jul	Z	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	0.3	0.5	0.3	0.3	0.3	0.4	3.1	0.3	3.1
19-Jul	11.4	Z	38.1	102.0	179.4	210.3	209.2	175.1	122.6	59.4	17.2	3.6	1.1	2.4	0.8	0.4	0.4	0.2	0.2	0.2	0.4	0.3	0.3	0.4	49.4	210.3
20-Jul	0.2	0.2	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	0.2
21-Jul	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
22-Jul	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
23-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	PF	PF	0.0	0.0	0.0	0.0	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-Jul	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	PF	PF	0.1	0.1	0.1	0.2	PF	0.3	0.2	0.0	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.3
25-Jul	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
26-Jul	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	0.0	0.0	0.1
27-Jul	0.0	0.0	0.0	Z	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	0.1
28-Jul	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
29-Jul	0.0	0.0	0.0	0.0	0.0	Z	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	0.1	0.0	0.0	0.0	0.0	0.0	0.1
30-Jul	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
31-Jul	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.5	1.0	1.1	1.2	0.6	0.4	0.3	0.2	0.2	0.2	0.2	0.1	0.2	0.3	0.2	0.3	1.2
																									Diurnal Average	
																									Diurnal Maximum	
Z - zerospan C - Calibration 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 - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Fort Chipewyan - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	695	98.58	98.58
11 - 20	2	0.28	98.87
21 - 60	2	0.28	99.15
61 - 110	1	0.14	99.29
111 - 172	1	0.14	99.43
> 172	4	0.57	100.00

Total Number of Valid Hours: 705

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Fort Chipewyan - July 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	7	6	43	142	26	18	19	24	41	31	36	46	72	108	52	695
11 - 20	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
21 - 60	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
61 - 110	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
111 - 172	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
> 172	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	4
Totals	24	7	6	43	142	26	18	19	26	46	34	36	46	72	108	52	705

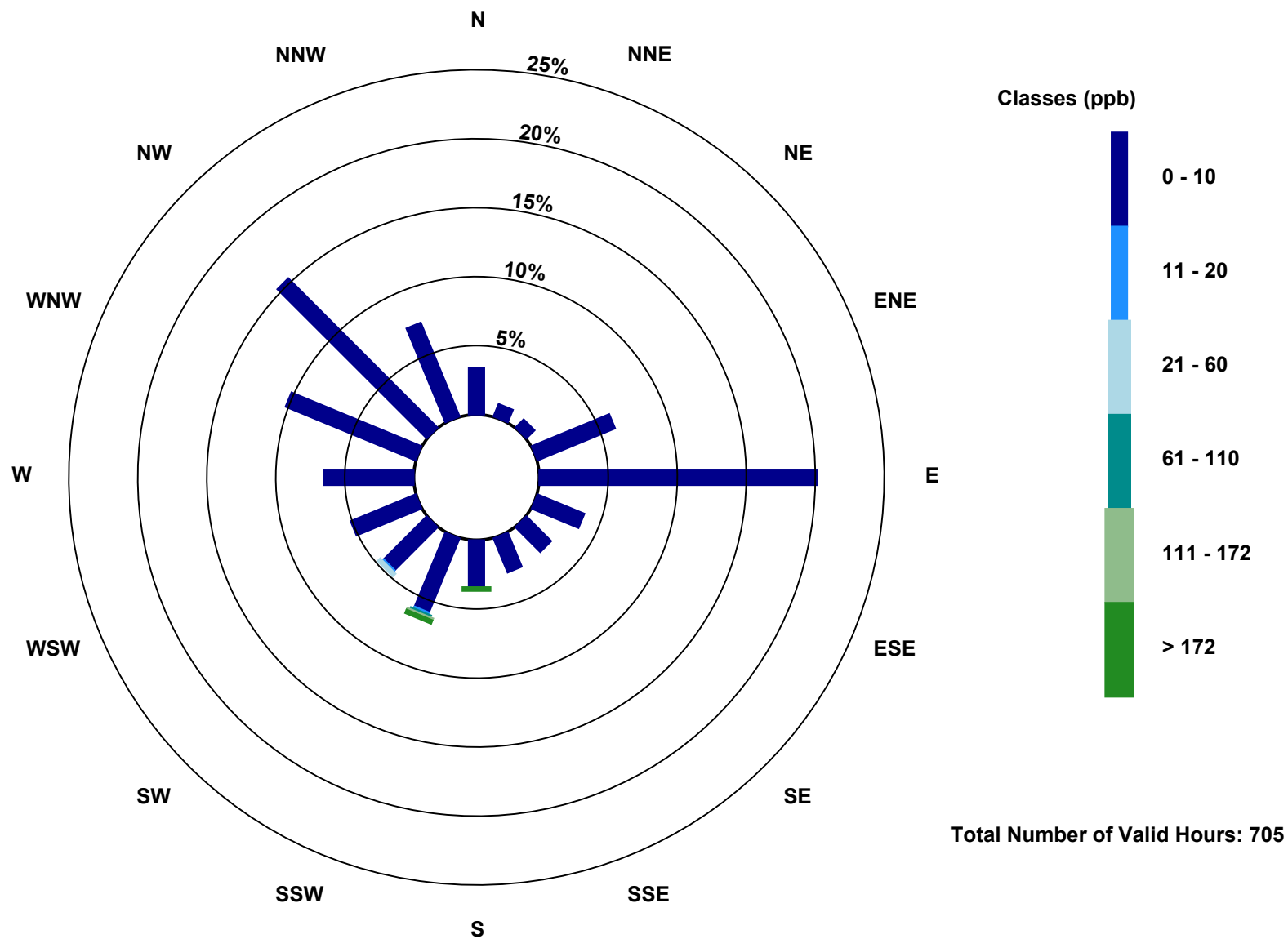
Total Number of Valid Hours: 705

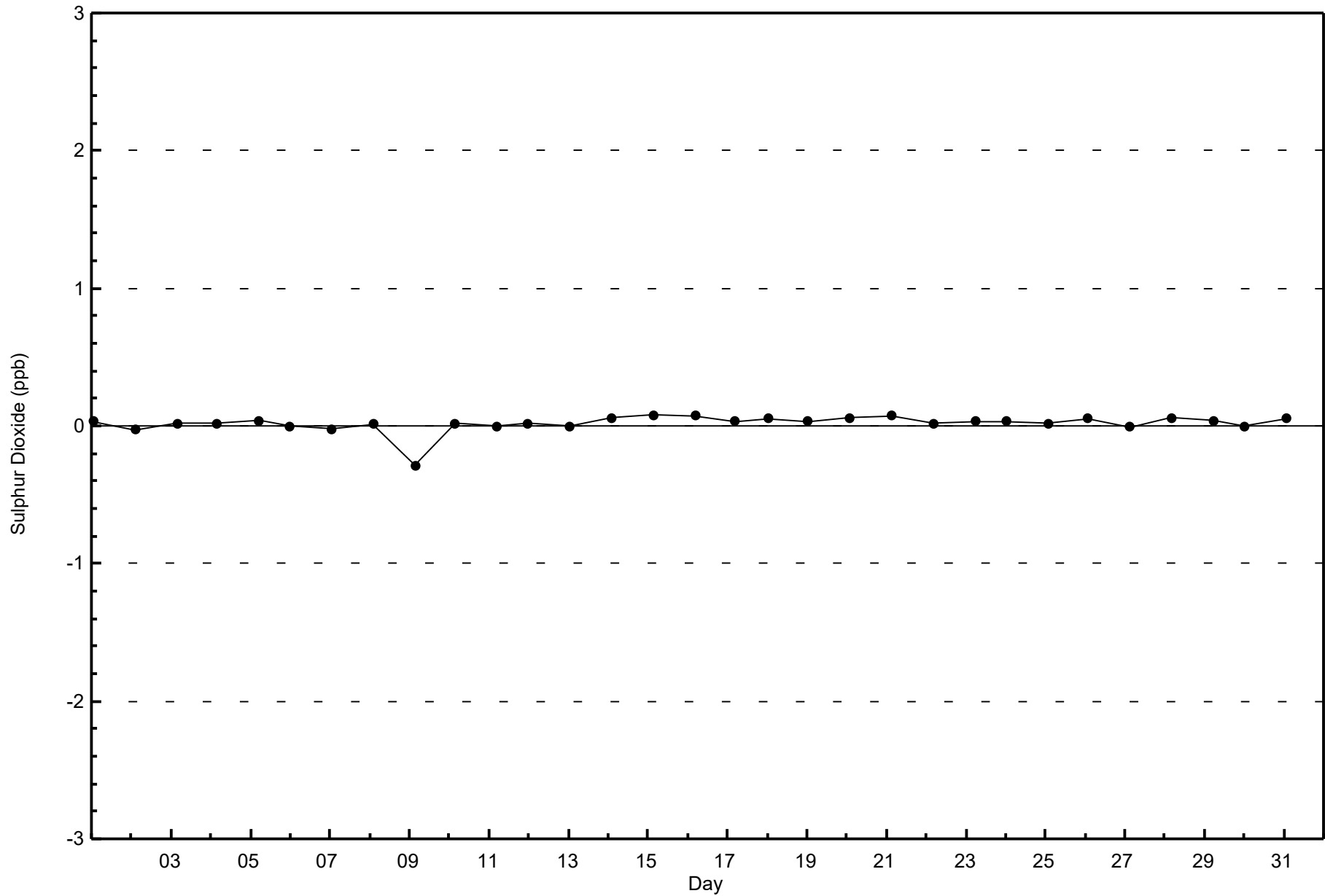
Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Sulphur Dioxide (SO₂) - ppb
Fort Chipewyan

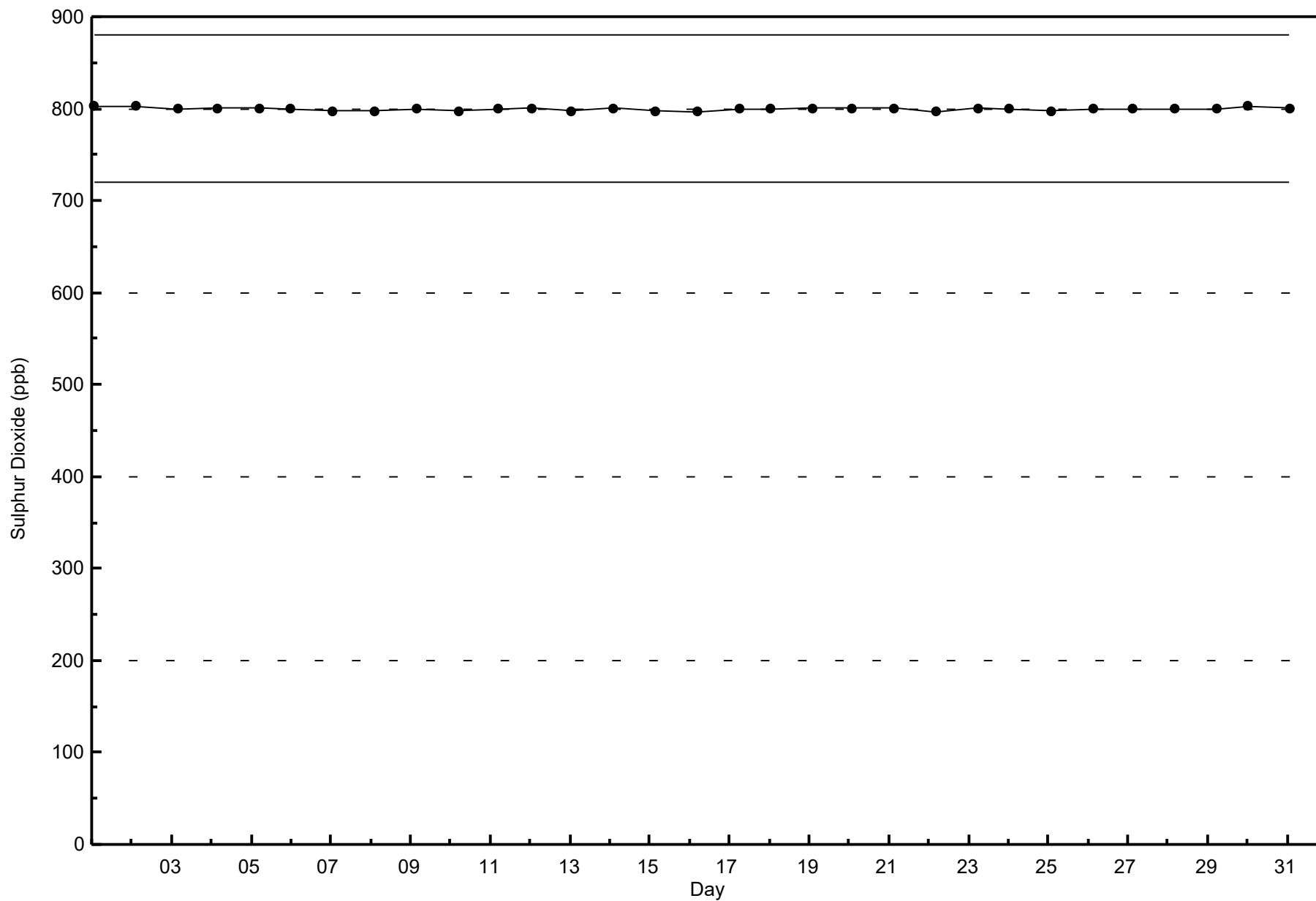






Wood Buffalo Environmental Association
Span Responses

Sulphur Dioxide (SO₂) - ppb
Fort Chipewyan - July 2025





Wood Buffalo Environmental Association

Summary of 30-Minute Averages

Total Reduced Sulphur (TRS) - ppb

Fort Chipewyan - July 2025

Number of Exceedences (AAAQG): 30-Min: 0																			Periods in Service: 1488											
Maximum Value: 2.6 ppb on Jul 19 07:30																			Maximum Daily Average: 0.7 ppb on Jul 19						Periods of Valid Data: 1411					
Minimum Value: 0.1 ppb on Jul 27 22:00																			Minimum Daily Average: 0.1 ppb on Jul 23						Periods of Invalid Data: 77					
Maximum Diurnal Average: 0.3 ppb at hour 7																			Minimum Diurnal Average: 0.1 ppb at hour 19						Periods of Calibration: 71					
Monthly Average: 0.18 ppb																			Percentiles: P ₁ = 0.1 P ₁₀ = 0.1 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.2 P ₉₀ = 0.2 P ₉₉ = 0.6						Percent Operational Time: 99.6					
Day	Period Ending At (MST)																								Daily Average	Daily Maximum				
	00:30 01:00	01:30 02:00	02:30 03:00	03:30 04:00	04:30 05:00	05:30 06:00	06:30 07:00	07:30 08:00	08:30 09:00	09:30 10:00	10:30 11:00	11:30 12:00	12:30 13:00	13:30 14:00	14:30 15:00	15:30 16:00	16:30 17:00	17:30 18:00	18:30 19:00	19:30 20:00	20:30 21:00	21:30 22:00	22:30 23:00	23:30 24:00						
1-Jul	0.2 0.2	0.2 0.2	Z SP	0.3 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 0.1	0.1 0.1	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	0.3					
2-Jul	0.1 0.2	0.2 0.2	0.2 Z SP	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 0.3	0.3 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	0.2 0.1	0.2 0.2	0.1 0.2	0.2 0.2	0.2 0.1	0.3					
3-Jul	0.2 0.1	0.2 0.2	0.2 0.2	0.2 Z SP	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	0.2 0.3	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.3	0.2 0.2	0.2 0.1	0.2 0.2	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.3					
4-Jul	0.1 0.1	0.2 0.2	0.2 0.1	0.2 0.2	0.2 Z SP	0.3 0.3	0.3 0.3	0.3 0.2	0.3 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.1	0.2 0.2	0.2 0.2	0.2 0.1	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	0.3					
5-Jul	Z SP	0.2 0.2	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 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1	0.2					
6-Jul	0.2 0.1	Z SP	0.2 0.2	0.2 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	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 0.1	0.1 0.1	0.1 0.1	0.2 0.2	0.2					
7-Jul	0.2 0.2	0.2 0.2	Z SP	0.3 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	0.1 0.3	0.2 0.1	0.2 0.1	0.2 0.2	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	0.2 0.1	0.1 0.1	0.3					
8-Jul	0.1 0.2	0.2 0.2	0.2 0.3	Z SP	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.2	0.3 0.2	0.2 0.1	0.2 0.2	0.2 0.1	0.1 0.1	0.1 0.2	0.1 0.1	0.1 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 0.2	0.3					
9-Jul	0.1 0.1	0.1 0.1	0.1 0.1	0.1 Z SP	0.3 0.3	0.3 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.1	0.1 C	C C	C C	C C	C C	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1	0.3					
10-Jul	0.1 0.2	0.2 0.1	0.2 0.2	0.2 0.2	0.2 Z SP	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	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1	0.3					
11-Jul	Z SP	0.2 0.2	0.2 0.2	0.2 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 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 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					
12-Jul	0.1 0.2	Z SP	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 0.3	0.2 0.2	0.2 0.1	0.1 0.1	0.2 0.2	0.2 0.1	0.2 0.2	0.1 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	0.2 0.2	0.2 0.2	0.3					
13-Jul	0.2 0.2	0.2 0.2	Z SP	0.2 0.2	0.2 0.1	0.2 0.2	0.2 0.3	0.2 0.2	0.3 0.2	0.3 0.2	0.2 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1	0.3					
14-Jul	0.1 0.2	0.1 0.2	0.2 0.2	Z SP	0.2 0.3	0.3 0.3	0.3 0.3	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	0.1 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 0.1	0.3					
15-Jul	0.1 0.1	0.2 0.2	0.2 0.2	0.2 Z SP	0.2 0.2	0.1 0.2	0.1 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 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1	0.2					



Wood Buffalo Environmental Association

Summary of 30-Minute Averages

Total Reduced Sulphur (TRS) - ppb

Fort Chipewyan - July 2025

Day	Period Ending At (MST)																								Daily Average	Daily Maximum
	00:30 01:00	01:30 02:00	02:30 03:00	03:30 04:00	04:30 05:00	05:30 06:00	06:30 07:00	07:30 08:00	08:30 09:00	09:30 10:00	10:30 11:00	11:30 12:00	12:30 13:00	13:30 14:00	14:30 15:00	15:30 16:00	16:30 17:00	17:30 18:00	18:30 19:00	19:30 20:00	20:30 21:00	21:30 22:00	22:30 23:00	23:30 24:00		
16-Jul	0.2 0.1	0.2 0.1	0.2 0.2	0.2 0.2	0.2 0.2	Z SP	0.3 0.3	0.3 0.2	0.2 0.3	0.2 0.2	0.2 0.2	0.2 0.2	0.1 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	0.1 0.1	0.2	0.3
17-Jul	Z SP	0.2 0.2	0.1 0.1	0.1 0.1	0.2 0.2	0.2 0.2	0.2 0.2	0.1 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 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1	0.2
18-Jul	0.1 0.1	Z SP	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	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 0.1	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 0.2	0.2	0.2
19-Jul	0.2 0.2	0.3 0.3	Z SP	0.6 0.7	0.8 1.3	1.7 2.0	2.2 2.6	2.6 2.5	2.3 1.9	1.5 1.1	0.8 0.6	0.5 0.6	0.6 0.4	0.4 0.4	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	0.2 0.2	0.7	2.6
20-Jul	0.2 0.2	0.2 0.2	0.2 0.2	Z SP	0.2 0.2	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 0.1	0.1 0.1	0.1 0.2	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.2 0.2	0.1 0.2	0.1 0.1	0.2	0.2
21-Jul	0.1 0.1	0.2 0.2	0.2 0.2	0.2 0.2	Z SP	0.2 0.2	0.3 0.3	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 0.1	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	0.2	0.3
22-Jul	0.1 0.1	0.1 0.2	0.2 0.2	0.2 0.2	0.2 0.2	Z SP	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 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1	0.2
23-Jul	Z SP	0.2 0.2	0.1 0.1	0.1 0.2	0.1 0.1	0.1 0.1	0.1 0.2	0.2 0.1	PF PF	PF 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	0.2	
24-Jul	0.1 0.1	Z SP	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 PF	PF 0.3	0.3 0.3	0.2 0.2	0.2 0.2	0.2 0.1	PF 0.2	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	0.3
25-Jul	0.2 0.2	0.2 0.2	Z SP	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 0.2	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 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.2	0.3
26-Jul	0.1 0.2	0.2 0.1	0.2 0.2	Z SP	0.4 0.5	0.5 0.5	0.4 0.5	0.5 0.4	0.3 0.3	0.2 0.3	0.4 0.4	0.4 0.4	0.3 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.1	0.2 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.2	0.1 0.1	0.1 0.1	0.3	0.5
27-Jul	0.1 0.1	0.1 0.1	0.1 0.2	0.2 0.2	Z SP	0.3 0.3	0.4 0.4	0.4 0.2	0.3 0.2	0.2 0.2	0.2 0.2	0.2 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	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.2	0.4
28-Jul	0.1 0.1	0.1 0.2	0.2 0.1	0.1 0.1	0.2 0.2	Z SP	0.3 0.2	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 0.2	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 0.1	0.1 0.1	0.2 0.1	0.1	0.3
29-Jul	Z SP	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	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 0.1	0.1 0.2	0.1 0.2	0.2 0.2	0.2 0.1	0.2 0.1	0.2	0.2
30-Jul	0.2 0.2	Z SP	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	0.1 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 0.1	0.2	0.3
31-Jul	0.1 0.1	0.1 0.2	Z SP	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	0.1 0.1	0.2 0.1	0.2 0.1	0.1 0.2	0.1 0.1	0.2 0.2	0.1 0.2	0.2 0.1	0.1 0.1	0.2 0.1	0.1 0.1	0.1 0.1	0.2	0.3
0.1 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 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1																								Diurnal Average		
0.2 0.3 0.3 0.7 1.3 2.0 2.6 2.6 2.3 1.5 0.8 0.6 0.6 0.4 0.4 0.3 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2																								Diurnal Maximum		

Z - zerospan C - Calibration PF - Power Failure SP - Span
Alberta Ambient Air Quality Guideline (AAAQG): 30-Min: 5 ppb



Wood Buffalo Environmental Association

Summary of Hour Averages

Total Reduced Sulphur (TRS) - ppb

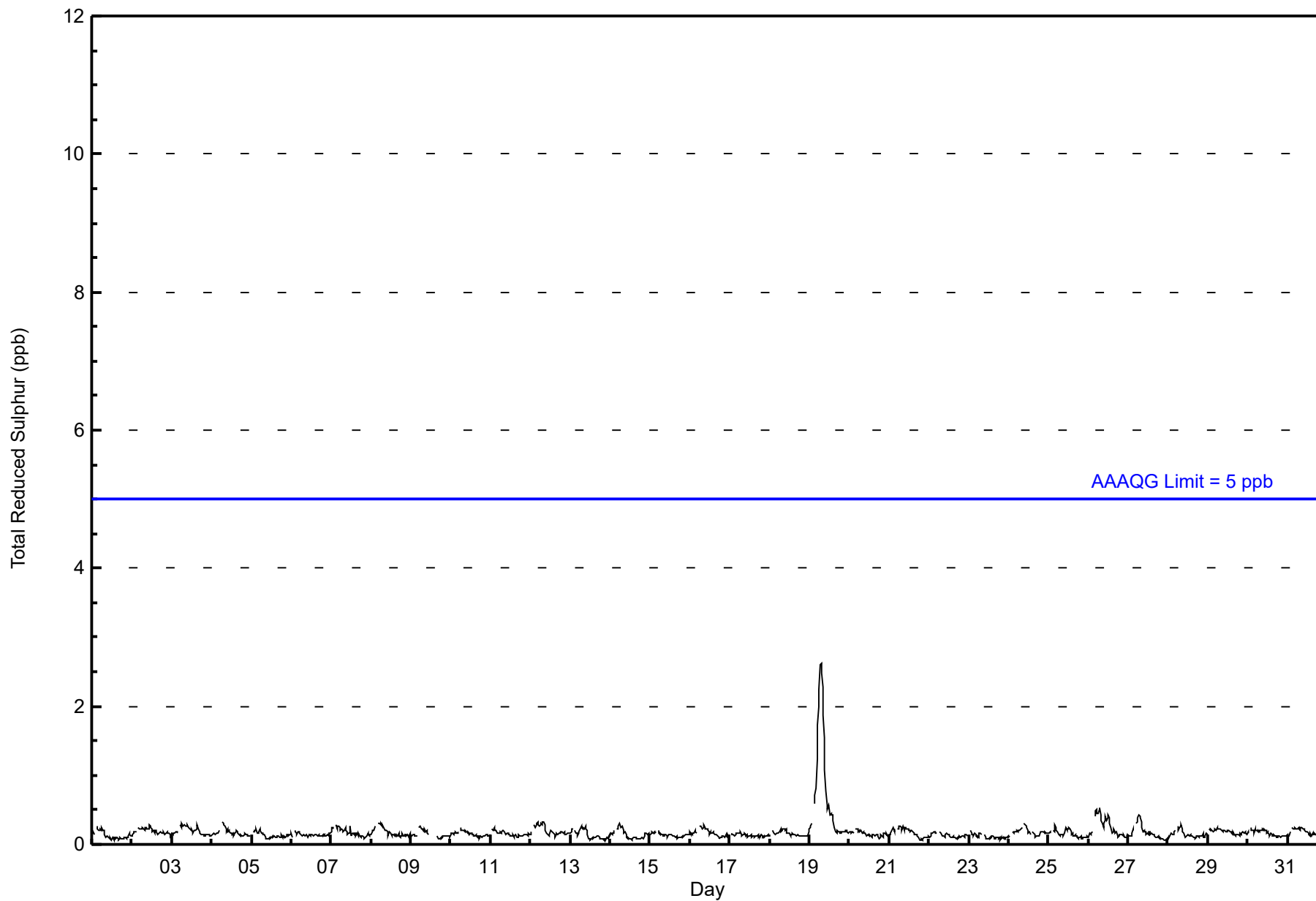
Fort Chipewyan - July 2025

Maximum Value: 2.6 ppb on Jul 19 08:00																		Maximum Daily Average: 0.7 ppb on Jul 19																		Hours in Service: 744	
Minimum Value: 0.1 ppb on Jul 27 23:00																		Minimum Daily Average: 0.1 ppb on Jul 23																		Hours of Data: 704	
Maximum Diurnal Average: 0.3 ppb at hour 7																		Minimum Diurnal Average: 0.1 ppb at hour 19																		Hours of Missing Data: 40	
Monthly Average: 0.18 ppb																		Percentiles: P ₁ = 0.1 P ₁₀ = 0.1 Q ₁ = 0.1 Median = 0.1 Q ₃ = 0.2 P ₉₀ = 0.2 P ₉₉ = 0.7																		Hours of Calibration: 35	
																																				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-Jul	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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1												
2-Jul	0.1	0.2	0.2	Z	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	0.1	0.1	0.2	0.2	0.1												
3-Jul	0.2	0.2	0.2	0.2	Z	0.3	0.3	0.3	0.3	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	0.2												
4-Jul	0.1	0.2	0.2	0.2	0.2	Z	0.3	0.3	0.2	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	0.1	0.1	0.2												
5-Jul	Z	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	0.1	0.1	0.1	0.1												
6-Jul	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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1												
7-Jul	0.2	0.2	Z	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2												
8-Jul	0.2	0.2	0.2	Z	0.3	0.3	0.3	0.3	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	0.2												
9-Jul	0.1	0.1	0.1	0.1	Z	0.3	0.2	0.2	0.2	0.2	0.2	0.1	C	C	C	C	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1												
10-Jul	0.2	0.1	0.2	0.2	0.2	Z	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	0.2												
11-Jul	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2												
12-Jul	0.2	Z	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2												
13-Jul	0.2	0.2	Z	0.2	0.1	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												
14-Jul	0.1	0.1	0.2	Z	0.2	0.3	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1												
15-Jul	0.1	0.2	0.2	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	0.1	0.1												
16-Jul	0.2	0.2	0.2	0.2	0.2	Z	0.3	0.3	0.3	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	0.2												
17-Jul	Z	0.2	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	0.1	0.1	0.1	0.1	0.1	0.1	0.1												
18-Jul	0.1	Z	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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2												
19-Jul	0.2	0.3	Z	0.7	1.0	1.9	2.4	2.6	2.1	1.3	0.7	0.5	0.5	0.4	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.7												
20-Jul	0.2	0.2	0.2	Z	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	0.2	0.1	0.1	0.2												
21-Jul	0.1	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	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2												
22-Jul	0.1	0.1	0.2	0.2	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	0.1												
23-Jul	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.1	PF	PF	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1												
24-Jul	0.1	Z	0.2	0.2	0.2	0.2	0.2	0.2	PF	PF	0.3	0.2	0.2	0.1	PF	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2												
25-Jul	0.2	0.2	Z	0.2	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	0.2												
26-Jul	0.1	0.2	0.2	Z	0.4	0.5	0.5	0.5	0.3	0.3	0.4	0.4	0.4	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3												
27-Jul	0.1	0.1	0.1	0.2	Z	0.3	0.4	0.4	0.3	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	0.2												
28-Jul	0.1	0.1	0.2	0.1	0.2	Z	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	0.1	0.1	0.1	0.2	0.1													
29-Jul	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	0.2	0.2	0.1													
30-Jul	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	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2												
31-Jul	0.1	0.1	Z	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	0.1	0.1	0.1	0.2												
0.1 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 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1																								Diurnal Average													
0.2 0.3 0.3 0.7 1.0 1.9 2.4 2.6 2.1 1.3 0.7 0.5 0.5 0.4 0.4 0.3 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2																								Diurnal Maximum													
Z - zerospan C - Calibration PF - Power Failure																																					
Alberta Ambient Air Quality Objective (AAAQO): 1-hour NA 24-hr NA																																					



Wood Buffalo Environmental Association
Hourly Averages

Total Reduced Sulphur (TRS) - ppb
Fort Chipewyan - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Reduced Sulphur (TRS) - ppb
Fort Chipewyan - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	703	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: 704

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Total Reduced Sulphur (TRS) - ppb
Fort Chipewyan - July 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	24	7	6	45	140	27	18	19	25	46	33	37	44	72	108	52	703
3 - 4	0	0	0	0	0	0	0	0	0	1	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	24	7	6	45	140	27	18	19	25	47	33	37	44	72	108	52	704

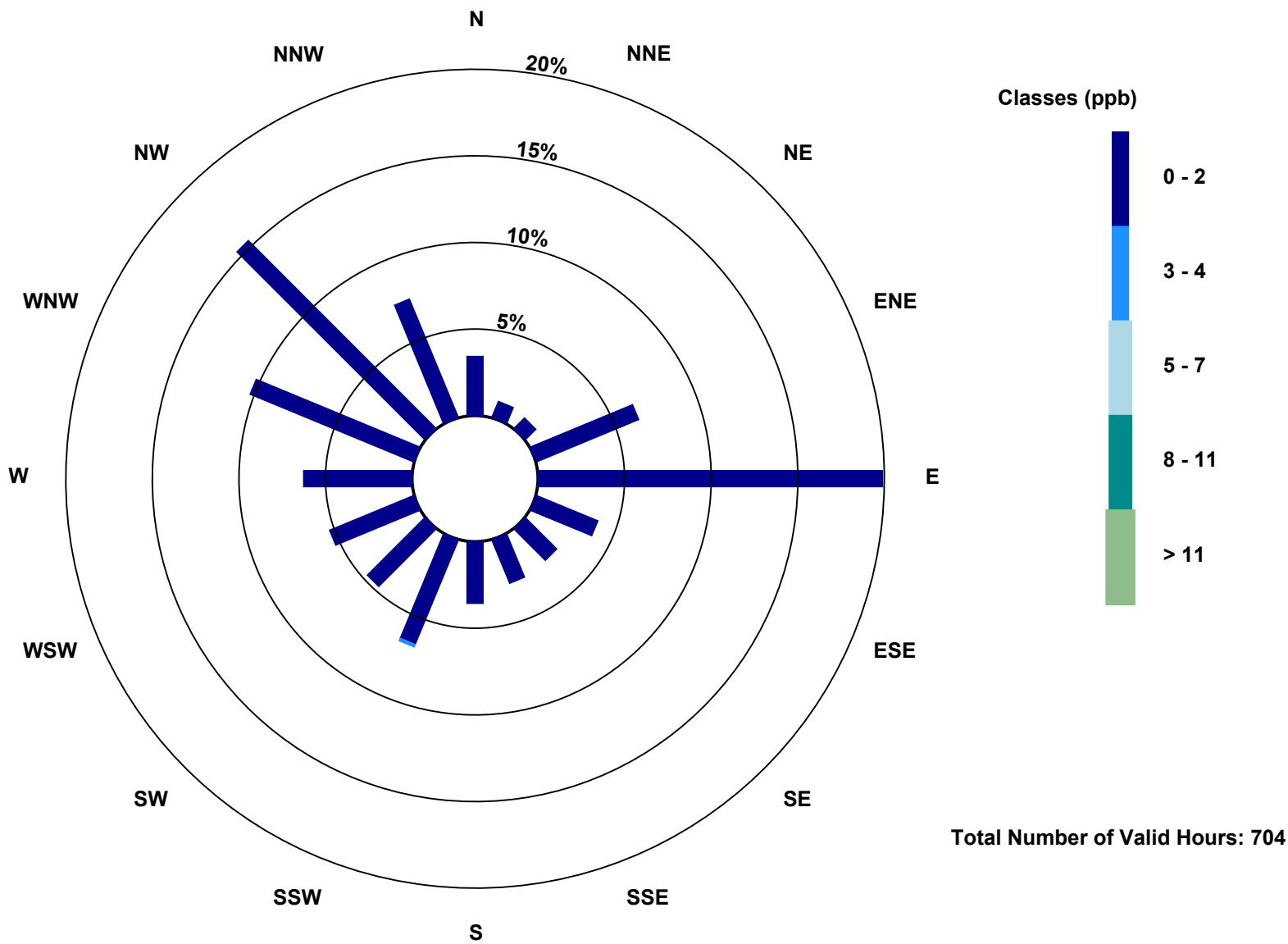
Total Number of Valid Hours: 704

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

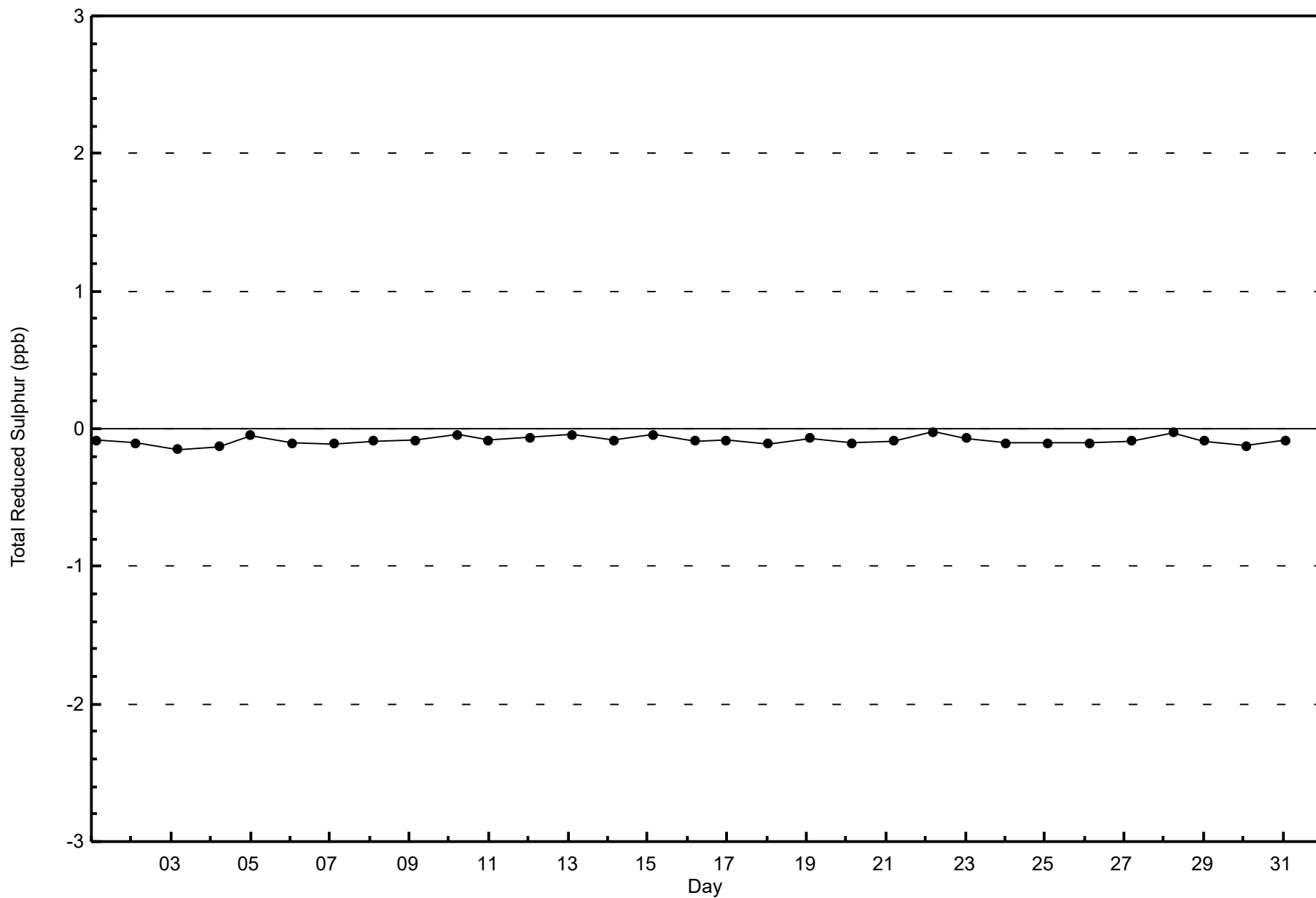
Total Reduced Sulphur (TRS) - ppb
Fort Chipewyan





Wood Buffalo Environmental Association
Zero Responses

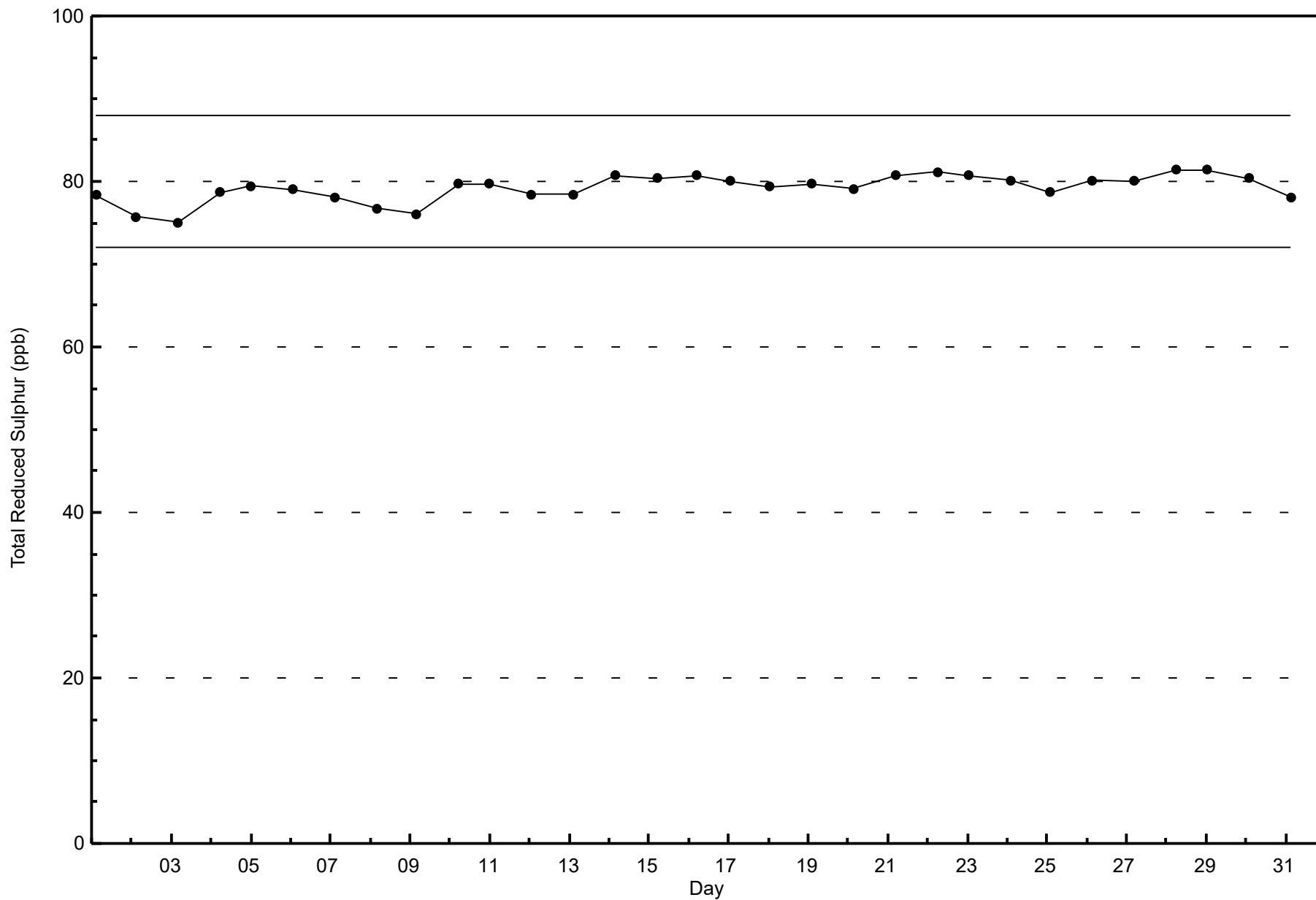
Total Reduced Sulphur (TRS) - ppb
Fort Chipewyan - July 2025





Wood Buffalo Environmental Association
Span Responses

Total Reduced Sulphur (TRS) - ppb
Fort Chipewyan - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitric Oxide (NO) - ppb

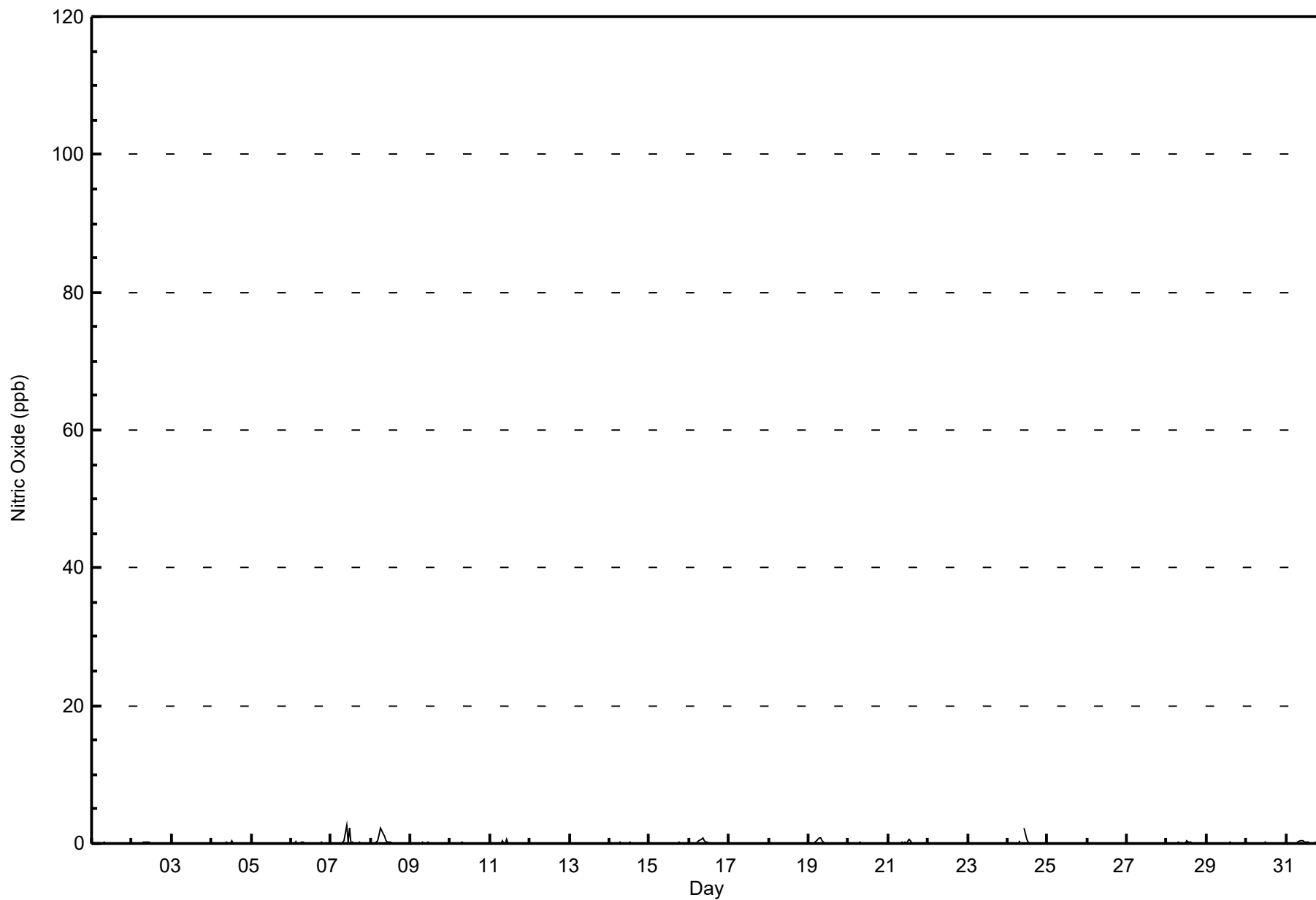
Fort Chipewyan - July 2025

Maximum Value: 2.6 ppb on Jul 7 10:00										Maximum Daily Average: 0.3 ppb on Jul 8										Hours in Service: 744								
Minimum Value: 0.0 ppb on Jul 1 01:00										Minimum Daily Average: 0.0 ppb on Jul 22										Hours of Data: 703								
Maximum Diurnal Average: 0.2 ppb at hour 10										Minimum Diurnal Average: 0.0 ppb at hour 1										Hours of Missing Data: 41								
Monthly Average: 0.06 ppb										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										Hours of Calibration: 36								
																				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-Jul	0.0	0.0	0.0	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	0.2	
2-Jul	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.1	0.1	0.1	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	0.1	0.3
3-Jul	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	0.1	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
4-Jul	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	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	0.0	0.4
5-Jul	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	0.0
6-Jul	0.0	0.0	0.0	0.4	Z	0.0	0.3	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	0.0	0.0	0.0	0.0	0.0	0.0	0.4
7-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.1	0.1	0.3	2.6	0.1	2.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	2.6
8-Jul	Z	0.0	0.0	0.1	0.5	1.2	2.1	1.4	0.9	0.5	0.1	0.2	0.2	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	2.1
9-Jul	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
10-Jul	0.0	0.0	Z	0.0	0.0	0.1	0.1	0.1	0.1	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	0.0	0.0	0.1
11-Jul	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.3	0.0	0.0	0.6	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	0.6	
12-Jul	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	0.0
13-Jul	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	0.0
14-Jul	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.1	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	0.0	0.0	0.0	0.0	0.0	0.1
15-Jul	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	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
16-Jul	0.0	0.0	Z	0.0	0.0	0.1	0.4	0.6	0.8	0.5	0.3	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	0.8	
17-Jul	0.0	0.0	0.0	Z	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
18-Jul	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	0.0	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
19-Jul	0.0	0.0	0.0	0.0	0.1	0.4	0.8	0.7	0.4	0.1	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	0.1	0.8	
20-Jul	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	0.1	0.1
21-Jul	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.0	0.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.7	0.7
22-Jul	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	0.0	0.0
23-Jul	0.0	0.0	0.0	Z	0.1	0.0	0.1	0.0	PF	PF	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.4	PF	PF	2.2	0.6	0.1	0.1	PF	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.2	2.2
25-Jul	0.0	0.0	0.0	0.0	0.0	Z	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	0.0	0.0	0.0	0.1
26-Jul	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
27-Jul	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
28-Jul	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.3	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	0.3
29-Jul	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	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
30-Jul	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
31-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.1	0.2	0.4	0.4	0.4	0.2	0.2	0.2	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.4	0.4
0.0 0.0 0.0 0.0 0.0 0.1 0.2 0.2 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 0.0 0.0 0.0 0.0 0.0 0.0 0.0																										Diurnal Average		
0.0 0.0 0.0 0.4 0.5 1.2 2.1 1.4 0.9 2.6 2.2 2.1 0.7 0.3 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																										Diurnal Maximum		
Z - zerospan C - Calibration PF - Power Failure																												



Wood Buffalo Environmental Association
Hourly Averages

Nitric Oxide (NO) - ppb
Fort Chipewyan - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitric Oxide (NO) - ppb
Fort Chipewyan - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	703	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: 703

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitric Oxide (NO) - ppb
Fort Chipewyan - July 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	5	6	43	142	26	17	19	26	48	35	38	45	67	110	51	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	25	5	6	43	142	26	17	19	26	48	35	38	45	67	110	51	703

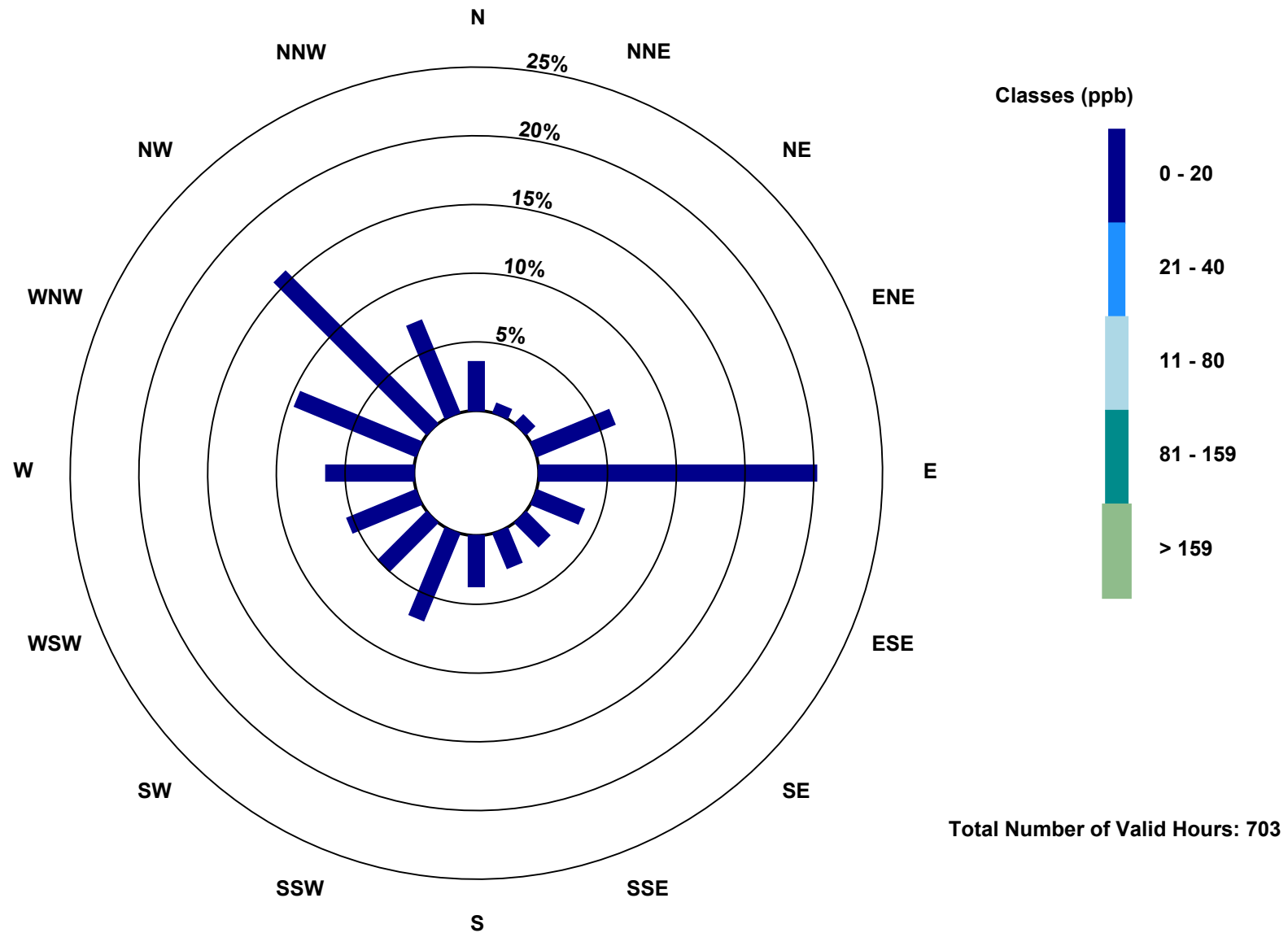
Total Number of Valid Hours: 703

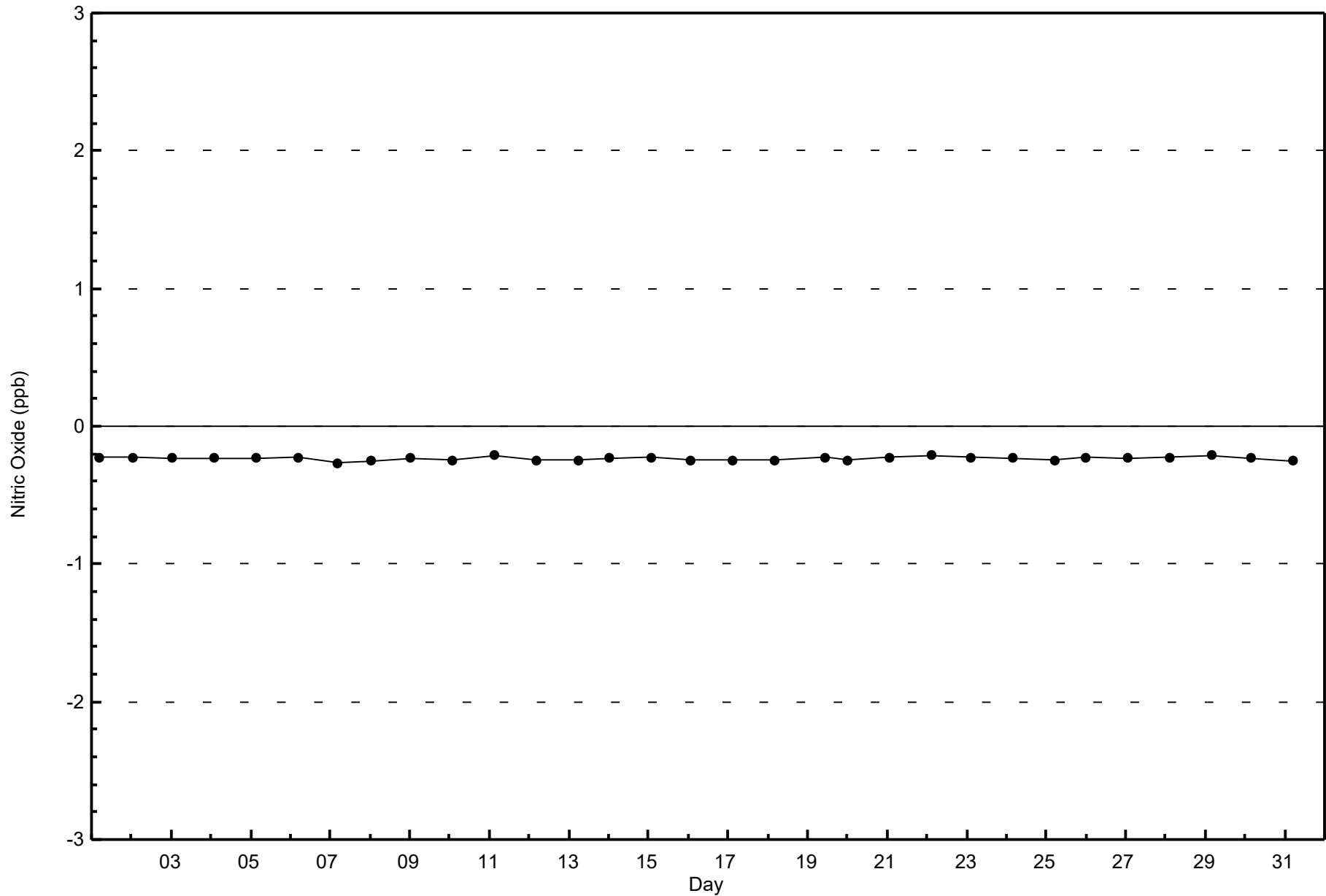
Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Nitric Oxide (NO) - ppb
Fort Chipewyan

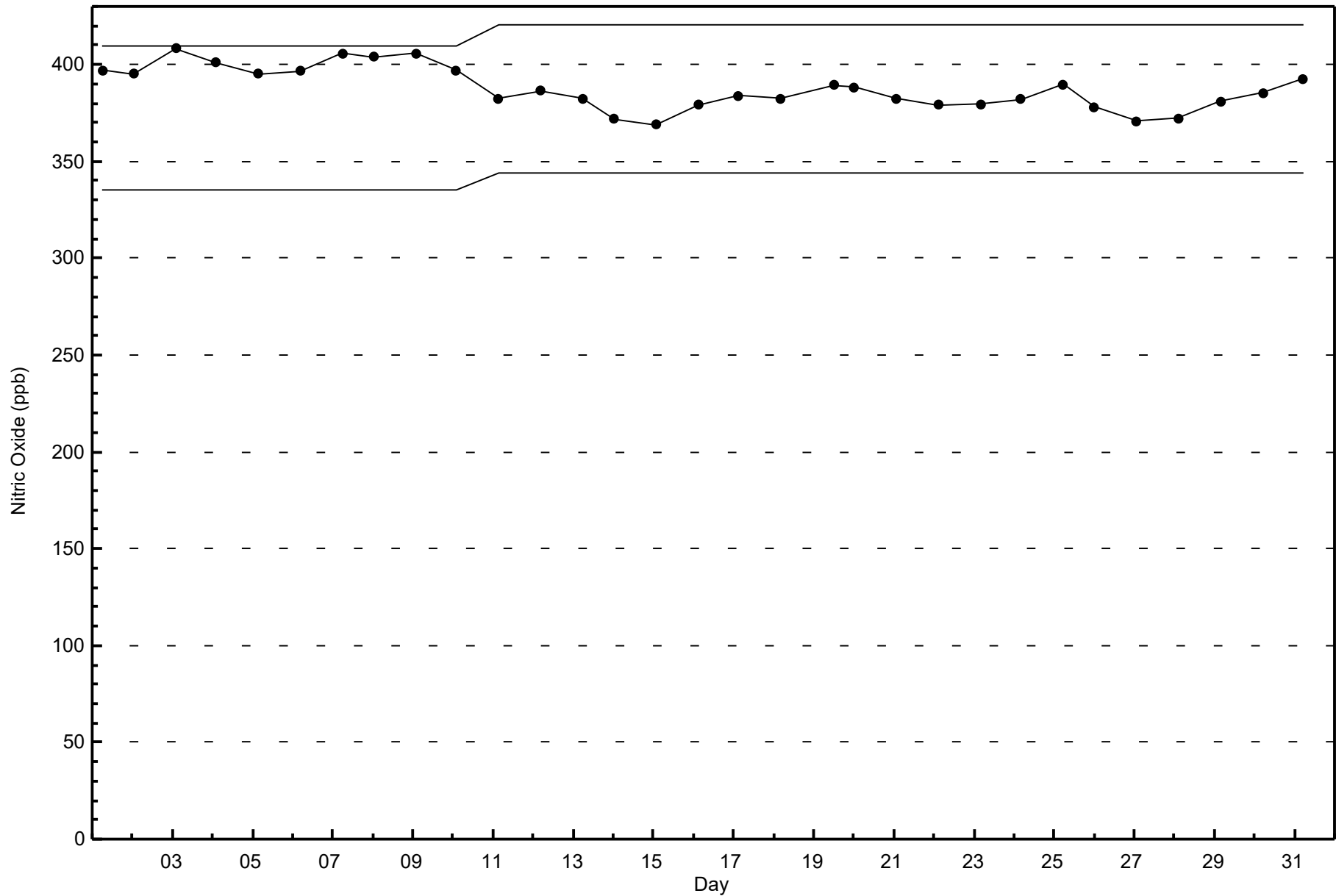






Wood Buffalo Environmental Association
Span Responses

Nitric Oxide (NO) - ppb
Fort Chipewyan - July 2025

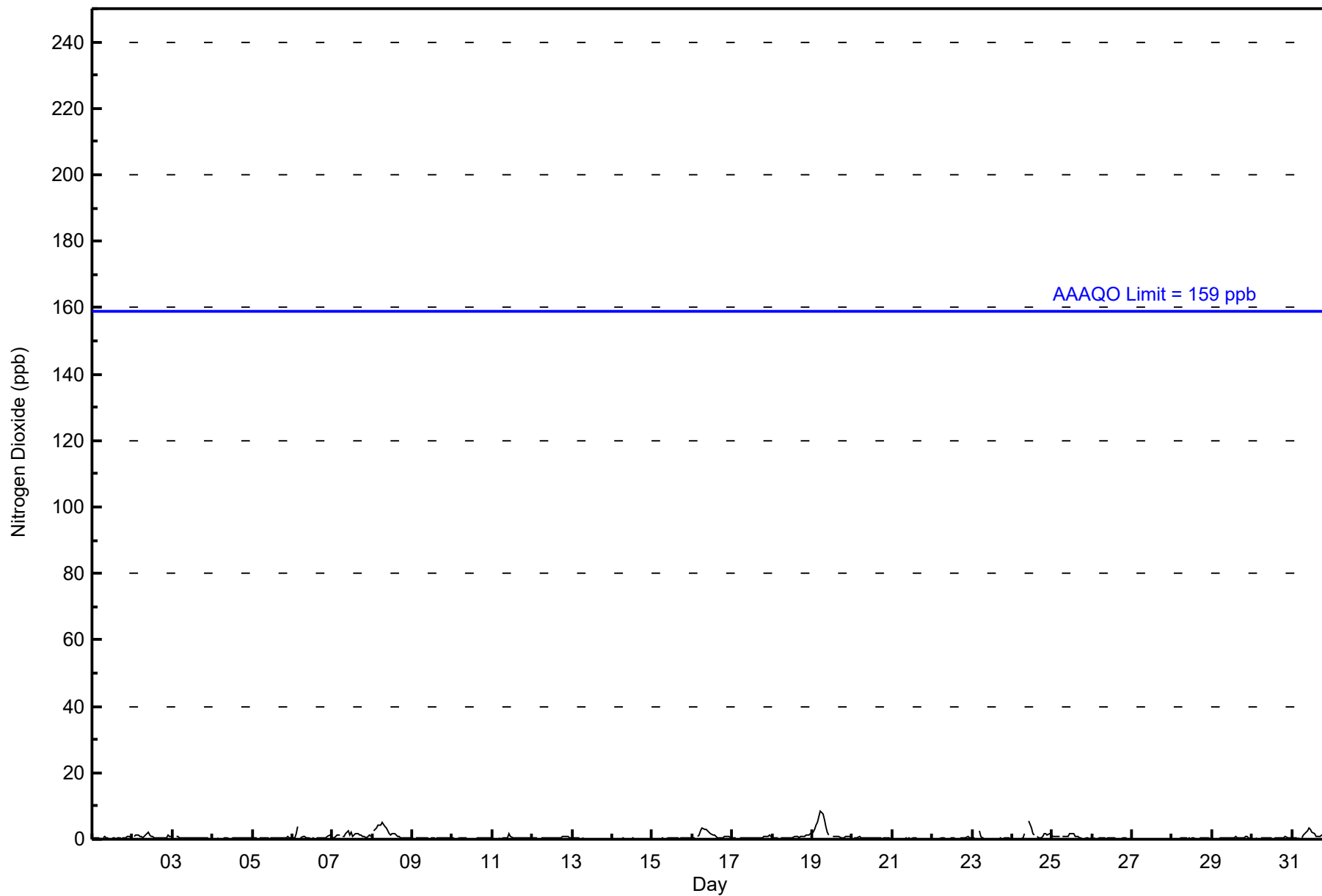


Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																	Hours in Service: 744									
Maximum Value: 8.3 ppb on Jul 19 06:00 Maximum Daily Average: 2.6 ppb on Jul 19																	Hours of Data: 703									
Minimum Value: 0.1 ppb on Jul 28 15:00 Minimum Daily Average: 0.2 ppb on Jul 27																	Hours of Missing Data: 41									
Maximum Diurnal Average: 0.9 ppb at hour 6 Minimum Diurnal Average: 0.4 ppb at hour 17																	Hours of Calibration: 36									
Monthly Average: 0.65 ppb Percentiles: P ₁ = 0.1 P ₁₀ = 0.2 Q ₁ = 0.3 Median = 0.4 Q ₃ = 0.6 P ₉₀ = 1.3 P ₉₉ = 4.4																	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-Jul	0.5	0.5	0.4	0.4	0.3	Z	0.4	0.7	0.5	0.3	0.2	0.2	0.4	0.3	0.2	0.3	0.3	0.2	0.3	0.4	0.4	0.7	0.7	0.2	0.4	0.7
2-Jul	Z	0.9	1.3	1.2	0.9	0.7	0.6	1.0	1.3	2.2	1.4	0.8	0.7	0.6	0.5	0.5	0.5	0.6	0.5	0.6	0.6	1.4	0.9	1.0	0.9	2.2
3-Jul	0.8	Z	0.7	0.7	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.3	0.4	0.5	0.4	0.3	0.3	0.2	0.2	0.5	0.8
4-Jul	0.2	0.2	Z	0.3	0.2	0.2	0.2	0.3	0.4	0.3	0.2	0.2	0.6	0.4	0.3	0.4	0.4	0.4	0.3	0.4	0.4	0.3	0.4	0.3	0.3	0.6
5-Jul	0.3	0.3	0.4	Z	0.4	0.4	0.4	0.6	0.4	0.4	0.2	0.3	0.3	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.3	0.7	0.5	0.3	0.4	0.7
6-Jul	0.4	0.4	1.6	4.0	Z	0.4	0.9	0.7	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.4	0.3	0.3	0.4	0.4	0.5	0.8	1.1	1.0	0.7	4.0
7-Jul	0.4	0.5	1.0	1.2	1.1	Z	0.9	1.0	1.9	2.6	1.1	2.1	1.0	1.3	1.6	1.8	1.2	1.4	0.9	0.7	0.6	0.8	1.1	0.9	1.2	2.6
8-Jul	Z	2.5	3.3	4.4	4.4	4.4	5.0	3.9	3.2	2.5	1.5	1.4	1.8	1.5	1.1	0.9	0.7	0.4	0.4	0.6	0.4	0.5	0.5	0.5	2.0	5.0
9-Jul	0.4	Z	0.5	0.4	0.4	0.5	0.4	0.4	0.3	0.4	0.2	0.3	0.4	0.3	0.2	0.3	0.3	0.3	0.3	0.4	0.5	0.5	0.4	0.4	0.4	0.5
10-Jul	0.4	0.5	Z	0.5	0.5	0.4	0.4	0.5	0.4	C	C	C	C	C	0.4	0.3	0.3	0.3	0.3	0.4	0.5	0.4	0.4	0.3	0.4	0.5
11-Jul	0.2	0.2	0.2	Z	0.3	0.2	0.4	0.3	0.4	0.4	1.6	0.8	0.5	0.5	0.5	0.4	0.4	0.4	0.6	0.5	0.4	0.5	0.4	0.4	0.5	1.6
12-Jul	0.5	0.6	0.6	0.5	Z	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.5	0.6	0.7	0.7	0.7	0.7	0.5	0.5	0.5	0.7
13-Jul	0.6	0.6	0.5	0.4	0.3	Z	0.3	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	0.1	0.1	0.1	0.2	0.6
14-Jul	Z	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.1	0.2	0.2	0.2	0.4	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.4
15-Jul	0.1	Z	0.1	0.1	0.1	0.2	0.3	0.2	0.2	0.4	0.5	0.5	0.6	0.5	0.3	0.4	0.2	0.3	0.6	0.5	0.4	0.4	0.3	0.3	0.3	0.6
16-Jul	0.5	0.6	Z	0.8	1.1	2.7	3.3	2.9	3.0	2.6	2.1	1.5	1.4	1.1	0.8	0.6	0.6	0.5	0.5	0.8	0.8	1.0	0.9	0.6	1.3	3.3
17-Jul	0.5	0.5	0.5	Z	0.5	0.5	0.6	0.6	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.5	0.6	0.6	0.8	0.9	1.0	1.1	0.7	0.6	1.1
18-Jul	0.6	0.5	0.4	0.3	Z	0.3	0.3	0.3	0.4	0.5	0.6	0.5	0.5	0.7	0.7	0.7	0.6	0.8	0.9	0.8	1.1	1.4	1.2	1.7	0.7	1.7
19-Jul	2.2	3.0	4.2	4.9	6.9	8.3	7.8	6.0	3.9	2.3	1.3	Z	0.9	0.9	0.8	0.7	0.7	0.6	0.6	0.6	0.7	0.7	0.7	0.7	2.6	8.3
20-Jul	Z	0.5	0.4	0.4	0.7	0.4	0.4	0.6	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.4	0.7
21-Jul	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.4	0.2	0.4	0.5	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.5
22-Jul	0.2	0.2	Z	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.7	0.5	0.3	0.3	0.7
23-Jul	0.3	0.3	0.2	Z	2.4	0.7	0.5	0.3	PF	PF	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.4	0.4	0.6	0.3	0.1	0.4	2.4
24-Jul	0.1	0.1	0.2	0.1	Z	0.2	0.5	1.8	PF	PF	5.7	3.3	1.8	1.2	PF	0.8	0.5	0.4	0.8	1.5	1.5	1.3	1.9	1.7	1.3	5.7
25-Jul	1.0	1.0	0.9	0.8	1.0	Z	0.9	0.9	0.9	1.0	1.6	1.9	1.9	1.6	0.9	0.7	0.5	0.3	0.2	0.2	0.3	0.3	0.2	0.3	0.8	1.9
26-Jul	Z	0.4	0.2	0.2	0.3	0.5	0.5	0.4	0.2	0.3	0.5	0.5	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.4	0.3	0.2	0.1	0.2	0.3	0.5
27-Jul	0.2	Z	0.2	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.2	0.2
28-Jul	0.1	0.2	Z	0.2	0.2	0.5	0.3	0.5	0.3	0.2	0.3	0.2	0.5	0.5	0.1	0.2	0.2	0.3	0.3	0.4	0.4	0.3	0.3	0.2	0.3	0.5
29-Jul	0.2	0.2	0.2	Z	0.2	0.4	0.5	0.6	0.5	0.5	0.4	0.4	0.4	0.6	0.7	0.5	0.5	0.5	0.6	0.5	0.9	0.7	0.3	0.2	0.5	0.9
30-Jul	0.2	0.2	0.2	0.3	Z	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.5	0.9	0.6	0.6	0.5	0.4	0.9
31-Jul	0.4	0.3	0.3	0.2	0.3	Z	0.6	1.4	2.0	2.5	3.3	2.9	2.1	1.9	0.7	0.7	0.8	0.7	1.2	1.6	2.9	3.4	2.0	0.8	1.4	3.4
																									Diurnal Average	
																									Diurnal Maximum	
Z - zerospan C - Calibration PF - Power Failure																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb																										



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
Fort Chipewyan - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Fort Chipewyan - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	703	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: 703

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Fort Chipewyan - July 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	5	6	43	142	26	17	19	26	48	35	38	45	67	110	51	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	25	5	6	43	142	26	17	19	26	48	35	38	45	67	110	51	703

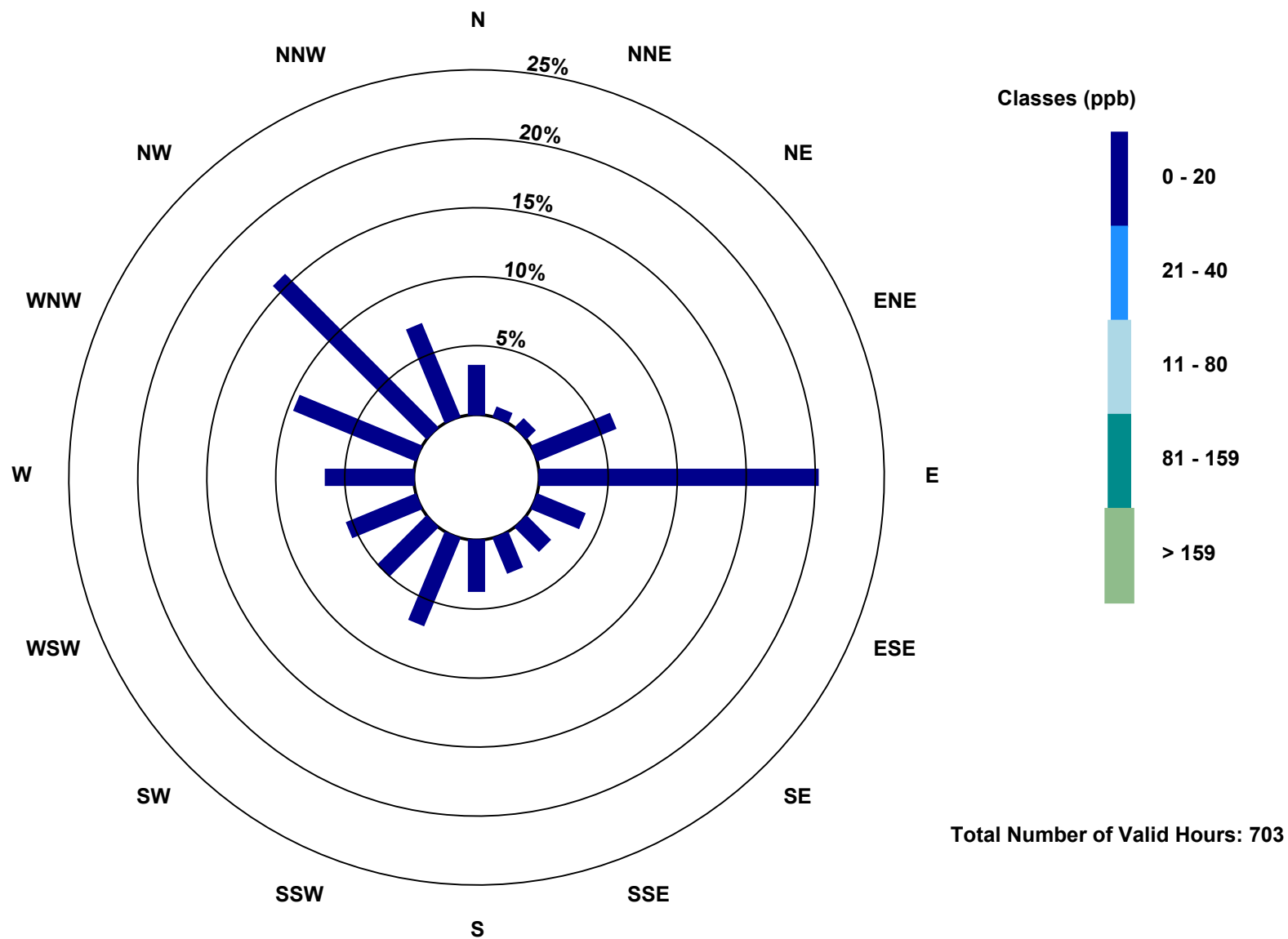
Total Number of Valid Hours: 703

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

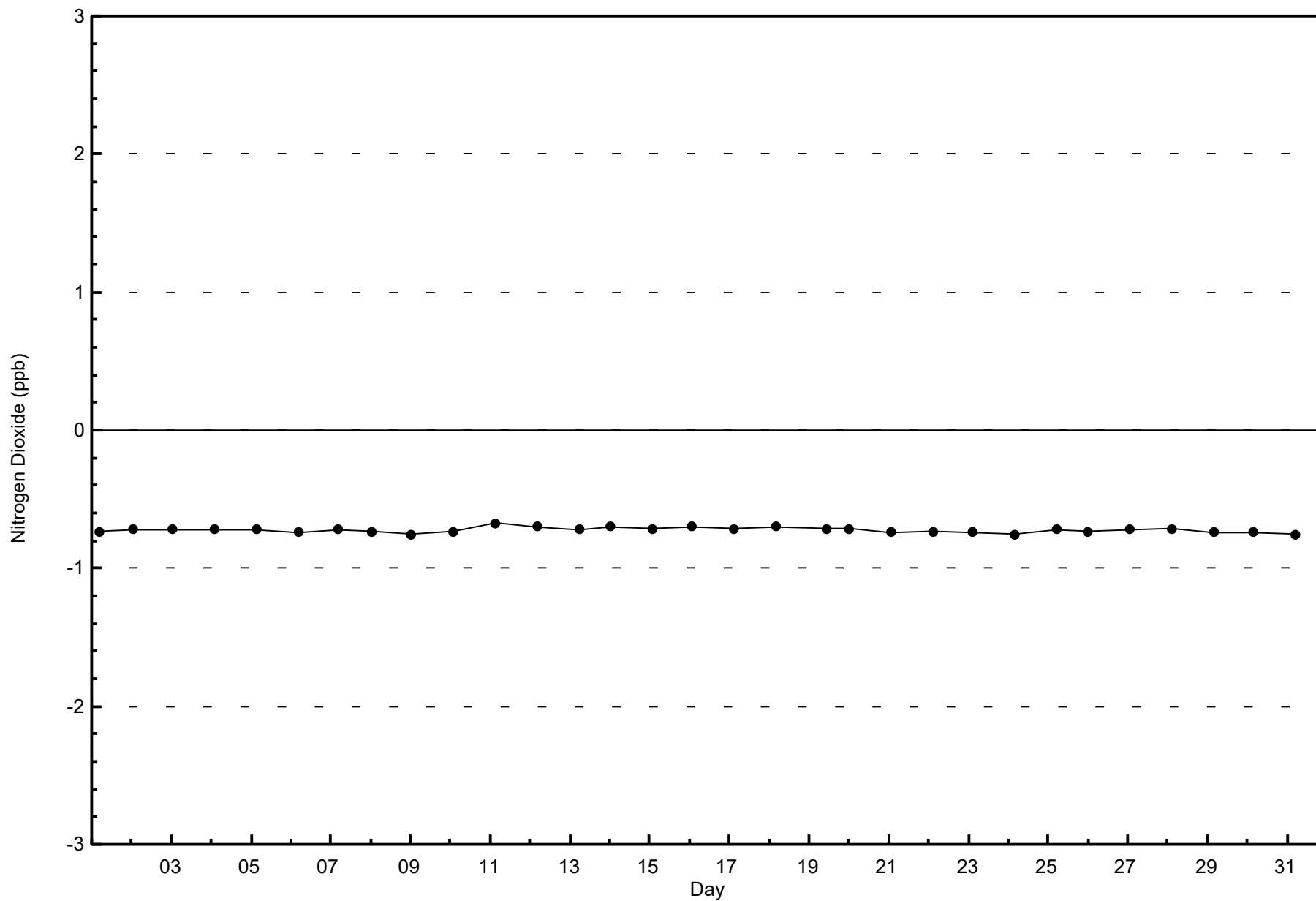
Nitrogen Dioxide (NO₂) - ppb
Fort Chipewyan





Wood Buffalo Environmental Association
Zero Responses

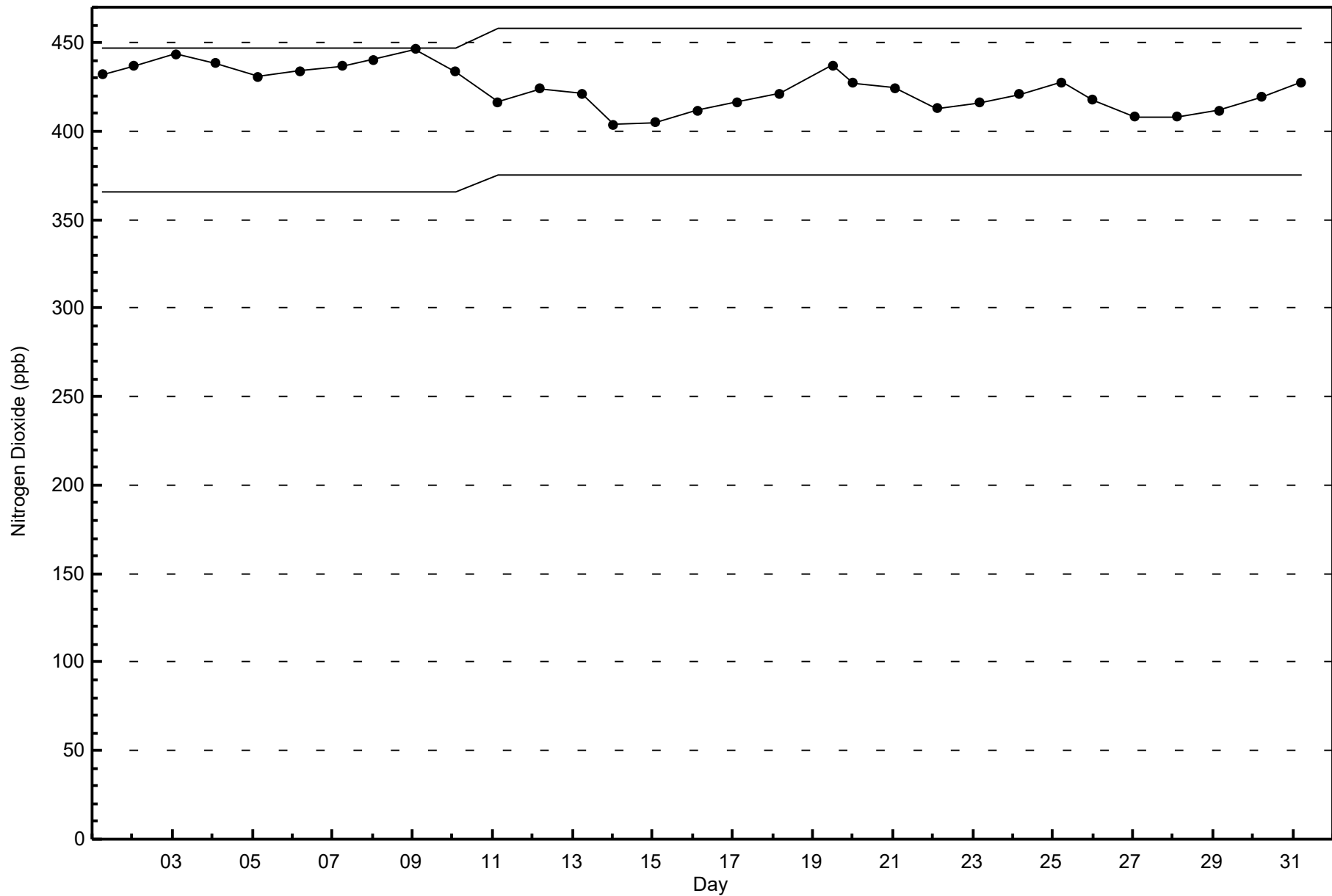
Nitrogen Dioxide (NO₂) - ppb
Fort Chipewyan - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitrogen Dioxide (NO₂) - ppb
Fort Chipewyan - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Oxides (NO_x) - ppb

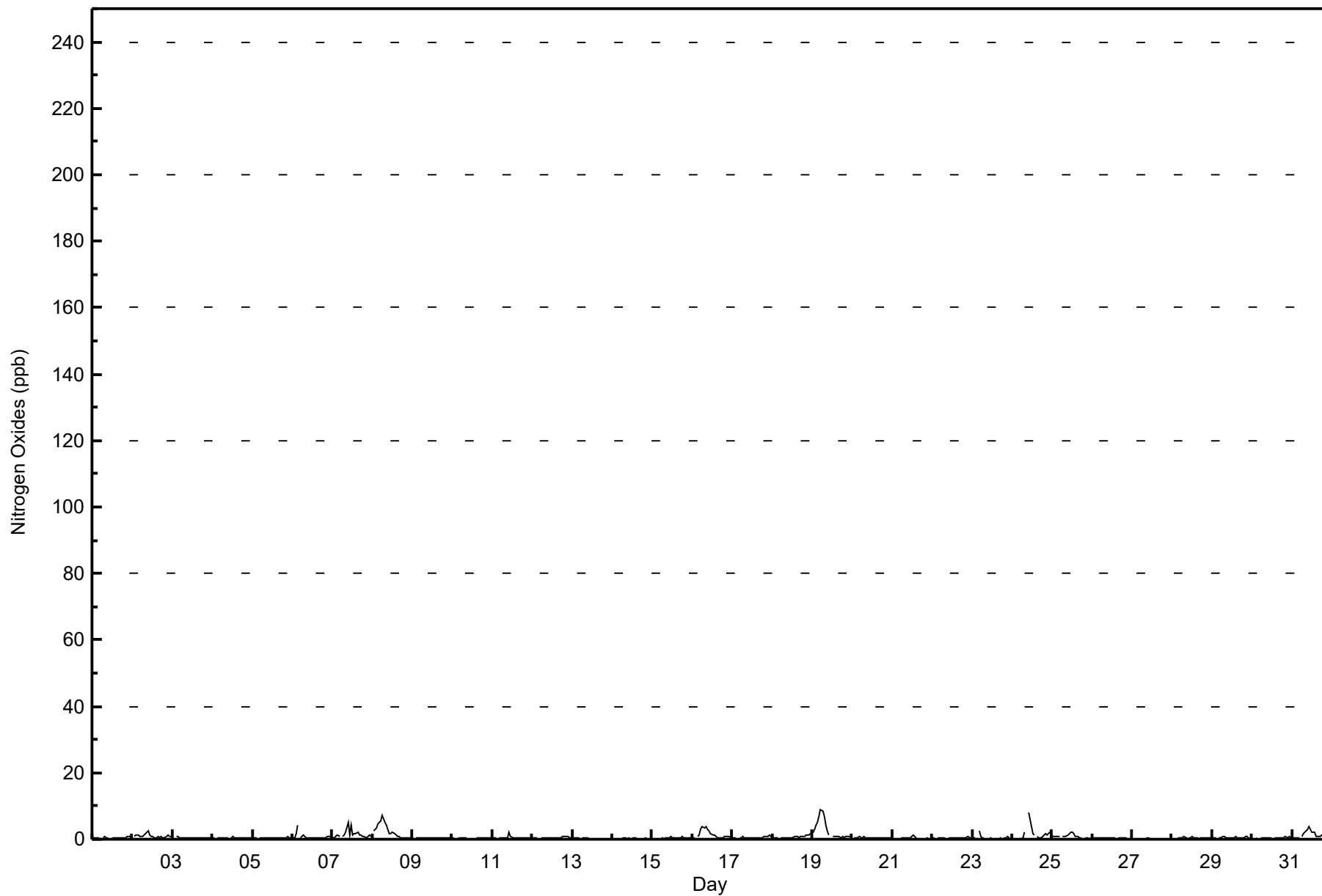
Fort Chipewyan - July 2025

Maximum Value: 8.7 ppb on Jul 19 06:00																			Maximum Daily Average: 2.7 ppb on Jul 19																			Hours in Service: 744	
Minimum Value: 0.1 ppb on Jul 28 01:00																			Minimum Daily Average: 0.2 ppb on Jul 27																			Hours of Data: 703	
Maximum Diurnal Average: 1.1 ppb at hour 7																			Minimum Diurnal Average: 0.4 ppb at hour 18																			Hours of Missing Data: 41	
Monthly Average: 0.71 ppb																			Percentiles: P ₁ = 0.1 P ₁₀ = 0.2 Q ₁ = 0.3 Median = 0.4 Q ₃ = 0.7 P ₉₀ = 1.4 P ₉₉ = 5.3																			Hours of Calibration: 36	
																																						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-Jul	0.5	0.5	0.4	0.4	0.3	Z	0.5	0.9	0.6	0.3	0.2	0.2	0.4	0.3	0.2	0.3	0.3	0.2	0.3	0.4	0.4	0.7	0.7	0.2	0.4	0.9													
2-Jul	Z	0.9	1.3	1.2	0.9	0.7	0.7	1.1	1.5	2.5	1.5	0.9	0.8	0.6	0.5	0.6	0.5	0.7	0.5	0.6	0.6	1.4	0.9	1.0	1.0	2.5													
3-Jul	0.8	Z	0.7	0.7	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.6	0.5	0.5	0.4	0.4	0.4	0.4	0.5	0.4	0.3	0.3	0.2	0.2	0.5	0.8													
4-Jul	0.2	0.2	Z	0.3	0.2	0.2	0.2	0.3	0.5	0.5	0.2	0.2	1.0	0.5	0.3	0.4	0.4	0.4	0.3	0.4	0.4	0.3	0.4	0.3	0.4	1.0													
5-Jul	0.3	0.3	0.4	Z	0.4	0.4	0.4	0.6	0.4	0.4	0.2	0.3	0.3	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.3	0.7	0.5	0.3	0.4	0.7													
6-Jul	0.4	0.4	1.6	4.4	Z	0.4	1.2	0.8	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.5	0.3	0.3	0.5	0.4	0.5	0.8	1.1	1.0	0.7	4.4													
7-Jul	0.4	0.5	1.0	1.2	1.1	Z	1.0	1.1	2.2	5.2	1.2	4.2	1.1	1.5	1.7	1.9	1.3	1.5	1.0	0.7	0.6	0.8	1.1	0.9	1.4	5.2													
8-Jul	Z	2.5	3.3	4.5	4.9	5.6	7.1	5.3	4.1	3.0	1.6	1.6	2.0	1.6	1.2	0.9	0.8	0.4	0.4	0.6	0.4	0.5	0.5	0.5	2.3	7.1													
9-Jul	0.4	Z	0.5	0.4	0.4	0.5	0.4	0.5	0.3	0.4	0.4	0.4	0.4	0.3	0.2	0.3	0.3	0.3	0.3	0.4	0.5	0.5	0.4	0.4	0.4	0.5													
10-Jul	0.4	0.5	Z	0.5	0.5	0.5	0.5	0.6	0.5	C	C	C	C	C	0.4	0.3	0.3	0.3	0.3	0.4	0.5	0.4	0.4	0.3	0.4	0.6													
11-Jul	0.2	0.2	0.2	Z	0.3	0.2	0.4	0.6	0.4	0.4	2.2	0.9	0.6	0.5	0.5	0.4	0.4	0.4	0.6	0.5	0.4	0.5	0.4	0.4	0.5	2.2													
12-Jul	0.5	0.6	0.6	0.5	Z	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.5	0.6	0.7	0.7	0.7	0.7	0.5	0.5	0.5	0.7													
13-Jul	0.6	0.6	0.5	0.4	0.3	Z	0.3	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	0.1	0.1	0.1	0.2	0.6													
14-Jul	Z	0.1	0.1	0.1	0.1	0.1	0.4	0.3	0.2	0.2	0.3	0.2	0.5	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.5													
15-Jul	0.1	Z	0.1	0.1	0.1	0.2	0.3	0.2	0.3	0.4	0.5	0.6	0.6	0.5	0.3	0.4	0.2	0.3	0.7	0.5	0.5	0.4	0.3	0.3	0.3	0.7													
16-Jul	0.5	0.6	Z	0.8	1.1	2.8	3.7	3.5	3.8	3.1	2.4	1.6	1.5	1.2	0.9	0.6	0.6	0.5	0.5	0.8	0.8	1.0	0.9	0.6	1.5	3.8													
17-Jul	0.5	0.5	0.5	Z	0.5	0.5	0.7	0.6	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.6	0.8	0.9	1.0	1.1	0.7	0.6	1.1													
18-Jul	0.6	0.5	0.4	0.3	Z	0.3	0.3	0.3	0.4	0.6	0.6	0.5	0.5	0.7	0.8	0.8	0.6	0.8	0.9	0.8	1.1	1.4	1.2	1.7	0.7	1.7													
19-Jul	2.2	3.0	4.2	4.9	7.0	8.7	8.6	6.7	4.3	2.4	1.4	Z	0.9	0.9	0.8	0.7	0.7	0.6	0.6	0.6	0.7	0.7	0.7	0.7	2.7	8.7													
20-Jul	Z	0.5	0.4	0.4	0.7	0.4	0.4	0.7	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.4	0.7													
21-Jul	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.3	0.6	0.2	1.1	0.8	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.3	1.1													
22-Jul	0.2	0.2	Z	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.7	0.5	0.3	0.3	0.7													
23-Jul	0.3	0.3	0.2	Z	2.5	0.7	0.6	0.3	PF	PF	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.4	0.4	0.6	0.3	0.1	0.4	2.5													
24-Jul	0.1	0.1	0.2	0.1	Z	0.2	0.5	2.2	PF	PF	7.9	3.9	1.9	1.3	PF	0.9	0.5	0.4	0.8	1.5	1.5	1.3	1.9	1.7	1.5	7.9													
25-Jul	1.0	1.0	0.9	0.8	1.0	Z	0.9	0.9	0.9	1.1	1.7	2.0	2.0	1.7	0.9	0.7	0.5	0.3	0.2	0.2	0.3	0.3	0.2	0.3	0.9	2.0													
26-Jul	Z	0.4	0.2	0.2	0.3	0.5	0.5	0.4	0.2	0.3	0.5	0.5	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.4	0.3	0.2	0.1	0.2	0.3	0.5													
27-Jul	0.2	Z	0.2	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.2	0.2													
28-Jul	0.1	0.2	Z	0.2	0.2	0.5	0.3	0.7	0.3	0.2	0.3	0.2	0.8	0.6	0.3	0.2	0.2	0.3	0.3	0.4	0.4	0.3	0.3	0.2	0.3	0.8													
29-Jul	0.2	0.2	0.2	Z	0.2	0.4	0.6	0.7	0.6	0.5	0.4	0.4	0.4	0.6	0.9	0.5	0.6	0.5	0.6	0.5	0.9	0.7	0.3	0.2	0.5	0.9													
30-Jul	0.2	0.2	0.2	0.3	Z	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.5	0.9	0.6	0.6	0.5	0.3	0.9													
31-Jul	0.4	0.3	0.3	0.2	0.3	Z	0.7	1.6	2.4	2.9	3.7	3.1	2.3	2.1	0.7	0.8	0.9	0.7	1.3	1.7	3.0	3.4	2.0	0.8	1.6	3.7													
0.4 0.6 0.7 0.9 0.9 1.0 1.1 1.1 0.9 1.0 1.0 0.9 0.7 0.6 0.5 0.5 0.4 0.4 0.5 0.5 0.6 0.7 0.6 0.5																									Diurnal Average														
2.2 3.0 4.2 4.9 7.0 8.7 8.6 6.7 4.3 5.2 7.9 4.2 2.3 2.1 1.7 1.9 1.3 1.5 1.3 1.7 3.0 3.4 2.0 1.7																									Diurnal Maximum														
Z - zerospan C - Calibration PF - Power Failure																																							



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Fort Chipewyan - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Fort Chipewyan - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	703	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: 703

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Fort Chipewyan - July 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	5	6	43	142	26	17	19	26	48	35	38	45	67	110	51	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	25	5	6	43	142	26	17	19	26	48	35	38	45	67	110	51	703

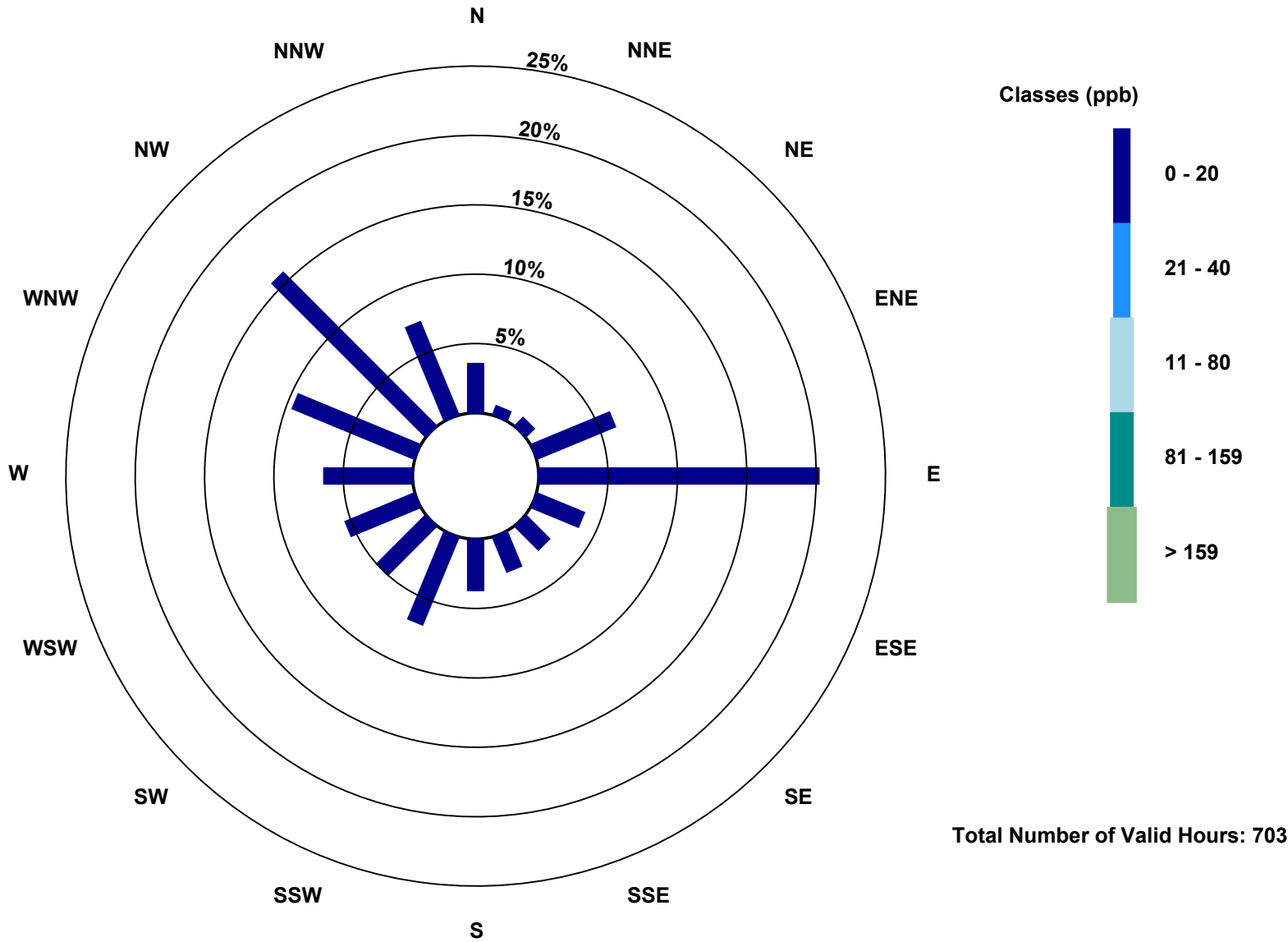
Total Number of Valid Hours: 703

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

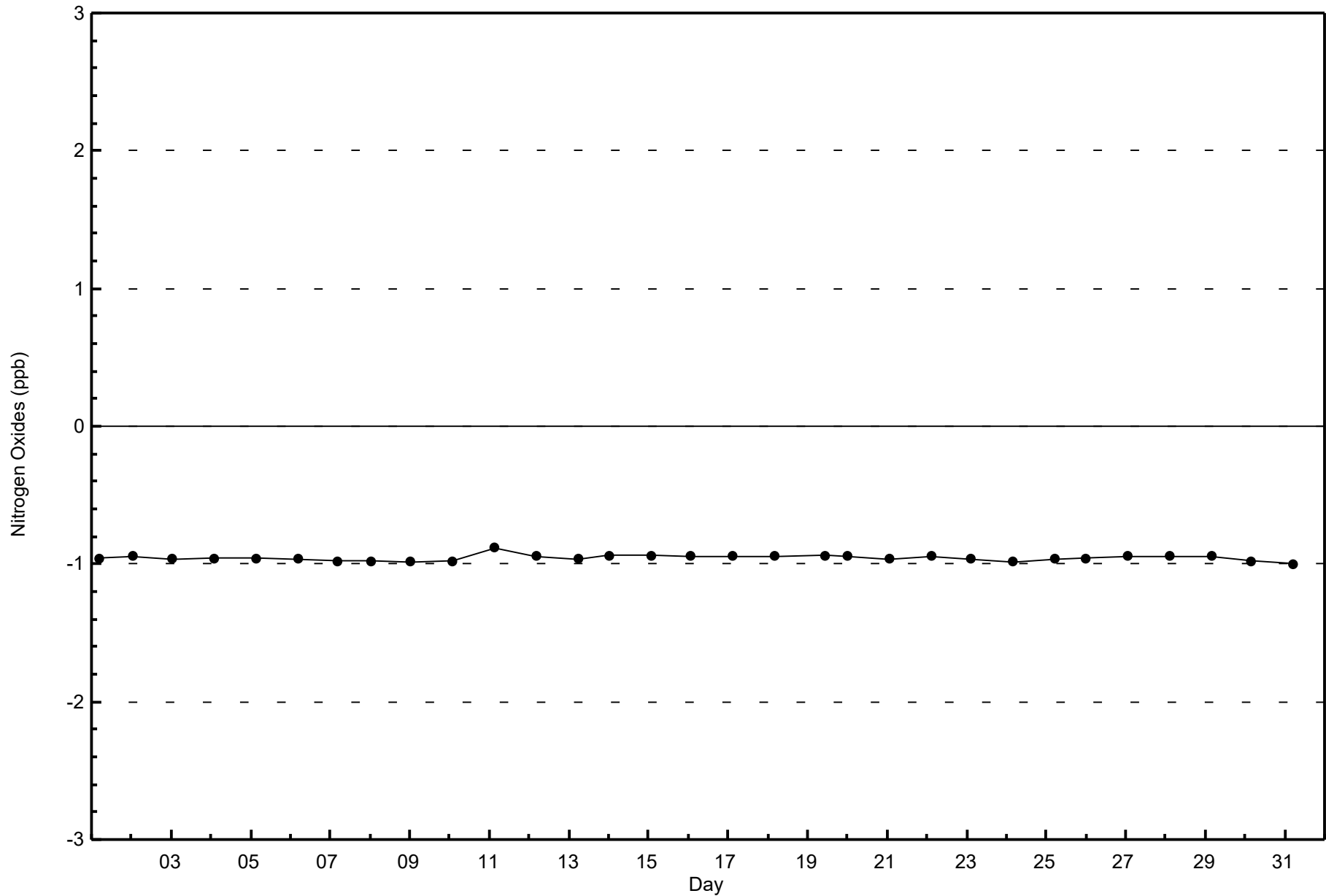
Nitrogen Oxides (NO_x) - ppb
Fort Chipewyan





Wood Buffalo Environmental Association
Zero Responses

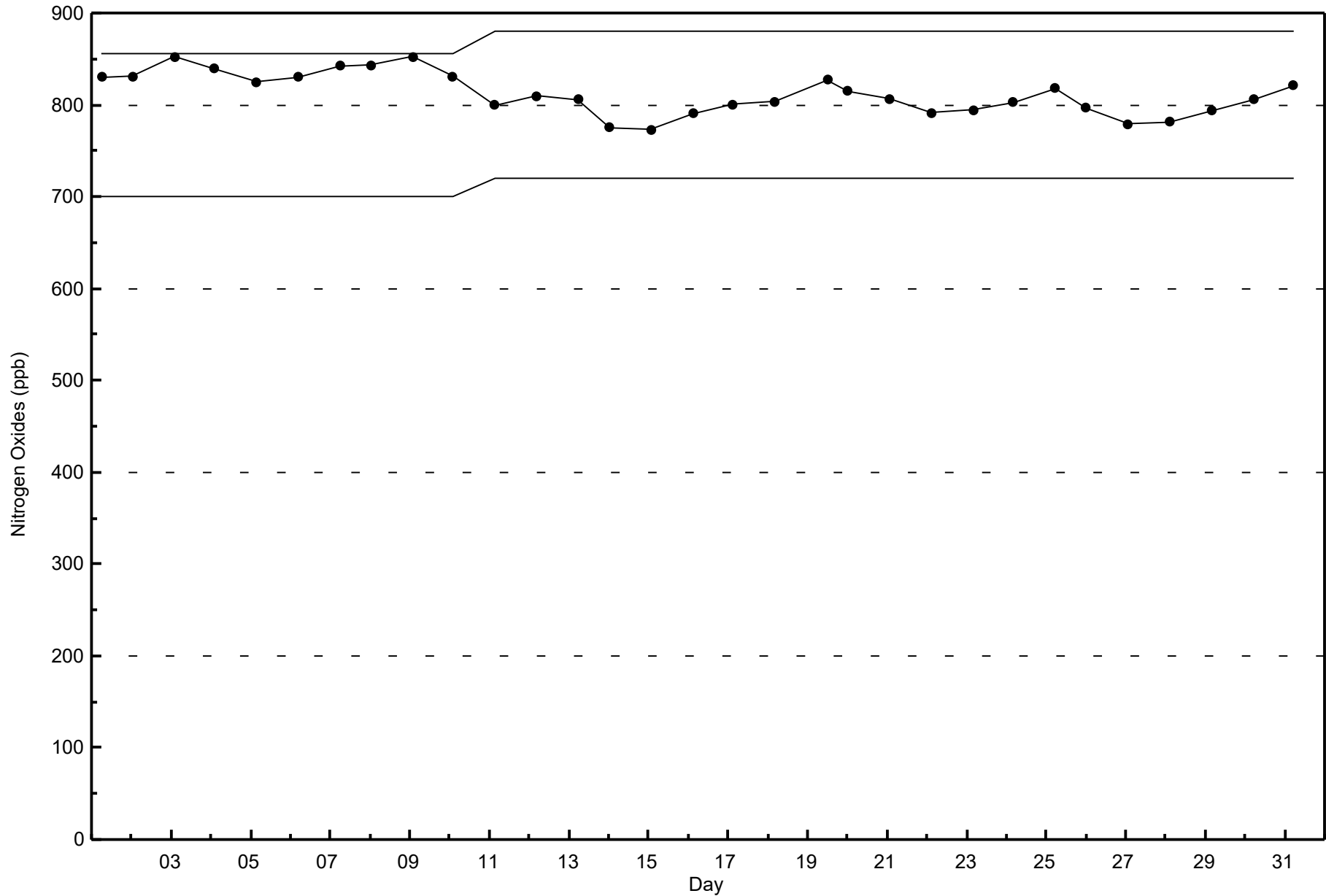
Nitrogen Oxides (NO_x) - ppb
Fort Chipewyan - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitrogen Oxides (NO_x) - ppb
Fort Chipewyan - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Ozone (O₃) - ppb

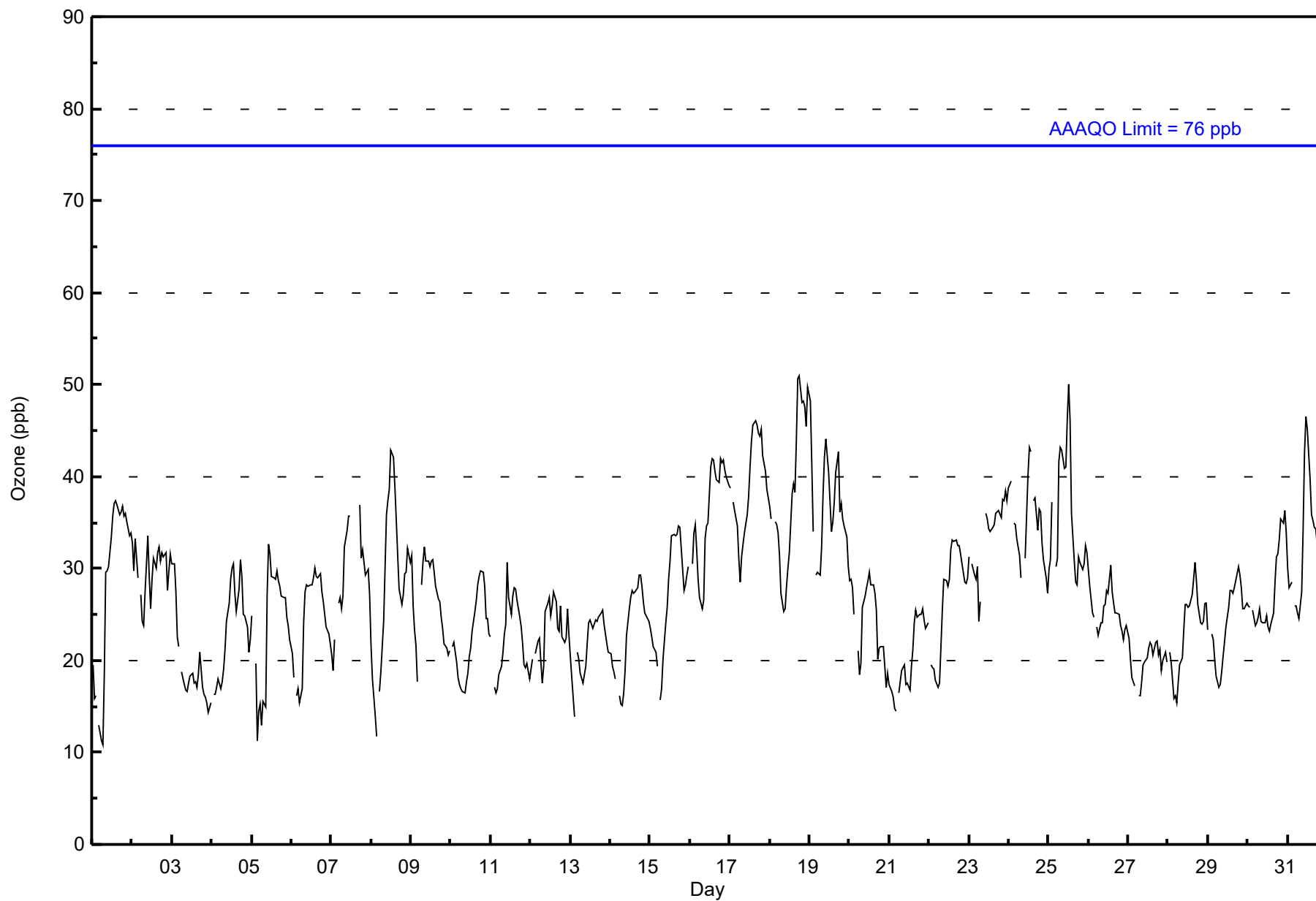
Fort Chipewyan - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 51.0 ppb on Jul 18 19:00 Maximum Daily Average: 38.8 ppb on Jul 17																				Hours in Service: 744 Hours of Data: 703						
Minimum Value: 10.8 ppb on Jul 1 07:00 Minimum Daily Average: 19.3 ppb on Jul 3 Maximum Diurnal Average: 31.2 ppb at hour 14 Minimum Diurnal Average: 21.6 ppb at hour 7 Monthly Average: 27.42 ppb Percentiles: P ₁ = 14.0 P ₁₀ = 17.6 Q ₁ = 21.7 Median = 27.0 Q ₃ = 31.8 P ₉₀ = 37.4 P ₉₉ = 47.5																				Hours of Missing Data: 41 Hours of Calibration: 36 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-Jul	19.5	15.9	16.2	Z	13.0	11.3	10.8	18.4	29.6	29.8	30.2	33.4	35.8	37.1	37.4	36.9	35.9	36.1	36.7	35.6	36.1	35.0	33.5	33.8	28.6	37.4
2-Jul	32.7	29.8	33.3	29.1	Z	27.1	24.3	23.8	27.4	33.6	29.1	25.6	28.8	31.1	30.0	31.7	32.3	30.8	31.7	31.2	31.7	27.7	29.7	31.6	29.7	33.6
3-Jul	30.5	30.5	27.5	22.6	21.5	Z	18.7	17.5	16.8	16.7	17.5	18.2	18.6	17.5	17.7	17.1	18.5	20.9	17.1	16.3	16.0	15.4	14.3	15.3	19.3	30.5
4-Jul	Z	16.3	16.3	17.1	18.0	16.9	17.7	19.1	21.3	24.2	26.3	28.9	30.1	30.6	27.2	25.3	27.7	31.0	29.1	25.1	24.9	23.7	21.0	22.3	23.5	31.0
5-Jul	24.8	Z	19.6	11.3	14.5	15.3	13.0	15.6	15.0	27.2	32.6	31.6	29.1	28.9	28.8	29.8	28.7	28.0	27.0	26.9	26.9	24.7	23.8	22.2	23.7	32.6
6-Jul	20.7	18.2	Z	16.2	17.0	15.4	16.9	24.1	27.4	28.2	28.1	28.2	28.3	29.0	30.0	29.2	29.0	29.4	27.5	26.4	25.0	23.7	22.8	21.9	24.5	30.0
7-Jul	20.7	18.9	22.3	Z	26.3	26.9	25.6	27.1	32.4	34.2	35.6	35.7	C	C	C	C	C	36.9	31.1	32.1	29.2	29.6	29.9	27.2	29.0	36.9
8-Jul	21.7	18.0	14.0	11.8	Z	16.6	18.7	24.2	30.1	35.8	37.4	38.5	42.8	42.0	38.8	35.2	31.4	27.8	26.0	27.1	29.4	29.6	32.2	30.6	28.7	42.8
9-Jul	31.4	25.9	23.3	21.7	17.7	Z	28.2	30.7	32.3	30.9	30.9	30.1	30.8	31.0	29.6	28.1	26.7	26.4	24.7	23.4	21.8	21.3	20.6	21.0	26.5	32.3
10-Jul	Z	21.5	22.0	19.8	18.2	17.4	16.9	16.6	16.5	17.7	18.7	20.4	21.3	23.2	25.3	26.5	28.2	29.2	29.8	29.5	28.0	24.5	24.6	22.9	22.5	29.8
11-Jul	22.6	Z	17.1	16.5	16.9	18.5	19.4	20.9	22.9	23.9	30.6	26.8	25.1	27.0	27.9	27.7	26.5	24.8	23.6	21.8	19.6	19.2	19.7	18.0	22.5	30.6
12-Jul	19.1	20.2	Z	20.8	22.1	22.4	19.8	17.6	19.3	25.3	26.2	26.9	24.8	25.9	27.4	26.4	23.6	23.2	25.9	22.6	22.0	22.5	25.6	22.8	23.1	27.4
13-Jul	20.4	18.2	13.9	Z	20.9	20.1	18.6	17.6	18.4	19.4	21.8	24.1	24.4	23.5	23.9	24.4	24.3	24.7	25.2	25.5	24.0	22.9	21.8	21.0	21.7	25.5
14-Jul	20.7	19.3	18.7	18.0	Z	16.2	15.2	15.1	16.5	18.9	22.7	25.7	26.9	27.6	27.3	27.4	27.9	29.3	29.3	28.1	26.4	25.2	24.5	24.3	23.1	29.3
15-Jul	23.6	22.6	21.6	20.9	19.3	Z	15.7	17.0	20.1	24.2	25.8	28.9	30.8	33.5	33.7	33.5	33.7	34.6	34.4	32.2	27.6	28.2	29.3	30.2	27.0	34.6
16-Jul	Z	30.5	33.9	34.8	32.0	28.9	26.8	25.7	26.6	33.2	34.6	34.9	41.0	42.0	41.8	40.5	39.7	39.4	41.9	41.5	41.8	40.7	39.9	39.1	36.1	42.0
17-Jul	38.7	Z	37.2	36.3	34.6	31.2	28.6	31.3	32.7	33.9	35.8	37.8	41.0	43.8	45.6	46.1	45.5	44.7	44.3	45.1	42.3	40.6	38.5	37.7	38.8	46.1
18-Jul	36.7	35.4	Z	35.1	34.7	33.8	31.4	27.3	25.3	25.7	28.1	30.0	31.8	38.2	39.2	38.2	43.9	50.6	51.0	48.1	48.3	47.5	45.5	49.8	38.1	51.0
19-Jul	48.2	41.3	34.1	Z	29.3	29.6	29.2	32.4	38.0	42.1	44.1	40.5	37.2	34.0	35.1	37.2	40.5	42.7	36.1	37.0	35.3	34.6	33.4	30.2	36.6	48.2
20-Jul	28.7	28.9	28.0	25.1	Z	21.0	18.5	19.7	25.8	27.0	27.9	28.7	29.6	28.3	28.2	27.3	25.4	20.1	21.3	21.5	21.5	19.4	17.0	18.6	24.2	29.6
21-Jul	17.4	16.6	16.1	14.8	14.5	Z	16.5	18.9	19.2	19.5	17.4	17.6	16.9	19.3	21.2	24.1	25.5	24.7	25.1	25.0	25.6	24.4	23.5	24.1	20.3	25.6
22-Jul	Z	19.6	19.3	19.0	17.9	17.1	17.6	21.5	25.5	28.8	28.7	28.1	28.9	32.0	33.1	32.9	33.0	32.4	32.5	31.5	30.5	28.6	28.3	29.0	26.8	33.1
23-Jul	31.3	Z	30.4	29.2	28.9	30.3	24.3	26.5	PF	PF	36.0	35.4	34.4	34.1	34.4	34.7	36.0	36.1	36.3	35.5	37.5	37.4	38.5	37.4	33.6	38.5
24-Jul	38.8	39.5	Z	35.0	34.8	33.3	31.4	28.9	PF	PF	31.2	40.2	43.2	42.8	PF	37.4	37.6	34.2	36.4	36.2	32.8	31.0	29.0	27.4	35.1	43.2
25-Jul	29.9	31.0	37.3	Z	30.2	31.2	41.6	43.1	42.8	40.8	41.1	46.2	50.0	46.1	36.1	30.7	28.6	28.2	31.3	30.6	29.8	30.4	32.5	31.7	35.7	50.0
26-Jul	29.9	28.0	25.1	24.7	Z	23.7	22.7	24.2	24.1	25.9	26.1	27.5	27.3	30.4	27.5	26.2	25.1	25.2	25.0	23.8	23.1	22.3	23.4	23.7	25.4	30.4
27-Jul	22.4	20.1	18.2	17.7	17.3	Z	16.2	16.2	17.6	19.5	19.9	20.3	21.4	22.0	21.6	20.6	22.0	22.1	20.6	21.1	19.0	20.0	20.9	19.8	19.9	22.4
28-Jul	Z	20.9	19.8	15.9	16.2	15.4	17.6	19.5	20.4	23.4	26.0	26.1	25.8	26.0	27.1	28.8	30.6	28.7	26.0	24.1	23.9	24.2	26.2	26.2	23.4	30.6
29-Jul	23.4	Z	22.9	22.3	20.2	18.3	17.0	17.4	18.7	20.5	21.9	23.7	25.7	27.6	27.7	27.3	28.0	29.4	30.2	29.3	27.9	25.6	25.7	26.2	24.2	30.2
30-Jul	26.0	25.8	Z	25.5	23.8	24.2	24.8	25.6	24.3	24.1	24.2	24.9	23.7	23.3	23.9	25.1	28.5	31.2	31.5	33.1	35.3	34.9	36.3	33.8	27.6	36.3
31-Jul	30.1	27.9	28.5	Z	25.9	25.9	25.1	24.5	27.4	34.1	42.5	46.6	45.1	39.7	35.8	35.3	34.5	34.3	32.6	30.4	27.2	29.3	34.8	34.2	32.7	46.6
Diurnal Average																										
Diurnal Maximum																										
Z - zerospan C - Calibration PF - Power Failure																										
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 76 ppb																										



Wood Buffalo Environmental Association
Hourly Averages

Ozone (O₃) - ppb
Fort Chipewyan - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ozone (O₃) - ppb
Fort Chipewyan - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	144	20.48	20.48
21 - 50	557	79.23	99.72
51 - 82	2	0.28	100.00
> 83	0	0.00	100.00

Total Number of Valid Hours: 703

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Ozone (O₃) - ppb
Fort Chipewyan - July 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	6	1	2	0	0	0	1	3	2	9	9	3	4	31	52	21	144
21 - 50	17	5	4	46	139	26	15	14	22	38	24	37	39	43	60	28	557
51 - 82	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
> 83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	23	6	6	46	141	26	16	17	24	47	33	40	43	74	112	49	703

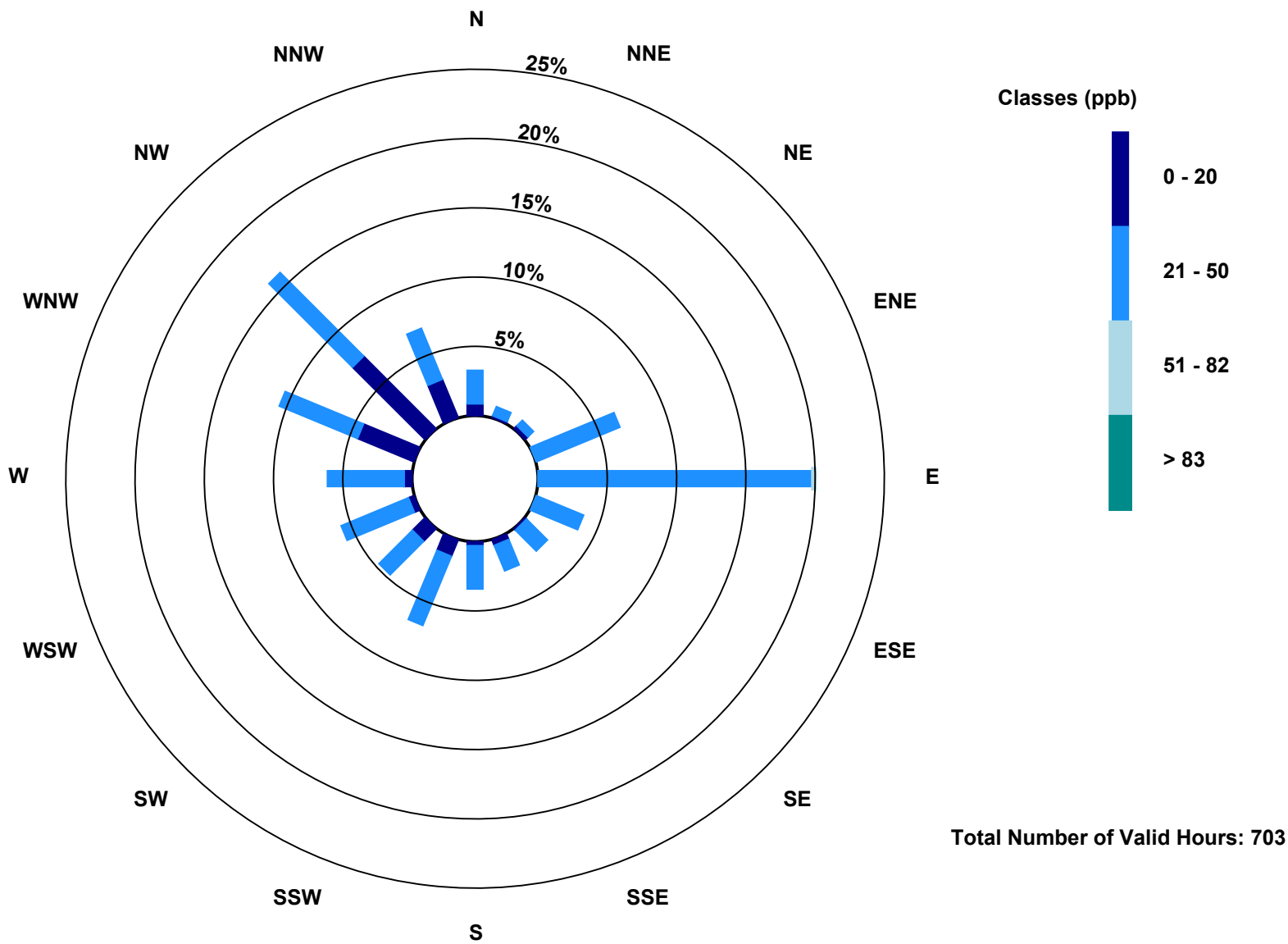
Total Number of Valid Hours: 703

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

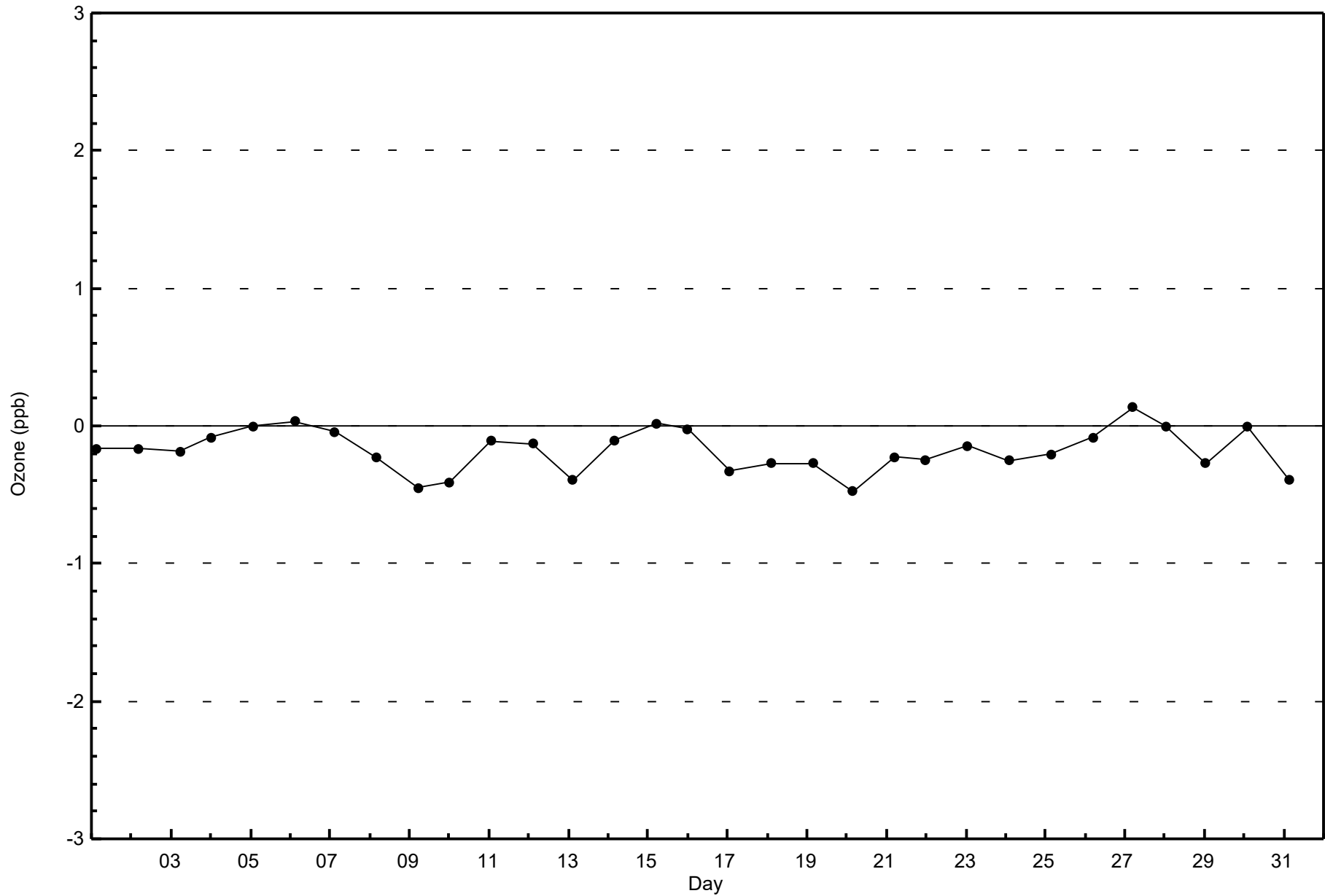
Ozone (O₃) - ppb
Fort Chipewyan





Wood Buffalo Environmental Association
Zero Responses

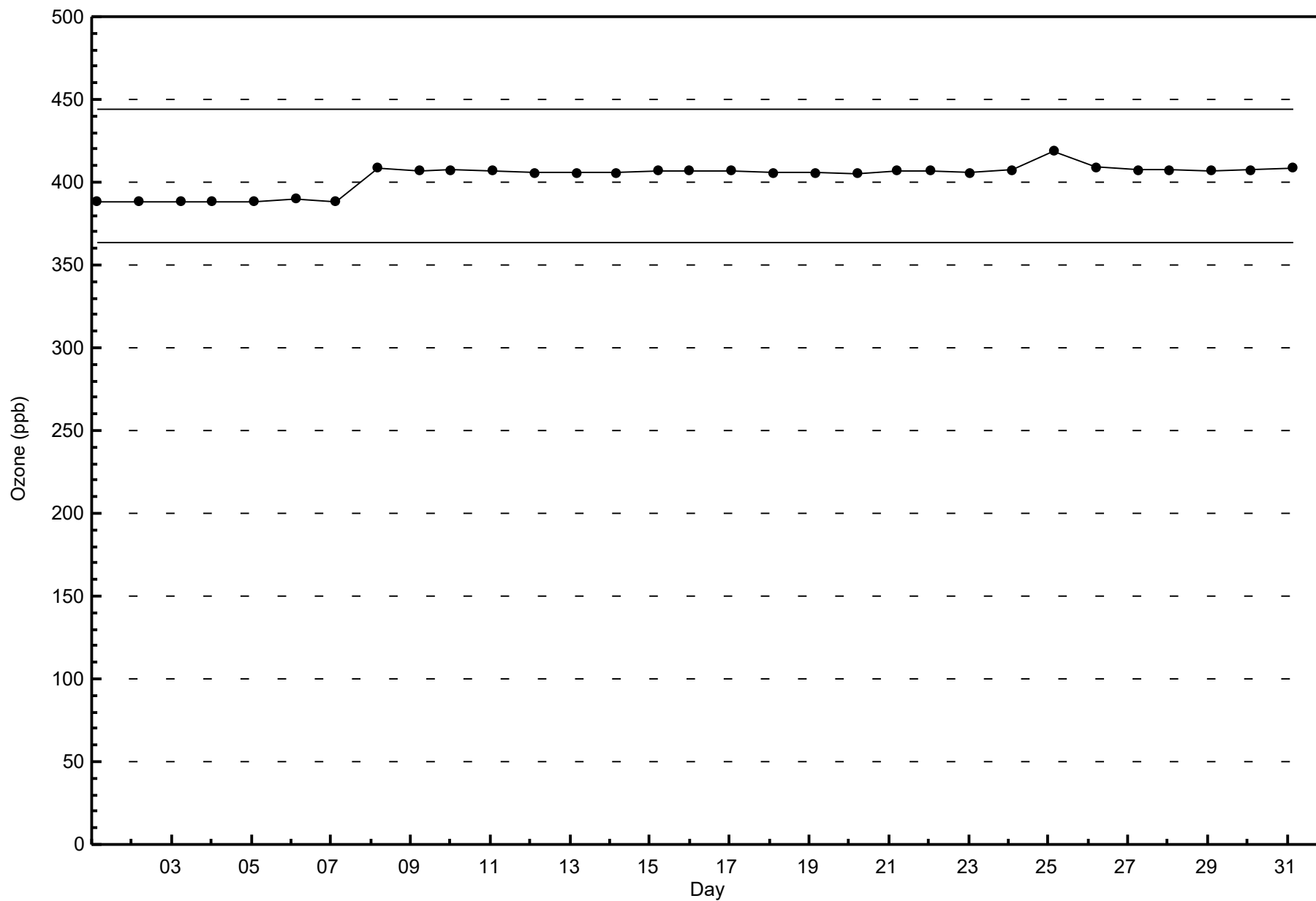
Ozone (O₃) - ppb
Fort Chipewyan - July 2025





Wood Buffalo Environmental Association
Span Responses

Ozone (O₃) - ppb
Fort Chipewyan - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

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

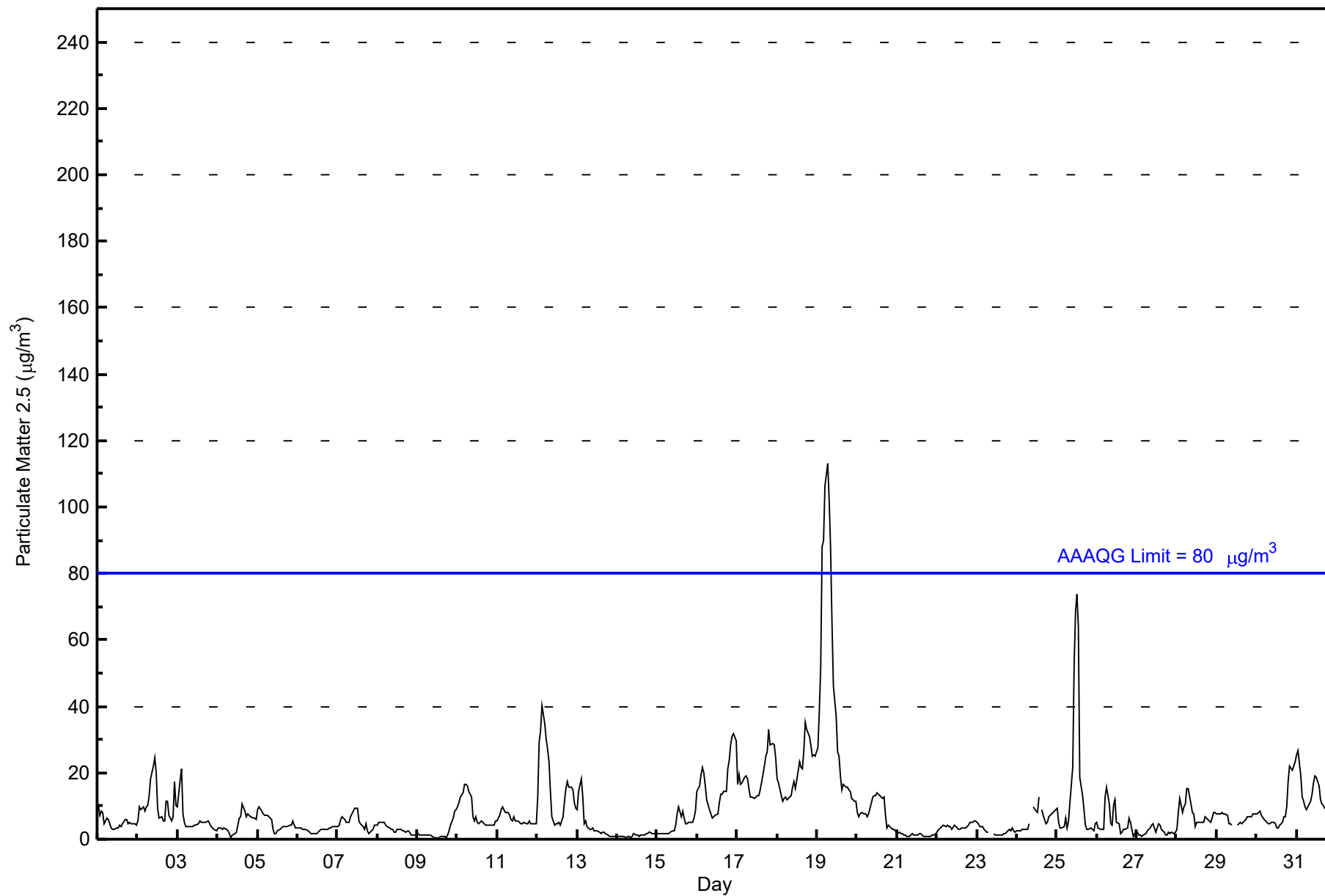
Fort Chipewyan - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 1 Maximum Value: 113.0 µg/m³ on Jul 19 07:00 Minimum Value: 0.4 µg/m³ on Jul 4 09:00 Maximum Diurnal Average: 10.7 µg/m³ at hour 6 Monthly Average: 8.69 µg/m³																				Maximum Daily Average: 43.8 µg/m³ on Jul 19 Minimum Daily Average: 1.2 µg/m³ on Jul 14 Minimum Diurnal Average: 6.7 µg/m³ at hour 15 Percentiles: P ₁ = 0.6 P ₁₀ = 1.5 Q ₁ = 2.9 Median = 5.1 Q ₃ = 9.8 P ₉₀ = 18.3 P ₉₉ = 67.5				Hours in Service: 744 Hours of Data: 737 Hours of Missing Data: 7 Hours of Calibration: 2 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-Jul	10.0	7.2	8.3	7.9	4.5	6.3	5.9	4.5	3.5	3.1	2.8	3.4	3.6	4.4	4.0	4.8	6.1	6.0	4.9	5.0	4.6	4.7	4.7	4.0	5.2	10.0	
2-Jul	5.6	10.0	8.8	9.5	8.5	9.9	10.3	13.0	18.3	22.1	24.6	19.8	9.2	6.3	7.0	5.7	5.5	11.5	11.6	7.3	5.6	6.8	17.2	10.2	11.0	24.6	
3-Jul	9.6	17.9	21.2	7.6	5.1	4.0	4.0	3.8	3.7	4.0	4.2	4.1	4.6	5.4	5.1	5.1	5.1	5.1	5.4	4.8	3.8	3.4	3.0	2.6	5.9	21.2	
4-Jul	3.2	3.6	3.4	3.1	3.4	3.0	2.5	1.6	0.4	1.3	1.7	2.1	4.2	6.4	6.8	10.7	8.4	6.9	7.6	7.1	6.8	6.5	6.3	6.1	4.7	10.7	
5-Jul	8.9	9.7	8.7	7.6	7.2	7.2	7.1	6.7	6.1	3.1	1.6	1.5	2.6	2.9	3.3	3.9	4.0	4.0	3.9	4.2	4.1	5.6	4.1	3.6	5.1	9.7	
6-Jul	3.3	3.4	3.4	3.1	3.0	2.9	2.6	2.3	1.7	1.8	1.9	1.9	2.3	2.6	2.8	2.9	3.0	3.1	3.1	3.5	3.5	3.7	3.7	4.0	2.9	4.0	
7-Jul	4.0	4.4	6.1	6.6	6.0	5.1	5.2	5.2	6.6	8.7	9.5	9.5	9.3	5.3	4.5	3.7	3.1	4.8	2.4	1.9	2.5	2.8	4.1	4.1	5.2	9.5	
8-Jul	4.3	5.1	5.2	5.1	4.9	4.2	3.8	3.2	3.1	2.8	2.2	2.2	3.0	3.1	3.0	2.6	2.5	2.2	2.6	2.0	1.2	1.1	1.1	1.3	3.0	5.2	
9-Jul	1.6	1.4	1.3	1.4	1.3	1.2	1.3	1.5	1.1	0.7	0.5	0.5	0.4	0.5	0.8	0.8	1.0	0.6	1.2	2.7	4.3	6.2	8.4	9.1	2.1	9.1	
10-Jul	9.8	11.2	12.6	14.0	16.6	16.7	16.3	14.6	12.7	6.7	5.4	6.8	5.3	4.7	5.5	5.0	4.6	4.3	4.4	4.3	4.4	4.0	4.3	5.6	8.3	16.7	
11-Jul	5.6	7.3	9.0	9.6	8.7	8.0	8.1	7.1	6.1	5.3	6.9	5.7	5.3	5.0	4.7	4.7	5.0	4.7	4.6	5.5	4.7	4.9	4.7	4.8	6.1	9.6	
12-Jul	12.8	29.3	32.4	40.3	34.6	30.1	27.1	23.3	14.5	6.9	4.4	4.6	4.6	5.0	4.3	6.6	11.5	15.3	17.2	15.5	15.6	14.8	10.8	9.1	16.3	40.3	
13-Jul	9.1	14.3	18.0	12.7	4.8	5.4	4.0	2.8	3.0	3.2	2.6	2.5	2.4	1.9	1.6	2.1	2.2	1.7	1.2	0.7	0.6	0.7	0.7	0.7	4.1	18.0	
14-Jul	0.7	0.7	0.7	0.7	0.7	0.6	0.7	0.8	0.6	0.6	1.5	1.1	1.3	1.0	1.3	1.4	1.3	1.9	1.5	2.0	2.1	1.5	1.6	1.5	1.2	2.1	
15-Jul	1.6	1.6	1.6	1.6	1.7	1.8	1.7	1.6	2.0	2.4	2.7	4.0	7.6	9.6	6.8	8.3	6.3	4.5	4.6	5.2	5.2	5.0	6.2	8.3	4.2	9.6	
16-Jul	14.4	16.1	19.7	21.5	19.9	16.2	11.8	8.7	7.7	6.5	6.7	7.3	7.8	11.2	13.7	13.8	14.3	14.3	21.3	23.9	28.3	30.8	31.6	29.6	16.5	31.6	
17-Jul	16.4	19.5	16.7	17.1	18.6	19.0	18.4	15.1	12.9	12.6	12.3	12.5	13.2	13.2	14.8	19.4	22.2	24.9	26.4	33.2	28.4	28.6	28.2	24.7	19.5	33.2	
18-Jul	18.2	16.9	13.2	11.6	12.5	12.5	12.1	12.1	13.3	15.6	17.5	15.4	17.9	23.4	21.7	21.4	26.7	35.2	33.0	31.1	28.2	25.0	25.5	25.0	20.2	35.2	
19-Jul	27.6	38.8	52.2	88.0	90.0	106.2	113.0	102.0	87.9	65.4	46.1	36.8	26.4	24.9	19.2	14.7	16.4	15.7	15.7	15.0	14.4	12.2	11.2	11.6	43.8	113.0	
20-Jul	8.2	6.8	7.5	8.0	7.7	7.5	6.8	7.5	9.3	12.6	13.3	13.1	14.0	13.5	12.8	12.1	12.8	7.1	3.3	4.1	3.3	3.1	3.0	2.4	8.3	14.0	
21-Jul	1.9	2.1	1.8	1.7	1.3	1.1	1.0	0.8	1.2	1.6	1.4	1.3	1.4	1.8	1.7	1.3	0.9	0.8	0.8	0.7	0.7	1.1	1.2	1.8	1.3	2.1	
22-Jul	2.6	3.0	3.5	4.0	4.1	4.0	4.1	3.9	3.8	3.1	4.3	4.0	3.2	3.1	2.8	3.2	3.4	3.5	3.6	4.3	5.2	5.3	5.6	5.4	3.9	5.6	
23-Jul	4.9	4.6	3.7	3.8	3.0	2.4	2.2	2.0	PF	PF	1.6	1.4	1.3	1.2	1.2	1.4	1.7	1.8	1.9	2.8	2.7	3.2	2.6	2.3	2.4	4.9	
24-Jul	2.5	2.5	2.6	2.9	2.8	2.9	3.1	4.7	PF	PF	9.6	8.7	8.2	12.6	PF	9.0	7.3	4.7	5.2	7.0	7.3	7.5	8.3	9.0	6.1	12.6	
25-Jul	9.4	5.1	3.5	3.3	3.8	6.5	3.6	5.5	10.9	21.6	52.6	68.7	73.7	64.1	18.9	13.0	8.8	4.1	2.8	3.1	3.5	2.9	2.3	4.5	16.5	73.7	
26-Jul	5.3	3.4	3.2	2.9	3.1	12.6	15.9	10.6	4.5	4.3	10.0	12.0	5.1	4.7	1.8	1.9	3.0	2.9	3.2	6.4	4.9	3.0	0.9	1.5	5.3	15.9	
27-Jul	2.3	1.4	1.1	1.0	1.1	1.7	2.6	2.9	3.4	4.1	4.6	2.2	3.4	4.6	4.4	3.0	2.2	1.3	1.3	2.1	1.6	2.0	1.7	2.1	2.4	4.6	
28-Jul	2.8	8.1	12.2	8.0	9.8	10.7	15.1	15.3	10.8	8.2	7.4	3.8	4.9	5.1	5.2	5.1	5.1	7.0	6.5	5.4	4.9	6.2	8.0	7.9	7.6	15.3	
29-Jul	7.6	7.7	7.5	7.9	7.8	7.8	7.2	4.8	4.6	4.1	C	C	4.1	4.6	4.9	4.6	5.2	5.8	6.8	6.6	6.8	6.6	7.6	7.8	6.3	7.9	
30-Jul	7.7	8.1	8.3	7.0	5.8	5.4	5.0	4.5	4.6	5.1	4.9	4.5	3.4	3.4	4.1	5.0	6.8	6.9	9.8	17.6	22.2	20.7	22.2	23.5	9.0	23.5	
31-Jul	25.3	26.7	18.9	12.8	11.3	9.6	8.8	9.6	11.3	13.4	16.8	19.0	18.8	16.0	11.8	10.6	10.3	9.4	8.7	9.1	9.2	13.6	13.1	13.2	13.6	26.7	
8.0 9.6 10.2 10.7 10.1 10.7 10.7 9.7 9.3 8.7 9.4 9.3 8.8 8.8 6.7 6.7 7.0 7.2 7.3 7.9 7.8 7.9 8.2 8.0																										Diurnal Average	
27.6 38.8 52.2 88.0 90.0 106.2 113.0 102.0 87.9 65.4 52.6 68.7 73.7 64.1 21.7 21.4 26.7 35.2 33.0 33.2 28.4 30.8 31.6 29.6																										Diurnal Maximum	
C - Calibration PF - Power Failure																											
Alberta Ambient Air Quality Guideline/Objectives: 1-hr 80 µg/m³ 24-hr 29 µg/m³																											



Wood Buffalo Environmental Association
Hourly Averages

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Fort Chipewyan - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Fort Chipewyan - July 2025

Concentration Ranges ($\mu\text{g}/\text{m}^3$)	Number of Hours	%	Cumulative %
0 - 5	406	55.09	55.09
6 - 15	230	31.21	86.30
16 - 25	62	8.41	94.71
26 - 80	33	4.48	99.19
> 81.0	6	0.81	100.00

Total Number of Valid Hours: 737

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - µg/m³
Fort Chipewyan - July 2025

Concentration Ranges (µg/m³)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	12	3	2	10	54	11	6	13	14	29	21	31	25	45	93	37	406
6 - 15	12	3	4	18	53	13	10	6	8	14	11	6	17	25	18	12	230
16 - 25	2	1	0	9	26	5	0	0	2	2	1	2	3	6	1	2	62
26 - 80	0	0	0	9	11	0	0	0	0	2	3	1	1	0	3	3	33
> 81.0	0	0	0	0	0	0	0	0	2	4	0	0	0	0	0	0	6
Totals	26	7	6	46	144	29	16	19	26	51	36	40	46	76	115	54	737

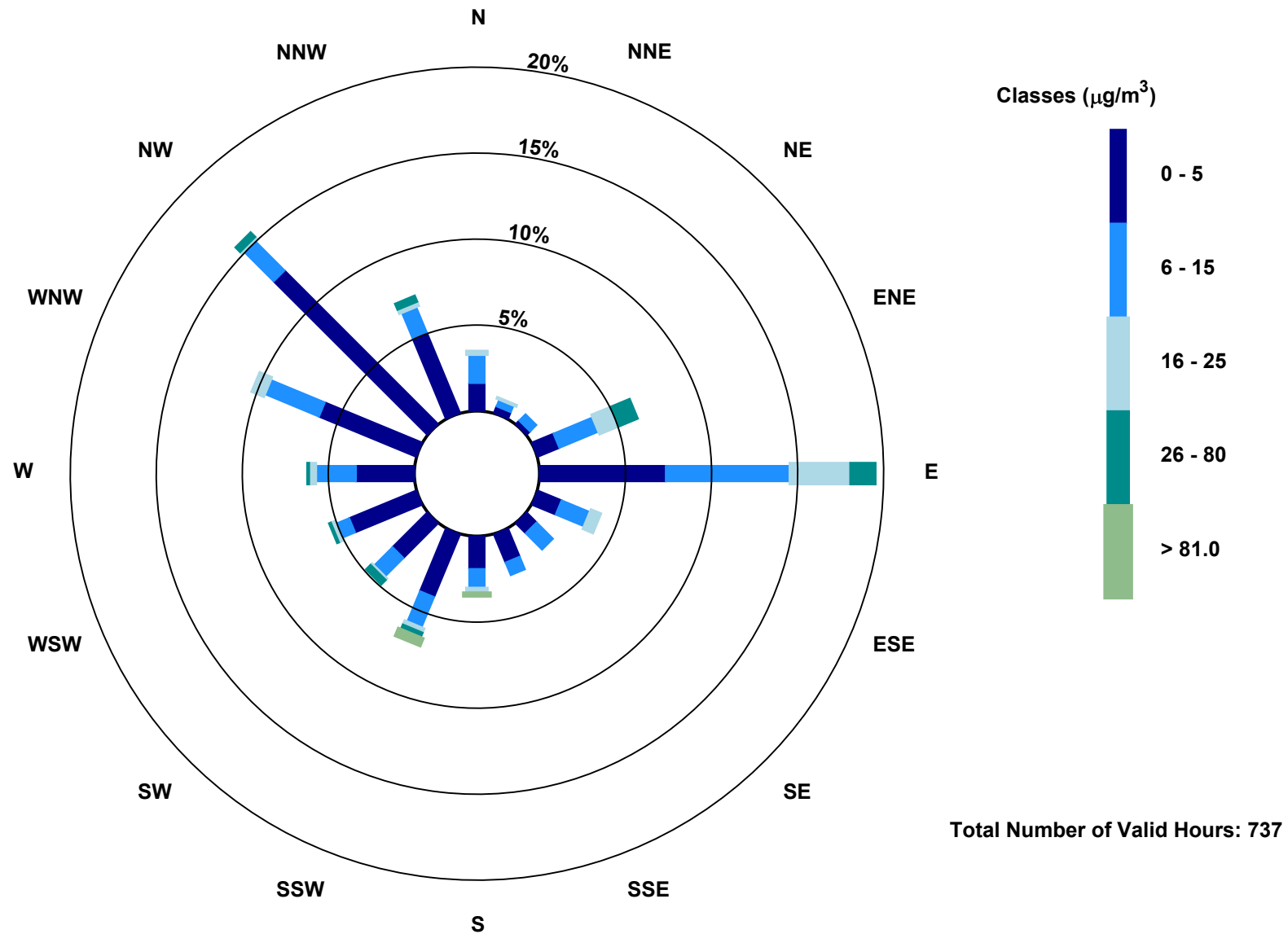
Total Number of Valid Hours: 737

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Ambient Temperature 2m (AT2) - C

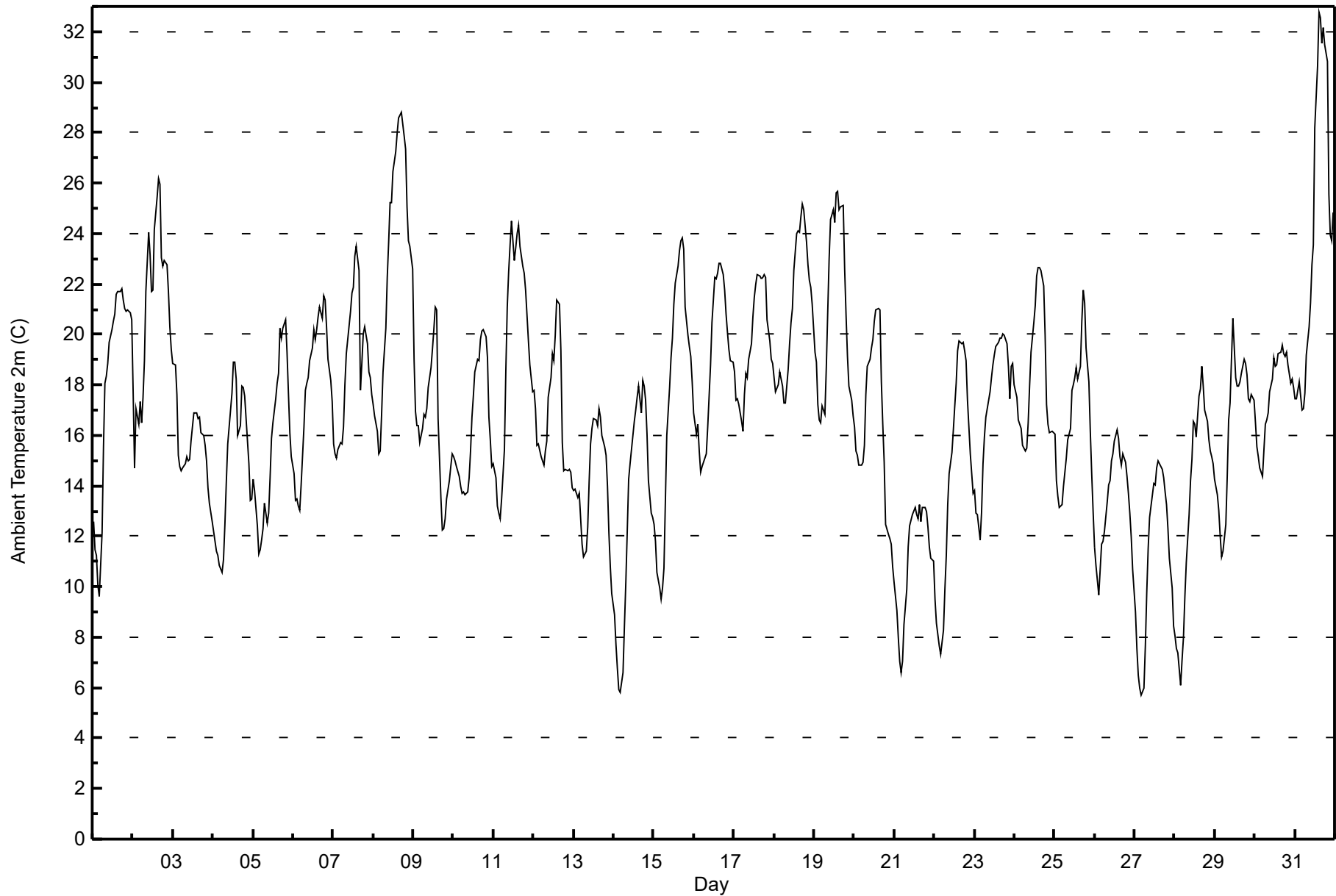
Fort Chipewyan - July 2025

Maximum Value: 32.8 C on Jul 31 15:00																				Maximum Daily Average: 24.1 C on Jul 31					Hours in Service: 744	
Minimum Value: 5.7 C on Jul 27 05:00																				Minimum Daily Average: 11.1 C on Jul 21					Hours of Data: 744	
Maximum Diurnal Average: 20.7 C at hour 15																				Minimum Diurnal Average: 12.8 C at hour 5					Hours of Missing Data: 0	
Monthly Average: 17.07 C																				Percentiles: P ₁ = 6.6 P ₁₀ = 11.6 Q ₁ = 14.3 Median = 17.0 Q ₃ = 19.7 P ₉₀ = 22.6 P ₉₉ = 28.8					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-Jul	12.6	11.5	11.3	10.1	9.6	12.2	15.5	18.1	18.3	18.8	19.7	20.2	20.6	20.8	21.6	21.7	21.7	21.8	21.4	21.0	20.9	21.0	20.9	20.6	18.0	21.8
2-Jul	17.7	14.7	17.1	16.5	17.4	16.5	17.5	19.0	21.7	24.0	23.1	21.7	21.8	24.1	25.4	26.2	25.9	23.0	22.7	22.9	22.8	21.7	20.3	19.4	21.0	26.2
3-Jul	18.8	18.8	17.6	15.2	14.8	14.6	14.7	14.9	15.1	15.0	15.0	15.8	16.9	16.9	16.9	16.7	16.7	16.1	16.0	15.6	15.0	13.9	13.3	12.6	15.7	18.8
4-Jul	12.2	11.8	11.4	11.2	10.9	10.6	11.1	12.5	14.1	15.6	17.0	17.7	18.9	18.9	18.2	16.0	16.4	17.9	17.9	17.6	16.6	14.9	13.4	13.5	14.8	18.9
5-Jul	14.3	13.8	12.4	11.3	11.5	11.9	12.3	13.3	12.5	12.9	14.3	15.9	16.5	17.4	18.1	18.5	20.3	19.8	20.2	20.6	19.3	17.7	16.1	15.1	15.7	20.6
6-Jul	14.5	13.4	13.5	13.2	13.0	14.1	16.3	17.8	18.1	18.3	19.0	19.4	20.2	19.8	20.2	20.7	21.1	20.7	21.5	21.3	20.3	19.0	18.2	17.3	18.0	21.5
7-Jul	15.7	15.3	15.1	15.5	15.7	15.7	16.3	18.0	19.2	20.4	20.9	21.6	21.9	23.1	23.5	22.5	17.8	18.8	20.0	20.3	19.6	18.5	18.3	17.6	18.8	23.5
8-Jul	17.2	16.8	16.1	15.3	15.4	16.8	18.5	20.2	22.2	23.7	25.2	25.2	26.4	27.2	28.0	28.6	28.7	28.8	27.9	27.4	25.0	23.7	23.5	22.6	22.9	28.8
9-Jul	19.0	16.9	16.4	16.4	15.7	16.3	16.8	16.7	17.0	17.9	18.7	19.4	20.2	21.1	21.0	16.7	13.5	12.2	12.3	12.7	13.5	14.2	14.7	15.2	16.4	21.1
10-Jul	15.2	15.0	14.8	14.3	14.0	13.7	13.8	13.6	13.8	14.3	15.4	16.7	17.6	18.5	19.0	19.0	19.8	20.1	20.2	19.9	19.1	16.7	15.8	14.8	16.5	20.2
11-Jul	14.9	14.3	13.2	12.9	12.7	13.5	15.5	18.5	21.1	22.5	23.5	24.5	22.9	23.4	24.0	24.3	23.5	22.7	22.4	21.7	20.7	19.8	18.8	17.7	19.6	24.5
12-Jul	17.8	17.1	15.6	15.6	15.1	15.0	14.8	15.4	15.8	17.5	18.3	19.2	19.0	20.0	21.4	21.2	19.4	15.7	14.6	14.7	14.6	14.7	14.5	13.9	16.7	21.4
13-Jul	13.8	13.9	13.5	13.7	12.7	11.7	11.2	11.4	12.3	14.2	15.7	16.3	16.7	16.6	16.4	17.1	16.7	16.0	15.6	15.2	14.0	12.1	10.8	9.8	14.0	17.1
14-Jul	8.9	7.7	6.8	5.9	5.8	6.6	8.4	10.2	12.2	14.3	14.9	16.0	16.5	17.0	17.5	17.9	16.9	18.2	18.0	17.4	16.1	14.2	12.9	12.7	13.0	18.2
15-Jul	12.5	11.8	10.6	9.9	9.5	10.0	10.7	13.3	16.0	17.9	19.1	19.8	21.2	22.0	22.7	23.3	23.7	23.8	23.4	21.1	19.9	19.5	19.1	18.1	17.5	23.8
16-Jul	16.9	16.1	16.4	15.4	14.5	14.8	14.9	15.3	16.3	17.5	18.8	20.5	22.3	22.2	22.4	22.8	22.8	22.3	21.7	20.8	20.1	19.4	18.9	18.9	18.8	22.8
17-Jul	18.5	17.4	17.4	17.3	16.6	16.1	17.6	18.5	18.3	19.0	19.6	20.7	21.5	22.0	22.4	22.3	22.2	22.3	22.4	22.3	20.6	19.8	19.0	18.9	19.7	22.4
18-Jul	18.3	17.7	18.0	18.5	18.2	17.9	17.3	17.3	18.6	19.6	20.5	21.0	22.5	24.0	24.1	24.0	24.7	25.2	24.9	23.6	22.8	22.1	21.9	21.2	21.0	25.2
19-Jul	19.3	18.9	17.2	16.6	16.5	17.2	16.8	18.7	20.9	23.0	24.6	24.9	24.5	25.6	25.7	24.9	25.0	25.1	22.6	20.8	19.1	18.0	17.4	16.8	20.8	25.7
20-Jul	16.3	15.4	15.2	14.8	14.8	14.9	15.6	17.6	18.7	19.0	19.5	19.8	20.5	21.0	21.1	21.0	18.1	16.5	14.9	12.5	12.1	11.9	11.7	10.8	16.4	21.1
21-Jul	10.2	9.1	8.0	7.1	6.6	7.0	8.5	9.9	11.6	12.4	12.7	12.9	13.2	12.9	12.7	13.3	12.6	13.2	13.2	13.0	12.4	11.6	11.1	11.0	11.1	13.3
22-Jul	9.5	8.5	8.1	7.6	7.3	8.3	9.9	11.2	13.2	14.5	15.3	16.2	17.2	18.0	19.3	19.8	19.6	19.7	19.4	19.0	17.4	15.3	14.5	13.7	14.3	19.8
23-Jul	13.8	12.9	12.9	11.8	13.0	14.9	16.0	16.7	17.4	17.7	18.3	18.8	19.2	19.5	19.7	19.8	19.9	20.0	20.0	19.6	18.8	17.4	18.7	18.9	17.3	20.0
24-Jul	18.0	17.5	16.6	16.4	16.3	15.6	15.4	15.5	16.5	17.9	19.3	20.4	21.1	22.3	22.6	22.6	22.5	21.9	20.0	17.2	16.4	16.1	16.1	16.1	18.4	22.6
25-Jul	16.0	14.2	13.6	13.2	13.2	14.0	14.5	15.1	15.8	16.3	17.8	18.0	18.3	18.7	18.2	18.7	20.5	21.8	21.2	19.5	18.1	16.2	14.5	13.0	16.7	21.8
26-Jul	11.6	10.9	9.7	10.7	11.7	11.8	12.2	13.4	14.0	14.2	15.0	15.3	15.7	16.2	15.9	15.2	14.8	15.3	14.9	14.4	13.7	12.9	12.0	10.7	13.4	16.2
27-Jul	9.0	7.5	6.5	6.0	5.7	6.0	7.7	9.8	11.5	12.7	13.2	14.1	14.0	14.7	15.0	14.9	14.7	14.3	13.8	13.3	12.3	11.1	10.0	8.4	11.1	15.0
28-Jul	8.0	7.5	7.4	6.1	7.1	8.0	9.6	11.0	12.8	14.2	15.1	16.5	16.4	15.9	17.6	17.8	18.7	17.9	17.0	16.6	15.9	15.4	15.2	14.9	13.4	18.7
29-Jul	14.3	13.6	13.0	12.0	11.2	11.4	12.5	14.4	16.6	17.3	19.0	20.7	18.3	18.0	18.0	18.1	18.5	19.0	18.9	18.4	17.5	17.3	17.6	17.4	16.4	20.7
30-Jul	16.5	15.6	15.2	14.7	14.4	15.5	16.4	16.6	16.9	17.7	18.3	19.1	18.8	18.8	19.3	19.3	19.6	19.2	19.1	19.3	18.8	18.1	18.3	17.9	17.6	19.6
31-Jul	17.4	17.5	18.1	17.6	17.0	17.0	17.7	19.2	20.3	21.2	22.8	23.5	28.2	30.6	32.8	32.5	31.5	32.1	31.5	30.8	25.6	24.0	23.7	24.8	24.1	32.8
14.8 14.0 13.5 13.0 12.8 13.2 14.1 15.3 16.4 17.5 18.4 19.1 19.6 20.2 20.7 20.6 20.3 20.1 19.7 19.0 18.0 17.0 16.5 15.9																										Diurnal Average
19.3 18.9 18.1 18.5 18.2 17.9 18.5 20.2 22.2 24.0 25.2 25.2 28.2 30.6 32.8 32.5 31.5 32.1 31.5 30.8 25.6 24.0 23.7 24.8																										Diurnal Maximum



Wood Buffalo Environmental Association
Hourly Averages

Ambient Temperature 2m (AT2) - C
Fort Chipewyan - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ambient Temperature 2m (AT2) - C
Fort Chipewyan - July 2025

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	0	0.00	0.00
-20 - 0	0	0.00	0.00
0 - 10	44	5.91	5.91
10 - 20	529	71.10	77.02
> 20	171	22.98	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) - %

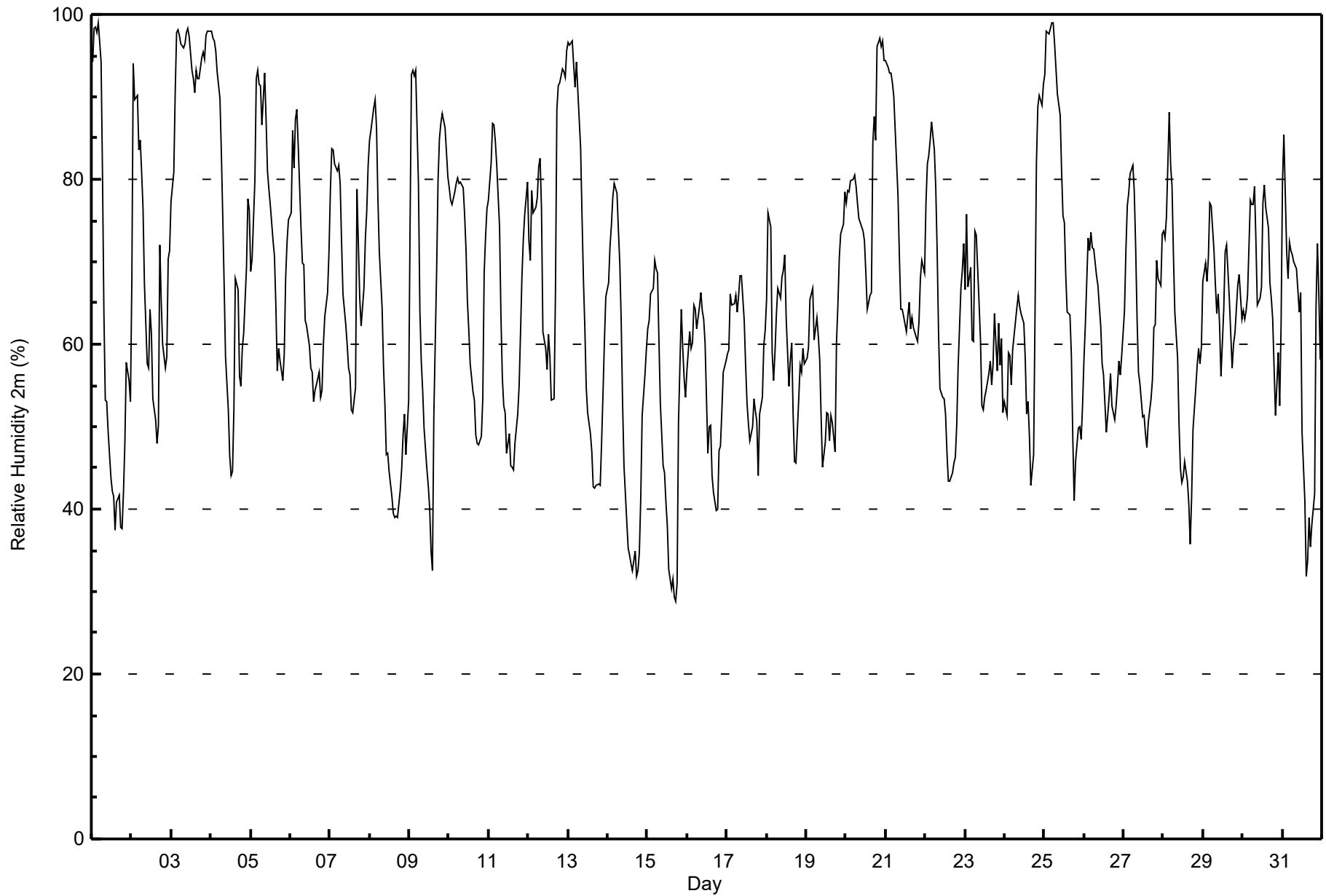
Fort Chipewyan - July 2025

Maximum Value: 99.1 % on Jul 1 05:00																			Maximum Daily Average: 94.0 % on Jul 3						Hours in Service: 744	
Minimum Value: 28.8 % on Jul 15 18:00																			Minimum Daily Average: 50.6 % on Jul 15						Hours of Data: 744	
Maximum Diurnal Average: 80.2 % at hour 5																			Minimum Diurnal Average: 52.2 % at hour 15						Hours of Missing Data: 0	
Monthly Average: 65.57 %																			Percentiles: P ₁ = 32.5 P ₁₀ = 45.1 Q ₁ = 53.4 Median = 64.2 Q ₃ = 77.0 P ₉₀ = 90.4 P ₉₉ = 97.9						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-Jul	94.3	98.4	98.4	97.9	99.1	94.3	80.7	63.9	53.3	53.1	49.5	44.0	42.2	41.6	37.5	40.8	41.7	37.9	37.7	42.0	48.0	57.8	55.6	53.1	60.9	99.1
2-Jul	67.9	94.1	89.7	90.1	83.6	84.7	80.9	76.4	67.2	57.6	57.1	64.3	61.3	53.4	50.8	47.9	50.1	72.1	65.2	60.0	57.2	58.4	70.4	71.4	68.0	94.1
3-Jul	77.3	80.8	90.6	97.8	98.2	97.5	96.4	96.0	96.4	97.8	98.3	97.3	93.2	92.2	90.4	93.2	92.2	92.2	94.7	95.4	94.6	97.5	97.9	97.9	94.0	98.3
4-Jul	97.9	97.1	96.8	95.6	93.0	89.9	83.4	75.5	67.3	58.5	52.0	46.4	44.0	44.5	52.1	67.9	66.6	56.1	54.8	59.5	61.3	69.4	77.6	76.2	70.2	97.9
5-Jul	68.8	70.3	79.8	92.2	93.2	91.5	91.4	86.6	93.0	87.3	81.0	78.8	76.9	72.5	70.6	64.8	56.8	59.5	57.9	55.5	58.9	67.9	72.4	75.1	75.1	93.2
6-Jul	76.0	86.0	81.3	87.3	88.6	84.1	74.1	69.8	69.6	62.9	62.2	59.8	57.0	56.7	53.0	54.3	55.1	56.6	53.6	54.3	60.0	63.4	66.2	71.2	66.8	88.6
7-Jul	78.6	83.8	83.5	81.8	81.0	81.6	79.4	72.5	66.0	62.4	60.0	57.1	56.3	52.0	51.6	54.7	78.7	72.2	65.7	62.2	66.8	72.7	76.1	81.6	69.9	83.8
8-Jul	84.8	86.0	88.7	89.7	86.3	77.6	71.2	64.4	57.3	52.8	46.5	46.7	44.6	41.6	39.6	39.0	39.2	39.0	42.4	44.9	49.0	51.5	46.6	53.3	57.6	89.7
9-Jul	74.5	92.8	93.2	92.5	93.2	79.3	64.2	57.9	54.3	49.8	45.0	42.8	40.2	34.8	32.6	51.4	69.0	79.8	85.0	86.8	88.0	86.3	83.4	80.4	69.1	93.2
10-Jul	79.1	77.5	76.9	78.4	79.5	80.1	79.5	79.7	79.0	75.8	71.5	65.2	61.8	57.6	54.2	53.2	49.1	47.9	47.8	48.9	53.4	68.6	73.1	76.4	67.3	80.1
11-Jul	77.5	82.0	86.8	86.6	84.6	81.7	74.2	63.5	55.9	52.6	51.7	46.8	49.1	45.2	45.0	44.8	48.0	51.6	55.0	61.4	68.2	72.8	75.7	79.7	64.2	86.8
12-Jul	72.5	70.2	78.7	76.0	76.6	77.8	81.5	82.5	76.4	61.5	59.4	56.9	61.3	58.4	53.3	53.5	66.4	88.4	91.3	91.7	93.5	93.1	92.3	95.6	75.4	95.6
13-Jul	96.6	96.3	96.7	93.9	91.1	94.2	90.7	83.7	75.4	67.8	62.0	54.8	51.6	49.1	47.0	42.8	42.6	42.9	43.1	42.9	48.2	54.1	60.4	65.8	66.4	96.7
14-Jul	67.4	71.9	74.5	77.7	79.4	78.3	74.0	69.8	62.9	52.9	45.2	38.4	35.3	34.3	33.4	32.6	34.9	31.8	32.5	34.7	41.3	51.3	56.3	59.2	52.9	79.4
15-Jul	61.9	62.9	66.2	66.8	70.2	69.2	68.7	60.5	52.9	45.3	44.4	40.8	37.9	32.7	30.4	31.4	29.4	28.8	31.1	50.5	64.2	59.6	56.0	53.5	50.6	70.2
16-Jul	56.8	61.5	59.6	60.2	64.8	64.3	61.9	64.7	66.3	64.0	63.1	60.2	46.8	50.1	50.1	44.1	42.0	39.9	40.0	47.2	47.6	51.8	56.7	57.9	55.1	66.3
17-Jul	58.9	59.3	66.1	64.8	65.0	65.9	63.9	65.9	68.3	68.3	62.9	57.5	52.8	50.4	48.2	50.0	53.3	51.8	50.7	44.0	51.6	53.6	59.8	61.7	58.1	68.3
18-Jul	65.4	76.0	74.3	59.0	55.6	58.9	63.5	66.8	65.6	68.1	69.0	70.8	63.1	55.0	58.1	60.1	51.4	45.8	45.5	53.4	57.4	56.6	59.5	57.7	60.7	76.0
19-Jul	58.3	59.6	65.4	66.1	66.7	60.4	63.3	61.0	58.1	51.2	45.0	48.1	51.6	51.5	48.3	51.4	50.5	46.9	60.2	64.8	70.6	73.3	74.6	78.5	59.4	78.5
20-Jul	77.1	78.6	78.5	79.8	79.9	80.5	79.2	77.1	75.2	74.3	73.7	72.6	68.6	64.2	66.0	66.2	84.4	87.7	84.7	96.1	97.1	96.1	96.8	94.4	80.4	97.1
21-Jul	94.5	93.6	92.8	93.0	91.8	90.1	86.0	78.0	70.5	64.2	64.3	63.3	61.6	63.4	65.1	61.9	63.2	62.1	60.8	60.4	62.8	67.9	70.2	68.6	72.9	94.5
22-Jul	77.2	81.9	82.9	84.7	87.0	83.5	79.0	71.4	61.4	54.6	53.5	53.4	51.6	46.9	43.4	43.4	44.4	45.6	46.3	50.1	57.3	66.9	68.9	72.2	62.8	87.0
23-Jul	66.6	75.8	67.0	69.4	60.5	60.3	73.8	73.3	65.0	60.5	52.5	52.0	53.5	54.3	56.5	58.0	55.1	57.6	63.7	56.8	62.6	57.4	60.6	51.6	61.0	75.8
24-Jul	53.1	51.4	59.0	58.7	55.0	59.3	62.7	64.4	65.9	64.5	63.7	62.5	58.3	51.5	53.0	48.8	42.9	46.6	63.5	81.8	88.7	90.2	89.0	91.5	63.6	91.5
25-Jul	92.7	97.9	97.8	97.6	98.9	99.0	96.5	93.5	90.3	87.7	81.0	75.6	74.7	68.2	64.0	63.6	58.6	48.8	40.9	45.7	49.8	50.0	48.5	52.5	73.9	99.0
26-Jul	58.2	62.4	72.8	71.3	73.6	71.7	71.4	68.2	67.1	64.5	62.2	57.6	56.2	49.3	51.4	53.5	56.4	52.5	50.9	52.6	55.1	58.0	56.3	58.6	60.5	73.6
27-Jul	64.0	71.4	76.7	78.4	80.7	81.7	78.5	71.7	63.0	56.6	55.2	51.2	51.4	49.1	47.4	50.5	53.4	55.8	62.0	62.3	70.3	68.0	67.2	73.3	64.2	81.7
28-Jul	73.7	72.9	75.4	88.2	81.7	79.1	70.8	64.0	58.3	50.3	44.9	43.3	43.9	45.8	43.3	40.7	35.7	41.4	49.6	54.8	57.5	59.4	57.6	59.7	58.0	88.2
29-Jul	67.6	69.8	67.7	70.5	77.1	76.9	71.4	67.4	63.8	66.1	62.3	56.1	64.3	71.2	72.0	68.9	65.3	57.1	59.9	61.4	64.2	67.1	68.5	63.1	66.7	77.1
30-Jul	64.0	63.1	64.1	65.9	77.4	77.0	76.9	79.1	72.6	64.7	65.7	67.0	77.1	79.3	76.6	74.1	67.4	65.7	63.0	57.1	51.4	59.0	52.6	62.4	67.6	79.3
31-Jul	79.6	85.5	71.1	67.9	72.5	71.4	70.8	70.0	69.2	66.7	63.9	66.3	49.4	41.1	31.9	33.7	38.9	35.4	38.2	41.8	64.6	72.1	66.1	58.1	59.4	85.5
73.6 77.8 79.1 80.0 80.2 78.8 76.1 72.2 68.0 63.4 60.3 58.0 56.1 53.5 52.2 52.9 54.3 54.8 56.1 58.7 63.3 66.8 68.2 69.4																									Diurnal Average	
97.9 98.4 98.4 97.9 99.1 99.0 96.5 96.0 96.4 97.8 98.3 97.3 93.2 92.2 90.4 93.2 92.2 92.2 94.7 96.1 97.1 97.5 97.9 97.9																									Diurnal Maximum	



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 2m (RH2) - %
Fort Chipewyan - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Relative Humidity 2m (RH2) - %
Fort Chipewyan - July 2025

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	32	4.30	4.30
40 - 60	264	35.48	39.79
60 - 80	306	41.13	80.91
80 - 100	142	19.09	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association

Summary of Hour Averages

Leaf Wetness (LW) - %

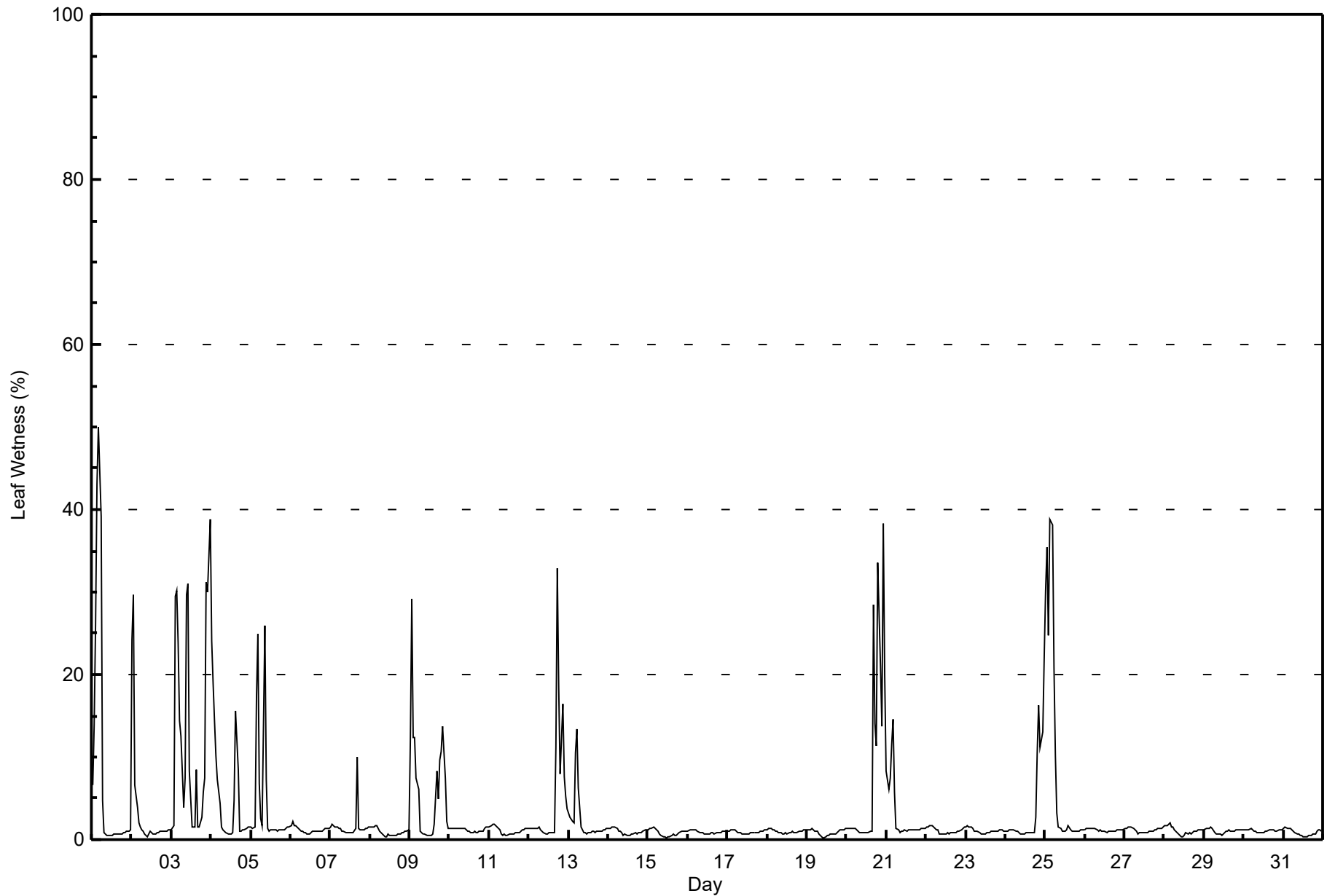
Fort Chipewyan - July 2025

Maximum Value: 50.0 % on Jul 1 05:00																	Maximum Daily Average: 13.6 % on Jul 3										Hours in Service: 744	
Minimum Value: 0.2 % on Jul 19 11:00																	Minimum Daily Average: 0.8 % on Jul 15										Hours of Data: 744	
Maximum Diurnal Average: 6.8 % at hour 5																	Minimum Diurnal Average: 0.8 % at hour 13										Hours of Missing Data: 0	
Monthly Average: 2.99 %																	Percentiles: P ₁ = 0.4 P ₁₀ = 0.7 Q ₁ = 0.8 Median = 1.1 Q ₃ = 1.4 P ₉₀ = 7.1 P ₉₉ = 34.6										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-Jul	6.5	13.9	26.0	43.0	50.0	39.1	4.8	0.8	0.6	0.6	0.5	0.5	0.6	0.7	0.7	0.7	0.7	0.7	0.8	0.9	1.0	1.0	1.2	8.2	50.0			
2-Jul	24.2	29.7	6.5	3.9	2.0	1.5	1.2	1.1	0.8	0.4	0.7	1.0	0.9	0.7	0.7	0.8	0.8	1.0	1.1	1.0	1.0	1.1	1.2	1.2	3.5	29.7		
3-Jul	1.3	1.6	29.4	30.2	23.9	14.4	12.6	3.9	7.5	29.7	31.0	8.3	1.6	1.4	1.4	8.6	1.6	1.6	2.7	5.7	7.5	31.2	30.0	38.8	13.6	38.8		
4-Jul	24.1	19.0	14.5	10.1	7.3	4.4	1.5	1.1	0.9	0.8	0.7	0.7	0.7	0.8	4.8	15.6	8.5	1.1	1.1	1.1	1.2	1.4	1.5	1.5	5.2	24.1		
5-Jul	1.5	1.4	1.5	17.1	25.0	6.7	2.6	1.7	25.9	7.3	1.4	1.1	1.2	1.1	1.2	1.2	1.1	1.1	1.1	1.1	1.2	1.4	1.5	1.5	4.5	25.9		
6-Jul	1.7	2.2	1.6	1.7	1.6	1.3	1.0	1.0	0.9	0.9	0.8	0.7	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.3	1.3	1.4	1.2	2.2		
7-Jul	1.6	1.8	1.7	1.6	1.5	1.4	1.3	1.1	1.0	0.8	0.9	0.9	0.9	0.8	0.9	1.3	9.9	1.3	1.2	1.2	1.2	1.3	1.4	1.4	1.6	9.9		
8-Jul	1.6	1.6	1.5	1.7	1.6	1.3	1.0	0.7	0.4	0.4	0.4	0.6	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.8	0.9	1.0	1.0	1.2	0.9	1.7		
9-Jul	12.1	29.2	12.4	12.3	7.5	6.1	1.1	0.8	0.7	0.6	0.5	0.5	0.5	0.6	0.6	1.9	8.3	4.9	9.6	10.6	13.7	7.4	2.2	1.4	6.1	29.2		
10-Jul	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.2	1.0	1.0	0.9	0.9	1.0	0.9	0.9	1.0	1.0	1.1	1.3	1.5	1.5	1.2	1.5		
11-Jul	1.6	1.6	1.9	1.9	1.6	1.5	1.1	0.7	0.5	0.7	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.1	1.9		
12-Jul	1.3	1.3	1.4	1.4	1.3	1.4	1.4	1.2	1.0	0.8	0.7	0.7	0.9	0.8	0.8	0.9	11.1	33.0	18.6	7.9	16.5	7.6	5.3	3.8	5.0	33.0		
13-Jul	3.2	2.7	2.2	2.0	10.5	13.3	6.2	1.6	1.2	0.9	0.8	0.7	0.8	0.9	1.0	0.9	0.9	0.9	1.0	1.0	1.0	1.2	1.3	1.3	2.4	13.3		
14-Jul	1.4	1.4	1.5	1.5	1.5	1.3	1.1	0.9	0.8	0.6	0.7	0.5	0.5	0.6	0.7	0.7	0.8	0.7	0.8	0.8	0.9	1.0	1.1	1.2	1.0	1.5		
15-Jul	1.3	1.3	1.4	1.4	1.4	1.2	1.0	0.7	0.5	0.4	0.3	0.2	0.3	0.4	0.5	0.6	0.5	0.6	0.6	0.8	1.1	1.1	1.1	1.0	0.8	1.4		
16-Jul	1.1	1.1	1.1	1.2	1.2	1.1	1.0	0.9	0.8	0.8	0.7	0.7	0.6	0.7	0.8	0.8	0.8	0.8	0.8	0.9	0.9	1.0	1.0	1.0	0.9	1.2		
17-Jul	1.1	1.1	1.1	1.2	1.1	1.1	0.9	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.9	0.9	0.9	0.9	1.0	1.0	1.1	1.1	0.9	1.2		
18-Jul	1.2	1.3	1.3	1.2	1.1	1.1	1.0	0.9	0.8	0.7	0.7	0.8	0.8	0.8	0.9	0.9	0.9	0.8	0.8	0.9	1.0	1.1	1.1	1.2	1.0	1.3		
19-Jul	1.2	1.2	1.2	1.3	1.3	1.1	0.9	0.7	0.5	0.3	0.2	0.3	0.5	0.5	0.6	0.7	0.7	0.7	0.9	1.0	1.1	1.2	1.2	1.3	0.9	1.3		
20-Jul	1.3	1.3	1.3	1.4	1.4	1.3	1.3	1.0	0.9	0.9	0.8	0.8	0.8	0.9	0.9	1.0	28.5	14.1	11.3	33.6	21.1	13.7	38.2	20.1	8.2	38.2		
21-Jul	8.3	6.0	7.4	11.5	14.6	5.8	1.3	1.1	0.9	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.3	3.1	14.6		
22-Jul	1.5	1.6	1.7	1.8	1.7	1.4	1.2	1.2	0.7	0.6	0.7	0.7	0.7	0.8	0.7	0.8	0.8	0.9	0.9	1.0	1.1	1.3	1.4	1.4	1.1	1.8		
23-Jul	1.4	1.7	1.5	1.5	1.3	1.1	0.9	0.9	0.8	0.7	0.6	0.6	0.7	0.8	0.9	1.0	1.0	1.0	1.1	1.1	1.1	1.2	1.2	1.1	1.1	1.7		
24-Jul	1.1	1.1	1.2	1.2	1.1	1.1	1.1	1.0	0.9	0.7	0.7	0.7	0.8	0.8	0.9	0.8	0.8	0.9	2.8	10.5	16.3	11.1	13.1	22.1	3.9	22.1		
25-Jul	30.2	35.4	24.7	38.7	38.2	20.9	10.2	3.2	1.5	1.4	1.1	1.0	1.1	1.1	1.7	1.1	1.0	1.0	0.9	1.0	1.1	1.1	1.1	1.2	9.2	38.7		
26-Jul	1.3	1.3	1.4	1.4	1.4	1.3	1.3	1.1	1.1	1.1	1.0	1.0	0.9	0.9	1.0	1.0	1.1	1.0	1.1	1.1	1.1	1.2	1.2	1.3	1.1	1.4		
27-Jul	1.3	1.4	1.5	1.6	1.5	1.4	1.2	1.0	0.8	0.8	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.1	1.1	1.2	1.3	1.4	1.4	1.6	1.2	1.6		
28-Jul	1.6	1.6	1.6	2.0	1.6	1.5	1.2	1.0	0.7	0.5	0.4	0.4	0.5	0.8	0.7	0.8	0.7	0.8	0.9	1.0	1.1	1.2	1.2	1.2	1.0	2.0		
29-Jul	1.2	1.3	1.3	1.4	1.4	1.3	0.9	0.8	0.7	0.7	0.7	0.5	0.8	0.9	1.1	1.1	1.1	1.0	1.1	1.1	1.2	1.2	1.2	1.2	1.0	1.4		
30-Jul	1.2	1.2	1.2	1.3	1.3	1.2	1.1	1.1	0.9	0.8	0.8	0.8	0.9	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.1	1.2	1.1	1.3		
31-Jul	1.3	1.5	1.4	1.3	1.3	1.2	1.0	0.9	0.7	0.6	0.5	0.5	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.7	1.0	1.2	1.2	1.1	0.9	1.5		
		4.5	5.5	5.0	6.5	6.8	4.5	2.1	1.2	1.9	1.9	1.7	1.0	0.8	0.8	1.0	1.7	2.9	2.5	2.2	3.0	3.3	3.3	3.9	3.8	Diurnal Average		
		30.2	35.4	29.4	43.0	50.0	39.1	12.6	3.9	25.9	29.7	31.0	8.3	1.6	1.4	4.8	15.6	28.5	33.0	18.6	33.6	21.1	31.2	38.2	38.8	Diurnal Maximum		



Wood Buffalo Environmental Association
Hourly Averages

Leaf Wetness (LW) - %
Fort Chipewyan - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Leaf Wetness (LW) - %
Fort Chipewyan - July 2025

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 0.3	6	0.81	0.81
0.4 - 0.5	36	4.84	5.65
0.6 - 0.7	86	11.56	17.20
0.8 - 1.4	453	60.89	78.09
1.5 - 10	92	12.37	90.46
> 10	59	7.93	98.39

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association

Summary of Hour Averages

Precipitation (PC) - mm

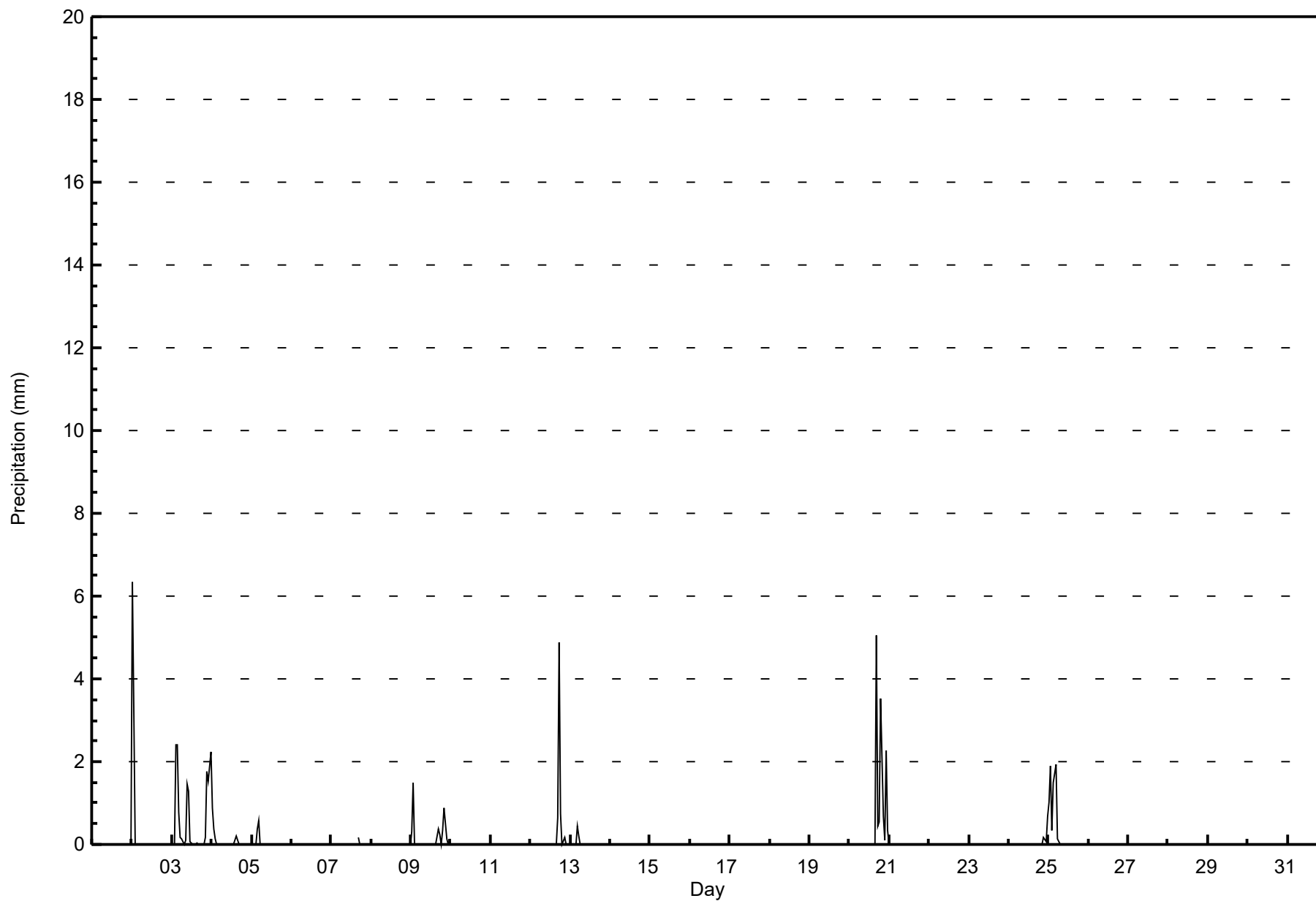
Fort Chipewyan - July 2025

Maximum Value: 6.3 mm on Jul 2 01:00																			Maximum Daily Total: 14.6 mm on Jul 3										Hours in Service: 744	
Minimum Value: 0.0 mm on Jul 1 01:00																			Minimum Daily Total: 0.0 mm on Jul 1										Hours of Data: 686	
Maximum Diurnal Total: 8.6 mm at hour 1																			Minimum Diurnal Total: 0.0 mm at hour 8										Hours of Missing Data: 58	
Monthly Total: 58.64 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 = 2.3										Hours of Calibration: 0	
																													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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	6.3	3.3	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	0.0	0.0				
3-Jul	0.0	0.0	2.4	2.4	0.8	0.2	0.1	0.0	0.1	1.5	1.3	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2	1.8	1.5	2.2	0.0				
4-Jul	0.9	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	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
5-Jul	0.0	0.0	0.0	0.4	0.6	0.0	0.0	0.0	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF				
6-Jul	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF				
7-Jul	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
8-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.3	1.5	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	0.4	0.2	0.0	0.4	0.9	0.1	0.0	0.0	0.0	0.0				
10-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	4.9	0.8	0.0	0.2	0.0	0.0	0.0	0.0	0.0				
13-Jul	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
14-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	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	0.5	0.5	3.5	0.7	0.1	2.3	0.4	13.0	5.1				
21-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DF	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DF	0.0	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	0.7	0.9	0.7				
25-Jul	1.0	1.9	0.4	1.5	1.9	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	6.9	1.9				
26-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
8.6		7.1	2.9	4.3	3.7	0.5	0.2	0.0	0.1	1.5	1.3	0.1	0.0	0.0	0.1	0.3	6.2	5.6	1.3	3.9	1.9	2.1	3.9	3.3	Diurnal Average					
6.3		3.3	2.4	2.4	1.9	0.2	0.1	0.0	0.1	1.5	1.3	0.1	0.0	0.0	0.1	0.2	5.1	4.9	0.8	3.5	0.9	1.8	2.3	2.2	Diurnal Maximum					
DF - DAS Failure																														



Wood Buffalo Environmental Association
Hourly Averages

Precipitation (PC) - mm
Fort Chipewyan - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Precipitation (PC) - mm
Fort Chipewyan - July 2025

Concentration Ranges (mm)	Number of Hours	%	Cumulative %
0 - 0.3	654	95.34	95.34
0.4 - 0.5	6	0.87	96.21
0.6 - 0.7	4	0.58	96.79
0.8 - 1.4	6	0.87	97.67
1.5 - 10	15	2.19	99.85
> 10	0	0.00	99.85

Total Number of Valid Hours: 686

Total Number of Hours: 744



Wood Buffalo Environmental Association

Summary of Hour Averages

Global Radiation (GR) - W/m2

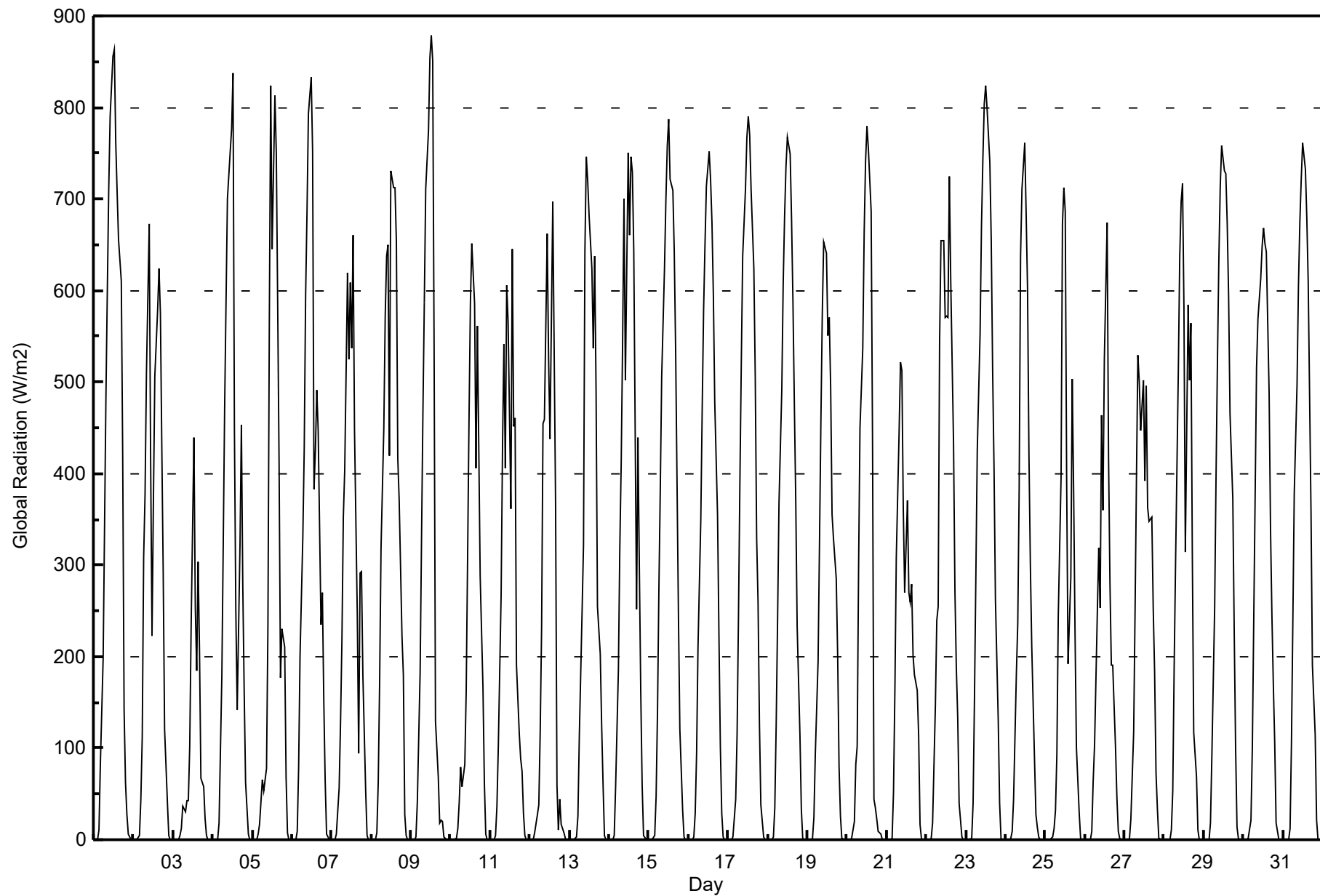
Fort Chipewyan - July 2025

Maximum Value: 878.5 W/m2 on Jul 9 13:00																				Maximum Daily Average: 347.2 W/m2 on Jul 1				Hours in Service: 744		
Minimum Value: 0.0 W/m2 on Jul 1 01:00																				Minimum Daily Average: 85.2 W/m2 on Jul 3				Hours of Data: 744		
Maximum Diurnal Average: 645.1 W/m2 at hour 13																				Minimum Diurnal Average: 0.0 W/m2 at hour 2				Hours of Missing Data: 0		
Monthly Average: 257.96 W/m2																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 2.1 Median = 168.0 Q ₃ = 492.4 P ₉₀ = 677.8 P ₉₉ = 824.0				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-Jul	0.0	0.0	0.3	10.7	83.0	198.2	341.4	485.0	600.5	710.8	790.3	856.2	863.2	762.8	707.4	655.3	610.7	419.5	142.5	62.5	27.7	5.9	0.1	0.0	347.2	863.2
2-Jul	0.0	0.0	0.0	5.2	43.5	112.3	308.7	376.9	508.8	673.2	414.7	222.6	370.1	505.8	577.7	623.6	574.4	430.0	292.8	120.5	41.3	4.8	0.1	0.0	258.6	673.2
3-Jul	0.0	0.0	0.0	0.6	4.9	12.4	35.9	30.8	43.0	42.9	101.5	232.0	438.7	253.8	185.2	304.1	205.3	67.0	57.9	22.9	4.3	0.5	0.0	0.0	85.2	438.7
4-Jul	0.0	0.0	0.0	0.6	18.1	178.5	323.7	471.8	586.6	699.9	752.5	776.9	837.6	450.0	252.4	142.5	321.4	453.5	277.2	161.2	62.6	6.2	0.2	0.0	282.2	837.6
5-Jul	0.0	0.0	0.0	5.9	17.5	41.0	65.6	52.9	77.4	233.6	563.7	824.1	645.5	813.1	751.1	583.2	408.1	177.4	230.8	210.4	68.0	7.1	0.1	0.0	240.7	824.1
6-Jul	0.0	0.0	0.1	9.0	79.2	201.6	330.7	426.4	594.9	686.9	793.4	832.6	751.9	382.4	425.5	491.8	447.4	234.5	269.3	153.0	63.5	6.6	0.1	0.0	299.2	832.6
7-Jul	0.0	0.0	0.0	5.5	56.2	128.7	217.5	351.9	404.7	619.3	524.9	608.6	537.0	659.8	448.5	246.3	95.1	291.8	293.5	180.0	53.9	4.3	0.0	0.0	238.7	659.8
8-Jul	0.0	0.0	0.1	8.1	63.2	172.9	319.0	450.1	572.0	637.5	649.9	420.0	731.0	711.7	712.3	652.9	416.3	370.1	223.2	180.6	27.3	4.0	0.0	0.0	305.1	731.0
9-Jul	0.0	0.0	0.0	3.7	41.4	182.9	327.2	466.1	586.8	710.3	774.4	854.9	878.5	851.4	538.7	130.3	68.7	18.6	21.2	19.8	3.3	0.7	0.0	0.0	270.0	878.5
10-Jul	0.0	0.0	0.0	1.3	11.8	41.3	79.6	58.5	82.1	163.8	308.8	457.3	585.2	650.7	586.2	406.2	561.4	428.8	288.7	165.5	62.6	5.6	0.0	0.0	206.1	650.7
11-Jul	0.0	0.0	0.0	4.2	37.2	102.6	266.5	428.6	541.5	405.3	605.7	566.6	361.2	644.9	451.2	460.3	190.1	115.4	87.9	74.8	28.3	4.0	0.0	0.0	224.0	644.9
12-Jul	0.0	0.0	0.0	7.9	26.8	37.5	119.7	232.0	455.2	459.3	662.4	524.1	438.3	567.0	697.3	367.3	59.7	10.6	44.1	16.4	8.2	1.7	0.0	0.0	197.3	697.3
13-Jul	0.0	0.0	0.0	1.0	3.5	26.6	112.6	249.5	322.5	642.8	746.6	720.1	681.4	624.1	537.7	637.1	489.1	254.2	203.4	125.3	61.2	5.1	0.2	0.0	268.5	746.6
14-Jul	0.0	0.0	0.1	3.8	58.5	186.6	319.3	411.2	543.4	700.9	501.2	750.4	660.1	745.8	728.8	644.1	251.2	439.0	296.5	162.1	59.6	4.3	0.0	0.0	311.1	750.4
15-Jul	0.0	0.0	0.0	4.4	47.4	141.1	274.2	384.1	506.6	623.2	698.2	758.2	786.6	721.5	710.0	642.7	532.6	387.9	244.8	120.6	31.9	2.6	0.0	0.0	317.4	786.6
16-Jul	0.0	0.0	0.0	2.4	28.9	94.6	210.1	349.5	469.5	578.4	649.7	713.6	752.0	721.0	674.8	595.3	477.0	354.5	222.3	101.7	28.3	2.7	0.0	0.0	292.8	752.0
17-Jul	0.0	0.0	0.0	3.0	43.7	115.9	245.3	389.8	520.8	637.9	711.4	768.0	790.2	769.7	710.3	624.1	505.3	330.0	258.7	126.8	38.6	2.9	0.0	0.0	316.4	790.2
18-Jul	0.0	0.0	0.0	2.5	35.1	126.5	241.2	368.1	491.6	606.8	680.8	734.7	766.6	749.4	677.0	587.3	475.6	370.2	233.4	115.1	33.3	2.1	0.0	0.0	304.1	766.6
19-Jul	0.0	0.0	0.0	1.7	24.7	93.2	195.3	322.9	456.8	574.2	652.9	640.3	550.8	569.9	494.0	355.2	329.6	285.3	202.2	81.5	25.6	2.1	0.0	0.0	244.1	652.9
20-Jul	0.0	0.0	0.0	2.1	20.1	82.9	102.3	295.5	450.4	537.7	663.3	741.6	778.9	755.4	686.1	432.7	43.7	35.0	23.3	9.7	6.0	0.4	0.0	0.0	236.1	778.9
21-Jul	0.0	0.0	0.0	2.1	51.6	162.6	308.2	444.2	520.9	512.8	363.0	270.6	370.0	270.2	259.8	278.9	201.5	179.6	163.7	114.1	16.5	1.5	0.0	0.0	187.2	520.9
22-Jul	0.0	0.0	0.0	1.7	18.7	147.0	240.1	254.6	541.5	654.9	653.7	570.8	572.3	570.1	724.0	609.9	433.9	271.2	187.2	133.1	40.0	2.3	0.1	0.0	276.1	724.0
23-Jul	0.0	0.0	0.0	1.5	39.2	155.2	290.3	426.0	552.3	669.6	742.6	803.9	823.8	800.0	739.8	654.9	512.8	405.2	262.0	131.3	38.9	1.4	0.0	0.0	335.5	823.8
24-Jul	0.0	0.0	0.0	0.8	9.5	43.9	181.0	236.9	383.2	637.9	710.9	761.5	682.9	600.7	420.8	301.5	211.9	86.4	28.1	13.2	2.3	0.1	0.0	0.0	221.4	761.5
25-Jul	0.0	0.0	0.0	0.1	3.2	12.2	32.3	93.5	244.0	394.8	672.5	712.1	686.3	395.6	192.5	286.9	503.1	381.7	227.8	100.8	29.4	1.2	0.0	0.0	207.1	712.1
26-Jul	0.0	0.0	0.0	0.2	9.5	63.7	104.5	250.5	319.0	253.3	463.5	360.1	524.3	674.8	418.8	282.6	190.2	191.1	100.0	46.4	9.2	0.8	0.0	0.0	177.6	674.8
27-Jul	0.0	0.0	0.0	1.0	22.4	117.4	249.7	395.8	529.8	499.9	446.5	501.9	392.6	495.9	362.8	348.4	352.4	253.4	183.2	72.7	33.5	1.2	0.0	0.1	219.2	529.8
28-Jul	0.0	0.0	0.0	0.2	10.1	53.7	189.2	302.1	513.7	637.2	697.1	716.6	581.4	313.8	584.0	502.0	564.4	312.9	116.9	68.9	10.1	0.4	0.0	0.0	257.3	716.6
29-Jul	0.0	0.0	0.0	0.6	18.8	90.8	253.7	398.3	522.5	632.4	714.5	758.6	731.3	728.0	672.2	593.5	465.3	371.7	229.1	100.7	13.7	0.8	0.0	0.0	304.0	758.6
30-Jul	0.0	0.0	0.0	1.0	20.8	102.9	240.5	376.6	515.5	569.3	613.0	647.7	668.0	651.0	642.9	488.2	340.4	246.2	170.6	107.5	19.0	0.5	0.0	0.0	267.6	668.0
31-Jul	0.0	0.0	0.0	0.3	12.7	104.9	239.6	377.8	496.9	603.9	673.6	722.2	761.6	731.7	678.1	608.3	483.2	358.8	191.2	115.1	22.0	0.3	0.0	0.0	299.3	761.6
0.0																								Diurnal Average		
0.0																								Diurnal Maximum		



Wood Buffalo Environmental Association
Hourly Averages

Global Radiation (GR) - W/m²
Fort Chipewyan - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Global Radiation (GR) - W/m2
Fort Chipewyan - July 2025

Concentration Ranges (W/m2)	Number of Hours	%	Cumulative %
0 - 20	248	33.33	33.33
21 - 100	83	11.16	44.49
101 - 300	124	16.67	61.16
301 - 600	162	21.77	82.93
601 - 900	127	17.07	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 - July 2025

Maximum Speed: 36 km/h on Jul 9 18:00																Maximum Daily Speed Average: 24.5 km/h on Jul 9										Hours in Service: 744	
Minimum Speed Value: 0 km/h on Jul 23 01:00																Minimum Daily Speed Average: 2.3 km/h on Jul 5										Hours of Data: 744	
Maximum Diurnal Speed Average: 2.1 km/h at hour 5																Minimum Diurnal Speed Average: 0.2 km/h at hour 10										Hours of Missing Data: 0	
Monthly Average Velocity: 0.8 km/h 344.6 deg																Percentiles: P ₁ = 2 P ₁₀ = 6 Q ₁ = 8 Median = 12 Q ₃ = 16 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-Jul	WNW8	WNW4	NW1	W4	WNW7	WNW3	WSW1	SSE4	ESE10	ESE11	E12	E16	E17	E18	E19	E22	E24	ENE23	ENE22	ENE20	ENE17	E18	E20	E19	E10.7	E24	
2-Jul	N5	ENE14	E27	ENE13	ESE21	SE19	SSE12	SE10	S12WSW14	WSW16	SSW17	W8	SW8	SSW7	SE5	E9	E17	E16	E12	ENE11	NNE12	ENE25	ENE31	E7.1	ENE31		
3-Jul	ENE25	ENE23	SW2	NNW16	NNW15	N15	N14	NNW14	NNW13	NNW12	NNW10	NW10	NW11	NW11	NNW12	NNW14	NW14	NW11	NW8	NNW9	NNW12	NNW14	NNW15	NNW16	NNW10.2	ENE25	
4-Jul	NNW15	NNW18	NW15	NW16	NW18	NW19	NW19	NW17	NW17	NW19	NW18	NW19	NW17	NW13	NW9	NNW13	NW8	NW9	WNW9	WNW8	NW6	W7	WNW8	NW7	NW13.3	NW19	
5-Jul	NNW6	NNW3	NNW3	WNW7	NNW7	NW3	N4	NE3	NNW7	E10	E15	E15	E13	E13	E14	ESE10	SSE5	SSE6	S4	SW5	WSW5	WSW5	WSW5	WNW4	E2.3	E15	
6-Jul	N2	WNW3	N7	N8	NNW4	NNW3	NNE5	ENE11	E17	E19	E16	E15	E13	E15	E16	E13	E15	E16	SE10	SSE12	S9	SSW5	SSE2	S1	E7.1	E19	
7-Jul	SW7	SSW4	SSW5	S4	SE6	SE7	SE7	SSE10	SSE15	SSE18	SSE19	SSE19	SE15	SSE14	SSE15	SSW21	S19	S23	S20	S19	S17	SSE18	SSE23	S18	SSE13.6	S23	
8-Jul	SSW13	SSW13	SSW13	SW12	SW10	SSE7	S8	S11	S11	SSW17	SSW21	SSW23	SSW23	SSW20	SW16	SSW15	SW12	SW11	SW10	SW11	SW8	SW7	WSW8	WSW15	SSW12.5	SSW23	
9-Jul	W16	SSW12	SSW15	SSW17	SSW17	SW20	WSW28	WSW29	WSW29	WSW29	WSW29	WSW26	WSW30	WSW31	WSW34	W31	W29	SW36	WSW33	WSW25	W22	W29	W28	W26	WSW24.5	SW36	
10-Jul	W26	WNW26	WNW25	WNW23	WNW20	WNW21	WNW20	WNW18	W16	W19	WNW22	WNW21	WNW20	WNW17	NW16	NW15	NW15	NW14	NW10	NW8	WNW4	SW7	SSW6	SW8	WNW15.7	W26	
11-Jul	SSW10	SSW9	SW10	SW10	SW15	SW14	SSW12	SSW13	SSW19	SSW21	SSW21	WSW18	W21	W22	WSW24	WSW25	WSW20	WSW16	W13	W6	SW6	WSW6	WSW7	W7	SW12.9	WSW25	
12-Jul	NNW9	NW3	NW5	NNW10	NNW8	NW8	NW8	NW9	NNW12	NW12	NNW15	NNW12	W14	W13	W14	W15	W11	W12	W7	W11	W9	W13	W16	W12	WNW9.7	W16	
13-Jul	WNW10	WNW12	NNW10	NNW10	NW13	NW11	NW14	NW13	NW14	NW13	NNW12	NNW13	NW13	NW16	NW16	NW15	NW13	NNW11	NNW10	NNW10	NNW10	NW8	NNW8	NNW8	NW11.5	NW16	
14-Jul	NNW10	NW11	NW12	NW12	NNW14	NNW16	NW8	NW9	NNW12	NNW11	NNW12	NW10	NW9	NW9	NW10	NW10	NNW8	NW10	NNW10	NW8	W6	W10	W9	WSW11	NW9.4	NNW16	
15-Jul	WSW10	WSW9	SW8	WSW6	SW5	SW5	SSW7	SSW8	SSW8	S6	SSW8	SSW11	SSW10	SSW9	SW11	WSW12	WSW11	SW9	SSE4	ESE10	ESE13	SE11	SE17	SE21	SSW6.8	SE21	
16-Jul	SE17	E10	ESE14	ESE9	ESE8	ESE10	SE10	ESE13	E16	E18	E14	E13	E18	E18	E18	E20	ENE19	ENE21	ENE21	ENE14	ENE15	ENE12	ENE10	ENE21	E14.1	ENE21	
17-Jul	E19	E14	E21	E16	E12	ENE2	E1	E11	E16	E14	E16	E15	E16	E17	E18	E20	E20	E17	E16	ENE13	ENE12	ENE11	ENE11	ENE11	E13.9	E21	
18-Jul	ENE11	E13	E11	ESE10	ESE10	ESE13	ESE12	ESE11	E11	E12	E13	E15	E14	E15	E18	E18	E17	E17	E15	E14	E10	ENE9	E7	S6	E12.1	E18	
19-Jul	SSW14	SSW15	SW12	SSW7	S5	S6	SSW8	SSW7	SSW8	SW11	SW15	WSW14	W11	WNW9	NNW11	NW12	N7	NNE9	NNW13	N11	N7	NNE7	N5	N6	W3.9	SSW15	
20-Jul	NNE10	N10	N11	N10	N8	NNW7	N8	NE7	E11	E14	E15	E16	E15	E18	E21	E18	ENE12	N13	N17	N12	N16	N11	NNW10	NW13	NE8.3	E21	
21-Jul	NW12	NW11	NW11	NW8	NW9	WNW8	WNW9	NW15	NNW16	NW19	NW16	NW17	NW19	NW16	NNW21	NNW18	NNW18	NW17	NW14	NNW13	NNW12	WNW8	NNW10	NNW10	NW13.4	WNW21	
22-Jul	WNW8	WNW7	WNW8	NW8	NW9	WNW7	WNW7	NW7	WNW9	W14	NNW16	W13	W12	NNW11	W12	WSW15	WSW12	WSW8	W10	WSW9	W8	WNW8	NW7	NW5	WNW9.1	WNW16	
23-Jul	N0	NW1	N3	NNE3	NE6	ENE8	E5	E10	E14	E16	E15	E16	E19	E20	E23	E22	E24	E20	E17	ENE15	ENE14	ENE11	E18	ESE22	E12.9	E24	
24-Jul	ESE19	E16	E16	E17	ESE16	ESE16	ESE15	SE12	ESE11	E11	E15	E18	E20	E18	ENE18	ENE19	NE21	NE19	SSW6	NNW11	NW9	NNW7	N2	NE10	E11.1	NE21	
25-Jul	E7	SSW8	SSW9	NNE1	N8	ENE8	ENE11	ENE12	ENE14	ENE13	E16	E17	E19	ENE6	N7	W6	WNW7	NW11	NNW12	NW11	NW10	NW12	NW12	NW10	NNE3.7	E19	
26-Jul	NW9	NNW10	WNW8	W10	W12	NNW10	WNW8	NNW11	NNW12	NNW15	NNW19	NNW19	NW18	NW18	NW14	NNW12	NW13	NNW11	NW9	NW9	NW10	NNW12	NNW10	NW11.8	WNW19		
27-Jul	NW9	NW9	NW8	NW10	NNW11	NW10	NW9	NW11	NW13	NNW13	NW13	NW12	NW12	NNW12	NNW13	NNW16	NNW16	NNW16	NNW15	WNW7	W8	NW8	NW6	NW7	NW10.5	WNW16	
28-Jul	NW8	NW8	WNW8	WNW8	NW8	NW7	NNW5	WNW5	WNW7	NW8	W9	SW6	W5	W5	SSW10	SSW9	WSW8	WSW10	SW9	SW8	SSW6	S9	S9	S11	WSW5.2	S11	
29-Jul	S9	SSW10	SSW10	SSW7	SW10	SW9	SSW5	S6	SSE6	SE7	SE9	SE9	E20	E21	E23	E25	E22	E20	E17	ENE16	ENE14	ENE16	E19	E23	ESE9.8	E25	
30-Jul	ESE18	ESE15	ESE12	E11	ENE12	ENE13	E17	E24	E22	E18	E17	E17	E17	E15	E13	E15	E16	E18	E17	E13	E9	E10	E10	E11	E14.7	E24	
31-Jul	E12	E11	E10	ESE11	E12	E13	ESE11	ESE7	E10	E7	E7	E7	ESE4	SSW6	SW7	S7	SE5	SSE3	S3	S1	E7	E7	E10	ENE7	ESE6.3	E13	
NNW1.0 NW0.9 W0.6 NW1.9 NW2.1 NW1.4NNW1.4NNW0.4 ESE0.3SSW0.2SSW0.8 S0.7 ENE0.6NNE0.4 N0.4 NW0.6NNE2.0NNE1.6 N1.8NNW1.8 N1.8NNW1.8 NE1.1 NE1.2																										Diurnal Average	
W26WNW26 E27WNW23 ESE21WNW21WSW28WSW29WSW29WSW29WSW29WSW26WSW30WSW31WSW34 W31 W29 SW36WSW33WSW25 W22 W29 W28 ENE31																										Diurnal Maximum	
All monthly, daily, and diurnal averages have been calculated using vector methods																											



Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

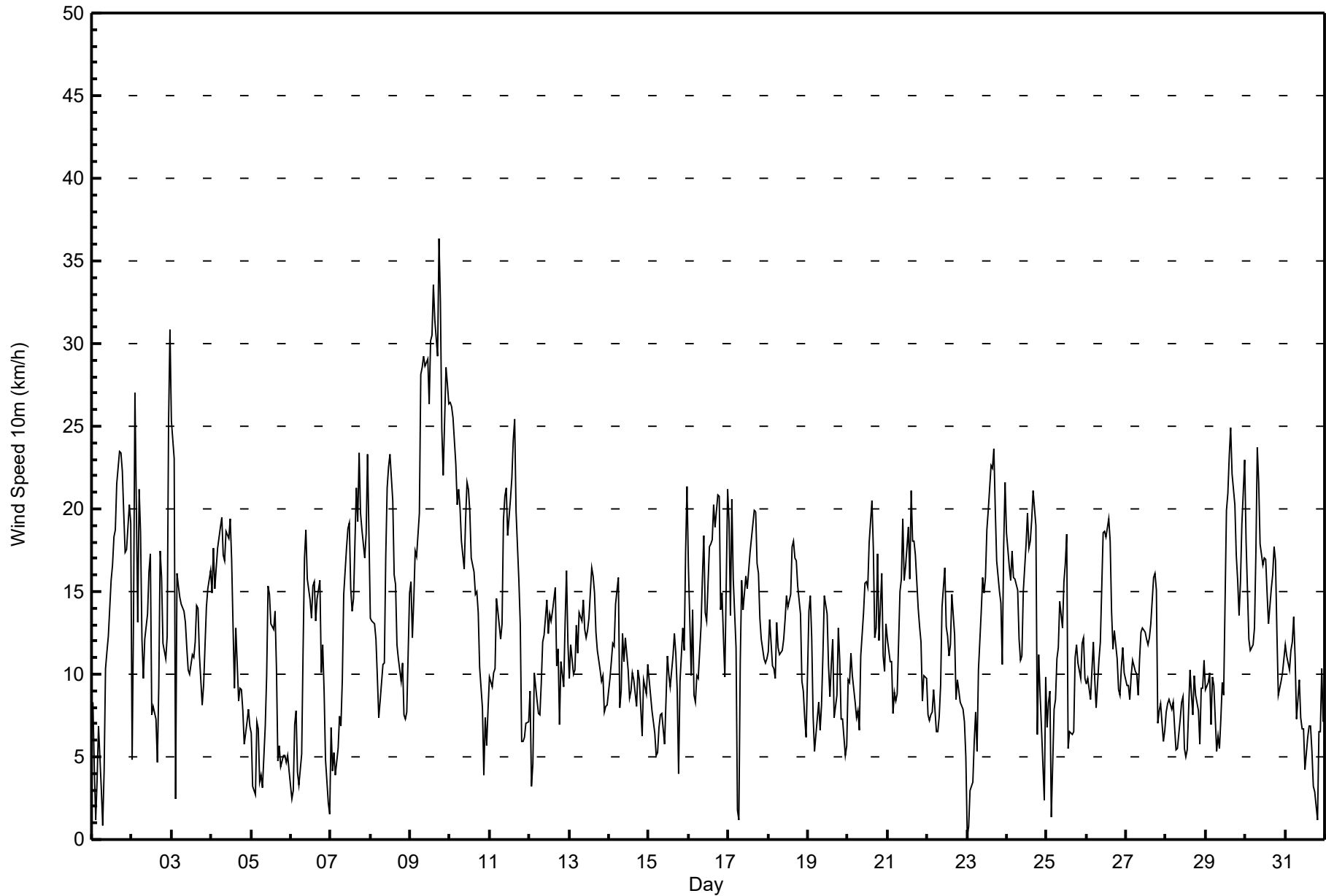
Wind Speed 10m (WS10) - km/h
Fort Chipewyan - July 2025

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



Wood Buffalo Environmental Association
Hourly Averages

Wind Speed 10m (WS10) - km/h
Fort Chipewyan - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 10m (WS10) - km/h
Fort Chipewyan - July 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	60	8.06	8.06
6 - 11	298	40.05	48.12
12 - 19	303	40.73	88.84
20 - 28	70	9.41	98.25
29 - 38	13	1.75	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
Fort Chipewyan - July 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	6	3	1	1	2	1	2	5	6	4	4	4	3	6	6	6	60
6 - 11	14	3	3	14	26	14	10	4	13	25	23	12	18	34	60	25	298
12 - 19	6	1	1	22	95	13	5	9	5	15	7	10	16	26	49	23	303
20 - 28	0	0	1	9	24	2	1	1	2	7	1	6	6	10	0	0	70
29 - 38	0	0	0	1	0	0	0	0	0	0	1	8	3	0	0	0	13
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	26	7	6	47	147	30	18	19	26	51	36	40	46	76	115	54	744

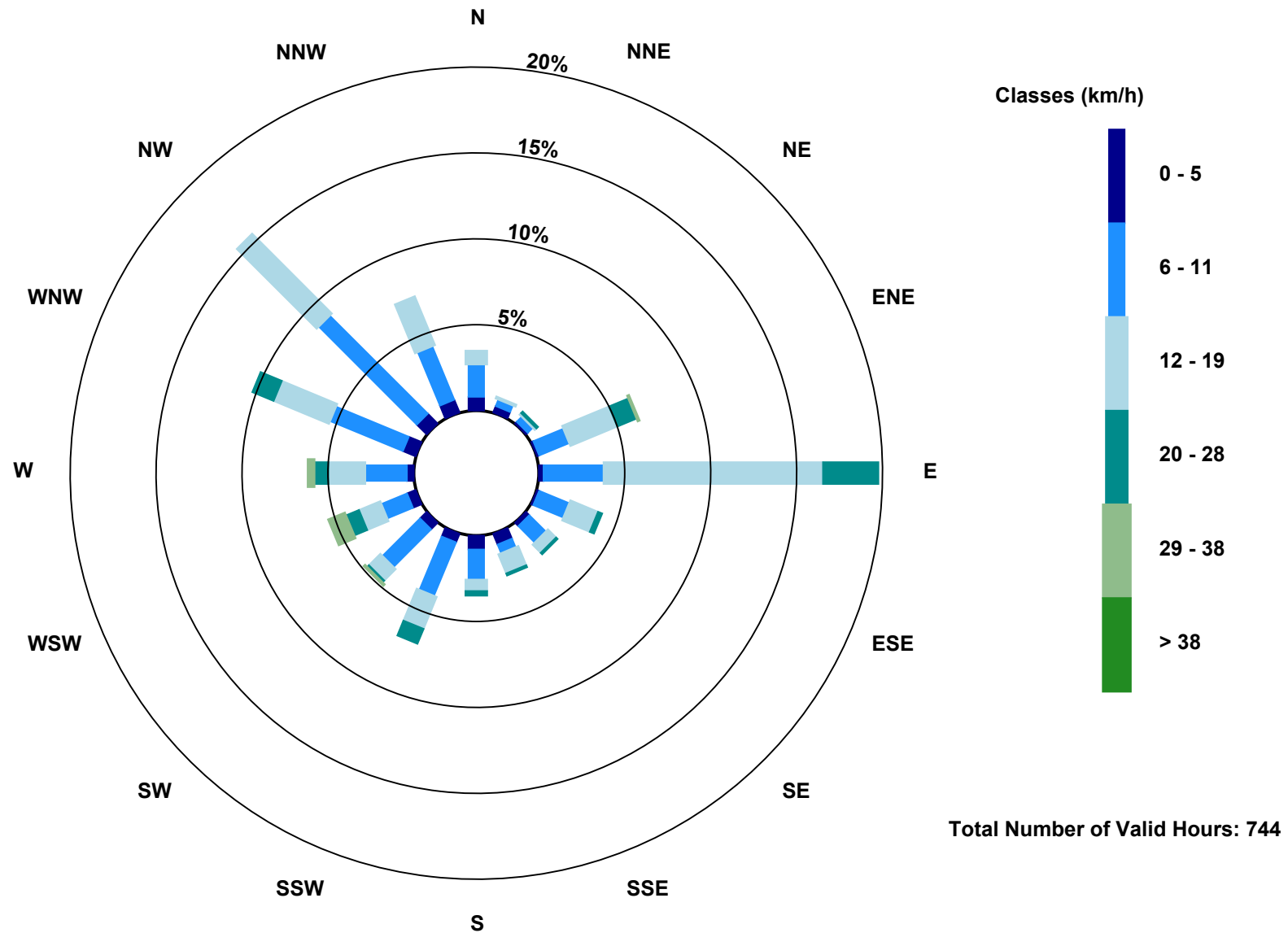
Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Wind Speed 10m (WS10) - km/h
Fort Chipewyan





Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Direction 10m (WD10) - deg

Fort Chipewyan - July 2025

Direction of Maximum Speed: 236 deg on Jul 9 18:00																				Hours in Service:		744			
Direction of Maximum Daily Speed Average: 246.4 deg on Jul 9																				Hours of Data:		744			
Direction of Minimum Speed: 351 deg on Jul 23 01:00										Direction of Minimum Daily Speed Average: 2.3 deg on Jul 5										Hours of Missing Data:		0			
Monthly Average Direction: 344.6 deg																				Percent Operational Time:		100.0			
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-Jul	284	285	316	270	288	291	250	148	106	111	101	89	90	87	86	83	79	76	66	60	72	84	97	98	83.1
2-Jul	4	61	97	66	105	132	149	130	190	241	257	208	272	229	204	142	90	90	84	79	71	30	61	66	100.6
3-Jul	68	74	226	333	342	349	352	347	344	346	340	321	311	306	282	283	313	307	319	318	332	339	339	338	338.9
4-Jul	336	329	324	323	319	309	308	314	316	315	319	317	322	324	325	330	311	307	302	302	307	276	283	305	316.1
5-Jul	348	343	334	292	332	307	355	47	341	79	79	88	90	96	98	111	165	157	187	217	252	254	240	283	79.0
6-Jul	351	295	9	359	348	334	14	77	91	92	101	100	99	94	94	96	90	86	131	166	184	212	154	184	94.3
7-Jul	220	211	194	173	133	134	134	164	165	164	155	158	145	149	159	198	176	171	182	189	182	150	161	177	168.3
8-Jul	196	197	211	216	215	154	182	190	188	198	203	197	196	206	219	212	223	225	229	219	223	217	237	251	208.0
9-Jul	259	204	194	195	205	235	250	253	248	244	242	249	241	239	241	265	264	236	245	256	267	267	267	268	246.4
10-Jul	278	282	282	285	291	296	291	286	281	281	283	289	288	302	308	310	316	308	310	310	285	216	202	221	288.0
11-Jul	196	204	215	216	216	215	204	196	196	199	201	246	262	259	248	247	257	258	271	260	221	240	244	265	231.7
12-Jul	342	312	326	347	342	319	314	312	303	305	282	294	275	275	266	272	280	264	267	274	263	269	271	276	288.5
13-Jul	288	292	303	336	321	311	308	315	311	311	333	333	320	314	311	315	315	332	336	332	334	326	331	330	318.4
14-Jul	334	323	325	325	331	335	324	322	336	343	334	321	325	314	320	326	335	313	327	311	280	269	265	251	319.0
15-Jul	246	242	236	239	229	229	208	195	195	179	194	199	196	212	226	244	246	225	161	108	122	129	136	142	193.1
16-Jul	133	91	113	110	109	116	131	105	93	99	86	91	85	87	86	85	76	75	72	67	61	68	65	73	88.3
17-Jul	96	97	88	101	99	74	89	88	92	95	92	94	91	90	89	88	87	82	80	68	65	72	73	74	87.2
18-Jul	76	79	81	103	110	119	117	102	97	90	92	92	90	91	87	87	86	84	82	82	83	74	93	180	91.7
19-Jul	203	206	216	212	190	188	206	206	201	214	217	245	267	284	329	326	7	12	342	3	1	18	349	358	259.4
20-Jul	15	360	7	1	6	348	356	42	97	101	99	101	98	93	86	87	65	1	354	2	354	356	330	326	40.2
21-Jul	323	319	318	311	309	300	303	312	303	312	312	314	307	316	290	294	295	304	309	301	301	287	283	290	304.9
22-Jul	282	283	302	315	311	299	295	310	290	277	286	276	281	290	281	255	255	251	267	256	262	296	312	315	282.3
23-Jul	351	320	1	18	47	64	86	90	87	88	94	96	90	90	87	87	84	83	84	78	73	62	91	107	84.8
24-Jul	105	99	93	98	108	109	118	125	114	93	88	87	87	83	74	60	51	54	210	295	319	346	9	47	84.5
25-Jul	84	212	206	12	5	69	75	76	78	72	83	87	98	70	359	261	293	312	328	320	319	309	317	314	31.0
26-Jul	313	302	288	272	274	287	298	287	303	303	292	303	305	295	318	306	334	317	331	326	325	325	341	329	306.6
27-Jul	317	307	309	310	310	312	326	321	304	308	303	317	314	317	302	283	294	292	285	285	275	315	319	313	304.7
28-Jul	308	309	297	287	306	311	323	292	302	308	273	214	277	269	208	205	250	244	229	217	203	173	175	184	254.5
29-Jul	190	193	193	201	218	219	210	187	154	136	141	141	90	89	84	85	84	80	81	74	66	69	95	97	104.8
30-Jul	102	104	115	92	73	78	85	85	85	79	88	91	96	94	91	91	90	88	85	82	82	83	79	81	88.5
31-Jul	85	86	99	104	95	100	106	112	88	89	92	92	122	198	233	184	131	161	189	184	86	79	81	74	103.7
337.2 305.0 264.4 315.8 322.0 306.2 289.6 336.1 107.6 194.6 205.6 173.1 67.3 31.4 354.8 310.5 19.4 19.8 355.2 346.0 354.5 347.6 39.7 52.0																									
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

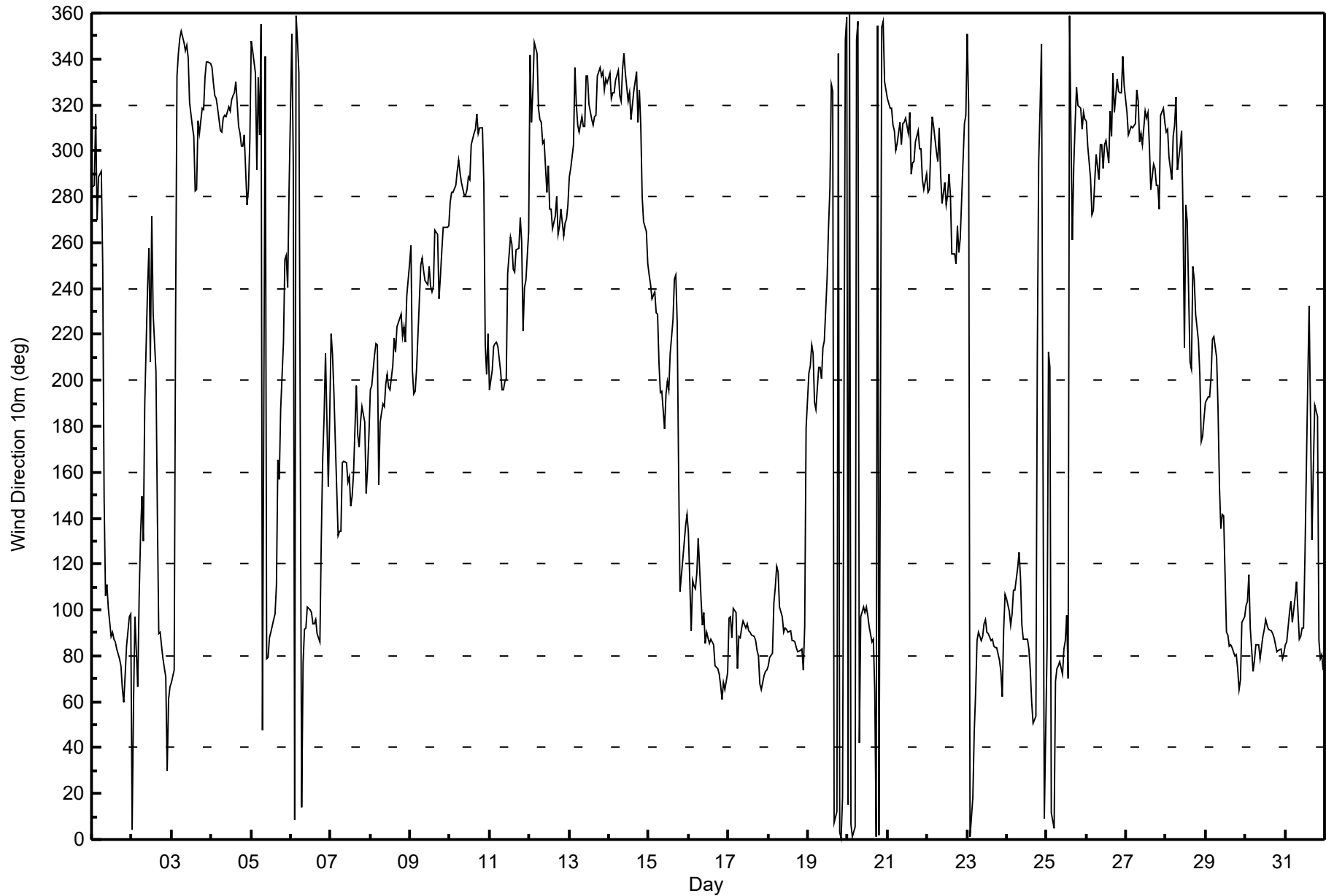
Fort Chipewyan - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																		Hours in Service: 744							
Maximum Value: 98 deg on Jul 23 02:00																		Hours of Data: 744							
Minimum Value: 4 deg on Jul 18 02:00																		Hours of Missing Data: 0							
Percentiles: P ₁ = 5 P ₁₀ = 6 Q ₁ = 10 Median = 16 Q ₃ = 24 P ₉₀ = 33 P ₉₉ = 73																		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-Jul	12	35	76	53	20	72	87	47	9	8	10	5	6	6	6	5	8	8	9	10	7	10	6	7	87
2-Jul	67	34	9	36	14	9	19	18	26	24	18	31	30	27	14	54	11	5	9	10	12	22	10	9	67
3-Jul	10	8	84	20	19	20	19	18	19	22	22	23	22	21	17	23	21	20	27	23	24	24	25	25	84
4-Jul	26	22	23	26	24	21	20	22	23	25	24	25	27	28	30	24	25	26	23	22	15	7	9	22	30
5-Jul	10	63	68	13	29	50	51	50	29	14	9	8	8	8	8	10	33	19	27	18	12	29	12	29	68
6-Jul	69	69	30	14	50	68	31	23	7	7	6	7	8	6	6	8	11	10	33	13	6	19	56	69	69
7-Jul	9	14	16	41	30	14	18	25	11	13	13	14	21	18	18	18	19	10	8	8	12	11	10	13	41
8-Jul	10	8	12	10	13	29	26	10	17	13	12	10	12	18	19	16	21	18	13	11	10	10	15	24	29
9-Jul	17	22	17	9	11	16	16	16	17	17	16	17	18	16	15	18	17	13	15	16	17	15	15	15	22
10-Jul	16	15	16	15	16	17	17	16	16	15	15	18	19	25	25	25	26	25	25	23	38	14	9	14	38
11-Jul	12	18	11	12	13	11	12	11	9	10	12	27	15	16	17	16	16	16	16	35	12	22	21	28	35
12-Jul	25	58	44	22	26	28	25	28	22	25	21	26	20	23	24	19	15	21	36	15	16	14	14	13	58
13-Jul	20	16	20	26	23	21	20	22	22	30	32	30	31	27	25	27	27	28	30	23	21	18	17	18	32
14-Jul	18	15	16	16	15	17	57	27	27	30	27	33	47	40	39	40	33	35	31	20	19	9	14	10	57
15-Jul	10	13	10	12	13	18	13	14	14	32	35	18	19	31	22	27	21	21	31	8	7	7	10	5	35
16-Jul	15	22	9	14	15	11	12	10	7	7	7	8	5	5	5	5	9	8	8	10	8	8	9	10	22
17-Jul	10	6	7	6	10	76	73	16	6	5	5	5	5	5	4	4	5	7	6	8	7	7	7	8	76
18-Jul	5	4	9	13	14	4	12	8	7	6	6	5	6	6	6	6	7	6	7	7	8	8	13	42	42
19-Jul	14	14	10	22	25	39	17	15	14	13	10	22	23	37	33	25	49	28	27	24	26	20	14	29	49
20-Jul	15	17	17	18	17	25	27	33	11	7	7	7	8	7	6	7	19	28	27	25	25	27	27	24	33
21-Jul	23	21	23	23	20	20	23	22	22	23	24	24	22	26	19	21	19	23	28	22	19	17	16	16	28
22-Jul	13	13	13	15	13	13	21	23	27	21	20	26	26	32	30	20	19	26	18	14	11	14	19	36	36
23-Jul	82	98	66	62	16	7	19	12	6	7	6	6	6	6	6	6	6	6	6	6	6	7	16	8	98
24-Jul	11	8	12	7	8	6	6	7	10	13	5	5	5	8	14	10	10	11	76	16	22	47	73	9	76
25-Jul	54	42	18	67	18	33	21	12	13	14	16	13	6	67	51	28	32	33	28	26	23	19	20	17	67
26-Jul	12	15	9	12	14	16	19	19	23	21	19	22	22	22	29	23	26	27	25	28	24	22	24	22	29
27-Jul	20	14	16	17	15	19	22	27	22	29	30	30	28	31	24	29	24	20	18	26	15	21	13	6	31
28-Jul	8	6	6	16	9	11	22	25	34	39	34	73	72	35	21	34	40	27	13	12	14	12	12	9	73
29-Jul	10	9	9	17	10	16	20	14	21	9	17	47	7	6	6	6	6	7	8	7	8	9	13	7	47
30-Jul	10	8	10	14	9	8	8	6	7	8	7	6	5	6	6	6	5	5	6	7	8	6	6	10	14
31-Jul	6	10	15	7	8	6	9	15	8	10	12	13	39	26	41	31	27	30	44	63	17	10	16	14	63
82 98 84 67 50 76 87 50 34 39 35 73 72 67 51 54 49 35 76 63 38 47 73 69																									
Diurnal Maximum																									



Wood Buffalo Environmental Association
Hourly Averages

Wind Direction 10m (WD10) - deg
Fort Chipewyan - July 2025





WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS09 BARGE LANDING JULY 2025

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

August 29, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - BARGE LANDING (AMS09)

JULY 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	-	-	29.2	0	4.1	0
TRS(ppb) Average	698	36	46	98.66	2.0	0	1.8	0	0.7	0
THC(ppm) Average	709	35	35	100	-	-	2.8	-	2.2	-
NMHC(ppm) Average	709	35	35	100	-	-	0.346	-	0.085	-
CH4(ppm) Average	709	35	35	100	-	-	2.7	-	2.1	0
NO2 (ppb) Average	706	36	38	99.73	-	-	33.8	0	10.2	-
NO (ppb) Average	706	36	38	99.73	-	-	33.7	-	6.8	-
NOX (ppb) Average	706	36	38	99.73	-	-	51.9	-	16.6	-
PM2.5(ug/m3) Average	742	2	2	100	-	-	291.6	0	157.6	5
Temperature (C) Average	744	0	0	100	-	-	34.6	-	24.9	-
Relative Humidity (%) Average	744	0	0	100	-	-	100	-	97.6	-
Barometric Pressure (inHg) Average	744	0	0	100	-	-	29.3	-	29.2	-
Wind Speed 20 m (km/h) Average	744	0	0	100	-	-	34	-	23	-
Wind Direction 20 m (deg) Average	744	0	0	100	-	-	0	-	0	-

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

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - BARGE LANDING (AMS09)
JULY 2025

MONTHLY SUMMARY FOR AIR QUALITY/ METEOROLOGICAL MONITORING MEASUREMENTS

							Percentile					
Parameter	Number	Mean	StnDev	Total	Min	P10	Q1	Median	Q3	P90	Max	
SO2 (ppb) Average	709	0.99	2.9	-	0	0	0	0.1	0.4	2	29.2	
TRS(ppb) Average	698	0.46	0.3	-	0.1	0.2	0.3	0.4	0.6	0.8	1.8	
THC(ppm) Average	709	2.03	0.1	-	1.8	1.9	1.9	2	2.1	2.2	2.8	
NMHC(ppm) Average	709	0.027	0.04	-	0	0	0	0	0	0.1	0.346	
CH4(ppm) Average	709	2	0.1	-	1.8	1.9	1.9	2	2	2.2	2.7	
NO2 (ppb) Average	706	5.1	5.1	-	0	0.3	1.2	3.5	7.4	12.4	33.8	
NO (ppb) Average	706	2.29	5.2	-	0	0	0.1	0.3	1.6	7	33.7	
NOX (ppb) Average	706	7.4	8.9	-	0	0.3	1.4	4	9.9	20	51.9	
PM2.5(ug/m3) Average	742	21.34	33	-	1	3.1	6.6	13.7	24	36.6	291.6	
Temperature (C) Average	744	17.67	6.3	-	2.2	9.9	13.2	16.8	22.2	26.5	34.6	
Relative Humidity (%) Average	744	65.47	23.6	-	22	33.3	45.8	65.5	86.6	98.2	100	
Barometric Pressure (inHg) Average	744	28.9	0.2	-	28.5	28.6	28.8	28.9	29	29.2	29.3	
Wind Speed 20 m (km/h) Average	744	9.5	5	-	0	4	6	8	12	16	34	
Wind Direction 20 m (deg) Average	744	248.3	-	-	-	-	-	-	-	-	-	

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - BARGE LANDING (AMS09)
JULY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
TRS	01 Jul 2025 10:00	01 Jul 2025 13:00	4	Maintenance - verify daily QA response
TRS	04 Jul 2025 09:00	04 Jul 2025 09:00	1	Maintenance - verify daily QA response
TRS	21 Jul 2025 09:00	21 Jul 2025 09:00	1	Maintenance - verify daily QA response
TRS	31 Jul 2025 08:00	31 Jul 2025 09:00	2	Maintenance - verify daily QA response
TRS, NO2	09 Jul 2025 10:00	09 Jul 2025 11:00	2	Maintenance - sample manifold cleaned



Wood Buffalo Environmental Association

Summary of Hour Averages

Sulphur Dioxide (SO₂) - ppb

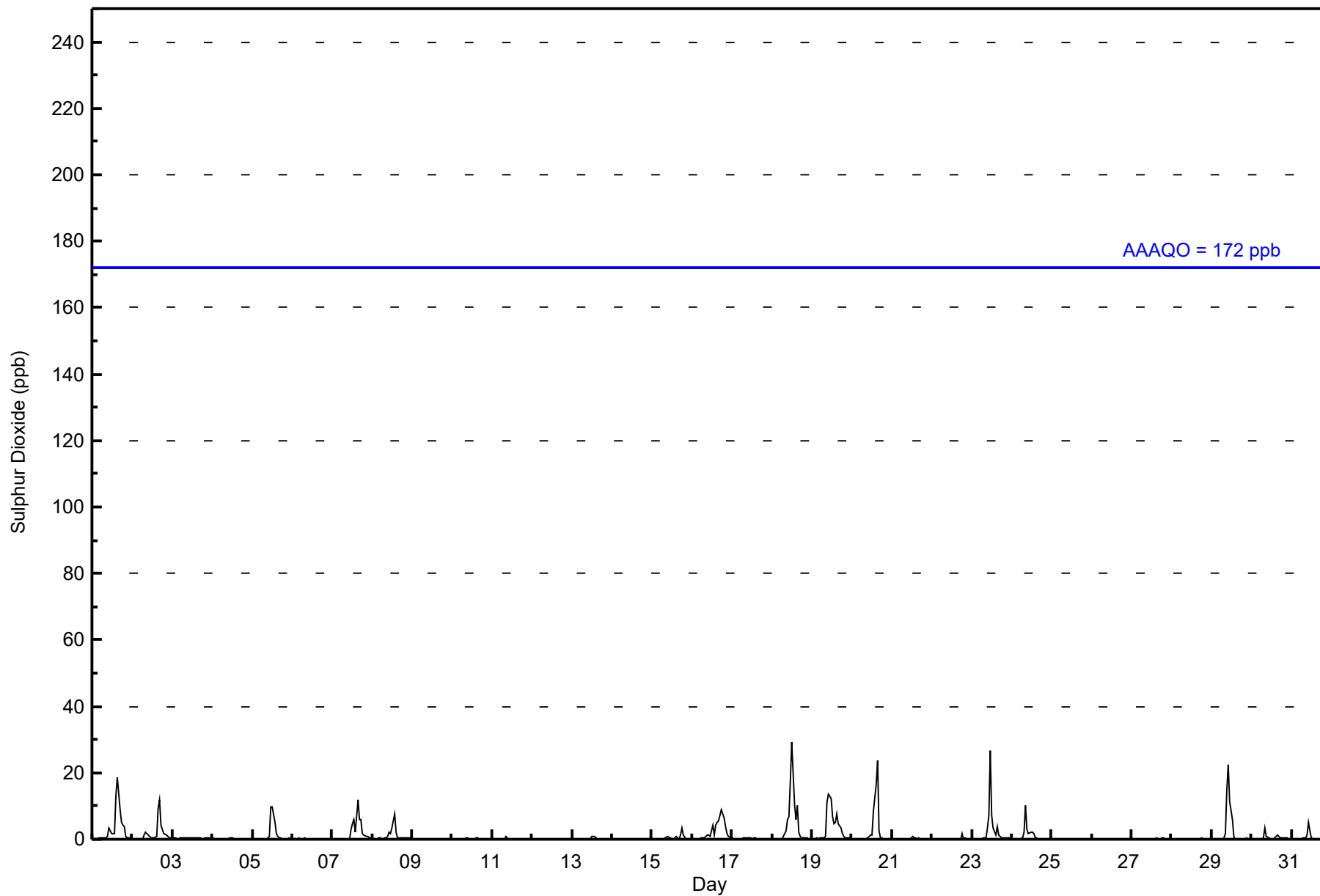
Barge Landing - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 29.2 ppb on Jul 18 13:00 Maximum Daily Average: 4.1 ppb on Jul 18																			Hours in Service: 744 Hours of Data: 709 Hours of Missing Data: 35 Hours of Calibration: 35 Percent Operational Time: 100.0							
Minimum Value: 0.0 ppb on Jul 5 08:00 Minimum Daily Average: 0.0 ppb on Jul 25 Maximum Diurnal Average: 3.1 ppb at hour 12 Minimum Diurnal Average: 0.1 ppb at hour 3 Monthly Average: 0.99 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.4 P ₉₀ = 2.0 P ₉₉ = 14.9																										
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-Jul	0.2	Z	0.1	0.2	0.3	0.3	0.3	0.3	0.3	0.9	3.2	1.8	1.5	1.7	13.1	18.6	8.9	5.2	4.2	3.8	0.8	0.4	0.3	0.2	2.9	18.6
2-Jul	0.1	0.1	Z	0.1	0.1	0.1	0.1	1.4	2.2	1.1	0.7	0.5	0.5	0.5	0.8	9.1	11.7	4.1	2.8	1.7	1.1	0.8	0.5	0.4	1.8	11.7
3-Jul	0.3	0.4	0.4	Z	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.4	0.4	0.4	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.3	0.4
4-Jul	0.2	0.2	0.2	0.1	Z	0.2	0.1	0.1	0.1	0.2	0.3	0.3	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.3
5-Jul	0.1	0.1	0.1	0.2	0.0	Z	0.1	0.0	0.0	0.2	0.9	9.6	9.9	5.1	1.8	1.0	0.5	0.2	0.2	0.1	0.1	0.1	0.3	0.1	1.3	9.9
6-Jul	Z	0.3	0.2	0.2	0.2	0.1	0.2	0.3	0.2	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	0.3
7-Jul	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	2.8	4.8	5.9	1.9	11.8	5.8	6.1	1.8	1.1	0.9	0.7	0.6	0.5	2.0	11.8
8-Jul	0.4	0.4	Z	0.4	0.4	0.3	0.2	0.3	0.5	1.1	2.1	1.6	3.2	7.6	2.1	0.6	0.4	0.4	0.4	0.3	0.5	0.5	0.4	0.2	1.1	7.6
9-Jul	0.2	0.1	0.1	Z	0.1	0.0	0.0	0.0	0.0	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	0.0	0.2
10-Jul	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.5	0.4	0.0	0.0	0.0	0.2	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.5
11-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.1	0.2	0.9	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	0.1	0.9
12-Jul	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	0.1	0.0	0.1	0.1	0.1	0.0	0.1
13-Jul	0.2	Z	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.6	0.8	0.3	0.2	0.2	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.2	0.8
14-Jul	0.1	0.0	Z	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	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.2
15-Jul	0.0	0.0	0.0	Z	0.1	0.1	0.0	0.1	0.4	0.7	0.6	0.2	0.1	0.0	1.0	0.3	0.2	1.2	3.3	1.1	0.1	0.1	0.1	0.2	0.4	3.3
16-Jul	0.3	0.2	0.0	0.0	Z	0.3	0.3	0.4	0.8	1.3	1.4	0.8	4.1	1.5	4.3	5.2	5.5	8.9	7.5	6.3	3.6	1.9	0.7	0.3	2.4	8.9
17-Jul	0.6	0.2	0.1	0.1	0.2	Z	0.3	0.3	0.3	0.3	0.5	0.3	0.2	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.6
18-Jul	Z	0.0	0.0	0.0	0.0	0.1	0.0	0.8	2.4	5.9	6.7	17.3	29.2	10.4	6.1	10.2	2.3	0.7	0.4	0.4	0.3	0.2	0.2	0.2	4.1	29.2
19-Jul	0.3	Z	0.3	0.3	0.2	0.2	0.3	0.3	1.0	10.9	13.6	12.4	6.8	4.8	4.9	7.6	4.7	3.4	1.9	0.7	0.3	0.3	0.2	0.2	3.3	13.6
20-Jul	0.1	0.1	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.9	1.3	1.4	8.4	16.5	23.6	2.6	0.4	0.3	0.1	0.0	0.0	0.0	0.0	2.4	23.6
21-Jul	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.6	0.4	0.2	0.6	0.2	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.7
22-Jul	0.0	0.0	0.0	0.0	Z	0.0	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	1.8	0.2	0.2	0.1	0.1	0.0	0.2	1.8
23-Jul	0.1	0.1	0.1	0.1	0.2	Z	0.1	0.5	0.5	3.3	7.4	26.8	7.4	3.3	1.3	3.7	1.5	1.0	0.6	0.2	0.3	0.4	0.4	0.2	2.6	26.8
24-Jul	Z	0.1	0.1	0.1	0.1	0.1	0.3	2.0	10.4	2.8	1.5	2.0	1.9	1.8	0.5	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	10.4
25-Jul	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	0.1	0.0	0.1	0.1	0.1	0.0	0.1
26-Jul	0.1	0.1	Z	0.1	0.1	0.0	0.1	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
27-Jul	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	0.0	0.4	0.0	0.0	0.4	0.2	0.1	0.0	0.0	0.0	0.1	0.4
28-Jul	0.1	0.1	0.1	0.1	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.4	0.2	0.2	0.1	0.1	0.0	0.1	0.4
29-Jul	0.1	0.0	0.0	0.0	0.0	Z	0.1	0.2	1.8	15.0	22.7	11.4	5.9	0.6	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.3	0.1	0.1	2.6	22.7
30-Jul	Z	0.0	0.0	0.0	0.0	0.1	0.0	0.4	3.2	1.0	0.3	0.2	0.1	0.2	0.4	1.1	1.0	0.5	0.3	0.4	0.4	0.2	0.2	0.1	0.4	3.2
31-Jul	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.3	0.5	1.2	5.2	2.7	0.5	0.2	0.2	0.1	0.2	0.1	0.1	0.7	0.9	0.5	0.2	0.1	0.6	5.2
0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.3 0.9 1.6 2.3 3.1 2.7 1.8 1.8 3.1 1.5 1.1 0.9 0.6 0.3 0.2 0.2 0.1 Diurnal Average																										
0.6 0.4 0.4 0.4 0.4 0.3 0.3 2.0 10.4 15.0 22.7 26.8 29.2 10.4 16.5 23.6 11.7 8.9 7.5 6.3 3.6 1.9 0.7 0.5 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 - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Barge Landing - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	694	97.88	97.88
11 - 20	11	1.55	99.44
21 - 60	4	0.56	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 - July 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	53	29	34	13	11	15	41	69	87	55	56	58	42	35	34	62	694
11 - 20	0	0	0	0	0	0	0	3	3	2	2	1	0	0	0	0	11
21 - 60	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	4
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	53	29	34	13	11	15	41	73	91	57	58	61	42	35	34	62	709

Total Number of Valid Hours: 709

Total Number of Hours: 744



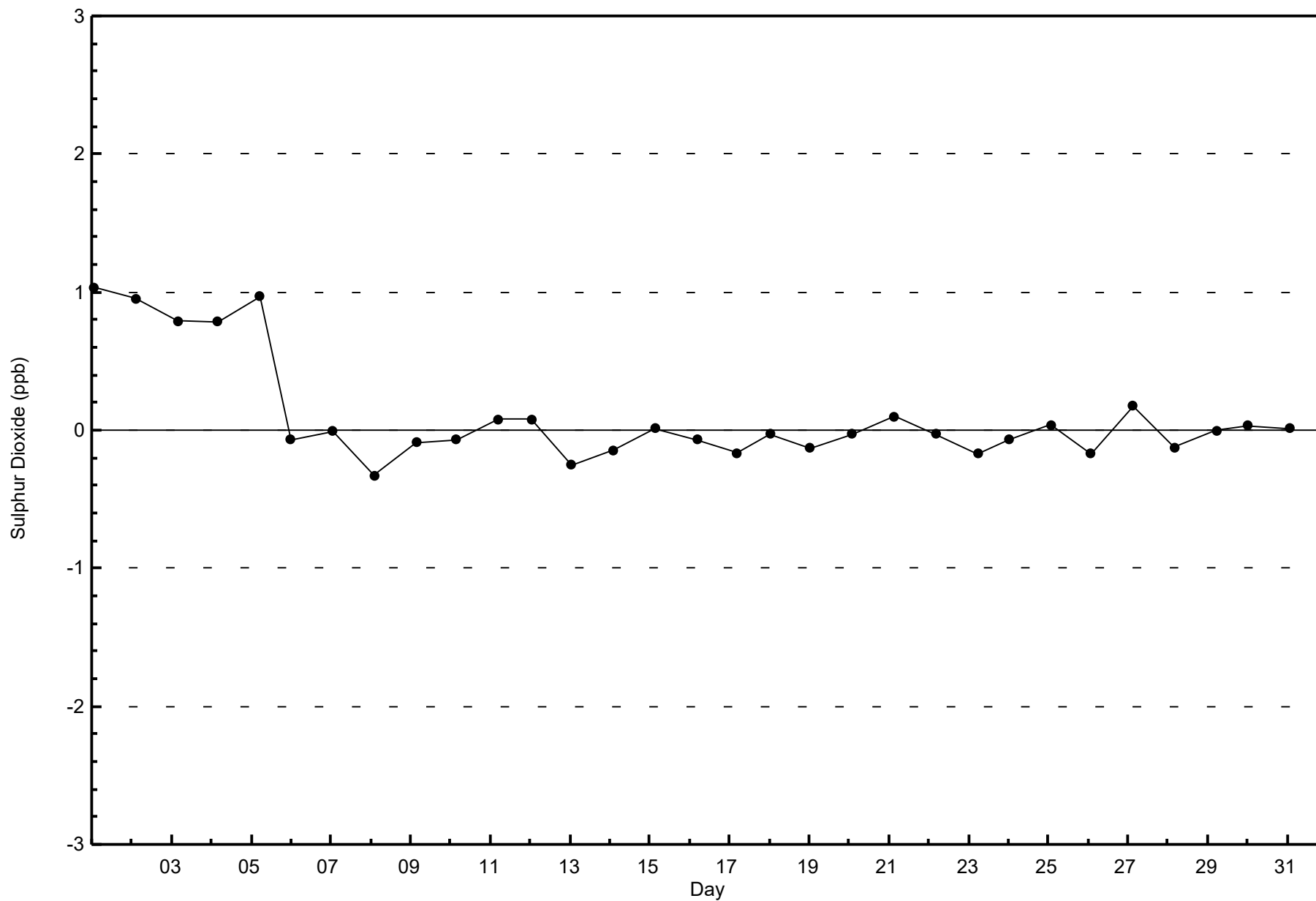
Sulphur Dioxide (SO₂) - ppb
Barge Landing





Wood Buffalo Environmental Association
Zero Responses

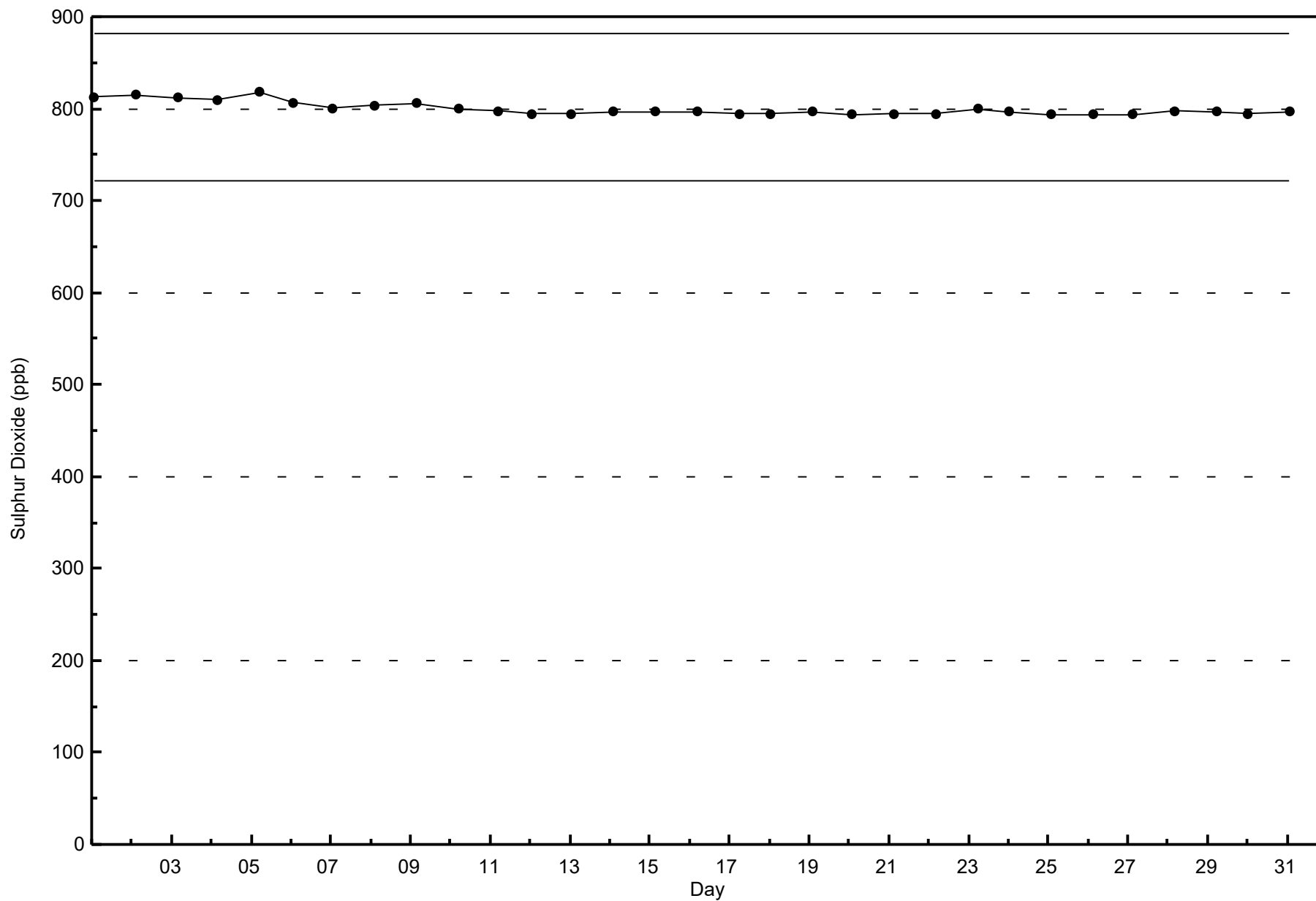
Sulphur Dioxide (SO₂) - ppb
Barge Landing - July 2025





Wood Buffalo Environmental Association
Span Responses

Sulphur Dioxide (SO₂) - ppb
Barge Landing - July 2025





Wood Buffalo Environmental Association

Summary of 30-Minute Averages

Total Reduced Sulphur (TRS) - ppb

Barge Landing - July 2025

Number of Exceedences (AAAQG): 30-Min: 0																		Periods in Service: 1488																			
Maximum Value: 2.0 ppb on Jul 16 07:30																		Maximum Daily Average: 0.7 ppb on Jul 8										Periods of Valid Data: 1400									
Minimum Value: 0.1 ppb on Jul 12 18:30																		Minimum Daily Average: 0.3 ppb on Jul 12										Periods of Invalid Data: 88									
Maximum Diurnal Average: 0.7 ppb at hour 9																		Minimum Diurnal Average: 0.3 ppb at hour 18										Periods of Calibration: 72									
Monthly Average: 0.46 ppb																		Percentiles: P ₁ = 0.1 P ₁₀ = 0.2 Q ₁ = 0.3 Median = 0.4 Q ₃ = 0.6 P ₉₀ = 0.8 P ₉₉ = 1.4										Percent Operational Time: 98.9									
Day	Period Ending At (MST)																								Daily Average	Daily Maximum											
	00:30 01:00	01:30 02:00	02:30 03:00	03:30 04:00	04:30 05:00	05:30 06:00	06:30 07:00	07:30 08:00	08:30 09:00	09:30 10:00	10:30 11:00	11:30 12:00	12:30 13:00	13:30 14:00	14:30 15:00	15:30 16:00	16:30 17:00	17:30 18:00	18:30 19:00	19:30 20:00	20:30 21:00	21:30 22:00	22:30 23:00	23:30 24:00													
1-Jul	0.4 0.5	0.5 0.5	Z SP	0.4 0.4	0.5 0.5	0.6 0.6	0.5 0.6	0.7 0.9	1.0 0.6	0.6 M	M M	M M	0.4 0.4	0.5 0.3	0.4 0.4	0.2 0.3	0.2 0.2	0.2 0.3	0.3 0.4	0.4 0.4	0.3 0.3	0.2 0.2	0.4 0.4	0.4 0.4	0.4	1.0											
2-Jul	0.4 0.3	0.3 0.3	0.3 0.4	Z SP	0.3 0.5	0.6 0.6	0.8 0.9	1.0 1.0	1.0 1.1	1.1 1.0	1.1 1.1	1.1 1.1	1.0 0.9	0.9 0.9	0.9 0.7	0.6 0.5	0.5 0.4	0.3 0.3	0.3 0.3	0.4 0.4	0.4 0.4	0.3 0.2	0.2 0.2	0.2 0.2	0.6	1.1											
3-Jul	0.3 0.3	0.4 0.3	0.4 0.4	0.3 0.3	Z SP	0.4 0.4	0.4 0.4	0.4 0.5	0.5 0.6	0.6 0.7	0.8 0.8	0.8 0.7	0.7 0.6	0.6 0.6	0.5 0.5	0.5 0.4	0.4 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	0.4	0.8												
4-Jul	0.2 0.2	0.2 0.2	0.2 0.2	0.3 0.3	0.3 0.2	Z SP	0.3 0.3	0.3 M	M M	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.3	0.4 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 0.3	0.3 0.3	0.3	0.4												
5-Jul	Z SP	0.3 0.3	0.4 0.4	0.4 0.5	0.5 0.6	0.8 0.8	0.7 0.7	0.8 0.8	0.8 0.7	0.7 0.7	1.0 0.9	0.8 0.7	0.5 0.4	0.3 0.3	0.3 0.6	0.4 0.3	0.3 0.3	0.3 0.4	0.6 0.4	0.5 0.5	0.4 0.7	0.4 0.4	0.4 0.4	0.6	1.0												
6-Jul	0.5 0.4	Z SP	0.3 0.4	0.5 0.9	1.2 1.3	1.1 0.9	0.8 0.8	0.9 0.9	0.9 0.8	0.8 0.8	0.8 0.8	0.7 0.7	0.6 0.5	0.4 0.4	0.4 0.3	0.4 0.4	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	0.5	1.3												
7-Jul	0.2 0.2	0.2 0.2	Z SP	0.4 0.4	0.4 0.4	0.4 0.5	0.4 0.6	0.5 0.6	0.6 0.6	0.7 0.8	0.8 0.8	0.8 0.8	0.7 0.6	0.6 0.5	0.5 0.6	0.5 0.4	0.4 0.4	0.3 0.4	0.4 0.4	0.4 0.5	0.4 0.4	0.4 0.4	0.6 0.5	0.5	0.8												
8-Jul	0.5 0.4	0.4 0.4	0.4 0.3	Z SP	0.4 0.4	0.3 0.1	0.2 0.1	0.2 0.3	0.3 C	C C	C C	C C	C C	1.1 0.8	1.3 1.2	1.1 1.0	0.9 0.9	0.8 0.9	0.9 0.9	1.0 1.0	1.0 1.1	1.0 0.9	0.8 0.7	0.7	1.3												
9-Jul	0.7 0.6	0.5 0.4	0.4 0.4	0.4 0.3	Z SP	0.7 0.6	0.5 0.5	0.5 0.5	0.5 0.5	0.4 M	M 0.3	0.3 0.2	0.2 0.2	0.3 0.3	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.3	0.3 0.3	0.3	0.7												
10-Jul	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.4	0.4 0.4	Z SP	0.4 0.4	0.4 0.4	0.4 0.4	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.2	0.2 0.2	0.2 0.2	0.2 0.3	0.2 0.3	0.4 0.5	0.5 0.5	0.4 0.4	0.3	0.5												
11-Jul	Z SP	0.6 1.0	1.3 1.3	0.9 1.0	1.2 1.2	1.1 1.1	0.9 0.9	0.6 0.5	0.5 0.5	0.4 0.3	0.3 0.3	0.2 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 0.2	0.2 0.3	0.3 0.4	0.4 0.4	0.6 0.6	0.5	1.3												
12-Jul	0.4 0.4	Z SP	0.4 0.4	0.4 0.5	0.5 0.5	0.3 0.4	0.3 0.3	0.3 0.2	0.3 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 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.2	0.3 0.3	0.3 0.5	0.3	0.5												
13-Jul	0.6 0.5	0.5 0.5	Z SP	0.4 0.5	0.5 0.7	0.6 0.6	0.5 0.4	0.5 0.4	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	0.1 0.1	0.2 0.2	0.2 0.1	0.2 0.2	0.2 0.2	0.3 0.2	0.3 0.3	0.4 0.3	0.3	0.7												
14-Jul	0.3 0.3	0.3 0.3	0.3 0.3	Z SP	0.4 0.4	0.8 0.5	0.3 0.4	0.5 0.4	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.2 0.2	0.3 0.3	0.3 0.2	0.2 0.2	0.3 0.2	0.2 0.2	0.2 0.2	0.3 0.3	0.3 0.4	0.3 0.3	0.4 0.5	0.3	0.8												
15-Jul	0.4 0.5	0.4 0.4	0.5 0.4	0.4 0.5	Z SP	0.7 0.7	0.9 1.0	1.1 1.2	1.1 1.0	0.8 0.6	0.4 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.2 0.2	0.2 0.2	0.2 0.3	0.3 0.4	0.5 1.1	1.2 1.3	1.2 1.7	0.5 0.4	0.5 0.7	0.6	1.7											



Wood Buffalo Environmental Association

Summary of 30-Minute Averages

Total Reduced Sulphur (TRS) - ppb

Barge Landing - July 2025

Day	Period Ending At (MST)																								Daily Average	Daily Maximum
	00:30 01:00	01:30 02:00	02:30 03:00	03:30 04:00	04:30 05:00	05:30 06:00	06:30 07:00	07:30 08:00	08:30 09:00	09:30 10:00	10:30 11:00	11:30 12:00	12:30 13:00	13:30 14:00	14:30 15:00	15:30 16:00	16:30 17:00	17:30 18:00	18:30 19:00	19:30 20:00	20:30 21:00	21:30 22:00	22:30 23:00	23:30 24:00		
16-Jul	0.7 0.7	0.7 0.8	0.8 0.7	0.6 0.6	0.7 0.9	Z SP	1.3 1.3	2.0 1.4	1.2 1.2	1.1 1.0	0.7 0.6	0.5 0.4	0.4 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.2 0.3	0.3 0.3	0.3 0.3	0.4 0.4	0.5 0.6	0.7 0.7	0.8 0.7	0.6 0.6	0.6 0.6	0.6 2.0
17-Jul	Z SP	0.6 0.7	0.7 0.6	0.6 0.6	0.7 0.7	0.7 0.8	0.7 0.7	0.6 0.6	0.6 0.5	0.5 0.6	0.7 0.6	0.4 0.3	0.4 0.3	0.4 0.3	0.3 0.3	0.3 0.3	0.2 0.2	0.2 0.2	0.2 0.3	0.3 0.3	0.3 0.4	0.4 0.5	0.5 0.6	0.7 0.5	0.7 0.5	0.5 0.8
18-Jul	0.5 0.5	Z SP	0.5 0.5	0.5 0.5	0.6 0.6	0.7 0.8	0.9 1.2	1.2 1.1	1.2 1.1	0.9 0.9	0.8 0.9	0.8 0.5	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	0.7 1.1	0.5 0.3	0.3 0.3	0.3 0.4	0.3 0.4	0.3 0.4	0.6 1.2
19-Jul	0.4 0.5	0.5 0.6	Z SP	0.7 0.7	0.8 0.8	0.8 0.8	0.8 0.7	0.7 1.1	1.7 1.5	1.4 1.4	1.2 1.0	1.0 1.6	1.3 0.6	0.5 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.5	0.4 0.4	0.5 0.4	0.4 0.4	0.4 0.4	0.4 0.5	0.4 0.5	0.7 1.7
20-Jul	0.5 0.4	0.4 0.4	0.5 0.5	Z SP	0.6 0.7	0.6 0.6	0.6 0.6	0.6 0.5	0.6 0.5	0.5 0.6	0.6 0.6	0.6 0.6	0.6 0.6	0.6 0.9	0.9 0.8	0.7 0.8	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	0.3 0.3	0.3 0.3	0.5 0.9
21-Jul	0.3 0.4	0.4 0.4	0.4 0.4	0.4 0.5	Z SP	0.8 0.7	0.5 0.4	0.4 0.4	M 0.4	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 0.2	0.3 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.3 0.3	0.2 0.2	0.3 0.3	0.4 0.3	0.4 0.3	0.3 0.8
22-Jul	0.3 0.3	0.3 0.3	0.3 0.4	0.4 0.3	0.3 0.4	Z SP	0.5 0.4	0.4 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 0.5	0.4 0.2	0.2 0.4	0.3 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.3 0.5	
23-Jul	Z SP	0.5 0.5	0.5 0.4	0.4 0.4	0.5 0.6	0.6 0.6	0.5 0.5	0.9 1.3	1.4 1.0	0.7 0.8	0.7 0.6	0.4 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.2 0.2	0.2 0.2	0.2 0.3	0.2 0.4	0.5 0.6	0.6 0.6	0.7 0.7	0.7 0.7	0.5 1.4	
24-Jul	0.8 0.8	Z SP	1.0 1.1	1.5 1.7	1.5 1.1	1.0 0.7	0.8 1.6	0.9 1.0	1.8 1.8	0.8 0.5	0.6 0.6	0.5 0.4	0.5 0.6	0.5 0.5	0.5 0.4	0.7 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 0.3	0.7 1.8
25-Jul	0.3 0.3	0.4 0.3	Z SP	0.4 0.4	0.4 0.4	0.4 0.4	0.3 0.3	0.3 0.3	0.3 0.2	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.3 0.3	0.4 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.4
26-Jul	0.2 0.2	0.2 0.2	0.2 0.2	Z SP	0.4 0.4	0.3 0.4	0.4 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.4	0.4 0.4	0.3 0.4	0.4 0.5	0.4 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	0.4 0.4	0.4 0.4	0.4 0.5
27-Jul	0.4 0.4	0.3 0.4	0.4 0.4	0.4 0.4	Z SP	0.4 0.5	0.4 0.4	0.3 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 0.3	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	0.3 0.3	0.3 0.3	0.3 0.5
28-Jul	0.2 0.2	0.2 0.2	0.2 0.4	0.3 0.3	0.3 0.5	Z SP	0.5 0.4	0.5 0.5	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 0.2	0.2 0.2	0.2 0.2	0.2 0.3	0.3 0.5	0.4 0.6	0.6 0.6	0.5 0.6	0.5 0.6	0.5 0.5	0.5 0.4	0.3 0.6
29-Jul	Z SP	0.5 0.5	0.5 0.4	0.4 0.4	0.4 0.5	0.6 0.6	0.7 0.9	0.7 0.6	0.5 0.6	0.4 0.6	0.6 0.6	0.5 0.4	0.4 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	0.3 0.5	0.3 0.5	0.6 0.5	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.9
30-Jul	0.4 0.4	Z SP	0.6 0.9	0.9 0.8	0.7 0.7	0.8 0.9	0.8 0.7	1.1 1.1	0.9 0.8	0.7 0.4	0.4 0.4	0.3 0.3	0.3 0.3	0.2 0.3	0.4 0.5	0.4 0.4	0.4 0.3	0.3 0.3	0.3 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.5	0.5 0.5	0.5 0.5	0.5 1.1
31-Jul	0.5 0.6	0.7 0.7	Z SP	0.8 0.8	0.9 0.8	0.8 1.0	1.0 1.0	0.9 M	M M	M 1.2	1.2 1.2	1.1 1.0	1.0 0.8	0.7 0.5	0.4 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.4	0.5 0.5	0.6 0.6	0.6 0.6	0.6 0.6	0.6 0.6	0.7 1.2
Diurnal Average																										Diurnal Maximum
Diurnal Maximum																										
Z - zerospan C - Calibration M - Maintenance SP - Span																										
Alberta Ambient Air Quality Guideline (AAAQG): 30-Min: 5 ppb																										



Wood Buffalo Environmental Association

Summary of Hour Averages

Total Reduced Sulphur (TRS) - ppb

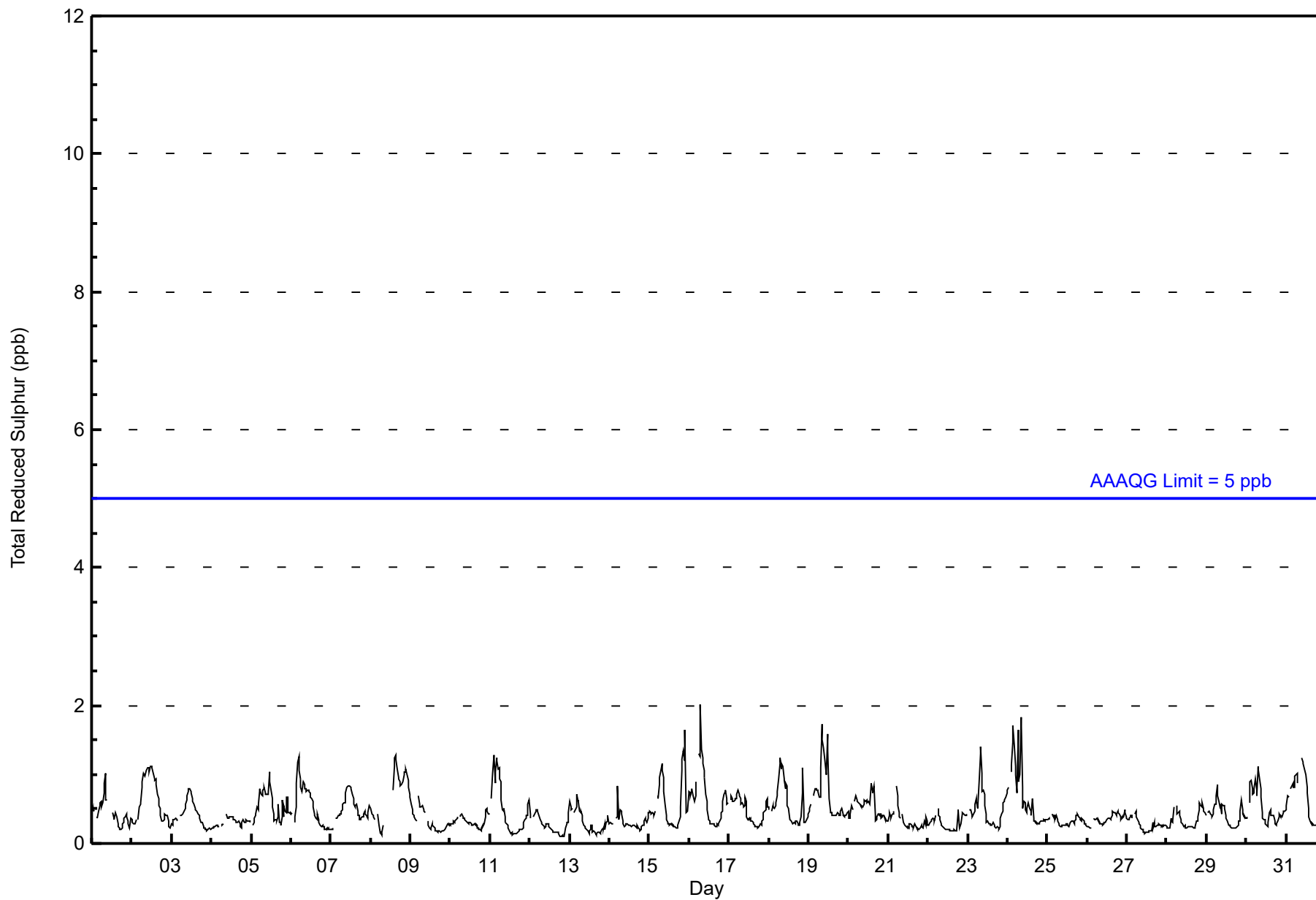
Barge Landing - July 2025

Maximum Value: 1.8 ppb on Jul 24 09:00																		Maximum Daily Average: 0.7 ppb on Jul 8																		Hours in Service: 744	
Minimum Value: 0.1 ppb on Jul 12 19:00																		Minimum Daily Average: 0.3 ppb on Jul 12																		Hours of Data: 698	
Maximum Diurnal Average: 0.7 ppb at hour 9																		Minimum Diurnal Average: 0.3 ppb at hour 18																		Hours of Missing Data: 46	
Monthly Average: 0.46 ppb																		Percentiles: P ₁ = 0.1 P ₁₀ = 0.2 Q ₁ = 0.3 Median = 0.4 Q ₃ = 0.6 P ₉₀ = 0.8 P ₉₉ = 1.3																		Hours of Calibration: 36	
																																				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-Jul	0.5	0.5	Z	0.4	0.5	0.6	0.6	0.8	0.8	M	M	M	M	0.4	0.4	0.3	0.2	0.2	0.3	0.3	0.4	0.4	0.3	0.3	0.4	0.8											
2-Jul	0.3	0.3	0.3	Z	0.4	0.6	0.8	1.0	1.0	1.1	1.1	1.1	1.1	1.0	0.9	0.8	0.6	0.5	0.3	0.3	0.4	0.4	0.3	0.2	0.6	1.1											
3-Jul	0.3	0.3	0.4	0.3	Z	0.4	0.4	0.5	0.5	0.7	0.8	0.8	0.7	0.6	0.5	0.5	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.4	0.8											
4-Jul	0.2	0.2	0.2	0.3	0.2	Z	0.3	0.3	M	0.4	0.4	0.4	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	0.4											
5-Jul	Z	0.3	0.4	0.5	0.5	0.8	0.7	0.8	0.8	0.7	0.7	1.0	0.7	0.5	0.3	0.3	0.5	0.3	0.3	0.5	0.5	0.6	0.6	0.4	0.6	1.0											
6-Jul	0.4	Z	0.3	0.7	1.2	1.0	0.8	0.9	0.8	0.8	0.8	0.7	0.7	0.6	0.4	0.4	0.4	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.5	1.2											
7-Jul	0.2	0.2	Z	0.4	0.4	0.4	0.4	0.5	0.6	0.8	0.8	0.8	0.8	0.7	0.6	0.6	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.8											
8-Jul	0.5	0.4	0.4	Z	0.4	0.2	0.1	0.2	C	C	C	C	C	0.7	1.2	1.3	1.0	0.9	0.8	0.9	1.0	1.1	1.0	0.8	0.7	1.3											
9-Jul	0.6	0.5	0.4	0.3	Z	0.6	0.5	0.5	0.5	M	M	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.6											
10-Jul	0.3	0.3	0.3	0.3	0.4	Z	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.4	0.5	0.4	0.3	0.5											
11-Jul	Z	0.8	1.3	1.0	1.2	1.1	0.9	0.6	0.5	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.4	0.4	0.6	0.5	1.3											
12-Jul	0.4	Z	0.4	0.5	0.5	0.4	0.3	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.3	0.4	0.3	0.5											
13-Jul	0.6	0.5	Z	0.5	0.6	0.6	0.5	0.4	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.6											
14-Jul	0.3	0.3	0.3	Z	0.4	0.6	0.4	0.5	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.3	0.6											
15-Jul	0.5	0.4	0.4	0.4	Z	0.7	0.9	1.1	1.0	0.7	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.4	0.8	1.3	1.4	0.5	0.6	0.6	1.4											
16-Jul	0.7	0.7	0.7	0.6	0.8	Z	1.3	1.7	1.2	1.0	0.7	0.4	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.4	0.5	0.7	0.7	0.6	0.6	1.7											
17-Jul	Z	0.7	0.6	0.6	0.7	0.7	0.7	0.6	0.6	0.5	0.6	0.4	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.5	0.6	0.6	0.5	0.7											
18-Jul	0.5	Z	0.5	0.5	0.6	0.7	1.0	1.2	1.1	0.9	0.8	0.7	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.9	0.4	0.3	0.4	0.6	1.2											
19-Jul	0.4	0.5	Z	0.7	0.8	0.8	0.7	0.9	1.6	1.4	1.1	1.3	1.0	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.7	1.6											
20-Jul	0.4	0.4	0.5	Z	0.6	0.6	0.6	0.5	0.5	0.5	0.6	0.6	0.6	0.7	0.8	0.8	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.5	0.8											
21-Jul	0.4	0.4	0.4	0.5	Z	0.8	0.5	0.4	M	0.3	0.3	0.2	0.2	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.3	0.2	0.3	0.4	0.3	0.8											
22-Jul	0.3	0.3	0.3	0.4	0.4	Z	0.5	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.2	0.4	0.4	0.4	0.4	0.3	0.5											
23-Jul	Z	0.5	0.4	0.4	0.5	0.6	0.5	1.1	1.2	0.8	0.6	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.4	0.5	0.6	0.7	0.5	1.2											
24-Jul	0.8	Z	1.1	1.6	1.3	0.9	1.2	0.9	1.8	0.7	0.6	0.5	0.5	0.5	0.4	0.5	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.7	1.8											
25-Jul	0.3	0.4	Z	0.4	0.4	0.4	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.4	0.3	0.3	0.3	0.4											
26-Jul	0.2	0.2	0.2	Z	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4											
27-Jul	0.4	0.3	0.4	0.4	Z	0.5	0.4	0.3	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	0.3	0.3	0.5											
28-Jul	0.2	0.2	0.3	0.3	0.4	Z	0.5	0.5	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.6	0.6	0.5	0.4	0.3	0.6											
29-Jul	Z	0.5	0.5	0.4	0.5	0.6	0.8	0.7	0.5	0.5	0.6	0.5	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.6	0.4	0.4	0.4	0.8											
30-Jul	0.4	Z	0.7	0.8	0.7	0.9	0.7	1.1	0.9	0.6	0.4	0.3	0.3	0.3	0.5	0.4	0.4	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.5	1.1											
31-Jul	0.5	0.7	Z	0.8	0.8	0.9	1.0	M	M	1.3	1.2	1.0	0.9	0.6	0.4	0.3	0.3	0.3	0.3	0.4	0.5	0.6	0.6	0.6	0.7	1.3											
0.4 0.4 0.5 0.5 0.6 0.6 0.6 0.7 0.7 0.6 0.5 0.5 0.4 0.4 0.4 0.4 0.3 0.3 0.3 0.3 0.4 0.4 0.4 0.4 0.4																								Diurnal Average													
0.8 0.8 1.3 1.6 1.3 1.1 1.3 1.7 1.8 1.4 1.2 1.3 1.1 1.0 1.2 1.3 1.0 0.9 0.8 0.9 1.3 1.4 1.0 0.8																								Diurnal Maximum													
Z - zerospan C - Calibration M - Maintenance																																					
Alberta Ambient Air Quality Objective (AAAQO): 1-hour NA 24-hr NA																																					



Wood Buffalo Environmental Association
Hourly Averages

Total Reduced Sulphur (TRS) - ppb
Barge Landing - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Reduced Sulphur (TRS) - ppb
Barge Landing - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	698	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: 698

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Total Reduced Sulphur (TRS) - ppb
Barge Landing - July 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	51	29	35	12	12	13	43	70	88	57	58	63	40	34	33	60	698
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	51	29	35	12	12	13	43	70	88	57	58	63	40	34	33	60	698

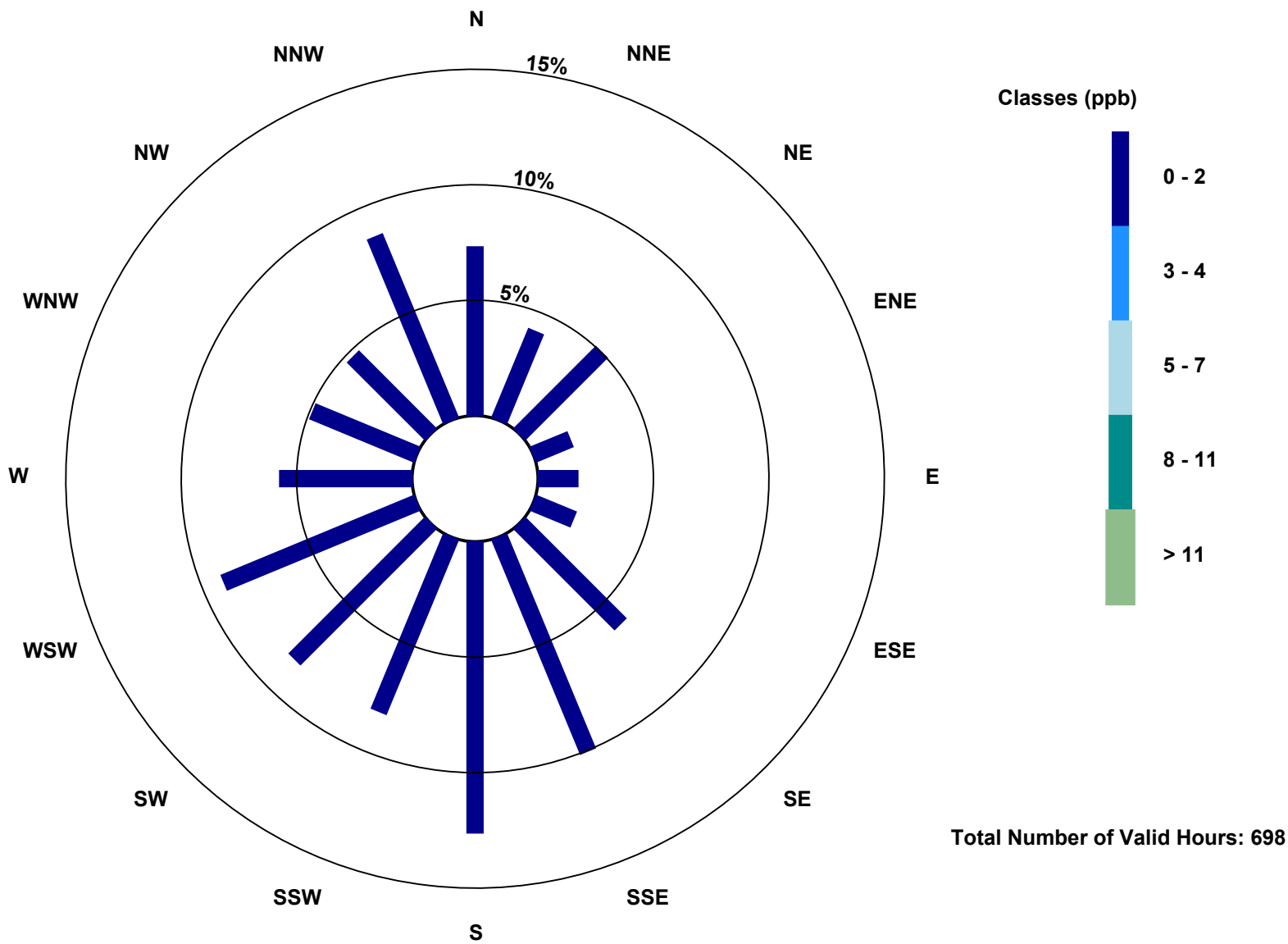
Total Number of Valid Hours: 698

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

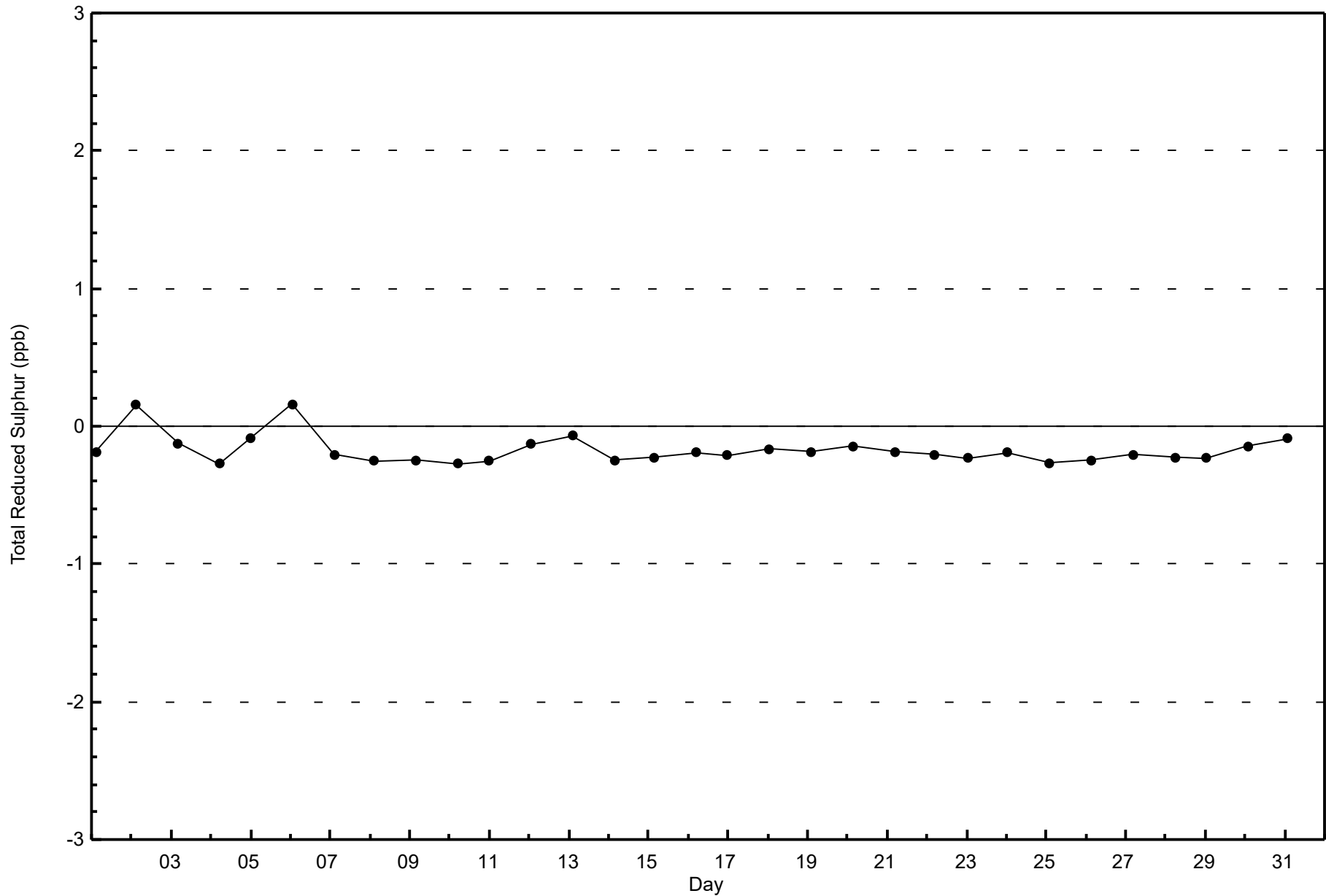
Total Reduced Sulphur (TRS) - ppb
Barge Landing





Wood Buffalo Environmental Association
Zero Responses

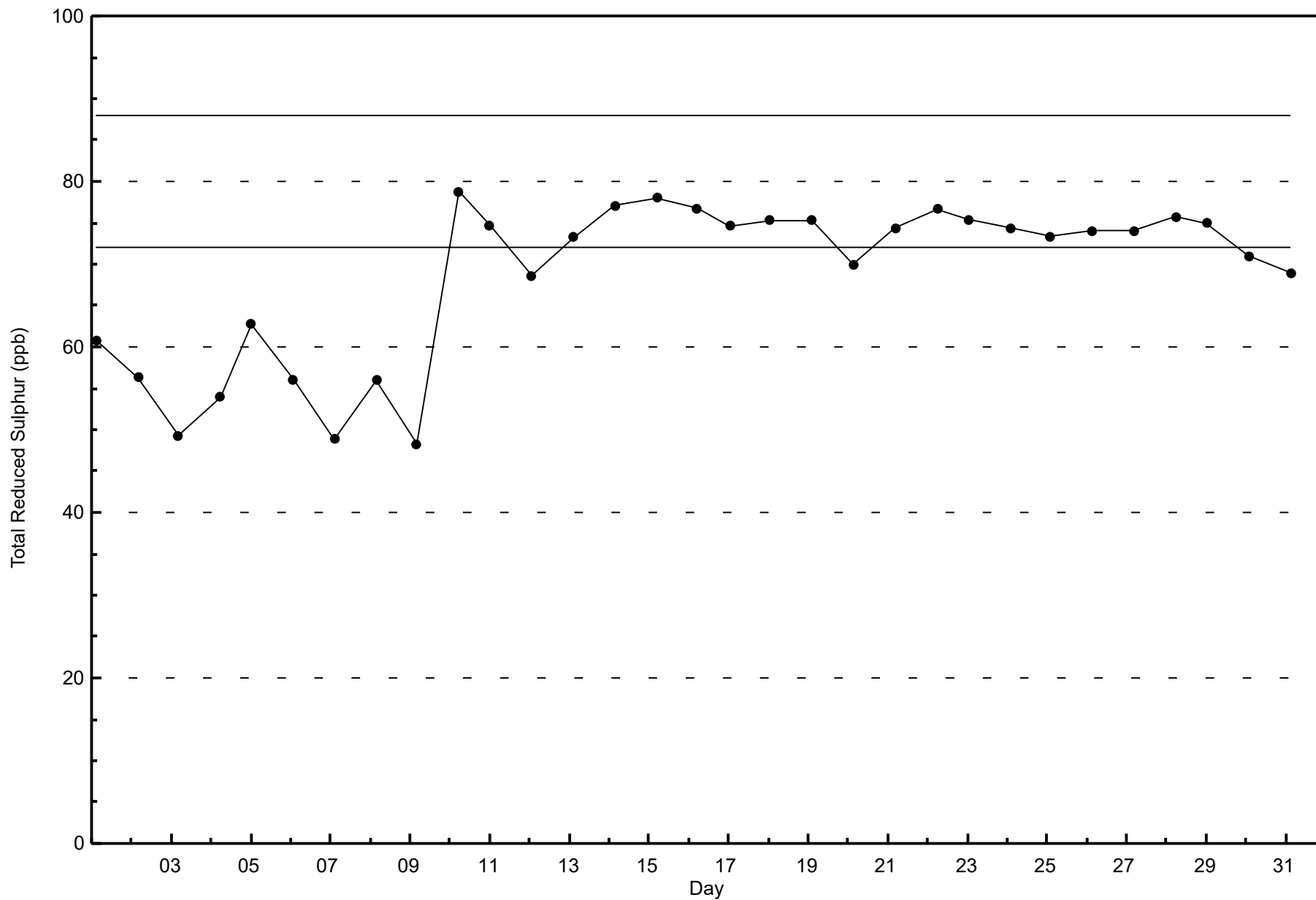
Total Reduced Sulphur (TRS) - ppb
Barge Landing - July 2025





Wood Buffalo Environmental Association
Span Responses

Total Reduced Sulphur (TRS) - ppb
Barge Landing - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Total Hydrocarbons (THC) - ppm

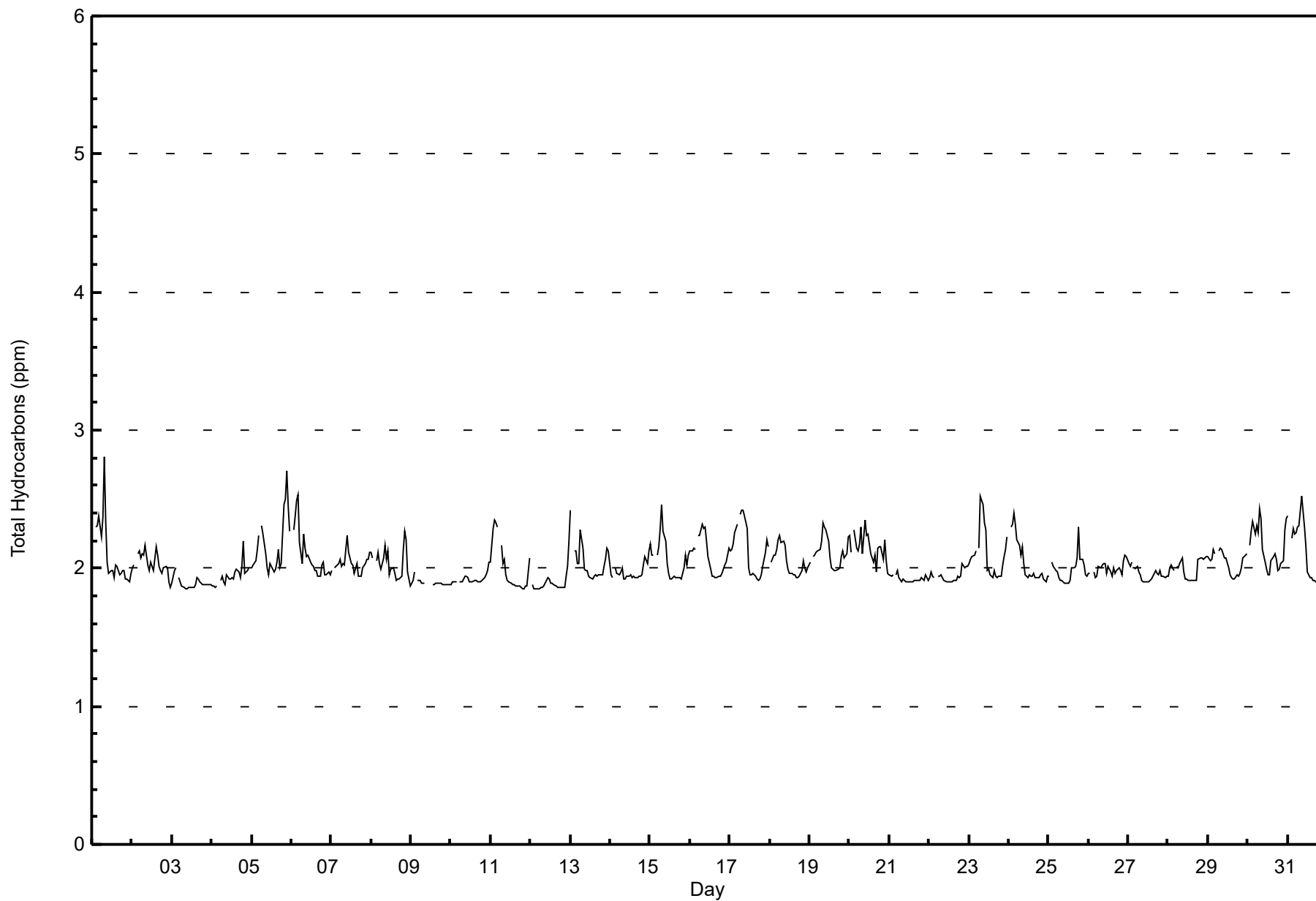
Barge Landing - July 2025

Maximum Value: 2.8 ppm on Jul 1 08:00																	Maximum Daily Average: 2.2 ppm on Jul 5										Hours in Service: 744	
Minimum Value: 1.8 ppm on Jul 11 21:00																	Minimum Daily Average: 1.9 ppm on Jul 3										Hours of Data: 709	
Maximum Diurnal Average: 2.1 ppm at hour 8																	Minimum Diurnal Average: 1.9 ppm at hour 14										Hours of Missing Data: 35	
Monthly Average: 2.03 ppm																	Percentiles: P ₁ = 1.9 P ₁₀ = 1.9 Q ₁ = 1.9 Median = 2.0 Q ₃ = 2.1 P ₉₀ = 2.2 P ₉₉ = 2.5										Hours of Calibration: 35	
																											Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum		
1-Jul	2.4	Z	2.3	2.3	2.4	2.2	2.4	2.8	2.3	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	2.0	2.1	2.8		
2-Jul	2.0	2.0	Z	2.1	2.1	2.1	2.1	2.1	2.2	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	1.9	1.9	2.0	2.2		
3-Jul	1.9	2.0	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	1.9	2.0		
4-Jul	1.9	1.9	1.9	1.9	Z	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	2.0	2.0	2.0	1.9	2.0	2.2	2.0	2.0	2.0	2.0	1.9	2.2		
5-Jul	2.0	2.0	2.1	2.1	2.2	Z	2.3	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.5	2.5	2.7	2.4	2.3	2.2	2.7		
6-Jul	Z	2.3	2.4	2.5	2.5	2.2	2.0	2.3	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	1.9	1.9	2.0	2.0	1.9	2.0	2.0	2.0	2.1	2.5		
7-Jul	2.0	Z	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.2	2.1	2.1	2.0	2.0	2.0	2.0	1.9	1.9	1.9	2.0	2.0	2.1	2.1	2.1	2.0	2.2		
8-Jul	2.1	2.1	Z	2.1	2.1	2.0	2.0	2.1	2.2	2.1	2.1	1.9	2.0	2.0	2.0	1.9	1.9	1.9	1.9	2.1	2.3	2.2	2.0	1.9	2.0	2.3		
9-Jul	1.9	1.9	2.0	Z	1.9	1.9	1.9	1.9	1.9	C	C	C	C	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		
10-Jul	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	2.0	2.0	2.0	1.9	2.0		
11-Jul	2.0	2.3	2.4	2.3	2.3	Z	2.2	2.0	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.9	1.9	2.1	2.0	2.4		
12-Jul	Z	1.9	1.9	1.9	1.8	1.8	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	2.2	1.9	2.2		
13-Jul	2.4	Z	2.1	2.1	2.0	2.0	2.3	2.2	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.1	2.1	2.1	2.0	2.4		
14-Jul	2.0	1.9	Z	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.0	2.1	2.0	2.1		
15-Jul	2.2	2.1	2.1	Z	2.1	2.2	2.3	2.5	2.3	2.2	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.0	2.1	2.1	2.5		
16-Jul	2.1	2.1	2.1	2.1	Z	2.2	2.2	2.3	2.3	2.3	2.2	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.1	2.1	2.3		
17-Jul	2.1	2.1	2.2	2.3	2.3	Z	2.4	2.4	2.4	2.4	2.3	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	2.0	2.0	2.1	2.2	2.2	2.1	2.4		
18-Jul	Z	2.0	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.1	2.0	2.0	2.0	1.9	2.0	1.9	1.9	1.9	2.0	2.1	2.0	2.0	2.0	2.0	2.2		
19-Jul	2.0	Z	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.3	2.3	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.1	2.3		
20-Jul	2.2	2.1	Z	2.3	2.1	2.1	2.2	2.3	2.1	2.3	2.2	2.2	2.2	2.1	2.0	2.1	2.0	2.1	2.2	2.2	2.1	2.2	2.1	2.0	2.1	2.3		
21-Jul	2.0	1.9	2.0	Z	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	1.9	1.9	2.0		
22-Jul	1.9	2.0	1.9	1.9	Z	1.9	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	2.0	2.0	2.0	2.0	1.9	2.0		
23-Jul	2.0	2.1	2.1	2.1	2.1	Z	2.2	2.5	2.5	2.3	2.3	2.0	2.0	1.9	1.9	2.0	1.9	1.9	1.9	1.9	2.0	2.1	2.1	2.2	2.1	2.5		
24-Jul	Z	2.3	2.3	2.4	2.3	2.2	2.2	2.1	2.2	2.0	2.0	1.9	2.0	1.9	1.9	2.0	1.9	1.9	1.9	2.0	2.0	1.9	1.9	1.9	2.1	2.4		
25-Jul	1.9	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	2.0	2.0	2.0	2.1	2.3	2.1	2.1	2.0	2.0	1.9	2.0	2.3		
26-Jul	2.0	2.0	Z	2.0	1.9	1.9	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	2.1	2.1	2.1	2.0	2.1		
27-Jul	2.0	2.0	2.0	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	2.0	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.0		
28-Jul	1.9	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1		
29-Jul	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	1.9	1.9	1.9	2.0	1.9	2.0	2.0	2.1	2.1	2.1	2.0	2.1		
30-Jul	Z	2.2	2.3	2.3	2.2	2.3	2.3	2.4	2.4	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.3	2.4	2.2	2.4		
31-Jul	2.4	Z	2.2	2.3	2.2	2.3	2.3	2.3	2.5	2.4	2.3	2.2	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.1	2.1	2.1	2.5		
2.1 2.0 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.0 2.0 2.0 1.9 2.0 2.0 2.0 1.9 1.9 2.0 2.0 2.0 2.0 2.0 2.1																										Diurnal Average		
2.4 2.3 2.4 2.5 2.5 2.3 2.4 2.8 2.5 2.4 2.3 2.2 2.2 2.1 2.2 2.1 2.1 2.1 2.3 2.5 2.5 2.7 2.4 2.4																										Diurnal Maximum		
Z - zerospan C - Calibration																												



Wood Buffalo Environmental Association
Hourly Averages

Total Hydrocarbons (THC) - ppm
Barge Landing - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Hydrocarbons (THC) - ppm
Barge Landing - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	476	67.14	67.14
2.1 - 3.0	233	32.86	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
Barge Landing - July 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	28	18	19	10	6	5	21	31	47	42	52	53	39	31	27	47	476
2.1 - 3.0	25	11	15	3	5	10	20	42	44	15	6	8	3	4	7	15	233
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	53	29	34	13	11	15	41	73	91	57	58	61	42	35	34	62	709

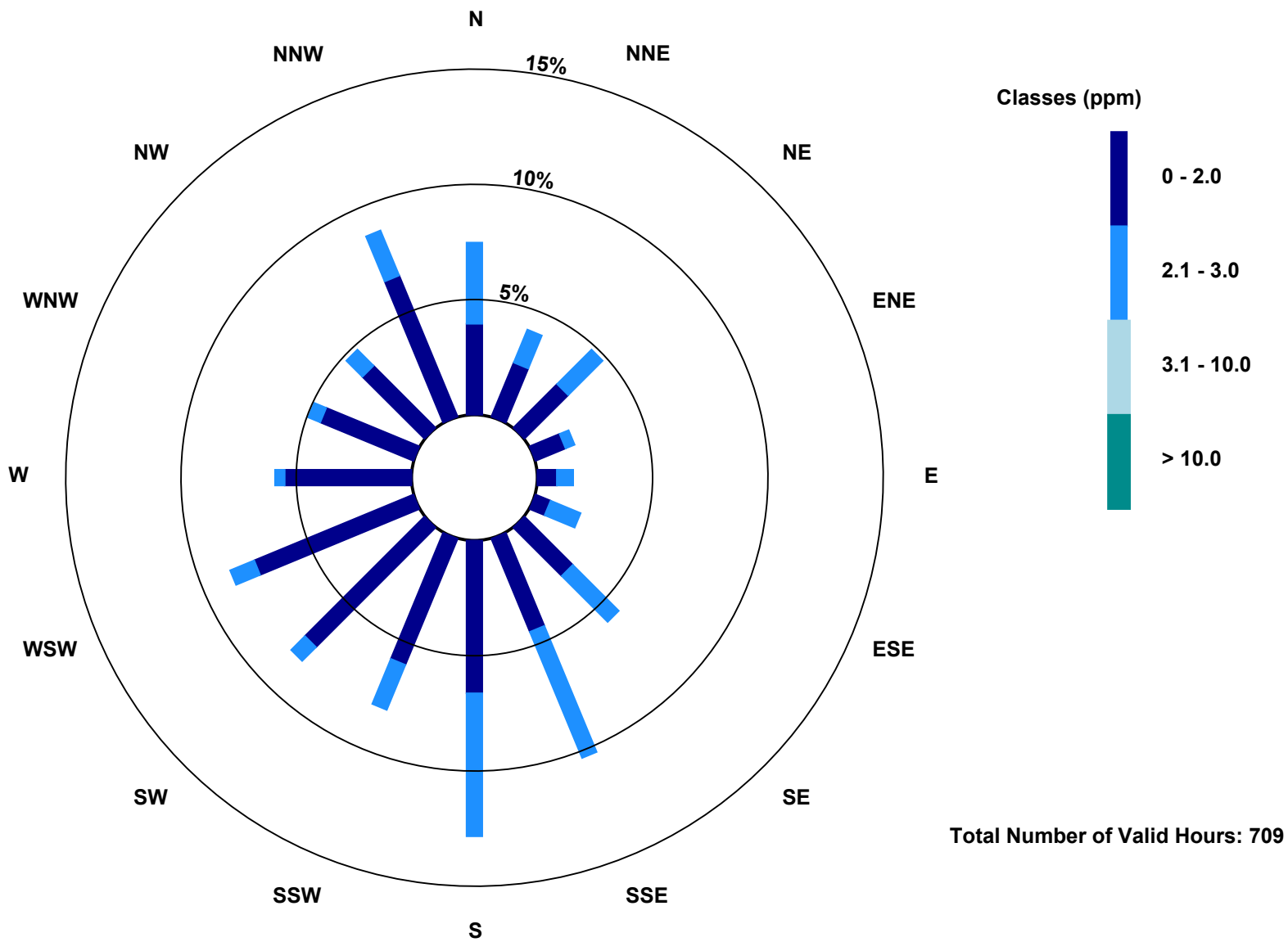
Total Number of Valid Hours: 709

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Total Hydrocarbons (THC) - ppm
Barge Landing

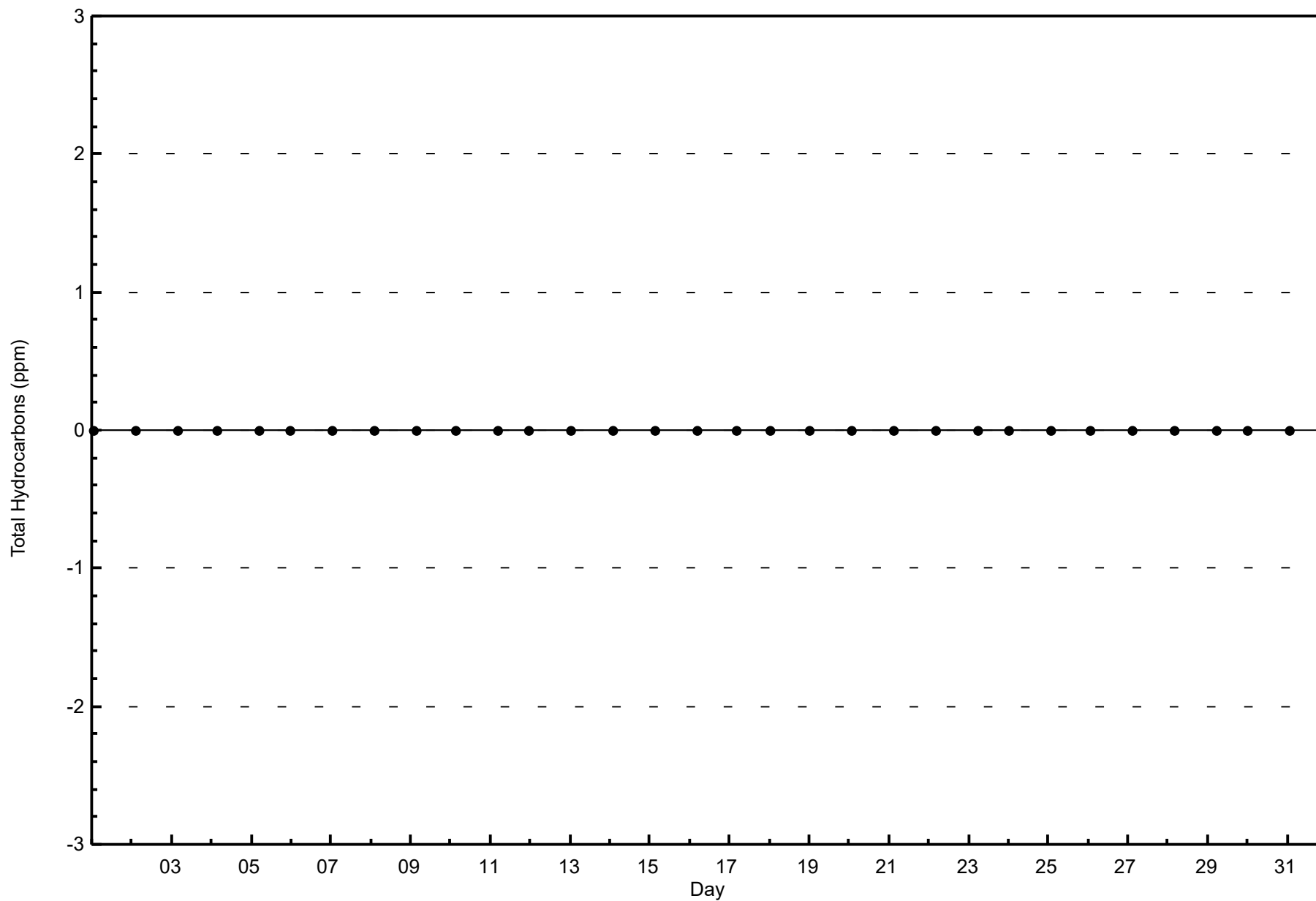


Total Number of Valid Hours: 709



Wood Buffalo Environmental Association
Zero Responses

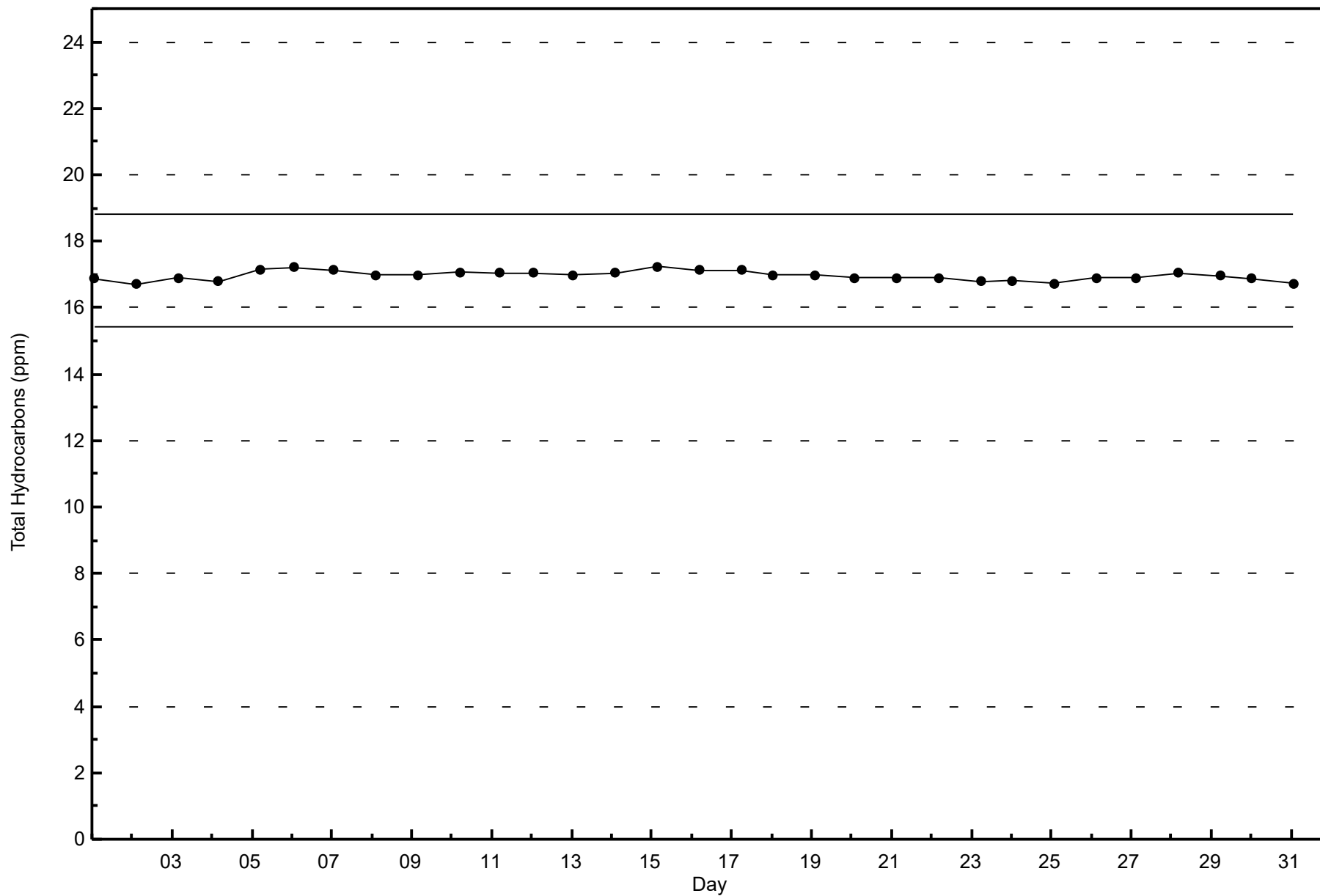
Total Hydrocarbons (THC) - ppm
Barge Landing - July 2025





Wood Buffalo Environmental Association
Span Responses

Total Hydrocarbons (THC) - ppm
Barge Landing - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Non Methane Hydrocarbons (NMHC) - ppm

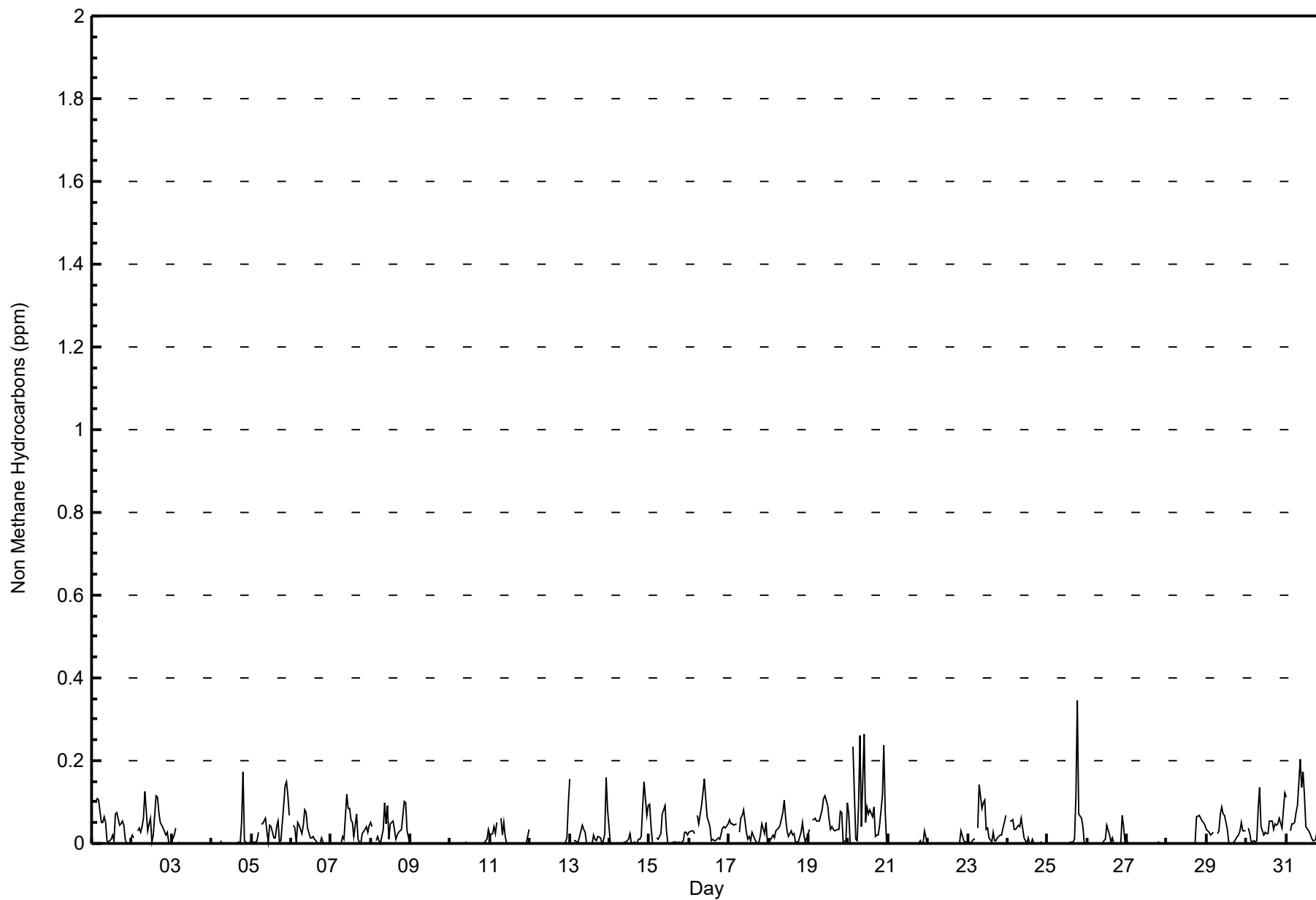
Barge Landing - July 2025

Maximum Value: 0.346 ppm on Jul 25 19:00																			Maximum Daily Average: 0.085 ppm on Jul 20						Hours in Service: 744		
Minimum Value: 0.000 ppm on Jul 1 22:00																			Minimum Daily Average: 0.000 ppm on Jul 9						Hours of Data: 709		
Maximum Diurnal Average: 0.052 ppm at hour 10																			Minimum Diurnal Average: 0.011 ppm at hour 17						Hours of Missing Data: 35		
Monthly Average: 0.027 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 = 0.2						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-Jul	0.138	Z	0.100	0.108	0.105	0.052	0.050	0.063	0.052	0.008	0.002	0.010	0.019	0.007	0.072	0.076	0.043	0.049	0.055	0.046	0.009	0.000	0.000	0.010	0.047	0.138	
2-Jul	0.020	0.013	Z	0.031	0.037	0.027	0.040	0.061	0.125	0.029	0.048	0.062	0.003	0.021	0.116	0.111	0.074	0.052	0.045	0.039	0.021	0.027	0.003	0.000	0.044	0.125	
3-Jul	0.002	0.021	0.038	Z	0.003	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.038	
4-Jul	0.000	0.000	0.000	0.000	Z	0.006	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.001	0.002	0.005	0.001	0.051	0.174	0.007	0.000	0.000	0.003	0.011	0.174	
5-Jul	0.003	0.005	0.003	0.008	0.028	Z	0.049	0.046	0.062	0.032	0.004	0.045	0.040	0.014	0.013	0.042	0.055	0.003	0.008	0.090	0.140	0.149	0.116	0.068	0.044	0.149	
6-Jul	Z	0.043	0.037	0.001	0.051	0.045	0.025	0.045	0.081	0.074	0.039	0.015	0.012	0.016	0.010	0.006	0.001	0.000	0.014	0.003	0.000	0.000	0.001	0.000	0.023	0.081	
7-Jul	0.001	Z	0.000	0.000	0.000	0.001	0.002	0.017	0.009	0.119	0.084	0.084	0.059	0.050	0.018	0.070	0.011	0.003	0.001	0.024	0.033	0.042	0.026	0.043	0.030	0.119	
8-Jul	0.050	0.039	Z	0.008	0.016	0.007	0.000	0.034	0.100	0.048	0.093	0.010	0.048	0.055	0.035	0.009	0.020	0.027	0.034	0.067	0.103	0.099	0.032	0.000	0.040	0.103	
9-Jul	0.000	0.000	0.001	Z	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	0.001	
10-Jul	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.001	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.005	0.010	0.032	0.002	0.032	
11-Jul	0.022	0.022	0.040	0.025	0.050	Z	0.061	0.019	0.051	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.032	0.015	0.061	
12-Jul	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.004	0.014	0.095	0.005	0.095	
13-Jul	0.155	Z	0.006	0.006	0.002	0.004	0.017	0.043	0.033	0.027	0.000	0.000	0.000	0.000	0.020	0.012	0.005	0.018	0.015	0.002	0.008	0.025	0.159	0.083	0.028	0.159	
14-Jul	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.004	0.010	0.024	0.000	0.001	0.002	0.000	0.010	0.011	0.016	0.088	0.149	0.069	0.090	0.021	0.149	
15-Jul	0.094	0.041	0.003	Z	0.013	0.009	0.017	0.022	0.072	0.090	0.030	0.002	0.000	0.000	0.003	0.003	0.002	0.001	0.003	0.000	0.007	0.028	0.027	0.019	0.021	0.094	
16-Jul	0.026	0.030	0.031	0.023	Z	0.066	0.046	0.092	0.124	0.154	0.109	0.065	0.040	0.008	0.010	0.006	0.007	0.015	0.009	0.025	0.039	0.040	0.037	0.048	0.046	0.154	
17-Jul	0.057	0.049	0.047	0.045	0.049	Z	0.028	0.061	0.067	0.080	0.026	0.010	0.017	0.007	0.026	0.009	0.005	0.000	0.002	0.022	0.047	0.024	0.050	0.001	0.032	0.080	
18-Jul	Z	0.008	0.019	0.015	0.032	0.035	0.037	0.045	0.076	0.107	0.061	0.030	0.016	0.030	0.020	0.024	0.002	0.004	0.004	0.027	0.050	0.021	0.002	0.013	0.029	0.107	
19-Jul	0.033	Z	0.057	0.059	0.060	0.054	0.054	0.067	0.083	0.110	0.116	0.091	0.059	0.034	0.039	0.035	0.032	0.034	0.034	0.079	0.076	0.002	0.008	0.098	0.057	0.116	
20-Jul	0.072	0.004	Z	0.233	0.011	0.006	0.092	0.262	0.040	0.264	0.052	0.087	0.071	0.082	0.065	0.087	0.017	0.021	0.022	0.043	0.115	0.237	0.078	0.000	0.085	0.264	
21-Jul	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	0.008	0.000	0.001	0.031	0.000	0.002	0.031	
22-Jul	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	0.002	0.001	0.032	0.006	0.003	0.002	0.002	0.032	
23-Jul	0.005	0.005	0.000	0.009	0.011	Z	0.038	0.141	0.083	0.098	0.106	0.035	0.038	0.013	0.003	0.026	0.007	0.007	0.014	0.019	0.022	0.037	0.050	0.068	0.036	0.141	
24-Jul	Z	0.055	0.055	0.057	0.034	0.033	0.045	0.040	0.060	0.038	0.013	0.000	0.013	0.002	0.000	0.009	0.000	0.000	0.000	0.000	0.002	0.001	0.000	0.000	0.020	0.060	
25-Jul	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	0.004	0.012	0.111	0.346	0.072	0.062	0.040	0.000	0.000	0.028	0.346	
26-Jul	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.009	0.045	0.021	0.005	0.013	0.001	0.001	0.001	0.000	0.000	0.069	0.040	0.003	0.009	0.069	
27-Jul	0.002	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	0.000	0.000	0.001	0.005	0.000	0.000	0.000	0.000	0.000	0.005	
28-Jul	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	0.064	0.069	0.060	0.056	0.051	0.044	0.015	0.069	
29-Jul	0.034	0.027	0.021	0.025	0.027	Z	0.024	0.029	0.071	0.090	0.072	0.069	0.034	0.005	0.002	0.001	0.000	0.010	0.016	0.022	0.031	0.052	0.031	0.031	0.031	0.090	
30-Jul	Z	0.039	0.022	0.002	0.005	0.004	0.008	0.085	0.135	0.041	0.019	0.027	0.022	0.024	0.054	0.054	0.034	0.047	0.043	0.048	0.062	0.037	0.083	0.122	0.044	0.135	
31-Jul	0.112	Z	0.031	0.046	0.047	0.051	0.076	0.092	0.202	0.135	0.174	0.117	0.042	0.032	0.024	0.014	0.007	0.006	0.009	0.052	0.083	0.091	0.099	0.089	0.071	0.202	
0.032 0.016 0.020 0.027 0.022 0.015 0.023 0.041 0.049 0.052 0.035 0.026 0.020 0.014 0.017 0.020 0.011 0.013 0.026 0.031 0.035 0.040 0.033 0.032																										Diurnal Average	
0.155 0.055 0.100 0.233 0.105 0.066 0.092 0.262 0.202 0.264 0.174 0.117 0.071 0.082 0.116 0.111 0.074 0.111 0.346 0.174 0.140 0.237 0.159 0.122																										Diurnal Maximum	
Z - zerospan C - Calibration																											



Wood Buffalo Environmental Association
Hourly Averages

Non Methane Hydrocarbons (NMHC) - ppm
Barge Landing - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Non Methane Hydrocarbons (NMHC) - ppm
Barge Landing - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 0.005	324	45.70	45.70
0.006 - 0.05	265	37.38	83.07
0.06 - 0.1	109	15.37	98.45
> 0.1	11	1.55	100.00

Total Number of Valid Hours: 709

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Non Methane Hydrocarbons (NMHC) - ppm
Barge Landing - July 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	6	7	3	4	5	8	14	20	22	37	48	37	27	23	43	324
0.006 - 0.05	15	20	21	8	3	8	27	40	43	29	17	8	3	7	8	8	265
0.06 - 0.1	13	1	6	2	4	2	6	17	27	6	4	5	2	1	3	10	109
> 0.1	5	2	0	0	0	0	0	2	1	0	0	0	0	0	0	1	11
Totals	53	29	34	13	11	15	41	73	91	57	58	61	42	35	34	62	709

Total Number of Valid Hours: 709

Total Number of Hours: 744



Non Methane Hydrocarbons (NMHC) - ppm



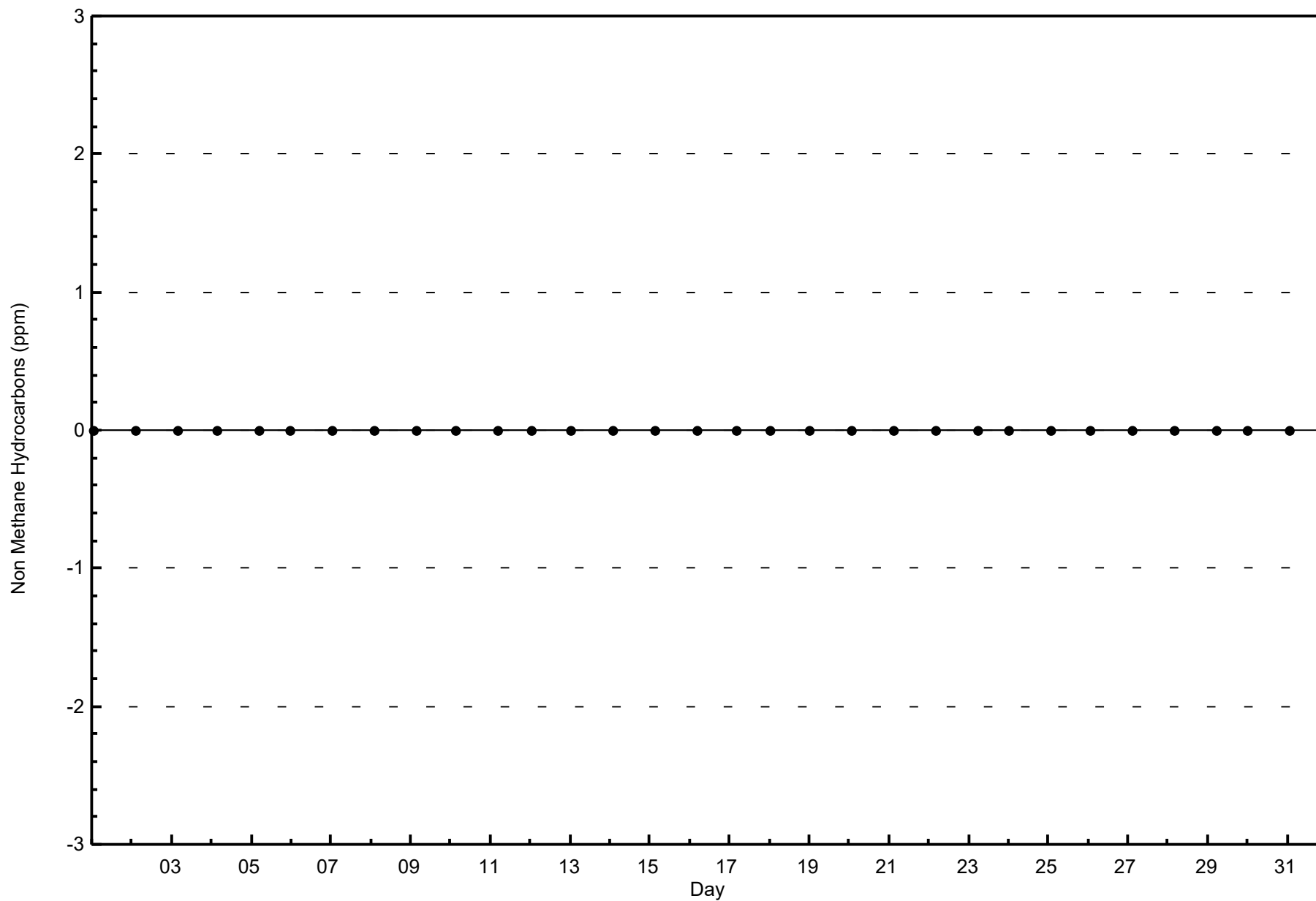


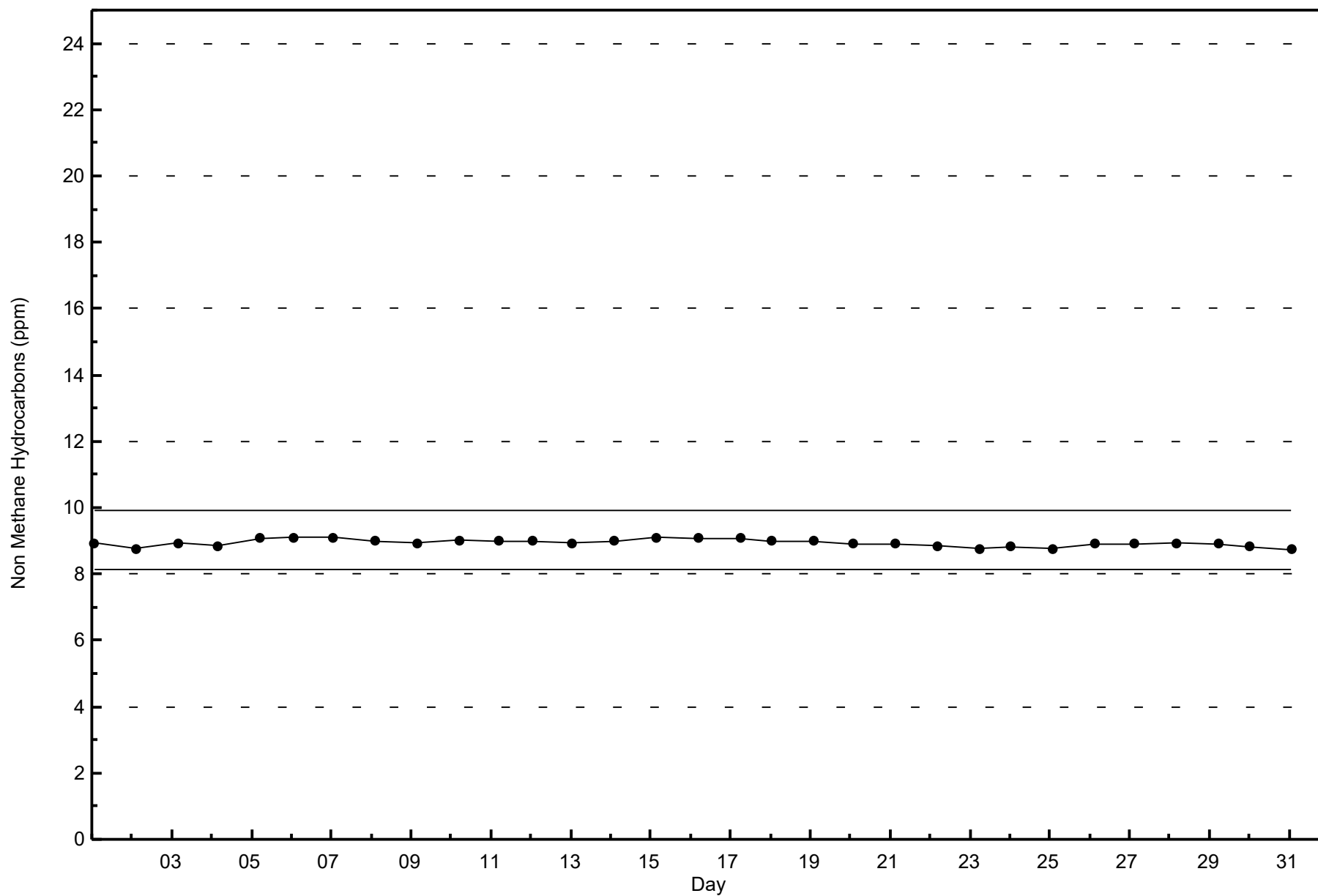
Wood Buffalo Environmental Association

Zero Responses

Non Methane Hydrocarbons (NMHC) - ppm

Barge Landing - July 2025







Wood Buffalo Environmental Association

Summary of Hour Averages

Methane (CH₄) - ppm

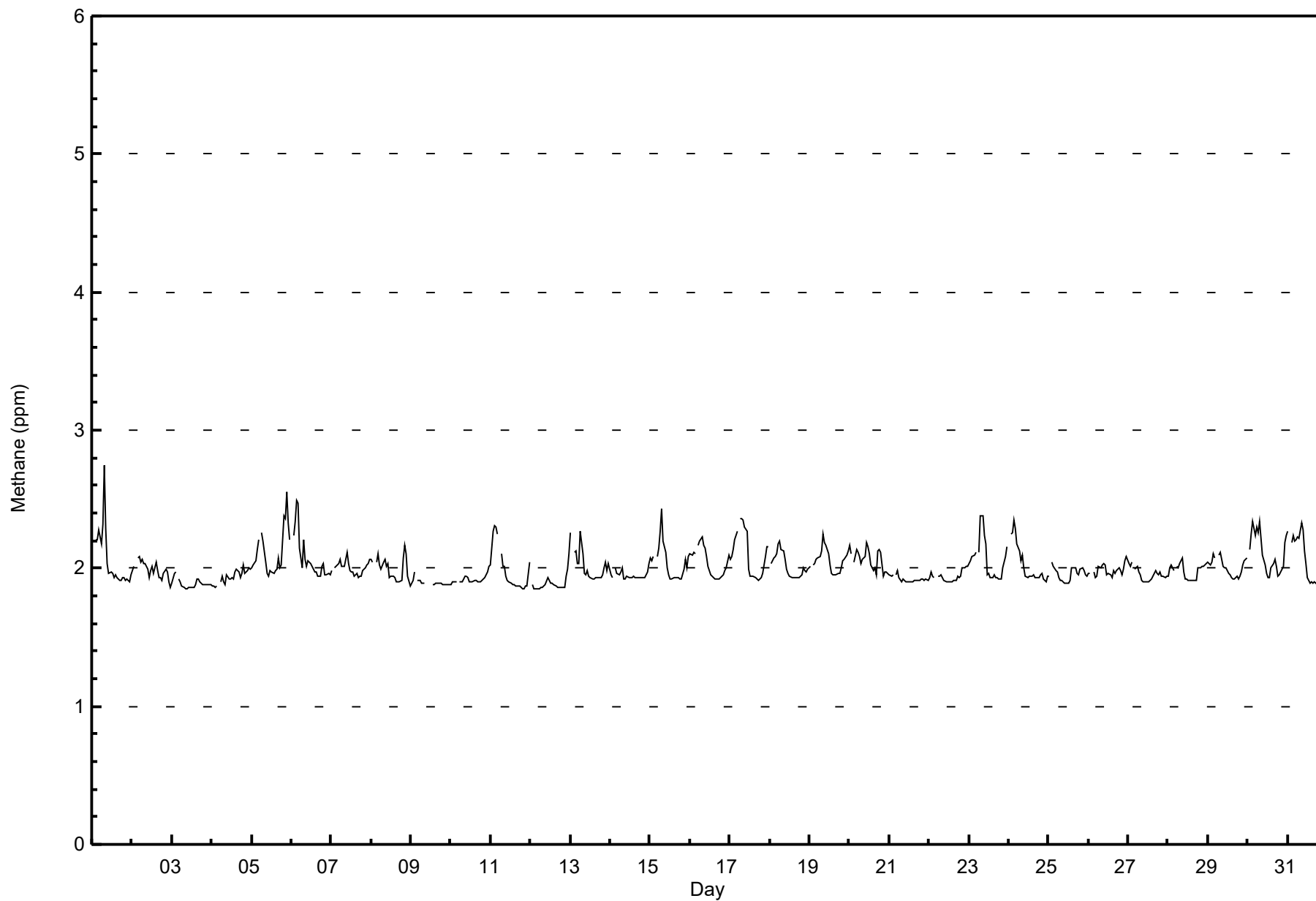
Barge Landing - July 2025

Number of Exceedences (AAAQO): Maximum Value: 2.7 ppm on Jul 1 08:00																	1-hr: 0 24-hr: 0 Maximum Daily Average: 2.1 ppm on Jul 5																	Hours in Service: 744			
Minimum Value: 1.8 ppm on Jul 11 21:00 Maximum Diurnal Average: 2.1 ppm at hour 5 Monthly Average: 2.00 ppm																	Minimum Daily Average: 1.9 ppm on Jul 3 Minimum Diurnal Average: 1.9 ppm at hour 14 Percentiles: P ₁ = 1.9 P ₁₀ = 1.9 Q ₁ = 1.9 Median = 2.0 Q ₃ = 2.0 P ₉₀ = 2.2 P ₉₉ = 2.4																	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-Jul	2.3	Z	2.2	2.2	2.3	2.2	2.3	2.7	2.3	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	2.0	2.1	2.7											
2-Jul	2.0	2.0	Z	2.1	2.1	2.0	2.1	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	2.0	2.0	2.0	1.9	1.9	2.1											
3-Jul	1.9	2.0	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	1.9	2.0											
4-Jul	1.9	1.9	1.9	1.9	Z	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0											
5-Jul	2.0	2.0	2.1	2.1	2.2	Z	2.3	2.2	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.4	2.4	2.6	2.3	2.2	2.1	2.6											
6-Jul	Z	2.2	2.3	2.5	2.5	2.1	2.0	2.2	2.1	2.0	2.1	2.0	2.0	2.0	2.0	2.0	1.9	1.9	2.0	2.0	1.9	2.0	2.0	2.0	2.1	2.5											
7-Jul	2.0	Z	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.1	2.0	2.0	2.0	1.9	2.0	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.1	2.0	2.1											
8-Jul	2.1	2.0	Z	2.0	2.1	2.0	2.0	2.0	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.2	2.1	1.9	1.9	2.0	2.2											
9-Jul	1.9	1.9	2.0	Z	1.9	1.9	1.9	1.9	1.9	C	C	C	C	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											
10-Jul	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	2.0	2.0	1.9	2.0											
11-Jul	2.0	2.3	2.3	2.3	2.3	Z	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	1.8	1.8	1.9	1.9	2.0	2.0	2.3											
12-Jul	Z	1.9	1.9	1.9	1.8	1.8	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	2.1	1.9	2.1											
13-Jul	2.3	Z	2.1	2.1	2.0	2.0	2.3	2.1	2.0	2.0	2.0	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	2.0	2.3											
14-Jul	2.0	1.9	Z	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	2.0	2.0	1.9	2.0											
15-Jul	2.1	2.1	2.1	Z	2.1	2.1	2.3	2.4	2.2	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.0	2.1	2.0	2.4											
16-Jul	2.1	2.1	2.1	2.1	Z	2.2	2.2	2.2	2.2	2.1	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.1	2.0	2.2											
17-Jul	2.1	2.1	2.1	2.2	2.3	Z	2.4	2.4	2.4	2.3	2.3	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.1	2.2	2.1	2.4											
18-Jul	Z	2.0	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.2											
19-Jul	2.0	Z	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.2											
20-Jul	2.2	2.1	Z	2.0	2.1	2.1	2.1	2.0	2.1	2.1	2.2	2.2	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.1	1.9	2.0	2.0	2.0	2.1	2.2											
21-Jul	2.0	1.9	2.0	Z	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											
22-Jul	1.9	2.0	1.9	1.9	Z	1.9	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	2.0	2.0	2.0	2.0	1.9	2.0											
23-Jul	2.0	2.1	2.1	2.1	2.1	Z	2.1	2.4	2.4	2.2	2.2	1.9	2.0	1.9	1.9	2.0	1.9	1.9	1.9	1.9	2.0	2.0	2.1	2.2	2.1	2.4											
24-Jul	Z	2.2	2.3	2.3	2.3	2.2	2.1	2.1	2.1	2.0	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	2.0	2.0	1.9	1.9	1.9	2.0	2.3											
25-Jul	1.9	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	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.0	1.9	2.0	2.0											
26-Jul	2.0	2.0	Z	2.0	1.9	1.9	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	2.1	2.0	2.1											
27-Jul	2.0	2.0	2.0	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	2.0	1.9	1.9	1.9	1.9	2.0	2.0											
28-Jul	1.9	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.1	2.0	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	2.0	2.0	2.1											
29-Jul	2.0	2.0	2.0	2.1	2.1	Z	2.1	2.1	2.1	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.1	2.1	2.0	2.1											
30-Jul	Z	2.1	2.2	2.3	2.2	2.3	2.3	2.3	2.2	2.1	2.0	2.0	1.9	1.9	2.0	2.0	2.1	2.0	1.9	1.9	2.0	2.0	2.2	2.2	2.1	2.3											
31-Jul	2.3	Z	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.1	2.3											
2.0																								Diurnal Average		2.0											
2.3																								Diurnal Maximum		2.3											
Z - zerospan C - Calibration																																					



Wood Buffalo Environmental Association
Hourly Averages

Methane (CH₄) - ppm
Barge Landing - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Methane (CH₄) - ppm
Barge Landing - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	540	76.16	76.16
2.1 - 3.0	169	23.84	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
Barge Landing - July 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	37	20	24	12	9	7	27	39	60	46	53	56	39	32	29	50	540
2.1 - 3.0	16	9	10	1	2	8	14	34	31	11	5	5	3	3	5	12	169
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	53	29	34	13	11	15	41	73	91	57	58	61	42	35	34	62	709

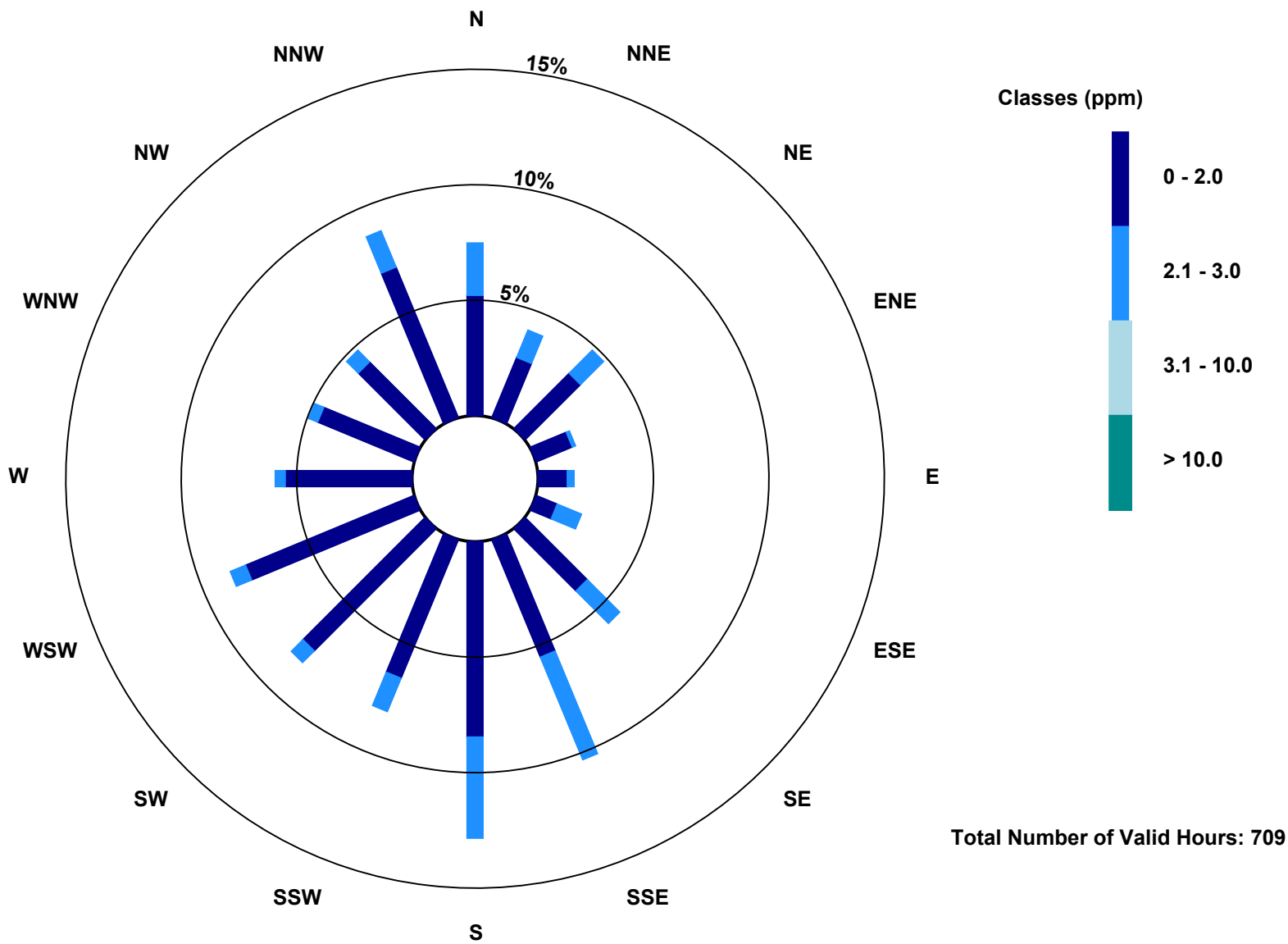
Total Number of Valid Hours: 709

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

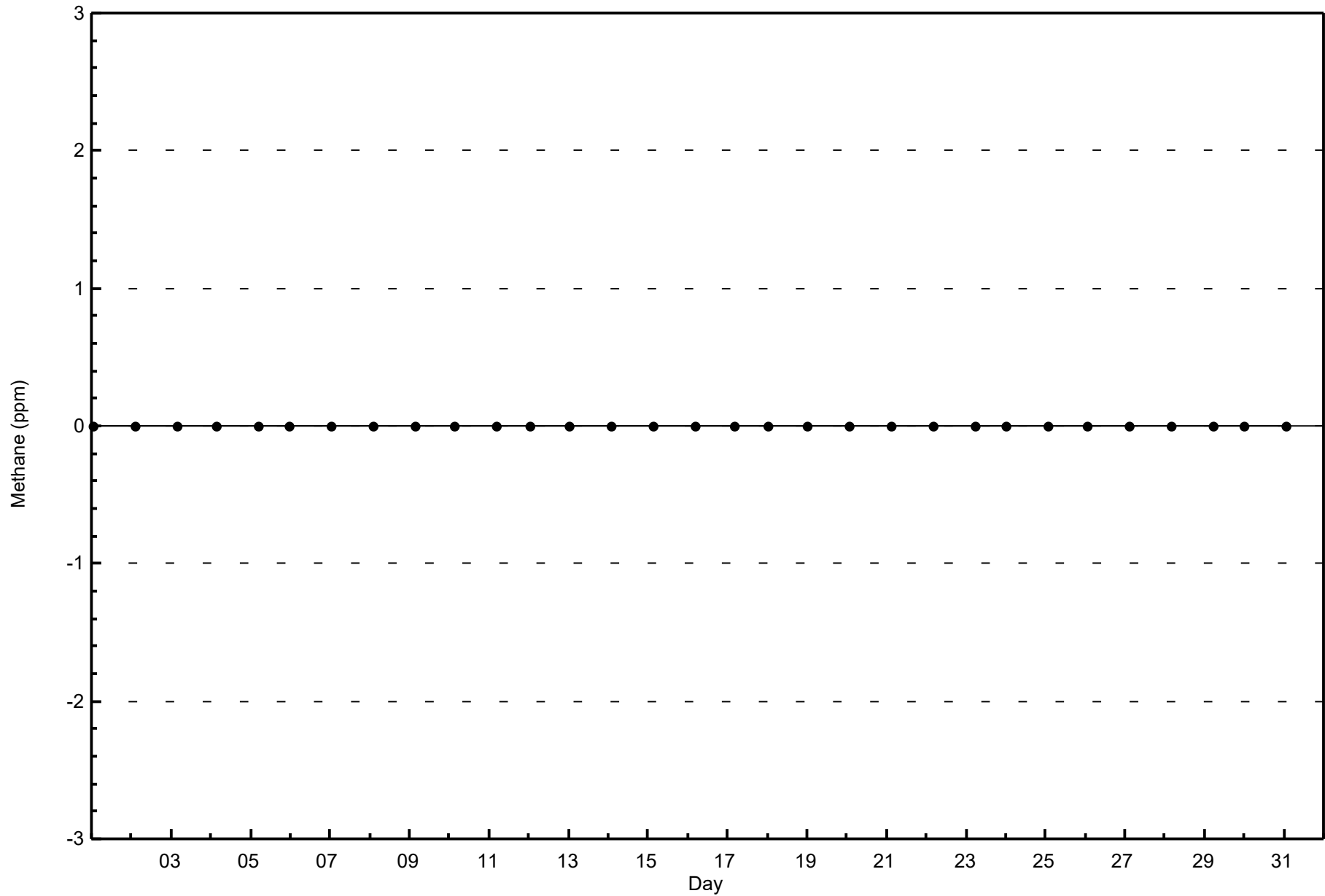
Methane (CH₄) - ppm
Barge Landing





Wood Buffalo Environmental Association
Zero Responses

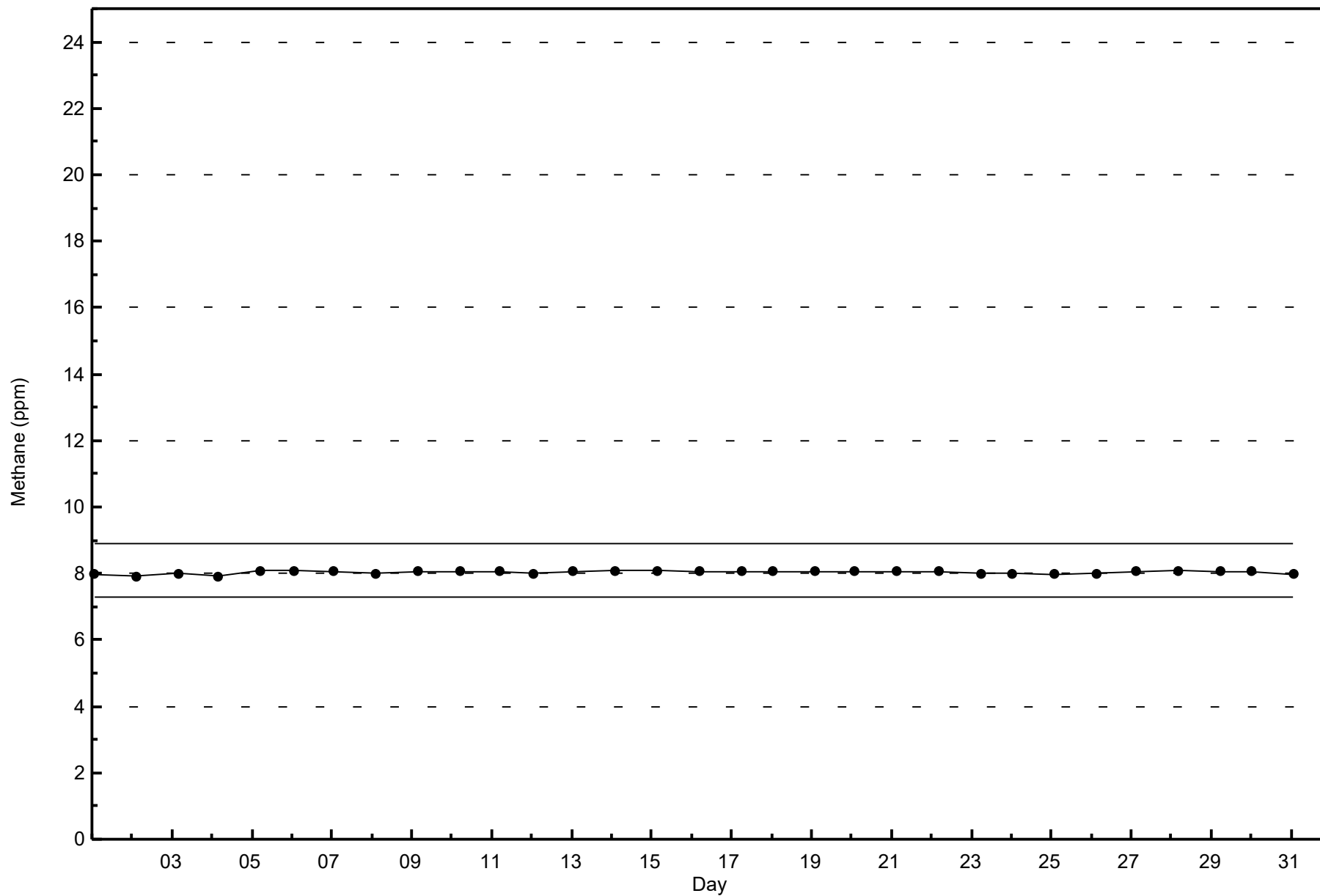
Methane (CH₄) - ppm
Barge Landing - July 2025





Wood Buffalo Environmental Association
Span Responses

Methane (CH₄) - ppm
Barge Landing - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitric Oxide (NO) - ppb

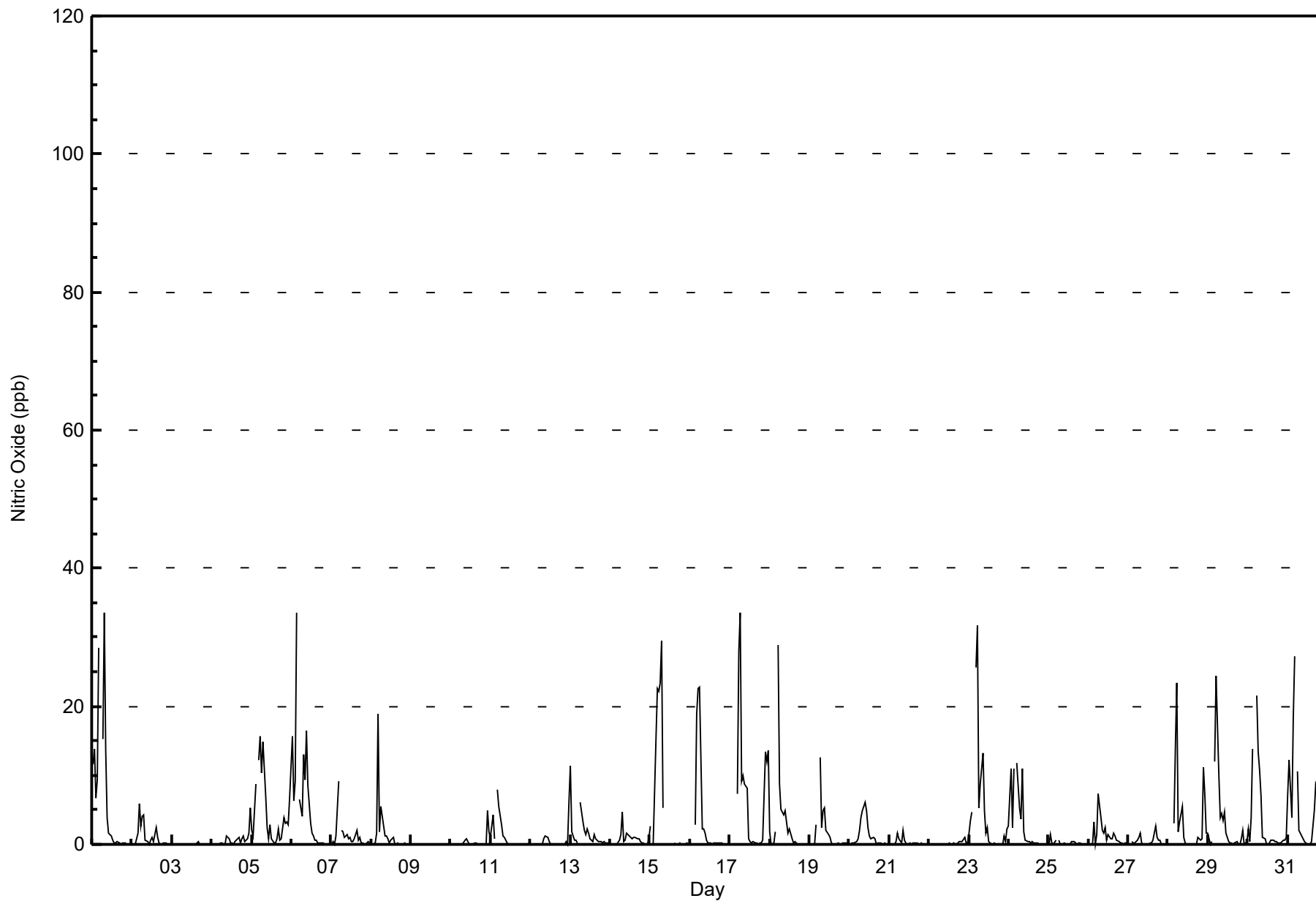
Barge Landing - July 2025

Maximum Value: 33.7 ppb on Jul 1 08:00																				Maximum Daily Average: 6.8 ppb on Jul 15					Hours in Service: 744	
Minimum Value: 0.0 ppb on Jul 2 02:00																				Minimum Daily Average: 0.0 ppb on Jul 9					Hours of Data: 706	
Maximum Diurnal Average: 10.1 ppb at hour 6																				Minimum Diurnal Average: 0.3 ppb at hour 21					Hours of Missing Data: 38	
Monthly Average: 2.29 ppb																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.3 Q ₃ = 1.6 P ₉₀ = 7.0 P ₉₉ = 27.8					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-Jul	11.7	13.8	6.8	9.3	28.5	Z	15.3	33.7	13.6	3.9	1.7	1.2	0.6	0.1	0.3	0.4	0.1	0.1	0.1	0.2	0.2	0.1	0.0	0.0	6.2	33.7
2-Jul	Z	0.0	0.0	1.7	5.9	2.6	4.2	4.2	0.6	0.5	0.1	0.5	1.1	0.4	2.4	1.1	0.2	0.1	0.0	0.2	0.1	0.0	0.0	0.0	1.1	5.9
3-Jul	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	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
4-Jul	0.0	0.0	Z	0.0	0.0	0.2	0.2	0.1	0.0	1.2	0.9	0.3	0.2	0.1	0.4	0.6	1.0	0.2	0.8	1.3	0.5	0.8	1.6	5.4	0.7	5.4
5-Jul	2.1	1.2	8.7	Z	12.1	15.6	10.5	14.9	6.8	2.4	0.8	2.8	0.9	0.3	0.3	0.9	2.2	0.6	0.7	3.8	3.0	3.3	2.9	6.7	4.5	15.6
6-Jul	15.7	6.3	9.2	33.5	Z	6.4	4.1	12.9	9.4	16.5	8.5	3.0	1.6	1.3	0.7	0.7	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	5.7	33.5
7-Jul	0.0	0.5	0.1	1.2	9.2	Z	2.1	1.8	1.0	1.4	0.9	1.1	0.5	0.4	0.8	1.9	0.7	1.0	0.2	0.2	0.1	0.2	0.3	0.1	1.1	9.2
8-Jul	Z	0.0	0.2	1.5	18.9	1.9	5.6	2.6	1.2	1.3	0.8	0.1	0.6	0.9	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.0	0.0	1.6	18.9
9-Jul	0.0	Z	0.0	0.0	0.0	0.1	0.0	0.0	0.0	M	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	0.1
10-Jul	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.1	0.7	0.7	0.4	0.1	0.0	0.0	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	4.8	1.8	0.4	4.8
11-Jul	1.1	4.3	0.8	Z	8.0	5.5	2.8	1.2	1.1	0.5	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	1.1	8.0
12-Jul	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.7	1.2	1.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.1	6.1	0.4	6.1
13-Jul	11.5	1.8	0.7	0.5	0.2	Z	6.0	3.3	2.0	1.4	2.3	1.6	0.9	0.5	1.3	0.9	0.5	0.5	0.5	0.3	0.4	0.2	0.2	0.3	1.6	11.5
14-Jul	Z	0.0	0.0	0.0	0.1	0.6	1.5	4.7	0.3	0.6	1.5	1.2	0.9	0.8	1.0	0.9	0.8	0.7	0.5	0.3	0.2	0.1	0.0	1.0	0.8	4.7
15-Jul	2.7	Z	0.1	15.2	22.5	22.1	23.5	29.5	5.3	C	C	C	C	C	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	6.8	29.5
16-Jul	0.0	0.0	Z	2.8	18.9	22.6	22.7	2.3	2.2	1.6	0.7	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.0	0.1	0.0	3.3	22.7
17-Jul	0.0	0.0	0.0	Z	7.2	27.8	33.6	9.1	10.0	8.8	8.1	0.8	0.3	0.3	0.3	0.2	0.2	0.1	0.1	0.2	0.6	13.5	12.1	13.7	6.4	33.6
18-Jul	1.9	0.1	0.3	1.7	Z	28.9	8.8	5.0	4.3	5.0	3.2	1.6	2.2	0.7	0.3	0.3	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	2.8	28.9
19-Jul	0.0	0.0	0.0	0.1	2.9	Z	12.7	2.4	4.9	5.3	2.1	1.4	1.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	1.5	12.7
20-Jul	Z	0.1	0.2	0.1	0.4	0.7	1.9	3.8	4.9	6.0	4.8	2.4	1.2	0.9	1.1	0.8	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	1.3	6.0
21-Jul	0.1	Z	0.1	0.1	0.4	1.6	0.8	0.1	2.1	0.5	0.1	0.1	0.3	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.0	0.0	0.0	0.3	2.1
22-Jul	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	0.0	0.0	0.1	0.1	0.2	0.4	0.4	0.3	0.9	0.1	0.2	0.1	0.9
23-Jul	1.5	3.4	4.7	Z	25.5	31.7	5.2	8.8	13.2	4.8	1.6	2.3	0.3	0.2	0.1	0.1	0.0	0.1	0.1	0.1	0.1	1.1	0.4	2.3	4.7	31.7
24-Jul	2.7	10.9	2.4	11.0	Z	11.9	5.2	3.7	11.0	1.9	0.7	0.4	0.5	0.3	0.5	0.3	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.1	2.8	11.9
25-Jul	0.0	1.5	0.1	0.1	0.5	Z	0.5	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.4	0.5	0.2	0.1	0.2	0.3	0.1	0.0	0.0	0.0	0.2	1.5
26-Jul	Z	0.0	0.0	3.3	0.0	1.4	7.3	3.9	2.1	1.5	2.4	0.7	1.4	0.8	0.8	1.7	1.2	0.6	0.5	0.3	0.1	0.1	0.2	0.2	1.3	7.3
27-Jul	0.1	Z	0.4	0.2	0.2	0.5	1.0	1.6	0.3	0.1	0.1	0.0	0.0	0.1	0.3	0.5	2.6	0.9	0.7	0.6	0.1	0.0	0.0	0.0	0.4	2.6
28-Jul	0.0	0.1	Z	3.0	13.9	23.4	1.8	3.3	5.5	1.0	0.3	0.1	0.0	0.0	0.1	0.1	0.1	0.0	1.0	0.6	0.9	11.1	7.1	1.7	3.3	23.4
29-Jul	1.5	0.1	0.4	Z	12.1	24.5	9.9	3.9	4.5	3.4	4.6	1.6	0.4	0.1	0.1	0.0	0.1	0.3	0.1	0.0	0.9	2.1	0.1	0.3	3.1	24.5
30-Jul	2.2	0.4	3.8	13.7	Z	21.5	13.5	10.8	7.0	0.9	0.8	0.1	0.0	0.1	0.7	0.6	0.4	0.4	0.2	0.1	0.1	0.6	0.6	1.1	3.5	21.5
31-Jul	7.0	12.2	3.9	18.3	27.2	Z	10.5	2.1	1.2	0.9	0.5	0.2	0.1	0.0	0.4	2.7	4.9	8.6	8.2	2.7	0.7	0.0	0.0	0.1	4.9	27.2
																									Diurnal Average	
																									Diurnal Maximum	
Z - zerospan C - Calibration M - Maintenance																										



Wood Buffalo Environmental Association
Hourly Averages

Nitric Oxide (NO) - ppb
Barge Landing - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitric Oxide (NO) - ppb
Barge Landing - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	688	97.45	97.45
21 - 40	18	2.55	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: 706

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitric Oxide (NO) - ppb
Barge Landing - July 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	53	29	34	13	11	10	45	70	83	50	60	62	40	35	34	59	688
21 - 40	0	0	1	0	1	2	1	4	3	4	0	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	53	29	35	13	12	12	46	74	86	54	60	62	40	35	34	61	706

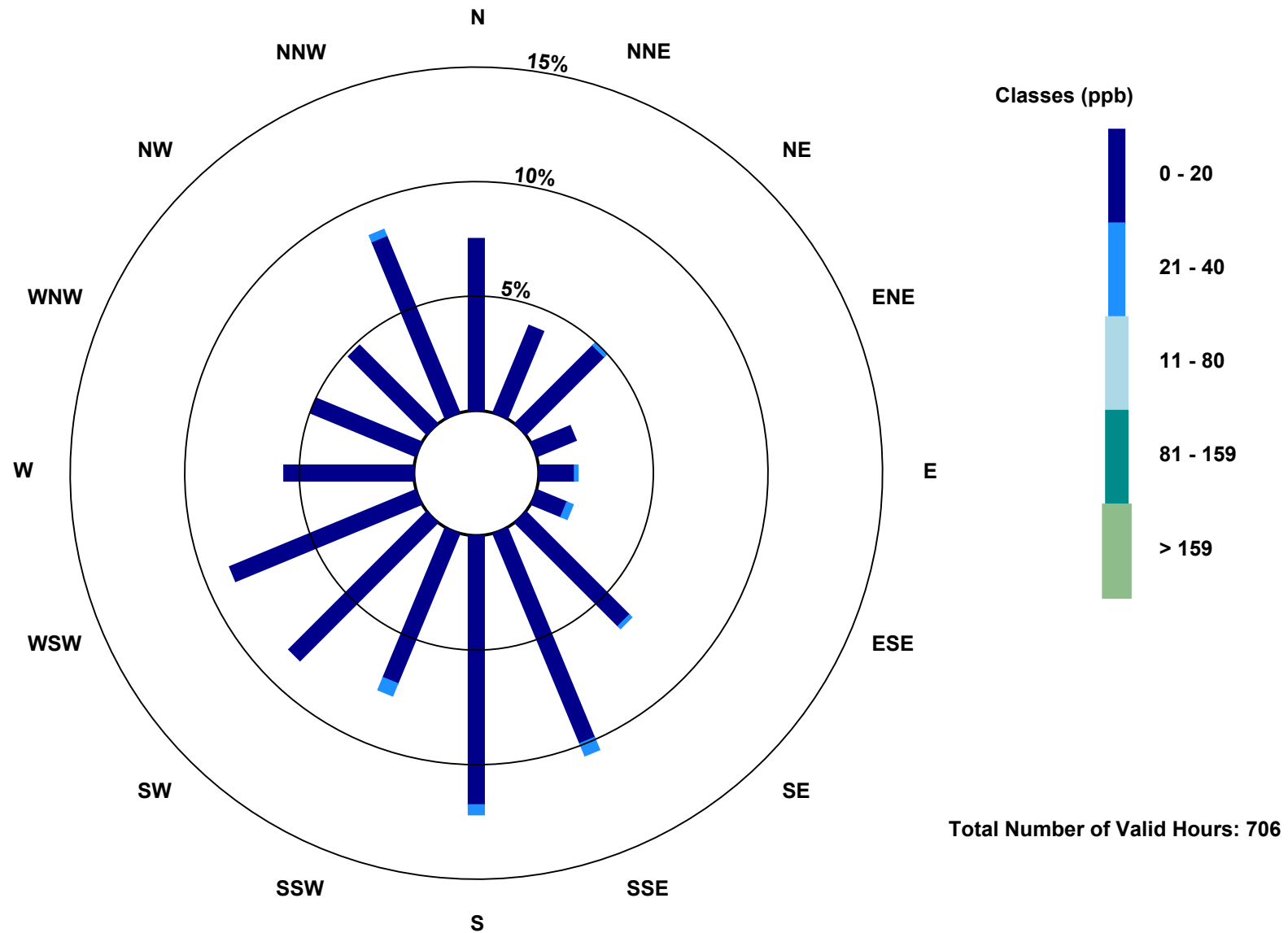
Total Number of Valid Hours: 706

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

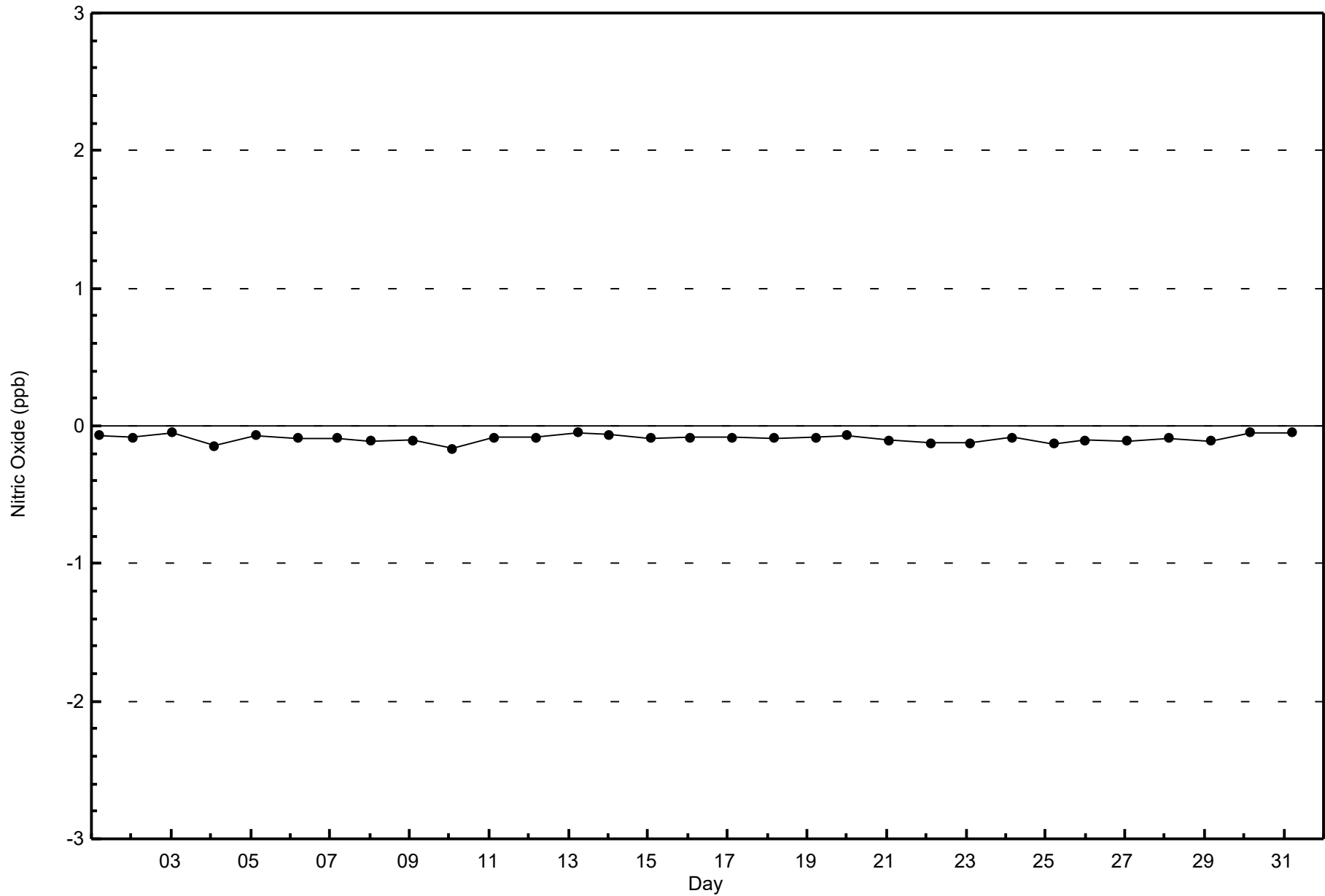
Nitric Oxide (NO) - ppb
Barge Landing





Wood Buffalo Environmental Association
Zero Responses

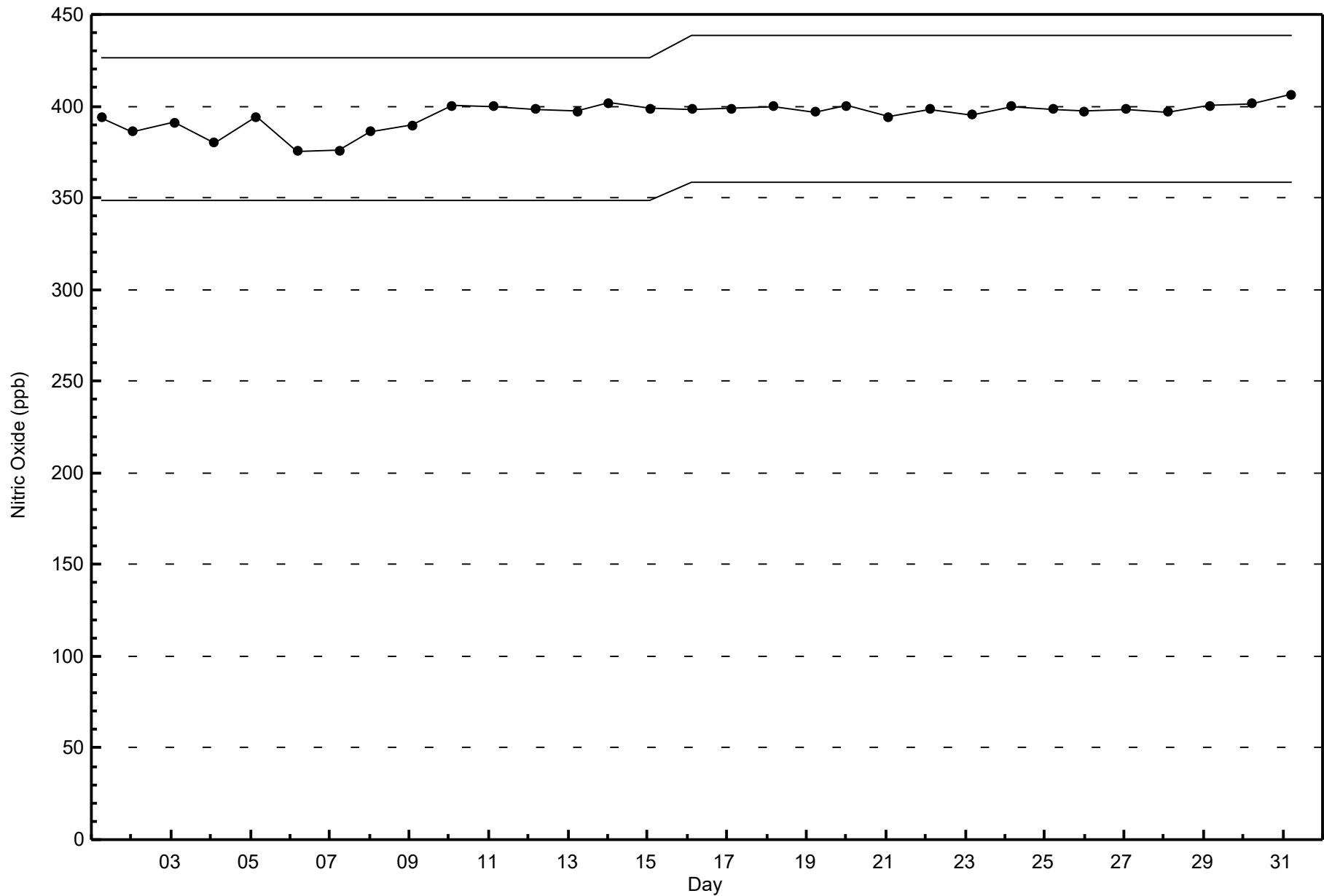
Nitric Oxide (NO) - ppb
Barge Landing - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitric Oxide (NO) - ppb
Barge Landing - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Dioxide (NO₂) - ppb

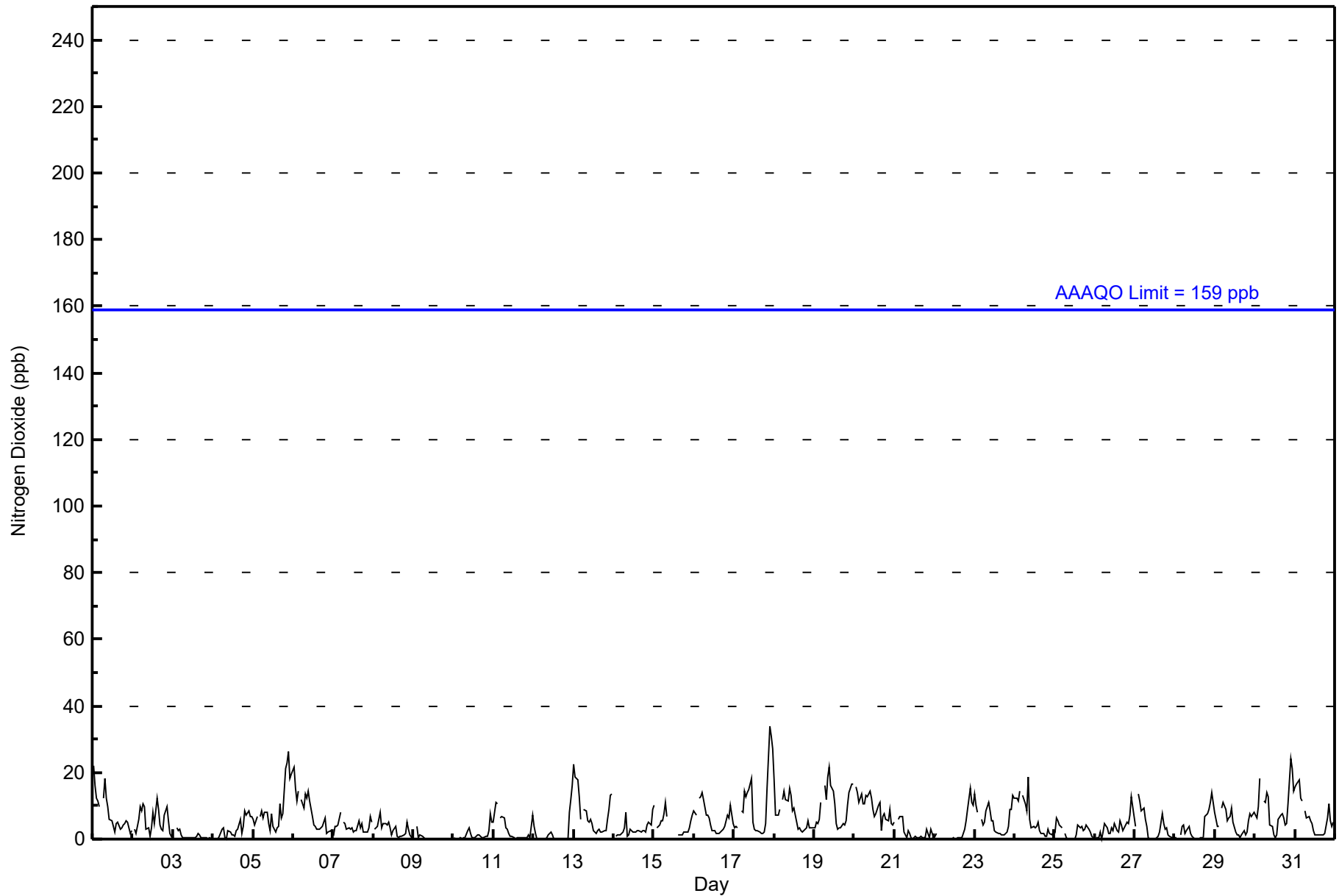
Barge Landing - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 33.8 ppb on Jul 17 22:00 Maximum Daily Average: 10.2 ppb on Jul 17																			Hours in Service: 744 Hours of Data: 706							
Minimum Value: 0.0 ppb on Jul 12 19:00 Minimum Daily Average: 0.4 ppb on Jul 9 Maximum Diurnal Average: 7.6 ppb at hour 1 Minimum Diurnal Average: 2.0 ppb at hour 14 Monthly Average: 5.10 ppb Percentiles: P ₁ = 0.1 P ₁₀ = 0.3 Q ₁ = 1.2 Median = 3.5 Q ₃ = 7.4 P ₉₀ = 12.4 P ₉₉ = 22.2																			Hours of Missing Data: 38 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-Jul	22.2	15.9	12.3	11.6	9.8	Z	12.2	18.2	12.4	9.6	6.0	5.6	3.9	2.1	4.6	4.9	3.0	3.6	4.1	4.8	5.6	4.9	1.8	2.5	7.9	22.2
2-Jul	Z	2.8	1.9	6.0	9.6	8.3	10.5	9.8	3.1	3.3	0.7	3.3	8.1	4.5	12.3	9.0	4.1	2.8	2.7	7.4	9.6	5.4	1.7	1.0	5.6	12.3
3-Jul	1.4	Z	3.2	2.5	3.1	1.1	0.4	0.3	0.3	0.4	0.4	0.3	0.3	0.4	0.8	1.8	1.3	0.6	0.4	0.3	0.3	0.2	0.3	0.2	0.9	3.2
4-Jul	0.2	0.1	Z	0.2	1.0	3.1	3.4	0.4	0.2	2.4	2.3	1.2	1.2	0.7	2.4	3.1	5.9	1.6	3.8	8.6	7.1	8.6	6.7	6.6	3.1	8.6
5-Jul	5.9	4.2	6.9	Z	6.7	8.6	6.5	8.1	7.9	4.7	2.5	7.8	3.8	2.3	3.2	4.0	10.6	6.3	7.6	21.3	22.7	26.1	18.4	19.3	9.4	26.1
6-Jul	21.6	15.4	11.5	14.5	Z	11.8	9.4	13.7	12.2	14.6	11.4	6.9	4.3	4.0	2.9	3.0	2.8	4.0	4.9	6.2	1.9	2.1	2.6	1.5	8.0	21.6
7-Jul	1.4	3.8	3.8	4.2	8.0	Z	5.0	4.5	2.8	3.6	3.0	3.4	2.3	2.4	2.6	5.3	3.5	4.5	2.3	2.3	2.0	3.5	6.6	5.1	3.7	8.0
8-Jul	Z	2.8	3.7	6.1	8.2	3.3	4.7	4.5	4.2	5.0	3.5	1.2	2.6	4.0	0.8	0.6	1.0	0.7	1.4	1.9	5.1	3.0	1.1	0.2	3.0	8.2
9-Jul	0.2	Z	3.7	0.3	1.1	0.9	0.3	0.2	0.2	M	M	0.2	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.4	3.7
10-Jul	0.2	0.3	Z	0.3	0.3	0.2	0.3	0.3	2.5	3.2	1.6	0.3	0.5	0.4	1.1	1.3	0.7	0.3	0.3	0.7	0.8	2.5	7.7	5.2	1.3	7.7
11-Jul	5.2	11.0	10.5	Z	6.4	6.9	6.2	3.4	3.1	1.8	0.8	0.7	0.4	0.2	0.3	0.4	0.4	0.5	0.5	0.5	0.4	1.1	0.4	7.3	3.0	11.0
12-Jul	3.7	1.6	0.1	0.1	Z	0.2	0.2	0.1	0.6	1.3	2.2	1.1	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0	8.0	11.9	16.0	2.1	16.0
13-Jul	22.3	18.6	18.0	12.5	6.0	Z	9.0	8.3	5.6	4.9	5.9	4.8	2.5	1.8	2.6	3.0	2.3	2.2	2.6	2.7	6.1	9.1	13.2	13.6	7.7	22.3
14-Jul	Z	1.0	1.1	1.3	1.1	2.2	3.2	8.0	0.9	1.2	2.9	2.3	2.3	2.0	2.6	2.4	2.2	2.4	2.4	2.3	4.1	5.2	4.3	9.1	2.9	9.1
15-Jul	10.2	Z	3.3	4.4	5.6	5.7	7.6	10.9	6.7	C	C	C	C	C	1.4	1.1	1.1	1.3	2.2	2.1	2.1	3.4	5.6	7.4	4.6	10.9
16-Jul	8.5	7.0	Z	12.4	12.9	14.0	11.9	7.4	7.1	6.2	4.3	2.4	2.6	1.5	1.9	1.9	2.2	3.1	3.7	5.5	7.1	6.2	10.2	4.7	6.3	14.0
17-Jul	3.6	3.9	3.3	Z	8.4	7.9	14.4	12.6	13.8	14.7	18.4	5.2	3.0	2.7	2.7	2.0	1.9	1.7	2.3	4.5	15.3	33.8	31.0	27.1	10.2	33.8
18-Jul	17.9	7.1	7.3	8.9	Z	11.8	14.2	11.9	11.3	15.1	13.1	8.6	9.5	5.0	2.9	3.5	2.7	2.3	2.7	3.5	5.6	3.4	3.2	3.2	7.6	17.9
19-Jul	3.4	4.9	4.5	6.0	11.1	Z	16.0	11.9	18.6	21.7	16.0	14.3	10.6	4.5	3.0	3.2	3.4	4.5	4.3	5.3	10.3	14.0	16.5	16.7	9.8	21.7
20-Jul	Z	15.7	14.1	11.0	13.4	10.4	10.6	13.1	12.7	14.4	12.4	8.8	6.9	7.7	10.2	11.2	2.6	6.8	7.6	6.1	5.6	8.8	4.7	4.2	9.5	15.7
21-Jul	5.2	Z	6.1	6.7	6.7	6.7	2.3	0.4	2.7	1.5	0.4	0.2	0.7	0.4	0.5	0.6	0.8	0.6	0.5	2.8	1.7	0.6	2.8	0.4	2.2	6.7
22-Jul	0.8	1.5	Z	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.2	0.3	0.6	0.6	1.5	2.8	5.3	9.1	15.1	11.0	10.2	2.6	15.1
23-Jul	13.5	10.2	8.2	Z	5.8	4.4	4.9	8.5	10.9	8.6	5.3	5.7	2.4	2.0	1.5	1.8	1.3	1.4	1.1	2.2	3.8	8.7	8.9	13.0	5.8	13.5
24-Jul	12.4	12.2	11.3	14.2	Z	13.1	10.6	8.4	18.7	5.8	3.4	3.7	3.6	3.7	4.9	2.5	1.8	1.7	0.8	1.0	2.8	1.6	1.1	2.4	6.2	18.7
25-Jul	2.0	6.2	5.3	4.2	3.2	Z	1.5	0.3	0.2	0.2	0.2	0.2	0.2	1.1	4.1	3.5	3.8	2.6	3.0	4.2	3.1	2.1	1.0	0.5	2.3	6.2
26-Jul	Z	0.6	0.4	2.2	0.2	2.0	4.8	3.3	1.9	1.8	3.4	2.6	4.6	2.4	2.3	5.4	4.2	2.6	4.4	5.2	4.6	7.4	12.7	9.7	3.9	12.7
27-Jul	4.0	Z	13.4	11.3	8.4	9.2	6.0	3.7	0.5	0.2	0.2	0.1	0.2	0.6	0.9	2.3	7.5	4.8	3.1	3.5	1.4	0.8	0.6	0.3	3.6	13.4
28-Jul	0.3	0.3	Z	1.1	3.8	4.2	1.9	2.5	3.7	1.6	0.7	0.4	0.2	0.2	0.2	0.3	0.3	0.5	6.6	7.6	9.0	11.1	14.0	11.0	3.5	14.0
29-Jul	8.0	3.7	3.9	Z	9.4	11.0	8.9	5.5	6.3	6.6	9.3	5.1	2.1	1.3	1.2	0.5	1.1	2.7	1.1	2.0	5.3	7.8	6.6	8.1	5.1	11.0
30-Jul	7.2	6.2	9.6	18.4	Z	11.6	11.1	13.8	12.7	4.1	3.7	1.1	0.4	1.2	6.0	7.3	7.6	6.5	4.1	4.5	10.5	24.1	21.0	14.2	9.0	24.1
31-Jul	15.8	16.6	17.8	12.4	11.4	Z	8.6	6.4	6.7	5.5	4.7	2.6	1.4	1.1	1.2	1.1	1.2	1.2	1.9	6.5	10.7	5.3	3.7	5.2	6.5	17.8
7.6 6.7 7.1 6.7 6.2 6.4 6.7 6.5 6.1 5.7 4.8 3.3 2.7 2.0 2.6 2.8 2.7 2.4 2.8 4.2 5.6 7.6 7.5 7.3																								Diurnal Average		
22.3 18.6 18.0 18.4 13.4 14.0 16.0 18.2 18.7 21.7 18.4 14.3 10.6 7.7 12.3 11.2 10.6 6.8 7.6 21.3 22.7 33.8 31.0 27.1																								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
Barge Landing - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Barge Landing - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	694	98.30	98.30
21 - 40	12	1.70	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
Barge Landing - July 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	49	28	32	12	11	12	45	73	86	54	60	62	40	35	34	61	694
21 - 40	4	1	3	1	1	0	1	1	0	0	0	0	0	0	0	0	12
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	53	29	35	13	12	12	46	74	86	54	60	62	40	35	34	61	706

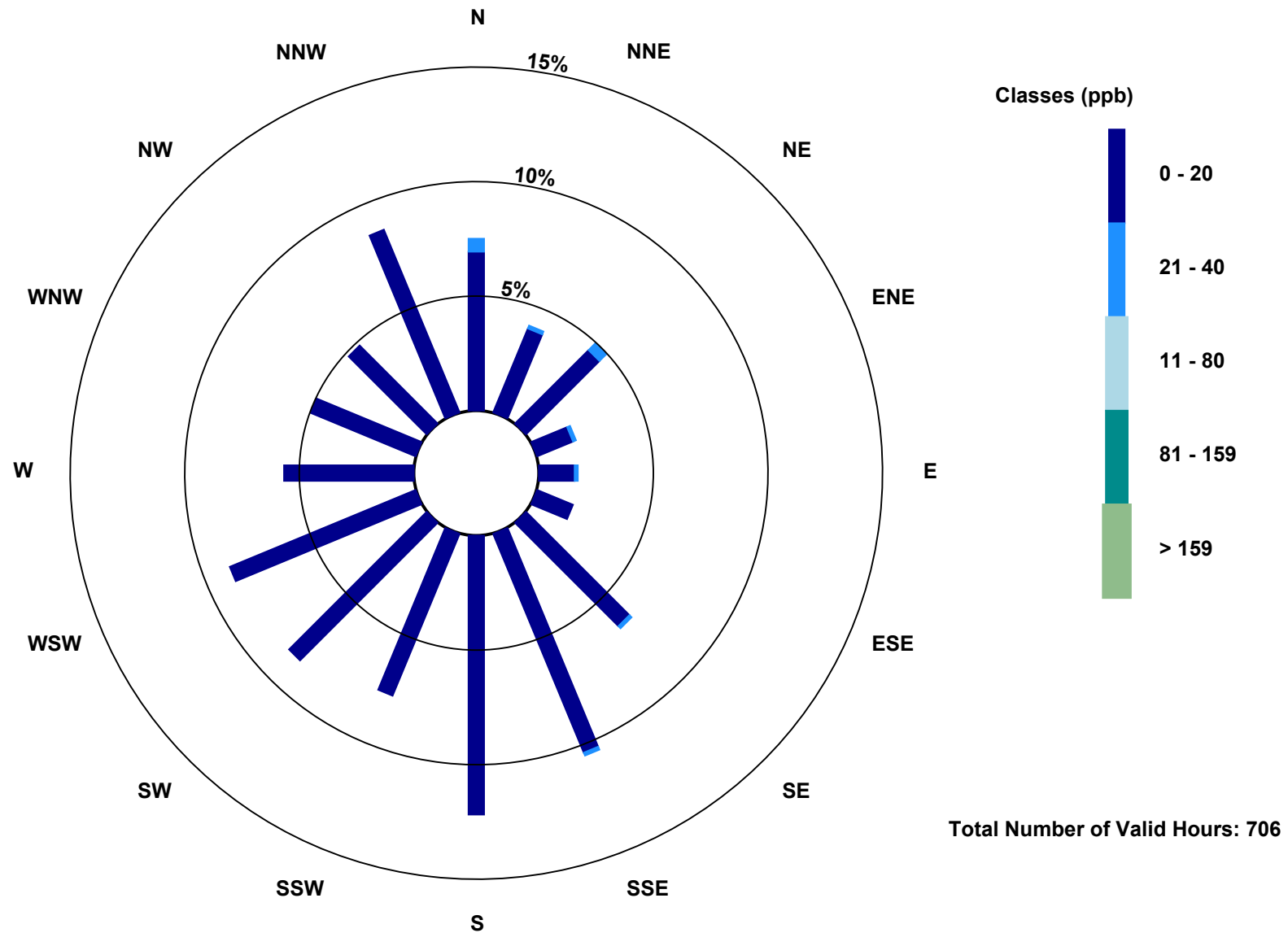
Total Number of Valid Hours: 706

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

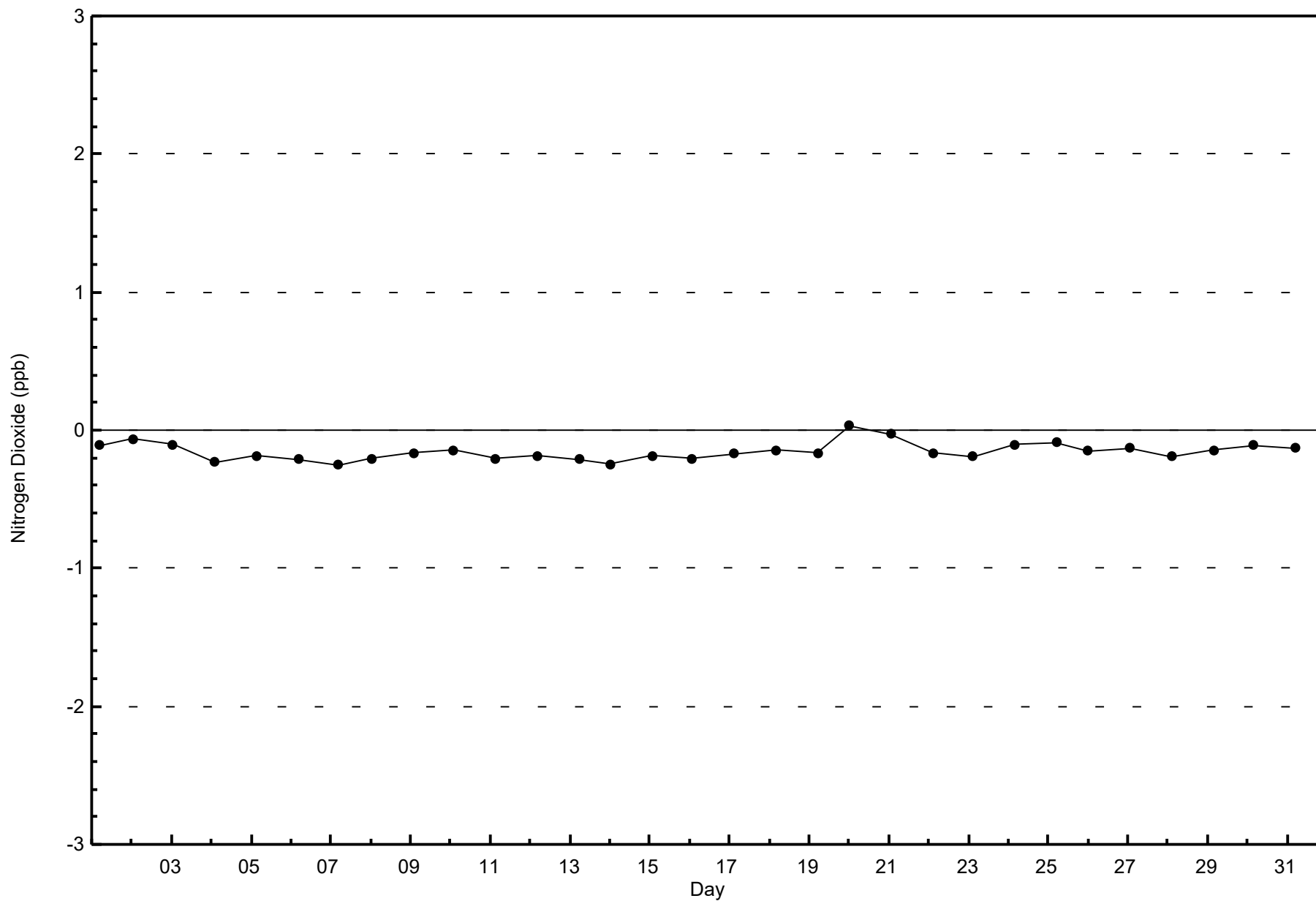
Nitrogen Dioxide (NO₂) - ppb
Barge Landing





Wood Buffalo Environmental Association
Zero Responses

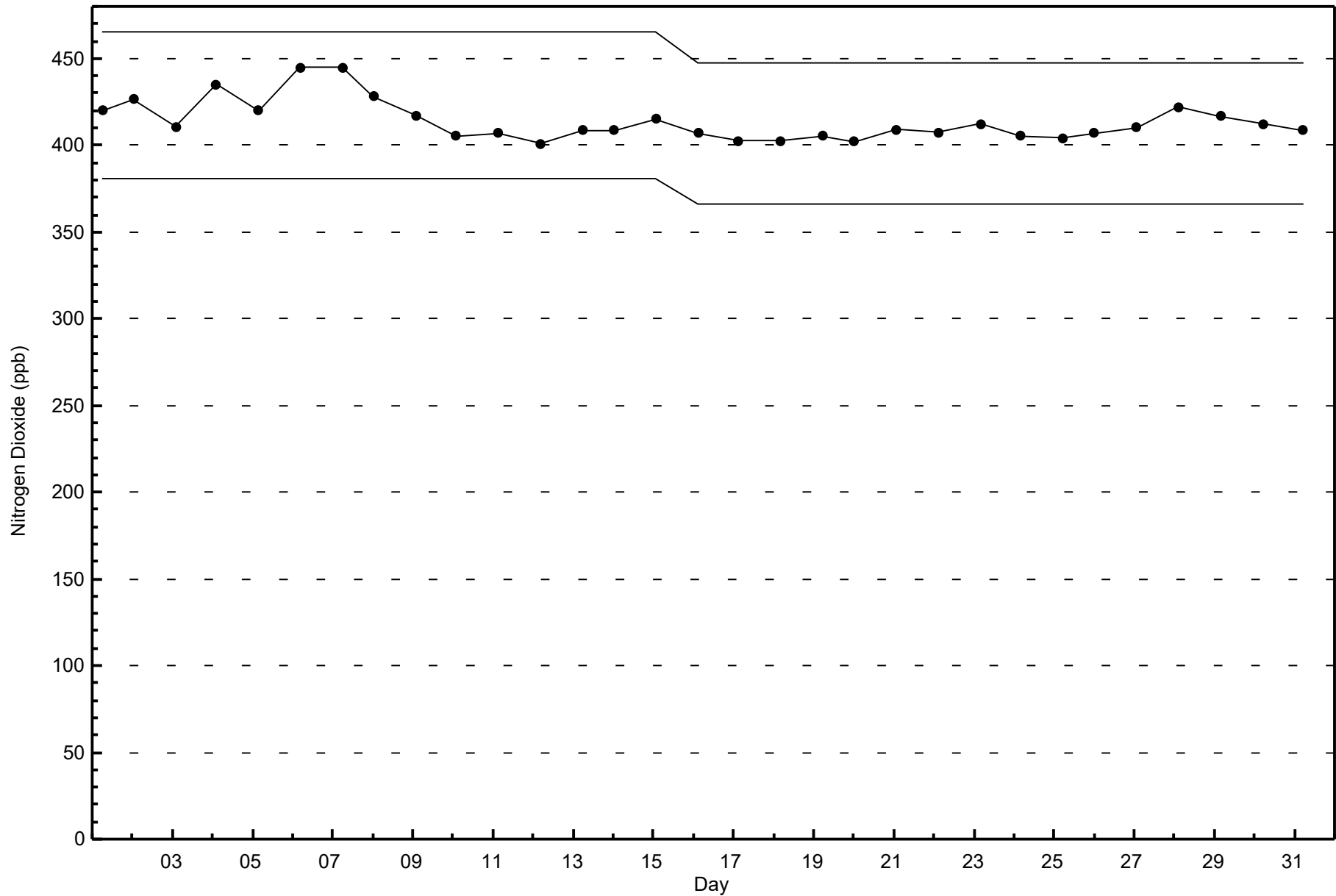
Nitrogen Dioxide (NO₂) - ppb
Barge Landing - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitrogen Dioxide (NO₂) - ppb
Barge Landing - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Oxides (NO_x) - ppb

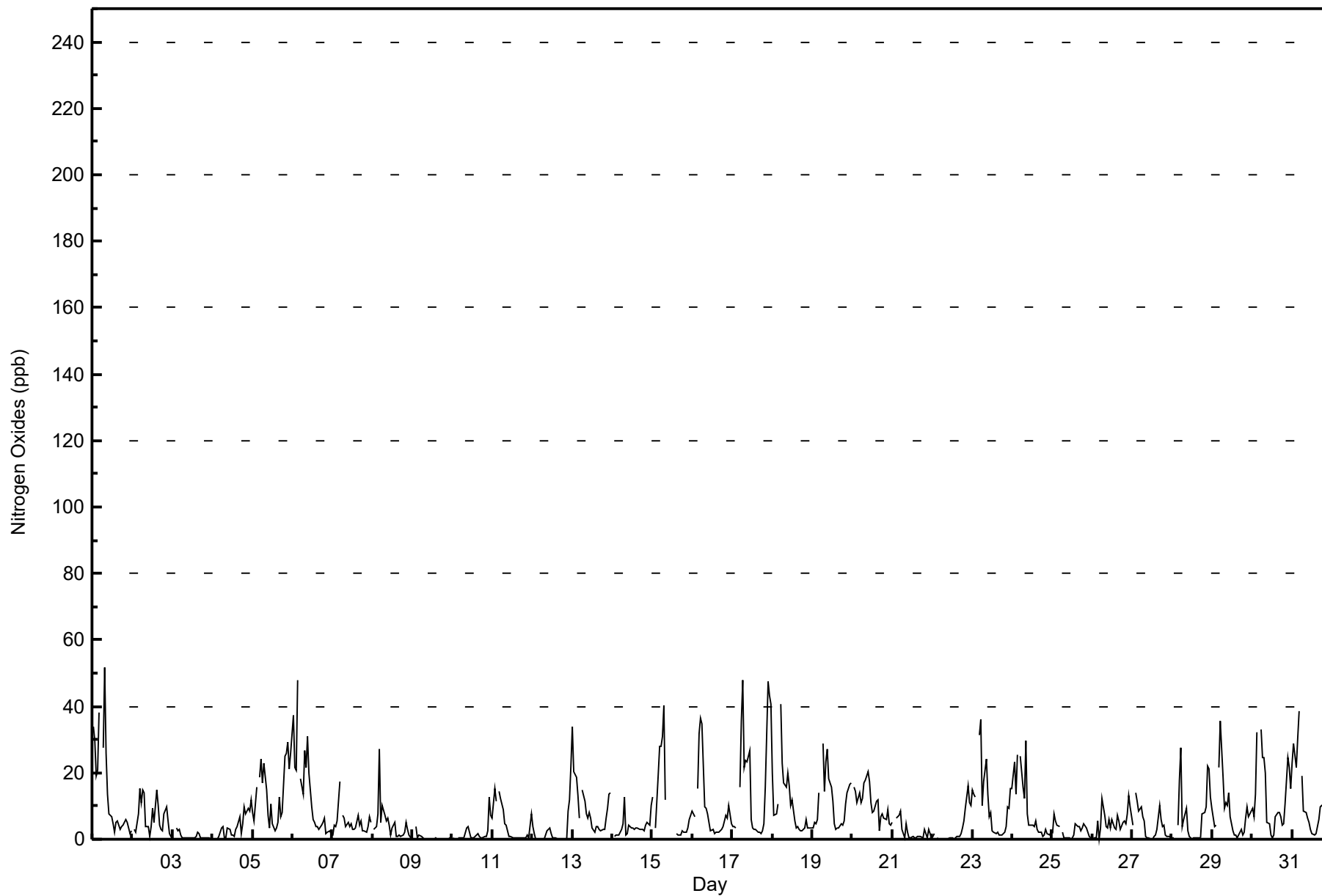
Barge Landing - July 2025

Maximum Value: 51.9 ppb on Jul 1 08:00																				Maximum Daily Average: 16.6 ppb on Jul 17					Hours in Service: 744		
Minimum Value: 0.0 ppb on Jul 12 21:00																				Minimum Daily Average: 0.4 ppb on Jul 9					Hours of Data: 706		
Maximum Diurnal Average: 16.4 ppb at hour 6																				Minimum Diurnal Average: 2.3 ppb at hour 14					Hours of Missing Data: 38		
Monthly Average: 7.40 ppb																				Percentiles: P ₁ = 0.1 P ₁₀ = 0.3 Q ₁ = 1.4 Median = 4.0 Q ₃ = 9.9 P ₉₀ = 20.0 P ₉₉ = 40.3					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-Jul	33.9	29.7	19.1	20.9	38.3	Z	27.5	51.9	26.0	13.5	7.7	6.8	4.5	2.2	4.9	5.3	3.1	3.7	4.2	5.0	5.8	5.0	1.8	2.5	14.1	51.9	
2-Jul	Z	2.8	1.9	7.7	15.5	10.9	14.7	14.0	3.7	3.8	0.8	3.8	9.2	4.9	14.7	10.1	4.3	2.9	2.7	7.6	9.7	5.4	1.7	1.0	6.7	15.5	
3-Jul	1.4	Z	3.2	2.5	3.1	1.1	0.4	0.3	0.3	0.4	0.4	0.3	0.3	0.4	0.9	2.1	1.6	0.6	0.4	0.3	0.3	0.2	0.3	0.2	0.9	3.2	
4-Jul	0.2	0.1	Z	0.2	1.0	3.3	3.6	0.5	0.2	3.6	3.2	1.5	1.4	0.8	2.8	3.7	6.9	1.8	4.6	9.9	7.6	9.4	8.3	12.0	3.8	12.0	
5-Jul	8.0	5.4	15.6	Z	18.8	24.2	17.0	23.0	14.7	7.1	3.3	10.6	4.7	2.6	3.5	4.9	12.8	6.9	8.3	25.1	25.7	29.4	21.3	26.0	13.9	29.4	
6-Jul	37.3	21.7	20.7	48.0	Z	18.2	13.5	26.6	21.6	31.1	19.9	9.9	5.9	5.3	3.6	3.7	2.9	4.1	5.0	6.4	1.9	2.1	2.6	1.5	13.6	48.0	
7-Jul	1.4	4.3	3.9	5.4	17.2	Z	7.1	6.3	3.8	5.0	3.9	4.5	2.8	2.8	3.4	7.2	4.2	5.5	2.5	2.5	2.1	3.7	6.9	5.2	4.9	17.2	
8-Jul	Z	2.8	3.9	7.6	27.1	5.2	10.3	7.1	5.4	6.3	4.3	1.3	3.2	4.9	0.9	0.7	1.1	0.8	1.5	2.0	5.3	3.0	1.1	0.2	4.6	27.1	
9-Jul	0.2	Z	3.7	0.3	1.1	1.0	0.3	0.2	0.2	M	M	0.2	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.4	3.7	
10-Jul	0.2	0.3	Z	0.3	0.3	0.2	0.4	0.4	3.2	3.9	2.0	0.4	0.5	0.4	1.2	1.5	0.8	0.3	0.3	0.7	0.8	2.5	12.5	7.0	1.8	12.5	
11-Jul	6.3	15.3	11.3	Z	14.4	12.4	9.0	4.6	4.2	2.3	0.9	0.8	0.4	0.2	0.3	0.4	0.4	0.5	0.5	0.5	0.4	1.1	0.4	7.5	4.1	15.3	
12-Jul	3.7	1.6	0.1	0.1	Z	0.2	0.2	0.1	1.3	2.5	3.3	1.5	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0	8.4	12.0	22.1	2.5	22.1	
13-Jul	33.8	20.4	18.7	13.0	6.2	Z	15.0	11.6	7.6	6.3	8.2	6.4	3.4	2.3	3.9	3.9	2.8	2.7	3.1	3.0	6.5	9.3	13.4	13.9	9.4	33.8	
14-Jul	Z	1.0	1.1	1.3	1.2	2.8	4.7	12.7	1.2	1.8	4.4	3.5	3.2	2.8	3.6	3.3	3.0	3.1	2.9	2.6	4.3	5.3	4.3	10.1	3.7	12.7	
15-Jul	12.9	Z	3.4	19.6	28.1	27.8	31.1	40.4	12.0	C	C	C	C	C	1.6	1.2	1.2	1.4	2.3	2.2	2.1	3.4	5.7	7.4	11.3	40.4	
16-Jul	8.5	7.0	Z	15.2	31.8	36.6	34.6	9.7	9.3	7.8	5.0	2.6	2.9	1.6	2.0	2.0	2.3	3.2	3.8	5.7	7.2	6.2	10.3	4.7	9.6	36.6	
17-Jul	3.6	3.9	3.3	Z	15.6	35.7	48.0	21.7	23.8	23.5	26.5	6.0	3.3	3.0	3.0	2.2	2.1	1.8	2.4	4.7	15.9	47.3	43.1	40.8	16.6	48.0	
18-Jul	19.8	7.2	7.6	10.6	Z	40.7	23.0	16.9	15.6	20.1	16.3	10.2	11.7	5.7	3.2	3.8	2.8	2.4	2.7	3.5	5.7	3.4	3.2	3.2	10.4	40.7	
19-Jul	3.4	4.9	4.5	6.1	14.0	Z	28.7	14.3	23.5	27.0	18.1	15.7	11.6	4.7	3.1	3.3	3.5	4.6	4.4	5.4	10.5	14.1	16.6	16.8	11.3	28.7	
20-Jul	Z	15.8	14.3	11.1	13.8	11.1	12.5	16.9	17.6	20.4	17.2	11.2	8.1	8.6	11.3	12.0	2.7	7.0	7.8	6.2	5.7	8.9	4.8	4.3	10.8	20.4	
21-Jul	5.3	Z	6.2	6.8	7.1	8.3	3.1	0.5	4.8	2.0	0.5	0.3	1.0	0.5	0.6	0.7	1.0	0.7	0.6	3.0	1.8	0.6	2.8	0.4	2.5	8.3	
22-Jul	0.8	1.5	Z	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.4	0.3	0.2	0.3	0.7	0.7	1.7	3.2	5.7	9.4	16.0	11.1	10.4	2.8	16.0	
23-Jul	15.0	13.6	12.9	Z	31.3	36.1	10.1	17.3	24.1	13.4	6.9	8.0	2.7	2.2	1.6	1.9	1.3	1.5	1.2	2.3	3.9	9.8	9.3	15.3	10.5	36.1	
24-Jul	15.1	23.1	13.7	25.2	Z	25.0	15.8	12.1	29.7	7.7	4.1	4.1	4.1	4.0	5.4	2.8	2.0	1.9	0.9	1.1	2.9	1.6	1.1	2.5	9.0	29.7	
25-Jul	2.0	7.7	5.4	4.3	3.7	Z	2.0	0.4	0.2	0.3	0.2	0.2	0.2	1.2	4.5	4.0	4.0	2.7	3.2	4.5	3.2	2.1	1.0	0.5	2.5	7.7	
26-Jul	Z	0.6	0.4	5.5	0.2	3.4	12.1	7.2	4.0	3.3	5.8	3.3	6.0	3.2	3.1	7.1	5.4	3.2	4.9	5.5	4.7	7.5	12.9	9.9	5.2	12.9	
27-Jul	4.1	Z	13.8	11.5	8.6	9.7	7.0	5.3	0.8	0.3	0.3	0.1	0.2	0.7	1.2	2.8	10.1	5.7	3.8	4.1	1.5	0.8	0.6	0.3	4.1	13.8	
28-Jul	0.3	0.4	Z	4.1	17.7	27.6	3.7	5.8	9.2	2.6	1.0	0.5	0.2	0.2	0.3	0.4	0.4	0.5	7.6	8.2	9.9	22.2	21.1	12.7	6.8	27.6	
29-Jul	9.5	3.8	4.3	Z	21.5	35.5	18.8	9.4	10.8	10.0	13.9	6.7	2.5	1.4	1.3	0.5	1.2	3.0	1.2	2.0	6.2	9.9	6.7	8.4	8.2	35.5	
30-Jul	9.4	6.6	13.4	32.1	Z	33.1	24.6	24.6	19.7	5.0	4.5	1.2	0.4	1.3	6.7	7.9	8.0	6.9	4.3	4.6	10.6	24.7	21.6	15.3	12.5	33.1	
31-Jul	22.8	28.8	21.7	30.7	38.6	Z	19.1	8.5	7.9	6.4	5.2	2.8	1.5	1.1	1.6	3.8	6.1	9.8	10.1	9.2	11.4	5.3	3.7	5.3	11.4	38.6	
10.0 8.9 8.8 11.2 14.5 16.4 13.5 12.0 9.9 8.2 6.5 4.2 3.2 2.3 3.1 3.4 3.2 2.9 3.2 4.6 5.9 8.7 8.5 8.6																										Diurnal Average	
37.3 29.7 21.7 48.0 38.6 40.7 48.0 51.9 29.7 31.1 26.5 15.7 11.7 8.6 14.7 12.0 12.8 9.8 10.1 25.1 25.7 47.3 43.1 40.8																										Diurnal Maximum	
Z - zerospan C - Calibration M - Maintenance																											



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Barge Landing - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Barge Landing - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	638	90.37	90.37
21 - 40	61	8.64	99.01
41 - 80	7	0.99	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
Barge Landing - July 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	47	26	24	12	9	8	40	60	80	49	59	60	39	35	32	58	638
21 - 40	6	3	10	0	2	3	6	13	6	5	1	2	1	0	2	1	61
11 - 80	0	0	1	1	1	1	0	1	0	0	0	0	0	0	0	2	7
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	53	29	35	13	12	12	46	74	86	54	60	62	40	35	34	61	706

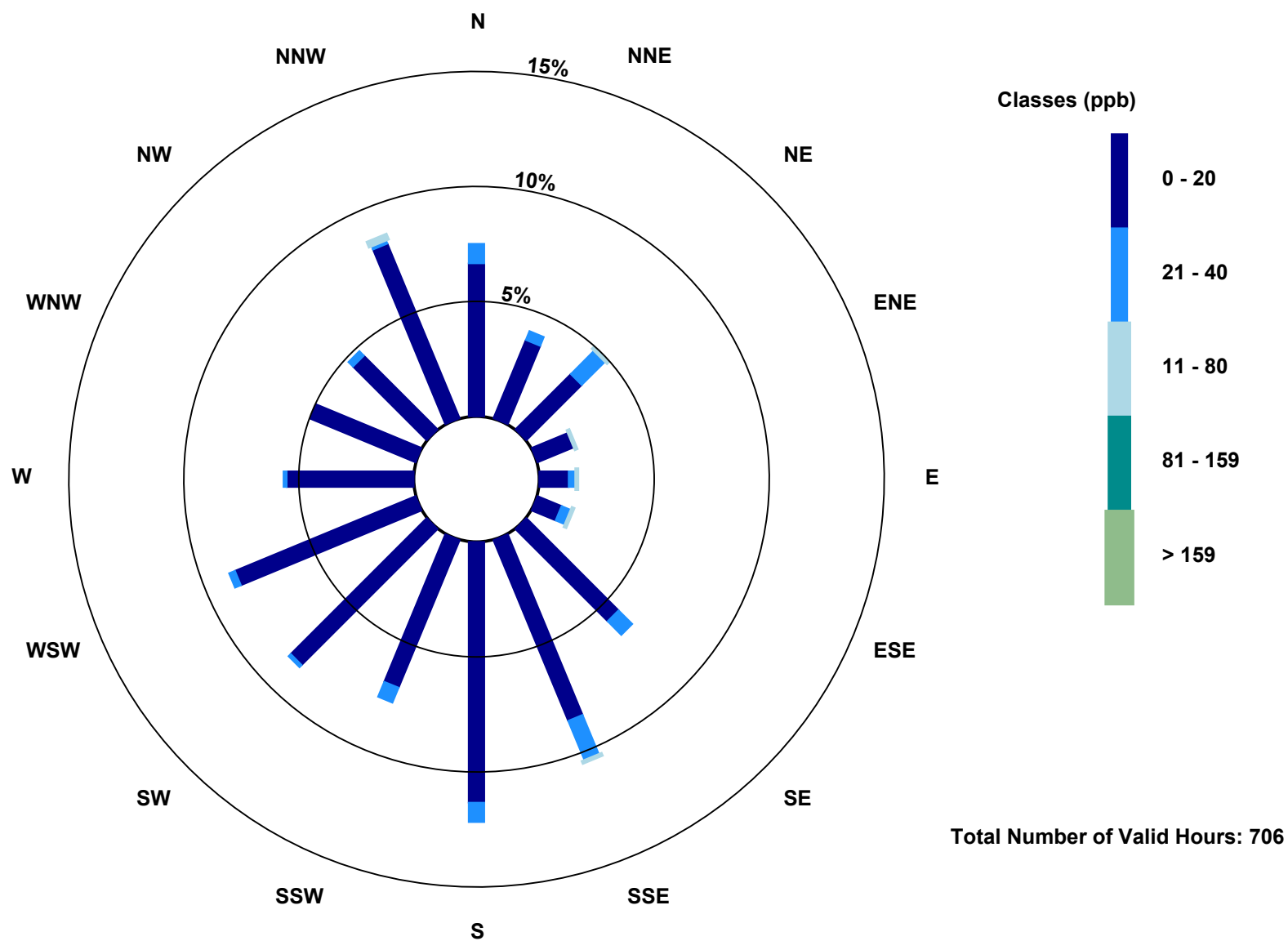
Total Number of Valid Hours: 706

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

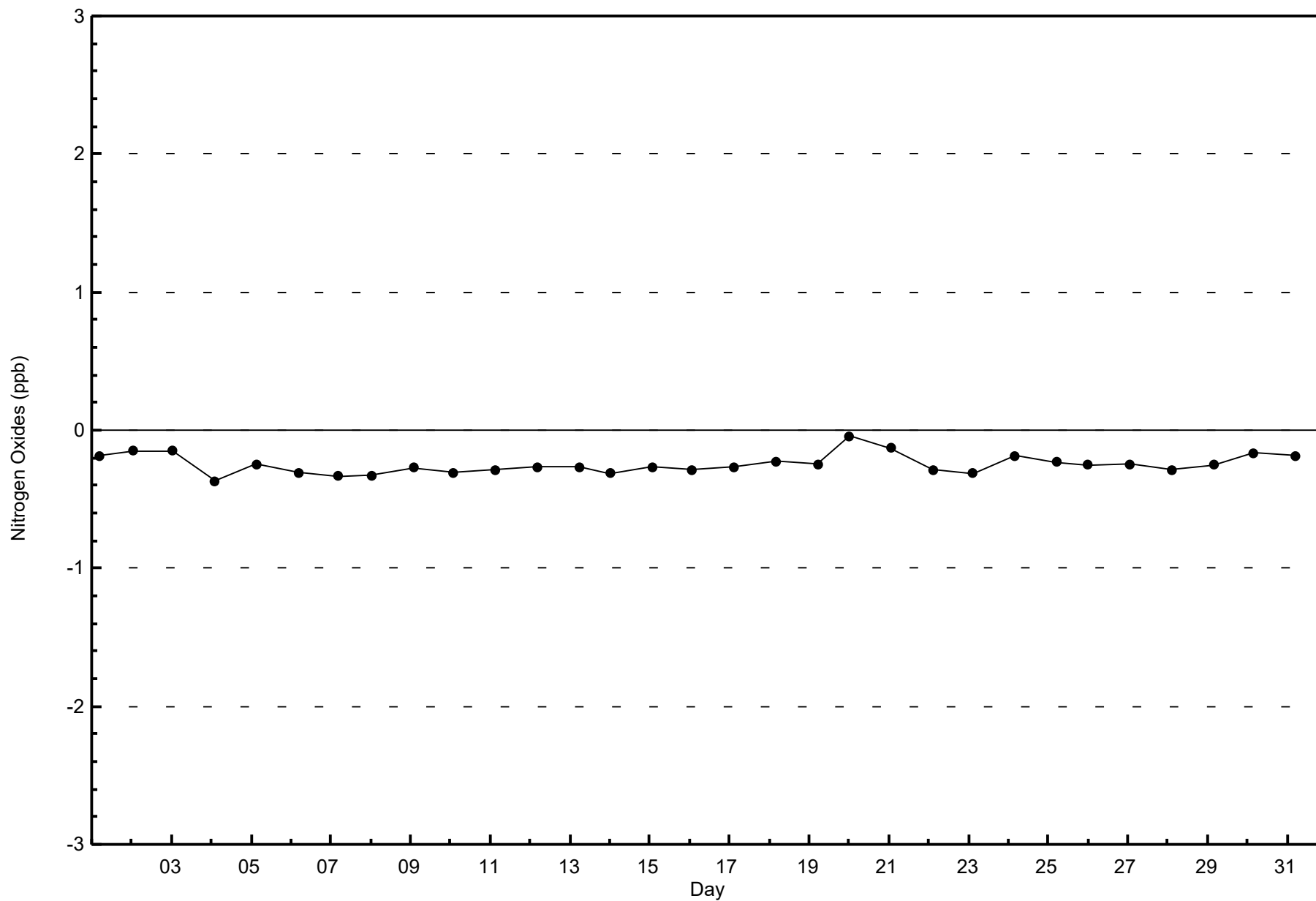
Nitrogen Oxides (NO_x) - ppb
Barge Landing

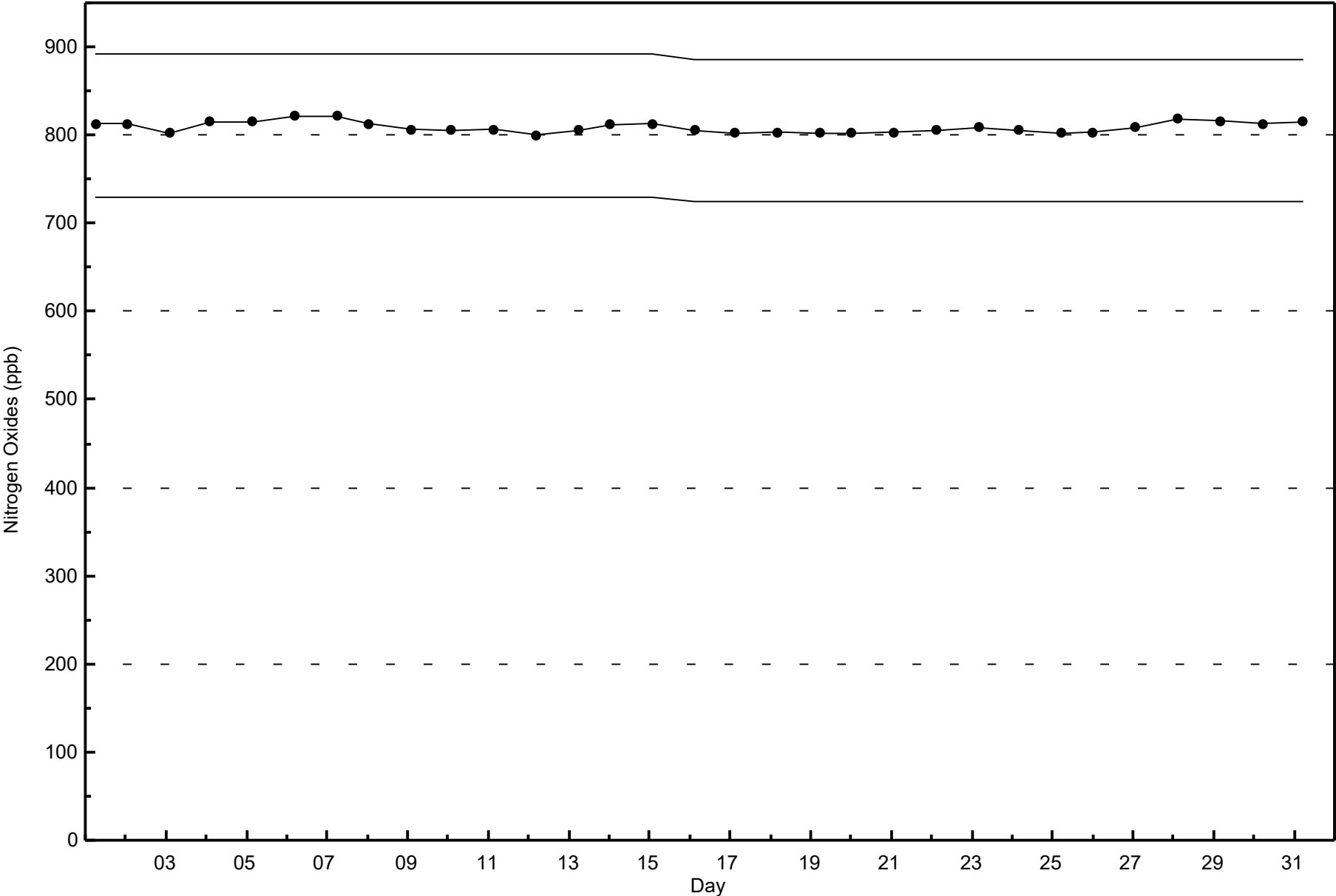




Wood Buffalo Environmental Association
Zero Responses

Nitrogen Oxides (NO_x) - ppb
Barge Landing - July 2025







Wood Buffalo Environmental Association

Summary of Hour Averages

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

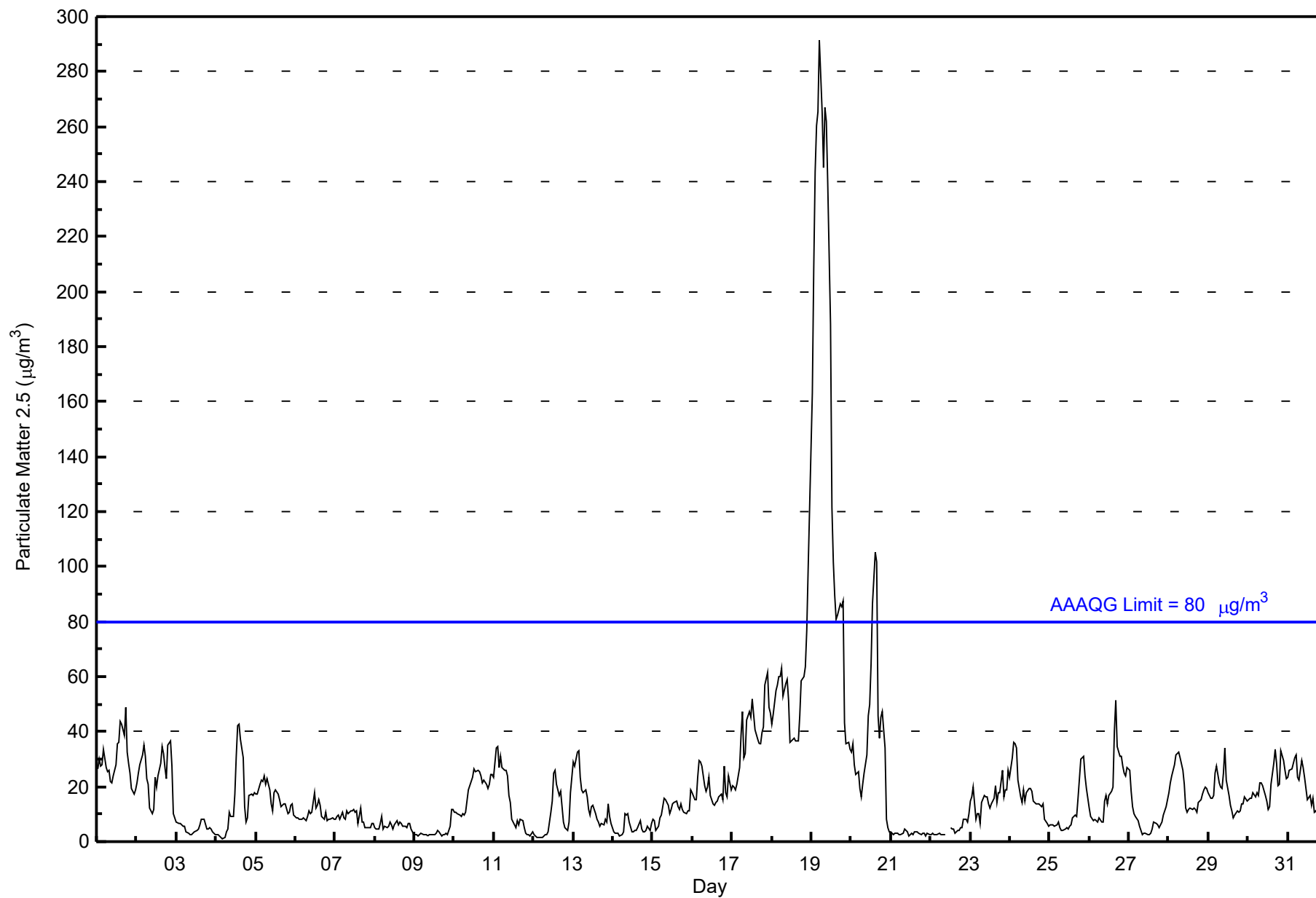
Barge Landing - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 5 Maximum Value: 291.6 µg/m ³ on Jul 19 06:00 Minimum Value: 1.0 µg/m ³ on Jul 4 05:00 Maximum Diurnal Average: 25.5 µg/m ³ at hour 6 Monthly Average: 21.34 µg/m ³																					Maximum Daily Average: 157.6 µg/m ³ on Jul 19 Minimum Daily Average: 3.1 µg/m ³ on Jul 21 Minimum Diurnal Average: 17.4 µg/m ³ at hour 22 Percentiles: P ₁ = 2.0 P ₁₀ = 3.1 Q ₁ = 6.6 Median = 13.7 Q ₃ = 24.0 P ₉₀ = 36.6 P ₉₉ = 241.9				Hours in Service: 744 Hours of Data: 742 Hours of Missing Data: 2 Hours of Calibration: 2 Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
1-Jul	26.5	30.1	27.4	28.2	33.7	26.9	25.6	25.8	21.9	21.5	24.0	28.1	35.5	36.2	43.8	42.5	38.7	48.8	32.8	28.7	24.9	19.5	17.5	19.0	29.5	48.8
2-Jul	21.1	24.8	28.2	31.7	35.1	30.8	22.9	20.9	12.4	10.3	11.9	23.2	20.0	23.9	28.7	34.7	32.1	26.7	22.7	35.3	36.6	27.3	10.3	8.6	24.2	36.6
3-Jul	7.0	6.5	6.8	6.2	5.8	5.8	3.5	2.8	2.7	2.8	3.1	3.4	4.2	4.4	6.3	8.1	8.2	8.1	4.8	4.7	4.9	4.6	3.4	2.7	5.0	8.2
4-Jul	2.3	2.5	2.2	1.7	1.0	1.6	3.3	4.5	10.5	9.0	9.0	17.5	31.2	42.3	42.5	37.3	30.3	12.5	7.0	8.8	16.9	17.2	16.7	17.7	14.4	42.5
5-Jul	17.4	17.1	20.8	22.3	21.9	23.8	20.6	22.8	19.0	13.9	11.3	17.6	18.8	17.2	15.4	12.5	13.4	14.0	13.8	10.4	10.6	13.0	13.8	9.7	16.3	23.8
6-Jul	8.8	8.7	8.2	7.9	8.3	8.7	7.5	9.1	11.1	10.2	10.8	17.6	12.0	13.4	15.3	13.2	9.2	8.0	10.7	7.6	7.9	7.9	8.5	8.2	10.0	17.6
7-Jul	8.3	9.4	9.8	8.1	10.6	8.4	8.1	11.0	10.2	11.4	11.1	11.9	10.8	11.3	6.8	12.1	7.3	7.4	5.1	5.2	5.0	5.2	6.5	6.5	8.6	12.1
8-Jul	5.3	4.5	4.8	6.5	9.1	4.7	5.6	4.8	5.4	7.3	5.9	4.5	6.2	7.7	5.9	7.2	6.4	5.4	5.8	5.3	6.7	6.7	4.8	2.4	5.8	9.1
9-Jul	2.3	2.4	2.2	2.5	2.8	2.8	2.4	2.4	2.2	2.7	2.5	2.5	2.8	2.9	3.9	3.4	2.3	2.5	2.6	3.0	2.3	5.7	11.7	11.9	3.5	11.9
10-Jul	10.8	10.9	10.4	9.5	9.3	10.2	9.8	10.7	18.6	20.3	21.9	23.5	26.2	25.4	26.1	25.5	23.9	21.5	22.1	21.0	19.4	20.6	24.4	24.6	18.6	26.2
11-Jul	23.3	34.2	34.6	26.9	30.8	26.8	25.9	26.1	23.8	16.7	14.5	8.2	5.9	5.0	7.4	6.3	8.2	7.4	5.0	3.3	2.3	2.4	2.2	3.3	14.6	34.6
12-Jul	2.4	2.1	1.5	1.6	1.5	1.7	2.2	2.4	2.7	3.5	10.8	14.8	24.9	26.2	20.9	17.0	18.3	12.5	7.4	5.1	4.1	6.9	17.7	23.6	9.7	26.2
13-Jul	28.7	27.6	32.3	32.9	23.5	18.8	17.9	18.7	16.0	11.6	9.8	12.9	13.0	10.1	8.0	7.2	5.6	6.8	6.1	8.3	7.1	13.8	9.4	6.8	14.7	32.9
14-Jul	3.6	3.1	3.0	3.0	2.3	2.3	3.7	10.0	9.7	10.2	7.0	3.7	3.8	4.2	4.3	4.9	7.8	4.3	3.8	3.4	4.0	5.4	4.0	6.8	4.9	10.2
15-Jul	8.0	7.8	4.0	5.6	8.4	9.4	12.8	15.5	15.2	13.1	10.1	11.7	14.0	14.3	14.7	12.8	11.9	13.6	11.5	10.8	10.2	11.3	11.0	18.7	11.5	18.7
16-Jul	18.0	15.2	15.1	23.3	29.6	28.7	27.3	20.5	18.5	19.9	23.3	16.8	13.7	13.4	14.3	14.9	16.5	17.5	15.5	27.6	17.8	16.1	24.1	18.9	19.4	29.6
17-Jul	20.2	19.6	18.6	20.7	26.8	38.8	47.5	30.6	31.9	44.3	47.3	45.4	51.9	46.3	40.9	37.3	35.8	35.6	39.5	41.7	57.2	61.4	48.6	47.0	39.0	61.4
18-Jul	42.6	46.2	55.0	56.9	59.9	60.2	62.8	53.1	57.2	58.9	51.5	35.9	36.6	37.4	36.4	36.5	36.4	45.6	58.4	60.1	63.4	76.7	99.1	120.3	56.1	120.3
19-Jul	163.3	208.4	243.4	260.2	265.3	291.6	265.6	245.1	266.8	262.1	239.7	188.3	121.5	101.5	89.7	81.0	82.5	86.2	85.3	87.4	43.5	35.5	35.9	33.5	157.6	291.6
20-Jul	32.6	35.6	28.0	24.5	25.2	19.5	16.4	20.9	24.8	31.5	45.7	49.6	64.4	86.6	105.5	101.7	45.7	37.5	45.2	47.5	34.1	8.2	5.0	3.4	39.1	105.5
21-Jul	3.5	2.7	3.3	3.2	3.0	2.8	2.6	3.2	4.8	4.2	3.4	1.8	3.1	2.4	3.6	3.6	3.5	3.0	2.6	3.1	2.9	2.2	3.0	2.6	3.1	4.8
22-Jul	2.7	2.9	2.6	2.4	2.6	2.9	2.7	2.5	2.6	2.5	C	C	5.2	4.5	4.3	2.9	3.9	4.2	4.9	5.2	8.4	8.3	7.1	10.1	4.3	10.1
23-Jul	14.5	16.2	19.6	8.2	10.4	10.0	6.7	14.3	16.7	16.1	16.2	13.8	12.1	13.5	16.0	20.3	14.3	17.8	17.6	26.0	16.4	19.0	18.9	26.1	15.9	26.1
24-Jul	23.5	30.7	35.9	35.4	33.9	22.2	16.1	14.2	18.6	14.7	18.0	19.6	19.3	18.3	14.7	14.5	13.6	13.6	13.2	12.6	13.5	8.2	6.7	5.8	18.2	35.9
25-Jul	6.2	6.3	6.3	5.8	6.1	7.1	4.9	4.1	3.9	4.7	4.8	4.3	5.6	6.1	8.8	9.5	9.3	16.0	22.8	29.8	31.1	23.8	19.5	15.7	10.9	31.1
26-Jul	12.4	9.3	7.7	8.0	7.4	7.0	8.6	7.4	6.9	14.5	16.6	13.9	16.9	18.5	19.7	39.9	51.4	34.7	31.2	31.2	27.6	24.8	24.0	27.1	19.4	51.4
27-Jul	26.2	18.5	12.8	10.2	9.1	7.7	5.7	4.1	2.7	2.9	2.8	2.7	2.8	3.2	4.8	7.3	6.8	6.3	5.2	5.9	7.2	9.4	12.5	15.5	8.0	26.2
28-Jul	17.6	21.5	23.8	27.7	31.7	32.2	32.8	30.4	25.8	21.0	12.2	10.5	11.6	12.4	11.9	12.1	11.4	10.9	14.4	15.4	17.3	18.7	19.7	19.3	19.3	32.8
29-Jul	17.9	15.9	15.9	16.6	25.1	27.7	21.2	20.1	19.4	24.7	34.3	22.4	16.7	13.3	11.0	8.6	9.7	11.4	10.5	11.4	13.7	13.7	16.4	14.8	17.2	34.3
30-Jul	15.3	15.7	15.5	18.0	16.5	18.0	17.0	21.2	21.4	20.2	17.0	14.9	11.7	12.5	20.7	28.3	33.3	28.3	20.2	20.7	33.2	29.3	25.8	22.7	20.7	33.3
31-Jul	23.3	26.0	26.4	28.5	30.6	31.5	23.4	22.6	29.4	26.8	23.2	19.5	15.3	16.8	13.3	15.7	10.9	11.0	10.4	16.2	15.5	16.2	15.8	21.4	20.4	31.5
19.9 22.0 23.4 24.0 25.4 25.5 23.6 22.6 23.6 23.7 24.0 22.0 20.6 21.0 21.5 21.9 19.6 18.7 18.0 19.4 18.3 17.4 17.5 18.5																								Diurnal Average		
163.3 208.4 243.4 260.2 265.3 291.6 265.6 245.1 266.8 262.1 239.7 188.3 121.5 101.5 105.5 101.7 82.5 86.2 85.3 87.4 63.4 76.7 99.1 120.3																								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}) - $\mu\text{g}/\text{m}^3$
Barge Landing - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - µg/m³
Barge Landing - July 2025

Concentration Ranges (µg/m³)	Number of Hours	%	Cumulative %
0 - 5	155	20.89	20.89
6 - 15	252	33.96	54.85
16 - 25	163	21.97	76.82
26 - 80	147	19.81	96.63
> 81.0	25	3.37	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
Barge Landing - July 2025

Concentration Ranges (µg/m³)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	15	2	0	0	0	0	3	4	7	7	22	30	14	10	11	30	155
6 - 15	20	14	12	3	5	2	9	20	42	29	26	18	17	9	12	14	252
16 - 25	9	5	8	5	3	7	14	22	26	14	9	8	7	10	6	10	163
26 - 80	11	8	15	5	4	4	13	24	17	8	7	6	3	6	7	9	147
> 81.0	1	0	0	0	0	2	8	6	2	2	1	3	0	0	0	0	25
Totals	56	29	35	13	12	15	47	76	94	60	65	65	41	35	36	63	742

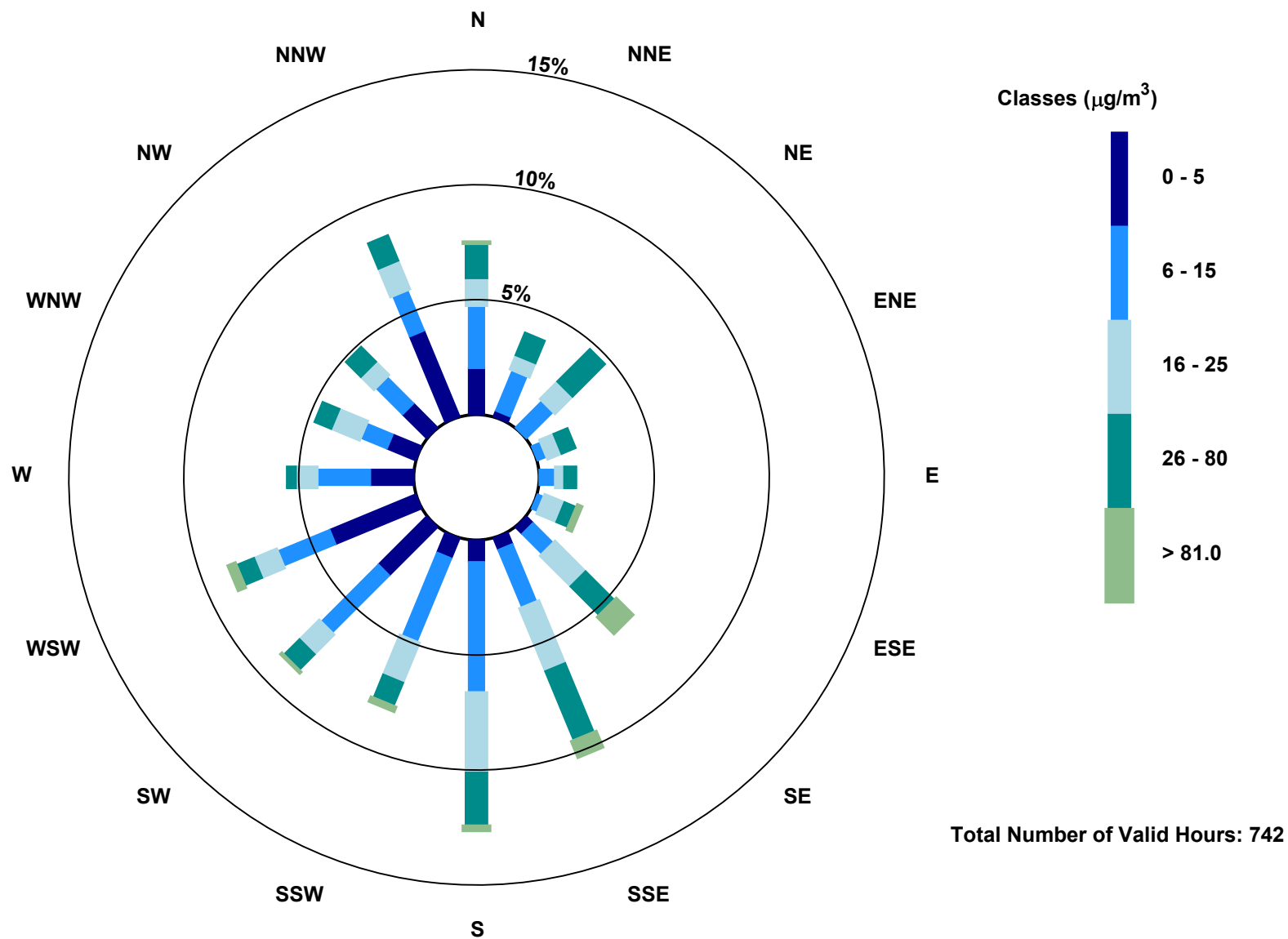
Total Number of Valid Hours: 742

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 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

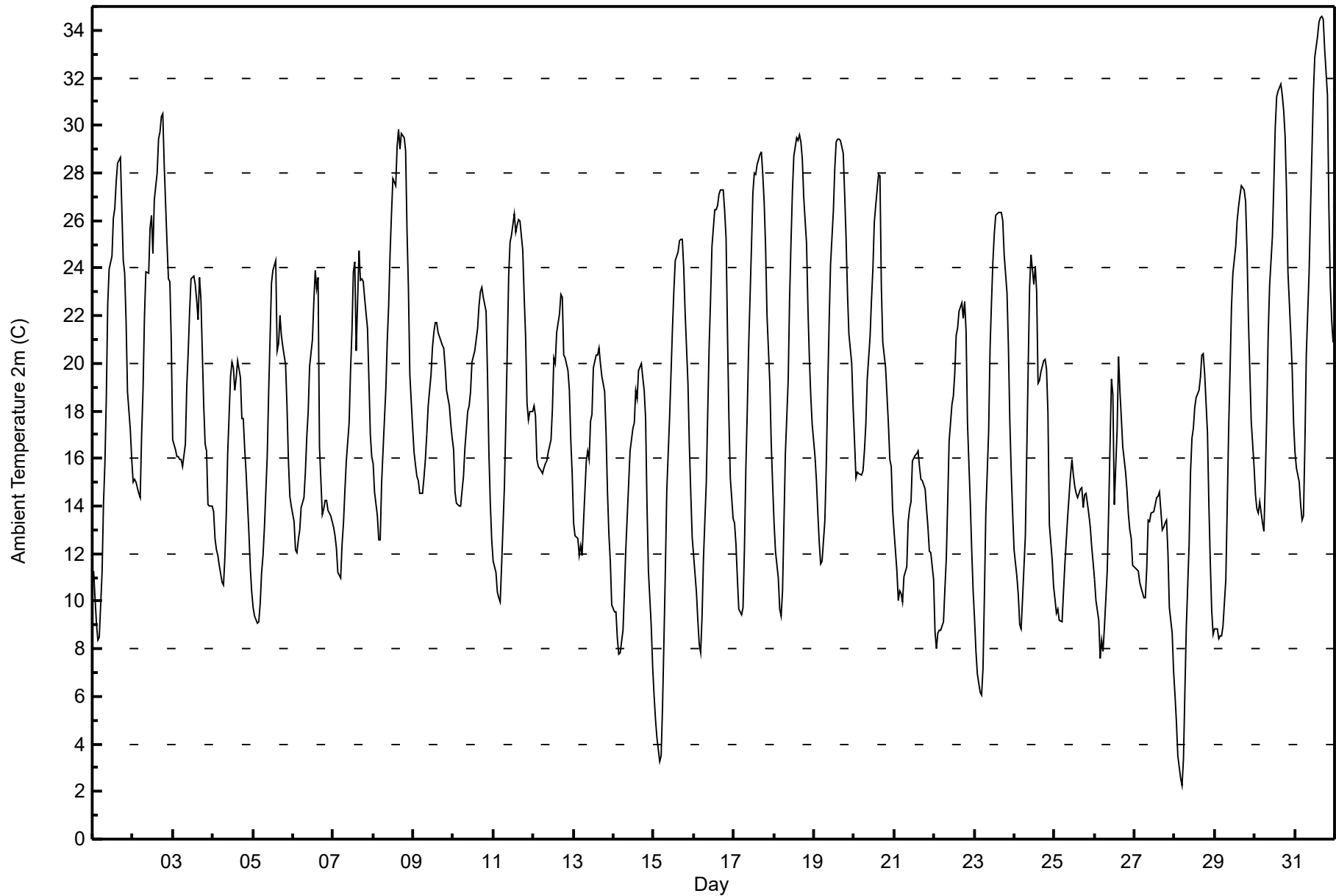
Barge Landing - July 2025

Maximum Value: 34.6 C on Jul 31 17:00																			Maximum Daily Average: 24.9 C on Jul 31										Hours in Service: 744	
Minimum Value: 2.2 C on Jul 28 05:00																			Minimum Daily Average: 12.0 C on Jul 27										Hours of Data: 744	
Maximum Diurnal Average: 24.0 C at hour 16																			Minimum Diurnal Average: 10.6 C at hour 5										Hours of Missing Data: 0	
Monthly Average: 17.67 C																			Percentiles: P ₁ = 5.0 P ₁₀ = 9.9 Q ₁ = 13.2 Median = 16.8 Q ₃ = 22.2 P ₉₀ = 26.5 P ₉₉ = 31.6										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-Jul	11.2	10.1	9.1	8.4	8.5	11.2	14.1	15.8	18.5	22.5	24.0	24.5	26.1	26.5	27.6	28.4	28.7	26.5	24.3	23.8	21.8	18.8	17.2	15.9	19.3	28.7				
2-Jul	15.0	15.1	15.0	14.6	14.4	16.9	18.9	21.9	23.9	23.8	25.7	26.2	24.6	26.9	28.0	29.4	29.7	30.4	30.5	28.3	25.0	23.6	23.4	20.9	23.0	30.5				
3-Jul	16.8	16.4	16.1	16.1	15.9	15.9	15.7	16.6	19.1	20.4	22.2	23.6	23.7	23.3	22.6	21.8	23.6	22.7	18.2	16.6	16.3	14.0	14.0	14.0	18.6	23.7				
4-Jul	13.7	12.6	12.2	11.9	11.5	10.8	10.7	11.9	13.7	16.2	19.4	20.0	19.8	18.9	19.4	20.1	19.4	17.7	17.7	16.4	15.4	12.9	11.4	10.4	15.2	20.1				
5-Jul	9.7	9.4	9.1	9.1	9.9	11.2	11.9	13.1	16.1	18.8	21.1	23.3	23.9	24.4	20.5	20.8	22.0	21.2	20.7	19.9	18.1	15.9	14.4	14.0	16.6	24.4				
6-Jul	13.4	12.1	12.1	12.6	13.0	14.0	14.4	15.4	16.9	18.0	19.9	21.0	22.6	23.9	23.1	23.6	16.5	13.6	13.9	14.3	14.2	13.8	13.6	13.3	16.2	23.9				
7-Jul	13.1	12.8	12.2	11.2	11.0	12.4	13.3	14.7	15.9	17.5	19.7	21.3	23.9	24.3	20.5	24.8	23.5	23.6	23.4	22.7	21.5	19.3	17.0	16.1	18.2	24.8				
8-Jul	15.8	14.6	13.6	12.6	12.6	15.0	16.3	18.9	21.0	22.4	24.6	26.3	27.7	27.4	29.1	29.8	29.0	29.6	29.5	28.9	25.6	23.1	19.5	17.2	22.1	29.8				
9-Jul	16.2	15.7	15.2	15.1	14.5	14.6	15.2	16.0	17.0	18.2	19.5	20.6	21.3	21.7	21.7	21.3	21.0	20.8	20.6	19.9	18.9	18.2	17.5	16.9	18.2	21.7				
10-Jul	16.3	14.6	14.1	14.0	14.0	14.7	15.3	16.4	18.0	18.2	18.8	20.1	20.3	20.5	21.5	22.4	23.0	23.2	22.8	22.2	19.6	16.2	14.1	12.6	18.0	23.2				
11-Jul	11.7	11.2	10.4	10.2	10.0	11.5	14.8	17.6	20.5	23.6	25.1	25.4	26.3	25.5	25.8	26.1	26.0	24.7	22.8	21.1	18.3	17.6	18.0	18.0	19.3	26.3				
12-Jul	18.2	17.8	16.0	15.7	15.5	15.4	15.6	15.8	15.9	16.3	16.8	18.1	20.2	20.0	21.3	22.1	22.9	22.8	20.4	20.3	19.7	18.8	16.8	15.4	18.2	22.9				
13-Jul	13.3	12.8	12.6	11.9	12.4	11.9	13.3	15.9	16.3	16.0	17.6	17.9	19.8	20.3	20.4	20.6	20.0	19.4	18.8	17.1	14.6	12.8	11.7	9.8	15.7	20.6				
14-Jul	9.5	9.6	8.4	7.8	7.8	8.8	10.4	12.2	13.6	14.9	16.3	17.3	17.5	18.8	18.5	19.7	20.0	19.4	18.9	17.7	14.0	11.3	8.9	7.3	13.7	20.0				
15-Jul	6.1	5.0	4.3	3.2	3.5	5.6	8.4	11.3	14.6	17.7	19.6	21.4	23.0	24.3	24.7	25.2	25.2	25.2	24.0	22.1	19.2	16.6	14.5	12.7	15.7	25.2				
16-Jul	11.9	10.4	9.2	8.2	7.8	9.4	11.8	15.0	17.9	20.7	22.7	24.9	26.5	26.5	26.6	27.1	27.3	27.3	26.4	25.3	21.3	17.7	15.2	13.5	18.8	27.3				
17-Jul	13.3	12.4	11.0	9.7	9.5	9.7	12.2	15.5	18.0	20.7	24.9	27.2	28.0	27.9	28.4	28.8	28.9	27.9	26.8	24.9	22.0	19.2	16.6	14.9	19.9	28.9				
18-Jul	13.3	12.1	11.0	9.7	9.4	10.5	13.3	16.2	19.3	22.7	25.1	27.2	28.7	29.5	29.4	29.6	29.3	28.6	27.0	25.0	22.3	20.3	18.7	17.4	20.6	29.6				
19-Jul	16.1	15.1	13.7	12.5	11.6	11.7	13.4	15.8	18.9	21.7	24.2	26.4	28.1	29.3	29.4	29.4	29.4	28.8	27.1	25.3	23.0	21.2	20.0	18.2	21.3	29.4				
20-Jul	16.7	15.2	15.5	15.3	15.3	15.5	16.3	17.5	19.3	21.1	22.6	24.0	25.9	26.6	27.9	27.9	23.2	20.9	20.4	19.8	17.5	15.9	15.7	13.8	19.6	27.9				
21-Jul	12.9	11.3	10.0	10.4	10.3	10.0	11.0	11.5	13.3	13.9	14.2	15.9	16.1	16.2	16.3	15.7	15.1	15.1	14.7	13.9	13.1	12.1	12.1	10.9	13.2	16.3				
22-Jul	8.7	8.0	8.7	8.8	8.8	9.2	10.5	11.8	14.2	16.7	18.3	18.6	19.6	21.2	21.5	22.2	22.5	21.9	22.6	21.4	17.5	14.1	12.1	10.5	15.4	22.6				
23-Jul	9.2	7.9	6.9	6.2	6.1	7.2	10.3	13.7	17.2	20.7	22.6	24.3	25.4	26.2	26.3	26.3	26.4	26.0	24.6	23.0	20.7	17.6	15.4	13.7	17.7	26.4				
24-Jul	12.1	11.0	10.3	9.0	8.9	10.1	12.7	16.3	19.8	23.2	24.5	23.3	24.1	23.0	19.1	19.3	19.6	20.1	20.2	19.7	17.9	13.2	11.7	10.6	16.7	24.5				
25-Jul	10.1	9.5	9.7	9.2	9.1	10.4	11.6	12.6	13.6	15.3	15.9	15.3	14.8	14.5	14.3	14.7	14.8	13.9	14.5	14.5	13.7	13.1	12.3	11.6	12.9	15.9				
26-Jul	10.9	10.0	9.2	7.6	8.4	7.9	8.9	11.3	13.8	16.6	19.4	18.7	14.1	17.2	20.3	18.8	17.7	16.5	15.4	14.6	13.7	13.0	12.6	11.5	13.7	20.3				
27-Jul	11.4	11.3	11.3	10.8	10.6	10.2	10.1	11.4	13.4	13.4	13.7	13.8	14.0	14.4	14.4	14.6	13.0	13.1	13.3	13.4	12.0	9.7	8.6	7.0	12.0	14.6				
28-Jul	6.0	4.9	3.5	2.6	2.2	3.4	6.2	8.9	12.4	15.4	16.9	17.3	18.1	18.6	18.9	19.4	20.3	20.4	19.6	17.1	14.1	11.6	9.6	8.6	12.3	20.4				
29-Jul	8.9	8.8	8.5	8.5	8.5	9.0	10.9	14.0	17.2	19.7	22.3	23.8	24.9	26.0	26.6	27.1	27.5	27.3	26.8	24.8	21.8	19.7	17.5	15.6	18.6	27.5				
30-Jul	14.5	13.9	13.7	14.2	13.3	13.0	15.2	17.8	21.2	23.3	25.3	27.5	29.9	31.2	31.4	31.7	31.3	30.6	29.5	27.2	23.8	21.3	19.8	17.5	22.4	31.7				
31-Jul	16.3	15.6	15.0	14.0	13.4	13.6	16.5	20.4	23.9	26.5	28.9	31.3	32.8	33.8	34.4	34.5	34.6	34.5	33.2	31.3	26.6	23.3	21.7	20.9	24.9	34.6				
12.7 11.8 11.2 10.7 10.6 11.3 12.9 14.9 17.2 19.2 21.0 22.1 23.0 23.5 23.5 24.0 23.6 23.0 22.2 21.0 18.8 16.6 15.2 13.9																									Diurnal Average					
18.2 17.8 16.1 16.1 15.9 16.9 18.9 21.9 23.9 26.5 28.9 31.3 32.8 33.8 34.4 34.5 34.6 34.5 33.2 31.3 26.6 23.6 23.4 20.9																									Diurnal Maximum					



Wood Buffalo Environmental Association
Hourly Averages

Ambient Temperature 2m (AT2) - C
Barge Landing - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ambient Temperature 2m (AT2) - C
Barge Landing - July 2025

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	0	0.00	0.00
-20 - 0	0	0.00	0.00
0 - 10	77	10.35	10.35
10 - 20	410	55.11	65.46
> 20	257	34.54	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) - %

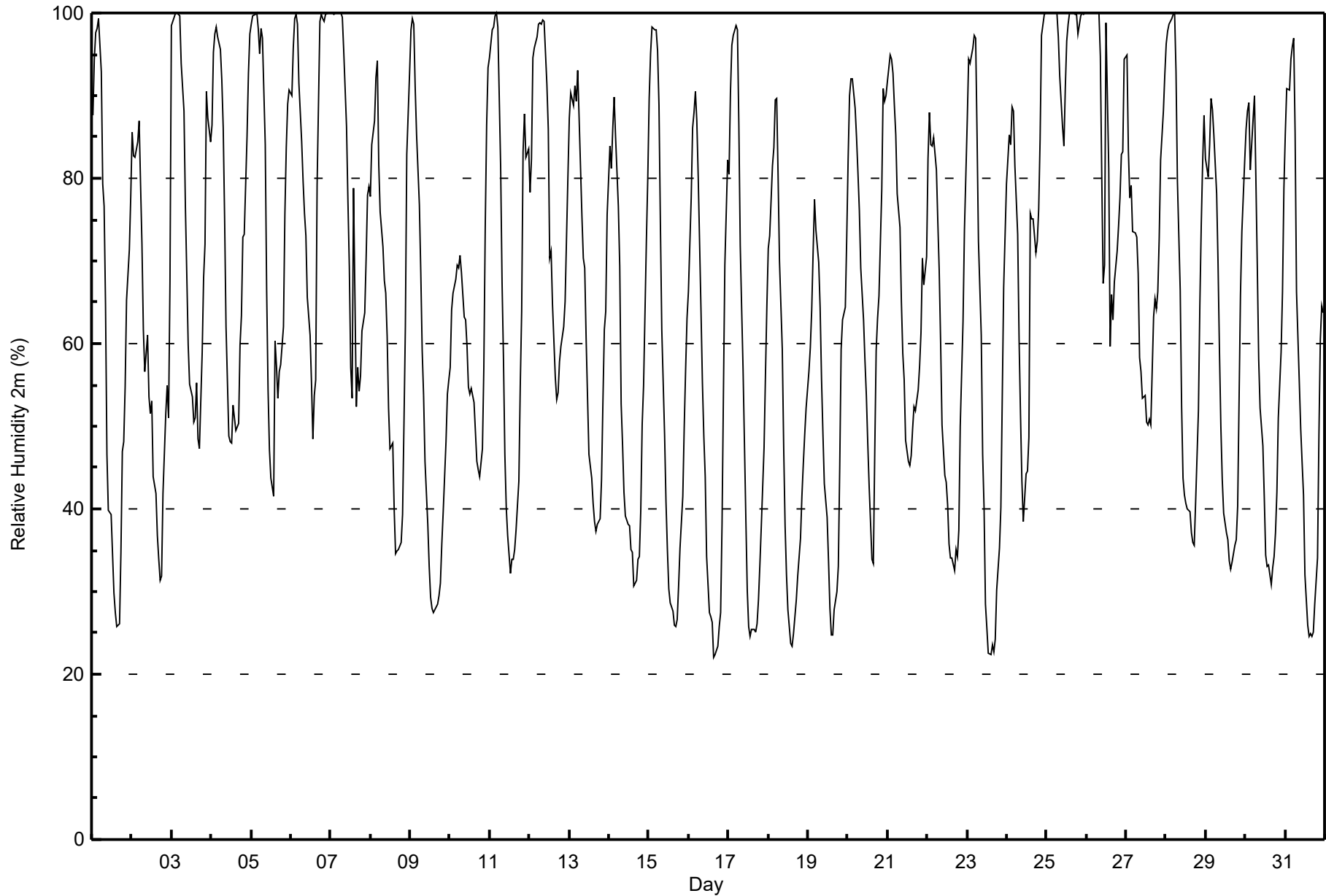
Barge Landing - July 2025

Maximum Value: 100.0 % on Jul 3 04:00																				Maximum Daily Average: 97.6 % on Jul 25				Hours in Service: 744		
Minimum Value: 22.0 % on Jul 16 16:00																				Minimum Daily Average: 51.2 % on Jul 18				Hours of Data: 744		
Maximum Diurnal Average: 91.8 % at hour 5																				Minimum Diurnal Average: 41.5 % at hour 16				Hours of Missing Data: 0		
Monthly Average: 65.47 %																				Percentiles: P ₁ = 23.6 P ₁₀ = 33.3 Q ₁ = 45.8 Median = 65.5 Q ₃ = 86.6 P ₉₀ = 98.2 P ₉₉ = 100.0				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-Jul	87.6	94.4	97.6	98.2	99.4	92.8	79.3	76.6	64.7	46.6	39.8	39.4	34.5	29.9	27.5	25.7	26.1	34.7	46.9	48.1	54.7	65.2	71.4	77.8	60.8	99.4
2-Jul	85.6	82.8	82.5	84.4	86.9	79.3	72.1	61.7	56.6	61.0	53.6	51.6	53.1	44.0	41.9	36.8	33.9	31.3	31.9	41.8	51.6	54.9	51.1	67.5	58.2	86.9
3-Jul	98.5	99.5	100.0	100.0	99.8	99.6	94.0	88.2	76.5	68.4	59.8	55.0	53.6	50.6	51.0	55.3	48.5	47.3	59.0	68.0	72.1	90.4	87.3	84.4	75.3	100.0
4-Jul	86.4	95.3	97.5	98.3	97.2	95.6	91.8	86.1	75.1	62.1	48.8	48.1	47.9	52.5	51.0	49.4	50.3	59.9	63.3	72.9	73.3	85.0	92.7	97.4	74.1	98.3
5-Jul	98.7	99.6	99.9	100.0	98.2	95.1	98.2	97.0	84.1	66.5	54.5	47.1	43.8	41.5	60.4	57.3	53.5	56.6	57.5	62.0	75.6	83.7	88.9	90.6	75.4	100.0
6-Jul	90.0	95.7	99.3	99.8	98.7	91.5	84.5	79.7	75.7	73.0	65.6	61.1	55.2	48.6	53.8	55.7	79.1	99.0	99.8	99.4	99.1	99.8	100.0	100.0	83.5	100.0
7-Jul	100.0	100.0	99.8	100.0	100.0	100.0	100.0	99.4	95.4	86.3	77.3	69.3	57.2	53.3	78.8	52.4	57.2	54.3	56.1	61.5	63.8	70.4	77.9	79.0	78.7	100.0
8-Jul	77.8	84.1	86.9	92.2	94.2	81.6	76.0	71.7	67.7	66.1	60.8	52.2	47.3	47.9	39.9	34.6	34.8	35.1	36.0	39.3	50.3	62.1	82.8	92.7	63.1	94.2
9-Jul	98.0	99.4	98.7	91.0	85.3	76.8	68.6	59.1	53.7	45.7	38.1	33.0	29.3	28.0	27.5	27.8	28.5	29.6	31.1	35.8	39.7	48.1	54.0	55.6	53.4	99.4
10-Jul	57.1	64.0	66.2	67.8	69.5	69.2	70.7	68.6	63.2	62.9	59.7	54.7	53.9	54.5	52.8	49.3	45.7	44.8	44.0	47.3	57.1	74.1	86.5	93.4	61.5	93.4
11-Jul	94.5	97.9	98.4	99.7	100.0	98.4	81.4	67.4	58.4	46.5	40.1	36.8	32.1	33.8	34.0	35.0	37.4	43.4	54.9	63.8	83.2	87.8	82.5	83.5	66.3	100.0
12-Jul	78.2	82.3	94.6	95.7	97.1	98.7	98.7	98.6	99.2	98.9	91.3	86.0	70.3	71.1	64.8	55.9	53.2	54.0	57.8	59.7	62.0	65.1	72.7	80.2	78.6	99.2
13-Jul	87.2	90.4	88.8	91.2	89.3	93.0	87.2	75.5	70.3	69.2	60.7	53.5	46.7	43.7	40.7	38.4	37.2	38.2	38.8	43.6	53.1	61.8	63.9	75.6	64.1	93.0
14-Jul	84.0	81.1	86.0	89.8	85.0	76.6	69.4	52.7	47.8	42.0	39.2	38.1	37.9	35.1	34.7	30.8	31.3	33.9	34.2	39.9	50.2	55.0	72.4	79.9	55.3	89.8
15-Jul	89.6	95.1	98.2	97.9	98.0	95.4	88.9	74.6	61.8	48.9	40.9	35.2	30.3	28.7	27.6	26.0	25.8	26.6	30.7	35.2	41.4	49.9	56.8	63.1	56.9	98.2
16-Jul	66.3	77.6	86.1	87.9	90.5	86.9	80.1	63.9	55.3	48.9	43.9	34.3	27.5	27.0	26.3	22.0	22.4	23.5	25.8	27.4	38.1	54.1	69.4	82.2	52.8	90.5
17-Jul	80.5	90.3	96.1	97.2	98.5	97.9	86.5	71.9	64.2	56.9	38.8	30.1	25.8	24.5	25.5	25.5	25.0	26.2	29.0	33.3	37.8	47.4	56.3	64.7	55.4	98.5
18-Jul	71.5	73.1	81.5	83.7	89.5	89.7	80.4	69.9	59.3	47.5	38.0	32.1	27.9	23.7	23.5	25.0	26.9	29.0	31.8	36.4	41.5	45.5	48.9	52.3	51.2	89.7
19-Jul	56.6	59.4	64.0	71.1	77.4	73.8	69.8	64.4	55.7	49.1	43.1	38.9	33.7	28.0	24.8	24.7	27.8	30.0	33.0	45.1	59.3	62.9	64.4	72.9	51.2	77.4
20-Jul	82.3	90.0	92.0	92.0	88.4	84.9	80.7	76.1	69.2	62.9	57.9	53.8	48.1	42.6	33.9	33.3	46.9	59.2	63.1	65.8	78.7	90.9	89.4	89.9	69.7	92.0
21-Jul	91.8	94.9	94.4	92.7	88.9	85.2	78.1	74.1	65.1	58.8	55.5	48.3	45.8	45.2	46.4	49.7	52.3	51.9	54.4	57.3	61.3	70.3	67.2	70.6	66.7	94.9
22-Jul	82.4	88.0	84.0	84.0	85.0	81.0	74.8	68.8	60.1	50.1	44.1	43.2	40.6	35.7	34.1	34.1	32.6	35.0	34.2	37.5	50.0	62.8	73.8	80.4	58.2	88.0
23-Jul	87.0	94.4	93.9	95.7	97.3	96.9	85.2	72.3	61.0	46.6	40.3	28.5	25.6	22.6	22.4	23.6	22.7	24.2	30.2	35.2	40.2	53.5	66.9	73.1	55.8	97.3
24-Jul	79.3	85.3	84.1	88.6	88.2	81.6	73.1	60.4	51.5	43.5	38.5	44.3	44.6	48.7	75.7	75.0	75.2	71.1	72.4	76.3	84.8	97.3	99.8	100.0	72.5	100.0
25-Jul	100.0	100.0	100.0	100.0	100.0	100.0	100.0	97.1	92.4	86.3	83.9	91.1	96.6	98.6	100.0	100.0	100.0	99.9	99.9	97.5	99.6	100.0	99.9	100.0	97.6	100.0
26-Jul	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	94.7	80.4	67.2	69.5	98.8	81.1	59.6	66.0	62.9	67.5	71.2	74.2	77.6	82.8	83.2	94.4	84.6	100.0
27-Jul	95.0	83.4	77.7	79.1	73.5	73.3	72.9	68.4	58.3	56.5	53.4	53.7	50.6	50.1	50.9	50.2	63.3	65.3	64.3	66.3	72.7	82.2	88.1	92.5	68.4	95.0
28-Jul	96.2	97.8	98.6	99.4	99.8	100.0	92.8	79.7	66.4	52.3	43.7	41.7	40.7	39.9	39.6	37.1	35.9	35.5	40.9	51.9	64.6	74.2	81.8	87.6	66.6	100.0
29-Jul	82.3	80.2	84.0	89.7	88.4	85.3	78.1	69.6	59.2	50.0	43.5	39.5	37.1	36.3	33.8	32.7	33.6	35.5	36.3	40.4	53.0	65.9	73.5	82.1	58.7	89.7
30-Jul	86.0	88.2	89.2	81.0	87.1	89.9	80.0	69.5	58.1	52.1	47.6	41.4	34.4	33.0	33.3	30.8	32.9	34.3	37.1	42.1	51.0	59.0	66.3	78.8	58.5	89.9
31-Jul	85.4	90.8	90.6	94.4	95.9	97.0	85.4	66.3	55.3	49.7	45.7	41.7	32.0	25.9	24.6	25.0	24.6	25.1	28.5	34.0	49.0	60.5	64.6	63.8	56.5	97.0
85.7 88.9 90.7 91.7 91.8 89.3 83.2 75.1 67.0 59.2 52.1 48.2 45.2 42.8 43.2 41.5 42.8 45.2 48.2 52.9 60.8 69.8 75.3 80.8																									Diurnal Average	
100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 99.2 98.9 91.3 91.1 98.8 98.6 100.0 100.0 100.0 99.9 99.9 99.4 99.6 100.0 100.0 100.0																									Diurnal Maximum	



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 2m (RH2) - %
Barge Landing - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Barometric Pressure (BP) - inHg

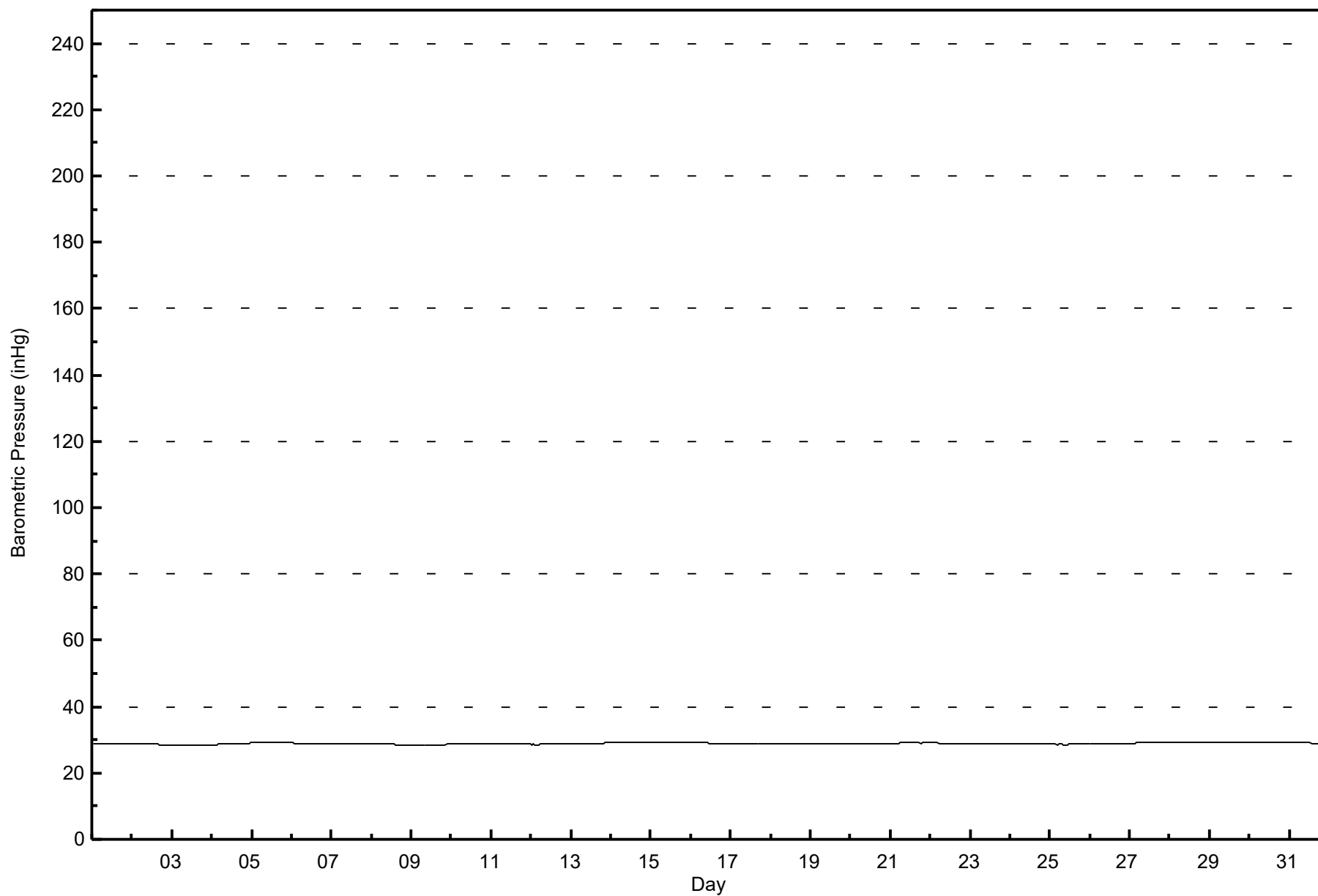
Barge Landing - July 2025

Maximum Value: 29.3 inHg on Jul 15 03:00																				Maximum Daily Average: 29.2 inHg on Jul 28					Hours in Service: 744	
Minimum Value: 28.5 inHg on Jul 8 22:00																				Minimum Daily Average: 28.5 inHg on Jul 3					Hours of Data: 744	
Maximum Diurnal Average: 28.9 inHg at hour 8																				Minimum Diurnal Average: 28.9 inHg at hour 19					Hours of Missing Data: 0	
Monthly Average: 28.90 inHg																				Percentiles: P ₁ = 28.5 P ₁₀ = 28.6 Q ₁ = 28.8 Median = 28.9 Q ₃ = 29.0 P ₉₀ = 29.2 P ₉₉ = 29.3					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-Jul	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.7	28.7	28.7	28.9	28.9	
2-Jul	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.6	28.6	28.6	28.6	28.6	28.6	28.5	28.5	28.5	28.5	28.5	28.6	28.7	
3-Jul	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	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	28.6	28.6	28.5	28.6	
4-Jul	28.6	28.6	28.6	28.6	28.6	28.7	28.7	28.8	28.8	28.8	28.8	28.8	28.8	28.9	28.9	28.9	28.9	29.0	29.0	29.0	29.0	29.0	29.0	28.8	29.0	
5-Jul	29.0	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.0	29.0	29.0	29.1	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.1	29.1	
6-Jul	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	29.0	29.0	29.0	29.0	29.0	29.0	29.0	
7-Jul	29.0	29.0	29.0	29.0	29.0	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.9	29.0	
8-Jul	28.8	28.8	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.6	28.6	28.6	28.6	28.6	28.6	28.5	28.5	28.5	28.5	28.5	28.5	28.6	28.8	
9-Jul	28.5	28.5	28.5	28.5	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.5	28.5	28.5	28.5	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	
10-Jul	28.6	28.6	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	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.8	28.9	
11-Jul	28.9	28.9	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	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.7	28.9	
12-Jul	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	28.8	28.7	28.8	
13-Jul	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	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.1	29.1	28.9	
14-Jul	29.1	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	29.2	29.3	29.3	29.3	29.3	29.3	29.3	29.2	29.3	
15-Jul	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	29.2	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.2	29.3	
16-Jul	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.1	
17-Jul	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	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	29.0	
18-Jul	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	28.9	28.9	28.9	28.9	28.9	
19-Jul	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	28.9	28.9	28.9	28.9	28.9	
20-Jul	28.9	28.9	28.9	28.9	28.9	29.0	29.0	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.8	28.9	28.9	28.8	28.9	28.9	28.9	28.9	28.9	29.0	
21-Jul	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	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	
22-Jul	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	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	29.0	29.0	
23-Jul	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	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.9	28.9	
24-Jul	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	28.7	28.7	28.6	28.6	28.6	28.6	28.6	28.7	28.8	
25-Jul	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.7	28.7	28.7	28.7	28.7	28.7	28.8	28.8	28.7	28.8	
26-Jul	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	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	29.0	
27-Jul	29.0	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	29.1	29.2	29.2	29.2	29.2	29.1	29.2	
28-Jul	29.2	29.2	29.2	29.2	29.2	29.2	29.3	29.3	29.3	29.3	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.3	
29-Jul	29.2	29.2	29.2	29.2	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	29.1	29.1	29.1	29.1	29.2	29.2	
30-Jul	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	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.1	29.1	
31-Jul	29.0	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.1	
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 28.9 28.9 28.9 28.9 28.9																										Diurnal Average
29.3 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 29.2 29.2 29.2 29.2 29.3 29.3 29.3 29.3 29.3 29.3 29.3																										Diurnal Maximum



Wood Buffalo Environmental Association
Hourly Averages

Barometric Pressure (BP) - inHg
Barge Landing - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Speed 20m (WS20) - km/h

Barge Landing - July 2025

Maximum Speed: 34 km/h on Jul 9 15:00																	Maximum Daily Speed Average: 21.1 km/h on Jul 9										Hours in Service: 744	
Minimum Speed Value: 0 km/h on Jul 1 01:00																	Minimum Daily Speed Average: 1.2 km/h on Jul 1										Hours of Data: 744	
Maximum Diurnal Speed Average: 4.9 km/h at hour 13																	Minimum Diurnal Speed Average: 0.4 km/h at hour 20										Hours of Missing Data: 0	
Monthly Average Velocity: 2.3 km/h 240.0 deg																	Percentiles: P ₁ = 1 P ₁₀ = 4 Q ₁ = 6 Median = 8 Q ₃ = 12 P ₉₀ = 16 P ₉₉ = 27										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-Jul	SE0	WSW2	NNW4	NW2	ESE1	S2	NW4	NNW4	NNE6	ENE7	ESE4	NW7	WNW7	W7	SW5	SW5	SE1	SE3	SSW7	SSE9	SE11	SE8	SSE8	SSE7	S1.2	SE11		
2-Jul	WSW5	S8	S9	SSE10	SE9	SSE9	SSE10	SSE11	S12	SSW11	WNW6	NNW13	N10	NNW8	N3	WNW3	WSW6	ESE5	NE6	ENE8	E9	E10	ESE12	WSW16	SSE2.4	WSW16		
3-Jul	NNW14	N5	WNW3	NNW8	NW6	SW8	WSW13	W13	W12	WSW15	WSW13	WSW14	SW20	SW20	SW19	SSW17	SSW18	SW22	WNW22	W16	W14	WSW11	WSW16	WSW18	WSW11.7	WNW22		
4-Jul	WSW16	W16	W15	W14	WNW14	NW14	WNW13	W11	W12	NW15	NNW16	NW16	WNW19	WNW14	NW14	NNW12	N16	NNW11	NNE4	NNW2	ENE9	E5	SSE4	S6	WNW8.7	WNW19		
5-Jul	ESE3	S3	SE5	ESE7	SE8	SSE6	SE1	SE9	SE7	S9	S9	SSE11	S7	SSW8	WNW10	N13	NNE8	NE9	NNE7	N8	N8	NNE8	NE6	NE7	E2.2	N13		
6-Jul	NE8	N6	NNW8	NNW8	N8	NE8	NE9	NNE11	NE12	NE12	NE11	NE12	NE13	NE10	NW11	NW13	SSE19	ENE1	NNE6	E8	S2	W5	W4	SW4	NNE5.2	SSE19		
7-Jul	SSE2	SE7	SW5	SSW4	S3	S3	S4	S7	S7	S8	S9	S8	S9	S11	S10	SSE15	SSE15	SSE11	SSE10	SE10	SE11	SE12	SE12	SSE11	SSE8.0	SSE15		
8-Jul	SSE10	SSE5	SE6	SSE5	SW4	SW3	W2	S5	S8	SSE12	S13	SSW17	S19	S20	S22	SSW22	SSW18	S16	S12	S10	S5	E2	W20	WNW14	S9.3	S22		
9-Jul	S2	S12	S13	SW17	SW17	SW18	SW17	SW24	WSW22	SW25	SW26	SW28	SW32	WSW32	WSW34	WSW31	WSW30	WSW28	WSW28	WNW21	W24	W22	W20	W17	WSW21.1	WSW34		
10-Jul	WSW15	SW10	SW12	WSW10	WSW10	WSW10	SW7	W7	NW10	NW8	WNW10	WNW15	WNW15	W13	NW8	NNW5	WNW13	WNW13	WNW14	WNW8	W5	SW4	SW6	S6	W8.2	WSW15		
11-Jul	S7	SSE7	SSW6	S5	SSE9	SSE11	S12	S15	S16	S19	SSW23	SSW23	SW24	SW21	SW21	SW21	SW15	WSW9	WNW9	WNW13	SW9	SSW6	SSW9	SSW10	SSW11.5	SW24		
12-Jul	SSW9	SW10	SSW8	SW10	SSW7	SW7	WSW6	W8	WSW7	NW4	W4	W9	W11	SW9	WSW10	WSW13	WSW10	WSW17	WSW20	WSW17	WSW16	NW10	NNW8	N8	WSW8.2	WSW20		
13-Jul	N7	WSW7	SW10	WSW4	NNW7	WNW5	WNW7	N8	NNE17	NNE17	NNE12	N15	NNW11	NNW11	N15	N14	N15	NNE18	NNE18	NNE15	NNE15	NNE13	N10	NW9	N9.5	NNE18		
14-Jul	NW9	NW10	NW9	NNW9	NNW10	WNW3	NNW10	N14	NNW16	NNW15	NNE13	N10	N10	NNW12	N11	N13	N11	N12	NNE10	NNE9	N10	N8	NNW8	NW2	NNW9.6	NNW16		
15-Jul	SW4	SW6	WSW7	SW6	SSW7	S4	SSE4	S8	S9	S10	SSW10	SSW9	SSW11	S13	S11	S12	S13	S13	SSE14	SSE14	SSE12	SSE11	SSE10	SE10	S8.7	SSE14		
16-Jul	SSE8	SSW5	SE5	S5	S7	SSE7	SSE7	SSE11	S9	SSE8	SSW8	SSW8	S8	SSW6	SW7	WSW7	SW4	SSW5	SSE8	SSE4	S4	SW2	SE1	NNW9	S5.1	SSE11		
17-Jul	NNW8	NW8	NW6	SW3	SSW1	E2	ESE3	SSW2	WSW4	W4	NE6	NE10	NNE10	NNE6	NE10	NE11	NE9	NE10	ENE10	ENE8	NE10	NE10	ENE9	E8	NE4.7	NE11		
18-Jul	SE2	SE6	SE6	SE7	S6	SSE6	SSE8	S10	SSE7	SSE9	S9	S8	SSE7	SSE9	S9	S11	SSE12	SSE14	SSE12	SE10	SE11	SE13	SE12	SE12	SSE8.8	SSE14		
19-Jul	SE11	SE12	SE7	SE6	ESE8	ESE8	SE8	SSE7	SSE8	SSE9	S7	SSE8	S11	SSW8	SW4	WSW7	SSE8	SSE10	SE11	N6	N15	N15	N11	N7	SE3.9	N15		
20-Jul	NNW9	NNW9	N11	N10	N11	N11	N10	NNE10	NNE8	NNE6	N7	NNW5	W3	WSW7	SSW6	WSW7	NW19	NNW9	WNW3	NNE6	N21	N15	N18	NNW23	NNW8.3	NNW23		
21-Jul	N20	N25	N20	N17	N18	NNW17	NNW15	NNW17	N13	NNW15	NNW13	NNW15	NNW14	NNW12	NNW15	NNW16	NNW14	NW14	NNW11	N9	NNW8	NNW7	NNW11	NNW6	NNW14.1	N25		
22-Jul	W5	W5	WSW7	WSW5	SW5	WSW7	WSW8	WSW8	W6	WSW8	WNW10	W7	W9	WNW12	WNW11	NNW7	NW5	NW6	NW7	N6	NE3	E5	E5	SE4	WNW4.5	WNW12		
23-Jul	SE4	ESE6	S5	SSW4	SSW5	SSW4	S5	SSE6	S5	S5	SW6	WSW6	SSW6	SSW5	W6	WSW6	SW8	SW8	SW10	SSW7	SSW6	S6	SSW6	SSE7	SSW4.9	SW10		
24-Jul	SE2	SSE7	SE8	SE10	ESE10	SE9	SSE8	SSE9	SSE10	SSE13	SSE16	SSE15	SE14	SSE14	SSE13	SE12	SE12	SE12	ESE10	SE8	N2	NNW2	WSW5	SW2	SE8.3	SSE16		
25-Jul	SSW3	S6	SW8	WSW7	SW6	SSW6	SW9	SW11	SW10	SW10	WSW9	WSW10	WSW8	WNW8	NW8	NW5	NNW9	N7	N7	ENE4	WSW7	W7	W6	WN9	WSW4.9	SW11		
26-Jul	NW8	WNW10	NW8	W6	W6	W6	SW4	S4	SSW6	SSW8	SSW11	SW10	ENE5	ENE13	ENE9	NE17	NNE21	NNE17	NNE12	NE8	NE5	NNW7	NNW8	NW7	N3.2	NNE21		
27-Jul	NNW8	NNW12	N12	N10	N14	N12	NNW13	NNW9	NNW10	NNW11	NNW11	NNW10	NNW8	NW7	NW10	NW9	N7	W4	WSW4	WSW5	WNW6	WNW6	W6	WNW7	NNW7.9	N14		
28-Jul	WNW6	W5	WSW6	SW7	SW6	SSW5	SW6	SSW5	SSW7	SSW6	SSW6	WSW6	SW7	W5	S1	W3	WNW1	SSW2	E4	ENE6	E9	E7	ESE6	ESE8	SSW2.5	E9		
29-Jul	SE7	S4	SSE3	SSE3	ESE7	SE6	SE5	S6	S8	SSW7	S9	S7	SSW7	SSW7	S5	SW5	S8	SSE9	SSW8	S8	S6	S5	WSW6	WSW7	S5.4	S9		
30-Jul	WSW6	WNW6	NNE7	NE2	W4	NE3	SSE5	SSE10	S11	SSW11	SW8	WSW9	SW5	ENE7	NE12	NE9	NNE12	NE11	NE10	NE10	NE9	NE6	N6	NNW5	NE1.9	NE12		
31-Jul	NE1	SSE4	S3	SSE4	S7	S8	S8	S9	SSE12	S11	S11	SSW11	SW12	SSW12	S15	SSW13	S11	S9	S10	SSE7	S8	S6	SSE9	SSE11	S8.3	S15		
W1.8WSW2.0WSW2.3WSW2.2 SW1.7SSW1.9 SW2.3SSW3.1 SW2.9 SW3.5 SW3.7WSW4.8WSW4.9WSW4.8WSW4.3WSW3.4WSW2.2WSW1.7WSW1.4NNE0.4 NNE0.7 NNE0.6 W1.3 W2.2																								Diurnal Average				
N20 N25 N20 N17 N18 SW18 SW17 SW24WSW22 SW25 SW26 SW28 SW32WSW32WSW34WSW31WSW30WSW28WSW28WNW21 W24 W22 W20NNW23																								Diurnal Maximum				
All monthly, daily, and diurnal averages have been calculated using vector methods																												



Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

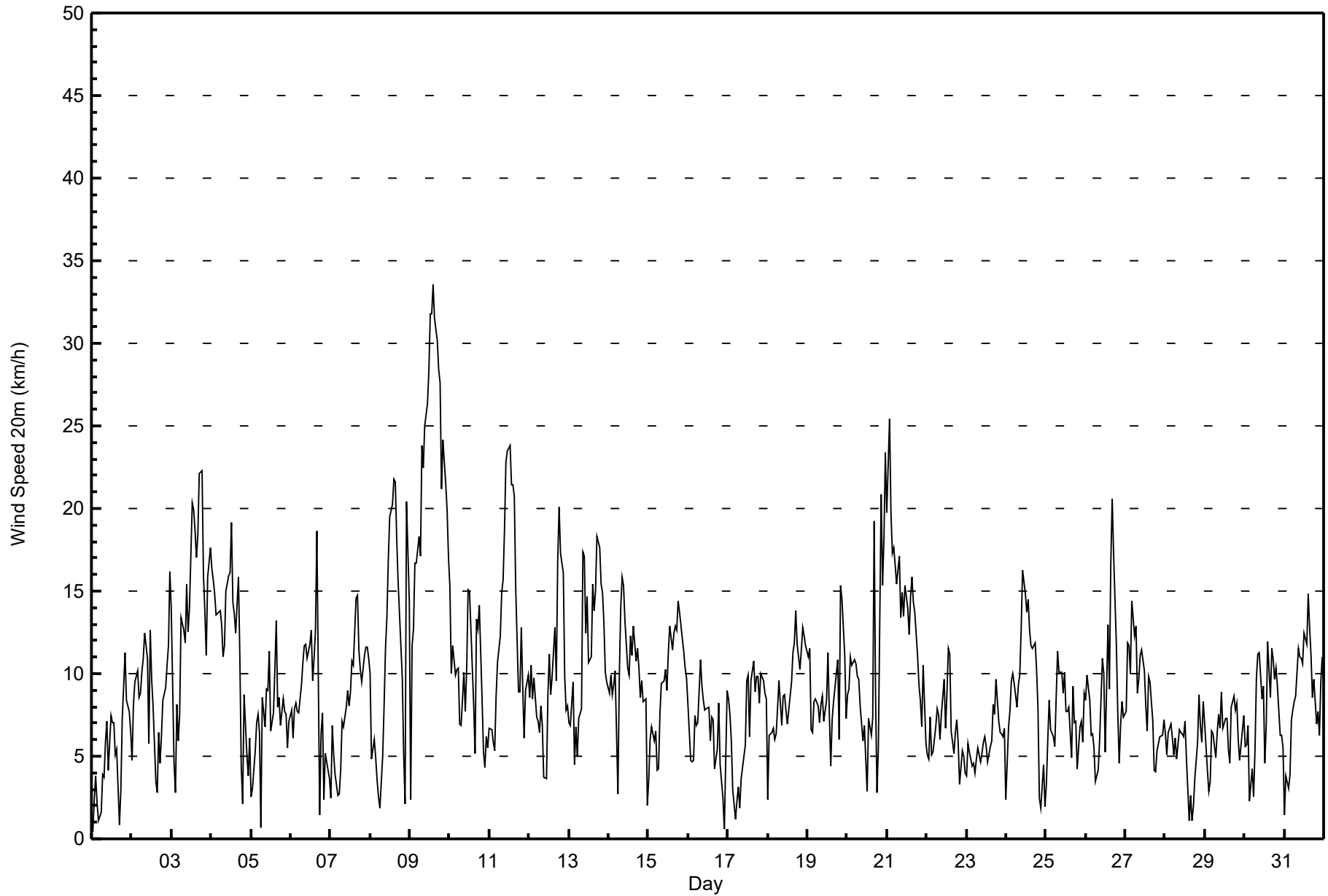
Wind Speed 20m (WS20) - km/h
Barge Landing - July 2025

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



Wood Buffalo Environmental Association
Hourly Averages

Wind Speed 20m (WS20) - km/h
Barge Landing - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 20m (WS20) - km/h
Barge Landing - July 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	140	18.82	18.82
6 - 11	410	55.11	73.92
12 - 19	157	21.10	95.03
20 - 28	32	4.30	99.33
29 - 38	5	0.67	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 20m (WS20) - km/h
Barge Landing - July 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	3	1	5	3	6	5	12	11	23	13	17	8	14	6	6	7	140
6 - 11	30	15	24	9	6	9	26	48	53	38	28	35	15	16	23	35	410
12 - 19	19	12	6	1	0	1	9	17	16	6	8	14	9	12	7	20	157
20 - 28	4	1	0	0	0	0	0	0	2	3	11	4	4	2	0	1	32
29 - 38	0	0	0	0	0	0	0	0	0	0	1	4	0	0	0	0	5
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	56	29	35	13	12	15	47	76	94	60	65	65	42	36	36	63	744

Total Number of Valid Hours: 744

Total Number of Hours: 744

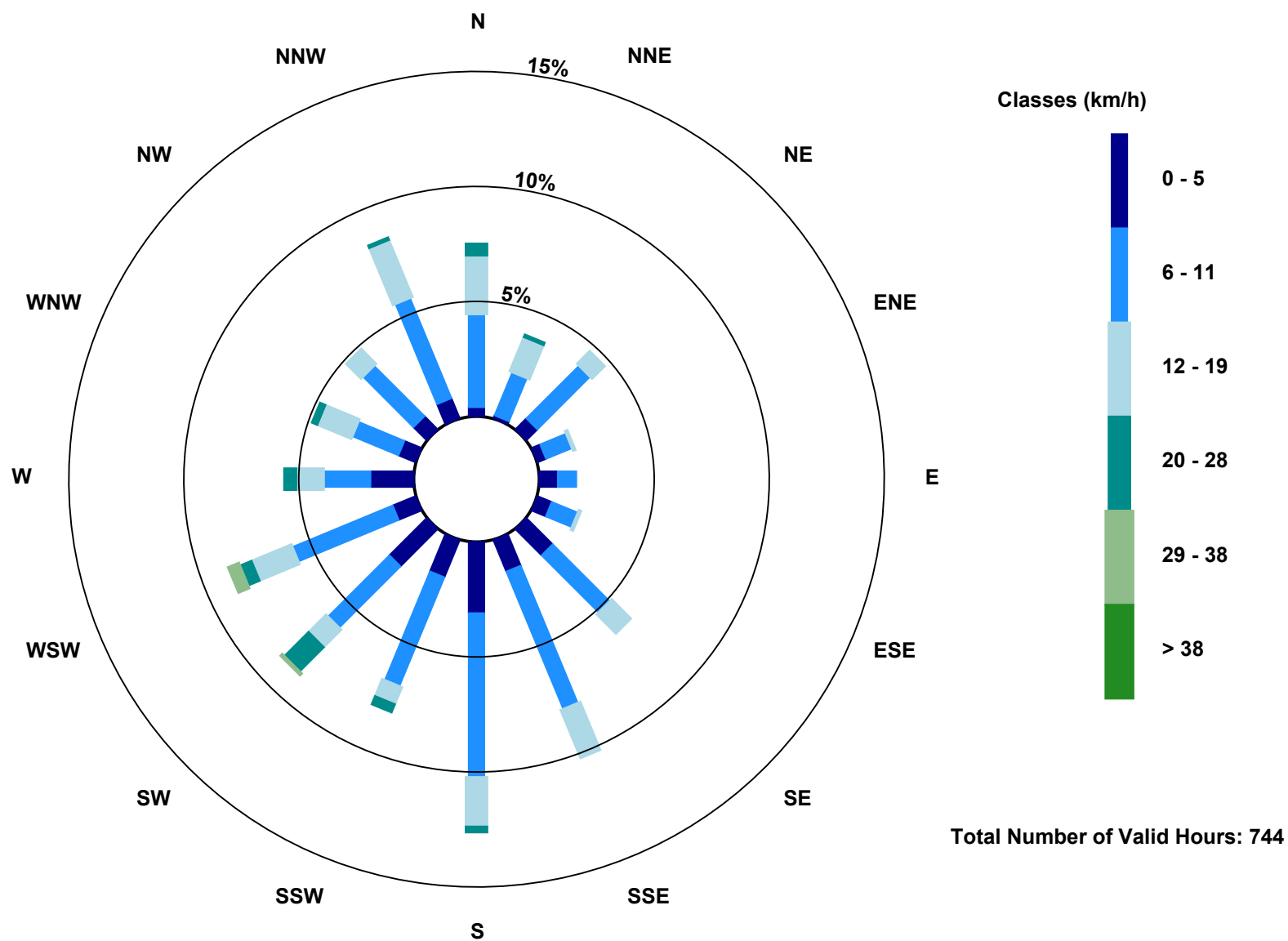


Wood Buffalo Environmental Association

Wind Rose Jul 2025

Wind Speed 20m (WS20) - km/h

Barge Landing





Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Direction 20m (WD20) - deg

Barge Landing - July 2025

Direction of Maximum Speed: 240 deg on Jul 9 15:00																				Hours in Service:		744			
Direction of Maximum Daily Speed Average: 240.6 deg on Jul 9																				Hours of Data:		744			
Direction of Minimum Speed: 130 deg on Jul 1 01:00										Direction of Minimum Daily Speed Average: 1.2 deg on Jul 1										Hours of Missing Data:		0			
Monthly Average Direction: 240.0 deg																				Percent Operational Time:				100.0	
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-Jul	130	246	339	323	116	178	325	335	31	59	104	313	290	265	222	220	127	129	207	160	127	136	155	166	175.2
2-Jul	240	188	179	165	146	153	157	162	189	210	286	338	355	327	352	289	243	108	40	61	84	98	109	250	167.3
3-Jul	330	4	303	348	319	236	256	259	264	244	251	237	234	233	222	196	205	236	284	272	268	249	243	249	250.2
4-Jul	255	260	262	265	296	306	295	264	277	305	328	319	298	292	312	333	5	340	17	344	61	90	161	171	300.2
5-Jul	111	186	143	116	134	150	127	124	130	170	172	155	178	212	299	351	24	54	25	10	6	25	34	45	94.1
6-Jul	44	9	339	343	356	43	40	20	38	34	40	37	39	40	324	320	156	65	32	82	184	263	262	231	24.0
7-Jul	158	132	225	198	183	178	173	169	188	190	172	189	175	173	173	163	152	157	153	145	146	146	146	160	164.1
8-Jul	164	156	139	160	215	225	274	169	188	166	173	193	173	173	186	193	204	190	190	173	171	83	266	286	190.3
9-Jul	188	177	185	228	219	222	224	235	237	235	234	234	226	239	240	245	245	248	246	283	274	272	272	259	240.6
10-Jul	252	217	232	240	240	252	231	267	325	322	284	292	293	275	322	332	294	282	288	298	269	218	222	191	271.5
11-Jul	191	168	193	171	157	156	170	179	178	186	199	211	222	230	230	225	227	243	286	282	220	205	205	195	207.9
12-Jul	206	231	197	219	211	221	247	269	249	318	260	263	280	229	244	250	241	249	256	251	250	314	345	354	251.7
13-Jul	11	247	225	240	333	299	300	9	31	25	22	358	346	339	356	10	7	14	18	27	25	18	2	322	2.8
14-Jul	320	316	322	327	333	292	336	353	336	347	25	355	357	331	349	2	8	9	14	13	6	349	343	325	348.6
15-Jul	222	230	246	214	204	178	155	170	171	173	205	213	196	170	178	184	176	175	167	162	157	155	152	142	178.3
16-Jul	159	194	142	182	179	161	157	166	170	167	195	196	178	205	235	249	223	201	160	166	188	227	129	337	184.6
17-Jul	336	319	311	231	201	101	121	194	257	277	35	56	30	23	55	45	46	55	63	65	52	55	70	83	43.3
18-Jul	133	138	140	153	170	147	151	170	164	168	173	172	155	162	174	173	163	164	152	144	135	138	141	139	155.3
19-Jul	138	135	136	136	117	112	133	148	168	168	169	167	172	192	215	241	168	154	146	4	3	351	352	7	141.9
20-Jul	347	344	5	356	359	355	357	17	18	19	10	338	265	245	206	238	313	334	288	25	5	6	355	346	348.6
21-Jul	350	353	354	354	354	345	343	343	352	340	337	328	328	330	334	334	329	324	329	351	346	332	346	331	341.4
22-Jul	272	262	253	246	236	252	255	247	277	251	291	273	275	296	287	336	314	323	324	357	49	95	80	131	282.2
23-Jul	134	107	178	205	208	198	177	160	190	173	229	237	206	209	268	243	230	234	216	208	203	181	195	162	201.8
24-Jul	142	156	145	124	121	132	153	161	164	148	159	153	143	152	162	128	127	129	116	125	7	334	246	226	144.0
25-Jul	193	188	221	239	215	194	214	222	230	234	245	250	252	297	324	312	329	350	359	58	250	260	259	305	255.8
26-Jul	305	300	308	276	271	269	227	180	201	208	193	227	61	69	59	35	22	27	29	49	50	348	342	315	357.6
27-Jul	335	347	350	353	353	349	342	342	333	332	336	327	327	317	312	318	351	275	258	252	283	286	277	289	327.7
28-Jul	287	271	237	230	226	205	219	211	201	212	209	242	226	277	190	274	302	209	97	77	82	98	114	111	205.7
29-Jul	135	172	167	147	110	128	139	178	182	192	173	179	205	196	190	217	182	149	197	181	182	181	246	256	179.0
30-Jul	255	298	13	42	259	47	152	165	169	206	227	257	221	77	35	37	30	40	52	37	54	51	6	337	41.2
31-Jul	51	162	190	167	180	175	171	177	165	169	185	200	221	206	183	193	187	191	174	166	175	176	147	159	180.4
276.5 245.1 243.2 237.8 235.0 210.0 223.5 209.7 214.8 218.6 223.6 246.6 239.4 238.1 250.8 257.2 246.9 243.7 254.5 12.7 14.5 11.5 273.8 262.3																									
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

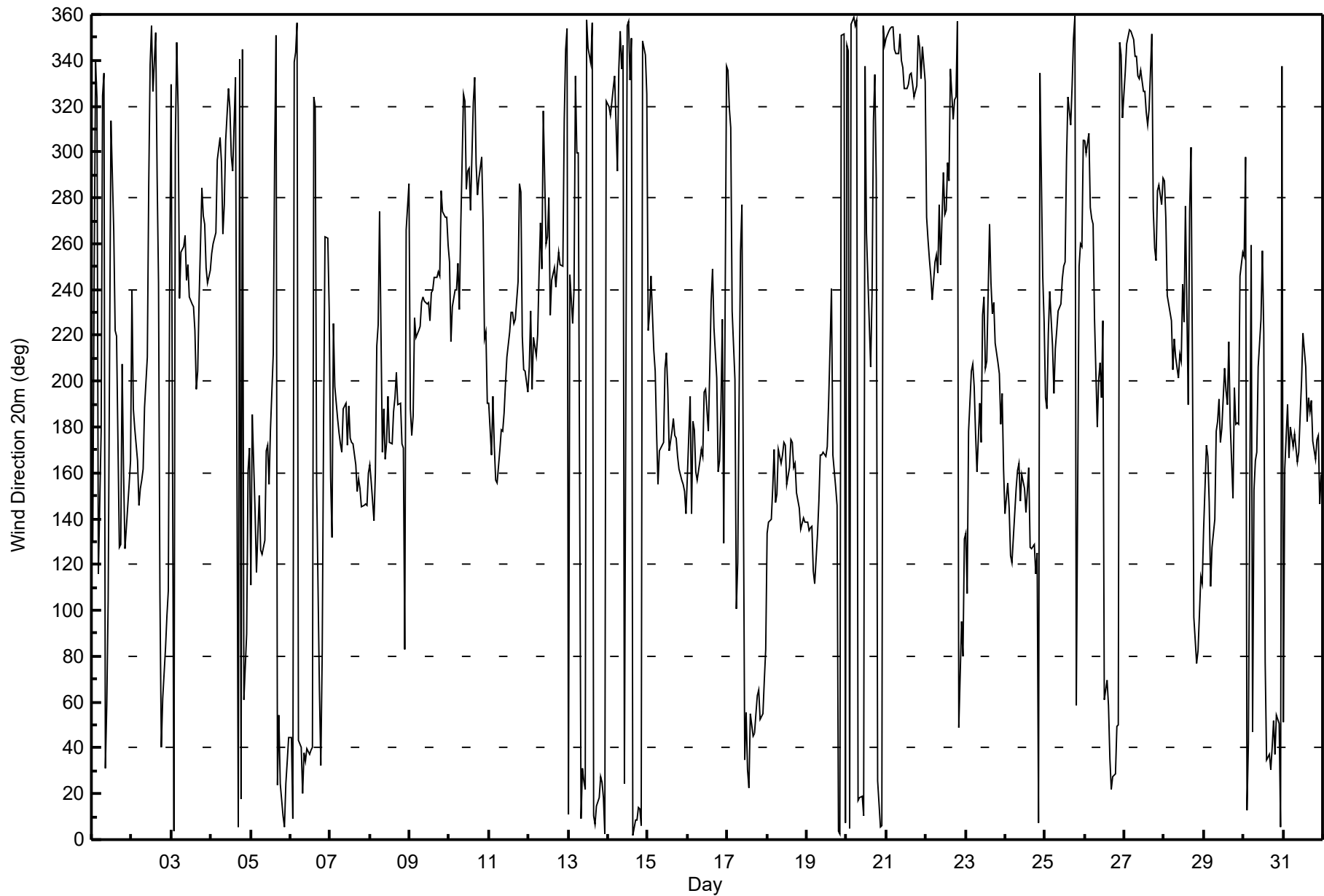
Barge Landing - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 100 deg on Jul 1 17:00																		Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0							
Minimum Value: 4 deg on Jul 19 02:00																									
Percentiles: P ₁ = 6 P ₁₀ = 12 Q ₁ = 17 Median = 22 Q ₃ = 32 P ₉₀ = 50 P ₉₉ = 85																									
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-Jul	77	36	38	23	67	83	37	29	38	36	69	40	40	44	65	59	100	50	38	21	10	7	13	25	100
2-Jul	27	27	14	11	14	16	18	18	27	31	71	21	24	29	85	78	46	50	34	15	18	22	17	66	85
3-Jul	26	57	57	22	39	14	16	20	21	20	24	24	18	17	20	18	21	27	19	18	18	27	14	16	57
4-Jul	16	15	17	18	17	14	19	19	22	23	22	20	20	19	17	17	18	26	37	68	15	20	42	13	68
5-Jul	59	57	28	13	13	43	89	17	24	29	36	25	46	44	56	22	42	19	24	18	17	18	29	22	89
6-Jul	14	34	16	11	19	36	22	30	18	24	18	21	23	32	36	23	17	77	31	29	72	27	13	47	77
7-Jul	37	21	32	30	31	29	23	16	27	26	22	36	39	29	24	22	16	20	13	8	7	5	5	7	39
8-Jul	9	17	12	34	22	53	55	48	31	19	18	23	22	18	22	20	20	20	22	15	50	77	25	24	77
9-Jul	68	13	19	17	18	18	19	18	17	17	21	19	19	19	17	18	18	18	17	25	17	18	17	16	68
10-Jul	17	15	15	15	14	15	37	25	25	26	22	23	21	27	34	45	26	22	18	19	12	17	6	15	45
11-Jul	20	23	31	39	13	11	14	18	21	21	20	22	20	18	17	17	18	12	24	29	16	23	16	16	39
12-Jul	20	27	21	24	25	14	26	18	18	50	58	33	25	25	23	16	22	24	16	14	13	47	26	19	58
13-Jul	23	36	20	49	44	23	14	38	24	27	36	27	38	30	26	23	21	17	18	17	14	14	14	14	49
14-Jul	13	11	10	12	38	71	20	20	31	32	39	34	27	39	28	35	29	25	21	14	14	7	70	71	
15-Jul	40	18	11	17	16	30	23	16	28	28	29	39	42	34	33	36	24	24	16	12	8	12	9	6	42
16-Jul	9	24	18	15	13	13	14	13	20	29	28	38	55	61	47	38	82	39	23	14	13	35	89	15	89
17-Jul	6	37	31	57	53	85	24	69	42	46	50	31	31	62	36	30	29	20	19	11	10	12	12	22	85
18-Jul	19	11	9	16	22	10	14	19	28	22	29	31	49	45	43	35	31	19	13	8	7	6	6	6	49
19-Jul	4	4	7	8	6	5	11	15	20	23	29	37	26	43	74	27	43	17	12	72	21	17	16	15	74
20-Jul	24	14	15	14	17	15	18	19	25	37	36	63	81	32	50	35	19	54	82	69	19	18	20	17	82
21-Jul	18	18	18	18	18	16	18	17	25	21	25	21	25	21	18	17	18	18	18	18	16	17	14	28	28
22-Jul	20	18	10	17	21	19	20	19	33	43	34	39	38	29	38	36	50	20	20	20	35	20	45	32	50
23-Jul	16	20	20	12	16	24	29	34	46	48	39	45	59	74	67	70	39	34	16	17	25	22	16	11	74
24-Jul	52	11	10	10	8	8	15	19	22	24	23	20	19	16	19	13	12	14	14	13	66	86	40	60	86
25-Jul	46	17	21	22	30	37	18	17	20	23	30	21	21	38	16	26	20	48	15	68	18	13	28	12	68
26-Jul	7	8	9	25	13	32	39	56	26	21	24	51	70	17	59	17	14	16	16	19	38	14	17	16	70
27-Jul	14	14	17	17	17	15	12	20	29	25	19	21	30	24	21	24	23	27	21	20	27	25	26	12	30
28-Jul	10	11	11	8	9	22	25	31	34	47	47	44	33	65	96	77	92	84	39	18	10	24	19	11	96
29-Jul	11	26	37	27	13	10	17	43	32	41	26	45	42	44	62	62	36	28	24	11	29	53	29	29	62
30-Jul	30	22	48	82	52	56	21	18	19	26	33	30	64	60	25	30	21	19	15	9	18	26	17	28	82
31-Jul	70	29	19	22	18	12	16	22	14	22	24	29	27	30	24	29	30	30	16	10	5	14	6	12	70
Diurnal Maximum																									



Wood Buffalo Environmental Association
Hourly Averages

Wind Direction 20m (WD20) - deg
Barge Landing - July 2025





WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS11 LOWER CAMP JULY 2025

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

August 29, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - LOWER CAMP (AMS11)
JULY 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	39.8	0	3.1	0
H2S (ppb) Average	706	36	38	99.73	7.5	0	1.7	0
THC (ppm) Average	706	36	38	99.73	2.9	-	2.3	-
CH4(ppm) Average	706	36	38	99.73	2.9	-	2.3	-
NMHC(ppm) Average	706	36	38	99.73	0.046	-	0.005	-
Temperature (C) Average	744	0	0	100	34.8	-	25.8	-
Relative Humidity (%) Average	744	0	0	100	100	-	89.8	-
Barometric Pressure (inHg) Average	744	0	0	100	29.5	-	29.4	-
Wind Speed 10 m (km/h) Average	742	0	2	99.73	33	-	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)

JULY 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	0.68	2.1	-	0	0	0.1	0.2	0.5	1.3	39.8
H2S (ppb) Average	706	0.5	0.7	-	0	0.1	0.2	0.3	0.6	1.1	7.5
THC (ppm) Average	706	2.07	0.2	-	1.9	1.9	2	2	2.1	2.3	2.9
CH4(ppm) Average	706	2.07	0.2	-	1.9	1.9	2	2	2.1	2.3	2.9
NMHC(ppm) Average	706	0	0.003	-	0	0	0	0	0	0	0.046
Temperature 2 m (C) Average	744	18.54	5.4	-	5.9	12.1	14.3	17.9	22.2	26.4	34.8
Relative Humidity (%) Average	744	66.52	21	-	25.5	36.2	50.5	66.4	85.3	94.9	100
Barometric Pressure (inHg) Average	744	29.08	0.2	-	28.7	28.8	28.9	29.1	29.2	29.3	29.5
Wind Speed 10 m (km/h) Average	742	8.2	6	-	0	2	4	7	11	15	33
Wind Direction 10 m (deg) Average	742	-	-	-	-	-	-	-	-	-	-

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - LOWER CAMP (AMS11)
JULY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
H2S	22 Jul 2025 13:00	22 Jul 2025 14:00	2	Maintenance - sample manifold cleaned
THC/NMHC/CH4	29 Jul 2025 13:00	29 Jul 2025 14:00	2	Maintenance - replaced support gas cylinder
Wind Speed, Wind Direction	15 Jul 2025 00:00	15 Jul 2025 00:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	15 Jul 2025 04:00	15 Jul 2025 04:00	1	Flat line in sensor output signal



Wood Buffalo Environmental Association

Summary of Hour Averages

Sulphur Dioxide (SO₂) - ppb

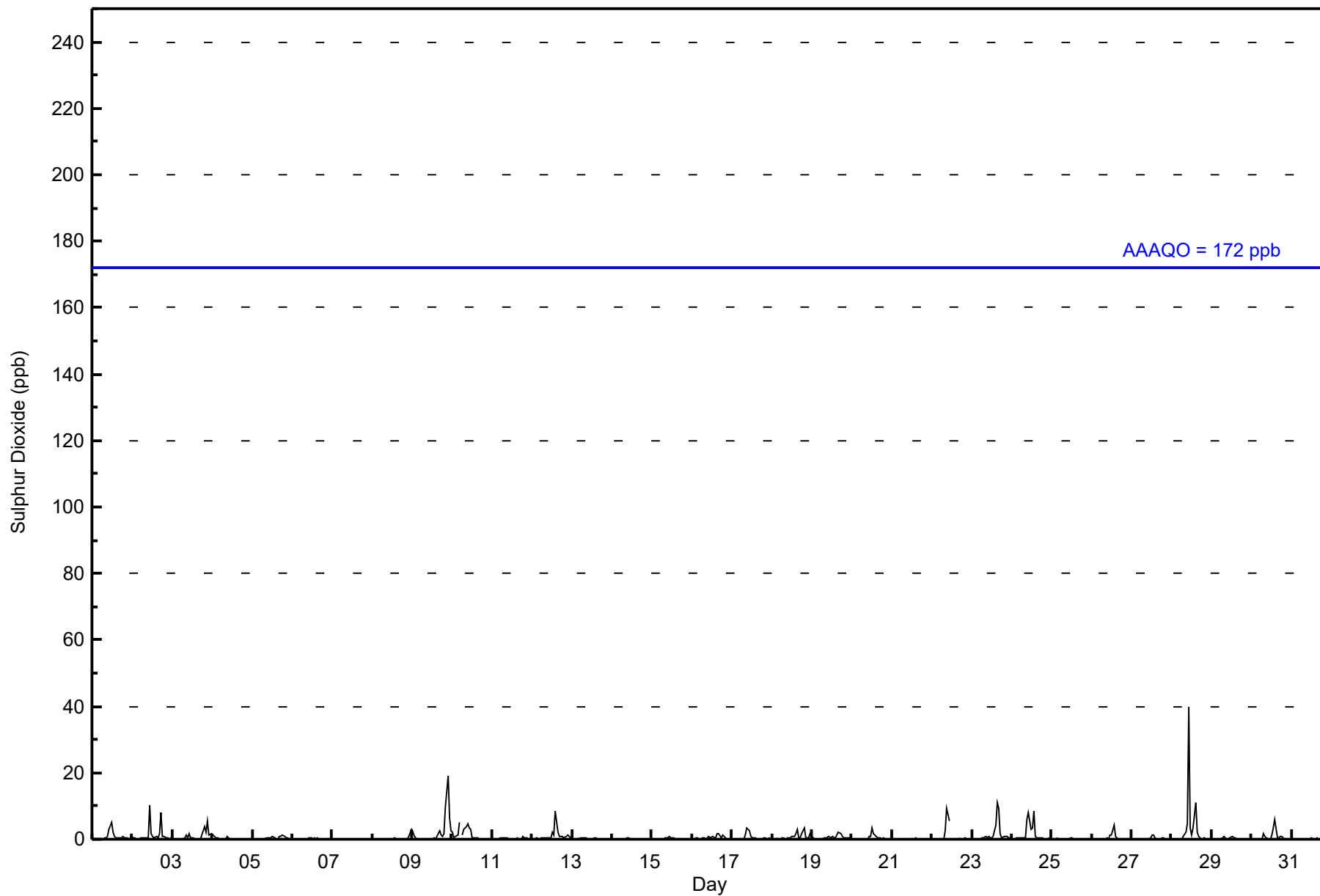
Lower Camp - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 39.8 ppb on Jul 28 11:00 Maximum Daily Average: 3.1 ppb on Jul 28																			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 Jul 4 16:00 Minimum Daily Average: 0.0 ppb on Jul 7 Maximum Diurnal Average: 2.6 ppb at hour 11 Minimum Diurnal Average: 0.1 ppb at hour 6 Monthly Average: 0.68 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 = 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-Jul	0.2	0.2	Z	0.0	0.1	0.1	0.2	0.2	0.6	1.0	3.1	5.3	2.3	0.9	0.3	0.4	0.4	0.5	0.8	0.6	0.4	0.3	0.2	1.3	0.8	5.3
2-Jul	0.4	0.4	0.3	Z	0.3	0.5	0.5	0.5	0.5	0.6	10.2	1.7	0.7	0.6	0.9	0.5	1.6	8.1	1.0	0.7	0.5	0.3	0.2	0.2	1.4	10.2
3-Jul	0.3	0.2	0.2	0.1	Z	0.1	0.2	0.5	1.1	0.4	1.6	0.4	0.3	0.1	0.2	0.2	0.1	0.1	2.5	3.7	2.0	5.7	1.5	1.7	1.0	5.7
4-Jul	1.1	0.9	0.5	0.5	0.3	Z	0.1	0.2	0.2	0.7	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	0.2	1.1
5-Jul	Z	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.3	0.3	0.3	0.5	0.8	0.5	0.2	0.1	1.0	0.9	1.1	0.9	0.5	0.2	0.2	0.0	0.3	1.1
6-Jul	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.2	0.2	0.3	0.1	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
7-Jul	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
8-Jul	0.1	0.1	0.0	Z	0.0	0.0	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.4	0.2	0.2	0.1	0.1	0.2	0.1	0.0	0.1	0.7	2.8	0.3	2.8
9-Jul	2.1	0.7	0.4	0.2	Z	0.2	0.1	0.0	0.0	0.2	0.0	0.1	0.1	0.5	0.1	0.9	2.6	1.2	0.6	1.5	9.8	19.1	6.4	2.7	2.2	19.1
10-Jul	2.0	0.4	1.0	1.3	5.3	Z	1.3	2.9	3.7	4.7	3.5	3.0	0.5	0.3	0.2	0.2	0.2	0.1	0.0	0.0	0.1	0.1	0.1	0.0	1.4	5.3
11-Jul	Z	0.0	0.1	0.1	0.1	0.3	0.3	0.2	0.4	0.4	0.2	0.2	0.1	0.1	0.2	0.4	0.1	0.2	0.8	0.3	0.2	0.2	0.2	0.3	0.2	0.8
12-Jul	0.2	Z	0.2	0.3	0.2	0.2	0.2	0.4	0.4	0.3	0.3	0.4	2.1	1.2	8.3	2.2	0.9	0.9	1.0	0.4	1.0	1.3	1.0	0.4	1.0	8.3
13-Jul	0.2	0.1	Z	0.3	0.2	0.3	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.3	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3
14-Jul	0.0	0.0	0.0	Z	0.0	0.0	0.1	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	0.0	0.1	0.1	0.1	0.1	0.5
15-Jul	0.0	0.0	0.1	0.2	Z	0.0	0.1	0.1	0.2	0.5	0.7	0.4	0.2	0.4	0.1	0.1	0.2	0.2	0.1	0.1	0.0	0.1	0.1	0.2	0.2	0.7
16-Jul	0.0	0.1	0.4	0.3	0.2	Z	0.3	0.2	0.2	0.3	0.7	0.6	0.8	0.5	0.5	1.8	1.6	0.6	1.1	0.7	0.4	0.2	0.1	0.1	0.5	1.8
17-Jul	Z	0.0	0.1	0.1	0.1	0.2	0.2	0.2	1.4	3.2	2.7	1.0	0.3	0.3	0.3	0.2	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.2	0.5	3.2
18-Jul	0.3	Z	0.3	0.2	0.2	0.2	0.2	0.3	0.1	0.2	0.3	0.3	0.7	1.0	1.8	3.1	0.6	0.6	1.9	3.5	0.4	0.5	0.5	1.8	0.8	3.5
19-Jul	0.6	0.4	Z	0.2	0.1	0.1	0.2	0.3	0.4	0.4	0.9	0.6	0.7	0.6	0.3	1.1	2.3	1.7	1.0	0.3	0.3	0.3	0.2	0.2	0.6	2.3
20-Jul	0.1	0.1	0.1	Z	0.1	0.0	0.0	0.0	0.1	0.2	0.7	0.9	3.2	1.9	1.0	0.6	0.5	0.3	0.1	0.2	0.1	0.0	0.1	0.0	0.5	3.2
21-Jul	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.3	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
22-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	2.4	9.1	5.6	C	C	C	C	C	0.4	0.0	0.0	0.0	0.2	0.1	0.0	0.2	1.0	9.1
23-Jul	Z	0.2	0.1	0.2	0.2	0.1	0.3	0.2	0.7	0.6	0.8	0.5	0.3	0.8	4.1	11.1	9.2	1.5	0.2	0.7	0.8	0.7	0.4	0.2	1.5	11.1
24-Jul	0.2	Z	0.4	0.3	0.2	0.4	0.3	0.3	0.6	6.1	8.1	2.9	3.5	8.4	1.0	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	1.5	8.4
25-Jul	0.2	0.1	Z	0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.3	0.3	0.1	0.2	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.3
26-Jul	0.0	0.1	0.0	Z	0.0	0.0	0.1	0.0	0.1	0.2	0.1	1.2	1.1	4.2	0.9	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.4	4.2
27-Jul	0.0	0.1	0.0	0.0	Z	0.0	0.1	0.1	0.0	0.1	0.1	0.3	1.5	1.1	0.3	0.1	0.1	0.1	0.2	0.3	0.1	0.1	0.1	0.1	0.2	1.5
28-Jul	0.1	0.1	0.1	0.1	0.2	Z	0.2	0.9	2.2	4.7	39.8	3.2	1.5	3.4	10.9	2.0	0.7	0.3	0.1	0.3	0.1	0.0	0.0	0.0	3.1	39.8
29-Jul	Z	0.0	0.2	0.1	0.0	0.0	0.2	0.9	0.5	0.1	0.1	0.5	1.0	0.5	0.3	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.2	1.0
30-Jul	0.1	Z	0.0	0.0	0.0	0.1	0.1	1.6	1.0	0.2	0.2	0.2	1.3	3.6	6.0	0.4	0.4	0.9	0.7	0.4	0.2	0.1	0.1	0.1	0.8	6.0
31-Jul	0.0	0.0	Z	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.6	0.2	0.2	0.3	0.2	0.1	0.2	0.3	0.5	0.0	0.0	0.0	0.1	0.6
																									Diurnal Average	
																									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 - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Lower Camp - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	704	99.44	99.44
11 - 20	3	0.42	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
Lower Camp - July 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	43	25	13	10	12	73	113	42	19	18	20	59	53	48	74	80	702
11 - 20	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	3
21 - 60	0	0	0	0	0	0	0	0	0	0	0	1	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	43	26	13	10	12	73	113	42	19	18	20	60	54	48	74	81	706

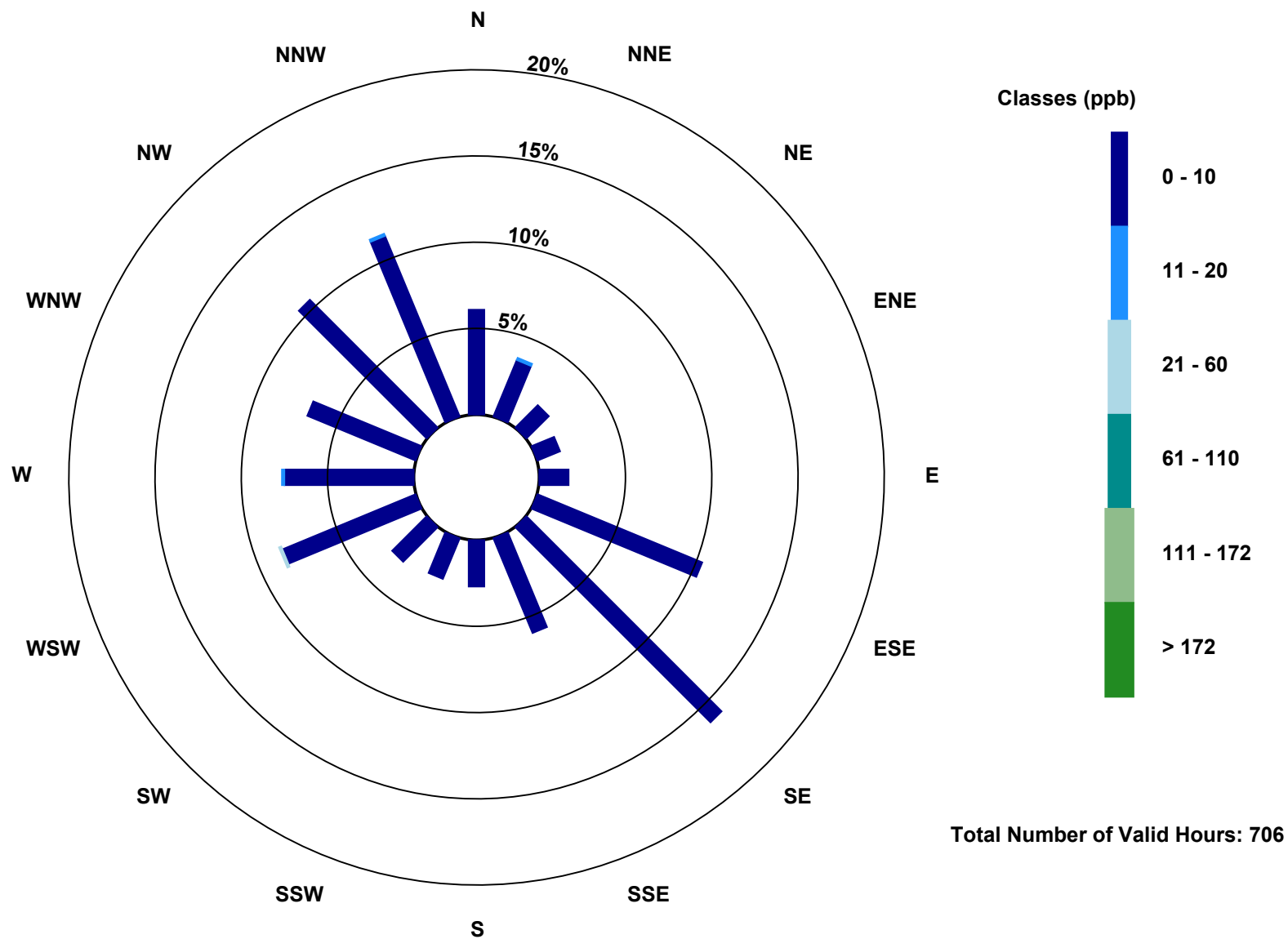
Total Number of Valid Hours: 706

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

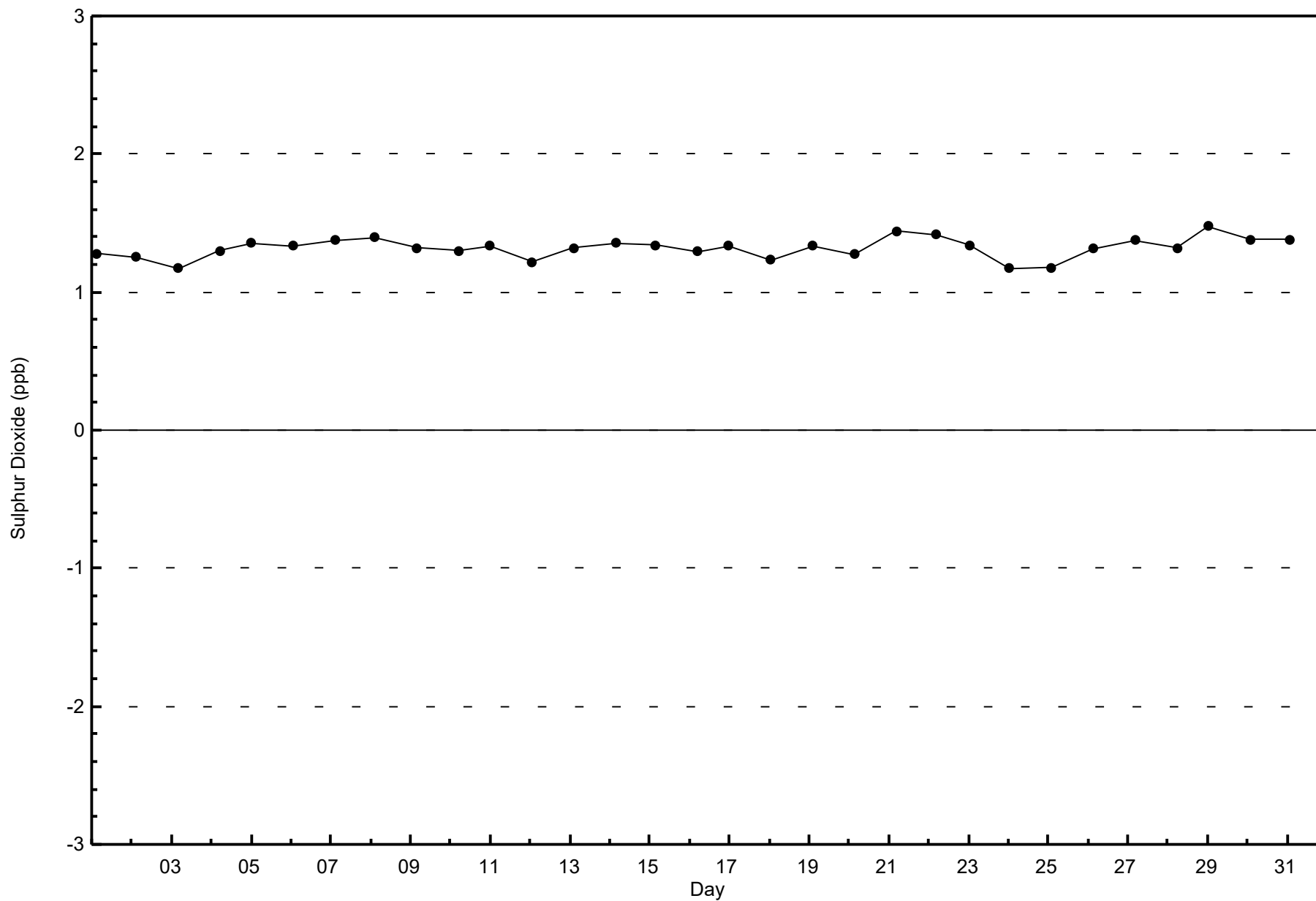
Sulphur Dioxide (SO₂) - ppb
Lower Camp





Wood Buffalo Environmental Association
Zero Responses

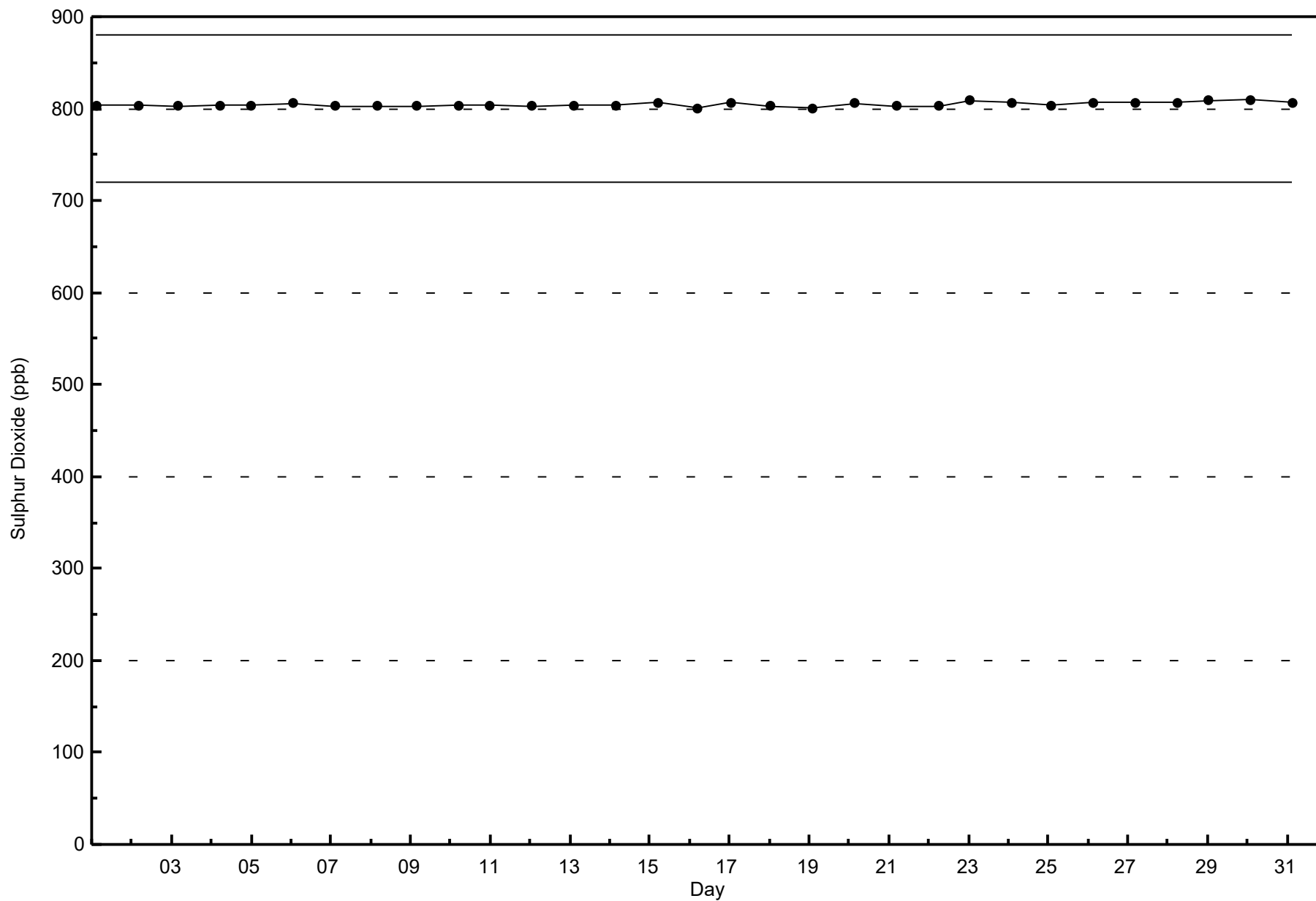
Sulphur Dioxide (SO₂) - ppb
Lower Camp - July 2025





Wood Buffalo Environmental Association
Span Responses

Sulphur Dioxide (SO₂) - ppb
Lower Camp - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Hydrogen Sulphide (H₂S) - ppb

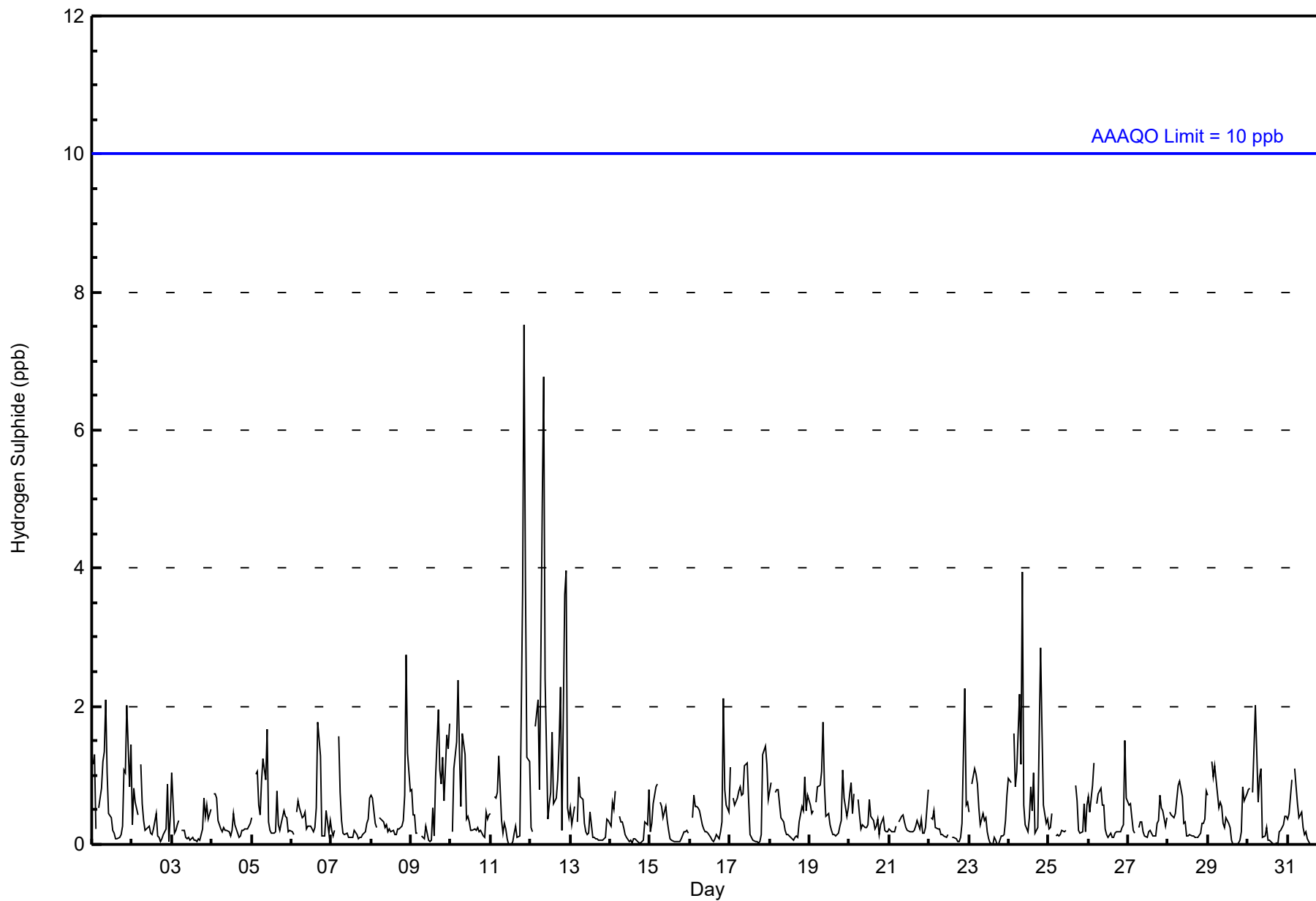
Lower Camp - July 2025

Number of Exceedences (AAAQO): Maximum Value: 7.5 ppb on Jul 11 21:00																			1-hr: 0 24-hr: 0 Maximum Daily Average: 1.7 ppb on Jul 12						Hours in Service: 744 Hours of Data: 706 Hours of Missing Data: 38 Hours of Calibration: 36 Percent Operational Time: 99.7					
Minimum Value: 0.0 ppb on Jul 11 13:00 Maximum Diurnal Average: 0.9 ppb at hour 22 Monthly Average: 0.50 ppb																			Minimum Daily Average: 0.2 ppb on Jul 14 Minimum Diurnal Average: 0.2 ppb at hour 15 Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.2 Median = 0.3 Q ₃ = 0.6 P ₉₀ = 1.1 P ₉₉ = 3.6											
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-Jul	1.2	1.3	0.2	Z	0.5	0.8	1.2	1.3	2.1	1.0	0.4	0.4	0.2	0.2	0.1	0.1	0.1	0.1	0.3	1.1	1.0	2.0	0.8	1.5	0.8	2.1				
2-Jul	0.3	0.8	0.6	0.4	Z	1.2	0.6	0.3	0.2	0.2	0.3	0.2	0.1	0.2	0.4	0.1	0.1	0.0	0.1	0.1	0.2	0.9	0.0	0.4	0.3	1.2				
3-Jul	1.0	0.2	0.2	0.3	0.3	Z	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.2	0.7	0.4	0.6	0.4	0.5	0.3	1.0				
4-Jul	Z	0.7	0.7	0.7	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.4	0.3	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.7				
5-Jul	0.4	Z	1.0	1.1	0.6	0.4	0.9	1.2	0.9	1.7	0.3	0.2	0.2	0.2	0.2	0.8	0.3	0.2	0.3	0.5	0.4	0.4	0.2	0.2	0.5	1.7				
6-Jul	0.2	0.1	Z	0.5	0.6	0.5	0.4	0.4	0.5	0.2	0.3	0.3	0.2	0.2	0.2	0.5	1.8	1.3	0.1	0.1	0.1	0.5	0.2	0.3	0.4	1.8				
7-Jul	0.2	0.1	0.2	Z	1.6	0.8	0.3	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.4	0.7	0.3	1.6				
8-Jul	0.7	0.7	0.3	0.3	Z	0.4	0.4	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.3	0.3	0.7	2.8	1.3	0.8	0.5	2.8				
9-Jul	0.8	0.4	0.4	0.2	0.2	Z	0.1	0.1	0.1	0.3	0.1	0.0	0.1	0.5	0.1	1.0	2.0	1.1	0.9	1.3	0.6	1.6	1.4	1.7	0.6	2.0				
10-Jul	Z	0.2	1.1	1.5	2.4	1.3	0.5	1.6	1.3	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.5	0.4	0.4	0.6	2.4				
11-Jul	0.4	Z	0.7	0.7	0.8	1.3	0.3	0.2	0.3	0.2	0.1	0.0	0.0	0.0	0.2	0.3	0.1	0.1	1.8	3.7	7.5	3.8	1.3	1.2	1.1	7.5				
12-Jul	0.2	0.2	Z	1.7	2.1	0.8	2.7	4.9	6.8	2.4	0.4	0.6	0.8	1.6	0.6	0.7	0.9	1.5	2.3	0.2	3.6	4.0	0.5	0.4	1.7	6.8				
13-Jul	0.5	0.3	0.5	Z	0.3	1.0	0.7	0.6	0.3	0.2	0.1	0.2	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.4	0.4	0.3	1.0				
14-Jul	0.3	0.6	0.5	0.8	Z	0.4	0.3	0.3	0.2	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.3	0.3	0.8	0.2	0.8				
15-Jul	0.2	0.3	0.6	0.8	0.9	Z	0.6	0.5	0.4	0.6	0.3	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.3	0.9				
16-Jul	Z	0.4	0.7	0.6	0.5	0.5	0.5	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.3	2.1	0.8	0.6	0.5	0.4	2.1				
17-Jul	1.1	Z	0.7	0.6	0.7	0.8	0.8	0.7	0.7	1.1	1.2	0.6	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	1.3	1.4	1.2	0.7	0.6	1.4				
18-Jul	0.8	0.9	Z	0.7	0.8	0.8	0.6	0.4	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.5	0.5	1.0	0.5	0.7	0.4	1.0				
19-Jul	0.6	0.4	0.5	Z	0.6	0.8	0.9	1.1	1.8	0.8	0.4	0.4	0.3	0.2	0.1	0.1	0.1	0.2	0.3	0.3	1.1	0.7	0.4	0.5	0.6	1.8				
20-Jul	0.7	0.9	0.4	0.7	Z	0.7	0.4	0.2	0.3	0.3	0.3	0.3	0.7	0.4	0.4	0.2	0.3	0.4	0.1	0.3	0.4	0.2	0.2	0.2	0.4	0.9				
21-Jul	0.2	0.2	0.2	0.2	0.3	Z	0.3	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.4	0.2	0.2	0.2	0.8	0.3	0.8				
22-Jul	Z	0.4	0.4	0.5	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	M	M	0.1	0.1	0.1	0.0	0.0	0.1	0.3	2.3	0.6	0.6	0.3	2.3				
23-Jul	0.5	Z	0.9	1.1	1.0	0.9	0.5	0.3	0.5	0.4	0.4	0.2	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.3	0.7	0.4	1.1				
24-Jul	0.9	0.9	Z	1.6	0.8	1.1	2.2	1.2	3.9	0.6	0.3	0.2	0.4	0.8	0.5	1.0	0.2	0.2	1.6	2.8	1.6	0.6	0.3	0.4	1.0	3.9				
25-Jul	0.2	0.2	0.4	Z	0.1	0.1	0.1	0.1	0.2	0.2	0.2	C	C	C	C	C	0.9	0.6	0.2	0.2	0.2	0.6	0.2	0.6	0.3	0.9				
26-Jul	0.7	0.5	0.9	1.2	Z	0.6	0.7	0.8	0.6	0.6	0.2	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3	1.5	0.7	0.5	1.5				
27-Jul	0.6	0.6	0.4	0.2	0.2	Z	0.3	0.3	0.3	0.2	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.3	0.3	0.7	0.5	0.5	0.3	0.4	0.3	0.7				
28-Jul	Z	0.5	0.4	0.4	0.5	0.7	0.9	0.9	0.7	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.4	0.8	0.4	0.9				
29-Jul	0.7	Z	1.2	1.0	1.1	0.9	0.5	0.6	0.6	0.3	0.2	0.4	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.2	0.8	0.6	0.7	0.5	1.2				
30-Jul	0.8	0.8	Z	0.8	2.0	1.3	0.6	1.0	1.1	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.2	0.2	0.3	0.4	0.4	0.5	2.0				
31-Jul	0.4	0.4	0.9	Z	1.1	0.8	0.6	0.4	0.5	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.6	0.6	0.6	0.3	1.1				
Diurnal Average																														
Diurnal Maximum																														
Z - zerospan C - Calibration M - Maintenance																														
Alberta Ambient Air Quality Objective (AAAQO): 1-hour 10 ppb 24-hr 3 ppb																														



Wood Buffalo Environmental Association
Hourly Averages

Hydrogen Sulphide (H_2S) - ppb
Lower Camp - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Hydrogen Sulphide (H₂S) - ppb
Lower Camp - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	695	98.44	98.44
3 - 4	8	1.13	99.58
5 - 7	2	0.28	99.86
8 - 11	1	0.14	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
Lower Camp - July 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	44	27	13	11	15	73	110	42	19	19	19	58	44	49	71	79	693
3 - 4	0	0	0	0	0	0	2	1	0	0	0	1	4	0	0	0	8
5 - 7	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
8 - 11	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
> 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	44	27	13	11	15	73	112	43	19	19	19	60	50	49	71	79	704

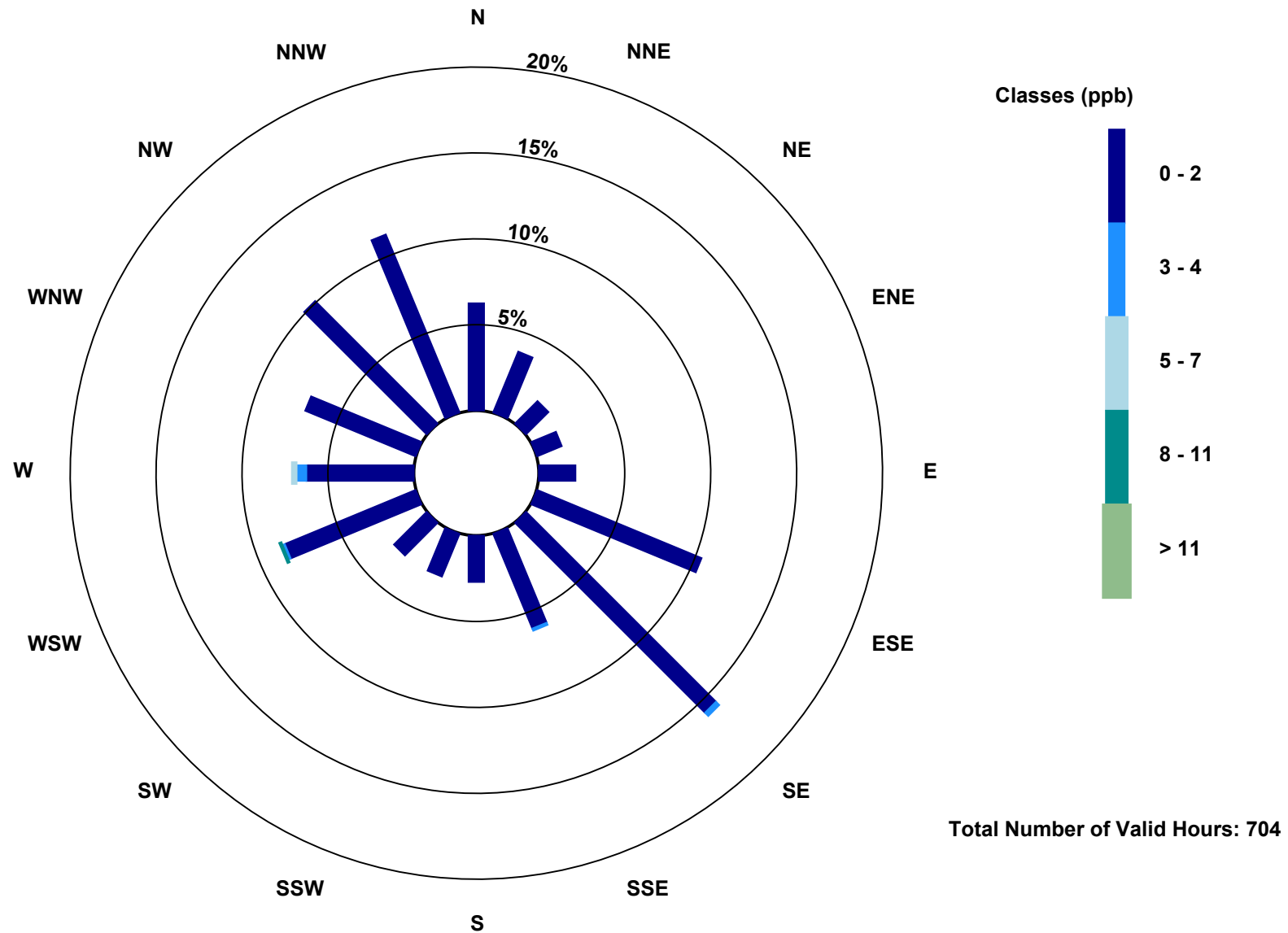
Total Number of Valid Hours: 704

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Hydrogen Sulphide (H_2S) - ppb
Lower Camp



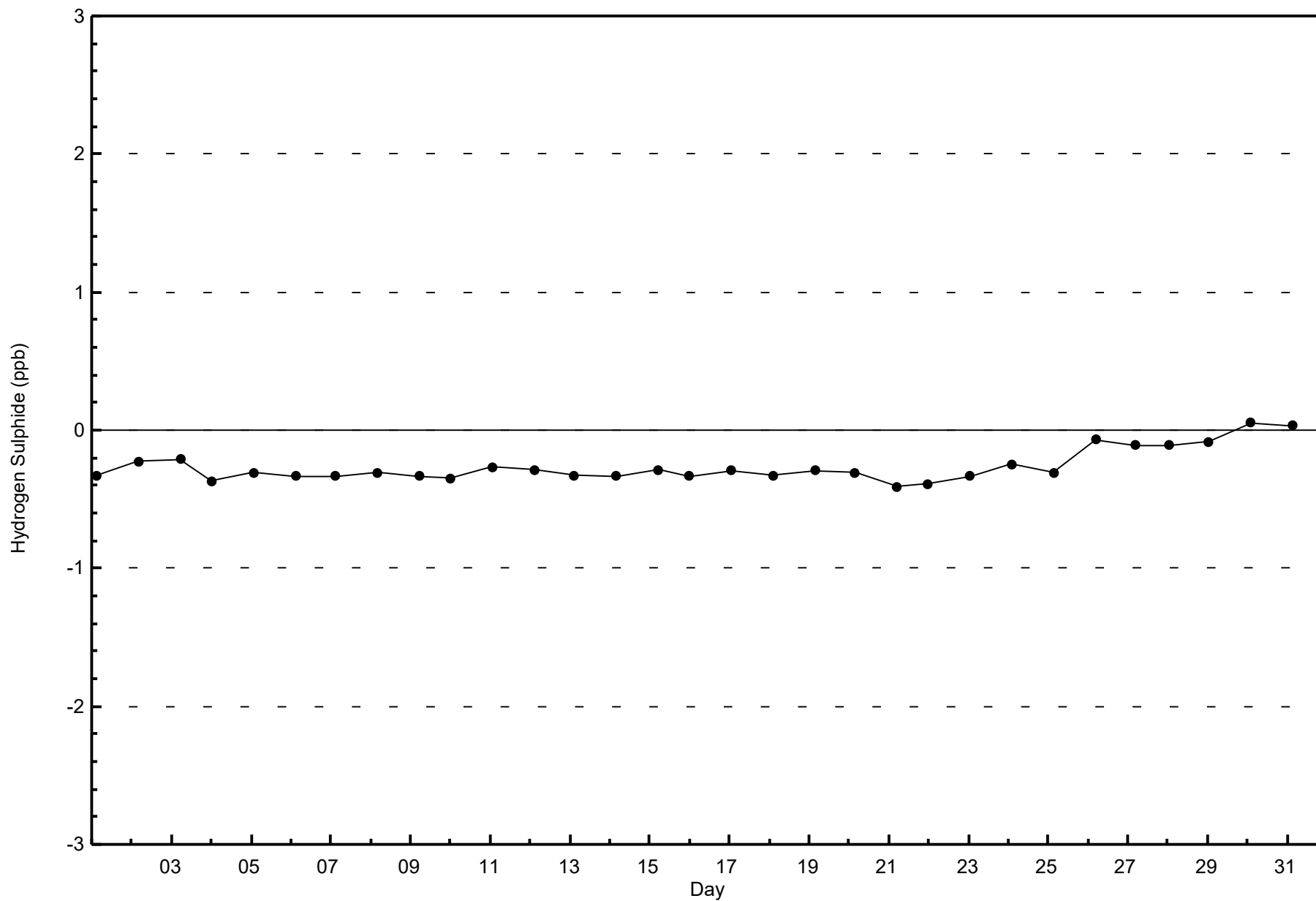


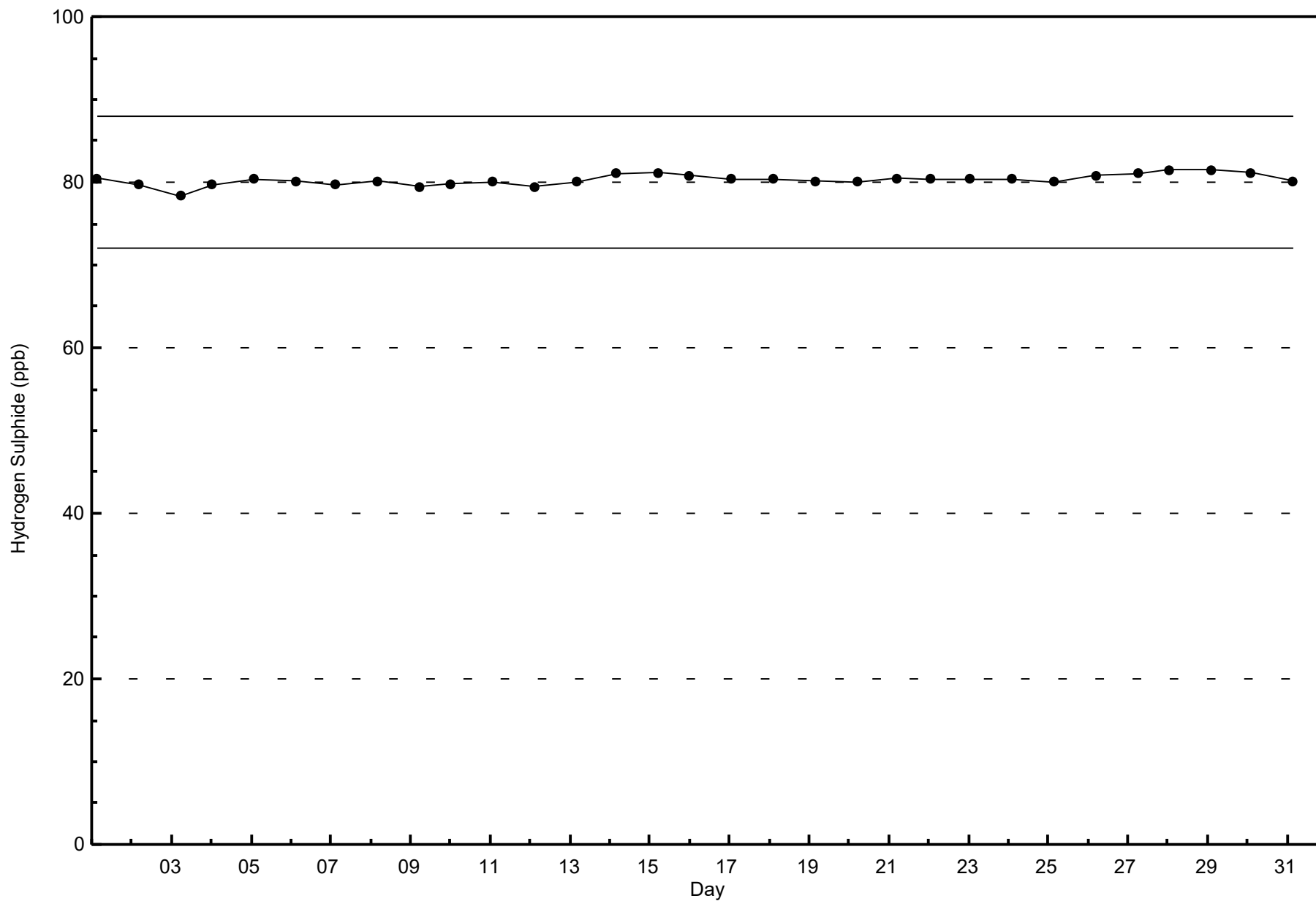
Wood Buffalo Environmental Association

Zero Responses

Hydrogen Sulphide (H_2S) - ppb

Lower Camp - July 2025







Wood Buffalo Environmental Association

Summary of Hour Averages

Total Hydrocarbons (THC) - ppm

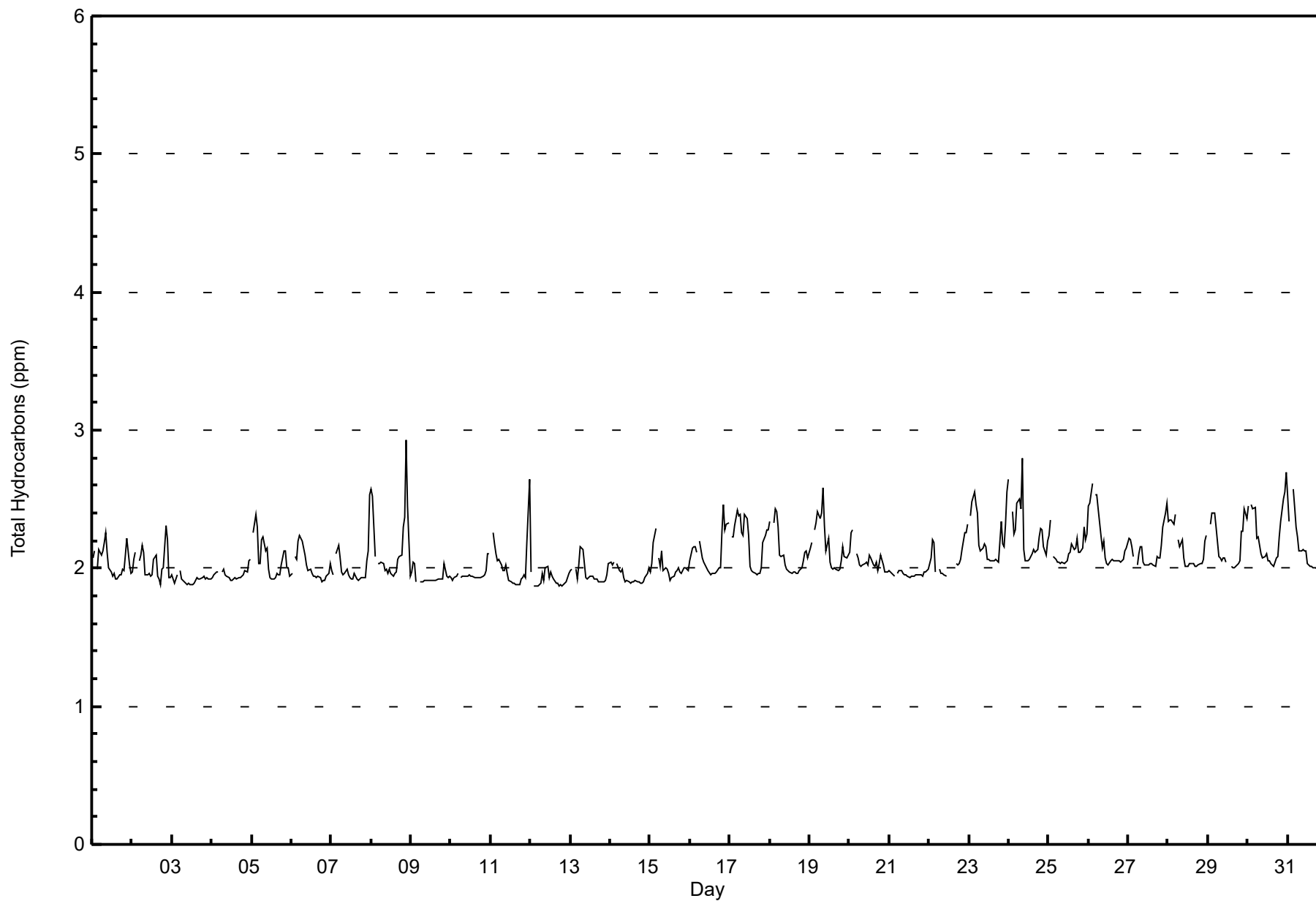
Lower Camp - July 2025

Maximum Value: 2.9 ppm on Jul 8 22:00																	Maximum Daily Average: 2.3 ppm on Jul 24										Hours in Service: 744	
Minimum Value: 1.9 ppm on Jul 12 04:00																	Minimum Daily Average: 1.9 ppm on Jul 3										Hours of Data: 706	
Maximum Diurnal Average: 2.2 ppm at hour 3																	Minimum Diurnal Average: 2.0 ppm at hour 16										Hours of Missing Data: 38	
Monthly Average: 2.07 ppm																	Percentiles: P ₁ = 1.9 P ₁₀ = 1.9 Q ₁ = 2.0 Median = 2.0 Q ₃ = 2.1 P ₉₀ = 2.3 P ₉₉ = 2.6										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-Jul	2.1	2.1	Z	2.0	2.1	2.1	2.1	2.2	2.3	2.1	2.0	2.0	1.9	2.0	1.9	1.9	2.0	2.0	2.0	2.0	2.1	2.2	2.0	2.0	2.0			
2-Jul	2.0	2.1	2.1	Z	2.0	2.1	2.2	2.1	2.0	1.9	2.0	1.9	2.0	2.1	2.1	1.9	1.9	1.9	1.9	2.0	2.0	2.3	2.2	1.9	1.9			
3-Jul	1.9	1.9	1.9	2.0	Z	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				
4-Jul	1.9	1.9	2.0	2.0	2.0	Z	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	2.0	2.0	2.0	2.1	2.1				
5-Jul	Z	2.3	2.4	2.3	2.0	2.0	2.2	2.2	2.1	2.1	2.0	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	1.9				
6-Jul	2.0	Z	2.1	2.1	2.2	2.2	2.2	2.1	2.1	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	2.0	2.0				
7-Jul	2.0	2.0	Z	2.1	2.2	2.1	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.1					
8-Jul	2.6	2.5	2.1	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.1	2.1	2.1	2.3	2.4	2.9	2.4					
9-Jul	2.0	2.0	2.0	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	2.0	1.9	1.9					
10-Jul	1.9	1.9	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	2.0	2.0						
11-Jul	Z	2.3	2.2	2.1	2.1	2.1	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	2.2	2.6					
12-Jul	2.0	Z	1.9	1.9	1.9	1.9	1.9	2.0	1.9	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	2.0					
13-Jul	2.0	2.0	Z	2.0	1.9	2.0	2.2	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	1.9	1.9	2.0					
14-Jul	2.0	2.0	2.0	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	2.0	2.0					
15-Jul	2.0	2.0	2.2	2.3	Z	2.1	2.0	2.1	2.0	2.0	2.0	2.0	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0					
16-Jul	2.1	2.1	2.2	2.2	2.1	Z	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	2.3	2.5	2.3	2.3					
17-Jul	Z	2.2	2.2	2.3	2.4	2.4	2.4	2.3	2.2	2.4	2.4	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.2	2.3					
18-Jul	2.3	Z	2.3	2.4	2.4	2.3	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	2.1	2.1	2.1					
19-Jul	2.1	2.2	Z	2.3	2.3	2.4	2.4	2.4	2.6	2.3	2.1	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.1	2.1					
20-Jul	2.1	2.3	2.3	Z	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	2.1	2.0	2.0	2.0					
21-Jul	2.0	2.0	1.9	1.9	Z	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	1.9	2.0	2.0					
22-Jul	2.0	2.1	2.2	2.2	2.0	Z	2.0	2.0	2.0	2.0	1.9	C	C	C	C	C	2.0	2.0	2.0	2.1	2.1	2.3	2.3					
23-Jul	Z	2.4	2.5	2.5	2.5	2.4	2.2	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.3	2.2	2.2	2.3					
24-Jul	2.6	Z	2.4	2.2	2.3	2.5	2.5	2.4	2.8	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.3	2.2	2.1					
25-Jul	2.2	2.4	Z	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.1	2.1	2.2	2.1	2.1	2.3	2.2	2.2					
26-Jul	2.5	2.5	2.6	Z	2.5	2.5	2.4	2.2	2.1	2.2	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.0	2.0	2.1	2.1	2.1					
27-Jul	2.2	2.2	2.2	2.1	Z	2.0	2.1	2.2	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.3	2.4					
28-Jul	2.3	2.3	2.3	2.3	2.4	Z	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	2.2					
29-Jul	Z	2.3	2.4	2.4	2.4	2.3	2.1	2.1	2.1	2.1	2.1	2.0	M	M	2.0	2.0	2.0	2.0	2.0	2.1	2.3	2.3	2.4					
30-Jul	2.5	Z	2.5	2.4	2.4	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.2	2.3	2.5	2.6					
31-Jul	2.5	2.3	Z	2.6	2.4	2.3	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	2.4	2.8	2.5					
2.1 2.2 2.2 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 2.1 2.1 2.1 2.2																								Diurnal Average				
2.6 2.5 2.6 2.6 2.5 2.5 2.5 2.4 2.8 2.4 2.4 2.2 2.1 2.1 2.2 2.1 2.1 2.2 2.2 2.3 2.5 2.9 2.6 2.7																								Diurnal Maximum				
Z - zerospan C - Calibration M - Maintenance																												



Wood Buffalo Environmental Association
Hourly Averages

Total Hydrocarbons (THC) - ppm
Lower Camp - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Hydrocarbons (THC) - ppm
Lower Camp - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	411	58.22	58.22
2.1 - 3.0	295	41.78	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
Lower Camp - July 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	33	16	9	5	2	24	48	24	12	12	17	51	42	25	34	56	410
2.1 - 3.0	10	10	4	5	9	48	65	18	7	6	3	9	12	23	40	25	294
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	43	26	13	10	11	72	113	42	19	18	20	60	54	48	74	81	704

Total Number of Valid Hours: 704

Total Number of Hours: 744

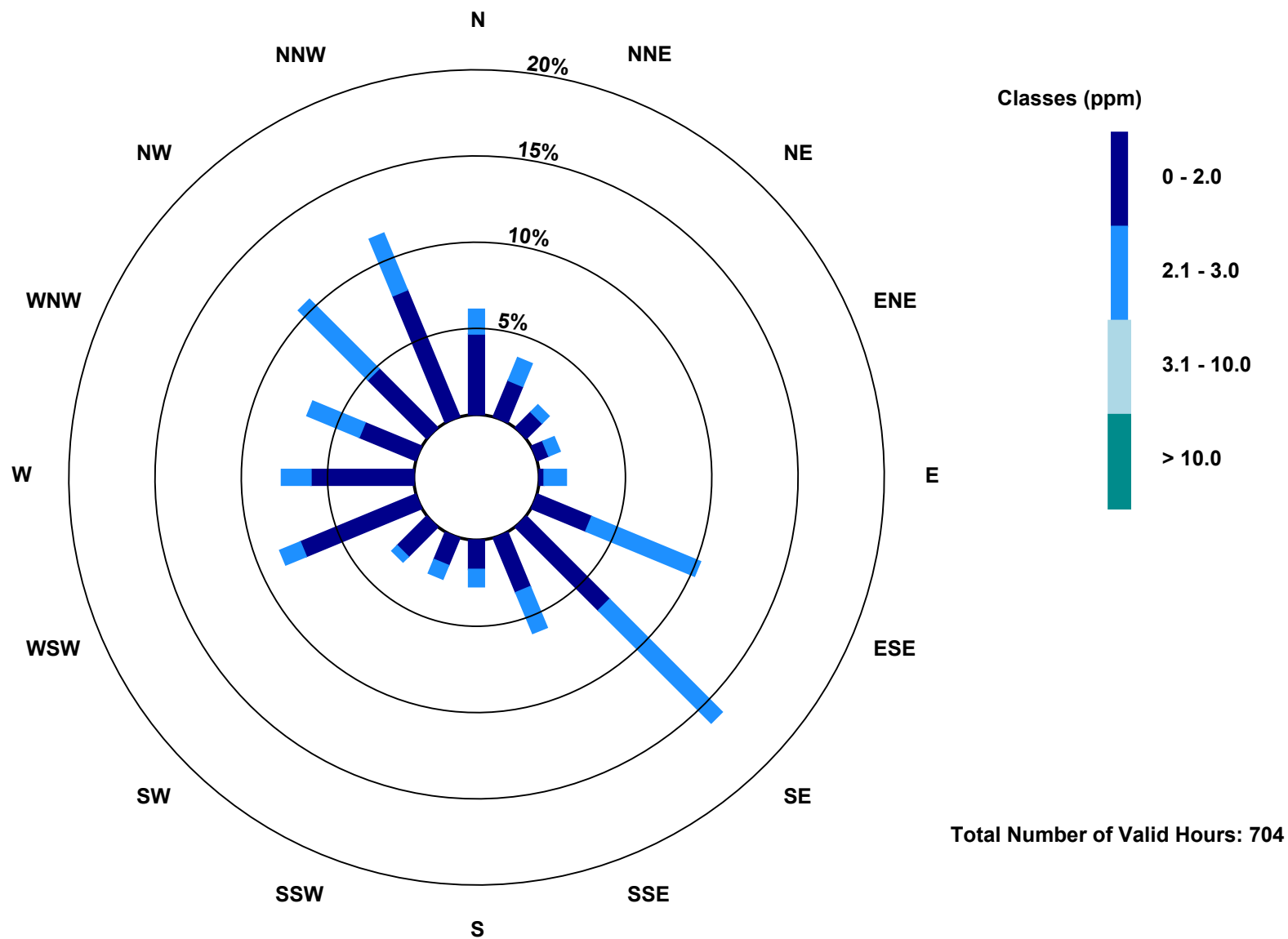


Wood Buffalo Environmental Association

Wind Rose Jul 2025

Total Hydrocarbons (THC) - ppm

Lower Camp



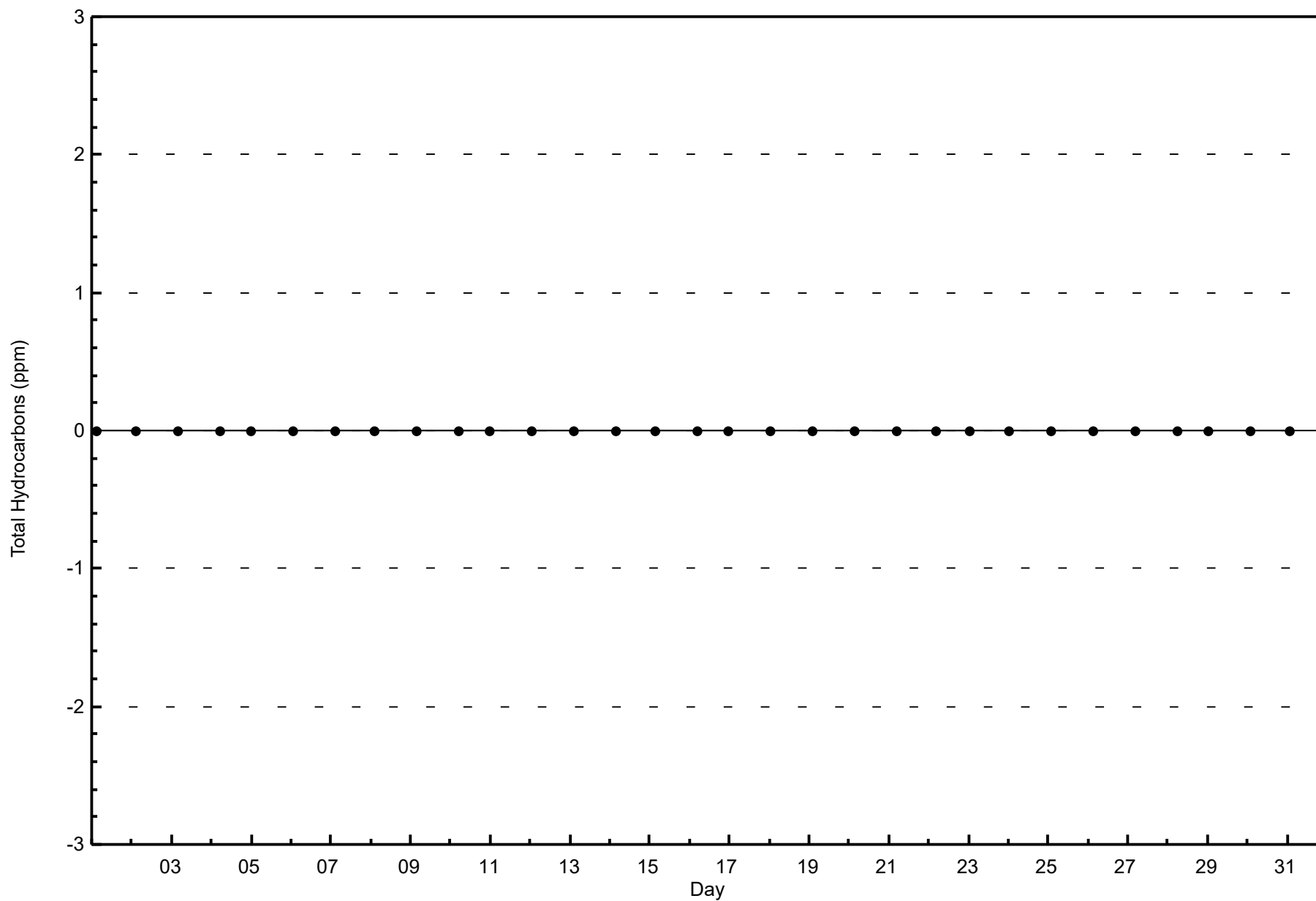


Wood Buffalo Environmental Association

Zero Responses

Total Hydrocarbons (THC) - ppm

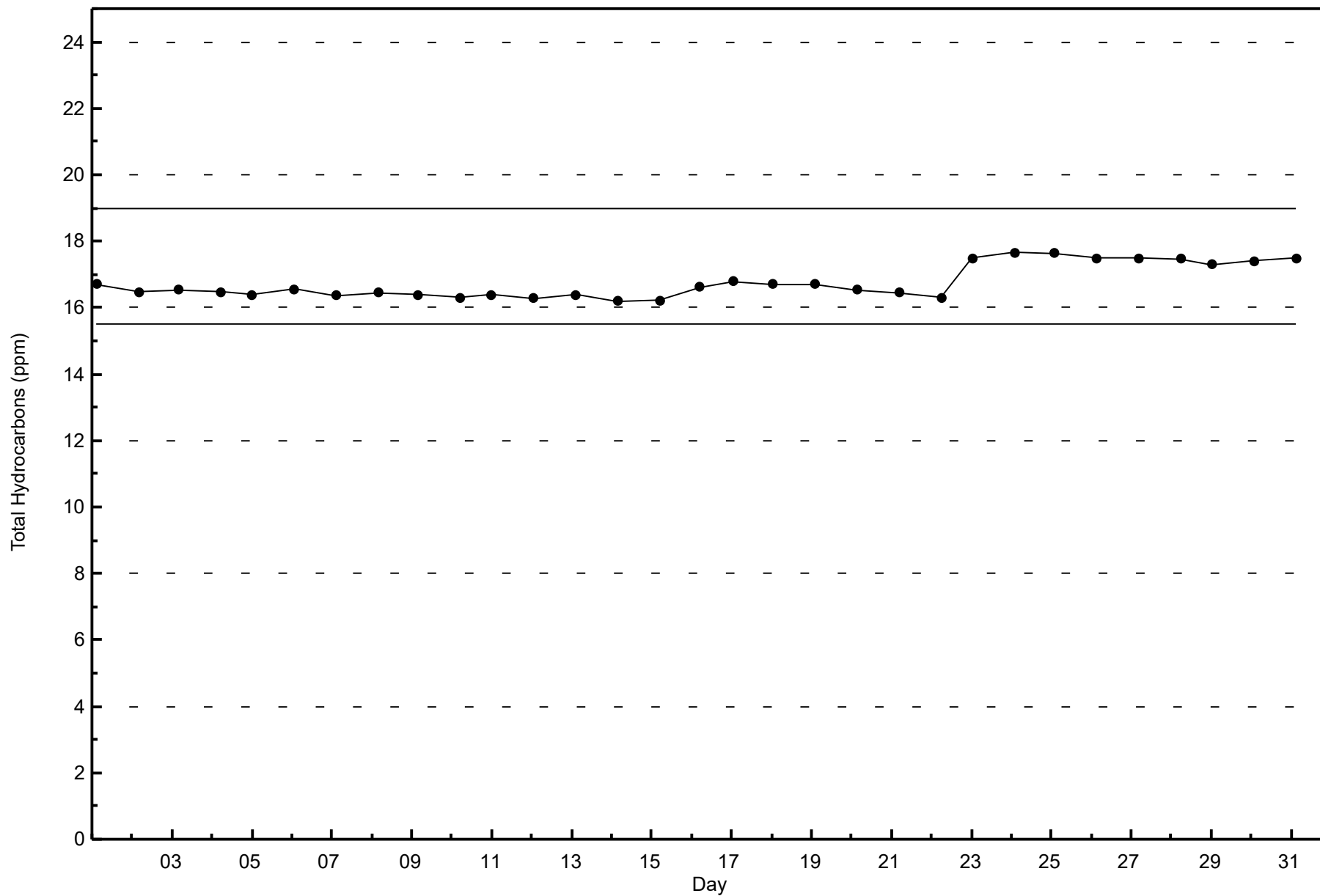
Lower Camp - July 2025





Wood Buffalo Environmental Association
Span Responses

Total Hydrocarbons (THC) - ppm
Lower Camp - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Methane (CH₄) - ppm

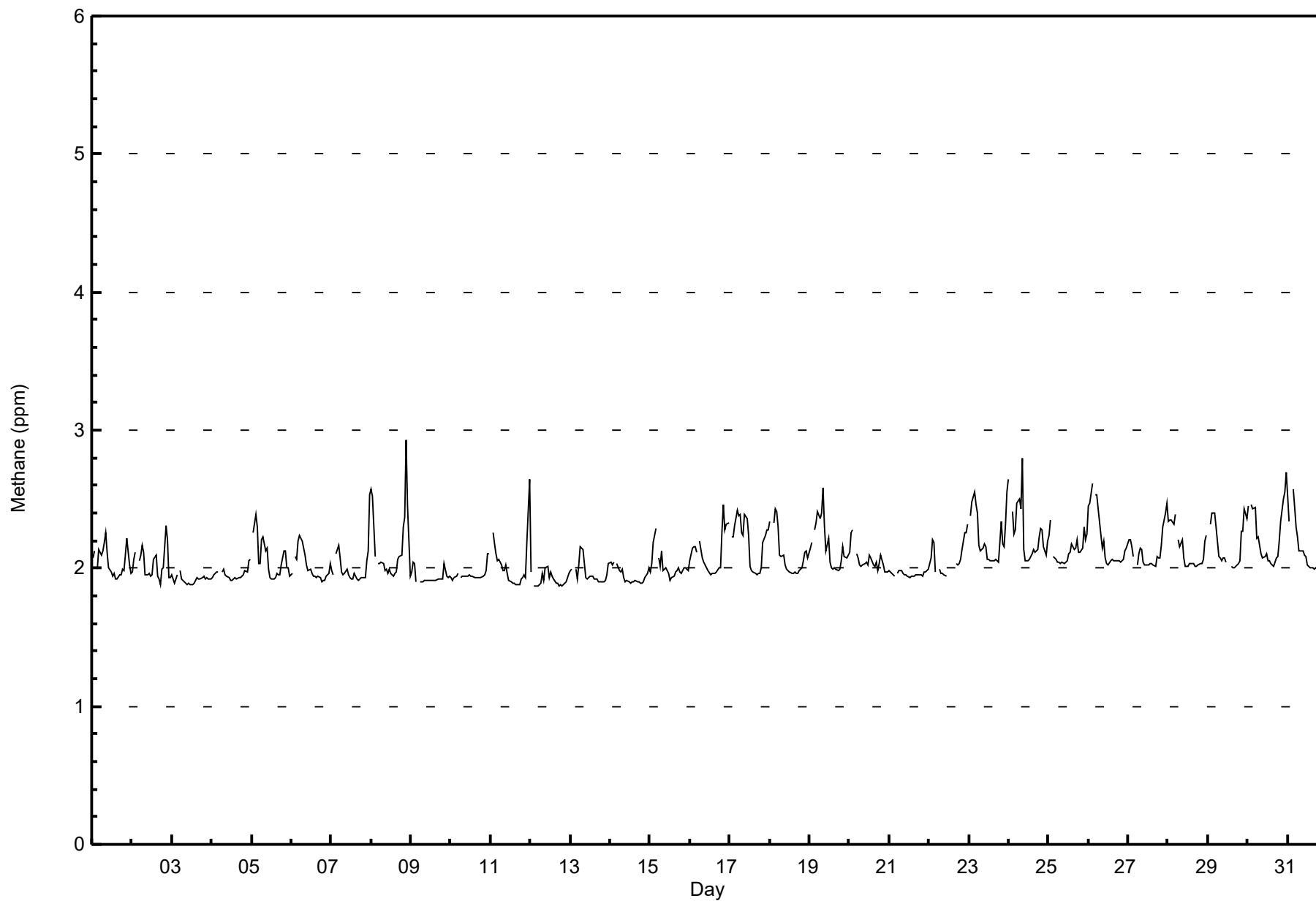
Lower Camp - July 2025

Number of Exceedences (AAAQO): Maximum Value: 2.9 ppm on Jul 8 22:00																	1-hr: 0 24-hr: 0 Maximum Daily Average: 2.3 ppm on Jul 24										Hours in Service: 744 Hours of Data: 706 Hours of Missing Data: 38 Hours of Calibration: 36 Percent Operational Time: 99.7			
Minimum Value: 1.9 ppm on Jul 12 04:00 Maximum Diurnal Average: 2.2 ppm at hour 3 Monthly Average: 2.07 ppm																	Minimum Daily Average: 1.9 ppm on Jul 3 Minimum Diurnal Average: 2.0 ppm at hour 16 Percentiles: P ₁ = 1.9 P ₁₀ = 1.9 Q ₁ = 2.0 Median = 2.0 Q ₃ = 2.1 P ₉₀ = 2.3 P ₉₉ = 2.6													
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum				
1-Jul	2.1	2.1	Z	2.0	2.1	2.1	2.1	2.2	2.3	2.1	2.0	2.0	1.9	2.0	1.9	1.9	2.0	2.0	2.0	2.1	2.2	2.0	2.0	2.0	2.0	2.0	2.3			
2-Jul	2.0	2.1	2.1	Z	2.0	2.1	2.2	2.1	2.0	1.9	2.0	1.9	2.0	2.1	2.1	1.9	1.9	1.9	2.0	2.0	2.3	2.2	1.9	1.9	1.9	1.9	2.3			
3-Jul	1.9	1.9	1.9	2.0	Z	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				
4-Jul	1.9	1.9	2.0	2.0	2.0	Z	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	2.0	2.0	2.0	2.1	2.1	2.0	2.1				
5-Jul	Z	2.3	2.4	2.3	2.0	2.0	2.2	2.2	2.1	2.1	2.0	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	1.9	2.1	2.4				
6-Jul	2.0	Z	2.1	2.1	2.2	2.2	2.2	2.1	2.1	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	2.0	2.0	2.0	2.2				
7-Jul	2.0	2.0	Z	2.1	2.2	2.1	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.1	2.1	2.5	2.0	2.5				
8-Jul	2.6	2.5	2.1	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.1	2.1	2.1	2.3	2.4	2.9	2.4	1.9	2.1	2.9				
9-Jul	2.0	2.0	2.0	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	2.0	1.9	1.9	1.9	1.9	2.0				
10-Jul	1.9	1.9	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	2.0	2.0	2.1	2.1	2.0	2.1				
11-Jul	Z	2.3	2.2	2.1	2.1	2.1	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	2.2	2.6	2.0	2.6				
12-Jul	2.0	Z	1.9	1.9	1.9	1.9	1.9	2.0	1.9	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	2.0	1.9	2.0				
13-Jul	2.0	2.0	Z	2.0	1.9	2.0	2.2	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	1.9	1.9	1.9	2.0	2.0	2.2				
14-Jul	2.0	2.0	2.0	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	2.0	2.0	1.9	2.0				
15-Jul	2.0	2.0	2.2	2.3	Z	2.1	2.0	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.3				
16-Jul	2.1	2.1	2.2	2.2	2.1	Z	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	2.3	2.5	2.3	2.3	2.3	2.1	2.5				
17-Jul	Z	2.2	2.2	2.3	2.4	2.4	2.4	2.3	2.2	2.4	2.4	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.2	2.3	2.3	2.2	2.4				
18-Jul	2.3	Z	2.3	2.4	2.4	2.3	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	2.1	2.1	2.1	2.1	2.1	2.4				
19-Jul	2.1	2.2	Z	2.3	2.3	2.4	2.4	2.4	2.6	2.3	2.1	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.1	2.1	2.1	2.2	2.6				
20-Jul	2.1	2.3	2.3	Z	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	2.1	2.0	2.0	2.0	2.0	2.1	2.3				
21-Jul	2.0	2.0	1.9	1.9	Z	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.0				
22-Jul	2.0	2.1	2.2	2.2	2.0	Z	2.0	2.0	2.0	2.0	1.9	C	C	C	C	C	2.0	2.0	2.0	2.1	2.1	2.3	2.3	2.3	2.1	2.3				
23-Jul	Z	2.4	2.5	2.5	2.5	2.4	2.2	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.3	2.2	2.2	2.3	2.5	2.2	2.5				
24-Jul	2.6	Z	2.4	2.2	2.3	2.5	2.5	2.4	2.8	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.3	2.2	2.1	2.2	2.3	2.8				
25-Jul	2.2	2.4	Z	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.1	2.1	2.2	2.1	2.1	2.1	2.3	2.2	2.2	2.1	2.4				
26-Jul	2.5	2.5	2.6	Z	2.5	2.5	2.4	2.2	2.1	2.2	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.6				
27-Jul	2.2	2.2	2.2	2.1	Z	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	2.2	2.3	2.4	2.5	2.1	2.5				
28-Jul	2.3	2.3	2.3	2.3	2.4	Z	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	2.2	2.2	2.1	2.4				
29-Jul	Z	2.3	2.4	2.4	2.4	2.3	2.1	2.1	2.1	2.1	2.1	2.0	M	M	2.0	2.0	2.0	2.0	2.0	2.1	2.3	2.3	2.4	2.4	2.2	2.4				
30-Jul	2.5	Z	2.5	2.4	2.4	2.2	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	2.1	2.3	2.5	2.6	2.7	2.2	2.7				
31-Jul	2.5	2.3	Z	2.6	2.4	2.3	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	2.4	2.8	2.5	2.3	2.2	2.8				
2.1 2.2 2.2 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 2.1 2.1 2.1 2.2																								Diurnal Average						
2.6 2.5 2.6 2.6 2.5 2.5 2.5 2.4 2.8 2.4 2.4 2.2 2.1 2.1 2.2 2.1 2.1 2.2 2.2 2.3 2.5 2.9 2.6 2.7																								Diurnal Maximum						
Z - zerospan C - Calibration M - Maintenance																														



Wood Buffalo Environmental Association
Hourly Averages

Methane (CH₄) - ppm
Lower Camp - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Methane (CH₄) - ppm
Lower Camp - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	411	58.22	58.22
2.1 - 3.0	295	41.78	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
Lower Camp - July 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	33	16	9	5	2	24	48	24	12	12	17	51	42	25	34	56	410
2.1 - 3.0	10	10	4	5	9	48	65	18	7	6	3	9	12	23	40	25	294
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	43	26	13	10	11	72	113	42	19	18	20	60	54	48	74	81	704

Total Number of Valid Hours: 704

Total Number of Hours: 744

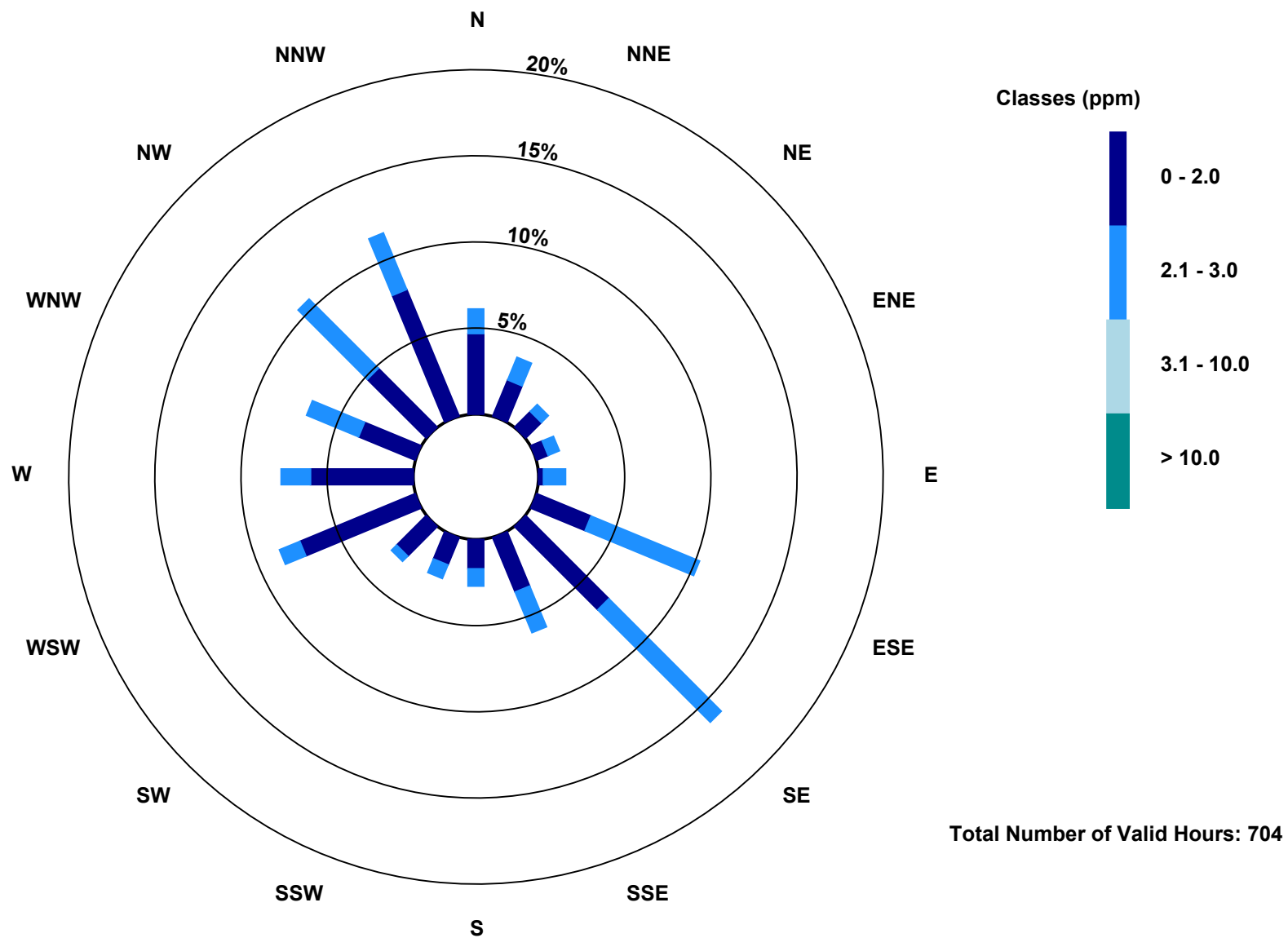


Wood Buffalo Environmental Association

Wind Rose Jul 2025

Methane (CH₄) - ppm

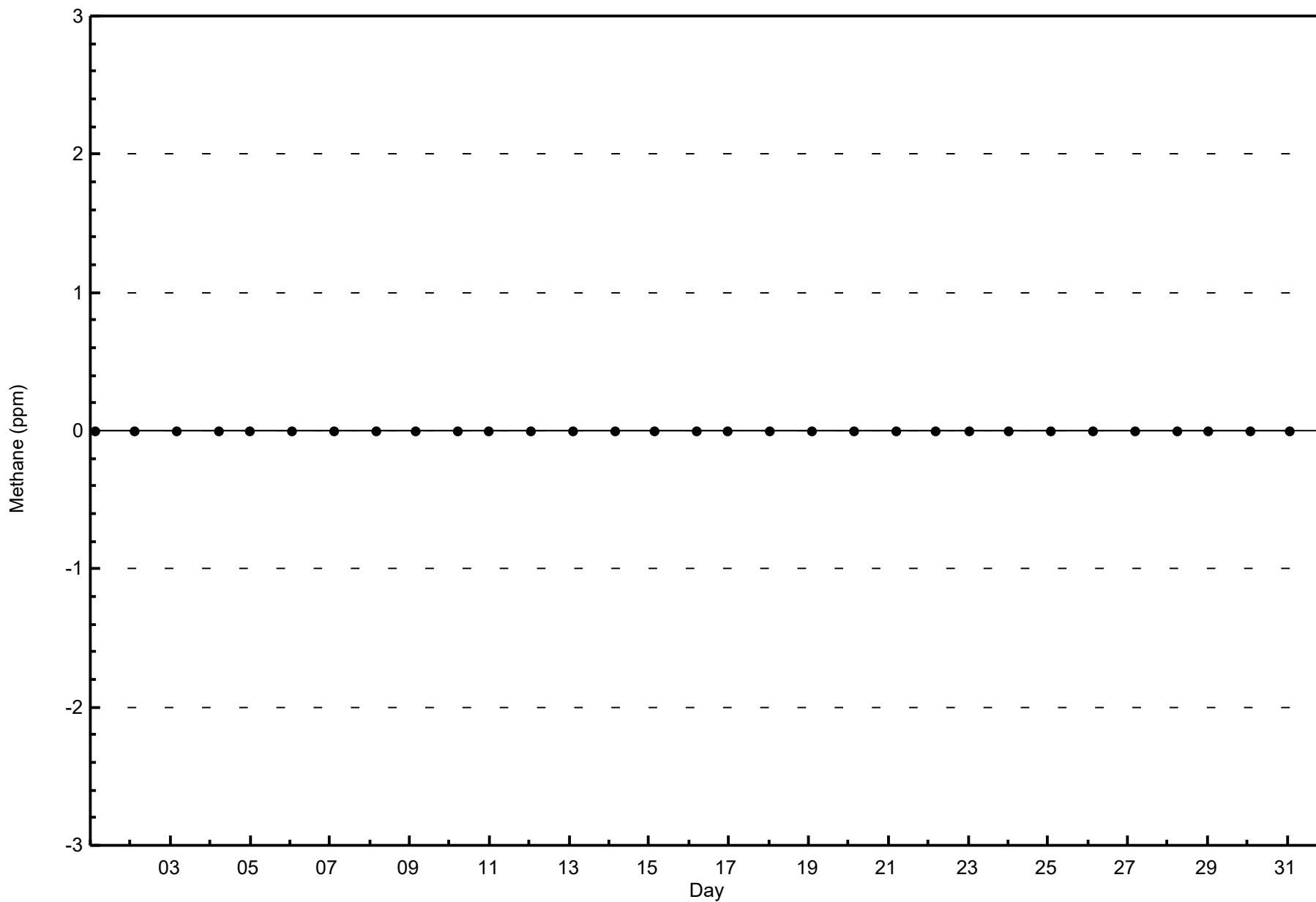
Lower Camp





Wood Buffalo Environmental Association
Zero Responses

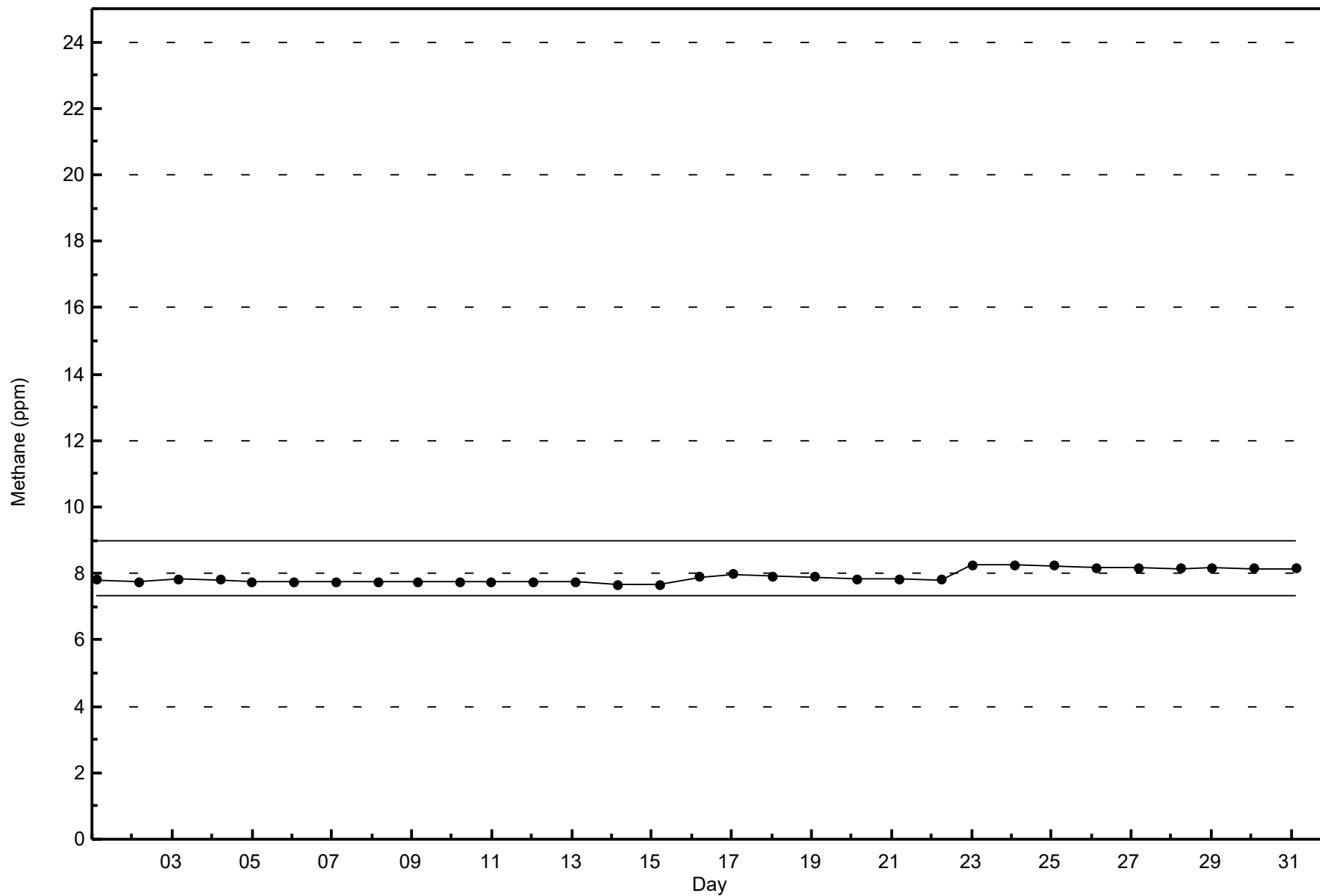
Methane (CH₄) - ppm
Lower Camp - July 2025





Wood Buffalo Environmental Association
Span Responses

Methane (CH₄) - ppm
Lower Camp - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Non Methane Hydrocarbons (NMHC) - ppm

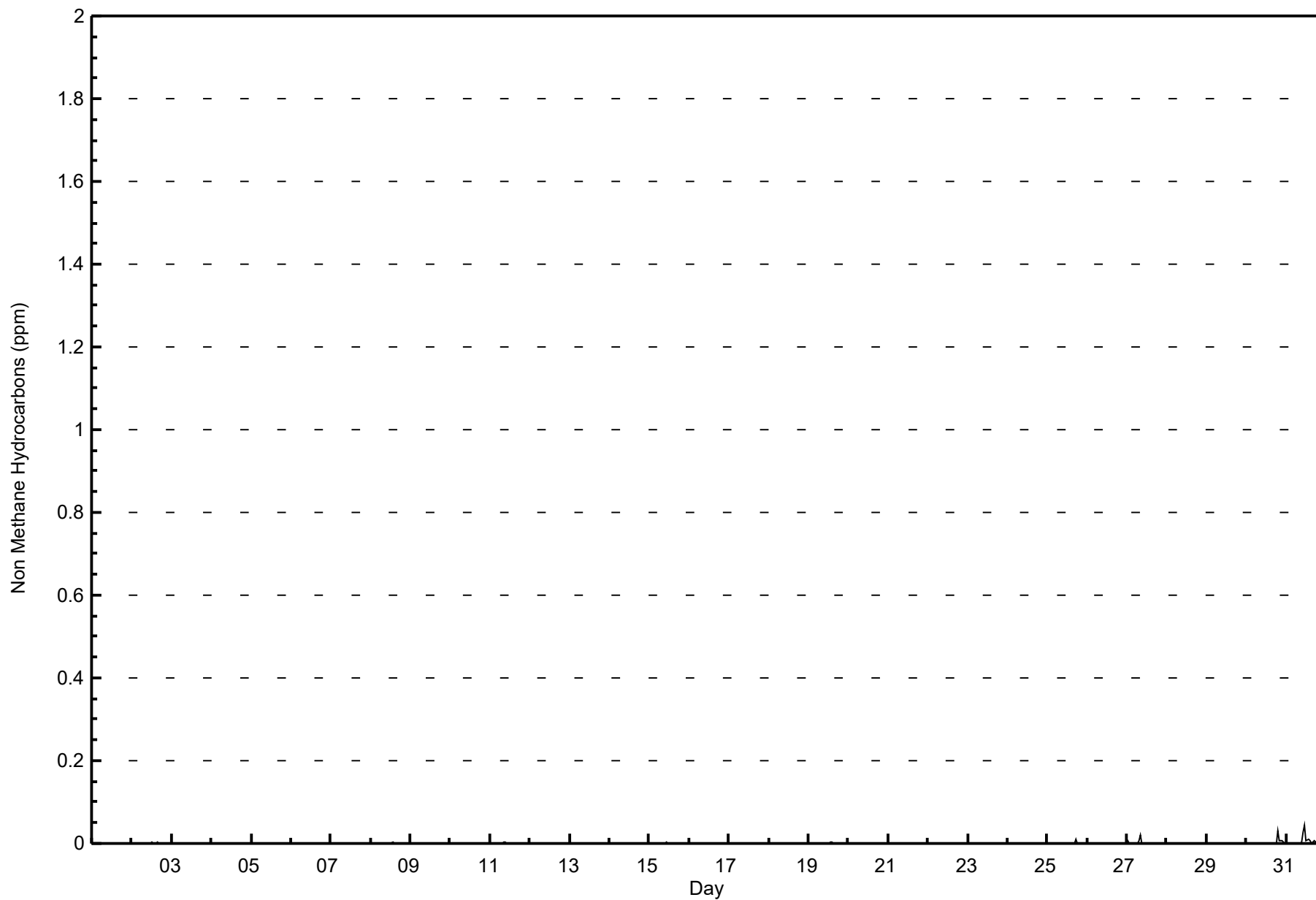
Lower Camp - July 2025

Maximum Value: 0.046 ppm on Jul 31 12:00																			Maximum Daily Average: 0.005 ppm on Jul 31										Hours in Service: 744	
Minimum Value: 0.000 ppm on Jul 1 01:00																			Minimum Daily Average: 0.000 ppm on Jul 1										Hours of Data: 706	
Maximum Diurnal Average: 0.002 ppm at hour 12																			Minimum Diurnal Average: 0.000 ppm at hour 2										Hours of Missing Data: 38	
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: 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-Jul	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				
2-Jul	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.001	0.002	0.000	0.000	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000				
3-Jul	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					
4-Jul	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					
5-Jul	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					
6-Jul	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					
7-Jul	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					
8-Jul	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	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000					
9-Jul	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					
10-Jul	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					
11-Jul	Z	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.002	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					
12-Jul	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					
13-Jul	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					
14-Jul	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					
15-Jul	0.000	0.000	0.000	0.000	Z	0.000	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					
16-Jul	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	0.001	0.000	0.000	0.000	0.000					
17-Jul	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	0.000	0.000	0.000					
18-Jul	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					
19-Jul	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	0.002	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000					
20-Jul	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	0.001	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					
21-Jul	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					
22-Jul	0.000	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	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					
23-Jul	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					
24-Jul	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					
25-Jul	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	0.010	0.001	0.000	0.000	0.000	0.000	0.000	0.010					
26-Jul	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					
27-Jul	0.008	0.000	0.000	0.000	Z	0.000	0.000	0.005	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	0.000	0.000	0.021					
28-Jul	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					
29-Jul	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					
30-Jul	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	0.030	0.006	0.006	0.003	0.000					
31-Jul	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.026	0.046	0.008	0.009	0.008	0.001	0.005	0.006	0.005	0.003	0.001	0.003	0.000	0.000	0.005	0.046				
Diurnal Average																														
Diurnal Maximum																														
Z - zerospan C - Calibration M - Maintenance																														



Wood Buffalo Environmental Association
Hourly Averages

Non Methane Hydrocarbons (NMHC) - ppm
Lower Camp - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Non Methane Hydrocarbons (NMHC) - ppm
Lower Camp - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 0.005	695	98.44	98.44
0.006 - 0.05	11	1.56	100.00
0.06 - 0.1	0	0.00	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
Lower Camp - July 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	43	26	13	10	11	71	112	42	19	16	19	60	52	47	71	81	693
0.006 - 0.05	0	0	0	0	0	1	1	0	0	2	1	0	2	1	3	0	11
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	43	26	13	10	11	72	113	42	19	18	20	60	54	48	74	81	704

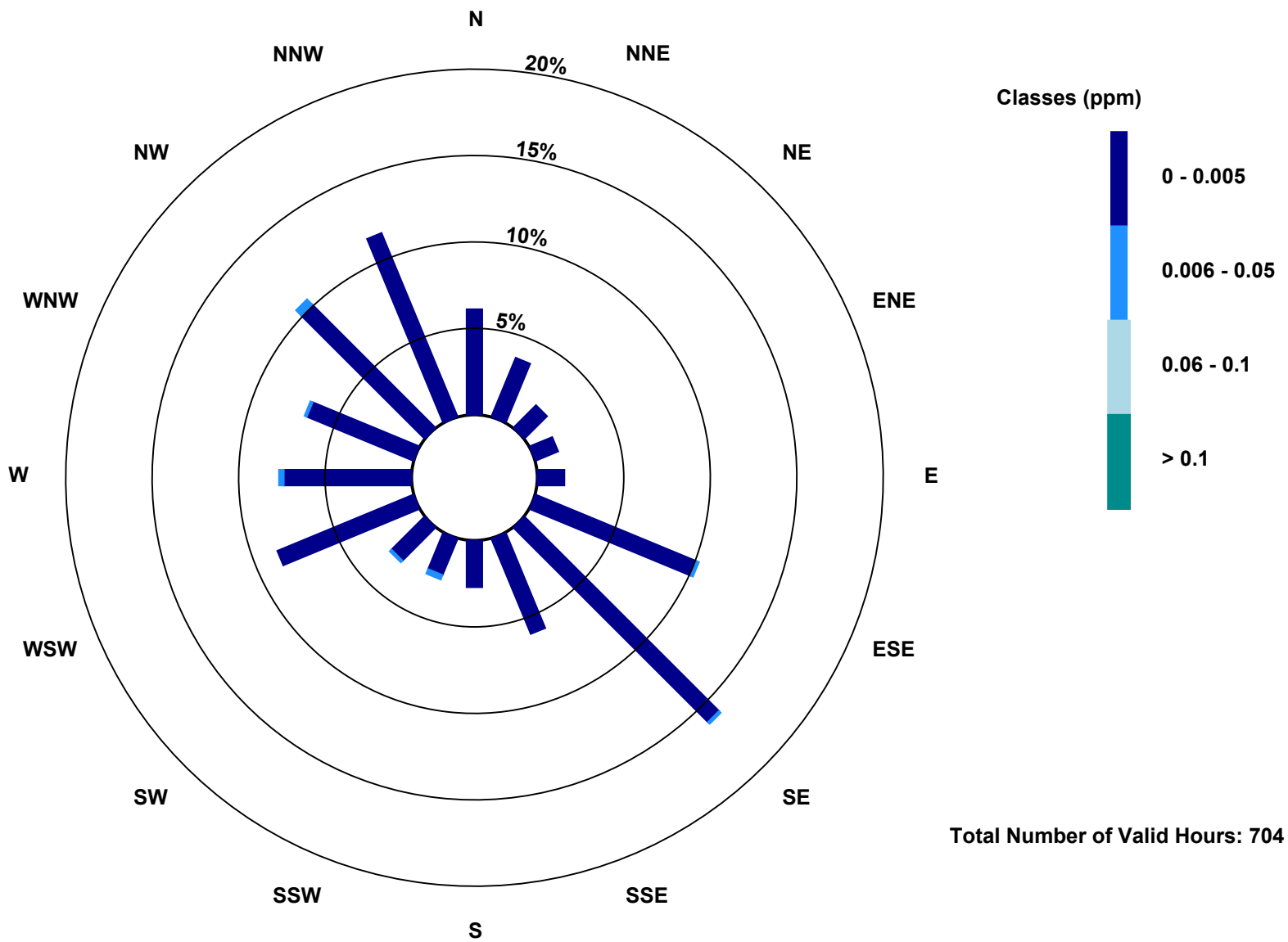
Total Number of Valid Hours: 704

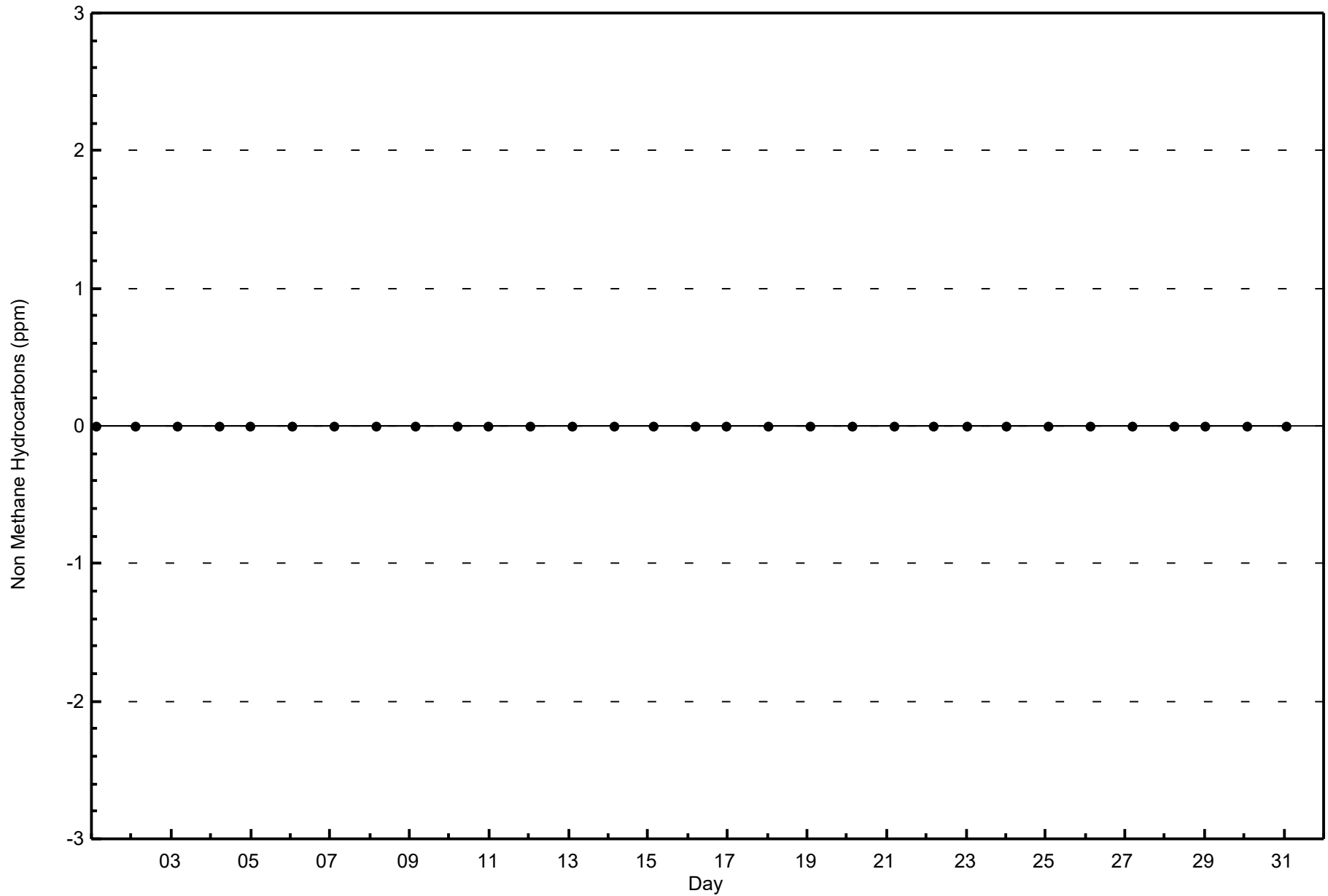
Total Number of Hours: 744

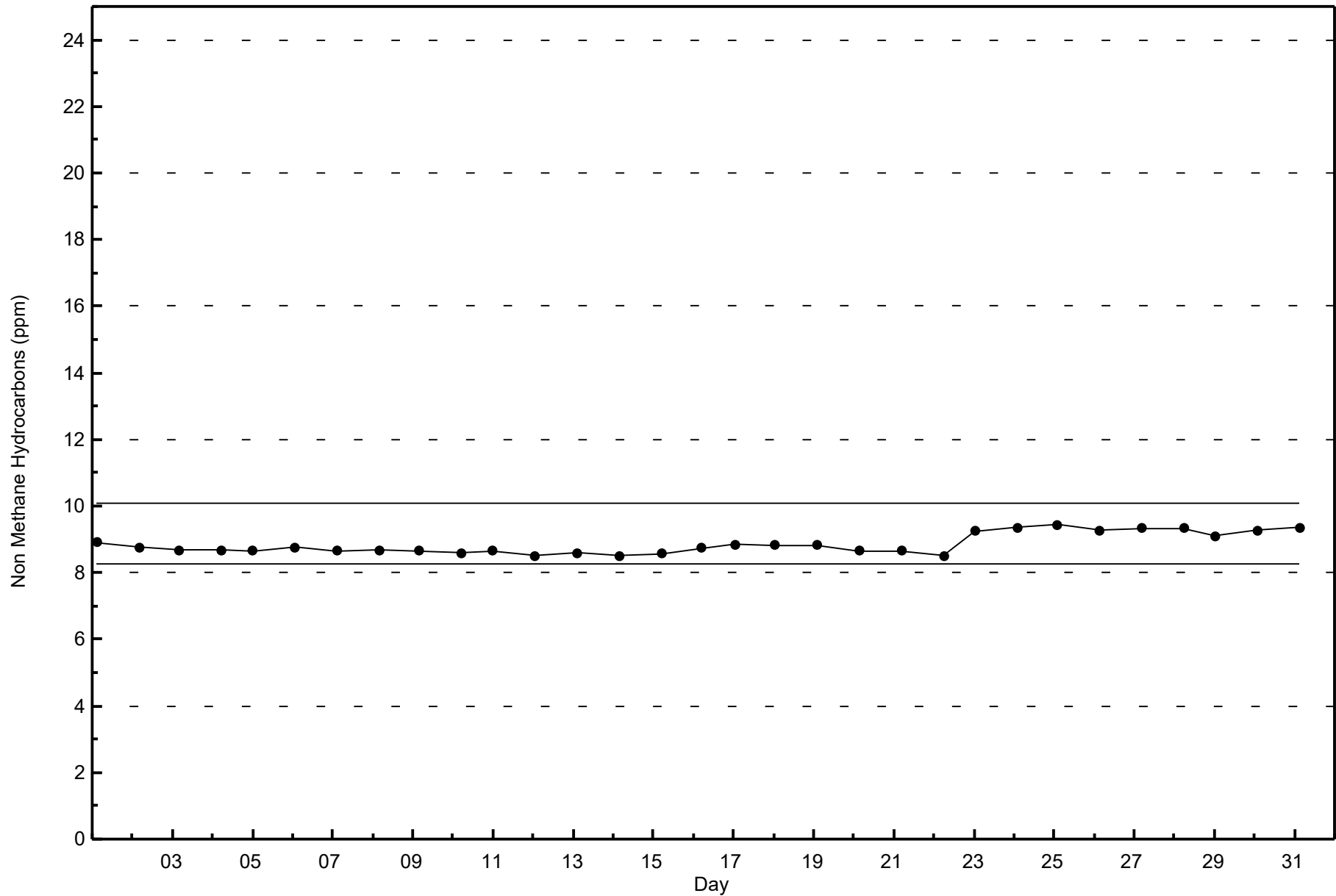


Wood Buffalo Environmental Association
Wind Rose Jul 2025

Non Methane Hydrocarbons (NMHC) - ppm
Lower Camp









Wood Buffalo Environmental Association

Summary of Hour Averages

Ambient Temperature 2m (AT2) - C

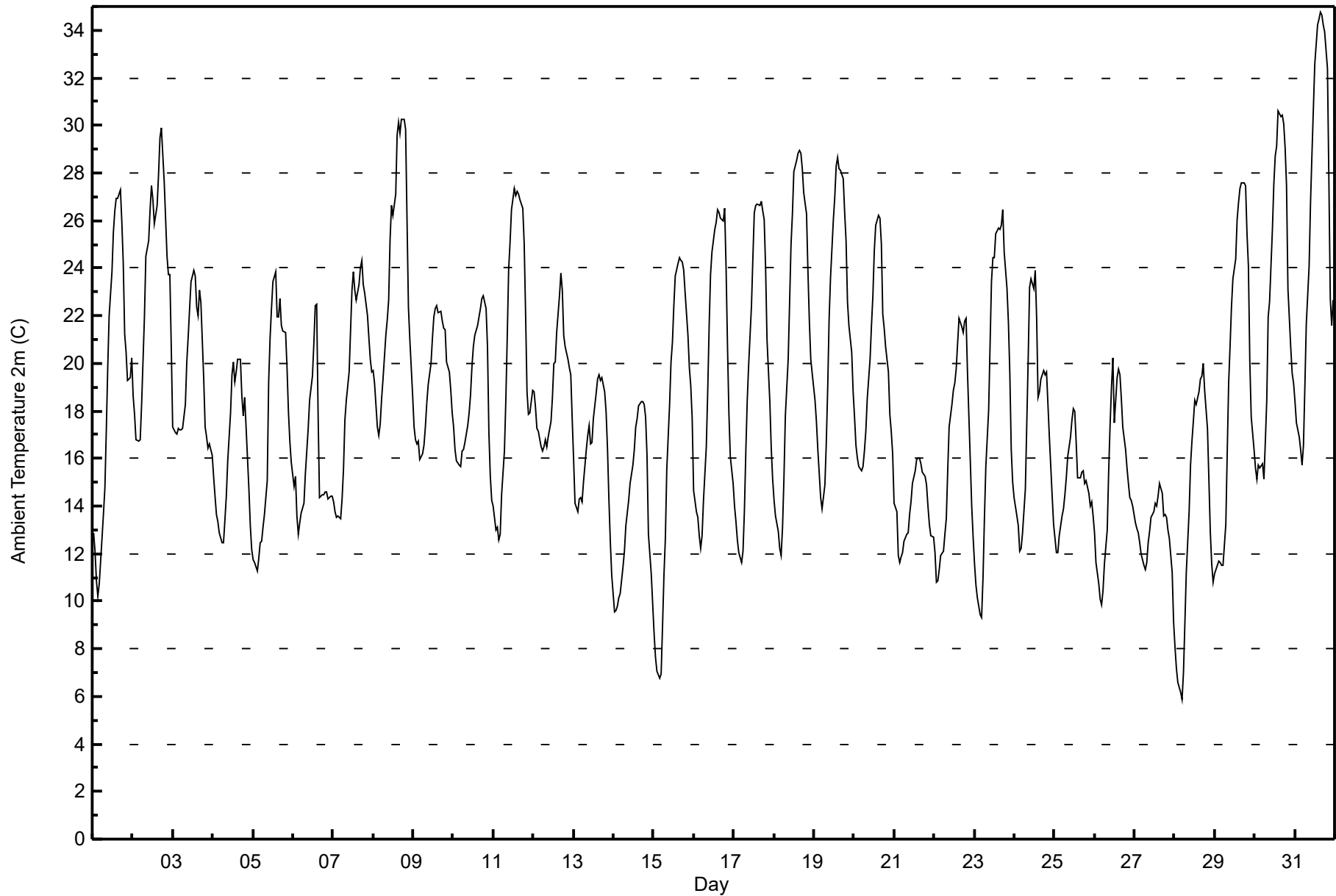
Lower Camp - July 2025

Maximum Value: 34.8 C on Jul 31 16:00																				Maximum Daily Average: 25.8 C on Jul 31					Hours in Service: 744	
Minimum Value: 5.9 C on Jul 28 05:00																				Minimum Daily Average: 12.9 C on Jul 27					Hours of Data: 744	
Maximum Diurnal Average: 23.4 C at hour 16																				Minimum Diurnal Average: 13.0 C at hour 5					Hours of Missing Data: 0	
Monthly Average: 18.54 C																				Percentiles: P ₁ = 7.4 P ₁₀ = 12.1 Q ₁ = 14.3 Median = 17.9 Q ₃ = 22.2 P ₉₀ = 26.4 P ₉₉ = 31.7					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-Jul	12.9	12.1	10.8	10.2	10.7	12.7	13.7	14.8	17.2	19.8	22.0	23.9	25.5	26.4	26.9	26.9	27.3	25.9	24.2	21.2	20.5	19.3	19.4	20.2	19.4	27.3
2-Jul	18.6	17.9	16.8	16.8	16.8	18.2	20.1	22.0	24.5	25.1	26.4	27.5	26.9	25.9	26.6	28.0	29.5	29.9	28.7	27.7	24.5	23.7	23.7	20.7	23.6	29.9
3-Jul	17.3	17.1	17.0	17.2	17.2	17.2	17.3	18.3	20.1	21.1	22.3	23.4	23.9	23.7	22.4	22.0	23.1	22.5	19.4	17.3	16.9	16.4	16.6	16.1	19.4	23.9
4-Jul	15.2	14.4	13.6	13.3	12.9	12.5	12.4	13.4	14.4	15.9	17.9	19.5	20.0	19.2	19.6	20.2	20.2	18.6	17.8	18.6	17.3	14.7	13.2	12.2	16.1	20.2
5-Jul	11.7	11.6	11.3	11.8	12.4	12.5	13.1	13.7	15.1	19.2	21.1	22.3	23.4	23.8	21.9	22.0	22.7	21.6	21.3	21.3	19.8	18.0	16.7	15.8	17.7	23.8
6-Jul	14.9	15.2	13.6	12.8	13.3	13.7	14.1	15.4	16.3	17.2	18.5	19.4	20.8	22.4	22.5	17.9	14.3	14.5	14.5	14.6	14.6	14.3	14.4	14.4	16.0	22.5
7-Jul	14.2	13.7	13.5	13.6	13.5	14.3	15.5	17.6	18.4	19.6	21.4	23.1	23.8	23.1	22.6	23.3	24.0	24.3	23.3	22.9	22.0	21.1	20.2	19.7	19.5	24.3
8-Jul	19.7	19.1	17.3	17.0	17.4	18.5	19.4	21.2	21.8	22.7	25.2	26.6	26.2	27.1	29.6	30.1	29.7	30.3	30.2	29.8	26.1	22.4	21.0	18.6	23.6	30.3
9-Jul	17.3	16.8	16.6	16.7	16.0	16.2	16.6	17.3	18.3	19.1	20.0	21.1	21.9	22.3	22.4	22.1	22.2	21.8	21.5	21.4	20.1	19.6	18.8	17.9	19.3	22.4
10-Jul	17.3	16.4	15.9	15.7	15.7	16.3	16.4	16.6	17.4	17.9	18.7	19.9	20.7	21.2	21.6	22.0	22.3	22.7	22.9	22.3	20.7	17.1	15.2	14.2	18.6	22.9
11-Jul	14.0	13.0	13.1	12.6	12.8	14.5	16.3	18.4	21.1	23.9	25.1	26.5	27.4	27.1	27.3	27.1	26.9	26.5	25.1	22.0	18.8	17.9	17.9	18.8	20.6	27.4
12-Jul	18.8	18.1	17.2	17.2	16.5	16.3	16.5	16.8	16.5	16.9	17.5	18.5	20.0	20.1	21.3	22.8	23.8	23.1	21.2	20.7	20.2	19.8	19.5	17.7	19.0	23.8
13-Jul	15.9	14.1	13.8	14.3	14.4	14.2	15.0	16.4	17.0	17.4	16.6	16.7	17.7	18.8	19.3	19.5	19.3	19.4	18.8	18.0	16.4	14.3	12.5	11.1	16.3	19.5
14-Jul	9.6	9.6	9.8	10.1	10.3	11.4	12.1	13.2	13.7	14.2	14.9	15.7	16.4	17.3	17.7	18.2	18.4	18.4	18.3	17.7	16.1	12.8	11.2	9.9	14.0	18.4
15-Jul	8.6	7.6	7.0	6.8	7.0	9.0	11.1	12.6	15.5	18.3	20.0	20.9	22.4	23.7	24.2	24.4	24.3	24.3	23.9	23.0	21.2	19.8	19.0	17.7	17.2	24.4
16-Jul	14.7	13.7	13.5	12.7	12.2	12.8	14.2	16.5	18.8	21.5	23.7	24.7	25.7	25.9	26.5	26.4	26.1	26.0	26.5	24.0	20.8	17.9	16.1	15.0	19.8	26.5
17-Jul	14.0	13.4	12.6	12.0	11.6	12.1	13.8	16.3	18.4	19.9	22.4	24.4	26.3	26.6	26.7	26.7	26.8	26.4	26.1	24.0	21.0	18.4	16.4	15.1	19.7	26.8
18-Jul	14.2	13.6	13.0	12.2	11.9	13.1	15.2	17.8	20.2	22.6	25.0	26.3	28.1	28.5	28.9	28.9	28.8	28.2	27.2	26.3	23.8	21.8	20.2	19.5	21.5	28.9
19-Jul	18.5	17.6	16.4	15.4	14.4	13.9	14.9	16.7	19.0	21.9	23.6	26.0	27.0	28.3	28.7	28.2	28.1	27.8	26.3	25.1	22.6	21.6	20.5	18.8	21.7	28.7
20-Jul	17.8	16.5	16.0	15.6	15.5	15.7	16.3	17.2	18.5	20.2	21.6	22.8	24.8	25.8	26.2	26.1	25.0	22.1	21.5	20.7	19.7	17.9	17.1	16.2	19.9	26.2
21-Jul	14.1	13.7	11.9	11.6	11.9	12.0	12.5	12.8	12.9	13.6	14.2	14.9	15.5	16.0	16.0	16.0	15.8	15.4	15.3	14.9	14.0	13.2	12.7	12.7	13.9	16.0
22-Jul	12.1	10.8	10.8	11.3	11.9	12.1	12.8	13.5	15.5	17.3	18.3	18.9	19.2	19.8	20.8	21.9	21.6	21.3	21.7	21.9	19.7	15.9	14.0	12.7	16.5	21.9
23-Jul	11.6	10.7	10.2	9.5	9.3	11.0	13.4	15.7	18.0	20.8	23.4	24.5	24.4	25.4	25.7	25.7	25.8	26.4	24.7	23.1	21.7	19.6	16.4	15.0	18.8	26.4
24-Jul	14.3	13.6	13.2	12.1	12.2	12.9	14.7	17.4	20.2	23.2	23.5	23.1	23.9	21.9	18.5	18.8	19.3	19.7	19.5	19.6	18.3	16.9	14.4	13.2	17.7	23.9
25-Jul	12.7	12.1	12.0	12.7	13.6	13.9	14.5	15.2	16.1	16.9	17.6	18.1	18.0	16.7	15.2	15.2	15.4	15.5	14.9	15.1	14.5	14.0	14.2	13.6	14.9	18.1
26-Jul	12.9	11.6	10.7	10.1	9.8	10.4	11.5	13.0	15.4	17.4	19.0	20.2	17.5	19.4	19.8	19.5	18.5	17.3	16.4	15.6	14.9	14.3	14.2	14.0	15.1	20.2
27-Jul	13.3	13.0	12.9	12.4	12.0	11.5	11.3	11.6	12.5	13.0	13.5	13.8	14.1	14.0	14.4	15.0	14.5	13.6	13.7	13.5	13.0	12.6	11.2	9.1	12.9	15.0
28-Jul	8.1	7.2	6.6	6.2	5.9	7.0	9.1	11.2	13.8	15.7	16.7	17.5	18.5	18.3	18.8	19.3	19.5	20.0	18.8	17.3	15.1	12.9	11.6	10.8	13.6	20.0
29-Jul	11.1	11.5	11.7	11.6	11.5	11.5	13.2	16.3	19.2	20.7	22.4	23.5	24.4	26.1	26.8	27.3	27.6	27.6	27.5	25.4	24.1	20.1	17.7	16.4	19.8	27.6
30-Jul	15.6	15.1	15.7	15.6	15.8	15.1	16.7	18.5	22.0	22.6	25.6	27.5	28.7	29.2	30.6	30.4	30.4	30.0	29.1	27.5	23.1	20.7	19.6	19.2	22.7	30.6
31-Jul	18.4	17.5	16.9	16.4	15.7	16.6	19.1	21.7	24.1	26.7	28.8	30.7	32.6	34.2	34.5	34.8	34.6	34.3	33.9	32.4	27.7	22.7	21.6	22.7	25.8	34.8
14.5 13.8 13.3 13.0 13.0 13.5 14.6 16.1 17.8 19.4 20.9 22.0 22.8 23.2 23.4 23.4 23.4 23.1 22.4 21.5 19.7 17.8 16.7 15.8																								Diurnal Average		
19.7 19.1 17.3 17.2 17.4 18.5 20.1 22.0 24.5 26.7 28.8 30.7 32.6 34.2 34.5 34.8 34.6 34.3 33.9 32.4 27.7 23.7 23.7 22.7																								Diurnal Maximum		



Wood Buffalo Environmental Association
Hourly Averages

Ambient Temperature 2m (AT2) - C
Lower Camp - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ambient Temperature 2m (AT2) - C
Lower Camp - July 2025

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	0	0.00	0.00
-20 - 0	0	0.00	0.00
0 - 10	21	2.82	2.82
10 - 20	456	61.29	64.11
> 20	267	35.89	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 - July 2025

Maximum Value: 100.0 % on Jul 25 03:00																				Maximum Daily Average: 89.8 % on Jul 25				Hours in Service: 744		
Minimum Value: 25.5 % on Jul 31 18:00																				Minimum Daily Average: 50.1 % on Jul 9				Hours of Data: 744		
Maximum Diurnal Average: 88.9 % at hour 4																				Minimum Diurnal Average: 45.7 % at hour 17				Hours of Missing Data: 0		
Monthly Average: 66.52 %																				Percentiles: P ₁ = 26.9 P ₁₀ = 36.2 Q ₁ = 50.5 Median = 66.4 Q ₃ = 85.3 P ₉₀ = 94.9 P ₉₉ = 99.9				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-Jul	91.7	94.6	92.0	94.1	94.0	87.6	84.1	83.3	73.3	62.7	52.7	44.9	39.4	41.1	34.6	38.7	35.2	39.4	49.2	71.9	72.0	74.5	70.7	63.4	66.0	94.6
2-Jul	70.9	76.1	80.0	81.6	83.1	77.6	72.0	69.1	64.0	59.8	50.9	47.6	47.4	54.5	54.2	51.6	36.1	33.7	42.7	42.6	55.5	57.5	55.3	72.4	59.8	83.1
3-Jul	97.7	99.0	99.4	97.4	95.1	94.2	88.4	81.2	72.5	69.1	63.9	59.1	52.6	47.7	50.5	54.0	49.1	50.5	59.6	70.8	73.5	75.2	69.5	73.3	72.6	99.4
4-Jul	82.3	89.4	94.0	94.0	92.3	89.9	86.0	77.0	69.8	65.1	58.9	53.6	50.6	53.0	54.4	49.8	50.6	59.0	63.6	58.4	63.9	80.0	94.3	98.0	72.0	98.0
5-Jul	99.1	99.5	99.8	99.9	98.0	95.7	93.3	93.0	86.9	70.6	64.8	54.8	56.0	52.0	50.4	53.0	49.9	56.8	57.7	60.9	68.7	73.7	77.7	78.1	74.6	99.9
6-Jul	82.8	81.1	88.4	91.8	90.9	87.4	85.6	81.8	78.6	74.4	73.1	70.2	65.3	58.6	58.2	76.5	97.8	96.7	94.3	92.9	93.2	97.4	98.3	98.8	83.9	98.8
7-Jul	98.3	97.5	98.7	99.4	99.9	98.8	92.3	86.8	83.5	75.5	69.9	63.2	58.3	57.6	59.8	59.3	52.4	51.0	56.1	58.5	62.1	62.5	61.8	59.3	73.4	99.9
8-Jul	57.2	59.6	69.7	73.9	74.9	75.5	73.3	68.7	70.1	70.7	56.0	52.4	52.0	50.4	40.1	35.8	38.2	37.1	36.9	39.0	55.8	78.7	82.1	88.2	59.8	88.2
9-Jul	94.9	95.0	91.0	80.2	76.6	69.0	62.3	54.2	49.2	42.8	37.9	32.9	29.7	27.7	27.1	27.3	28.0	29.1	31.0	33.4	39.4	41.0	48.2	53.7	50.1	95.0
10-Jul	56.7	59.7	61.8	62.5	64.3	63.6	64.8	64.4	63.4	63.9	63.0	60.0	56.2	54.1	53.1	51.6	49.8	49.0	48.5	50.9	60.6	79.3	90.5	94.3	61.9	94.3
11-Jul	95.3	97.8	97.6	97.7	95.0	87.2	81.1	74.7	65.8	48.6	40.3	34.4	30.2	30.3	31.6	32.8	34.8	37.4	45.7	64.0	89.9	95.7	95.0	82.9	66.1	97.8
12-Jul	79.9	83.1	89.1	87.5	93.0	94.7	94.2	94.1	96.1	96.1	90.9	84.1	73.7	72.9	64.9	55.3	51.6	52.6	58.1	59.3	63.3	64.9	65.0	71.7	76.5	96.1
13-Jul	78.7	92.1	91.6	83.4	83.8	86.2	82.1	75.9	73.3	70.3	70.8	66.6	56.9	54.4	47.4	44.9	44.1	42.9	43.9	45.1	49.4	56.2	67.0	79.3	66.1	92.1
14-Jul	91.7	90.4	90.7	86.4	82.1	73.6	68.1	59.2	50.4	47.9	46.1	44.7	42.4	40.8	42.7	40.0	37.8	39.1	39.3	41.2	49.8	65.7	81.6	89.1	60.0	91.7
15-Jul	90.7	96.6	98.5	99.1	99.8	93.1	80.4	74.9	65.8	58.2	54.9	42.2	32.9	30.3	30.0	31.1	31.2	31.6	30.5	31.2	36.2	39.1	41.3	48.7	57.0	99.8
16-Jul	66.6	70.1	69.6	75.1	80.9	82.1	75.2	65.3	59.9	55.8	53.9	44.7	34.9	32.8	31.1	30.0	35.1	36.2	30.4	48.6	66.1	75.8	84.6	88.5	58.1	88.5
17-Jul	92.9	87.7	91.6	94.8	97.0	93.1	85.0	71.2	61.5	59.7	54.5	48.4	34.6	31.1	32.0	32.4	30.0	31.6	33.4	45.5	66.0	77.9	85.4	88.7	63.6	97.0
18-Jul	83.6	87.8	92.2	96.9	97.6	92.1	82.4	71.9	64.9	58.4	52.5	46.2	37.3	28.9	30.0	31.4	28.5	29.5	32.2	31.9	42.1	50.5	57.3	56.5	57.6	97.6
19-Jul	58.4	59.9	67.1	73.2	78.9	79.7	79.0	69.3	62.2	58.0	53.4	54.0	44.2	34.7	35.3	38.5	34.0	37.1	43.6	43.2	57.2	64.0	71.7	80.9	57.4	80.9
20-Jul	87.4	94.6	93.8	95.7	94.1	92.4	87.1	82.9	78.4	72.9	68.5	64.6	57.3	52.3	49.8	53.0	47.3	53.8	59.2	64.3	71.4	80.3	86.0	87.7	73.9	95.7
21-Jul	93.4	92.3	88.7	88.3	84.9	80.9	74.6	72.3	69.3	60.8	59.2	55.0	53.0	50.6	49.8	50.5	51.9	53.6	55.2	57.2	61.0	67.3	71.2	70.5	67.1	93.4
22-Jul	73.7	84.9	83.6	82.0	75.3	71.9	68.0	65.1	56.6	50.0	46.1	44.9	45.9	44.1	40.9	37.8	39.8	40.8	38.0	38.8	53.3	73.2	82.2	88.3	59.4	88.3
23-Jul	91.6	95.6	97.2	98.4	99.0	89.7	78.6	67.2	59.1	52.4	50.2	39.0	35.0	31.6	26.7	29.7	30.2	26.6	29.4	36.9	40.8	55.0	73.8	80.5	58.9	99.0
24-Jul	85.4	85.5	85.7	87.0	87.1	80.5	73.2	68.0	57.6	50.5	49.5	53.2	51.1	57.0	85.7	87.9	86.5	84.3	85.3	85.5	91.1	91.4	94.1	99.0	77.6	99.0
25-Jul	99.8	99.9	100.0	94.3	89.0	86.2	84.9	80.8	78.7	76.3	74.4	69.9	73.4	84.3	96.7	97.5	97.2	97.4	95.1	94.7	96.3	96.5	95.5	95.8	89.8	100.0
26-Jul	98.3	99.5	100.0	100.0	100.0	100.0	100.0	97.8	89.2	80.9	65.2	59.2	63.9	58.2	59.6	59.9	63.8	65.3	68.1	69.0	69.9	73.1	77.0	76.4	78.9	100.0
27-Jul	81.7	81.7	77.1	74.5	74.7	73.9	75.4	70.8	67.0	59.2	57.7	56.6	53.6	53.4	53.4	50.7	53.0	62.5	62.4	61.8	64.9	64.8	70.2	85.1	66.1	85.1
28-Jul	95.0	97.9	99.3	99.8	100.0	99.2	89.2	78.8	69.2	56.9	47.1	44.5	41.4	45.0	42.3	43.2	41.1	39.1	53.0	64.2	72.0	80.4	93.5	93.9	70.2	100.0
29-Jul	91.1	84.8	80.4	85.0	86.8	87.1	80.0	69.7	60.6	57.9	54.8	49.3	43.9	44.5	36.8	34.3	34.0	33.4	33.9	39.0	41.4	72.6	80.7	86.9	61.2	91.1
30-Jul	91.0	89.8	85.7	85.6	81.7	81.3	73.6	69.2	63.6	63.7	59.7	51.7	39.0	37.6	32.2	32.3	31.7	34.2	38.8	48.7	67.2	80.0	88.6	86.2	63.1	91.0
31-Jul	89.5	92.5	96.0	97.2	97.1	89.9	75.5	67.6	62.9	58.3	56.5	50.2	33.5	25.8	25.8	25.8	25.6	25.5	25.8	28.9	51.7	78.5	80.3	64.6	59.4	97.2
85.4 87.6 88.7 88.9 88.6 85.6 80.3 74.4 68.5 62.8 58.0 53.0 47.9 46.4 46.0 46.3 45.7 47.0 49.7 54.1 62.8 71.7 77.1 80.0																									Diurnal Average	
99.8 99.9 100.0 100.0 100.0 100.0 100.0 97.8 96.1 96.1 90.9 84.1 73.7 84.3 96.7 97.5 97.8 97.4 95.1 94.7 96.3 97.4 98.3 99.0																									Diurnal Maximum	

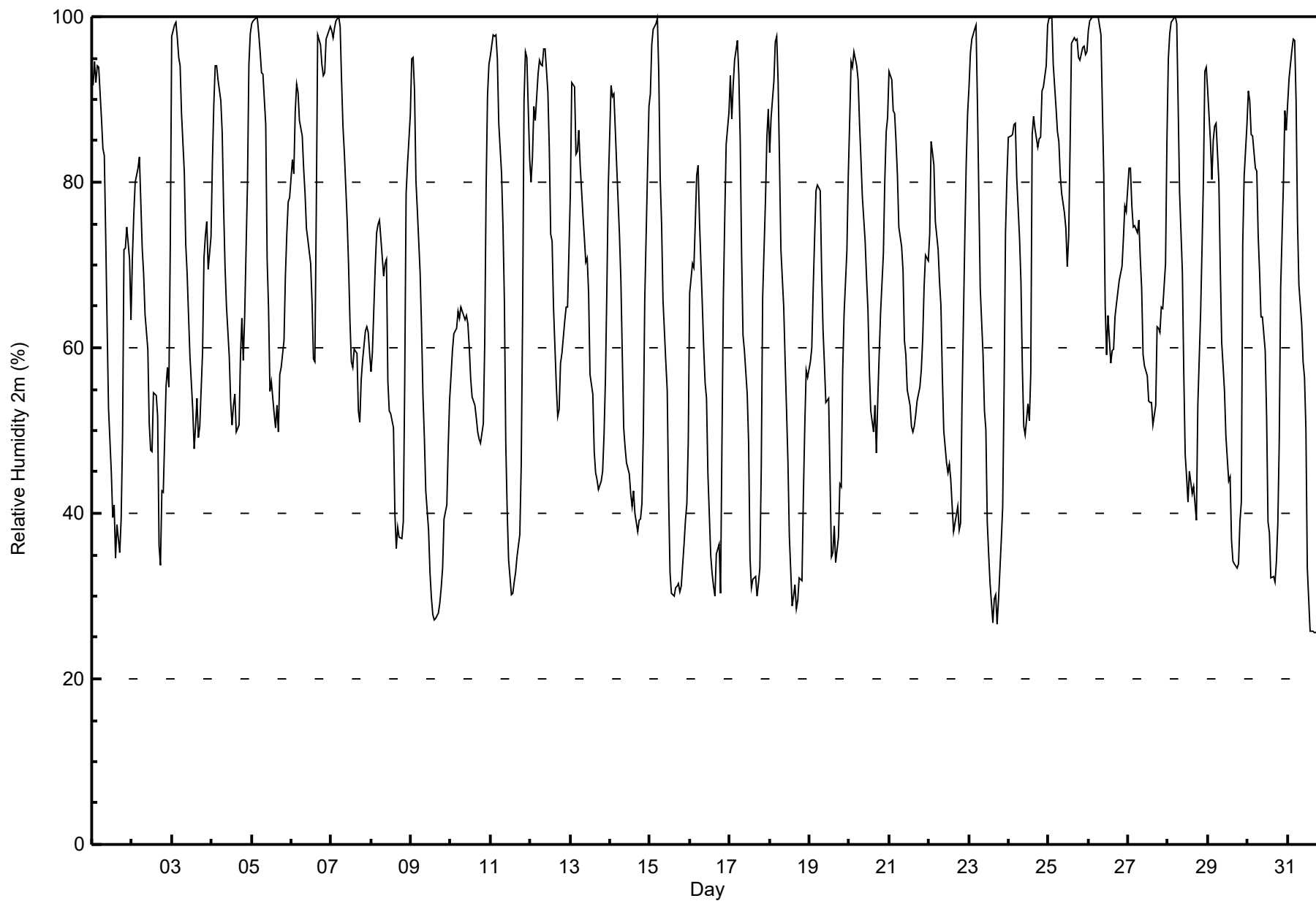


Wood Buffalo Environmental Association

Hourly Averages

Relative Humidity 2m (RH2) - %

Lower Camp - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Barometric Pressure (BP) - inHg

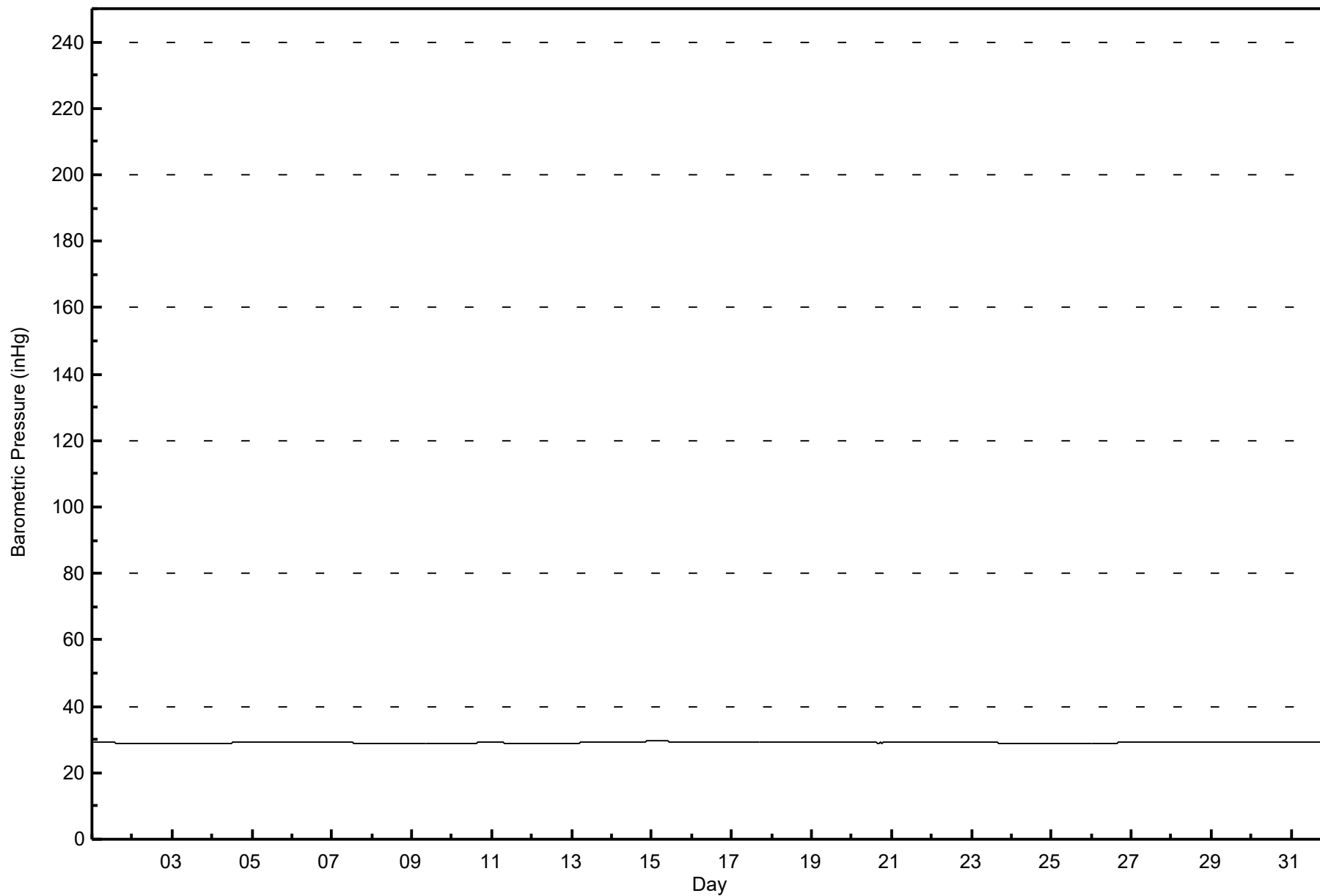
Lower Camp - July 2025

Maximum Value: 29.5 inHg on Jul 15 03:00																				Maximum Daily Average: 29.4 inHg on Jul 28					Hours in Service: 744	
Minimum Value: 28.7 inHg on Jul 8 22:00																				Minimum Daily Average: 28.7 inHg on Jul 3					Hours of Data: 744	
Maximum Diurnal Average: 29.1 inHg at hour 8																				Minimum Diurnal Average: 29.1 inHg at hour 19					Hours of Missing Data: 0	
Monthly Average: 29.08 inHg																				Percentiles: P ₁ = 28.7 P ₁₀ = 28.8 Q ₁ = 28.9 Median = 29.1 Q ₃ = 29.2 P ₉₀ = 29.3 P ₉₉ = 29.5					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-Jul	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	29.0	29.0	29.0	29.0	28.9	28.9	28.9	28.9	29.0	29.1
2-Jul	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.8	28.8	28.8	28.8	28.8	28.8	28.7	28.7	28.7	28.7	28.7	28.7	28.8	28.9
3-Jul	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	28.7	28.7	28.8	28.8	28.8	28.7	28.8
4-Jul	28.8	28.8	28.8	28.8	28.8	28.9	28.9	28.9	29.0	29.0	29.0	29.0	29.0	29.1	29.1	29.1	29.1	29.1	29.2	29.2	29.2	29.2	29.2	29.2	29.0	29.2
5-Jul	29.2	29.2	29.2	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.3
6-Jul	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2
7-Jul	29.2	29.2	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.1	29.2
8-Jul	28.9	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	28.8	28.8	28.8	28.7	28.7	28.7	28.7	28.7	28.7	28.8	28.8	28.9
9-Jul	28.7	28.7	28.7	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.7	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
10-Jul	28.8	28.8	28.8	28.9	28.9	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	29.1	29.1	29.1	29.1	29.1	29.1	29.0	29.1
11-Jul	29.1	29.1	29.1	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	28.8	28.8	28.8	28.8	28.8	28.8	28.9	29.1
12-Jul	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	28.9	28.9
13-Jul	29.0	29.0	29.0	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	29.2	29.2	29.2	29.2	29.2	29.2	29.3	29.1	29.3
14-Jul	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	29.4	29.4	29.4	29.4	29.5	29.5	29.5	29.4	29.5
15-Jul	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	29.3	29.3	29.3	29.2	29.2	29.4	29.5
16-Jul	29.2	29.2	29.2	29.2	29.2	29.3	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	29.1	29.1	29.1	29.1	29.1	29.2	29.3
17-Jul	29.1	29.1	29.1	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	29.1	29.1	29.1	29.2
18-Jul	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	29.0	29.0	29.0	29.0	29.1	29.1	29.1	29.1	29.1
19-Jul	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	29.1	29.1
20-Jul	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	29.0	29.0	29.0	29.0	29.0	29.0	29.1	29.1	29.1	29.1	29.1	29.1
21-Jul	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	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2
22-Jul	29.2	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	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.2
23-Jul	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	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.1	29.1
24-Jul	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	28.9	28.9	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.8	28.9	29.0
25-Jul	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	28.9	28.9	28.9	28.9	28.9	28.9	29.0	28.8	29.0
26-Jul	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	29.1	29.1	29.1	29.1	29.1	29.0	29.1
27-Jul	29.1	29.2	29.2	29.2	29.2	29.2	29.2	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.4	29.4	29.4	29.3	29.4
28-Jul	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	29.4
29-Jul	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	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.4	29.4
30-Jul	29.3	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	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.3	29.3
31-Jul	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.3	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.3
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 29.1																										Diurnal Average
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 29.4 29.4 29.4 29.4 29.4 29.4 29.4 29.4 29.5 29.5 29.5																										Diurnal Maximum



Wood Buffalo Environmental Association
Hourly Averages

Barometric Pressure (BP) - inHg
Lower Camp - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Speed 10m (WS10) - km/h

Lower Camp - July 2025

Maximum Speed: 33 km/h on Jul 9 16:00																		Maximum Daily Speed Average: 19.4 km/h on Jul 9										Hours in Service: 744	
Minimum Speed Value: 0 km/h on Jul 22 23:00																		Minimum Daily Speed Average: 0.3 km/h on Jul 28										Hours of Data: 742	
Maximum Diurnal Speed Average: 4.1 km/h at hour 13																		Minimum Diurnal Speed Average: 0.9 km/h at hour 2										Hours of Missing Data: 2	
Monthly Average Velocity: 1.6 km/h 263.5 deg																		Percentiles: P ₁ = 0 P ₁₀ = 2 Q ₁ = 4 Median = 7 Q ₃ = 11 P ₉₀ = 15 P ₉₉ = 24										Percent Operational Time: 99.7	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum			
1-Jul	NW1	NW1	NNE1	NW1	NE2	N3	NW3	WNW4	N4	NNE4	NNE3	E3	SE6	ESE8	SE7	SE9	ESE8	ENE3	W7	SE6	ESE10	ESE6	SE9	SE10	ESE2.6	SE10			
2-Jul	SE8	SE8	SSE6	SE10	SE11	SE9	SE12	SE10	SE14	W7WNW11	W9	SSW6	NW6	N2	ESE9	W4	S2	SE9	SSE4	ESE1	ESE14	ESE19	WSW14	SSE4.7	ESE19				
3-Jul	NNW10	WNW0	SSW3	WSW6	WNW7	W8WSW13	W15WSW14	WSW16	W14WSW14	WSW20	SW18	SW16	SSW11	SW13	SW18	W24	W13WSW13	WSW12	W15	W16	WSW11.9	W24	WSW11.9	W24					
4-Jul	W17	W19	W18	W19WNW22	WNW18	WNW17	WNW21	WNW22	WNW18	NW16	NW17	NW17	NW13	NW8	NNW12	N11	N16	NNW4	N3	NNW3	ENE0	NE1	E1	WNW11.6	WNW22				
5-Jul	E1	SE1	E2	SE4	ESE5	SE9	NNE3	ESE8	ESE8	SE12	SE11	SSE6	ESE10	SE7	SSE11	ESE5	NNW2	NNE3	WNW5	NW5	NW4	NW4	NE3	N2	ESE3.1	SE12			
6-Jul	E2	NE6	WNW4	NW2	NW2	N5	NNW4	NNW5	NNW5	N8	NNW9	NNW9	NW10	NW9	WNW10	SE7	NW2	NNW5	NNE5	N2	ENE1	NNW1	ENE2	NW3	NNW3.7	WNW10			
7-Jul	NE2	NNE1	SW1	W2	W2	SSE2	SE6	SE10	SE9	S6	SE7	SE9	SE8	S6	SW3	SSE10	SE10	SE10	SSE8	SSE8	SSE7	SSE7	SSE7	SSE7	SSE5.4	SE10			
8-Jul	S9	S5	SSE4	E6	ESE7	ESE11	SE10	SE9	SE12	SSE7	S11	S12	SSE12	SSE12	S10	S12	S9	S8	S6	SSE5	SSE2	W2	W20	WNW16	SSE6.0	W20			
9-Jul	NE2	S5	SSW8	SW18	SW15	SW18	SW18	WSW21	WSW19	WSW24	WSW24	WSW26	WSW26	WSW29	WSW32	WSW33	W28	WSW26	WSW22	W19	WNW18	W21	W20	W15	WSW19.4	WSW33			
10-Jul	WSW11	WSW9	WSW13	W14	W12	WSW13	WSW16	W16	WSW14	WSW11	W10	W10	WNW15	WNW16	NW12	WNW13	WNW13	WNW14	NW10	NW7	WNW2	SE2	E3	SE2	W9.5	W16			
11-Jul	ESE1	ESE2	SE5	SE7	SE10	SE13	SE17	SE17	SE13	S11	SSW14	SW19	SW20	WSW20	WSW21	WSW23	WSW18	WSW13	W6	WSW13	WSW3	SSE3	SE3	SSW5	SSW7.3	WSW23			
12-Jul	SSW6	WSW16	W12	W14	W9	WSW9	W13	W15	W12	WNW7	NW6	NW5	WNW15	WNW8	NW5	WSW13	W12	W22	WSW18	WSW17	W14	W15	NNW13	NNW8	W10.8	W22			
13-Jul	NNW5	WNW0	SSW4	SW8	WSW4	NNW5	NW7	NNW5	NNW9	N15	N15	NNW11	NNW12	NNW14	NNW12	N14	N12	NNE14	NNE16	NNE14	NE10	N6	NW5	NNW1	N7.5	NNE16			
14-Jul	ESE1	WNW2	NW2	NW5	NNW3	NE4	NNW9	NNW12	NNW15	NNW15	NNW14	N12	NNW12	NNW11	NNW12	NNW11	N13	N10	N10	NNE9	NE5	W2	NNE1	UO	NNW7.6	NNW15			
15-Jul	NE1	ENE1	E1	UO	ESE2	ESE7	ESE9	SE11	SE11	ESE11	ESE11	NE3	W6	W7	SSE7	SSE7	SE8	SSE7	SSE8	SSE8	S9	SSE9	SSE10	SE9	SE5.6	SE11			
16-Jul	SE7	SSE4	SE8	SE10	SE8	SE11	SE12	ESE13	SE12	SE12	SE10	ESE10	SE9	SE8	SSE3	SE7	ESE9	SE8	SE2	NW2	WNW2	NNE1	ESE1	N1	SE6.6	ESE13			
17-Jul	W3	NE1	WSW1	E1	SE1	ENE3	ESE6	ESE5	ESE3	NE3	NNW3	NNW5	NW8	NNW8	NNW9	N9	N10	N9	NE9	NNW2	WNW1	NW0	NNW0	NW1	N2.7	N10			
18-Jul	W2	N1	N0	ESE1	ESE3	ESE7	SE10	ESE12	SE11	ESE12	ESE12	ESE13	SE10	SSE6	SE7	SE8	S9	SSE8	SSE7	SSE6	SSE6	SE7	SE7	SE8	SE6.7	ESE13			
19-Jul	SE4	SSE5	SSE6	SE7	SE4	NNE0	ESE4	ESE4	ESE5	ESE9	ESE10	SE9	SE7	SSE6	SE7	ESE10	SE7	SE8	SE6	SE3	NNW4	NW8	NW5	WNW2	SE4.1	ESE10			
20-Jul	NW2	NW2	WNW5	NW3	NW5	NNW5	NNW8	NNW7	WNW5	WNW4	NW5	NNE2	ESE5	ESE10	ESE8	ESE10	NW10	NNW10	NNW1	NW3	N14	NNW13	NNW15	N20	NNW4.6	N20			
21-Jul	NNW20	N23	N20	N14	N15	N16	N16	NNW17	NNW18	NNW16	NNW14	NNW14	NNW14	NNW13	NNW13	NNW13	NNW14	NW13	NW13	NW9	N5	NE3	NNE3	NW4	NNW12.9	N23			
22-Jul	NW4	WNW2	W2	WSW2	WSW5	W7	W11	W11	WSW13	WSW12	WNW9	WNW11	NW6	NW8	NW6	WNW11	NNW6	N8	N6	NW4	NW2	NW1	N0	NNW0	WNW5.3	WSW13			
23-Jul	NNW1	WNW1	WNW1	ENE0	E2	E6	ESE9	SE10	SE8	SE7	SE9	ESE7	W4	WSW7	NW7	NNW6	NNE5	SW8	SW8	SSW6	SSW7	WSW2	ESE2	ESE2	SSE2.0	ESE10			
24-Jul	ESE3	SE4	SE6	SE7	ESE7	ESE9	ESE7	SE9	SE7	ESE17	SE18	SE14	SE15	SSE9	SE6	SE7	ESE9	ESE6	SSE2	SE5	SSE3	NW5	NW3	W1	SE6.6	SE18			
25-Jul	ESE2	ENE1	SE4	WSW9	WSW12	SW12	SW10	WSW17	W14	WSW14	WSW13	W12	NW12	NW12	WNW9	NNW11	NNW9	NW10	NW6	WNW6	WNW6	WNW5	WNW7	WNW5	W7.1	WSW17			
26-Jul	NW2	NW1	WNW2	ENE1	NW1	ESE2	ESE5	SE5	ESE9	SE8	WSW5	W12	WSW11	N5	NNW8	NNE15	NNE17	NNE18	NNE14	NNE7	NNW3	NW4	NW6	NW6	N3.2	NNE18			
27-Jul	NW6	NNW5	NNW8	NNW10	N10	N13	N11	NNW11	NW9	NNW11	NW11	NW12	NW13	NW9	NW9	NW10	NNW10	NNW6	NW5	NW5	NW6	NW6	NW6	NNW3	NNW8.0	NW13			
28-Jul	W2	SSW0	NE1	SSW0	SE2	ESE6	ESE8	ESE8	ESE6	WSW2	WSW6	WSW8	WSW10	N7	NNE6	NNE6	N4	NNW1	N4	NNW2	SE1	NW1	ENE1	W2	NNE0.3	WSW10			
29-Jul	E0	SE1	S1	WSW0	SSE1	SE3	SE10	SE11	SE10	SE11	ESE11	ESE10	E5	ESE11	SW5	W5	SE1	SSW4	S6	SSE6	S6	N2	WNW1	ESE4	SE4.0	SE11			
30-Jul	E2	SE4	SW1	SW2	SE5	SE6	ESE10	ESE8	SE13	SE12	SE12	SE6	NNW7	NNE5	NW10	N10	NNW9	NNW8	N7	WNW3	W2	WNW2	WNW2	WNW4	ENE1.4	SE13			
31-Jul	NW1	SSE0	N1	NNW1	SE2	SE10	SE10	SE10	SE12	SE11	SE11	ESE10	W8	SW8	SSW8	SSW7	SW6	SSW5	SW6	SSW5	SSW2	E2	NNE2	SE7	SSE4.0	SE12			
WNW1.1 W0.9WSW1.5WSW2.2WSW1.2SSE1.0 SSE1.6 S1.4 S1.7SSW1.4 SW1.5WSW2.3 W4.1 W3.3 W3.4WNW1.7 NW2.8WNW2.9WNW2.6 W2.0 W1.5WNW1.5WNW1.4 W2.0																										Diurnal Average			
NNW20 N23 N20 W19WNW22 SW18 SW18WNW21WNW22WSW24WSW24WSW26WSW26WSW29WSW32WSW33WSW28WSW26 W24WSW19WNW18 W21 W20 N20																										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

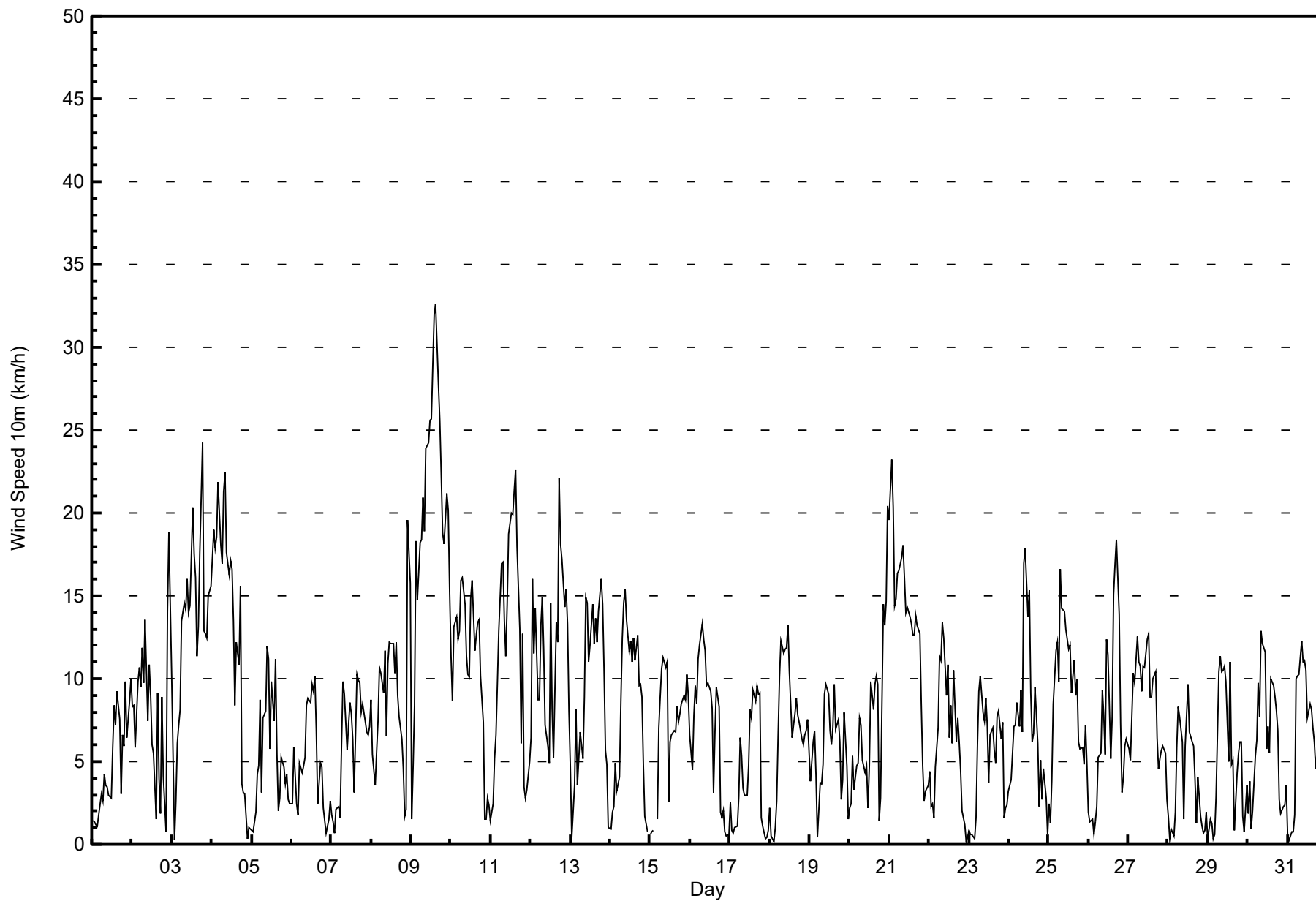
Wind Speed 10m (WS10) - km/h
Lower Camp - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 12 km/h on Jul 3 00:00																		Hours in Service: 744							
Minimum Value: 0 km/h on Jul 17 10:00																		Hours of Data: 742							
Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 2 Median = 3 Q ₃ = 3 P ₉₀ = 4 P ₉₉ = 7																		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-Jul	1	1	2	2	2	2	1	1	1	1	1	1	1	2	3	2	2	1	5	2	4	4	4	4	5
2-Jul	3	4	2	3	3	2	3	3	3	6	4	4	3	3	3	4	2	2	2	2	2	4	4	12	12
3-Jul	5	2	1	6	3	3	3	4	3	4	4	5	5	5	6	4	4	5	9	4	3	3	4	4	9
4-Jul	4	4	4	4	4	3	3	4	4	4	5	5	5	5	3	3	3	5	2	2	2	1	2	2	5
5-Jul	2	2	3	2	3	3	4	4	2	3	3	2	2	3	4	5	2	2	2	1	1	2	3	2	5
6-Jul	3	2	2	2	2	2	2	1	1	2	2	2	2	3	2	7	2	2	2	2	2	2	2	1	7
7-Jul	2	2	1	2	2	2	3	3	3	2	4	3	3	4	4	4	3	3	3	3	2	2	2	2	4
8-Jul	3	4	2	3	3	3	3	3	3	2	5	5	4	4	4	5	4	3	2	1	1	1	11	5	11
9-Jul	3	2	5	5	4	5	5	5	5	6	6	7	6	7	8	8	7	6	6	6	5	5	5	4	8
10-Jul	3	3	3	3	3	3	3	3	3	3	3	3	3	4	3	3	3	3	3	3	2	1	1	1	4
11-Jul	1	2	2	3	3	3	3	3	3	4	5	7	7	5	6	5	5	4	4	10	4	2	2	2	10
12-Jul	2	5	3	4	3	2	3	3	3	2	2	4	3	3	5	3	3	6	5	4	3	3	4	2	6
13-Jul	3	2	4	3	3	2	2	2	4	4	3	3	3	4	4	4	4	3	4	3	3	2	2	2	4
14-Jul	2	2	2	1	2	1	2	4	4	4	4	4	4	4	4	4	5	3	3	3	2	1	1	UO	5
15-Jul	1	1	1	UO	2	2	2	2	2	2	2	3	3	3	3	4	2	2	3	3	3	3	3	3	4
16-Jul	2	2	3	2	2	2	3	2	2	2	2	3	4	3	3	3	2	2	3	1	1	1	1	1	4
17-Jul	2	1	1	2	1	2	2	2	1	0	1	2	3	3	3	4	3	2	2	2	1	1	1	1	4
18-Jul	2	1	1	2	2	2	2	3	2	2	2	2	3	3	4	3	4	3	3	2	2	2	2	2	4
19-Jul	2	2	2	2	2	1	2	1	2	2	2	2	2	2	3	2	3	2	2	2	4	2	1	2	4
20-Jul	2	2	1	2	1	2	2	2	1	1	2	1	2	2	2	3	7	4	3	3	6	4	4	5	7
21-Jul	5	6	6	4	4	4	4	4	4	4	4	4	4	4	3	4	3	3	3	3	2	2	2	1	6
22-Jul	1	1	1	3	3	2	3	3	3	4	4	4	3	3	2	4	2	2	2	2	1	2	1	1	4
23-Jul	1	1	1	1	2	2	2	2	2	1	1	2	5	4	2	3	3	4	2	2	2	2	1	1	5
24-Jul	2	2	1	2	2	2	2	2	3	4	5	5	5	4	3	3	3	4	2	2	4	4	2	2	5
25-Jul	2	1	2	4	3	4	4	4	4	4	3	3	3	3	2	3	3	3	3	1	1	2	2	1	4
26-Jul	1	1	1	1	1	2	1	2	2	2	3	6	8	3	3	7	4	4	5	2	2	1	1	2	8
27-Jul	1	1	2	3	2	3	3	3	2	3	3	3	3	2	3	3	3	2	1	1	2	2	2	2	3
28-Jul	1	1	2	1	1	2	2	1	1	2	3	3	3	2	3	3	2	1	1	1	1	1	2	2	3
29-Jul	1	2	1	1	2	2	3	3	2	2	3	3	3	3	3	3	2	3	2	2	2	1	2	2	3
30-Jul	2	3	3	2	3	2	3	3	3	2	2	4	3	3	4	3	3	3	2	1	1	1	2	1	4
31-Jul	2	1	1	1	2	3	2	2	2	2	2	3	4	3	4	3	4	3	2	2	1	1	1	2	4
5 6 6 6 4 5 5 5 5 6 6 7 8 7 8 8 7 6 9 10 6 5 11 12																									
Diurnal Maximum																									
UO - Unstable Operation																									



Wood Buffalo Environmental Association
Hourly Averages

Wind Speed 10m (WS10) - km/h
Lower Camp - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 10m (WS10) - km/h
Lower Camp - July 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	261	35.18	35.18
6 - 11	297	40.03	75.20
12 - 19	156	21.02	96.23
20 - 28	25	3.37	99.60
29 - 38	3	0.40	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 - July 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	16	11	11	13	23	22	14	4	9	5	9	14	26	39	28	261
6 - 11	14	4	3	0	2	43	80	27	13	8	7	11	14	12	29	30	297
12 - 19	13	7	0	0	0	10	16	2	2	2	9	27	23	11	11	23	156
20 - 28	3	0	0	0	0	0	0	0	0	0	1	12	5	3	0	1	25
29 - 38	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	47	27	14	11	15	76	118	43	19	19	22	62	56	52	79	82	742

Total Number of Valid Hours: 742

Total Number of Hours: 744

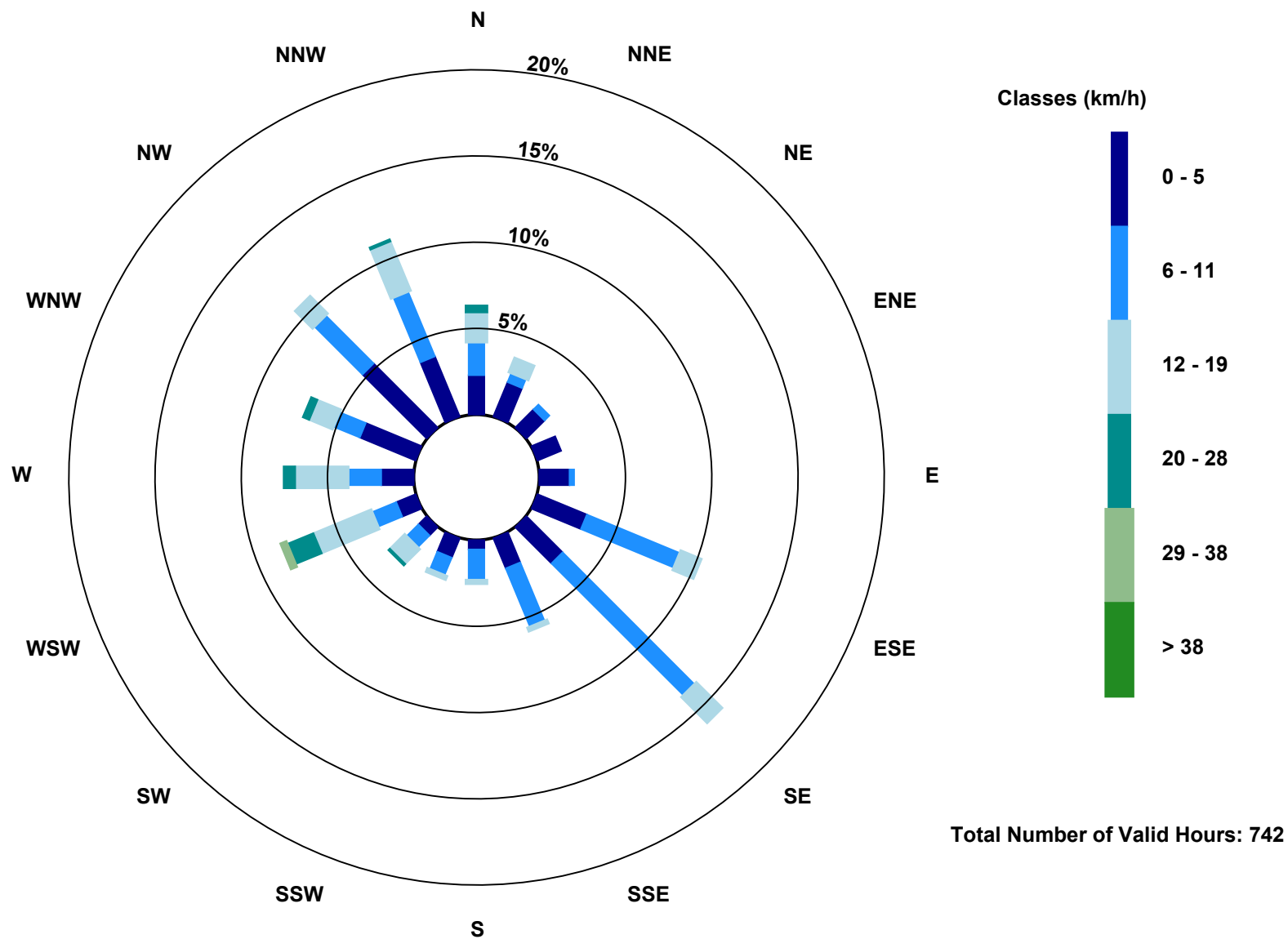


Wood Buffalo Environmental Association

Wind Rose Jul 2025

Wind Speed 10m (WS10) - km/h

Lower Camp





Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Direction 10m (WD10) - deg

Lower Camp - July 2025

Direction of Maximum Speed: 253 deg on Jul 9 16:00																				Hours in Service:		744			
Direction of Maximum Daily Speed Average: 249.5 deg on Jul 9																				Hours of Data:		742			
Direction of Minimum Speed: 359 deg on Jul 22 23:00										Direction of Minimum Daily Speed Average: 0.3 deg on Jul 28										Hours of Missing Data:		2			
Monthly Average Direction: 263.5 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-Jul	310	304	15	304	47	8	323	290	1	15	21	87	132	119	131	124	122	78	263	141	114	113	134	140	114.3
2-Jul	136	130	151	133	137	135	136	133	130	266	282	273	192	317	11	120	272	176	132	147	114	117	119	248	148.5
3-Jul	330	298	203	239	284	259	254	260	256	251	260	251	253	232	224	202	214	230	280	265	252	258	259	263	252.1
4-Jul	264	261	260	270	291	295	295	293	293	289	304	304	308	313	320	340	349	351	327	10	335	71	56	92	297.5
5-Jul	98	124	98	130	117	133	20	102	109	129	125	148	121	140	162	115	343	15	303	304	312	326	55	352	118.4
6-Jul	80	55	301	322	326	5	342	329	335	350	333	342	322	311	301	143	322	335	12	350	71	336	60	312	338.5
7-Jul	34	18	214	280	265	150	129	127	128	176	137	133	129	172	218	147	145	146	157	155	158	153	154	160	148.2
8-Jul	178	173	152	96	117	123	130	131	124	148	180	174	158	149	176	179	180	179	186	156	167	276	275	287	168.0
9-Jul	36	186	208	234	228	232	236	243	245	249	244	241	240	250	246	253	259	253	252	259	295	272	272	268	249.5
10-Jul	254	243	252	267	265	258	253	259	250	254	270	267	296	301	309	291	294	301	315	304	292	131	100	134	274.0
11-Jul	114	107	141	138	132	133	130	127	130	172	197	220	232	245	249	253	242	243	270	245	256	148	126	196	203.9
12-Jul	206	247	263	259	261	255	260	277	276	301	315	311	293	294	305	257	272	259	257	255	260	264	335	329	270.8
13-Jul	327	283	198	229	257	328	306	339	348	0	357	348	340	342	338	357	353	16	24	32	34	8	313	336	352.7
14-Jul	110	288	314	305	343	54	347	343	334	340	347	351	330	338	347	336	2	1	5	28	40	275	20	UO	347.8
15-Jul	44	76	95	UO	105	121	121	126	125	123	116	41	270	266	153	153	144	153	161	168	171	164	157	143	144.6
16-Jul	126	147	143	138	136	130	132	123	124	124	128	114	137	125	154	126	120	127	132	306	301	25	105	10	128.5
17-Jul	260	35	251	88	146	67	110	104	109	35	344	334	308	341	341	11	351	4	38	347	301	313	343	312	6.1
18-Jul	279	357	358	119	123	112	124	122	125	122	121	114	125	154	145	133	169	160	151	153	155	139	137	137	133.9
19-Jul	144	155	148	142	140	22	110	110	121	123	119	127	140	153	132	123	140	138	136	146	338	315	308	285	132.6
20-Jul	326	306	284	318	315	327	341	344	302	293	311	16	121	117	107	105	321	329	340	324	357	347	344	354	346.5
21-Jul	345	355	354	352	353	354	356	340	330	337	338	334	329	330	339	342	327	319	311	322	358	54	24	321	340.9
22-Jul	315	297	271	254	256	260	263	267	258	254	292	293	321	321	324	295	343	357	349	317	313	305	359	343	291.7
23-Jul	329	283	286	76	101	99	122	124	129	129	130	118	268	240	315	345	15	223	220	206	210	245	103	118	156.6
24-Jul	112	126	125	128	108	106	108	128	133	122	127	127	124	153	133	125	105	111	154	143	157	318	322	275	124.0
25-Jul	113	68	128	246	254	234	233	253	260	249	245	268	314	321	297	339	330	314	318	284	284	294	297	284	276.7
26-Jul	310	312	282	59	307	111	119	137	122	125	250	264	253	10	347	13	18	18	26	25	336	322	319	325	2.5
27-Jul	307	327	347	347	353	2	360	347	315	331	322	306	314	309	314	312	341	332	309	321	305	326	326	289	328.7
28-Jul	278	199	37	200	130	113	123	123	118	237	255	251	252	351	16	30	4	341	358	348	145	313	61	277	24.7
29-Jul	94	127	174	239	154	128	126	130	125	124	122	110	89	122	219	266	139	194	187	163	177	6	293	119	136.9
30-Jul	99	129	236	221	125	137	120	113	131	126	129	136	328	16	318	349	342	346	10	302	261	283	285	291	77.5
31-Jul	325	154	351	345	124	128	126	127	129	129	130	123	275	219	206	203	224	205	216	209	204	83	31	142	157.5
288.0 258.9 246.5 245.3 247.4 157.2 161.7 180.9 180.2 206.6 227.1 252.0 270.2 276.8 275.8 285.8 306.9 296.9 292.5 261.4 278.5 285.5 295.2 270.3																									
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

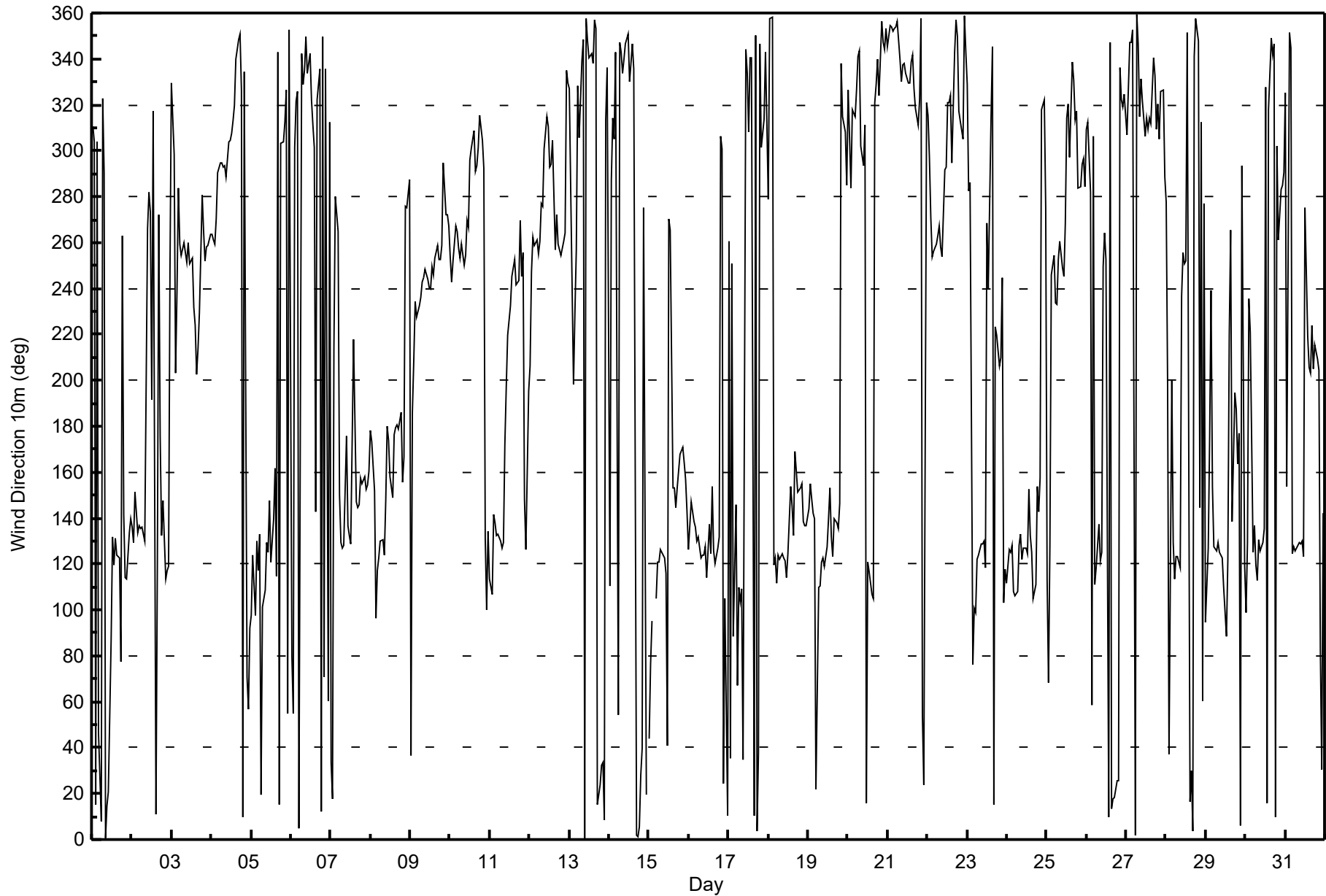
Wind Direction 10m (WD10) - deg
Lower Camp - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 104 deg on Jul 29 17:00																			Hours in Service: 744 Hours of Data: 742 Hours of Missing Data: 2 Hours of Calibration: 0 Percent Operational Time: 99.7						
Minimum Value: 10 deg on Jul 31 09:00																									
Percentiles: P ₁ = 12 P ₁₀ = 15 Q ₁ = 19 Median = 28 Q ₃ = 48 P ₉₀ = 74 P ₉₉ = 96																									
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-Jul	54	72	87	48	73	41	40	23	39	25	34	47	19	18	39	13	25	55	49	30	26	47	35	35	87
2-Jul	40	43	34	20	20	17	15	16	14	76	22	35	50	47	81	33	75	83	17	39	84	12	11	74	84
3-Jul	33	97	40	69	26	26	16	15	18	18	19	22	17	21	23	32	29	20	25	17	16	17	15	14	97
4-Jul	14	14	14	14	12	11	12	12	13	17	20	21	19	15	24	23	23	25	48	51	48	95	66	83	95
5-Jul	72	93	82	58	53	26	87	45	20	15	17	56	17	35	35	83	69	70	17	17	29	39	47	36	93
6-Jul	78	44	29	44	58	28	28	26	30	21	22	21	22	20	18	82	83	32	48	80	86	75	88	42	88
7-Jul	69	62	77	57	42	90	42	21	22	57	50	47	38	59	82	30	26	28	27	28	26	22	26	27	90
8-Jul	32	83	69	55	35	15	20	19	19	38	41	36	32	29	44	35	38	39	38	27	93	62	20	19	93
9-Jul	93	34	39	16	20	16	17	16	19	17	17	18	18	16	16	15	15	15	15	16	19	14	12	14	93
10-Jul	17	18	15	14	15	14	13	14	15	24	25	32	19	20	24	16	16	16	19	12	44	52	33	47	52
11-Jul	65	56	40	31	23	15	14	12	20	39	33	29	24	19	16	15	17	19	25	32	76	65	77	38	77
12-Jul	31	15	16	16	18	17	14	13	12	22	23	49	15	41	55	17	17	14	15	14	13	13	25	27	55
13-Jul	63	96	66	20	48	38	20	30	28	23	22	26	26	25	26	23	24	25	21	15	16	28	37	100	100
14-Jul	94	69	42	20	42	41	26	24	24	24	24	30	26	36	27	29	29	31	27	34	36	28	65	UO	94
15-Jul	47	73	73	UO	79	29	15	13	15	15	15	76	56	38	50	69	30	32	31	30	29	32	29	30	79
16-Jul	37	44	29	16	26	18	17	14	13	11	13	23	37	40	76	42	15	14	76	24	17	80	100	66	100
17-Jul	63	83	81	91	102	79	33	25	48	22	46	31	29	38	28	28	36	24	22	66	20	28	54	44	102
18-Jul	38	58	64	88	53	30	16	14	14	11	12	12	18	61	62	33	37	36	32	32	29	33	28	31	88
19-Jul	53	29	26	21	53	79	44	37	25	14	13	15	39	56	51	26	38	27	28	76	79	21	25	43	79
20-Jul	49	27	18	21	18	21	25	22	19	15	28	58	48	13	21	27	51	28	91	54	27	24	21	22	91
21-Jul	22	21	21	22	20	20	21	23	21	28	24	24	26	26	25	22	20	16	13	27	31	51	50	28	51
22-Jul	22	31	41	71	31	16	17	20	17	23	38	29	46	31	42	23	39	21	24	27	30	50	74	55	74
23-Jul	55	60	41	94	79	25	21	14	16	13	12	19	83	71	42	53	54	69	24	22	21	86	56	56	94
24-Jul	37	29	17	27	34	19	27	16	32	18	16	24	22	37	41	42	26	58	82	46	71	68	51	98	98
25-Jul	73	82	32	27	19	20	23	16	16	17	18	19	20	22	19	22	20	15	39	18	18	24	21	28	82
26-Jul	34	41	34	95	75	76	38	36	19	26	77	22	46	53	24	23	22	18	19	21	42	27	12	21	95
27-Jul	25	18	24	21	23	17	21	24	18	26	23	21	17	18	19	18	21	23	21	14	19	25	30	36	36
28-Jul	66	91	85	72	62	37	15	14	14	91	62	39	33	34	58	64	40	90	14	41	76	72	87	57	91
29-Jul	96	78	57	75	71	53	18	20	15	14	16	16	58	17	67	60	104	64	39	28	30	77	93	33	104
30-Jul	67	64	85	70	46	37	27	41	15	12	11	66	57	44	38	23	20	23	23	30	18	22	39	21	85
31-Jul	78	98	75	38	91	19	16	14	10	12	10	27	53	45	51	56	55	68	33	24	67	68	51	21	98
96 98 87 95 102 90 87 45 48 91 77 76 83 71 82 83 104 90 91 80 93 95 100 100																									
Diurnal Maximum																									
UO - Unstable Operation																									



Wood Buffalo Environmental Association
Hourly Averages

Wind Direction 10m (WD10) - deg
Lower Camp - July 2025





WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS13 FORT MCKAY SOUTH JULY 2025

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

August 29, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - FORT MCKAY SOUTH (AMS13)
JULY 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	703	35	41	99.19	-	-	51.7	0	5.3	0
TRS(ppb) Average	700	35	44	98.79	3.5	0	3.2	0	1.1	0
THC(ppm) Average	709	35	35	100	-	-	3.4	-	2.4	-
NMHC(ppm) Average	709	35	35	100	-	-	0.683	-	0.162	-
CH4(ppm) Average	709	35	35	100	-	-	2.9	-	2.2	-
O3(ppb) Average	710	34	34	100	-	-	72.3	0	37.8	-
NO2(ppb) Average	604	34	140	85.75	-	-	23.6	0	8.8	-
NO(ppb) Average	604	34	140	85.75	-	-	31.2	-	5	-
NOX(ppb) Average	604	34	140	85.75	-	-	54.8	-	10.8	-
PM2.5(ug/m3) Average	744	0	0	100	-	-	248.2	0	143.7	4
ET(C) Average	744	0	0	100	-	-	34.1	-	23.7	-
RH(%) Average	741	0	3	99.6	-	-	100	-	95.1	-
WS(km/h) Average	743	0	1	99.87	-	-	23	-	13	-
WD(deg) Average	743	0	1	99.87	-	-	-	-	-	-

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

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - FORT MCKAY SOUTH (AMS13)
JULY 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	703	1.6	4.3	-	0.1	0.3	0.4	0.5	0.7	2.5	51.7
TRS(ppb) Average	700	0.6	0.3	-	0.2	0.3	0.4	0.5	0.7	0.9	3.2
THC(ppm) Average	709	2.17	0.2	-	1.9	2	2	2.1	2.2	2.4	3.4
NMHC(ppm) Average	709	0.071	0.067	-	0	0	0	0.1	0.1	0.2	0.683
CH4(ppm) Average	709	2.1	0.1	-	1.9	2	2	2.1	2.1	2.3	2.9
O3(ppb) Average	710	22.75	14.9	-	1.6	4.3	10	21.5	31.3	42.9	72.3
NO2(ppb) Average	604	3.53	3.8	-	0.1	0.3	0.9	2.2	4.8	8.7	23.6
NO(ppb) Average	604	1.2	3.5	-	0	0	0.1	0.2	0.6	2.8	31.2
NOX(ppb) Average	604	4.73	6.4	-	0.1	0.4	1	2.6	5.7	11.5	54.8
PM2.5(ug/m3) Average	744	19.43	29.9	-	1	3	5.8	12.1	22.3	35.1	248.2
Temperature 2 m (C) Average	744	16.97	6.5	-	1	8.4	12.3	16.5	21.6	26.3	34.1
Relative Humidity (%) Average	741	67.96	22.8	-	23.9	34.4	49.3	69.7	89.6	96.8	100
Wind Speed 10 m (km/h) Average	743	6.5	4	-	0	2	3	6	9	12	23
Wind Direction 10 m (deg) Average	743	-	-	-	-	-	-	-	-	-	-

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - FORT MCKAY SOUTH (AMS13)
JULY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
SO2	04 Jul 2025 12:00	04 Jul 2025 17:00	6	Unstable Operation
TRS	08 Jul 2025 09:00	08 Jul 2025 11:00	3	Maintenance - verify daily QA response
TRS	13 Jul 2025 10:00	13 Jul 2025 12:00	3	Maintenance - verify daily QA response
TRS	21 Jul 2025 09:00	21 Jul 2025 09:00	1	Maintenance - verify daily QA response
TRS	26 Jul 2025 10:00	26 Jul 2025 11:00	2	Maintenance - verify daily QA response
NO2	16 Jul 2025 14:00	17 Jul 2025 10:00	21	Maintenance - station operator activities
NO2	26 Jul 2025 04:00	29 Jul 2025 11:00	80	Analyzer Failure - sample pump failure
NO2	29 Jul 2025 12:00	29 Jul 2025 16:00	5	Maintenance - station operator activities
Relative Humidity	07 Jul 2025 06:00	07 Jul 2025 07:00	2	Sensor operated out of range
Relative Humidity	25 Jul 2025 04:00	25 Jul 2025 04:00	1	Sensor operated out of range
Wind Speed, Wind Direction	28 Jul 2025 05:00	28 Jul 2025 05:00	1	Unstable Operation - flatline in analyzer output signal



Wood Buffalo Environmental Association

Summary of Hour Averages

Sulphur Dioxide (SO₂) - ppb

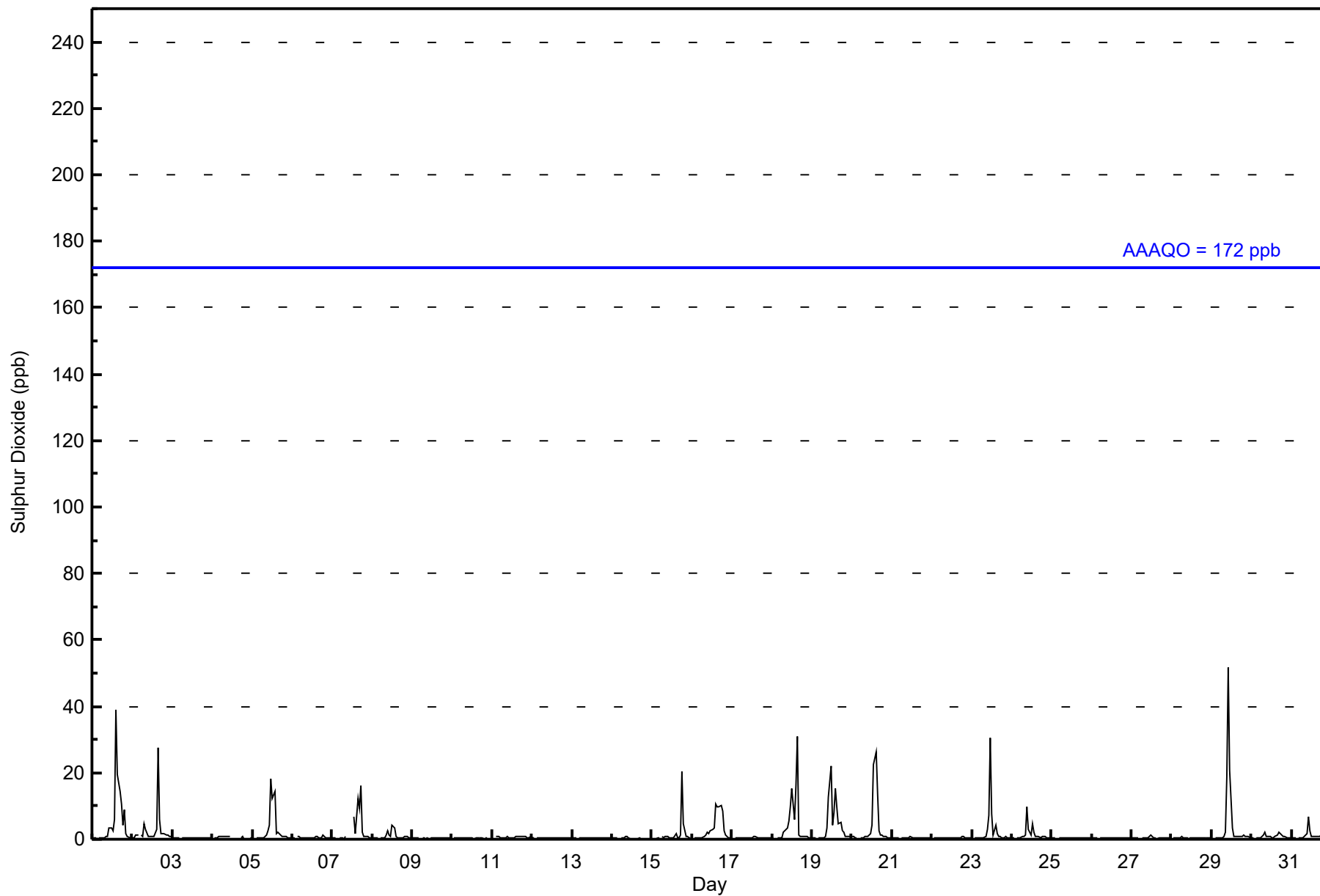
Fort McKay South - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 51.7 ppb on Jul 29 11:00 Maximum Daily Average: 5.3 ppb on Jul 1																			Hours in Service: 744							
Minimum Value: 0.1 ppb on Jul 14 23:00 Minimum Daily Average: 0.3 ppb on Jul 14 Maximum Diurnal Average: 4.6 ppb at hour 16 Minimum Diurnal Average: 0.4 ppb at hour 23																			Hours of Data: 703							
Monthly Average: 1.60 ppb Percentiles: P ₁ = 0.1 P ₁₀ = 0.3 Q ₁ = 0.4 Median = 0.5 Q ₃ = 0.7 P ₉₀ = 2.5 P ₉₉ = 22.0																			Hours of Missing Data: 41							
																			Hours of Calibration: 35							
																			Percent Operational Time: 99.2							
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-Jul	0.6	0.5	0.6	Z	0.4	0.4	0.5	0.5	0.8	1.0	3.4	3.2	2.5	6.0	39.0	19.6	14.4	10.6	4.4	9.1	1.9	0.7	0.4	0.5	5.3	39.0
2-Jul	0.5	0.5	1.1	1.4	Z	1.1	0.8	4.6	2.9	0.8	0.6	0.7	0.9	0.9	2.8	27.4	5.9	1.6	1.8	1.8	1.2	1.1	0.8	0.7	2.7	27.4
3-Jul	0.5	0.5	0.5	0.4	0.5	Z	0.5	0.4	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.6
4-Jul	Z	0.5	0.6	0.6	0.7	0.7	0.8	0.8	0.8	0.8	0.9	UO	UO	UO	UO	UO	UO	0.6	0.9	0.2	0.1	0.1	0.1	0.4	--	0.9
5-Jul	0.4	Z	0.4	0.4	0.4	0.4	0.4	0.4	1.1	2.5	4.4	18.4	12.3	14.5	1.5	2.2	1.6	1.2	0.9	0.8	0.7	0.5	0.4	0.4	2.9	18.4
6-Jul	0.4	0.5	Z	0.7	0.8	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.6	0.7	0.6	0.6	0.6	1.2	0.7	0.5	0.4	0.4	0.4	0.6	1.2
7-Jul	0.4	0.5	0.5	Z	0.6	0.4	0.2	0.2	0.8	C	C	C	C	6.6	1.9	12.3	9.5	16.1	1.9	0.9	0.8	0.7	0.5	0.5	2.9	16.1
8-Jul	0.4	0.4	0.4	0.4	Z	0.5	0.4	0.6	1.3	2.6	1.1	0.7	4.3	3.4	0.7	0.6	0.6	0.6	0.5	0.7	0.8	0.7	0.5	0.4	1.0	4.3
9-Jul	0.4	0.4	0.4	0.3	0.4	Z	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.4
10-Jul	Z	0.4	0.4	0.3	0.4	0.4	0.3	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.3	0.6	0.3	0.2	0.2	0.2	0.3	0.2	0.1	0.2	0.3	0.6
11-Jul	0.3	Z	0.8	0.7	0.7	0.4	0.3	0.2	0.4	0.7	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.6	0.6	0.7	0.6	0.6	0.7	0.6	0.8
12-Jul	0.6	0.6	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	0.4	0.4	0.4	0.4	0.4	0.5	0.6
13-Jul	0.4	0.4	0.6	Z	0.5	0.3	0.3	0.4	0.4	0.3	0.3	0.4	0.6	0.6	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.4	0.4	0.4	0.6
14-Jul	0.4	0.5	0.4	0.4	Z	0.4	0.3	0.3	0.7	0.7	0.3	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.7
15-Jul	0.1	0.1	0.2	0.3	0.3	Z	0.7	0.5	0.7	0.7	0.5	0.3	0.2	0.3	1.6	0.5	0.4	1.4	20.5	4.6	0.6	0.6	0.5	0.5	1.6	20.5
16-Jul	Z	0.5	0.4	0.5	0.4	0.4	0.5	0.8	1.4	2.0	1.7	2.5	2.9	3.3	10.5	9.8	9.9	10.1	8.3	2.4	1.1	0.7	0.4	0.4	3.1	10.5
17-Jul	0.5	Z	0.3	0.3	0.3	0.3	0.4	0.5	0.6	0.6	0.5	0.5	0.5	0.7	0.7	0.6	0.5	0.5	0.4	0.5	0.5	0.4	0.3	0.4	0.5	0.7
18-Jul	0.5	0.5	Z	0.4	0.4	0.4	0.5	1.9	3.1	3.4	5.4	9.8	15.3	5.8	16.1	30.8	1.2	0.7	0.7	0.7	0.9	0.7	0.5	0.5	4.4	30.8
19-Jul	0.5	0.6	0.6	Z	0.4	0.6	0.5	0.6	0.7	3.4	12.7	22.0	4.4	7.9	15.1	9.8	4.6	5.2	2.4	1.9	1.0	0.8	0.7	0.6	4.2	22.0
20-Jul	0.7	0.6	0.5	0.5	Z	0.6	0.6	0.6	0.7	0.9	1.3	1.6	4.2	22.5	26.4	13.6	2.7	1.2	1.2	1.1	0.7	0.6	0.5	0.5	3.6	26.4
21-Jul	0.4	0.4	0.4	0.5	0.4	Z	0.4	0.4	0.4	0.6	0.3	0.8	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.5	0.5	0.8
22-Jul	Z	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.3	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.9	1.0	0.4	0.3	0.4	0.4	0.5	1.0
23-Jul	0.3	Z	0.3	0.2	0.3	0.3	0.4	0.6	0.9	3.1	7.1	30.4	7.6	1.3	4.4	1.8	1.0	0.7	0.4	0.5	0.7	0.6	0.4	0.5	2.8	30.4
24-Jul	0.6	0.6	Z	0.4	0.4	0.5	0.7	0.9	1.3	9.7	2.9	1.3	4.6	2.0	0.8	0.8	0.7	0.6	0.7	0.8	0.6	0.5	0.4	0.4	1.4	9.7
25-Jul	0.5	0.5	0.5	Z	0.5	0.5	0.5	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.3	0.2	0.3	0.4	0.5
26-Jul	0.2	0.3	0.4	0.4	Z	0.3	0.3	0.5	0.4	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.4	0.3	0.4	0.3	0.4	0.3	0.3	0.4	0.5
27-Jul	0.3	0.3	0.4	0.4	0.4	Z	0.3	0.3	0.3	0.2	0.3	1.1	1.0	0.2	0.2	0.2	0.3	0.3	0.5	0.4	0.3	0.3	0.3	0.2	0.4	1.1
28-Jul	Z	0.2	0.3	0.3	0.3	0.4	0.7	0.5	0.4	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.4	0.7
29-Jul	0.6	Z	0.4	0.5	0.4	0.4	0.5	0.8	2.3	18.5	51.7	20.7	3.5	0.8	0.6	0.7	0.8	0.8	0.7	1.1	1.0	0.8	0.7	0.6	4.7	51.7
30-Jul	0.6	0.6	Z	0.6	0.5	0.6	0.7	1.1	2.1	0.9	0.7	0.7	0.6	0.6	0.8	1.4	2.1	1.7	1.2	0.8	0.7	0.6	0.5	0.4	0.9	2.1
31-Jul	0.5	0.4	0.4	Z	0.4	0.4	0.6	0.6	1.2	1.7	7.0	2.3	0.7	0.7	0.7	0.7	0.8	0.8	1.1	1.7	0.9	0.7	0.7	0.6	1.1	7.0
0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.7 0.9 1.9 3.6 4.2 2.4 2.8 4.3 4.6 2.1 1.9 1.8 1.2 0.6 0.5 0.4 0.4																									Diurnal Average	
0.7 0.6 1.1 1.4 0.8 1.1 0.8 4.6 3.1 18.5 51.7 30.4 15.3 22.5 39.0 30.8 14.4 16.1 20.5 9.1 1.9 1.1 0.8 0.7																									Diurnal Maximum	
Z - zerospan C - Calibration UO - Unstable Operation																										
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 McKay South - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Fort McKay South - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	678	96.44	96.44
11 - 20	16	2.28	98.72
21 - 60	9	1.28	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: 703

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Fort McKay South - July 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	72	43	9	5	4	6	30	54	75	59	77	79	47	36	38	43	677
11 - 20	0	0	0	0	0	3	5	4	4	0	0	0	0	0	0	0	16
21 - 60	0	0	0	0	1	0	4	4	0	0	0	0	0	0	0	0	9
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	72	43	9	5	5	9	39	62	79	59	77	79	47	36	38	43	702

Total Number of Valid Hours: 702

Total Number of Hours: 744

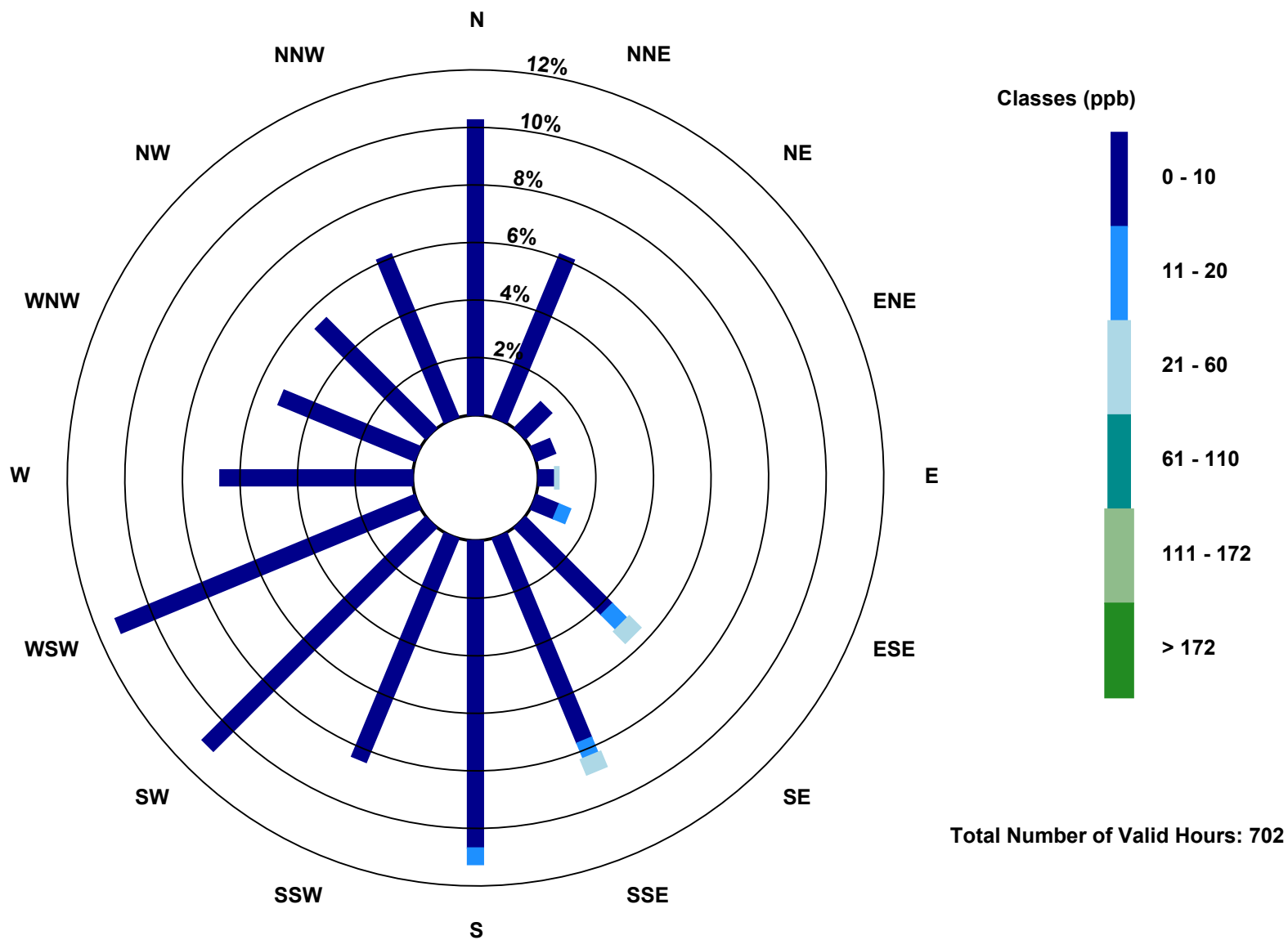


Wood Buffalo Environmental Association

Wind Rose Jul 2025

Sulphur Dioxide (SO₂) - ppb

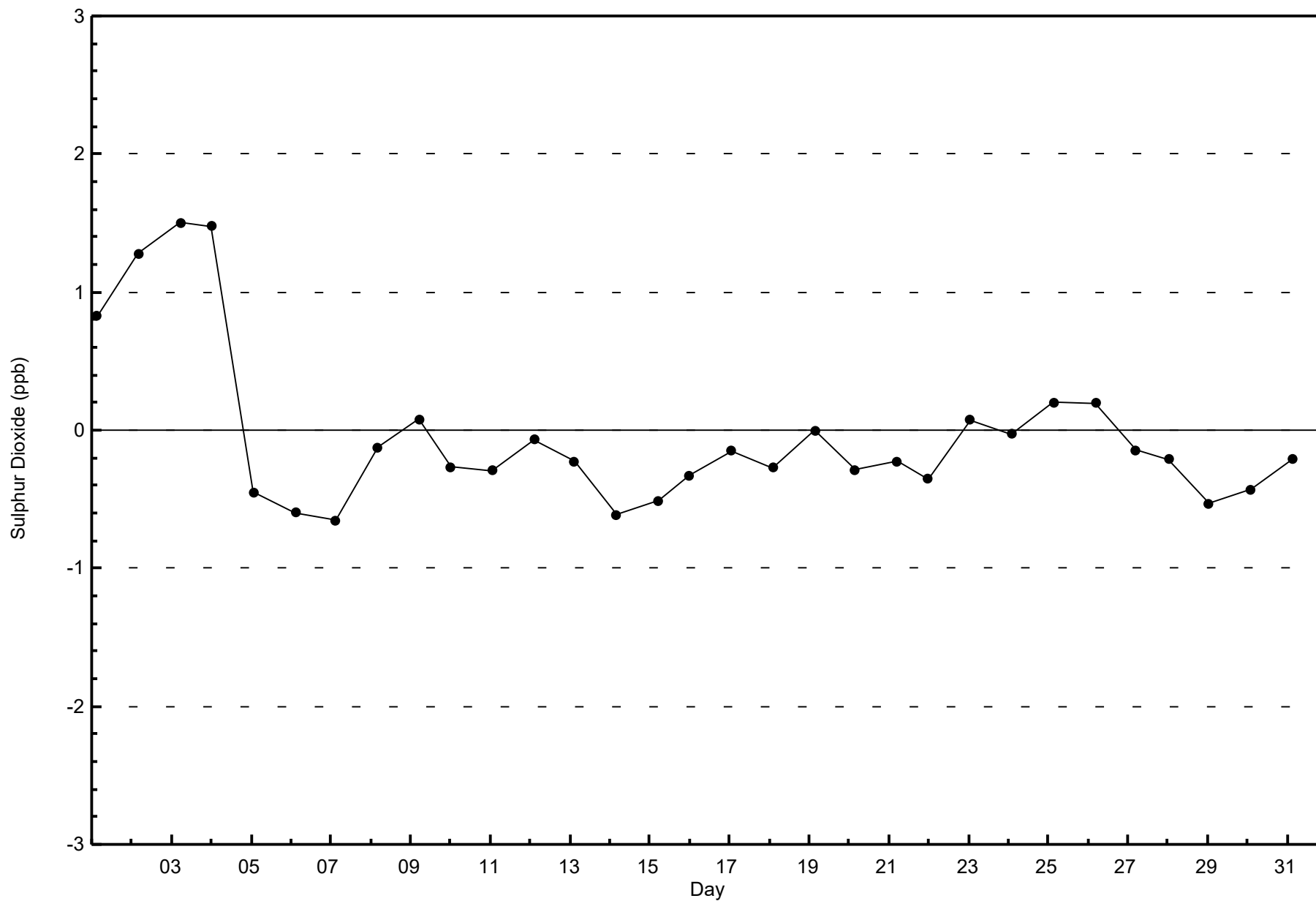
Fort McKay South





Wood Buffalo Environmental Association
Zero Responses

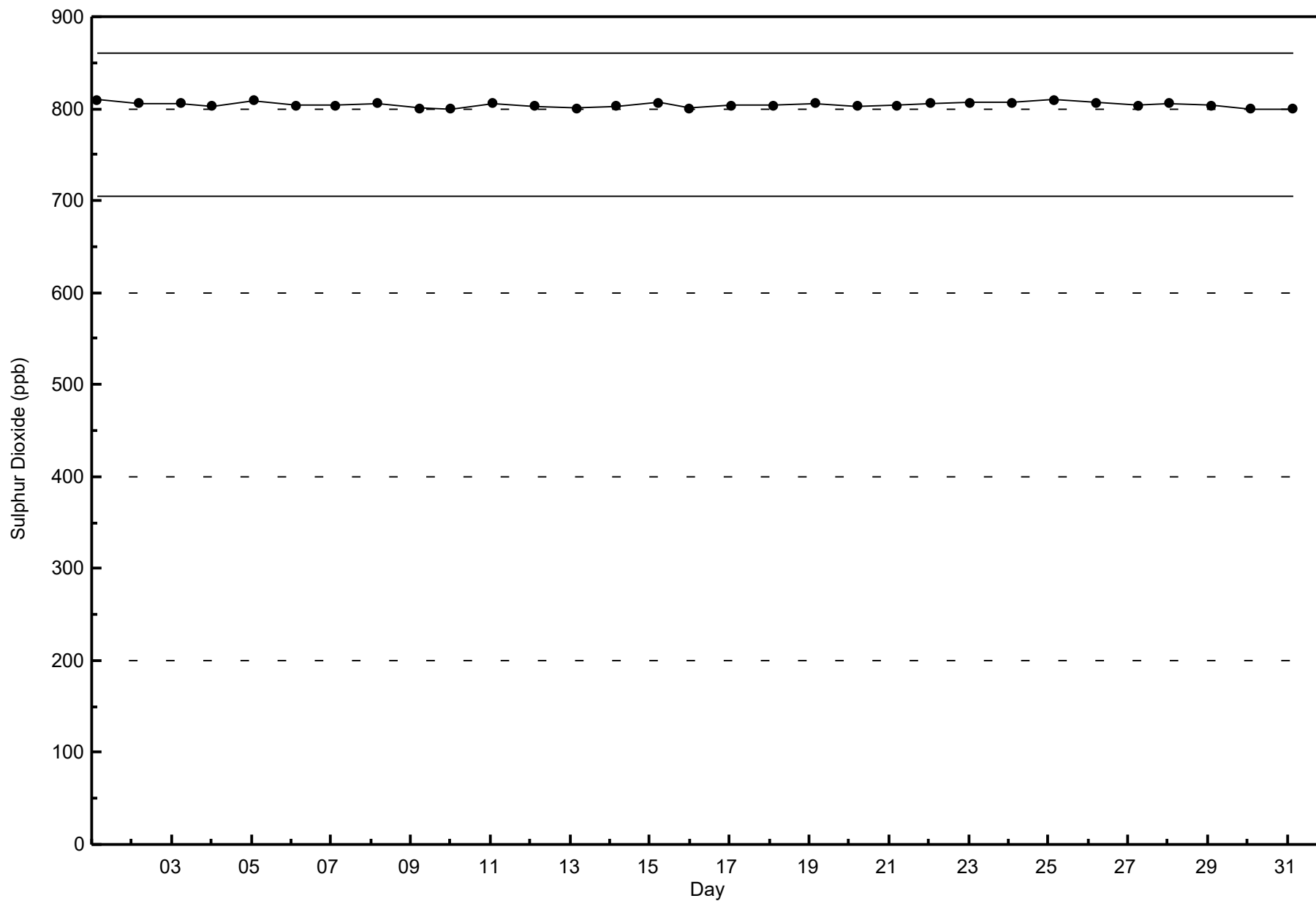
Sulphur Dioxide (SO₂) - ppb
Fort McKay South - July 2025





Wood Buffalo Environmental Association
Span Responses

Sulphur Dioxide (SO₂) - ppb
Fort McKay South - July 2025





Wood Buffalo Environmental Association

Summary of 30-Minute Averages

Total Reduced Sulphur (TRS) - ppb

Fort McKay South - July 2025

Number of Exceedences (AAAQG): 30-Min: 0 Maximum Value: 3.5 ppb on Jul 18 23:00 Maximum Daily Average: 1.1 ppb on Jul 19																		Periods in Service: 1488 Periods of Valid Data: 1399 Periods of Invalid Data: 89 Periods of Calibration: 71 Percent Operational Time: 98.8									
Minimum Value: 0.2 ppb on Jul 27 09:30 Minimum Daily Average: 0.3 ppb on Jul 27 Maximum Diurnal Average: 0.9 ppb at hour 9 Minimum Diurnal Average: 0.5 ppb at hour 18 Monthly Average: 0.60 ppb Percentiles: P ₁ = 0.3 P ₁₀ = 0.3 Q ₁ = 0.4 Median = 0.5 Q ₃ = 0.7 P ₉₀ = 0.9 P ₉₉ = 2.0																											
Day	Period Ending At (MST)																								Daily Average	Daily Maximum	
	00:30 01:00	01:30 02:00	02:30 03:00	03:30 04:00	04:30 05:00	05:30 06:00	06:30 07:00	07:30 08:00	08:30 09:00	09:30 10:00	10:30 11:00	11:30 12:00	12:30 13:00	13:30 14:00	14:30 15:00	15:30 16:00	16:30 17:00	17:30 18:00	18:30 19:00	19:30 20:00	20:30 21:00	21:30 22:00	22:30 23:00	23:30 24:00			
1-Jul	0.5 0.6	0.6 0.6	0.6 0.6	0.6 0.6	Z SP	0.6 0.7	0.6 0.7	0.7 0.8	0.9 1.1	1.0 0.8	0.6 0.6	0.5 0.5	0.5 0.5	0.5 0.7	0.7 0.5	0.5 0.4	0.5 0.4	0.4 0.4	0.4 0.5	0.6 0.9	0.7 0.7	0.6 0.6	0.6 0.6	0.6 0.5	0.6	1.1	
2-Jul	0.4 0.4	0.3 0.3	0.3 0.5	0.9 1.2	1.6 1.3	Z SP	0.5 0.6	1.2 1.6	1.3 0.9	0.9 0.8	0.8 0.8	0.8 0.9	0.8 0.7	0.8 0.6	0.7 0.6	0.6 0.5	0.6 0.4	0.5 0.4	0.5 0.4	0.4 0.4	0.5 0.5	0.5 0.5	0.5 0.5	0.5 0.5	0.7	1.6	
3-Jul	Z SP	0.6 0.6	0.7 0.8	0.9 1.0	1.0 1.0	1.1 1.1	1.0 1.0	0.9 0.9	0.9 0.8	0.8 0.8	0.7 0.7	0.6 0.6	0.6 0.6	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 0.4	0.4 0.4	0.4 0.4	0.7	1.1	
4-Jul	0.4 0.4	Z SP	0.5 0.5	0.5 0.5	0.5 0.5	0.5 0.4	0.4 0.4	0.4 0.5	0.4 0.4	0.4 0.4	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	0.4 0.4	0.4 0.4	0.5 0.4	0.4 0.3	0.4 0.4	0.3 0.4	0.4	0.5	
5-Jul	0.4 0.4	0.4 0.4	Z SP	0.4 0.4	0.4 0.4	0.5 0.5	0.6 0.7	0.8 1.0	1.1 1.1	1.0 0.9	1.0 1.2	0.7 0.6	0.6 0.5	0.6 0.5	0.4 0.4	0.5 0.5	0.4 0.5	0.5 0.5	0.5 0.4	0.5 0.6	0.6 0.6	0.5 0.5	0.5 0.5	0.5 0.5	0.6	1.2	
6-Jul	0.5 0.5	0.5 0.5	0.5 0.5	Z SP	0.5 0.7	0.8 0.9	0.7 0.7	0.7 0.9	0.7 0.7	0.7 0.6	0.7 0.7	0.6 0.6	0.6 0.6	0.5 0.5	0.5 0.6	0.7 0.8	0.7 0.7	0.6 0.6	0.6 0.5	0.6 0.5	0.5 0.5	0.5 0.5	0.5 0.5	0.5 0.5	0.6	0.9	
7-Jul	0.5 0.5	0.5 0.4	0.4 0.4	0.4 0.4	Z SP	0.6 0.5	0.6 0.6	0.7 0.7	1.1 1.3	1.0 0.9	0.9 0.9	0.9 0.8	0.7 0.7	0.6 0.6	0.6 0.7	0.6 0.6	0.7 0.6	0.6 0.7	0.6 0.6	0.7 0.7	0.6 0.7	0.7 0.7	0.8 0.7	0.6 0.7	0.7	1.3	
8-Jul	0.7 0.7	0.6 0.6	0.5 0.6	0.6 0.6	0.5 0.5	Z SP	0.4 0.4	0.6 0.8	M M	M M	M M	0.3 0.4	0.6 0.8	0.9 0.8	0.8 0.8	0.7 0.6	0.6 0.5	0.5 0.5	0.4 0.5	0.6 0.6	0.6 0.7	0.7 0.7	0.5 0.4	0.5 0.4	0.6	0.9	
9-Jul	Z SP	0.6 0.6	0.7 0.8	0.8 0.8	0.8 0.8	0.7 0.7	0.6 0.5	0.5 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	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.4	0.4 0.4	0.4 0.5	0.4	0.8	
10-Jul	0.5 0.5	Z SP	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	C C	C C	C C	C C	C C	0.4 0.5	0.5 0.5	0.4 0.4	0.4 0.5	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	0.6	
11-Jul	0.5 0.5	0.6 0.7	Z SP	0.6 0.6	0.6 0.6	0.6 0.7	0.6 0.7	0.6 0.6	0.5 0.5	0.4 0.4	0.4 0.3	0.3 0.3	0.3 0.3	0.3 0.2	0.3 0.2	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.4 0.4	0.5 0.5	0.5 0.6	0.7 0.8	0.4	0.8	
12-Jul	0.7 0.7	0.6 0.5	0.5 0.5	Z SP	0.4 0.4	0.5 0.5	0.6 0.7	0.7 0.8	0.8 0.8	0.8 0.8	0.9 0.8	0.9 0.8	0.8 0.8	0.7 0.7	0.6 0.6	0.6 0.5	0.5 0.4	0.5 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.3 0.4	0.4 0.5	0.5 0.5	0.6	0.9	
13-Jul	0.5 0.5	0.6 0.6	0.6 0.7	0.7 0.7	Z SP	0.5 0.5	0.5 0.6	0.6 0.6	0.6 0.5	M M	M M	M M	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 0.4	0.5 0.4	0.5 0.5	0.5 0.5	0.5	0.7	
14-Jul	0.5 0.6	0.6 0.7	0.6 0.5	0.6 0.5	0.5 0.5	Z SP	0.5 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	0.4 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	0.4 0.4	0.4 0.5	0.4	0.7	
15-Jul	Z SP	0.5 0.5	0.5 0.5	0.5 0.5	0.5 0.6	0.5 0.6	1.0 1.3	1.4 1.4	1.2 1.1	0.7 0.6	0.6 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	0.5 0.5	0.5 0.4	0.6 0.6	0.8 1.0	1.0 0.8	0.7 0.6	0.6	1.4	



Wood Buffalo Environmental Association

Summary of 30-Minute Averages

Total Reduced Sulphur (TRS) - ppb

Fort McKay South - July 2025

Day	Period Ending At (MST)																								Daily Average	Daily Maximum
	00:30 01:00	01:30 02:00	02:30 03:00	03:30 04:00	04:30 05:00	05:30 06:00	06:30 07:00	07:30 08:00	08:30 09:00	09:30 10:00	10:30 11:00	11:30 12:00	12:30 13:00	13:30 14:00	14:30 15:00	15:30 16:00	16:30 17:00	17:30 18:00	18:30 19:00	19:30 20:00	20:30 21:00	21:30 22:00	22:30 23:00	23:30 24:00		
16-Jul	0.6 0.6	Z SP	1.0 0.9	0.8 0.7	0.8 0.9	1.0 0.9	0.8 1.2	1.2 1.0	1.1 1.4	1.2 1.0	0.8 0.8	0.7 0.6	0.5 0.5	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.5 0.5	0.5 0.6	0.7 0.7	0.7 0.7	0.7 0.6	0.7	1.4	
17-Jul	0.6 0.6	0.7 0.8	Z SP	0.8 0.7	0.7 0.7	0.7 0.7	0.7 0.7	0.7 0.8	0.9 0.9	0.8 0.7	0.7 0.7	0.7 0.6	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 0.5	0.6 0.7	0.7 0.7	0.7 0.7	0.7 0.6	0.6	0.9	
18-Jul	0.5 0.6	0.6 0.7	0.8 0.8	Z SP	0.8 0.9	0.9 0.8	0.9 1.2	1.7 1.5	1.4 1.5	1.4 1.2	1.2 1.1	1.0 0.9	0.8 0.6	0.5 0.5	0.4 0.4	0.4 0.4	0.4 0.5	0.4 0.8	1.2 1.4	1.4 1.7	2.3 2.1	2.5 3.5	3.2 3.2	1.1	3.5	
19-Jul	3.0 3.0	3.0 3.1	2.4 2.0	1.6 1.4	Z SP	1.4 1.6	1.6 1.2	1.2 1.2	1.2 1.4	1.5 1.7	1.6 1.3	1.2 1.3	1.0 0.8	0.7 0.7	0.6 0.6	0.5 0.5	0.4 0.4	0.4 0.4	0.4 0.4	0.5 0.6	0.6 0.6	0.5 0.5	0.5 0.5	1.1	3.1	
20-Jul	0.5 0.5	0.5 0.5	0.5 0.5	0.5 0.5	0.5 0.5	Z SP	0.3 0.4	0.5 0.6	0.7 0.8	0.8 1.0	1.0 1.1	1.1 1.1	1.0 0.9	1.0 1.2	1.3 1.1	1.0 0.8	0.6 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.5 0.5	0.6 0.6	0.5 0.5	0.7	1.3	
21-Jul	Z SP	0.5 0.4	0.4 0.4	0.4 0.5	0.5 0.5	0.5 0.5	0.5 0.5	0.4 0.4	M M	0.6 0.4	0.4 0.4	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 0.3	0.3 0.3	0.3 0.3	0.4	0.6	
22-Jul	0.3 0.3	Z SP	0.5 0.6	0.5 0.4	0.5 0.5	0.5 0.5	0.4 0.4	0.4 0.4	0.4 0.4	0.3 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	0.3 0.4	0.5 0.5	0.5 0.5	0.5 0.4	0.4 0.4	0.4	0.6	
23-Jul	0.5 0.4	0.5 0.5	Z SP	0.5 0.5	0.5 0.5	0.5 0.5	0.6 0.7	1.1 1.4	1.4 1.3	1.3 1.2	1.2 0.8	0.7 0.7	0.6 0.4	0.4 0.4	0.4 0.5	0.4 0.5	0.4 0.4	0.4 0.4	0.4 0.5	0.4 0.7	0.8 0.6	0.6 0.5	0.5 0.5	0.6	1.4	
24-Jul	0.5 0.6	0.6 0.6	0.6 0.7	Z SP	0.7 0.8	1.0 0.9	1.2 1.4	1.4 2.1	2.2 1.7	1.7 1.5	0.7 0.7	0.5 0.5	0.6 0.6	0.7 0.5	0.6 0.6	0.7 0.9	0.7 0.7	0.7 0.7	0.7 0.7	0.8 1.0	1.0 0.9	0.7 0.7	0.6 0.6	0.9	2.2	
25-Jul	0.4 0.4	0.4 0.5	0.4 0.4	0.4 0.4	Z SP	0.4 0.4	0.4 0.4	0.5 0.5	0.6 0.6	0.6 0.5	0.5 0.5	0.5 0.5	0.5 0.5	0.4 0.5	0.5 0.5	0.5 0.5	0.6 0.5	0.5 0.5	0.5 0.5	0.4 0.4	0.4 0.4	0.5 0.5	0.4 0.3	0.5	0.6	
26-Jul	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.4	0.3 0.4	Z SP	0.4 0.4	0.4 0.4	0.5 0.5	M M	M M	0.5 0.5	0.6 0.6	0.6 0.7	0.7 0.7	0.8 0.8	0.8 0.8	0.7 0.7	0.7 0.7	0.7 0.6	0.5 0.4	0.5 0.6	0.5 0.5	0.5	0.8	
27-Jul	Z SP	0.3 0.3	0.3 0.3	0.3 0.3	0.4 0.4	0.4 0.4	0.3 0.3	0.3 0.3	0.3 0.2	0.2 0.2	0.2 0.2	0.3 0.3	0.2 0.3	0.2 0.2	0.2 0.3	0.2 0.3	0.3 0.3	0.3 0.3	0.3 0.4	0.3 0.4	0.3 0.3	0.3 0.3	0.4 0.4	0.3	0.4	
28-Jul	0.3 0.4	Z SP	0.5 0.5	0.5 0.6	0.6 0.5	0.4 0.4	0.7 0.8	0.7 0.7	0.7 0.6	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	0.4 0.4	0.4 0.4	0.4 0.5	0.5 0.4	0.4 0.4	0.4 0.4	0.5	0.8	
29-Jul	0.4 0.4	0.3 0.3	Z SP	0.4 0.3	0.3 0.3	0.3 0.4	0.6 0.9	0.7 0.6	0.6 0.8	0.8 0.9	1.0 1.2	0.8 0.6	0.6 0.5	0.4 0.4	0.4 0.4	0.4 0.3	0.4 0.4	0.4 0.4	0.4 0.4	0.5 0.6	0.6 0.7	0.7 0.7	0.7 0.6	0.5	1.2	
30-Jul	0.6 0.5	0.6 0.5	0.5 0.5	Z SP	0.5 0.5	0.6 0.7	0.6 0.6	0.8 1.2	1.3 1.2	0.7 0.6	0.6 0.5	0.5 0.5	0.4 0.4	0.4 0.4	0.4 0.5	0.5 0.6	0.6 0.6	0.6 0.6	0.5 0.5	0.6 0.6	0.6 0.7	0.6 0.6	0.6 0.7	0.6	1.3	
31-Jul	0.6 0.6	0.6 0.6	0.7 0.6	0.6 0.6	Z SP	0.6 0.6	0.7 1.1	1.3 1.2	2.1 1.5	0.9 1.0	1.1 1.0	0.9 0.8	0.7 0.6	0.5 0.5	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.5 0.6	0.7 0.8	1.0 1.0	1.0 1.0	0.9 0.9	0.8	2.1	
0.6 0.6 0.6 0.6 0.6 0.6 0.7 0.8 0.9 0.8 0.7 0.6 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.6 0.6 0.6 0.6 3.0 3.1 2.4 1.6 1.6 1.6 1.6 2.1 2.2 1.7 1.6 1.3 1.0 1.2 1.3 1.0 0.8 0.8 0.8 1.4 1.7 2.3 3.5 3.2																								Diurnal Average Diurnal Maximum		

Z - zerospan C - Calibration M - Maintenance SP - Span

Alberta Ambient Air Quality Guideline (AAAQG): 30-Min: 5 ppb



Wood Buffalo Environmental Association

Summary of Hour Averages

Total Reduced Sulphur (TRS) - ppb

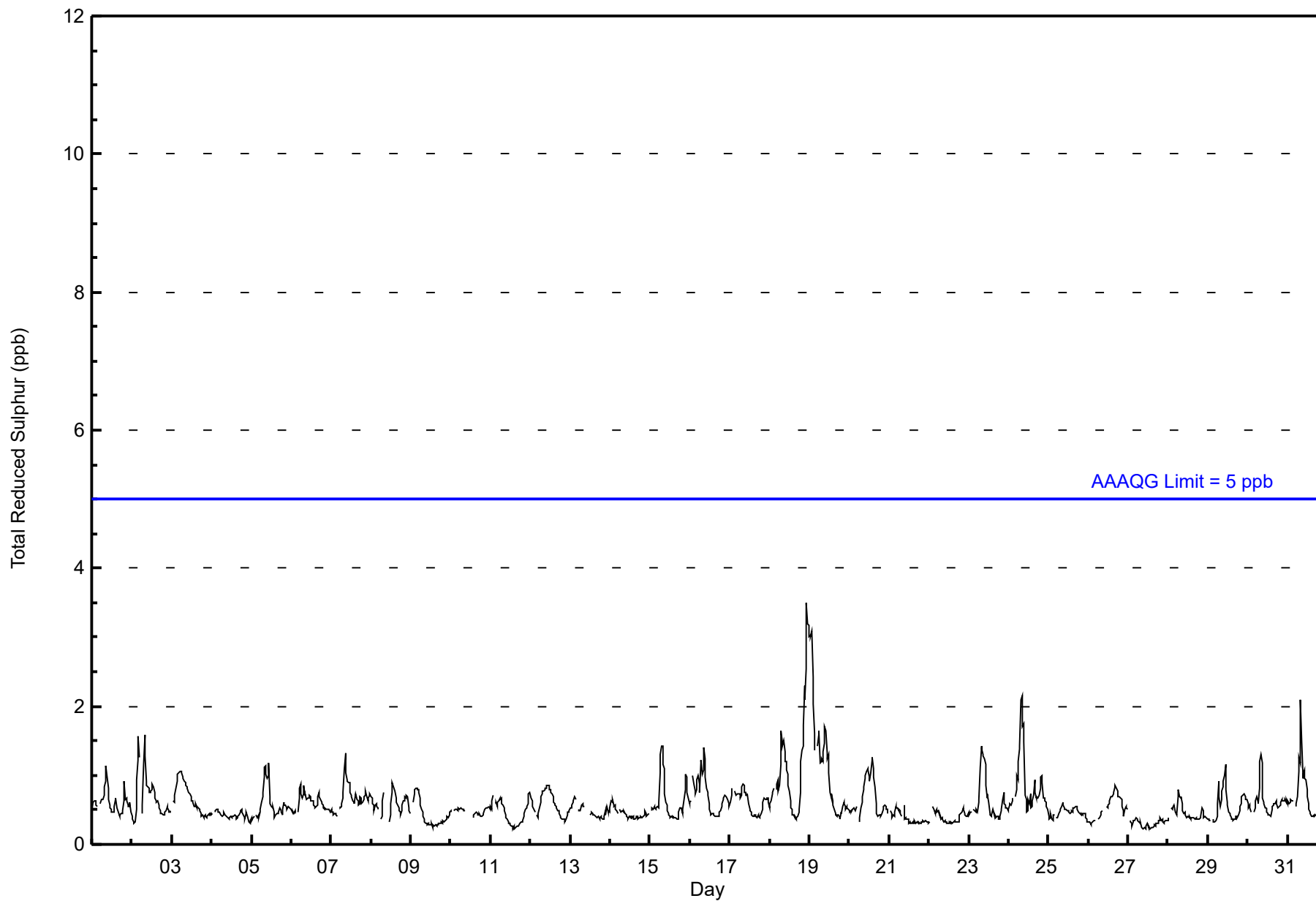
Fort McKay South - July 2025

Maximum Value: 3.2 ppb on Jul 19 00:00																	Maximum Daily Average: 1.1 ppb on Jul 19										Hours in Service: 744	
Minimum Value: 0.2 ppb on Jul 27 11:00																	Minimum Daily Average: 0.3 ppb on Jul 27										Hours of Data: 700	
Maximum Diurnal Average: 0.9 ppb at hour 9																	Minimum Diurnal Average: 0.5 ppb at hour 18										Hours of Missing Data: 44	
Monthly Average: 0.60 ppb																	Percentiles: P ₁ = 0.2 P ₁₀ = 0.3 Q ₁ = 0.4 Median = 0.5 Q ₃ = 0.7 P ₉₀ = 0.9 P ₉₉ = 1.8										Hours of Calibration: 35	
																	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-Jul	0.6	0.6	0.6	0.6	Z	0.6	0.6	0.8	1.0	0.9	0.6	0.5	0.5	0.5	0.7	0.5	0.4	0.4	0.5	0.8	0.7	0.6	0.6	0.5	0.6	1.0		
2-Jul	0.4	0.3	0.4	1.1	1.4	Z	0.5	1.4	1.1	0.8	0.8	0.8	0.8	0.8	0.6	0.6	0.6	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.7	1.4		
3-Jul	Z	0.6	0.8	1.0	1.0	1.1	1.0	0.9	0.9	0.8	0.8	0.7	0.6	0.6	0.6	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.7	1.1		
4-Jul	0.4	Z	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	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.3	0.4	0.5		
5-Jul	0.4	0.4	Z	0.4	0.4	0.5	0.6	0.9	1.1	1.0	1.1	0.6	0.5	0.5	0.4	0.4	0.5	0.5	0.4	0.6	0.6	0.5	0.5	0.5	0.6	1.1		
6-Jul	0.5	0.5	0.5	Z	0.6	0.8	0.7	0.8	0.7	0.7	0.7	0.7	0.6	0.6	0.5	0.6	0.7	0.7	0.6	0.5	0.5	0.5	0.5	0.5	0.6	0.8		
7-Jul	0.5	0.5	0.4	0.4	Z	0.5	0.6	0.7	1.2	1.0	0.9	0.8	0.7	0.6	0.7	0.7	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	1.2		
8-Jul	0.7	0.6	0.5	0.6	0.5	Z	0.4	0.7	M	M	M	0.4	0.7	0.9	0.8	0.6	0.5	0.5	0.5	0.6	0.7	0.7	0.6	0.5	0.6	0.9		
9-Jul	Z	0.6	0.8	0.8	0.8	0.7	0.5	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	0.4	0.4	0.4	0.4	0.8		
10-Jul	0.5	Z	0.5	0.5	0.5	0.5	0.5	0.5	0.5	C	C	C	C	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5		
11-Jul	0.5	0.7	Z	0.6	0.6	0.7	0.7	0.6	0.5	0.4	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.6	0.7	0.4	0.7		
12-Jul	0.7	0.6	0.5	Z	0.4	0.5	0.6	0.7	0.8	0.8	0.9	0.8	0.8	0.7	0.6	0.6	0.5	0.5	0.4	0.4	0.4	0.3	0.4	0.5	0.6	0.9		
13-Jul	0.5	0.6	0.7	0.7	Z	0.5	0.5	0.6	0.5	M	M	M	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.7		
14-Jul	0.6	0.6	0.6	0.5	0.5	Z	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	0.4	0.4	0.5	0.4	0.4	0.4	0.6		
15-Jul	Z	0.5	0.5	0.5	0.5	0.6	1.2	1.4	1.1	0.7	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.6	0.9	0.9	0.6	0.6	1.4		
16-Jul	0.6	Z	0.9	0.8	0.9	0.9	1.0	1.1	1.2	1.1	0.8	0.6	0.5	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.7	0.7	0.7	0.6	0.7	1.2		
17-Jul	0.6	0.8	Z	0.7	0.7	0.7	0.7	0.8	0.9	0.8	0.7	0.7	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.7	0.7	0.6	0.6	0.9		
18-Jul	0.6	0.7	0.8	Z	0.8	0.9	1.0	1.6	1.5	1.3	1.1	0.9	0.7	0.5	0.4	0.4	0.4	0.4	0.6	1.3	1.6	2.2	3.0	3.2	1.1	3.2		
19-Jul	3.0	3.0	2.2	1.5	Z	1.5	1.4	1.2	1.3	1.6	1.5	1.3	0.9	0.7	0.6	0.5	0.4	0.4	0.4	0.5	0.6	0.6	0.5	0.5	1.1	3.0		
20-Jul	0.5	0.5	0.5	0.5	0.5	Z	0.4	0.6	0.7	0.9	1.0	1.1	1.0	1.1	1.2	0.9	0.5	0.4	0.4	0.4	0.5	0.6	0.5	0.5	0.7	1.2		
21-Jul	Z	0.5	0.4	0.4	0.5	0.5	0.5	0.4	M	0.5	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	0.4	0.5		
22-Jul	0.3	Z	0.6	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.6		
23-Jul	0.5	0.5	Z	0.5	0.5	0.5	0.6	1.3	1.3	1.3	1.0	0.7	0.5	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.6	0.7	0.5	0.5	0.6	1.3		
24-Jul	0.5	0.6	0.6	Z	0.7	1.0	1.3	1.8	1.9	1.6	0.7	0.5	0.6	0.6	0.6	0.8	0.7	0.7	0.7	0.9	0.9	0.7	0.6	0.5	0.9	1.9		
25-Jul	0.4	0.4	0.4	0.4	Z	0.4	0.4	0.5	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.5	0.4	0.4	0.5	0.6		
26-Jul	0.3	0.3	0.3	0.3	0.4	Z	0.4	0.4	0.5	M	M	0.5	0.6	0.7	0.7	0.7	0.8	0.8	0.7	0.7	0.6	0.5	0.5	0.5	0.5	0.8		
27-Jul	Z	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.4	0.3	0.4		
28-Jul	0.4	Z	0.5	0.6	0.5	0.4	0.7	0.7	0.6	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.5	0.7		
29-Jul	0.4	0.3	Z	0.3	0.3	0.4	0.8	0.6	0.7	0.9	1.1	0.7	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.7	0.7	0.6	0.5	1.1		
30-Jul	0.6	0.5	0.5	Z	0.5	0.7	0.6	1.0	1.2	0.6	0.6	0.5	0.4	0.4	0.5	0.6	0.6	0.6	0.5	0.6	0.6	0.6	0.6	0.6	0.6	1.2		
31-Jul	0.6	0.6	0.6	0.6	Z	0.6	0.9	1.2	1.8	1.0	1.0	0.9	0.6	0.5	0.4	0.4	0.4	0.4	0.5	0.7	1.0	1.0	1.0	0.9	0.8	1.8		
0.6 0.6 0.6 0.6 0.6 0.6 0.7 0.8 0.9 0.8 0.7 0.6 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.6 0.6 0.6 0.6																								Diurnal Average				
3.0 3.0 2.2 1.5 1.4 1.5 1.4 1.8 1.9 1.6 1.5 1.3 1.0 1.1 1.2 0.9 0.8 0.8 0.7 1.3 1.6 2.2 3.0 3.2																								Diurnal Maximum				
Z - zerospan C - Calibration M - Maintenance																												
Alberta Ambient Air Quality Objective (AAAQO): 1-hour NA 24-hr NA																												



Wood Buffalo Environmental Association
Hourly Averages

Total Reduced Sulphur (TRS) - ppb
Fort McKay South - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Reduced Sulphur (TRS) - ppb
Fort McKay South - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	696	99.43	99.43
3 - 4	4	0.57	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: 700

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Total Reduced Sulphur (TRS) - ppb
Fort McKay South - July 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	69	42	9	5	5	9	39	61	78	57	77	78	48	34	39	45	695
3 - 4	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4
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	69	42	9	5	5	9	39	61	78	61	77	78	48	34	39	45	699

Total Number of Valid Hours: 699

Total Number of Hours: 744

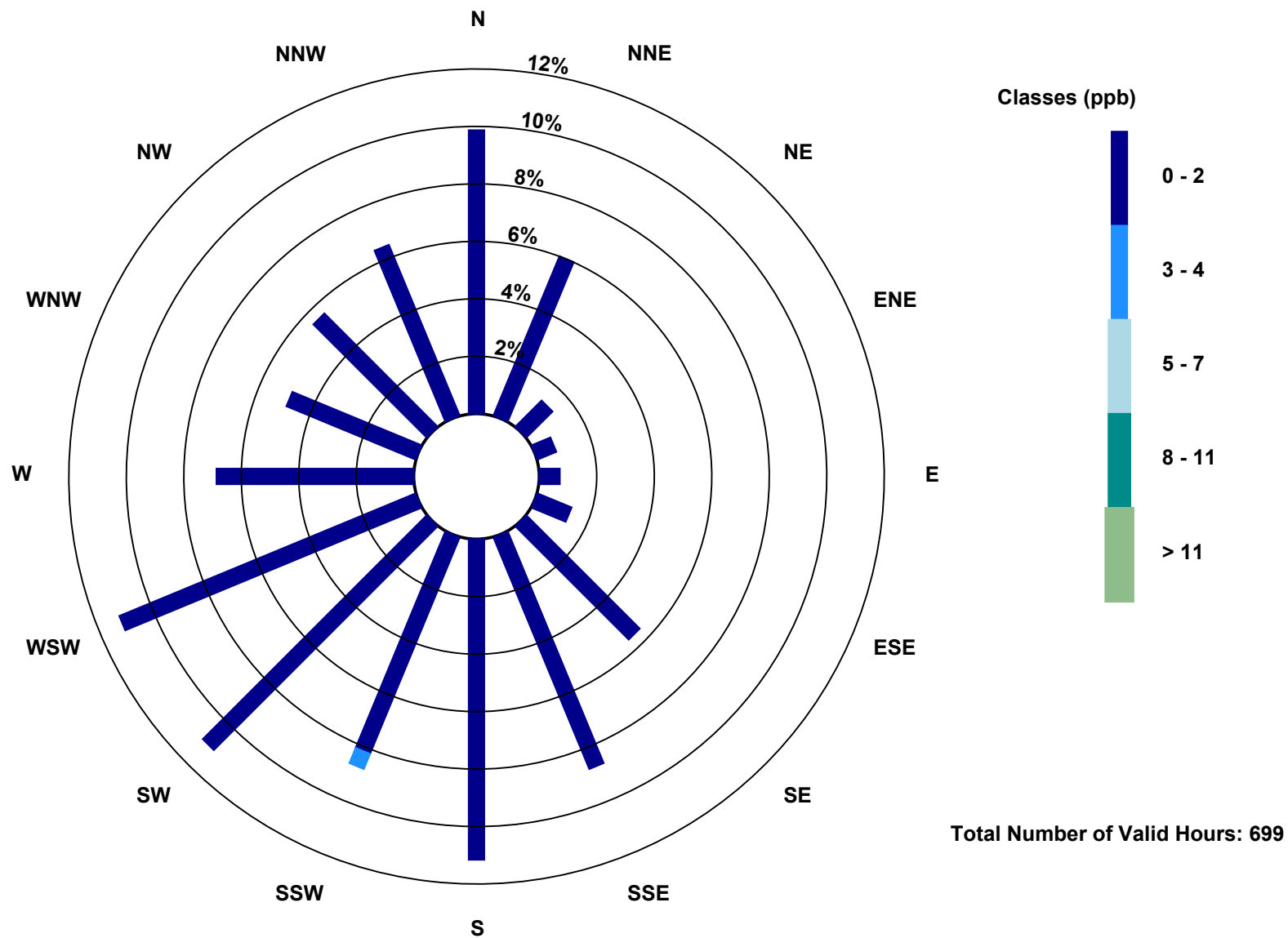


Wood Buffalo Environmental Association

Wind Rose Jul 2025

Total Reduced Sulphur (TRS) - ppb

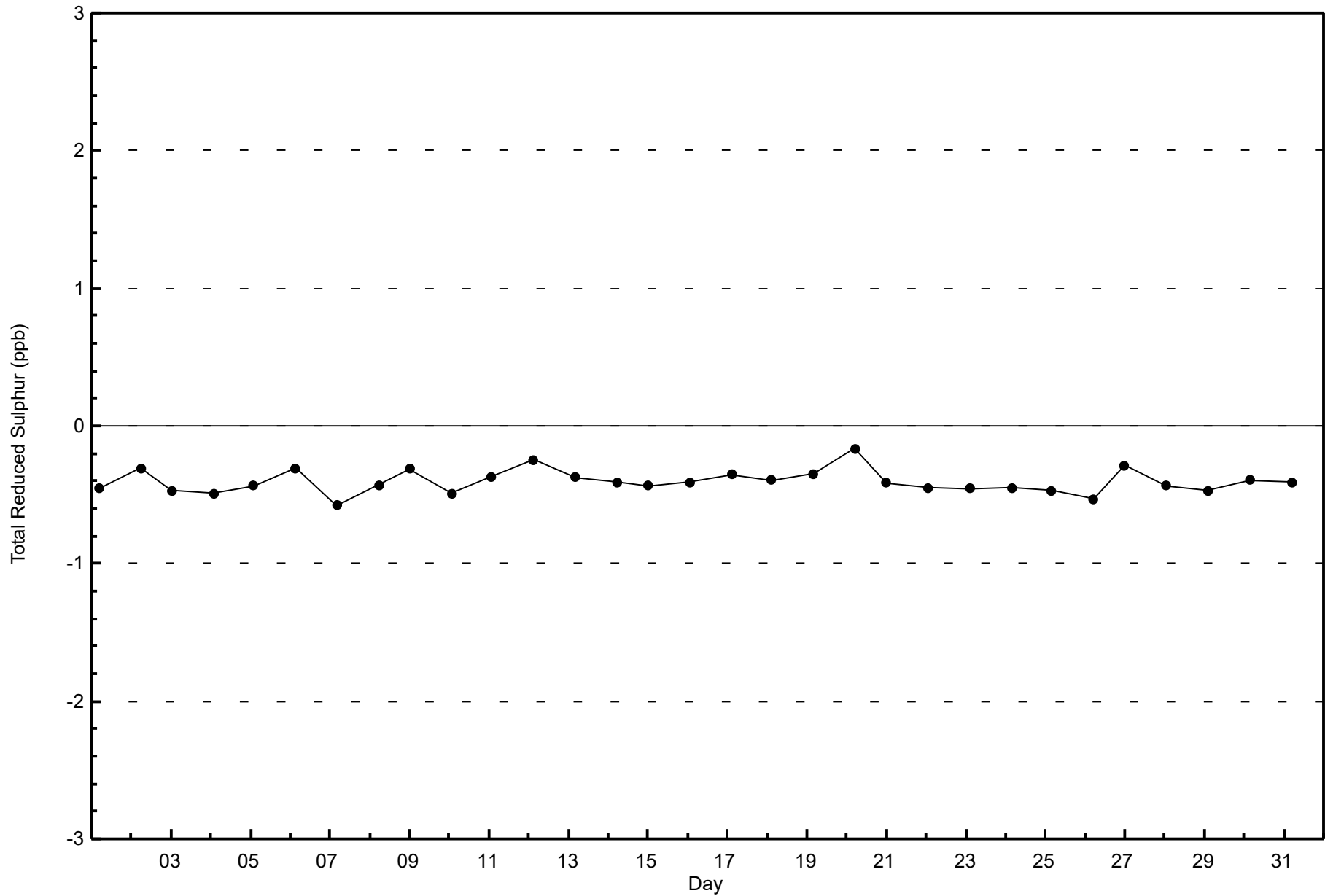
Fort McKay South





Wood Buffalo Environmental Association
Zero Responses

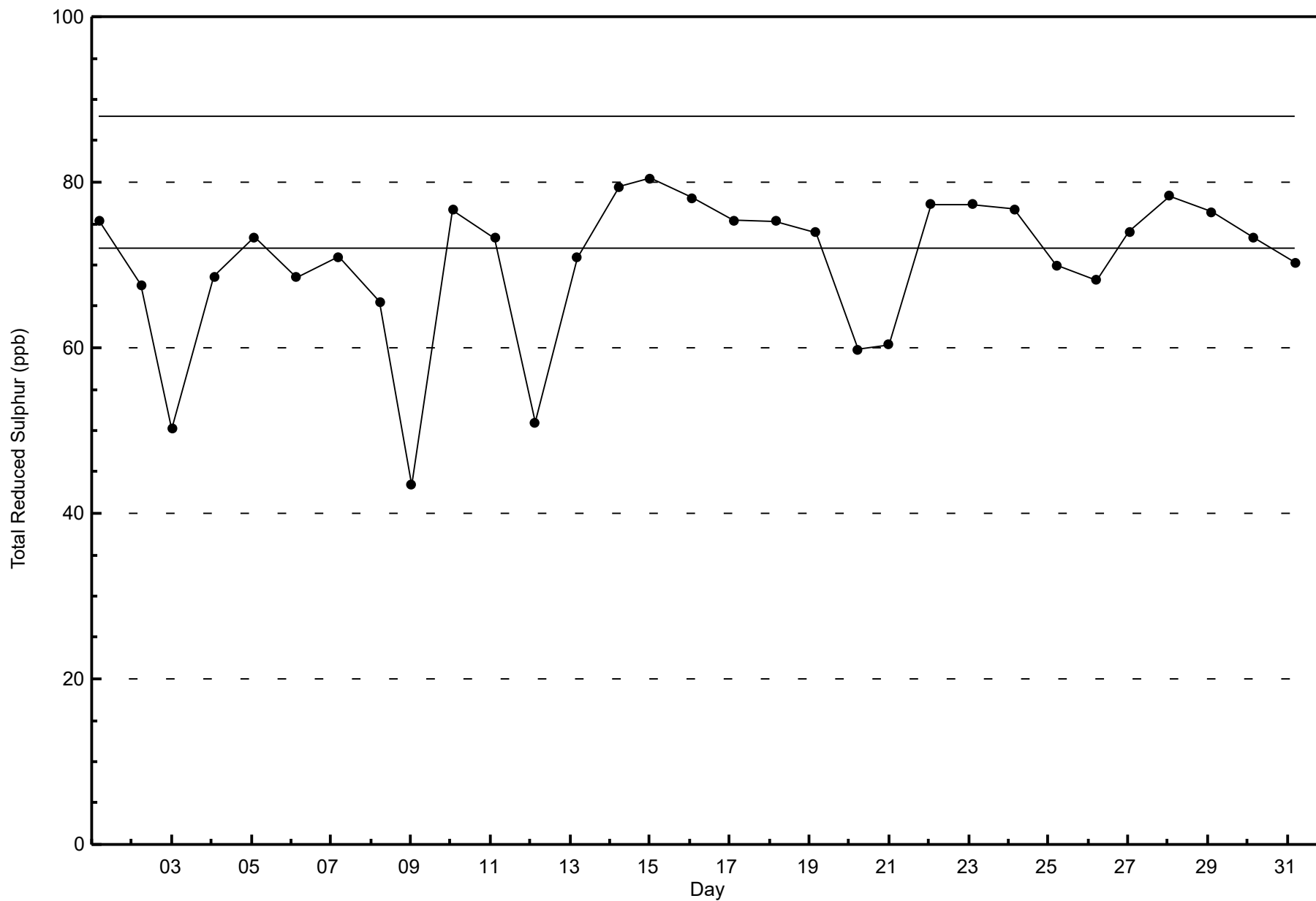
Total Reduced Sulphur (TRS) - ppb
Fort McKay South - July 2025





Wood Buffalo Environmental Association
Span Responses

Total Reduced Sulphur (TRS) - ppb
Fort McKay South - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Total Hydrocarbons (THC) - ppm

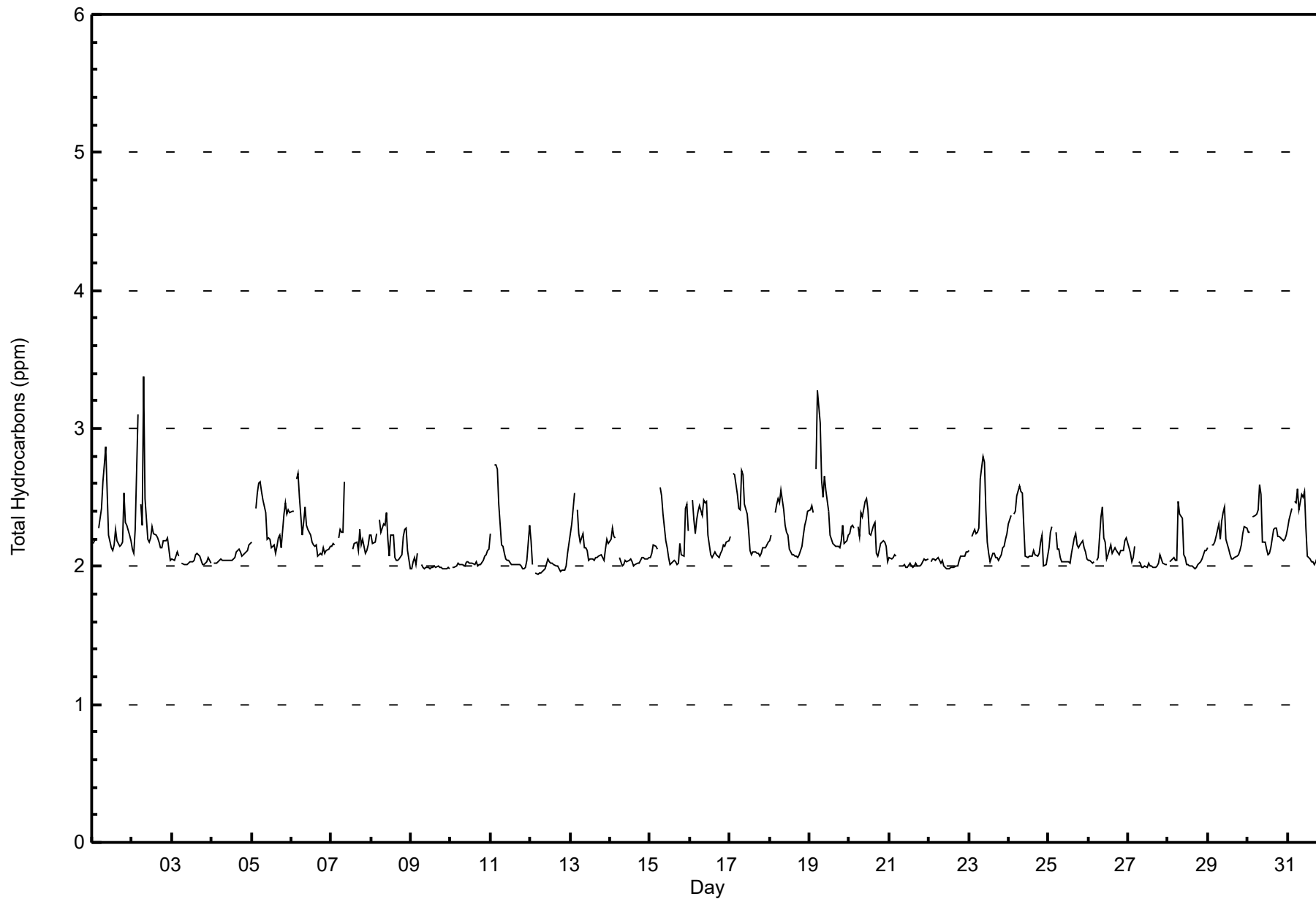
Fort McKay South - July 2025

Maximum Value: 3.4 ppm on Jul 2 08:00																	Maximum Daily Average: 2.4 ppm on Jul 19										Hours in Service: 744	
Minimum Value: 1.9 ppm on Jul 12 05:00																	Minimum Daily Average: 2.0 ppm on Jul 9										Hours of Data: 709	
Maximum Diurnal Average: 2.3 ppm at hour 8																	Minimum Diurnal Average: 2.1 ppm at hour 19										Hours of Missing Data: 35	
Monthly Average: 2.17 ppm																	Percentiles: P ₁ = 2.0 P ₁₀ = 2.0 Q ₁ = 2.0 Median = 2.1 Q ₃ = 2.2 P ₉₀ = 2.4 P ₉₉ = 2.7										Hours of Calibration: 35	
																											Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum		
1-Jul	2.2	2.2	2.2	Z	2.3	2.4	2.6	2.7	2.9	2.6	2.2	2.1	2.1	2.2	2.3	2.2	2.1	2.2	2.2	2.5	2.3	2.3	2.2	2.2	2.3	2.9		
2-Jul	2.1	2.1	2.3	3.1	Z	2.4	2.3	3.4	2.5	2.2	2.2	2.2	2.3	2.2	2.2	2.2	2.2	2.1	2.1	2.2	2.2	2.2	2.1	2.0	2.3	3.4		
3-Jul	2.1	2.0	2.1	2.1	2.1	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	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.1		
4-Jul	Z	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	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.2		
5-Jul	2.2	Z	2.4	2.5	2.6	2.6	2.5	2.5	2.4	2.2	2.2	2.2	2.1	2.2	2.1	2.1	2.2	2.2	2.1	2.4	2.5	2.4	2.4	2.4	2.3	2.6		
6-Jul	2.4	2.4	Z	2.6	2.7	2.5	2.2	2.3	2.4	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	2.3	2.7		
7-Jul	2.1	2.2	2.2	Z	2.2	2.3	2.2	2.2	2.6	C	C	C	C	2.1	2.2	2.2	2.1	2.3	2.2	2.2	2.1	2.1	2.2	2.2	2.2	2.6		
8-Jul	2.2	2.2	2.2	2.2	Z	2.3	2.3	2.3	2.3	2.4	2.2	2.1	2.2	2.2	2.1	2.0	2.0	2.1	2.1	2.2	2.3	2.3	2.1	2.0	2.2	2.4		
9-Jul	2.0	2.0	2.1	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		
10-Jul	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	2.1	2.1	2.1	2.0	2.1		
11-Jul	2.2	Z	2.7	2.7	2.7	2.4	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	2.3	2.2	2.7		
12-Jul	2.2	2.0	Z	2.0	1.9	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	2.2	2.0	2.2		
13-Jul	2.2	2.3	2.5	Z	2.4	2.2	2.2	2.2	2.1	2.1	2.1	2.0	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.2	2.2	2.2	2.5		
14-Jul	2.2	2.3	2.2	2.2	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	2.1	2.1	2.1	2.1	2.1	2.1	2.3		
15-Jul	2.1	2.1	2.2	2.1	2.1	Z	2.6	2.5	2.4	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.1	2.1	2.4	2.5	2.3	2.2	2.6		
16-Jul	Z	2.5	2.3	2.2	2.3	2.4	2.4	2.4	2.5	2.5	2.5	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	2.5		
17-Jul	2.2	Z	2.7	2.7	2.5	2.4	2.4	2.7	2.7	2.4	2.4	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.7		
18-Jul	2.2	2.2	Z	2.4	2.4	2.5	2.5	2.6	2.4	2.3	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.3	2.4	2.3	2.6		
19-Jul	2.4	2.4	2.4	Z	2.7	3.3	3.0	2.6	2.5	2.7	2.6	2.4	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.2	2.3	2.2	2.2	2.2	2.4	3.3		
20-Jul	2.2	2.3	2.3	2.3	Z	2.3	2.2	2.4	2.4	2.5	2.5	2.4	2.2	2.2	2.3	2.3	2.1	2.1	2.1	2.2	2.2	2.2	2.1	2.0	2.3	2.5		
21-Jul	2.1	2.1	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	2.1	2.0	2.1	2.0	2.1		
22-Jul	Z	2.0	2.1	2.1	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.0	2.1		
23-Jul	2.1	Z	2.2	2.3	2.2	2.3	2.3	2.6	2.8	2.8	2.4	2.2	2.1	2.0	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.1	2.2	2.2	2.2	2.8		
24-Jul	2.3	2.4	Z	2.4	2.4	2.5	2.6	2.5	2.5	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.0	2.0	2.1	2.2	2.6		
25-Jul	2.1	2.3	2.3	Z	2.2	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.2	2.2	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.3		
26-Jul	2.0	2.0	2.0	2.0	Z	2.0	2.1	2.4	2.4	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	2.2	2.2	2.1	2.4		
27-Jul	2.1	2.1	2.0	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	2.1	2.0	2.0	2.0	2.0	2.0	2.1		
28-Jul	Z	2.0	2.0	2.1	2.0	2.0	2.5	2.4	2.3	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.5		
29-Jul	2.1	Z	2.2	2.2	2.2	2.2	2.3	2.2	2.3	2.4	2.4	2.2	2.1	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.3	2.2	2.4		
30-Jul	2.2	2.3	Z	2.4	2.4	2.4	2.4	2.6	2.5	2.2	2.2	2.1	2.1	2.1	2.1	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.6		
31-Jul	2.3	2.3	2.4	Z	2.5	2.5	2.6	2.4	2.5	2.5	2.5	2.3	2.1	2.1	2.0	2.0	2.0	2.0	2.1	2.2	2.2	2.4	2.5	2.4	2.3	2.6		
2.2 2.2 2.2 2.3 2.3 2.3 2.3 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 2.1 2.2 2.2																										Diurnal Average		
2.4 2.5 2.7 3.1 2.7 3.3 3.0 3.4 2.9 2.8 2.6 2.4 2.3 2.2 2.3 2.3 2.3 2.3 2.2 2.5 2.5 2.4 2.5 2.4																										Diurnal Maximum		
Z - zerospan C - Calibration																												



Wood Buffalo Environmental Association
Hourly Averages

Total Hydrocarbons (THC) - ppm
Fort McKay South - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Hydrocarbons (THC) - ppm
Fort McKay South - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	209	29.48	29.48
2.1 - 3.0	497	70.10	99.58
3.1 - 10.0	3	0.42	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 - July 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	21	12	2	1	0	0	0	1	12	8	25	35	27	22	25	17	208
2.1 - 3.0	52	32	7	4	5	9	39	60	66	51	51	44	20	14	15	28	497
3.1 - 10.0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	3
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	73	44	9	5	5	9	39	62	79	59	77	79	47	36	40	45	708

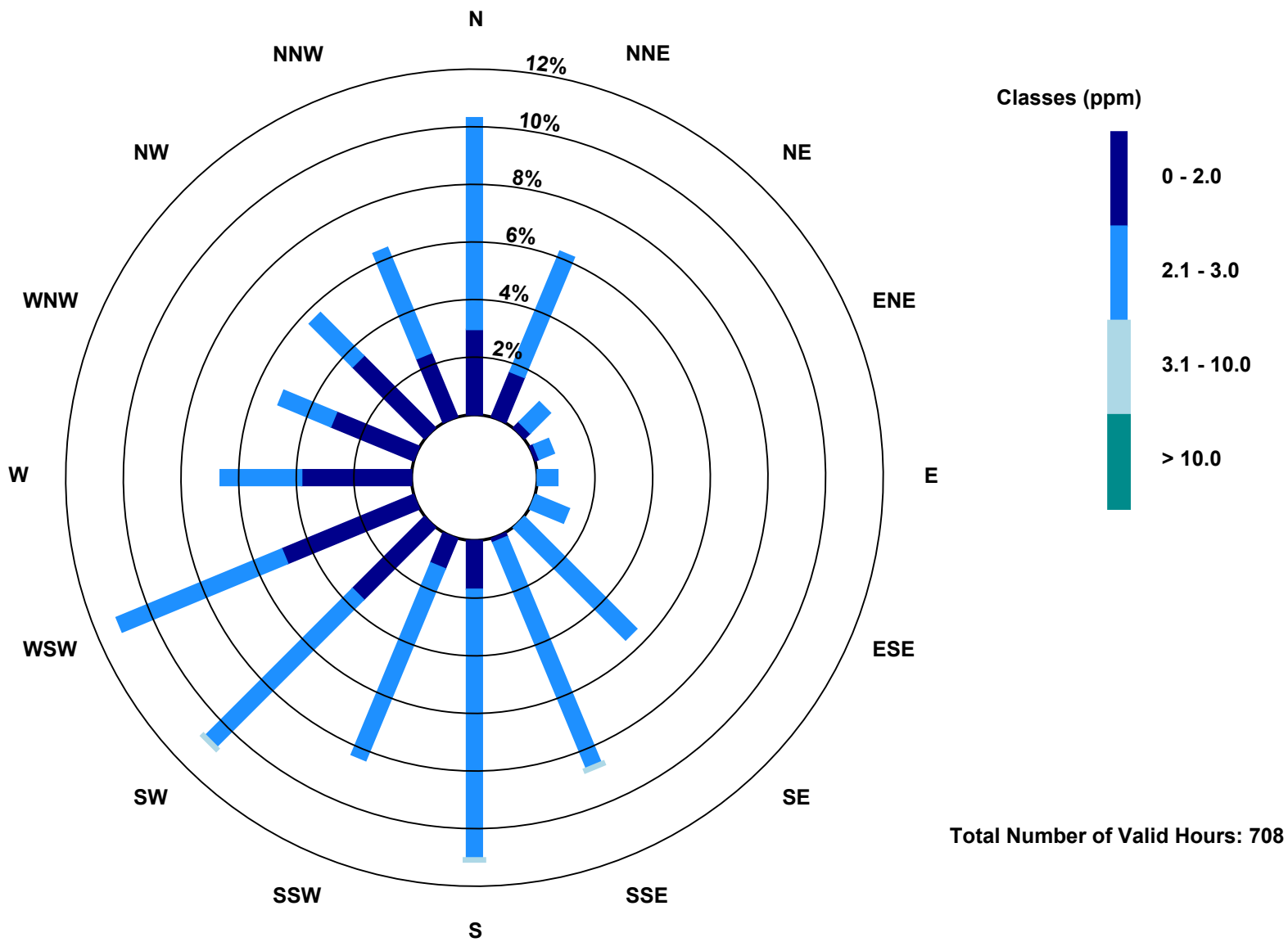
Total Number of Valid Hours: 708

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

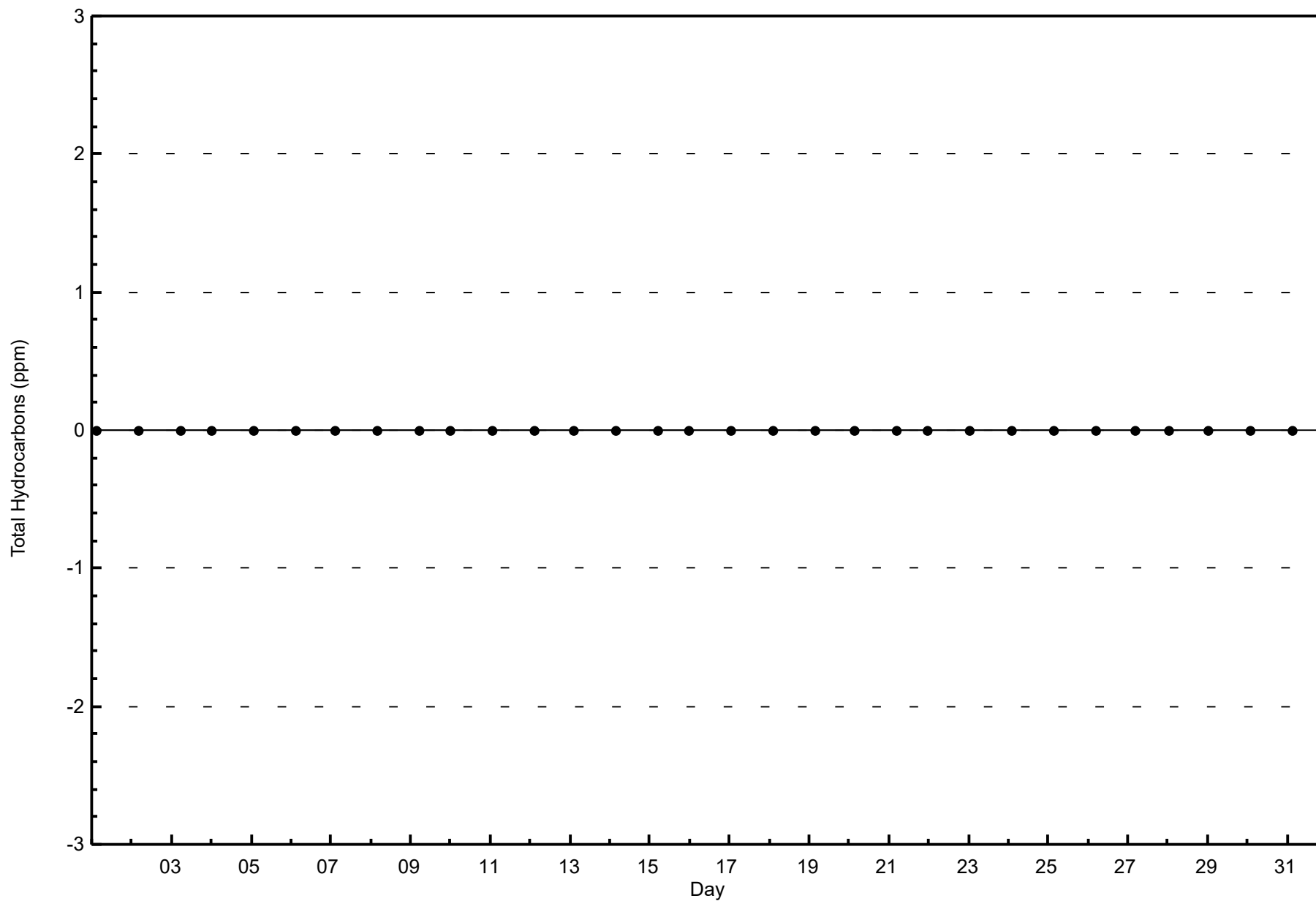
Total Hydrocarbons (THC) - ppm
Fort McKay South





Wood Buffalo Environmental Association
Zero Responses

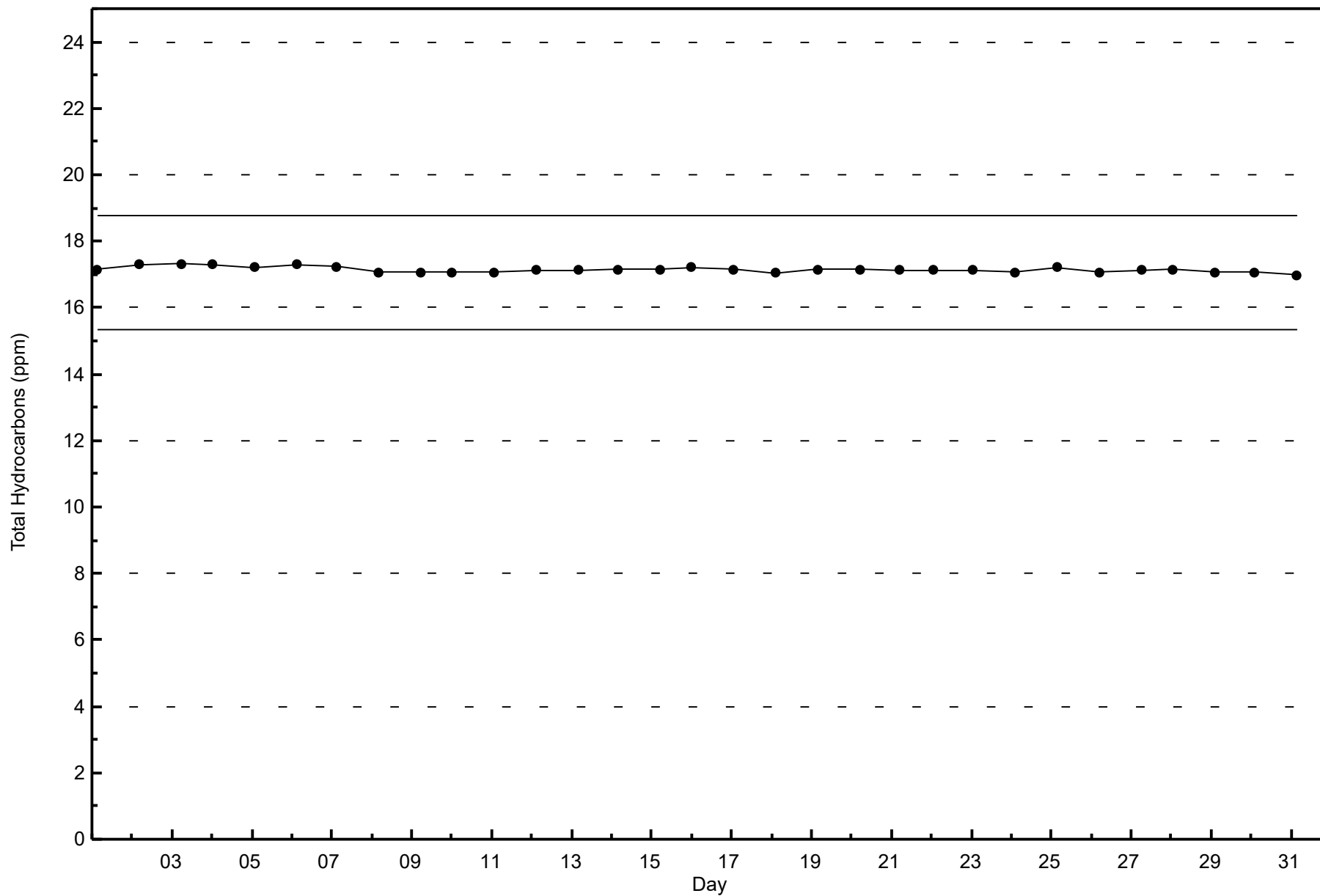
Total Hydrocarbons (THC) - ppm
Fort McKay South - July 2025





Wood Buffalo Environmental Association
Span Responses

Total Hydrocarbons (THC) - ppm
Fort McKay South - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Non Methane Hydrocarbons (NMHC) - ppm

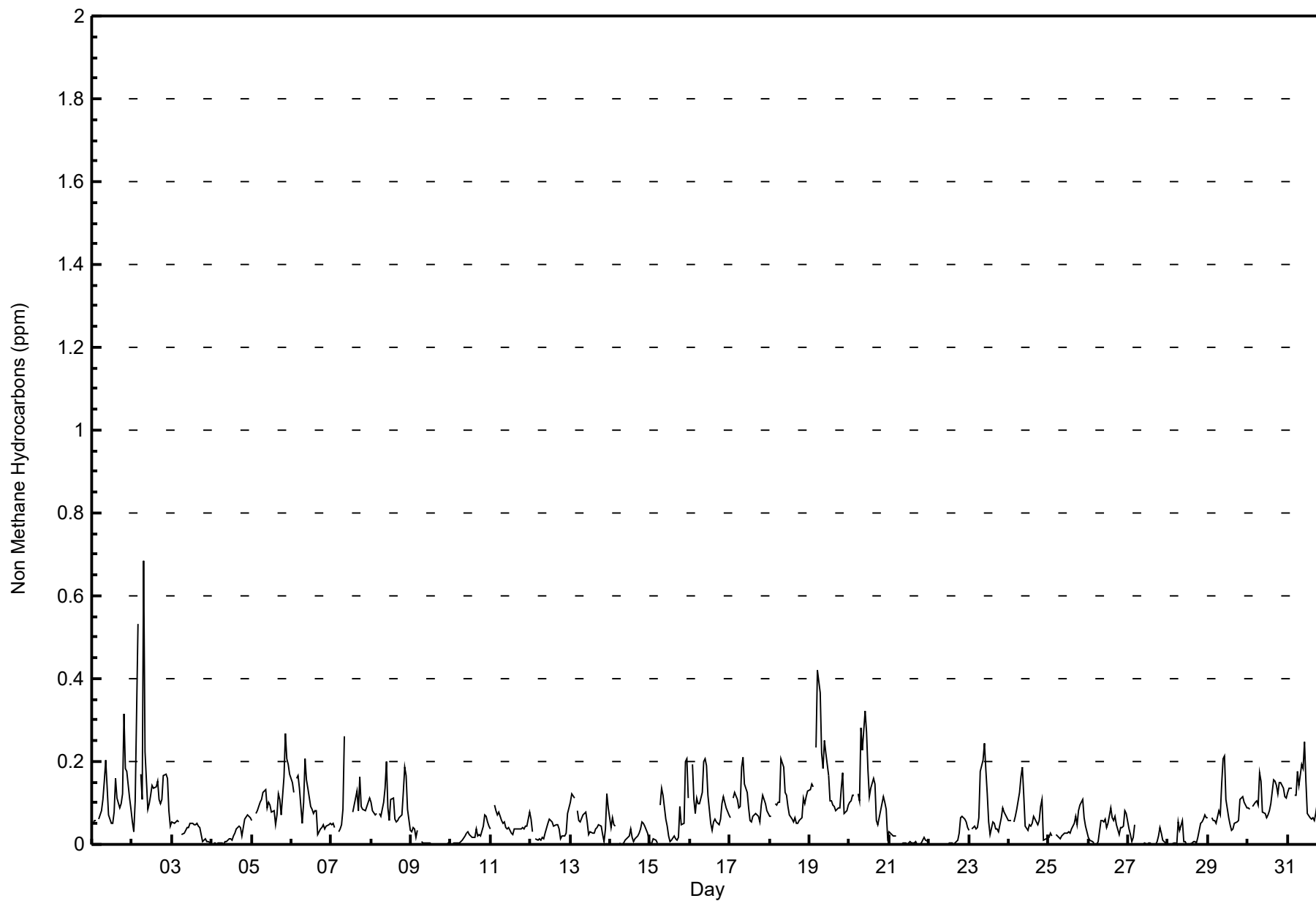
Fort McKay South - July 2025

Maximum Value: 0.683 ppm on Jul 2 08:00																		Maximum Daily Average: 0.162 ppm on Jul 2										Hours in Service: 744	
Minimum Value: 0.000 ppm on Jul 9 14:00																		Minimum Daily Average: 0.008 ppm on Jul 21										Hours of Data: 709	
Maximum Diurnal Average: 0.114 ppm at hour 9																		Minimum Diurnal Average: 0.050 ppm at hour 14										Hours of Missing Data: 35	
Monthly Average: 0.071 ppm																		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 = 0.3										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-Jul	0.051	0.057	0.057	Z	0.060	0.080	0.107	0.152	0.205	0.138	0.072	0.051	0.051	0.077	0.160	0.110	0.087	0.097	0.122	0.314	0.184	0.175	0.112	0.085	0.113	0.314			
2-Jul	0.054	0.032	0.107	0.532	Z	0.170	0.109	0.683	0.223	0.085	0.099	0.120	0.142	0.135	0.139	0.151	0.109	0.097	0.109	0.167	0.170	0.159	0.082	0.044	0.162	0.683			
3-Jul	0.053	0.051	0.055	0.058	0.053	Z	0.024	0.027	0.033	0.040	0.040	0.049	0.052	0.048	0.049	0.050	0.045	0.040	0.008	0.010	0.014	0.008	0.006	0.003	0.035	0.058			
4-Jul	Z	0.003	0.004	0.002	0.002	0.004	0.002	0.001	0.007	0.008	0.012	0.014	0.011	0.019	0.028	0.036	0.045	0.040	0.020	0.039	0.060	0.070	0.068	0.064	0.024	0.070			
5-Jul	0.058	Z	0.076	0.082	0.090	0.103	0.108	0.125	0.134	0.087	0.103	0.096	0.077	0.081	0.047	0.072	0.121	0.109	0.073	0.162	0.269	0.207	0.193	0.168	0.115	0.269			
6-Jul	0.149	0.125	Z	0.160	0.165	0.134	0.051	0.102	0.208	0.156	0.135	0.092	0.084	0.076	0.083	0.082	0.025	0.039	0.041	0.049	0.037	0.045	0.048	0.049	0.093	0.208			
7-Jul	0.048	0.052	0.039	Z	0.031	0.036	0.047	0.083	0.262	C	C	C	C	0.076	0.093	0.127	0.083	0.161	0.093	0.084	0.081	0.093	0.101	0.110	0.090	0.262			
8-Jul	0.103	0.082	0.070	0.073	Z	0.076	0.069	0.102	0.137	0.202	0.089	0.057	0.110	0.110	0.062	0.054	0.059	0.065	0.072	0.127	0.187	0.165	0.086	0.033	0.095	0.202			
9-Jul	0.031	0.041	0.038	0.017	0.034	Z	0.008	0.003	0.002	0.004	0.004	0.002	0.001	0.000	0.000	0.001	0.001	0.000	0.000	0.000	0.000	0.005	0.001	0.008	0.041				
10-Jul	Z	0.002	0.003	0.002	0.003	0.003	0.007	0.009	0.019	0.027	0.030	0.023	0.021	0.016	0.019	0.037	0.022	0.023	0.019	0.044	0.071	0.068	0.053	0.043	0.024	0.071			
11-Jul	0.038	Z	0.095	0.082	0.072	0.078	0.057	0.051	0.053	0.040	0.038	0.042	0.028	0.025	0.037	0.036	0.037	0.037	0.037	0.041	0.038	0.043	0.046	0.077	0.049	0.095			
12-Jul	0.062	0.030	Z	0.013	0.011	0.012	0.009	0.019	0.013	0.028	0.051	0.060	0.058	0.056	0.044	0.048	0.047	0.037	0.013	0.020	0.019	0.026	0.076	0.088	0.036	0.088			
13-Jul	0.102	0.121	0.112	Z	0.081	0.059	0.055	0.071	0.076	0.077	0.054	0.023	0.029	0.027	0.027	0.038	0.042	0.049	0.044	0.023	0.006	0.038	0.121	0.087	0.059	0.121			
14-Jul	0.041	0.065	0.047	0.043	Z	0.003	0.001	0.000	0.002	0.010	0.013	0.021	0.038	0.018	0.008	0.013	0.021	0.026	0.037	0.054	0.051	0.043	0.027	0.012	0.026	0.065			
15-Jul	0.001	0.003	0.013	0.010	0.004	Z	0.096	0.135	0.119	0.061	0.045	0.019	0.006	0.011	0.022	0.014	0.009	0.017	0.092	0.046	0.052	0.199	0.205	0.111	0.056	0.205			
16-Jul	Z	0.195	0.108	0.075	0.111	0.098	0.099	0.126	0.202	0.207	0.191	0.119	0.050	0.034	0.054	0.063	0.054	0.047	0.061	0.097	0.114	0.103	0.089	0.072	0.103	0.207			
17-Jul	0.066	Z	0.113	0.125	0.108	0.088	0.092	0.185	0.212	0.146	0.125	0.089	0.058	0.054	0.068	0.075	0.070	0.068	0.054	0.094	0.119	0.097	0.080	0.074	0.098	0.212			
18-Jul	0.066	0.066	Z	0.097	0.095	0.100	0.103	0.207	0.186	0.124	0.118	0.091	0.073	0.060	0.055	0.064	0.051	0.050	0.058	0.065	0.113	0.099	0.114	0.128	0.095	0.207			
19-Jul	0.133	0.147	0.139	Z	0.233	0.420	0.365	0.221	0.183	0.252	0.220	0.167	0.104	0.104	0.096	0.092	0.083	0.089	0.090	0.136	0.173	0.073	0.082	0.096	0.161	0.420			
20-Jul	0.102	0.105	0.120	0.117	Z	0.122	0.105	0.281	0.226	0.321	0.272	0.180	0.114	0.135	0.158	0.145	0.056	0.047	0.065	0.080	0.115	0.101	0.085	0.018	0.133	0.321			
21-Jul	0.032	0.022	0.022	0.020	0.019	Z	0.000	0.001	0.003	0.003	0.002	0.000	0.007	0.003	0.002	0.002	0.007	0.001	0.000	0.003	0.011	0.018	0.010	0.005	0.008	0.032			
22-Jul	Z	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.001	0.002	0.002	0.003	0.002	0.006	0.009	0.026	0.064	0.069	0.061	0.053	0.042	0.015	0.069			
23-Jul	0.035	Z	0.039	0.043	0.038	0.041	0.066	0.176	0.204	0.245	0.181	0.121	0.054	0.023	0.055	0.049	0.037	0.039	0.032	0.065	0.087	0.078	0.072	0.064	0.080	0.245			
24-Jul	0.058	0.057	Z	0.053	0.067	0.086	0.125	0.163	0.185	0.118	0.044	0.033	0.048	0.045	0.052	0.067	0.062	0.046	0.058	0.090	0.108	0.010	0.012	0.016	0.070	0.185			
25-Jul	0.016	0.027	0.020	Z	0.024	0.019	0.018	0.015	0.020	0.027	0.028	0.027	0.029	0.029	0.036	0.050	0.069	0.048	0.081	0.096	0.108	0.064	0.046	0.030	0.040	0.108			
26-Jul	0.016	0.010	0.008	0.004	Z	0.002	0.008	0.058	0.059	0.054	0.061	0.041	0.051	0.090	0.064	0.058	0.067	0.047	0.025	0.039	0.040	0.045	0.080	0.074	0.043	0.090			
27-Jul	0.037	0.025	0.006	0.016	0.047	Z	0.000	0.001	0.001	0.000	0.003	0.001	0.004	0.005	0.001	0.000	0.001	0.006	0.019	0.040	0.027	0.010	0.004	0.003	0.011	0.047			
28-Jul	Z	0.002	0.002	0.003	0.002	0.001	0.055	0.035	0.056	0.006	0.008	0.002	0.001	0.001	0.003	0.005	0.006	0.005	0.018	0.052	0.055	0.063	0.070	0.065	0.022	0.070			
29-Jul	0.066	Z	0.064	0.058	0.057	0.051	0.083	0.070	0.145	0.207	0.214	0.107	0.065	0.048	0.033	0.037	0.049	0.054	0.058	0.108	0.111	0.114	0.100	0.088	0.086	0.214			
30-Jul	0.088	0.085	Z	0.091	0.103	0.104	0.097	0.174	0.154	0.077	0.075	0.066	0.070	0.082	0.099	0.156	0.151	0.141	0.123	0.150	0.151	0.135	0.116	0.113	0.113	0.174			
31-Jul	0.125	0.137	0.137	Z	0.117	0.120	0.175	0.143	0.195	0.184	0.247	0.154	0.074	0.063	0.060	0.066	0.057	0.074	0.097	0.218	0.211	0.214	0.204	0.157	0.140	0.247			
0.063 0.059 0.057 0.071 0.063 0.077 0.069 0.110 0.114 0.098 0.086 0.062 0.050 0.050 0.053 0.058 0.051 0.052 0.053 0.083 0.092 0.085 0.079 0.065																													
0.149 0.195 0.139 0.532 0.233 0.420 0.365 0.683 0.262 0.321 0.272 0.180 0.142 0.135 0.160 0.156 0.151 0.161 0.123 0.314 0.269 0.214 0.205 0.168																													
Diurnal Average																													
Diurnal Maximum																													
Z - zerospan C - Calibration																													



Wood Buffalo Environmental Association
Hourly Averages

Non Methane Hydrocarbons (NMHC) - ppm
Fort McKay South - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Non Methane Hydrocarbons (NMHC) - ppm
Fort McKay South - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 0.005	91	12.83	12.84
0.006 - 0.05	259	36.53	49.37
0.06 - 0.1	283	39.92	89.28
> 0.1	76	10.72	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 - July 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	13	1	1	1	0	0	0	1	2	3	10	16	12	9	10	11	90
0.006 - 0.05	22	23	5	2	1	2	5	15	27	27	28	31	19	16	22	14	259
0.06 - 0.1	26	17	3	1	4	5	22	31	37	27	35	30	14	9	7	15	283
> 0.1	12	3	0	1	0	2	12	15	13	2	4	2	2	2	1	5	76
Totals	73	44	9	5	5	9	39	62	79	59	77	79	47	36	40	45	708

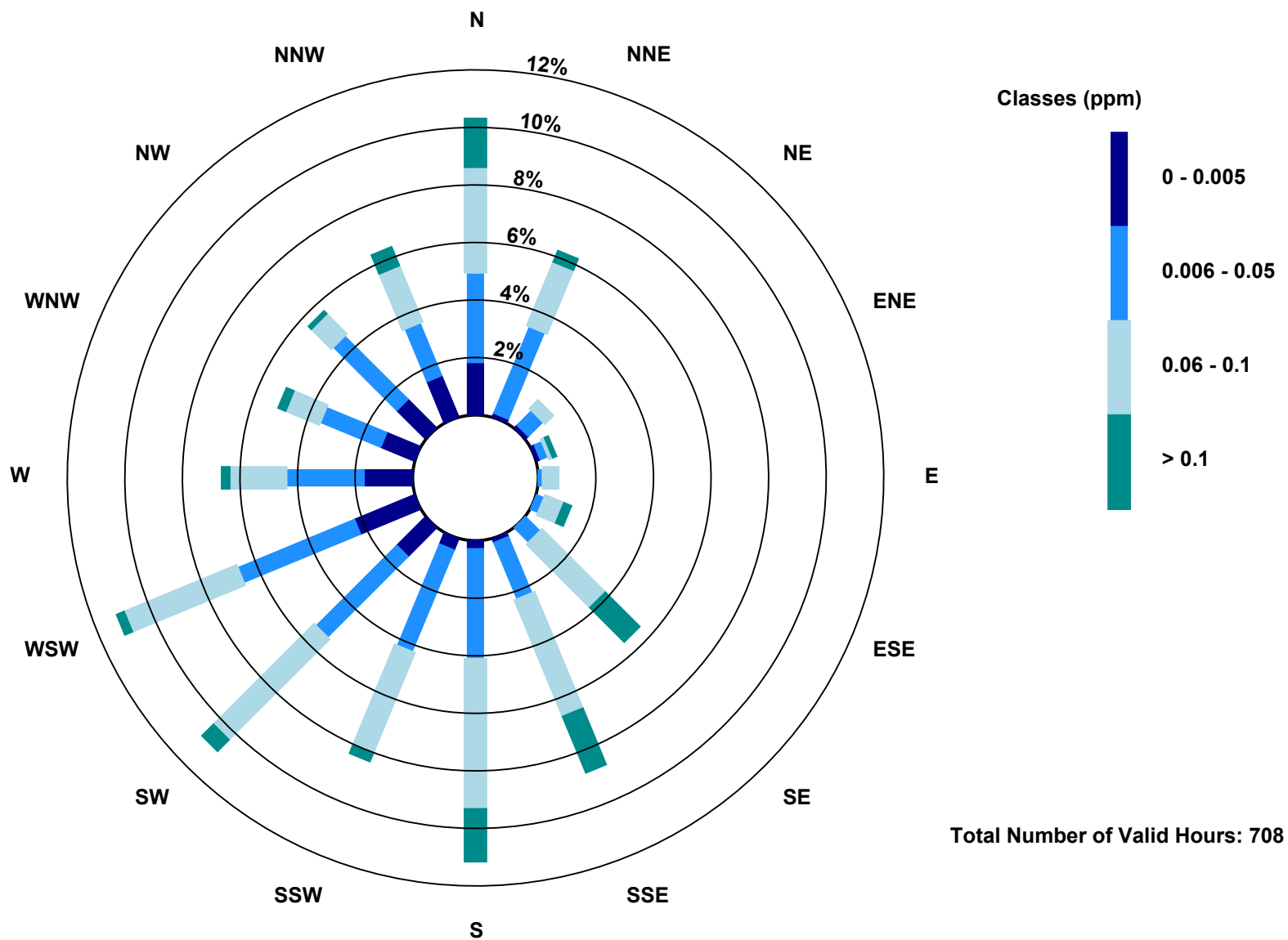
Total Number of Valid Hours: 708

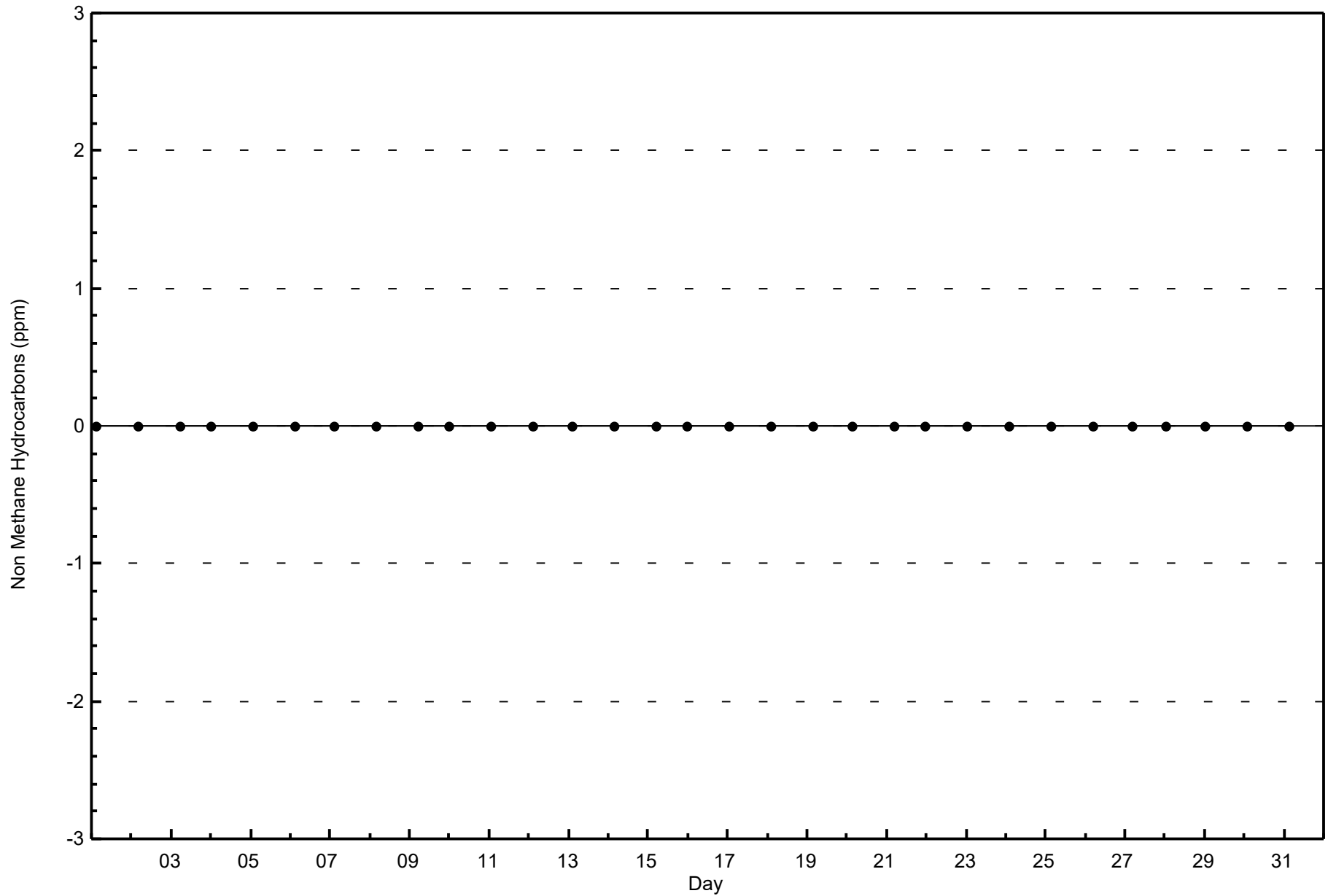
Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Non Methane Hydrocarbons (NMHC) - ppm
Fort McKay South

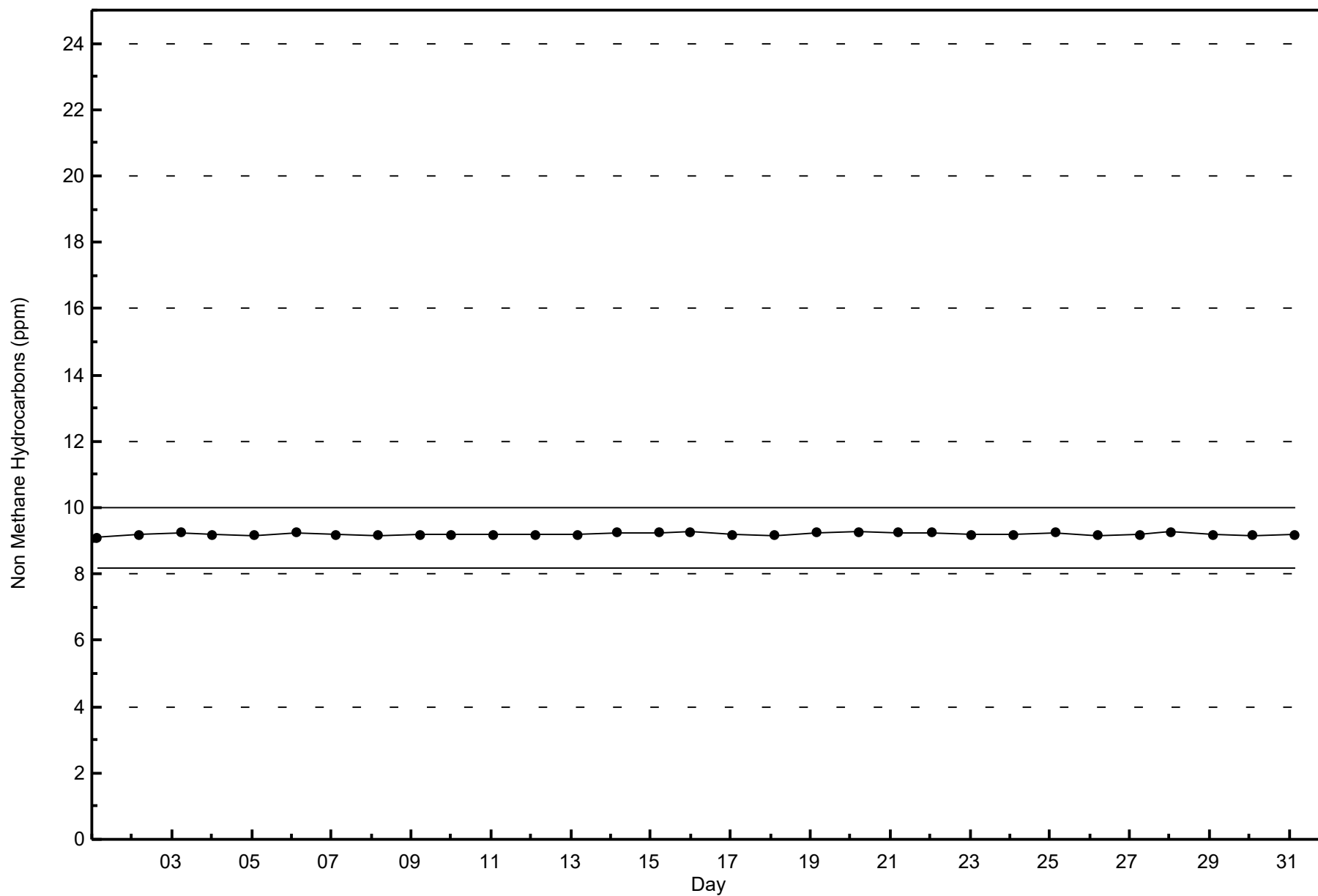






Wood Buffalo Environmental Association
Span Responses

Non Methane Hydrocarbons (NMHC) - ppm
Fort McKay South - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Methane (CH₄) - ppm

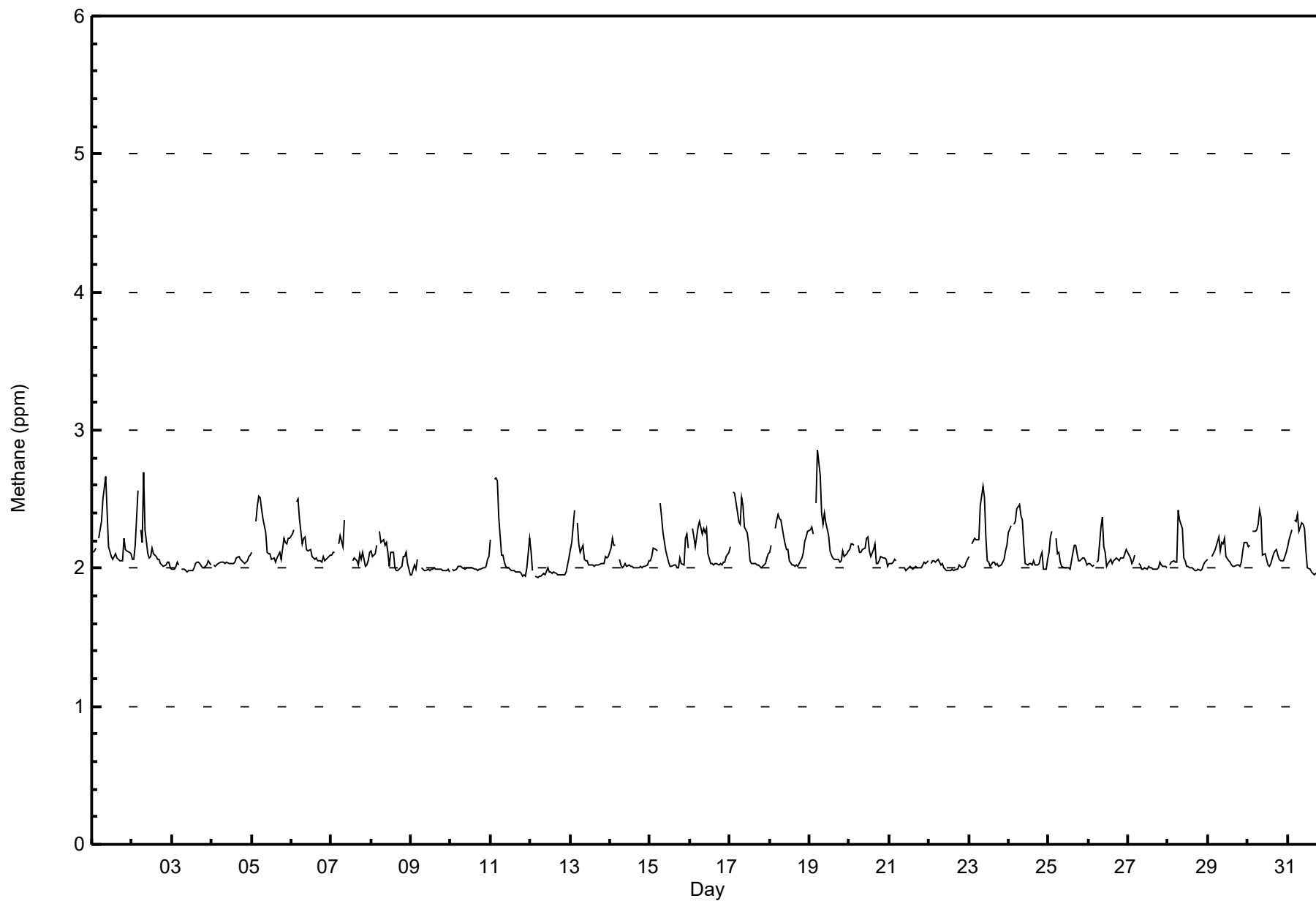
Fort McKay South - July 2025

Number of Exceedences (AAAQO): Maximum Value: 2.9 ppm on Jul 19 06:00																			1-hr: 0 24-hr: 0 Maximum Daily Average: 2.2 ppm on Jul 19																			Hours in Service: 744 Hours of Data: 709 Hours of Missing Data: 35 Hours of Calibration: 35 Percent Operational Time: 100.0			
Minimum Value: 1.9 ppm on Jul 12 05:00 Maximum Diurnal Average: 2.2 ppm at hour 6 Monthly Average: 2.10 ppm																			Minimum Daily Average: 2.0 ppm on Jul 12 Minimum Diurnal Average: 2.0 ppm at hour 19 Percentiles: P ₁ = 1.9 P ₁₀ = 2.0 Q ₁ = 2.0 Median = 2.1 Q ₃ = 2.1 P ₉₀ = 2.3 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-Jul	2.1	2.1	2.1	Z	2.2	2.3	2.5	2.6	2.7	2.4	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.2	2.7															
2-Jul	2.1	2.1	2.2	2.6	Z	2.3	2.2	2.7	2.3	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	2.1	2.7															
3-Jul	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	2.1	2.0	2.1																
4-Jul	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	2.0	2.1	2.1	2.0																
5-Jul	2.1	Z	2.3	2.5	2.5	2.5	2.4	2.4	2.3	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2																
6-Jul	2.3	2.3	Z	2.5	2.5	2.4	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.2																
7-Jul	2.1	2.1	2.1	Z	2.2	2.2	2.2	2.2	2.4	C	C	C	C	2.1	2.1	2.1	2.0	2.1	2.1	2.1	2.0	2.0	2.1	2.1	2.1																
8-Jul	2.1	2.1	2.1	2.2	Z	2.3	2.2	2.2	2.2	2.2	2.1	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.0	1.9	2.1																
9-Jul	2.0	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																
10-Jul	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	2.1	2.1	2.0																
11-Jul	2.2	Z	2.6	2.7	2.6	2.4	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	1.9	1.9	1.9	2.0	2.2	2.1																
12-Jul	2.1	2.0	Z	1.9	1.9	1.9	1.9	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	2.1	2.0																
13-Jul	2.1	2.2	2.4	Z	2.3	2.2	2.1	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	2.1	2.1	2.1	2.1																
14-Jul	2.2	2.2	2.2	2.2	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	2.1	2.0																
15-Jul	2.1	2.1	2.1	2.1	2.1	Z	2.5	2.4	2.3	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.2	2.2	2.1	2.1																
16-Jul	Z	2.3	2.2	2.2	2.2	2.3	2.3	2.2	2.3	2.3	2.3	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1																
17-Jul	2.2	Z	2.6	2.5	2.4	2.3	2.3	2.5	2.5	2.3	2.3	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.2																
18-Jul	2.1	2.2	Z	2.3	2.4	2.4	2.4	2.4	2.2	2.2	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.2	2.3	2.2																
19-Jul	2.3	2.3	2.2	Z	2.5	2.9	2.7	2.4	2.3	2.4	2.3	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	2.2																
20-Jul	2.1	2.2	2.2	2.2	Z	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.2	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.0	2.1																
21-Jul	2.0	2.0	2.0	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	2.1	2.0																
22-Jul	Z	2.0	2.1	2.1	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0																
23-Jul	2.1	Z	2.2	2.2	2.2	2.2	2.2	2.5	2.6	2.5	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.2																
24-Jul	2.3	2.3	Z	2.3	2.3	2.4	2.5	2.4	2.3	2.2	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	2.1	2.2																
25-Jul	2.1	2.2	2.3	Z	2.2	2.1	2.1	2.0	2.0	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	2.1	2.0	2.1																
26-Jul	2.0	2.0	2.0	2.0	Z	2.0	2.1	2.3	2.4	2.2	2.1	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																
27-Jul	2.1	2.1	2.0	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																
28-Jul	Z	2.0	2.0	2.1	2.0	2.0	2.4	2.3	2.3	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	2.1																
29-Jul	2.1	Z	2.1	2.1	2.1	2.2	2.2	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	2.1	2.2	2.2	2.1																
30-Jul	2.2	2.2	Z	2.3	2.3	2.3	2.3	2.4	2.4	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	2.1																
31-Jul	2.2	2.2	2.3	Z	2.4	2.3	2.4	2.3	2.3	2.3	2.3	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.3	2.3	2.2																
2.1 2.1 2.2 2.2 2.2 2.2 2.2 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 2.1 2.1 2.1 2.1 2.1																										Diurnal Average															
2.3 2.3 2.6 2.7 2.6 2.9 2.7 2.7 2.7 2.5 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 2.3 2.3																										Diurnal Maximum															
Z - zerospan C - Calibration																																									



Wood Buffalo Environmental Association
Hourly Averages

Methane (CH₄) - ppm
Fort McKay South - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Methane (CH₄) - ppm
Fort McKay South - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	334	47.11	47.11
2.1 - 3.0	375	52.89	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
Fort McKay South - July 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	29	23	3	2	4	1	8	20	30	20	33	49	32	28	32	19	333
2.1 - 3.0	44	21	6	3	1	8	31	42	49	39	44	30	15	8	8	26	375
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	73	44	9	5	5	9	39	62	79	59	77	79	47	36	40	45	708

Total Number of Valid Hours: 708

Total Number of Hours: 744

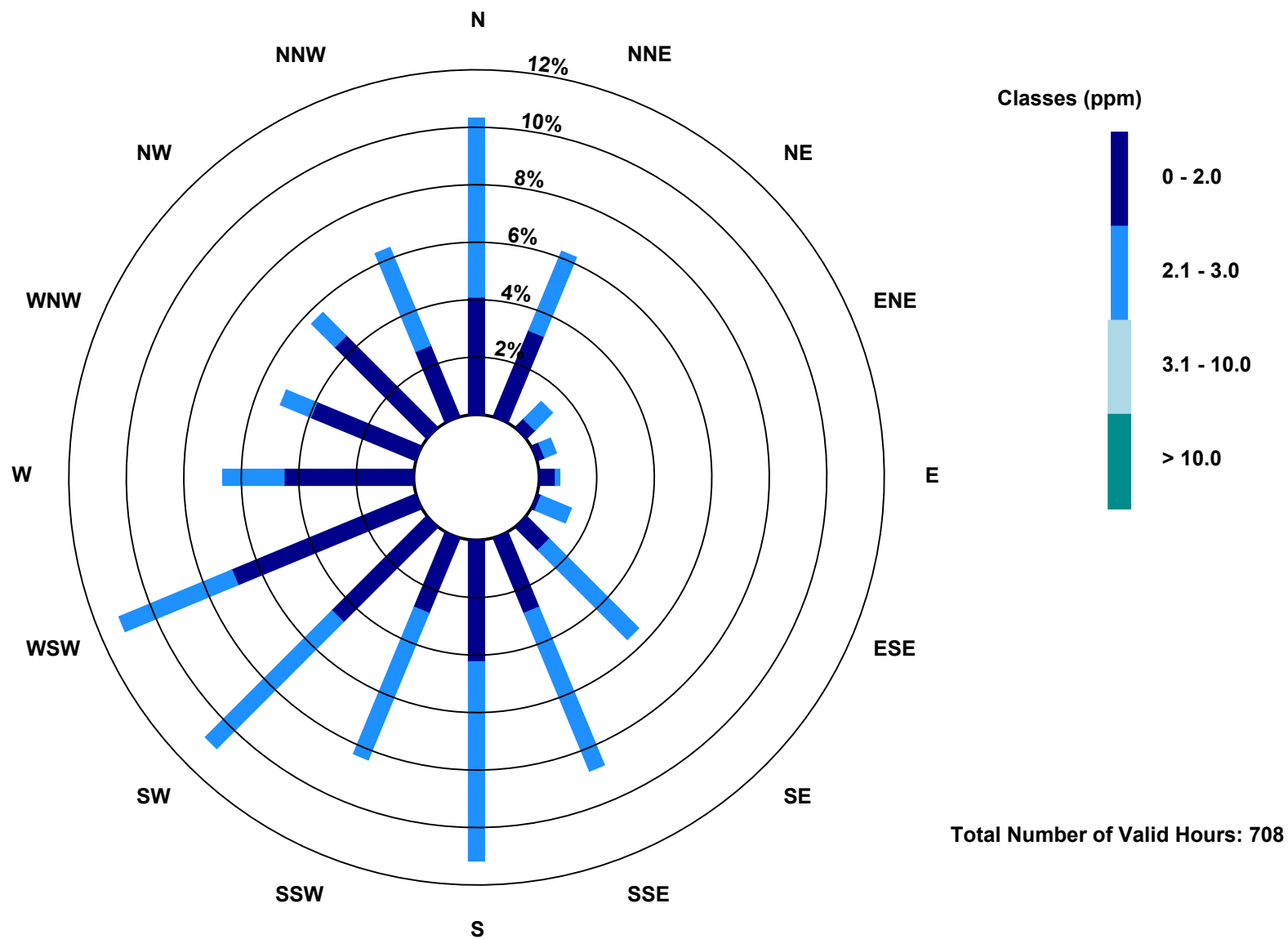


Wood Buffalo Environmental Association

Wind Rose Jul 2025

Methane (CH₄) - ppm

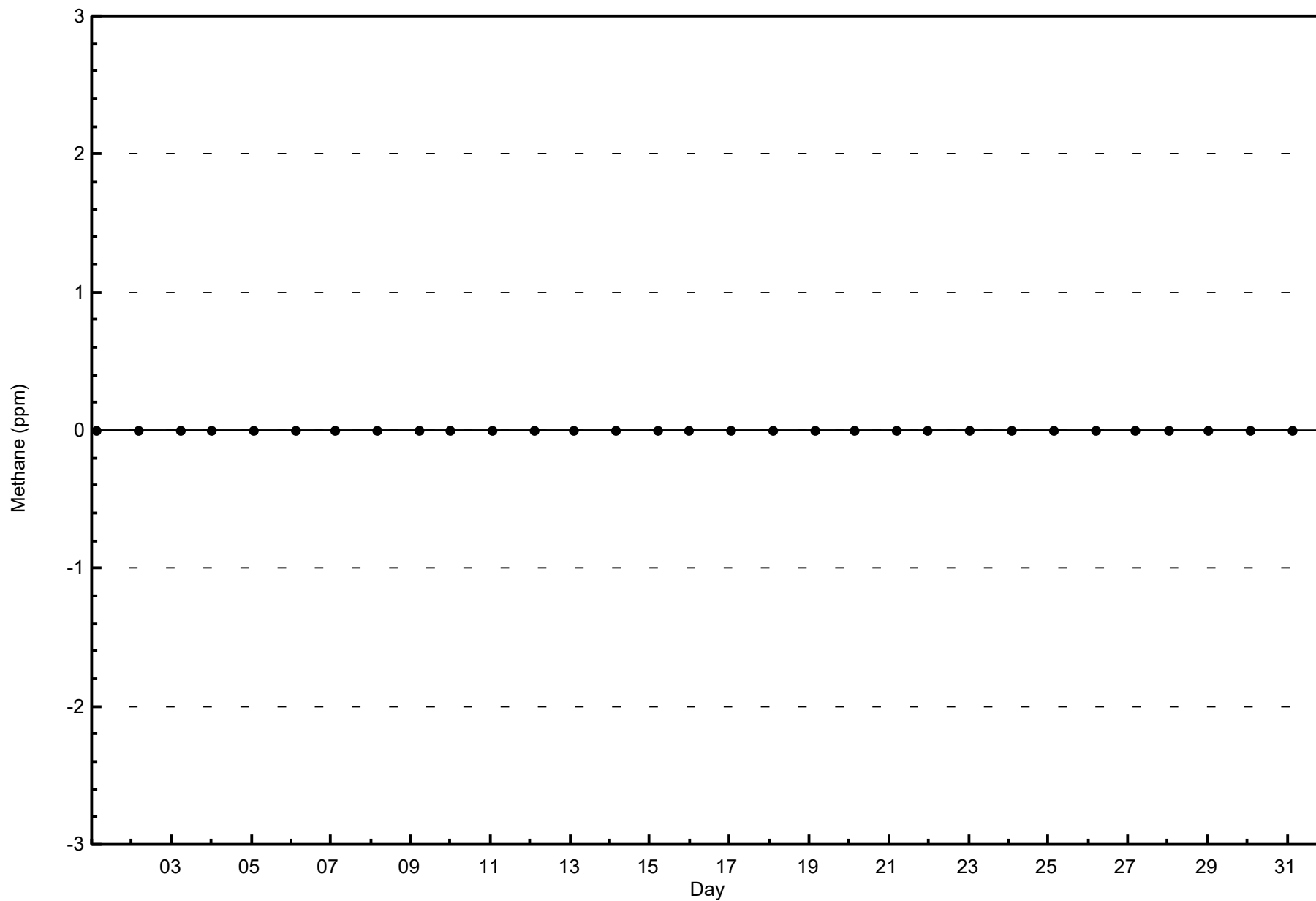
Fort McKay South





Wood Buffalo Environmental Association
Zero Responses

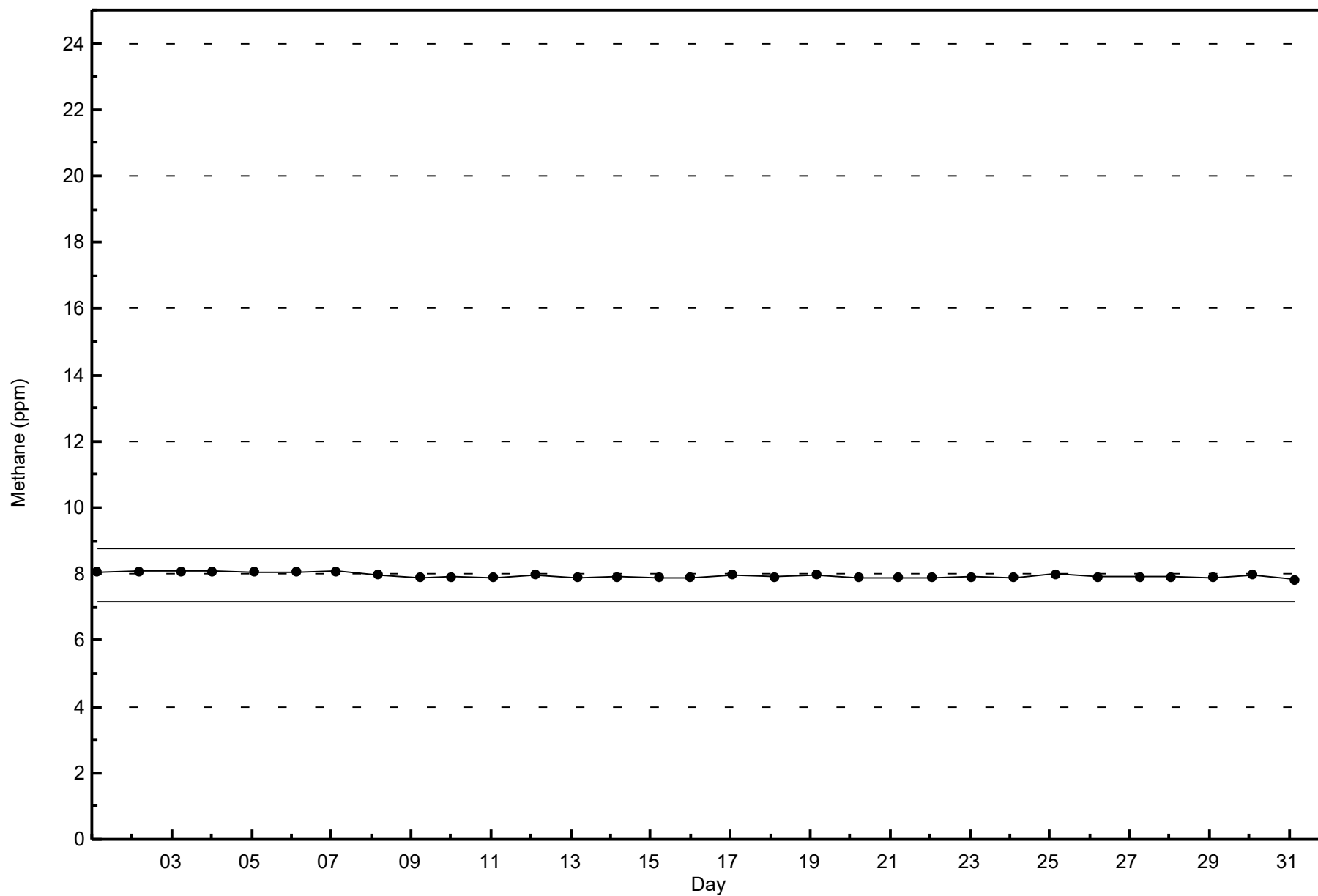
Methane (CH₄) - ppm
Fort McKay South - July 2025





Wood Buffalo Environmental Association
Span Responses

Methane (CH₄) - ppm
Fort McKay South - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Ozone (O₃) - ppb

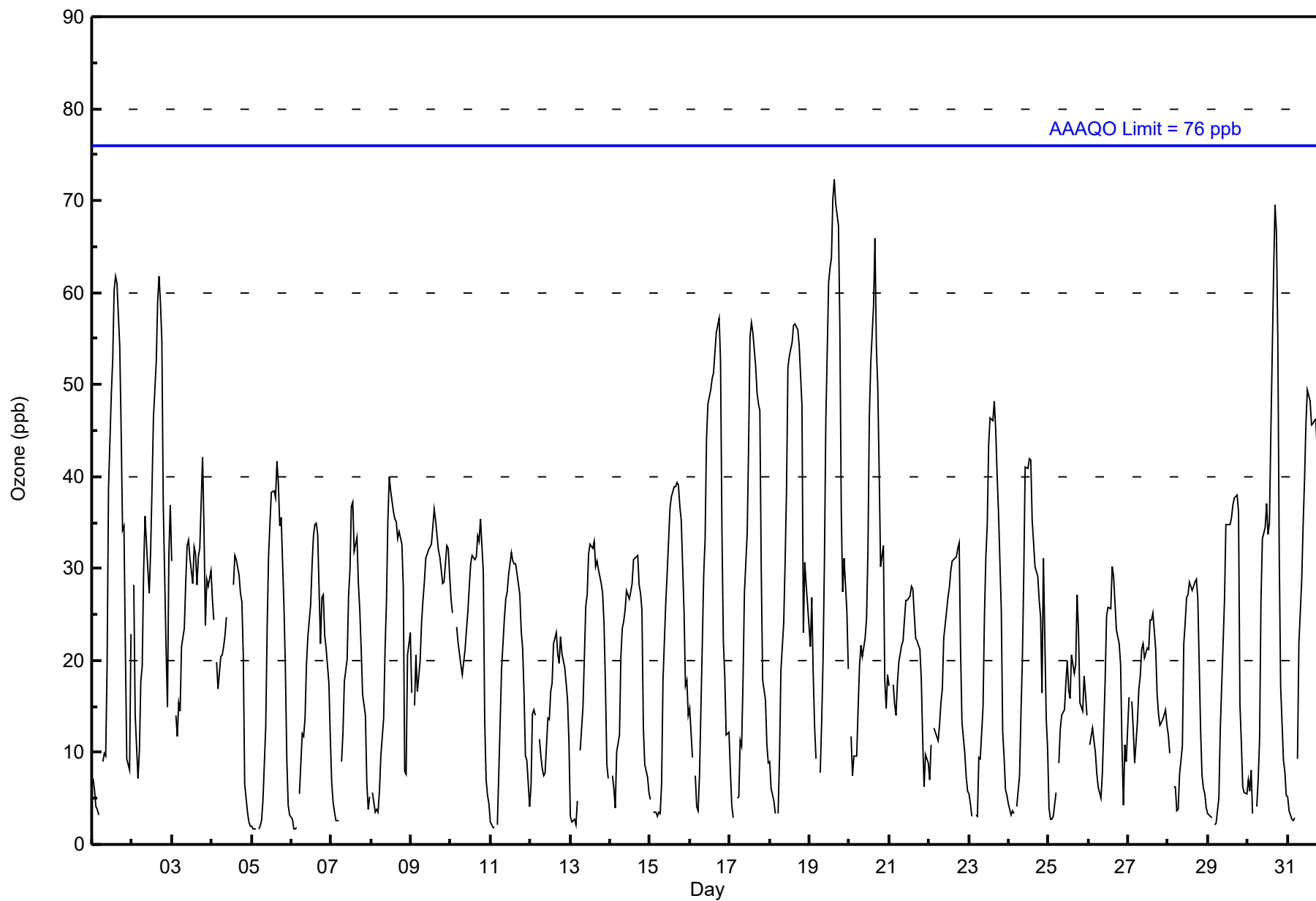
Fort McKay South - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 72.3 ppb on Jul 19 16:00 Maximum Daily Average: 37.8 ppb on Jul 19																				Hours in Service: 744						
Minimum Value: 1.6 ppb on Jul 5 03:00 Minimum Daily Average: 14.2 ppb on Jul 25 Maximum Diurnal Average: 39.6 ppb at hour 16 Minimum Diurnal Average: 7.3 ppb at hour 3 Monthly Average: 22.75 ppb Percentiles: P ₁ = 1.9 P ₁₀ = 4.3 Q ₁ = 10.0 Median = 21.5 Q ₃ = 31.3 P ₉₀ = 42.9 P ₉₉ = 63.7																				Hours of Data: 710						
																				Hours of Missing Data: 34						
																				Hours of Calibration: 34						
																				Percent Operational Time: 100.0						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
1-Jul	7.1	6.0	4.1	3.8	3.2	Z	9.1	9.9	9.6	19.7	38.7	49.0	52.8	60.2	61.8	61.0	54.1	45.0	34.2	34.6	21.4	9.3	8.1	22.9	27.2	61.8
2-Jul	Z	28.3	14.0	7.2	10.3	17.7	19.3	29.6	35.6	30.0	27.3	31.9	39.0	46.3	52.5	59.0	61.8	58.8	54.8	36.9	21.4	14.9	31.6	36.9	33.3	61.8
3-Jul	30.8	Z	14.0	11.7	15.3	14.5	21.5	23.6	28.6	32.6	33.1	31.1	28.4	32.3	31.6	28.2	31.2	32.1	42.0	34.5	23.8	28.9	28.1	29.8	27.3	42.0
4-Jul	26.7	24.4	Z	19.9	17.0	20.4	20.6	21.5	22.7	24.8	C	C	C	28.3	31.4	31.0	29.2	27.3	26.4	20.7	6.6	3.5	2.4	1.9	20.3	31.4
5-Jul	1.9	1.7	1.6	Z	1.6	1.9	2.7	4.8	12.9	23.5	31.3	35.0	38.4	38.5	37.7	41.7	39.2	34.6	35.6	25.7	19.0	9.4	4.3	3.2	19.4	41.7
6-Jul	2.7	1.7	1.6	1.9	Z	5.5	12.0	11.7	13.7	19.6	22.5	26.1	30.4	33.5	34.8	34.9	33.7	21.8	26.8	27.2	22.7	21.4	17.6	11.6	18.9	34.9
7-Jul	6.8	4.6	3.5	2.6	2.7	Z	9.1	12.0	17.7	20.1	27.0	30.0	36.8	37.3	31.9	33.4	28.3	25.5	21.2	16.4	14.0	6.8	3.8	5.2	17.2	37.3
8-Jul	Z	5.6	3.5	3.8	3.5	5.8	9.6	13.8	21.2	26.4	35.2	40.0	38.4	36.2	35.3	35.0	33.2	34.0	32.6	27.9	7.9	7.7	20.6	23.1	21.8	40.0
9-Jul	16.5	Z	15.1	20.7	16.7	20.0	24.0	26.6	28.6	31.1	32.0	32.4	32.6	34.5	36.4	35.3	32.0	31.3	30.0	28.3	28.5	32.4	32.2	29.2	28.1	36.4
10-Jul	26.7	25.1	Z	23.6	21.9	20.8	19.5	18.5	21.2	23.3	25.3	28.1	30.4	31.4	31.0	31.3	33.5	32.9	35.4	29.5	13.3	7.1	5.4	4.5	23.5	35.4
11-Jul	2.4	1.9	1.9	Z	2.1	7.6	19.0	21.8	24.5	26.6	27.4	29.3	31.7	30.9	30.6	30.4	29.5	27.2	23.2	21.3	16.4	9.6	9.2	4.1	18.6	31.7
12-Jul	6.4	14.2	14.6	14.1	Z	11.4	9.6	8.3	7.4	7.8	13.7	13.6	16.6	17.5	21.8	23.0	20.8	19.7	22.5	20.7	19.2	17.5	15.8	11.1	15.1	23.0
13-Jul	3.0	2.5	2.7	2.1	4.7	Z	10.3	15.0	20.5	26.0	27.2	31.6	32.6	32.2	33.0	30.2	30.8	29.9	28.3	27.3	24.0	17.2	8.7	7.2	19.4	33.0
14-Jul	Z	7.4	6.1	3.9	10.1	12.0	20.4	23.4	24.2	25.5	27.6	26.7	27.5	28.4	31.0	31.1	31.4	28.3	27.3	25.5	12.7	8.6	7.3	5.7	19.7	31.4
15-Jul	4.8	Z	3.6	3.5	3.1	3.6	3.3	6.5	17.8	26.3	29.7	33.1	36.7	37.8	39.0	38.9	39.4	39.0	36.8	35.2	25.4	17.2	17.8	14.1	22.3	39.4
16-Jul	14.7	9.5	Z	7.4	4.2	3.7	7.5	21.8	29.3	33.2	44.1	47.8	49.5	50.7	51.3	53.6	55.7	57.2	52.4	34.0	22.1	18.4	11.9	12.2	30.1	57.2
17-Jul	7.9	4.3	2.9	Z	5.1	5.1	11.3	10.6	17.7	27.3	33.9	43.5	55.3	56.7	55.7	52.0	49.1	47.8	47.1	29.7	17.8	15.7	10.8	8.9	26.8	56.7
18-Jul	9.0	6.2	4.7	3.3	Z	3.4	9.5	18.8	24.1	30.6	38.5	51.9	53.1	54.6	56.5	56.6	56.3	56.0	54.3	47.8	23.0	30.7	28.2	26.1	32.3	56.6
19-Jul	21.5	26.8	18.6	12.8	9.3	Z	7.7	13.1	19.9	30.7	46.0	61.1	62.7	63.8	70.2	72.3	69.7	67.3	56.3	36.2	27.4	31.2	25.3	19.1	37.8	72.3
20-Jul	Z	11.8	7.5	9.6	9.6	14.8	19.3	21.7	20.4	22.5	24.5	31.8	46.5	52.4	58.6	66.0	54.2	49.7	40.6	30.1	32.5	17.9	14.8	18.5	29.4	66.0
21-Jul	17.3	Z	17.4	15.3	14.0	17.5	19.8	21.6	22.0	24.4	26.5	26.6	27.0	28.0	27.8	25.0	22.4	22.1	21.1	18.0	11.5	6.3	9.8	8.8	19.6	28.0
22-Jul	7.0	10.9	Z	12.7	12.2	11.3	12.9	15.4	16.9	22.5	25.3	26.9	28.0	29.7	30.8	31.0	31.3	32.1	32.8	20.9	13.2	9.9	7.3	5.8	19.4	32.8
23-Jul	5.4	4.4	3.1	Z	3.2	3.1	9.4	9.3	15.0	24.9	31.2	34.9	43.5	46.4	46.0	48.3	45.2	40.2	36.1	25.4	12.2	9.5	6.0	5.3	22.1	48.3
24-Jul	4.4	3.2	3.7	3.4	Z	4.1	7.5	14.1	19.9	29.2	41.0	41.0	41.9	41.7	35.2	32.8	30.2	29.1	26.6	24.8	16.5	31.2	13.8	10.4	22.0	41.9
25-Jul	4.0	2.7	2.8	3.1	5.6	Z	8.9	12.5	14.1	14.7	17.6	20.0	16.7	15.9	20.7	18.6	19.5	27.2	23.1	15.4	14.6	18.3	16.3	14.1	14.2	27.2
26-Jul	Z	10.9	12.6	11.3	10.0	7.7	6.2	5.1	7.8	12.7	18.1	24.9	25.8	25.7	30.2	29.1	26.3	23.4	21.9	19.5	10.6	4.2	10.8	9.0	15.8	30.2
27-Jul	16.0	Z	15.6	12.5	8.9	13.5	16.9	18.3	21.2	21.8	20.3	21.4	21.2	24.4	24.4	25.1	21.3	16.4	14.1	12.9	13.3	13.6	14.6	13.0	17.4	25.1
28-Jul	11.9	10.0	Z	6.2	6.2	3.7	3.8	7.6	10.6	21.8	24.1	26.9	27.2	28.5	27.6	28.1	28.6	28.9	26.8	12.3	7.4	6.1	5.5	4.0	15.8	28.9
29-Jul	3.4	3.0	2.9	Z	2.1	2.3	5.1	12.4	17.2	21.8	26.5	34.8	34.7	34.8	35.5	36.9	37.7	38.0	36.2	15.2	11.2	6.2	5.6	5.5	18.7	38.0
30-Jul	7.0	5.8	8.1	3.3	Z	4.0	7.0	11.4	26.6	33.3	34.5	37.1	33.7	34.9	44.5	62.0	69.6	66.5	54.7	31.6	17.2	9.2	8.0	5.4	26.8	69.6
31-Jul	5.2	3.6	2.7	2.7	2.9	Z	9.4	21.8	28.7	34.6	39.4	45.7	49.4	48.3	45.7	45.7	46.0	46.3	42.8	16.6	10.8	7.8	6.5	9.7	24.9	49.4
Diurnal Average																										
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
Fort McKay South - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ozone (O₃) - ppb
Fort McKay South - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	332	46.76	46.76
21 - 50	334	47.04	93.80
51 - 82	44	6.20	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 - July 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	28	2	2	2	0	3	8	20	31	39	48	53	39	17	13	26	331
21 - 50	43	35	6	3	4	2	19	28	47	25	24	29	9	18	24	18	334
51 - 82	2	7	1	0	1	4	12	14	1	1	0	0	0	0	1	0	44
> 83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	73	44	9	5	5	9	39	62	79	65	72	82	48	35	38	44	709

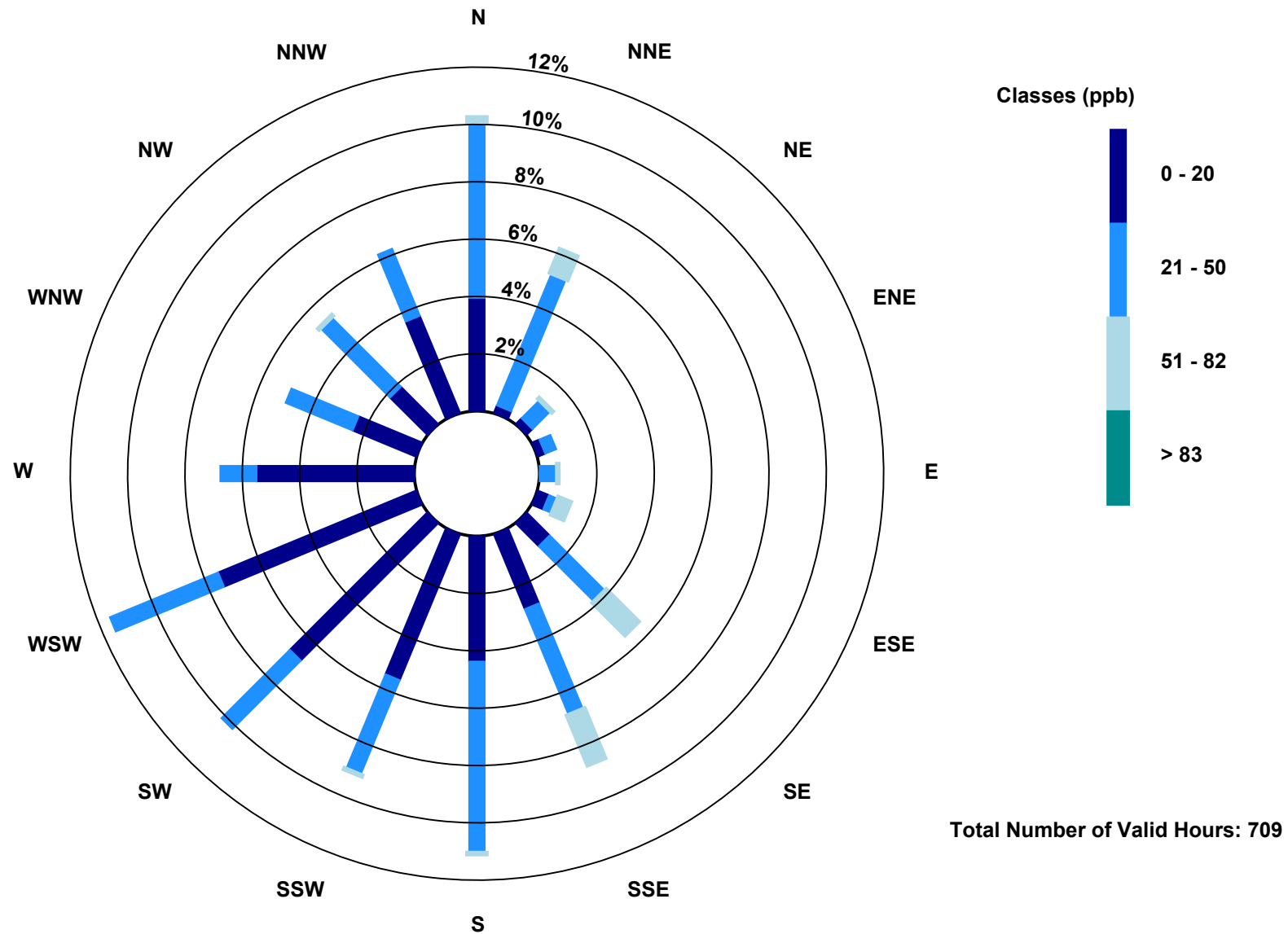
Total Number of Valid Hours: 709

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

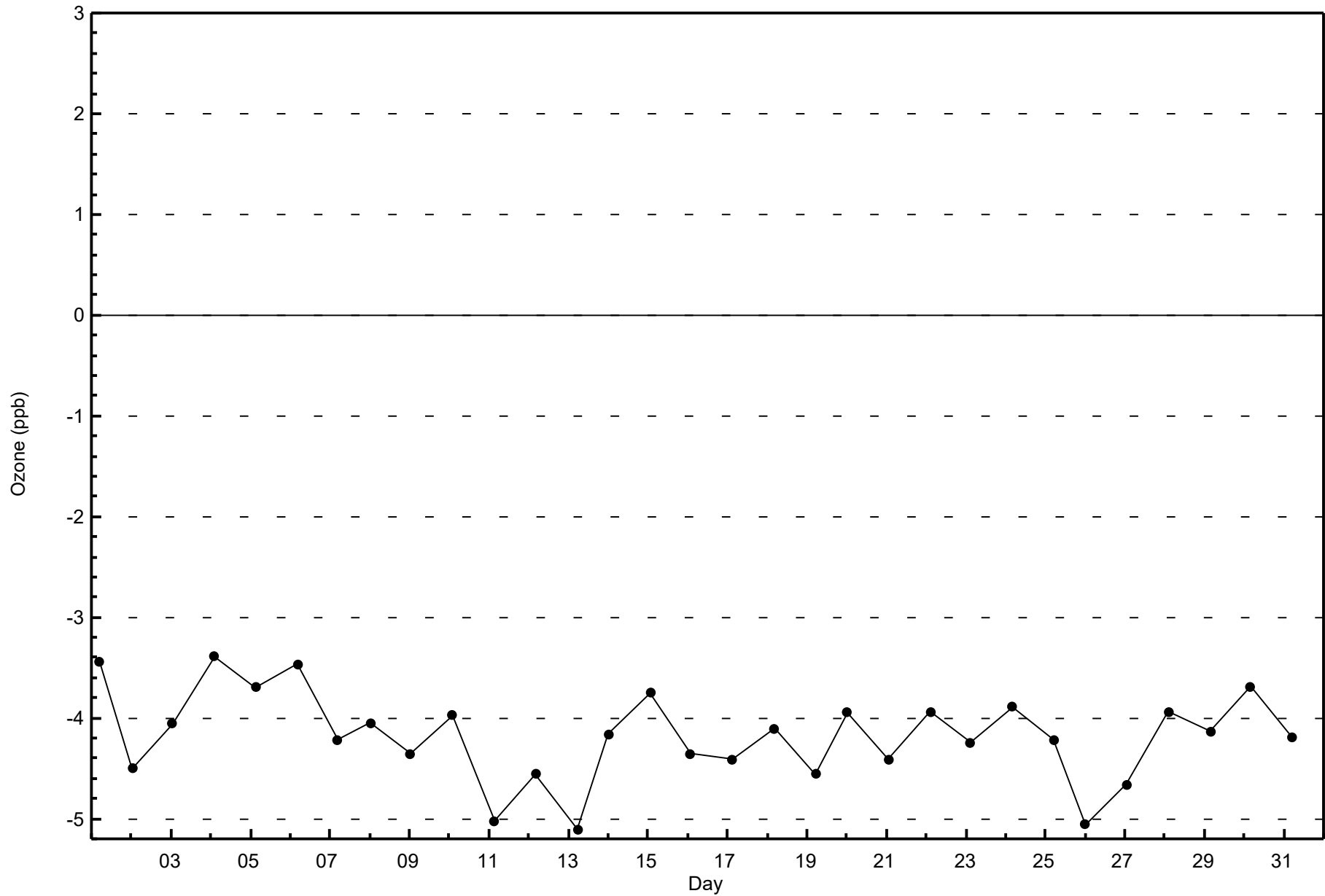
Ozone (O_3) - ppb
Fort McKay South





Wood Buffalo Environmental Association
Zero Responses

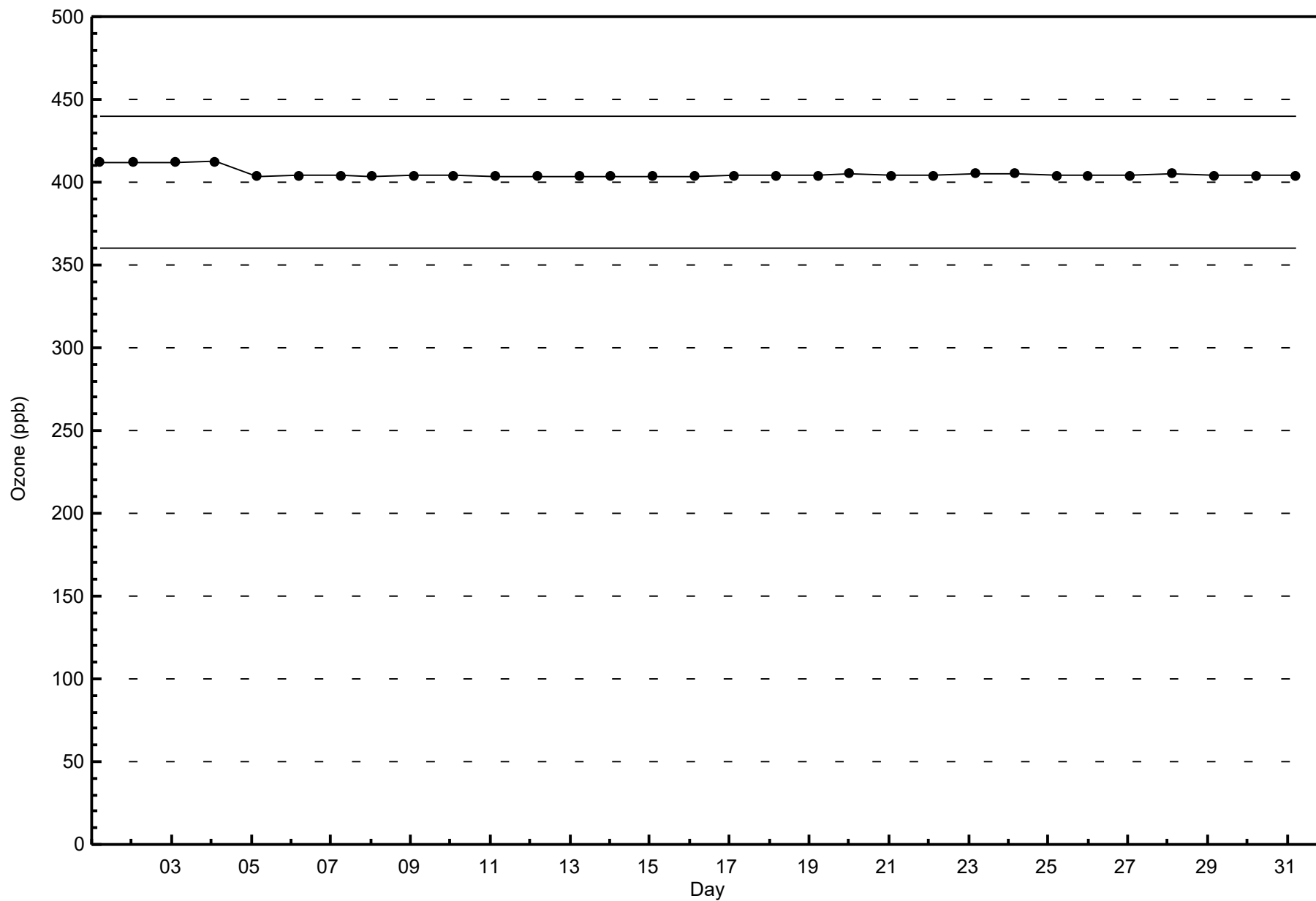
Ozone (O₃) - ppb
Fort McKay South - July 2025





Wood Buffalo Environmental Association
Span Responses

Ozone (O₃) - ppb
Fort McKay South - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitric Oxide (NO) - ppb

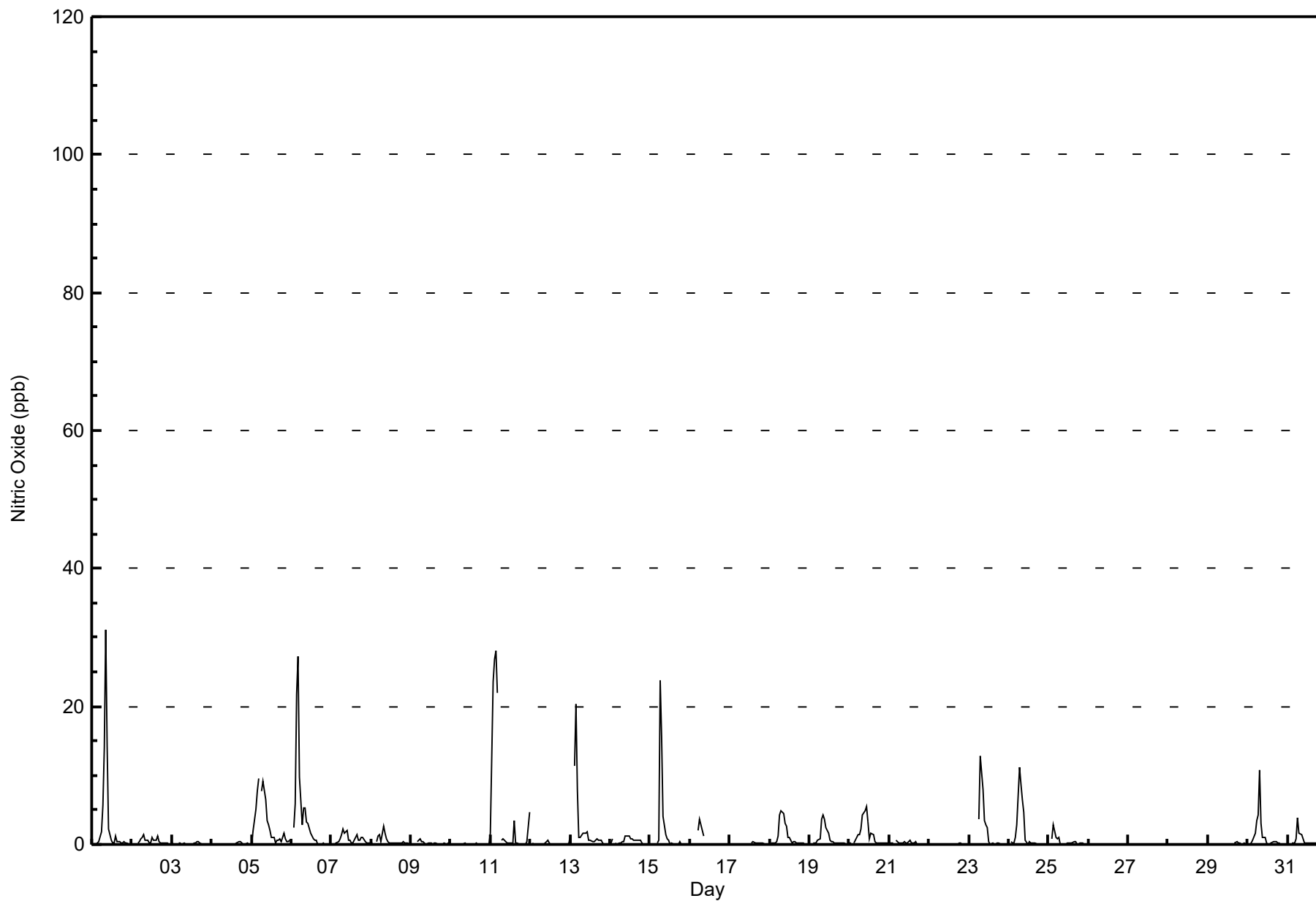
Fort McKay South - July 2025

Maximum Value: 31.2 ppb on Jul 1 09:00																			Maximum Daily Average: 5.0 ppb on Jul 11							Hours in Service: 744	
Minimum Value: 0.0 ppb on Jul 1 01:00																			Minimum Daily Average: 0.0 ppb on Jul 22							Hours of Data: 604	
Maximum Diurnal Average: 3.9 ppb at hour 8																			Minimum Diurnal Average: 0.1 ppb at hour 22							Hours of Missing Data: 140	
Monthly Average: 1.20 ppb																			Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.6 P ₉₀ = 2.8 P ₉₉ = 21.9							Hours of Calibration: 34	
																										Percent Operational Time: 85.8	
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-Jul	0.0	Z	0.0	0.1	0.4	1.9	5.7	14.0	31.2	14.5	2.2	0.5	0.1	0.2	1.3	0.4	0.3	0.2	0.2	0.4	0.2	0.1	0.1	0.1	3.2	31.2	
2-Jul	0.1	0.1	Z	0.2	0.3	0.8	1.0	1.4	0.5	0.5	0.1	0.2	1.0	0.6	0.6	1.1	0.4	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.4	1.4	
3-Jul	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	0.3	0.5	0.4	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.5	
4-Jul	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	0.3	0.5	0.4	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.5	
5-Jul	0.2	2.0	5.1	7.8	9.6	Z	7.8	9.1	6.6	3.4	2.9	2.1	1.0	0.9	0.2	0.5	0.7	0.7	0.3	1.6	0.9	0.3	0.4	0.5	2.8	9.6	
6-Jul	Z	2.4	5.9	21.8	27.2	9.8	2.9	5.2	5.2	3.2	3.1	1.7	1.2	0.8	0.6	0.6	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	4.0	27.2	
7-Jul	0.0	Z	0.1	0.1	0.3	0.9	1.5	2.2	1.7	2.0	0.7	0.7	0.2	0.2	0.5	1.5	0.7	0.6	1.1	1.0	0.4	0.3	0.2	0.2	0.7	2.2	
8-Jul	0.1	0.2	Z	0.3	1.2	1.4	0.5	2.7	1.6	0.8	0.4	0.2	0.2	0.2	0.1	0.2	0.3	0.3	0.2	0.3	0.2	0.1	0.1	0.0	0.5	2.7	
9-Jul	0.1	0.0	0.1	Z	0.5	0.8	0.5	0.3	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	0.8	
10-Jul	0.1	0.1	0.0	0.0	Z	0.0	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	0.0	0.0	0.0	0.0	0.0	0.1	0.1	
11-Jul	1.7	23.5	26.9	28.2	21.9	Z	0.6	0.8	0.7	0.4	0.2	0.2	0.1	0.0	3.6	0.1	0.2	0.0	0.0	0.0	0.1	0.1	0.3	4.6	5.0	28.2	
12-Jul	Z	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.2	0.7	0.2	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	0.7	
13-Jul	1.4	Z	11.5	20.3	7.9	1.1	1.0	1.7	1.6	1.6	1.8	0.7	0.6	0.4	0.3	0.5	0.7	0.7	0.6	0.3	0.1	0.0	0.0	0.1	2.4	20.3	
14-Jul	0.2	0.9	Z	0.1	0.1	0.1	0.1	0.4	0.4	1.3	1.2	1.2	0.8	0.7	0.6	0.6	0.7	0.6	0.6	0.3	0.1	0.0	0.0	0.0	0.5	1.3	
15-Jul	0.0	0.0	0.1	Z	0.2	0.6	23.8	15.6	4.1	1.5	0.9	0.5	0.1	0.2	0.1	0.1	0.1	0.0	0.3	0.0	0.0	0.0	0.0	0.0	2.1	23.8	
16-Jul	0.0	0.0	0.0	0.0	Z	2.1	3.7	1.9	1.2	C	C	C	C	C	M	M	M	M	M	M	M	M	M	M	--	3.7	
17-Jul	M	M	M	M	M	M	M	M	M	M	C	C	C	C	0.2	0.3	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.1	--	0.3	
18-Jul	Z	0.2	0.2	0.2	0.5	1.2	4.3	4.9	4.5	3.0	2.7	0.9	1.0	0.3	0.4	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	1.1	4.9	
19-Jul	0.0	Z	0.2	0.1	0.2	0.6	0.9	3.7	4.3	3.7	2.4	1.5	0.6	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.9	4.3	
20-Jul	0.1	0.1	Z	0.2	0.9	1.4	1.5	2.2	4.2	4.9	5.5	3.2	0.9	1.6	1.5	0.5	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	1.3	5.5	
21-Jul	0.1	0.1	0.1	Z	0.5	0.4	0.2	0.2	0.3	0.5	0.2	0.3	0.5	0.3	0.2	0.2	0.3	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.2	0.5	
22-Jul	0.1	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	0.0	0.0	0.0	0.0	0.1	
23-Jul	0.0	0.0	0.0	0.0	0.1	Z	3.6	12.8	8.0	3.4	2.8	2.5	0.5	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	1.5	12.8	
24-Jul	Z	0.4	0.2	0.2	1.0	2.9	11.2	8.7	6.6	4.7	0.6	0.1	0.4	0.1	0.2	0.3	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	1.6	11.2	
25-Jul	0.1	Z	0.8	2.8	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.4	0.3	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.4	2.8	
26-Jul	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	--	0.0	
27-Jul	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	--	
28-Jul	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	--	
29-Jul	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	M	M	M	M	M	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.1	--	0.3	
30-Jul	Z	0.1	0.2	0.5	1.6	3.4	4.3	10.7	3.1	1.0	1.1	0.3	0.1	0.1	0.3	0.4	0.4	0.4	0.3	0.2	0.1	0.1	0.1	0.1	1.2	10.7	
31-Jul	0.0	Z	0.2	0.2	0.2	0.9	3.9	1.7	1.3	0.9	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	0.1	0.5	3.9	
																									Diurnal Average		
																									Diurnal Maximum		
Z - zerospan																											
C - Calibration																											
M - Maintenance																											
AF - Analyzer Failure																											



Wood Buffalo Environmental Association
Hourly Averages

Nitric Oxide (NO) - ppb
Fort McKay South - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitric Oxide (NO) - ppb
Fort McKay South - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	596	98.68	98.68
21 - 40	8	1.32	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: 604

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitric Oxide (NO) - ppb
Fort McKay South - July 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	66	34	4	3	4	7	33	52	73	50	69	66	38	29	34	34	596
21 - 40	1	0	0	0	0	0	1	0	0	1	2	1	0	0	0	2	8
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	67	34	4	3	4	7	34	52	73	51	71	67	38	29	34	36	604

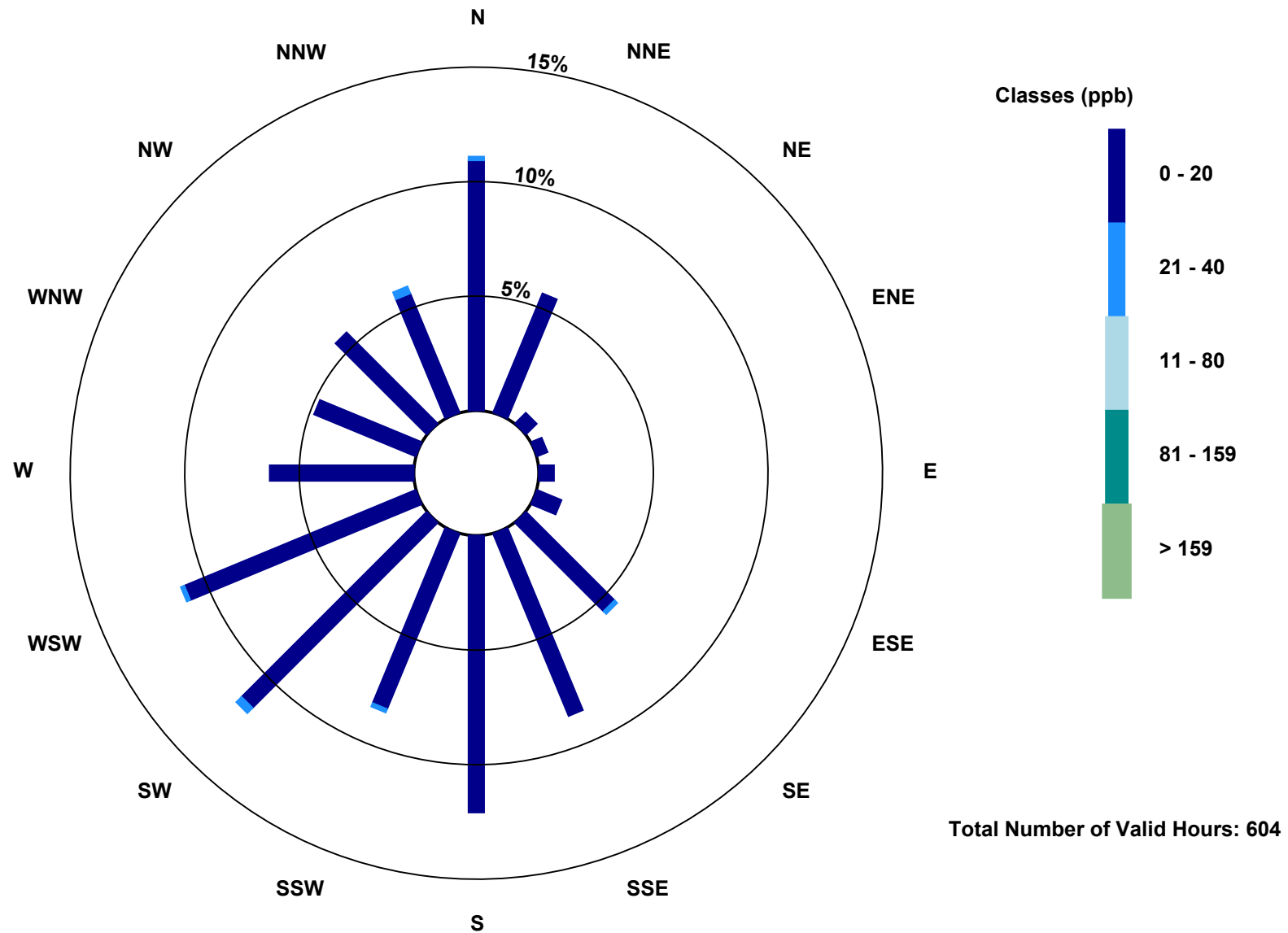
Total Number of Valid Hours: 604

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

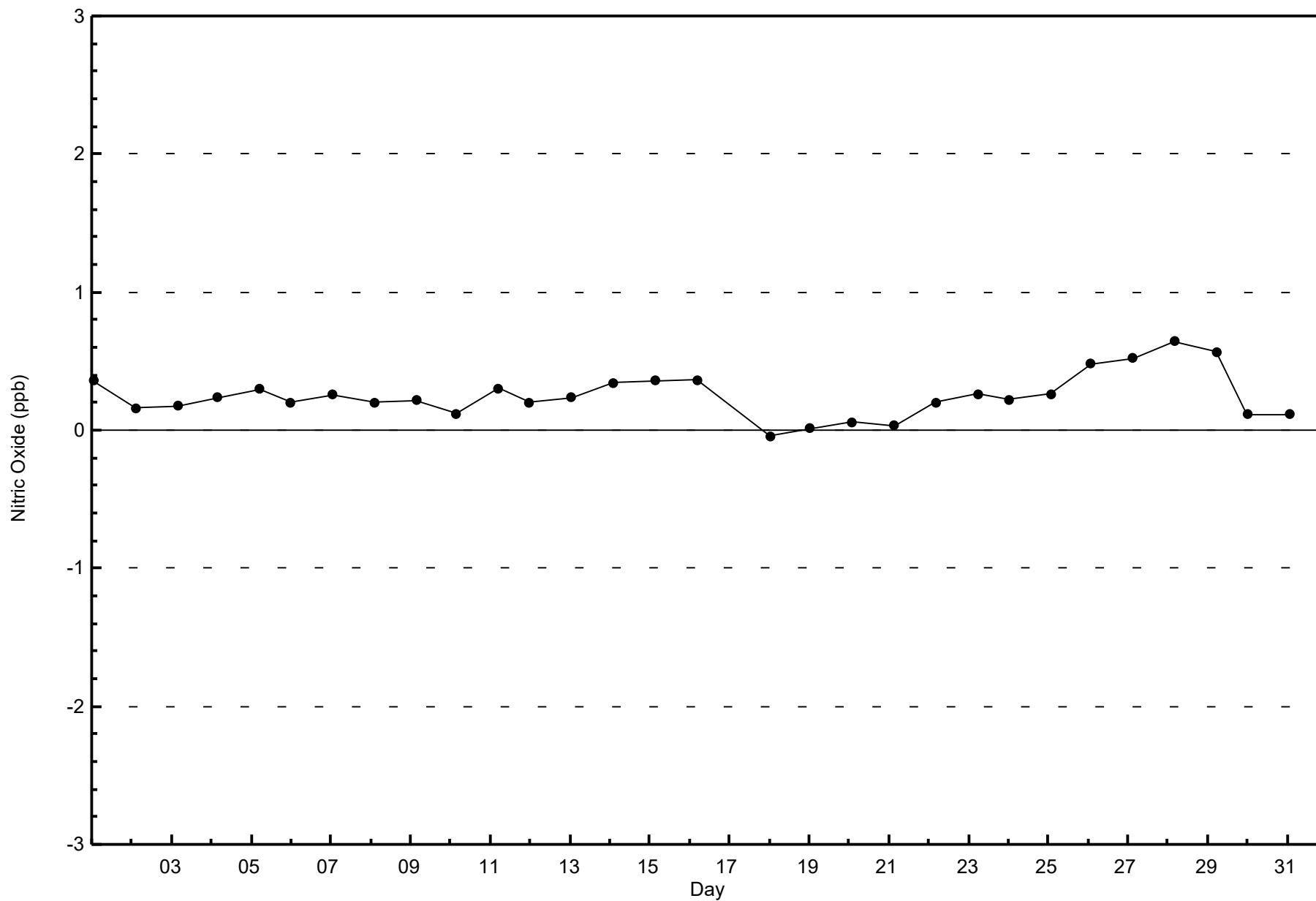
Nitric Oxide (NO) - ppb
Fort McKay South





Wood Buffalo Environmental Association
Zero Responses

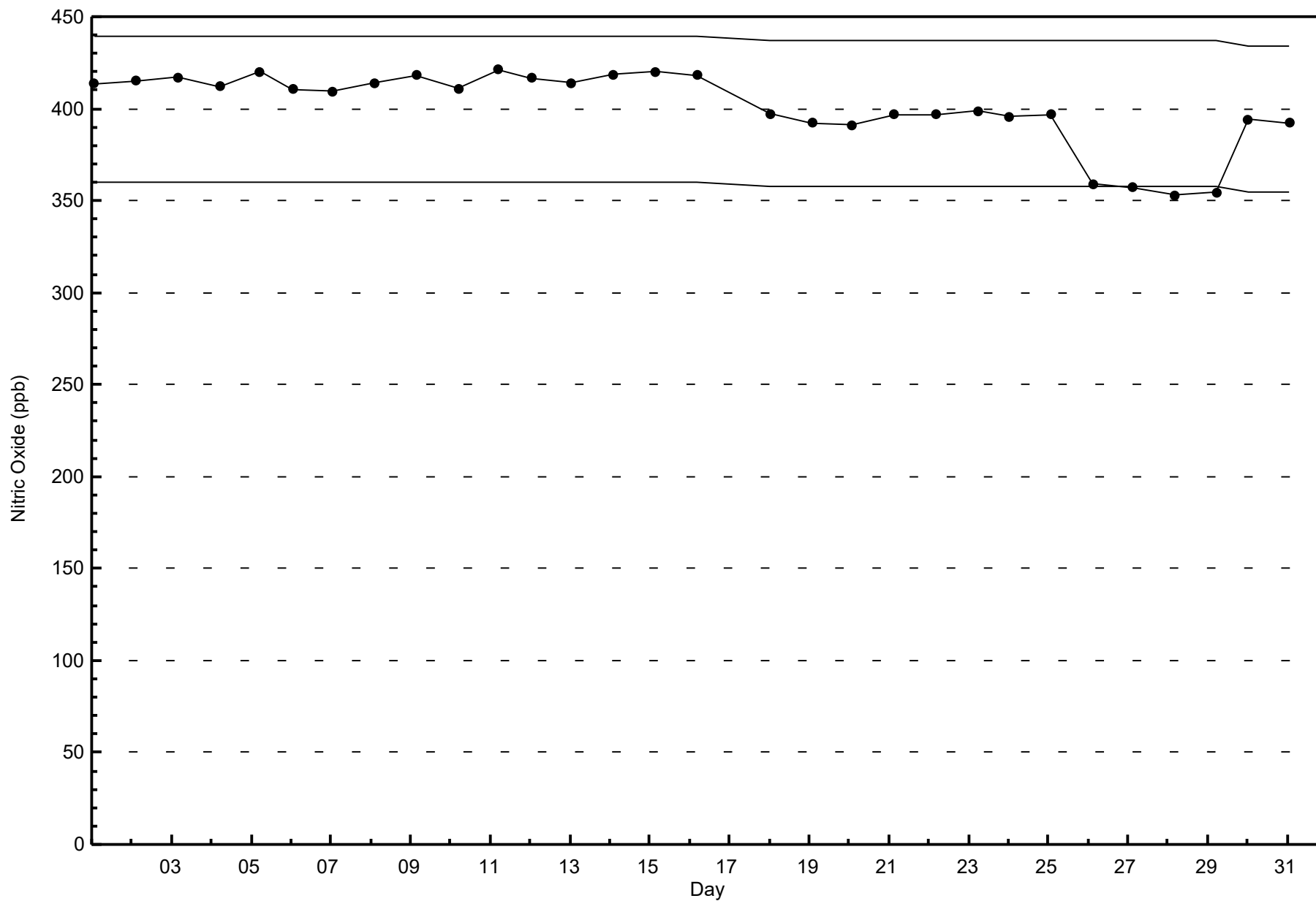
Nitric Oxide (NO) - ppb
Fort McKay South - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitric Oxide (NO) - ppb
Fort McKay South - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Dioxide (NO₂) - ppb

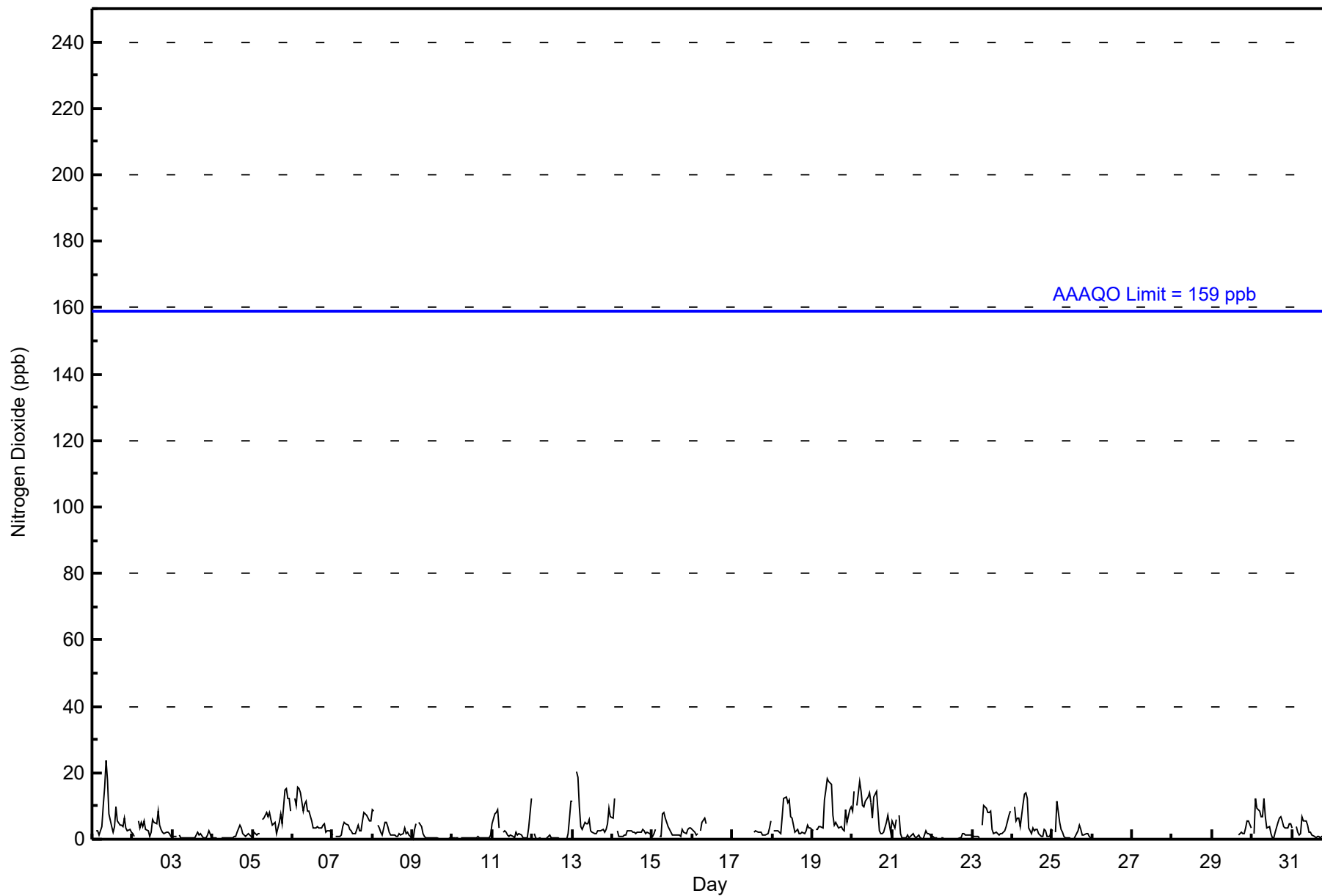
Fort McKay South - July 2025

Number of Exceedences (AAAQO): Maximum Value: 23.6 ppb on Jul 1 09:00																			1-hr: 0 24-hr: 0 Maximum Daily Average: 8.8 ppb on Jul 20																			Hours in Service: 744	
Minimum Value: 0.1 ppb on Jul 25 12:00 Maximum Diurnal Average: 5.9 ppb at hour 9 Monthly Average: 3.53 ppb																			Minimum Daily Average: 0.5 ppb on Jul 10 Minimum Diurnal Average: 2.0 ppb at hour 19 Percentiles: P ₁ = 0.1 P ₁₀ = 0.3 Q ₁ = 0.9 Median = 2.2 Q ₃ = 4.8 P ₉₀ = 8.7 P ₉₉ = 17.2																			Hours of Data: 604	
																																						Hours of Missing Data: 140	
																																						Hours of Calibration: 34	
																																						Percent Operational Time: 85.8	
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-Jul	2.6	Z	2.4	2.4	1.1	3.9	10.3	15.8	23.6	17.6	7.5	3.9	2.3	3.7	9.6	5.7	4.2	4.4	3.7	6.4	3.6	2.7	2.9	2.2	6.2	23.6													
2-Jul	1.9	0.9	Z	5.7	3.5	4.9	4.0	5.6	2.8	2.6	0.7	2.0	6.0	5.1	4.7	8.6	4.3	2.8	2.0	1.9	2.0	2.2	1.5	1.0	3.3	8.6													
3-Jul	0.8	0.8	1.0	Z	1.4	0.6	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.6	1.4	2.2	1.3	1.5	0.4	0.3	0.4	1.4	2.4	0.3	0.9	2.4													
4-Jul	0.3	0.3	0.3	0.2	Z	0.4	0.3	0.3	0.3	0.3	0.3	0.5	0.6	0.7	0.7	2.0	4.3	3.5	1.6	1.2	0.9	1.6	1.3	0.9	1.0	4.3													
5-Jul	0.6	2.1	1.4	1.8	1.5	Z	5.9	6.5	8.2	6.6	7.9	5.9	4.3	5.0	1.7	3.3	5.2	7.8	4.5	14.8	15.1	12.3	12.3	8.6	6.2	15.1													
6-Jul	Z	12.1	10.0	15.7	15.1	13.8	8.6	10.4	11.3	8.4	8.3	5.4	3.4	3.3	3.2	3.9	3.2	3.2	4.3	4.7	2.3	2.6	2.5	1.6	6.8	15.7													
7-Jul	1.1	Z	1.0	0.8	0.7	1.1	3.7	5.1	4.8	4.3	2.8	2.4	1.5	1.8	1.9	4.3	2.5	2.5	5.5	7.9	7.0	6.2	5.6	5.7	3.5	7.9													
8-Jul	8.7	8.4	Z	4.3	3.5	2.0	1.2	5.0	5.2	3.7	2.1	1.3	1.4	1.2	0.9	0.9	1.6	1.4	1.9	3.4	1.7	2.0	1.4	0.4	2.8	8.7													
9-Jul	0.2	2.8	4.5	Z	5.2	3.8	1.5	0.9	0.4	0.3	0.4	0.4	0.4	0.3	0.4	0.3	0.2	0.2	0.2	0.2	0.1	0.2	0.3	0.3	1.0	5.2													
10-Jul	0.3	0.4	0.3	0.3	Z	0.5	0.3	0.3	0.5	0.6	0.5	0.4	0.4	0.4	0.5	1.0	0.4	0.4	0.4	0.4	0.4	0.3	0.3	1.4	0.5	1.4													
11-Jul	4.5	7.8	8.2	9.0	3.6	Z	2.3	2.4	2.1	1.4	0.9	1.2	0.7	0.5	2.3	1.2	1.7	1.1	0.5	0.5	0.4	0.5	3.5	12.2	3.0	12.2													
12-Jul	Z	1.6	0.3	0.2	0.3	0.2	0.2	0.2	0.1	0.3	1.3	0.6	0.3	0.3	0.3	0.3	0.2	0.2	0.1	0.2	0.1	1.6	6.2	11.4	1.2	11.4													
13-Jul	11.4	Z	20.2	18.7	9.6	3.8	3.1	5.0	4.8	4.6	6.0	2.5	2.2	1.6	1.6	2.5	2.4	2.5	2.8	2.3	2.8	4.7	9.3	6.9	5.7	20.2													
14-Jul	6.2	12.4	Z	2.5	0.8	0.7	0.7	1.1	1.1	2.5	2.5	2.5	2.1	2.0	1.7	2.1	2.2	2.2	2.8	2.6	1.9	2.0	1.9	1.2	2.5	12.4													
15-Jul	0.8	1.5	2.9	Z	0.7	0.8	7.6	8.2	6.2	3.8	2.8	2.2	1.1	1.3	1.1	1.1	1.1	1.0	3.0	2.0	1.8	2.8	3.6	3.5	2.6	8.2													
16-Jul	3.1	2.3	1.3	1.7	Z	2.7	5.1	6.3	4.7	C	C	C	C	M	M	M	M	M	M	M	M	M	M	M	--	6.3													
17-Jul	M	M	M	M	M	M	M	M	M	M	C	C	C	C	2.1	2.5	2.2	2.3	2.1	1.2	1.3	1.4	1.5	3.4	5.6	--	5.6												
18-Jul	Z	2.7	2.4	2.5	2.0	1.7	6.8	12.2	12.5	10.9	11.8	6.6	6.4	2.3	2.7	2.9	1.5	1.7	2.0	1.8	2.4	4.4	3.5	3.5	4.7	12.5													
19-Jul	2.7	Z	3.0	2.8	3.9	4.0	3.4	12.0	14.7	18.1	17.2	16.5	7.3	4.4	4.9	4.2	3.4	3.8	2.9	2.6	8.9	4.9	8.7	9.8	7.1	18.1													
20-Jul	8.4	14.6	Z	10.1	17.4	14.5	10.1	9.6	11.6	12.9	13.9	11.0	6.5	12.8	14.4	8.3	2.4	1.8	1.9	2.0	5.0	7.4	4.8	2.1	8.8	17.4													
21-Jul	5.7	3.4	5.8	Z	7.2	1.6	0.4	0.3	0.5	1.1	0.4	0.9	1.6	0.9	0.6	0.9	1.3	0.3	0.2	1.1	2.5	1.7	1.7	0.8	1.8	7.2													
22-Jul	0.9	0.6	0.3	0.4	Z	0.3	0.3	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.4	0.4	1.5	1.7	1.1	1.1	1.2	1.3	0.6	1.7													
23-Jul	1.3	1.0	0.7	0.7	0.6	Z	4.3	10.1	9.3	8.1	8.2	8.4	3.1	1.5	2.1	1.8	1.4	1.8	1.7	2.4	3.8	5.4	7.4	8.5	4.1	10.1													
24-Jul	Z	9.7	5.6	6.3	6.5	3.8	10.6	13.6	13.8	12.1	3.2	1.8	3.4	2.7	2.9	3.1	1.8	0.9	0.9	2.8	2.6	0.8	0.7	2.9	4.9	13.8													
25-Jul	2.7	Z	2.2	11.4	4.9	3.1	2.3	0.7	0.4	0.3	0.3	0.1	0.1	0.1	0.9	2.5	4.3	2.8	1.3	1.2	1.9	1.5	0.8	0.3	2.0	11.4													
26-Jul	0.1	0.1	Z	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	0.1													
27-Jul	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	--													
28-Jul	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	--													
29-Jul	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	M	M	M	M	M	1.4	2.1	1.7	1.5	3.2	5.6	5.4	3.5	--	5.6													
30-Jul	Z	1.5	12.1	9.4	8.5	6.6	6.6	12.4	6.8	3.6	3.9	1.9	0.5	0.5	2.2	5.0	6.3	6.8	5.4	4.0	3.5	3.3	4.8	4.7	5.2	12.4													
31-Jul	3.6	Z	3.8	2.3	1.3	1.5	6.6	5.3	5.7	4.3	2.3	2.2	1.4	0.9	0.6	0.7	0.7	0.6	0.7	1.0	1.5	5.2	6.9	9.1	3.0	9.1													
																									Diurnal Average														
																									Diurnal Maximum														
Z - zerospan C - Calibration M - Maintenance AF - Analyzer Failure																																							
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb																																							



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
Fort McKay South - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Fort McKay South - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	603	99.83	99.83
21 - 40	1	0.17	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: 604

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Fort McKay South - July 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	66	34	4	3	4	7	34	52	73	51	71	67	38	29	34	36	603
21 - 40	1	0	0	0	0	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	67	34	4	3	4	7	34	52	73	51	71	67	38	29	34	36	604

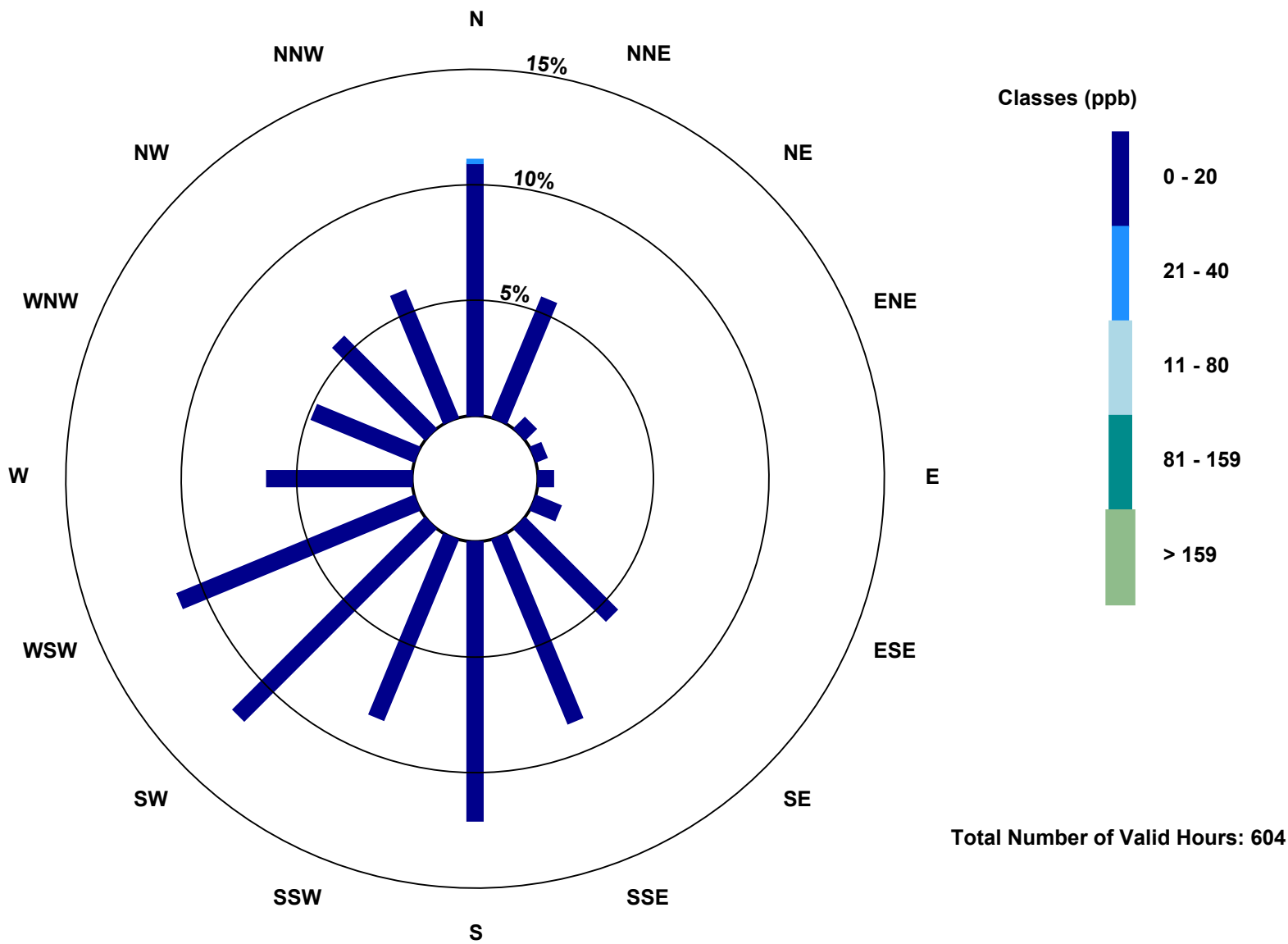
Total Number of Valid Hours: 604

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

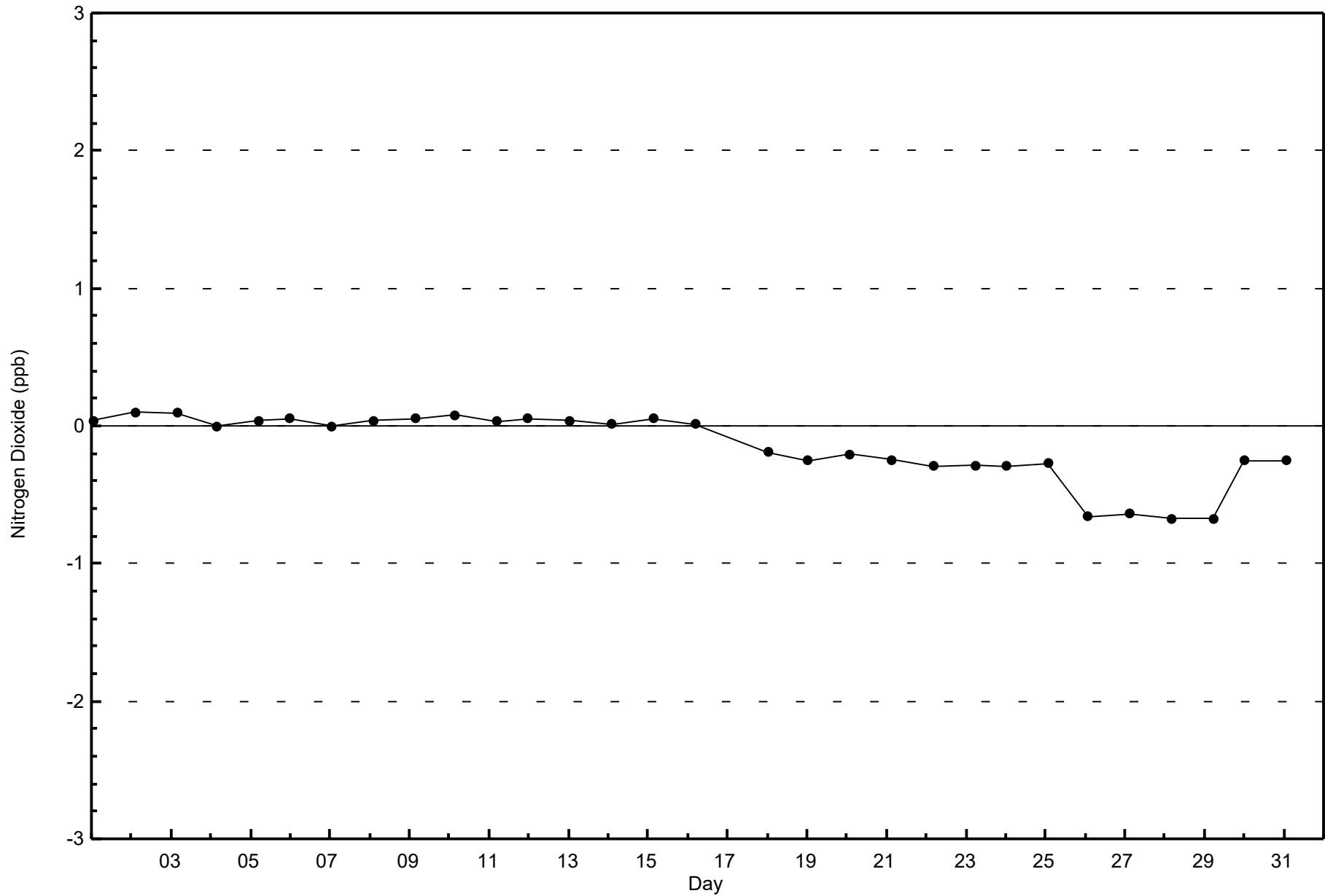
Nitrogen Dioxide (NO₂) - ppb
Fort McKay South





Wood Buffalo Environmental Association
Zero Responses

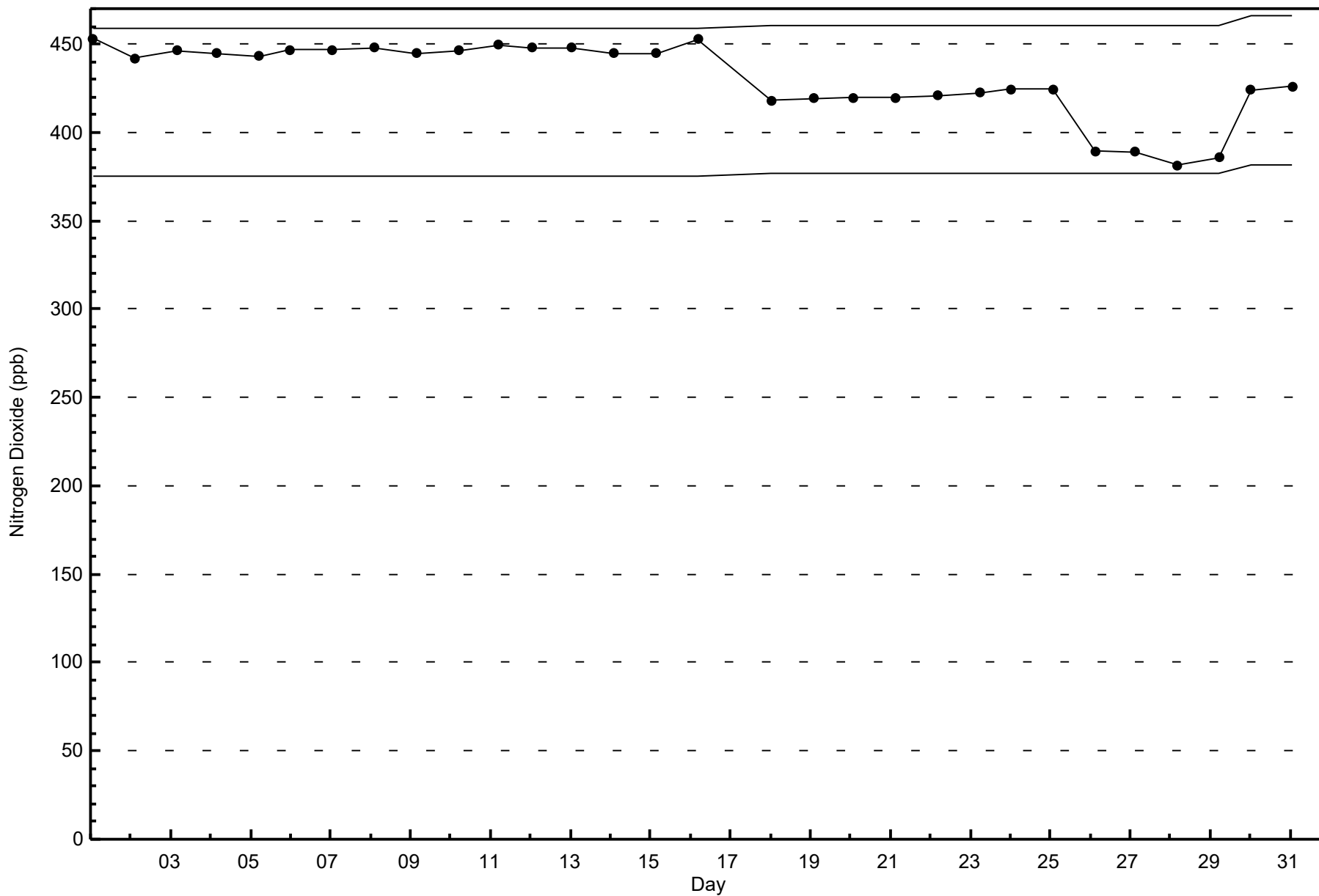
Nitrogen Dioxide (NO₂) - ppb
Fort McKay South - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitrogen Dioxide (NO₂) - ppb
Fort McKay South - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Oxides (NO_x) - ppb

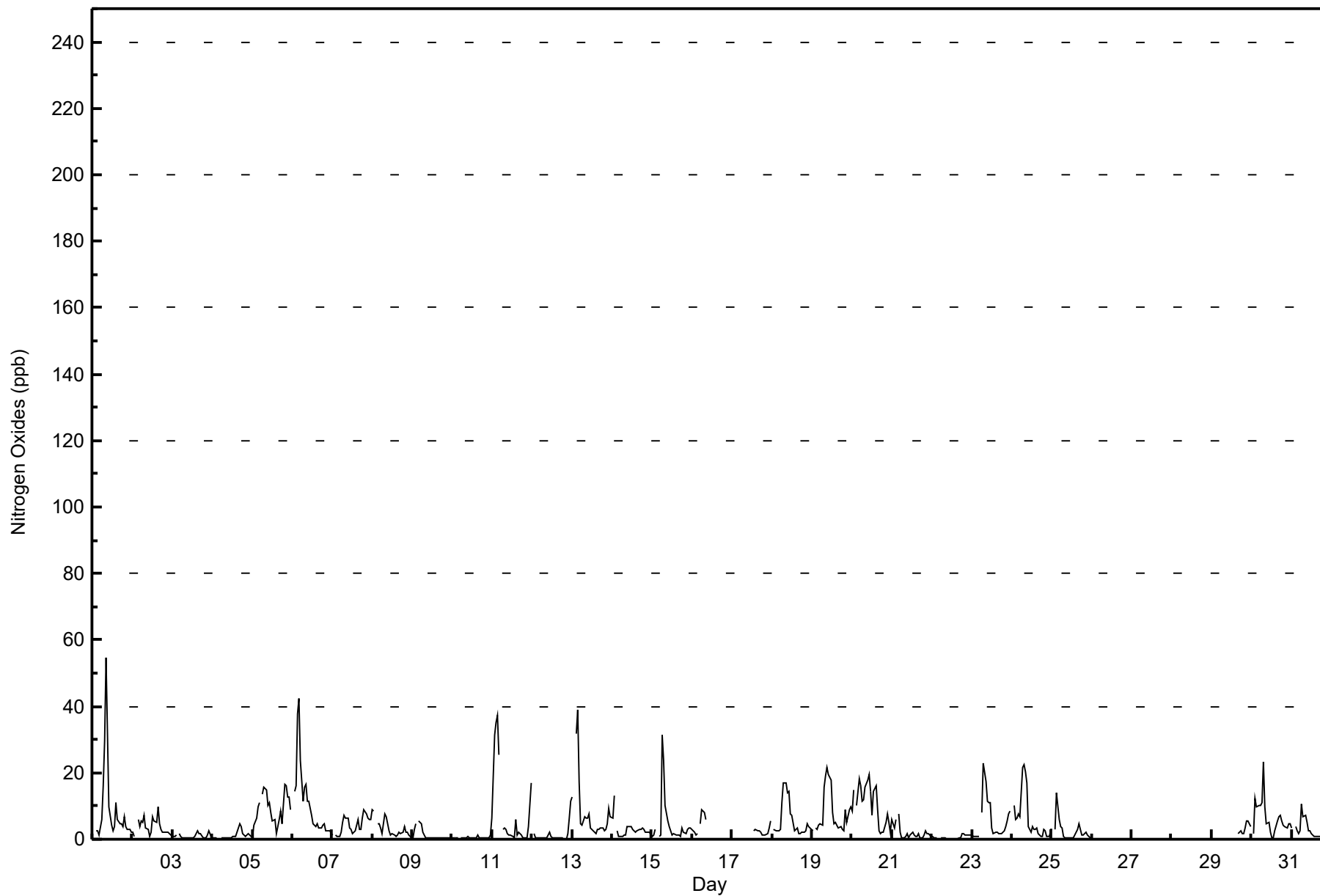
Fort McKay South - July 2025

Maximum Value: 54.8 ppb on Jul 1 09:00																				Maximum Daily Average: 10.8 ppb on Jul 6					Hours in Service: 744	
Minimum Value: 0.1 ppb on Jul 26 02:00																				Minimum Daily Average: 0.5 ppb on Jul 10					Hours of Data: 604	
Maximum Diurnal Average: 9.6 ppb at hour 8																				Minimum Diurnal Average: 2.2 ppb at hour 19					Hours of Missing Data: 140	
Monthly Average: 4.73 ppb																				Percentiles: P ₁ = 0.2 P ₁₀ = 0.4 Q ₁ = 1.0 Median = 2.6 Q ₃ = 5.7 P ₉₀ = 11.5 P ₉₉ = 32.1					Hours of Calibration: 34	
																									Percent Operational Time: 85.8	
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-Jul	2.6	Z	2.4	2.5	1.5	5.8	16.0	29.8	54.8	32.1	9.7	4.4	2.4	3.9	10.9	6.1	4.5	4.6	3.9	6.8	3.8	2.8	3.0	2.3	9.4	54.8
2-Jul	2.0	1.0	Z	5.9	3.8	5.7	5.0	7.0	3.3	3.1	0.8	2.2	7.0	5.7	5.3	9.7	4.7	3.0	2.2	2.1	2.1	2.3	1.6	1.1	3.8	9.7
3-Jul	0.9	0.9	1.1	Z	1.5	0.7	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.7	1.7	2.7	1.7	1.8	0.5	0.4	0.4	1.4	2.4	0.3	1.0	2.7
4-Jul	0.3	0.3	0.3	0.2	Z	0.4	0.3	0.3	0.3	0.3	0.3	0.5	0.6	0.7	0.7	2.3	4.8	3.9	1.7	1.3	1.0	1.7	1.3	1.0	1.1	4.8
5-Jul	0.8	4.1	6.5	9.6	11.1	Z	13.7	15.6	14.8	10.0	10.8	8.0	5.3	5.9	1.9	3.8	5.9	8.5	4.8	16.4	16.0	12.6	12.7	9.1	9.0	16.4
6-Jul	Z	14.5	15.9	37.5	42.3	23.6	11.5	15.6	16.5	11.6	11.4	7.1	4.6	4.1	3.8	4.5	3.3	3.3	4.4	4.8	2.4	2.6	2.5	1.6	10.8	42.3
7-Jul	1.1	Z	1.1	0.9	1.0	2.0	5.2	7.3	6.5	6.3	3.5	3.1	1.7	2.0	2.4	5.8	3.2	3.1	6.6	8.9	7.4	6.5	5.8	5.9	4.2	8.9
8-Jul	8.8	8.6	Z	4.6	4.7	3.4	1.7	7.7	6.8	4.5	2.5	1.5	1.6	1.4	1.0	1.1	1.9	1.7	2.1	3.7	1.9	2.1	1.5	0.4	3.3	8.8
9-Jul	0.3	2.8	4.6	Z	5.7	4.6	2.0	1.2	0.5	0.4	0.5	0.6	0.5	0.4	0.5	0.4	0.3	0.3	0.3	0.3	0.2	0.3	0.4	0.4	1.2	5.7
10-Jul	0.4	0.5	0.3	0.3	Z	0.5	0.4	0.4	0.6	0.7	0.6	0.5	0.5	0.5	0.5	1.1	0.4	0.4	0.4	0.4	0.4	0.3	0.3	1.4	0.5	1.4
11-Jul	6.2	31.3	35.1	37.2	25.5	Z	2.9	3.2	2.8	1.8	1.1	1.4	0.8	0.5	5.9	1.3	1.9	1.1	0.5	0.5	0.5	0.6	3.8	16.8	8.0	37.2
12-Jul	Z	1.7	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.5	2.0	0.8	0.4	0.4	0.4	0.4	0.3	0.3	0.2	0.2	0.2	1.7	6.3	11.5	1.3	11.5
13-Jul	12.8	Z	31.7	39.0	17.5	4.9	4.1	6.7	6.4	6.2	7.8	3.2	2.8	2.0	1.9	3.0	3.1	3.2	3.4	2.6	2.9	4.7	9.3	7.0	8.1	39.0
14-Jul	6.4	13.3	Z	2.6	0.9	0.8	0.8	1.5	1.5	3.8	3.7	3.7	2.9	2.7	2.3	2.7	2.9	2.8	3.4	2.9	2.0	2.0	1.9	1.2	3.0	13.3
15-Jul	0.8	1.5	3.0	Z	0.9	1.4	31.4	23.8	10.3	5.3	3.7	2.7	1.2	1.5	1.2	1.2	1.2	1.0	3.3	2.0	1.8	2.8	3.6	3.5	4.7	31.4
16-Jul	3.1	2.3	1.3	1.7	Z	4.8	8.8	8.2	5.9	C	C	C	C	M	M	M	M	M	M	M	M	M	M	M	--	8.8
17-Jul	M	M	M	M	M	M	M	M	M	M	C	C	C	2.3	2.8	2.5	2.6	2.3	1.4	1.4	1.5	1.6	3.5	5.7	--	5.7
18-Jul	Z	2.9	2.6	2.7	2.5	2.9	11.1	17.1	17.0	13.9	14.5	7.5	7.4	2.6	3.1	3.2	1.7	1.8	2.1	1.9	2.5	4.5	3.6	3.5	5.8	17.1
19-Jul	2.7	Z	3.2	2.9	4.1	4.6	4.3	15.7	19.0	21.8	19.6	18.0	7.9	4.7	5.2	4.4	3.6	4.0	3.0	2.7	9.1	5.0	8.8	9.9	8.0	21.8
20-Jul	8.5	14.7	Z	10.3	18.3	15.9	11.6	11.8	15.8	17.8	19.4	14.2	7.4	14.4	15.9	8.8	2.6	1.9	2.0	2.1	5.2	7.6	5.0	2.3	10.1	19.4
21-Jul	5.8	3.5	5.9	Z	7.7	2.0	0.6	0.5	0.8	1.6	0.6	1.2	2.1	1.2	0.8	1.1	1.6	0.4	0.2	1.2	2.6	1.7	1.7	0.8	2.0	7.7
22-Jul	1.0	0.6	0.3	0.4	Z	0.3	0.3	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.4	0.4	1.6	1.8	1.1	1.1	1.2	1.3	0.6	1.8
23-Jul	1.3	1.0	0.7	0.7	0.7	Z	7.9	22.9	17.3	11.5	11.0	10.9	3.6	1.5	2.2	1.9	1.5	1.9	1.8	2.5	3.9	5.4	7.4	8.6	5.6	22.9
24-Jul	Z	10.1	5.8	6.5	7.5	6.7	21.8	22.3	20.4	16.8	3.8	1.9	3.8	2.8	3.1	3.4	1.9	0.9	0.9	2.9	2.6	0.8	0.7	2.9	6.5	22.3
25-Jul	2.8	Z	3.0	14.2	5.8	4.0	3.2	0.7	0.4	0.3	0.3	0.3	0.3	0.3	1.1	2.9	4.6	2.9	1.4	1.3	2.0	1.5	0.8	0.3	2.4	14.2
26-Jul	0.1	0.1	Z	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	0.1
27-Jul	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	--
28-Jul	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	--
29-Jul	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	M	M	M	M	M	1.6	2.4	1.9	1.6	3.3	5.7	5.5	3.6	--	5.7
30-Jul	Z	1.6	12.3	9.9	10.1	10.0	10.9	23.1	9.9	4.6	5.0	2.2	0.6	0.6	2.5	5.4	6.7	7.2	5.7	4.2	3.6	3.4	4.9	4.8	6.5	23.1
31-Jul	3.6	Z	4.0	2.5	1.5	2.4	10.5	7.0	7.0	5.2	2.5	2.4	1.6	1.0	0.7	0.8	0.8	0.7	0.8	1.1	1.6	5.3	7.1	9.2	3.4	10.5
3.3 5.6 6.4 8.7 7.9 4.7 7.2 9.6 9.2 7.2 5.4 4.0 2.7 2.5 3.0 3.1 2.6 2.4 2.2 2.9 3.0 3.3 3.9 4.3																									Diurnal Average	
12.8 31.3 35.1 39.0 42.3 23.6 31.4 29.8 54.8 32.1 19.6 18.0 7.9 14.4 15.9 9.7 6.7 8.5 6.6 16.4 16.0 12.6 12.7 16.8																									Diurnal Maximum	
Z - zerospan C - Calibration M - Maintenance AF - Analyzer Failure																										



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Fort McKay South - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Fort McKay South - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	585	96.85	96.85
21 - 40	17	2.81	99.67
41 - 80	2	0.33	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 604

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Fort McKay South - July 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	64	34	3	3	4	7	29	50	73	50	69	65	37	29	34	34	585
21 - 40	2	0	1	0	0	0	5	2	0	1	2	2	1	0	0	1	17
11 - 80	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	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	67	34	4	3	4	7	34	52	73	51	71	67	38	29	34	36	604

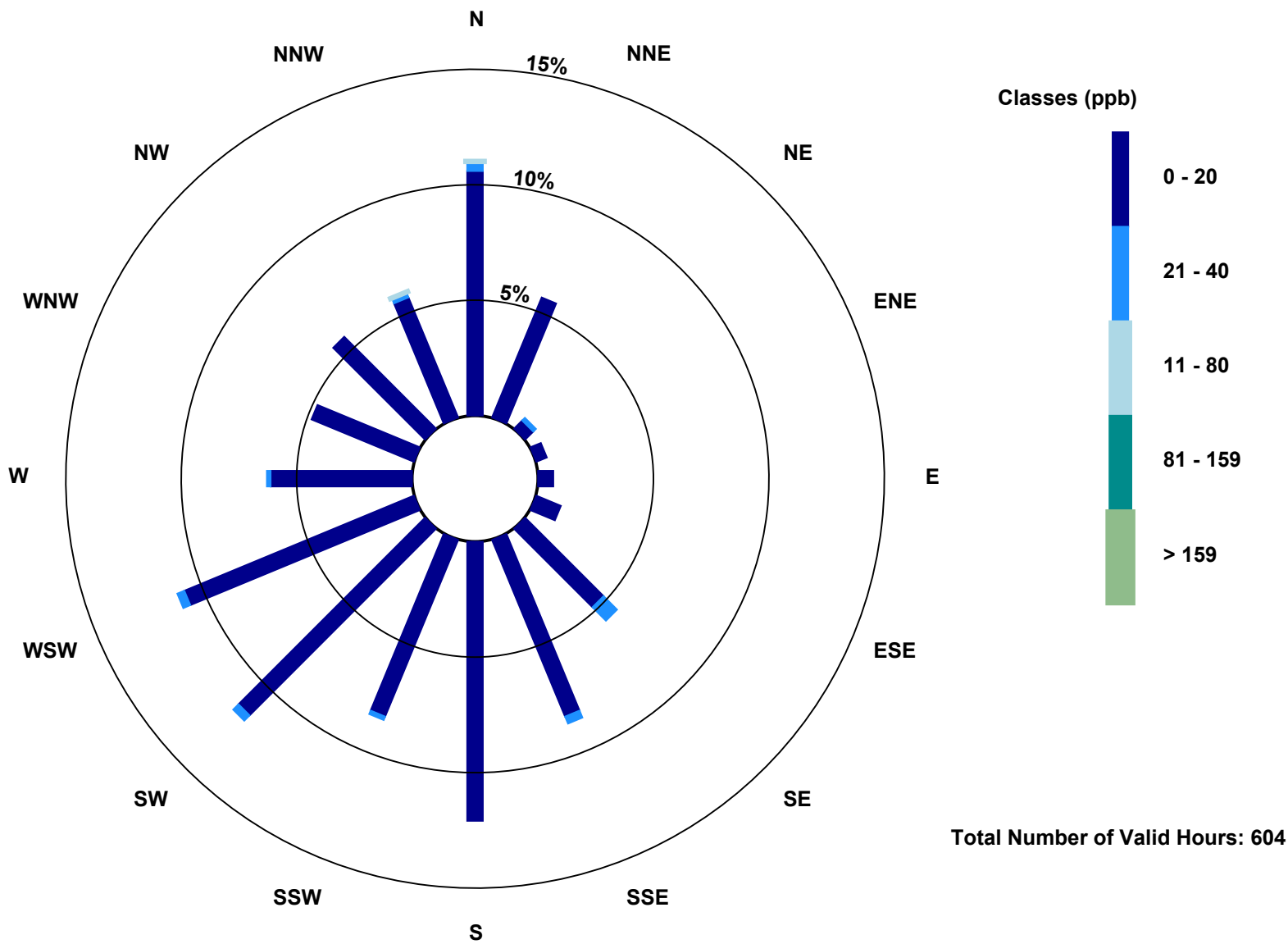
Total Number of Valid Hours: 604

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

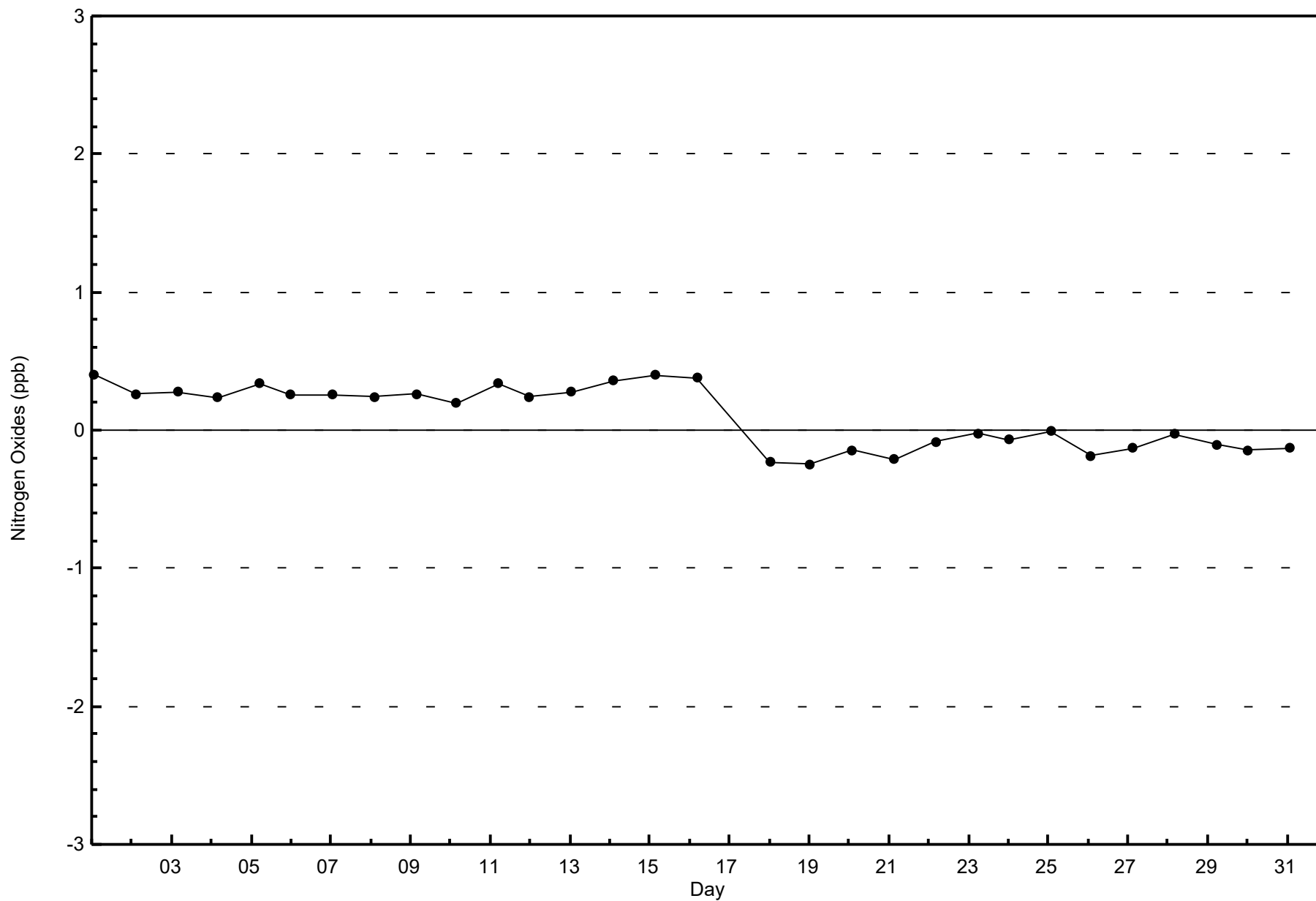
Nitrogen Oxides (NO_x) - ppb
Fort McKay South





Wood Buffalo Environmental Association
Zero Responses

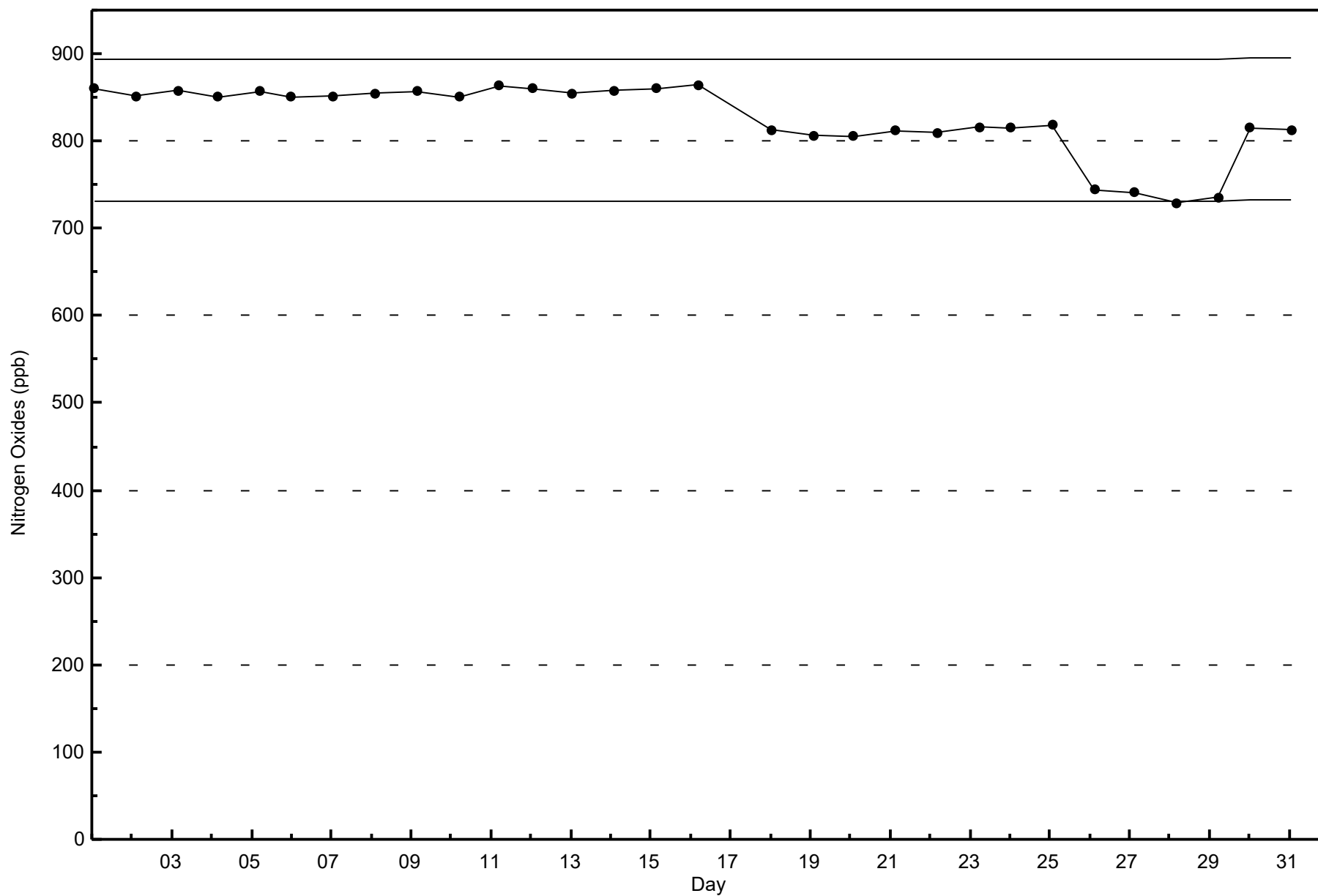
Nitrogen Oxides (NO_x) - ppb
Fort McKay South - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitrogen Oxides (NO_x) - ppb
Fort McKay South - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

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

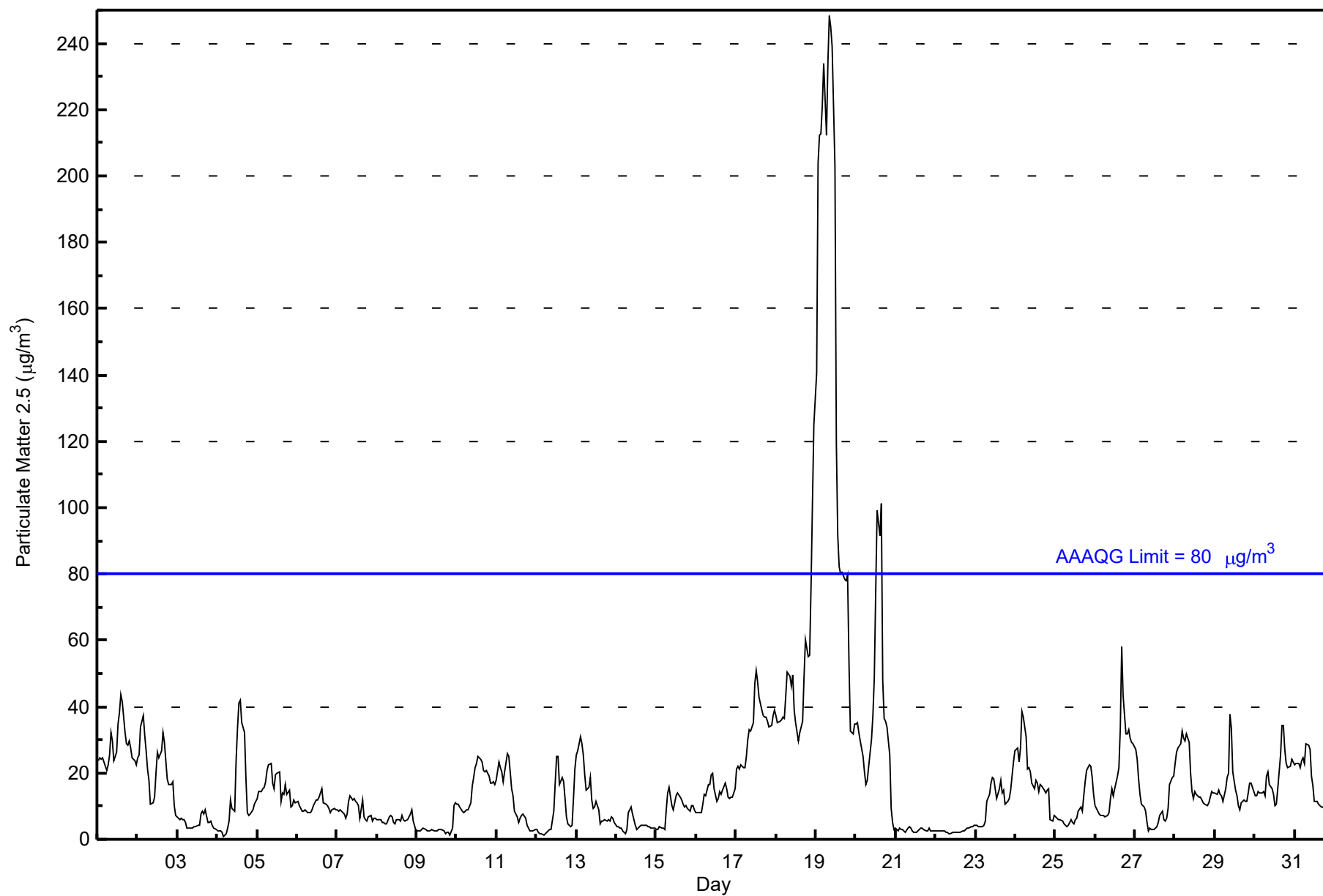
Fort McKay South - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 4 Maximum Value: 248.2 µg/m³ on Jul 19 09:00 Minimum Value: 1.0 µg/m³ on Jul 4 05:00 Maximum Diurnal Average: 23.0 µg/m³ at hour 9 Monthly Average: 19.43 µg/m³																					Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0					
Maximum Daily Average: 143.7 µg/m³ on Jul 19 Minimum Daily Average: 2.6 µg/m³ on Jul 22 Minimum Diurnal Average: 15.1 µg/m³ at hour 21 Percentiles: P ₁ = 1.8 P ₁₀ = 3.0 Q ₁ = 5.8 Median = 12.1 Q ₃ = 22.3 P ₉₀ = 35.1 P ₉₉ = 212.2																										
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-Jul	23.7	24.5	24.1	24.7	23.5	20.6	22.6	25.2	32.0	29.8	23.8	26.3	34.8	38.2	43.8	41.5	32.0	28.7	28.3	29.7	27.4	24.7	23.7	22.3	28.2	43.8
2-Jul	24.4	25.5	33.9	37.1	31.2	26.7	21.4	17.9	10.5	10.9	12.6	19.8	26.1	24.4	26.6	32.2	29.3	23.8	18.4	16.4	16.5	17.3	10.1	7.4	21.7	37.1
3-Jul	6.6	6.0	6.2	6.0	5.8	5.0	3.4	3.3	3.2	3.3	3.7	4.0	4.2	4.4	7.6	8.3	7.8	8.8	5.1	5.1	5.5	4.4	3.4	2.8	5.2	8.8
4-Jul	2.6	2.6	2.5	1.9	1.0	1.6	3.2	5.7	12.1	9.5	8.6	23.9	33.4	41.1	41.9	35.3	32.4	18.2	7.9	7.4	7.7	9.1	10.7	11.3	13.8	41.9
5-Jul	12.3	14.3	14.5	15.1	15.9	17.5	20.7	22.5	22.8	17.1	15.3	19.3	19.8	20.4	11.4	14.0	13.6	16.5	13.4	14.7	9.9	10.1	12.0	11.2	15.6	22.8
6-Jul	11.3	10.2	9.2	8.4	8.3	8.8	8.2	8.0	8.0	8.9	10.2	12.0	11.9	12.8	14.1	15.2	11.1	10.6	10.2	9.4	8.1	8.9	9.3	9.0	10.1	15.2
7-Jul	8.9	8.4	8.9	8.3	7.7	6.5	7.6	11.5	13.0	11.7	12.1	11.2	11.0	10.3	6.5	11.7	6.6	5.8	5.5	6.8	7.4	5.6	6.5	6.4	8.6	13.0
8-Jul	6.0	6.1	5.9	5.3	5.1	4.6	4.6	6.7	7.2	6.8	5.0	4.9	6.1	5.9	5.6	7.3	5.9	5.6	5.8	6.9	7.5	8.7	5.7	2.5	5.9	8.7
9-Jul	2.6	2.5	2.3	2.9	3.2	3.1	2.7	2.7	2.5	2.8	2.6	2.5	2.6	2.9	3.2	2.8	2.3	1.8	2.0	2.2	1.1	3.6	10.1	11.2	3.3	11.2
10-Jul	10.4	10.6	9.7	8.6	8.2	8.5	9.0	8.8	11.2	16.2	18.5	21.5	23.1	24.8	24.0	23.4	20.8	20.3	20.8	19.1	16.8	16.9	17.2	16.4	16.0	24.8
11-Jul	17.6	23.2	21.6	20.2	17.6	20.4	25.8	25.2	20.2	15.3	13.1	8.4	6.6	4.9	6.2	7.2	7.5	6.4	4.3	3.4	2.5	2.5	2.3	3.1	11.9	25.8
12-Jul	3.1	2.1	1.6	1.5	1.4	1.8	2.2	2.4	2.8	3.1	8.3	17.0	25.0	25.2	16.5	18.6	17.4	12.1	6.6	4.6	4.0	4.3	12.3	21.3	9.0	25.2
13-Jul	25.4	26.6	30.8	28.8	25.4	19.4	14.8	15.8	18.5	11.9	9.3	9.8	11.5	8.9	4.7	5.6	5.6	5.9	5.4	5.8	5.5	6.8	6.5	5.1	13.1	30.8
14-Jul	3.8	3.8	3.3	3.3	2.6	1.8	3.0	8.3	8.8	9.7	7.7	4.2	3.1	3.6	3.8	4.4	4.4	4.3	4.3	3.7	3.6	3.6	3.5	3.2	4.4	9.7
15-Jul	2.8	3.1	3.7	3.6	3.2	3.1	8.7	14.0	15.8	10.3	9.0	10.9	13.1	14.0	12.6	11.7	10.8	9.7	10.1	9.5	8.6	10.2	10.1	8.8	9.1	15.8
16-Jul	7.9	8.1	7.8	8.0	10.7	13.6	13.1	16.6	16.7	19.6	19.8	15.4	11.6	12.2	14.4	13.6	14.9	16.8	15.1	12.7	12.4	12.6	12.7	15.1	13.4	19.8
17-Jul	21.2	22.0	21.3	22.3	21.5	21.5	24.9	30.3	33.1	32.8	35.4	47.2	50.8	47.4	42.8	38.8	37.4	36.7	36.8	35.4	33.7	34.3	37.3	38.8	33.5	50.8
18-Jul	37.4	35.0	35.7	35.9	36.8	36.4	43.3	50.5	49.3	46.1	49.5	39.0	35.4	29.8	32.3	33.8	35.6	48.5	60.1	54.9	55.5	76.1	101.1	124.9	49.3	124.9
19-Jul	140.8	203.9	212.1	212.9	221.4	233.7	212.3	234.5	248.2	245.1	238.8	202.8	119.3	91.4	82.1	80.0	80.4	78.5	78.1	79.8	53.2	32.7	31.8	34.7	143.7	248.2
20-Jul	34.6	35.1	32.4	29.7	25.0	20.2	16.6	17.8	22.0	30.2	37.3	48.6	74.5	99.2	91.6	101.2	48.0	36.5	35.5	33.8	25.3	9.2	5.3	3.1	38.0	101.2
21-Jul	3.6	2.5	3.3	3.1	3.0	2.5	2.1	3.3	3.9	3.3	2.5	1.9	2.1	2.4	2.9	3.2	3.6	2.8	2.5	2.5	3.2	2.7	2.7	2.5	2.8	3.9
22-Jul	2.7	2.5	2.4	2.5	2.5	2.5	2.3	2.0	1.9	1.9	2.0	2.0	2.1	2.0	2.1	2.1	2.5	2.7	3.1	3.2	3.3	3.7	3.9	4.0	2.6	4.0
23-Jul	4.4	4.2	3.8	3.8	4.0	4.1	5.7	11.5	13.7	17.1	18.5	18.2	15.4	12.4	15.3	18.0	13.9	14.7	10.7	11.4	12.4	14.7	19.1	23.4	12.1	23.4
24-Jul	26.5	27.7	23.2	27.7	38.7	36.7	31.1	21.1	21.4	20.3	17.0	15.2	17.9	16.8	14.5	16.7	16.1	14.6	14.0	14.7	15.1	6.1	5.6	7.1	19.4	38.7
25-Jul	6.9	6.3	5.8	5.9	5.7	4.6	4.2	4.0	4.4	5.9	5.2	4.6	5.9	6.3	8.3	9.9	8.6	13.3	17.5	20.9	22.6	22.0	18.7	13.6	9.6	22.6
26-Jul	10.0	9.2	7.5	7.4	7.3	7.2	6.8	7.1	8.1	12.5	15.4	13.1	15.1	18.9	21.7	33.7	58.0	43.2	31.8	31.9	33.1	30.4	29.3	28.7	20.3	58.0
27-Jul	27.1	24.3	18.2	13.4	10.4	9.7	8.3	4.9	2.7	3.3	3.1	3.1	3.3	3.8	5.1	7.3	8.3	5.8	5.6	6.2	9.3	16.5	18.6	19.0	9.9	27.1
28-Jul	23.0	26.3	27.4	28.9	32.8	30.3	29.5	31.7	29.0	20.1	14.2	12.4	14.3	13.4	12.7	12.7	11.9	11.1	10.7	10.4	10.9	12.5	14.3	14.1	18.9	32.8
29-Jul	14.1	13.7	14.7	13.6	12.9	11.6	15.3	18.7	19.8	37.6	33.7	20.5	15.0	13.1	10.0	9.1	10.8	12.1	11.6	11.4	13.9	16.8	16.9	14.6	15.9	37.6
30-Jul	13.2	13.0	14.6	14.1	14.1	14.4	13.2	19.2	20.5	16.4	15.4	13.5	10.4	10.5	15.3	25.3	34.2	34.4	27.3	22.7	21.7	21.9	24.2	23.5	18.9	34.4
31-Jul	22.3	22.9	22.9	21.8	23.5	24.6	23.0	28.7	28.6	27.1	19.0	16.1	11.6	11.3	10.5	10.0	9.8	9.6	9.3	9.3	11.1	20.6	22.1	20.9	18.2	28.7
18.0 20.2 20.4 20.2 20.3 20.1 19.7 21.9 23.0 22.8 22.1 21.6 20.5 20.4 19.7 21.1 19.4 18.1 16.7 16.3 15.1 15.2 16.4 17.1																									Diurnal Average	
140.8 203.9 212.1 212.9 221.4 233.7 212.3 234.5 248.2 245.1 238.8 202.8 119.3 99.2 91.6 101.2 80.4 78.5 78.1 79.8 55.5 76.1 101.1 124.9																									Diurnal Maximum	
Alberta Ambient Air Quality Guideline/Objectives: 1-hr: 80 µg/m³ 24-hr: 29 µg/m³																										



Wood Buffalo Environmental Association
Hourly Averages

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





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - µg/m³
Fort McKay South - July 2025

Concentration Ranges (µg/m³)	Number of Hours	%	Cumulative %
0 - 5	170	22.85	22.85
6 - 15	289	38.84	61.69
16 - 25	143	19.22	80.91
26 - 80	122	16.40	97.31
> 81.0	20	2.69	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - µg/m³
Fort McKay South - July 2025

Concentration Ranges (µg/m³)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	22	9	0	0	0	0	0	3	8	9	27	31	15	15	16	15	170
6 - 15	26	15	4	3	2	1	13	18	51	33	36	26	20	15	9	17	289
16 - 25	13	6	0	0	3	3	7	22	13	12	12	18	13	5	9	7	143
26 - 80	13	14	5	2	0	4	11	18	10	9	8	7	2	1	7	10	121
> 81.0	0	0	0	0	0	1	8	2	1	4	1	2	1	0	0	0	20
Totals	74	44	9	5	5	9	39	63	83	67	84	84	51	36	41	49	743

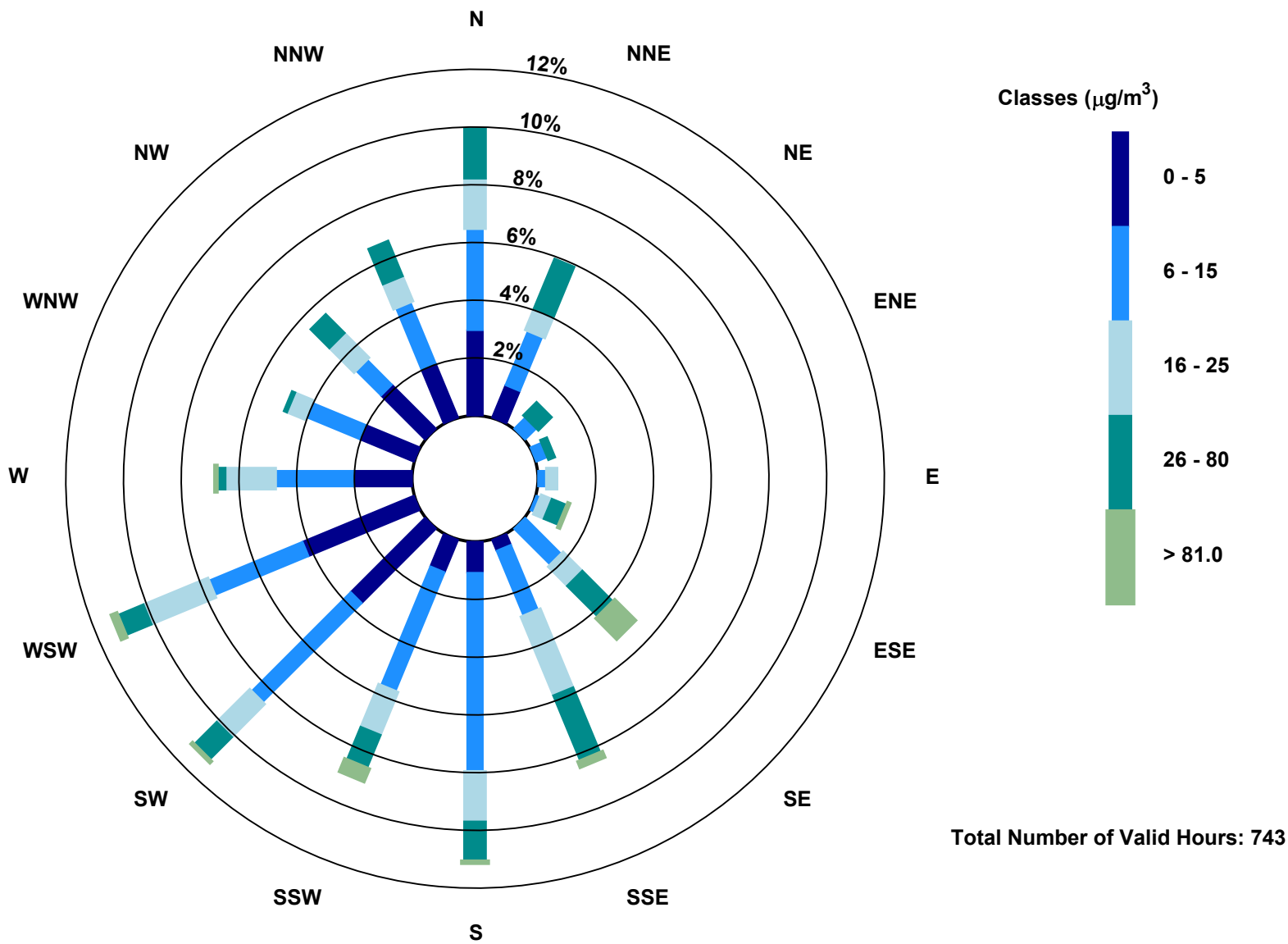
Total Number of Valid Hours: 743

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Ambient Temperature 2m (AT2) - C

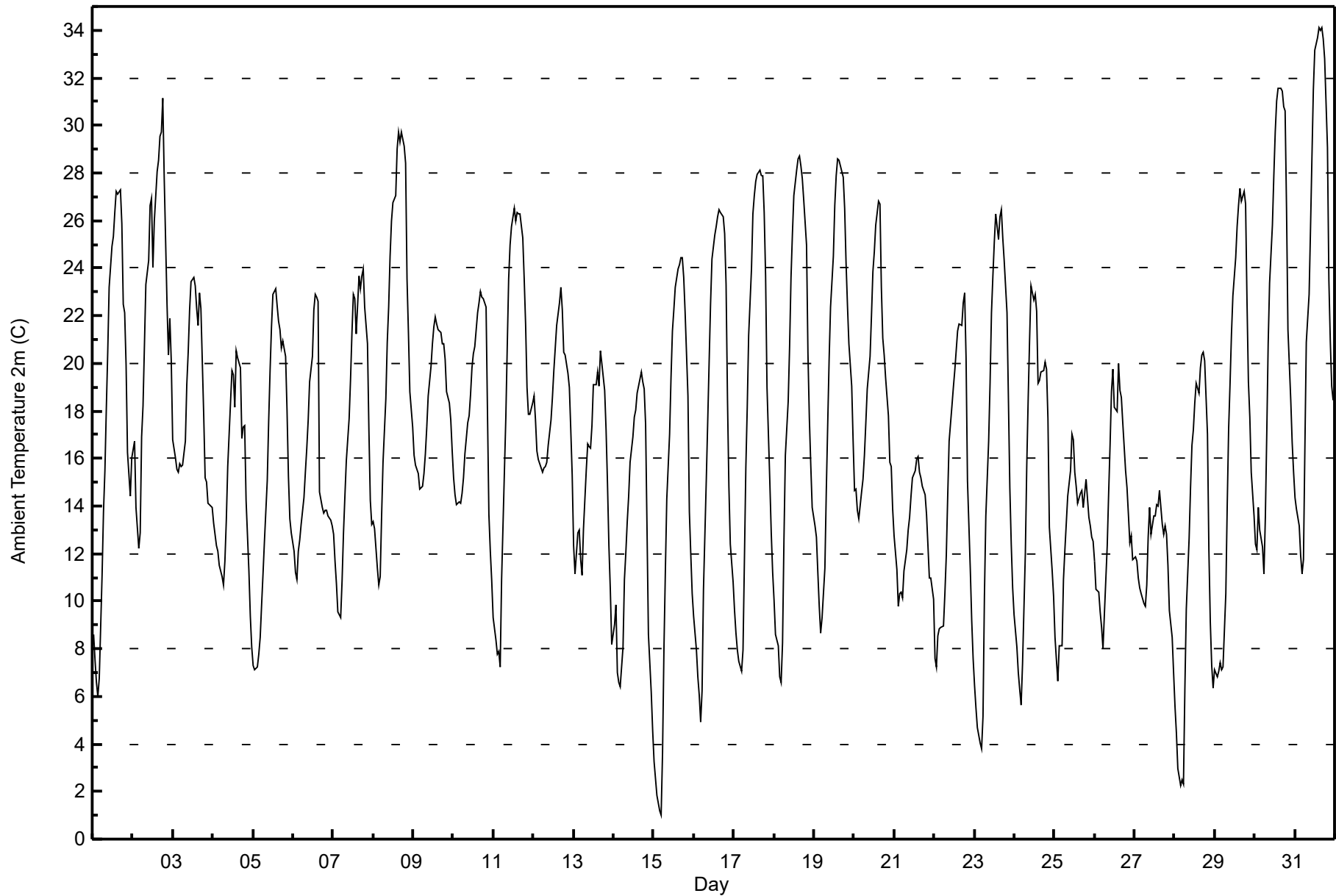
Fort McKay South - July 2025

Maximum Value: 34.1 C on Jul 31 17:00																			Maximum Daily Average: 23.7 C on Jul 31										Hours in Service: 744	
Minimum Value: 1.0 C on Jul 15 05:00																			Minimum Daily Average: 11.8 C on Jul 27										Hours of Data: 744	
Maximum Diurnal Average: 23.6 C at hour 16																			Minimum Diurnal Average: 9.4 C at hour 5										Hours of Missing Data: 0	
Monthly Average: 16.97 C																			Percentiles: P ₁ = 3.1 P ₁₀ = 8.4 Q ₁ = 12.3 Median = 16.5 Q ₃ = 21.6 P ₉₀ = 26.3 P ₉₉ = 31.6										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-Jul	8.6	7.6	6.6	6.0	6.8	11.1	13.8	15.5	18.1	20.5	23.2	24.9	25.4	26.3	27.2	27.1	27.3	25.9	22.5	22.1	20.0	16.2	14.4	16.0	18.0	27.3				
2-Jul	16.4	16.7	14.0	12.2	12.9	16.9	18.2	20.8	23.3	24.3	26.6	26.9	24.0	26.0	28.1	28.5	29.6	29.7	31.2	27.8	22.5	20.4	21.9	20.1	22.5	31.2				
3-Jul	16.8	16.0	15.6	15.4	15.8	15.6	15.7	16.7	19.1	20.5	22.2	23.4	23.6	23.3	22.3	21.6	22.9	22.3	17.8	15.2	15.0	14.1	14.1	13.9	18.3	23.6				
4-Jul	13.3	12.8	12.3	12.1	11.5	11.0	10.7	11.7	13.4	15.7	18.4	19.7	19.5	18.1	20.6	20.2	19.8	16.8	17.3	17.4	14.2	11.2	9.4	8.1	14.8	20.6				
5-Jul	7.3	7.1	7.2	7.7	8.5	9.8	11.2	12.5	15.0	17.6	19.7	21.5	22.9	23.1	22.5	21.8	21.4	20.6	21.0	20.3	18.0	15.3	13.5	12.9	15.8	23.1				
6-Jul	12.1	11.2	10.9	12.1	12.6	13.3	14.4	15.4	16.4	17.6	19.2	20.3	22.2	22.9	22.8	22.6	14.6	14.0	13.7	13.8	13.8	13.6	13.4	13.2	15.7	22.9				
7-Jul	12.8	11.7	10.7	9.5	9.3	10.8	12.9	14.4	15.9	17.7	19.3	21.3	22.9	22.7	21.2	23.7	23.1	23.7	24.0	22.4	20.8	17.2	14.2	13.2	17.3	24.0				
8-Jul	13.3	13.0	11.4	10.7	11.0	13.6	15.9	18.5	20.9	22.3	24.5	26.0	26.8	27.0	29.0	29.7	29.3	29.7	29.1	28.4	23.6	21.3	18.8	17.3	21.3	29.7				
9-Jul	16.1	15.7	15.5	15.4	14.7	14.8	15.4	16.2	17.3	18.6	19.9	20.8	21.5	22.0	21.6	21.4	21.3	20.8	20.8	20.2	18.8	18.3	17.6	16.3	18.4	22.0				
10-Jul	15.2	14.5	14.0	14.2	14.1	14.5	15.2	16.2	17.5	17.8	18.7	19.8	20.4	20.7	22.1	22.5	23.0	22.8	22.7	22.4	17.9	13.7	12.1	10.8	17.6	23.0				
11-Jul	9.3	8.4	7.8	7.9	7.3	10.9	15.5	17.7	20.7	23.6	25.0	25.8	26.5	26.0	26.3	26.3	26.3	25.3	23.5	21.6	19.0	17.9	17.9	18.3	18.9	26.5				
12-Jul	18.7	17.6	16.3	15.9	15.6	15.4	15.6	15.7	15.9	16.6	17.6	18.6	19.7	20.7	21.6	22.5	23.2	22.3	20.5	20.3	19.6	19.0	17.2	15.3	18.4	23.2				
13-Jul	12.4	11.2	12.9	13.0	11.7	11.1	13.0	15.6	16.6	16.5	16.4	17.4	19.1	19.1	19.6	19.0	20.5	20.0	18.9	17.2	15.0	12.3	10.5	8.2	15.3	20.5				
14-Jul	9.0	9.8	7.0	6.6	6.4	8.1	10.9	12.1	13.3	14.4	15.9	16.9	17.7	18.1	18.8	19.0	19.7	19.2	18.9	17.4	13.0	8.6	6.2	4.5	13.0	19.7				
15-Jul	3.3	2.6	1.8	1.2	1.0	3.6	8.0	11.2	14.3	17.0	19.4	21.3	22.2	23.2	24.0	24.1	24.4	24.4	23.6	22.1	18.6	13.8	12.0	10.3	14.5	24.4				
16-Jul	9.4	8.0	6.8	6.0	4.9	6.2	10.5	15.1	17.6	20.0	22.5	24.4	25.4	25.7	26.2	26.5	26.3	26.2	25.5	23.3	18.5	14.9	12.4	10.8	17.2	26.5				
17-Jul	9.6	8.7	7.9	7.5	7.0	7.9	11.8	15.6	18.2	21.2	24.0	26.3	27.0	27.7	27.9	28.1	27.9	27.9	26.3	23.7	19.0	15.0	12.9	11.2	18.3	28.1				
18-Jul	10.0	8.6	8.1	6.8	6.6	8.2	12.5	16.1	18.4	20.7	23.6	25.4	27.0	28.1	28.6	28.7	28.3	27.8	26.9	25.0	20.4	17.7	15.7	14.0	18.9	28.7				
19-Jul	13.2	12.7	11.2	9.8	8.7	9.3	11.4	14.6	17.5	20.2	22.4	24.5	26.6	27.9	28.6	28.6	28.3	27.8	26.5	24.2	22.4	20.8	19.1	16.7	19.7	28.6				
20-Jul	14.7	14.7	13.8	13.5	14.6	15.1	16.2	17.5	19.0	20.3	22.0	23.8	24.7	25.8	26.8	26.7	23.2	21.1	20.4	19.4	17.8	15.9	15.7	13.9	19.0	26.8				
21-Jul	12.7	11.3	9.8	10.3	10.4	10.1	11.3	12.1	13.0	13.5	14.4	15.2	15.5	15.9	16.1	15.4	15.2	14.8	14.5	13.6	12.3	11.0	11.0	10.1	12.9	16.1				
22-Jul	7.6	7.2	8.5	8.8	8.9	9.0	10.3	11.9	14.4	16.7	18.2	19.0	19.7	20.5	21.3	21.6	21.6	22.5	23.0	20.2	15.1	11.4	9.2	7.6	14.8	23.0				
23-Jul	6.4	5.5	4.7	4.1	3.8	5.2	10.2	13.6	16.7	19.1	22.1	23.7	25.1	26.3	25.2	26.1	26.5	25.2	24.3	22.1	18.5	14.8	12.4	10.6	16.3	26.5				
24-Jul	9.4	8.1	7.0	6.3	5.6	7.4	12.0	15.7	18.5	21.0	23.3	22.7	22.9	22.2	19.2	19.3	19.7	19.7	20.1	19.7	17.7	13.1	11.3	10.2	15.5	23.3				
25-Jul	8.5	7.5	6.6	8.2	8.1	10.9	12.2	13.3	14.4	15.5	17.1	16.8	15.4	14.8	14.1	14.5	14.7	14.0	14.5	15.1	13.5	13.2	12.7	12.5	12.8	17.1				
26-Jul	11.7	10.5	10.4	9.5	8.9	8.0	9.5	12.3	14.5	16.6	18.8	19.8	18.1	18.0	20.0	18.9	18.6	17.5	15.5	14.8	13.7	12.4	12.7	11.7	14.3	20.0				
27-Jul	11.9	11.7	11.0	10.6	10.3	9.9	9.8	10.7	12.7	13.9	12.8	13.6	13.6	14.1	14.0	14.7	13.3	12.8	13.2	12.8	11.5	9.6	8.5	7.0	11.8	14.7				
28-Jul	5.5	4.5	2.9	2.3	2.5	2.3	6.3	9.6	12.7	14.8	16.5	17.2	18.4	19.1	18.8	19.8	20.3	20.5	20.1	17.0	12.1	9.2	7.3	6.3	11.9	20.5				
29-Jul	7.1	6.8	7.0	7.4	7.1	7.2	10.3	14.1	17.3	19.2	21.2	22.9	24.4	25.7	26.6	27.3	26.8	27.2	26.7	22.6	19.3	17.8	15.4	13.6	17.6	27.3				
30-Jul	12.4	12.1	14.0	13.0	12.3	11.1	13.5	17.0	20.8	23.4	25.8	27.9	29.7	31.0	31.6	31.6	31.4	30.8	30.6	26.5	21.4	18.4	16.6	15.4	21.6	31.6				
31-Jul	14.4	13.9	13.2	11.9	11.2	11.8	16.4	20.9	22.9	25.7	28.6	31.5	33.2	33.7	34.1	34.0	34.1	33.6	32.8	29.1	23.5	20.9	19.0	18.4	23.7	34.1				
Diurnal Average																														
Diurnal Maximum																														



Wood Buffalo Environmental Association
Hourly Averages

Ambient Temperature 2m (AT2) - C
Fort McKay South - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ambient Temperature 2m (AT2) - C
Fort McKay South - July 2025

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	0	0.00	0.00
-20 - 0	0	0.00	0.00
0 - 10	110	14.78	14.78
10 - 20	389	52.28	67.07
> 20	245	32.93	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) - %

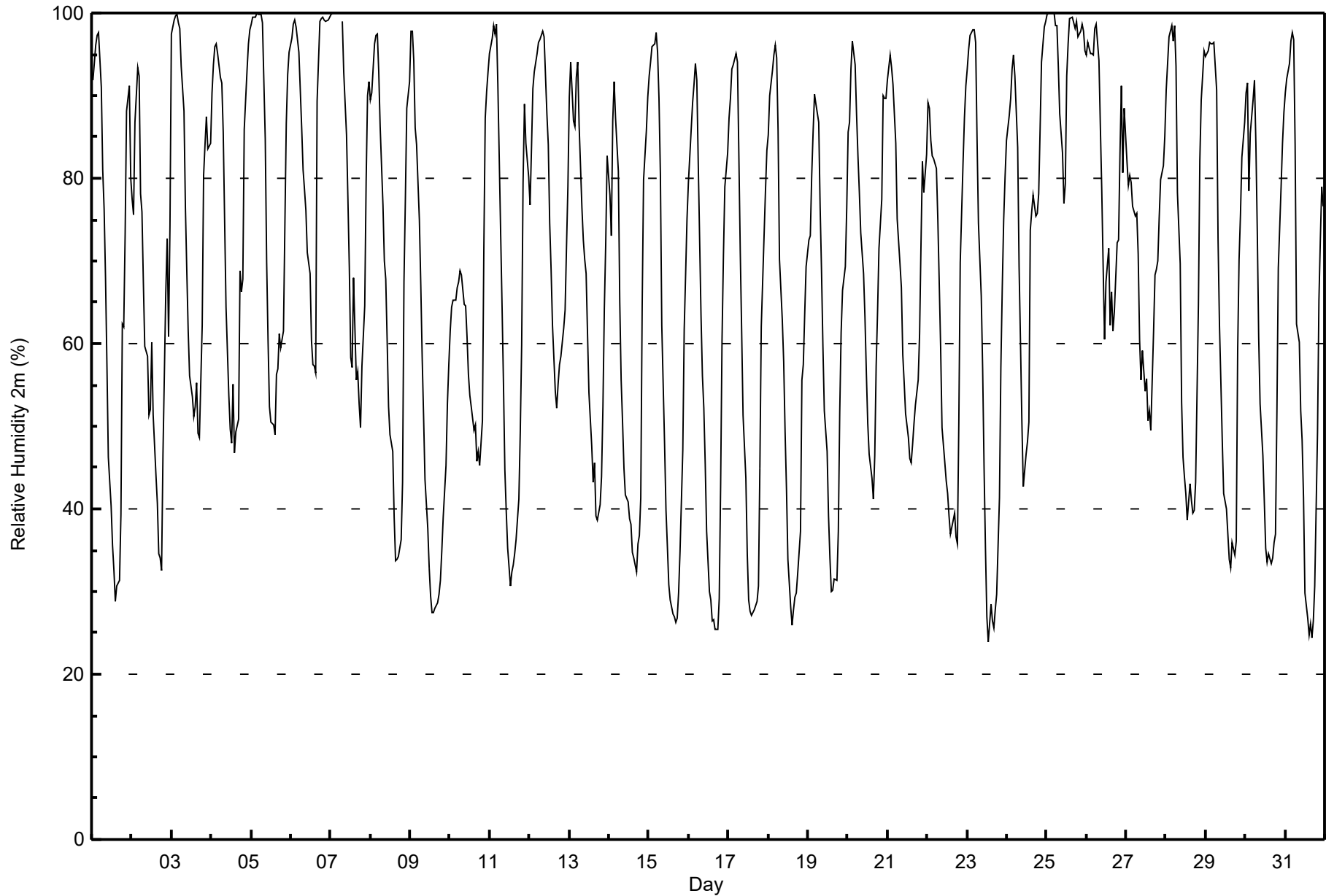
Fort McKay South - July 2025

Maximum Value: 100.0 % on Jul 7 02:00																				Maximum Daily Average: 95.1 % on Jul 25										Hours in Service: 744			
Minimum Value: 23.9 % on Jul 23 14:00																				Minimum Daily Average: 52.4 % on Jul 9										Hours of Data: 741			
Maximum Diurnal Average: 93.0 % at hour 5																				Minimum Diurnal Average: 43.3 % at hour 16										Hours of Missing Data: 3			
Monthly Average: 67.96 %																				Percentiles: P ₁ = 26.1 P ₁₀ = 34.4 Q ₁ = 49.3 Median = 69.7 Q ₃ = 89.6 P ₉₀ = 96.8 P ₉₉ = 99.9										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-Jul	91.8	94.0	96.1	97.4	97.6	90.9	81.1	76.3	67.9	57.4	46.3	40.3	35.6	32.5	28.8	30.6	31.3	39.3	62.4	62.0	73.1	88.1	91.1	80.0	66.3	97.6							
2-Jul	77.5	75.6	86.8	93.4	92.5	78.1	75.9	67.4	59.7	58.5	51.3	52.0	60.2	51.4	44.1	40.7	34.6	34.1	32.5	46.6	66.1	72.8	60.9	74.2	61.9	93.4							
3-Jul	97.4	99.1	99.6	99.9	98.8	98.1	93.6	88.2	76.7	68.9	61.5	56.0	53.5	51.3	52.3	55.2	49.1	48.6	62.2	80.4	84.1	87.5	83.6	84.2	76.2	99.9							
4-Jul	90.4	93.8	95.9	96.4	95.2	92.3	91.6	85.5	74.8	64.4	53.8	49.7	48.0	55.1	46.8	49.4	50.8	68.9	66.2	67.8	85.9	93.0	96.2	98.0	75.4	98.0							
5-Jul	98.7	99.6	99.5	99.9	99.9	99.9	99.8	98.8	84.8	69.8	60.4	52.3	50.5	50.1	48.9	56.3	57.0	61.3	59.5	61.6	74.2	86.6	92.5	95.3	77.4	99.9							
6-Jul	97.0	98.6	99.2	98.3	96.8	95.2	86.2	81.0	78.7	76.1	71.0	68.4	60.4	57.4	57.2	56.4	89.4	99.0	99.3	99.6	99.1	98.9	99.1	99.5	85.9	99.6							
7-Jul	99.8	100.0	100.0	100.0	100.0	OR	OR	99.1	92.9	85.2	77.4	69.2	58.3	57.1	68.0	55.5	56.6	52.8	49.9	57.4	64.5	79.7	90.0	91.7	77.5	100.0							
8-Jul	89.6	90.4	96.2	97.2	97.4	92.8	86.4	76.7	70.0	67.8	60.3	52.3	49.0	47.0	39.0	33.8	34.0	34.2	36.2	43.3	67.4	77.5	88.4	91.6	67.4	97.4							
9-Jul	97.7	97.8	94.2	86.2	84.0	75.0	67.2	58.3	51.3	43.6	37.7	32.8	29.5	27.5	27.5	28.0	28.7	29.7	31.4	34.9	38.9	45.2	52.8	57.4	52.4	97.8							
10-Jul	61.5	64.3	65.3	65.3	66.8	67.5	68.7	68.3	64.7	64.5	60.8	56.3	53.8	52.4	49.5	50.2	45.7	46.9	45.3	50.7	71.3	87.2	90.5	92.9	62.9	92.9							
11-Jul	95.1	96.9	98.4	97.5	98.6	91.4	73.4	64.6	55.2	44.7	39.6	35.3	30.6	32.4	33.2	34.5	36.2	41.2	49.3	59.8	79.5	89.0	84.2	80.2	64.2	98.6							
12-Jul	76.7	83.6	90.9	92.9	95.1	96.4	96.8	97.3	97.8	97.1	87.7	84.0	74.6	69.0	62.3	54.3	52.2	55.1	57.4	58.5	61.9	64.1	71.7	79.0	77.4	97.8							
13-Jul	89.9	94.1	87.0	86.3	92.2	94.0	86.5	76.4	72.5	70.2	68.5	61.2	54.0	47.6	43.2	45.6	39.2	38.7	40.5	44.0	52.4	64.2	72.2	82.7	66.8	94.1							
14-Jul	77.9	73.0	87.0	91.6	87.3	80.8	65.1	55.5	50.5	44.8	41.8	40.9	38.8	38.1	34.7	34.0	32.4	35.8	36.7	41.3	64.4	79.9	85.8	89.8	58.7	91.6							
15-Jul	92.3	94.0	96.0	96.2	97.6	95.3	89.7	80.4	62.1	47.9	39.9	35.3	30.9	29.0	27.3	26.9	26.3	26.8	29.9	34.7	47.2	61.7	68.3	75.1	58.8	97.6							
16-Jul	79.6	86.0	89.2	91.3	93.9	91.8	82.0	63.5	56.1	52.1	45.5	37.2	30.0	29.0	26.4	26.6	25.5	25.5	29.2	42.9	60.5	70.7	78.9	83.1	58.2	93.9							
17-Jul	87.3	89.6	93.2	93.8	95.1	94.1	82.9	71.2	61.6	51.3	43.7	34.7	29.0	27.6	27.2	27.8	28.3	28.8	30.7	44.9	62.1	73.0	78.5	83.3	60.0	95.1							
18-Jul	85.3	89.9	93.1	95.0	96.2	94.6	85.7	70.2	62.9	57.9	49.3	42.4	33.8	28.2	25.9	27.9	29.3	29.9	32.3	37.4	55.6	57.5	63.6	69.2	58.9	96.2							
19-Jul	72.6	73.0	80.4	85.6	90.1	88.9	86.8	76.6	68.8	59.7	51.9	46.9	39.1	34.1	29.9	30.1	31.5	31.3	37.3	51.7	61.3	66.5	69.4	76.5	60.0	90.1							
20-Jul	85.5	86.7	93.2	96.6	93.8	87.8	82.7	78.3	73.3	68.4	63.1	56.4	50.4	46.6	43.7	41.2	46.5	57.3	63.8	71.5	77.5	90.0	89.6	89.7	72.2	96.6							
21-Jul	91.8	94.9	93.4	91.4	87.7	84.2	75.1	69.7	66.7	58.7	55.2	51.5	48.7	46.1	45.5	47.8	50.3	52.6	55.6	61.1	72.1	82.1	78.2	82.8	68.5	94.9							
22-Jul	89.1	88.5	84.6	82.7	82.3	81.2	75.1	67.5	59.6	49.9	45.6	43.4	41.9	39.2	37.0	37.8	39.4	36.5	35.7	50.5	69.8	81.9	87.2	91.1	62.4	91.1							
23-Jul	93.2	95.6	97.3	97.9	98.0	96.5	84.7	74.5	65.7	57.0	45.1	35.3	27.0	23.9	28.4	26.5	25.5	27.8	29.7	41.4	57.1	66.8	74.9	80.2	60.4	98.0							
24-Jul	84.5	87.7	89.6	93.2	94.9	92.4	83.7	69.3	60.2	50.5	42.7	46.6	48.1	50.6	73.8	76.0	77.9	75.5	75.7	78.1	86.0	94.1	98.4	99.0	76.2	99.0							
25-Jul	99.8	100.0	100.0	OR	100.0	98.5	98.5	93.5	87.9	83.1	77.0	79.4	92.3	96.3	99.3	99.5	98.8	98.1	99.1	97.0	97.9	98.7	97.8	95.4	95.1	100.0							
26-Jul	94.9	96.4	95.1	95.1	94.9	98.2	98.7	94.3	86.2	78.7	69.3	60.4	67.5	71.5	62.2	66.3	61.5	64.0	72.2	72.6	82.9	91.2	80.8	88.5	81.0	98.7							
27-Jul	82.1	79.2	80.4	79.5	76.6	75.4	75.8	70.9	60.5	55.6	59.1	54.3	55.8	50.6	51.8	49.5	61.5	68.4	69.0	70.1	75.2	79.7	81.5	85.1	68.7	85.1							
28-Jul	90.7	93.8	97.1	98.5	96.7	98.5	93.6	78.3	69.6	52.8	46.2	43.8	41.8	38.6	43.0	40.9	39.4	39.8	43.1	64.7	82.2	89.5	92.5	95.4	69.6	98.5							
29-Jul	94.8	95.4	96.4	96.3	96.4	96.4	90.6	72.8	62.4	55.4	48.3	41.8	39.9	37.0	33.8	32.9	35.9	34.4	36.0	59.1	70.1	75.6	82.5	86.8	65.5	96.4							
30-Jul	90.3	91.5	78.4	85.4	89.5	91.8	84.2	73.6	60.9	52.7	46.5	41.1	35.3	33.6	34.5	33.5	34.0	35.9	37.0	51.5	69.1	79.0	84.3	87.9	62.6	91.8							
31-Jul	90.3	92.0	93.9	96.5	97.6	96.8	84.0	62.4	60.2	51.8	48.2	41.3	29.9	26.8	24.8	26.0	24.4	26.5	30.6	49.3	65.3	72.6	79.0	76.6	60.3	97.6							
Diurnal Average																																	
Diurnal Maximum																																	
OR - Out of Range																																	



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 2m (RH2) - %
Fort McKay South - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Speed 10m (WS10) - km/h

Fort McKay South - July 2025

Maximum Speed: 23 km/h on Jul 21 02:00																		Maximum Daily Speed Average: 12.2 km/h on Jul 9										Hours in Service: 744	
Minimum Speed Value: 0 km/h on Jul 20 19:00																		Minimum Daily Speed Average: 0.4 km/h on Jul 5										Hours of Data: 743	
Maximum Diurnal Speed Average: 2.7 km/h at hour 24																		Minimum Diurnal Speed Average: 0.6 km/h at hour 17										Hours of Missing Data: 1	
Monthly Average Velocity: 1.5 km/h 246.1 deg																		Percentiles: P ₁ = 1 P ₁₀ = 2 Q ₁ = 3 Median = 6 Q ₃ = 9 P ₉₀ = 12 P ₉₉ = 19										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-Jul	WSW2	WSW2	WSW3	SW2	SSW2	NNW1	N4	N5	N5	N5	NNE4	NE2	SE6	ESE7	SSE7	ESE8	SE5	SE2	SSW6	SSE7	S2	WSW2	SW4	S9	SSE1.3	S9			
2-Jul	S11	S11	SSE2	S4	SSW4	S9	S6	SSE8	S10	SW7	N2	N11	NNE9	NNE7	NNE6	SE7	SSE3	E4	NNE4	NW0	WNW2	SW1	SE5	WSW12	S1.9	WSW12			
3-Jul	NNW8	SW2	SW2	WNW4	W3	WSW6	WSW8	W7	W8	WSW11	WSW9	WSW11	WSW12	SW12	SSW14	SSW16	SSW17	SW13	NW15	WNW6	WSW4	SW5	WSW7	WSW9	WSW7.1	SSW17			
4-Jul	WSW9	WSW8	W7	W9	WNW9	NW9	WNW7	W8	WNW8	NW11	NW14	NNW13	NW14	NW8	NNW12	N10	NNE13	N10	ENE1	SSE1	W2	WSW3	SW2	SSW3	NW6.0	NW14			
5-Jul	WNW2	SSW3	SW3	SW3	SSW3	SW2	WSW1	SSE6	SSE7	SSE9	SE8	S9	SE7	SSE6	WNW3	NNE11	N6	N6	N7	N7	N6	N5	NNW4	NNW4	E0.4	NNE11			
6-Jul	NNW4	N5	NNW4	NNW6	NNW5	NE5	N9	N10	N10	N11	N11	N10	N12	N10	N10	NNE6	S9	NNW4	N6	NE3	W3	WSW3	W2	SSW1	N5.2	N12			
7-Jul	SSE1	SSW3	WSW2	SW2	SSW2	SW2	S3	SSE6	S5	S7	SSE7	S7	S8	S9	S8	SSE12	SSE13	S11	S6	S7	S6	S4	S3	S4	S5.6	SSE13			
8-Jul	S3	ENE1	WNW2	W2	SW1	WSW2	NNW1	SE4	SSE7	S9	S12	S17	SSE21	S19	S18	S21	SSW15	S15	S11	S8	SW4	WNW2	W13	WNW10	SSW7.2	SSE21			
9-Jul	SSE3	S7	S9	SW11	SSW12	SSW13	SW14	SW16	SW15	SW16	SW18	SW19	SW18	SW22	SW21	WSW18	WSW17	WSW15	WSW13	WNW10	WNW7	WNW10	WNW11	WSW7	SW12.2	SW22			
10-Jul	SW6	SW4	SW7	WSW5	WSW6	WSW7	WSW5	W4	W5	WNW6	WNW6	NW10	NW11	WNW11	NW10	N5	NW10	NW8	NW9	NW4	WSW3	WSW4	SW4	S4	WNW5.1	NW11			
11-Jul	S3	SW2	WSW2	SW3	SSW4	S7	S12	S14	S14	S19	SSW21	SSW18	SW20	SW16	SW14	SW14	SW12	WSW6	NW4	NW7	SSW5	SW4	S6	SSW7	SSW8.7	SSW21			
12-Jul	SSW8	SW10	SW8	SW9	SW7	WSW4	W7	W6	W4	NW2	NW2	W7	WNW7	W6	WSW7	W8	WSW7	WSW10	WSW12	WSW9	WSW8	WNW8	NNW5	NNW6	WSW5.9	WSW12			
13-Jul	W2	SW5	WSW8	W2	NNW6	SW2	NW4	N6	N12	NNE14	NNE11	N13	NNE10	N12	N12	NNE11	NNE12	NNE14	NNE13	NNE10	NNE8	N6	NNW5	WNW4	N6.9	NNE14			
14-Jul	NW6	NW6	WSW2	SW2	NW4	N3	N10	N13	N12	N12	NNE12	NNE11	NNE9	N11	NNE11	N11	NNE11	NNE10	NNE9	N7	NW4	WSW3	WSW2	SW3	N6.5	N13			
15-Jul	SSW3	SSE1	SSE2	SSW3	S3	S2	SE4	SE6	SSE8	S9	S8	S4	S9	SSW9	S8	S10	S11	S11	S11	SSE11	S6	S4	SSW5	SSW4	S6.1	S11			
16-Jul	SSW3	W1	SW3	SW2	SW3	SW2	S3	SSE8	SSE8	SSE8	SSE8	SE8	S7	SSW6	SSE6	SE6	SE5	SSE7	SSE7	SSW2	WSW2	SW2	SW2	WNW2	S3.9	SSE8			
17-Jul	WSW2	SSW3	WSW1	S3	WSW2	SW2	ESE1	ENE3	NNE2	NNE3	N4	N8	NE7	N9	N6	NNE7	N6	NE5	E5	NW0	WSW2	WSW2	WSW2	SW1	N1.9	N9			
18-Jul	SW2	WSW2	SSW2	SW3	SW2	SW2	S4	SSE8	SE8	SE7	SE7	SE8	ESE9	SE8	S9	SSE10	SSE12	SSE13	SSE9	SSE7	SSW3	SSW4	SSW3	SSW4	SSE5.4	SSE13			
19-Jul	SSW5	SSW3	W1	WSW1	WSW1	SW2	S3	SSE4	SE6	SE6	SE8	SE7	SSE10	SE8	SE3	SE7	SSE10	SSE9	SSE7	NW3	N10	N8	NNW6	NNW2	SE2.7	N10			
20-Jul	NW4	NNW4	NNW4	NNW6	N9	N10	N9	N8	N8	N6	N7	NNW5	SE4	SE6	SE6	ESE7	NW13	NNE4	WNW0	N2	N17	N14	N16	N21	N6.2	N21			
21-Jul	N18	N23	N15	N14	N14	NNW11	N14	N17	N13	N14	N14	N11	NNW11	NNW12	NNW11	NNW13	NNW13	NNW9	NW6	NNW5	WNW3	WNW2	NW4	WNW3	NNW10.8	N23			
22-Jul	W4	W5	WSW6	W4	W4	WSW7	WSW8	WSW9	W8	W8	NW5	NW6	NW6	WNW6	NW5	NNW6	NNE5	N2	NNW3	WNW3	WSW2	WSW3	SW2	SW2	WNW4.1	WSW9			
23-Jul	SW2	SW2	SSW3	SSW2	SW2	S3	SSE4	SE4	ESE5	ESE5	SE5	E7	SE4	NNE2	SE6	ESE3	E2	SSW6	SSW8	SSW5	WSW4	SW1	SSW2	WSW2	SSE2.4	SSW8			
24-Jul	SW2	SW3	SW3	SSW2	SW2	SSW3	SSE4	SE6	SE6	SE10	SSE15	SSE14	SE11	SSE13	SSE10	SSE8	SSE6	SE7	SE5	SE5	WNW4	W3	W3	SSW2	SSE5.0	SSE15			
25-Jul	SSW2	SSW3	SW2	WSW4	SW3	SW4	WSW1	WSW6	WSW9	WSW11	W10	W8	W5	WNW6	NNW7	NNW6	NW7	NNW6	NW2	WSW2	W4	W6	W7	WNW7	W4.4	WSW11			
26-Jul	WNW6	NW4	WNW7	W5	W2	SSW1	S2	S3	SW4	S5	S10	WSW6	NNE3	NNE8	E3	NNE12	NNE15	NNE12	NE7	NE4	NE1	NW2	NNW6	NW5	N2.1	NNE15			
27-Jul	NNW6	NNW8	NNW7	NNW7	N9	NNW9	NNW8	NNW9	N9	N11	NNW5	NNW7	NNW4	NW7	NW9	NW8	N6	WNW2	W3	W4	W5	W6	W6	W3	NNW5.7	N11			
28-Jul	W2	W1	WSW1	SSW3	UO	S3	ESE2	SSW2	SSE4	SSW5	SSW6	WSW5	NW8	WNW4	NE5	NNE6	NNE3	ENE4	NE3	NW2	W3	SW2	W1	WSW2	W0.7	NW8			
29-Jul	SW1	WSW2	WSW1	W1	WSW2	SSW2	SSE2	SSE5	SE6	SE8	SSE9	S7	S5	SSW4	SSW7	SW6	SSE3	S7	S8	SW3	SSW2	WSW3	SW3	S2	S3.5	SSE9			
30-Jul	SW2	W2	NNW6	SW3	W2	SW2	SSE3	SSE7	SSE9	SSW10	SW9	SW6	WSW5	E1	NNE12	NNE10	NNE9	NNE8	NNE6	NNW3	W1	WSW2	SSW1	W2	WNW0.6	NNE12			
31-Jul	SSW2	WSW1	SW2	SSW2	SW2	SSW3	SSE5	S10	SSE8	S10	S10	S7	SSW10	S11	S14	S12	SSW10	S9	S6	SSW4	SW3	S2	SSE0	SSE2	S5.8	S14			
WSW2.0WSW1.9 W2.3WSW2.5 W2.2WSW1.8WSW1.5SSW1.3 S1.3SSW1.9SSW2.0WSW1.6 SW1.7 SW2.1 SW1.6 SSE0.7 SW0.6SSW0.6WSW0.9 W1.1WNW2.0 W2.3 W2.5 W2.7																								Diurnal Average					
N18 N23 N15 N14 N14 SSW13 N14 N17 SW15 S19 SSW21 SW19 SSE21 SW22 SW21 S21 SSW17WSW15WNW15 SSE11 N17 N14 N16 N21																								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

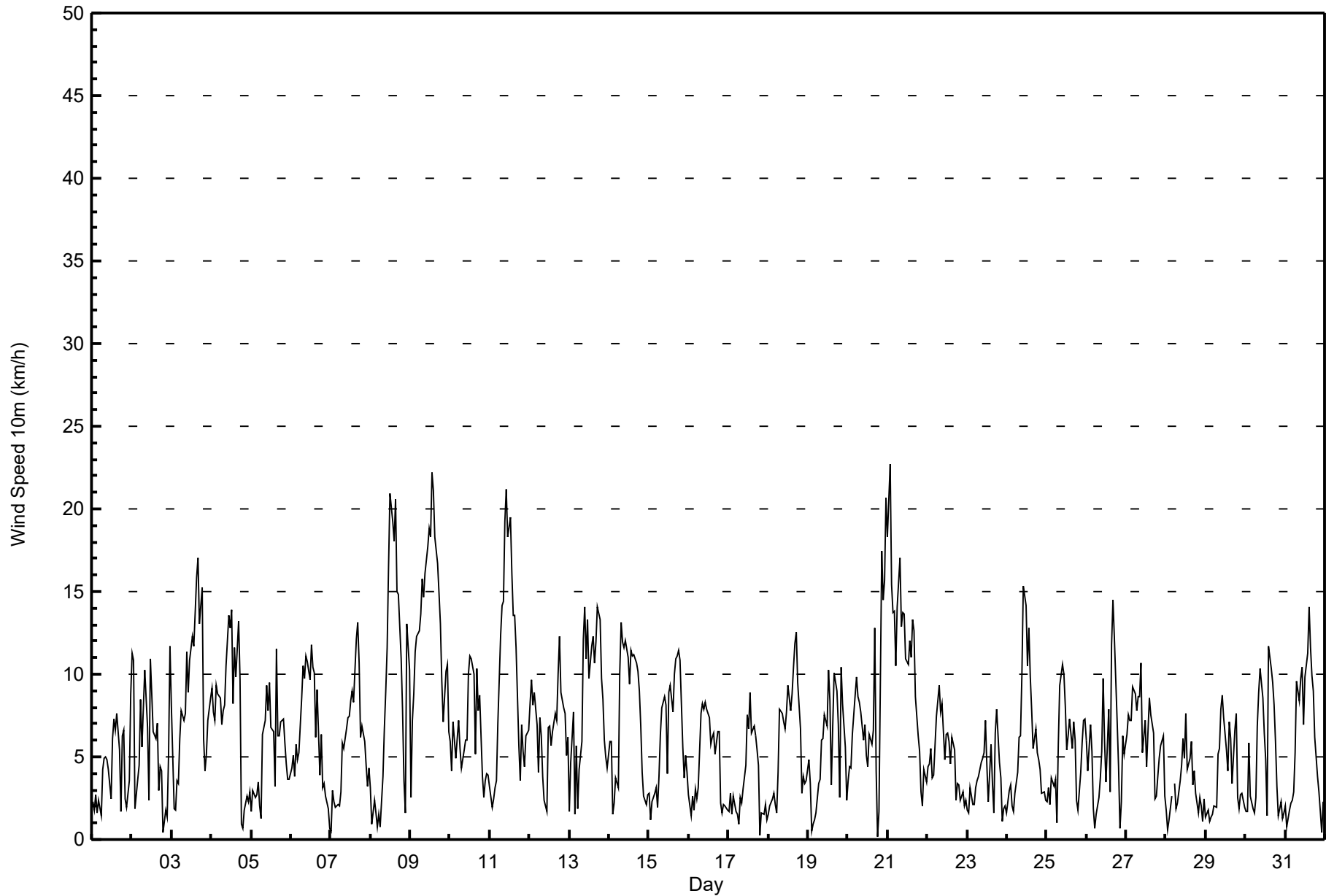
Wind Speed 10m (WS10) - km/h
Fort McKay South - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																	Hours in Service: 744								
Maximum Value: 8 km/h on Jul 9 14:00																	Hours of Data: 743								
Minimum Value: 0 km/h on Jul 18 05:00																	Hours of Missing Data: 1								
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: 99.9								
Day	Hourly Period Ending At (MST)																								Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Maximum
1-Jul	1	1	1	1	1	1	1	1	2	2	2	2	3	3	4	3	2	1	5	2	2	1	2	2	5
2-Jul	3	4	1	2	2	2	2	2	3	3	3	4	3	3	2	2	4	2	1	1	1	1	2	8	8
3-Jul	4	2	1	2	2	2	3	3	3	4	3	4	4	4	4	4	5	5	7	2	3	2	3	3	7
4-Jul	3	3	3	4	3	3	3	3	3	4	5	5	5	3	4	3	4	5	1	1	1	1	2	1	5
5-Jul	1	1	1	1	1	1	2	2	2	3	3	4	4	4	4	3	3	2	2	2	1	1	2	1	4
6-Jul	1	1	1	1	1	2	2	2	3	3	3	3	3	3	3	7	7	1	1	2	2	1	1	1	7
7-Jul	1	1	1	1	1	1	1	1	1	2	2	3	3	3	3	4	3	4	2	1	1	1	1	1	4
8-Jul	1	1	1	1	1	1	1	1	3	3	5	4	5	5	5	6	5	3	3	3	1	1	6	5	6
9-Jul	2	1	3	4	3	4	5	5	5	6	6	7	6	8	7	8	7	6	6	4	4	5	5	2	8
10-Jul	2	2	2	2	2	3	2	2	2	2	2	4	5	4	4	2	4	3	3	2	1	1	1	1	5
11-Jul	1	1	2	1	1	2	3	3	4	5	6	6	7	6	5	4	4	3	2	3	1	1	1	1	7
12-Jul	2	3	3	3	2	2	3	2	1	1	1	3	3	3	3	3	3	6	4	3	3	3	1	1	6
13-Jul	1	2	2	1	2	1	2	3	4	4	3	4	3	3	4	3	4	4	4	3	2	2	2	2	4
14-Jul	2	2	1	1	2	3	3	3	4	4	4	4	4	4	4	4	4	3	3	2	1	0	1	1	4
15-Jul	1	1	1	1	1	1	1	1	3	3	4	3	4	4	4	3	4	3	3	3	2	1	1	1	4
16-Jul	1	1	1	1	1	1	1	2	2	2	2	4	4	3	4	3	2	2	2	1	1	2	1	2	4
17-Jul	1	1	1	1	1	1	1	1	1	1	2	3	3	3	3	3	2	2	2	1	1	1	1	2	3
18-Jul	1	1	1	1	0	1	2	2	2	2	2	3	3	4	4	4	3	3	2	2	1	1	1	1	4
19-Jul	1	1	1	1	1	1	1	1	1	2	2	2	3	3	3	3	3	3	3	3	3	2	1	2	3
20-Jul	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	6	3	1	2	5	4	5	5	6
21-Jul	5	7	5	3	4	3	4	5	4	4	4	4	3	4	4	3	4	3	2	2	1	1	1	1	7
22-Jul	1	2	2	2	2	2	3	3	3	3	3	3	3	3	3	2	2	2	2	1	1	1	2	1	3
23-Jul	1	1	1	2	1	2	1	1	1	2	2	2	4	2	3	2	2	2	2	1	1	2	1	1	4
24-Jul	1	1	1	1	1	1	1	2	2	3	4	5	3	4	3	2	2	2	2	2	6	3	1	1	6
25-Jul	2	2	2	2	1	2	2	3	3	4	4	3	2	3	2	2	3	4	1	1	1	2	2	2	4
26-Jul	2	2	2	3	2	1	2	2	2	2	3	4	3	3	2	5	5	4	3	2	1	1	2	2	5
27-Jul	2	2	2	1	3	2	1	2	3	4	3	3	2	3	3	3	2	1	1	1	1	1	2	2	4
28-Jul	2	1	1	2	UO	2	1	2	2	3	3	3	3	3	2	2	3	2	1	1	1	1	1	1	3
29-Jul	1	1	1	1	2	1	2	2	2	2	3	3	4	4	4	3	2	3	2	1	2	1	2	2	4
30-Jul	1	2	2	2	2	1	1	2	3	3	3	3	3	3	3	3	3	2	2	1	1	1	2	1	3
31-Jul	2	1	1	1	2	1	2	2	2	2	3	4	4	4	4	4	3	3	1	1	1	1	1	3	4
5 7 5 4 4 4 5 5 5 6 6 7 7 8 7 8 7 6 7 4 6 5 6 8																									
Diurnal Maximum																									
UO - Unstable Operation																									



Wood Buffalo Environmental Association
Hourly Averages

Wind Speed 10m (WS10) - km/h
Fort McKay South - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 10m (WS10) - km/h
Fort McKay South - July 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	340	45.76	45.76
6 - 11	310	41.72	87.48
12 - 19	85	11.44	98.92
20 - 28	8	1.08	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
Fort McKay South - July 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	10	7	5	4	5	12	19	26	47	57	50	32	16	18	20	340
6 - 11	41	23	2	0	1	4	27	36	45	12	11	27	18	19	20	24	310
12 - 19	19	11	0	0	0	0	0	7	11	7	13	7	1	1	3	5	85
20 - 28	2	0	0	0	0	0	0	1	1	1	3	0	0	0	0	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	74	44	9	5	5	9	39	63	83	67	84	84	51	36	41	49	743

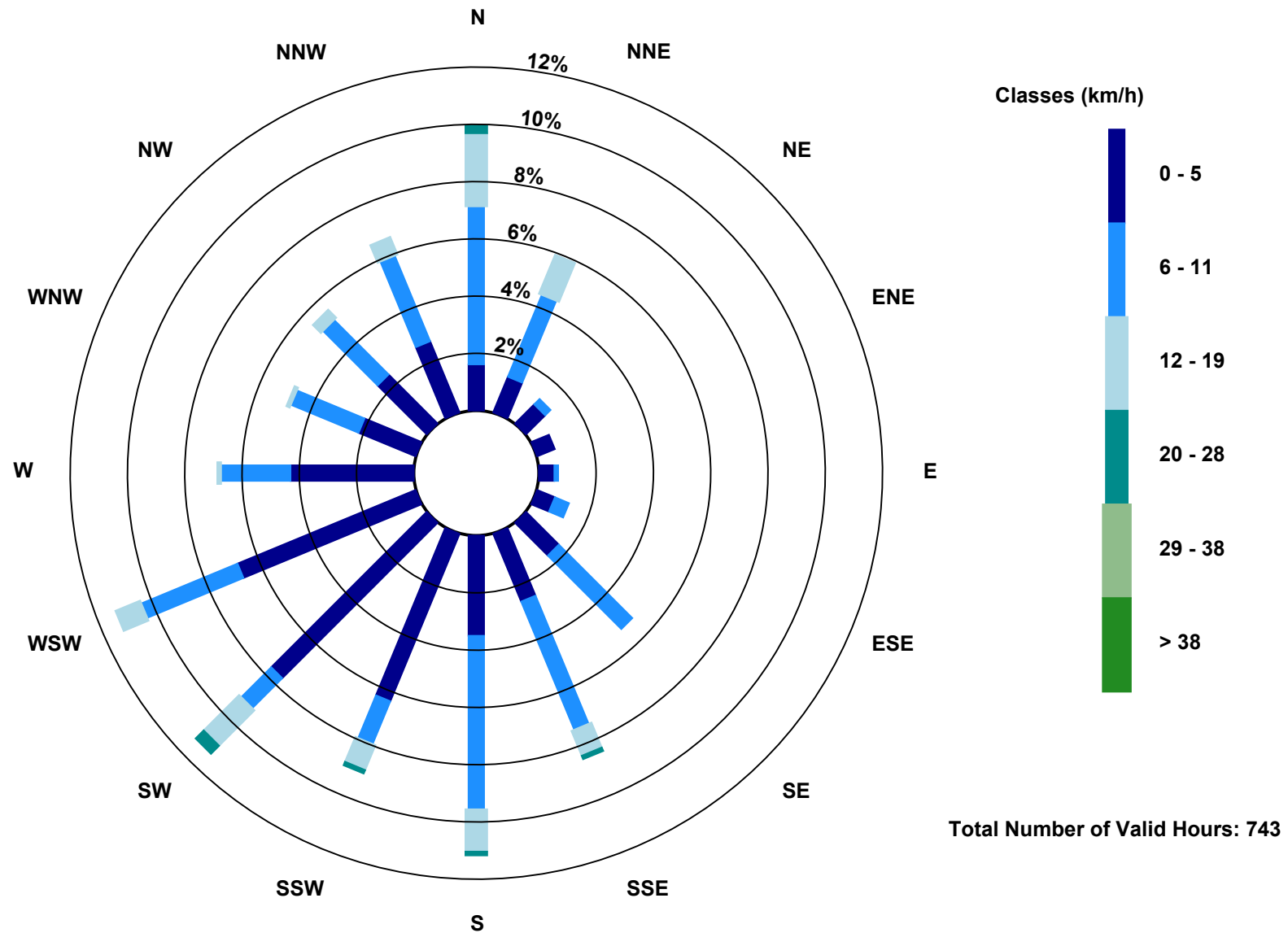
Total Number of Valid Hours: 743

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 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 - July 2025

Direction of Maximum Speed: 1 deg on Jul 21 02:00																				Hours in Service:		744			
Direction of Maximum Daily Speed Average: 231.4 deg on Jul 9																				Hours of Data:		743			
Direction of Minimum Speed: 290 deg on Jul 20 19:00										Direction of Minimum Daily Speed Average: 0.4 deg on Jul 5										Hours of Missing Data:		1			
Monthly Average Direction: 246.1 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-Jul	246	239	257	224	213	339	2	4	11	3	13	38	143	115	159	120	146	136	207	164	187	239	214	187	157.7
2-Jul	185	186	157	190	193	174	176	160	185	224	349	8	15	19	31	125	166	99	24	316	291	231	131	253	172.3
3-Jul	341	216	233	285	276	251	257	268	266	254	256	237	243	225	207	192	197	233	304	295	244	229	237	239	242.8
4-Jul	239	256	261	274	298	320	288	273	284	305	320	330	323	326	336	2	12	1	67	151	281	251	231	206	309.6
5-Jul	293	200	225	218	198	219	237	163	149	147	146	180	132	162	302	15	350	8	7	3	350	358	344	340	98.8
6-Jul	336	349	332	343	346	36	7	3	4	5	9	8	4	2	351	33	170	345	4	52	260	254	272	202	0.1
7-Jul	151	198	244	214	210	226	169	164	178	178	161	185	174	175	169	156	162	169	186	183	178	191	184	188	175.9
8-Jul	176	75	299	272	214	251	332	134	147	171	177	191	168	181	189	189	194	187	187	182	232	283	279	287	191.9
9-Jul	149	174	190	217	205	212	216	223	233	233	222	219	228	230	231	237	238	244	244	288	286	284	283	239	231.4
10-Jul	215	215	228	249	245	255	253	279	275	302	298	307	308	302	313	353	306	321	318	311	254	238	230	189	283.8
11-Jul	183	220	242	217	204	174	184	176	184	187	196	205	216	225	232	219	219	237	318	309	212	215	187	196	206.2
12-Jul	201	226	226	231	235	239	262	261	259	306	317	280	293	267	245	262	247	251	254	250	250	303	340	346	256.8
13-Jul	267	236	240	279	343	219	314	351	11	14	22	11	20	349	8	14	20	15	12	25	25	4	336	296	3.5
14-Jul	308	315	254	228	308	349	353	357	4	350	24	22	19	8	23	8	15	20	13	359	326	253	242	234	0.1
15-Jul	209	168	163	196	188	173	142	141	156	173	185	174	186	195	188	173	173	179	179	168	186	189	198	207	178.0
16-Jul	207	269	235	230	216	224	177	152	159	150	153	143	178	200	166	145	130	158	154	207	247	229	230	286	170.7
17-Jul	243	199	238	189	248	225	107	69	20	16	6	7	37	358	10	19	2	34	79	312	243	252	237	217	10.7
18-Jul	236	237	196	228	216	222	174	159	142	139	139	128	122	146	181	157	155	156	159	163	194	195	203	211	161.0
19-Jul	194	199	272	253	245	225	183	156	139	141	143	127	148	139	139	140	148	148	155	326	354	356	339	331	144.7
20-Jul	326	336	330	341	352	353	357	11	9	3	358	345	132	129	136	113	322	16	290	359	9	3	357	356	1.3
21-Jul	356	1	359	356	358	344	354	357	7	358	2	352	334	336	330	337	338	328	317	334	297	291	309	282	347.6
22-Jul	268	259	258	264	269	257	256	256	263	269	306	314	322	303	310	347	21	356	346	299	256	239	233	235	283.4
23-Jul	232	216	193	199	225	174	153	133	114	119	128	100	146	28	127	104	84	192	199	213	247	229	199	250	160.7
24-Jul	236	219	216	208	225	192	163	137	131	143	150	153	135	156	162	147	149	146	131	130	298	266	259	206	157.4
25-Jul	202	205	233	241	226	216	251	246	246	246	265	277	266	288	329	327	326	336	322	254	265	261	260	288	270.5
26-Jul	283	307	298	277	268	205	176	175	222	176	186	258	20	32	80	23	26	23	39	34	36	307	331	314	350.3
27-Jul	331	334	335	338	349	348	337	341	3	7	337	340	342	310	317	323	352	283	269	259	266	279	270	278	329.1
28-Jul	277	279	241	213	UO	174	121	193	147	209	205	248	322	287	38	33	22	57	44	320	259	231	267	249	264.7
29-Jul	227	247	258	266	244	209	166	147	124	145	164	169	182	199	200	217	151	189	186	224	206	239	216	183	184.0
30-Jul	218	262	346	230	269	230	165	150	166	194	215	234	248	89	19	16	16	17	21	327	264	248	209	268	294.2
31-Jul	213	246	231	209	221	199	165	179	154	174	171	189	212	188	179	178	193	175	190	207	214	177	166	166	184.5
256.8 256.9 262.1 258.7 269.4 249.1 252.1 203.3 185.7 208.6 197.2 240.4 221.6 232.8 236.1 147.7 223.0 210.6 254.5 267.9 282.0 276.5 271.9 261.9																									
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 10m (WD10) - deg

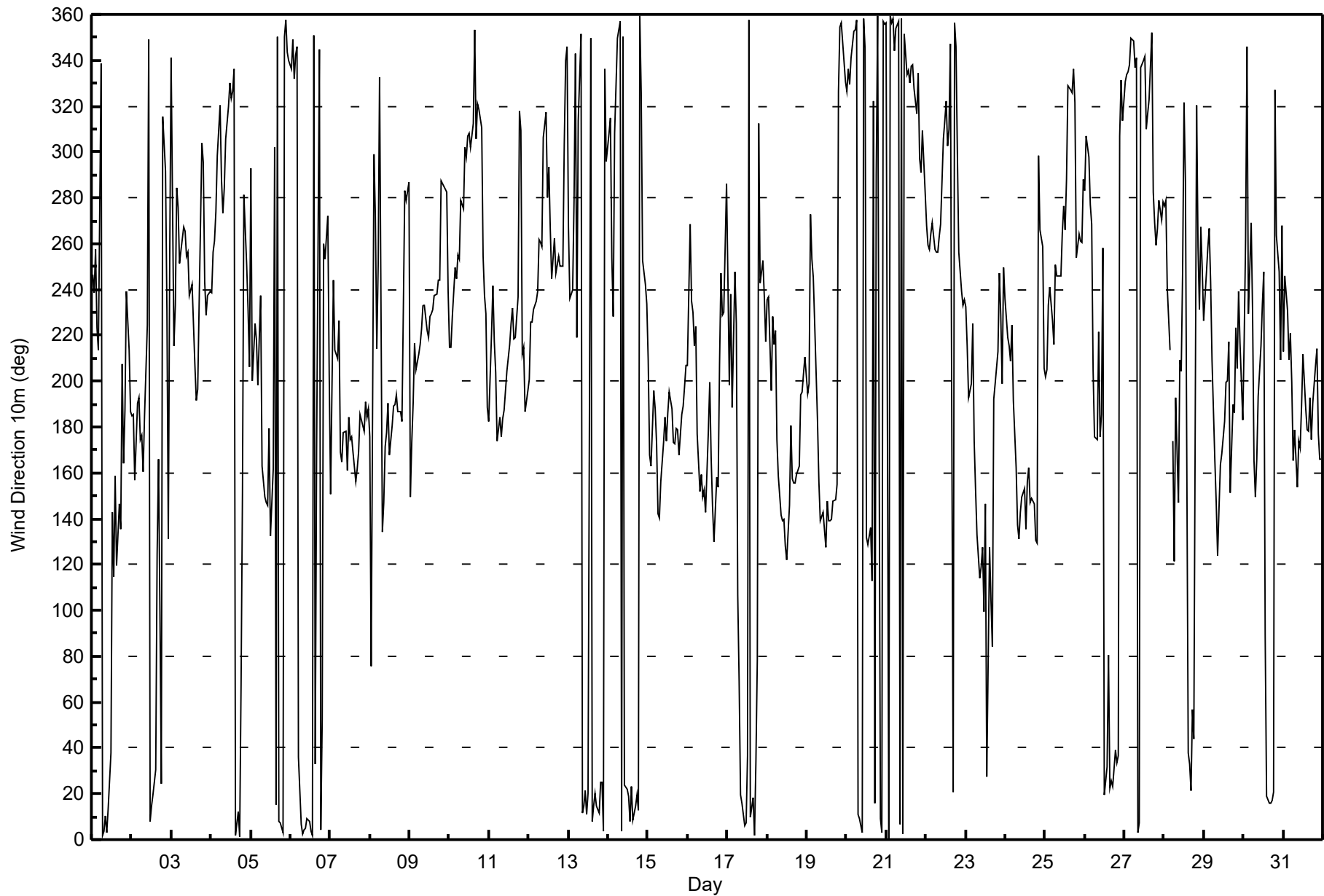
Fort McKay South - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 99 deg on Jul 20 19:00																									Hours in Service: 744 Hours of Data: 743 Hours of Missing Data: 1 Hours of Calibration: 0 Percent Operational Time: 99.9
Minimum Value: 7 deg on Jul 7 22:00																									
Percentiles: P ₁ = 11 P ₁₀ = 17 Q ₁ = 22 Median = 30 Q ₃ = 45 P ₉₀ = 67 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-Jul	27	39	29	48	28	62	30	24	38	48	74	89	51	41	68	38	34	64	42	20	42	32	30	10	89
2-Jul	16	30	55	37	32	13	16	24	31	47	88	28	28	23	40	36	84	49	27	83	37	66	26	57	88
3-Jul	37	73	58	49	49	24	29	41	40	38	46	40	36	27	27	18	22	35	29	30	46	50	29	31	73
4-Jul	28	33	34	32	25	23	33	28	36	32	27	28	26	22	26	24	20	21	89	90	44	39	47	29	90
5-Jul	55	39	39	34	23	50	79	19	18	23	30	32	54	56	84	23	27	23	17	17	15	16	22	25	84
6-Jul	18	21	20	18	17	28	20	19	20	19	22	22	22	25	27	57	65	30	16	48	45	53	72	94	94
7-Jul	98	26	20	34	34	20	30	19	25	30	25	41	45	42	32	24	18	15	22	10	8	7	13	17	98
8-Jul	32	76	44	70	81	87	74	29	30	23	31	19	19	21	21	17	19	16	15	14	23	77	34	39	87
9-Jul	67	17	24	25	20	25	25	26	31	33	29	27	29	29	29	34	32	31	39	44	43	37	37	35	67
10-Jul	28	31	21	34	31	27	38	34	47	35	41	36	33	33	35	48	33	30	24	20	19	7	21	34	48
11-Jul	17	38	36	36	28	11	14	17	19	17	20	25	26	29	30	27	26	31	61	32	22	26	13	14	61
12-Jul	19	25	29	27	28	41	30	28	27	54	72	35	39	40	40	37	37	43	31	30	29	49	26	19	72
13-Jul	43	19	18	75	16	58	54	43	21	23	23	22	33	28	28	23	25	23	21	24	21	19	20	18	75
14-Jul	20	30	58	25	45	89	20	23	27	32	34	32	33	30	29	30	27	29	22	25	19	16	12	16	89
15-Jul	30	79	36	29	23	67	16	18	27	32	41	83	41	52	57	26	27	22	16	14	15	22	13	15	83
16-Jul	42	45	31	52	28	19	33	19	24	24	28	40	60	73	64	46	49	27	15	44	37	51	54	67	73
17-Jul	56	26	60	43	35	36	65	44	71	61	55	32	48	34	61	52	40	43	30	84	34	36	25	45	84
18-Jul	48	23	27	31	25	39	21	21	17	21	26	31	33	53	49	31	20	16	12	10	12	12	10	12	53
19-Jul	14	19	89	45	27	39	23	22	17	25	20	31	25	40	86	42	21	18	25	86	19	18	15	44	89
20-Jul	16	11	30	16	14	17	19	22	27	37	35	40	67	43	41	33	44	50	99	86	21	18	21	21	99
21-Jul	20	20	20	19	18	17	20	22	23	26	25	30	29	27	30	22	22	23	22	20	24	40	15	22	40
22-Jul	13	26	46	51	53	27	29	27	42	47	71	46	42	51	70	40	27	78	48	19	35	32	56	38	78
23-Jul	46	74	29	61	50	18	30	35	32	44	48	39	84	89	44	75	92	56	18	16	13	71	65	40	92
24-Jul	48	31	20	28	45	15	20	22	29	26	23	18	26	21	21	20	26	21	30	31	69	78	43	64	78
25-Jul	48	40	59	34	28	55	86	41	31	29	38	33	31	34	17	22	23	47	51	55	15	27	30	21	86
26-Jul	23	28	27	33	74	98	80	85	55	34	26	59	87	26	79	23	24	23	25	26	69	24	15	18	98
27-Jul	17	16	14	15	19	17	15	22	31	26	37	30	35	26	27	35	27	37	24	22	18	16	24	88	88
28-Jul	78	84	55	44	UO	13	50	70	71	73	54	63	41	82	57	56	68	44	41	39	26	53	63	37	84
29-Jul	63	32	46	66	52	50	70	25	29	27	30	56	75	83	55	47	73	48	17	22	72	38	53	70	83
30-Jul	69	50	54	50	60	67	58	18	29	25	34	51	69	92	24	21	22	20	15	29	39	49	72	58	92
31-Jul	27	51	42	43	58	28	13	16	22	27	25	53	39	37	25	27	24	25	16	19	33	31	83	91	91
98 84 89 75 81 98 86 85 71 73 88 89 87 92 86 75 92 78 99 90 72 78 83 94																									
Diurnal Maximum																									
UO - Unstable Operation																									



Wood Buffalo Environmental Association
Hourly Averages

Wind Direction 10m (WD10) - deg
Fort McKay South - July 2025





WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

**AMS14
ANZAC
JULY 2025**

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

August 29, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - ANZAC (AMS14)
JULY 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	35	38	99.6	-	-	7.2	0	1.6	0
TRS(ppb) Average	703	38	41	99.6	10.2	1	5.2	-	0.4	-
THC(ppm) Average	706	35	38	99.6	-	-	2.2	-	2	-
NMHC(ppm) Average	706	35	38	99.6	-	-	0.054	-	0.002	-
CH4(ppm) Average	706	35	38	99.6	-	-	2.2	-	2	-
NO2(ppb) Average	703	37	41	99.46	-	-	8.2	0	2.7	-
NO(ppb) Average	703	37	41	99.46	-	-	5.5	-	0.6	-
NOX(ppb) Average	703	37	41	99.46	-	-	12.3	-	2.9	-
O3(ppb) Average	708	34	36	99.73	-	-	57.5	0	36.1	-
PM2.5(ug/m3) Average	720	1	24	96.91	-	-	291.1	0	132.8	3
AT 2m(C) Average	708	0	36	95.16	-	-	32.2	-	23	-
RH(%) Average	708	0	36	95.16	-	-	99.4	-	80.8	-
WS(km/h) Average	744	0	0	100	-	-	32	-	22	-
WD(deg) Average	744	0	0	100	-	-	-	-	-	-
Leaf Wetness (% of range) Average	744	0	0	100	-	-	56.5	-	14	-

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

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - ANZAC (AMS14)
JULY 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	0.44	0.8	-	0	0	0.1	0.2	0.4	1	7.2
TRS(ppb) Average	703	0.18	0.2	-	0.1	0.1	0.1	0.2	0.2	0.3	5.2
THC(ppm) Average	706	1.93	0	-	1.9	1.9	1.9	1.9	1.9	2	2.2
NMHC (ppm) Average	706	0	0.002	-	0	0	0	0	0	0	0.054
CH4(ppm) Average	706	1.93	0	-	1.9	1.9	1.9	1.9	1.9	2	2.2
NO2(ppb) Average	703	1.12	1	-	0.2	0.4	0.5	0.8	1.4	2.3	8.2
NO(ppb) Average	703	0.18	0.4	-	0	0	0	0.1	0.1	0.4	5.5
NOX(ppb) Average	703	1.3	1.2	-	0.2	0.4	0.6	0.9	1.6	2.7	12.3
O3(ppb) Average	708	25.34	10.8	-	1.3	11.6	17.8	25.5	32.1	39.5	57.5
PM2.5(ug/m3) Average	720	18.09	33.6	-	1.1	2.5	4	7.8	16.4	32.1	291.1
Temperature 2 m (C) Average	708	16.53	6	-	1.1	8.8	12.2	16.5	20.6	24.8	32.2
Relative Humidity (%) Average	708	63.22	21.1	-	25	33.2	46.8	62.3	83	92	99.4
Wind Speed 20 m (km/h) Average	744	10.8	6	-	1	5	6	9	14	19	32
Wind Direction 20 m (deg) Average	744	243.5	-	-	-	-	-	-	-	-	-
Leaf Wetness (% of range) Average	744	3.26	9.1	-	0	0	0	0	0	12	56.5

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - ANZAC (AMS14)
JULY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
SO2, THC/NMHC/CH4	03 Jul 2025 08:00	03 Jul 2025 08:00	1	Maintenance - verify daily QA response
TRS	03 Jul 2025 11:00	03 Jul 2025 11:00	1	Maintenance - verify daily QA response
TRS	08 Jul 2025 11:00	08 Jul 2025 12:00	2	Maintenance - WBEA internal audit
NO2	03 Jul 2025 09:00	03 Jul 2025 09:00	1	Maintenance - verify daily QA response
NO2	08 Jul 2025 11:00	08 Jul 2025 13:00	3	Maintenance - WBEA internal audit
O3	03 Jul 2025 10:00	03 Jul 2025 10:00	1	Maintenance - verify daily QA response
O3	08 Jul 2025 14:00	08 Jul 2025 14:00	1	Maintenance - WBEA internal audit
SO2	08 Jul 2025 12:00	08 Jul 2025 13:00	2	Maintenance - WBEA internal audit
THC/NMHC/CH4	08 Jul 2025 13:00	08 Jul 2025 14:00	2	Maintenance - WBEA internal audit
PM2.5	02 Jul 2025 13:00	03 Jul 2025 10:00	22	Unstable Operation - flatline in analyzer output signal
PM2.5	08 Jul 2025 14:00	08 Jul 2025 14:00	1	Maintenance - WBEA internal audit
Relative Humidity, Temperature	01 Jul 2025 01:00	02 Jul 2025 11:00	35	DAS Failure - data not recorded
Relative Humidity, Temperature	02 Jul 2025 12:00	02 Jul 2025 12:00	1	Maintenance - reinitiated normal operations



Wood Buffalo Environmental Association

Summary of Hour Averages

Sulphur Dioxide (SO₂) - ppb

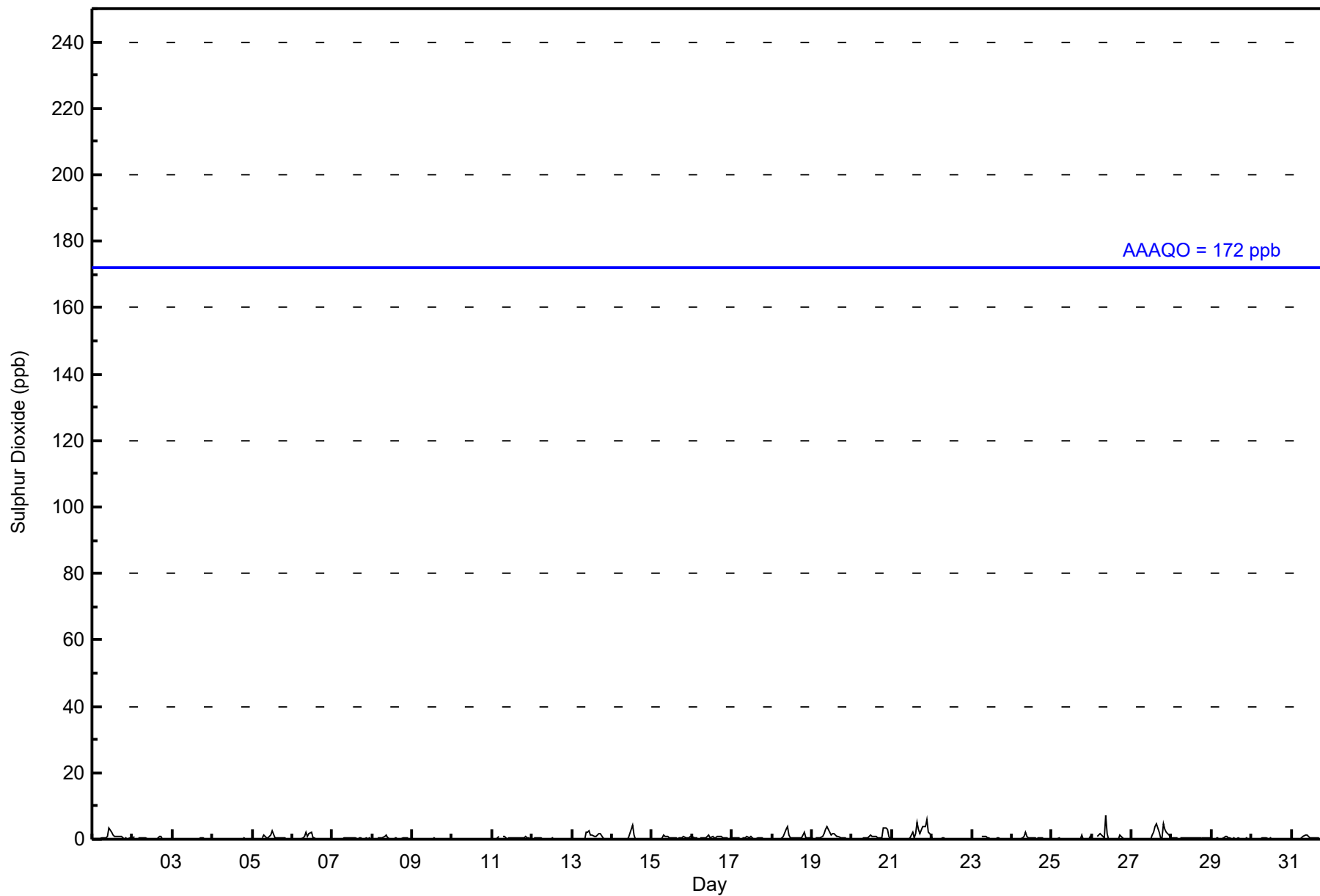
Anzac - July 2025

Number of Exceedences (AAAQO): Maximum Value: 7.2 ppb on Jul 26 09:00																			1-hr: 0 24-hr: 0 Maximum Daily Average: 1.6 ppb on Jul 21						Hours in Service: 744 Hours of Data: 706		
Minimum Value: 0.0 ppb on Jul 2 21:00 Maximum Diurnal Average: 0.9 ppb at hour 9 Monthly Average: 0.44 ppb																			Minimum Daily Average: 0.1 ppb on Jul 10 Minimum Diurnal Average: 0.1 ppb at hour 3 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.4 P ₉₀ = 1.0 P ₉₉ = 3.9						Hours of Missing Data: 38 Hours of Calibration: 35 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-Jul	0.0	Z	0.1	0.1	0.1	0.3	0.3	0.4	0.4	0.9	3.4	2.3	1.2	1.0	0.8	0.8	0.7	0.6	0.3	0.2	0.3	0.2	0.2	0.2	0.6	3.4	
2-Jul	0.2	0.7	Z	0.3	0.2	0.2	0.2	0.4	0.3	0.2	0.1	0.2	0.1	0.0	0.1	0.3	1.0	0.9	0.1	0.0	0.0	0.0	0.0	0.0	0.2	1.0	
3-Jul	0.0	0.0	0.0	Z	0.0	0.0	0.0	M	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.4	0.2	0.0	0.0	0.1	0.1	0.1	0.1	0.4	
4-Jul	0.0	0.1	0.1	0.1	Z	0.1	0.2	0.1	0.0	0.1	0.0	0.0	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.2	0.1	0.0	0.1	0.1	0.1	0.2	
5-Jul	0.0	0.1	0.1	0.1	0.0	Z	0.4	1.2	0.5	0.6	1.1	1.4	2.4	0.3	0.3	0.5	0.4	0.4	0.2	0.2	0.2	0.2	0.2	0.0	0.5	2.4	
6-Jul	Z	0.2	0.1	0.1	0.1	0.1	0.6	0.8	2.2	0.9	1.8	1.9	0.6	0.3	0.2	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.1	0.1	0.5	2.2	
7-Jul	0.0	Z	0.1	0.1	0.0	0.1	0.1	0.3	0.5	0.5	0.3	0.4	0.6	0.4	0.3	0.2	0.6	0.4	0.1	0.2	0.4	0.1	0.4	0.1	0.3	0.6	
8-Jul	0.0	0.1	Z	0.2	0.4	0.5	0.6	0.8	1.2	0.4	0.3	M	M	0.3	0.3	0.2	0.1	0.1	0.3	0.3	0.3	0.2	0.2	0.1	0.3	1.2	
9-Jul	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	0.3	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.2	0.1	0.1	0.3	
10-Jul	0.0	0.1	0.1	0.0	Z	0.0	0.0	0.0	0.0	0.0	C	C	C	C	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.2	0.1	0.2	
11-Jul	0.1	0.0	0.1	0.4	0.7	Z	0.9	0.7	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.3	0.3	0.9	0.5	0.2	0.2	0.3	0.9	
12-Jul	Z	0.3	0.4	0.3	0.5	0.5	0.2	0.1	0.1	0.1	0.1	0.2	0.3	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.5	
13-Jul	0.1	Z	0.1	0.1	0.2	0.1	0.1	0.1	2.3	2.2	2.5	1.5	1.1	0.9	0.7	1.5	1.6	1.9	0.4	0.1	0.0	0.0	0.0	0.0	0.8	2.5	
14-Jul	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.5	2.9	4.2	1.4	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.4	4.2	
15-Jul	0.0	0.0	0.0	Z	0.0	0.1	0.2	1.1	0.9	0.8	0.6	0.3	0.2	0.3	0.3	0.2	0.3	0.3	0.4	0.9	0.4	0.2	0.4	0.8	0.4	1.1	
16-Jul	0.9	0.5	0.3	0.3	Z	0.3	0.5	0.5	0.6	0.7	1.1	0.6	0.7	0.6	0.6	0.9	1.0	0.9	0.4	0.3	0.3	0.3	0.2	0.2	0.5	1.1	
17-Jul	0.3	0.3	0.3	0.3	0.5	Z	0.3	0.3	0.5	0.7	0.4	0.7	0.5	0.1	0.2	0.2	0.3	0.3	0.3	0.1	0.2	0.2	0.1	0.0	0.3	0.7	
18-Jul	Z	0.1	0.1	0.1	0.1	0.0	0.4	1.0	2.8	3.7	1.1	0.6	0.6	0.5	0.4	0.4	0.4	0.3	0.4	2.0	0.6	0.4	0.4	0.5	0.7	3.7	
19-Jul	0.5	Z	0.5	0.5	0.4	0.5	0.7	1.7	2.8	3.7	3.0	1.1	1.5	1.6	1.4	1.0	0.6	0.3	0.2	0.3	0.2	0.2	0.1	0.2	1.0	3.7	
20-Jul	0.1	0.1	Z	0.1	0.1	0.2	0.1	0.2	0.3	0.5	0.7	1.1	0.8	0.7	0.7	0.6	0.5	0.4	0.3	3.3	3.2	2.9	0.9	0.2	0.8	3.3	
21-Jul	0.2	0.1	0.1	Z	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.3	2.2	0.5	1.7	4.9	3.0	1.8	3.9	3.7	3.7	5.8	2.1	1.2	1.6	5.8	
22-Jul	0.1	0.1	0.0	0.1	Z	0.2	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.4	
23-Jul	0.1	0.1	0.1	0.1	0.1	Z	0.7	1.0	0.9	0.4	0.3	0.2	0.1	0.1	0.1	0.2	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.0	
24-Jul	Z	0.0	0.0	0.0	0.0	0.0	0.4	0.9	2.0	0.7	0.4	0.4	0.4	0.2	0.2	0.2	0.2	0.3	0.3	0.1	0.0	0.0	0.0	0.0	0.3	2.0	
25-Jul	0.0	Z	0.0	0.0	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	0.1	1.2	0.1	0.1	0.1	0.2	0.7	0.1	1.2	
26-Jul	0.2	0.1	Z	0.9	1.2	1.6	1.1	0.5	7.2	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.6	0.0	0.0	0.0	0.1	0.1	0.7	7.2	
27-Jul	0.1	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.2	1.5	2.0	4.0	4.7	2.1	0.2	0.3	4.8	2.8	2.3	1.4	0.4	1.2	4.8	
28-Jul	0.4	0.3	0.2	0.3	Z	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.3	0.2	0.2	0.3	0.3	0.3	0.2	0.3	0.4	
29-Jul	0.1	0.1	0.1	0.4	0.6	Z	0.4	0.5	0.7	1.1	0.6	0.3	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.3	0.1	0.1	0.3	1.1	
30-Jul	Z	0.0	0.1	0.1	0.1	0.1	0.2	0.3	0.4	0.5	0.2	0.6	0.1	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.6	
31-Jul	0.0	Z	0.1	0.1	0.0	0.1	0.4	0.9	1.1	1.1	0.7	0.5	0.3	0.3	0.4	0.6	0.4	0.1	0.1	0.1	0.1	0.1	0.0	0.3	0.3	1.1	
0.1 0.1 0.1 0.2 0.2 0.2 0.3 0.5 0.9 0.7 0.7 0.6 0.7 0.4 0.5 0.6 0.5 0.4 0.4 0.6 0.5 0.5 0.3 0.2																										Diurnal Average	
0.9 0.7 0.5 0.9 1.2 1.6 1.1 1.7 7.2 3.7 3.4 2.9 4.2 2.0 4.0 4.9 3.0 1.9 3.9 4.8 3.7 5.8 2.1 1.2																										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
Anzac - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Anzac - July 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
Anzac - July 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	31	14	3	7	13	30	52	74	37	38	46	55	90	106	46	64	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	31	14	3	7	13	30	52	74	37	38	46	55	90	106	46	64	706

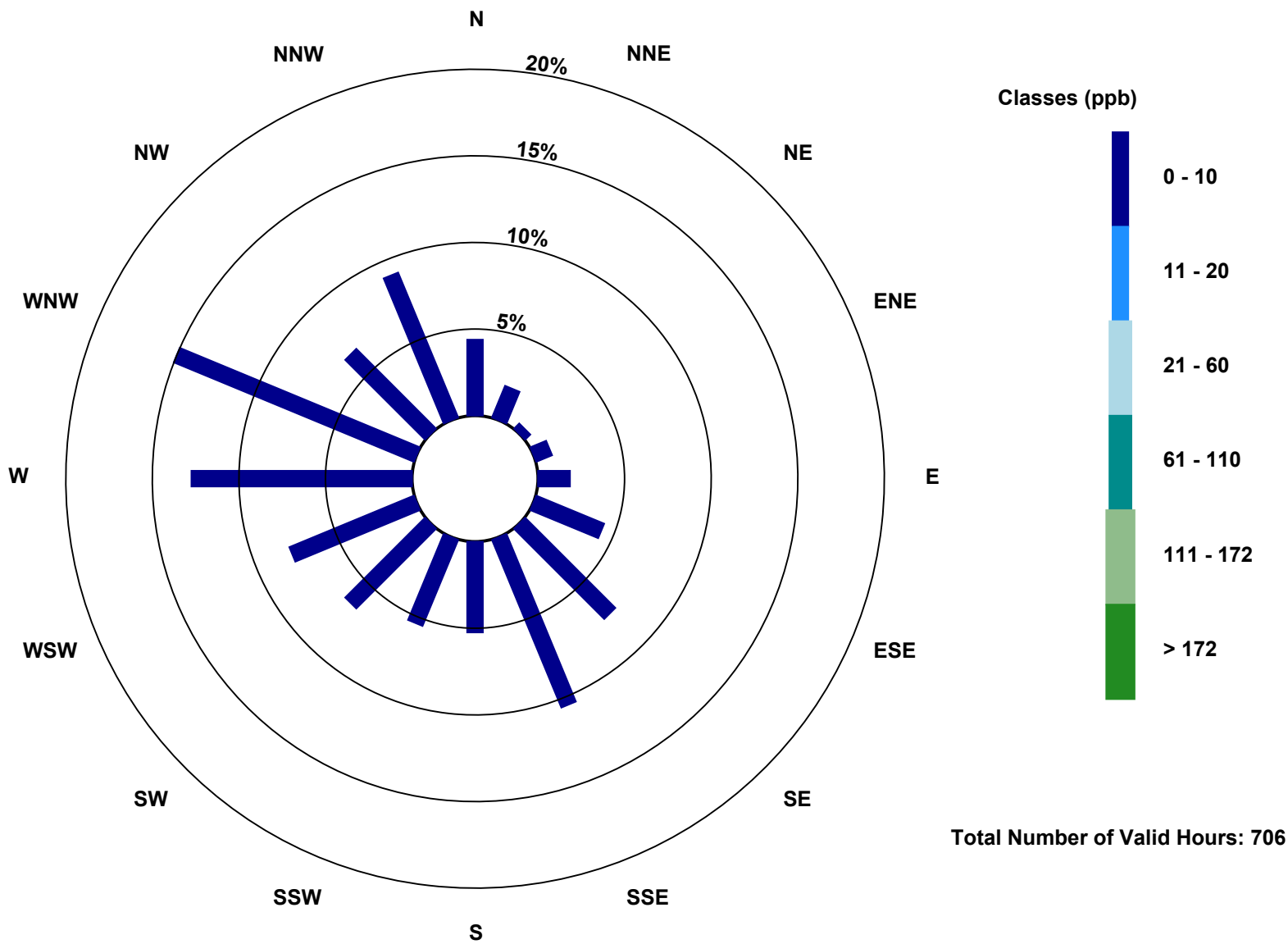
Total Number of Valid Hours: 706

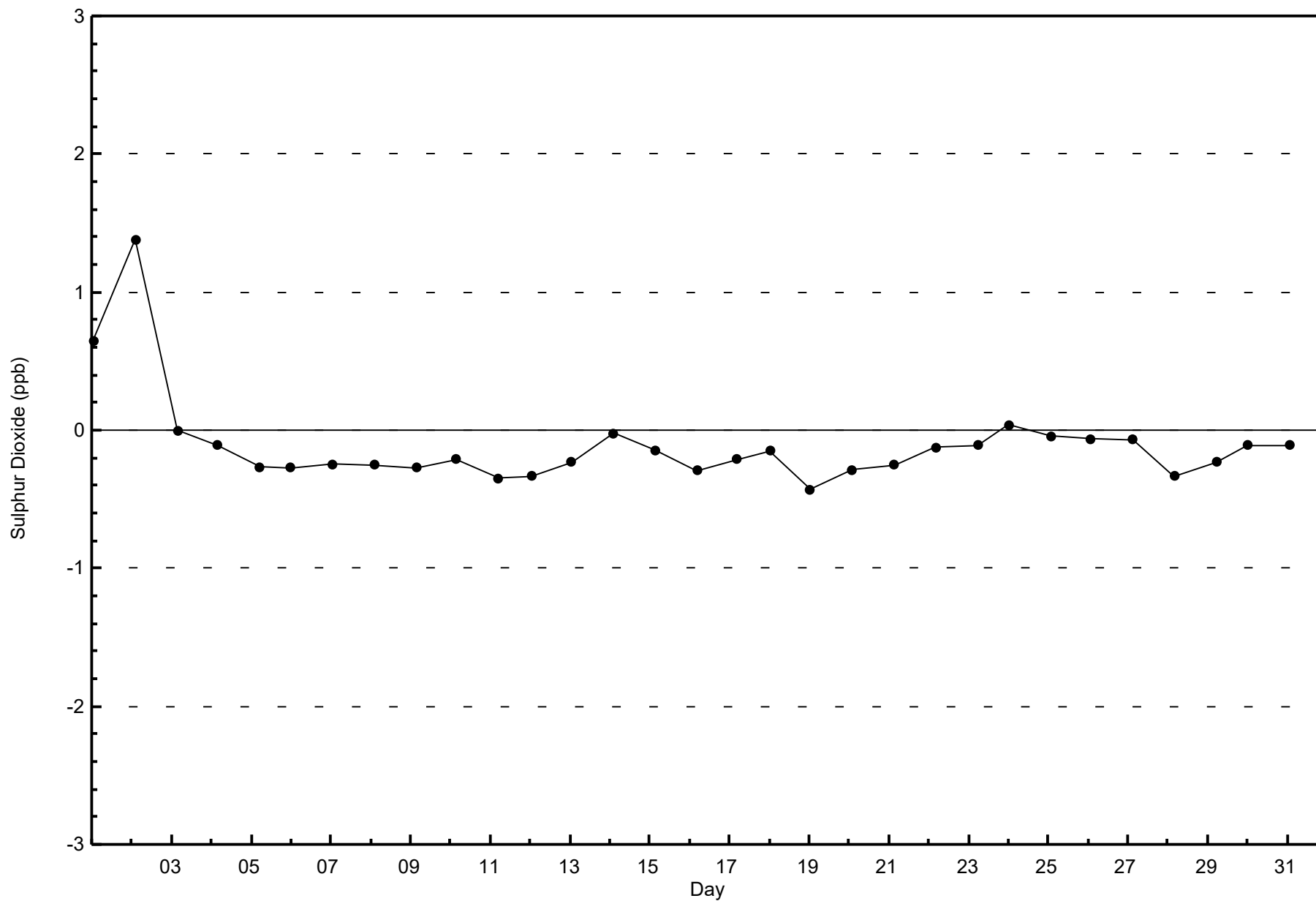
Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Sulphur Dioxide (SO₂) - ppb
Anzac

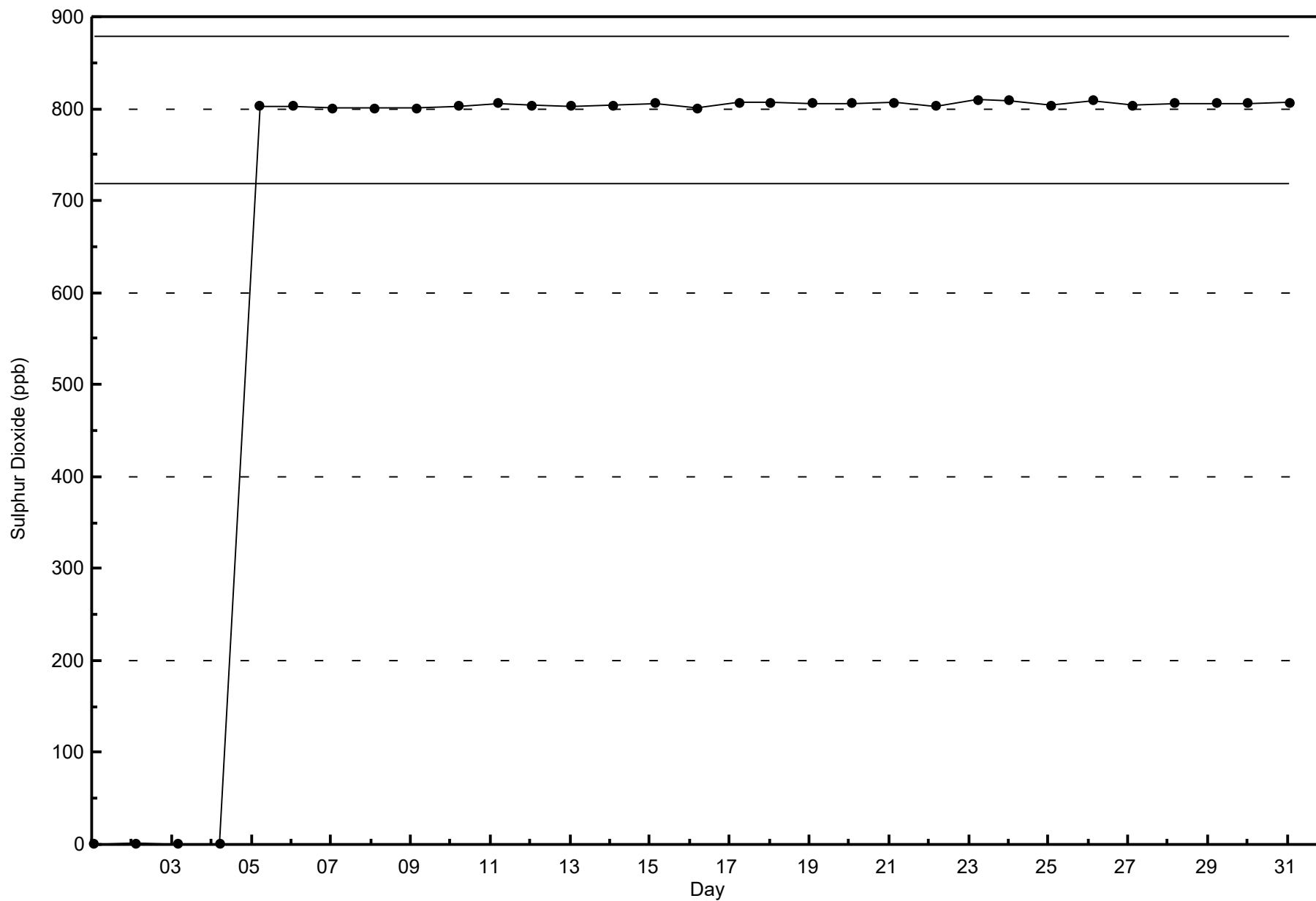






Wood Buffalo Environmental Association
Span Responses

Sulphur Dioxide (SO₂) - ppb
Anzac - July 2025





Wood Buffalo Environmental Association

Summary of 30-Minute Averages

Total Reduced Sulphur (TRS) - ppb

Anzac - July 2025

Number of Exceedences (AAAQG): 30-Min: 1																				Periods in Service: 1488						
Maximum Value: 10.2 ppb on Jul 23 12:00										Maximum Daily Average: 0.4 ppb on Jul 23										Periods of Valid Data: 1403						
Minimum Value: 0.1 ppb on Jul 2 20:30										Minimum Daily Average: 0.1 ppb on Jul 22										Periods of Invalid Data: 85						
Maximum Diurnal Average: 0.3 ppb at hour 12										Minimum Diurnal Average: 0.1 ppb at hour 16										Periods of Calibration: 76						
Monthly Average: 0.18 ppb										Percentiles: P ₁ = 0.1 P ₁₀ = 0.1 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.2 P ₉₀ = 0.3 P ₉₉ = 0.6										Percent Operational Time: 99.4						
Day	Period Ending At (MST)																								Daily Average	Daily Maximum
	00:30 01:00	01:30 02:00	02:30 03:00	03:30 04:00	04:30 05:00	05:30 06:00	06:30 07:00	07:30 08:00	08:30 09:00	09:30 10:00	10:30 11:00	11:30 12:00	12:30 13:00	13:30 14:00	14:30 15:00	15:30 16:00	16:30 17:00	17:30 18:00	18:30 19:00	19:30 20:00	20:30 21:00	21:30 22:00	22:30 23:00	23:30 24:00		
1-Jul	0.2 0.2	0.2 0.2	Z SP	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.4 0.5	0.5 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 0.1	0.2 0.2	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 0.5
2-Jul	0.2 0.2	0.2 0.2	0.2 0.2	Z SP	0.2 0.2	0.2 0.2	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 PF	0.1 0.1	0.1 0.2	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	0.1 0.2	0.1 0.1	0.1 0.1	0.1 0.2
3-Jul	0.1 0.1	0.2 0.1	0.1 0.2	0.1 0.1	Z SP	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 M	M M	M 0.3	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	0.1 0.2	0.1 0.2	0.2 0.2	0.1 0.3
4-Jul	0.2 0.2	0.2 0.1	0.2 0.2	0.1 0.2	0.2 0.2	Z SP	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 0.1	0.1 0.1	0.1 0.1	0.2 0.3	0.4 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.4
5-Jul	Z SP	0.2 0.1	0.1 0.1	0.1 0.1	0.1 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	0.2 0.2	0.4 0.2	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 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	0.1 0.4
6-Jul	0.4 0.5	Z SP	0.2 0.2	0.1 0.1	0.2 0.2	0.1 0.2	0.3 0.4	0.6 0.5	0.4 0.3	0.2 0.1	0.2 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 0.1	0.1 0.2	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.3 0.2	0.2 0.2	0.6 0.2
7-Jul	0.2 0.2	0.3 0.2	Z SP	0.4 0.3	0.3 0.3	0.3 0.2	0.1 0.1	0.2 0.1	0.1 0.1	0.1 0.1	C C	C C	C C	C C	C C	C C	C C	0.7 0.2	0.2 0.2	0.1 0.2	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	-- 0.2	0.7 0.2
8-Jul	0.1 0.1	0.1 0.1	0.1 0.1	Z SP	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	M M	M M	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	0.2 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
9-Jul	0.1 0.1	0.2 0.1	0.1 0.1	0.2 0.2	Z SP	0.2 0.2	0.2 0.2	0.2 2.6	0.3 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 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.2 0.2	2.6 0.2
10-Jul	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	Z SP	0.2 0.2	0.2 0.2	0.2 0.2	0.2 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 0.1	0.1 0.1	0.1 0.2	0.1 0.1	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2
11-Jul	Z SP	0.2 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	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	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	0.2 0.2
12-Jul	0.2 0.2	Z SP	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	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 0.2	0.2 0.2	0.1 0.2	0.2 0.1	0.1 0.2	0.1 0.1	0.2 0.1	0.2 0.1	0.2 0.2
13-Jul	0.1 0.1	0.1 0.1	Z SP	0.3 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.3	0.3 0.3	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 0.2	0.2 0.2	0.2 0.2	0.2 0.3	0.2 0.1	0.1 0.1	0.2 0.2	0.1 0.2	0.1 0.1	0.3 0.2
14-Jul	0.1 0.1	0.1 0.1	0.1 0.1	Z SP	0.3 0.4	0.5 0.5	0.4 0.4	0.4 0.3	0.2 0.1	0.1 0.1	0.3 0.3	0.2 0.2	0.2 0.2	0.1 0.1	0.1 0.1	0.1 0.1	0.1 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	0.5 0.2
15-Jul	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	Z SP	0.2 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 0.1	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	0.2 0.2	0.1 0.2	0.2 0.2



Wood Buffalo Environmental Association

Summary of 30-Minute Averages

Total Reduced Sulphur (TRS) - ppb

Anzac - July 2025

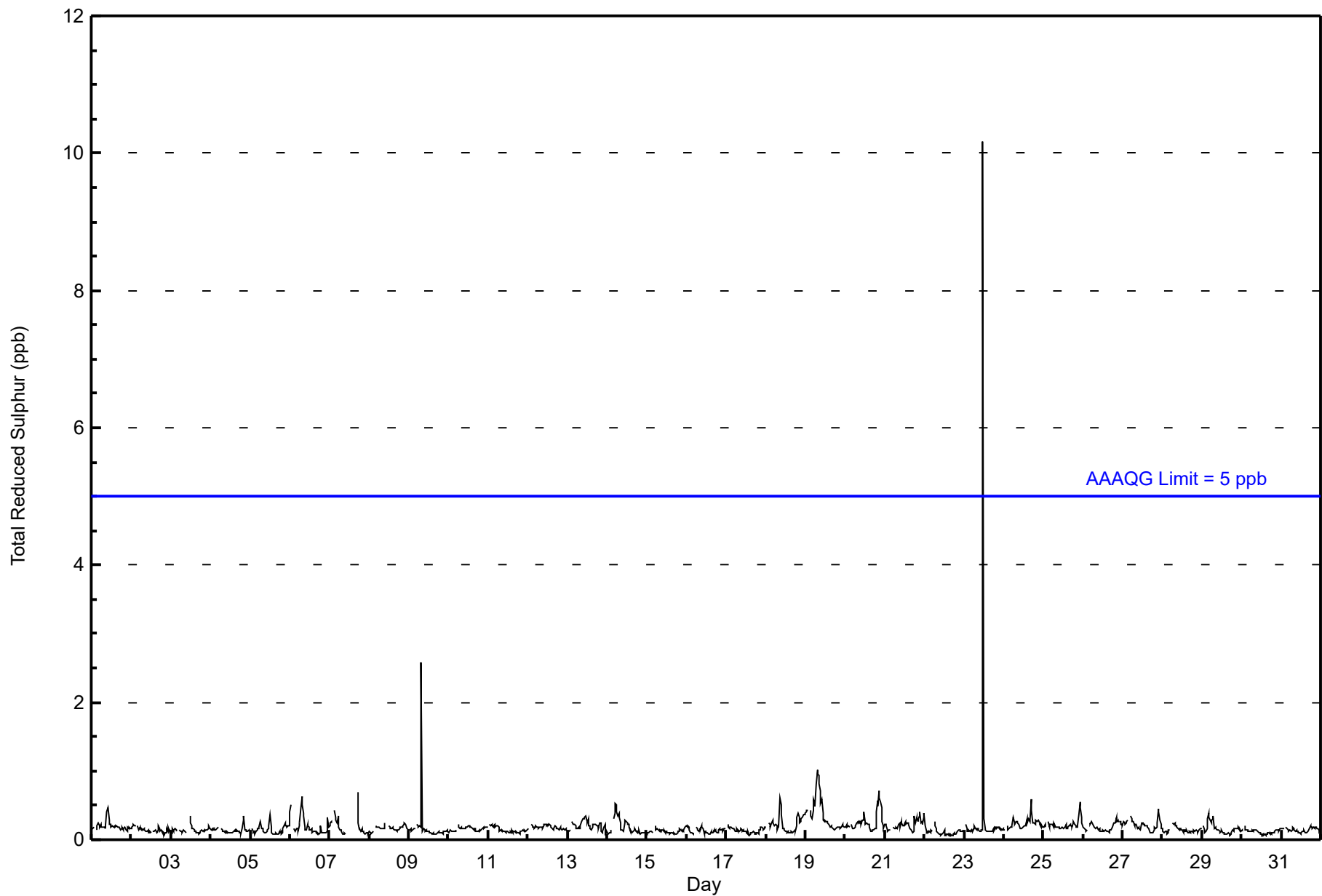
Day	Period Ending At (MST)																								Daily Average	Daily Maximum
	00:30 01:00	01:30 02:00	02:30 03:00	03:30 04:00	04:30 05:00	05:30 06:00	06:30 07:00	07:30 08:00	08:30 09:00	09:30 10:00	10:30 11:00	11:30 12:00	12:30 13:00	13:30 14:00	14:30 15:00	15:30 16:00	16:30 17:00	17:30 18:00	18:30 19:00	19:30 20:00	20:30 21:00	21:30 22:00	22:30 23:00	23:30 24:00		
16-Jul	0.2 0.2	0.2 0.2	0.1 0.1	0.1 0.1	0.1 0.1	Z SP	0.2 0.2	0.1 0.1	0.2 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	0.1 0.1	0.1 0.1	0.1 0.1	0.2 0.1	0.1 0.2	0.1 0.2	0.2 0.2	0.1 0.2	
17-Jul	Z SP	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.1	0.1 0.2	0.1 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 0.1	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	
18-Jul	0.2 0.2	Z SP	0.2 0.2	0.2 0.2	0.3 0.2	0.2 0.2	0.2 0.2	0.1 0.2	0.2 0.6	0.5 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 0.1	0.1 0.2	0.1 0.4	0.3 0.2	0.3 0.2	0.3 0.3	0.3 0.3	0.4 0.4	0.2 0.3	
19-Jul	0.4 0.4	0.4 0.4	Z SP	0.4 0.3	0.3 0.4	0.6 0.5	0.5 0.8	1.0 1.0	0.9 0.8	0.7 0.5	0.6 0.4	0.3 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 0.2	0.2 0.2	0.2 0.2	0.4 0.2	
20-Jul	0.2 0.2	0.2 0.2	0.2 0.2	Z SP	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 0.3	0.3 0.4	0.3 0.2	0.2 0.2	0.2 0.2	0.2 0.1	0.1 0.1	0.1 0.1	0.2 0.2	0.4 0.6	0.5 0.7	0.6 0.5	0.5 0.3	0.2 0.2	0.3 0.2	
21-Jul	0.2 0.2	0.2 0.1	0.1 0.1	0.1 0.1	Z SP	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.3 0.2	0.3 0.2	0.2 0.3	0.2 0.3	0.2 0.2	0.2 0.2	0.2 0.1	0.1 0.1	0.4 0.2	0.3 0.3	0.3 0.3	0.4 0.4	0.2 0.3	0.2 0.3	0.2 0.3	0.2 0.3	
22-Jul	0.4 0.2	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	Z SP	0.3 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	0.1 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	
23-Jul	Z SP	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 0.1	0.2 0.2	0.1 0.1	0.1 0.1	0.1 10.2	0.3 0.2	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.2	0.1 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.1 0.2	0.1 0.2	0.4 0.2	
24-Jul	0.1 0.1	Z SP	0.2 0.1	0.2 0.2	0.2 0.2	0.2 0.3	0.3 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	0.3 0.2	0.3 0.3	0.3 0.6	0.4 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 0.2	
25-Jul	0.2 0.2	0.2 0.2	Z SP	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 0.2	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 0.4	0.5 0.5	0.3 0.2	0.2 0.2	
26-Jul	0.2 0.2	0.2 0.1	0.1 0.2	Z SP	0.3 0.2	0.3 0.3	0.2 0.2	0.2 0.2	0.2 0.2	0.1 0.1	0.2 0.1	0.1 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	0.3 0.3	0.3 0.3	0.3 0.3	0.2 0.2	0.2 0.2	0.2 0.2	
27-Jul	0.2 0.3	0.2 0.2	0.2 0.3	0.3 0.3	Z SP	0.3 0.3	0.3 0.3	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 0.2	0.2 0.2	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 0.4	0.4 0.3	0.2 0.2	0.2 0.2	
28-Jul	0.2 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	Z SP	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	0.1 0.1	0.1 0.1	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	
29-Jul	Z SP	0.2 0.1	0.1 0.1	0.2 0.3	0.4 0.3	0.3 0.2	0.3 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 0.1	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 0.1	0.2 0.1	0.2 0.1	
30-Jul	0.2 0.1	Z SP	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	0.1 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	0.2 0.2	0.2 0.2	
31-Jul	0.2 0.2	0.2 0.2	Z SP	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 0.1	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 0.1	0.1 0.2	0.1 0.2	
																								Diurnal Average		
																								Diurnal Maximum		
Z - zerospan C - Calibration M - Maintenance PF - Power Failure SP - Span																										
Alberta Ambient Air Quality Guideline (AAAQG): 30-Min: 5 ppb																										

Maximum Value: 5.2 ppb on Jul 23 12:00																		Maximum Daily Average: 0.4 ppb on Jul 23										Hours in Service: 744	
Minimum Value: 0.1 ppb on Jul 22 11:00																		Minimum Daily Average: 0.1 ppb on Jul 22										Hours of Data: 703	
Maximum Diurnal Average: 0.4 ppb at hour 12																		Minimum Diurnal Average: 0.1 ppb at hour 16										Hours of Missing Data: 41	
Monthly Average: 0.18 ppb																		Percentiles: P ₁ = 0.1 P ₁₀ = 0.1 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.2 P ₉₀ = 0.3 P ₉₉ = 0.6										Hours of Calibration: 38	
																												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-Jul	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.4	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				
2-Jul	0.2	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	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1				
3-Jul	0.1	0.1	0.2	0.1	Z	0.1	0.1	0.1	0.1	0.1	M	0.5	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1				
4-Jul	0.2	0.2	0.2	0.1	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	0.2	0.2	0.1	0.1	0.1				
5-Jul	Z	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2				
6-Jul	0.5	Z	0.2	0.1	0.2	0.2	0.3	0.6	0.4	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	0.3	0.2				
7-Jul	0.2	0.3	Z	0.4	0.3	0.3	0.1	0.1	0.1	0.1	C	C	C	C	C	C	C	0.5	0.2	0.1	0.1	0.1	0.1	0.1	--				
8-Jul	0.1	0.1	0.1	Z	0.2	0.2	0.2	0.2	0.2	0.2	M	M	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2				
9-Jul	0.1	0.1	0.1	0.2	Z	0.2	0.2	1.4	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				
10-Jul	0.1	0.1	0.1	0.1	0.1	Z	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	0.2				
11-Jul	Z	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	0.1	0.1	0.1	0.1				
12-Jul	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	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1				
13-Jul	0.1	0.1	Z	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	0.2	0.2	0.2	0.2	0.1	0.2	0.1				
14-Jul	0.1	0.1	0.1	Z	0.3	0.5	0.4	0.4	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	0.1	0.1	0.1	0.1				
15-Jul	0.1	0.1	0.1	0.1	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	0.2	0.1	0.1	0.2	0.1				
16-Jul	0.2	0.2	0.1	0.1	0.1	Z	0.2	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	0.2	0.1	0.1	0.2				
17-Jul	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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2				
18-Jul	0.2	Z	0.2	0.2	0.3	0.2	0.2	0.2	0.4	0.4	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.4	0.3	0.3	0.3	0.4	0.2				
19-Jul	0.4	0.4	Z	0.4	0.4	0.6	0.7	1.0	0.9	0.6	0.5	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				
20-Jul	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.5	0.6	0.6	0.4	0.2	0.3				
21-Jul	0.2	0.2	0.1	0.1	Z	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.3	0.3	0.3	0.4	0.3	0.3	0.2				
22-Jul	0.3	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	0.1	0.1	0.1	0.1				
23-Jul	Z	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	5.2	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				
24-Jul	0.1	Z	0.2	0.2	0.2	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.3	0.2	0.3	0.3	0.3	0.2	0.2	0.2				
25-Jul	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	0.3	0.2	0.2	0.3	0.5	0.3	0.2				
26-Jul	0.2	0.2	0.1	Z	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	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2				
27-Jul	0.2	0.2	0.3	0.3	Z	0.3	0.3	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	0.3	0.3	0.2	0.2				
28-Jul	0.1	0.1	0.1	0.1	0.1	Z	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	0.1				
29-Jul	Z	0.2	0.1	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	0.2	0.2	0.2	0.1	0.2				
30-Jul	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	0.2	0.1				
31-Jul	0.2	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	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1				
																								Diurnal Average					
																								Diurnal Maximum					
Z - zerospan C - Calibration M - Maintenance																													
Alberta Ambient Air Quality Objective (AAAQO): 1-hour NA 24-hr NA																													



Wood Buffalo Environmental Association
Hourly Averages

Total Reduced Sulphur (TRS) - ppb
Anzac - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Reduced Sulphur (TRS) - ppb
Anzac - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	702	99.86	99.86
3 - 4	0	0.00	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: 703

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Total Reduced Sulphur (TRS) - ppb
Anzac - July 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	32	13	3	7	13	29	53	74	36	41	47	49	90	108	45	62	702
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	1	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	32	13	3	7	13	29	53	74	36	41	47	49	91	108	45	62	703

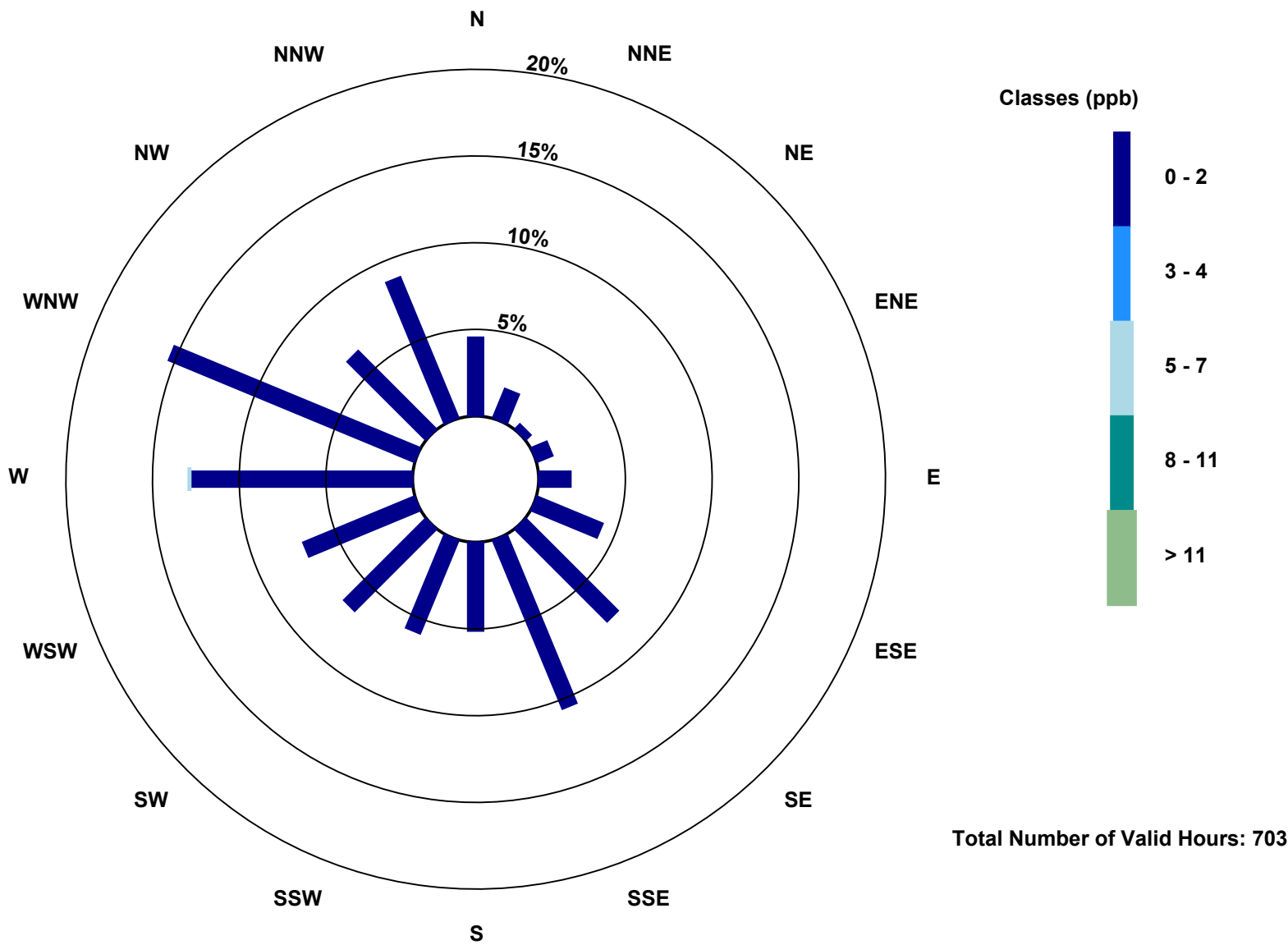
Total Number of Valid Hours: 703

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Total Reduced Sulphur (TRS) - ppb
Anzac



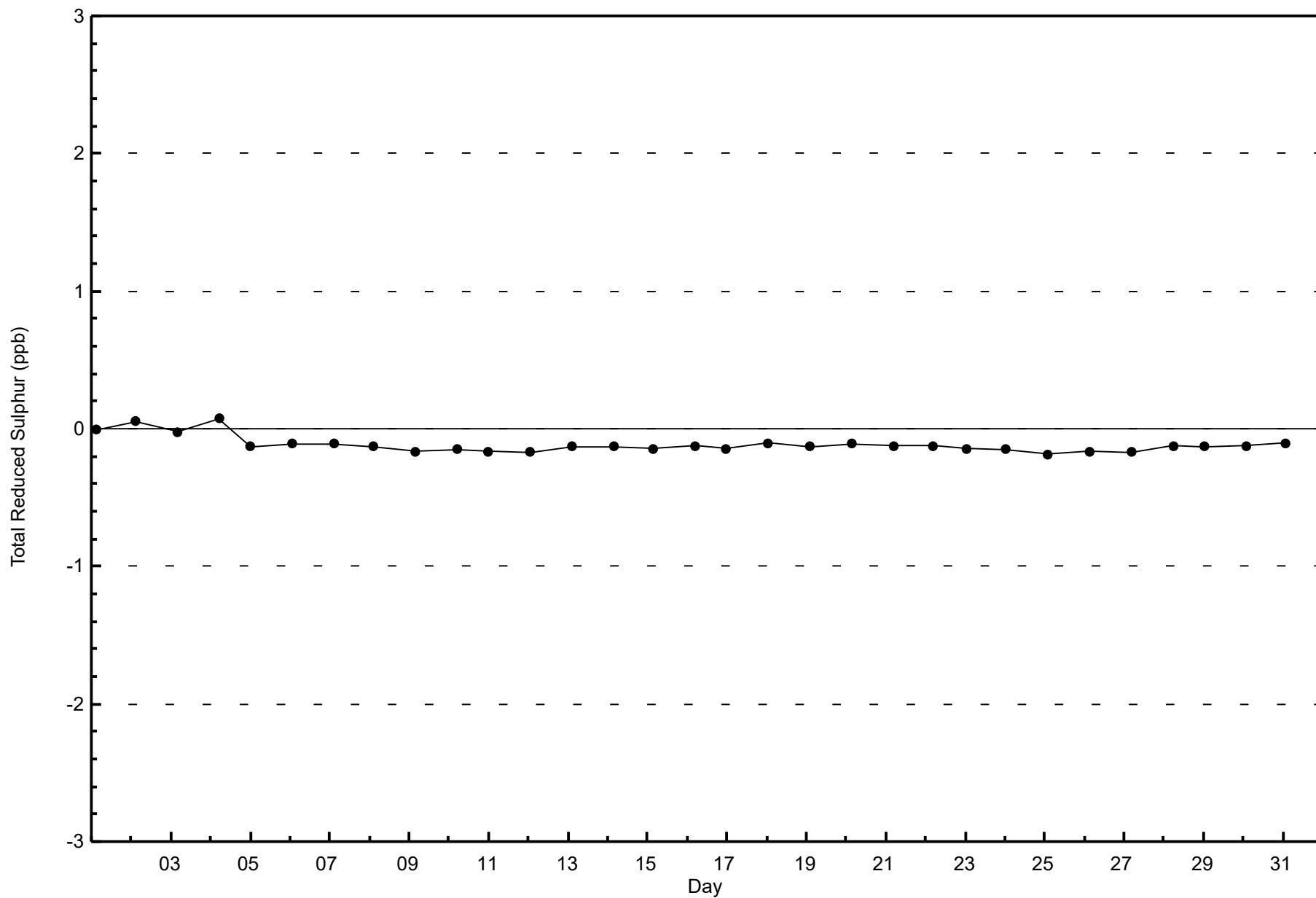


Wood Buffalo Environmental Association

Zero Responses

Total Reduced Sulphur (TRS) - ppb

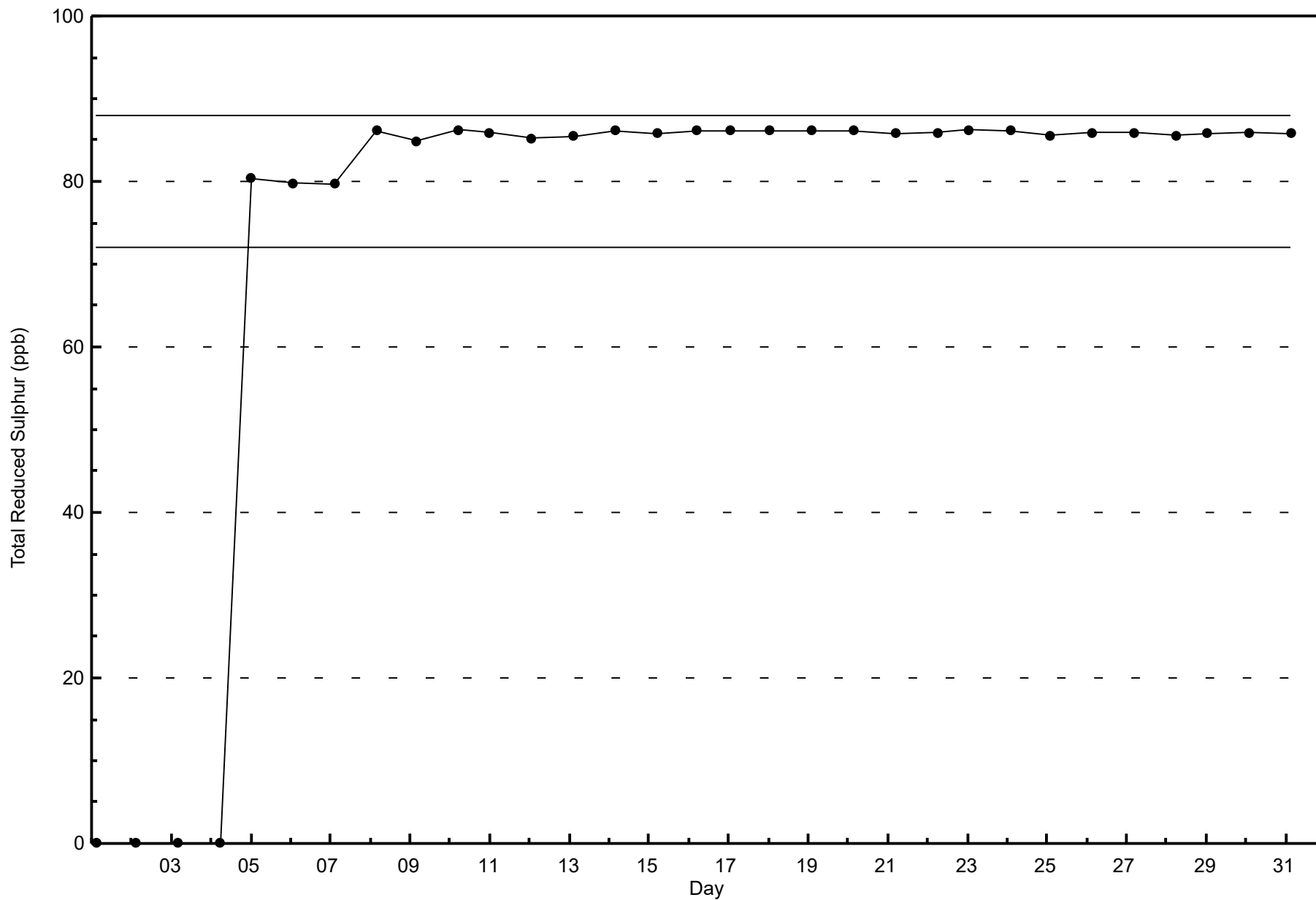
Anzac - July 2025





Wood Buffalo Environmental Association
Span Responses

Total Reduced Sulphur (TRS) - ppb
Anzac - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Total Hydrocarbons (THC) - ppm

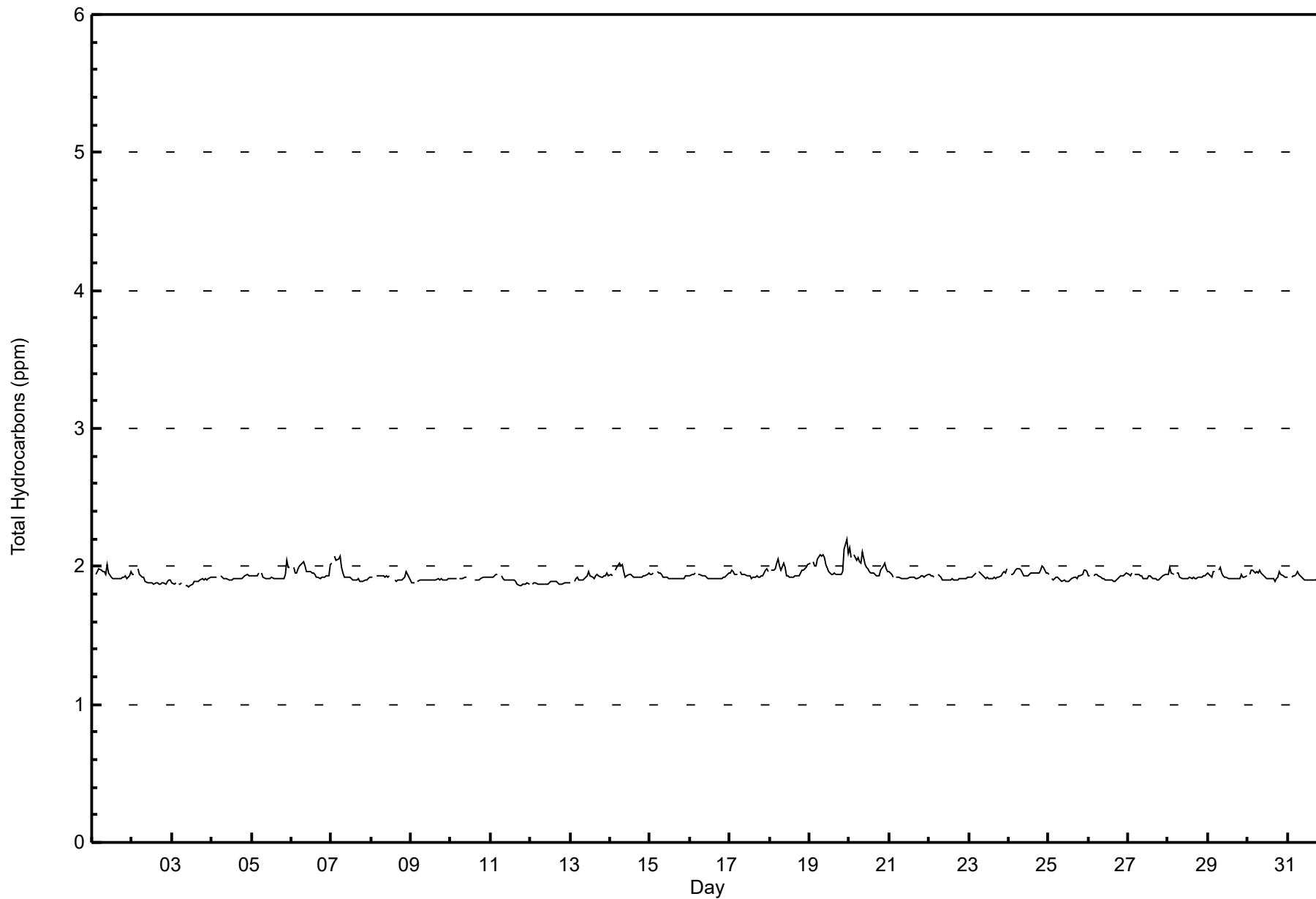
Anzac - July 2025

Maximum Value: 2.2 ppm on Jul 19 23:00																		Maximum Daily Average: 2.0 ppm on Jul 19																		Hours in Service: 744	
Minimum Value: 1.9 ppm on Jul 3 11:00																		Minimum Daily Average: 1.9 ppm on Jul 12																		Hours of Data: 706	
Maximum Diurnal Average: 2.0 ppm at hour 6																		Minimum Diurnal Average: 1.9 ppm at hour 18																		Hours of Missing Data: 38	
Monthly Average: 1.93 ppm																		Percentiles: P ₁ = 1.9 P ₁₀ = 1.9 Q ₁ = 1.9 Median = 1.9 Q ₃ = 1.9 P ₉₀ = 2.0 P ₉₉ = 2.1																		Hours of Calibration: 35	
																																				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-Jul	1.9	Z	1.9	2.0	2.0	2.0	2.0	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	1.9	1.9	1.9	2.0	1.9	2.0											
2-Jul	1.9	1.9	Z	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	1.9	1.9	2.0											
3-Jul	1.9	1.9	1.9	Z	1.9	1.9	1.9	M	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											
4-Jul	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	1.9											
5-Jul	1.9	1.9	1.9	1.9	2.0	Z	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	2.0	2.0	2.0	1.9	2.0											
6-Jul	Z	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	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0											
7-Jul	2.0	Z	2.1	2.0	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	1.9	1.9	1.9	2.1											
8-Jul	1.9	1.9	Z	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	M	M	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	2.0											
9-Jul	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	1.9	1.9											
10-Jul	1.9	1.9	1.9	1.9	Z	1.9	1.9	1.9	1.9	1.9	C	C	C	C	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9											
11-Jul	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											
12-Jul	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	1.9	1.9	1.9	1.9	1.9											
13-Jul	1.9	Z	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	2.0											
14-Jul	1.9	1.9	Z	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-Jul	1.9	1.9	2.0	Z	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	1.9	1.9	1.9	1.9	1.9	1.9	2.0											
16-Jul	1.9	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											
17-Jul	2.0	2.0	2.0	1.9	1.9	Z	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	2.0	2.0	2.0	1.9	2.0											
18-Jul	Z	2.0	2.0	2.0	2.0	2.1	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	2.0	2.0	2.0	2.0	2.0	2.1											
19-Jul	2.0	Z	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.2	2.1	2.0	2.2											
20-Jul	2.1	2.1	Z	2.1	2.0	2.1	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.1											
21-Jul	2.0	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	1.9	2.0											
22-Jul	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	1.9											
23-Jul	1.9	1.9	1.9	1.9	1.9	Z	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	2.0	2.0	2.0	1.9	2.0											
24-Jul	Z	1.9	1.9	2.0	2.0	2.0	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	2.0	2.0	2.0	2.0	1.9	2.0	2.0											
25-Jul	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	2.0	2.0	2.0	1.9	2.0											
26-Jul	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	2.0	1.9	2.0											
27-Jul	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	1.9	1.9											
28-Jul	1.9	2.0	2.0	1.9	Z	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											
29-Jul	2.0	1.9	1.9	2.0	2.0	Z	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	2.0											
30-Jul	Z	1.9	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	2.0	1.9	1.9	1.9	1.9	1.9	2.0											
31-Jul	1.9	Z	1.9	1.9	1.9	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	1.9	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 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																								Diurnal Average													
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 2.1 2.2 2.1																								Diurnal Maximum													
Z - zerospan C - Calibration M - Maintenance																																					



Wood Buffalo Environmental Association
Hourly Averages

Total Hydrocarbons (THC) - ppm
Anzac - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Hydrocarbons (THC) - ppm
Anzac - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	690	97.73	97.73
2.1 - 3.0	16	2.27	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
Anzac - July 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	31	14	3	6	13	29	48	74	35	37	46	53	89	105	46	61	690
2.1 - 3.0	0	0	0	1	0	1	4	1	2	0	0	2	1	1	0	3	16
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	31	14	3	7	13	30	52	75	37	37	46	55	90	106	46	64	706

Total Number of Valid Hours: 706

Total Number of Hours: 744

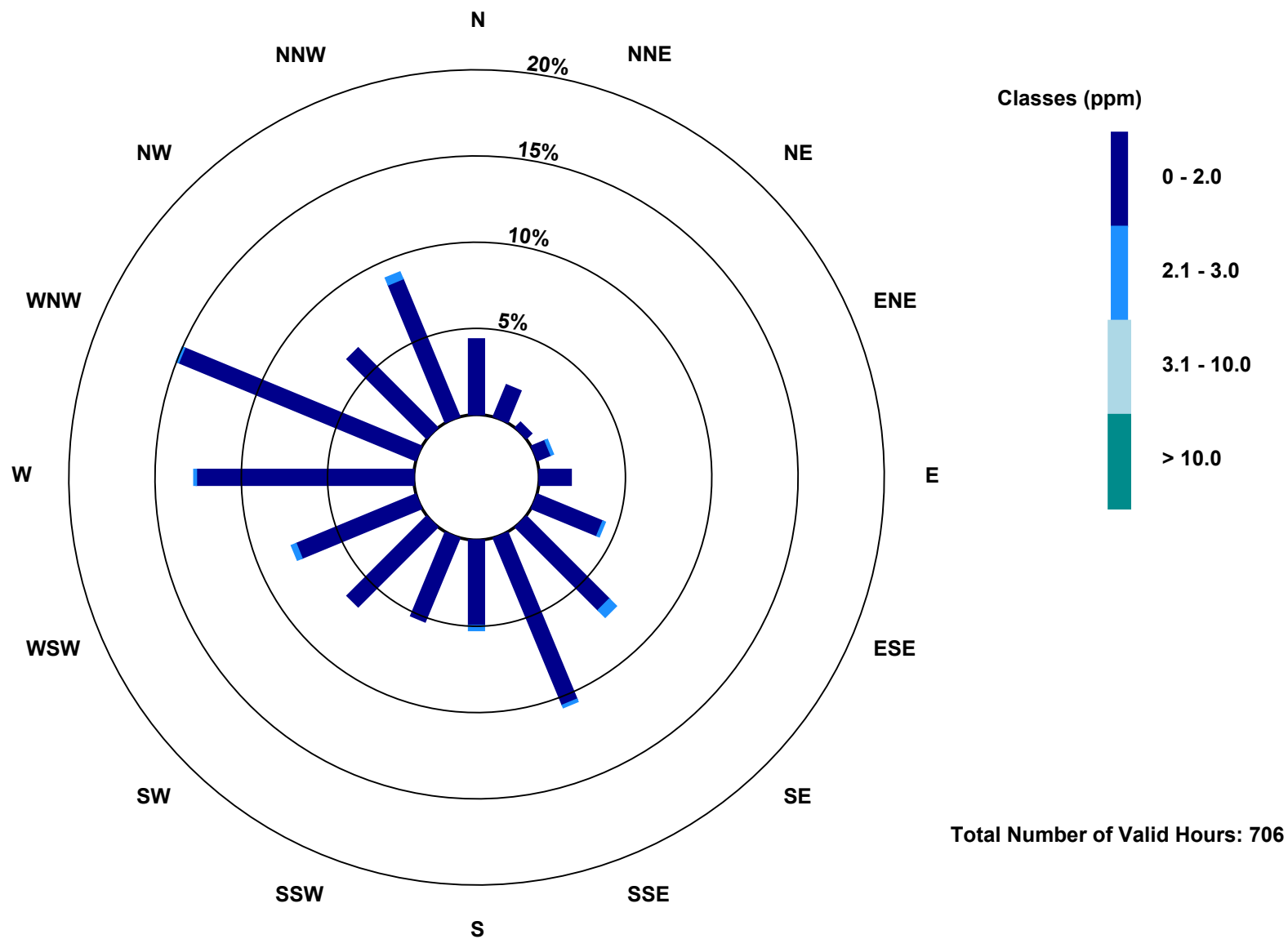


Wood Buffalo Environmental Association

Wind Rose Jul 2025

Total Hydrocarbons (THC) - ppm

Anzac



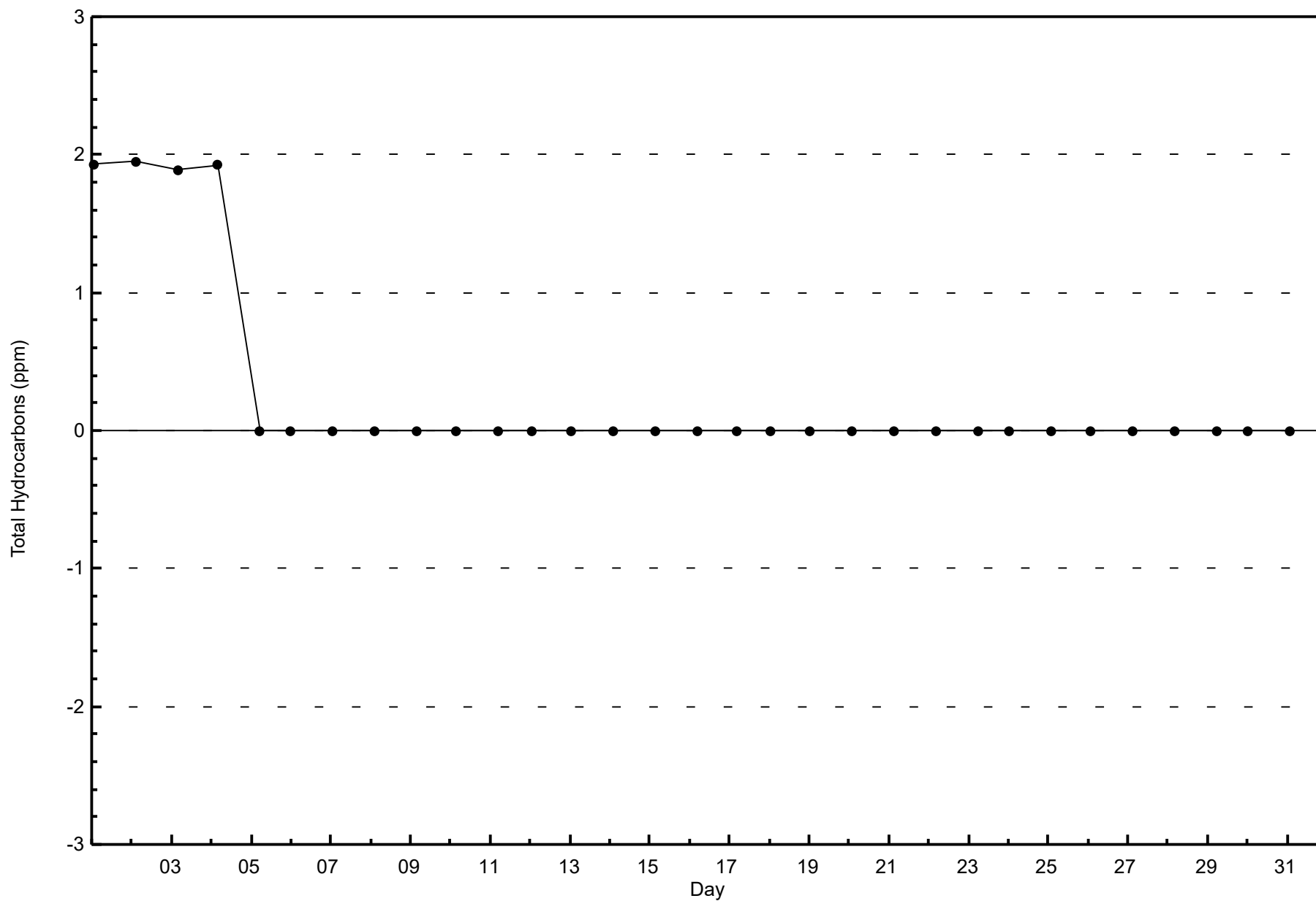


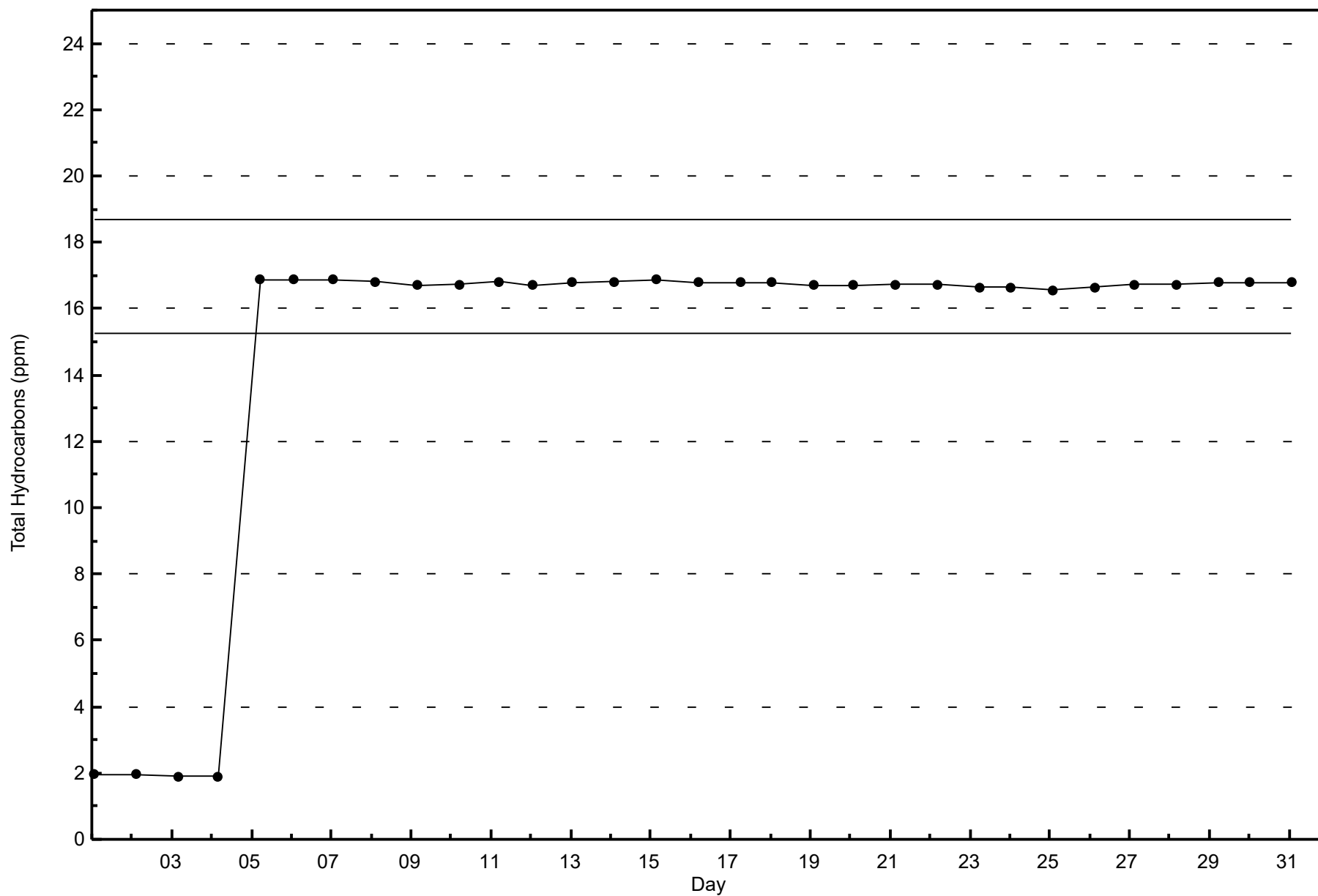
Wood Buffalo Environmental Association

Zero Responses

Total Hydrocarbons (THC) - ppm

Anzac - July 2025







Wood Buffalo Environmental Association

Summary of Hour Averages

Non Methane Hydrocarbons (NMHC) - ppm

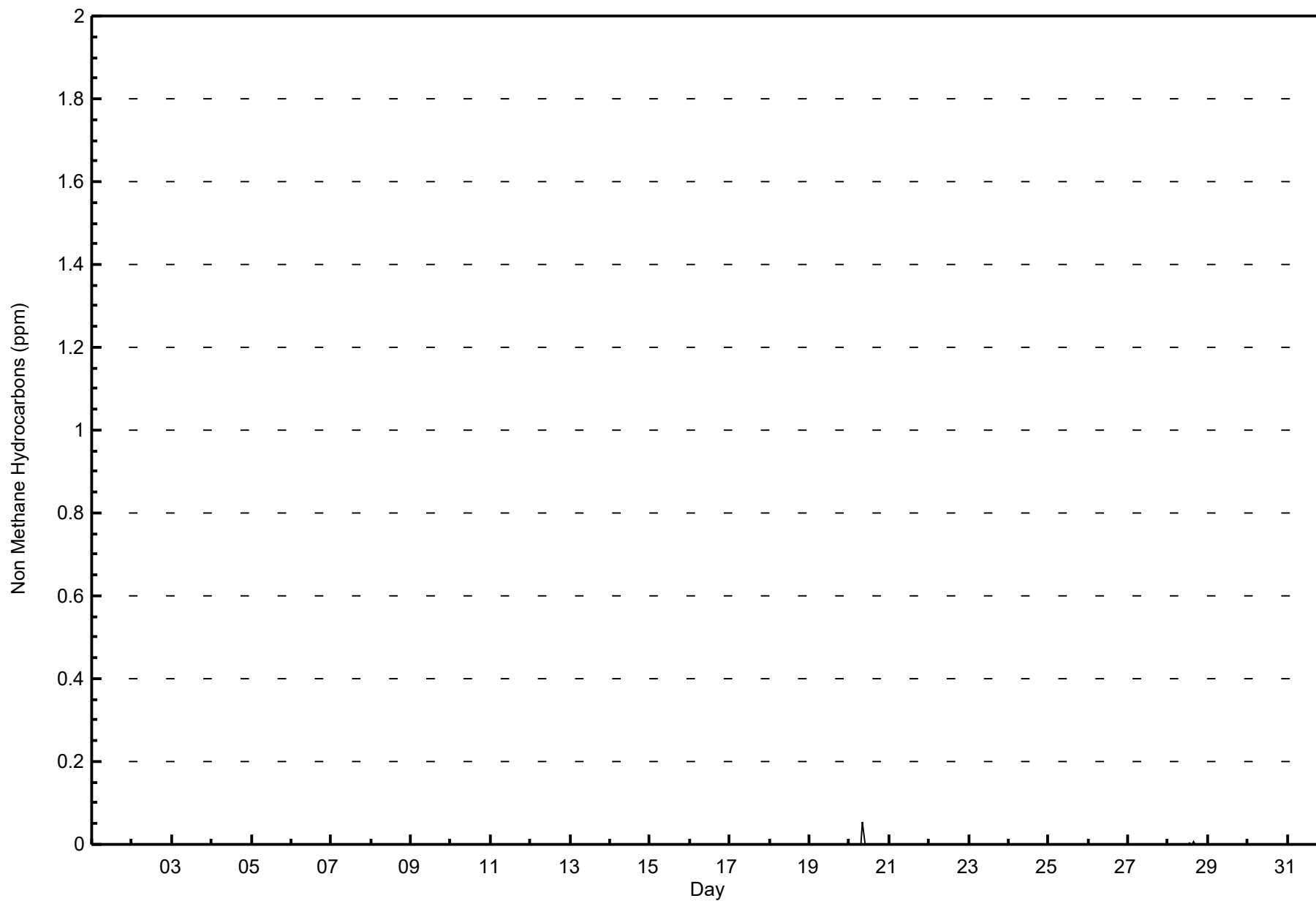
Anzac - July 2025

Maximum Value: 0.054 ppm on Jul 20 09:00																				Maximum Daily Average: 0.002 ppm on Jul 20						Hours in Service: 744	
Minimum Value: 0.000 ppm on Jul 1 01:00																				Minimum Daily Average: 0.000 ppm on Jul 1						Hours of Data: 706	
Maximum Diurnal Average: 0.002 ppm at hour 9																				Minimum Diurnal Average: 0.000 ppm at hour 1						Hours of Missing Data: 38	
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: 35	
																										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-Jul	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	
2-Jul	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	
3-Jul	0.000	0.000	0.000	Z	0.000	0.000	0.000	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	0.000	
4-Jul	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	
5-Jul	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-Jul	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	
7-Jul	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	
8-Jul	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	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-Jul	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-Jul	0.000	0.000	0.000	0.000	Z	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	
11-Jul	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-Jul	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	
13-Jul	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	
14-Jul	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-Jul	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	
16-Jul	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-Jul	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	
18-Jul	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	
19-Jul	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	0.005	0.000	0.005	
20-Jul	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	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	0.002	0.054	
21-Jul	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-Jul	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	
23-Jul	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-Jul	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-Jul	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-Jul	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-Jul	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	
28-Jul	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.000	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.007	
29-Jul	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	
30-Jul	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	
31-Jul	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 0.002 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 0.000 0.000 0.000 0.000 0.000 0.000 0.054 0.000 0.000 0.000 0.000 0.005 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																											
Z - zerospan C - Calibration M - Maintenance																											



Wood Buffalo Environmental Association
Hourly Averages

Non Methane Hydrocarbons (NMHC) - ppm
Anzac - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Non Methane Hydrocarbons (NMHC) - ppm
Anzac - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 0.005	704	99.72	99.72
0.006 - 0.05	2	0.28	100.00
0.06 - 0.1	0	0.00	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
Anzac - July 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	31	14	3	7	13	30	52	75	37	37	46	55	88	106	46	64	704
0.006 - 0.05	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	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	31	14	3	7	13	30	52	75	37	37	46	55	90	106	46	64	706

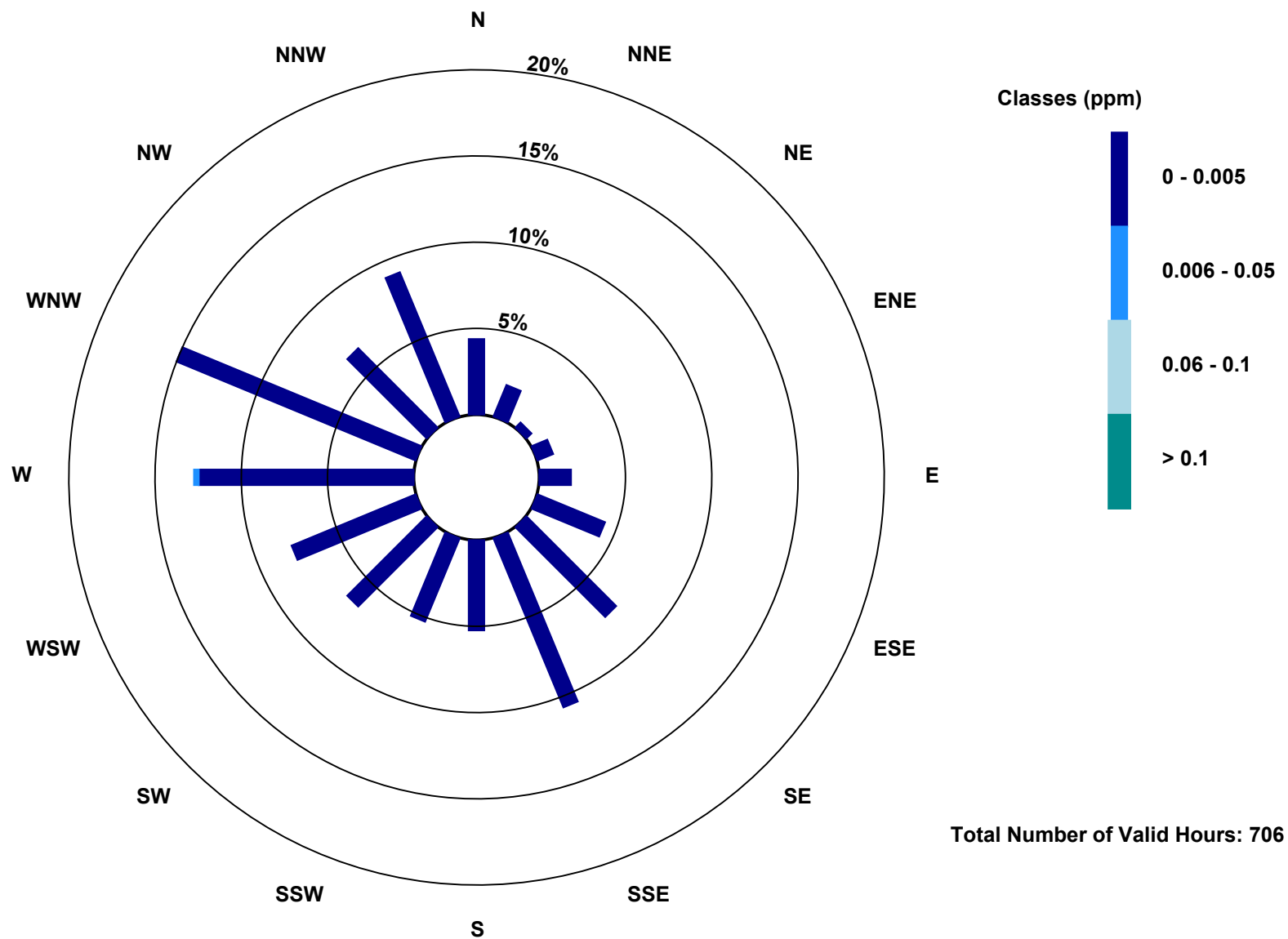
Total Number of Valid Hours: 706

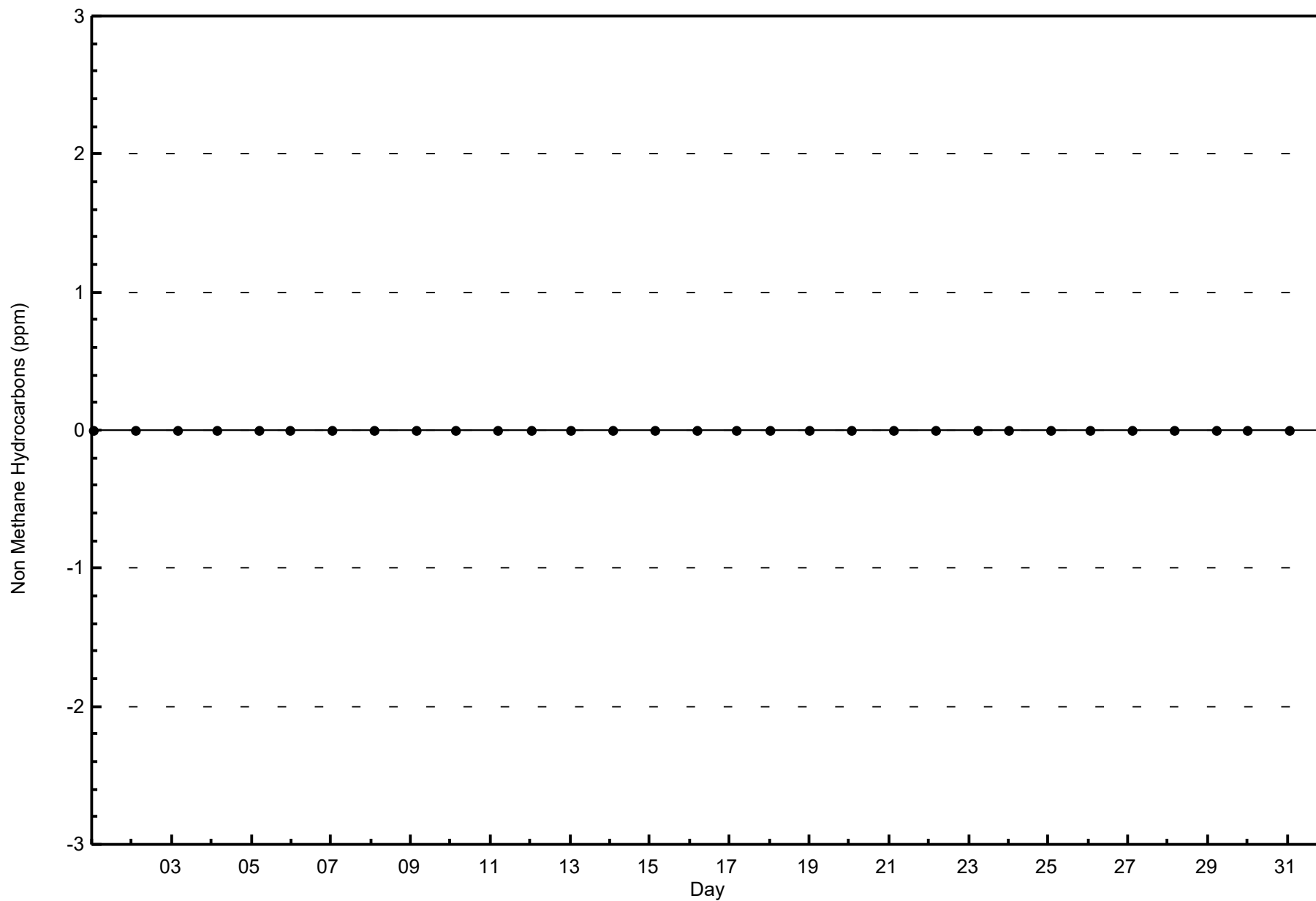
Total Number of Hours: 744

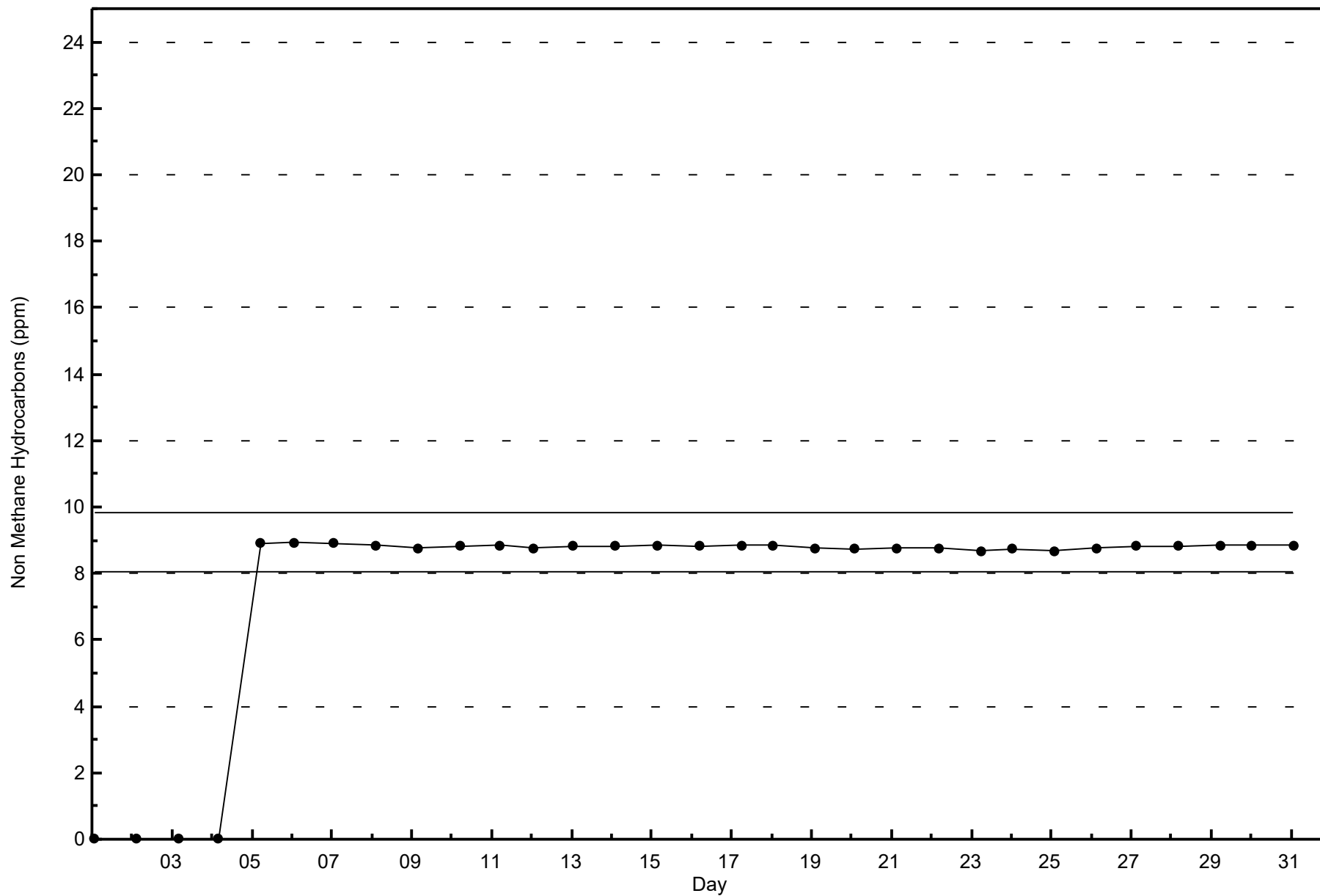


Wood Buffalo Environmental Association
Wind Rose Jul 2025

Non Methane Hydrocarbons (NMHC) - ppm
Anzac









Wood Buffalo Environmental Association

Summary of Hour Averages

Methane (CH₄) - ppm

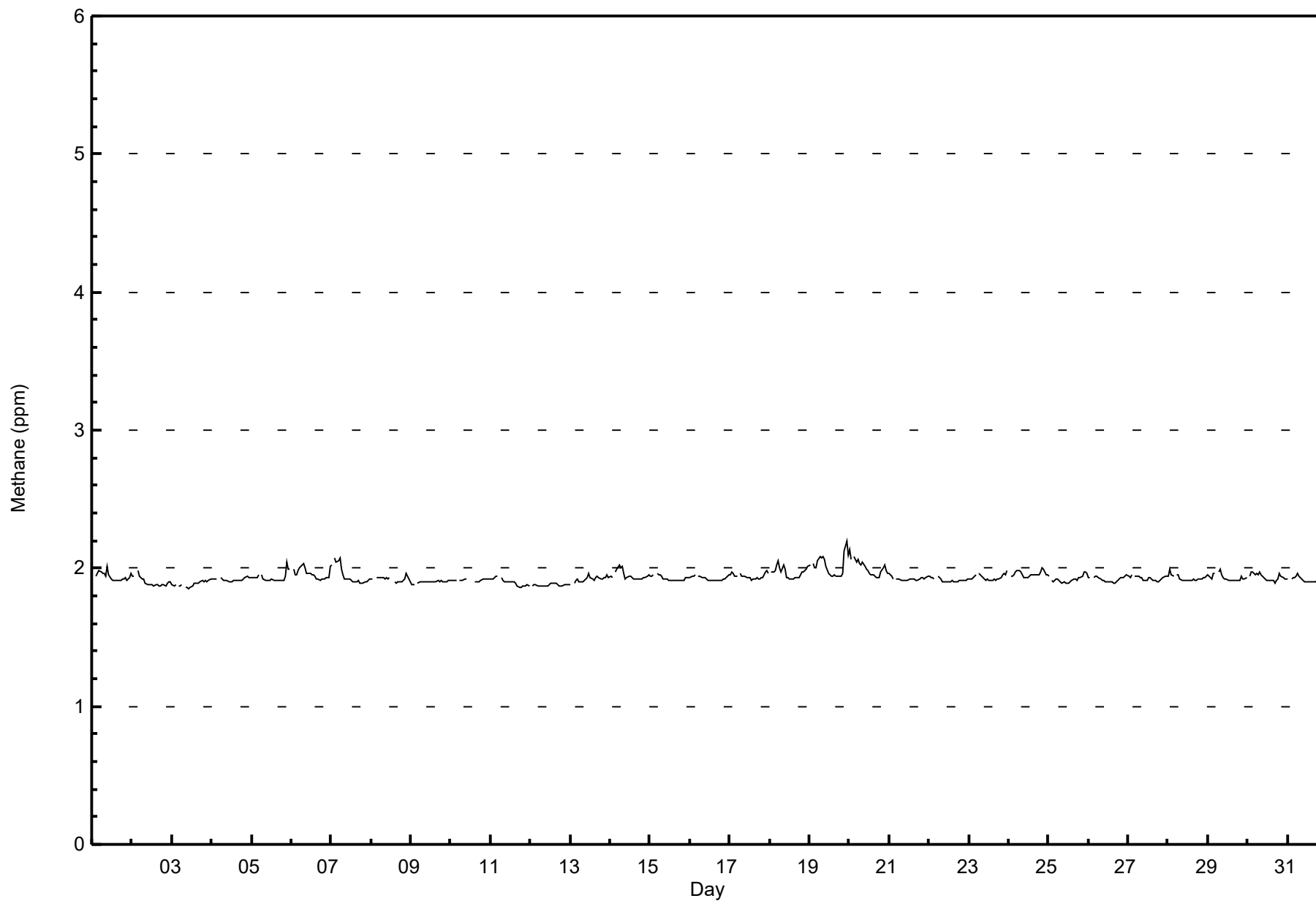
Anzac - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																			Hours in Service: 744							
Maximum Value: 2.2 ppm on Jul 19 23:00																			Maximum Daily Average: 2.0 ppm on Jul 19		Hours of Data: 706					
Minimum Value: 1.9 ppm on Jul 3 11:00																			Minimum Daily Average: 1.9 ppm on Jul 12		Hours of Missing Data: 38					
Maximum Diurnal Average: 2.0 ppm at hour 6																			Minimum Diurnal Average: 1.9 ppm at hour 18		Hours of Calibration: 35					
Monthly Average: 1.93 ppm																			Percentiles: P ₁ = 1.9 P ₁₀ = 1.9 Q ₁ = 1.9 Median = 1.9 Q ₃ = 1.9 P ₉₀ = 2.0 P ₉₉ = 2.1		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-Jul	1.9	Z	1.9	2.0	2.0	2.0	2.0	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	1.9	1.9	1.9	2.0	1.9	2.0
2-Jul	1.9	1.9	Z	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	1.9	1.9	2.0
3-Jul	1.9	1.9	1.9	Z	1.9	1.9	1.9	M	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
4-Jul	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	1.9
5-Jul	1.9	1.9	1.9	1.9	2.0	Z	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	2.0	2.0	2.0	1.9	2.0
6-Jul	Z	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	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0
7-Jul	2.0	Z	2.1	2.0	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	1.9	1.9	1.9	2.1
8-Jul	1.9	1.9	Z	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	M	M	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	2.0
9-Jul	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	1.9	1.9
10-Jul	1.9	1.9	1.9	1.9	Z	1.9	1.9	1.9	1.9	1.9	C	C	C	C	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
11-Jul	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
12-Jul	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	1.9	1.9	1.9	1.9	1.9
13-Jul	1.9	Z	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	2.0
14-Jul	1.9	1.9	Z	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-Jul	1.9	1.9	2.0	Z	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	1.9	1.9	1.9	1.9	1.9	1.9	2.0
16-Jul	1.9	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
17-Jul	2.0	2.0	2.0	1.9	1.9	Z	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	2.0	2.0	2.0	1.9	2.0
18-Jul	Z	2.0	2.0	2.0	2.0	2.1	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	2.0	2.0	2.0	2.0	2.0	2.0	2.1
19-Jul	2.0	Z	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.2	2.1	2.0	2.2
20-Jul	2.1	2.1	Z	2.1	2.0	2.1	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	2.0	2.0	2.0	2.0	2.0	2.0	2.1
21-Jul	2.0	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	1.9	2.0
22-Jul	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	1.9
23-Jul	1.9	1.9	1.9	1.9	1.9	Z	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	2.0	2.0	2.0	1.9	2.0
24-Jul	Z	1.9	1.9	2.0	2.0	2.0	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	2.0	2.0	2.0	2.0	1.9	2.0	2.0
25-Jul	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	2.0	2.0	2.0	1.9	2.0
26-Jul	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	2.0	1.9	2.0
27-Jul	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	1.9	1.9
28-Jul	1.9	2.0	2.0	1.9	Z	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
29-Jul	2.0	1.9	1.9	2.0	2.0	Z	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	2.0
30-Jul	Z	1.9	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	2.0	1.9	1.9	1.9	1.9	1.9	2.0
31-Jul	1.9	Z	1.9	1.9	1.9	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	1.9	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 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																									Diurnal Average	
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 2.1 2.2 2.1																									Diurnal Maximum	
Z - zerospan C - Calibration M - Maintenance																										



Wood Buffalo Environmental Association
Hourly Averages

Methane (CH₄) - ppm
Anzac - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Methane (CH₄) - ppm
Anzac - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	691	97.88	97.88
2.1 - 3.0	15	2.12	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
Anzac - July 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	31	14	3	6	13	29	48	74	35	37	46	53	90	105	46	61	691
2.1 - 3.0	0	0	0	1	0	1	4	1	2	0	0	2	0	1	0	3	15
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	31	14	3	7	13	30	52	75	37	37	46	55	90	106	46	64	706

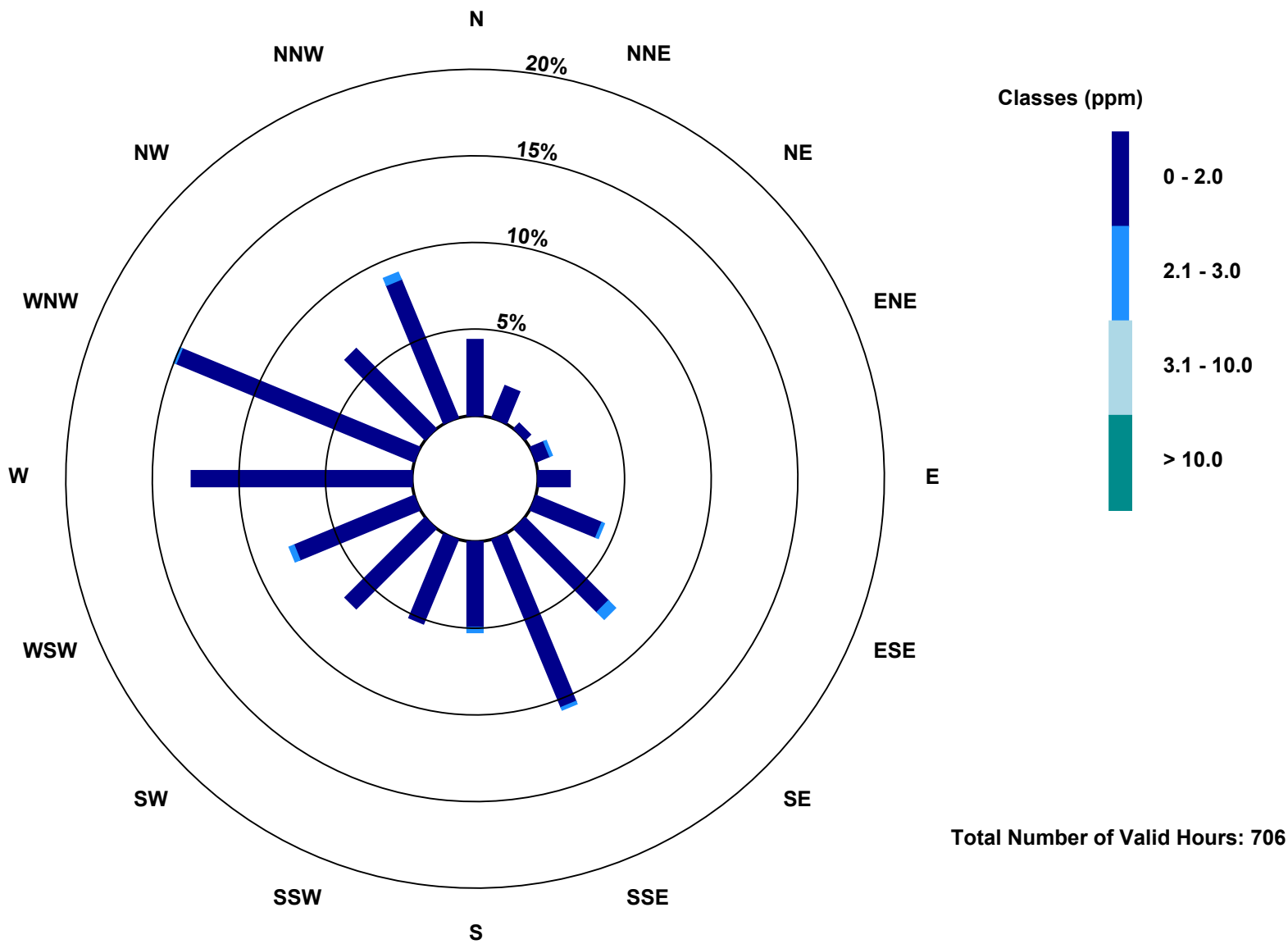
Total Number of Valid Hours: 706

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

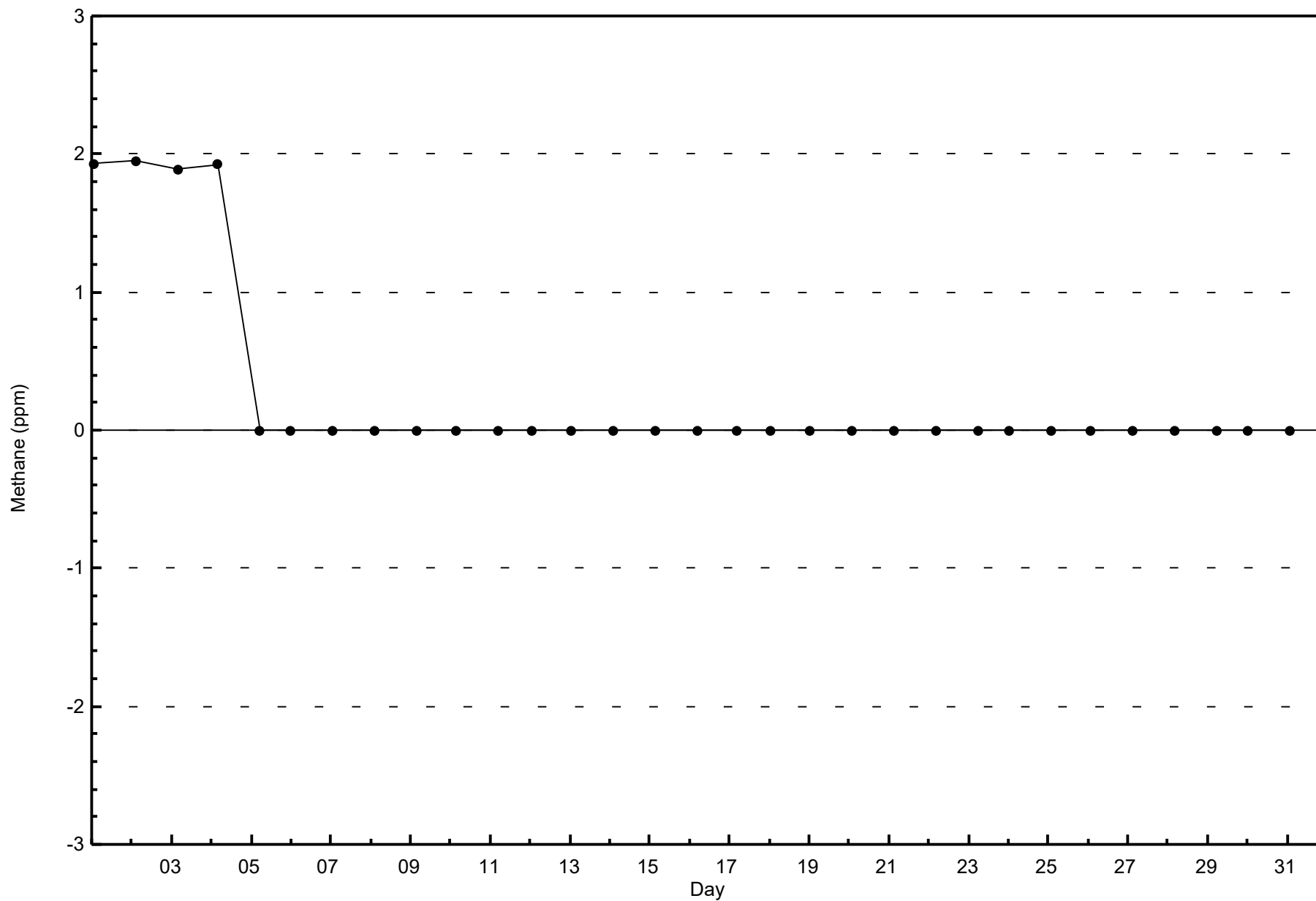
Methane (CH₄) - ppm
Anzac





Wood Buffalo Environmental Association
Zero Responses

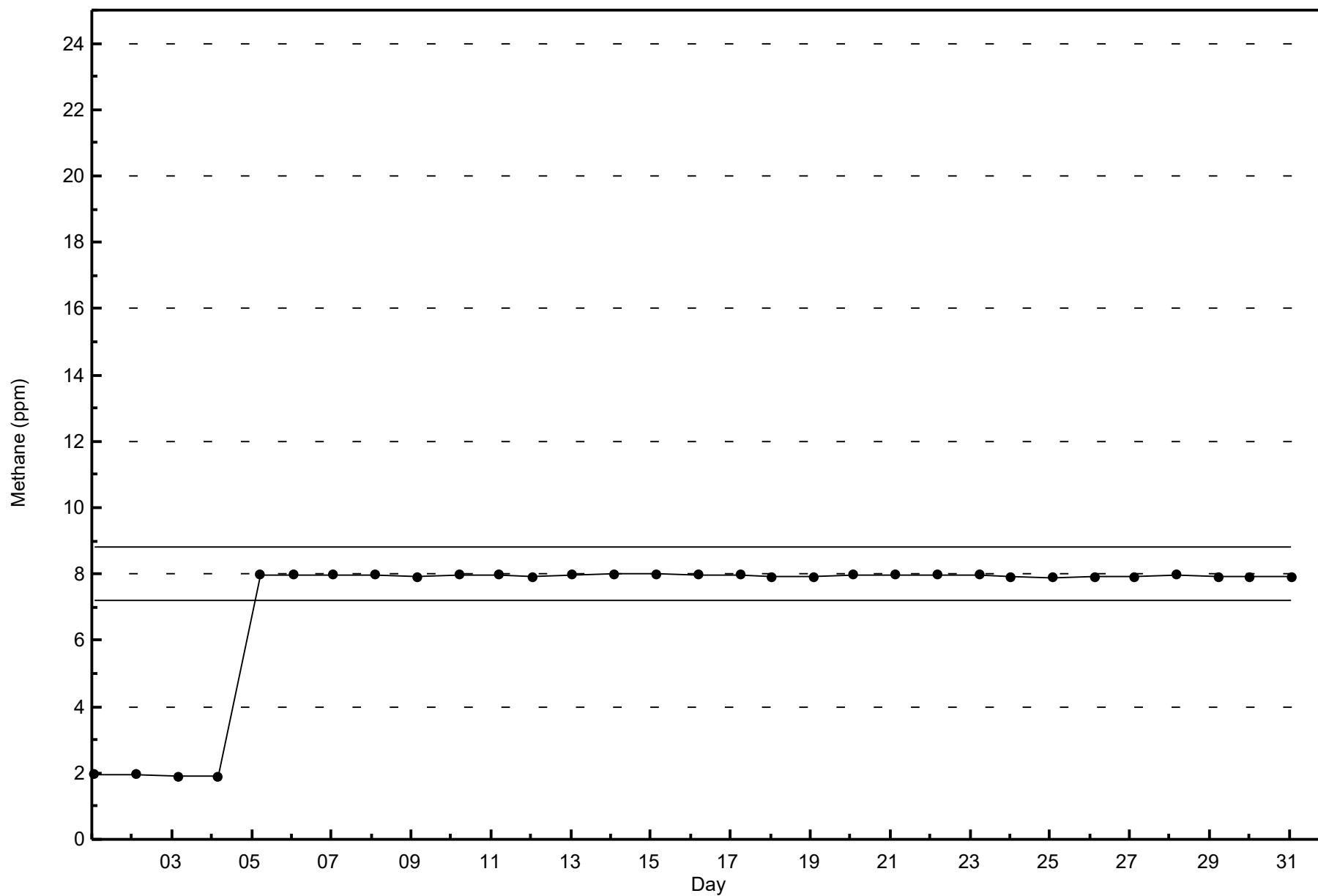
Methane (CH₄) - ppm
Anzac - July 2025





Wood Buffalo Environmental Association
Span Responses

Methane (CH₄) - ppm
Anzac - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitric Oxide (NO) - ppb

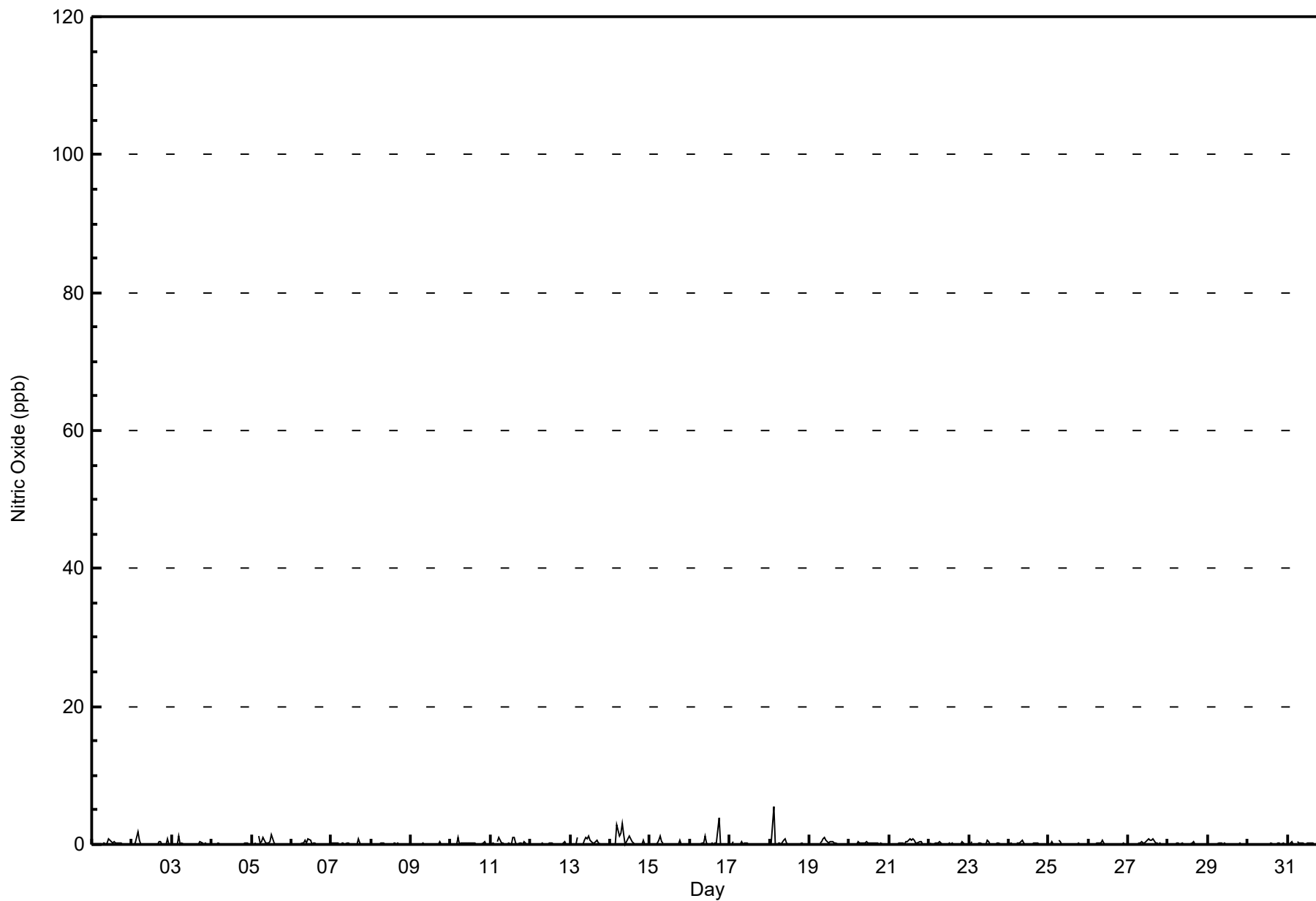
Anzac - July 2025

Maximum Value: 5.5 ppb on Jul 18 03:00																		Maximum Daily Average: 0.6 ppb on Jul 14																		Hours in Service: 744	
Minimum Value: 0.0 ppb on Jul 3 01:00																		Minimum Daily Average: 0.1 ppb on Jul 4																		Hours of Data: 703	
Maximum Diurnal Average: 0.4 ppb at hour 5																		Minimum Diurnal Average: 0.0 ppb at hour 24																		Hours of Missing Data: 41	
Monthly Average: 0.18 ppb																		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.1 P ₉₀ = 0.4 P ₉₉ = 1.4																		Hours of Calibration: 37	
																																				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-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.2	0.1	0.1	0.2	0.8	0.4	0.3	0.5	0.2	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.2	0.8											
2-Jul	Z	0.0	0.3	1.8	0.6	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.3	0.3	0.0	0.0	0.0	0.9	0.0	0.0	0.2	1.8											
3-Jul	0.0	Z	0.0	0.0	1.2	0.0	0.2	0.1	M	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.2	0.0	0.1	0.0	0.0	0.0	0.1	1.2											
4-Jul	0.0	0.0	Z	0.0	0.2	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	0.0	0.1	0.1	0.2											
5-Jul	0.1	0.1	0.1	Z	1.2	0.2	0.5	1.1	0.2	0.2	0.2	0.5	1.4	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.3	1.4											
6-Jul	0.0	0.0	0.0	0.0	Z	0.0	0.2	0.3	0.6	0.2	0.7	0.5	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.7											
7-Jul	0.1	0.1	0.1	0.1	0.3	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.8	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.8											
8-Jul	Z	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.1	0.1	M	M	M	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.3											
9-Jul	0.0	Z	0.0	0.0	0.0	0.1	0.1	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.5	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.5											
10-Jul	0.0	0.0	Z	0.1	1.0	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	0.2	0.3	0.1	0.1	0.0	0.2	1.0										
11-Jul	0.1	0.1	0.0	Z	0.4	0.9	0.1	0.1	0.1	0.0	0.0	0.1	0.1	1.0	1.0	0.1	0.1	0.2	0.2	0.1	0.4	0.1	0.0	0.0	0.2	1.0											
12-Jul	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.4	0.0	0.0	0.0	0.1	0.4											
13-Jul	0.0	0.0	0.0	0.0	1.1	Z	0.1	0.1	0.6	1.0	0.9	1.2	0.5	0.2	0.2	0.4	0.5	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.3	1.2											
14-Jul	Z	0.0	0.0	0.0	2.8	1.3	1.6	3.0	1.3	0.1	0.5	1.2	0.8	0.5	0.1	0.1	0.0	0.1	0.1	0.0	0.7	0.0	0.0	0.1	0.6	3.0											
15-Jul	0.1	Z	0.1	0.1	0.2	0.6	1.3	0.4	0.2	C	C	C	C	C	C	0.0	0.0	0.0	0.6	0.1	0.0	0.0	0.0	0.0	--	1.3											
16-Jul	0.0	0.0	Z	0.0	0.1	0.1	0.1	0.1	0.3	1.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	3.8	0.1	0.1	0.0	0.0	0.0	0.0	0.3	3.8											
17-Jul	0.0	0.0	0.4	Z	0.1	0.1	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	0.0	0.0	0.1	0.1	0.4											
18-Jul	0.0	0.0	5.5	0.1	Z	0.2	0.1	0.1	0.5	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	0.1	0.0	0.4	5.5											
19-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.2	0.5	0.8	1.0	0.6	0.2	0.3	0.4	0.3	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.2	1.0											
20-Jul	Z	0.0	0.0	0.0	0.1	0.5	0.2	0.1	0.1	0.1	0.3	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.5											
21-Jul	0.1	Z	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.1	0.5	0.5	0.8	0.7	0.7	0.7	0.3	0.2	0.5	0.3	0.1	0.1	0.0	0.0	0.3	0.8											
22-Jul	0.0	0.1	Z	0.1	0.2	0.2	0.4	0.3	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.1	0.4											
23-Jul	0.0	0.0	0.4	Z	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.7	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.7											
24-Jul	0.0	0.3	0.0	0.0	Z	0.1	0.3	0.3	0.7	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.7											
25-Jul	0.0	0.0	0.3	0.0	0.0	Z	0.5	0.4	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.5											
26-Jul	Z	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.6	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.3	0.0	0.0	0.1	0.6											
27-Jul	0.0	Z	0.0	0.0	0.0	0.1	0.1	0.1	0.3	0.3	0.2	0.5	0.9	0.7	0.6	0.9	0.3	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.9											
28-Jul	0.0	0.0	Z	0.0	0.0	0.3	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.3	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4											
29-Jul	0.0	0.0	0.0	Z	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.1	0.2											
30-Jul	0.0	0.0	0.0	0.0	Z	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	0.2	0.1	0.1	0.1	0.2											
31-Jul	0.1	0.1	0.5	0.0	0.1	Z	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	1.5	0.1	0.0	0.0	0.0	0.2	1.5											
0.0 0.0 0.3 0.1 0.4 0.2 0.3 0.3 0.3 0.2 0.2 0.3 0.2 0.2 0.2 0.2 0.1 0.2 0.1 0.1 0.1 0.1 0.0 0.0																								Diurnal Average													
0.1 0.3 5.5 1.8 2.8 1.3 1.6 3.0 1.3 1.2 0.9 1.2 1.4 1.0 1.0 0.9 0.8 3.8 0.6 1.5 0.7 0.9 0.1 0.1																								Diurnal Maximum													
Z - zerospan C - Calibration M - Maintenance																																					



Wood Buffalo Environmental Association
Hourly Averages

Nitric Oxide (NO) - ppb
Anzac - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitric Oxide (NO) - ppb
Anzac - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	703	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: 703

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitric Oxide (NO) - ppb
Anzac - July 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	32	14	3	7	12	30	52	73	35	42	49	51	89	108	46	60	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	32	14	3	7	12	30	52	73	35	42	49	51	89	108	46	60	703

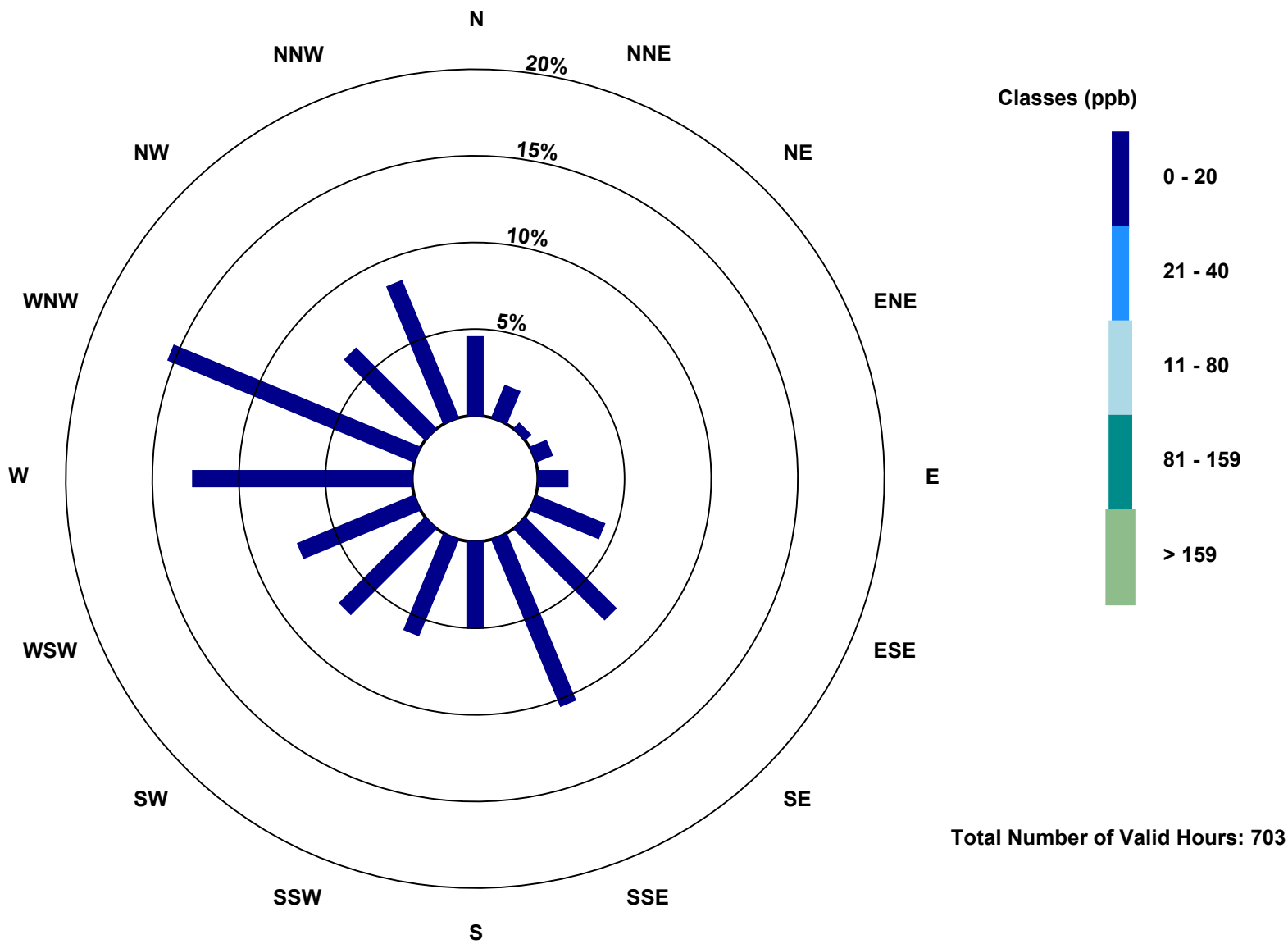
Total Number of Valid Hours: 703

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

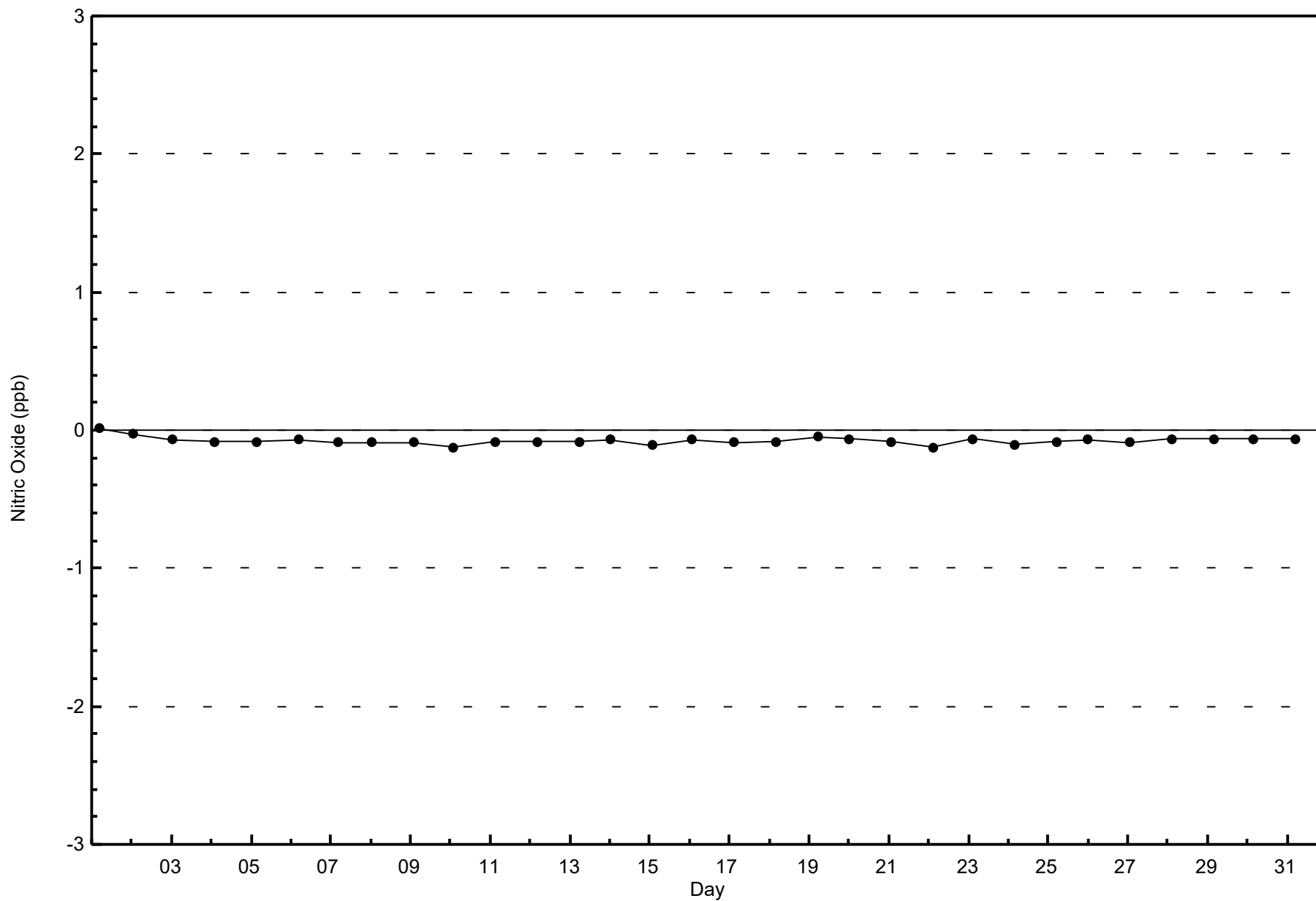
Nitric Oxide (NO) - ppb
Anzac





Wood Buffalo Environmental Association
Zero Responses

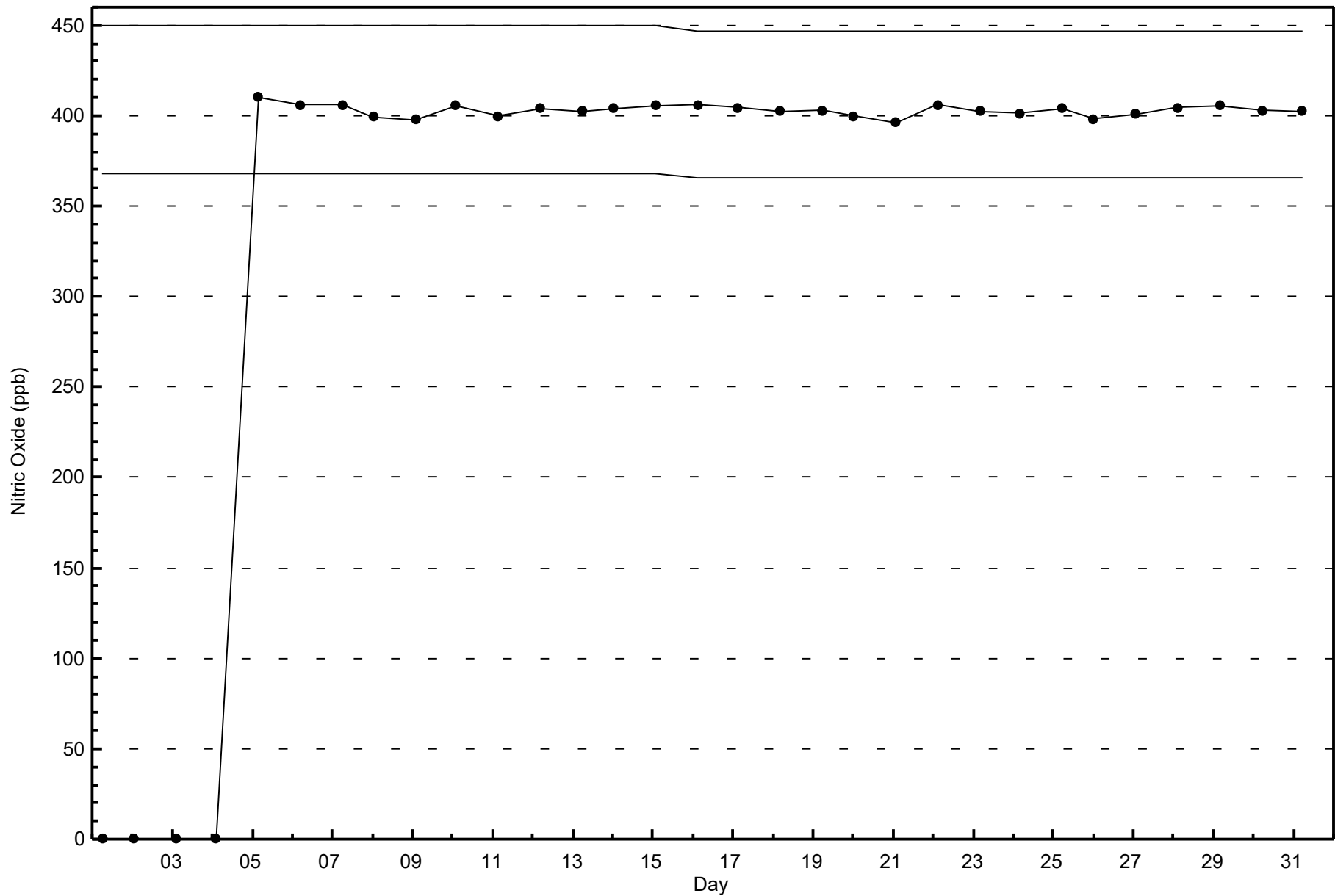
Nitric Oxide (NO) - ppb
Anzac - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitric Oxide (NO) - ppb
Anzac - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Dioxide (NO₂) - ppb

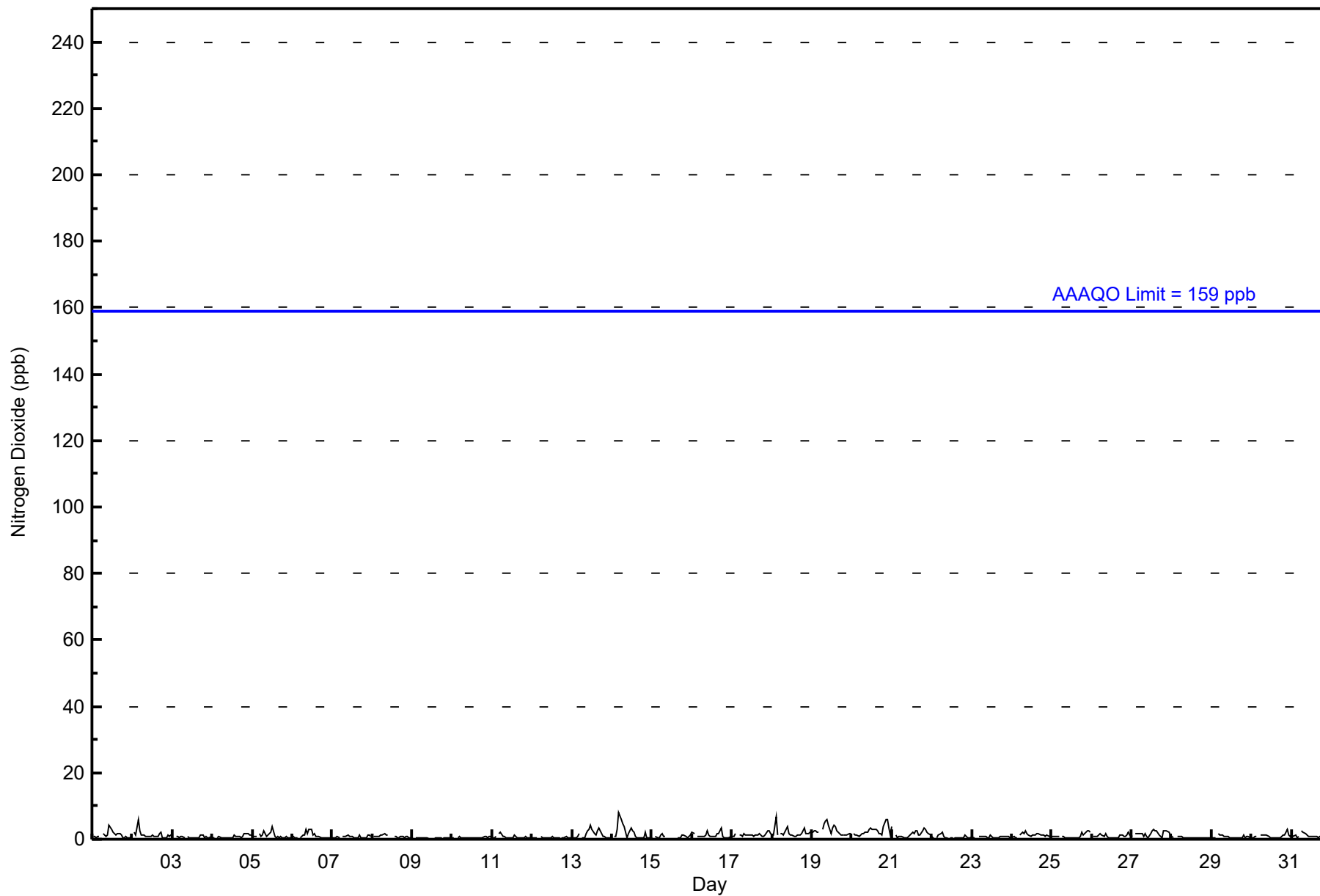
Anzac - July 2025

Number of Exceedences (AAAQO): Maximum Value: 8.2 ppb on Jul 14 05:00																			1-hr: 0 24-hr: 0 Maximum Daily Average: 2.7 ppb on Jul 19						Hours in Service: 744 Hours of Data: 703 Hours of Missing Data: 41 Hours of Calibration: 37 Percent Operational Time: 99.5			
Minimum Value: 0.2 ppb on Jul 9 11:00 Maximum Diurnal Average: 1.4 ppb at hour 5 Monthly Average: 1.12 ppb																			Minimum Daily Average: 0.4 ppb on Jul 9 Minimum Diurnal Average: 0.8 ppb at hour 19 Percentiles: P ₁ = 0.2 P ₁₀ = 0.4 Q ₁ = 0.5 Median = 0.8 Q ₃ = 1.4 P ₉₀ = 2.3 P ₉₉ = 5.5									
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-Jul	0.9	0.7	0.6	0.8	0.9	Z	1.7	1.3	1.0	1.4	4.3	3.0	2.0	1.8	1.4	1.6	1.5	1.2	0.6	0.5	0.7	0.6	0.6	0.8	1.3	4.3		
2-Jul	Z	2.0	1.3	5.8	2.5	1.1	1.1	1.2	0.8	0.7	0.8	0.8	1.1	0.8	0.8	0.7	1.8	2.1	0.5	0.5	0.4	1.4	0.8	1.1	1.3	5.8		
3-Jul	1.1	Z	0.9	0.7	0.6	0.7	1.0	0.6	M	0.7	0.5	0.5	0.6	0.5	0.5	0.6	0.5	1.4	1.2	0.6	1.0	0.6	0.6	0.7	0.7	1.4		
4-Jul	0.6	0.6	Z	0.6	0.9	0.5	0.4	0.4	0.3	0.4	0.3	0.4	0.4	1.1	0.9	0.8	0.8	0.6	0.7	1.6	1.6	1.5	1.2	1.1	0.8	1.6		
5-Jul	0.8	0.7	0.9	Z	1.7	1.0	1.4	2.6	1.0	1.2	1.6	2.2	3.7	0.7	0.5	0.7	0.6	0.7	0.5	0.5	0.8	0.6	0.4	0.4	1.1	3.7		
6-Jul	0.8	0.4	0.4	0.3	Z	0.6	1.1	1.3	2.8	1.6	3.1	3.0	1.4	1.5	1.0	0.8	0.7	0.6	0.6	0.6	0.6	0.6	0.4	0.4	1.1	3.1		
7-Jul	0.5	0.6	0.6	0.7	0.6	Z	0.8	1.0	0.9	1.2	1.0	0.7	0.7	0.6	0.6	0.6	1.4	0.5	0.3	0.5	0.6	1.1	1.1	0.8	0.8	1.4		
8-Jul	Z	0.8	0.9	0.9	1.0	1.1	1.1	1.6	1.3	1.4	M	M	M	0.8	0.7	0.6	0.6	0.7	0.8	0.6	0.7	0.7	0.6	0.5	0.9	1.6		
9-Jul	0.4	Z	0.6	0.4	0.4	0.4	0.4	0.5	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.6	0.2	0.4	0.5	0.5	0.5	0.4	0.4	0.6		
10-Jul	0.3	0.3	Z	0.5	0.8	0.4	0.4	0.5	0.5	0.5	0.6	0.5	0.6	0.6	0.5	0.6	0.5	0.6	0.5	0.7	0.8	0.5	0.8	0.7	0.6	0.8		
11-Jul	0.4	0.6	0.7	Z	1.7	2.2	1.0	0.9	0.5	0.4	0.4	0.5	0.3	1.1	1.0	0.4	0.3	0.4	0.4	0.5	0.7	0.6	0.5	0.5	0.7	2.2		
12-Jul	0.5	0.4	0.4	0.4	Z	0.7	0.6	0.6	0.4	0.4	0.6	0.5	0.7	0.6	0.3	0.4	0.4	0.2	0.3	0.4	0.8	0.6	0.3	0.3	0.5	0.8		
13-Jul	0.2	0.3	0.3	1.0	1.7	Z	0.5	0.3	1.7	2.5	2.9	4.1	2.8	1.8	1.4	2.5	3.2	2.6	1.0	0.8	0.6	0.4	0.4	0.4	1.5	4.1		
14-Jul	Z	0.9	1.0	2.8	8.2	6.1	4.7	3.9	2.0	0.3	1.7	3.2	2.7	2.0	0.9	0.5	0.5	0.5	0.3	0.4	2.1	0.3	0.3	0.3	2.0	8.2		
15-Jul	0.6	Z	0.7	0.5	0.6	1.1	1.6	1.0	0.8	C	C	C	C	C	C	0.5	0.4	0.4	1.1	1.4	0.9	0.5	0.7	1.4	--	1.6		
16-Jul	2.3	1.6	Z	0.7	0.7	0.7	0.9	1.0	1.4	2.4	1.1	0.8	0.9	0.8	1.0	1.5	1.8	3.6	0.7	0.6	0.6	0.5	0.6	0.9	1.2	3.6		
17-Jul	0.9	0.9	1.5	Z	1.2	1.2	1.0	1.5	1.1	1.3	1.1	1.3	1.2	0.8	1.1	1.3	1.6	1.1	0.9	1.0	1.3	2.4	2.4	1.6	1.3	2.4		
18-Jul	1.4	1.4	6.8	1.3	Z	1.5	1.5	1.1	2.9	4.0	1.6	1.3	1.1	1.0	1.0	1.3	1.4	1.2	1.6	3.5	1.8	1.5	1.5	2.0	1.9	6.8		
19-Jul	2.2	2.7	2.7	2.2	2.3	Z	3.1	4.7	5.5	6.1	4.1	1.9	3.2	4.2	3.7	2.6	2.1	1.4	1.3	1.4	1.1	1.2	1.7	1.5	2.7	6.1		
20-Jul	Z	1.6	1.3	1.1	0.7	1.2	1.6	1.7	2.3	2.2	2.8	3.6	2.9	2.8	3.0	2.5	1.9	1.6	1.4	4.0	5.8	6.0	3.4	1.2	2.5	6.0		
21-Jul	3.9	Z	1.3	0.4	0.9	1.0	0.9	0.5	0.5	0.3	1.0	1.1	2.2	1.9	2.4	2.6	1.3	1.1	2.4	3.5	2.8	2.3	1.8	1.1	1.6	3.9		
22-Jul	0.4	0.4	Z	0.6	1.2	1.9	2.0	1.0	0.3	0.3	0.2	0.3	0.3	0.2	0.4	0.3	0.3	0.3	0.3	0.3	1.1	0.4	0.4	0.6	0.6	2.0		
23-Jul	0.8	0.4	0.6	Z	1.0	0.7	0.9	0.9	0.7	0.5	0.4	1.3	0.9	0.4	0.4	0.4	0.4	0.7	0.8	0.8	0.7	0.8	0.7	0.6	0.7	1.3		
24-Jul	0.5	0.8	0.5	0.6	Z	1.2	2.0	1.6	2.5	1.5	1.1	1.0	1.1	1.2	1.1	1.7	1.8	1.3	1.2	1.1	0.9	1.3	0.8	0.6	1.2	2.5		
25-Jul	0.7	0.7	1.0	0.7	0.8	Z	1.0	0.8	0.4	0.3	0.4	0.3	0.4	0.4	0.5	0.5	0.6	0.9	2.1	1.4	2.0	2.6	2.5	2.3	1.0	2.6		
26-Jul	Z	0.9	0.8	1.0	1.3	1.5	1.1	0.7	1.6	0.7	0.4	0.3	0.3	0.5	0.4	0.4	0.4	1.2	1.1	0.8	0.7	1.1	2.1	1.2	0.9	2.1		
27-Jul	1.0	Z	1.8	1.7	1.8	1.7	1.6	1.0	1.7	0.8	0.5	1.7	2.7	2.9	2.4	2.4	1.1	0.8	0.6	2.7	2.4	2.5	2.2	1.4	1.7	2.9		
28-Jul	0.9	0.6	Z	0.7	0.8	0.8	0.9	0.6	0.6	0.4	0.5	0.4	0.4	0.4	0.5	0.6	0.3	0.4	0.4	0.3	0.3	0.3	0.5	0.5	0.5	0.9		
29-Jul	0.4	0.5	0.4	Z	1.7	1.4	1.2	0.9	0.8	0.9	0.9	0.5	0.5	0.4	0.4	0.4	0.5	0.5	0.4	1.4	0.6	0.8	0.8	0.6	0.7	1.7		
30-Jul	0.4	0.5	0.7	0.8	Z	1.3	1.1	1.2	1.2	1.2	0.7	0.6	0.5	0.5	0.6	0.6	0.5	0.4	0.8	1.1	1.4	2.9	1.1	0.8	0.9	2.9		
31-Jul	1.1	1.0	1.1	0.5	0.8	Z	2.7	2.2	1.5	1.1	0.9	0.8	1.0	1.0	0.8	0.9	0.6	0.8	0.7	1.8	0.7	0.8	0.6	0.8	1.1	2.7		
0.9 0.9 1.1 1.1 1.4 1.3 1.3 1.3 1.2 1.2 1.3 1.3 1.1 1.0 1.0 1.0 1.0 0.8 1.2 1.2 1.2 1.0 0.9																								Diurnal Average				
3.9 2.7 6.8 5.8 8.2 6.1 4.7 4.7 5.5 6.1 4.3 4.1 3.7 4.2 3.7 2.6 3.2 3.6 2.4 4.0 5.8 6.0 3.4 2.3																								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
Anzac - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Anzac - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	703	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: 703

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Anzac - July 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	32	14	3	7	12	30	52	73	35	42	49	51	89	108	46	60	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	32	14	3	7	12	30	52	73	35	42	49	51	89	108	46	60	703

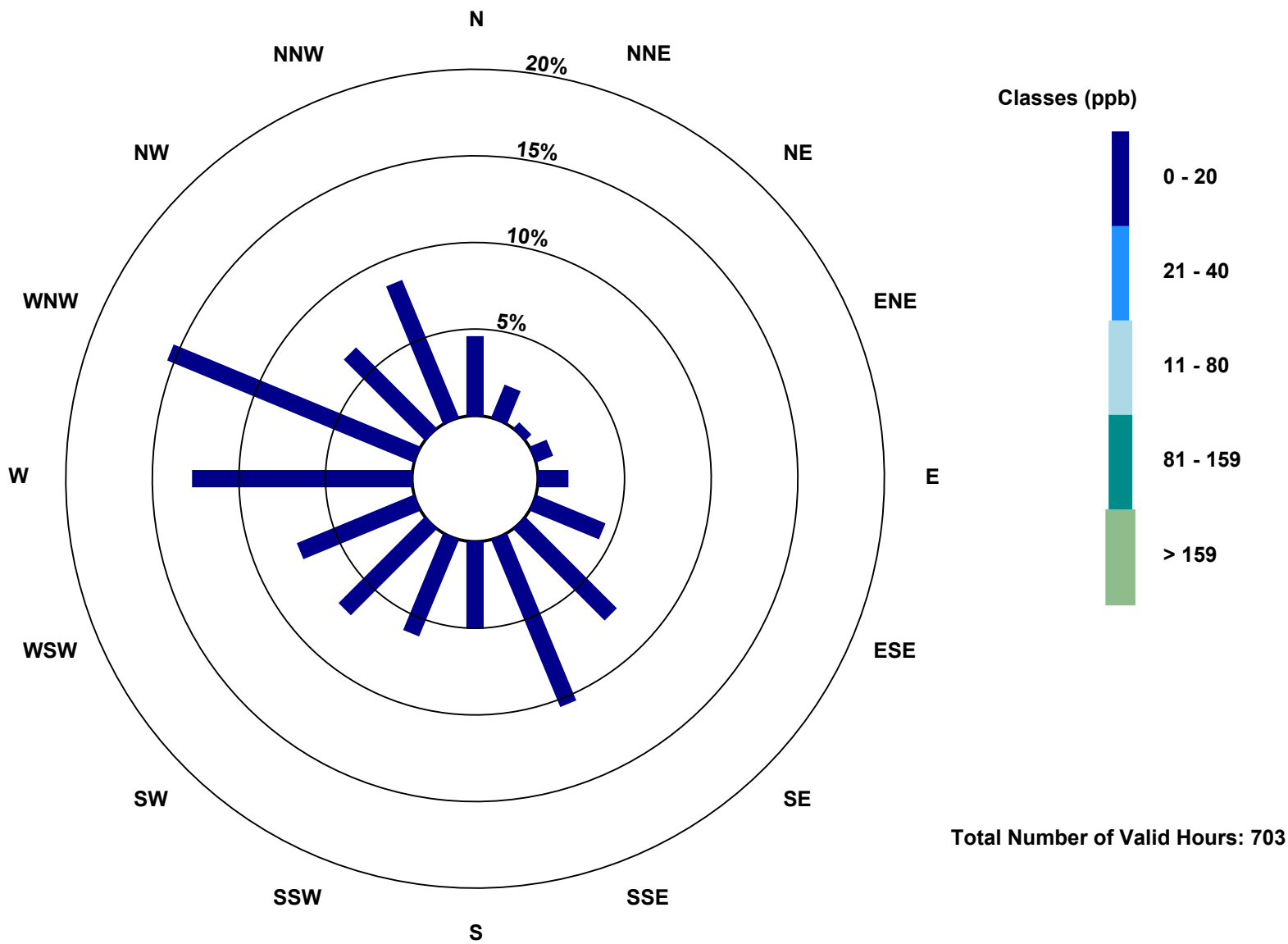
Total Number of Valid Hours: 703

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

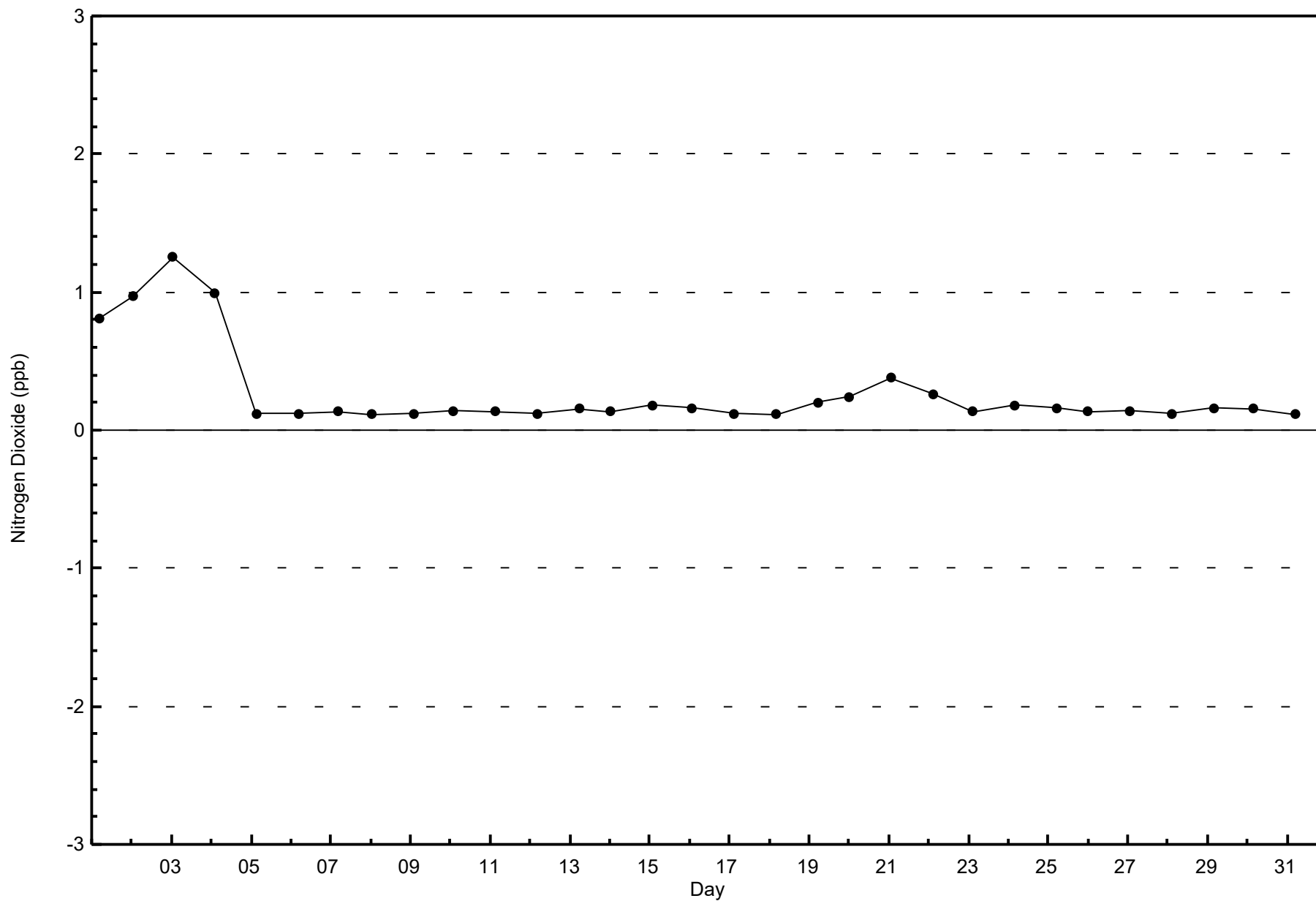
Nitrogen Dioxide (NO₂) - ppb
Anzac





Wood Buffalo Environmental Association
Zero Responses

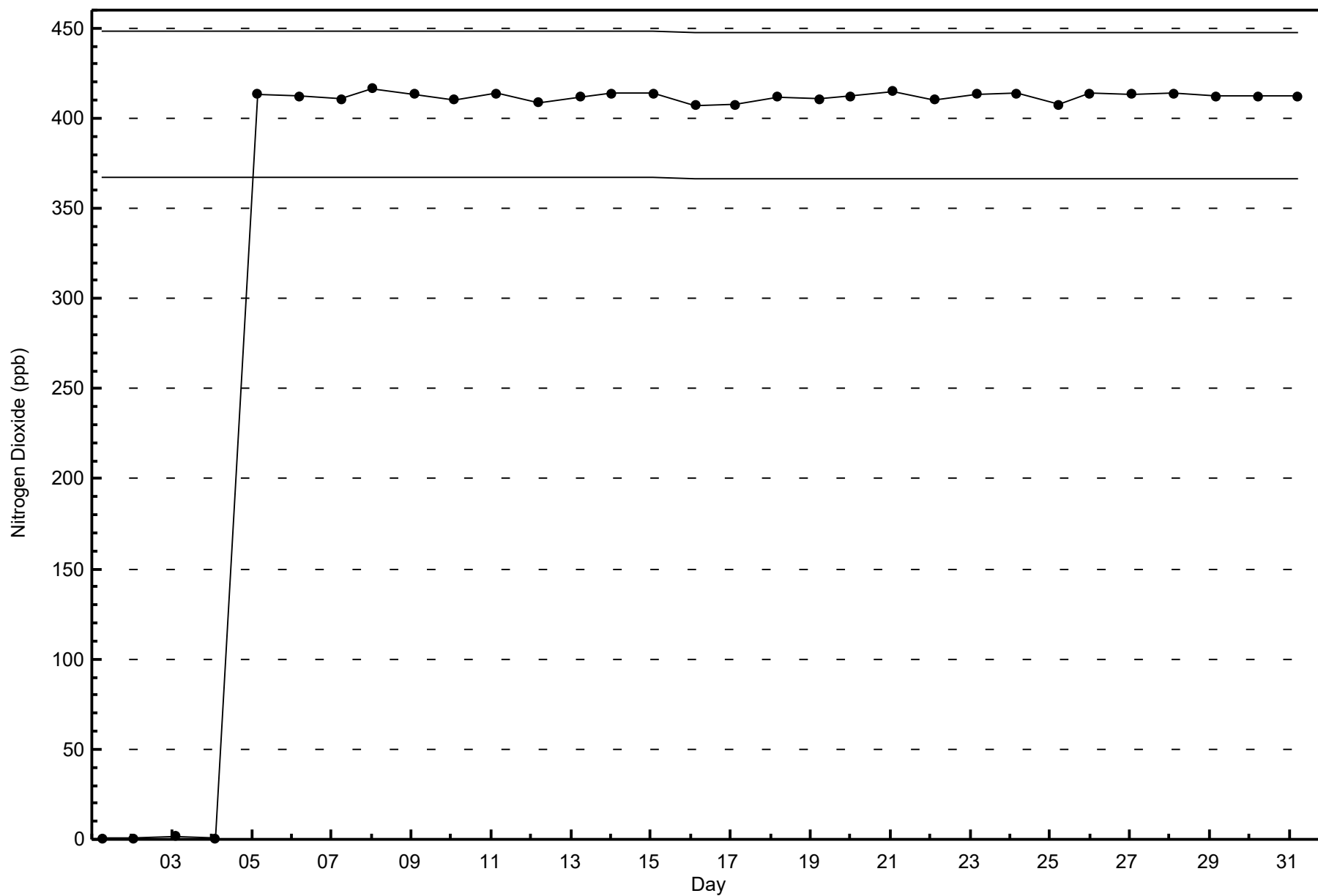
Nitrogen Dioxide (NO₂) - ppb
Anzac - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitrogen Dioxide (NO₂) - ppb
Anzac - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Oxides (NO_x) - ppb

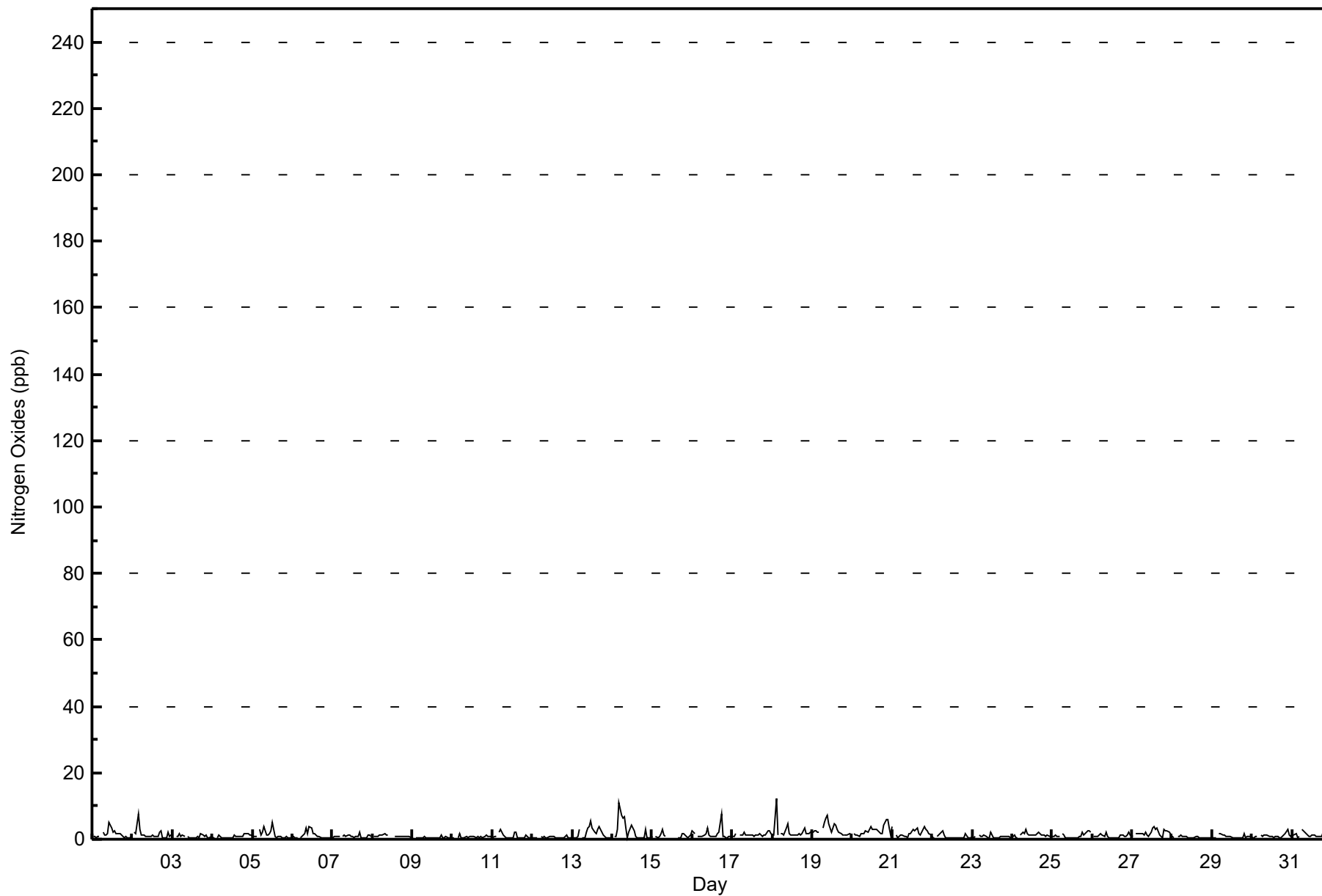
Anzac - July 2025

Maximum Value: 12.3 ppb on Jul 18 03:00																			Maximum Daily Average: 2.9 ppb on Jul 19																			Hours in Service: 744	
Minimum Value: 0.2 ppb on Jul 13 01:00																			Minimum Daily Average: 0.5 ppb on Jul 9																			Hours of Data: 703	
Maximum Diurnal Average: 1.8 ppb at hour 5																			Minimum Diurnal Average: 0.9 ppb at hour 2																			Hours of Missing Data: 41	
Monthly Average: 1.30 ppb																			Percentiles: P ₁ = 0.3 P ₁₀ = 0.4 Q ₁ = 0.6 Median = 0.9 Q ₃ = 1.6 P ₉₀ = 2.7 P ₉₉ = 6.3																			Hours of Calibration: 37	
																																						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-Jul	0.9	0.7	0.6	0.8	0.9	Z	1.9	1.4	1.1	1.6	5.1	3.4	2.3	2.3	1.6	1.8	1.7	1.4	0.7	0.6	0.7	0.6	0.6	0.8	1.5	5.1													
2-Jul	Z	2.0	1.6	7.6	3.1	1.2	1.2	1.3	0.9	0.8	0.8	0.8	1.2	0.9	0.8	0.8	2.1	2.4	0.5	0.5	0.4	2.3	0.8	1.1	1.5	7.6													
3-Jul	1.1	Z	0.9	0.7	1.8	0.7	1.2	0.7	M	0.8	0.5	0.5	0.6	0.5	0.5	0.6	0.6	1.8	1.4	0.6	1.1	0.6	0.6	0.7	0.8	1.8													
4-Jul	0.6	0.6	Z	0.6	1.1	0.5	0.4	0.4	0.3	0.5	0.3	0.5	0.5	1.2	1.0	0.9	0.9	0.7	0.8	1.7	1.7	1.6	1.2	1.2	0.8	1.7													
5-Jul	0.9	0.8	1.0	Z	2.9	1.2	1.9	3.7	1.2	1.4	1.8	2.7	5.1	0.8	0.5	0.8	0.7	0.8	0.5	0.5	0.9	0.6	0.4	0.4	1.4	5.1													
6-Jul	0.8	0.4	0.4	0.3	Z	0.6	1.3	1.6	3.4	1.8	3.8	3.5	1.5	1.6	1.1	0.9	0.7	0.6	0.6	0.6	0.6	0.6	0.5	0.5	1.2	3.8													
7-Jul	0.6	0.7	0.7	0.8	0.9	Z	0.9	1.1	1.0	1.3	1.1	0.8	0.8	0.6	0.7	0.7	2.2	0.6	0.4	0.6	0.6	1.1	1.1	0.8	0.9	2.2													
8-Jul	Z	0.8	0.9	0.9	1.1	1.2	1.3	1.9	1.4	1.5	M	M	M	0.9	0.8	0.7	0.7	0.8	0.9	0.7	0.8	0.8	0.7	0.5	1.0	1.9													
9-Jul	0.4	Z	0.6	0.4	0.4	0.5	0.5	0.8	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.4	1.1	0.3	0.5	0.6	0.5	0.5	0.4	0.5	1.1													
10-Jul	0.3	0.3	Z	0.6	1.8	0.5	0.5	0.6	0.6	0.6	0.8	0.7	0.8	0.7	0.6	0.7	0.6	0.7	0.6	0.9	1.1	0.6	0.9	0.7	0.7	1.8													
11-Jul	0.5	0.7	0.7	Z	2.1	3.1	1.1	1.0	0.6	0.4	0.4	0.6	0.4	2.1	2.0	0.5	0.4	0.6	0.6	0.6	1.1	0.7	0.5	0.5	0.9	3.1													
12-Jul	0.5	0.4	0.4	0.4	Z	0.7	0.6	0.7	0.4	0.5	0.7	0.6	0.8	0.7	0.4	0.4	0.5	0.3	0.3	0.5	1.2	0.6	0.3	0.3	0.5	1.2													
13-Jul	0.2	0.3	0.3	1.0	2.8	Z	0.6	0.4	2.3	3.5	3.8	5.3	3.3	2.0	1.6	2.9	3.7	2.9	1.1	0.8	0.6	0.4	0.4	0.4	1.8	5.3													
14-Jul	Z	0.9	1.0	2.8	11.0	7.4	6.3	6.9	3.3	0.4	2.2	4.4	3.5	2.5	1.0	0.6	0.5	0.6	0.4	0.4	2.8	0.3	0.3	0.4	2.6	11.0													
15-Jul	0.7	Z	0.8	0.6	0.8	1.7	2.9	1.4	1.0	C	C	C	C	C	C	0.5	0.4	0.4	1.7	1.5	0.9	0.5	0.7	1.4	--	2.9													
16-Jul	2.3	1.6	Z	0.7	0.8	0.8	1.0	1.1	1.7	3.6	1.2	0.9	1.0	0.9	1.1	1.7	2.0	7.4	0.8	0.7	0.6	0.5	0.6	0.9	1.5	7.4													
17-Jul	0.9	0.9	1.9	Z	1.3	1.3	1.1	1.9	1.2	1.4	1.2	1.4	1.3	0.9	1.2	1.4	1.7	1.2	1.0	1.1	1.4	2.4	2.4	1.7	1.4	2.4													
18-Jul	1.4	1.4	12.3	1.4	Z	1.7	1.6	1.2	3.4	4.8	1.8	1.4	1.2	1.1	1.1	1.4	1.5	1.3	1.7	3.6	1.9	1.6	1.6	2.0	2.3	12.3													
19-Jul	2.2	2.7	2.7	2.2	2.3	Z	3.3	5.2	6.3	7.1	4.7	2.1	3.5	4.6	4.0	2.8	2.2	1.5	1.4	1.5	1.1	1.2	1.7	1.5	2.9	7.1													
20-Jul	Z	1.6	1.3	1.1	0.8	1.7	1.8	1.8	2.4	2.3	3.1	3.7	3.0	3.0	3.1	2.6	2.0	1.7	1.5	4.1	5.9	6.1	3.5	1.2	2.6	6.1													
21-Jul	4.0	Z	1.3	0.4	0.9	1.1	1.1	0.7	0.7	0.4	1.5	1.6	3.0	2.6	3.1	3.3	1.6	1.3	2.9	3.8	2.9	2.4	1.8	1.1	1.9	4.0													
22-Jul	0.4	0.5	Z	0.7	1.4	2.1	2.4	1.3	0.4	0.3	0.2	0.4	0.4	0.3	0.5	0.3	0.3	0.3	0.3	0.3	1.5	0.4	0.4	0.6	0.7	2.4													
23-Jul	0.8	0.4	1.0	Z	1.1	0.8	1.0	1.1	0.8	0.6	0.5	2.0	1.3	0.5	0.5	0.5	0.5	0.8	0.9	0.9	0.8	0.9	0.7	0.6	0.8	2.0													
24-Jul	0.5	1.1	0.5	0.6	Z	1.3	2.3	1.9	3.2	1.7	1.2	1.1	1.2	1.3	1.2	1.9	2.0	1.4	1.3	1.2	1.0	1.3	0.8	0.7	1.3	3.2													
25-Jul	0.7	0.7	1.3	0.7	0.8	Z	1.5	1.2	0.5	0.4	0.4	0.4	0.5	0.4	0.5	0.6	0.7	1.0	2.2	1.4	2.0	2.6	2.5	2.3	1.1	2.6													
26-Jul	Z	0.9	0.8	1.0	1.4	1.7	1.3	0.8	2.2	0.8	0.5	0.4	0.4	0.5	0.4	0.4	0.4	1.3	1.2	0.8	0.7	1.4	2.1	1.2	1.0	2.2													
27-Jul	1.0	Z	1.8	1.7	1.8	1.8	1.7	1.1	2.0	1.1	0.7	2.2	3.6	3.6	3.0	3.3	1.4	0.9	0.6	2.8	2.4	2.5	2.2	1.4	1.9	3.6													
28-Jul	0.9	0.6	Z	0.7	0.8	1.1	1.1	0.7	0.7	0.5	0.5	0.4	0.4	0.4	0.8	1.0	0.4	0.4	0.4	0.3	0.3	0.3	0.5	0.5	0.6	1.1													
29-Jul	0.4	0.5	0.4	Z	1.8	1.5	1.4	1.1	1.0	1.0	1.0	0.6	0.6	0.5	0.5	0.5	0.5	0.6	0.5	1.6	0.6	0.8	0.8	0.6	0.8	1.8													
30-Jul	0.4	0.5	0.7	0.8	Z	1.3	1.1	1.3	1.3	1.3	0.8	0.7	0.6	0.6	0.7	0.7	0.6	0.5	1.0	1.2	1.5	3.1	1.2	0.9	1.0	3.1													
31-Jul	1.2	1.1	1.6	0.5	0.9	Z	3.0	2.4	1.6	1.2	1.0	0.9	1.1	1.1	0.9	1.0	0.7	0.9	0.8	3.3	0.8	0.8	0.6	0.8	1.2	3.3													
Diurnal Average																										Diurnal Maximum													
4.0 2.7 12.3 7.6 11.0 7.4 6.3 6.9 6.3 7.1 5.1 5.3 5.1 4.6 4.0 3.3 3.7 7.4 2.9 4.1 5.9 6.1 3.5 2.3																																							
Z - zerospan C - Calibration M - Maintenance																																							



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Anzac - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Anzac - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	703	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: 703

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Anzac - July 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	32	14	3	7	12	30	52	73	35	42	49	51	89	108	46	60	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	32	14	3	7	12	30	52	73	35	42	49	51	89	108	46	60	703

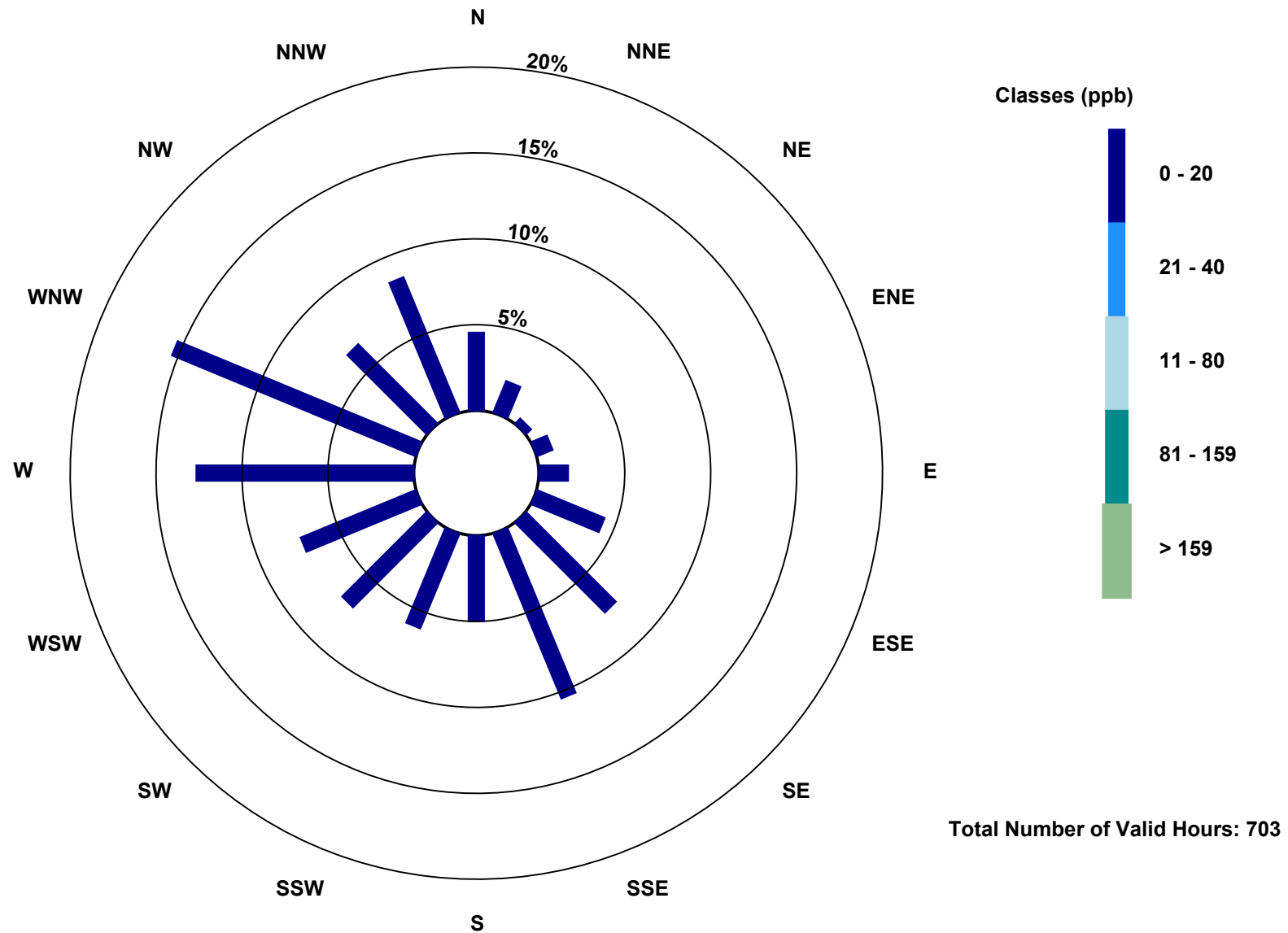
Total Number of Valid Hours: 703

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

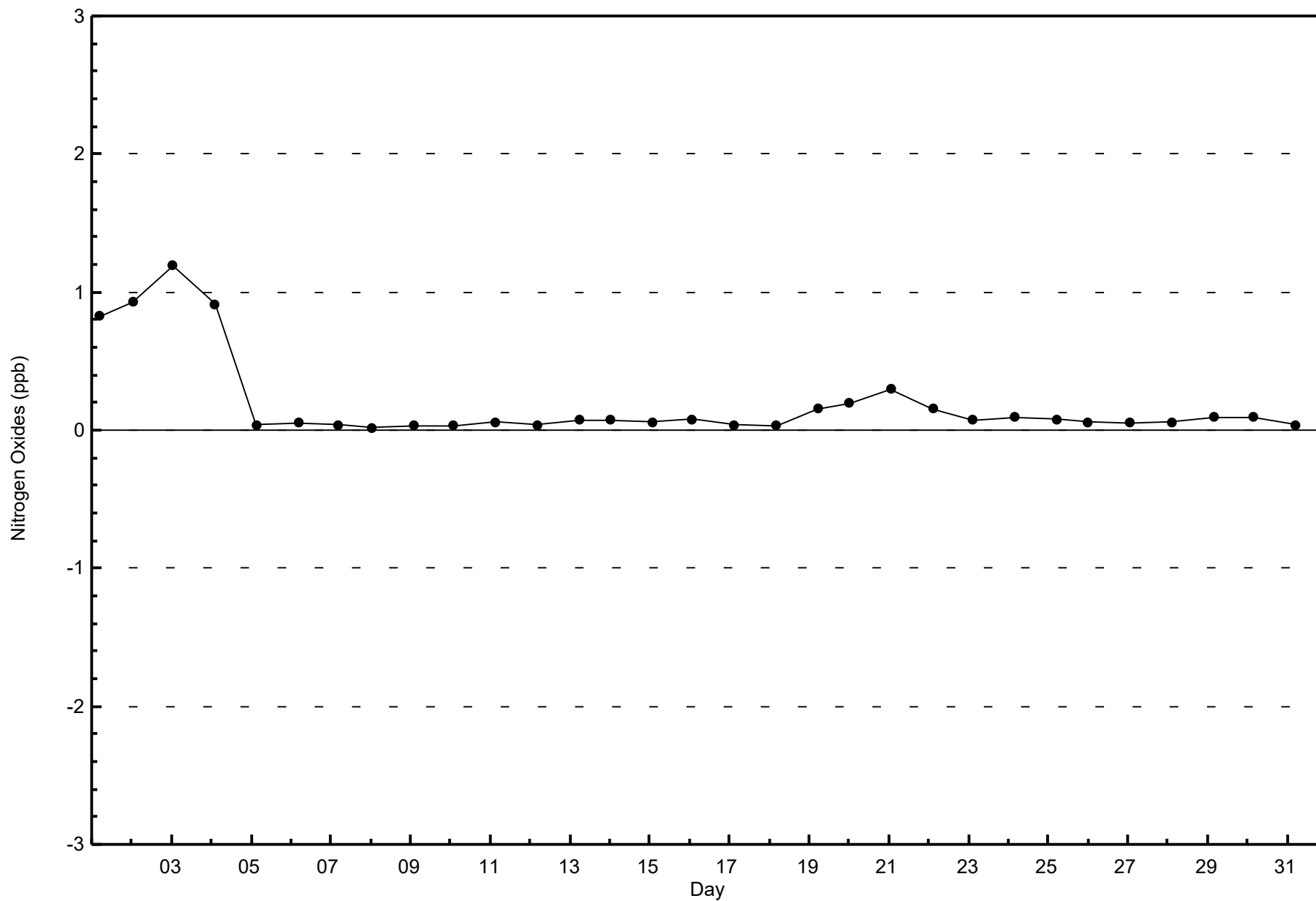
Nitrogen Oxides (NO_x) - ppb
Anzac





Wood Buffalo Environmental Association
Zero Responses

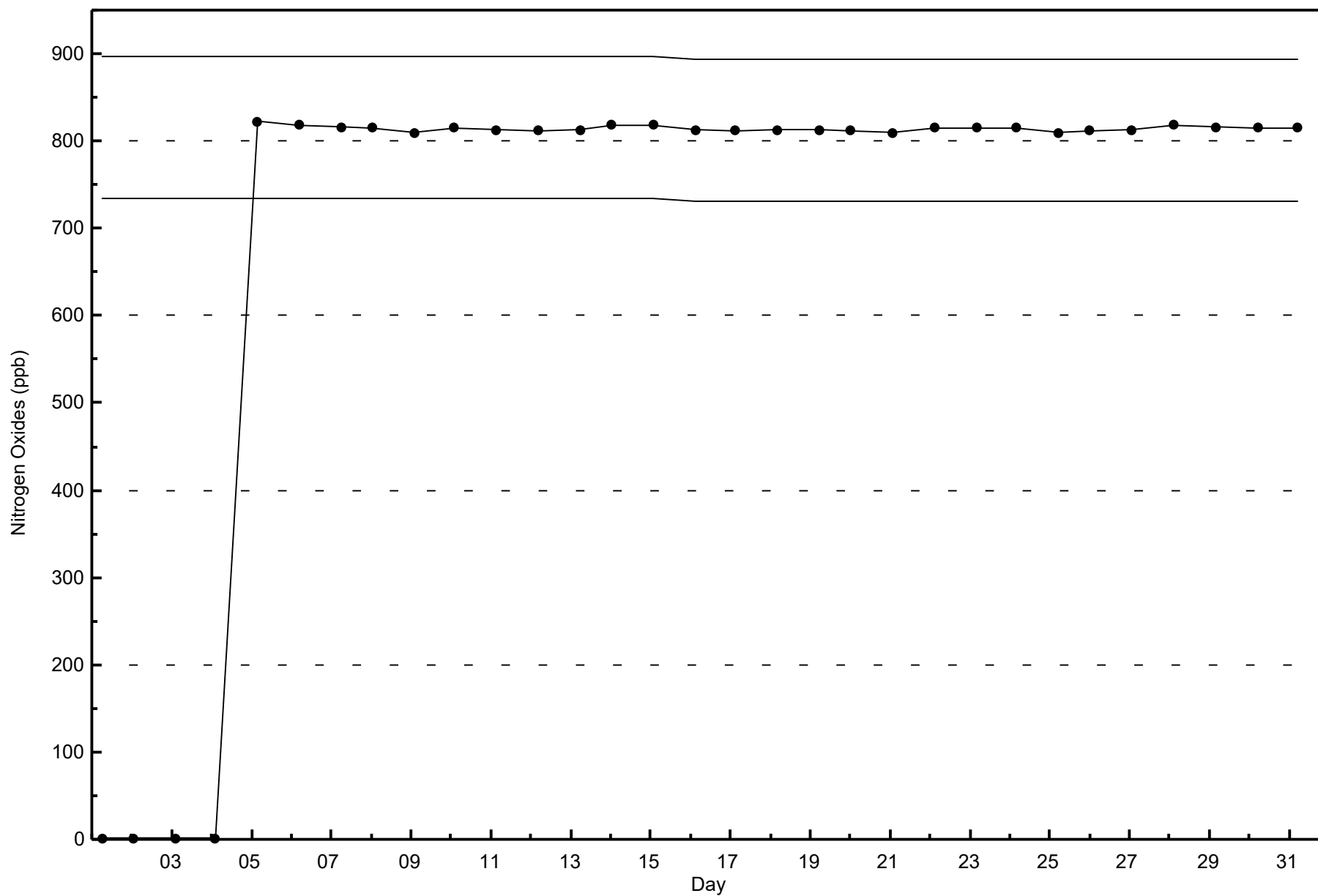
Nitrogen Oxides (NO_x) - ppb
Anzac - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitrogen Oxides (NO_x) - ppb
Anzac - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Ozone (O₃) - ppb

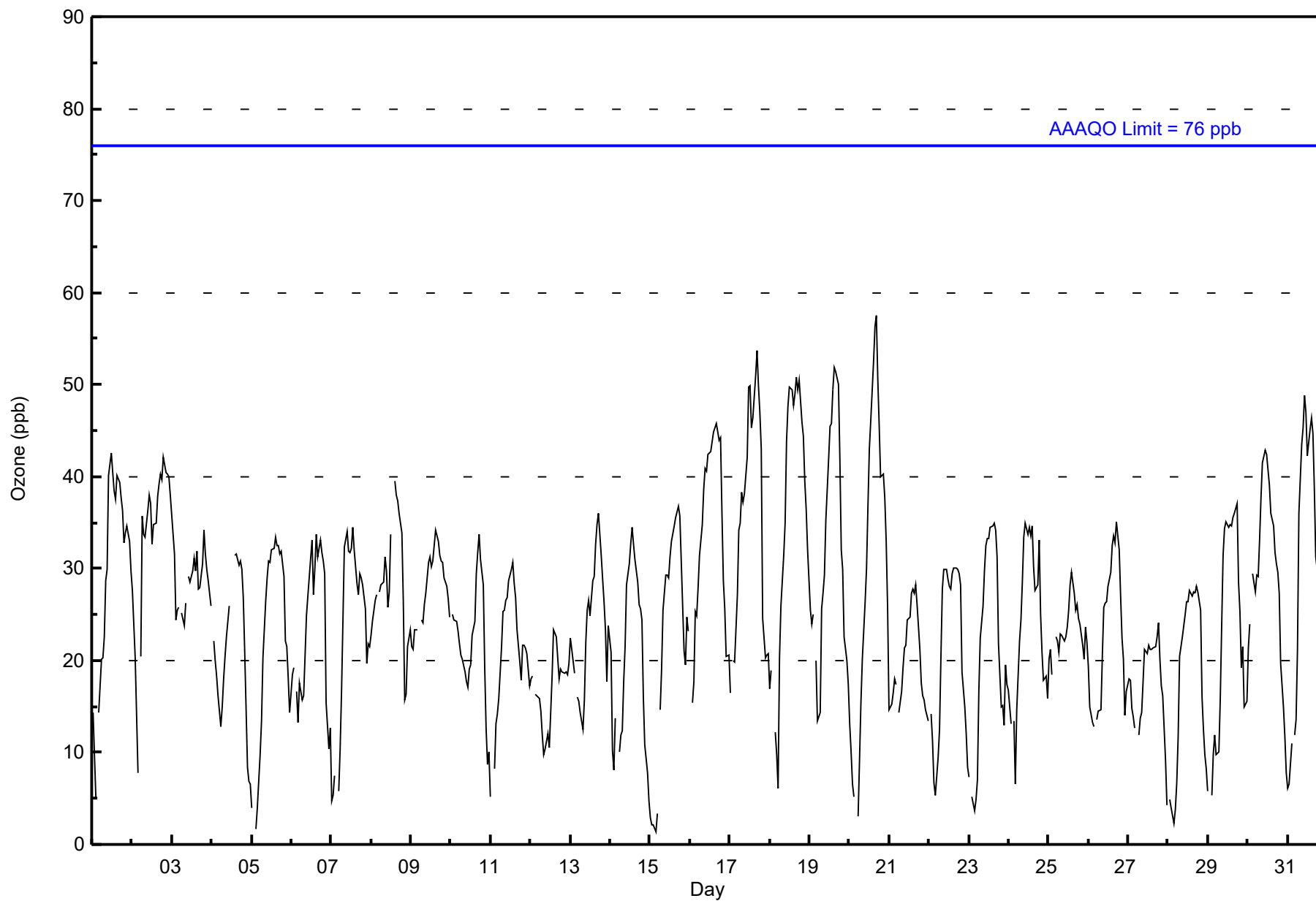
Anzac - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 57.5 ppb on Jul 20 17:00 Maximum Daily Average: 36.1 ppb on Jul 17																				Hours in Service: 744 Hours of Data: 708						
Minimum Value: 1.3 ppb on Jul 15 04:00 Minimum Daily Average: 16.7 ppb on Jul 12 Maximum Diurnal Average: 35.0 ppb at hour 16 Minimum Diurnal Average: 13.8 ppb at hour 3 Monthly Average: 25.34 ppb Percentiles: P ₁ = 3.3 P ₁₀ = 11.6 Q ₁ = 17.8 Median = 25.5 Q ₃ = 32.1 P ₉₀ = 39.5 P ₉₉ = 50.8																				Hours of Missing Data: 36 Hours of Calibration: 34 Percent Operational Time: 99.7						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
1-Jul	14.4	9.7	5.0	Z	14.3	20.1	20.3	22.5	28.7	29.9	40.1	42.5	40.4	38.4	37.6	40.1	39.3	37.7	36.2	32.8	33.8	34.7	33.0	29.7	29.6	42.5
2-Jul	27.7	24.0	20.3	7.7	Z	20.4	35.7	33.7	33.4	36.3	38.0	37.1	32.6	34.8	35.0	37.9	39.3	40.3	39.7	42.1	40.4	40.3	39.9	38.1	33.7	42.1
3-Jul	35.8	31.6	24.5	25.5	25.7	Z	25.2	23.8	26.3	M	29.2	28.5	29.8	31.1	29.8	31.9	27.7	27.8	30.5	34.1	31.5	30.0	28.7	26.0	28.9	35.8
4-Jul	Z	22.2	20.0	18.4	16.1	12.9	15.0	18.0	20.5	22.6	25.9	C	C	C	31.5	31.6	30.3	30.8	29.9	26.9	21.1	8.4	6.8	6.5	20.8	31.6
5-Jul	4.0	Z	1.7	4.0	6.9	9.7	13.5	20.3	26.6	28.9	30.8	30.7	32.0	32.2	33.4	32.5	32.4	31.6	31.8	29.1	22.2	21.5	18.1	14.4	22.1	33.4
6-Jul	18.5	19.2	Z	16.6	13.3	17.5	15.8	16.2	20.4	24.8	27.0	31.0	33.1	27.1	30.1	33.7	31.2	33.1	31.8	30.8	29.4	15.4	10.3	12.7	23.4	33.7
7-Jul	4.7	5.3	7.5	Z	5.8	10.4	16.7	24.5	32.4	34.0	31.8	31.8	32.1	34.4	32.1	28.4	27.1	29.5	29.0	28.3	25.7	19.7	21.8	21.5	23.2	34.4
8-Jul	22.7	24.2	26.6	27.1	Z	27.5	28.2	28.6	31.3	29.8	25.8	27.5	33.7	M	39.6	38.0	37.4	35.9	33.9	26.4	15.8	16.4	21.5	23.4	28.2	39.6
9-Jul	21.5	21.2	23.4	23.4	23.4	Z	24.4	24.1	26.1	27.3	30.6	31.3	30.2	30.9	32.5	34.2	32.9	31.4	30.8	30.7	28.9	28.0	26.7	24.7	27.8	34.2
10-Jul	Z	25.1	24.4	24.2	23.2	21.8	20.5	20.1	18.7	17.7	17.1	19.0	19.6	22.7	24.2	29.4	31.7	33.8	30.9	28.3	19.2	12.6	8.7	10.0	21.9	33.8
11-Jul	5.1	Z	8.3	13.1	14.2	15.9	21.6	25.4	25.4	26.5	26.9	28.6	29.9	30.7	28.4	26.9	23.3	19.8	17.8	21.7	21.6	21.4	20.8	17.3	21.3	30.7
12-Jul	18.1	18.3	Z	16.4	16.1	15.9	14.5	11.9	9.7	10.4	12.0	10.5	14.3	18.3	23.3	22.6	20.3	18.0	19.1	18.7	18.7	18.8	18.4	19.7	16.7	23.3
13-Jul	22.4	21.2	18.5	Z	16.0	15.5	14.4	12.6	15.7	22.0	25.4	26.6	24.9	28.6	29.1	32.6	34.7	36.1	31.4	28.9	26.4	23.3	17.7	23.8	23.8	36.1
14-Jul	20.9	10.2	8.0	13.7	Z	10.0	11.9	12.4	17.7	21.4	28.2	30.5	32.6	34.5	32.6	30.9	28.6	26.1	25.6	24.3	16.0	10.8	7.8	4.8	20.0	34.5
15-Jul	2.8	2.2	2.1	1.3	3.3	Z	14.6	19.0	25.4	29.2	29.2	29.0	31.3	33.0	34.7	35.5	36.2	36.7	35.7	30.8	21.1	19.5	24.7	23.1	22.6	36.7
16-Jul	Z	15.5	17.7	25.3	24.8	27.9	31.4	34.8	38.6	40.9	40.6	42.4	42.7	43.8	44.9	45.3	45.8	43.9	44.2	36.0	28.7	25.7	20.4	20.5	34.0	45.8
17-Jul	16.5	Z	19.9	19.8	27.2	34.2	34.9	38.2	37.1	38.2	42.1	49.7	49.9	45.3	46.4	50.9	53.6	49.8	47.0	43.0	24.5	20.4	20.6	20.7	36.1	53.6
18-Jul	16.9	18.9	Z	12.2	9.8	6.1	20.3	25.9	31.5	34.9	43.7	47.7	49.7	49.4	47.8	48.9	50.8	49.4	50.5	45.9	44.3	39.5	36.5	32.1	35.3	50.8
19-Jul	25.5	24.0	25.0	Z	20.1	13.5	14.4	25.6	27.3	29.3	35.3	42.0	45.4	45.8	49.4	51.9	51.4	50.1	42.0	32.0	30.0	22.6	20.0	17.4	32.2	51.9
20-Jul	13.1	10.0	6.6	5.2	Z	3.0	9.1	15.3	20.1	26.4	30.0	36.8	43.1	46.0	52.5	56.3	57.5	50.6	45.6	40.0	40.3	37.7	32.9	25.8	30.6	57.5
21-Jul	14.7	15.2	16.5	18.1	17.3	Z	14.3	16.6	19.2	21.4	21.6	24.4	24.7	27.2	27.7	27.3	28.2	26.0	21.3	17.5	16.2	15.8	14.6	13.4	20.0	28.2
22-Jul	Z	14.1	11.3	6.7	5.3	9.5	12.5	20.4	27.8	29.9	29.9	28.8	28.1	27.8	29.4	30.0	30.0	29.9	29.4	28.2	18.8	15.0	12.0	8.4	21.0	30.0
23-Jul	7.2	Z	5.2	3.6	4.8	7.0	16.6	22.5	25.9	29.7	32.5	33.2	33.3	34.4	34.6	34.9	34.1	31.2	21.8	14.9	15.1	13.0	19.5	17.4	21.4	34.9
24-Jul	16.8	13.1	Z	13.4	6.6	14.6	22.1	24.4	28.6	33.4	35.0	33.7	34.4	33.6	34.7	30.2	27.6	28.3	33.2	25.0	20.9	17.9	18.3	15.9	24.4	35.0
25-Jul	20.2	21.2	18.5	Z	22.6	22.2	20.9	22.9	22.8	22.2	22.6	23.6	25.5	28.2	29.5	27.3	25.5	26.0	24.6	23.9	21.6	20.2	23.7	21.9	23.4	29.5
26-Jul	19.4	14.9	13.3	12.7	Z	13.6	14.5	14.7	20.6	25.7	26.2	26.4	28.0	29.5	32.4	33.5	32.8	35.1	32.0	27.0	22.5	20.1	14.0	16.7	22.9	35.1
27-Jul	18.1	17.9	14.8	13.9	12.7	Z	11.9	13.8	14.3	17.7	21.2	20.8	21.6	21.2	21.2	21.4	21.5	22.6	24.1	20.2	17.3	16.1	9.2	4.3	17.3	24.1
28-Jul	Z	4.9	4.0	2.3	3.8	6.7	11.7	20.5	22.6	23.8	25.0	26.3	26.4	27.6	27.0	27.4	27.2	28.1	27.5	25.5	16.0	12.5	9.8	8.2	18.0	28.1
29-Jul	5.7	Z	5.4	9.8	12.0	9.8	10.1	15.8	23.8	31.4	34.3	35.0	34.5	34.8	34.7	35.5	35.9	37.1	28.6	25.4	19.2	21.5	15.0	15.6	23.1	37.1
30-Jul	21.3	23.9	Z	29.5	27.4	29.2	29.2	33.1	37.7	41.5	42.9	42.4	40.8	39.1	36.0	34.6	31.8	30.6	29.6	27.3	19.7	15.0	11.8	7.7	29.7	42.9
31-Jul	6.1	6.6	10.9	Z	12.0	13.5	21.2	36.0	43.4	45.4	48.8	47.0	42.2	45.2	46.4	44.7	38.8	31.3	29.8	32.3	29.7	26.2	36.3	38.4	31.8	48.8
																									Diurnal Average	
																									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
Anzac - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ozone (O₃) - ppb
Anzac - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	239	33.76	33.76
21 - 50	460	64.97	98.73
51 - 82	9	1.27	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
Anzac - July 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	4	1	2	4	4	12	16	20	17	25	23	27	35	17	21	239
21 - 50	20	9	2	3	9	25	38	56	17	22	24	30	64	75	25	41	460
51 - 82	1	1	0	0	0	1	3	3	0	0	0	0	0	0	0	0	9
> 83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	32	14	3	5	13	30	53	75	37	39	49	53	91	110	42	62	708

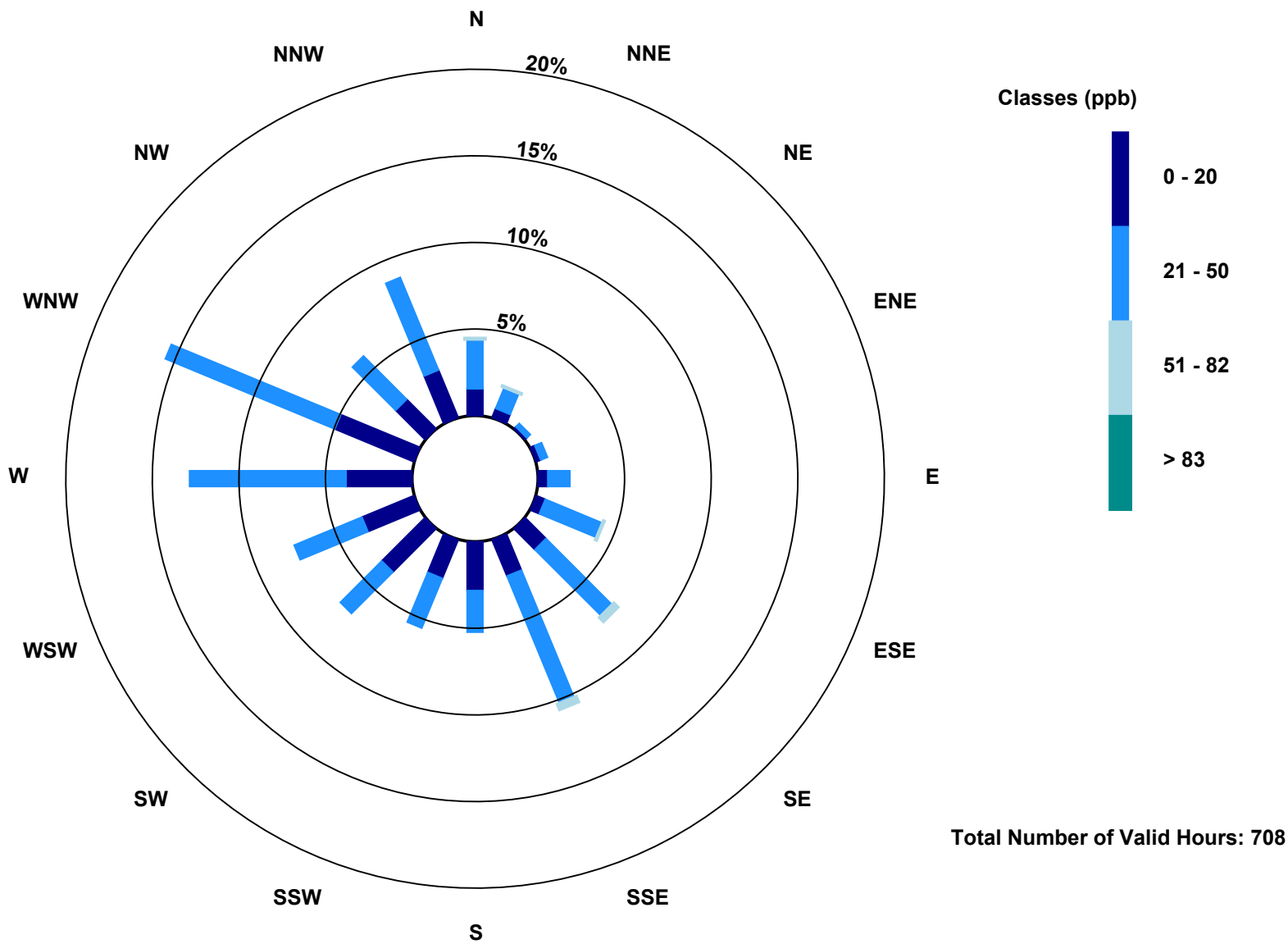
Total Number of Valid Hours: 708

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

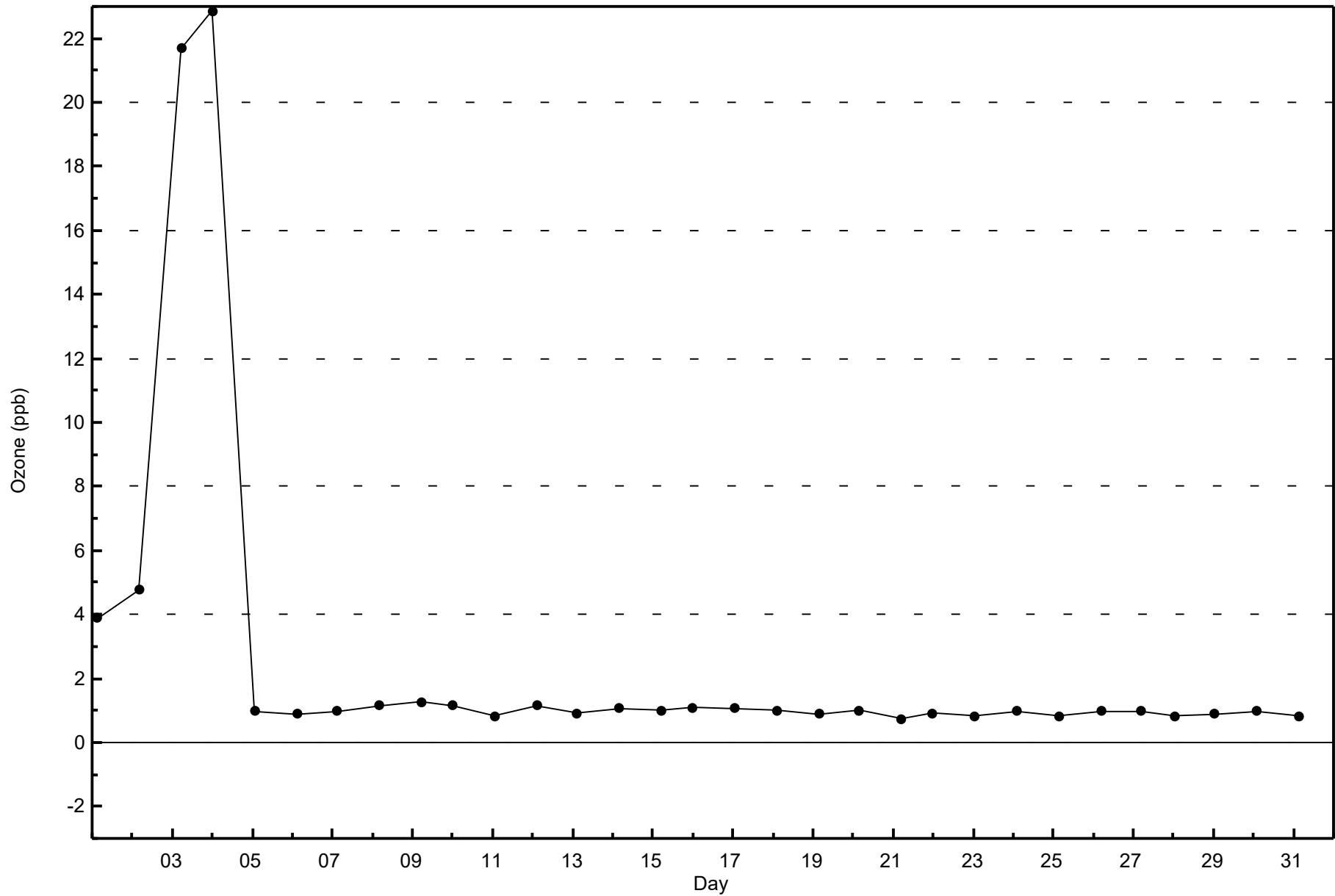
Ozone (O₃) - ppb
Anzac





Wood Buffalo Environmental Association
Zero Responses

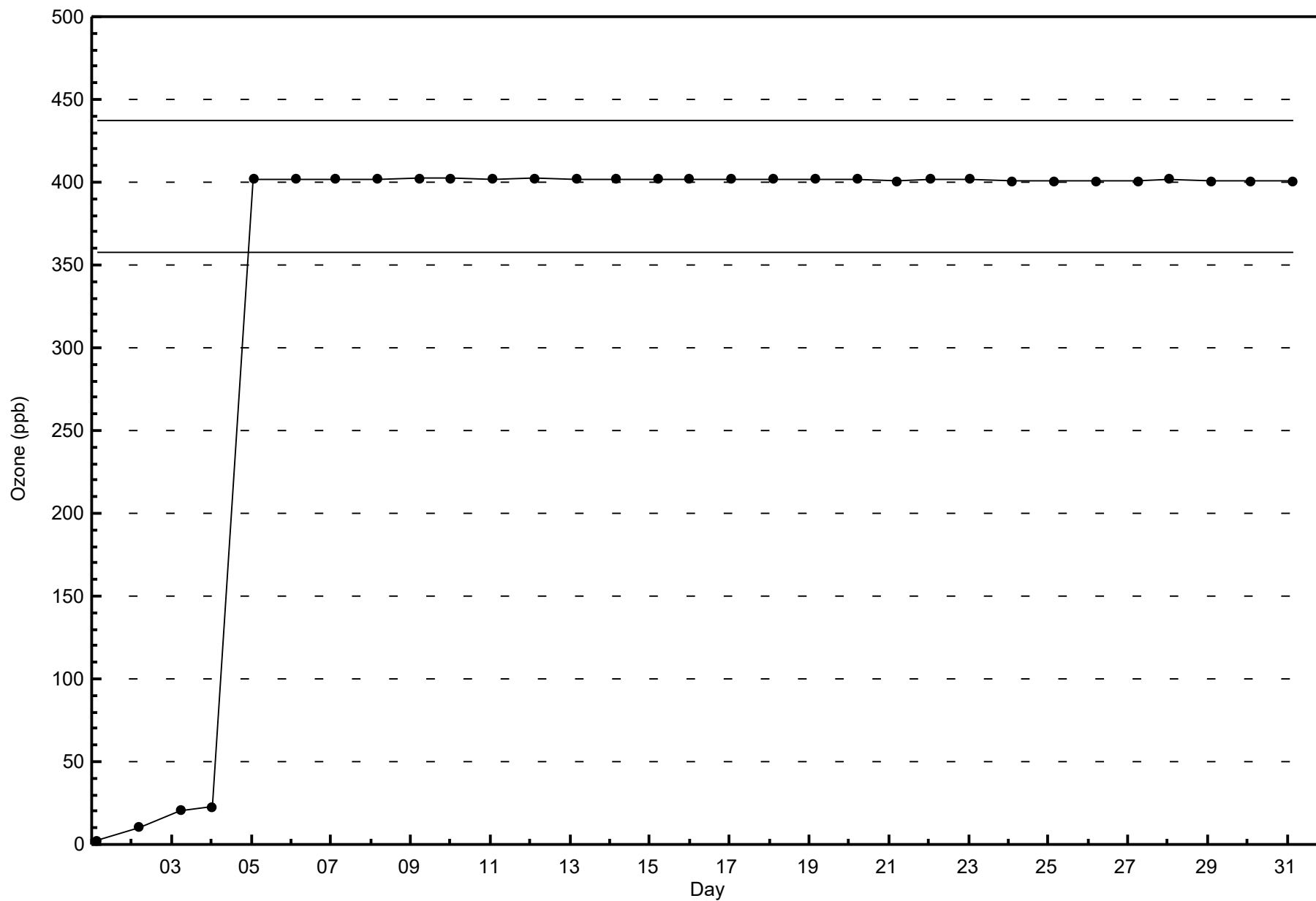
Ozone (O₃) - ppb
Anzac - July 2025





Wood Buffalo Environmental Association
Span Responses

Ozone (O₃) - ppb
Anzac - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

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

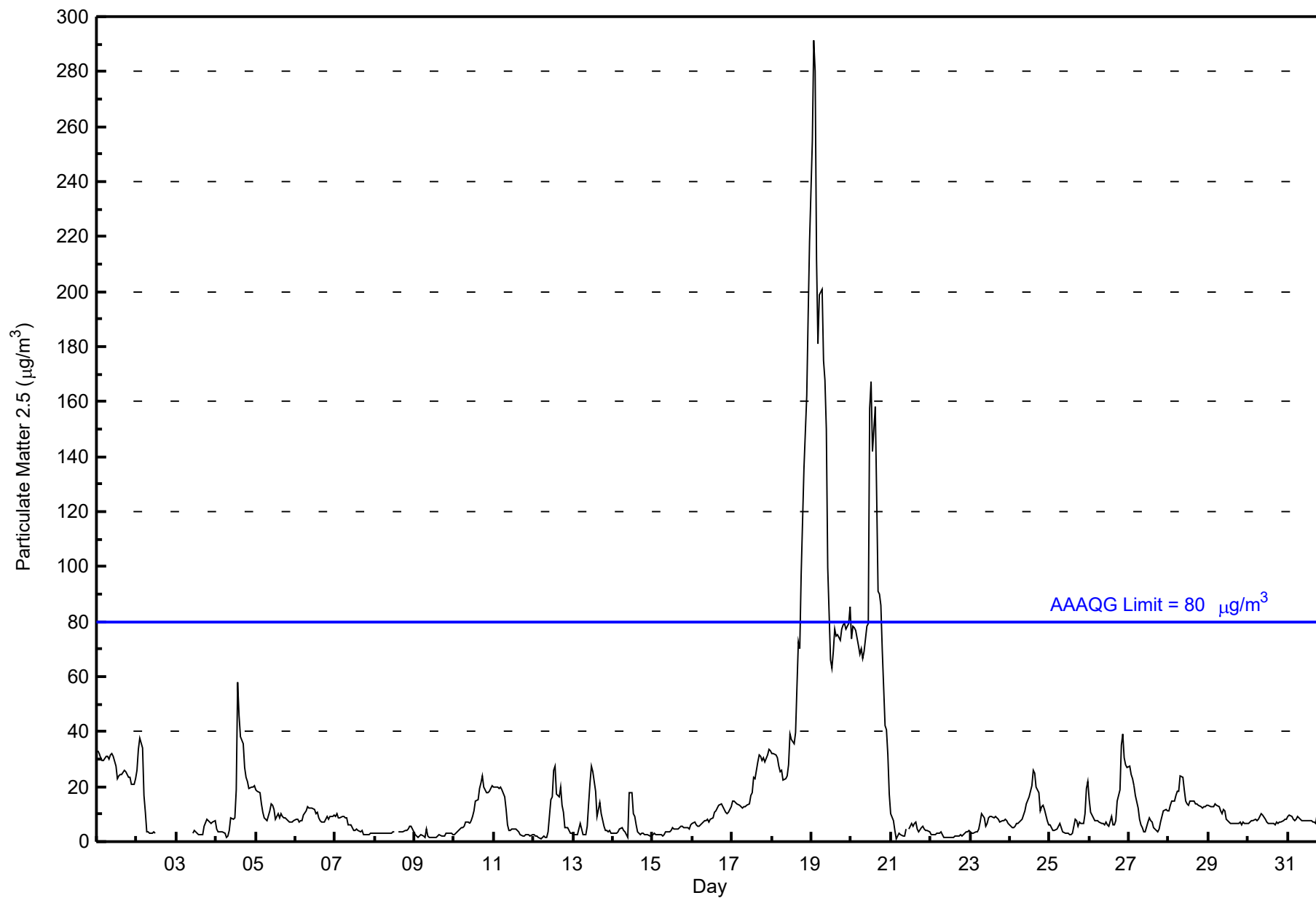
Anzac - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 3 Maximum Value: 291.1 µg/m³ on Jul 19 02:00 Minimum Value: 1.1 µg/m³ on Jul 12 05:00 Maximum Diurnal Average: 22.3 µg/m³ at hour 2 Monthly Average: 18.09 µg/m³																					Maximum Daily Average: 132.8 µg/m³ on Jul 19 Minimum Daily Average: 2.2 µg/m³ on Jul 9 Minimum Diurnal Average: 15.1 µg/m³ at hour 11 Percentiles: P ₁ = 1.4 P ₁₀ = 2.5 Q ₁ = 4.0 Median = 7.8 Q ₃ = 16.4 P ₉₀ = 32.1 P ₉₉ = 189.4				Hours in Service: 744 Hours of Data: 720 Hours of Missing Data: 24 Hours of Calibration: 1 Percent Operational Time: 96.9	
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-Jul	32.8	32.1	30.4	29.6	29.5	30.9	31.2	29.9	31.7	32.1	31.0	27.3	23.1	24.1	24.4	24.6	26.1	25.3	24.5	23.4	23.4	21.0	20.7	22.7	27.2	32.8
2-Jul	26.1	33.8	37.8	34.2	17.0	10.8	3.6	3.7	3.1	2.9	3.4	2.9	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	37.8
3-Jul	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	3.2	4.0	3.0	2.7	2.7	2.5	2.7	5.6	8.2	7.5	7.0	6.4	7.2	7.5	--	8.2
4-Jul	4.7	3.5	3.3	3.5	3.8	3.2	1.6	2.2	4.2	8.7	8.0	8.5	18.9	57.8	45.5	38.2	35.6	26.7	23.3	21.8	19.5	20.0	19.8	20.4	16.8	57.8
5-Jul	18.7	18.3	17.8	14.0	10.7	8.8	8.1	7.5	11.1	13.5	13.2	11.7	8.4	10.2	8.4	10.3	9.0	8.5	8.7	7.9	7.2	7.0	7.0	7.4	10.6	18.7
6-Jul	8.2	8.4	7.3	7.6	7.8	9.6	11.4	12.5	12.2	12.1	12.3	11.5	10.0	10.5	8.8	7.9	7.2	7.2	8.3	9.1	8.2	9.0	9.4	9.8	9.4	12.5
7-Jul	9.4	9.9	8.8	8.6	9.2	9.0	8.6	8.7	6.1	5.8	4.8	4.0	4.1	4.4	4.3	3.7	4.1	2.7	2.5	2.6	2.7	3.1	3.1	3.1	5.6	9.9
8-Jul	3.1	3.0	3.1	3.1	3.1	3.1	3.1	3.2	3.1	3.1	3.1	3.4	3.4	M	3.7	3.6	3.7	3.7	4.1	3.9	4.5	5.4	5.4	3.7	3.6	5.4
9-Jul	2.4	1.9	1.6	2.1	2.4	1.8	1.7	4.6	2.0	1.4	1.4	1.4	1.3	1.5	1.9	2.4	2.3	2.2	2.2	2.8	3.0	3.1	2.8	2.4	2.2	4.6
10-Jul	2.5	3.3	3.5	4.8	4.9	5.1	5.4	6.9	6.9	6.9	7.4	9.3	10.9	14.9	15.3	19.5	21.4	24.0	19.8	18.0	17.6	18.3	19.2	20.3	11.9	24.0
11-Jul	19.6	19.6	19.6	19.4	19.8	18.8	16.2	11.8	6.1	4.1	4.1	4.7	4.7	4.3	3.9	3.4	2.8	2.1	1.9	2.3	2.3	2.4	2.3	2.5	8.3	19.8
12-Jul	2.6	2.0	1.9	1.5	1.1	1.7	1.8	1.8	1.7	3.5	15.4	16.3	25.8	27.3	17.1	16.3	19.8	13.3	10.8	5.3	4.9	4.0	3.2	2.8	8.4	27.3
13-Jul	2.4	2.4	2.5	4.6	6.6	4.4	2.7	2.7	5.4	13.8	21.2	27.5	25.6	18.4	9.2	11.8	14.1	10.3	5.6	4.3	4.1	3.7	4.1	3.2	8.8	27.5
14-Jul	3.1	3.2	3.2	3.5	4.7	5.0	3.9	3.6	2.4	1.4	17.5	17.7	10.0	9.2	5.9	3.7	2.5	2.9	2.9	2.8	2.4	2.4	2.2	2.3	4.9	17.7
15-Jul	2.4	2.9	2.8	2.7	2.7	2.5	2.0	2.3	3.6	3.8	3.5	4.1	5.3	4.8	4.5	4.8	5.0	5.4	5.5	5.1	5.1	4.9	4.8	5.9	4.0	5.9
16-Jul	6.5	6.9	6.1	5.7	5.5	6.0	6.4	7.4	7.8	8.3	7.4	8.1	8.7	10.5	11.3	12.0	13.0	13.5	12.7	11.5	10.7	10.1	10.6	12.9	9.2	13.5
17-Jul	14.6	14.7	14.5	13.8	13.4	12.8	12.2	12.9	12.8	13.1	13.5	17.0	17.6	23.4	22.7	28.9	31.7	31.1	29.5	30.4	29.2	31.7	33.6	32.9	21.2	33.6
18-Jul	32.0	32.1	31.3	30.4	27.5	25.4	26.0	22.6	23.1	23.9	28.1	39.2	37.3	35.7	39.5	56.6	73.0	70.0	97.3	135.8	148.7	162.0	191.3	218.3	67.0	218.3
19-Jul	254.6	291.1	280.3	211.7	181.2	198.7	200.8	174.7	167.6	150.0	99.4	66.1	63.1	69.4	77.5	75.0	75.2	73.4	77.0	79.0	79.5	77.4	79.4	85.5	132.8	291.1
20-Jul	73.5	78.3	77.9	76.8	71.2	68.0	70.4	66.8	69.4	78.1	79.2	157.7	167.3	141.8	158.3	125.8	91.2	89.8	85.8	69.9	42.1	40.6	31.5	17.2	84.5	167.3
21-Jul	10.4	7.8	3.9	1.2	2.0	3.1	2.6	2.0	2.2	4.3	C	4.4	6.5	5.5	6.7	7.1	4.6	3.7	5.0	5.5	4.8	4.0	3.9	3.3	4.5	10.4
22-Jul	2.4	2.3	2.3	2.5	3.0	3.2	3.4	2.6	1.6	1.4	1.4	1.5	1.5	1.5	1.6	1.8	2.0	2.1	2.4	2.2	2.7	3.5	3.7	3.9	2.4	3.9
23-Jul	3.5	3.1	3.2	3.8	3.3	4.5	7.1	10.4	8.5	5.8	6.4	8.7	9.0	9.1	8.9	9.3	8.7	8.0	7.4	7.4	7.6	7.9	7.5	6.4	6.9	10.4
24-Jul	6.2	5.2	5.3	5.6	6.7	6.8	7.7	8.1	9.5	11.4	13.7	16.4	18.3	20.3	25.9	24.8	20.0	18.0	11.3	12.6	13.0	11.9	7.4	6.0	12.2	25.9
25-Jul	6.1	5.1	4.2	3.9	4.5	5.6	6.7	5.0	3.4	2.9	3.1	3.2	2.7	2.8	3.2	8.0	7.8	5.5	7.0	6.5	6.8	10.2	19.5	21.8	6.5	21.8
26-Jul	15.5	10.6	8.5	7.8	7.5	7.5	7.0	6.8	6.5	6.2	7.0	6.0	5.8	9.0	6.1	5.9	7.5	14.6	18.7	35.1	39.0	30.5	27.8	26.8	13.5	39.0
27-Jul	27.3	24.5	22.8	20.3	16.8	12.0	8.3	6.0	5.2	3.5	3.6	7.1	8.4	7.5	6.9	5.3	3.9	3.6	4.4	6.9	9.0	11.3	11.9	11.4	10.3	27.3
28-Jul	11.3	13.1	14.7	14.9	16.9	18.1	18.1	24.0	23.2	18.9	14.9	13.8	13.1	14.7	14.6	14.7	13.6	13.7	13.0	12.7	12.4	12.5	12.5	13.2	15.1	24.0
29-Jul	13.2	12.7	12.5	12.8	13.6	13.2	12.7	11.4	10.3	11.9	11.2	8.4	7.0	6.9	6.4	6.5	6.6	6.7	6.4	7.1	6.3	7.1	6.8	6.7	9.3	13.6
30-Jul	6.5	7.0	7.5	7.8	8.0	7.9	7.9	9.3	10.0	9.6	8.2	7.0	6.7	6.6	6.5	6.7	6.3	7.2	6.8	6.9	7.1	7.5	7.9	8.3	7.6	10.0
31-Jul	9.1	9.5	9.2	8.1	7.7	7.9	9.1	8.7	7.8	7.8	7.9	7.5	7.8	7.6	7.5	7.3	6.9	6.6	10.4	6.0	6.5	6.6	8.8	11.2	8.1	11.2
21.0 22.3 21.6 18.9 17.1 17.2 16.9 16.0 15.6 15.7 15.1 17.0 17.8 19.4 18.6 18.3 17.6 16.9 17.4 18.4 17.9 18.2 19.2 20.0 254.6 291.1 280.3 211.7 181.2 198.7 200.8 174.7 167.6 150.0 99.4 157.7 167.3 141.8 158.3 125.8 91.2 89.8 97.3 135.8 148.7 162.0 191.3 218.3																									Diurnal Average	Diurnal Maximum
C - Calibration M - Maintenance UO - Unstable Operation Alberta Ambient Air Quality Guideline/Objectives: 1-hr 80 µg/m³ 24-hr 29 µg/m³																										



Wood Buffalo Environmental Association
Hourly Averages

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Anzac - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - µg/m³
Anzac - July 2025

Concentration Ranges (µg/m³)	Number of Hours	%	Cumulative %
0 - 5	244	33.89	33.89
6 - 15	293	40.69	74.58
16 - 25	74	10.28	84.86
26 - 80	83	11.53	96.39
> 81.0	26	3.61	100.00

Total Number of Valid Hours: 720

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - µg/m³
Anzac - July 2025

Concentration Ranges (µg/m³)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	15	3	0	2	1	2	1	10	8	13	21	34	52	45	15	22	244
6 - 15	6	3	3	4	6	15	21	33	20	22	23	11	31	53	16	26	293
16 - 25	4	3	0	0	4	4	4	7	2	2	7	7	4	11	7	8	74
26 - 80	8	5	0	1	1	1	15	14	7	4	2	2	4	5	7	7	83
> 81.0	0	0	0	0	0	3	9	13	0	0	0	1	0	0	0	0	26
Totals	33	14	3	7	12	25	50	77	37	41	53	55	91	114	45	63	720

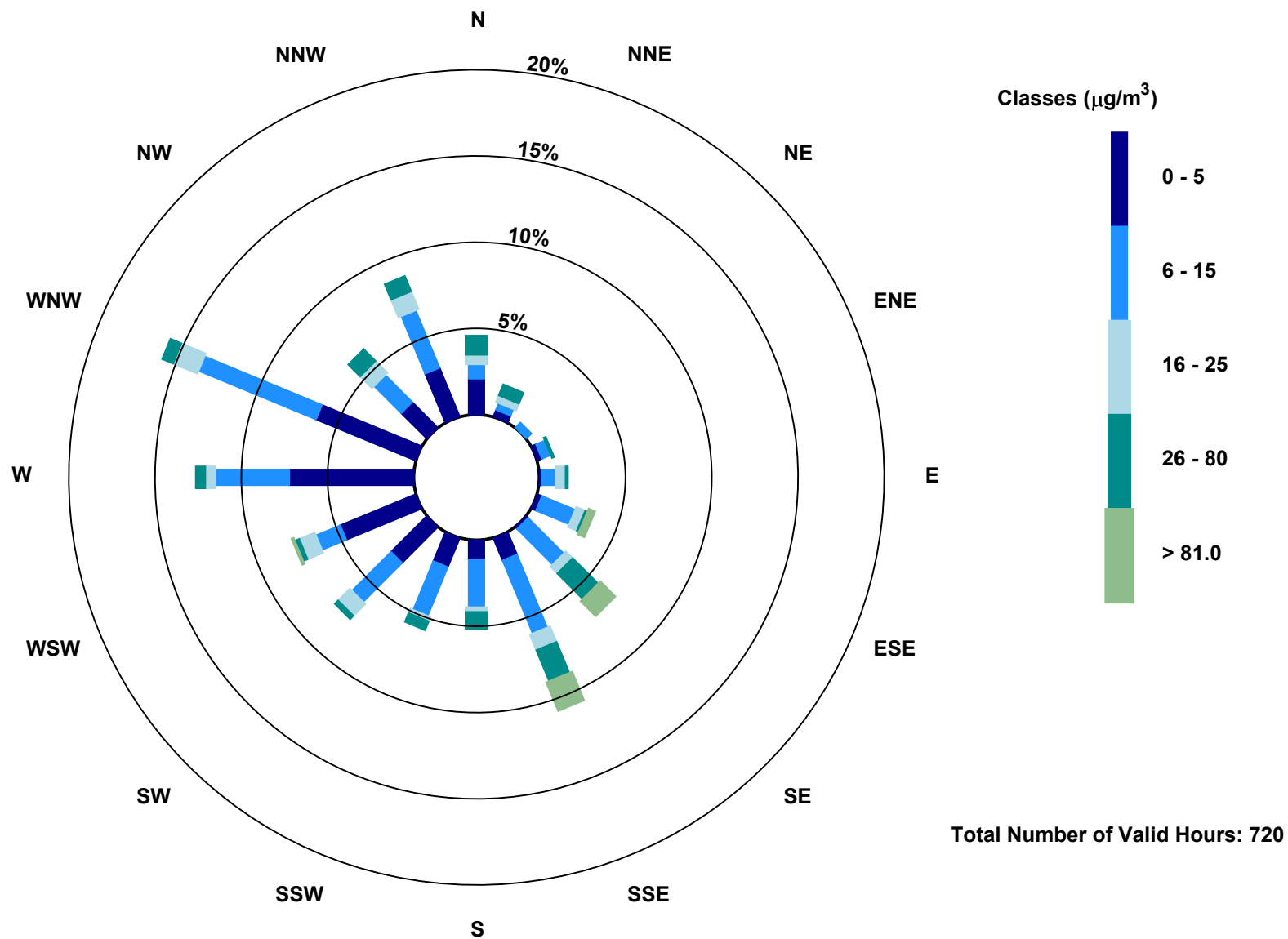
Total Number of Valid Hours: 720

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Ambient Temperature 2m (AT2) - C

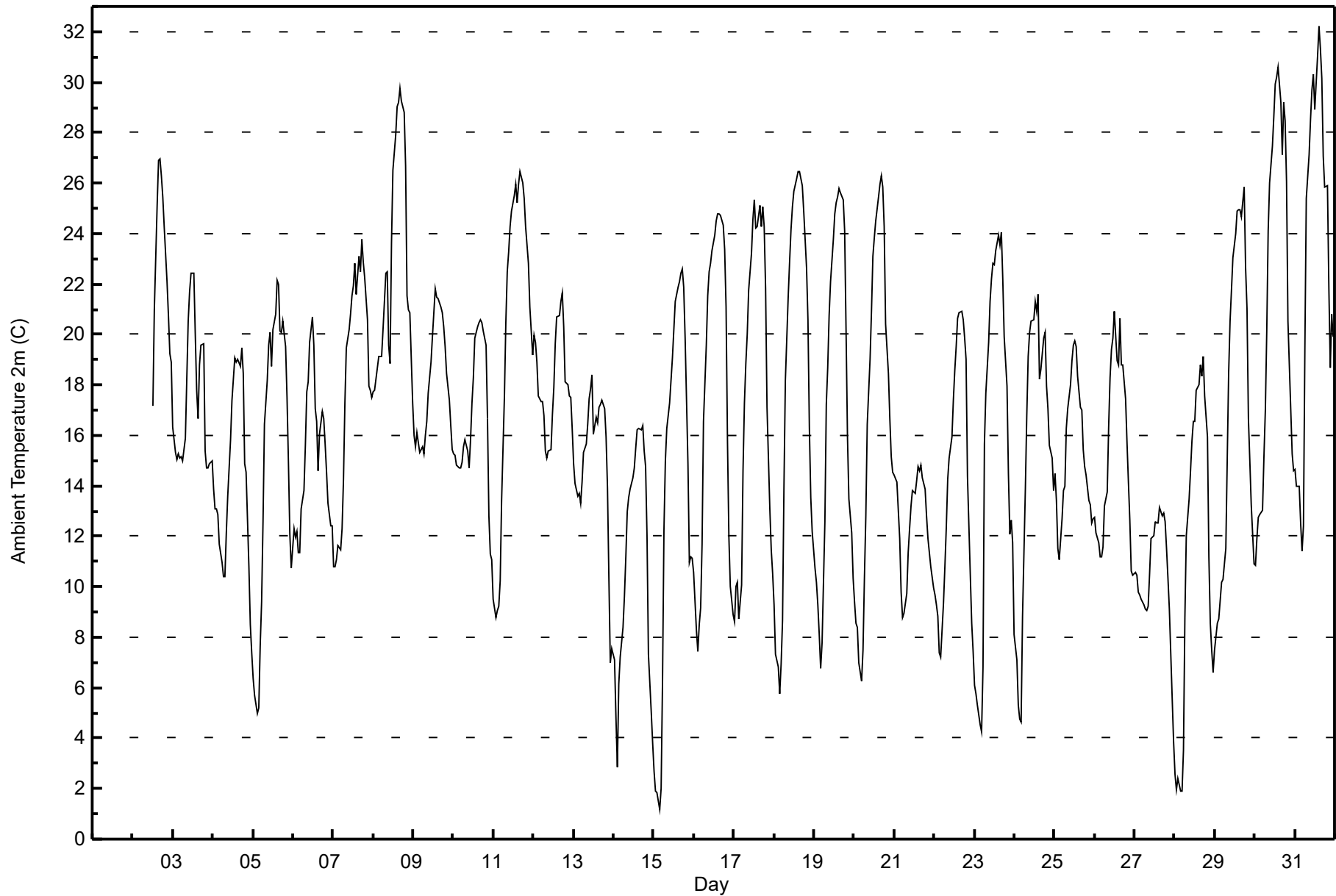
Anzac - July 2025

Maximum Value: 32.2 C on Jul 31 15:00																				Maximum Daily Average: 23.0 C on Jul 31					Hours in Service: 744	
Minimum Value: 1.1 C on Jul 15 04:00																				Minimum Daily Average: 10.4 C on Jul 27					Hours of Data: 708	
Maximum Diurnal Average: 21.9 C at hour 15																				Minimum Diurnal Average: 10.0 C at hour 4					Hours of Missing Data: 36	
Monthly Average: 16.53 C																				Percentiles: P ₁ = 2.4 P ₁₀ = 8.8 Q ₁ = 12.2 Median = 16.5 Q ₃ = 20.6 P ₉₀ = 24.8 P ₉₉ = 29.9					Hours of Calibration: 0	
																									Percent Operational Time: 95.2	
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-Jul	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	--	--
2-Jul	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	M	17.2	21.0	25.1	26.9	27.0	26.3	25.5	24.3	22.1	20.7	19.3	18.9	--	27.0
3-Jul	16.3	15.3	15.0	15.3	15.1	15.2	15.0	15.9	18.2	20.5	21.7	22.5	22.4	20.0	17.8	16.7	18.8	19.6	19.6	15.4	14.7	14.7	14.9	15.0	17.3	22.5
4-Jul	13.9	13.1	13.1	12.8	11.7	11.0	10.4	10.4	12.1	13.6	15.9	17.4	18.3	19.1	18.9	19.0	18.8	19.4	18.4	14.9	14.5	10.8	8.5	7.4	14.3	19.4
5-Jul	6.4	5.7	5.0	5.2	7.7	9.4	12.6	16.5	18.2	19.6	20.1	18.7	20.2	20.8	22.1	22.0	20.1	20.1	20.5	19.5	17.5	14.9	12.1	10.8	15.2	22.1
6-Jul	12.3	11.9	12.2	11.3	11.3	13.1	13.8	15.6	17.7	18.1	19.7	20.7	19.6	17.1	16.6	14.6	16.1	17.0	16.7	15.7	14.5	13.3	12.4	12.4	15.2	20.7
7-Jul	10.8	10.8	11.1	11.6	11.5	12.3	14.3	17.3	19.4	20.2	20.8	21.6	21.9	22.8	21.6	23.1	22.5	23.8	22.9	22.3	20.6	18.0	17.8	17.5	18.2	23.8
8-Jul	17.7	17.8	18.7	19.2	19.1	19.1	20.2	22.4	22.5	19.5	18.8	23.6	26.5	27.9	29.1	29.2	29.7	29.3	28.8	26.7	21.5	21.0	20.9	17.3	22.8	29.7
9-Jul	16.0	15.5	16.1	15.7	15.3	15.6	15.3	16.0	16.6	17.7	18.9	19.9	20.9	21.8	21.5	21.4	21.1	20.9	20.3	19.5	18.4	17.4	16.4	15.4	18.1	21.8
10-Jul	15.2	15.2	14.8	14.7	14.7	14.9	15.6	15.8	15.4	14.7	15.8	17.3	18.3	19.9	20.3	20.5	20.6	20.5	20.2	19.6	16.7	12.8	11.3	11.1	16.5	20.6
11-Jul	9.5	8.8	9.0	9.2	10.2	13.4	17.6	20.5	22.5	23.2	24.3	24.9	25.5	25.9	25.2	26.0	26.5	26.0	25.4	24.3	23.5	22.8	21.1	19.2	20.2	26.5
12-Jul	20.0	19.7	18.9	17.5	17.3	17.3	16.8	15.4	15.1	15.4	15.4	16.8	17.9	19.6	20.7	20.7	21.3	21.7	20.3	18.1	18.0	17.6	17.5	16.3	18.1	21.7
13-Jul	14.9	14.1	13.6	13.7	13.3	14.1	15.3	15.7	16.5	17.4	17.8	18.4	16.1	16.7	16.5	17.1	17.2	17.4	17.0	16.0	13.9	10.3	7.0	7.6	14.9	18.4
14-Jul	7.1	4.8	2.9	6.1	7.2	8.4	9.6	11.2	13.0	13.6	13.9	14.3	14.7	15.5	16.2	16.3	16.2	16.4	15.4	14.8	12.0	7.3	5.0	3.8	11.1	16.4
15-Jul	2.7	1.9	1.9	1.1	2.0	6.3	12.2	15.0	16.3	17.3	18.2	19.1	20.2	21.3	21.9	22.1	22.5	22.6	21.9	19.9	14.9	10.9	11.2	11.1	13.9	22.6
16-Jul	10.6	8.3	7.4	8.5	9.2	11.7	16.6	19.6	21.6	22.5	22.8	23.3	23.9	24.5	24.8	24.8	24.7	24.3	23.4	21.1	15.8	12.0	10.0	8.9	17.5	24.8
17-Jul	8.6	10.0	10.2	8.7	10.1	14.6	17.3	18.9	20.0	21.8	23.2	24.6	25.4	24.2	24.3	25.1	24.3	25.0	24.3	21.8	17.1	13.1	11.5	10.5	18.1	25.4
18-Jul	9.3	7.3	6.8	5.8	7.0	8.7	14.0	18.2	21.5	22.9	24.2	25.1	25.7	26.1	26.4	26.4	26.2	25.9	24.9	22.6	20.6	16.3	13.5	12.2	18.2	26.4
19-Jul	10.7	10.2	9.3	8.1	6.8	7.8	12.6	17.2	18.7	20.8	22.1	23.8	24.8	25.2	25.4	25.8	25.6	25.3	24.1	20.1	15.9	13.5	12.1	10.4	17.3	25.8
20-Jul	9.4	8.6	8.4	7.0	6.3	7.5	10.4	12.8	16.4	19.0	20.9	23.1	23.8	24.5	25.4	25.9	26.3	25.8	24.3	20.4	18.5	16.7	15.2	14.5	17.1	26.3
21-Jul	14.4	14.2	13.0	11.9	9.8	8.8	8.9	9.7	11.4	12.3	13.2	13.8	13.7	14.2	14.8	14.6	14.8	14.3	13.8	12.8	11.9	11.3	10.8	10.0	12.4	14.8
22-Jul	9.7	9.3	8.9	7.4	7.2	9.3	10.8	12.4	14.2	15.1	15.9	17.4	18.6	19.5	20.6	20.9	20.9	20.6	19.9	19.0	14.4	10.4	8.6	7.4	14.1	20.9
23-Jul	6.1	5.8	5.3	4.6	4.3	6.8	15.7	17.7	19.7	21.3	22.2	22.8	22.8	23.3	24.0	23.5	24.1	22.2	19.9	17.9	14.5	12.1	12.6	11.7	15.9	24.1
24-Jul	8.1	7.1	5.3	4.7	4.7	8.9	13.9	16.8	19.1	20.1	20.5	20.6	21.3	20.9	21.6	18.2	18.6	19.9	20.1	17.9	17.1	15.6	15.1	13.8	15.4	21.6
25-Jul	14.5	13.4	11.5	11.1	12.7	13.8	14.0	16.3	17.0	18.0	18.9	19.6	19.7	19.5	18.3	17.1	17.0	15.4	14.8	14.4	13.4	13.2	12.5	12.7	15.4	19.7
26-Jul	12.7	12.2	11.7	11.2	11.2	11.6	13.2	13.8	16.3	18.3	19.4	19.9	20.9	18.9	18.8	20.6	18.8	18.8	17.5	15.7	14.1	12.6	10.6	10.5	15.4	20.9
27-Jul	10.6	10.4	9.8	9.7	9.5	9.3	9.1	9.1	9.2	10.5	11.9	12.0	12.6	12.5	12.5	13.2	12.8	12.9	12.6	11.5	10.3	9.1	5.6	3.8	10.4	13.2
28-Jul	2.6	2.0	2.4	1.9	1.9	3.5	8.8	12.0	13.5	14.6	15.8	16.6	16.5	17.8	18.0	18.8	18.3	19.1	17.6	16.0	11.2	8.6	7.5	6.6	11.3	19.1
29-Jul	7.5	8.6	8.7	9.5	10.2	10.3	11.5	15.1	18.5	20.5	21.8	23.0	24.0	24.9	24.9	24.9	24.7	25.9	22.6	21.0	16.6	15.0	13.3	10.9	17.2	25.9
30-Jul	10.9	11.9	12.8	12.9	13.0	15.2	17.0	20.2	24.1	26.0	27.5	28.6	29.9	30.2	30.6	29.2	27.1	29.2	28.5	26.1	20.5	17.0	15.3	14.6	21.6	30.6
31-Jul	14.7	14.0	14.0	12.5	11.4	12.4	19.5	25.4	27.1	28.5	29.7	30.3	28.9	31.1	32.2	31.3	30.1	27.1	25.8	25.9	21.8	18.7	20.8	19.9	23.0	32.2
Diurnal Average																										
Diurnal Maximum																										
M - Maintenance DF - DAS Failure																										



Wood Buffalo Environmental Association
Hourly Averages

Ambient Temperature 2m (AT2) - C
Anzac - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ambient Temperature 2m (AT2) - C
Anzac - July 2025

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	0	0.00	0.00
-20 - 0	0	0.00	0.00
0 - 10	103	14.55	14.55
10 - 20	395	55.79	70.34
> 20	210	29.66	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



Wood Buffalo Environmental Association

Summary of Hour Averages

Relative Humidity 2m (RH2) - %

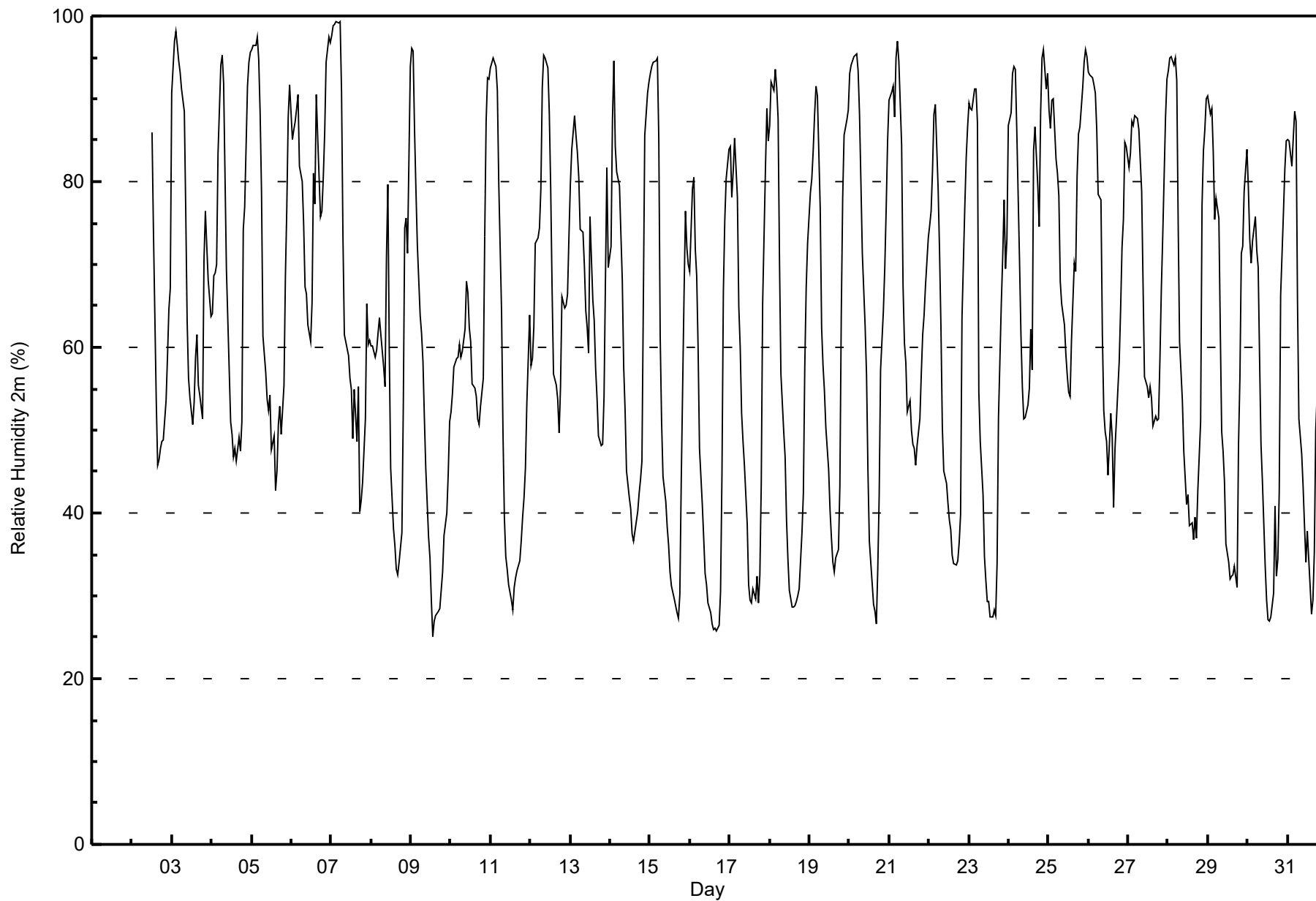
Anzac - July 2025

Maximum Value: 99.4 % on Jul 7 04:00																			Maximum Daily Average: 80.8 % on Jul 6						Hours in Service: 744		
Minimum Value: 25.0 % on Jul 9 14:00																			Minimum Daily Average: 49.3 % on Jul 9						Hours of Data: 708		
Maximum Diurnal Average: 85.5 % at hour 4																			Minimum Diurnal Average: 42.6 % at hour 15						Hours of Missing Data: 36		
Monthly Average: 63.22 %																			Percentiles: P ₁ = 26.9 P ₁₀ = 33.2 Q ₁ = 46.8 Median = 62.3 Q ₃ = 83.0 P ₉₀ = 92.0 P ₉₉ = 97.4						Hours of Calibration: 0		
																									Percent Operational Time: 95.2		
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-Jul	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	--	--
2-Jul	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	DF	M	86.0	74.1	53.5	45.8	46.4	47.8	48.6	48.8	53.5	58.9	64.5	67.2	--	86.0	
3-Jul	90.6	96.9	98.1	96.4	94.6	93.2	91.2	88.5	76.6	63.3	56.3	53.8	50.6	53.4	58.8	61.6	55.4	54.3	51.3	70.6	76.5	72.2	68.2	63.7	72.3	98.1	
4-Jul	64.1	68.6	69.0	70.0	83.5	94.1	95.3	91.9	80.6	69.3	57.2	51.1	49.6	46.8	47.9	46.2	49.1	47.4	51.0	74.2	77.0	91.5	94.5	95.5	69.4	95.5	
5-Jul	96.0	96.4	96.4	97.4	94.7	88.3	78.6	61.4	56.9	53.8	52.4	54.3	47.6	49.3	42.7	45.1	50.7	52.9	49.6	55.5	68.5	76.8	87.8	91.7	68.5	97.4	
6-Jul	85.1	86.3	87.3	88.7	90.5	81.9	79.9	75.0	67.3	66.4	62.6	60.7	65.4	81.0	77.2	90.5	85.5	75.7	76.5	80.6	85.9	94.4	97.4	96.8	80.8	97.4	
7-Jul	97.6	98.8	99.1	99.4	99.1	99.3	90.8	73.4	61.4	59.8	59.0	56.2	54.9	49.0	54.9	48.7	55.3	40.1	41.6	43.7	51.4	65.2	60.4	60.8	67.5	99.4	
8-Jul	60.2	60.1	58.9	59.6	61.8	63.5	61.6	57.5	55.2	70.8	79.7	59.7	45.4	38.1	36.2	33.2	32.6	34.1	37.7	52.9	74.4	75.6	71.3	93.9	57.2	93.9	
9-Jul	96.2	95.8	86.3	79.0	72.4	63.9	61.6	58.3	51.5	45.5	37.1	34.6	29.3	25.0	26.9	27.7	28.1	28.4	30.7	33.0	37.2	40.1	44.7	51.0	49.3	96.2	
10-Jul	52.1	54.3	57.7	58.6	58.7	60.3	58.8	59.5	62.3	68.0	66.7	62.4	60.7	55.6	55.0	54.0	51.3	50.6	52.9	56.2	73.4	87.2	92.6	92.3	62.6	92.6	
11-Jul	93.7	95.0	94.3	93.9	91.1	79.9	64.2	49.9	39.5	34.8	33.3	31.3	29.5	28.3	31.0	32.2	33.1	34.3	36.6	39.5	41.8	45.4	53.3	63.9	52.9	95.0	
12-Jul	57.9	58.6	62.5	72.5	73.2	74.5	79.1	91.4	95.2	95.0	93.7	88.3	79.1	67.0	56.8	55.5	53.8	49.6	55.2	66.2	64.8	65.0	66.4	73.4	70.6	95.2	
13-Jul	79.7	83.9	88.0	85.6	83.6	80.6	74.3	73.9	69.9	64.4	62.5	59.3	75.7	65.8	63.2	57.5	53.9	49.3	48.1	48.4	54.0	68.2	81.7	69.6	68.4	88.0	
14-Jul	72.1	87.4	94.5	84.2	81.2	79.5	73.8	68.1	57.7	52.4	45.1	41.9	40.5	37.4	36.6	37.8	40.1	42.4	44.1	46.3	65.6	85.5	90.8	92.0	62.4	94.5	
15-Jul	93.0	93.9	94.4	94.5	95.0	85.2	61.4	51.0	44.5	41.4	38.2	36.0	32.9	31.1	29.7	28.9	27.9	27.3	30.1	43.9	66.4	76.4	72.0	70.1	56.9	95.0	
16-Jul	69.2	79.1	80.5	71.8	68.6	60.0	47.8	41.0	37.0	32.7	31.4	29.2	27.9	26.5	26.0	26.1	25.8	26.5	30.6	44.6	66.7	75.3	80.3	83.9	49.5	83.9	
17-Jul	84.2	78.2	81.1	85.2	78.1	64.9	60.0	52.1	48.6	45.7	38.6	31.3	29.5	29.1	30.8	29.6	32.4	29.1	32.6	43.6	65.5	81.7	88.8	85.0	55.2	88.8	
18-Jul	86.7	92.1	91.1	93.6	91.3	87.7	70.4	56.8	49.8	46.7	39.1	34.4	30.7	28.6	28.6	28.9	29.3	29.9	30.8	37.7	42.3	57.6	67.1	72.5	55.2	93.6	
19-Jul	78.6	80.3	83.7	88.1	91.5	90.3	76.7	62.3	57.8	54.7	50.3	45.2	40.4	37.0	34.1	32.8	34.5	35.6	43.3	63.9	78.0	85.5	87.5	88.7	63.4	91.5	
20-Jul	93.1	94.0	94.5	95.1	95.4	93.4	88.2	79.8	71.3	62.5	56.7	45.1	36.7	34.1	29.0	28.1	26.6	33.3	42.0	57.2	64.3	69.6	76.8	84.9	64.7	95.4	
21-Jul	89.9	90.8	91.5	87.9	94.9	96.9	94.5	84.4	67.4	60.5	58.2	52.3	53.6	50.0	48.3	47.8	45.7	48.1	51.3	56.8	61.6	63.8	67.5	73.2	68.2	96.9	
22-Jul	74.8	76.5	81.3	88.2	89.4	79.1	71.7	62.6	50.3	45.0	43.6	41.2	39.2	37.9	34.8	33.9	33.8	34.2	36.4	39.8	63.5	77.0	82.9	86.6	58.5	89.4	
23-Jul	89.5	88.8	88.6	91.2	91.2	87.1	54.5	48.7	42.2	34.8	31.9	29.3	29.4	27.5	27.4	28.3	27.6	33.9	51.5	65.3	70.8	77.7	69.5	73.0	56.7	91.2	
24-Jul	86.9	88.3	93.1	93.9	93.5	86.5	70.4	61.5	55.3	51.4	51.5	53.0	55.0	62.2	57.4	83.7	86.6	79.5	74.6	88.1	94.9	95.9	91.2	93.0	77.0	95.9	
25-Jul	88.7	86.4	89.8	90.0	82.7	81.0	78.2	68.0	65.3	62.7	59.1	56.5	54.6	54.0	60.9	70.1	69.2	80.7	85.7	86.6	91.3	94.5	95.9	95.0	77.0	95.9	
26-Jul	93.1	92.9	92.5	91.6	90.7	86.3	78.5	77.8	61.6	52.4	49.8	48.7	44.6	52.0	49.2	40.6	47.7	51.1	58.4	64.6	72.0	75.4	84.7	84.3	68.4	93.1	
27-Jul	81.6	83.4	87.3	86.8	88.0	87.7	86.3	82.6	78.9	67.5	56.5	55.3	53.8	55.3	53.9	50.5	51.6	51.2	51.4	58.4	66.9	73.4	87.9	92.3	70.4	92.3	
28-Jul	93.3	95.0	95.0	94.1	94.9	92.2	75.1	60.7	53.5	47.5	44.2	41.0	42.2	38.5	38.8	36.8	39.4	36.9	42.7	51.1	77.0	83.8	86.3	90.0	64.6	95.0	
29-Jul	90.3	88.1	88.8	83.5	75.4	78.0	75.6	62.2	49.8	47.5	43.7	36.3	34.2	32.1	32.4	32.6	33.6	31.0	48.2	56.5	71.4	72.3	78.8	83.9	59.4	90.3	
30-Jul	79.4	73.0	70.2	72.9	75.7	71.7	69.7	58.6	48.3	43.9	33.5	29.5	27.2	27.0	27.5	30.4	40.9	32.4	34.4	42.5	66.4	76.3	81.6	84.8	54.1	84.8	
31-Jul	85.0	85.0	81.8	85.3	88.4	87.3	65.8	51.4	47.1	43.2	38.4	34.1	37.8	31.1	27.7	29.5	35.2	49.9	54.4	49.6	56.4	63.5	49.0	51.7	55.4	88.4	
82.8 84.4 85.4 85.5 85.1 81.9 73.6 65.9 58.7 54.6 50.7 46.6 46.1 44.2 42.6 43.1 44.1 43.9 47.4 55.5 66.6 74.2 77.4 80.2																										Diurnal Average	
97.6 98.8 99.1 99.4 99.1 99.3 95.3 91.9 95.2 95.0 93.7 88.3 86.0 81.0 77.2 90.5 86.6 80.7 85.7 88.1 94.9 95.9 97.4 96.8																										Diurnal Maximum	
M - Maintenance DF - DAS Failure																											



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 2m (RH2) - %
Anzac - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Relative Humidity 2m (RH2) - %
Anzac - July 2025

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	126	17.80	17.80
40 - 60	204	28.81	46.61
60 - 80	180	25.42	72.03
80 - 100	198	27.97	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



Wood Buffalo Environmental Association

Summary of Hour Averages

Leaf Wetness (LW) - %

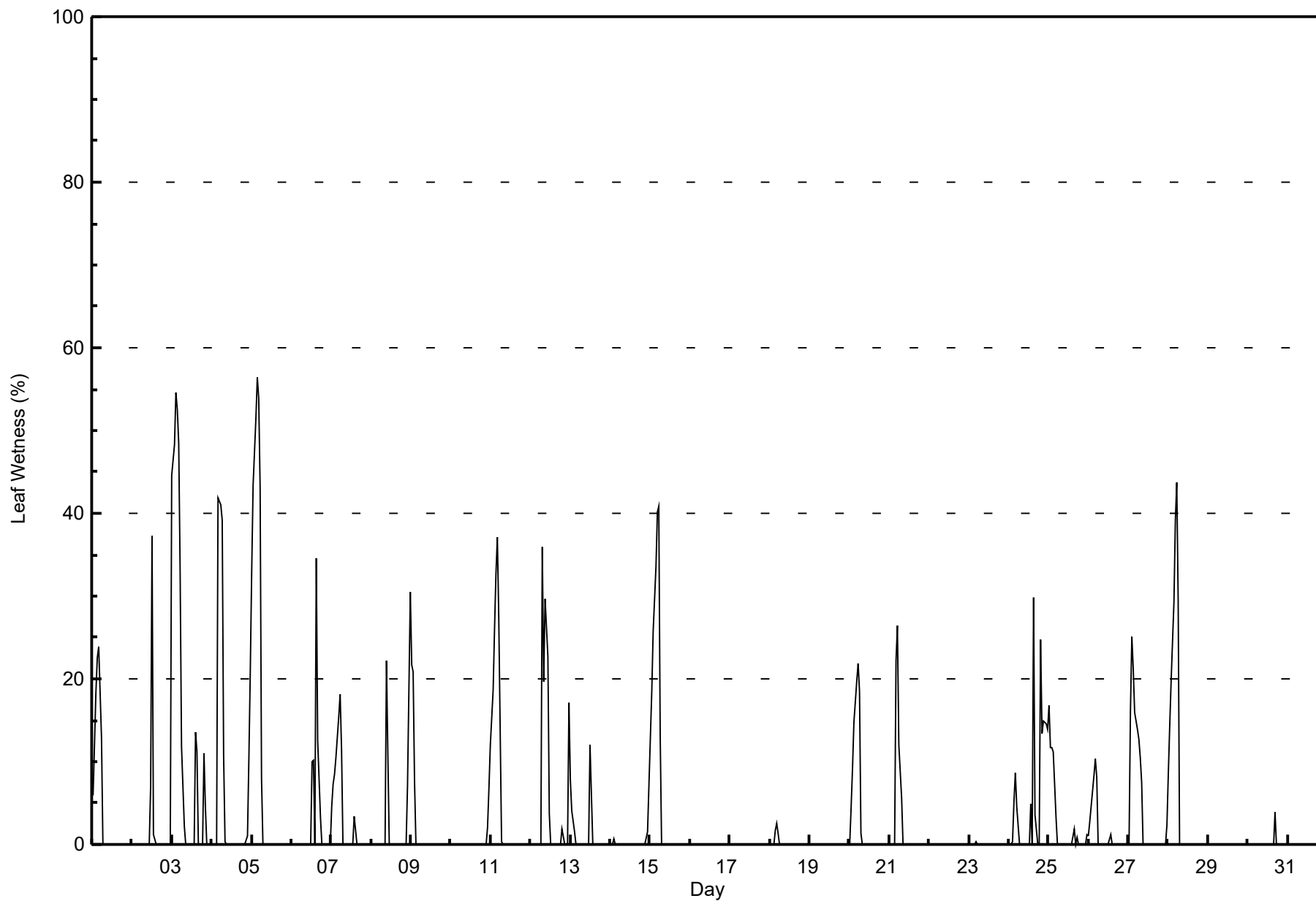
Anzac - July 2025

Maximum Value: 56.5 % on Jul 5 04:00																			Maximum Daily Average: 14.0 % on Jul 3										Hours in Service: 744	
Minimum Value: 0.0 % on Jul 1 07:00																			Minimum Daily Average: 0.0 % on Jul 16										Hours of Data: 744	
Maximum Diurnal Average: 12.4 % at hour 5																			Minimum Diurnal Average: 0.0 % at hour 19										Hours of Missing Data: 0	
Monthly Average: 3.26 %																			Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 12.0 P ₉₉ = 44.2										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-Jul	5.9	12.0	18.2	22.5	23.9	12.9	0.0	0.0	0.0	0.0	0.0	0.0	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	23.9				
2-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.9	37.2	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	37.2				
3-Jul	44.5	48.4	54.6	52.5	48.5	33.2	11.9	2.2	0.0	0.0	0.0	0.0	0.0	0.0	13.6	11.2	0.0	0.0	0.0	11.0	4.5	0.0	0.0	0.0	14.0	54.6				
4-Jul	0.0	0.0	0.0	0.0	41.8	41.1	39.1	10.6	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	1.1	10.5	21.0	6.9	41.8				
5-Jul	33.0	43.4	51.5	56.5	54.0	43.0	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	12.1	56.5				
6-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	10.2	0.0	34.6	12.5	3.3	0.0	0.0	0.0	0.0	0.0	0.0	2.9	34.6				
7-Jul	4.5	7.3	8.5	10.5	15.4	18.2	11.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.3	18.2				
8-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.2	10.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.1	30.5	2.9	30.5				
9-Jul	21.7	20.8	7.6	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	0.0	0.0	0.0	0.0	0.0	2.1	21.7				
10-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	6.8	0.4	6.8				
11-Jul	12.1	18.6	26.0	32.7	37.1	27.4	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	0.0	0.0	0.0	0.0	6.4	37.1				
12-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.0	19.7	29.6	22.7	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	17.1	5.4	36.0				
13-Jul	7.8	4.1	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	12.1				
14-Jul	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	1.5	7.2	0.4	7.2				
15-Jul	12.9	18.5	25.7	33.6	40.1	40.9	13.3	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	7.7	40.9				
16-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	1.7	2.6	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.6				
19-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	4.5	9.2	14.8	19.7	21.9	18.4	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7	21.9				
21-Jul	0.0	0.0	0.0	0.0	22.1	26.4	12.0	5.6	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	2.8	26.4				
22-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3				
24-Jul	0.0	0.0	0.3	5.1	8.7	4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.9	0.0	29.8	3.5	0.0	0.0	24.7	13.4	14.9	14.6	14.0	5.8	29.8			
25-Jul	16.8	11.6	11.6	11.1	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.9	0.0	0.0	0.0	0.0	0.0	1.1	2.4	16.8				
26-Jul	1.0	2.8	6.4	8.3	10.3	8.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	10.3				
27-Jul	0.0	16.1	25.0	21.2	16.0	13.9	12.7	10.5	7.5	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	2.4	5.2	25.0				
28-Jul	8.6	14.4	19.9	29.4	39.2	43.8	29.6	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	0.0	7.7	43.8				
29-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	4.0				
31-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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					



Wood Buffalo Environmental Association
Hourly Averages

Leaf Wetness (LW) - %
Anzac - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Leaf Wetness (LW) - %
Anzac - July 2025

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 0.3	603	81.05	81.05
0.4 - 0.5	0	0.00	81.05
0.6 - 0.7	1	0.13	81.18
0.8 - 1.4	8	1.08	82.26
1.5 - 10	42	5.65	87.90
> 10	90	12.10	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

Anzac - July 2025

Maximum Speed: 32 km/h on Jul 9 16:00																	Maximum Daily Speed Average: 21.5 km/h on Jul 9										Hours in Service: 744	
Minimum Speed Value: 1 km/h on Jul 20 10:00																	Minimum Daily Speed Average: 1.1 km/h on Jul 20										Hours of Data: 744	
Maximum Diurnal Speed Average: 6.4 km/h at hour 11																	Minimum Diurnal Speed Average: 1.1 km/h at hour 21										Hours of Missing Data: 0	
Monthly Average Velocity: 4.7 km/h 273.2 deg																	Percentiles: P ₁ = 2 P ₁₀ = 5 Q ₁ = 6 Median = 9 Q ₃ = 14 P ₉₀ = 19 P ₉₉ = 25										Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum		
1-Jul	S6	SSW6	SSW5	WNW1	NNE4	N3	W2	SE2	SSE1	SSE5	SSE7	SE7	SE5	ESE7	E9	E9	ESE8	ESE10	ESE9	E10	NNE16	E16	SE11	SSE13	ESE4.8	E16		
2-Jul	S13	SSE13	SSE10	S10	SSW8	SSW6	SSE5	SE9	SSE11	WNW9	W10	SW12	S10	SSE8	E7	ESE12	SE13	SE11	SE10	ESE12	ESE14	ESE15	ESE14	S2	SSE7.2	ESE15		
3-Jul	NW16	NW3	SSW6	W12	W15	W19	W19	W17	W15WNW14	WNW15	WNW15	W19WSW21	WSW17	WSW8	SW13	WSW19	WSW18	NW21	W14	WSW14	W19	WSW22		W14.6	WSW22			
4-Jul	W23	WSW22	W21	W24WNW25	WNW23	NW21	NW21WNW23	NW22	NW22	NW23	NW23	NW24	NW22	NW20	NW15	NW13	NNW13	N16	WNW4	W6	WSW5	WSW7	WNW16.4	WNW25				
5-Jul	SW4	SSW4	S5	SSE6	S6	SSE8	SSE9	SSE11	SSE9	SE10	ESE9	SE12	SSE12	SSE14	SSE14	SSE18	E5	E9	ESE9	ESE7	SSE7	ESE6	ESE7	SE8	SSE7.7	SSE18		
6-Jul	SE10	NNE8	ENE11	ESE8	E7	ESE9	SE5	E5	SE5	SE6	ESE6	ESE6	NW4WNW15	W14	W8	NE9	ENE9	NNE7	NE7	ENE7	E5	ESE7	SE6	E3.3	WNW15			
7-Jul	SE4	SSW2	NNW4	ENE3	SE5	S5	S8	SSE7	SSE5	SSE5	W4	NW8	WNW4	ESE5	W2	WSW8	SSE9	WSW13	SW14	SW12	SW8	SSW8	SSW9	SSW9	SSW4.3	SW14		
8-Jul	SSW11	SSW12	SSW12	SSW13	SSW12	SSW10	S12	S11	SSW9	WSW11	SSE13	SSE14	S15	SSW16	SSW16	SW16	SW15	SW11	SW4	ESE5	SSE7	S9	WSW11	WNW22	SSW9.9	WNW22		
9-Jul	WNW19	WNW12	W18	W22	W20	W23	W22	W19	W22	WSW20	WSW23	W24	W24	WSW29	W30	W32	W31	W29	W25	W24	W16	W16WNW15	W14	W21.5	W32			
10-Jul	W15	W18	W20	W20	W21	WNW19	W21	WNW21	WNW23	WNW20	WNW19	WNW19	WNW16	WNW15	NW14	NNW16	NW17	NNW15	NW12	NW8	WNW4	WSW5	SW5	SW7	WNW14.4	WNW23		
11-Jul	SW6	WSW7	WSW8	WSW9	SW8	SW8	SW7	SW11	SW17	SW21	SW21	WSW26	WSW26	WSW24	WSW23	WSW23	WSW23	WSW22	WSW22	WSW19	WSW15	WSW16	WNW9	NW5	WSW15.2	WSW26		
12-Jul	W15	W18	W17	W15	W12	W17	W15	WNW19	WNW20	WNW21	WNW17	NW14	WNW17	WNW17	WNW18	WNW17	W16	WNW18	NW19	WNW11	W10	W10	WNW13	W14	WNW15.2	WNW21		
13-Jul	WNW10	WNW12	WNW12	W11	W9	W12	W16	NW15	NW12	NNW12	NW15	NNW16	N16	NNW20	NNW17	NNW17	N15	NNW16	N15	N13	NNE11	NNE10	N10	N12	NNW11.4	NNW20		
14-Jul	NNW11	NW7	NW8	NW11	NW10	NW9	NW10	NW10	NNW13	NNW16	NNW20	NNW20	NNW17	NNW15	NNW14	NNW14	N15	N16	N14	N11	NNE6	ENE5	ENE3	SW5	NNW10.7	NNW20		
15-Jul	SW5	WSW5	SW5	SW6	WSW7	SW6	SW5	WSW4	WNW6	WNW8	WNW9	W7	WNW6	W7	WNW8	WNW7	WNW5	S1	SE5	SSE6	SSE6	SSE8	S10	S12	WSW3.8	S12		
16-Jul	S11	SSW7	SW8	WSW8	SW9	SW7	SSW5	SSW5	SSE5	SSE4	SE11	SSE6	SE10	SE9	SE9	ESE8	SE10	ESE8	ESE8	SE5	E6	SE4	SSW5	SW6	SSE5.3	S11		
17-Jul	WSW7	WNW10	W8	WSW6	W9	WNW9	WNW7	WNW11	NW8	W7	WNW3	WNW3	WNW9	NNE14	N14	N12	NNE8	N7	N5	NNW6	W5	W6	WSW5	S8	NW5.2	N14		
18-Jul	SSW7	SW4	SSE6	SSE6	S9	S5	S3	SSE3	SE6	SE9	SSE12	SE14	SE15	SE14	SE13	SSE13	SSE13	SE10	SE11	SE9	SSE11	SSE10	SSE11	SSE10	SSE8.8	SE15		
19-Jul	SSE9	SSE10	SSE9	SSE8	SE7	SE7	SE6	SE7	SE9	ESE9	SE12	SE13	SE12	SE11	SE9	SE6	SE7	SSE6	SSE7	SE4	E3	ENE2	SSE2	WSW4	SE6.9	SE13		
20-Jul	NNW5	NNW3	SW3	WNW3	NW4	WSW3	SSW2	S4	W2	NNW1	SSE5	SSE13	SSE16	SSE12	SSE8	ESE6	SSE7	SE6	ESE7	NNW11	WNW14	NW12	N13	NW14	SW1.1	SSE16		
21-Jul	NNW16	NNW16	N23	N23	NNW24	NNW16	NNW18	NNW20	N22	N21	NNW26	NNW25	NNW21	NNW22	NW19	N18	NNW20	NNW19	N19	NNW12	NNW11	NNW10	N10	N8	NNW18.0	NNW26		
22-Jul	N8	NNW6	WSW3	WSW3	WNW6	WSW7	WSW7	WNW8	WNW12	WNW12	WNW11	W12	W13	WNW13	W13	WNW12	WNW10	WNW9	WNW6	NW7	E2	S5	SSW4	WSW5	WNW6.7	W13		
23-Jul	WSW6	SW7	WSW7	SW6	SW6	SW4	S1	S4	SE4	WSW2	WNW8	W6	W8	WSW7	WNW9	W8	SW8	SW7	SSW5	SSW5	SSW6	SW7	SW9	SSW7	SW5.1	SW9		
24-Jul	SW5	S6	SSE6	SE5	SSE6	SSE9	SSE10	SSE12	SSE15	SSE17	SSE16	SSE13	SSE14	SSE11	SE13	SSE5	ESE5	SSE7	SSE10	SE6	SSE9	S11	W9	WNW7	SSE8.1	SSE17		
25-Jul	WNW11	W9	W8	WSW8	W11	W17	W16	W16	W20	WNW19	WNW19	WNW18	WNW18	WNW20	WNW19	W16	WNW16	NNW15	NNW17	N18	NNW9	NW12	NW15	WNW14	WNW13.6	WNW20		
26-Jul	WNW16	WNW16	WNW15	WNW14	WNW12	WNW11	WNW11	WNW12	W12	WNW12	WNW14	WNW14	WNW13	NW19	NNW18	NW16	NNW16	NNW9	NNE13	NNE10	NNE11	NNE9	N5	NNW7	NW11.0	NW19		
27-Jul	N8	NNW11	NNW9	N12	N12	NNW11	NNW11	NNW10	NNW13	NNW14	NNW16	NNW14	NNW13	NNW14	NNW16	NW16	NNW16	NNW12	NNW14	NNW10	NW8	NW8	NW7	WNW6	NNW11.6	NNW16		
28-Jul	WNW7	WNW9	W8	W9	W8	WSW7	W7	WNW9	WNW8	WNW9	W10	WNW11	WNW9	W9	W8	W8	NNW6	NW6	N6	NNE7	NE5	SE4	S6	S6	WNW5.5	WNW11		
29-Jul	S5	S6	SSE6	SSE7	S9	S7	SSE8	SSE7	SSE7	WNW4	WNW8	W9	W9	W8	WNW7	W8	NW5	WNW6	SW2	S3	SSE6	S9	SSW7	SW7	SW4.0	W9		
30-Jul	SW8	SW10	SW7	SW8	SW8	W3	SSW6	S6	SE4	W2	WNW8	WNW12	W14	WNW12	WNW15	WNW10	N7	WNW7	W4	W6	W4	SW4	WSW4	SW5	W5.5	WNW15		
31-Jul	SSW5	SSW4	SW8	SW5	SSW4	SW3	SSW4	WNW4	WNW8	WNW9	WNW12	WNW9	S9	SSW4	S6	SSE7	SSE5	S6	SSW6	SSW7	SSW8	SSW9	SW10	SSW10	SW5.0	WNW12		
W5.3 W5.4 W5.5 W5.6 W5.9 W6.1 W5.5 W4.9 W5.4WNW6.1WNW6.4 W6.1 W6.3 W6.1WNW6.3WNW5.4WNW4.1WNW4.4 NW3.2NNW3.0WNW1.1 SW2.1WSW3.1WSW4.6																										Diurnal Average		
W23WSW22 N23 W24WNW25 W23 W22WNW21WNW23 NW22NNW26 WSW26WSW26WSW29 W30 W32 W31 W29 W25 W24 W16WSW16WSW19WSW22																										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

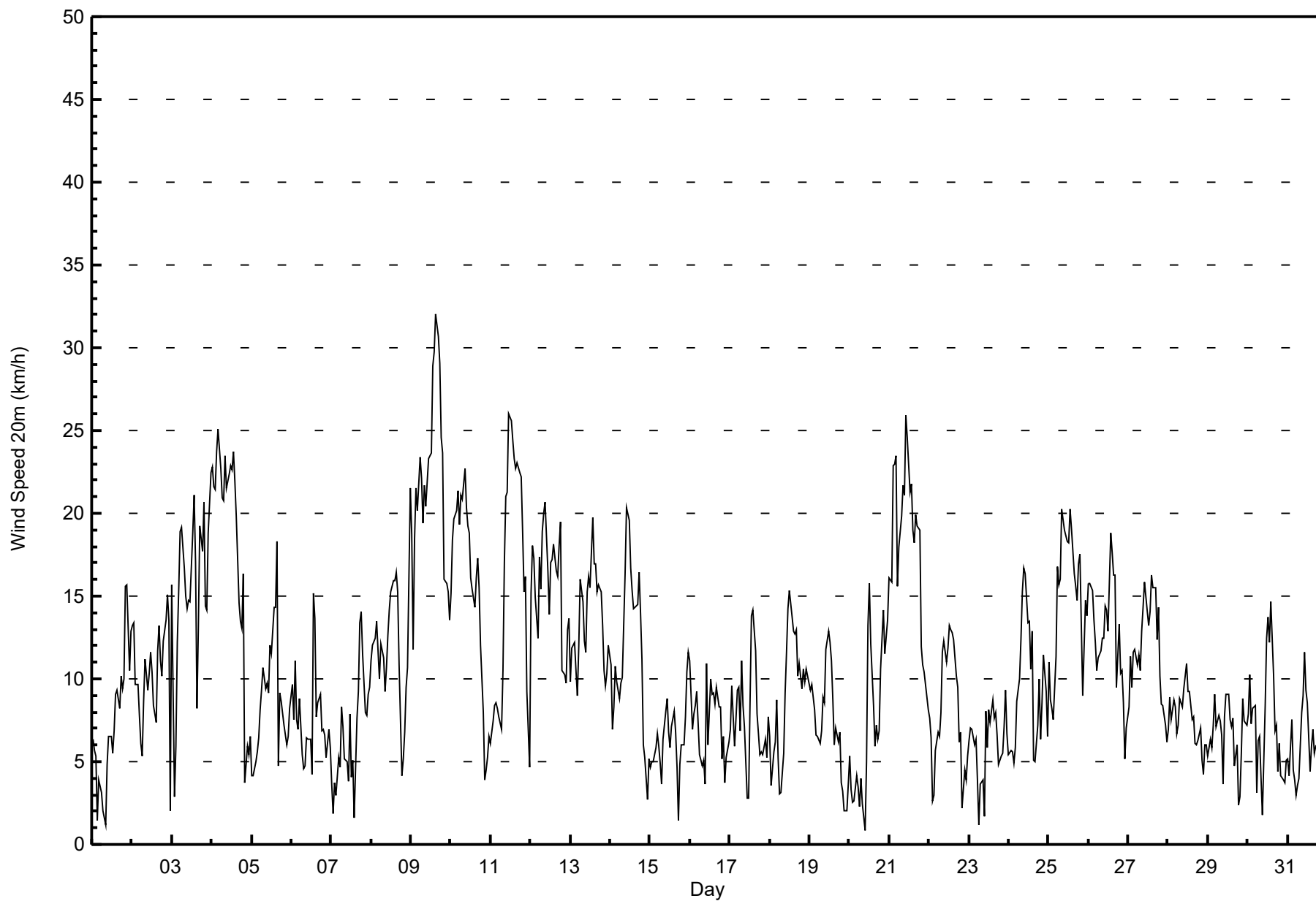
Anzac - July 2025

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



Wood Buffalo Environmental Association
Hourly Averages

Wind Speed 20m (WS20) - km/h
Anzac - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 20m (WS20) - km/h
Anzac - July 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	126	16.94	16.94
6 - 11	328	44.09	61.02
12 - 19	219	29.44	90.46
20 - 28	66	8.87	99.33
29 - 38	5	0.67	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 20m (WS20) - km/h
Anzac - July 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	3	1	1	4	5	4	13	12	12	15	16	12	9	10	5	4	126
6 - 11	9	10	2	3	7	21	30	46	23	22	28	19	32	45	15	16	328
12 - 19	17	3	0	0	1	5	10	20	4	6	7	9	36	49	18	34	219
20 - 28	4	0	0	0	0	0	0	0	0	0	2	14	16	11	9	10	66
29 - 38	0	0	0	0	0	0	0	0	0	0	0	1	4	0	0	0	5
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	33	14	3	7	13	30	53	78	39	43	53	55	97	115	47	64	744

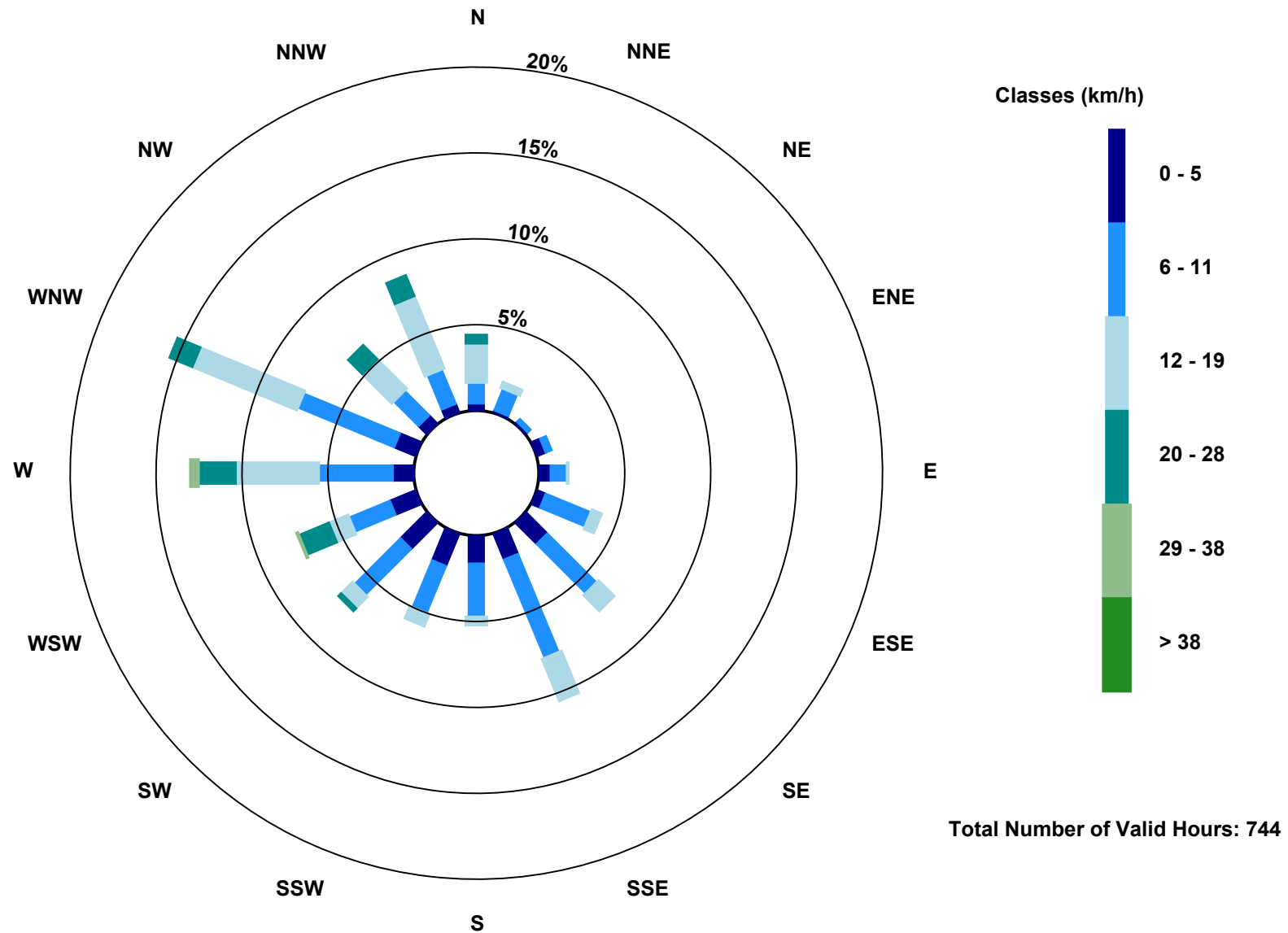
Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Direction 20m (WD20) - deg

Anzac - July 2025

Direction of Maximum Speed: 264 deg on Jul 9 16:00																				Hours in Service:		744			
Direction of Maximum Daily Speed Average: 265.5 deg on Jul 9																				Hours of Data:		744			
Direction of Minimum Speed: 333 deg on Jul 20 10:00										Direction of Minimum Daily Speed Average: 1.1 deg on Jul 20										Hours of Missing Data:		0			
Monthly Average Direction: 273.2 deg																				Percent Operational Time:		100.0			
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-Jul	185	193	195	293	12	0	271	135	166	157	162	128	135	118	92	86	107	119	104	94	32	92	134	168	116.2
2-Jul	170	159	167	178	194	206	163	140	163	300	281	222	185	165	88	121	137	133	132	119	114	108	104	189	151.3
3-Jul	313	307	211	278	268	278	273	280	274	283	288	283	263	256	249	241	236	252	252	304	271	250	259	257	268.2
4-Jul	261	258	270	276	286	296	311	308	301	306	313	323	325	323	322	322	305	304	327	1	300	266	247	250	301.5
5-Jul	232	212	179	168	177	161	159	156	156	137	115	136	168	160	164	161	86	85	116	120	147	117	106	130	147.1
6-Jul	142	27	70	102	91	104	125	90	137	124	120	103	326	295	267	269	54	71	12	40	63	100	109	125	82.7
7-Jul	145	211	342	68	146	180	175	152	154	168	271	307	286	110	272	253	148	240	235	230	214	202	202	197	206.2
8-Jul	205	207	205	208	207	193	180	177	206	247	162	153	181	198	202	218	225	226	216	118	149	169	252	290	203.5
9-Jul	301	282	261	265	264	262	261	260	268	252	256	259	263	245	259	264	273	272	270	270	262	259	295	279	265.5
10-Jul	271	278	280	280	280	286	280	286	289	287	291	293	290	297	308	336	324	346	322	317	300	250	229	231	292.1
11-Jul	221	258	255	242	221	230	223	230	236	234	231	240	242	240	238	241	251	253	257	254	244	258	293	319	244.2
12-Jul	261	260	264	264	262	274	280	284	298	300	301	307	299	299	300	299	280	294	304	283	262	267	284	271	284.7
13-Jul	285	293	292	277	263	270	280	309	315	327	321	340	350	340	335	335	349	343	9	4	12	22	9	355	328.8
14-Jul	345	313	307	317	316	315	324	322	343	341	337	333	340	344	337	347	352	350	356	5	28	60	77	231	339.5
15-Jul	235	245	233	231	238	231	232	256	288	295	290	281	293	281	299	289	289	179	136	150	155	157	170	172	239.3
16-Jul	170	199	232	237	228	226	210	212	157	150	133	152	143	136	143	115	129	118	116	124	88	128	204	230	162.3
17-Jul	250	282	268	249	267	283	303	299	309	269	292	298	284	14	358	7	27	360	5	340	273	276	251	183	305.9
18-Jul	205	221	162	157	179	177	181	154	125	126	149	130	134	145	140	149	149	142	144	132	151	157	156	154	149.3
19-Jul	154	155	165	165	140	139	135	133	129	116	135	138	135	144	144	128	146	163	155	141	89	77	168	250	142.7
20-Jul	329	327	234	295	317	244	208	185	260	333	153	160	165	162	158	117	153	126	119	337	298	312	350	319	224.9
21-Jul	331	343	351	353	348	330	331	339	350	350	338	338	334	336	326	352	336	336	350	340	341	338	351	4	341.6
22-Jul	7	344	258	256	293	244	247	288	289	302	290	266	273	295	277	289	288	299	286	321	89	171	200	237	284.6
23-Jul	244	232	238	230	227	225	181	169	142	242	291	270	265	241	289	272	223	221	206	195	198	215	217	207	233.4
24-Jul	231	177	154	143	149	150	150	147	149	151	156	158	158	149	138	164	117	150	147	146	162	172	272	283	157.6
25-Jul	288	266	265	243	262	269	266	279	277	283	288	294	288	297	283	273	295	329	342	350	335	309	304	297	291.6
26-Jul	290	295	291	297	293	293	298	292	281	286	289	287	283	325	331	324	329	332	12	14	18	16	350	342	312.6
27-Jul	349	345	347	349	354	343	343	342	340	347	347	335	329	339	327	326	327	329	331	333	325	325	309	290	335.8
28-Jul	283	283	278	263	266	256	266	297	284	288	270	282	290	278	279	276	343	307	353	31	47	144	177	178	282.2
29-Jul	186	178	160	163	172	172	167	167	158	298	282	281	274	268	292	272	308	292	228	182	166	179	194	219	214.6
30-Jul	217	215	229	230	216	266	210	171	141	275	296	291	274	286	287	302	357	300	273	273	272	234	240	233	261.1
31-Jul	211	211	230	218	211	228	203	282	287	291	292	292	174	192	179	168	164	184	199	198	202	212	219	195	219.8
260.3 261.9 258.8 260.6 260.8 262.4 261.3 270.7 276.3 286.2 284.4 280.4 268.3 279.1 282.7 286.8 293.9 294.6 308.3 326.8 281.3 221.4 249.0 248.1																									
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

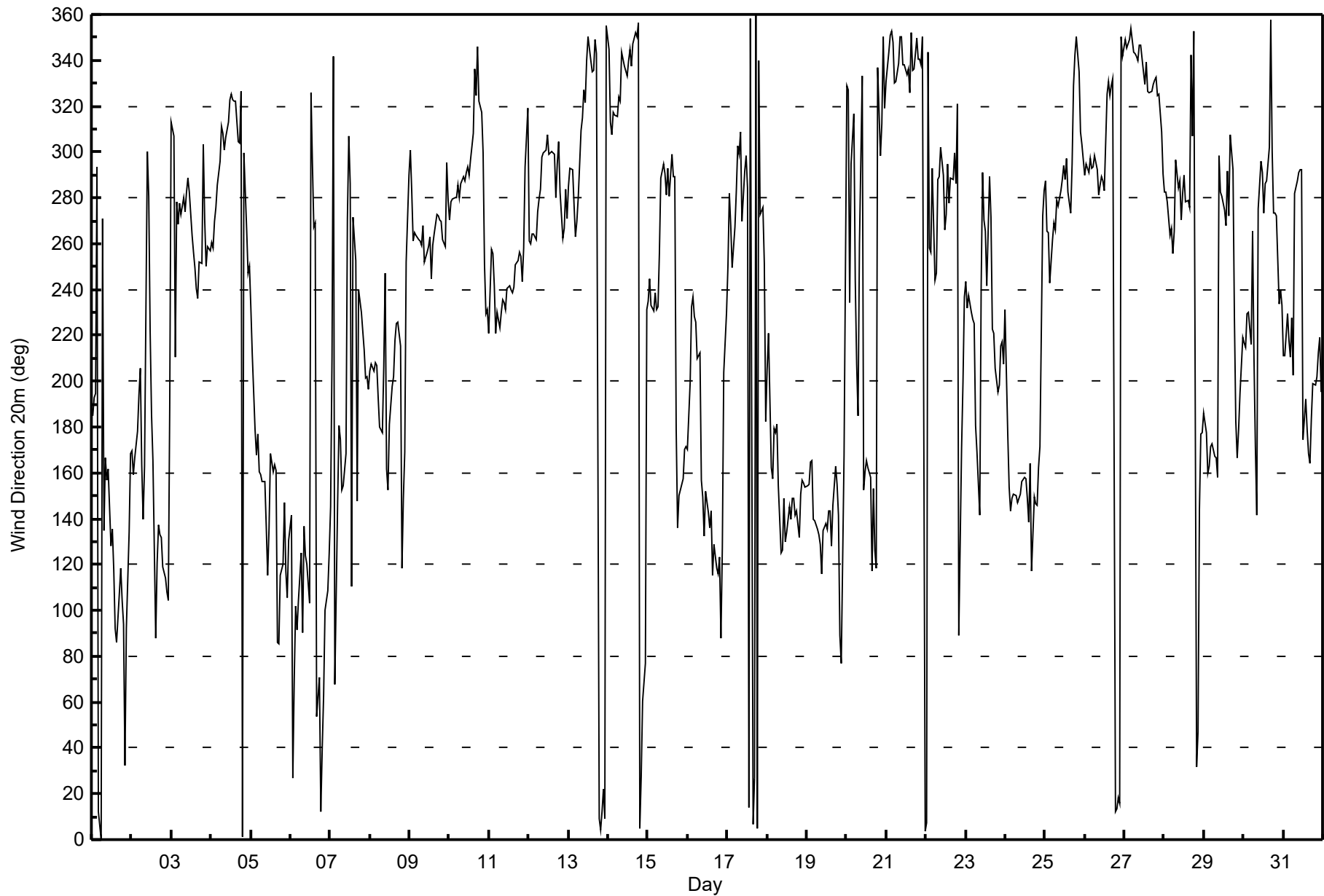
Anzac - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 102 deg on Jul 1 09:00																		Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0							
Minimum Value: 5 deg on Jul 29 00:00																									
Percentiles: P ₁ = 6 P ₁₀ = 10 Q ₁ = 14 Median = 18 Q ₃ = 25 P ₉₀ = 41 P ₉₉ = 84																									
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-Jul	7	9	16	77	48	38	51	63	102	43	42	26	72	46	25	30	30	17	16	14	47	18	20	10	102
2-Jul	7	7	7	8	13	24	32	16	28	35	25	34	28	22	62	25	17	18	15	16	14	15	14	86	86
3-Jul	28	80	40	17	17	18	17	19	18	21	19	20	21	18	22	30	21	19	19	20	25	19	17	17	80
4-Jul	18	17	18	17	17	19	15	15	16	18	18	19	19	18	17	18	19	21	14	17	43	11	7	8	43
5-Jul	12	21	13	10	5	9	11	14	19	23	26	17	26	16	19	15	60	23	16	15	12	28	25	10	60
6-Jul	16	41	15	21	22	15	29	40	34	21	29	30	74	19	25	46	23	20	21	17	18	19	10	12	74
7-Jul	23	53	27	55	19	18	12	18	45	56	75	29	59	40	92	53	43	26	18	17	16	12	13	13	92
8-Jul	15	17	17	18	18	23	15	18	29	40	13	19	27	24	26	23	21	21	52	21	13	12	50	19	52
9-Jul	15	18	17	18	17	16	17	19	18	20	21	21	23	22	19	19	20	19	18	17	18	16	23	17	23
10-Jul	18	17	16	16	17	17	17	17	15	17	16	18	18	22	26	20	18	19	15	14	16	13	8	7	26
11-Jul	9	11	7	9	10	15	18	19	20	20	22	20	20	20	20	20	21	18	18	17	18	17	31	39	39
12-Jul	18	17	17	18	19	18	18	17	19	15	16	16	17	21	18	16	20	17	23	27	17	17	15	25	27
13-Jul	17	15	14	16	13	19	17	19	18	26	22	22	16	16	19	18	21	17	17	16	12	9	9	9	26
14-Jul	9	16	12	9	11	14	18	21	23	23	20	23	28	27	32	29	24	22	16	25	11	10	44	9	44
15-Jul	12	6	10	8	9	9	20	46	31	31	24	41	49	47	35	46	61	90	31	11	8	18	5	6	90
16-Jul	6	25	13	13	15	19	28	34	42	77	35	66	39	46	35	49	29	22	15	15	8	49	11	11	77
17-Jul	20	10	8	14	9	12	35	17	25	23	77	89	41	24	25	30	29	42	26	18	14	9	29	17	89
18-Jul	22	49	12	14	7	10	23	22	35	22	22	21	23	24	25	22	20	19	13	13	11	8	6	7	49
19-Jul	8	7	5	7	9	9	11	17	18	20	20	21	21	24	27	36	31	14	9	10	18	80	78	42	80
20-Jul	28	19	70	41	23	19	50	26	47	84	84	16	15	17	23	39	26	21	11	63	14	18	12	15	84
21-Jul	14	13	15	16	16	16	14	16	18	21	19	19	22	19	20	19	18	17	16	13	12	11	11	12	22
22-Jul	14	12	68	36	35	15	18	31	20	28	35	30	31	30	25	33	27	29	31	19	58	11	19	10	68
23-Jul	10	10	9	9	7	20	47	24	35	84	39	56	31	32	29	24	30	18	14	10	12	10	13	11	84
24-Jul	18	13	7	18	10	9	12	14	16	17	15	14	14	17	17	54	29	15	14	37	20	8	41	33	54
25-Jul	14	13	9	15	16	18	17	18	19	18	18	19	19	18	18	18	20	16	19	17	17	13	13	14	20
26-Jul	15	15	15	14	15	13	15	13	18	20	19	21	22	24	18	23	24	22	22	13	15	13	38	8	38
27-Jul	10	11	10	10	14	12	12	16	16	22	22	20	21	19	16	19	18	19	14	12	9	8	15	12	22
28-Jul	9	10	10	8	10	11	18	23	27	26	26	27	28	31	38	41	54	53	27	9	17	36	6	5	54
29-Jul	11	7	12	8	7	7	14	14	32	87	37	32	33	48	33	28	49	34	51	48	13	5	13	15	87
30-Jul	14	14	24	14	15	72	37	19	25	89	22	18	23	21	20	30	59	28	33	16	17	12	9	13	89
31-Jul	12	27	11	8	13	19	19	40	18	18	15	29	33	82	51	34	18	13	16	12	15	10	14	14	82
Diurnal Maximum																									



Wood Buffalo Environmental Association
Hourly Averages

Wind Direction 20m (WD20) - deg
Anzac - July 2025





WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

**AMS17
WAPASU
JULY 2025**

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

August 29, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - WAPASU (AMS17)
JULY 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	704	35	40	99.33	19.9	0	3.2	0
H2S (ppb) Average	702	37	42	99.33	1.2	0	0.3	0
THC (ppm) Average	704	35	40	99.33	2.9	-	2.4	-
O3 (ppb) Average	706	36	38	99.73	62.5	0	42.6	-
NO2 (ppb) Average	701	37	43	99.19	19	0	3.7	-
NO (ppb) Average	701	37	43	99.19	12.7	-	2.1	-
NOX (ppb) Average	701	37	43	99.19	29.8	-	4.6	-
PM2.5 (ug/m3) Average	740	2	4	99.73	236.5	0	135	3
Temperature 2 m (C) Average	744	0	0	100	31.9	-	25.2	-
Relative Humidity (%) Average	741	0	3	99.6	100	-	97	-
Wind Speed 10 m (km/h) Average	744	0	0	100	26	-	18	-
Wind Direction 10 m (deg) Average	744	0	0	100	-	-	-	-
Precipitation (mm) Total	744	0	0	100	13.5	-	20.9	-

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

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - WAPASU (AMS17)
JULY 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	704	0.66	1.9	-	0	0	0	0	0.3	1.9	19.9
H2S (ppb) Average	702	0.12	0.1	-	0	0	0	0.1	0.2	0.3	1.2
THC (ppm) Average	704	2.26	0.1	-	2	2.2	2.2	2.2	2.3	2.4	2.9
O3 (ppb) Average	706	26.77	12.6	-	0.8	10.3	18.6	26.3	34.4	44.3	62.5
NO2 (ppb) Average	701	2.05	2.2	-	0.1	0.5	0.8	1.4	2.4	4.4	19
NO (ppb) Average	701	0.39	1.2	-	0	0	0	0.1	0.3	0.8	12.7
NOX (ppb) Average	701	2.44	3.1	-	0.1	0.5	0.9	1.5	2.7	5.2	29.8
PM2.5 (ug/m3) Average	740	17.66	27.7	-	1.5	3.3	5.1	10.2	19.1	30.3	236.5
Temperature 2 m (C) Average	744	16.34	6	-	-0.5	8.9	12.2	16	20.7	24.5	31.9
Relative Humidity (%) Average	741	64.51	22.4	-	23.8	34.6	46	62.1	84.9	97.4	100
Wind Speed 10 m (km/h) Average	744	8.2	4	-	1	3	5	7	10	14	26
Wind Direction 10 m (deg) Average	744	-	-	-	-	-	-	-	-	-	-
Precipitation (mm) Total	744	-	-	100.76	-	-	-	-	-	-	-

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - WAPASU (AMS17)
JULY 2025

OPERATIONAL NOTES

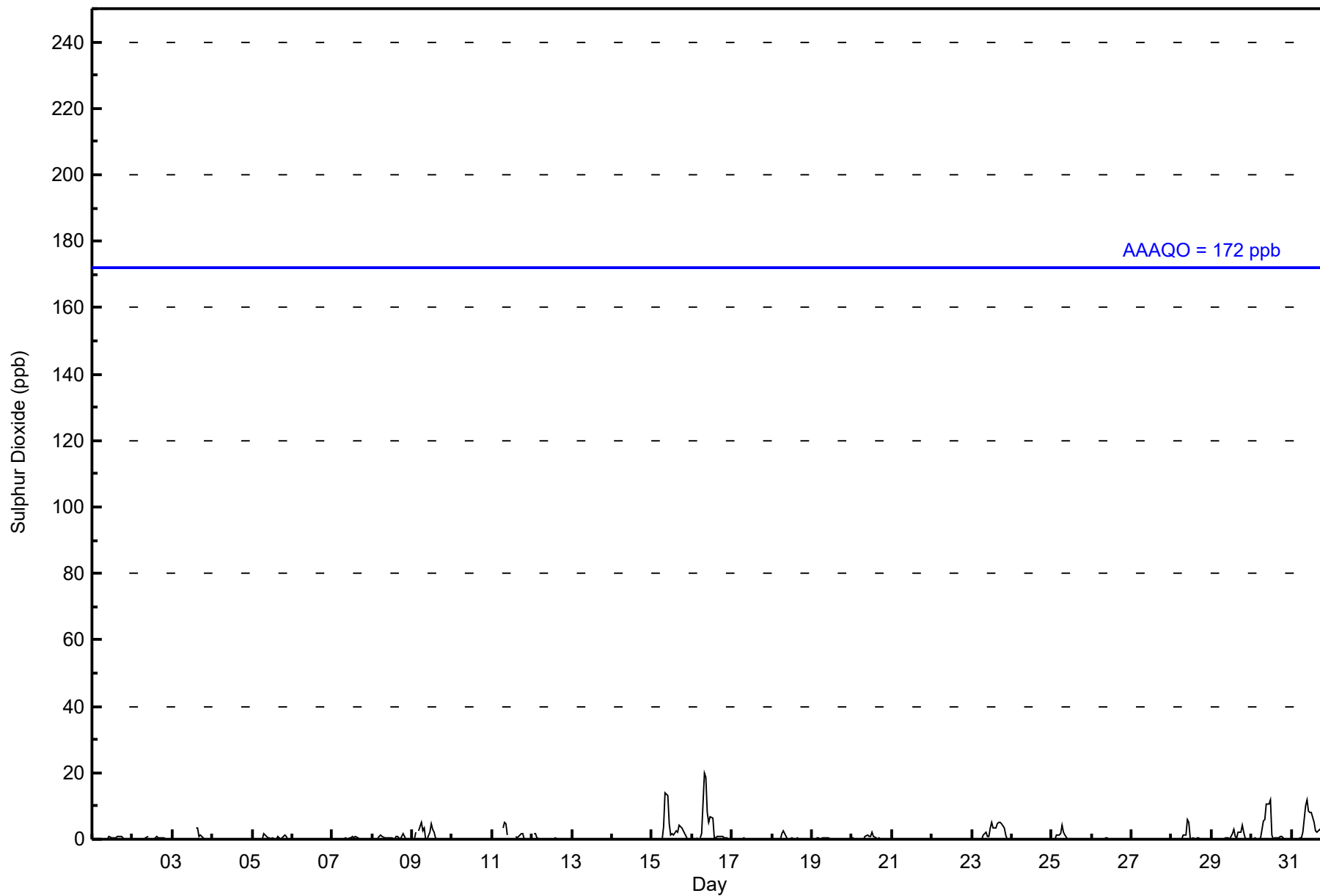
	27 May 2025 13:00	27 May 2025 14:00	2	
Parameter	Start	End	(Hours)	Notes
ALL GASEOUS ANALYZERS (except O3)	02 Jul 2025 10:00	02 Jul 2025 13:00	3	Maintenance - sample manifold cleaned
AIR QUALITY ANALYZERS	03 Jul 2025 13:00	03 Jul 2025 16:00	2-3	Maintenance - WBEA internal audit
Relative Humidity	26 Jul 2025 05:00	26 Jul 2025 07:00	3	Sensor operated out of range

Number of Exceedences (AAAQO): Maximum Value: 19.9 ppb on Jul 16 08:00															1-hr: 0 24-hr: 0 Maximum Daily Average: 3.2 ppb on Jul 16										Hours in Service: 744 Hours of Data: 704 Hours of Missing Data: 40 Hours of Calibration: 35 Percent Operational Time: 99.3				
Minimum Value: 0.0 ppb on Jul 1 01:00 Maximum Diurnal Average: 2.0 ppb at hour 9 Monthly Average: 0.66 ppb															Minimum Daily Average: 0.0 ppb on Jul 13 Minimum Diurnal Average: 0.0 ppb at hour 23 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.3 P ₉₀ = 1.9 P ₉₉ = 10.5														
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-Jul	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.7	0.5	0.6	0.3	0.4	0.8	0.9	0.9	0.5	0.1	0.0	0.0	0.0	0.0	0.3	0.9			
2-Jul	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.1	0.4	0.9	M	M	M	0.1	0.7	0.3	0.6	0.5	0.3	0.3	0.1	0.0	0.0	0.0	0.2	0.9			
3-Jul	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	M	M	3.3	3.6	0.8	1.2	0.4	0.0	0.1	0.0	0.0	0.0	0.4	3.6			
4-Jul	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			
5-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.0	1.7	0.8	0.6	0.4	0.1	0.2	0.1	0.2	0.7	0.4	0.1	0.5	1.2	1.0	0.1	0.0	0.2	0.4	1.7			
6-Jul	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			
7-Jul	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.6	0.5	0.7	0.5	0.9	0.5	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.9			
8-Jul	0.0	0.1	Z	0.3	0.8	1.1	0.9	0.3	0.6	0.6	0.3	0.4	0.3	0.2	0.8	0.9	0.4	0.2	1.6	0.6	0.0	0.0	0.0	0.0	0.5	1.6			
9-Jul	0.0	0.0	2.0	Z	2.6	5.1	2.6	3.6	0.0	0.1	2.2	4.7	3.1	1.9	0.6	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	1.3	5.1			
10-Jul	0.1	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	0.1			
11-Jul	0.0	0.0	0.0	0.1	0.2	Z	3.2	5.1	4.7	1.2	C	C	C	C	0.8	0.4	0.8	1.9	1.8	0.0	0.0	0.0	0.0	0.0	1.1	5.1			
12-Jul	Z	1.7	1.8	0.5	0.2	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	0.0	0.0	0.2	1.8			
13-Jul	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			
14-Jul	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	0.1	0.0	0.1			
15-Jul	0.0	0.0	0.0	Z	0.0	0.0	0.2	3.8	14.0	13.2	4.7	1.2	1.7	1.4	2.4	2.0	4.1	3.7	3.2	2.4	0.8	0.2	0.1	0.2	2.6	14.0			
16-Jul	0.2	0.2	0.2	0.3	Z	0.4	1.5	19.9	18.7	8.1	4.9	6.8	6.6	0.6	0.5	0.8	1.0	0.8	0.7	0.5	0.4	0.2	0.1	0.0	3.2	19.9			
17-Jul	0.0	0.0	0.0	0.0	0.0	Z	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	0.0	0.0	0.3			
18-Jul	Z	0.1	0.0	0.1	0.0	0.0	1.6	2.6	0.8	0.1	0.0	0.1	0.3	0.1	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	2.6			
19-Jul	0.0	Z	0.2	0.2	0.3	0.1	0.2	0.2	0.4	0.3	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.2	0.1	0.0	0.1	0.1	0.1	0.2	0.1	0.4			
20-Jul	0.3	0.3	Z	0.2	0.0	0.0	0.0	0.1	0.7	1.3	0.9	0.9	2.3	0.9	0.4	0.2	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4	2.3			
21-Jul	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			
22-Jul	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			
23-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.0	1.3	2.0	1.0	1.0	3.3	5.0	3.3	3.3	4.5	5.1	5.3	4.6	3.3	1.5	0.2	0.0	0.0	1.9	5.3			
24-Jul	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	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	0.2			
25-Jul	0.1	Z	0.2	1.3	1.2	1.8	4.4	2.2	1.3	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	4.4			
26-Jul	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	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	0.3			
27-Jul	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			
28-Jul	0.0	0.0	0.0	0.0	Z	0.1	0.0	1.2	1.3	5.8	4.9	0.3	0.0	0.2	0.2	0.5	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.7	5.8			
29-Jul	0.0	0.0	0.0	0.0	0.1	Z	0.0	0.1	0.3	0.6	0.4	0.1	1.5	2.9	1.0	0.4	2.0	2.0	4.2	2.0	0.3	0.0	0.0	0.0	0.8	4.2			
30-Jul	Z	0.1	0.5	0.0	0.1	0.4	2.8	5.7	5.9	10.5	10.7	12.0	1.3	0.0	0.3	0.4	0.5	1.0	1.0	0.4	0.2	0.2	0.1	0.1	2.3	12.0			
31-Jul	0.1	Z	0.1	0.1	0.1	0.4	0.4	2.0	10.0	11.9	8.3	7.8	8.1	5.1	2.3	2.1	2.4	3.1	2.7	2.9	0.6	0.2	0.1	0.1	3.1	11.9			
																									Diurnal Average				
																									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
Wapasu - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Wapasu - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	696	98.86	98.86
11 - 20	8	1.14	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: 704

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Wapasu - July 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	52	30	17	6	12	23	57	107	58	39	55	62	30	29	39	80	696
11 - 20	0	0	0	0	0	0	0	0	1	3	2	2	0	0	0	0	8
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	52	30	17	6	12	23	57	107	59	42	57	64	30	29	39	80	704

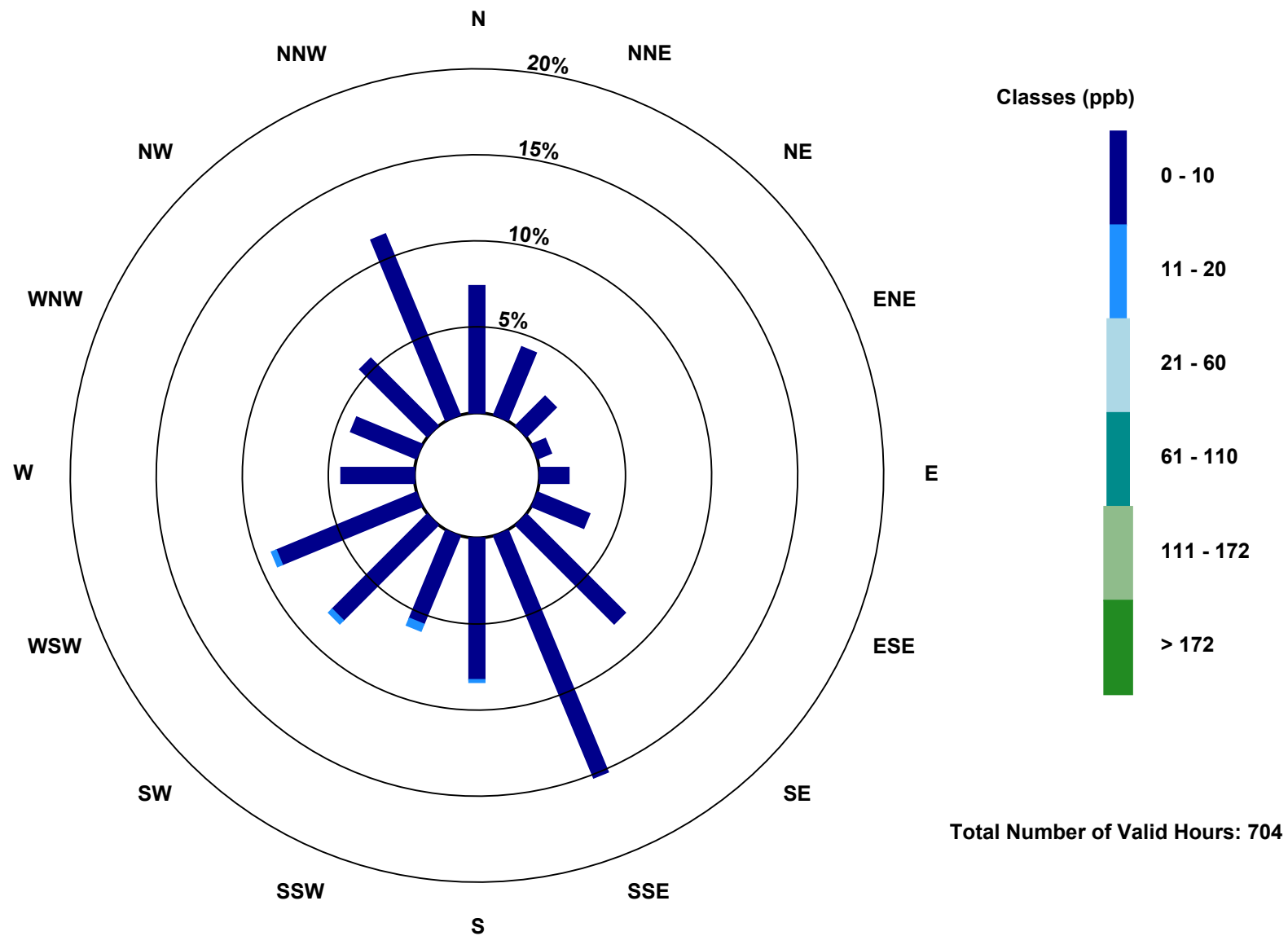
Total Number of Valid Hours: 704

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Sulphur Dioxide (SO₂) - ppb
Wapasu



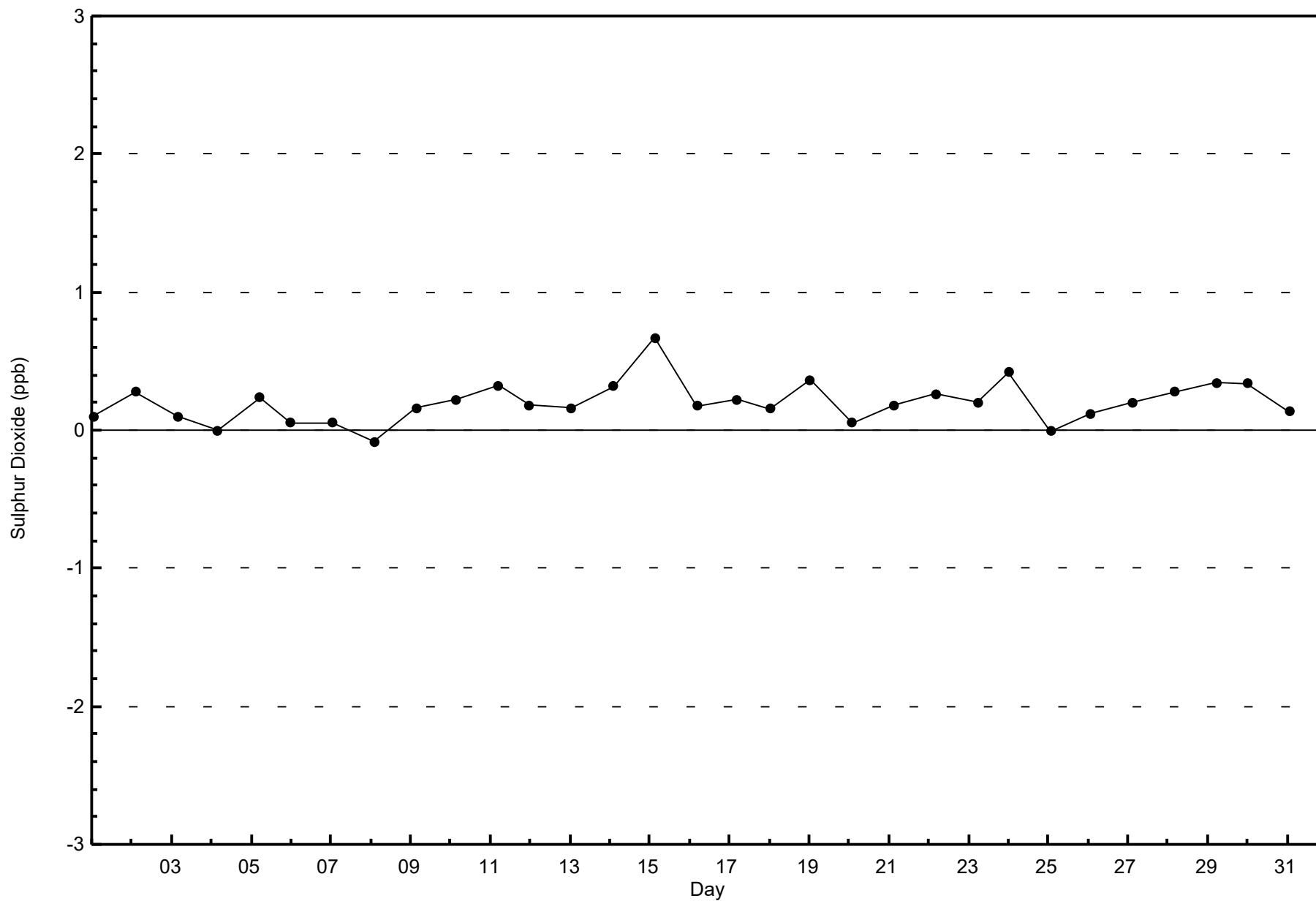


Wood Buffalo Environmental Association

Zero Responses

Sulphur Dioxide (SO₂) - ppb

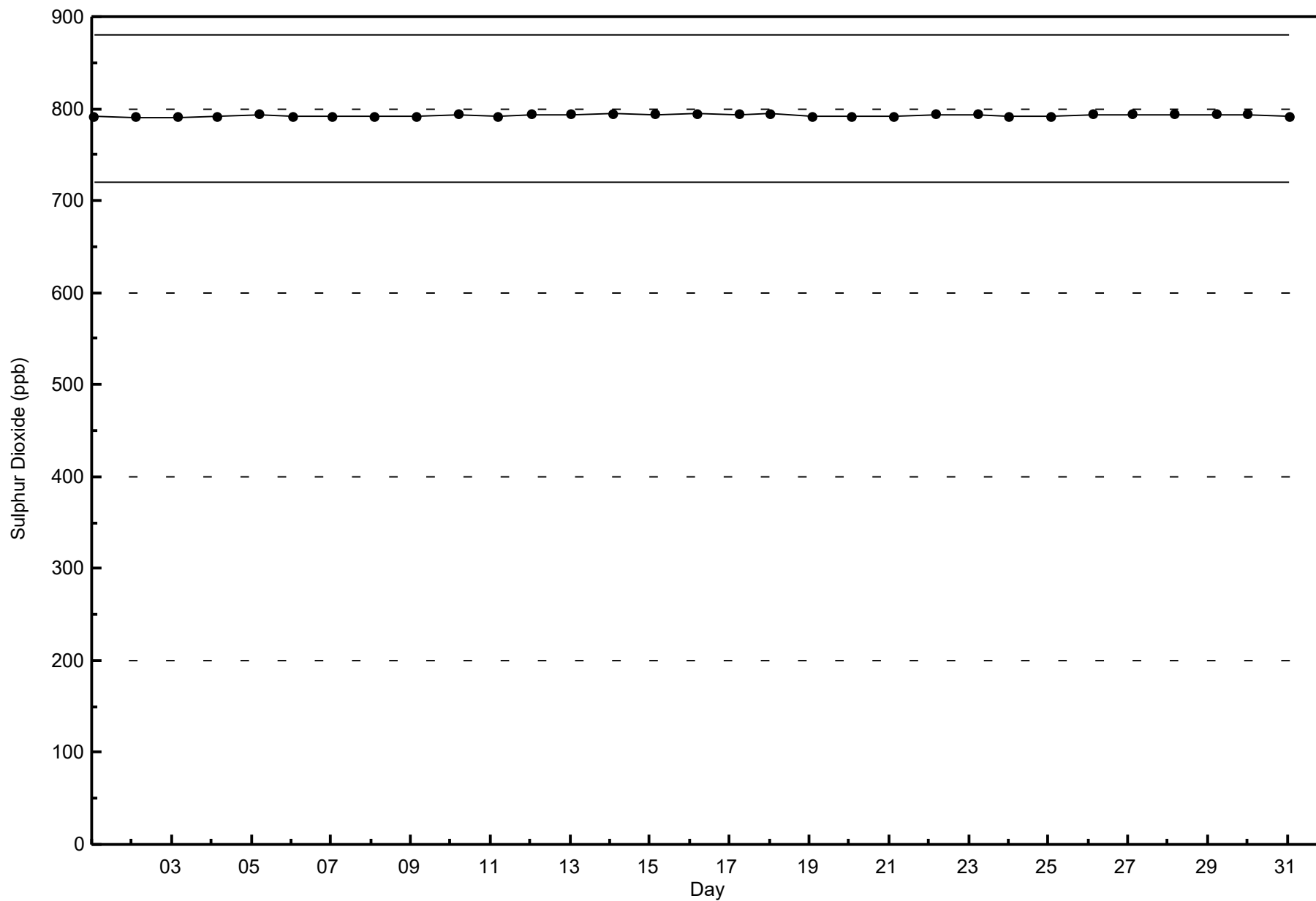
Wapasu - July 2025





Wood Buffalo Environmental Association
Span Responses

Sulphur Dioxide (SO₂) - ppb
Wapasu - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Hydrogen Sulphide (H₂S) - ppb

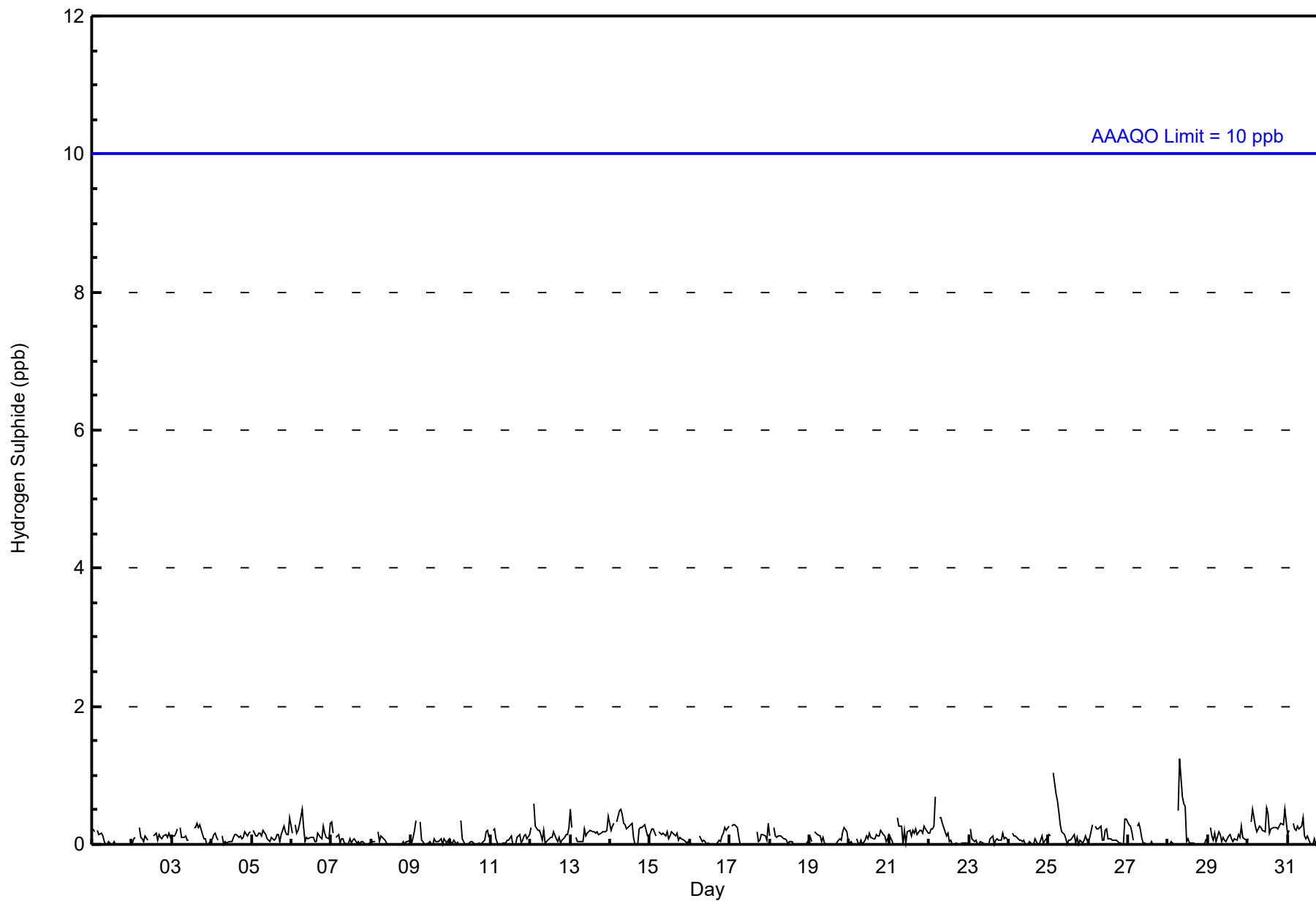
Wapasu - July 2025

Number of Exceedences (AAAQO): Maximum Value: 1.2 ppb on Jul 28 08:00																			1-hr: 0 24-hr: 0 Maximum Daily Average: 0.3 ppb on Jul 30																			Hours in Service: 744	
Minimum Value: 0.0 ppb on Jul 1 09:00 Maximum Diurnal Average: 0.2 ppb at hour 5 Monthly Average: 0.12 ppb																			Minimum Daily Average: 0.0 ppb on Jul 8 Minimum Diurnal Average: 0.1 ppb at hour 16 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 = 0.6																			Hours of Data: 702	
																																						Hours of Missing Data: 42	
																																						Hours of Calibration: 37	
																																						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-Jul	0.2	0.2	Z	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0													
2-Jul	0.0	0.1	0.1	Z	0.2	0.1	0.1	0.0	0.1	0.1	M	M	M	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2													
3-Jul	0.1	0.1	0.2	0.2	Z	0.2	0.1	0.1	0.1	0.1	0.1	M	M	0.2	0.2	0.3	0.3	0.3	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.3													
4-Jul	0.1	0.1	0.2	0.1	0.1	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	0.1	0.2	0.1	0.2	0.2	0.1													
5-Jul	Z	0.2	0.1	0.1	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.3	0.2	0.1	0.1	0.4	0.1	0.4													
6-Jul	0.2	Z	0.3	0.2	0.2	0.3	0.5	0.2	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.2	0.1	0.1	0.3	0.2	0.1	0.1	0.3	0.2	0.5													
7-Jul	0.3	0.2	Z	0.1	0.1	0.0	0.1	0.1	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	0.0	0.0	0.0	0.1													
8-Jul	0.0	0.0	0.0	Z	0.2	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	0.0	0.0	0.0	0.1	0.0	0.2													
9-Jul	0.0	0.1	0.2	0.3	Z	0.3	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	0.0	0.1	0.0	0.1	0.1	0.1	0.3													
10-Jul	0.0	0.0	0.1	0.0	0.0	Z	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	0.0	0.1	0.2	0.2	0.1	0.1	0.3													
11-Jul	Z	0.2	0.2	0.1	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	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2													
12-Jul	0.2	Z	0.6	0.3	0.2	0.2	0.2	0.1	0.2	0.0	0.1	0.1	0.1	0.1	0.2	0.1	0.0	0.1	0.0	0.1	0.1	0.2	0.2	0.2	0.1	0.6													
13-Jul	0.5	0.2	Z	0.1	0.0	0.0	0.0	0.0	0.2	0.1	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	0.4	0.5													
14-Jul	0.2	0.3	0.3	Z	0.3	0.5	0.5	0.4	0.3	0.3	0.2	0.3	0.3	0.3	0.1	0.0	0.0	0.2	0.2	0.3	0.3	0.3	0.1	0.1	0.3	0.5													
15-Jul	0.2	0.2	0.2	0.1	Z	0.2	0.2	0.1	0.2	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.2													
16-Jul	0.0	0.0	0.0	0.0	0.0	Z	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	0.2	0.2	0.3	0.1	0.3													
17-Jul	Z	0.3	0.3	0.3	0.2	0.1	0.0	0.0	0.0	0.0	C	C	C	C	C	C	0.2	0.0	0.1	0.1	0.1	0.1	0.1	0.3	-	0.3													
18-Jul	0.1	Z	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	0.1	0.2													
19-Jul	0.1	0.0	Z	0.2	0.2	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.0	0.1	0.2													
20-Jul	0.0	0.0	0.0	Z	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.1	0.1	0.2													
21-Jul	0.2	0.1	0.0	0.0	Z	0.4	0.3	0.3	0.0	0.2	0.0	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.4													
22-Jul	0.2	0.2	0.2	0.3	0.7	Z	0.4	0.4	0.3	0.2	0.1	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	0.1	0.7													
23-Jul	Z	0.2	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2													
24-Jul	0.1	Z	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	0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.2													
25-Jul	0.1	0.1	Z	1.0	0.7	0.6	0.5	0.3	0.2	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	0.2	1.0													
26-Jul	0.1	0.1	0.3	Z	0.3	0.2	0.2	0.3	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.4	0.4	0.1	0.4													
27-Jul	0.3	0.3	0.2	0.1	Z	0.3	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	0.0	0.0	0.0	0.0	0.0	0.1	0.3													
28-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.5	1.2	0.7	0.6	0.6	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	1.2														
29-Jul	Z	0.2	0.1	0.1	0.2	0.0	0.2	0.2	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.3	0.1	0.1	0.1	0.1	0.3													
30-Jul	0.1	Z	0.3	0.5	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.5	0.5	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.5	0.3	0.3	0.5													
31-Jul	0.1	0.2	Z	0.3	0.2	0.2	0.3	0.2	0.3	0.4	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.4													
0.1 0.1 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 0.1 0.1 0.1 0.1																										Diurnal Average													
0.5 0.3 0.6 1.0 0.7 0.6 0.5 1.2 0.7 0.6 0.6 0.5 0.5 0.3 0.2 0.3 0.3 0.3 0.3 0.2 0.3 0.3 0.3 0.5 0.4																										Diurnal Maximum													
Z - zerospan C - Calibration M - Maintenance																																							
Alberta Ambient Air Quality Objective (AAAQO): 1-hour 10 ppb 24-hr 3 ppb																																							



Wood Buffalo Environmental Association
Hourly Averages

Hydrogen Sulphide (H₂S) - ppb
Wapasu - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Hydrogen Sulphide (H₂S) - ppb
Wapasu - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	702	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: 702

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Hydrogen Sulphide (H₂S) - ppb
Wapasu - July 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	26	17	7	13	23	52	111	58	44	60	64	29	30	40	78	702
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	26	17	7	13	23	52	111	58	44	60	64	29	30	40	78	702

Total Number of Valid Hours: 702

Total Number of Hours: 744



Hydrogen Sulphide (H₂S) - ppb
Wapasu



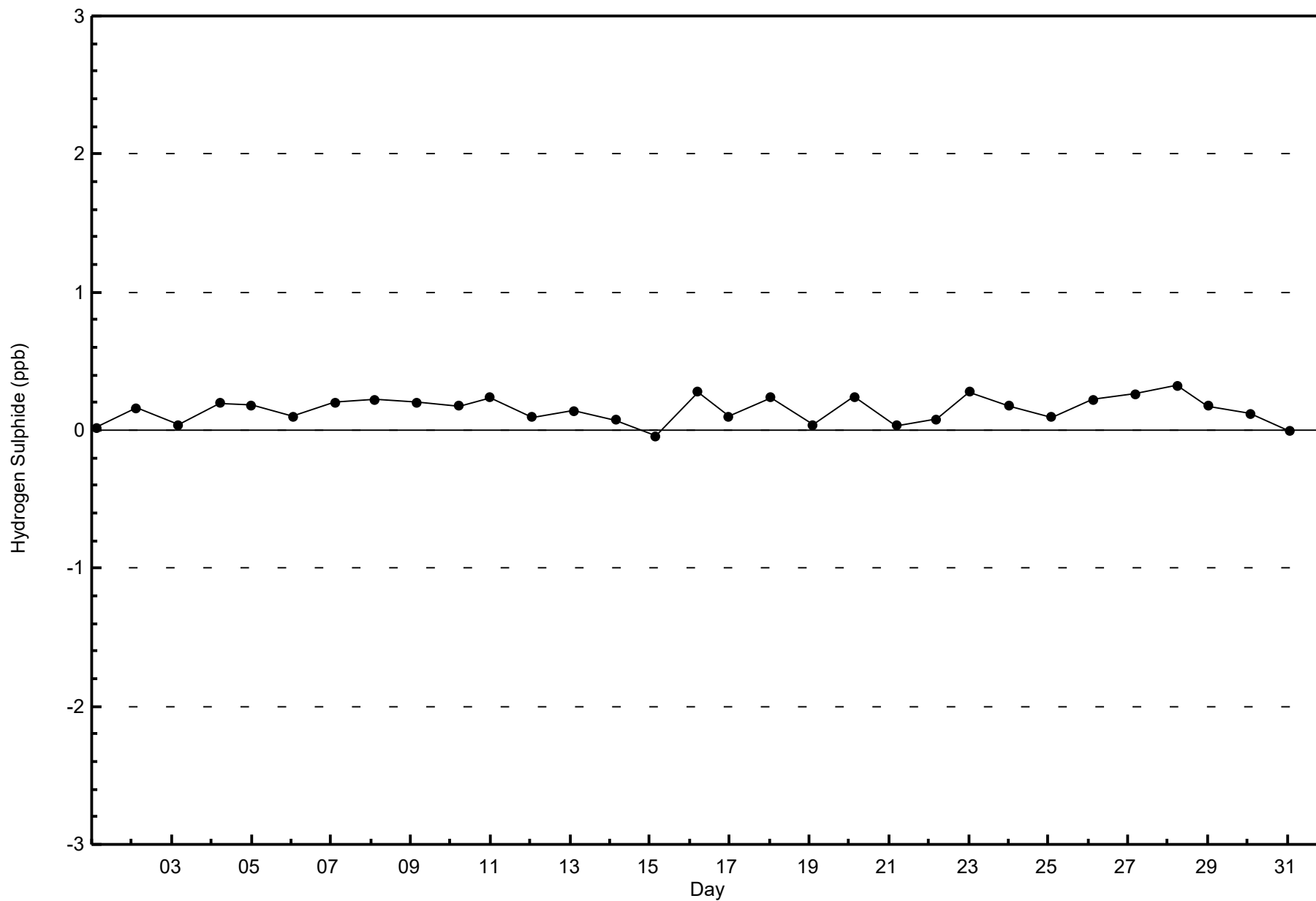


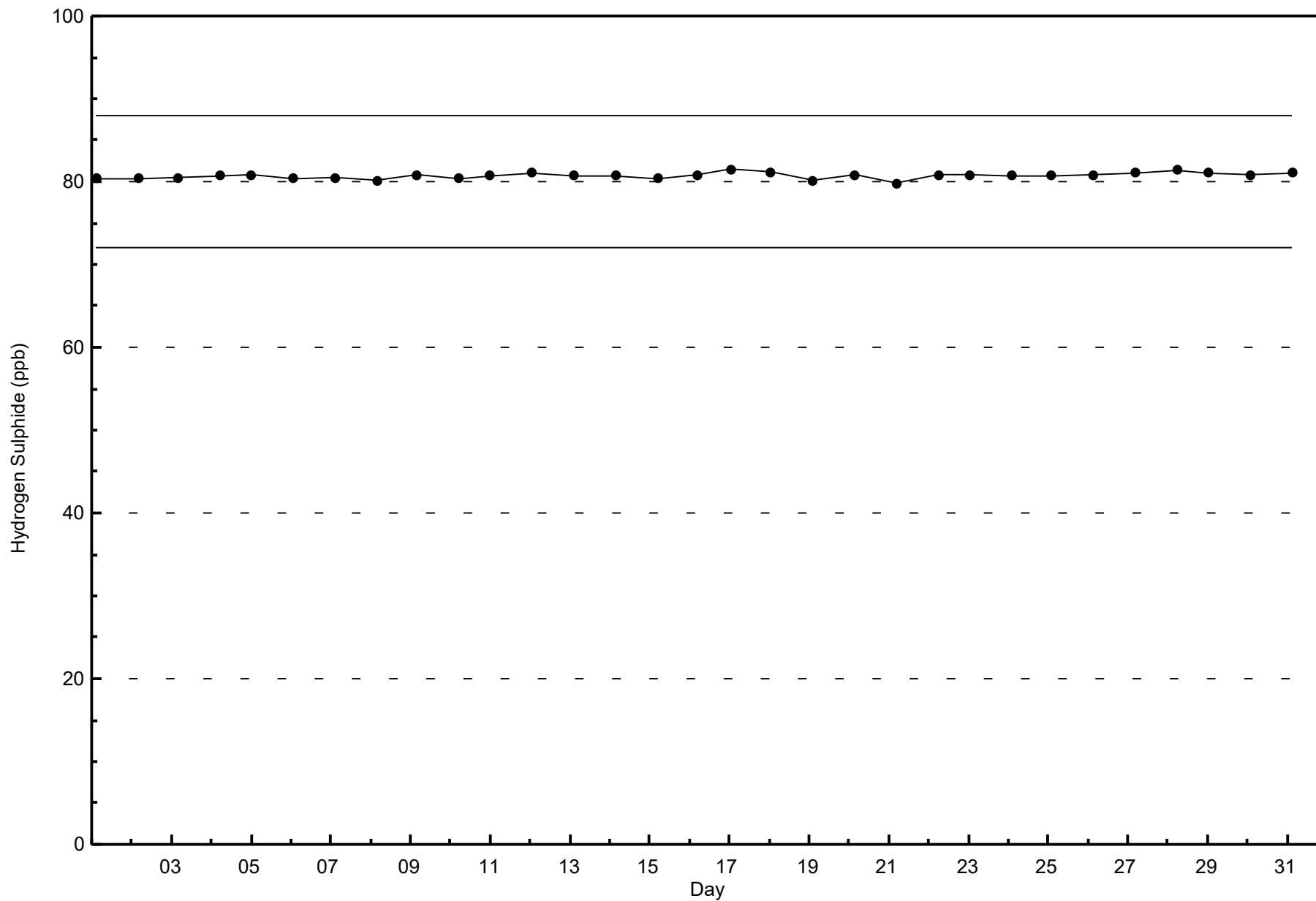
Wood Buffalo Environmental Association

Zero Responses

Hydrogen Sulphide (H_2S) - ppb

Wapasu - July 2025







Wood Buffalo Environmental Association

Summary of Hour Averages

Total Hydrocarbons (THC) - ppm

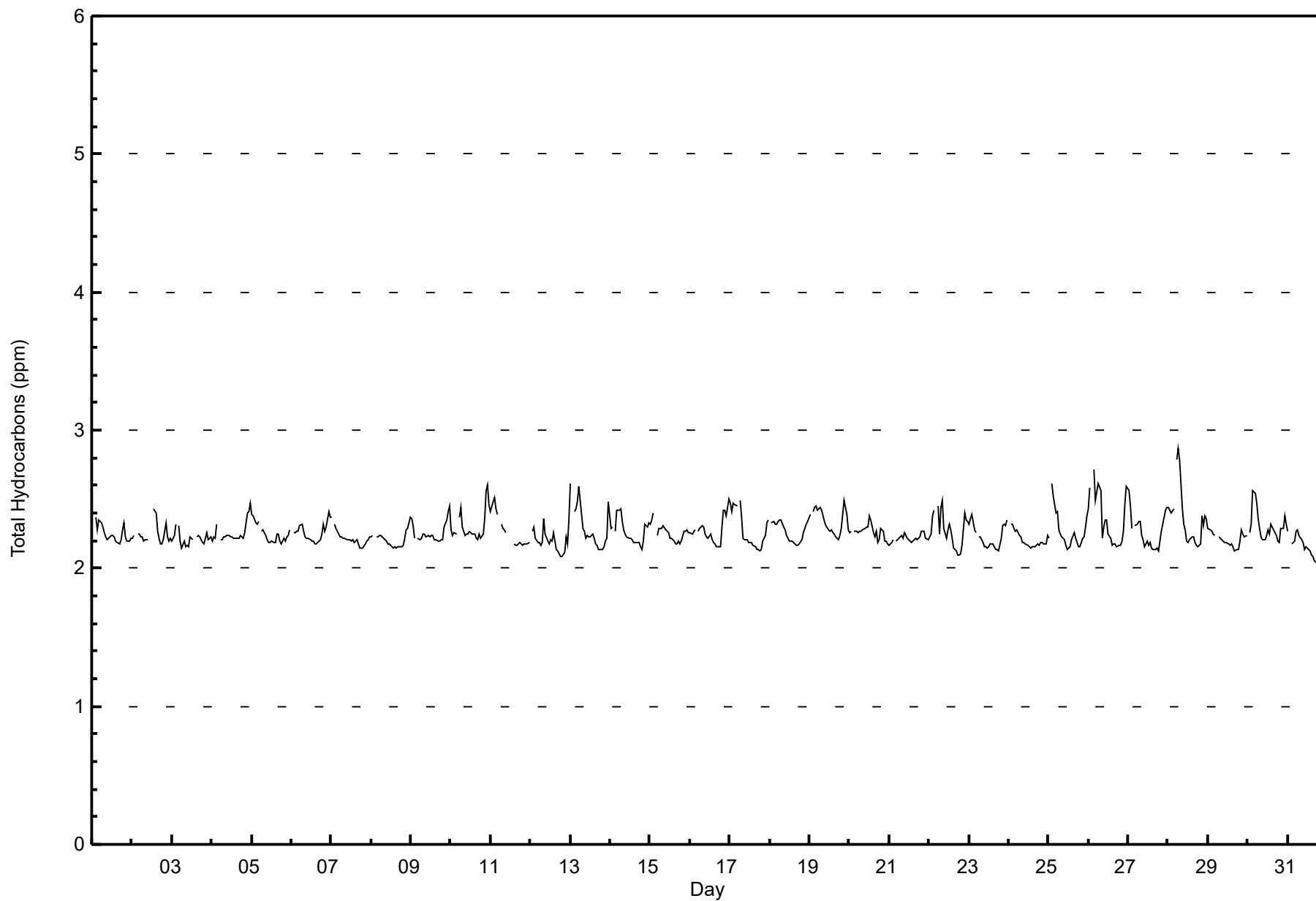
Wapasu - July 2025

Maximum Value: 2.9 ppm on Jul 28 07:00																		Maximum Daily Average: 2.4 ppm on Jul 28										Hours in Service: 744	
Minimum Value: 2.0 ppm on Jul 31 18:00																		Minimum Daily Average: 2.2 ppm on Jul 31										Hours of Data: 704	
Maximum Diurnal Average: 2.3 ppm at hour 4																		Minimum Diurnal Average: 2.2 ppm at hour 19										Hours of Missing Data: 40	
Monthly Average: 2.26 ppm																		Percentiles: P ₁ = 2.1 P ₁₀ = 2.2 Q ₁ = 2.2 Median = 2.2 Q ₃ = 2.3 P ₉₀ = 2.4 P ₉₉ = 2.6										Hours of Calibration: 35	
																												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-Jul	2.4	Z	2.4	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	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.3			
2-Jul	2.2	2.2	Z	2.2	2.3	2.2	2.2	2.2	2.2	2.2	M	M	M	2.4	2.4	2.3	2.2	2.2	2.2	2.2	2.3	2.2	2.2	2.2	2.2	2.2			
3-Jul	2.2	2.2	2.3	Z	2.3	2.2	2.1	2.2	2.2	2.2	2.2	2.2	2.2	M	M	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.2	2.2	2.2	2.2			
4-Jul	2.2	2.2	2.2	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	2.3	2.4	2.4	2.5	2.3	2.5			
5-Jul	2.4	2.4	2.3	2.3	2.3	Z	2.3	2.3	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	2.2	2.2	2.3	2.2	2.4			
6-Jul	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	2.2	2.2	2.2	2.3	2.3	2.3	2.4	2.4	2.3	2.4			
7-Jul	2.4	Z	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	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.4			
8-Jul	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	2.1	2.2	2.1	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.4	2.2	2.4			
9-Jul	2.4	2.3	2.2	Z	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	2.2	2.3	2.4	2.4	2.4	2.3	2.4			
10-Jul	2.3	2.2	2.3	2.3	Z	2.4	2.4	2.3	2.2	2.2	2.2	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.4	2.6	2.6	2.5	2.3	2.6			
11-Jul	2.4	2.5	2.5	2.4	2.4	Z	2.3	2.3	2.3	2.3	C	C	C	C	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.5			
12-Jul	Z	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.4	2.3	2.2	2.2	2.2	2.2	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.4	2.2	2.4			
13-Jul	2.6	Z	2.4	2.4	2.5	2.6	2.5	2.3	2.3	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	2.2	2.5	2.3	2.6			
14-Jul	2.3	2.3	Z	2.3	2.4	2.4	2.4	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.2	2.3	2.3	2.3	2.3	2.4			
15-Jul	2.3	2.3	2.4	Z	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	2.3	2.3	2.3	2.3	2.3	2.4			
16-Jul	2.3	2.3	2.3	2.3	Z	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	2.3	2.4	2.4	2.4	2.5	2.3	2.5			
17-Jul	2.5	2.4	2.5	2.5	2.5	Z	2.5	2.4	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	2.3	2.4	2.3	2.5			
18-Jul	Z	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.4			
19-Jul	2.4	Z	2.4	2.4	2.5	2.4	2.4	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.3	2.4	2.5	2.4	2.3	2.3	2.5			
20-Jul	2.3	2.3	Z	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.3	2.2	2.3	2.2	2.2	2.3	2.3	2.2	2.2	2.2	2.3	2.4			
21-Jul	2.2	2.2	2.2	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	2.3	2.3	2.3	2.2	2.2	2.2	2.3			
22-Jul	2.2	2.2	2.4	2.4	Z	2.5	2.2	2.4	2.5	2.3	2.2	2.3	2.3	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.4	2.4	2.3	2.3	2.5			
23-Jul	2.3	2.4	2.4	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	2.1	2.1	2.1	2.2	2.3	2.3	2.3	2.3	2.2	2.4			
24-Jul	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	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3			
25-Jul	2.2	Z	2.6	2.5	2.4	2.4	2.3	2.2	2.2	2.2	2.2	2.1	2.1	2.2	2.2	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.4	2.3	2.6			
26-Jul	2.4	2.6	Z	2.7	2.5	2.6	2.6	2.6	2.2	2.3	2.3	2.4	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.5	2.6	2.4	2.7			
27-Jul	2.6	2.5	2.3	Z	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.3	2.4	2.4	2.3	2.6			
28-Jul	2.4	2.4	2.4	2.4	Z	2.8	2.9	2.8	2.4	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.4	2.3	2.4	2.4	2.4	2.9			
29-Jul	2.3	2.3	2.3	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	2.1	2.1	2.1	2.2	2.3	2.2	2.2	2.2	2.2	2.3			
30-Jul	Z	2.3	2.3	2.6	2.5	2.5	2.4	2.3	2.2	2.2	2.2	2.2	2.3	2.2	2.3	2.3	2.3	2.2	2.2	2.2	2.3	2.3	2.4	2.3	2.3	2.6			
31-Jul	2.3	Z	2.2	2.2	2.2	2.3	2.3	2.2	2.2	2.2	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.1	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 2.2 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																										Diurnal Average			
2.6 2.6 2.6 2.7 2.5 2.8 2.9 2.8 2.5 2.3 2.3 2.4 2.4 2.4 2.4 2.3 2.3 2.2 2.3 2.3 2.4 2.6 2.6 2.6																										Diurnal Maximum			
Z - zerospan C - Calibration M - Maintenance																													



Wood Buffalo Environmental Association
Hourly Averages

Total Hydrocarbons (THC) - ppm
Wapasu - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Hydrocarbons (THC) - ppm
Wapasu - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	2	0.28	0.28
2.1 - 3.0	702	99.72	100.00
3.1 - 10.0	0	0.00	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 704

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Total Hydrocarbons (THC) - ppm
Wapasu - July 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	1	0	1	0	0	0	0	2
2.1 - 3.0	52	30	17	6	12	23	57	107	59	41	56	63	31	29	39	80	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	52	30	17	6	12	23	57	107	59	42	56	64	31	29	39	80	704

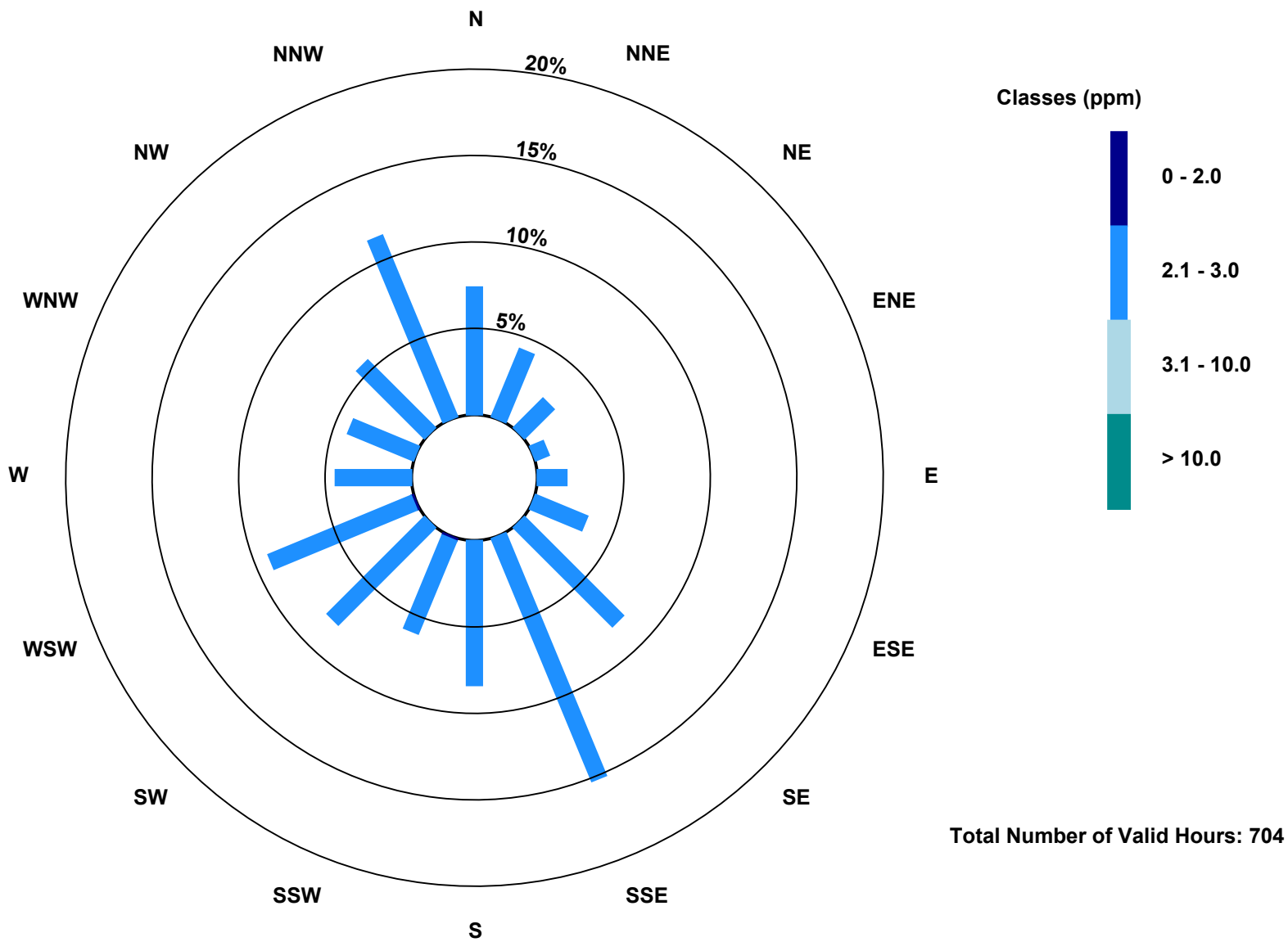
Total Number of Valid Hours: 704

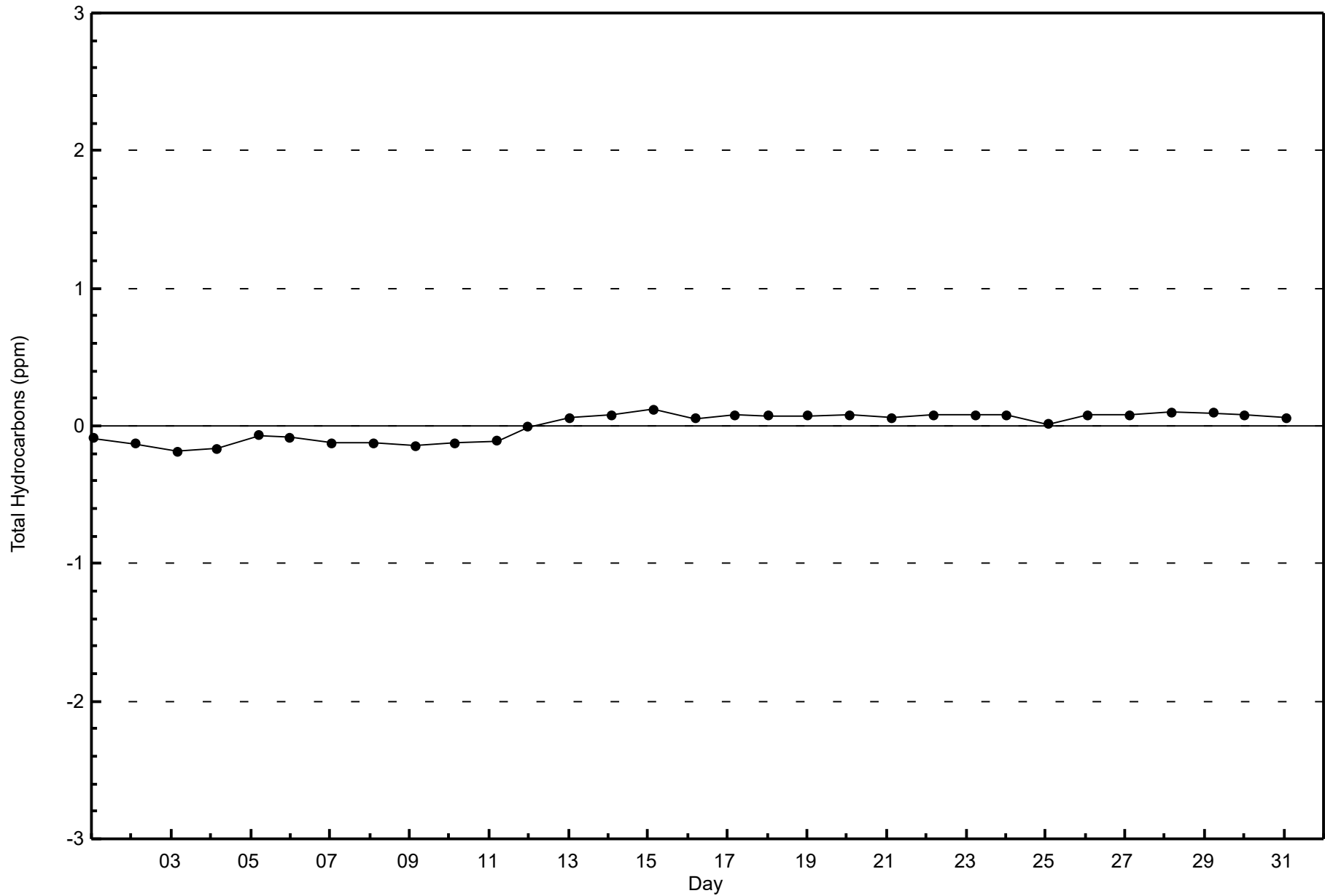
Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Total Hydrocarbons (THC) - ppm
Wapasu

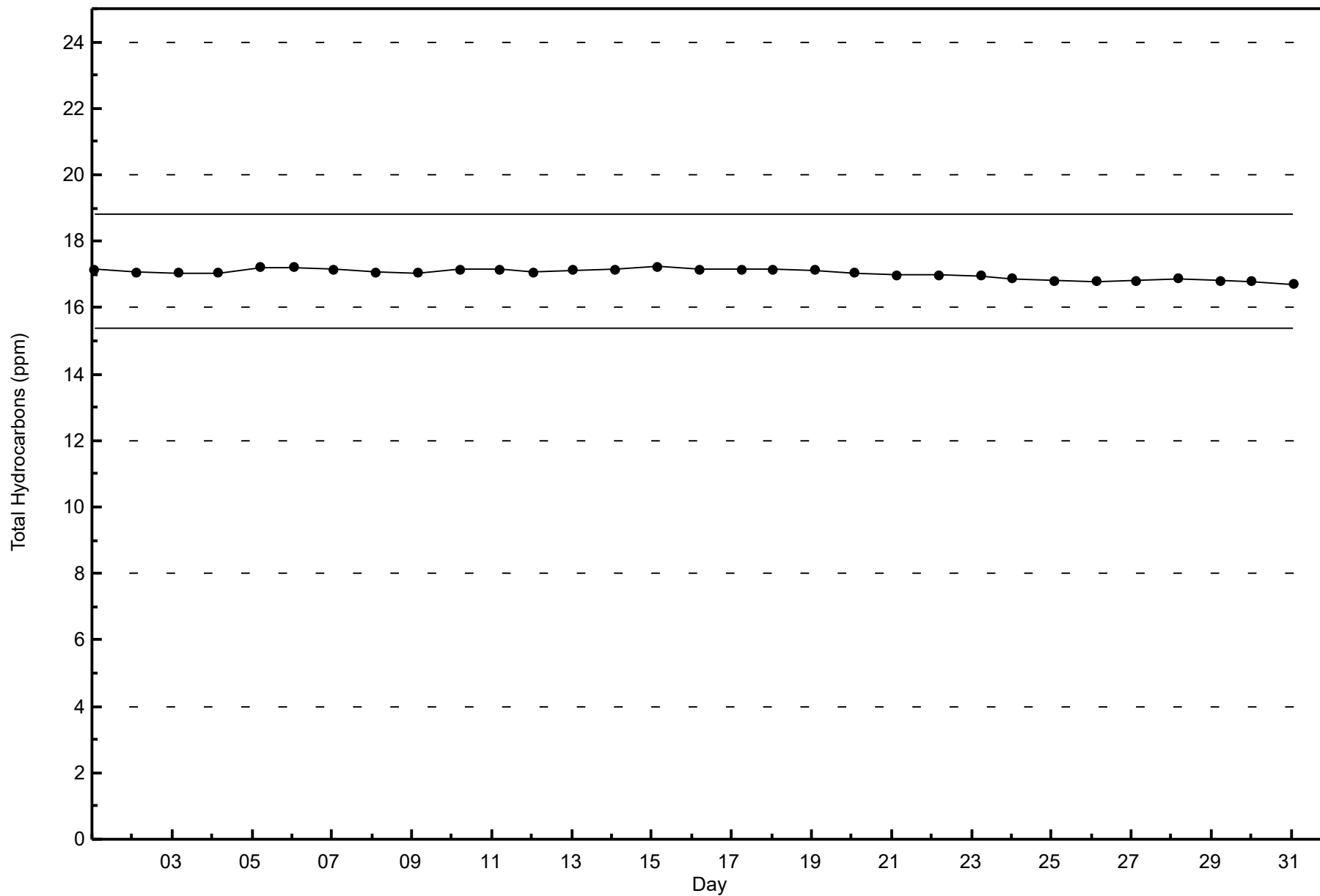






Wood Buffalo Environmental Association
Span Responses

Total Hydrocarbons (THC) - ppm
Wapasu - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Ozone (O₃) - ppb

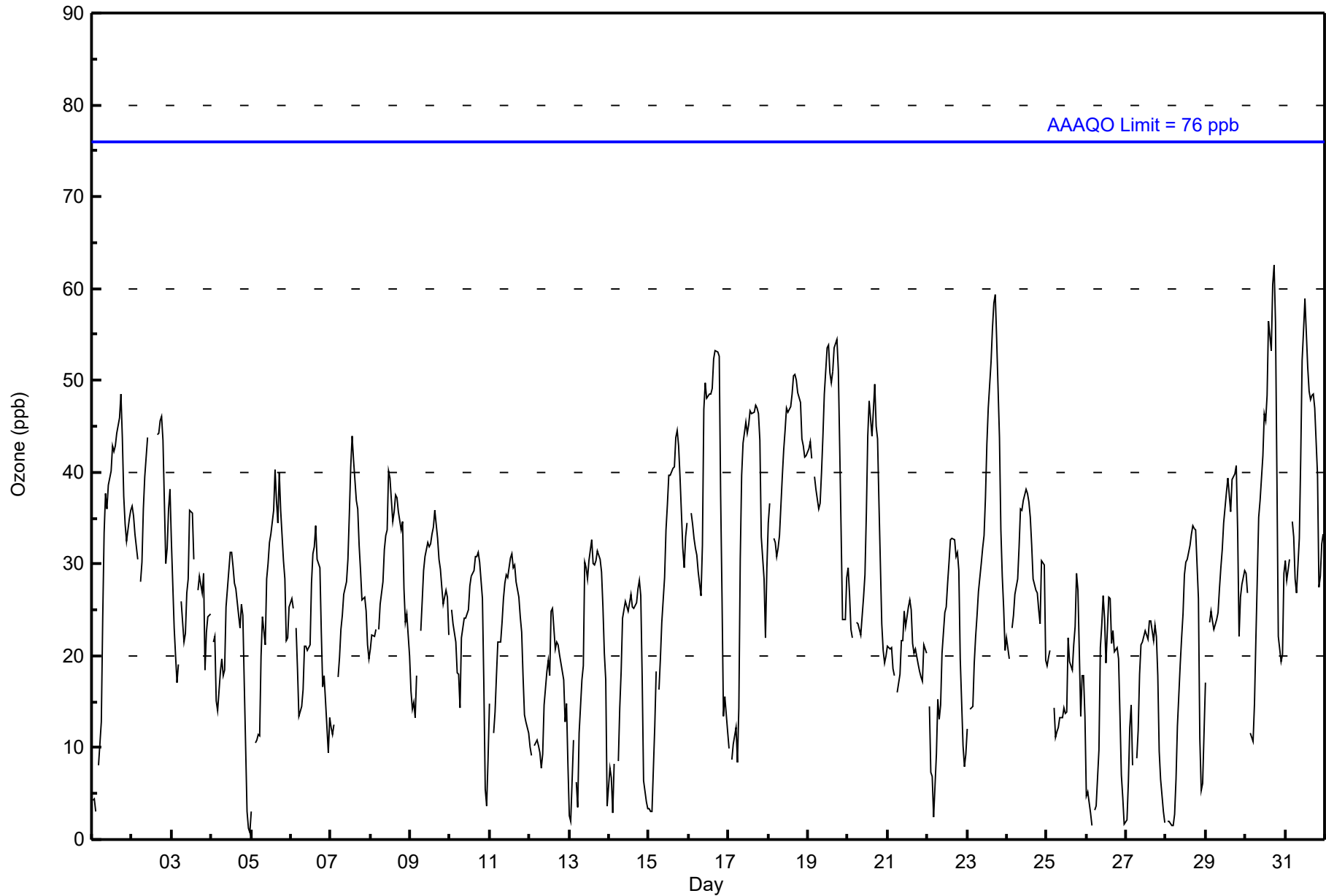
Wapasu - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 62.5 ppb on Jul 30 18:00 Maximum Daily Average: 42.6 ppb on Jul 19																				Hours in Service: 744						
Minimum Value: 0.8 ppb on Jul 5 00:00 Minimum Daily Average: 14.3 ppb on Jul 26 Maximum Diurnal Average: 36.6 ppb at hour 18 Minimum Diurnal Average: 16.6 ppb at hour 4 Monthly Average: 26.77 ppb Percentiles: P ₁ = 1.9 P ₁₀ = 10.3 Q ₁ = 18.6 Median = 26.3 Q ₃ = 34.4 P ₉₀ = 44.3 P ₉₉ = 55.6																				Hours of Data: 706						
																				Hours of Missing Data: 38						
																				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-Jul	4.3	4.4	3.1	Z	8.0	12.9	24.2	33.5	37.7	36.0	38.6	40.1	42.9	42.2	42.8	44.2	45.9	48.5	43.8	37.3	34.4	32.5	34.9	35.8	31.7	48.5
2-Jul	36.4	35.2	33.2	30.5	Z	28.1	30.3	36.1	39.4	43.8	C	C	C	C	C	44.1	44.3	45.6	46.1	43.5	30.0	31.7	35.9	38.2	37.4	46.1
3-Jul	32.5	23.0	20.0	17.1	19.1	Z	25.9	21.4	22.4	26.8	28.4	35.9	35.6	30.6	M	M	27.2	28.7	26.9	29.0	18.5	22.5	24.3	24.5	25.7	35.9
4-Jul	Z	21.4	22.0	15.1	14.1	18.3	19.7	17.8	18.4	25.4	29.3	31.2	31.3	29.8	27.9	27.3	24.5	23.1	25.6	24.4	17.0	3.0	1.3	0.8	20.4	31.3
5-Jul	3.0	Z	10.5	10.9	11.4	11.2	20.0	24.3	21.3	28.3	30.0	32.3	33.3	35.8	40.2	36.9	34.5	40.0	35.9	30.3	28.4	21.7	21.9	25.4	25.5	40.2
6-Jul	26.3	25.2	Z	23.1	18.6	13.4	14.5	16.3	21.1	21.1	20.7	21.2	27.9	31.1	31.8	34.2	30.4	29.5	22.6	16.6	17.8	15.1	9.4	13.3	21.8	34.2
7-Jul	12.1	11.4	12.5	Z	17.8	19.8	22.9	24.5	26.8	28.0	30.5	35.4	40.6	44.0	41.3	37.0	35.9	32.0	29.2	26.0	26.4	24.9	21.2	19.7	27.0	44.0
8-Jul	20.7	22.3	22.2	22.8	Z	22.8	25.7	28.1	31.5	33.1	33.7	40.1	39.3	34.6	35.7	37.5	37.3	35.7	33.7	34.7	27.3	23.7	24.5	20.0	29.9	40.1
9-Jul	16.2	14.1	14.9	13.3	17.9	Z	22.8	25.9	29.2	30.8	32.3	31.9	32.3	33.3	34.0	35.9	32.8	30.5	29.4	27.5	25.6	27.2	26.4	22.3	26.4	35.9
10-Jul	Z	25.0	23.4	21.6	18.2	17.9	14.4	21.9	24.2	24.2	24.6	25.1	27.7	28.7	29.3	30.8	30.8	31.3	30.1	26.2	17.0	5.5	3.6	8.7	22.2	31.3
11-Jul	14.8	Z	11.6	13.9	17.9	21.5	21.4	23.7	26.3	27.9	28.9	28.5	30.6	31.1	29.7	29.9	28.1	26.3	24.2	22.5	17.7	13.5	12.8	11.6	22.4	31.1
12-Jul	10.0	9.1	Z	10.3	10.9	10.3	9.5	7.7	9.3	14.6	18.4	19.6	17.9	24.9	25.1	20.7	21.5	21.2	20.1	19.2	17.4	12.8	14.8	8.3	15.4	25.1
13-Jul	2.6	2.0	10.8	Z	6.2	3.6	11.6	17.4	19.0	30.2	29.5	28.4	30.4	32.7	30.1	29.8	30.3	31.4	30.6	29.2	25.3	20.2	17.4	3.7	20.5	32.7
14-Jul	7.8	6.7	2.9	8.2	Z	8.6	14.4	18.4	24.0	25.0	26.0	24.8	25.8	26.7	25.4	25.1	25.8	27.3	28.3	26.5	17.6	6.3	4.1	3.3	17.8	28.3
15-Jul	3.4	3.1	3.0	12.4	18.3	Z	16.4	19.7	23.7	28.6	33.7	36.4	39.6	39.7	40.5	40.6	43.8	44.6	42.8	39.5	31.8	29.5	33.0	34.4	28.6	44.6
16-Jul	Z	35.5	34.2	32.8	31.7	31.0	29.2	26.6	32.0	46.8	49.7	48.0	48.5	48.5	49.1	52.2	53.2	53.1	52.6	37.5	26.2	13.4	15.6	11.7	37.4	53.2
17-Jul	10.0	Z	8.6	10.4	12.2	8.4	14.3	30.6	39.6	43.1	45.4	44.3	45.1	46.7	46.4	46.5	47.3	47.1	46.3	43.4	33.0	28.4	21.9	29.6	32.6	47.3
18-Jul	34.4	36.6	Z	32.8	32.3	30.9	31.7	33.1	39.5	42.3	44.6	47.0	46.5	47.1	48.5	50.5	50.6	50.1	48.6	47.6	43.7	42.8	41.7	41.8	41.9	50.6
19-Jul	42.5	43.3	41.5	Z	39.4	38.1	36.0	36.5	40.0	43.9	48.6	53.5	53.9	50.8	49.8	51.0	53.5	54.4	51.0	42.5	33.4	24.0	23.9	28.5	42.6	54.4
20-Jul	29.6	26.7	22.9	21.9	Z	23.6	23.5	22.9	22.2	26.4	28.9	35.5	43.9	47.8	44.0	46.7	49.6	45.1	43.7	36.6	23.5	20.6	19.2	19.9	31.5	49.6
21-Jul	21.1	20.7	20.9	18.6	17.9	Z	16.1	18.0	21.6	21.7	24.8	23.2	25.4	26.0	25.0	21.4	20.3	20.7	19.1	18.3	17.7	17.3	21.1	20.3	20.7	26.0
22-Jul	Z	14.5	7.3	6.8	2.5	9.3	15.3	13.0	14.6	20.3	24.7	25.3	27.9	30.2	32.7	32.8	32.7	30.9	31.2	29.3	19.7	10.3	7.9	9.3	19.5	32.8
23-Jul	12.1	Z	14.2	14.5	19.2	22.2	24.5	27.0	30.1	31.8	33.1	37.2	43.0	47.0	52.0	55.6	58.3	59.4	54.5	43.9	33.7	28.7	25.2	20.5	34.2	59.4
24-Jul	22.0	19.7	Z	23.1	24.3	26.7	28.4	31.9	36.0	35.9	36.9	38.1	37.8	36.8	35.0	32.1	28.3	27.2	26.9	25.0	23.5	30.3	29.9	19.5	29.4	38.1
25-Jul	18.9	19.8	20.5	Z	14.4	11.2	11.8	12.2	13.2	13.2	14.3	13.7	13.9	22.0	19.3	18.5	21.3	23.3	29.0	27.1	13.4	17.8	17.9	13.5	17.4	29.0
26-Jul	4.7	5.1	2.8	1.6	Z	3.2	3.7	9.8	20.9	23.4	26.6	24.2	19.1	26.3	26.3	21.4	22.7	20.5	20.9	19.7	13.6	7.0	4.6	1.7	14.3	26.6
27-Jul	2.2	6.3	12.1	14.6	8.1	Z	8.9	11.9	18.0	21.3	21.5	22.8	22.3	21.9	23.8	23.8	21.7	23.4	22.1	17.8	9.6	6.5	3.0	1.9	15.0	23.8
28-Jul	Z	1.9	1.9	1.5	1.5	2.8	6.6	12.3	19.1	21.9	24.5	28.8	30.2	30.6	32.0	33.2	34.1	33.9	33.6	26.2	10.9	5.4	6.1	11.6	17.9	34.1
29-Jul	17.0	Z	23.6	24.9	23.9	22.9	23.9	24.8	27.3	29.6	31.6	34.5	37.9	39.4	37.6	35.8	39.3	39.8	40.7	33.6	22.2	26.3	27.7	29.4	30.1	40.7
30-Jul	28.9	26.8	Z	11.5	10.7	14.7	21.8	28.3	35.0	36.9	41.8	46.3	45.6	48.4	56.4	53.2	60.4	62.5	56.3	39.7	22.0	19.4	20.1	29.0	35.5	62.5
31-Jul	30.3	28.3	30.5	Z	34.6	33.0	28.3	26.8	32.9	41.6	52.1	55.4	58.9	51.5	48.8	47.9	48.4	48.5	47.0	39.6	27.5	28.7	32.2	33.2	39.4	58.9
Diurnal Average																										
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
Wapasu - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ozone (O₃) - ppb
Wapasu - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	210	29.75	29.75
21 - 50	469	66.43	96.18
51 - 82	27	3.82	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
Wapasu - July 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	14	9	2	3	4	15	28	33	7	5	23	13	10	8	9	27	210
21 - 50	37	19	15	4	8	6	25	73	51	36	35	47	22	18	27	46	469
51 - 82	2	1	0	0	0	1	0	5	3	2	2	2	0	3	3	3	27
> 83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	53	29	17	7	12	22	53	111	61	43	60	62	32	29	39	76	706

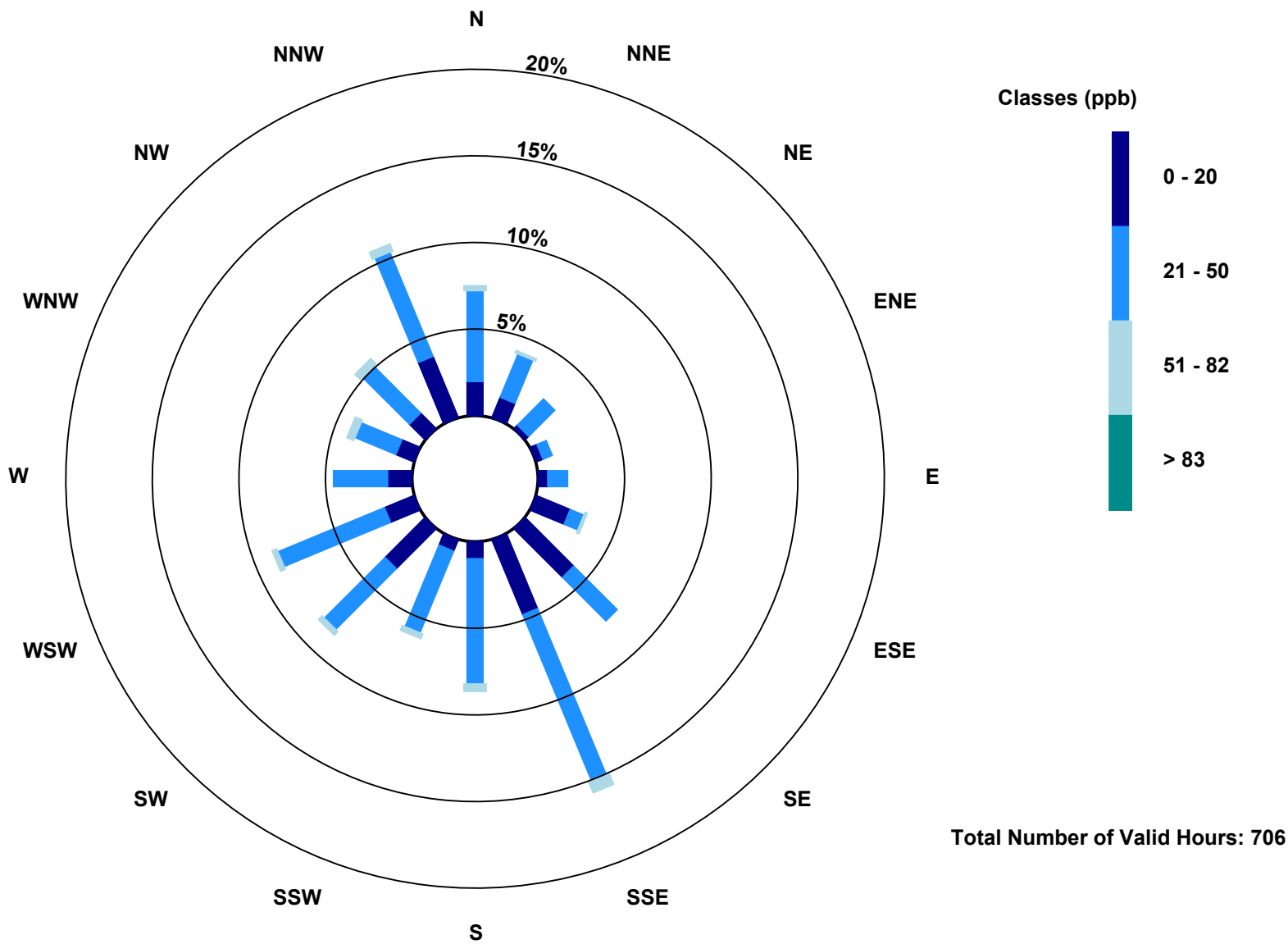
Total Number of Valid Hours: 706

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

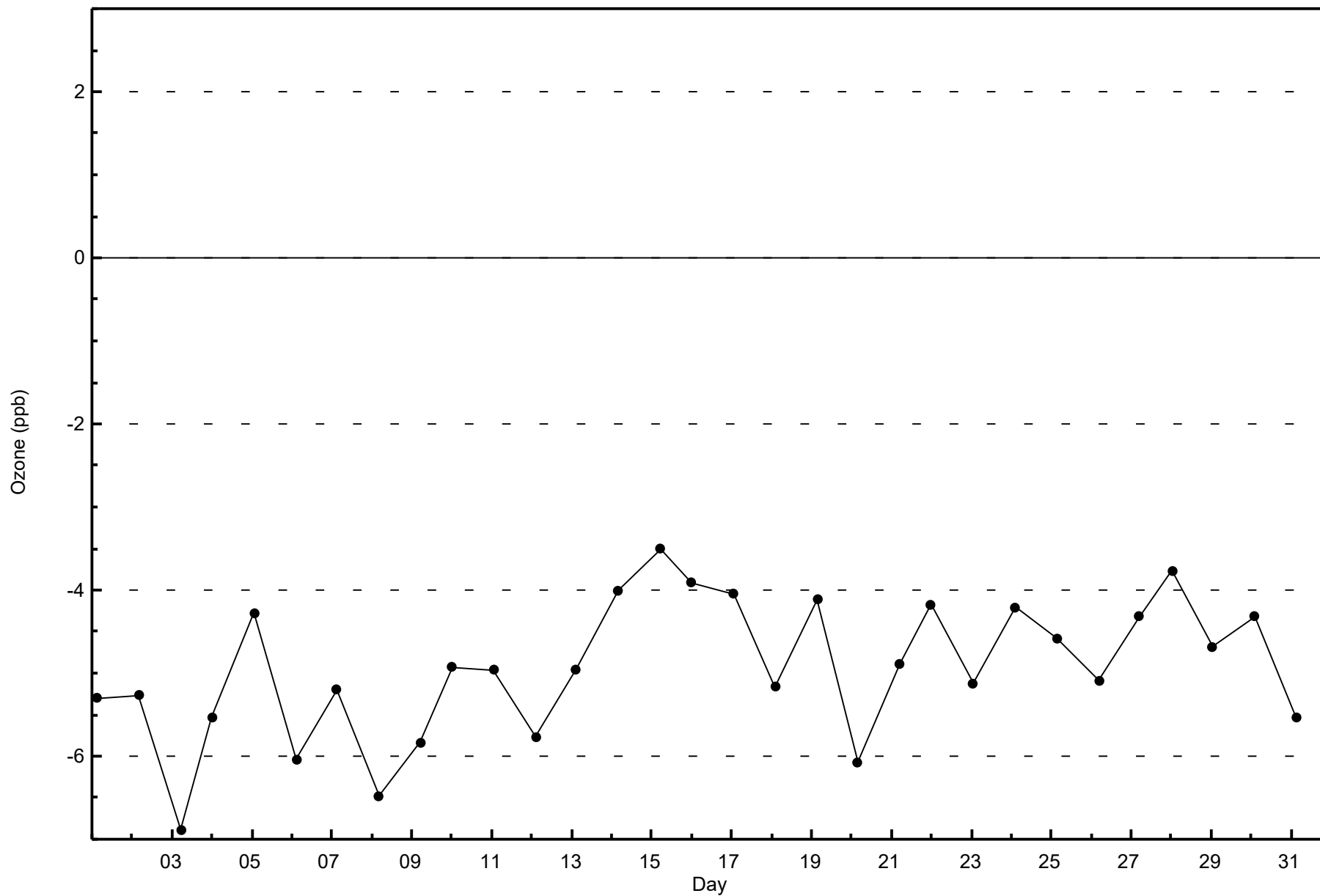
Ozone (O₃) - ppb
Wapasu





Wood Buffalo Environmental Association
Zero Responses

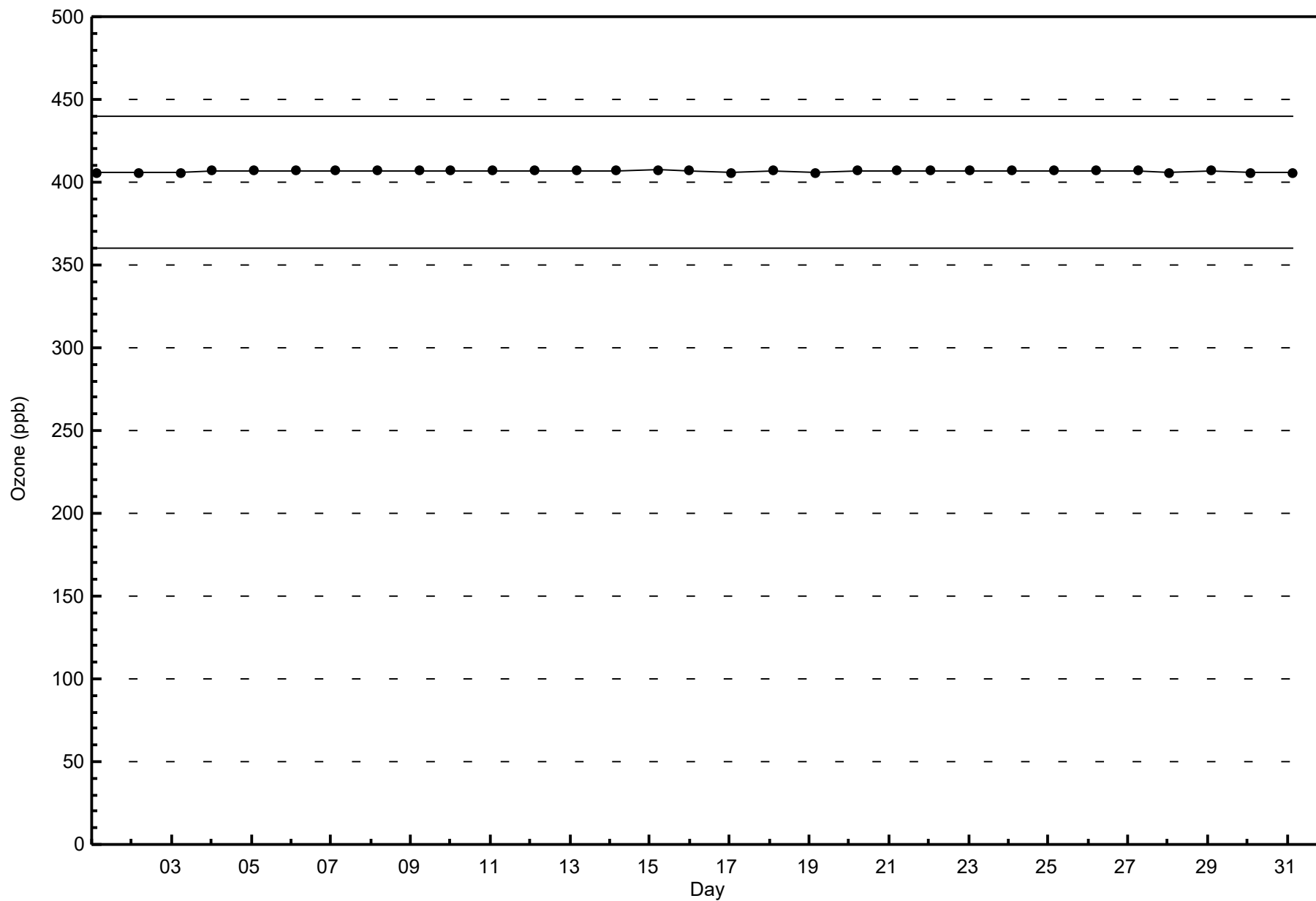
Ozone (O₃) - ppb
Wapasu - July 2025





Wood Buffalo Environmental Association
Span Responses

Ozone (O₃) - ppb
Wapasu - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitric Oxide (NO) - ppb

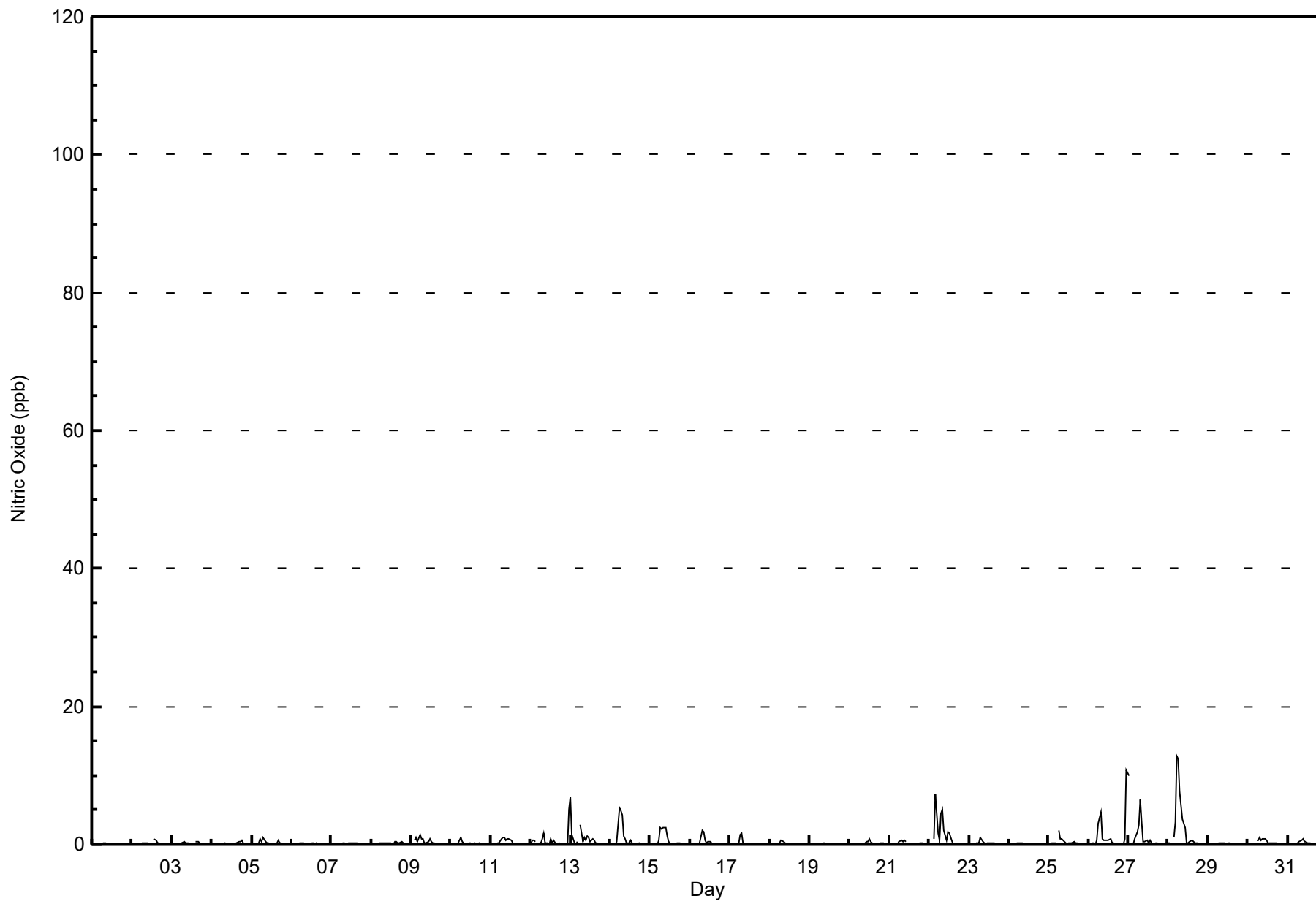
Wapasu - July 2025

Maximum Value: 12.7 ppb on Jul 28 06:00																			Maximum Daily Average: 2.1 ppb on Jul 28							Hours in Service: 744			
Minimum Value: 0.0 ppb on Jul 1 18:00																			Minimum Daily Average: 0.0 ppb on Jul 19							Hours of Data: 701			
Maximum Diurnal Average: 1.4 ppb at hour 8																			Minimum Diurnal Average: 0.0 ppb at hour 22							Hours of Missing Data: 43			
Monthly Average: 0.39 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 = 6.4							Hours of Calibration: 37			
																										Percent Operational Time: 99.2			
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-Jul	0.0	0.0	0.0	0.0	0.1	Z	0.3	0.1	0.1	0.0	0.0	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			
2-Jul	Z	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.3	M	M	M	0.8	0.5	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
3-Jul	0.0	Z	0.1	0.0	0.1	0.1	0.1	0.3	0.2	0.2	0.1	M	M	M	0.4	0.4	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
4-Jul	0.0	0.0	Z	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	0.5	0.5	0.5	0.2	0.1	0.1	0.1	0.1	0.1	0.0			
5-Jul	0.0	0.0	0.0	Z	0.3	0.8	0.4	1.1	0.5	0.2	0.2	0.1	0.1	0.0	0.0	0.1	0.6	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0			
6-Jul	0.0	0.0	0.0	0.0	Z	0.3	0.3	0.2	0.0	0.1	0.0	0.0	0.1	0.2	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0			
7-Jul	0.0	0.0	0.0	0.0	0.1	Z	0.1	0.2	0.1	0.1	0.2	0.3	0.3	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			
8-Jul	Z	0.0	0.0	0.0	0.1	0.2	0.3	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.4	0.4	0.2	0.1	0.4	0.1	0.0	0.0	0.0	0.0	0.1	0.0			
9-Jul	0.1	Z	0.6	0.9	0.4	1.4	0.7	0.8	0.3	0.3	0.4	0.8	0.4	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
10-Jul	0.0	0.0	Z	0.0	0.2	0.5	1.1	0.4	0.0	0.0	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
11-Jul	0.0	0.1	0.1	Z	0.3	0.3	0.7	1.0	1.0	0.5	0.9	0.7	0.5	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
12-Jul	0.1	0.6	0.7	0.4	Z	0.3	0.2	0.8	1.6	0.2	0.1	0.0	0.8	0.3	0.7	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0	5.1	0.0			
13-Jul	6.9	1.5	0.2	0.1	0.5	Z	2.8	0.4	1.0	0.6	1.2	1.0	0.3	0.7	0.6	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
14-Jul	Z	0.0	0.0	0.0	0.5	5.2	5.0	4.4	1.2	0.8	0.2	0.2	0.5	0.2	0.1	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
15-Jul	0.0	Z	0.0	0.0	0.0	0.5	2.4	2.2	2.4	2.4	1.1	0.5	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			
16-Jul	0.0	0.0	Z	0.0	0.0	0.1	0.3	1.9	1.8	0.6	0.3	0.4	0.5	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			
17-Jul	0.0	0.0	0.0	Z	0.0	0.3	1.5	1.5	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			
18-Jul	0.0	0.0	0.0	0.0	Z	0.0	0.2	0.5	0.4	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			
19-Jul	0.0	0.0	0.0	0.0	0.0	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	0.1	0.1	0.0	0.0	0.0			
20-Jul	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.5	0.4	0.9	0.3	0.1	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1			
21-Jul	0.0	Z	0.0	0.0	0.0	0.1	0.3	0.6	0.4	0.7	0.4	C	C	C	C	C	C	0.0	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0			
22-Jul	0.0	0.0	Z	0.8	7.2	1.7	0.7	4.6	5.0	2.0	0.6	1.8	1.5	0.9	0.4	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0			
23-Jul	0.0	0.0	0.1	Z	0.1	0.2	0.2	0.9	0.4	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	0.0			
24-Jul	0.0	0.0	0.1	0.0	Z	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	0.1	0.1	0.1	0.0			
25-Jul	0.1	0.1	0.1	0.2	0.3	Z	2.0	0.8	0.9	0.5	0.2	0.1	0.1	0.2	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0			
26-Jul	Z	0.1	0.2	0.2	0.1	0.6	3.1	4.6	0.8	0.7	0.6	0.5	0.5	0.9	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.7	10.8	0.0			
27-Jul	9.9	Z	0.0	0.0	0.9	1.8	2.8	6.4	3.3	0.5	0.3	0.7	0.3	0.7	0.2	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0			
28-Jul	0.2	0.2	Z	1.0	3.2	12.7	12.3	7.7	3.7	3.1	2.5	0.2	0.3	0.4	0.6	0.5	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0			
29-Jul	0.1	0.0	0.0	Z	0.0	0.0	0.1	0.3	0.1	0.3	0.2	0.0	0.1	0.2	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
30-Jul	0.0	0.0	0.0	0.1	Z	0.6	0.7	1.0	0.6	0.9	0.9	0.6	0.1	0.1	0.2	0.3	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0			
31-Jul	0.1	0.1	0.1	0.1	0.1	Z	0.2	0.3	0.6	0.9	0.4	0.4	0.3	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			
0.7 0.1 0.1 0.2 0.6 1.1 1.3 1.4 0.9 0.5 0.4 0.3 0.3 0.3 0.2 0.1 0.1 0.1 0.1 0.1 0.0 0.0 0.1 0.5																										Diurnal Average			
9.9 1.5 0.7 1.0 7.2 12.7 12.3 7.7 5.0 3.1 2.5 1.8 1.5 0.9 0.7 0.5 0.6 0.5 0.5 0.2 0.1 0.1 0.7 10.8																										Diurnal Maximum			
Z - zerospan C - Calibration M - Maintenance																													



Wood Buffalo Environmental Association
Hourly Averages

Nitric Oxide (NO) - ppb
Wapasu - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitric Oxide (NO) - ppb
Wapasu - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	701	100.00	100.00
21 - 40	0	0.00	100.00
41 - 60	0	0.00	100.00
61 - 80	0	0.00	100.00
81 - 100	0	0.00	100.00
101 - 120	0	0.00	100.00
121 - 140	0	0.00	100.00
141 - 160	0	0.00	100.00
161 - 180	0	0.00	100.00
181 - 200	0	0.00	100.00
201 - 220	0	0.00	100.00
221 - 240	0	0.00	100.00
241 - 260	0	0.00	100.00
261 - 280	0	0.00	100.00
281 - 300	0	0.00	100.00
301 - 320	0	0.00	100.00
321 - 340	0	0.00	100.00
341 - 360	0	0.00	100.00
361 - 380	0	0.00	100.00
381 - 400	0	0.00	100.00
401 - 420	0	0.00	100.00
421 - 440	0	0.00	100.00
441 - 460	0	0.00	100.00
461 - 480	0	0.00	100.00
481 - 500	0	0.00	100.00
501 - 520	0	0.00	100.00
521 - 540	0	0.00	100.00
541 - 560	0	0.00	100.00
561 - 580	0	0.00	100.00
581 - 600	0	0.00	100.00
601 - 620	0	0.00	100.00
621 - 640	0	0.00	100.00
641 - 660	0	0.00	100.00
661 - 680	0	0.00	100.00
681 - 700	0	0.00	100.00
701 - 720	0	0.00	100.00
721 - 740	0	0.00	100.00
741 - 760	0	0.00	100.00
761 - 780	0	0.00	100.00
781 - 800	0	0.00	100.00
801 - 820	0	0.00	100.00
821 - 840	0	0.00	100.00
841 - 860	0	0.00	100.00
861 - 880	0	0.00	100.00
881 - 900	0	0.00	100.00
901 - 920	0	0.00	100.00
921 - 940	0	0.00	100.00
941 - 960	0	0.00	100.00
961 - 980	0	0.00	100.00
981 - 1000	0	0.00	100.00

Total Number of Valid Hours: 701

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitric Oxide (NO) - ppb
Wapasu - July 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	53	28	17	6	13	23	55	108	62	43	61	63	28	30	38	73	701
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	53	28	17	6	13	23	55	108	62	43	61	63	28	30	38	73	701

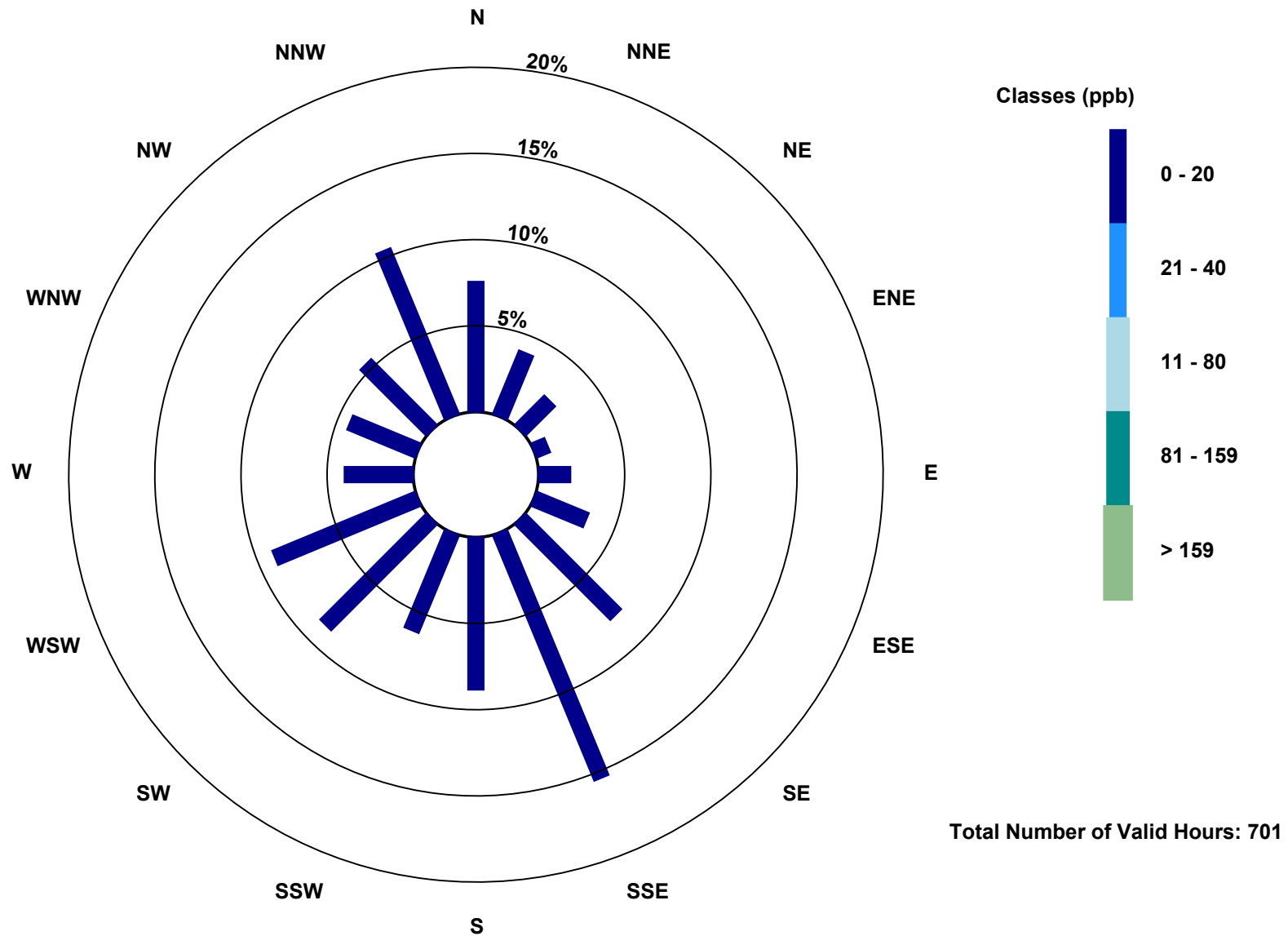
Total Number of Valid Hours: 701

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

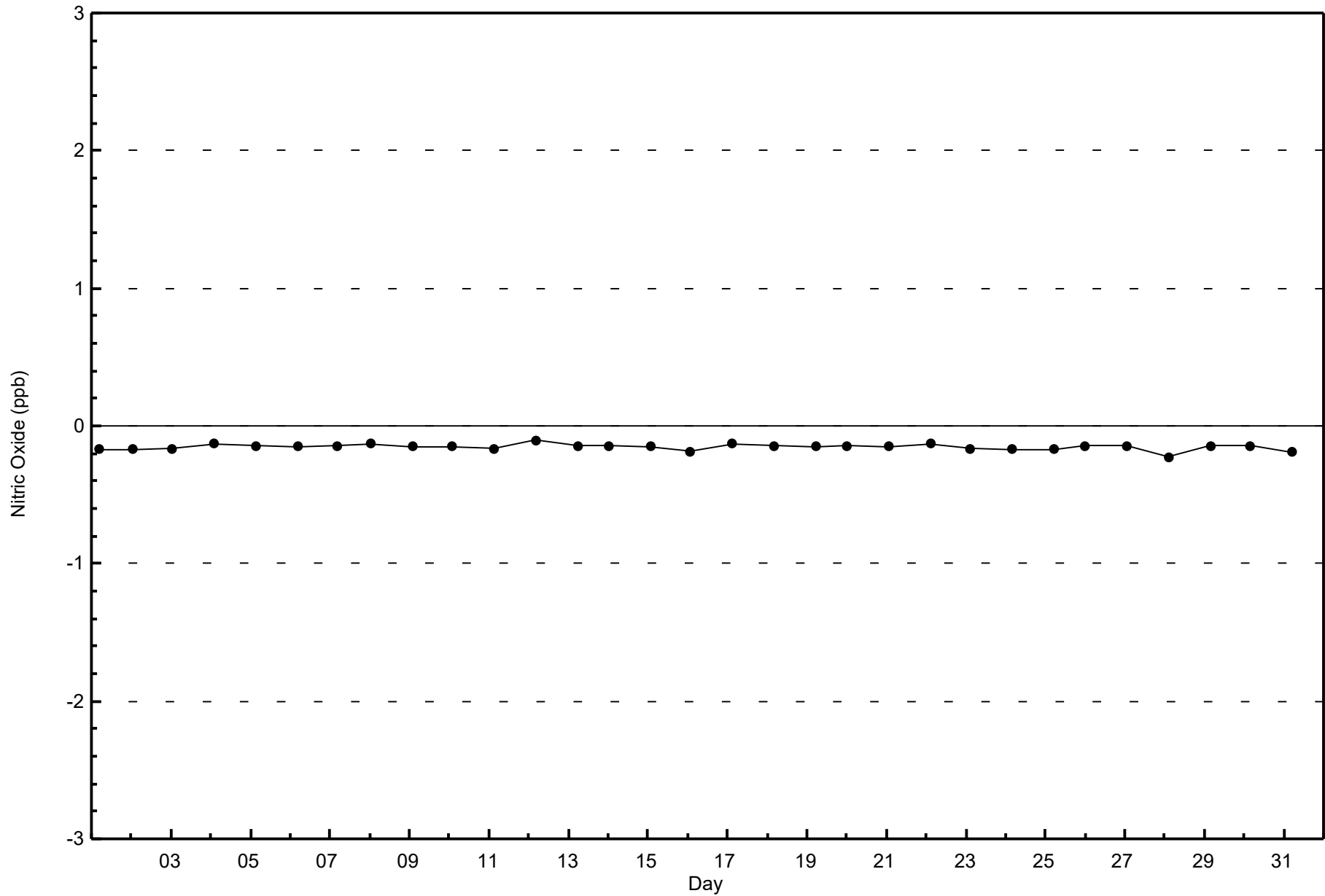
Nitric Oxide (NO) - ppb
Wapasu





Wood Buffalo Environmental Association
Zero Responses

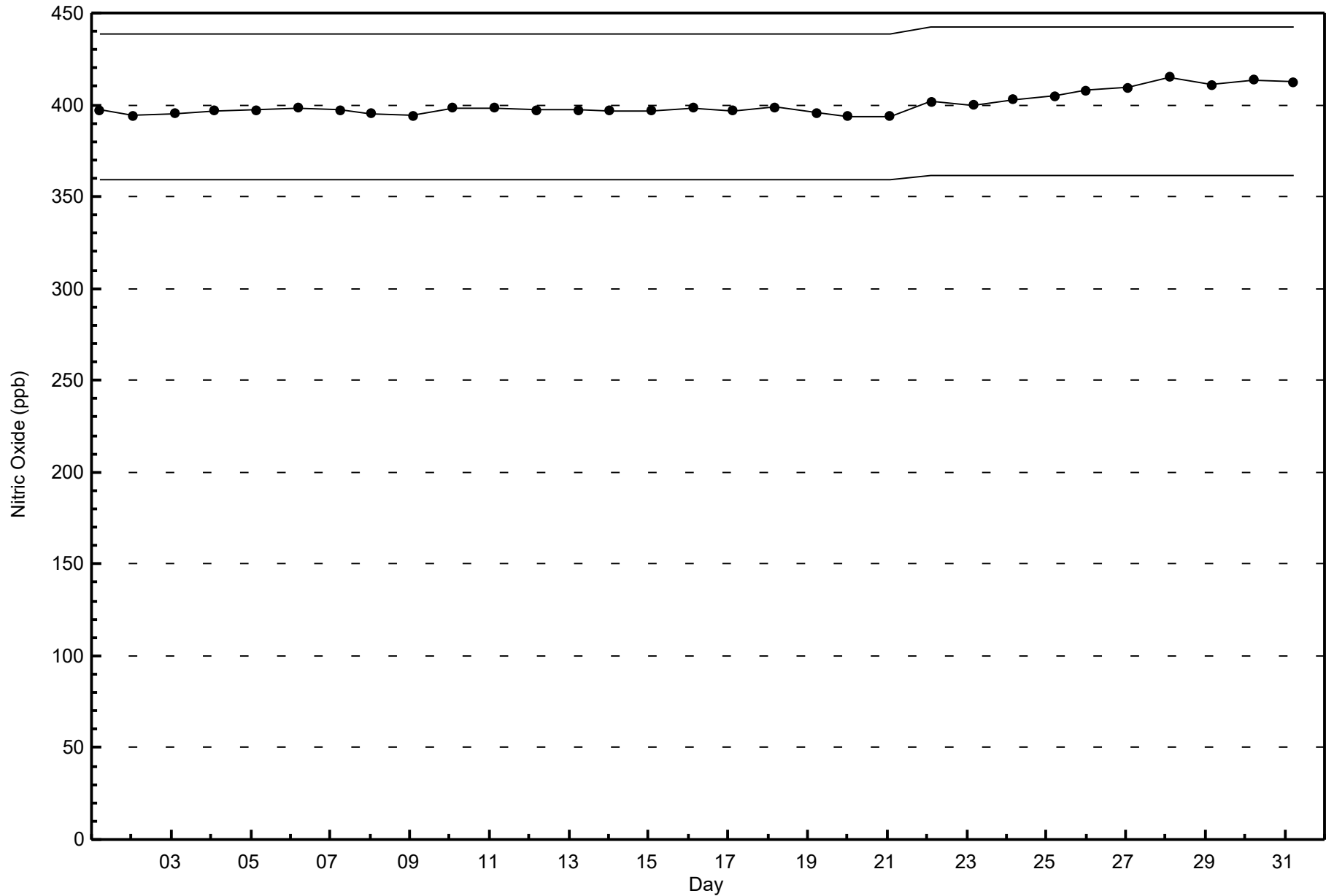
Nitric Oxide (NO) - ppb
Wapasu - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitric Oxide (NO) - ppb
Wapasu - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Dioxide (NO₂) - ppb

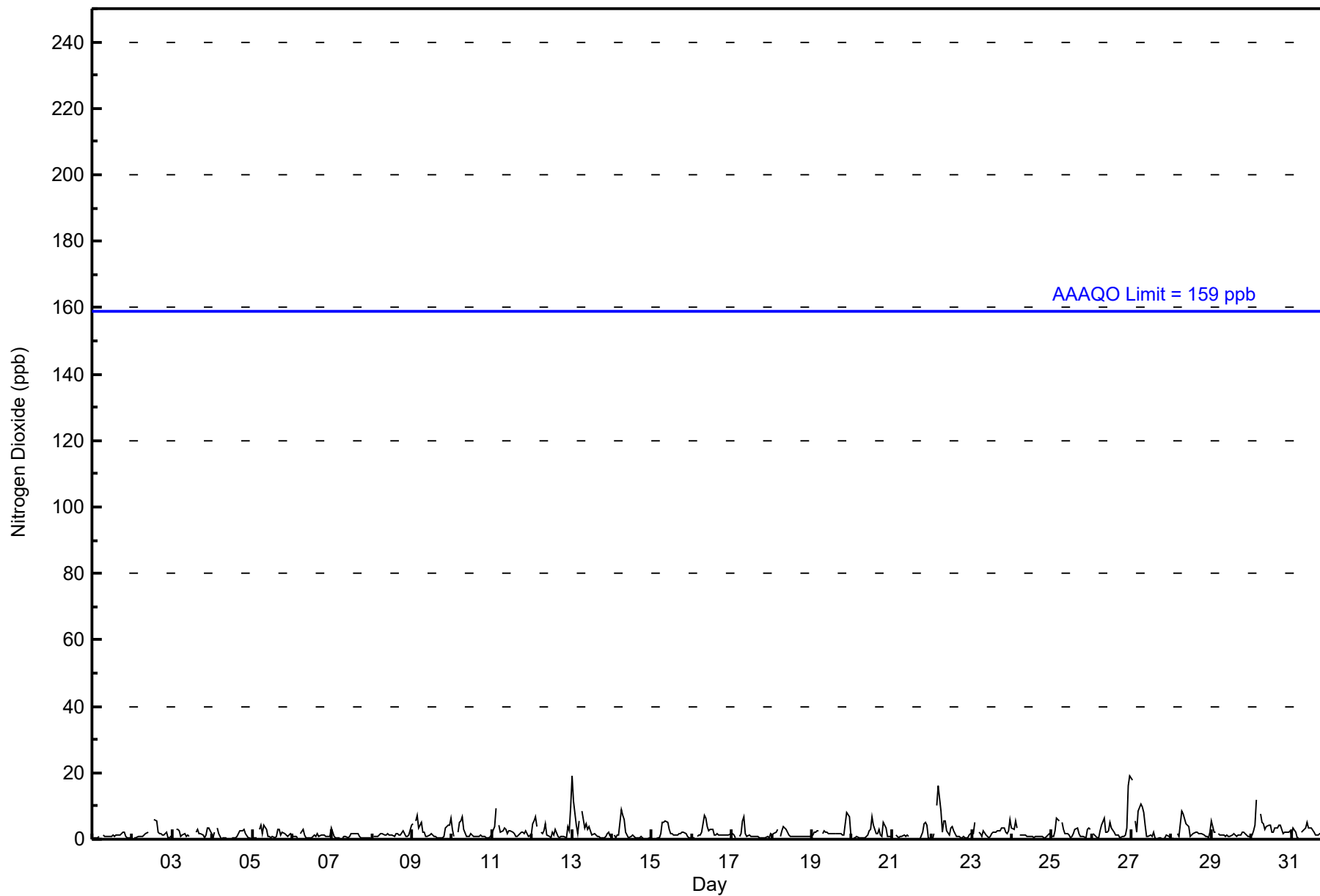
Wapasu - July 2025

Number of Exceedences (AAAQO): Maximum Value: 19.0 ppb on Jul 13 01:00																				1-hr: 0 Maximum Daily Average: 3.7 ppb on Jul 30					24-hr: 0 Minimum Daily Average: 0.9 ppb on Jul 7 Minimum Diurnal Average: 1.3 ppb at hour 18 Percentiles: P ₁ = 0.2 P ₁₀ = 0.5 Q ₁ = 0.8 Median = 1.4 Q ₃ = 2.4 P ₉₀ = 4.4 P ₉₉ = 10.5					Hours in Service: 744 Hours of Data: 701 Hours of Missing Data: 43 Hours of Calibration: 37 Percent Operational Time: 99.2	
Minimum Value: 0.1 ppb on Jul 22 00:00 Maximum Diurnal Average: 3.2 ppb at hour 8 Monthly Average: 2.05 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-Jul	0.3	0.3	0.3	0.4	1.0	Z	1.4	0.7	0.9	0.7	0.9	1.0	1.2	0.9	1.1	1.3	1.4	1.5	2.0	2.0	0.9	0.6	0.6	0.5	1.0	1.0	2.0				
2-Jul	Z	0.6	0.6	0.7	0.7	0.7	1.0	1.3	1.6	2.0	M	M	M	6.0	5.5	2.1	1.8	1.7	1.3	1.3	2.1	0.6	0.5	1.0	1.7	6.0					
3-Jul	1.4	Z	2.9	3.1	2.4	1.0	1.1	1.6	0.9	1.1	0.9	M	M	M	2.0	3.0	1.5	1.7	1.4	0.5	1.1	3.2	3.3	1.8	1.8	3.3					
4-Jul	0.6	2.0	Z	3.2	1.7	0.2	0.3	0.3	0.5	0.2	0.2	0.5	0.5	0.4	1.0	2.7	2.7	2.5	3.0	1.5	0.6	0.3	0.2	1.1	3.2						
5-Jul	0.4	0.4	0.6	Z	2.9	4.2	1.8	4.2	2.9	0.9	0.9	0.5	0.7	0.6	1.0	3.0	3.1	1.4	2.1	1.8	1.2	0.8	1.1	1.9	1.7	4.2					
6-Jul	0.8	0.8	0.7	0.5	Z	1.7	2.8	1.2	0.5	0.4	0.4	0.4	0.9	1.2	0.7	1.6	0.9	1.4	1.4	1.1	0.9	0.9	0.7	3.5	1.1	3.5					
7-Jul	2.2	0.9	0.6	0.6	0.5	Z	0.6	0.8	0.8	0.6	1.0	1.5	1.5	1.5	1.8	1.9	0.9	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.9	2.2					
8-Jul	Z	0.8	0.9	0.9	1.1	1.8	1.6	1.4	1.2	1.7	1.2	1.3	1.2	0.7	1.6	1.9	1.4	1.2	2.5	1.7	1.0	1.0	1.2	4.4	1.5	4.4					
9-Jul	4.5	Z	5.6	7.2	3.2	4.9	2.0	2.0	0.9	0.9	1.3	1.8	1.3	0.9	0.8	0.6	0.5	0.5	0.4	0.8	3.4	4.2	4.4	6.2	2.5	7.2					
10-Jul	3.0	0.8	Z	2.1	5.0	5.5	6.6	2.8	0.7	0.7	0.7	1.9	1.3	0.7	1.0	0.8	0.7	1.4	0.9	0.7	0.6	0.5	0.5	1.0	1.7	6.6					
11-Jul	1.9	3.7	9.2	Z	4.3	2.0	2.6	3.2	2.9	1.9	2.5	2.4	2.0	1.6	1.0	1.0	1.2	2.0	2.2	1.5	2.5	1.6	1.0	1.4	2.4	9.2					
12-Jul	4.5	5.6	6.7	4.0	Z	2.2	1.6	2.4	4.5	1.3	0.8	0.5	2.0	1.2	2.8	0.7	0.6	0.9	0.7	0.9	0.5	3.9	2.7	9.6	2.6	9.6					
13-Jul	19.0	11.6	4.1	1.5	5.6	Z	8.3	3.2	4.5	3.0	3.7	2.7	1.1	1.9	1.3	0.8	0.7	0.5	0.4	0.5	0.9	1.7	2.1	0.8	3.5	19.0					
14-Jul	Z	1.4	0.6	1.1	1.1	9.0	7.0	5.9	2.0	1.4	0.5	0.7	1.1	0.7	0.4	0.4	0.4	0.8	0.6	0.2	0.2	0.2	0.3	0.3	1.6	9.0					
15-Jul	0.2	Z	0.2	0.3	0.3	1.7	5.0	5.2	5.7	5.2	3.1	1.9	1.6	1.2	1.1	1.1	1.7	1.9	2.1	2.2	1.8	0.8	0.5	0.5	2.0	5.7					
16-Jul	0.5	0.5	Z	0.8	1.2	1.4	2.1	7.4	6.5	3.7	2.4	2.8	3.0	1.3	1.1	1.6	1.4	1.3	1.4	1.4	1.2	1.2	1.3	1.5	2.0	7.4					
17-Jul	1.7	1.1	0.5	Z	0.9	1.5	5.4	6.7	1.5	1.0	1.2	0.9	0.8	0.9	0.8	0.7	0.6	0.5	0.5	0.5	0.5	0.9	0.6	1.8	1.4	6.7					
18-Jul	1.4	1.6	2.2	2.9	Z	1.0	2.5	3.8	2.9	2.0	1.3	1.0	0.8	0.8	0.8	0.9	0.9	0.9	0.9	1.0	1.0	1.0	0.9	1.0	1.5	3.8					
19-Jul	1.4	2.1	2.3	2.6	2.7	Z	1.9	2.4	2.3	2.3	1.8	1.8	1.7	1.6	1.5	1.5	1.5	1.5	1.4	1.4	4.6	8.2	6.6	1.4	2.5	8.2					
20-Jul	Z	0.6	0.6	0.7	0.4	0.4	0.4	0.4	0.5	1.4	2.4	3.1	6.6	4.3	1.7	1.6	2.8	1.2	1.0	5.1	3.5	0.8	0.9	0.9	1.8	6.6					
21-Jul	0.6	Z	1.1	0.7	0.5	0.8	0.8	1.1	0.8	1.4	0.9	C	C	C	C	C	C	0.2	2.0	4.7	5.1	4.3	0.4	0.1	--	5.1					
22-Jul	0.2	1.9	Z	10.3	16.2	8.5	2.1	5.7	5.5	2.5	1.4	3.6	3.9	2.7	1.8	0.8	0.7	0.4	0.3	0.9	0.6	0.5	1.3	1.9	3.2	16.2					
23-Jul	1.9	1.7	4.9	Z	2.1	1.7	1.0	2.7	1.2	0.8	0.6	1.0	1.6	2.0	2.1	2.4	2.5	2.5	3.5	3.6	2.1	1.8	2.7	5.8	2.3	5.8					
24-Jul	3.6	3.0	5.7	3.3	Z	1.3	1.1	1.2	1.4	0.7	0.7	0.7	0.7	0.6	0.8	0.9	0.9	0.7	0.8	0.6	0.6	1.0	1.9	1.5	1.5	5.7					
25-Jul	0.7	0.9	2.6	6.3	5.7	Z	5.0	3.1	1.9	1.7	1.2	0.5	0.9	1.7	2.9	3.3	1.7	0.9	0.9	0.7	0.6	2.8	3.3	3.0	2.3	6.3					
26-Jul	Z	1.8	0.7	0.4	0.4	2.5	4.1	6.4	2.2	2.1	2.6	5.2	3.4	2.3	1.2	1.4	1.2	0.6	0.9	1.0	1.2	3.6	16.1	19.0	3.5	19.0					
27-Jul	17.7	Z	5.5	2.0	8.4	10.5	9.7	7.9	4.1	0.9	0.7	1.4	0.7	2.0	0.6	0.2	0.6	0.4	0.2	0.2	0.3	1.2	0.8	0.3	3.3	17.7					
28-Jul	0.2	0.3	Z	1.7	0.9	4.8	8.6	7.5	4.8	4.4	4.0	0.9	1.1	1.8	2.0	2.3	1.7	1.5	1.5	1.4	1.0	0.7	0.6	2.2	2.4	8.6					
29-Jul	5.6	2.3	2.3	Z	1.8	1.2	1.2	1.2	0.9	1.1	0.7	0.7	1.2	1.5	1.1	0.8	1.2	1.4	2.1	2.0	1.5	1.4	0.9	0.9	1.5	5.6					
30-Jul	1.2	2.4	4.4	11.9	Z	7.6	5.0	4.5	3.1	4.0	4.1	4.2	2.2	2.2	3.3	3.5	4.2	4.1	2.9	1.7	2.0	2.3	2.2	2.6	3.7	11.9					
31-Jul	1.4	3.5	2.1	0.5	0.6	Z	2.0	2.4	3.6	4.9	3.2	3.3	3.3	2.1	1.2	1.2	1.3	1.5	1.8	2.3	1.5	1.5	1.0	1.1	2.1	4.9					
3.0 2.0 2.6 2.7 2.8 3.1 3.1 3.2 2.4 1.8 1.6 1.7 1.7 1.6 1.5 1.5 1.4 1.3 1.4 1.5 1.5 1.8 2.0 2.5																									Diurnal Average						
19.0 11.6 9.2 11.9 16.2 10.5 9.7 7.9 6.5 5.2 4.1 5.2 6.6 6.0 5.5 3.5 4.2 4.1 3.5 5.1 5.1 8.2 16.1 19.0																									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
Wapasu - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Wapasu - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	701	100.00	100.00
21 - 40	0	0.00	100.00
41 - 60	0	0.00	100.00
61 - 80	0	0.00	100.00
81 - 100	0	0.00	100.00
101 - 120	0	0.00	100.00
121 - 140	0	0.00	100.00
141 - 160	0	0.00	100.00
161 - 180	0	0.00	100.00
181 - 200	0	0.00	100.00
> 200	0	0.00	100.00

Total Number of Valid Hours: 701

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Wapasu - July 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	53	28	17	6	13	23	55	108	62	43	61	63	28	30	38	73	701
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	53	28	17	6	13	23	55	108	62	43	61	63	28	30	38	73	701

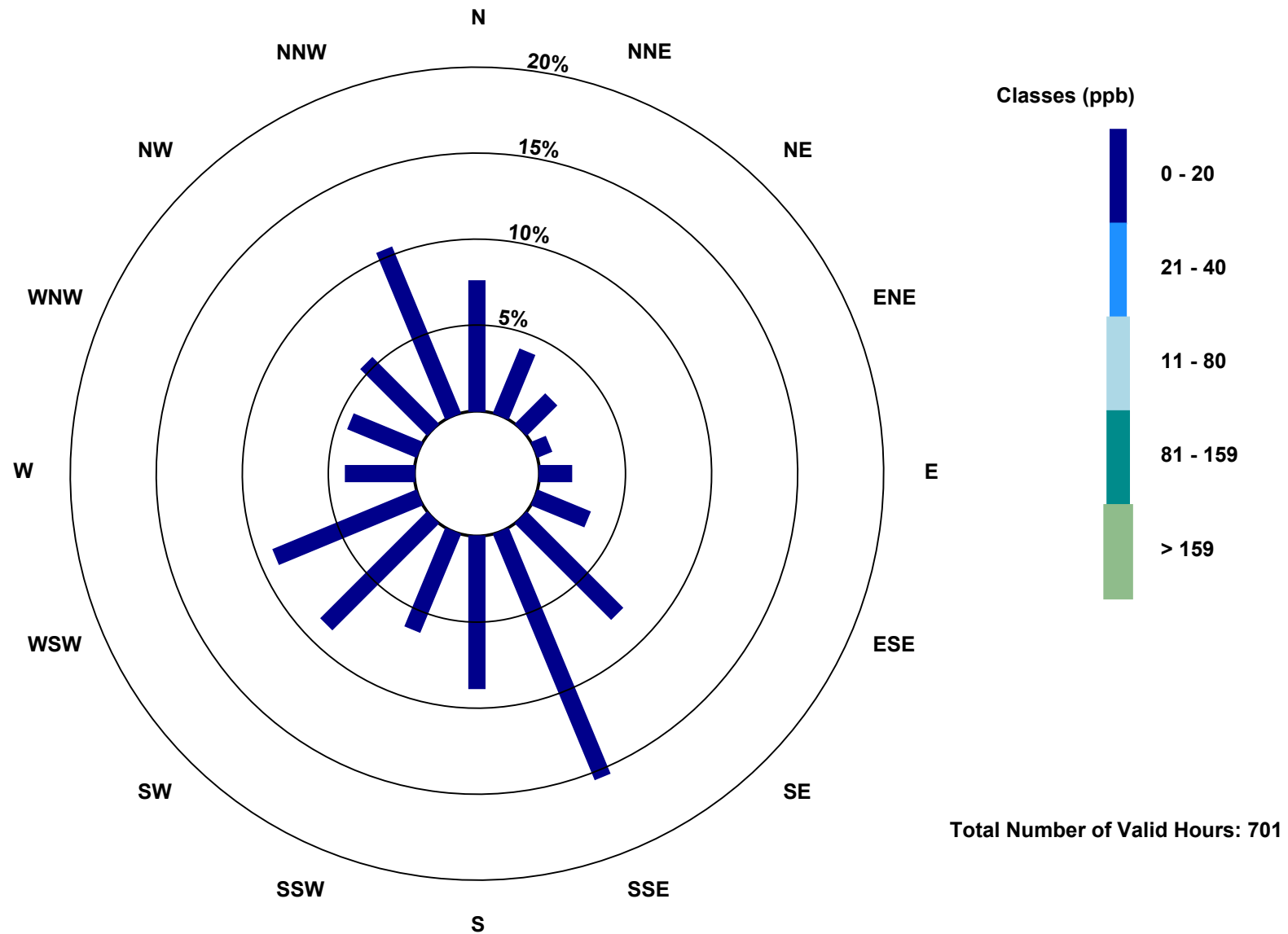
Total Number of Valid Hours: 701

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

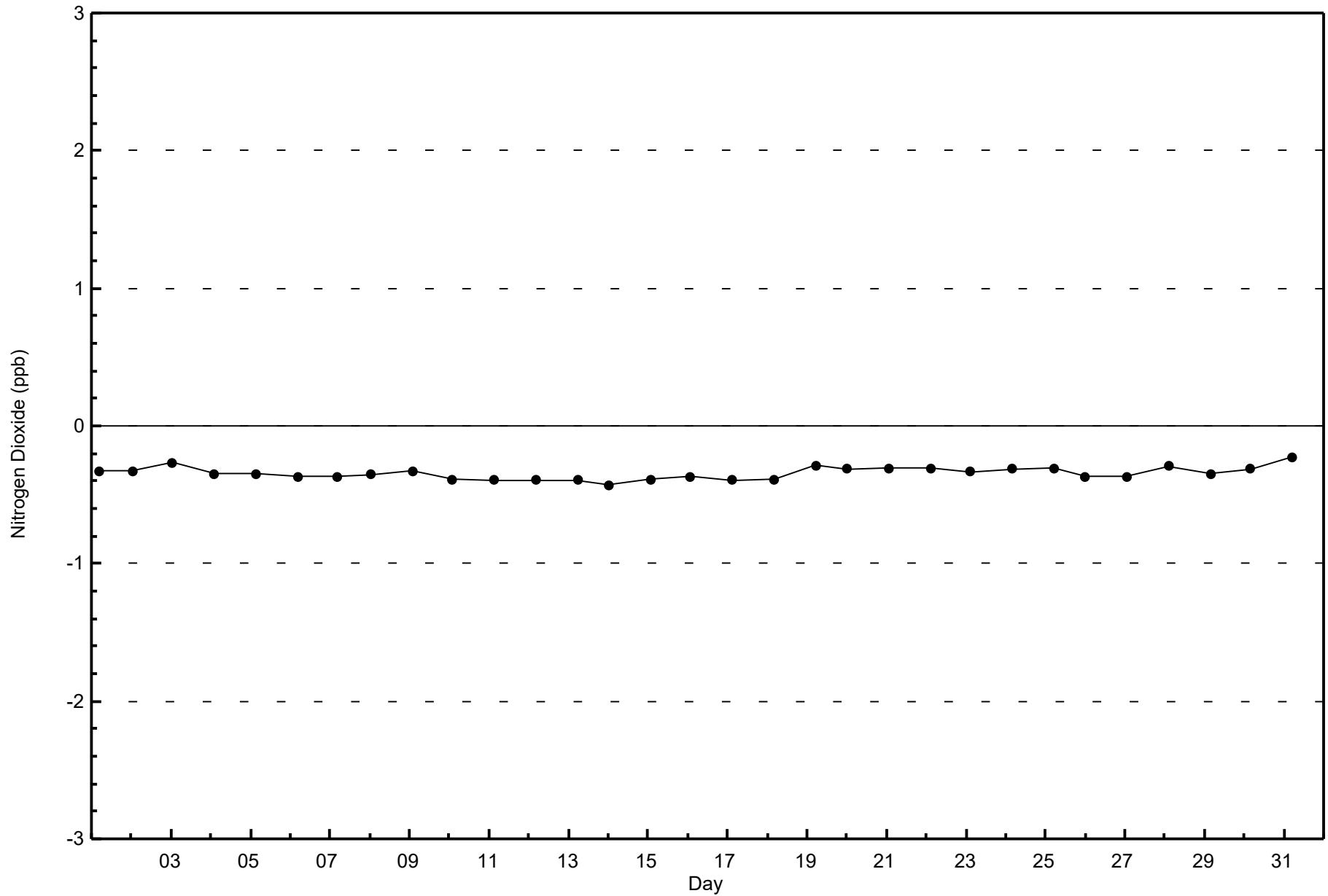
Nitrogen Dioxide (NO₂) - ppb
Wapasu





Wood Buffalo Environmental Association
Zero Responses

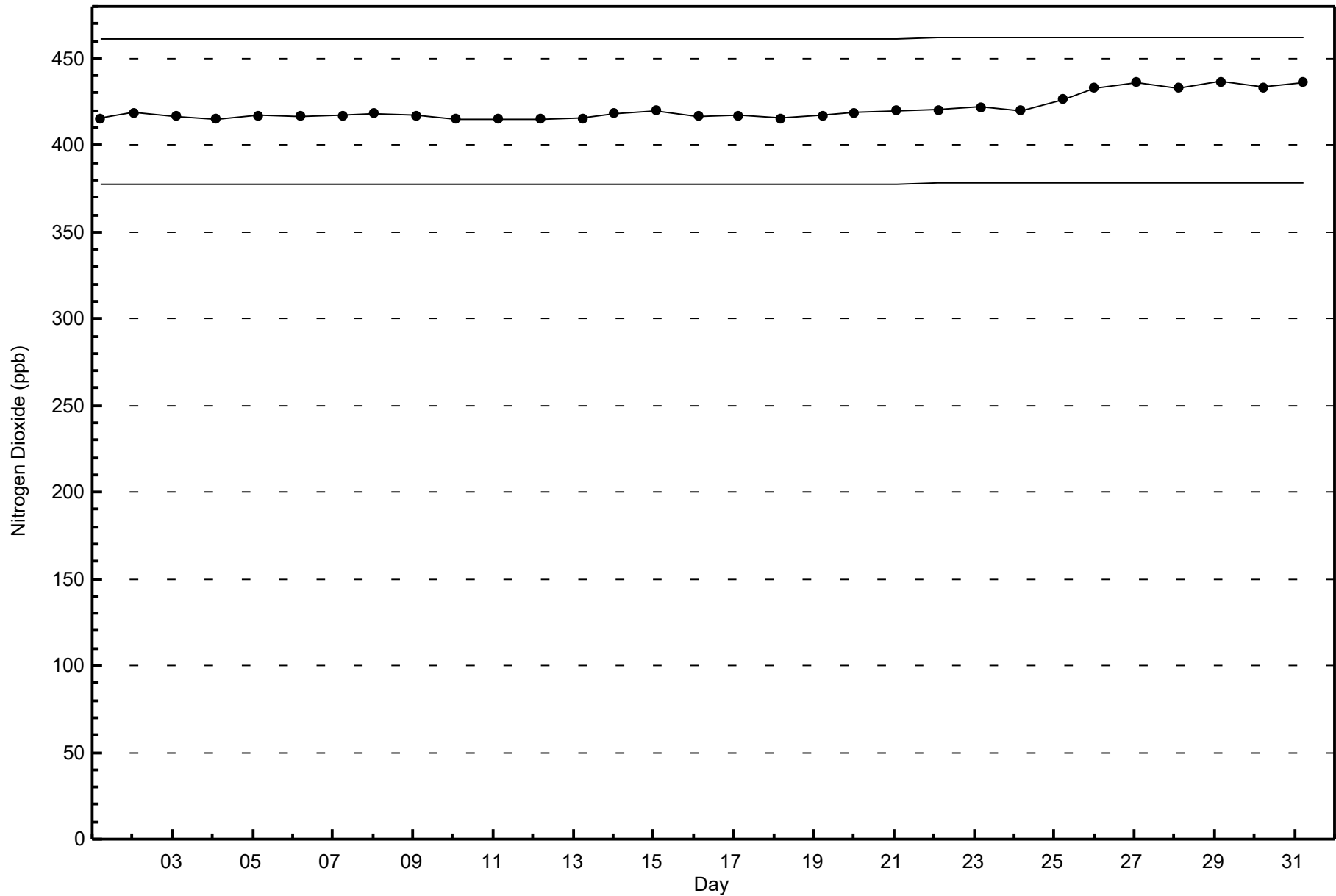
Nitrogen Dioxide (NO₂) - ppb
Wapasu - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitrogen Dioxide (NO₂) - ppb
Wapasu - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Oxides (NO_x) - ppb

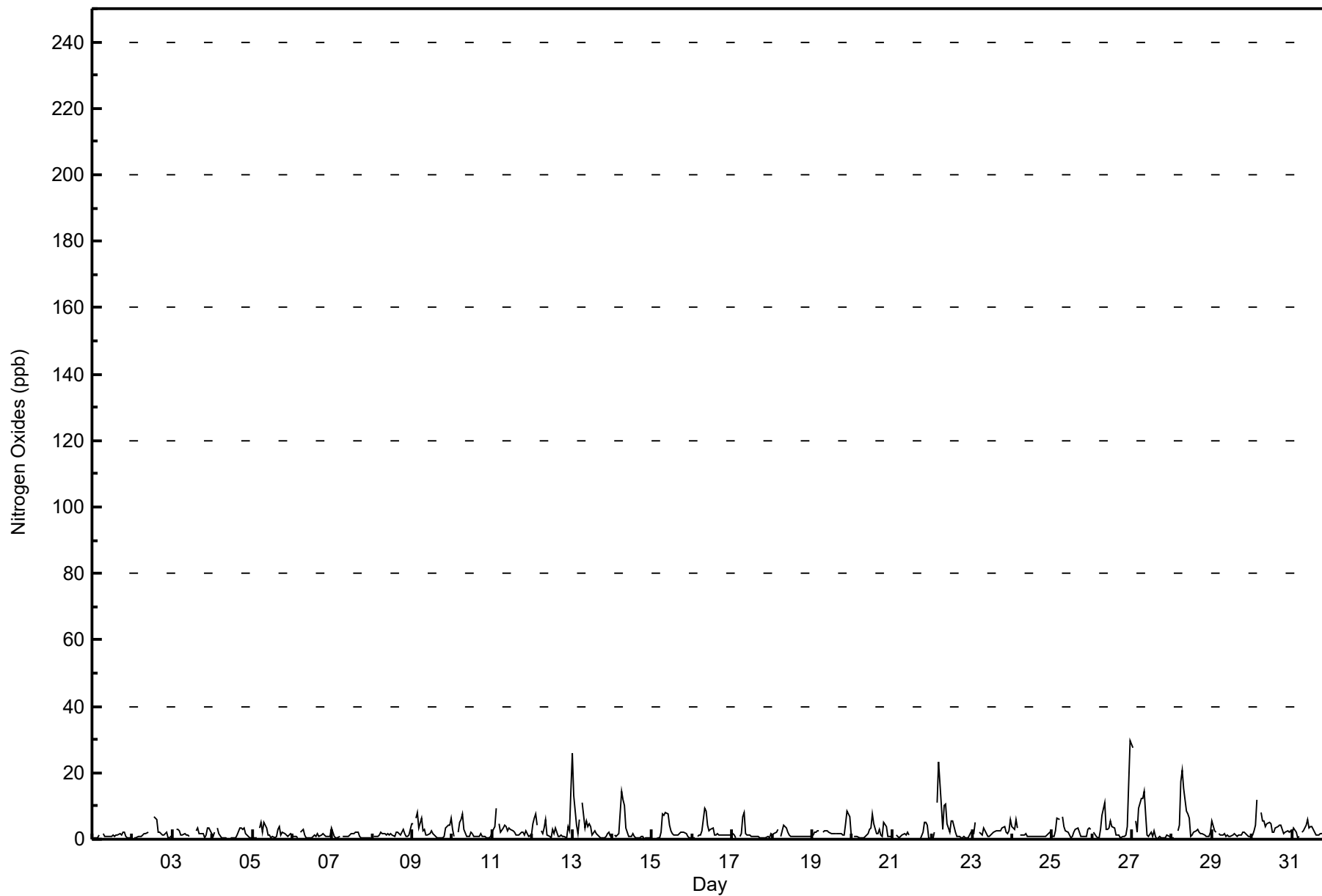
Wapasu - July 2025

Maximum Value: 29.8 ppb on Jul 27 00:00																			Maximum Daily Average: 4.6 ppb on Jul 26							Hours in Service: 744	
Minimum Value: 0.1 ppb on Jul 22 00:00																			Minimum Daily Average: 1.0 ppb on Jul 1							Hours of Data: 701	
Maximum Diurnal Average: 4.7 ppb at hour 8																			Minimum Diurnal Average: 1.4 ppb at hour 18							Hours of Missing Data: 43	
Monthly Average: 2.44 ppb																			Percentiles: P ₁ = 0.2 P ₁₀ = 0.5 Q ₁ = 0.9 Median = 1.5 Q ₃ = 2.7 P ₉₀ = 5.2 P ₉₉ = 15.2							Hours of Calibration: 37	
																										Percent Operational Time: 99.2	
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-Jul	0.3	0.3	0.3	0.4	1.1	Z	1.7	0.8	1.0	0.7	0.9	1.0	1.3	0.9	1.1	1.4	1.5	1.5	2.0	2.0	0.9	0.6	0.6	0.5	1.0	2.0	
2-Jul	Z	0.6	0.6	0.7	0.7	0.8	1.1	1.5	1.8	2.3	M	M	M	6.8	6.0	2.2	1.9	1.7	1.3	1.3	2.1	0.6	0.5	1.0	1.8	6.8	
3-Jul	1.4	Z	3.0	3.1	2.5	1.1	1.2	1.9	1.1	1.3	1.0	M	M	M	2.4	3.4	1.8	1.9	1.5	0.5	1.1	3.2	3.3	1.8	1.9	3.4	
4-Jul	0.6	2.0	Z	3.2	1.7	0.2	0.3	0.4	0.6	0.2	0.2	0.5	0.5	0.4	1.1	3.2	3.2	3.0	3.2	3.2	1.6	0.7	0.4	0.3	1.2	3.2	
5-Jul	0.4	0.4	0.6	Z	3.2	5.0	2.2	5.3	3.4	1.1	1.1	0.6	0.8	0.6	1.0	3.1	3.7	1.5	2.2	1.9	1.2	0.8	1.1	1.9	1.9	5.3	
6-Jul	0.8	0.8	0.7	0.5	Z	2.0	3.1	1.4	0.5	0.5	0.4	0.4	1.0	1.4	0.8	1.7	0.9	1.5	1.5	1.2	0.9	0.9	0.8	3.5	1.2	3.5	
7-Jul	2.2	0.9	0.6	0.6	0.6	Z	0.7	1.0	0.9	0.7	1.2	1.8	1.8	1.7	2.0	2.1	1.0	0.5	0.6	0.5	0.5	0.5	0.5	0.5	1.0	2.2	
8-Jul	Z	0.8	0.9	0.9	1.2	2.0	1.9	1.6	1.3	1.8	1.4	1.5	1.3	0.8	2.0	2.3	1.6	1.3	2.9	1.8	1.0	1.0	1.2	4.5	1.6	4.5	
9-Jul	4.6	Z	6.2	8.1	3.6	6.3	2.7	2.8	1.2	1.2	1.7	2.6	1.7	1.2	0.9	0.6	0.5	0.5	0.4	0.8	3.4	4.2	4.4	6.2	2.9	8.1	
10-Jul	3.0	0.8	Z	2.1	5.2	6.0	7.7	3.2	0.7	0.7	0.8	2.1	1.5	0.8	1.1	0.9	0.8	1.6	1.0	0.7	0.6	0.5	0.5	1.0	1.9	7.7	
11-Jul	1.9	3.8	9.3	Z	4.6	2.3	3.3	4.2	3.9	2.4	3.4	3.1	2.5	1.9	1.1	1.1	1.2	2.0	2.2	1.5	2.5	1.6	1.0	1.4	2.7	9.3	
12-Jul	4.6	6.2	7.4	4.4	Z	2.5	1.8	3.2	6.1	1.5	0.9	0.5	2.8	1.5	3.5	0.8	0.7	1.1	0.8	1.0	0.5	3.9	2.7	14.7	3.2	14.7	
13-Jul	25.9	13.1	4.3	1.6	6.1	Z	11.1	3.6	5.5	3.6	4.9	3.7	1.4	2.6	1.9	1.1	0.8	0.5	0.4	0.5	0.9	1.7	2.1	0.8	4.3	25.9	
14-Jul	Z	1.4	0.6	1.1	1.6	14.2	12.0	10.3	3.2	2.2	0.7	0.9	1.6	0.9	0.5	0.4	0.4	1.0	0.7	0.2	0.2	0.2	0.3	0.3	2.4	14.2	
15-Jul	0.2	Z	0.2	0.3	0.3	2.2	7.4	7.4	8.1	7.6	4.2	2.4	1.8	1.3	1.2	1.2	1.8	2.0	2.2	2.3	1.8	0.8	0.5	0.5	2.5	8.1	
16-Jul	0.5	0.5	Z	0.8	1.2	1.5	2.4	9.3	8.3	4.3	2.7	3.2	3.5	1.4	1.2	1.6	1.4	1.3	1.4	1.4	1.2	1.2	1.3	1.5	2.3	9.3	
17-Jul	1.7	1.1	0.5	Z	0.9	1.8	6.9	8.2	1.7	1.1	1.2	0.9	0.8	0.9	0.8	0.7	0.6	0.5	0.5	0.5	0.5	0.9	0.6	1.8	1.5	8.2	
18-Jul	1.4	1.6	2.2	2.9	Z	1.0	2.7	4.3	3.3	2.1	1.4	1.0	0.8	0.8	0.8	0.9	0.9	0.9	0.9	1.0	1.0	1.0	0.9	1.0	1.5	4.3	
19-Jul	1.4	2.1	2.3	2.6	2.7	Z	2.0	2.5	2.4	2.4	1.9	1.8	1.8	1.6	1.5	1.5	1.5	1.5	1.4	1.4	4.6	8.3	6.7	1.4	2.5	8.3	
20-Jul	Z	0.7	0.7	0.8	0.5	0.5	0.5	0.5	0.6	1.6	2.9	3.5	7.5	4.6	1.8	1.6	2.9	1.2	1.0	5.2	3.6	0.8	1.0	1.0	2.0	7.5	
21-Jul	0.6	Z	1.1	0.7	0.5	0.9	1.1	1.7	1.2	2.1	1.3	C	C	C	C	C	C	0.2	2.3	4.9	5.2	4.3	0.4	0.1	--	5.2	
22-Jul	0.2	1.9	Z	11.1	23.4	10.2	2.8	10.3	10.5	4.5	2.0	5.4	5.4	3.6	2.2	0.9	0.8	0.4	0.3	1.0	0.6	0.5	1.3	1.9	4.4	23.4	
23-Jul	1.9	1.7	5.0	Z	2.2	1.9	1.2	3.6	1.6	0.9	0.7	1.2	1.8	2.2	2.3	2.5	2.6	2.6	3.5	3.6	2.1	1.8	2.7	5.9	2.4	5.9	
24-Jul	3.6	3.0	5.8	3.3	Z	1.4	1.3	1.4	1.6	0.8	0.8	0.8	0.8	0.7	0.9	1.0	1.0	0.8	0.9	0.7	0.7	1.1	2.0	1.6	1.6	5.8	
25-Jul	0.8	1.0	2.7	6.5	6.0	Z	7.0	3.9	2.8	2.2	1.4	0.6	1.0	1.9	3.2	3.6	1.9	1.0	1.0	0.8	0.7	2.9	3.4	3.1	2.6	7.0	
26-Jul	Z	1.9	0.9	0.6	0.5	3.1	7.2	11.0	3.0	2.8	3.2	5.7	3.9	3.2	1.3	1.5	1.3	0.6	0.9	1.0	1.3	3.7	16.8	29.8	4.6	29.8	
27-Jul	27.6	Z	5.5	2.0	9.3	12.3	12.5	14.3	7.4	1.4	1.0	2.1	1.0	2.7	0.8	0.2	0.7	0.5	0.3	0.3	0.4	1.3	0.9	0.4	4.6	27.6	
28-Jul	0.4	0.5	Z	2.7	4.1	17.5	20.9	15.2	8.5	7.5	6.5	1.1	1.4	2.2	2.6	2.8	2.0	1.6	1.6	1.5	1.0	0.7	0.6	2.2	4.6	20.9	
29-Jul	5.7	2.3	2.3	Z	1.8	1.2	1.3	1.5	1.0	1.4	0.9	0.7	1.3	1.7	1.1	0.8	1.2	1.5	2.2	2.0	1.5	1.4	0.9	0.9	1.6	5.7	
30-Jul	1.2	2.4	4.4	12.0	Z	8.2	5.7	5.5	3.7	4.9	5.0	4.8	2.3	2.3	3.5	3.8	4.4	4.2	3.0	1.7	2.0	2.3	2.2	2.7	4.0	12.0	
31-Jul	1.5	3.6	2.2	0.6	0.7	Z	2.2	2.7	4.2	5.8	3.6	3.7	3.6	2.3	1.3	1.3	1.4	1.6	1.8	2.3	1.5	1.5	1.0	1.1	2.2	5.8	
3.6 2.1 2.7 2.8 3.3 4.3 4.4 4.7 3.3 2.4 2.0 2.0 2.0 1.9 1.7 1.6 1.6 1.4 1.5 1.6 1.5 1.8 2.0 3.1																										Diurnal Average	
27.6 13.1 9.3 12.0 23.4 17.5 20.9 15.2 10.5 7.6 6.5 5.7 7.5 6.8 6.0 3.8 4.4 4.2 3.5 5.2 5.2 8.3 16.8 29.8																										Diurnal Maximum	
Z - zerospan C - Calibration M - Maintenance																											



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Wapasu - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Wapasu - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	696	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: 701

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Wapasu - July 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	28	17	6	13	23	55	108	62	42	60	63	28	30	38	71	696
21 - 40	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	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	53	28	17	6	13	23	55	108	62	43	61	63	28	30	38	73	701

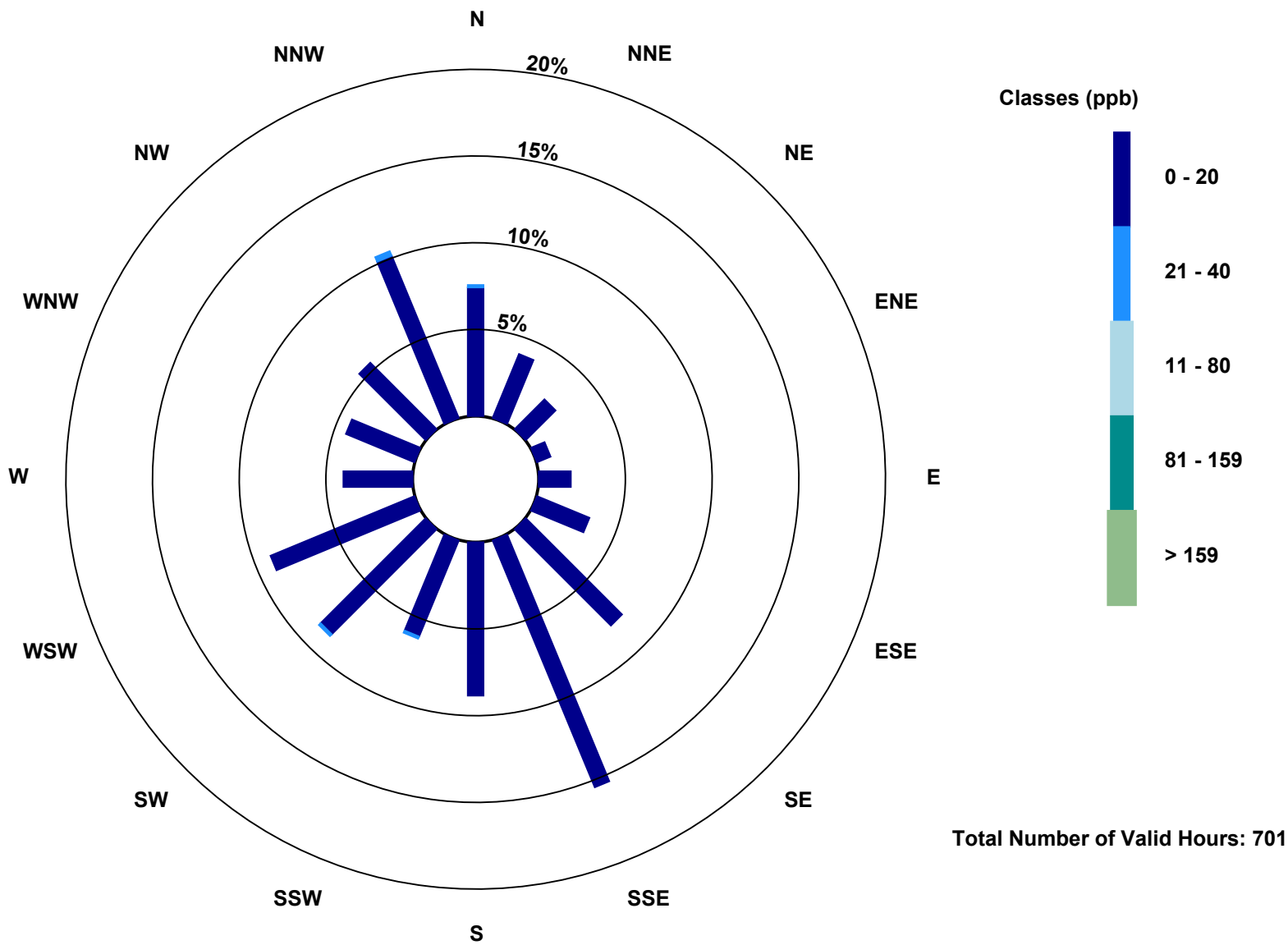
Total Number of Valid Hours: 701

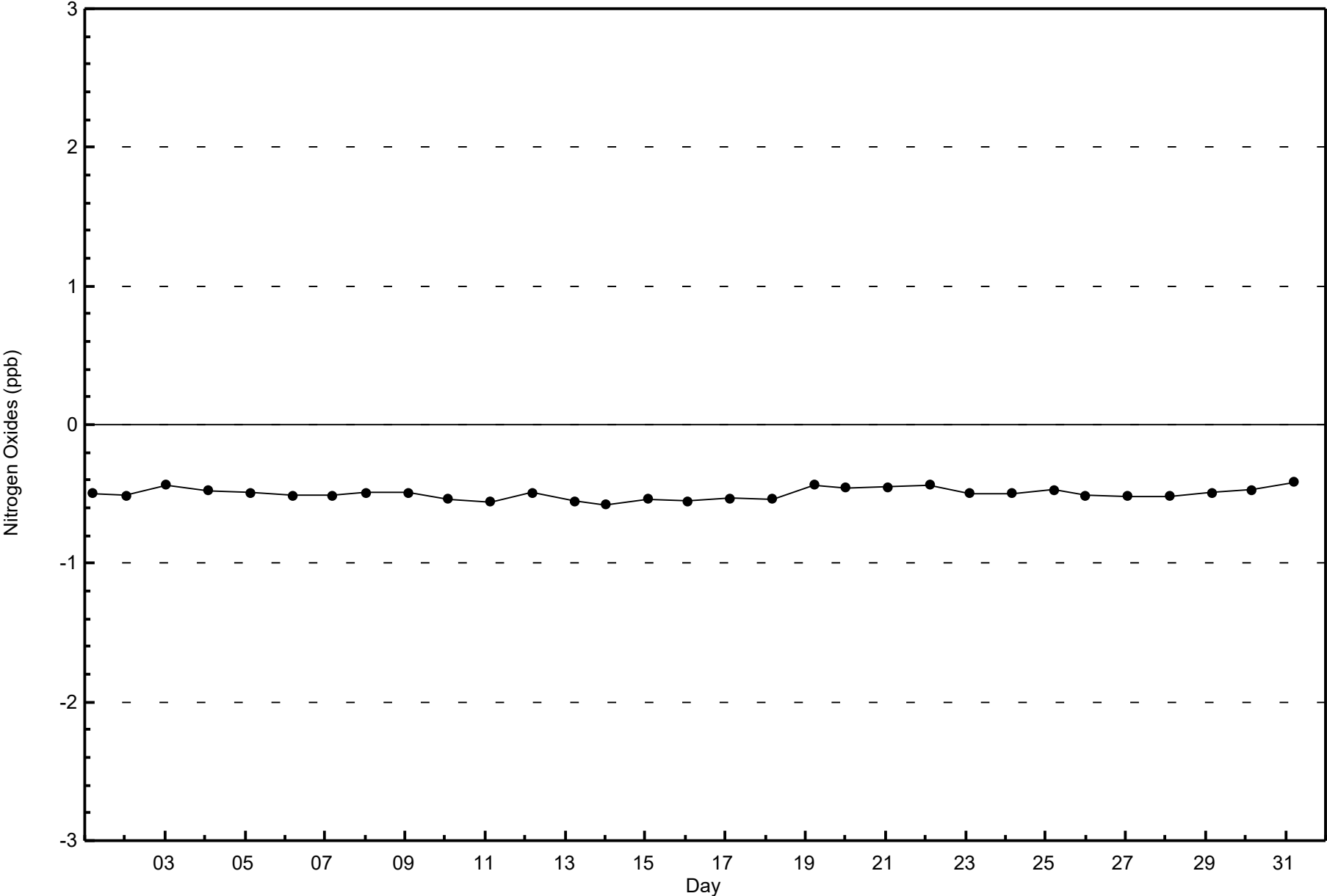
Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Nitrogen Oxides (NO_x) - ppb
Wapasu

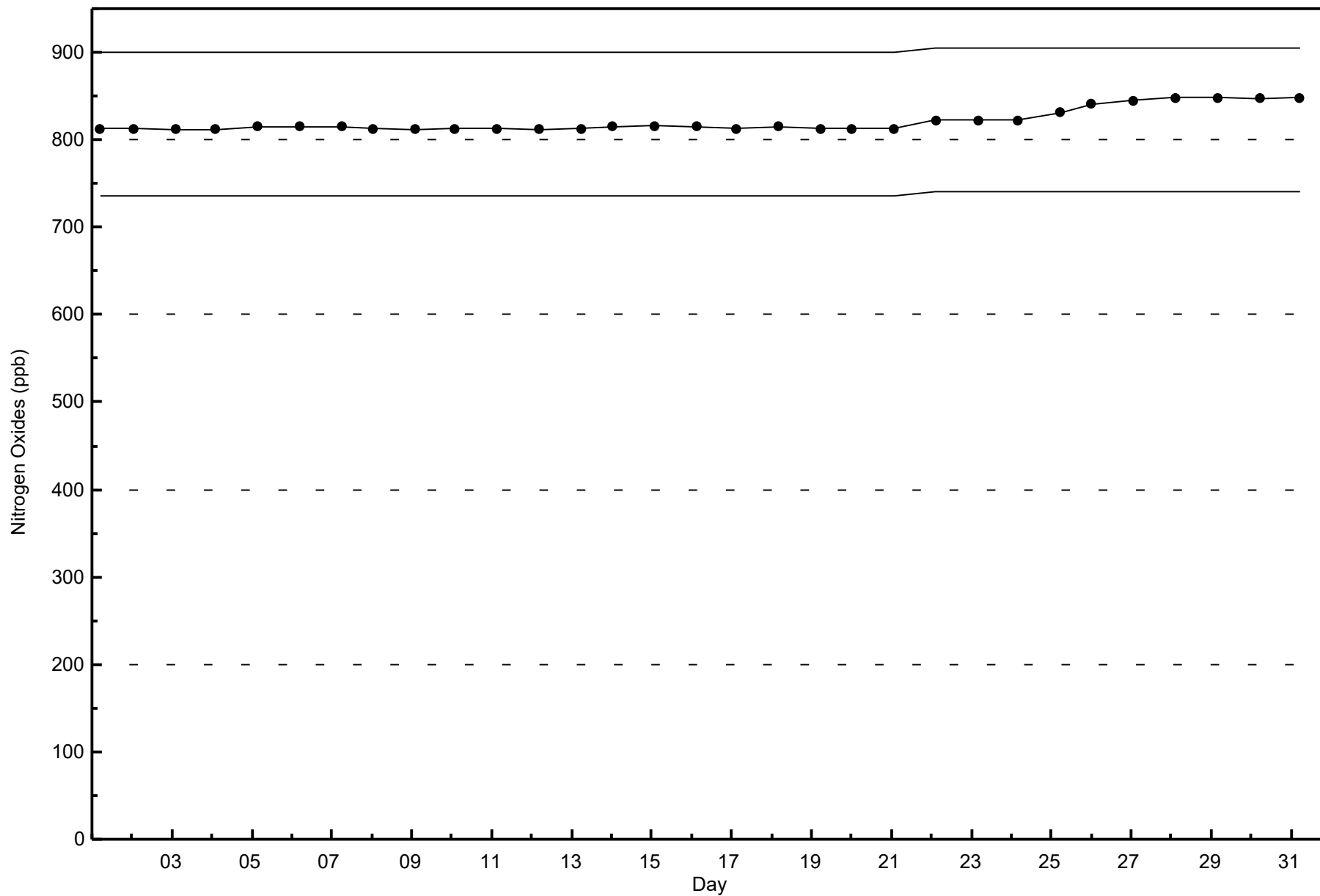






Wood Buffalo Environmental Association
Span Responses

Nitrogen Oxides (NO_x) - ppb
Wapasu - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

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

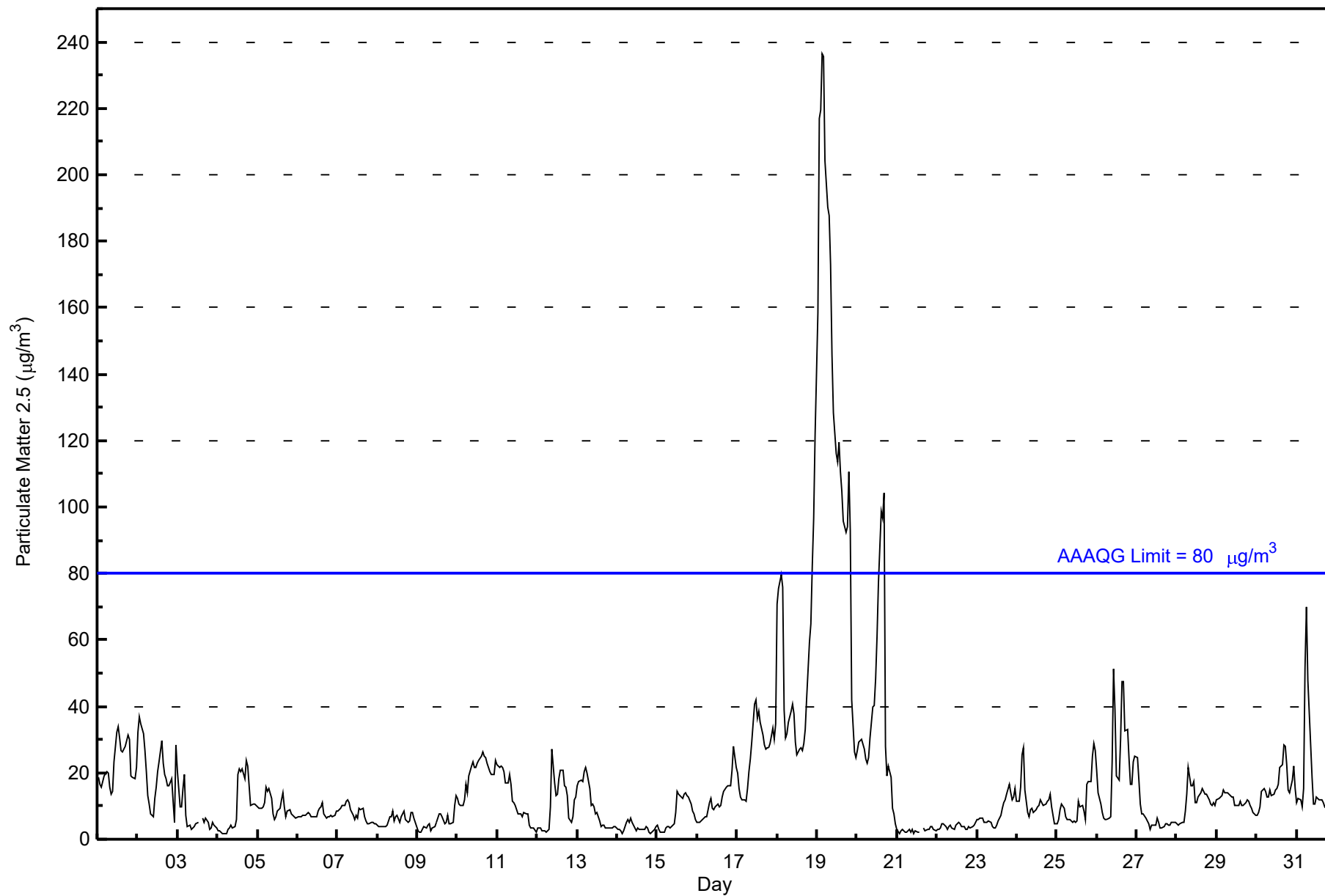
Wapasu - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 3 Maximum Value: 236.5 µg/m³ on Jul 19 04:00 Minimum Value: 1.5 µg/m³ on Jul 4 06:00 Maximum Diurnal Average: 20.8 µg/m³ at hour 15 Monthly Average: 17.66 µg/m³																				Maximum Daily Average: 135.0 µg/m³ on Jul 19 Minimum Daily Average: 2.7 µg/m³ on Jul 21 Minimum Diurnal Average: 14.7 µg/m³ at hour 23 Percentiles: P ₁ = 2.0 P ₁₀ = 3.3 Q ₁ = 5.1 Median = 10.2 Q ₃ = 19.1 P ₉₀ = 30.3 P ₉₉ = 167.2				Hours in Service: 744 Hours of Data: 740 Hours of Missing Data: 4 Hours of Calibration: 2 Percent Operational Time: 99.7		
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
1-Jul	18.5	16.7	15.6	17.5	19.1	20.3	19.9	15.8	13.5	14.5	23.3	32.1	33.7	30.3	26.5	26.2	28.0	29.5	31.4	30.1	19.2	18.7	18.4	21.7	22.5	33.7
2-Jul	32.1	36.8	34.7	31.8	26.9	20.4	13.1	10.7	7.7	6.9	12.2	15.5	20.5	23.4	29.6	23.0	19.4	18.2	16.0	15.9	18.3	11.4	5.2	28.3	19.9	36.8
3-Jul	20.7	9.6	9.7	15.3	19.3	7.0	3.8	4.0	3.1	3.5	3.6	4.9	5.0	M	M	6.2	5.2	6.2	5.0	3.0	3.3	4.9	4.2	3.4	6.9	20.7
4-Jul	2.6	2.4	2.3	1.7	1.6	1.5	3.0	3.3	4.1	3.4	3.8	6.0	19.5	21.1	20.4	21.3	18.4	23.8	22.0	15.9	10.3	10.7	10.8	10.2	10.0	23.8
5-Jul	9.6	9.2	9.5	9.7	11.2	15.9	14.4	15.2	12.4	7.7	6.0	6.9	8.5	9.4	11.8	14.1	9.8	6.7	8.4	8.7	7.5	7.3	6.8	6.4	9.7	15.9
6-Jul	6.9	7.0	7.0	7.2	7.4	7.3	8.0	7.6	6.6	6.7	6.8	6.6	8.4	9.4	9.7	11.1	7.5	6.2	6.6	6.7	7.2	6.8	7.4	8.6	7.5	11.1
7-Jul	8.6	8.8	9.5	10.2	10.2	11.4	11.9	11.2	9.0	7.2	6.1	7.1	6.5	9.5	9.0	9.4	6.7	5.5	4.7	4.7	5.2	4.9	4.7	4.6	7.8	11.9
8-Jul	4.2	3.9	3.8	3.7	3.7	4.0	4.4	6.8	6.9	8.5	5.4	6.8	7.2	5.2	6.8	7.8	8.3	5.7	4.9	5.4	7.9	8.0	6.3	3.9	5.8	8.5
9-Jul	2.8	2.3	2.2	3.1	4.0	3.5	4.3	4.8	2.7	3.2	4.0	5.1	6.2	7.6	7.5	6.8	4.8	5.0	7.1	4.5	4.7	5.0	10.1	13.3	5.2	13.3
10-Jul	12.1	10.6	10.4	10.2	11.8	16.6	13.8	19.1	22.1	23.3	21.4	21.5	23.0	23.8	24.9	26.2	25.0	24.5	22.9	20.4	19.5	19.6	19.3	23.6	19.4	26.2
11-Jul	22.6	21.6	22.2	21.6	20.2	16.9	17.1	19.7	16.6	11.3	10.9	10.3	7.6	7.5	7.6	6.9	7.9	7.6	7.5	4.4	3.3	3.2	3.6	2.3	11.7	22.6
12-Jul	3.2	3.5	3.5	2.7	2.4	2.3	2.6	2.9	9.7	26.9	17.1	13.3	13.4	18.3	20.6	20.6	16.2	15.9	13.1	6.3	4.9	6.8	11.8	12.7	10.4	26.9
13-Jul	16.2	17.4	18.0	17.4	20.4	21.7	19.9	15.4	10.2	10.6	9.6	7.6	8.2	5.4	4.0	4.3	4.1	3.6	3.2	3.2	3.5	3.4	3.8	3.6	9.8	21.7
14-Jul	3.0	2.8	2.7	1.9	2.3	5.1	5.7	5.2	6.4	5.0	4.1	2.5	3.3	3.0	3.0	2.9	2.8	3.6	3.5	2.2	1.8	2.1	2.8	3.9	3.4	6.4
15-Jul	4.1	2.9	2.1	2.0	2.1	3.2	3.9	3.6	3.3	4.3	4.7	8.1	14.6	13.4	12.8	12.2	13.4	13.8	13.0	12.8	10.4	8.5	7.8	6.0	7.6	14.6
16-Jul	5.0	5.1	5.7	6.0	6.2	6.7	6.9	11.1	12.2	9.2	8.8	9.6	10.5	9.7	10.1	12.9	14.5	15.6	16.0	16.3	16.1	20.8	27.9	21.6	11.8	27.9
17-Jul	19.8	15.4	12.5	11.8	11.7	11.4	15.2	20.3	24.2	29.4	40.8	41.8	36.4	38.5	35.4	31.4	28.5	27.0	27.4	27.5	28.8	33.5	29.9	34.6	26.4	41.8
18-Jul	70.9	75.4	79.5	75.7	39.2	30.6	32.0	35.3	38.5	40.8	37.7	29.3	25.4	27.2	27.4	26.5	28.9	33.1	42.5	59.5	64.8	82.4	96.6	121.8	50.9	121.8
19-Jul	158.4	216.9	219.5	236.5	235.8	204.2	190.2	187.7	172.9	145.8	128.4	116.1	113.7	119.5	110.5	104.8	96.0	92.4	94.1	110.5	93.0	42.1	26.2	24.7	135.0	236.5
20-Jul	26.9	29.3	29.7	30.2	27.0	24.1	22.9	24.6	30.5	39.9	40.3	48.3	61.0	77.3	98.6	96.5	104.3	27.8	19.1	22.1	18.7	9.5	7.5	4.8	38.4	104.3
21-Jul	3.0	1.7	2.8	2.9	2.5	2.2	2.0	2.8	2.3	2.8	1.8	2.5	2.0	2.1	C	C	3.4	2.7	3.0	3.1	3.8	3.9	2.8	2.7	2.7	3.9
22-Jul	2.8	3.0	3.3	4.5	4.7	3.8	3.2	3.7	4.4	3.3	3.0	4.1	4.5	4.9	4.8	3.7	3.7	3.0	2.9	4.0	3.6	3.7	4.4	5.1	3.8	5.1
23-Jul	5.9	6.0	6.5	6.4	5.1	5.2	5.2	5.4	5.1	3.9	3.2	3.5	4.4	5.5	7.1	9.5	11.1	11.7	13.4	16.5	14.2	11.7	12.6	15.2	8.1	16.5
24-Jul	11.5	11.5	15.6	25.3	27.4	14.9	8.2	6.9	8.9	9.2	8.0	8.8	9.6	10.0	12.0	11.1	10.4	10.4	11.2	12.0	13.4	9.9	4.6	4.5	11.5	27.4
25-Jul	4.9	5.9	9.0	10.4	9.2	6.9	6.0	5.8	5.8	5.0	5.3	5.3	5.3	11.5	9.8	10.0	8.5	5.9	16.4	17.5	17.3	24.8	28.7	26.6	10.9	28.7
26-Jul	20.8	14.0	10.8	8.1	6.5	5.8	6.1	6.3	6.6	23.3	51.1	39.1	19.2	17.7	30.1	47.6	47.6	32.5	32.9	24.0	16.4	16.4	23.4	25.2	22.1	51.1
27-Jul	24.7	17.7	10.7	7.7	7.4	6.4	5.6	4.7	3.0	4.1	4.4	4.2	6.3	4.9	3.4	3.4	4.0	4.7	4.5	4.1	4.3	5.0	5.1	4.9	6.5	24.7
28-Jul	4.6	4.4	4.6	5.0	5.1	8.5	13.5	21.5	16.0	16.2	17.3	11.0	10.9	12.6	13.9	15.0	14.4	13.6	13.5	11.8	10.5	10.1	10.9	10.3	11.5	21.5
29-Jul	11.9	12.4	12.8	13.3	15.0	14.2	14.0	13.7	13.1	12.5	12.9	10.2	10.3	10.2	11.5	10.3	10.3	10.8	11.9	11.3	10.3	9.4	8.1	7.3	11.6	15.0
30-Jul	7.4	8.1	9.6	14.4	15.4	14.3	12.7	12.7	14.7	13.3	13.6	14.8	15.3	16.6	21.6	22.3	28.3	28.0	22.5	14.8	14.1	17.6	21.9	15.2	16.2	28.3
31-Jul	11.1	12.3	11.8	9.9	15.1	51.7	69.7	48.0	28.3	18.8	10.4	10.6	12.8	12.0	12.0	11.7	10.8	9.9	10.4	11.3	14.6	43.2	21.3	19.4	20.3	69.7
18.0 19.2 19.3 20.1 19.2 18.3 18.0 17.9 16.8 16.8 17.0 16.6 17.2 18.9 20.8 20.5 19.4 16.3 16.5 16.5 15.2 15.0 14.7 16.0																									Diurnal Average	
158.4 216.9 219.5 236.5 235.8 204.2 190.2 187.7 172.9 145.8 128.4 116.1 113.7 119.5 110.5 104.8 104.3 92.4 94.1 110.5 93.0 82.4 96.6 121.8																									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
Hourly Averages

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Wapasu - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Wapasu - July 2025

Concentration Ranges ($\mu\text{g}/\text{m}^3$)	Number of Hours	%	Cumulative %
0 - 5	205	27.70	27.70
6 - 15	303	40.95	68.65
16 - 25	120	16.22	84.86
26 - 80	85	11.49	96.35
> 81.0	27	3.65	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
Wapasu - July 2025

Concentration Ranges (µg/m³)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	21	9	2	1	0	3	13	17	14	6	23	21	13	10	16	36	205
6 - 15	13	6	4	5	8	15	28	57	26	25	32	31	12	10	10	21	303
16 - 25	11	4	6	1	3	4	11	18	4	7	3	9	4	9	8	18	120
26 - 80	9	11	6	0	2	2	8	12	9	5	4	3	3	1	6	4	85
> 81.0	0	0	0	0	0	0	0	15	9	1	0	0	1	0	1	0	27
Totals	54	30	18	7	13	24	60	119	62	44	62	64	33	30	41	79	740

Total Number of Valid Hours: 740

Total Number of Hours: 744

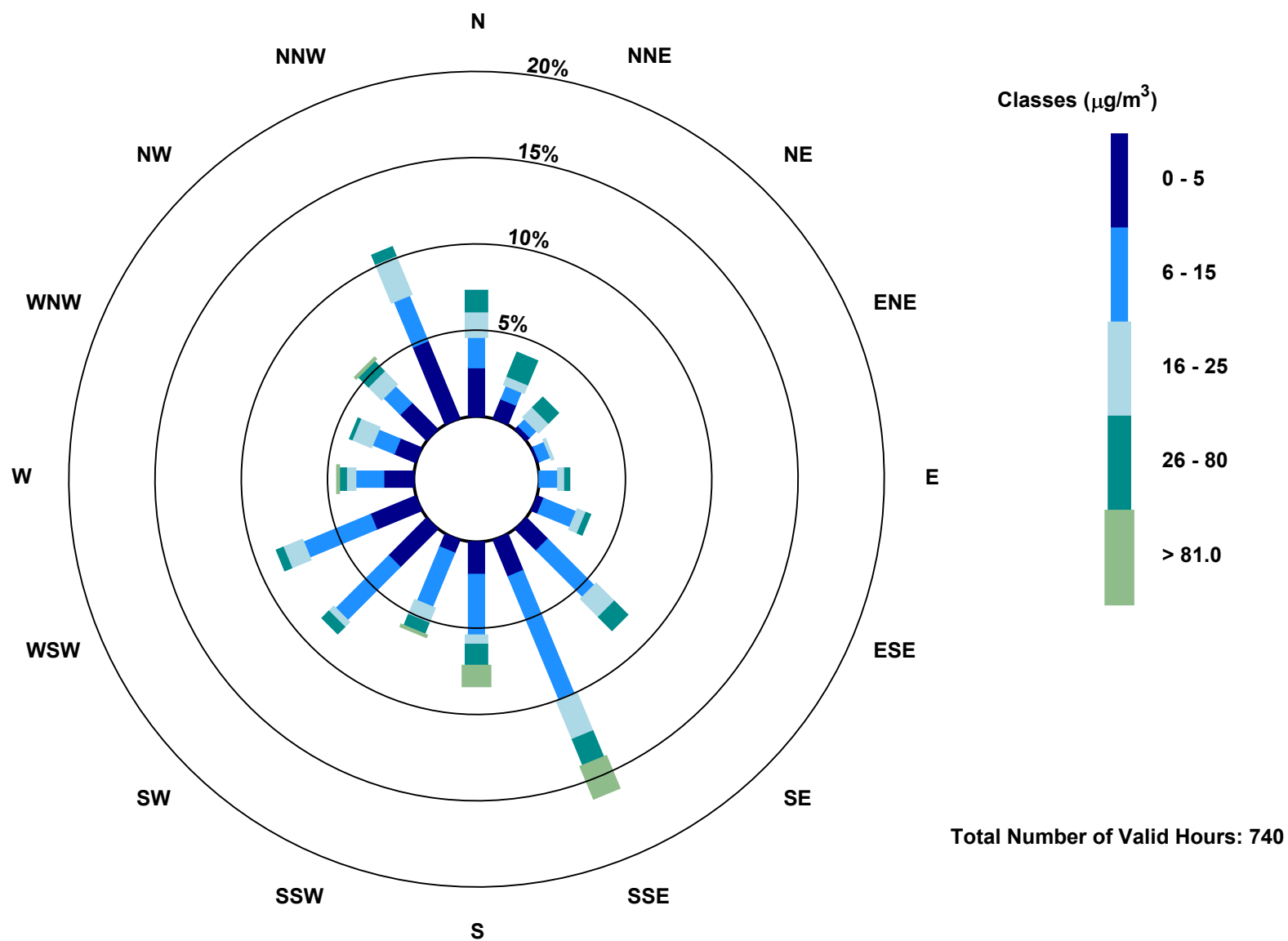


Wood Buffalo Environmental Association

Wind Rose Jul 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

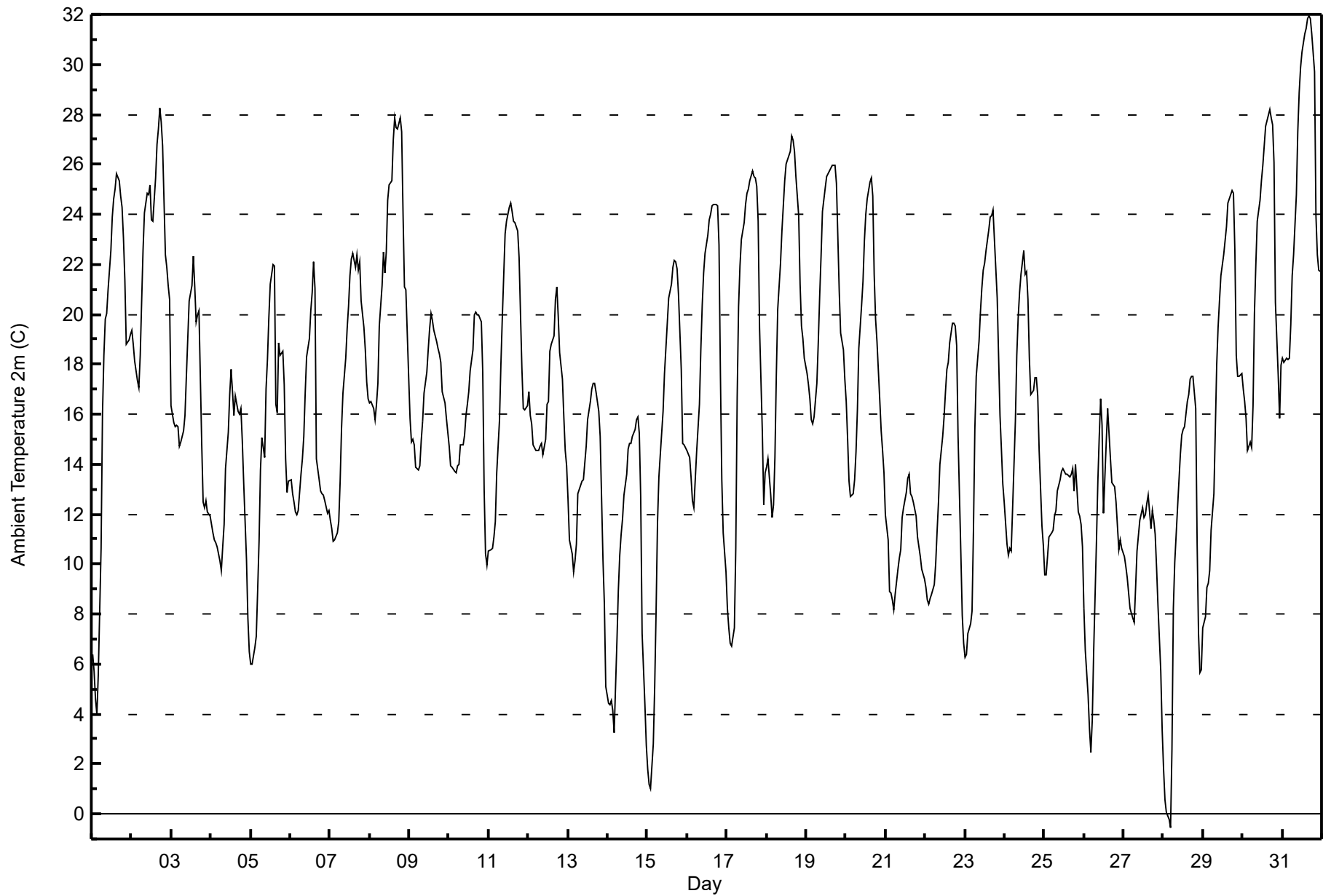
Wapasu - July 2025

Maximum Value: 31.9 C on Jul 31 17:00																				Maximum Daily Average: 25.2 C on Jul 31					Hours in Service: 744	
Minimum Value: -0.5 C on Jul 28 05:00																				Minimum Daily Average: 10.0 C on Jul 27					Hours of Data: 744	
Maximum Diurnal Average: 21.3 C at hour 15																				Minimum Diurnal Average: 10.5 C at hour 4					Hours of Missing Data: 0	
Monthly Average: 16.34 C																				Percentiles: P ₁ = 2.1 P ₁₀ = 8.9 Q ₁ = 12.2 Median = 16.0 Q ₃ = 20.7 P ₉₀ = 24.5 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-Jul	6.4	5.7	4.6	4.0	5.6	10.7	16.0	18.4	19.8	20.0	21.0	22.5	23.9	24.6	25.0	25.6	25.3	24.7	24.3	23.0	21.4	18.8	19.0	19.2	17.9	25.6
2-Jul	19.4	18.8	18.1	17.3	17.1	18.3	20.5	22.6	24.1	24.9	24.8	25.2	23.8	23.7	25.4	26.8	27.4	28.3	27.7	26.8	22.4	21.9	21.2	20.6	22.8	28.3
3-Jul	16.4	15.7	15.5	15.5	15.5	14.7	14.9	15.3	15.9	17.5	19.0	20.5	21.2	22.3	21.1	19.7	20.0	20.2	14.8	12.5	12.2	12.5	12.1	11.9	16.5	22.3
4-Jul	11.6	11.3	11.0	10.8	10.7	10.1	9.7	10.7	11.6	13.8	15.3	16.8	17.8	16.9	16.0	16.7	16.1	16.0	16.2	15.0	13.3	10.2	7.8	6.5	13.0	17.8
5-Jul	6.0	6.0	6.6	7.1	8.9	10.9	13.8	15.0	14.3	17.0	18.2	19.9	21.2	22.0	22.0	16.4	16.0	18.8	18.3	18.5	17.2	14.2	12.9	13.3	14.8	22.0
6-Jul	13.4	12.8	12.5	12.1	12.0	12.1	13.6	14.2	15.1	16.8	18.3	19.0	20.1	20.9	22.1	21.0	14.2	13.4	12.9	12.8	12.8	12.5	12.0	12.1	14.9	22.1
7-Jul	11.8	11.4	10.9	11.0	11.2	11.7	13.3	15.5	16.9	18.3	19.4	20.3	21.5	22.2	22.4	21.9	22.4	21.8	22.1	20.6	19.5	18.6	17.3	16.6	17.4	22.4
8-Jul	16.5	16.5	16.2	15.8	16.4	17.2	19.5	21.1	22.5	21.7	22.5	24.6	25.2	25.4	27.0	27.9	27.4	27.4	27.8	27.3	24.0	21.1	21.0	17.5	22.1	27.9
9-Jul	15.8	14.9	15.0	14.8	13.9	13.8	14.0	14.9	15.7	16.8	17.7	18.5	19.4	20.1	19.7	19.3	18.9	18.6	18.4	18.1	16.9	16.4	15.8	15.3	16.8	20.1
10-Jul	14.7	14.0	13.9	13.7	13.6	13.9	14.0	14.8	14.8	15.2	16.0	16.4	16.9	17.8	18.6	20.0	20.1	20.0	20.0	19.7	17.7	13.0	10.4	10.0	15.8	20.1
11-Jul	10.5	10.6	10.6	11.1	11.7	13.7	15.8	18.0	19.9	21.6	23.2	23.7	24.3	24.4	24.1	23.7	23.7	23.4	22.3	20.0	17.9	16.2	16.2	16.3	18.5	24.4
12-Jul	16.9	16.0	15.6	14.8	14.6	14.6	14.6	14.7	14.8	14.4	15.0	16.4	16.5	18.5	18.8	19.1	20.6	21.1	19.9	18.4	17.4	15.9	14.5	13.9	16.5	21.1
13-Jul	12.6	10.9	10.4	9.7	10.1	10.8	12.8	13.2	13.3	13.4	14.0	14.7	15.8	16.5	17.0	17.3	17.2	16.9	16.1	15.1	12.7	10.2	8.4	5.1	13.1	17.3
14-Jul	4.4	4.3	4.5	4.2	3.2	7.0	9.0	10.3	11.2	11.8	12.8	13.6	14.6	14.8	14.8	15.1	15.4	15.8	15.9	15.2	12.7	7.2	4.4	2.8	10.2	15.9
15-Jul	1.8	1.2	1.0	2.8	5.1	8.1	11.6	13.5	14.4	16.1	17.7	18.6	19.6	20.6	21.2	21.9	22.1	22.1	21.8	20.8	17.8	14.8	14.8	14.7	14.3	22.1
16-Jul	14.5	14.2	13.5	12.5	12.3	13.4	14.5	16.4	18.6	20.4	21.6	22.4	23.1	23.8	24.0	24.4	24.4	24.4	24.4	22.8	17.6	13.4	11.3	9.7	18.2	24.4
17-Jul	8.2	7.5	6.8	6.7	7.4	10.6	16.7	20.3	21.9	23.0	23.7	24.4	24.8	25.0	25.4	25.7	25.5	25.4	25.1	23.7	19.5	15.3	12.4	13.7	18.3	25.7
18-Jul	13.9	14.2	12.7	11.9	12.4	14.3	17.6	20.2	22.1	23.3	24.3	25.4	26.0	26.4	26.5	27.1	27.0	26.5	25.5	24.0	21.2	19.5	19.0	18.2	20.8	27.1
19-Jul	17.6	17.2	16.6	15.8	15.6	15.9	17.2	18.8	20.7	22.3	24.1	25.1	25.5	25.6	25.7	25.8	25.9	25.9	25.2	23.1	20.9	19.3	18.5	17.4	21.1	25.9
20-Jul	16.5	15.0	13.3	12.7	12.8	13.4	14.5	16.2	18.6	20.4	21.3	22.9	24.0	24.6	25.3	25.5	24.7	21.6	19.8	18.9	16.6	15.3	14.6	13.6	18.4	25.5
21-Jul	12.0	11.0	8.9	8.8	8.6	8.2	8.8	9.8	10.2	10.6	11.9	12.2	12.9	13.4	13.6	12.8	12.7	12.5	11.9	11.1	10.7	10.3	9.8	9.4	10.9	13.6
22-Jul	9.1	8.6	8.4	8.6	8.8	9.2	10.0	11.3	12.5	14.0	15.1	15.9	16.9	17.8	18.1	18.9	19.6	19.6	19.5	18.8	15.1	10.4	7.9	6.9	13.4	19.6
23-Jul	6.3	6.4	7.2	7.6	8.1	11.3	15.4	17.5	18.9	20.1	21.0	21.8	22.0	22.6	23.4	23.9	23.9	24.2	23.0	20.7	18.3	15.9	14.6	13.2	17.0	24.2
24-Jul	12.5	10.8	10.4	10.6	10.5	12.2	15.7	18.3	19.8	20.9	21.6	22.6	21.6	21.7	20.6	18.2	16.8	16.9	17.5	17.4	16.7	14.6	11.5	10.7	16.3	22.6
25-Jul	9.6	9.6	10.3	11.1	11.3	11.4	11.9	12.2	12.9	13.4	13.7	13.8	13.7	13.6	13.6	13.5	13.6	13.8	12.9	14.0	12.1	11.9	11.6	10.7	12.3	14.0
26-Jul	8.2	6.5	4.8	3.4	2.5	3.8	6.5	10.9	13.3	15.1	16.6	15.6	12.0	14.9	16.2	15.2	14.2	13.3	13.1	12.5	11.5	10.6	11.0	10.6	10.9	16.6
27-Jul	10.3	9.9	9.4	8.8	8.2	7.9	7.7	9.0	10.5	11.2	11.7	12.2	11.9	12.0	12.4	12.8	11.4	12.2	11.8	11.2	9.8	8.4	5.7	3.3	10.0	12.8
28-Jul	1.8	0.6	0.1	-0.2	-0.5	2.6	8.2	10.1	12.2	13.3	14.4	15.1	15.4	15.5	16.5	16.8	17.4	17.5	17.5	16.2	10.9	7.2	5.6	5.8	10.0	17.5
29-Jul	7.4	7.9	9.1	9.2	9.7	11.3	12.8	15.3	18.0	19.5	20.6	21.5	22.4	23.0	23.5	24.5	24.6	25.0	24.8	22.5	18.4	17.5	17.5	17.6	17.7	25.0
30-Jul	17.0	16.5	15.9	14.6	14.9	14.7	16.3	20.0	22.0	23.7	24.6	25.3	26.0	26.8	27.5	28.0	28.2	27.9	27.6	26.1	20.5	17.6	15.8	18.0	21.5	28.2
31-Jul	18.3	18.1	18.2	18.2	18.2	19.6	21.5	22.4	24.8	27.3	28.9	29.9	30.5	31.2	31.5	31.8	31.9	31.8	31.2	29.7	24.0	22.4	21.8	21.7	25.2	31.9
11.7 11.1 10.7 10.5 10.7 11.8 13.8 15.5 16.8 18.0 19.0 19.9 20.3 20.9 21.3 21.2 20.9 20.9 20.3 19.2 16.8 14.6 13.4 12.8																									Diurnal Average	
19.4 18.8 18.2 18.2 18.2 19.6 21.5 22.6 24.8 27.3 28.9 29.9 30.5 31.2 31.5 31.8 31.9 31.8 31.2 29.7 24.0 22.4 21.8 21.7																									Diurnal Maximum	



Wood Buffalo Environmental Association
Hourly Averages

Ambient Temperature 2m (AT2) - C
Wapasu - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ambient Temperature 2m (AT2) - C
Wapasu - July 2025

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	0	0.00	0.00
-20 - 0	2	0.27	0.27
0 - 10	94	12.63	12.90
10 - 20	440	59.14	72.04
> 20	208	27.96	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) - %

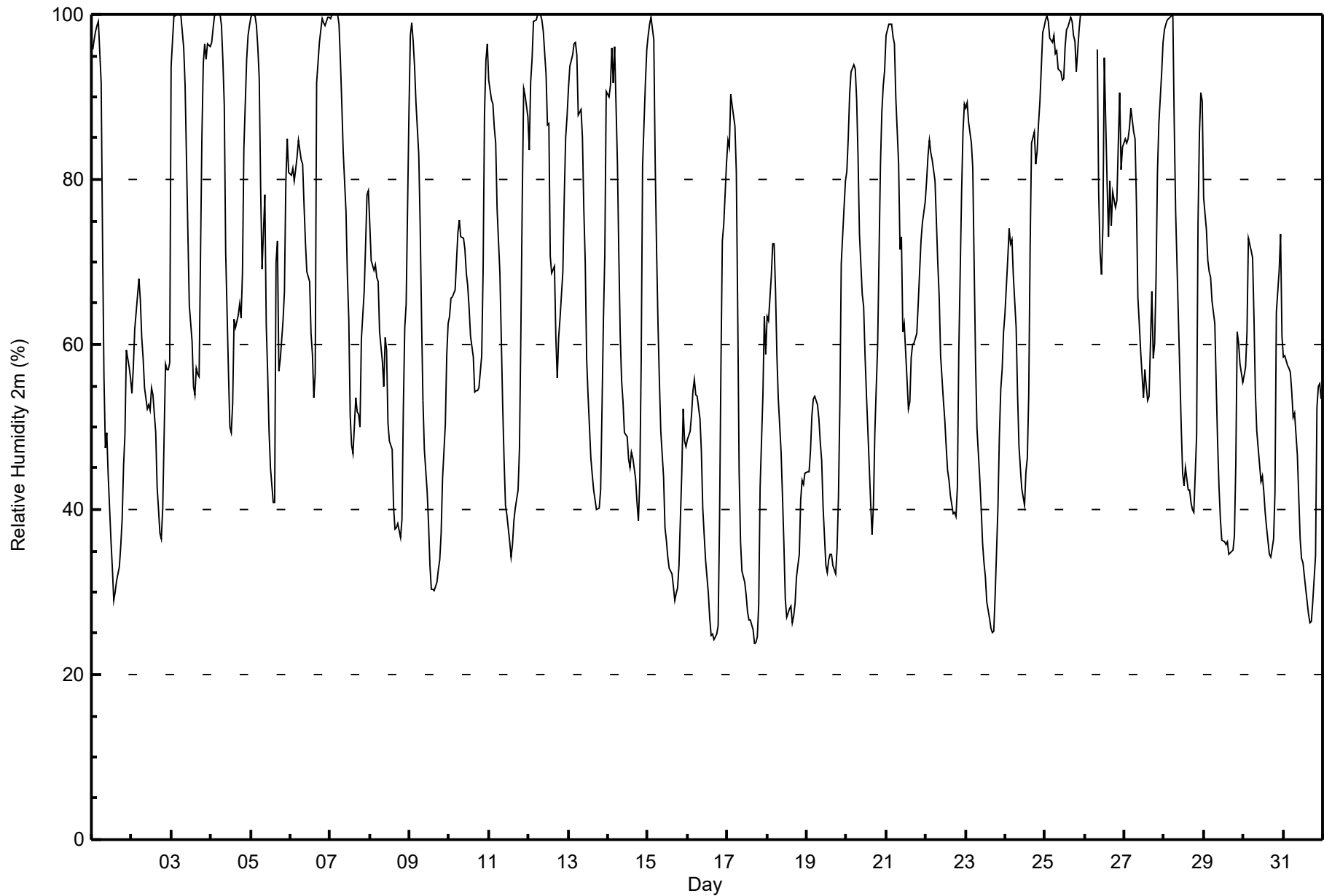
Wapasu - July 2025

Maximum Value: 100.0 % on Jul 3 04:00																				Maximum Daily Average: 97.0 % on Jul 25					Hours in Service: 744	
Minimum Value: 23.8 % on Jul 17 17:00																				Minimum Daily Average: 44.0 % on Jul 31					Hours of Data: 741	
Maximum Diurnal Average: 84.7 % at hour 4																				Minimum Diurnal Average: 45.0 % at hour 15					Hours of Missing Data: 3	
Monthly Average: 64.51 %																				Percentiles: P ₁ = 25.1 P ₁₀ = 34.6 Q ₁ = 46.0 Median = 62.1 Q ₃ = 84.9 P ₉₀ = 97.4 P ₉₉ = 100.0					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-Jul	95.8	97.0	98.0	98.6	99.2	91.6	72.3	56.1	47.5	49.3	44.3	36.2	32.9	28.9	30.1	31.3	33.1	35.5	38.9	45.3	49.1	59.3	57.3	55.8	57.6	99.2
2-Jul	54.1	57.2	61.9	66.0	67.9	65.5	60.8	58.2	54.7	52.1	52.8	52.0	54.8	53.9	49.3	42.8	40.0	37.1	36.5	40.2	57.6	56.9	57.0	57.8	53.6	67.9
3-Jul	93.7	99.9	99.9	100.0	100.0	100.0	99.9	95.9	91.3	82.3	73.4	64.7	60.4	55.0	53.9	57.2	56.5	56.1	85.1	94.0	96.4	94.7	96.4	96.1	83.4	100.0
4-Jul	96.6	98.4	99.9	100.0	100.0	100.0	98.6	94.4	89.0	71.2	56.6	50.0	49.2	52.9	63.0	62.1	63.6	64.9	63.2	68.6	83.8	94.6	97.4	98.7	79.9	100.0
5-Jul	99.6	100.0	99.9	98.7	96.0	92.1	78.9	69.2	78.1	62.3	56.7	49.6	45.0	40.8	40.8	70.0	72.6	56.8	58.1	62.8	66.4	79.7	85.0	80.8	72.5	100.0
6-Jul	80.6	81.3	79.9	81.1	82.7	84.8	82.4	81.8	77.0	72.4	68.8	67.6	61.3	58.9	53.5	56.5	91.6	96.5	98.1	99.5	99.1	98.6	99.7	99.7	81.4	99.7
7-Jul	99.5	100.0	100.0	100.0	100.0	98.8	94.4	89.2	83.4	76.1	68.2	63.0	51.4	47.8	46.8	53.6	51.8	51.6	50.0	60.6	66.4	72.0	78.1	78.6	74.2	100.0
8-Jul	74.6	70.2	69.0	69.7	68.2	67.6	61.5	57.9	55.0	60.8	59.3	50.6	48.4	47.3	40.3	37.6	37.7	38.3	36.6	38.8	52.3	62.1	64.9	88.1	56.5	88.1
9-Jul	97.5	98.9	96.8	93.8	89.2	83.0	74.6	63.3	53.3	47.2	42.3	38.3	33.2	30.4	30.3	30.2	31.2	32.6	34.0	37.1	43.7	50.3	58.7	62.5	56.3	98.9
10-Jul	63.4	65.5	65.7	66.5	70.2	73.6	75.0	73.0	72.9	71.6	68.7	67.1	64.5	61.0	58.5	54.3	54.4	54.5	54.8	58.6	69.0	87.9	94.5	96.4	68.4	96.4
11-Jul	92.0	89.7	89.1	86.4	84.4	76.4	68.6	60.7	52.5	45.9	40.5	39.4	36.1	34.2	35.7	38.6	40.2	42.3	47.5	61.6	77.8	91.1	90.2	87.6	62.9	92.0
12-Jul	83.6	91.9	94.6	99.1	99.3	100.0	100.0	100.0	99.3	98.0	92.7	86.5	86.8	70.6	68.6	69.5	60.8	55.9	60.8	63.3	68.8	77.8	85.1	87.7	83.4	100.0
13-Jul	91.1	93.8	95.1	96.4	96.6	95.1	87.8	88.4	85.1	76.2	70.0	58.4	53.9	46.3	44.3	42.4	41.2	39.9	40.2	42.4	52.4	63.1	71.1	90.7	69.2	96.6
14-Jul	89.9	91.3	95.9	91.7	96.1	82.1	71.0	61.1	55.5	53.0	49.4	48.7	46.1	45.1	47.0	46.3	43.7	40.8	38.7	43.5	58.1	81.7	91.7	95.8	65.2	96.1
15-Jul	97.5	98.9	99.7	97.0	82.1	71.4	62.5	55.5	49.5	43.9	37.7	36.2	34.3	32.9	32.2	30.6	29.0	29.8	30.6	33.2	44.4	52.2	48.2	47.7	53.2	99.7
16-Jul	48.5	49.5	51.5	54.4	55.8	53.8	53.6	51.0	47.1	40.2	37.0	33.9	29.8	26.8	24.7	24.9	24.2	25.0	25.9	38.6	57.4	72.5	74.7	82.0	45.1	82.0
17-Jul	84.7	83.9	90.3	89.0	86.5	80.9	63.7	44.5	36.2	32.6	31.1	29.6	27.6	26.7	26.6	25.4	23.8	23.9	24.5	28.5	42.7	53.8	63.4	58.7	49.1	90.3
18-Jul	63.4	62.8	68.3	72.2	72.2	66.7	58.7	53.4	46.9	41.4	35.7	29.1	26.9	28.0	28.4	26.3	27.2	28.7	31.9	34.6	41.2	43.5	43.1	44.5	44.8	72.2
19-Jul	44.6	44.5	47.2	51.3	53.4	53.8	52.7	51.0	48.2	46.0	40.4	33.1	32.5	33.8	34.5	34.5	33.2	32.2	35.3	41.5	52.8	69.8	76.6	79.9	46.8	79.9
20-Jul	81.1	85.2	90.4	93.1	93.8	93.3	89.6	82.7	73.3	66.0	64.6	58.7	53.9	49.7	40.9	36.9	40.5	49.4	54.7	59.9	81.7	88.1	91.4	93.3	71.3	93.8
21-Jul	97.4	98.8	98.9	98.8	97.4	96.5	89.8	81.9	71.6	73.1	61.5	62.5	55.8	52.2	53.0	58.5	59.9	60.1	61.4	64.9	68.8	72.6	74.7	77.4	74.5	98.9
22-Jul	79.9	82.9	84.7	83.2	82.4	79.8	75.0	69.8	65.8	58.6	53.2	50.8	47.6	44.8	43.5	41.7	39.5	39.7	39.2	42.7	59.1	78.4	85.8	89.1	63.2	89.1
23-Jul	88.6	89.3	86.9	84.3	81.3	69.4	57.8	49.8	43.7	40.1	36.0	33.6	31.8	28.8	26.7	25.6	25.0	25.2	29.6	40.4	48.9	54.5	56.9	61.6	50.7	89.3
24-Jul	63.7	70.4	74.1	72.3	72.7	68.2	62.0	54.1	47.9	45.0	42.5	40.4	44.6	46.2	53.8	71.8	84.4	85.7	81.9	83.4	86.8	89.5	97.8	98.5	68.2	98.5
25-Jul	99.4	99.9	99.2	97.1	96.6	97.5	95.3	95.6	93.4	93.0	92.0	92.2	96.1	98.2	98.5	99.6	99.2	97.5	96.7	93.0	98.2	100.0	100.0	100.0	97.0	100.0
26-Jul	100.0	100.0	100.0	100.0	OR	OR	OR	95.8	78.2	71.2	68.4	74.2	94.7	79.6	73.1	79.9	74.5	78.4	76.6	77.4	84.3	90.6	81.1	83.9	83.9	100.0
27-Jul	85.0	84.4	85.0	86.2	88.6	85.8	84.9	76.9	65.8	62.6	59.1	53.6	56.9	54.9	53.2	53.8	66.5	58.3	60.1	68.0	80.8	86.8	92.8	96.7	72.8	96.7
28-Jul	98.1	98.8	99.4	99.7	99.9	100.0	86.8	76.1	63.0	56.7	50.0	44.4	42.8	45.1	42.4	42.4	40.8	40.0	39.6	49.0	74.7	85.7	90.5	89.5	69.0	100.0
29-Jul	77.8	73.9	70.2	68.9	68.1	65.3	62.6	55.1	48.2	42.8	38.9	36.3	36.2	35.7	36.1	34.6	34.8	35.1	36.8	45.4	61.6	60.2	57.6	55.4	51.6	77.8
30-Jul	56.3	57.3	61.6	72.9	71.3	70.6	63.2	54.1	49.5	47.4	43.3	44.0	42.3	39.7	37.8	34.5	34.2	35.2	36.4	42.1	64.0	69.0	73.4	61.0	52.5	73.4
31-Jul	58.5	58.7	57.5	57.2	56.5	54.3	51.3	51.6	46.5	41.6	36.4	34.0	33.5	30.3	28.8	27.3	26.2	26.4	28.8	34.5	52.5	54.9	55.3	53.5	44.0	58.7
81.8 83.0 84.2 84.7 83.6 80.6 74.5 69.3 63.5 58.7 53.9 50.3 48.8 46.0 45.0 46.5 47.8 47.5 49.4 54.6 65.8 73.9 77.1 79.0																										Diurnal Average
100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 99.3 98.0 92.7 92.2 96.1 98.2 98.5 99.6 99.2 97.5 98.1 99.5 99.1 100.0 100.0 100.0																										Diurnal Maximum
OR - Out of Range																										



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 2m (RH2) - %
Wapasu - July 2025





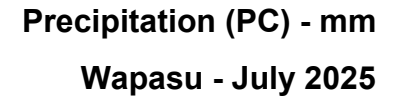
Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Relative Humidity 2m (RH2) - %
Wapasu - July 2025

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	120	16.19	16.19
40 - 60	227	30.63	46.83
60 - 80	169	22.81	69.64
80 - 100	203	27.40	97.03

Total Number of Valid Hours: 741

Total Number of Hours: 744

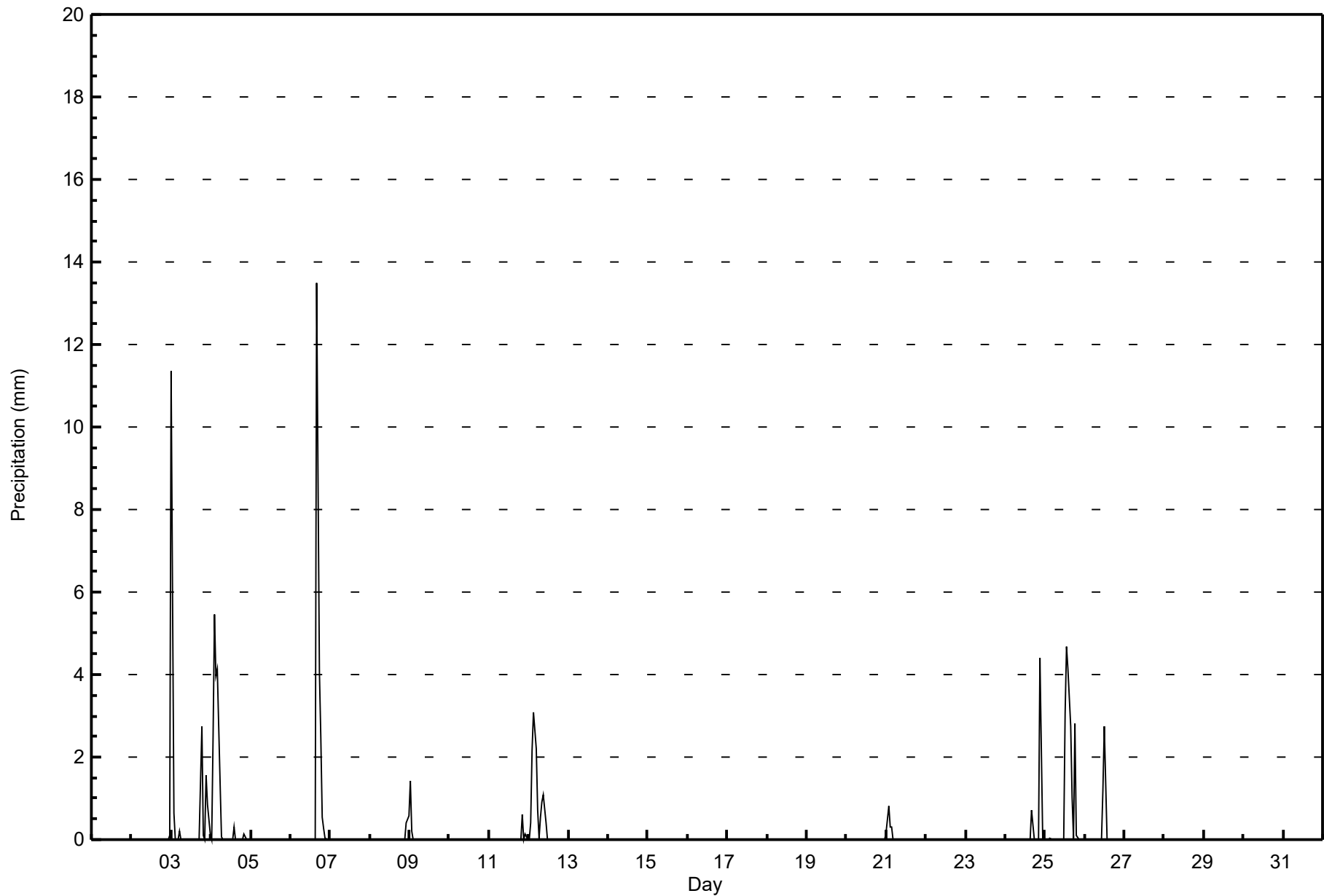


17 - 65



Wood Buffalo Environmental Association
Hourly Averages

Precipitation (PC) - mm
Wapasu - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Speed 10m (WS10) - km/h

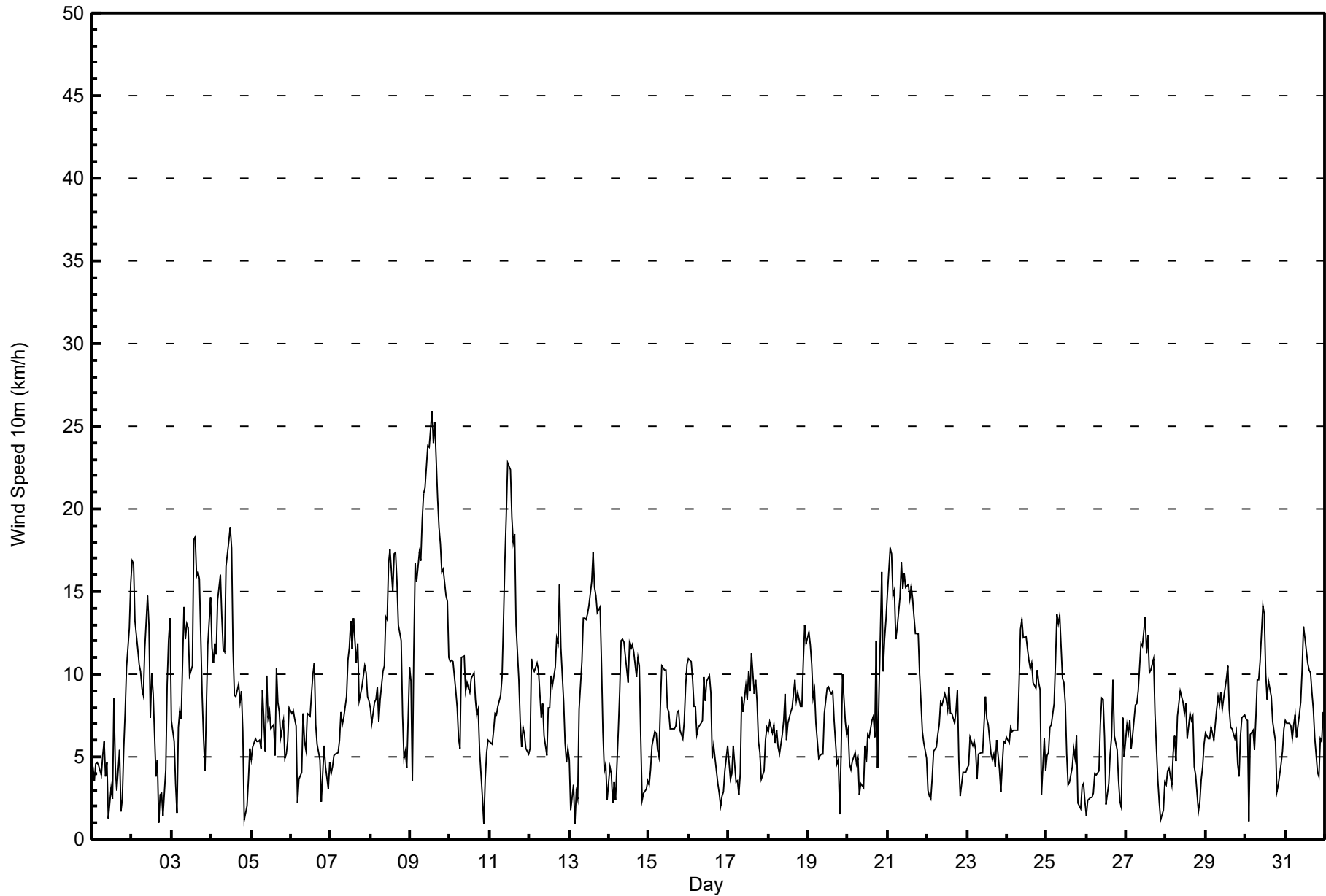
Wapasu - July 2025

Maximum Speed: 26 km/h on Jul 9 14:00																		Maximum Daily Speed Average: 17.3 km/h on Jul 9										Hours in Service: 744	
Minimum Speed Value: 1 km/h on Jul 10 21:00																		Minimum Daily Speed Average: 1.0 km/h on Jul 23										Hours of Data: 744	
Maximum Diurnal Speed Average: 6.2 km/h at hour 12																		Minimum Diurnal Speed Average: 0.6 km/h at hour 20										Hours of Missing Data: 0	
Monthly Average Velocity: 2.3 km/h 236.1 deg																		Percentiles: P ₁ = 1 P ₁₀ = 3 Q ₁ = 5 Median = 7 Q ₃ = 10 P ₉₀ = 14 P ₉₉ = 22										Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum			
1-Jul	SE4	SE4	SE5	E5	ESE4	E4	E5	ENE6	NE4	NE5	WNW1	NW3	WSW2	NW9	NW4	S3	SW5	SW2	E2	S5	SSE8	SE10	SSE13	SSE15	SE2.7	SSE15			
2-Jul	SSE17	SSE17	SSE13	SSE12	SSE11	S10	S9	S9	SSW12	SSW15	W13	NW7	NNW10	NNW9	NNE4	SSW5	SSE1	SSW3	N3	NNE1	E4	SE9	SE12	SE13	S4.9	SSE17			
3-Jul	W7	ENE6	NW3	SSE2	SW7	NW8	W7	WSW14	WSW12	WSW13	WSW13	W10	W11	SW18	SW18	SW16	SSW16	SW16	WNW9	NW6	SW4	WSW8	SW12	WSW15	WSW8.8	SW18			
4-Jul	WSW12	WSW11	W12	W11	NW15	NNW16	NNW13	NW12	NW11	NNW16	NNW18	NNW19	NNW18	NNW12	NW9	N9	N9	N8	N9	NNW7	NNE1	SE2	SE4	SSE6	NW8.5	NNW19			
5-Jul	SE5	SSE6	SSE6	SE6	SSE6	SSE6	SSW5	SW9	SSE5	SSE10	SSE7	SSW8	WSW7	WNW7	W5	NW10	NE8	E8	ESE6	ESE7	ESE5	E5	E6	SE8	SSE3.2	NW10			
6-Jul	ESE8	SE8	ESE7	SE7	NNE2	ENE4	E4	ENE8	ENE6	ENE5	NNE8	N7	N9	N10	N11	N7	ESE6	NW5	S2	ESE4	E6	ESE4	ESE3	SW5	ENE3.0	N11			
7-Jul	SSE4	SSE4	SSE5	SE5	SSE5	SSE6	SSE8	S7	S7	SSW9	SW11	SW12	SW13	SW12	SW13	SSW11	S12	S8	S9	SSE9	SSE11	SSE10	S9	SSE8	S7.7	SW13			
8-Jul	SSE8	S7	S8	S8	S9	S7	S9	SSW10	S11	SSW13	S13	SSW17	SSW18	S15	SW17	SSW17	SSW16	SSW13	SSW12	SSW8	SSE5	SE5	SSW4	W10	SSW10.1	SSW18			
9-Jul	WSW10	SSW4	SW11	SW17	SW16	SW17	SW17	SW19	WSW21	WSW21	SW24	SW24	SW25	WSW26	WSW24	WSW25	WSW21	WSW19	WSW18	W16	W16	W15	W14	WSW11	WSW17.3	WSW26			
10-Jul	WSW11	WSW11	WSW11	WSW9	W8	W6	W6	NW11	NW11	NW9	WNW9	WNW9	NW9	NNW10	NNW10	NNW8	NNW8	NNW8	WNW5	WNW3	W1	SSE4	SE5	SSE6	WNW5.5	NW11			
11-Jul	SSE6	SSE6	SSE7	SSE8	SSE8	S8	S9	SSW10	SSW13	SSW17	SW20	SW23	SW22	SW20	WSW18	SW18	WSW13	SW10	W7	WSW6	SW7	SSE6	S6	S5	SSW10.1	SW23			
12-Jul	SSW6	SW11	SW10	SW10	SW11	SW10	WSW9	W7	NW8	WNW6	NNW5	WNW8	WNW8	WNW10	WSW9	WSW10	WSW12	WSW12	WSW15	WSW12	WSW8	NNW6	N5	NNW6	WSW7.1	WSW15			
13-Jul	N5	SSW2	S3	SE1	WSW3	NW2	NNW8	NNW11	NNW13	NNW13	N13	NNW14	NNW14	NNW16	NNW17	N15	N15	N14	N14	N11	N7	N4	NNE5	NE2	N8.4	NNW17			
14-Jul	NNE4	NNE4	ENE2	NNE3	NNW2	NNW7	N9	NNW12	N12	N12	N11	N9	NNW12	N12	N12	NNE11	N10	NNW11	N11	NNE6	NNE2	ESE3	SE3	SE4	N6.8	N12			
15-Jul	SE3	SE4	SSE6	SSE6	SSE6	SSE5	S5	SW8	SW10	SW10	SW10	WSW8	W8	WSW7	WSW7	WSW7	SW7	SSW8	SSW8	S7	SSE6	SSE7	SSE9	SSE11	SSW5.5	SSE11			
16-Jul	SSE11	SSE11	SSE10	SSE8	SSE8	S6	S7	S7	SSW7	SW10	WSW8	WSW10	WSW10	SSW9	S5	SSE6	NW5	WNW3	WNW3	NW2	SE3	ESE3	ESE4	SSE6	S4.8	SSE11			
17-Jul	SE5	ESE4	SE4	SE6	ESE3	E4	E3	NE4	NE9	NE8	NNE9	NNE8	N10	N9	N11	NNE9	N10	N8	NNE6	NNE5	NE4	E4	ESE6	SE7	NE4.3	N11			
18-Jul	SE7	SE7	SE6	SE7	SE6	SE7	SSE6	S5	S6	SSW7	SW9	SSW6	SSW7	S8	S8	SSW9	SSW10	S8	S9	SSE8	SSE8	SSE11	SSE13	SSE12	S7.1	SSE13			
19-Jul	SSE13	SSE12	SSE11	SSE9	SSE9	SSE7	SSE5	S5	S5	S5	S8	S9	SSE9	S9	S9	SSE9	S7	SSE5	SSE5	SSE1	NW5	NNW10	NNE7	NE6	SSE5.2	SSE13			
20-Jul	NE7	NNE5	NE4	NE5	NE5	NE5	NE5	NNE3	NW3	W3	NNW6	NW5	W6	W6	SSW7	S7	W6	NNW12	NNE4	N9	N16	N10	N12	N13	N4.3	N16			
21-Jul	N15	N18	N17	N15	N15	N12	N13	N15	NNW17	NNW15	NNW16	NNW15	NNW15	NNW15	NNW15	NNW15	NNW14	NNW12	NNW12	NNW10	NNW8	NNW7	NW6	NW5	NNW12.9	N18			
22-Jul	WNW3	W3	W2	SW4	SW5	SW6	WSW6	WNW7	WNW8	WNW8	NW9	NW8	NW8	WNW9	WNW8	NW8	NW7	NNW8	NNW9	NNE5	NE3	SE4	ESE4	SE4	WNW4.0	WNW9			
23-Jul	ESE4	SE4	SSE6	SSE6	SSE6	SSE5	SSE4	SSW5	WSW5	WNW5	NW7	NW9	NNW7	NW7	NW5	NNW5	WNW5	NW4	ESE6	SSE4	S3	SSE5	SSE6	SSE6	SSW1.0	NW9			
24-Jul	SSE6	SE6	SSE7	SSE7	SSE7	SSE7	SSE7	SSE9	S13	S13	S12	S12	SSE12	SSE11	S10	SSE11	SE9	SE9	SE10	SE9	SSE9	SW3	SE6	S4	SSE8.3	S13			
25-Jul	SSE5	S5	S7	SSW7	SW8	SW11	SW14	SW13	SW14	WSW10	WSW9	WSW8	W5	WSW3	NNW3	NNE4	NE6	NNE5	NE6	NNE2	WSW2	WSW3	SW3	WSW2	SW4.1	SW14			
26-Jul	NW1	NNW2	WNW3	SE3	SE3	SSE4	SSE4	S4	SW7	WSW9	WSW8	NW6	SE2	SE3	NNE5	N6	N10	NNE6	N5	N4	N2	NNW2	NNW7	NNW5	NNW1.3	N10			
27-Jul	NNW7	NNW6	N7	N5	NNW6	NNW8	NNW8	NNW9	NNW10	NNW12	NNW12	NNW13	NNW11	NNW12	NNW10	NW10	NNW11	NW8	WNW6	NW4	NNW2	WNW1	ESE2	SE3	NNW7.1	NNW13			
28-Jul	SE3	SE4	SE4	SE3	SSE5	SSE6	SSW5	SW7	SW9	WSW9	W8	W8	NW8	WNW6	WNW8	NNW7	NNW7	NNW4	NNW4	NNW2	ESE2	ESE4	SE4	SE6	WSW1.7	SW9			
29-Jul	SSE6	SSE6	SSE6	SSE7	SSE6	SSE6	SSE8	S9	S8	SW9	SW8	WSW9	W10	W11	WNW8	WNW7	W7	WSW6	SW6	SSW5	S4	SSE6	SSE7	SSE8	SSW4.8	W11			
30-Jul	SSE7	SSE7	NNW1	SE6	SSE7	SSE5	SSE7	S10	S10	SW11	WSW14	WSW14	W10	WNW8	NNW10	NNW9	N7	NNE7	N6	NNE3	E3	ESE5	SE5	SE7	SSW1.9	WSW14			
31-Jul	SE7	SE7	SE7	SE7	SSE6	SSE7	SSE8	S6	SSW8	SSW8	SW10	WSW13	WSW12	SW11	WSW10	SW10	SW9	WSW8	SSW6	SSW4	SSE4	SSE6	SSE6	SSE8	SSW5.9	WSW13			
SSE3.0 SSE3.3 S3.3 SSE3.5 S3.0 S2.5 SSW2.6 SW3.4 WSW3.8 WSW5.2 W5.8 W6.2 W5.9 W5.7 W5.2 W4.0 W3.2 WNW2.8 WNW1.8 W0.6 S0.7 SE1.9 SSE2.7 SSE3.4																								Diurnal Average					
SSE17 N18 N17 SW17 SW16 SW17 SW17 SW19 WSW21 WSW21 SW24 SW24 WSW25 WSW26 WSW24 WSW25 WSW21 WSW19 WSW18 W16 W16 W15 W14 SSE15																								Diurnal Maximum					
All monthly, daily, and diurnal averages have been calculated using vector methods																													



Wood Buffalo Environmental Association
Hourly Averages

Wind Speed 10m (WS10) - km/h
Wapasu - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 10m (WS10) - km/h
Wapasu - July 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	207	27.82	27.82
6 - 11	396	53.23	81.05
12 - 19	128	17.20	98.25
20 - 28	13	1.75	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
Wapasu - July 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	19	11	3	10	17	31	24	16	10	8	7	6	10	15	12	207
6 - 11	27	11	7	4	3	7	27	83	40	22	31	32	21	20	24	37	396
12 - 19	19	0	0	0	0	0	2	12	6	12	19	18	6	0	2	32	128
20 - 28	0	0	0	0	0	0	0	0	0	0	6	7	0	0	0	0	13
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	54	30	18	7	13	24	60	119	62	44	64	64	33	30	41	81	744

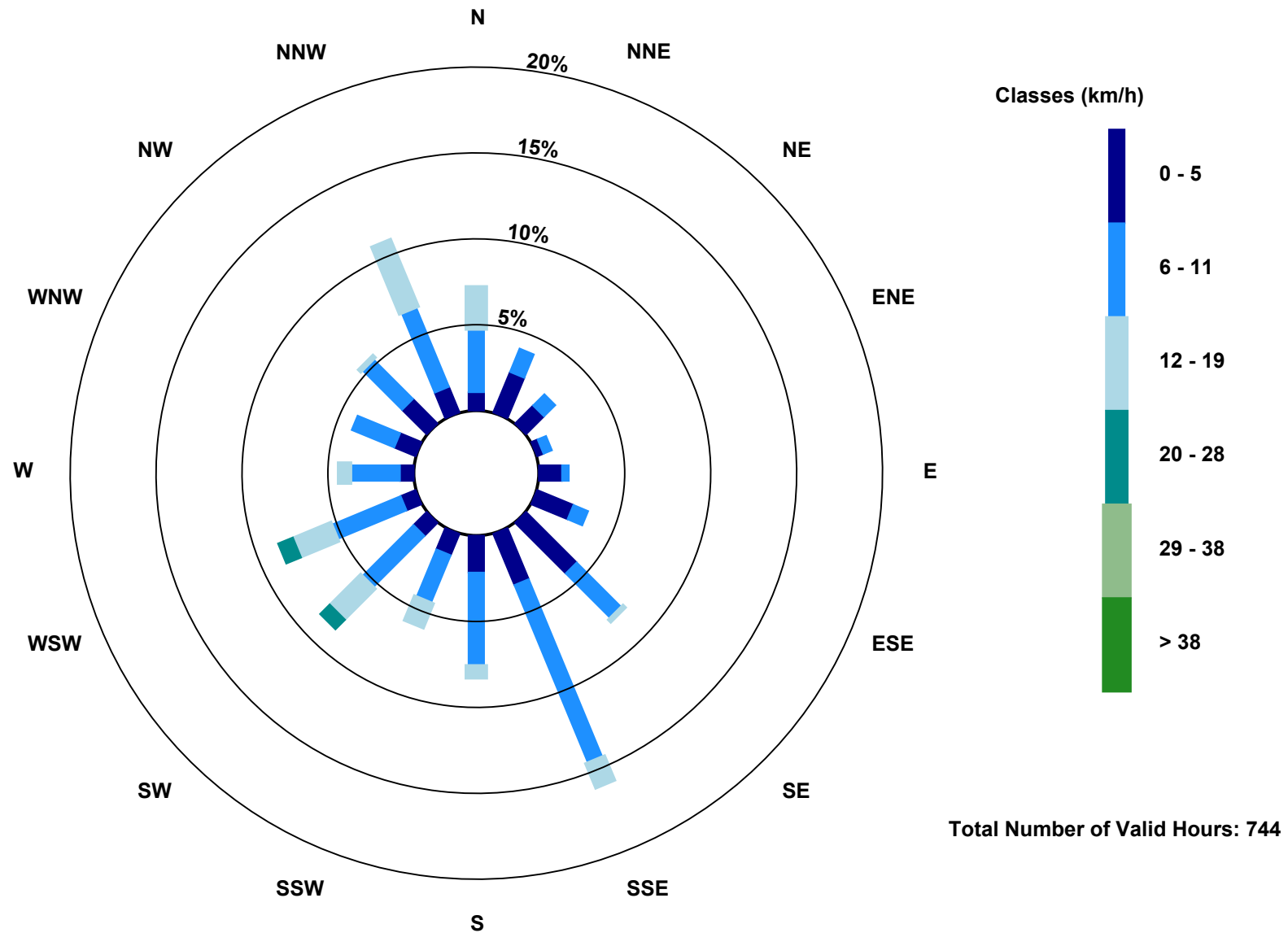
Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Wind Speed 10m (WS10) - km/h
Wapasu





Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

Wind Speed 10m (WS10) - km/h

Wapasu - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 9 km/h on Jul 3 01:00																	Hours in Service: 744								
Minimum Value: 0 km/h on Jul 15 03:00																	Hours of Data: 744								
Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 2 Median = 3 Q ₃ = 3 P ₉₀ = 4 P ₉₉ = 7																	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-Jul	2	1	1	1	1	1	2	2	2	2	2	3	2	3	3	3	3	1	1	3	3	3	3	4	4
2-Jul	5	4	4	3	3	3	3	3	4	5	5	4	4	3	2	3	2	2	3	2	2	2	3	4	5
3-Jul	9	3	2	2	2	3	2	5	3	4	4	3	3	5	5	6	6	5	5	4	2	2	3	4	9
4-Jul	4	3	4	4	4	5	4	3	3	4	5	5	5	4	5	3	3	3	3	2	2	1	1	1	5
5-Jul	1	1	1	1	1	1	3	3	2	3	3	3	4	3	2	5	3	2	2	2	1	1	1	2	5
6-Jul	2	2	2	1	1	1	1	2	2	2	2	2	3	3	4	3	3	2	1	1	1	1	1	2	4
7-Jul	1	1	1	1	1	1	2	2	2	3	3	4	4	4	4	4	5	3	3	3	3	3	2	2	5
8-Jul	2	2	2	2	3	2	3	3	4	5	5	5	6	5	6	6	6	4	4	3	1	1	4	4	6
9-Jul	3	2	4	5	4	4	4	6	6	6	7	7	7	8	8	8	7	6	6	6	6	5	5	4	8
10-Jul	3	2	3	3	2	2	2	4	3	3	3	3	3	3	3	3	3	2	2	1	1	1	1	1	4
11-Jul	1	1	1	1	1	2	3	3	4	5	6	7	7	6	5	5	5	3	3	2	3	2	2	2	7
12-Jul	2	3	3	3	3	3	2	2	2	2	2	3	3	3	3	3	4	4	5	3	2	2	2	4	5
13-Jul	2	2	2	1	2	1	3	3	4	4	4	4	4	4	5	5	5	5	5	4	2	1	1	1	5
14-Jul	1	1	1	1	2	2	3	4	4	4	4	4	4	4	5	4	3	3	4	2	1	1	1	1	5
15-Jul	1	1	0	1	1	1	1	3	3	3	3	3	3	3	4	4	3	3	3	2	1	1	2	3	4
16-Jul	3	3	3	2	2	2	2	3	2	3	3	4	3	3	3	3	3	2	1	1	1	1	1	1	4
17-Jul	1	1	1	1	1	1	1	3	3	3	3	4	4	5	4	4	4	3	2	2	1	1	1	1	5
18-Jul	1	1	1	1	1	1	1	2	2	2	3	4	3	3	4	3	3	3	3	2	2	3	3	3	4
19-Jul	3	3	2	2	2	2	2	2	2	2	3	3	3	3	3	3	2	2	2	2	2	3	2	2	3
20-Jul	2	2	1	1	1	1	2	2	2	2	2	2	3	2	3	3	2	4	3	5	5	3	4	4	5
21-Jul	5	6	7	5	4	4	5	5	4	5	5	4	4	4	5	4	4	3	3	3	2	2	2	1	7
22-Jul	1	1	1	1	1	1	2	3	3	3	3	3	4	3	3	3	4	3	3	2	1	1	1	1	4
23-Jul	1	1	1	1	1	1	2	2	2	3	3	4	3	4	3	3	3	2	2	1	2	1	1	1	4
24-Jul	1	1	1	1	1	1	2	3	4	4	4	4	4	4	4	3	3	3	3	2	6	2	2	2	6
25-Jul	1	1	2	3	2	4	4	4	4	3	3	2	2	1	2	2	2	1	3	2	1	1	1	2	4
26-Jul	2	1	1	2	1	1	1	2	2	3	2	4	2	2	2	3	3	3	2	2	1	2	1	1	4
27-Jul	2	2	2	2	3	2	2	3	3	3	4	4	4	4	3	3	5	2	2	1	2	1	1	1	5
28-Jul	1	1	1	1	1	1	2	2	2	3	3	4	4	2	3	3	3	2	2	2	1	1	1	1	4
29-Jul	1	1	1	1	1	1	2	3	3	3	4	3	4	4	4	3	3	2	2	2	2	1	1	2	4
30-Jul	2	2	3	1	1	2	2	3	3	4	4	4	3	3	3	3	3	3	2	1	1	1	1	1	4
31-Jul	1	1	1	1	1	2	2	2	2	3	3	4	4	4	4	4	4	3	2	1	1	1	1	2	4
9 6 7 5 4 5 5 6 6 6 7 7 7 8 8 8 7 6 6 6 6 6 5 4																									
Diurnal Maximum																									



Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Direction 10m (WD10) - deg

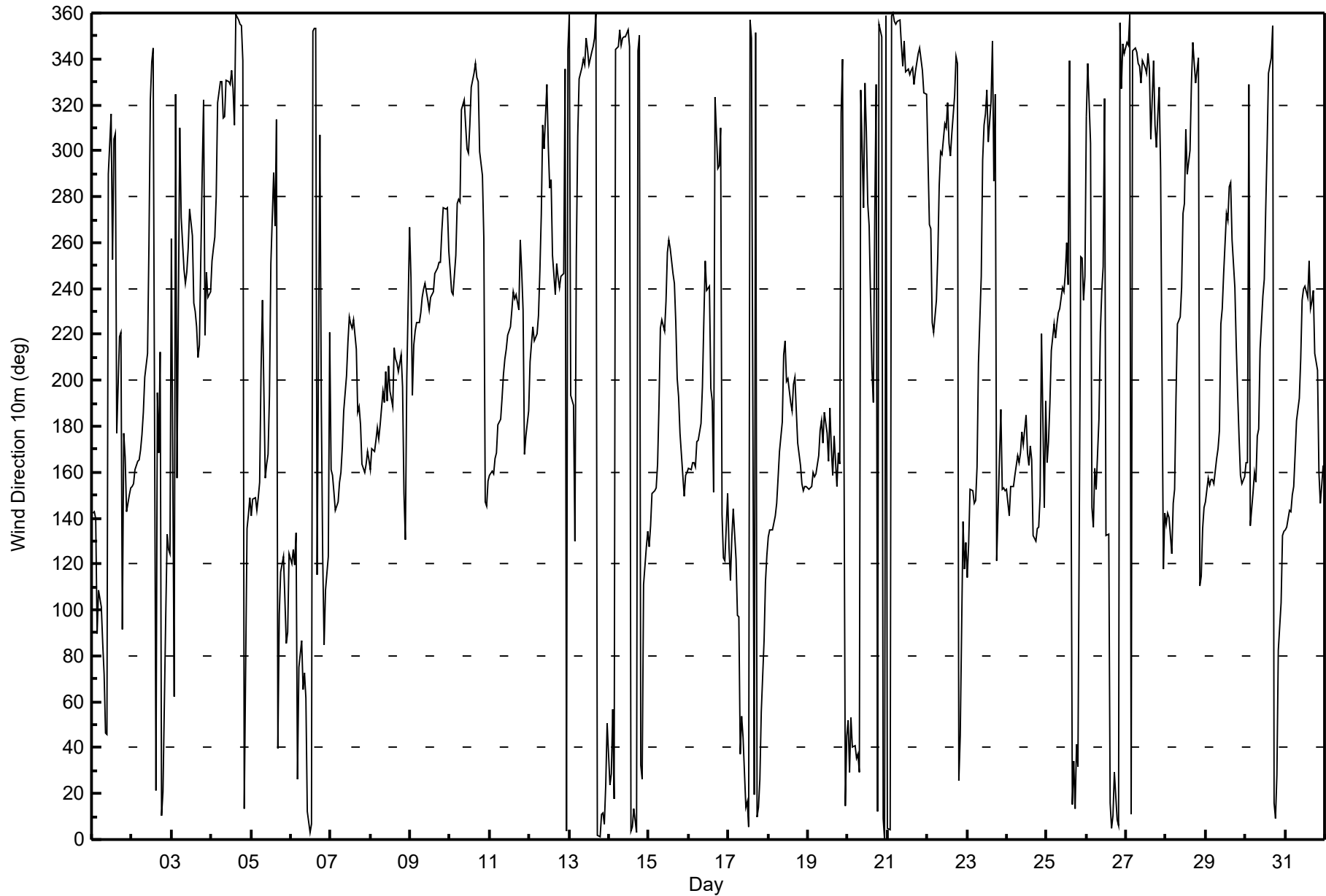
Wapasu - July 2025

Direction of Maximum Speed: 238 deg on Jul 9 14:00																				Hours in Service:		744			
Direction of Maximum Daily Speed Average: 242.3 deg on Jul 9																				Hours of Data:		744			
Direction of Minimum Speed: 262 deg on Jul 10 21:00										Direction of Minimum Daily Speed Average: 1.0 deg on Jul 23										Hours of Missing Data:		0			
Monthly Average Direction: 236.1 deg																				Percent Operational Time:		100.0			
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-Jul	142	143	140	90	108	101	85	72	46	46	290	316	252	305	308	177	219	221	91	177	167	143	150	153	140.1
2-Jul	154	155	161	165	165	169	176	186	201	212	260	322	339	345	21	195	168	212	10	21	98	133	126	124	169.0
3-Jul	262	62	325	157	232	310	271	248	243	247	257	275	263	234	230	223	210	215	290	322	220	247	236	238	245.1
4-Jul	252	258	262	280	321	330	330	315	315	330	330	329	335	327	311	359	357	355	355	339	14	135	142	149	320.9
5-Jul	141	148	149	143	149	156	205	235	157	163	168	194	251	291	267	314	39	98	116	123	105	85	90	124	153.0
6-Jul	120	126	119	134	26	75	86	65	72	62	12	3	7	352	353	354	115	307	190	123	85	108	123	221	60.9
7-Jul	161	158	151	143	147	156	160	171	187	202	217	228	224	223	227	213	186	189	181	164	160	164	169	165	187.6
8-Jul	161	170	169	174	179	175	181	195	190	204	191	206	195	189	214	209	207	204	211	197	151	131	201	267	195.4
9-Jul	244	193	215	222	225	225	229	236	240	242	235	231	236	238	239	246	249	251	251	265	275	275	275	256	242.3
10-Jul	248	238	237	254	277	279	278	318	322	311	301	299	311	328	334	338	332	330	299	289	262	147	145	156	293.2
11-Jul	159	161	160	166	168	181	183	192	203	209	214	219	223	231	239	235	237	231	261	248	230	168	176	187	211.8
12-Jul	208	216	223	217	220	228	248	272	311	301	329	302	284	287	255	237	251	245	240	245	247	336	4	344	255.5
13-Jul	360	193	189	130	254	307	331	336	340	338	349	344	337	343	345	349	360	2	1	11	11	7	24	50	348.9
14-Jul	24	28	57	18	344	345	353	346	349	350	350	353	345	4	5	13	3	344	350	33	27	111	128	134	0.6
15-Jul	128	137	151	152	153	164	189	222	227	222	234	256	261	258	247	242	225	201	193	177	158	150	159	160	199.0
16-Jul	162	161	164	164	162	173	174	181	197	226	252	239	241	196	191	151	323	292	294	310	142	123	122	151	189.6
17-Jul	127	113	132	144	122	98	97	37	54	45	14	16	5	357	349	20	352	10	14	26	56	87	113	124	39.3
18-Jul	132	135	135	138	141	146	158	169	182	211	217	199	201	190	187	198	201	187	173	163	155	152	154	154	170.1
19-Jul	153	153	154	160	158	159	167	178	182	173	186	177	165	188	170	159	176	154	168	164	317	340	14	45	163.5
20-Jul	52	29	53	40	41	35	37	29	326	275	330	308	277	267	205	190	271	329	12	355	350	9	0	359	350.0
21-Jul	5	4	359	360	356	355	356	357	346	337	348	334	335	333	335	336	329	334	343	345	340	335	325	325	345.5
22-Jul	296	268	266	225	221	235	254	285	300	298	312	310	321	303	298	307	324	341	338	26	45	138	117	130	301.8
23-Jul	114	129	153	152	147	148	162	208	245	296	311	316	327	304	321	348	286	324	121	166	187	153	153	152	206.2
24-Jul	153	141	154	153	154	159	167	164	169	177	172	185	168	163	172	165	132	130	136	136	150	220	144	191	159.9
25-Jul	164	173	190	213	225	218	224	229	231	240	239	247	260	241	339	15	34	13	41	32	254	253	235	245	232.3
26-Jul	315	338	303	145	136	162	153	183	221	239	249	323	132	133	16	5	10	29	9	6	356	327	346	342	334.0
27-Jul	347	346	360	11	343	345	343	338	337	330	339	336	334	342	336	305	339	311	302	316	327	292	118	142	336.3
28-Jul	137	142	141	124	147	152	193	224	228	240	273	277	309	290	300	330	347	338	330	341	110	115	135	145	246.2
29-Jul	147	157	155	157	157	155	166	170	178	224	231	247	272	270	284	286	261	240	215	194	175	158	155	158	202.1
30-Jul	164	164	329	136	151	160	156	176	179	214	237	244	274	301	334	340	354	16	9	28	82	103	133	134	202.7
31-Jul	135	136	143	143	150	154	168	182	192	209	235	240	241	236	252	231	234	239	212	204	160	147	154	163	198.9
160.4 156.3 170.0 168.1 181.2 188.6 206.5 233.5 240.9 248.9 264.4 270.7 275.8 274.8 277.4 270.7 281.0 284.9 285.2 265.9 172.0 143.1 146.4 161.9																									
Diurnal Average																									
All monthly, daily, and diurnal averages have been calculated using vector methods																									



Wood Buffalo Environmental Association
Hourly Averages

Wind Direction 10m (WD10) - deg
Wapasu - July 2025





Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg

Wapasu - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																		Hours in Service: 744							
Maximum Value: 99 deg on Jul 1 13:00																		Hours of Data: 744							
Minimum Value: 4 deg on Jul 10 23:00																		Hours of Missing Data: 0							
																		Hours of Calibration: 0							
Percentiles: P ₁ = 7 P ₁₀ = 13 Q ₁ = 20 Median = 26 Q ₃ = 34 P ₉₀ = 50 P ₉₉ = 81																		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-Jul	10	12	19	8	15	16	26	41	72	50	86	82	99	40	87	78	55	42	39	24	26	16	18	20	99
2-Jul	20	20	22	24	25	26	29	30	28	29	38	72	38	38	75	66	96	79	84	75	21	16	19	22	96
3-Jul	70	32	55	72	26	27	28	21	19	22	30	36	31	22	19	22	26	27	65	33	22	23	18	19	72
4-Jul	25	24	26	33	24	20	18	24	30	22	20	23	25	25	37	32	26	26	30	26	70	22	23	10	70
5-Jul	12	10	12	7	14	15	45	22	39	28	33	42	48	45	55	48	31	24	18	21	25	27	17	19	55
6-Jul	17	16	17	14	62	34	34	23	31	39	33	28	33	27	35	56	60	38	55	25	19	16	14	32	62
7-Jul	25	24	12	13	14	14	20	30	31	32	29	27	29	29	26	27	33	29	30	21	21	22	24	23	33
8-Jul	19	26	19	24	25	27	30	30	30	28	30	28	29	31	26	28	26	26	29	15	9	56	33	56	
9-Jul	27	44	23	19	17	18	18	19	22	24	21	21	22	23	23	23	25	25	25	32	31	29	28	27	44
10-Jul	23	17	19	25	29	33	35	25	21	29	31	28	26	30	30	42	35	26	37	27	78	8	4	8	78
11-Jul	9	9	11	12	15	25	30	30	28	24	24	22	21	20	21	19	19	19	31	28	32	27	24	27	32
12-Jul	31	20	18	21	19	19	24	30	26	28	37	29	39	34	30	24	27	26	21	20	35	30	33	23	39
13-Jul	28	79	65	69	51	31	23	24	21	21	27	25	28	26	24	30	31	30	31	33	32	25	21	33	79
14-Jul	19	23	50	26	41	18	23	26	29	34	40	48	33	37	34	33	32	25	29	30	37	22	12	10	50
15-Jul	6	7	5	5	8	13	29	23	22	24	31	43	50	59	55	58	56	35	31	24	12	13	17	20	59
16-Jul	21	22	22	16	15	24	25	32	30	24	30	34	36	36	65	45	66	73	40	13	24	18	27	10	73
17-Jul	23	21	15	12	27	22	16	44	29	42	36	51	36	52	31	43	36	41	37	27	14	8	12	12	52
18-Jul	11	10	9	7	7	14	16	27	32	36	29	64	55	48	47	41	33	32	28	18	15	16	17	18	64
19-Jul	16	18	19	23	18	22	25	29	33	37	35	34	33	35	34	33	36	33	29	87	16	18	31	21	87
20-Jul	20	25	19	29	24	27	33	60	52	59	47	54	44	48	39	36	47	21	34	26	23	30	27	29	60
21-Jul	30	29	29	29	23	26	28	27	21	22	24	22	22	23	21	21	22	18	20	19	16	16	17	17	30
22-Jul	35	32	35	17	13	22	27	32	32	42	38	42	48	35	46	51	57	31	25	28	20	28	22	14	57
23-Jul	20	14	8	10	10	9	25	36	42	56	55	43	52	57	73	73	61	63	23	22	34	20	7	8	73
24-Jul	9	12	10	10	10	15	25	26	29	31	32	34	30	28	30	25	24	20	18	21	18	79	21	21	79
25-Jul	10	17	25	29	20	22	20	18	18	21	19	22	27	32	60	34	30	27	45	65	56	31	38	54	65
26-Jul	42	22	24	73	32	12	19	26	17	22	32	54	73	46	55	31	29	31	31	28	28	27	14	16	73
27-Jul	18	17	26	32	20	17	17	20	27	26	29	26	24	23	25	31	22	29	26	22	21	74	31	8	74
28-Jul	12	9	14	19	7	7	36	19	23	36	42	56	43	44	48	55	45	52	51	58	21	21	15	13	58
29-Jul	8	10	13	11	11	14	23	27	27	28	47	42	43	39	48	59	56	46	37	34	29	11	12	15	59
30-Jul	16	13	97	18	15	30	18	27	30	32	22	31	39	41	35	33	44	43	32	37	9	15	11	11	97
31-Jul	13	12	9	9	12	14	24	28	28	30	25	26	30	31	30	38	34	27	29	23	26	6	11	14	38
70 79 97 73 62 34 45 60 72 59 86 82 99 59 87 78 96 79 84 87 78 79 56 54																									
Diurnal Maximum																									



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS18 STONY MOUNTAIN JULY 2025

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

August 29, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - STONY MOUNTAIN (AMS18)
JULY 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	705	35	39	99.46	-	-	4.5	0	0.6	0
TRS(ppb) Average	705	36	39	99.6	0.8	0	0.8	-	0.6	-
THC(ppm) Average	703	35	41	99.19	-	-	2.3	-	2.2	-
NMHC(ppm) Average	703	35	41	99.19	-	-	0.034	-	0.001	-
CH4(ppm) Average	703	35	41	99.19	-	-	2.3	-	2.2	-
O3 (ppb) Average	693	34	51	97.72	-	-	53.3	0	43.4	-
NO2 (ppb) Average	703	37	41	99.46	-	-	3	0	1.8	-
NO (ppb) Average	703	37	41	99.46	-	-	0.6	-	0.1	-
NOX (ppb) Average	703	37	41	99.46	-	-	3.3	-	1.8	-
PM2.5 (ug/m3) Average	739	2	5	99.6	-	-	197.5	0	90.5	3
Temperature 2 m (C) Average	744	0	0	100	-	-	30.5	-	23.9	-
Relative Humidity (%) Average	743	0	1	99.87	-	-	100	-	86	-
Wind Speed 10 m (km/h) Average	709	2	2	100	-	-	18	-	11	-
Wind Speed 20 m (km/h) Average	744	0	0	100	-	-	27	-	17	-
Wind Direction 10 m (deg) Average	709	2	2	100	-	-	-	-	0	-
Wind Direction 20 m (deg) Average	744	0	0	100	-	-	-	-	0	-
Precipitation (mm) Total	740	0	4	99.46	-	-	5.1	-	5.1	-
Leaf Wetness (% of range) Average	744	0	0	100	-	-	53.5	-	18.4	-
Global Solar Radiation (W/m2) Average	744	0	0	100	-	-	954.4	-	331	-

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

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - STONY MOUNTAIN (AMS18)
JULY 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	705	0.22	0.3	-	0	0	0.1	0.1	0.3	0.5	4.5
TRS (ppb) Average	705	0.44	0.1	-	0	0.4	0.4	0.4	0.5	0.5	0.8
THC (ppm) Average	703	2.11	0	-	2	2.1	2.1	2.1	2.1	2.2	2.3
NMHC(ppm) Average	703	0	0.002	-	0	0	0	0	0	0	0.034
CH4(ppm) Average	703	2.11	0	-	2	2.1	2.1	2.1	2.1	2.2	2.3
O3 (ppb) Average	693	29.93	8.3	-	12.2	19.5	23.5	29	35.2	42.4	53.3
NO2 (ppb) Average	703	0.7	0.5	-	0.1	0.2	0.3	0.5	0.9	1.4	3
NO (ppb) Average	703	0.02	0.1	-	0	0	0	0	0	0.1	0.6
NOX (ppb) Average	703	0.72	0.5	-	0.1	0.2	0.3	0.5	0.9	1.4	3.3
PM2.5 (ug/m3) Average	739	17.14	25.9	-	1.3	2.7	4.1	8.3	18	39.2	197.5
Temperature 2 m (C) Average	744	16.77	5.2	-	4.9	10	13.1	16.6	20.4	23.8	30.5
Relative Humidity (%) Average	743	59.97	18.5	-	20.2	34.5	45.7	59.5	72.8	85.8	100
Wind Speed 10 m (km/h) Average	709	5.7	3	-	0	2	4	6	7	9	18
Wind Speed 20 m (km/h) Average	744	9.6	4	-	0	4	7	9	12	15	27
Wind Direction 10 m (deg) Average	709	-	-	-	-	-	-	-	-	-	-
Wind Direction 20 m (deg) Average	744	-	-	-	-	-	-	-	-	-	-
Precipitation (mm) Total	740	-	-	17.6	-	-	-	-	-	-	-
Surface Wetness (% of range) Average	744	4.13	8.2	-	0	0.2	0.6	1.1	1.5	17	53.5
Global Solar Radiation (W/m2) Average	744	244.97	273.7	-	0	0	0.6	104.6	457.1	681.3	954.4

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - STONY MOUNTAIN (AMS18)
JULY 2025

MONTHLY SUMMARY

Parameter	Period Start	Period End	Duration (Hours)	Notes
AIR QUALITY ANALYZERS	28 Jul 2025 23:00	29 Jul 2025 02:00	3-10	Station power failure
O3	29 Jul 2025 09:00	29 Jul 2025 15:00	7	Maintenance - analyzer rebooted
THC/NMHC/CH4	06 Jul 2025 12:00	06 Jul 2025 13:00	2	Maintenance - replaced support gas cylinder
Precipitation Collector	02 Jul 2025 12:00	02 Jul 2025 12:00	1	Maintenance - emptied bucket
Precipitation Collector	28 Jul 2025 23:00	29 Jul 2025 01:00	3	DAS Failure - data not recorded
Relative Humidity	03 Jul 2025 04:00	03 Jul 2025 04:00	1	Sensor operated out of range



Wood Buffalo Environmental Association

Summary of Hour Averages

Sulphur Dioxide (SO₂) - ppb

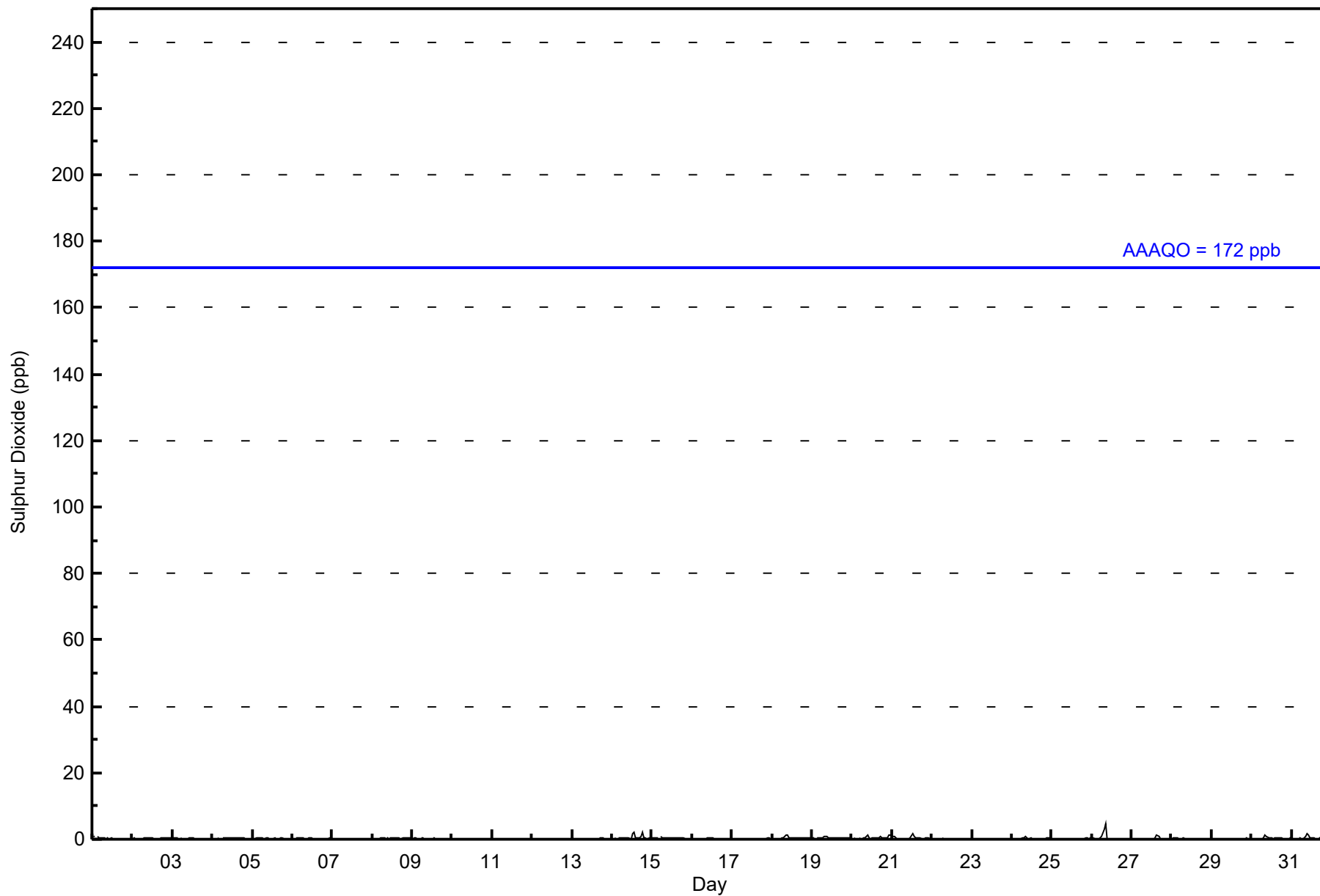
Stony Mountain - July 2025

Number of Exceedences (AAAQO): Maximum Value: 4.5 ppb on Jul 26 09:00																			1-hr: 0 24-hr: 0 Maximum Daily Average: 0.6 ppb on Jul 14																			Hours in Service: 744	
Minimum Value: 0.0 ppb on Jul 1 22:00 Maximum Diurnal Average: 0.4 ppb at hour 9 Monthly Average: 0.22 ppb																			Minimum Daily Average: 0.0 ppb on Jul 23 Minimum Diurnal Average: 0.2 ppb at hour 22 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.1 Q ₃ = 0.3 P ₉₀ = 0.5 P ₉₉ = 1.4																			Hours of Data: 705	
																																						Hours of Missing Data: 39	
																																						Hours of Calibration: 35	
																																						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-Jul	0.8	0.7	Z	1.0	0.5	0.3	0.4	0.3	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.3	1.0													
2-Jul	0.0	0.2	0.2	Z	0.0	0.0	0.1	0.5	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.5	0.4	0.2	0.5													
3-Jul	0.2	0.3	0.3	0.3	Z	0.2	0.2	0.1	0.1	0.2	0.3	0.3	0.4	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.2	0.4													
4-Jul	0.0	0.1	0.0	0.2	0.2	Z	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.4	0.4	0.4	0.5	0.4	0.3	0.3	0.1	0.1	0.1	0.2	0.3	0.5													
5-Jul	Z	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.3	0.3	0.2	0.1	0.1	0.6	0.2	0.1	0.2	0.3	0.2	0.2	0.2	0.1	0.0	0.1	0.2	0.6													
6-Jul	0.4	Z	0.3	0.6	0.6	0.3	0.3	0.1	0.1	0.0	0.2	0.3	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.2	0.3	0.2	0.6													
7-Jul	0.1	0.1	Z	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	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1													
8-Jul	0.1	0.1	0.2	Z	0.2	0.4	0.3	0.6	0.2	0.4	0.1	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.3	0.4	0.3	0.3	0.2	0.3	0.3	0.6													
9-Jul	0.2	0.3	0.2	0.2	Z	0.3	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.2	0.3													
10-Jul	0.1	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	0.1	0.2	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.2													
11-Jul	Z	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.0	0.0	0.1	0.1	0.2													
12-Jul	0.1	Z	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1													
13-Jul	0.0	0.3	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	0.1	0.2	0.3	0.2	0.1	0.0	0.2	0.2	0.1	0.3													
14-Jul	0.2	0.1	0.3	Z	0.3	0.5	0.5	0.4	0.3	0.3	0.2	0.1	1.6	2.0	0.5	0.5	0.3	0.9	2.1	0.6	0.4	0.2	0.3	0.3	0.6	2.1													
15-Jul	0.3	0.3	0.3	0.3	Z	0.7	0.3	0.5	0.6	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.3	0.7													
16-Jul	0.2	0.1	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.3	0.3	0.4	0.4	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.4													
17-Jul	Z	0.0	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	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.2	0.1	0.3													
18-Jul	0.1	Z	0.2	0.0	0.0	0.1	0.3	0.6	1.1	1.2	0.5	0.4	0.5	0.6	0.4	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.5	0.3	0.4	1.2													
19-Jul	0.3	0.3	Z	0.4	0.5	0.5	0.6	0.8	0.7	0.9	0.4	0.5	0.4	0.5	0.6	0.5	0.4	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.4	0.9													
20-Jul	0.1	0.1	0.2	Z	0.4	0.2	0.1	0.2	0.6	1.1	0.5	0.2	0.4	0.4	0.6	0.6	0.6	0.7	0.5	0.4	0.5	0.4	1.4	1.2	0.5	1.4													
21-Jul	1.0	0.7	0.4	0.2	Z	0.1	0.1	0.1	0.1	0.2	0.1	0.3	1.5	1.0	0.4	0.3	0.3	0.2	0.1	0.2	0.3	0.3	0.3	0.0	0.4	1.5													
22-Jul	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2													
23-Jul	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	C	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1													
24-Jul	0.0	Z	0.0	0.0	0.0	0.1	0.3	0.6	0.7	0.4	0.2	0.3	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.4	0.3	0.1	0.2	0.7													
25-Jul	0.1	0.1	Z	0.0	0.1	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.6	0.2	0.1	0.4	0.1	0.6													
26-Jul	0.6	0.4	0.2	Z	0.2	0.4	0.7	3.0	4.5	0.2	0.1	0.1	0.0	0.0	0.0	0.1	0.2	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.5	4.5													
27-Jul	0.1	0.1	0.0	0.0	Z	0.1	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.1	0.3	1.4	0.7	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.2	1.4													
28-Jul	0.1	0.2	0.4	0.4	0.2	Z	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.1	0.1	PF	PF	0.1	0.4													
29-Jul	PF	PF	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	0.1	0.2	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.1	0.2													
30-Jul	0.1	Z	0.2	0.2	0.2	0.1	0.1	0.3	1.4	0.8	0.4	0.4	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.3	1.4													
31-Jul	0.2	0.1	Z	0.1	0.2	0.2	0.2	0.2	1.0	1.9	1.4	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.4	0.7	0.4	0.4	1.9													
0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.3 0.4 0.3 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																									Diurnal Average														
1.0 0.7 0.4 1.0 0.6 0.7 0.7 3.0 4.5 1.9 1.4 0.5 1.6 2.0 0.6 1.4 0.7 0.9 2.1 0.6 0.6 0.4 1.4 1.2																									Diurnal Maximum														
Z - zerospan C - Calibration 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
Stony Mountain - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Stony Mountain - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	705	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: 705

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Stony Mountain - July 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	20	10	9	11	9	16	39	45	98	103	63	73	87	50	34	705
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	38	20	10	9	11	9	16	39	45	98	103	63	73	87	50	34	705

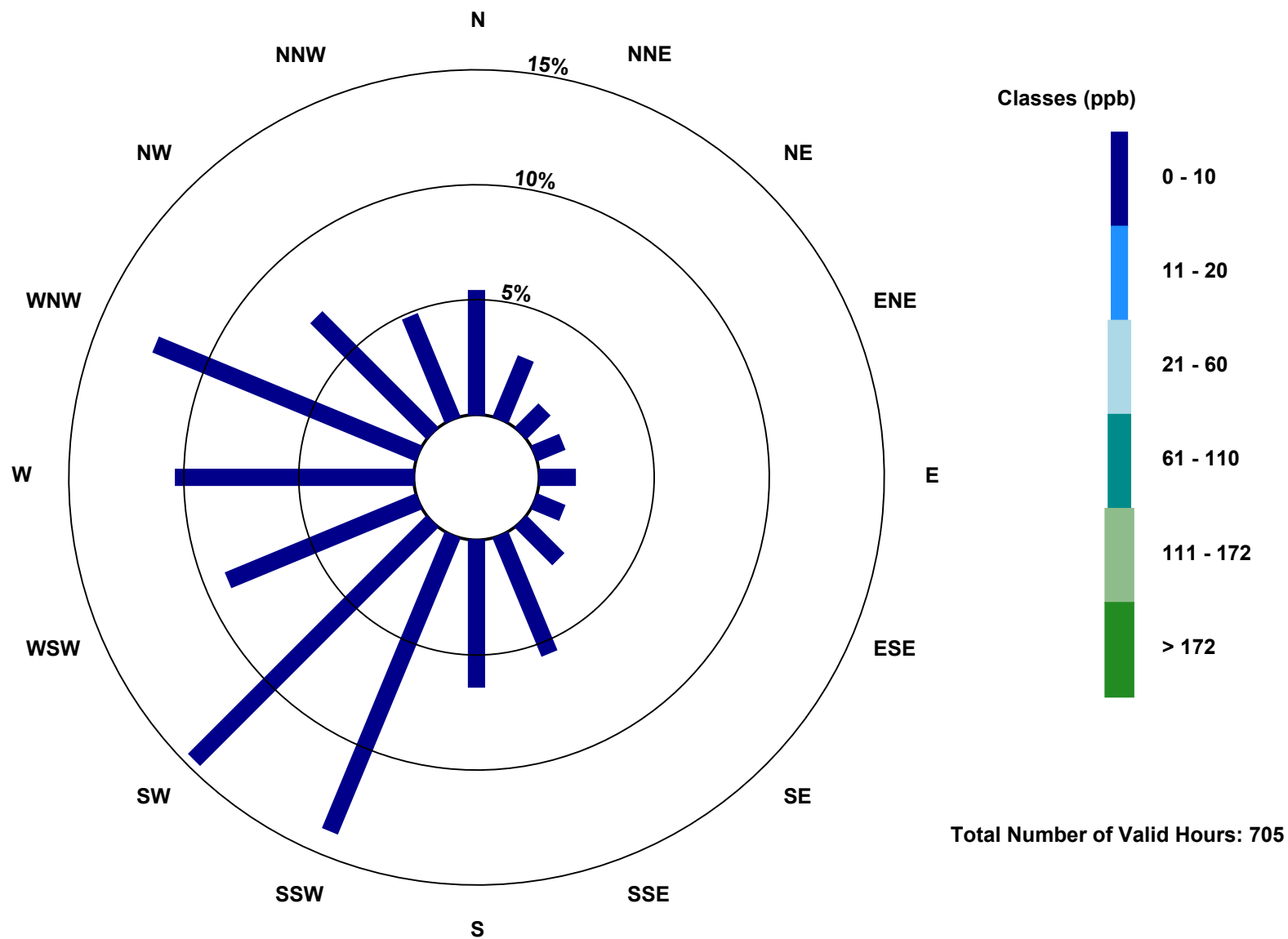
Total Number of Valid Hours: 705

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

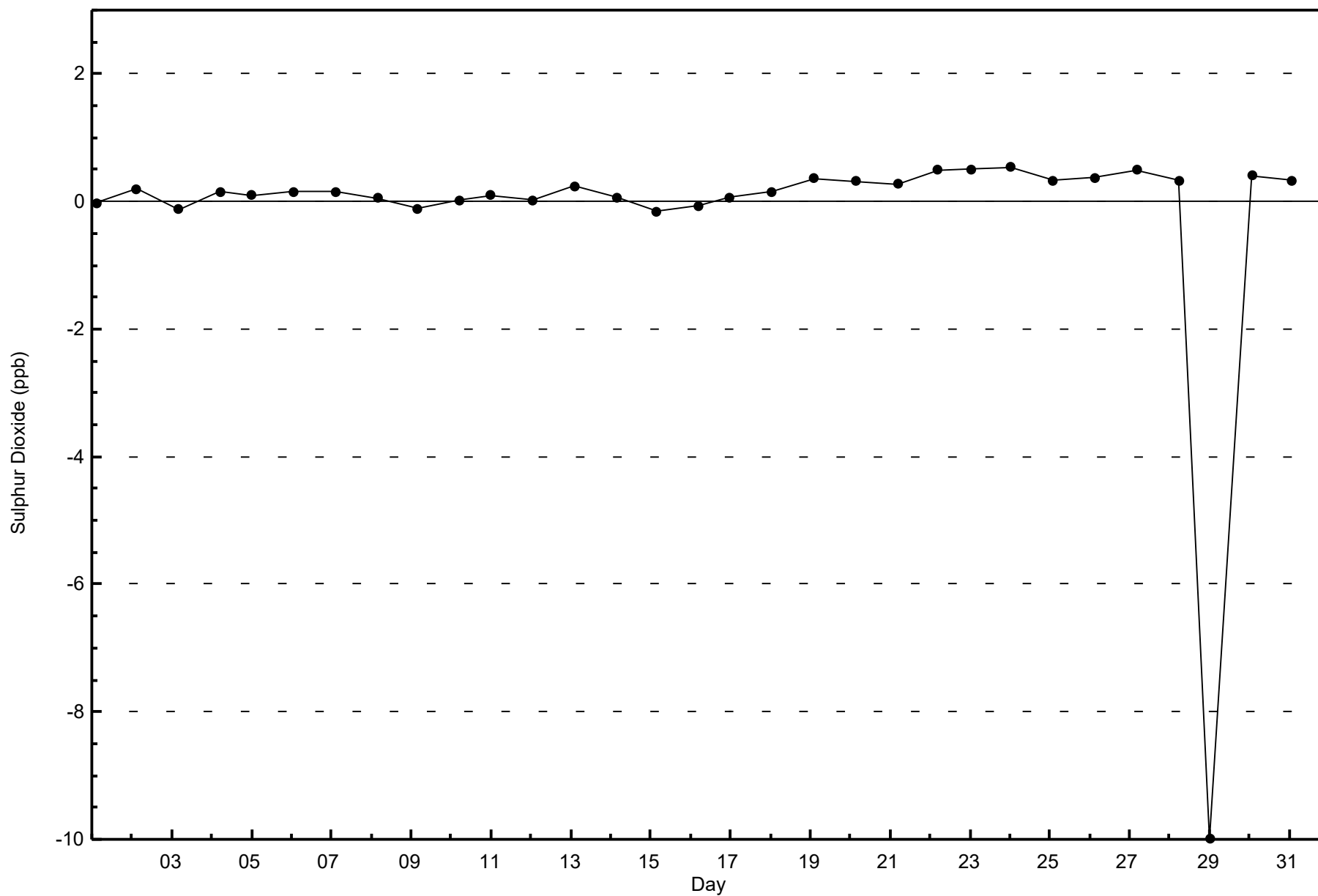
Sulphur Dioxide (SO₂) - ppb
Stony Mountain





Wood Buffalo Environmental Association
Zero Responses

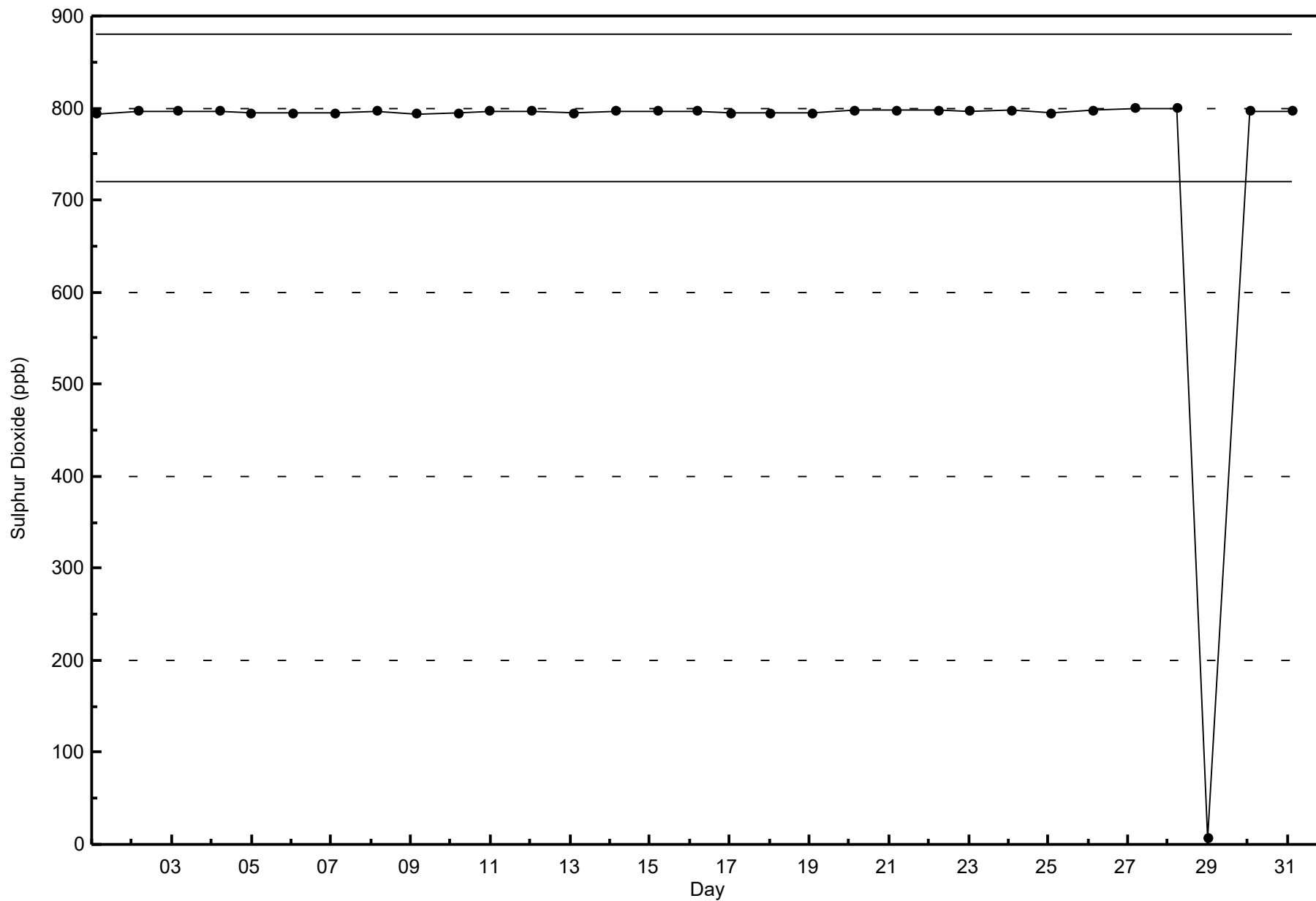
Sulphur Dioxide (SO₂) - ppb
Stony Mountain - July 2025





Wood Buffalo Environmental Association
Span Responses

Sulphur Dioxide (SO₂) - ppb
Stony Mountain - July 2025





Wood Buffalo Environmental Association

Summary of 30-Minute Averages

Total Reduced Sulphur (TRS) - ppb

Stony Mountain - July 2025

Number of Exceedences (AAAQG): 30-Min: 0																		Periods in Service: 1488								
Maximum Value: 0.8 ppb on Jul 18 23:30 Maximum Daily Average: 0.6 ppb on Jul 19																		Periods of Valid Data: 1410								
Minimum Value: 0.0 ppb on Jul 24 19:30 Minimum Daily Average: 0.4 ppb on Jul 29																		Periods of Invalid Data: 78								
Maximum Diurnal Average: 0.5 ppb at hour 14 Minimum Diurnal Average: 0.4 ppb at hour 20																		Periods of Calibration: 73								
Monthly Average: 0.44 ppb Percentiles: P ₁ = 0.2 P ₁₀ = 0.4 Q ₁ = 0.4 Median = 0.4 Q ₃ = 0.5 P ₉₀ = 0.5 P ₉₉ = 0.7																		Percent Operational Time: 99.7								
Day	Period Ending At (MST)																								Daily Average	Daily Maximum
	00:30 01:00	01:30 02:00	02:30 03:00	03:30 04:00	04:30 05:00	05:30 06:00	06:30 07:00	07:30 08:00	08:30 09:00	09:30 10:00	10:30 11:00	11:30 12:00	12:30 13:00	13:30 14:00	14:30 15:00	15:30 16:00	16:30 17:00	17:30 18:00	18:30 19:00	19:30 20:00	20:30 21:00	21:30 22:00	22:30 23:00	23:30 24:00		
1-Jul	0.5 0.5	0.5 0.5	0.6 0.6	Z SP	0.6 0.5	0.5 0.5	0.5 0.4	0.4 0.5	0.4 0.5	0.5 0.5	0.5 0.5	0.5 0.4	0.5 0.5	0.4 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	0.4 0.4	0.4 0.5	0.4 0.4	0.4 0.4	0.5	0.6
2-Jul	0.5 0.5	0.5 0.5	0.4 0.4	0.4 0.5	Z SP	0.5 0.5	0.5 0.5	0.4 0.5	0.4 0.5	0.5 0.5	0.5 0.5	0.5 0.5	0.5 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 0.5	0.6 0.6	0.6 0.5	0.5	0.6
3-Jul	0.5 0.5	0.5 0.6	0.5 0.5	0.5 0.5	0.5 0.6	Z SP	0.6 0.6	0.6 0.6	0.6 0.6	0.6 0.5	0.5 0.5	0.5 0.5	0.5 0.5	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.5	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	0.6
4-Jul	Z SP	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 0.4	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 0.4	0.4 0.4	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
5-Jul	0.4 0.4	Z SP	0.4 0.4	0.4 0.5	0.6 0.6	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	0.4 0.5	0.4 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	0.4	0.6
6-Jul	0.4 0.4	0.4 0.4	Z SP	0.5 0.4	0.4 0.5	0.4 0.5	0.5 0.4	0.4 0.4	0.5 0.4	0.5 0.4	0.5 0.5	0.5 0.5	0.5 0.4	0.5 0.5	0.4 0.5	0.4 0.4	0.4 0.5	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.5 0.5	0.4 0.5	0.4	0.5
7-Jul	0.5 0.4	0.4 0.4	0.5 0.5	Z SP	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 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
8-Jul	0.4 0.4	0.4 0.4	0.4 0.3	0.4 0.3	Z SP	0.4 0.4	0.4 0.4	0.4 0.5	0.4 0.5	0.4 0.5	0.5 0.5	0.5 0.4	0.5 0.5	0.5 0.4	0.5 0.5	0.4 0.4	0.4 0.5	0.5 0.5	0.5 0.5	0.5 0.5	0.5 0.5	0.4 0.5	0.5 0.5	0.5 0.5	0.4	0.5
9-Jul	0.5 0.5	0.5 0.5	0.5 0.5	0.5 0.5	0.5 0.4	Z SP	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 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.5	0.4 0.4	0.4 0.4	0.4 0.4	0.3 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.4	0.5
10-Jul	Z SP	0.4 0.4	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	0.4 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 0.4	0.5 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.3	0.4 0.4	0.4 0.4	0.4	0.5
11-Jul	0.4 0.4	Z SP	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 0.4	0.4 0.5	0.4 0.4	0.4 0.5	0.4 0.4	0.4 0.4	0.5 0.4	0.4 0.5	0.5 0.5	0.4 0.5	0.4	0.5
12-Jul	0.4 0.5	0.5 0.5	Z SP	0.4 0.4	0.5 0.5	0.5 0.4	0.4 0.5	0.5 0.4	0.5 0.4	0.5 0.5	0.5 0.5	0.5 0.5	0.6 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	0.5 0.5	0.5 0.4	0.5 0.4	0.4 0.4	0.5	0.6
13-Jul	0.4 0.4	0.4 0.4	0.4 0.5	Z SP	0.4 0.4	0.4 0.4	0.4 0.5	0.4 0.4	0.4 0.5	0.5 0.5	0.5 0.5	0.6 0.5	0.6 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	0.5 0.5	0.4 0.5	0.4 0.5	0.5 0.5	0.5	0.6
14-Jul	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.4	Z SP	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	0.5 0.5	0.5 0.5	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
15-Jul	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.4	Z SP	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 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



Wood Buffalo Environmental Association

Summary of 30-Minute Averages

Total Reduced Sulphur (TRS) - ppb

Stony Mountain - July 2025

Day	Period Ending At (MST)																								Daily Average	Daily Maximum
	00:30 01:00	01:30 02:00	02:30 03:00	03:30 04:00	04:30 05:00	05:30 06:00	06:30 07:00	07:30 08:00	08:30 09:00	09:30 10:00	10:30 11:00	11:30 12:00	12:30 13:00	13:30 14:00	14:30 15:00	15:30 16:00	16:30 17:00	17:30 18:00	18:30 19:00	19:30 20:00	20:30 21:00	21:30 22:00	22:30 23:00	23:30 24:00		
16-Jul	Z SP	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	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 0.4	0.5 0.5	0.5 0.4	0.5 0.5	0.5 0.4	0.4	0.5
17-Jul	0.5 0.5	Z SP	0.5 0.4	0.5 0.5	0.5 0.5	0.5 0.5	0.5 0.5	0.4 0.5	0.4 0.5	0.5 0.5	0.5 0.5	0.5 0.5	0.5 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	0.4 0.5	0.4 0.4	0.4 0.5	0.5 0.5	0.5 0.5	0.5	0.5
18-Jul	0.5 0.4	0.5 0.5	Z SP	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	0.5 0.5	0.5 0.5	0.5 0.5	0.5 0.5	0.5 0.6	0.5 0.5	0.5 0.5	0.5 0.5	0.5 0.6	0.6 0.5	0.6 0.7	0.8 0.7	0.5	0.8
19-Jul	0.7 0.6	0.6 0.6	0.7 0.7	Z SP	0.6 0.7	0.7 0.7	0.7 0.7	0.7 0.7	0.6 0.7	0.6 0.6	0.6 0.6	0.5 0.5	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 0.5	0.5 0.5	0.5 0.5	0.5 0.4	0.5 0.4	0.4	0.7
20-Jul	0.5 0.4	0.4 0.4	0.5 0.5	0.5 0.6	Z SP	0.5 0.4	0.4 0.4	0.4 0.4	0.5 0.6	0.5 0.5	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 0.5	0.5 0.5	0.5 0.5	0.4 0.4	0.4 0.5	0.5 0.5	0.5 0.5	0.5	0.6
21-Jul	0.5 0.5	0.5 0.5	0.5 0.5	0.5 0.5	0.5 0.4	Z SP	0.5 0.4	0.4 0.4	0.4 0.4	0.4 0.5	0.4 0.5	0.4 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	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.4	0.6
22-Jul	Z SP	0.4 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	0.3 0.3	0.3 0.3	0.3 C	C C	C C	C C	C C	C C	0.5 0.4	0.4 0.4	0.4 0.4	0.3 0.4	0.4 0.4	0.3 0.4	0.4 0.4	0.4 0.4	--	0.5
23-Jul	0.4 0.4	Z SP	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 0.4	0.4 0.4	0.4 0.5	0.5 0.5	0.5 0.5	0.5 0.5	0.5 0.5	0.4 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
24-Jul	0.4 0.4	0.4 0.4	Z SP	0.4 0.4	0.4 0.5	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	0.6 0.6	0.6 0.6	0.6 0.5	0.6 0.5	0.5 0.5	0.5 0.4	0.2 0.1	0.0 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.4	0.6
25-Jul	0.1 0.1	0.1 0.2	0.2 0.2	Z SP	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	0.4 0.4	0.5 0.5	0.5 0.5	0.5 0.5	0.5 0.4	0.5 0.5	0.4 0.5	0.5 0.5	0.5 0.5	0.5 0.5	0.6 0.5	0.5 0.6	0.4	0.6
26-Jul	0.6 0.5	0.5 0.4	0.4 0.4	0.4 0.4	Z SP	0.4 0.4	0.4 0.4	0.4 0.5	0.6 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.5	0.5 0.4	0.5 0.5	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	0.6
27-Jul	0.5 0.5	0.5 0.5	0.5 0.6	0.5 0.5	0.5 0.6	Z SP	0.5 0.5	0.5 0.5	0.5 0.5	0.5 0.5	0.5 0.4	0.5 0.5	0.5 0.4	0.5 0.5	0.5 0.5	0.5 0.5	0.5 0.4	0.4 0.4	0.4 0.3	0.4 0.4	0.3 0.4	0.3 0.3	0.4 0.4	0.4 0.4	0.5	0.6
28-Jul	Z SP	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	0.3 0.3	0.4 0.4	0.4 0.3	0.3 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.4 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	PF PF	0.4	0.5
29-Jul	PF 0.7	Z SP	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	0.3 0.4	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	0.4 0.4	0.3 0.3	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.4	0.7
30-Jul	0.4 0.4	0.4 0.4	Z SP	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 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.3 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.4	0.4
31-Jul	0.4 0.4	0.4 0.4	0.4 0.4	Z SP	0.5 0.5	0.5 0.5	0.6 0.5	0.5 0.5	0.5 0.5	0.5 0.5	0.5 0.5	0.5 0.5	0.4 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	0.6
																								Diurnal Average		
																								Diurnal Maximum		
Z - zerospan C - Calibration PF - Power Failure SP - Span																										
Alberta Ambient Air Quality Guideline (AAAQG): 30-Min: 5 ppb																										



Wood Buffalo Environmental Association

Summary of Hour Averages

Total Reduced Sulphur (TRS) - ppb

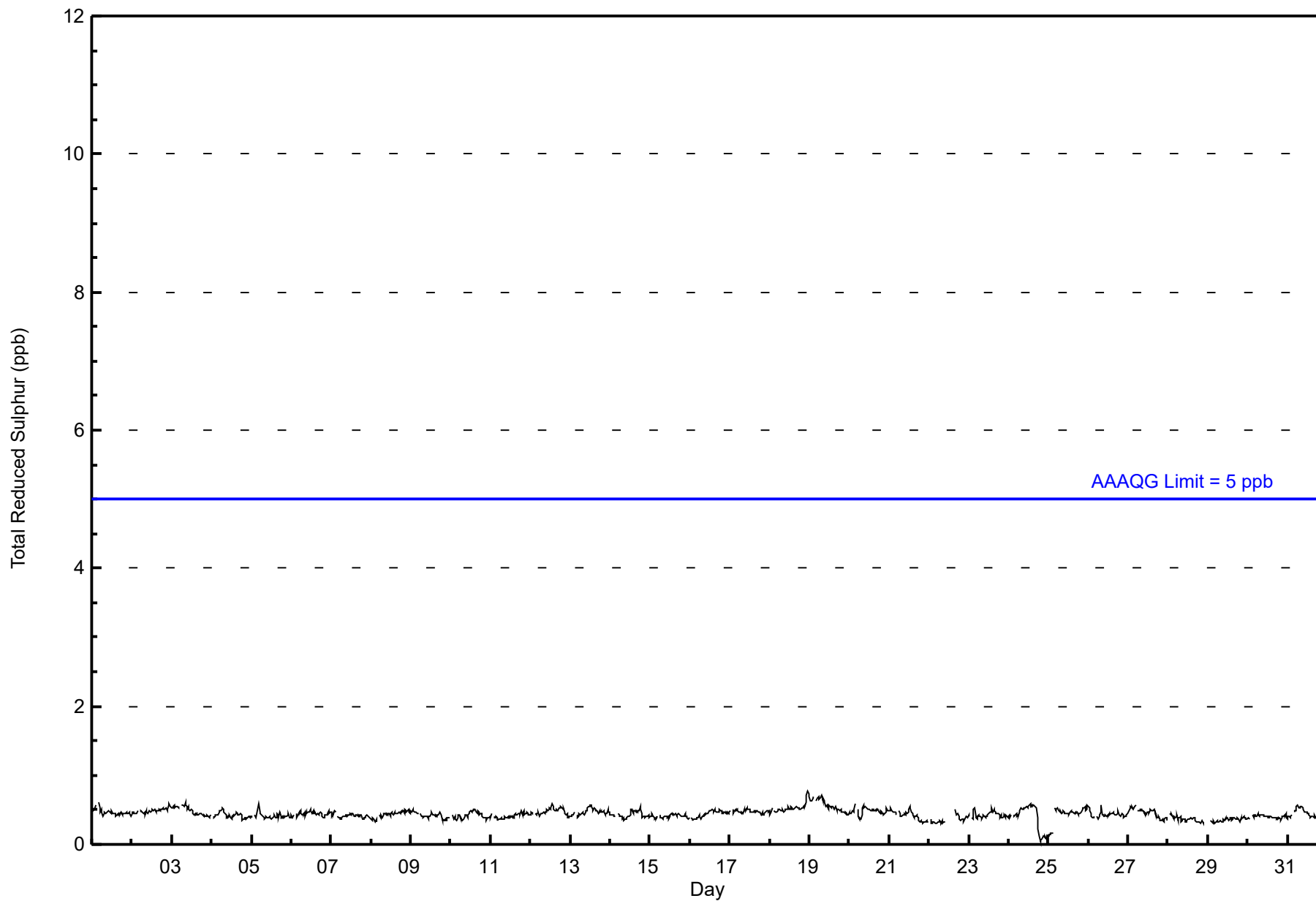
Stony Mountain - July 2025

Maximum Value: 0.8 ppb on Jul 19 00:00																		Maximum Daily Average: 0.6 ppb on Jul 19										Hours in Service: 744	
Minimum Value: 0.0 ppb on Jul 24 20:00																		Minimum Daily Average: 0.4 ppb on Jul 22										Hours of Data: 705	
Maximum Diurnal Average: 0.5 ppb at hour 14																		Minimum Diurnal Average: 0.4 ppb at hour 20										Hours of Missing Data: 39	
Monthly Average: 0.44 ppb																		Percentiles: P ₁ = 0.2 P ₁₀ = 0.4 Q ₁ = 0.4 Median = 0.4 Q ₃ = 0.5 P ₉₀ = 0.5 P ₉₉ = 0.7										Hours of Calibration: 36	
																												Percent Operational Time: 99.6	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum			
1-Jul	0.5	0.5	0.6	Z	0.6	0.5	0.4	0.5	0.4	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.5	0.4	0.5	0.6			
2-Jul	0.5	0.5	0.4	0.5	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	0.6	0.6	0.5	0.6			
3-Jul	0.5	0.6	0.5	0.5	0.5	Z	0.6	0.6	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	0.4	0.4	0.5	0.6			
4-Jul	Z	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	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5			
5-Jul	0.4	Z	0.4	0.4	0.6	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	0.6			
6-Jul	0.4	0.4	Z	0.4	0.4	0.5	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.5	0.5	0.4	0.5			
7-Jul	0.4	0.4	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	0.4	0.4	0.4	0.5			
8-Jul	0.4	0.4	0.3	0.3	Z	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	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			
9-Jul	0.5	0.5	0.5	0.5	0.5	Z	0.4	0.4	0.4	0.4	0.4	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	0.5			
10-Jul	Z	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	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5			
11-Jul	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	0.4	0.5	0.4	0.5	0.4	0.4	0.5			
12-Jul	0.5	0.5	Z	0.4	0.5	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.5	0.6			
13-Jul	0.4	0.4	0.4	Z	0.4	0.4	0.4	0.5	0.4	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.5	0.5	0.6			
14-Jul	0.4	0.4	0.4	0.4	Z	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	0.4	0.4	0.4	0.4	0.4	0.5			
15-Jul	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	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4			
16-Jul	Z	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	0.5	0.4	0.5			
17-Jul	0.5	Z	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.5	0.5	0.5	0.5			
18-Jul	0.5	0.5	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	0.6	0.7	0.8	0.5	0.8			
19-Jul	0.7	0.6	0.7	Z	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.6	0.7			
20-Jul	0.5	0.4	0.5	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	0.5	0.5	0.5	0.5	0.4	0.4	0.5	0.5	0.5	0.5			
21-Jul	0.5	0.5	0.5	0.5	0.4	Z	0.5	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.5			
22-Jul	Z	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	C	C	C	C	C	0.5	0.4	0.4	0.3	0.4	0.3	0.4	0.4	0.4	0.5			
23-Jul	0.4	Z	0.4	0.5	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	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5			
24-Jul	0.4	0.4	Z	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.5	0.5	0.2	0.0	0.1	0.1	0.1	0.1	0.4	0.6			
25-Jul	0.1	0.2	0.2	Z	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.5	0.5	0.4	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.4	0.5			
26-Jul	0.5	0.5	0.4	0.4	Z	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.5			
27-Jul	0.5	0.5	0.5	0.5	0.6	Z	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.4	0.4	0.5	0.6			
28-Jul	Z	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	PF	PF	0.4	0.4			
29-Jul	PF	Z	0.3	0.3	0.3	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	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4			
30-Jul	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	0.4			
31-Jul	0.4	0.4	0.4	Z	0.5	0.5	0.5	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	0.4	0.4	0.4	0.5			
0.4 0.4 0.4 0.4 0.5 0.4 0.4 0.4 0.4 0.4 0.4 0.5 0.5 0.5 0.5 0.5 0.5 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4																										Diurnal Average			
0.7 0.6 0.7 0.5 0.7 0.7 0.7 0.7 0.7 0.6 0.6 0.6 0.5 0.6 0.6 0.6 0.6 0.5 0.5 0.5 0.5 0.5 0.6 0.7 0.8																										Diurnal Maximum			
Z - zerospan C - Calibration PF - Power Failure																													
Alberta Ambient Air Quality Objective (AAAQO): 1-hour NA 24-hr NA																													



Wood Buffalo Environmental Association
Hourly Averages

Total Reduced Sulphur (TRS) - ppb
Stony Mountain - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Reduced Sulphur (TRS) - ppb
Stony Mountain - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	705	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: 705

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Total Reduced Sulphur (TRS) - ppb
Stony Mountain - July 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	35	20	11	8	11	9	17	39	46	100	102	62	74	87	50	34	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	35	20	11	8	11	9	17	39	46	100	102	62	74	87	50	34	705

Total Number of Valid Hours: 705

Total Number of Hours: 744

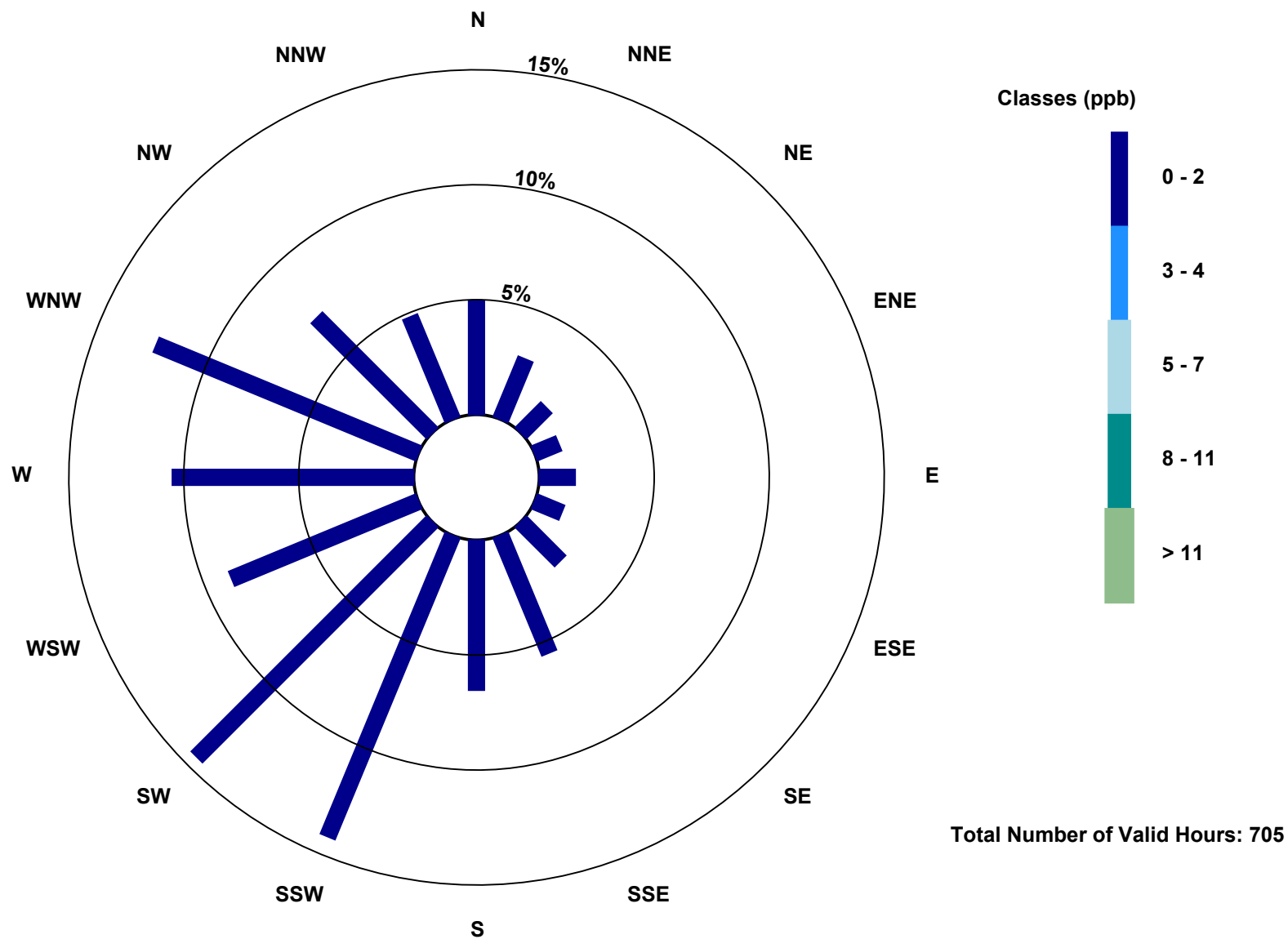


Wood Buffalo Environmental Association

Wind Rose Jul 2025

Total Reduced Sulphur (TRS) - ppb

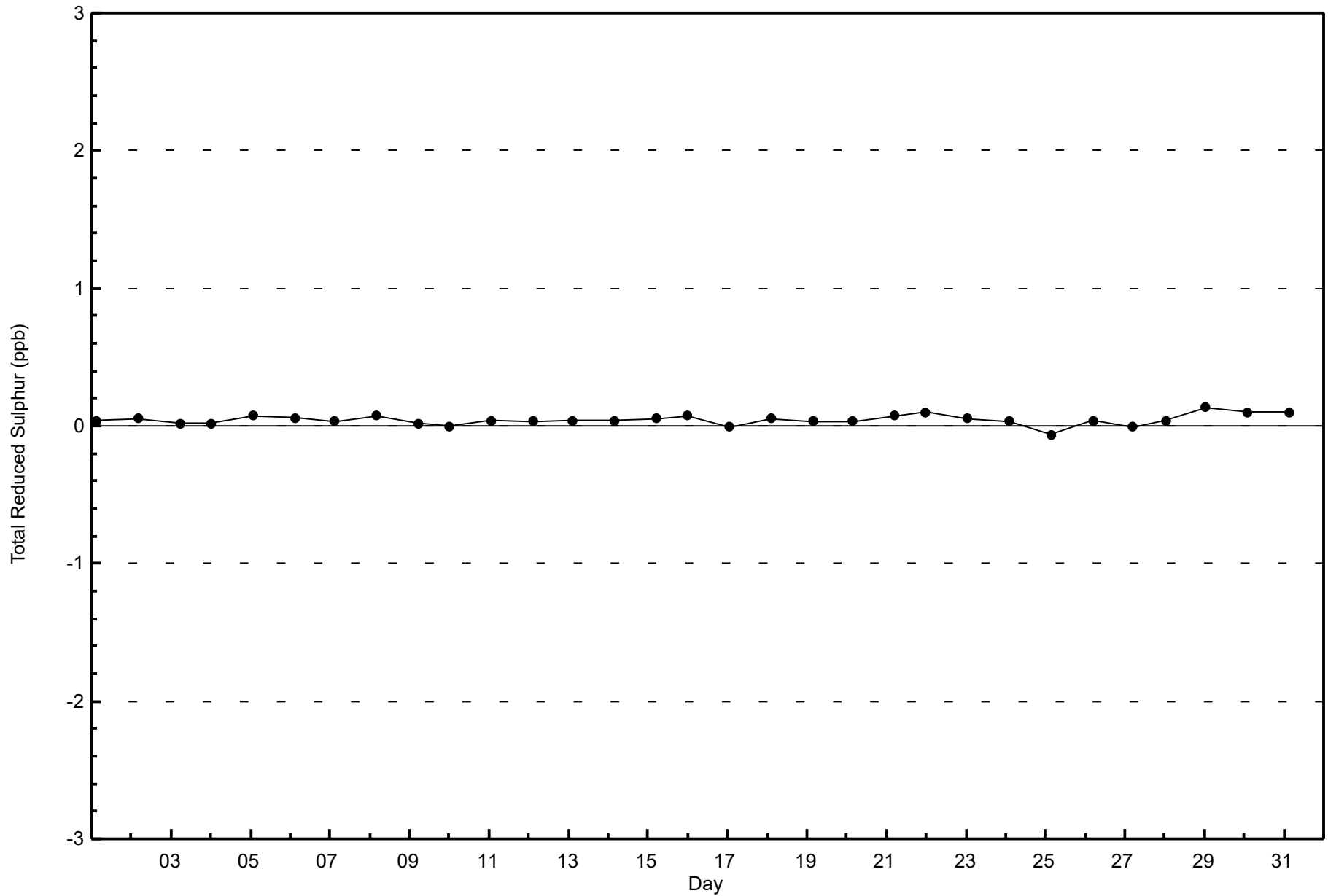
Stony Mountain





Wood Buffalo Environmental Association
Zero Responses

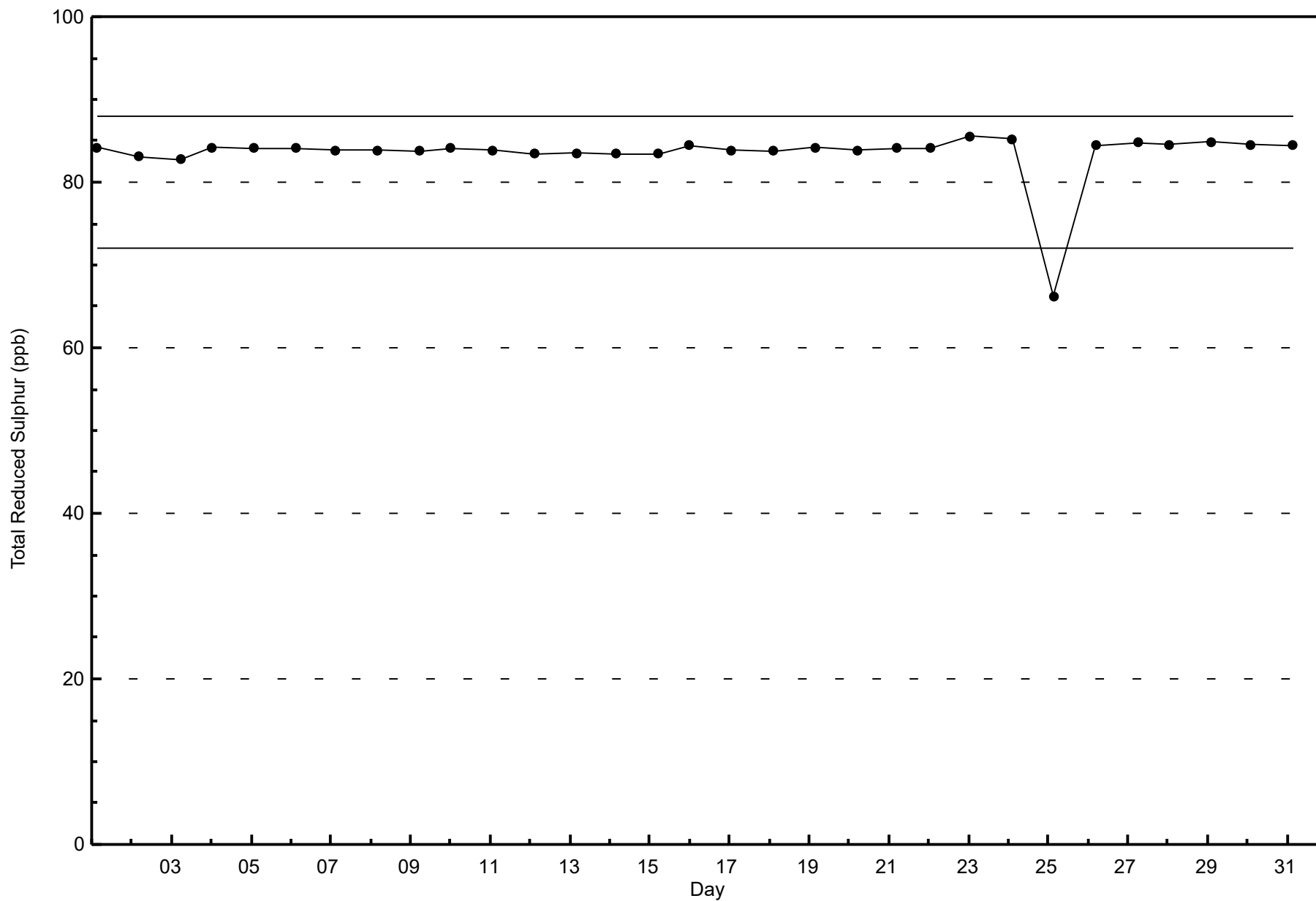
Total Reduced Sulphur (TRS) - ppb
Stony Mountain - July 2025





Wood Buffalo Environmental Association
Span Responses

Total Reduced Sulphur (TRS) - ppb
Stony Mountain - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Total Hydrocarbons (THC) - ppm

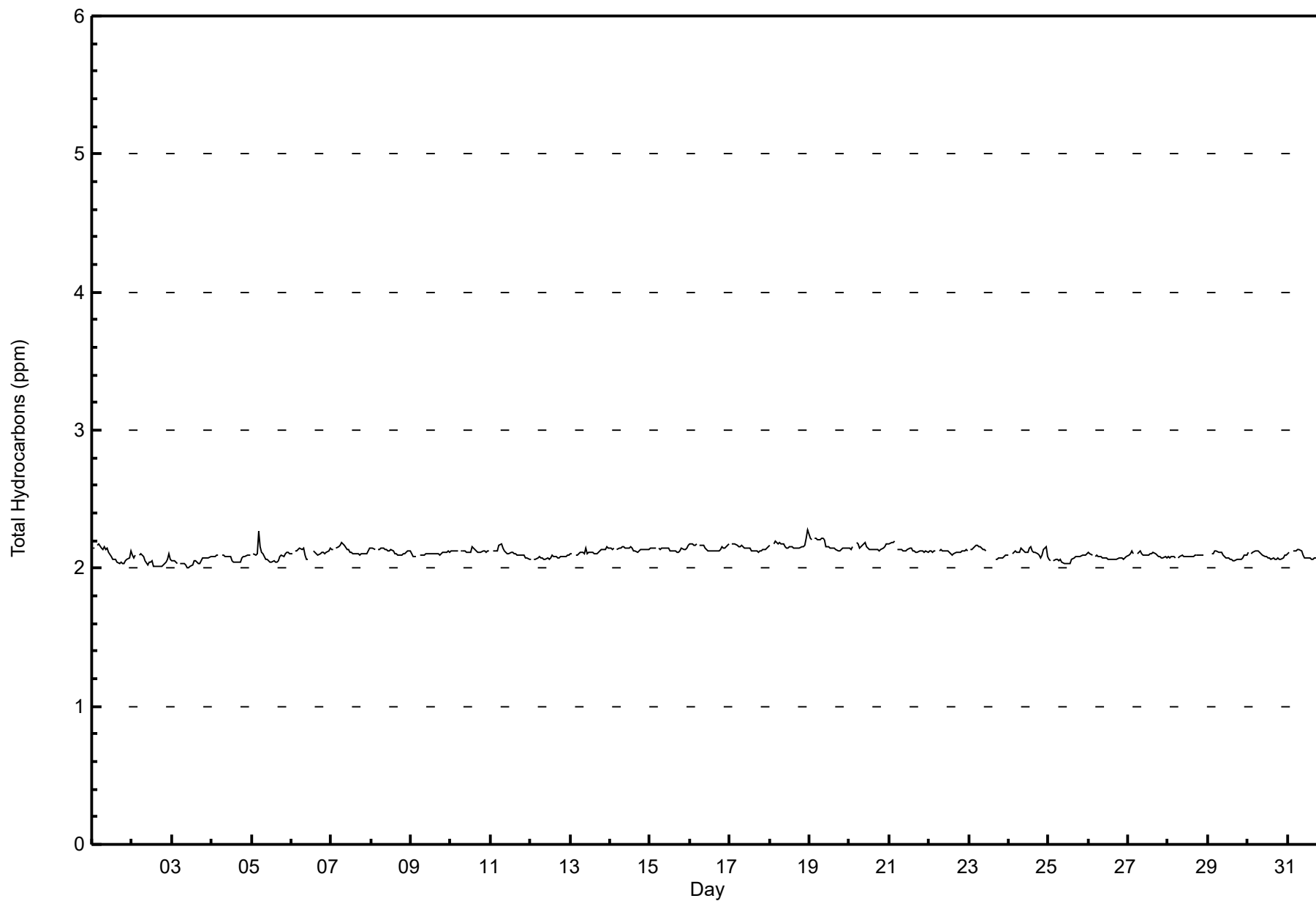
Stony Mountain - July 2025

Maximum Value: 2.3 ppm on Jul 19 00:00																		Maximum Daily Average: 2.2 ppm on Jul 19																		Hours in Service: 744	
Minimum Value: 2.0 ppm on Jul 3 11:00																		Minimum Daily Average: 2.0 ppm on Jul 3																		Hours of Data: 703	
Maximum Diurnal Average: 2.1 ppm at hour 5																		Minimum Diurnal Average: 2.1 ppm at hour 18																		Hours of Missing Data: 41	
Monthly Average: 2.11 ppm																		Percentiles: P ₁ = 2.0 P ₁₀ = 2.1 Q ₁ = 2.1 Median = 2.1 Q ₃ = 2.1 P ₉₀ = 2.2 P ₉₉ = 2.2																		Hours of Calibration: 35	
																																				Percent Operational Time: 99.2	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum											
1-Jul	2.1	2.1	Z	2.2	2.2	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	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-Jul	2.1	2.1	2.1	Z	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	2.1	2.1	2.1	2.1	2.1	2.1								
3-Jul	2.1	2.1	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	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1									
4-Jul	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	2.0	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									
5-Jul	Z	2.1	2.1	2.1	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.1	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	2.3									
6-Jul	2.1	Z	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	2.1	2.2	2.1	2.2									
7-Jul	2.1	2.1	Z	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	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2									
8-Jul	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									
9-Jul	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									
10-Jul	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	2.2	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									
11-Jul	Z	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	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2									
12-Jul	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-Jul	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	2.2	2.1	2.1	2.2									
14-Jul	2.1	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	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2									
15-Jul	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	2.2									
16-Jul	2.2	2.2	2.2	2.2	2.2	Z	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	2.1	2.1	2.2	2.2	2.1	2.2	2.2									
17-Jul	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	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2									
18-Jul	2.2	Z	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.3	2.2	2.3	2.2									
19-Jul	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	2.1	2.1	2.2	2.1	2.2	2.2	2.2									
20-Jul	2.1	2.1	2.2	Z	2.2	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	2.2	2.2	2.2	2.2	2.2	2.2	2.2									
21-Jul	2.2	2.2	2.2	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									
22-Jul	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									
23-Jul	Z	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	C	C	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	2.2									
24-Jul	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	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.2	2.1									
25-Jul	2.1	2.1	Z	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	2.1	2.1	2.1									
26-Jul	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									
27-Jul	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									
28-Jul	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	PF	PF	2.1	2.1									
29-Jul	PF	PF	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	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-Jul	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-Jul	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																																					
M - Maintenance																																					
PF - Power Failure																																					



Wood Buffalo Environmental Association
Hourly Averages

Total Hydrocarbons (THC) - ppm
Stony Mountain - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Hydrocarbons (THC) - ppm
Stony Mountain - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	46	6.54	6.54
2.1 - 3.0	657	93.46	100.00
3.1 - 10.0	0	0.00	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 703

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Total Hydrocarbons (THC) - ppm
Stony Mountain - July 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	2	0	2	5	3	0	1	2	2	2	1	7	5	9	5	0	46
2.1 - 3.0	36	20	8	4	8	9	15	37	43	96	100	56	68	78	45	34	657
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	20	10	9	11	9	16	39	45	98	101	63	73	87	50	34	703

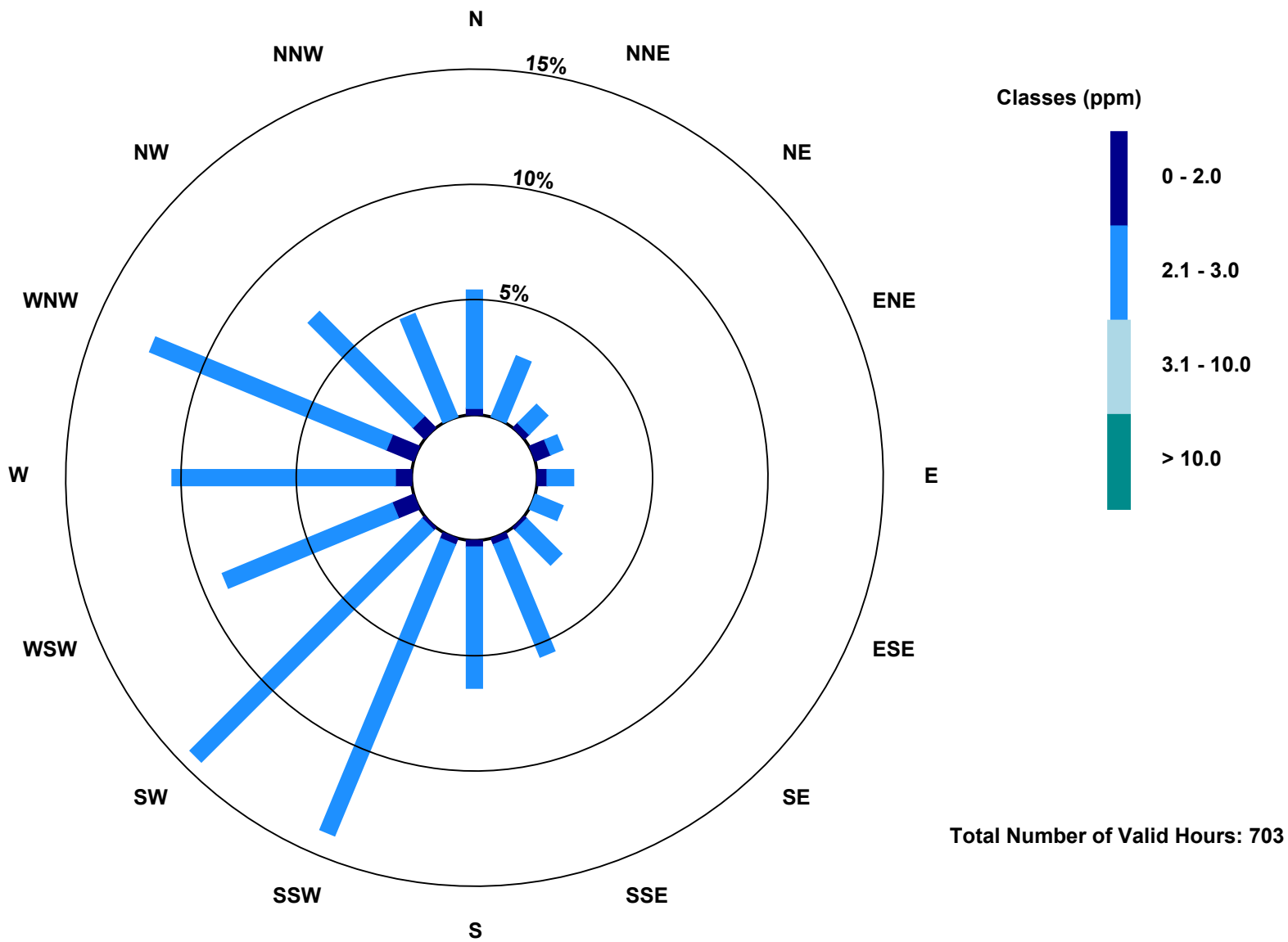
Total Number of Valid Hours: 703

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

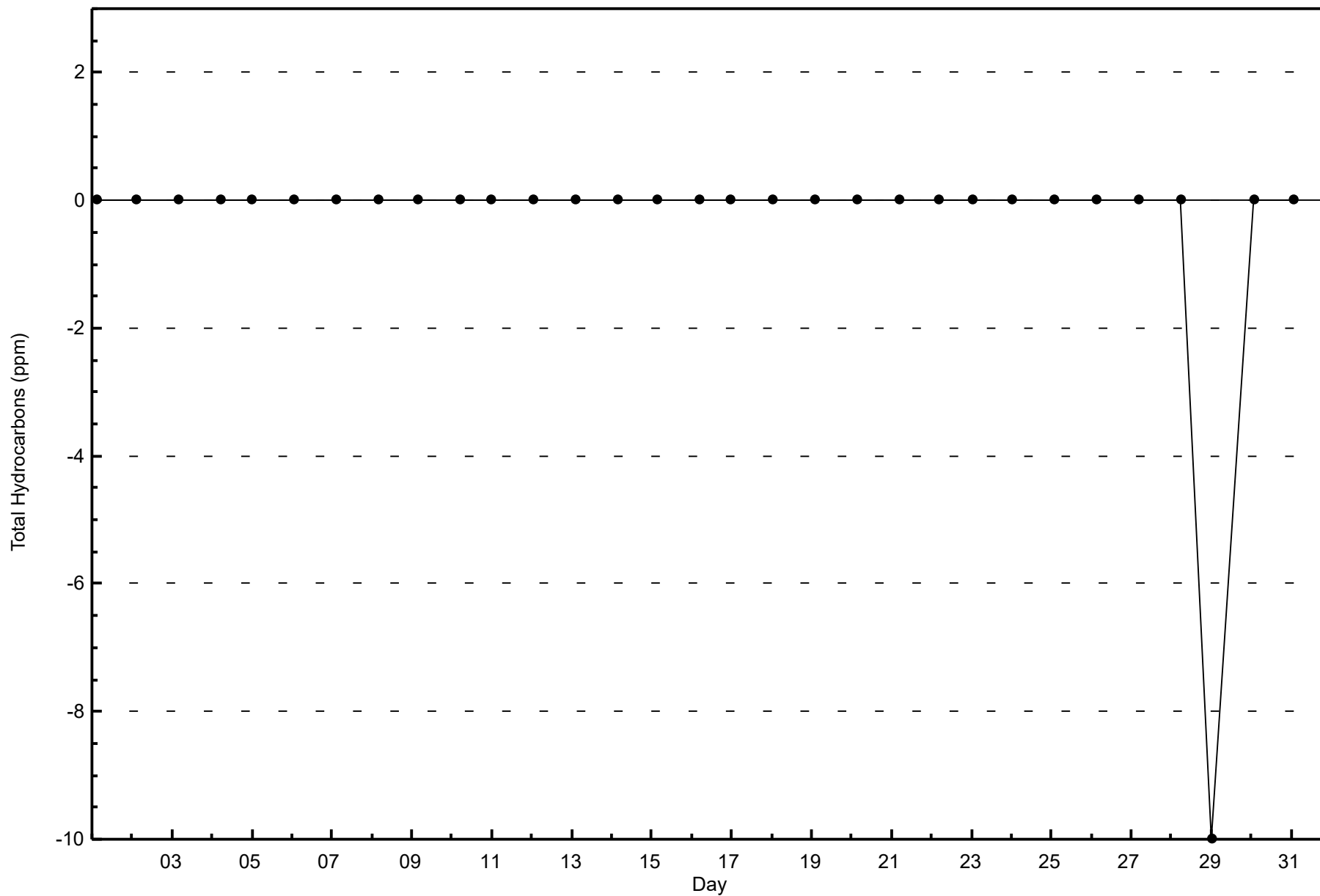
Total Hydrocarbons (THC) - ppm
Stony Mountain





Wood Buffalo Environmental Association
Zero Responses

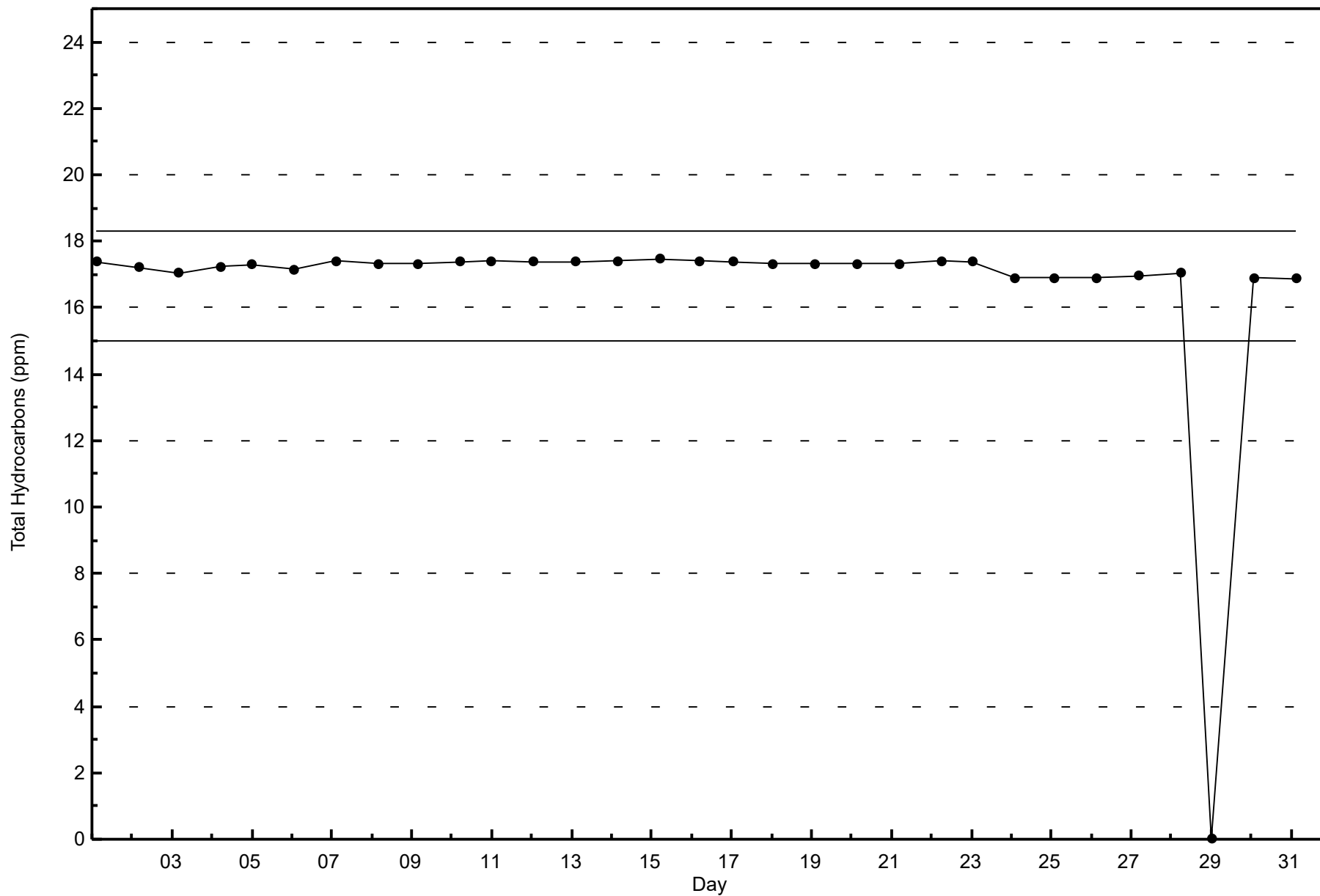
Total Hydrocarbons (THC) - ppm
Stony Mountain - July 2025





Wood Buffalo Environmental Association
Span Responses

Total Hydrocarbons (THC) - ppm
Stony Mountain - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Non Methane Hydrocarbons (NMHC) - ppm

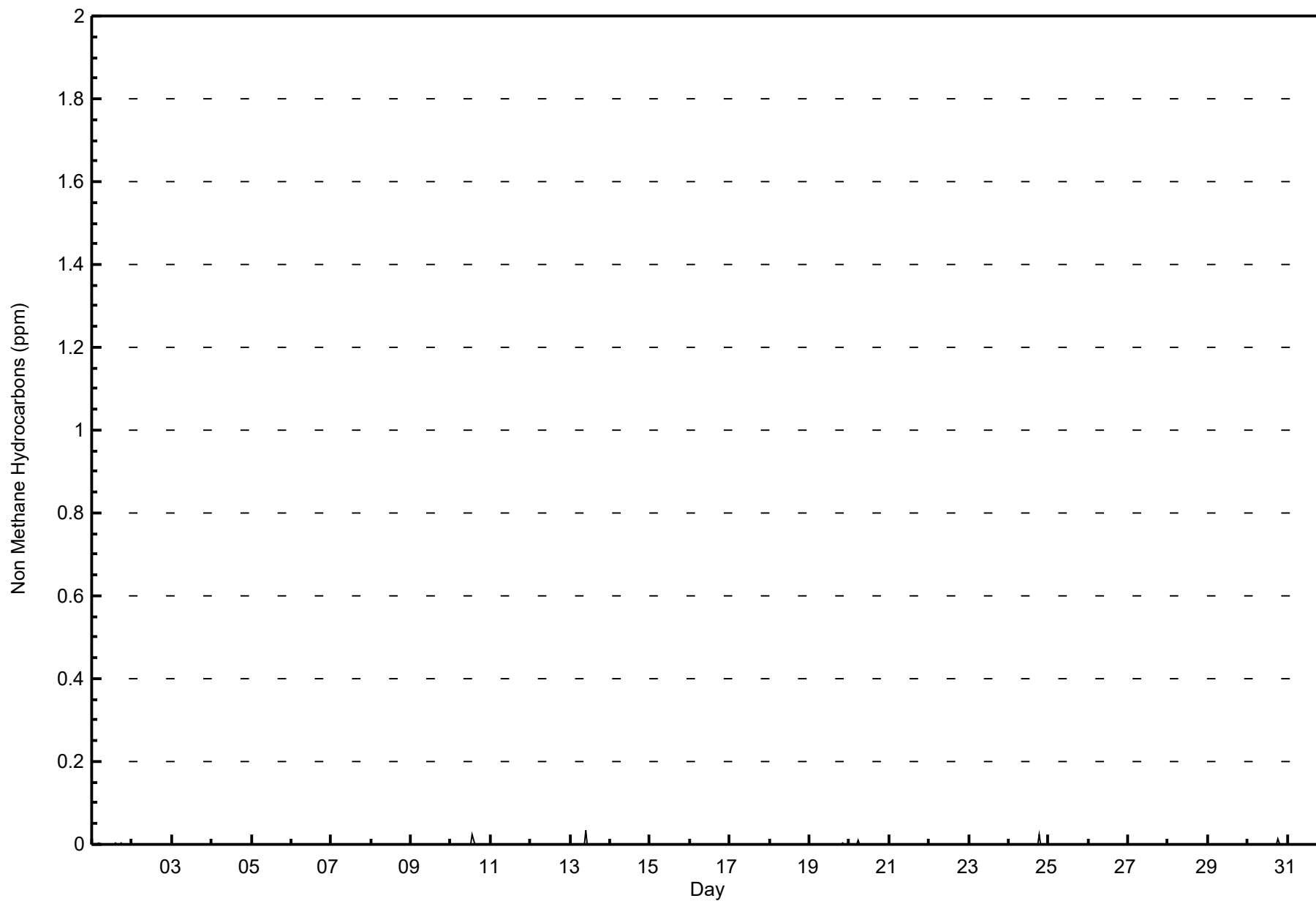
Stony Mountain - July 2025

Maximum Value: 0.034 ppm on Jul 13 10:00																			Maximum Daily Average: 0.001 ppm on Jul 13										Hours in Service: 744	
Minimum Value: 0.000 ppm on Jul 1 01:00																			Minimum Daily Average: 0.000 ppm on Jul 3										Hours of Data: 703	
Maximum Diurnal Average: 0.001 ppm at hour 19																			Minimum Diurnal Average: 0.000 ppm at hour 2										Hours of Missing Data: 41	
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: 35	
																			Percent Operational Time: 99.2											
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-Jul	0.000	0.000	Z	0.000	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.002	0.000	0.000	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000				
2-Jul	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	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					
3-Jul	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					
4-Jul	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					
5-Jul	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					
6-Jul	0.000	Z	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					
7-Jul	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					
8-Jul	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					
9-Jul	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					
10-Jul	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	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					
11-Jul	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					
12-Jul	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					
13-Jul	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.034	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					
14-Jul	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					
15-Jul	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					
16-Jul	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					
17-Jul	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					
18-Jul	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					
19-Jul	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	0.004	0.000	0.000	0.000					
20-Jul	0.000	0.000	0.000	Z	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	0.000	0.000	0.000	0.000	0.000	0.000	0.000					
21-Jul	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					
22-Jul	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					
23-Jul	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	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					
24-Jul	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	0.025	0.000	0.000	0.000	0.000	0.000					
25-Jul	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					
26-Jul	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					
27-Jul	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					
28-Jul	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	PF	PF	0.000					
29-Jul	PF	PF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	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-Jul	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	0.014	0.003	0.000	0.000	0.000	0.000					
31-Jul	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 0.001 0.000 0.000 0.000 0.001 0.000 0.000 0.000 0.000 0.001 0.000 0.000 0.000 0.000 0.000																								Diurnal Average						
0.000 0.000 0.000 0.000 0.003 0.010 0.000 0.000 0.000 0.000 0.034 0.000 0.000 0.002 0.023 0.002 0.000 0.000 0.003 0.025 0.003 0.004 0.000 0.000 0.000																								Diurnal Maximum						
Z - zerospan		C - Calibration				M - Maintenance				PF - Power Failure																				



Wood Buffalo Environmental Association
Hourly Averages

Non Methane Hydrocarbons (NMHC) - ppm
Stony Mountain - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Non Methane Hydrocarbons (NMHC) - ppm
Stony Mountain - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 0.005	698	99.29	99.29
0.006 - 0.05	5	0.71	100.00
0.06 - 0.1	0	0.00	100.00
> 0.1	0	0.00	100.00

Total Number of Valid Hours: 703

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Non Methane Hydrocarbons (NMHC) - ppm
Stony Mountain - July 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	38	20	10	9	11	9	16	39	45	97	100	63	72	86	49	34	698
0.006 - 0.05	0	0	0	0	0	0	0	0	0	1	1	0	1	1	1	0	5
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	38	20	10	9	11	9	16	39	45	98	101	63	73	87	50	34	703

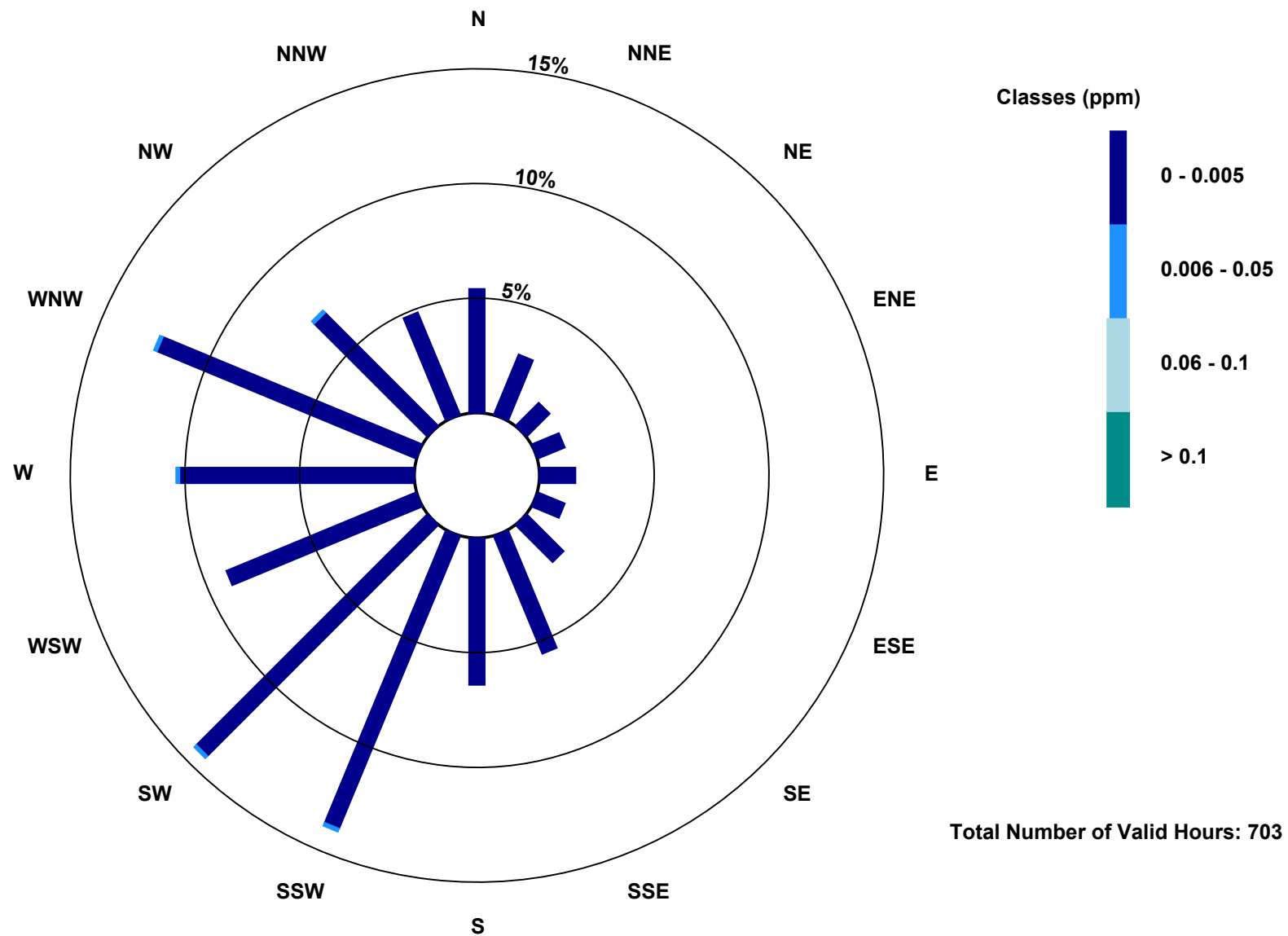
Total Number of Valid Hours: 703

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Non Methane Hydrocarbons (NMHC) - ppm
Stony Mountain



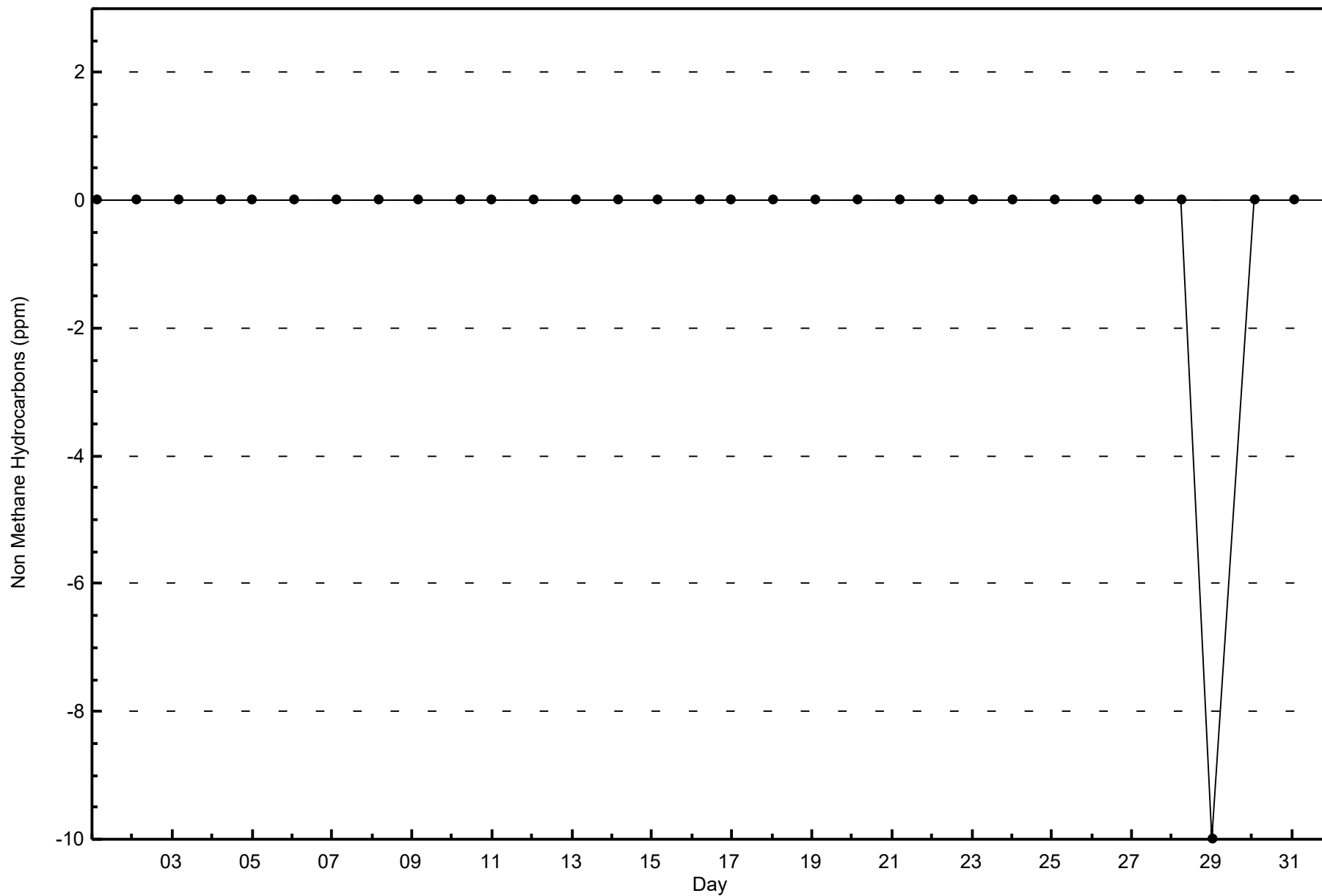


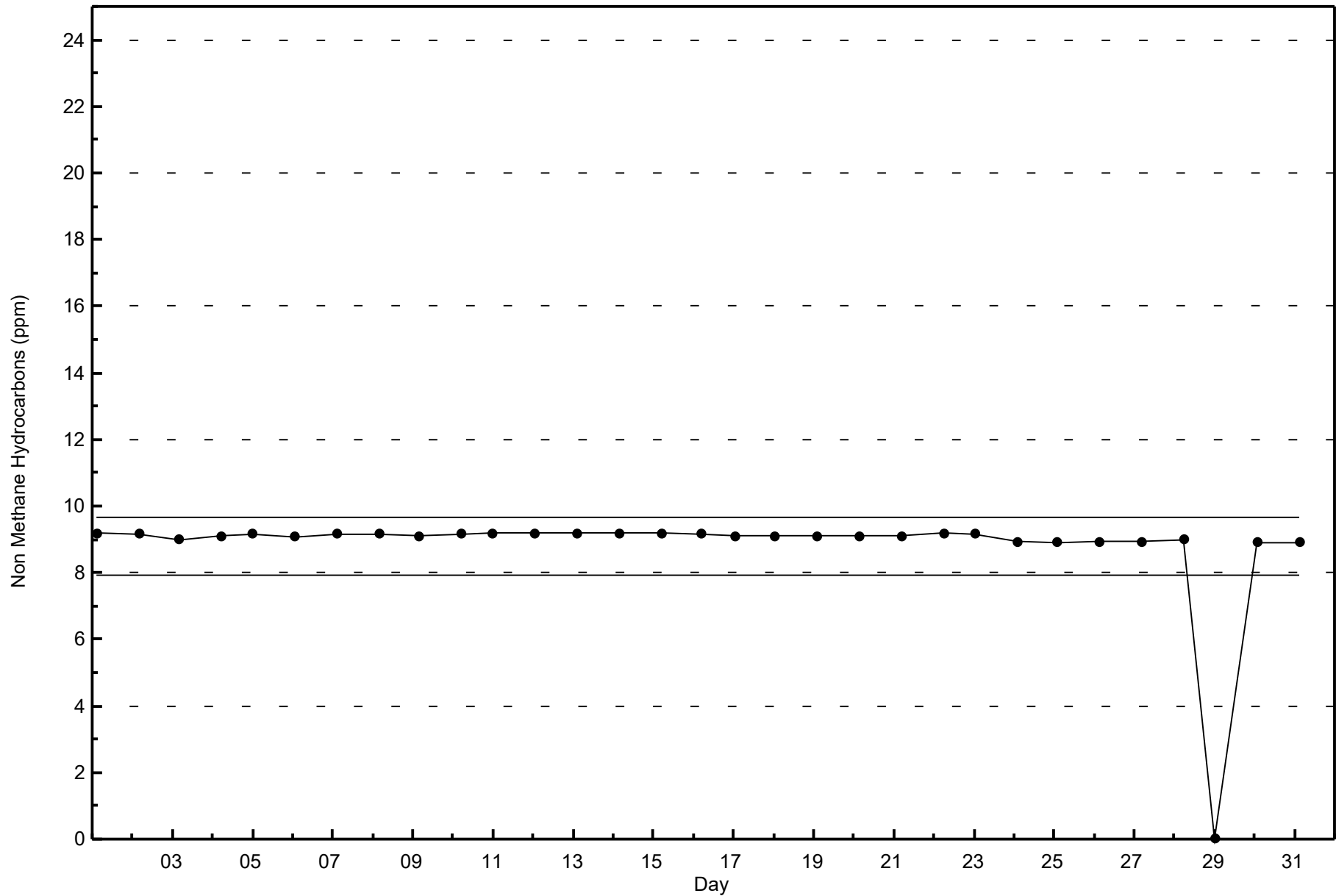
Wood Buffalo Environmental Association

Zero Responses

Non Methane Hydrocarbons (NMHC) - ppm

Stony Mountain - July 2025







Wood Buffalo Environmental Association

Summary of Hour Averages

Methane (CH₄) - ppm

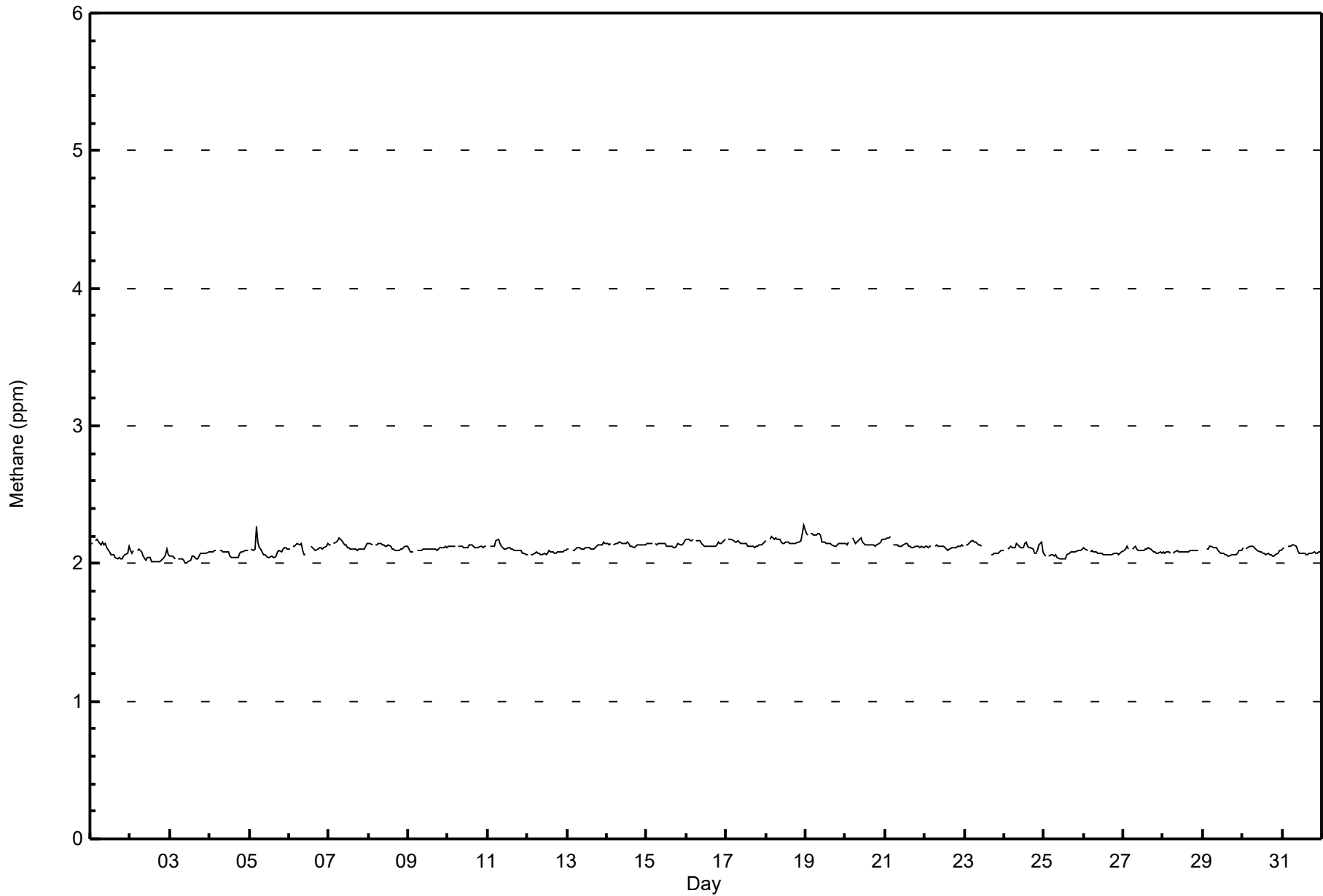
Stony Mountain - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																		Hours in Service: 744								
Maximum Value: 2.3 ppm on Jul 19 00:00 Maximum Daily Average: 2.2 ppm on Jul 19																		Hours of Data: 703								
Minimum Value: 2.0 ppm on Jul 3 11:00 Minimum Daily Average: 2.0 ppm on Jul 3																		Hours of Missing Data: 41								
Maximum Diurnal Average: 2.1 ppm at hour 5 Minimum Diurnal Average: 2.1 ppm at hour 18																		Hours of Calibration: 35								
Monthly Average: 2.11 ppm Percentiles: P ₁ = 2.0 P ₁₀ = 2.1 Q ₁ = 2.1 Median = 2.1 Q ₃ = 2.1 P ₉₀ = 2.2 P ₉₉ = 2.2																		Percent Operational Time: 99.2								
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-Jul	2.1	2.1	Z	2.2	2.2	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1
2-Jul	2.1	2.1	2.1	Z	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	2.1	2.1	2.1	2.1
3-Jul	2.1	2.1	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	2.1	2.1	2.1	2.1	2.1	2.1	
4-Jul	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	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	
5-Jul	Z	2.1	2.1	2.1	2.3	2.2	2.1	2.1	2.1	2.1	2.1	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	
6-Jul	2.1	Z	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	2.2	2.1	
7-Jul	2.1	2.1	Z	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	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	
8-Jul	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	
9-Jul	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	
10-Jul	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	
11-Jul	Z	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	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	
12-Jul	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	
13-Jul	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	2.2	2.1	2.1	
14-Jul	2.1	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	2.1	2.1	2.1	2.1	2.1	2.1	2.1	
15-Jul	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	2.2	2.1	
16-Jul	2.2	2.2	2.2	2.2	2.2	Z	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	2.1	2.1	2.2	2.2	
17-Jul	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	2.1	2.1	2.1	2.1	2.2	2.1	
18-Jul	2.2	Z	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.3	
19-Jul	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	2.1	2.2	2.1	2.2	
20-Jul	2.1	2.1	2.2	Z	2.2	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	2.2	2.2	2.2	2.2	
21-Jul	2.2	2.2	2.2	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	
22-Jul	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	
23-Jul	Z	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	C	C	C	C	C	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	
24-Jul	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	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	
25-Jul	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	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	
26-Jul	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	
27-Jul	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	
28-Jul	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	PF	PF	2.1	
29-Jul	PF	PF	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	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-Jul	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	
31-Jul	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																								Diurnal Average		
2.2																								Diurnal Maximum		
Z - zerospan C - Calibration M - Maintenance PF - Power Failure																										



Wood Buffalo Environmental Association
Hourly Averages

Methane (CH₄) - ppm
Stony Mountain - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Methane (CH₄) - ppm
Stony Mountain - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	46	6.54	6.54
2.1 - 3.0	657	93.46	100.00
3.1 - 10.0	0	0.00	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 703

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Methane (CH₄) - ppm
Stony Mountain - July 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	2	0	2	5	3	0	1	2	2	2	1	7	5	9	5	0	46
2.1 - 3.0	36	20	8	4	8	9	15	37	43	96	100	56	68	78	45	34	657
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	20	10	9	11	9	16	39	45	98	101	63	73	87	50	34	703

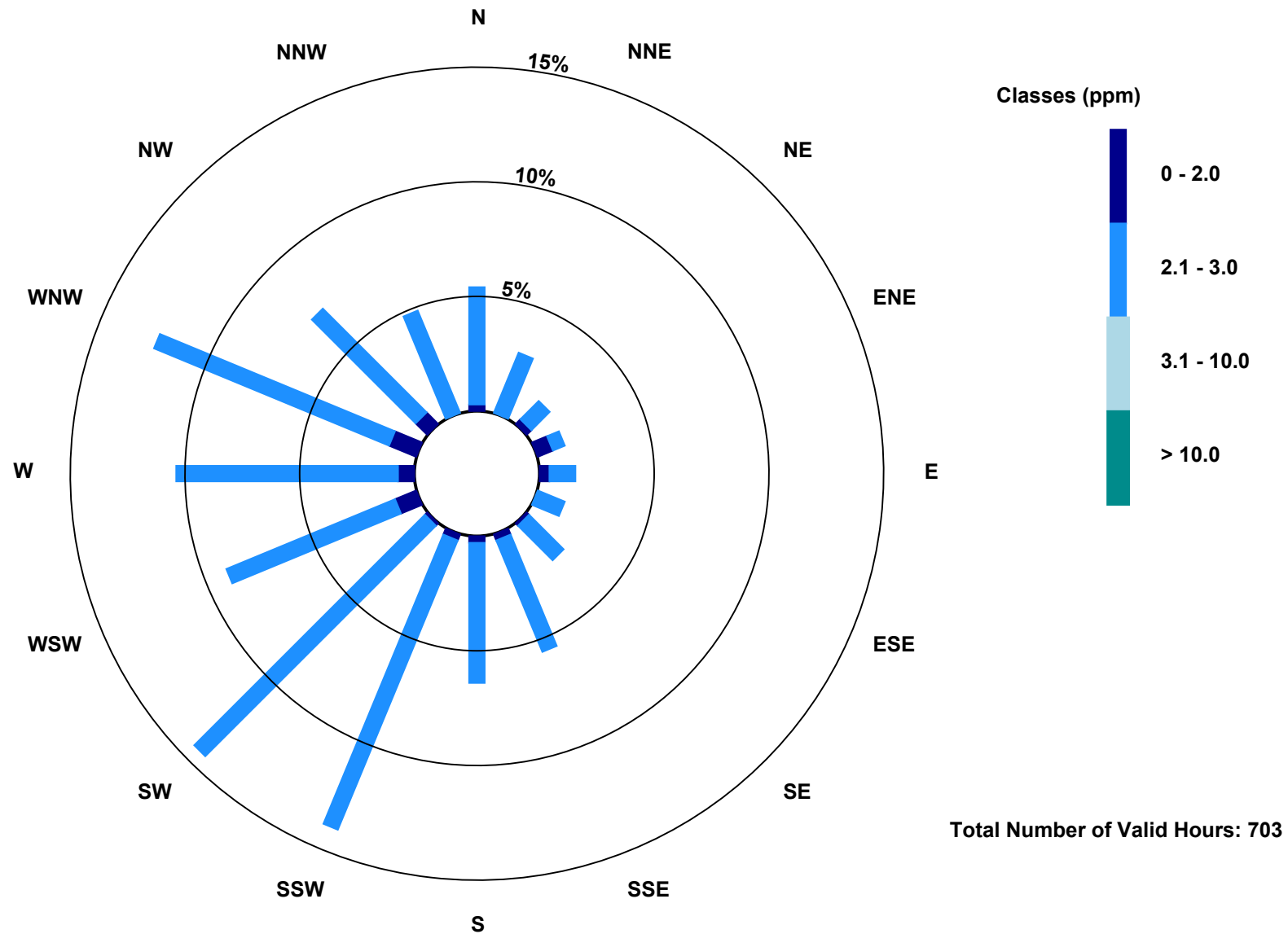
Total Number of Valid Hours: 703

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

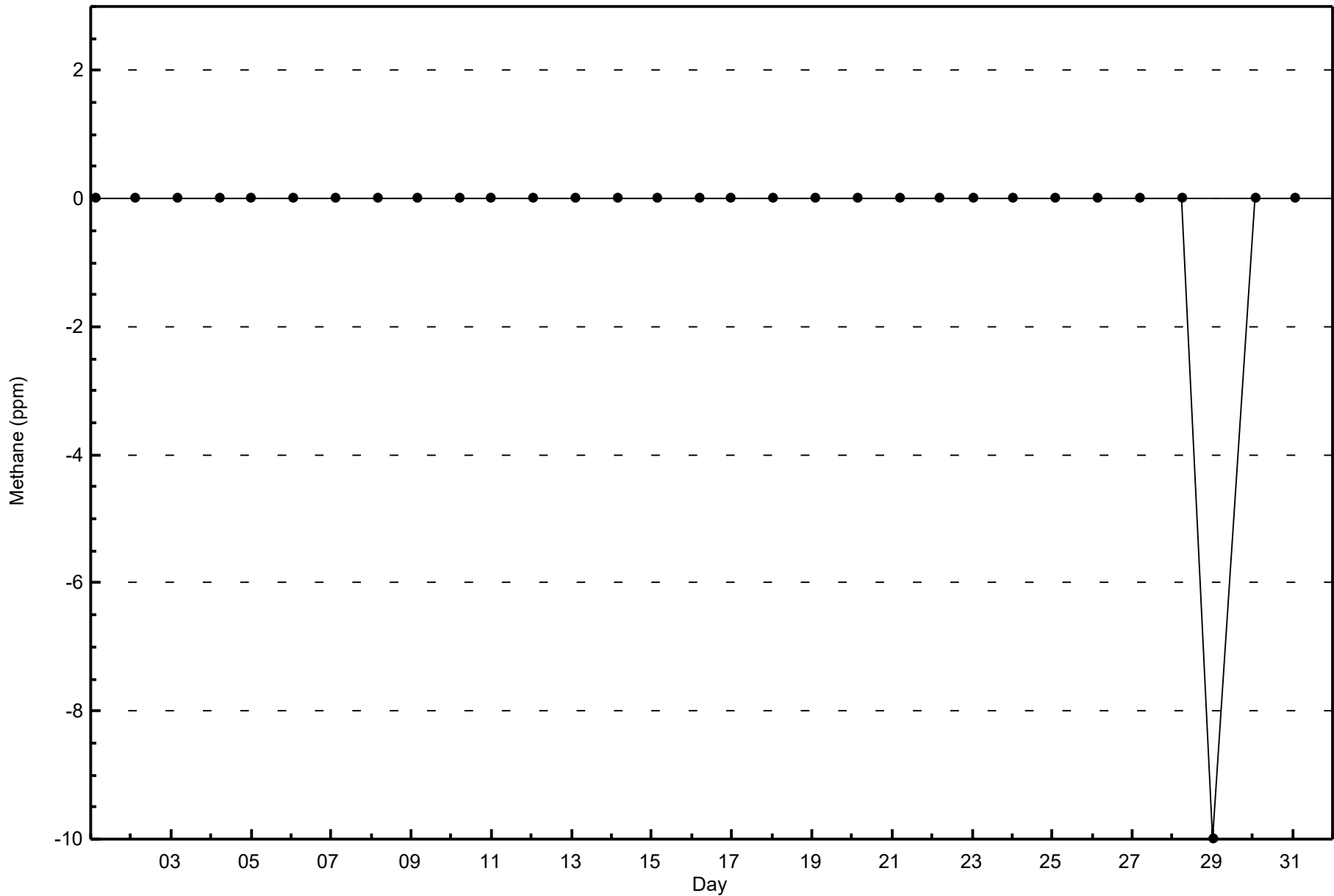
Methane (CH₄) - ppm
Stony Mountain





Wood Buffalo Environmental Association
Zero Responses

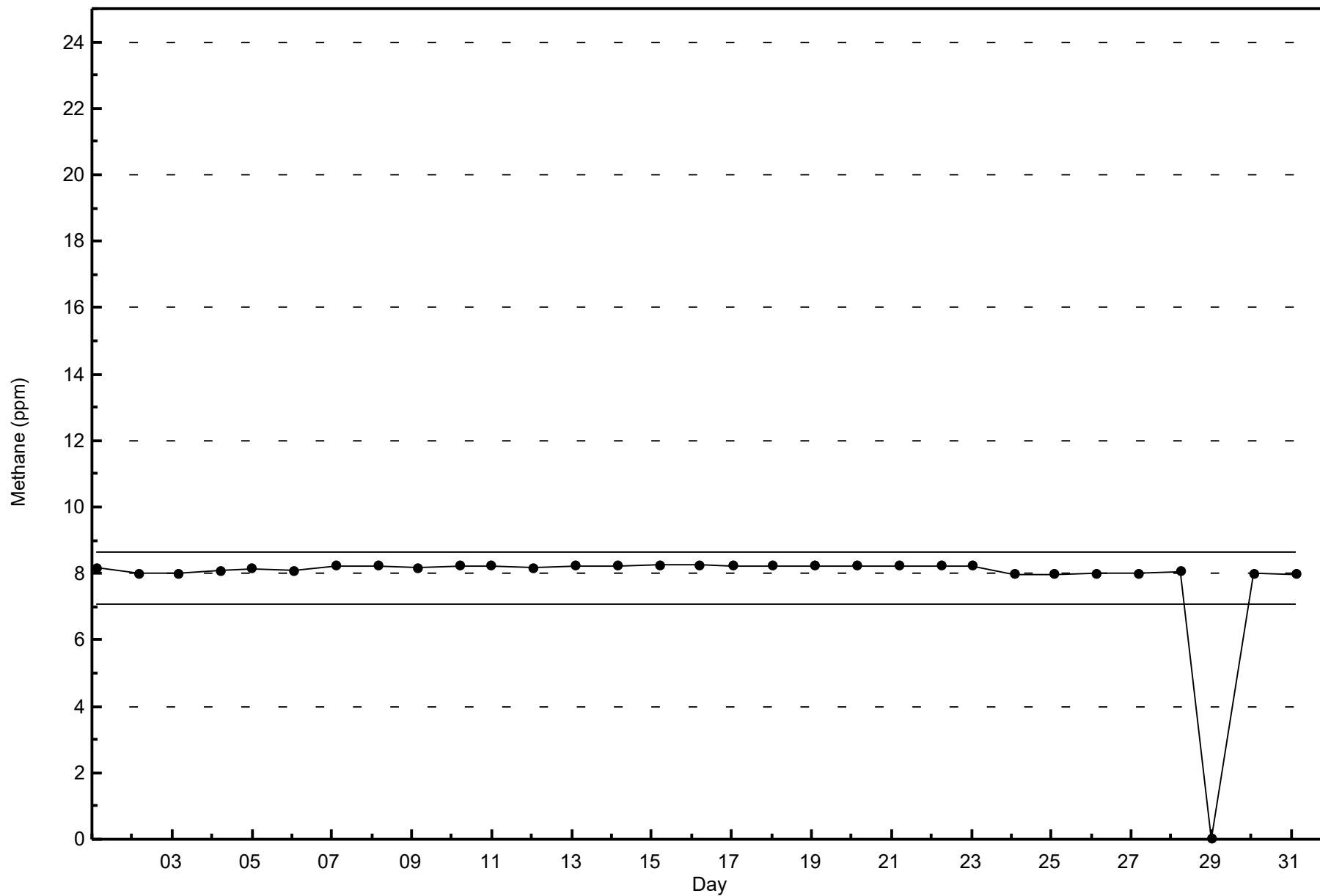
Methane (CH₄) - ppm
Stony Mountain - July 2025





Wood Buffalo Environmental Association
Span Responses

Methane (CH_4) - ppm
Stony Mountain - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitric Oxide (NO) - ppb

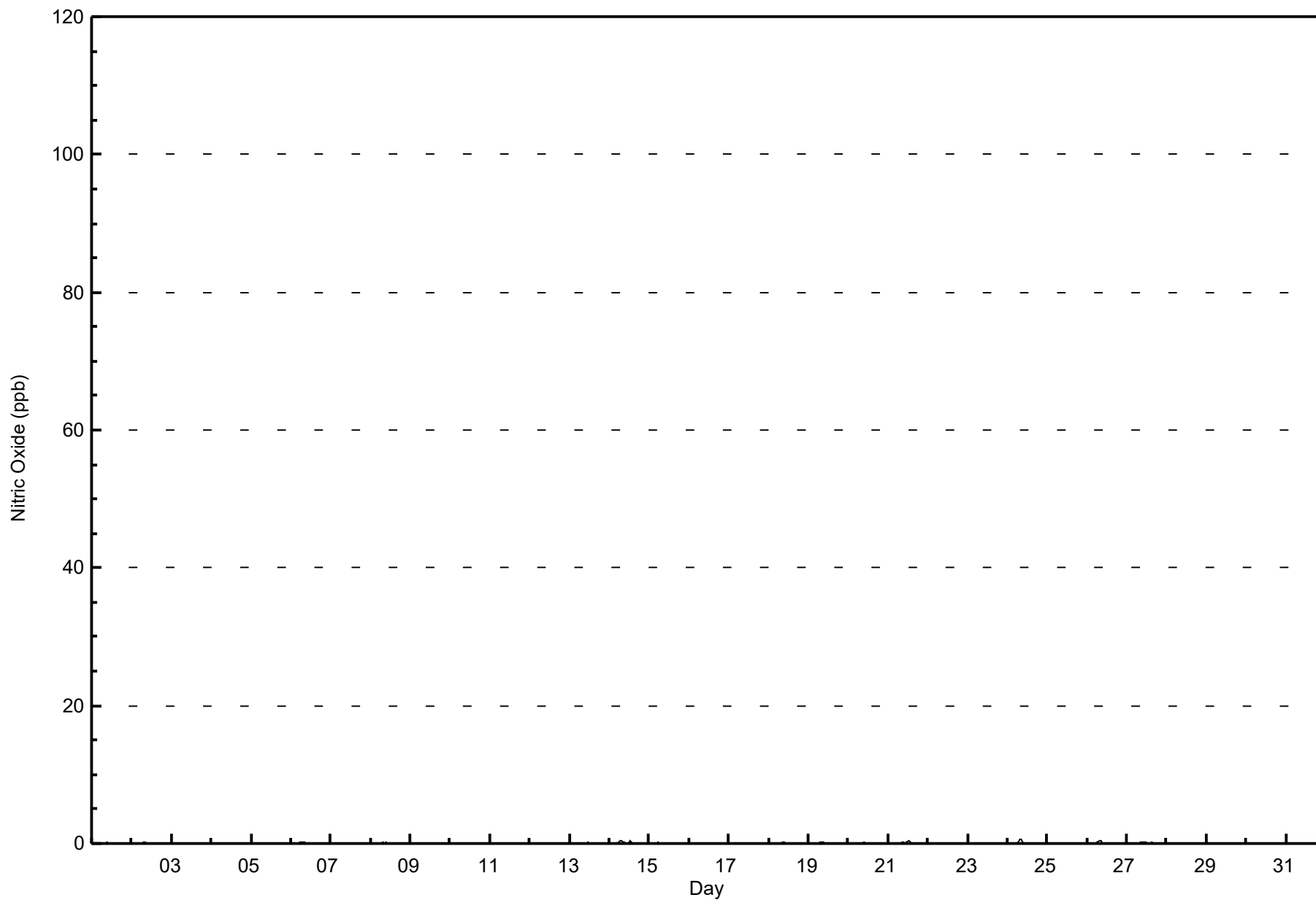
Stony Mountain - July 2025

Maximum Value: 0.6 ppb on Jul 24 08:00																	Maximum Daily Average: 0.1 ppb on Jul 24										Hours in Service: 744	
Minimum Value: 0.0 ppb on Jul 1 12:00																	Minimum Daily Average: 0.0 ppb on Jul 11										Hours of Data: 703	
Maximum Diurnal Average: 0.1 ppb at hour 8																	Minimum Diurnal Average: 0.0 ppb at hour 18										Hours of Missing Data: 41	
Monthly Average: 0.02 ppb																	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: 37	
																	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-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.1	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		
2-Jul	Z	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
3-Jul	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		
4-Jul	0.0	0.0	Z	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		
5-Jul	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	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
6-Jul	0.0	0.0	0.0	0.0	Z	0.1	0.2	0.2	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
7-Jul	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		
8-Jul	Z	0.1	0.0	0.0	0.0	0.1	0.1	0.2	0.1	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		
9-Jul	0.0	Z	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		
10-Jul	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		
11-Jul	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		
12-Jul	0.0	0.0	0.0	0.0	Z	0.0	0.1	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		
13-Jul	0.0	0.0	0.0	0.0	0.0	Z	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	0.0	0.0		
14-Jul	Z	0.0	0.0	0.0	0.0	0.2	0.3	0.3	0.2	0.2	0.1	0.0	0.3	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		
15-Jul	0.0	Z	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
16-Jul	0.0	0.0	Z	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	0.0	0.0	0.0	0.0	0.0		
17-Jul	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		
18-Jul	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.1	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	0.0	0.0	0.0	0.0	0.0		
19-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
20-Jul	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	0.0		
21-Jul	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.3	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		
22-Jul	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-Jul	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		
24-Jul	0.0	0.0	0.0	0.0	Z	0.1	0.2	0.6	0.6	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.1		
25-Jul	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		
26-Jul	Z	0.0	0.0	0.0	0.0	0.1	0.2	0.3	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	0.1		
27-Jul	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.2	0.1	0.1	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1		
28-Jul	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	PF	PF	0.0		
29-Jul	PF	PF	0.0	Z	0.0	0.0	0.0	0.0	0.1	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	0.1		
30-Jul	0.0	0.0	0.0	0.0	Z	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		
31-Jul	0.0	0.0	0.0	0.0	0.0	Z	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	0.1		
0.0																									Diurnal Average			
0.0																									Diurnal Maximum			
Z - zerospan C - Calibration PF - Power Failure																												



Wood Buffalo Environmental Association
Hourly Averages

Nitric Oxide (NO) - ppb
Stony Mountain - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitric Oxide (NO) - ppb
Stony Mountain - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	703	100.00	100.00
21 - 40	0	0.00	100.00
41 - 60	0	0.00	100.00
61 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 703

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitric Oxide (NO) - ppb
Stony Mountain - July 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	37	21	10	9	11	9	17	39	44	99	106	60	70	89	48	34	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	37	21	10	9	11	9	17	39	44	99	106	60	70	89	48	34	703

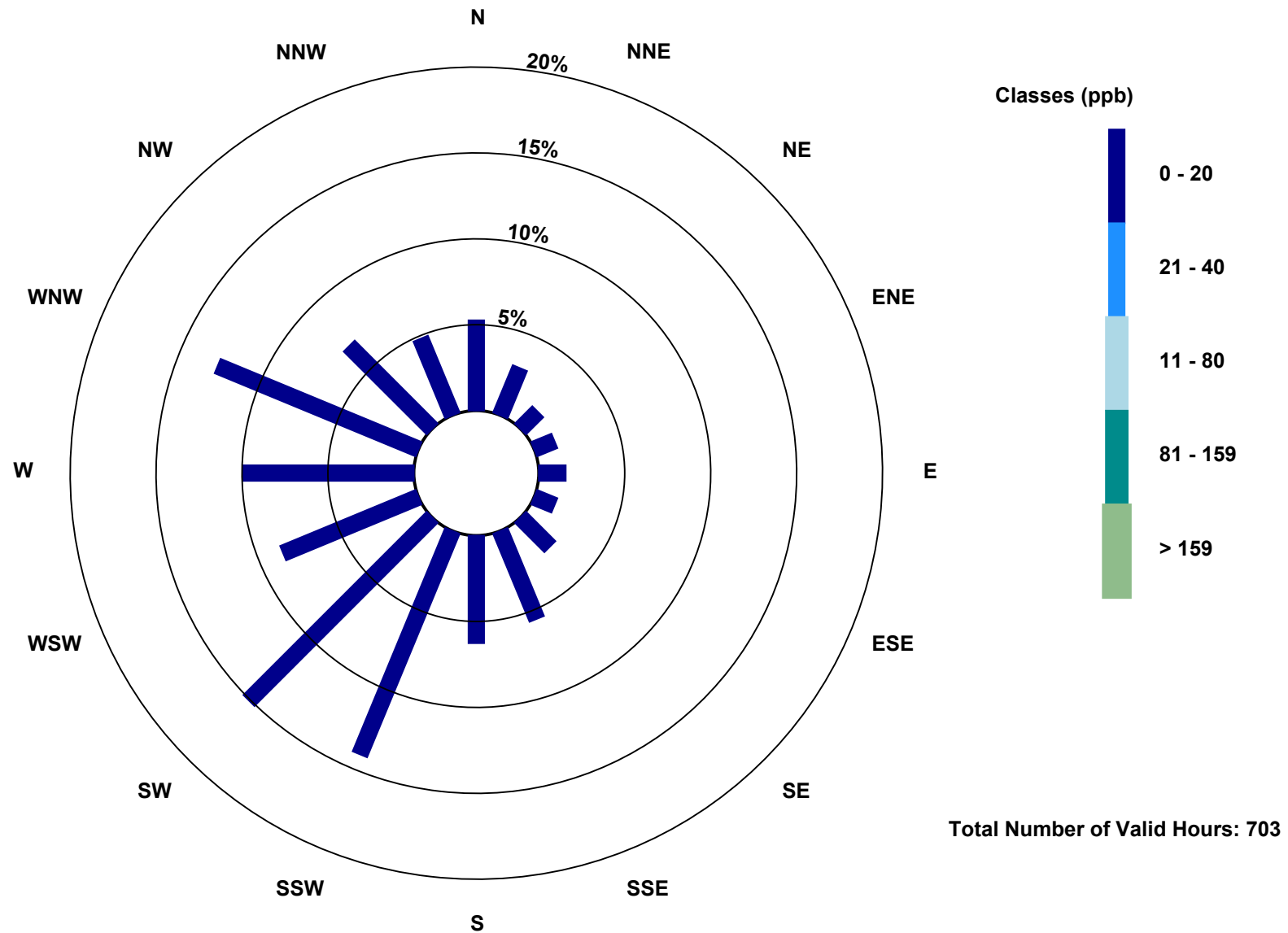
Total Number of Valid Hours: 703

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

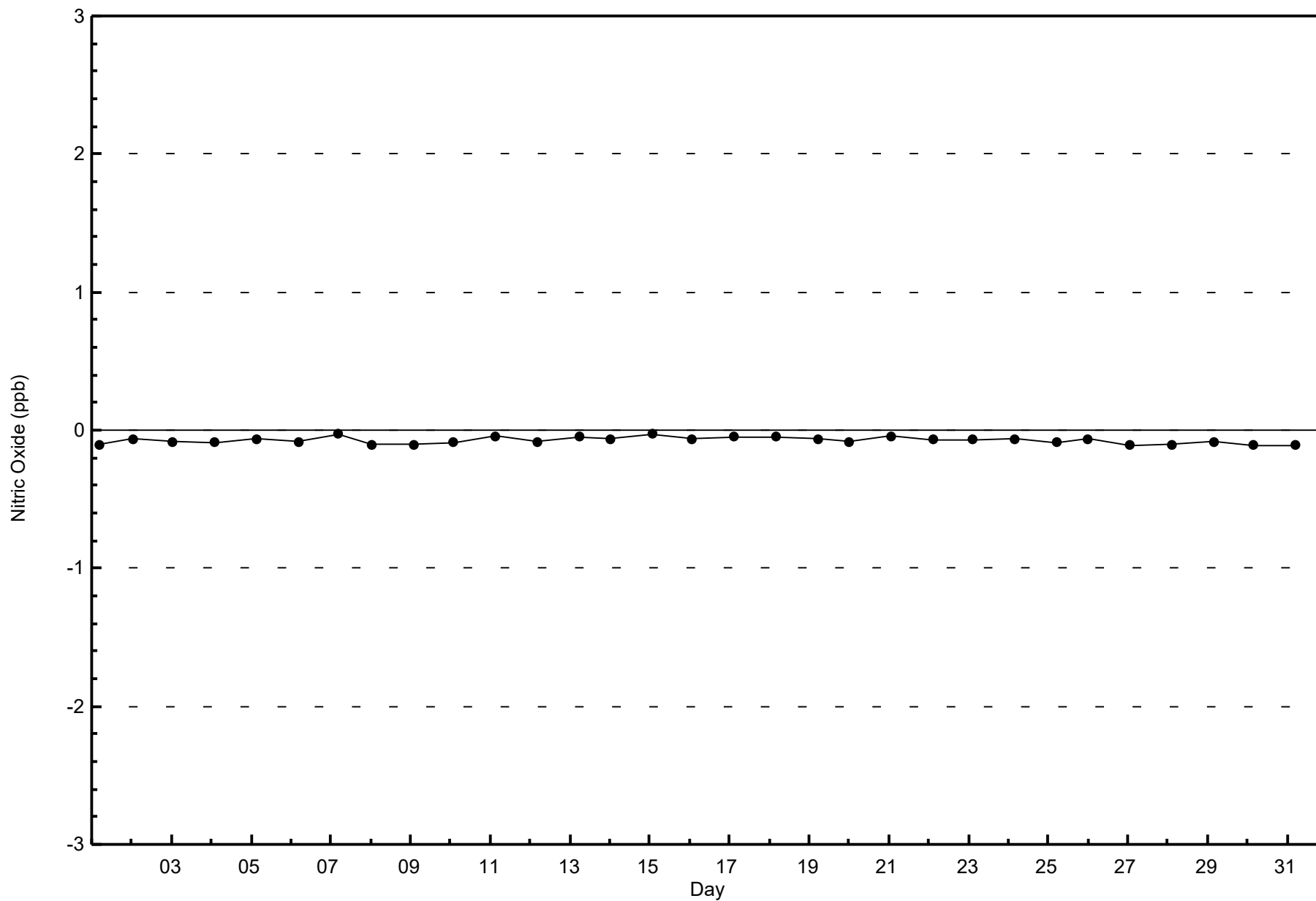
Nitric Oxide (NO) - ppb
Stony Mountain





Wood Buffalo Environmental Association
Zero Responses

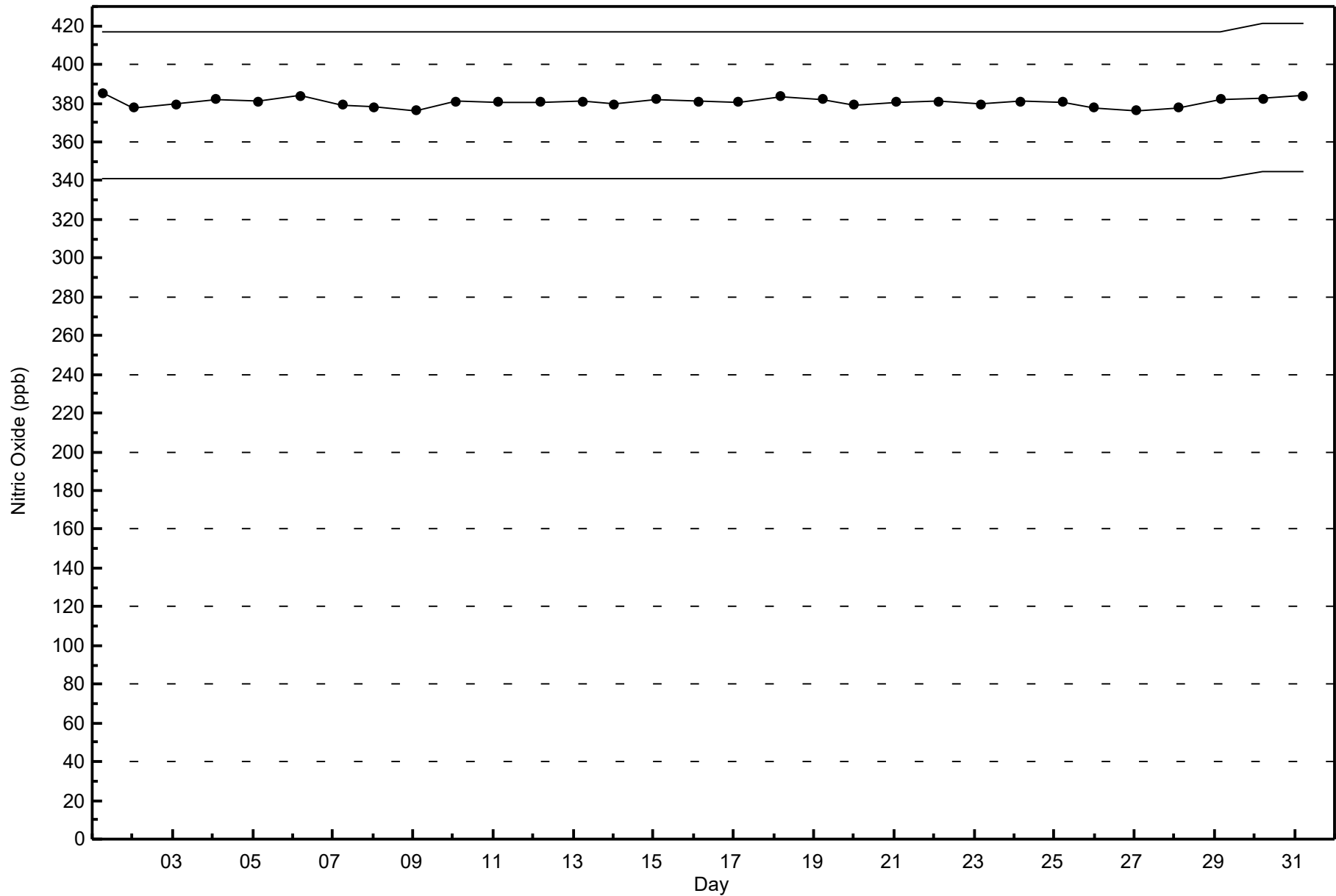
Nitric Oxide (NO) - ppb
Stony Mountain - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitric Oxide (NO) - ppb
Stony Mountain - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Dioxide (NO₂) - ppb

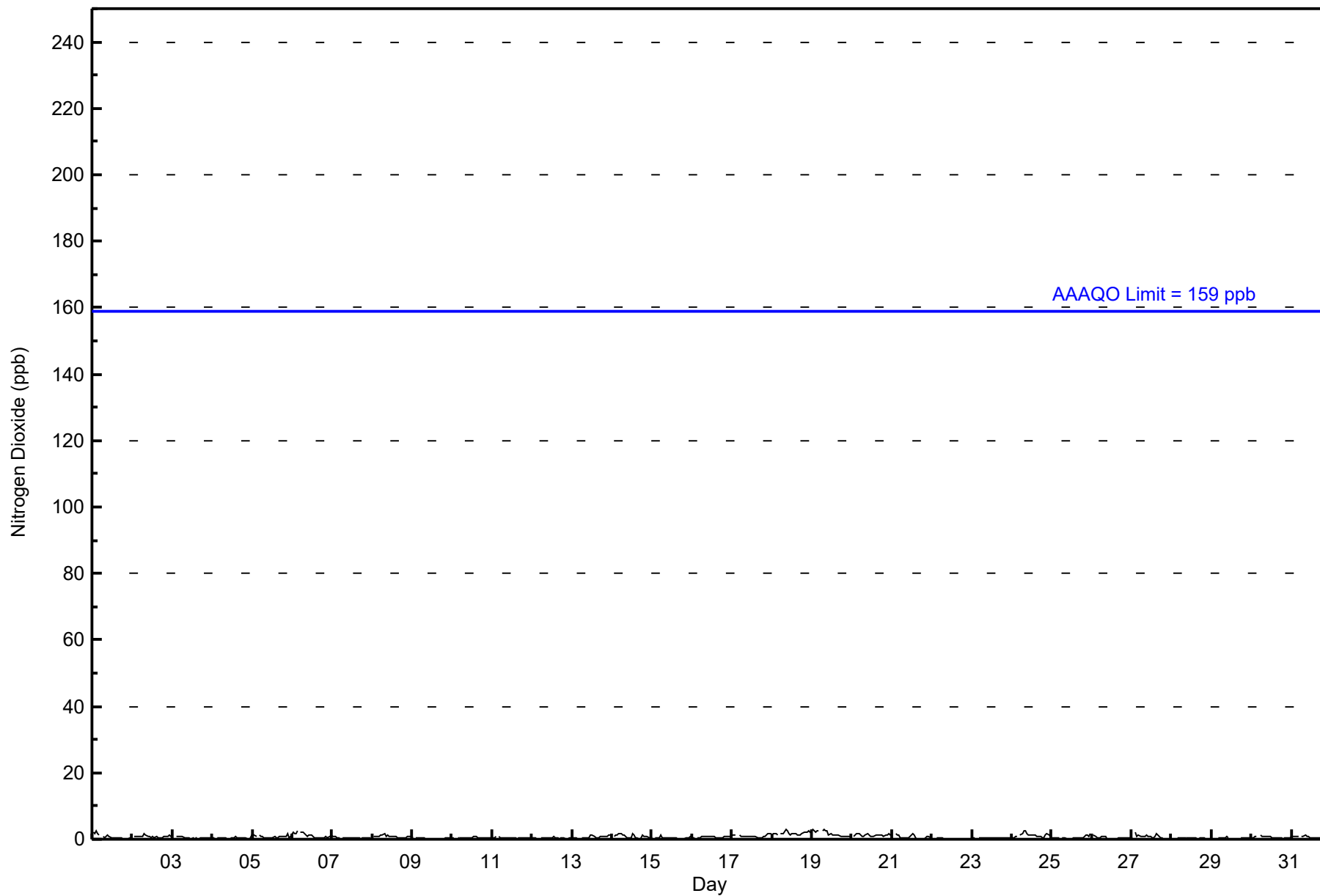
Stony Mountain - July 2025

Number of Exceedences (AAAQO): Maximum Value: 3.0 ppb on Jul 19 01:00																			1-hr: 0 24-hr: 0 Maximum Daily Average: 1.8 ppb on Jul 18							Hours in Service: 744 Hours of Data: 703	
Minimum Value: 0.1 ppb on Jul 9 13:00 Maximum Diurnal Average: 1.0 ppb at hour 3 Monthly Average: 0.70 ppb																			Minimum Daily Average: 0.2 ppb on Jul 22 Minimum Diurnal Average: 0.5 ppb at hour 18 Percentiles: P ₁ = 0.1 P ₁₀ = 0.2 Q ₁ = 0.3 Median = 0.5 Q ₃ = 0.9 P ₉₀ = 1.4 P ₉₉ = 2.5							Hours of Missing Data: 41 Hours of Calibration: 37 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-Jul	2.0	1.8	2.5	1.7	1.1	Z	1.0	0.6	0.7	1.1	0.9	0.5	0.4	0.4	0.5	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.8	2.5	
2-Jul	Z	0.9	0.8	0.8	0.9	0.9	1.0	1.6	1.3	0.7	0.7	0.6	0.7	0.5	0.7	0.6	0.6	0.6	0.6	0.7	0.7	1.0	1.1	0.9	0.8	1.6	
3-Jul	0.9	Z	1.0	0.8	0.8	0.7	0.7	0.5	0.4	0.4	0.3	0.2	0.3	0.2	0.3	0.2	0.2	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.4	1.0	
4-Jul	0.4	0.4	Z	0.6	0.6	0.6	0.6	0.5	0.3	0.2	0.2	0.3	0.3	0.4	0.7	0.5	0.4	0.4	0.3	0.5	0.3	0.2	0.2	0.8	0.4	0.8	
5-Jul	1.6	1.1	1.0	Z	1.1	0.9	0.7	0.6	0.6	0.5	0.3	0.3	0.4	0.9	0.4	0.5	0.7	0.8	0.9	0.8	0.9	1.7	0.5	0.9	0.8	1.7	
6-Jul	2.1	1.6	1.6	2.4	Z	2.2	2.2	1.5	1.2	0.9	1.1	1.2	0.7	0.6	0.5	0.4	0.4	0.4	0.4	0.4	0.8	0.6	0.8	1.1	1.1	2.4	
7-Jul	0.9	0.9	0.8	0.5	0.5	Z	0.6	0.6	0.6	0.5	0.4	0.4	0.4	0.4	0.5	0.4	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.9		
8-Jul	Z	0.7	0.7	0.7	0.9	1.3	1.2	1.7	1.0	1.2	0.9	0.9	1.0	1.0	0.7	0.6	0.5	0.5	0.5	0.5	0.6	0.7	0.9	0.7	0.8	1.7	
9-Jul	0.6	Z	0.5	0.4	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.3	0.6	
10-Jul	0.4	0.5	Z	0.6	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.5	0.7	0.8	0.6	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.4	0.5	0.8	
11-Jul	0.4	0.5	0.7	Z	1.0	0.6	0.6	0.6	0.5	0.3	0.3	0.4	0.4	0.3	0.3	0.2	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.4	1.0	
12-Jul	0.3	0.3	0.3	0.2	Z	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.7	0.4	0.3	0.2	0.3	0.4	0.3	0.2	0.2	0.3	0.3	0.3	0.7	
13-Jul	0.3	0.5	0.3	0.2	0.2	Z	0.4	0.4	0.3	0.3	0.6	1.3	1.2	1.0	0.5	0.5	0.5	0.7	0.9	0.9	0.9	1.1	1.1	0.7	1.3		
14-Jul	Z	0.8	1.1	1.2	1.5	1.5	1.3	1.1	0.7	0.6	0.6	0.5	1.7	1.1	0.4	0.3	0.2	0.5	1.1	0.7	0.7	0.8	0.6	0.5	0.8	1.7	
15-Jul	0.4	Z	0.5	0.4	0.4	1.4	0.5	0.4	0.5	0.5	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.7	0.4	1.4	
16-Jul	0.6	0.5	Z	0.5	0.5	0.6	0.7	0.9	0.9	0.7	0.7	0.8	0.8	0.7	0.6	0.6	0.6	0.6	0.6	0.9	0.8	0.7	0.7	0.7	0.7	0.9	
17-Jul	1.4	1.3	1.4	Z	1.1	0.9	0.9	0.9	0.8	0.8	0.7	0.7	0.7	0.8	0.7	0.6	0.6	0.6	0.6	0.7	0.8	1.5	1.9	1.6	1.0	1.9	
18-Jul	1.3	1.7	1.9	1.3	Z	1.6	1.6	1.9	2.8	2.5	1.5	1.3	1.6	1.8	1.5	1.3	1.3	1.4	1.6	2.1	2.2	2.3	2.5	2.3	1.8	2.8	
19-Jul	3.0	2.6	2.2	2.4	2.5	Z	2.6	2.8	2.5	2.5	1.4	1.5	1.2	1.2	1.3	1.2	1.1	0.8	0.9	0.9	0.9	0.9	0.9	0.9	1.7	3.0	
20-Jul	Z	0.9	1.2	1.7	1.9	1.2	0.7	0.8	1.3	1.9	1.1	0.8	0.9	1.0	1.3	1.3	1.3	1.3	1.1	1.0	1.2	1.1	1.7	1.4	1.2	1.9	
21-Jul	1.3	Z	1.5	1.4	1.3	0.5	0.6	0.6	0.5	0.5	0.5	0.8	1.8	1.1	0.5	0.2	0.1	0.1	0.1	0.2	0.5	0.8	0.7	0.3	0.7	1.8	
22-Jul	0.2	0.2	Z	0.5	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.5	
23-Jul	0.5	0.4	0.4	Z	0.6	0.5	0.5	0.5	0.4	0.3	0.3	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.4	0.6	0.5	0.5	0.5	0.5	0.6	
24-Jul	0.5	0.6	0.8	1.0	Z	1.4	1.8	2.6	2.7	1.5	1.1	1.1	1.3	1.2	1.1	1.0	0.9	0.9	0.4	0.5	1.3	1.7	1.2	0.4	1.2	2.7	
25-Jul	0.4	0.3	0.3	0.3	0.4	Z	0.5	0.5	0.3	0.2	0.2	0.1	0.2	0.3	0.3	0.4	0.6	0.4	0.4	0.4	1.1	1.2	1.0	1.9	0.5	1.9	
26-Jul	Z	1.2	0.7	0.5	0.5	0.6	0.7	0.9	0.9	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	0.5	0.4	1.2	
27-Jul	0.6	Z	2.2	0.7	1.3	0.8	0.9	0.8	1.0	1.2	1.0	0.8	0.5	0.6	0.8	1.5	1.0	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.8	2.2	
28-Jul	0.2	0.2	Z	0.5	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	0.3	0.3	0.3	0.2	0.2	PF	PF	0.3	0.5	
29-Jul	PF	PF	0.3	Z	0.5	0.5	0.5	0.5	0.4	0.7	0.6	C	C	C	C	C	C	C	0.3	0.3	0.3	0.3	0.4	0.4	0.6	--	0.7
30-Jul	0.6	0.6	0.7	0.9	Z	1.1	1.0	1.0	1.0	0.8	0.7	0.7	0.6	0.5	0.4	0.4	0.3	0.3	0.3	0.2	0.3	0.4	0.5	0.6	0.6	1.1	
31-Jul	0.8	0.9	0.9	0.8	0.9	Z	0.9	0.8	1.1	0.9	0.7	0.5	0.4	0.4	0.4	0.3	0.4	0.4	0.5	0.6	0.7	1.1	1.5	1.2	0.7	1.5	
0.9 0.9 1.0 0.9 0.8 0.9 0.9 0.9 0.8 0.8 0.6 0.6 0.7 0.6 0.6 0.5 0.5 0.5 0.5 0.5 0.5 0.6 0.7 0.7 0.7 0.7 Diurnal Average																											
3.0 2.6 2.5 2.4 2.5 2.2 2.6 2.8 2.8 2.5 1.5 1.5 1.8 1.8 1.5 1.5 1.3 1.4 1.6 2.1 2.2 2.3 2.5 2.3 Diurnal Maximum																											
Z - zerospan C - Calibration PF - Power Failure																											
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb																											



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
Stony Mountain - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Stony Mountain - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	703	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: 703

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Stony Mountain - July 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	37	21	10	9	11	9	17	39	44	99	106	60	70	89	48	34	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	37	21	10	9	11	9	17	39	44	99	106	60	70	89	48	34	703

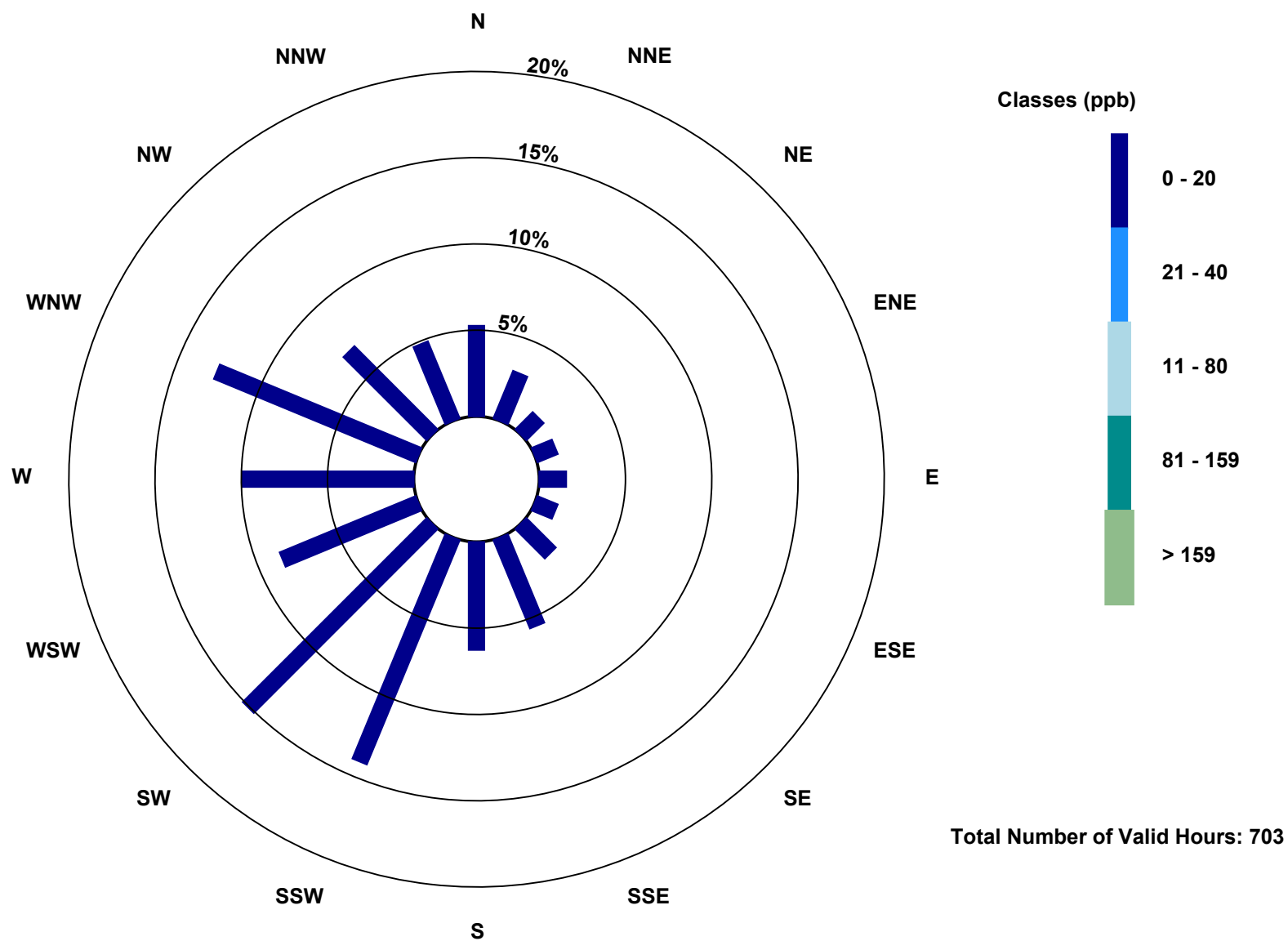
Total Number of Valid Hours: 703

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

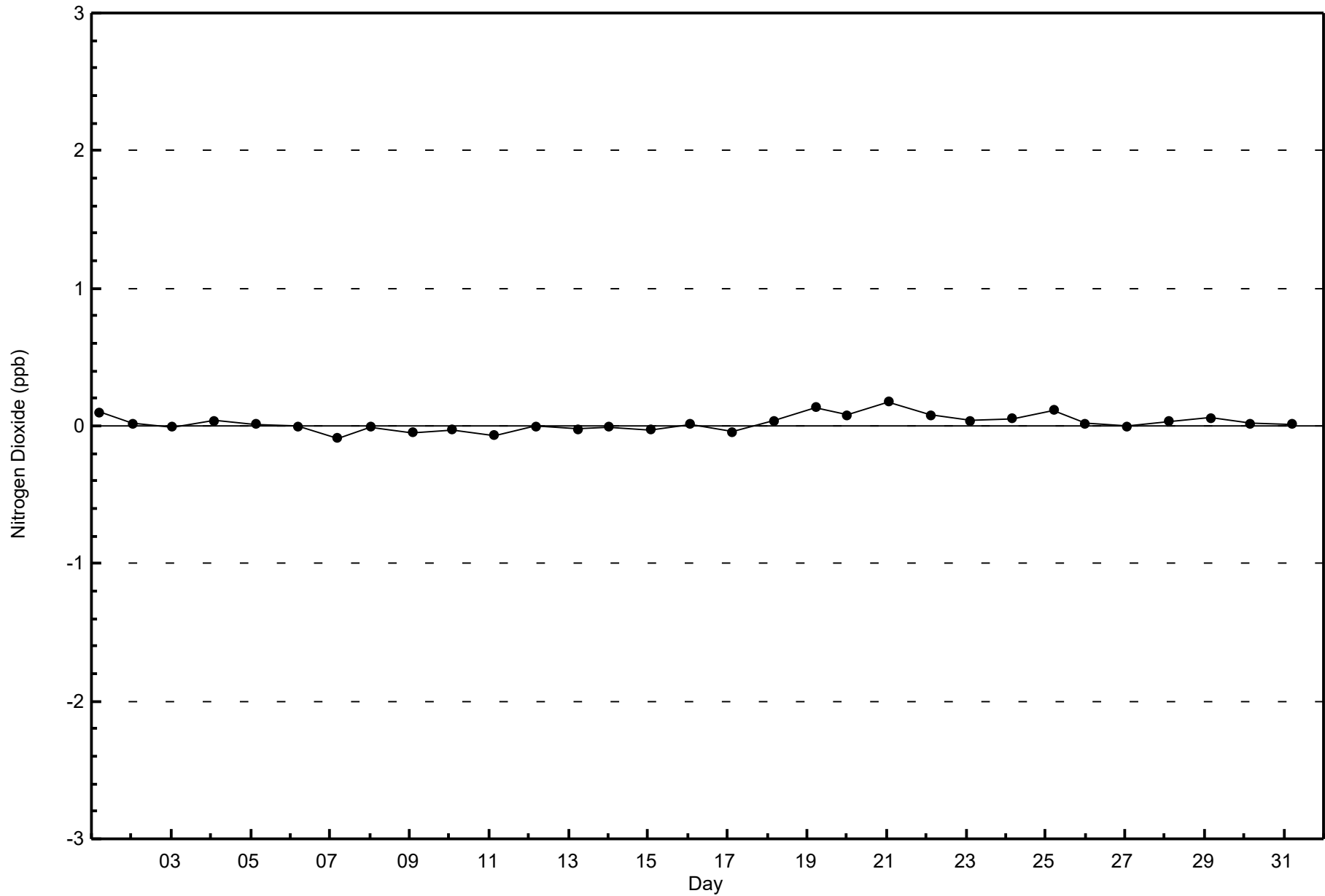
Nitrogen Dioxide (NO₂) - ppb
Stony Mountain





Wood Buffalo Environmental Association
Zero Responses

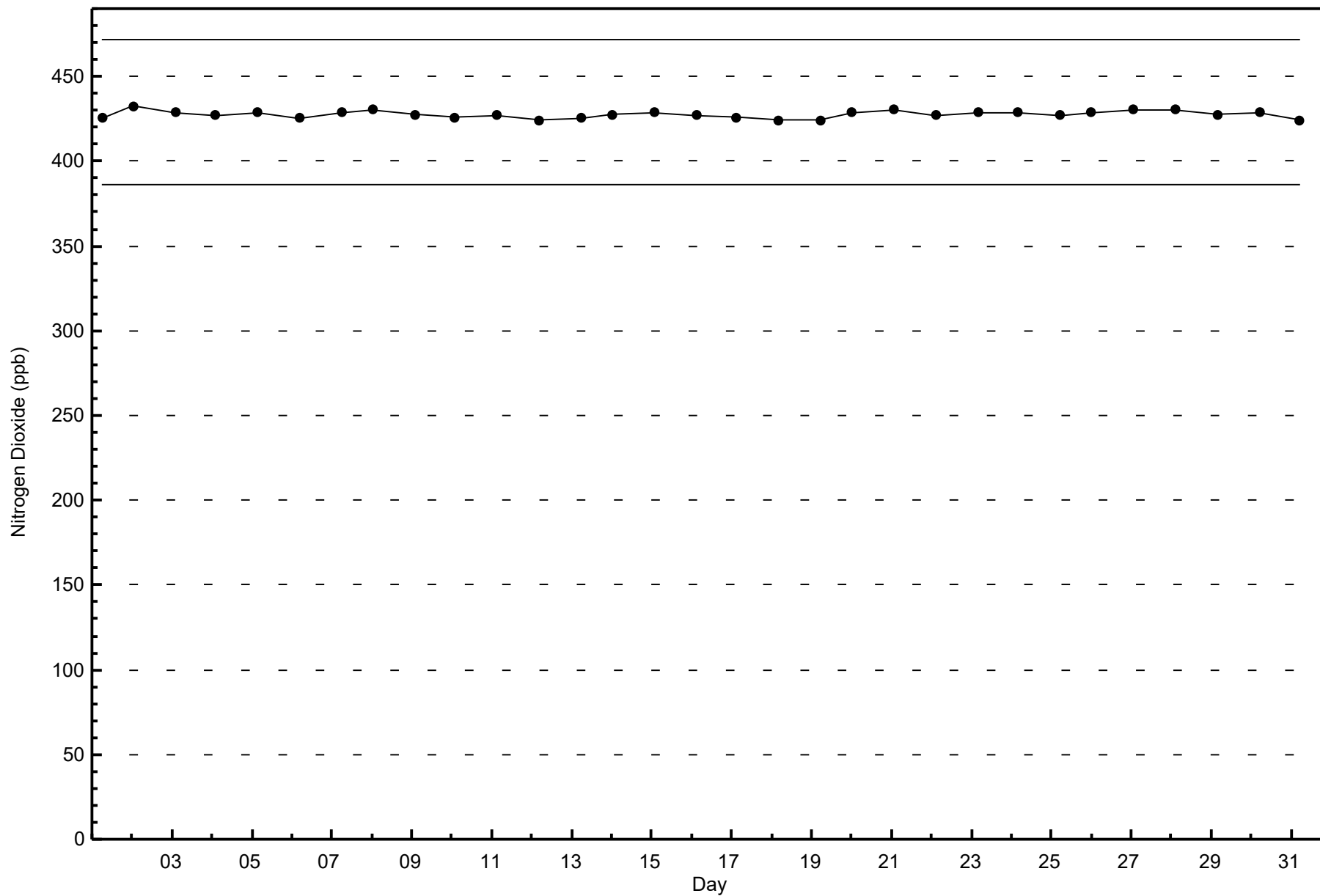
Nitrogen Dioxide (NO₂) - ppb
Stony Mountain - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitrogen Dioxide (NO₂) - ppb
Stony Mountain - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Oxides (NO_x) - ppb

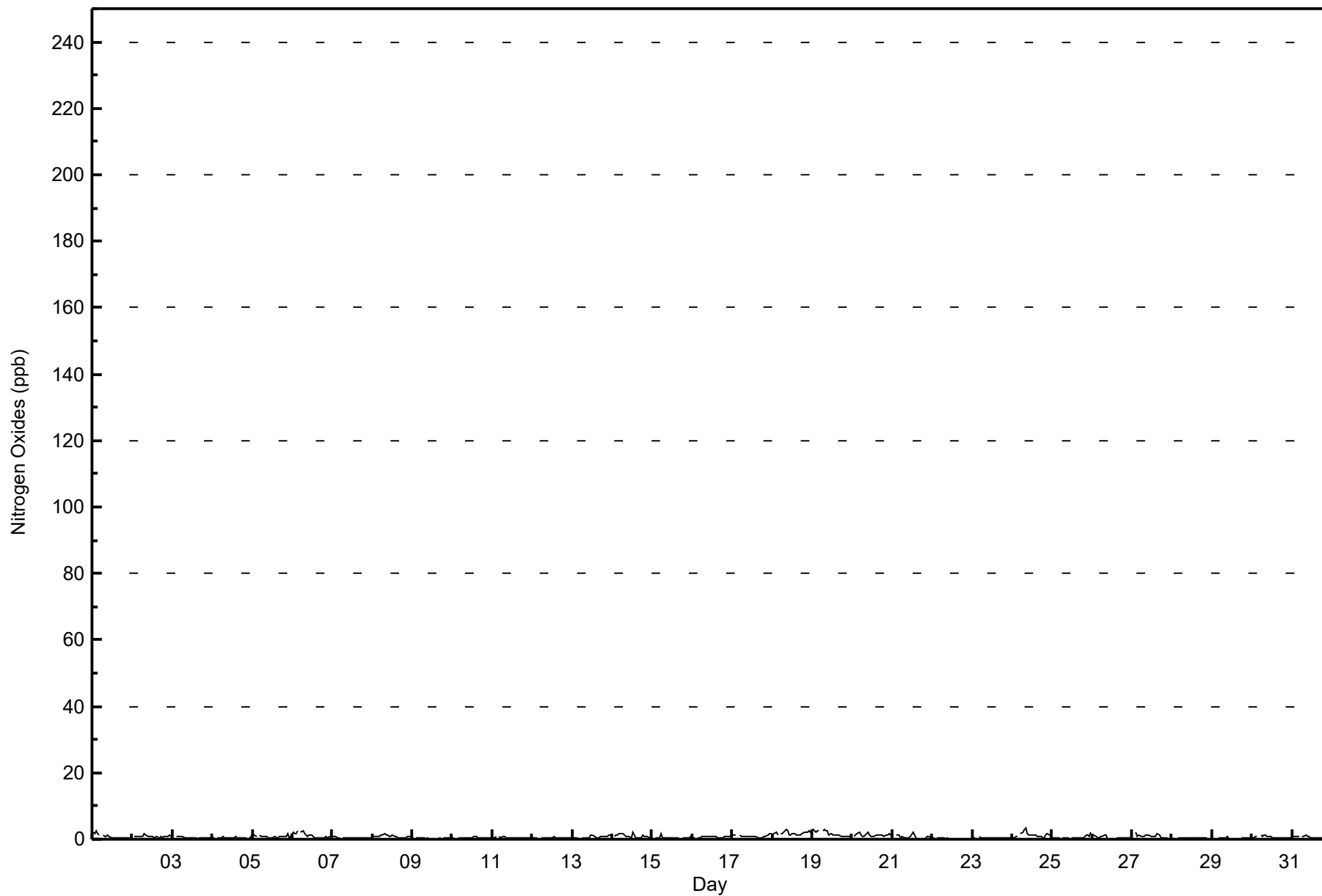
Stony Mountain - July 2025

Maximum Value: 3.3 ppb on Jul 24 09:00																			Maximum Daily Average: 1.8 ppb on Jul 18							Hours in Service: 744		
Minimum Value: 0.1 ppb on Jul 22 13:00																			Minimum Daily Average: 0.2 ppb on Jul 22							Hours of Data: 703		
Maximum Diurnal Average: 1.0 ppb at hour 3																			Minimum Diurnal Average: 0.5 ppb at hour 18							Hours of Missing Data: 41		
Monthly Average: 0.72 ppb																			Percentiles: P ₁ = 0.1 P ₁₀ = 0.2 Q ₁ = 0.3 Median = 0.5 Q ₃ = 0.9 P ₉₀ = 1.4 P ₉₉ = 2.6							Hours of Calibration: 37		
																										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-Jul	2.0	1.8	2.5	1.7	1.1	Z	1.1	0.7	0.7	1.3	1.0	0.5	0.4	0.4	0.5	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.8	2.5		
2-Jul	Z	0.9	0.8	0.8	0.9	0.9	1.0	1.8	1.4	0.7	0.7	0.6	0.7	0.5	0.7	0.6	0.6	0.6	0.6	0.7	0.7	1.0	1.1	0.9	0.8	1.8		
3-Jul	0.9	Z	1.0	0.8	0.8	0.7	0.7	0.5	0.4	0.4	0.3	0.2	0.3	0.2	0.3	0.2	0.2	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.4	1.0		
4-Jul	0.4	0.4	Z	0.6	0.6	0.6	0.7	0.5	0.3	0.2	0.2	0.3	0.3	0.4	0.7	0.5	0.4	0.4	0.3	0.5	0.3	0.2	0.2	0.8	0.4	0.8		
5-Jul	1.6	1.1	1.0	Z	1.1	0.9	0.8	0.7	0.7	0.5	0.3	0.3	0.4	1.0	0.4	0.5	0.7	0.8	0.9	0.8	0.9	1.7	0.5	0.9	0.8	1.7		
6-Jul	2.1	1.6	1.6	2.4	Z	2.3	2.4	1.7	1.3	1.0	1.1	1.3	0.7	0.6	0.5	0.4	0.4	0.4	0.4	0.4	0.8	0.6	0.8	1.1	1.1	2.4		
7-Jul	0.9	0.9	0.8	0.5	0.5	Z	0.6	0.6	0.6	0.5	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.9		
8-Jul	Z	0.8	0.7	0.7	0.9	1.4	1.3	1.9	1.1	1.4	0.9	1.0	1.1	1.0	0.7	0.6	0.5	0.5	0.5	0.5	0.6	0.7	0.9	0.7	0.9	1.9		
9-Jul	0.6	Z	0.5	0.4	0.4	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.3	0.6		
10-Jul	0.4	0.5	Z	0.6	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.5	0.7	0.8	0.6	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.4	0.5	0.8		
11-Jul	0.4	0.5	0.7	Z	1.0	0.6	0.6	0.6	0.5	0.3	0.3	0.4	0.4	0.3	0.3	0.2	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.4	1.0		
12-Jul	0.3	0.3	0.3	0.2	Z	0.5	0.5	0.5	0.3	0.3	0.3	0.3	0.5	0.7	0.4	0.3	0.2	0.3	0.4	0.3	0.2	0.2	0.3	0.3	0.3	0.7		
13-Jul	0.3	0.5	0.3	0.2	0.2	Z	0.4	0.4	0.3	0.3	0.6	1.5	1.2	1.0	0.5	0.5	0.5	0.7	0.9	0.9	0.9	0.9	1.1	1.1	0.7	1.5		
14-Jul	Z	0.8	1.1	1.2	1.5	1.7	1.6	1.4	0.9	0.8	0.7	0.5	2.0	1.3	0.4	0.3	0.2	0.5	1.1	0.7	0.7	0.8	0.6	0.5	0.9	2.0		
15-Jul	0.4	Z	0.5	0.4	0.4	1.6	0.6	0.5	0.6	0.5	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.7	0.4	1.6		
16-Jul	0.6	0.5	Z	0.5	0.5	0.6	0.7	1.0	1.0	0.8	0.7	0.8	0.8	0.7	0.6	0.6	0.6	0.6	0.6	0.9	0.8	0.7	0.7	0.7	0.7	1.0		
17-Jul	1.4	1.3	1.4	Z	1.1	0.9	0.9	0.9	0.8	0.8	0.7	0.7	0.7	0.8	0.7	0.6	0.6	0.6	0.6	0.7	0.8	1.5	1.9	1.6	1.0	1.9		
18-Jul	1.3	1.7	1.9	1.3	Z	1.6	1.6	2.0	3.1	2.6	1.5	1.3	1.6	1.8	1.5	1.3	1.3	1.4	1.6	2.1	2.2	2.3	2.5	2.3	1.8	3.1		
19-Jul	3.0	2.6	2.2	2.4	2.5	Z	2.7	2.9	2.6	2.7	1.4	1.5	1.2	1.2	1.3	1.2	1.1	0.8	0.9	0.9	0.9	0.9	0.9	0.9	1.7	3.0		
20-Jul	Z	0.9	1.2	1.7	1.9	1.2	0.7	0.8	1.3	2.0	1.1	0.8	0.9	1.0	1.3	1.3	1.3	1.3	1.1	1.0	1.2	1.1	1.7	1.4	1.2	2.0		
21-Jul	1.3	Z	1.5	1.4	1.3	0.5	0.6	0.6	0.6	0.6	0.6	0.9	2.1	1.3	0.5	0.2	0.1	0.1	0.1	0.2	0.5	0.8	0.7	0.3	0.7	2.1		
22-Jul	0.2	0.2	Z	0.5	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.5		
23-Jul	0.5	0.4	0.4	Z	0.6	0.5	0.5	0.5	0.4	0.3	0.3	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.4	0.6	0.5	0.5	0.5	0.5	0.6		
24-Jul	0.5	0.6	0.8	1.0	Z	1.5	2.0	3.2	3.3	1.7	1.2	1.2	1.4	1.3	1.1	1.0	0.9	0.9	0.5	0.5	1.4	1.8	1.2	0.4	1.3	3.3		
25-Jul	0.4	0.3	0.3	0.3	0.4	Z	0.5	0.5	0.3	0.2	0.2	0.1	0.2	0.3	0.3	0.4	0.6	0.4	0.4	0.4	1.1	1.2	1.0	1.9	0.5	1.9		
26-Jul	Z	1.2	0.7	0.5	0.5	0.7	0.9	1.2	1.3	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	0.5	0.5	1.3		
27-Jul	0.6	Z	2.2	0.7	1.3	0.8	0.9	0.9	1.1	1.4	1.3	1.0	0.6	0.7	0.9	1.7	1.1	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.8	2.2		
28-Jul	0.2	0.2	Z	0.5	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	0.3	0.3	0.3	0.2	0.2	PF	PF	0.3	0.5		
29-Jul	PF	PF	0.3	Z	0.5	0.5	0.5	0.5	0.5	0.7	0.6	C	C	C	C	C	C	C	0.3	0.3	0.3	0.3	0.4	0.4	0.6	--	0.7	
30-Jul	0.6	0.6	0.7	0.9	Z	1.1	1.0	1.1	1.1	0.8	0.7	0.7	0.6	0.5	0.4	0.4	0.3	0.3	0.3	0.2	0.3	0.4	0.5	0.6	0.6	1.1		
31-Jul	0.8	0.9	0.9	0.8	0.9	Z	0.9	0.8	1.2	1.0	0.7	0.5	0.4	0.4	0.4	0.3	0.4	0.4	0.5	0.6	0.7	1.1	1.5	1.2	0.7	1.5		
																									Diurnal Average			
																									Diurnal Maximum			
Z - zerospan																									C - Calibration		PF - Power Failure	



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Stony Mountain - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Stony Mountain - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	703	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: 703

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Stony Mountain - July 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	37	21	10	9	11	9	17	39	44	99	106	60	70	89	48	34	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	37	21	10	9	11	9	17	39	44	99	106	60	70	89	48	34	703

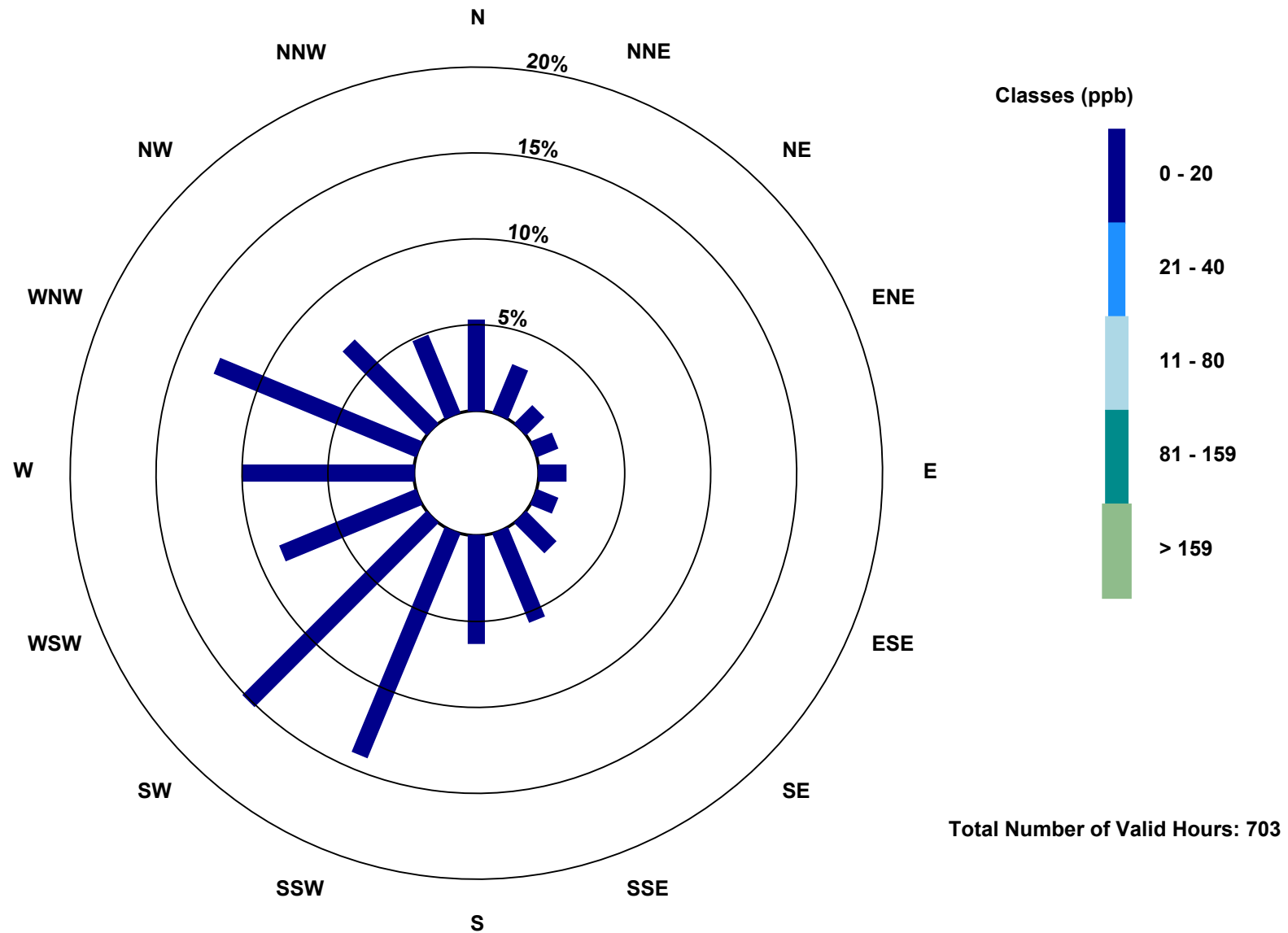
Total Number of Valid Hours: 703

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

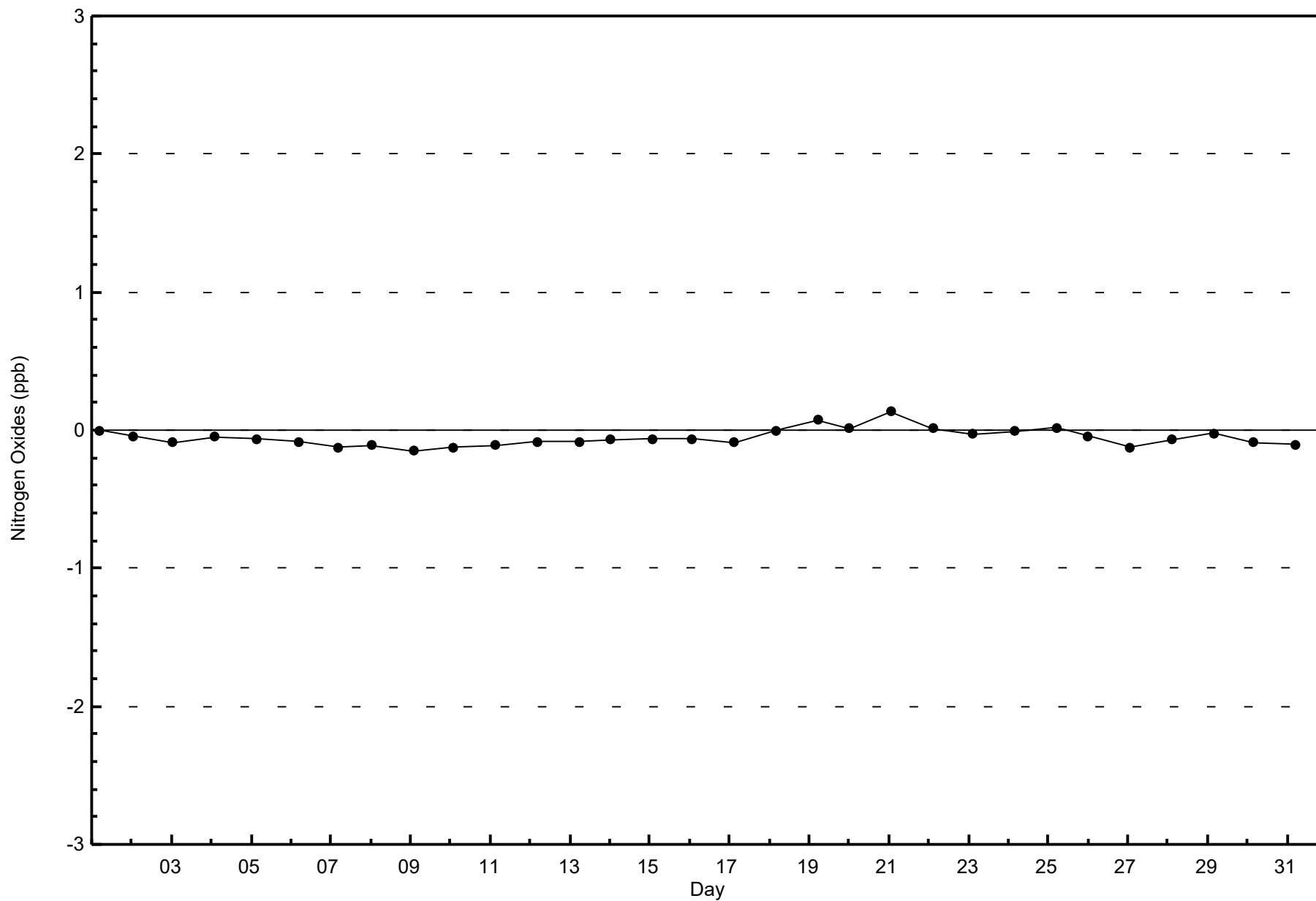
Nitrogen Oxides (NO_x) - ppb
Stony Mountain





Wood Buffalo Environmental Association
Zero Responses

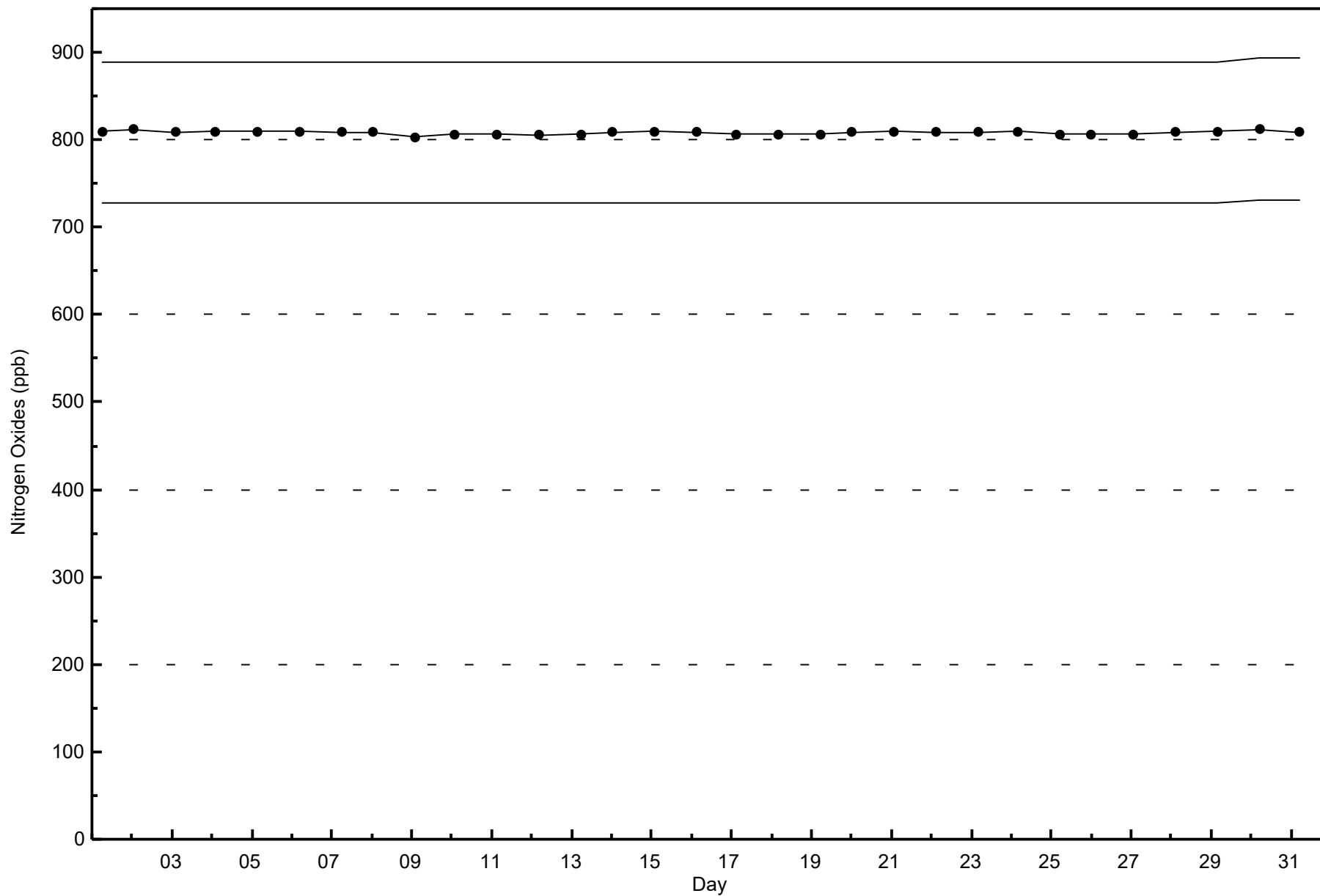
Nitrogen Oxides (NO_x) - ppb
Stony Mountain - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitrogen Oxides (NO_x) - ppb
Stony Mountain - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Ozone (O₃) - ppb

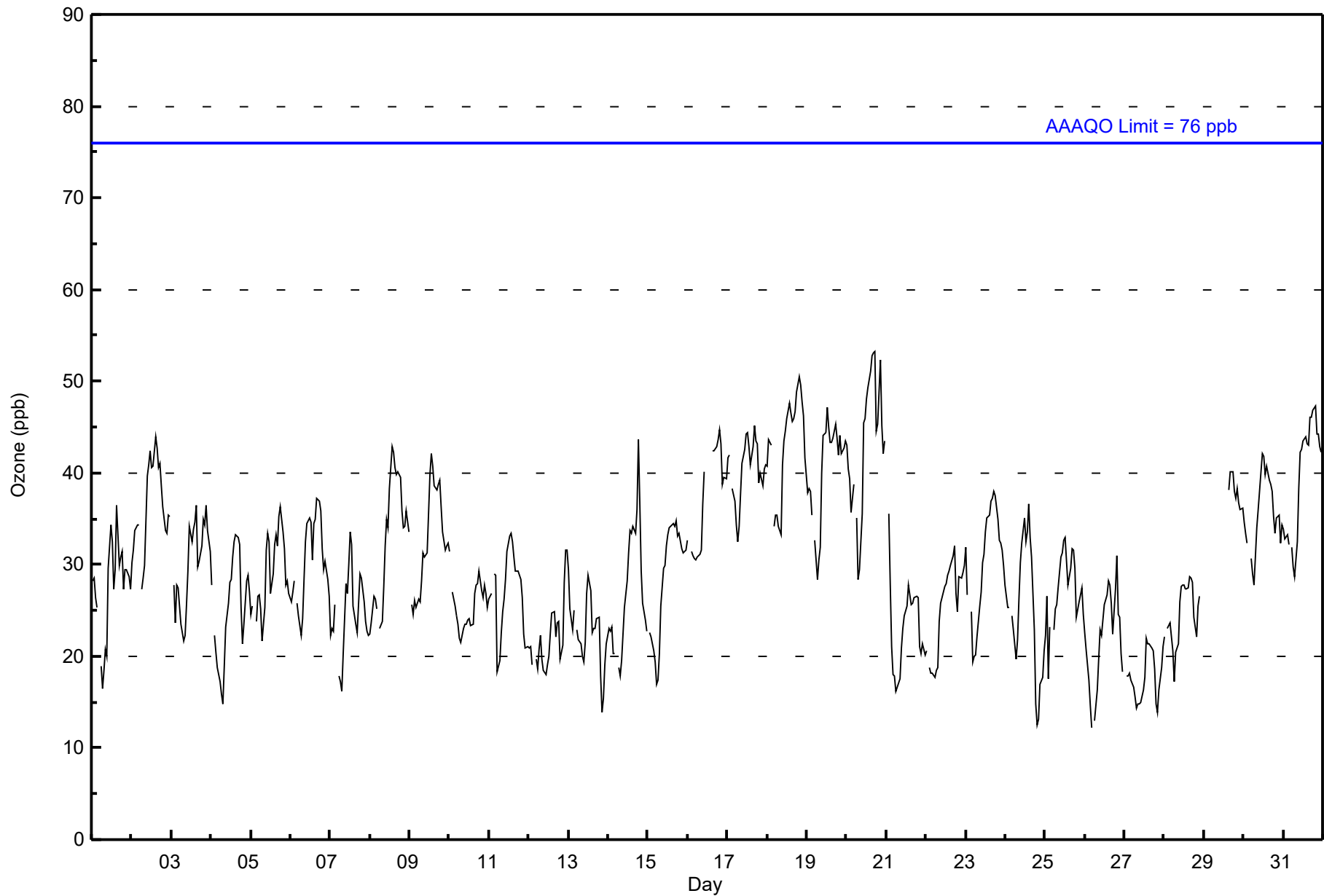
Stony Mountain - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 53.3 ppb on Jul 20 18:00 Maximum Daily Average: 43.4 ppb on Jul 20																				Hours in Service: 744 Hours of Data: 693							
Minimum Value: 12.2 ppb on Jul 26 05:00 Minimum Daily Average: 17.6 ppb on Jul 27 Maximum Diurnal Average: 34.7 ppb at hour 16 Minimum Diurnal Average: 22.7 ppb at hour 7 Monthly Average: 29.93 ppb Percentiles: P ₁ = 14.6 P ₁₀ = 19.5 Q ₁ = 23.5 Median = 29.0 Q ₃ = 35.2 P ₉₀ = 42.4 P ₉₉ = 49.4																				Hours of Missing Data: 51 Hours of Calibration: 34 Percent Operational Time: 97.7							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
1-Jul	28.2	28.5	26.3	25.4	Z	18.9	16.5	18.4	20.7	20.0	29.6	34.3	32.4	27.2	29.4	36.5	29.8	30.8	31.4	27.4	29.4	29.5	28.7	27.3	27.3	36.5	
2-Jul	30.2	31.6	33.8	34.4	34.3	Z	27.3	28.5	29.9	39.7	40.9	42.4	40.6	40.7	44.0	42.7	40.5	41.1	38.6	36.2	33.7	33.3	35.3	35.2	36.3	44.0	
3-Jul	Z	27.7	23.7	27.7	27.4	25.4	23.4	21.7	22.3	25.6	29.3	34.1	32.5	33.8	34.6	36.5	29.8	30.3	32.0	35.0	34.3	36.5	33.6	31.5	30.0	36.5	
4-Jul	27.8	Z	22.3	20.4	18.8	17.2	15.9	14.9	18.9	23.2	25.8	28.0	28.3	30.8	32.5	33.2	33.0	32.2	25.3	21.4	23.5	28.2	28.8	27.0	25.1	33.2	
5-Jul	24.6	25.5	Z	23.8	26.5	26.7	25.1	21.7	25.3	31.6	33.3	32.5	26.8	29.0	32.2	33.2	32.0	35.2	36.3	33.6	31.7	27.8	28.2	26.8	29.1	36.3	
6-Jul	25.9	26.9	28.2	Z	25.7	24.4	22.2	24.2	28.4	32.5	34.5	35.1	34.7	30.6	34.5	35.0	37.1	37.0	35.9	31.7	29.4	30.3	28.4	26.5	30.4	37.1	
7-Jul	22.2	23.1	22.8	25.6	Z	17.8	17.3	16.2	20.3	28.0	26.8	30.1	33.5	32.2	25.4	23.5	22.5	25.7	29.0	28.6	26.0	23.8	22.7	22.3	24.6	33.5	
8-Jul	22.4	23.7	26.5	26.3	25.2	Z	23.1	23.8	27.6	32.0	34.9	34.0	38.3	42.9	42.2	40.6	39.8	40.2	39.5	35.8	34.0	34.2	35.8	33.6	32.9	42.9	
9-Jul	Z	25.7	24.6	26.1	25.3	26.2	26.0	28.2	31.3	30.9	31.3	35.6	39.8	42.0	40.7	38.6	38.1	38.8	39.3	36.3	33.6	31.5	32.0	32.4	32.8	42.0	
10-Jul	31.3	Z	27.0	25.6	24.5	23.5	21.9	21.5	23.0	23.5	23.5	24.0	24.1	23.3	23.4	26.9	27.7	27.9	29.3	27.1	26.4	27.8	26.9	25.3	25.5	31.3	
11-Jul	26.2	26.9	Z	29.0	28.9	18.3	19.6	22.5	24.9	26.3	28.3	31.5	33.1	33.4	32.5	30.8	29.3	29.3	28.9	28.4	26.3	22.5	20.9	21.0	26.9	33.4	
12-Jul	20.9	21.1	19.1	Z	19.6	18.6	20.8	22.3	19.6	18.5	18.0	19.1	20.0	22.4	24.7	24.9	22.2	23.6	23.7	19.7	21.2	28.0	31.5	31.6	22.2	31.6	
13-Jul	29.5	25.2	22.8	24.9	Z	22.9	21.8	21.4	20.0	19.3	21.5	26.9	28.8	27.1	22.5	23.1	23.1	24.0	24.2	17.8	13.9	15.4	19.1	21.3	22.5	29.5	
14-Jul	23.0	22.8	23.1	20.3	20.3	Z	18.8	17.8	19.5	22.4	25.3	28.3	31.3	33.7	33.4	34.2	33.4	36.0	43.6	36.8	29.3	25.7	23.9	22.8	27.2	43.6	
15-Jul	Z	22.6	22.2	20.6	19.4	16.9	17.4	20.4	25.5	29.6	29.8	32.0	33.3	34.0	34.4	34.4	34.2	34.7	33.1	33.4	31.7	31.2	31.4	31.5	28.4	34.7	
16-Jul	32.6	Z	31.5	31.0	30.6	30.5	30.8	31.2	31.6	36.5	40.1	C	C	C	C	42.4	42.4	42.9	43.6	44.7	43.2	38.8	39.4	39.3	37.0	44.7	
17-Jul	41.7	41.9	Z	38.3	37.0	34.3	32.5	34.1	37.7	41.1	42.6	44.3	44.5	42.9	40.9	42.8	45.2	43.5	43.1	38.9	40.0	38.6	40.4	40.9	40.3	45.2	
18-Jul	40.7	43.6	43.0	Z	34.1	35.4	35.4	34.2	33.3	40.8	43.5	44.5	46.0	47.6	46.5	45.6	45.9	46.7	48.8	50.5	49.6	47.8	46.2	41.6	43.1	50.5	
19-Jul	37.9	38.2	38.1	35.5	Z	32.7	28.4	30.6	31.8	39.9	44.1	44.3	47.1	45.0	43.3	43.3	43.8	45.2	43.8	42.0	44.1	42.1	42.7	43.5	40.3	47.1	
20-Jul	43.0	40.5	39.4	35.7	38.7	Z	35.1	28.4	29.5	35.6	45.5	46.0	48.1	49.3	51.1	52.8	53.0	53.3	44.5	45.2	52.3	45.2	42.1	43.5	43.4	53.3	
21-Jul	Z	35.6	27.9	21.1	18.0	17.8	16.1	17.1	17.6	20.9	23.0	24.4	25.5	27.8	26.7	25.6	25.8	26.3	26.6	26.3	21.0	20.3	21.4	20.2	23.2	35.6	
22-Jul	20.5	Z	18.8	18.2	18.1	17.7	18.5	18.7	23.9	25.8	27.0	27.6	27.9	28.9	29.3	29.9	31.0	32.1	26.9	24.9	28.7	28.5	29.1	29.9	25.3	32.1	
23-Jul	31.8	26.7	Z	24.8	19.3	19.9	20.1	22.1	25.5	27.0	30.2	31.1	33.6	35.1	35.4	36.9	37.1	38.1	37.6	34.9	32.7	32.3	31.6	29.9	30.2	38.1	
24-Jul	27.7	25.3	25.3	Z	24.5	22.9	19.7	21.8	26.3	30.3	32.4	35.1	32.5	33.6	36.7	32.9	30.8	22.9	14.7	12.5	13.2	16.9	17.7	20.6	25.0	36.7	
25-Jul	22.2	26.6	17.5	23.2	Z	22.9	25.2	25.7	27.4	30.8	31.3	32.6	33.0	30.3	27.8	29.6	31.7	31.6	29.5	24.2	26.0	26.6	27.4	24.5	27.3	33.0	
26-Jul	22.6	20.7	17.4	14.7	12.2	Z	12.9	16.3	19.7	22.9	22.3	23.9	25.7	26.6	28.3	27.8	25.8	22.4	27.4	30.9	24.6	24.3	20.2	18.3	22.1	30.9	
27-Jul	Z	17.8	17.8	18.1	17.4	16.6	15.5	14.4	14.8	14.8	14.9	16.3	17.7	21.9	21.3	21.4	20.8	20.6	18.6	14.8	13.8	16.4	18.7	21.1	17.6	21.9	
28-Jul	22.1	Z	23.0	23.6	22.1	20.5	17.3	20.4	21.3	25.9	27.6	27.8	27.7	27.3	27.4	28.7	28.5	28.1	24.3	22.1	25.5	26.6	PF	PF	24.7	28.7	
29-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	M	M	M	M	M	M	M	38.2	40.2	40.1	38.0	37.2	38.3	36.8	35.9	36.2	--	40.2
30-Jul	34.6	33.4	32.3	Z	30.6	29.0	27.8	30.8	34.0	35.9	40.1	42.2	41.9	39.8	40.8	39.2	38.8	38.0	35.3	33.3	35.0	35.4	32.4	34.4	35.4	42.2	
31-Jul	33.9	32.8	33.2	32.2	Z	31.9	29.8	28.8	32.5	38.2	42.3	42.6	43.4	43.9	43.2	43.1	46.1	46.1	46.8	47.2	44.3	44.2	42.9	42.3	39.6	47.2	
Diurnal Average																											
Diurnal Maximum																											
Z - zerospan C - Calibration M - Maintenance PF - Power Failure																											
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 76 ppb																											



Wood Buffalo Environmental Association
Hourly Averages

Ozone (O₃) - ppb
Stony Mountain - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ozone (O₃) - ppb
Stony Mountain - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	90	12.99	12.99
21 - 50	598	86.29	99.28
51 - 82	5	0.72	100.00
> 83	0	0.00	100.00

Total Number of Valid Hours: 693

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Ozone (O₃) - ppb
Stony Mountain - July 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	5	3	0	1	0	0	1	1	10	12	5	4	17	11	9	90
21 - 50	25	15	7	9	7	9	16	36	45	86	83	58	69	70	36	27	598
51 - 82	1	0	0	0	3	0	0	0	0	0	0	0	0	1	0	0	5
> 83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	37	20	10	9	11	9	16	37	46	96	95	63	73	88	47	36	693

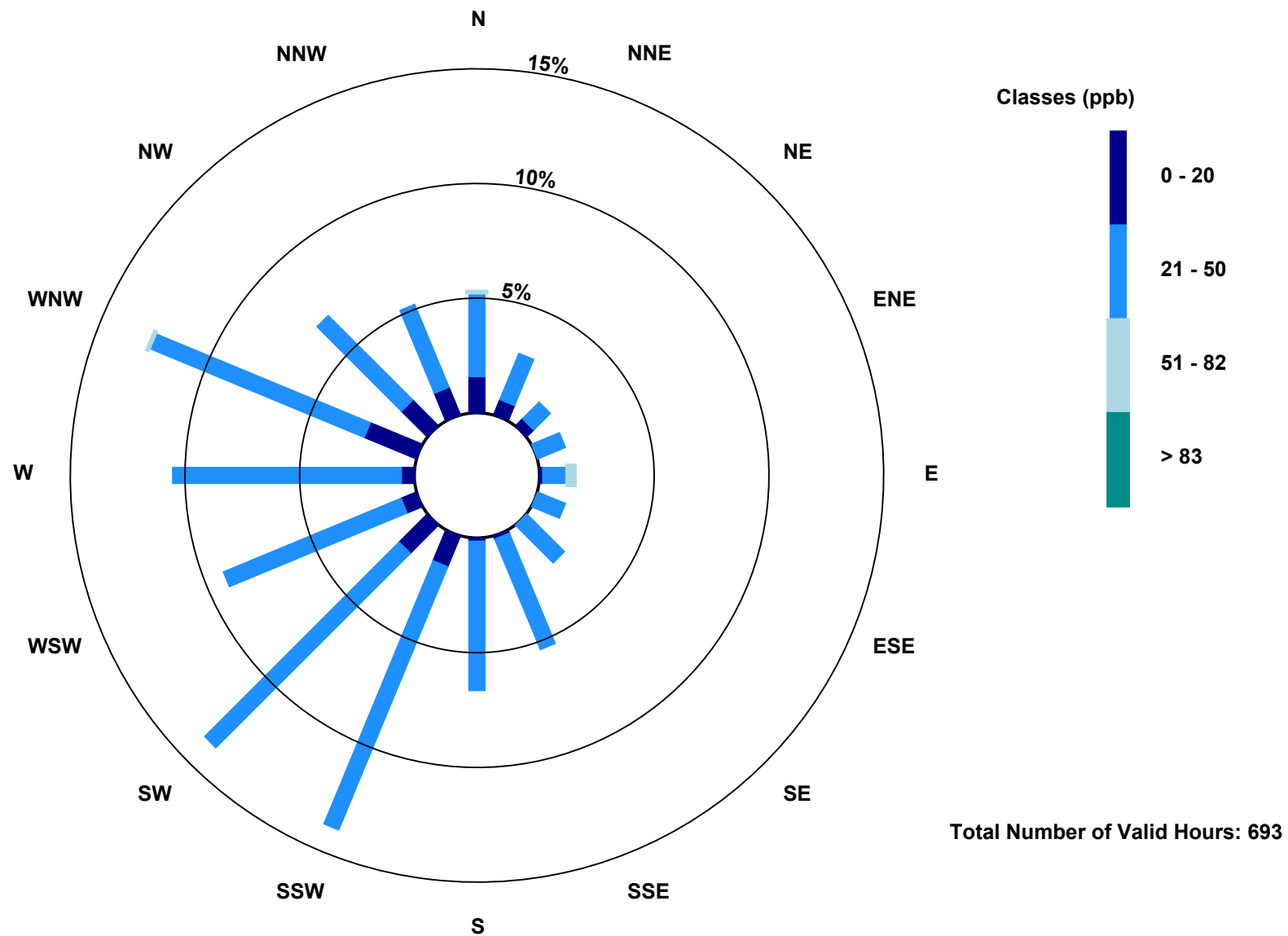
Total Number of Valid Hours: 693

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

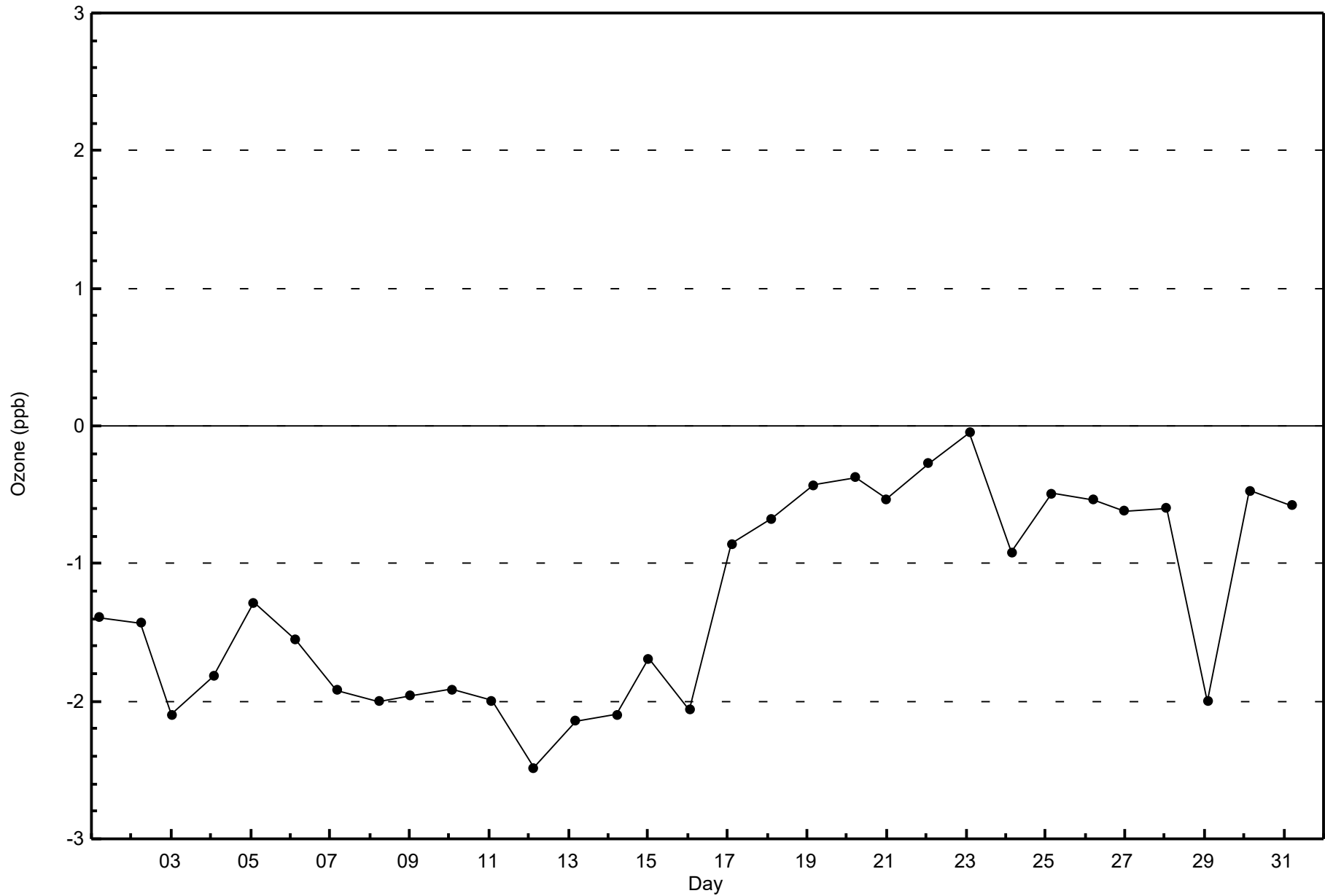
Ozone (O_3) - ppb
Stony Mountain





Wood Buffalo Environmental Association
Zero Responses

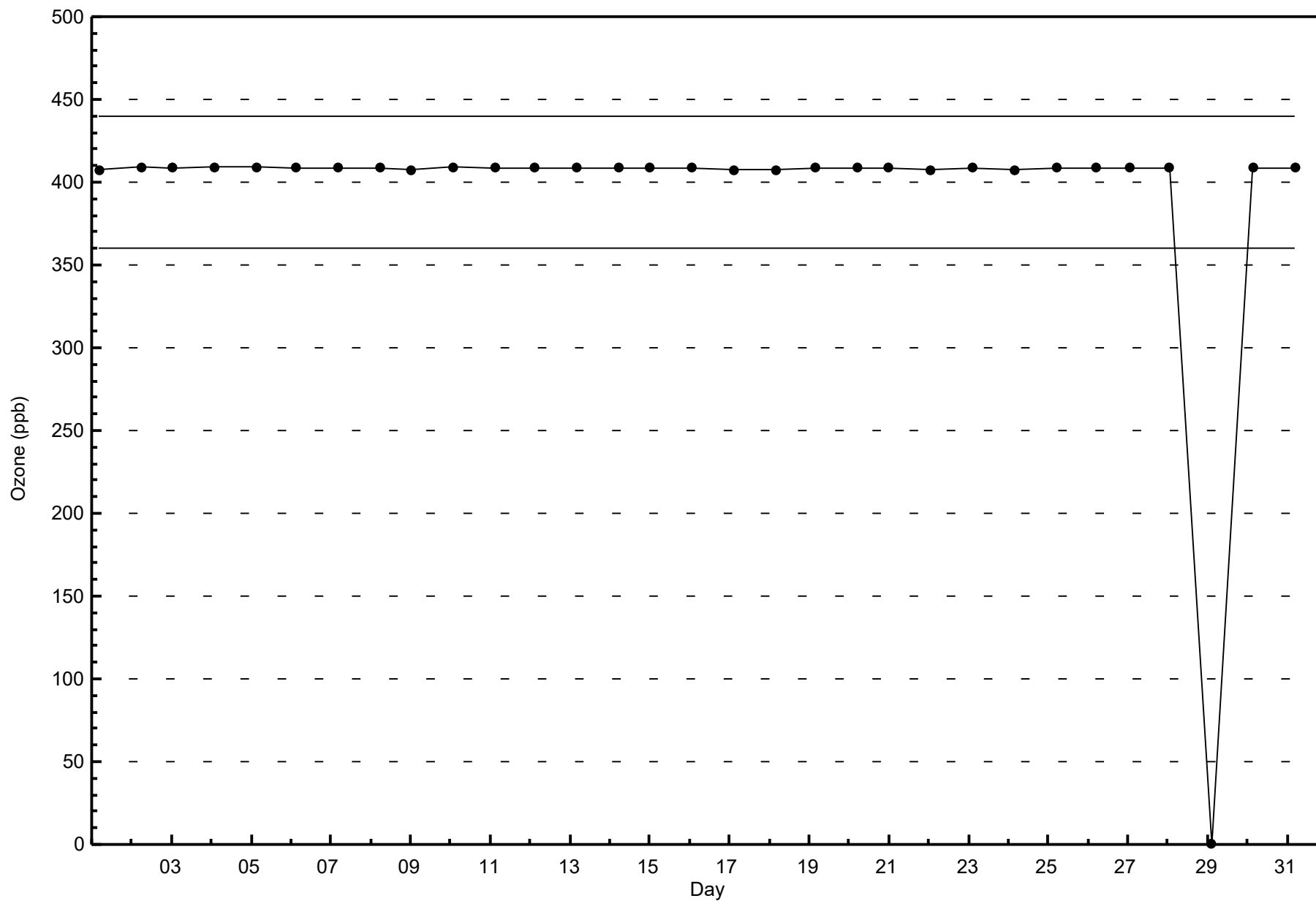
Ozone (O₃) - ppb
Stony Mountain - July 2025





Wood Buffalo Environmental Association
Span Responses

Ozone (O_3) - ppb
Stony Mountain - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

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

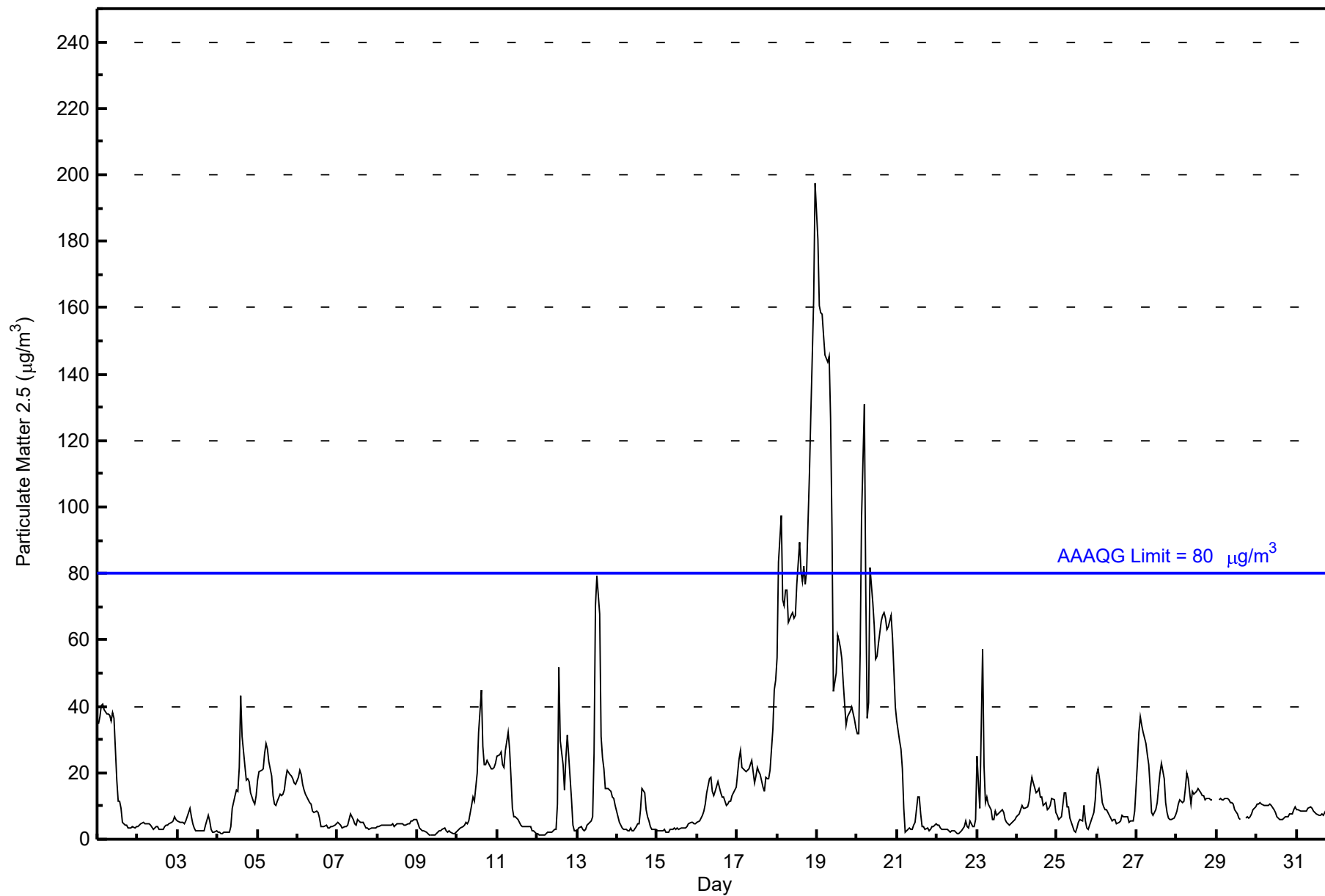
Stony Mountain - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 3 Maximum Value: 197.5 µg/m³ on Jul 19 00:00 Minimum Value: 1.3 µg/m³ on Jul 9 09:00 Maximum Diurnal Average: 21.9 µg/m³ at hour 4 Monthly Average: 17.14 µg/m³																				Maximum Daily Average: 90.5 µg/m³ on Jul 18 Minimum Daily Average: 2.3 µg/m³ on Jul 9 Minimum Diurnal Average: 13.9 µg/m³ at hour 18 Percentiles: P ₁ = 1.5 P ₁₀ = 2.7 Q ₁ = 4.1 Median = 8.3 Q ₃ = 18.0 P ₉₀ = 39.2 P ₉₉ = 145.6				Hours in Service: 744 Hours of Data: 739 Hours of Missing Data: 5 Hours of Calibration: 2 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-Jul	34.7	37.1	40.4	40.8	39.0	37.7	37.5	37.2	35.6	38.3	36.3	17.6	11.5	11.3	9.2	5.0	4.1	4.3	3.5	3.5	3.6	3.6	3.5	3.8	20.8	40.8	
2-Jul	3.7	4.2	4.8	4.9	4.9	4.7	4.6	4.5	4.4	3.0	3.4	3.8	3.9	3.0	3.0	3.1	3.9	4.2	4.4	4.5	5.0	5.7	6.6	6.0	4.3	6.6	
3-Jul	5.5	5.1	5.2	4.9	4.6	5.5	6.8	9.4	6.9	4.6	3.3	2.4	2.5	2.5	2.7	2.4	2.7	4.4	7.3	5.7	3.1	2.3	2.3	2.4	4.4	9.4	
4-Jul	2.3	2.1	1.7	1.7	1.9	2.1	2.3	2.2	3.8	9.2	13.2	14.7	14.3	21.5	43.1	31.0	22.0	18.0	18.3	17.5	14.2	11.4	10.7	13.2	12.2	43.1	
5-Jul	17.9	20.4	20.6	21.0	25.8	28.9	27.3	23.3	19.0	13.2	10.5	10.2	11.6	13.4	13.3	13.8	14.7	18.2	20.8	19.5	19.1	18.3	16.9	16.6	18.1	28.9	
6-Jul	18.7	20.8	19.5	16.7	14.8	13.7	11.9	11.2	10.4	8.5	7.9	8.3	8.0	6.5	3.7	3.7	3.8	4.1	3.6	3.6	3.8	3.8	4.2	4.7	9.0	20.8	
7-Jul	5.2	4.9	4.2	3.2	3.6	3.7	4.3	6.1	7.7	5.9	4.6	4.2	5.9	5.6	4.9	4.9	4.3	3.2	3.2	3.1	3.3	3.3	3.4	3.5	4.4	7.7	
8-Jul	3.7	3.9	4.2	4.2	4.1	4.3	4.3	4.3	4.1	4.5	4.0	4.2	4.6	4.7	4.6	4.8	4.2	4.1	4.5	4.9	5.5	5.7	6.0	5.9	4.5	6.0	
9-Jul	4.8	3.4	2.8	2.4	2.3	2.1	1.7	1.3	1.3	1.3	1.4	1.7	2.0	2.4	2.7	3.0	3.2	2.6	2.3	2.3	2.2	1.8	1.7	1.9	2.3	4.8	
10-Jul	2.5	3.1	3.4	3.7	4.3	5.2	4.7	5.7	10.0	12.8	11.4	15.7	20.0	32.2	44.8	27.9	22.7	22.3	23.8	21.9	21.2	21.2	21.5	22.8	16.0	44.8	
11-Jul	24.9	25.6	26.4	22.6	21.7	26.6	32.3	26.9	18.6	9.5	6.9	6.7	5.9	5.1	4.2	3.9	3.9	4.0	3.9	4.0	3.8	2.5	2.4	1.8	12.2	32.3	
12-Jul	1.5	1.3	1.3	1.4	1.4	1.5	1.9	2.3	1.9	2.0	3.2	3.2	10.6	51.9	29.7	22.6	14.8	24.5	31.4	24.8	11.9	4.2	2.5	2.5	10.6	51.9	
13-Jul	2.6	3.3	3.7	2.9	2.7	3.1	4.2	5.2	5.7	6.9	26.1	70.4	79.3	67.7	31.1	24.6	21.3	15.2	15.2	14.7	14.3	12.7	12.1	10.2	19.0	79.3	
14-Jul	6.6	5.1	4.1	3.5	3.1	2.9	2.6	2.3	3.3	2.4	2.7	3.8	4.6	4.8	8.7	15.4	13.8	8.9	7.0	5.5	3.8	3.0	2.9	2.8	5.1	15.4	
15-Jul	2.6	2.6	2.6	2.6	2.8	2.2	1.9	2.2	2.9	3.0	3.2	3.1	3.2	3.2	3.2	3.2	3.2	3.3	3.9	4.7	5.3	5.3	4.8	4.6	3.3	5.3	
16-Jul	4.9	5.3	6.3	7.4	8.3	10.8	14.0	18.3	18.5	14.4	13.1	14.5	17.3	15.7	13.8	12.6	12.8	10.2	10.7	11.6	11.6	13.2	14.0	15.8	12.3	18.5	
17-Jul	19.9	24.3	26.8	21.7	20.6	20.2	20.8	21.1	22.5	23.9	17.0	19.2	21.4	20.5	19.5	15.8	14.4	18.8	18.4	18.1	21.0	33.1	45.1	47.8	23.0	47.8	
18-Jul	54.5	83.6	97.6	72.0	70.5	75.0	75.2	65.1	67.5	68.4	66.5	67.4	76.8	89.5	80.7	77.4	82.2	76.9	81.1	110.2	128.2	145.5	162.5	197.5	90.5	197.5	
19-Jul	180.5	160.5	158.7	157.9	151.8	145.7	143.8	145.4	126.7	93.7	44.5	50.1	61.2	59.6	57.8	54.3	47.1	34.2	36.9	37.9	38.6	39.9	35.9	33.6	87.3	180.5	
20-Jul	31.9	31.6	55.8	96.5	130.9	75.1	36.4	41.3	82.0	71.0	64.4	54.3	54.9	58.8	65.6	67.2	68.2	66.4	63.2	64.2	67.5	60.7	50.3	39.8	62.4	130.9	
21-Jul	35.8	29.8	27.0	21.0	9.3	2.2	2.5	3.2	3.0	3.0	4.1	5.2	12.5	12.6	7.8	4.0	3.7	3.0	3.3	2.6	3.2	4.0	3.9	4.6	8.8	35.8	
22-Jul	4.3	4.4	3.2	3.0	3.0	3.0	2.9	2.8	2.0	2.5	2.6	2.1	1.8	1.8	2.2	2.7	3.7	5.7	3.9	3.4	5.4	3.7	3.7	6.0	3.3	6.0	
23-Jul	25.1	17.0	9.3	57.2	22.1	10.8	12.6	10.7	8.9	5.8	5.9	8.3	7.4	7.5	8.4	8.8	8.0	5.9	5.2	4.2	4.5	5.1	5.4	6.1	11.3	57.2	
24-Jul	6.8	7.5	8.9	10.3	9.4	9.3	10.0	11.5	15.6	18.6	16.9	13.9	14.4	15.1	12.9	12.5	10.1	10.9	8.9	9.2	10.3	12.2	12.0	8.1	11.5	18.6	
25-Jul	7.2	5.8	6.6	6.7	13.8	14.1	9.7	9.8	6.5	3.9	2.4	2.1	3.5	5.1	6.0	5.5	10.2	5.5	3.4	3.1	5.7	6.9	7.9	11.9	6.8	14.1	
26-Jul	19.6	21.0	15.2	11.0	9.6	9.0	8.7	7.4	6.2	5.5	5.8	5.8	4.7	5.1	5.4	7.2	7.0	6.9	6.6	5.2	5.6	5.4	5.3	8.6	8.2	21.0	
27-Jul	23.4	32.0	36.9	34.2	32.2	29.0	25.5	22.6	15.8	8.2	7.1	8.8	11.0	15.6	19.9	23.0	18.3	10.9	8.2	6.2	6.0	5.9	6.1	7.3	17.3	36.9	
28-Jul	8.4	10.6	11.8	11.2	11.6	15.0	20.0	18.1	10.6	14.2	13.5	14.1	14.5	15.2	14.2	13.3	13.0	12.1	12.3	12.2	12.0	11.9	PF	PF	13.2	20.0	
29-Jul	PF	11.9	12.1	11.9	12.0	12.4	12.1	11.9	10.9	11.2	10.5	8.7	7.6	6.4	6.0	C	C	6.5	6.7	6.5	7.0	7.6	8.7	9.7	9.4	12.4	
30-Jul	10.6	10.8	11.1	10.7	10.2	10.3	10.4	10.2	10.4	10.0	9.0	8.1	6.8	6.4	6.0	6.1	6.5	6.6	6.6	6.6	7.7	7.5	9.1	9.6	8.6	11.1	
31-Jul	8.9	8.9	8.6	8.4	8.4	8.4	8.6	9.4	9.7	9.1	8.3	8.0	7.5	7.2	7.1	7.7	7.2	7.9	8.7	12.0	14.3	16.4	16.6	19.0	9.8	19.0	
19.3 19.6 20.7 21.9 21.3 19.2 18.1 17.8 17.8 15.8 13.9 14.9 16.5 18.6 17.5 16.2 15.2 13.9 14.1 14.6 15.1 15.6 16.3 17.6																										Diurnal Average	
180.5 160.5 158.7 157.9 151.8 145.7 143.8 145.4 126.7 93.7 66.5 70.4 79.3 89.5 80.7 77.4 82.2 76.9 81.1 110.2 128.2 145.5 162.5 197.5																										Diurnal Maximum	
C - Calibration PF - Power Failure																											
Alberta Ambient Air Quality Guideline/Objectives: 1-hr 80 µg/m³ 24-hr 29 µg/m³																											



Wood Buffalo Environmental Association
Hourly Averages

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Stony Mountain - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Stony Mountain - July 2025

Concentration Ranges ($\mu\text{g}/\text{m}^3$)	Number of Hours	%	Cumulative %
0 - 5	273	36.94	36.94
6 - 15	261	35.32	72.26
16 - 25	87	11.77	84.03
26 - 80	94	12.72	96.75
> 81.0	24	3.25	100.00

Total Number of Valid Hours: 739

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - µg/m³
Stony Mountain - July 2025

Concentration Ranges (µg/m³)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	19	8	4	6	3	1	3	6	12	41	33	29	39	41	13	15	273
6 - 15	12	5	2	2	1	1	4	9	12	45	60	19	23	38	14	14	261
16 - 25	4	5	1	1	1	1	3	7	7	9	6	10	9	5	13	5	87
26 - 80	3	3	4	0	6	5	5	8	9	10	9	7	4	9	10	2	94
> 81.0	0	0	0	0	0	1	2	9	7	1	2	2	0	0	0	0	24
Totals	38	21	11	9	11	9	17	39	47	106	110	67	75	93	50	36	739

Total Number of Valid Hours: 739

Total Number of Hours: 744



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





Wood Buffalo Environmental Association

Summary of Hour Averages

Ambient Temperature 2m (AT2) - C

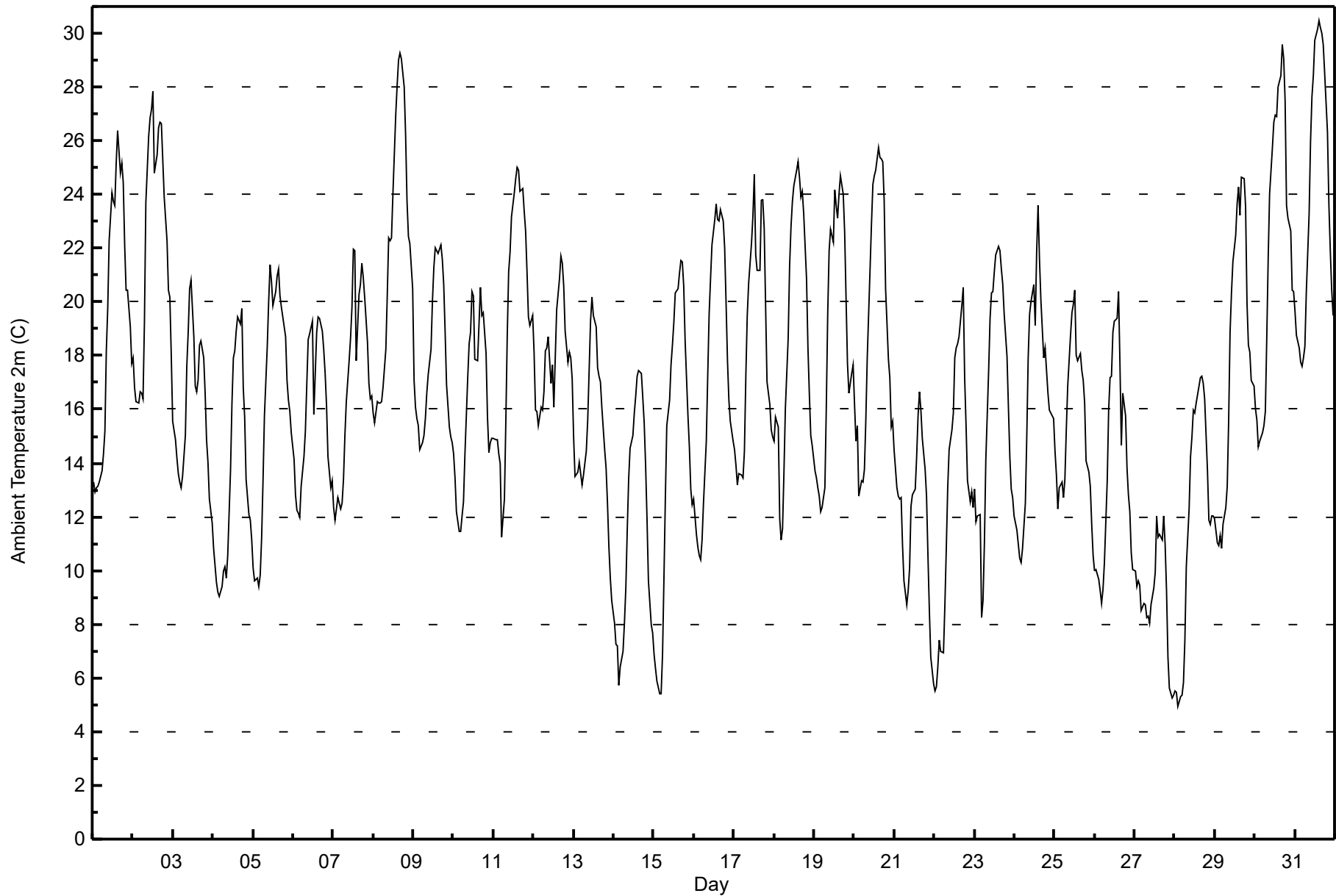
Stony Mountain - July 2025

Maximum Value: 30.5 C on Jul 31 15:00																				Maximum Daily Average: 23.9 C on Jul 31										Hours in Service: 744	
Minimum Value: 4.9 C on Jul 28 03:00																				Minimum Daily Average: 9.1 C on Jul 27										Hours of Data: 744	
Maximum Diurnal Average: 21.5 C at hour 17																				Minimum Diurnal Average: 11.7 C at hour 5										Hours of Missing Data: 0	
Monthly Average: 16.77 C																				Percentiles: P ₁ = 5.5 P ₁₀ = 10.0 Q ₁ = 13.1 Median = 16.6 Q ₃ = 20.4 P ₉₀ = 23.8 P ₉₉ = 29.2										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-Jul	13.3	12.9	13.1	13.1	13.3	13.7	14.3	15.2	18.2	19.8	22.3	24.0	23.8	23.6	25.2	26.4	24.8	25.2	24.4	22.1	20.4	20.4	19.1	17.7	19.4	26.4					
2-Jul	17.9	16.8	16.3	16.3	16.6	16.6	16.4	19.3	23.7	26.1	26.9	27.2	27.9	24.8	25.5	26.5	26.7	26.6	25.3	23.9	22.3	20.4	20.2	18.0	22.0	27.9					
3-Jul	15.6	14.9	14.2	13.6	13.3	13.1	13.5	15.0	17.6	18.9	20.5	20.8	18.7	16.9	16.6	17.1	18.4	18.6	17.9	16.6	14.9	14.0	12.6	11.8	16.0	20.8					
4-Jul	10.8	10.2	9.6	9.2	9.0	9.4	10.0	10.1	9.7	10.6	13.8	16.2	17.9	18.2	18.9	19.5	19.2	19.7	16.8	15.7	13.4	12.1	11.9	11.2	13.5	19.7					
5-Jul	10.1	9.6	9.7	9.4	9.8	11.2	13.3	15.8	18.3	20.0	21.4	20.7	19.8	20.4	21.0	21.2	20.2	19.8	19.4	18.7	17.1	16.3	15.9	15.1	16.4	21.4					
6-Jul	14.1	12.8	12.2	12.2	12.0	13.1	14.2	15.2	16.9	18.6	18.8	19.3	15.8	17.3	18.9	19.5	19.4	18.9	18.2	17.3	16.1	14.2	13.1	13.3	15.9	19.5					
7-Jul	12.3	11.8	12.3	12.7	12.3	12.5	13.4	15.0	16.3	17.8	18.6	19.8	22.0	21.9	17.8	20.3	20.6	21.4	20.9	20.2	18.5	17.0	16.4	16.5	17.0	22.0					
8-Jul	15.9	15.5	16.3	16.3	16.2	16.3	16.8	18.3	20.2	22.4	22.3	22.4	24.0	27.0	28.0	29.0	29.3	29.0	28.0	26.2	23.7	22.4	22.2	20.5	22.0	29.3					
9-Jul	17.1	16.1	15.6	15.4	14.5	14.8	15.0	15.7	16.6	17.3	18.2	20.0	21.3	22.0	21.9	21.8	22.1	21.6	20.6	18.9	16.9	15.3	15.0	14.8	17.9	22.1					
10-Jul	14.3	13.4	12.2	11.5	11.4	12.0	12.6	14.3	17.2	18.4	18.8	20.4	20.2	17.9	17.8	19.2	20.5	19.5	19.6	18.1	15.7	14.4	14.8	14.9	16.2	20.5					
11-Jul	14.9	14.9	14.9	14.3	14.0	11.2	12.7	15.6	18.8	21.1	21.8	23.1	24.0	24.6	25.0	24.9	24.1	24.2	23.4	22.7	21.1	19.4	19.1	19.5	19.6	25.0					
12-Jul	18.1	16.0	15.9	15.4	16.1	16.0	16.6	18.2	18.3	18.7	17.0	17.6	16.1	17.9	19.7	20.8	21.7	21.5	20.6	18.9	17.8	18.1	17.9	17.1	18.0	21.7					
13-Jul	15.0	13.5	13.7	14.0	13.6	13.2	13.6	14.4	15.6	17.4	19.3	20.2	19.5	19.1	17.5	17.2	17.0	16.1	14.5	13.8	12.5	10.9	9.7	8.9	15.0	20.2					
14-Jul	8.0	7.2	7.2	5.7	6.4	7.0	8.0	9.3	11.5	13.4	14.6	15.0	15.9	16.5	17.3	17.4	17.4	16.4	15.5	13.9	11.9	9.6	8.0	7.7	11.7	17.4					
15-Jul	6.9	6.4	5.9	5.4	5.4	6.9	9.7	12.7	15.4	16.4	17.6	18.4	19.3	20.3	20.5	21.1	21.6	21.5	20.6	18.5	15.8	14.6	13.0	12.4	14.4	21.6					
16-Jul	12.6	11.3	10.9	10.6	10.4	11.1	12.5	14.8	17.2	19.6	20.9	22.1	23.1	23.6	23.0	23.0	23.5	23.0	22.0	20.0	17.8	16.3	15.6	14.8	17.5	23.6					
17-Jul	14.5	13.9	13.2	13.6	13.6	13.4	14.4	17.3	19.5	20.7	22.2	23.2	24.7	21.7	21.2	21.2	23.8	23.8	22.8	19.9	17.0	16.2	15.2	15.0	18.4	24.7					
18-Jul	14.8	15.7	15.3	11.9	11.1	11.6	13.6	16.0	18.7	21.4	22.8	23.8	24.3	24.9	25.2	24.6	23.9	24.1	23.3	20.9	18.3	16.6	15.0	14.7	18.9	25.2					
19-Jul	13.7	13.4	13.1	12.7	12.2	12.3	13.1	16.1	19.6	21.9	22.7	22.2	24.2	23.6	23.1	24.0	24.7	24.0	22.6	20.1	17.7	16.6	17.4	17.7	18.7	24.7					
20-Jul	16.2	14.8	15.4	12.8	13.3	13.3	13.8	15.6	17.9	21.2	22.9	24.4	24.7	24.9	25.7	25.4	25.3	25.2	23.7	20.5	17.9	17.2	15.3	15.6	19.3	25.7					
21-Jul	14.5	13.1	12.7	12.7	12.7	10.9	9.6	8.7	9.3	10.1	12.4	12.8	13.0	14.3	15.8	16.7	16.0	14.9	13.8	12.7	10.6	8.5	6.8	5.8	12.0	16.7					
22-Jul	5.5	5.7	6.4	7.4	7.0	6.9	8.7	10.8	13.1	14.5	15.2	15.8	17.9	18.3	18.5	18.7	19.9	20.5	17.2	15.4	13.4	12.5	12.9	12.4	13.1	20.5					
23-Jul	13.0	11.8	12.0	12.1	8.2	8.9	11.0	14.1	17.4	19.4	20.3	20.4	21.1	21.8	22.1	21.9	21.3	20.6	19.5	18.0	16.1	14.2	13.0	12.7	16.3	22.1					
24-Jul	12.0	11.5	11.0	10.5	10.3	10.8	12.5	15.0	17.9	19.6	20.0	20.6	19.1	21.9	23.6	21.6	20.1	17.9	18.3	17.5	16.6	16.0	15.8	15.7	16.5	23.6					
25-Jul	14.5	13.5	12.3	13.1	13.3	12.7	13.4	15.3	16.8	18.7	19.6	19.9	20.4	18.0	17.8	18.1	17.4	17.1	16.2	14.1	13.7	13.1	11.7	10.5	15.5	20.4					
26-Jul	10.0	10.0	9.7	9.2	8.8	9.3	10.3	13.3	16.0	17.2	17.2	18.9	19.3	19.4	20.4	17.7	14.6	16.6	15.8	13.8	12.8	12.2	10.7	10.0	13.9	20.4					
27-Jul	10.0	9.4	9.6	9.5	8.5	8.8	8.7	8.3	8.3	8.1	8.7	9.4	9.9	12.0	11.3	11.3	11.2	12.0	11.0	9.3	6.8	5.6	5.2	5.4	9.1	12.0					
28-Jul	5.5	5.5	4.9	5.3	5.4	5.8	7.4	10.1	12.3	14.3	15.0	16.0	15.8	16.2	16.9	17.2	17.2	17.0	16.4	13.7	11.9	11.7	12.0	12.1	11.9	17.2					
29-Jul	11.9	11.0	10.9	11.3	10.8	11.7	12.3	13.2	15.6	18.9	20.4	21.5	22.5	23.6	24.3	23.2	24.6	24.6	23.5	20.0	18.4	18.1	17.1	16.9	17.8	24.6					
30-Jul	16.1	15.6	14.6	14.8	15.2	15.4	15.9	18.6	21.6	24.0	25.8	26.7	27.0	26.9	28.0	28.4	29.6	29.0	27.5	23.6	23.1	22.7	20.4	20.4	22.1	29.6					
31-Jul	19.6	18.7	18.3	17.8	17.6	17.9	18.4	20.3	23.3	25.9	27.6	28.4	29.7	30.1	30.5	30.2	30.0	29.6	28.5	26.3	23.6	21.9	20.4	19.5	23.9	30.5					
13.2 12.5 12.2 11.9 11.7 11.9 12.8 14.6 16.7 18.5 19.5 20.4 20.7 21.0 21.3 21.5 21.5 21.3 20.3 18.4 16.6 15.4 14.6 14.1																										Diurnal Average					
19.6 18.7 18.3 17.8 17.6 17.9 18.4 20.3 23.7 26.1 27.6 28.4 29.7 30.1 30.5 30.2 30.0 29.6 28.5 26.3 23.7 22.7 22.2 20.5																										Diurnal Maximum					



Wood Buffalo Environmental Association
Hourly Averages

Ambient Temperature 2m (AT2) - C
Stony Mountain - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ambient Temperature 2m (AT2) - C
Stony Mountain - July 2025

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	0	0.00	0.00
-20 - 0	0	0.00	0.00
0 - 10	74	9.95	9.95
10 - 20	468	62.90	72.85
> 20	202	27.15	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) - %

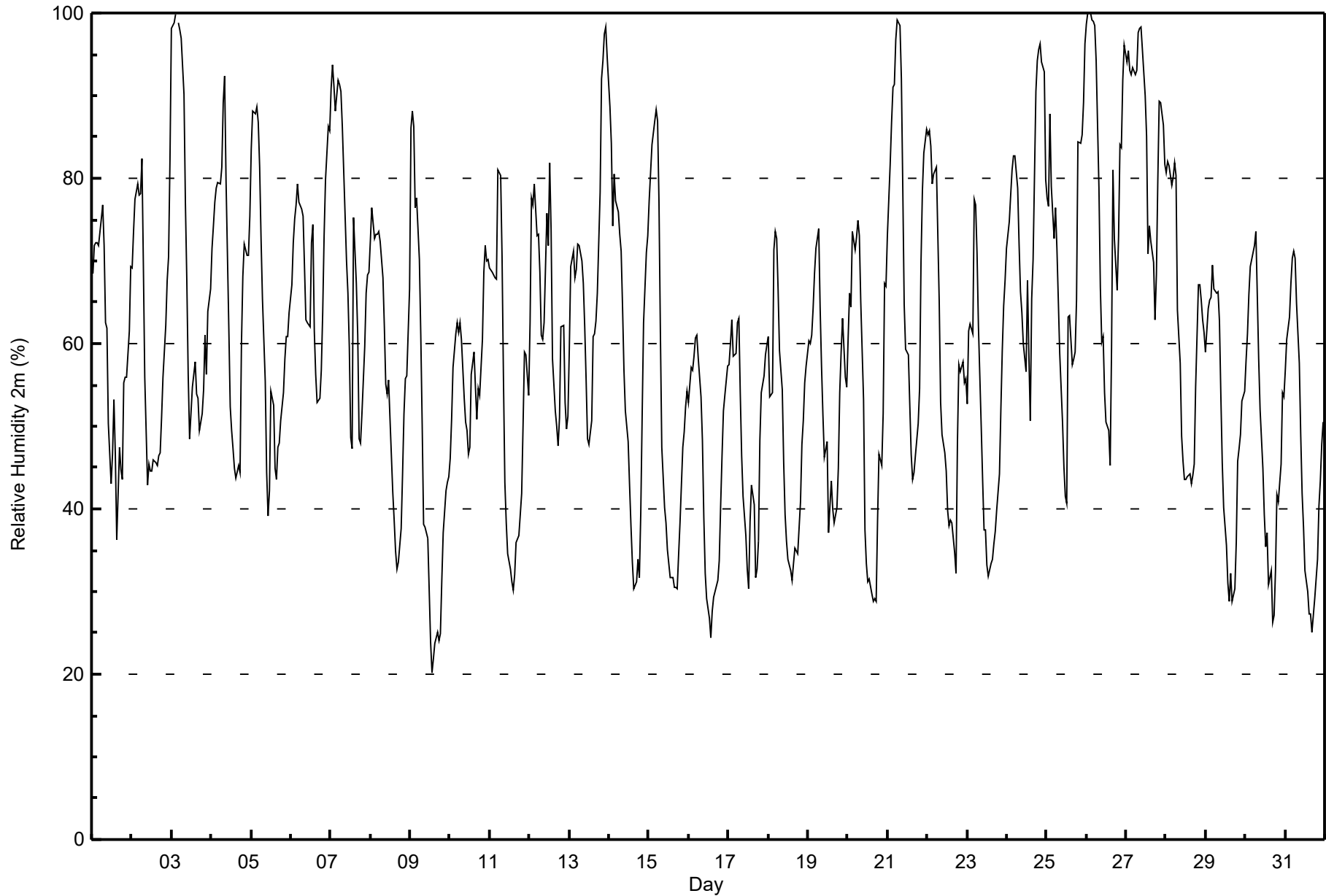
Stony Mountain - July 2025

Maximum Value: 100.0 % on Jul 26 02:00																				Maximum Daily Average: 86.0 % on Jul 27					Hours in Service: 744		
Minimum Value: 20.2 % on Jul 9 14:00																				Minimum Daily Average: 44.2 % on Jul 16					Hours of Data: 743		
Maximum Diurnal Average: 77.8 % at hour 6																				Minimum Diurnal Average: 43.3 % at hour 16					Hours of Missing Data: 1		
Monthly Average: 59.97 %																				Percentiles: P ₁ = 25.2 P ₁₀ = 34.5 Q ₁ = 45.7 Median = 59.5 Q ₃ = 72.8 P ₉₀ = 85.8 P ₉₉ = 98.8					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-Jul	68.5	71.8	72.2	72.2	71.8	75.1	76.8	71.8	62.6	61.9	50.3	43.0	46.6	53.3	46.5	36.3	47.5	44.7	43.6	55.2	55.9	56.0	61.6	69.3	58.9	76.8	
2-Jul	69.1	73.6	77.4	79.3	78.0	78.2	82.3	69.6	56.0	42.9	45.4	44.5	44.5	46.0	45.7	45.3	46.5	46.8	51.0	55.9	62.2	67.6	70.5	82.2	60.9	82.3	
3-Jul	98.1	98.8	99.8	OR	98.8	98.0	96.9	90.2	77.1	67.8	56.3	48.5	54.8	56.3	57.9	53.9	53.4	49.4	51.5	54.4	61.1	56.3	63.9	66.7	70.0	99.8	
4-Jul	71.6	74.2	77.1	78.8	79.5	79.4	81.3	89.1	92.4	79.9	61.9	52.3	49.6	47.2	45.0	43.7	45.3	44.4	59.8	68.1	72.0	70.7	70.7	75.5	67.1	92.4	
5-Jul	83.5	88.1	87.8	88.7	86.8	81.4	72.7	65.5	55.4	44.3	39.2	42.1	54.2	52.6	45.0	43.6	47.5	48.0	50.7	54.1	58.1	60.9	60.9	63.8	61.5	88.7	
6-Jul	67.1	72.1	75.1	76.8	79.4	77.1	76.3	75.3	69.4	62.9	62.5	62.0	72.2	74.4	61.5	56.3	52.9	53.3	56.7	63.7	73.0	79.8	86.3	85.8	69.7	86.3	
7-Jul	90.8	93.7	91.2	88.1	91.9	91.4	90.5	86.3	80.8	69.9	66.1	59.5	48.7	47.2	75.3	67.3	61.1	48.5	48.0	51.5	59.7	66.0	68.4	68.7	71.3	93.7	
8-Jul	72.4	76.4	72.7	73.2	73.1	73.5	72.3	67.9	62.0	55.2	53.8	55.5	51.0	42.0	38.6	34.9	32.7	33.6	37.5	44.3	51.5	55.8	56.2	66.7	56.4	76.4	
9-Jul	86.0	88.2	86.3	76.5	77.6	70.1	61.1	50.2	38.1	37.7	36.4	30.2	23.9	20.2	21.9	23.8	25.2	24.0	24.8	31.3	37.1	42.1	43.2	44.0	45.8	88.2	
10-Jul	46.2	50.8	57.1	61.2	62.5	61.3	62.5	60.5	53.4	50.5	49.5	46.6	47.4	56.3	59.0	54.7	50.8	54.5	53.7	60.5	68.7	71.8	69.9	70.2	57.5	71.8	
11-Jul	69.1	68.6	68.2	68.0	67.8	81.1	80.4	70.5	55.8	43.2	38.4	34.5	32.7	31.2	30.2	32.0	35.9	36.9	39.3	41.8	50.1	59.0	58.6	53.7	52.0	81.1	
12-Jul	62.6	77.7	76.7	79.3	73.1	73.1	68.7	61.0	60.5	62.6	75.7	71.9	81.8	73.8	58.1	51.9	50.0	47.6	51.0	62.1	62.3	52.8	49.6	51.1	64.0	81.8	
13-Jul	59.3	69.4	71.1	68.0	68.9	72.1	71.8	70.0	67.3	62.0	55.6	48.4	47.8	50.7	60.9	61.3	62.7	66.1	78.3	92.1	94.3	97.4	98.3	94.7	70.4	98.3	
14-Jul	88.6	84.2	74.2	80.6	77.3	76.0	73.3	71.2	64.4	56.7	51.9	48.2	42.9	38.0	33.6	30.3	31.1	33.9	31.7	39.4	51.4	62.6	71.1	73.0	57.7	88.6	
15-Jul	77.2	80.7	84.1	87.0	88.3	87.0	77.1	61.3	47.5	40.2	38.3	35.1	33.4	31.8	31.6	30.5	30.5	30.3	34.4	38.4	47.5	49.4	52.4	54.3	52.8	88.3	
16-Jul	53.0	57.1	56.8	58.4	60.7	61.0	58.4	53.6	48.4	38.9	32.1	29.1	26.8	24.4	27.6	29.3	30.0	31.3	33.8	40.3	46.5	51.9	53.7	57.2	44.2	61.0	
17-Jul	57.4	60.0	62.9	58.4	58.9	62.5	63.1	54.1	46.4	41.5	36.7	32.7	30.3	38.5	42.9	40.5	31.7	32.7	36.1	48.4	54.0	56.2	58.7	59.8	48.5	63.1	
18-Jul	60.9	53.5	54.1	71.4	73.6	72.6	66.5	59.2	54.3	45.7	39.2	36.1	33.9	32.5	31.4	33.4	35.2	35.0	34.5	40.8	47.9	50.7	55.3	57.2	49.0	73.6	
19-Jul	60.3	60.0	61.0	64.2	68.5	71.5	73.9	64.4	57.3	51.3	46.3	48.1	37.1	40.3	43.3	40.1	38.3	40.2	44.9	54.1	59.0	63.0	56.0	54.7	54.1	73.9	
20-Jul	60.7	66.1	64.5	73.5	71.4	72.9	75.0	73.1	65.0	53.2	37.4	33.4	31.1	31.5	29.7	28.8	29.2	28.8	38.6	46.6	45.3	51.5	67.2	66.9	51.7	75.0	
21-Jul	73.1	81.6	86.8	91.0	91.4	96.8	99.1	98.4	92.1	78.8	64.7	59.3	58.7	52.5	46.7	43.5	44.4	46.5	50.3	54.5	69.9	78.5	83.1	85.9	72.0	99.1	
22-Jul	85.2	85.8	83.9	79.3	80.5	81.3	73.2	65.1	52.9	49.0	46.9	44.6	39.8	38.0	38.6	38.3	34.8	32.3	47.9	57.4	56.6	57.9	55.2	55.8	57.5	85.8	
23-Jul	52.7	61.5	62.3	61.1	77.4	76.8	70.8	62.0	49.9	43.5	37.5	37.4	33.2	31.9	33.3	33.9	35.8	37.4	39.8	44.3	52.1	59.1	64.6	67.6	51.1	77.4	
24-Jul	71.6	74.7	78.0	81.0	82.7	82.7	78.7	72.0	66.2	63.7	59.9	56.6	67.7	58.7	50.7	65.4	70.2	90.5	94.3	95.6	96.2	94.0	92.9	79.8	76.0	96.2	
25-Jul	77.6	76.7	87.9	79.0	72.7	76.4	71.5	65.2	58.8	50.5	45.2	41.5	40.6	63.3	63.4	57.5	58.1	58.9	65.3	84.4	84.2	85.3	89.2	96.2	68.7	96.2	
26-Jul	98.7	100.0	100.0	99.2	99.0	98.4	94.3	78.9	66.8	60.1	60.8	54.0	50.5	49.4	45.3	59.5	81.0	72.7	66.4	72.9	84.0	83.7	91.8	96.0	77.6	100.0	
27-Jul	94.0	95.5	93.0	92.6	93.3	92.5	93.1	97.7	98.2	98.3	95.6	90.0	85.0	70.8	74.2	72.4	69.9	63.0	68.3	79.7	89.3	89.2	86.5	81.7	86.0	98.3	
28-Jul	80.6	82.0	81.5	79.1	80.1	81.8	80.4	64.1	57.6	48.8	45.7	43.5	43.6	43.9	44.2	43.0	44.1	45.4	54.8	67.2	67.1	65.2	62.9	61.3	61.2	82.0	
29-Jul	59.0	64.2	65.2	65.6	69.5	66.6	66.1	66.2	62.8	53.8	45.6	40.2	35.6	31.1	28.8	32.2	28.8	30.3	35.9	45.7	47.3	48.9	53.1	54.2	49.9	69.5	
30-Jul	58.0	61.1	66.0	69.3	70.9	71.9	73.5	66.0	58.1	52.1	44.9	39.4	35.5	37.1	30.8	32.5	26.3	27.0	32.5	41.6	40.9	45.4	54.1	53.6	49.5	73.5	
31-Jul	56.8	60.5	63.2	67.3	70.3	71.2	70.3	65.0	57.6	49.1	41.9	37.8	32.5	30.0	27.3	27.4	25.2	27.2	29.1	33.9	40.4	43.5	47.7	50.5	46.9	71.2	
71.3 74.5 75.4 75.6 77.3 77.8 75.9 69.9 62.4 55.4 50.4 46.7 45.6 45.0 44.2 43.3 43.7 43.9 47.9 55.5 60.8 63.6 66.2 67.7																										Diurnal Average	
98.7 100.0 100.0 99.2 99.0 98.4 99.1 98.4 98.2 98.3 95.6 90.0 85.0 74.4 75.3 72.4 81.0 90.5 94.3 95.6 96.2 97.4 98.3 96.2																										Diurnal Maximum	
OR - Out of Range																											



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 2m (RH2) - %
Stony Mountain - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

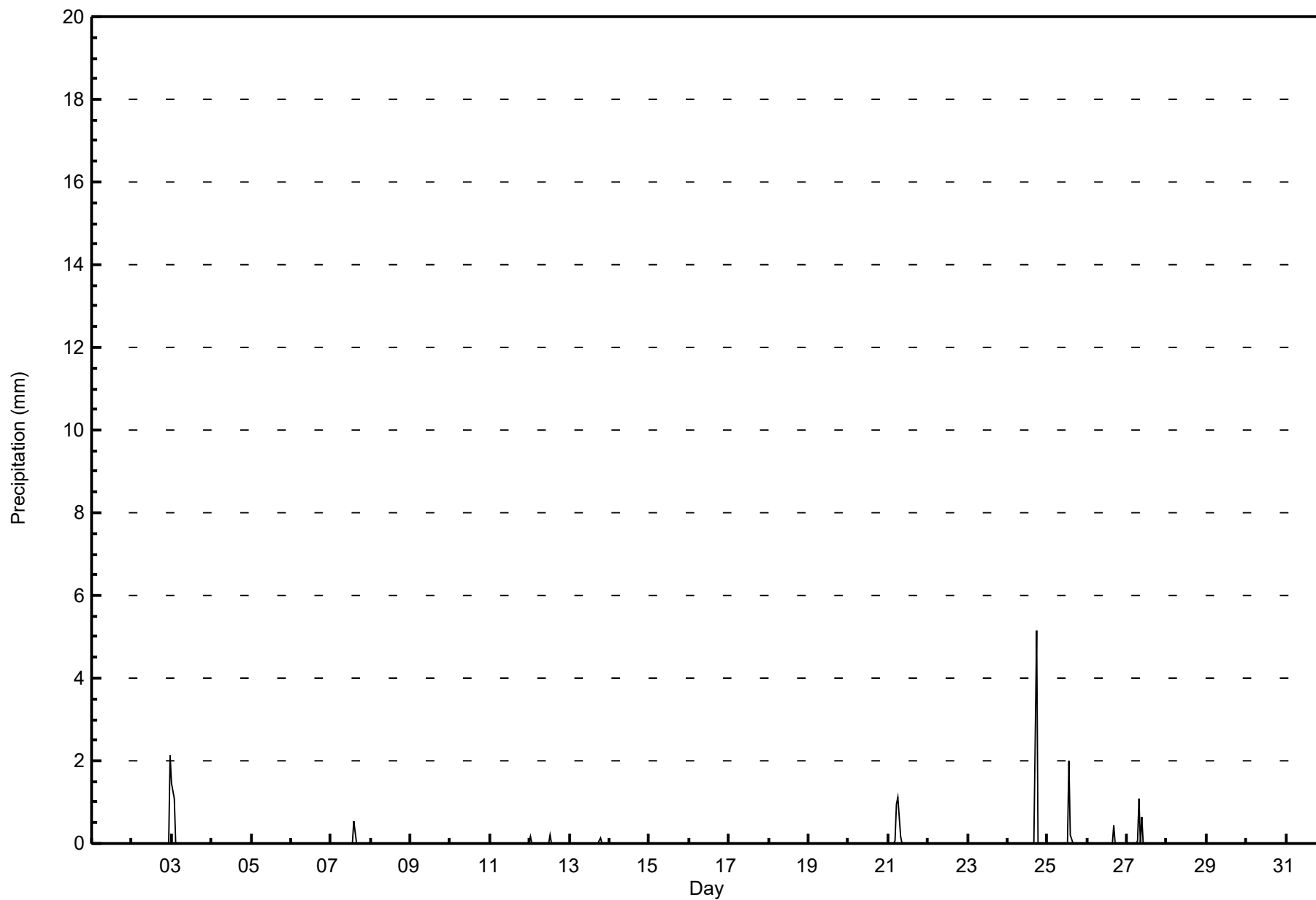
Precipitation (PC) - mm Stony Mountain - July 2025

Maximum Value: 5.1 mm on Jul 24 18:00																		Maximum Daily Total: 5.1 mm on Jul 24										Hours in Service: 744	
Minimum Value: 0.0 mm on Jul 1 01:00																		Minimum Daily Total: 0.0 mm on Jul 1										Hours of Data: 740	
Maximum Diurnal Total: 5.1 mm at hour 18																		Minimum Diurnal Total: 0.0 mm at hour 3										Hours of Missing Data: 4	
Monthly Total: 17.60 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 = 0.8										Hours of Calibration: 0	
																												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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	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	2.1	2.1			
3-Jul	1.5	1.1	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	2.6	1.5			
4-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5			
8-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.2			
13-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.1	0.1			
14-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.1	0.9	1.1	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	2.3	1.1			
22-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	5.1	5.1			
25-Jul	0.0	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	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	2.0			
26-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5			
27-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.1	0.0	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	0.0	1.8	1.1			
28-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DF	DF	0.0	0.0			
29-Jul	DF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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 1.1 0.0 0.0 0.1 0.9 1.2 1.2 0.0 0.7 0.0 0.0 0.2 2.0 0.7 0.0 0.5 5.1 0.1 0.0 0.0 0.0 0.0 2.1																								Diurnal Average					
1.5 1.1 0.0 0.0 0.1 0.9 1.1 1.1 0.0 0.7 0.0 0.0 0.2 2.0 0.5 0.0 0.5 5.1 0.1 0.0 0.0 0.0 0.0 2.1																								Diurnal Maximum					
M - Maintenance DF - DAS Failure																													



Wood Buffalo Environmental Association
Hourly Averages

Precipitation (PC) - mm
Stony Mountain - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Precipitation (PC) - mm
Stony Mountain - July 2025

Concentration Ranges (mm)	Number of Hours	%	Cumulative %
0 - 0.3	729	98.51	98.51
0.4 - 0.5	2	0.27	98.78
0.6 - 0.7	1	0.14	98.92
0.8 - 1.4	4	0.54	99.46
1.5 - 10	3	0.41	99.86
> 10	0	0.00	99.86

Total Number of Valid Hours: 740

Total Number of Hours: 744



Wood Buffalo Environmental Association

Summary of Hour Averages

Leaf Wetness (LW) - %

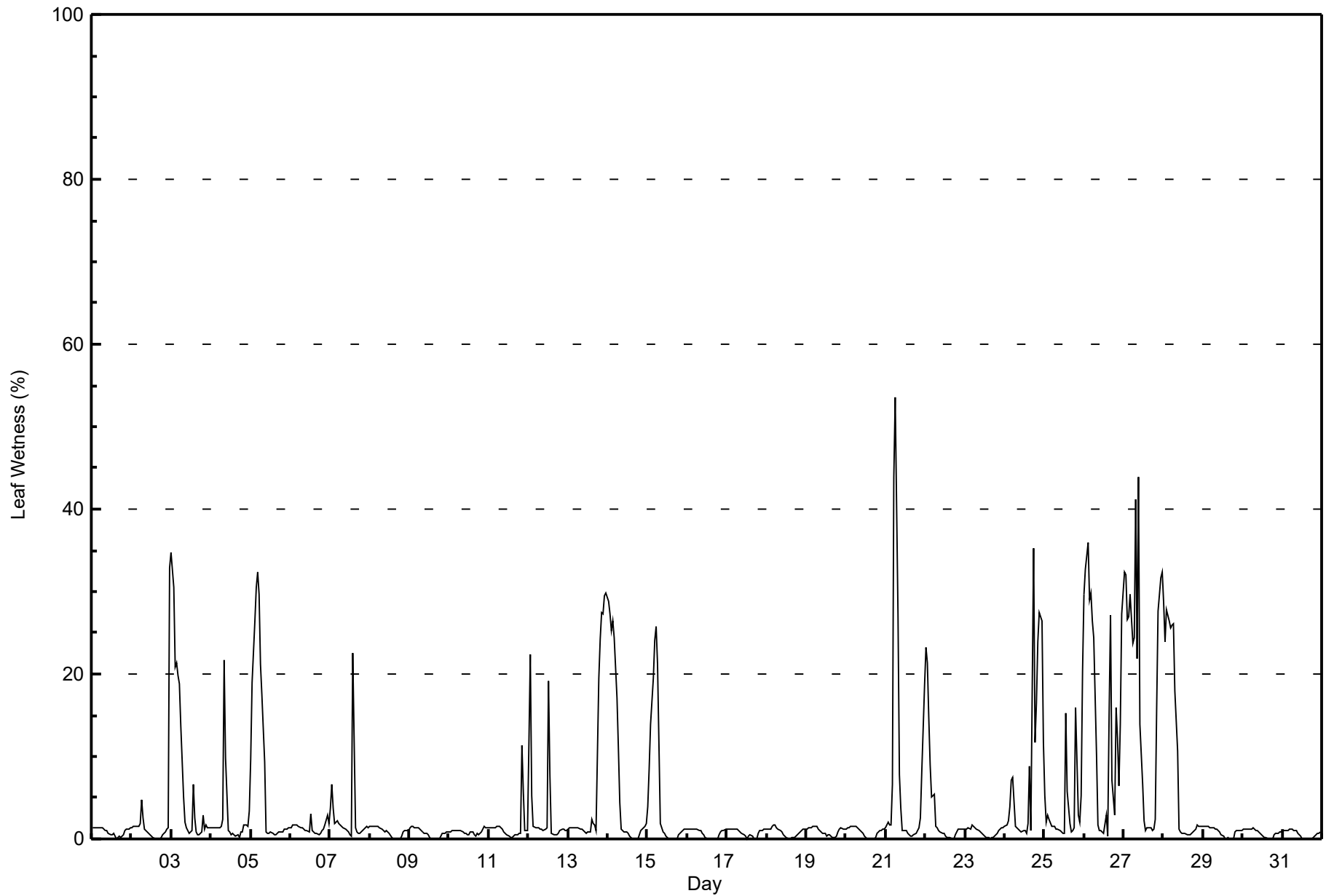
Stony Mountain - July 2025

Maximum Value: 53.5 % on Jul 21 07:00																				Maximum Daily Average: 18.4 % on Jul 27					Hours in Service: 744				
Minimum Value: 0.0 % on Jul 1 16:00																				Minimum Daily Average: 0.6 % on Jul 31					Hours of Data: 744				
Maximum Diurnal Average: 8.2 % at hour 6																				Minimum Diurnal Average: 0.8 % at hour 12					Hours of Missing Data: 0				
Monthly Average: 4.13 %																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.2 Q ₁ = 0.6 Median = 1.1 Q ₃ = 1.5 P ₉₀ = 17.0 P ₉₉ = 32.8					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-Jul	1.3	1.4	1.4	1.4	1.4	1.3	1.3	1.2	1.0	1.0	0.7	0.5	0.6	0.7	0.3	0.0	0.4	0.2	0.3	0.6	1.1	1.1	1.3	1.4	0.9	1.4			
2-Jul	1.4	1.4	1.5	1.5	1.5	1.9	4.7	2.6	1.1	0.8	0.6	0.6	0.3	0.1	0.0	0.0	0.0	0.0	0.2	0.6	0.9	1.2	1.3	32.8	2.4	32.8			
3-Jul	34.8	30.5	20.9	21.3	19.9	18.7	13.8	5.1	2.1	1.3	1.0	0.8	1.1	6.6	2.6	0.8	0.5	0.5	0.8	2.9	1.2	1.7	1.3	1.3	8.0	34.8			
4-Jul	1.3	1.4	1.4	1.4	1.4	1.3	1.4	2.3	21.8	9.9	1.1	0.8	0.6	0.6	0.5	0.3	0.5	0.2	0.8	0.8	1.7	1.8	1.6	3.4	2.4	21.8			
5-Jul	9.7	19.0	26.4	30.5	32.4	29.7	21.1	17.4	9.4	0.9	0.7	0.6	0.8	0.7	0.6	0.5	0.7	0.8	0.8	0.8	1.2	1.2	1.3	1.3	8.7	32.4			
6-Jul	1.4	1.6	1.7	1.7	1.7	1.5	1.4	1.3	1.1	1.0	0.9	0.9	3.0	1.0	0.8	0.7	0.6	0.6	0.6	1.0	1.2	1.7	2.9	1.8	1.3	3.0			
7-Jul	3.8	6.5	3.8	1.9	2.2	1.9	1.7	1.5	1.4	1.2	1.1	0.9	0.4	0.4	22.5	1.3	0.9	0.6	0.7	0.9	1.2	1.4	1.5	1.4	2.5	22.5			
8-Jul	1.5	1.6	1.4	1.4	1.4	1.5	1.4	1.3	1.1	0.9	0.9	0.9	0.7	0.2	0.0	0.0	0.0	0.1	0.4	0.8	1.0	0.9	1.0	0.9	1.0	0.9	1.6		
9-Jul	1.3	1.4	1.5	1.4	1.4	1.4	1.2	1.1	0.8	0.7	0.6	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.7	0.8	0.8	0.8	0.7	1.5			
10-Jul	0.8	0.9	1.0	1.0	1.1	1.1	1.1	1.0	0.9	0.8	0.6	0.5	0.5	0.8	0.8	0.5	0.3	0.6	0.5	0.8	1.3	1.5	1.4	1.4	0.9	1.5			
11-Jul	1.4	1.4	1.3	1.3	1.4	1.5	1.5	1.3	1.1	0.9	0.7	0.5	0.3	0.2	0.2	0.3	0.4	0.4	0.7	0.7	11.4	5.8	1.1	1.1	1.5	11.4			
12-Jul	11.5	22.3	5.3	1.5	1.4	1.4	1.3	1.2	1.1	1.1	1.3	1.3	19.1	7.7	0.6	0.5	0.5	0.5	0.7	1.0	1.2	1.1	1.1	1.1	3.6	22.3			
13-Jul	1.2	1.3	1.4	1.3	1.3	1.4	1.3	1.2	1.1	1.0	0.8	0.7	0.8	0.8	2.3	1.8	1.7	1.0	19.5	24.2	27.4	27.2	29.5	29.8	7.5	29.8			
14-Jul	28.8	27.3	25.2	26.5	24.4	17.1	11.1	4.4	1.2	1.0	0.9	0.8	0.6	0.4	0.2	0.0	0.0	0.0	0.0	0.5	1.0	1.3	1.5	1.8	7.3	28.8			
15-Jul	3.9	8.4	13.9	19.6	24.1	25.7	21.2	11.5	1.8	0.9	0.6	0.4	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.5	0.9	1.0	1.2	1.2	5.7	25.7			
16-Jul	1.2	1.3	1.2	1.2	1.3	1.2	1.2	1.1	0.9	0.7	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.9	1.0	1.1	1.1	0.7	1.3			
17-Jul	1.1	1.2	1.3	1.2	1.2	1.2	1.2	1.0	0.8	0.7	0.4	0.3	0.0	0.4	0.5	0.4	0.0	0.0	0.0	0.7	1.0	1.1	1.2	1.2	0.7	1.3			
18-Jul	1.2	1.1	1.1	1.5	1.6	1.7	1.4	1.2	1.0	0.8	0.6	0.4	0.2	0.1	0.0	0.1	0.2	0.1	0.3	0.7	0.9	1.1	1.1	1.2	0.8	1.7			
19-Jul	1.3	1.3	1.4	1.4	1.5	1.5	1.5	1.3	1.1	0.9	0.7	0.7	0.3	0.4	0.5	0.3	0.2	0.2	0.4	0.9	1.2	1.3	1.2	1.1	0.9	1.5			
20-Jul	1.2	1.4	1.3	1.6	1.5	1.6	1.5	1.3	1.1	0.9	0.6	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.7	0.9	1.0	1.2	1.1	0.8	1.6			
21-Jul	1.3	2.0	1.7	1.7	6.6	43.8	53.5	27.1	7.7	3.7	1.0	1.0	1.0	0.7	0.5	0.3	0.4	0.5	0.8	1.0	1.3	2.5	8.2	18.7	7.8	53.5			
22-Jul	23.3	21.4	14.8	9.0	5.0	5.4	1.5	1.3	1.1	0.9	0.7	0.6	0.3	0.2	0.2	0.2	0.0	0.0	0.6	0.9	1.1	1.3	1.3	1.3	3.8	23.3			
23-Jul	1.2	1.3	1.3	1.2	1.6	1.5	1.4	1.3	1.1	0.9	0.6	0.5	0.3	0.2	0.1	0.0	0.2	0.1	0.3	0.7	1.0	1.2	1.3	1.4	0.9	1.6			
24-Jul	1.5	1.6	2.2	3.9	7.1	7.4	1.5	1.3	1.1	1.0	0.9	1.0	1.1	0.6	1.8	8.8	1.0	35.3	11.7	16.5	23.9	27.5	26.4	11.8	8.2	35.3			
25-Jul	5.3	2.1	2.8	2.4	1.5	1.6	1.5	1.3	1.2	1.0	0.8	0.7	0.6	15.2	5.8	1.9	0.8	0.9	1.3	16.0	2.9	2.0	5.3	20.3	4.0	20.3			
26-Jul	29.6	32.8	36.0	29.0	29.9	26.4	24.4	10.2	1.7	1.0	1.0	0.8	0.6	2.9	0.3	15.2	27.2	7.1	2.9	16.0	12.3	6.5	13.9	27.3	14.8	36.0			
27-Jul	32.3	32.0	26.6	27.0	29.6	23.8	24.4	41.2	21.9	43.9	13.9	6.6	2.3	1.0	1.3	1.3	1.3	0.9	1.2	2.5	15.7	27.7	31.7	32.4	18.4	43.9			
28-Jul	28.6	23.9	27.8	26.5	25.5	26.0	26.0	18.0	10.6	1.2	0.9	0.7	0.7	0.6	0.6	0.5	0.5	0.7	0.8	1.2	1.6	1.6	1.5	1.5	9.5	28.6			
29-Jul	1.5	1.5	1.5	1.4	1.4	1.3	1.3	1.2	1.1	1.0	0.8	0.5	0.3	0.0	0.0	0.2	0.0	0.0	0.0	0.8	1.0	1.0	1.1	1.1	0.8	1.5			
30-Jul	1.1	1.2	1.2	1.3	1.3	1.3	1.3	1.2	1.1	0.9	0.7	0.4	0.4	0.2	0.1	0.0	0.0	0.0	0.0	0.6	0.7	0.7	0.9	0.9	0.7	1.3			
31-Jul	0.9	1.0	1.1	1.1	1.2	1.2	1.2	1.1	0.9	0.7	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.6	0.6	0.7	0.8	0.6	1.2			
7.6 8.2 7.5 7.3 7.6 8.2 7.4 5.3 3.3 2.7 1.2 0.8 1.2 1.4 1.4 1.2 1.2 1.7 1.5 3.1 3.9 4.1 4.7 6.6																									Diurnal Average				
34.8 32.8 36.0 30.5 32.4 43.8 53.5 41.2 21.9 43.9 13.9 6.6 19.1 15.2 22.5 15.2 27.2 35.3 19.5 24.2 27.4 27.7 31.7 32.8																									Diurnal Maximum				



Wood Buffalo Environmental Association
Hourly Averages

Leaf Wetness (LW) - %
Stony Mountain - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Leaf Wetness (LW) - %
Stony Mountain - July 2025

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 0.3	113	15.19	15.19
0.4 - 0.5	45	6.05	21.24
0.6 - 0.7	66	8.87	30.11
0.8 - 1.4	307	41.26	71.37
1.5 - 10	94	12.63	84.01
> 10	95	12.77	96.77

Total Number of Valid Hours: 744

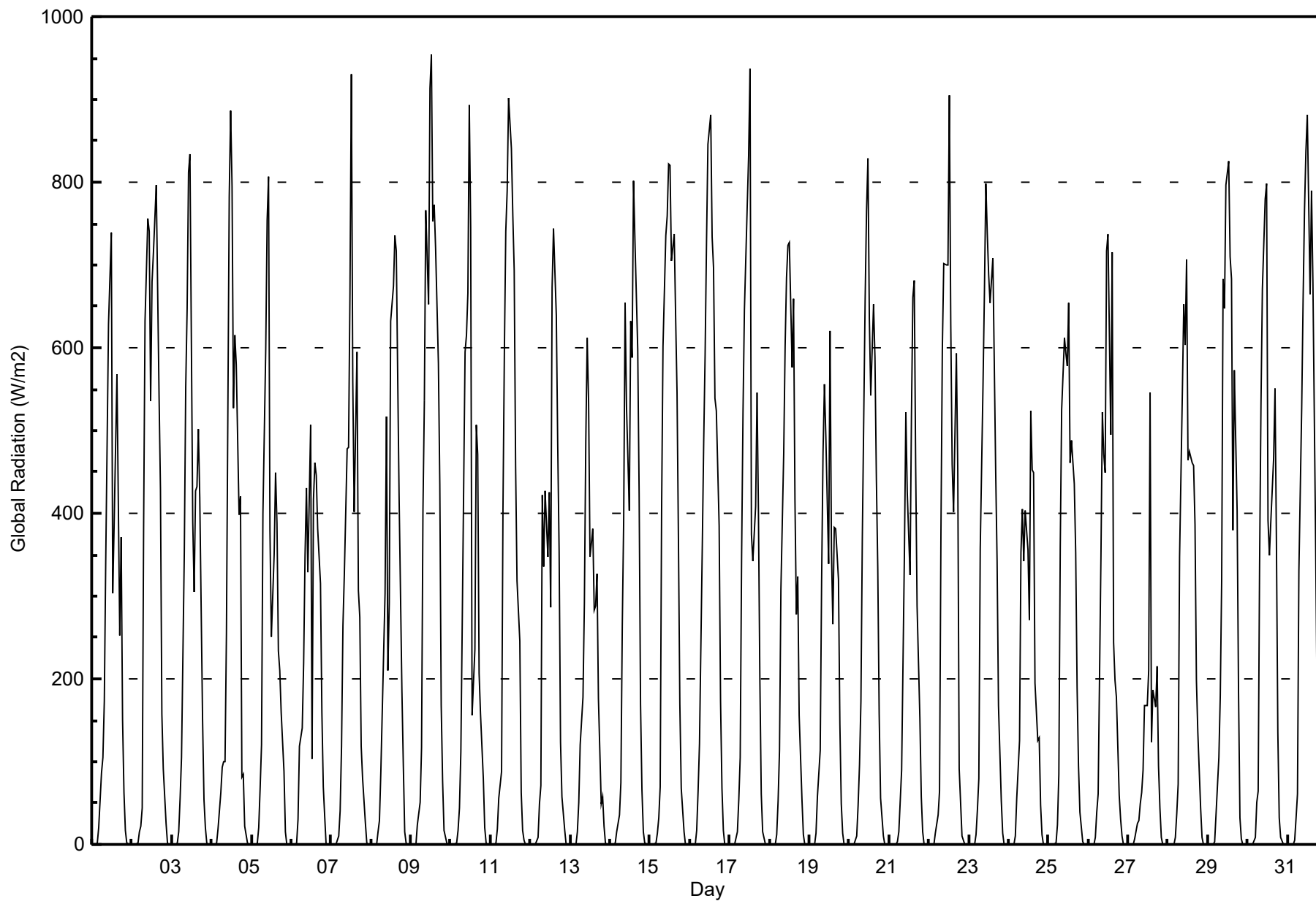
Total Number of Hours: 744

Maximum Value: 954.4 W/m2 on Jul 9 13:00																					Maximum Daily Average: 331.0 W/m2 on Jul 9				Hours in Service: 744	
Minimum Value: 0.0 W/m2 on Jul 2 23:00																					Minimum Daily Average: 91.4 W/m2 on Jul 27				Hours of Data: 744	
Maximum Diurnal Average: 649.2 W/m2 at hour 12																					Minimum Diurnal Average: 0.0 W/m2 at hour 2				Hours of Missing Data: 0	
Monthly Average: 244.97 W/m2																					Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.6 Median = 104.6 Q ₃ = 457.1 P ₉₀ = 681.3 P ₉₉ = 884.8				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-Jul	0.1	0.0	0.0	1.7	19.6	86.7	104.9	172.7	341.4	485.3	628.5	739.8	302.8	386.1	477.5	567.3	252.5	371.6	150.6	62.9	16.5	1.6	0.1	0.0	215.4	739.8
2-Jul	0.1	0.1	0.1	1.4	14.6	22.8	43.4	382.4	631.4	755.5	741.4	536.0	679.7	714.9	796.5	669.1	542.9	429.1	156.9	91.0	25.5	1.0	0.0	0.0	301.5	796.5
3-Jul	0.0	0.0	0.0	1.3	15.0	56.3	105.2	354.3	552.4	647.6	812.0	833.9	390.2	305.8	427.0	432.3	502.4	418.7	151.4	53.9	19.6	0.9	0.0	0.0	253.3	833.9
4-Jul	0.0	0.0	0.0	1.5	18.7	62.8	93.5	99.5	99.4	255.0	783.8	886.9	794.1	526.7	614.8	579.9	398.6	421.2	81.3	85.5	21.7	1.8	0.0	0.1	242.8	886.9
5-Jul	0.0	0.1	0.3	2.4	20.6	68.1	120.9	399.5	597.8	754.5	807.6	379.1	250.7	351.1	448.6	387.8	233.7	209.6	159.9	88.5	15.4	0.5	0.0	0.0	220.7	807.6
6-Jul	0.0	0.1	0.1	2.4	30.3	118.8	140.0	219.0	348.8	431.0	329.4	506.5	103.5	417.1	460.7	445.1	381.9	314.9	158.7	69.9	34.6	0.8	0.0	0.0	188.1	506.5
7-Jul	0.0	0.0	0.0	0.5	9.7	40.2	118.5	264.4	326.7	477.2	478.9	665.3	930.6	559.0	401.5	595.0	306.3	275.1	118.5	79.6	25.8	1.2	0.0	0.0	236.4	930.6
8-Jul	0.0	0.0	0.0	0.8	15.7	28.2	88.1	232.8	303.2	517.8	209.6	291.9	631.5	674.5	735.2	716.9	566.7	420.5	186.5	97.0	15.0	0.9	0.1	0.0	238.9	735.2
9-Jul	0.0	0.0	0.0	0.8	23.0	51.2	116.9	402.8	536.3	765.6	651.7	913.7	954.4	753.3	773.6	721.2	582.2	435.4	168.5	75.5	17.1	1.3	0.0	0.0	331.0	954.4
10-Jul	0.0	0.0	0.0	1.1	16.3	44.4	111.3	269.6	594.6	615.7	665.5	893.8	746.4	156.4	235.1	507.4	470.8	206.0	158.1	79.2	20.5	1.6	0.0	0.0	241.4	893.8
11-Jul	0.0	0.0	0.0	1.3	17.9	56.7	88.1	405.0	594.2	740.6	789.3	902.2	840.5	760.8	693.9	457.0	319.2	246.0	63.3	17.7	5.4	0.4	0.0	0.0	291.6	902.2
12-Jul	0.0	0.0	0.1	0.4	8.2	49.7	71.0	421.7	336.4	427.7	348.1	425.5	285.6	673.3	743.3	638.8	483.2	354.5	124.0	57.2	17.5	0.7	0.0	0.0	227.8	743.3
13-Jul	0.0	0.0	0.0	0.3	15.0	51.2	120.8	177.8	292.0	485.8	611.1	533.5	347.5	381.3	283.4	288.0	326.4	176.6	49.6	57.7	21.3	1.2	0.1	0.0	175.9	611.1
14-Jul	0.0	0.0	0.0	0.9	14.7	35.5	74.2	265.0	393.4	653.5	529.5	404.2	632.9	588.9	801.3	729.8	597.5	424.3	170.0	66.8	14.5	0.9	0.0	0.0	266.6	801.3
15-Jul	0.1	0.0	0.0	0.9	13.4	32.6	70.0	401.3	601.7	736.3	759.6	821.7	820.1	705.0	737.7	637.1	545.8	367.9	169.2	67.1	15.5	0.8	0.1	0.1	312.7	821.7
16-Jul	0.1	0.1	0.1	0.8	17.3	64.1	122.0	360.3	487.3	592.3	726.9	846.3	881.5	734.3	696.1	539.7	523.7	384.3	172.8	68.4	16.3	0.8	0.1	0.1	301.5	881.5
17-Jul	0.1	0.1	0.1	0.7	15.8	54.5	104.6	347.0	522.2	646.6	771.2	832.2	936.6	373.9	341.9	408.8	545.8	400.3	200.1	60.6	15.6	0.7	0.1	0.1	274.1	936.6
18-Jul	0.1	0.2	0.1	0.6	12.2	52.6	114.1	308.7	472.5	601.0	685.0	724.2	726.5	576.9	659.3	416.9	278.0	323.1	155.1	54.5	12.1	0.4	0.2	0.1	257.3	726.5
19-Jul	0.1	0.1	0.1	0.4	14.1	58.3	113.9	318.0	473.2	555.1	493.4	338.2	620.9	356.3	265.6	383.8	382.0	320.5	145.2	49.7	14.2	0.4	0.0	0.0	204.3	620.9
20-Jul	0.1	0.0	0.0	0.2	10.4	48.2	96.9	173.5	371.5	656.8	765.4	828.0	635.5	541.6	653.1	588.7	442.0	333.9	158.2	56.4	9.4	0.2	0.0	0.0	265.4	828.0
21-Jul	0.0	0.0	0.0	0.0	0.7	4.0	15.8	90.4	221.8	353.4	521.4	425.6	325.5	519.2	661.3	682.0	457.4	287.6	153.3	57.3	14.9	0.8	0.0	0.0	199.7	682.0
22-Jul	0.0	0.0	0.0	0.3	12.8	35.1	64.0	375.7	598.1	701.9	699.9	699.7	904.3	629.1	459.7	401.0	593.7	450.0	90.9	51.6	10.1	0.7	0.2	0.1	282.5	904.3
23-Jul	0.1	0.1	0.1	0.2	11.4	42.7	80.2	358.2	557.5	668.9	797.7	739.2	688.9	653.5	707.7	581.2	450.6	343.0	168.5	52.8	13.2	0.3	0.1	0.1	288.2	797.7
24-Jul	0.1	0.2	0.1	0.3	10.7	55.9	124.7	352.1	405.8	342.1	404.0	356.3	270.7	523.1	451.9	449.8	194.4	124.9	128.1	47.9	12.3	0.2	0.1	0.1	177.3	523.1
25-Jul	0.1	0.0	0.0	0.0	1.6	23.7	84.7	359.7	526.0	612.3	592.5	578.1	653.9	461.9	488.6	436.0	352.3	190.2	94.4	39.0	4.2	0.0	0.1	0.0	229.1	653.9
26-Jul	0.0	0.0	0.0	0.1	8.5	39.5	61.6	348.8	521.8	470.6	448.6	716.5	737.9	495.1	715.4	244.1	197.9	178.3	58.5	30.0	9.9	0.2	0.0	0.0	220.1	737.9
27-Jul	0.0	0.0	0.0	0.0	6.3	25.8	29.3	49.4	62.9	90.1	168.5	168.4	210.2	545.2	124.0	185.7	165.5	215.0	94.7	43.7	8.7	0.2	0.1	0.1	91.4	545.2
28-Jul	0.1	0.0	0.1	0.1	7.8	37.2	72.9	347.4	548.0	651.9	603.8	707.2	464.5	474.4	460.4	456.9	385.8	197.7	135.4	44.3	8.6	0.3	0.1	0.1	233.5	707.2
29-Jul	0.1	0.1	0.0	0.0	4.0	37.8	104.5	179.1	321.0	683.2	647.4	796.1	825.2	709.4	682.3	380.1	573.5	403.0	184.1	33.0	7.0	0.3	0.1	0.1	273.8	825.2
30-Jul	0.1	0.1	0.0	0.1	8.0	50.3	64.6	337.9	531.8	670.6	779.0	798.0	390.7	349.8	389.5	466.5	551.4	364.9	135.3	32.7	8.5	0.1	0.1	0.0	247.1	798.0
31-Jul	0.1	0.0	0.0	0.0	5.9	31.6	60.6	330.6	527.0	657.6	765.9	838.0	881.9	664.2	789.5	677.6	515.5	353.3	166.7	35.0	6.4	0.1	0.1	0.2	304.5	881.9
0.1 0.0 0.1 0.7 12.9 47.3 89.7 293.7 441.9 571.1 613.4 649.2 608.6 534.3 554.1 505.5 423.2 320.7 139.0 58.3 14.7 0.7 0.1 0.1 Diurnal Average																										
0.1 0.2 0.3 2.4 30.3 118.8 140.0 421.7 631.4 765.6 812.0 913.7 954.4 760.8 801.3 729.8 597.5 450.0 200.1 97.0 34.6 1.8 0.2 0.2 Diurnal Maximum																										



Wood Buffalo Environmental Association
Hourly Averages

Global Radiation (GR) - W/m²
Stony Mountain - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Global Radiation (GR) - W/m2
Stony Mountain - July 2025

Concentration Ranges (W/m2)	Number of Hours	%	Cumulative %
0 - 20	273	36.69	36.69
21 - 100	97	13.04	49.73
101 - 300	85	11.42	61.16
301 - 600	175	23.52	84.68
601 - 900	108	14.52	99.19
> 900	6	0.81	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

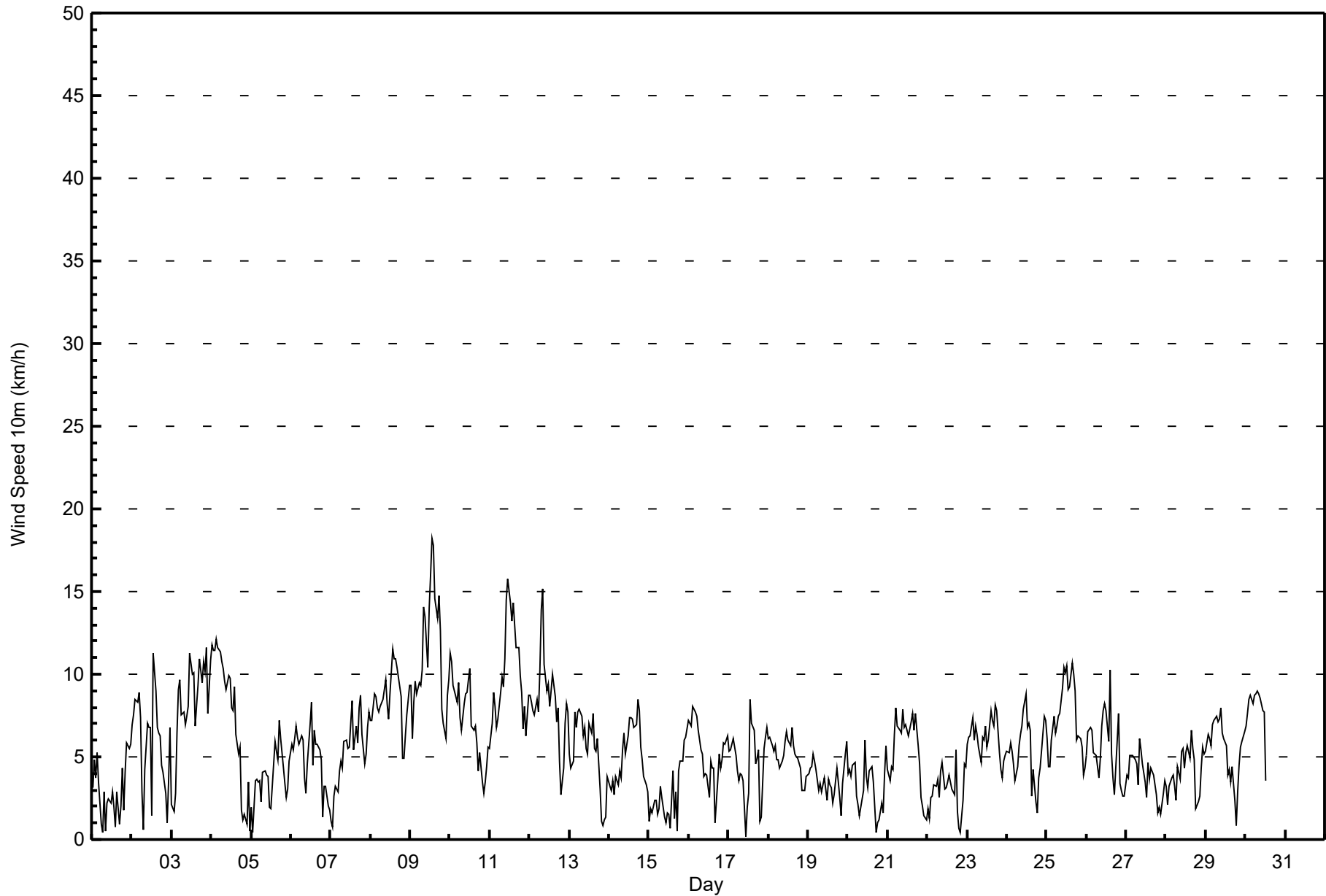
Stony Mountain - July 2025

Maximum Speed: 18 km/h on Jul 9 14:00										Maximum Daily Speed Average: 10.8 km/h on Jul 9										Hours in Service: 711							
Minimum Speed Value: 0 km/h on Jul 17 11:00										Minimum Daily Speed Average: 1.3 km/h on Jul 20										Hours of Data: 709							
Maximum Diurnal Speed Average: 4.5 km/h at hour 4										Minimum Diurnal Speed Average: 2.0 km/h at hour 21										Hours of Missing Data: 2							
Monthly Average Velocity: 3.2 km/h 236.8 deg										Percentiles: P ₁ = 1 P ₁₀ = 2 Q ₁ = 4 Median = 6 Q ₃ = 7 P ₉₀ = 9 P ₉₉ = 14										Percent Operational Time: 100.0							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
1-Jul	E3	E5	SE4	S5	SSW3	WSW1	SSE0	SSW3	ENE0	ENE2	E2	NNE2	N3	NNE2	NNW1	SSW3	N1	SW2	SSW4	S2	SSW4	SSW6	SSW6	SSW6	S1.5	SSW6	
2-Jul	SSW7	SSW8	SSW9	SSW8	SSW9	SSW7	SE3	WSW1	SE4	S7	SSE7	S7	ENE1	NE11	NE9	E7	E6	E6	ENE4	ENE4	ENE3	NNE1	ESE3	WSW7	SE2.5	NE11	
3-Jul	W2	SW2	WNW3	W6	WNW9	W10	W8	WNW8	WNW7	WNW7	W8	W11	W10	W10	WSW7	WSW8	SW9	WSW11	WSW9	WSW11	W10	WSW12	SW8	SW11	W7.8	WSW12	
4-Jul	WSW12	WSW11	SW11	WSW12	WSW12	WSW11	W11	W10	WNW10	WNW9	WNW10	WNW10	NW8	WNW8	WNW9	WNW6	NW5	NW6	W2	SW1	SSW2	WNW1	NNE3	NNE0	W6.4	WSW12	
5-Jul	NNW2	SW0	S4	S4	S3	S4	SSE2	SSE4	SSE4	S4	S4	E2	NE2	ESE5	SE6	SE5	SE5	SE7	SE6	ESE4	SE3	S3	SE3	S5	SE3.2	SE7	
6-Jul	S6	S5	S6	SSW7	S6	S6	SSW6	SSW6	SSW4	SSE3	S5	SSW7	SSW8	WSW4	SW7	SW6	SSW6	SSW5	SSW5	SW1	E3	ESE3	SSE2	SSW2	SSW4.5	SSW8	
7-Jul	WNW1	SSE1	SSW3	SSW3	SSW3	S4	SSW5	SSW4	SSW6	SW6	SW5	SW6	SW7	SW8	SSW5	S7	SSW6	SW8	SW9	SSW6	SSW5	SSW5	SSW7	SSW8	SSW5.1	SW9	
8-Jul	SSW7	SSW7	SSW9	SSW9	SSW8	S8	S8	S9	S9	S10	S8	SSE7	S9	S12	S11	SSW11	SSW10	SSW10	SSW9	S5	S5	S6	S8	WNW9	S7.9	S12	
9-Jul	WNW9	WNW6	WNW8	W10	W9	W9	W9	W10	W14	WSW14	WSW10	WSW14	SW16	WSW18	WSW18	W15	W13	W15	W13	W8	W7	W6	WSW9	WSW10	W10.8	WSW18	
10-Jul	W11	W11	W9	W9	WSW8	W9	WSW7	W7	W8	WNW9	WNW9	WNW10	WNW10	WNW7	WNW7	NW7	NW6	NW4	WNW5	W4	WSW3	WSW3	WSW4	WSW6	W6.7	W11	
11-Jul	WSW6	SW7	WSW9	WSW8	SW7	SSW7	SSW9	SSW10	SSW9	SW11	SW14	SW16	SSW14	SW13	SW14	SW13	SW12	SW12	SW10	SW9	SW7	SW8	SW6	WSW9	SW9.7	SW16	
12-Jul	WSW9	SW8	SSW8	SSW8	WSW8	WSW8	WSW10	W14	W15	WNW11	NW9	WNW9	WNW8	W9	WNW10	WNW9	WNW7	WNW8	W5	SW3	SW4	WSW7	WSW8	W8	W7.5	W15	
13-Jul	W5	W4	WSW5	W8	W7	W8	W8	W7	W6	WNW7	W5	WNW5	WNW7	NW6	NNE8	NNW6	N5	N6	NNE3	WSW1	W1	WSW1	NW1	N4	WNW4.0	W8	
14-Jul	N3	NNW3	N4	NNW3	N4	NNW3	N4	NNW4	NNE5	NNE6	NNE5	NNW6	NNW7	N7	NNW7	N7	N7	NNE8	NNE8	NNE6	NNE5	NNE4	NNE3	N3	N4.9	NNE8	
15-Jul	W1	WNW2	WNW2	NW2	NW2	SW2	S2	S3	WNW3	W1	ESE1	NW2	WNW2	WNW1	NNE4	WSW1	SE3	SSW1	SE4	SSW5	SSW5	SSW6	SSW6	SSW7	SW1.4	SSW7	
16-Jul	SSW7	SSW7	SSW8	SSW8	SSW8	SSW7	SSW7	SSW5	S5	SSE4	SSE4	SSE4	ESE3	SE5	SW4	SSW4	WSW1	SW4	SSW5	SW4	SSW5	SSW6	SSW6	SSW6	SSW4.9	SSW8	
17-Jul	SW5	SSW5	SSW6	SW6	SW5	SW4	WSW4	WSW4	SW4	WNW0	SSW2	E3	NE8	WNW7	WSW7	W5	NE5	NE5	N1	SSE1	SSW5	SSW6	SSW7	SSW7	SW2.3	NE8	
18-Jul	SW6	SW6	SW6	S5	SSW6	SSW5	S5	S4	SSE5	SE5	SE6	ESE7	SSE6	SSE6	SE7	SSE6	ESE5	SE5	SSE5	SE4	SE3	SSE3	SSE3	SSE4	SSE4.4	SE7	
19-Jul	S4	SSE4	SSE4	S5	S5	S4	SE3	SSE3	SE3	ESE3	ESE4	S2	S4	ESE3	NE3	E2	SE3	S4	SW3	WSW3	WSW1	SSW3	WSW5	W6	S2.4	W6	
20-Jul	SW4	SW4	WSW4	SSW4	SSW5	SW3	SSW2	SW1	SE2	E3	SSE6	ESE4	SSE3	ESE4	E4	ENE3	ENE2	NNW0	SW1	WSW1	W2	WSW2	WNW4	WNW6	SSW1.3	SSE6	
21-Jul	WNW4	NW4	NW4	NNW4	N6	NNE8	N7	N7	N6	NNE8	N7	N7	N6	NNW7	NNW7	N8	N7	NNE8	NNE6	NNE5	NNE3	N2	NNW1	WSW1	N5.1	NNE8	
22-Jul	W2	W1	W3	W3	W3	WNW3	WNW4	NW3	NNW4	NNW5	NW3	NNW3	WSW3	W4	N4	N3	NNW3	W5	WSW2	SW1	WSW0	S2	SSW5	SW4	WNW2.0	W5	
23-Jul	SW6	SW6	SW6	WSW7	SSW6	SSW7	SW6	SW6	WSW5	WSW6	SW6	SW7	SW6	S6	SSW8	S7	SSW7	S8	SSW8	SSW5	SW4	SW4	SSW5	SSW5	SSW5.8	S8	
24-Jul	SSW5	SSW5	S6	S5	S5	SSE4	SE4	SE6	SE6	SSE7	SSE8	S9	SSE7	SSE7	S7	W3	NNE4	S2	S2	SSW4	S4	SSW5	SSW7	WSW7	S4.3	S9	
25-Jul	W6	W4	SSW4	SW6	SW7	SW6	WSW7	WSW7	WSW8	WSW9	WSW10	WSW10	WSW11	W9	W9	W11	W10	W9	W6	W6	NW6	NW6	NW4	WNW4	W6.7	W11	
26-Jul	WNW5	WNW7	WNW7	WNW7	WNW5	WNW5	WNW5	W4	W5	W7	W8	W8	WSW8	WSW6	SW10	W5	SW4	SW3	W6	WNW8	W3	WNW3	NW3	NNW3	W5.0	SW10	
27-Jul	NNE4	NE4	NNE5	NNE5	NE5	NNE5	NNE5	N3	NNE6	NNE5	NNE3	N3	NW5	WNW4	WNW4	NW4	WNW3	N3	SW2	WSW2	WSW2	W3	W4	W4	N2.7	NNE6	
28-Jul	W3	W2	W3	W4	WNW4	WNW3	SW2	SSW4	S4	W5	WNW6	WNW4	W5	SW6	W5	WSW7	WSW6	W5	SW2	SW2	SW3	SSW4	SSW6	SW5	WSW3.5	WSW7	
29-Jul	SW5	SSW6	SSW6	SSW6	SSW7	SSW7	SSW7	SSW7	SSW7	SW8	SW6	SW6	WSW6	WSW4	W4	WSW3	WSW4	SW2	E1	SW3	SSW5	SSW6	SSW6	SSW7	SW5.1	SW8	
30-Jul	SSW7	SSW8	SSW8	SSW9	SSW8	SSW9	SSW9	SSW9	SSW9	SSW9	SSW9	SSW9	SSW9	SSW9	SSW9	SSW9	SSW9	SSW9	SSW9	SSW9	SSW9	SSW9	SSW9	SSW9	---	SSW9	
31-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	---	---	
WSW3.6 SW3.6 SW4.1 SW4.5 SW4.2 SW4.0 SW3.6 SW3.6WSW3.0WSW3.0WSW3.1WSW3.5WSW3.4WSW2.7WSW3.0WSW3.0WSW2.2WSW2.4 SW2.2 SW2.2 SW2.0 SW3.0 SW3.3WSW4.1																										Diurnal Average	
WSW12WSW11WSW11WSW12WSW12WSW11 W11 W14 W15WSW14 SW14 SW16 SW16WSW18WSW18 W15 W13 W15 W13WSW11 W10WSW12 WSW9 SW11																										Diurnal Maximum	
C - Calibration NS - Not in Service																											
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 - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 10m (WS10) - km/h
Stony Mountain - July 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	354	49.93	49.93
6 - 11	330	46.54	96.47
12 - 19	25	3.53	100.00
20 - 28	0	0.00	100.00
29 - 38	0	0.00	100.00
> 38	0	0.00	100.00

Total Number of Valid Hours: 709

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Wind Speed 10m (WS10) - km/h
Stony Mountain - July 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	23	6	8	10	13	18	22	32	48	35	32	36	27	14	14	354
6 - 11	13	10	3	1	2	1	7	11	22	81	40	42	46	37	8	6	330
12 - 19	0	0	0	0	0	0	0	0	1	1	8	8	7	0	0	0	25
20 - 28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	29	33	9	9	12	14	25	33	55	130	83	82	89	64	22	20	709

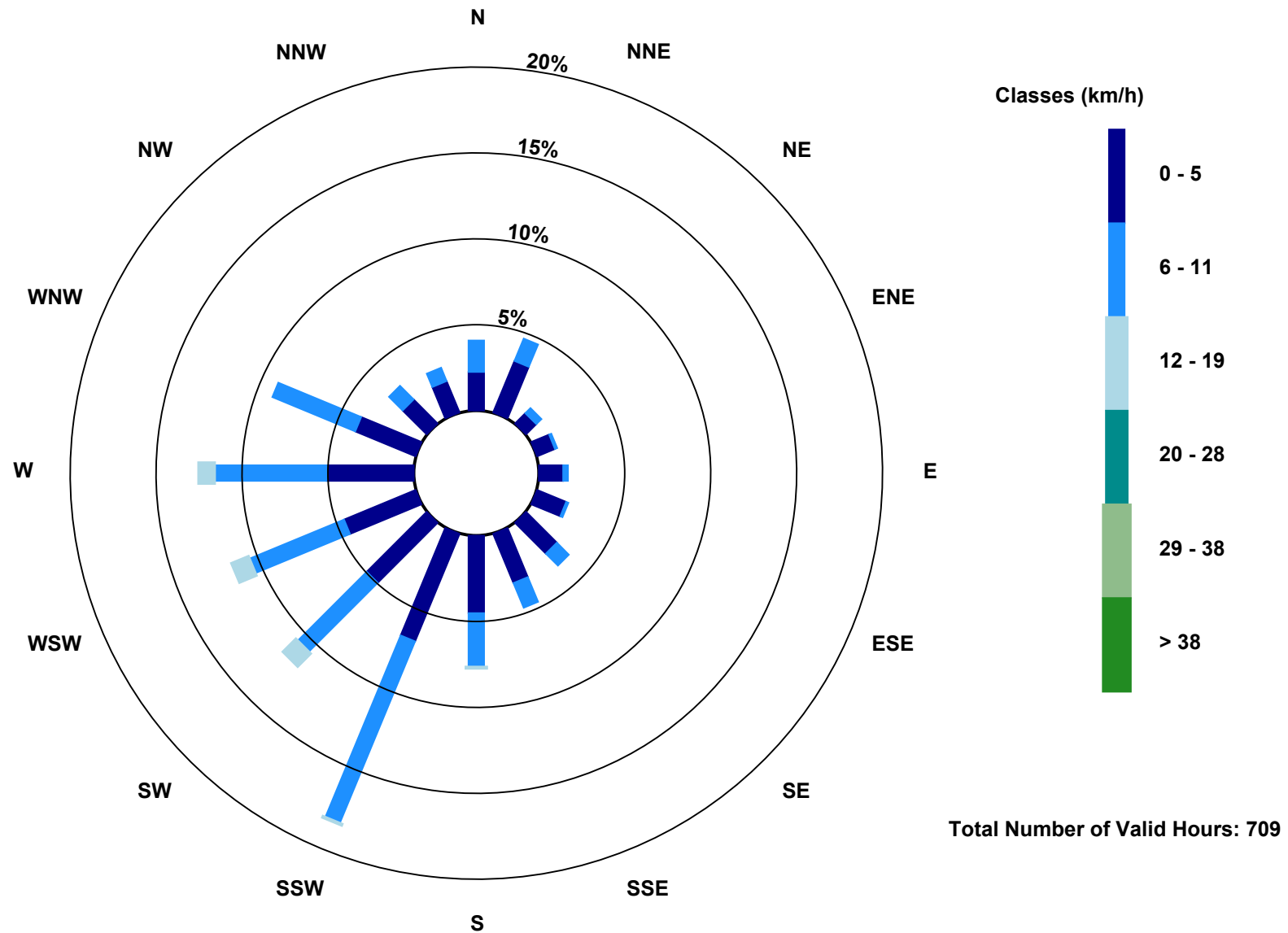
Total Number of Valid Hours: 709

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Wind Speed 10m (WS10) - km/h
Stony Mountain





Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

Wind Speed 10m (WS10) - km/h
Stony Mountain - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																	Hours in Service: 711								
Maximum Value: 8 km/h on Jul 9 14:00																	Hours of Data: 709								
Minimum Value: 0 km/h on Jul 15 05:00																	Hours of Missing Data: 2								
Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 2 Median = 2 Q ₃ = 3 P ₉₀ = 4 P ₉₉ = 6																	Hours of Calibration: 2								
																	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-Jul	1	2	1	2	2	1	1	1	1	1	1	1	2	1	1	2	1	2	2	1	1	2	1	1	2
2-Jul	2	2	3	3	3	2	1	1	2	3	3	4	3	5	4	4	3	3	2	2	1	1	1	6	6
3-Jul	2	2	2	3	4	4	3	3	3	3	4	5	5	5	3	4	4	4	4	6	4	5	3	4	6
4-Jul	5	5	4	5	5	5	5	4	4	4	4	4	4	3	4	3	2	3	2	1	1	1	2	1	5
5-Jul	1	1	1	1	1	1	1	2	2	2	2	3	1	2	3	2	2	3	2	2	1	1	1	2	3
6-Jul	2	2	2	2	2	2	2	2	2	2	2	3	5	2	3	3	3	2	2	1	2	1	1	1	5
7-Jul	1	1	1	1	1	1	2	2	2	3	2	3	3	4	3	3	2	4	4	2	1	1	2	2	4
8-Jul	2	2	3	3	2	2	3	3	3	4	3	3	3	5	5	5	4	4	3	2	2	2	3	5	5
9-Jul	4	2	4	4	4	4	4	5	6	6	5	6	7	8	7	7	6	7	6	4	3	2	4	4	8
10-Jul	4	4	4	3	3	4	3	3	4	4	4	5	5	3	3	3	3	2	3	2	1	1	1	2	5
11-Jul	2	3	3	3	2	2	3	3	4	4	6	6	6	6	6	5	5	5	4	3	3	3	2	4	6
12-Jul	4	3	3	3	3	3	4	6	7	5	4	4	4	4	4	4	4	3	2	1	2	3	3	3	7
13-Jul	2	2	2	3	3	3	3	3	3	3	2	3	3	3	4	2	3	3	2	1	1	1	1	1	4
14-Jul	1	1	1	1	2	1	2	1	2	3	3	3	4	4	3	3	3	4	3	2	2	1	1	1	4
15-Jul	2	2	1	1	0	1	1	2	2	2	2	2	2	2	2	2	1	2	2	2	1	2	2	2	2
16-Jul	2	2	2	2	2	2	2	2	2	2	2	3	2	2	3	3	2	2	2	1	2	2	2	2	3
17-Jul	2	1	1	2	2	1	1	2	2	2	2	2	3	4	3	2	2	2	2	2	2	2	2	2	4
18-Jul	2	2	2	2	1	1	1	1	2	2	2	3	3	3	3	2	2	3	2	2	1	1	1	1	3
19-Jul	2	2	2	2	1	1	1	1	1	1	2	2	2	2	2	1	2	2	1	1	1	2	2	2	2
20-Jul	1	1	1	1	1	2	1	1	1	2	3	2	3	2	2	2	2	1	2	1	1	2	3	2	3
21-Jul	2	1	2	2	3	3	3	3	3	3	3	3	3	3	3	4	4	3	3	2	1	1	1	1	4
22-Jul	1	1	1	1	1	1	1	1	2	2	3	3	3	3	2	2	2	2	1	1	1	1	1	1	3
23-Jul	2	2	2	3	2	2	2	2	2	2	3	3	3	3	4	3	3	3	3	2	2	1	1	1	4
24-Jul	1	1	2	2	2	1	2	2	2	3	3	4	3	3	3	3	2	2	1	1	1	1	3	3	4
25-Jul	2	2	1	2	3	2	3	3	3	4	5	4	5	5	5	5	4	4	3	3	3	3	2	2	5
26-Jul	2	2	2	2	2	2	2	1	2	2	3	3	4	3	4	4	2	2	3	3	2	2	1	1	4
27-Jul	1	2	2	1	2	2	2	2	3	2	2	2	1	2	2	2	2	2	2	1	1	1	1	1	3
28-Jul	1	1	1	1	1	1	1	2	2	3	2	3	3	2	2	3	2	3	1	1	1	1	1	1	3
29-Jul	1	2	2	1	2	2	2	3	2	3	3	3	3	3	2	2	2	2	1	2	1	1	2	2	3
30-Jul	2	2	2	3	2	3	2	3	3	3	3	4	2	C	C	NS	NS	NS	NS	NS	NS	NS	NS	NS	4
31-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
5 5 4 5 5 5 5 6 7 6 6 6 7 8 7 7 6 7 6 6 4 5 4 6																									
Diurnal Maximum																									
C - Calibration NS - Not in Service																									



Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Direction 10m (WD10) - deg

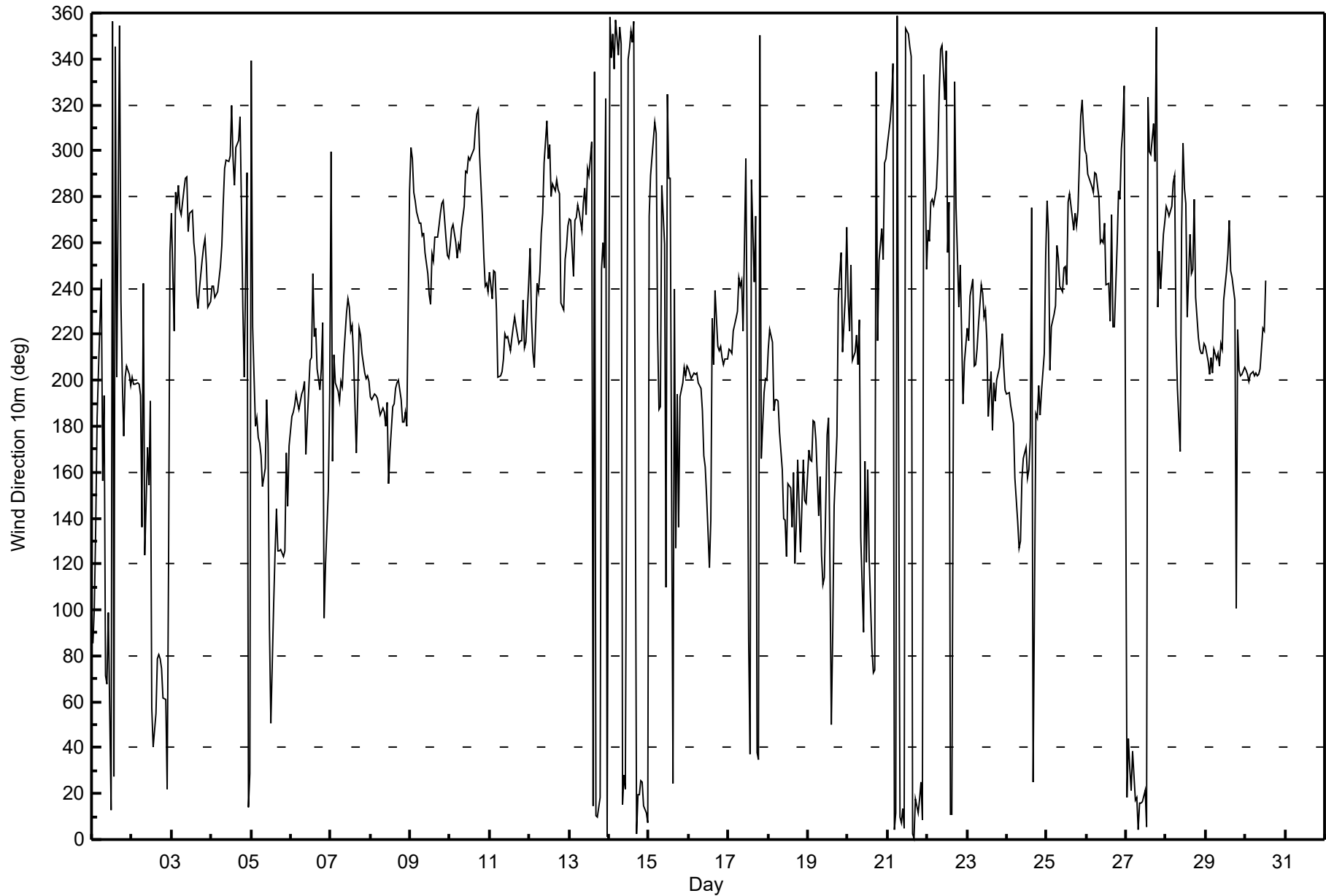
Stony Mountain - July 2025

Direction of Maximum Speed: 255 deg on Jul 9 14:00																				Hours in Service:		711			
Direction of Maximum Daily Speed Average: 262.4 deg on Jul 9																				Hours of Data:		709			
Direction of Minimum Speed: 296 deg on Jul 17 11:00										Direction of Minimum Daily Speed Average: 1.3 deg on Jul 20										Hours of Missing Data:		2			
Monthly Average Direction: 236.8 deg																				Percent Operational Time:		100.0			
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-Jul	85	101	136	184	205	244	156	193	71	68	99	13	357	27	346	201	354	234	200	176	201	206	202	198	178.1
2-Jul	201	198	198	199	198	194	136	242	124	171	154	191	57	40	55	79	80	79	74	62	61	22	121	256	144.9
3-Jul	272	221	282	277	285	274	272	283	288	289	265	273	274	260	254	237	231	240	252	258	262	250	232	234	260.6
4-Jul	241	241	236	237	238	249	259	277	292	296	296	298	320	297	285	301	304	315	276	232	202	291	14	29	272.1
5-Jul	339	223	180	183	175	173	167	154	162	191	173	92	51	102	125	144	126	126	126	123	126	169	145	171	145.6
6-Jul	184	186	189	194	190	187	194	196	199	168	183	209	210	246	219	223	205	196	205	225	96	120	152	194	195.8
7-Jul	300	165	211	199	195	191	199	197	211	229	235	232	222	224	210	169	193	223	220	211	203	201	202	199	209.7
8-Jul	193	192	194	194	192	188	185	188	186	180	191	155	169	189	190	196	199	200	192	182	182	186	180	282	190.6
9-Jul	302	296	282	278	273	268	268	263	264	255	247	238	233	255	252	262	263	267	273	277	279	262	255	253	262.4
10-Jul	259	266	268	260	253	259	257	266	276	291	291	297	296	298	301	310	316	318	297	271	254	241	242	238	276.5
11-Jul	247	236	248	247	231	202	202	204	209	220	218	219	213	218	223	227	224	216	217	217	235	214	216	242	221.6
12-Jul	258	227	212	206	242	239	247	264	272	295	313	296	302	280	285	283	288	283	281	234	230	253	258	267	266.1
13-Jul	270	270	245	269	271	276	273	265	277	284	272	292	289	304	15	334	10	10	18	248	260	249	323	1	294.3
14-Jul	358	341	351	336	357	342	354	347	15	28	22	340	344	352	347	356	2	19	20	26	25	15	12	7	3.0
15-Jul	272	289	297	313	307	222	187	188	285	259	110	325	288	288	24	240	127	194	136	193	199	205	202	206	215.9
16-Jul	205	200	202	203	202	203	199	196	187	167	163	149	118	139	227	207	239	215	213	215	210	207	209	209	198.0
17-Jul	214	213	212	222	227	230	244	241	244	222	296	208	87	37	287	243	271	38	35	351	166	194	201	200	228.5
18-Jul	214	222	217	187	192	192	191	177	161	140	139	123	155	153	136	160	120	138	165	125	145	165	148	147	163.1
19-Jul	169	165	165	182	182	174	141	158	124	111	114	176	183	121	50	90	145	175	236	246	256	213	237	267	174.3
20-Jul	236	222	250	208	212	220	207	226	132	90	165	121	161	123	83	73	74	335	217	252	266	253	295	297	197.3
21-Jul	303	313	322	338	4	12	359	10	8	13	5	353	351	345	341	3	1	18	12	18	25	8	333	248	357.6
22-Jul	266	260	277	279	277	284	298	325	344	346	322	343	256	278	11	11	330	275	255	232	250	190	208	216	291.1
23-Jul	222	217	236	244	206	207	214	224	242	238	228	231	217	184	204	178	199	191	200	206	214	220	206	196	212.8
24-Jul	194	194	189	186	181	158	138	127	130	157	166	171	157	161	175	275	25	186	184	198	185	196	211	254	176.6
25-Jul	278	264	205	223	229	233	258	253	241	238	249	249	242	278	281	271	265	273	267	274	315	322	309	300	261.1
26-Jul	299	290	286	284	282	290	290	280	260	261	260	269	242	242	226	272	223	223	259	282	279	301	310	328	269.1
27-Jul	19	44	31	21	39	17	18	4	16	16	16	21	6	323	299	299	312	295	354	232	256	240	263	269	354.6
28-Jul	276	274	271	276	286	289	220	197	169	266	303	284	277	227	263	247	248	279	236	218	214	212	212	216	250.3
29-Jul	215	208	203	210	203	213	209	212	206	216	214	235	247	255	270	248	245	235	100	222	204	202	202	205	217.2
30-Jul	205	202	199	202	204	202	203	202	202	205	222	222	244	C	C	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
31-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
240.9 229.1 227.7 229.9 230.3 231.6 232.6 233.2 239.3 242.9 236.4 246.2 246.5 254.0 256.4 249.6 250.9 246.0 235.0 233.4 227.6 221.8 221.1 237.8																									
Diurnal Average																									
C - Calibration NS - Not in Service																									
All monthly, daily, and diurnal averages have been calculated using vector methods																									



Wood Buffalo Environmental Association
Hourly Averages

Wind Direction 10m (WD10) - deg
Stony Mountain - July 2025





Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg
Stony Mountain - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 116 deg on Jul 17 11:00																			Hours in Service: 711 Hours of Data: 709 Hours of Missing Data: 2 Hours of Calibration: 2 Percent Operational Time: 100.0						
Minimum Value: 12 deg on Jul 15 02:00																									
Percentiles: P ₁ = 16 P ₁₀ = 24 Q ₁ = 30 Median = 42 Q ₃ = 52 P ₉₀ = 67 P ₉₉ = 102																									
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-Jul	22	23	30	23	61	74	92	32	93	63	56	78	66	61	92	61	85	79	32	34	19	25	23	21	93
2-Jul	23	25	25	26	26	29	49	105	49	53	56	53	102	36	37	44	48	44	40	31	28	92	39	67	105
3-Jul	87	83	46	41	34	39	42	39	52	50	53	41	44	44	51	49	44	45	44	45	42	45	39	40	87
4-Jul	43	43	40	44	44	43	47	42	45	41	47	46	60	56	45	60	60	59	67	73	24	51	27	85	85
5-Jul	45	75	20	20	24	32	44	44	52	73	66	84	61	40	48	51	49	43	41	40	37	43	47	43	84
6-Jul	30	28	25	25	28	26	29	28	48	63	52	37	35	60	47	46	44	46	37	87	32	29	31	47	87
7-Jul	48	78	16	26	21	25	32	40	36	51	52	59	48	51	53	47	36	41	32	28	21	21	25	26	78
8-Jul	27	25	25	26	25	27	29	31	36	47	33	45	46	44	42	41	42	36	35	40	37	31	39	46	47
9-Jul	42	42	38	41	40	42	43	42	47	43	48	46	43	46	42	44	45	42	40	44	41	39	39	42	48
10-Jul	44	39	39	35	43	41	43	43	45	49	54	51	49	49	48	56	63	62	51	43	36	28	34	35	63
11-Jul	45	38	41	44	40	24	24	29	39	41	40	37	39	43	43	44	39	39	37	36	46	28	30	40	46
12-Jul	43	37	30	31	42	41	45	41	42	47	52	51	46	46	42	50	58	47	48	26	30	42	43	44	58
13-Jul	35	31	34	39	40	43	36	39	52	48	61	63	50	60	49	57	61	47	71	59	30	28	57	24	71
14-Jul	27	21	31	26	33	28	38	43	43	43	68	57	55	60	59	58	59	44	42	32	23	25	23	34	68
15-Jul	38	12	21	16	13	40	34	47	82	100	106	102	102	104	76	101	73	95	56	35	22	25	20	22	106
16-Jul	25	23	24	25	23	25	24	25	27	62	72	76	90	65	75	74	104	58	29	22	21	24	23	23	104
17-Jul	22	22	22	31	29	34	33	42	58	61	116	92	83	34	46	42	56	44	28	65	74	25	24	24	116
18-Jul	27	28	28	31	17	14	16	34	46	55	55	54	57	68	53	58	42	53	57	44	48	50	44	45	68
19-Jul	35	43	43	30	27	27	30	35	48	55	49	64	78	59	45	61	56	53	33	19	47	38	37	33	78
20-Jul	33	27	39	16	18	52	40	33	51	69	60	74	80	67	60	68	80	96	76	36	23	76	27	40	96
21-Jul	39	26	36	48	49	42	55	48	48	41	53	55	60	61	61	55	60	49	54	41	27	54	57	33	61
22-Jul	27	25	20	48	30	33	37	72	74	60	93	89	87	84	79	87	78	56	41	59	65	20	19	18	93
23-Jul	30	29	37	43	27	29	27	37	52	47	61	47	64	65	56	56	53	39	33	32	26	26	18	23	65
24-Jul	25	24	27	29	31	40	44	41	45	53	48	49	45	51	52	82	48	67	54	20	23	23	26	41	82
25-Jul	32	38	22	32	36	38	47	46	47	46	48	48	46	45	47	44	44	40	44	40	50	50	46	38	50
26-Jul	32	31	32	33	31	31	30	49	49	43	41	46	55	55	42	69	50	48	49	41	45	38	25	31	69
27-Jul	29	24	20	23	25	28	30	39	31	34	36	43	68	64	65	52	59	65	72	35	26	31	30	28	72
28-Jul	25	23	25	23	21	18	34	29	70	60	66	80	59	47	60	46	54	43	39	14	15	19	20	21	80
29-Jul	21	21	22	23	24	34	31	34	30	45	47	53	59	90	66	56	55	87	87	27	18	20	21	21	90
30-Jul	24	23	26	26	27	26	24	27	30	35	53	46	63	C	C	NS	NS	NS	NS	NS	NS	NS	NS	NS	63
31-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
87 83 46 48 61 74 92 105 93 100 116 102 102 104 92 101 104 96 87 87 74 92 57 85																									
Diurnal Maximum																									
C - Calibration NS - Not in Service																									



Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Speed 20m (WS20) - km/h

Stony Mountain - July 2025

Maximum Speed: 27 km/h on Jul 9 14:00																		Maximum Daily Speed Average: 16.6 km/h on Jul 9										Hours in Service: 744	
Minimum Speed Value: 0 km/h on Jul 1 09:00																		Minimum Daily Speed Average: 1.9 km/h on Jul 20										Hours of Data: 744	
Maximum Diurnal Speed Average: 7.8 km/h at hour 4																		Minimum Diurnal Speed Average: 3.4 km/h at hour 21										Hours of Missing Data: 0	
Monthly Average Velocity: 5.2 km/h 249.6 deg																		Percentiles: P ₁ = 1 P ₁₀ = 4 Q ₁ = 7 Median = 9 Q ₃ = 12 P ₉₀ = 15 P ₉₉ = 21										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-Jul	E9	ESE10	SE8	SSW9	SSW7	SW3	S1	SSW5	S0	E3	ESE3	N3	N5	NE4	NNE2	SW4	N3	WSW3	SSW7	S5	SSW8	SW10	SW10	SSW10	S2.7	ESE10			
2-Jul	SSW12	SSW13	SSW14	SSW14	SSW14	SSW12	SSE7	WSW1	SE7	S11	SSE10	SSW10	N1	NE17	ENE15	E13	E13	ENE13	ENE11	ENE9	ENE8	ENE5	SSE8	W11	SE4.1	NE17			
3-Jul	WNW5	W2	WNW6	W11	WNW15	W15	WNW12	WNW12	NW11	WNW12	WNW12	WNW16	WNW16	W15	W10	WSW12	WSW13	WSW16	W15	W17	W16	WSW17	WSW12	WSW16	W12.1	WSW17			
4-Jul	WSW18	WSW17	WSW17	WSW18	WSW18	W17	W16	WNW16	NW16	NW15	NW17	NW16	NW15	NW14	WNW15	NW11	NW10	NW10	NW6	NNW6	NW4	N6	NNE8	ENE6	WNW10.3	WSW18			
5-Jul	NNE6	ENE4	S7	S8	S8	S8	SSE3	SSE6	S6	SSW5	S5	E2	NE4	ESE8	SE9	SSE9	SSE8	SSE12	SE10	SE8	SSE7	S6	SSE6	S9	SSE5.8	SSE12			
6-Jul	S10	SSW11	SSW11	SSW12	SSW11	SSW9	SSW9	SSW8	SSW4	SSE4	S7	SW10	SW12	WSW7	SW9	SW8	SSW8	SSW8	SW7	W3	E6	SE6	SSE5	S4	SSW7.1	SW12			
7-Jul	WNW3	SSE2	SW5	SW6	SSW6	SSW7	SW7	SSW6	SW8	WSW8	WSW8	WSW8	SW9	SW11	SW8	S10	SSW9	SW12	SW13	SW10	SW8	SSW10	SSW12	SSW13	SSW7.8	SW13			
8-Jul	SSW12	SSW12	SSW14	SSW14	SSW13	SSW13	S13	SSW13	S14	S15	SSW12	S12	S14	SSW16	SSW16	SSW16	SSW15	SSW14	SSW13	S9	S10	S12	S14	WNW16	SSW12.5	SSW16			
9-Jul	NW18	NW12	WNW13	WNW15	WNW14	W15	W14	W15	W21	W20	WSW15	WSW20	WSW23	W27	W26	W22	W20	W22	WNW19	WNW12	WNW11	W10	W14	W15	W16.6	W27			
10-Jul	W18	W17	W14	W14	W13	W14	W12	W10	WNW13	NW14	WNW14	NW16	NW17	NW12	NW12	NW13	NW11	NNW9	NW10	NW7	WNW6	W7	W8	W10	WNW11.3	W18			
11-Jul	W10	WSW11	W14	W13	WSW11	SW11	SW13	SW14	SW13	SW16	SW20	SW22	SW20	SW19	SW20	SW19	SW17	SW17	SW14	SW13	WSW11	SW12	SW10	WSW13	SW14.3	SW22			
12-Jul	W14	WSW13	SW12	SW12	WSW13	WSW12	WSW15	W20	WNW24	NW19	NW17	NW16	NW14	WNW14	WNW15	WNW14	NW12	WNW13	WNW8	W5	WSW8	W12	W13	W13	W12.2	WNW24			
13-Jul	WNW9	WNW8	W9	WNW12	WNW11	WNW12	WNW12	W11	WNW10	WNW10	WNW9	NW10	WNW12	NW12	N13	NNW11	N10	N9	N5	NNW2	NW4	NW5	N6	NNE9	NW7.7	N13			
14-Jul	N8	N7	N8	NNW7	N8	N7	N7	NNW6	NNE7	NNE9	NNE7	NNW11	NNW13	NNW14	NNW13	NNW12	N12	N13	N12	NNE8	NNE8	NNE8	NE7	NE7	N8.8	NNW14			
15-Jul	NE4	NNW2	NNW3	NW4	WNW5	SW4	SSW2	SW3	WNW4	W3	ESE1	WNW3	WNW4	WNW1	NNE5	SW1	SE4	SSE1	SSE7	SSW8	SSW9	SW11	SW11	SW12	SW2.4	SW12			
16-Jul	SW12	SSW12	SSW13	SSW13	SW12	SSW12	SSW10	SSW7	SSW6	S5	S6	SSE6	SE5	SSE7	SW6	SSW6	WSW2	SW5	SW7	SW7	SW9	SW10	SW10	SW11	SSW7.8	SSW13			
17-Jul	SW10	SW10	SW10	WSW11	WSW9	WSW8	W6	WSW6	W5	WSW5	W1	SW2	E3	NE12	WNW12	WSW9	WNW6	NE7	NNE7	NNE4	ESE3	SSW10	SSW11	SW11	WSW3.9	NE12			
18-Jul	SW11	WSW11	WSW11	SSW9	SSW10	SSW9	SSW8	S7	SSE7	SSE8	SSE9	SE11	SSE9	SSE9	SSE11	SSE9	SE9	SSE8	S9	SSE8	SSE8	S8	SSE9	SSE9	S7.8	WSW11			
19-Jul	S9	S10	S10	S10	SSW9	S9	SSE7	SSE6	SE4	ESE5	SE6	S3	S5	ESE5	NE5	E4	SE4	S7	WSW6	WSW6	WNW5	WSW5	WSW10	W10	S4.4	S10			
20-Jul	WSW8	WSW8	W8	SW7	SW8	SW6	SW5	SW4	SSE3	ESE4	SSE9	SE6	S4	ESE6	E8	E5	E4	N1	N2	NW4	WNW6	WNW4	NW9	NW12	SW1.9	NW12			
21-Jul	NW10	NNW9	NNW11	NNW11	N12	N13	NNW14	N12	N12	N13	N11	NNW13	NNW12	NNW13	NNW13	N12	N12	N12	N9	N8	NNE5	NNE6	N6	NNW5	N10.3	NNW14			
22-Jul	WNW6	NW5	WNW6	WNW6	WNW7	WNW7	WNW6	NW5	NNW7	NNW8	NW6	NNW6	WNW5	WNW6	N6	NNW5	NNW5	WNW9	WNW5	NW3	ENE3	S5	SSW8	SW8	WNW4.3	WNW9			
23-Jul	WSW10	WSW10	W11	W12	SW10	SW11	SW9	WSW8	W7	WSW9	WSW8	WSW10	SW8	SSW9	SSW11	S10	SSW10	SSW12	SSW12	SSW8	SW8	SW8	SW9	SSW10	SW8.9	W12			
24-Jul	SSW10	SSW10	SSW11	SSW10	S9	SSE8	SSE9	SE9	SSE10	SSE11	S13	S14	SSE11	SSE11	S10	WNW5	NNE6	S3	SSW2	SSW8	SSW8	SSW10	SW12	W12	S7.6	S14			
25-Jul	WNW11	W9	SW8	WSW10	WSW12	WSW11	W11	W11	WSW11	WSW13	W16	W15	WSW15	WNW14	WNW15	WNW17	W15	WNW13	W9	WNW10	NW13	NNW12	NNW9	NNW9	W10.8	WNW17			
26-Jul	NW10	WNW11	WNW11	WNW11	WNW9	WNW9	WNW8	WNW5	W7	W10	W11	WNW12	WSW11	WSW9	WSW14	WNW9	WSW7	SW5	W9	WNW13	WNW6	NW7	NW7	NNW7	WNW8.3	WSW14			
27-Jul	NNE7	NE8	NE8	NNE8	NE9	NNE7	NNE7	N6	N9	N8	N6	N5	NNW4	NW8	NW8	NW8	NNW9	NW7	NNW7	NW4	WNW6	NW6	WNW7	WNW7	N5.7	N9			
28-Jul	WNW7	NW6	WNW7	W7	WNW7	WNW6	WSW4	SSW6	S5	W8	NW8	WNW9	WNW7	WSW7	WNW7	W9	W8	WNW7	WNW3	SW5	SSW6	SW8	SW10	SW9	W5.7	SW10			
29-Jul	SW10	SW11	SW11	SW10	SW11	SW12	SW11	SW11	SW10	SW11	SW9	WSW8	WSW8	W6	WNW6	W5	W6	SW3	SE1	WSW5	SSW7	SSW10	SW10	SW11	SW7.9	SW12			
30-Jul	SW12	SSW12	SSW14	SSW14	SW13	SW13	SW13	SSW13	SSW12	SW11	SW11	SW10	W5	SSW3	WSW6	SE3	WNW7	W6	W5	WNW3	SW7	SSW8	SW11	SW12	SW8.6	SSW14			
31-Jul	SW12	SW13	SW13	SW15	SW14	SW14	SW13	SW11	SW11	SW9	SSW10	SW12	SSW10	SSW9	SSW12	SSW13	SSW13	SW11	SSW10	SSW9	SSW10	SSW12	SSW13	SSW13	SSW11.7	SW15			
WSW6.0WSW5.9WSW6.9WSW7.8WSW7.5WSW7.0WSW6.0WSW5.8WSW4.9WSW4.7WSW4.8W5.5W5.2W4.3W4.8W4.6W3.7W3.9WSW3.6WSW3.6WSW3.4SW4.9SW5.6WSW6.8W18WSW17WSW17WSW18WSW18W17W16W20WNW24W20SW20SW22WSW23W27W26W22W20W22WNW19W17W16WSW17W14WSW16																								Diurnal Average	Diurnal Maximum				
All monthly, daily, and diurnal averages have been calculated using vector methods																													



Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

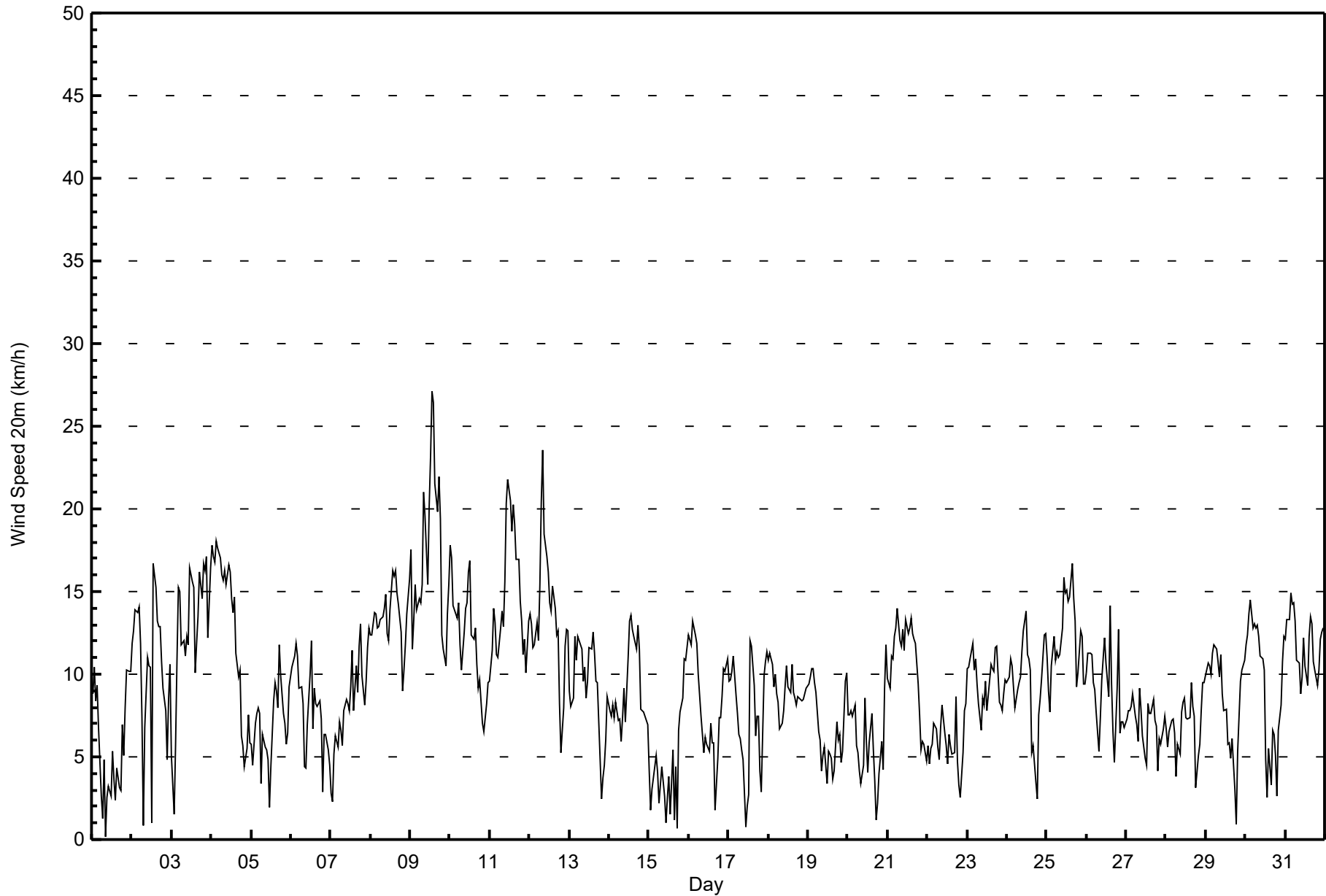
Wind Speed 20m (WS20) - km/h
Stony Mountain - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 11 km/h on Jul 9 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 Jul 15 02:00																									
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-Jul	2	2	1	2	3	2	2	1	2	1	1	2	2	1	1	2	1	3	2	1	2	2	2	2	3
2-Jul	2	3	3	3	3	3	2	1	3	4	4	5	5	5	4	4	4	4	3	2	2	2	2	8	8
3-Jul	3	4	3	4	4	5	4	4	4	4	5	7	6	7	4	5	5	6	5	7	5	6	4	5	7
4-Jul	6	6	5	6	6	6	6	5	6	5	5	5	5	5	5	5	3	4	2	2	1	1	2	1	6
5-Jul	1	1	1	1	1	2	1	2	2	3	3	3	2	2	3	3	3	4	3	2	2	2	2	3	4
6-Jul	2	2	2	2	2	2	2	3	2	2	3	3	6	3	4	3	3	3	3	1	2	1	1	1	6
7-Jul	1	1	1	1	1	1	2	2	3	3	3	4	4	5	4	4	3	5	5	3	1	2	2	3	5
8-Jul	3	2	3	3	3	3	3	4	4	6	4	4	5	6	6	6	5	5	4	3	2	3	4	7	7
9-Jul	6	3	4	5	5	5	6	6	8	8	6	8	9	11	9	8	8	8	8	5	4	3	4	5	11
10-Jul	5	5	4	4	4	5	4	4	5	5	6	6	6	5	4	5	4	4	4	2	2	1	2	3	6
11-Jul	3	4	4	4	3	2	3	4	4	6	7	8	7	7	8	6	6	6	5	4	4	4	2	5	8
12-Jul	5	4	3	4	4	4	6	8	8	7	6	6	5	5	6	5	5	4	3	1	2	4	4	4	8
13-Jul	3	2	2	4	3	4	4	4	3	3	3	4	4	5	5	4	4	3	3	1	1	1	1	2	5
14-Jul	2	2	2	1	2	2	2	2	3	3	4	5	5	5	5	5	5	4	4	3	2	2	1	1	5
15-Jul	1	0	2	1	1	1	1	2	2	3	2	2	3	3	3	2	2	3	2	2	2	2	2	2	3
16-Jul	3	2	3	3	2	3	2	2	2	2	3	4	3	3	4	4	2	2	2	1	2	2	2	2	4
17-Jul	2	2	2	2	2	2	2	2	2	2	2	2	5	4	4	3	2	3	2	1	2	2	2	3	5
18-Jul	2	2	2	2	1	1	1	2	2	3	3	4	4	4	4	3	3	3	3	2	2	2	2	2	4
19-Jul	2	2	2	2	1	1	1	1	1	2	2	2	3	2	2	2	3	3	2	1	1	3	2	3	3
20-Jul	1	1	2	1	1	2	1	1	1	2	3	3	3	3	3	3	2	1	1	1	1	3	3	3	3
21-Jul	3	2	3	3	4	5	5	4	4	5	5	5	5	5	5	5	5	4	4	3	1	1	2	1	5
22-Jul	1	1	1	2	1	1	1	2	3	3	3	3	3	3	3	3	3	3	2	1	1	1	1	2	3
23-Jul	2	2	3	4	2	3	2	2	2	3	3	3	3	4	5	4	4	4	4	3	2	2	1	2	5
24-Jul	2	2	2	2	2	2	2	3	3	4	4	5	3	4	4	4	3	3	2	1	1	2	3	4	5
25-Jul	3	2	2	3	3	3	4	4	4	5	6	5	6	7	6	7	5	5	3	3	4	5	3	3	7
26-Jul	3	3	3	3	2	2	2	2	2	3	4	4	5	4	5	6	2	2	4	4	2	2	1	2	6
27-Jul	2	2	2	2	2	2	2	2	3	3	2	2	2	3	3	3	3	3	3	1	1	1	1	1	3
28-Jul	1	1	1	1	1	1	1	2	2	3	3	3	3	3	3	3	3	3	1	1	1	1	2	1	3
29-Jul	1	2	2	2	3	3	3	3	2	4	4	3	4	4	3	2	3	2	1	1	1	2	2	2	4
30-Jul	2	3	3	3	3	3	3	3	4	4	4	4	3	3	3	2	4	3	2	1	3	1	2	3	4
31-Jul	3	3	3	3	3	4	3	3	3	3	4	4	4	4	5	5	5	4	3	3	2	3	3	3	5
6 6 5 6 6 6 6 8 8 8 7 8 9 11 9 8 8 8 8 7 5 6 4 8																									
Diurnal Maximum																									



Wood Buffalo Environmental Association
Hourly Averages

Wind Speed 20m (WS20) - km/h
Stony Mountain - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 20m (WS20) - km/h
Stony Mountain - July 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	121	16.26	16.26
6 - 11	391	52.55	68.82
12 - 19	217	29.17	97.98
20 - 28	15	2.02	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 20m (WS20) - km/h
Stony Mountain - July 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	4	4	3	6	6	6	6	12	7	12	7	9	15	9	7	121
6 - 11	19	17	5	4	3	3	11	32	26	58	64	37	30	44	22	16	391
12 - 19	11	0	2	2	2	0	0	1	9	41	33	21	30	33	19	13	217
20 - 28	0	0	0	0	0	0	0	0	0	0	4	2	8	1	0	0	15
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	38	21	11	9	11	9	17	39	47	106	113	67	77	93	50	36	744

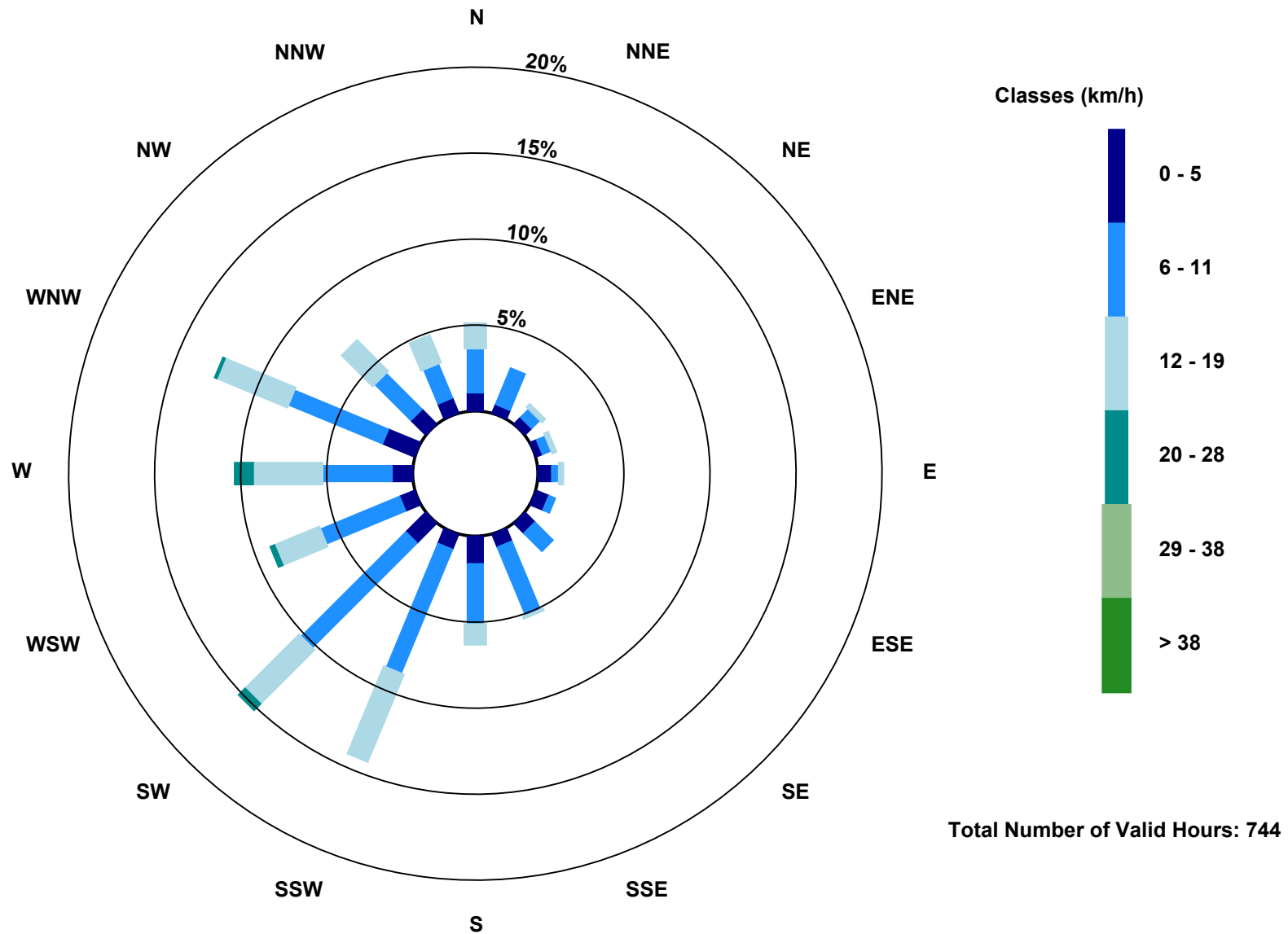
Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Wind Speed 20m (WS20) - km/h
Stony Mountain





Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Direction 20m (WD20) - deg

Stony Mountain - July 2025

Direction of Maximum Speed: 260 deg on Jul 9 14:00																				Hours in Service:		744			
Direction of Maximum Daily Speed Average: 273.1 deg on Jul 9																				Hours of Data:		744			
Direction of Minimum Speed: 177 deg on Jul 1 09:00										Direction of Minimum Daily Speed Average: 1.9 deg on Jul 20										Hours of Missing Data:		0			
Monthly Average Direction: 249.6 deg																				Percent Operational Time:		100.0			
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-Jul	91	108	144	192	213	227	175	207	177	81	107	10	353	36	19	224	8	249	205	178	206	218	215	212	185.8
2-Jul	212	207	209	209	205	205	161	254	139	176	164	192	0	37	59	81	86	78	76	66	70	60	151	265	145.4
3-Jul	299	271	296	278	290	281	283	293	306	300	282	282	284	269	272	250	243	251	261	268	273	257	245	249	272.5
4-Jul	250	251	248	249	248	259	268	286	307	310	310	314	326	313	301	318	324	323	325	329	321	4	26	76	291.8
5-Jul	30	78	177	179	175	173	163	161	171	195	175	101	55	107	141	155	150	147	146	145	148	170	161	177	152.7
6-Jul	191	195	198	201	198	194	202	206	211	167	184	215	217	249	229	227	210	197	218	265	97	129	149	191	200.6
7-Jul	282	151	217	214	210	205	214	208	223	245	253	248	229	234	216	177	197	235	231	221	214	210	211	209	219.6
8-Jul	202	199	201	202	200	194	190	194	189	184	195	171	175	197	196	201	204	203	195	180	183	186	180	293	195.6
9-Jul	314	312	294	291	287	275	278	273	271	264	256	248	244	260	260	270	270	276	285	286	292	280	266	264	273.1
10-Jul	267	275	276	272	264	268	272	275	289	304	300	311	306	315	317	323	323	328	319	311	301	276	266	260	291.4
11-Jul	262	256	262	262	251	217	216	215	222	232	231	226	225	230	234	236	232	227	230	229	249	228	234	255	234.6
12-Jul	269	240	229	218	251	251	257	273	286	310	322	310	316	292	294	298	304	297	303	273	252	267	268	274	280.1
13-Jul	284	286	265	282	285	282	282	279	291	303	288	307	302	319	355	335	350	2	11	338	311	320	356	16	309.0
14-Jul	6	351	359	345	358	357	359	347	12	28	21	343	343	347	345	346	356	7	4	12	25	26	37	36	1.4
15-Jul	39	348	335	313	285	236	203	214	297	274	109	291	288	301	16	227	126	151	151	200	205	214	214	215	229.4
16-Jul	216	211	210	213	214	213	211	205	201	179	169	159	132	153	226	209	239	219	219	225	221	220	222	220	208.0
17-Jul	227	229	229	242	249	255	262	254	270	248	266	230	86	39	302	255	291	34	33	31	119	200	210	215	249.5
18-Jul	229	239	237	199	202	197	198	181	167	151	151	141	160	156	151	167	142	151	174	156	163	170	154	160	175.1
19-Jul	177	178	174	187	192	182	161	164	129	122	132	181	177	120	49	96	140	172	244	251	300	237	250	275	184.9
20-Jul	257	253	263	224	222	221	214	228	153	109	168	126	171	123	88	90	84	1	350	309	286	290	318	312	233.4
21-Jul	322	329	333	338	349	357	346	349	349	358	352	348	343	341	341	351	350	0	357	4	33	32	3	333	348.9
22-Jul	303	310	301	289	285	291	302	318	340	341	314	338	282	293	354	347	331	297	302	317	63	170	213	229	303.2
23-Jul	242	238	260	261	233	232	236	242	259	248	242	240	222	197	207	186	201	198	206	213	223	232	216	207	226.1
24-Jul	199	202	197	194	189	167	157	143	148	168	172	176	167	167	184	284	12	189	196	204	194	203	225	268	187.5
25-Jul	289	281	231	245	244	249	269	264	248	249	262	262	253	289	297	282	278	282	277	283	326	333	328	318	276.0
26-Jul	315	302	297	295	295	294	294	293	273	273	272	283	255	258	239	287	249	231	269	290	298	308	325	340	284.2
27-Jul	24	56	40	26	47	19	16	357	4	5	7	9	344	324	322	314	330	320	345	308	303	312	297	295	351.3
28-Jul	295	304	285	280	288	294	248	207	179	279	311	302	292	250	283	262	259	298	292	230	212	215	222	229	265.5
29-Jul	230	221	219	227	218	225	223	223	217	231	236	252	258	271	286	278	263	236	127	248	212	213	214	217	230.5
30-Jul	214	212	209	212	214	214	215	212	213	214	230	236	262	207	243	140	290	266	273	296	223	210	214	219	221.5
31-Jul	223	220	224	221	224	225	220	216	223	215	213	215	200	210	206	210	207	217	205	195	197	202	201	203	212.8
254.5 242.6 240.3 241.2 241.7 241.0 242.5 244.6 254.8 257.9 251.1 259.7 260.4 269.9 270.6 261.9 266.5 261.4 255.8 251.9 241.6 232.1 230.5 247.1																									
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

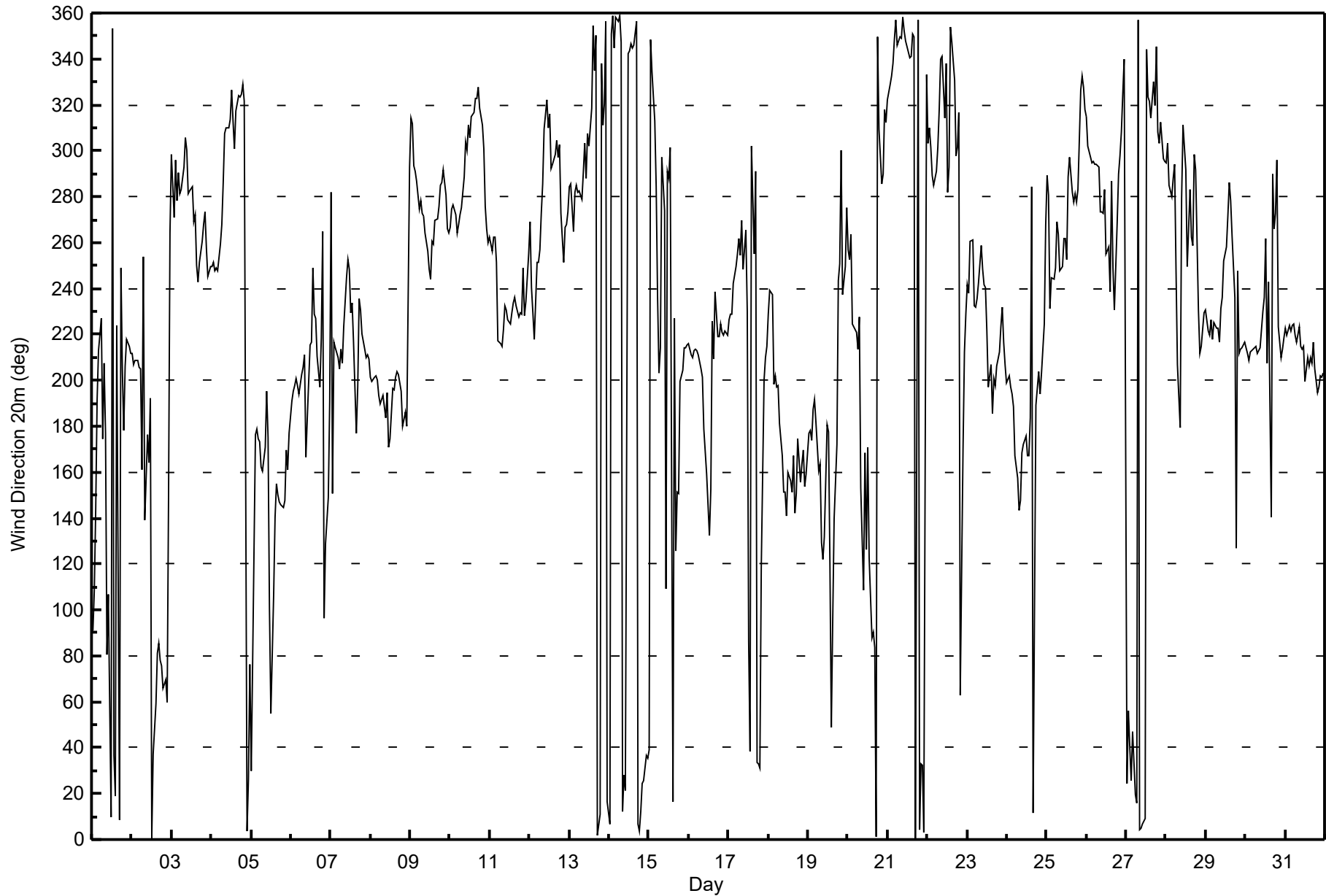
Stony Mountain - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 107 deg on Jul 15 16:00																			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 Jul 28 20:00																									
Percentiles: P ₁ = 11 P ₁₀ = 15 Q ₁ = 19 Median = 26 Q ₃ = 34 P ₉₀ = 52 P ₉₉ = 96																									
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-Jul	16	14	20	20	27	59	76	21	89	57	54	77	38	21	54	51	39	80	21	21	12	17	15	15	89
2-Jul	16	17	17	17	19	20	19	101	32	36	36	42	102	29	23	26	24	22	19	16	14	43	15	57	102
3-Jul	75	84	26	22	20	24	26	28	32	30	36	32	29	32	35	33	33	29	27	30	24	30	26	26	84
4-Jul	27	28	26	29	28	29	28	26	26	26	27	28	34	33	29	34	27	33	25	24	21	18	14	11	34
5-Jul	14	35	19	14	11	16	33	26	42	62	61	87	39	21	29	31	28	22	24	20	17	22	22	20	87
6-Jul	17	15	15	15	16	18	21	23	68	53	38	27	25	42	39	40	32	33	27	60	27	16	19	34	68
7-Jul	46	56	13	16	12	15	25	29	29	42	35	43	38	39	46	29	26	28	23	20	14	14	16	18	56
8-Jul	17	16	17	19	16	17	19	21	25	28	23	24	29	33	30	30	32	24	23	23	18	17	22	37	37
9-Jul	24	23	23	24	26	27	30	28	31	32	32	32	30	29	28	29	32	28	29	29	25	26	25	29	32
10-Jul	26	25	25	23	26	26	26	27	31	30	33	33	30	29	28	32	36	31	30	22	19	15	20	21	36
11-Jul	24	24	25	25	26	18	18	20	28	30	28	27	28	32	31	31	27	28	26	25	28	21	20	28	32
12-Jul	31	26	23	20	29	26	31	29	28	31	28	29	27	28	31	32	29	30	29	19	19	25	25	27	32
13-Jul	22	19	20	25	24	28	25	26	30	30	37	38	33	39	33	28	35	34	53	31	13	18	19	13	53
14-Jul	17	18	20	17	21	19	24	28	33	35	66	38	33	34	35	36	37	32	30	27	18	16	11	13	66
15-Jul	14	48	16	10	23	16	37	72	51	87	97	88	77	98	65	107	61	93	35	23	14	16	14	15	107
16-Jul	16	16	16	17	17	18	18	21	23	52	54	64	78	54	71	67	98	49	23	14	15	16	15	15	98
17-Jul	15	14	15	18	19	22	21	26	43	51	106	96	89	27	35	30	44	34	22	16	67	17	14	16	106
18-Jul	18	17	15	27	11	11	11	23	28	34	33	35	40	40	36	38	25	35	30	20	16	17	15	17	40
19-Jul	16	16	17	18	13	13	16	19	38	38	36	60	66	45	38	47	43	41	20	9	35	46	24	20	66
20-Jul	19	17	21	10	11	35	22	18	38	57	45	53	80	53	42	58	62	90	30	10	18	60	20	23	90
21-Jul	21	18	21	24	30	28	29	28	31	30	32	32	32	34	34	38	35	33	34	29	19	15	25	22	38
22-Jul	13	15	13	21	16	16	22	49	41	37	70	72	79	69	62	44	58	34	19	17	55	24	13	12	79
23-Jul	19	21	25	26	20	19	19	25	37	37	49	37	46	51	45	41	37	27	26	23	17	15	12	16	51
24-Jul	15	16	16	15	15	19	19	23	27	33	28	29	26	32	35	67	35	70	53	14	14	16	17	25	70
25-Jul	19	20	19	23	24	25	28	32	33	32	30	31	31	30	30	30	28	28	27	26	27	26	23	23	33
26-Jul	20	21	20	20	17	19	22	27	30	30	29	31	39	47	33	52	38	41	33	25	28	25	18	21	52
27-Jul	23	15	18	19	17	24	26	26	26	26	26	36	35	34	30	32	30	37	30	28	13	18	16	14	37
28-Jul	14	14	13	13	12	12	30	25	56	38	44	44	35	37	43	31	37	30	38	7	9	12	13	12	56
29-Jul	12	14	14	15	16	23	20	22	22	31	36	43	48	76	54	43	50	87	97	26	12	13	14	15	97
30-Jul	16	16	17	17	18	19	19	19	24	30	35	33	55	75	66	82	64	38	21	39	13	15	15	17	82
31-Jul	16	17	15	18	17	18	18	20	26	34	38	35	39	46	34	31	30	31	27	22	16	17	17	17	46
75 84 26 29 30 59 76 101 89 87 106 96 102 98 71 107 98 93 97 60 67 60 26 57																									
Diurnal Maximum																									



Wood Buffalo Environmental Association
Hourly Averages

Wind Direction 20m (WD20) - deg
Stony Mountain - July 2025





WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS19 FIREBAG JULY 2025

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

August 29, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - FIREBAG (AMS19)
JULY 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	20.9	0	2.7	0
H2S (ppb) Average	706	37	38	99.87	5.4	0	0.5	0
THC (ppm) Average	707	35	37	99.73	3.1	-	2.4	-
NO2 (ppb) Average	707	36	37	99.87	16.5	0	3.4	-
NO (ppb) Average	707	36	37	99.87	10.1	-	1	-
NOX (ppb) Average	707	36	37	99.87	19.8	-	3.9	-
Temperature 2 m (C) Average	744	0	0	100	30.7	-	25.1	-
Relative Humidity (%) Average	744	0	0	100	97.6	-	93.9	-
Wind Speed 10 m (km/h) Average	744	0	0	100	37	-	24	-
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 - FIREBAG (AMS19)
JULY 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	0.64	1.6	-	0	0	0	0.1	0.4	1.8	20.9
H2S (ppb) Average	706	0.17	0.3	-	0	0	0.1	0.1	0.2	0.3	5.4
THC (ppm) Average	707	2.26	0.1	-	2	2.1	2.2	2.2	2.3	2.4	3.1
NO2 (ppb) Average	707	1.88	1.9	-	0.1	0.5	0.8	1.3	2.2	3.9	16.5
NO (ppb) Average	707	0.28	0.7	-	0	0	0.1	0.1	0.2	0.6	10.1
NOX (ppb) Average	707	2.16	2.3	-	0.1	0.6	0.9	1.5	2.5	4.4	19.8
Temperature 2 m (C) Average	744	16.18	5.3	-	3.8	9.5	12.3	15.6	19.9	23.7	30.7
Relative Humidity (%) Average	744	62.58	20.4	-	25.6	35.7	46	60.5	81.2	91.8	97.6
Wind Speed 10 m (km/h) Average	744	11.4	6	-	0	5	7	10	15	20	37
Wind Direction 10 m (deg) Average	744	-	-	-	-	-	-	-	-	-	-

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - FIREBAG (AMS19)
JULY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
SO2, THC	14 Jul 2025 14:00	14 Jul 2025 14:00	1	Maintenance - sample manifold cleaned
SO2, THC	31 Jul 2025 14:00	31 Jul 2025 14:00	1	Maintenance - sample manifold cleaned
H2S	31 Jul 2025 14:00	31 Jul 2025 14:00	1	Maintenance - sample manifold cleaned
NO2	14 Jul 2025 14:00	14 Jul 2025 14:00	1	Maintenance - sample manifold cleaned



Wood Buffalo Environmental Association

Summary of Hour Averages

Sulphur Dioxide (SO₂) - ppb

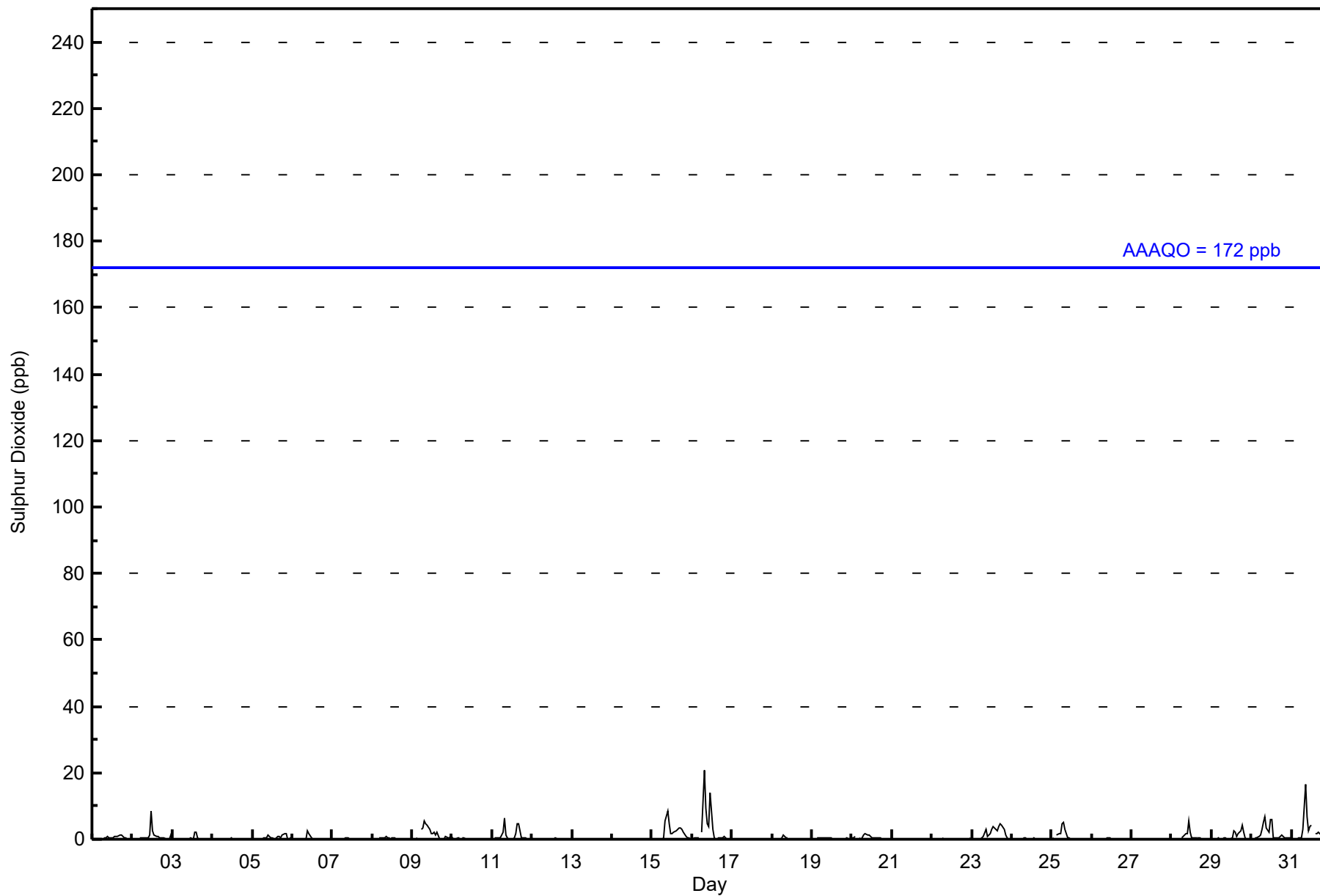
Firebag - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 20.9 ppb on Jul 16 08:00 Maximum Daily Average: 2.7 ppb on Jul 16																			Hours in Service: 744 Hours of Data: 707 Hours of Missing Data: 37 Hours of Calibration: 35 Percent Operational Time: 99.7							
Minimum Value: 0.0 ppb on Jul 3 02:00 Minimum Daily Average: 0.0 ppb on Jul 21 Maximum Diurnal Average: 1.9 ppb at hour 9 Minimum Diurnal Average: 0.1 ppb at hour 1 Monthly Average: 0.64 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.4 P ₉₀ = 1.8 P ₉₉ = 6.8																										
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-Jul	0.1	0.1	Z	0.2	0.1	0.1	0.1	0.3	0.4	0.7	0.6	0.6	0.5	0.7	0.7	0.8	1.1	1.2	0.9	0.4	0.2	0.2	0.2	0.1	0.4	1.2
2-Jul	0.1	0.1	0.1	Z	0.3	0.4	0.5	0.3	0.6	0.6	1.3	8.6	2.5	1.1	0.8	0.8	0.4	0.3	0.3	0.4	0.1	0.0	0.0	1.2	0.9	8.6
3-Jul	0.1	0.0	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.1	0.4	0.2	2.3	2.3	0.4	0.2	0.2	0.1	0.0	0.0	0.1	0.1	0.1	0.3	2.3
4-Jul	0.0	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	0.1	0.1	0.2	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.2
5-Jul	Z	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.5	1.3	0.9	0.3	0.2	0.2	0.3	0.9	0.7	0.5	1.2	1.5	1.6	0.2	0.1	0.4	0.5	1.6
6-Jul	0.1	Z	0.1	0.0	0.0	0.1	0.1	0.0	0.0	2.7	1.5	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	0.2	2.7
7-Jul	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.4	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	0.1	0.4
8-Jul	0.0	0.0	0.2	Z	0.6	0.5	0.3	0.3	0.7	0.4	0.4	0.2	0.3	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.7
9-Jul	0.0	0.0	0.1	0.3	Z	3.0	3.5	5.7	4.5	4.0	3.0	1.6	1.7	1.9	1.2	2.1	0.1	0.1	0.1	0.1	0.9	0.6	0.4	1.2	1.6	5.7
10-Jul	0.3	0.1	0.1	0.3	0.6	Z	0.3	0.2	0.2	0.2	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.6
11-Jul	Z	0.2	0.4	0.4	0.3	0.3	2.0	6.5	1.2	0.4	0.2	0.1	0.2	0.3	1.6	4.5	4.8	0.5	0.3	0.5	0.2	0.0	0.2	0.1	1.1	6.5
12-Jul	0.3	Z	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.4	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.4
13-Jul	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	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.2
14-Jul	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	M	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2
15-Jul	0.1	0.1	0.1	0.1	Z	0.1	0.1	0.2	5.7	8.3	4.6	1.7	1.5	2.1	2.7	2.8	3.5	3.4	3.0	2.2	0.8	0.2	0.2	0.2	1.9	8.3
16-Jul	0.2	0.3	0.3	0.3	0.3	Z	2.3	20.9	9.4	4.5	3.8	14.0	2.9	0.4	0.1	0.2	0.2	0.3	0.3	0.7	0.5	0.0	0.2	0.0	2.7	20.9
17-Jul	Z	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	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.2
18-Jul	0.2	Z	0.1	0.1	0.1	0.1	0.3	1.3	0.5	0.6	C	C	C	C	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.3
19-Jul	0.1	0.2	Z	0.3	0.4	0.4	0.4	0.4	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	0.2	0.2	0.4	0.3	0.4
20-Jul	0.5	0.6	0.6	Z	0.4	0.2	0.2	1.1	1.9	1.5	1.4	0.8	0.4	0.3	0.3	0.4	0.4	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.5	1.9
21-Jul	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
22-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.3	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	0.0	0.0	0.2	0.3	0.1	0.3
23-Jul	Z	0.1	0.1	0.1	0.1	0.1	0.3	0.9	2.8	1.0	1.1	1.8	2.9	3.9	3.0	2.6	3.7	4.8	4.1	3.1	1.4	0.3	0.1	0.2	1.7	4.8
24-Jul	0.2	Z	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.1	0.1	0.0	0.1	0.2	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.3
25-Jul	0.1	0.2	Z	1.2	1.6	1.6	4.6	5.2	3.0	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	0.0	0.0	0.8	5.2
26-Jul	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.1	0.3	0.5	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	0.1	0.6
27-Jul	0.0	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	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1
28-Jul	0.0	0.1	0.1	0.1	0.1	Z	0.3	0.8	1.6	1.8	5.6	2.1	0.3	0.3	0.3	0.4	0.5	0.2	0.1	0.0	0.1	0.0	0.0	0.0	0.6	5.6
29-Jul	Z	0.0	0.1	0.2	0.4	0.1	0.1	0.2	0.4	0.1	0.0	0.0	0.4	2.4	2.3	0.9	1.6	2.5	4.2	2.1	0.6	0.1	0.0	0.0	0.8	4.2
30-Jul	0.0	Z	0.5	0.5	0.9	1.4	2.8	5.1	6.8	3.2	2.2	5.9	5.8	0.3	0.4	0.5	0.5	0.7	1.1	0.7	0.5	0.3	0.3	0.2	1.8	6.8
31-Jul	0.1	0.0	Z	0.1	0.3	0.5	0.3	2.8	16.4	7.0	2.5	3.8	4.2	M	1.7	1.5	2.0	1.5	1.2	2.0	0.9	0.2	0.2	0.1	2.2	16.4
																									Diurnal Average	
																									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
Firebag - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Firebag - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	704	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: 707

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Firebag - July 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	78	41	19	11	11	17	17	24	71	69	62	61	69	50	46	58	704
11 - 20	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
21 - 60	0	0	0	0	0	0	0	0	0	0	1	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	78	41	19	11	11	17	17	24	71	69	63	63	69	50	46	58	707

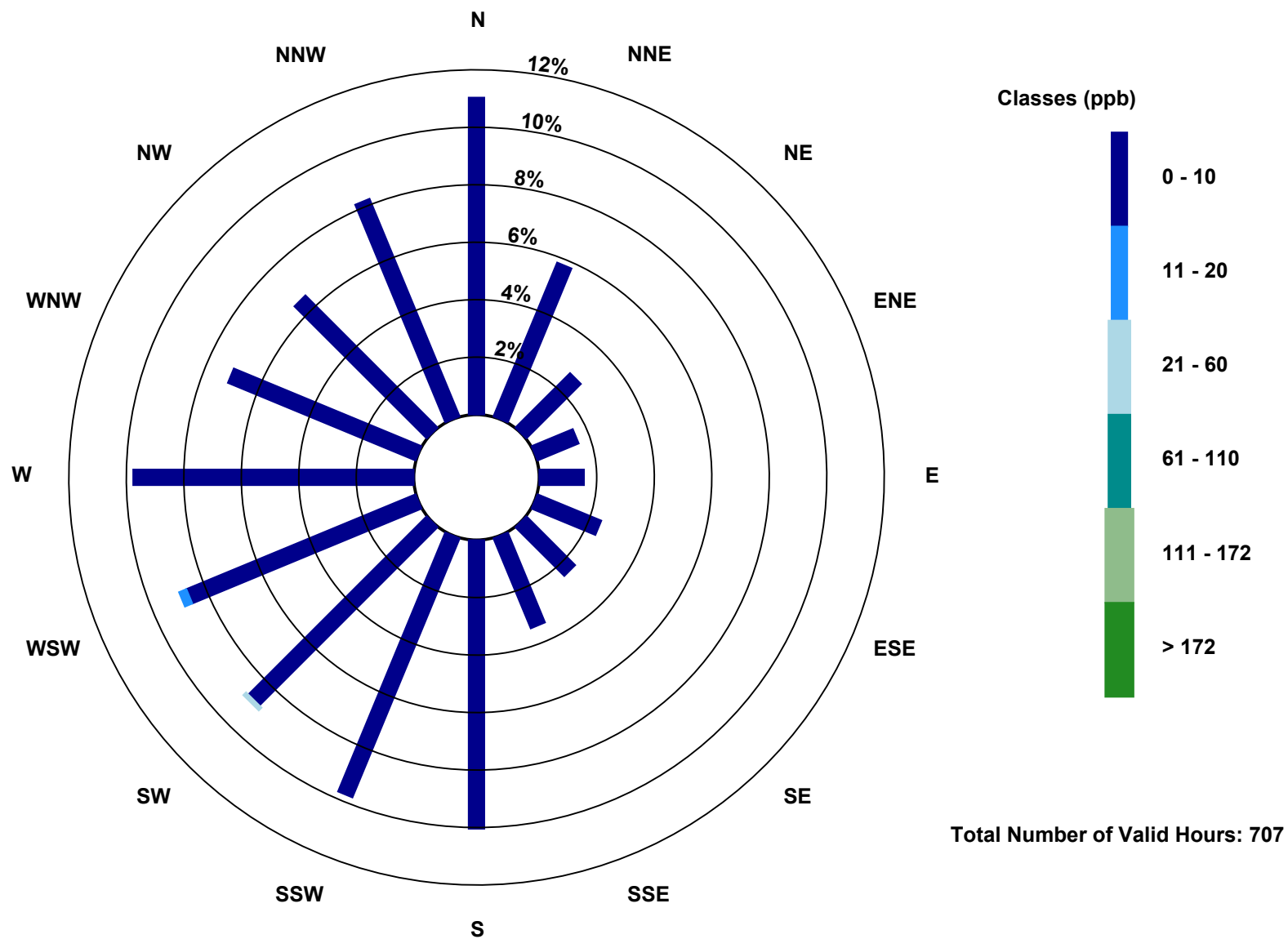
Total Number of Valid Hours: 707

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

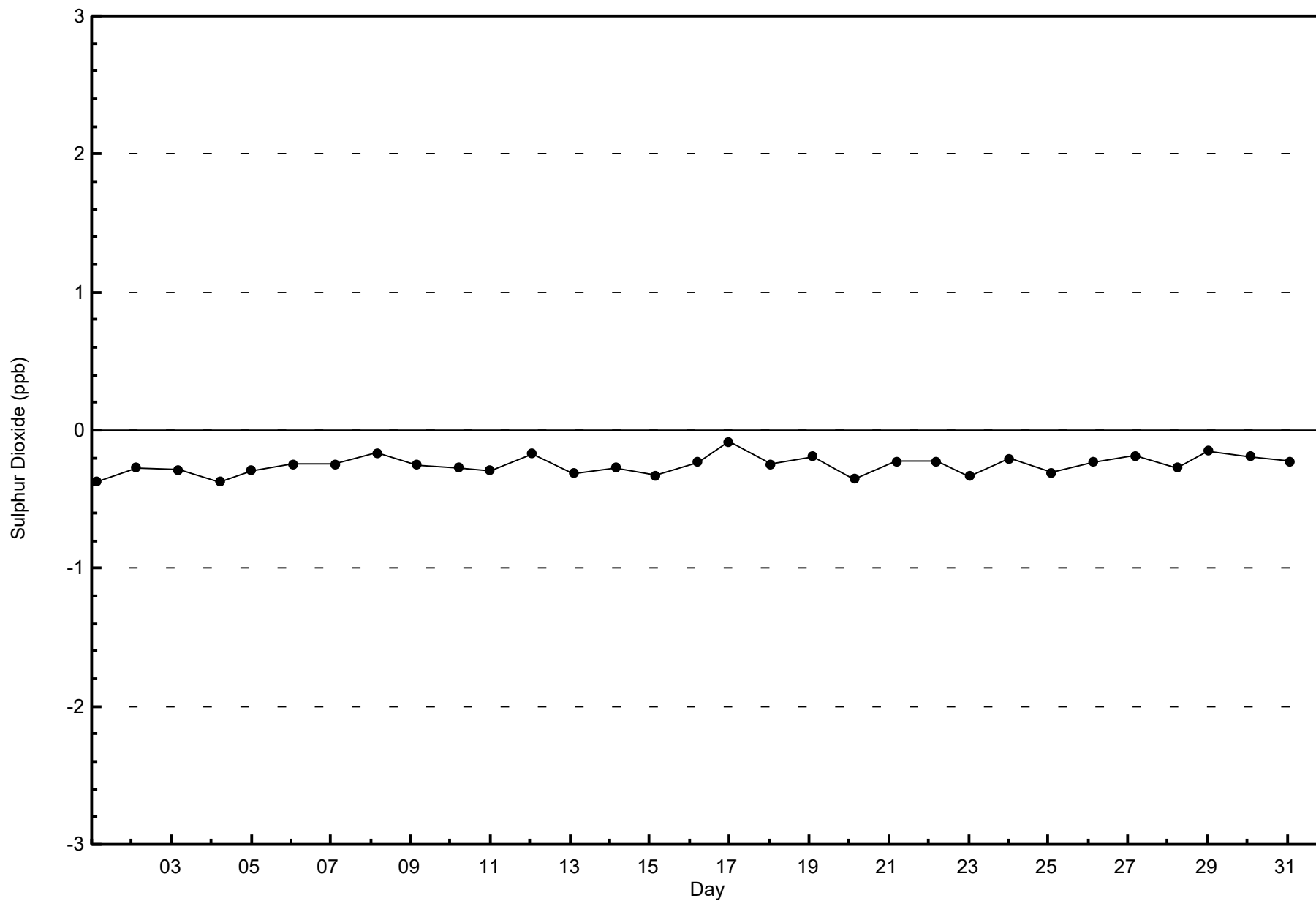
Sulphur Dioxide (SO₂) - ppb
Firebag





Wood Buffalo Environmental Association
Zero Responses

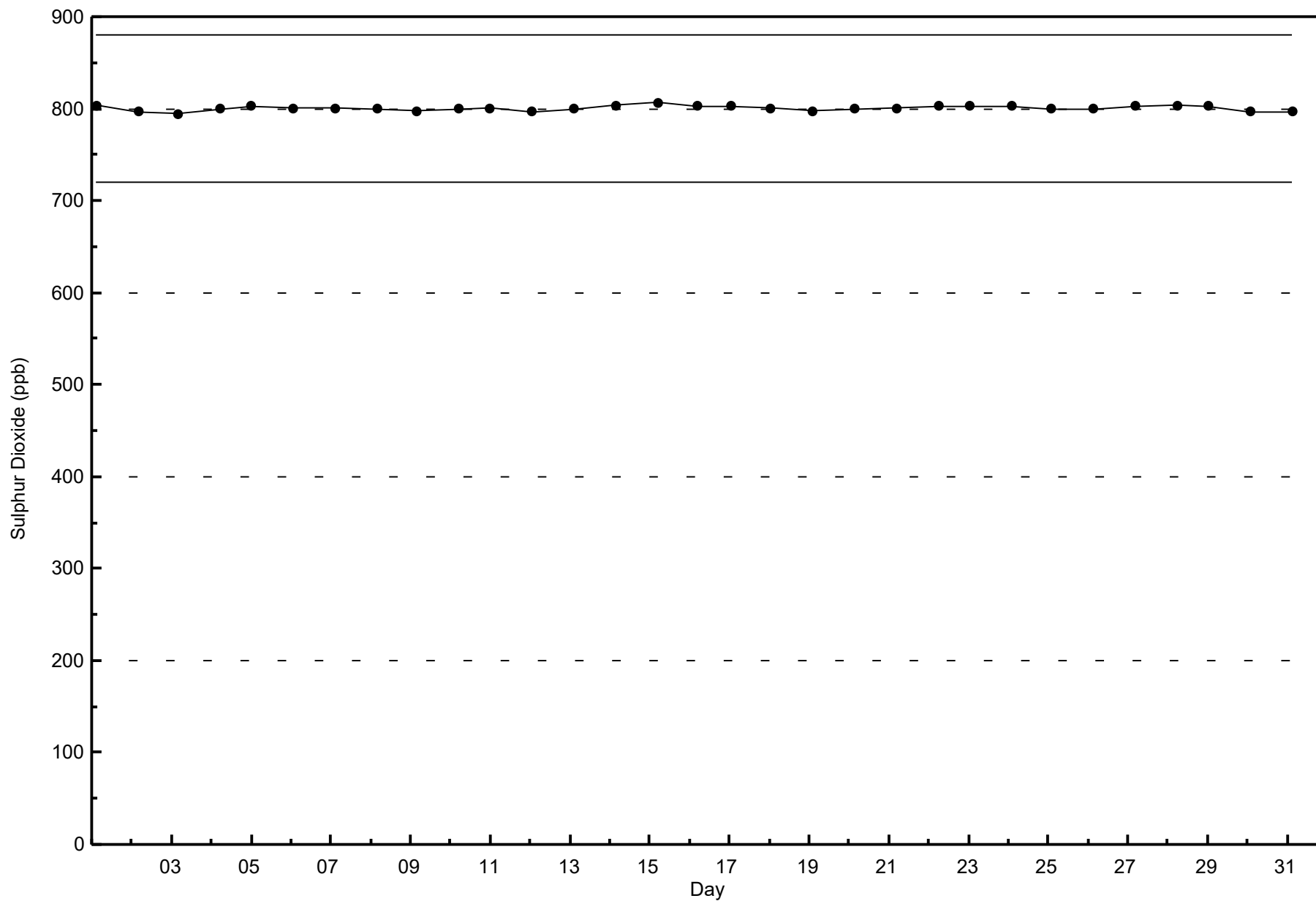
Sulphur Dioxide (SO₂) - ppb
Firebag - July 2025





Wood Buffalo Environmental Association
Span Responses

Sulphur Dioxide (SO₂) - ppb
Firebag - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Hydrogen Sulphide (H₂S) - ppb

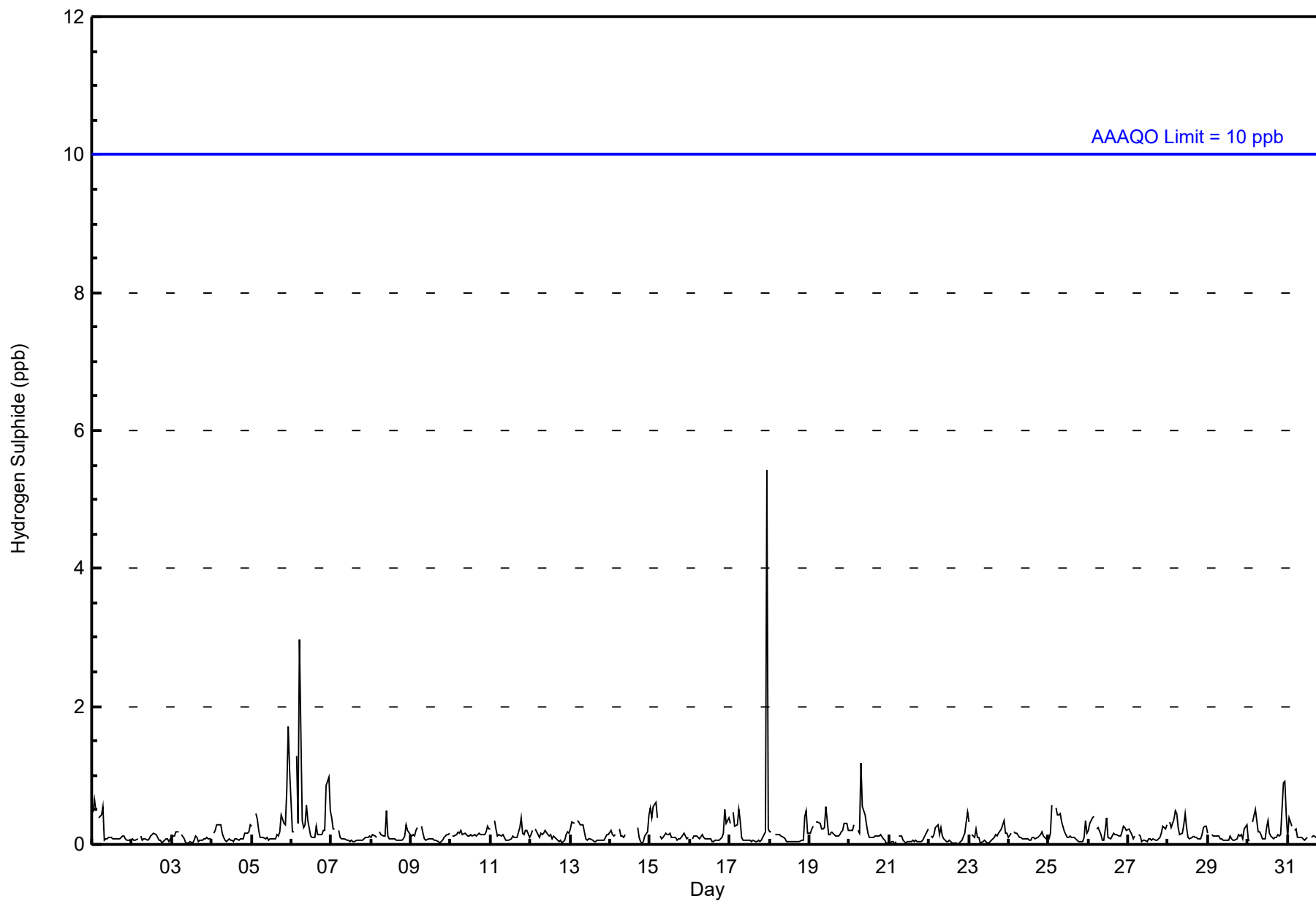
Firebag - July 2025

Number of Exceedences (AAAQO): Maximum Value: 5.4 ppb on Jul 17 23:00																			1-hr: 0 24-hr: 0 Maximum Daily Average: 0.5 ppb on Jul 6																			Hours in Service: 744	
Minimum Value: 0.0 ppb on Jul 21 04:00 Maximum Diurnal Average: 0.5 ppb at hour 23 Monthly Average: 0.17 ppb																			Minimum Daily Average: 0.1 ppb on Jul 21 Minimum Diurnal Average: 0.1 ppb at hour 14 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 = 0.9																			Hours of Data: 706	
																																						Hours of Missing Data: 38	
																																						Hours of Calibration: 37	
																																						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-Jul	0.5	0.7	0.5	Z	0.4	0.4	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.2	0.7													
2-Jul	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	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.2													
3-Jul	0.1	0.1	0.2	0.2	0.2	Z	0.1	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	0.1	0.1	0.1	0.1	0.1	0.2													
4-Jul	Z	0.2	0.2	0.3	0.3	0.3	0.2	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.1													
5-Jul	0.3	Z	0.4	0.4	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.4	0.3	0.3	0.8	1.7	1.1	0.3														
6-Jul	0.2	0.2	Z	1.3	0.3	3.0	0.3	0.2	0.3	0.6	0.3	0.1	0.1	0.1	0.1	0.3	0.1	0.1	0.2	0.2	0.2	0.9	1.0	0.5	0.5														
7-Jul	0.4	0.2	0.2	Z	0.2	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	0.1	0.1	0.1	0.1	0.1	0.1														
8-Jul	0.1	0.1	0.1	0.1	Z	0.2	0.1	0.1	0.1	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.2	0.1														
9-Jul	0.1	0.1	0.1	0.2	0.2	Z	0.3	0.2	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	0.2	0.1														
10-Jul	Z	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.3	0.2	0.2														
11-Jul	0.2	Z	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	0.2	0.4	0.2	0.2	0.2	0.2	0.1	0.2														
12-Jul	0.1	0.2	Z	0.2	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	0.0	0.1	0.0	0.1	0.1	0.2	0.2	0.1														
13-Jul	0.2	0.3	0.3	Z	0.3	0.3	0.3	0.3	0.2	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	0.1														
14-Jul	0.2	0.1	0.1	0.1	Z	0.2	0.1	0.1	0.1	0.1	C	C	C	C	C	C	0.2	0.1	0.0	0.0	0.0	0.1	0.2	0.4	-														
15-Jul	0.5	0.4	0.5	0.6	0.4	Z	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	0.2	0.1	0.1	0.1	0.2														
16-Jul	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.5	0.3	0.4	0.1														
17-Jul	0.3	Z	0.5	0.3	0.3	0.5	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.2	5.4	0.4														
18-Jul	0.2	0.2	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	0.0	0.1	0.1	0.4	0.5	0.2	0.1														
19-Jul	0.2	0.2	0.3	Z	0.3	0.3	0.3	0.2	0.2	0.2	0.5	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.2	0.2														
20-Jul	0.2	0.2	0.2	0.3	Z	0.2	0.2	1.2	0.6	0.4	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.2														
21-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.1														
22-Jul	Z	0.1	0.1	0.1	0.2	0.3	0.1	0.3	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.5	0.1														
23-Jul	0.3	Z	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.2	0.2	0.1														
24-Jul	0.1	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	0.2	0.1	0.1	0.1	0.1														
25-Jul	0.1	0.2	0.6	Z	0.5	0.4	0.4	0.5	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.4	0.2	0.2														
26-Jul	0.2	0.3	0.4	0.4	Z	0.2	0.3	0.1	0.1	0.1	0.2	0.4	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.3	0.3	0.2	0.2														
27-Jul	0.2	0.2	0.1	0.1	0.1	Z	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	0.2	0.3	0.2	0.3	0.1														
28-Jul	Z	0.3	0.2	0.4	0.5	0.4	0.3	0.1	0.2	0.3	0.4	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.2														
29-Jul	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	0.1	0.2	0.3	0.1														
30-Jul	0.1	0.1	Z	0.3	0.5	0.4	0.2	0.2	0.2	0.1	0.1	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.9	0.9	0.4	0.3														
31-Jul	0.1	0.4	0.3	Z	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	M	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.1	0.1														
0.2 0.2 0.2 0.3 0.2 0.3 0.2 0.2 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.2 0.5 0.2																									Diurnal Average														
0.5 0.7 0.6 1.3 0.5 3.0 0.5 1.2 0.6 0.6 0.5 0.4 0.3 0.2 0.2 0.3 0.2 0.2 0.4 0.3 0.3 0.9 5.4 1.1																									Diurnal Maximum														
Z - zerospan C - Calibration M - Maintenance																																							
Alberta Ambient Air Quality Objective (AAAQO): 1-hour 10 ppb 24-hr 3 ppb																																							



Wood Buffalo Environmental Association
Hourly Averages

Hydrogen Sulphide (H₂S) - ppb
Firebag - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Hydrogen Sulphide (H₂S) - ppb
Firebag - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	704	99.72	99.72
3 - 4	1	0.14	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: 706

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Hydrogen Sulphide (H₂S) - ppb
Firebag - July 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	74	41	17	12	11	15	17	25	68	74	68	64	68	48	44	58	704
3 - 4	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5 - 7	0	0	0	0	0	1	0	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	74	41	17	12	11	17	17	25	68	74	68	64	68	48	44	58	706

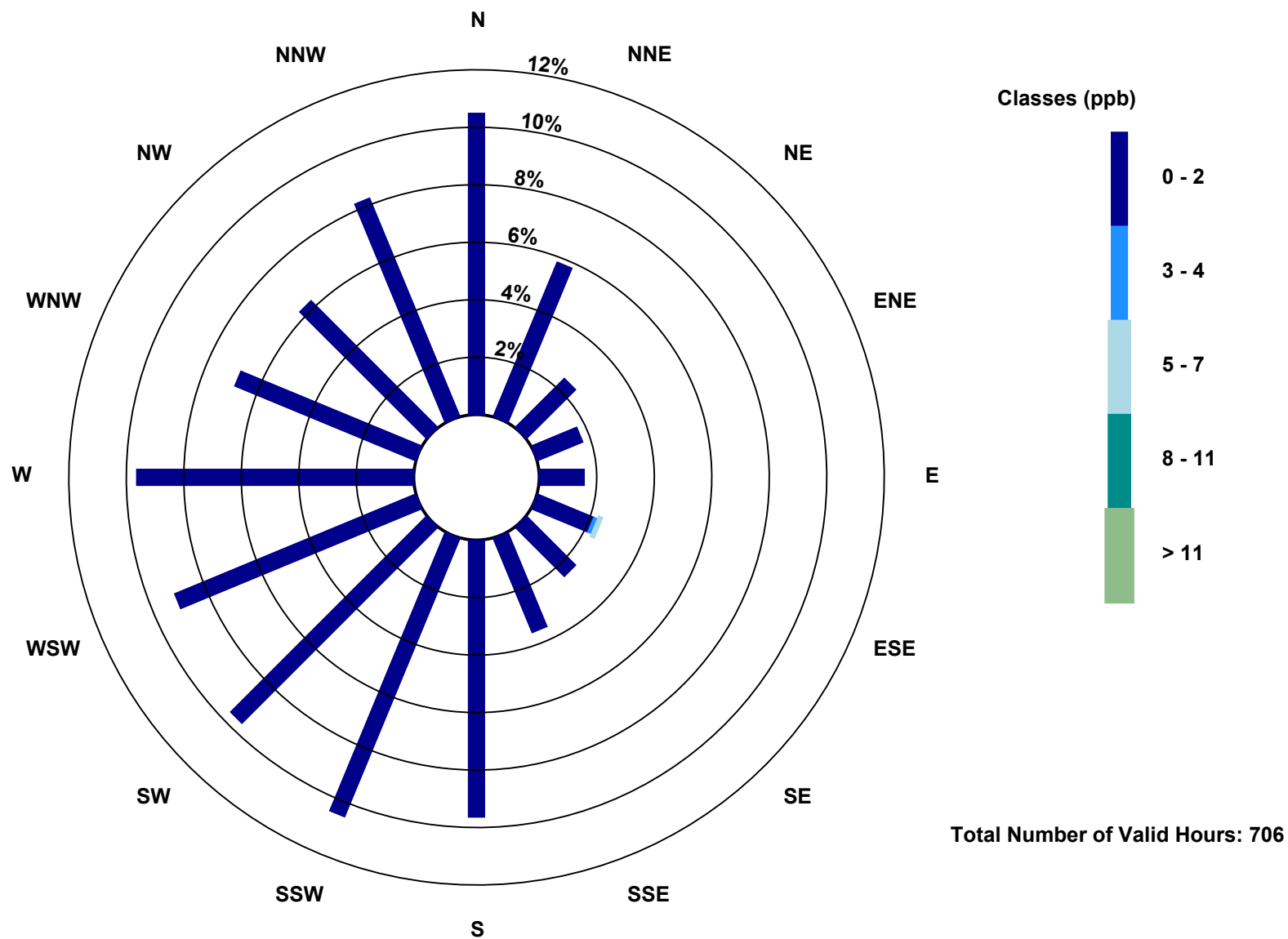
Total Number of Valid Hours: 706

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Hydrogen Sulphide (H_2S) - ppb
Firebag



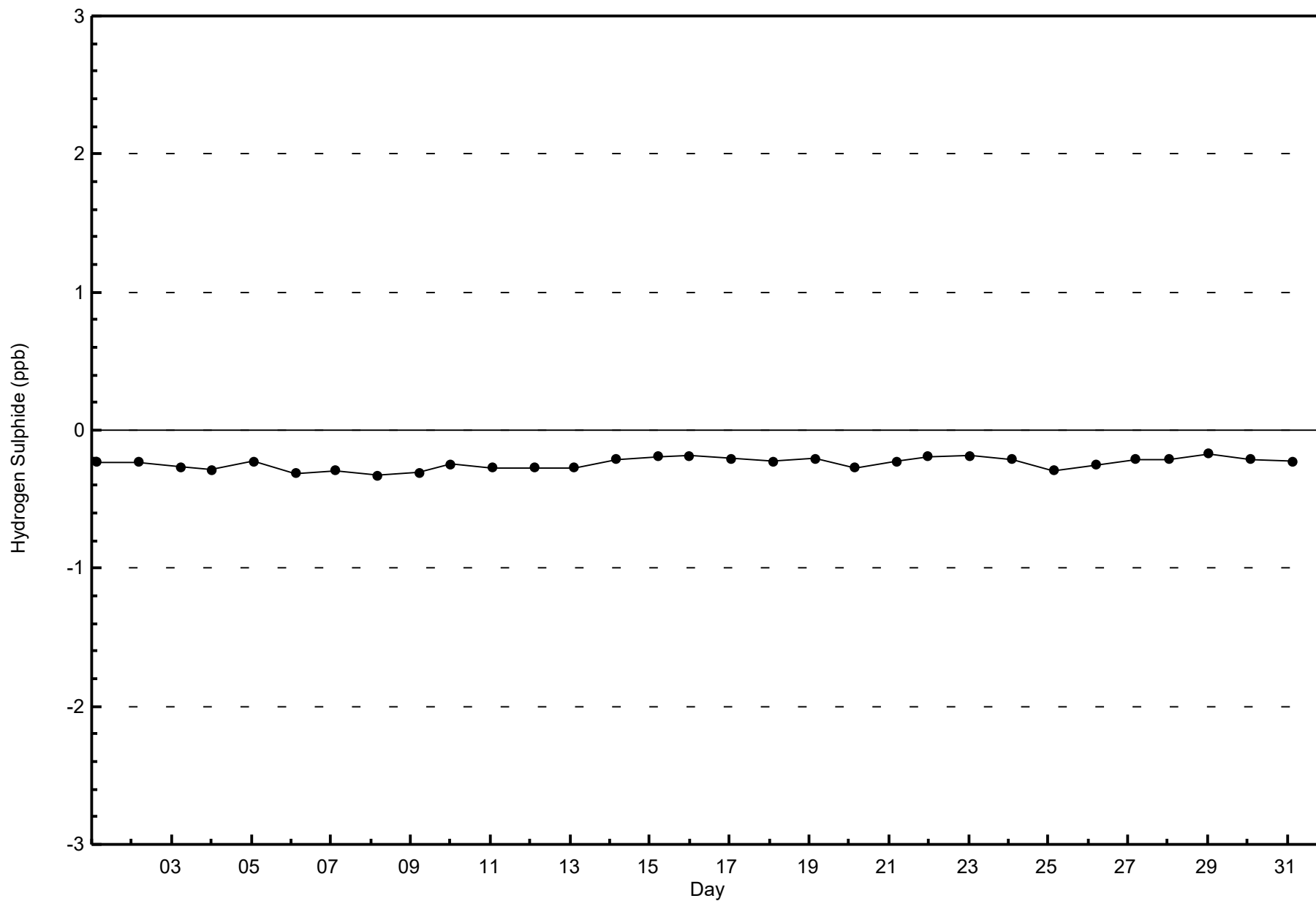


Wood Buffalo Environmental Association

Zero Responses

Hydrogen Sulphide (H_2S) - ppb

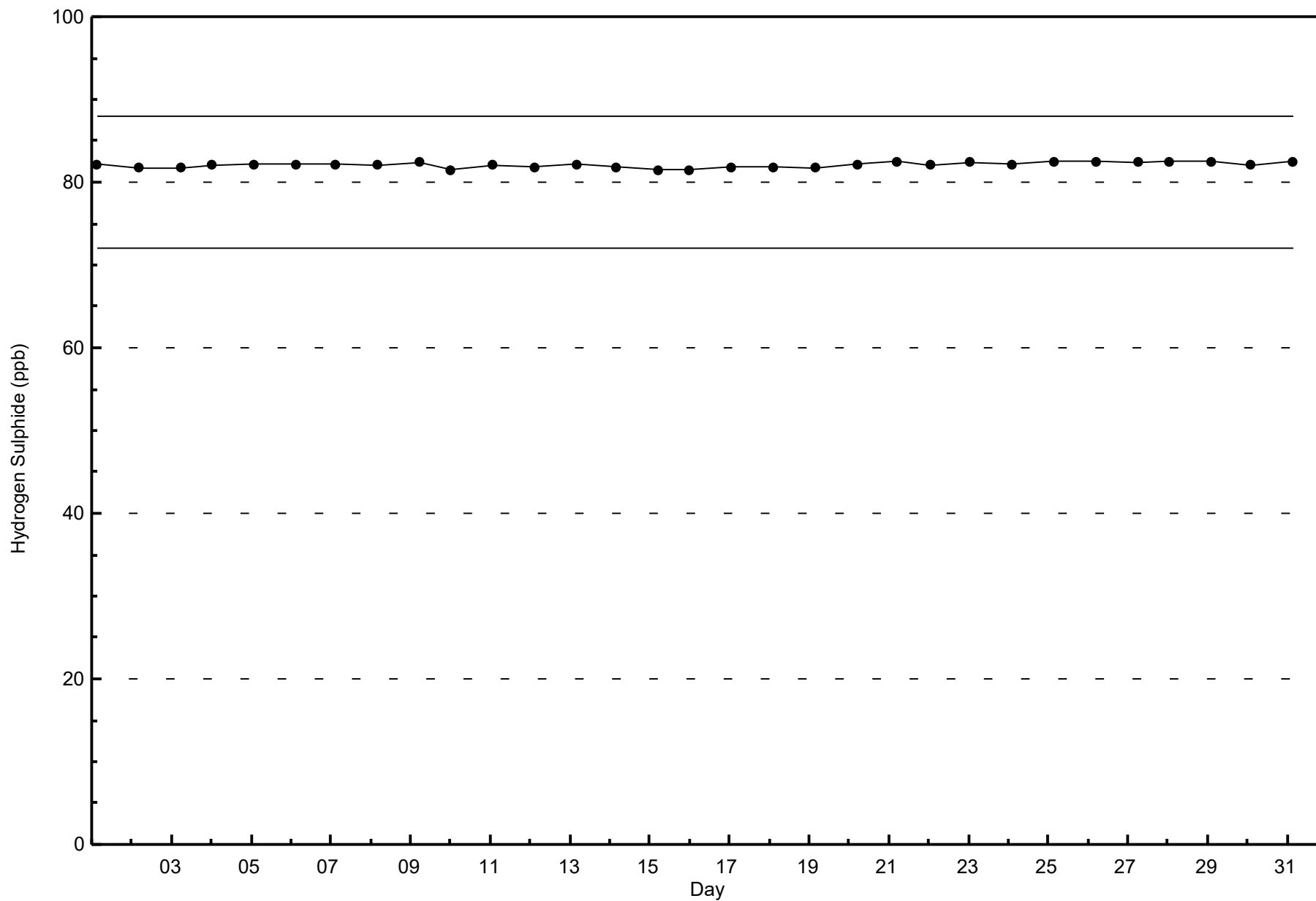
Firebag - July 2025





Wood Buffalo Environmental Association
Span Responses

Hydrogen Sulphide (H₂S) - ppb
Firebag - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Total Hydrocarbons (THC) - ppm

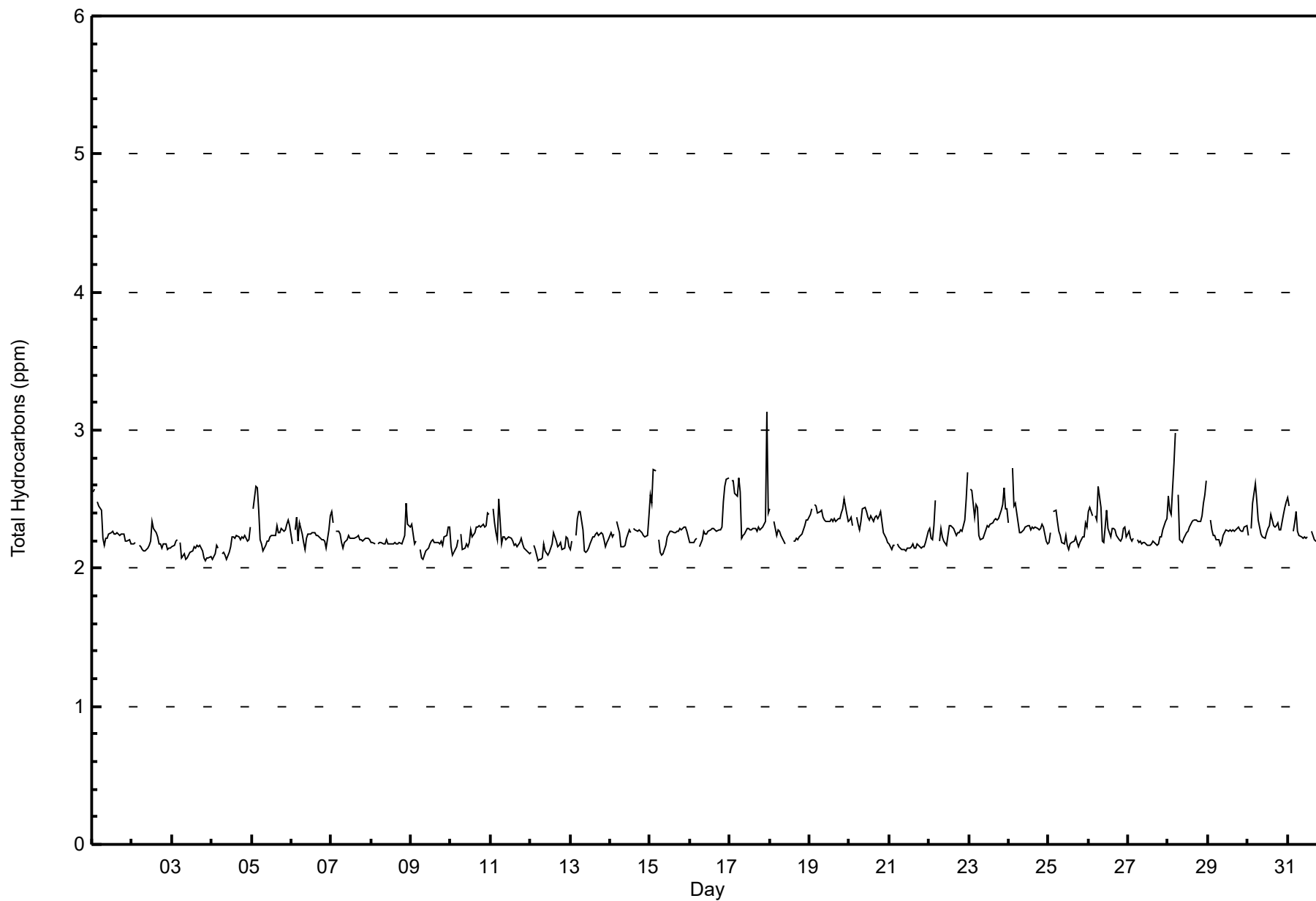
Firebag - July 2025

Maximum Value: 3.1 ppm on Jul 17 23:00																		Maximum Daily Average: 2.4 ppm on Jul 28										Hours in Service: 744	
Minimum Value: 2.0 ppm on Jul 3 21:00																		Minimum Daily Average: 2.1 ppm on Jul 3										Hours of Data: 707	
Maximum Diurnal Average: 2.4 ppm at hour 5																		Minimum Diurnal Average: 2.2 ppm at hour 9										Hours of Missing Data: 37	
Monthly Average: 2.26 ppm																		Percentiles: P ₁ = 2.1 P ₁₀ = 2.1 Q ₁ = 2.2 Median = 2.2 Q ₃ = 2.3 P ₉₀ = 2.4 P ₉₉ = 2.7										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-Jul	2.6	2.6	Z	2.5	2.5	2.4	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.2	2.3	2.2	2.2	2.2	2.3	2.2	2.2	2.2	2.2	2.3	2.6			
2-Jul	2.2	2.2	2.2	Z	2.2	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.3	2.3	2.2	2.2	2.2	2.1	2.2	2.2	2.1	2.1	2.1	2.2	2.3			
3-Jul	2.2	2.2	2.2	2.2	Z	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.2	2.2	2.2	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.2			
4-Jul	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	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.2	2.3			
5-Jul	Z	2.4	2.6	2.6	2.4	2.2	2.2	2.1	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	2.3	2.3	2.3	2.6			
6-Jul	2.2	Z	2.3	2.4	2.2	2.3	2.2	2.2	2.1	2.2	2.2	2.2	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.3	2.4	2.2	2.4			
7-Jul	2.4	2.3	Z	2.3	2.3	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	2.4			
8-Jul	2.2	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	2.2	2.2	2.5	2.3	2.3	2.2	2.5			
9-Jul	2.3	2.2	2.2	2.2	Z	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	2.3	2.3	2.2	2.3			
10-Jul	2.2	2.1	2.1	2.2	2.2	Z	2.2	2.1	2.1	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	2.4	2.4	2.2	2.4			
11-Jul	Z	2.4	2.3	2.3	2.2	2.5	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	2.2	2.5			
12-Jul	2.1	Z	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.2	2.2	2.3	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.2	2.2	2.2	2.3			
13-Jul	2.1	2.2	Z	2.2	2.4	2.4	2.4	2.3	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.3	2.3	2.2	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.4			
14-Jul	2.3	2.2	2.2	Z	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.3	2.3	M	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.4	2.2	2.4			
15-Jul	2.5	2.5	2.7	2.7	Z	2.2	2.1	2.1	2.1	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	2.2	2.3	2.7			
16-Jul	2.2	2.2	2.2	2.2	2.2	Z	2.2	2.2	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	2.5	2.6	2.6	2.7	2.3	2.7		
17-Jul	Z	2.6	2.6	2.5	2.5	2.6	2.5	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	3.1	2.4	2.4	2.4	3.1			
18-Jul	2.4	Z	2.3	2.3	2.2	2.3	2.3	2.2	2.2	2.2	C	C	C	C	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.4	2.3	2.3	2.4			
19-Jul	2.4	2.4	Z	2.5	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.3	2.3	2.4	2.3	2.4	2.3	2.4	2.4	2.4	2.4	2.5	2.4	2.3	2.4	2.5			
20-Jul	2.3	2.4	2.3	Z	2.4	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.4	2.4	2.4	2.4	2.4	2.3	2.2	2.2	2.2	2.3	2.4			
21-Jul	2.2	2.1	2.2	2.2	Z	2.2	2.2	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	2.2	2.2	2.2	2.3	2.2	2.3			
22-Jul	2.3	2.2	2.2	2.3	2.5	Z	2.2	2.3	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.2	2.3	2.3	2.3	2.3	2.3	2.5	2.7	2.3	2.7			
23-Jul	Z	2.6	2.6	2.4	2.5	2.4	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.3	2.4	2.4	2.5	2.6	2.4	2.4	2.4	2.6			
24-Jul	2.3	Z	2.7	2.4	2.5	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	2.2	2.2	2.3	2.7			
25-Jul	2.2	2.3	Z	2.4	2.4	2.3	2.3	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	2.3	2.3	2.2	2.4			
26-Jul	2.4	2.4	2.4	Z	2.4	2.3	2.6	2.4	2.2	2.2	2.3	2.4	2.3	2.2	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.3	2.3	2.2	2.3	2.6			
27-Jul	2.3	2.2	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	2.2	2.3	2.3	2.4	2.2	2.4			
28-Jul	2.5	2.4	2.4	2.8	3.0	Z	2.5	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.3	2.3	2.4	2.5	2.5	2.6	2.4	3.0			
29-Jul	Z	2.3	2.3	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	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3			
30-Jul	2.2	Z	2.3	2.5	2.6	2.5	2.4	2.3	2.2	2.2	2.2	2.3	2.3	2.3	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.5	2.3	2.6			
31-Jul	2.5	2.4	Z	2.3	2.3	2.4	2.3	2.2	2.2	2.2	2.2	2.2	2.2	M	2.3	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.2	2.3	2.5			
2.3 2.3 2.3 2.3 2.4 2.3 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.3 2.3 2.2 2.2 2.2 2.2 2.3 2.3 2.3 2.3																								Diurnal Average					
2.6 2.6 2.7 2.8 3.0 2.6 2.6 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 2.6 3.1 2.7																								Diurnal Maximum					
Z - zerospan C - Calibration M - Maintenance																													



Wood Buffalo Environmental Association
Hourly Averages

Total Hydrocarbons (THC) - ppm
Firebag - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Hydrocarbons (THC) - ppm
Firebag - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	1	0.14	0.14
2.1 - 3.0	705	99.72	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
Firebag - July 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	1	0	0	0	1
2.1 - 3.0	78	41	19	11	11	16	17	24	71	69	63	63	68	50	46	58	705
3.1 - 10.0	0	0	0	0	0	1	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	78	41	19	11	11	17	17	24	71	69	63	63	69	50	46	58	707

Total Number of Valid Hours: 707

Total Number of Hours: 744

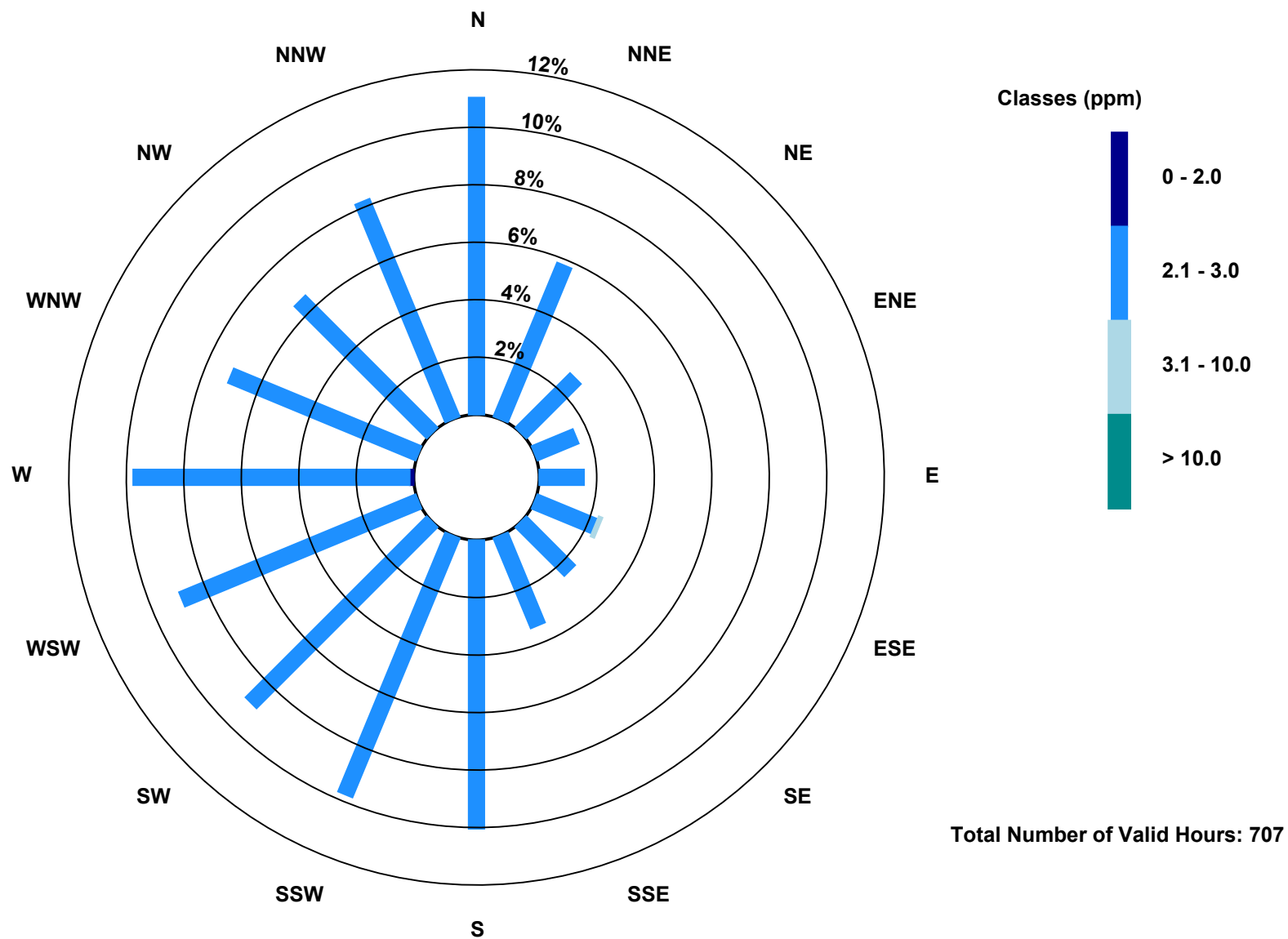


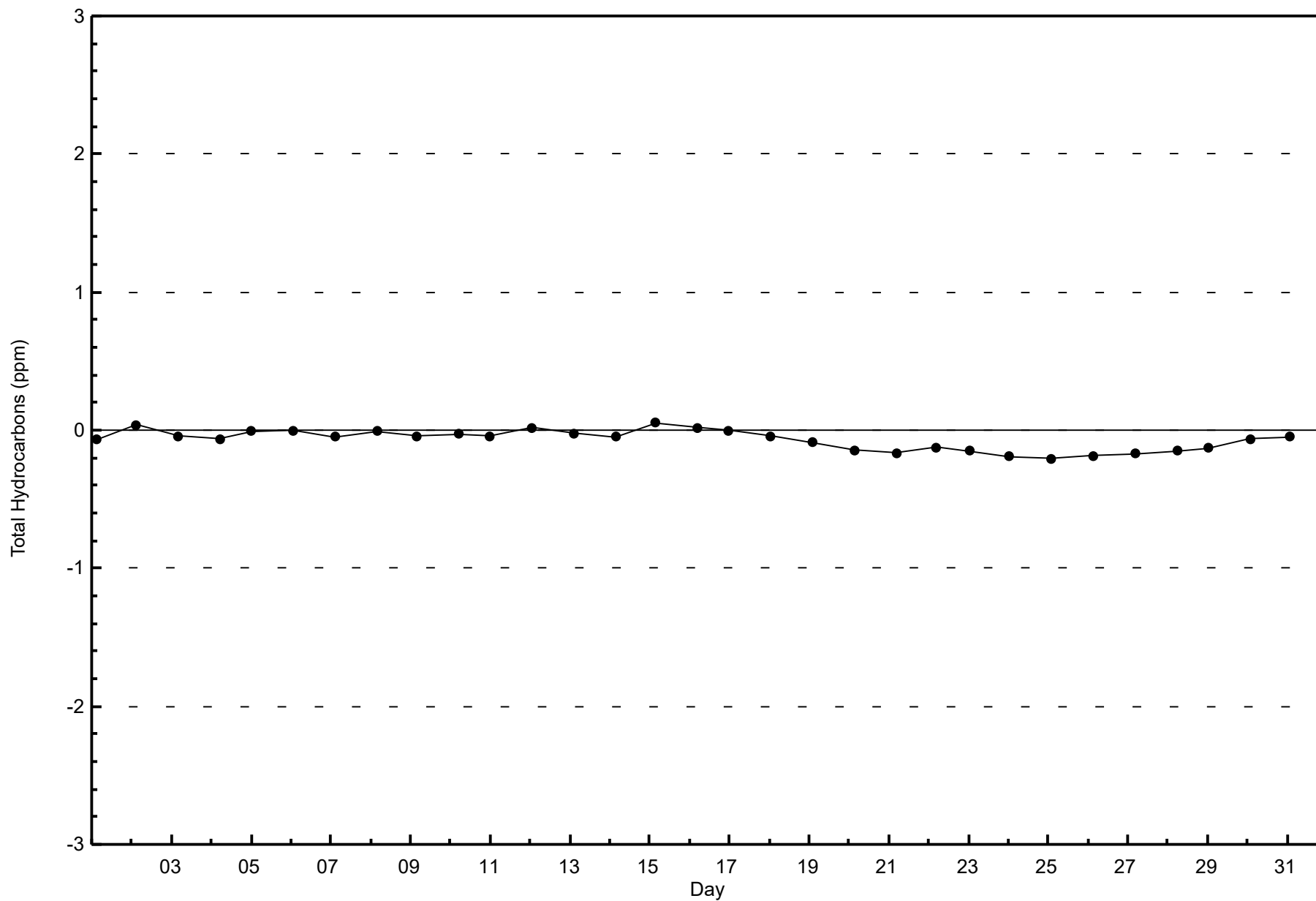
Wood Buffalo Environmental Association

Wind Rose Jul 2025

Total Hydrocarbons (THC) - ppm

Firebag

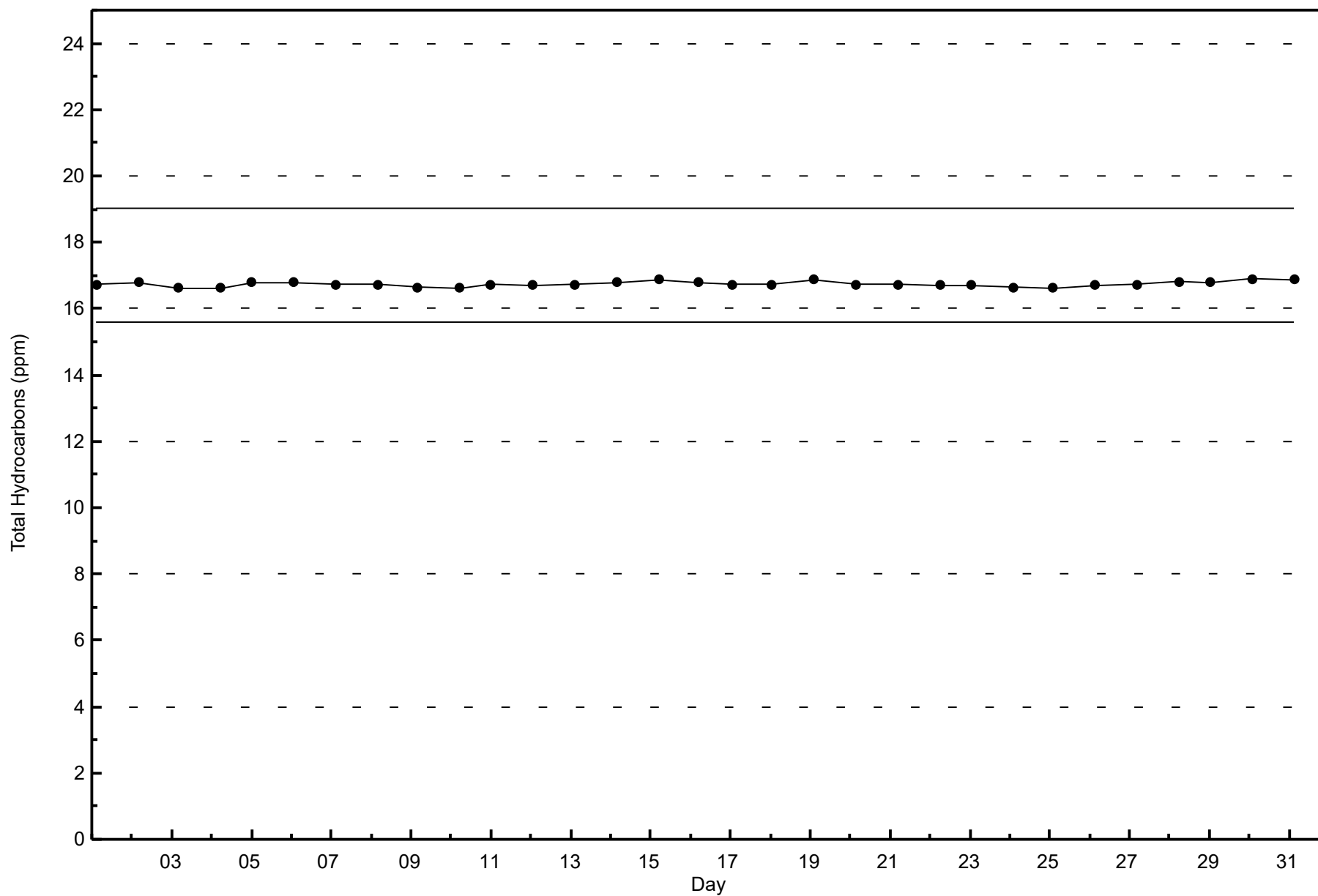






Wood Buffalo Environmental Association
Span Responses

Total Hydrocarbons (THC) - ppm
Firebag - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitric Oxide (NO) - ppb

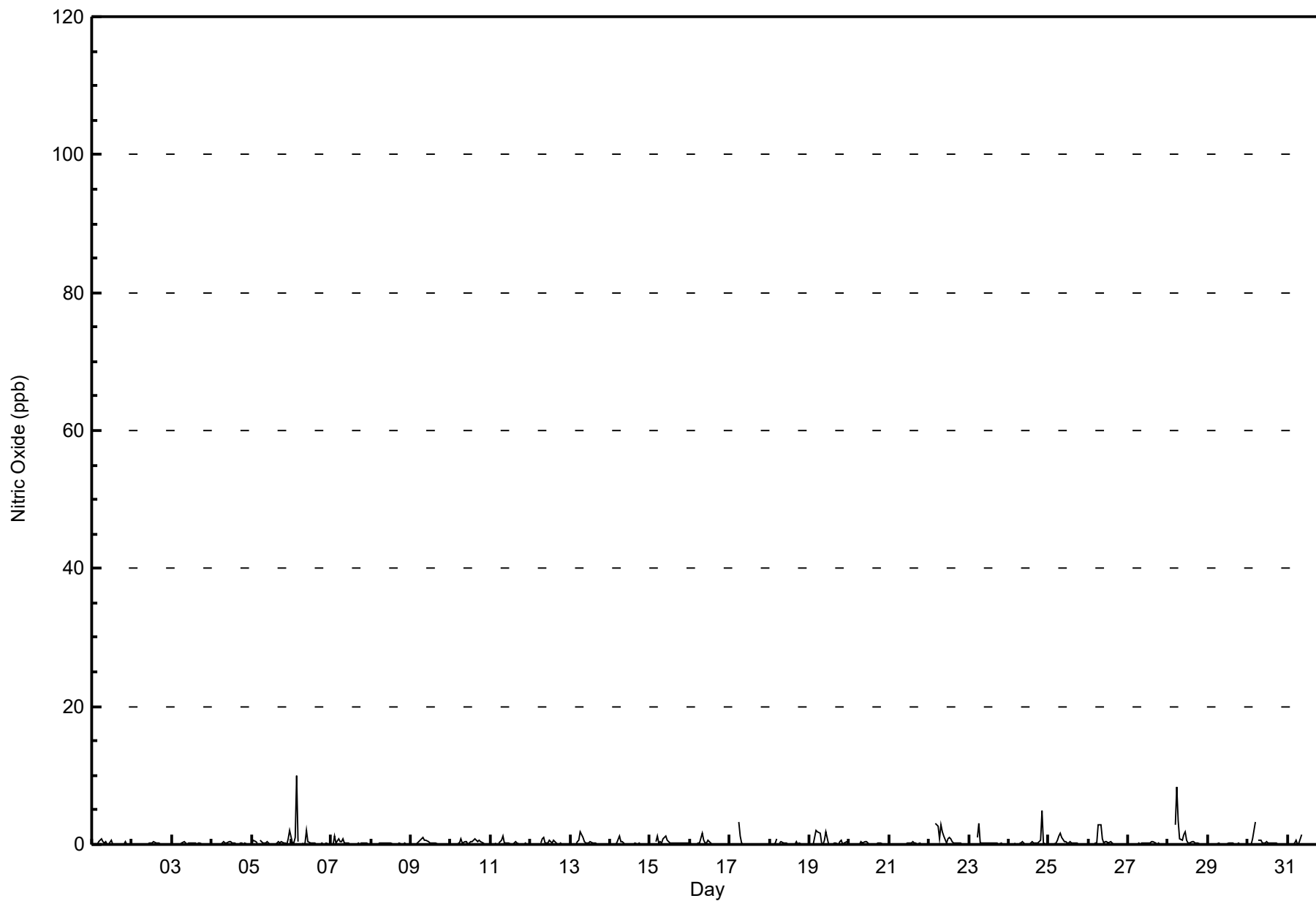
Firebag - July 2025

Maximum Value: 10.1 ppb on Jul 6 04:00																			Maximum Daily Average: 1.0 ppb on Jul 28							Hours in Service: 744	
Minimum Value: 0.0 ppb on Jul 31 03:00																			Minimum Daily Average: 0.1 ppb on Jul 29							Hours of Data: 707	
Maximum Diurnal Average: 0.9 ppb at hour 6																			Minimum Diurnal Average: 0.1 ppb at hour 1							Hours of Missing Data: 37	
Monthly Average: 0.28 ppb																			Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.1 Q ₃ = 0.2 P ₉₀ = 0.6 P ₉₉ = 3.0							Hours of Calibration: 36	
																										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-Jul	Z	0.0	0.0	0.1	0.4	0.8	0.5	0.2	0.5	0.1	0.1	0.6	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.4	0.0	0.0	0.0	0.2	0.8	
2-Jul	0.0	Z	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.2	0.1	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.3	
3-Jul	0.0	0.0	Z	0.0	0.0	0.1	0.1	0.3	0.1	0.1	0.1	0.2	0.1	0.3	0.3	0.1	0.2	0.2	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.3	
4-Jul	0.0	0.0	0.0	Z	0.1	0.1	0.2	0.4	0.2	0.3	0.3	0.4	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.4	
5-Jul	0.1	0.7	0.4	0.2	Z	0.6	0.4	0.2	0.2	0.4	0.2	0.1	0.0	0.1	0.1	0.2	0.4	0.2	0.3	0.2	0.2	0.1	0.8	2.0	0.3	2.0	
6-Jul	0.1	0.1	1.1	10.1	0.4	Z	0.2	0.1	0.2	2.0	0.5	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.7	10.1	
7-Jul	Z	0.0	1.2	0.1	0.9	0.3	0.4	0.8	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	1.2	
8-Jul	0.1	Z	0.0	0.0	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	0.2	0.1	0.1	0.1	0.1	0.2	
9-Jul	0.1	0.1	Z	0.1	0.2	0.5	0.8	1.0	0.6	0.5	0.4	0.2	0.2	0.2	0.1	0.2	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.2	1.0	
10-Jul	0.1	0.0	0.1	Z	0.2	0.3	0.8	0.2	0.4	0.5	0.1	0.1	0.3	0.4	0.7	0.7	0.5	0.6	0.3	0.2	0.1	0.1	0.1	0.1	0.3	0.8	
11-Jul	0.1	0.1	0.1	0.1	Z	0.2	0.5	1.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	1.2	
12-Jul	0.1	0.1	0.1	0.1	0.1	Z	0.3	0.7	1.0	0.1	0.1	0.6	0.4	0.2	0.5	0.2	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.2	1.0	
13-Jul	Z	0.0	0.0	0.1	0.4	0.7	1.8	1.0	0.4	0.1	0.1	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.3	1.8	
14-Jul	0.0	Z	0.0	0.0	0.2	1.2	0.4	0.3	0.3	0.1	0.1	0.1	0.1	M	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.2	1.2	
15-Jul	0.1	0.1	Z	0.4	1.2	0.2	0.4	0.2	0.8	1.2	0.7	0.4	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.3	1.2	
16-Jul	0.2	0.1	0.1	Z	0.1	0.1	0.2	1.7	0.6	0.3	0.2	0.6	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.2	1.7	
17-Jul	0.0	0.0	0.0	0.0	Z	3.2	1.3	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	0.0	0.1	0.2	3.2	
18-Jul	0.1	0.1	0.1	0.2	0.7	Z	0.1	0.3	0.2	0.2	0.1	0.1	0.0	0.1	0.1	0.1	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.7	
19-Jul	Z	0.0	0.0	1.1	1.9	1.7	1.7	0.1	0.1	0.6	1.7	0.1	0.1	0.1	0.1	0.2	0.3	0.1	0.5	0.6	0.0	0.2	0.3	0.0	0.5	1.9	
20-Jul	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.4	0.2	0.3	0.3	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	0.4	
21-Jul	0.1	0.1	Z	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.4	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.4	
22-Jul	0.1	0.1	0.1	Z	3.1	2.5	0.8	2.8	1.8	1.2	0.1	0.7	1.0	0.7	0.3	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.7	3.1	
23-Jul	0.1	0.0	0.1	0.1	Z	1.1	3.0	0.1	0.2	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	0.3	3.0	
24-Jul	0.1	0.1	0.1	0.1	0.1	Z	0.2	0.2	0.3	0.2	0.1	0.1	0.1	0.2	0.3	0.2	0.2	0.3	0.4	0.6	4.9	0.1	0.1	0.1	0.4	4.9	
25-Jul	Z	0.1	0.1	0.1	0.3	0.5	1.3	1.6	1.1	0.5	0.4	0.3	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.3	1.6	
26-Jul	0.0	Z	0.0	0.0	0.1	0.3	2.9	2.8	0.7	0.2	0.4	0.4	0.2	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	2.9	
27-Jul	0.0	0.0	Z	0.0	0.0	0.1	0.2	0.1	0.1	0.3	0.2	0.3	0.1	0.1	0.3	0.4	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.4	
28-Jul	0.0	0.0	0.1	Z	2.8	8.3	3.6	0.7	0.5	1.3	1.8	0.7	0.2	0.2	0.4	0.3	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	1.0	8.3	
29-Jul	0.1	0.0	0.0	0.0	Z	0.0	0.2	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	0.1	0.1	0.1	0.2	
30-Jul	0.0	0.0	0.1	0.9	3.3	Z	0.5	0.7	0.6	0.3	0.2	0.3	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.3	3.3	
31-Jul	Z	0.0	0.0	0.0	0.3	0.7	0.0	0.2	1.3	C	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	1.3	
Diurnal Average																										Diurnal Maximum	
Diurnal Maximum																											
Z - zerospan C - Calibration M - Maintenance																											



Wood Buffalo Environmental Association
Hourly Averages

Nitric Oxide (NO) - ppb
Firebag - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitric Oxide (NO) - ppb
Firebag - July 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
Firebag - July 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	77	41	19	11	11	15	17	27	67	70	68	65	66	48	46	59	707
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	77	41	19	11	11	15	17	27	67	70	68	65	66	48	46	59	707

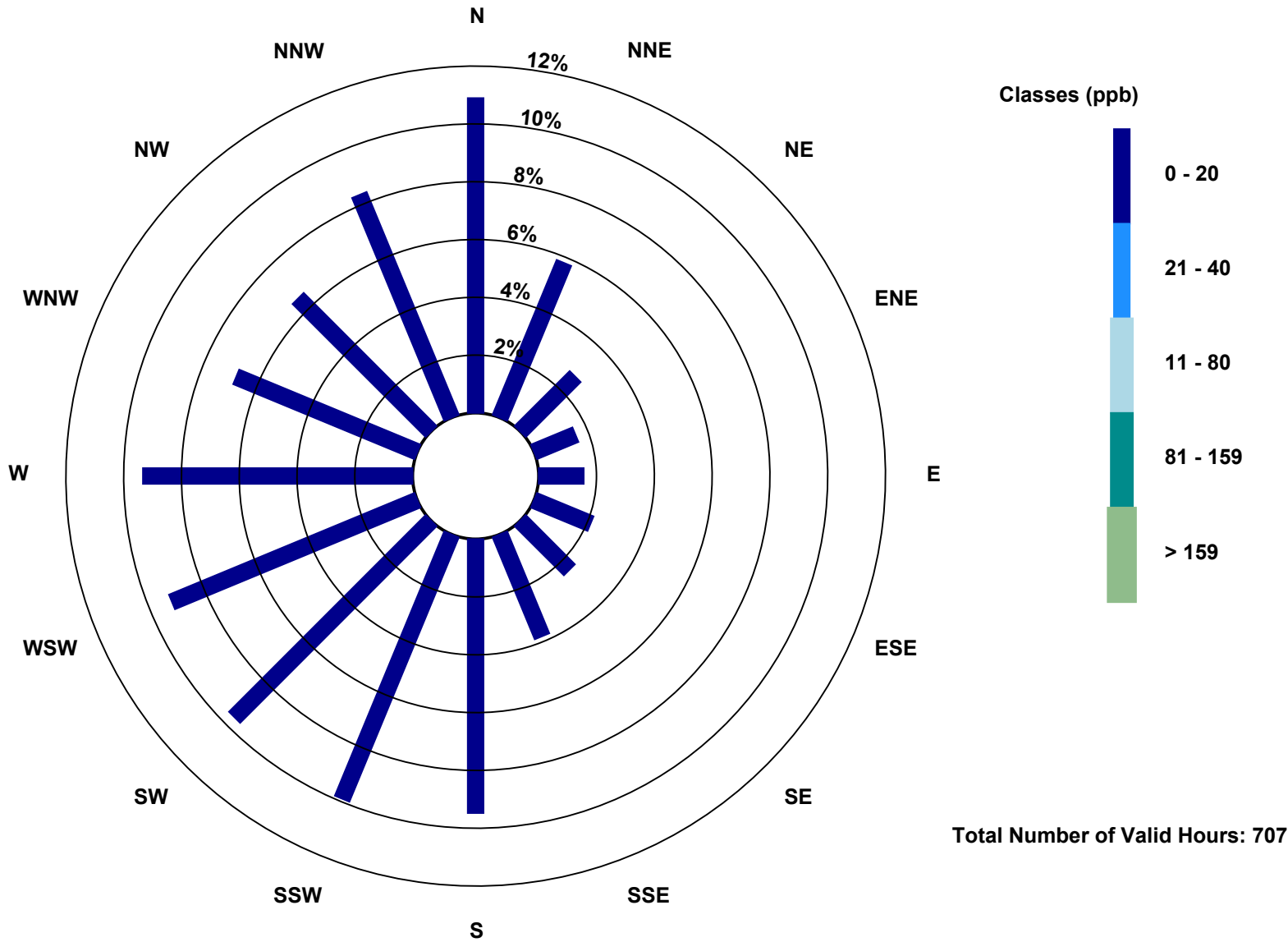
Total Number of Valid Hours: 707

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

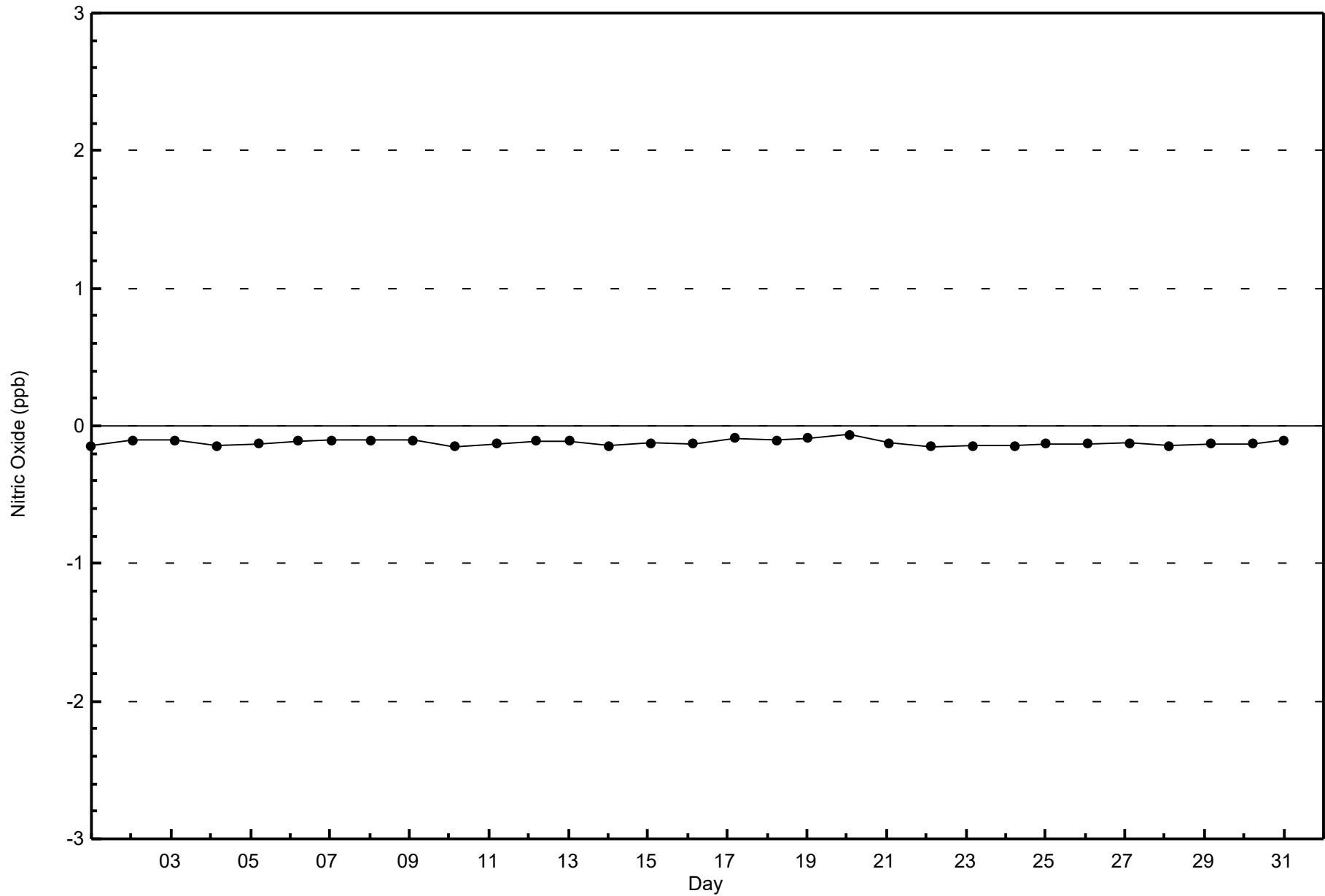
Nitric Oxide (NO) - ppb
Firebag





Wood Buffalo Environmental Association
Zero Responses

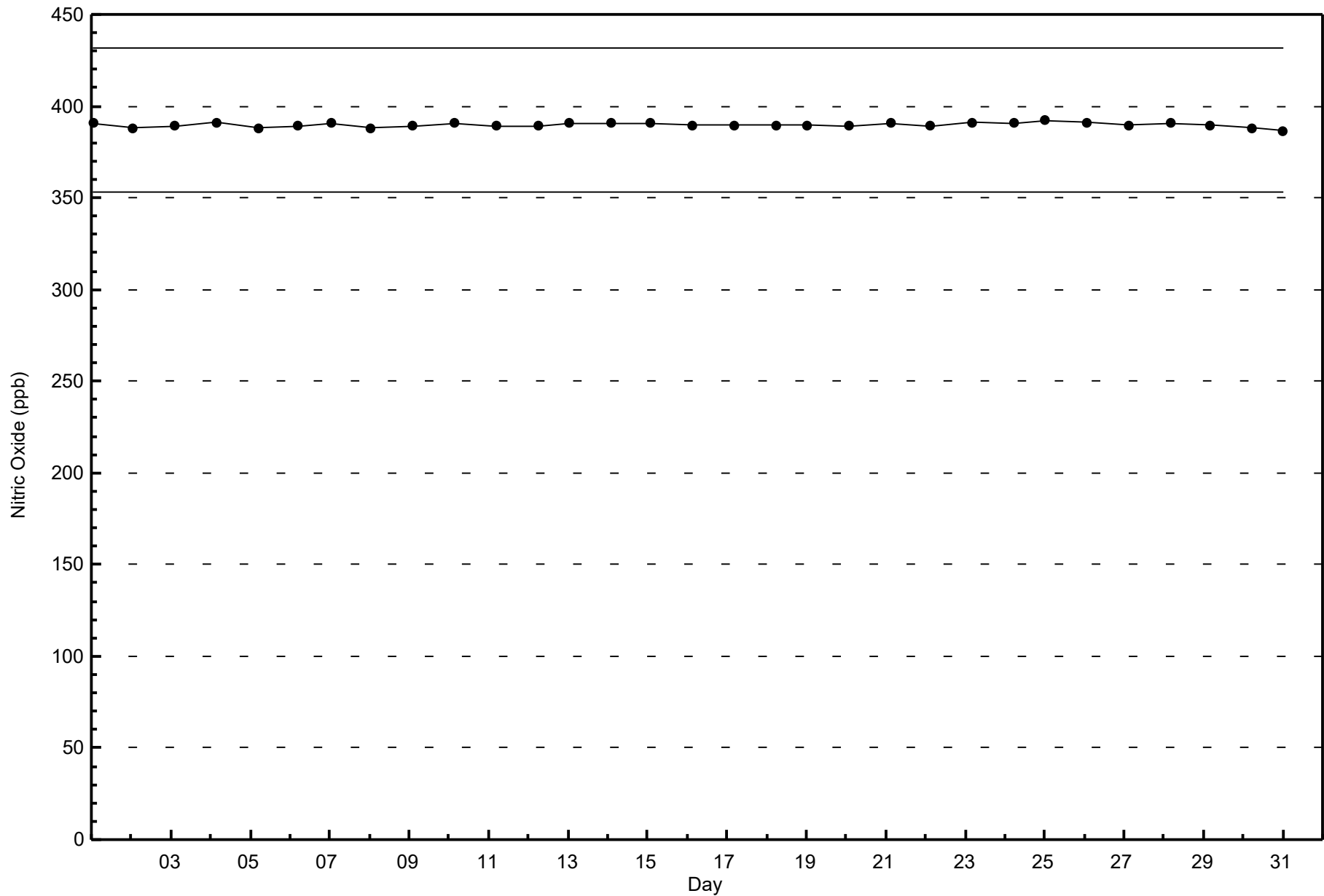
Nitric Oxide (NO) - ppb
Firebag - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitric Oxide (NO) - ppb
Firebag - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Dioxide (NO₂) - ppb

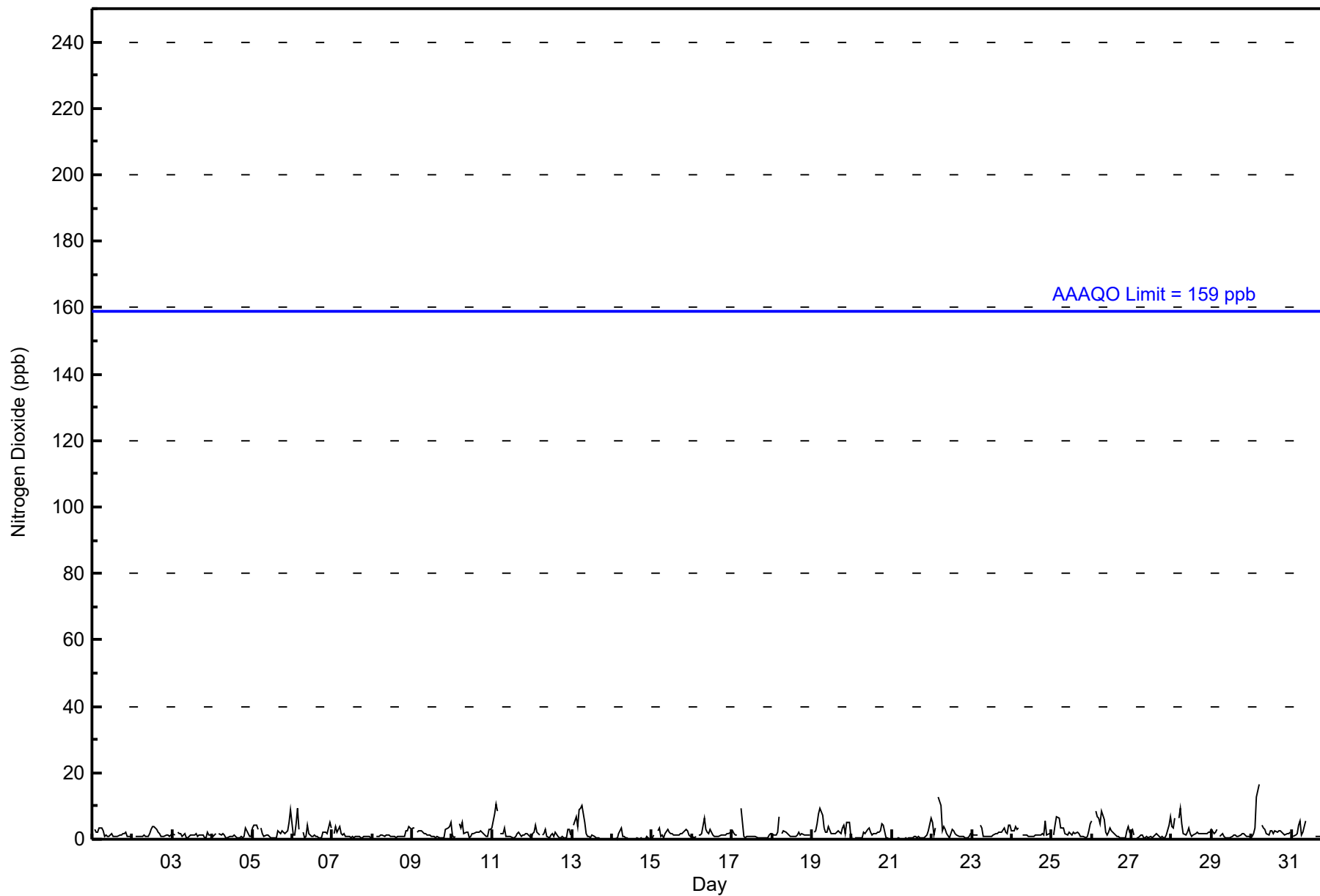
Firebag - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 16.5 ppb on Jul 30 05:00 Maximum Daily Average: 3.4 ppb on Jul 19																			Hours in Service: 744							
Minimum Value: 0.1 ppb on Jul 14 19:00 Minimum Daily Average: 0.5 ppb on Jul 14 Maximum Diurnal Average: 4.3 ppb at hour 5 Minimum Diurnal Average: 1.1 ppb at hour 18 Monthly Average: 1.88 ppb Percentiles: P ₁ = 0.2 P ₁₀ = 0.5 Q ₁ = 0.8 Median = 1.3 Q ₃ = 2.2 P ₉₀ = 3.9 P ₉₉ = 9.5																			Hours of Data: 707							
																			Hours of Missing Data: 37							
																			Hours of Calibration: 36							
																			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-Jul	Z	2.9	2.0	2.1	3.5	3.4	2.4	0.8	1.3	0.7	0.8	1.7	0.8	0.9	0.8	0.9	1.1	1.3	1.5	1.6	2.1	0.9	0.9	0.7	1.5	3.5
2-Jul	0.7	Z	0.9	0.8	1.0	0.9	0.8	1.1	1.0	0.9	1.8	3.0	3.9	3.8	2.8	2.2	1.5	1.0	0.8	0.9	1.2	1.1	0.9	1.4	1.5	3.9
3-Jul	1.7	1.3	Z	2.3	1.7	1.6	1.0	1.7	0.6	0.6	0.7	1.3	1.2	1.4	1.6	1.0	1.2	1.1	1.1	0.6	0.5	2.3	1.3	1.1	1.3	2.3
4-Jul	0.7	1.3	1.8	Z	1.7	1.2	1.7	1.4	0.6	0.6	0.8	1.0	1.0	1.1	0.8	0.6	0.6	0.8	0.6	1.0	3.5	1.5	0.8	0.9	1.1	3.5
5-Jul	3.2	4.1	4.3	2.8	Z	3.5	1.5	1.0	1.4	1.4	1.0	0.5	0.5	0.5	0.6	2.4	2.3	1.6	2.7	1.7	2.0	2.4	4.9	8.8	2.4	8.8
6-Jul	1.2	1.1	4.5	9.4	2.9	Z	2.0	0.5	0.9	4.2	1.5	0.7	0.8	1.2	0.9	0.7	0.6	0.5	2.1	2.3	2.0	1.6	5.1	3.4	2.2	9.4
7-Jul	Z	1.7	3.8	2.2	4.0	1.9	1.1	1.7	1.0	0.8	0.7	0.6	0.7	0.6	0.8	0.8	0.8	0.5	0.6	1.0	0.8	0.8	0.7	0.4	1.2	4.0
8-Jul	0.4	Z	0.7	0.9	1.0	1.3	1.1	1.0	1.3	1.2	1.3	0.8	0.8	0.8	0.5	0.7	0.7	0.8	0.7	1.0	2.5	2.5	3.8	3.1	1.3	3.8
9-Jul	3.6	3.3	Z	2.1	2.5	2.5	2.0	1.9	1.5	1.4	1.1	0.7	0.7	0.7	0.6	0.9	0.4	0.4	0.3	0.5	2.9	3.3	4.0	5.2	1.8	5.2
10-Jul	1.4	0.5	1.0	Z	4.6	3.5	5.2	1.5	2.3	2.2	0.5	0.7	1.8	1.5	2.3	2.1	2.2	2.7	2.2	1.4	1.0	0.9	2.9	3.0	2.1	5.2
11-Jul	3.2	7.7	10.8	8.4	Z	1.9	1.9	3.3	1.0	0.8	0.7	0.7	0.6	0.6	0.9	1.8	2.2	0.9	1.1	1.4	1.6	1.6	1.3	0.4	2.4	10.8
12-Jul	1.8	2.1	4.2	2.1	1.2	Z	1.3	1.8	3.0	1.0	0.5	1.4	1.6	0.8	2.2	0.9	0.5	0.5	0.7	0.3	0.4	2.9	2.8	1.1	1.5	4.2
13-Jul	Z	4.1	6.8	4.0	8.8	9.5	10.0	5.2	1.6	0.8	0.7	0.6	1.1	0.8	0.5	0.5	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	2.5	10.0
14-Jul	0.2	Z	0.3	0.2	1.7	3.3	1.0	0.7	0.6	0.3	0.2	0.2	0.2	M	0.2	0.3	0.2	0.3	0.1	0.1	0.1	0.7	0.2	0.3	0.5	3.3
15-Jul	0.6	1.2	Z	2.4	3.4	0.7	1.3	0.5	1.9	3.1	2.0	1.6	1.5	1.3	1.2	1.2	1.4	1.6	1.8	2.1	3.0	2.5	1.4	1.0	1.7	3.4
16-Jul	0.9	0.5	0.9	Z	1.1	1.4	1.7	6.5	2.9	2.0	1.6	2.9	1.4	1.0	0.9	0.9	1.0	1.1	1.2	1.4	1.3	1.8	1.9	2.0	1.7	6.5
17-Jul	2.5	1.8	1.4	1.4	Z	9.5	5.1	1.0	0.6	0.7	0.9	0.8	0.8	0.8	0.7	0.6	0.5	0.6	0.6	0.6	0.6	0.6	1.4	1.7	1.5	9.5
18-Jul	1.9	1.2	1.1	2.1	6.8	Z	1.5	2.7	2.1	1.7	1.3	0.8	0.8	0.8	0.8	1.1	2.1	1.2	1.7	1.3	1.2	1.2	1.1	1.2	1.6	6.8
19-Jul	Z	2.3	2.6	4.6	7.6	9.3	7.2	3.2	2.3	2.3	3.9	1.9	1.7	1.6	1.6	2.1	2.5	1.9	3.2	4.4	1.7	5.1	5.0	0.7	3.4	9.3
20-Jul	0.6	Z	0.6	0.6	0.5	0.4	0.4	2.1	1.9	2.8	3.6	2.1	1.3	1.5	1.8	2.2	2.1	2.7	4.6	4.1	0.6	0.3	0.2	0.2	1.6	4.6
21-Jul	0.1	0.1	Z	0.3	0.3	0.2	0.1	0.2	0.3	0.2	0.3	0.5	0.5	0.9	1.0	0.6	0.7	0.5	0.6	0.3	0.8	1.4	2.5	6.5	0.8	6.5
22-Jul	4.9	1.2	3.6	Z	12.8	10.3	2.6	4.0	3.0	1.8	0.5	1.9	3.0	2.7	1.6	1.2	0.8	0.9	0.7	0.8	0.3	0.5	0.9	1.6	2.7	12.8
23-Jul	1.8	1.3	1.2	1.1	Z	4.4	3.6	0.8	0.9	1.0	0.8	0.8	1.0	1.3	1.6	1.8	2.1	2.3	2.3	3.2	2.0	1.7	4.3	4.1	2.0	4.4
24-Jul	2.4	2.7	4.0	2.9	3.4	Z	1.4	1.3	1.4	1.1	0.8	0.7	0.7	1.0	1.3	1.3	1.4	1.4	1.7	1.2	5.3	1.3	1.6	1.2	1.8	5.3
25-Jul	Z	1.4	4.4	6.7	6.4	3.6	3.4	3.3	1.9	1.2	2.1	1.6	1.2	2.1	1.9	2.0	1.7	1.0	0.9	0.8	0.6	0.9	2.5	4.5	2.4	6.7
26-Jul	5.6	Z	8.5	6.7	6.5	4.7	8.5	6.1	2.0	1.1	2.3	3.4	2.4	1.5	1.1	1.0	0.8	0.6	0.6	0.6	0.6	2.5	3.9	2.0	3.2	8.5
27-Jul	3.1	1.2	Z	0.3	0.5	1.4	1.3	0.3	0.4	0.7	0.6	0.8	0.5	0.7	1.1	1.8	0.8	0.4	0.7	0.5	0.3	1.3	4.2	6.8	1.3	6.8
28-Jul	3.7	3.6	6.2	Z	6.2	9.3	4.7	1.5	1.2	2.2	3.5	1.8	0.8	1.4	1.8	2.0	1.7	1.6	1.5	1.6	1.6	1.7	2.1	2.0	2.8	9.3
29-Jul	3.0	1.7	2.0	2.8	Z	0.8	1.8	0.7	0.6	0.5	0.4	0.4	0.9	1.2	1.3	0.9	1.0	1.2	1.9	1.7	1.4	1.0	0.8	0.9	1.3	3.0
30-Jul	0.8	1.8	3.2	12.5	16.5	Z	4.1	3.6	3.1	1.5	1.2	2.5	2.6	1.7	2.6	2.2	2.4	2.7	2.3	1.6	1.3	1.6	1.9	2.1	3.3	16.5
31-Jul	Z	1.0	1.4	1.7	4.4	5.7	1.3	2.0	5.7	C	C	C	C	C	1.0	0.9	0.9	0.8	1.0	1.3	2.2	1.9	0.8	1.1	2.0	5.7
																									Diurnal Average	
																									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
Firebag - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Firebag - July 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
Firebag - July 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	77	41	19	11	11	15	17	27	67	70	68	65	66	48	46	59	707
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	77	41	19	11	11	15	17	27	67	70	68	65	66	48	46	59	707

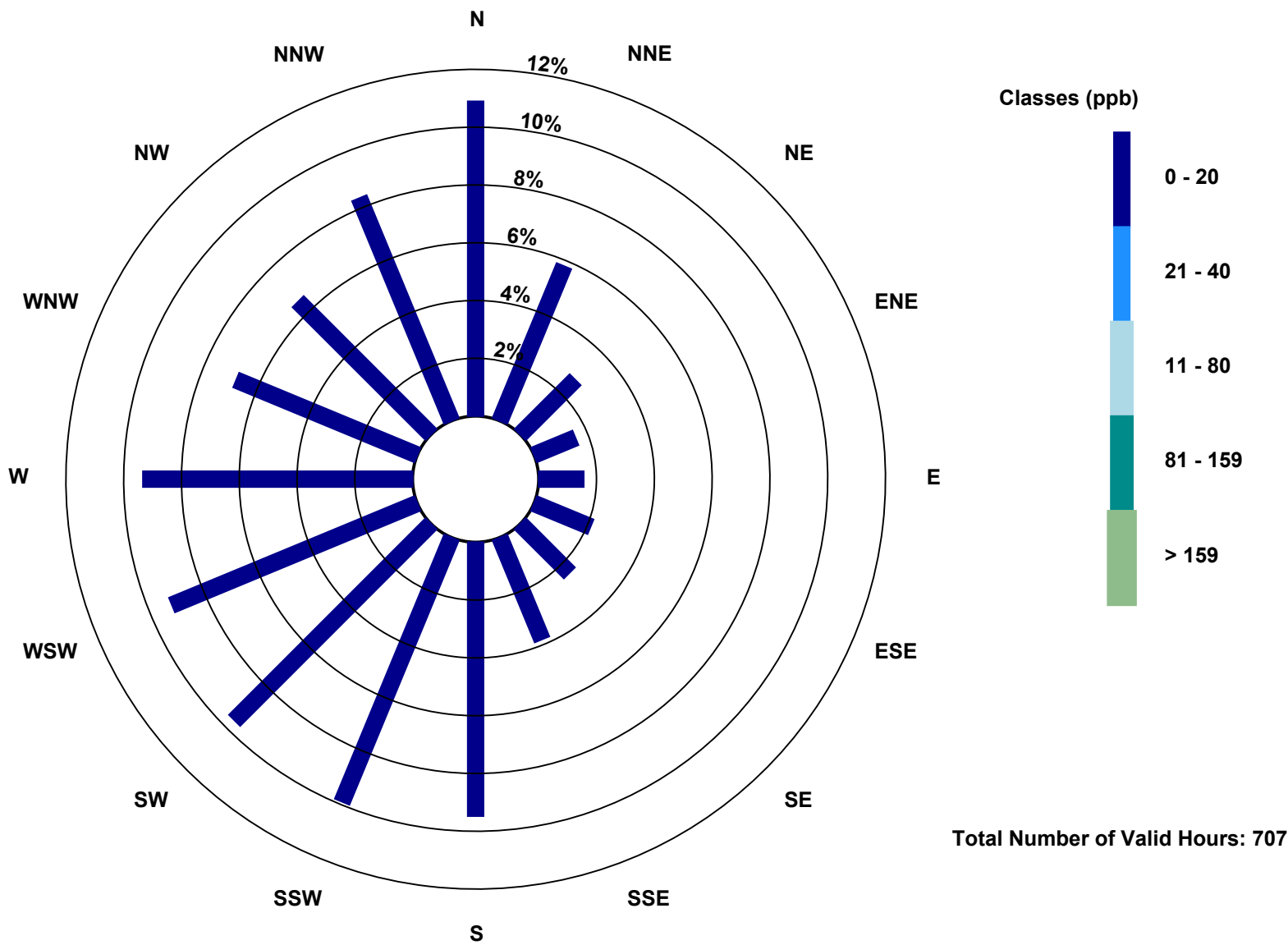
Total Number of Valid Hours: 707

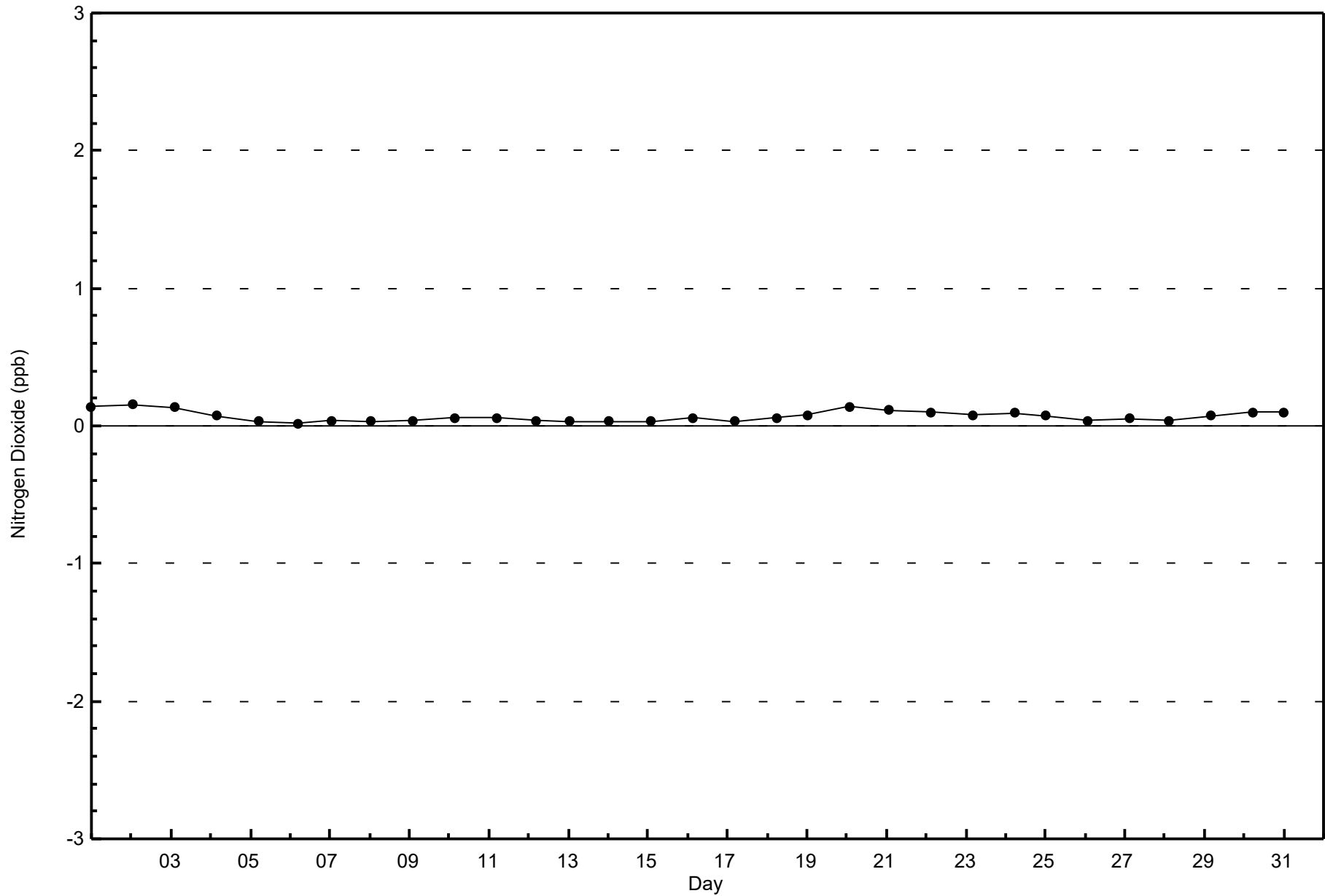
Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Nitrogen Dioxide (NO₂) - ppb
Firebag

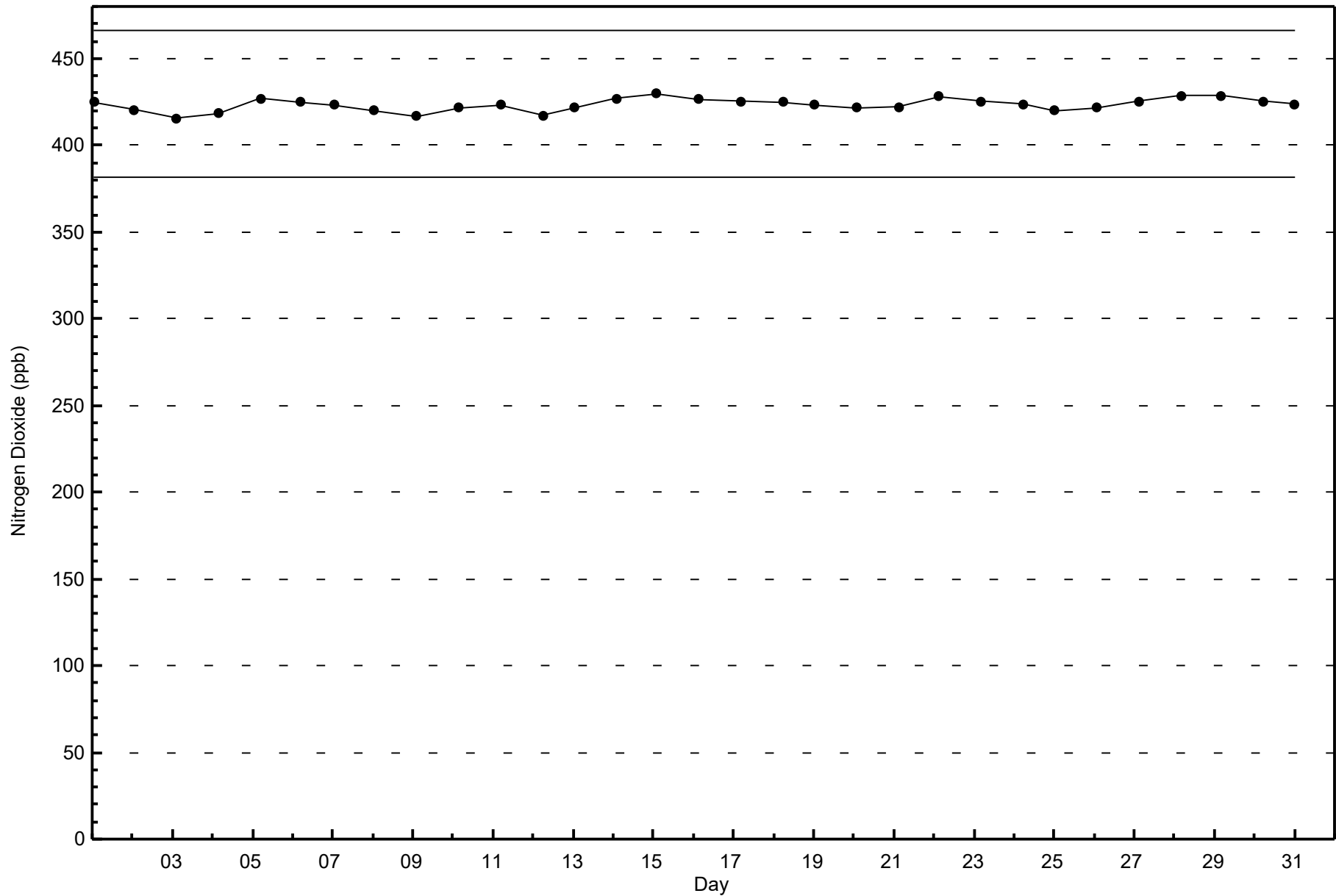






Wood Buffalo Environmental Association
Span Responses

Nitrogen Dioxide (NO₂) - ppb
Firebag - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Oxides (NO_x) - ppb

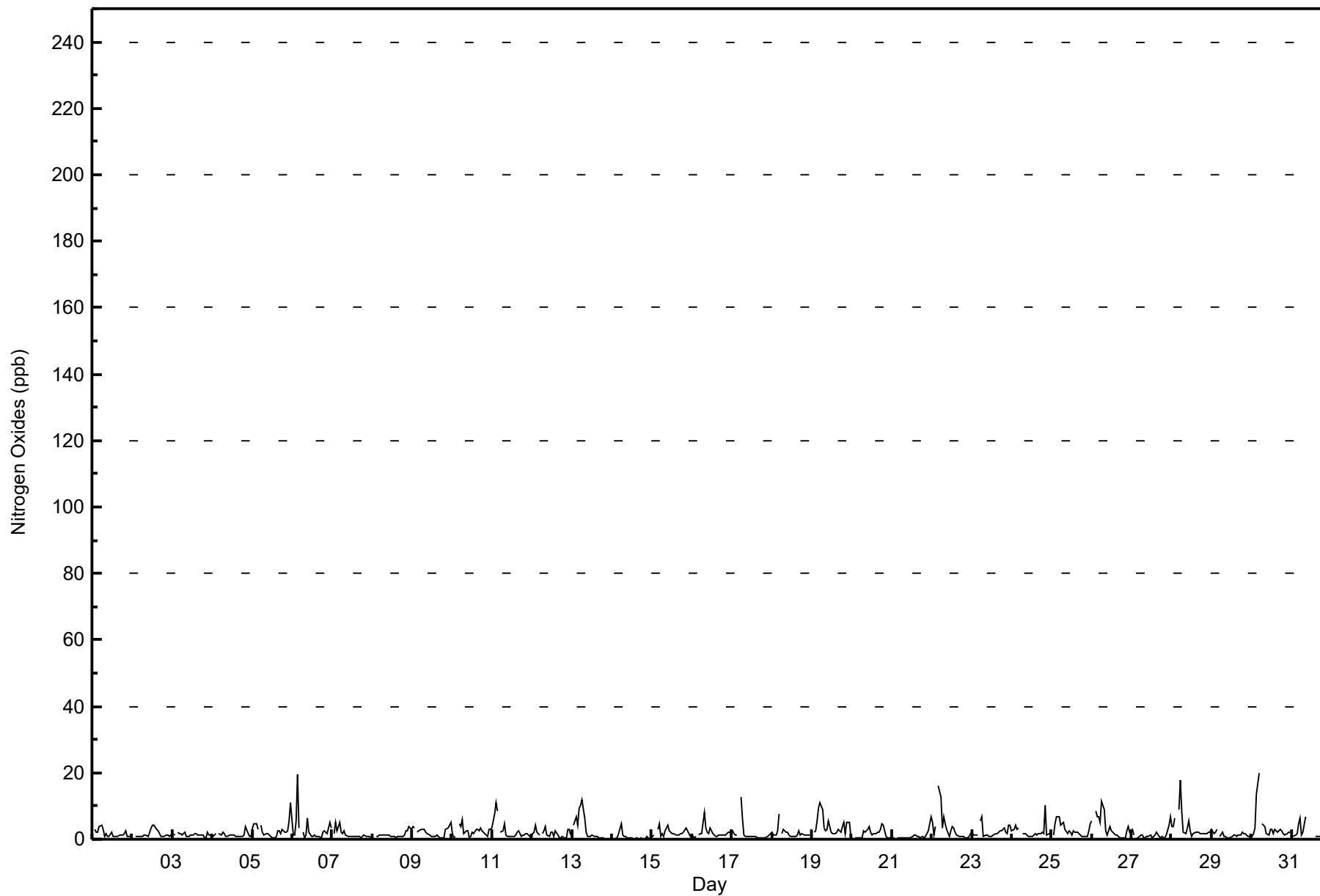
Firebag - July 2025

Maximum Value: 19.8 ppb on Jul 30 05:00																		Maximum Daily Average: 3.9 ppb on Jul 19										Hours in Service: 744	
Minimum Value: 0.1 ppb on Jul 14 19:00																		Minimum Daily Average: 0.7 ppb on Jul 14										Hours of Data: 707	
Maximum Diurnal Average: 4.9 ppb at hour 5																		Minimum Diurnal Average: 1.3 ppb at hour 18										Hours of Missing Data: 37	
Monthly Average: 2.16 ppb																		Percentiles: P ₁ = 0.2 P ₁₀ = 0.6 Q ₁ = 0.9 Median = 1.5 Q ₃ = 2.5 P ₉₀ = 4.4 P ₉₉ = 11.8										Hours of Calibration: 36	
																		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-Jul	Z	2.9	2.0	2.2	3.9	4.2	2.9	1.0	1.8	0.8	0.9	2.3	0.9	1.0	0.9	1.0	1.2	1.4	1.5	1.6	2.5	0.9	0.9	0.7	1.7	4.2			
2-Jul	0.7	Z	0.9	0.8	1.0	1.0	0.9	1.2	1.1	1.0	2.0	3.2	4.2	4.1	3.0	2.3	1.7	1.0	0.8	0.9	1.3	1.1	0.9	1.4	1.6	4.2			
3-Jul	1.7	1.3	Z	2.3	1.7	1.7	1.1	2.0	0.7	0.7	0.8	1.5	1.3	1.7	1.9	1.1	1.4	1.3	1.2	0.6	0.6	2.3	1.3	1.1	1.4	2.3			
4-Jul	0.7	1.3	1.8	Z	1.8	1.3	1.9	1.8	0.8	0.9	1.1	1.4	1.3	1.3	0.9	0.7	0.7	0.9	0.7	1.1	3.7	1.6	0.9	1.0	1.3	3.7			
5-Jul	3.3	4.8	4.7	3.0	Z	4.1	1.9	1.2	1.6	1.8	1.2	0.6	0.5	0.6	0.7	2.6	2.7	1.8	3.0	1.9	2.2	2.5	5.7	10.8	2.8	10.8			
6-Jul	1.3	1.2	5.6	19.5	3.3	Z	2.2	0.6	1.1	6.2	2.0	0.8	1.0	1.4	1.0	0.8	0.7	0.6	2.2	2.4	2.1	1.7	5.2	3.4	2.9	19.5			
7-Jul	Z	1.7	5.0	2.3	4.9	2.2	1.5	2.5	1.2	1.0	0.9	0.7	0.8	0.7	0.9	0.9	1.0	0.6	0.7	1.2	1.0	0.9	0.8	0.5	1.5	5.0			
8-Jul	0.5	Z	0.7	0.9	1.1	1.4	1.3	1.2	1.5	1.4	1.5	0.9	0.9	0.9	0.6	0.8	0.8	0.9	0.8	1.1	2.7	2.6	3.9	3.2	1.4	3.9			
9-Jul	3.7	3.4	Z	2.2	2.7	3.0	2.8	2.9	2.1	1.9	1.5	0.9	0.9	0.9	0.7	1.1	0.5	0.4	0.3	0.5	3.0	3.3	4.1	5.3	2.1	5.3			
10-Jul	1.5	0.5	1.1	Z	4.8	3.8	6.0	1.7	2.7	2.7	0.6	0.8	2.1	1.9	3.0	2.8	2.7	3.3	2.5	1.6	1.1	1.0	3.0	3.1	2.4	6.0			
11-Jul	3.3	7.8	10.9	8.5	Z	2.1	2.4	4.5	1.2	0.9	0.8	0.8	0.7	0.7	1.1	2.1	2.4	1.0	1.2	1.5	1.7	1.8	1.4	0.5	2.6	10.9			
12-Jul	1.9	2.2	4.3	2.2	1.3	Z	1.6	2.5	4.0	1.1	0.6	2.0	2.0	1.0	2.7	1.1	0.6	0.6	0.8	0.3	0.5	3.0	2.9	1.1	1.8	4.3			
13-Jul	Z	4.1	6.8	4.1	9.2	10.2	11.8	6.2	2.0	0.9	0.8	0.8	1.4	1.0	0.7	0.6	0.5	0.3	0.3	0.2	0.2	0.2	0.2	0.2	2.7	11.8			
14-Jul	0.2	Z	0.3	0.2	1.9	4.5	1.4	1.0	0.9	0.4	0.3	0.3	0.3	M	0.3	0.4	0.2	0.4	0.1	0.1	0.1	0.8	0.2	0.3	0.7	4.5			
15-Jul	0.7	1.3	Z	2.8	4.6	0.9	1.7	0.7	2.7	4.3	2.7	2.0	1.8	1.5	1.4	1.3	1.5	1.7	1.9	2.2	3.2	2.7	1.6	1.1	2.0	4.6			
16-Jul	1.1	0.6	1.0	Z	1.2	1.5	1.9	8.2	3.5	2.3	1.8	3.5	1.6	1.1	1.0	1.0	1.1	1.2	1.2	1.4	1.4	1.9	2.0	2.1	1.9	8.2			
17-Jul	2.5	1.8	1.4	1.4	Z	12.7	6.4	1.1	0.7	0.7	0.9	0.8	0.8	0.8	0.7	0.6	0.5	0.6	0.6	0.6	0.6	0.7	1.4	1.8	1.7	12.7			
18-Jul	2.0	1.3	1.2	2.3	7.5	Z	1.6	3.0	2.3	1.9	1.4	0.9	0.8	0.9	0.9	1.2	2.5	1.3	1.8	1.4	1.3	1.3	1.2	1.2	1.8	7.5			
19-Jul	Z	2.3	2.6	5.7	9.5	11.0	8.9	3.3	2.4	2.9	5.6	2.0	1.8	1.7	1.7	2.3	2.8	2.0	3.7	5.0	1.7	5.3	5.3	0.7	3.9	11.0			
20-Jul	0.6	Z	0.6	0.6	0.5	0.4	0.4	2.5	2.1	3.1	3.9	2.2	1.4	1.6	1.9	2.3	2.2	2.9	4.8	4.2	0.7	0.4	0.3	0.3	1.7	4.8			
21-Jul	0.2	0.2	Z	0.3	0.3	0.2	0.2	0.3	0.4	0.3	0.4	0.6	0.7	1.1	1.4	0.7	0.9	0.6	0.7	0.4	0.9	1.5	2.6	6.6	0.9	6.6			
22-Jul	5.0	1.3	3.7	Z	15.9	12.8	3.4	6.8	4.8	3.0	0.6	2.6	4.0	3.4	1.9	1.4	0.9	1.1	0.9	0.9	0.4	0.6	1.0	1.7	3.4	15.9			
23-Jul	1.9	1.3	1.3	1.2	Z	5.5	6.6	0.9	1.1	1.2	1.0	0.9	1.1	1.4	1.8	1.9	2.2	2.4	2.4	3.3	2.1	1.8	4.4	4.2	2.3	6.6			
24-Jul	2.5	2.8	4.1	3.0	3.5	Z	1.6	1.5	1.7	1.3	0.9	0.8	0.8	1.2	1.6	1.5	1.6	1.7	2.1	1.8	10.2	1.4	1.7	1.3	2.2	10.2			
25-Jul	Z	1.5	4.5	6.8	6.7	4.1	4.7	4.9	3.0	1.7	2.5	1.9	1.5	2.4	2.1	2.1	1.8	1.1	1.0	0.8	0.6	0.9	2.5	4.5	2.8	6.8			
26-Jul	5.6	Z	8.5	6.7	6.6	5.0	11.4	8.9	2.7	1.3	2.7	3.8	2.6	1.8	1.2	1.1	0.8	0.6	0.6	0.6	0.6	2.5	3.9	2.0	3.5	11.4			
27-Jul	3.1	1.2	Z	0.3	0.5	1.5	1.5	0.4	0.5	1.0	0.8	1.1	0.6	0.8	1.4	2.2	1.0	0.5	0.8	0.6	0.3	1.3	4.2	6.8	1.4	6.8			
28-Jul	3.7	3.6	6.3	Z	9.0	17.6	8.3	2.2	1.7	3.5	5.3	2.5	1.0	1.6	2.2	2.3	1.9	1.8	1.7	1.7	1.7	1.7	2.1	2.0	3.7	17.6			
29-Jul	3.1	1.7	2.0	2.8	Z	0.8	2.0	0.8	0.7	0.5	0.4	0.5	1.0	1.4	1.4	1.0	1.1	1.3	2.0	1.8	1.5	1.1	0.9	1.0	1.3	3.1			
30-Jul	0.8	1.8	3.3	13.4	19.8	Z	4.6	4.3	3.7	1.8	1.4	2.8	2.8	1.8	2.8	2.3	2.5	2.8	2.4	1.6	1.3	1.6	1.9	2.1	3.6	19.8			
31-Jul	Z	1.0	1.4	1.7	4.7	6.4	1.3	2.2	7.0	C	C	C	C	C	1.0	0.9	0.9	0.8	1.0	1.3	2.3	1.9	0.8	1.1	2.1	7.0			
		2.1	2.1	3.3	3.7	4.9	4.6	3.4	2.7	2.1	1.8	1.6	1.5	1.4	1.4	1.4	1.4	1.3	1.5	1.4	1.7	1.7	2.2	2.4	Diurnal Average				
		5.6	7.8	10.9	19.5	19.8	17.6	11.8	8.9	7.0	6.2	5.6	3.8	4.2	4.1	3.0	2.8	2.8	3.3	4.8	5.0	10.2	5.3	5.7	10.8	Diurnal Maximum			
Z - zerospan		C - Calibration				M - Maintenance																							



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Firebag - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Firebag - July 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
Firebag - July 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	77	41	19	11	11	15	17	27	67	70	68	65	66	48	46	59	707
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	77	41	19	11	11	15	17	27	67	70	68	65	66	48	46	59	707

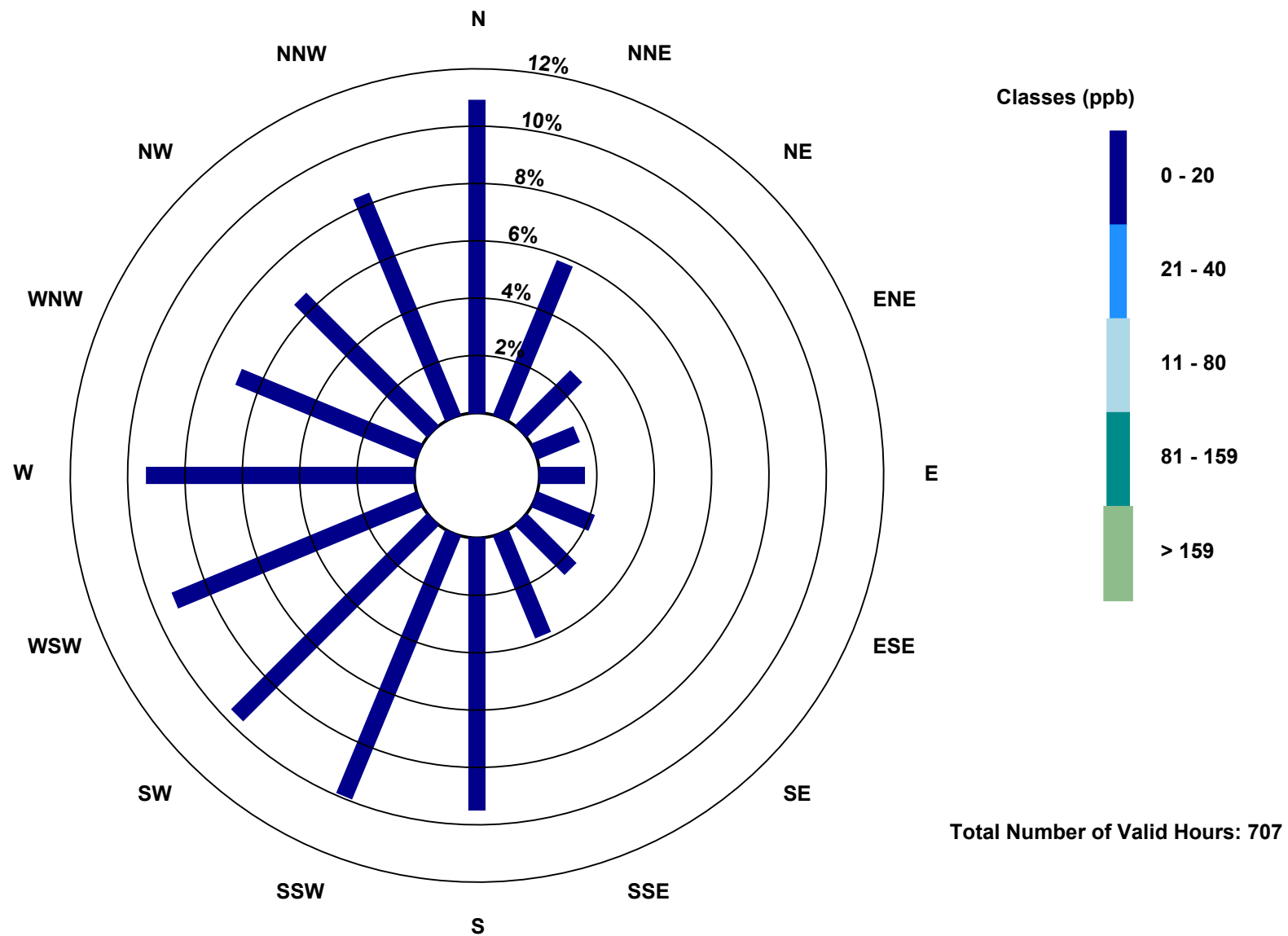
Total Number of Valid Hours: 707

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

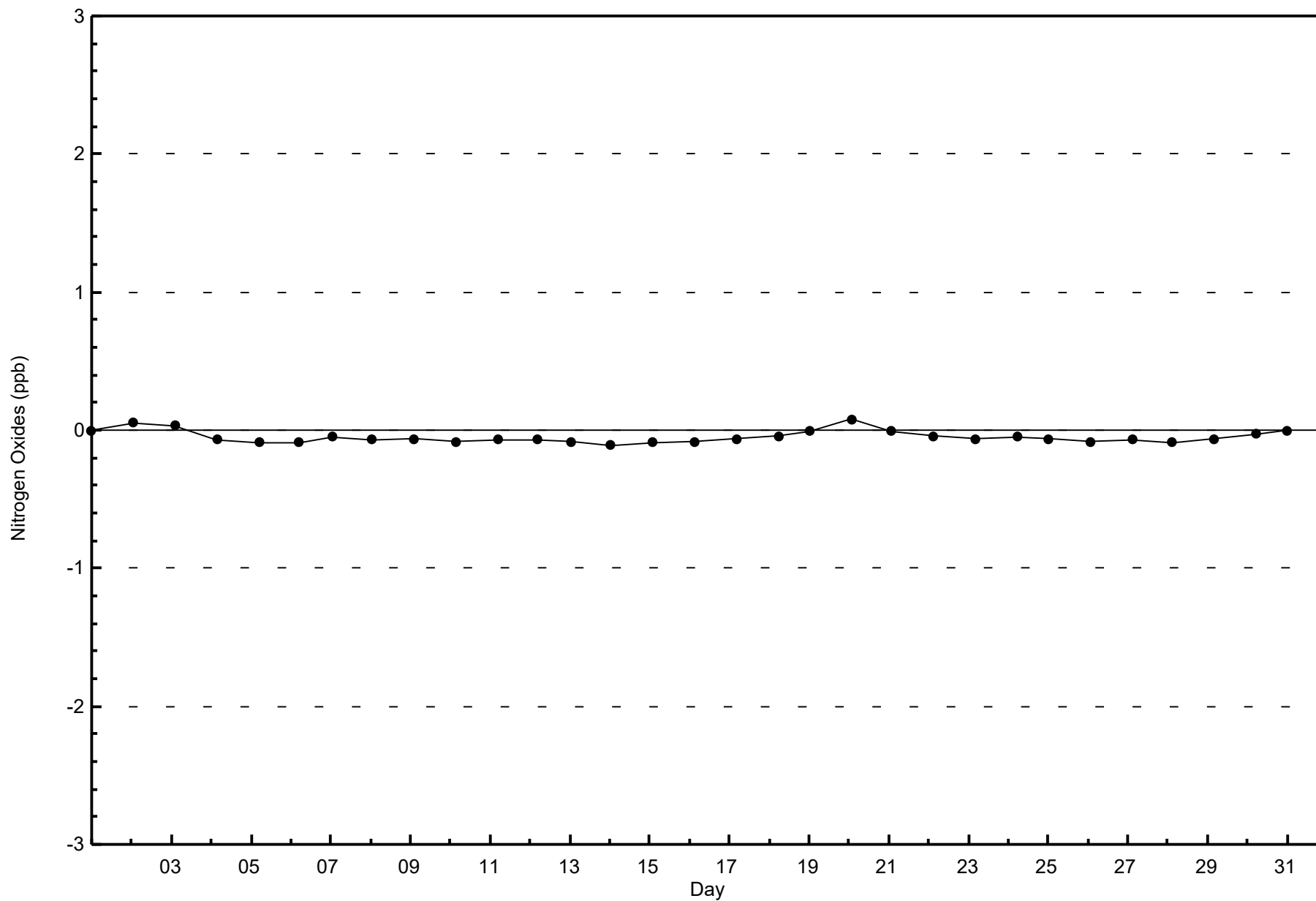
Nitrogen Oxides (NO_x) - ppb
Firebag





Wood Buffalo Environmental Association
Zero Responses

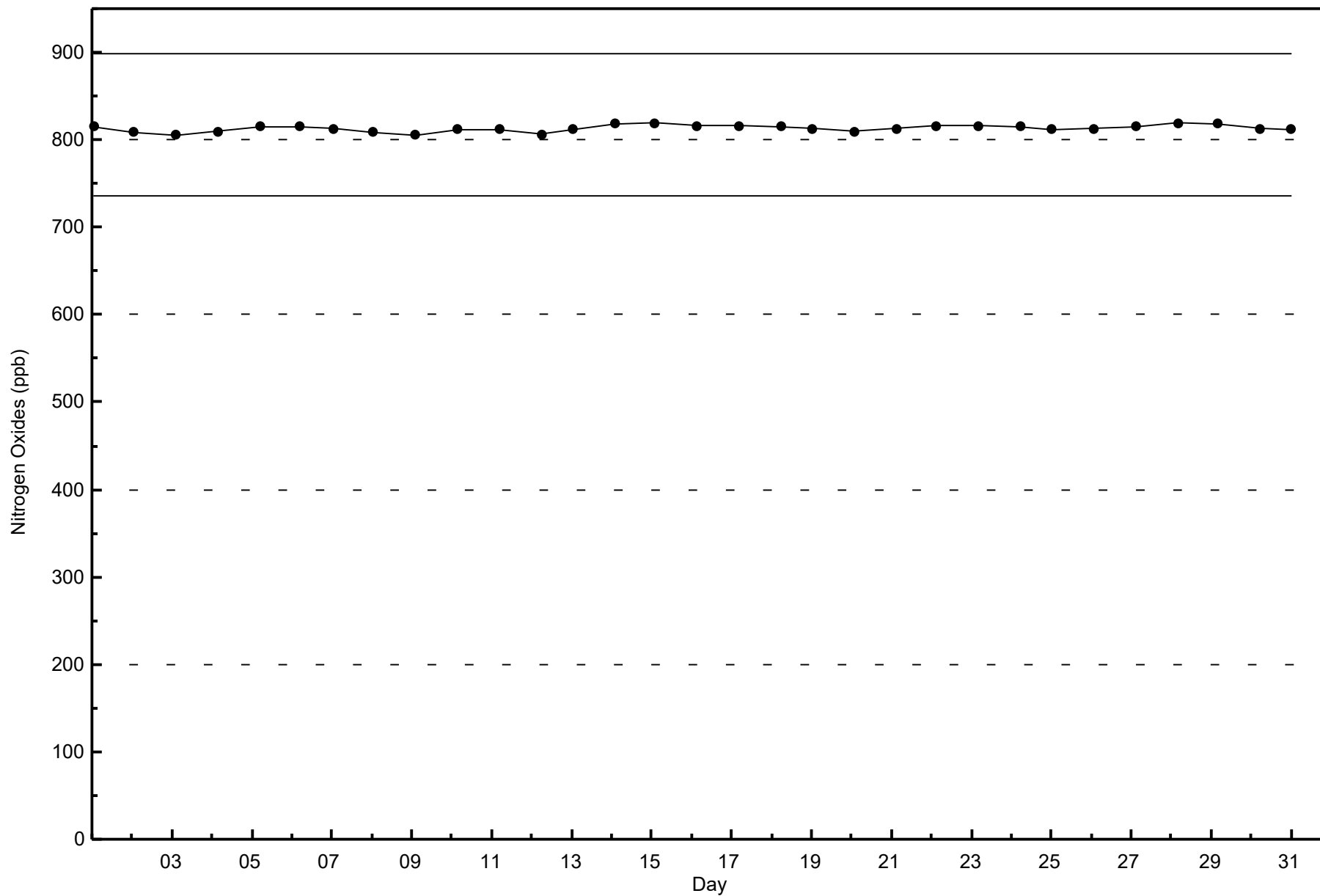
Nitrogen Oxides (NO_x) - ppb
Firebag - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitrogen Oxides (NO_x) - ppb
Firebag - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Ambient Temperature 2m (AT2) - C

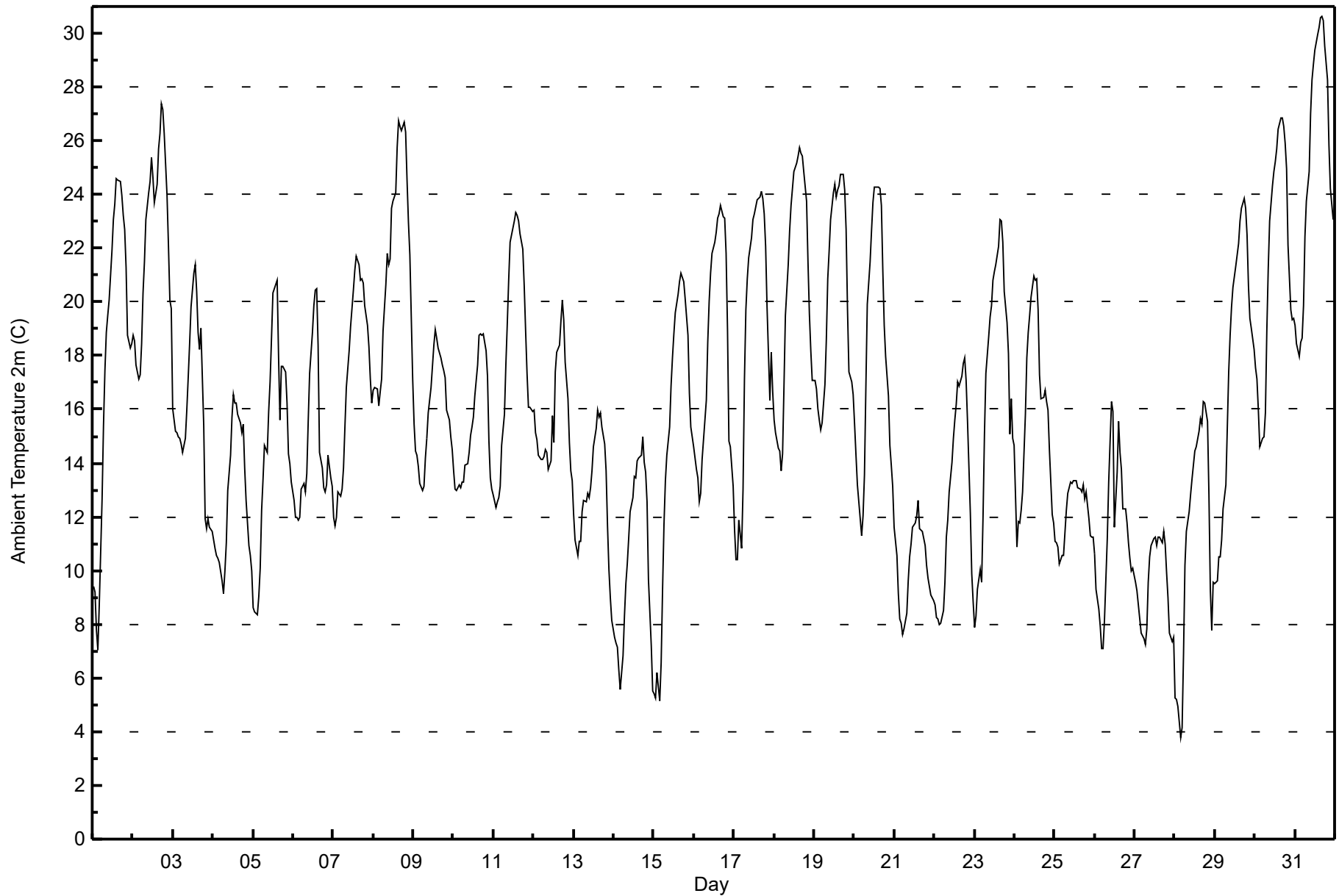
Firebag - July 2025

Maximum Value: 30.7 C on Jul 31 17:00																				Maximum Daily Average: 25.1 C on Jul 31										Hours in Service: 744	
Minimum Value: 3.8 C on Jul 28 04:00																				Minimum Daily Average: 9.5 C on Jul 27										Hours of Data: 744	
Maximum Diurnal Average: 20.3 C at hour 15																				Minimum Diurnal Average: 11.5 C at hour 4										Hours of Missing Data: 0	
Monthly Average: 16.18 C																				Percentiles: P ₁ = 5.4 P ₁₀ = 9.5 Q ₁ = 12.3 Median = 15.6 Q ₃ = 19.9 P ₉₀ = 23.7 P ₉₉ = 28.6										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-Jul	9.4	9.2	7.8	7.1	8.7	12.7	15.4	17.5	18.8	19.5	20.1	21.9	23.1	23.7	24.6	24.6	24.5	24.0	23.2	22.7	21.3	18.7	18.3	18.4	18.1	24.6					
2-Jul	18.8	18.5	17.6	17.1	17.3	18.4	20.3	21.5	23.1	24.0	24.5	25.4	24.7	23.7	24.4	25.7	26.3	27.4	27.2	26.3	24.0	22.1	20.1	19.7	22.4	27.4					
3-Jul	16.0	15.2	15.1	15.0	14.9	14.7	14.4	14.9	16.0	17.2	18.4	19.8	21.1	21.4	20.4	18.8	18.2	19.0	15.4	11.9	11.6	11.9	11.6	11.4	16.0	21.4					
4-Jul	11.1	10.8	10.5	10.5	10.3	9.6	9.1	10.0	11.1	13.0	14.3	15.7	16.6	16.2	16.2	15.8	15.5	15.1	15.4	13.8	12.6	10.9	10.6	10.0	12.7	16.6					
5-Jul	8.6	8.5	8.4	9.1	10.1	12.2	13.4	14.7	14.4	15.9	17.0	18.7	20.3	20.6	20.8	17.9	15.6	17.6	17.6	17.4	16.2	14.4	14.0	13.3	14.9	20.8					
6-Jul	12.6	12.0	12.0	11.9	12.0	13.0	13.2	12.9	13.6	15.6	17.4	18.8	19.8	20.4	20.5	18.4	14.4	13.8	13.1	12.9	13.2	14.3	13.5	13.1	14.7	20.5					
7-Jul	12.0	11.7	12.0	12.9	12.8	13.0	13.8	15.3	16.8	18.2	19.1	19.7	20.5	21.2	21.7	21.4	20.8	20.9	20.7	19.9	19.1	18.3	17.1	16.2	17.3	21.7					
8-Jul	16.7	16.8	16.8	16.1	16.7	17.1	18.9	20.7	21.8	21.4	21.6	23.5	23.7	24.0	25.8	26.7	26.5	26.4	26.7	26.3	24.5	22.9	21.8	17.2	21.7	26.7					
9-Jul	15.4	14.4	14.3	13.9	13.2	13.0	13.1	14.2	14.9	15.9	16.8	17.6	18.4	19.0	18.7	18.3	17.9	17.7	17.4	17.2	16.0	15.6	15.0	14.5	15.9	19.0					
10-Jul	13.7	13.0	13.0	13.2	13.1	13.3	13.3	13.9	14.0	14.4	15.0	15.3	15.7	16.5	17.7	18.8	18.8	18.7	18.8	18.2	17.2	14.8	13.4	13.0	15.3	18.8					
11-Jul	12.8	12.4	12.6	12.7	13.1	14.6	15.8	17.7	19.2	20.8	22.2	22.5	23.0	23.3	23.2	23.0	22.5	22.0	20.6	18.9	17.3	16.1	16.1	15.9	18.3	23.3					
12-Jul	16.0	15.1	14.9	14.3	14.1	14.1	14.3	14.5	14.4	13.8	14.1	15.8	14.8	17.4	18.1	18.4	19.3	20.1	19.3	17.7	16.4	14.7	13.7	13.3	15.8	20.1					
13-Jul	12.1	11.2	10.6	11.1	11.1	12.2	12.6	12.6	12.9	12.7	13.1	13.7	14.6	15.3	16.0	15.7	15.8	15.4	14.7	13.7	11.7	10.0	9.0	8.1	12.7	16.0					
14-Jul	7.5	7.3	7.1	6.3	5.6	6.8	8.3	9.5	10.3	11.2	12.2	12.7	13.5	13.5	14.1	14.2	14.3	15.0	14.0	13.7	12.5	9.7	7.2	5.5	10.5	15.0					
15-Jul	5.4	5.2	6.2	5.1	6.6	9.3	11.7	13.4	14.3	15.3	16.9	17.9	18.8	19.6	20.3	20.8	21.1	20.9	20.7	20.1	18.8	16.6	15.3	15.0	14.8	21.1					
16-Jul	14.6	13.8	13.4	12.5	12.9	14.1	14.9	16.4	18.5	20.0	21.1	21.8	22.2	22.6	23.1	23.3	23.6	23.2	23.1	21.8	19.0	14.8	14.6	13.1	18.3	23.6					
17-Jul	11.5	10.4	10.4	11.9	10.8	13.0	17.1	19.7	20.8	21.7	22.4	23.0	23.3	23.5	23.8	23.9	24.1	23.9	23.3	22.1	19.8	16.3	18.1	16.7	18.8	24.1					
18-Jul	15.6	15.1	14.6	14.4	13.7	14.3	16.9	19.5	21.4	22.6	23.6	24.2	24.8	25.2	25.4	25.8	25.5	25.4	24.8	23.7	21.5	19.5	18.2	17.1	20.5	25.8					
19-Jul	17.1	16.7	16.1	15.6	15.2	15.5	16.9	18.6	20.8	21.9	23.1	24.0	24.4	23.9	24.1	24.3	24.7	24.8	24.2	22.7	19.7	17.4	17.0	16.6	20.2	24.8					
20-Jul	15.4	14.3	13.2	12.6	11.3	12.0	13.6	16.8	19.9	21.5	22.6	23.7	24.3	24.3	24.3	24.2	23.6	21.2	19.2	18.0	16.5	14.7	13.9	13.1	18.1	24.3					
21-Jul	11.6	10.6	9.1	8.2	8.0	7.6	7.8	8.4	9.6	10.5	11.0	11.6	11.7	12.0	12.6	11.6	11.5	11.5	10.9	10.2	9.7	9.4	9.1	8.9	10.1	12.6					
22-Jul	8.7	8.2	8.2	8.0	8.1	8.5	9.5	11.2	11.9	12.9	14.0	14.9	15.6	16.2	17.0	16.8	17.2	17.7	17.9	17.1	15.6	12.1	9.9	8.8	12.8	17.9					
23-Jul	7.9	8.3	9.3	10.0	9.6	12.0	15.1	17.3	18.7	19.5	19.8	20.8	21.1	21.4	22.1	23.1	23.0	22.2	20.4	19.2	18.1	15.1	16.4	14.9	16.9	23.1					
24-Jul	14.7	10.9	11.8	11.8	12.3	12.9	15.8	17.9	18.9	19.5	20.2	21.0	20.8	20.8	19.7	17.3	16.4	16.5	16.7	16.3	16.0	14.5	12.1	11.8	16.1	21.0					
25-Jul	11.1	11.0	10.9	10.2	10.5	10.6	11.4	12.3	12.9	13.3	13.2	13.3	13.3	13.3	13.1	13.0	12.9	13.2	12.7	12.9	11.9	11.3	11.2	11.2	12.1	13.3					
26-Jul	10.6	9.3	8.6	7.9	7.1	7.1	8.1	11.2	13.3	14.8	16.3	15.9	11.6	13.6	15.5	14.4	13.8	12.3	12.3	11.8	11.0	10.5	10.0	10.1	11.5	16.3					
27-Jul	9.6	9.3	8.7	8.2	7.7	7.5	7.2	7.8	9.6	10.5	10.9	11.2	11.2	10.9	11.2	11.2	11.0	11.5	11.0	9.9	9.0	7.7	7.4	7.5	9.5	11.5					
28-Jul	5.2	5.2	5.0	3.8	4.1	6.9	10.2	11.5	12.2	12.8	13.4	13.9	14.5	14.6	15.2	15.7	15.5	16.3	16.2	15.6	12.8	9.2	7.8	9.5	11.1	16.3					
29-Jul	9.5	9.6	10.5	10.5	11.1	12.3	13.2	15.3	17.4	18.8	19.8	20.5	21.3	21.8	22.2	23.0	23.5	23.9	23.5	22.5	20.6	19.4	19.0	18.2	17.8	23.9					
30-Jul	17.6	17.1	16.0	14.6	14.9	15.0	15.8	18.9	21.2	23.0	24.3	24.8	25.2	25.7	26.4	26.9	26.9	26.5	25.9	24.9	22.1	19.7	19.3	19.4	21.3	26.9					
31-Jul	19.1	18.4	18.0	18.5	18.7	19.8	22.4	23.7	24.9	27.0	28.3	28.9	29.4	29.9	30.2	30.6	30.7	30.5	29.5	28.3	25.9	24.2	23.6	23.1	25.1	30.7					
Diurnal Average																															
Diurnal Maximum																															



Wood Buffalo Environmental Association
Hourly Averages

Ambient Temperature 2m (AT2) - C
Firebag - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ambient Temperature 2m (AT2) - C
Firebag - July 2025

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	0	0.00	0.00
-20 - 0	0	0.00	0.00
0 - 10	88	11.83	11.83
10 - 20	470	63.17	75.00
> 20	186	25.00	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) - %

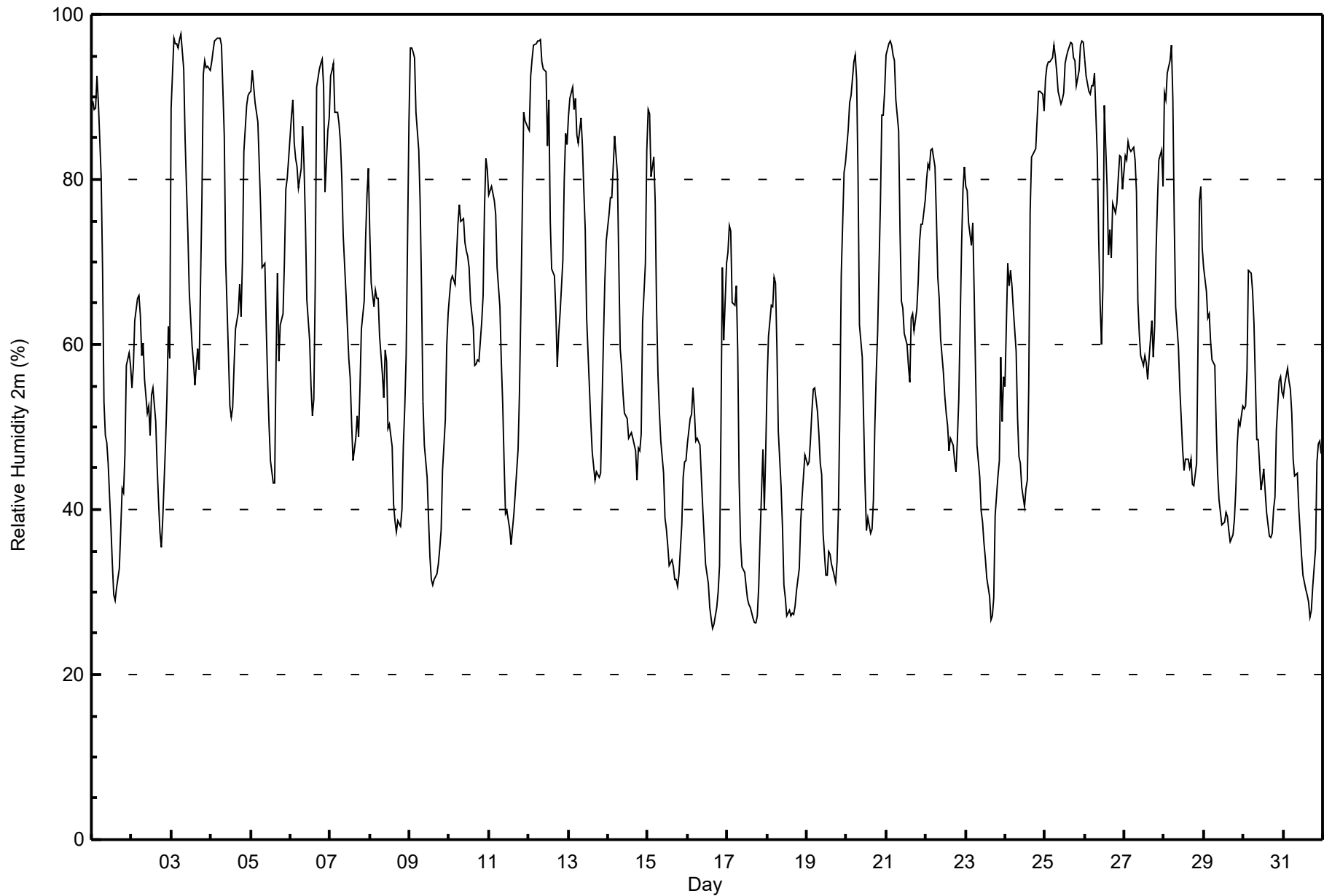
Firebag - July 2025

Maximum Value: 97.6 % on Jul 3 07:00																				Maximum Daily Average: 93.9 % on Jul 25					Hours in Service: 744				
Minimum Value: 25.6 % on Jul 16 16:00																				Minimum Daily Average: 41.9 % on Jul 31					Hours of Data: 744				
Maximum Diurnal Average: 79.5 % at hour 4																				Minimum Diurnal Average: 45.9 % at hour 15					Hours of Missing Data: 0				
Monthly Average: 62.58 %																				Percentiles: P ₁ = 27.0 P ₁₀ = 35.7 Q ₁ = 46.0 Median = 60.5 Q ₃ = 81.2 P ₉₀ = 91.8 P ₉₉ = 96.8					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-Jul	89.5	88.5	88.7	92.6	89.3	80.3	69.2	53.0	49.0	48.2	45.6	37.8	33.4	29.6	28.9	30.5	32.9	37.6	42.5	42.1	46.7	57.5	59.0	57.4	55.4	92.6			
2-Jul	54.8	57.2	62.9	65.6	66.0	63.5	58.6	60.2	55.7	51.7	52.6	49.0	53.9	54.7	50.7	45.3	41.1	37.4	35.5	38.8	47.9	53.5	62.2	58.3	53.2	66.0			
3-Jul	88.7	97.2	96.5	96.4	95.9	97.0	97.6	93.4	84.9	79.1	73.3	66.3	59.9	57.8	55.0	57.4	59.5	57.0	77.5	92.8	94.3	93.5	93.8	93.3	81.6	97.6			
4-Jul	94.2	95.6	96.7	97.0	97.1	97.1	96.3	90.9	85.3	70.1	58.6	52.6	51.2	52.4	57.5	61.9	63.9	67.3	63.4	70.2	83.4	88.9	90.1	90.6	78.0	97.1			
5-Jul	90.6	93.2	89.4	88.1	87.0	81.9	76.5	69.4	69.8	62.1	55.6	50.1	46.0	43.3	43.3	58.0	68.7	58.0	62.3	63.7	70.2	78.9	80.2	82.5	69.5	93.2			
6-Jul	87.7	89.7	84.5	82.5	81.5	78.9	81.4	86.5	81.8	74.7	65.4	60.4	54.9	51.4	53.4	67.1	91.2	93.3	94.0	94.5	91.2	78.5	85.9	87.4	79.1	94.5			
7-Jul	92.5	93.2	94.0	88.1	88.2	86.7	84.5	80.2	73.3	66.0	62.2	58.3	55.9	50.4	45.9	48.7	51.4	48.9	54.9	61.9	65.2	72.7	78.1	81.3	70.1	94.0			
8-Jul	73.6	67.4	64.6	66.5	65.6	65.6	61.0	56.4	53.6	59.3	57.9	49.8	50.3	47.6	40.6	38.6	37.4	38.7	37.9	40.0	47.8	52.3	58.7	87.0	54.9	87.0			
9-Jul	95.9	96.0	95.4	94.7	88.2	83.5	77.1	66.5	53.1	47.7	44.0	38.9	34.2	31.6	30.8	31.6	32.2	33.4	35.2	37.4	44.8	50.8	59.8	63.8	56.9	96.0			
10-Jul	66.0	67.9	68.3	67.4	70.7	74.6	76.9	74.9	75.3	72.4	71.3	70.7	69.3	65.3	62.1	57.4	57.6	58.1	57.9	62.7	65.9	76.6	82.6	81.1	68.9	82.6			
11-Jul	78.2	79.2	78.3	77.5	75.8	69.3	64.6	57.9	52.9	45.7	39.5	39.9	37.6	35.7	37.6	39.4	42.0	47.3	54.3	64.6	76.3	88.2	87.1	86.3	60.6	88.2			
12-Jul	85.9	92.5	94.6	96.2	96.4	96.8	96.8	96.9	94.3	93.4	93.0	84.1	89.6	74.9	69.2	68.3	63.9	57.2	61.1	63.8	70.2	79.9	85.6	84.2	82.9	96.9			
13-Jul	87.6	89.8	91.1	88.5	89.8	85.5	84.4	87.4	84.0	78.7	73.9	63.1	59.0	50.5	46.9	45.2	43.5	44.6	43.9	44.4	52.7	60.4	67.7	72.5	68.1	91.1			
14-Jul	75.8	77.8	77.8	81.6	85.2	80.6	69.7	59.6	57.2	54.1	51.6	51.1	48.7	49.0	49.4	48.7	47.2	43.6	47.4	47.1	49.2	62.7	69.8	83.6	61.2	85.2			
15-Jul	88.4	87.9	80.4	82.8	77.2	64.3	56.2	51.8	48.4	44.4	38.9	37.6	35.6	33.3	33.9	33.0	31.5	31.5	30.8	32.2	38.2	44.0	45.7	45.9	49.7	88.4			
16-Jul	48.0	51.0	51.5	54.7	52.1	48.3	48.6	47.9	44.0	40.2	36.8	33.4	31.0	28.2	26.8	25.6	26.1	28.2	30.1	33.2	49.9	69.3	60.6	69.9	43.1	69.9			
17-Jul	71.3	74.4	73.7	65.1	64.7	67.1	59.2	43.5	36.1	33.0	32.4	30.7	29.1	28.6	28.2	26.8	26.3	26.3	27.2	30.7	36.8	47.3	40.0	47.0	43.6	74.4			
18-Jul	55.7	61.1	64.7	64.6	68.1	67.4	59.6	49.5	42.6	37.7	30.9	29.3	27.0	27.8	27.1	27.5	27.3	28.4	30.1	32.9	38.5	41.5	44.0	46.5	42.9	68.1			
19-Jul	45.5	45.7	48.4	51.9	54.6	54.7	51.8	49.1	45.6	44.2	37.1	32.1	32.0	34.9	34.7	33.4	32.6	31.2	33.7	40.2	52.1	68.5	80.9	82.0	46.5	82.0			
20-Jul	84.1	86.1	89.3	90.2	94.3	95.1	92.0	80.2	62.3	58.4	50.8	43.0	37.5	39.0	37.2	37.7	41.2	50.1	56.4	61.5	77.2	87.9	87.7	90.7	67.9	95.1			
21-Jul	95.2	96.4	96.7	96.4	95.1	94.4	89.7	86.0	73.8	65.3	64.4	61.3	60.0	57.4	55.5	63.2	63.7	61.7	64.2	67.6	72.5	74.5	74.6	77.5	75.3	96.7			
22-Jul	80.0	81.9	81.4	83.5	83.8	81.5	75.4	68.2	65.6	60.7	56.6	53.8	51.6	50.1	47.2	48.6	47.9	46.0	44.6	48.4	53.3	72.0	78.9	81.5	64.3	83.8			
23-Jul	79.1	78.6	74.7	72.0	74.7	66.3	56.5	47.8	43.9	39.8	38.5	35.9	34.0	31.6	29.4	26.6	27.1	29.4	39.3	44.0	45.9	58.5	50.6	56.1	49.2	79.1			
24-Jul	54.9	69.8	67.1	69.0	67.1	64.2	59.1	51.3	46.4	45.6	42.7	40.4	42.6	43.6	55.0	76.1	82.8	83.4	83.7	87.3	90.6	90.7	90.4	88.4	66.3	90.7			
25-Jul	92.1	93.7	94.2	94.3	94.8	96.2	95.0	93.0	90.8	89.2	89.6	90.5	94.0	94.9	95.6	96.7	96.5	94.7	94.4	91.4	93.2	96.3	96.8	96.6	93.9	96.8			
26-Jul	94.6	92.5	90.7	90.4	91.3	91.3	92.9	82.8	72.8	65.1	60.0	67.0	88.9	79.2	70.8	73.9	70.5	77.1	75.9	77.0	80.2	82.9	82.7	78.8	80.4	94.6			
27-Jul	82.9	82.4	84.6	83.7	83.3	83.8	82.4	78.4	65.2	61.4	58.7	57.4	58.7	57.9	55.7	58.2	62.9	58.4	62.1	71.1	77.2	82.4	83.6	79.2	71.3	84.6			
28-Jul	90.6	89.6	93.0	94.4	96.3	89.8	75.1	64.6	59.7	54.6	51.0	47.3	44.8	46.2	46.1	45.2	46.1	43.1	42.9	45.6	60.1	77.5	79.2	71.7	64.8	96.3			
29-Jul	69.3	66.4	63.2	63.8	60.3	58.1	57.4	50.2	44.5	41.2	39.7	38.1	38.5	39.7	39.2	37.4	36.0	36.9	38.8	42.3	47.9	50.6	50.2	52.6	48.4	69.3			
30-Jul	52.2	52.5	56.9	69.0	68.6	66.5	62.5	55.5	48.5	48.5	42.4	43.6	44.9	42.2	39.7	36.8	36.7	37.2	40.0	41.4	49.6	55.7	56.1	54.3	50.0	69.0			
31-Jul	53.8	55.3	57.1	55.5	54.5	51.6	46.1	44.1	44.4	40.1	37.2	34.4	32.1	30.4	29.7	28.7	26.9	27.8	30.7	35.3	45.7	48.0	48.3	46.8	41.9	57.1			
77.4 79.0 79.0 79.5 79.3 76.8 72.7 67.0 61.4 57.2 53.3 49.9 49.2 47.1 45.9 47.5 48.9 48.8 51.4 55.0 61.8 69.1 71.3 73.4																										Diurnal Average			
95.9 97.2 96.7 97.0 97.1 97.1 97.6 96.9 94.3 93.4 93.0 90.5 94.0 94.9 95.6 96.7 96.5 94.7 94.4 94.5 94.3 96.3 96.8 96.6																										Diurnal Maximum			



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 2m (RH2) - %
Firebag - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Relative Humidity 2m (RH2) - %
Firebag - July 2025

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	123	16.53	16.53
40 - 60	243	32.66	49.19
60 - 80	183	24.60	73.79
80 - 100	195	26.21	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

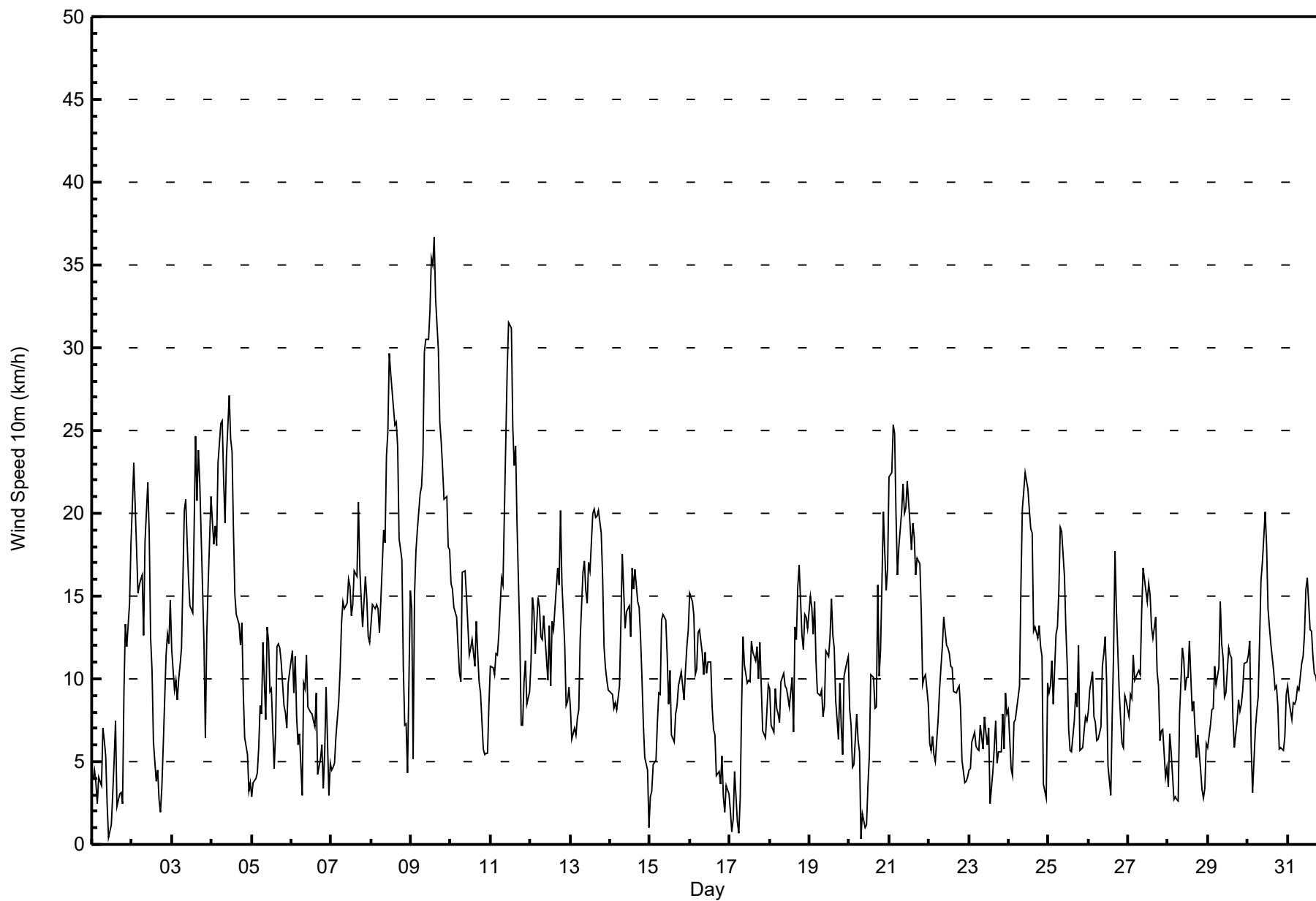
Firebag - July 2025

Maximum Speed: 37 km/h on Jul 9 15:00																		Maximum Daily Speed Average: 23.5 km/h on Jul 9										Hours in Service: 744	
Minimum Speed Value: 0 km/h on Jul 20 08:00																		Minimum Daily Speed Average: 2.3 km/h on Jul 1										Hours of Data: 744	
Maximum Diurnal Speed Average: 8.2 km/h at hour 12																		Minimum Diurnal Speed Average: 0.6 km/h at hour 22										Hours of Missing Data: 0	
Monthly Average Velocity: 4.3 km/h 266.6 deg																		Percentiles: P ₁ = 1 P ₁₀ = 5 Q ₁ = 7 Median = 10 Q ₃ = 15 P ₉₀ = 20 P ₉₉ = 31										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-Jul	SSW4	SW5	WSW4	NE2	E4	E4	ENE7	ENE6	NNE5	NNE2	WSW0	W1	WNW3	NW5	WSW7	ENE2	SSW3	NW3	W2	SSW9	SSW13	SSE12	SSE15	SSE18	S2.3	SSE18			
2-Jul	SSE20	S23	SSW20	SSW15	SSW16	SSW16	SW16	SW13	SW18	SSW22	W19WSW12	NW11	NNW6	N4	SSW5	NNW3	W2	WSW3	SSW6	SE11	SE13	SE12	ESE15	SSW8.7	S23				
3-Jul	W12	ENE9	ESE10	WSW9WSW10	NNW11	NNW12	W20	W21	W18WNW16	NNW14	W14	W19WSW25	WSW21	SW24	SW22	W15	NW12	W6	W13	W16	W21	W12.8	WSW25						
4-Jul	W19WNW18	NNW19	NNW18	NNW23	NNW25	NNW26	NNW22	NNW19	NNW23	NNW27	NNW25	N24	NNW19	NW15	N14	N13	N12	N13	NNW9	NNW6	WNW5	W3	SW4	NNW15.0	NNW27				
5-Jul	S3	S4	S4	SSE4	S6	SSW8	SSW8	W12	SW8	S13	S12	SSW9	WSW9	WSW5	WSW7	NNW12	NNE12	ENE12	E11	ESE8	ESE8	E7	E10	ESE10	S3.3	S13			
6-Jul	SE12	SE9	ESE11	ESE8	ESE6	ESE7	E3	NE10	ENE9	ESE11	E8	NE8	NE8	NE7	NE7	NE9	NNW4	NNW5	WSW6	ENE3	ENE6	E9	ESE3	ESE5	E5.2	SE12			
7-Jul	SW5	SSW5	SSW5	SSE7	S9	S11	S13	S15	SSW14	SSW15	SW16	SW16	SW14	SW14WSW17	SW16	SSW21	SSW17	S15	S13	S16	SSW15	SSW13	S12	SSW12.0	SSW21				
8-Jul	SSW13	SSW15	SSW14	SSW15	SSW14	SW13	SSW15	SSW19	SSW18	SW23	SSW25	SSW30	SSW28	SSW26	SW25	SW26	SW24	SW18	SW17	SW11	S7	SE7	SSW4	NNW15	SSW16.6	SSW30			
9-Jul	W14	W5WSW15	SW18WSW19	WSW21	WSW22	WSW23	W30	W31	WSW31	WSW32	WSW35	WSW35	WSW37	W33	W30	W25	W24	W23	NNW21	NNW21	NNW18	NNW18	W23.5	WSW37					
10-Jul	W16	W15	W14	WNW14	WNW12	WNW10	NNW10	NW16	NNW16	NNW15	NW13	NW11	NW12	NNW12	NNW11	NW13	NNW12	NNW10	NNW9	NW6	WNW5	WSW5	SW6	SW8	NW9.9	NNW16			
11-Jul	SW11	SW11	SW10	SW12	SSW11	SW13	SW16	SW16	SW20	SW24	SW29	SW31	WSW31	WSW25	WSW23	WSW24	WSW19	SW13	W7	W7	WSW10	SSW11	SW8	SW9	SW15.6	SW31			
12-Jul	SW11	WSW15	WSW14	W11	WSW15	WSW14	W13	WNW12	NNW14	NW12	NNW10	NNW13	NNW10	NW13	WNW13	W15	W17	W16	W20	W16	W12	NNW8	N9	N10	WNW10.7	W20			
13-Jul	N8	NW6	WSW7	NW7	WNW8	NW8	NNW12	NNW16	N17	N15	N15	N17	N17	N20	N20	N20	N20	N20	N19	N16	N12	N11	NNE10	NNE9	N12.8	N20			
14-Jul	NNE9	NNE9	NNE8	N9	NNW8	N10	N13	N18	N15	N13	N14	N14	N13	N17	NNE15	N17	NNE15	N14	NE13	NNE10	NNE7	NNE5	NNE4	NE1	N11.1	N18			
15-Jul	SSE3	SSE3	S5	S5	SSW7	SW9	SW9	SW14	WSW14	WSW14	W11	NNW8	NNW10	W7	NNW6	W8	W8	WSW10	SW10	SSW10	S9	S11	S12	S13	SW7.3	WSW14			
16-Jul	S15	S15	SSW14	SSW10	SSW11	SW13	SW13	SW12	WSW10	W12	WSW10	WSW11	WSW11	SW8	SW7	SSW7	WSW4	NW4	NW4	NW5	NNW3	SE2	SE4	S3	SW7.0	S15			
17-Jul	SW2	WNW1	E2	S4	ESE1	NW1	NNE3	NE8	NE13	NE11	NE10	NNE10	NNE10	N12	N12	N11	NNE12	NNE10	NNE12	NNE10	NNE7	ENE6	ESE8	SE10	NNE5.9	NE13			
18-Jul	SSE9	SSE7	SSE7	SSE9	SSE8	S8	SSE7	S10	S10	S10	SSW9	SW9	SW8	SSW10	SSW7	S13	S12	S16	S17	S13	S12	SSE14	SSE14	S13	S10.1	S17			
19-Jul	S15	S14	S13	S15	S11	S9	S9	SSW9	SW8	SW8	SSW12	SW11	S13	S15	S13	S12	SSE9	SSE6	S10	S7	WNW5	NNW10	N11	NNE11	S7.4	S15			
20-Jul	ENE8	NE7	NE5	ENE5	NE8	NE6	NE6	NNE0	SW2	NE1	SSE1	WSW4	W5	SW10	SSW10	SW8	W8	NNW16	N10	N12	N20	NNE18	NNE15	NNE17	N4.3	N20			
21-Jul	NNE22	NNE22	N25	N25	N20	N16	N18	N20	N22	N20	N20	N22	N19	N18	NNW19	N19	N16	N17	N17	N14	N10	NNW10	NNW10	NNW8	N17.6	N25			
22-Jul	NW6	WNW6	WNW6	W5	W5	W8	W9	NW11	NW12	NNW14	NW12	NW12	NW12	NW11	NW11	N9	NW9	NW9	NNE10	N8	NNE5	E4	ESE4	SSE4	NW6.6	NNW14			
23-Jul	ESE5	SE5	S6	S7	S6	SSE6	SSW6	WSW7	WNW6	NW8	NNW7	NW6	NW7	WNW2	NW4	W6	W7	W5	SW6	SSW6	SW8	SSW6	SSW9	SSW8	SW3.4	SSW9			
24-Jul	SW8	SSE5	S4	SSW7	SSW8	S8	SSW10	S16	S20	S21	S22	S21	S20	S19	S19	S13	SE13	SE12	SE13	SE12	SSE11	WNW4	SSE3	WSW10	S11.3	S22			
25-Jul	SW9	SW10	SW11	WSW8	WSW13	WSW13	WSW15	WSW19	WSW19	W16	W13	W11	WNW7	WNW6	NNW6	N7	NNE9	NNE8	NNE12	NNE6	NNW6	WNW7	WNW8	WNW7	W7.0	WSW19			
26-Jul	NNW8	NNW9	NNW10	NNW8	NNW7	W6	WSW6	WSW7	WSW11	W12	WNW13	NNW10	NNW5	SW3	NNE8	N12	NNE18	NNE14	N9	N8	N6	NNW6	N9	N9	NNW6.4	NNE18			
27-Jul	N8	N9	N9	N11	N10	N10	N11	N10	N14	N17	N16	NNW15	N16	N15	NNW13	NNW12	NNW14	NNW10	NNW10	NW6	NW7	NNW7	NW4	WNW5	NNW10.4	N17			
28-Jul	WNW3	W7	W6	WNW3	WSW3	SSW3	WSW3	W8	W12	W11	WNW9	WNW10	NNW10	NNW12	NW8	NNW9	N7	NW5	NNW7	NW4	N3	ESE3	SE3	S6	WNW4.7	NNW12			
29-Jul	S6	S7	SSW8	SSW8	SSW11	SSW10	SSW11	SSW15	SSW12	SW11	WSW9	WNW9	WNW12	NNW11	NNW11	NW8	WNW6	WSW7	SW9	SW8	SSW8	SSW9	SSW11	SSW11	SW7.3	SSW15			
30-Jul	SW11	SW12	WSW6	ESE3	S7	S8	S9	SSW12	SSW16	SW17	WSW20	W18	NW14	NW13	NNW12	NNW11	NNW9	N10	N8	NNE6	NE6	E6	SE6	SE9	WSW3.8	WSW20			
31-Jul	SE10	SE9	S8	S9	S8	S9	SSW9	SW9	WSW11	WSW11	W13	W15	W16	WSW13	WSW13	W11	WSW10	WSW10	W10	WSW6	S8	S7	S8	SSW11	SW7.9	W16			
SW3.6 SW3.3 SW3.9 SW3.6WSW4.1WSW4.6WSW4.7 W6.0 W6.5 W7.0 W7.6 W8.2VNW7.8VNW6.9VNW7.2VNW6.4VNW4.9VNW4.3VNW3.8VNW2.4 W1.5WSW0.6SSW1.4 SW2.8																								Diurnal Average					
NNE22 S23 N25 NNE25 NNW23 NNW25 NNW26 WSW23 W30 W31WSW31WSW32WSW35WSW35WSW37 W33 W30 W25 W24 W23WNW21NNW21NNW18 W21																								Diurnal Maximum					
All monthly, daily, and diurnal averages have been calculated using vector methods																													



Wood Buffalo Environmental Association
Hourly Averages

Wind Speed 10m (WS10) - km/h
Firebag - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 10m (WS10) - km/h
Firebag - July 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	103	13.84	13.84
6 - 11	325	43.68	57.53
12 - 19	240	32.26	89.79
20 - 28	63	8.47	98.25
29 - 38	13	1.75	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
Firebag - July 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	4	3	5	7	4	8	7	7	6	9	9	11	9	5	103
6 - 11	28	19	13	8	6	10	7	13	30	38	32	27	21	22	23	28	325
12 - 19	39	12	2	1	0	1	7	5	31	24	22	18	29	16	14	19	240
20 - 28	12	4	0	0	0	0	0	1	6	6	8	9	7	2	0	8	63
29 - 38	0	0	0	0	0	0	0	0	0	1	2	6	4	0	0	0	13
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	81	42	19	12	11	18	18	27	74	76	70	69	70	51	46	60	744

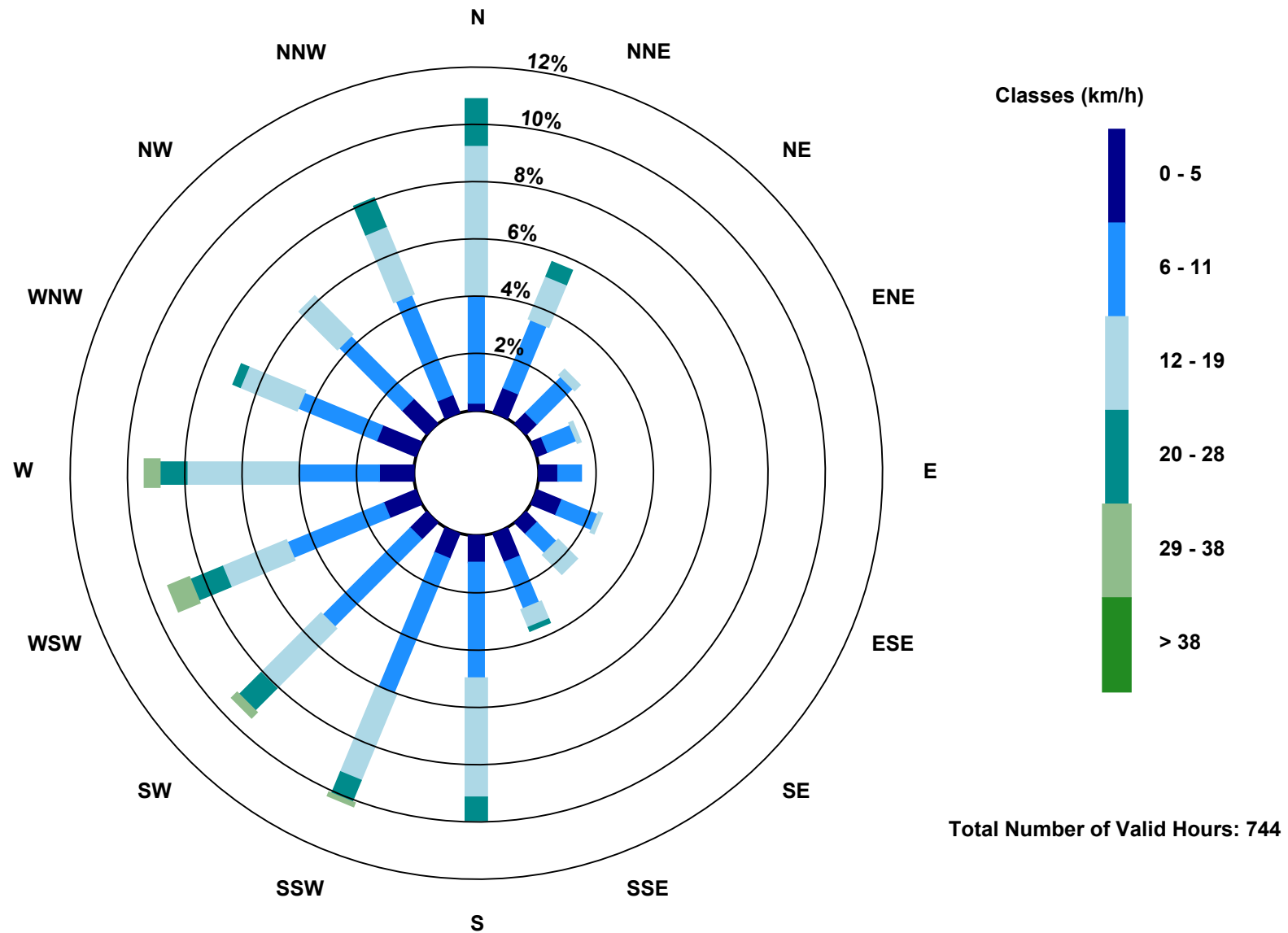
Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Wind Speed 10m (WS10) - km/h
Firebag





Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

Wind Speed 10m (WS10) - km/h

Firebag - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 12 km/h on Jul 3 01:00																	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 Jul 5 01:00																									
Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 2 Median = 3 Q ₃ = 4 P ₉₀ = 5 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-Jul	1	1	1	2	1	1	2	2	2	2	2	2	2	3	3	3	3	2	2	3	3	3	2	3	3
2-Jul	3	4	4	2	2	3	3	4	4	4	5	4	4	5	3	3	2	2	2	3	3	2	2	3	5
3-Jul	12	5	3	2	2	3	4	6	5	5	5	5	4	7	5	5	5	4	7	4	2	4	4	4	12
4-Jul	4	4	5	5	7	6	6	6	6	6	6	6	6	5	5	4	3	4	4	3	2	1	1	1	7
5-Jul	0	1	1	1	2	1	2	3	3	3	3	4	4	4	3	5	4	2	3	2	2	1	2	2	5
6-Jul	2	2	2	2	1	2	3	3	2	2	2	2	4	4	4	3	4	3	3	1	3	2	1	2	4
7-Jul	2	1	1	2	1	2	2	2	2	4	3	4	4	4	5	5	5	3	3	3	2	2	2	2	5
8-Jul	2	2	2	2	3	2	2	3	4	4	5	5	4	5	5	5	6	4	4	3	1	1	7	4	7
9-Jul	4	3	3	3	4	4	5	5	6	7	7	7	8	8	8	8	7	7	6	6	7	6	5	5	8
10-Jul	3	3	3	4	3	3	3	5	4	5	4	3	3	3	3	4	4	3	3	1	1	1	1	1	5
11-Jul	1	1	1	1	1	3	2	3	4	5	6	6	7	7	5	6	5	3	2	4	3	2	2	2	7
12-Jul	2	3	3	3	4	3	3	4	4	3	2	4	4	5	4	3	4	5	5	4	2	1	1	3	5
13-Jul	2	1	2	2	2	3	3	4	4	4	4	4	4	5	6	6	5	4	5	4	3	2	1	1	6
14-Jul	1	1	1	1	1	2	3	4	4	4	4	5	4	5	5	4	4	4	3	3	1	1	2	1	5
15-Jul	1	1	1	1	2	1	2	3	3	3	4	3	4	3	3	4	4	3	3	2	2	1	2	2	4
16-Jul	2	2	2	2	1	2	2	2	2	3	3	3	4	4	3	3	3	2	2	1	2	1	2	1	4
17-Jul	1	2	1	2	2	1	1	3	2	3	4	5	5	5	5	5	4	3	3	2	1	2	2	2	5
18-Jul	1	2	1	1	1	1	1	1	1	2	3	4	4	5	4	4	4	3	3	2	1	2	2	2	5
19-Jul	2	2	2	2	2	1	1	2	2	2	3	3	6	4	4	4	3	2	3	2	2	3	2	2	6
20-Jul	2	2	1	1	1	1	2	1	2	1	1	3	3	3	4	2	2	5	4	4	4	4	3	4	5
21-Jul	6	5	6	6	5	4	4	5	5	5	5	5	6	4	5	4	5	4	4	4	2	2	2	2	6
22-Jul	2	1	2	1	2	1	3	3	3	4	4	4	4	4	4	3	3	3	3	2	0	1	1	1	4
23-Jul	1	1	2	1	1	1	1	2	2	3	3	4	4	3	3	3	3	2	1	2	2	1	1	1	4
24-Jul	2	2	2	1	1	1	1	3	4	4	4	5	4	3	4	2	3	3	2	3	2	8	2	1	8
25-Jul	1	1	2	2	2	2	4	4	4	4	3	3	2	1	2	2	2	2	5	1	2	2	2	2	5
26-Jul	1	1	2	1	1	2	1	2	2	3	4	5	3	2	4	4	4	4	2	1	1	1	2	2	5
27-Jul	2	2	2	2	2	3	2	3	4	4	4	4	4	4	3	3	4	3	3	1	1	1	1	1	4
28-Jul	2	1	1	1	1	1	1	2	3	3	3	3	3	4	3	4	3	3	2	1	1	1	1	2	4
29-Jul	1	1	1	1	1	1	2	2	3	3	3	4	4	4	4	3	3	3	3	1	1	1	1	2	4
30-Jul	1	2	2	2	2	2	1	2	2	3	4	4	4	4	4	4	3	3	2	1	1	1	2	1	4
31-Jul	1	1	1	1	1	1	1	2	2	3	3	4	4	4	4	4	3	3	2	1	2	1	1	2	4
Diurnal Maximum																									



Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Direction 10m (WD10) - deg

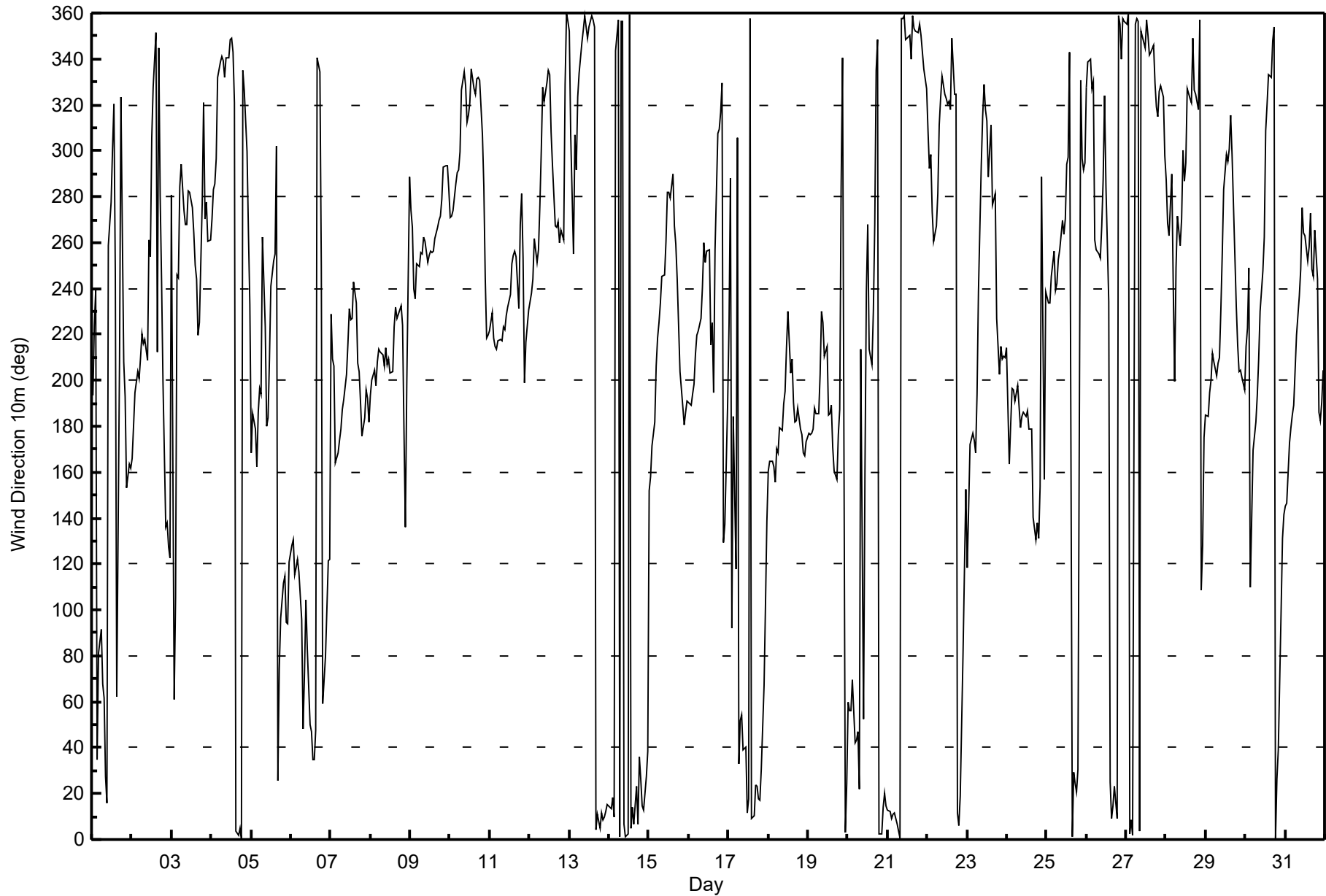
Firebag - July 2025

Direction of Maximum Speed: 257 deg on Jul 9 15:00																				Hours in Service:		744			
Direction of Maximum Daily Speed Average: 262.9 deg on Jul 9																				Hours of Data:		744			
Direction of Minimum Speed: 22 deg on Jul 20 08:00										Direction of Minimum Daily Speed Average: 2.3 deg on Jul 1										Hours of Missing Data:		0			
Monthly Average Direction: 266.6 deg																				Percent Operational Time:		100.0			
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-Jul	194	224	239	35	81	92	68	62	27	16	258	278	301	320	245	62	208	324	264	208	193	153	164	162	172.9
2-Jul	166	180	195	204	200	210	220	216	218	209	261	254	305	328	351	212	345	280	243	200	136	138	128	123	200.9
3-Jul	281	61	106	246	245	284	294	274	268	268	283	282	275	264	250	244	220	225	277	321	270	278	261	261	263.5
4-Jul	270	283	285	296	332	338	341	339	332	341	340	348	349	343	321	3	2	5	0	335	327	299	264	233	330.9
5-Jul	169	185	179	162	186	197	194	262	224	180	183	209	241	252	255	302	25	74	97	112	115	94	94	121	170.4
6-Jul	128	131	115	118	122	117	96	48	73	105	83	50	47	35	35	48	340	335	250	59	70	80	122	122	82.8
7-Jul	229	209	206	164	169	174	179	188	192	203	216	231	226	227	243	234	208	204	190	176	184	196	192	182	202.3
8-Jul	193	200	205	198	208	214	212	211	206	214	207	210	203	204	223	232	227	229	232	224	178	136	198	288	213.5
9-Jul	274	267	240	235	251	249	256	255	263	261	251	254	256	256	257	262	267	270	271	279	293	294	293	283	262.9
10-Jul	271	272	274	286	291	292	300	326	334	328	312	316	321	336	327	325	331	332	331	307	284	245	218	220	304.9
11-Jul	221	229	219	215	213	217	218	217	224	222	228	232	238	251	254	256	254	231	268	281	253	199	216	231	233.4
12-Jul	234	238	244	262	252	257	276	300	328	321	330	335	333	308	294	267	266	269	260	265	261	329	360	356	283.2
13-Jul	352	307	255	307	292	323	334	347	353	359	354	349	354	359	357	354	4	11	5	11	9	10	12	15	353.7
14-Jul	14	14	18	10	344	357	1	356	356	7	1	2	359	5	14	7	23	7	36	26	15	13	27	39	8.3
15-Jul	152	158	172	182	206	218	225	234	245	246	261	282	282	279	290	267	259	244	224	204	188	181	186	191	228.4
16-Jul	191	189	194	198	211	220	222	227	240	260	252	256	257	215	225	194	257	308	309	317	329	129	137	190	224.6
17-Jul	224	288	92	184	118	306	33	52	54	39	40	12	18	357	9	10	24	23	18	17	30	67	102	139	33.4
18-Jul	160	165	165	162	155	170	168	180	178	190	195	214	230	203	209	191	182	182	188	179	177	168	167	173	180.9
19-Jul	177	176	177	179	188	185	185	202	230	225	210	215	185	185	189	171	160	157	176	188	284	340	3	24	189.5
20-Jul	60	56	56	70	42	44	47	22	214	52	160	239	268	214	207	230	268	335	349	2	3	14	20	15	4.8
21-Jul	13	12	9	11	11	9	7	1	358	357	359	349	349	350	340	359	353	352	351	355	350	343	335	327	358.0
22-Jul	308	292	299	274	260	267	281	311	323	332	325	323	321	322	318	349	325	325	12	6	19	81	117	152	321.7
23-Jul	119	145	172	177	174	168	194	239	294	315	329	318	313	289	311	276	279	281	227	202	215	209	210	210	235.9
24-Jul	214	163	180	196	196	191	198	188	179	184	186	184	187	179	179	179	140	130	138	131	153	288	157	239	178.0
25-Jul	236	234	234	245	256	239	242	253	257	270	264	270	294	297	343	1	30	24	21	31	331	297	292	295	275.1
26-Jul	328	339	340	327	330	261	257	255	253	268	287	324	284	234	25	9	15	23	9	359	355	340	358	357	332.1
27-Jul	355	360	2	9	2	355	358	356	4	352	349	344	357	351	342	343	346	329	319	315	326	328	323	298	347.7
28-Jul	287	268	263	290	242	200	249	272	259	270	300	287	295	327	323	321	349	326	325	318	357	109	128	175	292.8
29-Jul	185	184	194	200	212	208	202	207	210	231	255	283	298	295	301	316	299	254	232	215	204	204	202	196	229.5
30-Jul	215	223	249	110	170	176	182	194	209	230	248	262	309	320	333	332	348	354	0	26	39	99	131	141	251.7
31-Jul	145	146	172	179	185	189	204	219	237	248	275	264	263	252	258	272	248	245	265	244	186	183	190	204	228.2
225.2 221.8 225.8 229.0 237.0 239.4 250.3 261.8 264.6 264.6 271.6 278.1 284.0 284.6 283.8 290.1 295.9 301.9 298.4 297.3 269.7 244.9 196.0 213.8																									
Diurnal Average																									
All monthly, daily, and diurnal averages have been calculated using vector methods																									



Wood Buffalo Environmental Association
Hourly Averages

Wind Direction 10m (WD10) - deg
Firebag - July 2025





Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg

Firebag - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																		Hours in Service: 744							
Maximum Value: 105 deg on Jul 1 12:00																		Hours of Data: 744							
Minimum Value: 4 deg on Jul 23 23:00																		Hours of Missing Data: 0							
Percentiles: P ₁ = 7 P ₁₀ = 9 Q ₁ = 12 Median = 16 Q ₃ = 24 P ₉₀ = 45 P ₉₉ = 82																		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-Jul	12	9	8	73	11	12	13	29	36	73	98	105	77	64	57	84	81	36	53	14	17	10	11	10	105
2-Jul	10	13	10	8	7	11	11	12	13	13	21	33	35	79	67	58	67	83	71	52	14	14	12	15	83
3-Jul	59	23	44	17	14	30	22	17	15	19	23	25	29	27	13	15	12	14	47	19	26	23	14	13	59
4-Jul	15	18	19	22	16	13	13	16	20	15	16	16	17	17	26	17	14	14	16	16	14	20	28	26	28
5-Jul	16	19	27	14	21	9	28	22	35	13	19	38	40	65	44	36	22	14	14	16	12	20	15	14	65
6-Jul	11	14	12	13	18	18	60	18	17	10	25	33	46	58	60	33	74	50	63	21	23	9	53	23	74
7-Jul	45	18	17	11	11	9	8	11	14	19	20	22	26	24	22	18	13	10	12	11	10	9	11	9	45
8-Jul	8	11	9	9	15	11	12	12	13	14	13	14	13	13	18	15	14	15	14	13	15	12	60	24	60
9-Jul	17	65	12	12	12	13	13	14	16	14	15	17	15	15	15	15	15	15	16	22	22	21	22	18	65
10-Jul	14	13	15	19	20	24	23	18	15	21	23	21	18	19	25	23	24	21	22	17	14	9	12	8	25
11-Jul	9	9	9	8	9	11	10	12	15	15	15	14	16	17	17	14	14	13	30	24	27	9	23	10	30
12-Jul	14	11	12	22	12	14	17	22	19	16	17	21	30	25	24	17	19	22	15	14	12	20	14	14	30
13-Jul	13	28	27	18	21	16	14	16	15	17	16	17	19	18	18	19	17	16	17	13	11	10	10	7	28
14-Jul	8	11	9	11	10	12	14	16	17	21	21	22	24	18	19	19	16	21	15	14	7	12	8	53	53
15-Jul	28	24	10	7	13	10	12	15	17	19	29	45	39	56	54	49	40	37	20	14	8	9	10	9	56
16-Jul	8	8	8	9	8	9	9	11	20	19	28	27	38	62	55	45	68	54	36	8	14	49	40	24	68
17-Jul	49	71	58	47	60	61	16	14	17	21	36	53	37	30	43	35	22	24	16	10	10	30	18	13	71
18-Jul	11	11	10	8	10	11	11	12	16	18	24	47	48	41	54	28	23	20	13	11	8	9	10	8	54
19-Jul	8	8	9	9	10	10	9	14	16	24	17	25	41	22	24	25	34	40	26	12	26	14	13	15	41
20-Jul	10	19	16	22	7	12	11	94	73	81	92	64	58	24	30	27	21	20	15	11	15	15	15	15	94
21-Jul	14	15	15	16	15	15	15	15	15	17	18	17	18	17	19	15	16	14	14	14	13	13	12	13	19
22-Jul	19	22	21	18	23	14	18	23	21	21	29	27	27	30	33	23	24	22	27	12	14	17	25	12	33
23-Jul	10	10	20	10	8	9	16	24	38	34	50	58	56	93	70	57	44	53	24	14	10	9	4	7	93
24-Jul	11	26	21	7	7	12	9	12	16	16	16	17	16	16	13	12	19	15	12	14	12	87	72	11	87
25-Jul	12	9	11	12	12	14	13	13	13	17	15	17	23	21	29	15	15	15	19	15	32	19	21	21	32
26-Jul	10	10	8	11	9	30	13	13	15	20	26	38	50	76	41	13	13	13	15	12	12	14	10	16	76
27-Jul	14	10	11	11	14	13	14	15	17	19	19	19	20	18	20	18	23	23	17	14	11	16	25	18	25
28-Jul	20	7	10	23	26	16	29	26	24	32	34	32	36	24	36	41	37	62	23	13	31	35	17	15	62
29-Jul	7	11	12	8	8	9	7	10	15	22	37	53	29	32	27	59	55	41	15	12	5	7	7	8	59
30-Jul	10	9	60	55	14	11	7	13	12	16	17	21	23	27	26	30	28	22	14	13	12	22	16	8	60
31-Jul	9	11	14	7	7	11	9	15	13	20	20	20	23	26	27	31	33	22	13	19	13	6	6	11	33
Diurnal Maximum																									



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS20 MACKAY RIVER JULY 2025

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

August 29, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - MACKAY RIVER (AMS20)

JULY 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	35.1	0	3.8	0
H2S (ppb) Average	707	36	37	99.87	7.2	0	0.4	0
THC (ppm) Average	709	35	35	100	3.4	-	2.5	-
NO2 (ppb) Average	707	36	37	99.87	16.8	0	5.4	-
NO (ppb) Average	707	36	37	99.87	17.2	-	2.4	-
NOX (ppb) Average	707	36	37	99.87	34	-	7.8	-
Temperature 2 m (C) Average	744	0	0	100	32	-	23.4	-
Relative Humidity (%) Average	744	0	0	100	99.6	-	90.3	-
Wind Speed 10 m (km/h) Average	741	0	3	99.6	19	-	12	-
Wind Direction 10 m (deg) Average	741	0	3	99.6	-	-	-	-
Precipitation (mm) Total	744	0	0	100	15	-	19	-

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

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - MACKAY RIVER (AMS20)
JULY 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	0.57	2.3	-	0	0	0	0.1	0.3	0.9	35.1
H2S (ppb) Average	707	0.14	0.3	-	0	0.1	0.1	0.1	0.2	0.2	7.2
THC (ppm) Average	709	2.26	0.1	-	2.1	2.1	2.2	2.2	2.3	2.4	3.4
NO2 (ppb) Average	707	0.95	1.8	-	0	0.1	0.3	0.4	0.9	1.9	16.8
NO (ppb) Average	707	0.13	0.9	-	0	0	0	0	0	0.1	17.2
NOX (ppb) Average	707	1.08	2.6	-	0	0.1	0.3	0.4	0.9	1.9	34
Temperature 2 m (C) Average	744	16.23	6.2	-	-0.8	8.8	11.8	15.9	20.3	24.8	32
Relative Humidity (%) Average	744	64.06	21.8	-	24.3	33.4	46.2	64.3	82.6	94.1	99.6
Wind Speed 10 m (km/h) Average	741	6.2	3	-	0	2	4	6	8	11	19
Wind Direction 10 m (deg) Average	741	-	-	-	-	-	-	-	-	-	-
Precipitation (mm) Total	744	-	-	64.21	-	-	-	-	-	-	-

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION -MACKAY RIVER (AMS20)
JULY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
H2S, NO2	22 Jul 2025 08:00	22 Jul 2025 08:00	1	Maintenance - sample manifold cleaned
Wind Speed, Wind Direction	06 Jul 2025 22:00	06 Jul 2025 22:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	14 Jul 2025 02:00	14 Jul 2025 03:00	2	Flat line in sensor output signal



Wood Buffalo Environmental Association

Summary of Hour Averages

Sulphur Dioxide (SO₂) - ppb

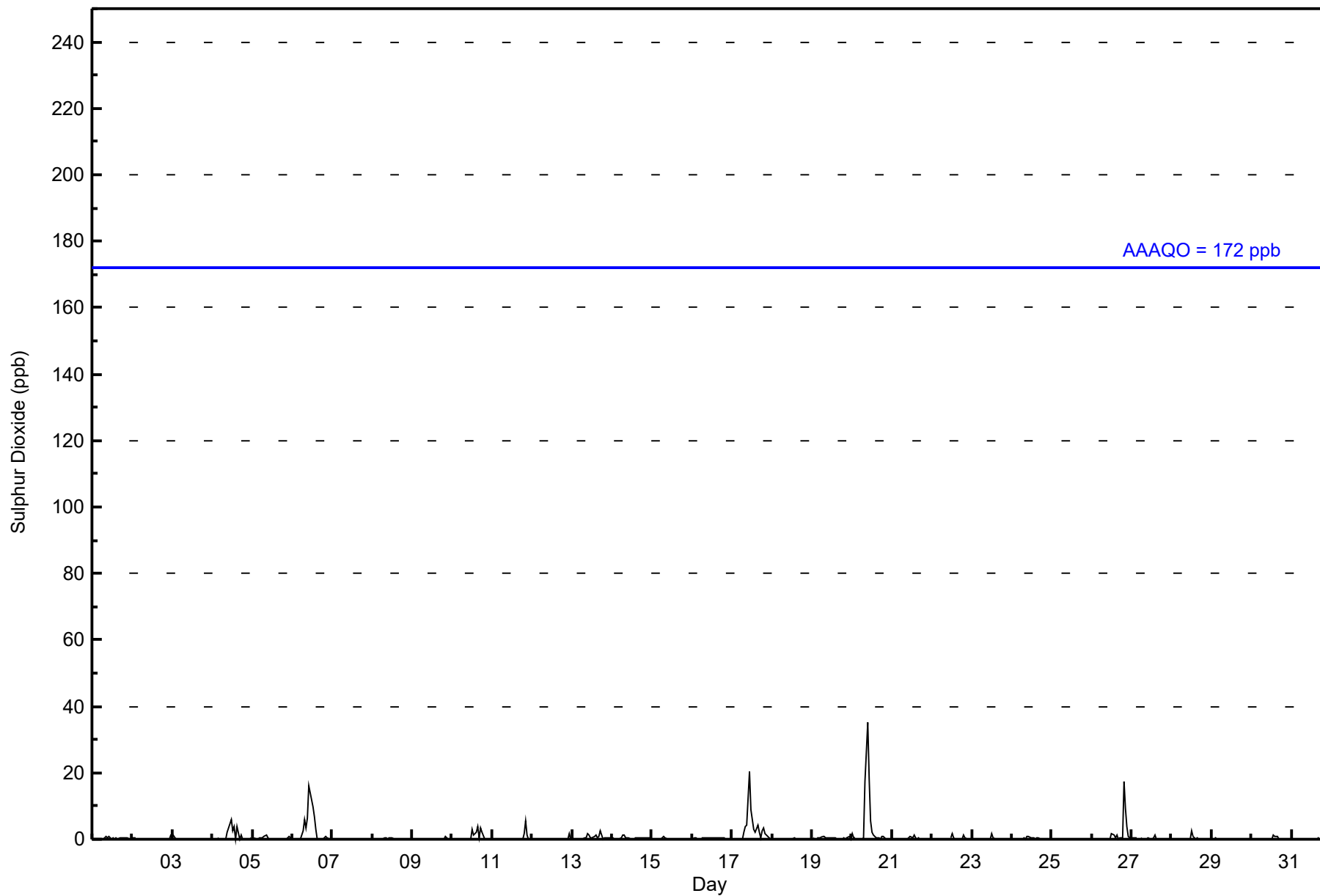
Mackay River - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 35.1 ppb on Jul 20 10:00 Maximum Daily Average: 3.8 ppb on Jul 20																			Hours in Service: 744 Hours of Data: 709 Hours of Missing Data: 35 Hours of Calibration: 35 Percent Operational Time: 100.0							
Minimum Value: 0.0 ppb on Jul 1 01:00 Minimum Daily Average: 0.0 ppb on Jul 7 Maximum Diurnal Average: 2.2 ppb at hour 11 Minimum Diurnal Average: 0.1 ppb at hour 4 Monthly Average: 0.57 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.3 P ₉₀ = 0.9 P ₉₉ = 9.6																										
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-Jul	0.0	0.0	Z	0.0	0.0	0.0	0.2	0.4	0.6	0.4	0.9	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.1	0.2	0.2	0.9
2-Jul	0.2	0.2	0.2	Z	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	0.1	0.0	0.1	0.1	0.0	0.0	1.2	0.2	1.2
3-Jul	1.9	0.4	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	0.1	1.9
4-Jul	0.0	0.0	0.0	0.0	0.4	Z	0.2	0.1	0.1	2.2	4.8	6.1	2.7	3.6	0.2	3.9	0.2	1.1	0.1	0.1	0.1	0.1	0.0	0.3	1.1	6.1
5-Jul	Z	0.5	0.2	0.1	0.3	0.5	0.4	0.9	1.2	0.5	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.9	0.5	0.3	1.2
6-Jul	0.2	Z	0.0	0.0	0.1	0.2	2.5	6.1	3.6	6.4	16.3	12.1	9.6	6.9	3.0	0.1	0.0	0.0	0.0	0.2	0.8	0.2	0.0	0.0	3.0	16.3
7-Jul	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
8-Jul	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.3	0.4	0.1	0.3	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	0.1	0.4
9-Jul	0.0	0.0	0.0	0.0	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	0.7	0.0	0.0	0.0	0.0	0.7
10-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	3.1	1.5	2.3	3.7	0.2	3.2	2.1	0.0	0.0	0.0	0.0	0.0	0.7	3.7
11-Jul	Z	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	0.0	0.0	0.0	0.0	1.5	5.4	1.4	0.0	0.0	0.4	5.4
12-Jul	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	0.1	0.0	0.1	1.8	0.0	0.1	1.8
13-Jul	0.2	0.4	Z	0.2	0.1	0.2	0.0	0.5	0.4	1.9	1.3	0.5	0.2	0.7	1.3	0.6	1.1	2.6	0.2	0.2	0.4	0.5	0.6	0.3	0.6	2.6
14-Jul	0.3	0.2	0.1	Z	0.2	0.2	1.1	1.1	0.2	0.4	0.5	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.2	0.3	0.5	0.3	0.1	0.3	1.1
15-Jul	0.1	0.0	0.0	0.0	Z	0.0	0.4	0.6	0.5	0.2	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.6
16-Jul	0.1	0.5	0.2	0.2	0.2	Z	0.2	0.4	0.6	0.6	0.4	0.4	0.4	0.3	0.4	0.3	0.3	0.4	0.4	0.4	0.2	0.0	0.0	0.0	0.3	0.6
17-Jul	Z	0.0	0.1	0.0	0.0	0.0	0.1	2.3	3.7	4.2	20.5	8.9	5.9	2.8	2.1	4.4	2.3	0.3	2.7	3.5	1.8	1.0	0.3	0.2	2.9	20.5
18-Jul	0.1	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.3	0.0	0.1	0.1	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.3
19-Jul	0.2	0.2	Z	0.4	0.5	0.6	0.7	0.7	0.5	0.4	0.3	0.2	0.4	0.4	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.8	0.1	0.3	0.8
20-Jul	1.7	0.3	0.4	Z	0.1	0.0	0.0	0.4	17.4	35.1	18.4	5.3	2.1	1.3	0.6	0.4	0.3	0.2	0.9	0.8	0.1	0.1	0.1	0.1	3.8	35.1
21-Jul	0.1	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.2	0.4	0.9	0.4	1.2	0.5	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.2
22-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.0	C	C	C	C	0.5	1.8	0.5	0.0	0.0	0.0	0.1	0.0	1.1	0.6	0.2	0.2	0.2	0.3	1.8
23-Jul	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	1.5	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.5
24-Jul	0.0	Z	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.6	0.7	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	0.2	0.7
25-Jul	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	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1
26-Jul	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	1.2	0.5	1.4	0.1	0.3	0.2	17.2	9.1	3.7	0.8	0.3	1.6	17.2
27-Jul	0.5	0.2	0.2	0.2	Z	0.2	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.4	1.1	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.2	1.1
28-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.9	0.2	0.4	0.0	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	2.5
29-Jul	Z	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	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	0.1	0.2
30-Jul	0.0	Z	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	1.1
31-Jul	0.0	0.1	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2
																									Diurnal Average	
																									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
Mackay River - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Mackay River - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	702	99.01	99.01
11 - 20	6	0.85	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 - July 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	20	27	32	8	11	42	79	66	69	50	51	84	48	30	31	51	699
11 - 20	2	1	2	0	0	0	1	0	0	0	0	0	0	0	0	0	6
21 - 60	0	0	0	0	0	0	1	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	22	28	34	8	11	42	81	66	69	50	51	84	48	30	31	51	706

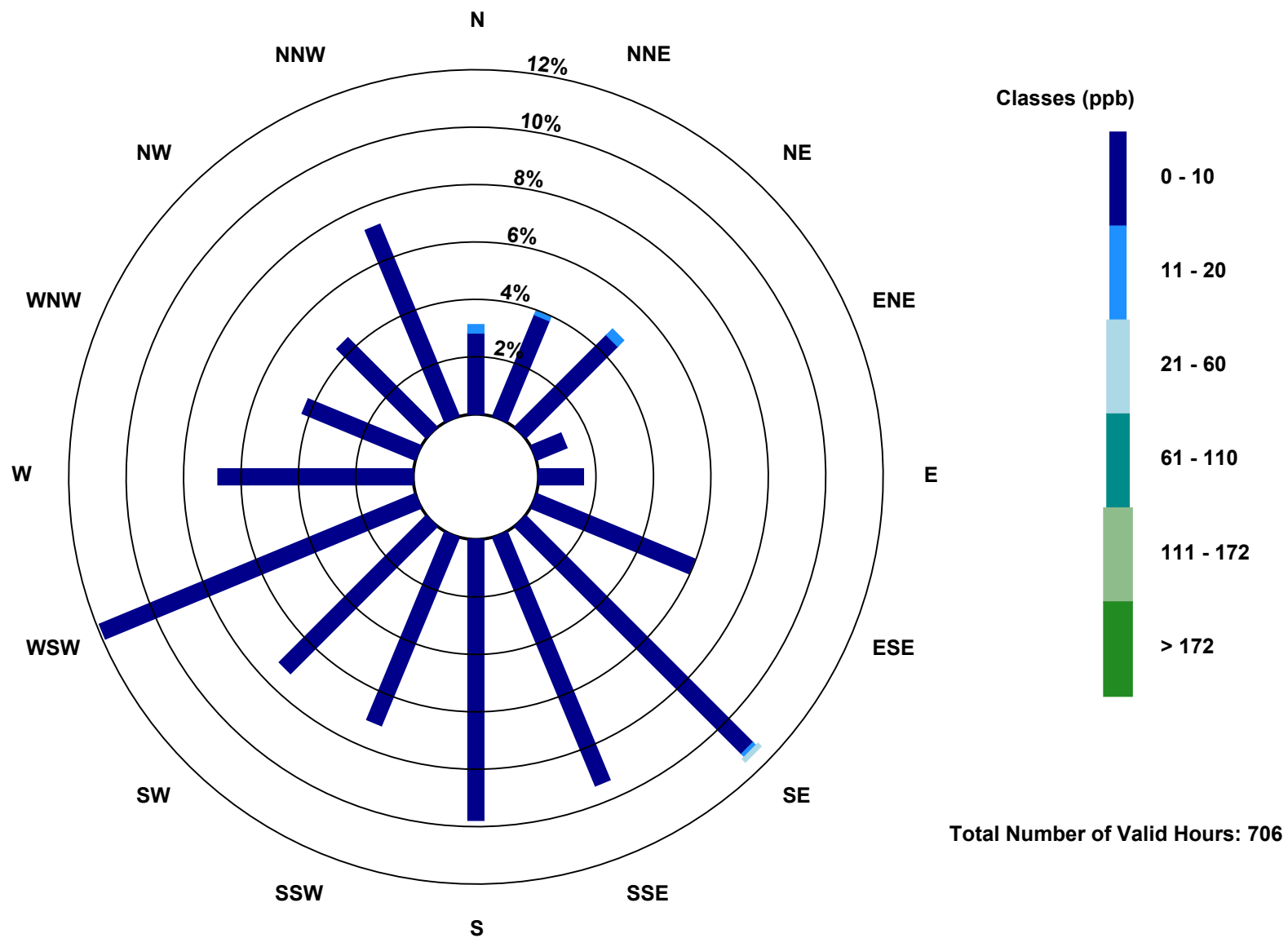
Total Number of Valid Hours: 706

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

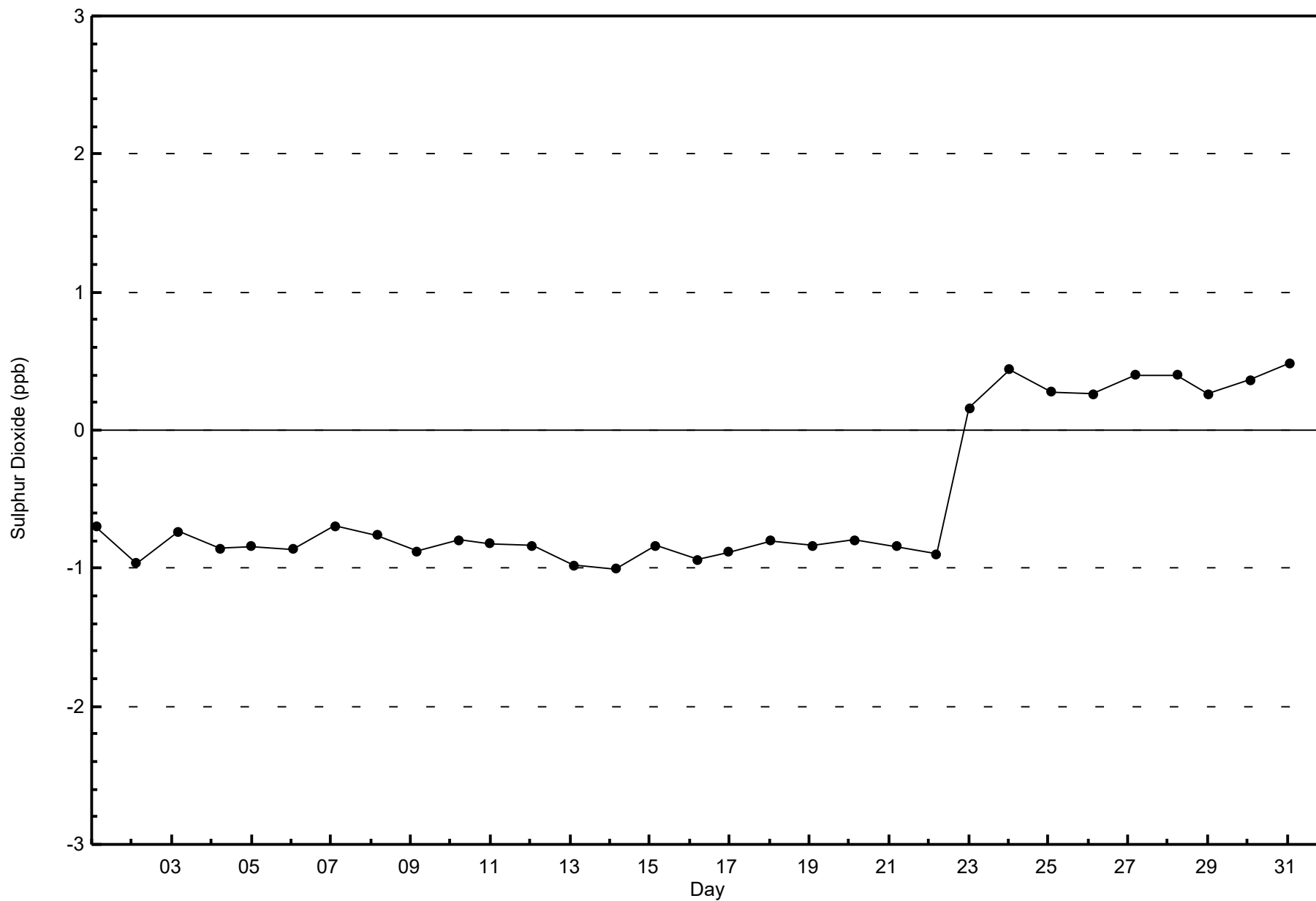
Sulphur Dioxide (SO₂) - ppb
Mackay River





Wood Buffalo Environmental Association
Zero Responses

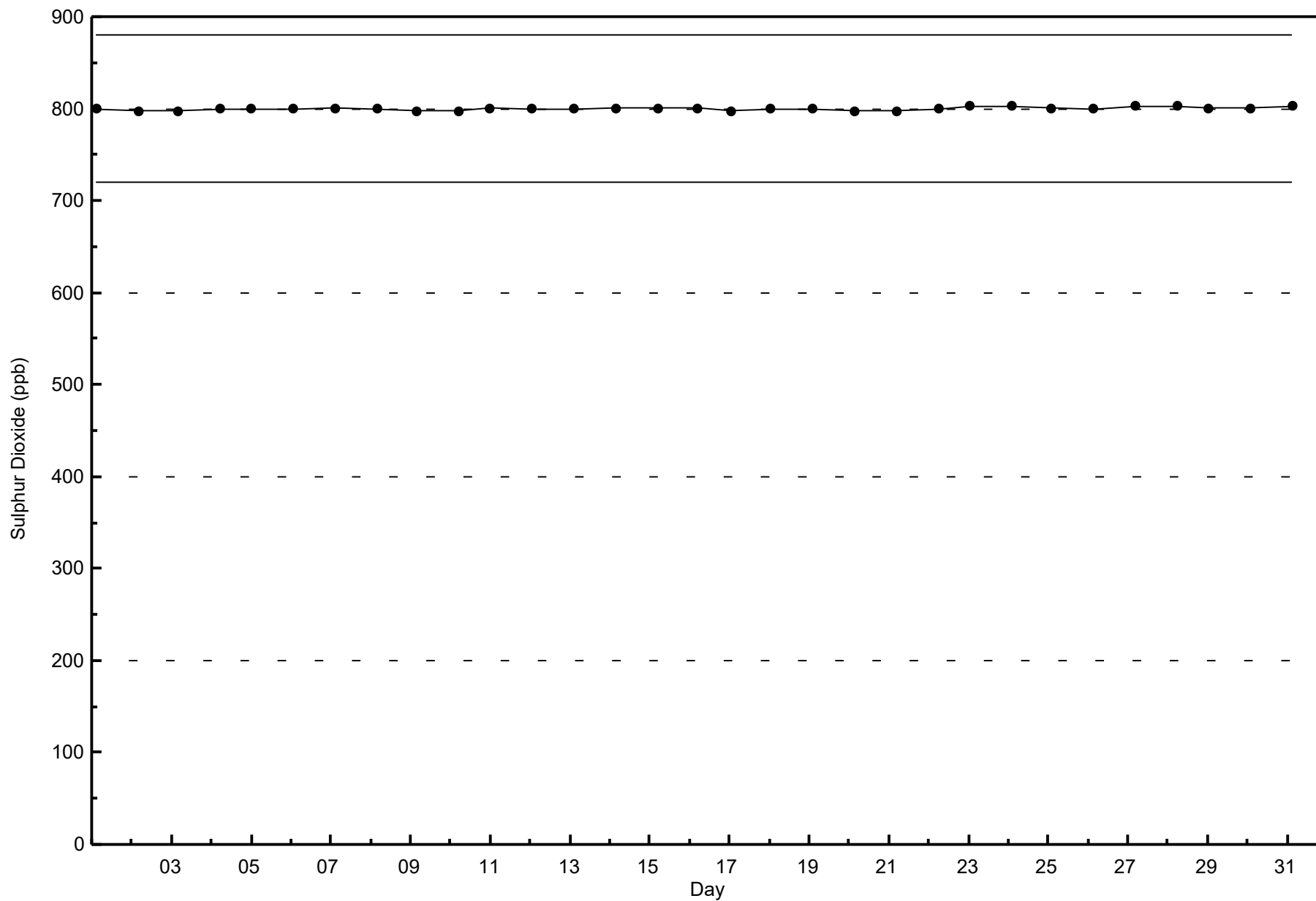
Sulphur Dioxide (SO₂) - ppb
Mackay River - July 2025





Wood Buffalo Environmental Association
Span Responses

Sulphur Dioxide (SO₂) - ppb
Mackay River - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Hydrogen Sulphide (H₂S) - ppb

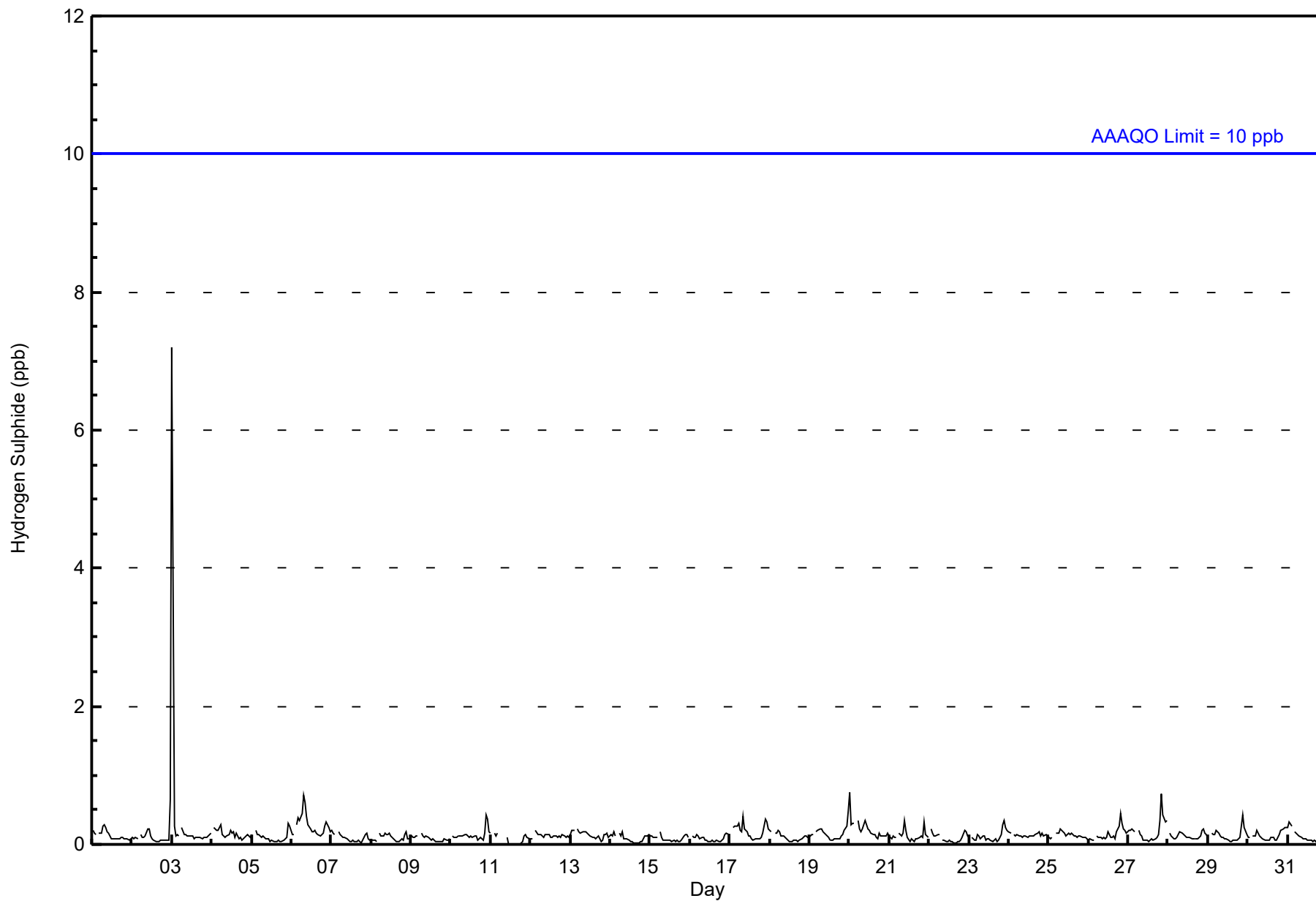
Mackay River - July 2025

Number of Exceedences (AAAQO): Maximum Value: 7.2 ppb on Jul 3 01:00																			1-hr: 0 24-hr: 0 Maximum Daily Average: 0.4 ppb on Jul 3						Hours in Service: 744 Hours of Data: 707					
Minimum Value: 0.0 ppb on Jul 11 13:00 Maximum Diurnal Average: 0.4 ppb at hour 1 Monthly Average: 0.14 ppb																			Minimum Daily Average: 0.1 ppb on Jul 11 Minimum Diurnal Average: 0.1 ppb at hour 17 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 = 0.5						Hours of Missing Data: 37 Hours of Calibration: 36 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-Jul	0.2	0.2	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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3			
2-Jul	0.1	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.2	0.2	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	0.7	0.7			
3-Jul	7.2	0.3	0.1	0.1	0.1	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	0.2	7.2				
4-Jul	Z	0.2	0.2	0.2	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.3				
5-Jul	0.1	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.3	0.3	0.1	0.3				
6-Jul	0.1	0.1	Z	0.3	0.4	0.3	0.5	0.7	0.6	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.3	0.3	0.2	0.2	0.3	0.7				
7-Jul	0.2	0.2	0.1	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.2				
8-Jul	0.1	0.1	0.1	0.0	Z	0.2	0.1	0.1	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2				
9-Jul	0.1	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	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2				
10-Jul	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	0.4	0.4	0.2	0.1	0.4				
11-Jul	0.2	Z	0.2	0.1	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	0.1	0.1	0.1	0.1	0.1	0.2				
12-Jul	0.1	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	0.1	0.1	0.2				
13-Jul	0.1	0.2	0.2	Z	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	0.0	0.1	0.1	0.1	0.2	0.1	0.2				
14-Jul	0.1	0.1	0.2	0.1	Z	0.2	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	0.1	0.1	0.1	0.1	0.1	0.2				
15-Jul	0.1	0.1	0.1	0.1	0.1	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2				
16-Jul	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	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.1	0.2				
17-Jul	0.1	Z	0.2	0.3	0.3	0.3	0.2	0.2	0.4	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.4	0.3	0.2	0.4				
18-Jul	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2				
19-Jul	0.1	0.1	0.1	Z	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	0.2	0.3	0.5	0.2	0.5				
20-Jul	0.8	0.3	0.3	0.3	Z	0.4	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.8				
21-Jul	0.1	0.1	0.1	0.1	0.1	Z	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	0.1	0.3	0.1	0.1	0.1	0.3				
22-Jul	Z	0.2	0.2	0.1	0.1	0.1	0.1	M	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.1	0.1	0.2				
23-Jul	0.1	Z	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.4	0.3	0.2	0.4				
24-Jul	0.2	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	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.2				
25-Jul	0.1	0.1	0.1	Z	0.2	0.2	0.2	0.2	0.2	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	0.1	0.2				
26-Jul	0.1	0.1	0.1	0.1	Z	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	0.2	0.3	0.5	0.3	0.2	0.2	0.2	0.5				
27-Jul	0.2	0.2	0.2	0.2	0.2	Z	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	0.3	0.7	0.4	0.3	0.4	0.7				
28-Jul	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	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.2				
29-Jul	0.1	Z	0.2	0.1	0.1	0.2	0.2	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	0.3	0.4	0.2	0.1	0.1	0.4				
30-Jul	0.1	0.1	Z	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	0.2	0.2	0.2	0.2	0.1	0.2				
31-Jul	0.3	0.3	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	0.0	0.1	0.0	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.3				
0.4 0.2 0.2 0.1 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 0.2 0.2 0.2 0.2 0.2																								Diurnal Average						
7.2 0.3 0.3 0.3 0.4 0.4 0.5 0.7 0.6 0.4 0.3 0.2 0.2 0.2 0.2 0.2 0.2 0.1 0.2 0.3 0.5 0.7 0.4 0.4 0.7																								Diurnal Maximum						
Z - zerospan C - Calibration M - Maintenance																														
Alberta Ambient Air Quality Objective (AAAQO): 1-hour 10 ppb 24-hr 3 ppb																														



Wood Buffalo Environmental Association
Hourly Averages

Hydrogen Sulphide (H₂S) - ppb
Mackay River - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Hydrogen Sulphide (H₂S) - ppb
Mackay River - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	706	99.86	99.86
3 - 4	0	0.00	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
Mackay River - July 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	28	33	8	12	41	82	67	66	47	52	84	49	32	31	48	703
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	1	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	23	28	33	8	12	41	82	67	66	47	52	84	49	32	32	48	704

Total Number of Valid Hours: 704

Total Number of Hours: 744

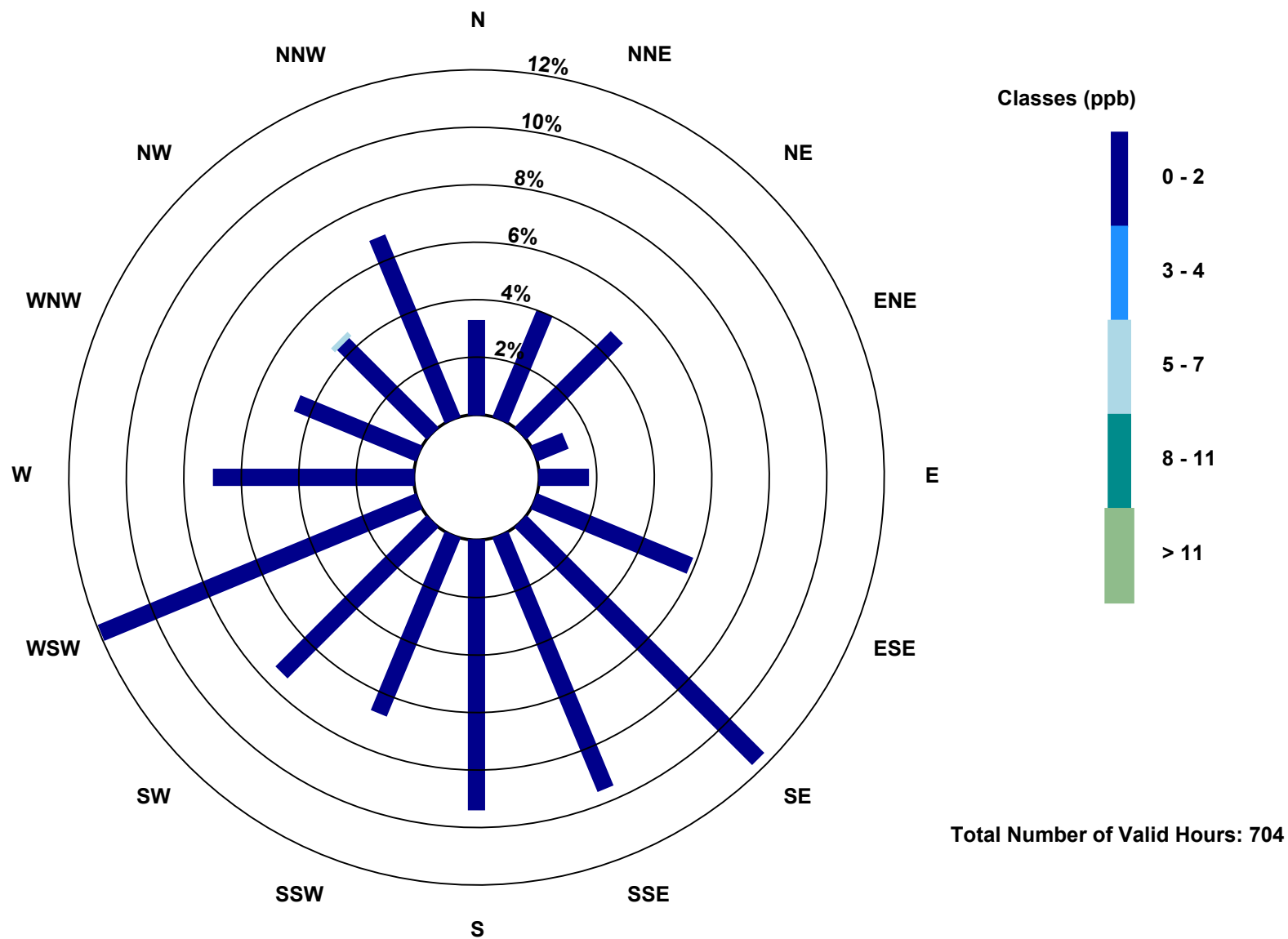


Wood Buffalo Environmental Association

Wind Rose Jul 2025

Hydrogen Sulphide (H_2S) - ppb

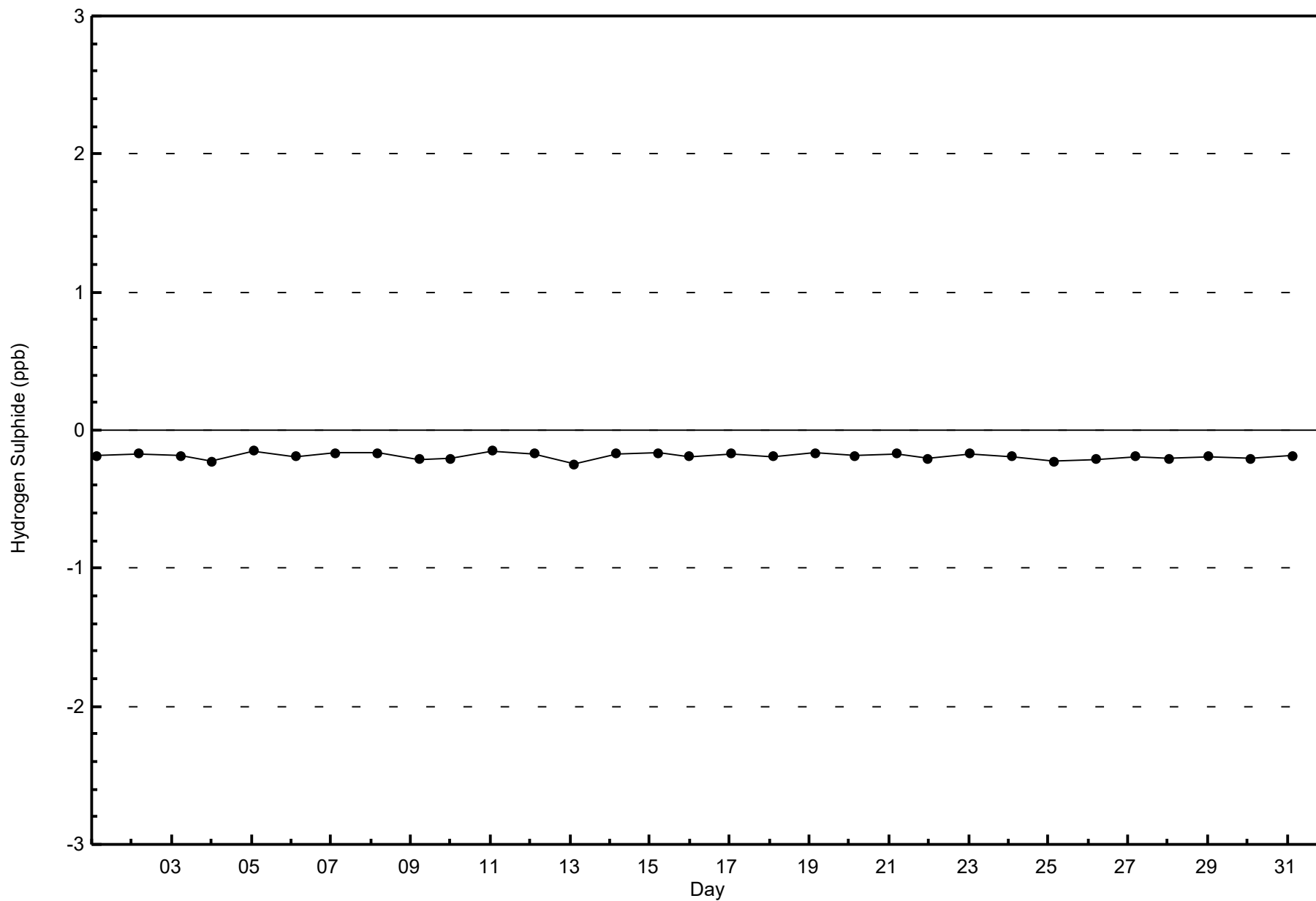
Mackay River





Wood Buffalo Environmental Association
Zero Responses

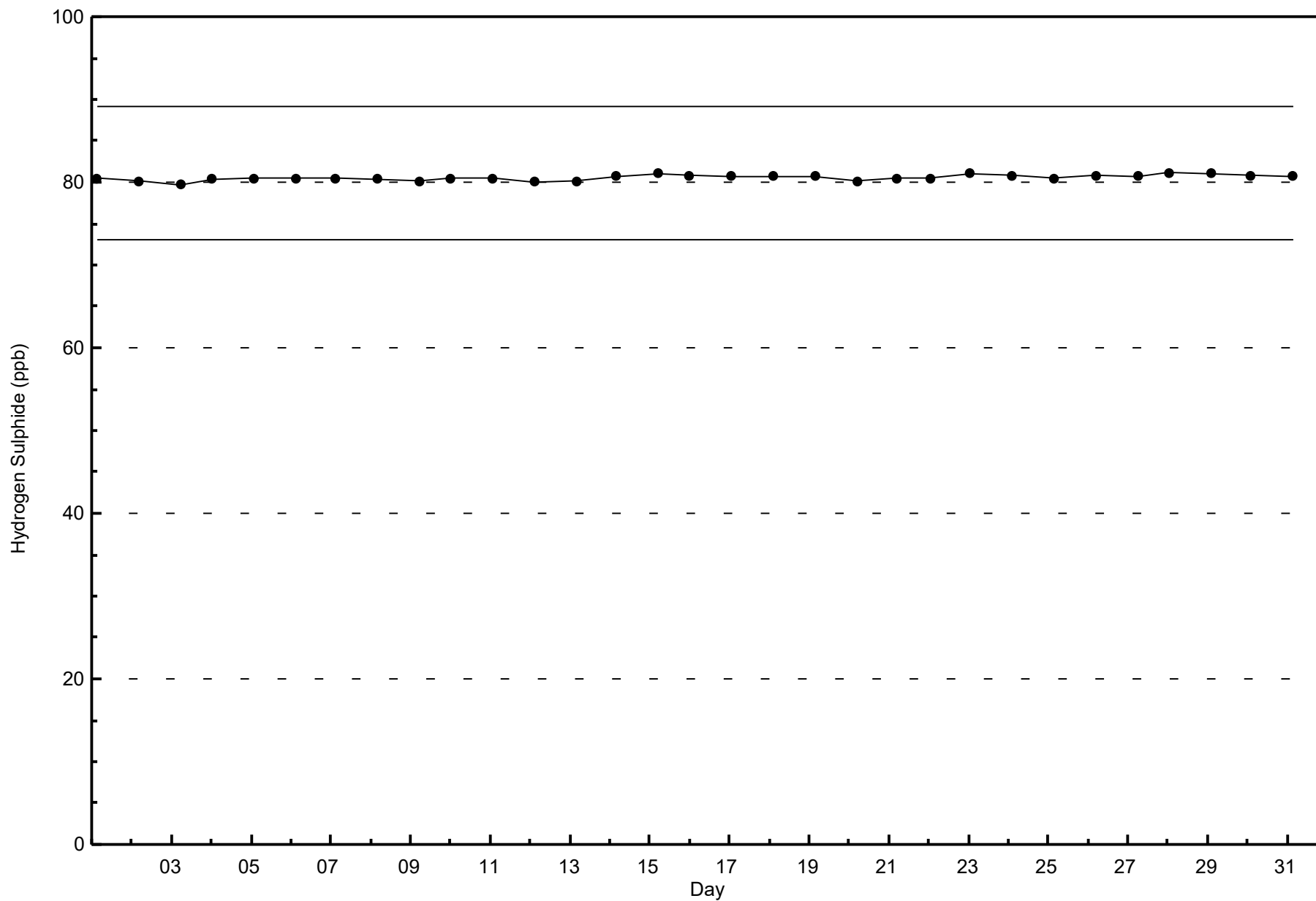
Hydrogen Sulphide (H₂S) - ppb
Mackay River - July 2025





Wood Buffalo Environmental Association
Span Responses

Hydrogen Sulphide (H₂S) - ppb
Mackay River - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Total Hydrocarbons (THC) - ppm

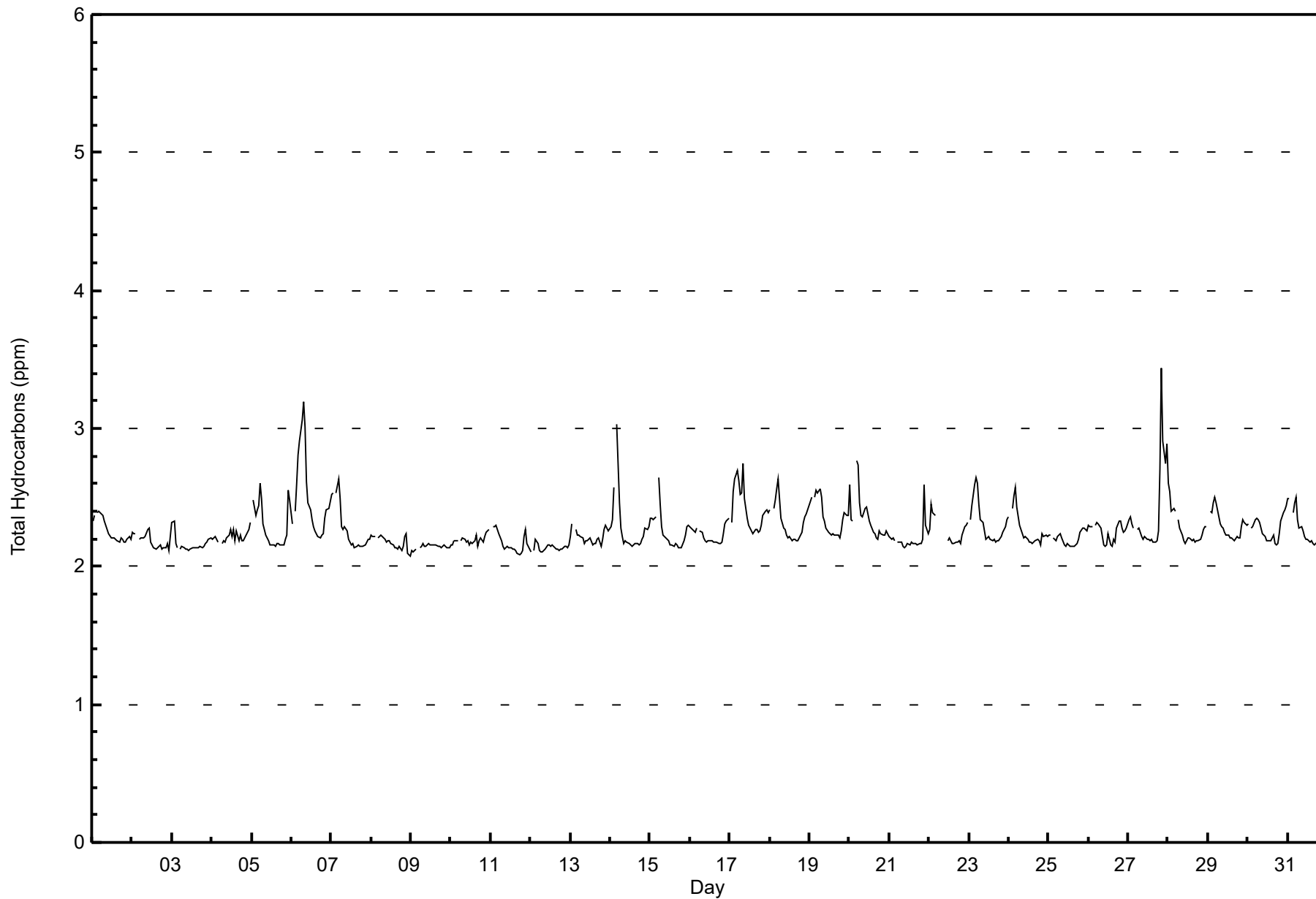
Mackay River - July 2025

Maximum Value: 3.4 ppm on Jul 27 21:00																	Maximum Daily Average: 2.5 ppm on Jul 6										Hours in Service: 744	
Minimum Value: 2.1 ppm on Jul 9 00:00																	Minimum Daily Average: 2.1 ppm on Jul 12										Hours of Data: 709	
Maximum Diurnal Average: 2.4 ppm at hour 5																	Minimum Diurnal Average: 2.2 ppm at hour 17										Hours of Missing Data: 35	
Monthly Average: 2.26 ppm																	Percentiles: P ₁ = 2.1 P ₁₀ = 2.1 Q ₁ = 2.2 Median = 2.2 Q ₃ = 2.3 P ₉₀ = 2.4 P ₉₉ = 2.9										Hours of Calibration: 35	
																											Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum		
1-Jul	2.3	2.4	Z	2.4	2.4	2.4	2.4	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	2.3	2.4		
2-Jul	2.2	2.2	2.2	Z	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.2	2.1	2.2	2.1	2.2	2.2	2.3	
3-Jul	2.3	2.3	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	2.2	2.2	2.2	2.2	2.2	2.2	2.3	
4-Jul	2.2	2.2	2.2	2.2	2.2	Z	2.2	2.2	2.2	2.2	2.2	2.3	2.2	2.3	2.2	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.2	2.3	
5-Jul	Z	2.5	2.4	2.4	2.4	2.6	2.5	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	2.5	2.5	2.3	2.6	
6-Jul	2.3	Z	2.4	2.6	2.8	2.9	3.1	3.2	3.0	2.6	2.5	2.4	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.4	2.4	2.4	2.5	2.5	3.2	
7-Jul	2.5	2.5	Z	2.5	2.6	2.5	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.3	2.6	
8-Jul	2.2	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	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.1	2.2	2.2	
9-Jul	2.1	2.1	2.1	2.1	Z	2.1	2.1	2.2	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	2.2	2.1	2.1	2.1	2.1	2.2	
10-Jul	2.2	2.2	2.2	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	2.1	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.2	2.3	
11-Jul	Z	2.3	2.3	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	2.1	2.1	2.1	2.1	2.2	2.3	2.2	2.1	2.2	2.3	
12-Jul	2.1	Z	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	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	2.2	2.1	2.2	
13-Jul	2.2	2.3	Z	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	2.1	2.2	2.3	2.3	2.3	2.3	2.2	2.3	
14-Jul	2.3	2.3	2.6	Z	3.0	2.5	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	2.3	2.3	2.3	2.3	3.0	
15-Jul	2.3	2.4	2.3	2.4	Z	2.6	2.4	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	2.2	2.2	2.3	2.3	2.3	2.6	
16-Jul	2.3	2.3	2.3	2.3	2.3	Z	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	2.3	2.3	2.3	2.2	2.3	
17-Jul	Z	2.3	2.5	2.6	2.7	2.6	2.5	2.5	2.7	2.5	2.3	2.3	2.3	2.3	2.2	2.3	2.3	2.2	2.3	2.2	2.3	2.3	2.4	2.4	2.4	2.4	2.7	
18-Jul	2.4	Z	2.4	2.5	2.6	2.6	2.5	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	2.3	2.6	
19-Jul	2.5	2.5	Z	2.5	2.6	2.5	2.6	2.5	2.4	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	2.4	2.4	2.4	2.4	2.6	
20-Jul	2.6	2.3	2.3	Z	2.8	2.7	2.5	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.3	2.2	2.2	2.2	2.3	2.2	2.4	2.8	
21-Jul	2.2	2.2	2.2	2.2	Z	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	2.6	2.3	2.2	2.2	2.6	
22-Jul	2.3	2.5	2.4	2.4	2.4	Z	2.2	C	C	C	C	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	2.5	
23-Jul	Z	2.3	2.4	2.6	2.6	2.6	2.5	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	2.3	2.3	2.3	2.3	2.6	
24-Jul	2.4	Z	2.4	2.5	2.6	2.4	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	2.3	2.6	
25-Jul	2.2	2.2	Z	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	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.2	2.3	
26-Jul	2.3	2.3	2.3	Z	2.3	2.3	2.3	2.3	2.2	2.2	2.1	2.2	2.2	2.2	2.1	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.3	
27-Jul	2.3	2.4	2.3	2.3	Z	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	2.7	3.4	2.9	2.7	2.9	2.4	3.4	
28-Jul	2.6	2.5	2.4	2.4	2.4	Z	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	2.3	2.3	2.3	2.3	2.6	
29-Jul	Z	2.4	2.4	2.5	2.5	2.5	2.4	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	2.3	2.3	2.3	2.3	2.5	
30-Jul	2.3	Z	2.3	2.3	2.3	2.4	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	2.3	2.4	2.4	2.4	2.3	2.4	
31-Jul	2.5	2.5	Z	2.4	2.5	2.5	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	2.3	2.3	2.4	2.3	2.3	2.5	
2.3 2.3 2.3 2.4 2.4 2.4 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 2.3 2.3 2.3 2.3																								Diurnal Average				
2.6 2.5 2.6 2.6 3.0 2.9 3.1 3.2 3.0 2.6 2.5 2.4 2.3 2.3 2.3 2.3 2.3 2.3 2.3 2.7 3.4 2.9 2.7 2.9																								Diurnal Maximum				
Z - zerospan C - Calibration																												



Wood Buffalo Environmental Association
Hourly Averages

Total Hydrocarbons (THC) - ppm
Mackay River - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Hydrocarbons (THC) - ppm
Mackay River - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	0	0.00	0.00
2.1 - 3.0	706	99.58	99.58
3.1 - 10.0	3	0.42	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
Mackay River - July 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	22	28	32	8	11	42	81	66	69	50	51	84	48	30	30	51	703
3.1 - 10.0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	3
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	22	28	34	8	11	42	81	66	69	50	51	84	48	30	31	51	706

Total Number of Valid Hours: 706

Total Number of Hours: 744

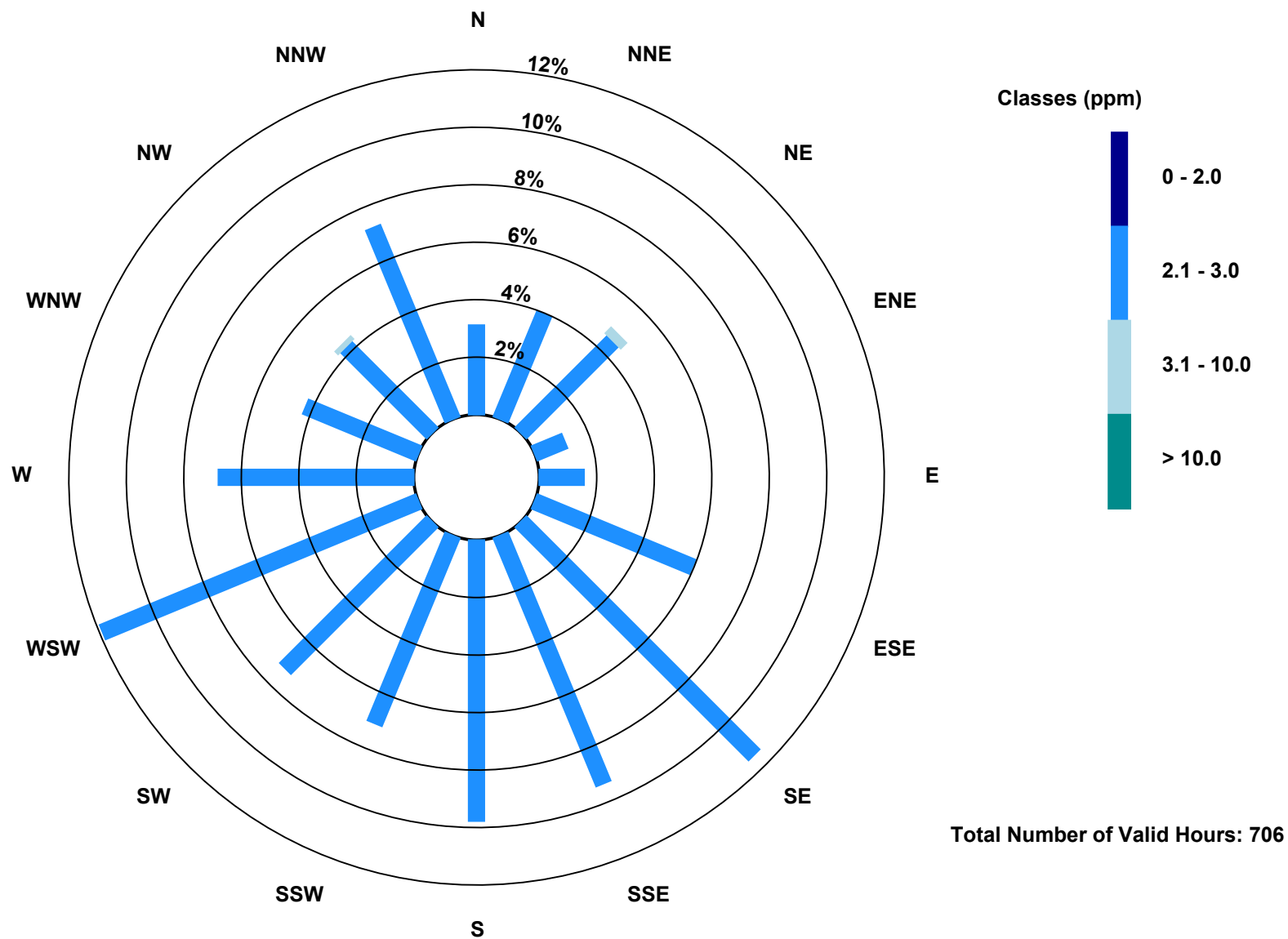


Wood Buffalo Environmental Association

Wind Rose Jul 2025

Total Hydrocarbons (THC) - ppm

Mackay River



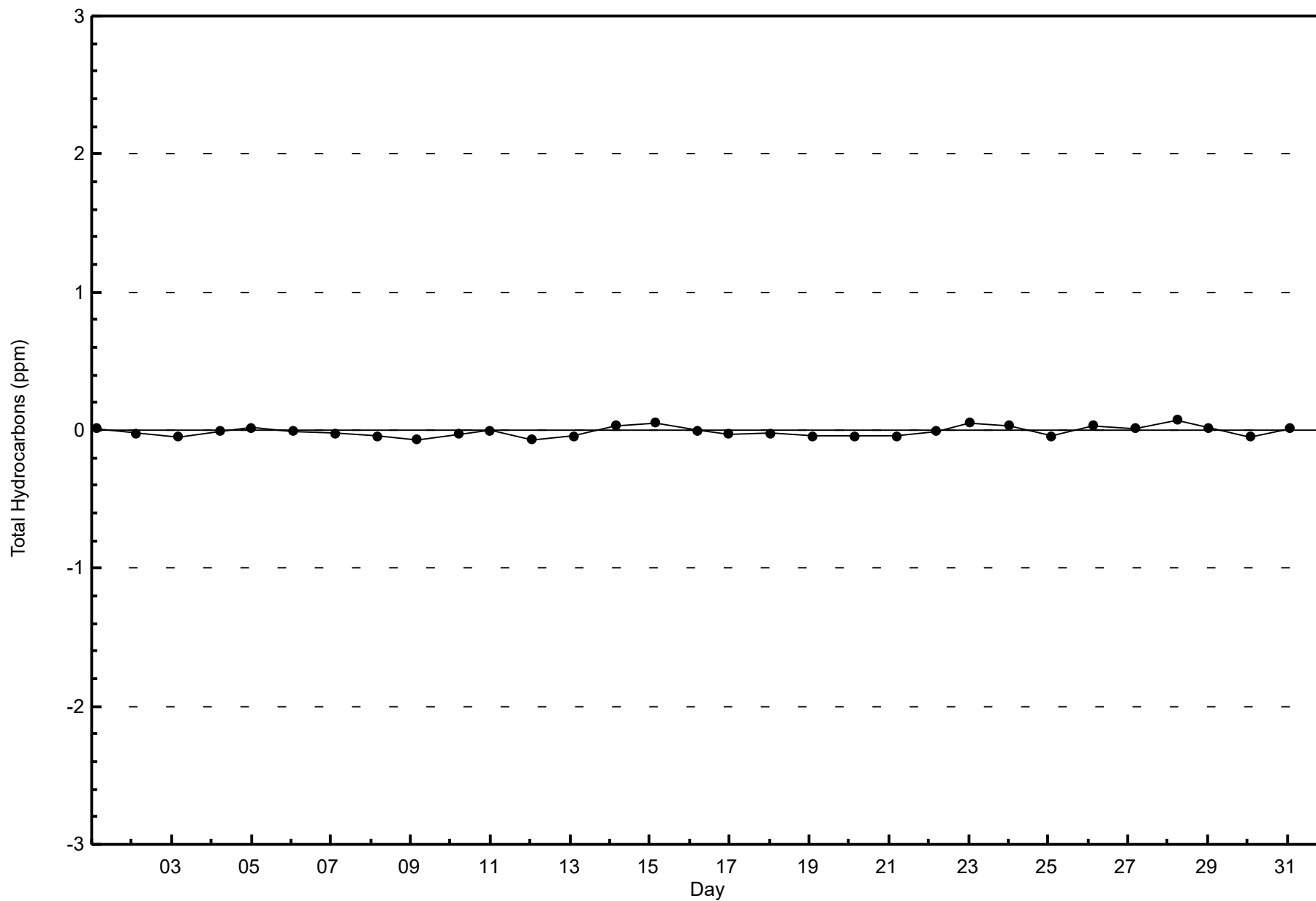


Wood Buffalo Environmental Association

Zero Responses

Total Hydrocarbons (THC) - ppm

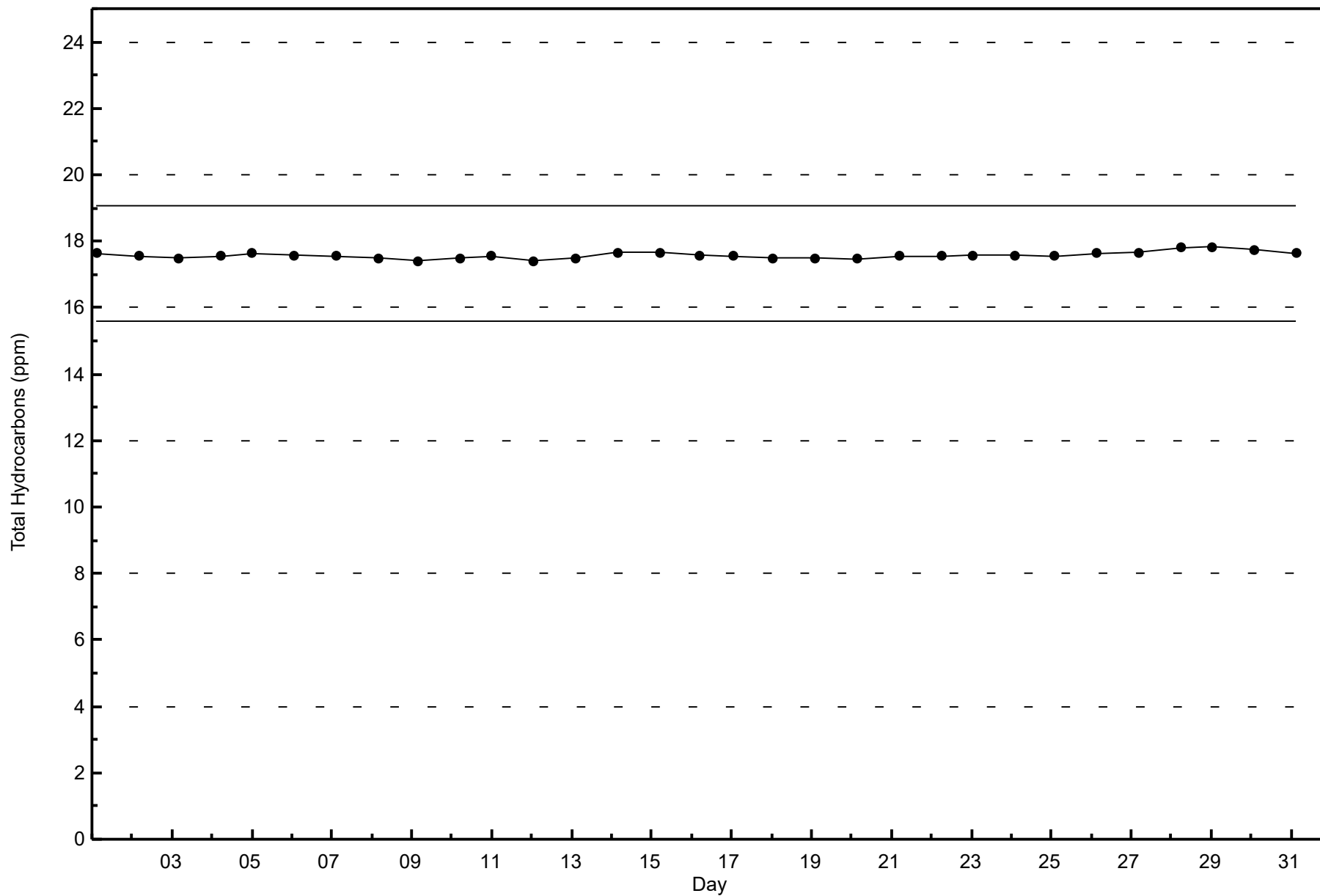
Mackay River - July 2025





Wood Buffalo Environmental Association
Span Responses

Total Hydrocarbons (THC) - ppm
Mackay River - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitric Oxide (NO) - ppb

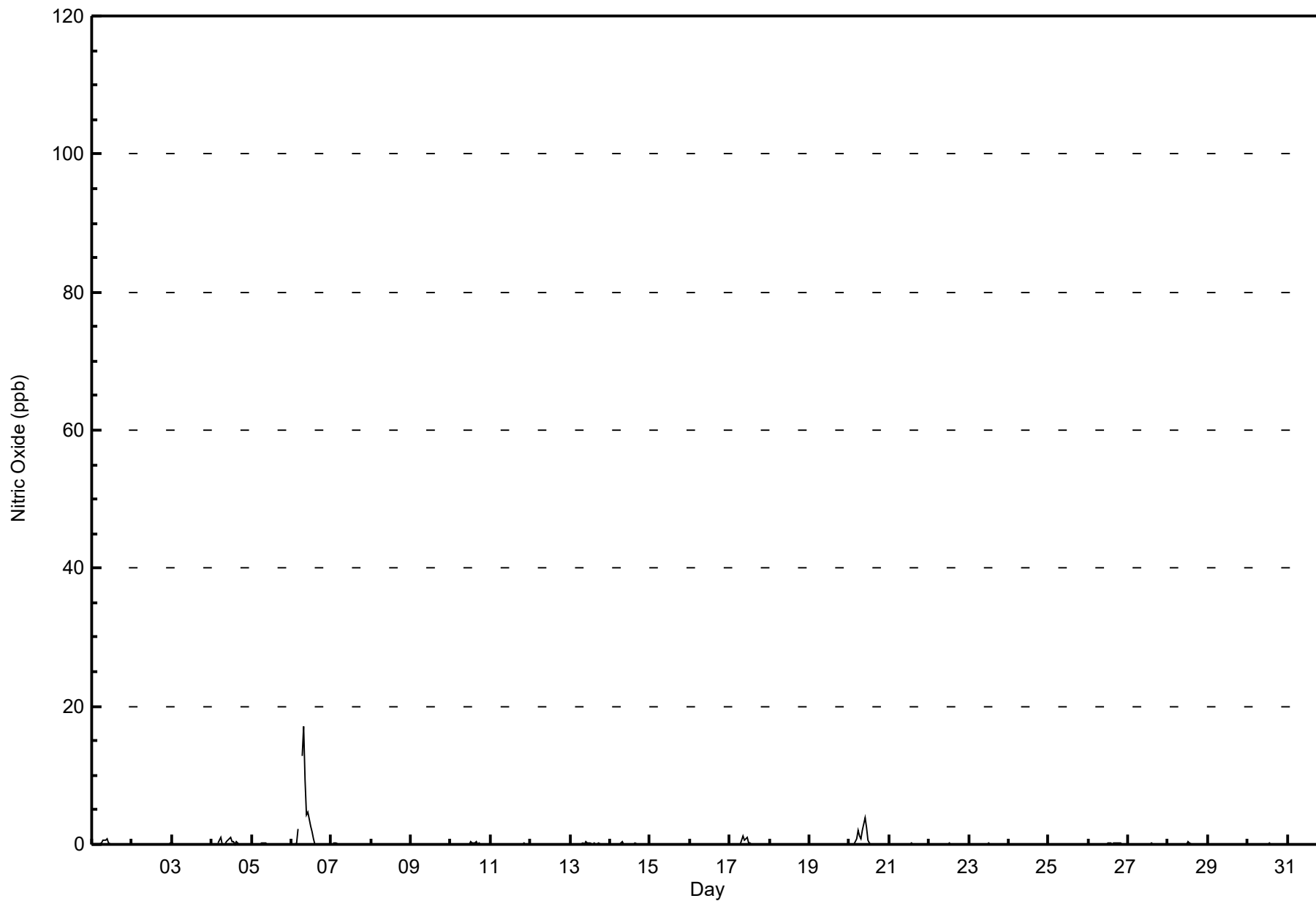
Mackay River - July 2025

Maximum Value: 17.2 ppb on Jul 6 08:00																		Maximum Daily Average: 2.4 ppb on Jul 6										Hours in Service: 744	
Minimum Value: 0.0 ppb on Jul 1 02:00																		Minimum Daily Average: 0.0 ppb on Jul 31										Hours of Data: 707	
Maximum Diurnal Average: 0.7 ppb at hour 8																		Minimum Diurnal Average: 0.0 ppb at hour 22										Hours of Missing Data: 37	
Monthly Average: 0.13 ppb																		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 = 2.3										Hours of Calibration: 36	
																												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-Jul	Z	0.0	0.0	0.0	0.0	0.1	0.5	0.7	0.7	0.9	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	0.9			
2-Jul	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	0.2	0.0	0.2			
3-Jul	0.2	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	0.2			
4-Jul	0.0	0.0	0.0	Z	0.1	0.9	0.0	0.0	0.0	0.5	0.9	1.0	0.4	0.4	0.0	0.4	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.2	1.0			
5-Jul	0.0	0.0	0.0	0.0	Z	0.1	0.1	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	0.0	0.3			
6-Jul	0.0	0.0	0.0	0.2	2.2	Z	12.9	17.2	9.3	4.2	4.7	2.6	1.8	0.9	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	2.4	17.2			
7-Jul	Z	0.2	0.3	0.2	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	0.3			
8-Jul	0.0	Z	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	0.0	0.0	0.0	0.1			
9-Jul	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-Jul	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.1	0.2	0.3	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.5			
11-Jul	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	0.2	0.0	0.0	0.0	0.0	0.2			
12-Jul	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			
13-Jul	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.4	0.1	0.3	0.2	0.1	0.1	0.0	0.1	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.4			
14-Jul	0.0	Z	0.0	0.1	0.0	0.1	0.2	0.3	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	0.3			
15-Jul	0.0	0.0	Z	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			
16-Jul	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-Jul	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.6	1.2	0.7	1.0	0.3	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	1.2			
18-Jul	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			
19-Jul	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			
20-Jul	0.0	Z	0.0	0.0	0.7	2.1	1.3	0.8	2.1	3.8	2.3	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	0.6	3.8			
21-Jul	0.0	0.0	Z	0.0	0.0	0.0	0.0	C	C	C	C	C	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			
22-Jul	0.0	0.0	0.0	Z	0.0	0.0	0.0	M	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			
23-Jul	0.0	0.0	0.0	0.0	Z	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			
24-Jul	0.0	0.0	0.0	0.0	0.0	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	0.1			
25-Jul	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	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1			
26-Jul	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.0	0.1	0.1	0.3	0.1	0.2	0.1	0.0	0.0	0.0	0.1	0.3			
27-Jul	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	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1			
28-Jul	0.0	0.0	0.0	Z	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.3	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3			
29-Jul	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-Jul	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	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1			
31-Jul	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 0.1 0.1 0.5 0.7 0.5 0.4 0.3 0.2 0.1 0.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0																										Diurnal Average			
0.2 0.2 0.3 0.2 2.2 2.1 12.9 17.2 9.3 4.2 4.7 2.6 1.8 0.9 0.2 0.4 0.1 0.3 0.1 0.2 0.2 0.0 0.0 0.2																										Diurnal Maximum			
Z - zerospan C - Calibration M - Maintenance																													



Wood Buffalo Environmental Association
Hourly Averages

Nitric Oxide (NO) - ppb
Mackay River - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitric Oxide (NO) - ppb
Mackay River - July 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
Mackay River - July 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	28	32	8	12	42	79	65	72	49	51	87	48	32	30	48	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	22	28	32	8	12	42	79	65	72	49	51	87	48	32	30	48	705

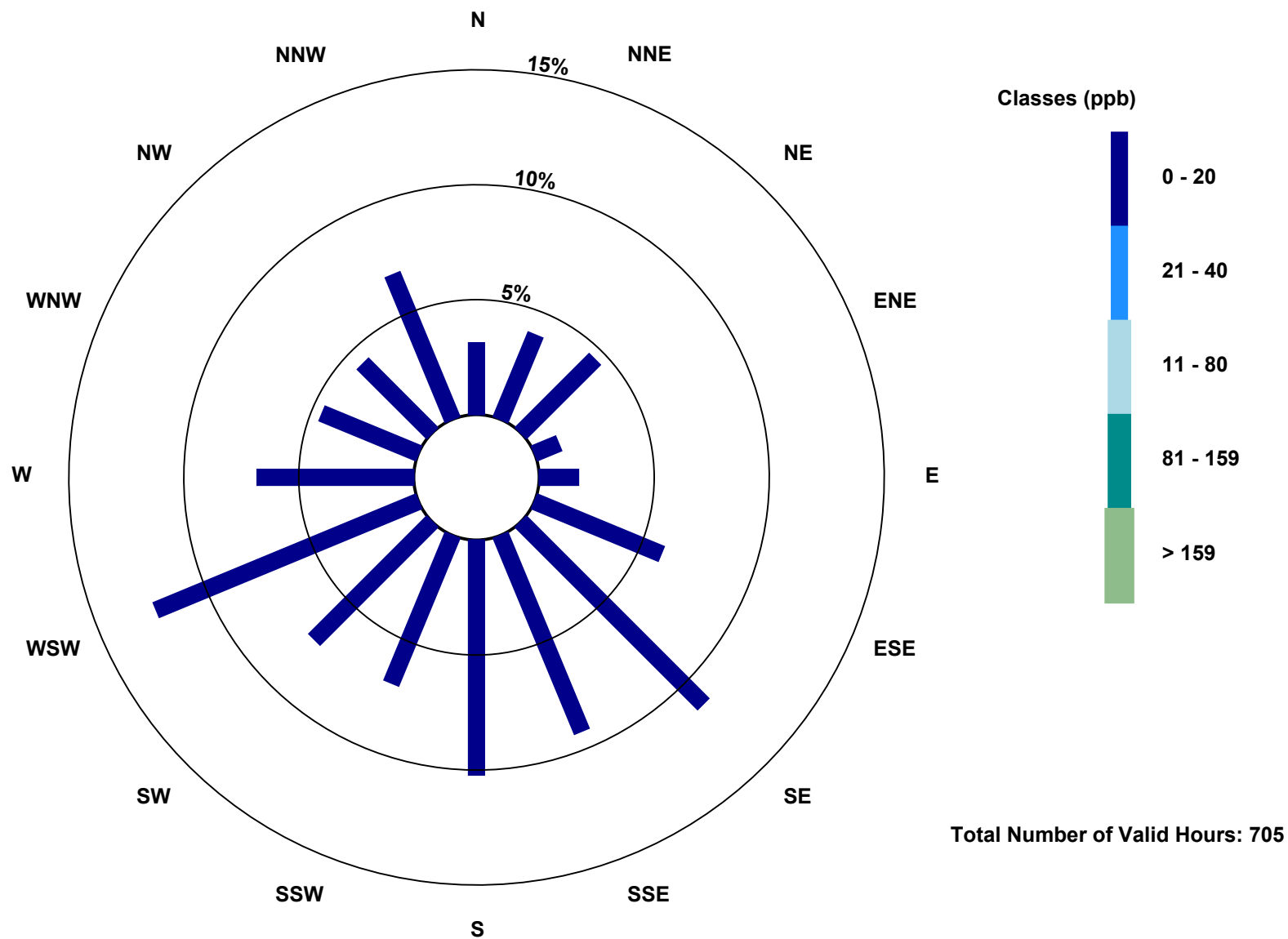
Total Number of Valid Hours: 705

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

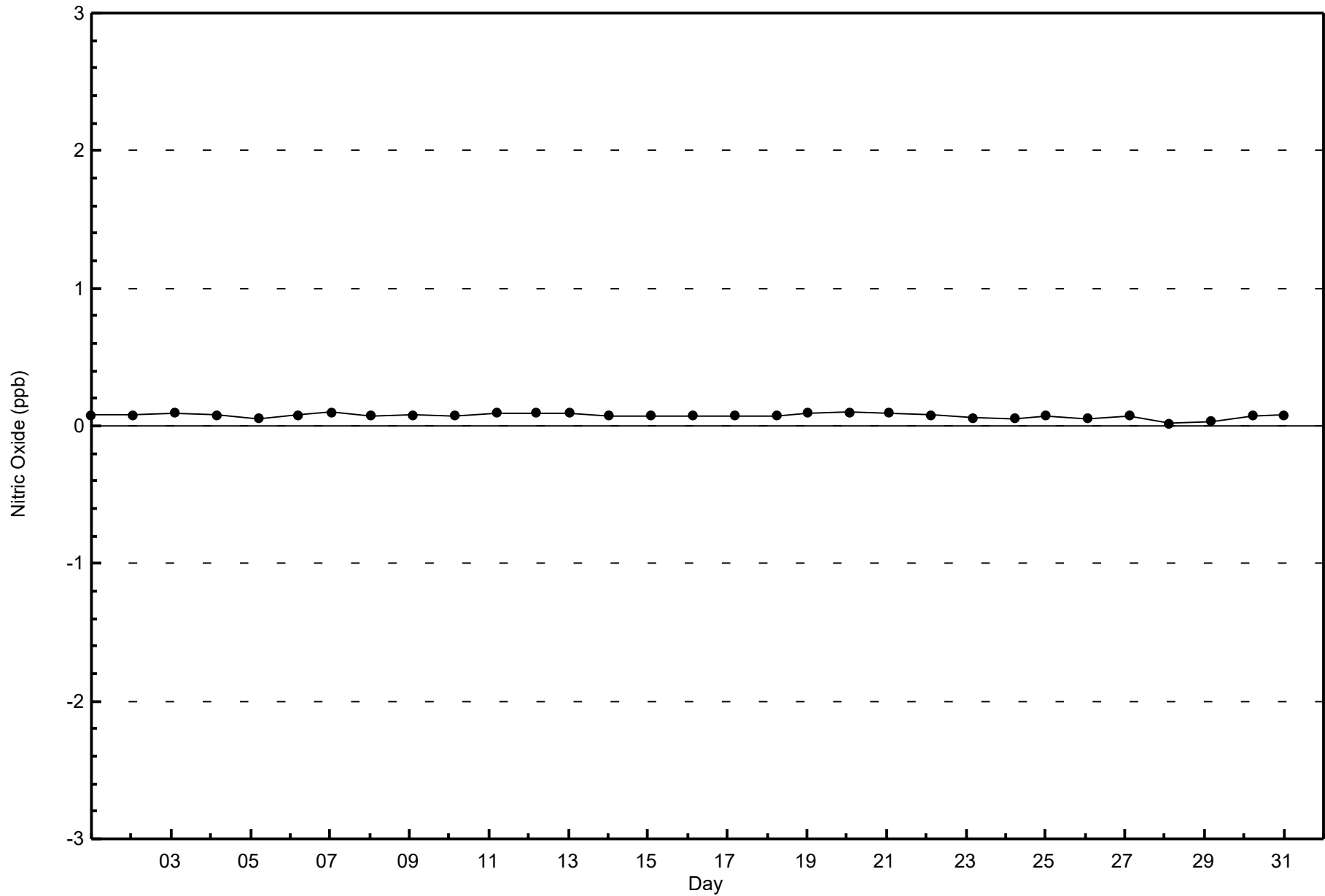
Nitric Oxide (NO) - ppb
Mackay River





Wood Buffalo Environmental Association
Zero Responses

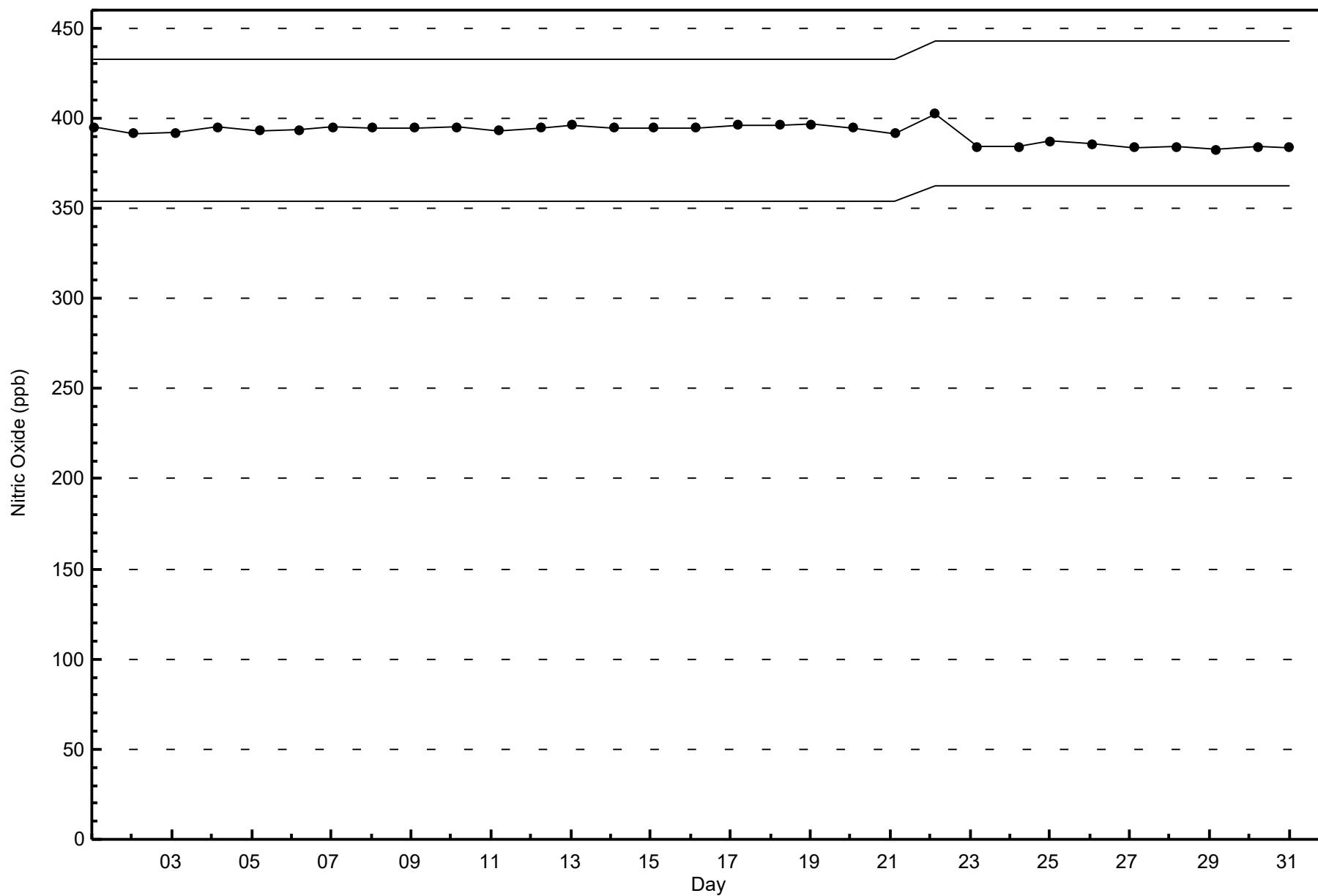
Nitric Oxide (NO) - ppb
Mackay River - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitric Oxide (NO) - ppb
Mackay River - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Dioxide (NO₂) - ppb

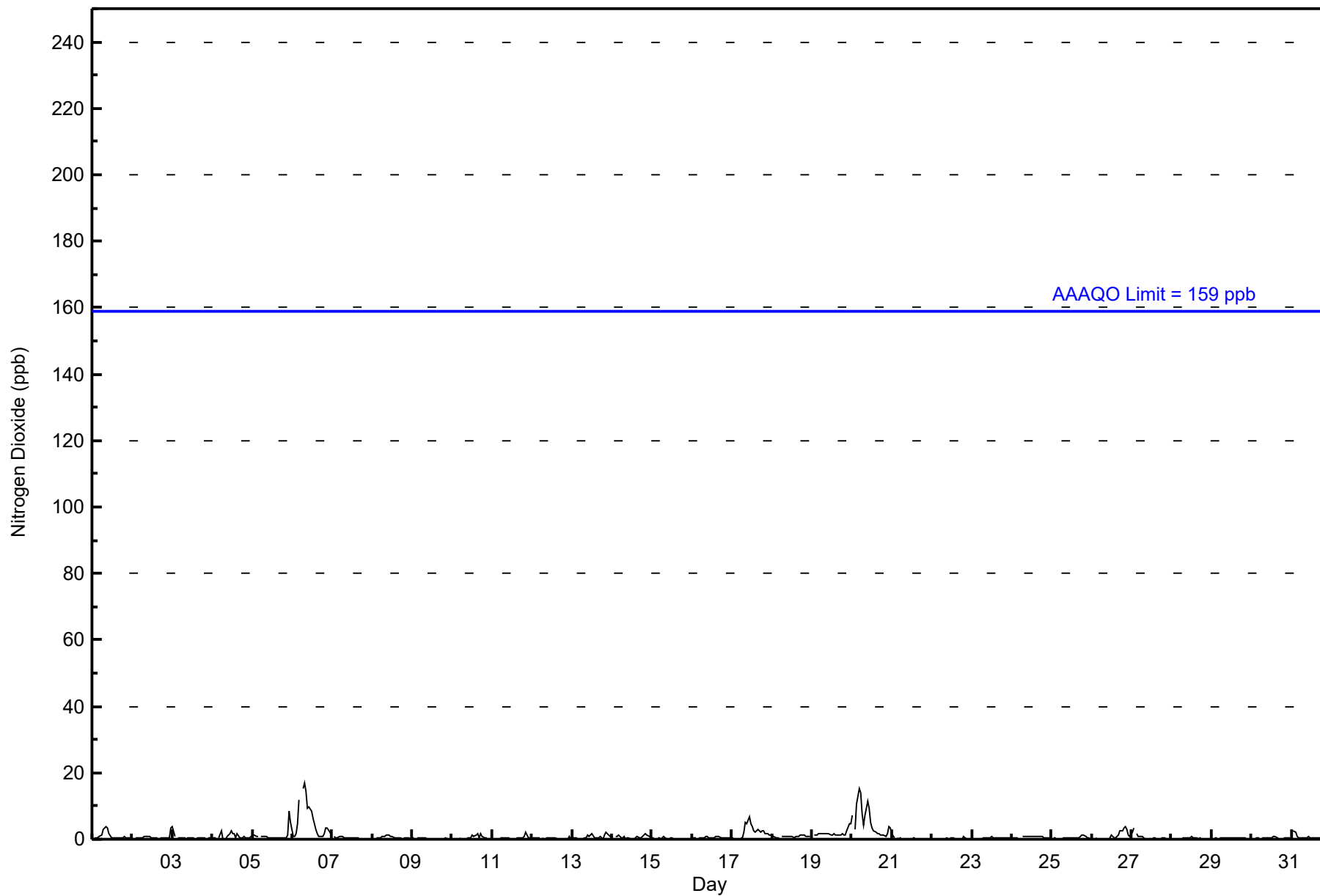
Mackay River - July 2025

Number of Exceedences (AAAQO): Maximum Value: 16.8 ppb on Jul 6 08:00																				1-hr: 0 24-hr: 0 Maximum Daily Average: 5.4 ppb on Jul 6					Hours in Service: 744 Hours of Data: 707 Hours of Missing Data: 37 Hours of Calibration: 36 Percent Operational Time: 99.9			
Minimum Value: 0.0 ppb on Jul 21 16:00 Maximum Diurnal Average: 1.5 ppb at hour 9 Monthly Average: 0.95 ppb																				Minimum Daily Average: 0.2 ppb on Jul 22 Minimum Diurnal Average: 0.6 ppb at hour 17 Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.3 Median = 0.4 Q ₃ = 0.9 P ₉₀ = 1.9 P ₉₉ = 10.4								
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-Jul	Z	0.5	0.4	0.4	0.7	1.2	3.0	3.2	3.7	3.5	1.6	0.6	0.5	0.5	0.4	0.4	0.4	0.5	0.6	0.7	0.6	0.6	0.5	0.4	1.1	3.7		
2-Jul	0.5	Z	0.4	0.4	0.4	0.4	0.6	0.7	0.7	0.7	0.7	0.4	0.3	0.3	0.3	0.2	0.2	0.3	0.4	0.6	0.5	0.4	0.6	3.6	0.6	3.6		
3-Jul	3.8	0.9	Z	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.4	0.3	0.3	0.2	0.2	0.3	0.4	0.5	3.8		
4-Jul	0.4	0.4	0.4	Z	0.6	2.7	0.1	0.2	0.2	0.9	1.6	2.6	1.6	1.9	0.5	1.8	0.4	0.6	0.6	0.7	0.5	0.3	0.4	0.9	0.9	2.7		
5-Jul	1.2	1.4	1.0	0.7	Z	0.9	0.7	0.8	1.0	0.6	0.5	0.4	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.4	0.4	1.2	8.6	5.1	1.2	8.6		
6-Jul	1.0	0.9	1.5	4.8	11.9	Z	15.2	16.8	14.6	9.4	9.8	8.4	6.3	4.8	2.9	1.5	0.9	0.7	0.9	1.6	3.5	3.5	2.0	1.2	5.4	16.8		
7-Jul	Z	0.9	0.5	0.5	0.8	0.8	0.8	0.6	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.9		
8-Jul	0.2	Z	0.4	0.3	0.4	0.5	0.9	1.0	1.2	1.1	1.1	1.0	0.8	0.6	0.4	0.3	0.3	0.3	0.2	0.3	0.3	0.4	0.3	0.2	0.5	1.2		
9-Jul	0.3	0.2	Z	0.4	0.3	0.3	0.3	0.4	0.3	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.5	0.1	0.1	0.1	0.2	0.5		
10-Jul	0.1	0.1	0.1	Z	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.4	1.3	0.9	1.2	1.5	0.5	1.6	0.9	0.3	0.3	0.2	0.2	0.2	0.5	1.6		
11-Jul	0.1	0.1	0.1	0.1	Z	0.4	0.4	0.5	0.5	0.4	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	1.0	2.2	1.1	0.3	0.3	0.4	2.2		
12-Jul	0.3	0.3	0.3	0.3	0.3	Z	0.3	0.2	0.2	0.4	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	1.0	0.1	0.3	1.0		
13-Jul	Z	0.5	0.4	0.2	0.1	0.1	0.1	0.5	0.4	1.1	0.7	1.4	1.5	0.3	0.5	0.3	0.4	0.9	0.1	1.2	2.3	1.5	1.1	0.8	0.7	2.3		
14-Jul	0.8	Z	0.7	0.7	1.2	0.5	0.6	0.7	0.2	0.5	0.5	0.1	0.1	0.1	0.4	0.7	0.6	0.5	0.7	1.2	1.6	1.3	1.0	0.6	0.7	1.6		
15-Jul	0.5	0.4	Z	0.3	0.3	0.2	0.6	0.7	0.5	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.3	0.7		
16-Jul	0.3	0.4	0.3	Z	0.4	0.4	0.5	0.6	0.9	0.8	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.5	0.4	0.3	0.6	0.9		
17-Jul	0.3	0.2	0.2	0.2	Z	0.3	0.4	2.3	4.9	4.6	6.7	4.6	4.0	2.7	2.2	2.9	2.6	2.1	2.6	2.4	1.9	1.7	1.4	1.1	2.3	6.7		
18-Jul	0.8	0.7	0.6	0.5	0.4	Z	0.7	0.9	0.9	0.8	0.8	0.7	0.7	0.6	0.7	0.9	1.0	1.1	1.2	1.2	1.0	0.9	1.0	1.0	0.8	1.2		
19-Jul	Z	1.1	1.3	1.3	1.5	1.6	1.9	1.9	1.8	1.7	1.6	1.3	1.4	1.5	1.4	1.3	1.3	1.4	1.5	1.4	1.2	2.7	4.7	4.5	1.8	4.7		
20-Jul	7.2	Z	2.8	10.4	15.4	13.8	7.6	4.3	7.3	11.3	9.3	5.1	3.3	2.5	2.0	1.9	1.6	1.4	1.4	1.2	0.9	1.8	3.7	3.3	5.2	15.4		
21-Jul	1.7	0.3	Z	0.5	0.2	0.4	0.2	C	C	C	C	C	0.3	0.4	0.2	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2	1.7		
22-Jul	0.0	0.1	0.0	Z	0.1	0.0	0.0	M	0.2	0.3	0.2	0.3	0.6	0.3	0.1	0.1	0.1	0.1	0.1	0.7	0.5	0.2	0.1	0.1	0.2	0.7		
23-Jul	0.1	0.0	0.0	0.1	Z	0.2	0.2	0.3	0.4	0.4	0.4	0.3	0.8	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.8		
24-Jul	0.3	0.4	0.3	0.3	0.2	Z	0.8	0.7	0.8	0.9	0.9	0.8	0.8	0.8	0.8	1.0	1.0	0.9	0.8	0.5	0.4	0.4	0.3	0.3	0.6	1.0		
25-Jul	Z	0.4	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.6	0.9	1.3	1.2	0.9	0.4	0.3	0.2	0.5	1.3		
26-Jul	0.1	Z	0.3	0.2	0.2	0.1	0.0	0.1	0.1	0.1	0.1	0.3	1.3	0.5	0.4	0.7	1.1	2.5	2.7	3.5	4.0	2.8	1.3	0.8	1.0	4.0		
27-Jul	2.1	3.2	Z	1.6	0.9	0.9	0.7	0.3	0.2	0.1	0.2	0.1	0.1	0.3	0.5	0.1	0.1	0.2	0.3	0.4	0.3	0.2	0.2	0.3	0.6	3.2		
28-Jul	0.2	0.1	0.1	Z	0.1	0.0	0.1	0.3	0.4	0.3	0.3	0.3	1.0	0.5	0.3	0.3	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.2	0.2	1.0		
29-Jul	0.2	0.2	0.3	0.3	Z	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.4		
30-Jul	0.2	0.2	0.2	0.3	0.4	Z	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.7	0.9	0.6	0.2	0.2	0.2	0.2	0.4	0.4	0.5	0.6	0.4	0.9		
31-Jul	Z	2.6	2.3	0.8	0.4	0.3	0.4	0.5	0.5	0.6	0.7	0.6	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.6	2.6		
Diurnal Average																												
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 - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Mackay River - July 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
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> 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
Mackay River - July 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	28	32	8	12	42	79	65	72	49	51	87	48	32	30	48	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	22	28	32	8	12	42	79	65	72	49	51	87	48	32	30	48	705

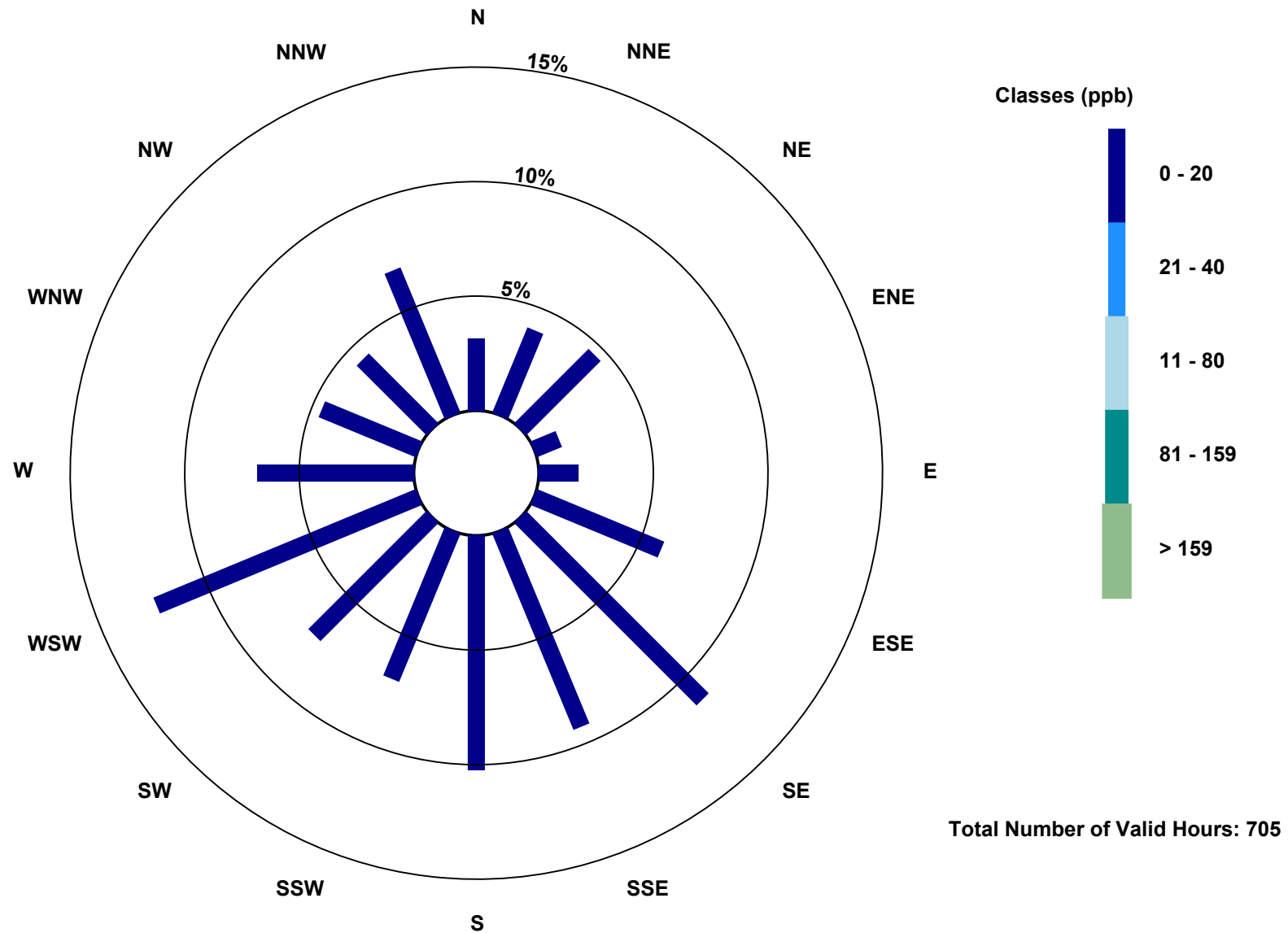
Total Number of Valid Hours: 705

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

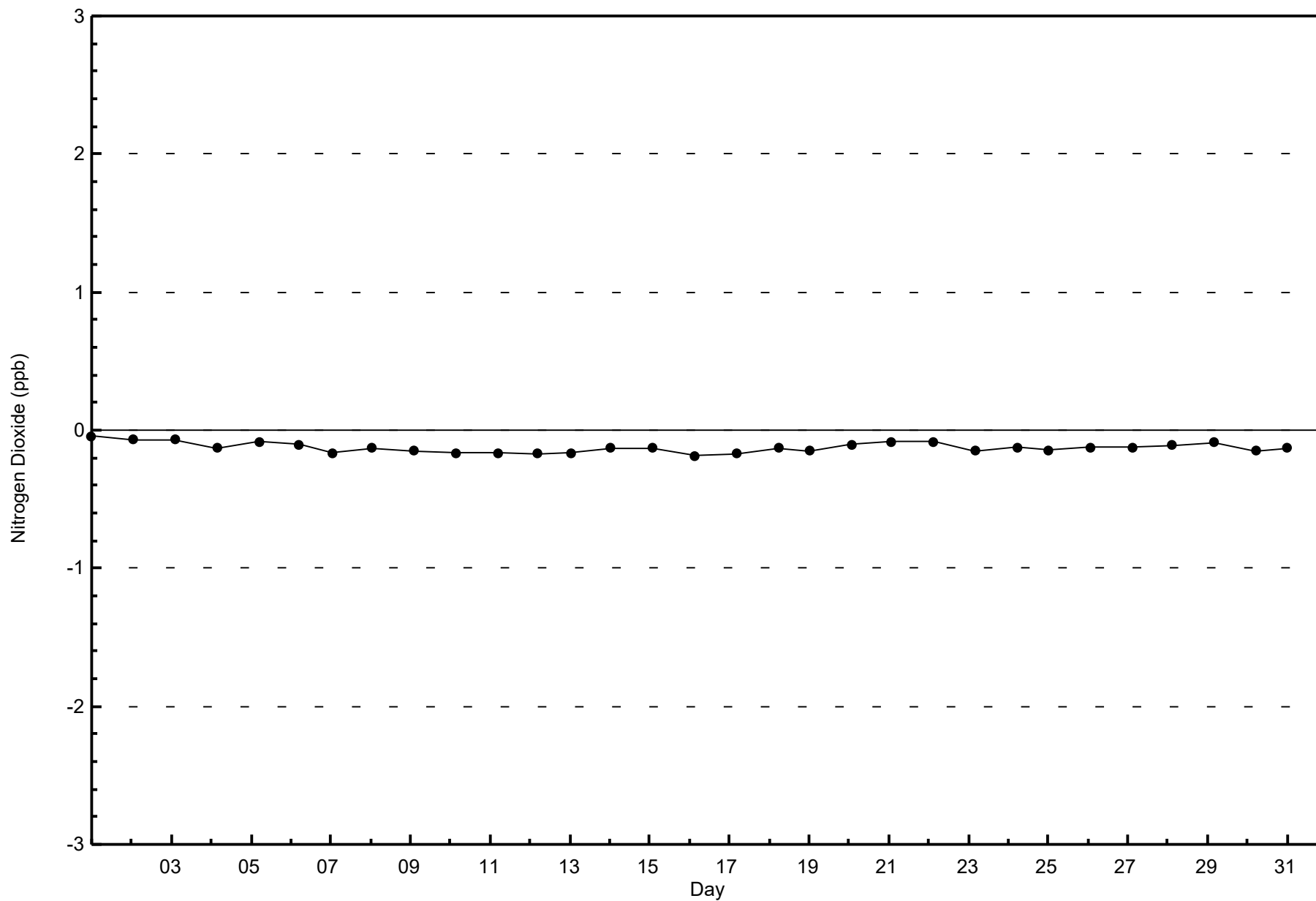
Nitrogen Dioxide (NO₂) - ppb
Mackay River





Wood Buffalo Environmental Association
Zero Responses

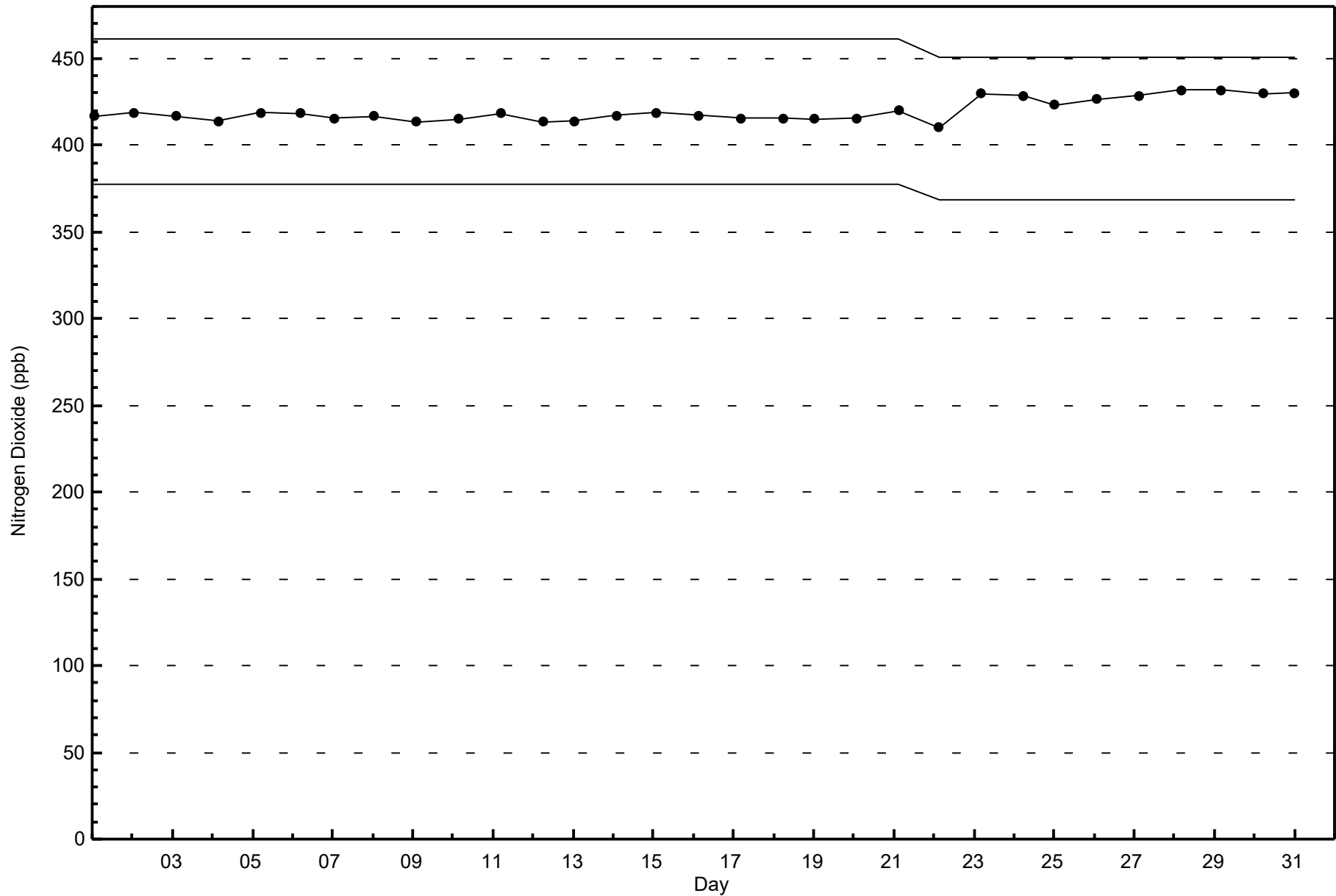
Nitrogen Dioxide (NO₂) - ppb
Mackay River - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitrogen Dioxide (NO₂) - ppb
Mackay River - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Oxides (NO_x) - ppb

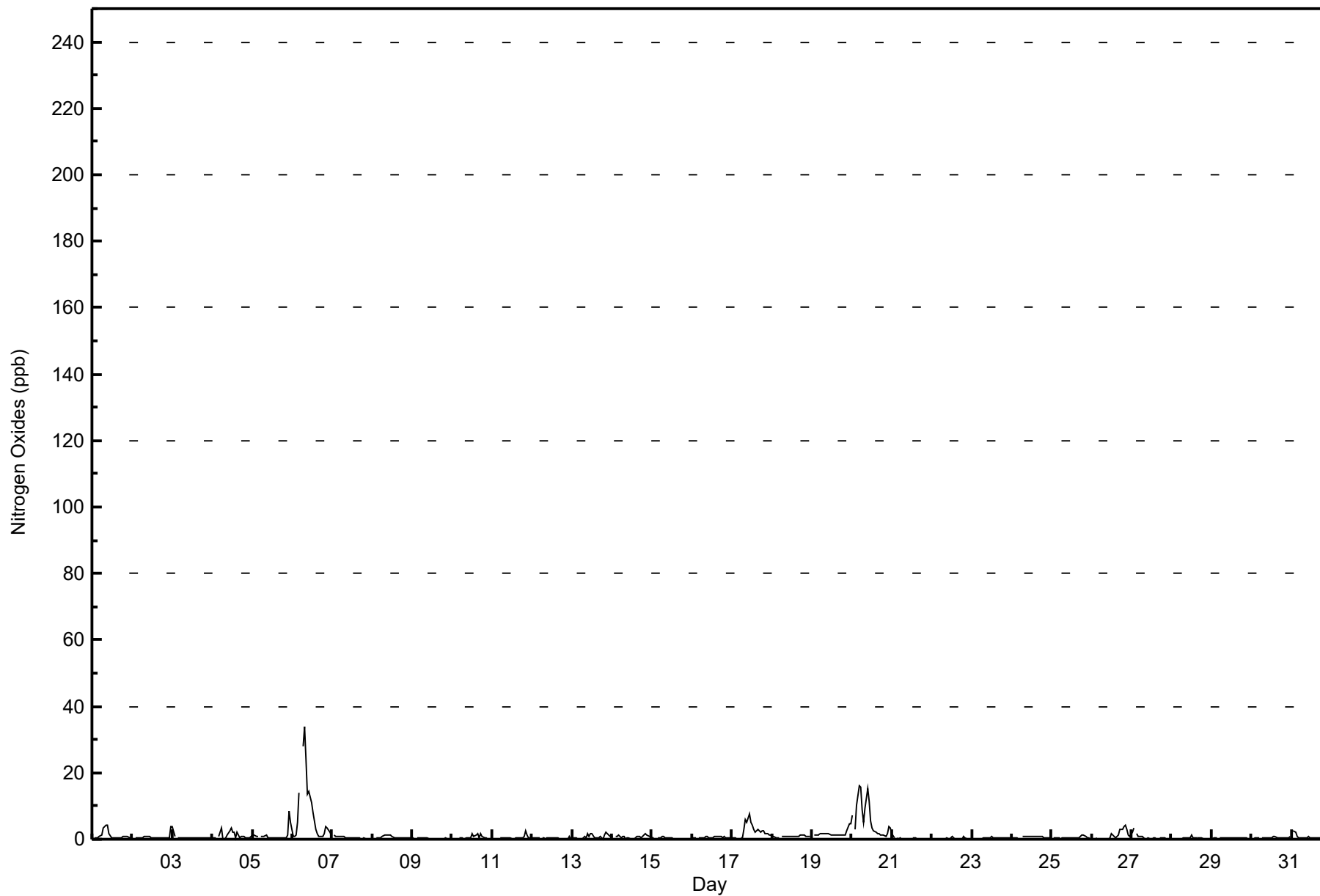
Mackay River - July 2025

Maximum Value: 34.0 ppb on Jul 6 08:00																				Maximum Daily Average: 7.8 ppb on Jul 6					Hours in Service: 744	
Minimum Value: 0.0 ppb on Jul 21 23:00																				Minimum Daily Average: 0.2 ppb on Jul 22					Hours of Data: 707	
Maximum Diurnal Average: 2.1 ppb at hour 8																				Minimum Diurnal Average: 0.6 ppb at hour 17					Hours of Missing Data: 37	
Monthly Average: 1.08 ppb																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.3 Median = 0.4 Q ₃ = 0.9 P ₉₀ = 1.9 P ₉₉ = 14.1					Hours of Calibration: 36	
																									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-Jul	Z	0.5	0.4	0.4	0.7	1.3	3.5	3.9	4.4	4.4	1.7	0.6	0.5	0.5	0.4	0.4	0.4	0.5	0.6	0.7	0.6	0.6	0.5	0.4	1.2	4.4
2-Jul	0.5	Z	0.4	0.4	0.4	0.4	0.6	0.7	0.7	0.7	0.4	0.3	0.3	0.3	0.2	0.2	0.3	0.4	0.6	0.5	0.4	0.6	3.8	0.6	3.8	
3-Jul	4.0	0.9	Z	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.4	0.3	0.3	0.2	0.2	0.3	0.4	0.5	4.0
4-Jul	0.4	0.4	0.4	Z	0.7	3.6	0.1	0.2	0.2	1.4	2.5	3.6	2.0	2.3	0.5	2.2	0.4	0.7	0.7	0.7	0.5	0.3	0.4	0.9	1.1	3.6
5-Jul	1.2	1.4	1.0	0.7	Z	1.0	0.8	1.0	1.3	0.6	0.5	0.4	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.4	0.4	1.2	8.6	5.1	1.2	8.6
6-Jul	1.0	0.9	1.5	5.0	14.1	Z	28.1	34.0	23.9	13.6	14.5	11.0	8.1	5.7	3.0	1.5	0.9	0.7	0.9	1.6	3.6	3.5	2.0	1.3	7.8	34.0
7-Jul	Z	1.1	0.8	0.7	0.8	0.8	0.9	0.7	0.5	0.5	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.5	1.1
8-Jul	0.2	Z	0.4	0.3	0.4	0.5	0.9	1.1	1.3	1.2	1.2	1.1	0.8	0.6	0.4	0.3	0.3	0.3	0.2	0.3	0.3	0.4	0.3	0.2	0.6	1.3
9-Jul	0.3	0.2	Z	0.4	0.3	0.3	0.3	0.4	0.3	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.5	0.1	0.1	0.1	0.2	0.5
10-Jul	0.1	0.1	0.1	Z	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.4	1.8	1.0	1.4	1.8	0.5	1.9	1.0	0.3	0.3	0.2	0.2	0.2	0.6	1.9
11-Jul	0.1	0.1	0.1	0.1	Z	0.4	0.4	0.5	0.5	0.4	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	1.0	2.4	1.1	0.3	0.3	0.4	2.4
12-Jul	0.3	0.3	0.3	0.3	0.3	Z	0.3	0.2	0.2	0.4	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	1.0	0.1	0.3	1.0
13-Jul	Z	0.5	0.4	0.2	0.1	0.1	0.1	0.7	0.5	1.5	0.8	1.7	1.7	0.4	0.6	0.3	0.5	1.1	0.1	1.3	2.3	1.5	1.1	0.8	0.8	2.3
14-Jul	0.8	Z	0.7	0.8	1.2	0.6	0.8	1.0	0.2	0.5	0.5	0.1	0.1	0.1	0.4	0.8	0.7	0.5	0.7	1.3	1.6	1.3	1.0	0.6	0.7	1.6
15-Jul	0.5	0.4	Z	0.3	0.3	0.3	0.7	0.7	0.5	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.3	0.7
16-Jul	0.3	0.4	0.3	Z	0.4	0.4	0.5	0.6	0.9	0.8	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.5	0.4	0.3	0.6	0.9
17-Jul	0.3	0.2	0.2	0.2	Z	0.3	0.4	2.9	6.1	5.3	7.7	4.9	4.2	2.8	2.2	3.0	2.6	2.1	2.6	2.4	1.9	1.7	1.4	1.1	2.5	7.7
18-Jul	0.8	0.7	0.6	0.5	0.4	Z	0.7	0.9	0.9	0.8	0.8	0.7	0.7	0.6	0.7	0.9	1.0	1.1	1.2	1.2	1.0	0.9	1.0	1.0	0.8	1.2
19-Jul	Z	1.1	1.3	1.3	1.5	1.6	1.9	1.9	1.8	1.7	1.6	1.3	1.4	1.5	1.4	1.3	1.3	1.4	1.5	1.4	1.2	2.7	4.7	4.5	1.8	4.7
20-Jul	7.2	Z	2.8	10.4	16.1	15.9	8.9	5.1	9.4	15.1	11.6	5.7	3.4	2.5	2.0	1.9	1.6	1.4	1.4	1.2	0.9	1.8	3.7	3.3	5.8	16.1
21-Jul	1.7	0.3	Z	0.5	0.2	0.4	0.2	C	C	C	C	C	0.3	0.6	0.2	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.3	1.7
22-Jul	0.0	0.1	0.0	Z	0.1	0.0	0.0	M	0.2	0.3	0.2	0.3	0.8	0.3	0.1	0.1	0.1	0.1	0.1	0.7	0.5	0.2	0.1	0.1	0.2	0.8
23-Jul	0.1	0.0	0.0	0.1	Z	0.2	0.2	0.3	0.4	0.4	0.4	0.3	1.0	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	1.0
24-Jul	0.3	0.4	0.3	0.3	0.2	Z	0.8	0.8	0.8	0.9	0.9	0.8	0.8	0.8	0.8	1.0	1.0	0.9	0.8	0.5	0.4	0.4	0.3	0.3	0.6	1.0
25-Jul	Z	0.4	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.6	0.9	1.4	1.3	0.9	0.4	0.3	0.2	0.5	1.4
26-Jul	0.1	Z	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.3	1.6	0.7	0.4	0.8	1.2	2.8	2.8	3.7	4.1	2.8	1.3	0.8	1.1	4.1	1.1
27-Jul	2.1	3.2	Z	1.6	0.9	0.9	0.7	0.3	0.2	0.1	0.2	0.1	0.1	0.3	0.6	0.1	0.1	0.2	0.3	0.4	0.3	0.2	0.2	0.3	0.6	3.2
28-Jul	0.2	0.1	0.1	Z	0.2	0.1	0.2	0.3	0.4	0.3	0.3	0.3	1.3	0.6	0.3	0.4	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.2	0.3	1.3
29-Jul	0.2	0.2	0.3	0.3	Z	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.4
30-Jul	0.2	0.2	0.2	0.3	0.4	Z	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.8	1.0	0.6	0.2	0.2	0.2	0.2	0.4	0.4	0.5	0.6	0.4	1.0
31-Jul	Z	2.6	2.3	0.8	0.4	0.3	0.4	0.5	0.5	0.6	0.7	0.6	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.6	2.6
Diurnal Average																										Diurnal Maximum
7.2 3.2 2.8 10.4 16.1 15.9 28.1 34.0 23.9 15.1 14.5 11.0 8.1 5.7 3.0 3.0 2.6 2.8 2.8 3.7 4.1 3.5 8.6 5.1																										
Z - zerospan C - Calibration M - Maintenance																										



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Mackay River - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Mackay River - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	704	99.58	99.58
21 - 40	3	0.42	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
Mackay River - July 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	27	30	8	12	42	79	65	72	49	51	87	48	32	30	48	702
21 - 40	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3
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	22	28	32	8	12	42	79	65	72	49	51	87	48	32	30	48	705

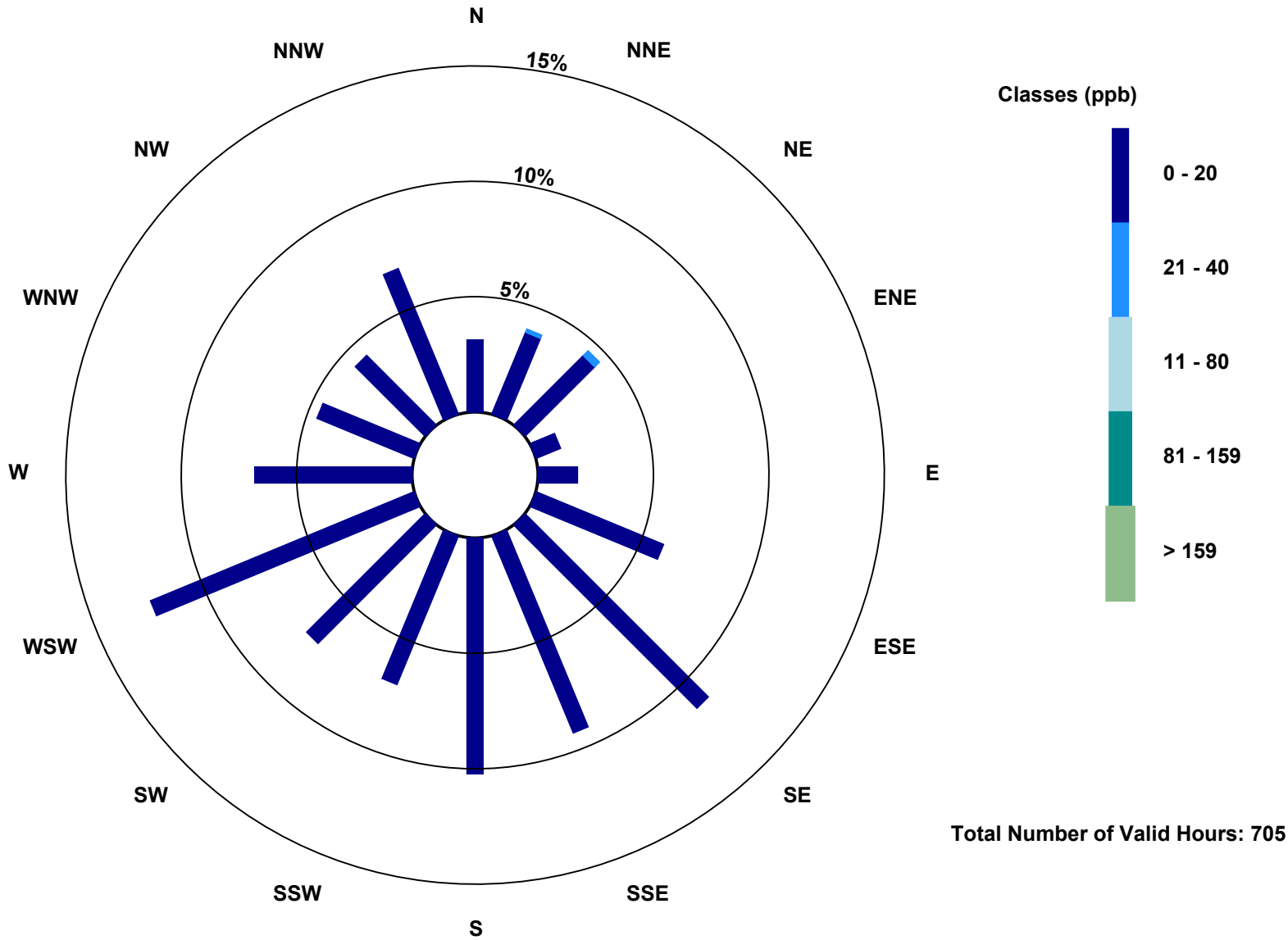
Total Number of Valid Hours: 705

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

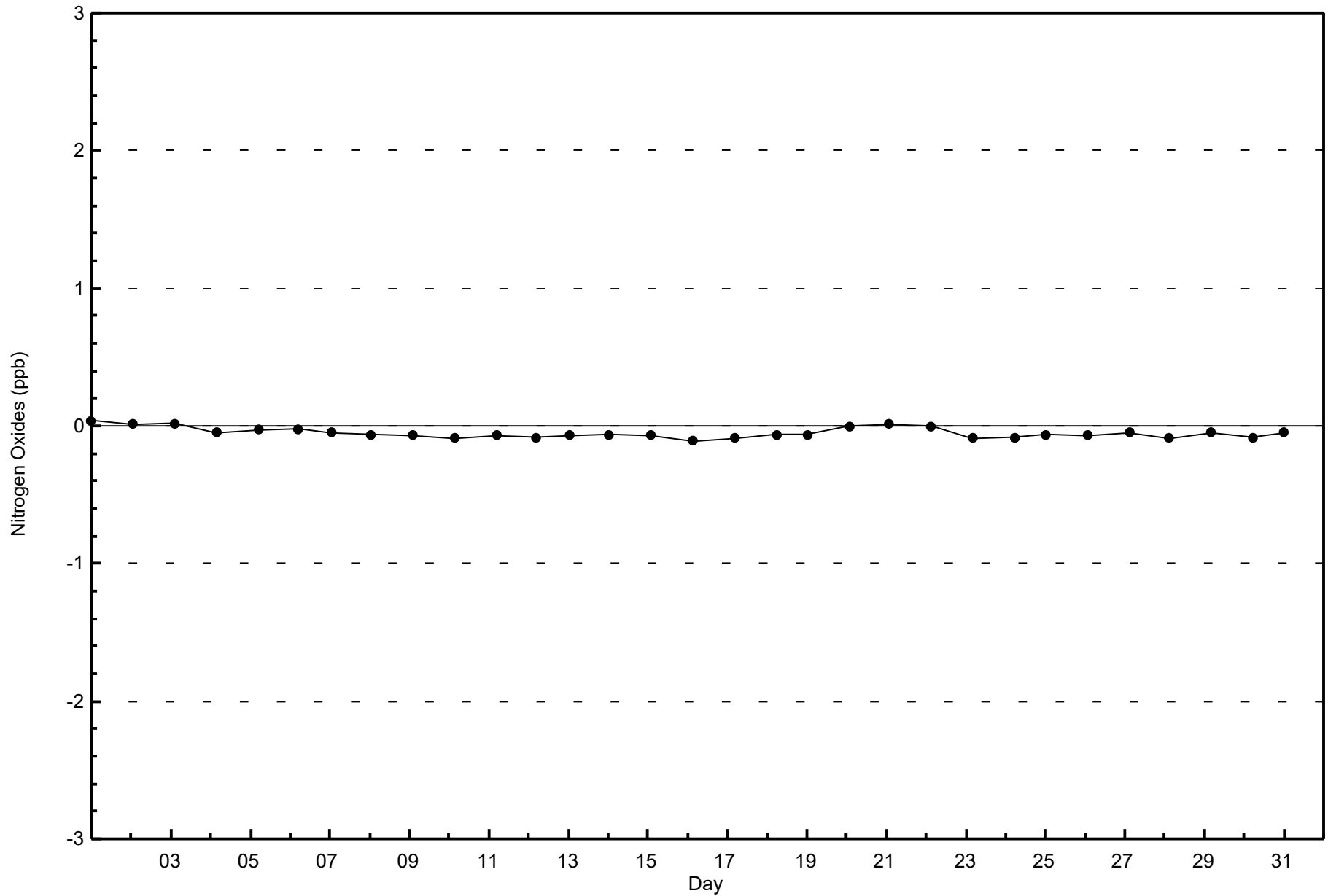
Nitrogen Oxides (NO_x) - ppb
Mackay River





Wood Buffalo Environmental Association
Zero Responses

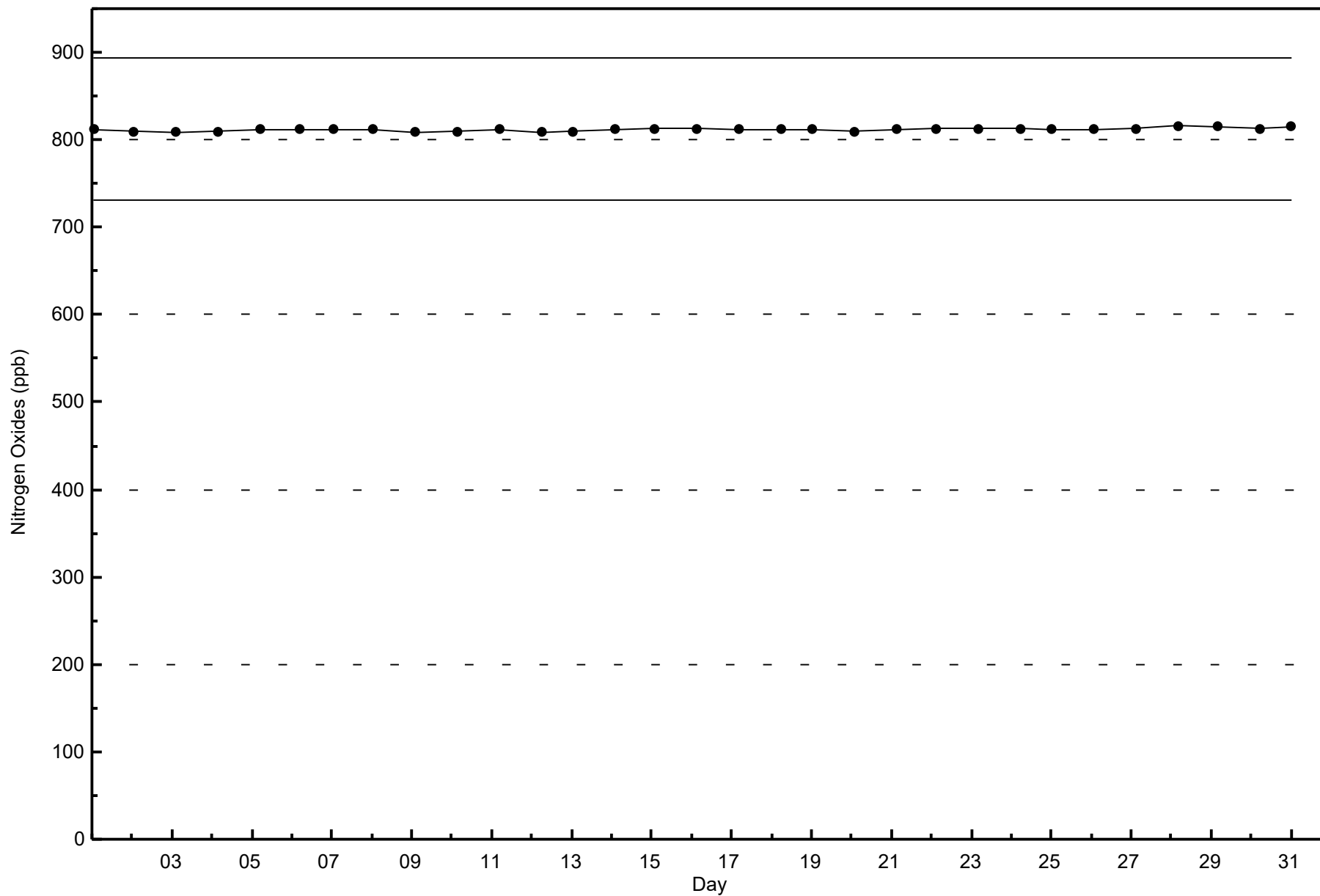
Nitrogen Oxides (NO_x) - ppb
Mackay River - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitrogen Oxides (NO_x) - ppb
Mackay River - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Ambient Temperature 2m (AT2) - C

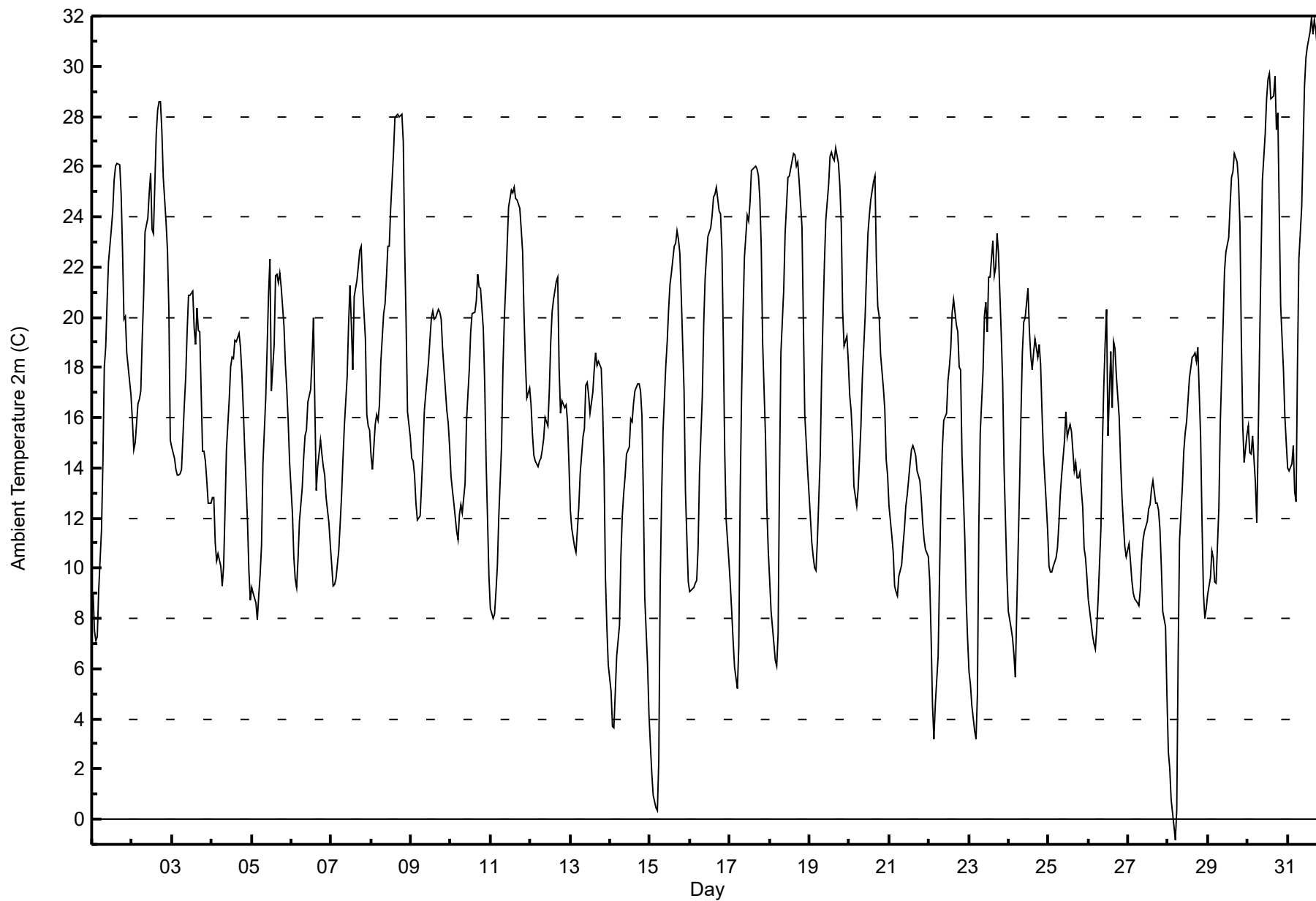
Mackay River - July 2025

Maximum Value: 32.0 C on Jul 31 15:00																			Maximum Daily Average: 23.4 C on Jul 31							Hours in Service: 744			
Minimum Value: -0.8 C on Jul 28 05:00																			Minimum Daily Average: 10.5 C on Jul 27							Hours of Data: 744			
Maximum Diurnal Average: 21.9 C at hour 17																			Minimum Diurnal Average: 9.3 C at hour 4							Hours of Missing Data: 0			
Monthly Average: 16.23 C																			Percentiles: P ₁ = 1.9 P ₁₀ = 8.8 Q ₁ = 11.8 Median = 15.9 Q ₃ = 20.3 P ₉₀ = 24.8 P ₉₉ = 30.1							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-Jul	9.0	7.5	7.1	7.3	9.1	11.5	14.2	18.0	18.8	20.6	22.2	23.5	24.2	25.5	26.0	26.1	26.1	24.9	22.6	19.9	20.0	18.5	17.5	16.9	18.2	26.1			
2-Jul	15.9	14.7	15.0	16.6	16.7	17.1	19.1	20.8	23.4	24.0	24.9	25.7	23.5	23.4	27.3	28.3	28.6	28.6	27.4	25.6	23.8	22.7	20.2	15.1	22.0	28.6			
3-Jul	14.9	14.4	13.9	13.7	13.7	13.7	13.9	16.5	17.6	19.4	20.9	20.9	21.0	19.6	18.9	20.4	19.5	19.4	14.7	14.6	14.3	13.5	12.6	12.6	16.4	21.0			
4-Jul	12.8	12.8	11.0	10.3	10.6	10.1	9.3	10.1	12.3	14.7	16.8	18.0	18.4	18.4	19.1	19.0	19.4	18.8	17.7	16.4	14.7	11.8	9.9	8.7	14.2	19.4			
5-Jul	9.2	9.0	8.6	8.0	8.9	9.7	10.9	14.1	16.8	18.8	20.9	22.3	17.1	18.9	21.6	21.7	21.4	21.8	21.2	19.6	18.1	17.1	15.9	14.2	16.1	22.3			
6-Jul	12.2	10.5	9.6	9.2	10.3	11.9	13.2	14.4	15.3	15.5	16.6	17.1	18.4	20.0	16.4	13.1	14.1	15.1	14.5	14.0	13.7	12.8	11.8	10.9	13.8	20.0			
7-Jul	10.1	9.3	9.3	9.6	10.7	11.8	12.9	14.3	15.7	17.6	19.7	21.3	19.7	17.9	20.8	21.5	22.0	22.7	22.8	21.2	19.2	16.1	15.7	15.5	16.6	22.8			
8-Jul	14.5	13.9	15.7	16.1	15.9	16.5	18.2	20.2	20.5	21.6	22.8	22.8	24.3	26.5	27.9	28.1	28.1	28.0	28.1	27.0	22.7	19.7	16.3	15.2	21.3	28.1			
9-Jul	14.4	14.3	13.7	12.6	11.9	12.1	13.3	14.7	16.3	17.0	18.2	19.1	20.0	20.3	19.9	20.0	20.3	20.2	19.9	18.7	17.9	16.3	15.8	14.8	16.7	20.3			
10-Jul	13.6	13.1	12.6	11.5	11.1	12.2	12.6	12.2	13.4	15.8	16.9	17.9	19.4	20.1	20.2	20.7	21.7	21.2	21.1	19.5	17.4	14.2	12.0	9.7	15.8	21.7			
11-Jul	8.4	8.0	8.2	9.1	10.1	12.0	14.9	18.0	20.0	21.3	22.9	24.4	25.1	25.0	25.2	24.7	24.7	24.3	23.5	22.6	20.1	18.2	16.8	17.2	18.5	25.2			
12-Jul	16.5	15.3	14.5	14.3	14.1	14.3	14.4	14.7	15.2	16.0	15.7	17.1	19.0	20.2	20.7	21.4	21.6	18.0	16.2	16.7	16.4	16.5	15.8	14.2	16.6	21.6			
13-Jul	12.3	11.6	10.8	10.6	11.5	12.4	13.8	15.2	15.6	17.3	17.4	16.9	16.1	17.0	17.9	18.6	18.0	18.2	18.0	16.4	14.0	9.6	7.6	6.2	14.3	18.6			
14-Jul	5.1	3.7	3.7	5.0	6.5	7.7	10.5	12.1	13.0	13.7	14.6	14.9	15.9	15.8	16.5	17.1	17.4	17.3	17.1	16.1	12.9	8.9	6.1	4.2	11.5	17.4			
15-Jul	3.0	1.9	0.9	0.4	0.4	2.4	9.3	12.8	15.4	18.0	19.0	20.3	21.3	21.8	22.8	22.9	23.4	23.1	22.6	20.9	17.0	13.0	11.2	9.5	13.9	23.4			
16-Jul	9.1	9.2	9.2	9.4	9.5	10.8	13.8	16.8	19.7	21.6	22.5	23.2	23.6	24.0	24.8	24.9	25.2	24.2	24.1	22.6	19.0	14.5	11.9	10.3	17.7	25.2			
17-Jul	9.3	8.2	7.1	6.0	5.2	6.9	13.0	17.0	20.0	22.4	24.1	23.8	24.5	25.9	25.9	26.0	25.9	25.6	24.7	22.7	19.0	15.3	12.4	10.7	17.6	26.0			
18-Jul	9.5	8.3	7.0	6.3	6.1	7.4	13.7	18.6	21.1	23.3	24.4	25.6	25.6	26.2	26.5	26.5	26.0	26.2	25.4	23.6	19.8	16.1	15.0	13.9	18.4	26.5			
19-Jul	12.1	11.0	10.5	10.0	9.9	11.1	14.4	17.6	20.0	22.1	23.9	25.3	26.4	26.6	26.3	26.2	26.8	26.1	25.3	23.7	20.2	18.8	19.3	18.2	19.7	26.8			
20-Jul	16.9	16.3	15.2	13.3	12.5	13.2	14.4	15.6	17.5	20.0	21.8	23.3	24.1	24.7	25.4	25.6	22.3	20.4	20.0	18.5	17.2	16.3	14.3	13.7	18.4	25.6			
21-Jul	12.5	11.3	10.7	9.3	9.1	8.9	9.7	10.1	10.9	11.6	12.5	12.9	14.1	14.7	14.9	14.7	14.5	13.9	13.5	12.7	11.8	11.1	10.7	10.4	11.9	14.9			
22-Jul	9.5	7.3	4.6	3.2	4.6	6.5	9.7	12.9	14.8	15.9	16.2	17.5	18.0	18.7	20.2	20.7	19.7	19.4	18.0	17.9	14.5	11.2	8.7	7.2	13.2	20.7			
23-Jul	5.9	5.4	4.5	3.5	3.2	5.0	11.7	15.4	17.9	20.1	20.6	19.4	21.6	21.6	23.0	21.6	22.0	23.3	22.6	19.2	17.4	13.9	11.9	9.7	15.0	23.3			
24-Jul	8.3	7.6	7.2	6.6	5.7	8.4	13.2	16.0	18.6	19.8	20.0	21.2	19.5	18.5	17.9	18.6	19.2	18.4	18.9	18.1	16.2	14.6	12.6	11.5	14.9	21.2			
25-Jul	10.1	9.9	9.9	10.1	10.4	10.8	11.8	12.9	13.7	15.1	16.2	15.2	15.5	15.7	15.5	13.9	14.2	13.6	13.6	13.8	12.4	10.8	10.4	9.6	12.7	16.2			
26-Jul	8.7	8.3	7.3	7.0	6.8	7.6	8.8	11.6	14.9	17.3	19.0	20.3	15.3	18.6	16.4	19.0	18.8	17.6	16.0	14.2	12.8	11.7	10.9	10.5	13.3	20.3			
27-Jul	11.0	10.3	9.5	9.0	8.8	8.6	8.5	9.1	10.4	11.1	11.5	11.9	12.4	12.6	13.1	13.5	12.6	12.6	12.3	11.6	10.1	8.3	7.7	4.9	10.5	13.5			
28-Jul	2.7	2.0	0.8	-0.3	-0.8	0.4	6.6	11.1	13.3	14.6	15.4	15.8	16.7	17.6	18.4	18.4	18.6	18.2	18.8	15.2	11.8	9.0	8.0	8.4	10.9	18.8			
29-Jul	8.9	9.6	10.7	10.4	9.5	9.4	12.4	15.8	17.8	19.7	21.8	22.6	23.2	24.5	25.6	25.8	26.5	26.2	25.4	23.7	19.1	15.7	14.2	15.3	18.1	26.5			
30-Jul	15.7	14.6	14.6	15.3	13.4	11.8	15.1	18.8	22.2	25.4	27.3	28.7	29.5	29.7	28.7	28.8	29.6	27.5	28.1	24.2	20.5	17.9	16.1	15.0	21.6	29.7			
31-Jul	14.0	13.9	14.2	14.9	13.1	12.7	18.1	22.3	24.4	26.8	29.2	30.3	30.7	31.4	32.0	31.3	31.9	31.4	30.8	28.6	23.7	20.3	18.3	18.4	23.4	32.0			
10.8 10.1 9.6 9.3 9.3 10.2 12.8 15.2 17.0 18.7 19.9 20.6 20.8 21.3 21.8 21.9 21.9 21.5 20.8 19.3 17.0 14.7 13.1 12.0																										Diurnal Average			
16.9 16.3 15.7 16.6 16.7 17.1 19.1 22.3 24.4 26.8 29.2 30.3 30.7 31.4 32.0 31.3 31.9 31.4 30.8 28.6 23.8 22.7 20.2 18.4																										Diurnal Maximum			



Wood Buffalo Environmental Association
Hourly Averages

Ambient Temperature 2m (AT2) - C
Mackay River - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ambient Temperature 2m (AT2) - C
Mackay River - July 2025

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	0	0.00	0.00
-20 - 0	2	0.27	0.27
0 - 10	120	16.13	16.40
10 - 20	420	56.45	72.85
> 20	202	27.15	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) - %

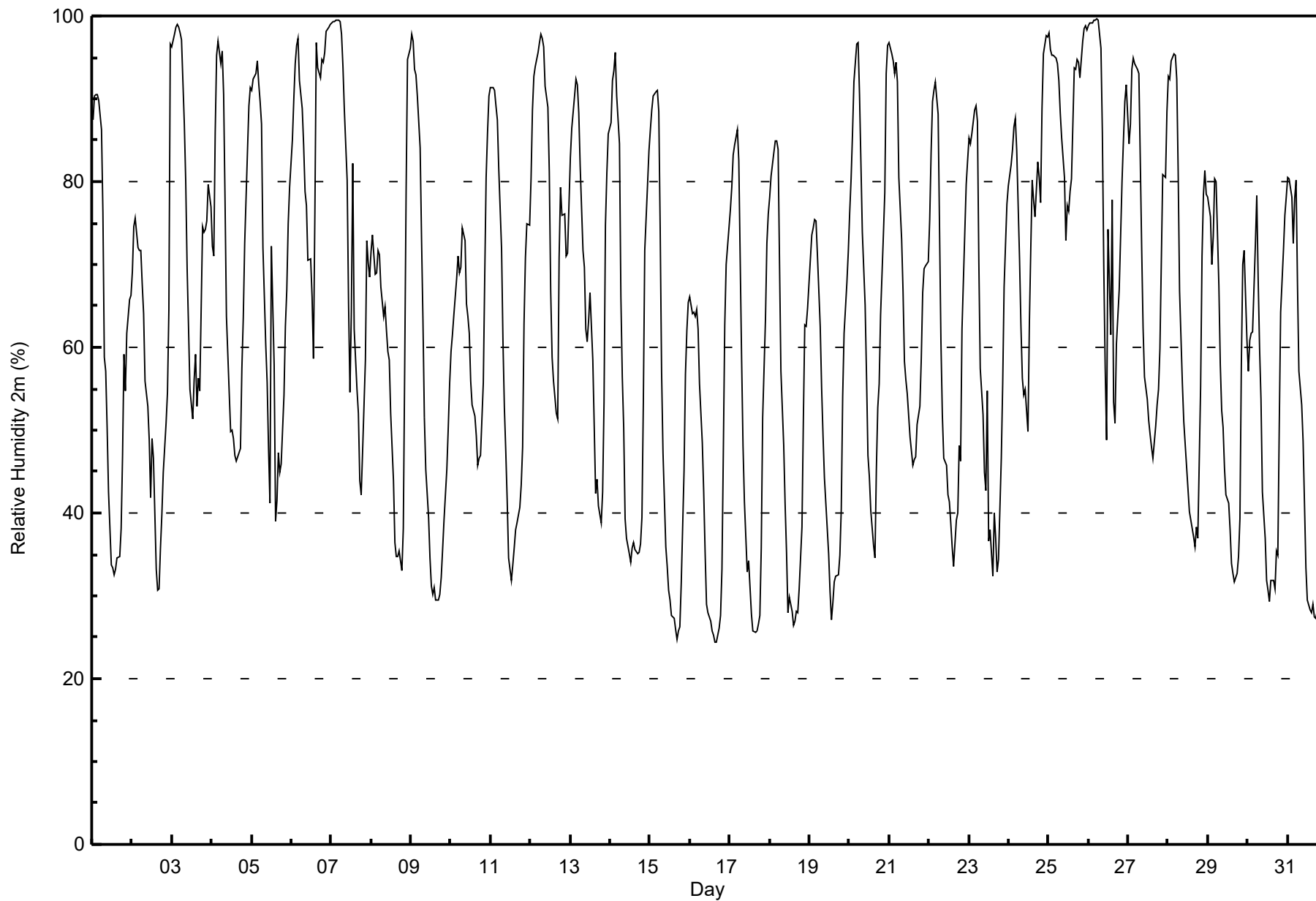
Mackay River - July 2025

Maximum Value: 99.6 % on Jul 26 06:00																				Maximum Daily Average: 90.3 % on Jul 25										Hours in Service: 744			
Minimum Value: 24.3 % on Jul 16 17:00																				Minimum Daily Average: 45.5 % on Jul 16										Hours of Data: 744			
Maximum Diurnal Average: 87.8 % at hour 5																				Minimum Diurnal Average: 42.9 % at hour 16										Hours of Missing Data: 0			
Monthly Average: 64.06 %																				Percentiles: P ₁ = 25.8 P ₁₀ = 33.4 Q ₁ = 46.2 Median = 64.3 Q ₃ = 82.6 P ₉₀ = 94.1 P ₉₉ = 99.3										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-Jul	87.5	90.3	90.5	90.5	89.8	86.3	76.2	58.8	57.1	50.3	42.5	33.8	33.4	32.6	33.3	34.6	34.7	38.2	47.0	59.1	54.7	61.7	65.8	66.3	59.0	90.5							
2-Jul	69.1	74.5	75.7	72.0	71.7	71.7	67.6	64.1	56.0	52.9	48.8	41.9	48.9	46.6	33.2	30.8	30.8	35.8	39.8	44.9	50.9	54.5	64.6	96.6	56.0	96.6							
3-Jul	96.2	97.7	98.7	98.9	98.7	98.0	97.2	87.0	80.0	69.5	62.4	55.0	51.4	56.1	59.1	52.9	56.2	54.7	74.6	73.8	74.2	75.3	79.6	77.0	76.0	98.9							
4-Jul	72.2	71.0	86.0	95.2	97.0	94.3	95.7	90.5	77.8	63.8	54.4	49.8	50.0	49.0	47.0	46.3	47.3	47.8	57.5	63.6	72.6	83.7	89.1	91.3	70.5	97.0							
5-Jul	91.0	92.4	93.1	94.6	91.9	89.7	87.0	72.0	60.3	55.8	47.8	41.1	72.3	57.8	39.0	41.5	47.3	44.9	45.9	54.2	62.5	66.9	74.8	79.3	66.8	94.6							
6-Jul	85.1	90.0	94.3	96.5	97.3	92.2	88.7	84.3	78.9	77.2	70.5	70.7	66.1	58.7	76.2	96.8	93.7	92.6	94.7	94.4	95.6	98.2	98.7	99.0	87.1	99.0							
7-Jul	99.2	99.3	99.4	99.5	99.5	99.3	97.9	94.0	88.6	80.1	65.3	54.6	64.4	82.3	62.2	54.9	52.0	43.8	42.1	47.4	58.5	72.8	70.2	68.5	74.8	99.5							
8-Jul	71.6	73.6	68.8	69.0	71.7	71.2	67.2	63.7	64.9	62.1	59.5	58.4	52.1	43.9	36.4	34.7	34.8	35.5	33.1	38.1	57.9	78.8	94.7	96.1	59.9	96.1							
9-Jul	97.8	96.9	93.6	92.8	90.4	84.1	73.1	63.3	51.5	45.3	39.4	34.7	31.2	30.2	31.0	29.6	29.4	30.2	32.1	35.6	39.2	45.3	50.2	55.7	54.3	97.8							
10-Jul	59.4	61.5	64.0	68.4	70.9	68.9	69.7	74.5	72.8	65.3	63.7	61.7	56.0	53.1	51.8	49.4	45.8	46.7	47.0	55.8	68.5	80.4	85.9	90.3	63.8	90.3							
11-Jul	91.3	91.4	91.0	89.1	87.5	81.5	71.8	60.7	52.7	47.4	41.5	34.5	31.9	33.8	35.8	38.0	38.8	40.7	43.4	48.0	62.9	70.9	75.0	74.7	59.8	91.4							
12-Jul	80.3	88.7	92.7	94.0	95.6	96.7	97.8	97.3	96.3	91.5	89.0	81.1	66.8	58.9	55.9	52.0	51.3	70.9	79.3	76.0	76.1	71.0	71.4	77.2	79.5	97.8							
13-Jul	82.9	86.5	90.3	92.4	91.7	88.2	81.9	71.8	69.6	62.3	60.8	63.2	66.6	58.4	50.4	42.5	44.1	40.8	38.8	42.5	53.5	74.8	81.0	85.8	67.5	92.4							
14-Jul	87.2	92.2	93.4	95.6	90.3	84.5	66.0	56.5	50.3	39.3	36.9	35.1	34.1	35.8	36.4	35.7	35.0	35.3	36.3	39.4	53.4	71.6	79.6	83.7	58.5	95.6							
15-Jul	86.3	88.6	90.4	90.8	91.0	88.5	74.3	56.9	47.2	35.9	33.5	30.7	29.5	27.6	27.3	26.0	24.8	25.7	26.3	31.4	45.1	56.7	62.1	65.5	52.6	91.0							
16-Jul	66.1	64.1	64.2	63.8	64.7	62.2	55.6	48.5	42.6	35.2	29.0	27.9	27.0	25.8	25.3	24.4	24.3	26.1	27.6	33.3	47.7	62.6	69.9	74.5	45.5	74.5							
17-Jul	76.7	79.3	83.2	84.3	86.3	82.6	70.5	58.6	48.1	41.3	32.9	34.3	31.0	27.8	25.8	25.6	25.8	26.7	27.7	35.8	51.5	63.3	72.5	76.0	52.8	86.3							
18-Jul	78.2	80.7	83.6	84.9	85.0	83.9	70.3	57.1	48.2	41.0	35.2	28.0	29.8	28.2	26.5	27.0	28.1	28.0	30.8	38.3	51.3	62.7	62.5	64.7	52.3	85.0							
19-Jul	70.6	73.5	74.3	75.5	75.2	71.2	62.6	55.1	49.4	44.3	41.1	35.1	30.4	27.1	29.1	31.7	32.4	32.6	35.0	40.5	54.0	61.7	67.9	71.6	51.7	75.5							
20-Jul	76.3	80.3	85.8	92.0	96.6	96.8	90.5	82.2	74.0	65.0	56.5	47.0	44.4	40.4	36.1	34.6	45.3	52.7	55.5	63.9	73.5	78.6	93.1	96.5	69.1	96.8							
21-Jul	96.7	95.5	94.5	93.0	94.3	92.1	80.5	73.1	66.8	58.2	56.1	54.4	49.2	47.4	45.8	46.4	46.7	50.8	52.8	58.6	66.7	69.4	69.8	70.4	67.9	96.7							
22-Jul	75.3	83.6	89.7	91.0	92.0	88.1	74.4	60.7	51.9	46.6	45.8	42.2	41.3	38.8	36.0	33.5	39.1	39.9	48.1	46.3	62.1	73.9	79.7	82.5	60.9	92.0							
23-Jul	85.2	84.6	85.8	88.7	89.1	87.2	70.3	57.5	51.8	45.0	42.7	54.7	36.5	38.0	32.4	40.0	36.9	32.9	34.4	46.5	55.6	67.2	72.4	77.3	58.9	89.1							
24-Jul	79.5	82.1	84.0	86.7	87.6	83.8	70.7	62.6	56.3	54.3	54.9	49.9	62.9	71.8	80.2	77.7	75.8	82.3	80.5	77.4	88.8	95.5	97.7	97.5	76.7	97.7							
25-Jul	98.0	96.0	95.3	95.2	94.9	94.2	92.3	88.3	85.2	80.5	72.9	77.1	76.5	78.9	80.3	93.8	93.6	94.8	94.3	92.6	96.9	98.4	98.7	98.4	90.3	98.7							
26-Jul	98.9	99.1	99.2	99.4	99.5	99.6	99.5	96.0	86.0	69.8	57.6	48.9	74.3	61.5	77.9	53.4	50.8	60.4	67.0	73.3	80.0	84.9	89.7	91.7	79.9	99.6							
27-Jul	84.5	87.0	93.6	94.9	94.3	93.6	93.1	82.7	72.0	62.4	56.5	53.7	51.2	49.5	48.0	46.5	50.5	53.0	55.0	59.8	70.3	80.8	80.5	88.4	70.9	94.9							
28-Jul	92.7	92.5	94.6	95.4	95.3	92.4	81.2	66.7	55.5	51.0	48.3	45.6	42.8	40.2	38.2	37.1	35.9	38.3	36.9	55.2	71.0	78.5	81.3	78.5	64.4	95.4							
29-Jul	78.1	75.8	70.0	73.3	80.4	80.0	67.5	57.9	52.5	50.3	45.4	42.2	41.2	38.0	33.8	32.8	31.7	32.6	34.8	39.3	57.9	70.0	71.6	60.9	54.9	80.4							
30-Jul	57.2	60.9	61.6	61.8	72.3	78.3	68.1	59.8	53.8	42.6	36.9	31.9	30.7	29.3	31.9	31.9	30.8	35.4	35.0	50.3	64.3	71.7	76.0	78.1	52.1	78.3							
31-Jul	80.5	80.4	78.1	72.5	78.0	80.2	67.6	57.1	53.0	48.7	41.0	33.4	29.5	28.3	28.0	29.0	27.5	27.3	28.2	33.9	49.3	59.6	63.6	58.4	51.4	80.5							
82.3 84.2 85.8 86.8 87.8 85.8 78.3 69.7 62.9 56.0 50.6 46.9 46.9 45.0 43.6 42.9 43.3 45.1 47.8 53.2 63.4 72.3 77.1 79.7																										Diurnal Average							
99.2 99.3 99.4 99.5 99.5 99.6 99.5 97.3 96.3 91.5 89.0 81.1 76.5 82.3 80.3 96.8 93.7 94.8 94.7 94.4 96.9 98.4 98.7 99.0																										Diurnal Maximum							



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 2m (RH2) - %
Mackay River - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Relative Humidity 2m (RH2) - %
Mackay River - July 2025

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	142	19.09	19.09
40 - 60	186	25.00	44.09
60 - 80	201	27.02	71.10
80 - 100	215	28.90	100.00

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association

Summary of Hour Averages

Precipitation (PC) - mm

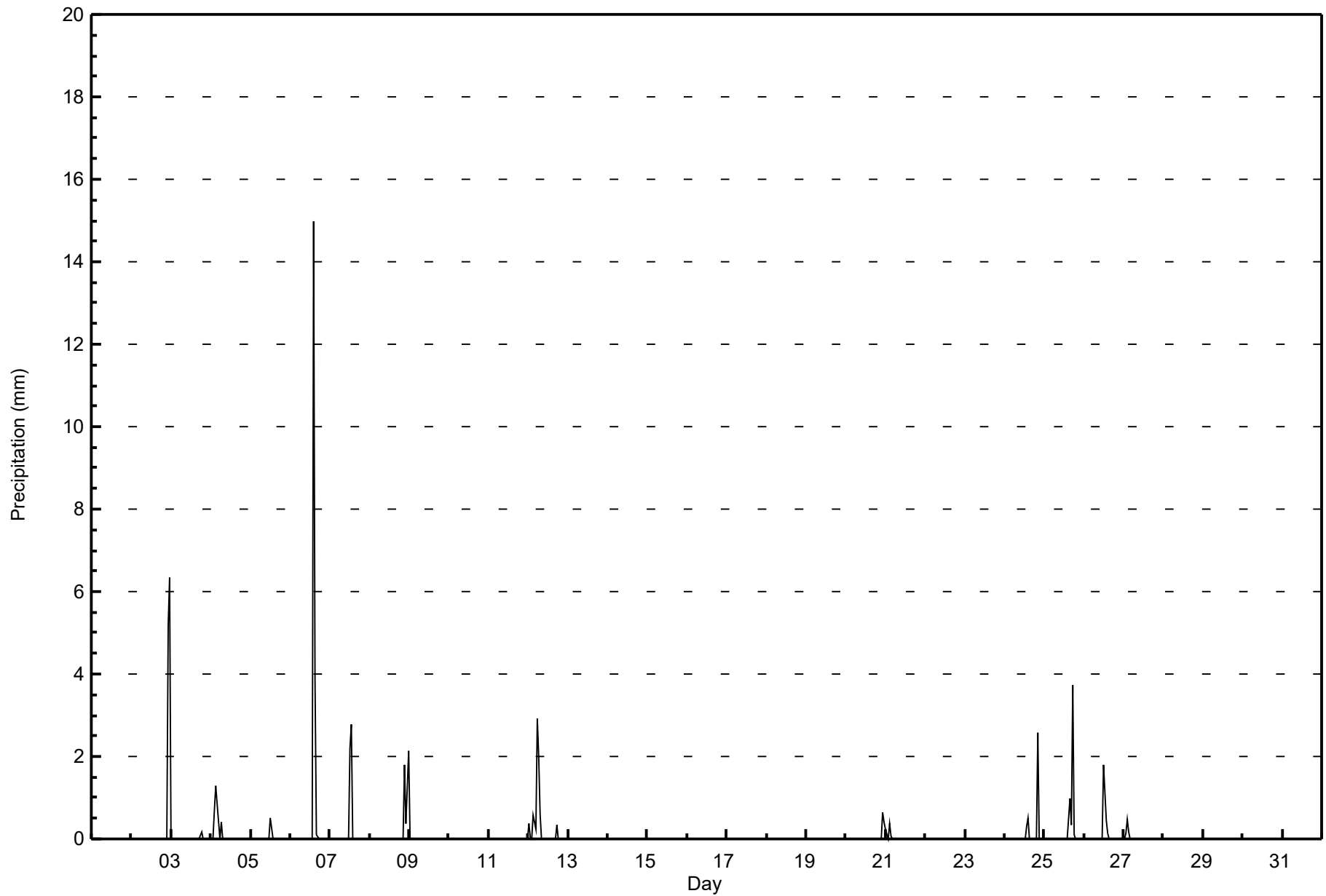
Mackay River - July 2025

Maximum Value: 15.0 mm on Jul 6 15:00																		Maximum Daily Total: 19.0 mm on Jul 6																		Hours in Service: 744	
Minimum Value: 0.0 mm on Jul 1 01:00																		Minimum Daily Total: 0.0 mm on Jul 1																		Hours of Data: 744	
Maximum Diurnal Total: 15.6 mm at hour 15																		Minimum Diurnal Total: 0.0 mm at hour 9																		Hours of Missing Data: 0	
Monthly Total: 64.21 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 = 2.4																		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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2	6.3	11.5	6.3											
3-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.2	0.2											
4-Jul	0.0	0.0	0.7	1.3	0.9	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	0.0	0.0	0.0	0.0	0.0	0.0	3.3	1.3											
5-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5											
6-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	3.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.0	15.0											
7-Jul	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	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	2.8											
8-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.4	2.1	4.3	2.1											
9-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.4	0.0	0.0	0.6	0.2	2.9	2.0	0.6	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	7.0	2.9											
13-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.4	1.1	0.6											
21-Jul	0.2	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.4											
22-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	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	0.0	0.0	0.0	0.0	2.6	0.0	0.0	0.0	3.4	2.6											
25-Jul	0.0	0.0	0.0	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	0.3	3.7	0.1	0.0	0.0	0.0	0.0	0.0	5.2	3.7											
26-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	1.8											
27-Jul	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.5											
28-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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																																					



Wood Buffalo Environmental Association
Hourly Averages

Precipitation (PC) - mm
Mackay River - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Precipitation (PC) - mm
Mackay River - July 2025

Concentration Ranges (mm)	Number of Hours	%	Cumulative %
0 - 0.3	715	96.10	96.10
0.4 - 0.5	9	1.21	97.31
0.6 - 0.7	4	0.54	97.85
0.8 - 1.4	3	0.40	98.25
1.5 - 10	12	1.61	99.87
> 10	1	0.13	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

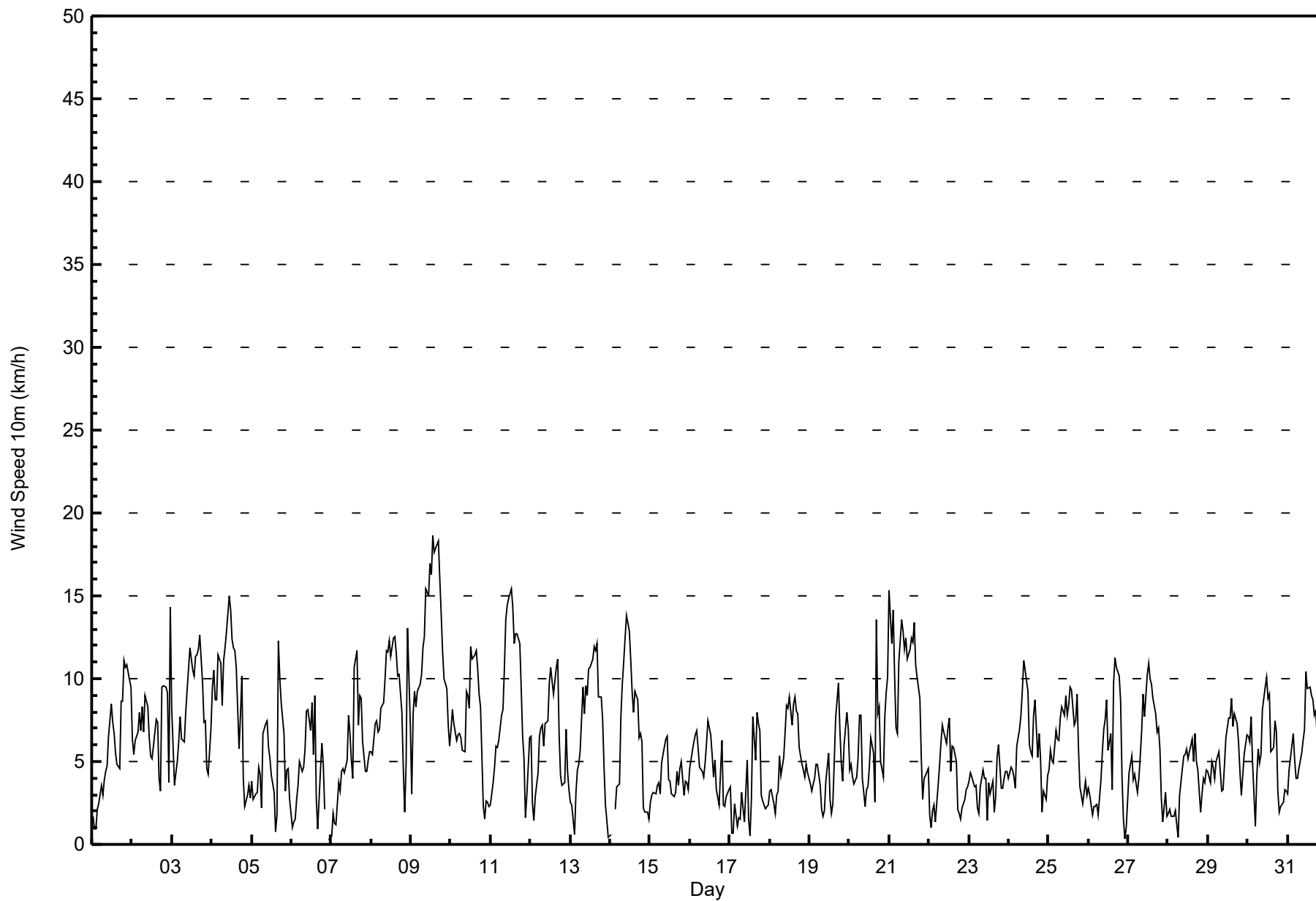
Mackay River - July 2025

Maximum Speed: 19 km/h on Jul 9 14:00										Maximum Daily Speed Average: 11.6 km/h on Jul 9										Hours in Service: 744						
Minimum Speed Value: 0 km/h on Jul 6 23:00										Minimum Daily Speed Average: 0.9 km/h on Jul 28										Hours of Data: 741						
Maximum Diurnal Speed Average: 4.0 km/h at hour 11										Minimum Diurnal Speed Average: 0.4 km/h at hour 19										Hours of Missing Data: 3						
Monthly Average Velocity: 1.7 km/h 237.3 deg										Percentiles: P ₁ = 1 P ₁₀ = 2 Q ₁ = 4 Median = 6 Q ₃ = 8 P ₉₀ = 11 P ₉₉ = 15										Percent Operational Time: 99.6						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
1-Jul	SE2	ESE1	ESE1	ESE2	ESE2	ESE4	ESE3	ENE4	E4	ESE5	SE7	SE8	ESE7	ESE7	S6	S5	SSE5	ESE9	NE9	E11	ESE11	SE11	SE10	SE10	ESE5.2	E11
2-Jul	SE6	SSE5	S6	S7	S8	S7	SSW8	SSW7	SSW9	W8	W6	WSW5	S5	S6	WNW8	SW7	SSW4	SSE3	ESE10	ESE10	ESE10	ESE9	WSW4	WNW14	S3.8	WNW14
3-Jul	NW8	NW4	SW4	WSW5	WSW6	W8	WSW6	WSW6	WSW8	WSW9	WSW11	WSW12	WSW11	SW10	SW11	SW11	SW12	WSW13	W10	WSW7	WSW7	WNW5	WSW4	WSW7	WSW7.5	WSW13
4-Jul	WSW9	WSW10	WSW9	W9	WNW11	WNW11	WNW8	WNW11	WNW12	WNW13	NW15	NW14	NW12	WNW12	WNW12	WNW11	W6	NW8	NNE10	NNE4	SE2	SE3	SE4	SSE3	WNW7.2	NW15
5-Jul	SSW4	SE3	SSE3	SE3	SE5	SE4	ESE2	NE7	ESE7	SSE7	S6	WSW5	SW4	ESE3	SSW1	NE2	NNE12	E10	ESE9	ESE7	NE3	NE5	ENE5	ENE3	ESE2.8	NNE12
6-Jul	NE1	E1	NNW1	NNE3	NE4	NE5	NE4	NE5	NNE6	N8	NNE8	N7	N9	NNE5	SE9	SSW3	ESE1	NNW4	NE6	ENE5	NE2	UO	SSW0	NE0	NNE3.2	SE9
7-Jul	SE1	SE2	SE1	SE1	SSE4	S3	SSE4	SSE5	S4	S5	SSW8	SSW7	SW5	SE4	SSE11	S12	SSW7	SW9	SW9	SW6	S4	SSE4	S5	S6	S4.7	S12
8-Jul	SSE6	SSE5	S7	S7	S7	S8	S9	S10	S12	S12	S12	S11	SSW12	SSW13	SSW12	SW10	SSW10	SW8	S5	SE2	W5	WNW13	WNW7	SSW7.5	WNW13	
9-Jul	SSW3	SSW8	SW9	SSW8	SW9	SW10	SW10	SW12	WSW13	WSW15	WSW15	SW17	WSW16	WSW19	SW18	WSW18	WSW18	WSW16	WSW14	WSW12	WNW10	WNW9	W7	W6	WSW11.6	WSW19
10-Jul	WSW7	WSW8	WSW7	WSW6	WSW7	WSW7	WSW6	WSW6	WSW6	W9	W9	W8	WNW12	WNW11	NW11	NW12	NW11	WNW9	NW8	NNW2	SE2	SSE3	SSE3	SE2	W5.7	WNW12
11-Jul	SSE2	S4	SSW5	S6	S6	S6	SSW8	S8	SSW11	SSW14	SW14	SW15	SW15	SW14	SW12	SW13	WSW13	WSW12	SW9	W7	NW5	SW2	S3	SW6	SW7.9	SW15
12-Jul	WSW7	WSW2	SSW1	WSW3	SW4	WSW7	W7	W7	W6	WNW7	W7	WNW10	W11	W10	W9	W11	W11	W7	WSW4	SW4	WSW4	WNW7	W4	WSW3	W6.1	W11
13-Jul	NW3	NW2	SSE1	WSW3	WSW4	W5	W6	NNW9	NNW8	NW10	NW9	N11	N11	NNW11	NNW12	NNW12	NW12	NNW9	NNE9	NE8	NE5	NE2	E1	ENE0	NNW5.4	NW12
14-Jul	S1	UO	UO	NW2	NNW3	NNW4	N8	NNE10	NNW11	NNW12	NNW14	NNW13	NNW11	N9	NNE8	NE9	NNE9	N6	NNE7	NE6	E2	SE2	SE2	SSE2	N5.7	NNW14
15-Jul	SSE3	SSE3	SE3	SE3	SE4	SE4	SSW3	WSW5	SW5	WSW6	W7	W4	WSW4	W3	WSW3	W3	SW4	S4	S5	SSE5	SE3	SE4	SE4	SSE3	SSW2.4	W7
16-Jul	SSE5	S6	S6	S7	S7	S6	SSW5	SSW4	SW4	SSW5	S6	SSE7	SSE7	ESE5	SSW4	SSE5	ESE3	SE2	SE4	ESE6	ESE2	SE2	SE3	SSE3	SSE4.2	SSE7
17-Jul	SE3	S1	SE1	SSE2	SE1	SSE2	WSW1	WSW3	NNW2	NNW1	N5	E2	WNW1	NE3	NNW8	NE5	NNE8	NNE7	NE7	ENE3	SE3	SSE2	SE2	SSE2	NE1.3	NNE8
18-Jul	SE3	SE3	SE2	SE2	SSE3	SE3	S5	SSE4	SSE5	SSE7	SSE8	S8	SSE9	SSE7	SSE9	S9	SSE8	SE8	SE6	ESE5	ESE5	ESE4	ESE5	SE4	SSE5.3	S9
19-Jul	SE4	SSE3	SSE4	SSE4	SSE5	SSE5	SSE4	SSE2	SE2	ESE2	SE4	E6	NW3	NE2	NE2	NE5	E8	ESE10	SE7	ESE5	SE4	NE6	NE8	NE7	ESE3.2	ESE10
20-Jul	NE5	NE5	NNE4	NNE4	NNE4	NNE5	NNE8	NNE8	NE4	SE2	SE3	ESE3	SE5	SSE6	SSE5	SE3	NNW14	NNW8	WNW8	NNW5	NNW4	N8	N9	N10	NNE3.4	NNW14
21-Jul	N15	N12	NNE14	N10	NNW7	NNW7	NNW11	NNW14	NNW13	NNW12	NNW12	NW11	NNW12	NW12	NNW12	NNW13	NNW11	N10	NNW9	NNW5	NNW3	NW4	NW4	NNW5	NNW9.5	N15
22-Jul	NNW2	S1	SSE2	SSE2	WSW1	WSW4	WSW5	WSW6	WSW7	W7	WNW6	WNW7	WNW8	WNW4	W6	WNW6	WSW5	WSW2	SW2	SE2	SE2	SE3	SE3	SE3	WSW2.6	WNW8
23-Jul	SE4	SE4	SE4	SE3	SSE4	SSE2	WSW2	WSW3	SSW5	WSW4	WSW4	S1	NE4	SW3	WSW4	WSW2	SSE3	SW5	SSW6	SSW3	SSW3	SSW4	S4	SSE4	SSW2.6	SSW6
24-Jul	SSE4	SSE5	SSE4	SSE4	SE3	ESE6	SE7	SE8	SE9	SE11	ESE11	SE9	SSE6	ESE6	ESE5	ESE8	ESE9	SE5	SSE7	SE5	SW2	W3	SW3	SW4	SE5.3	SE11
25-Jul	SSW5	SSW6	SW5	WSW5	SW7	SW6	SW6	WSW8	WSW8	WSW8	WSW9	W8	W8	W9	W9	NNW7	NNW7	N9	N6	N3	W2	WSW3	W4	W3	W4.4	W9
26-Jul	W3	W3	W2	W2	WSW2	W2	SSW2	SW4	WSW6	SW7	WSW8	W9	NNW6	NNE7	NW3	NW10	N11	NE11	NE10	NE9	ENE4	ESE2	E0	NNE1	NW2.2	N11
27-Jul	NNE4	NNE5	N5	NNE4	N4	NE3	NNE4	NNE5	NNW7	NNW9	NW8	NNW10	NNW11	NNW10	NW10	NNW9	NNW8	NNW7	NW7	NW6	NW3	NW1	NW3	SSE2	NNW5.5	NNW11
28-Jul	SSE2	SE2	S2	SSW2	SE2	SSE1	W0	SW3	WSW5	WSW5	WSW5	W6	W5	NW6	WNW6	NNW5	N7	NNW5	NNE4	E2	SE3	SE4	SE4	SE5	W0.9	N7
29-Jul	SE4	SE4	SE5	SE5	SE4	SSE5	S6	SSW4	WSW3	SW3	SW5	SSW6	SW8	WSW8	SW9	WSW7	WSW8	WSW7	SW6	SSW4	SSE3	SSE4	S5	S7	SSW4.3	SW9
30-Jul	S7	S6	S8	S5	E1	SE4	S6	SSW5	SSW5	SW8	WSW9	W10	W9	W9	WNW6	WNW6	WSW7	SSW7	S3	SE2	ESE2	SE3	SE3	SE3	SW3.8	WSW10
31-Jul	SSE3	SSE5	S6	S7	S5	S4	SSW4	SSW5	SSW5	SSW6	SSW7	SSW10	S9	S9	SSW9	S9	SSW8	S8	S7	S4	S3	S4	S5	S5	S5.9	SSW10
S1.2 S1.7 S2.0SSW2.0SSW2.0SSW1.9 SW2.2WSW2.2WSW2.8WSW3.8WSW4.0WSW3.7 W3.3 W2.9WSW3.8 W2.9WNW2.8 W1.5NNW0.4 ESE1.1 SE1.0 SSE0.9 S1.0SSW1.2																								Diurnal Average		
N15 N12 NNE14 N10WNW11WNW11NNW11 NNW14 NNW13 WSW15 NW15 SW17WSW16WSW19 SW18WSW18WSW18WSW16WSW14WSW12 ESE11 SE11WNW13WNW14																								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
Mackay River - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 10m (WS10) - km/h
Mackay River - July 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	367	49.53	49.53
6 - 11	312	42.11	91.63
12 - 19	62	8.37	100.00
20 - 28	0	0.00	100.00
29 - 38	0	0.00	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
Mackay River - July 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	14	21	8	8	25	72	57	29	27	20	35	17	3	12	15	367
6 - 11	17	13	13	0	4	18	15	14	41	20	23	41	33	22	14	24	312
12 - 19	2	2	0	0	0	0	0	0	4	4	10	14	0	7	6	13	62
20 - 28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	23	29	34	8	12	43	87	71	74	51	53	90	50	32	32	52	741

Total Number of Valid Hours: 741

Total Number of Hours: 744



Wind Speed 10m (WS10) - km/h

Mackay River





Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

Wind Speed 10m (WS10) - km/h
Mackay River - July 2025

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



Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Direction 10m (WD10) - deg

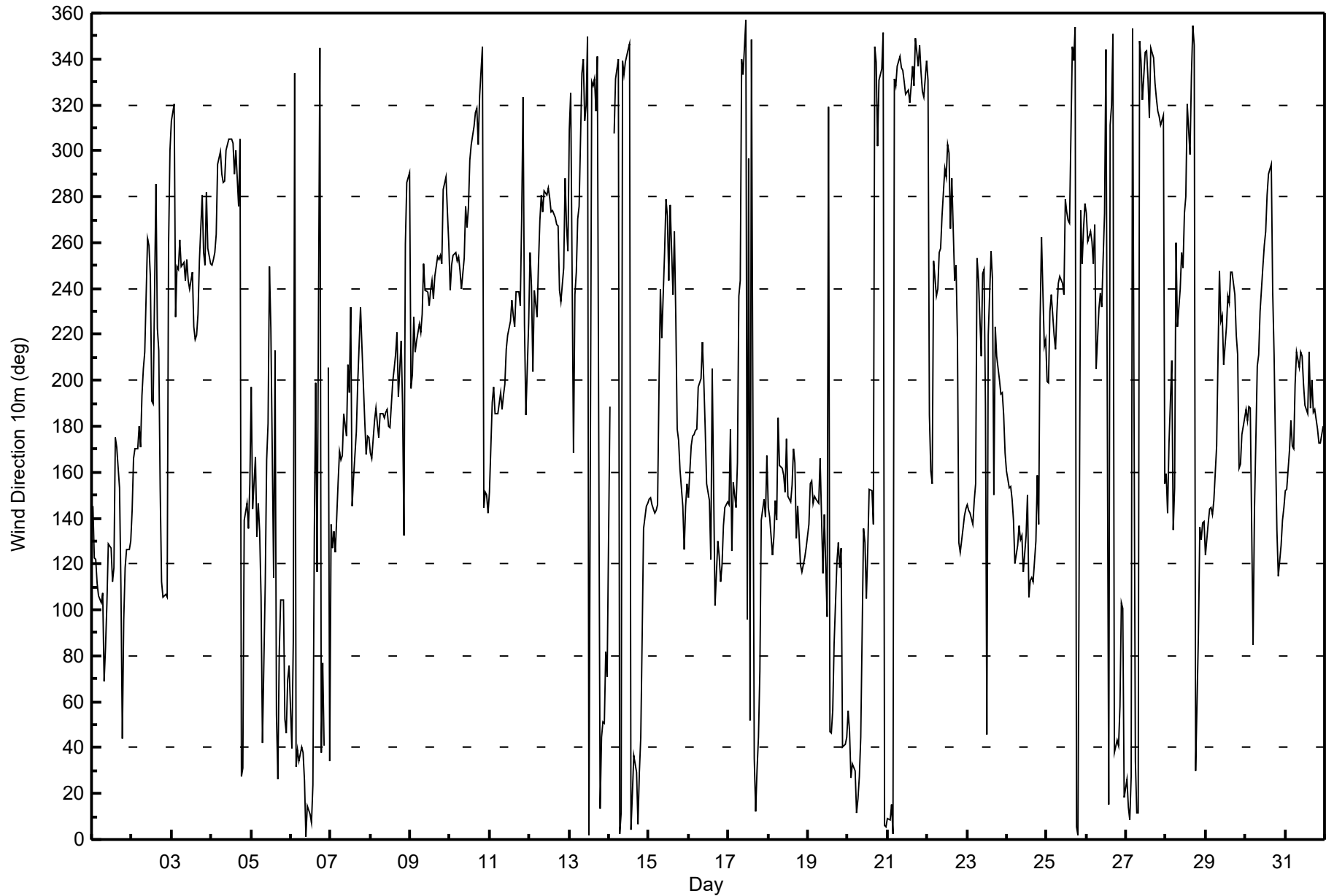
Mackay River - July 2025

Direction of Maximum Speed: 243 deg on Jul 9 14:00																					Hours in Service:				744	
Direction of Maximum Daily Speed Average: 242.0 deg on Jul 9																					Hours of Data:				741	
Direction of Minimum Speed: 206 deg on Jul 6 23:00										Direction of Minimum Daily Speed Average: 0.9 deg on Jul 28											Hours of Missing Data:				3	
Monthly Average Direction: 237.3 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-Jul	145	123	122	112	106	103	107	69	84	103	129	127	113	118	175	171	153	110	44	96	118	126	126	130	116.3	
2-Jul	143	166	170	170	180	171	194	205	212	262	259	245	191	190	286	223	213	153	112	105	107	105	258	300	189.9	
3-Jul	313	321	228	250	248	261	250	251	244	253	244	240	247	223	218	220	229	252	281	256	250	282	258	251	248.3	
4-Jul	250	253	256	263	294	299	290	286	287	300	305	305	305	303	290	300	276	305	28	31	139	146	135	155	291.9	
5-Jul	197	144	167	132	146	135	105	42	112	165	181	250	222	114	213	54	26	82	104	105	52	47	70	75	106.5	
6-Jul	40	86	334	32	39	34	40	38	26	1	15	11	7	24	131	199	117	345	38	77	41	UO	206	34	31.4	
7-Jul	138	127	134	125	155	169	165	167	185	176	207	195	232	145	158	177	199	215	232	215	183	168	176	175	185.5	
8-Jul	168	166	183	188	181	175	185	186	184	186	187	180	179	200	205	211	221	193	217	189	132	259	286	290	198.2	
9-Jul	197	202	228	213	217	225	221	229	251	239	238	233	239	243	235	245	254	253	255	251	283	288	273	259	242.0	
10-Jul	239	250	254	256	252	254	248	240	253	276	266	275	296	303	311	316	318	302	324	345	145	151	150	142	279.3	
11-Jul	151	191	197	186	186	185	194	187	194	198	214	219	226	235	228	223	238	239	233	271	323	225	185	225	217.4	
12-Jul	256	241	204	239	228	251	270	281	274	283	280	284	280	273	274	271	268	267	239	234	249	288	267	256	267.8	
13-Jul	309	326	168	238	247	270	276	334	340	313	320	349	2	330	328	332	317	341	14	45	51	50	82	71	334.6	
14-Jul	189	UO	UO	308	331	340	3	12	339	333	339	344	346	4	19	37	29	7	29	44	89	135	145	147	1.9	
15-Jul	148	149	146	142	143	146	197	240	218	256	279	271	243	276	237	265	227	179	174	161	145	126	145	155	198.9	
16-Jul	149	171	175	176	178	179	197	201	216	199	179	155	148	122	205	153	102	130	124	112	120	137	145	147	162.1	
17-Jul	146	179	125	156	145	164	237	244	340	333	357	96	296	52	348	35	12	30	44	73	139	148	140	167	42.9	
18-Jul	145	140	124	132	148	139	184	163	162	159	151	174	150	147	154	170	164	131	145	119	116	120	123	127	148.9	
19-Jul	137	155	156	147	149	148	147	166	141	116	142	97	319	47	46	56	85	121	129	119	127	40	41	44	106.2	
20-Jul	56	47	27	33	30	12	17	27	45	136	129	105	126	152	152	137	345	339	302	331	336	351	6	5	17.7	
21-Jul	9	8	15	3	331	328	337	341	336	335	330	325	327	321	328	337	328	349	337	346	334	326	323	340	340.6	
22-Jul	331	185	161	155	252	237	240	256	257	271	292	289	302	299	266	288	244	250	219	129	125	135	141	144	258.0	
23-Jul	146	143	142	137	147	155	253	244	211	247	248	189	46	220	256	244	150	223	210	200	194	195	185	168	193.9	
24-Jul	161	153	154	148	139	120	128	137	131	132	117	132	150	106	113	114	112	130	158	137	227	262	215	218	136.4	
25-Jul	200	199	230	237	220	214	230	242	245	242	237	279	273	270	268	345	339	354	6	2	274	251	266	277	263.0	
26-Jul	273	261	265	260	251	268	205	231	238	232	253	273	344	15	311	320	351	38	43	41	58	103	100	18	324.5	
27-Jul	26	14	9	27	353	34	12	12	348	339	322	343	344	331	314	345	340	329	323	317	315	311	315	155	342.5	
28-Jul	159	142	173	209	135	153	260	223	240	256	249	273	280	321	298	332	355	346	30	90	136	130	138	139	271.2	
29-Jul	124	138	144	145	141	148	171	211	248	226	228	207	223	237	234	247	247	238	220	211	162	164	176	184	202.6	
30-Jul	188	182	188	188	85	144	174	206	211	230	250	259	265	281	290	294	239	211	171	135	114	128	139	145	218.9	
31-Jul	152	153	169	183	171	170	198	212	206	213	210	198	189	186	212	188	200	186	187	179	173	173	176	180	188.9	
184.1 181.5 189.2 192.2 200.3 201.7 221.0 247.6 243.5 250.0 252.2 252.9 266.3 264.8 255.7 265.4 285.2 272.8 326.3 108.3 134.4 148.0 180.3 196.7																										
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
Mackay River - July 2025





Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg

Mackay River - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 105 deg on Jul 17 10:00																		Hours in Service: 744							
Minimum Value: 6 deg on Jul 18 03:00																		Hours of Data: 741							
Percentiles: P ₁ = 9 P ₁₀ = 16 Q ₁ = 25 Median = 34 Q ₃ = 46 P ₉₀ = 63 P ₉₉ = 91																		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-Jul	59	57	45	24	31	29	30	36	33	50	41	33	41	55	73	57	44	18	55	30	20	21	19	19	73
2-Jul	23	17	17	20	23	23	29	36	35	47	62	77	48	46	48	50	62	79	23	21	19	21	92	30	92
3-Jul	24	53	31	47	45	43	43	41	40	42	43	40	47	35	32	35	40	42	35	44	45	40	45	46	53
4-Jul	48	48	45	44	27	28	27	32	31	29	27	29	31	32	33	32	49	39	30	39	30	30	25	23	49
5-Jul	59	73	52	46	14	19	62	35	40	44	60	71	82	25	96	82	28	34	28	25	28	25	33	36	96
6-Jul	75	46	57	27	26	27	29	32	35	30	30	39	36	55	49	76	85	25	30	34	35	UO	86	89	89
7-Jul	76	21	81	77	21	30	29	35	31	41	33	49	73	76	28	27	36	33	34	27	17	12	15	15	81
8-Jul	16	20	24	19	18	21	21	27	25	26	31	27	28	36	36	35	39	28	34	28	23	48	33	42	48
9-Jul	76	26	35	28	26	30	33	39	47	41	44	40	42	41	41	45	45	45	46	45	41	30	43	44	76
10-Jul	41	44	46	47	39	49	46	38	52	45	46	44	32	34	28	27	36	30	29	37	26	12	13	11	52
11-Jul	16	28	19	17	16	18	21	24	27	31	35	37	38	40	44	38	41	39	36	50	25	58	18	42	58
12-Jul	46	46	49	38	28	42	42	33	38	36	31	33	39	42	43	40	42	41	40	42	45	34	44	37	49
13-Jul	57	60	88	37	46	43	44	31	39	33	40	31	32	30	30	29	24	40	30	25	19	19	46	57	88
14-Jul	55	UO	UO	39	22	19	27	29	30	33	31	31	37	47	55	42	42	39	33	30	33	12	10	45	55
15-Jul	8	9	8	11	11	15	39	40	38	45	61	76	74	95	89	93	66	86	61	25	18	13	22	20	95
16-Jul	17	14	13	13	15	18	33	42	50	61	56	52	69	78	83	82	84	84	78	16	19	13	12	14	84
17-Jul	39	83	75	14	58	65	65	35	75	105	61	83	100	97	41	68	37	35	28	37	17	16	11	22	105
18-Jul	14	12	6	39	15	16	18	25	30	34	34	41	49	49	43	37	35	36	34	17	12	10	15	15	49
19-Jul	23	19	18	17	14	13	25	61	89	85	71	47	94	87	75	43	37	23	25	16	13	48	26	23	94
20-Jul	30	26	28	17	26	24	25	31	60	75	67	70	55	45	54	80	36	24	31	28	28	29	27	25	80
21-Jul	27	26	26	28	23	23	23	24	26	28	26	30	30	28	29	25	28	26	24	22	24	17	15	21	30
22-Jul	70	72	22	18	77	48	47	49	45	53	60	54	43	83	62	50	47	65	79	36	25	20	14	13	83
23-Jul	12	8	9	15	21	33	77	51	48	64	60	45	62	61	75	66	51	44	42	18	16	17	17	11	77
24-Jul	11	9	11	11	16	13	21	26	23	29	28	31	32	33	25	23	24	30	28	24	83	41	37	19	83
25-Jul	19	22	34	39	25	26	37	41	41	50	42	39	38	45	42	24	27	30	28	38	39	44	41	42	50
26-Jul	36	32	51	42	29	27	59	36	35	38	47	48	76	47	75	35	35	27	25	24	32	39	58	21	76
27-Jul	26	25	26	32	22	23	28	29	31	26	29	30	29	33	31	35	25	26	22	17	57	63	14	30	63
28-Jul	30	10	31	42	36	58	88	48	48	60	59	55	62	72	56	73	35	34	44	41	14	15	14	14	88
29-Jul	16	20	14	19	17	12	30	39	63	78	65	57	46	43	48	52	51	39	40	23	13	12	10	13	78
30-Jul	15	15	18	59	79	16	25	37	40	42	42	51	48	42	45	40	39	33	46	20	12	16	13	18	79
31-Jul	21	12	16	15	18	23	27	33	37	42	51	38	42	39	47	33	41	35	26	15	12	9	12	15	51
Diurnal Maximum																									
UO - Unstable Operation																									



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

**AMS21
CONKLIN
JULY 2025**

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

August 29, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - CONKLIN (AMS21)

JULY 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	-	-	4.8	0	0.6	0
TRS(ppb) Average	707	35	37	99.73	0.8	0	0.8	0	0.4	0
THC(ppm) Average	690	35	54	97.45	-	-	3.1	-	2.2	-
NMHC(ppm) Average	690	35	54	97.45	-	-	0.128	-	0.012	-
CH4(ppm) Average	690	35	54	97.45	-	-	3.1	-	2.2	-
O3 (ppb) Average	710	34	34	100	-	-	58.3	0	39.4	-
NO2 (ppb) Average	708	36	36	100	-	-	25.5	0	3.2	-
NO (ppb) Average	708	36	36	100	-	-	40.3	-	3.4	-
NOX (ppb) Average	708	36	36	100	-	-	65.8	-	6.4	-
PM2.5 (ug/m3) Average	743	1	1	100	-	-	184.8	0	90.4	3
Temperature 2 m (C) Average	744	0	0	100	-	-	31.5	-	23.4	-
Relative Humidity (%) Average	740	0	4	99.46	-	-	100	-	87.1	-
Wind Speed 10 m (km/h) Average	729	0	15	97.98	-	-	22	-	11	-
Wind Direction 10 m (deg) Average	729	0	15	97.98	-	-	-	-	-	-

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

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - CONKLIN (AMS21)
JULY 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	0.22	0.4	-	0	0	0	0.1	0.3	0.4	4.8
TRS (ppb) Average	707	0.25	0.1	-	0.1	0.2	0.2	0.2	0.3	0.4	0.8
THC (ppm) Average	690	2.09	0.1	-	2	2	2	2	2.1	2.3	3.1
NMHC(ppm) Average	690	0.002	0.009	-	0	0	0	0	0	0	0.128
CH4(ppm) Average	690	2.09	0.1	-	2	2	2	2	2.1	2.2	3.1
O3 (ppb) Average	710	25.55	13.6	-	0	5.3	15.8	26.2	35.2	44.1	58.3
NO2 (ppb) Average	708	1.22	1.7	-	0	0.3	0.4	0.8	1.4	2.3	25.5
NO (ppb) Average	708	0.63	3.1	-	0	0	0	0	0	0.8	40.3
NOX (ppb) Average	708	1.86	4.4	-	0.1	0.3	0.4	0.8	1.5	3.4	65.8
PM2.5 (ug/m3) Average	743	16.41	24.7	-	1.2	3	4.2	8.2	16.8	35.8	184.8
Temperature 2 m (C) Average	744	16.02	6.8	-	-1.6	6.3	11.2	16.4	20.8	24.8	31.5
Relative Humidity (%) Average	740	64.04	23	-	18.7	32.6	44	63.7	84.8	95.6	100
Wind Speed 10 m (km/h) Average	729	6	4	-	0	2	3	5	8	12	22
Wind Direction 10 m (deg) Average	729	-	-	-	-	-	-	-	-	-	-

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - CONKLIN (AMS 21)
JULY 2025

OPERATIONAL NOTES

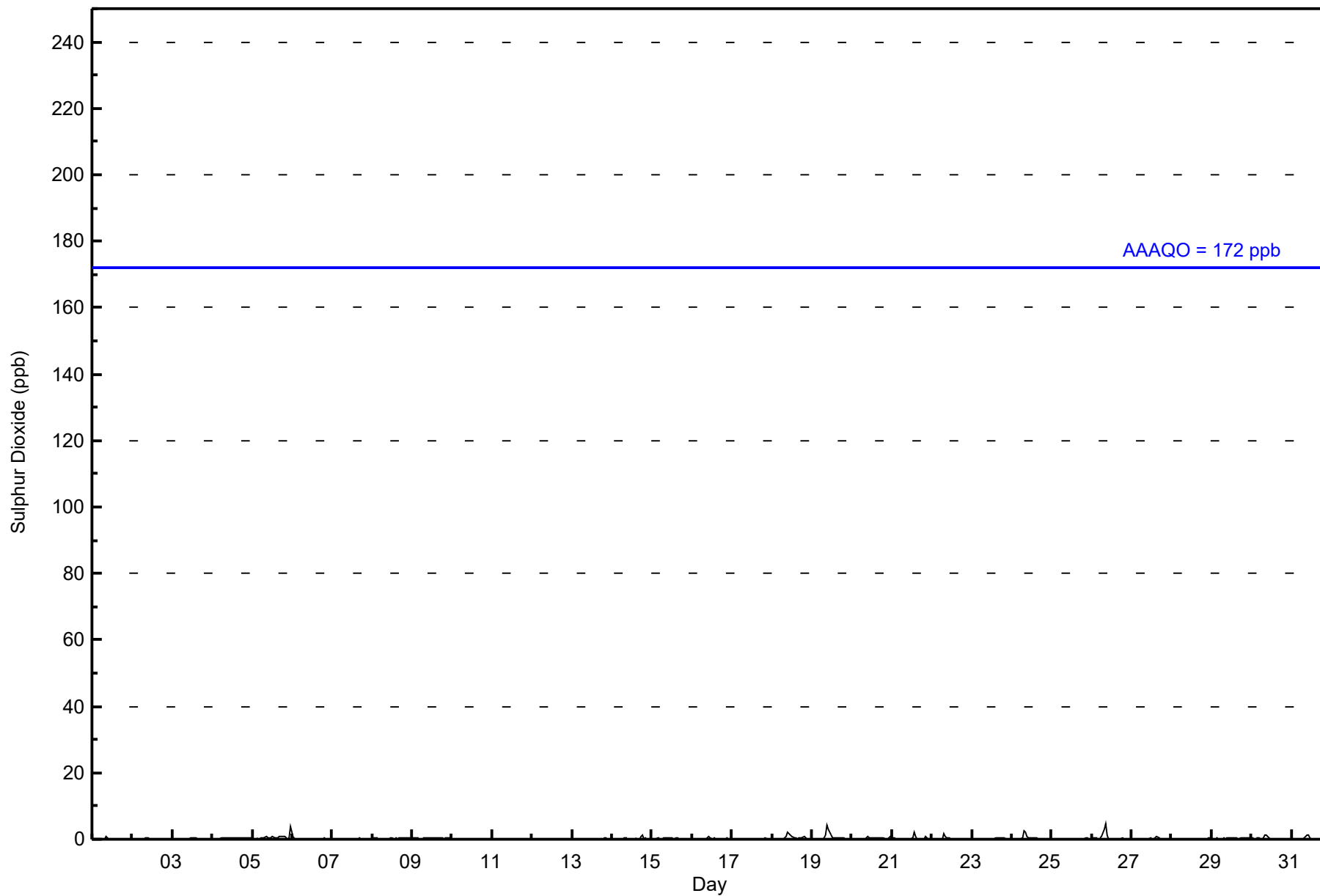
Parameter	Period Start	Period End	Duration (Hours)	Notes
TRS	08 Jul 2025 12:00	08 Jul 2025 13:00	2	Maintenance - reinitiated daily QA check
THC/NMHC/CH4	30 Jul 2025 04:00	30 Jul 2025 12:00	9	Unstable Operation - excessive baseline drift
THC/NMHC/CH4	30 Jul 2025 13:00	30 Jul 2025 14:00	2	Maintenance - replaced support gas cylinder
THC/NMHC/CH4	31 Jul 2025 15:00	31 Jul 2025 22:00	8	Unstable Operation - excessive baseline noise
Relative Humidity	14 Jul 2025 06:00	14 Jul 2025 06:00	1	Sensor operated out of range
Relative Humidity	27 Jul 2025 06:00	27 Jul 2025 08:00	3	Sensor operated out of range
Wind Speed, Wind Direction	13 Jul 2025 23:00	13 Jul 2025 23:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	14 Jul 2025 01:00	14 Jul 2025 01:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	14 Jul 2025 05:00	14 Jul 2025 05:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	14 Jul 2025 22:00	14 Jul 2025 23:00	2	Flat line in sensor output signal
Wind Speed, Wind Direction	17 Jul 2025 04:00	17 Jul 2025 04:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	18 Jul 2025 23:00	18 Jul 2025 23:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	19 Jul 2025 04:00	19 Jul 2025 04:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	19 Jul 2025 06:00	19 Jul 2025 08:00	3	Flat line in sensor output signal
Wind Speed, Wind Direction	20 Jul 2025 08:00	20 Jul 2025 08:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	20 Jul 2025 20:00	20 Jul 2025 20:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	23 Jul 2025 22:00	23 Jul 2025 22:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	27 Jul 2025 01:00	27 Jul 2025 01:00	1	Flat line in sensor output signal

Number of Exceedences (AAAQO): Maximum Value: 4.8 ppb on Jul 26 09:00										1-hr: 0 24-hr: 0 Maximum Daily Average: 0.6 ppb on Jul 19										Hours in Service: 744 Hours of Data: 709 Hours of Missing Data: 35 Hours of Calibration: 35 Percent Operational Time: 100.0							
Minimum Value: 0.0 ppb on Jul 1 01:00 Maximum Diurnal Average: 0.5 ppb at hour 9 Monthly Average: 0.22 ppb										Minimum Daily Average: 0.0 ppb on Jul 11 Minimum Diurnal Average: 0.1 ppb at hour 6 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.3 P ₉₀ = 0.4 P ₉₉ = 2.2																	
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-Jul	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.2	0.6	0.3	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	0.6	
2-Jul	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.6	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.6
3-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.1	0.1	0.2	0.2	0.3	0.4	0.3	0.3	0.1	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.4	
4-Jul	Z	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.3	0.3	0.4	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.4	
5-Jul	0.3	Z	0.2	0.2	0.2	0.3	0.2	0.6	0.8	0.5	0.3	0.3	0.7	0.5	0.6	0.5	0.8	0.8	0.9	0.9	0.2	0.2	0.2	3.9	0.6	3.9	
6-Jul	0.4	0.4	Z	0.1	0.0	0.0	0.1	0.2	0.1	0.1	0.2	0.2	0.1	0.0	0.0	0.0	0.1	0.2	0.2	0.3	0.2	0.0	0.1	0.1	0.1	0.4	
7-Jul	0.1	0.0	0.1	Z	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.3	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.3	
8-Jul	0.3	0.3	0.2	0.3	Z	0.1	0.1	0.1	0.2	0.1	0.2	0.6	0.5	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.3	0.5	0.4	0.3	0.6	
9-Jul	0.3	0.3	0.3	0.3	0.3	Z	0.3	0.2	0.2	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.3	0.3	
10-Jul	Z	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.2	
11-Jul	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	
12-Jul	0.0	0.1	Z	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	0.1	
13-Jul	0.0	0.0	0.0	Z	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	0.2	0.2	0.5	0.5	0.1	0.0	0.0	0.1	0.5	
14-Jul	0.0	0.0	0.0	0.1	Z	0.0	0.1	0.3	0.3	0.3	C	C	C	C	0.3	0.0	0.0	1.1	1.1	0.2	0.3	0.1	0.1	0.1	0.2	1.1	
15-Jul	0.1	0.1	0.2	0.2	0.2	Z	0.2	0.4	0.5	0.4	0.4	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.0	0.1	0.0	0.0	0.2	0.5	
16-Jul	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.7	0.6	0.2	0.2	0.1	0.0	0.1	0.2	0.1	0.0	0.0	0.3	0.0	0.0	0.1	0.7	
17-Jul	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.1	0.1	0.0	0.1	0.2	
18-Jul	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	1.0	2.2	1.6	1.1	0.7	0.3	0.4	0.2	0.4	0.3	0.6	0.9	0.3	0.1	0.0	0.0	0.4	2.2	
19-Jul	0.1	0.2	0.0	Z	0.0	0.0	0.0	0.6	1.4	4.0	3.1	1.3	0.5	0.4	0.5	0.4	0.3	0.3	0.4	0.2	0.1	0.1	0.2	0.1	0.6	4.0	
20-Jul	0.1	0.1	0.1	0.1	Z	0.0	0.0	0.1	0.1	0.7	0.5	0.4	0.4	0.5	0.5	0.4	0.6	0.5	0.6	0.4	0.1	0.1	0.6	0.7	0.3	0.7	
21-Jul	0.4	0.3	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.4	2.3	1.0	0.2	0.0	0.0	0.0	0.2	0.8	0.3	0.1	0.0	0.3	2.3	
22-Jul	Z	0.1	0.0	0.0	0.0	0.1	0.2	1.9	0.6	0.4	0.2	0.1	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	1.9	
23-Jul	0.3	Z	0.1	0.1	0.1	0.0	0.1	0.2	0.1	0.0	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.2	0.3	0.3	0.1	0.1	0.1	0.1	0.2	0.3	
24-Jul	0.2	0.2	Z	0.0	0.1	0.1	0.4	2.7	2.0	0.8	0.3	0.3	0.2	0.5	0.3	0.2	0.1	0.2	0.1	0.1	0.0	0.0	0.2	0.1	0.4	2.7	
25-Jul	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	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.4	0.2	0.2	0.2	0.1	0.4	
26-Jul	0.2	0.4	0.3	0.3	Z	0.4	0.8	2.8	4.8	1.3	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.4	0.2	0.1	0.1	0.1	0.1	0.6	4.8	
27-Jul	0.1	0.1	0.1	0.1	0.1	Z	0.0	0.1	0.0	0.1	0.1	0.3	0.1	0.0	0.2	0.8	0.6	0.2	0.2	0.1	0.0	0.1	0.0	0.0	0.2	0.8	
28-Jul	Z	0.1	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	
29-Jul	0.2	Z	0.2	0.2	0.2	0.2	0.1	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.3	
30-Jul	0.3	0.3	Z	0.3	0.2	0.1	0.1	0.3	1.1	1.1	0.4	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	0.2	1.1	
31-Jul	0.0	0.1	0.0	Z	0.1	0.1	0.0	0.0	0.9	1.4	1.3	0.3	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.2	0.5	0.2	0.3	1.4	
																									Diurnal Average		
																									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
Conklin - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Conklin - July 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 - July 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	32	4	3	7	8	29	51	56	87	82	64	48	43	46	66	70	696
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	32	4	3	7	8	29	51	56	87	82	64	48	43	46	66	70	696

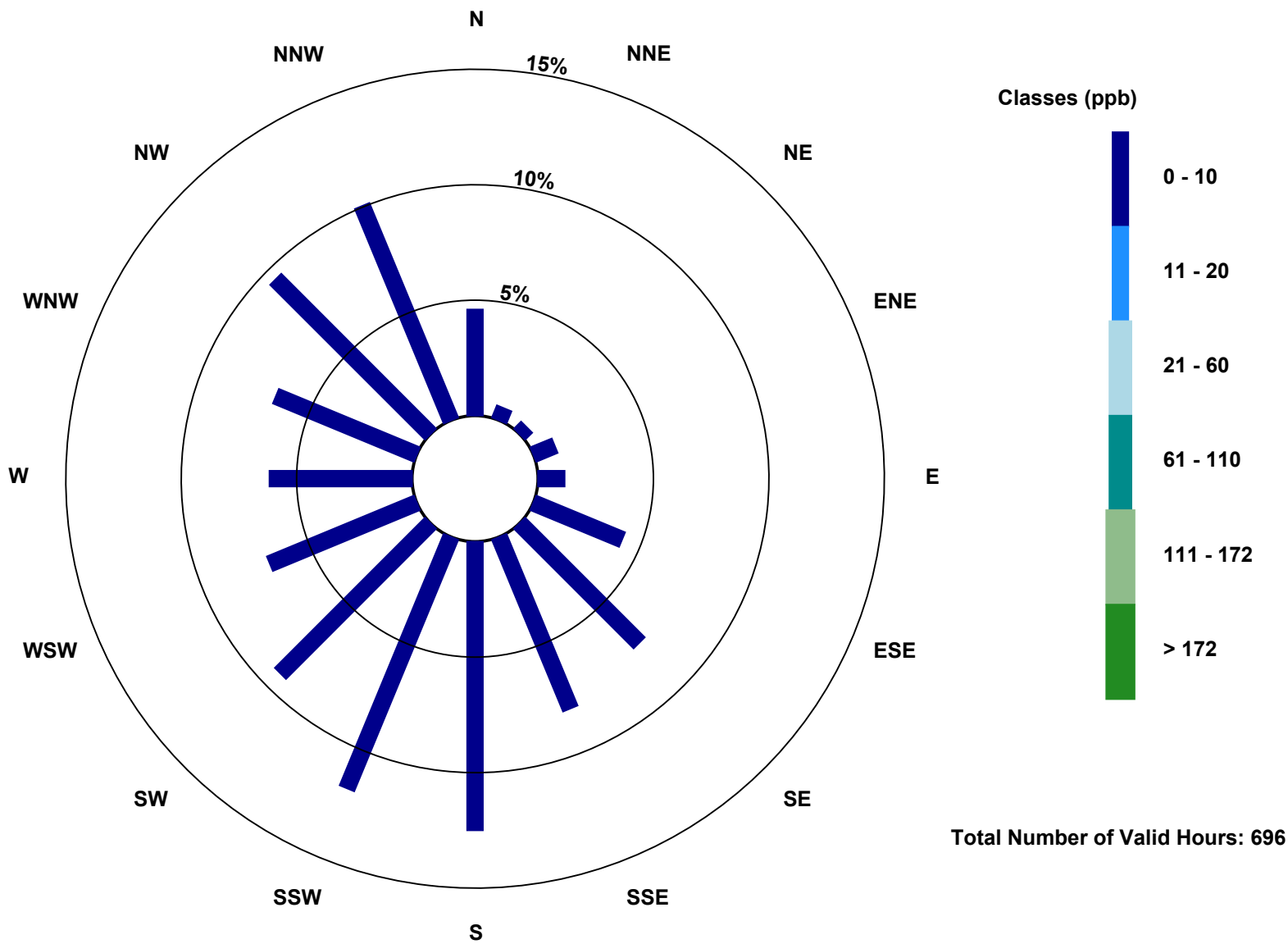
Total Number of Valid Hours: 696

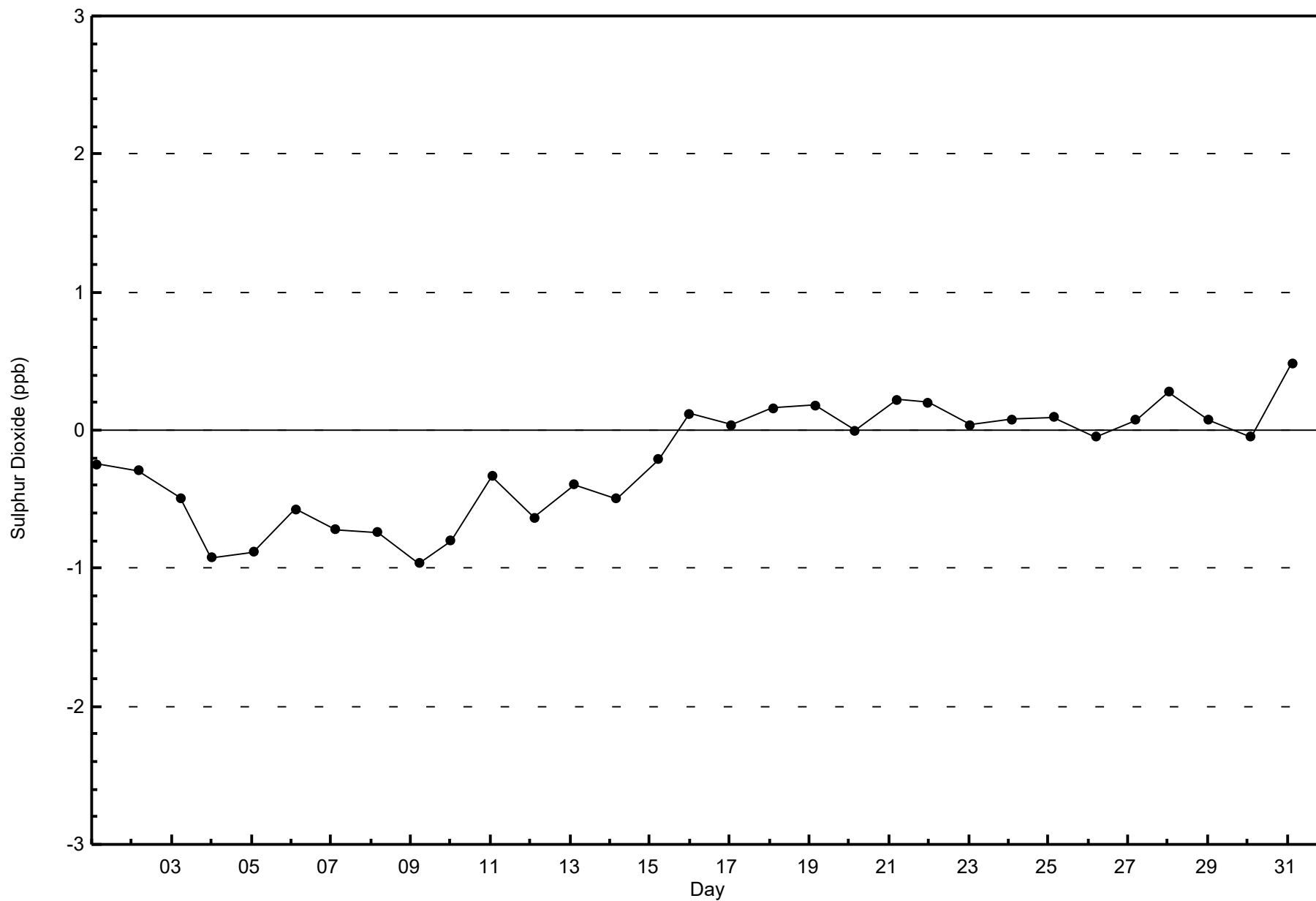
Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Sulphur Dioxide (SO₂) - ppb
Conklin

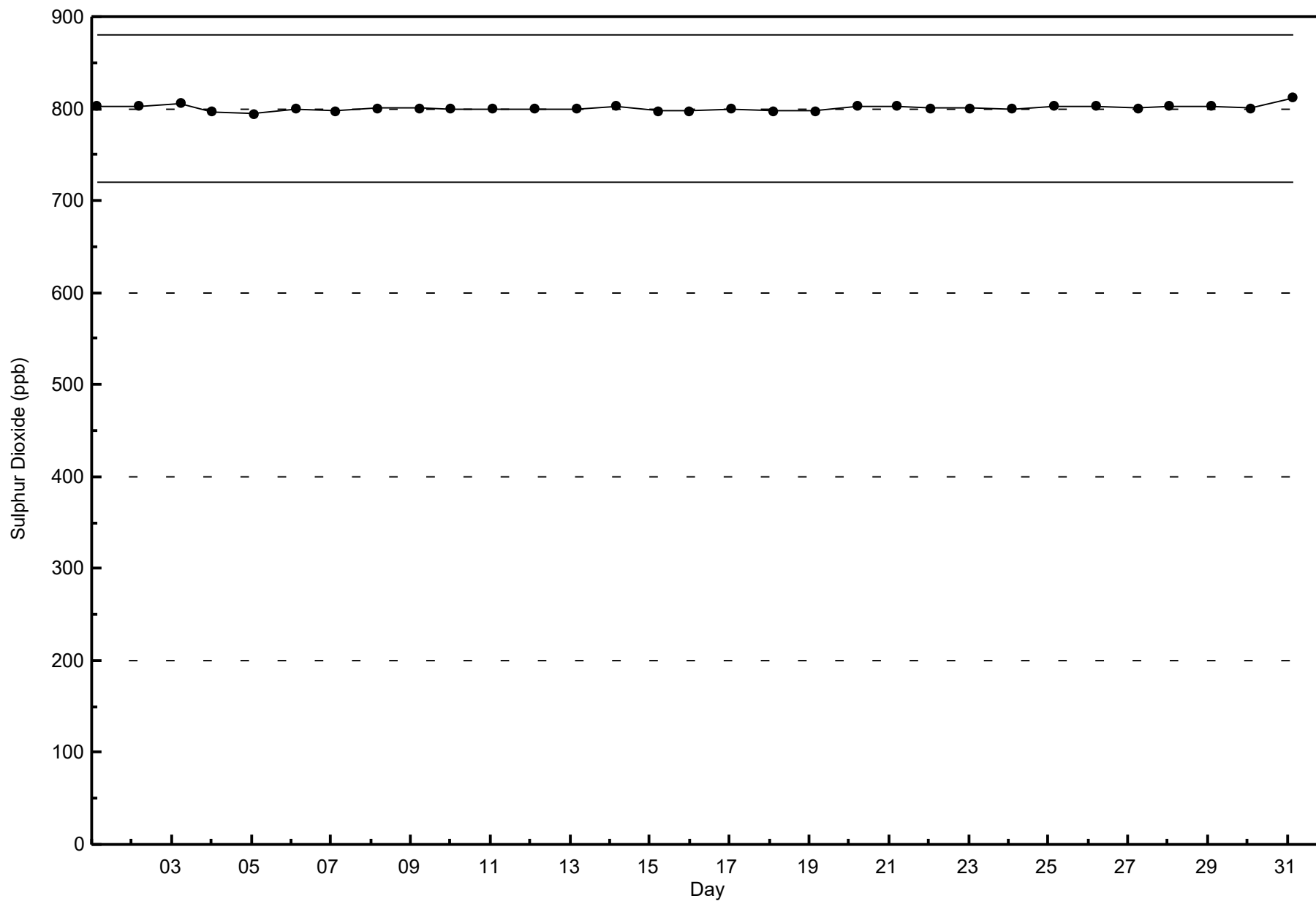






Wood Buffalo Environmental Association
Span Responses

Sulphur Dioxide (SO₂) - ppb
Conklin - July 2025





Wood Buffalo Environmental Association

Summary of 30-Minute Averages

Total Reduced Sulphur (TRS) - ppb

Conklin - July 2025

Number of Exceedences (AAAQG): 30-Min: 0																			Periods in Service: 1488							
Maximum Value: 0.8 ppb on Jul 22 01:00 Maximum Daily Average: 0.4 ppb on Jul 3																			Periods of Valid Data: 1414							
Minimum Value: 0.1 ppb on Jul 5 01:30 Minimum Daily Average: 0.2 ppb on Jul 22																			Periods of Invalid Data: 74							
Maximum Diurnal Average: 0.3 ppb at hour 10 Minimum Diurnal Average: 0.2 ppb at hour 24																			Periods of Calibration: 71							
Monthly Average: 0.25 ppb Percentiles: P ₁ = 0.1 P ₁₀ = 0.1 Q ₁ = 0.2 Median = 0.2 Q ₃ = 0.3 P ₉₀ = 0.4 P ₉₉ = 0.6																			Percent Operational Time: 99.8							
Day	Period Ending At (MST)																								Daily Average	Daily Maximum
	00:30 01:00	01:30 02:00	02:30 03:00	03:30 04:00	04:30 05:00	05:30 06:00	06:30 07:00	07:30 08:00	08:30 09:00	09:30 10:00	10:30 11:00	11:30 12:00	12:30 13:00	13:30 14:00	14:30 15:00	15:30 16:00	16:30 17:00	17:30 18:00	18:30 19:00	19:30 20:00	20:30 21:00	21:30 22:00	22:30 23:00	23:30 24:00		
1-Jul	0.3 0.3	0.3 0.3	0.2 0.2	0.2 0.3	Z SP	0.3 0.3	0.3 0.3	0.3 0.4	0.5 0.5	0.5 0.5	0.4 0.4	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 0.2	0.2 0.2	0.2 0.3	0.3 0.3	0.3 0.2	0.3 0.3	0.3 0.2	0.3 0.3
2-Jul	0.3 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	Z SP	0.4 0.3	0.3 0.4	0.5 0.5	0.5 0.5	0.5 0.5	0.5 0.5	0.5 0.5	0.4 0.4	0.4 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.2 0.3	0.2 0.2	0.2 0.2	0.2 0.3	0.2 0.3	0.3 0.3	0.3 0.2	0.3 0.2
3-Jul	Z SP	0.5 0.5	0.5 0.6	0.7 0.7	0.8 0.7	0.7 0.7	0.7 0.6	0.6 0.6	0.6 0.6	0.6 0.6	0.5 0.5	0.5 0.4	0.4 0.4	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 0.2	0.2 0.2	0.2 0.2
4-Jul	0.2 0.2	Z SP	0.2 0.2	0.3 0.2	0.2 0.2	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	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 0.1
5-Jul	0.2 0.1	0.1 0.1	Z SP	0.1 0.1	0.1 0.1	0.1 0.2	0.2 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	0.2 0.2	0.2 0.2	0.2 0.2	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 0.2	0.3 0.2	0.3 0.2	0.3 0.2
6-Jul	0.3 0.2	0.3 0.3	0.3 0.3	Z SP	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 0.2	0.3 0.3	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	0.2 0.2	0.2 0.2	0.2 0.2
7-Jul	0.2 0.2	0.2 0.2	0.2 0.1	0.1 0.2	Z SP	0.3 0.2	0.2 0.2	0.3 0.3	0.3 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 0.3	0.3 0.3	0.3 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	0.2 0.2	0.2 0.2
8-Jul	0.2 0.3	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	Z SP	0.3 0.3	0.3 0.3	0.4 0.4	0.4 0.4	0.4 0.4	M M	M 0.5	0.3 0.3	0.4 0.4	0.4 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	0.3 0.2	0.2 0.2	0.3 0.2
9-Jul	Z SP	0.3 0.3	0.3 0.5	0.5 0.6	0.6 0.5	0.5 0.4	0.4 0.3	0.3 0.3	0.2 0.2	0.2 C	C 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	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
10-Jul	0.2 0.1	Z SP	0.2 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	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.4	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 0.2	0.2 0.2	0.3 0.2
11-Jul	0.2 0.2	0.2 0.2	Z SP	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	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 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
12-Jul	0.1 0.1	0.2 0.1	0.1 0.1	Z SP	0.2 0.2	0.2 0.2	0.2 0.3	0.3 0.3	0.4 0.3	0.4 0.4	0.4 0.4	0.4 0.5	0.5 0.5	0.6 0.6	0.5 0.5	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 0.2	0.2 0.2	0.3 0.2
13-Jul	0.2 0.3	0.3 0.3	0.2 0.2	0.2 0.2	Z SP	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.4	0.4 0.4	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 0.2	0.3 0.3	0.3 0.3	0.3 0.3	0.2 0.2	0.3 0.2
14-Jul	0.2 0.2	0.2 0.2	0.1 0.1	0.1 0.1	0.1 0.1	Z SP	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 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
15-Jul	Z SP	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 0.2	0.2 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	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	0.3 0.2	0.2 0.2	0.3 0.2



Wood Buffalo Environmental Association

Summary of 30-Minute Averages

Total Reduced Sulphur (TRS) - ppb

Conklin - July 2025

Day	Period Ending At (MST)																								Daily Average	Daily Maximum
	00:30 01:00	01:30 02:00	02:30 03:00	03:30 04:00	04:30 05:00	05:30 06:00	06:30 07:00	07:30 08:00	08:30 09:00	09:30 10:00	10:30 11:00	11:30 12:00	12:30 13:00	13:30 14:00	14:30 15:00	15:30 16:00	16:30 17:00	17:30 18:00	18:30 19:00	19:30 20:00	20:30 21:00	21:30 22:00	22:30 23:00	23:30 24:00		
16-Jul	0.2 0.2	Z SP	0.2 0.2	0.2 0.2	0.2 0.1	0.1 0.1	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	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 0.2	0.2 0.3	0.4 0.4	0.2 0.2	0.2 0.2	0.2	0.4
17-Jul	0.2 0.3	0.2 0.3	Z SP	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	0.2 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 0.3	0.3 0.3	0.2 0.2	0.2 0.2	0.2 0.2	0.2	0.3
18-Jul	0.3 0.3	0.3 0.2	0.2 0.2	Z SP	0.2 0.2	0.2 0.2	0.2 0.2	0.3 0.3	0.4 0.5	0.4 0.3	0.3 0.3	0.3 0.3	0.2 0.2	0.2 0.2	0.2 0.2	0.3 0.3	0.3 0.3	0.3 0.4	0.3 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.3	0.3	0.5
19-Jul	0.4 0.7	0.6 0.5	0.4 0.4	0.4 0.5	Z SP	0.4 0.3	0.3 0.3	0.4 0.5	0.5 0.5	0.5 0.5	0.4 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	0.2 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	0.4	0.7
20-Jul	0.3 0.2	0.3 0.2	0.2 0.2	0.2 0.2	0.2 0.2	Z SP	0.3 0.3	0.3 0.2	0.2 0.3	0.4 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	0.2 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	0.4
21-Jul	Z SP	0.4 0.4	0.3 0.3	0.3 0.4	0.4 0.3	0.3 0.3	0.3 0.3	0.3 0.2	0.2 0.2	0.3 0.2	0.2 0.2	0.2 0.3	0.3 0.3	0.2 0.2	0.1 0.1	0.1 0.1	0.1 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	0.1 0.1	0.2	0.4
22-Jul	0.1 0.8	Z SP	0.2 0.1	0.1 0.1	0.1 0.2	0.3 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 0.2	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	0.2 0.2	0.1 0.2	0.2 0.2	0.2 0.2	0.2	0.8
23-Jul	0.2 0.2	0.2 0.2	Z SP	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 0.2	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	0.2 0.2	0.2 0.2	0.3 0.2	0.2 0.2	0.2 0.2	0.2	0.3
24-Jul	0.2 0.2	0.2 0.2	0.2 0.2	Z SP	0.2 0.2	0.2 0.2	0.2 0.3	0.3 0.4	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.4 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.4	0.4 0.4	0.4 0.4	0.3 0.3	0.3 0.3	0.3 0.2	0.2 0.2	0.3	0.4
25-Jul	0.2 0.1	0.1 0.1	0.1 0.1	0.1 0.1	Z SP	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	0.2 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
26-Jul	0.3 0.3	0.3 0.3	0.2 0.2	0.2 0.2	0.2 0.2	Z SP	0.3 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	0.2 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	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.3	0.3
27-Jul	Z SP	0.2 0.2	0.2 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 0.3	0.2 0.2	0.3 0.3	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	0.2 0.2	0.2 0.2	0.1 0.1	0.1 0.1	0.2	0.3
28-Jul	0.2 0.3	Z SP	0.2 0.2	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	0.3 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 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2	0.3
29-Jul	0.1 0.1	0.2 0.2	Z SP	0.2 0.2	0.1 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	0.1 0.1	0.1 0.2	0.1 0.1	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	0.3
30-Jul	0.2 0.2	0.2 0.2	0.2 0.1	Z SP	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	0.2 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	0.3 0.3	0.3 0.3	0.3 0.2	0.3 0.3	0.2	0.3
31-Jul	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	Z SP	0.4 0.3	0.4 0.4	0.5 0.5	0.6 0.6	0.6 0.7	0.6 0.6	0.6 0.5	0.6 0.5	0.4 0.5	0.3 0.3	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	0.2 0.2	0.2 0.2	0.4	0.7
																								Diurnal Average Diurnal Maximum		

Z - zerospan C - Calibration M - Maintenance SP - Span

Alberta Ambient Air Quality Guideline (AAAQG): 30-Min: 5 ppb



Wood Buffalo Environmental Association

Summary of Hour Averages

Total Reduced Sulphur (TRS) - ppb

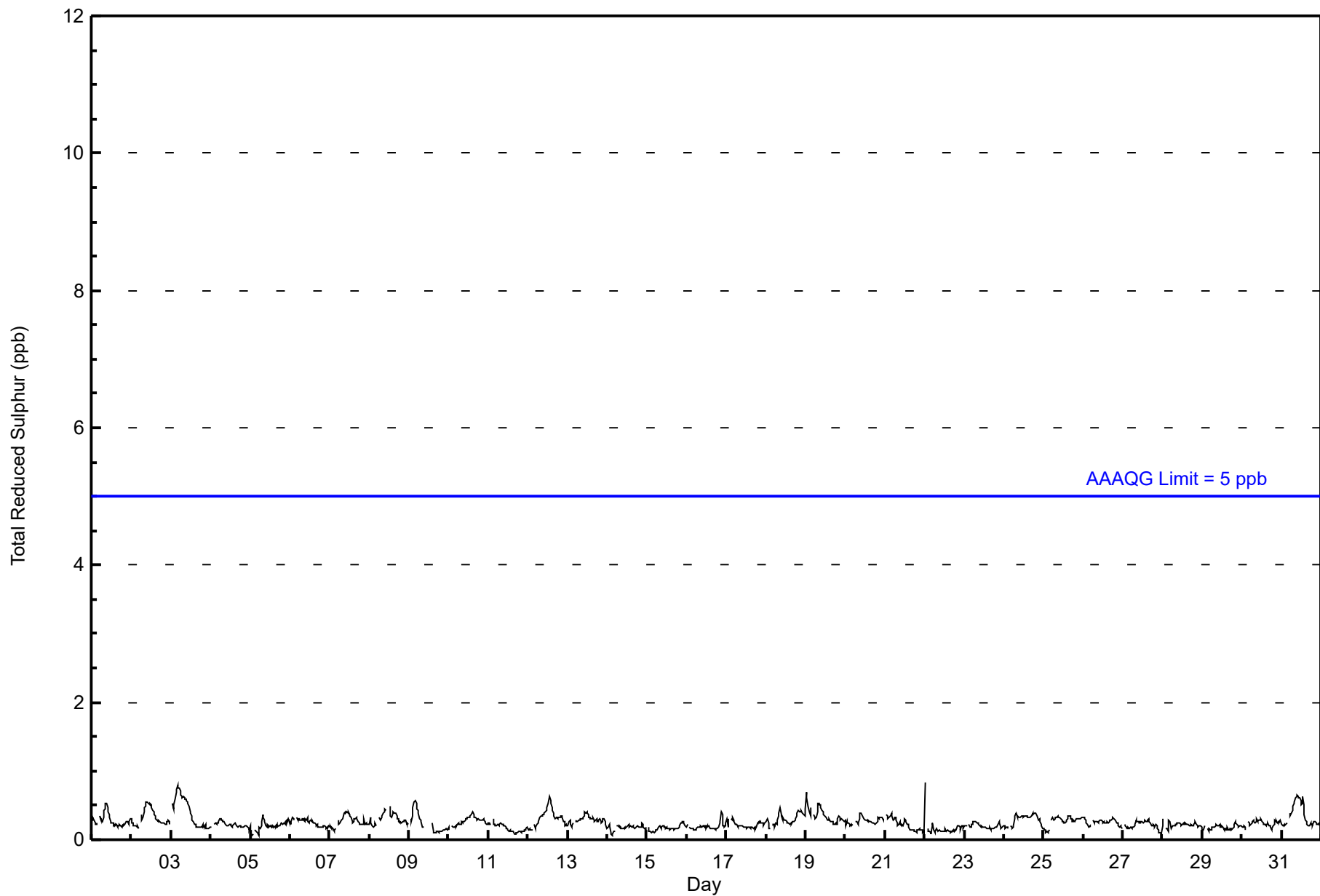
Conklin - July 2025

Maximum Value: 0.8 ppb on Jul 3 05:00										Maximum Daily Average: 0.4 ppb on Jul 3										Hours in Service: 744						
Minimum Value: 0.1 ppb on Jul 5 02:00										Minimum Daily Average: 0.2 ppb on Jul 22										Hours of Data: 707						
Maximum Diurnal Average: 0.3 ppb at hour 10										Minimum Diurnal Average: 0.2 ppb at hour 24										Hours of Missing Data: 37						
Monthly Average: 0.25 ppb										Percentiles: P ₁ = 0.1 P ₁₀ = 0.2 Q ₁ = 0.2 Median = 0.2 Q ₃ = 0.3 P ₉₀ = 0.4 P ₉₉ = 0.6										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-Jul	0.3	0.3	0.2	0.2	Z	0.3	0.3	0.4	0.5	0.5	0.4	0.3	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	0.5
2-Jul	0.3	0.2	0.2	0.2	0.2	Z	0.3	0.4	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.5
3-Jul	Z	0.5	0.6	0.7	0.8	0.7	0.6	0.6	0.6	0.6	0.5	0.5	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.8
4-Jul	0.2	Z	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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3
5-Jul	0.2	0.1	Z	0.1	0.1	0.1	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	0.3	0.3	0.2	0.3
6-Jul	0.2	0.3	0.3	Z	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	0.2	0.3
7-Jul	0.2	0.2	0.1	0.2	Z	0.3	0.2	0.3	0.3	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.3	0.4
8-Jul	0.3	0.2	0.2	0.2	0.2	Z	0.3	0.3	0.4	0.4	0.4	M	M	0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.4
9-Jul	Z	0.3	0.4	0.6	0.6	0.4	0.3	0.3	0.2	0.2	C	C	C	C	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.6
10-Jul	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	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.4
11-Jul	0.2	0.2	Z	0.3	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	0.2	0.2	0.3
12-Jul	0.1	0.2	0.1	Z	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.6	0.5	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.6
13-Jul	0.2	0.3	0.2	0.2	Z	0.3	0.3	0.3	0.3	0.3	0.4	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	0.3	0.4
14-Jul	0.2	0.2	0.1	0.1	0.1	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
15-Jul	Z	0.2	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	0.3	0.2	0.2	0.3
16-Jul	0.2	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	0.3	0.4	0.2	0.2	0.2	0.4
17-Jul	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	0.3	0.2	0.2	0.2	0.2	0.3
18-Jul	0.3	0.3	0.2	Z	0.2	0.2	0.2	0.3	0.4	0.4	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	0.4
19-Jul	0.6	0.5	0.4	0.4	Z	0.3	0.3	0.5	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.6
20-Jul	0.2	0.2	0.2	0.2	0.2	Z	0.3	0.2	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.4
21-Jul	Z	0.4	0.3	0.3	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.4
22-Jul	0.4	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	0.2	0.2	0.2	0.2	0.2	0.4
23-Jul	0.2	0.2	Z	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	0.3	0.2	0.2	0.2	0.3
24-Jul	0.2	0.2	0.2	Z	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	0.4	0.4	0.4	0.3	0.3	0.2	0.2	0.3	0.4
25-Jul	0.1	0.1	0.1	0.1	Z	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
26-Jul	0.3	0.3	0.2	0.2	0.2	Z	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3
27-Jul	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	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	0.3
28-Jul	0.3	Z	0.2	0.1	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	0.3
29-Jul	0.1	0.2	Z	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
30-Jul	0.2	0.2	0.2	Z	0.3	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	0.3	0.3	0.3	0.3	0.2	0.3
31-Jul	0.2	0.2	0.2	0.2	Z	0.4	0.4	0.5	0.6	0.6	0.6	0.6	0.5	0.6	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.4	0.6
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 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2																								Diurnal Average		
0.6 0.5 0.6 0.7 0.8 0.7 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.5 0.6 0.5 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.3																								Diurnal Maximum		
Z - zerospan C - Calibration M - Maintenance																										
Alberta Ambient Air Quality Objective (AAAQO): 1-hour NA 24-hr NA																										



Wood Buffalo Environmental Association
Hourly Averages

Total Reduced Sulphur (TRS) - ppb
Conklin - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Reduced Sulphur (TRS) - ppb
Conklin - July 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
Conklin - July 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	34	4	3	7	8	28	52	54	84	84	63	46	42	46	63	75	693
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	34	4	3	7	8	28	52	54	84	84	63	46	42	46	63	75	693

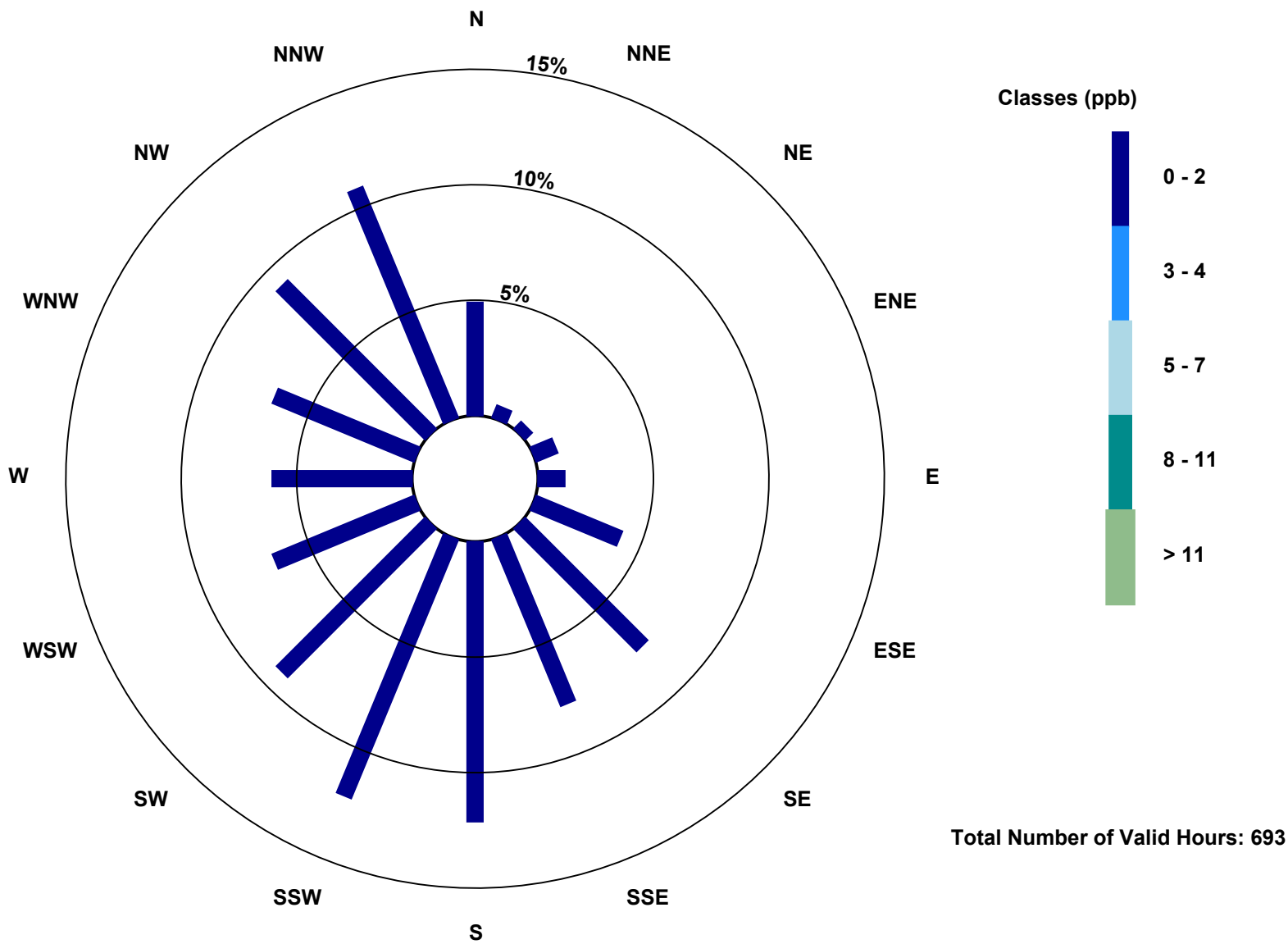
Total Number of Valid Hours: 693

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

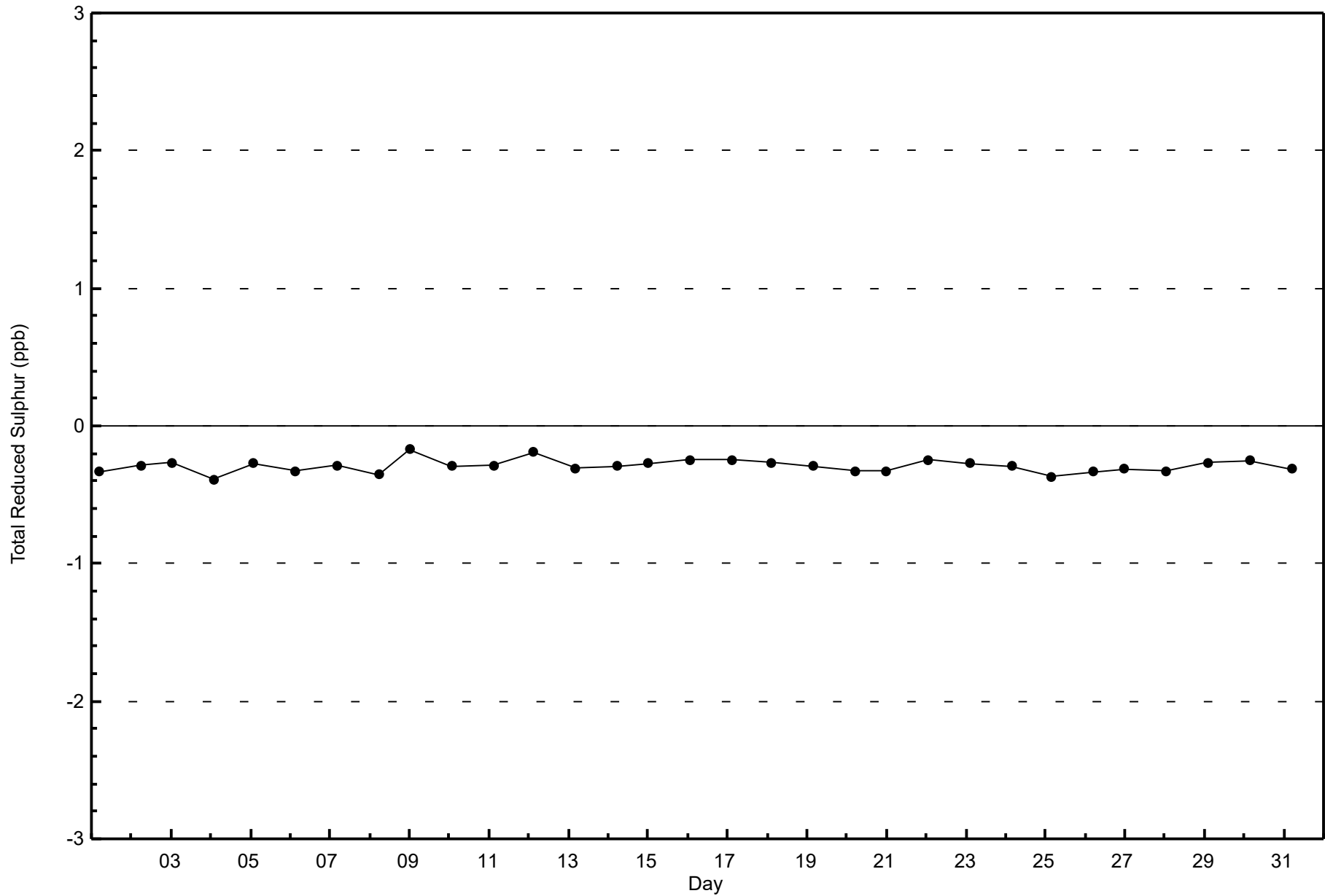
Total Reduced Sulphur (TRS) - ppb
Conklin





Wood Buffalo Environmental Association
Zero Responses

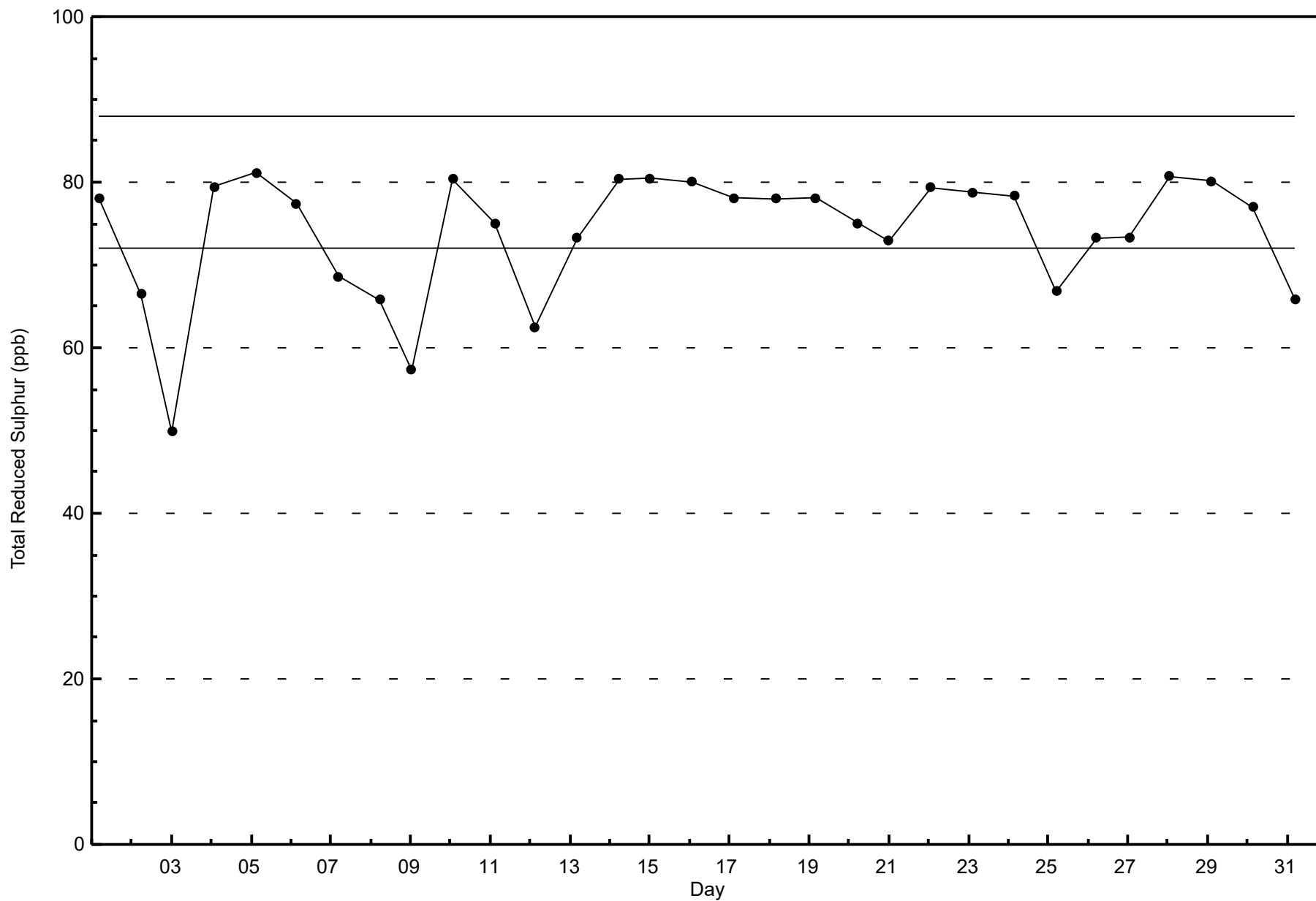
Total Reduced Sulphur (TRS) - ppb
Conklin - July 2025





Wood Buffalo Environmental Association
Span Responses

Total Reduced Sulphur (TRS) - ppb
Conklin - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Total Hydrocarbons (THC) - ppm

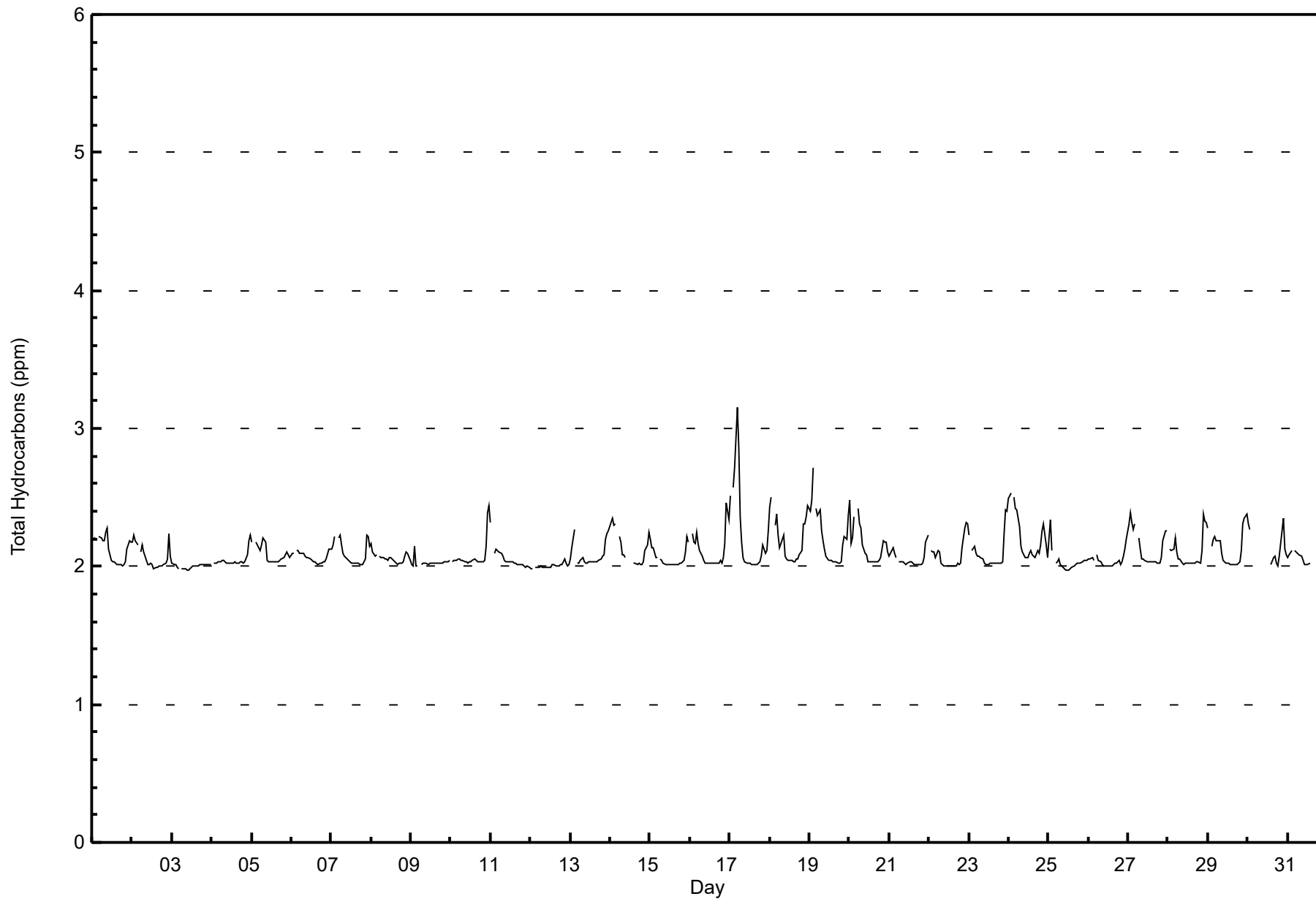
Conklin - July 2025

Maximum Value: 3.1 ppm on Jul 17 05:00																		Maximum Daily Average: 2.2 ppm on Jul 17																		Hours in Service: 744	
Minimum Value: 2.0 ppm on Jul 25 12:00																		Minimum Daily Average: 2.0 ppm on Jul 3																		Hours of Data: 690	
Maximum Diurnal Average: 2.2 ppm at hour 1																		Minimum Diurnal Average: 2.0 ppm at hour 15																		Hours of Missing Data: 54	
Monthly Average: 2.09 ppm																		Percentiles: P ₁ = 2.0 P ₁₀ = 2.0 Q ₁ = 2.0 Median = 2.0 Q ₃ = 2.1 P ₉₀ = 2.3 P ₉₉ = 2.5																		Hours of Calibration: 35	
																																				Percent Operational Time: 97.5	
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-Jul	2.2	2.2	2.2	Z	2.2	2.2	2.2	2.2	2.2	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	2.2	2.2	2.1	2.3											
2-Jul	2.2	2.2	2.2	2.2	Z	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	2.1	2.2	2.1	2.1	2.2											
3-Jul	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											
4-Jul	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	2.2	2.2	2.0	2.2											
5-Jul	2.2	Z	2.2	2.2	2.1	2.1	2.2	2.2	2.2	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	2.2											
6-Jul	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	2.1	2.1	2.1	2.1	2.1											
7-Jul	2.1	2.2	2.2	Z	2.2	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	2.2	2.2	2.1	2.1	2.2											
8-Jul	2.2	2.1	2.1	2.1	Z	2.1	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	2.1	2.1	2.1	2.0	2.1	2.2											
9-Jul	2.0	2.0	2.1	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	2.1											
10-Jul	Z	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	2.0	2.0	2.1	2.4	2.4	2.1	2.4											
11-Jul	2.3	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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.3											
12-Jul	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	2.1											
13-Jul	2.1	2.1	2.3	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	2.1	2.1	2.1	2.2	2.2	2.3	2.1	2.3											
14-Jul	2.3	2.4	2.3	2.3	Z	2.2	2.2	2.1	2.1	2.1	C	C	C	C	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.2	2.1	2.4											
15-Jul	2.2	2.1	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	2.1	2.2	2.2	2.1	2.2											
16-Jul	Z	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	2.1	2.2	2.5	2.3	2.1	2.5											
17-Jul	2.5	Z	2.6	2.7	3.1	2.9	2.4	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	2.2	2.1	2.1	2.3	2.2	3.1											
18-Jul	2.4	2.5	Z	2.3	2.4	2.2	2.1	2.2	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.3	2.3	2.4	2.4	2.2	2.5											
19-Jul	2.4	2.5	2.7	Z	2.4	2.4	2.4	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	2.2	2.2	2.2	2.4	2.2	2.7											
20-Jul	2.5	2.2	2.2	2.4	Z	2.4	2.3	2.3	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.2	2.2	2.1	2.2	2.5											
21-Jul	2.1	2.1	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	2.1	2.2	2.2	2.1	2.2											
22-Jul	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	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.3	2.3	2.3	2.1	2.3											
23-Jul	2.2	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	2.2	2.4	2.4	2.1	2.4											
24-Jul	2.5	2.5	Z	2.5	2.4	2.4	2.3	2.1	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	2.3	2.2	2.1	2.2	2.5											
25-Jul	2.2	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	2.3											
26-Jul	2.1	2.1	2.1	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	2.1	2.1	2.2	2.0	2.2											
27-Jul	2.3	2.4	2.3	2.3	2.3	Z	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	2.1	2.2	2.3	2.3	2.1	2.4											
28-Jul	Z	2.1	2.1	2.1	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	2.1	2.4	2.3	2.3	2.1	2.4											
29-Jul	2.3	Z	2.1	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	2.3	2.3	2.4	2.1	2.4											
30-Jul	2.3	2.3	Z	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	M	M	2.0	2.1	2.1	2.0	2.0	2.1	2.2	2.4	2.1	2.1	--	2.4										
31-Jul	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	UO	UO	UO	UO	UO	UO	UO	UO	UO	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 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.1 2.2 2.2 2.2																								Diurnal Average													
2.5 2.5 2.7 2.7 3.1 2.9 2.4 2.3 2.2 2.3 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.2 2.3 2.4 2.5 2.4																								Diurnal Maximum													
Z - zerospan C - Calibration M - Maintenance UO - Unstable Operation																																					



Wood Buffalo Environmental Association
Hourly Averages

Total Hydrocarbons (THC) - ppm
Conklin - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Hydrocarbons (THC) - ppm
Conklin - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	378	54.78	54.78
2.1 - 3.0	311	45.07	99.86
3.1 - 10.0	1	0.14	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 690

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Total Hydrocarbons (THC) - ppm
Conklin - July 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	21	3	2	3	5	15	20	10	12	19	50	39	41	42	52	44	378
2.1 - 3.0	11	1	1	4	3	13	31	45	74	53	8	8	2	4	14	26	298
3.1 - 10.0	0	0	0	0	0	1	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	32	4	3	7	8	29	51	55	86	72	58	47	43	46	66	70	677

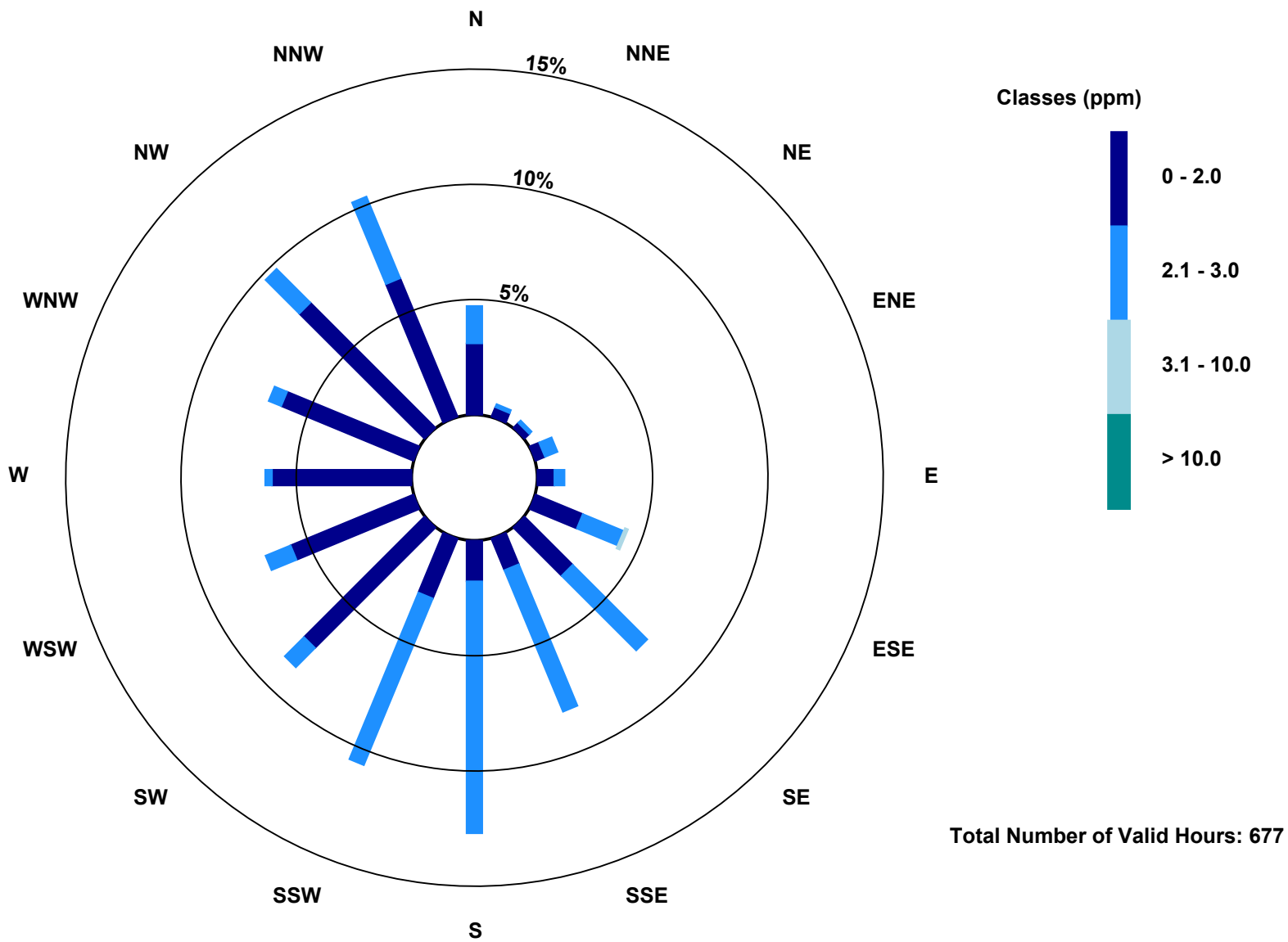
Total Number of Valid Hours: 677

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Total Hydrocarbons (THC) - ppm
Conklin



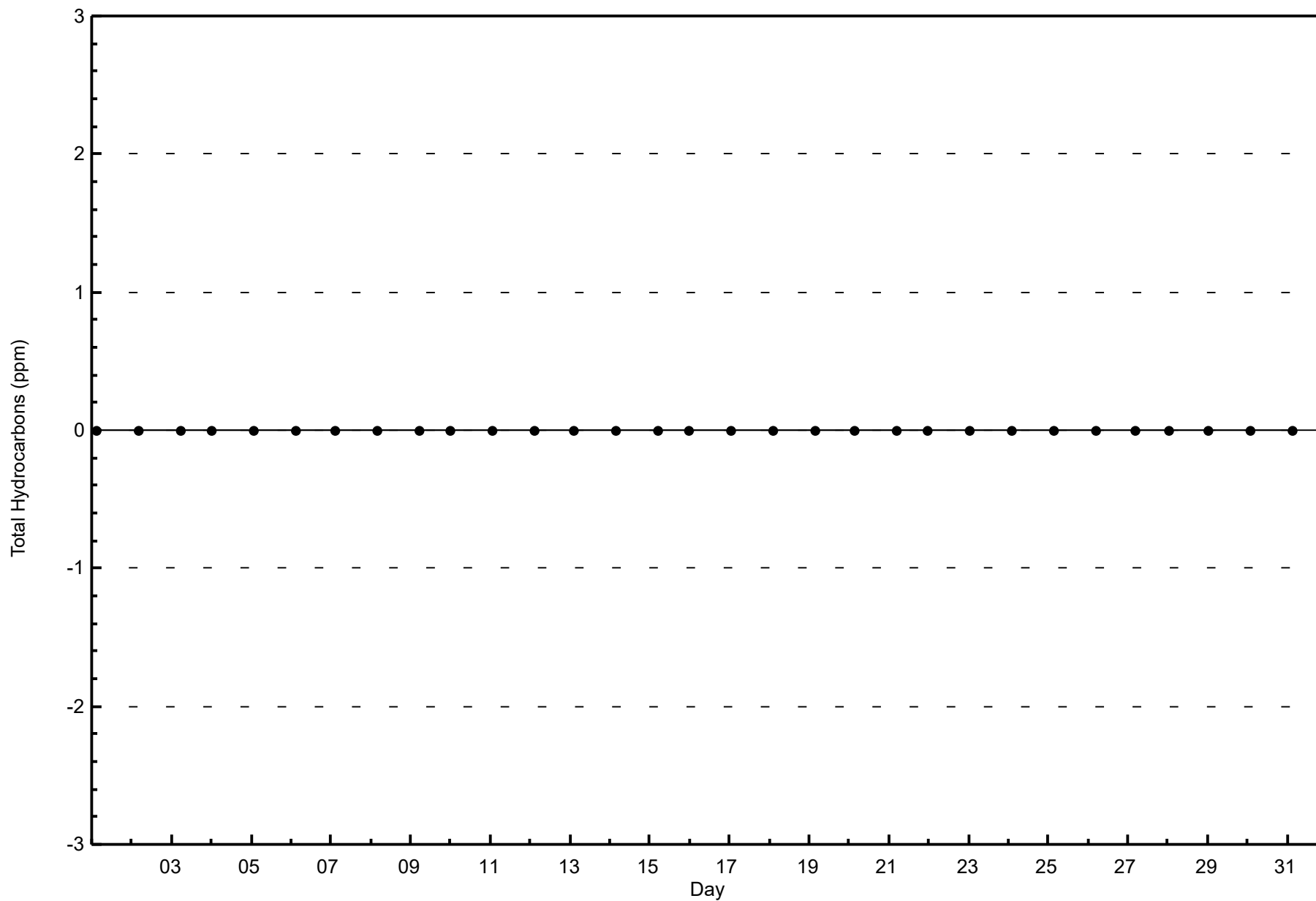


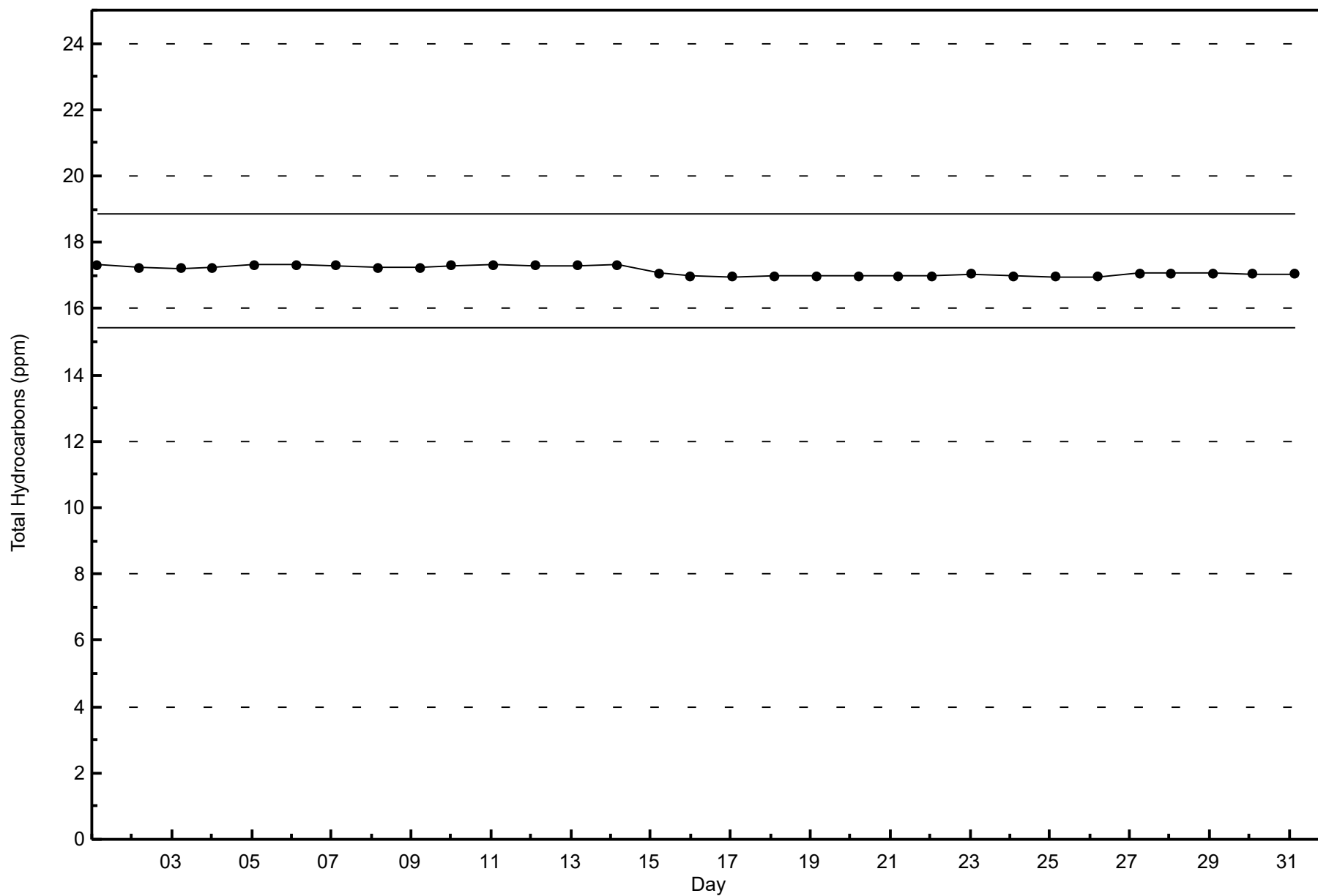
Wood Buffalo Environmental Association

Zero Responses

Total Hydrocarbons (THC) - ppm

Conklin - July 2025







Wood Buffalo Environmental Association

Summary of Hour Averages

Non Methane Hydrocarbons (NMHC) - ppm

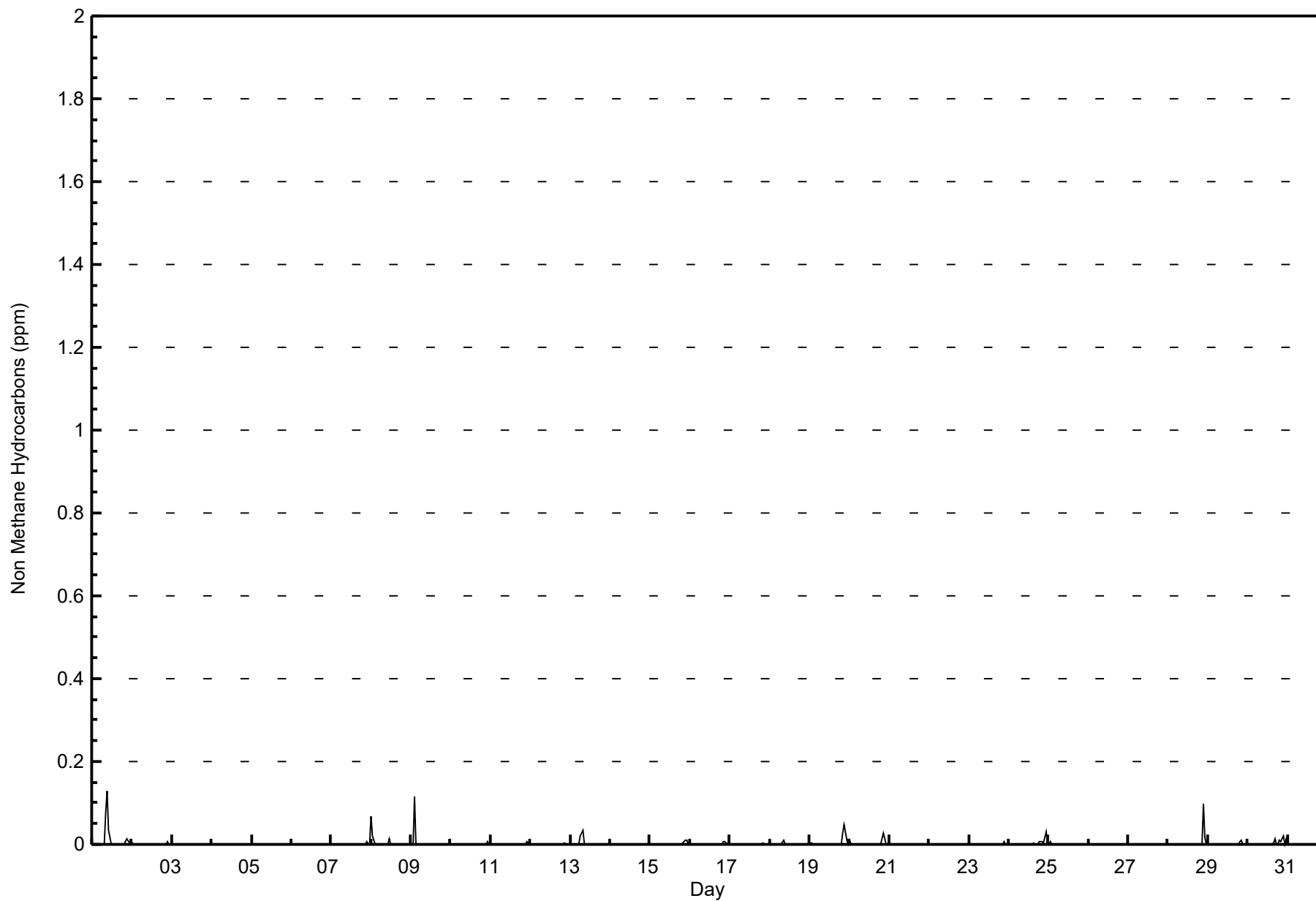
Conklin - July 2025

Maximum Value: 0.128 ppm on Jul 1 10:00																		Maximum Daily Average: 0.012 ppm on Jul 1										Hours in Service: 744	
Minimum Value: 0.000 ppm on Jul 1 01:00																		Minimum Daily Average: 0.000 ppm on Jul 3										Hours of Data: 690	
Maximum Diurnal Average: 0.008 ppm at hour 22																		Minimum Diurnal Average: 0.000 ppm at hour 4										Hours of Missing Data: 54	
Monthly Average: 0.002 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: 35	
																												Percent Operational Time: 97.5	
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-Jul	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.003	0.078	0.128	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.005	0.012	0.005	0.005	0.012	0.128		
2-Jul	0.002	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	0.001	0.000	0.007	0.000	0.000	0.000	0.000	0.007		
3-Jul	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		
4-Jul	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	0.001	0.000	0.000	0.001	0.001		
5-Jul	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		
6-Jul	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		
7-Jul	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	0.006	0.000	0.000	0.000	0.006		
8-Jul	0.069	0.021	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.001	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.005	0.069	0.069		
9-Jul	0.000	0.000	0.114	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	0.005	0.114	0.114		
10-Jul	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	0.005	0.000	0.000	0.005	0.005		
11-Jul	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	0.007	0.000	0.000	0.007	0.007		
12-Jul	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	0.005	0.001	0.000	0.000	0.000	0.005		
13-Jul	0.000	0.000	0.000	Z	0.000	0.000	0.019	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.033	0.033		
14-Jul	0.000	0.000	0.000	0.000	Z	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		
15-Jul	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	0.007	0.009	0.011	0.001	0.001	0.011	0.011		
16-Jul	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.006	0.005	0.000	0.001	0.006	0.006		
17-Jul	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	0.005	0.000	0.000	0.000	0.000	0.005	0.005		
18-Jul	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.001	0.011	0.011		
19-Jul	0.004	0.003	0.000	Z	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	0.001	0.028	0.047	0.011	0.000	0.004	0.047		
20-Jul	0.010	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	0.026	0.015	0.000	0.000	0.002	0.026	0.026		
21-Jul	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		
22-Jul	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		
23-Jul	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	0.005	0.000	0.000	0.000	0.000	0.005		
24-Jul	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	0.005	0.000	0.001	0.007	0.006	0.008	0.002	0.031	0.000	0.003	0.031	0.031		
25-Jul	0.000	0.005	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	0.005		
26-Jul	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		
27-Jul	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		
28-Jul	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	0.098	0.016	0.000	0.005	0.098		
29-Jul	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	0.006	0.009	0.000	0.000	0.000	0.001	0.009		
30-Jul	0.000	0.000	Z	UO	UO	UO	UO	UO	UO	UO	UO	UO	M	M	0.000	0.004	0.014	0.000	0.000	0.009	0.008	0.021	0.000	0.013	--	--	0.021		
31-Jul	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	UO	UO	UO	UO	UO	UO	UO	UO	UO	0.000	0.000	--	0.000		
0.003 0.001 0.004 0.000 0.000 0.000 0.001 0.001 0.003 0.004 0.001 0.001 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.001 0.004 0.008 0.003 0.001																										Diurnal Average			
0.069 0.021 0.114 0.000 0.000 0.000 0.019 0.033 0.078 0.128 0.033 0.015 0.000 0.001 0.001 0.005 0.014 0.001 0.007 0.009 0.028 0.098 0.031 0.013																										Diurnal Maximum			
Z - zerospan C - Calibration M - Maintenance UO - Unstable Operation																													



Wood Buffalo Environmental Association
Hourly Averages

Non Methane Hydrocarbons (NMHC) - ppm
Conklin - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Non Methane Hydrocarbons (NMHC) - ppm
Conklin - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 0.005	652	94.49	94.49
0.006 - 0.05	33	4.78	99.28
0.06 - 0.1	5	0.72	100.00
> 0.1	0	0.00	100.00

Total Number of Valid Hours: 690

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Non Methane Hydrocarbons (NMHC) - ppm
Conklin - July 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	30	4	3	7	8	27	48	51	80	58	56	46	43	44	65	69	639
0.006 - 0.05	1	0	0	0	0	2	2	4	4	14	2	1	0	1	1	1	33
0.06 - 0.1	1	0	0	0	0	0	1	0	2	0	0	0	0	1	0	0	5
> 0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	32	4	3	7	8	29	51	55	86	72	58	47	43	46	66	70	677

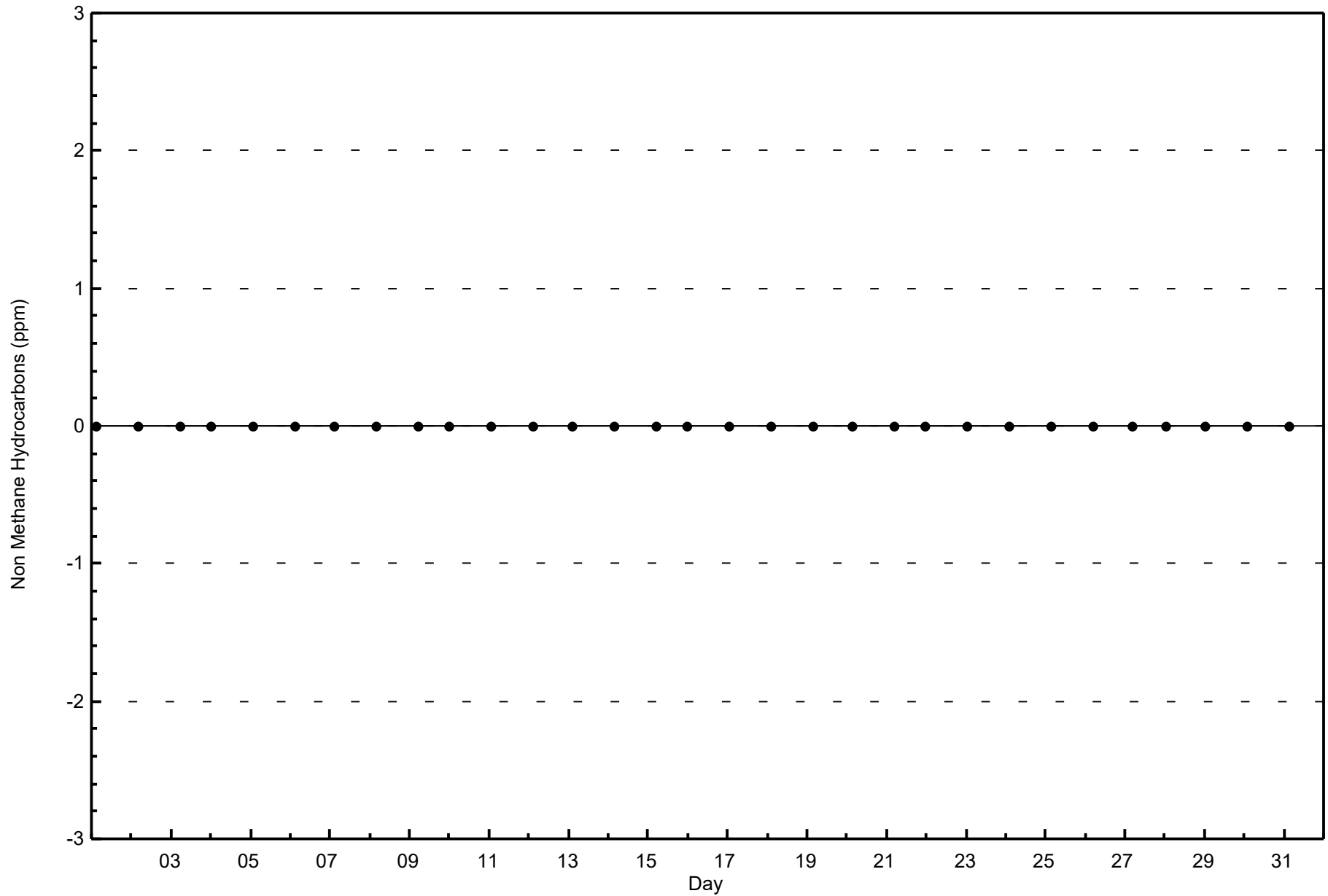
Total Number of Valid Hours: 677

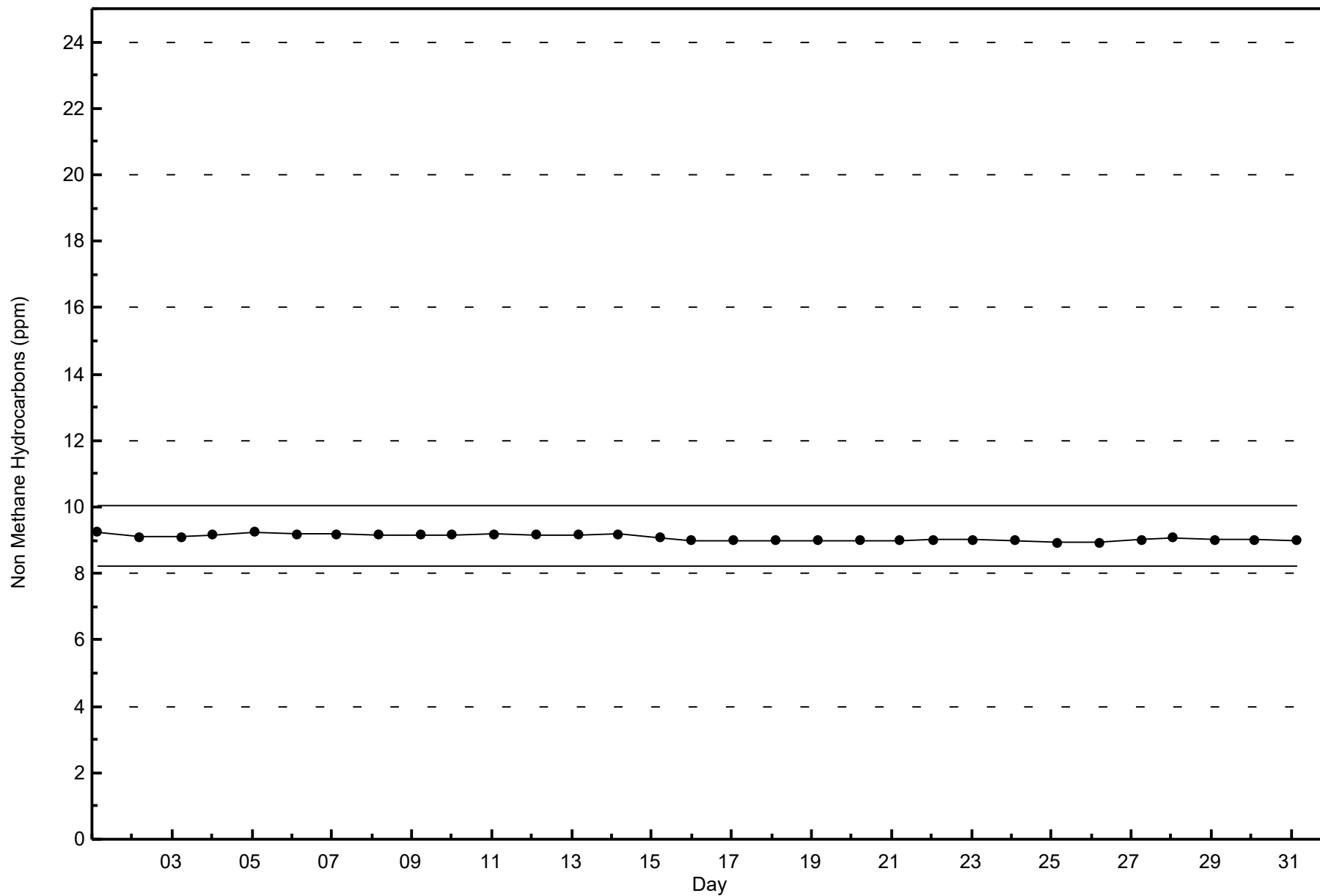
Total Number of Hours: 744



Non Methane Hydrocarbons (NMHC) - ppm









Wood Buffalo Environmental Association

Summary of Hour Averages

Methane (CH₄) - ppm

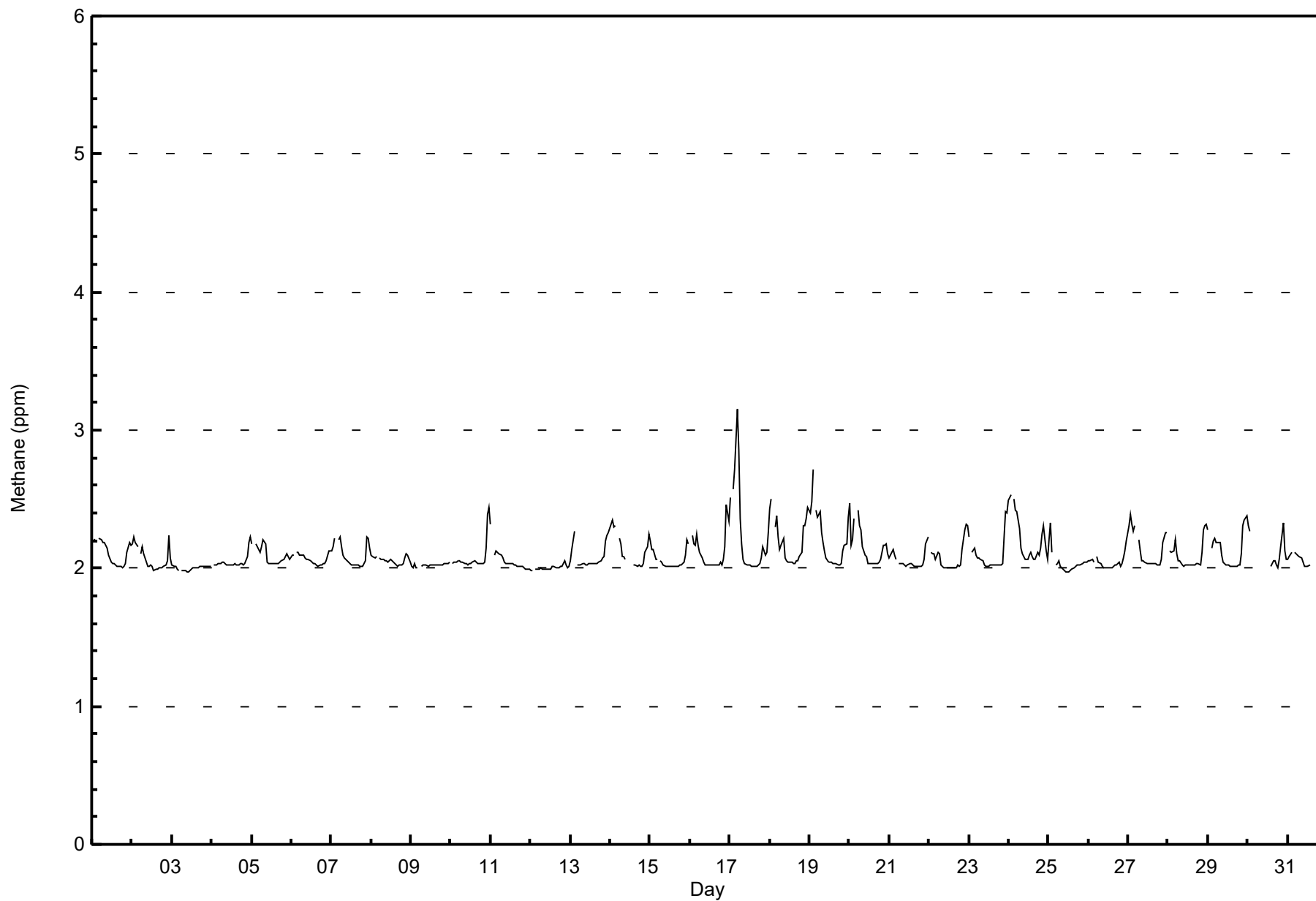
Conklin - July 2025

Number of Exceedences (AAAQO): Maximum Value: 3.1 ppm on Jul 17 05:00																			1-hr: 0 24-hr: 0 Maximum Daily Average: 2.2 ppm on Jul 17							Hours in Service: 744 Hours of Data: 690 Hours of Missing Data: 54 Hours of Calibration: 35 Percent Operational Time: 97.5						
Minimum Value: 2.0 ppm on Jul 25 12:00 Maximum Diurnal Average: 2.2 ppm at hour 1 Monthly Average: 2.09 ppm																			Minimum Daily Average: 2.0 ppm on Jul 3 Minimum Diurnal Average: 2.0 ppm at hour 16 Percentiles: P ₁ = 2.0 P ₁₀ = 2.0 Q ₁ = 2.0 Median = 2.0 Q ₃ = 2.1 P ₉₀ = 2.2 P ₉₉ = 2.5													
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-Jul	2.2	2.2	2.2	Z	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	2.1	2.2	2.2	2.1	2.2						
2-Jul	2.2	2.2	2.2	2.2	Z	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	2.1	2.2	2.1	2.1	2.2						
3-Jul	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						
4-Jul	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	2.2	2.2	2.0	2.2						
5-Jul	2.2	Z	2.2	2.2	2.1	2.1	2.2	2.2	2.2	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	2.2						
6-Jul	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	2.1	2.1	2.1	2.1	2.1						
7-Jul	2.1	2.2	2.2	Z	2.2	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	2.2	2.2	2.1	2.1	2.2						
8-Jul	2.1	2.1	2.1	2.1	Z	2.1	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	2.1	2.1	2.1	2.0	2.1	2.1						
9-Jul	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						
10-Jul	Z	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	2.0	2.0	2.1	2.4	2.4	2.1	2.4						
11-Jul	2.3	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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.3						
12-Jul	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	2.1						
13-Jul	2.1	2.1	2.3	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	2.2	2.2	2.3	2.1	2.3						
14-Jul	2.3	2.4	2.3	2.3	Z	2.2	2.2	2.1	2.1	2.1	C	C	C	C	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.2	2.1	2.4						
15-Jul	2.2	2.1	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	2.1	2.2	2.2	2.1	2.2							
16-Jul	Z	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	2.1	2.2	2.5	2.3	2.1	2.5						
17-Jul	2.5	Z	2.6	2.7	3.1	2.9	2.4	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	2.2	2.1	2.1	2.3	2.2	3.1						
18-Jul	2.4	2.5	Z	2.3	2.4	2.2	2.1	2.2	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.3	2.3	2.4	2.4	2.2	2.5						
19-Jul	2.4	2.5	2.7	Z	2.4	2.4	2.4	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	2.1	2.2	2.2	2.4	2.2	2.7						
20-Jul	2.5	2.2	2.2	2.4	Z	2.4	2.3	2.3	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.2	2.2	2.1	2.2	2.5						
21-Jul	2.1	2.1	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	2.1	2.2	2.2	2.1	2.2						
22-Jul	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	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.3	2.3	2.3	2.1	2.3						
23-Jul	2.2	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	2.2	2.4	2.4	2.1	2.4						
24-Jul	2.5	2.5	Z	2.5	2.4	2.4	2.3	2.1	2.1	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	2.1	2.1	2.2	2.5						
25-Jul	2.2	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	2.3						
26-Jul	2.1	2.1	2.1	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	2.1	2.1	2.2	2.0	2.2						
27-Jul	2.3	2.4	2.3	2.3	Z	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	2.1	2.2	2.3	2.3	2.1	2.4						
28-Jul	Z	2.1	2.1	2.1	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	2.1	2.3	2.3	2.3	2.1	2.3						
29-Jul	2.3	Z	2.1	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	2.3	2.3	2.4	2.1	2.4						
30-Jul	2.3	2.3	Z	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	M	M	2.0	2.1	2.1	2.0	2.0	2.1	2.2	2.3	2.1	2.1	--	2.3					
31-Jul	2.1	2.1	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	UO	UO	UO	UO	UO	UO	UO	UO	UO	2.1	2.1	--	2.1					
																								Diurnal Average								
																								Diurnal Maximum								
Z - zerospan C - Calibration M - Maintenance UO - Unstable Operation																																



Wood Buffalo Environmental Association
Hourly Averages

Methane (CH₄) - ppm
Conklin - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Methane (CH₄) - ppm
Conklin - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	380	55.07	55.07
2.1 - 3.0	309	44.78	99.86
3.1 - 10.0	1	0.14	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 690

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Methane (CH₄) - ppm
Conklin - July 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	21	3	2	3	5	15	20	10	12	19	50	39	41	44	52	44	380
2.1 - 3.0	11	1	1	4	3	13	31	45	74	53	8	8	2	2	14	26	296
3.1 - 10.0	0	0	0	0	0	1	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	32	4	3	7	8	29	51	55	86	72	58	47	43	46	66	70	677

Total Number of Valid Hours: 677

Total Number of Hours: 744



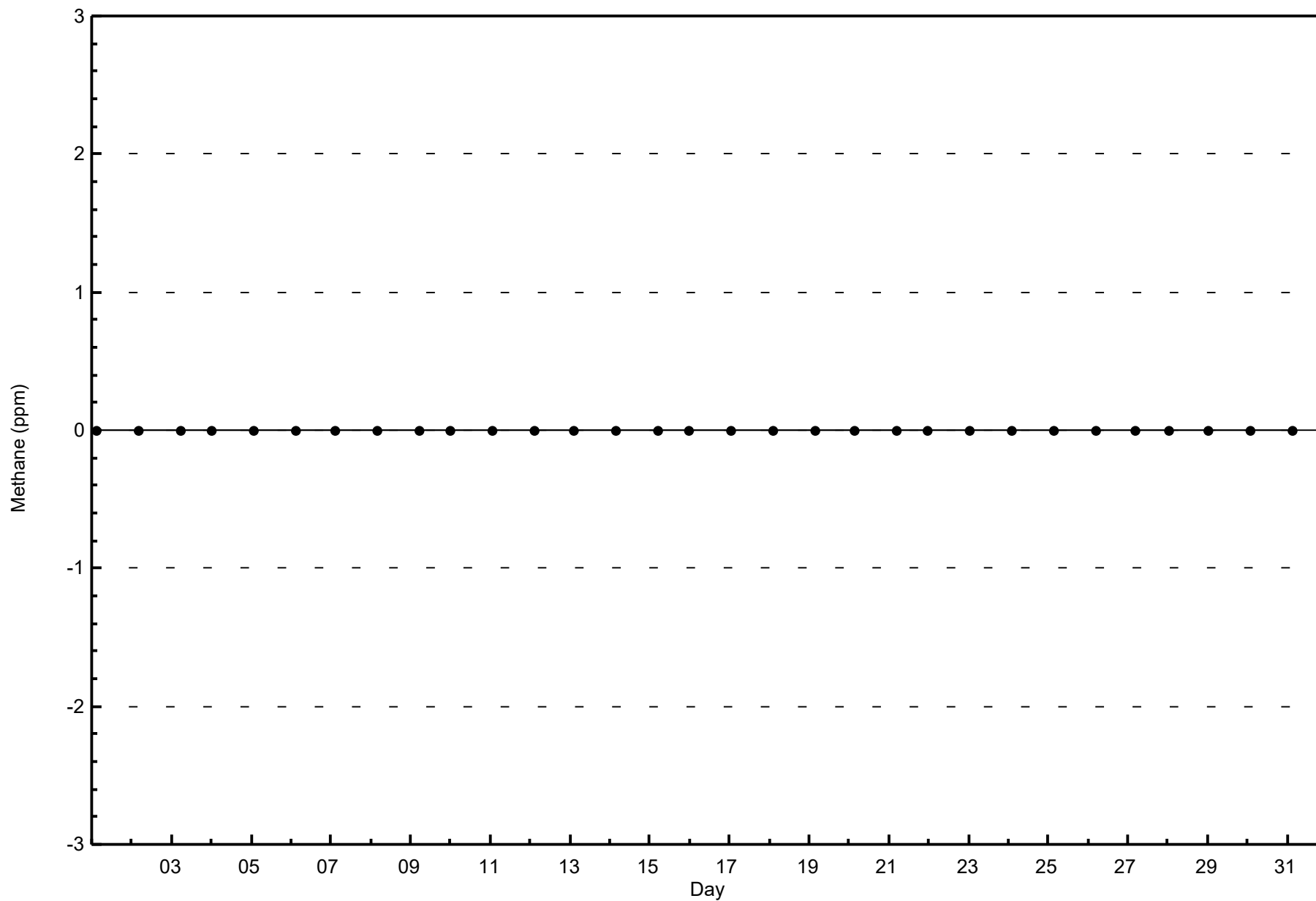
Methane (CH₄) - ppm
Conklin





Wood Buffalo Environmental Association
Zero Responses

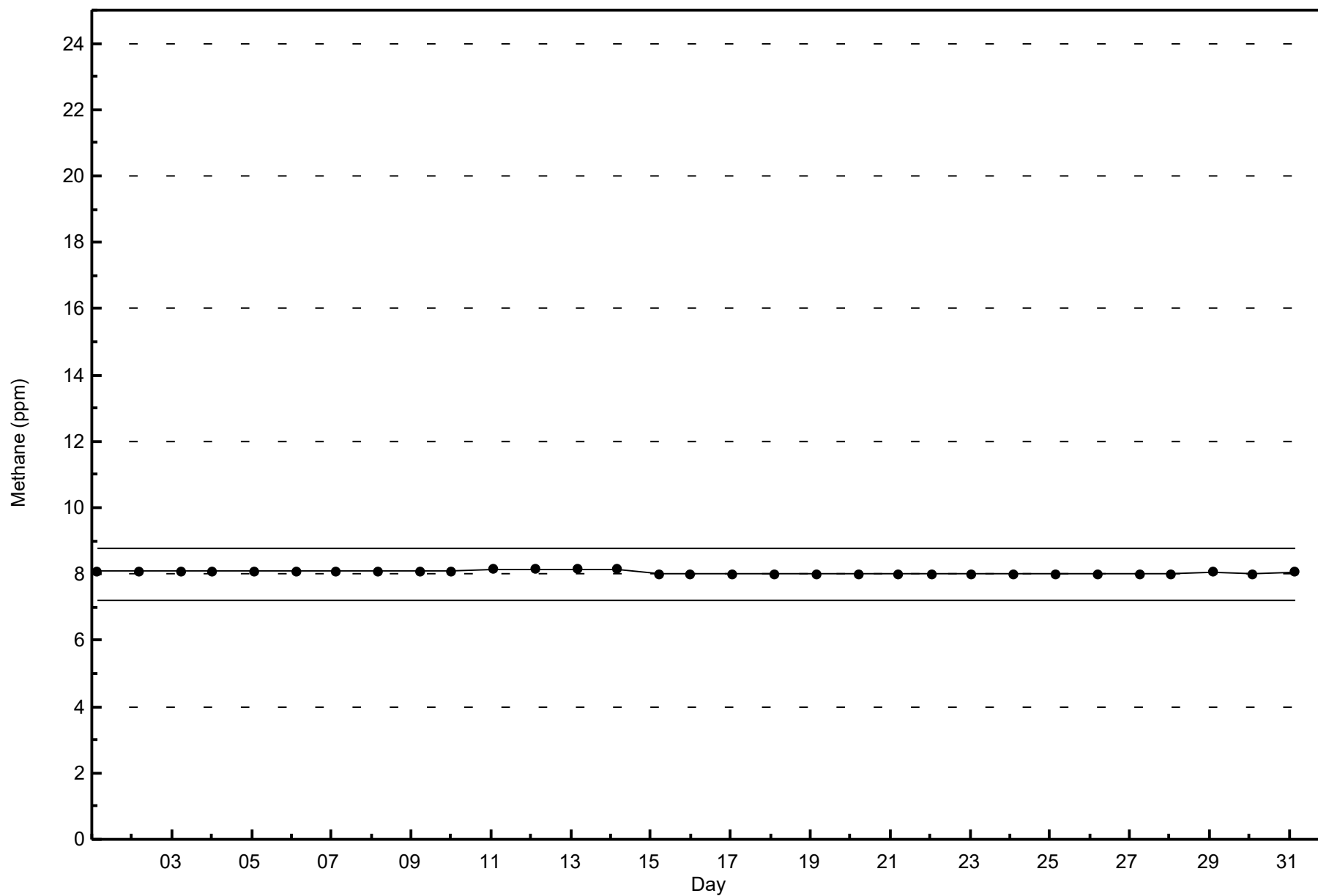
Methane (CH₄) - ppm
Conklin - July 2025





Wood Buffalo Environmental Association
Span Responses

Methane (CH₄) - ppm
Conklin - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitric Oxide (NO) - ppb

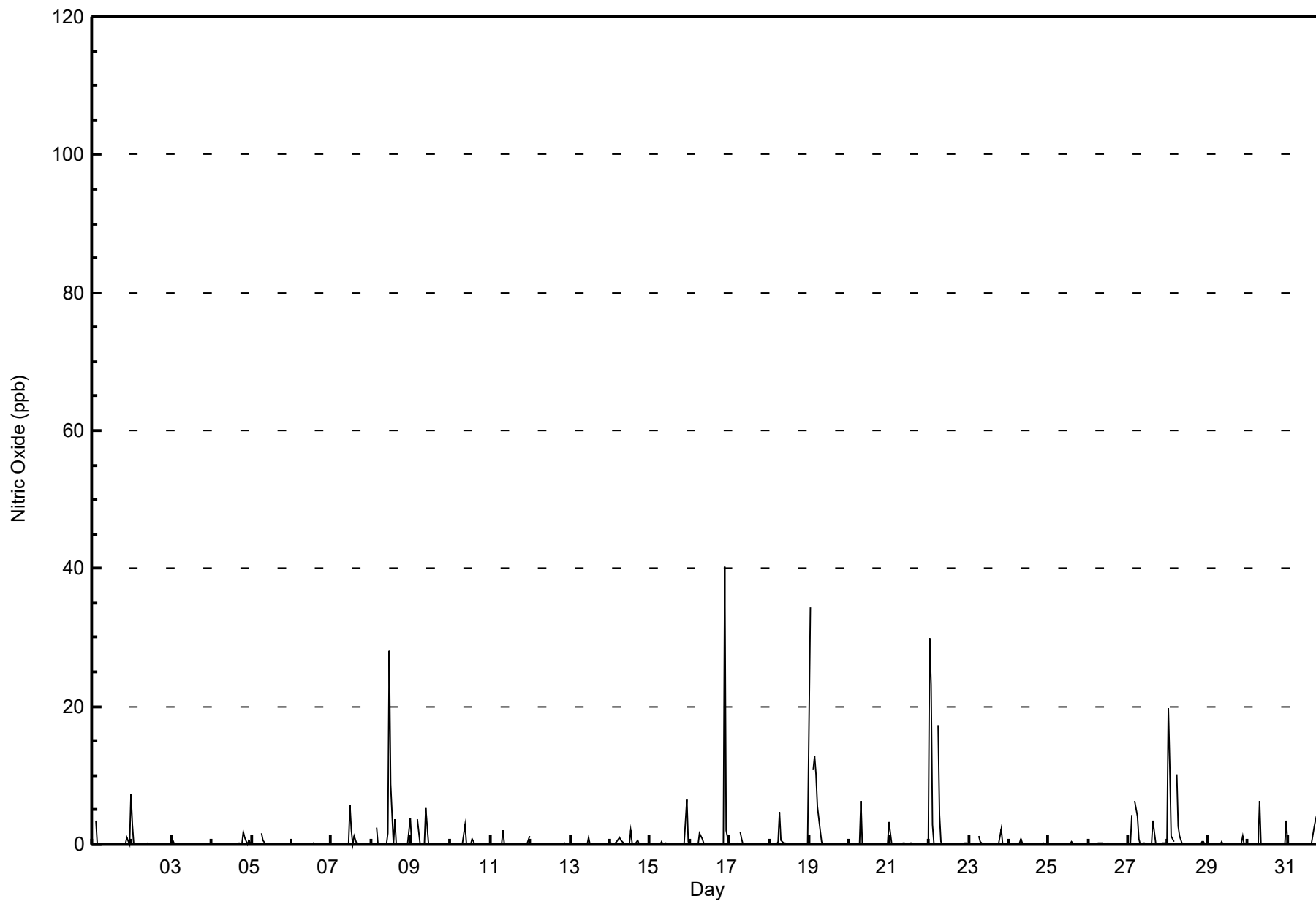
Conklin - July 2025

Maximum Value: 40.3 ppb on Jul 16 22:00																				Maximum Daily Average: 3.4 ppb on Jul 22					Hours in Service: 744				
Minimum Value: 0.0 ppb on Jul 1 04:00																				Minimum Daily Average: 0.0 ppb on Jul 12					Hours of Data: 708				
Maximum Diurnal Average: 3.5 ppb at hour 1																				Minimum Diurnal Average: 0.0 ppb at hour 14					Hours of Missing Data: 36				
Monthly Average: 0.63 ppb																				Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.8 P ₉₉ = 12.8					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-Jul	0.5	Z	3.4	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	0.9	0.0	7.4	0.5	7.4			
2-Jul	2.9	0.0	Z	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	0.0	0.0	0.1	2.9			
3-Jul	1.0	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	1.0			
4-Jul	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	0.1	0.0	0.0	1.8	1.1	0.0	0.6	0.1	0.2	1.8			
5-Jul	0.0	0.0	0.0	0.0	0.2	Z	1.6	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	0.1	0.0	0.0	0.0	0.1	1.6			
6-Jul	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2			
7-Jul	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.8	2.1	0.0	1.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.4	5.8			
8-Jul	0.0	0.0	Z	2.5	0.0	0.0	0.0	0.0	0.0	0.0	1.5	28.1	8.7	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8	2.1	28.1			
9-Jul	0.0	0.0	0.0	Z	3.6	0.0	0.0	0.0	0.0	5.3	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	0.1	0.4	5.3			
10-Jul	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	2.8	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.8			
11-Jul	0.0	0.0	0.0	0.0	0.0	Z	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	1.3	0.1	2.0			
12-Jul	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	0.2	0.0	0.0	0.0	0.0	0.2			
13-Jul	0.0	Z	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	0.2	0.1	1.0			
14-Jul	0.2	0.0	Z	0.3	0.5	1.0	0.5	0.3	0.3	0.0	0.0	0.0	2.1	0.2	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	2.1			
15-Jul	0.0	0.0	0.1	Z	0.3	0.1	0.0	0.4	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	3.2	6.6	0.4	0.5	6.6			
16-Jul	0.0	0.0	0.0	0.0	Z	0.0	1.5	0.9	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	40.3	2.0	0.0	2.0	40.3			
17-Jul	0.0	0.0	0.0	0.0	0.1	Z	1.8	0.9	0.0	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	0.2	1.8			
18-Jul	Z	0.0	0.0	0.0	0.0	0.4	4.6	0.6	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	0.0	0.3	4.6			
19-Jul	34.3	Z	10.8	12.9	10.2	5.5	2.1	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	0.1	0.0	0.0	3.3	34.3			
20-Jul	0.0	0.0	Z	0.0	0.0	0.0	0.0	6.4	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	0.3	6.4			
21-Jul	3.4	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.2	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	3.4			
22-Jul	29.9	23.2	2.9	0.3	Z	17.3	4.3	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	0.3	0.0	3.4	29.9			
23-Jul	0.0	0.0	0.0	0.0	0.0	Z	1.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.2	2.2			
24-Jul	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.8	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.0	0.0	0.1	0.8			
25-Jul	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	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4			
26-Jul	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.2	0.2	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	0.0	0.2			
27-Jul	0.1	0.3	4.3	Z	6.2	4.1	0.7	0.0	0.0	0.3	0.1	0.1	0.0	0.0	0.0	3.5	0.2	0.0	0.0	0.0	0.0	0.1	0.3	0.2	0.9	6.2			
28-Jul	19.7	11.6	1.1	0.5	Z	10.1	2.6	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	0.4	0.4	0.0	0.0	2.1	19.7			
29-Jul	0.1	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.2	0.0	0.0	0.1	1.2			
30-Jul	Z	0.0	0.0	0.0	0.0	0.1	0.0	6.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	0.4	6.3			
31-Jul	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	1.3	2.6	3.7	4.6	4.6	4.0	2.9	2.0	1.2	1.2	4.6			
																								Diurnal Average					
																								Diurnal Maximum					
Z - zerospan C - Calibration																													



Wood Buffalo Environmental Association
Hourly Averages

Nitric Oxide (NO) - ppb
Conklin - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitric Oxide (NO) - ppb
Conklin - July 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

Nitric Oxide (NO) - ppb
Conklin - July 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	33	4	3	7	8	27	53	54	84	81	63	48	43	45	64	71	688
21 - 40	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0	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	33	4	3	7	8	27	53	54	88	82	63	48	43	45	64	71	693

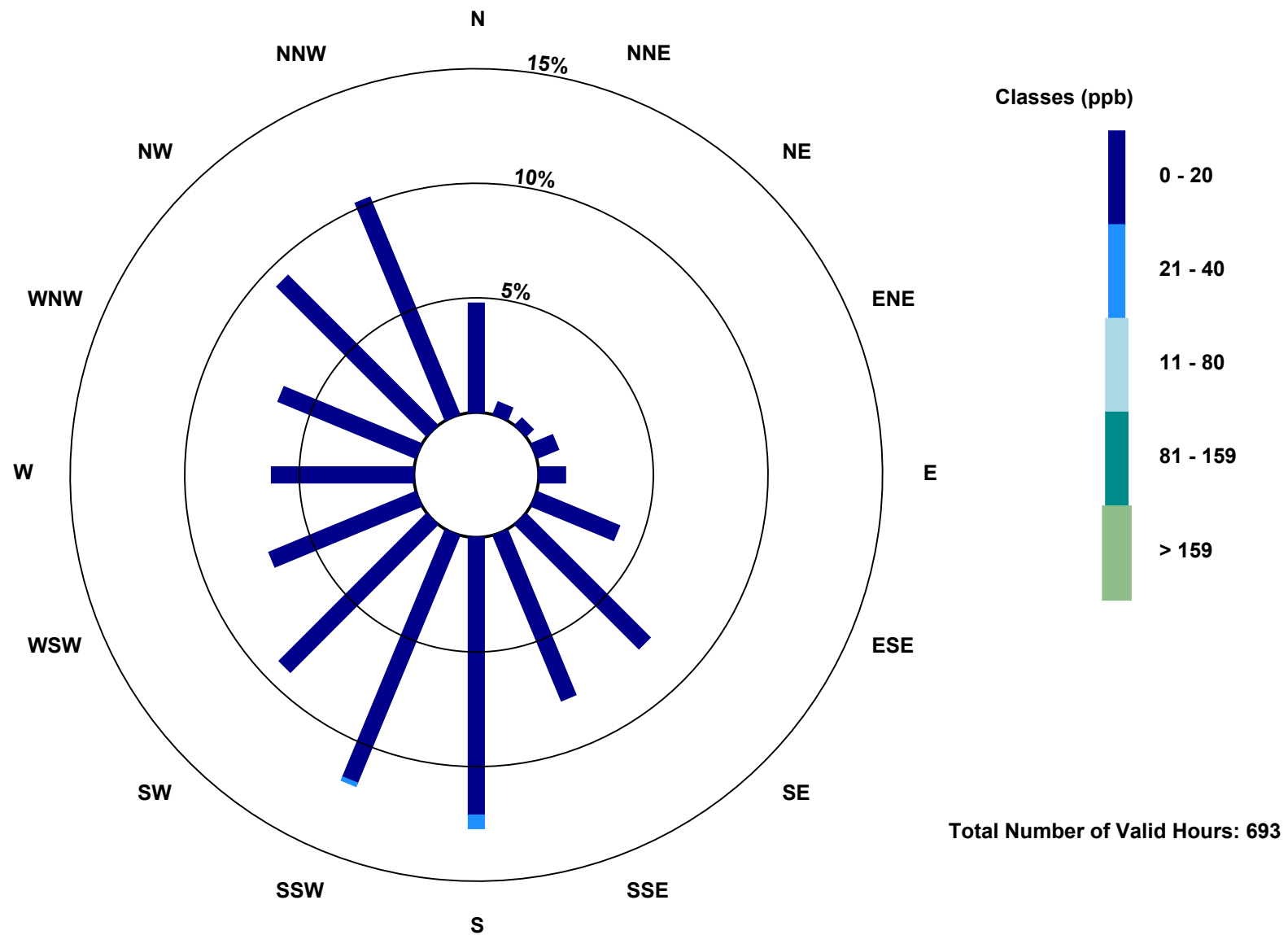
Total Number of Valid Hours: 693

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

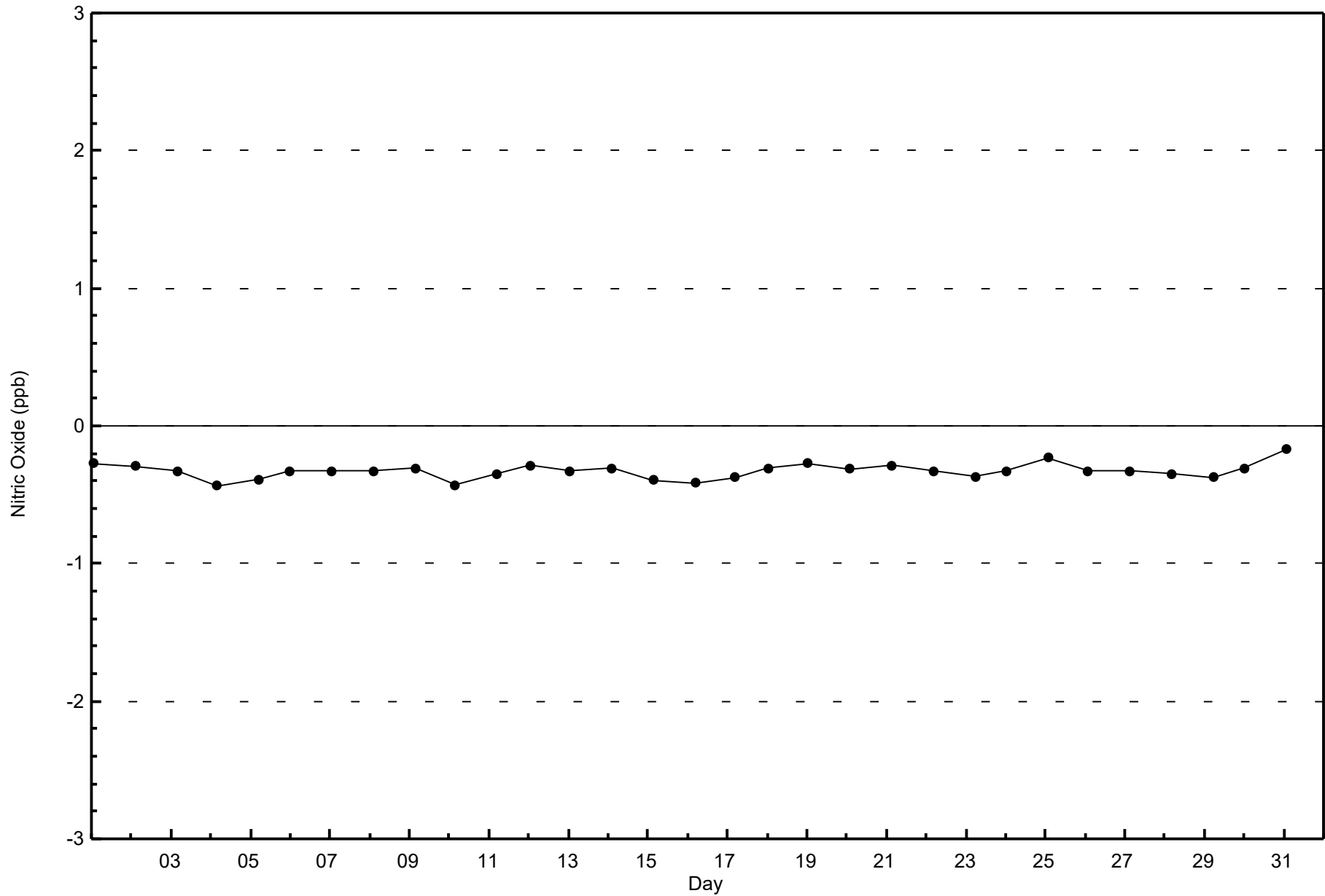
Nitric Oxide (NO) - ppb
Conklin





Wood Buffalo Environmental Association
Zero Responses

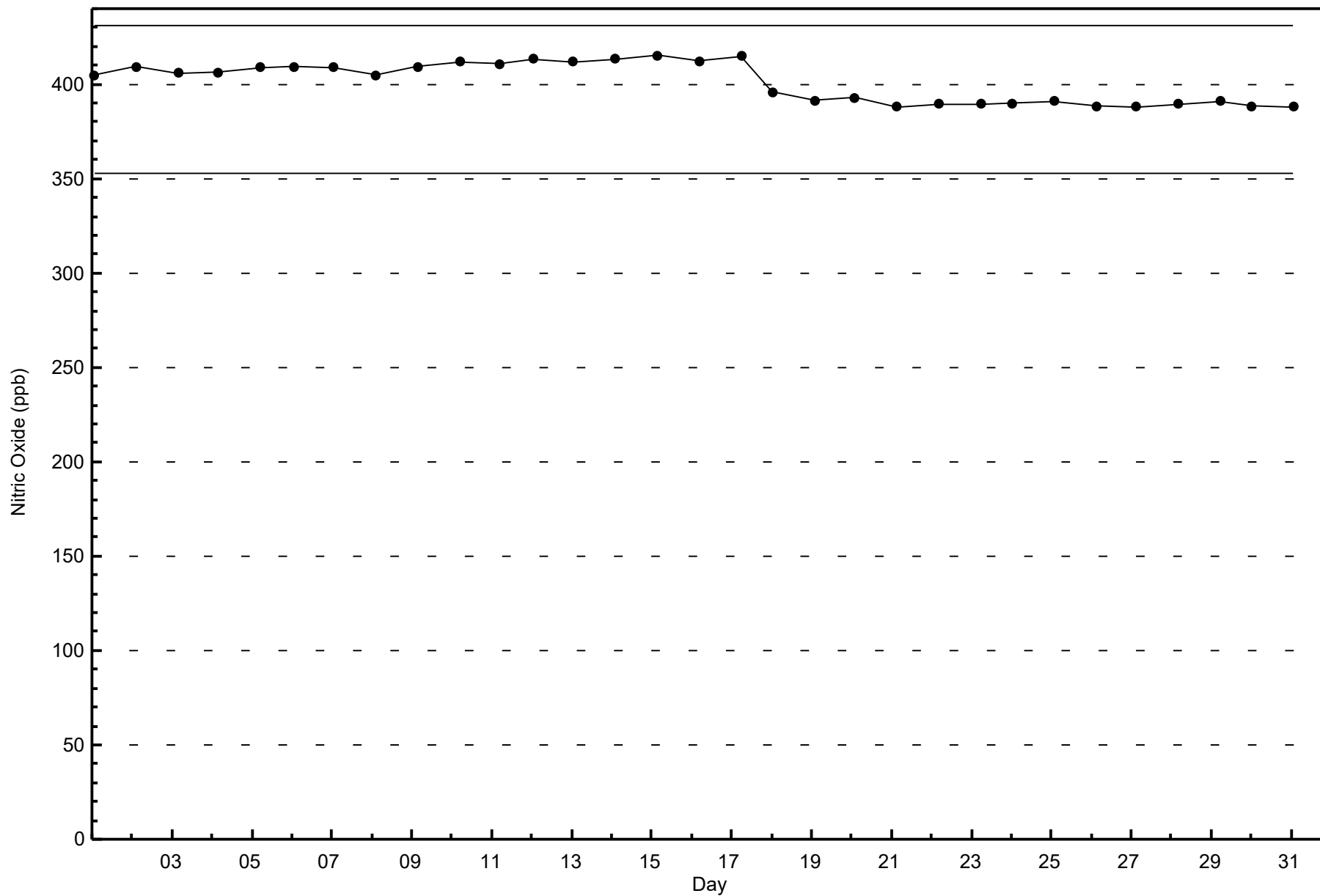
Nitric Oxide (NO) - ppb
Conklin - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitric Oxide (NO) - ppb
Conklin - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Dioxide (NO₂) - ppb

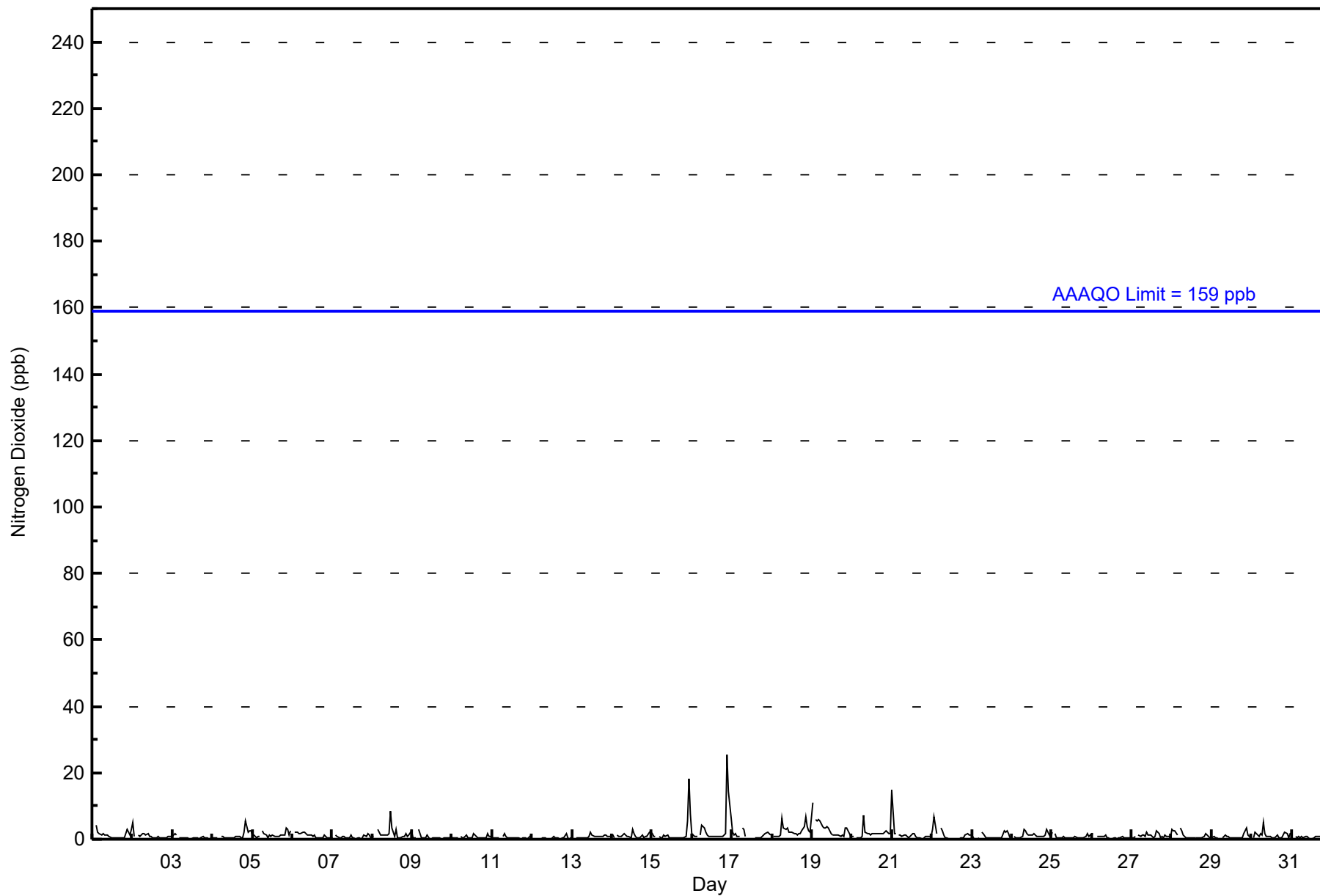
Conklin - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 25.5 ppb on Jul 16 22:00 Maximum Daily Average: 3.2 ppb on Jul 16																			Hours in Service: 744							
Minimum Value: 0.0 ppb on Jul 7 15:00 Minimum Daily Average: 0.4 ppb on Jul 12 Maximum Diurnal Average: 2.5 ppb at hour 22 Minimum Diurnal Average: 0.6 ppb at hour 18																			Hours of Data: 708							
Monthly Average: 1.22 ppb Percentiles: P ₁ = 0.1 P ₁₀ = 0.3 Q ₁ = 0.4 Median = 0.8 Q ₃ = 1.4 P ₉₀ = 2.3 P ₉₉ = 7.4																			Hours of Missing Data: 36							
																			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-Jul	1.2	Z	4.2	2.0	1.6	1.4	1.5	1.3	1.4	1.1	0.7	0.6	0.5	0.5	0.4	0.4	0.4	0.5	0.5	0.4	1.5	3.1	1.1	2.9	1.3	4.2
2-Jul	5.0	0.8	Z	1.2	0.8	1.1	1.7	1.6	1.3	1.7	0.8	0.7	0.6	0.5	0.6	0.7	0.5	0.6	0.6	0.5	0.5	0.8	1.0	0.8	1.1	5.0
3-Jul	0.8	1.7	1.1	Z	0.6	0.5	0.6	0.4	0.3	0.3	0.2	0.2	0.4	0.4	0.4	0.3	0.2	0.3	0.7	0.5	0.4	0.3	0.2	0.3	0.5	1.7
4-Jul	0.4	0.4	0.4	0.4	Z	0.8	0.8	0.6	0.4	0.3	0.3	0.5	0.3	0.4	0.8	0.8	1.0	0.6	0.4	2.2	5.4	2.1	2.7	2.6	1.1	5.4
5-Jul	1.3	1.2	0.6	0.8	0.7	Z	2.4	1.7	1.3	0.6	1.1	0.7	1.1	1.0	0.7	0.7	0.8	1.2	1.2	1.4	3.3	2.8	1.1	2.4	1.3	3.3
6-Jul	Z	2.2	2.3	2.0	1.8	1.8	2.0	2.0	1.5	1.3	1.3	1.2	1.0	1.4	0.5	0.4	0.4	0.5	0.5	1.3	0.9	0.4	0.5	0.5	1.2	2.3
7-Jul	0.6	Z	1.1	0.7	0.6	0.5	0.9	0.9	0.6	0.4	0.5	1.2	0.4	0.3	0.0	0.3	0.5	0.2	0.4	1.1	0.8	1.5	1.1	0.6	0.7	1.5
8-Jul	0.8	0.9	Z	3.1	2.1	1.1	1.3	1.2	1.1	1.2	1.9	8.3	3.5	0.9	3.1	0.6	0.5	0.6	0.7	0.8	1.8	0.7	1.2	2.4	1.7	8.3
9-Jul	0.5	0.3	0.3	Z	3.0	0.4	0.3	0.3	0.3	1.2	0.2	0.2	0.3	0.3	0.5	0.3	0.4	0.2	0.2	0.3	0.4	0.4	0.4	0.8	0.5	3.0
10-Jul	0.5	0.5	0.5	0.5	Z	0.9	0.6	0.5	1.4	0.6	0.6	0.6	0.6	1.9	0.9	0.6	0.5	0.5	0.5	0.5	0.6	1.8	1.0	0.7	0.8	1.9
11-Jul	0.5	0.4	0.3	0.4	0.4	Z	0.8	1.6	1.0	0.3	0.3	0.4	0.4	0.5	0.3	0.3	0.3	0.2	0.3	0.4	0.3	0.2	0.3	1.1	0.5	1.6
12-Jul	Z	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.3	0.1	0.2	0.1	0.3	0.8	0.5	0.3	0.2	0.2	0.4	0.5	1.5	0.6	0.2	0.3	0.4	1.5
13-Jul	0.4	Z	0.6	0.5	0.3	0.3	0.4	0.3	0.3	0.3	0.9	2.1	1.4	1.0	0.9	0.8	0.7	0.7	0.9	1.2	1.4	1.0	0.7	1.0	0.8	2.1
14-Jul	1.4	0.6	Z	1.1	0.8	0.7	1.1	1.5	1.2	0.8	0.9	0.5	2.8	1.7	0.9	0.6	0.5	0.7	1.1	0.6	0.8	0.9	2.0	2.1	1.1	2.8
15-Jul	1.7	1.0	1.0	Z	0.9	0.5	0.5	1.1	0.8	1.3	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.5	0.6	1.0	5.5	18.2	7.7	2.0	18.2
16-Jul	1.7	0.9	0.8	0.9	Z	1.2	4.4	3.2	2.1	1.2	1.0	0.9	0.9	0.9	0.8	0.7	0.8	0.7	0.9	1.1	1.6	25.5	14.2	6.2	3.2	25.5
17-Jul	2.2	1.4	1.6	0.9	0.9	Z	3.5	2.8	0.9	C	C	C	C	C	0.5	0.6	0.5	0.6	0.9	1.3	1.5	2.1	1.8	1.4	1.4	3.5
18-Jul	Z	0.8	0.9	1.0	1.0	1.1	6.2	3.3	3.0	3.6	2.1	2.0	2.0	1.9	1.7	1.4	1.8	1.7	2.7	3.9	6.8	3.7	2.7	2.1	2.5	6.8
19-Jul	10.9	Z	5.8	5.3	5.8	5.6	3.9	3.5	3.2	4.0	3.2	1.5	1.4	1.3	1.4	1.2	1.1	1.0	1.1	1.0	3.3	3.2	1.5	0.9	3.1	10.9
20-Jul	0.8	1.0	Z	0.6	0.5	0.6	0.8	7.4	2.1	1.7	1.5	1.2	1.6	1.7	1.5	1.5	1.6	1.6	1.7	1.6	2.6	2.1	1.5	1.7	1.7	7.4
21-Jul	14.9	1.7	1.5	Z	1.4	1.4	0.8	1.1	1.4	0.8	0.6	0.8	1.9	1.8	0.9	0.6	0.5	0.5	0.1	0.3	0.7	0.8	0.8	1.0	1.6	14.9
22-Jul	2.9	6.7	4.2	1.8	Z	3.6	2.7	1.1	0.6	0.3	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.5	0.6	0.4	1.4	1.8	1.4	1.1	1.4	6.7
23-Jul	1.1	0.3	0.2	0.2	0.4	Z	2.0	1.7	0.6	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.6	0.6	0.6	2.5	2.3	2.6	1.6	0.6	0.9	2.6
24-Jul	Z	0.7	0.3	0.6	0.4	0.3	1.0	3.1	2.6	1.5	1.1	1.1	1.3	1.6	1.2	1.0	0.9	1.0	0.8	0.7	1.3	3.0	1.3	0.6	1.2	3.1
25-Jul	2.2	Z	1.6	0.4	0.6	0.4	0.6	0.8	0.3	0.3	0.4	0.3	0.4	0.4	1.0	0.4	0.6	0.5	0.6	0.4	0.8	1.6	0.9	1.1	0.7	2.2
26-Jul	1.5	1.5	Z	0.7	0.8	0.8	1.0	1.0	1.1	0.4	0.4	0.2	0.2	0.6	0.3	0.2	0.4	0.4	0.8	0.3	0.4	0.4	0.4	0.4	0.6	1.5
27-Jul	0.5	0.4	1.0	Z	1.3	0.8	1.2	1.3	0.9	2.0	1.1	1.2	0.9	0.6	0.8	2.4	1.5	0.3	0.7	0.4	1.3	0.8	0.7	0.6	1.0	2.4
28-Jul	2.8	2.7	2.6	1.1	Z	3.2	2.4	1.4	0.5	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.8	1.7	1.3	0.9	0.6	1.1	3.2
29-Jul	0.4	0.9	0.4	0.3	0.2	Z	0.4	0.7	1.1	0.9	0.9	0.4	0.4	0.3	0.3	0.3	0.4	0.3	0.4	1.6	2.5	3.2	1.2	0.4	0.8	3.2
30-Jul	Z	0.4	2.1	1.5	0.7	1.7	1.1	5.0	1.9	0.9	0.7	0.7	0.5	0.6	0.6	1.2	0.6	0.3	0.5	1.4	2.0	1.6	0.6	1.9	1.2	5.0
31-Jul	1.6	Z	0.8	0.6	0.7	0.5	0.7	0.5	0.9	0.7	0.5	0.2	0.2	0.4	0.8	0.7	0.8	0.9	0.9	1.2	1.7	1.3	2.3	1.1	0.9	2.3
																									Diurnal Average	
																									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 - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Conklin - July 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

Nitrogen Dioxide (NO₂) - ppb
Conklin - July 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	33	4	3	7	8	27	53	54	88	81	63	48	43	45	64	71	692
21 - 40	0	0	0	0	0	0	0	0	0	1	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	33	4	3	7	8	27	53	54	88	82	63	48	43	45	64	71	693

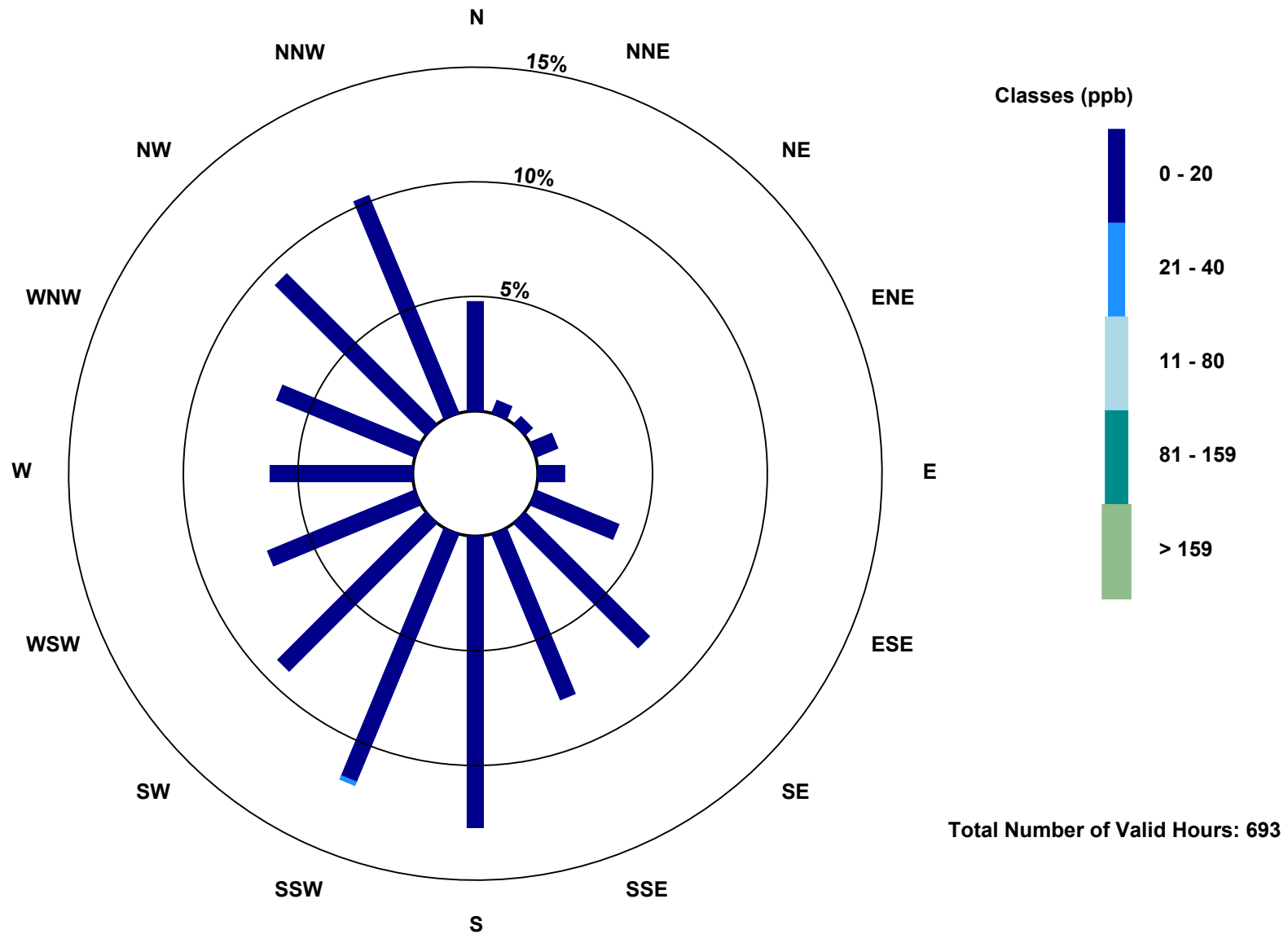
Total Number of Valid Hours: 693

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Nitrogen Dioxide (NO₂) - ppb
Conklin



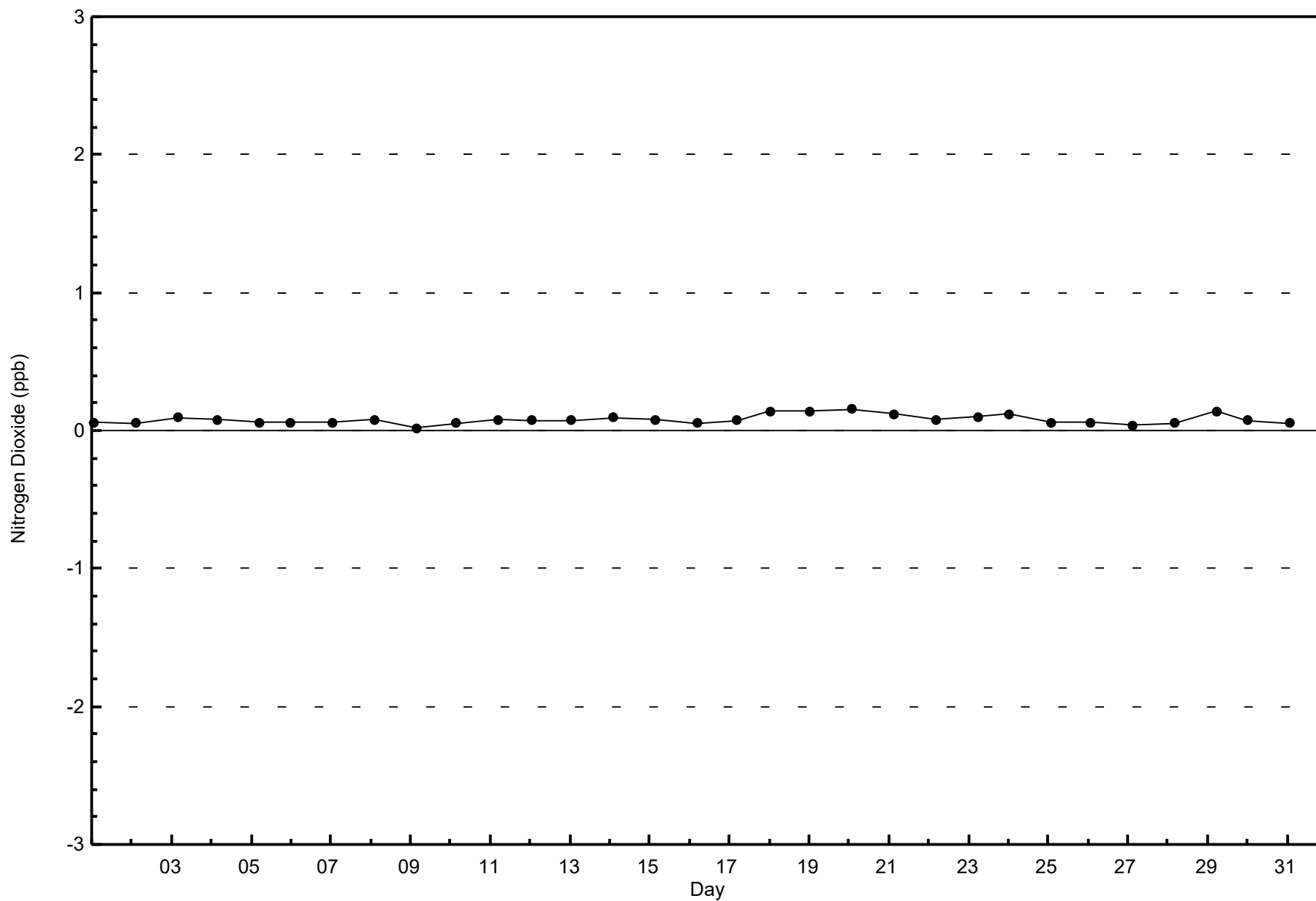


Wood Buffalo Environmental Association

Zero Responses

Nitrogen Dioxide (NO₂) - ppb

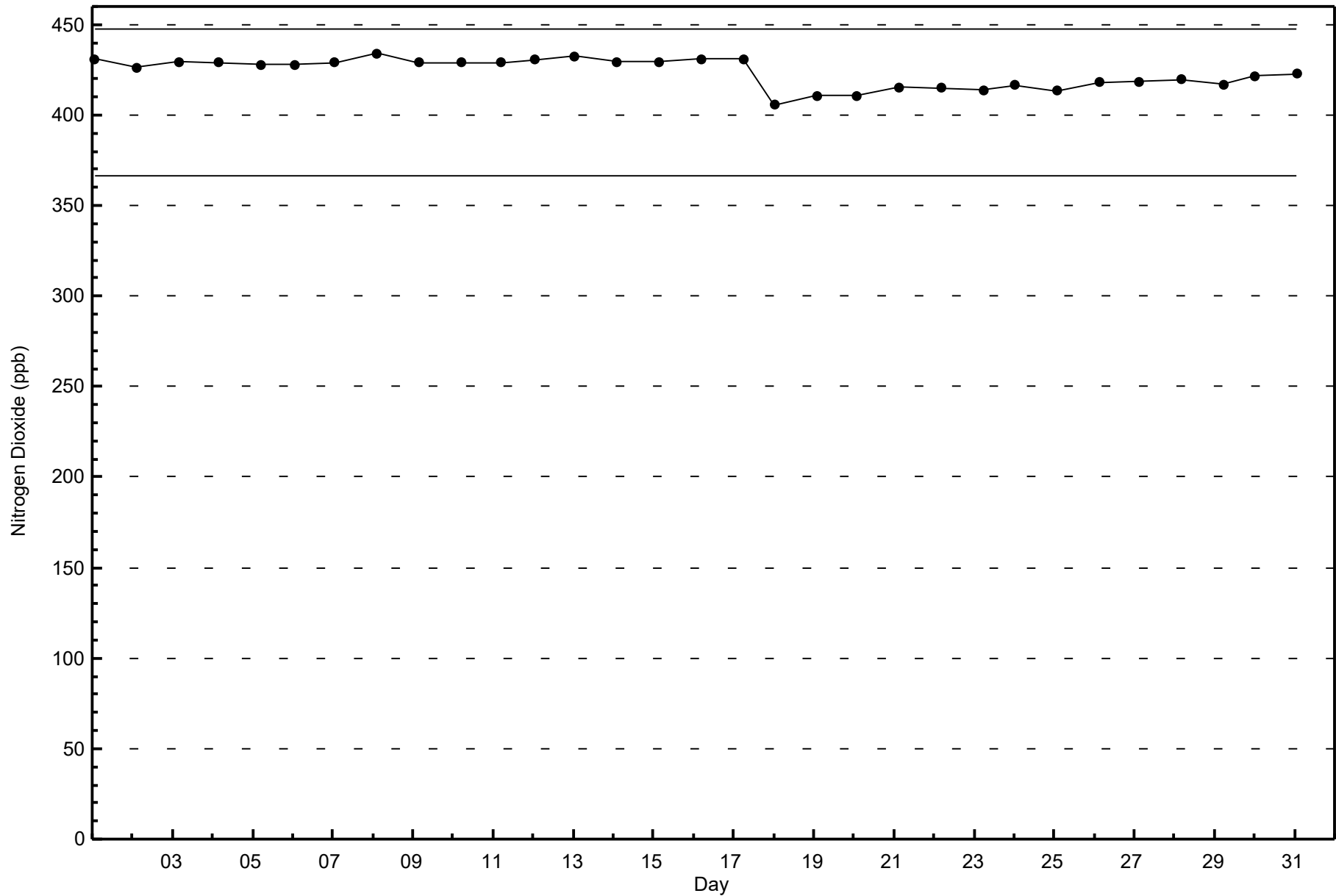
Conklin - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitrogen Dioxide (NO₂) - ppb
Conklin - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Oxides (NO_x) - ppb

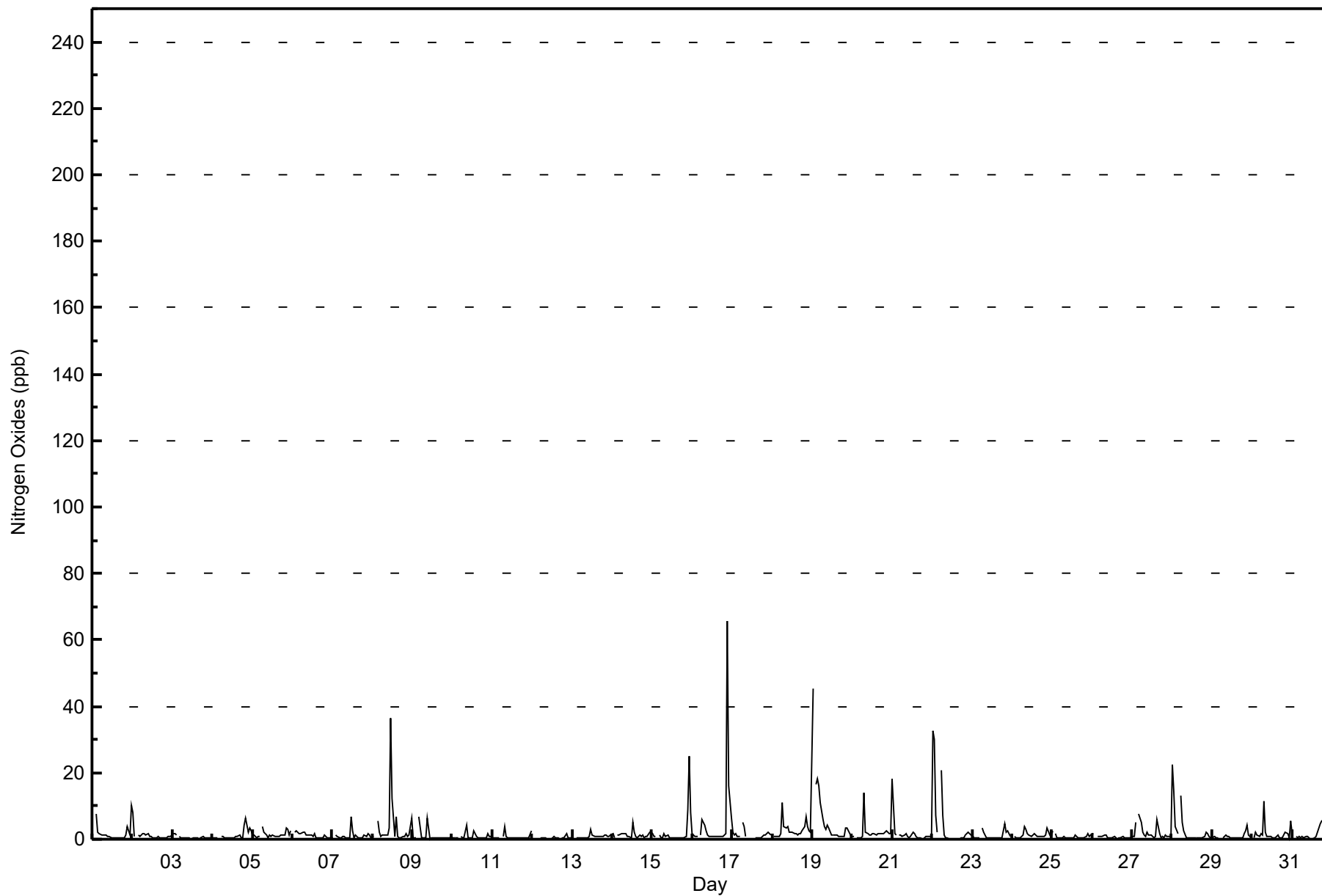
Conklin - July 2025

Maximum Value: 65.8 ppb on Jul 16 22:00																			Maximum Daily Average: 6.4 ppb on Jul 19							Hours in Service: 744	
Minimum Value: 0.1 ppb on Jul 12 12:00																			Minimum Daily Average: 0.4 ppb on Jul 12							Hours of Data: 708	
Maximum Diurnal Average: 5.8 ppb at hour 1																			Minimum Diurnal Average: 0.7 ppb at hour 18							Hours of Missing Data: 36	
Monthly Average: 1.86 ppb																			Percentiles: P ₁ = 0.1 P ₁₀ = 0.3 Q ₁ = 0.4 Median = 0.8 Q ₃ = 1.5 P ₉₀ = 3.4 P ₉₉ = 20.7							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-Jul	1.7	Z	7.6	2.0	1.6	1.4	1.5	1.3	1.4	1.1	0.7	0.6	0.5	0.5	0.4	0.4	0.4	0.5	0.5	0.4	1.5	4.0	1.1	10.3	1.8	10.3	
2-Jul	7.9	0.8	Z	1.2	0.8	1.1	1.7	1.6	1.3	1.9	0.8	0.7	0.6	0.5	0.6	0.7	0.5	0.6	0.6	0.5	0.5	0.8	1.0	0.8	1.2	7.9	
3-Jul	1.8	1.7	1.1	Z	0.6	0.5	0.6	0.4	0.3	0.3	0.2	0.2	0.4	0.4	0.4	0.3	0.2	0.3	0.7	0.5	0.4	0.3	0.2	0.3	0.5	1.8	
4-Jul	0.4	0.4	0.4	0.4	Z	0.8	0.8	0.6	0.4	0.3	0.3	0.5	0.3	0.4	0.8	0.8	1.1	0.6	0.4	4.0	6.5	2.1	3.3	2.7	1.2	6.5	
5-Jul	1.3	1.2	0.6	0.8	0.9	Z	4.0	2.3	1.4	0.6	1.1	0.7	1.1	1.0	0.7	0.7	0.8	1.2	1.2	1.4	3.4	2.8	1.1	2.4	1.4	4.0	
6-Jul	Z	2.2	2.3	2.0	1.8	1.8	2.1	2.1	1.5	1.3	1.3	1.2	1.0	1.6	0.5	0.4	0.4	0.5	0.5	1.3	0.9	0.4	0.5	0.5	1.2	2.3	
7-Jul	0.6	Z	1.1	0.7	0.6	0.5	0.9	0.9	0.6	0.4	0.5	7.0	2.5	0.3	1.2	0.3	0.5	0.2	0.4	1.2	0.8	1.5	1.1	0.6	1.1	7.0	
8-Jul	0.8	0.9	Z	5.6	2.1	1.1	1.3	1.2	1.1	1.2	3.4	36.4	12.2	0.9	6.8	0.6	0.5	0.6	0.7	0.8	1.8	0.7	1.2	6.2	3.8	36.4	
9-Jul	0.5	0.3	0.3	Z	6.6	0.4	0.3	0.3	0.3	6.5	0.2	0.2	0.3	0.3	0.5	0.3	0.4	0.2	0.2	0.3	0.4	0.4	0.4	0.9	0.9	6.6	
10-Jul	0.5	0.5	0.5	0.5	Z	0.9	0.6	0.5	4.2	0.6	0.6	0.6	0.6	2.6	0.9	0.6	0.5	0.5	0.5	0.5	0.6	1.8	1.0	0.7	0.9	4.2	
11-Jul	0.5	0.4	0.3	0.4	0.4	Z	0.8	3.6	1.0	0.3	0.3	0.4	0.4	0.5	0.3	0.3	0.3	0.2	0.3	0.4	0.3	0.2	0.3	2.4	0.6	3.6	
12-Jul	Z	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.3	0.1	0.2	0.1	0.3	0.8	0.5	0.3	0.2	0.2	0.4	0.5	1.7	0.6	0.2	0.3	0.4	1.7	
13-Jul	0.4	Z	0.6	0.5	0.3	0.3	0.4	0.3	0.3	0.3	0.9	3.1	1.4	1.0	0.9	0.8	0.7	0.7	0.9	1.2	1.4	1.0	0.7	1.2	0.8	3.1	
14-Jul	1.6	0.6	Z	1.4	1.3	1.7	1.6	1.8	1.5	0.8	0.9	0.5	4.9	1.9	0.9	0.6	1.1	0.7	1.1	0.6	0.8	0.9	2.0	2.1	1.4	4.9	
15-Jul	1.7	1.0	1.1	Z	1.2	0.6	0.5	1.5	0.8	1.5	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.5	0.6	1.0	8.7	24.8	8.1	2.5	24.8	
16-Jul	1.7	0.9	0.8	0.9	Z	1.2	5.9	4.1	2.3	1.2	1.0	0.9	0.9	0.9	0.8	0.7	0.8	0.7	0.9	1.1	1.6	65.8	16.2	6.2	5.1	65.8	
17-Jul	2.2	1.4	1.6	0.9	1.0	Z	5.3	3.7	0.9	C	C	C	C	C	0.5	0.6	0.5	0.6	0.9	1.3	1.5	2.1	1.8	1.4	1.6	5.3	
18-Jul	Z	0.8	0.9	1.0	1.0	1.5	10.8	3.9	3.2	3.8	2.1	2.0	2.0	1.9	1.7	1.4	1.8	1.7	2.7	3.9	6.8	3.7	2.7	2.1	2.8	10.8	
19-Jul	45.2	Z	16.6	18.2	16.0	11.1	6.0	3.8	3.2	4.1	3.2	1.5	1.4	1.3	1.4	1.2	1.1	1.0	1.1	1.0	3.3	3.3	1.5	0.9	6.4	45.2	
20-Jul	0.8	1.0	Z	0.6	0.5	0.6	0.8	13.8	2.1	1.7	1.5	1.2	1.6	1.7	1.5	1.5	1.6	1.6	1.7	1.6	2.6	2.1	1.5	1.7	2.0	13.8	
21-Jul	18.3	1.7	1.5	Z	1.4	1.4	0.8	1.1	1.5	1.0	0.6	0.8	2.1	1.9	0.9	0.6	0.5	0.5	0.1	0.3	0.7	0.8	0.8	1.0	1.8	18.3	
22-Jul	32.8	29.9	7.1	2.1	Z	20.9	7.0	1.4	0.6	0.3	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.5	0.6	0.4	1.4	2.0	1.7	1.1	4.8	32.8	
23-Jul	1.1	0.3	0.2	0.2	0.4	Z	3.2	2.1	0.6	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.6	0.6	0.6	4.7	2.3	2.6	1.6	0.6	1.1	4.7	
24-Jul	Z	0.7	0.3	0.6	0.4	0.3	1.1	3.9	2.8	1.5	1.1	1.1	1.3	1.6	1.2	1.0	0.9	1.0	0.8	0.7	1.4	3.3	1.3	0.6	1.3	3.9	
25-Jul	2.3	Z	1.6	0.4	0.6	0.4	0.6	0.8	0.3	0.3	0.4	0.3	0.4	0.4	1.4	0.4	0.6	0.5	0.6	0.4	0.8	1.6	0.9	1.1	0.7	2.3	
26-Jul	1.5	1.5	Z	0.7	0.8	0.8	1.1	1.2	1.3	0.4	0.4	0.2	0.4	0.7	0.3	0.2	0.4	0.4	0.8	0.3	0.4	0.4	0.4	0.4	0.7	1.5	
27-Jul	0.6	0.7	5.3	Z	7.5	4.9	1.9	1.3	0.9	2.3	1.2	1.3	0.9	0.6	0.8	5.9	1.7	0.3	0.7	0.4	1.3	0.9	1.0	0.8	1.9	7.5	
28-Jul	22.5	14.3	3.7	1.6	Z	13.3	5.0	2.6	0.5	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.8	2.1	1.7	0.9	0.6	3.2	22.5	
29-Jul	0.5	0.9	0.4	0.3	0.2	Z	0.4	0.7	1.5	1.0	0.9	0.4	0.4	0.3	0.3	0.3	0.4	0.3	0.4	1.6	2.7	4.4	1.2	0.4	0.9	4.4	
30-Jul	Z	0.4	2.1	1.5	0.7	1.8	1.1	11.3	2.0	0.9	0.7	0.7	0.5	0.6	0.6	1.2	0.6	0.3	0.5	1.4	2.0	1.6	0.6	5.3	1.7	11.3	
31-Jul	1.6	Z	0.8	0.6	0.7	0.5	0.7	0.5	0.9	0.7	0.5	0.2	0.2	0.4	0.9	2.0	3.4	4.6	5.5	5.8	5.7	4.2	4.3	2.3	2.0	5.8	
5.8 2.6 2.3 1.7 1.9 2.7 2.2 2.4 1.3 1.2 0.9 2.1 1.3 0.9 0.9 0.8 0.7 0.7 0.9 1.3 1.9 4.1 2.5 2.1																										Diurnal Average	
45.2 29.9 16.6 18.2 16.0 20.9 10.8 13.8 4.2 6.5 3.4 36.4 12.2 2.6 6.8 5.9 3.4 4.6 5.5 5.8 6.8 65.8 24.8 10.3																										Diurnal Maximum	
Z - zerospan C - Calibration																											



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Conklin - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Conklin - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	700	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: 708

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Conklin - July 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	33	4	3	7	8	27	53	54	82	80	63	48	43	45	64	71	685
21 - 40	0	0	0	0	0	0	0	0	5	1	0	0	0	0	0	0	6
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	33	4	3	7	8	27	53	54	88	82	63	48	43	45	64	71	693

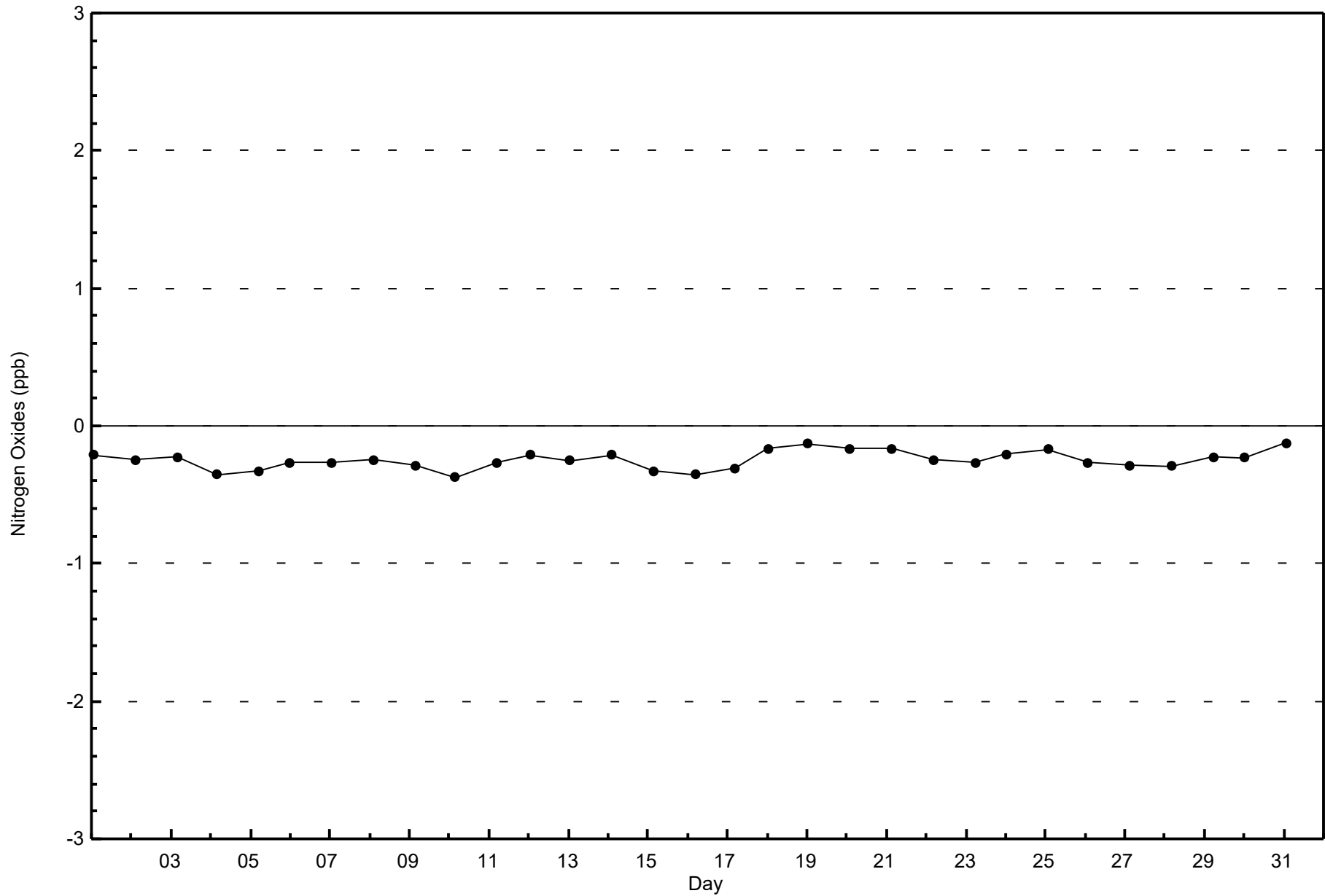
Total Number of Valid Hours: 693

Total Number of Hours: 744



Nitrogen Oxides (NO_x) - ppb
Conklin

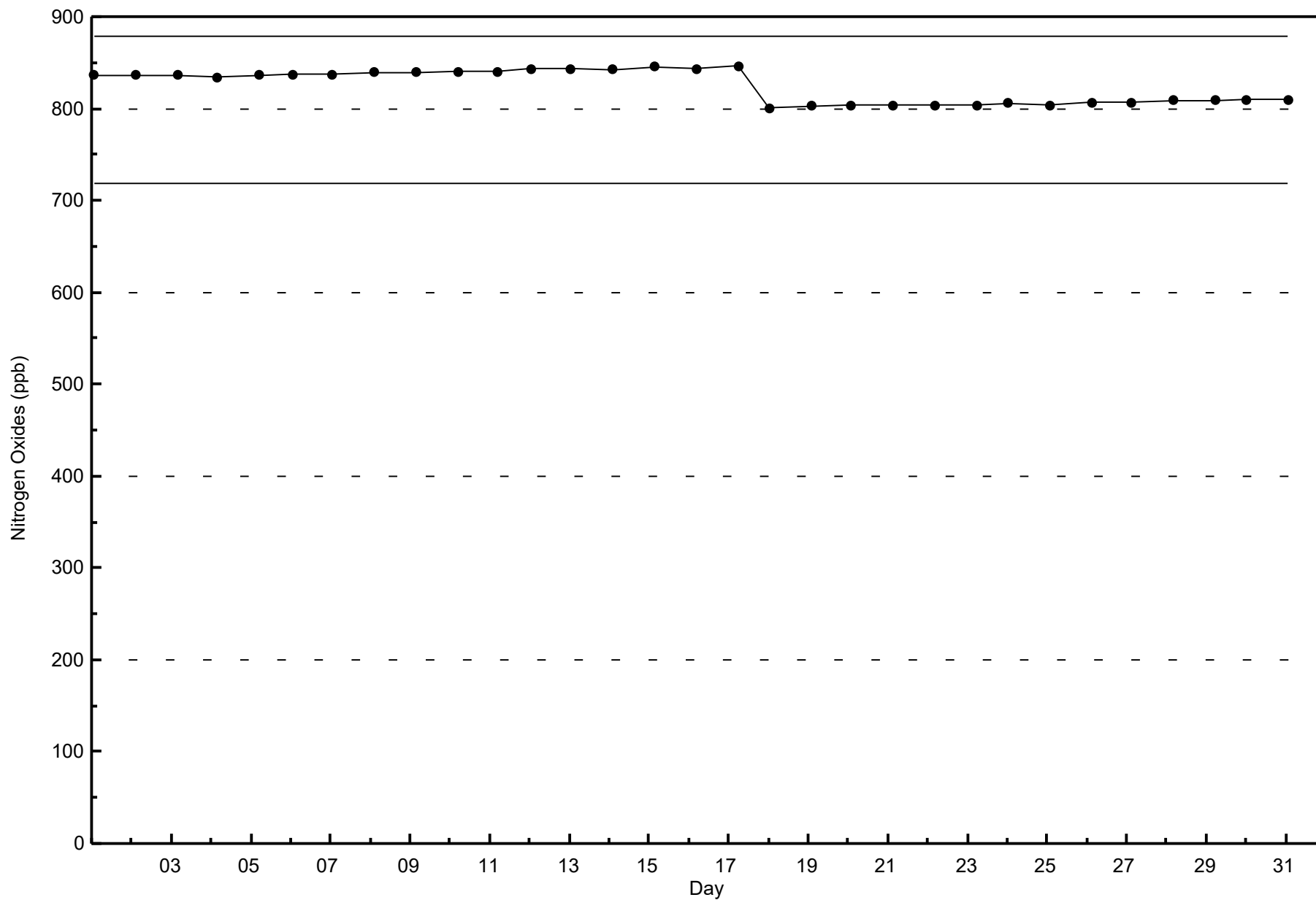






Wood Buffalo Environmental Association
Span Responses

Nitrogen Oxides (NO_x) - ppb
Conklin - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Ozone (O₃) - ppb

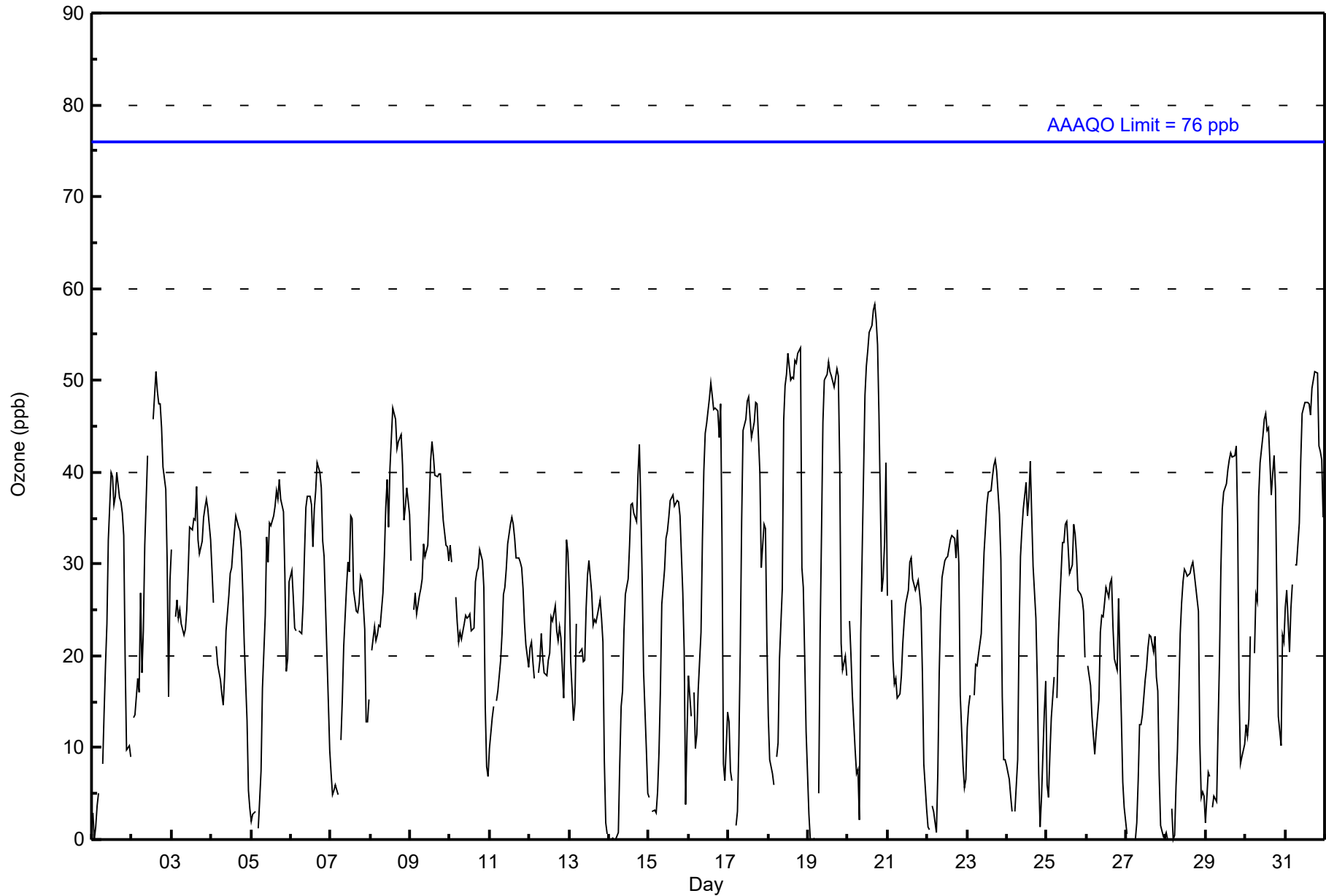
Conklin - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 58.3 ppb on Jul 20 17:00 Maximum Daily Average: 39.4 ppb on Jul 31																			Hours in Service: 744 Hours of Data: 710 Hours of Missing Data: 34 Hours of Calibration: 34 Percent Operational Time: 100.0							
Minimum Value: 0.0 ppb on Jul 1 02:00 Maximum Diurnal Average: 37.3 ppb at hour 15 Monthly Average: 25.55 ppb																			Minimum Daily Average: 10.2 ppb on Jul 27 Minimum Diurnal Average: 11.5 ppb at hour 5 Percentiles: P ₁ = 0.0 P ₁₀ = 5.3 Q ₁ = 15.8 Median = 26.2 Q ₃ = 35.2 P ₉₀ = 44.1 P ₉₉ = 53.3							
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-Jul	3.0	0.0	1.4	3.6	5.1	Z	8.2	13.9	19.1	23.5	32.6	40.0	39.6	36.5	37.3	40.0	37.2	36.7	35.6	33.2	19.7	9.7	10.3	9.1	21.5	40.0
2-Jul	Z	13.2	13.6	17.5	16.0	26.8	18.1	22.7	32.1	41.7	C	C	C	45.7	51.0	48.9	47.4	47.4	44.8	40.5	38.2	30.1	15.5	28.2	32.0	51.0
3-Jul	31.6	Z	24.3	26.1	24.1	25.0	23.6	22.3	23.0	25.0	29.2	34.0	33.7	35.0	34.8	38.5	32.6	31.1	32.4	35.1	36.1	37.0	36.0	32.7	30.6	38.5
4-Jul	29.4	25.8	Z	21.0	19.1	17.3	15.9	14.6	17.9	22.8	26.6	29.0	29.6	31.7	33.6	35.2	34.1	33.6	31.5	26.9	21.3	12.9	5.3	3.3	23.4	35.2
5-Jul	2.0	2.7	3.1	Z	1.2	4.3	7.5	16.5	24.5	33.0	30.2	34.4	34.1	35.2	36.4	38.0	37.1	39.2	37.1	35.7	28.9	18.3	19.6	28.0	23.8	39.2
6-Jul	29.3	26.3	23.0	22.8	Z	22.8	22.4	25.6	31.1	36.2	37.4	37.3	36.4	32.0	36.0	38.0	41.0	39.9	38.2	32.5	30.8	25.4	15.1	9.7	30.0	41.0
7-Jul	7.2	5.0	5.3	5.9	4.9	Z	10.8	15.3	21.0	27.5	30.3	29.2	35.2	34.9	27.1	24.9	24.7	25.8	28.7	28.2	22.9	12.8	12.8	15.3	19.8	35.2
8-Jul	Z	20.6	23.2	21.7	22.2	23.4	23.2	26.8	30.8	36.1	39.2	34.0	40.5	46.9	46.4	45.7	42.5	43.3	44.1	40.7	34.8	36.2	38.4	35.4	34.6	46.9
9-Jul	30.3	Z	25.0	26.9	24.6	26.6	27.3	28.4	32.2	30.8	32.1	36.3	41.2	43.3	41.8	39.7	39.4	39.9	39.8	37.2	34.7	32.0	31.8	30.3	33.6	43.3
10-Jul	32.1	30.2	Z	26.3	23.7	21.4	22.5	21.9	23.5	24.3	24.1	24.3	24.6	22.7	23.0	28.1	29.2	29.6	31.6	30.3	27.5	14.4	8.0	6.9	23.9	32.1
11-Jul	9.9	13.3	14.5	Z	15.1	16.1	19.5	22.4	26.7	27.4	29.4	32.2	34.3	35.1	34.3	32.7	30.6	30.7	30.2	29.5	27.4	23.7	21.3	18.7	25.0	35.1
12-Jul	21.0	21.6	19.3	17.6	Z	18.2	19.6	22.4	19.8	18.2	17.9	19.5	20.3	24.2	23.8	25.4	22.7	21.6	23.1	21.9	15.3	23.7	32.7	31.3	21.8	32.7
13-Jul	27.1	19.4	12.9	14.8	23.5	Z	20.3	20.8	19.4	19.5	25.1	28.8	30.4	26.8	23.4	23.9	23.7	24.5	26.1	24.1	21.4	8.6	1.8	0.7	20.3	30.4
14-Jul	Z	0.0	0.1	0.0	0.0	0.7	8.2	14.5	16.2	22.7	26.8	28.4	32.0	36.5	36.7	35.5	34.7	39.7	43.0	36.6	28.4	18.2	9.8	5.0	20.6	43.0
15-Jul	4.6	Z	3.0	3.2	2.9	5.2	9.5	16.1	25.6	29.4	32.7	33.6	35.1	37.0	37.5	36.3	36.6	36.9	36.8	35.2	26.9	20.4	3.8	11.4	22.6	37.5
16-Jul	17.9	13.5	Z	16.0	9.9	11.5	16.3	22.6	32.7	40.2	44.2	45.4	48.1	49.7	48.4	46.9	47.0	46.7	43.8	47.5	32.3	8.3	6.5	13.8	30.8	49.7
17-Jul	12.8	7.5	6.4	Z	1.5	3.0	10.3	20.4	34.7	44.6	45.8	47.7	48.2	45.9	43.8	45.5	47.6	47.4	43.7	40.0	29.6	34.3	33.9	21.7	31.2	48.2
18-Jul	13.5	8.6	7.2	6.0	Z	8.9	10.6	19.6	27.3	45.7	49.4	50.6	52.9	50.1	50.4	50.2	52.1	51.9	52.9	53.6	29.6	27.4	19.9	11.7	32.6	53.6
19-Jul	2.8	0.1	0.0	0.0	0.2	Z	5.1	22.3	33.5	45.4	50.0	50.7	52.0	50.9	50.5	49.9	49.2	51.2	50.5	40.7	21.4	18.5	20.0	17.8	29.7	52.0
20-Jul	Z	23.7	20.2	15.7	9.8	7.1	7.6	2.2	22.5	39.8	48.4	51.6	53.3	55.2	56.0	57.7	58.3	56.6	53.8	46.2	27.1	28.5	32.3	41.0	35.4	58.3
21-Jul	26.5	Z	26.1	19.5	16.9	17.6	15.4	15.9	17.8	21.3	23.8	25.6	27.1	30.2	30.6	28.4	27.8	27.2	28.3	26.8	25.2	18.1	8.2	3.4	22.1	30.6
22-Jul	1.3	1.1	Z	3.7	3.0	0.8	7.2	18.1	24.7	28.5	30.3	30.7	30.7	31.7	32.7	33.2	32.7	30.6	33.7	30.1	15.7	8.1	5.7	6.5	19.2	33.7
23-Jul	12.2	14.5	15.6	Z	15.8	19.1	18.9	20.1	22.4	27.1	31.3	33.8	36.4	37.8	37.9	39.5	40.7	41.4	40.1	35.4	30.5	15.6	8.7	8.8	26.2	41.4
24-Jul	8.1	6.5	4.7	3.1	Z	3.1	8.7	22.6	30.9	33.8	36.0	38.9	35.2	37.3	41.1	35.3	29.7	24.2	17.3	7.1	1.4	4.5	13.9	17.2	20.0	41.1
25-Jul	5.9	4.6	9.4	13.3	17.6	Z	15.5	21.9	25.7	32.4	32.3	34.3	34.7	31.8	29.0	29.9	34.4	33.2	31.0	27.1	26.8	26.3	24.9	19.8	24.4	34.7
26-Jul	Z	18.9	16.7	13.4	11.3	9.3	11.6	15.2	22.6	24.4	24.2	25.8	27.4	26.4	28.0	28.3	23.1	19.7	18.5	26.2	19.5	13.3	6.2	3.5	18.8	28.3
27-Jul	0.6	Z	0.0	0.0	0.0	0.0	1.9	6.4	12.5	12.6	13.6	17.4	18.7	20.9	22.2	22.1	20.5	22.0	17.6	16.2	7.1	1.5	0.3	0.3	10.2	22.2
28-Jul	0.7	0.0	Z	3.4	0.0	0.5	5.8	9.6	22.4	25.7	28.1	29.4	29.1	28.7	29.0	29.7	30.2	29.0	27.6	24.9	10.5	4.6	5.2	4.8	16.5	30.2
29-Jul	1.8	7.4	6.9	Z	3.5	4.7	4.1	12.0	19.4	29.3	35.9	37.8	38.7	40.2	41.4	42.0	41.6	41.8	42.9	34.4	16.5	8.3	9.0	10.3	23.0	42.9
30-Jul	12.5	11.2	13.1	22.1	Z	20.3	26.7	25.9	37.3	41.0	43.9	45.8	46.3	44.5	44.8	37.5	39.9	41.8	38.2	26.4	13.4	10.2	22.3	21.5	29.8	46.3
31-Jul	25.3	27.1	20.4	25.2	27.8	Z	29.9	29.9	34.5	41.1	46.4	47.0	47.6	47.6	47.4	46.2	49.1	50.0	51.0	50.8	42.9	42.2	41.3	35.1	39.4	51.0
14.2 12.4 12.1 13.4 11.5 12.6 14.6 19.0 25.3 30.7 33.2 35.1 36.4 37.2 37.3 37.2 36.7 36.6 35.9 32.9 24.6 19.1 16.8 16.2																										Diurnal Average
32.1 30.2 26.1 26.9 27.8 26.8 29.9 29.9 37.3 45.7 50.0 51.6 53.3 55.2 56.0 57.7 58.3 56.6 53.8 53.6 42.9 42.2 41.3 41.0																										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 - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ozone (O₃) - ppb
Conklin - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	248	34.93	34.93
21 - 50	441	62.11	97.04
51 - 82	21	2.96	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 - July 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	10	1	0	1	2	10	21	33	57	36	7	5	4	5	19	27	238
21 - 50	24	3	1	6	5	14	23	21	30	43	56	42	40	41	44	46	439
51 - 82	0	0	1	0	1	5	10	1	0	3	0	0	0	0	0	0	21
> 83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	34	4	2	7	8	29	54	55	87	82	63	47	44	46	63	73	698

Total Number of Valid Hours: 698

Total Number of Hours: 744



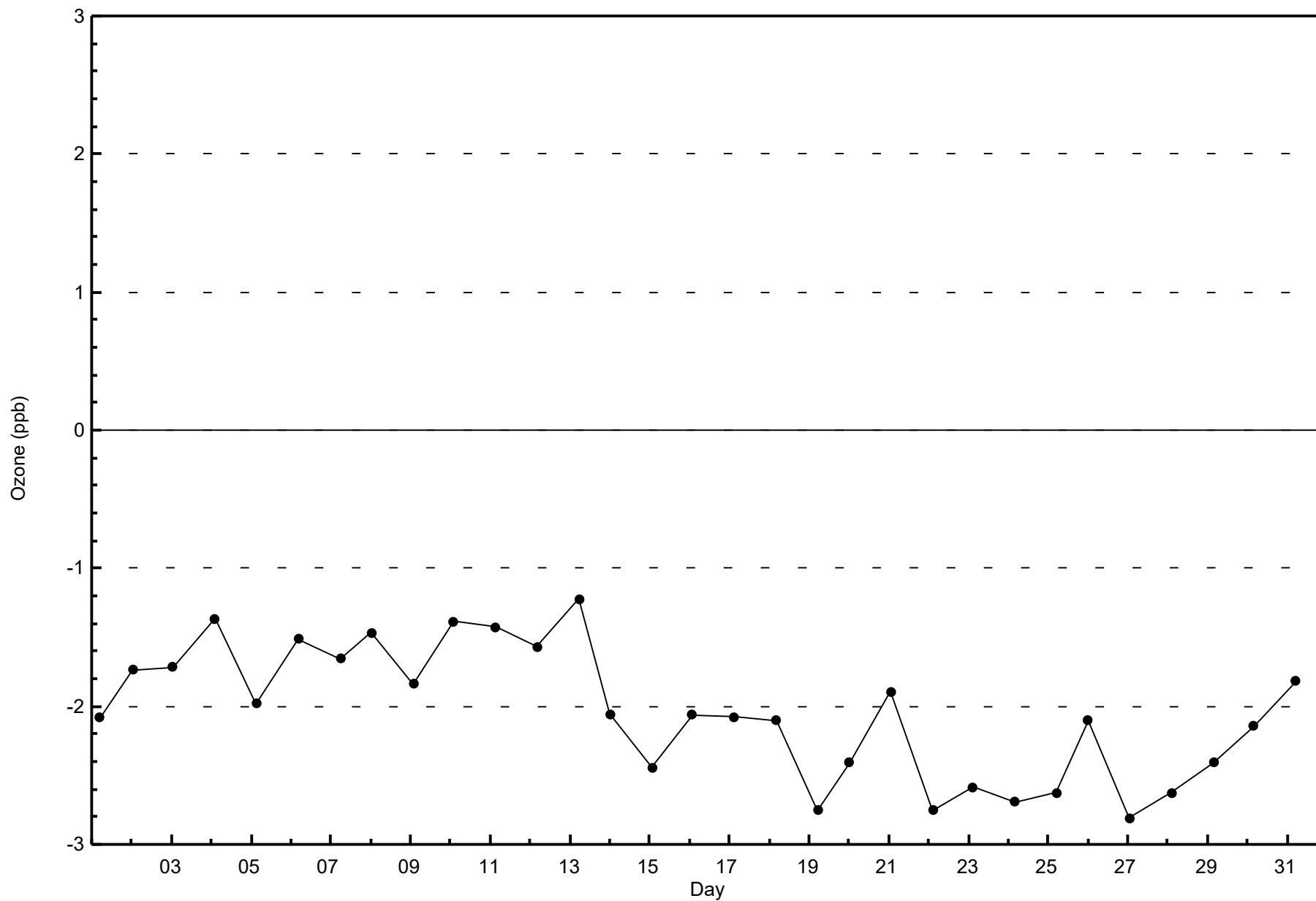
Ozone (O₃) - ppb
Conklin





Wood Buffalo Environmental Association
Zero Responses

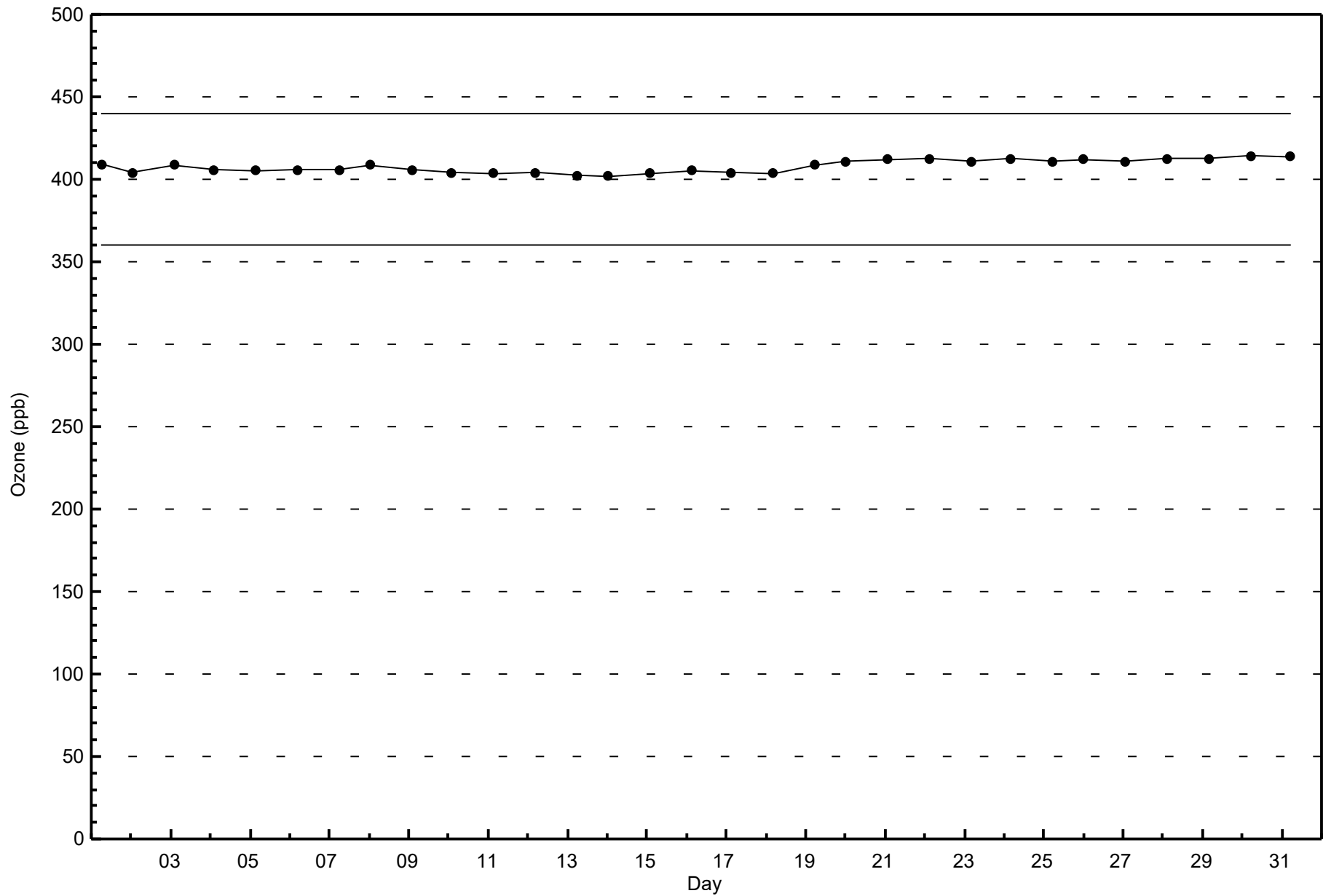
Ozone (O₃) - ppb
Conklin - July 2025





Wood Buffalo Environmental Association
Span Responses

Ozone (O₃) - ppb
Conklin - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

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

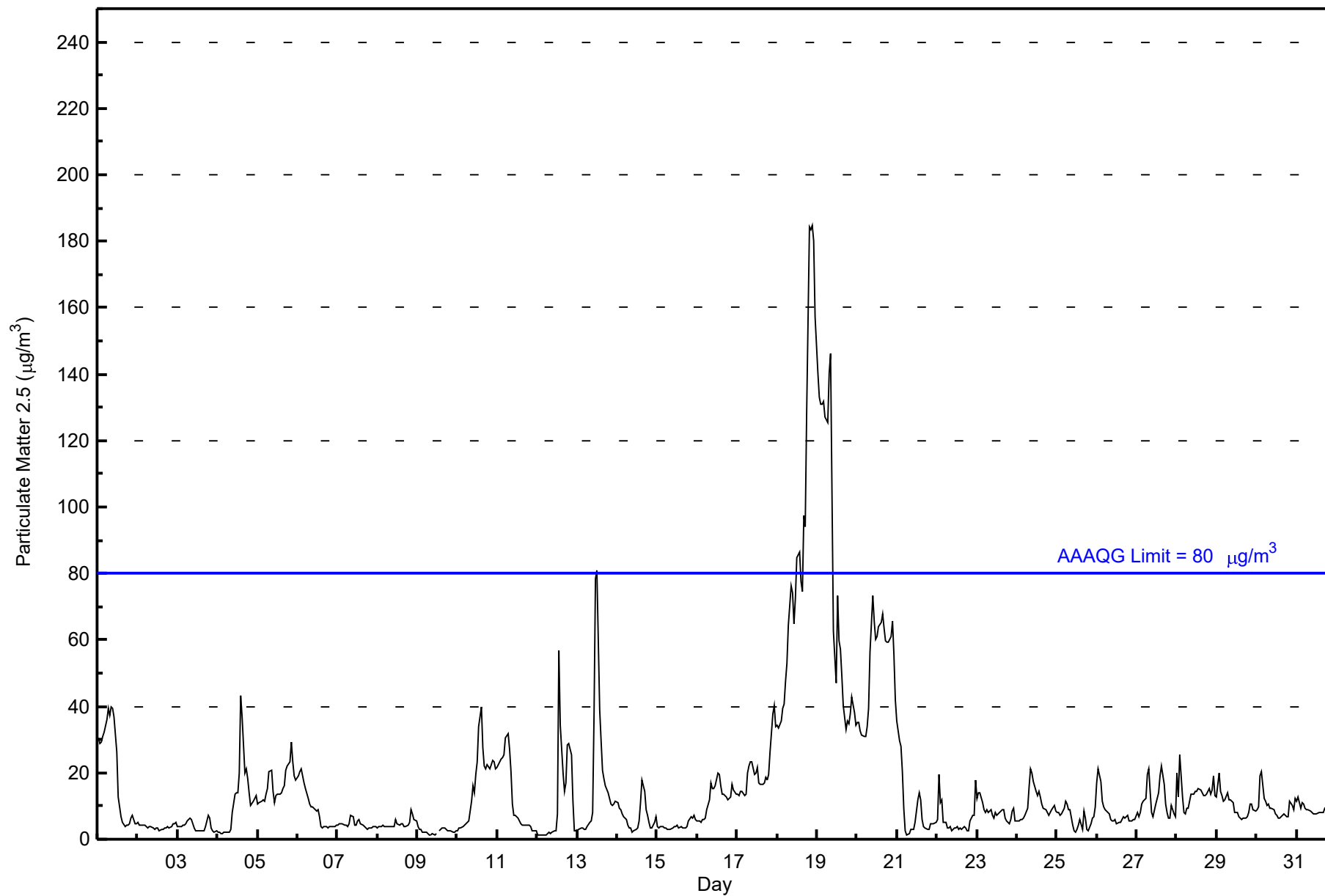
Conklin - July 2025

Number of Exceedences (AAAO): 1-hr: 0 24-hr: 3 Maximum Value: 184.8 µg/m³ on Jul 18 22:00 Minimum Value: 1.2 µg/m³ on Jul 12 02:00 Maximum Diurnal Average: 18.7 µg/m³ at hour 22 Monthly Average: 16.41 µg/m³																								Hours in Service: 744 Hours of Data: 743 Hours of Missing Data: 1 Hours of Calibration: 1 Percent Operational Time: 100.0		
Maximum Daily Average: 90.4 µg/m³ on Jul 18 Minimum Daily Average: 2.4 µg/m³ on Jul 9 Minimum Diurnal Average: 14.1 µg/m³ at hour 18 Percentiles: P ₁ = 1.4 P ₁₀ = 3.0 Q ₁ = 4.2 Median = 8.2 Q ₃ = 16.8 P ₉₀ = 35.8 P ₉₉ = 137.2																										
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-Jul	30.6	29.0	29.2	30.8	32.3	36.2	39.5	37.2	39.9	39.4	37.0	26.3	12.8	9.7	6.7	5.1	4.0	4.1	4.3	4.6	6.5	7.1	4.9	4.6	20.1	39.9
2-Jul	5.1	4.4	4.4	4.3	4.3	3.9	3.6	3.7	4.0	3.5	3.2	3.2	3.2	2.6	2.8	3.0	3.4	3.4	3.6	3.5	4.0	4.6	4.9	5.2	3.8	5.2
3-Jul	3.8	3.9	4.0	4.2	4.1	4.6	5.4	6.5	5.9	4.5	3.3	2.6	2.5	2.5	2.7	2.4	2.4	4.0	7.0	6.2	3.3	2.5	2.3	2.4	3.9	7.0
4-Jul	2.3	2.0	1.7	1.7	1.9	2.2	2.2	1.9	3.1	8.0	13.5	13.8	14.0	20.1	43.2	37.0	19.9	21.4	18.4	13.8	10.3	11.6	12.3	13.0	12.1	43.2
5-Jul	10.8	11.1	11.3	11.8	11.5	13.8	15.1	20.2	20.8	14.6	11.2	13.0	13.4	13.5	14.1	15.2	16.2	20.6	21.9	23.1	29.3	23.2	19.3	17.9	16.4	29.3
6-Jul	18.9	20.1	21.2	19.1	16.8	15.1	12.4	10.8	9.9	9.8	9.5	8.7	9.0	6.9	3.9	3.5	3.8	4.0	3.3	3.7	3.7	3.9	4.0	4.1	9.4	21.2
7-Jul	4.3	4.8	4.8	4.7	4.3	4.1	4.0	4.6	7.0	6.9	4.2	4.3	5.3	6.0	4.8	4.2	3.9	3.3	3.2	3.3	3.3	3.6	3.7	3.6	4.4	7.0
8-Jul	3.5	3.8	4.0	4.3	3.9	3.9	3.9	3.7	3.7	3.9	3.8	6.0	4.8	4.3	4.8	4.6	3.9	3.9	4.3	5.0	8.8	7.7	5.8	5.6	4.7	8.8
9-Jul	4.0	2.8	3.2	2.1	2.2	1.9	1.6	1.4	1.4	1.7	1.4	1.7	C	2.7	2.8	3.2	3.3	2.8	2.4	2.6	2.5	2.2	1.9	2.5	2.4	4.0
10-Jul	2.5	3.3	3.5	3.8	4.3	4.9	4.9	5.3	11.5	16.0	14.0	19.6	23.2	34.0	40.0	27.5	21.9	21.1	22.3	21.1	22.3	23.6	23.1	21.2	16.5	40.0
11-Jul	21.8	23.2	24.2	24.5	25.2	30.5	32.0	27.0	20.5	10.4	7.1	7.1	6.3	5.6	4.7	4.4	4.1	4.3	4.1	4.2	3.9	2.5	2.5	2.7	12.6	32.0
12-Jul	1.5	1.2	1.2	1.3	1.3	1.4	1.7	2.1	1.8	2.2	2.3	2.7	7.6	56.6	34.2	19.9	14.6	16.9	28.4	28.8	25.3	11.5	2.6	2.5	11.2	56.6
13-Jul	2.7	3.0	3.3	3.4	2.9	3.0	3.6	5.0	5.6	8.2	37.6	78.3	80.8	39.1	29.6	20.9	18.1	16.3	14.0	12.2	10.7	10.2	10.7	11.4	17.9	80.8
14-Jul	10.9	9.4	8.9	7.7	7.0	6.1	4.2	3.2	3.2	2.1	2.4	3.2	3.5	5.5	11.1	17.8	14.3	8.8	7.3	5.0	3.3	3.3	4.9	6.8	6.7	17.8
15-Jul	4.0	3.5	3.8	3.9	3.3	3.3	3.1	3.1	3.0	3.3	4.0	3.8	4.2	3.6	3.6	3.5	3.4	3.5	3.8	5.5	6.7	6.5	7.3	6.0	4.1	7.3
16-Jul	5.5	5.5	5.3	5.8	5.9	6.5	8.7	11.9	17.1	15.1	15.3	16.3	20.1	19.5	16.1	13.6	13.6	12.6	12.0	12.4	12.6	16.5	14.7	13.7	12.4	20.1
17-Jul	13.7	13.2	14.5	14.5	13.1	13.7	19.9	21.9	23.4	23.4	19.4	19.8	21.4	17.1	16.6	16.4	16.8	18.7	17.9	19.3	26.5	37.6	40.3	34.0	20.5	40.3
18-Jul	34.3	33.4	35.8	39.2	40.7	47.5	52.8	64.3	76.4	74.0	64.8	72.4	84.8	86.4	77.4	74.7	97.3	94.2	128.0	184.3	183.5	184.8	180.3	157.3	90.4	184.8
19-Jul	140.2	133.1	130.7	130.8	131.8	127.3	125.3	140.4	146.0	104.3	62.8	47.0	73.5	59.9	57.1	49.2	40.3	33.1	35.8	34.9	37.9	42.8	38.1	34.5	81.5	146.0
20-Jul	35.3	35.3	32.8	31.4	31.0	31.1	33.7	39.5	56.4	73.2	65.6	60.1	60.9	64.1	65.3	67.7	63.7	59.9	59.1	59.1	61.0	65.7	55.6	41.9	52.1	73.2
21-Jul	35.5	29.7	27.9	20.5	9.2	2.4	1.4	1.8	2.9	2.8	3.1	5.2	11.8	14.1	12.0	5.9	3.8	3.2	3.0	3.0	4.6	4.6	4.7	5.3	9.1	35.5
22-Jul	6.0	19.4	11.1	12.0	5.0	4.9	3.6	3.6	3.8	2.6	3.3	3.5	3.6	3.1	3.5	2.9	4.0	3.3	2.4	2.5	5.6	7.2	7.3	17.9	5.9	19.4
23-Jul	12.3	14.1	13.9	10.9	9.0	8.0	9.0	8.2	8.8	7.2	6.4	8.0	7.3	7.7	8.6	8.9	8.8	6.3	5.4	4.7	5.9	8.3	9.2	5.4	8.4	14.1
24-Jul	5.5	5.7	5.7	5.8	6.4	7.0	9.4	15.6	21.2	19.9	17.5	14.4	13.3	14.4	12.6	10.7	9.2	9.0	8.0	7.0	8.0	8.7	10.3	8.6	10.6	21.2
25-Jul	8.1	7.9	7.0	7.7	9.3	11.5	10.7	8.8	9.0	4.3	2.5	2.1	3.1	4.4	5.9	3.0	8.5	6.5	3.1	2.7	4.7	6.4	6.9	9.6	6.4	11.5
26-Jul	17.1	21.3	17.4	11.6	9.6	8.9	8.3	7.8	5.9	5.6	5.5	5.8	4.7	5.0	5.2	6.1	7.0	6.5	7.1	5.6	5.5	5.5	5.9	5.9	8.1	21.3
27-Jul	8.2	6.7	7.9	10.7	11.3	12.4	19.6	21.2	14.6	8.0	7.0	10.6	12.2	14.0	19.2	22.2	16.7	10.8	8.0	6.4	6.5	10.3	7.6	6.9	11.6	22.2
28-Jul	20.1	12.7	25.3	12.6	8.2	7.4	9.3	9.3	13.5	13.7	13.6	14.4	14.3	15.4	15.0	14.1	13.0	13.3	13.6	15.4	13.6	14.7	19.1	13.0	14.0	25.3
29-Jul	12.7	20.1	14.5	13.2	11.3	12.0	14.1	12.1	11.7	11.5	11.0	8.1	8.1	6.8	6.2	6.1	6.2	6.4	6.9	8.0	10.5	10.6	9.1	8.4	10.2	20.1
30-Jul	8.9	9.6	18.9	20.3	12.5	11.2	10.3	10.7	9.3	9.3	8.8	7.8	7.1	6.3	6.6	7.3	7.5	7.2	6.6	7.0	11.2	10.0	9.0	12.4	9.8	20.3
31-Jul	11.6	12.9	9.4	11.1	10.6	9.2	8.9	9.1	8.5	7.9	7.6	7.6	7.5	8.2	8.2	8.0	8.0	9.3	9.8	15.2	19.5	20.3	19.6	18.5	11.1	20.3
16.2 16.3 16.4 15.7 14.5 14.7 15.6 16.8 18.4 16.7 15.1 16.0 18.1 18.0 17.6 15.8 14.9 14.1 15.3 17.1 18.1 18.7 17.7 16.2																								Diurnal Average		
140.2 133.1 130.7 130.8 131.8 127.3 125.3 140.4 146.0 104.3 65.6 78.3 84.8 86.4 77.4 74.7 97.3 94.2 128.0 184.3 183.5 184.8 180.3 157.3																								Diurnal Maximum		
C - Calibration																										
Alberta Ambient Air Quality Guideline/Objectives: 1-hr 80 µg/m³ 24-hr 29 µg/m³																										



Wood Buffalo Environmental Association
Hourly Averages

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Conklin - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Conklin - July 2025

Concentration Ranges ($\mu\text{g}/\text{m}^3$)	Number of Hours	%	Cumulative %
0 - 5	256	34.45	34.45
6 - 15	291	39.17	73.62
16 - 25	87	11.71	85.33
26 - 80	88	11.84	97.17
> 81.0	21	2.83	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
Conklin - July 2025

Concentration Ranges (µg/m³)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	19	2	2	2	4	5	5	6	29	22	29	27	33	28	18	23	254
6 - 15	9	2	1	1	1	12	15	27	44	51	28	17	11	16	22	28	285
16 - 25	3	0	0	2	1	1	7	12	13	9	4	2	1	1	16	15	87
26 - 80	3	0	0	1	1	10	20	11	8	6	4	2	0	2	9	9	86
> 81.0	0	0	0	1	1	1	7	3	1	0	0	0	0	0	2	0	16
Totals	34	4	3	7	8	29	54	59	95	88	65	48	45	47	67	75	728

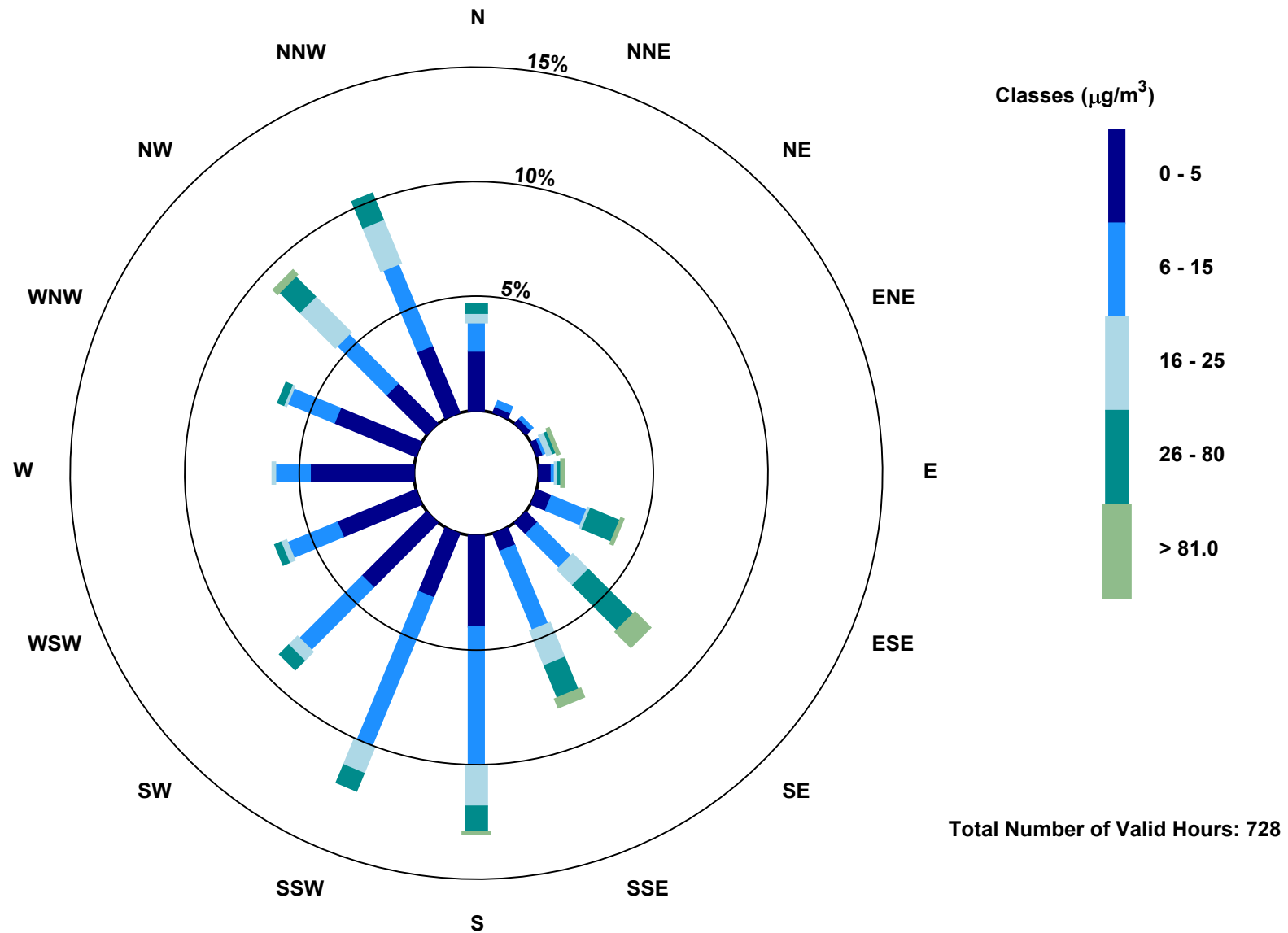
Total Number of Valid Hours: 728

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Ambient Temperature 2m (AT2) - C

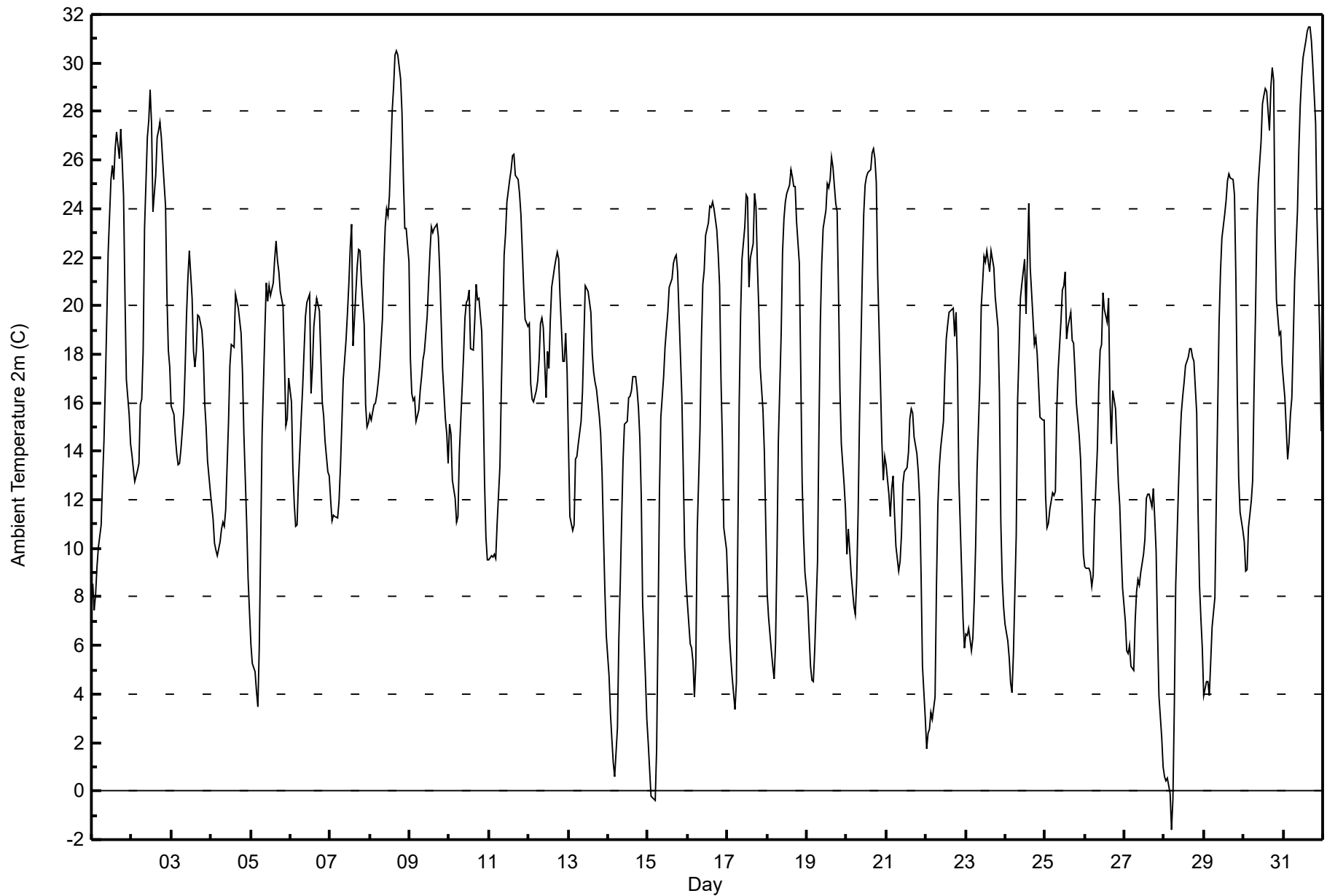
Conklin - July 2025

Maximum Value: 31.5 C on Jul 31 16:00																				Maximum Daily Average: 23.4 C on Jul 31					Hours in Service: 744		
Minimum Value: -1.6 C on Jul 28 05:00																				Minimum Daily Average: 8.0 C on Jul 27					Hours of Data: 744		
Maximum Diurnal Average: 22.2 C at hour 17																				Minimum Diurnal Average: 8.5 C at hour 5					Hours of Missing Data: 0		
Monthly Average: 16.02 C																				Percentiles: P ₁ = 0.6 P ₁₀ = 6.3 Q ₁ = 11.2 Median = 16.4 Q ₃ = 20.8 P ₉₀ = 24.8 P ₉₉ = 30.3					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-Jul	8.6	7.5	8.1	9.2	10.1	11.0	12.8	14.4	16.8	19.5	22.2	25.2	25.8	25.2	26.5	27.2	26.1	27.3	26.0	24.5	20.4	17.0	15.5	14.3	18.4	27.3	
2-Jul	13.8	13.3	12.8	13.2	13.5	15.9	16.2	18.1	23.2	26.9	27.6	28.9	27.5	23.8	25.4	26.9	27.2	27.6	26.9	25.9	24.1	20.4	18.2	17.5	21.5	28.9	
3-Jul	15.9	15.5	14.6	13.9	13.5	13.5	14.1	15.6	17.4	19.6	21.2	22.3	20.3	18.1	17.5	18.1	19.6	19.6	19.0	18.0	16.0	15.0	13.6	12.4	16.8	22.3	
4-Jul	11.8	11.2	10.2	9.9	9.7	10.3	10.8	11.1	10.9	11.6	15.2	17.5	18.4	18.3	18.3	20.4	19.9	19.4	18.9	17.2	14.7	11.0	8.8	7.4	13.9	20.4	
5-Jul	6.1	5.2	4.9	4.1	3.5	5.9	10.2	14.6	19.0	20.9	20.2	20.8	20.4	21.0	21.9	22.7	21.8	21.4	20.6	20.0	17.7	15.1	15.3	17.0	15.4	22.7	
6-Jul	16.0	13.3	11.8	10.9	11.0	12.8	15.4	16.6	18.1	19.6	20.1	20.5	16.4	17.5	19.2	19.8	20.3	19.8	17.9	16.1	15.4	14.4	13.2	13.0	16.2	20.5	
7-Jul	12.0	11.2	11.4	11.3	11.3	11.9	13.3	15.1	17.0	18.6	19.7	20.9	22.4	23.3	18.4	20.5	21.6	22.3	22.3	21.0	19.2	15.9	15.0	15.2	17.1	23.3	
8-Jul	15.5	15.3	15.9	16.0	16.3	16.9	17.5	19.4	21.6	23.2	24.0	23.7	24.5	28.0	29.0	30.3	30.5	30.3	29.4	27.9	25.2	23.2	23.2	21.8	22.9	30.5	
9-Jul	17.9	16.4	16.1	16.2	15.3	15.7	16.5	17.1	17.8	18.1	19.5	20.9	22.2	23.3	23.0	23.2	23.4	22.9	21.4	19.4	17.4	15.3	14.7	13.5	18.6	23.4	
10-Jul	15.1	14.7	12.8	12.1	11.1	11.3	13.9	15.3	17.9	19.5	20.1	20.2	20.7	18.2	18.2	19.4	20.9	20.2	20.3	18.9	16.3	12.7	10.4	9.5	16.2	20.9	
11-Jul	9.6	9.7	9.7	9.8	9.6	11.0	13.4	16.5	19.3	22.1	23.0	24.3	25.2	25.6	26.2	26.2	25.4	25.2	24.6	23.8	22.2	20.7	19.5	19.2	19.2	26.2	
12-Jul	19.3	16.8	16.2	16.1	16.5	16.9	17.8	19.3	19.5	19.1	16.2	18.1	17.4	19.4	20.8	21.5	21.9	22.2	21.9	20.3	17.7	17.7	18.8	17.3	18.7	22.2	
13-Jul	14.2	11.3	10.7	11.0	13.7	13.8	14.3	15.2	16.4	18.6	20.8	20.7	20.6	19.7	18.0	17.3	16.9	16.5	15.4	14.7	13.1	10.6	8.2	6.4	14.9	20.8	
14-Jul	4.8	3.2	2.1	1.2	0.6	2.6	6.3	8.5	11.2	13.6	15.1	15.2	16.2	16.3	16.5	17.1	17.1	16.5	15.8	14.6	12.2	7.7	4.7	3.0	10.1	17.1	
15-Jul	2.0	0.9	-0.2	-0.3	-0.4	1.7	6.7	12.2	15.4	17.1	18.3	19.0	19.7	20.7	21.1	21.7	22.0	22.1	21.4	19.7	16.3	13.3	10.1	8.6	12.9	22.1	
16-Jul	7.7	6.0	5.9	5.3	3.9	5.2	10.7	14.9	18.6	20.9	21.5	22.9	23.4	24.1	24.1	24.3	24.0	23.1	22.2	20.8	17.0	14.4	10.9	9.9	15.9	24.3	
17-Jul	8.2	6.4	5.5	4.7	3.4	4.5	10.2	15.9	19.6	21.9	23.2	24.5	24.5	20.8	22.0	22.5	24.6	24.1	21.7	19.9	17.5	15.7	13.9	11.0	16.1	24.6	
18-Jul	8.1	7.2	5.8	5.2	4.6	6.1	9.7	14.4	18.8	22.2	23.6	24.3	24.6	25.0	25.6	25.3	24.9	24.9	23.5	21.7	17.3	12.7	10.5	9.0	16.5	25.6	
19-Jul	7.8	6.4	5.1	4.5	4.5	5.8	9.5	14.8	19.3	21.8	23.2	23.9	25.1	24.9	25.2	26.1	25.7	24.2	23.9	20.5	16.5	14.3	12.6	11.6	16.5	26.1	
20-Jul	9.8	10.8	10.0	8.9	7.6	7.3	8.7	11.4	15.4	21.3	23.8	25.0	25.3	25.5	25.6	26.3	26.5	26.1	25.1	21.3	16.7	14.4	12.8	13.8	17.5	26.5	
21-Jul	13.4	12.3	11.3	12.4	13.0	11.4	10.1	9.1	9.5	10.6	12.6	13.1	13.3	14.0	15.3	15.8	15.6	14.6	13.9	13.2	12.0	9.0	5.1	3.0	11.8	15.8	
22-Jul	1.7	2.4	2.5	3.2	2.9	3.9	8.4	11.8	13.3	14.1	15.3	17.2	18.6	19.2	19.7	19.8	19.9	18.7	19.7	17.5	12.8	9.1	7.1	5.9	11.9	19.9	
23-Jul	6.5	6.4	6.7	5.8	6.3	7.9	10.1	13.2	16.9	19.9	20.9	22.0	21.8	22.2	21.4	22.3	21.9	21.6	20.4	19.1	16.4	11.1	8.7	7.6	14.9	22.3	
24-Jul	6.9	6.2	5.5	4.5	4.0	5.7	10.5	16.1	18.1	20.3	20.9	21.9	19.7	21.9	24.2	21.6	20.6	18.4	18.7	18.0	16.7	15.4	15.3	15.3	15.3	24.2	
25-Jul	12.2	10.9	11.0	11.6	12.3	12.2	12.4	15.7	17.4	19.4	20.6	20.8	21.4	18.6	19.1	19.7	18.6	18.4	17.3	16.0	14.6	13.6	11.8	9.8	15.6	21.4	
26-Jul	9.2	9.2	9.2	9.0	8.4	8.9	11.2	14.1	16.7	18.2	18.4	20.5	19.8	19.3	20.3	16.2	14.3	16.5	15.7	14.3	12.7	11.8	10.0	8.4	13.8	20.5	
27-Jul	7.0	5.8	5.7	6.0	5.2	5.0	7.0	8.2	8.7	8.5	9.0	9.7	10.4	12.1	12.3	12.2	11.7	12.5	11.3	9.9	6.7	3.9	2.2	1.0	8.0	12.5	
28-Jul	0.6	0.4	0.5	-0.1	-1.6	-0.3	3.5	8.5	12.6	14.3	15.6	16.3	16.9	17.5	17.9	18.2	18.2	17.9	17.7	15.6	11.4	8.5	7.1	5.9	10.1	18.2	
29-Jul	3.9	4.5	4.5	3.9	5.3	6.7	7.9	12.0	15.7	19.3	21.4	22.8	23.8	24.3	25.1	25.4	25.3	25.2	24.6	21.2	16.4	12.9	11.5	10.7	15.6	25.4	
30-Jul	10.3	9.0	9.1	10.8	11.9	12.8	16.5	19.6	23.3	25.0	26.8	28.3	28.7	28.9	28.8	27.2	29.0	29.8	29.3	22.9	20.2	18.8	18.9	17.6	21.0	29.8	
31-Jul	16.9	16.2	13.7	14.4	15.5	16.2	18.6	21.0	23.9	26.4	28.2	29.4	30.2	30.9	31.3	31.5	31.5	30.9	29.8	27.5	23.6	21.1	18.5	14.8	23.4	31.5	
10.1 9.2 8.7 8.5 8.5 9.4 11.7 14.5 17.1 19.1 20.3 21.3 21.5 21.5 21.9 22.2 22.2 21.9 21.2 19.4 16.7 14.1 12.5 11.3																										Diurnal Average	
19.3 16.8 16.2 16.2 16.5 16.9 18.6 21.0 23.9 26.9 28.2 29.4 30.2 30.9 31.3 31.5 31.5 30.9 29.8 27.9 25.2 23.2 23.2 21.8																										Diurnal Maximum	



Wood Buffalo Environmental Association
Hourly Averages

Ambient Temperature 2m (AT2) - C
Conklin - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ambient Temperature 2m (AT2) - C
Conklin - July 2025

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	0	0.00	0.00
-20 - 0	6	0.81	0.81
0 - 10	143	19.22	20.03
10 - 20	374	50.27	70.30
> 20	221	29.70	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) - %

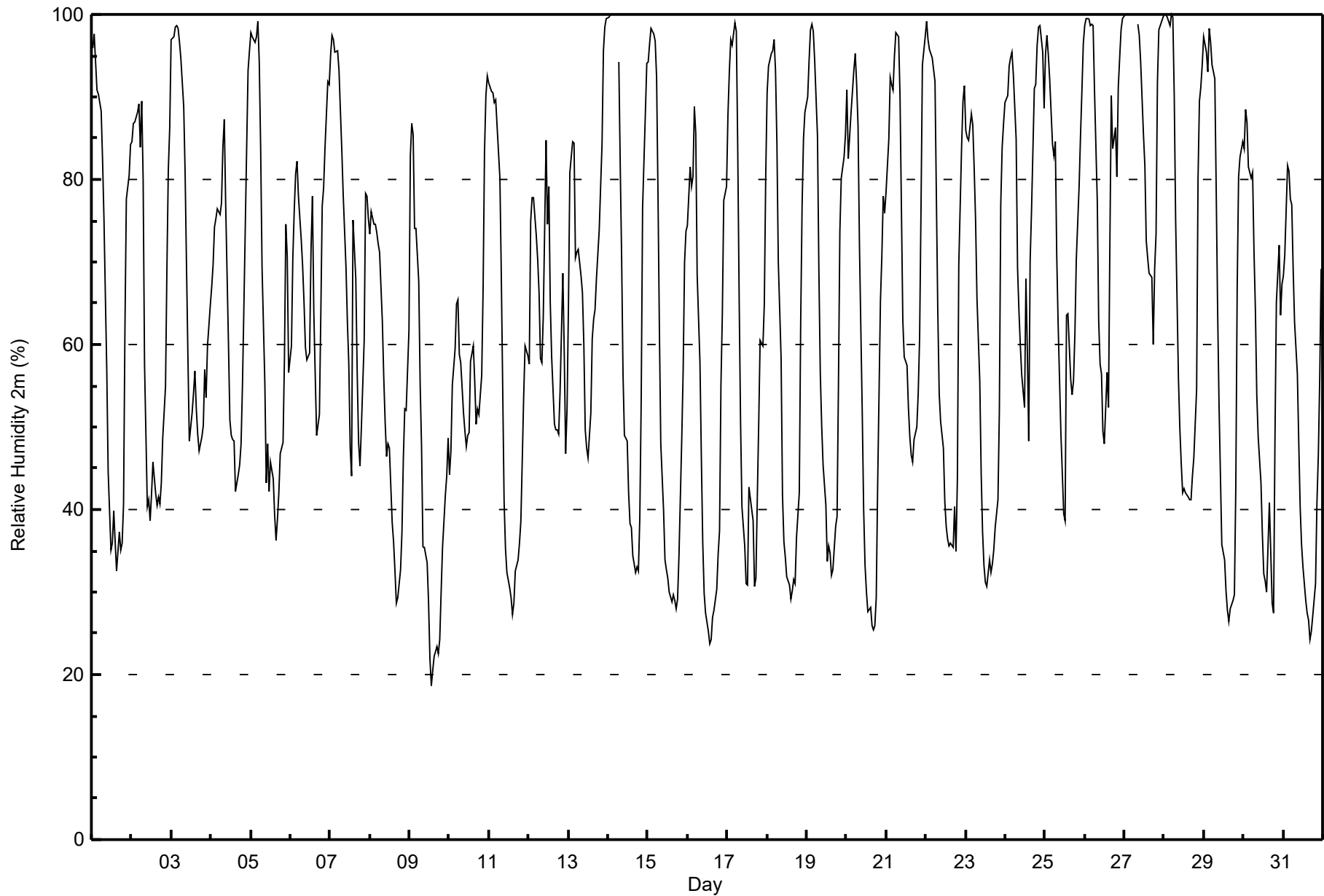
Conklin - July 2025

Maximum Value: 100.0 % on Jul 14 02:00																					Maximum Daily Average: 87.1 % on Jul 27				Hours in Service: 744	
Minimum Value: 18.7 % on Jul 9 14:00																					Minimum Daily Average: 44.2 % on Jul 9				Hours of Data: 740	
Maximum Diurnal Average: 89.3 % at hour 3																					Minimum Diurnal Average: 42.1 % at hour 17				Hours of Missing Data: 4	
Monthly Average: 64.04 %																					Percentiles: P ₁ = 24.2 P ₁₀ = 32.6 Q ₁ = 44.0 Median = 63.7 Q ₃ = 84.8 P ₉₀ = 95.6 P ₉₉ = 100.0				Hours of Calibration: 0	
																					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-Jul	96.0	97.6	94.3	90.9	90.3	88.3	82.4	75.3	65.9	56.9	44.6	35.1	36.0	39.9	36.2	32.5	37.3	35.1	36.0	40.7	62.0	77.6	80.5	84.2	63.1	97.6
2-Jul	84.5	86.7	87.0	88.2	89.2	83.8	89.4	80.0	57.7	40.4	41.2	38.7	41.8	45.7	41.9	40.5	41.5	40.7	43.2	48.6	54.9	69.2	81.1	86.3	62.6	89.4
3-Jul	97.0	97.2	98.5	98.7	98.2	96.6	94.7	88.8	80.8	69.5	58.7	48.4	51.7	54.0	56.8	52.2	49.2	47.2	48.8	50.2	57.0	53.6	59.9	64.8	69.7	98.7
4-Jul	66.9	69.6	74.2	75.2	76.4	75.8	77.2	83.9	87.4	77.0	59.9	50.9	49.0	48.5	48.4	42.2	44.3	45.5	48.0	55.2	64.4	83.9	93.3	95.6	66.4	95.6
5-Jul	97.8	97.3	96.6	97.3	99.2	94.3	83.7	69.4	55.3	43.3	48.0	42.3	45.8	43.7	39.3	36.3	38.8	42.0	46.7	48.2	58.3	74.6	70.6	56.6	63.6	99.2
6-Jul	59.8	70.6	76.3	80.7	82.2	78.0	72.6	69.5	65.2	59.7	58.1	58.9	71.5	78.0	64.0	56.2	49.0	51.5	63.7	76.8	79.0	83.9	91.9	91.5	70.4	91.9
7-Jul	95.1	97.5	97.0	95.5	95.5	93.3	88.2	83.5	78.1	69.4	62.6	57.7	47.5	44.0	75.0	67.9	56.6	48.1	45.3	49.9	60.5	78.3	78.0	75.2	72.5	97.5
8-Jul	73.5	76.2	74.5	74.5	73.5	72.2	71.1	62.8	55.9	50.5	46.4	48.0	47.5	38.4	36.1	32.6	28.6	29.3	32.8	37.3	46.3	52.2	52.1	61.6	53.1	76.2
9-Jul	82.9	86.7	85.4	74.1	74.1	67.6	55.3	47.6	35.5	35.5	33.5	28.8	21.9	18.7	20.4	22.2	23.3	22.6	24.2	30.0	35.4	41.7	44.0	48.7	44.2	86.7
10-Jul	44.3	47.1	55.0	59.4	64.9	65.4	58.8	57.7	51.8	49.5	47.7	49.0	49.4	58.0	59.8	55.6	50.4	52.3	51.5	56.3	66.7	83.4	90.2	92.5	59.0	92.5
11-Jul	91.7	90.7	90.6	89.3	89.6	86.5	80.2	68.5	54.8	41.1	35.2	32.4	30.5	29.3	27.3	28.7	32.6	33.9	36.0	38.6	46.0	53.7	59.9	58.6	55.2	91.7
12-Jul	57.6	74.9	77.9	77.8	73.2	70.4	66.4	58.4	57.8	63.4	84.7	74.6	79.2	65.1	58.5	50.4	49.7	49.7	49.1	54.3	68.6	59.0	46.8	52.1	63.3	84.7
13-Jul	64.8	80.8	84.6	84.3	70.5	71.2	71.6	68.3	66.2	60.1	49.7	47.4	46.2	51.6	60.6	63.1	64.3	68.0	73.9	79.2	84.2	95.6	98.6	99.4	71.0	99.4
14-Jul	99.7	100.0	100.0	100.0	100.0	OR	94.2	81.8	70.8	56.4	49.1	48.3	42.0	38.4	37.8	34.5	32.4	33.1	32.5	39.0	53.2	76.6	88.2	94.1	65.3	100.0
15-Jul	94.2	96.4	98.3	97.6	96.7	92.4	78.2	61.8	48.0	39.8	33.9	32.7	31.6	30.0	28.9	29.6	29.0	27.9	29.2	34.4	48.6	57.0	70.0	73.7	56.7	98.3
16-Jul	74.5	81.4	79.2	80.4	88.7	85.5	68.5	57.8	46.2	35.9	29.9	27.5	25.2	23.6	24.2	26.9	27.8	30.3	34.6	37.4	55.2	63.7	77.5	79.1	52.5	88.7
17-Jul	87.8	93.0	97.0	96.3	99.0	98.0	83.8	66.0	50.8	40.4	35.6	31.0	30.8	42.8	41.4	38.6	30.7	31.7	41.5	50.5	60.6	59.9	64.9	80.3	60.5	99.0
18-Jul	90.6	93.7	95.2	95.6	96.9	93.3	84.3	70.1	58.2	41.7	36.2	34.3	31.9	30.9	29.2	30.2	31.6	31.0	36.6	42.1	62.8	76.8	85.0	88.1	61.1	96.9
19-Jul	90.0	94.4	98.1	98.8	97.9	94.3	85.3	68.9	56.6	50.2	45.4	40.5	33.8	35.7	34.8	32.0	32.7	38.0	39.2	55.2	73.8	80.1	82.7	85.5	64.3	98.8
20-Jul	90.9	82.5	85.2	88.2	93.1	95.3	91.5	86.4	72.1	51.6	40.1	33.2	30.0	27.7	28.2	26.0	25.5	25.9	29.4	42.9	65.3	70.8	78.0	76.0	59.8	95.3
21-Jul	78.4	85.0	92.4	91.5	90.8	94.8	97.8	97.3	90.0	76.4	62.8	58.4	57.4	52.3	48.8	46.7	45.8	48.4	50.0	54.1	60.9	76.4	94.0	97.3	72.8	97.8
22-Jul	99.2	97.0	95.8	95.3	94.8	91.9	77.7	64.0	54.0	50.6	47.5	41.0	37.9	36.4	35.6	36.0	35.5	40.4	35.0	43.8	69.6	83.9	89.5	91.3	64.3	99.2
23-Jul	86.0	85.2	84.8	87.9	86.6	81.4	75.0	65.5	55.7	44.4	37.2	33.2	31.2	30.7	33.8	32.4	33.4	35.0	37.7	41.2	51.9	77.0	83.9	86.8	58.2	87.9
24-Jul	89.3	90.1	93.7	94.7	95.3	92.8	84.9	69.3	64.1	59.8	56.2	52.3	67.9	59.3	48.4	70.2	76.2	90.9	91.5	96.3	98.6	98.6	95.4	88.6	80.2	98.6
25-Jul	95.3	97.4	95.0	92.1	84.2	82.9	84.6	70.8	62.6	49.2	44.5	39.5	38.6	63.5	63.7	55.7	53.9	55.6	61.3	70.3	79.1	85.3	90.7	96.4	71.3	97.4
26-Jul	98.7	99.5	99.4	98.6	98.8	98.6	90.8	77.3	62.8	57.7	56.4	49.5	47.9	56.6	52.3	72.4	90.2	83.7	86.2	80.3	91.2	94.8	98.2	99.5	80.9	99.5
27-Jul	100.0	100.0	100.0	100.0	100.0	OR	OR	OR	98.9	97.5	94.3	85.5	81.7	72.6	70.5	68.7	68.1	60.0	69.1	73.4	91.9	98.1	99.1	99.6	87.1	100.0
28-Jul	100.0	100.0	99.7	98.7	100.0	99.7	90.1	75.1	55.9	49.8	45.6	42.0	42.6	42.0	41.5	41.2	41.3	44.1	46.3	54.7	80.0	89.5	91.2	93.9	69.4	100.0
29-Jul	97.3	95.4	93.0	98.3	96.6	93.9	92.2	78.6	64.3	52.9	44.2	35.8	33.8	30.2	27.7	26.5	28.0	29.0	29.7	42.8	67.0	80.3	82.7	84.5	62.7	98.3
30-Jul	83.8	88.5	86.9	81.4	80.2	80.9	71.3	64.3	54.0	48.9	43.3	37.0	32.2	31.4	30.0	40.8	34.8	28.6	27.5	48.7	65.0	72.1	63.6	67.2	56.8	88.5
31-Jul	68.3	70.8	81.6	81.0	77.6	76.9	69.2	62.7	56.4	48.2	40.3	35.8	33.1	29.0	27.4	26.6	24.2	25.3	27.0	31.0	40.8	46.5	55.9	69.2	50.2	81.6
Diurnal Average																										
Diurnal Maximum																										
OR - Out of Range																										



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 2m (RH2) - %
Conklin - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Speed 10m (WS10) - km/h

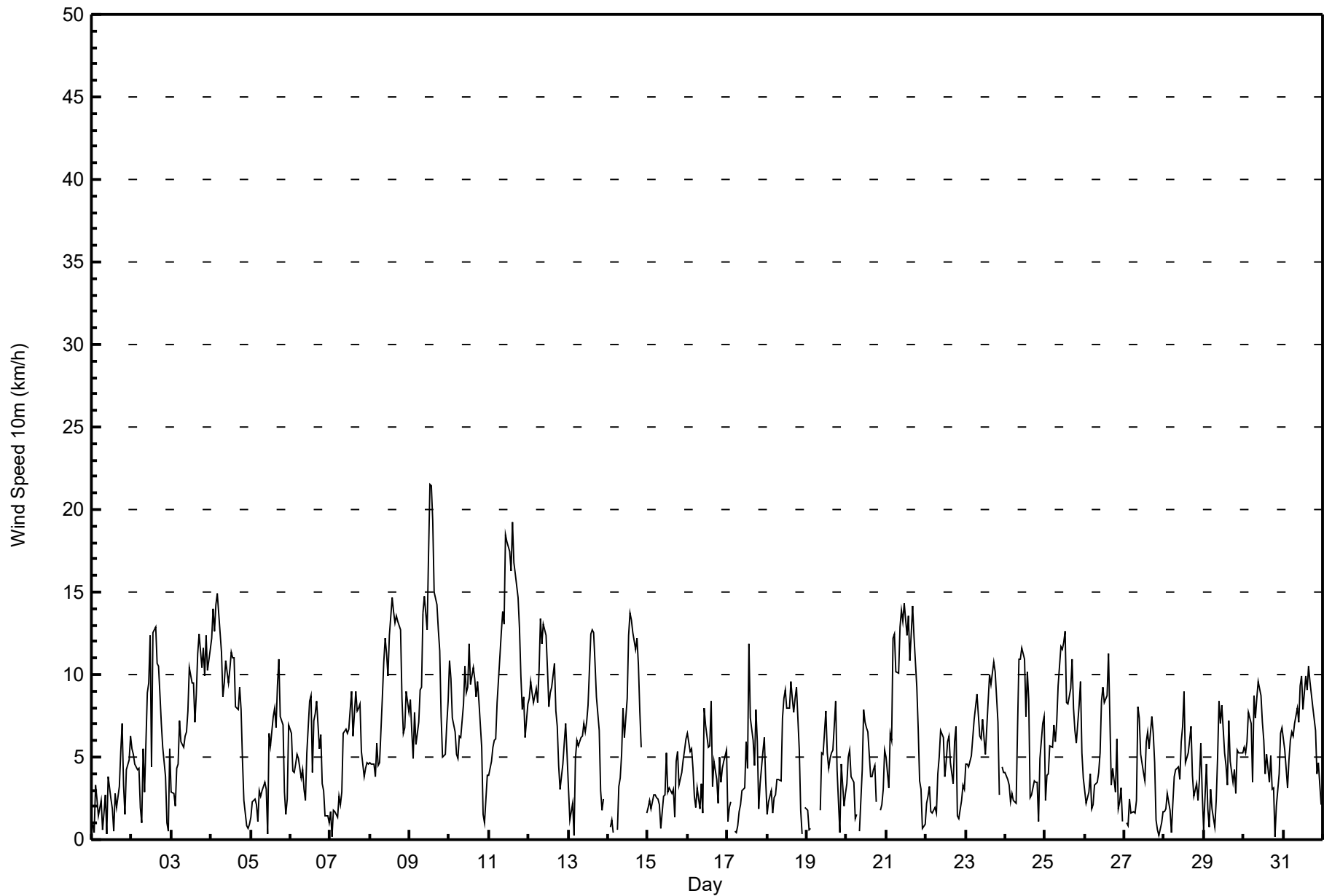
Conklin - July 2025

Maximum Speed: 22 km/h on Jul 9 13:00										Maximum Daily Speed Average: 10.7 km/h on Jul 11										Hours in Service: 744						
Minimum Speed Value: 0 km/h on Jul 7 02:00										Minimum Daily Speed Average: 0.9 km/h on Jul 17										Hours of Data: 729						
Maximum Diurnal Speed Average: 3.7 km/h at hour 12										Minimum Diurnal Speed Average: 1.3 km/h at hour 21										Hours of Missing Data: 15						
Monthly Average Velocity: 2.5 km/h 244.7 deg										Percentiles: P ₁ = 0 P ₁₀ = 2 Q ₁ = 3 Median = 5 Q ₃ = 8 P ₉₀ = 12 P ₉₉ = 17										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-Jul	NNW1	NW0	S3	SSE2	SE1	NNW2	ESE1	SSW2	N3	SE0	SE4	SE2	ENE2	ESE1	NW3	SW2	WNW3	SW5	SW7	SSW3	S2	SSW4	SSW5	SSW6	SSW1.4	SW7
2-Jul	SSW6	S5	S5	S4	S4	S2	SE1	NNW6	E3	SSE9	S10	S12	W4	NNE13	NE13	E11	E11	E9	ENE7	ENE6	NE4	N1	ESE0	W6	ESE2.1	NE13
3-Jul	W3	SW3	NW2	W4	NW5	NW7	WNW6	WNW6	NW6	NW7	WNW8	WNW10	WNW9	W9	W7	WSW9	WSW11	WSW12	WSW10	W12	W10	W12	WSW10	WSW12	W7.3	WSW12
4-Jul	WSW12	WSW14	WSW13	WSW14	WSW15	W13	W11	WNW9	NW9	NW11	NW9	NW10	NW11	NNW11	NNW11	NW8	NW8	NNW9	NNW8	NNW5	NNW2	SE1	SSW1	S1	WNW7.1	WSW15
5-Jul	SSW1	S2	SSE2	S2	S1	S3	N3	E3	ENE3	ESE3	NW0	ESE6	ESE6	ESE7	SE8	SSE7	SSE9	SSE11	SE7	SE7	SSE3	S2	S2	S7	SE3.8	SSE11
6-Jul	S6	SW4	SSW4	SSW5	SSW5	SSW5	SSW4	S4	SSW3	S2	S5	WSW8	SW9	W4	WSW7	SW8	SW8	S5	ESE6	ESE3	SE3	SSE1	NNW1	N1	SSW3.7	SW9
7-Jul	NNW2	WNW0	S2	SSW2	S1	SSE3	SE2	SSW3	SW6	SW7	W6	WSW7	SW8	SW9	SW6	S9	SSW8	SW8	WSW8	SW5	SSW4	SSW4	SSW5	S5	SW4.4	S9
8-Jul	S5	SSW5	SSW5	S4	S6	SSW5	SSW5	SSW9	S11	S12	S11	S10	S12	S15	SSW14	SSW13	SW14	SW13	SSW13	S9	SSE6	S7	S9	WNW8	SSW8.4	S15
9-Jul	NW9	NW7	WNW5	WNW8	WNW6	W7	WNW9	W9	W14	W15	W13	WSW17	WSW22	W21	W19	W15	W14	WNW13	WNW11	WNW7	WNW5	W5	WSW7	SW8	W10.3	WSW22
10-Jul	W11	WNW10	WNW7	WNW7	SW5	WSW5	W6	W6	WNW8	NW10	NW9	NW9	NW12	NNW9	NNW10	NNW10	NW9	NNW10	NW8	NW6	WNW2	SSE1	SSE2	SSE4	WNW6.0	NW12
11-Jul	SE4	SSE5	SSE6	SSE6	S6	SSW8	SW11	SW13	SW14	SW13	WSW18	SW18	SW17	SW16	SW19	SW17	WSW16	SW15	SW13	SW10	WSW8	SW9	SW6	SW8	SW10.7	SW19
12-Jul	W9	WSW10	SW9	SW8	WSW9	WSW8	WSW10	W13	WNW12	NW13	NW12	NW10	NW8	WNW9	NW9	NW11	NW8	NW7	NW4	WSW3	SW5	WSW6	W7	WNW5	WNW7.1	W13
13-Jul	NW3	NNW1	S2	N0	NW5	NW6	NW6	WNW6	NW6	NW7	WNW7	NW7	NW8	N12	NNW13	NNW13	NNW11	N9	N7	NNW3	NNW2	NNW2	UO	SSW1	NNW5.4	NNW13
14-Jul	UO	NW1	S1	S0	UO	SSE1	NNW3	NNW4	NNW5	N8	N6	NNW9	NNW12	NNW14	N13	NNW13	NNW12	N12	N11	N8	N6	UO	UO	SSE2	N6.5	NNW14
15-Jul	S2	S2	S2	S3	S3	S3	SE2	ESE2	NNW1	WNW3	SW3	WSW5	N3	NW3	N3	N3	WNW1	ESE5	SE5	SSE3	SSW4	SSW5	SSW5	SSW6	S1.5	SSW6
16-Jul	SSW6	S5	SSW6	S4	ESE3	SE2	SE3	SE2	SW3	S2	SSE8	SE7	SE6	SSE6	SSE8	W3	SW5	SSW4	WSW2	WSW5	SSW3	SSW4	S5	SSW5	S3.7	SSE8
17-Jul	SE1	SE2	ESE2	UO	ESE0	SSW0	SE1	ENE2	WSW2	NW3	SW3	S6	NNW4	N12	NW7	W6	NW4	N8	NNW6	NNW2	S3	SSW5	SSW6	SSE4	WNW0.9	N12
18-Jul	SE2	SE2	SSE3	S2	SSE3	S3	S4	ESE4	ESE4	SE7	SE9	SE9	SE8	SE8	SE10	SE9	SE8	SE9	SE9	SE5	SE2	ENE0	UO	SSE2	SE5.0	SE10
19-Jul	S2	SSE1	NW1	UO	SSE2	UO	UO	UO	E2	ESE5	ESE5	SE8	SE5	ESE4	SE5	SE5	SE5	SSW8	SW4	NNW2	SW0	SSW5	SE2	SSE3	SE2.7	SSW8
20-Jul	S3	S5	SSE5	SSE4	SE3	S1	SSE2	UO	N1	ENE4	ESE8	ESE7	ESE7	E7	SE4	SE4	ESE4	ESE5	SSE2	UO	SSE2	WSW2	NW3	NW5	SE2.6	ESE8
21-Jul	NW5	NW3	NNW6	NNW6	NNW12	NNW12	NNW10	NNW10	NNW13	NNW14	NNW13	NNW14	NNW12	NNW14	NNW11	NNW12	N14	N12	N9	N7	N4	N3	NW1	SSE1	NNW9.0	NNW14
22-Jul	S2	S3	SSW3	S2	SSW2	S2	NNW2	N4	NNW5	NNW7	NNW6	W4	W5	WNW6	NW6	N5	NW3	N6	N7	N1	S1	S2	SSE3	S3	NW1.7	N7
23-Jul	S5	S5	SSE4	S5	S6	SSW7	SSW8	SW9	SSW6	SW6	WSW7	WSW6	SSW5	SSW7	SSE10	S9	SSW10	SSW11	SW10	SW7	SW3	UO	S4	S4	SSW6.3	SSW11
24-Jul	SSE4	SSE4	SE3	SE2	SSE3	SSE2	SE2	ESE7	SE11	SSE11	SSE12	SSE11	SSE7	SSE10	SSE8	WNW3	NNE3	SSE4	SSE3	SSE3	S1	SSW5	SSW7	WSW7	SSE4.7	SSE12
25-Jul	S2	SSE4	S4	SSW6	SW6	SW7	SSW6	SW7	SW9	WSW12	WSW12	WSW12	WSW13	WNW8	NW8	WNW9	W11	WNW8	W7	WNW6	NW8	NNW10	NNW5	NW4	W5.7	WSW13
26-Jul	NW3	NW2	NW3	NW4	WNW2	NW2	NW3	NNW3	NW4	WNW5	W8	WNW9	W8	SW9	SW11	NW7	S3	E4	ESE3	WNW6	W2	NNW2	NNW3	N1	WNW3.0	SW11
27-Jul	UO	NNW1	NW1	NNW2	NNW2	NNW2	NNW2	NNW2	N8	NNW7	N5	NNE4	NNW4	NNW6	NNW7	NW6	NW7	NNW6	NNW5	WNW1	W1	WSW0	SSE1	SSE2	NNW3.1	N8
28-Jul	S2	S2	S3	S2	SE0	S2	S4	S4	SW4	W4	NW6	W7	NNW9	NNW5	WNW5	WNW6	W7	WNW4	WNW3	SW3	S2	S4	SSW6	SSE3	WSW2.1	NNW9
29-Jul	SE1	S5	SSW2	NE1	SE3	ESE2	N1	ESE2	SSW5	WSW8	SW7	WSW8	WSW5	WNW5	W3	WSW7	W5	W3	SSW4	SSW3	SSW5	SSW5	SSW5	S5	SW3.2	WSW8
30-Jul	SSW6	S5	SSW6	SSW8	SSW7	SSE3	SSW9	SSW7	SW9	SSW10	SW9	SW7	WSW6	SW4	SSW5	SE3	ESE5	SE3	WNW3	NNW0	SSE2	S4	S6	SSW7	SSW4.8	SSW10
31-Jul	SSW6	S5	SE3	S5	S6	SSW7	SSW6	SW7	WSW8	SW7	SW9	SW10	WSW8	SSW10	SSW9	SSW10	SW10	SW9	SSW8	SSW7	S4	SSW5	SSW3	S2	SSW6.4	SSW10
SW2.4 SW2.5SSW2.4 SW2.5 SW2.3 SW2.3WSW2.6WSW2.6 W3.0 W3.0WSW3.5WSW3.7 W3.6WNW2.8 W2.9 W3.0 W3.1 W2.2 W2.0WSW1.9 SW1.3 SW2.6SSW3.2 SW2.9																									Diurnal Average	
WSW12WSW14WSW13WSW14WSW15 W13 W11 W13 SW14 W15WSW18 SW18WSW22 W21 W19 SW17WSW16 SW15 SW13 W12 W10 W12WSW10WSW12																									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
Conklin - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 10m (WS10) - km/h
Conklin - July 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	370	50.75	50.75
6 - 11	285	39.09	89.85
12 - 19	72	9.88	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: 729

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Wind Speed 10m (WS10) - km/h
Conklin - July 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	3	2	5	4	21	37	42	75	48	15	10	14	18	27	33	370
6 - 11	12	0	0	2	4	8	17	16	16	37	38	24	20	27	37	27	285
12 - 19	6	1	1	0	0	0	0	1	4	3	12	14	10	2	3	15	72
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	34	4	3	7	8	29	54	59	95	88	65	49	45	47	67	75	729

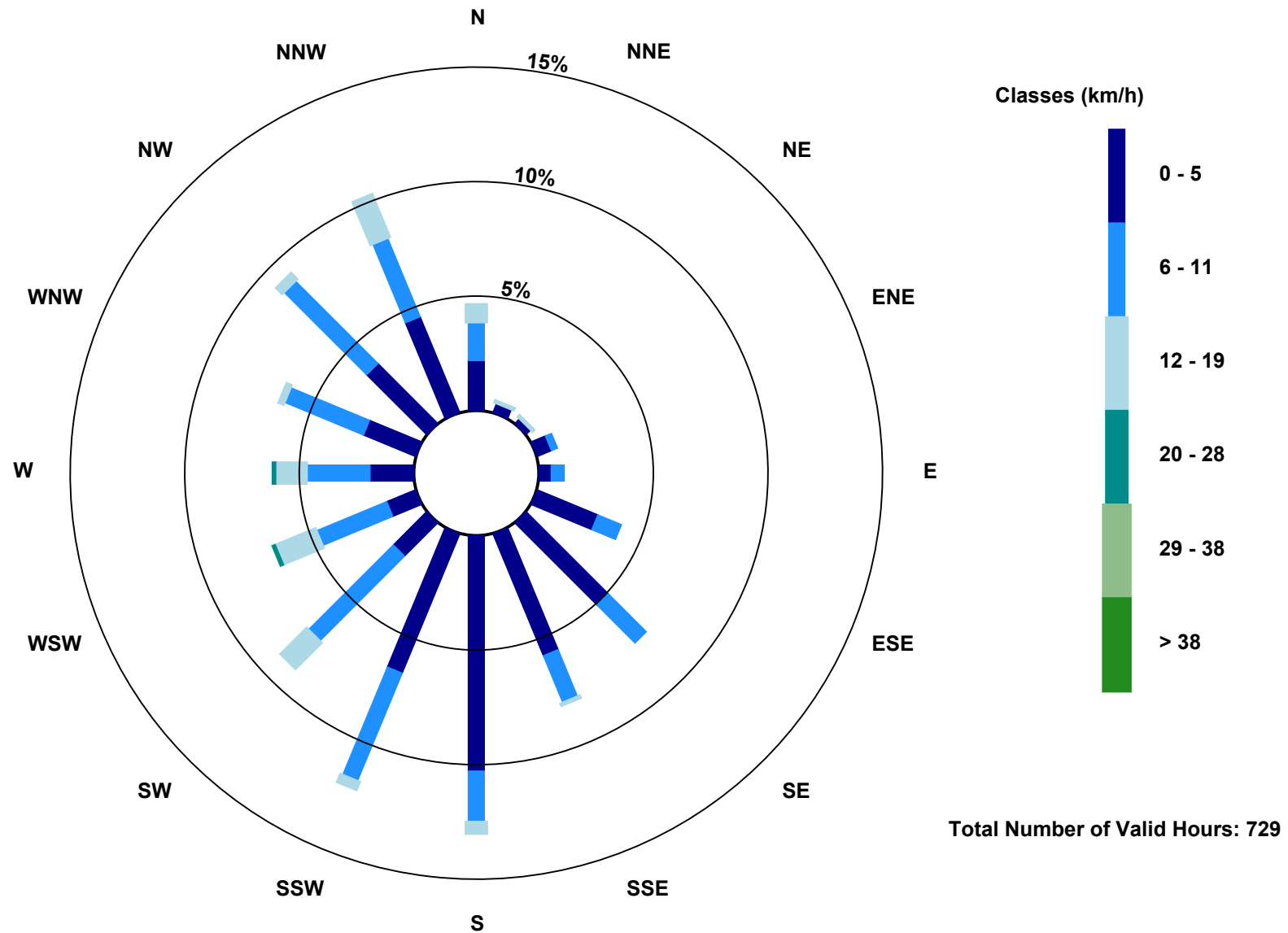
Total Number of Valid Hours: 729

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Wind Speed 10m (WS10) - km/h
Conklin





Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

Wind Speed 10m (WS10) - km/h

Conklin - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																	Hours in Service: 744								
Maximum Value: 9 km/h on Jul 9 14:00																	Hours of Data: 729								
Minimum Value: 0 km/h on Jul 24 01:00																	Hours of Missing Data: 15								
Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 1 Median = 2 Q ₃ = 3 P ₉₀ = 5 P ₉₉ = 7																	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-Jul	1	1	1	1	1	1	1	2	1	1	1	2	2	1	2	2	2	3	4	1	1	1	1	1	4
2-Jul	1	1	1	1	1	2	1	3	1	4	3	4	6	5	4	4	3	3	3	3	2	1	1	7	7
3-Jul	2	4	2	2	3	3	3	3	3	3	3	5	4	5	4	4	4	5	4	5	4	5	4	4	5
4-Jul	5	5	4	5	5	5	5	4	4	5	5	5	5	4	4	3	4	4	3	2	2	1	1	1	5
5-Jul	1	1	1	1	1	2	1	1	1	2	2	3	3	3	3	4	3	4	3	2	1	1	2	2	4
6-Jul	2	1	1	1	1	1	1	2	1	2	3	3	5	2	3	3	3	3	3	2	1	1	1	1	5
7-Jul	1	1	1	1	1	1	1	1	3	3	3	3	3	4	3	3	3	3	3	2	1	1	1	1	4
8-Jul	1	1	1	1	1	2	3	3	4	4	5	3	4	5	4	4	5	4	4	3	2	2	3	5	5
9-Jul	4	3	3	3	3	3	4	4	7	7	6	6	8	9	9	8	7	6	5	3	2	2	2	3	9
10-Jul	5	5	3	3	2	3	3	3	4	5	4	5	5	3	4	4	4	4	4	3	1	1	1	1	5
11-Jul	1	1	1	1	1	3	3	3	5	4	6	6	6	5	7	7	6	5	4	3	4	3	2	3	7
12-Jul	4	3	2	2	4	3	4	6	6	6	5	5	4	4	4	5	4	4	3	1	1	2	3	3	6
13-Jul	1	1	1	2	2	3	3	3	3	3	3	3	4	5	4	4	4	3	4	1	1	1	UO	1	5
14-Jul	UO	1	1	1	UO	1	1	2	2	3	3	4	5	4	5	5	5	4	4	2	2	UO	UO	1	5
15-Jul	1	1	1	1	1	1	1	1	2	2	2	3	3	2	2	3	2	2	2	1	1	1	1	1	3
16-Jul	1	1	1	1	1	1	1	1	1	2	3	4	3	3	3	3	3	2	3	2	1	1	1	1	4
17-Jul	1	1	1	UO	1	1	1	1	2	2	3	3	5	5	4	3	2	3	2	1	2	1	1	2	5
18-Jul	1	1	1	2	1	1	1	1	1	3	3	3	3	3	3	3	3	2	2	1	2	2	UO	1	3
19-Jul	1	1	1	UO	1	UO	UO	UO	1	2	2	3	3	3	2	2	3	3	2	1	1	2	2	2	3
20-Jul	1	1	1	1	1	1	2	UO	1	3	3	3	3	2	2	3	2	2	1	UO	2	2	1	2	3
21-Jul	2	1	2	2	6	4	3	3	4	4	5	5	5	5	4	5	5	4	3	3	2	2	1	1	6
22-Jul	1	1	1	1	1	1	2	2	2	3	3	3	3	3	4	2	3	4	3	1	1	1	1	1	4
23-Jul	1	1	1	1	1	2	2	2	2	3	3	3	4	5	4	3	3	4	4	3	2	UO	1	1	5
24-Jul	0	1	1	1	1	1	1	3	3	3	3	4	3	3	4	4	2	2	2	1	1	1	2	4	4
25-Jul	1	1	1	2	2	2	2	3	3	4	6	5	6	5	4	5	5	4	3	2	4	5	2	1	6
26-Jul	1	1	2	2	1	2	2	1	2	3	4	4	4	5	4	4	1	1	2	3	2	1	1	1	5
27-Jul	UO	2	2	1	1	1	1	1	3	2	2	2	2	3	3	2	3	3	2	1	1	1	1	1	3
28-Jul	1	1	1	1	1	1	1	1	2	3	3	3	4	2	3	3	3	2	2	1	1	1	1	2	4
29-Jul	1	2	2	2	1	1	2	2	2	3	3	4	4	3	3	4	3	2	1	2	2	1	1	1	4
30-Jul	1	1	1	1	1	2	3	2	3	3	3	4	3	3	3	2	2	2	2	1	2	1	1	2	4
31-Jul	2	1	1	2	1	2	2	2	3	2	4	4	4	5	4	4	4	3	3	2	1	1	1	1	5
5 5 4 5 6 5 5 6 7 7 6 6 8 9 9 8 7 6 5 5 4 5 4 7																									
Diurnal Maximum																									
UO - Unstable Operation																									



Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Direction 10m (WD10) - deg

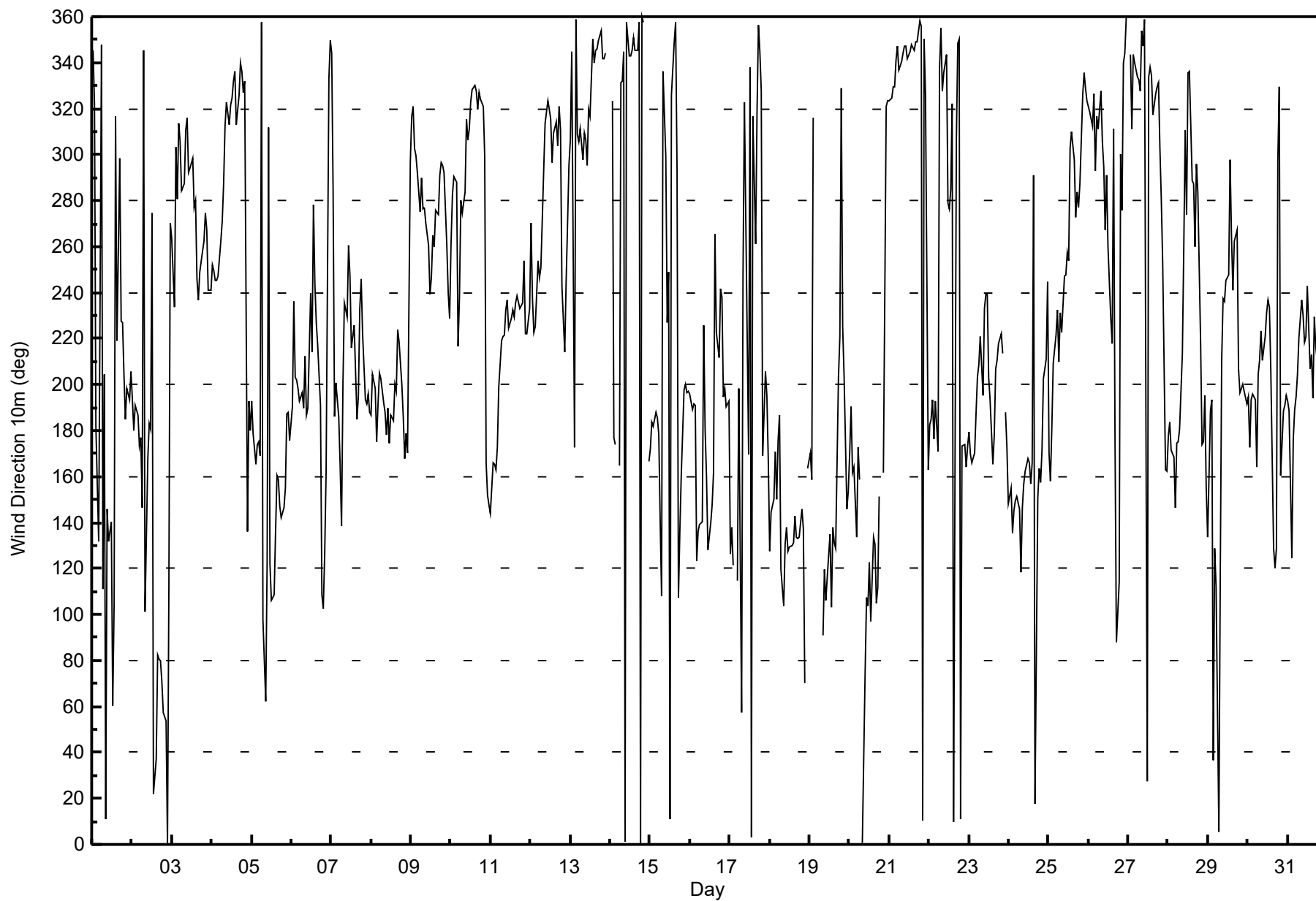
Conklin - July 2025

Direction of Maximum Speed: 247 deg on Jul 9 13:00																				Hours in Service:		744			
Direction of Maximum Daily Speed Average: 224.4 deg on Jul 11																				Hours of Data:		729			
Direction of Minimum Speed: 283 deg on Jul 7 02:00										Direction of Minimum Daily Speed Average: 0.9 deg on Jul 17										Hours of Missing Data:		15			
Monthly Average Direction: 244.7 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-Jul	346	322	182	156	132	348	111	204	11	146	132	140	61	105	317	219	299	228	227	204	185	198	193	205	203.5
2-Jul	194	180	191	187	173	177	146	345	101	168	183	180	274	22	37	83	81	80	71	57	54	1	111	270	109.2
3-Jul	263	234	304	281	314	306	284	287	311	316	292	294	298	277	280	246	237	249	258	262	275	267	241	241	271.6
4-Jul	252	250	245	245	247	262	271	287	312	323	313	322	324	332	336	313	326	340	336	327	332	136	193	180	292.7
5-Jul	193	179	165	174	175	169	358	97	62	123	312	122	106	108	136	161	159	147	142	146	155	188	188	176	143.1
6-Jul	190	236	203	202	199	193	197	190	212	187	190	240	214	278	244	227	217	191	109	102	126	162	333	350	205.9
7-Jul	344	283	186	201	186	165	139	200	236	229	261	247	216	221	226	185	195	233	246	222	194	192	196	188	216.4
8-Jul	187	205	198	175	191	205	203	192	188	178	190	175	187	184	200	197	224	219	199	185	168	179	171	297	194.4
9-Jul	317	321	302	300	292	275	290	277	277	270	261	239	247	265	260	276	274	291	296	295	293	261	240	229	272.1
10-Jul	261	282	291	288	217	238	280	274	284	315	306	311	323	328	330	328	320	327	324	321	299	166	152	147	301.7
11-Jul	144	166	166	163	173	199	219	221	222	233	237	224	229	232	230	236	238	233	234	236	254	222	222	233	224.4
12-Jul	270	238	223	225	254	247	251	271	293	314	323	320	316	296	310	314	304	321	311	243	214	245	270	296	282.0
13-Jul	306	345	172	359	309	306	311	298	310	306	295	320	316	350	340	346	346	350	354	342	342	344	UO	207	328.4
14-Jul	UO	324	177	174	UO	165	331	332	345	1	357	343	343	345	351	345	345	358	0	360	358	UO	UO	167	349.7
15-Jul	172	184	182	188	186	178	140	108	336	299	227	249	11	326	349	357	293	107	136	160	198	200	196	197	190.5
16-Jul	196	189	192	191	123	136	139	140	226	181	160	128	140	148	161	265	223	211	242	238	195	198	191	193	180.9
17-Jul	126	138	121	UO	114	198	129	58	247	323	220	170	338	3	317	261	319	356	345	328	169	206	195	167	300.6
18-Jul	128	144	150	171	150	176	187	120	104	131	138	128	129	130	131	143	134	133	134	146	137	70	UO	164	136.6
19-Jul	170	158	316	UO	158	UO	UO	UO	91	120	106	126	135	103	138	131	129	203	221	329	225	204	146	154	145.7
20-Jul	170	191	162	164	134	173	159	UO	0	75	107	104	122	97	134	131	105	112	152	UO	162	238	321	324	127.8
21-Jul	323	325	330	329	341	347	337	341	344	347	347	342	345	348	346	345	349	349	358	355	10	350	326	163	344.7
22-Jul	183	185	193	176	193	171	337	355	328	335	343	279	276	285	322	10	307	349	351	11	173	174	164	173	312.1
23-Jul	179	170	166	170	187	203	209	221	195	233	239	239	203	193	165	178	207	210	218	222	214	UO	188	173	201.2
24-Jul	148	155	135	145	149	151	146	118	146	157	163	168	166	157	166	291	18	151	164	157	171	203	211	245	163.6
25-Jul	170	158	181	209	222	233	210	231	223	247	247	258	254	303	310	298	273	284	277	288	326	335	329	324	264.7
26-Jul	321	318	312	326	293	317	311	328	306	295	267	291	260	229	218	311	178	88	114	300	276	340	344	359	284.5
27-Jul	UO	344	311	343	340	334	332	328	354	347	359	28	334	338	334	317	326	329	331	303	280	252	163	163	338.2
28-Jul	178	184	171	169	146	175	175	181	214	260	311	274	335	336	289	288	260	296	284	218	174	175	195	154	248.5
29-Jul	134	189	193	36	129	112	5	118	211	237	236	246	248	298	264	241	262	267	207	196	198	200	197	191	222.8
30-Jul	194	173	193	196	194	164	205	211	224	210	221	231	237	234	206	129	120	128	297	330	160	188	191	195	200.9
31-Jul	193	189	124	176	189	195	204	220	237	230	218	221	243	207	213	194	229	217	210	198	190	200	206	189	209.1
222.9 213.9 204.4 216.6 217.0 232.9 244.4 250.5 262.4 265.8 248.8 244.2 264.1 287.2 268.8 268.1 263.4 266.6 263.2 250.6 226.8 222.0 210.0 216.7																									
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
Conklin - July 2025





Wood Buffalo Environmental Association
Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg
Conklin - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																			Hours in Service: 744						
Maximum Value: 104 deg on Jul 15 09:00																			Hours of Data: 499						
Minimum Value: 10 deg on Jul 16 23:00																			Hours of Missing Data: 245						
Percentiles: P ₁ = 11 P ₁₀ = 19 Q ₁ = 24 Median = 36 Q ₃ = 51 P ₉₀ = 76 P ₉₉ = 97																			Hours of Calibration: 0						
																			Percent Operational Time: 67.1						
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-Jul	81	98	23	29	84	30	81	88	43	103	50	84	83	93	78	85	47	49	28	29	60	14	15	10	103
2-Jul	19	23	12	17	22	82	82	25	57	38	30	30	71	34	35	40	38	40	39	34	47	72	79	76	82
3-Jul	78	82	51	54	58	52	57	57	49	50	49	51	49	46	57	35	35	34	35	34	41	39	24	21	82
4-Jul	30	26	26	23	26	34	41	49	43	35	46	41	36	29	27	45	41	35	24	23	49	40	74	71	74
5-Jul	65	17	35	38	62	55	46	54	42	77	97	36	33	29	26	49	25	19	17	17	21	66	71	19	97
6-Jul	27	23	19	19	18	23	27	33	62	83	52	35	27	61	30	39	31	56	29	51	51	67	67	87	87
7-Jul	41	87	68	24	68	29	47	38	38	43	60	49	35	36	50	24	26	28	30	24	17	13	14	13	87
8-Jul	17	19	24	21	19	22	27	23	24	24	23	22	23	31	27	28	28	26	21	20	16	17	17	61	61
9-Jul	38	38	58	50	54	47	51	48	48	42	43	29	30	39	36	46	44	46	47	49	47	40	28	21	58
10-Jul	40	49	53	50	31	56	48	50	49	42	51	51	37	25	26	36	37	30	36	31	68	61	22	14	68
11-Jul	16	19	16	18	18	26	23	22	24	28	27	29	30	30	27	29	26	26	25	22	37	21	20	24	37
12-Jul	42	28	21	22	37	28	31	45	52	42	30	34	42	49	44	43	47	39	61	39	13	31	45	45	61
13-Jul	47	70	51	94	53	50	46	49	46	47	55	39	45	25	21	23	21	25	21	33	31	11	UO	70	94
14-Jul	UO	70	23	80	UO	38	25	36	33	33	47	33	32	23	25	29	29	27	25	22	21	UO	UO	75	80
15-Jul	52	22	18	21	21	23	36	59	104	88	87	70	94	82	88	78	97	56	33	49	15	16	11	11	104
16-Jul	12	10	11	17	14	62	30	62	58	96	41	56	76	70	44	78	70	36	73	24	17	18	10	13	96
17-Jul	56	47	34	UO	65	78	77	48	84	67	98	52	89	23	42	48	57	32	18	55	68	24	19	52	98
18-Jul	46	18	13	79	33	28	22	28	30	30	32	31	53	35	30	28	24	23	16	11	58	90	UO	24	90
19-Jul	14	80	80	UO	20	UO	UO	UO	64	33	34	38	67	67	50	49	48	31	32	41	79	27	56	48	80
20-Jul	27	20	20	16	15	53	82	UO	94	68	36	43	50	41	81	85	56	35	44	UO	57	72	34	43	94
21-Jul	28	31	18	21	20	20	23	21	21	21	27	24	25	24	29	25	24	22	22	22	19	28	76	33	76
22-Jul	18	25	25	41	46	25	79	45	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	79
23-Jul	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-Jul	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-Jul	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-Jul	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-Jul	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-Jul	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-Jul	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-Jul	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-Jul	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	NF	--
81 98 80 94 84 82 82 88 104 103 98 84 94 93 88 85 97 56 73 55 79 90 79 87																									
Diurnal Maximum																									
UO - Unstable Operation NF - Not Flagged																									



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

**AMS22
JANVIER
JULY 2025**

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

August 29, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - JANVIER (AMS22)
JULY 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	-	-	2.6	0	0.8	0
TRS(ppb) Average	697	37	47	98.66	0.7	0	0.7	-	0.3	-
THC(ppm) Average	707	35	37	99.73	-	-	2.2	-	2.1	-
NMHC(ppm) Average	707	35	37	99.73	-	-	0.011	-	0.001	-
CH4(ppm) Average	707	35	37	99.73	-	-	2.2	-	2.1	-
O3 (ppb) Average	707	35	37	99.73	-	-	57.5	0	40	-
NO2 (ppb) Average	708	36	36	100	-	-	4.1	0	2.3	-
NO (ppb) Average	708	36	36	100	-	-	2.1	-	0.4	-
NOX (ppb) Average	708	36	36	100	-	-	5	-	2.6	-
PM2.5 (ug/m3) Average	742	2	2	100	-	-	356.3	0	119.1	3
Temperature 2 m (C) Average	744	0	0	100	-	-	32.2	-	24.6	-
Relative Humidity (%) Average	729	0	15	97.98	-	-	100	-	82.9	-
Wind Speed 10 m (km/h) Average	205	1	1	100	-	-	14	-	7	-
Wind Speed 20 m (km/h) Average	740	0	4	99.46	-	-	26	-	16	-
Wind Direction 10 m (deg) Average	205	1	1	100	-	-	-	-	-	-
Wind Direction 20 m (deg) Average	740	0	4	99.46	-	-	-	-	-	-

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

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - JANVIER (AMS22)
JULY 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	0.19	0.3	-	0	0	0	0.1	0.2	0.4	2.6
TRS (ppb) Average	697	0.2	0.1	-	0.1	0.1	0.2	0.2	0.2	0.3	0.7
THC (ppm) Average	707	2	0	-	1.9	2	2	2	2	2.1	2.2
NMHC(ppm) Average	707	0	0.001	-	0	0	0	0	0	0	0.011
CH4(ppm) Average	707	2	0	-	1.9	2	2	2	2	2.1	2.2
O3 (ppb) Average	707	28.17	11	-	5.8	13.6	19.6	27.8	35.6	43.5	57.5
NO2 (ppb) Average	708	0.99	0.7	-	0.1	0.3	0.5	0.8	1.3	1.9	4.1
NO (ppb) Average	708	0.22	0.2	-	0	0	0.1	0.1	0.3	0.5	2.1
NOX (ppb) Average	708	1.21	0.8	-	0.2	0.4	0.6	1	1.6	2.3	5
PM2.5 (ug/m3) Average	742	19.46	37.2	-	0.9	2.7	4.5	9.4	17.4	40.8	356.3
Temperature 2 m (C) Average	744	16.82	5.8	-	2.6	9.1	12.6	16.8	21.1	24.6	32.2
Relative Humidity (%) Average	729	65.59	20.8	-	21.6	35.7	48.8	66.8	84	94.1	100
Wind Speed 10 m (km/h) Average	205	5.3	3	-	0	1	2	5	8	9	14
Wind Speed 20 m (km/h) Average	740	7.4	4	-	0	2	4	7	10	13	26
Wind Direction 10 m (deg) Average	205	-	-	-	-	-	-	-	-	-	-
Wind Direction 20 m (deg) Average	740	-	-	-	-	-	-	-	-	-	-

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - JANVIER (AMS22)
JULY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
SO2, TRS, THC/NMHC/CH4, O3	23 Jul 2025 14:00	23 Jul 2025 15:00	2	Maintenance - sample manifold cleaned
TRS	24 Jul 2025 19:00	25 Jul 2025 02:00	8	Unstable Operation - excessive baseline drift
Relative Humidity	03 Jul 2025 03:00	03 Jul 2025 05:00	3	Sensor operated out of range
Relative Humidity	07 Jul 2025 03:00	07 Jul 2025 06:00	4	Sensor operated out of range
Relative Humidity	24 Jul 2025 23:00	25 Jul 2025 00:00	2	Sensor operated out of range
Relative Humidity	26 Jul 2025 00:00	26 Jul 2025 00:00	1	Sensor operated out of range
Relative Humidity	26 Jul 2025 02:00	26 Jul 2025 06:00	5	Sensor operated out of range
Wind Speed, Wind Direction 20m	06 Jul 2025 21:00	06 Jul 2025 21:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction 20m	19 Jul 2025 01:00	19 Jul 2025 01:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction 20m	24 Jul 2025 06:00	24 Jul 2025 07:00	2	Flat line in sensor output signal



Wood Buffalo Environmental Association

Summary of Hour Averages

Sulphur Dioxide (SO₂) - ppb

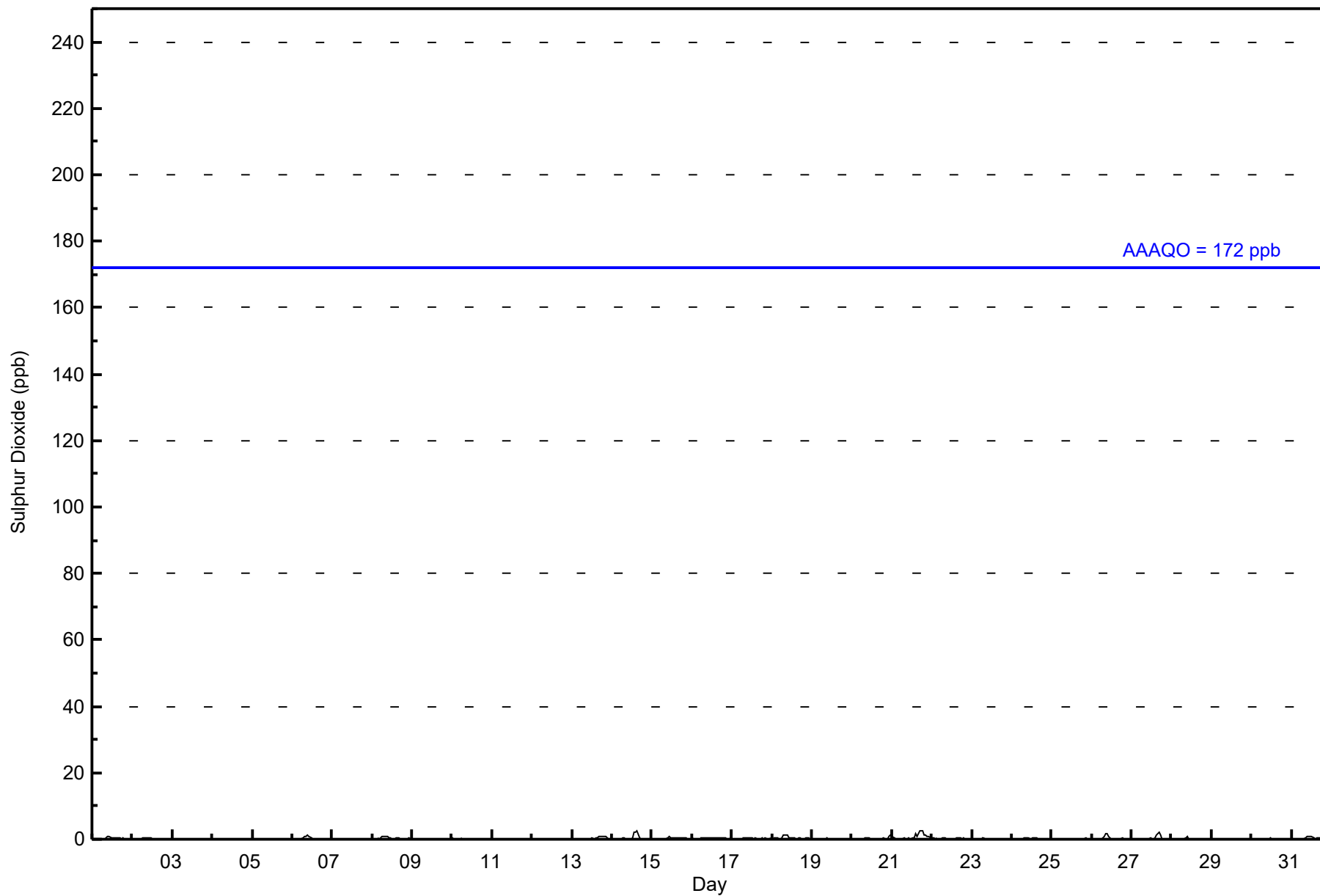
Janvier - July 2025

Number of Exceedences (AAAQO): Maximum Value: 2.6 ppb on Jul 14 16:00																			1-hr: 0 24-hr: 0 Maximum Daily Average: 0.8 ppb on Jul 21																			Hours in Service: 744	
Minimum Value: 0.0 ppb on Jul 2 16:00 Maximum Diurnal Average: 0.4 ppb at hour 10 Monthly Average: 0.19 ppb																			Minimum Daily Average: 0.0 ppb on Jul 29 Minimum Diurnal Average: 0.1 ppb at hour 5 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.2 P ₉₀ = 0.4 P ₉₉ = 1.8																			Hours of Data: 706	
																																						Hours of Missing Data: 38	
																																						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-Jul	0.1	Z	0.1	0.1	0.0	0.1	0.1	0.1	0.4	1.0	1.0	0.4	0.3	0.4	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.3	1.0													
2-Jul	0.1	0.1	Z	0.2	0.0	0.1	0.4	0.3	0.4	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	0.0	0.2	0.1	0.6													
3-Jul	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													
4-Jul	0.0	0.0	0.1	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	0.1	0.0	0.0	0.0	0.0	0.0	0.1													
5-Jul	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	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.1													
6-Jul	Z	0.1	0.1	0.1	0.1	0.1	0.4	0.9	0.9	1.3	0.7	0.3	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.2	1.3													
7-Jul	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	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1													
8-Jul	0.2	0.2	Z	0.2	0.1	0.4	0.8	0.8	1.0	0.9	0.5	0.4	0.2	0.2	0.4	0.4	0.3	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.4	1.0													
9-Jul	0.0	0.1	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	0.2	0.0	0.2													
10-Jul	0.3	0.1	0.1	0.0	Z	0.3	0.2	0.2	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	0.1	0.3													
11-Jul	0.0	0.0	0.1	0.1	0.0	Z	0.2	0.1	0.1	0.0	0.1	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	0.1	0.2													
12-Jul	Z	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.2	0.1	0.1	0.1	0.0	0.1	0.1	0.2													
13-Jul	0.1	Z	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.5	0.2	0.4	0.4	0.7	0.7	0.9	1.0	0.7	0.3	0.1	0.1	0.3	1.0													
14-Jul	0.0	0.1	Z	0.0	0.0	0.1	0.3	0.2	0.0	0.0	0.2	0.1	0.6	2.0	2.1	2.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	2.6													
15-Jul	0.0	0.0	0.1	Z	0.1	0.1	0.1	0.2	0.1	0.6	0.7	0.6	0.5	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.1	0.2	0.3	0.7													
16-Jul	0.3	0.1	0.2	0.1	Z	0.2	0.3	0.2	0.3	0.3	0.3	0.5	0.5	0.4	0.3	0.3	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.5													
17-Jul	0.2	0.2	0.1	0.1	0.1	Z	0.2	0.3	0.3	0.3	0.2	0.3	0.2	0.1	0.3	0.1	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.3													
18-Jul	Z	0.3	0.2	0.2	0.1	0.2	0.5	1.2	1.2	1.5	0.5	0.3	0.3	0.2	0.2	0.1	0.2	0.3	0.1	0.1	0.4	0.4	0.4	0.2	0.4	1.5													
19-Jul	0.1	Z	0.1	0.0	0.0	0.0	0.1	0.2	0.1	0.3	0.2	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.3													
20-Jul	0.0	0.0	Z	0.1	0.1	0.1	0.0	0.1	0.2	0.3	0.3	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	1.0	1.5	0.2	1.5													
21-Jul	0.9	0.5	0.2	Z	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.4	1.6	0.8	1.9	2.4	2.5	1.3	1.3	1.0	0.7	0.4	0.8	2.5													
22-Jul	0.3	0.2	0.2	0.2	Z	0.1	0.2	0.3	0.3	0.1	0.2	0.1	0.0	0.1	0.2	0.3	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.3													
23-Jul	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	M	M	0.0	0.1	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.1	0.2													
24-Jul	Z	0.2	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.2	0.3	0.2	0.2	0.3	0.6	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.2	0.6													
25-Jul	0.0	Z	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	C	C	C	C	C	0.1	0.1	0.2	0.1	0.4	0.1	0.1	0.1	0.1	0.4													
26-Jul	0.0	0.1	Z	0.1	0.1	0.1	0.2	1.0	1.6	1.8	1.0	0.3	0.1	0.0	0.0	0.1	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.3	1.8													
27-Jul	0.0	0.1	0.1	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.0	0.4	1.4	2.3	1.1	0.2	0.0	0.0	0.0	0.0	0.0	0.3	2.3													
28-Jul	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.3	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	0.6													
29-Jul	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													
30-Jul	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.4	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	0.4													
31-Jul	0.1	Z	0.2	0.1	0.2	0.2	0.1	0.2	0.4	0.9	1.0	1.0	0.9	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.4	0.4	1.5	0.8	0.4	1.5													
0.1 0.1 0.1 0.1 0.1 0.1 0.2 0.2 0.3 0.4 0.3 0.2 0.2 0.2 0.3 0.3 0.3 0.2 0.2 0.2 0.2 0.1 0.2 0.2																								Diurnal Average															
0.9 0.5 0.2 0.2 0.2 0.4 0.8 1.2 1.6 1.8 1.0 1.0 0.9 2.0 2.1 2.6 2.3 2.4 2.5 1.3 1.3 1.0 1.5 1.5																								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
Janvier - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Janvier - July 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
Janvier - July 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	54	30	11	19	19	21	31	30	49	141	92	59	46	39	24	37	702
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	54	30	11	19	19	21	31	30	49	141	92	59	46	39	24	37	702

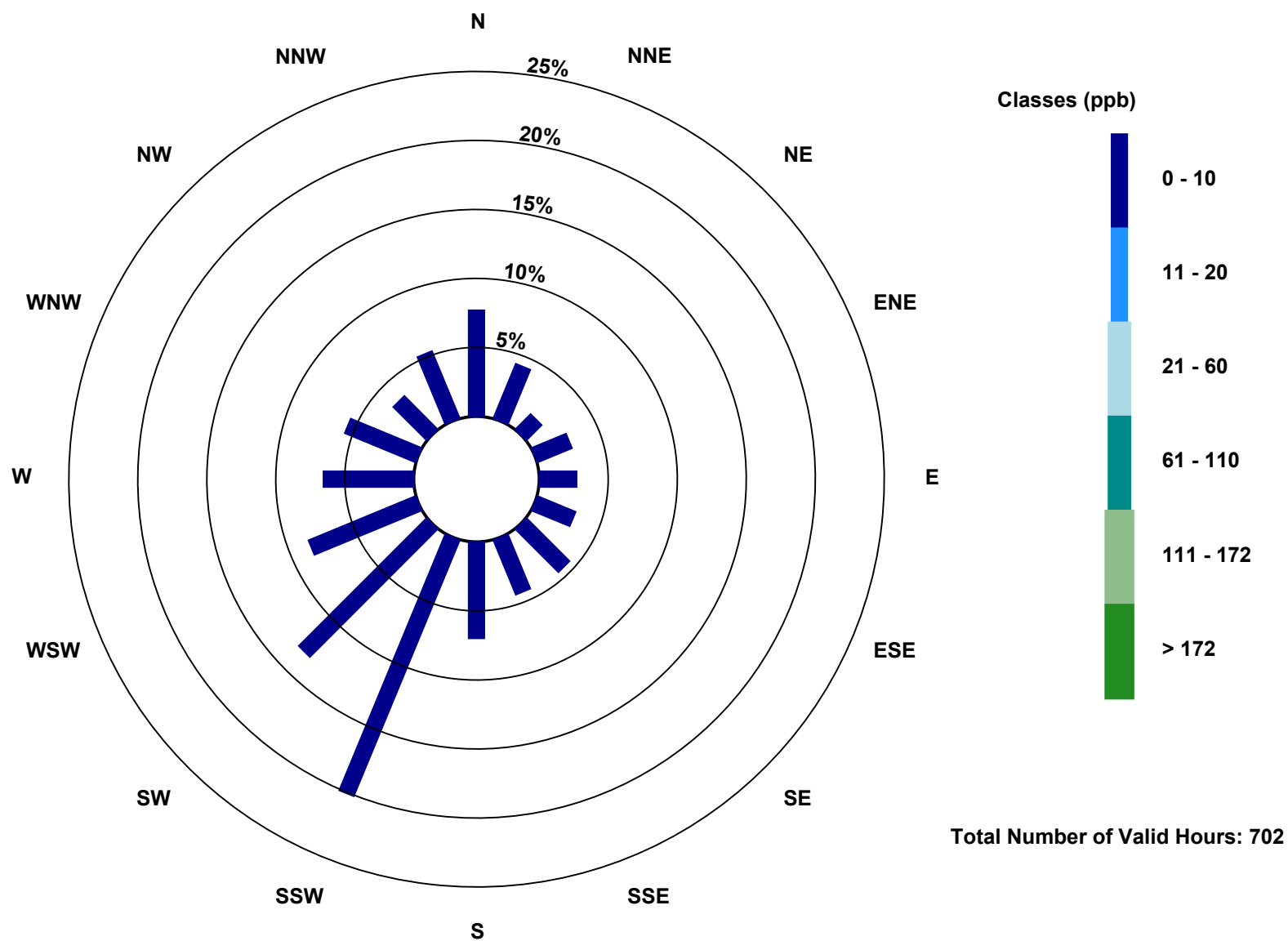
Total Number of Valid Hours: 702

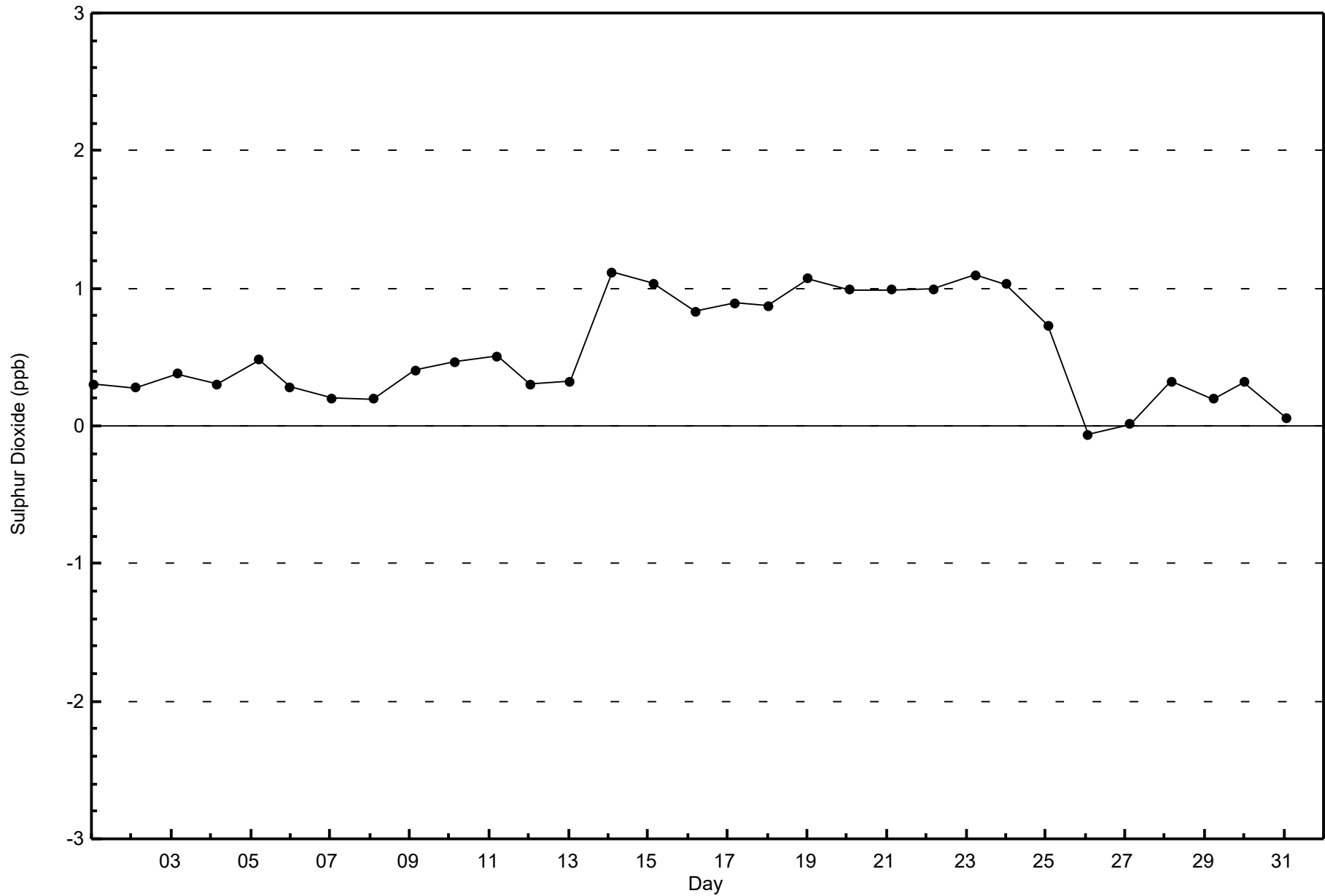
Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Sulphur Dioxide (SO₂) - ppb
Janvier

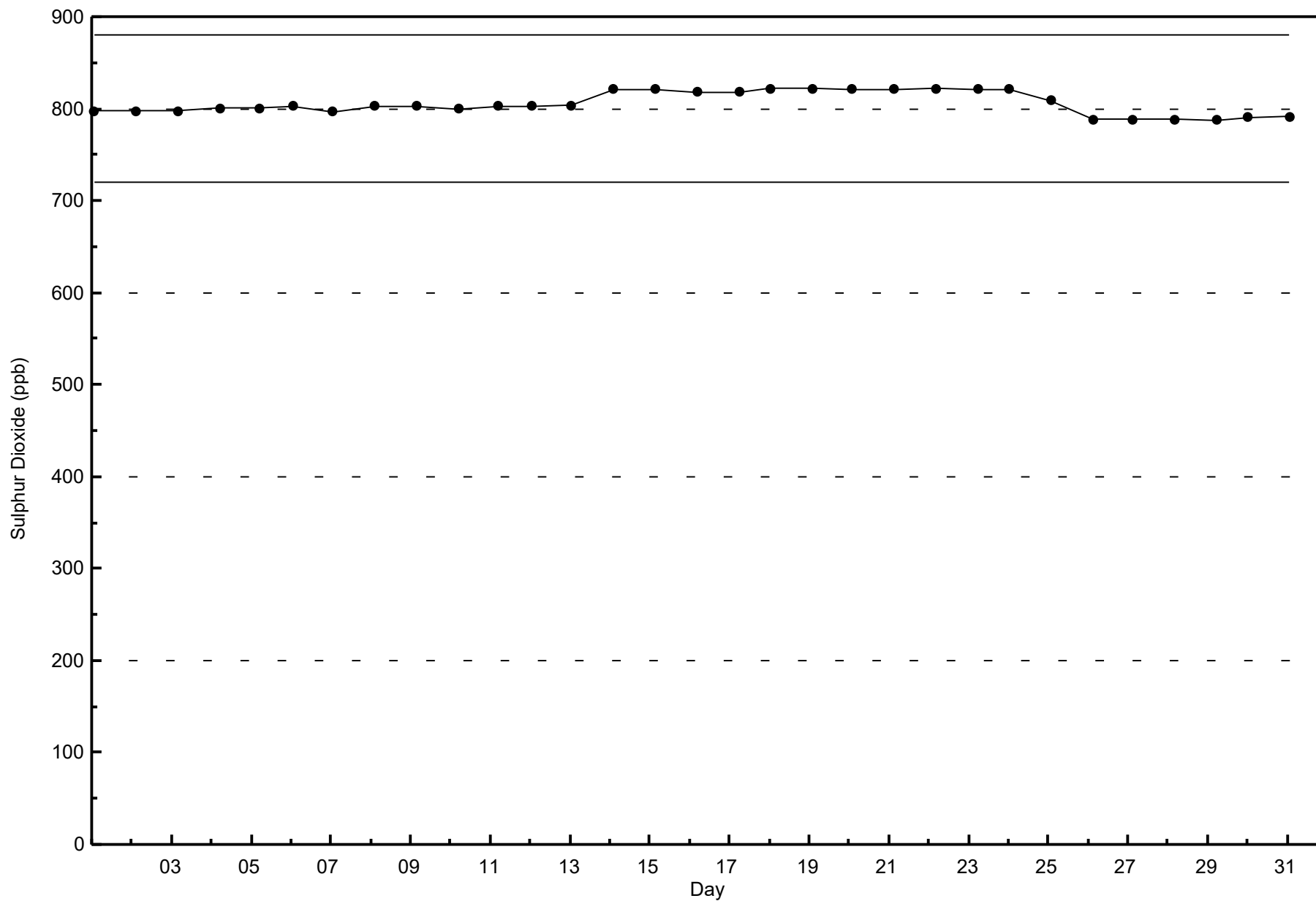






Wood Buffalo Environmental Association
Span Responses

Sulphur Dioxide (SO₂) - ppb
Janvier - July 2025





Wood Buffalo Environmental Association

Summary of 30-Minute Averages

Total Reduced Sulphur (TRS) - ppb

Janvier - July 2025

Number of Exceedences (AAAQG): 30-Min: 0																		Periods in Service: 1488									
Maximum Value: 0.7 ppb on Jul 18 22:30 Maximum Daily Average: 0.3 ppb on Jul 18																		Periods of Valid Data: 1395									
Minimum Value: 0.1 ppb on Jul 28 02:00 Minimum Daily Average: 0.1 ppb on Jul 9																		Periods of Invalid Data: 93									
Maximum Diurnal Average: 0.2 ppb at hour 24 Minimum Diurnal Average: 0.2 ppb at hour 18																		Periods of Calibration: 73									
Monthly Average: 0.20 ppb 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 = 0.5																		Percent Operational Time: 98.7									
Day	Period Ending At (MST)																								Daily Average	Daily Maximum	
	00:30 01:00	01:30 02:00	02:30 03:00	03:30 04:00	04:30 05:00	05:30 06:00	06:30 07:00	07:30 08:00	08:30 09:00	09:30 10:00	10:30 11:00	11:30 12:00	12:30 13:00	13:30 14:00	14:30 15:00	15:30 16:00	16:30 17:00	17:30 18:00	18:30 19:00	19:30 20:00	20:30 21:00	21:30 22:00	22:30 23:00	23:30 24:00			
1-Jul	0.2 0.2	0.2 0.3	Z SP	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 0.2	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	0.1 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	0.3	
2-Jul	0.2 0.2	0.2 0.2	0.2 0.2	Z SP	0.3 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	0.1 0.2	0.1 0.2	0.2 0.2	0.2 0.1	0.1 0.1	0.2 0.1	0.1 0.1	0.2 0.1	0.1 0.2	0.1 0.2	0.1 0.2	0.7 0.7	0.2	0.7	
3-Jul	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	Z SP	0.4 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	0.1 0.1	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	0.2 0.2	0.2 0.2	0.2 0.2	0.2	0.4	
4-Jul	0.1 0.2	0.1 0.1	0.1 0.1	0.1 0.2	0.2 0.2	Z SP	0.3 0.3	0.3 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.1 0.2	0.2 0.1	0.1 0.1	0.2 0.2	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 0.2	0.1 0.2	0.1 0.2	0.2	0.3	
5-Jul	Z SP	0.3 0.2	0.2 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 0.2	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 0.1	0.1 0.1	0.1 0.1	0.2 0.1	0.2 0.2	0.2 0.1	0.2 0.2	0.1	0.3	
6-Jul	0.2 0.2	Z SP	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 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2	0.3	
7-Jul	0.2 0.2	0.2 0.2	Z SP	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 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	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-Jul	0.2 0.2	0.2 0.2	0.2 0.2	Z SP	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	0.2 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	0.2 0.2	0.2	0.3	
9-Jul	0.1 0.1	0.2 0.2	0.2 0.2	0.2 0.2	Z SP	0.2 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 0.1	0.1 0.1	0.1 0.1	PF 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	0.2 0.1	0.1 0.1	0.1	0.2	
10-Jul	0.1 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	Z SP	0.2 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	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2	0.3	
11-Jul	Z SP	0.2 0.2	0.2 0.2	0.2 0.2	0.2 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	0.1 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	0.1 0.2	0.2 0.2	0.2	0.2	
12-Jul	0.2 0.1	Z SP	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 0.3	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	0.3 0.3	0.3 0.2	0.3 0.3	0.3 0.3	0.2	0.3	
13-Jul	0.2 0.2	0.2 0.2	Z SP	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 0.3	0.3 0.3	0.2 0.2	0.2 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 0.2	0.2	0.3	
14-Jul	0.2 0.2	0.2 0.2	0.2 0.2	Z SP	0.3 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 0.3	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 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2	0.3	
15-Jul	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	Z SP	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 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2	0.3	



Wood Buffalo Environmental Association

Summary of 30-Minute Averages

Total Reduced Sulphur (TRS) - ppb

Janvier - July 2025

Day	Period Ending At (MST)																								Daily Average	Daily Maximum
	00:30 01:00	01:30 02:00	02:30 03:00	03:30 04:00	04:30 05:00	05:30 06:00	06:30 07:00	07:30 08:00	08:30 09:00	09:30 10:00	10:30 11:00	11:30 12:00	12:30 13:00	13:30 14:00	14:30 15:00	15:30 16:00	16:30 17:00	17:30 18:00	18:30 19:00	19:30 20:00	20:30 21:00	21:30 22:00	22:30 23:00	23:30 24:00		
16-Jul	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	Z SP	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	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-Jul	Z SP	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 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2	0.3
18-Jul	0.2 0.2	Z SP	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 0.3	0.4 0.4	0.3 0.3	0.3 0.2	0.3 0.2	0.3 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	0.4 0.5	0.6 0.6	0.7 0.7	0.6 0.6	0.3	0.7
19-Jul	0.5 0.5	0.5 0.4	Z SP	0.4 0.4	0.5 0.5	0.4 0.3	0.4 0.4	0.5 0.5	0.4 0.4	0.4 0.4	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	0.2 0.2	0.2 0.3	0.3 0.3	0.3	0.5
20-Jul	0.3 0.3	0.2 0.2	0.2 0.2	Z SP	0.3 0.3	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	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	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 0.4	0.4 0.4	0.2	0.4
21-Jul	0.3 0.3	0.3 0.2	0.2 0.3	0.2 0.2	Z SP	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	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.1	0.2 0.3	0.2 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.2	0.3
22-Jul	0.3 0.2	0.2 0.2	0.2 0.2	0.1 0.1	0.1 0.1	Z SP	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	C C	C C	C C	C C	C C	C 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
23-Jul	Z SP	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 0.2	0.2 0.2	0.2 0.2	0.2 0.2	M M	M 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	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-Jul	0.2 0.2	Z SP	0.2 0.2	0.2 0.2	0.2 0.2	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	0.3 0.2	0.3 0.2	0.3 0.3	0.3 0.2	0.2 0.2	0.2 0.2	UO UO	UO UO	UO UO	UO UO	UO UO	UO UO	--	0.3
25-Jul	UO UO	UO UO	Z SP	0.3 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 0.1	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 0.3	0.2 0.2	0.2 0.2	0.2 0.2	0.2	0.3
26-Jul	0.2 0.2	0.2 0.2	0.2 0.2	Z SP	0.2 0.2	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 0.2	0.1 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	0.2 0.2	0.2 0.3	0.2	0.3
27-Jul	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	Z SP	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	0.2 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	0.2	0.3
28-Jul	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	Z SP	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	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-Jul	Z SP	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 0.2	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	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
30-Jul	0.1 0.1	Z SP	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	0.1 0.1	0.1 0.2	0.1 0.1	0.1 0.1	0.2 0.2	0.2 0.2	0.1 0.2	0.1 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	0.3
31-Jul	0.2 0.3	0.3 0.2	Z SP	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 0.2	0.2 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	0.2 0.2	0.2 0.2	0.2 0.2	0.3 0.3	0.3 0.2	0.2	0.3
																								Diurnal Average Diurnal Maximum		
Z - zerospan C - Calibration M - Maintenance UO - Unstable Operation PF - Power Failure SP - Span																										
Alberta Ambient Air Quality Guideline (AAAQG): 30-Min: 5 ppb																										



Wood Buffalo Environmental Association

Summary of Hour Averages

Total Reduced Sulphur (TRS) - ppb

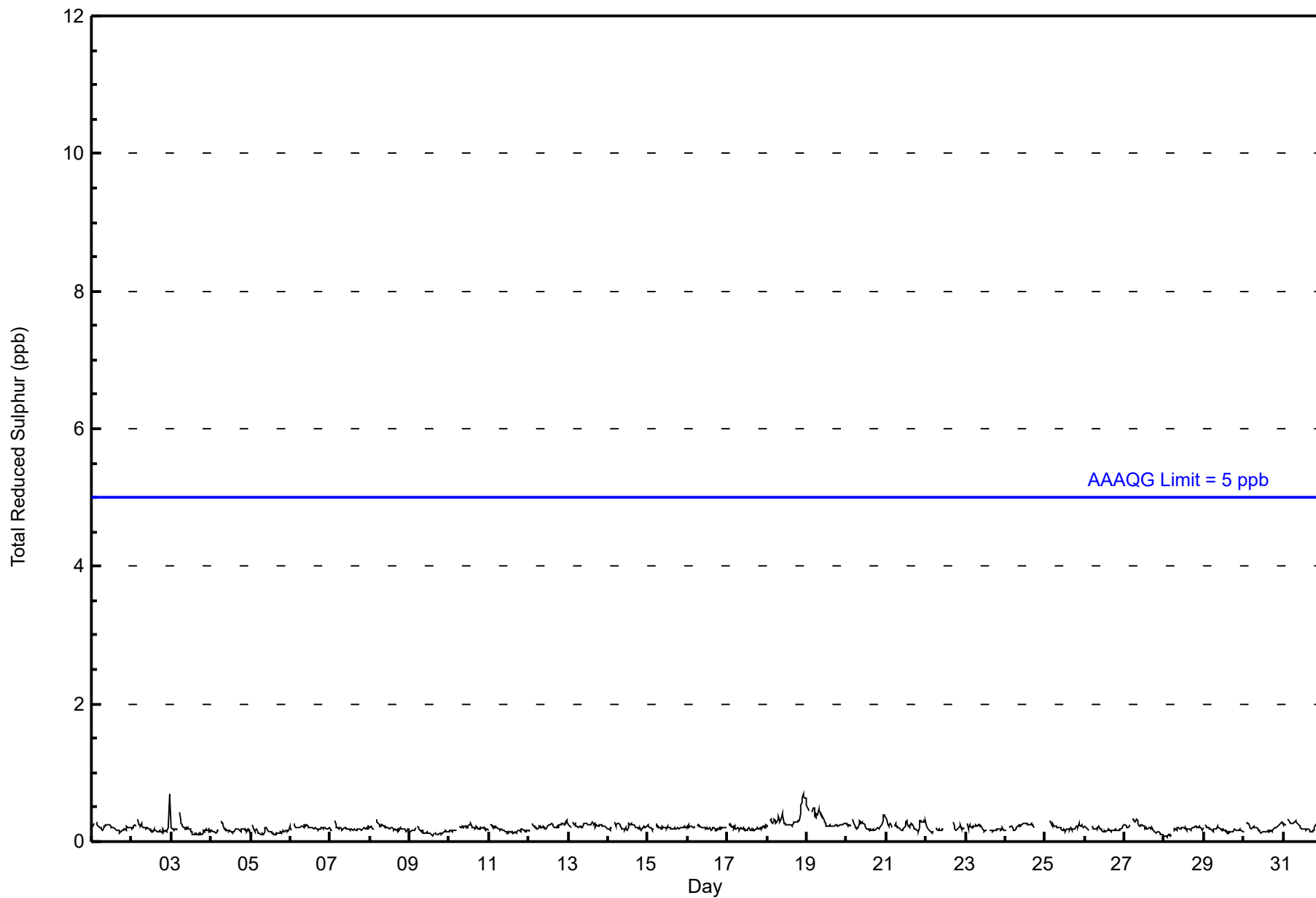
Janvier - July 2025

Maximum Value: 0.7 ppb on Jul 18 23:00																	Maximum Daily Average: 0.3 ppb on Jul 18										Hours in Service: 744	
Minimum Value: 0.1 ppb on Jul 28 02:00																	Minimum Daily Average: 0.1 ppb on Jul 9										Hours of Data: 697	
Maximum Diurnal Average: 0.2 ppb at hour 24																	Minimum Diurnal Average: 0.2 ppb at hour 18										Hours of Missing Data: 47	
Monthly Average: 0.20 ppb																	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 = 0.5										Hours of Calibration: 37	
																											Percent Operational Time: 98.7	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum		
1-Jul	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	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
2-Jul	0.2	0.2	0.2	Z	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.7	0.2	0.3	
3-Jul	0.2	0.2	0.2	0.2	Z	0.4	0.3	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	0.2	0.2	0.2	0.2	0.2	0.4	
4-Jul	0.1	0.1	0.1	0.1	0.2	Z	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	
5-Jul	Z	0.2	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	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.2	
6-Jul	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	0.2	0.2	
7-Jul	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	0.2	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-Jul	0.2	0.2	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	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	
9-Jul	0.1	0.2	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	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	
10-Jul	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	0.2	0.2	0.2	0.2	0.2	0.2	
11-Jul	Z	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	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	
12-Jul	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	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.3	
13-Jul	0.2	0.2	Z	0.3	0.2	0.2	0.2	0.2	0.2	0.2	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	0.3	
14-Jul	0.2	0.2	0.2	Z	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	0.2	0.2	0.2	0.2	0.2	0.3	
15-Jul	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	0.2	
16-Jul	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	0.2	0.2	0.2	0.2	0.2	0.2	
17-Jul	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	0.2	0.2	0.2	
18-Jul	0.2	Z	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.5	0.6	0.7	0.6	0.3	0.7	
19-Jul	0.5	0.5	Z	0.4	0.5	0.4	0.4	0.5	0.4	0.4	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	0.5	
20-Jul	0.3	0.2	0.2	Z	0.3	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	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.2	0.4	
21-Jul	0.3	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.3	
22-Jul	0.3	0.2	0.2	0.1	0.1	Z	0.2	0.2	0.2	0.2	0.2	C	C	C	C	C	C	C	0.2	0.2	0.2	0.2	0.2	0.2	0.2	-	0.3	
23-Jul	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	M	M	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
24-Jul	0.2	Z	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	0.2	0.2	0.2	UO	UO	UO	UO	UO	UO	-	0.3	
25-Jul	UO	UO	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	
26-Jul	0.2	0.2	0.2	Z	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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
27-Jul	0.2	0.2	0.2	0.2	Z	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	0.1	0.1	0.2	0.3	
28-Jul	0.1	0.1	0.1	0.1	0.1	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	
29-Jul	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	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
30-Jul	0.1	Z	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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.3	
31-Jul	0.3	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	0.2	0.2	0.3	
0.2																								Diurnal Average				
0.5																								Diurnal Maximum				
Z - zerospan C - Calibration M - Maintenance UO - Unstable Operation																												
Alberta Ambient Air Quality Objective (AAAQO): 1-hour NA 24-hr NA																												



Wood Buffalo Environmental Association
Hourly Averages

Total Reduced Sulphur (TRS) - ppb
Janvier - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Reduced Sulphur (TRS) - ppb
Janvier - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	697	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: 697

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Total Reduced Sulphur (TRS) - ppb
Janvier - July 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	52	29	10	19	19	21	30	30	43	140	95	58	48	39	23	37	693
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	52	29	10	19	19	21	30	30	43	140	95	58	48	39	23	37	693

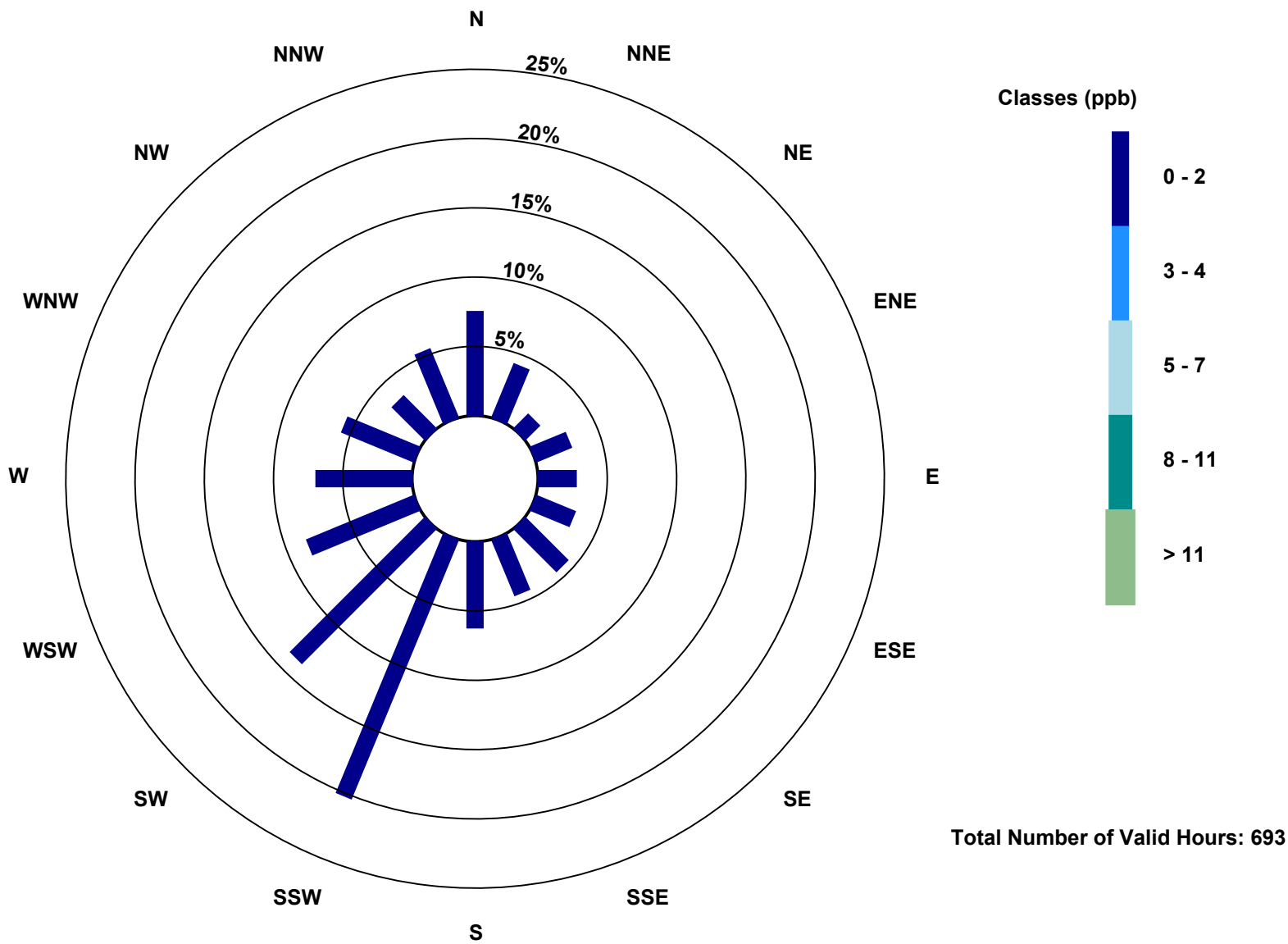
Total Number of Valid Hours: 693

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Total Reduced Sulphur (TRS) - ppb
Janvier



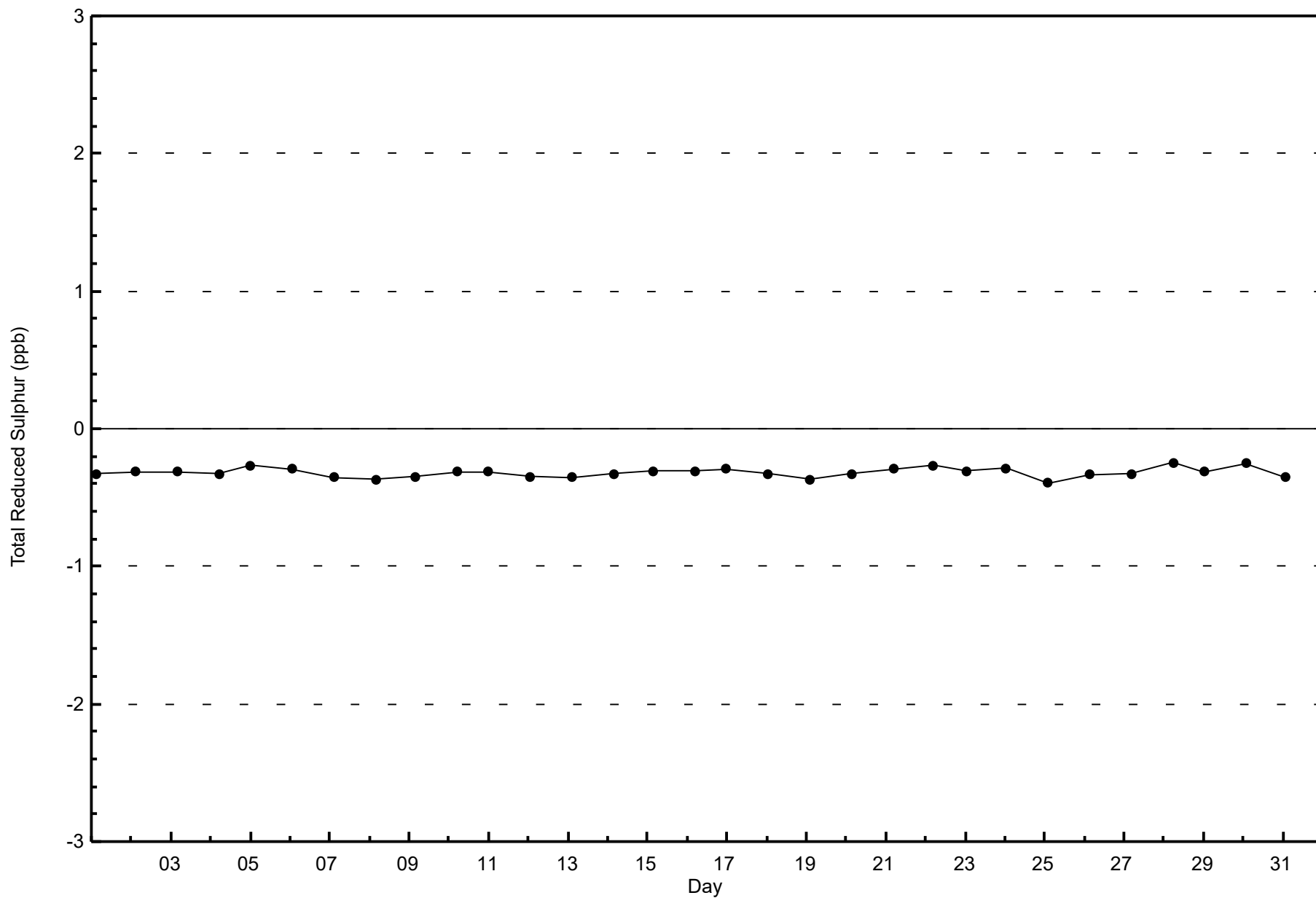


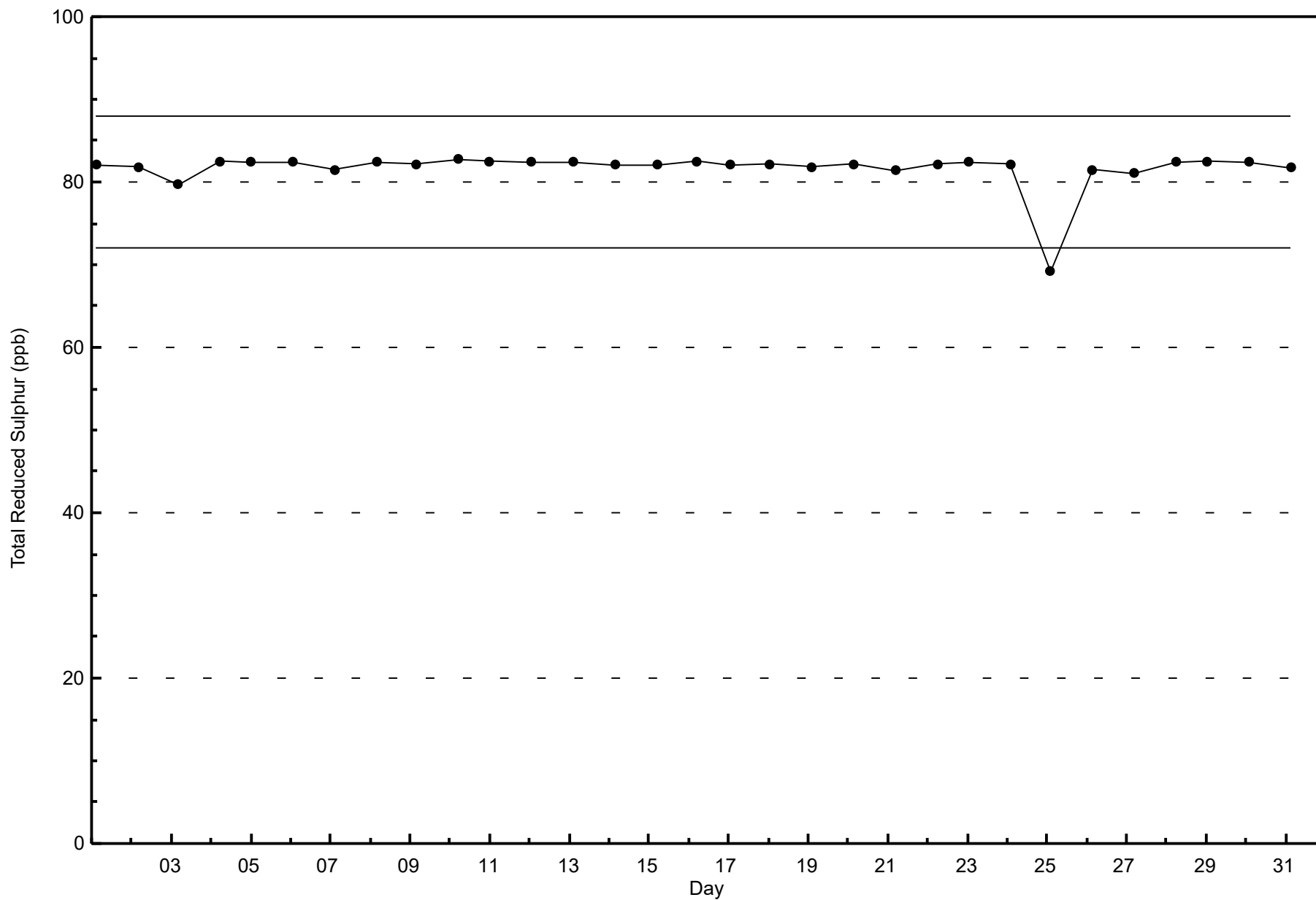
Wood Buffalo Environmental Association

Zero Responses

Total Reduced Sulphur (TRS) - ppb

Janvier - July 2025







Wood Buffalo Environmental Association

Summary of Hour Averages

Total Hydrocarbons (THC) - ppm

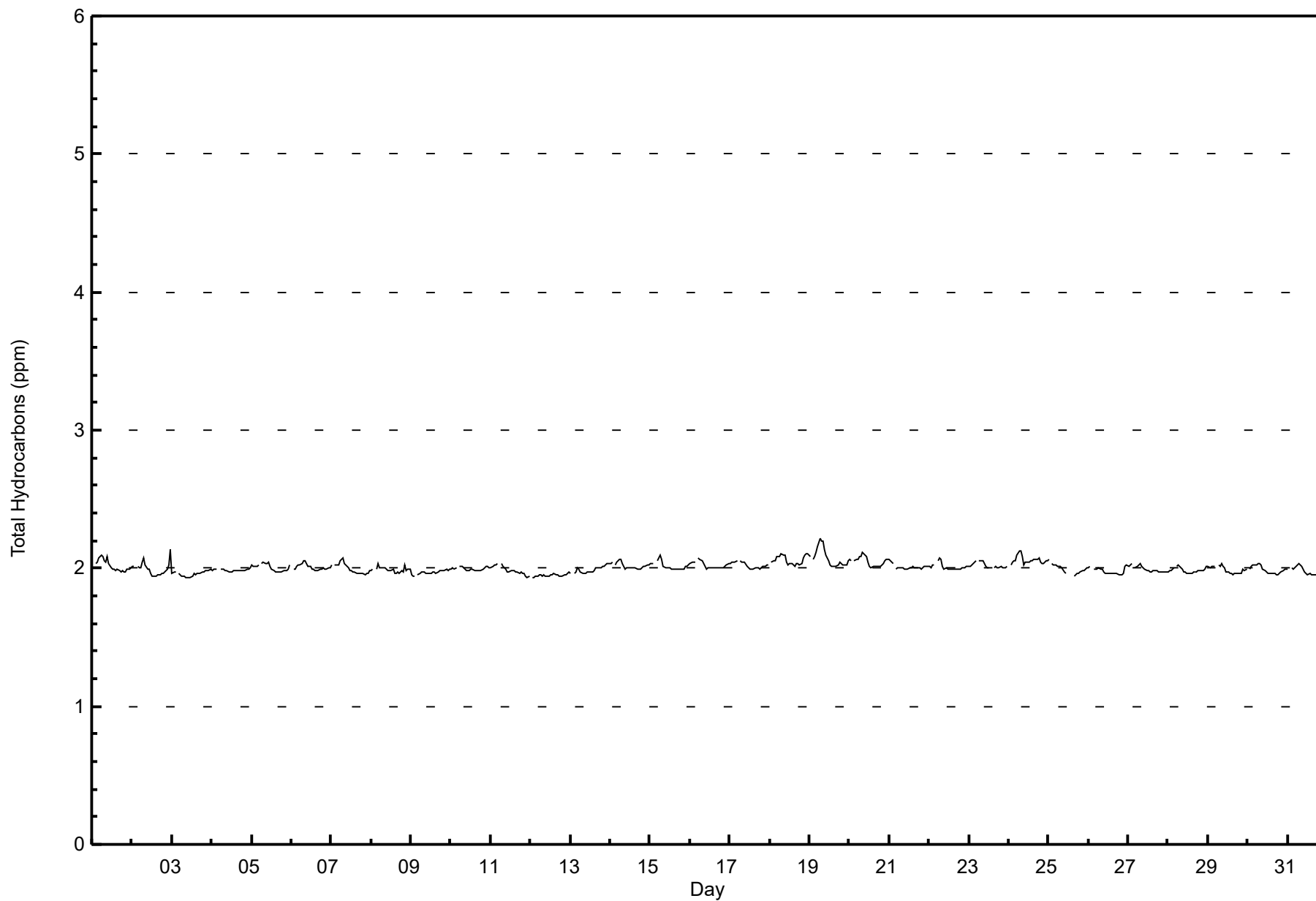
Janvier - July 2025

Maximum Value: 2.2 ppm on Jul 19 07:00																		Maximum Daily Average: 2.1 ppm on Jul 19																		Hours in Service: 744	
Minimum Value: 1.9 ppm on Jul 12 02:00																		Minimum Daily Average: 1.9 ppm on Jul 12																		Hours of Data: 707	
Maximum Diurnal Average: 2.0 ppm at hour 7																		Minimum Diurnal Average: 2.0 ppm at hour 16																		Hours of Missing Data: 37	
Monthly Average: 2.00 ppm																		Percentiles: P ₁ = 1.9 P ₁₀ = 2.0 Q ₁ = 2.0 Median = 2.0 Q ₃ = 2.0 P ₉₀ = 2.1 P ₉₉ = 2.1																		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-Jul	2.0	Z	2.0	2.0	2.1	2.1	2.1	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	2.1									
2-Jul	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.1										
3-Jul	2.0	2.0	2.0	Z	2.0	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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0										
4-Jul	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										
5-Jul	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	2.0										
6-Jul	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	2.1										
7-Jul	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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1										
8-Jul	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										
9-Jul	2.0	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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0										
10-Jul	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										
11-Jul	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	1.9	1.9	1.9	2.0	2.0										
12-Jul	Z	1.9	1.9	1.9	1.9	2.0	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	1.9	2.0										
13-Jul	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										
14-Jul	2.0	2.0	Z	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	2.0	2.1										
15-Jul	2.0	2.0	2.0	Z	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	2.0	2.1										
16-Jul	2.0	2.0	2.0	2.0	Z	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	2.0	2.1										
17-Jul	2.0	2.0	2.0	2.0	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	2.1										
18-Jul	Z	2.0	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	2.1	2.1	2.1	2.1	2.1	2.1										
19-Jul	2.1	Z	2.1	2.1	2.1	2.2	2.2	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	2.1	2.1	2.2										
20-Jul	2.1	2.1	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	2.1	2.1	2.0	2.1										
21-Jul	2.1	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	2.1										
22-Jul	2.0	2.0	2.0	2.0	Z	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	2.0	2.1										
23-Jul	2.0	2.0	2.0	2.0	2.0	Z	2.1	2.1	2.0	2.0	2.0	2.0	2.0	M	M	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-Jul	Z	2.0	2.0	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	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1										
25-Jul	2.1	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	C	C	C	C	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1										
26-Jul	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										
27-Jul	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-Jul	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										
29-Jul	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	2.0										
30-Jul	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										
31-Jul	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																									Diurnal Average												
2.1																									Diurnal Maximum												
Z - zerospan C - Calibration M - Maintenance																																					



Wood Buffalo Environmental Association
Hourly Averages

Total Hydrocarbons (THC) - ppm
Janvier - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Hydrocarbons (THC) - ppm
Janvier - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	628	88.83	88.83
2.1 - 3.0	79	11.17	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

Total Hydrocarbons (THC) - ppm
Janvier - July 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	26	8	17	19	20	27	22	39	121	82	56	45	37	23	34	627
2.1 - 3.0	3	4	3	2	0	1	4	8	10	20	10	4	1	2	1	3	76
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	54	30	11	19	19	21	31	30	49	141	92	60	46	39	24	37	703

Total Number of Valid Hours: 703

Total Number of Hours: 744

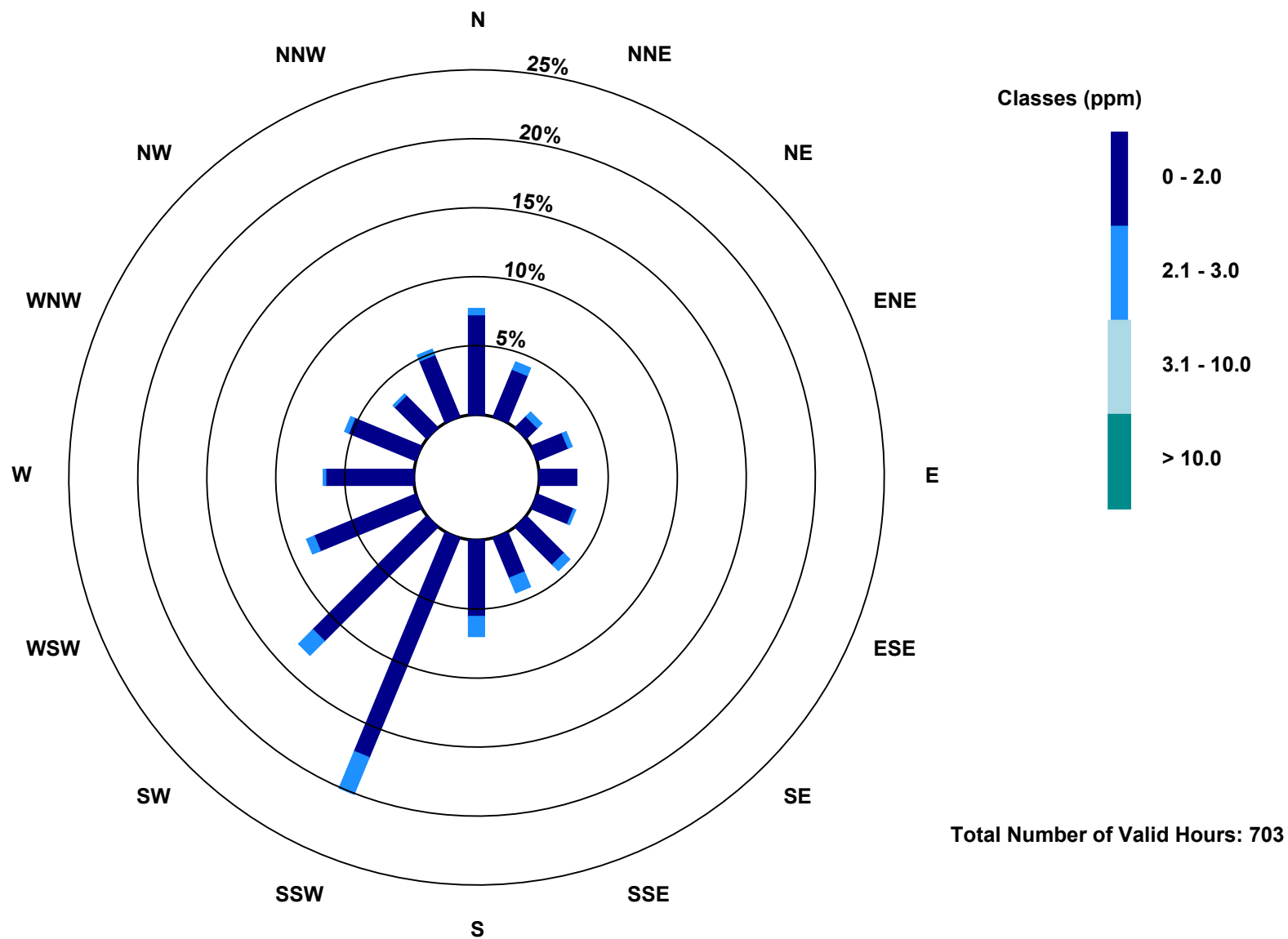


Wood Buffalo Environmental Association

Wind Rose Jul 2025

Total Hydrocarbons (THC) - ppm

Janvier



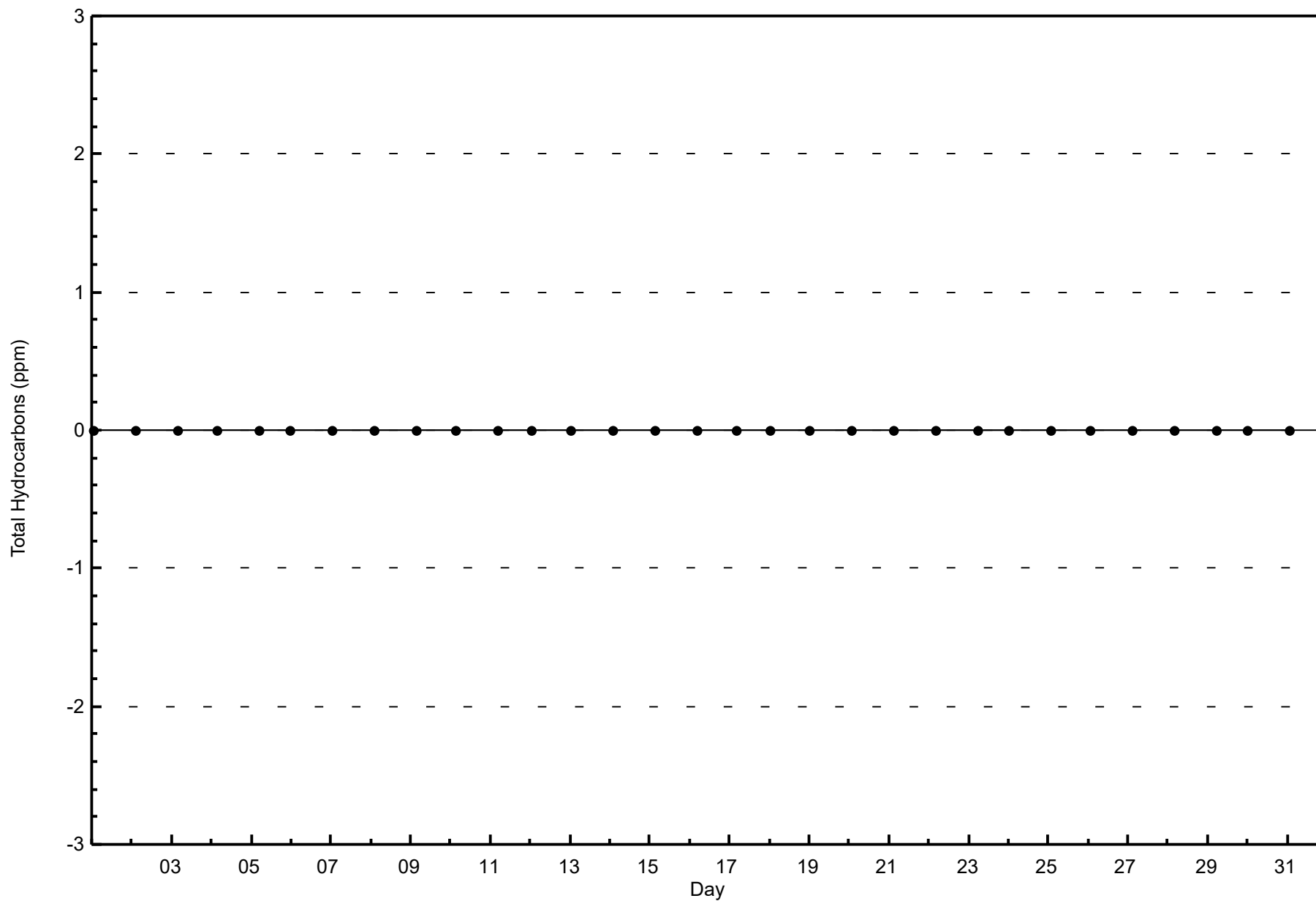


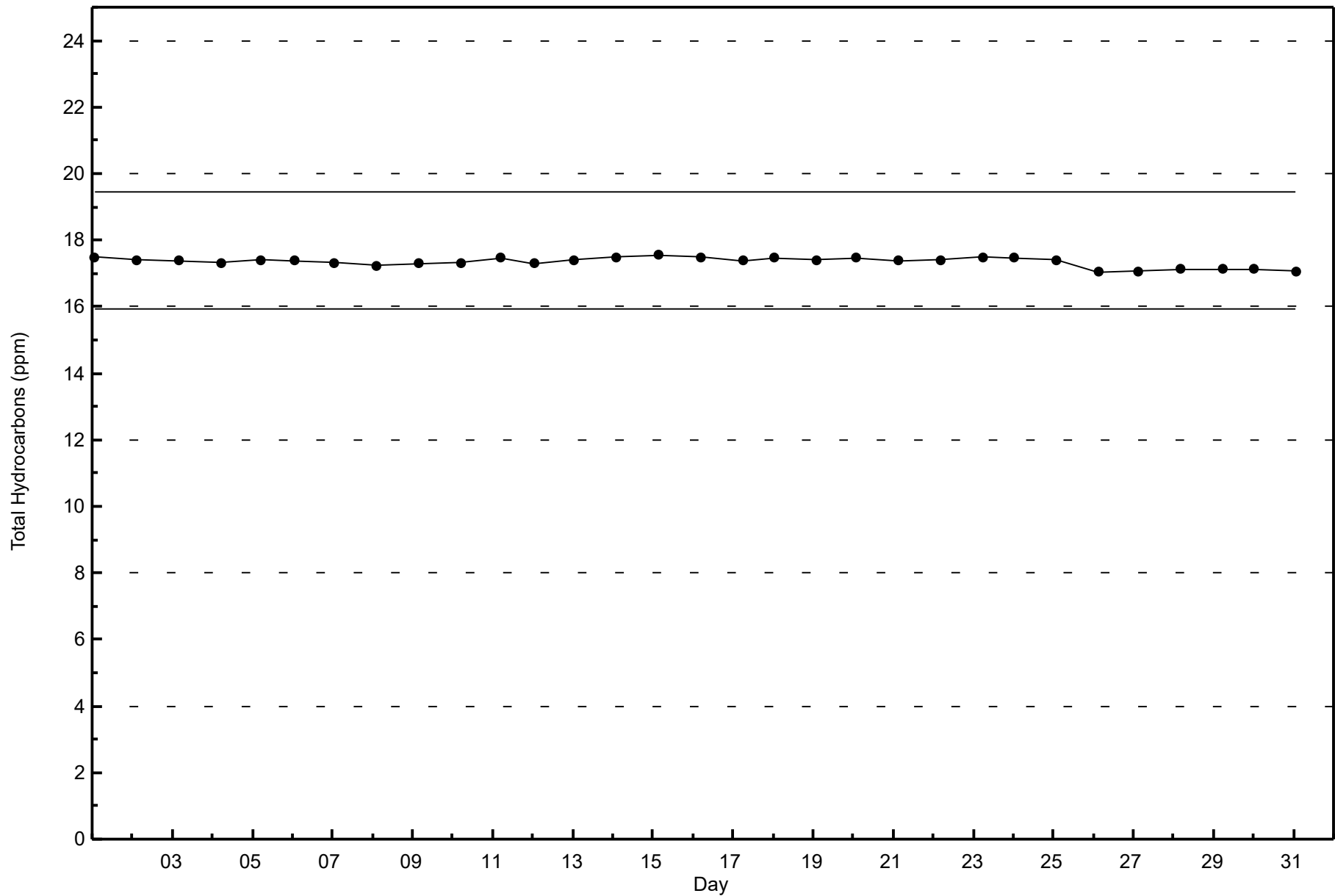
Wood Buffalo Environmental Association

Zero Responses

Total Hydrocarbons (THC) - ppm

Janvier - July 2025







Wood Buffalo Environmental Association

Summary of Hour Averages

Non Methane Hydrocarbons (NMHC) - ppm

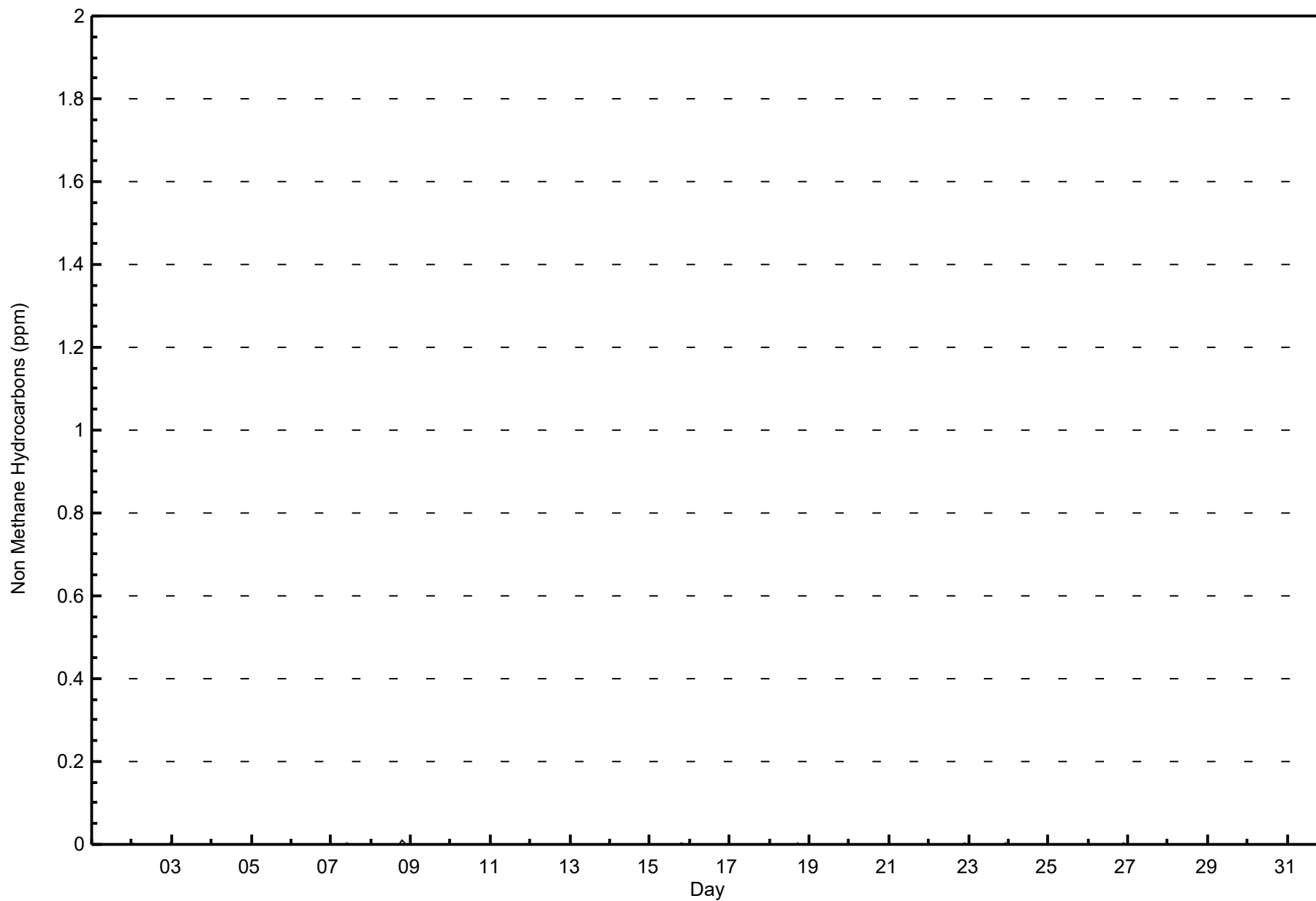
Janvier - July 2025

Maximum Value: 0.011 ppm on Jul 8 19:00																			Maximum Daily Average: 0.001 ppm on Jul 8							Hours in Service: 744	
Minimum Value: 0.000 ppm on Jul 1 01:00																			Minimum Daily Average: 0.000 ppm on Jul 1							Hours of Data: 707	
Maximum Diurnal Average: 0.000 ppm at hour 19																			Minimum Diurnal Average: 0.000 ppm at hour 1							Hours of Missing Data: 37	
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: 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-Jul	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	
2-Jul	0.000	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	0.004	0.000	0.004	
3-Jul	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	
4-Jul	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	
5-Jul	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-Jul	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	
7-Jul	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	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
8-Jul	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	0.001	0.011	0.007	0.004	0.000	0.000	0.000	0.001	0.011	
9-Jul	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-Jul	0.000	0.000	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	0.001	
11-Jul	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-Jul	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	
13-Jul	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	
14-Jul	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-Jul	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	0.003	0.000	0.000	0.000	0.000	0.000	0.003	
16-Jul	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-Jul	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	
18-Jul	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	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	
19-Jul	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	0.000	0.000	0.001	
20-Jul	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	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.001	
21-Jul	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-Jul	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	0.002	0.000	0.000	0.000	0.002	
23-Jul	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	M	M	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.000	0.000	0.003	
24-Jul	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-Jul	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	
26-Jul	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	0.004	0.000	0.000	0.000	0.004	
27-Jul	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	
28-Jul	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-Jul	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	
30-Jul	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	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.001	
31-Jul	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	0.003	0.003	0.000	0.000	0.000	0.000	0.003	
0.000																									Diurnal Average		
0.000																									Diurnal Maximum		
Z - zerospan C - Calibration M - Maintenance																											



Wood Buffalo Environmental Association
Hourly Averages

Non Methane Hydrocarbons (NMHC) - ppm
Janvier - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Non Methane Hydrocarbons (NMHC) - ppm
Janvier - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 0.005	705	99.72	99.72
0.006 - 0.05	2	0.28	100.00
0.06 - 0.1	0	0.00	100.00
> 0.1	0	0.00	100.00

Total Number of Valid Hours: 707

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Non Methane Hydrocarbons (NMHC) - ppm
Janvier - July 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	54	30	11	19	19	21	31	30	48	140	92	60	46	39	24	37	701
0.006 - 0.05	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	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	54	30	11	19	19	21	31	30	49	141	92	60	46	39	24	37	703

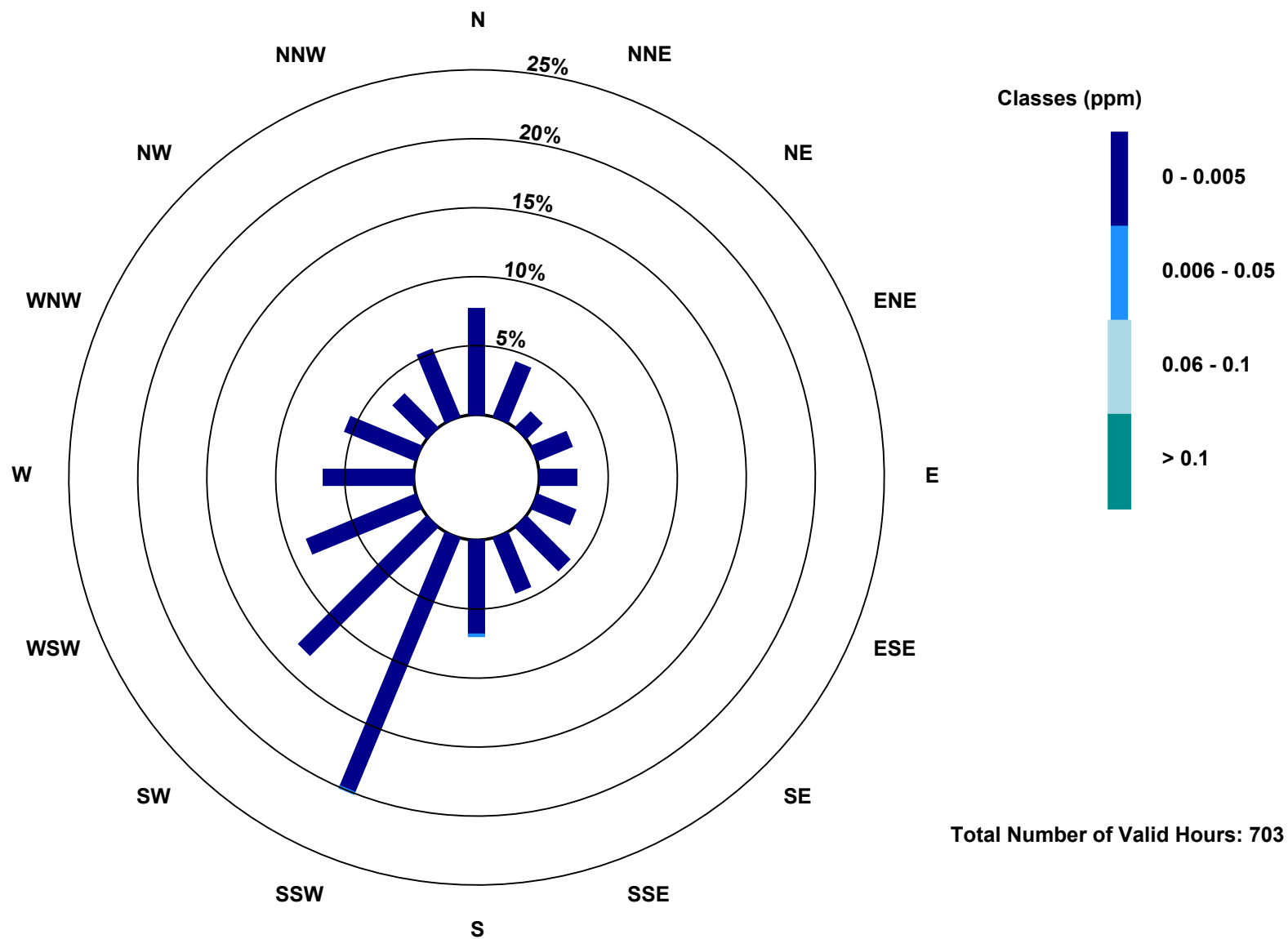
Total Number of Valid Hours: 703

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Non Methane Hydrocarbons (NMHC) - ppm
Janvier



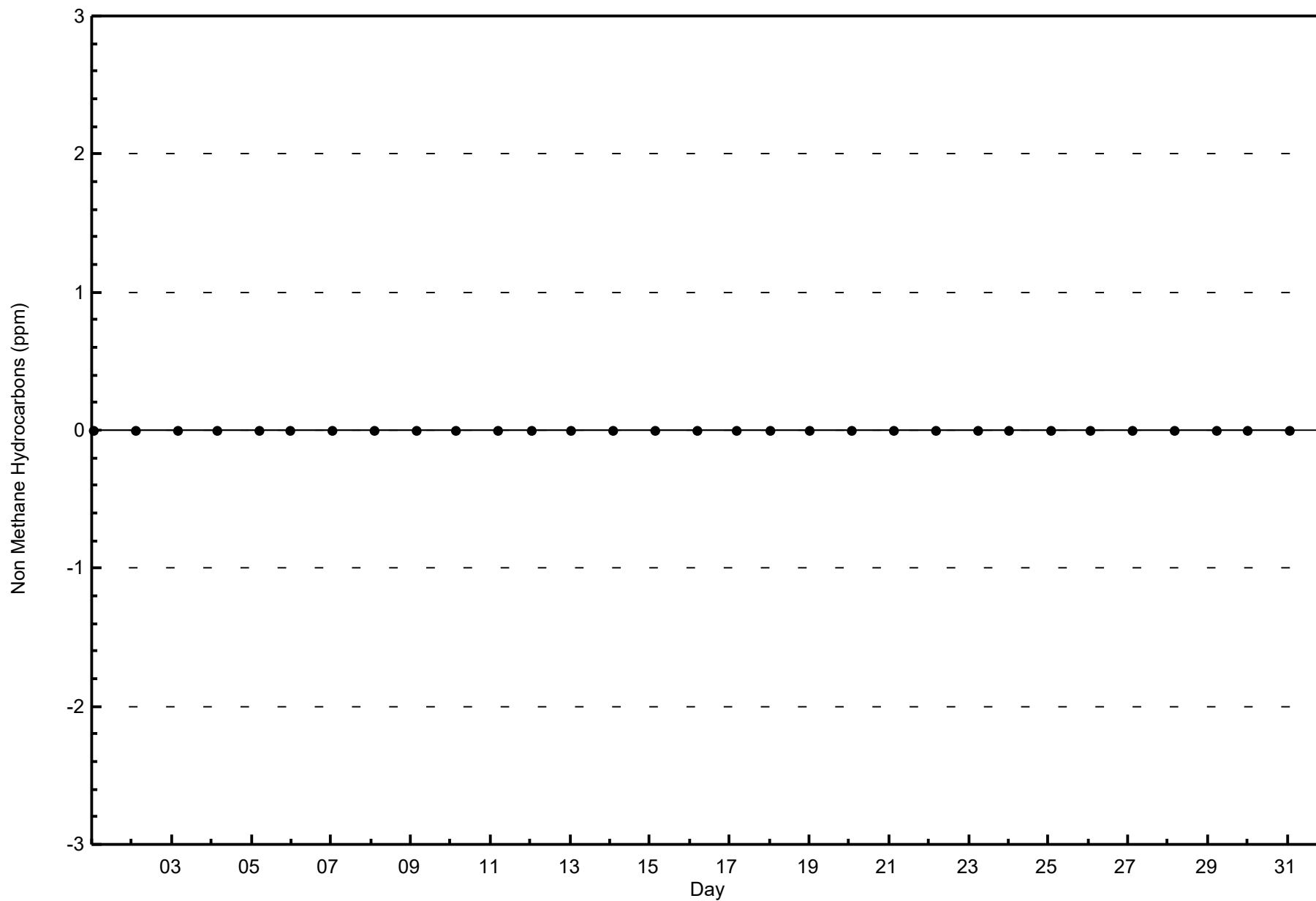


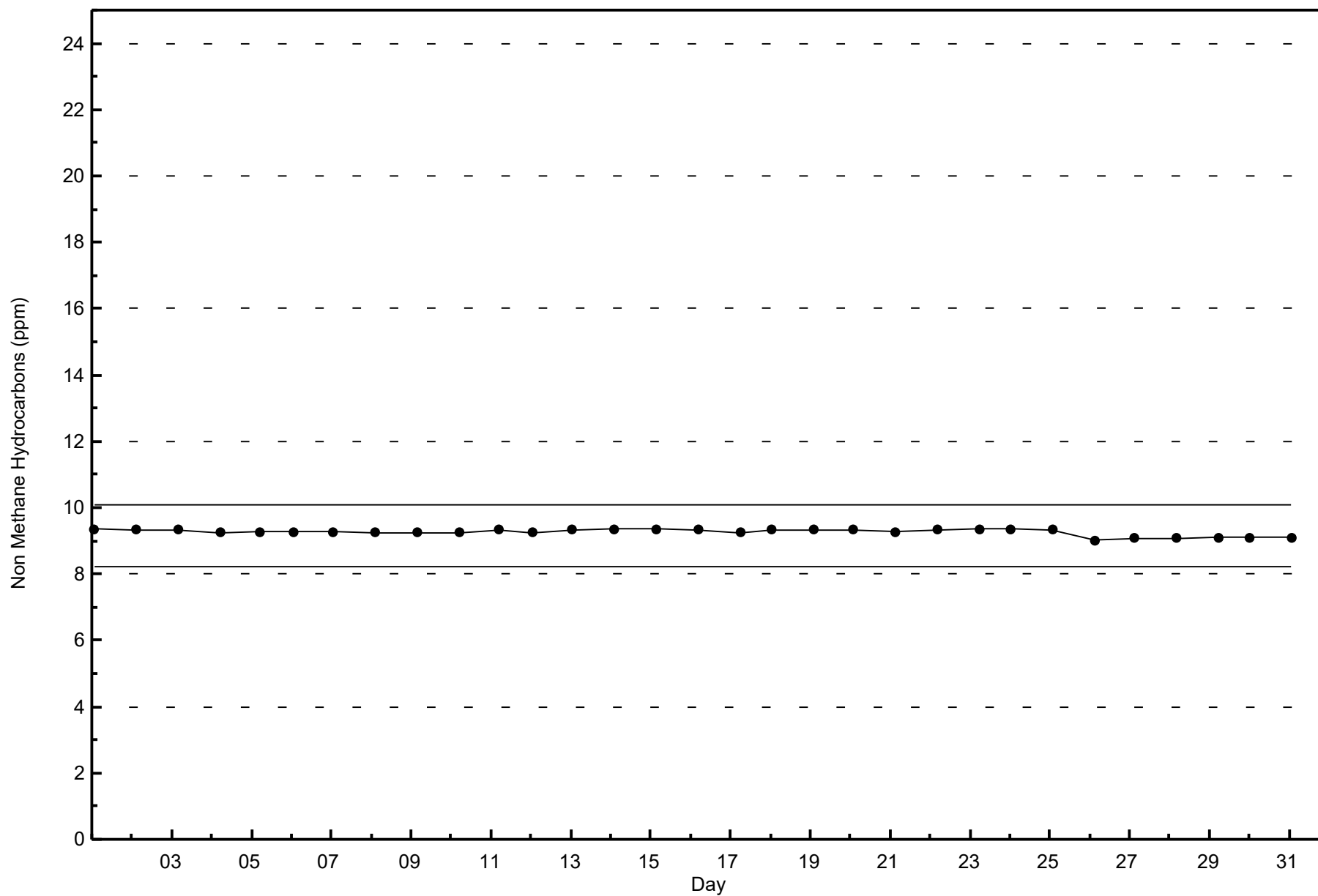
Wood Buffalo Environmental Association

Zero Responses

Non Methane Hydrocarbons (NMHC) - ppm

Janvier - July 2025







Wood Buffalo Environmental Association

Summary of Hour Averages

Methane (CH₄) - ppm

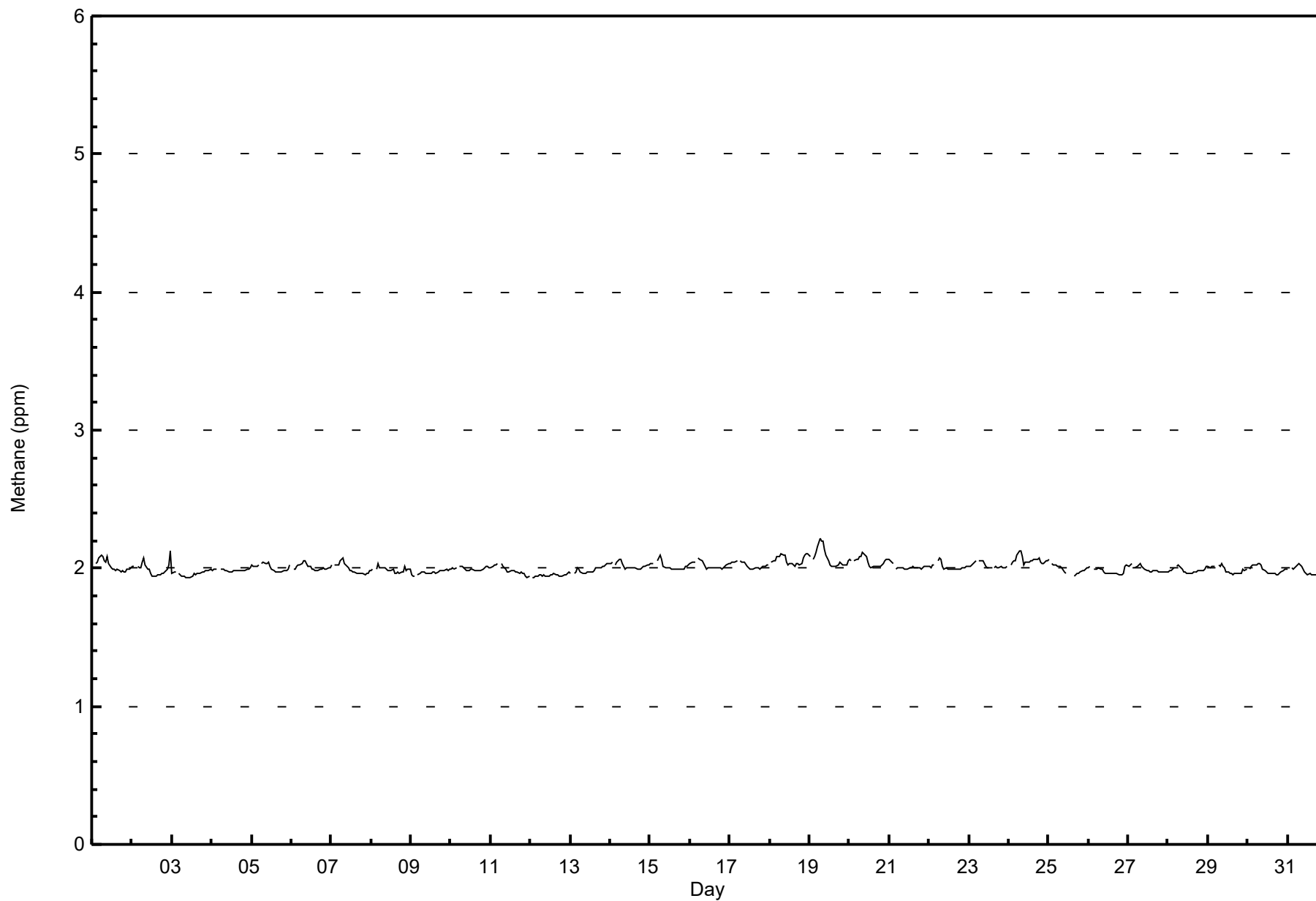
Janvier - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 2.2 ppm on Jul 19 07:00 Maximum Daily Average: 2.1 ppm on Jul 19																			Hours in Service: 744							
Minimum Value: 1.9 ppm on Jul 12 02:00 Minimum Daily Average: 1.9 ppm on Jul 12 Maximum Diurnal Average: 2.0 ppm at hour 7 Minimum Diurnal Average: 2.0 ppm at hour 16 Monthly Average: 2.00 ppm Percentiles: P ₁ = 1.9 P ₁₀ = 2.0 Q ₁ = 2.0 Median = 2.0 Q ₃ = 2.0 P ₉₀ = 2.1 P ₉₉ = 2.1																			Hours of Data: 707							
																			Hours of Missing Data: 37							
																			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-Jul	2.0	Z	2.0	2.0	2.1	2.1	2.1	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-Jul	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.1
3-Jul	2.0	2.0	2.0	Z	2.0	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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
4-Jul	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
5-Jul	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
6-Jul	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	2.1
7-Jul	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	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1
8-Jul	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-Jul	2.0	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	2.0	2.0	2.0	2.0	2.0	2.0	2.0
10-Jul	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
11-Jul	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	1.9	1.9	1.9	2.0	2.0
12-Jul	Z	1.9	1.9	1.9	1.9	2.0	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	2.0	2.0	2.0	1.9	2.0
13-Jul	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
14-Jul	2.0	2.0	Z	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	2.1
15-Jul	2.0	2.0	2.0	Z	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	2.1
16-Jul	2.0	2.0	2.0	2.0	Z	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	2.1
17-Jul	2.0	2.0	2.0	2.0	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
18-Jul	Z	2.0	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	2.1	2.1	2.1	2.1
19-Jul	2.1	Z	2.1	2.1	2.1	2.2	2.2	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	2.1	2.1	2.2
20-Jul	2.1	2.1	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	2.1	2.1	2.0	2.1
21-Jul	2.1	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	2.1
22-Jul	2.0	2.0	2.0	2.0	Z	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	2.1
23-Jul	2.0	2.0	2.0	2.0	2.0	Z	2.1	2.1	2.0	2.0	2.0	2.0	2.0	M	M	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1
24-Jul	Z	2.0	2.0	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	2.0	2.0	2.0	2.1	2.1	2.1	2.1
25-Jul	2.1	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	C	C	C	C	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1
26-Jul	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-Jul	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-Jul	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-Jul	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-Jul	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-Jul	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 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 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
2.1 2.1 2.1 2.1 2.1 2.2 2.2 2.2 2.2 2.1 2.1 2.1 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																										Diurnal Maximum
Z - zerospan C - Calibration M - Maintenance																										



Wood Buffalo Environmental Association
Hourly Averages

Methane (CH₄) - ppm
Janvier - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Methane (CH₄) - ppm
Janvier - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	628	88.83	88.83
2.1 - 3.0	79	11.17	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
Janvier - July 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	26	8	17	19	20	27	22	39	121	82	56	45	37	23	34	627
2.1 - 3.0	3	4	3	2	0	1	4	8	10	20	10	4	1	2	1	3	76
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	54	30	11	19	19	21	31	30	49	141	92	60	46	39	24	37	703

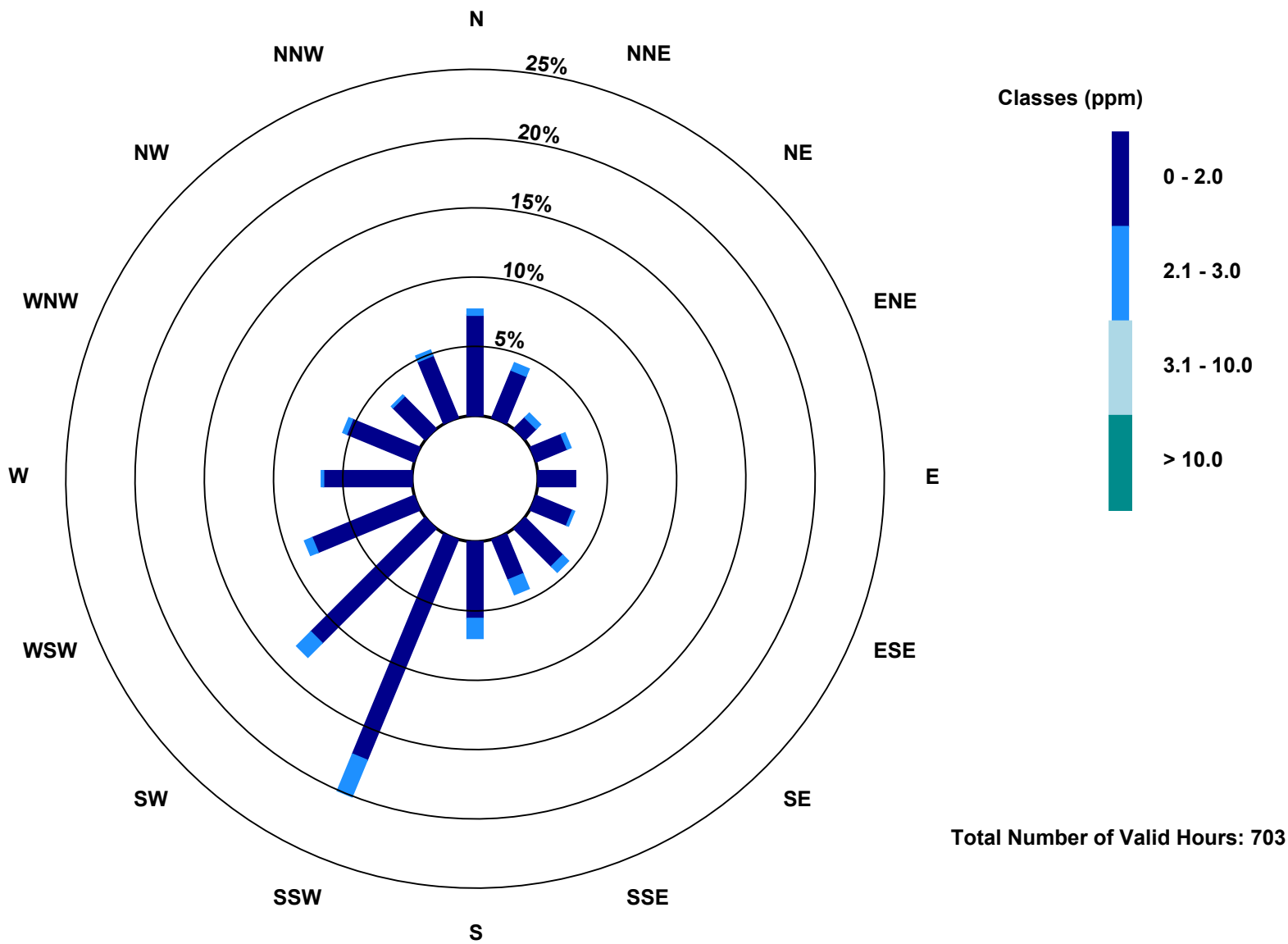
Total Number of Valid Hours: 703

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

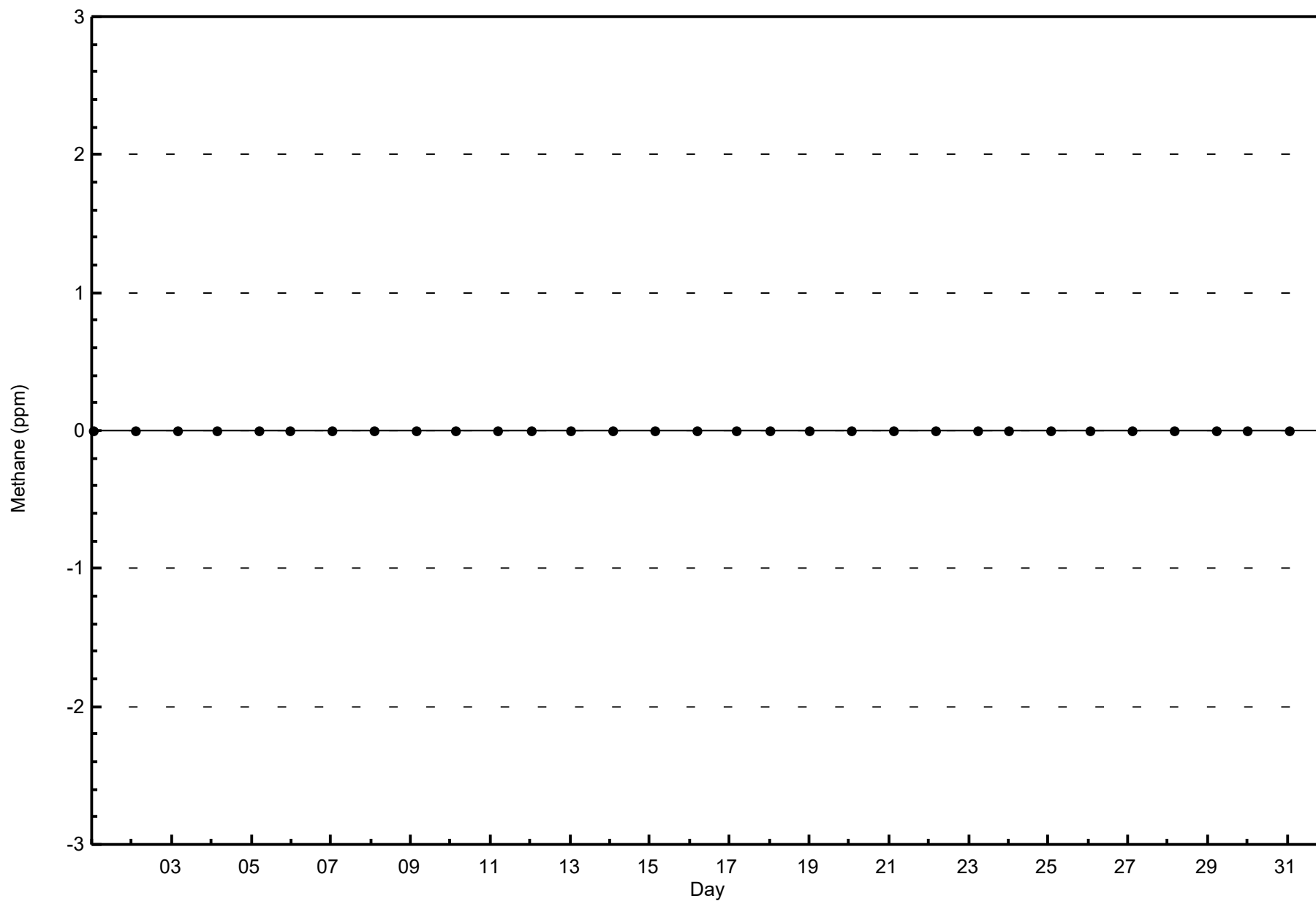
Methane (CH₄) - ppm
Janvier





Wood Buffalo Environmental Association
Zero Responses

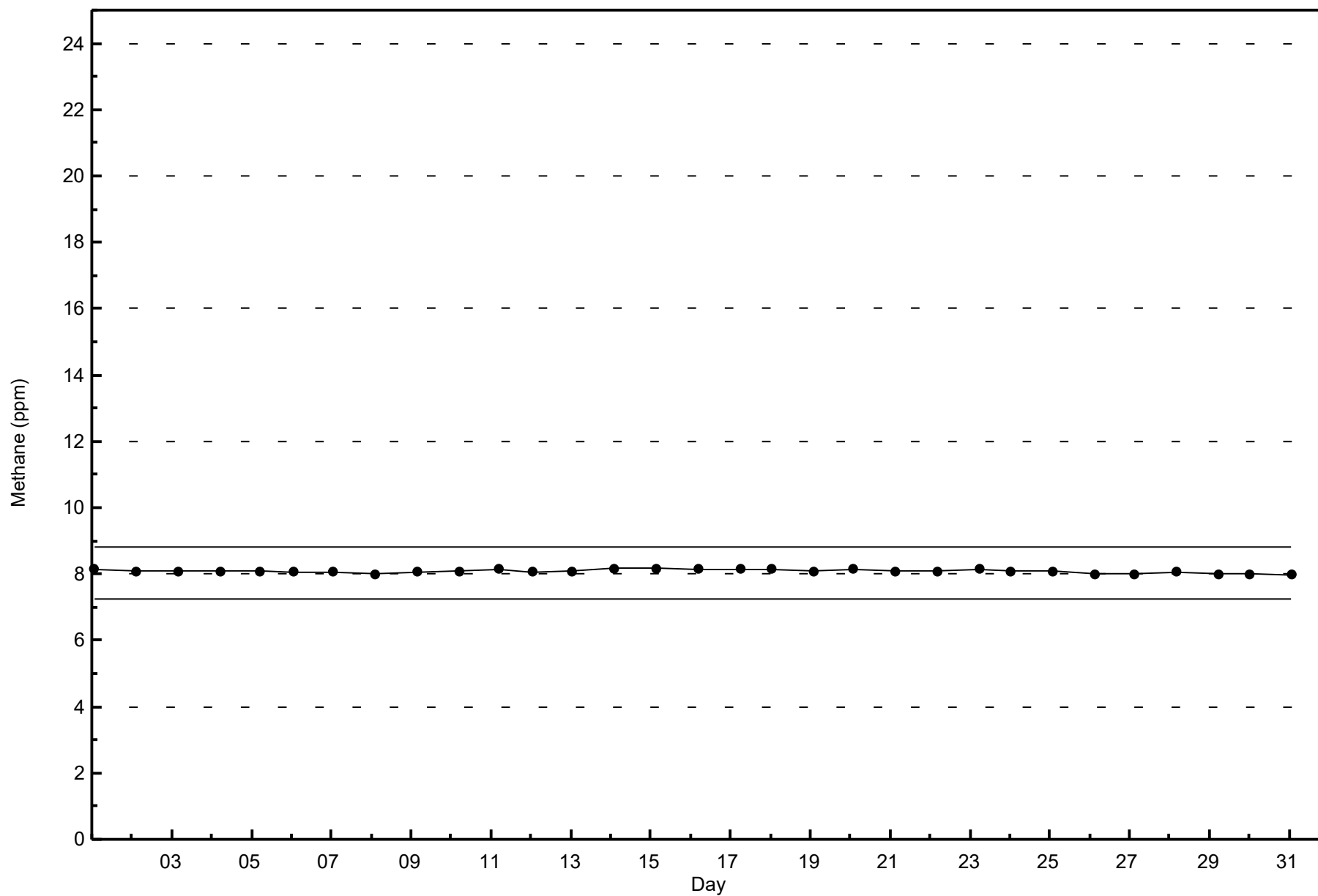
Methane (CH₄) - ppm
Janvier - July 2025





Wood Buffalo Environmental Association
Span Responses

Methane (CH₄) - ppm
Janvier - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitric Oxide (NO) - ppb

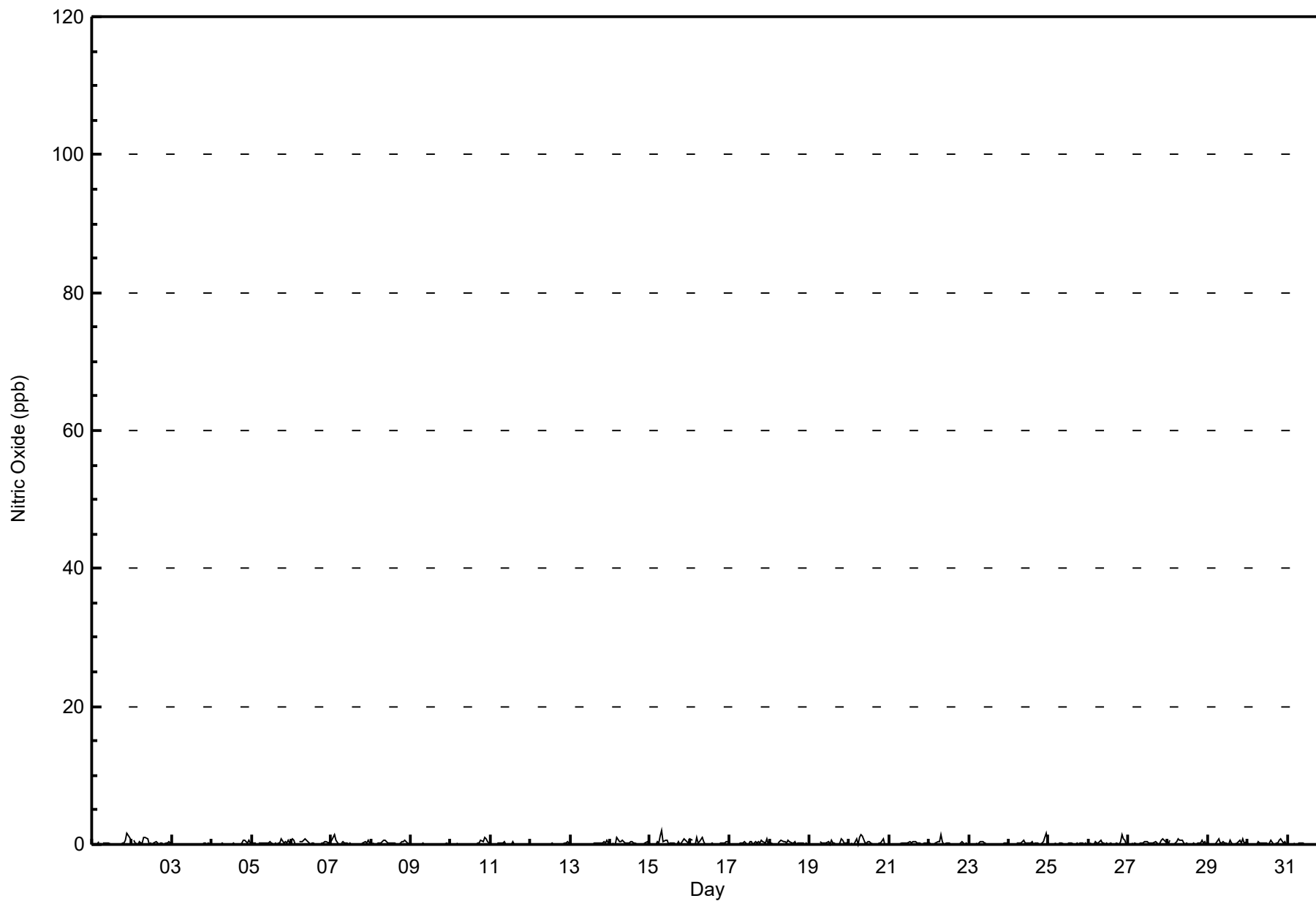
Janvier - July 2025

Maximum Value: 2.1 ppb on Jul 15 08:00																		Maximum Daily Average: 0.4 ppb on Jul 15																		Hours in Service: 744	
Minimum Value: 0.0 ppb on Jul 4 01:00																		Minimum Daily Average: 0.0 ppb on Jul 9																		Hours of Data: 708	
Maximum Diurnal Average: 0.4 ppb at hour 8																		Minimum Diurnal Average: 0.1 ppb at hour 4																		Hours of Missing Data: 36	
Monthly Average: 0.22 ppb																		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.1 Q ₃ = 0.3 P ₉₀ = 0.5 P ₉₉ = 1.2																		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-Jul	0.0	0.0	0.0	0.1	0.3	Z	0.1	0.1	0.2	0.2	0.2	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.2	0.2	0.6	1.6	1.0	0.6	0.3	1.6											
2-Jul	Z	0.6	0.3	0.0	0.4	0.1	0.1	1.1	1.0	0.8	0.1	0.1	0.1	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.2	0.3	1.1											
3-Jul	0.0	Z	0.0	0.1	0.0	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	0.2	0.0	0.1	0.2											
4-Jul	0.0	0.0	Z	0.1	0.0	0.0	0.2	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.2	0.7	0.7	0.2	0.7	0.3	0.2	0.7											
5-Jul	0.1	0.1	0.3	Z	0.2	0.2	0.1	0.2	0.2	0.3	0.2	0.4	0.1	0.1	0.1	0.1	0.3	0.2	0.8	0.2	0.4	0.2	0.6	0.3	0.2	0.8											
6-Jul	0.9	0.7	0.1	0.1	Z	0.5	0.4	0.6	0.7	0.6	0.4	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.5	0.4	0.1	0.4	0.3	0.9											
7-Jul	0.5	0.9	1.5	0.5	0.1	Z	0.1	0.3	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.5	0.3	0.5	0.1	0.3	1.5											
8-Jul	Z	0.2	0.1	0.0	0.3	0.2	0.3	0.5	0.6	0.4	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.3	0.4	0.6	0.5	0.2	0.0	0.0	0.3	0.6											
9-Jul	0.0	Z	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	0.0	0.0	0.1	0.1	0.0	0.0	0.3	0.0	0.0	0.0	0.3											
10-Jul	0.0	0.0	Z	0.2	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.2	0.6	0.4	1.0	0.7	0.5	0.1	0.2	1.0											
11-Jul	0.1	0.0	0.0	Z	0.2	0.1	0.1	0.3	0.3	0.1	0.0	0.0	0.1	0.4	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.4											
12-Jul	0.0	0.0	0.0	0.0	Z	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.2	0.2	0.4	0.1	0.1	0.4											
13-Jul	0.0	0.0	0.1	0.0	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.4	0.3	0.6	0.2	0.1	0.6											
14-Jul	Z	0.1	0.0	0.0	0.9	0.3	0.5	0.6	0.3	0.2	0.2	0.2	0.4	0.3	0.3	0.2	0.1	0.0	0.0	0.0	0.1	0.3	0.4	0.0	0.2	0.9											
15-Jul	0.1	Z	0.1	0.0	0.4	0.2	1.2	2.1	0.5	0.5	0.7	0.1	0.2	0.1	0.1	0.0	0.1	0.3	0.1	0.2	0.8	0.6	0.3	0.1	0.4	2.1											
16-Jul	0.7	0.6	Z	0.0	1.1	0.1	0.3	1.0	0.3	0.1	0.0	0.1	0.1	0.2	0.0	0.1	0.0	0.0	0.1	0.2	0.1	0.3	0.4	0.3	0.3	1.1											
17-Jul	0.0	0.0	0.0	Z	0.1	0.0	0.1	0.2	0.2	0.4	0.1	0.0	0.5	0.5	0.0	0.4	0.1	0.3	0.3	0.7	0.4	0.2	0.8	0.1	0.2	0.8											
18-Jul	0.2	0.1	0.1	0.1	Z	0.3	0.4	0.5	0.5	0.4	0.3	0.7	0.4	0.3	0.1	0.3	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.3	0.7											
19-Jul	0.1	0.1	0.0	0.0	0.1	Z	0.3	0.1	0.2	0.2	0.2	0.4	0.1	0.7	0.2	0.1	0.1	0.1	0.2	0.8	0.7	0.2	0.2	0.3	0.2	0.8											
20-Jul	Z	0.2	0.1	0.1	0.9	0.1	1.0	1.4	1.2	0.2	0.2	0.4	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.7	0.1	0.1	0.1	0.3	1.4											
21-Jul	0.1	Z	0.1	0.0	0.0	0.0	0.1	0.2	0.3	0.3	0.3	0.2	0.4	0.3	0.4	0.4	0.4	0.3	0.2	0.1	0.1	0.3	0.2	0.2	0.2	0.4											
22-Jul	0.2	0.1	Z	0.1	0.3	0.3	0.5	1.3	0.3	0.1	0.2	0.2	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.2	0.3	0.1	0.1	0.0	0.2	1.3											
23-Jul	0.0	0.1	0.0	Z	0.2	0.0	0.2	0.4	0.3	0.2	0.1	C	C	C	C	C	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.4											
24-Jul	0.0	0.0	0.0	0.0	Z	0.2	0.2	0.2	0.4	0.7	0.2	0.3	0.1	0.3	0.4	0.1	0.1	0.2	0.1	0.1	0.3	0.3	1.5	0.4	0.3	1.5											
25-Jul	0.1	0.0	0.1	0.0	0.2	Z	0.2	0.1	0.2	0.1	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.3	0.1	0.1	0.3											
26-Jul	Z	0.1	0.1	0.1	0.4	0.2	0.2	0.5	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.5	1.4	0.7	0.7	0.1	0.3	1.4											
27-Jul	0.1	Z	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.4	0.5	0.3	0.3	0.2	0.2	0.3	0.1	0.0	0.1	0.6	0.8	0.5	0.2	0.2	0.8											
28-Jul	0.1	0.5	Z	0.0	0.1	0.4	0.7	0.7	0.6	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.5	0.3	0.4	0.1	0.3	0.7											
29-Jul	0.2	0.1	0.1	Z	0.1	0.1	0.7	0.1	0.2	0.4	0.1	0.2	0.1	0.7	0.2	0.1	0.1	0.1	0.3	0.6	0.2	0.8	0.3	0.4	0.3	0.8											
30-Jul	0.1	0.1	0.0	0.0	Z	0.1	0.4	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.6	0.1	0.1	0.1	0.2	0.6	0.8	0.2	0.5	0.1	0.2	0.8											
31-Jul	0.1	0.1	0.1	0.0	0.1	Z	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	0.4	0.3	0.1	0.1	0.2	0.1	0.4											
		0.1	0.2	0.1	0.1	0.3	0.2	0.3	0.4	0.3	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.3	0.4	0.3	0.4	0.2	Diurnal Average											
		0.9	0.9	1.5	0.5	1.1	0.5	1.2	2.1	1.2	0.8	0.7	0.7	0.5	0.7	0.6	0.4	0.4	0.3	0.8	0.8	1.4	1.6	1.5	0.6	Diurnal Maximum											
Z - zerospan		C - Calibration																																			



Wood Buffalo Environmental Association
Hourly Averages

Nitric Oxide (NO) - ppb
Janvier - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitric Oxide (NO) - ppb
Janvier - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	708	100.00	100.00
21 - 40	0	0.00	100.00
41 - 60	0	0.00	100.00
61 - 80	0	0.00	100.00
81 - 100	0	0.00	100.00
101 - 120	0	0.00	100.00
121 - 140	0	0.00	100.00
141 - 160	0	0.00	100.00
161 - 180	0	0.00	100.00
181 - 200	0	0.00	100.00
201 - 220	0	0.00	100.00
221 - 240	0	0.00	100.00
241 - 260	0	0.00	100.00
261 - 280	0	0.00	100.00
281 - 300	0	0.00	100.00
301 - 320	0	0.00	100.00
321 - 340	0	0.00	100.00
341 - 360	0	0.00	100.00
361 - 380	0	0.00	100.00
381 - 400	0	0.00	100.00
401 - 420	0	0.00	100.00
421 - 440	0	0.00	100.00
441 - 460	0	0.00	100.00
461 - 480	0	0.00	100.00
481 - 500	0	0.00	100.00
501 - 520	0	0.00	100.00
521 - 540	0	0.00	100.00
541 - 560	0	0.00	100.00
561 - 580	0	0.00	100.00
581 - 600	0	0.00	100.00
601 - 620	0	0.00	100.00
621 - 640	0	0.00	100.00
641 - 660	0	0.00	100.00
661 - 680	0	0.00	100.00
681 - 700	0	0.00	100.00
701 - 720	0	0.00	100.00
721 - 740	0	0.00	100.00
741 - 760	0	0.00	100.00
761 - 780	0	0.00	100.00
781 - 800	0	0.00	100.00
801 - 820	0	0.00	100.00
821 - 840	0	0.00	100.00
841 - 860	0	0.00	100.00
861 - 880	0	0.00	100.00
881 - 900	0	0.00	100.00
901 - 920	0	0.00	100.00
921 - 940	0	0.00	100.00
941 - 960	0	0.00	100.00
961 - 980	0	0.00	100.00
981 - 1000	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
Janvier - July 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	31	11	19	19	21	30	31	51	141	94	56	47	38	24	37	704
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	54	31	11	19	19	21	30	31	51	141	94	56	47	38	24	37	704

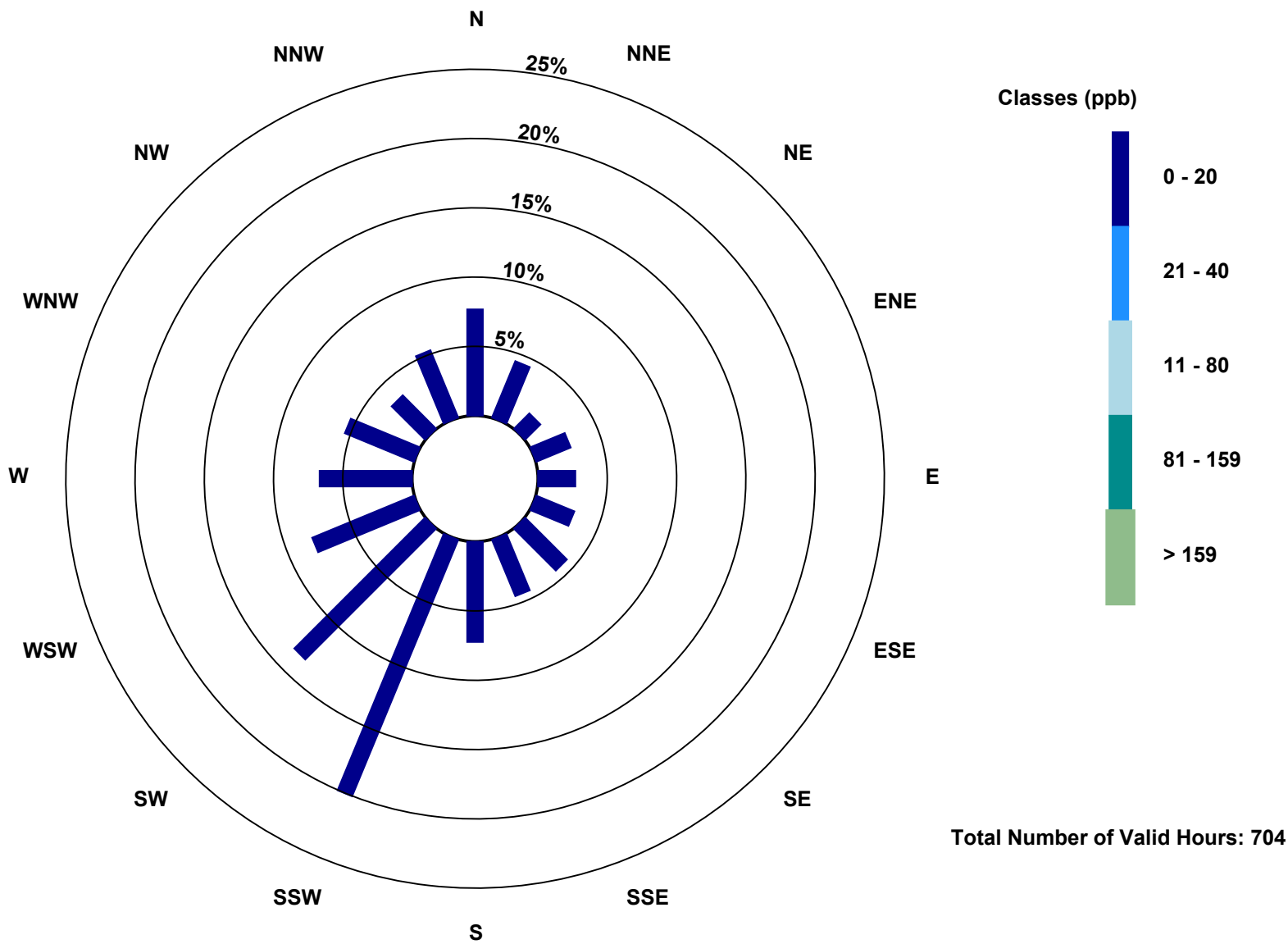
Total Number of Valid Hours: 704

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

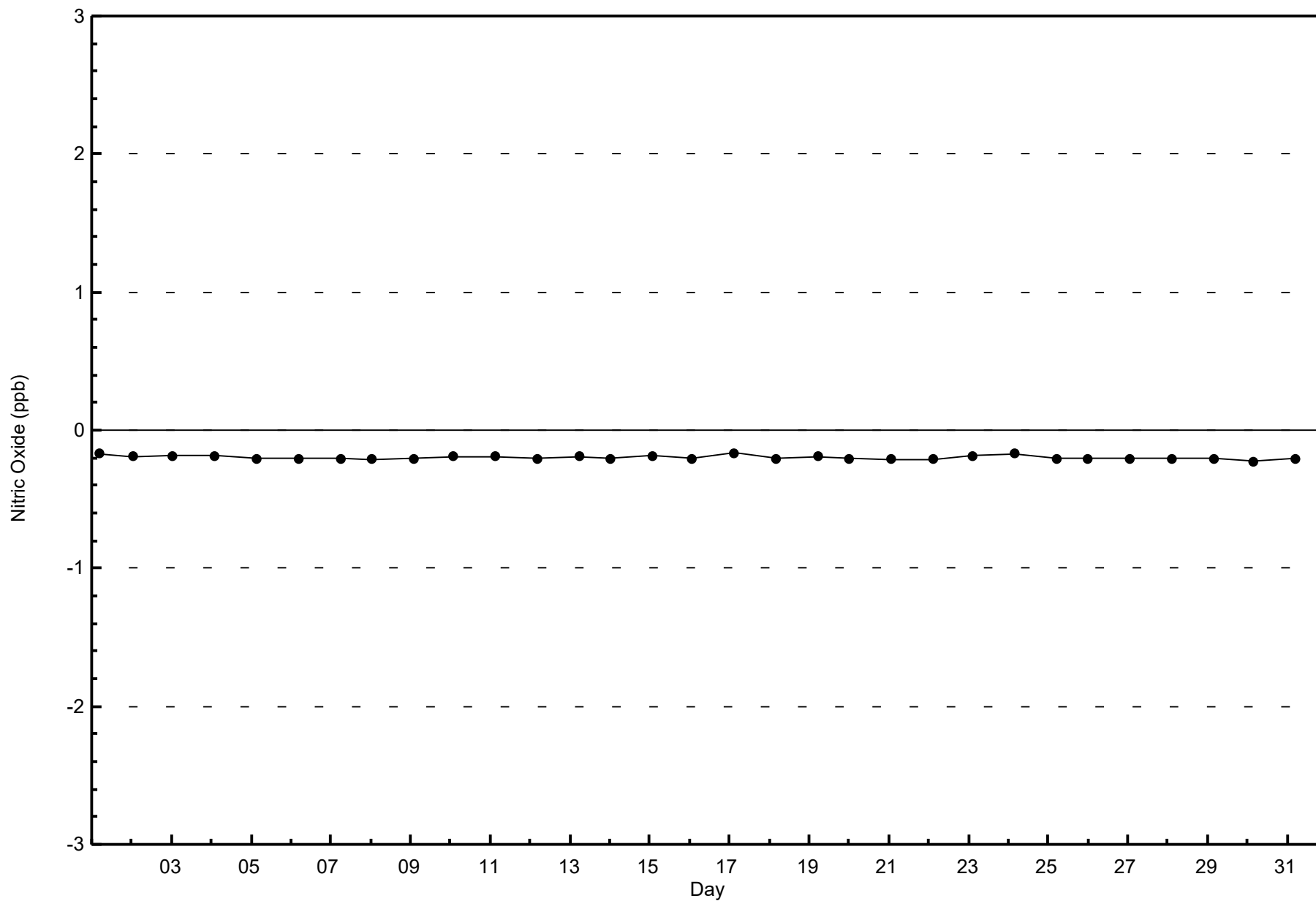
Nitric Oxide (NO) - ppb
Janvier





Wood Buffalo Environmental Association
Zero Responses

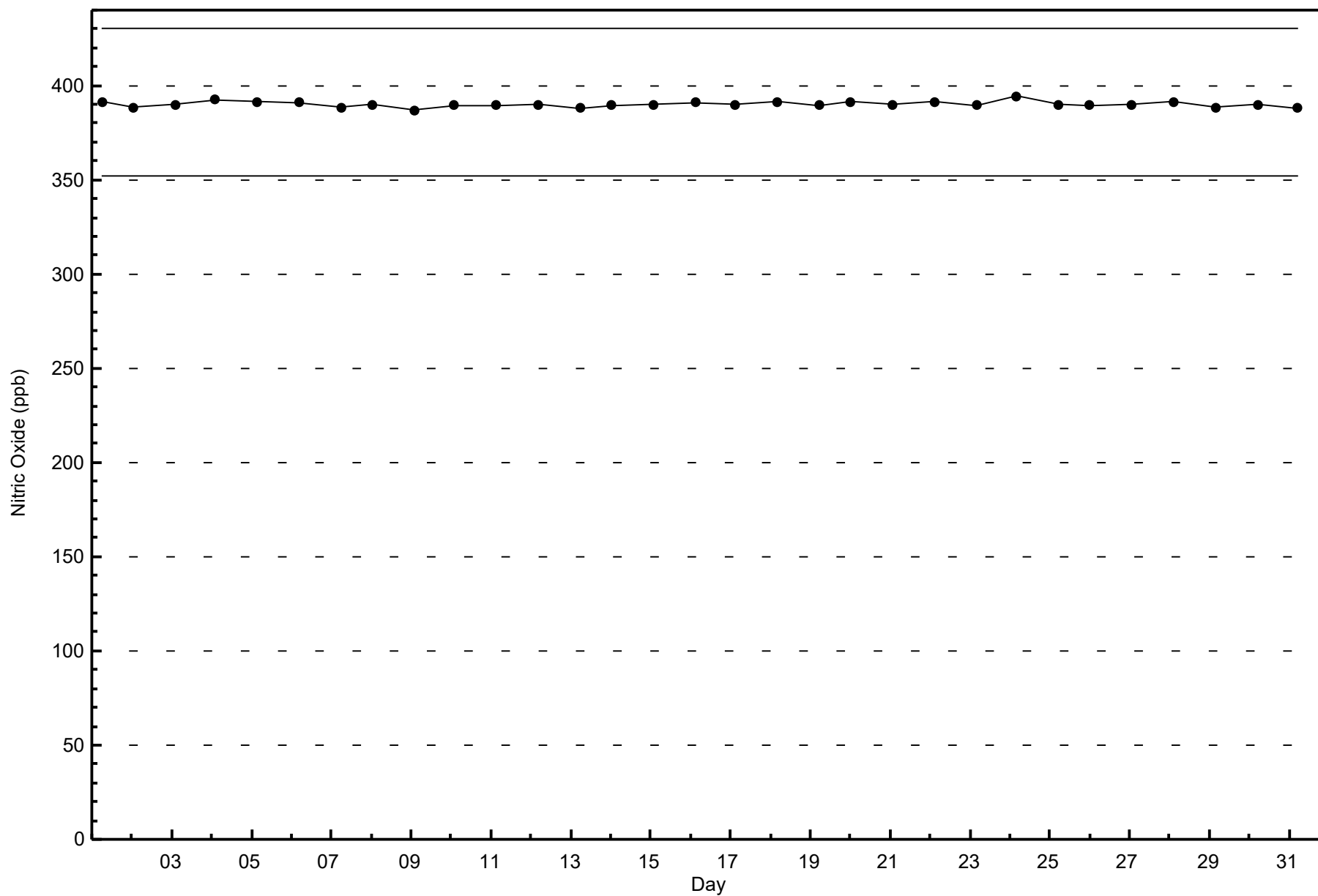
Nitric Oxide (NO) - ppb
Janvier - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitric Oxide (NO) - ppb
Janvier - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Dioxide (NO₂) - ppb

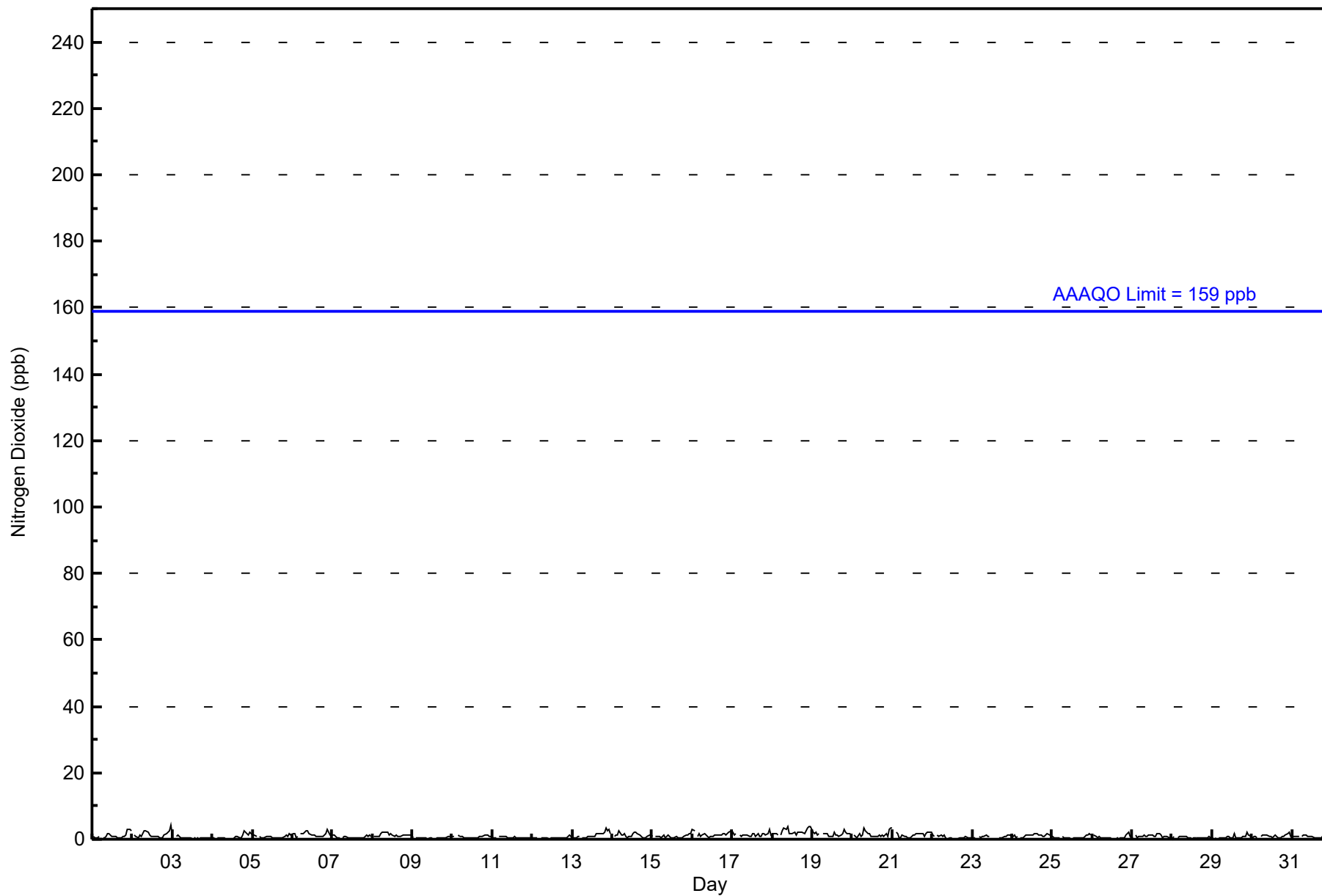
Janvier - July 2025

Number of Exceedences (AAAQO): Maximum Value: 4.1 ppb on Jul 3 00:00																			1-hr: 0 24-hr: 0 Maximum Daily Average: 2.3 ppb on Jul 18						Hours in Service: 744 Hours of Data: 708					
Minimum Value: 0.1 ppb on Jul 4 10:00 Maximum Diurnal Average: 1.7 ppb at hour 23 Monthly Average: 0.99 ppb																			Minimum Daily Average: 0.4 ppb on Jul 9 Minimum Diurnal Average: 0.7 ppb at hour 12 Percentiles: P ₁ = 0.2 P ₁₀ = 0.3 Q ₁ = 0.5 Median = 0.8 Q ₃ = 1.3 P ₉₀ = 1.9 P ₉₉ = 3.3						Hours of Missing Data: 36 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-Jul	0.8	0.5	0.5	0.5	0.9	Z	0.5	0.6	0.9	1.5	1.5	0.8	0.7	0.7	0.7	0.6	0.5	0.4	1.0	0.7	1.1	3.1	3.1	2.4	1.0	3.1				
2-Jul	Z	1.1	0.8	0.6	1.2	0.7	1.7	2.4	2.4	2.1	1.1	0.9	0.8	0.9	0.8	0.7	0.4	0.5	0.6	1.1	1.6	2.1	2.7	4.1	1.4	4.1				
3-Jul	1.3	Z	1.0	1.1	0.7	0.5	0.6	0.4	0.4	0.4	0.4	0.3	0.2	0.3	0.2	0.3	0.2	0.3	0.4	0.6	0.6	0.6	0.6	0.3	0.5	1.3				
4-Jul	0.4	0.3	Z	0.6	0.6	0.6	0.5	0.4	0.2	0.1	0.2	0.2	0.2	0.4	0.8	0.8	0.6	0.5	1.1	2.4	2.1	1.2	2.1	1.5	0.8	2.4				
5-Jul	1.1	1.1	1.0	Z	0.9	0.6	0.5	0.4	0.8	0.8	0.7	0.7	0.6	0.5	0.5	0.5	0.6	0.5	0.4	0.7	1.1	0.8	1.6	1.2	0.8	1.6				
6-Jul	1.9	1.9	0.6	0.7	Z	1.5	1.9	2.3	2.5	2.6	1.8	1.1	1.2	1.2	0.8	0.7	0.8	0.8	1.0	1.3	1.9	2.9	1.2	1.2	1.5	2.9				
7-Jul	1.1	1.1	0.8	0.6	0.3	Z	0.5	0.7	0.7	0.6	0.6	0.6	0.4	0.4	0.4	0.3	0.3	0.3	0.4	0.5	1.4	1.0	1.2	0.7	0.6	1.4				
8-Jul	Z	1.0	0.9	0.8	1.0	1.7	2.0	2.3	2.2	2.2	1.4	1.5	1.1	1.0	1.1	0.9	0.8	0.7	1.2	1.1	1.3	1.3	1.4	1.2	1.3	2.3				
9-Jul	0.5	Z	0.6	0.5	0.4	0.4	0.4	0.6	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.4	0.3	0.3	0.4	0.8	0.7	0.7	0.4	0.8				
10-Jul	0.7	0.7	Z	1.2	0.8	0.7	0.8	0.6	0.5	0.5	0.5	0.5	0.6	0.6	0.5	0.5	0.7	0.8	0.9	1.1	1.1	1.4	1.0	0.7	0.8	1.4				
11-Jul	0.4	0.5	0.5	Z	1.0	0.9	0.8	1.0	0.8	0.5	0.4	0.3	0.5	0.7	0.4	0.3	0.3	0.3	0.4	0.4	0.5	0.3	0.3	0.5	0.5	1.0				
12-Jul	0.4	0.3	0.4	0.4	Z	0.6	0.5	0.4	0.4	0.3	0.2	0.3	0.4	0.6	0.6	0.4	0.3	0.3	0.4	0.4	0.6	0.7	1.3	0.7	0.5	1.3				
13-Jul	0.2	0.4	0.4	0.7	0.8	Z	0.5	0.4	0.3	0.8	0.9	0.8	1.0	0.7	1.5	1.5	1.7	1.7	1.6	2.2	3.2	2.5	3.0	1.8	1.2	3.2				
14-Jul	Z	1.0	1.3	1.3	2.4	1.3	1.4	1.6	0.9	0.6	0.8	0.9	1.5	2.1	2.0	1.8	1.2	0.7	0.4	0.6	0.6	0.9	1.1	1.2	1.2	2.4				
15-Jul	1.0	Z	0.9	0.7	0.9	0.6	0.7	1.4	0.6	1.2	0.8	0.6	0.6	0.5	0.7	0.5	0.4	0.6	0.6	0.7	1.1	1.1	1.7	1.7	0.9	1.7				
16-Jul	3.1	2.4	Z	1.0	1.7	0.7	1.2	1.5	1.2	0.9	0.6	0.9	1.0	1.1	1.1	1.1	1.1	1.1	1.5	1.5	1.3	1.7	2.3	2.5	1.4	3.1				
17-Jul	2.0	1.3	1.5	Z	1.4	0.9	1.1	1.1	1.1	1.3	0.8	0.7	1.5	1.8	0.7	1.5	1.0	1.0	1.8	1.6	1.4	1.7	3.0	1.4	1.4	3.0				
18-Jul	1.5	1.8	1.7	1.1	Z	1.4	2.6	3.3	2.9	3.9	1.8	1.7	1.9	2.0	1.3	2.0	2.2	2.1	2.1	1.9	2.6	3.3	3.8	3.7	2.3	3.9				
19-Jul	2.3	1.8	2.0	1.4	1.6	Z	1.5	1.5	1.5	1.5	1.0	1.0	0.8	2.1	1.1	1.1	0.7	1.1	1.6	2.8	2.1	1.6	1.7	1.4	1.5	2.8				
20-Jul	Z	1.2	0.7	0.6	1.8	0.7	1.3	3.6	2.7	1.6	1.5	0.9	1.0	0.8	0.8	0.9	1.1	1.0	1.3	0.9	1.5	1.0	2.9	3.4	1.4	3.6				
21-Jul	3.3	Z	2.1	1.7	0.6	0.5	1.1	1.0	0.7	0.5	0.5	0.5	1.2	1.1	1.7	1.6	1.8	1.6	1.5	1.0	1.8	2.3	2.1	2.2	1.4	3.3				
22-Jul	1.4	0.8	Z	1.1	1.0	1.2	0.8	1.4	0.6	0.2	0.3	0.5	0.2	0.2	0.2	0.1	0.3	0.3	0.3	0.4	0.8	0.5	0.4	0.5	0.6	1.4				
23-Jul	0.5	0.5	0.4	Z	1.0	0.6	0.8	1.0	1.2	0.9	0.7	C	C	C	C	C	0.5	0.5	0.6	0.9	1.0	1.2	1.3	1.1	0.8	1.3				
24-Jul	0.6	1.1	0.6	0.7	Z	0.6	0.6	0.8	1.4	1.1	1.1	1.2	1.1	1.6	1.9	1.8	1.3	1.3	0.8	0.9	1.2	1.5	1.2	0.7	1.1	1.9				
25-Jul	1.0	0.5	0.4	0.6	0.6	Z	0.7	0.4	0.5	0.3	0.3	0.2	0.2	0.4	0.3	0.3	0.3	0.4	0.4	0.6	1.2	1.1	1.8	1.4	0.6	1.8				
26-Jul	Z	1.1	0.7	0.5	0.9	0.4	0.3	0.6	0.6	0.6	0.3	0.4	0.1	0.2	0.1	0.3	0.2	0.4	0.5	0.6	1.2	1.9	2.2	0.7	0.6	2.2				
27-Jul	0.5	Z	1.1	0.5	0.7	0.9	0.8	1.4	0.9	0.7	1.2	1.4	1.1	0.8	0.9	1.8	1.9	1.2	0.5	0.7	0.8	0.8	0.5	0.4	0.9	1.9				
28-Jul	0.2	0.7	Z	0.6	0.9	0.9	0.9	0.9	0.7	0.6	0.3	0.5	0.2	0.4	0.3	0.4	0.3	0.4	0.6	0.4	0.6	0.6	0.8	0.6	0.6	0.9				
29-Jul	0.4	0.2	0.4	Z	0.4	0.3	0.6	0.5	0.6	0.7	0.7	0.4	0.4	1.5	0.4	0.3	0.3	0.6	0.9	1.0	0.7	2.3	1.3	1.0	0.7	2.3				
30-Jul	0.6	0.7	0.7	0.6	Z	1.0	1.1	1.3	1.3	1.1	1.0	0.7	0.6	0.9	1.1	0.5	0.4	0.5	1.0	0.9	1.2	1.5	2.2	0.8	0.9	2.2				
31-Jul	0.7	0.7	0.7	0.7	0.8	Z	0.8	1.1	1.2	1.0	0.8	0.8	0.7	0.5	0.5	0.4	0.4	0.5	0.5	2.0	1.8	1.4	2.0	2.4	1.0	2.4				
																									Diurnal Average					
																									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
Janvier - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Janvier - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	708	100.00	100.00
21 - 40	0	0.00	100.00
41 - 60	0	0.00	100.00
61 - 80	0	0.00	100.00
81 - 100	0	0.00	100.00
101 - 120	0	0.00	100.00
121 - 140	0	0.00	100.00
141 - 160	0	0.00	100.00
161 - 180	0	0.00	100.00
181 - 200	0	0.00	100.00
201 - 220	0	0.00	100.00
221 - 240	0	0.00	100.00
241 - 260	0	0.00	100.00
261 - 280	0	0.00	100.00
281 - 300	0	0.00	100.00
301 - 320	0	0.00	100.00
321 - 340	0	0.00	100.00
341 - 360	0	0.00	100.00
361 - 380	0	0.00	100.00
381 - 400	0	0.00	100.00
401 - 420	0	0.00	100.00
421 - 440	0	0.00	100.00
441 - 460	0	0.00	100.00
461 - 480	0	0.00	100.00
481 - 500	0	0.00	100.00
501 - 520	0	0.00	100.00
521 - 540	0	0.00	100.00
541 - 560	0	0.00	100.00
561 - 580	0	0.00	100.00
581 - 600	0	0.00	100.00
601 - 620	0	0.00	100.00
621 - 640	0	0.00	100.00
641 - 660	0	0.00	100.00
661 - 680	0	0.00	100.00
681 - 700	0	0.00	100.00
701 - 720	0	0.00	100.00
721 - 740	0	0.00	100.00
741 - 760	0	0.00	100.00
761 - 780	0	0.00	100.00
781 - 800	0	0.00	100.00
801 - 820	0	0.00	100.00
821 - 840	0	0.00	100.00
841 - 860	0	0.00	100.00
861 - 880	0	0.00	100.00
881 - 900	0	0.00	100.00
901 - 920	0	0.00	100.00
921 - 940	0	0.00	100.00
941 - 960	0	0.00	100.00
961 - 980	0	0.00	100.00
981 - 1000	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
Janvier - July 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	31	11	19	19	21	30	31	51	141	94	56	47	38	24	37	704
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	54	31	11	19	19	21	30	31	51	141	94	56	47	38	24	37	704

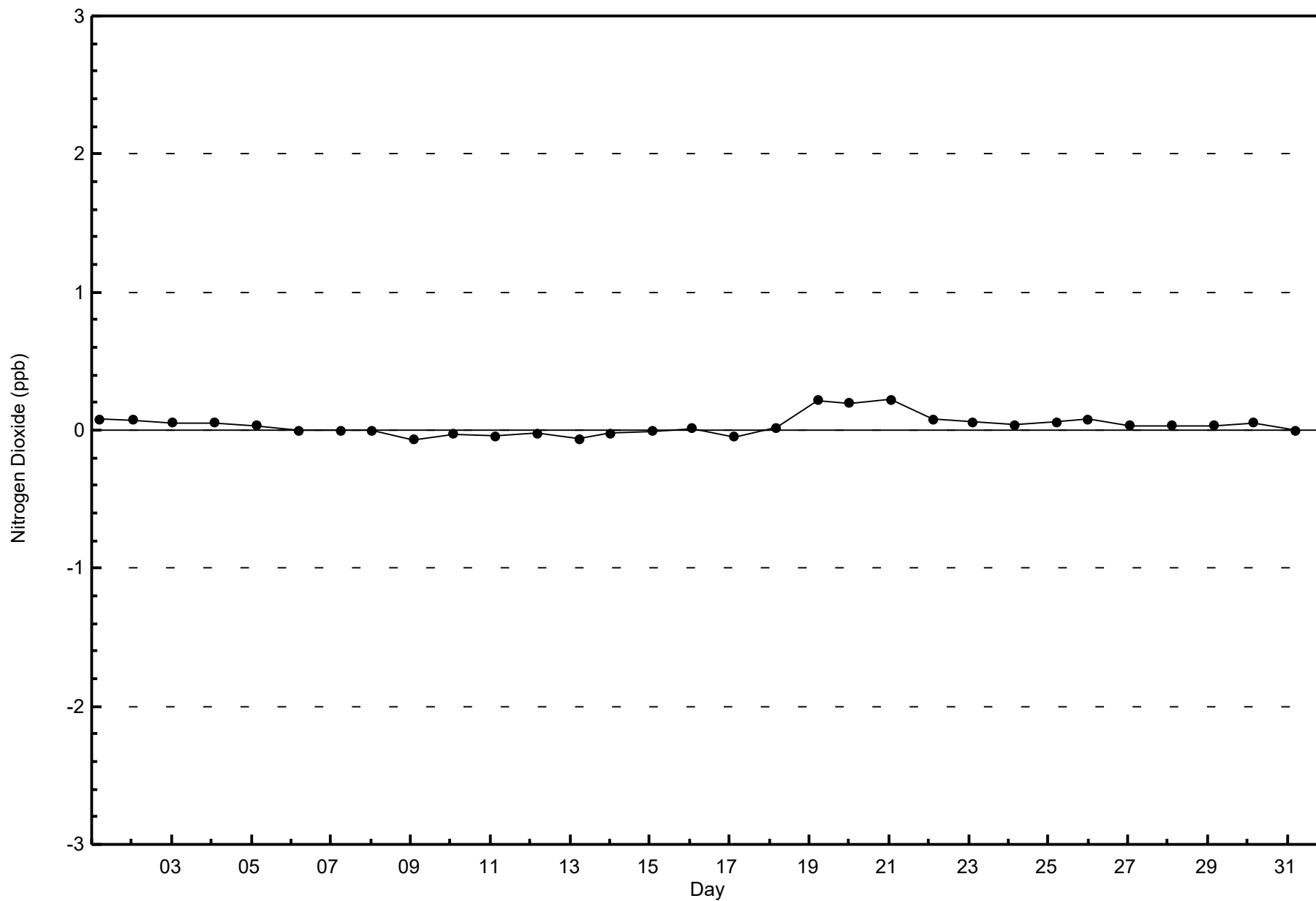
Total Number of Valid Hours: 704

Total Number of Hours: 744



Nitrogen Dioxide (NO₂) - ppb
Janvier

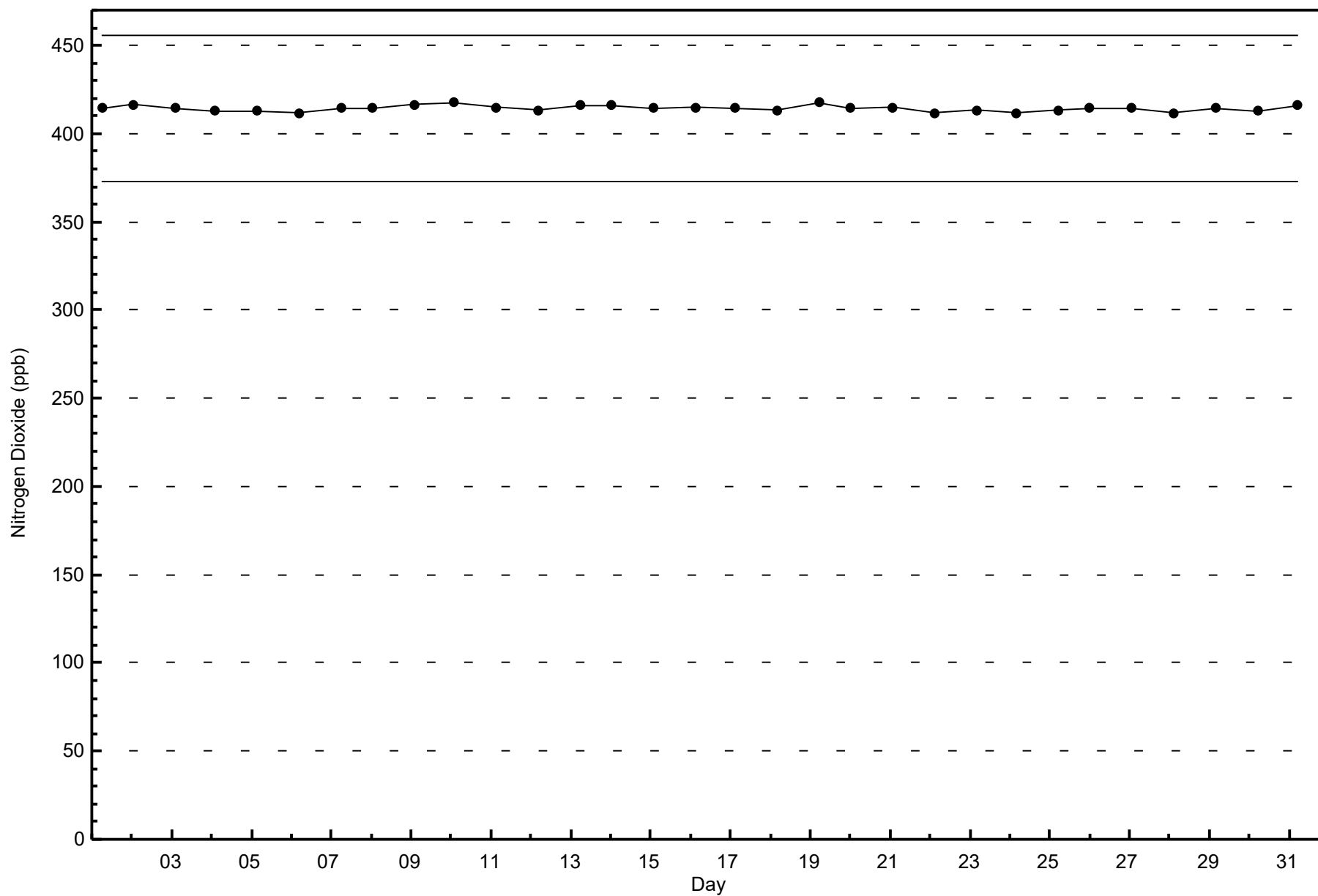






Wood Buffalo Environmental Association
Span Responses

Nitrogen Dioxide (NO₂) - ppb
Janvier - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Oxides (NO_x) - ppb

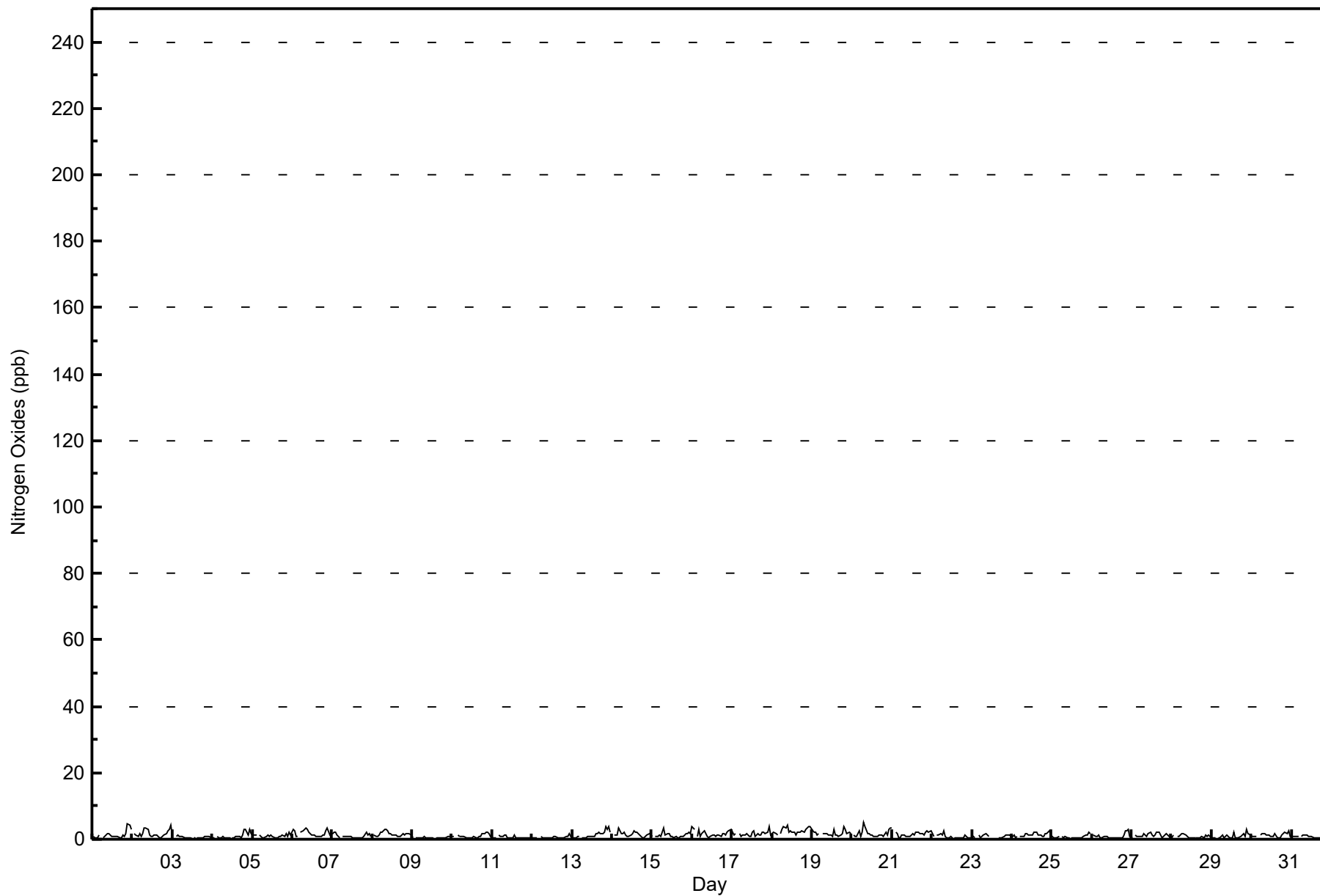
Janvier - July 2025

Maximum Value: 5.0 ppb on Jul 20 08:00																			Maximum Daily Average: 2.6 ppb on Jul 18																			Hours in Service: 744	
Minimum Value: 0.2 ppb on Jul 4 12:00																			Minimum Daily Average: 0.4 ppb on Jul 9																			Hours of Data: 708	
Maximum Diurnal Average: 2.1 ppb at hour 23																			Minimum Diurnal Average: 0.8 ppb at hour 18																			Hours of Missing Data: 36	
Monthly Average: 1.21 ppb																			Percentiles: P ₁ = 0.2 P ₁₀ = 0.4 Q ₁ = 0.6 Median = 1.0 Q ₃ = 1.6 P ₉₀ = 2.3 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-Jul	0.8	0.5	0.5	0.6	1.2	Z	0.6	0.7	1.1	1.7	1.7	0.9	0.7	0.8	0.8	0.7	0.6	0.4	1.2	0.9	1.7	4.7	4.1	3.0	1.3	4.7													
2-Jul	Z	1.7	1.1	0.6	1.6	0.8	1.8	3.5	3.4	2.9	1.2	1.0	0.9	1.1	1.1	0.8	0.5	0.6	0.7	1.2	1.8	2.4	3.0	4.3	1.7	4.3													
3-Jul	1.3	Z	1.0	1.2	0.7	0.6	0.7	0.5	0.5	0.5	0.4	0.3	0.2	0.3	0.2	0.4	0.3	0.4	0.5	0.7	0.7	0.7	0.8	0.3	0.6	1.3													
4-Jul	0.4	0.3	Z	0.7	0.6	0.6	0.7	0.4	0.3	0.2	0.3	0.2	0.3	0.5	0.9	0.9	0.7	0.5	1.3	3.1	2.8	1.4	2.8	1.8	0.9	3.1													
5-Jul	1.2	1.2	1.3	Z	1.1	0.8	0.6	0.6	1.0	1.1	0.9	1.1	0.7	0.6	0.6	0.6	0.9	0.7	1.2	0.9	1.5	1.0	2.2	1.5	1.0	2.2													
6-Jul	2.8	2.6	0.7	0.8	Z	2.0	2.3	2.9	3.2	3.2	2.2	1.2	1.4	1.4	0.9	0.8	0.9	0.9	1.2	1.5	2.4	3.3	1.3	1.6	1.8	3.3													
7-Jul	1.6	2.0	2.3	1.1	0.4	Z	0.6	1.0	0.9	0.7	0.7	0.7	0.5	0.4	0.4	0.4	0.4	0.5	0.7	1.9	1.3	1.7	0.8	0.9	2.3														
8-Jul	Z	1.2	1.0	0.8	1.3	1.9	2.3	2.8	2.8	2.6	1.6	1.6	1.3	1.2	1.2	1.0	0.9	0.8	1.5	1.5	1.9	1.8	1.6	1.2	1.6	2.8													
9-Jul	0.5	Z	0.6	0.5	0.4	0.4	0.4	0.9	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.5	0.4	0.3	0.4	1.1	0.7	0.7	0.4	1.1													
10-Jul	0.7	0.7	Z	1.4	0.8	0.7	0.9	0.7	0.6	0.5	0.5	0.5	0.6	0.6	0.5	0.6	1.0	1.0	1.5	1.5	2.1	2.1	1.5	0.8	0.9	2.1													
11-Jul	0.5	0.5	0.5	Z	1.2	1.0	0.9	1.3	1.1	0.6	0.4	0.3	0.6	1.1	0.4	0.3	0.3	0.3	0.5	0.4	0.5	0.4	0.4	0.5	0.6	1.3													
12-Jul	0.4	0.3	0.4	0.4	Z	0.7	0.6	0.5	0.5	0.4	0.2	0.4	0.5	0.7	0.7	0.4	0.3	0.4	0.5	0.4	0.8	0.9	1.7	0.8	0.6	1.7													
13-Jul	0.2	0.4	0.5	0.7	0.9	Z	0.6	0.5	0.4	0.9	1.0	0.9	1.0	0.8	1.7	1.7	1.9	1.9	1.8	2.3	3.6	2.8	3.6	2.0	1.4	3.6													
14-Jul	Z	1.1	1.3	1.3	3.3	1.6	1.9	2.2	1.2	0.8	1.0	1.1	1.9	2.4	2.3	2.0	1.3	0.7	0.4	0.6	0.7	1.2	1.5	1.2	1.4	3.3													
15-Jul	1.1	Z	1.0	0.7	1.3	0.8	1.9	3.5	1.1	1.7	1.5	0.7	0.8	0.6	0.8	0.5	0.5	0.9	0.7	0.9	1.9	1.7	2.0	1.8	1.2	3.5													
16-Jul	3.8	3.0	Z	1.0	2.8	0.8	1.5	2.5	1.5	1.0	0.6	1.0	1.1	1.3	1.1	1.2	1.1	1.1	1.6	1.7	1.4	2.0	2.7	2.8	1.7	3.8													
17-Jul	2.0	1.3	1.5	Z	1.5	0.9	1.2	1.3	1.3	1.7	0.9	0.7	2.0	2.3	0.7	1.9	1.1	1.3	2.1	2.3	1.8	1.9	3.8	1.5	1.6	3.8													
18-Jul	1.7	1.9	1.8	1.2	Z	1.7	3.0	3.8	3.4	4.3	2.1	2.4	2.3	2.3	1.4	2.3	2.3	2.3	2.3	2.1	2.8	3.4	3.9	3.8	2.6	4.3													
19-Jul	2.4	1.9	2.0	1.4	1.7	Z	1.8	1.6	1.7	1.7	1.2	1.4	0.9	2.8	1.3	1.2	0.8	1.2	1.8	3.6	2.8	1.8	1.9	1.7	1.8	3.6													
20-Jul	Z	1.4	0.8	0.7	2.7	0.8	2.3	5.0	3.9	1.8	1.7	1.3	1.4	0.9	0.9	1.0	1.2	1.1	1.4	1.0	2.2	1.1	3.0	3.5	1.8	5.0													
21-Jul	3.4	Z	2.2	1.7	0.6	0.5	1.2	1.2	1.0	0.8	0.8	0.7	1.6	1.4	2.1	2.0	2.2	1.9	1.7	1.1	1.9	2.6	2.3	2.4	1.6	3.4													
22-Jul	1.6	0.9	Z	1.2	1.3	1.5	1.3	2.7	0.9	0.3	0.5	0.7	0.3	0.2	0.3	0.2	0.3	0.3	0.3	0.6	1.1	0.6	0.5	0.5	0.8	2.7													
23-Jul	0.5	0.6	0.4	Z	1.2	0.6	1.0	1.4	1.5	1.1	0.8	C	C	C	C	C	0.5	0.5	0.6	0.9	1.1	1.3	1.4	1.3	0.9	1.5													
24-Jul	0.6	1.1	0.6	0.7	Z	0.8	0.8	1.0	1.8	1.8	1.3	1.5	1.2	1.9	2.3	1.9	1.4	1.5	0.9	1.0	1.5	1.8	2.7	1.1	1.4	2.7													
25-Jul	1.1	0.5	0.5	0.6	0.8	Z	0.9	0.5	0.7	0.4	0.3	0.2	0.4	0.5	0.4	0.4	0.4	0.5	0.5	0.7	1.3	1.1	2.1	1.5	0.7	2.1													
26-Jul	Z	1.2	0.8	0.6	1.3	0.6	0.5	1.1	0.9	0.8	0.4	0.5	0.2	0.3	0.2	0.3	0.3	0.5	0.6	1.1	2.6	2.6	2.9	0.8	0.9	2.9													
27-Jul	0.6	Z	1.3	0.6	0.8	1.0	0.9	1.6	1.1	0.9	1.6	1.9	1.4	1.1	1.1	2.0	2.2	1.3	0.5	0.8	1.4	1.6	1.0	0.6	1.2	2.2													
28-Jul	0.3	1.2	Z	0.6	1.0	1.3	1.6	1.6	1.3	0.8	0.4	0.6	0.3	0.5	0.4	0.5	0.4	0.5	0.8	0.6	1.1	0.9	1.2	0.7	0.8	1.6													
29-Jul	0.6	0.3	0.5	Z	0.5	0.4	1.3	0.6	0.8	1.1	0.8	0.6	0.5	2.2	0.6	0.4	0.4	0.7	1.2	1.6	0.9	3.1	1.6	1.4	1.0	3.1													
30-Jul	0.7	0.8	0.7	0.6	Z	1.1	1.5	1.5	1.6	1.3	1.2	0.8	0.7	1.0	1.7	0.6	0.5	0.6	1.2	1.5	2.0	1.7	2.7	0.9	1.2	2.7													
31-Jul	0.8	0.8	0.8	0.7	0.9	Z	0.9	1.4	1.3	1.1	0.9	0.8	0.8	0.6	0.5	0.4	0.4	0.6	0.6	2.4	2.1	1.5	2.1	2.6	1.1	2.6													
		1.2	1.1	1.0	0.9	1.2	1.0	1.2	1.6	1.4	1.3	0.9	0.9	0.9	1.1	0.9	0.9	0.8	0.8	1.0	1.3	1.7	1.8	2.1	1.6	Diurnal Average													
		3.8	3.0	2.3	1.7	3.3	2.0	3.0	5.0	3.9	4.3	2.2	2.4	2.3	2.8	2.3	2.3	2.3	2.3	2.3	3.6	3.6	4.7	4.1	4.3	Diurnal Maximum													
Z - zerospan		C - Calibration																																					



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Janvier - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Janvier - July 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 Oxides (NO_x) - ppb
Janvier - July 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	31	11	19	19	21	30	31	51	141	94	56	47	38	24	37	704
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	54	31	11	19	19	21	30	31	51	141	94	56	47	38	24	37	704

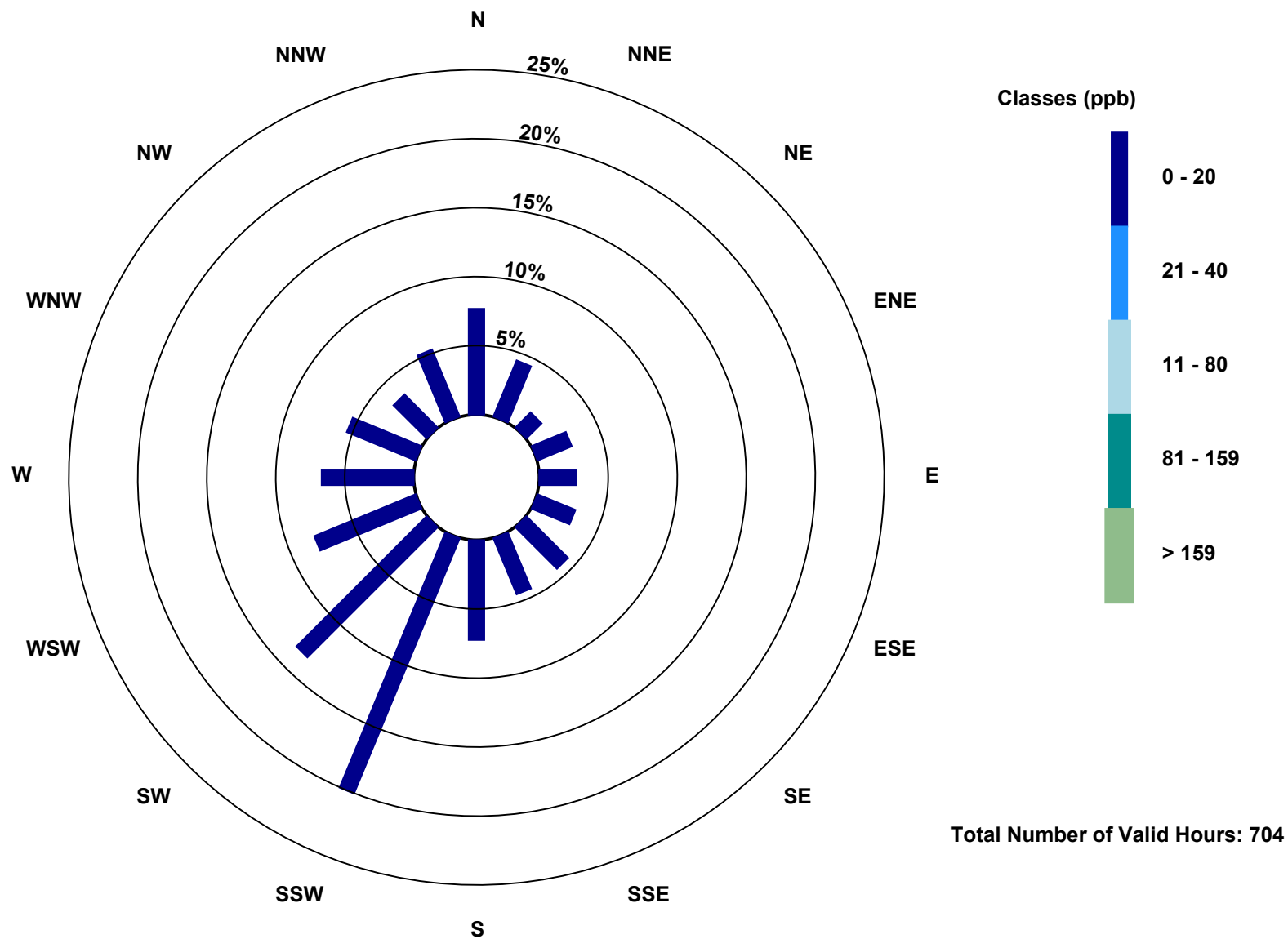
Total Number of Valid Hours: 704

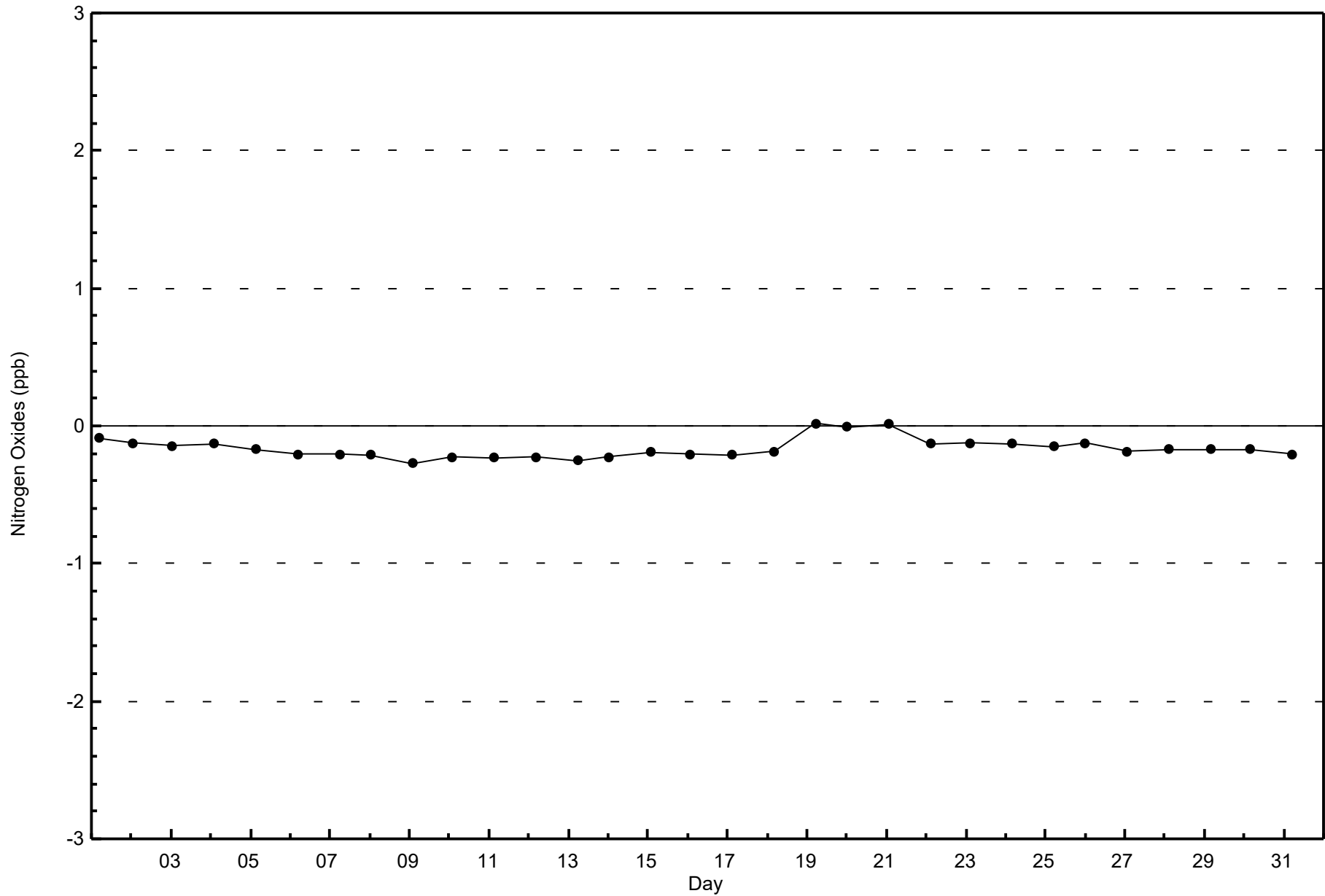
Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Nitrogen Oxides (NO_x) - ppb
Janvier

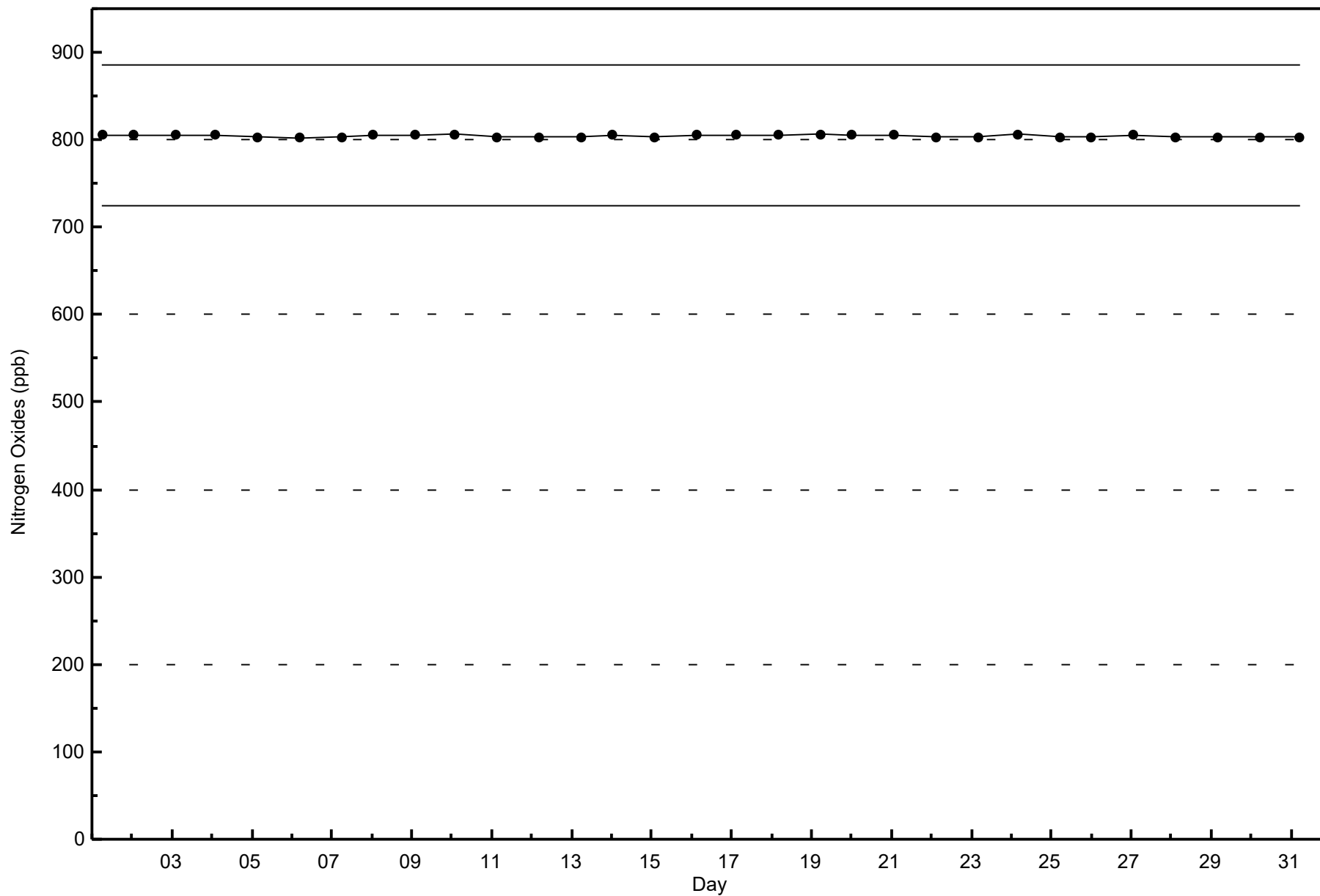






Wood Buffalo Environmental Association
Span Responses

Nitrogen Oxides (NO_x) - ppb
Janvier - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Ozone (O₃) - ppb

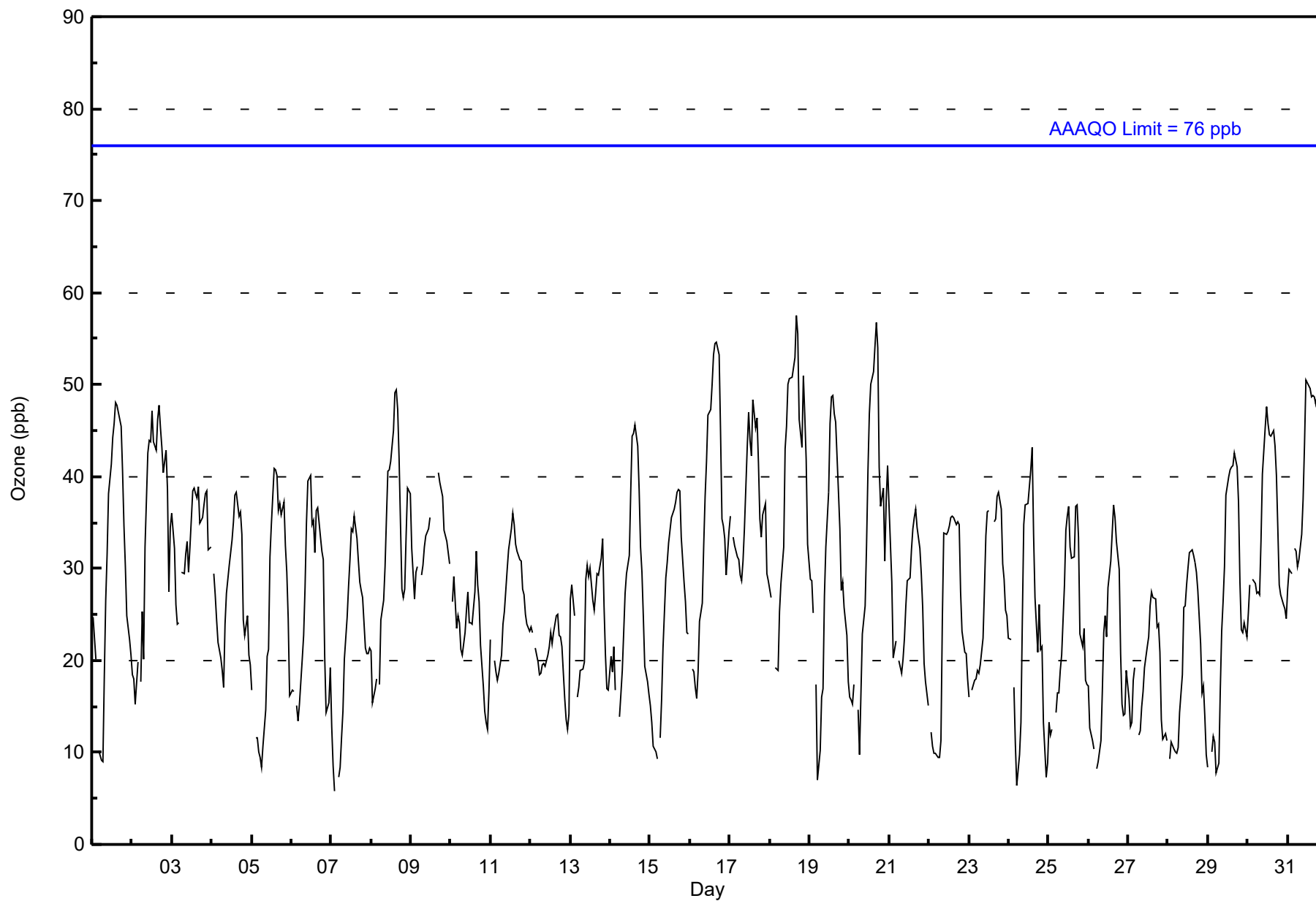
Janvier - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 57.5 ppb on Jul 18 17:00 Maximum Daily Average: 40.0 ppb on Jul 31																					Hours in Service: 744					
Minimum Value: 5.8 ppb on Jul 7 03:00 Minimum Daily Average: 18.3 ppb on Jul 27 Maximum Diurnal Average: 39.5 ppb at hour 16 Minimum Diurnal Average: 16.0 ppb at hour 6 Monthly Average: 28.17 ppb Percentiles: P ₁ = 8.4 P ₁₀ = 13.6 Q ₁ = 19.6 Median = 27.8 Q ₃ = 35.6 P ₉₀ = 43.5 P ₉₉ = 53.3																					Hours of Data: 707					
																					Hours of Missing Data: 37					
																					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-Jul	24.7	22.4	20.2	Z	10.3	9.1	9.1	18.3	26.5	31.5	38.2	41.3	44.3	45.8	48.1	47.7	46.3	45.5	40.5	34.7	30.1	24.9	22.2	20.6	30.5	48.1
2-Jul	18.5	18.0	15.2	19.8	Z	17.7	25.3	20.1	32.3	42.6	43.9	43.8	47.1	43.8	42.9	46.2	47.8	45.3	43.2	40.4	42.8	38.6	27.4	34.4	34.7	47.8
3-Jul	36.1	32.2	26.1	24.0	24.2	Z	29.5	29.5	31.6	33.0	29.6	32.3	38.4	38.7	38.1	37.7	39.0	34.9	35.5	37.0	38.1	38.4	32.0	32.4	33.4	39.0
4-Jul	Z	29.5	27.1	24.5	21.9	20.4	18.9	17.1	23.9	27.2	30.4	31.8	33.0	35.2	37.9	38.3	35.8	36.1	33.6	24.4	22.7	24.8	20.5	19.5	27.6	38.3
5-Jul	16.8	Z	11.5	11.6	10.0	9.5	8.4	10.7	14.6	20.4	21.1	31.3	34.8	40.9	40.8	40.1	36.3	37.1	35.9	37.1	32.5	29.7	24.5	16.2	24.9	40.9
6-Jul	16.7	16.6	Z	15.0	13.5	15.2	20.2	22.8	27.9	34.9	39.5	40.1	34.8	35.2	31.7	36.3	36.6	33.4	31.9	30.9	20.4	14.3	15.4	19.3	26.2	40.1
7-Jul	12.9	8.5	5.8	Z	7.3	8.4	11.6	14.5	20.2	24.7	28.1	31.0	34.4	34.0	35.7	33.3	30.8	28.6	27.6	26.9	21.4	20.8	20.7	21.3	22.1	35.7
8-Jul	21.0	15.5	16.9	18.0	Z	17.4	24.5	26.5	30.2	35.5	40.6	40.7	41.7	44.9	49.1	49.4	47.3	41.9	27.8	26.9	27.8	33.6	38.8	38.2	32.8	49.4
9-Jul	32.2	29.4	26.7	29.6	30.2	Z	29.3	30.4	32.4	33.5	34.3	35.6	C	C	C	C	40.4	39.3	38.6	37.8	34.2	32.9	31.8	30.5	33.1	40.4
10-Jul	Z	26.5	29.1	23.5	24.8	24.2	21.2	20.5	23.0	25.5	27.5	24.1	24.1	23.9	27.5	31.9	28.2	26.4	21.6	17.2	14.5	13.3	12.5	16.7	22.9	31.9
11-Jul	22.3	Z	20.0	18.8	17.8	18.7	20.5	24.0	25.3	27.7	29.9	32.0	34.3	36.0	34.8	32.7	31.9	30.9	30.7	27.7	27.2	25.1	23.9	23.2	26.8	36.0
12-Jul	23.6	23.0	Z	21.4	19.8	18.5	18.6	19.5	19.7	19.4	20.6	21.5	23.0	21.8	23.1	24.9	25.1	22.7	22.5	21.5	15.8	13.6	12.6	14.2	20.3	25.1
13-Jul	26.7	28.3	24.9	Z	16.0	17.0	18.9	19.1	19.8	28.8	30.4	29.2	30.0	26.5	25.4	27.3	29.4	29.4	31.1	33.2	26.0	20.5	17.0	16.7	24.9	33.2
14-Jul	20.4	18.8	21.5	16.8	Z	13.9	16.4	18.9	23.1	27.3	29.5	31.4	38.3	44.4	44.7	45.6	43.4	38.5	32.4	29.6	24.7	19.4	17.8	16.3	27.5	45.6
15-Jul	15.2	13.2	10.6	10.0	9.3	Z	11.6	15.7	21.4	29.0	30.7	32.8	34.1	35.5	36.4	37.3	38.3	38.6	38.4	33.5	28.5	26.4	23.0	22.9	25.8	38.6
16-Jul	Z	19.1	18.8	17.1	15.9	18.7	24.3	26.2	32.5	37.8	41.6	46.6	47.2	50.0	53.2	54.5	54.6	53.3	44.9	35.3	34.6	33.3	29.2	34.0	35.8	54.6
17-Jul	35.8	Z	33.3	32.5	31.3	30.9	29.3	28.7	30.9	34.3	43.1	47.0	44.0	42.3	48.3	45.4	46.3	41.5	35.4	33.4	35.9	37.1	29.5	28.6	36.7	48.3
18-Jul	27.8	26.8	Z	19.2	19.0	18.8	25.3	28.4	32.3	43.0	45.5	50.1	50.6	50.8	51.8	52.9	57.5	55.5	46.3	43.2	51.0	46.7	41.7	32.7	39.9	57.5
19-Jul	28.8	28.7	25.2	Z	17.4	7.0	10.2	16.0	16.9	27.1	32.3	38.3	45.8	48.7	48.9	46.8	45.9	38.2	34.3	27.6	28.6	25.8	22.8	17.7	29.5	48.9
20-Jul	16.0	15.7	15.2	17.3	Z	14.7	9.8	16.3	22.9	25.9	32.5	40.5	46.8	50.1	51.5	54.1	56.7	54.0	41.1	36.7	38.7	30.9	37.4	41.2	33.3	56.7
21-Jul	36.9	28.6	20.2	21.2	22.1	Z	19.9	18.7	20.1	22.5	26.0	28.7	29.0	32.0	34.4	35.6	36.4	34.4	32.1	29.4	25.8	19.6	17.7	15.1	26.4	36.9
22-Jul	Z	12.3	10.6	10.0	9.9	9.4	9.5	11.3	24.4	33.9	33.7	34.1	34.7	35.6	35.6	35.5	34.8	35.1	34.7	27.4	23.1	20.9	20.8	18.0	24.1	35.6
23-Jul	16.0	Z	16.8	17.9	18.0	18.9	18.6	19.5	22.4	27.8	33.5	36.1	36.3	M	M	35.1	35.4	37.8	38.3	36.4	30.5	28.8	25.5	24.9	27.4	38.3
24-Jul	22.4	22.3	Z	17.0	11.0	6.5	9.8	13.3	24.6	34.8	36.9	37.0	38.9	40.7	43.1	33.7	26.9	20.9	26.1	21.2	21.5	13.2	7.3	8.9	23.4	43.1
25-Jul	13.2	11.9	12.5	Z	14.3	16.5	16.5	18.9	20.6	28.2	34.1	35.7	36.7	32.4	31.2	31.3	36.7	36.9	33.3	22.9	21.5	23.5	17.9	17.4	24.5	36.9
26-Jul	17.3	12.6	11.3	10.4	Z	8.2	9.1	11.3	16.8	23.1	24.8	22.6	27.9	30.7	33.9	37.0	35.5	33.0	29.9	20.8	15.3	14.0	14.2	18.9	20.8	37.0
27-Jul	15.9	12.8	13.2	17.9	19.2	Z	12.0	12.4	14.9	16.6	19.3	21.6	22.6	25.9	27.4	26.8	26.7	23.6	23.9	20.9	13.6	11.5	12.0	11.3	18.3	27.4
28-Jul	Z	9.4	11.2	10.4	10.1	9.9	10.5	14.3	18.5	25.8	25.9	28.2	30.1	31.8	32.0	31.4	30.6	29.6	27.7	21.8	16.4	17.3	13.8	9.8	20.3	32.0
29-Jul	8.5	Z	10.1	11.7	11.1	7.8	8.8	16.7	23.2	26.4	30.2	38.0	39.9	40.8	41.1	41.3	42.5	41.0	37.2	28.5	23.4	23.1	24.0	22.6	26.0	42.5
30-Jul	25.1	28.2	Z	28.8	28.3	27.3	27.4	27.1	33.0	40.2	45.3	47.6	45.8	44.6	44.4	44.9	43.3	40.1	34.3	28.2	27.1	26.1	25.6	24.5	34.2	47.6
31-Jul	27.8	29.9	29.4	Z	32.2	31.9	30.2	30.9	33.7	37.6	43.4	50.5	50.2	49.6	48.6	48.9	48.7	47.9	48.8	37.1	38.6	44.5	43.8	35.3	40.0	50.5
Diurnal Average																										
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 (O_3) - ppb
Janvier - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ozone (O₃) - ppb
Janvier - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	194	27.44	27.44
21 - 50	497	70.30	97.74
51 - 82	16	2.26	100.00
> 83	0	0.00	100.00

Total Number of Valid Hours: 707

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Ozone (O₃) - ppb
Janvier - July 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	15	2	0	2	1	4	7	18	67	26	8	10	8	2	5	191
21 - 50	37	15	10	15	15	17	21	22	32	72	70	47	38	32	22	31	496
51 - 82	0	0	0	4	2	3	3	1	0	1	0	1	0	0	0	1	16
> 83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	53	30	12	19	19	21	28	30	50	140	96	56	48	40	24	37	703

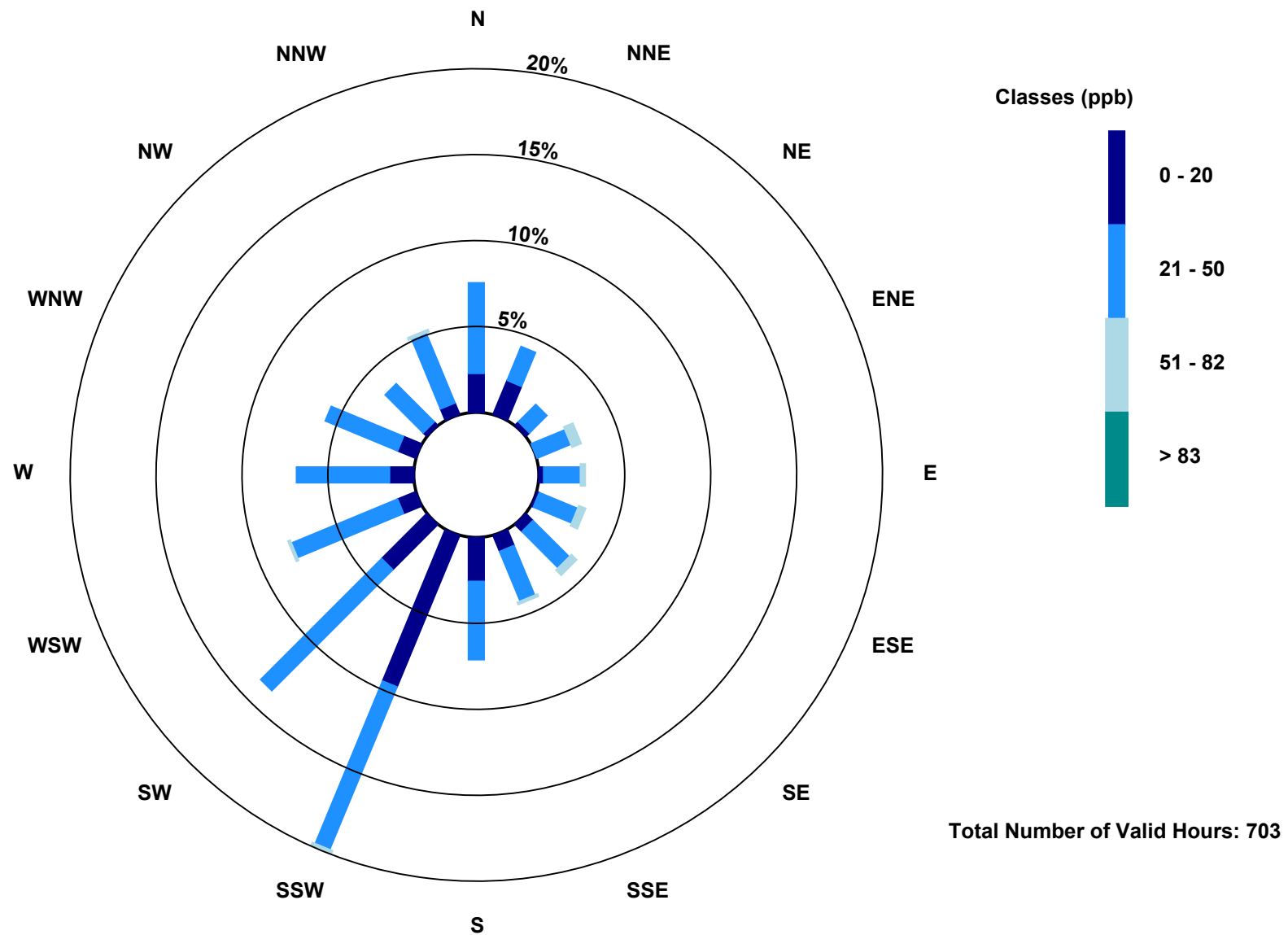
Total Number of Valid Hours: 703

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

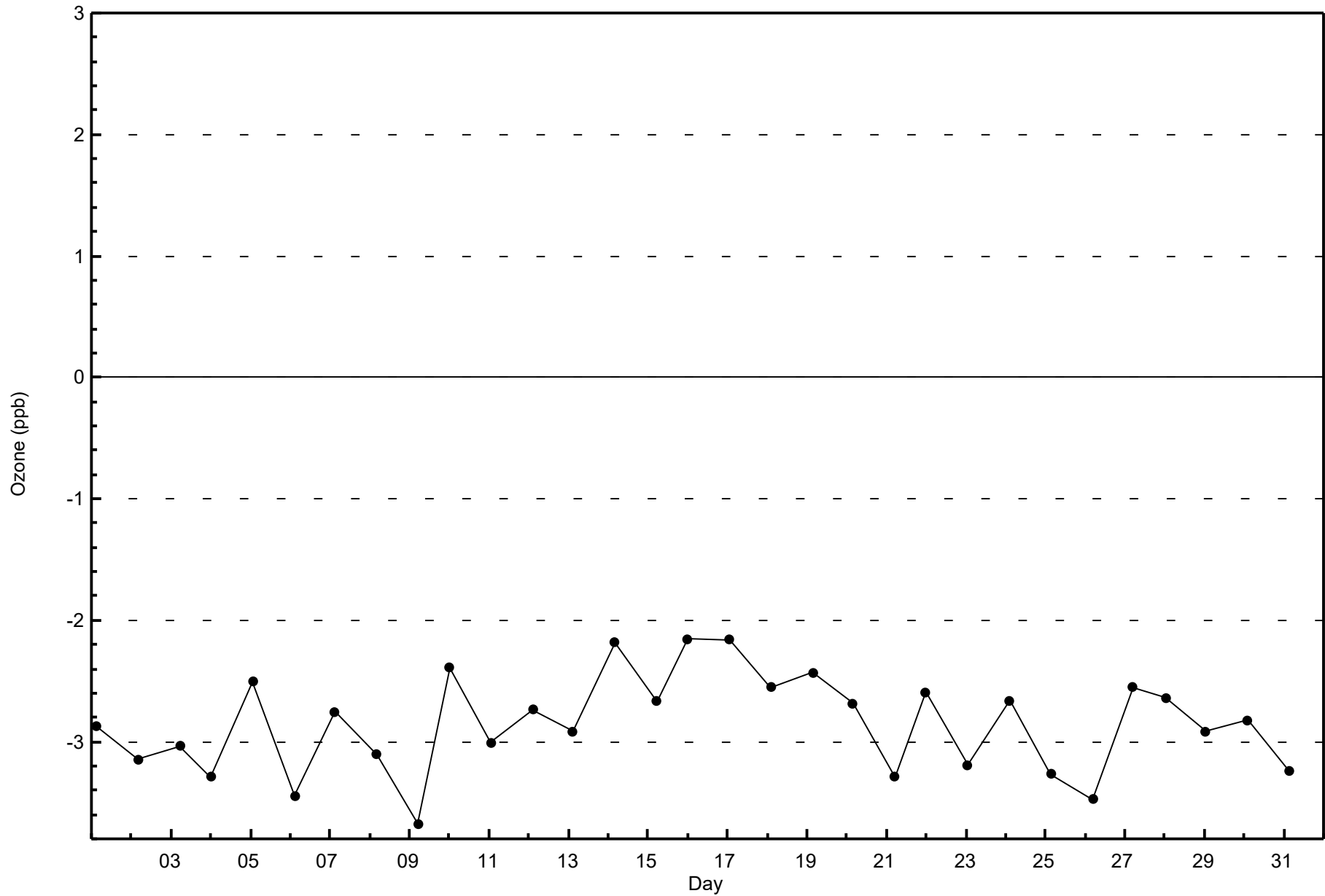
Ozone (O_3) - ppb
Janvier





Wood Buffalo Environmental Association
Zero Responses

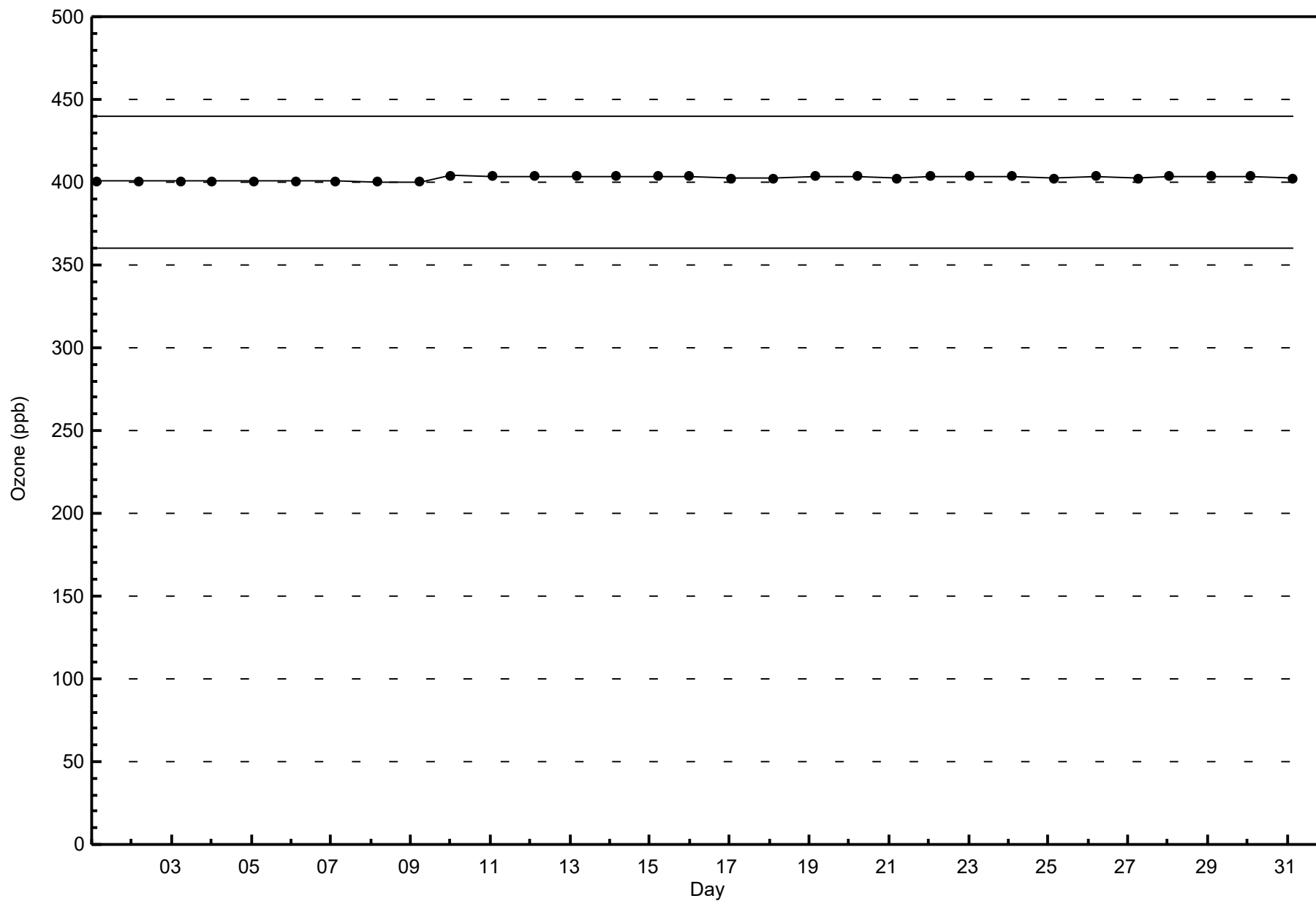
Ozone (O₃) - ppb
Janvier - July 2025





Wood Buffalo Environmental Association
Span Responses

Ozone (O₃) - ppb
Janvier - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

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

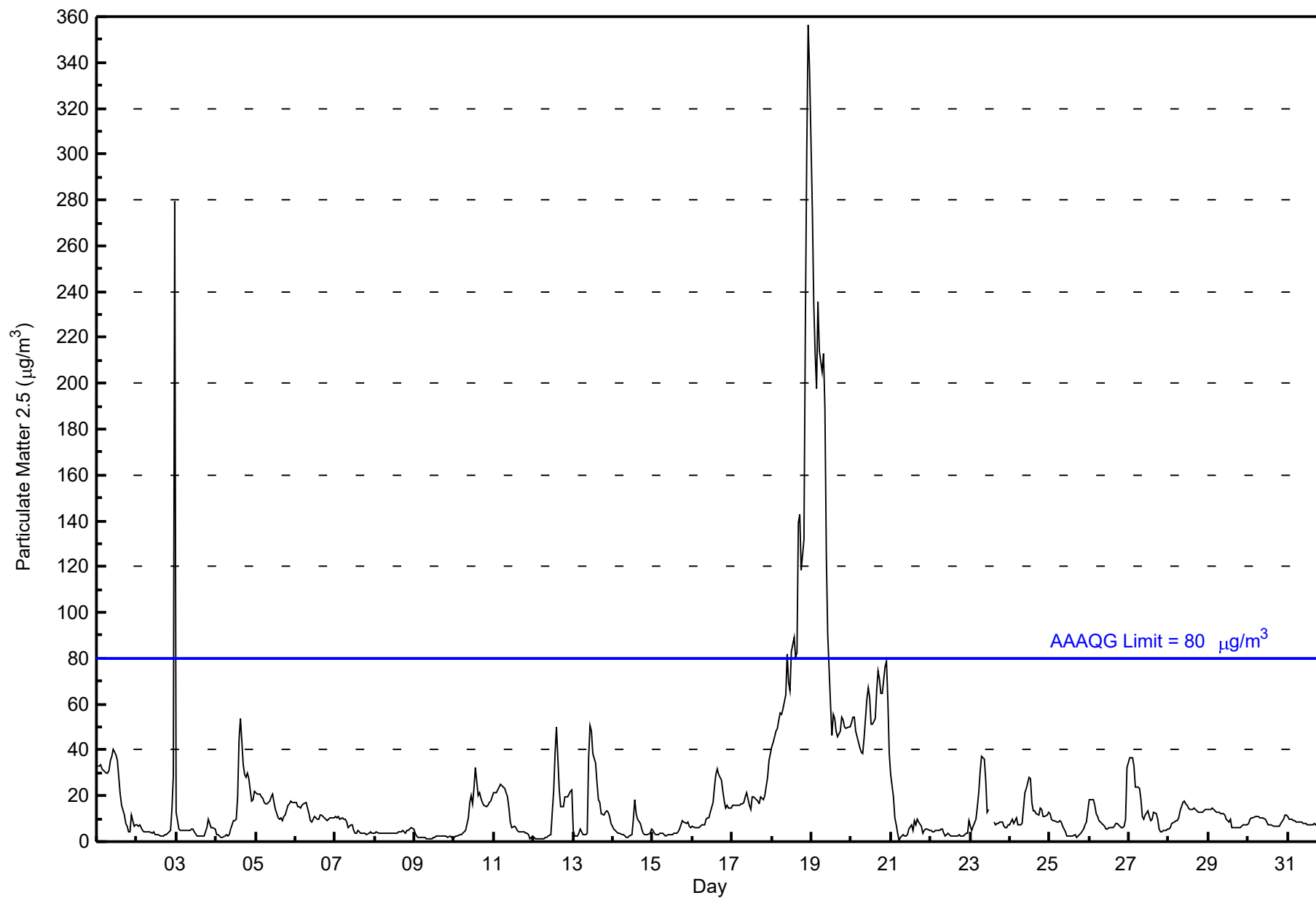
Janvier - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 3 Maximum Value: 356.3 µg/m³ on Jul 18 23:00 Minimum Value: 0.9 µg/m³ on Jul 21 06:00 Maximum Diurnal Average: 33.2 µg/m³ at hour 24 Monthly Average: 19.46 µg/m³																					Maximum Daily Average: 119.1 µg/m³ on Jul 19 Minimum Daily Average: 2.1 µg/m³ on Jul 9 Minimum Diurnal Average: 15.9 µg/m³ at hour 19 Percentiles: P ₁ = 1.4 P ₁₀ = 2.7 Q ₁ = 4.5 Median = 9.4 Q ₃ = 17.4 P ₉₀ = 40.8 P ₉₉ = 220.3				Hours in Service: 744 Hours of Data: 742 Hours of Missing Data: 2 Hours of Calibration: 2 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-Jul	32.7	33.0	33.7	31.6	31.4	30.2	29.8	31.3	35.6	37.3	40.5	37.9	35.5	28.3	20.6	15.7	11.7	7.7	6.7	4.2	4.6	11.4	6.8	7.1	23.6	40.5
2-Jul	7.3	6.9	7.2	5.1	4.4	4.4	4.3	4.3	4.0	3.9	4.1	3.3	2.9	3.0	2.5	2.4	2.3	2.8	3.2	3.4	5.0	14.3	28.9	279.5	17.0	279.5
3-Jul	12.6	5.3	4.8	4.9	4.6	4.8	4.6	4.6	4.7	5.2	5.2	4.0	2.5	2.3	2.6	2.6	2.5	2.7	5.9	10.0	7.7	6.1	6.4	5.2	5.1	12.6
4-Jul	3.0	2.8	2.4	2.1	1.8	2.4	2.8	2.2	3.1	5.3	9.1	9.4	10.0	19.4	44.7	53.9	33.7	29.1	27.9	30.1	27.3	17.6	18.5	21.8	15.9	53.9
5-Jul	21.6	21.0	20.8	19.4	18.7	17.0	16.3	16.6	17.4	19.7	20.5	17.0	13.8	10.5	10.0	10.2	9.4	11.2	11.9	15.7	16.7	17.4	17.0	17.0	16.1	21.6
6-Jul	17.0	15.1	15.4	14.8	16.0	16.5	17.3	14.9	12.0	9.4	8.8	11.0	10.6	10.0	9.6	11.5	11.6	10.2	9.8	9.4	9.7	10.3	10.5	10.6	12.2	17.3
7-Jul	10.8	10.6	10.8	10.0	10.1	9.7	9.6	8.4	6.1	7.4	7.4	4.7	3.9	3.8	5.0	4.0	3.6	3.6	3.4	3.3	3.8	4.2	3.8	3.8	6.3	10.8
8-Jul	3.8	4.4	3.9	3.9	3.9	3.8	3.8	3.7	3.6	3.5	3.6	3.7	3.4	3.7	4.4	4.2	4.6	4.8	3.8	5.0	4.6	5.3	6.0	5.5	4.2	6.0
9-Jul	3.8	2.7	2.0	1.7	1.8	1.7	1.6	1.2	1.2	1.5	1.3	1.8	2.0	2.4	2.5	2.7	2.6	2.4	2.3	2.4	2.0	2.2	2.0	2.0	2.1	3.8
10-Jul	2.0	2.2	2.5	2.8	3.0	3.5	4.0	4.8	10.3	17.2	20.1	16.4	23.4	32.4	19.9	21.6	19.0	17.1	15.8	15.6	16.1	17.3	17.9	19.3	13.5	32.4
11-Jul	21.1	21.6	22.7	24.0	24.8	24.6	23.4	21.7	19.7	14.3	8.7	6.1	6.5	6.2	5.1	4.3	4.1	4.1	4.2	3.7	3.7	2.9	1.4	2.2	11.7	24.8
12-Jul	1.6	1.3	1.4	1.3	1.3	1.3	1.5	1.6	1.9	2.2	2.9	12.6	21.9	38.2	50.0	22.3	15.3	15.5	15.0	19.4	19.4	20.5	21.9	22.3	13.0	50.0
13-Jul	4.9	2.5	2.7	3.6	5.6	4.5	3.0	2.8	3.9	36.9	50.9	48.3	38.1	34.3	25.9	18.5	17.2	12.3	11.8	13.0	13.1	13.0	11.1	7.7	16.1	50.9
14-Jul	5.7	4.7	4.0	3.6	3.5	3.3	3.1	2.7	2.1	1.9	2.6	3.0	9.9	18.5	12.4	10.0	8.2	5.4	3.7	3.2	2.9	2.9	4.0	5.6	5.3	18.5
15-Jul	4.8	3.9	3.1	3.1	3.4	3.8	3.9	3.3	2.7	3.2	3.2	3.3	3.2	3.5	3.6	4.2	5.3	7.1	9.0	8.4	7.7	8.3	6.7	5.9	4.8	9.0
16-Jul	6.4	6.1	6.2	6.0	6.0	6.4	7.1	7.3	9.5	10.1	10.2	13.0	17.3	23.7	29.4	31.7	29.3	26.8	22.3	17.9	14.6	15.6	14.9	14.7	14.7	31.7
17-Jul	15.7	16.0	16.1	15.7	15.6	16.3	16.6	17.1	19.7	21.7	16.0	14.0	19.7	19.2	18.8	17.5	16.6	19.4	18.8	18.3	20.1	28.2	35.1	38.7	19.6	38.7
18-Jul	41.8	43.6	48.4	49.7	53.3	55.9	55.8	58.1	63.8	81.9	69.7	66.0	83.1	89.1	80.3	82.5	138.8	142.9	118.2	131.9	224.4	301.7	356.3	336.6	115.6	356.3
19-Jul	275.8	235.2	213.1	197.6	235.8	214.3	205.2	213.2	188.7	125.2	90.1	59.6	46.6	55.4	53.6	48.2	45.9	47.9	54.4	53.2	49.9	49.7	50.3	50.2	119.1	275.8
20-Jul	52.1	54.4	54.1	48.1	43.1	40.9	38.8	38.3	44.9	62.5	67.1	62.9	51.2	51.0	53.4	65.7	74.6	70.8	64.9	64.6	76.6	78.8	61.8	38.5	56.6	78.8
21-Jul	29.5	19.5	10.3	7.3	3.7	0.9	1.6	2.9	2.7	2.3	2.9	5.3	7.2	5.1	9.2	7.5	9.9	8.8	6.9	3.8	4.6	5.3	5.5	5.1	7.0	29.5
22-Jul	4.6	4.0	4.3	4.9	4.6	4.8	5.6	5.3	3.5	2.7	3.8	3.1	2.4	2.4	2.4	2.7	2.7	2.8	2.5	2.5	2.6	3.6	4.0	8.9	3.8	8.9
23-Jul	6.6	5.1	6.8	10.0	15.5	21.3	30.8	37.1	35.8	26.7	12.9	13.9	C	C	8.7	7.3	7.9	8.2	8.5	8.6	6.8	6.3	5.9	7.5	13.6	37.1
24-Jul	7.1	10.0	7.7	9.3	10.4	7.3	7.4	8.0	14.7	21.1	23.3	27.8	27.5	17.3	13.6	13.4	12.4	11.8	14.7	14.2	10.9	11.1	11.4	12.7	13.6	27.8
25-Jul	12.0	9.7	8.9	9.0	8.4	8.4	9.4	8.8	6.8	4.2	2.3	2.4	2.5	2.7	2.2	3.2	2.1	2.6	2.9	3.9	5.3	7.5	8.3	13.2	6.1	13.2
26-Jul	18.0	18.4	18.6	16.1	12.3	10.7	9.5	8.1	7.3	6.8	5.7	5.8	5.9	6.0	6.3	6.6	8.2	7.7	6.9	5.8	6.0	6.8	9.6	32.6	10.2	32.6
27-Jul	36.5	36.7	36.8	33.0	24.1	23.7	23.1	18.2	11.3	9.5	11.7	13.7	10.7	9.4	9.5	12.6	12.1	10.0	5.3	4.5	4.5	4.6	4.7	5.4	15.5	36.8
28-Jul	5.5	5.9	7.6	8.7	8.9	9.4	10.1	13.7	17.0	18.0	16.3	15.9	14.8	14.0	13.7	14.6	13.8	13.7	13.0	12.6	12.7	13.3	13.8	14.1	12.5	18.0
29-Jul	14.2	13.9	14.5	13.7	13.3	12.9	12.9	12.2	12.5	11.9	11.9	9.8	8.6	9.9	6.3	6.2	6.2	6.0	6.4	6.1	6.6	7.1	7.2	7.3	9.9	14.5
30-Jul	8.1	9.8	10.2	10.6	11.1	11.2	11.2	10.5	10.5	10.3	9.5	8.4	7.4	7.0	7.1	7.0	6.8	6.5	6.6	6.7	7.8	10.0	11.8	11.7	9.1	11.8
31-Jul	10.7	9.7	9.9	9.4	8.9	8.4	8.2	8.4	8.3	8.2	8.1	7.7	7.6	7.1	7.3	7.1	7.8	7.6	7.7	8.0	9.7	13.3	15.7	15.4	9.2	15.7
22.5 20.5 19.7 18.7 19.6 18.9 18.8 19.1 18.9 19.1 17.8 16.5 16.7 17.9 17.4 16.8 17.6 17.1 15.9 16.4 19.6 23.1 25.1 33.2																									Diurnal Average	
275.8 235.2 213.1 197.6 235.8 214.3 205.2 213.2 188.7 125.2 90.1 66.0 83.1 89.1 80.3 82.5 138.8 142.9 118.2 131.9 224.4 301.7 356.3 336.6																									Diurnal Maximum	
C - Calibration																										
Alberta Ambient Air Quality Guideline/Objectives: 1-hr 80 µg/m³ 24-hr 29 µg/m³																										



Wood Buffalo Environmental Association
Hourly Averages

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Janvier - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - µg/m³
Janvier - July 2025

Concentration Ranges (µg/m³)	Number of Hours	%	Cumulative %
0 - 5	234	31.54	31.54
6 - 15	281	37.87	69.41
16 - 25	104	14.02	83.42
26 - 80	99	13.34	96.77
> 81.0	24	3.23	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
Janvier - July 2025

Concentration Ranges (µg/m³)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	21	15	4	5	2	1	2	5	11	46	35	25	33	16	6	7	234
6 - 15	23	7	2	1	6	8	12	13	21	63	49	30	9	14	6	14	278
16 - 25	5	2	0	2	4	5	6	4	10	27	10	4	6	6	7	6	104
26 - 80	5	6	3	10	6	4	7	5	11	16	7	1	1	4	4	9	99
> 81.0	1	2	3	1	1	3	4	4	0	1	0	0	1	0	1	1	23
Totals	55	32	12	19	19	21	31	31	53	153	101	60	50	40	24	37	738

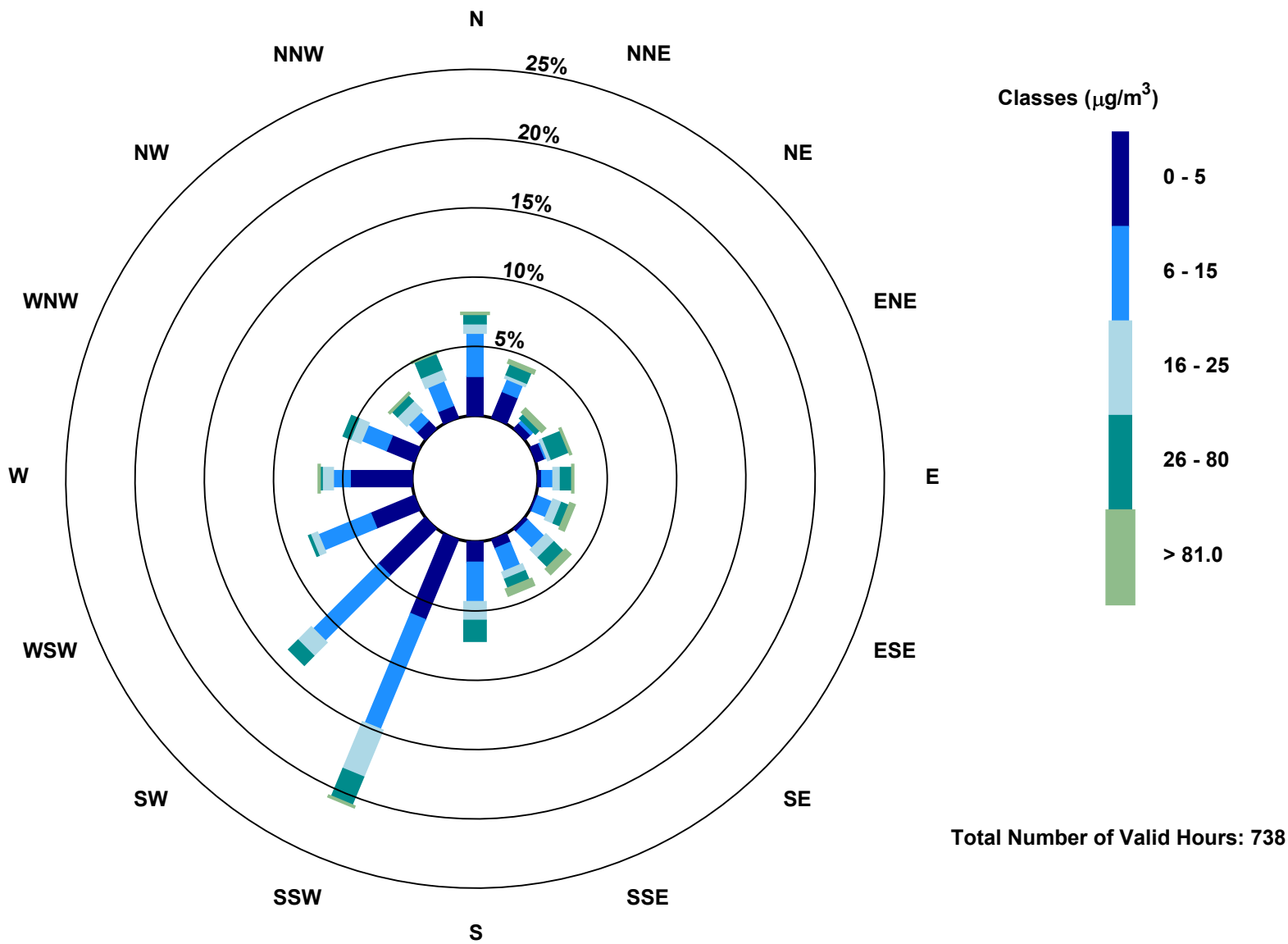
Total Number of Valid Hours: 738

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

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

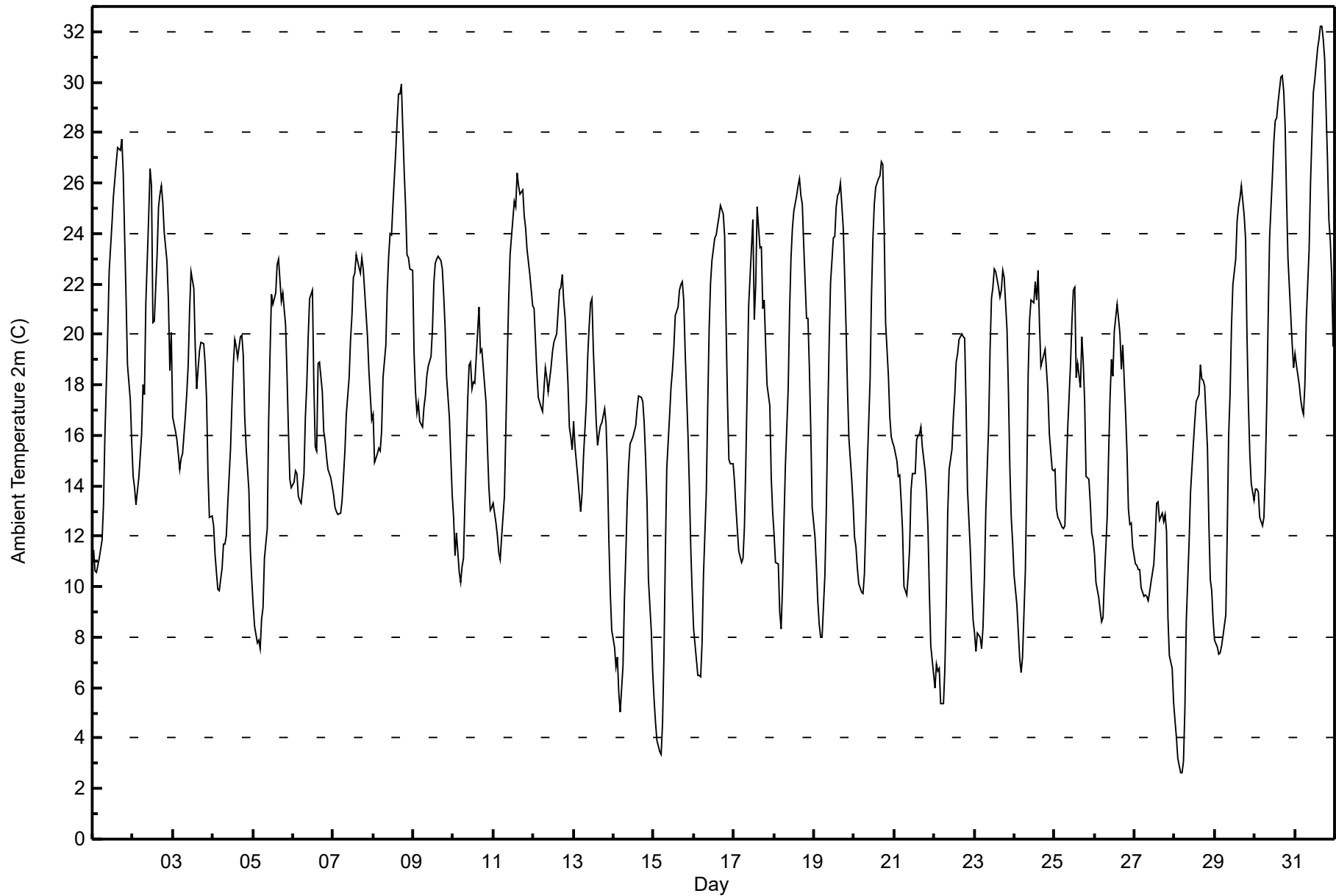


Maximum Value: 32.2 C on Jul 31 17:00																			Maximum Daily Average: 24.6 C on Jul 31										Hours in Service: 744	
Minimum Value: 2.6 C on Jul 28 05:00																			Minimum Daily Average: 10.5 C on Jul 27										Hours of Data: 744	
Maximum Diurnal Average: 22.3 C at hour 17																			Minimum Diurnal Average: 10.4 C at hour 5										Hours of Missing Data: 0	
Monthly Average: 16.82 C																			Percentiles: P ₁ = 4.3 P ₁₀ = 9.1 Q ₁ = 12.6 Median = 16.8 Q ₃ = 21.1 P ₉₀ = 24.6 P ₉₉ = 30.2										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-Jul	11.5	10.6	10.6	10.9	11.2	11.8	13.2	16.0	18.0	20.0	22.5	24.4	25.5	26.1	26.8	27.4	27.3	27.8	26.4	23.8	21.4	18.8	17.4	15.7	19.4	27.8				
2-Jul	14.4	13.9	13.2	14.3	15.2	16.1	18.0	17.6	21.2	24.7	26.6	25.9	20.5	20.5	23.2	25.1	25.6	25.9	25.3	24.0	22.9	21.3	18.6	20.1	20.6	26.6				
3-Jul	16.7	16.2	15.8	15.3	14.7	15.1	15.3	16.8	17.6	18.8	21.0	22.5	21.8	19.5	17.9	18.6	19.3	19.7	19.6	18.9	17.5	14.5	12.8	12.8	17.4	22.5				
4-Jul	12.4	11.3	10.6	9.9	9.9	10.7	11.7	11.7	12.0	13.3	15.5	17.3	18.8	19.8	19.5	19.1	19.9	20.0	19.2	16.8	15.5	13.8	11.5	10.3	14.6	20.0				
5-Jul	9.3	8.5	7.8	7.9	7.6	8.8	9.2	11.1	12.3	16.6	19.3	21.6	21.2	21.7	22.8	23.0	22.1	21.3	21.6	20.4	18.4	16.2	14.3	13.9	15.7	23.0				
6-Jul	14.2	14.6	14.5	13.6	13.4	13.3	14.5	16.7	18.0	19.9	21.4	21.7	18.0	15.6	15.4	18.8	18.9	17.7	16.2	15.8	15.1	14.7	14.3	14.0	16.3	21.7				
7-Jul	13.7	13.2	13.0	12.9	12.9	13.4	14.3	15.4	16.8	18.3	19.8	20.8	22.3	22.4	23.1	22.6	22.4	23.0	22.6	21.7	19.9	18.6	17.6	16.6	18.2	23.1				
8-Jul	16.8	14.9	15.2	15.5	15.4	16.2	18.3	19.6	21.7	23.1	24.0	23.9	25.1	27.2	28.5	29.5	29.5	29.9	26.4	25.0	23.1	23.1	22.6	22.5	22.4	29.9				
9-Jul	19.2	17.7	16.9	17.3	16.5	16.4	17.1	17.6	18.3	18.7	19.1	20.2	22.0	22.8	23.0	23.1	22.9	22.6	21.6	20.3	18.3	16.7	15.2	13.7	19.0	23.1				
10-Jul	12.8	11.3	12.2	10.6	10.2	10.8	11.1	13.3	17.4	18.8	18.9	17.9	18.1	18.1	20.1	21.1	19.3	19.4	18.7	17.3	15.5	14.0	13.0	13.2	15.5	21.1				
11-Jul	13.3	12.6	12.0	11.3	11.0	12.0	13.6	16.2	18.9	21.4	23.1	23.9	25.3	25.1	26.4	25.9	25.5	25.7	24.7	24.2	23.4	22.9	22.3	21.1	20.1	26.4				
12-Jul	21.0	19.7	18.5	17.5	17.1	16.9	17.8	18.7	18.3	17.7	18.7	19.3	19.7	19.9	20.0	21.7	21.9	22.4	21.3	20.6	18.1	16.3	15.9	15.5	18.9	22.4				
13-Jul	16.6	15.5	14.3	13.6	13.0	13.7	15.1	17.3	19.1	20.3	21.3	21.4	19.4	16.6	15.6	16.0	16.4	16.5	17.0	16.4	14.6	11.8	9.7	8.3	15.8	21.4				
14-Jul	7.6	6.8	7.2	5.8	5.0	6.9	9.5	11.3	13.4	14.8	15.6	15.9	16.2	16.4	17.0	17.6	17.5	17.3	16.5	15.1	13.4	10.3	8.3	6.6	12.2	17.6				
15-Jul	5.5	4.7	3.9	3.5	3.4	4.6	7.3	11.4	14.7	16.8	17.9	18.6	19.5	20.8	21.1	21.8	22.0	22.1	21.3	19.3	16.1	14.0	11.5	9.8	13.8	22.1				
16-Jul	8.4	7.1	6.5	6.5	6.4	7.8	10.5	13.8	17.1	20.2	22.0	22.9	23.9	23.9	24.4	24.7	25.1	24.8	23.9	20.4	17.4	15.0	14.9	14.9	16.8	25.1				
17-Jul	14.2	13.2	12.2	11.4	10.9	11.1	12.4	14.9	18.0	21.1	23.5	24.6	20.6	22.0	25.1	23.4	23.5	21.0	21.3	19.6	18.0	17.2	14.3	13.0	17.8	25.1				
18-Jul	12.1	11.0	10.9	9.0	8.3	10.0	12.6	14.8	17.8	20.9	23.0	24.2	24.9	25.5	25.9	26.2	25.5	25.1	23.5	20.6	20.6	18.7	16.2	13.1	18.4	26.2				
19-Jul	12.0	10.8	9.4	8.5	8.0	8.0	10.4	13.0	16.5	19.7	22.0	23.8	23.9	25.1	25.5	25.6	26.0	24.2	22.3	20.2	17.9	15.9	14.2	13.3	17.3	26.0				
20-Jul	12.0	11.6	10.7	10.1	9.8	9.7	10.5	12.5	14.8	18.2	21.5	23.8	25.2	25.8	26.2	26.3	26.8	26.7	24.1	20.5	18.4	16.7	16.0	15.7	18.1	26.8				
21-Jul	15.5	15.0	14.4	14.5	13.4	12.2	10.0	9.7	10.4	11.5	13.8	14.5	14.5	15.8	16.0	16.1	16.4	15.5	14.6	13.8	12.4	9.8	7.7	6.5	13.1	16.4				
22-Jul	6.0	6.9	6.7	6.8	5.4	5.4	6.7	9.5	12.9	14.7	15.4	16.7	17.6	18.9	19.3	19.8	20.0	19.9	19.8	17.2	13.9	11.5	9.9	8.7	12.9	20.0				
23-Jul	8.2	7.5	8.2	8.0	7.6	8.4	10.3	13.0	16.4	19.4	21.4	21.9	22.6	22.5	21.9	21.5	21.8	22.6	22.2	20.2	17.8	14.8	12.8	11.8	15.9	22.6				
24-Jul	10.5	9.3	8.2	7.2	6.6	7.2	10.6	14.1	18.4	20.6	21.3	21.3	22.1	21.3	22.5	20.4	18.8	19.2	19.4	18.6	17.7	16.1	14.7	14.6	15.9	22.5				
25-Jul	14.7	13.1	12.7	12.6	12.3	12.3	12.4	14.6	16.3	18.8	20.5	21.7	21.9	18.3	18.8	17.9	19.9	18.9	17.4	14.4	14.3	13.3	12.1	11.9	15.9	21.9				
26-Jul	11.3	10.2	9.6	9.1	8.6	8.8	10.3	12.8	15.4	17.5	19.0	18.3	20.1	21.2	20.6	20.0	18.6	19.6	16.9	15.3	13.1	12.5	12.5	11.6	14.7	21.2				
27-Jul	10.9	10.8	10.7	10.7	10.0	9.6	9.7	9.6	9.5	9.8	10.2	10.9	12.0	13.3	13.4	12.6	12.9	12.6	12.9	12.2	8.8	7.2	6.8	5.4	10.5	13.4				
28-Jul	4.7	4.0	3.2	2.6	2.6	3.0	5.1	8.7	11.8	13.8	14.7	15.7	16.6	17.3	17.6	18.8	18.2	18.2	18.0	15.5	12.5	10.3	9.9	8.6	11.3	18.8				
29-Jul	7.9	7.6	7.3	7.4	7.7	8.1	8.9	12.1	16.0	17.6	20.3	22.0	23.0	24.5	25.1	25.4	25.9	24.7	23.7	19.9	17.2	15.3	14.1	13.5	16.5	25.9				
30-Jul	13.9	13.9	13.8	12.7	12.4	12.8	14.7	17.3	20.7	23.8	26.3	27.6	28.4	28.6	29.2	30.2	30.2	29.7	28.3	25.4	23.1	20.8	19.6	18.7	21.8	30.2				
31-Jul	19.3	18.8	18.0	17.4	17.0	16.8	18.0	20.6	23.4	26.0	27.9	29.6	30.1	31.3	31.7	32.2	32.2	31.7	30.9	26.9	24.5	23.7	22.3	19.5	24.6	32.2				
																									Diurnal Average					
																									Diurnal Maximum					



Wood Buffalo Environmental Association
Hourly Averages

Ambient Temperature 2m (AT2) - C
Janvier - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ambient Temperature 2m (AT2) - C
Janvier - July 2025

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	0	0.00	0.00
-20 - 0	0	0.00	0.00
0 - 10	99	13.31	13.31
10 - 20	421	56.59	69.89
> 20	224	30.11	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) - %

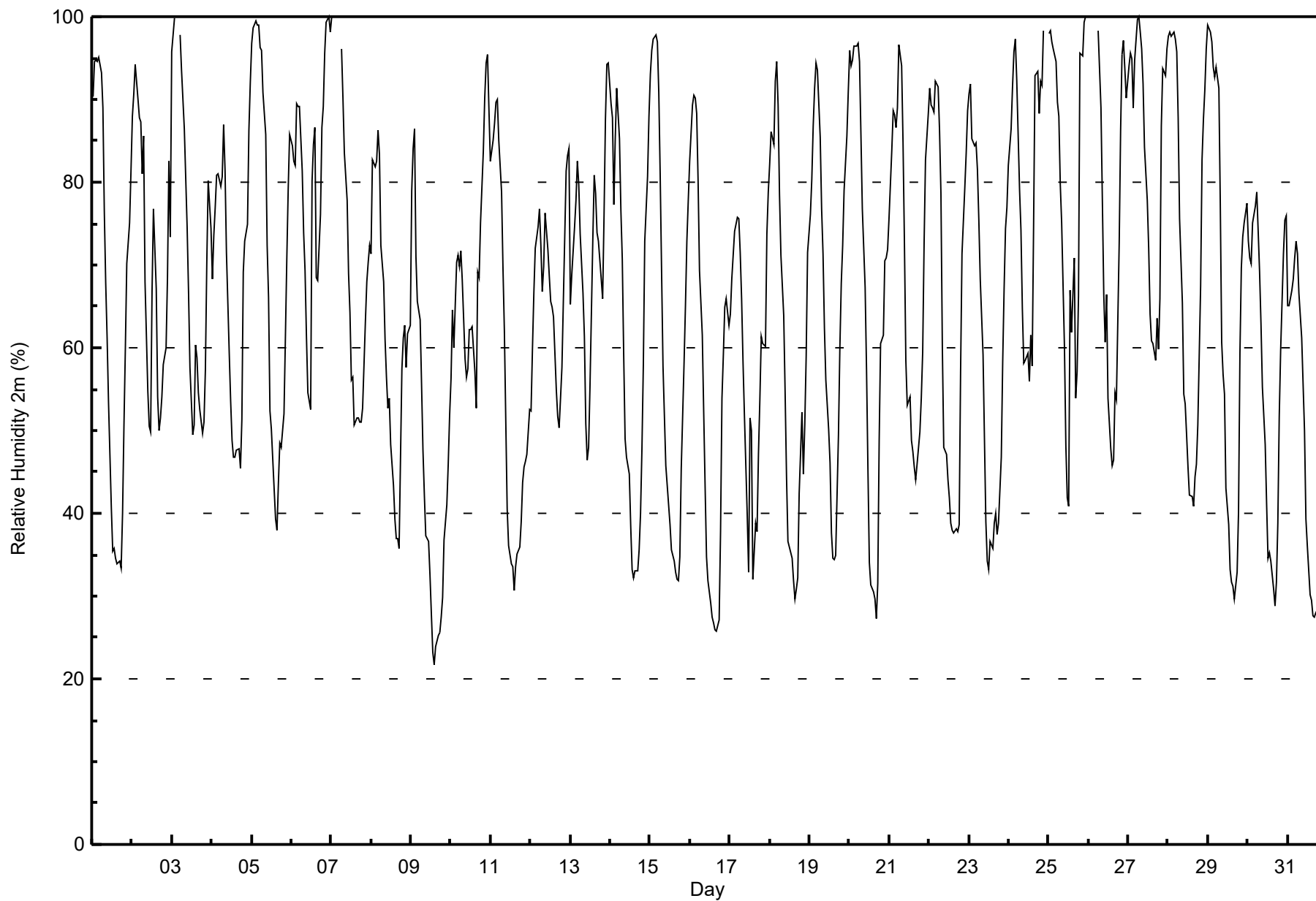
Janvier - July 2025

Maximum Value: 100.0 % on Jul 7 01:00																				Maximum Daily Average: 82.9 % on Jul 27										Hours in Service: 744			
Minimum Value: 21.6 % on Jul 9 15:00																				Minimum Daily Average: 45.1 % on Jul 9										Hours of Data: 729			
Maximum Diurnal Average: 87.4 % at hour 5																				Minimum Diurnal Average: 44.0 % at hour 16										Hours of Missing Data: 15			
Monthly Average: 65.59 %																				Percentiles: P ₁ = 26.9 P ₁₀ = 35.7 Q ₁ = 48.8 Median = 66.8 Q ₃ = 84.0 P ₉₀ = 94.1 P ₉₉ = 99.5										Hours of Calibration: 0			
																														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-Jul	90.4	94.5	94.7	94.6	95.0	93.2	89.1	76.5	67.7	61.3	53.3	40.7	35.4	35.8	34.6	33.9	34.3	33.3	40.0	50.8	60.0	70.2	75.0	81.4	64.0	95.0							
2-Jul	88.0	90.7	94.2	90.0	87.9	87.2	81.0	85.6	68.0	54.7	50.6	49.8	66.8	76.8	67.2	54.1	49.9	51.5	54.1	58.0	60.0	68.4	82.6	73.4	70.4	94.2							
3-Jul	95.8	99.9	OR	OR	OR	97.7	93.5	86.4	80.6	74.6	66.8	57.6	49.5	50.7	60.4	58.9	54.6	52.6	49.6	51.1	57.3	70.2	80.1	74.4	69.6	99.9							
4-Jul	68.2	73.5	77.0	80.9	81.0	79.4	80.6	87.0	81.5	71.5	59.3	53.5	48.8	46.8	46.9	47.7	47.9	45.4	51.3	69.1	72.9	74.9	86.2	92.1	67.6	92.1							
5-Jul	96.8	98.7	99.4	99.0	99.0	96.3	96.0	90.9	85.7	72.3	66.1	52.5	50.1	42.8	39.3	37.9	43.6	48.4	48.0	52.0	61.2	70.8	79.2	85.7	71.3	99.4							
6-Jul	84.4	82.6	82.0	89.5	89.2	89.1	81.3	73.9	69.3	61.4	54.6	52.6	80.2	84.7	86.6	68.5	68.2	76.1	86.5	89.1	95.6	99.4	100.0	98.1	80.9	100.0							
7-Jul	100.0	100.0	OR	OR	OR	OR	96.1	90.2	83.5	77.9	68.9	64.3	56.1	56.4	50.7	51.5	51.6	51.0	51.1	52.7	63.2	68.0	70.3	72.4	68.8	100.0							
8-Jul	71.3	82.7	81.9	82.6	86.2	83.4	72.3	68.0	61.0	56.5	52.7	53.8	48.2	43.4	39.3	37.0	37.0	35.7	57.5	61.2	62.7	57.6	61.8	62.8	60.7	86.2							
9-Jul	79.0	84.0	86.4	71.0	65.6	63.3	55.6	47.6	42.1	37.2	36.6	32.6	27.7	23.3	21.6	23.9	25.3	25.6	27.4	29.9	36.9	41.0	45.9	51.8	45.1	86.4							
10-Jul	56.2	64.5	60.0	70.3	71.2	69.9	71.7	68.1	58.7	56.5	57.5	62.2	62.1	62.5	57.1	52.8	69.2	68.5	75.1	83.8	90.1	94.4	95.5	88.7	69.4	95.5							
11-Jul	82.6	85.0	87.1	89.6	90.0	85.1	78.8	69.7	62.0	51.2	40.5	36.1	33.9	33.6	30.6	33.6	35.1	35.9	39.0	43.7	45.6	46.3	47.1	52.5	55.6	90.0							
12-Jul	52.4	59.9	66.5	72.0	74.5	76.8	72.4	66.8	69.9	76.3	71.9	68.6	65.7	64.9	63.7	54.9	51.7	50.4	53.8	57.6	73.5	81.3	83.2	84.0	67.2	84.0							
13-Jul	65.3	68.9	74.6	77.8	82.6	79.7	73.8	66.6	61.4	50.9	46.4	48.0	55.4	73.1	80.9	78.7	73.8	72.9	68.3	66.0	75.9	87.6	94.2	94.5	71.5	94.5							
14-Jul	89.5	87.8	77.3	85.4	91.3	85.3	76.6	70.7	59.1	49.1	46.8	44.8	38.5	33.2	32.3	33.1	33.1	35.6	40.1	47.8	58.0	72.8	80.7	88.0	60.7	91.3							
15-Jul	93.0	95.9	97.2	97.7	96.9	90.9	80.8	69.2	57.8	45.8	43.4	41.0	38.7	35.6	34.2	32.8	32.1	31.9	34.8	45.5	58.2	65.1	73.0	77.9	61.2	97.7							
16-Jul	82.5	89.4	90.5	90.2	88.2	80.1	69.4	61.6	52.3	43.2	34.7	31.9	29.2	27.5	26.8	26.0	25.8	27.1	37.7	53.8	59.1	64.9	65.9	62.8	55.0	90.5							
17-Jul	64.0	68.3	71.1	74.0	75.8	75.6	71.6	65.9	58.3	51.9	39.8	32.9	51.5	50.1	32.1	38.8	37.9	47.2	53.8	61.4	60.5	60.2	73.7	78.8	58.1	78.8							
18-Jul	82.2	86.1	84.6	92.1	94.6	89.4	78.5	71.2	63.9	54.5	44.4	36.6	36.0	34.5	31.8	29.7	30.8	32.2	42.3	52.1	44.7	50.7	59.0	71.6	58.1	94.6							
19-Jul	76.1	80.3	86.8	91.3	94.4	93.6	85.5	76.8	71.4	62.3	56.1	50.2	46.1	37.6	34.6	34.4	34.9	49.6	60.0	67.7	72.4	78.9	85.6	91.0	67.4	94.4							
20-Jul	95.9	94.1	94.8	96.5	96.4	96.8	94.5	85.7	76.8	67.3	57.2	45.3	34.0	31.4	30.6	29.7	27.4	31.5	48.8	60.6	61.6	70.6	70.8	71.9	65.4	96.8							
21-Jul	75.5	83.9	88.6	88.1	86.7	88.9	96.5	94.1	84.7	72.6	58.5	53.1	54.1	48.8	47.5	45.6	44.0	46.0	49.9	53.9	59.5	72.6	82.7	88.4	69.3	96.5							
22-Jul	91.3	89.3	89.0	88.4	92.2	91.6	86.3	78.6	60.1	48.0	47.2	44.1	41.8	38.8	38.0	37.6	38.1	37.8	38.6	57.0	71.4	79.4	83.6	88.7	64.9	92.2							
23-Jul	90.7	91.9	85.3	84.4	84.8	81.6	75.5	68.3	59.2	49.0	38.9	34.2	33.3	36.7	35.8	38.8	40.0	37.4	38.9	46.7	58.4	67.1	74.4	76.9	59.5	91.9							
24-Jul	82.0	86.5	91.5	95.8	97.2	92.3	79.2	74.2	64.7	58.2	58.5	59.3	55.9	61.5	57.9	74.6	92.8	93.3	88.2	92.2	91.7	98.3	OR	OR	79.4	98.3							
25-Jul	97.9	98.3	97.0	96.1	94.6	89.6	88.0	79.9	75.0	60.0	48.1	41.8	40.8	66.9	61.9	70.9	53.9	57.0	66.3	95.6	95.2	99.4	99.9	OR	OR	77.1	99.9						
26-Jul	100.0	OR	OR	OR	OR	OR	98.3	89.1	77.9	66.5	60.6	66.5	53.9	47.7	45.8	46.4	54.6	53.8	72.7	86.2	95.4	97.1	93.7	90.1	73.5	100.0							
27-Jul	94.1	95.5	94.9	89.0	94.7	99.6	99.9	98.1	96.1	91.9	84.2	77.8	72.0	64.0	60.8	60.6	58.5	63.6	59.9	66.0	86.9	93.7	92.9	96.2	82.9	99.9							
28-Jul	97.6	98.1	97.6	98.2	97.3	95.7	87.8	75.7	65.4	54.5	53.1	49.5	45.5	42.2	42.0	40.9	44.4	45.9	50.6	67.5	82.6	87.6	91.2	96.0	71.1	98.2							
29-Jul	99.0	98.1	97.0	93.9	92.7	93.8	91.4	77.5	60.7	56.8	54.3	43.1	38.7	33.2	31.8	31.2	29.6	32.9	40.1	59.3	69.7	73.4	75.1	77.4	64.6	99.0							
30-Jul	72.9	70.8	70.2	75.0	77.1	78.8	74.0	69.2	62.9	55.3	48.3	41.2	34.6	35.2	34.3	30.8	28.7	31.6	38.8	51.6	59.7	71.3	75.3	75.9	56.8	78.8							
31-Jul	65.1	65.1	67.0	68.4	70.8	72.9	71.4	66.6	61.2	55.6	50.1	39.3	36.2	30.2	29.4	27.6	27.4	28.0	28.3	45.1	47.4	44.3	46.9	59.9	50.2	72.9							
83.2 85.5 85.1 86.5 87.4 86.1 82.2 75.8 67.7 59.5 53.2 48.5 47.1 46.8 44.7 44.0 44.4 46.1 51.3 60.5 67.3 73.5 77.5 79.4																										Diurnal Average							
100.0 100.0 99.4 99.0 99.0 99.6 99.9 98.1 96.1 91.9 84.2 77.8 80.2 84.7 86.6 78.7 92.8 93.3 88.2 95.6 95.6 99.4 100.0 98.1																										Diurnal Maximum							
OR - Out of Range																																	



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 2m (RH2) - %
Janvier - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Speed 10m (WS10) - km/h

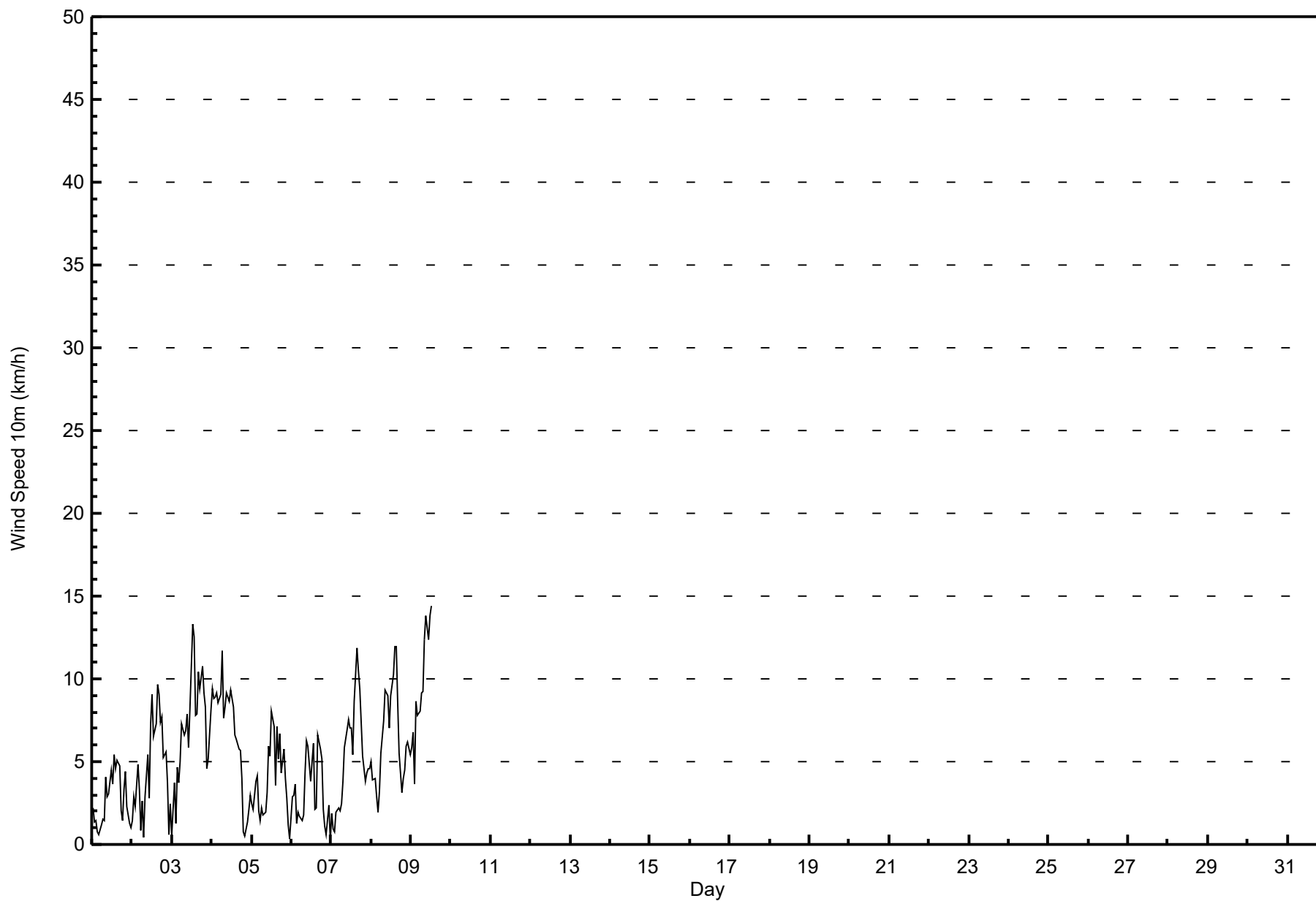
Janvier - July 2025

Maximum Speed: 14 km/h on Jul 9 13:00																	Maximum Daily Speed Average: 6.5 km/h on Jul 3										Hours in Service: 206	
Minimum Speed Value: 0 km/h on Jul 7 00:00																	Minimum Daily Speed Average: 1.1 km/h on Jul 6										Hours of Data: 205	
Maximum Diurnal Speed Average: 4.5 km/h at hour 10																	Minimum Diurnal Speed Average: 0.5 km/h at hour 19										Hours of Missing Data: 1	
Monthly Average Velocity: 2.4 km/h 217.8 deg																	Percentiles: P ₁ = 0 P ₁₀ = 1 Q ₁ = 2 Median = 5 Q ₃ = 8 P ₉₀ = 9 P ₉₉ = 14										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-Jul	SE2	SSE1	ESE1	S1	S1	WSW1	WNW2	SW1	SSW4	SSW3	ESE3	ENE5	ENE4	NE5	ENE5	E5	SE5	ESE2	SSW1	SSE3	SE4	SSE2	SSE1	SE1	ESE1.6	NE5		
2-Jul	SE1	SE3	SSE2	SSW5	SSE3	S1	S3	WSW0	SE3	SSE5	NNE3	N7	N9	NE6	E7	NE10	ENE9	ENE7	NE8	NNE5	NE6	NE4	SE1	SSW2	ENE2.7	NE10		
3-Jul	SW1	SSW4	WSW1	SW5	WSW4	SW5	WSW7	W7	W7	W8	W6	WSW8	W13	WSW13	W8	WSW8	SW10	SW9	WSW11	WSW9	W8	WNW5	S5	SW8	WSW6.5	W13		
4-Jul	SW9	SW9	SW9	SW9	SW9	WSW9	W12	W8	NW8	WNW9	NW9	NW9	WNW9	WNW8	NW7	NW6	NW6	NNW6	N4	SSE1	SE0	E1	SE2	SE3	W4.7	W12		
5-Jul	SSE2	SSE2	S4	S4	S2	SSW1	WSW2	W2	NNE2	E3	ENE6	E5	SE8	ESE7	SE4	S7	ESE5	ESE7	ESE4	SE6	SE4	SE3	E1	SSE0	SE2.8	SE8		
6-Jul	SE3	SE3	SE4	SSE1	SE2	SE2	S1	WSW2	S4	S6	S6	SW4	SW5	SW6	WNW2	WNW2	NNE7	NNE6	E5	E2	SSE1	NE1	NE2	S0	SSE1.1	NNE7		
7-Jul	S2	SSW1	ESE1	SSE2	S2	WSW2	SSW2	SSW4	SSW6	SSW7	SW8	SW7	SW7	WSW5	SW9	SSW12	S10	SSW9	SSW7	SSW5	S4	SSW4	SSW5	SSW5	SSW5.0	SSW12		
8-Jul	SSW5	SSW4	SSW4	S3	SSE2	S3	SSW6	S7	S9	S9	S9	S7	S9	S10	SSW12	S12	S9	SW5	SE3	SE4	SSE4	SE6	SSE6	WSW5	S6.0	S12		
9-Jul	WNW6	W7	WSW4	W9	W8	WSW8	WSW9	W9	WSW12	W14	WSW12	SW14	WSW14	C	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	---	WSW14		
10-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	---	---		
11-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	---	---		
12-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	---	---		
13-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	---	---		
14-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	---	---		
15-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	---	---		
16-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	---	---		
17-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	---	---		
18-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	---	---		
19-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	---	---		
20-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	---	---		
21-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	---	---		
22-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	---	---		
23-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	---	---		
24-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	---	---		
25-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	---	---		
26-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	---	---		
27-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	---	---		
28-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	---	---		
29-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	---	---		
30-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	---	---		
31-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	---	---		
SSW2.2SSW2.5SSW2.4SSW3.5 SW2.7 SW3.1WSW4.1WSW3.7 SW3.7 SW4.5 SW2.8WSW2.5WSW4.3WSW2.4 SW2.2SSW3.0 SSE2.3 S1.0 SSE0.5 S1.8 SSE1.4 SSE1.3 SSE2.3SSW2.5																									Diurnal Average			
SW9 SW9 SW9 SW9 SW9 WSW9 W12 W9WSW12 W14WSW12 SW14WSW14WSW13 SSW12 S12 S10 SW9WSW11 WSW9 W8 SE6 SSE6 SW8																									Diurnal Maximum			
C - Calibration NS - Not in Service																												
All monthly, daily, and diurnal averages have been calculated using vector methods																												



Wood Buffalo Environmental Association
Hourly Averages

Wind Speed 10m (WS10) - km/h
Janvier - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 10m (WS10) - km/h
Janvier - July 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	116	56.59	56.59
6 - 11	78	38.05	94.63
12 - 19	11	5.37	100.00
20 - 28	0	0.00	100.00
29 - 38	0	0.00	100.00
> 38	0	0.00	100.00

Total Number of Valid Hours: 205

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Wind Speed 10m (WS10) - km/h
Janvier - July 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	3	4	3	7	6	21	16	16	17	7	10	1	4	0	0	116
6 - 11	2	2	4	3	1	2	3	1	12	5	13	8	10	5	6	1	78
12 - 19	0	0	0	0	0	0	0	0	1	2	1	4	3	0	0	0	11
20 - 28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	3	5	8	6	8	8	24	17	29	24	21	22	14	9	6	1	205

Total Number of Valid Hours: 205

Total Number of Hours: 744



Wind Speed 10m (WS10) - km/h





Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

Wind Speed 10m (WS10) - km/h

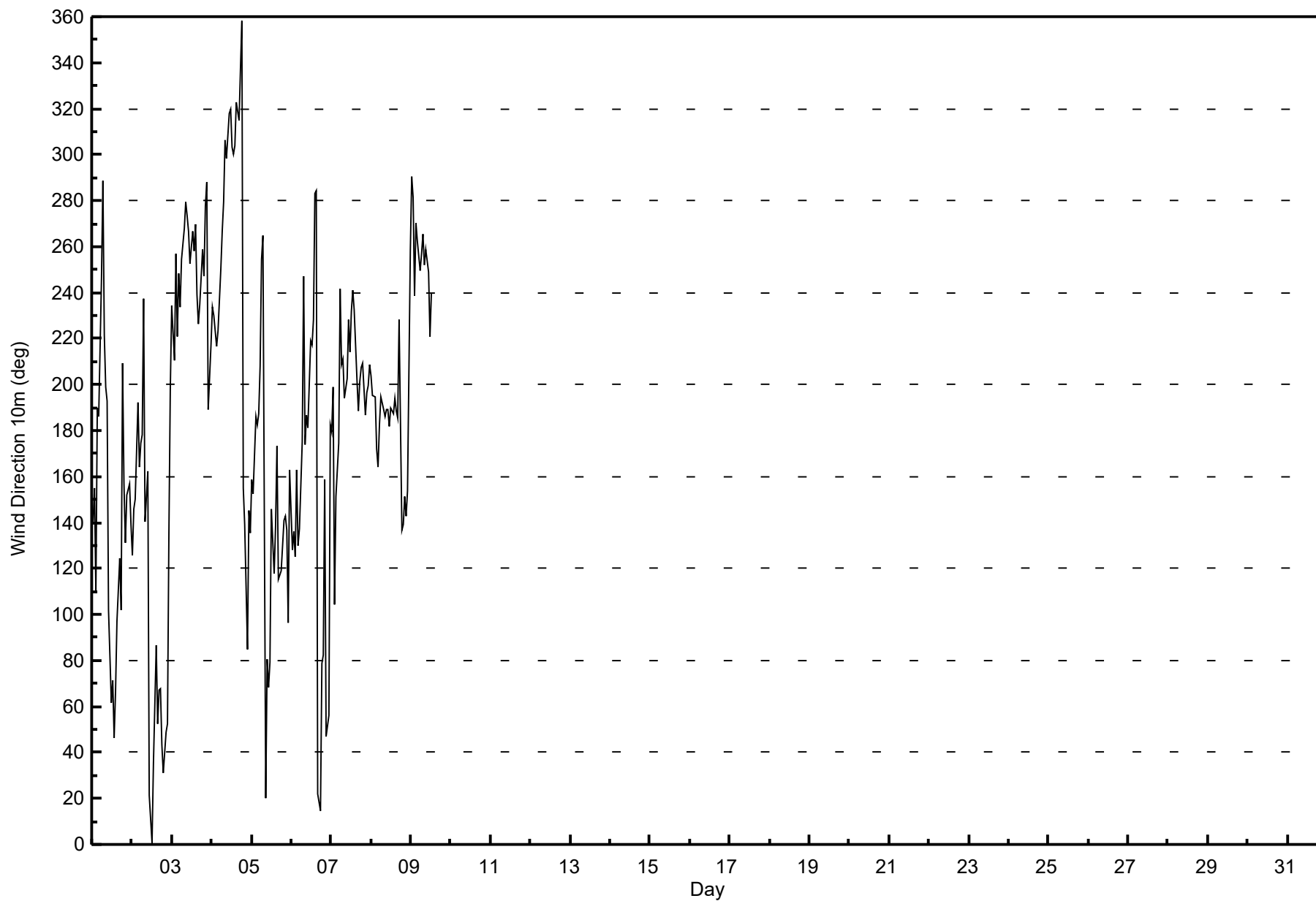
Janvier - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0														Hours in Service: 206											
Maximum Value: 7 km/h on Jul 9 13:00														Hours of Data: 205											
Minimum Value: 0 km/h on Jul 6 05:00														Hours of Missing Data: 1											
Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 1 Median = 2 Q ₃ = 3 P ₉₀ = 4 P ₉₉ = 6														Hours of Calibration: 1											
														Percent Operational Time: 100.0											
Day	Hourly Period Ending At (MST)																								Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Maximum
1-Jul	1	1	1	1	1	1	1	1	2	1	2	2	2	3	2	3	2	2	2	1	1	1	1	1	3
2-Jul	1	1	1	1	1	1	2	1	1	2	3	3	5	3	3	3	3	3	3	2	2	2	1	5	5
3-Jul	3	3	2	2	2	2	3	3	3	3	3	4	6	6	4	3	4	4	5	4	5	3	2	3	6
4-Jul	3	3	3	3	3	4	5	4	4	5	5	4	4	4	3	3	3	3	2	1	1	1	1	1	5
5-Jul	1	1	1	1	1	1	1	1	1	2	2	2	5	4	2	3	2	3	2	2	1	1	1	1	5
6-Jul	1	2	1	1	0	1	1	1	1	2	3	2	4	3	1	1	3	3	2	2	1	1	1	1	4
7-Jul	1	1	1	1	1	1	1	1	2	3	3	3	3	3	4	4	4	4	3	2	1	1	1	1	4
8-Jul	1	1	1	1	1	1	2	2	4	3	3	2	3	4	4	5	3	3	1	1	1	1	2	5	5
9-Jul	3	3	2	4	3	3	4	4	5	6	6	6	7	C	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	7
10-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
11-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
12-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
13-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
14-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
15-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
16-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
17-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
18-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
19-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
20-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
21-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
22-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
23-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
24-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
25-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
26-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
27-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
28-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
29-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
30-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
31-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
Diurnal Maximum																									
C - Calibration NS - Not in Service																									



Wood Buffalo Environmental Association
Hourly Averages

Wind Direction 10m (WD10) - deg
Janvier - July 2025





Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg

Janvier - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																			Hours in Service: 206						
Maximum Value: 102 deg on Jul 3 01:00																			Hours of Data: 205						
Minimum Value: 12 deg on Jul 2 04:00																			Hours of Missing Data: 1						
Percentiles: P ₁ = 13 P ₁₀ = 22 Q ₁ = 27 Median = 37 Q ₃ = 57 P ₉₀ = 72 P ₉₉ = 95																			Hours of Calibration: 1						
																			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-Jul	21	70	55	70	73	62	42	75	61	58	65	49	69	45	56	57	52	80	95	38	13	49	65	80	95
2-Jul	61	34	40	12	22	63	64	94	47	40	95	29	38	47	34	30	32	32	26	22	25	44	95	69	95
3-Jul	102	70	87	29	41	36	26	37	42	40	56	44	33	33	37	36	34	33	32	27	48	57	19	26	102
4-Jul	28	28	28	27	29	30	30	39	48	55	57	51	54	52	52	54	58	57	44	77	95	61	24	18	95
5-Jul	25	26	17	24	68	73	49	59	79	61	36	44	46	46	72	42	25	24	36	23	21	29	72	99	99
6-Jul	41	57	13	72	15	15	61	59	34	33	42	58	46	32	74	70	27	26	34	84	47	67	28	83	84
7-Jul	51	65	62	28	34	26	38	36	31	38	37	44	43	43	44	29	22	26	25	23	18	13	16	17	65
8-Jul	15	17	15	22	26	33	22	19	21	23	26	24	23	27	28	29	27	32	22	20	23	19	24	75	75
9-Jul	54	38	48	32	33	31	32	35	34	34	35	31	38	C	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	54
10-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
11-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
12-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
13-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
14-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
15-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
16-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
17-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
18-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
19-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
20-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
21-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
22-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
23-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
24-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
25-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
26-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
27-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
28-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
29-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
30-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
31-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
Diurnal Maximum																									
C - Calibration NS - Not in Service																									



Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Speed 20m (WS20) - km/h

Janvier - July 2025

Maximum Speed: 26 km/h on Jul 9 16:00																		Maximum Daily Speed Average: 15.5 km/h on Jul 9										Hours in Service: 744	
Minimum Speed Value: 0 km/h on Jul 19 06:00																		Minimum Daily Speed Average: 0.5 km/h on Jul 22										Hours of Data: 740	
Maximum Diurnal Speed Average: 5.2 km/h at hour 6																		Minimum Diurnal Speed Average: 1.1 km/h at hour 20										Hours of Missing Data: 4	
Monthly Average Velocity: 3.3 km/h 241.7 deg																		Percentiles: P ₁ = 1 P ₁₀ = 2 Q ₁ = 4 Median = 7 Q ₃ = 10 P ₉₀ = 13 P ₉₉ = 21										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-Jul	SSW1	S2	S2	SE1	SE1	SSW1	WSW1	SW2	SSW5	SW3	ESE4	ENE6	E4	ENE7	ENE6	ESE6	SE6	ESE2	SW1	SSW5	SE7	SSE4	S2	SSE1	SE2.1	SE7			
2-Jul	WNW0	SE3	S4	SW8	SSW6	SSW2	S5	WNW2	SSE3	SSE6	NNE4	N10	N13	NE8	E9	ENE12	ENE11	ENE10	ENE10	NE7	ENE8	E6	E2	SSW3	ENE3.1	N13			
3-Jul	WNW2	SW5	W2	SW7	W6	WSW7	W10	W10WNW12	WNW12	W8	W11	W20	W18	W12WSW10	SW13WSW13	W15WSW12	WNW13	WNW8	SSW8	SW12	W9.5	W20							
4-Jul	WSW13WSW12	WSW12	SW12	SW12	W13	W17WNW12	NW14	NW16	NW14	NW15	NW15	NW14	NW11	NW10	NW10	NNW9	N6	NNW3	NNW4	N3	NW3	S2	WNW8.4	W17					
5-Jul	SSW4	S4	SSW6	SSW7	SSW5	SSW3	WSW2	W2	NNE2	E4	E7	E7	SSE11	SE9	SE4	S9	ESE7	SE9	ESE6	SE8	SE7	SE6	SE2	SSW1	SSE4.0	SSE11			
6-Jul	SSE4	S4	SE5	S3	S3	S2	S2	WSW2	S5	SSW7	S7	SW4	WSW7	WSW9	WNW4	WNW3	NNE8	NNE7	E7	E3	UO	N1	NE4	N1	S1.4	WSW9			
7-Jul	SSW2	SW2	SE0	SE2	SSE3	WSW2	SW3	SW5	SSW7	SW8WSW10	SW9	WSW9	WSW7WSW12	SSW15	SSW13	SSW12	SW11	SW8	SSW7	SSW8	SSW8	SSW8	SSW8	SSW8	SSW8	SSW8			
8-Jul	SSW8	SSW8	SSW7	SSW6	SSW4	SSW6	SSW8	SSW10	SSW12	SSW11	SSW12	S10	SSW12	SSW13	SSW15	SSW15	SSW11	SW7	SSW4	S6	S8	SSE9	SSE9	W9	SSW8.7	SSW15			
9-Jul	WNW10WNW12	W6WNW13	W11	W12	W13	W14	W17	W20WSW18	SW18WSW21	WSW23	W26	W26	W25WNW23	WNW21WNW18	WNW11	W9	SW9	SW11	W15.5	W26									
10-Jul	SW8	SSW9	SW10	SSW7	SSW11	SW12	SW11	SW11	WNW9WNW13	NW13	NW11	NNW12WNW11	NW10	NW11	NNW5	ENE5	ESE3	SSE2	S4	S5	SSW7	SSW10	WSW5.0	NW13					
11-Jul	SSW10	SSW10	SSW11	SSW11	SSW11	SSW11	SW11	SW12	SW12	SW15	SW20	SW22WSW19	SW20	SW22WSW20	SW18	SW18	SW13	WSW9	SW11WSW12	WSW11	WSW9	SW13.8	SW22						
12-Jul	W18WSW12	SW10	SW9	SW8	SW10	W13	W18WNW23	WNW18	NW16	NW13	NW9WNW10	WNW11WNW15	WNW12WNW11	WNW9	WNW6	WSW2	SSW3	SSW4	W5	W10.0	WNW23								
13-Jul	NNW9	W6	WSW7	SW7	SSW7	WSW6	W6WNW10	NNW8	NNW10	NNW10	N10	NW7	W8	NNW8	NNW6	NNW9	NW6	NW6	NNW5	N3	N3	NNW4	N4	NW5.2	NNW10				
14-Jul	NNE6	N5	NNE6	NNE4	NNE4	NNE4	NNE6	NNE6	NNE9	N12	N12	N13	NNE16	N14	N12	N10	N11	N9	NNE10	N8	NNE6	NNE3	N3	SSW3	N7.7	NNE16			
15-Jul	SSW4	SSW5	SSW5	SSW7	SSW7	SSW7	SSW5	S5	S6	S5	SSW5	S5	WSW6	WNW3	SW1	E1	SSE3	SE5	E7	ESE7	SE7	SE7	SSE2	SSE2	S3.7	SSW7			
16-Jul	S2	S3	SSW5	SSW8	SSW7	SSW8	SSW7	SW5	SW6	WSW5	WNW7	SW3	SE5	ESE9	SE9	E9	ENE6	ENE6	ESE3	E2	E4	SSW6	SSW9	SW10	S3.3	SW10			
17-Jul	SSW10	SSW10	SSW10	SSW11	SSW9	SSW10	SW9	SW7	S7	SSW4	ESE4	NNW2	WNW9	WSW9	W8	N2	WNW2	W3	SW2	SE5	SSE8	S7	SSW6	S5	SSW5.2	SSW11			
18-Jul	S6	S6	SSE8	S7	SW6	SSW6	SSW5	SSW4	S4	SSE4	SSE8	SE9	ESE7	E5	ESE9	ESE10	SE9	SE7	SE5	ESE7	SE10	SE8	SSE6	SE3	SSE5.7	SE10			
19-Jul	UO	NE2	NE2	NNE4	NE3	W0	NNW1	N1	NW2	NE2	ENE4	ENE5	SSE5	SSW3	E4	E4	ENE4	NNE5	NE4	ENE4	SSW4	SW1	NNE2	SSE1	ENE1.6	SSE5			
20-Jul	S5	SSW5	SW4	S5	SSW4	SSE3	SSW4	SSW4	SSW4	WNW1	NE5	ENE7	ESE3	SE5	ENE6	ENE6	SSW1	NNW3	NNW2	E2	ESE7	N3	N7	N8	ESE1.2	N8			
21-Jul	NNW7	N10	N11	N13	N16	N13	N14	N10	N14	N13	N14	NNW14	N13	NNW13	N15	N14	N12	N11	N7	N7	NNE7	N3	WSW2	SW3	N10.3	N16			
22-Jul	SSW5	ESE0	SSW3	SSW4	SSW7	SSW8	WSW3	SW3	NW6	N9	NNE6	N3	S1	N6	NW3	NE6	NE3	NNE6	NE3	SE2	SSE3	S2	S2	SSW6	W0.5	N9			
23-Jul	S4	SSW8	SSW10	SSW10	SSW10	SW9	SW8	SW6	SSW7	S6	SW6	W6	W7	N3	SW8	WSW6	WSW6	W7	W5	SW7	SW7	SSW6	SSW6	SSW7	SW6.0	SSW10			
24-Jul	S6	S5	S4	SSW2	SE2	UO	UO	NNW3	ESE3	S11	SSE10	SE9	SE7	S12	S11	SSW2	S3	SSE1	SSE5	S5	S6	WNW0	S2	SW8	S4.7	S12			
25-Jul	SW8	SSW9	SSW9	SSW10	SSW11	SW11	SW8	SW9	SW11WSW14	WSW16	W17	W14	SW11	W14WSW12	W16	W14WNW12	W3	NNW6	N6	N5	WNW4	WSW8.7	W17						
26-Jul	W3	W5	SW6	SW6	SW6	SSW6	SSW6	SW6	SW6	SSW6	SW9	SW11WNW11	W11	W8	NNW12	N5	NNW2	NNE6	ESE3	SSE1	NNE2	NNE7	NNE7	W3.3	NNW12				
27-Jul	NNE4	NE3	NNE5	NNE7	NNE4	N4	NNW4	N6	N7	N6	N6	N4	NNW4	WNW6	NNW7	N7	NNW7	NNW5	NNW5	NNW3	NW1	SW3	SW1	SSW5	NNW3.8	NNW7			
28-Jul	SSW5	SSW6	SSW7	SSW8	SSW8	SSW8	SW6	SSW5	SSW4	SW6	SSW6	WSW5	W3	NNW1	N2	SW6	NE1	SW4	SW4	SW3	S4	E1	SSE1	WSW1	SSW3.7	SSW8			
29-Jul	SSW4	SSW6	SSW7	SSW7	SSW7	SW1	SSW6	SSW4	WSW5	SW7	SW9	WSW9	WSW8	SW6	W3	NNW3	SW4	SW5	SW3	SSE5	S6	S5	SSW6	SSW8	SW5.1	WSW9			
30-Jul	SSW10	SSW10	SSW11	SSW9	SSW10	SSW10	SW6	SW7	SW9WSW11	WSW11WSW11	WSW9	WSW8	SW7	SW7	SW5	WSW5	ENE3	ESE5	SE6	SSE6	SSW6	SSW8	SW6.8	WSW11					
31-Jul	SSW11	SSW11	SSW12	SSW12	SSW12	SW9	SSW9	SW9	SW7	SW9WSW10	WSW12	WSW7	WSW9	SW10WSW11	WSW9	SSW9	WSW6	SW4	SSW9	SSW10	SSW11	SSW8	SW9.0	SSW12					
SW4.0 SW4.3 SW4.7 SW5.1 SW5.0 SW5.2WSW5.0WSW4.5WSW4.2 W4.7 W4.1 W3.9 W4.7 W4.4 W3.8 W3.1 W2.5 W2.5WNW1.5 SW1.1 S2.0SSW2.1SSW2.5 SW3.8 W18WSW12WSW12WNW13 N16 N13 W17 W18WNW23 W20 SW20WSW22WSW21WSW23 W26 W26 W25WNW23WNW21WNW18WNW13WSW12WSW11 SW12																								Diurnal Average	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

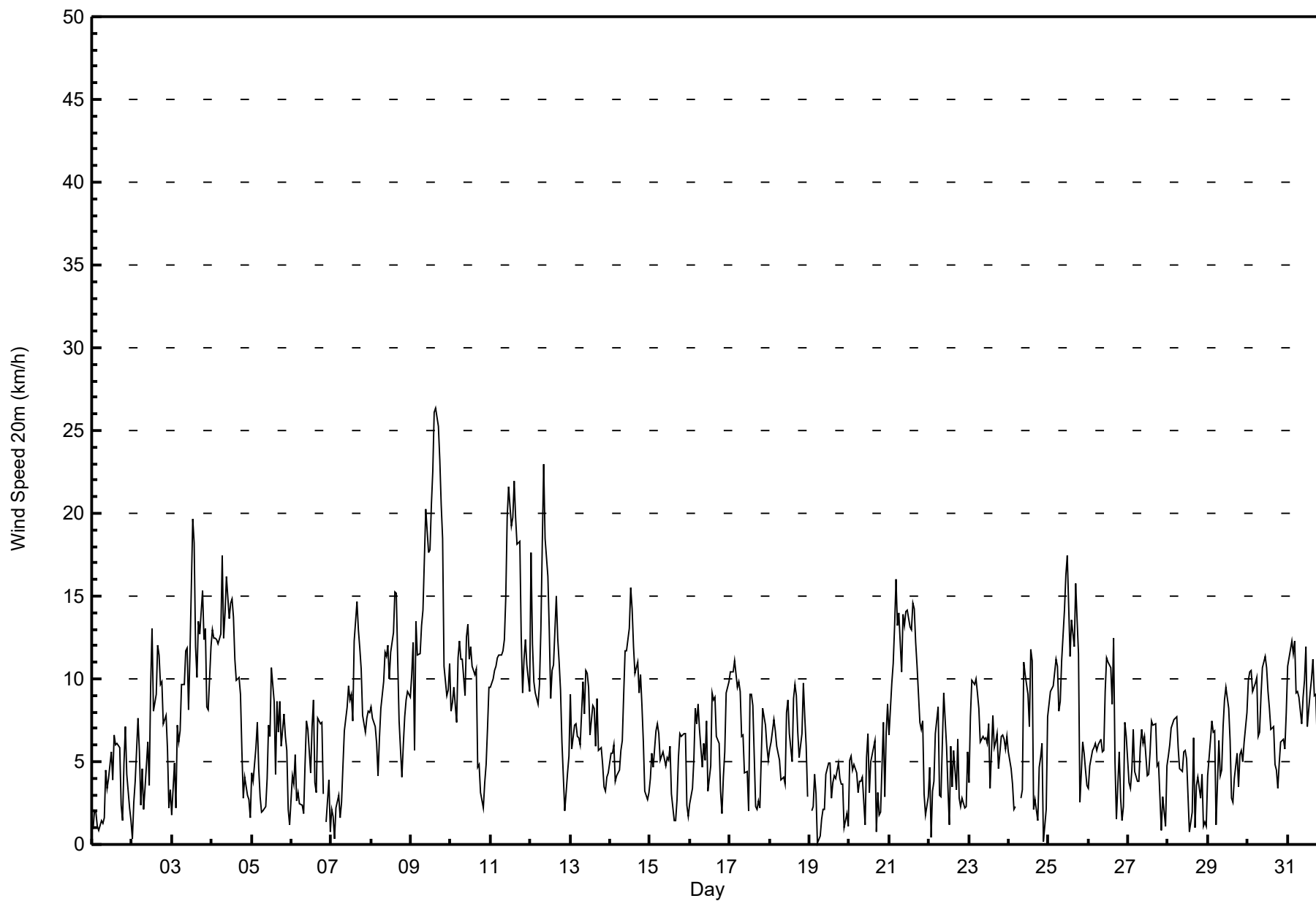
Janvier - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																	Hours in Service: 744								
Maximum Value: 10 km/h on Jul 9 15:00																	Hours of Data: 740								
Minimum Value: 0 km/h on Jul 24 02:00																	Hours of Missing Data: 4								
Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 1 Median = 2 Q ₃ = 3 P ₉₀ = 5 P ₉₉ = 7																	Hours of Calibration: 0								
																	Percent Operational Time: 99.5								
Day	Hourly Period Ending At (MST)																								Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Maximum
1-Jul	1	2	1	1	1	1	1	2	3	2	2	2	3	3	2	3	2	2	3	2	1	2	1	2	3
2-Jul	1	1	2	1	2	2	2	2	2	3	4	3	7	3	3	3	4	3	3	2	2	2	2	8	8
3-Jul	6	4	3	2	2	2	3	3	4	4	3	4	6	6	5	4	5	5	5	4	7	4	2	3	7
4-Jul	4	4	4	4	4	5	5	5	5	6	5	5	6	5	4	4	4	4	3	2	2	2	1	1	6
5-Jul	2	1	2	2	2	2	2	1	1	2	2	2	5	5	3	4	2	3	2	2	1	1	2	2	5
6-Jul	2	2	1	2	0	1	1	1	2	2	3	2	5	4	1	1	3	3	3	2	UO	1	1	2	5
7-Jul	2	1	1	1	1	1	1	1	2	3	3	3	3	3	5	4	4	5	4	2	1	1	1	1	5
8-Jul	1	1	1	1	1	2	2	2	4	4	4	3	4	4	5	5	4	3	1	1	2	2	2	7	7
9-Jul	4	4	2	5	4	3	5	4	6	6	6	6	7	9	10	9	9	8	7	7	3	2	2	3	10
10-Jul	3	2	3	2	2	3	3	3	4	5	5	5	6	4	4	4	4	2	1	1	1	1	1	1	6
11-Jul	1	1	2	2	2	3	3	3	4	5	7	7	7	7	7	7	7	6	4	3	3	4	4	3	7
12-Jul	7	4	3	3	2	3	4	6	8	6	7	5	4	4	4	6	5	5	3	2	1	2	1	3	8
13-Jul	4	2	2	2	2	2	2	3	3	4	4	4	4	2	3	2	3	2	2	2	1	1	1	1	4
14-Jul	1	2	2	1	1	1	2	2	4	4	4	5	5	5	5	4	4	4	4	3	2	1	1	2	5
15-Jul	1	1	1	1	1	1	1	1	2	2	3	3	3	3	3	2	2	2	2	1	1	2	1	1	3
16-Jul	1	2	2	1	1	1	2	1	2	2	3	3	4	3	4	3	3	2	1	2	1	3	2	2	4
17-Jul	2	1	1	2	1	2	2	2	2	2	2	2	3	3	3	4	5	2	1	2	2	2	1	1	5
18-Jul	1	1	2	1	1	1	1	1	1	2	4	3	3	3	3	3	3	2	1	1	3	2	2	2	4
19-Jul	UO	1	2	2	2	1	1	1	1	1	1	2	2	2	2	2	1	1	2	2	2	2	1	1	2
20-Jul	1	1	1	1	2	2	1	1	2	1	2	2	3	2	3	2	2	2	2	2	1	3	2	2	3
21-Jul	3	3	3	5	5	5	5	3	5	5	5	5	5	5	6	5	5	4	3	3	2	2	1	3	6
22-Jul	1	2	2	1	2	2	1	1	3	3	3	3	3	4	2	3	2	3	3	1	1	1	1	1	4
23-Jul	2	2	2	1	1	2	3	2	2	2	3	3	3	4	3	2	2	2	2	2	1	1	1	1	4
24-Jul	1	0	1	1	2	UO	UO	1	4	4	3	3	3	4	4	3	2	2	2	3	2	2	2	4	4
25-Jul	2	1	2	2	2	3	2	2	4	5	6	6	6	6	5	6	5	5	5	1	4	2	1	2	6
26-Jul	1	1	1	1	1	1	1	2	2	2	5	4	4	3	5	6	3	3	4	2	2	2	3	2	6
27-Jul	1	2	1	2	3	1	2	2	3	2	3	2	2	3	3	3	3	2	2	1	1	1	1	1	3
28-Jul	1	1	1	2	1	1	2	1	1	2	2	3	3	2	3	3	3	2	1	2	1	1	1	1	3
29-Jul	2	1	1	1	1	2	3	2	2	2	3	3	3	4	3	4	3	2	1	1	1	1	1	2	4
30-Jul	1	2	2	2	2	2	2	2	3	3	4	4	4	5	3	3	3	2	2	1	1	1	1	2	5
31-Jul	2	2	2	2	2	2	2	3	2	3	3	4	5	4	4	4	4	4	2	1	2	2	2	1	5
7 4 4 5 5 5 5 6 8 6 7 7 7 9 10 9 9 8 7 7 7 4 4 8																									
Diurnal Maximum																									
UO - Unstable Operation																									



Wood Buffalo Environmental Association
Hourly Averages

Wind Speed 20m (WS20) - km/h
Janvier - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 20m (WS20) - km/h
Janvier - July 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	267	36.08	36.08
6 - 11	358	48.38	84.46
12 - 19	100	13.51	97.97
20 - 28	15	2.03	100.00
29 - 38	0	0.00	100.00
> 38	0	0.00	100.00

Total Number of Valid Hours: 740

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Wind Speed 20m (WS20) - km/h
Janvier - July 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	18	15	9	6	12	10	15	20	35	45	26	12	11	10	4	19	267
6 - 11	21	16	3	12	7	11	16	11	17	96	60	30	18	15	11	14	358
12 - 19	17	1	0	1	0	0	0	0	1	12	12	14	17	12	9	4	100
20 - 28	0	0	0	0	0	0	0	0	0	0	3	4	5	3	0	0	15
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	56	32	12	19	19	21	31	31	53	153	101	60	51	40	24	37	740

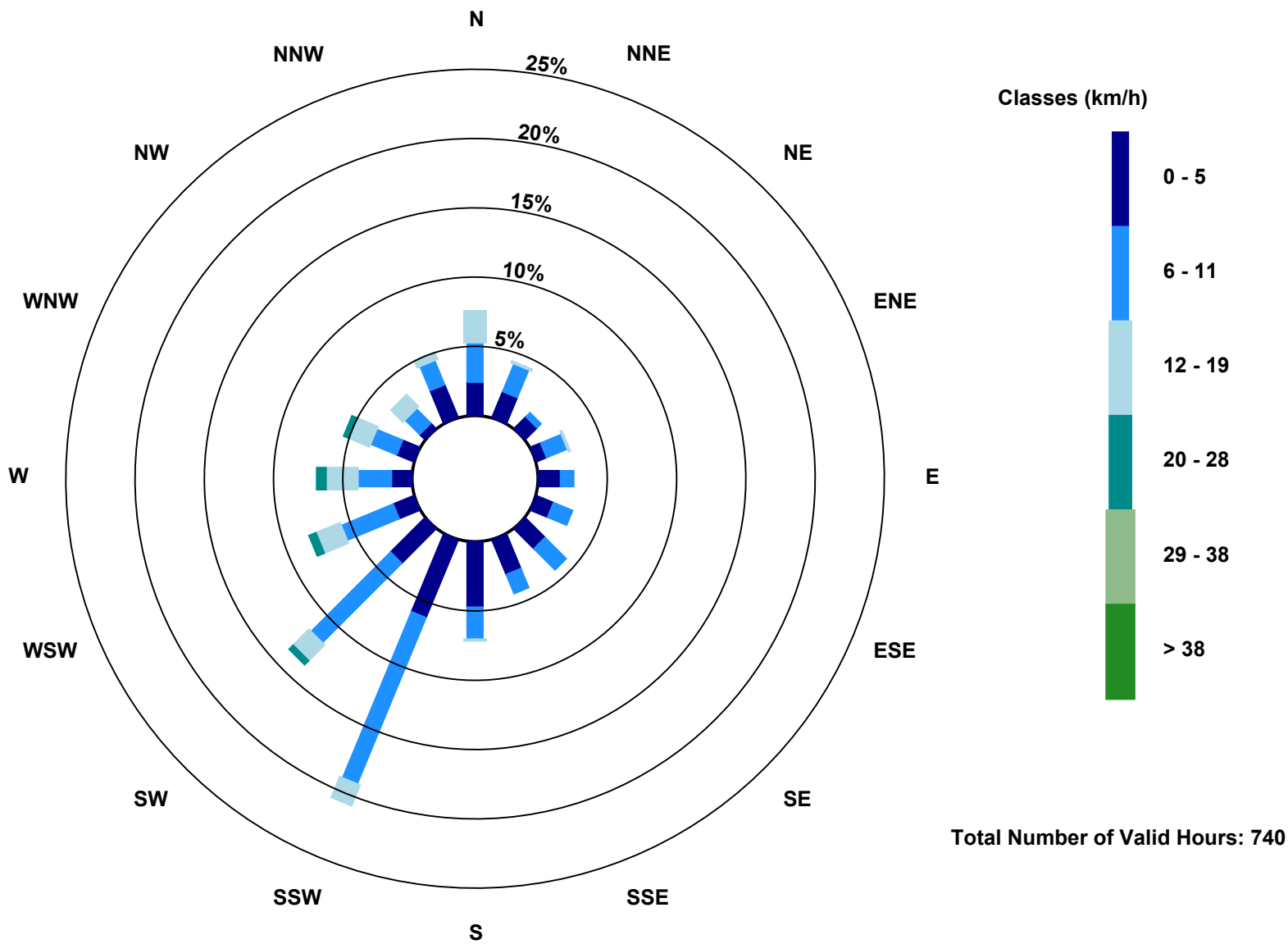
Total Number of Valid Hours: 740

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

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





Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Direction 20m (WD20) - deg

Janvier - July 2025

Direction of Maximum Speed: 270 deg on Jul 9 16:00																					Hours in Service:		744		
Direction of Maximum Daily Speed Average: 267.1 deg on Jul 9																					Hours of Data:		740		
Direction of Minimum Speed: 268 deg on Jul 19 06:00										Direction of Minimum Daily Speed Average: 0.5 deg on Jul 22											Hours of Missing Data:		4		
Monthly Average Direction: 241.7 deg																					Percent Operational Time:		99.5		
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-Jul	196	190	179	143	138	209	253	227	212	214	114	75	81	59	74	105	126	108	216	194	142	154	181	153	134.6
2-Jul	299	134	184	214	194	213	189	302	147	168	28	9	1	43	90	67	77	76	60	49	67	80	85	203	74.1
3-Jul	294	220	265	230	269	249	263	279	294	285	279	267	277	269	279	250	236	246	267	257	288	300	205	231	263.9
4-Jul	243	237	238	229	233	261	278	293	315	307	316	320	311	311	312	325	319	332	1	335	335	1	321	181	292.4
5-Jul	193	188	199	200	205	197	247	262	27	90	81	90	148	125	142	177	121	124	122	146	146	139	129	200	146.9
6-Jul	164	178	143	185	180	185	190	249	180	193	187	227	239	238	299	285	30	25	85	89	UO	8	50	8	185.6
7-Jul	198	225	124	142	158	239	214	224	208	215	240	230	243	254	240	211	197	213	217	224	199	205	205	213	217.5
8-Jul	210	205	204	197	205	196	197	195	193	197	198	191	199	196	200	195	195	234	200	182	184	159	158	269	197.3
9-Jul	301	292	260	282	275	261	269	275	262	268	257	232	249	254	263	270	274	283	284	282	286	263	227	231	267.1
10-Jul	229	207	234	197	203	222	229	228	286	302	316	317	328	299	313	305	345	67	102	161	173	183	201	208	258.1
11-Jul	209	209	212	211	212	212	215	223	231	235	234	236	240	235	232	237	231	236	229	242	236	240	257	239	230.2
12-Jul	274	255	235	231	231	234	264	281	287	296	307	308	317	289	283	290	298	293	295	294	257	205	207	273	278.9
13-Jul	333	260	241	235	210	249	265	302	327	337	327	356	309	271	335	347	348	313	321	342	2	10	344	359	313.2
14-Jul	17	9	13	23	27	21	14	15	16	6	0	2	14	6	3	349	359	357	23	7	19	27	1	200	8.2
15-Jul	193	195	196	204	205	207	205	188	178	185	200	182	242	295	219	95	167	140	95	113	126	135	164	149	177.9
16-Jul	170	189	196	203	201	203	205	220	231	240	284	226	136	119	124	80	67	69	104	101	93	210	202	215	179.5
17-Jul	206	207	208	209	210	208	214	216	187	199	118	328	291	249	263	349	302	263	218	145	155	183	206	188	211.6
18-Jul	173	172	153	180	216	202	195	201	188	165	147	133	116	89	121	122	145	146	138	122	128	139	148	146	148.9
19-Jul	UO	39	34	31	34	268	343	350	307	44	77	67	167	203	81	94	70	21	35	63	206	217	15	155	60.9
20-Jul	189	194	214	183	205	168	213	207	192	285	56	72	116	125	64	70	197	345	338	86	102	359	10	3	111.0
21-Jul	347	7	3	1	1	0	356	360	1	359	356	343	358	348	6	358	358	358	357	1	13	6	240	218	357.8
22-Jul	204	116	213	206	199	206	240	231	304	349	13	349	183	6	307	40	34	31	49	129	163	178	176	197	274.5
23-Jul	186	202	207	208	210	215	216	215	197	190	234	270	267	352	233	243	254	276	266	236	221	203	203	200	223.5
24-Jul	189	173	179	211	136	UO	UO	338	115	181	167	144	142	184	169	199	187	160	157	187	181	301	169	221	173.9
25-Jul	233	207	210	212	211	220	225	231	229	247	255	264	259	232	259	244	266	271	288	272	348	349	358	289	249.2
26-Jul	272	261	223	227	219	207	213	220	227	197	230	234	283	263	265	330	3	348	28	110	160	14	17	17	259.3
27-Jul	18	40	29	16	22	353	343	1	4	349	353	2	331	296	327	350	329	336	343	341	310	220	221	211	347.4
28-Jul	203	192	200	202	203	208	219	208	197	230	213	258	264	342	2	217	52	226	230	214	177	83	148	242	211.9
29-Jul	195	200	209	207	208	221	196	192	239	228	225	237	255	217	269	345	225	233	214	168	179	185	197	201	213.9
30-Jul	207	208	211	213	209	202	214	225	235	239	244	240	251	237	225	234	231	240	66	107	140	163	204	207	217.6
31-Jul	207	208	208	208	209	218	213	221	217	230	239	257	245	242	235	257	246	201	244	219	201	203	205	211	222.0
228.5 216.9 213.8 217.0 216.7 224.4 237.4 251.0 255.6 259.3 264.5 271.0 272.0 261.2 263.9 273.8 274.2 278.2 291.4 216.1 176.7 193.8 204.6 222.5																									
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 20m (WD20) - deg

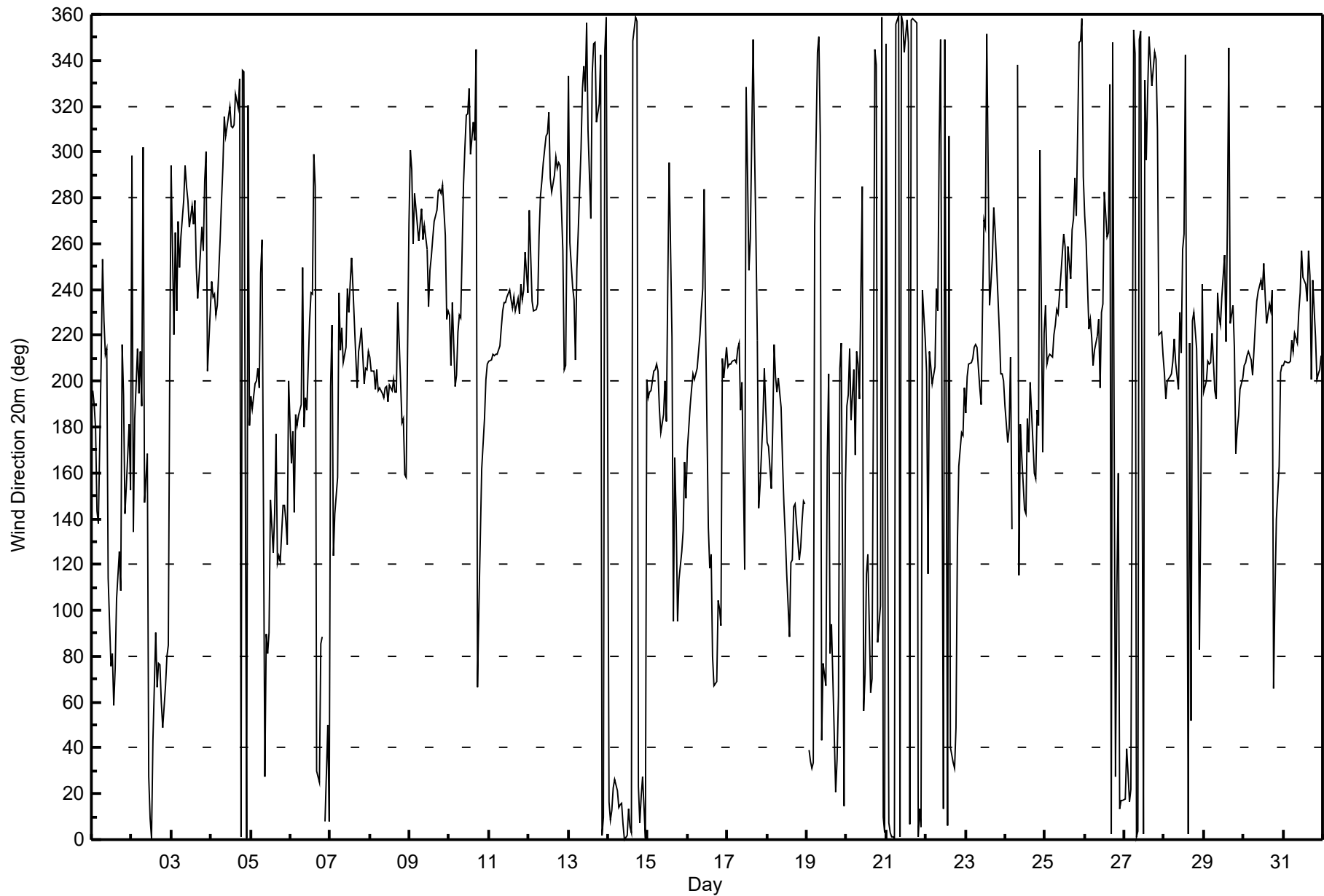
Janvier - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 105 deg on Jul 28 14:00																									Hours in Service: 744 Hours of Data: 740 Hours of Missing Data: 4 Hours of Calibration: 0 Percent Operational Time: 99.5
Minimum Value: 7 deg on Jul 29 21:00																									
Percentiles: P ₁ = 8 P ₁₀ = 13 Q ₁ = 20 Median = 29 Q ₃ = 41 P ₉₀ = 64 P ₉₉ = 96																									
Day	Hourly Period Ending At (MST)																								Daily Maximum
1-Jul	67	73	64	51	44	56	48	73	69	60	53	45	74	47	44	50	43	78	102	27	10	25	60	76	102
2-Jul	79	30	22	11	14	34	54	72	44	35	86	26	32	37	27	25	24	24	21	18	21	27	73	63	86
3-Jul	103	69	81	21	32	29	20	27	24	24	39	35	22	25	24	32	30	28	25	23	36	32	14	21	103
4-Jul	24	23	23	23	25	26	20	24	27	25	35	33	31	31	31	34	37	38	36	46	37	22	33	72	72
5-Jul	16	22	19	11	30	61	67	62	74	50	28	34	39	55	68	37	21	20	30	20	17	14	63	89	89
6-Jul	32	38	20	58	21	20	28	55	29	30	41	52	43	35	42	53	26	24	25	69	UO	32	16	90	90
7-Jul	47	57	91	18	22	46	36	34	29	34	31	38	36	32	34	27	21	23	21	18	11	10	11	10	91
8-Jul	10	10	9	10	16	14	16	15	18	19	22	18	21	26	25	25	25	28	22	16	16	18	20	68	68
9-Jul	32	18	37	21	22	23	25	25	25	26	30	27	29	26	27	24	25	22	21	21	18	22	16	18	37
10-Jul	25	15	19	19	16	19	22	22	40	29	30	31	32	32	35	36	59	48	30	39	8	18	8	9	59
11-Jul	12	12	13	13	13	16	20	22	22	27	26	28	30	26	26	27	25	26	24	24	20	24	24	24	30
12-Jul	21	27	26	20	23	23	24	20	21	24	32	32	42	30	26	26	26	26	21	19	40	47	9	43	47
13-Jul	32	36	23	17	14	34	34	27	38	33	38	39	51	23	37	33	30	33	36	32	30	16	15	19	51
14-Jul	12	16	17	18	12	20	27	29	29	36	32	36	26	30	34	38	37	33	24	26	17	40	31	66	66
15-Jul	11	8	10	7	8	15	23	16	24	48	66	66	65	81	102	97	77	40	19	15	9	14	43	27	102
16-Jul	53	19	14	8	12	10	16	37	29	42	39	90	87	39	41	28	33	26	34	46	18	30	11	13	90
17-Jul	10	11	10	10	11	13	16	24	21	48	44	89	36	29	30	104	94	54	43	42	15	21	10	14	104
18-Jul	13	15	17	15	19	13	19	24	26	55	41	33	46	58	42	36	25	22	15	10	18	20	16	24	58
19-Jul	UO	41	23	7	52	70	44	39	43	73	40	37	47	64	56	40	19	21	25	22	50	101	43	73	101
20-Jul	18	21	26	18	15	23	20	33	35	83	30	28	89	55	63	34	85	46	40	82	14	88	19	23	89
21-Jul	38	23	23	29	27	28	32	30	27	31	33	34	35	37	36	34	35	33	33	27	19	21	42	65	65
22-Jul	12	89	51	38	13	13	43	37	44	38	65	72	101	69	74	67	67	33	87	41	30	40	53	13	101
23-Jul	49	9	11	10	10	17	21	30	31	30	50	50	43	61	30	21	26	29	34	19	13	11	9	8	61
24-Jul	11	20	17	51	49	UO	UO	37	83	27	31	30	51	24	27	89	43	62	45	43	21	94	69	15	94
25-Jul	17	12	13	14	14	18	20	24	26	28	25	29	30	41	31	26	27	24	33	49	40	27	22	29	49
26-Jul	35	22	14	15	17	14	17	24	32	31	42	27	29	33	55	35	63	86	53	47	74	40	19	16	86
27-Jul	31	43	15	22	41	20	29	22	27	32	32	48	55	53	36	32	34	30	30	47	73	21	45	18	73
28-Jul	14	19	7	11	9	14	19	28	44	48	37	54	84	105	88	46	90	55	25	40	10	57	58	62	105
29-Jul	35	16	11	13	11	88	27	78	45	38	30	32	41	74	90	94	82	33	34	12	7	10	7	8	94
30-Jul	8	11	12	13	10	11	24	32	23	26	30	34	39	35	35	42	43	44	70	29	15	17	14	11	70
31-Jul	11	10	13	12	14	18	17	23	29	31	32	31	53	41	43	34	38	33	35	29	13	13	11	11	53
Diurnal Maximum																									
UO - Unstable Operation																									



Wood Buffalo Environmental Association
Hourly Averages

Wind Direction 20m (WD20) - deg
Janvier - July 2025





WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS23 FORT HILLS JULY 2025

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

August 29, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - FORT HILLS (AMS23)
JULY 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	708	34	36	99.73	-	-	19.1	0	4.6	0
TRS(ppb) Average	707	36	37	99.87	2.2	0	1.8	0	0.7	0
THC(ppm) Average	708	34	36	99.73	-	-	4.8	-	2.8	-
NMHC(ppm) Average	708	34	36	99.73	-	-	1.368	-	0.449	-
CH4(ppm) Average	708	34	36	99.73	-	-	4.1	-	2.4	-
NO2 (ppb) Average	707	36	37	99.87	-	-	36	0	15.4	-
NO (ppb) Average	707	36	37	99.87	-	-	127.6	-	14	-
NOX (ppb) Average	707	36	37	99.87	-	-	162.3	-	29.4	-
PM2.5 (ug/m3) Average	743	1	1	100	-	-	296.3	0	137.3	4
Temperature 2 m (C) Average	744	0	0	100	-	-	32.6	-	24.8	-
Relative Humidity (%) Average	744	0	0	100	-	-	98	-	90.8	-
Wind Speed 10 m (km/h) Average	743	0	1	99.87	-	-	39	-	25	-
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 - FORT HILLS (AMS23)
JULY 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	0.71	1.8	-	0	0	0	0.1	0.4	1.8	19.1
TRS (ppb) Average	707	0.44	0.2	-	0.1	0.3	0.3	0.4	0.5	0.7	1.8
THC (ppm) Average	708	2.35	0.4	-	2	2	2.1	2.2	2.5	2.9	4.8
NMHC(ppm) Average	708	0.156	0.229	-	0	0	0	0	0.3	0.4	1.368
CH4(ppm) Average	708	2.19	0.2	-	2	2	2.1	2.1	2.2	2.4	4.1
NO2 (ppb) Average	707	6.94	7.4	-	0	0.4	1.4	4.3	10.2	17.6	36
NO (ppb) Average	707	3.61	10.5	-	0	0	0	0.5	2.4	7.9	127.6
NOX (ppb) Average	707	10.54	15.8	-	0	0.4	1.7	5	13	26.4	162.3
PM2.5 (ug/m3) Average	743	21.79	32.4	-	0.5	3.7	6.2	12.2	23.8	43.4	296.3
Temperature 2 m (C) Average	744	18.01	5.2	-	5.2	11.7	14.3	17.3	21.6	25.8	32.6
Relative Humidity (%) Average	744	61.51	20.1	-	21	33.8	45.1	63.5	78	89.3	98
Wind Speed 10 m (km/h) Average	743	10.5	6	-	0	4	6	9	14	18	39
Wind Direction 10 m (deg) Average	743	-	-	-	-	-	-	-	-	-	-

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - FORT HILLS (AMS23)
JULY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
ALL GASEOUS ANALYZERS	10 Jul 2025 07:00	10 Jul 2025 08:00	1-2	Maintenance - sample manifold cleaned
Wind Speed, Wind Direction	16 Jul 2025 22:00	16 Jul 2025 22:00	1	Flat line in sensor output signal



Wood Buffalo Environmental Association

Summary of Hour Averages

Sulphur Dioxide (SO₂) - ppb

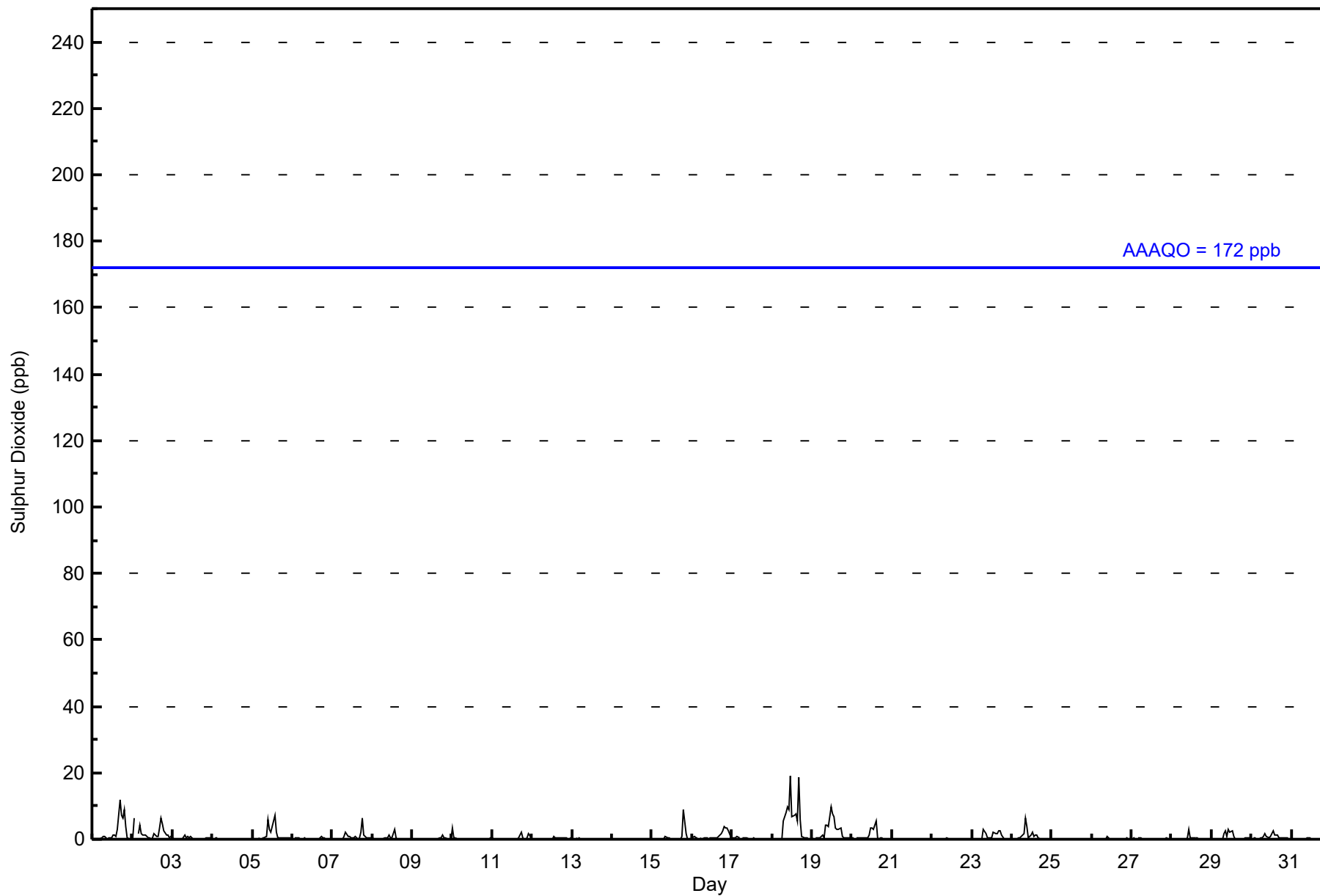
Fort Hills - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 19.1 ppb on Jul 18 12:00 Maximum Daily Average: 4.6 ppb on Jul 18																			Hours in Service: 744 Hours of Data: 708 Hours of Missing Data: 36 Hours of Calibration: 34 Percent Operational Time: 99.7							
Minimum Value: 0.0 ppb on Jul 3 19:00 Minimum Daily Average: 0.0 ppb on Jul 21 Maximum Diurnal Average: 1.4 ppb at hour 17 Minimum Diurnal Average: 0.2 ppb at hour 3 Monthly Average: 0.71 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.4 P ₉₀ = 1.8 P ₉₉ = 8.7																										
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-Jul	0.1	Z	0.2	0.2	0.1	0.3	0.7	0.8	0.3	0.2	0.3	0.6	1.1	1.1	0.8	3.0	11.8	7.4	6.2	9.1	3.8	0.3	0.1	0.1	2.1	11.8
2-Jul	0.2	6.5	Z	1.7	4.3	1.6	1.3	1.5	1.4	0.5	0.2	0.2	0.2	1.7	0.9	0.8	3.4	6.2	4.7	2.7	1.5	1.2	0.5	0.8	1.9	6.5
3-Jul	0.3	0.1	0.1	Z	0.1	0.1	0.1	1.2	0.5	0.6	0.6	0.8	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.6	0.3	0.2	0.3	0.3	1.2
4-Jul	0.1	0.1	0.2	0.5	Z	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.5
5-Jul	0.1	0.1	0.1	0.1	0.2	Z	0.3	0.3	1.0	6.1	3.1	2.2	3.6	7.0	2.0	0.6	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3	1.3	7.0
6-Jul	Z	0.5	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.7	0.4	0.2	0.1	0.1	0.0	0.1	0.2	0.7
7-Jul	0.1	Z	0.2	0.0	0.0	0.0	0.1	0.9	2.1	1.0	0.6	0.4	0.5	0.6	0.8	0.2	0.4	2.2	6.2	1.4	0.6	0.3	0.4	0.4	0.8	6.2
8-Jul	0.3	0.4	Z	0.2	0.1	0.1	0.1	0.2	0.6	0.6	1.3	0.4	0.3	2.8	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.3	2.8
9-Jul	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	0.0	0.0	0.2	0.4	1.3	0.4	0.4	0.0	0.2	0.2	0.1	1.3
10-Jul	3.6	0.4	0.3	0.1	Z	0.6	M	M	C	C	C	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	0.3	3.6
11-Jul	0.3	0.1	0.1	0.1	0.1	Z	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.3	2.2	0.3	0.1	0.1	0.4	1.8	0.5	0.3	2.2
12-Jul	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.6	0.2	0.3	0.5	0.5	0.5	0.4	0.2	0.2	0.2	0.2	0.2	0.6
13-Jul	0.2	Z	0.4	0.2	0.3	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.4
14-Jul	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
15-Jul	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.6	0.5	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.7	8.8	1.5	0.2	0.2	0.1	0.6	8.8
16-Jul	0.4	0.7	0.6	0.4	Z	0.3	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.6	0.6	1.0	1.8	2.7	3.8	3.2	3.4	2.6	0.5	1.1	3.8
17-Jul	0.3	0.2	0.4	0.8	0.6	Z	0.3	0.2	0.3	0.5	0.2	0.1	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.8
18-Jul	Z	0.0	0.0	0.0	0.0	0.0	0.0	5.7	8.1	9.8	8.7	19.1	6.6	7.2	7.7	5.3	18.5	6.0	0.8	0.5	0.4	0.3	0.2	0.2	4.6	19.1
19-Jul	0.3	Z	0.4	0.3	0.3	0.4	1.1	0.6	4.3	4.4	3.8	9.8	7.7	6.6	3.2	2.9	2.8	3.3	0.8	0.5	0.4	0.4	0.4	0.4	2.4	9.8
20-Jul	0.4	0.4	Z	0.3	0.3	0.3	0.2	0.3	0.3	0.4	1.4	3.4	3.6	3.1	5.5	0.5	0.1	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.9	5.5
21-Jul	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
22-Jul	0.0	0.0	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.3	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	0.3
23-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.0	2.8	1.8	0.6	0.3	0.5	0.5	2.0	1.8	1.9	2.4	2.4	1.1	0.1	0.1	0.1	0.1	0.1	0.8	2.8
24-Jul	Z	0.1	0.1	0.1	0.2	0.5	1.3	1.8	6.4	3.9	0.5	1.1	2.0	0.8	1.4	1.2	0.2	0.2	0.1	0.1	0.1	0.0	0.1	0.1	1.0	6.4
25-Jul	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
26-Jul	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.0	0.0	0.7	0.4	0.1	0.1	0.2	0.1	0.0	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.1	0.7
27-Jul	0.2	0.2	0.2	Z	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	0.0	0.1	0.1	0.4	0.0	0.0	0.1	0.4
28-Jul	0.0	0.1	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.2	2.9	0.5	0.3	0.6	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.9
29-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.0	1.5	2.6	1.0	2.9	2.0	2.7	1.0	0.1	0.1	0.1	0.1	0.2	0.2	0.4	0.4	0.4	0.6	0.7	2.9
30-Jul	Z	0.4	0.2	0.2	0.2	0.5	0.4	0.7	1.7	1.0	0.6	0.8	1.8	2.4	1.4	1.1	0.6	0.6	0.5	0.3	0.3	0.2	0.2	0.0	0.7	2.4
31-Jul	0.0	Z	0.0	0.2	0.0	0.0	0.1	0.1	0.2	0.2	0.3	0.2	0.1	0.0	0.0	0.1	0.1	0.2	0.2	0.1	0.3	0.6	0.3	0.4	0.2	0.6
Diurnal Average																										
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
Fort Hills - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Fort Hills - July 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
Fort Hills - July 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	88	35	12	12	16	13	33	94	98	59	46	38	26	28	49	57	704
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	88	35	12	12	16	13	33	96	99	59	46	38	26	28	49	57	707

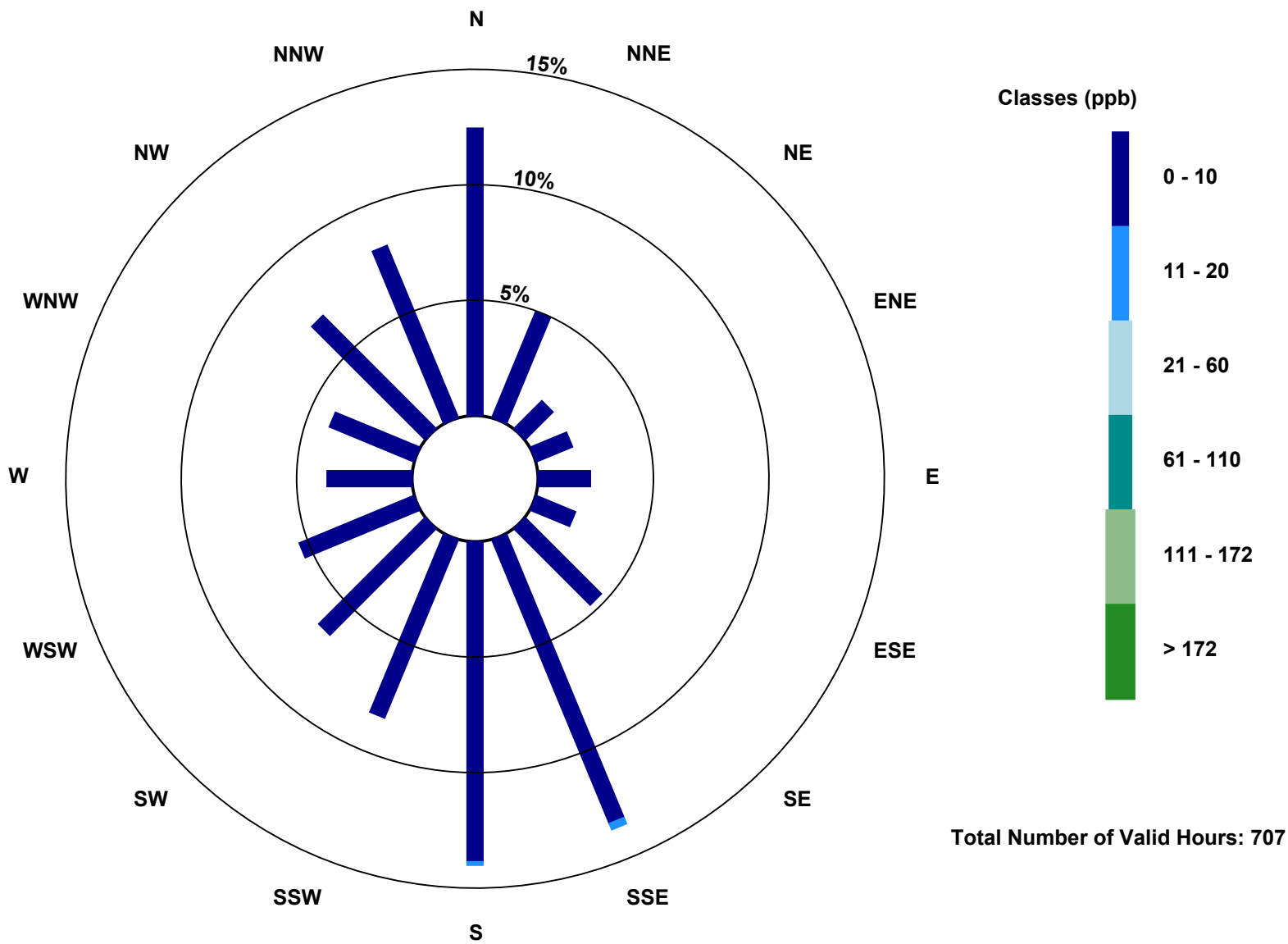
Total Number of Valid Hours: 707

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Sulphur Dioxide (SO₂) - ppb
Fort Hills



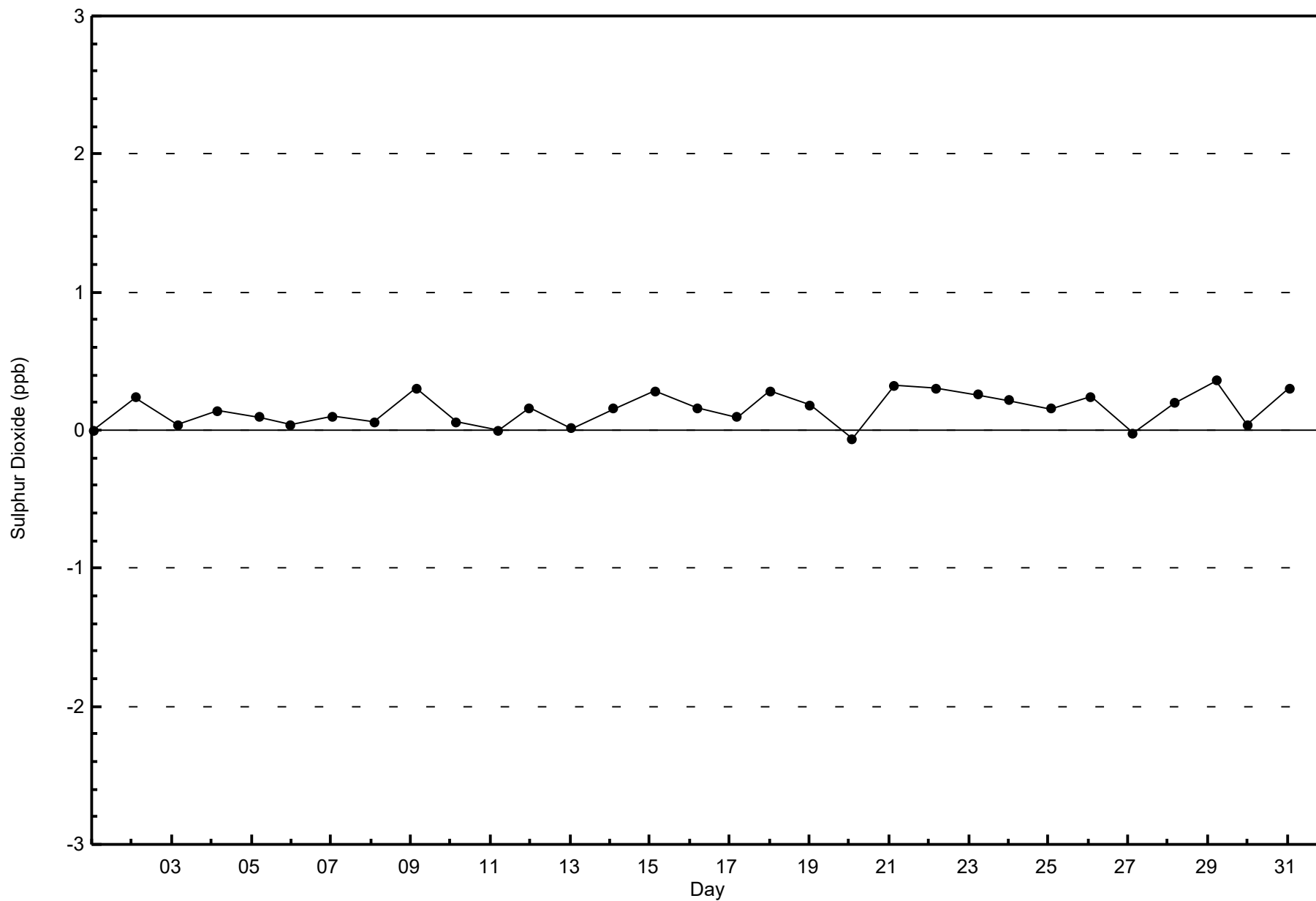


Wood Buffalo Environmental Association

Zero Responses

Sulphur Dioxide (SO₂) - ppb

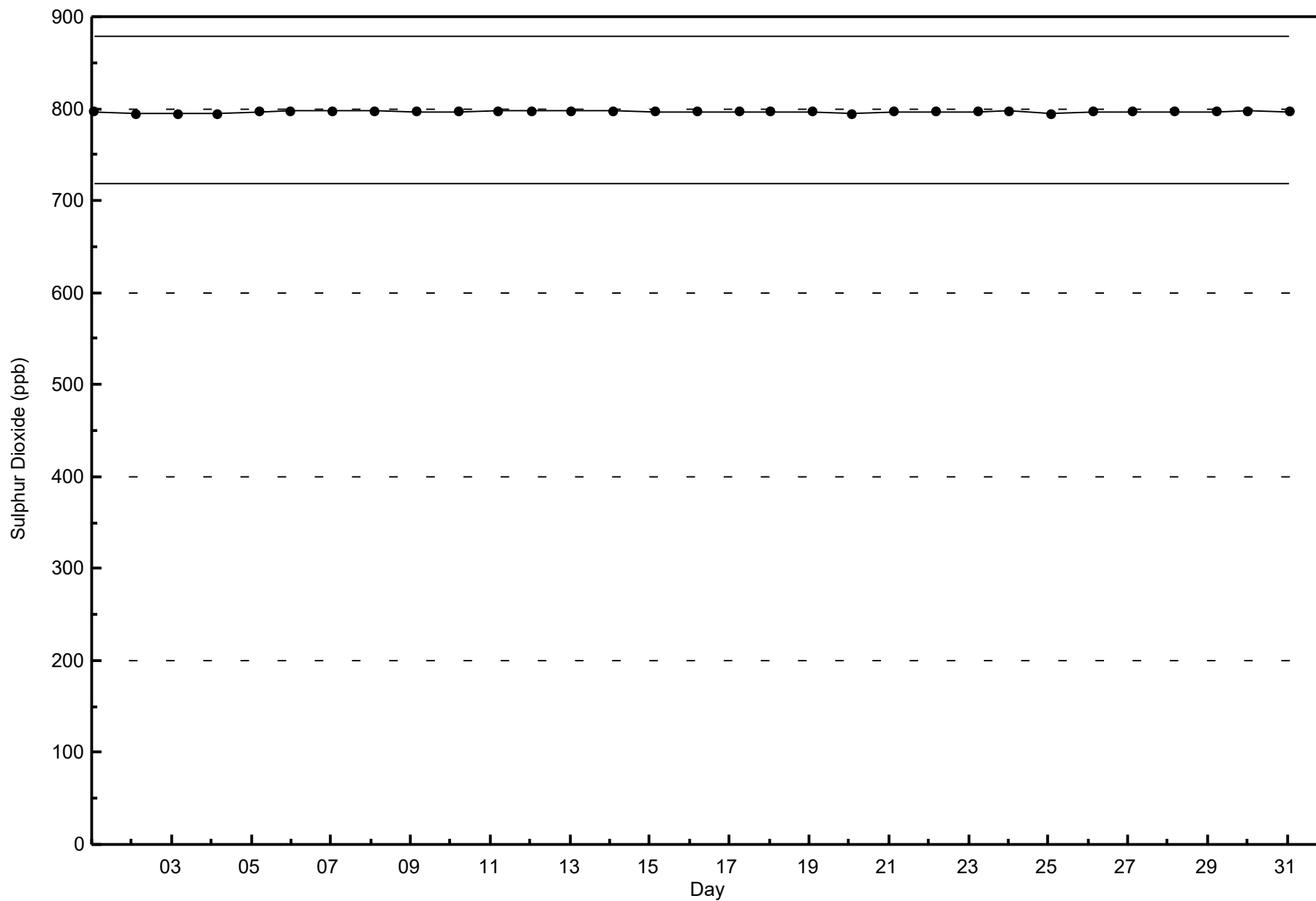
Fort Hills - July 2025





Wood Buffalo Environmental Association
Span Responses

Sulphur Dioxide (SO₂) - ppb
Fort Hills - July 2025





Wood Buffalo Environmental Association

Summary of 30-Minute Averages

Total Reduced Sulphur (TRS) - ppb

Fort Hills - July 2025

Number of Exceedences (AAAQG): 30-Min: 0																			Periods in Service: 1488							
Maximum Value: 2.2 ppb on Jul 24 08:30 Maximum Daily Average: 0.7 ppb on Jul 19																			Periods of Valid Data: 1415							
Minimum Value: 0.1 ppb on Jul 29 17:30 Minimum Daily Average: 0.3 ppb on Jul 21																			Periods of Invalid Data: 73							
Maximum Diurnal Average: 0.6 ppb at hour 6 Minimum Diurnal Average: 0.3 ppb at hour 16																			Periods of Calibration: 72							
Monthly Average: 0.44 ppb Percentiles: P ₁ = 0.2 P ₁₀ = 0.3 Q ₁ = 0.3 Median = 0.4 Q ₃ = 0.5 P ₉₀ = 0.7 P ₉₉ = 1.4																			Percent Operational Time: 99.9							
Day	Period Ending At (MST)																								Daily Average	Daily Maximum
	00:30 01:00	01:30 02:00	02:30 03:00	03:30 04:00	04:30 05:00	05:30 06:00	06:30 07:00	07:30 08:00	08:30 09:00	09:30 10:00	10:30 11:00	11:30 12:00	12:30 13:00	13:30 14:00	14:30 15:00	15:30 16:00	16:30 17:00	17:30 18:00	18:30 19:00	19:30 20:00	20:30 21:00	21:30 22:00	22:30 23:00	23:30 24:00		
1-Jul	0.6 0.5	0.5 0.6	Z SP	0.6 0.6	0.6 0.5	0.6 0.7	0.9 1.0	1.2 1.2	0.9 0.8	0.6 0.4	0.4 0.4	0.5 0.5	0.5 0.5	0.5 0.4	0.4 0.4	0.4 0.5	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.6	0.7 0.7	0.7 0.5	0.4 0.4	0.6	1.2	
2-Jul	0.5 0.5	0.7 0.8	0.5 0.5	Z SP	1.2 1.3	1.2 1.1	1.1 1.0	0.9 0.8	0.7 0.6	0.5 0.5	0.5 0.6	0.5 0.5	0.5 0.8	0.7 0.6	0.5 0.5	0.4 0.5	0.4 0.5	0.5 0.5	0.5 0.6	0.6 0.6	0.8 0.6	0.6 0.6	0.5 0.7	0.7	1.3	
3-Jul	0.5 0.4	0.5 0.5	0.5 0.5	0.5 0.5	Z SP	0.5 0.5	0.6 0.5	0.5 0.5	0.4 0.5	0.4 0.4	0.4 0.4	0.3 0.3	0.4 0.3	0.3 0.4	0.4 0.4	0.4 0.4	0.3 0.3	0.3 0.3	0.4 0.4	0.4 0.6	0.3 0.4	0.4 0.4	0.4 0.4	0.4	0.6	
4-Jul	0.4 0.4	0.4 0.5	0.5 0.6	0.6 0.5	0.4 0.4	Z SP	0.3 0.3	0.4 0.4	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 0.3	0.3 0.3	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.5 0.5	0.4	0.6		
5-Jul	Z SP	0.4 0.5	0.6 0.7	0.7 0.6	0.6 0.6	0.6 0.6	0.6 0.6	0.7 0.8	1.3 1.0	0.8 0.7	0.4 0.4	0.4 0.3	0.4 0.5	0.5 0.4	0.3 0.2	0.4 0.3	0.3 0.3	0.3 0.2	0.3 0.3	0.3 0.3	0.3 0.3	0.4 0.4	0.3 0.4	0.5	1.3	
6-Jul	0.5 0.5	Z SP	0.4 0.5	0.6 0.6	0.6 0.6	0.6 0.6	0.6 0.5	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	0.2 0.3	0.3 0.4	0.4 0.4	0.4 0.4	0.5 0.4	0.5 0.5	0.5	0.4	0.6	
7-Jul	0.4 0.4	0.4 0.4	Z SP	0.4 0.5	0.4 0.5	0.4 0.5	0.4 0.4	0.6 0.6	0.6 0.5	0.5 0.4	0.4 0.5	0.4 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.4	0.4 0.5	0.5 0.4	0.4 0.4	0.5 0.4	0.5 0.5	0.5 0.6	0.4	0.6	
8-Jul	0.5 0.5	0.4 0.4	0.4 0.4	Z SP	0.3 0.3	0.4 0.4	0.3 0.3	0.3 0.5	0.6 0.5	0.5 0.5	0.4 0.4	0.4 0.3	0.4 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 0.4	0.5 0.5	0.5 0.5	0.4	0.4	0.6	
9-Jul	0.4 0.5	0.4 0.4	0.4 0.4	0.4 0.4	Z SP	0.4 0.4	0.4 0.4	C C	C C	C C	C C	C C	0.4 0.5	0.4 0.4	0.4 0.4	0.4 0.4	0.3 0.4	0.4 0.4	0.5 0.4	0.4 0.3	0.4 0.4	0.4 0.4	0.3 0.4	0.4	0.5	
10-Jul	0.5 1.8	0.4 0.4	0.4 0.4	0.4 0.3	0.4 0.4	Z SP	0.4 0.4	0.4 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	0.3 0.3	0.3 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.3 0.4	0.3 0.4	0.5	0.4	1.8	
11-Jul	Z SP	0.3 0.4	0.3 0.3	0.3 0.4	0.4 0.4	0.3 0.4	0.3 0.3	0.3 0.3	0.3 0.3	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	0.3 0.3	0.5 0.5	0.3 0.3	0.3 0.4	0.3 0.7	0.4 0.5	0.7	0.3	0.7	
12-Jul	0.4 0.5	Z SP	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.5	0.4 0.5	0.7 0.5	0.5 0.4	0.4 0.4	0.4 0.4	0.3 0.4	0.4 0.3	0.5 0.3	0.3 0.4	0.3 0.4	0.3 0.3	0.4 0.4	0.3 0.4	0.4 0.5	0.4 0.5	0.6 0.6	0.6	0.4	0.7	
13-Jul	0.7 0.6	0.4 0.7	Z SP	0.5 0.6	0.5 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.3 0.3	0.3 0.3	0.2 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.2 0.3	0.2 0.2	0.3 0.3	0.3 0.3	0.3 0.4	0.3 0.4	0.5 0.4	0.4	0.4	0.7	
14-Jul	0.4 0.3	0.3 0.4	0.4 0.4	Z SP	0.4 0.4	0.4 0.4	0.4 0.3	0.4 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 0.2	0.3 0.3	0.2 0.3	0.3 0.3	0.2 0.2	0.3 0.3	0.3 0.3	0.3 0.4	0.3	0.3	0.4	
15-Jul	0.4 0.4	0.4 0.4	0.4 0.5	0.5 0.5	Z SP	0.5 0.6	0.6 0.6	0.5 0.4	0.3 0.3	0.4 0.4	0.4 0.3	0.3 0.3	0.3 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	0.4 1.0	0.4 1.4	1.3 2.1	1.5 1.4	0.5	2.1	



Wood Buffalo Environmental Association

Summary of 30-Minute Averages

Total Reduced Sulphur (TRS) - ppb

Fort Hills - July 2025

Day	Period Ending At (MST)																								Daily Average	Daily Maximum
	00:30 01:00	01:30 02:00	02:30 03:00	03:30 04:00	04:30 05:00	05:30 06:00	06:30 07:00	07:30 08:00	08:30 09:00	09:30 10:00	10:30 11:00	11:30 12:00	12:30 13:00	13:30 14:00	14:30 15:00	15:30 16:00	16:30 17:00	17:30 18:00	18:30 19:00	19:30 20:00	20:30 21:00	21:30 22:00	22:30 23:00	23:30 24:00		
16-Jul	1.2 0.9	0.8 0.8	0.8 1.1	0.6 0.4	0.5 0.9	Z SP	0.4 0.4	0.4 0.4	0.4 0.4	0.5 0.4	0.4 0.3	0.3 0.3	0.3 0.2	0.3 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	0.4 0.5	0.5 0.5	0.5 0.4	0.4 0.5	0.5	1.2
17-Jul	Z SP	0.4 0.4	0.4 0.6	0.8 0.9	1.0 0.9	0.8 0.9	0.9 0.8	0.7 0.7	0.7 0.7	0.8 0.8	0.4 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.2 0.3	0.3 0.3	0.3 0.3	0.4 0.4	0.4 0.4	0.4 0.4	0.5 0.5	0.6 0.6	0.5	1.0
18-Jul	0.5 0.5	Z SP	0.7 0.8	0.7 0.7	0.9 0.9	1.0 0.8	0.6 0.8	1.5 2.0	1.3 1.1	1.1 1.1	1.0 0.7	0.6 0.5	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	0.4 0.4	0.4 0.4	0.4 0.3	0.5 0.5	0.5 0.7	0.6	2.0
19-Jul	0.6 1.0	1.5 1.3	Z SP	0.8 0.8	0.9 0.8	0.9 0.8	0.9 1.1	1.2 1.2	1.4 1.3	1.0 0.8	0.8 0.8	1.0 0.9	0.6 0.7	0.5 0.4	0.4 0.3	0.3 0.3	0.3 0.3	0.4 0.4	0.5 0.6	0.5 0.5	0.5 0.4	0.4 0.3	0.4 0.4	0.5 0.4	0.7	1.5
20-Jul	0.4 0.4	0.4 0.4	0.4 0.4	Z SP	0.3 0.4	0.4 0.4	0.3 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.5 0.5	0.4 0.4	0.4 0.4	0.5 0.5	0.4 0.4	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.4 0.4	0.4 0.4	0.4 0.3	0.3 0.3	0.4	0.5
21-Jul	0.3 0.3	0.3 0.3	0.3 0.4	0.4 0.4	Z SP	0.4 0.4	0.4 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 0.2	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	0.3 0.2	0.3	0.4
22-Jul	0.3 0.3	0.3 0.4	0.4 0.4	0.5 0.5	0.4 0.4	Z SP	0.4 0.4	0.4 0.4	0.4 0.3	0.4 0.4	0.3 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.2	0.2 0.3	0.3 0.2	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.5	0.5 0.5	0.6 0.5	0.4 0.4	0.3	0.6
23-Jul	Z SP	0.4 0.4	0.5 0.5	0.5 0.5	0.5 0.5	0.5 0.5	0.6 0.6	0.8 0.8	0.6 0.7	0.6 0.5	0.4 0.4	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.4	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.4 0.4	0.4 0.4	0.4	0.8
24-Jul	0.4 0.5	Z SP	0.4 0.6	0.7 1.0	1.1 1.6	1.6 1.6	1.2 1.2	0.8 1.2	2.2 1.4	1.2 0.6	0.3 0.3	0.4 0.4	0.4 0.5	0.3 0.3	0.4 0.4	0.5 0.5	0.5 0.6	0.5 0.5	0.5 0.4	0.4 0.5	0.5 0.6	0.3 0.3	0.4 0.5	0.4 0.4	0.7	2.2
25-Jul	0.4 0.3	0.4 0.3	Z SP	0.3 0.4	0.4 0.4	0.4 0.3	0.3 0.4	0.3 0.3	0.3 0.4	0.3 0.4	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.4 0.4	0.4 0.3	0.4 0.4	0.3 0.3	0.4 0.4	0.4 0.5	0.4 0.4	0.4 0.7	0.5 0.3	0.4 0.3	0.4	0.7
26-Jul	0.3 0.3	0.3 0.3	0.3 0.3	Z SP	0.3 0.6	0.5 0.5	0.5 0.4	0.4 0.3	0.4 0.4	0.4 0.5	0.4 0.3	0.4 0.5	0.5 0.4	0.5 0.5	0.5 0.6	0.5 0.5	0.5 0.5	0.5 0.4	0.4 0.4	0.5 0.5	0.4 0.5	0.5 0.5	0.5 0.5	0.4 0.4	0.4	0.6
27-Jul	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.4	Z SP	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.2	0.2 0.3	0.3 0.2	0.3 0.2	0.3 0.2	0.2 0.3	0.2 0.3	0.3 0.3	0.3 0.3	0.3 0.2	0.2 0.3	0.3 0.3	0.5 0.5	0.4 0.3	0.3 0.3	0.3	0.5
28-Jul	0.3 0.3	0.4 0.3	0.4 0.4	0.4 0.4	0.4 0.4	Z SP	0.4 0.4	0.4 0.4	0.4 0.3	0.3 0.3	0.5 0.5	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.2	0.3 0.3	0.2 0.2	0.2 0.3	0.3 0.4	0.3 0.5	0.5 0.5	0.4 0.5	0.4 0.4	0.3	0.5
29-Jul	Z SP	0.4 0.4	0.4 0.5	0.4 0.4	0.4 0.5	0.5 0.4	0.4 0.6	0.7 0.7	0.7 0.5	0.5 0.5	0.5 0.4	0.4 0.3	0.3 0.2	0.2 0.2	0.2 0.2	0.2 0.1	0.2 0.1	0.2 0.2	0.2 0.2	0.2 0.2	0.3 0.3	0.5 0.5	0.4 0.3	0.4 0.4	0.4	0.7
30-Jul	0.5 0.5	Z SP	0.3 0.4	0.4 0.4	0.4 0.4	0.5 0.7	1.2 0.6	0.6 0.6	0.5 0.4	0.4 0.3	0.3 0.3	0.3 0.3	0.2 0.4	0.4 0.4	0.4 0.3	0.4 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.4	0.5 0.7	0.9 1.0	1.2 1.2	1.0 0.7	0.5	1.2
31-Jul	0.5 0.5	0.5 0.6	Z SP	1.2 1.3	1.0 1.1	1.0 1.0	0.8 0.7	0.7 0.6	0.5 0.6	0.6 0.7	0.7 0.5	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	0.4 0.5	0.5 0.5	0.5 0.5	0.5 0.6	0.5	1.3	
																								Diurnal Average Diurnal Maximum		

Z - zerospan C - Calibration M - Maintenance SP - Span

Alberta Ambient Air Quality Guideline (AAAQG): 30-Min: 5 ppb



Wood Buffalo Environmental Association

Summary of Hour Averages

Total Reduced Sulphur (TRS) - ppb

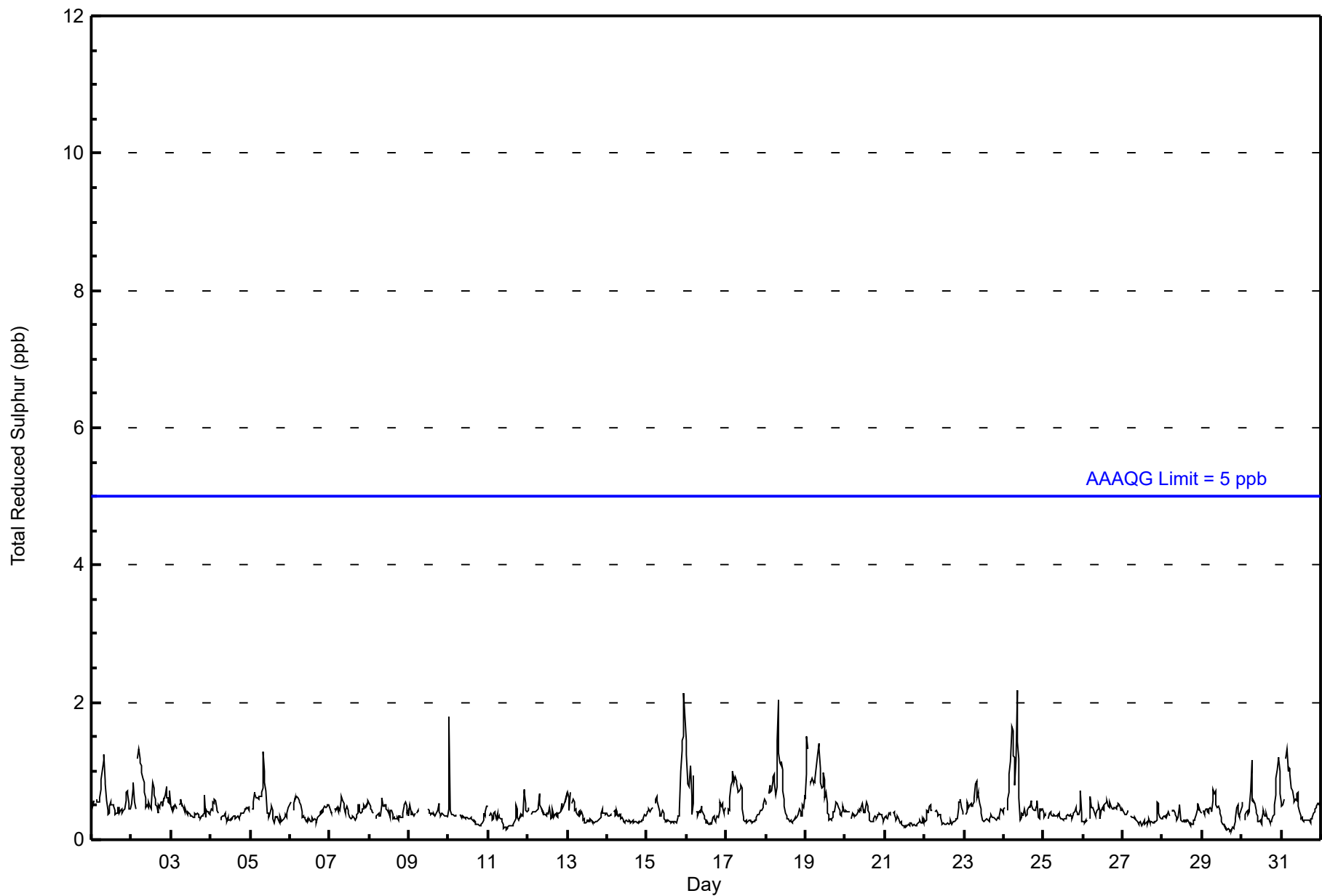
Fort Hills - July 2025

Maximum Value: 1.8 ppb on Jul 15 23:00																		Maximum Daily Average: 0.7 ppb on Jul 19										Hours in Service: 744	
Minimum Value: 0.1 ppb on Jul 29 18:00																		Minimum Daily Average: 0.3 ppb on Jul 21										Hours of Data: 707	
Maximum Diurnal Average: 0.6 ppb at hour 6																		Minimum Diurnal Average: 0.3 ppb at hour 16										Hours of Missing Data: 37	
Monthly Average: 0.44 ppb																		Percentiles: P ₁ = 0.2 P ₁₀ = 0.3 Q ₁ = 0.3 Median = 0.4 Q ₃ = 0.5 P ₉₀ = 0.7 P ₉₉ = 1.4										Hours of Calibration: 36	
																												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-Jul	0.6	0.5	Z	0.6	0.5	0.7	0.9	1.2	0.8	0.5	0.4	0.5	0.5	0.5	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.5	0.7	0.6	0.4	0.6	1.2		
2-Jul	0.5	0.8	0.5	Z	1.3	1.1	1.0	0.9	0.7	0.5	0.5	0.5	0.5	0.8	0.6	0.5	0.4	0.5	0.5	0.6	0.6	0.7	0.6	0.6	0.6	0.7	1.3		
3-Jul	0.5	0.5	0.5	0.5	Z	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.5		
4-Jul	0.4	0.5	0.6	0.5	0.4	Z	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.4	0.6		
5-Jul	Z	0.4	0.6	0.6	0.6	0.6	0.6	0.7	1.1	0.8	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.5	1.1			
6-Jul	0.5	Z	0.5	0.6	0.6	0.6	0.5	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.4	0.6			
7-Jul	0.4	0.4	Z	0.4	0.5	0.4	0.4	0.6	0.5	0.4	0.5	0.4	0.3	0.3	0.3	0.3	0.3	0.5	0.5	0.4	0.4	0.5	0.5	0.5	0.4	0.6			
8-Jul	0.5	0.4	0.4	Z	0.3	0.4	0.3	0.4	0.6	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.5	0.4	0.4	0.6			
9-Jul	0.4	0.4	0.4	0.4	Z	0.4	C	C	C	C	C	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.3	0.4	0.5			
10-Jul	1.1	0.4	0.4	0.4	0.4	Z	M	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	0.3	0.4	0.5	0.4	1.1			
11-Jul	Z	0.4	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.5	0.3	0.3	0.4	0.5	0.6	0.4	0.3	0.6			
12-Jul	0.4	Z	0.4	0.4	0.4	0.4	0.5	0.6	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.6	0.6	0.4	0.6			
13-Jul	0.7	0.6	Z	0.6	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.7			
14-Jul	0.4	0.3	0.4	Z	0.4	0.4	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	0.3	0.3	0.3	0.3	0.3	0.3	0.4			
15-Jul	0.4	0.4	0.4	0.5	Z	0.6	0.6	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.7	1.4	1.8	1.6	0.5	1.8			
16-Jul	1.1	0.8	0.9	0.5	0.7	Z	0.4	0.4	0.4	0.5	0.4	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.5	0.5	0.4	0.4	0.5	1.1			
17-Jul	Z	0.4	0.5	0.8	0.9	0.9	0.8	0.7	0.7	0.8	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.6	0.5	0.9			
18-Jul	0.5	Z	0.7	0.7	0.9	0.9	0.7	1.7	1.2	1.1	0.9	0.5	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.6	0.6	1.7			
19-Jul	0.8	1.4	Z	0.8	0.9	0.9	1.0	1.2	1.4	0.9	0.8	0.9	0.6	0.5	0.3	0.3	0.3	0.4	0.5	0.5	0.4	0.4	0.4	0.5	0.7	1.4			
20-Jul	0.4	0.4	0.4	Z	0.3	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.5	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.4	0.5			
21-Jul	0.3	0.3	0.3	0.4	Z	0.4	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	0.3	0.2	0.3	0.3	0.4			
22-Jul	0.3	0.4	0.4	0.5	0.4	Z	0.4	0.4	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.5	0.5	0.4	0.3	0.5			
23-Jul	Z	0.4	0.5	0.5	0.5	0.5	0.6	0.8	0.7	0.6	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.8			
24-Jul	0.5	Z	0.5	0.8	1.4	1.6	1.2	1.0	1.8	0.9	0.3	0.4	0.4	0.3	0.4	0.5	0.5	0.5	0.4	0.4	0.5	0.3	0.4	0.4	0.7	1.8			
25-Jul	0.4	0.4	Z	0.3	0.4	0.3	0.4	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.6	0.3	0.4	0.6			
26-Jul	0.3	0.3	0.3	Z	0.5	0.5	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.5	0.6	0.5	0.5	0.5	0.4	0.5	0.5	0.5	0.5	0.4	0.4	0.6			
27-Jul	0.4	0.4	0.4	0.4	Z	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.5	0.4	0.3	0.3	0.5			
28-Jul	0.3	0.3	0.4	0.4	0.4	Z	0.4	0.4	0.3	0.3	0.5	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.5	0.4	0.4	0.3	0.5			
29-Jul	Z	0.4	0.4	0.4	0.4	0.4	0.5	0.7	0.6	0.5	0.5	0.4	0.2	0.2	0.2	0.1	0.2	0.1	0.2	0.2	0.3	0.5	0.4	0.4	0.4	0.7			
30-Jul	0.5	Z	0.3	0.4	0.4	0.6	0.9	0.6	0.5	0.4	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.6	1.0	1.2	0.8	0.5	1.2			
31-Jul	0.5	0.5	Z	1.3	1.0	1.0	0.7	0.7	0.6	0.6	0.6	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.6	0.5	1.3			
0.5 0.5 0.5 0.5 0.6 0.6 0.6 0.6 0.6 0.5 0.4 0.4 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.4 0.5 0.5 0.5																								Diurnal Average					
1.1 1.4 0.9 1.3 1.4 1.6 1.2 1.7 1.8 1.1 0.9 0.9 0.6 0.8 0.6 0.5 0.5 0.5 0.5 0.6 0.7 1.4 1.8 1.6																								Diurnal Maximum					
Z - zerospan C - Calibration M - Maintenance																													
Alberta Ambient Air Quality Objective (AAAQO): 1-hour NA 24-hr NA																													



Wood Buffalo Environmental Association
Hourly Averages

Total Reduced Sulphur (TRS) - ppb
Fort Hills - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Reduced Sulphur (TRS) - ppb
Fort Hills - July 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
Fort Hills - July 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	86	35	12	12	16	12	34	101	97	56	42	38	24	32	49	60	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	86	35	12	12	16	12	34	101	97	56	42	38	24	32	49	60	706

Total Number of Valid Hours: 706

Total Number of Hours: 744



Total Reduced Sulphur (TRS) - ppb



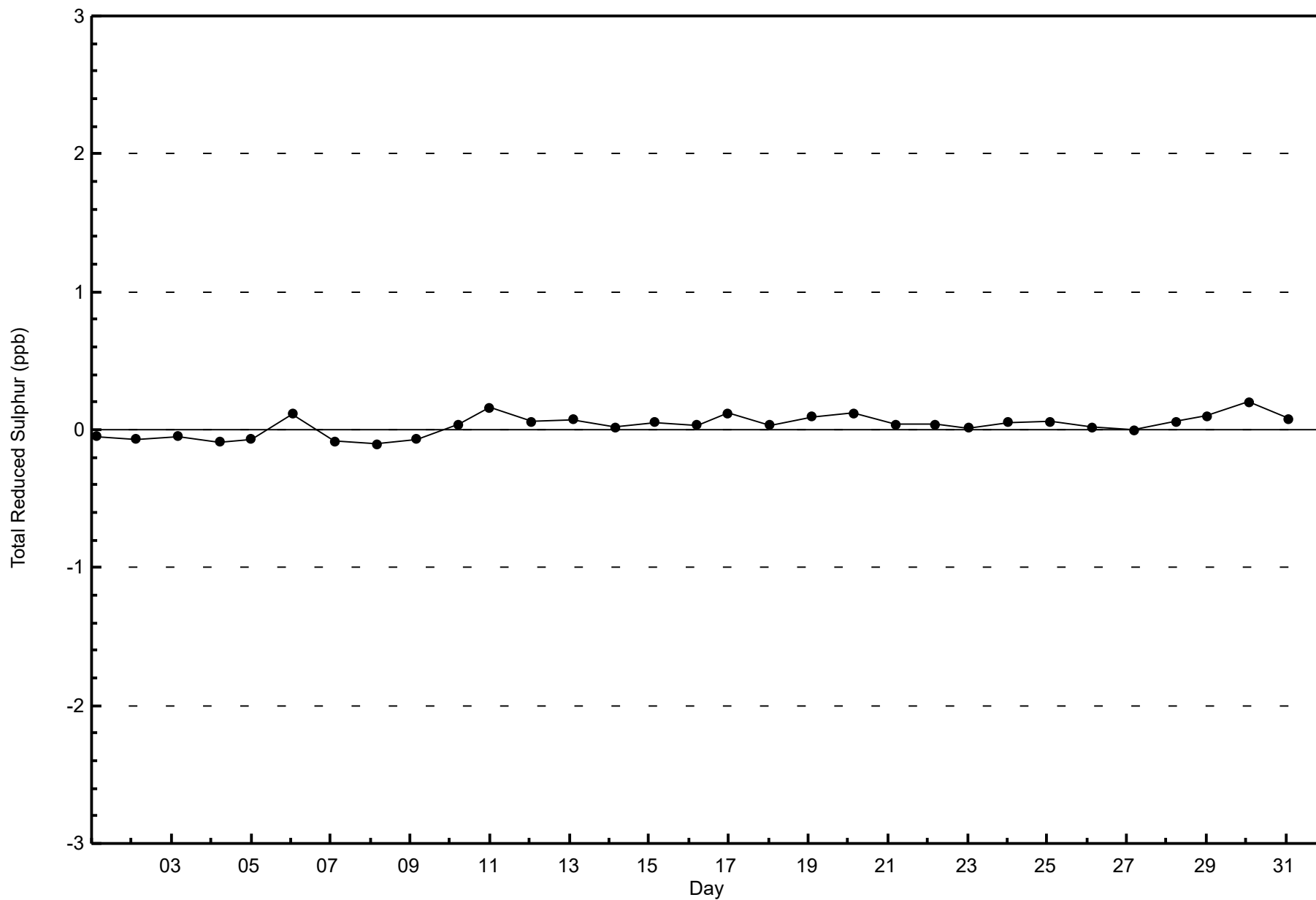


Wood Buffalo Environmental Association

Zero Responses

Total Reduced Sulphur (TRS) - ppb

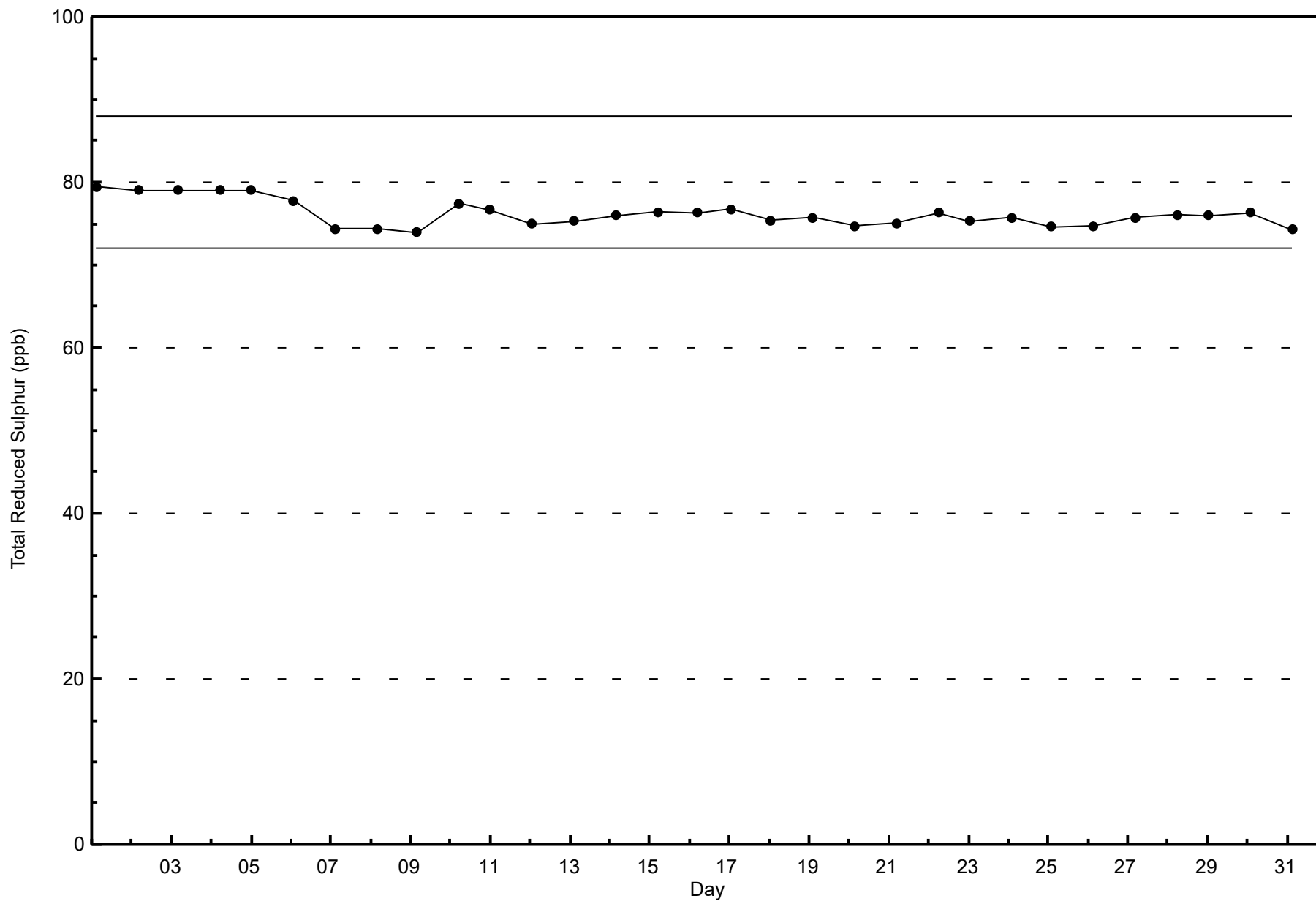
Fort Hills - July 2025





Wood Buffalo Environmental Association
Span Responses

Total Reduced Sulphur (TRS) - ppb
Fort Hills - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Total Hydrocarbons (THC) - ppm

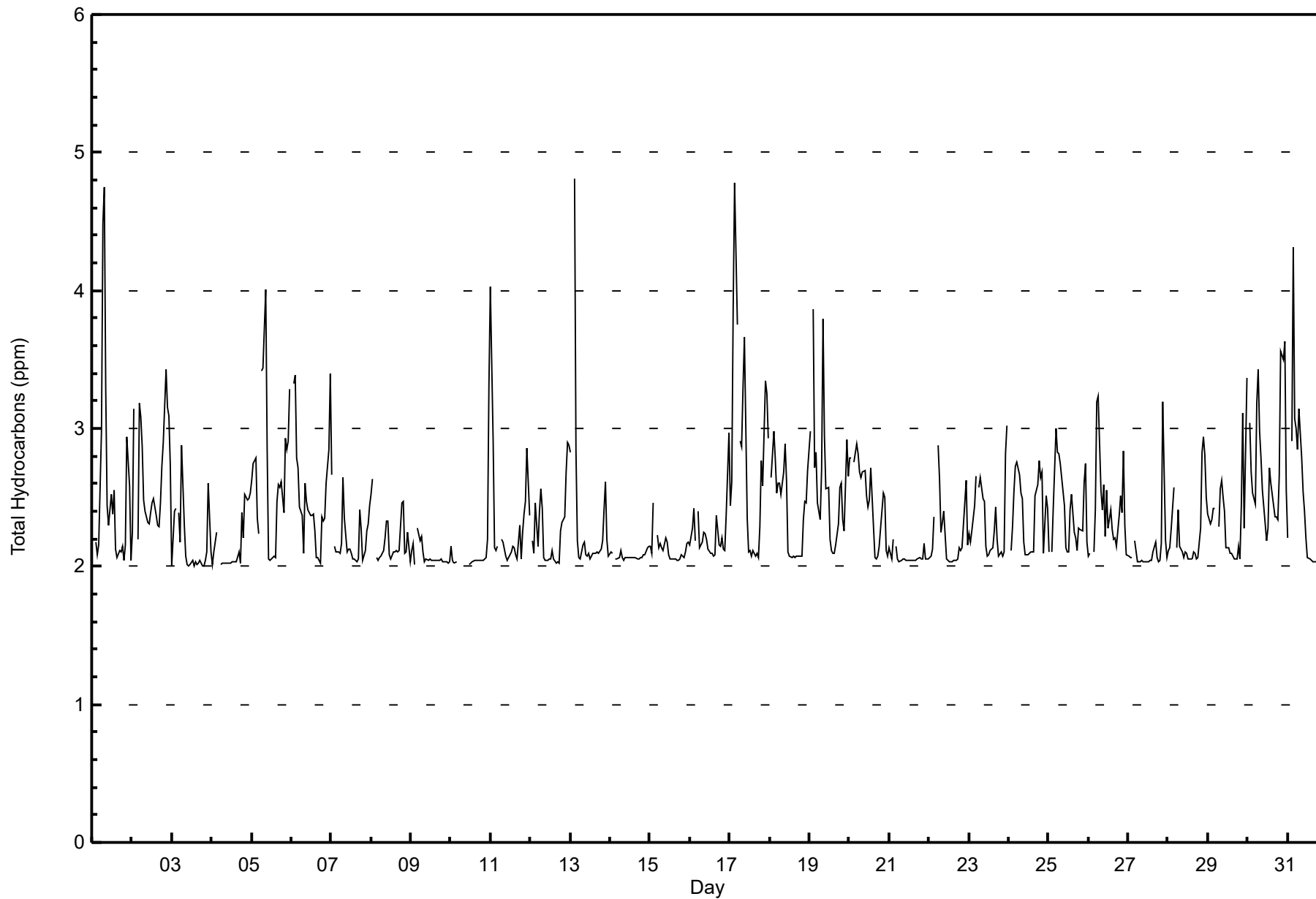
Fort Hills - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																			Hours in Service: 744								
Maximum Value: 4.8 ppm on Jul 13 03:00																			Maximum Daily Average: 2.8 ppm on Jul 17		Hours of Data: 708						
Minimum Value: 2.0 ppm on Jul 3 19:00																			Minimum Daily Average: 2.1 ppm on Jul 21		Hours of Missing Data: 36						
Maximum Diurnal Average: 2.6 ppm at hour 3																			Minimum Diurnal Average: 2.1 ppm at hour 16		Hours of Calibration: 34						
Monthly Average: 2.35 ppm																			Percentiles: P ₁ = 2.0 P ₁₀ = 2.0 Q ₁ = 2.1 Median = 2.2 Q ₃ = 2.5 P ₉₀ = 2.9 P ₉₉ = 3.9		Percent Operational Time: 99.7						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
1-Jul	2.6	Z	2.2	2.1	2.2	3.0	4.5	4.7	3.3	2.4	2.3	2.5	2.4	2.5	2.1	2.1	2.1	2.1	2.1	2.0	2.2	2.9	2.6	2.0	2.6	4.7	
2-Jul	2.2	3.1	Z	2.2	3.2	3.1	2.9	2.5	2.4	2.3	2.3	2.4	2.5	2.5	2.4	2.3	2.3	2.5	2.7	2.9	3.4	3.1	3.1	2.7	2.7	3.4	
3-Jul	2.0	2.4	2.4	Z	2.4	2.2	2.9	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	2.1	2.6	2.1	2.2	2.9	
4-Jul	2.0	2.1	2.2	2.2	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	2.0	2.4	2.2	2.5	2.5	2.5	2.5	2.2	2.5	
5-Jul	2.6	2.8	2.8	2.4	2.2	Z	3.4	3.4	4.0	2.9	2.1	2.0	2.1	2.1	2.1	2.5	2.6	2.6	2.6	2.4	2.9	2.9	2.9	3.3	2.7	4.0	
6-Jul	Z	3.3	3.4	2.8	2.7	2.4	2.4	2.1	2.6	2.5	2.4	2.4	2.4	2.4	2.3	2.1	2.1	2.0	2.4	2.3	2.4	2.6	2.9	3.4	2.5	3.4	
7-Jul	2.7	Z	2.1	2.1	2.1	2.1	2.2	2.6	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.4	2.3	2.0	2.1	2.3	2.3	2.4	2.2	2.7	
8-Jul	2.5	2.6	Z	2.1	2.0	2.1	2.1	2.1	2.2	2.3	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.5	2.5	2.1	2.1	2.2	2.0	2.2	2.6	
9-Jul	2.1	2.2	2.0	Z	2.3	2.2	2.2	2.1	2.0	2.1	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	2.0	2.1	2.3	
10-Jul	2.1	2.0	2.0	2.0	Z	2.0	M	M	C	C	C	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.2	3.3	2.1	3.3	
11-Jul	4.0	2.9	2.1	2.1	2.1	Z	2.2	2.2	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.0	2.3	2.1	2.3	2.4	2.5	2.9	2.4	2.3	4.0	
12-Jul	Z	2.2	2.1	2.5	2.1	2.4	2.6	2.4	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.3	2.3	2.4	2.7	2.9	2.9	2.3	2.9	
13-Jul	2.8	Z	4.8	2.8	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	2.2	2.4	2.6	2.2	2.1	2.3	4.8	
14-Jul	2.1	2.1	Z	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	
15-Jul	2.1	2.1	2.5	Z	2.2	2.1	2.2	2.1	2.1	2.2	2.2	2.1	2.1	2.0	2.1	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.5	
16-Jul	2.2	2.3	2.4	2.2	Z	2.4	2.1	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.4	2.2	2.1	2.2	2.1	2.1	2.4	3.0	2.2	3.0	
17-Jul	2.4	2.6	3.9	4.8	3.7	Z	2.9	2.9	3.3	3.7	2.4	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.8	2.6	3.3	3.3	2.9	2.8	4.8	
18-Jul	Z	2.6	3.0	2.8	2.5	2.6	2.6	2.5	2.7	2.9	2.6	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.5	2.5	2.7	2.4	3.0	
19-Jul	3.0	Z	3.9	2.7	2.8	2.5	2.3	2.7	3.8	2.9	2.6	2.6	2.2	2.1	2.1	2.1	2.2	2.3	2.6	2.6	2.3	2.3	2.9	2.7	2.6	3.9	
20-Jul	2.8	2.8	Z	2.8	2.9	2.8	2.7	2.6	2.7	2.7	2.5	2.4	2.5	2.7	2.3	2.1	2.1	2.1	2.1	2.3	2.5	2.5	2.1	2.1	2.5	2.9	
21-Jul	2.1	2.1	2.2	Z	2.1	2.1	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	2.1	2.1	2.2	2.1	2.1	2.1	2.2	
22-Jul	2.1	2.1	2.1	2.4	Z	2.9	2.6	2.2	2.3	2.4	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.5	2.6	2.2	2.2	2.9	
23-Jul	2.2	2.2	2.3	2.4	2.7	Z	2.6	2.6	2.5	2.5	2.1	2.1	2.1	2.1	2.1	2.3	2.4	2.2	2.1	2.1	2.1	2.1	2.8	3.0	2.3	3.0	
24-Jul	Z	2.1	2.3	2.5	2.7	2.8	2.7	2.5	2.5	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.5	2.6	2.8	2.6	2.7	2.1	2.5	2.4	2.4	2.8	
25-Jul	2.1	Z	2.1	2.4	3.0	2.8	2.8	2.7	2.6	2.4	2.1	2.1	2.1	2.4	2.5	2.2	2.2	2.1	2.3	2.3	2.3	2.6	2.8	2.2	2.4	3.0	
26-Jul	2.1	2.1	Z	2.1	2.4	3.2	3.2	2.6	2.4	2.6	2.2	2.5	2.3	2.4	2.3	2.2	2.2	2.1	2.4	2.5	2.4	2.8	2.3	2.1	2.4	3.2	
27-Jul	2.1	2.1	2.1	Z	2.2	2.0	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	2.2	3.2	2.2	2.1	2.1	3.2	
28-Jul	2.1	2.1	2.3	2.6	Z	2.1	2.4	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.8	2.9	2.8	2.5	2.3	2.9	
29-Jul	2.4	2.3	2.3	2.4	2.4	Z	2.3	2.6	2.6	2.5	2.4	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.4	3.1	2.3	3.4	2.4	3.4	
30-Jul	Z	3.0	2.7	2.5	2.5	3.2	3.4	3.0	2.8	2.6	2.3	2.2	2.3	2.7	2.6	2.4	2.4	2.4	2.3	2.7	3.6	3.5	3.6	2.6	2.7	3.6	
31-Jul	2.2	Z	2.9	4.3	3.1	3.0	2.8	3.1	2.8	2.5	2.4	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.6	2.5	4.3	
2.4 2.4 2.6 2.5 2.5 2.5 2.6 2.5 2.5 2.4 2.2 2.2 2.1 2.2 2.1 2.1 2.1 2.2 2.2 2.3 2.4 2.5 2.5 2.5																										Diurnal Average	
4.0 3.3 4.8 4.8 3.7 3.2 4.5 4.7 4.0 3.7 2.6 2.6 2.5 2.7 2.6 2.5 2.6 2.6 2.8 2.9 3.6 3.5 3.6 3.4																										Diurnal Maximum	
Z - zerospan C - Calibration M - Maintenance																											



Wood Buffalo Environmental Association
Hourly Averages

Total Hydrocarbons (THC) - ppm
Fort Hills - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Hydrocarbons (THC) - ppm
Fort Hills - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	107	15.11	15.11
2.1 - 3.0	560	79.10	94.21
3.1 - 10.0	41	5.79	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 Hills - July 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	0	0	0	0	0	0	4	11	6	11	15	10	12	17	20	107
2.1 - 3.0	79	34	12	10	14	11	31	84	84	50	34	22	16	16	30	32	559
3.1 - 10.0	8	1	0	2	2	2	2	8	4	3	1	1	0	0	2	5	41
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	88	35	12	12	16	13	33	96	99	59	46	38	26	28	49	57	707

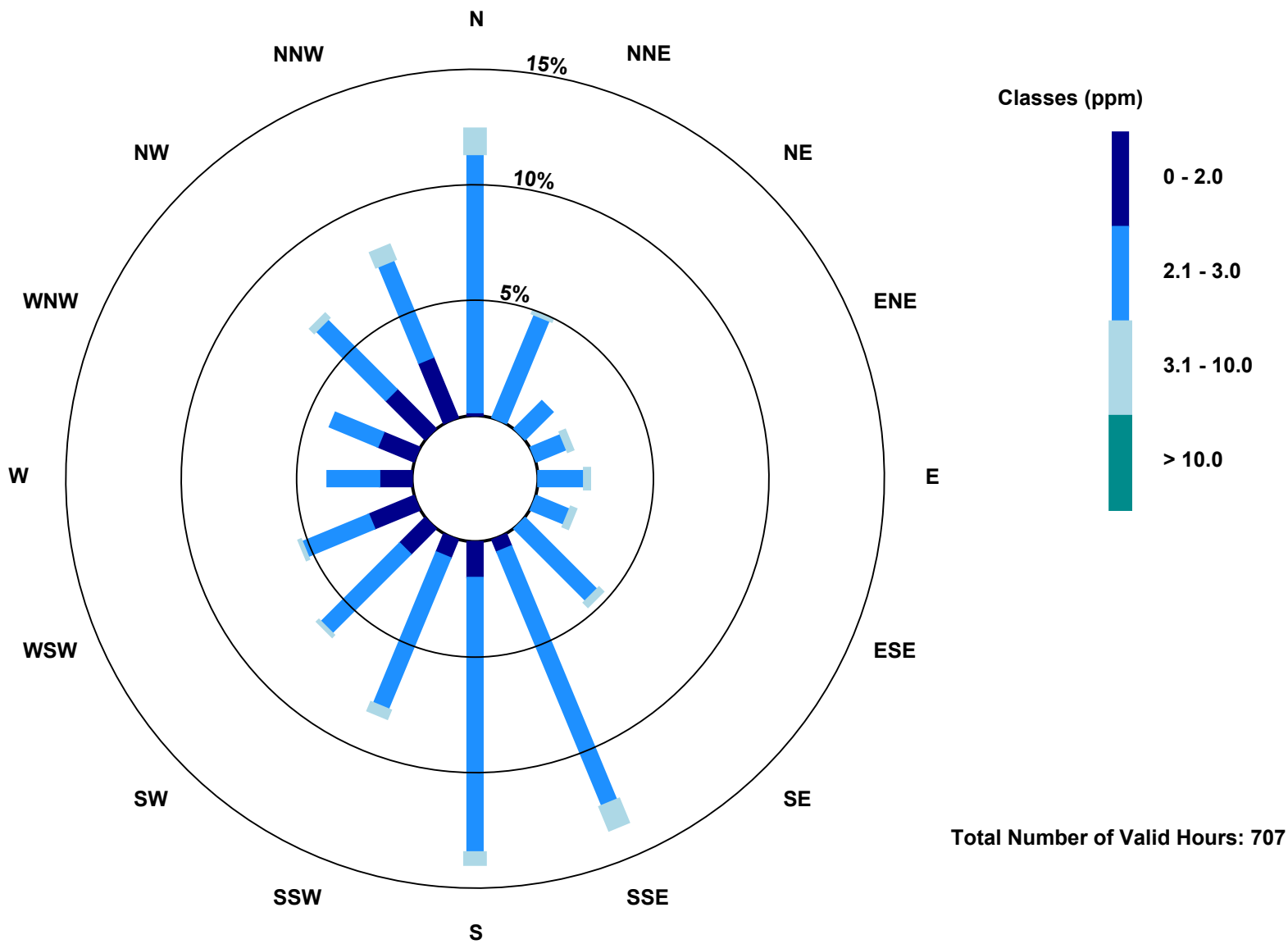
Total Number of Valid Hours: 707

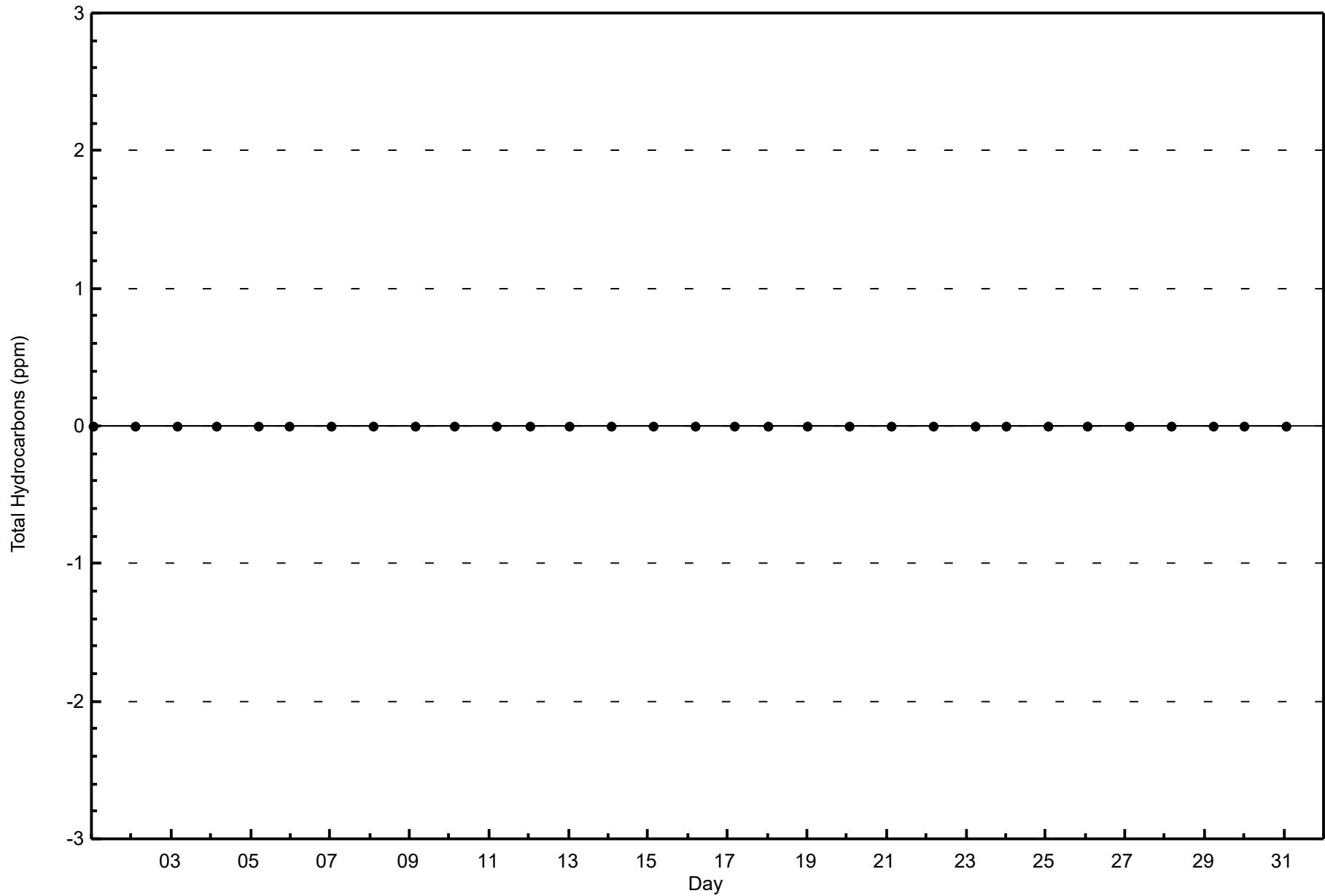
Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Total Hydrocarbons (THC) - ppm
Fort Hills

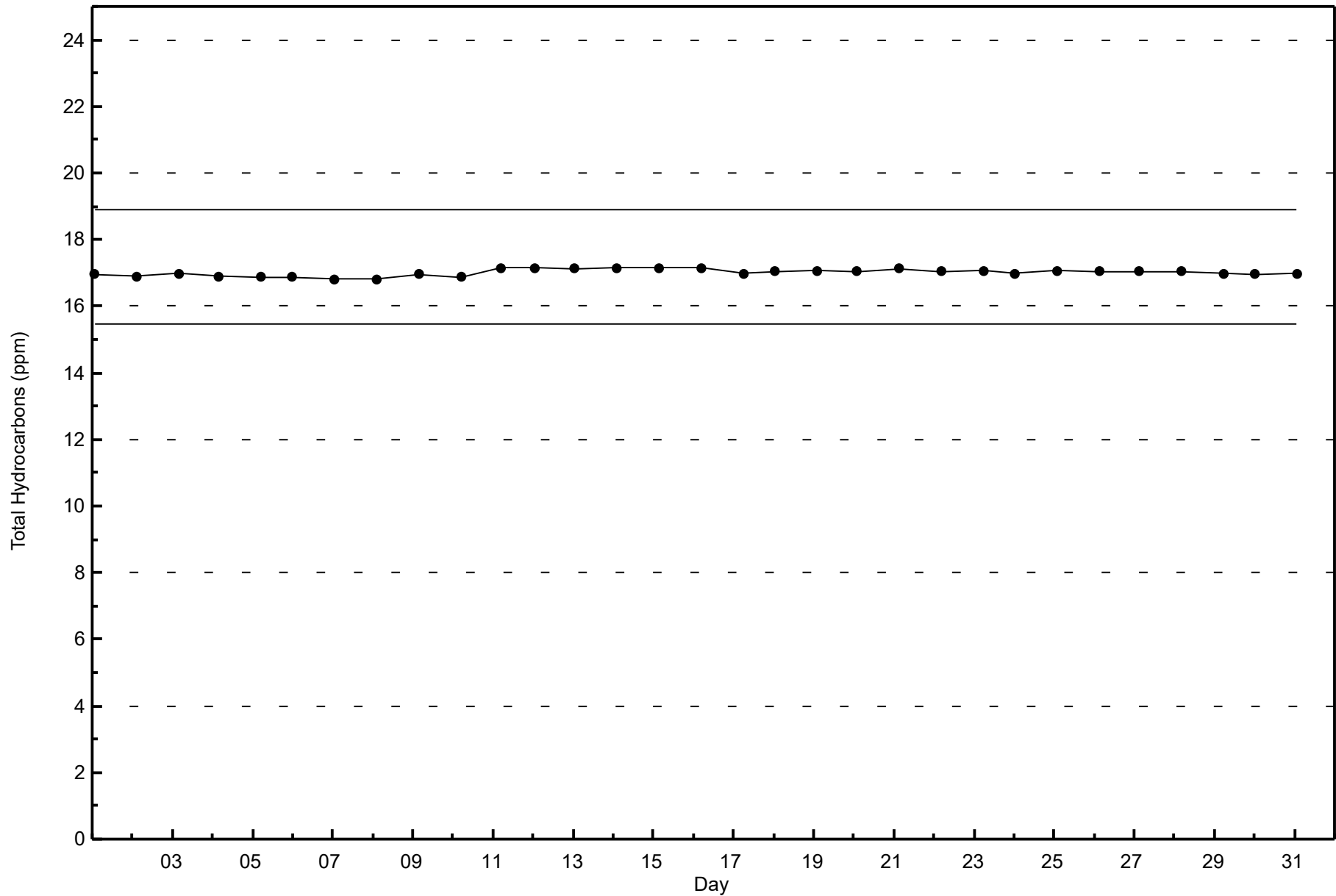






Wood Buffalo Environmental Association
Span Responses

Total Hydrocarbons (THC) - ppm
Fort Hills - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Non Methane Hydrocarbons (NMHC) - ppm

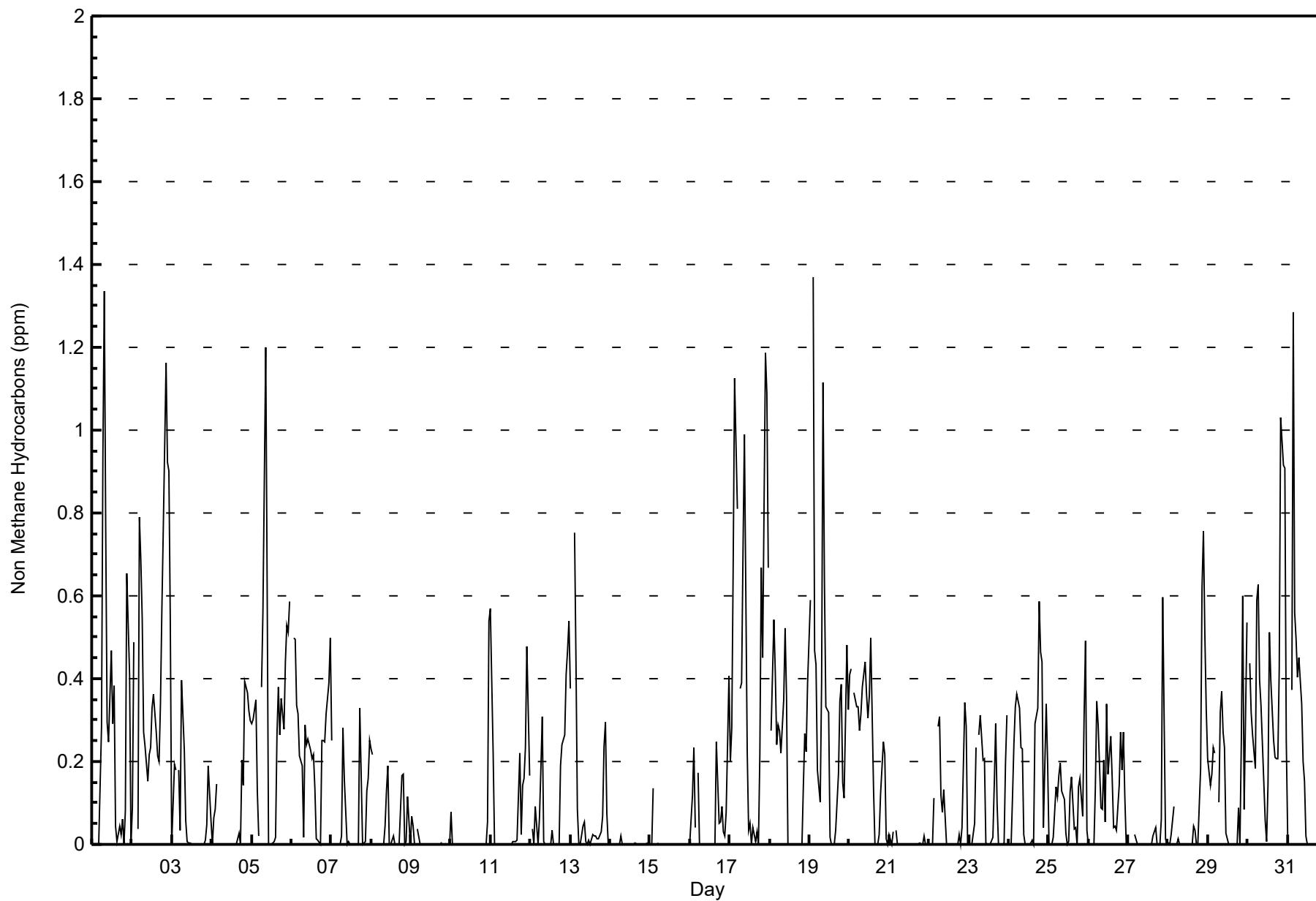
Fort Hills - July 2025

Maximum Value: 1.368 ppm on Jul 19 03:00																			Maximum Daily Average: 0.449 ppm on Jul 2										Hours in Service: 744	
Minimum Value: 0.000 ppm on Jul 1 03:00																			Minimum Daily Average: 0.001 ppm on Jul 14										Hours of Data: 708	
Maximum Diurnal Average: 0.309 ppm at hour 22																			Minimum Diurnal Average: 0.034 ppm at hour 16										Hours of Missing Data: 36	
Monthly Average: 0.156 ppm																			Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.3 P ₉₀ = 0.4 P ₉₉ = 1.1										Hours of Calibration: 34	
																													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-Jul	0.247	Z	0.000	0.000	0.000	0.281	0.940	1.334	0.760	0.295	0.247	0.467	0.293	0.385	0.046	0.006	0.044	0.025	0.061	0.000	0.082	0.654	0.411	0.000	0.286	1.334				
2-Jul	0.089	0.490	Z	0.038	0.791	0.690	0.547	0.272	0.237	0.153	0.216	0.233	0.331	0.363	0.270	0.213	0.200	0.340	0.565	0.760	1.162	0.922	0.903	0.543	0.449	1.162				
3-Jul	0.000	0.194	0.181	Z	0.181	0.033	0.398	0.228	0.058	0.007	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.011	0.048	0.192	0.057	0.069	0.398				
4-Jul	0.000	0.063	0.083	0.147	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.028	0.000	0.203	0.143	0.394	0.366	0.321	0.300	0.089	0.394				
5-Jul	0.290	0.301	0.348	0.128	0.019	Z	0.379	0.564	1.199	0.627	0.000	0.000	0.000	0.007	0.015	0.265	0.381	0.265	0.353	0.279	0.442	0.529	0.513	0.586	0.326	1.199				
6-Jul	Z	0.499	0.496	0.335	0.314	0.212	0.190	0.015	0.289	0.241	0.253	0.226	0.208	0.218	0.136	0.014	0.011	0.000	0.251	0.251	0.249	0.314	0.389	0.499	0.244	0.499				
7-Jul	0.251	Z	0.000	0.000	0.000	0.000	0.022	0.281	0.156	0.000	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.329	0.165	0.000	0.006	0.130	0.160	0.250	0.076	0.329				
8-Jul	0.230	0.218	Z	0.000	0.000	0.000	0.000	0.000	0.043	0.128	0.191	0.000	0.000	0.021	0.000	0.000	0.000	0.000	0.167	0.170	0.000	0.008	0.114	0.000	0.056	0.230				
9-Jul	0.067	0.046	0.000	Z	0.039	0.000	0.000	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	0.000	0.000	0.007	0.067				
10-Jul	0.077	0.000	0.000	0.000	Z	0.000	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	0.055	0.540	0.037	0.540				
11-Jul	0.568	0.220	0.000	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008	0.007	0.007	0.011	0.219	0.025	0.143	0.158	0.234	0.476	0.167	0.098	0.568				
12-Jul	Z	0.038	0.000	0.092	0.000	0.066	0.185	0.308	0.007	0.000	0.000	0.000	0.000	0.035	0.000	0.000	0.000	0.000	0.189	0.242	0.265	0.410	0.469	0.539	0.124	0.539				
13-Jul	0.377	Z	0.754	0.444	0.086	0.003	0.000	0.046	0.054	0.006	0.000	0.009	0.000	0.025	0.020	0.019	0.014	0.014	0.030	0.068	0.237	0.296	0.074	0.000	0.112	0.754				
14-Jul	0.000	0.000	Z	0.000	0.000	0.000	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.000	0.001	0.022				
15-Jul	0.000	0.000	0.134	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	0.000	0.000	0.000	0.000	0.000	0.006	0.134				
16-Jul	0.000	0.119	0.233	0.041	Z	0.172	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.247	0.051	0.055	0.093	0.031	0.019	0.077	0.406	0.067	0.406				
17-Jul	0.199	0.283	0.675	1.125	0.810	Z	0.376	0.390	0.707	0.991	0.224	0.035	0.050	0.000	0.040	0.005	0.032	0.000	0.218	0.667	0.451	1.186	1.087	0.668	0.444	1.186				
18-Jul	Z	0.275	0.542	0.415	0.241	0.288	0.275	0.222	0.350	0.522	0.357	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.141	0.268	0.225	0.390	0.196	0.542				
19-Jul	0.589	Z	1.368	0.469	0.433	0.179	0.103	0.395	1.115	0.638	0.332	0.319	0.017	0.000	0.000	0.000	0.032	0.170	0.346	0.385	0.149	0.111	0.480	0.324	0.346	1.368				
20-Jul	0.409	0.424	Z	0.367	0.331	0.331	0.276	0.314	0.379	0.442	0.364	0.307	0.359	0.498	0.132	0.000	0.000	0.000	0.025	0.121	0.249	0.216	0.015	0.000	0.242	0.498				
21-Jul	0.023	0.000	0.031	Z	0.034	0.000	0.000	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	0.019	0.000	0.000	0.005	0.034				
22-Jul	0.000	0.000	0.000	0.110	Z	0.284	0.309	0.119	0.077	0.131	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.024	0.000	0.041	0.342	0.285	0.000	0.075	0.342				
23-Jul	0.000	0.000	0.000	0.051	0.233	Z	0.264	0.311	0.202	0.206	0.004	0.000	0.000	0.000	0.015	0.145	0.290	0.097	0.000	0.000	0.000	0.003	0.195	0.312	0.101	0.312				
24-Jul	Z	0.000	0.115	0.245	0.334	0.364	0.328	0.233	0.232	0.023	0.000	0.000	0.000	0.004	0.012	0.000	0.291	0.331	0.587	0.464	0.440	0.042	0.337	0.198	0.199	0.587				
25-Jul	0.000	Z	0.000	0.019	0.141	0.115	0.166	0.196	0.130	0.107	0.029	0.000	0.006	0.125	0.161	0.036	0.041	0.000	0.138	0.159	0.068	0.311	0.493	0.032	0.107	0.493				
26-Jul	0.000	0.000	Z	0.000	0.137	0.345	0.287	0.089	0.084	0.205	0.054	0.340	0.170	0.260	0.159	0.039	0.043	0.034	0.144	0.270	0.180	0.271	0.116	0.000	0.140	0.345				
27-Jul	0.000	0.000	0.000	Z	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.021	0.039	0.000	0.000	0.000	0.060	0.596	0.014	0.000	0.033	0.596				
28-Jul	0.003	0.000	0.025	0.093	Z	0.000	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.044	0.033	0.000	0.000	0.183	0.620	0.755	0.509	0.326	0.113	0.755				
29-Jul	0.208	0.141	0.169	0.233	0.221	Z	0.102	0.317	0.369	0.272	0.233	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.090	0.001	0.251	0.601	0.085	0.536	0.168	0.601				
30-Jul	Z	0.437	0.320	0.264	0.183	0.589	0.628	0.398	0.336	0.244	0.056	0.007	0.146	0.512	0.395	0.251	0.212	0.208	0.207	0.425	1.032	0.916	0.910	0.255	0.388	1.032				
31-Jul	0.023	Z	0.371	1.285	0.560	0.493	0.404	0.452	0.340	0.199	0.154	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008	0.007	0.005	0.348	0.203	1.285				
0.140 0.150 0.225 0.227 0.197 0.171 0.207 0.216 0.237 0.181 0.091 0.064 0.051 0.079 0.045 0.034 0.063 0.067 0.124 0.156 0.217 0.309 0.288 0.235																										Diurnal Average				
0.589 0.499 1.368 1.285 0.810 0.690 0.940 1.334 1.199 0.991 0.364 0.467 0.359 0.512 0.395 0.265 0.381 0.340 0.587 0.760 1.162 1.186 1.087 0.668																										Diurnal Maximum				
Z - zerospan C - Calibration M - Maintenance																														



Wood Buffalo Environmental Association
Hourly Averages

Non Methane Hydrocarbons (NMHC) - ppm
Fort Hills - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Non Methane Hydrocarbons (NMHC) - ppm
Fort Hills - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 0.005	295	41.67	41.67
0.006 - 0.05	92	12.99	54.66
0.06 - 0.1	59	8.33	62.99
> 0.1	262	37.01	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



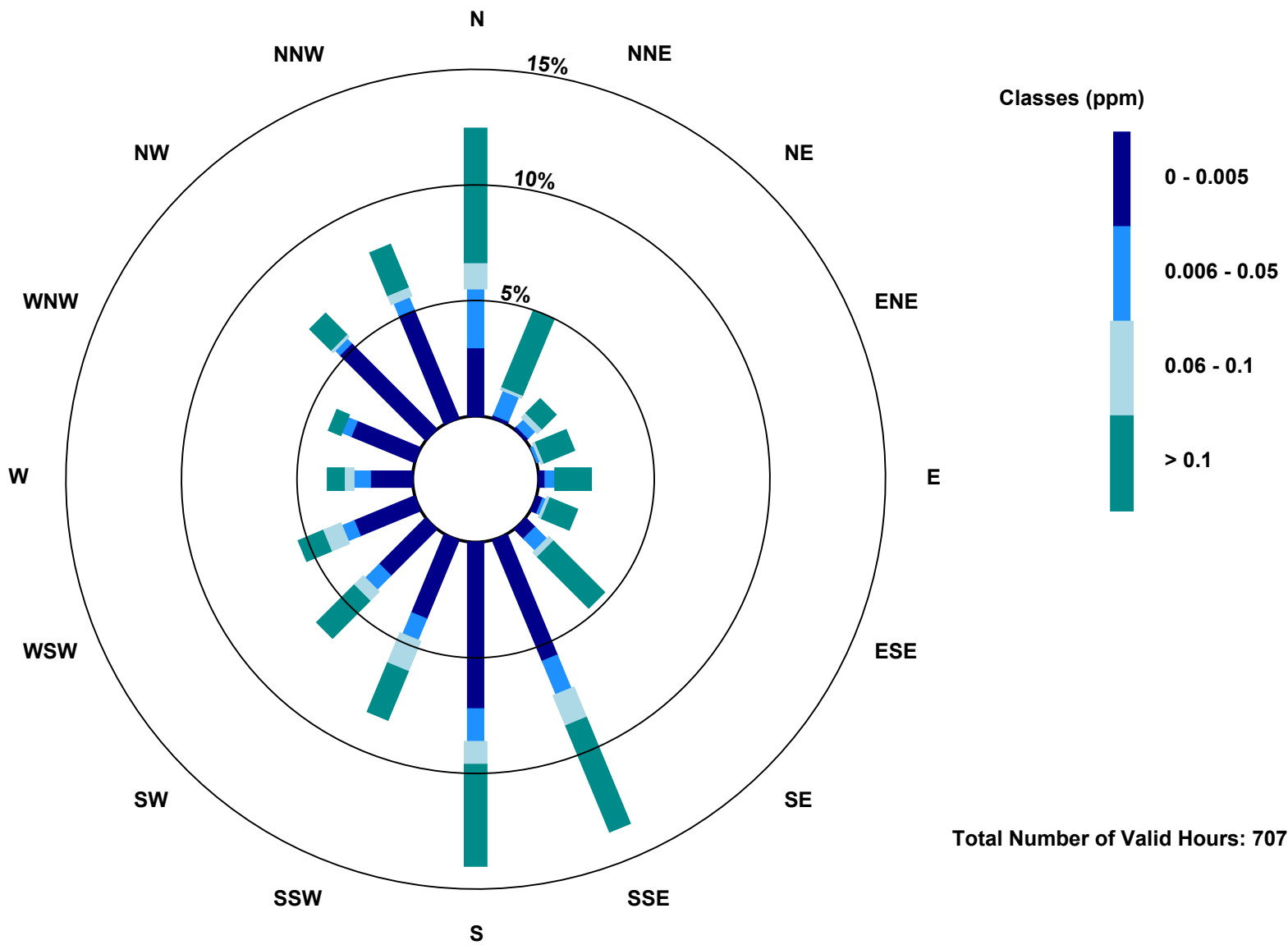
Wood Buffalo Environmental Association
Frequency Distribution

Non Methane Hydrocarbons (NMHC) - ppm
Fort Hills - July 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	21	1	1	0	2	2	4	40	51	26	20	20	13	21	37	36	295
0.006 - 0.05	18	8	3	1	3	1	5	11	10	7	6	4	5	3	2	4	91
0.06 - 0.1	8	1	2	1	0	1	2	10	7	10	4	6	3	0	1	3	59
> 0.1	41	25	6	10	11	9	22	35	31	16	16	8	5	4	9	14	262
Totals	88	35	12	12	16	13	33	96	99	59	46	38	26	28	49	57	707

Total Number of Valid Hours: 707

Total Number of Hours: 744



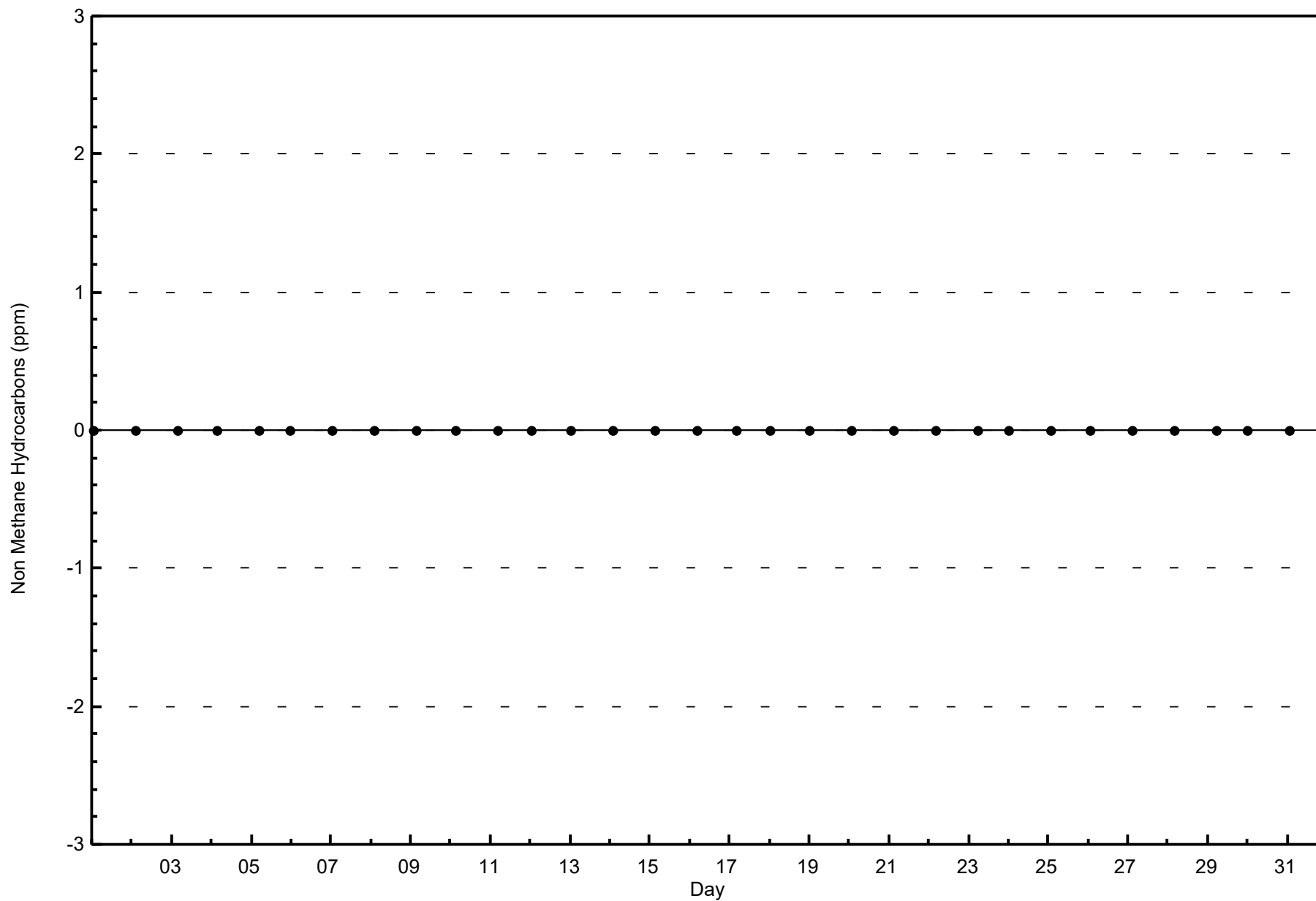


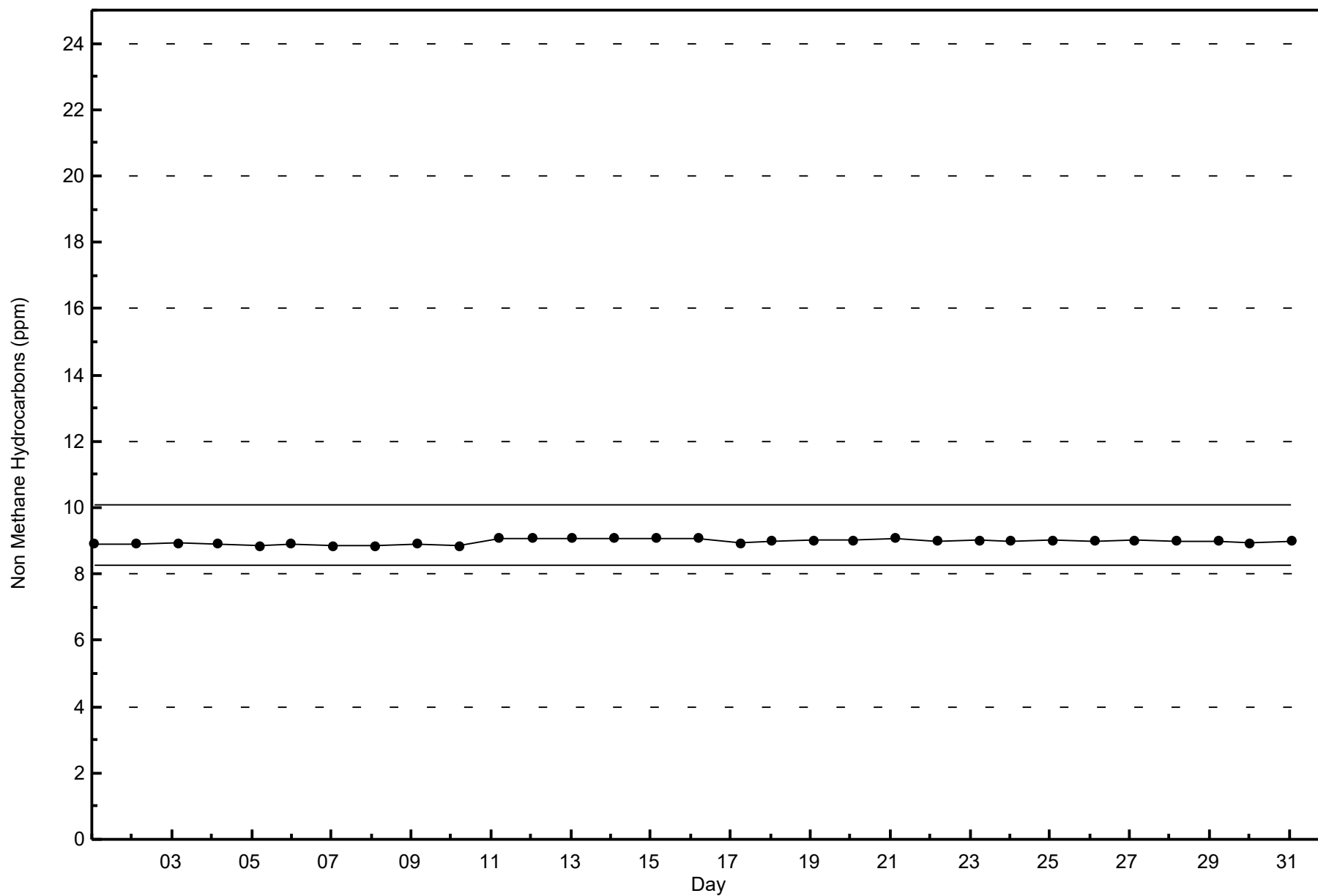
Wood Buffalo Environmental Association

Zero Responses

Non Methane Hydrocarbons (NMHC) - ppm

Fort Hills - July 2025







Wood Buffalo Environmental Association

Summary of Hour Averages

Methane (CH₄) - ppm

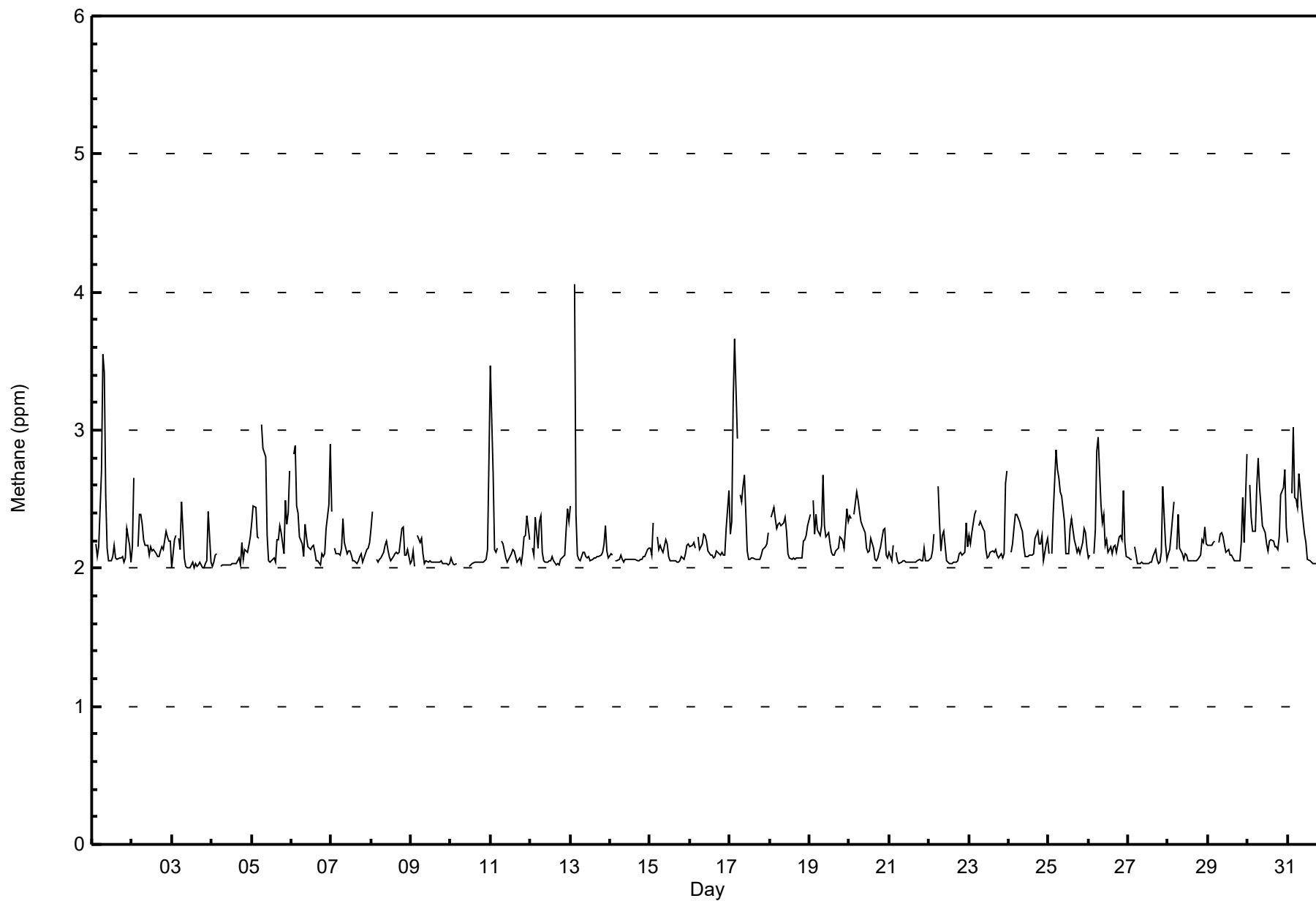
Fort Hills - July 2025

Number of Exceedences (AAAQO): Maximum Value: 4.1 ppm on Jul 13 03:00																		1-hr: 0 24-hr: 0 Maximum Daily Average: 2.4 ppm on Jul 30																		Hours in Service: 744 Hours of Data: 708 Hours of Missing Data: 36 Hours of Calibration: 34 Percent Operational Time: 99.7			
Minimum Value: 2.0 ppm on Jul 3 11:00 Maximum Diurnal Average: 2.4 ppm at hour 7 Monthly Average: 2.19 ppm																		Minimum Daily Average: 2.1 ppm on Jul 21 Minimum Diurnal Average: 2.1 ppm at hour 13 Percentiles: P ₁ = 2.0 P ₁₀ = 2.0 Q ₁ = 2.1 Median = 2.1 Q ₃ = 2.2 P ₉₀ = 2.4 P ₉₉ = 3.0																					
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-Jul	2.4	Z	2.2	2.1	2.2	2.7	3.5	3.4	2.5	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.3	2.2	2.0	2.3	3.5													
2-Jul	2.2	2.7	Z	2.2	2.4	2.4	2.3	2.2	2.2	2.2	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.3	2.2	2.2	2.2	2.2	2.7													
3-Jul	2.0	2.2	2.2	Z	2.2	2.1	2.5	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	2.4	2.0	2.1	2.5													
4-Jul	2.0	2.0	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	2.0	2.2	2.1	2.1	2.1	2.2	2.2	2.1	2.2													
5-Jul	2.3	2.4	2.4	2.2	2.2	Z	3.0	2.9	2.8	2.2	2.1	2.0	2.1	2.1	2.0	2.2	2.2	2.3	2.3	2.1	2.5	2.3	2.4	2.7	2.3	3.0													
6-Jul	Z	2.8	2.9	2.4	2.4	2.2	2.2	2.1	2.3	2.2	2.2	2.1	2.2	2.2	2.1	2.1	2.1	2.0	2.1	2.1	2.1	2.3	2.5	2.9	2.3	2.9													
7-Jul	2.4	Z	2.1	2.1	2.1	2.1	2.1	2.4	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.2	2.1	2.4													
8-Jul	2.3	2.4	Z	2.1	2.0	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	2.3	2.3	2.1	2.1	2.1	2.0	2.1	2.4													
9-Jul	2.0	2.1	2.0	Z	2.2	2.2	2.2	2.1	2.0	2.1	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	2.0	2.1	2.2													
10-Jul	2.1	2.0	2.0	2.0	Z	2.0	M	M	C	C	C	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.8	2.1	2.8													
11-Jul	3.5	2.7	2.1	2.1	2.1	Z	2.2	2.2	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.0	2.1	2.2	2.2	2.4	2.2	2.2	3.5													
12-Jul	Z	2.1	2.1	2.4	2.1	2.3	2.4	2.1	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.3	2.4	2.3	2.1	2.4													
13-Jul	2.5	Z	4.1	2.4	2.1	2.1	2.1	2.1	2.1	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	2.1	2.1	2.2	4.1													
14-Jul	2.1	2.1	Z	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													
15-Jul	2.1	2.1	2.3	Z	2.2	2.1	2.2	2.1	2.1	2.2	2.2	2.1	2.1	2.0	2.1	2.1	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.2	2.1	2.3													
16-Jul	2.2	2.2	2.2	2.1	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	2.1	2.3	2.6	2.2	2.6													
17-Jul	2.2	2.3	3.2	3.7	2.9	Z	2.5	2.5	2.6	2.7	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	2.3	2.4	3.7													
18-Jul	Z	2.4	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.4	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.3	2.2	2.4													
19-Jul	2.4	Z	2.5	2.2	2.4	2.3	2.2	2.3	2.7	2.3	2.2	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.1	2.4	2.3	2.3	2.7													
20-Jul	2.4	2.4	Z	2.4	2.6	2.5	2.4	2.3	2.3	2.3	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.3	2.1	2.1	2.2	2.6													
21-Jul	2.1	2.1	2.2	Z	2.1	2.1	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2													
22-Jul	2.1	2.1	2.1	2.2	Z	2.6	2.3	2.1	2.2	2.3	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.3	2.2	2.1	2.6													
23-Jul	2.2	2.2	2.3	2.4	2.4	Z	2.3	2.3	2.3	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.6	2.7	2.2	2.7													
24-Jul	Z	2.1	2.2	2.3	2.4	2.4	2.3	2.3	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.3	2.2	2.2	2.0	2.2	2.2	2.2	2.4													
25-Jul	2.1	Z	2.1	2.4	2.9	2.7	2.7	2.5	2.5	2.3	2.1	2.1	2.1	2.1	2.3	2.4	2.2	2.2	2.1	2.1	2.1	2.2	2.3	2.1	2.3	2.9													
26-Jul	2.1	2.1	Z	2.1	2.3	2.9	2.9	2.5	2.3	2.4	2.2	2.2	2.1	2.2	2.1	2.2	2.2	2.1	2.2	2.2	2.2	2.6	2.2	2.1	2.3	2.9													
27-Jul	2.1	2.1	2.1	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	2.1	2.1	2.1	2.0	2.0	2.1	2.6	2.2	2.1	2.6													
28-Jul	2.1	2.1	2.2	2.5	Z	2.1	2.4	2.1	2.1	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	2.3	2.2	2.1	2.5													
29-Jul	2.2	2.2	2.2	2.2	2.2	Z	2.2	2.2	2.3	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.2	2.5	2.2	2.2	2.8													
30-Jul	Z	2.6	2.4	2.3	2.3	2.6	2.8	2.6	2.4	2.3	2.3	2.2	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.2	2.5	2.6	2.7	2.3	2.4	2.8												
31-Jul	2.2	Z	2.5	3.0	2.5	2.5	2.4	2.7	2.4	2.3	2.2	2.2	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.3	2.3	3.0													
2.2 2.3 2.4 2.3 2.3 2.3 2.4 2.3 2.3 2.2 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.2 2.2 2.3 2.3																								Diurnal Average															
3.5 2.8 4.1 3.7 2.9 2.9 3.5 3.4 2.8 2.7 2.3 2.3 2.2 2.3 2.4 2.2 2.2 2.3 2.3 2.3 2.5 2.6 2.7 2.9																								Diurnal Maximum															
Z - zerospan C - Calibration M - Maintenance																																							



Wood Buffalo Environmental Association
Hourly Averages

Methane (CH₄) - ppm
Fort Hills - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Methane (CH₄) - ppm
Fort Hills - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	115	16.24	16.24
2.1 - 3.0	587	82.91	99.15
3.1 - 10.0	6	0.85	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 Hills - July 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	2	0	0	0	0	0	0	5	11	7	11	17	13	12	17	20	115
2.1 - 3.0	84	35	12	12	16	13	33	91	88	50	35	21	13	16	31	36	586
3.1 - 10.0	2	0	0	0	0	0	0	0	0	2	0	0	0	0	1	1	6
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	88	35	12	12	16	13	33	96	99	59	46	38	26	28	49	57	707

Total Number of Valid Hours: 707

Total Number of Hours: 744



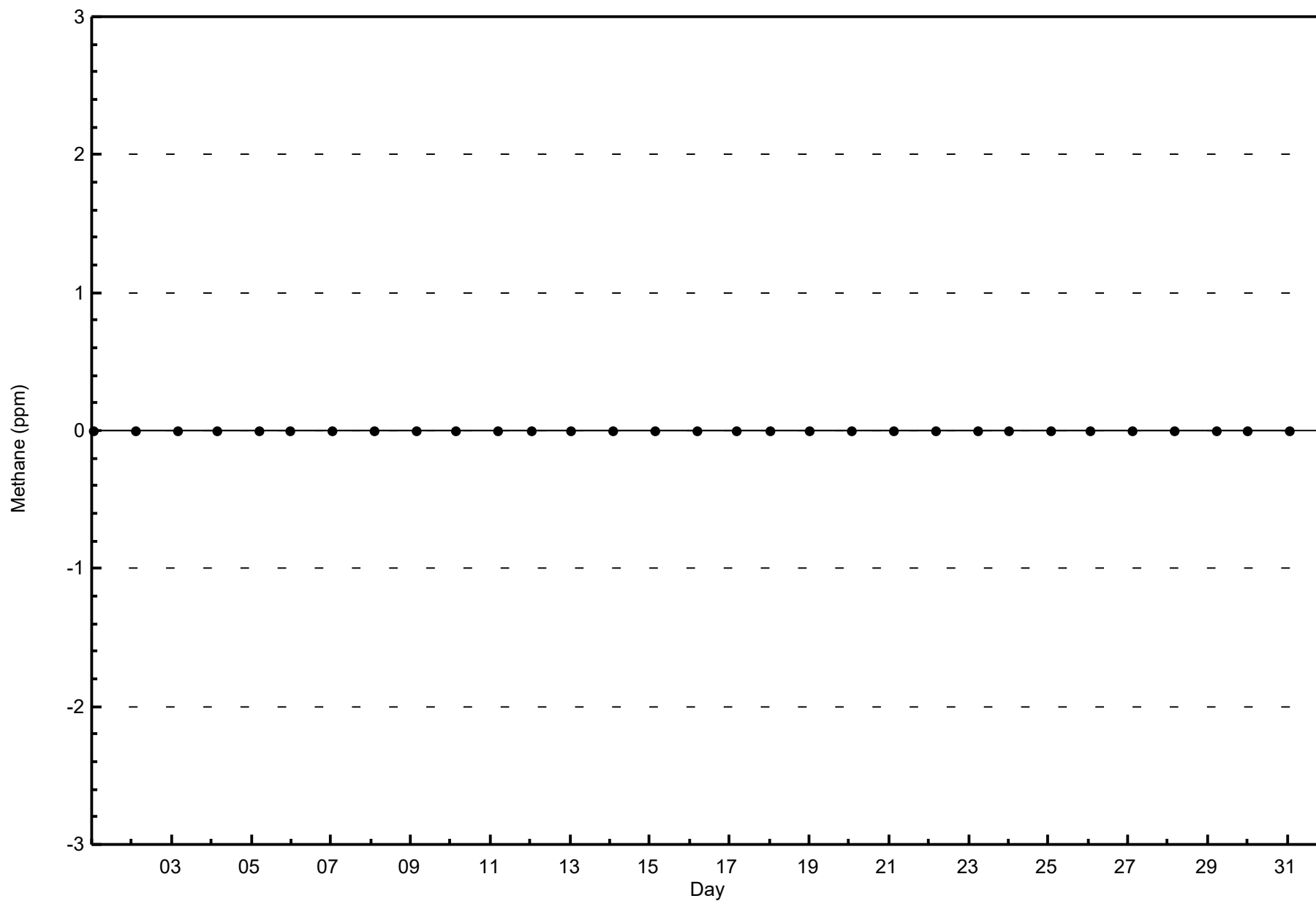
Methane (CH₄) - ppm
Fort Hills





Wood Buffalo Environmental Association
Zero Responses

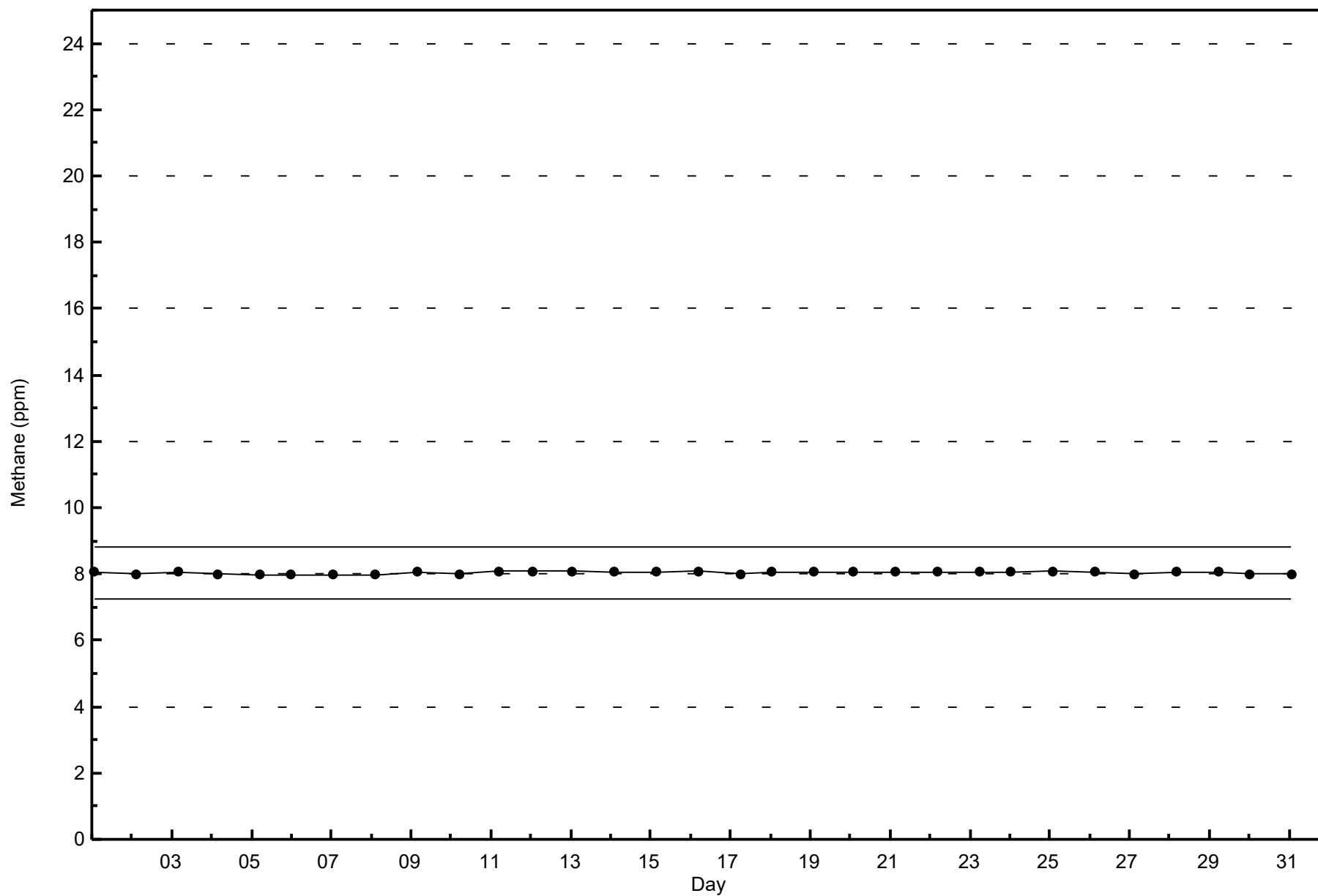
Methane (CH₄) - ppm
Fort Hills - July 2025





Wood Buffalo Environmental Association
Span Responses

Methane (CH₄) - ppm
Fort Hills - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitric Oxide (NO) - ppb

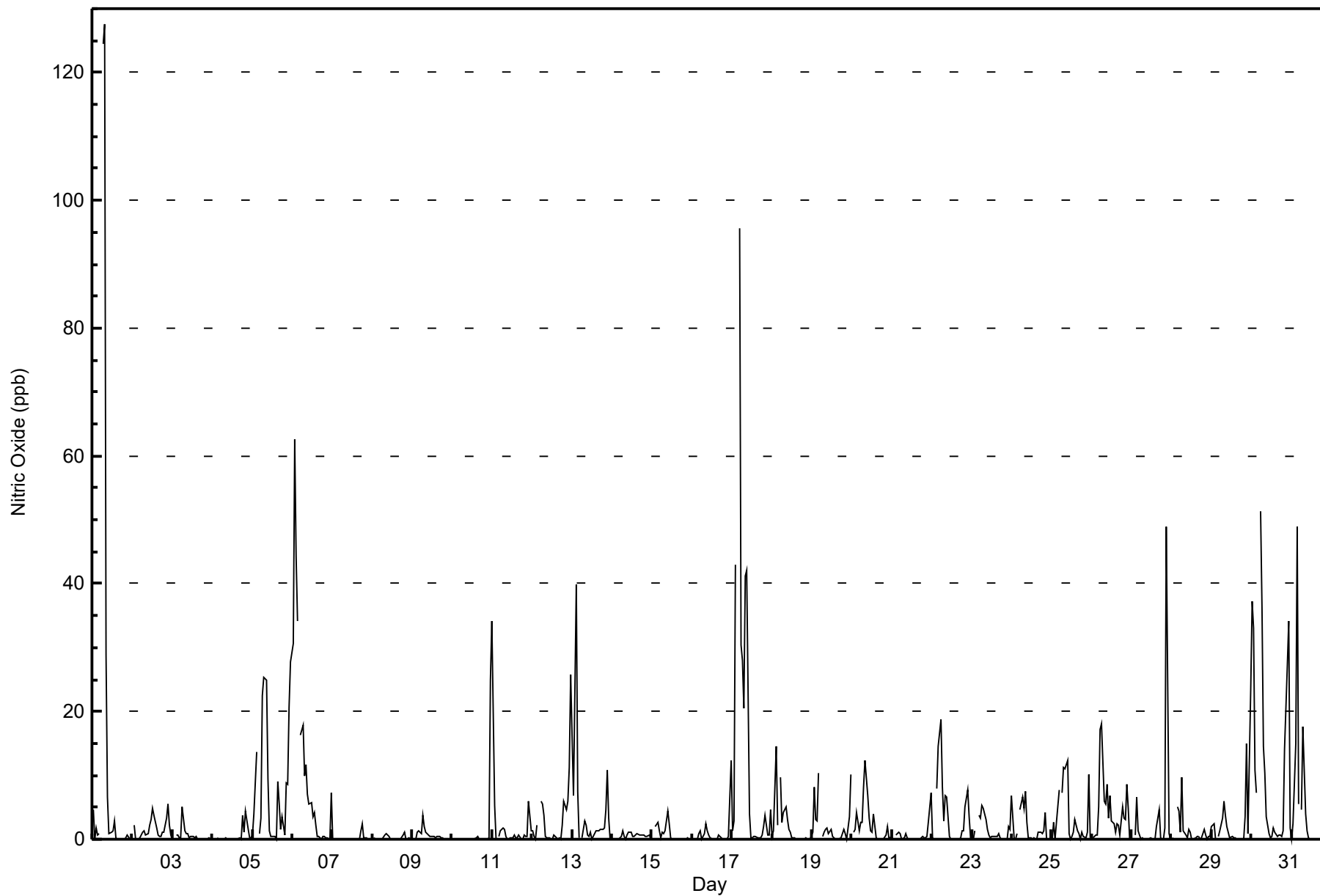
Fort Hills - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 127.6 ppb on Jul 1 08:00 Maximum Daily Average: 14.0 ppb on Jul 17																			Hours in Service: 744 Hours of Data: 707 Hours of Missing Data: 37 Hours of Calibration: 36 Percent Operational Time: 99.9							
Minimum Value: 0.0 ppb on Jul 1 16:00 Minimum Daily Average: 0.2 ppb on Jul 8 Maximum Diurnal Average: 10.7 ppb at hour 7 Minimum Diurnal Average: 0.3 ppb at hour 18 Monthly Average: 3.61 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.5 Q ₃ = 2.4 P ₉₀ = 7.9 P ₉₉ = 44.2																										
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-Jul	4.7	0.0	1.8	0.6	0.8	Z	124.6	127.6	28.9	6.5	0.9	1.2	1.4	2.8	0.2	0.0	0.0	0.0	0.0	0.1	0.1	0.6	0.0	0.0	13.2	127.6
2-Jul	Z	2.1	0.0	0.0	0.3	0.7	1.2	1.4	0.7	0.9	2.2	3.0	4.8	3.7	1.7	0.7	0.4	0.5	1.0	1.1	3.2	5.5	2.1	0.7	1.6	5.5
3-Jul	0.0	Z	0.7	0.6	0.1	0.2	5.1	1.2	0.9	0.9	0.2	0.4	0.5	0.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.5	5.1
4-Jul	0.0	0.0	Z	0.3	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	3.8	1.0	4.4	1.5	0.3	0.2	0.5	4.4
5-Jul	0.8	4.0	13.7	Z	0.8	3.3	22.6	25.2	24.9	9.5	1.3	0.4	0.3	0.4	0.0	9.0	5.5	1.5	3.5	0.6	8.8	8.5	20.7	27.7	8.4	27.7
6-Jul	30.6	62.5	44.3	34.1	Z	16.4	17.9	9.8	11.7	7.0	5.5	5.7	3.4	4.2	2.1	0.4	0.3	0.0	0.3	0.4	0.3	0.3	0.1	7.2	11.5	62.5
7-Jul	0.0	0.0	0.0	0.0	0.0	Z	1.5	C	C	C	C	C	0.1	0.0	0.0	0.0	0.0	1.3	2.5	0.2	0.2	0.0	0.0	0.0	0.3	2.5
8-Jul	Z	0.2	0.0	0.0	0.0	0.0	0.0	0.7	0.8	0.6	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.2	0.0	0.0	0.1	0.0	0.2	1.2
9-Jul	0.0	Z	0.0	1.0	1.3	0.9	3.7	2.0	1.0	0.8	0.5	0.5	0.5	0.4	0.2	0.4	0.4	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.6	3.7
10-Jul	0.0	0.0	Z	0.0	0.0	0.0	M	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.3	24.8	1.2	24.8
11-Jul	34.2	5.3	0.0	Z	0.3	1.3	1.7	1.6	0.4	0.0	0.0	0.1	0.2	0.6	0.3	0.1	0.6	0.0	0.0	0.6	0.5	0.4	6.0	1.3	2.4	34.2
12-Jul	1.4	0.5	0.0	2.2	Z	6.0	5.5	3.7	0.3	0.2	0.3	0.0	0.0	0.6	0.3	0.0	0.3	0.0	2.2	5.9	4.6	5.8	11.2	25.8	3.3	25.8
13-Jul	16.1	6.9	39.9	7.4	0.2	Z	0.2	2.9	2.2	0.6	0.4	1.0	0.0	0.8	1.4	1.3	1.4	1.5	1.5	1.8	4.7	10.7	3.2	0.0	4.6	39.9
14-Jul	Z	0.1	0.0	0.0	0.1	0.5	1.4	0.3	0.0	0.6	1.2	1.1	0.4	0.5	0.6	1.0	0.7	0.6	0.8	0.7	0.5	0.4	0.7	0.0	0.5	1.4
15-Jul	0.1	Z	1.9	2.6	1.2	0.3	1.1	0.9	1.3	4.4	2.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.7	4.4
16-Jul	0.0	0.0	Z	0.0	0.9	1.3	0.0	0.9	2.3	1.3	0.7	0.1	0.0	0.0	0.0	0.0	0.6	0.3	0.1	0.0	0.0	0.0	0.5	12.2	0.9	12.2
17-Jul	1.4	2.9	42.9	Z	95.6	30.5	28.0	20.5	41.1	42.1	3.9	0.2	0.3	0.4	0.4	0.2	0.3	0.2	0.6	2.0	3.6	0.6	0.6	4.6	14.0	95.6
18-Jul	0.5	1.4	14.5	2.2	Z	9.7	2.8	4.3	5.1	3.1	1.5	1.1	0.3	0.2	0.1	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.0	0.0	2.0	14.5
19-Jul	1.2	8.0	3.0	2.9	10.4	Z	0.4	1.0	1.6	1.7	0.8	1.5	0.4	0.1	0.0	0.0	0.1	0.2	0.9	1.5	0.8	0.0	3.6	10.1	2.2	10.4
20-Jul	Z	1.1	1.6	4.1	1.3	2.6	2.8	8.2	12.4	6.8	3.4	1.4	1.1	3.9	0.2	0.0	0.0	0.0	0.0	0.0	0.7	2.0	0.3	0.2	2.3	12.4
21-Jul	0.7	Z	0.6	0.9	1.0	0.8	0.1	0.2	0.9	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.2	0.2	0.5	2.6	7.2	0.7	7.2
22-Jul	0.1	0.0	Z	7.8	14.5	18.8	8.0	2.9	6.8	6.6	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.4	1.3	5.2	7.7	3.5	0.3	3.7	18.8
23-Jul	0.1	0.0	1.4	Z	3.7	3.3	5.2	4.8	3.0	1.5	0.6	0.2	0.4	0.4	0.4	0.4	0.8	0.2	0.0	0.0	0.0	0.0	2.1	1.5	1.3	5.2
24-Jul	6.8	0.0	0.1	0.9	Z	4.7	6.6	4.8	7.5	2.6	0.2	0.1	0.1	0.3	0.1	0.1	1.1	1.0	0.9	1.3	4.3	0.0	0.0	0.0	1.9	7.5
25-Jul	0.0	2.6	0.0	2.6	7.8	Z	7.4	11.2	11.1	12.3	0.9	0.0	0.3	1.1	3.1	1.2	0.9	0.1	1.1	0.5	0.3	1.0	10.1	0.1	3.3	12.3
26-Jul	Z	0.2	0.7	0.6	5.0	17.1	18.0	5.9	5.6	8.7	3.4	6.9	2.8	2.4	1.1	2.4	2.3	0.7	5.1	3.3	3.1	8.7	4.9	0.0	4.7	18.0
27-Jul	0.0	Z	0.6	6.6	1.2	0.1	0.3	0.0	0.0	0.1	0.1	0.2	0.0	0.0	0.0	2.1	4.6	0.3	0.0	0.0	1.7	48.8	0.9	0.0	2.9	48.8
28-Jul	0.0	0.2	Z	5.1	4.5	1.1	9.6	1.3	0.6	0.1	1.5	1.0	0.0	0.0	0.2	0.4	0.5	0.1	0.3	1.5	0.7	0.0	0.5	0.4	1.3	9.6
29-Jul	2.0	2.4	0.0	Z	0.4	1.2	3.4	6.0	3.8	1.9	1.1	0.3	0.5	0.2	0.3	0.1	0.0	0.0	0.0	0.0	3.4	14.9	0.9	23.6	2.9	23.6
30-Jul	37.3	33.1	10.7	7.2	Z	51.2	36.1	14.6	10.4	3.6	0.9	0.2	0.5	1.8	1.1	0.5	0.7	0.7	0.4	1.2	14.1	27.4	34.1	1.7	12.6	51.2
31-Jul	0.0	2.4	14.9	49.0	5.6	Z	4.6	17.6	3.9	1.2	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	0.2	4.3	49.0
																									Diurnal Average	
																									Diurnal Maximum	
Z - zerospan C - Calibration M - Maintenance																										



Wood Buffalo Environmental Association
Hourly Averages

Nitric Oxide (NO) - ppb
Fort Hills - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitric Oxide (NO) - ppb
Fort Hills - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	675	95.47	95.47
21 - 40	21	2.97	98.44
41 - 80	8	1.13	99.58
81 - 159	3	0.42	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
Fort Hills - July 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	76	33	12	12	16	12	34	93	97	53	44	36	24	30	50	52	674
21 - 40	6	2	0	0	0	1	0	2	1	2	1	0	0	1	2	3	21
11 - 80	4	0	0	0	0	0	1	1	0	0	0	1	0	0	0	1	8
81 - 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	86	35	12	12	16	13	35	96	98	55	45	37	24	31	53	58	706

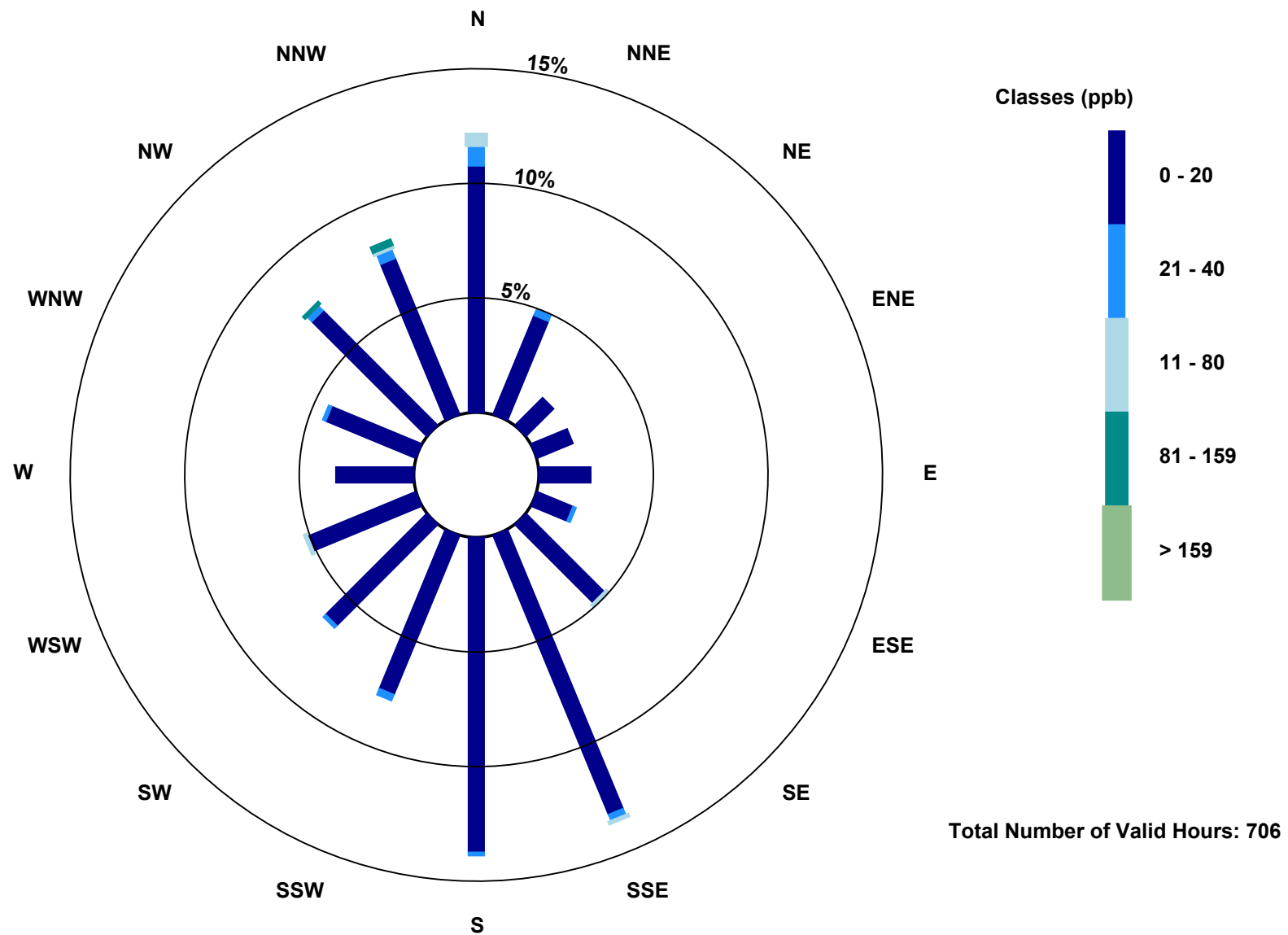
Total Number of Valid Hours: 706

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

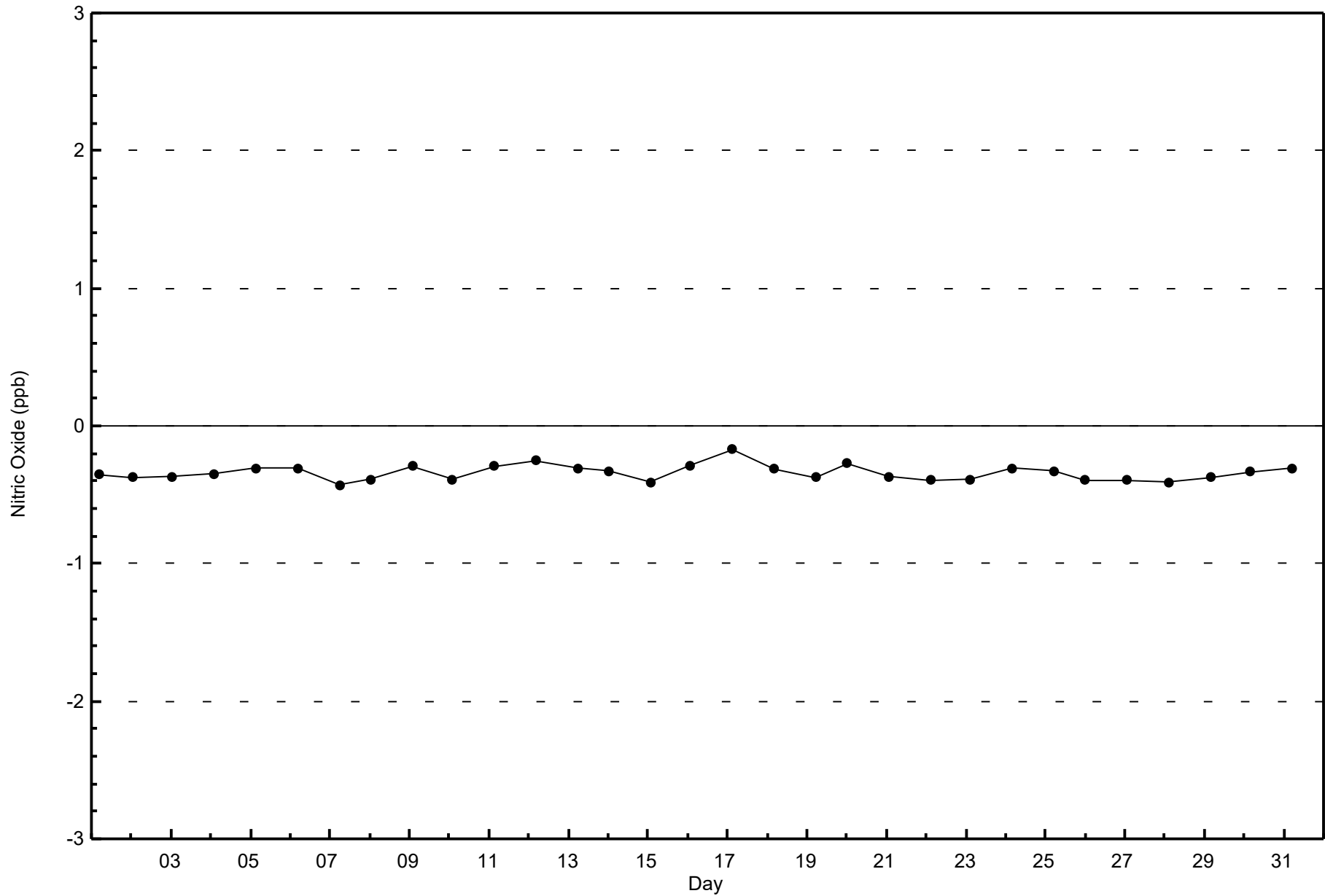
Nitric Oxide (NO) - ppb
Fort Hills





Wood Buffalo Environmental Association
Zero Responses

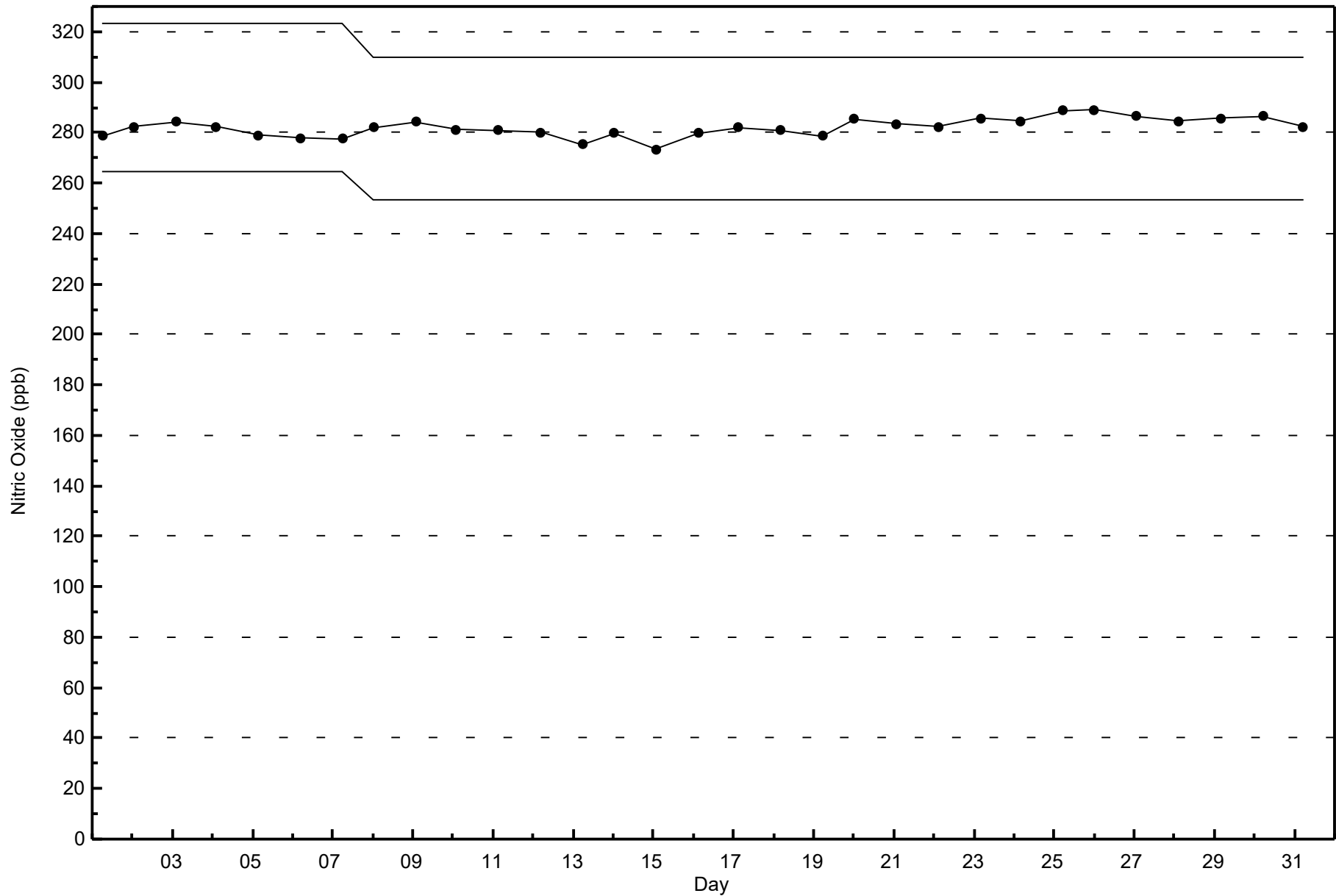
Nitric Oxide (NO) - ppb
Fort Hills - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitric Oxide (NO) - ppb
Fort Hills - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Dioxide (NO₂) - ppb

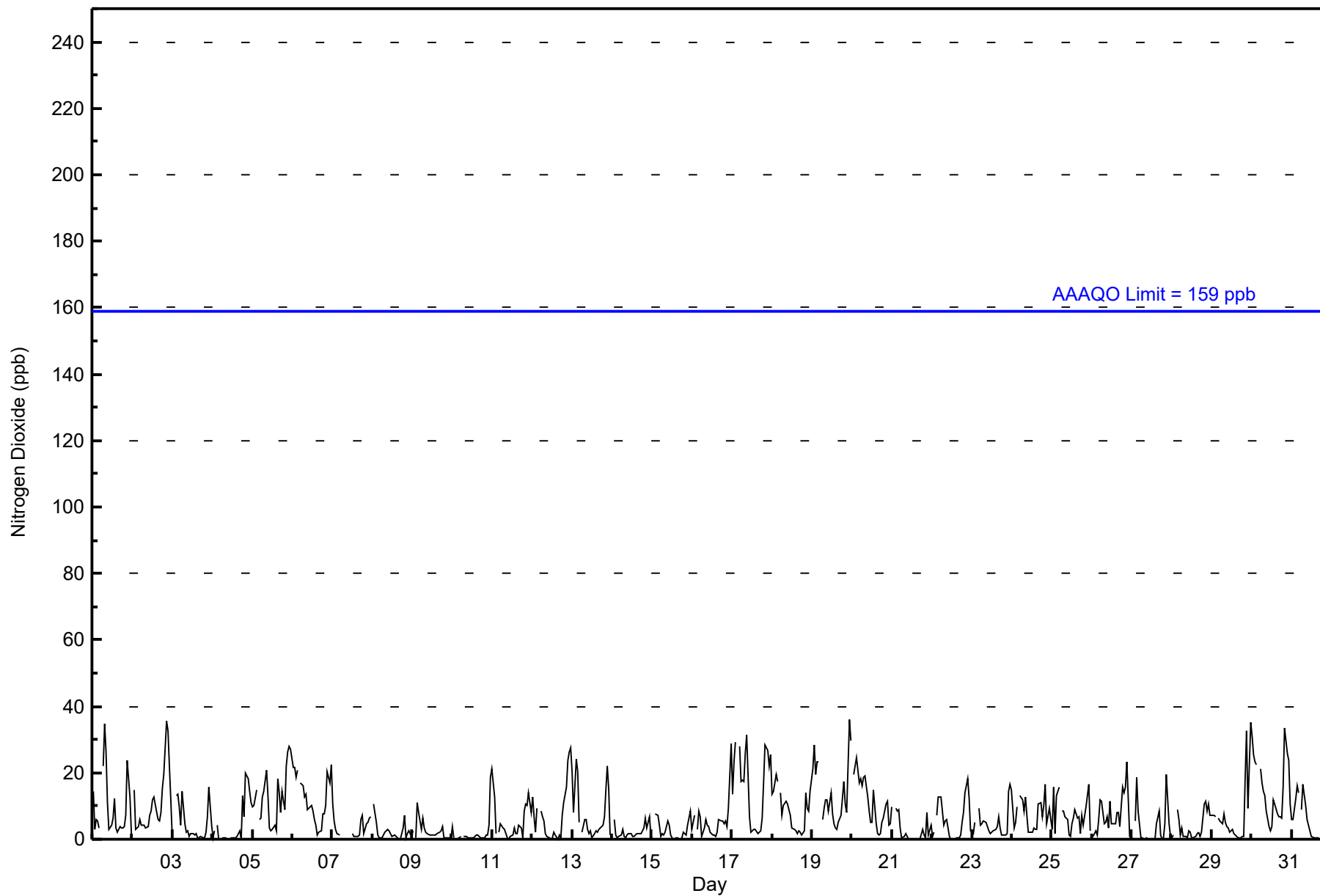
Fort Hills - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																			Hours in Service: 744							
Maximum Value: 36.0 ppb on Jul 19 23:00 Maximum Daily Average: 15.4 ppb on Jul 17																			Hours of Data: 707							
Minimum Value: 0.0 ppb on Jul 8 18:00 Minimum Daily Average: 1.8 ppb on Jul 10																			Hours of Missing Data: 37							
Maximum Diurnal Average: 13.4 ppb at hour 22 Minimum Diurnal Average: 2.5 ppb at hour 15																			Hours of Calibration: 36							
Monthly Average: 6.94 ppb Percentiles: P ₁ = 0.1 P ₁₀ = 0.4 Q ₁ = 1.4 Median = 4.3 Q ₃ = 10.2 P ₉₀ = 17.6 P ₉₉ = 31.5																			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-Jul	14.5	2.8	6.0	5.3	3.6	Z	22.0	34.7	26.2	10.9	2.8	4.3	6.5	12.2	3.5	2.2	3.7	3.5	3.4	4.0	7.0	23.7	12.9	1.5	9.4	34.7
2-Jul	Z	14.9	2.8	4.0	5.9	4.1	4.2	4.1	3.5	3.9	7.4	8.4	12.0	12.9	8.1	6.1	5.3	8.1	15.3	19.6	35.4	32.6	22.0	12.0	11.0	35.4
3-Jul	1.0	Z	13.0	13.7	9.6	4.4	14.4	4.6	2.0	2.6	1.0	1.6	1.8	1.1	1.7	0.5	0.3	0.9	0.3	0.6	2.0	6.9	15.7	4.4	4.5	15.7
4-Jul	0.3	2.7	Z	4.2	0.1	0.2	0.5	0.5	0.6	0.2	0.2	0.5	0.6	0.5	0.4	0.8	2.6	0.2	13.0	6.8	20.0	18.1	14.5	11.2	4.3	20.0
5-Jul	9.7	10.2	14.8	Z	6.1	6.3	12.6	14.4	20.9	13.1	3.5	2.4	2.9	4.2	2.7	18.4	14.1	8.0	14.2	8.8	22.1	26.2	27.9	27.0	12.6	27.9
6-Jul	21.5	21.4	18.8	20.7	Z	17.0	15.9	12.8	13.4	9.0	9.4	10.3	8.4	6.1	4.3	1.2	2.1	2.6	7.7	7.7	10.2	20.3	16.8	22.6	12.2	22.6
7-Jul	10.8	5.5	3.1	1.8	1.3	Z	3.0	C	C	C	C	C	1.7	1.0	1.0	0.7	1.3	6.0	7.2	1.9	4.7	5.2	6.3	6.8	3.9	10.8
8-Jul	Z	10.6	5.0	1.4	0.3	0.5	0.6	2.1	2.6	2.9	2.6	1.7	1.0	1.4	0.7	0.6	0.1	0.0	3.3	7.0	0.5	1.8	2.6	1.0	2.2	10.6
9-Jul	2.5	Z	0.3	10.9	8.1	2.9	6.3	3.4	2.0	1.8	1.3	1.2	1.2	1.1	1.1	1.5	2.0	2.4	3.7	0.3	0.3	0.3	0.3	0.3	2.4	10.9
10-Jul	3.7	0.6	Z	0.6	0.5	0.8	M	0.8	0.7	0.6	0.4	0.4	0.6	0.5	1.2	1.3	1.0	0.4	0.3	0.3	1.1	1.1	4.2	18.8	1.8	18.8
11-Jul	21.1	12.8	1.7	Z	2.1	4.6	3.6	3.1	1.6	0.6	0.1	0.8	1.4	3.4	1.7	1.7	4.2	3.3	0.5	8.4	10.4	10.3	13.9	7.9	5.2	21.1
12-Jul	12.5	6.8	2.3	9.3	Z	8.3	6.6	5.3	1.7	0.8	0.6	0.2	0.3	2.0	1.2	0.2	1.2	0.4	7.0	11.2	15.8	23.9	26.1	27.5	7.4	27.5
13-Jul	20.3	8.2	24.3	20.5	4.9	Z	2.1	6.1	5.8	2.9	1.8	2.4	0.3	1.5	2.5	2.1	2.9	3.5	4.3	6.7	15.0	22.0	15.3	1.1	7.7	24.3
14-Jul	Z	6.0	1.2	0.4	1.0	1.3	2.9	1.0	0.4	1.2	1.7	1.7	1.0	0.9	1.1	1.6	1.6	1.6	2.4	3.4	6.2	3.2	6.6	0.9	2.1	6.6
15-Jul	0.5	Z	7.6	7.4	4.1	0.9	1.9	1.4	2.3	5.7	4.2	1.3	0.4	0.2	0.3	0.4	0.2	0.1	0.5	2.0	1.3	4.1	6.2	8.3	2.7	8.3
16-Jul	3.1	7.4	Z	3.1	8.6	6.7	1.0	3.2	6.1	4.4	3.7	2.2	1.4	1.3	0.9	2.0	6.1	5.4	5.3	4.8	5.3	3.7	9.2	28.9	5.4	28.9
17-Jul	13.7	23.4	29.3	Z	28.0	17.2	17.8	17.3	25.7	31.5	6.9	2.2	2.4	3.1	3.0	1.9	2.2	2.6	6.3	16.8	28.2	26.7	21.9	25.6	15.4	31.5
18-Jul	13.7	14.6	19.3	17.3	Z	14.1	7.2	10.3	11.4	10.5	8.8	7.2	3.3	2.8	2.6	1.8	2.4	2.1	1.4	2.6	14.0	9.4	8.6	14.3	8.7	19.3
19-Jul	21.3	28.2	19.7	23.2	23.5	Z	5.8	9.2	12.0	11.9	8.6	14.1	7.5	4.5	3.2	2.9	5.2	7.2	12.3	17.4	10.8	8.2	36.0	29.7	14.0	36.0
20-Jul	Z	19.5	22.2	24.6	16.8	18.3	16.1	18.5	18.9	12.8	8.5	4.9	5.1	15.0	4.7	1.6	1.1	1.7	5.0	6.3	10.4	11.5	4.4	4.8	11.0	24.6
21-Jul	9.6	Z	9.5	8.6	8.9	3.6	0.3	0.7	1.5	0.7	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1	3.0	1.4	0.6	8.2	1.4	4.1	2.8	9.6
22-Jul	1.0	2.1	Z	7.3	12.6	12.5	8.4	4.3	5.3	5.9	0.9	0.2	0.2	0.1	0.1	0.3	0.4	1.2	5.0	7.9	13.9	18.4	12.1	2.7	5.3	18.4
23-Jul	2.1	1.5	4.9	Z	9.3	4.3	4.8	5.4	5.2	4.0	2.7	1.5	2.1	2.7	3.1	3.8	6.7	3.5	1.1	1.2	1.1	1.5	14.4	16.6	4.5	16.6
24-Jul	15.0	3.6	5.0	9.8	Z	13.1	11.9	8.6	12.8	7.0	2.0	2.1	2.3	3.2	2.8	2.9	10.7	11.1	6.7	10.0	16.7	4.6	9.3	5.9	7.7	16.7
25-Jul	2.8	15.7	1.8	13.2	15.8	Z	8.5	8.3	6.6	6.1	1.3	0.7	4.6	6.5	9.1	6.2	6.8	1.9	7.2	4.3	9.9	13.0	16.5	2.5	7.4	16.5
26-Jul	Z	0.9	2.5	1.3	5.9	12.0	11.6	4.7	4.9	6.8	3.6	11.6	4.5	4.6	4.7	8.2	8.2	3.9	15.5	13.8	15.7	23.1	12.1	0.7	7.9	23.1
27-Jul	0.6	Z	5.3	18.5	8.5	0.4	0.6	0.1	0.1	0.3	0.1	0.1	0.0	0.0	0.1	4.7	8.4	1.2	0.1	0.3	4.7	19.4	4.8	0.8	3.4	19.4
28-Jul	0.4	1.4	Z	8.9	5.9	1.1	3.6	0.9	0.7	0.3	2.6	2.1	0.3	0.4	0.9	1.5	2.0	0.8	2.2	10.6	11.4	8.4	10.6	7.1	3.7	11.4
29-Jul	7.4	7.4	6.7	Z	6.3	5.7	4.6	7.6	5.1	3.7	3.6	2.3	3.1	1.7	1.3	0.9	0.3	0.4	0.9	0.8	17.8	32.6	9.3	35.1	7.2	35.1
30-Jul	30.8	25.6	23.2	22.3	Z	21.3	16.8	14.4	13.2	8.3	4.0	2.4	3.7	12.0	10.6	7.5	6.8	6.9	6.3	15.8	33.3	25.7	23.9	10.8	15.0	33.3
31-Jul	5.9	6.0	12.1	16.1	13.8	Z	9.1	16.5	10.3	5.9	4.2	2.7	0.7	0.5	0.3	0.3	0.4	0.2	0.3	0.7	1.6	2.7	5.2	10.2	5.5	16.5
																									Diurnal Average	
																									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 Hills - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Fort Hills - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	655	92.64	92.65
21 - 40	52	7.36	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
Fort Hills - July 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	71	29	12	9	14	12	31	93	97	52	45	35	24	30	51	49	654
21 - 40	15	6	0	3	2	1	4	3	1	3	0	2	0	1	2	9	52
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	86	35	12	12	16	13	35	96	98	55	45	37	24	31	53	58	706

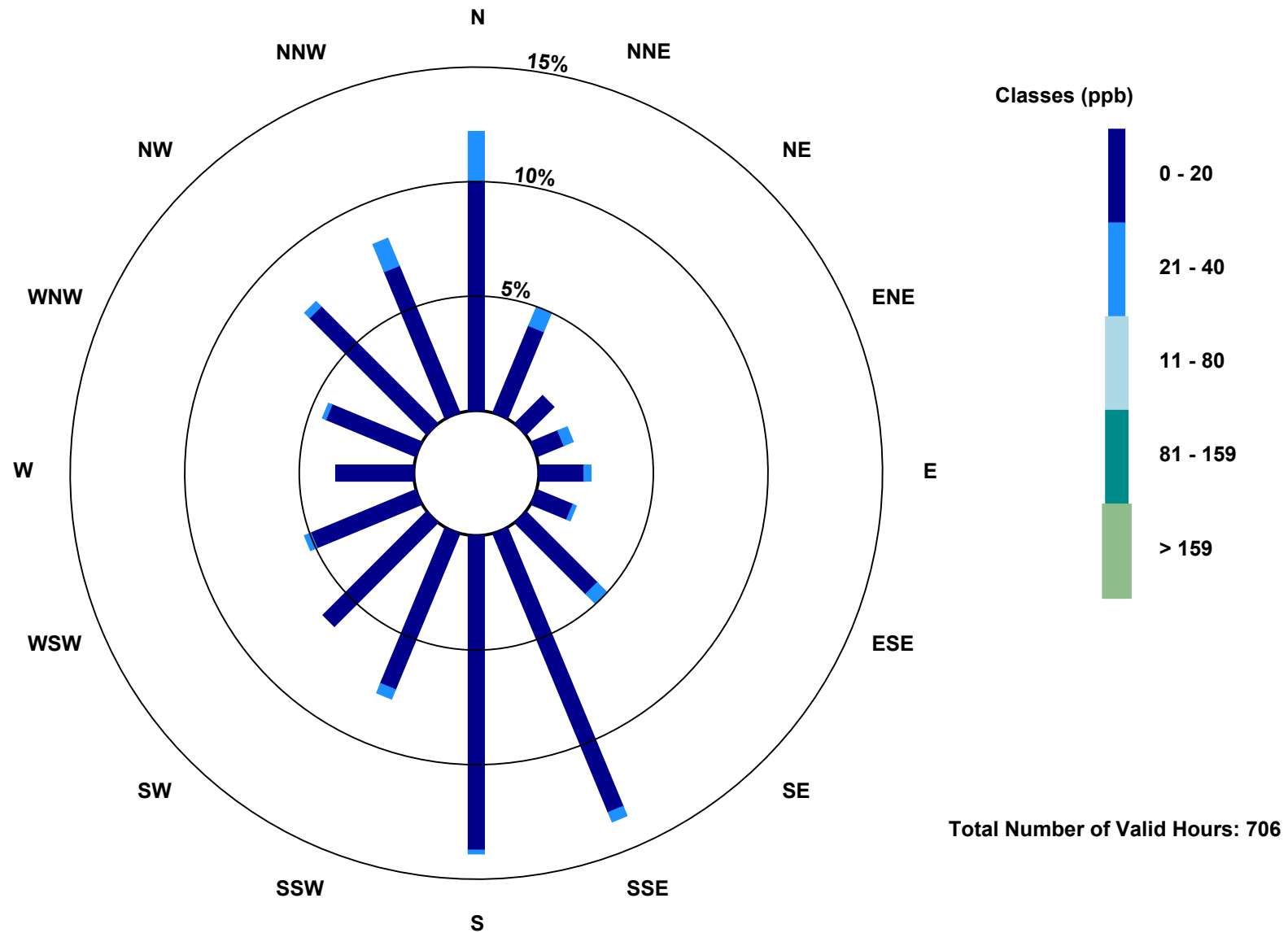
Total Number of Valid Hours: 706

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

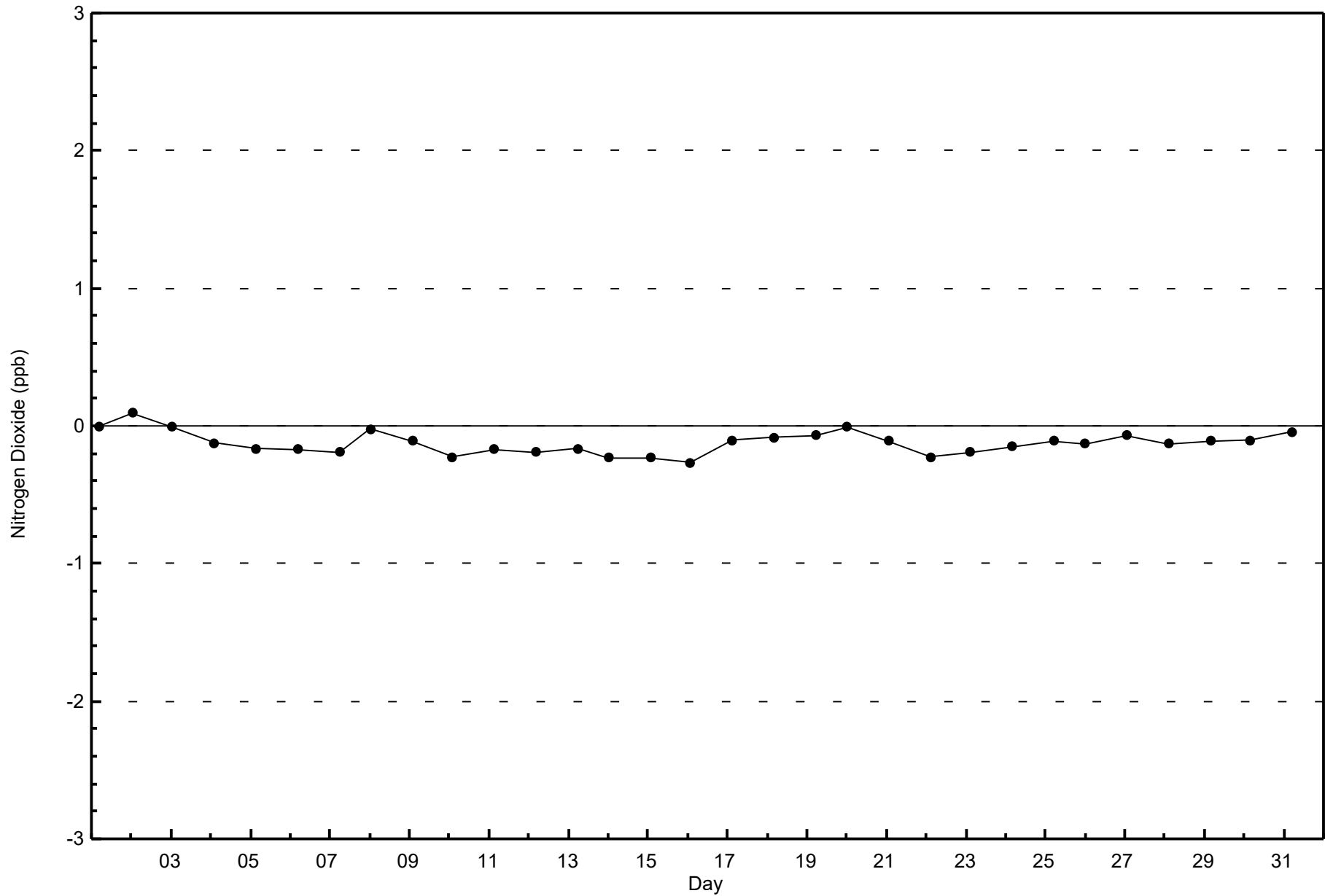
Nitrogen Dioxide (NO₂) - ppb
Fort Hills





Wood Buffalo Environmental Association
Zero Responses

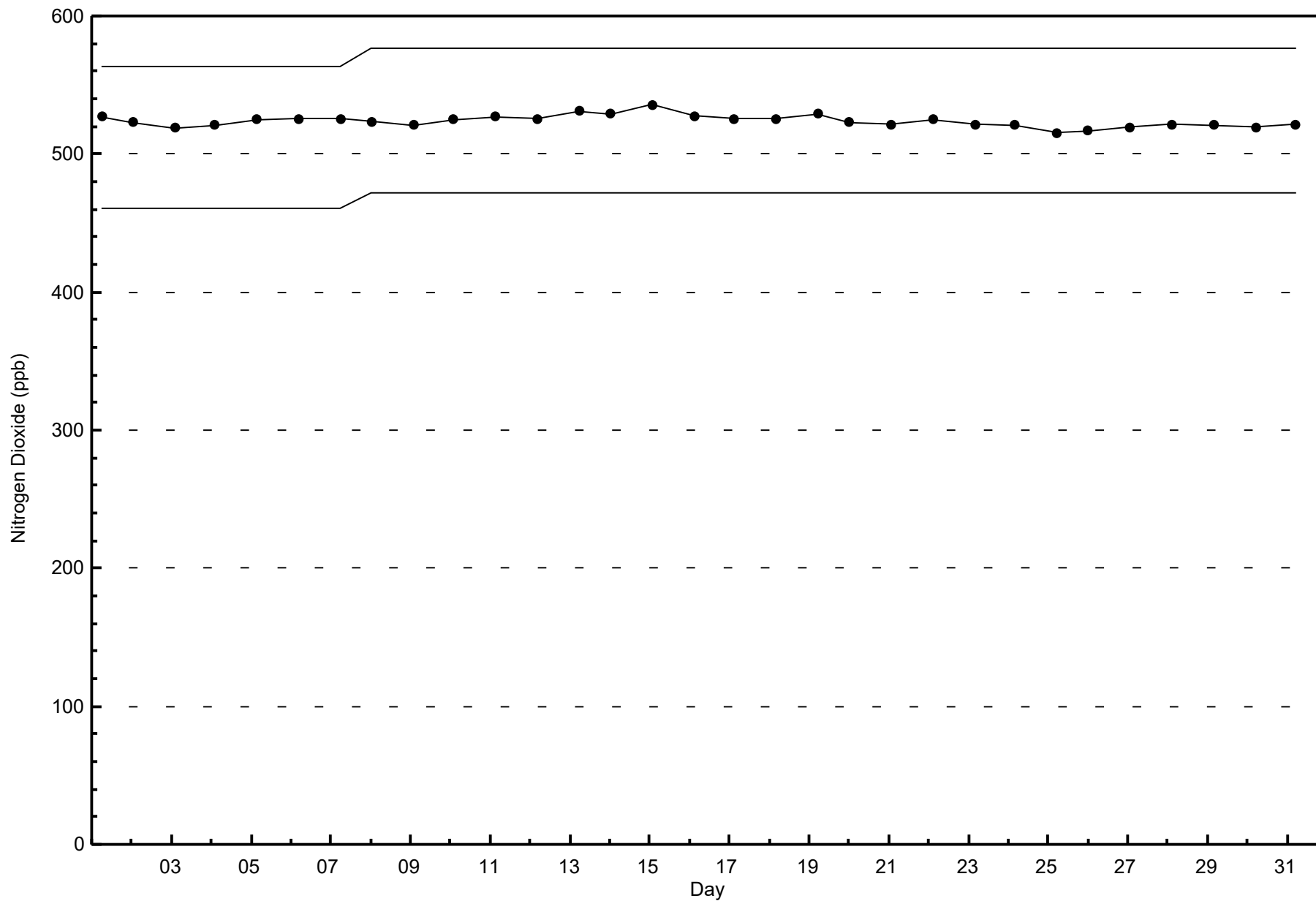
Nitrogen Dioxide (NO₂) - ppb
Fort Hills - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitrogen Dioxide (NO₂) - ppb
Fort Hills - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Oxides (NO_x) - ppb

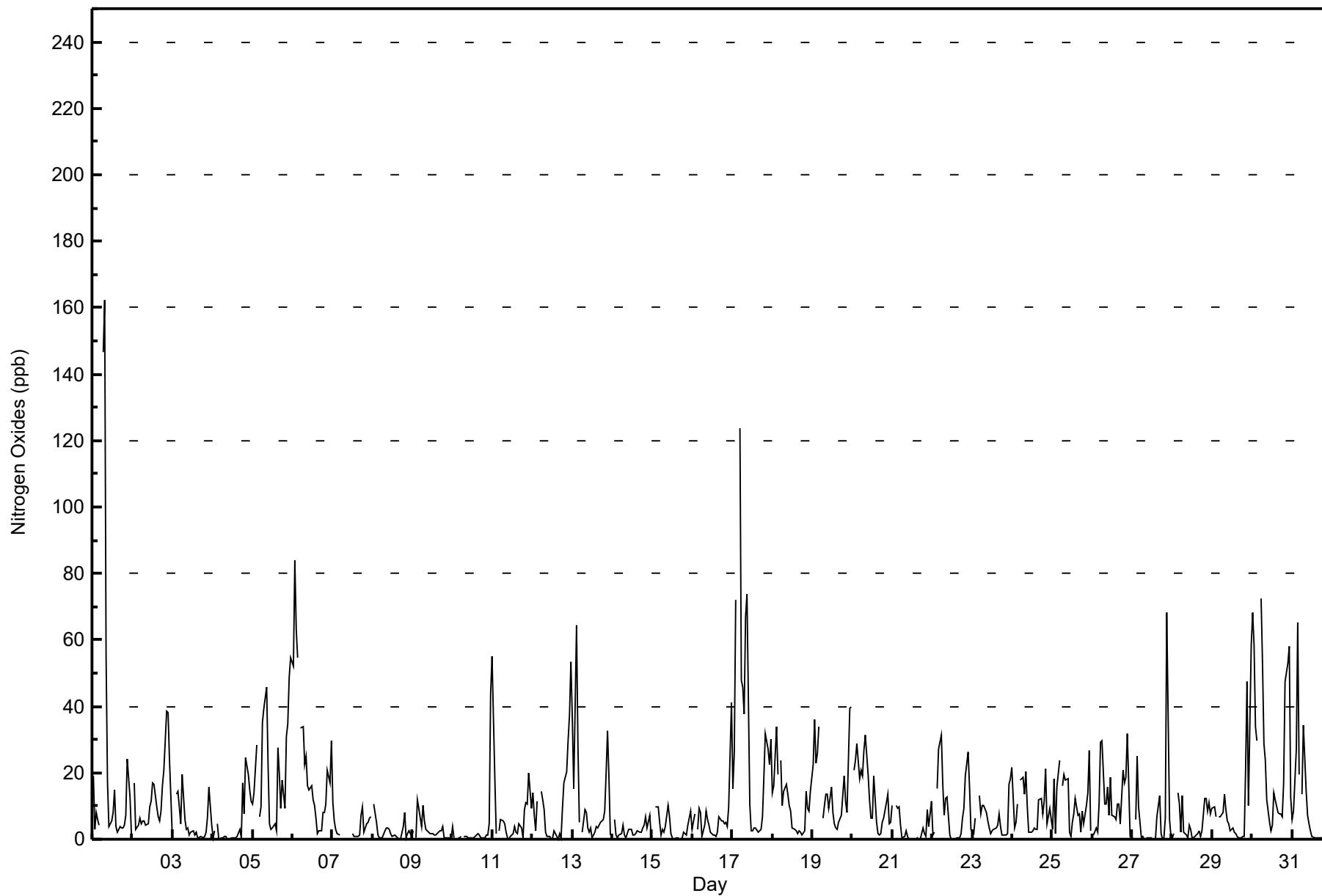
Fort Hills - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 162.3 ppb on Jul 1 08:00 Maximum Daily Average: 29.4 ppb on Jul 17																				Hours in Service: 744						
Minimum Value: 0.0 ppb on Jul 27 13:00 Minimum Daily Average: 2.4 ppb on Jul 8 Maximum Diurnal Average: 18.2 ppb at hour 7 Minimum Diurnal Average: 3.0 ppb at hour 15 Monthly Average: 10.54 ppb Percentiles: P ₁ = 0.1 P ₁₀ = 0.4 Q ₁ = 1.7 Median = 5.0 Q ₃ = 13.0 P ₉₀ = 26.4 P ₉₉ = 68.2																				Hours of Data: 707						
																				Hours of Missing Data: 37						
																				Hours of Calibration: 36						
																				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-Jul	19.2	2.8	7.8	5.9	4.4	Z	146.6	162.3	55.1	17.4	3.7	5.5	7.9	15.0	3.7	2.2	3.7	3.5	3.4	4.1	7.1	24.3	12.9	1.5	22.6	162.3
2-Jul	Z	17.0	2.8	4.0	6.2	4.8	5.4	5.5	4.2	4.8	9.6	11.4	16.8	16.6	9.8	6.8	5.7	8.6	16.3	20.7	38.6	38.1	24.1	12.7	12.6	38.6
3-Jul	1.0	Z	13.7	14.3	9.7	4.6	19.5	5.8	2.9	3.5	1.2	2.0	2.3	1.3	2.1	0.5	0.3	0.9	0.3	0.6	2.0	6.9	15.9	4.4	5.0	19.5
4-Jul	0.3	2.7	Z	4.5	0.1	0.2	0.5	0.6	0.8	0.2	0.2	0.5	0.6	0.5	0.4	0.8	2.8	0.2	16.8	7.8	24.4	19.6	14.8	11.4	4.8	24.4
5-Jul	10.5	14.2	28.5	Z	6.9	9.6	35.2	39.6	45.8	22.6	4.8	2.8	3.2	4.6	2.7	27.4	19.6	9.5	17.7	9.4	30.9	34.7	48.6	54.7	21.0	54.7
6-Jul	52.1	83.9	63.1	54.8	Z	33.4	33.8	22.6	25.1	16.0	14.9	16.0	11.8	10.3	6.4	1.6	2.4	2.6	8.0	8.1	10.5	20.6	16.9	29.8	23.7	83.9
7-Jul	10.8	5.5	3.1	1.8	1.3	Z	4.5	C	C	C	C	C	1.8	1.0	1.0	0.7	1.3	7.3	9.7	2.1	4.9	5.2	6.3	6.8	4.2	10.8
8-Jul	Z	10.8	5.0	1.4	0.3	0.5	0.6	2.8	3.4	3.5	3.0	1.8	1.0	1.4	0.7	0.6	0.1	0.0	3.9	8.2	0.5	1.8	2.7	1.0	2.4	10.8
9-Jul	2.5	Z	0.3	11.9	9.4	3.8	10.0	5.4	3.0	2.6	1.8	1.7	1.7	1.5	1.3	1.9	2.4	2.7	3.9	0.3	0.3	0.3	0.3	0.3	3.0	11.9
10-Jul	3.7	0.6	Z	0.6	0.5	0.8	M	0.9	0.8	0.6	0.4	0.4	0.6	0.5	1.4	1.7	1.1	0.4	0.3	0.3	1.1	1.1	4.5	43.6	3.0	43.6
11-Jul	55.3	18.1	1.7	Z	2.4	5.9	5.3	4.7	2.0	0.6	0.1	0.9	1.6	4.0	2.0	1.8	4.8	3.3	0.5	9.0	10.9	10.7	19.9	9.2	7.6	55.3
12-Jul	13.9	7.3	2.3	11.5	Z	14.3	12.1	9.0	2.0	1.0	0.9	0.2	0.3	2.6	1.5	0.2	1.5	0.4	9.2	17.1	20.4	29.7	37.3	53.3	10.8	53.3
13-Jul	36.4	15.1	64.2	27.9	5.1	Z	2.3	9.0	8.0	3.5	2.2	3.4	0.3	2.3	3.9	3.4	4.3	5.0	5.8	8.5	19.7	32.7	18.5	1.1	12.3	64.2
14-Jul	Z	6.1	1.2	0.4	1.1	1.8	4.3	1.3	0.4	1.8	2.9	2.8	1.4	1.4	1.7	2.6	2.3	2.2	3.2	4.1	6.7	3.6	7.3	0.9	2.7	7.3
15-Jul	0.6	Z	9.5	10.0	5.3	1.2	3.0	2.3	3.6	10.1	6.6	1.5	0.4	0.2	0.3	0.4	0.2	0.1	0.5	2.1	1.3	4.2	6.2	8.3	3.4	10.1
16-Jul	3.1	7.4	Z	3.1	9.5	8.0	1.0	4.1	8.4	5.7	4.4	2.3	1.4	1.3	0.9	2.0	6.7	5.7	5.4	4.8	5.3	3.7	9.7	41.1	6.3	41.1
17-Jul	15.1	26.3	72.2	Z	123.6	47.7	45.8	37.8	66.8	73.6	10.8	2.4	2.7	3.5	3.4	2.1	2.5	2.8	6.9	18.8	31.8	27.3	22.5	30.2	29.4	123.6
18-Jul	14.2	16.0	33.8	19.5	Z	23.8	10.0	14.6	16.5	13.6	10.3	8.3	3.6	3.0	2.7	1.8	2.5	2.1	1.4	2.6	14.3	9.4	8.6	14.3	10.7	33.8
19-Jul	22.5	36.2	22.7	26.1	33.9	Z	6.2	10.2	13.6	13.6	9.4	15.6	7.9	4.6	3.2	2.9	5.3	7.4	13.2	18.9	11.6	8.2	39.6	39.8	16.2	39.8
20-Jul	Z	20.6	23.8	28.7	18.1	20.9	18.9	26.7	31.3	19.6	11.9	6.3	6.2	18.9	4.9	1.6	1.1	1.7	5.0	6.3	11.1	13.5	4.7	5.0	13.3	31.3
21-Jul	10.3	Z	10.1	9.5	9.9	4.4	0.4	0.9	2.4	1.0	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1	3.5	1.6	0.8	8.7	4.0	11.3	3.5	11.3
22-Jul	1.1	2.1	Z	15.1	27.1	31.3	16.4	7.2	12.1	12.5	1.4	0.2	0.2	0.1	0.1	0.3	0.4	1.5	6.4	9.2	19.1	26.1	15.6	3.0	9.1	31.3
23-Jul	2.2	1.5	6.3	Z	13.0	7.6	10.0	10.2	8.2	5.5	3.3	1.7	2.5	3.1	3.5	4.2	7.5	3.7	1.1	1.2	1.1	1.5	16.5	18.1	5.8	18.1
24-Jul	21.8	3.6	5.1	10.7	Z	17.8	18.5	13.4	20.3	9.6	2.2	2.2	2.4	3.5	2.9	3.0	11.8	12.1	7.6	11.3	21.0	4.6	9.3	5.9	9.6	21.8
25-Jul	2.8	18.3	1.8	15.8	23.6	Z	15.9	19.5	17.7	18.4	2.2	0.7	4.9	7.6	12.2	7.4	7.7	2.0	8.3	4.8	10.2	14.0	26.6	2.6	10.7	26.6
26-Jul	Z	1.1	3.2	1.9	10.9	29.1	29.6	10.6	10.5	15.5	7.0	18.5	7.3	7.0	5.8	10.6	10.5	4.6	20.6	17.1	18.8	31.8	17.0	0.7	12.6	31.8
27-Jul	0.6	Z	5.9	25.1	9.7	0.5	0.9	0.1	0.1	0.4	0.2	0.3	0.0	0.0	0.1	6.8	13.0	1.5	0.1	0.3	6.4	68.2	5.7	0.8	6.4	68.2
28-Jul	0.4	1.6	Z	14.0	10.4	2.2	13.2	2.2	1.3	0.4	4.1	3.1	0.3	0.4	1.1	1.9	2.5	0.9	2.5	12.1	12.1	8.4	11.1	7.5	4.9	14.0
29-Jul	9.4	9.8	6.7	Z	6.7	6.9	8.0	13.6	8.9	5.6	4.7	2.6	3.6	1.9	1.6	1.0	0.3	0.4	0.9	0.8	21.2	47.5	10.2	58.7	10.0	58.7
30-Jul	68.1	58.7	33.9	29.5	Z	72.5	52.9	29.0	23.6	11.9	4.9	2.6	4.2	13.8	11.7	8.0	7.5	7.6	6.7	17.0	47.4	53.1	58.1	12.5	27.6	72.5
31-Jul	5.9	8.4	27.0	65.1	19.4	Z	13.7	34.1	14.2	7.1	4.5	2.7	0.7	0.5	0.3	0.3	0.4	0.2	0.3	0.7	1.6	2.7	5.2	10.4	9.8	65.1
																									Diurnal Average	
																									Diurnal Maximum	
Z - zerospan C - Calibration M - Maintenance																										



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Fort Hills - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Fort Hills - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	611	86.42	86.42
21 - 40	64	9.05	95.47
41 - 80	28	3.96	99.43
81 - 159	3	0.42	99.86
> 159	1	0.14	100.00

Total Number of Valid Hours: 707

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Fort Hills - July 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	24	12	9	12	10	28	84	94	51	43	33	24	29	49	46	610
21 - 40	14	8	0	3	4	3	6	9	4	2	1	3	0	2	1	4	64
11 - 80	9	3	0	0	0	0	1	3	0	2	1	1	0	0	2	6	28
81 - 159	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Totals	86	35	12	12	16	13	35	96	98	55	45	37	24	31	53	58	706

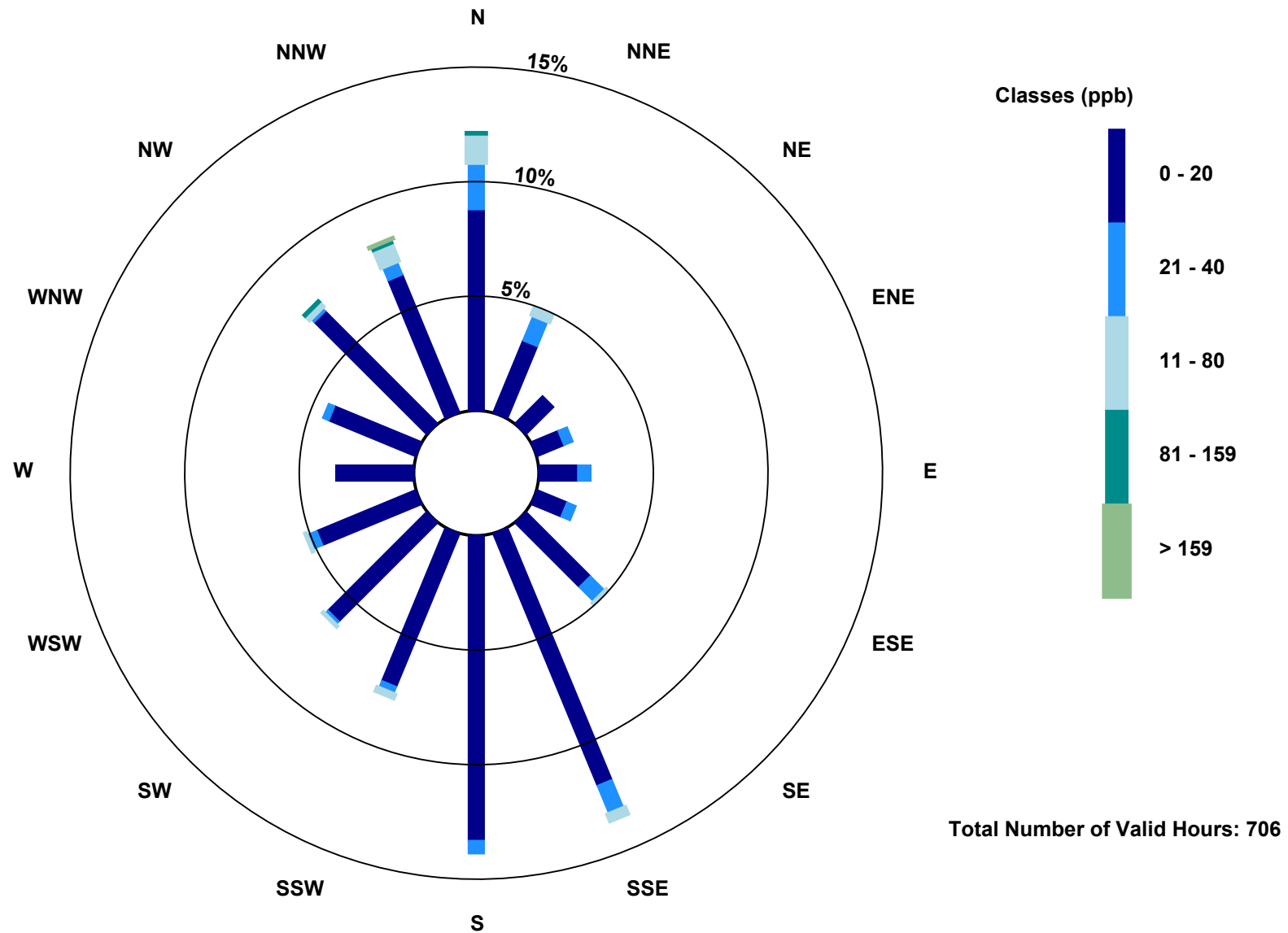
Total Number of Valid Hours: 706

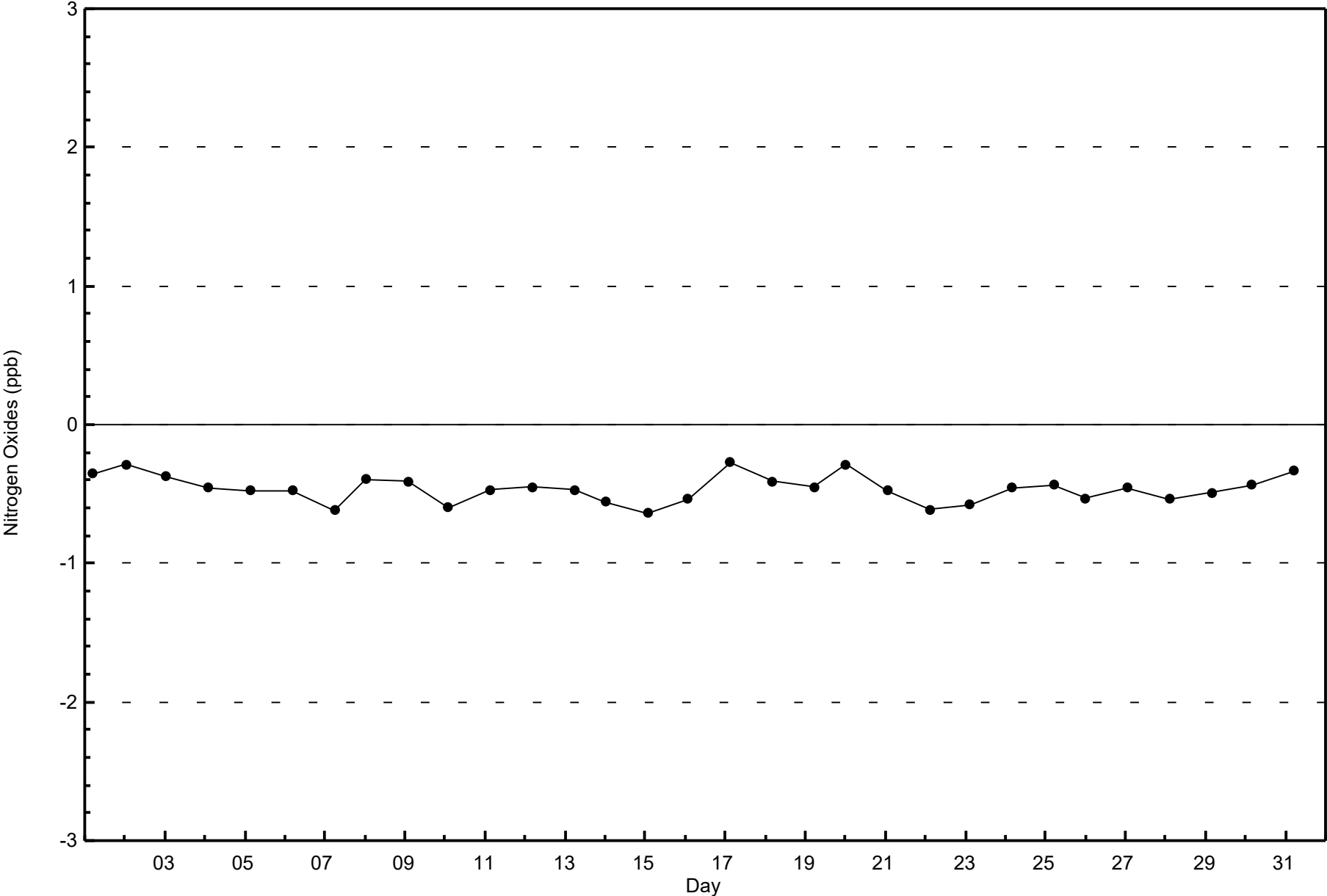
Total Number of Hours: 744

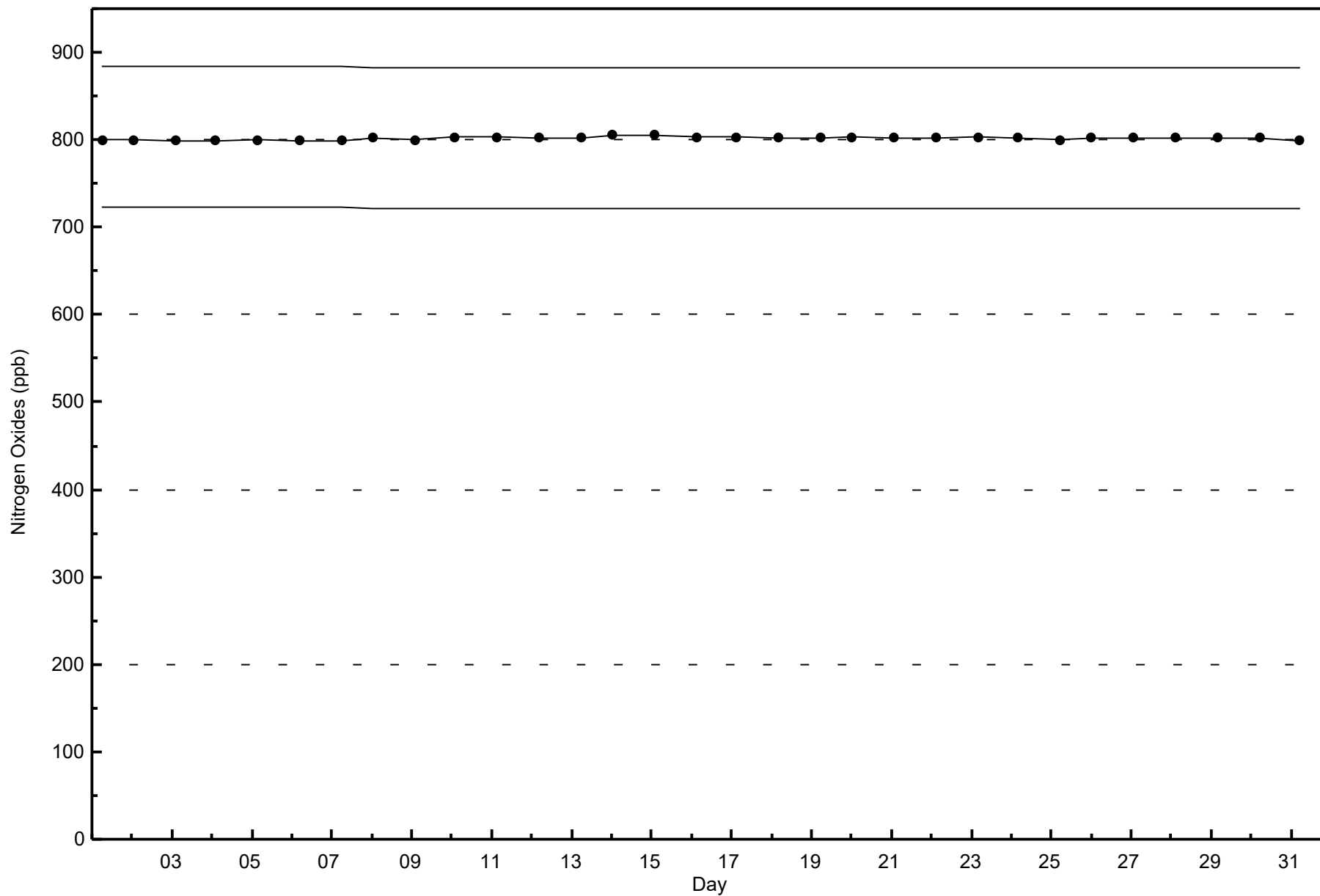


Wood Buffalo Environmental Association
Wind Rose Jul 2025

Nitrogen Oxides (NO_x) - ppb
Fort Hills









Wood Buffalo Environmental Association

Summary of Hour Averages

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

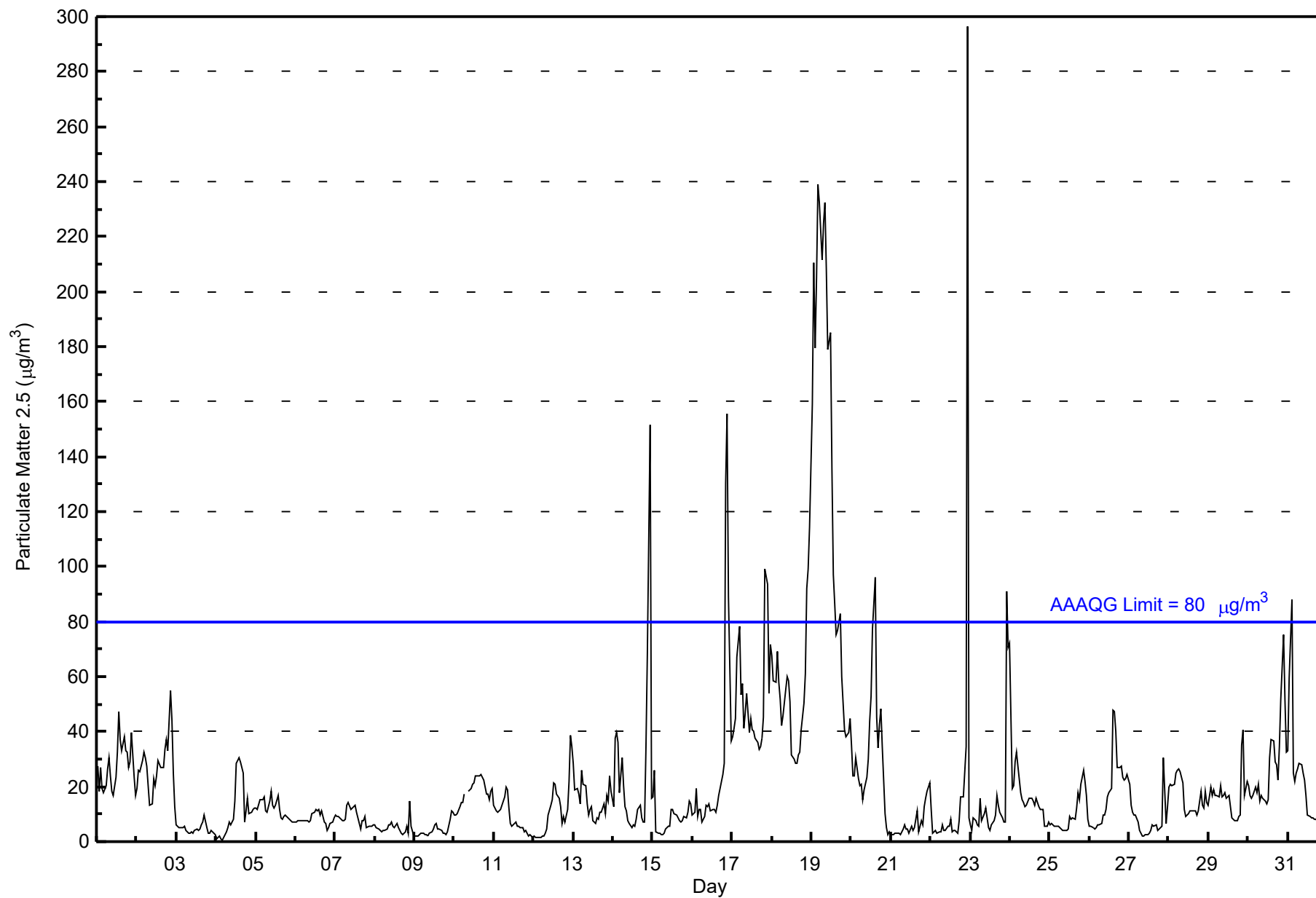
Fort Hills - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 4 Maximum Value: 296.3 µg/m³ on Jul 22 23:00 Maximum Daily Average: 137.3 µg/m³ on Jul 19																				Hours in Service: 744 Hours of Data: 743 Hours of Missing Data: 1 Hours of Calibration: 1 Percent Operational Time: 100.0						
Minimum Value: 0.5 µg/m³ on Jul 4 05:00 Maximum Diurnal Average: 38.5 µg/m³ at hour 23 Monthly Average: 21.79 µg/m³ Minimum Daily Average: 4.2 µg/m³ on Jul 9 Minimum Diurnal Average: 17.1 µg/m³ at hour 18 Percentiles: P ₁ = 1.7 P ₁₀ = 3.7 Q ₁ = 6.2 Median = 12.2 Q ₃ = 23.8 P ₉₀ = 43.4 P ₉₉ = 206.6																										
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-Jul	27.6	18.2	27.0	19.5	17.8	20.4	26.4	30.4	24.1	18.3	16.8	23.6	32.7	47.4	36.9	33.3	38.0	33.1	32.3	27.1	29.1	39.7	23.4	17.0	27.5	47.4
2-Jul	19.3	25.9	25.7	29.3	32.6	30.6	27.2	20.5	13.1	13.7	22.9	20.3	24.0	29.5	26.8	26.9	26.7	33.6	37.1	33.2	55.1	44.2	24.8	12.9	27.3	55.1
3-Jul	6.2	5.0	5.1	5.1	5.2	5.8	3.9	2.9	3.1	3.3	3.2	3.9	4.7	4.0	4.5	5.9	7.1	9.9	5.2	3.3	3.3	4.1	3.8	2.7	4.6	9.9
4-Jul	1.2	1.7	2.0	1.0	0.5	2.5	3.6	5.1	7.0	6.3	8.3	14.6	28.4	29.3	30.4	29.0	25.2	7.1	11.0	16.0	10.4	10.6	11.6	12.3	11.5	30.4
5-Jul	12.2	11.5	15.2	15.4	15.4	16.2	11.2	10.9	14.5	18.1	13.2	12.3	13.4	16.9	11.6	8.6	8.4	9.0	9.8	8.6	8.2	7.8	7.0	7.0	11.8	18.1
6-Jul	7.3	7.9	7.7	7.6	7.7	7.4	7.7	7.8	7.3	7.8	9.9	10.7	11.9	11.3	11.5	9.6	11.4	7.0	6.4	4.0	5.3	6.6	7.3	8.4	8.2	11.9
7-Jul	9.5	9.2	9.0	8.6	7.6	7.5	8.3	13.4	14.5	11.9	12.0	12.7	13.0	10.8	8.5	4.5	7.9	7.4	9.3	5.0	5.5	5.7	5.7	6.1	8.9	14.5
8-Jul	6.1	5.3	4.5	3.9	3.8	3.9	4.1	4.7	6.0	6.3	7.1	5.6	5.2	6.6	5.3	4.3	3.1	2.8	3.5	5.8	3.3	14.6	5.5	2.2	5.1	14.6
9-Jul	1.9	2.1	1.9	2.4	2.8	2.9	2.4	2.4	2.2	2.8	3.3	4.3	6.0	6.8	4.6	4.6	3.8	3.1	3.1	2.7	3.6	8.1	11.3	10.7	4.2	11.3
10-Jul	9.4	9.7	10.2	12.8	14.4	14.1	17.1	C	18.4	18.8	19.4	21.0	21.4	23.8	23.9	24.1	24.6	23.5	22.4	17.1	17.1	15.4	18.3	19.3	18.1	24.6
11-Jul	13.1	11.3	10.5	10.9	11.4	13.0	16.5	19.8	19.0	12.4	6.7	5.8	6.4	7.0	5.7	5.6	4.9	5.0	3.3	3.9	2.8	2.1	2.4	1.8	8.4	19.8
12-Jul	2.0	1.6	1.4	1.7	1.7	2.0	2.2	3.1	4.7	9.5	13.3	15.2	21.4	20.8	17.5	15.7	12.9	6.7	9.3	7.1	11.7	22.0	38.5	34.4	11.5	38.5
13-Jul	28.5	18.7	19.3	17.2	13.6	26.1	21.1	20.2	13.9	9.6	11.5	12.6	7.9	6.7	8.5	8.3	10.9	10.8	13.5	10.2	16.7	14.9	23.7	18.3	15.1	28.5
14-Jul	13.0	37.6	39.9	36.1	17.7	30.3	20.4	12.6	11.2	7.4	6.7	5.3	6.2	5.8	8.0	11.8	13.0	8.5	7.3	7.0	34.0	68.3	151.5	15.6	24.0	151.5
15-Jul	16.3	26.1	3.7	2.9	2.8	2.3	2.8	3.2	4.3	5.4	5.8	11.7	11.8	10.3	9.5	8.7	7.7	7.3	7.6	9.3	8.4	10.6	14.6	13.8	8.6	26.1
16-Jul	9.5	10.9	19.2	9.3	11.5	11.8	7.3	9.1	13.1	12.5	13.5	11.0	11.8	11.9	10.7	13.0	16.9	21.8	24.5	28.6	130.1	155.4	89.0	36.7	28.7	155.4
17-Jul	38.3	41.4	44.8	67.2	78.2	53.5	57.6	41.2	47.0	54.0	39.7	44.6	40.9	40.3	37.7	36.3	33.4	34.7	37.5	45.2	98.9	93.6	53.9	71.4	51.3	98.9
18-Jul	67.4	58.3	58.2	69.1	58.2	51.9	42.0	45.7	55.2	59.9	58.6	50.9	31.8	29.8	28.6	28.6	31.6	32.4	40.9	50.6	61.1	92.0	98.9	114.6	54.8	114.6
19-Jul	159.1	210.6	179.5	204.9	239.1	232.6	211.6	224.9	232.3	207.8	179.1	185.0	135.5	97.0	86.6	75.3	77.0	83.1	60.0	50.4	40.8	38.2	39.8	44.9	137.3	239.1
20-Jul	34.9	24.1	23.8	30.3	23.1	20.3	20.9	15.1	18.8	23.6	30.1	43.6	52.9	77.1	96.0	45.1	34.2	42.8	48.3	34.6	10.3	5.0	2.8	3.5	31.7	96.0
21-Jul	2.4	2.8	3.0	2.9	3.2	3.1	2.8	4.4	6.3	4.5	4.8	3.2	5.6	4.3	5.0	8.0	11.2	3.8	7.6	6.1	12.6	16.0	18.2	21.4	6.8	21.4
22-Jul	11.7	3.0	3.7	4.1	3.2	3.4	3.7	6.1	4.2	3.9	5.8	5.7	8.0	3.5	3.9	4.2	3.1	7.9	16.1	16.4	16.4	34.7	296.3	8.9	19.9	296.3
23-Jul	5.9	4.2	8.4	7.5	6.1	5.8	15.7	7.9	10.2	12.4	8.6	5.1	4.1	6.1	7.5	9.8	16.8	13.4	10.5	8.7	7.2	7.3	91.2	70.7	14.6	91.2
24-Jul	72.2	19.3	20.5	28.8	32.4	27.3	18.0	15.4	14.3	12.9	13.2	15.6	15.6	15.7	14.9	13.4	15.7	12.8	11.6	11.5	11.6	5.5	5.8	7.0	18.0	72.2
25-Jul	6.2	6.4	5.9	5.6	5.4	5.4	5.0	4.6	4.1	4.0	4.1	4.5	9.1	8.1	8.8	8.2	12.1	17.6	15.1	20.9	26.2	21.9	17.0	8.3	9.8	26.2
26-Jul	5.8	5.4	5.2	4.8	5.3	6.2	6.2	6.4	9.8	9.6	11.9	16.3	17.9	19.3	47.8	47.3	40.3	27.1	26.7	27.4	23.6	22.3	22.8	24.5	18.3	47.8
27-Jul	20.6	13.0	10.7	9.6	9.8	7.1	4.2	3.0	2.1	2.0	2.4	2.6	2.8	4.0	5.9	5.8	6.1	3.9	4.6	5.3	5.7	30.6	6.7	12.6	7.5	30.6
28-Jul	19.8	20.8	20.2	21.0	25.2	26.0	26.2	25.6	21.3	11.5	9.0	9.6	10.3	11.0	11.0	11.0	11.2	9.8	11.3	18.2	13.0	12.4	18.3	14.5	16.2	26.2
29-Jul	13.2	19.8	17.0	18.8	17.0	16.6	16.3	20.5	16.5	16.7	17.7	16.0	16.6	12.7	8.6	8.1	7.6	7.8	9.4	9.6	35.0	40.9	16.9	21.8	16.7	40.9
30-Jul	20.3	16.8	15.8	16.7	19.8	17.6	20.7	14.7	16.7	15.8	14.6	13.9	15.4	30.6	37.0	36.7	28.8	28.1	22.5	34.4	52.0	75.2	51.5	32.6	27.0	75.2
31-Jul	33.1	59.7	88.0	25.1	22.1	24.7	26.6	28.5	27.8	24.7	22.4	17.0	9.5	9.2	8.8	8.5	8.2	7.9	7.8	8.6	10.0	12.3	15.8	20.4	21.9	88.0
22.4 22.8 22.8 22.6 23.0 22.5 21.3 21.0 21.4 20.2 19.2 20.1 19.4 19.9 20.4 18.1 18.1 17.1 17.3 17.3 24.8 30.3 38.5 22.5																								Diurnal Average		
159.1 210.6 179.5 204.9 239.1 232.6 211.6 224.9 232.3 207.8 179.1 185.0 135.5 97.0 96.0 75.3 77.0 83.1 60.0 50.6 130.1 155.4 296.3 114.6																								Diurnal Maximum		
C - Calibration																										
Alberta Ambient Air Quality Guideline/Objectives: 1-hr: 80 µg/m³ 24-hr: 29 µg/m³																										



Wood Buffalo Environmental Association
Hourly Averages

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Fort Hills - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Fort Hills - July 2025

Concentration Ranges ($\mu\text{g}/\text{m}^3$)	Number of Hours	%	Cumulative %
0 - 5	148	19.92	19.92
6 - 15	289	38.90	58.82
16 - 25	135	18.17	76.99
26 - 80	142	19.11	96.10
> 81.0	29	3.90	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 Hills - July 2025

Concentration Ranges (µg/m³)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	13	0	0	0	0	1	1	15	16	15	26	20	12	7	8	14	148
6 - 15	41	16	2	4	6	5	6	43	52	32	13	10	12	9	20	18	289
16 - 25	23	6	4	0	3	3	12	18	14	6	8	5	1	10	14	8	135
26 - 80	16	13	6	6	7	3	8	26	13	4	1	2	1	6	10	20	142
> 81.0	0	0	0	2	0	1	8	4	7	2	0	1	0	0	2	1	28
Totals	93	35	12	12	16	13	35	106	102	59	48	38	26	32	54	61	742

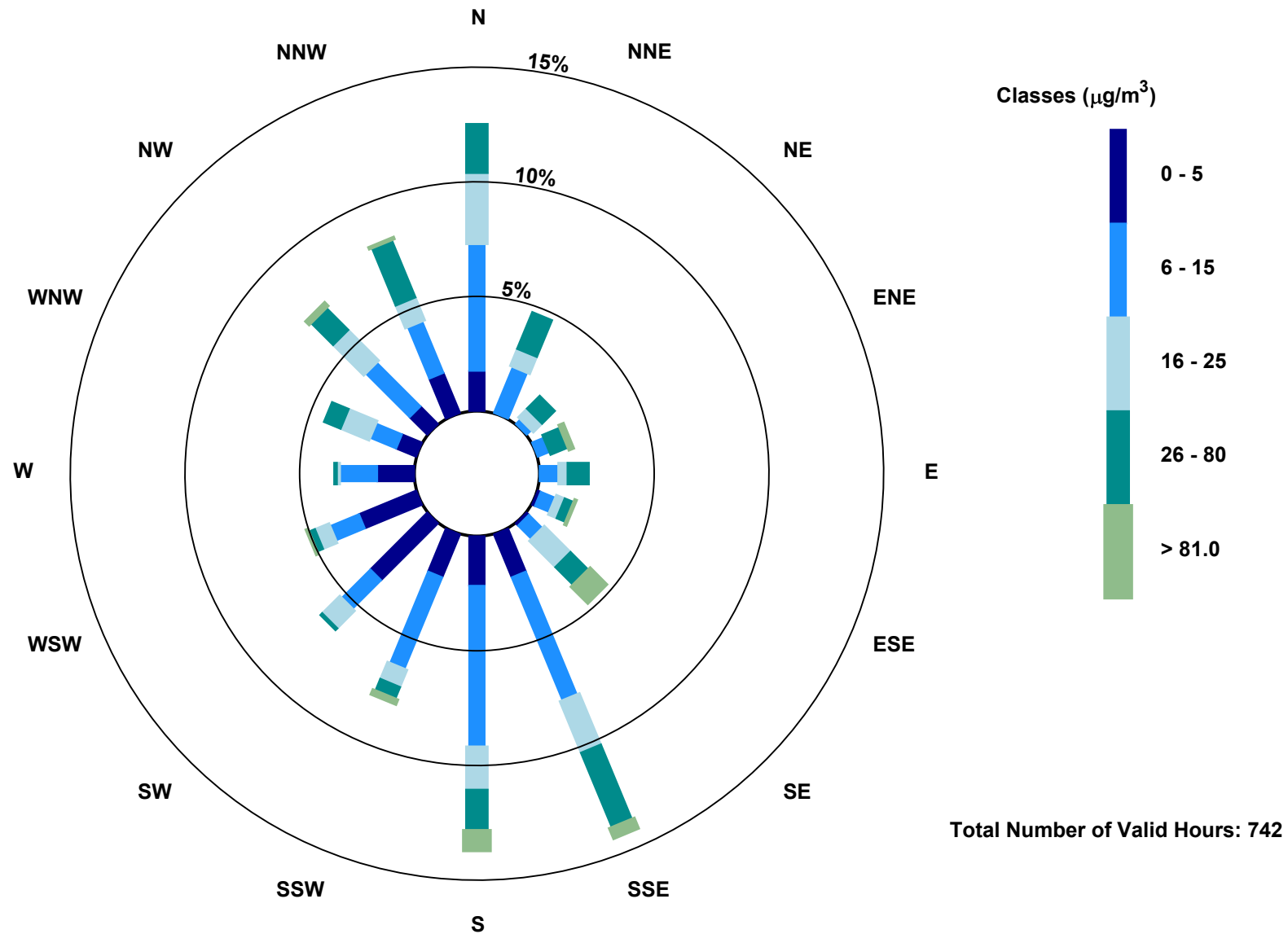
Total Number of Valid Hours: 742

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 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

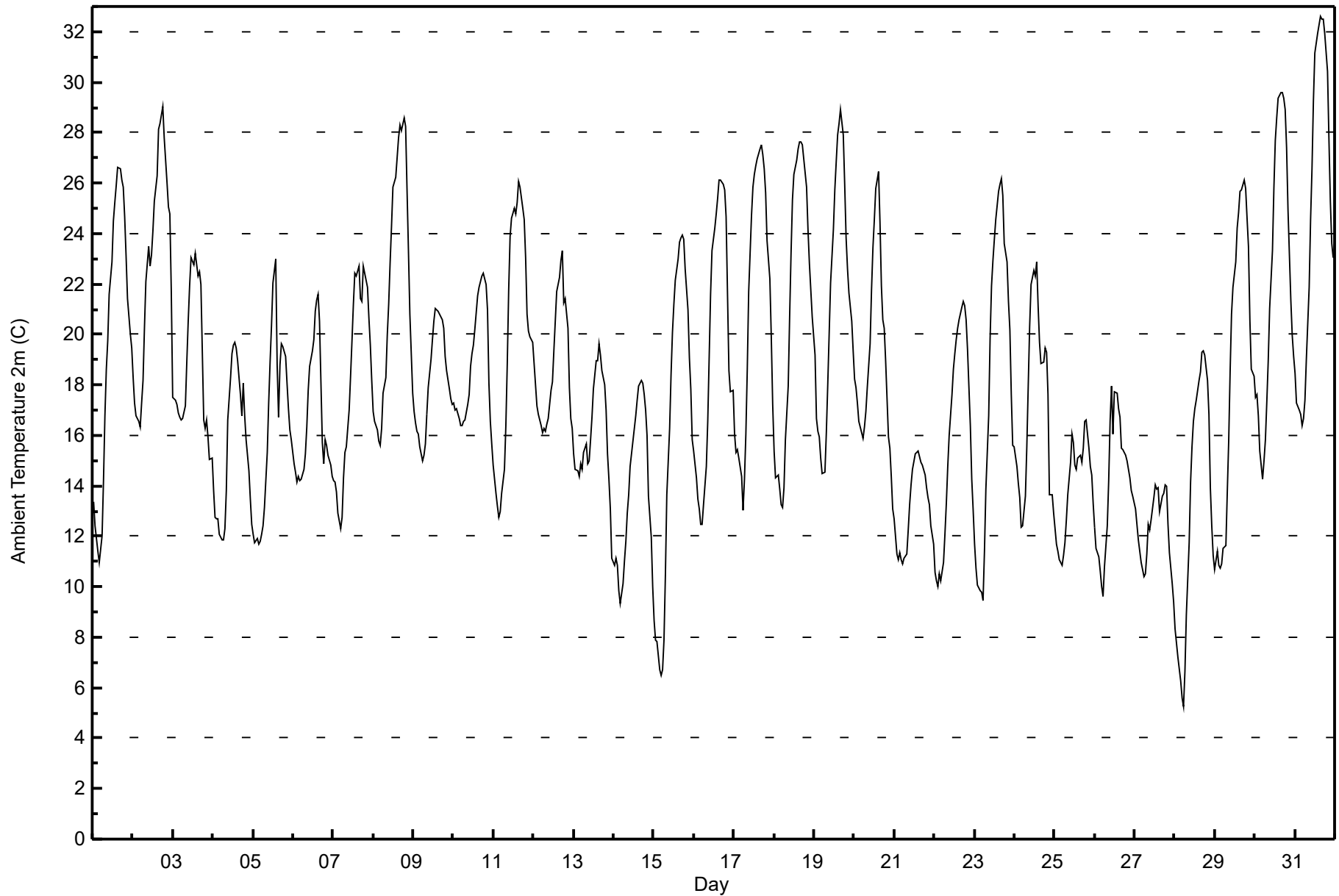
Fort Hills - July 2025

Maximum Value: 32.6 C on Jul 31 16:00																				Maximum Daily Average: 24.8 C on Jul 31					Hours in Service: 744	
Minimum Value: 5.2 C on Jul 28 06:00																				Minimum Daily Average: 12.3 C on Jul 27					Hours of Data: 744	
Maximum Diurnal Average: 22.7 C at hour 16																				Minimum Diurnal Average: 12.8 C at hour 5					Hours of Missing Data: 0	
Monthly Average: 18.01 C																				Percentiles: P ₁ = 7.5 P ₁₀ = 11.7 Q ₁ = 14.3 Median = 17.3 Q ₃ = 21.6 P ₉₀ = 25.8 P ₉₉ = 30.1					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-Jul	13.4	12.4	11.9	11.4	11.0	12.0	14.2	16.8	18.6	19.8	21.6	22.9	24.5	25.2	25.9	26.6	26.6	26.1	25.9	24.7	23.1	21.4	20.0	19.4	19.8	26.6
2-Jul	18.3	17.3	16.8	16.6	16.3	17.3	18.2	20.3	22.1	23.5	22.7	23.2	24.1	25.3	26.3	28.1	28.3	28.7	29.1	27.8	26.0	25.0	24.8	21.8	22.8	29.1
3-Jul	17.5	17.4	17.2	16.9	16.7	16.6	16.7	17.1	18.9	20.5	21.9	23.0	22.8	23.2	22.8	22.3	22.5	22.0	16.6	16.3	16.6	15.9	15.1	15.1	18.8	23.2
4-Jul	13.8	12.8	12.7	12.7	12.1	11.9	11.8	12.3	13.8	16.6	18.3	19.2	19.6	19.7	19.5	19.0	17.6	16.8	18.1	16.8	15.8	14.6	13.5	12.5	15.5	19.7
5-Jul	12.1	11.8	11.9	11.7	11.8	12.1	12.4	13.2	15.3	17.3	18.9	20.3	22.1	23.0	18.8	16.7	18.8	19.6	19.5	19.1	18.1	17.1	16.2	15.8	16.4	23.0
6-Jul	14.9	14.6	14.1	14.4	14.2	14.2	14.6	15.3	16.3	17.8	18.7	19.4	19.8	20.9	21.4	21.6	20.5	15.7	14.9	15.8	15.6	15.2	14.8	14.4	16.6	21.6
7-Jul	14.2	14.1	13.8	12.9	12.3	12.8	14.3	15.3	15.5	17.0	18.4	19.8	21.2	22.4	22.3	22.7	21.4	21.3	22.7	22.4	21.9	20.7	19.6	18.2	18.2	22.7
8-Jul	17.0	16.6	16.2	15.8	15.6	16.3	17.7	18.3	20.0	21.2	22.8	24.3	25.8	26.3	27.0	27.8	28.3	28.1	28.6	28.2	25.8	23.3	20.8	17.7	22.1	28.6
9-Jul	17.0	16.5	16.2	16.1	15.5	15.0	15.2	15.7	16.8	17.9	19.0	19.8	20.5	21.0	21.0	20.9	20.7	20.6	20.3	19.1	18.6	17.9	17.5	17.3	18.2	21.0
10-Jul	17.3	17.0	17.1	16.7	16.4	16.4	16.6	16.6	17.2	17.6	18.7	19.2	19.6	20.2	21.5	21.9	22.1	22.3	22.4	22.0	21.0	18.1	16.6	15.7	18.8	22.4
11-Jul	14.8	13.7	13.2	12.7	13.0	13.7	14.7	16.4	18.8	21.8	23.9	24.6	25.0	24.8	25.3	26.0	25.8	25.0	24.6	23.0	20.8	20.1	19.9	19.7	20.1	26.0
12-Jul	18.9	18.0	17.2	16.8	16.4	16.1	16.3	16.2	16.4	16.7	17.8	18.1	19.3	20.5	21.7	22.3	22.9	23.3	21.3	21.4	20.3	17.9	16.7	16.3	18.7	23.3
13-Jul	15.3	14.7	14.6	14.4	14.9	14.7	15.3	15.7	14.9	15.0	15.8	16.7	17.8	18.9	19.0	19.7	19.2	18.5	18.0	17.0	15.3	14.2	13.1	11.1	16.0	19.7
14-Jul	10.8	11.1	10.9	9.9	9.3	10.1	11.0	11.8	12.9	13.7	14.7	15.8	16.3	16.8	17.4	18.0	18.2	18.1	17.6	17.0	16.0	13.6	12.0	10.0	13.9	18.2
15-Jul	8.7	7.9	7.8	6.7	6.5	6.7	7.9	10.5	13.6	16.3	18.4	20.1	21.2	22.1	23.0	23.7	23.9	23.9	23.8	22.6	21.0	19.1	17.8	15.8	16.2	23.9
16-Jul	15.4	14.3	13.5	13.1	12.5	12.5	13.3	14.8	16.6	19.1	21.6	23.3	24.2	24.8	25.4	26.1	26.1	26.0	25.8	24.7	21.6	18.6	17.7	17.8	19.5	26.1
17-Jul	16.1	15.3	15.5	15.1	14.3	13.0	14.3	16.1	18.6	21.7	24.7	25.8	26.4	26.7	27.0	27.3	27.5	27.1	26.6	25.6	23.7	22.2	19.9	17.3	21.2	27.5
18-Jul	15.4	14.3	14.4	13.9	13.3	13.1	13.9	15.8	18.0	20.7	23.2	25.3	26.4	26.9	27.4	27.6	27.6	27.5	26.9	25.8	24.2	22.8	21.7	20.7	21.1	27.6
19-Jul	19.2	16.7	16.2	15.9	15.1	14.5	14.5	16.1	18.0	20.0	22.0	24.1	25.7	26.9	27.9	28.3	28.9	27.9	25.9	23.8	22.6	21.6	20.5	19.3	21.3	28.9
20-Jul	18.2	17.9	17.3	16.6	16.1	15.9	16.3	16.9	17.9	19.7	21.8	23.4	24.6	25.8	26.5	24.5	21.9	20.6	20.2	19.0	15.9	15.5	14.4	13.1	19.2	26.5
21-Jul	12.7	11.3	11.1	11.4	11.1	10.9	11.2	11.3	12.3	13.3	14.1	14.6	15.3	15.3	15.4	15.1	14.9	14.8	14.5	13.9	13.5	13.2	12.4	11.7	13.1	15.4
22-Jul	10.6	10.3	10.0	10.5	10.3	11.0	12.1	13.3	14.8	16.0	17.6	18.6	19.3	19.8	20.2	20.6	21.1	21.3	21.1	20.6	19.4	16.4	14.3	13.0	15.9	21.3
23-Jul	11.7	10.7	10.1	9.8	9.8	9.5	11.4	13.9	16.8	19.8	22.0	23.0	23.8	24.5	25.7	26.0	26.2	25.5	23.6	22.9	21.3	20.2	17.6	15.6	18.4	26.2
24-Jul	15.6	14.8	14.1	13.5	12.4	12.4	13.6	15.5	17.9	20.3	22.0	22.6	22.3	22.9	21.2	19.7	18.9	18.9	19.5	19.3	17.6	13.6	13.6	12.9	17.3	22.9
25-Jul	12.3	11.7	11.4	11.1	10.9	11.3	11.7	12.7	13.7	15.0	16.1	15.7	14.8	14.7	15.1	15.2	14.9	15.5	16.6	16.6	15.5	14.7	14.4	13.3	13.9	16.6
26-Jul	12.4	11.5	11.2	10.6	10.0	9.6	10.8	12.4	14.2	16.5	18.0	16.1	17.8	17.7	17.1	16.7	15.5	15.4	15.2	15.0	14.6	14.3	13.8	13.6	14.2	18.0
27-Jul	13.1	12.5	11.9	11.4	11.0	10.4	10.5	11.3	12.5	12.2	12.7	13.5	14.0	13.9	13.9	13.0	13.6	13.7	14.0	14.0	12.5	11.3	10.1	9.4	12.3	14.0
28-Jul	8.3	7.8	7.2	6.2	5.6	5.2	6.6	8.9	11.7	14.2	15.6	16.5	17.1	17.4	18.2	18.5	19.3	19.3	19.2	18.2	16.8	13.9	12.4	11.3	13.1	19.3
29-Jul	10.7	11.4	10.9	10.8	10.9	11.5	11.6	13.8	15.7	18.5	20.8	21.8	22.9	24.2	24.8	25.7	25.8	26.1	25.8	24.6	23.5	20.6	18.6	18.3	18.7	26.1
30-Jul	17.5	17.6	16.8	15.4	14.3	15.0	15.8	17.3	18.9	21.0	23.3	25.8	27.7	28.6	29.4	29.6	29.6	29.4	28.9	27.4	24.9	21.4	20.0	19.1	22.3	29.6
31-Jul	18.4	17.3	17.0	16.8	16.4	16.7	17.4	19.0	21.9	24.6	26.6	29.2	31.1	31.9	32.3	32.6	32.5	32.5	31.9	30.4	27.7	25.3	23.6	23.1	24.8	32.6
14.6 13.9 13.5 13.2 12.8 12.9 13.6 14.9 16.5 18.2 19.8 20.8 21.7 22.3 22.6 22.7 22.6 22.3 21.9 21.1 19.7 18.1 16.9 15.8																										Diurnal Average
19.2 18.0 17.3 16.9 16.7 17.3 18.2 20.3 22.1 24.6 26.6 29.2 31.1 31.9 32.3 32.6 32.5 32.5 31.9 30.4 27.7 25.3 24.8 23.1																										Diurnal Maximum



Wood Buffalo Environmental Association
Hourly Averages

Ambient Temperature 2m (AT2) - C
Fort Hills - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ambient Temperature 2m (AT2) - C
Fort Hills - July 2025

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	0	0.00	0.00
-20 - 0	0	0.00	0.00
0 - 10	24	3.23	3.23
10 - 20	477	64.11	67.34
> 20	243	32.66	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) - %

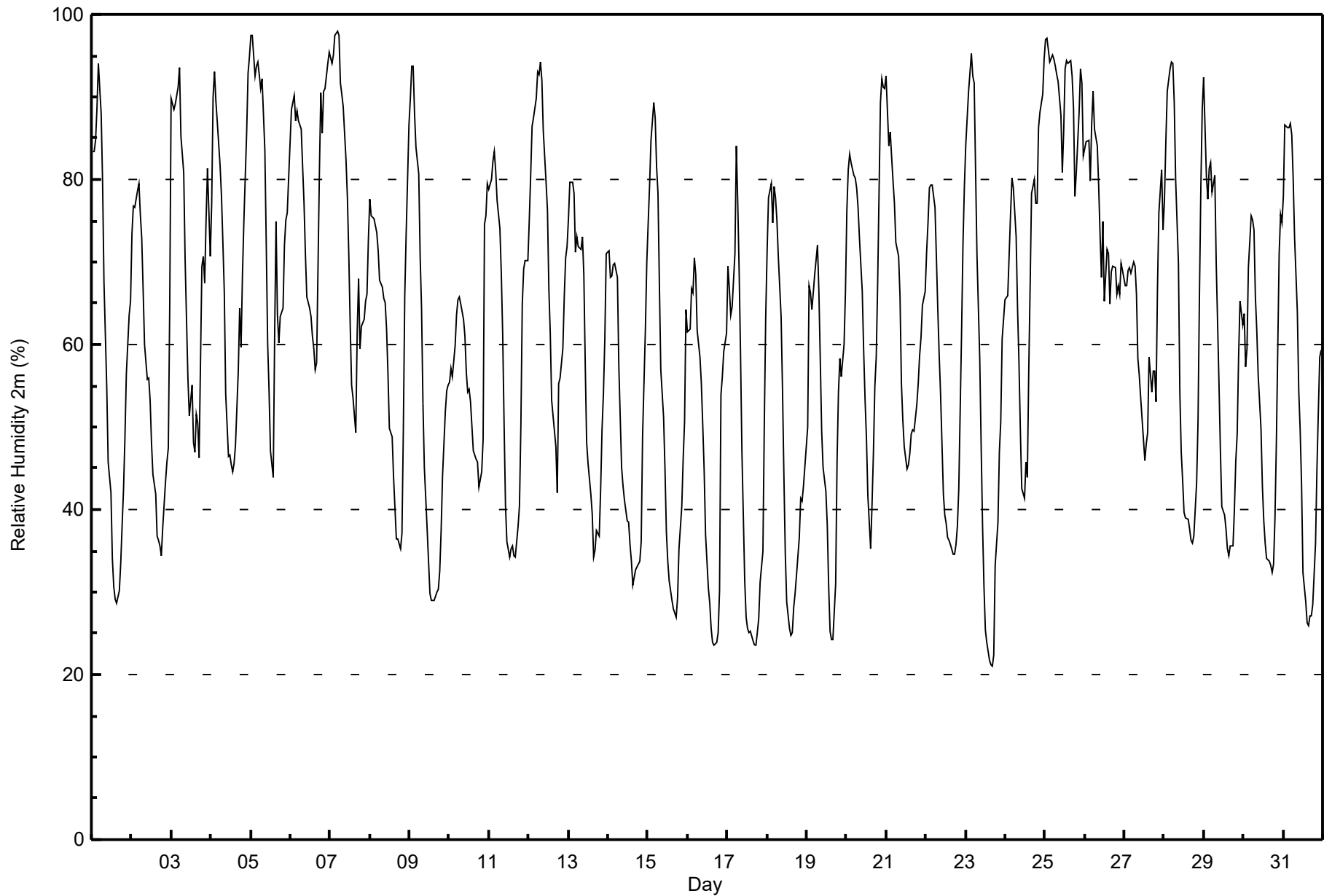
Fort Hills - July 2025

Maximum Value: 98.0 % on Jul 7 05:00																				Maximum Daily Average: 90.8 % on Jul 25					Hours in Service: 744				
Minimum Value: 21.0 % on Jul 23 17:00																				Minimum Daily Average: 46.2 % on Jul 17					Hours of Data: 744				
Maximum Diurnal Average: 82.0 % at hour 5																				Minimum Diurnal Average: 41.8 % at hour 15					Hours of Missing Data: 0				
Monthly Average: 61.51 %																				Percentiles: P ₁ = 23.8 P ₁₀ = 33.8 Q ₁ = 45.1 Median = 63.5 Q ₃ = 78.0 P ₉₀ = 89.3 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-Jul	83.4	83.4	84.8	88.6	94.1	88.0	79.8	67.7	61.2	54.7	45.8	42.0	34.1	30.7	29.1	28.7	30.2	33.5	38.1	42.6	48.9	56.5	63.6	65.2	57.3	94.1			
2-Jul	73.4	76.7	76.7	78.7	79.5	75.7	73.0	66.6	60.0	55.8	55.9	53.2	48.0	44.2	41.8	36.9	36.2	35.5	34.4	37.8	43.4	45.8	47.4	64.4	55.9	79.5			
3-Jul	89.9	88.5	89.1	90.2	91.3	93.6	85.3	80.9	70.4	63.0	55.9	51.4	55.2	48.2	46.9	51.6	50.6	46.3	69.6	70.6	67.5	75.2	81.4	70.7	70.1	93.6			
4-Jul	77.2	89.9	93.0	89.5	87.0	81.8	78.0	72.4	66.4	54.0	46.4	46.6	45.5	44.6	45.5	47.8	56.8	64.3	59.7	68.5	75.0	85.7	92.9	94.9	69.3	94.9			
5-Jul	97.5	97.4	92.5	93.8	94.2	92.7	90.9	92.3	83.6	72.1	60.2	54.3	47.1	43.9	61.1	74.9	63.6	60.2	63.4	64.4	72.0	75.1	75.9	80.2	75.1	97.5			
6-Jul	88.4	89.4	90.1	87.1	88.3	87.2	86.1	81.5	77.2	70.8	65.7	64.4	63.3	61.0	59.5	57.0	57.8	80.9	90.6	85.6	90.7	91.0	94.1	95.4	79.3	95.4			
7-Jul	94.8	94.2	95.0	97.4	98.0	97.4	91.8	90.3	88.8	82.3	77.8	70.9	62.3	55.0	53.6	49.3	61.6	68.0	59.6	62.2	63.1	65.3	66.0	72.7	75.7	98.0			
8-Jul	77.6	75.5	75.3	74.4	73.6	71.4	67.7	67.0	65.6	65.1	61.9	56.5	49.9	48.7	44.0	40.2	36.4	36.4	35.3	37.1	49.8	65.9	73.4	86.7	59.8	86.7			
9-Jul	89.8	93.8	93.8	88.0	83.9	80.7	70.7	64.4	52.9	45.1	37.7	33.7	29.8	29.0	29.0	29.0	30.0	30.3	32.6	37.5	44.0	51.9	54.5	55.1	53.6	93.8			
10-Jul	55.4	57.2	56.1	59.8	63.6	65.3	65.7	64.9	63.0	61.0	56.6	54.3	54.6	53.1	47.1	46.7	46.0	45.8	42.8	44.5	48.6	74.5	75.6	79.5	57.6	79.5			
11-Jul	78.8	80.0	82.3	83.3	80.9	77.4	74.1	68.7	61.2	50.4	40.4	36.0	34.3	35.3	35.6	34.4	34.3	38.0	40.6	50.2	64.9	69.2	70.2	70.2	57.9	83.3			
12-Jul	75.0	80.5	86.4	87.5	89.9	93.1	92.7	94.2	92.1	85.9	79.7	76.2	66.7	61.3	53.2	49.6	47.7	42.1	55.3	55.9	59.6	65.7	70.6	71.8	72.2	94.2			
13-Jul	75.2	79.7	79.7	78.2	71.2	73.1	71.8	71.5	73.0	68.5	57.7	48.1	45.7	41.9	39.4	34.2	35.1	37.4	36.8	42.4	49.6	54.0	60.6	71.0	58.2	79.7			
14-Jul	71.4	68.2	68.3	69.6	69.9	68.1	57.5	51.2	45.0	43.0	41.2	38.7	38.4	35.7	33.8	30.8	32.6	33.1	33.5	33.8	36.0	49.1	61.8	70.1	49.2	71.4			
15-Jul	74.8	79.3	84.7	89.3	87.4	81.5	78.3	67.4	56.9	51.2	45.0	37.4	33.7	31.3	29.0	27.9	27.5	27.0	29.3	35.2	40.3	46.1	50.7	64.2	53.1	89.3			
16-Jul	61.5	61.9	66.8	66.3	70.5	68.5	61.7	58.4	55.2	50.2	44.8	37.0	30.5	28.7	25.6	23.8	23.6	23.9	25.0	30.2	53.8	56.0	59.1	61.4	47.7	70.5			
17-Jul	69.5	66.7	63.6	64.5	71.1	84.0	77.3	69.0	58.8	47.0	31.4	26.9	25.7	25.0	25.3	24.0	23.5	23.6	25.0	26.8	31.3	35.0	50.5	63.4	46.2	84.0			
18-Jul	71.3	77.7	79.4	74.7	79.2	77.9	75.1	70.7	63.3	54.6	44.1	34.6	28.9	25.5	24.8	25.0	28.1	29.8	32.1	36.6	41.4	41.0	42.9	45.2	50.2	79.4			
19-Jul	49.9	67.0	66.3	64.2	66.2	68.5	72.0	66.5	58.1	49.5	45.1	42.3	38.1	30.8	25.2	24.3	24.3	31.0	45.9	54.3	58.4	56.1	60.0	66.4	51.3	72.0			
20-Jul	76.3	81.2	83.0	82.0	80.6	80.1	79.0	76.7	72.9	66.5	59.3	53.3	48.6	41.7	35.2	40.6	46.9	54.9	58.4	67.2	89.4	92.2	91.2	91.0	68.7	92.2			
21-Jul	92.6	84.0	85.8	82.7	79.9	77.1	72.3	70.7	65.8	55.3	50.9	47.5	44.9	45.4	46.7	49.2	49.6	49.6	52.7	55.2	58.7	60.9	64.8	66.5	62.9	92.6			
22-Jul	71.2	74.7	79.0	79.3	79.3	76.6	70.5	64.3	58.6	53.9	41.8	39.3	38.3	36.7	36.4	35.7	34.5	34.6	35.7	37.9	42.5	61.5	72.2	79.1	55.6	79.3			
23-Jul	84.2	87.4	90.7	95.3	92.5	91.7	81.2	70.9	58.2	47.6	38.0	30.6	25.4	23.9	21.7	21.2	21.0	22.4	33.2	38.4	47.0	50.6	60.7	63.1	54.0	95.3			
24-Jul	65.4	66.0	70.9	75.7	80.2	78.9	73.0	64.4	57.9	49.7	42.5	41.4	45.7	43.9	56.6	67.0	78.3	80.0	77.2	77.2	86.4	88.2	90.3	94.6	68.8	94.6			
25-Jul	96.9	97.1	95.8	94.3	95.1	94.6	93.8	92.8	91.9	87.8	80.8	85.9	93.4	94.4	94.0	94.4	92.5	88.6	78.0	80.9	88.1	93.3	91.7	82.9	90.8	97.1			
26-Jul	83.7	84.5	84.8	79.8	86.8	90.7	86.1	84.1	79.1	73.2	68.1	74.9	65.2	71.5	71.1	64.8	68.8	69.5	69.3	66.1	67.1	66.1	69.8	69.1	74.8	90.7			
27-Jul	67.2	67.1	69.0	69.3	68.6	70.0	69.5	66.2	58.3	56.3	53.6	48.6	45.8	48.0	49.3	58.5	54.2	56.7	56.9	53.1	66.6	76.0	81.3	73.9	61.8	81.3			
28-Jul	77.5	84.6	90.6	93.4	94.2	94.1	89.4	80.0	69.9	54.3	47.0	43.5	39.7	38.9	38.8	37.7	36.2	36.0	36.8	43.1	50.7	65.7	78.8	88.4	62.9	94.2			
29-Jul	92.3	80.4	77.7	81.4	82.1	78.4	80.6	69.8	62.6	55.0	47.1	40.4	39.3	37.6	35.2	34.3	35.5	35.6	39.9	46.0	49.1	58.5	65.2	62.3	57.8	92.3			
30-Jul	63.7	57.3	59.5	69.3	75.5	75.2	73.9	65.7	61.6	56.2	49.9	42.9	38.7	35.9	34.1	33.7	33.3	32.4	33.3	39.0	48.1	71.1	75.8	74.7	54.2	75.8			
31-Jul	78.0	86.6	86.2	86.4	86.7	85.4	80.1	73.1	63.9	54.4	49.6	43.1	32.4	28.8	26.2	25.9	27.1	27.2	28.5	35.9	44.9	51.9	58.4	59.3	55.0	86.7			



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 2m (RH2) - %
Fort Hills - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Relative Humidity 2m (RH2) - %
Fort Hills - July 2025

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	143	19.22	19.22
40 - 60	196	26.34	45.56
60 - 80	246	33.06	78.63
80 - 100	159	21.37	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

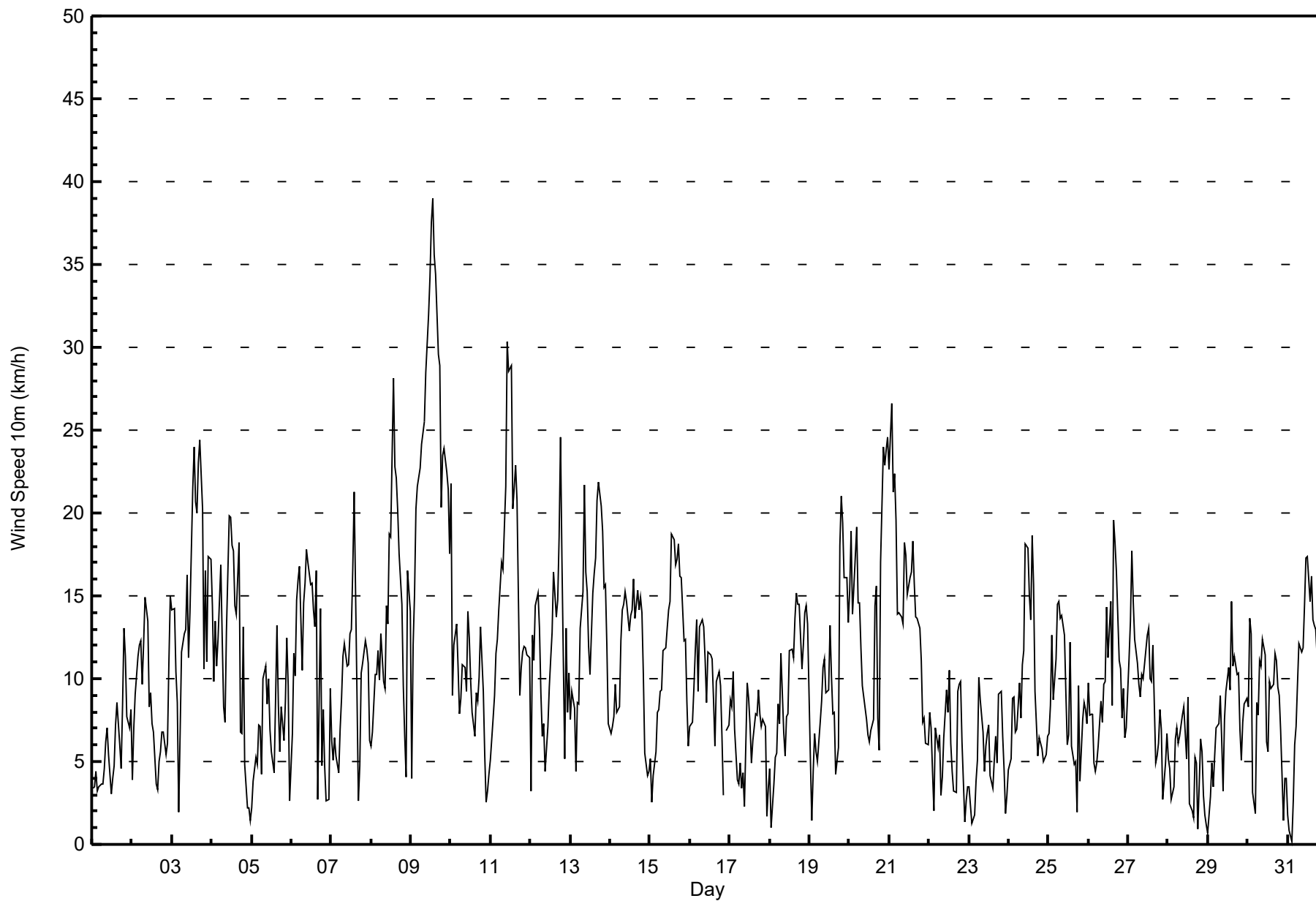
Fort Hills - July 2025

Maximum Speed: 39 km/h on Jul 9 14:00										Maximum Daily Speed Average: 23.4 km/h on Jul 9										Hours in Service: 744						
Minimum Speed Value: 0 km/h on Jul 31 03:00										Minimum Daily Speed Average: 1.7 km/h on Jul 19										Hours of Data: 743						
Maximum Diurnal Speed Average: 5.1 km/h at hour 15										Minimum Diurnal Speed Average: 0.6 km/h at hour 3										Hours of Missing Data: 1						
Monthly Average Velocity: 2.0 km/h 235.4 deg										Percentiles: P ₁ = 1 P ₁₀ = 4 Q ₁ = 6 Median = 9 Q ₃ = 14 P ₉₀ = 18 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-Jul	WNW3	NW3	N4	NW3	WNW3	NW4	NW4	NNW5	N6	NNE7	E5	E3	ESE4	SSE5	WSW7	SE9	S6	SSW5	SSW8	S13	SSE11	SSE8	SSE7	SSE8	S1.8	S13
2-Jul	SW4	SSW7	SSE9	SSE11	SSE12	S12	S10	S12	SSW15	SW13	N8	NNW9	N7	NNW7	SW4	S3	S5	ESE6	E7	E7	E5	ENE6	ESE11	SW15	SSE3.8	SW15
3-Jul	NW14	N14	N10	N9	S2	SSW7	SW12	WSW13	WSW13	WSW16	WSW11	SW14	SW21	SW24	SW21	SSW20	SSW23	WSW24	NW20	WSW11	WSW17	SW11	SW17	W17	WSW10.7	WSW24
4-Jul	W14	WSW10	WSW13	W11	NW12	NW17	WNW12	WNW8	WSW7	NW13	NNW20	NW20	WNW18	NW18	WNW14	NNW14	N18	NNW7	NE7	NE13	NNE5	SSW2	SW2	W1	NW9.1	NNW20
5-Jul	NW2	SE4	SSE5	SSE5	SSE7	S7	S4	ESE10	SSE11	SE8	SE10	SSE7	ESE6	SE4	W9	NNE13	N8	N6	NNE8	NE6	NNE9	NNE12	NNE10	NNW3	E2.1	NNE13
6-Jul	NNW7	N12	N10	N15	N16	NNE17	N11	NNE15	N16	N18	N17	N16	N16	N14	N13	NNW16	NNW3	S14	ENE5	ESE8	WSW5	WSW3	W3	S9	N8.2	N18
7-Jul	S6	SSE5	S6	SSE5	SSE4	SSE7	S9	S11	S12	S11	SSE11	SSW13	S13	S17	S21	SSW9	WNW3	E5	SSE10	SSE11	SSE12	SSE12	SSE11	S6	S9.1	S21
8-Jul	SSE6	SE7	SE10	SSE10	S12	SSE10	S13	S10	SSE9	S14	S13	S19	S19	SSE28	S23	S22	SSW20	SSW18	SSW15	SSW10	SSE6	SE4	W17	W14	S12.0	SSE28
9-Jul	SSW4	S12	S15	SW20	SSW22	SSW23	SW24	SW25	SW25	SW28	SW32	SW34	SW38	SW39	SW36	SW34	SW30	WSW29	WSW20	W23	W24	W22	W21	W18	SW23.4	SW39
10-Jul	WSW22	WSW9	W12	WNW13	WNW11	W8	WNW9	WNW11	NW11	NW9	WNW14	WNW12	WNW10	NW8	NW7	NNW9	NW9	NW10	WNW13	WNW9	WNW5	SW3	SW3	SW4	WNW8.6	WSW22
11-Jul	SSW5	SE8	SSE9	SSE12	SSE12	SSE14	S17	S17	S19	SSW22	SSW30	SSW29	SW29	SW20	SSW22	SW23	WSW21	WSW9	W11	SW12	SSW12	SW12	SW11	SW11	SSW14.4	SSW30
12-Jul	S3	S13	S11	SSW14	SW15	SW13	SW9	W6	WNW7	NW4	NW7	WNW9	WSW11	SW13	WSW16	WSW14	WSW15	WSW19	SW25	SW17	NW5	N13	NNW8	NNE10	WSW8.0	SW25
13-Jul	NNW8	SW9	SSW8	SSW4	WSW9	NNW8	NNW13	N15	N22	N16	N15	N12	NW10	N15	NNE16	N17	NNE21	NNE22	NNE20	NNE19	NNE16	N16	N12	NW7	N11.3	NNE22
14-Jul	NNW7	NNW7	NNW8	NW10	NNW8	NNW8	N12	N14	NNW14	N15	N15	N13	NNW14	N14	N16	N14	N15	NNE14	N15	N14	N10	NNW6	NW4	NW4	N10.9	N16
15-Jul	NW5	W3	SSW4	SSE6	SSE8	SSE8	SSE9	SSE9	SSE12	S12	S13	S14	S15	S19	S18	SSW17	SSW17	S18	S16	S16	SSE12	SSE12	SSE9	SSE6	S10.8	S19
16-Jul	SSE7	SE7	SSE9	SSE12	SSE14	SSE9	SSE13	SSE14	S13	S11	S9	S12	S11	S11	SSW9	SSE6	SE10	SE10	ESE10	SE7	SSE3	UO	NNW7	NNW7	SSE7.7	SSE14
17-Jul	NNW9	N8	N10	N7	NNW4	NW4	NW5	WNW3	WSW4	NNW2	NE10	ENE9	E7	E5	NE6	N8	NE8	NE9	ENE8	ENE7	ENE8	ENE7	E2	WNW3	NNE4.4	N10
18-Jul	NNW5	N1	SSE4	SSE5	SSE5	SE8	S7	SSE11	S7	S5	SSE8	SSE8	SSE12	SSE12	SSE11	S14	SSE15	S14	S14	SSE11	SSE12	SE14	SE14	SE13	SSE9.0	SSE15
19-Jul	SE5	SE1	SE4	SE7	SSE6	SSW5	SSE7	S9	S11	S11	S9	S9	S13	S10	SSE8	SE8	SE4	SE6	N18	NNE21	N19	N16	NNE16	N13	ESE1.7	NNE21
20-Jul	N15	N19	N14	N16	N19	N15	N15	NNE12	N10	NNE8	NE8	ENE7	ESE6	SE7	WSW8	NW14	NW16	NNW8	WNW6	N17	N24	N23	N24	N25	N11.7	N25
21-Jul	N23	N27	N21	N22	N20	NNW14	NNW14	NNW14	NNW13	NNW18	NNW17	NNW15	NNW16	NNW16	NNW18	NW16	NW14	NW14	NNW13	NNW11	NW7	NNW8	NW6	WNW6	NNW14.7	N27
22-Jul	WNW8	W7	WNW4	SSW2	SSE7	SW6	WSW7	NW3	SSE4	S6	NW9	WNW8	NW11	WNW6	W4	WSW3	WSW3	NNW9	N10	N10	NE6	E1	NW3	NW3	WNW3.1	NW11
23-Jul	NW3	WSW2	NW1	SW2	S4	SSE5	SE10	SSE9	SSE7	SE4	ESE6	SSE7	WSW7	SW4	W3	ESE5	E7	SSW5	SSW9	SSW9	SSW7	SSW4	SSW2	SE3	S3.5	SE10
24-Jul	SSE4	SSE5	SSE9	SSE9	SSE7	S7	S10	S8	S11	SSE12	SSE18	SSE18	S15	SSE14	S19	SSE16	SE9	ESE5	ENE6	E6	NW6	N5	S5	S7	SSE7.9	S19
25-Jul	S7	S8	S13	SSW9	S11	SSW14	SSW15	SSW14	SSW14	SW13	W9	NW6	NNW7	N12	NNW6	W5	N5	SW2	NE10	ESE4	SSW8	SW9	WSW8	NW7	SW4.6	SSW15
26-Jul	NNW10	NW8	WNW8	NW5	S4	SSE5	SSE6	S9	S7	SSW10	S10	NNE14	NE11	SE15	ENE8	NNE20	NNE18	NNE16	N11	NNE11	NNE8	N9	NNW6	NNW7	NNE3.8	NNE20
27-Jul	N11	N13	N18	N15	N12	NNW11	NNW10	NNW9	NNW10	NNW11	N13	NNW13	NW10	NW10	N12	N5	WSW5	WSW6	WNW8	N7	N3	WNW5	WNW7	NNW8.7	N18	
28-Jul	NW5	W5	SSW3	SSE3	SSE6	S7	SSE6	SE6	SE8	SSW8	SSW7	WSW5	WSW9	S2	E2	E2	E5	SSE5	WNW1	NE6	E6	E3	WNW2	W1	S2.3	WSW9
29-Jul	W1	S3	SE5	SSE4	SE5	SSE7	SSE7	S9	S6	SW3	SE8	SSW9	S11	SSW9	SSW15	SSW11	S11	S10	SSE10	S7	NNW5	NNW7	NNW8	N9	S4.7	SSW15
30-Jul	N8	N14	N13	WSW3	N2	SE9	SSE8	S11	SSW11	SSW12	SSW11	S6	ENE6	NE10	NNE9	NNE10	NNE12	NNE11	NE9	NNE9	NNE7	N1	NW4	NW4	NNE2.4	N14
31-Jul	NW2	NW1	SE0	SSE3	SSE6	SSE7	SSE10	SSE12	SSE12	SSE12	S14	S17	SSW17	SSW15	S16	S14	SSW13	S13	S11	SSE8	SSE10	S8	S7	SSE6	S9.1	SSW17
NW3.6 NW1.6WSW0.6 SW1.2SSW2.1SSW2.8SSW3.6SSW3.5SSW3.9 SW3.9 SW2.7 SW3.3 SW4.6SSW4.3 SW5.1WSW2.6WSW2.0 SW2.2 NW1.4 NW0.7NNW1.2NNW1.4WNW2.1 W3.1																										Diurnal Average
N23 N27 N21 N22 SSW22 SSW23 SW24 SW25 SW25 SW28 SW32 SW34 SW38 SW39 SW36 SW34 SW30WSW29 SW25 W23 N24 N23 N24 N25																										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
Fort Hills - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 10m (WS10) - km/h
Fort Hills - July 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	147	19.78	19.78
6 - 11	320	43.07	62.85
12 - 19	217	29.21	92.06
20 - 28	48	6.46	98.52
29 - 38	10	1.35	99.87
> 38	1	0.13	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
Fort Hills - July 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	1	0	1	11	5	11	19	11	12	10	9	9	10	22	8	147
6 - 11	22	15	11	11	5	8	20	61	47	20	7	15	7	16	20	35	320
12 - 19	53	14	1	0	0	0	4	25	41	18	12	9	6	7	10	17	217
20 - 28	10	5	0	0	0	0	0	1	3	7	11	4	4	0	2	1	48
29 - 38	0	0	0	0	0	0	0	0	0	2	7	1	0	0	0	0	10
> 38	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Totals	93	35	12	12	16	13	35	106	102	59	48	38	26	33	54	61	743

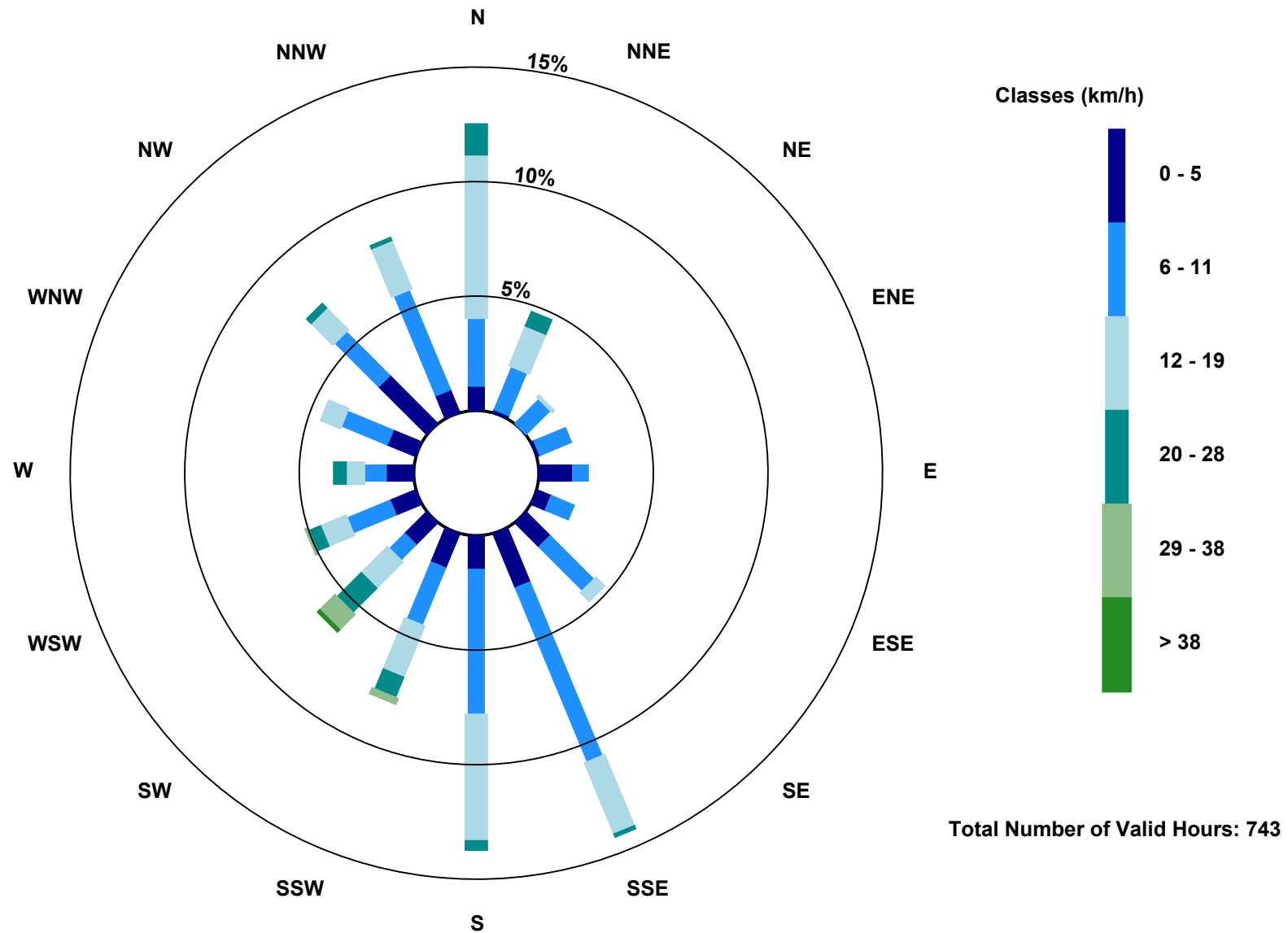
Total Number of Valid Hours: 743

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 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 - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 12 km/h on Jul 20 20:00																	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 Jul 16 01:00																									
Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 2 Median = 2 Q ₃ = 4 P ₉₀ = 5 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-Jul	2	2	2	1	1	1	1	2	2	2	2	2	3	3	2	4	3	2	2	3	2	1	2	2	4
2-Jul	2	2	2	3	2	3	1	2	3	5	4	3	2	2	2	2	3	2	2	1	1	3	4	12	12
3-Jul	5	4	3	3	2	2	2	2	3	4	4	4	5	4	3	3	4	6	7	3	5	4	3	5	7
4-Jul	4	2	2	2	4	4	3	2	2	4	4	4	4	4	4	4	5	3	2	4	4	1	1	1	5
5-Jul	1	2	1	2	1	1	2	2	2	2	3	3	2	3	8	3	2	2	2	1	2	2	1	2	8
6-Jul	3	3	2	3	2	3	3	3	3	4	3	3	3	3	3	3	6	5	1	3	2	1	1	2	6
7-Jul	2	2	1	1	1	1	1	2	2	2	2	3	3	4	3	5	4	2	2	2	2	2	2	2	5
8-Jul	1	2	1	1	1	2	2	2	2	3	2	4	5	4	5	4	5	4	3	2	1	1	11	4	11
9-Jul	3	2	2	4	3	3	4	4	5	6	6	6	8	9	8	7	7	6	5	6	6	5	6	4	9
10-Jul	5	4	4	3	3	2	3	3	3	3	4	4	3	3	3	4	3	4	3	2	1	1	1	1	5
11-Jul	1	2	1	2	2	2	3	2	3	4	5	5	6	5	4	5	4	2	5	4	3	3	3	3	6
12-Jul	3	2	2	2	2	2	2	1	2	2	4	3	3	4	4	3	5	6	5	3	4	4	2	2	6
13-Jul	2	4	3	2	2	4	4	5	5	3	3	4	3	5	6	4	4	4	4	4	3	3	3	1	6
14-Jul	1	1	1	2	1	2	3	3	4	4	5	4	5	4	5	4	5	5	4	3	3	1	1	1	5
15-Jul	1	2	1	1	1	1	1	1	2	3	3	3	4	4	4	4	3	3	3	2	1	1	3	2	4
16-Jul	1	2	1	1	2	1	2	2	2	2	2	3	4	4	4	4	4	3	2	2	1	UO	3	3	4
17-Jul	2	2	2	2	1	1	2	1	1	1	3	3	3	3	4	3	3	3	2	2	1	2	2	2	4
18-Jul	1	1	2	1	1	1	1	2	2	1	2	2	4	4	5	5	4	3	3	1	1	2	2	2	5
19-Jul	3	1	2	1	1	1	1	1	2	1	2	3	3	3	3	3	2	4	6	5	4	3	3	3	6
20-Jul	3	4	5	5	4	4	3	2	2	2	3	2	3	3	3	4	5	3	2	12	5	5	6	6	12
21-Jul	5	7	4	5	5	4	3	3	4	5	4	4	4	5	4	4	4	3	3	3	2	2	1	1	7
22-Jul	2	2	1	2	1	2	2	1	2	3	4	3	4	2	3	3	2	3	3	2	2	2	1	1	4
23-Jul	1	1	1	1	1	1	1	1	1	2	3	3	3	3	2	3	4	4	1	2	1	1	1	2	4
24-Jul	2	2	1	2	2	2	2	4	3	4	5	4	3	3	5	3	4	2	2	2	6	5	2	2	6
25-Jul	2	2	2	2	1	2	2	2	2	2	3	2	4	3	2	2	5	2	2	2	1	2	1	2	5
26-Jul	2	1	2	2	2	1	1	2	2	2	2	7	4	3	4	3	4	4	3	2	1	2	1	2	7
27-Jul	3	3	4	3	3	3	2	2	3	2	2	4	4	3	2	4	2	1	2	2	3	1	2	2	4
28-Jul	1	1	1	1	1	1	1	1	2	2	3	3	3	2	2	2	1	2	2	2	1	2	1	2	3
29-Jul	1	1	1	1	2	2	2	2	2	1	3	3	4	4	5	4	4	3	2	1	2	2	2	2	5
30-Jul	2	5	5	2	1	2	2	2	2	2	2	2	3	3	3	3	3	2	2	1	2	2	2	2	5
31-Jul	1	1	1	1	1	2	1	1	2	2	2	3	3	4	5	4	3	3	2	1	1	1	2	1	5
5 7 5 5 5 4 4 5 5 6 6 7 8 9 8 7 7 6 7 12 6 5 11 12																									
Diurnal Maximum																									
UO - Unstable Operation																									



Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Direction 10m (WD10) - deg

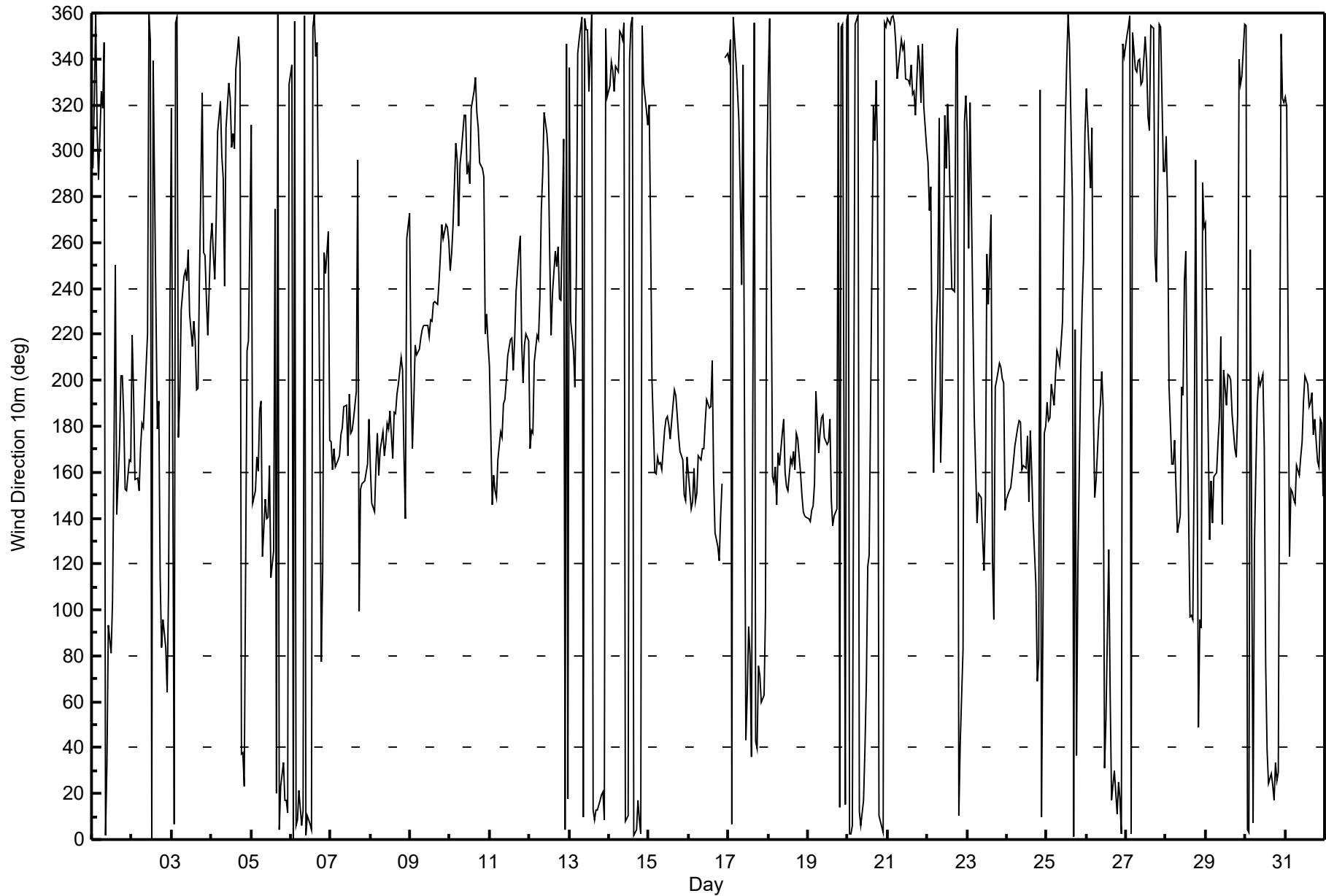
Fort Hills - July 2025

Direction of Maximum Speed: 226 deg on Jul 9 14:00																				Hours in Service:		744			
Direction of Maximum Daily Speed Average: 231.5 deg on Jul 9																				Hours of Data:		743			
Direction of Minimum Speed: 124 deg on Jul 31 03:00										Direction of Minimum Daily Speed Average: 1.7 deg on Jul 19										Hours of Missing Data:		1			
Monthly Average Direction: 235.4 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-Jul	292	323	359	310	287	326	319	347	2	32	93	81	103	166	250	141	172	202	202	184	153	152	165	164	170.4
2-Jul	220	194	157	157	152	170	181	179	193	220	360	348	1	339	231	179	191	114	83	95	83	64	110	232	167.8
3-Jul	319	7	356	358	175	194	231	245	247	244	257	229	215	226	217	196	197	242	325	256	254	236	219	261	242.8
4-Jul	269	255	244	270	308	322	298	288	241	310	330	323	301	307	301	336	350	338	37	38	23	213	218	263	309.7
5-Jul	311	146	152	167	161	187	191	123	148	139	141	163	114	126	274	20	360	4	23	34	17	17	12	329	87.4
6-Jul	337	0	356	6	9	21	6	13	359	2	10	7	4	354	359	341	347	175	77	118	256	246	265	174	4.2
7-Jul	173	161	170	163	165	167	176	180	189	189	167	194	177	178	183	195	296	99	153	155	156	160	163	183	173.3
8-Jul	162	146	143	163	177	159	169	177	167	172	181	179	187	166	186	186	194	198	210	205	167	139	262	273	184.4
9-Jul	205	170	191	215	211	213	219	222	224	224	224	219	226	226	234	234	233	243	255	268	262	268	267	260	231.5
10-Jul	248	255	267	303	296	267	294	300	315	316	290	293	285	319	326	332	317	310	295	292	288	221	229	216	290.3
11-Jul	206	146	158	152	149	165	177	175	190	192	199	210	218	218	204	218	238	256	263	217	199	215	220	217	202.3
12-Jul	171	178	177	208	220	218	236	274	290	317	307	298	256	220	238	257	249	258	236	235	305	4	347	17	246.7
13-Jul	336	225	213	197	245	342	348	358	10	357	353	353	326	360	13	9	13	13	17	19	21	9	354	323	358.9
14-Jul	328	339	335	326	337	335	352	351	348	356	8	11	340	355	358	2	4	17	9	3	355	330	318	311	352.8
15-Jul	320	267	200	160	159	167	164	164	161	178	183	184	180	175	189	196	194	185	176	169	165	150	148	166	176.6
16-Jul	159	144	147	161	147	151	167	166	171	170	182	191	188	189	209	157	134	127	121	141	155	UO	340	342	162.0
17-Jul	339	349	6	358	339	326	314	282	242	337	43	64	93	80	36	356	43	40	75	71	60	63	100	292	26.9
18-Jul	332	358	158	156	163	146	169	163	177	183	160	154	152	166	163	169	161	177	174	160	150	143	141	140	159.4
19-Jul	140	138	143	145	155	195	168	178	184	185	175	172	174	183	148	137	141	144	356	14	354	355	15	357	121.5
20-Jul	360	3	3	6	355	357	359	12	6	17	40	68	119	124	251	320	305	331	297	10	6	3	356	354	358.5
21-Jul	357	355	358	359	355	347	331	343	348	344	347	331	331	329	338	325	326	315	346	338	321	346	319	302	341.6
22-Jul	295	274	285	195	160	223	239	314	164	189	315	292	320	301	269	240	238	344	354	10	42	83	313	324	299.0
23-Jul	308	257	321	230	184	161	138	151	149	131	117	147	255	233	272	122	96	197	200	208	206	200	199	144	175.9
24-Jul	148	152	153	159	164	172	180	183	182	161	163	162	175	147	178	161	139	111	69	79	326	10	177	180	160.3
25-Jul	190	182	184	198	189	202	213	211	207	226	272	312	339	359	346	279	2	222	36	122	204	232	253	307	226.3
26-Jul	327	313	284	310	187	149	157	183	189	204	189	31	53	126	64	17	24	30	11	25	18	2	346	341	24.0
27-Jul	350	354	359	2	352	336	335	339	340	329	330	350	339	315	309	355	353	255	243	287	355	354	291	291	336.1
28-Jul	306	276	198	164	164	174	153	134	141	197	194	243	256	184	97	98	96	165	296	49	96	92	286	266	171.0
29-Jul	269	175	131	156	138	158	160	174	184	219	137	204	189	203	202	200	185	170	167	185	340	329	332	355	184.6
30-Jul	355	4	3	257	8	130	161	190	201	198	203	170	76	39	24	29	24	17	34	25	29	351	323	321	30.4
31-Jul	323	319	124	152	152	149	147	163	159	167	173	191	202	198	189	190	195	176	183	165	162	183	181	150	177.7
307.8 317.8 243.3 223.2 195.6 196.0 207.4 201.1 205.9 220.5 221.4 226.8 227.7 212.9 229.1 245.4 244.4 235.7 308.9 9.9 341.0 343.2 285.1 280.8																									
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
Fort Hills - July 2025





Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg
Fort Hills - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																		Hours in Service: 744							
Maximum Value: 95 deg on Jul 31 03:00																		Hours of Data: 743							
Minimum Value: 5 deg on Jul 7 22:00																		Hours of Missing Data: 1							
																		Hours of Calibration: 0							
Percentiles: P ₁ = 6 P ₁₀ = 10 Q ₁ = 14 Median = 18 Q ₃ = 28 P ₉₀ = 52 P ₉₉ = 85																		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-Jul	21	34	14	33	26	24	36	37	35	42	52	73	76	62	50	45	38	27	13	17	11	9	16	14	76
2-Jul	42	23	10	10	12	11	12	15	17	29	42	41	37	39	54	72	62	40	23	21	19	21	24	64	72
3-Jul	30	16	22	19	73	33	14	20	21	18	27	21	13	13	12	10	10	38	28	19	16	17	11	21	73
4-Jul	14	19	11	25	17	14	17	16	35	26	20	18	17	18	17	25	23	29	18	12	58	72	54	74	74
5-Jul	75	40	33	36	16	32	50	16	13	22	18	43	50	74	71	23	28	24	20	12	15	10	11	64	75
6-Jul	34	15	18	14	14	11	18	12	16	16	15	16	18	18	21	17	87	18	36	25	35	51	51	13	87
7-Jul	23	31	13	34	25	14	11	11	12	18	19	25	20	22	12	49	79	46	16	10	6	5	8	20	79
8-Jul	25	9	6	7	8	11	12	12	19	12	19	12	15	12	14	11	11	10	12	20	10	20	50	18	50
9-Jul	84	10	12	9	8	10	10	11	12	15	14	12	12	12	14	14	13	12	20	14	13	14	13	14	84
10-Jul	13	23	28	19	20	19	13	18	20	21	18	20	18	21	39	30	33	18	16	13	9	36	28	29	39
11-Jul	24	15	14	10	8	9	11	11	10	11	10	14	12	12	11	17	13	16	17	16	16	16	23	32	32
12-Jul	87	15	12	11	8	7	17	14	20	35	47	26	19	24	23	14	22	14	10	11	68	14	21	16	87
13-Jul	20	31	14	61	15	26	17	18	14	17	18	25	30	28	23	21	17	17	15	14	11	15	15	8	61
14-Jul	11	10	11	10	14	14	17	16	22	22	21	28	24	26	20	23	24	19	20	20	18	8	14	18	28
15-Jul	18	63	34	15	13	11	9	10	14	23	18	21	20	18	17	20	14	14	12	8	10	6	11	11	63
16-Jul	13	11	13	9	6	11	8	8	8	13	24	20	25	30	37	66	30	19	13	20	20	UO	18	19	66
17-Jul	10	14	8	15	40	24	27	32	35	80	26	28	46	73	59	45	45	30	28	20	8	11	68	62	80
18-Jul	20	79	26	15	15	13	12	12	24	25	25	24	26	27	29	25	20	15	10	6	5	6	7	8	79
19-Jul	21	83	13	10	11	18	11	10	11	11	20	15	20	28	38	43	56	74	30	11	17	16	12	19	83
20-Jul	16	16	15	16	19	18	15	16	21	24	30	45	45	42	56	16	22	29	29	22	16	15	18	18	56
21-Jul	16	17	16	17	16	19	14	18	24	22	22	20	21	20	16	17	16	15	24	18	15	19	18	12	24
22-Jul	11	20	28	65	20	18	28	42	45	53	39	38	21	44	66	77	72	30	23	17	20	91	38	21	91
23-Jul	33	51	60	69	30	30	7	18	27	58	64	44	38	86	82	56	54	71	12	6	9	22	65	45	86
24-Jul	52	22	9	11	22	15	10	29	18	19	17	17	17	16	15	12	13	30	21	22	53	52	37	18	53
25-Jul	19	11	10	14	11	8	9	7	9	12	19	21	41	15	21	48	61	72	21	57	13	14	11	10	72
26-Jul	10	17	17	23	43	27	18	14	18	13	25	24	30	14	38	13	12	12	15	12	17	14	16	15	43
27-Jul	18	16	16	15	19	15	14	21	25	14	14	18	20	21	19	30	34	27	29	15	28	50	14	13	50
28-Jul	12	26	36	20	21	18	19	16	17	19	30	56	30	72	87	85	35	43	89	23	20	60	61	66	89
29-Jul	90	66	18	34	14	14	16	13	28	37	25	27	25	26	23	25	21	22	17	28	60	13	12	15	90
30-Jul	15	15	24	64	58	15	18	17	11	11	17	44	53	20	26	28	21	17	11	10	7	82	24	34	82
31-Jul	79	73	95	31	28	17	10	8	10	15	11	16	14	21	18	21	18	14	8	6	5	7	21	12	95
90 83 95 69 73 33 50 42 45 80 64 73 76 86 87 85 87 74 89 57 68 91 68 74																									
Diurnal Maximum																									
UO - Unstable Operation																									



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS25 WASKŌW OHCI PIMÂTISIWIN JULY 2025

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

August 29, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - WASKŌW OHCI PIMÂTISIWIN (AMS25)
JULY 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	702	34	42	98.92	48.6	0	4.9	0
H2S(ppb) Average	698	38	46	98.92	5	0	0.6	0
Temperature 2 m (C) Average	744	0	0	100	33.5	0	23.9	0
Relative Humidity (%) Average	744	0	0	100	99	-	95.3	-
Wind Speed 10 m (km/h) Average	693	0	51	93.15	19	0	10	0
Wind Direction 10 m (deg) Average	693	0	51	93.15	-	-	-	-

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

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - WASKŌW OHCI PIMĀTISIWIN (AMS25)
JULY 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	702	1.1	3.8	-	0	0	0	0.1	0.3	2.1	48.6
H2S (ppb) Average	698	0.26	0.3	-	0	0.1	0.1	0.2	0.3	0.5	5
Temperature 2 m (C) Average	744	17.24	5.9	-	2.8	9.7	12.9	16.5	21.4	25.8	33.5
Relative Humidity (%) Average	744	66.7	22.1	-	24.5	35.2	48.1	68.5	86.8	95.6	99
Wind Speed 10 m (km/h) Average	693	4.9	3	-	0	1	2	4	7	10	19
Wind Direction 10 m (deg) Average	693	-	-	-	-	-	-	-	-	-	-

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - WASKŌW OHCI PIMĀTISIWIN (AMS25)

JULY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
ALL GASEOUS ANALYZERS	03 Jul 2025 13:00	03 Jul 2025 13:00	1	DAS Failure - data not recorded
ALL GASEOUS ANALYZERS	13 Jul 2025 09:00	13 Jul 2025 14:00	6	Station power failure
ALL GASEOUS ANALYZERS	29 Jul 2025 07:00	29 Jul 2025 07:00	1	Maintenance - sample manifold cleaned
Wind Speed, Wind Direction	01 Jul 2025 23:00	01 Jul 2025 23:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	02 Jul 2025 20:00	02 Jul 2025 20:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	07 Jul 2025 04:00	07 Jul 2025 05:00	2	Flat line in sensor output signal
Wind Speed, Wind Direction	08 Jul 2025 06:00	08 Jul 2025 06:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	08 Jul 2025 21:00	08 Jul 2025 22:00	2	Flat line in sensor output signal
Wind Speed, Wind Direction	10 Jul 2025 22:00	11 Jul 2025 00:00	3	Flat line in sensor output signal
Wind Speed, Wind Direction	11 Jul 2025 05:00	11 Jul 2025 05:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	15 Jul 2025 04:00	15 Jul 2025 04:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	16 Jul 2025 06:00	16 Jul 2025 06:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	16 Jul 2025 21:00	16 Jul 2025 21:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	17 Jul 2025 00:00	17 Jul 2025 00:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	17 Jul 2025 06:00	17 Jul 2025 07:00	2	Flat line in sensor output signal
Wind Speed, Wind Direction	17 Jul 2025 20:00	17 Jul 2025 20:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	18 Jul 2025 03:00	18 Jul 2025 04:00	2	Flat line in sensor output signal
Wind Speed, Wind Direction	18 Jul 2025 21:00	19 Jul 2025 02:00	6	Flat line in sensor output signal
Wind Speed, Wind Direction	19 Jul 2025 05:00	19 Jul 2025 06:00	2	Flat line in sensor output signal
Wind Speed, Wind Direction	23 Jul 2025 23:00	24 Jul 2025 00:00	2	Flat line in sensor output signal
Wind Speed, Wind Direction	24 Jul 2025 03:00	24 Jul 2025 06:00	4	Flat line in sensor output signal
Wind Speed, Wind Direction	25 Jul 2025 20:00	25 Jul 2025 20:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	26 Jul 2025 01:00	26 Jul 2025 02:00	2	Flat line in sensor output signal
Wind Speed, Wind Direction	26 Jul 2025 04:00	26 Jul 2025 04:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	28 Jul 2025 02:00	28 Jul 2025 02:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	28 Jul 2025 05:00	28 Jul 2025 05:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	28 Jul 2025 19:00	28 Jul 2025 20:00	2	Flat line in sensor output signal
Wind Speed, Wind Direction	29 Jul 2025 20:00	29 Jul 2025 21:00	2	Flat line in sensor output signal
Wind Speed, Wind Direction	31 Jul 2025 02:00	31 Jul 2025 06:00	5	Flat line in sensor output signal

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - WASKŌW OHCI PIMĀTISIWIN (AMS25)

JULY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
Wind Speed, Wind Direction	31 Jul 2025 21:00	31 Jul 2025 22:00	2	Flat line in sensor output signal



Wood Buffalo Environmental Association

Summary of Hour Averages

Sulphur Dioxide (SO₂) - ppb

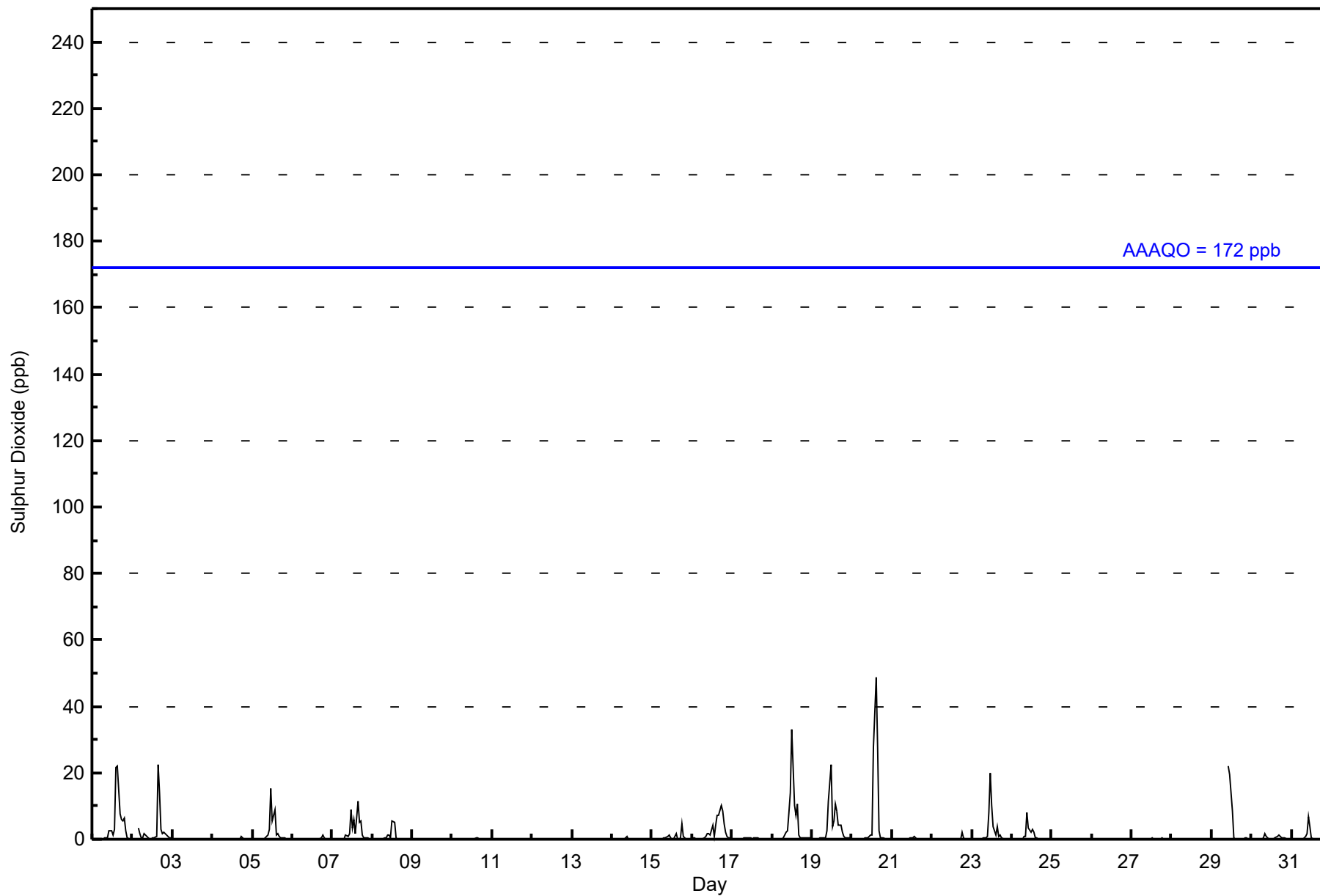
Waskow ohci Pimatisiwin - July 2025

Number of Exceedences (AAAQO): Maximum Value: 48.6 ppb on Jul 20 15:00																			1-hr: 0 24-hr: 0 Maximum Daily Average: 4.9 ppb on Jul 20						Hours in Service: 744 Hours of Data: 702	
Minimum Value: 0.0 ppb on Jul 1 01:00 Maximum Diurnal Average: 3.8 ppb at hour 16 Monthly Average: 1.10 ppb																			Minimum Daily Average: 0.0 ppb on Jul 12 Minimum Diurnal Average: 0.0 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 = 2.1 P ₉₉ = 22.0						Hours of Missing Data: 42 Hours of Calibration: 34 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-Jul	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.6	2.7	2.4	1.1	3.0	21.6	22.2	7.7	6.1	5.3	6.5	2.6	0.5	0.2	0.1	3.6	22.2
2-Jul	0.0	0.0	Z	3.3	1.6	0.5	0.6	1.9	1.4	0.3	0.1	0.2	0.3	0.3	0.9	22.5	13.9	3.0	1.9	2.0	1.1	0.7	0.4	0.2	2.5	22.5
3-Jul	0.1	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DF	0.0	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-Jul	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	0.1	0.9	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.9
5-Jul	0.0	0.0	0.0	0.0	0.1	Z	0.1	0.1	0.8	1.5	2.8	15.3	5.3	8.8	1.3	1.5	0.9	0.6	0.4	0.3	0.2	0.1	0.1	0.0	1.7	15.3
6-Jul	Z	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	0.3	1.2	0.4	0.1	0.0	0.0	0.0	0.1	1.2
7-Jul	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	1.1	0.7	1.6	8.8	3.4	5.8	1.6	11.2	5.2	5.6	1.1	0.5	0.3	0.2	0.2	0.2	2.1	11.2
8-Jul	0.1	0.1	Z	0.1	0.0	0.0	0.1	0.3	0.6	1.3	1.5	0.3	5.4	5.2	0.4	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.7	5.4
9-Jul	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
10-Jul	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	0.4	0.3	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.4
11-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.1	0.1	0.2	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	0.2
12-Jul	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
13-Jul	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	PF	PF	PF	PF	PF	PF	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.1
14-Jul	0.0	0.1	Z	0.0	0.0	0.1	0.0	0.0	0.5	1.0	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	0.0	0.1	1.0
15-Jul	0.0	0.1	0.0	Z	0.1	0.1	0.2	0.2	0.5	1.0	1.2	0.5	0.2	0.1	1.6	0.2	0.1	0.6	4.8	0.8	0.2	0.1	0.1	0.2	0.6	4.8
16-Jul	0.2	0.3	0.1	0.1	Z	0.1	0.2	0.4	0.9	1.6	1.7	1.4	4.3	0.9	4.1	7.1	7.1	10.0	8.4	4.6	2.2	0.9	0.5	0.3	2.5	10.0
17-Jul	0.2	0.2	0.1	0.1	0.0	Z	0.1	0.2	0.3	0.3	0.4	0.3	0.1	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.2	0.4
18-Jul	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.3	1.9	2.4	8.1	13.9	33.1	10.0	7.0	10.4	1.4	0.5	0.4	0.5	0.6	0.5	0.3	0.2	4.0	33.1
19-Jul	0.2	Z	0.1	0.0	0.1	0.2	0.2	0.3	0.5	2.4	11.3	22.3	3.9	5.5	10.4	8.3	4.3	4.4	2.1	0.8	0.5	0.3	0.2	0.1	3.4	22.3
20-Jul	0.2	0.2	Z	0.1	0.1	0.0	0.1	0.1	0.2	0.3	0.7	1.3	1.3	27.6	48.6	27.4	2.3	0.5	0.6	0.6	0.1	0.1	0.1	0.0	4.9	48.6
21-Jul	0.0	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.1	0.2	0.0	0.4	0.3	0.7	0.3	0.2	0.1	0.0	0.1	0.2	0.1	0.1	0.1	0.0	0.1	0.7
22-Jul	0.0	0.1	0.1	0.0	Z	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.1	2.1	0.3	0.1	0.1	0.1	0.1	0.2	2.1
23-Jul	0.1	0.1	0.1	0.1	0.0	Z	0.1	0.3	0.4	0.7	8.2	19.7	10.3	3.7	1.5	3.6	1.0	1.1	0.2	0.1	0.2	0.2	0.2	0.1	2.3	19.7
24-Jul	Z	0.1	0.1	0.1	0.1	0.1	0.2	1.0	0.9	8.2	3.2	2.1	2.9	2.1	0.4	0.4	0.2	0.2	0.1	0.2	0.1	0.0	0.1	0.0	1.0	8.2
25-Jul	0.0	Z	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	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
26-Jul	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
27-Jul	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.1	0.0	0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.3
28-Jul	0.0	0.0	0.0	0.0	Z	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	0.0	0.0	0.1
29-Jul	0.0	0.0	0.0	0.0	0.0	Z	M	C	C	C	22.0	19.7	8.5	0.4	0.2	0.1	0.2	0.2	0.1	0.1	0.3	0.2	0.1	0.2	2.7	22.0
30-Jul	Z	0.1	0.1	0.1	0.0	0.1	0.1	0.3	1.7	0.7	0.2	0.1	0.0	0.1	0.4	1.0	1.4	0.8	0.4	0.5	0.3	0.1	0.0	0.0	0.4	1.7
31-Jul	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.8	1.9	6.8	4.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.4	0.0	0.0	0.0	0.7	6.8
0.0 0.1 0.0 0.2 0.1 0.1 0.1 0.2 0.5 0.9 2.4 3.8 2.8 2.5 3.3 3.8 1.5 1.1 1.0 0.6 0.3 0.2 0.1 0.1 Diurnal Average																										
0.2 0.3 0.1 3.3 1.6 0.5 0.6 1.9 1.9 8.2 22.0 22.3 33.1 27.6 48.6 27.4 13.9 10.0 8.4 6.5 2.6 0.9 0.5 0.3 Diurnal Maximum																										
Z - zerospan C - Calibration M - Maintenance DF - DAS Failure 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
Waskow ohci Pimatisiwin - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Waskow ohci Pimatisiwin - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	686	97.72	97.72
11 - 20	7	1.00	98.72
21 - 60	9	1.28	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: 702

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Waskow ohci Pimatisiwin - July 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	66	31	7	6	3	12	45	96	41	28	41	41	67	50	49	57	640
11 - 20	0	0	0	0	0	2	4	1	0	0	0	0	0	0	0	0	7
21 - 60	0	0	0	0	0	1	5	3	0	0	0	0	0	0	0	0	9
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	66	31	7	6	3	15	54	100	41	28	41	41	67	50	49	57	656

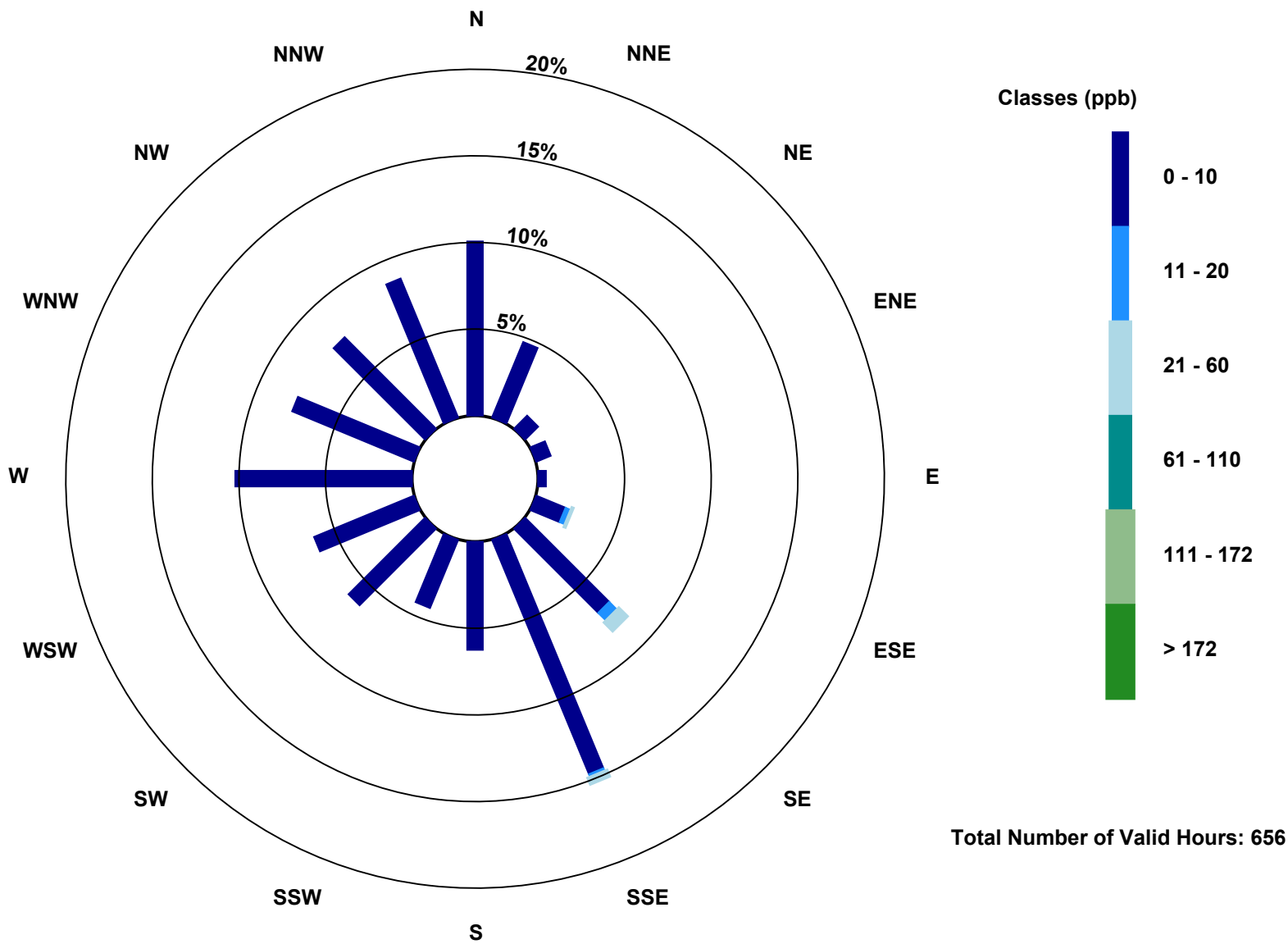
Total Number of Valid Hours: 656

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

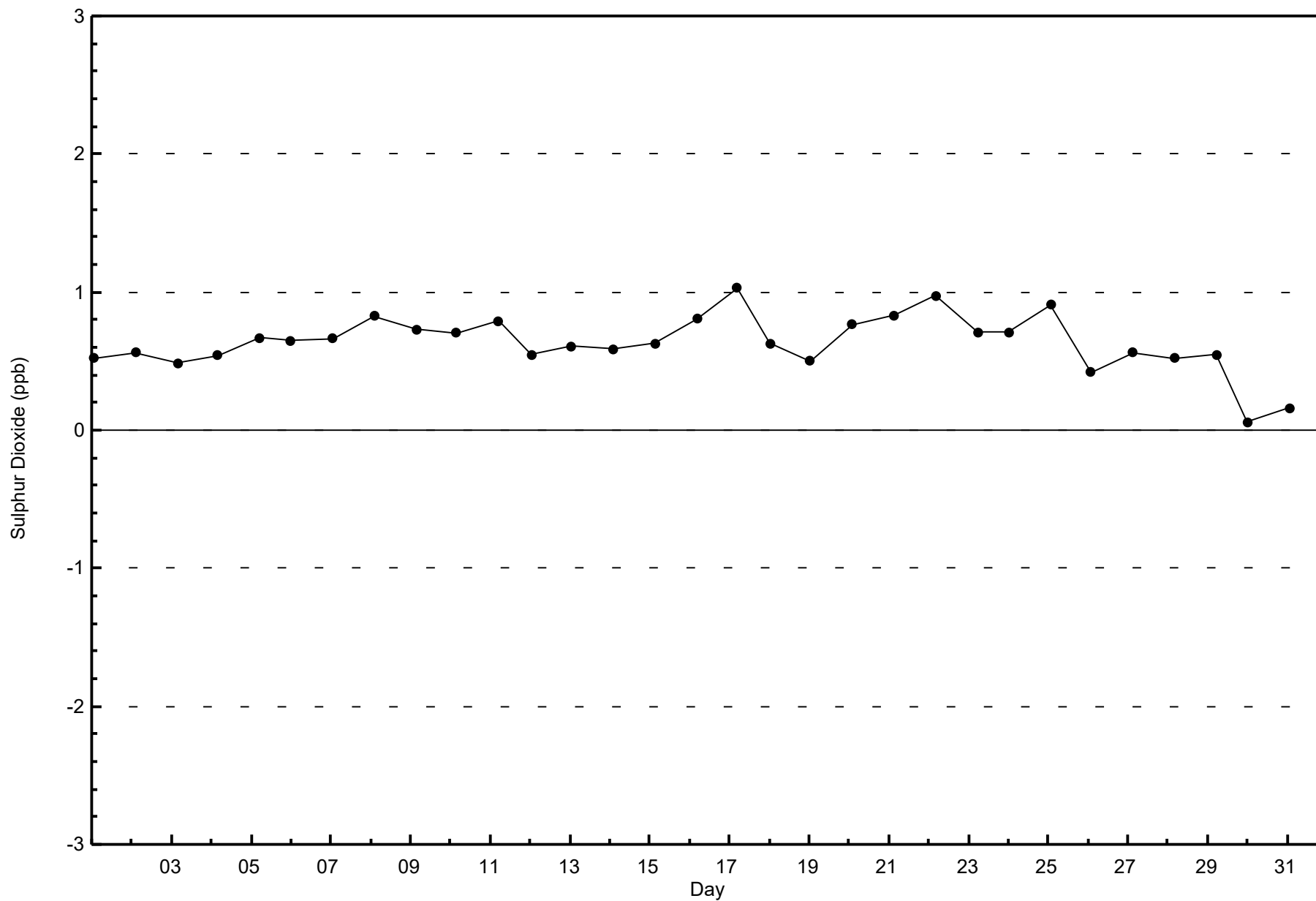
Sulphur Dioxide (SO₂) - ppb
Waskow ohci Pimatisiwin





Wood Buffalo Environmental Association
Zero Responses

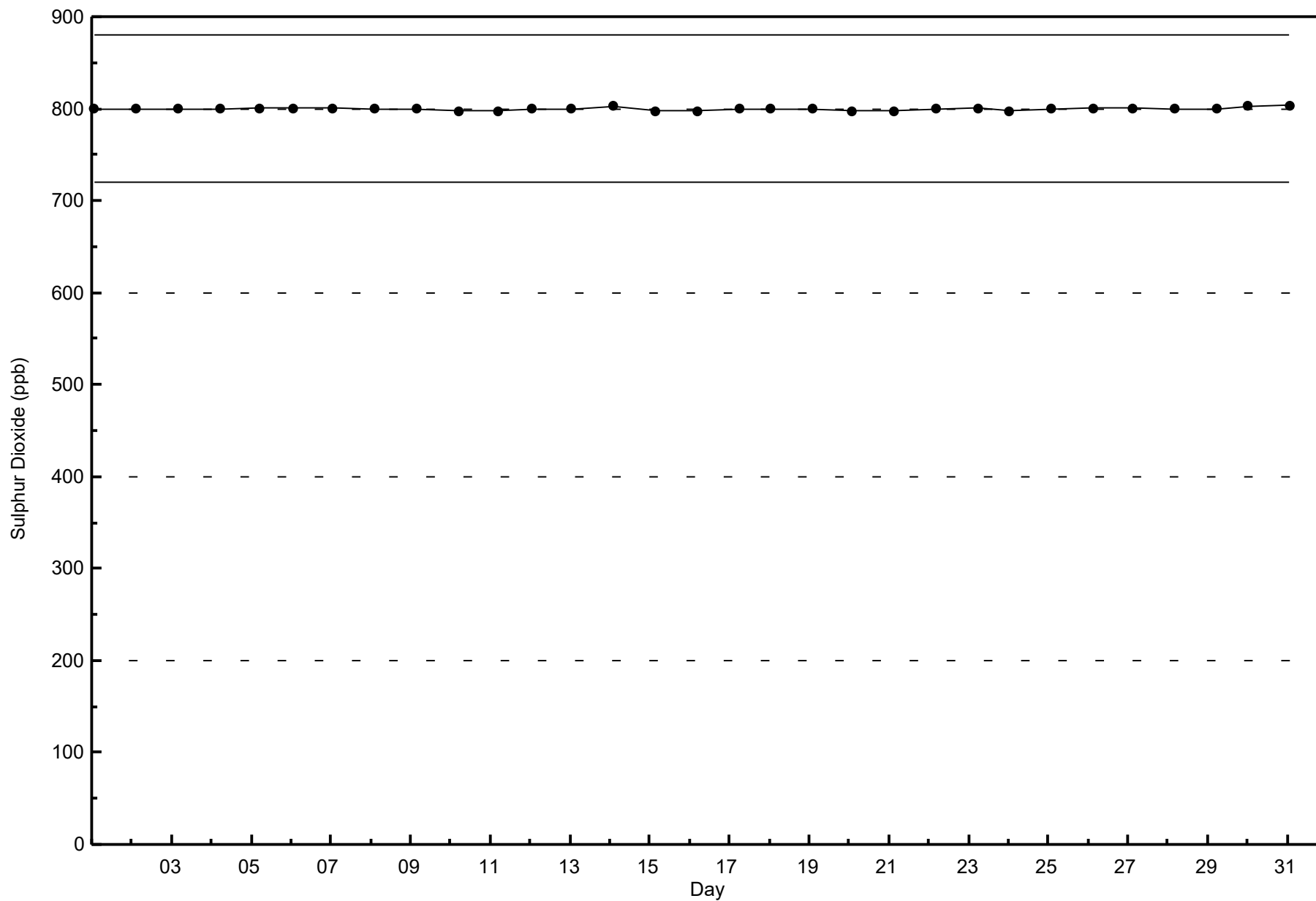
Sulphur Dioxide (SO₂) - ppb
Waskow ohci Pimatisiwin - July 2025





Wood Buffalo Environmental Association
Span Responses

Sulphur Dioxide (SO₂) - ppb
Waskow ohci Pimatisiwin - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Hydrogen Sulphide (H₂S) - ppb

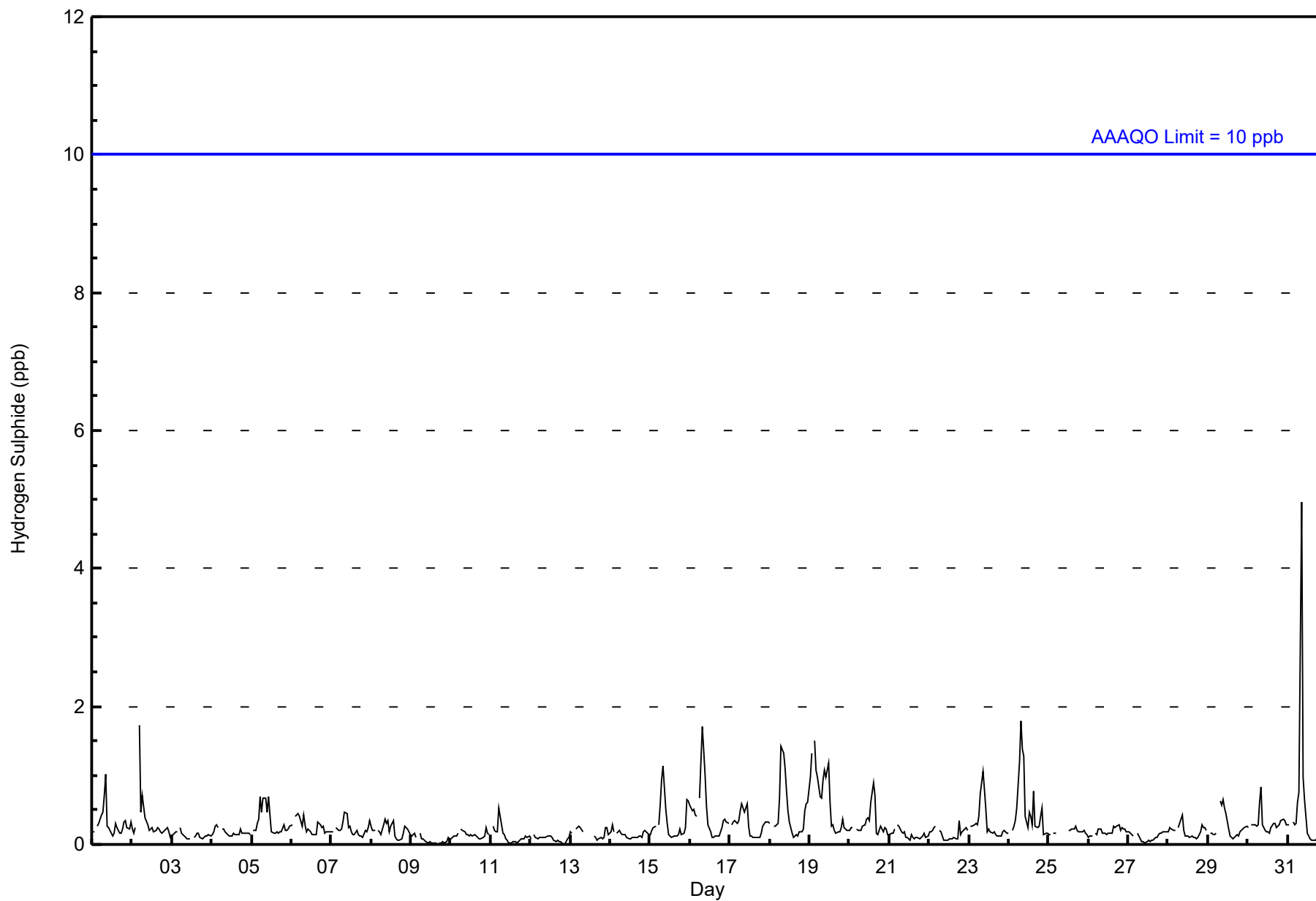
Waskow ohci Pimatisiwin - July 2025

Number of Exceedences (AAAQO): Maximum Value: 5.0 ppb on Jul 31 09:00																			1-hr: 0 24-hr: 0 Maximum Daily Average: 0.6 ppb on Jul 19																			Hours in Service: 744	
Minimum Value: 0.0 ppb on Jul 9 17:00 Maximum Diurnal Average: 0.7 ppb at hour 9 Monthly Average: 0.26 ppb																			Minimum Daily Average: 0.1 ppb on Jul 9 Minimum Diurnal Average: 0.1 ppb at hour 18 Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.3 P ₉₀ = 0.5 P ₉₉ = 1.4																			Hours of Data: 698	
																																						Hours of Missing Data: 46	
																																						Hours of Calibration: 38	
																																						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-Jul	0.2	0.2	Z	0.3	0.3	0.4	0.5	0.7	1.0	0.3	0.2	0.2	0.1	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.4	0.2	0.2	0.3	0.3	1.0													
2-Jul	0.2	0.2	0.2	Z	1.7	0.5	0.7	0.6	0.4	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	0.1	0.3	1.7													
3-Jul	0.1	0.2	0.2	0.2	Z	0.3	0.2	0.1	0.1	0.1	0.1	0.1	DF	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3													
4-Jul	0.1	0.2	0.3	0.3	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	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.3													
5-Jul	Z	0.2	0.2	0.3	0.4	0.7	0.5	0.7	0.7	0.5	0.7	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.3	0.7													
6-Jul	0.3	Z	0.4	0.4	0.5	0.4	0.3	0.4	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.5													
7-Jul	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.3	0.5	0.4	0.2	0.3	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.2	0.5													
8-Jul	0.3	0.2	0.2	Z	0.2	0.2	0.1	0.3	0.4	0.3	0.3	0.2	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.2	0.1	0.2	0.4													
9-Jul	0.1	0.1	0.2	0.1	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	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2													
10-Jul	0.1	0.1	0.1	0.1	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	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.2													
11-Jul	Z	0.3	0.2	0.2	0.2	0.5	0.3	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5													
12-Jul	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	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1													
13-Jul	0.2	0.2	Z	0.2	0.3	0.3	0.2	0.2	PF	PF	PF	PF	PF	PF	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	-	0.3													
14-Jul	0.2	0.3	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	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.3													
15-Jul	0.2	0.2	0.2	0.3	Z	0.3	0.6	0.9	1.1	0.5	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.6	0.6	0.3	1.1													
16-Jul	0.6	0.5	0.5	0.4	0.4	Z	0.7	1.7	1.4	1.0	0.6	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.3	0.3	0.5	1.7													
17-Jul	Z	0.3	0.3	0.3	0.3	0.3	0.5	0.6	0.5	0.5	0.6	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.3	0.3	0.3	0.6													
18-Jul	0.3	Z	0.3	0.3	0.3	0.3	0.7	1.4	1.3	1.1	0.8	0.5	0.3	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.5	0.6	0.6	0.5	1.4													
19-Jul	1.0	1.3	Z	1.5	1.1	1.0	0.7	0.7	0.9	1.1	1.0	1.2	0.6	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.4	0.2	0.2	0.2	0.6	1.5													
20-Jul	0.2	0.2	0.3	Z	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.4	0.6	0.9	0.7	0.2	0.1	0.2	0.3	0.2	0.2	0.2	0.1	0.3	0.9													
21-Jul	0.1	0.2	0.2	0.2	Z	0.3	0.3	0.2	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	0.2	0.1	0.1	0.1	0.3													
22-Jul	0.2	0.2	0.2	0.2	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	0.3	0.1	0.2	0.2	0.2	0.2	0.2	0.3													
23-Jul	Z	0.3	0.3	0.3	0.3	0.3	0.4	0.7	1.1	0.8	0.5	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	0.3	1.1													
24-Jul	0.2	Z	0.2	0.3	0.3	0.5	1.2	1.8	1.4	1.3	0.4	0.2	0.5	0.4	0.3	0.8	0.3	0.2	0.3	0.4	0.5	0.2	0.2	0.2	0.5	1.8													
25-Jul	0.2	0.1	Z	0.2	0.2	C	C	C	C	C	C	C	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	-	0.3													
26-Jul	0.1	0.1	0.1	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3													
27-Jul	0.2	0.2	0.1	0.1	Z	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2													
28-Jul	0.2	0.2	0.2	0.2	0.2	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	0.2	0.3	0.3	0.2	0.2	0.2	0.4													
29-Jul	Z	0.2	0.2	0.1	0.1	0.2	M	0.6	0.6	0.7	0.5	0.4	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.7													
30-Jul	0.3	Z	0.3	0.3	0.3	0.3	0.3	0.6	0.8	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.8													
31-Jul	0.3	0.3	Z	0.3	0.3	0.3	0.6	0.8	5.0	1.0	0.6	0.4	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.4	0.5	0.5	5.0													
0.2 0.3 0.2 0.3 0.3 0.3 0.4 0.5 0.7 0.4 0.3 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 0.2 0.2 0.2 0.2 Diurnal Average																																							
1.0 1.3 0.5 1.5 1.7 1.0 1.2 1.8 5.0 1.3 1.0 1.2 0.6 0.6 0.9 0.8 0.3 0.3 0.3 0.4 0.5 0.5 0.6 0.6 0.6 0.6 0.6 0.6 0.6 Diurnal Maximum																																							
Z - zerospan C - Calibration M - Maintenance DF - DAS Failure PF - Power Failure																																							
Alberta Ambient Air Quality Objective (AAAQO): 1-hour 10 ppb 24-hr 3 ppb																																							



Wood Buffalo Environmental Association
Hourly Averages

Hydrogen Sulphide (H₂S) - ppb
Waskow ohci Pimatisiwin - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Hydrogen Sulphide (H₂S) - ppb
Waskow ohci Pimatisiwin - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	697	99.86	99.86
3 - 4	0	0.00	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: 698

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Hydrogen Sulphide (H₂S) - ppb
Waskow ohci Pimatisiwin - July 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	66	31	7	6	3	15	55	100	41	27	42	40	61	49	50	56	649
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	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	66	31	7	6	3	15	56	100	41	27	42	40	61	49	50	56	650

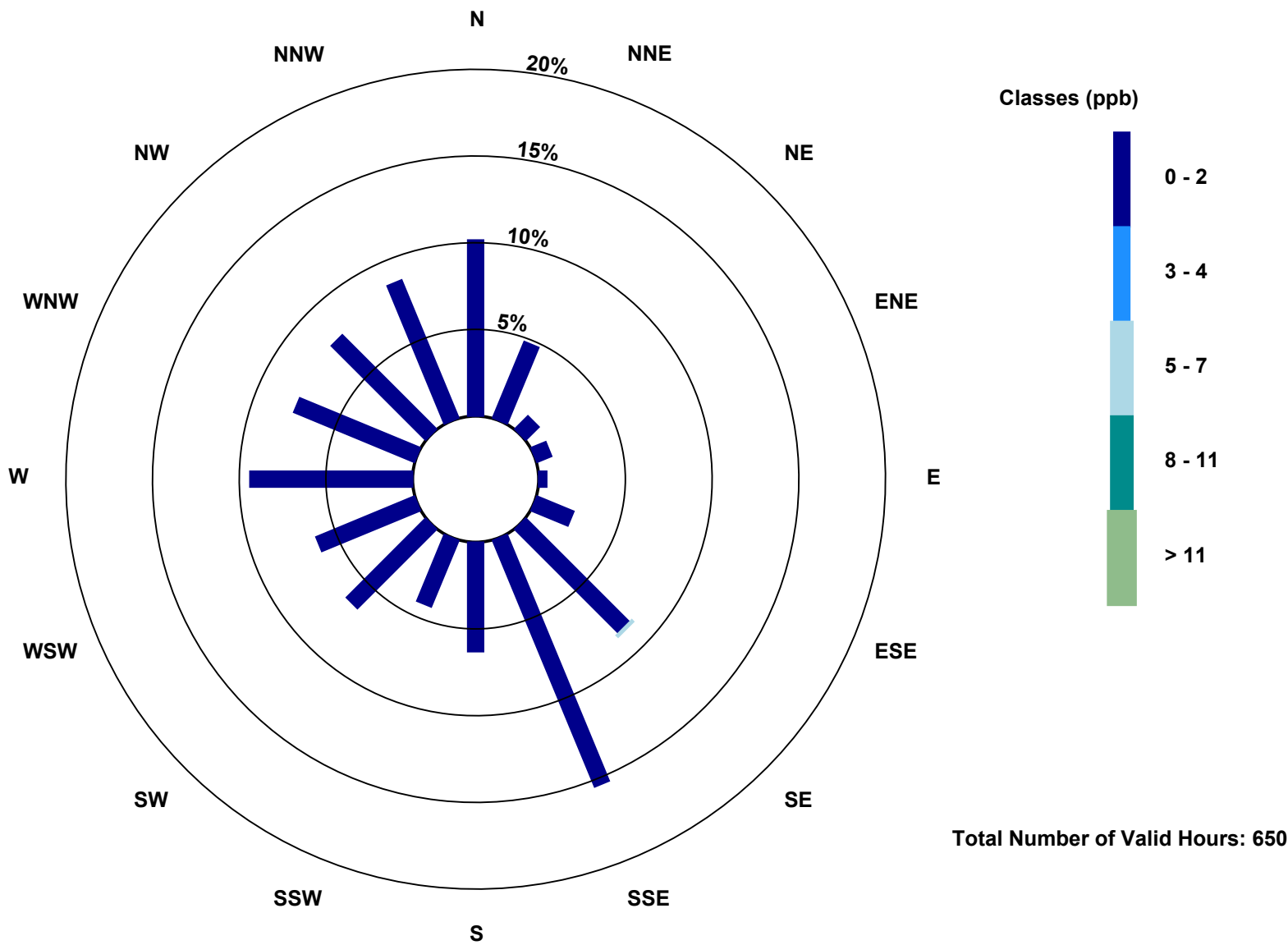
Total Number of Valid Hours: 650

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

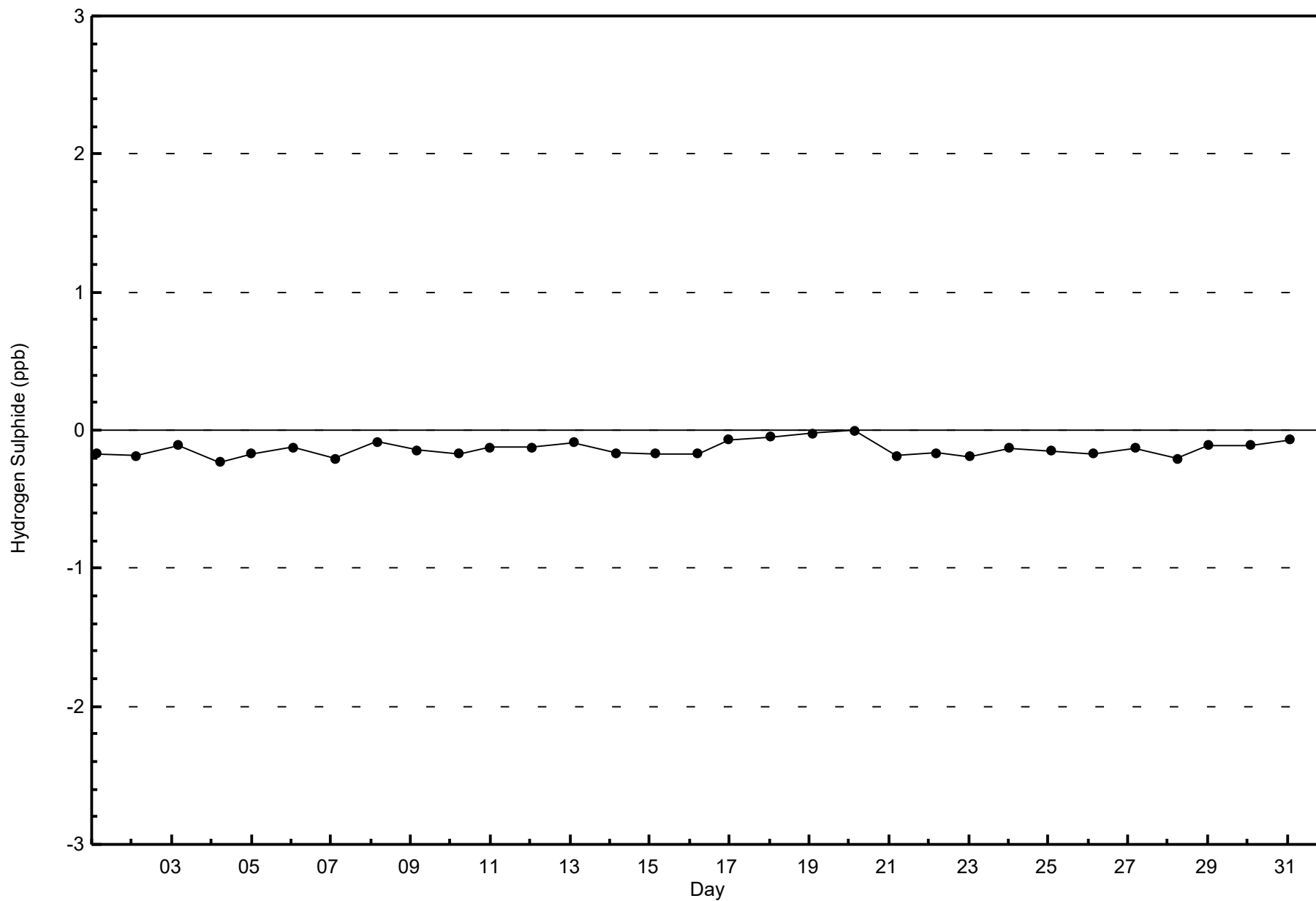
Hydrogen Sulphide (H₂S) - ppb
Waskow ohci Pimatisiwin





Wood Buffalo Environmental Association
Zero Responses

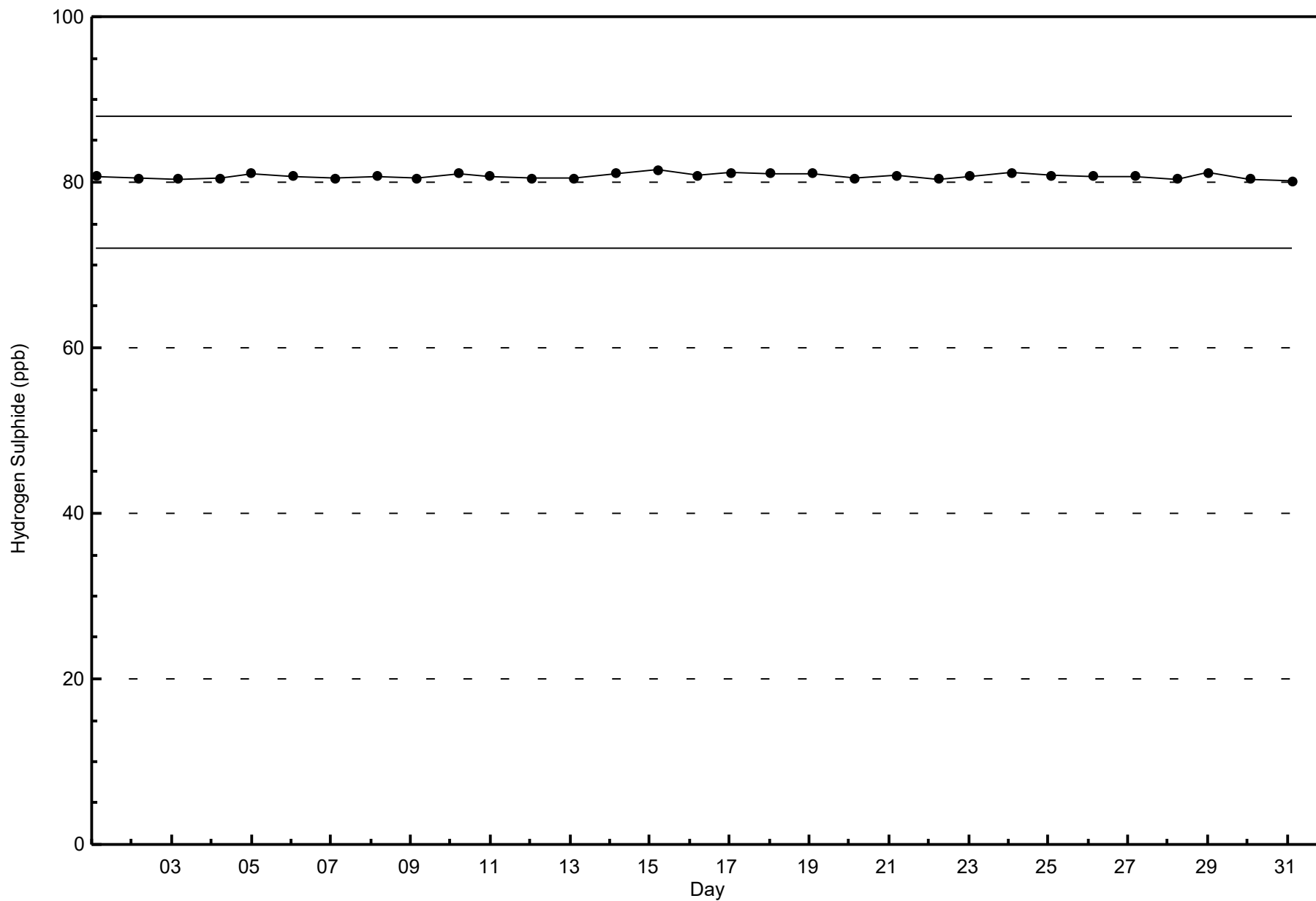
Hydrogen Sulphide (H₂S) - ppb
Waskow ohci Pimatisiwin - July 2025





Wood Buffalo Environmental Association
Span Responses

Hydrogen Sulphide (H₂S) - ppb
Waskow ohci Pimatisiwin - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Ambient Temperature 2m (AT2) - C

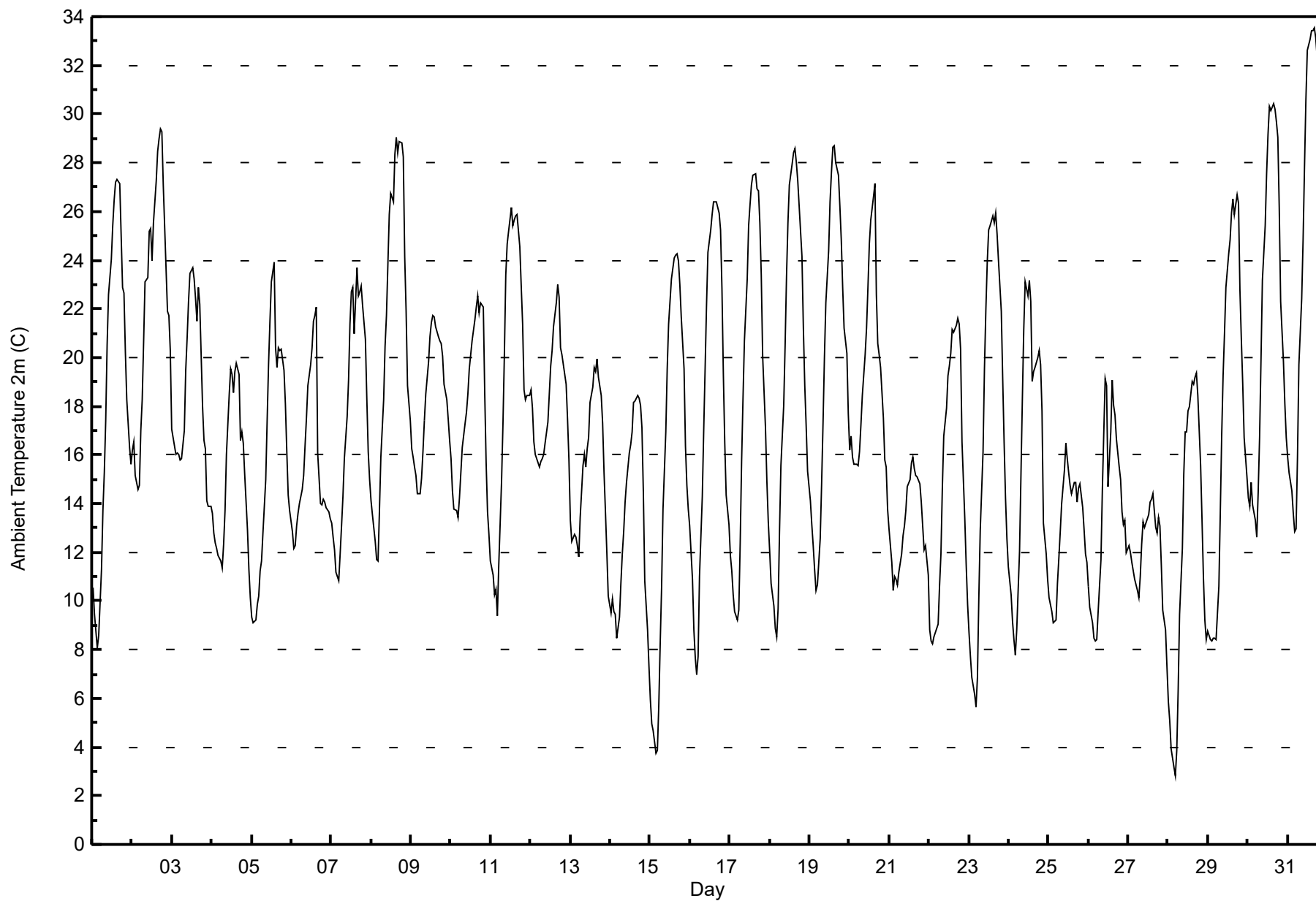
Waskow ohci Pimatisiwin - July 2025

Maximum Value: 33.5 C on Jul 31 17:00																			Maximum Daily Average: 23.9 C on Jul 31							Hours in Service: 744	
Minimum Value: 2.8 C on Jul 28 05:00																			Minimum Daily Average: 12.0 C on Jul 27							Hours of Data: 744	
Maximum Diurnal Average: 23.3 C at hour 16																			Minimum Diurnal Average: 10.5 C at hour 5							Hours of Missing Data: 0	
Monthly Average: 17.24 C																			Percentiles: P ₁ = 5.0 P ₁₀ = 9.7 Q ₁ = 12.9 Median = 16.5 Q ₃ = 21.4 P ₉₀ = 25.8 P ₉₉ = 30.5							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-Jul	10.5	9.4	8.7	8.1	8.6	11.3	13.7	15.3	17.4	20.5	22.6	24.0	25.4	26.4	27.2	27.3	27.1	25.0	22.9	22.6	20.3	18.3	16.3	15.6	18.5	27.3	
2-Jul	16.2	16.5	15.2	14.6	14.7	17.0	18.3	20.7	23.1	23.3	25.2	25.3	24.0	25.5	27.3	28.5	29.0	29.4	29.3	27.1	23.6	21.9	21.7	20.3	22.4	29.4	
3-Jul	17.1	16.3	16.0	16.1	16.0	15.8	15.8	17.0	19.5	20.8	22.3	23.4	23.7	23.2	22.4	21.5	22.9	22.2	18.0	16.6	16.3	14.1	13.9	13.9	18.5	23.7	
4-Jul	13.6	12.8	12.4	12.2	11.9	11.6	11.3	12.3	13.7	16.0	18.5	19.5	19.3	18.6	19.4	19.8	19.3	16.6	17.0	16.5	15.2	12.9	11.3	10.2	15.1	19.8	
5-Jul	9.3	9.1	9.2	9.9	10.2	11.2	11.6	12.8	15.0	17.4	19.7	21.5	23.1	23.9	20.4	19.6	20.4	20.3	20.4	19.5	18.1	16.1	14.4	13.7	16.1	23.9	
6-Jul	12.9	12.2	12.3	13.1	13.6	14.0	14.6	15.2	16.4	17.5	18.9	19.7	20.4	21.5	21.7	22.1	16.1	14.0	13.9	14.2	14.1	13.9	13.6	13.4	15.8	22.1	
7-Jul	13.2	12.6	12.1	11.2	10.9	11.9	13.1	14.3	15.8	17.6	19.1	21.4	22.7	22.9	21.0	23.7	22.5	22.7	23.0	22.1	20.8	18.3	16.1	15.0	17.7	23.7	
8-Jul	14.1	13.6	12.5	11.7	11.6	13.7	15.9	18.3	20.5	21.7	23.8	25.8	26.8	26.4	28.3	29.0	28.4	28.9	28.8	28.2	24.1	21.9	18.8	17.4	21.3	29.0	
9-Jul	16.2	15.9	15.5	15.2	14.4	14.4	15.0	16.1	17.4	18.5	19.8	20.9	21.5	21.7	21.7	21.3	20.9	20.7	20.6	20.0	18.9	18.3	17.5	16.6	18.3	21.7	
10-Jul	15.8	14.5	13.8	13.7	13.4	14.2	15.3	16.3	17.3	17.8	18.5	19.5	20.1	20.7	21.5	22.0	22.5	21.8	22.3	22.0	18.5	15.7	13.7	12.7	17.7	22.5	
11-Jul	11.7	11.1	10.3	10.5	9.4	11.4	14.9	17.3	20.1	23.4	24.6	25.2	26.2	25.4	25.6	25.8	25.8	24.5	22.9	21.4	18.7	18.3	18.5	18.4	19.2	26.2	
12-Jul	18.7	17.9	16.5	16.0	15.7	15.5	15.7	15.9	16.0	16.5	17.4	18.5	19.7	20.3	21.3	22.2	23.0	22.4	20.4	20.1	19.3	18.9	17.4	15.8	18.4	23.0	
13-Jul	13.3	12.4	12.7	12.6	12.2	11.8	13.4	15.5	16.0	15.5	16.3	16.7	18.1	18.8	19.6	19.4	20.0	19.2	18.4	17.3	15.3	13.7	12.0	10.2	15.4	20.0	
14-Jul	9.5	10.1	9.6	9.4	8.5	9.3	10.7	11.9	12.8	14.0	14.9	16.1	16.4	17.0	18.1	18.2	18.5	18.3	18.1	17.1	14.4	10.9	8.8	7.3	13.3	18.5	
15-Jul	5.9	5.0	4.7	3.7	3.9	5.7	8.3	10.6	13.8	17.0	19.5	21.4	22.3	23.2	24.1	24.2	24.3	24.0	23.0	21.7	19.6	16.3	14.7	13.8	15.4	24.3	
16-Jul	13.1	10.9	8.8	7.7	6.9	7.7	11.0	14.3	17.0	19.6	22.2	24.3	25.2	25.9	26.4	26.4	26.4	26.0	25.2	22.8	19.3	16.5	14.4	13.1	18.0	26.4	
17-Jul	11.9	11.2	10.2	9.6	9.2	9.6	12.4	15.7	18.3	20.7	23.2	25.4	26.3	27.1	27.5	27.6	26.9	26.8	25.5	23.4	20.0	17.1	14.9	13.2	18.9	27.6	
18-Jul	12.0	10.7	9.8	8.9	8.5	9.7	12.8	15.5	18.0	20.5	23.3	25.5	27.1	28.0	28.4	28.6	28.0	27.3	26.2	24.2	21.2	18.8	17.2	15.3	19.4	28.6	
19-Jul	14.1	13.2	12.3	11.3	10.5	10.7	12.6	14.8	17.3	20.0	22.2	24.4	26.4	27.6	28.7	28.7	28.0	27.5	26.2	24.8	22.9	21.2	20.2	17.7	20.1	28.7	
20-Jul	16.2	16.8	15.9	15.6	15.6	15.6	16.2	17.2	18.4	20.1	21.2	22.9	24.7	25.7	26.6	27.1	22.6	20.6	20.1	19.6	17.5	15.8	15.5	13.8	19.2	27.1	
21-Jul	13.0	11.6	10.4	11.0	10.9	10.7	11.2	11.9	12.7	13.1	13.7	14.7	15.0	15.7	15.9	15.4	15.1	15.1	14.8	14.1	13.1	12.1	12.3	11.1	13.1	15.9	
22-Jul	8.8	8.3	8.3	8.5	8.7	9.0	10.6	11.9	14.6	16.8	17.9	19.2	19.6	20.1	21.2	21.0	21.3	21.6	21.4	20.4	16.5	13.4	11.5	9.8	15.0	21.6	
23-Jul	8.7	7.7	6.9	6.1	5.7	6.9	10.2	12.9	16.2	19.5	21.9	23.9	25.2	25.4	25.8	25.5	26.0	25.1	24.0	21.9	19.1	16.5	14.2	12.6	17.0	26.0	
24-Jul	11.4	10.2	9.1	8.4	7.8	8.8	12.1	15.2	18.3	21.1	23.1	22.5	23.2	22.3	19.0	19.4	19.6	20.0	20.3	19.7	17.8	13.2	11.9	10.9	16.1	23.2	
25-Jul	10.1	9.9	9.6	9.1	9.2	10.7	11.8	12.8	14.0	15.4	16.5	15.8	15.3	14.8	14.4	14.8	14.9	14.1	14.7	14.8	13.8	12.9	12.0	11.6	13.0	16.5	
26-Jul	10.6	9.7	9.1	8.5	8.4	8.4	9.5	11.7	14.6	16.9	19.1	18.8	14.7	16.9	19.1	18.0	17.6	16.6	15.5	15.0	13.7	13.1	13.3	12.0	13.8	19.1	
27-Jul	12.3	12.0	11.6	11.2	10.9	10.4	10.1	11.0	12.3	13.3	13.0	13.3	13.6	14.1	14.2	14.4	13.0	12.8	13.4	13.1	11.4	9.6	8.8	7.3	12.0	14.4	
28-Jul	5.9	5.0	3.9	3.2	2.8	3.9	6.4	9.4	12.2	15.2	16.9	17.0	17.8	18.0	19.0	18.9	19.2	19.4	18.4	15.6	13.3	11.0	9.2	8.4	12.1	19.4	
29-Jul	8.7	8.4	8.4	8.5	8.4	8.4	10.6	13.6	16.8	19.2	21.0	22.9	24.3	24.8	25.9	26.5	25.9	26.7	26.3	22.8	20.8	18.9	16.7	15.1	17.9	26.7	
30-Jul	14.2	13.9	14.9	14.0	13.3	12.6	14.5	16.7	19.9	23.1	25.4	27.5	29.2	30.3	30.2	30.4	30.2	29.7	29.0	26.2	22.3	19.8	18.1	16.7	21.8	30.4	
31-Jul	15.9	15.2	14.6	13.6	12.9	13.0	15.9	19.7	22.4	24.8	27.8	30.6	32.6	33.1	33.4	33.4	33.5	33.1	32.3	29.2	25.2	22.4	20.5	19.1	23.9	33.5	
Diurnal Average																											
Diurnal Maximum																											



Wood Buffalo Environmental Association
Hourly Averages

Ambient Temperature 2m (AT2) - C
Waskow ohci Pimatisiwin - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ambient Temperature 2m (AT2) - C
Waskow ohci Pimatisiwin - July 2025

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	0	0.00	0.00
-20 - 0	0	0.00	0.00
0 - 10	80	10.75	10.75
10 - 20	427	57.39	68.15
> 20	237	31.85	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) - %

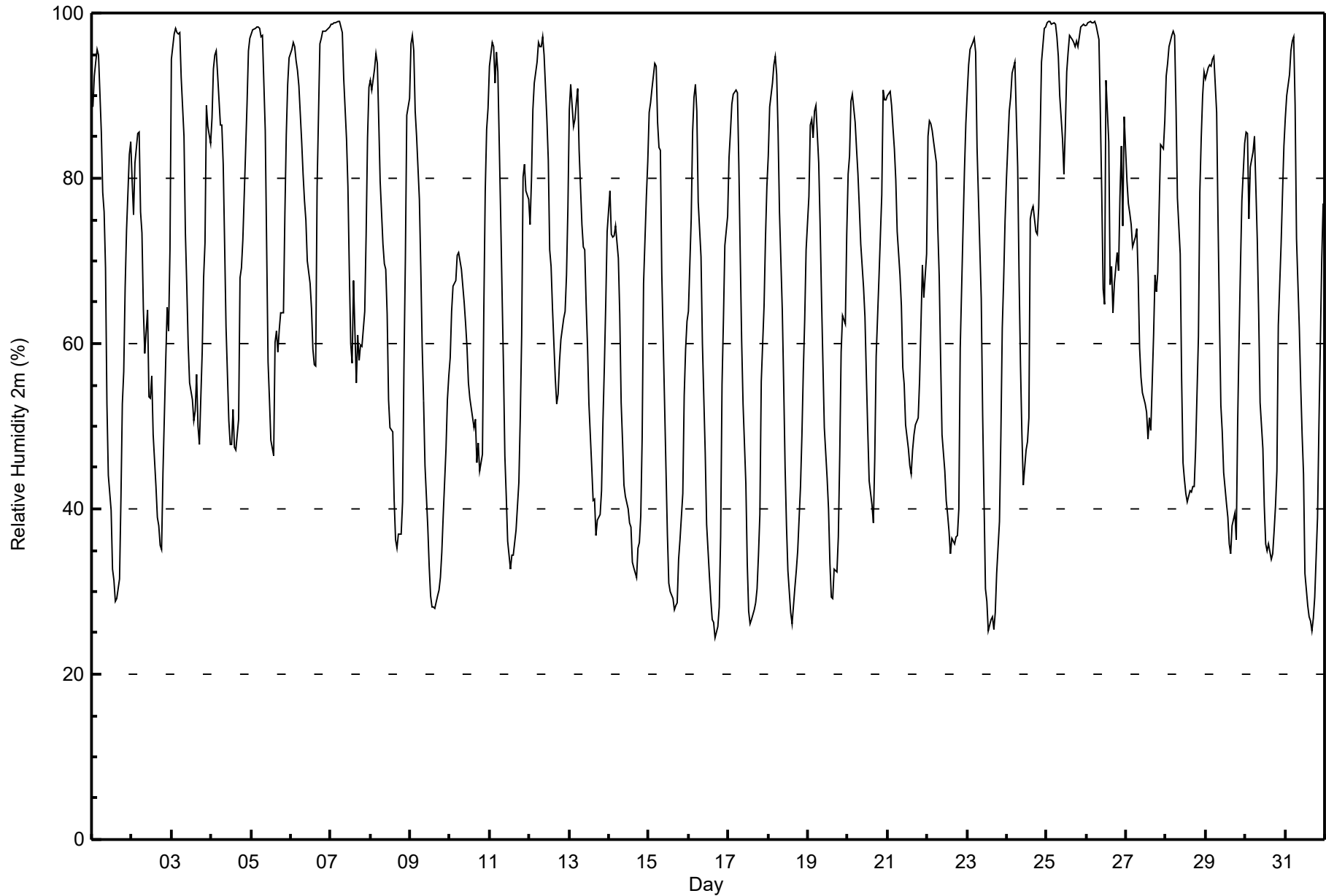
Waskow ohci Pimatisiwin - July 2025

Maximum Value: 99.0 % on Jul 7 06:00																				Maximum Daily Average: 95.3 % on Jul 25										Hours in Service: 744			
Minimum Value: 24.5 % on Jul 16 17:00																				Minimum Daily Average: 53.0 % on Jul 9										Hours of Data: 744			
Maximum Diurnal Average: 90.6 % at hour 5																				Minimum Diurnal Average: 43.3 % at hour 16										Hours of Missing Data: 0			
Monthly Average: 66.70 %																				Percentiles: P ₁ = 26.4 P ₁₀ = 35.2 Q ₁ = 48.1 Median = 68.5 Q ₃ = 86.8 P ₉₀ = 95.6 P ₉₉ = 98.9										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-Jul	88.6	92.3	94.1	95.6	95.0	85.7	78.3	75.9	69.1	52.8	44.0	39.8	32.8	31.3	28.8	29.2	31.4	41.2	52.7	56.5	66.9	73.7	82.8	84.4	63.4	95.6							
2-Jul	79.7	75.7	81.9	85.4	85.6	75.9	73.4	64.2	58.8	64.0	53.5	53.3	56.0	49.1	42.7	39.0	38.0	35.6	35.2	44.4	58.2	64.4	61.6	71.4	60.3	85.6							
3-Jul	94.4	97.5	98.1	97.7	97.5	97.6	92.3	85.1	73.5	66.9	59.8	55.3	53.1	50.8	51.9	56.3	50.0	47.7	59.0	67.9	72.3	88.9	86.3	84.2	74.3	98.1							
4-Jul	87.3	93.2	94.9	95.3	92.6	86.4	86.5	81.8	72.1	62.0	50.6	47.7	47.8	52.1	47.4	47.1	50.9	68.0	69.2	72.5	77.9	88.9	95.4	96.9	73.5	96.9							
5-Jul	97.5	97.9	98.1	98.3	98.3	98.2	97.1	97.3	85.7	71.6	57.7	53.3	48.4	46.5	60.1	61.6	59.0	61.8	63.8	63.8	75.6	85.2	91.4	94.6	77.6	98.3							
6-Jul	95.7	96.4	96.0	94.3	93.0	91.2	84.4	80.5	77.3	74.9	70.0	67.4	64.3	59.3	57.5	57.3	79.1	96.2	97.0	97.8	97.8	97.8	98.1	98.4	84.2	98.4							
7-Jul	98.7	98.7	98.9	98.8	99.0	99.0	98.4	97.6	92.1	84.7	79.0	68.9	60.0	57.7	67.7	55.2	61.0	58.0	59.8	59.7	63.9	73.2	84.9	91.0	79.4	99.0							
8-Jul	91.9	90.7	93.2	95.0	93.8	86.9	79.6	72.0	69.6	69.0	63.5	53.3	49.9	49.3	41.0	36.2	35.3	37.0	37.0	40.8	57.4	70.2	87.7	89.7	66.3	95.0							
9-Jul	96.2	97.3	95.4	88.1	85.1	77.4	69.1	59.6	53.1	45.2	37.7	33.0	29.4	28.2	28.1	27.9	29.6	30.2	31.8	34.8	39.1	47.3	53.2	56.2	53.0	97.3							
10-Jul	58.4	64.0	67.0	67.6	70.7	71.0	70.1	69.0	64.9	62.3	59.5	55.3	53.4	52.2	49.9	50.8	45.6	48.0	44.6	46.7	64.2	78.5	85.9	88.5	62.0	88.5							
11-Jul	93.6	96.5	95.9	91.6	95.2	92.9	75.6	66.3	57.2	46.5	41.5	36.2	32.8	34.4	34.4	36.0	37.5	43.1	51.1	60.9	80.2	81.7	78.5	77.4	64.0	96.5							
12-Jul	74.5	79.8	88.2	91.6	94.0	96.4	96.0	96.0	97.1	94.9	87.1	82.1	71.3	69.4	64.2	55.8	52.7	53.9	57.7	60.4	63.0	64.0	68.4	76.4	76.5	97.1							
13-Jul	88.3	91.3	86.3	87.2	89.2	90.9	83.3	74.4	71.6	71.3	64.9	59.6	52.7	45.2	41.1	41.2	36.8	38.6	39.4	42.2	50.5	57.1	64.7	73.6	64.2	91.3							
14-Jul	78.5	73.2	72.9	73.0	74.3	70.3	63.5	52.9	48.2	42.8	41.5	40.1	38.3	37.8	33.5	32.8	31.7	35.3	35.9	39.1	48.6	67.2	77.7	82.1	53.8	82.1							
15-Jul	87.9	89.2	90.8	93.8	93.5	86.8	83.7	83.3	68.5	52.7	44.7	36.9	31.0	30.0	29.1	27.8	28.3	28.6	33.8	36.3	41.9	53.8	59.3	62.6	57.3	93.8							
16-Jul	63.8	75.1	85.6	89.9	91.3	88.2	77.2	70.6	59.9	53.5	46.7	38.1	31.9	29.0	26.7	26.4	24.5	25.8	28.1	36.6	55.1	62.9	71.8	75.4	55.6	91.3							
17-Jul	82.6	85.6	88.9	90.2	90.7	90.4	81.5	70.8	60.3	52.8	43.0	33.3	27.6	26.2	26.6	27.8	28.7	30.3	34.4	39.4	55.4	64.5	72.7	79.0	57.6	90.7							
18-Jul	82.7	88.7	91.5	93.8	94.8	92.5	85.6	76.0	64.0	55.2	45.0	38.0	32.6	27.4	26.1	28.4	30.6	32.6	34.8	42.8	48.8	56.5	62.8	71.4	58.4	94.8							
19-Jul	77.8	86.4	87.1	85.0	88.2	88.8	81.9	74.3	65.6	57.6	49.8	43.8	40.0	33.5	29.4	29.1	32.7	32.4	36.6	46.4	59.0	63.4	62.5	73.2	59.4	88.8							
20-Jul	80.5	82.7	89.4	90.2	86.8	83.5	80.6	76.4	72.1	66.7	63.3	56.1	49.4	43.4	40.5	38.2	46.2	58.5	63.3	68.0	78.0	90.7	89.5	89.5	70.1	90.7							
21-Jul	90.0	90.6	88.9	86.1	83.5	79.8	73.5	68.3	64.6	57.1	55.1	50.3	47.2	45.2	44.2	47.2	49.0	50.2	51.0	55.6	62.5	69.6	65.5	70.9	64.4	90.6							
22-Jul	85.1	87.0	86.7	85.7	84.4	81.8	73.8	68.2	58.1	49.0	44.6	41.1	39.3	37.3	34.6	36.4	35.8	36.6	36.7	40.0	59.5	73.8	80.9	86.7	60.1	87.0							
23-Jul	90.3	93.8	95.6	96.5	96.9	95.3	83.7	77.5	65.5	51.4	40.9	30.3	28.8	25.3	26.6	26.9	25.4	27.4	32.2	38.4	48.8	61.8	67.7	74.9	58.4	96.9							
24-Jul	79.9	88.1	89.8	92.8	93.4	94.1	81.4	68.1	57.4	49.2	42.8	47.1	48.2	51.0	75.1	76.1	76.6	73.6	73.3	76.4	84.9	94.1	98.1	98.3	75.4	98.3							
25-Jul	98.8	99.0	98.9	98.6	98.8	98.7	97.2	94.8	90.0	84.8	80.5	86.1	92.9	95.3	97.3	96.7	96.4	95.9	96.6	96.0	98.3	98.5	98.7	98.5	95.3	99.0							
26-Jul	98.5	98.9	98.9	98.9	98.8	98.9	98.5	96.9	87.8	78.2	66.7	64.7	91.9	84.5	67.0	69.3	63.7	67.3	71.0	68.8	77.8	83.8	74.3	87.5	83.0	98.9							
27-Jul	79.7	76.9	75.7	74.5	71.7	72.9	73.8	67.9	59.5	55.9	54.1	52.6	51.7	48.5	51.0	49.5	61.0	68.3	66.3	68.7	76.5	84.0	83.5	87.0	67.1	87.0							
28-Jul	92.4	93.9	95.9	97.3	97.7	97.3	88.7	77.6	70.9	55.8	45.6	43.5	41.8	40.9	42.2	42.0	42.7	42.7	47.2	60.8	78.3	84.8	90.0	93.0	69.3	97.7							
29-Jul	92.0	93.4	93.8	93.6	94.4	94.8	87.9	74.7	63.3	52.5	49.3	44.5	40.7	39.0	35.7	34.5	38.0	39.5	36.2	50.5	60.5	69.3	77.3	84.3	64.2	94.8							
30-Jul	85.6	85.5	75.1	81.4	83.2	85.0	78.9	72.5	63.5	52.9	47.3	40.4	35.7	35.0	35.7	33.9	34.6	37.3	40.3	44.6	62.2	72.0	78.1	84.0	60.2	85.6							
31-Jul	87.2	90.1	92.6	95.4	96.7	97.1	88.9	72.7	61.8	54.9	49.0	44.3	32.2	28.3	26.9	26.4	25.2	26.8	29.4	39.0	50.2	60.0	70.2	76.9	59.3	97.1							
86.4 88.7 89.9 90.4 90.6 88.6 82.7 76.2 68.5 60.9 54.2 49.6 46.9 44.6 44.0 43.3 44.5 47.4 49.8 54.7 64.9 73.6 78.0 82.5																										Diurnal Average							
98.8 99.0 98.9 98.9 99.0 99.0 98.5 97.6 97.1 94.9 87.1 86.1 92.9 95.3 97.3 96.7 96.4 96.2 97.0 97.8 98.3 98.5 98.7 98.5																										Diurnal Maximum							



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 2m (RH2) - %
Waskow ohci Pimatisiwin - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Relative Humidity 2m (RH2) - %
Waskow ohci Pimatisiwin - July 2025

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	120	16.13	16.13
40 - 60	176	23.66	39.78
60 - 80	192	25.81	65.59
80 - 100	256	34.41	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

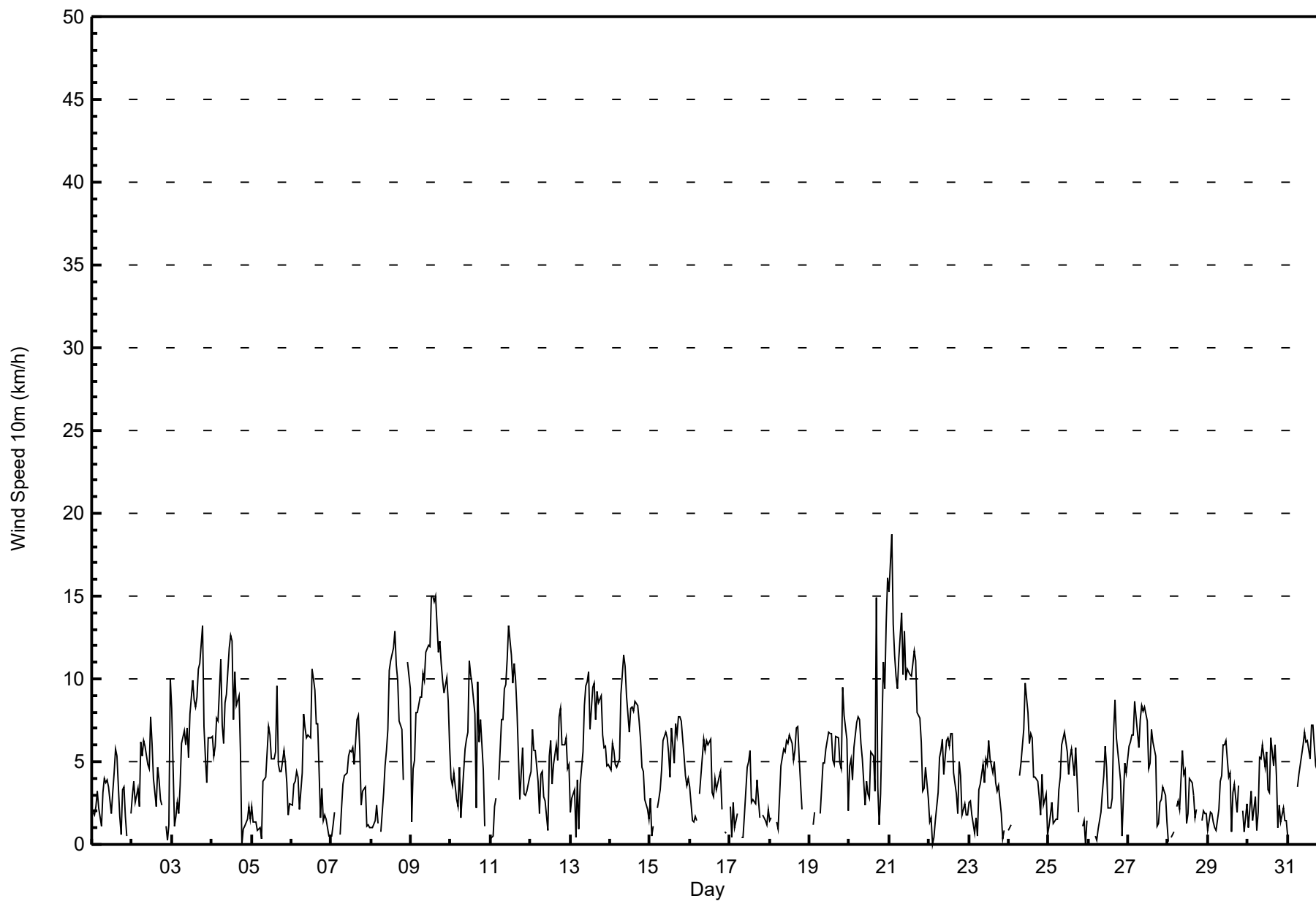
Waskow ohci Pimatisiwin - July 2025

Maximum Speed: 19 km/h on Jul 21 02:00																		Maximum Daily Speed Average: 9.7 km/h on Jul 21										Hours in Service: 744	
Minimum Speed Value: 0 km/h on Jul 25 23:00																		Minimum Daily Speed Average: 0.3 km/h on Jul 1										Hours of Data: 693	
Maximum Diurnal Speed Average: 2.3 km/h at hour 24																		Minimum Diurnal Speed Average: 0.3 km/h at hour 16										Hours of Missing Data: 51	
Monthly Average Velocity: 0.9 km/h 276.0 deg																		Percentiles: P ₁ = 0 P ₁₀ = 1 Q ₁ = 2 Median = 4 Q ₃ = 7 P ₉₀ = 10 P ₉₉ = 15										Percent Operational Time: 93.2	
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-Jul	W2	W2	W2	W3	W2	NW1	NNW3	N4	N4	NNE4	N3	ENE2	SE3	ESE4	SE6	SE5	SE2	SSW1	SSW3	SSE3	SE2	ESE0	UO	SSE2	SE0.3	SE6			
2-Jul	SE3	S4	S3	S3	SSE2	SSE6	SSE5	SE6	SSE6	SSW5	NW5	N8	N6	NNE4	NE2	SE5	ESE4	E3	NNE2	UO	NW1	ESE0	E1	W10	SSE1.0	W10			
3-Jul	NNW8	WSW1	NNW2	NNW3	W2	WSW4	W6	W7	W6	WSW7	WSW5	SW8	SW10	SW9	SSW8	S9	S11	SW11	NNW13	NNW7	W5	SW4	SW6	SW6	WSW5.2	NNW13			
4-Jul	WSW7	W5	W6	W8	NW7	NW11	NNW7	W6	NNW9	NW9	NW12	NW13	NW12	NW8	NW10	NNW8	N9	NNW6	NW0	SW1	NNE1	W2	W2	WSW1	NW5.8	NW13			
5-Jul	NNW2	SW1	WSW1	S1	SSW1	W1	NNW0	SSE4	SSE4	SSE6	SSE7	SE7	SE5	SE5	NW6	N10	N5	N4	NNE4	N6	N5	N4	NNW2	NW2	NE0.6	N10			
6-Jul	NW2	NNW4	NW4	N4	N4	NE2	NNE4	N8	N7	NNE6	N7	N6	N11	NNW10	NNW9	N7	SSE7	NNW2	N3	NE1	WSW2	NNW2	NNW0	SSW0	N3.8	N11			
7-Jul	WSW1	S1	W2	UO	UO	SW1	S2	SSE4	S4	SSE4	SE5	SE6	SE6	SSE5	SE8	SSE8	SSE6	SSE2	SSE3	SSE4	SE1	SE1	S1	SSE3.4	SSE8				
8-Jul	SSW1	NW1	NNW1	W2	W1	UO	NNW1	SSE3	SSE5	SSE6	SSE7	S11	SSE11	SSE12	SSE13	S11	S10	S7	S7	SSE4	UO	UO	NNW11	NNW9	S4.5	SSE13			
9-Jul	S1	SSE5	S5	SW8	SSW8	SSW9	SSW9	SW10	SW10	SW12	SW12	SW12	SSW15	SW15	SW15	WSW15	SW12	WSW12	WSW11	NNW10	NNW9	NNW10	WSW6	SW8.8	SSW15				
10-Jul	WSW4	S4	SW4	WSW3	SW2	W5	SW2	W3	NNW6	NW6	NW7	NW11	NW10	NNW10	NNW8	N2	NW10	NW6	NW8	NW4	W1	UO	UO	UO	NNW4.5	NW11			
11-Jul	S0	SW1	WSW2	S3	UO	SSE4	SSE8	SSE8	SSE9	S10	S11	SSW13	SSW11	SW10	SW11	SSW10	SSW8	SW3	NW4	NNW6	SW3	SSW3	S3	S4	SSW5.3	SSW13			
12-Jul	SSW4	WSW7	SW6	SW6	SW4	S2	W4	NNW4	WSW3	NW3	SW1	NNW5	NNW6	WSW4	SW5	WSW6	SW5	WSW8	WSW8	WSW6	WSW6	NW6	NNW5	NNW5	WSW3.9	WSW8			
13-Jul	NNW2	SW3	SW3	NNW0	NNW4	W1	NW4	NNW6	NNE8	NNE10	N10	N10	N7	NNW10	N10	N8	NNE9	NNE9	NNE9	NNE7	NNE6	N6	NNW5	NNW5	N5.3	N10			
14-Jul	NNW4	NW6	NW6	NW5	NW5	NW5	NNW9	N10	N11	N11	N9	N7	N8	N8	N8	N9	N8	N7	N6	N5	NNW4	NNW3	W2	W2	NNW6.1	N11			
15-Jul	W3	NNW1	WSW1	UO	SW2	SSE3	SSE3	SSE4	SE6	SSE7	SSE6	SSE6	S4	SSE7	S5	SSE7	SSE7	SSE8	SSE8	SSE7	SSE5	SSE4	S4	S4	SSE4.5	SSE8			
16-Jul	S4	SW1	W1	W2	WSW1	UO	SSE3	SSE5	SE6	SE6	SE6	SE6	SE6	SSE3	SE3	SE4	S3	SSE4	SSE4	SSW2	UO	WSW1	WSW1	UO	SSE3.0	SE6			
17-Jul	NNW2	W0	NNW3	W1	NNW2	UO	UO	NE0	W0	NNE2	N5	NNE5	N6	NE3	ENE3	NNE2	N4	NNE3	NE2	UO	W2	W1	W1	W2	N1.6	N6			
18-Jul	W1	W2	UO	UO	W1	SSE1	SSE3	SE5	SE6	SE6	SSE6	SE7	SSE6	SE5	SE6	SSE7	SSE7	SSE7	SSE5	SSE2	UO	UO	UO	UO	SSE4.2	SSE7			
19-Jul	UO	UO	NW1	W2	UO	UO	SSE2	SSE3	SSE5	SE5	SE6	SSE7	SE7	SE7	SE5	SSE5	SSE7	SSE6	SSE5	NNW5	N9	N8	NNW6	NW2	SE1.9	N9			
20-Jul	NW5	N5	NNW4	NNW6	N7	NNW8	N8	N6	N5	NNE2	NNE4	N3	SE3	SSE6	SSE5	ESE3	NW15	N3	NW1	NNE3	N11	N9	N13	N16	N4.8	N16			
21-Jul	NNW15	N19	NNW13	N11	N10	NNW9	NNW11	N14	N10	NNW13	N10	N11	NNW10	NNW10	NNW11	NNW12	NNW11	NNW8	NW8	N6	NNW3	NW3	NNW5	NNW3	NNW9.7	N19			
22-Jul	W1	NNW2	NNW0	W0	WSW1	W3	W5	W6	NNW6	W4	NNW6	NNW6	NNW6	NW7	NW7	NNW4	NNW3	NNW2	NNW5	NNW4	NW2	W2	W2	W2	NNW3.3	NW7			
23-Jul	W3	W3	WSW2	W1	WSW2	SSW1	S3	SSE4	SSE5	SE4	SE5	ESE5	ESE6	ESE5	SE4	SSE5	SSE4	SSE3	SSW4	SSW2	SW0	SE1	UO	UO	SSE2.4	ESE6			
24-Jul	SW1	SSE1	UO	UO	UO	UO	SSE4	SE5	SSE6	SSE7	SSE10	SSE8	SE6	SE7	SSE6	SE4	ESE4	ESE4	ESE3	SE2	NW4	W2	W3	SSW1	SSE3.4	SSE10			
25-Jul	SW1	S2	S3	SW1	SSW2	SSW1	SSW3	SW4	WSW6	WSW7	WSW6	W6	WSW4	NW5	NW6	NW4	NW6	NNW4	NW2	UO	WSW1	NNW1	ESE0	NNW1	W2.3	WSW7			
26-Jul	UO	UO	NW2	UO	NNW1	S0	S1	SSE2	SSW3	SSE4	S6	W5	NNE2	ENE2	ENE3	NNE7	NNE9	NE6	NNE5	NNE4	NNW0	NNW3	NW5	NW4	N1.2	NNE9			
27-Jul	NW6	NNW6	NNW7	NNW7	NNW9	NNW7	NNW6	NNW8	N8	N8	N8	NNW7	N5	NNW5	NW7	NW6	N5	W1	W1	WSW3	NNW3	NNW3	NNW3	NNW1	NNW5.0	NNW9			
28-Jul	NNW0	UO	SW0	SSW1	UO	SSE2	SW3	S2	SE6	SSE4	SE4	W1	NNE2	N4	ESE4	ENE3	ESE2	ESE2	UO	UO	NNW1	W2	NNW2	W2	SSE0.8	SE6			
29-Jul	W1	W2	W2	W1	W1	WSW1	SSE2	SSE4	SE4	SE6	SE6	SE6	SSE4	SSE4	E1	SSW3	SSE4	SSE2	SSW4	UO	UO	WSW2	WSW1	W2	SSE2.0	SE6			
30-Jul	W1	NNW2	NNW3	WSW1	W3	SW1	SSE2	SSE5	SE5	S6	SSW5	W6	SW3	ENE3	NNE6	NNE5	NNE6	NNE4	NNE1	NNE2	NNW1	NNW2	NNW1	W1	NW0.4	NNE6			
31-Jul	W1	UO	UO	UO	UO	UO	SSE3	SSE4	SE5	SE6	SE7	SSE6	S6	S5	S7	S7	S6	SSE5	SSE4	SSE1	UO	UO	S1	S1	---	S7			
NNW1.8NNW1.6NNW1.9NNW1.3NNW1.9NNW1.3WSW1.1 SW0.6 S0.7 S0.8 S0.8WSW0.7 SW1.0 SW0.9WSW0.6 S0.3 W0.4 SW0.4NNW0.9 NW1.3 NW1.9 NW1.9NNW2.3NNW2.3																								Diurnal Average					
NNW15 N19 NNW13 N11 N10 NNW11 NNW11 N14 N11 NNW13 SW12 SSW13 SSW15 SW15 SW15WSW15 NW15WSW12NNW13NNW10 N11NNW10 N13 N16																								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
Waskow ohci Pimatisiwin - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 10m (WS10) - km/h
Waskow ohci Pimatisiwin - July 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	417	60.17	60.17
6 - 11	251	36.22	96.39
12 - 19	25	3.61	100.00
20 - 28	0	0.00	100.00
29 - 38	0	0.00	100.00
> 38	0	0.00	100.00

Total Number of Valid Hours: 693

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Wind Speed 10m (WS10) - km/h
Waskow ohci Pimatisiwin - July 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	20	21	6	6	3	14	29	62	30	21	27	29	61	34	27	27	417
6 - 11	46	12	1	0	0	1	27	39	14	7	13	13	10	17	22	29	251
12 - 19	4	0	0	0	0	0	0	2	0	2	6	2	0	1	4	4	25
20 - 28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	70	33	7	6	3	15	56	103	44	30	46	44	71	52	53	60	693

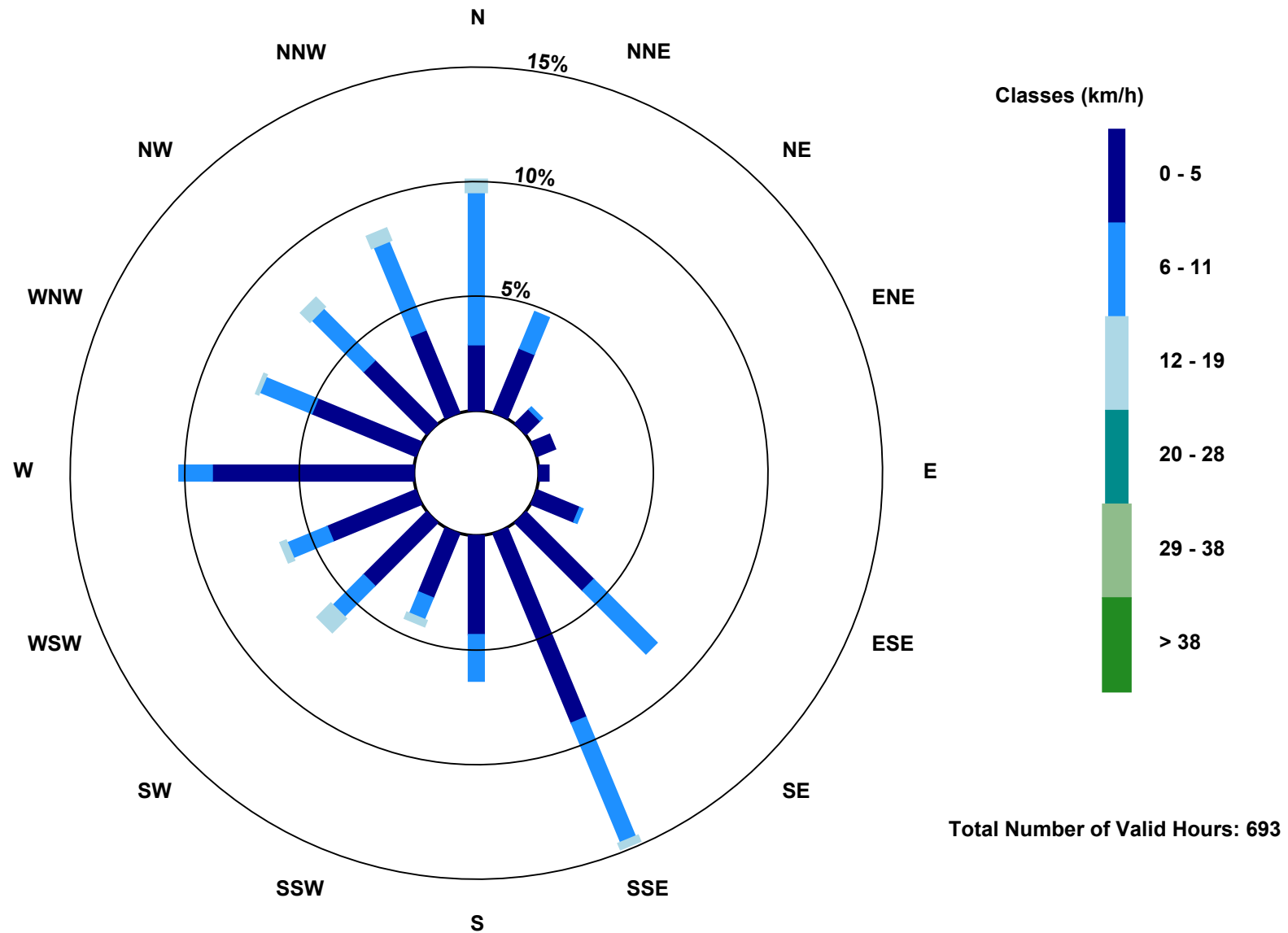
Total Number of Valid Hours: 693

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 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 - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																	Hours in Service: 744								
Maximum Value: 7 km/h on Jul 3 00:00																	Hours of Data: 693								
Minimum Value: 1 km/h on Jul 14 01:00																	Hours of Missing Data: 51								
Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 2 Median = 2 Q ₃ = 3 P ₉₀ = 4 P ₉₉ = 6																	Hours of Calibration: 0								
																	Percent Operational Time: 93.2								
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-Jul	2	2	2	1	1	2	1	1	1	2	2	1	2	2	2	2	2	1	2	2	1	1	UO	2	
2-Jul	2	2	1	1	2	2	2	2	3	3	2	3	2	2	2	2	2	1	2	UO	1	2	2	7	
3-Jul	5	2	1	2	2	2	3	3	3	4	3	4	4	4	4	3	4	6	6	3	3	2	3	3	
4-Jul	3	2	2	3	2	3	4	3	3	3	4	4	5	3	4	3	3	4	1	1	1	1	1	1	
5-Jul	1	2	1	1	1	2	2	2	1	2	2	2	2	3	5	3	2	2	2	2	1	1	2	1	
6-Jul	1	2	1	2	2	2	3	3	2	3	3	2	3	3	3	3	5	1	2	2	2	1	1	1	
7-Jul	1	1	1	UO	UO	1	1	2	1	2	2	2	3	3	2	3	3	3	2	1	1	1	1	1	
8-Jul	1	1	1	2	1	UO	1	2	2	2	3	4	4	4	5	5	4	3	2	3	UO	UO	6	4	
9-Jul	1	2	2	3	3	4	4	5	5	5	6	6	6	6	7	7	5	6	5	5	4	4	4	3	
10-Jul	2	2	2	2	2	2	2	2	3	2	3	4	4	4	4	3	4	3	3	2	1	UO	UO	UO	
11-Jul	1	2	2	1	UO	2	2	3	3	4	5	6	5	5	5	4	3	2	3	3	2	2	1	2	
12-Jul	2	3	3	3	3	2	3	2	2	2	2	3	3	2	2	3	2	5	4	3	3	3	2	2	
13-Jul	2	1	2	2	3	1	2	2	3	4	3	3	3	4	4	3	4	4	4	3	2	2	1	1	
14-Jul	1	1	1	1	1	3	2	3	4	3	3	3	4	4	3	4	3	3	3	2	1	1	1	1	
15-Jul	1	1	1	UO	2	1	1	2	2	2	2	2	3	3	3	3	3	3	3	3	2	2	1	1	
16-Jul	2	2	2	2	2	UO	2	2	2	2	2	2	3	2	2	2	2	2	2	1	UO	1	2	UO	
17-Jul	1	1	1	1	2	UO	UO	1	2	2	2	2	2	3	2	3	2	2	2	UO	1	2	1	2	
18-Jul	1	1	UO	UO	1	1	2	2	2	2	2	2	2	3	2	3	3	3	2	2	UO	UO	UO	UO	
19-Jul	UO	UO	1	1	UO	UO	2	2	2	2	2	3	2	2	2	2	2	2	2	4	4	2	2	2	
20-Jul	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	5	4	2	4	4	3	5	5	
21-Jul	5	7	4	4	3	3	3	4	4	4	3	4	3	3	4	4	3	3	2	3	1	2	1	1	
22-Jul	1	2	1	1	2	2	2	2	2	3	3	3	3	3	3	3	2	2	2	2	1	2	1	1	
23-Jul	2	1	1	1	1	1	2	2	1	2	2	2	2	2	3	2	2	2	2	2	1	1	UO	UO	
24-Jul	1	1	UO	UO	UO	UO	1	2	2	2	4	3	3	3	3	2	2	2	2	2	5	3	1	1	
25-Jul	1	2	1	2	2	2	2	3	2	3	3	3	2	2	2	2	3	4	2	UO	2	2	1	2	
26-Jul	UO	UO	2	UO	1	1	2	2	2	2	3	5	2	2	3	3	4	3	2	2	1	1	1	1	
27-Jul	1	2	2	2	3	2	1	2	3	3	3	3	2	3	3	3	2	1	2	2	2	1	1	1	
28-Jul	1	UO	1	1	UO	1	2	2	2	2	2	2	3	2	2	2	2	2	UO	UO	1	1	1	1	
29-Jul	1	1	1	1	1	1	2	2	2	2	2	3	2	3	2	3	3	2	2	UO	UO	2	2	1	
30-Jul	1	2	2	2	1	2	2	2	2	3	3	2	2	2	2	3	2	2	2	2	1	1	2	2	
31-Jul	1	UO	UO	UO	UO	UO	1	2	2	2	2	2	3	3	3	3	3	2	2	1	UO	UO	1	1	
5 7 4 4 3 4 4 5 5 5 6 6 6 6 7 7 5 6 6 5 5 4 6 7																									
Diurnal Maximum																									
UO - Unstable Operation																									



Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Direction 10m (WD10) - deg

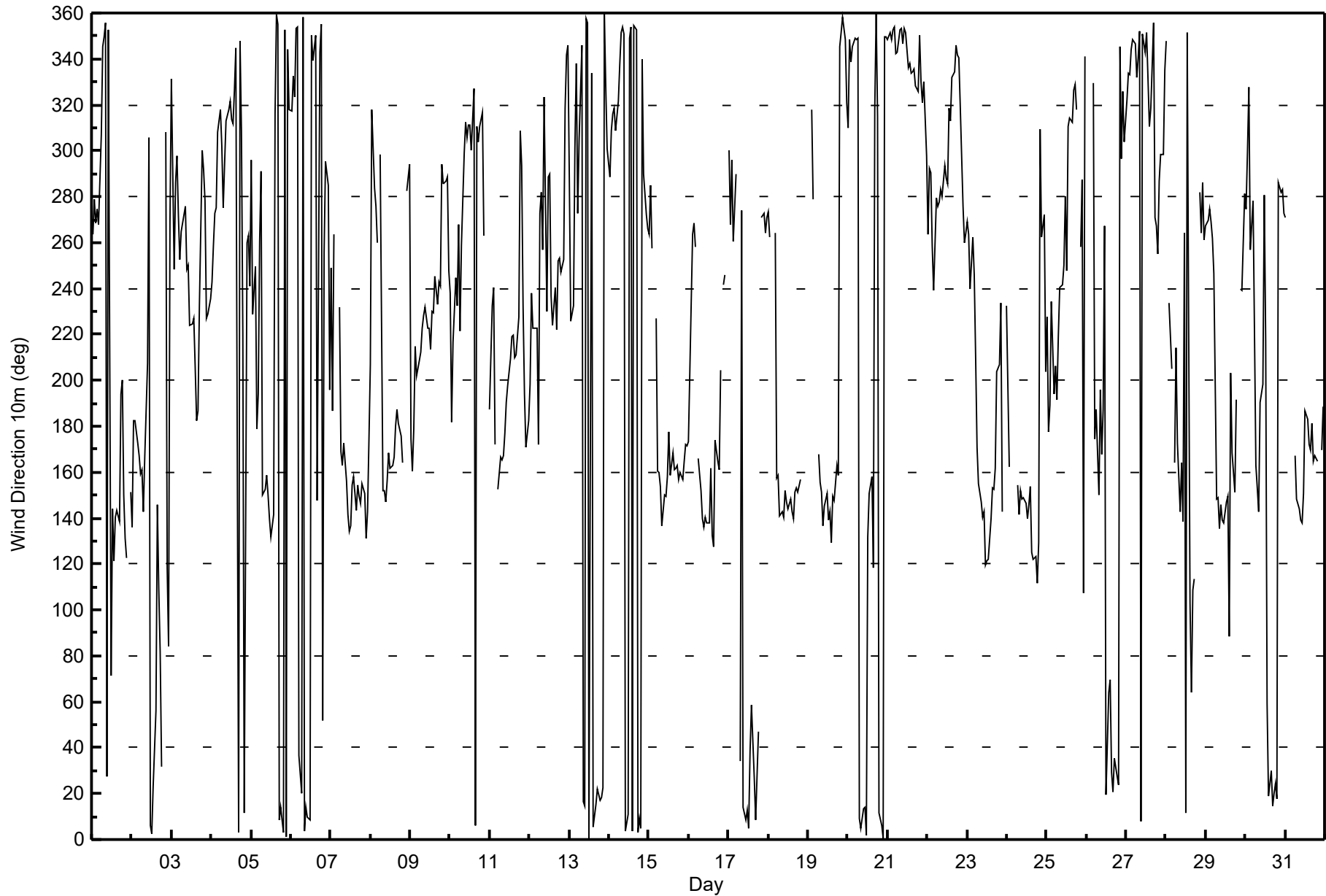
Waskow ohci Pimatisiwin - July 2025

Direction of Maximum Speed: 351 deg on Jul 21 02:00																				Hours in Service:		744			
Direction of Maximum Daily Speed Average: 343.4 deg on Jul 21																				Hours of Data:		693			
Direction of Minimum Speed: 107 deg on Jul 25 23:00										Direction of Minimum Daily Speed Average: 0.3 deg on Jul 1										Hours of Missing Data:		51			
Monthly Average Direction: 276.0 deg																				Percent Operational Time:		93.2			
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-Jul	264	279	268	274	268	307	345	349	355	28	353	72	144	121	140	143	138	194	200	150	131	122	UO	151	134.8
2-Jul	136	183	182	173	167	159	161	143	166	207	306	6	3	23	56	146	109	82	32	UO	308	119	84	269	151.5
3-Jul	332	249	286	298	272	252	265	272	276	248	250	224	224	227	205	182	187	232	300	292	278	227	229	235	246.5
4-Jul	243	259	273	275	308	318	302	275	295	313	318	322	314	312	326	345	3	348	308	220	12	260	263	241	308.5
5-Jul	296	229	249	179	194	260	291	150	153	159	150	140	132	142	316	360	355	8	14	3	353	2	344	318	39.1
6-Jul	317	333	323	354	354	37	20	358	4	14	10	8	350	339	345	350	148	343	355	52	256	296	285	196	354.7
7-Jul	249	187	263	UO	UO	232	169	163	173	156	141	135	137	154	158	144	154	150	147	155	151	131	143	174	153.5
8-Jul	207	318	284	276	260	UO	298	152	152	147	156	169	162	163	167	180	187	181	176	164	UO	UO	283	294	182.7
9-Jul	174	161	179	215	202	209	213	223	228	232	222	223	213	230	229	245	233	243	241	294	286	287	289	248	233.7
10-Jul	238	182	216	245	233	268	221	259	299	312	306	311	311	300	327	6	311	304	310	317	263	UO	UO	UO	296.7
11-Jul	188	233	240	172	UO	152	167	166	167	177	190	198	209	219	219	210	211	228	309	293	232	194	171	183	199.8
12-Jul	198	238	222	223	223	172	273	282	257	323	230	288	290	237	224	240	222	252	253	247	253	319	342	346	256.0
13-Jul	289	226	233	301	338	272	305	346	16	15	357	356	0	334	5	11	15	22	17	18	22	360	328	301	357.3
14-Jul	289	309	316	318	309	322	337	352	354	351	3	11	349	354	4	355	353	3	9	5	340	290	272	266	344.6
15-Jul	264	285	257	UO	227	161	160	154	137	150	149	158	177	158	169	161	161	163	157	160	157	165	172	171	162.4
16-Jul	173	234	264	269	258	UO	166	152	140	136	140	138	138	162	133	128	174	165	161	204	UO	242	246	UO	156.0
17-Jul	300	268	296	261	290	UO	UO	34	274	14	8	13	5	39	59	27	8	28	47	UO	271	273	264	271	354.1
18-Jul	273	263	UO	UO	264	157	158	141	143	140	152	147	144	149	143	140	151	153	152	157	UO	UO	UO	UO	150.3
19-Jul	UO	UO	318	279	UO	UO	168	156	151	136	145	151	139	143	129	150	147	163	158	345	352	358	348	321	133.8
20-Jul	310	349	338	345	349	348	349	9	5	14	14	2	132	151	158	118	318	360	315	12	6	1	350	349	353.2
21-Jul	348	351	348	352	354	342	343	353	353	346	353	352	336	338	334	334	335	328	326	350	330	321	330	298	343.4
22-Jul	264	293	291	259	239	279	276	278	283	280	293	288	285	319	313	332	334	346	342	340	320	276	260	264	298.3
23-Jul	269	264	240	262	246	210	171	155	147	141	143	119	122	122	140	153	153	162	204	207	234	143	UO	UO	156.8
24-Jul	232	162	UO	UO	UO	UO	154	142	152	148	149	147	140	146	154	125	122	123	112	129	309	263	272	204	148.2
25-Jul	228	177	189	234	194	206	192	219	240	241	250	280	248	311	314	312	326	329	318	UO	258	288	107	341	267.3
26-Jul	UO	UO	319	UO	330	175	187	150	196	168	188	267	20	64	70	29	21	36	27	24	345	296	326	304	10.1
27-Jul	322	333	333	344	348	347	332	340	352	8	351	343	351	331	311	319	356	271	268	255	287	298	298	335	335.5
28-Jul	348	UO	234	205	UO	164	214	173	143	164	138	264	12	352	103	64	108	113	UO	UO	282	264	286	261	152.3
29-Jul	267	270	275	269	261	247	148	149	136	146	139	138	147	149	88	203	168	151	192	UO	UO	240	239	281	167.0
30-Jul	275	300	328	257	278	221	163	153	142	190	199	281	217	59	19	30	14	20	25	18	286	282	283	273	308.5
31-Jul	271	UO	UO	UO	UO	UO	167	148	144	139	138	151	187	183	172	169	181	165	167	164	UO	UO	170	188	--
288.8 288.1 284.8 286.8 298.5 286.8 254.5 218.3 185.4 184.3 189.4 253.4 229.5 226.1 247.2 188.4 263.3 233.1 282.5 318.3 314.7 305.3 301.3 286.4																									
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
Waskow ohci Pimatisiwin - July 2025





Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg

Waskow ohci Pimatisiwin - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 104 deg on Jul 29 15:00																									Hours in Service: 744 Hours of Data: 693 Hours of Missing Data: 51 Hours of Calibration: 0 Percent Operational Time: 93.2
Minimum Value: 12 deg on Jul 17 21:00																									
Percentiles: P ₁ = 16 P ₁₀ = 23 Q ₁ = 30 Median = 40 Q ₃ = 54 P ₉₀ = 69 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-Jul	55	39	20	23	29	63	30	22	33	51	83	81	64	53	43	42	62	75	51	33	31	45	UO	55	83
2-Jul	44	45	26	38	42	26	31	33	50	57	51	41	35	41	82	45	45	33	38	UO	71	83	58	68	83
3-Jul	34	87	40	54	56	40	51	50	61	65	76	57	49	57	48	35	40	52	38	47	59	59	44	52	87
4-Jul	54	47	53	47	34	21	39	50	47	37	35	29	32	31	25	26	29	30	92	72	36	67	20	53	92
5-Jul	35	68	63	61	63	73	95	33	32	37	36	38	60	49	83	31	32	31	28	23	20	24	59	15	95
6-Jul	18	20	23	22	24	55	42	25	30	34	35	35	24	24	23	50	42	77	23	47	75	61	75	92	92
7-Jul	74	57	27	UO	UO	73	27	32	36	42	35	42	42	49	52	34	30	34	31	23	27	25	17	69	74
8-Jul	76	62	65	40	46	UO	55	66	29	33	37	38	36	33	34	40	37	34	33	22	UO	UO	42	48	76
9-Jul	80	34	36	43	39	46	44	50	55	52	54	54	47	50	53	52	56	52	55	51	49	48	50	58	80
10-Jul	61	30	44	39	78	47	84	51	49	37	36	37	35	41	43	86	31	40	36	23	31	UO	UO	UO	86
11-Jul	92	90	52	34	UO	25	23	30	32	40	43	42	47	48	46	45	39	43	45	53	49	31	24	30	92
12-Jul	38	55	59	62	52	47	59	41	39	54	80	48	45	79	50	49	51	53	56	57	56	52	31	25	80
13-Jul	35	45	60	85	52	77	44	32	34	32	29	27	44	38	38	38	34	35	34	34	30	24	15	17	85
14-Jul	16	18	15	18	21	27	22	24	26	29	37	53	44	36	46	40	34	37	36	31	16	25	12	42	53
15-Jul	22	32	46	UO	51	16	23	30	32	34	35	47	74	45	60	38	39	30	29	26	26	21	25	21	74
16-Jul	33	67	55	36	41	UO	19	27	33	32	30	34	41	75	71	45	55	35	24	31	UO	61	72	UO	75
17-Jul	34	74	29	53	62	UO	UO	59	91	54	42	40	41	87	65	74	54	54	37	UO	12	16	50	46	91
18-Jul	46	16	UO	UO	39	83	30	31	31	31	33	34	35	45	60	46	33	30	29	22	UO	UO	UO	UO	83
19-Jul	UO	UO	14	21	UO	UO	14	24	28	35	36	35	33	35	41	49	34	28	26	78	22	22	21	28	78
20-Jul	21	22	16	24	21	18	20	31	35	76	38	55	68	33	31	53	23	65	89	40	32	27	24	23	89
21-Jul	21	23	21	22	24	23	23	24	29	29	28	32	31	27	30	28	25	25	25	22	24	22	16	30	32
22-Jul	30	61	76	78	60	53	51	52	49	71	55	50	58	40	41	63	55	54	25	22	47	37	49	36	78
23-Jul	30	22	48	68	25	61	18	34	28	42	35	47	33	51	55	50	52	56	39	40	74	67	UO	UO	74
24-Jul	67	68	UO	UO	UO	UO	26	36	31	33	32	32	37	36	34	37	36	38	43	60	59	84	27	82	84
25-Jul	52	43	33	51	83	79	37	64	58	59	55	54	51	43	25	27	22	71	32	UO	39	32	95	60	95
26-Jul	UO	UO	32	UO	70	100	95	56	53	51	52	72	65	61	63	37	36	42	36	56	36	28	19	20	100
27-Jul	16	18	21	20	22	21	20	25	30	32	26	26	30	46	40	36	26	51	44	36	33	28	46	63	63
28-Jul	54	UO	67	56	UO	18	41	61	30	63	48	96	82	64	43	52	66	64	UO	UO	35	47	37	50	96
29-Jul	63	24	37	46	64	56	59	40	37	29	33	35	80	67	104	74	40	63	37	UO	UO	61	82	50	104
30-Jul	71	35	58	53	36	77	22	25	35	46	57	58	89	70	37	42	37	33	35	23	54	32	60	53	89
31-Jul	76	UO	UO	UO	UO	UO	18	28	30	32	33	41	58	59	41	37	42	41	24	26	UO	UO	70	80	80
92 90 76 85 83 100 95 66 91 76 83 96 89 87 104 86 66 77 92 78 75 84 95 92																									
Diurnal Maximum																									
UO - Unstable Operation																									



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS27
JACKFISH 2/3
JULY 2025

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

August 29, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - JACKFISH 2/3 (AMS27)
JULY 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	7.1	0	1.4	0
H2S (ppb) Average	687	37	57	97.31	2	0	0.5	0
NO2 (ppb) Average	707	37	37	100	8.2	0	2.1	-
NO (ppb) Average	707	37	37	100	24.9	-	1.4	-
NOX (ppb) Average	707	37	37	100	27.4	-	3	-
Temperature 2 m (C) Average	744	0	0	100	30.1	-	23.9	-
Relative Humidity (%) Average	744	0	0	100	97.9	-	86.3	-
Wind Speed 10 m (km/h) Average	744	0	0	100	22	-	12	-
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 - JACKFISH 2/3 (AMS27)
JULY 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	0.46	0.9	-	0	0	0	0.2	0.4	1.3	7.1
H2S (ppb) Average	687	0.14	0.2	-	0	0	0.1	0.1	0.2	0.2	2
NO2 (ppb) Average	707	1.21	1	-	0.2	0.4	0.6	0.9	1.4	2.3	8.2
NO (ppb) Average	707	0.23	1.1	-	0	0	0	0.1	0.2	0.4	24.9
NOX (ppb) Average	707	1.43	1.7	-	0.2	0.4	0.6	1	1.6	2.7	27.4
Temperature 2 m (C) Average	744	16.51	5.4	-	2.6	9.6	12.6	16.5	20.1	23.6	30.1
Relative Humidity (%) Average	744	59.18	19.2	-	23.1	33.6	44.2	59	73.1	87.4	97.9
Wind Speed 10 m (km/h) Average	744	6.2	3	-	1	3	4	6	8	10	22
Wind Direction 10 m (deg) Average	744	-	-	-	-	-	-	-	-	-	-

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - JACKFISH 2/3 (AMS27)
JULY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
H2S	02 Jul 2025 18:00	02 Jul 2025 18:00	1	Unstable Operation - excessive baseline drift
H2S	03 Jul 2025 21:00	03 Jul 2025 21:00	1	Unstable Operation - excessive baseline drift
H2S	04 Jul 2025 19:00	04 Jul 2025 22:00	4	Unstable Operation - excessive baseline drift
H2S	05 Jul 2025 05:00	05 Jul 2025 05:00	1	Unstable Operation - excessive baseline drift
H2S	05 Jul 2025 22:00	05 Jul 2025 22:00	1	Unstable Operation - excessive baseline drift
H2S	06 Jul 2025 06:00	06 Jul 2025 10:00	5	Unstable Operation - excessive baseline drift
H2S	10 Jul 2025 15:00	10 Jul 2025 18:00	4	Unstable Operation - excessive baseline drift
H2S	11 Jul 2025 06:00	11 Jul 2025 08:00	3	Unstable Operation - excessive baseline drift



Wood Buffalo Environmental Association

Summary of Hour Averages

Sulphur Dioxide (SO₂) - ppb

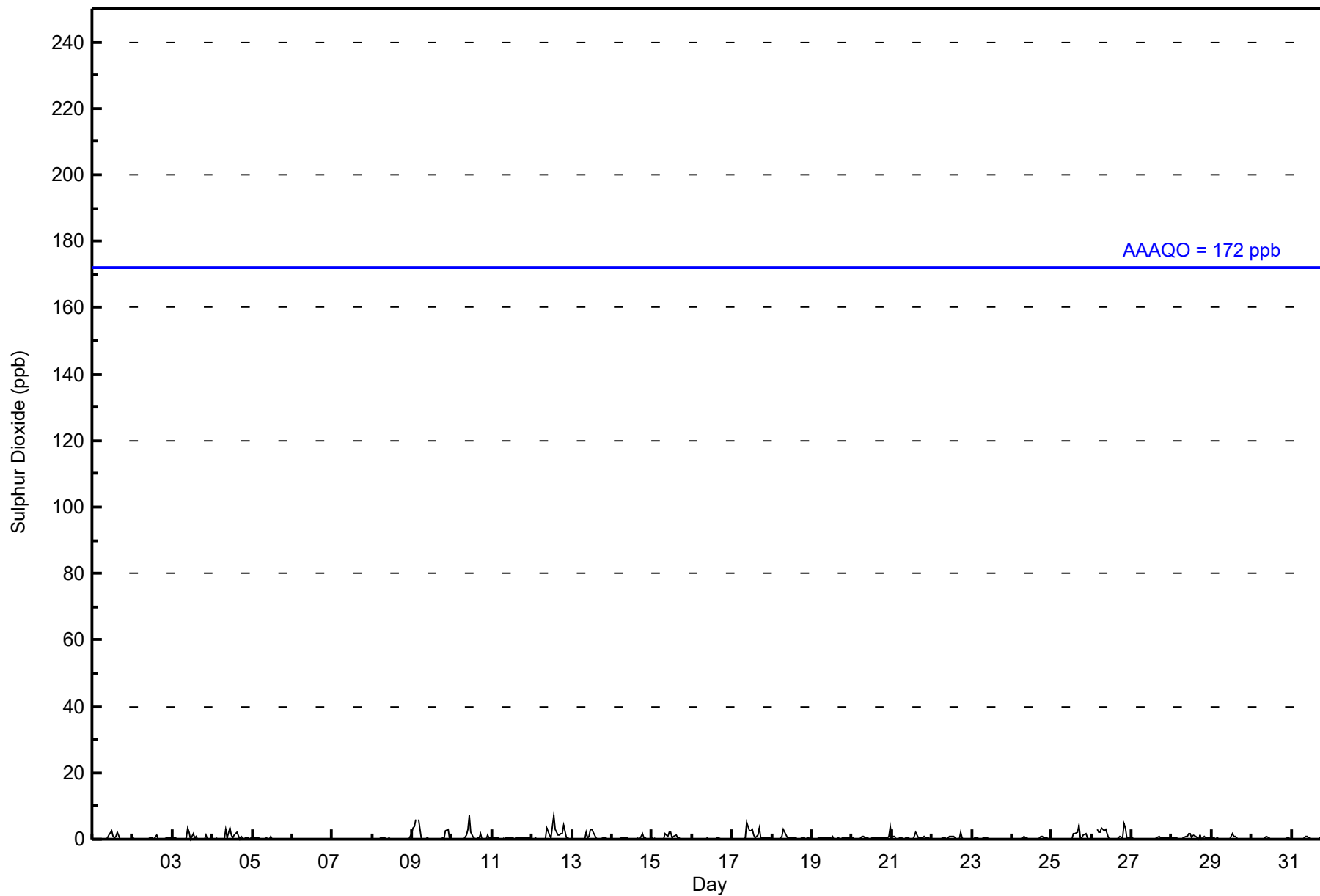
Jackfish 2/3 - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																			Hours in Service: 744								
Maximum Value: 7.1 ppb on Jul 12 14:00 Maximum Daily Average: 1.4 ppb on Jul 12																			Hours of Data: 709								
Minimum Value: 0.0 ppb on Jul 1 03:00 Minimum Daily Average: 0.0 ppb on Jul 7																			Hours of Missing Data: 35								
Maximum Diurnal Average: 0.9 ppb at hour 11 Minimum Diurnal Average: 0.2 ppb at hour 4																			Hours of Calibration: 35								
Monthly Average: 0.46 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.2 Q ₃ = 0.4 P ₉₀ = 1.3 P ₉₉ = 4.2																			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-Jul	0.1	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.1	2.6	0.7	0.3	1.0	2.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4	2.6	
2-Jul	0.1	0.2	Z	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.3	0.3	0.3	0.2	1.3	0.2	0.1	0.0	0.1	0.1	0.3	0.4	0.4	0.4	0.2	1.3	
3-Jul	0.4	0.2	0.3	Z	0.0	0.0	0.0	0.2	0.3	3.4	2.3	0.1	1.6	0.2	1.0	0.1	0.0	0.0	0.0	0.0	1.3	0.0	0.2	0.2	0.5	3.4	
4-Jul	0.1	0.0	0.1	0.2	Z	0.0	0.0	0.0	3.0	0.5	3.5	1.4	0.6	1.1	1.7	1.9	0.2	0.9	0.2	0.1	0.2	0.3	0.2	0.4	0.7	3.5	
5-Jul	0.4	0.3	0.3	0.2	0.3	Z	0.1	0.2	0.3	0.1	0.2	1.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.2	1.0	
6-Jul	Z	0.0	0.0	0.2	0.0	0.0	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	0.1	0.1	0.1	0.1	0.1	0.0	0.2	
7-Jul	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	
8-Jul	0.0	0.1	Z	0.0	0.2	0.6	0.4	0.3	0.1	0.2	0.3	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.2	0.1	0.1	1.6	0.2	1.6	
9-Jul	3.3	3.9	5.8	Z	6.1	0.2	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	2.4	3.2	0.0	0.0	1.1	6.1	
10-Jul	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	1.2	3.1	7.1	2.3	1.4	0.3	0.1	0.3	0.3	1.6	0.2	0.1	0.2	1.4	0.3	0.3	0.9	7.1	
11-Jul	0.4	0.5	0.5	0.4	0.6	Z	0.2	0.2	0.3	0.3	0.2	0.3	0.3	0.2	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.5	0.5	0.3	0.6	
12-Jul	Z	0.0	0.2	0.2	0.2	0.1	0.1	0.2	0.2	3.6	1.4	0.4	3.7	7.1	3.0	1.4	1.1	1.6	1.5	4.4	0.5	0.3	0.2	0.2	1.4	7.1	
13-Jul	0.1	Z	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.6	0.7	2.9	2.8	1.3	0.5	0.1	0.1	0.1	0.3	0.3	0.3	0.1	0.2	0.1	0.5	2.9	
14-Jul	0.1	0.0	Z	0.0	0.2	0.5	0.4	0.3	0.4	0.5	0.4	C	C	C	C	0.4	0.1	0.7	1.7	0.5	0.3	0.1	0.1	0.2	0.4	1.7	
15-Jul	0.2	0.2	0.2	Z	0.1	0.2	0.2	0.1	1.7	0.8	2.1	2.0	0.5	0.7	1.5	0.3	0.3	0.2	0.1	0.1	0.0	0.1	0.0	0.0	0.5	2.1	
16-Jul	0.0	0.0	0.1	0.0	Z	0.0	0.0	0.1	0.0	0.3	0.0	0.0	0.0	0.1	0.0	0.6	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.6	
17-Jul	0.0	0.1	0.1	0.1	0.1	Z	0.0	0.0	0.6	5.2	2.4	2.4	2.9	1.1	0.5	1.4	3.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	1.0	5.2	
18-Jul	Z	0.0	0.0	0.1	0.1	0.5	0.9	2.8	1.5	0.5	0.5	0.6	0.3	0.5	0.6	0.1	0.1	0.1	0.3	0.3	0.2	0.2	0.3	0.2	0.5	2.8	
19-Jul	0.2	Z	0.0	0.1	0.4	0.6	0.3	0.5	0.5	0.4	0.3	0.3	0.8	0.2	0.1	0.2	0.3	0.2	0.4	0.5	0.3	0.3	0.3	0.3	0.3	0.8	
20-Jul	0.3	0.3	Z	0.0	0.1	0.2	0.6	0.7	0.3	0.3	0.2	0.1	0.2	0.3	0.2	0.5	0.5	0.3	0.3	0.3	0.3	0.2	0.8	3.9	0.5	3.9	
21-Jul	1.0	0.7	0.5	Z	0.3	0.3	0.2	0.1	0.4	0.4	0.2	0.1	0.2	1.0	2.1	1.2	0.4	0.5	0.5	0.8	0.5	0.5	0.3	0.1	0.5	2.1	
22-Jul	0.1	0.0	0.1	0.0	Z	0.0	0.3	0.5	0.3	0.2	0.8	0.8	0.7	0.8	0.3	0.1	0.1	2.1	0.6	0.1	0.1	0.2	0.1	0.1	0.4	2.1	
23-Jul	0.1	0.2	0.2	0.3	0.1	Z	0.1	0.4	0.3	0.2	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	0.0	0.1	0.4	
24-Jul	Z	0.0	0.0	0.0	0.0	0.0	0.4	0.7	0.4	0.2	0.2	0.1	0.0	0.1	0.1	0.0	0.0	0.8	0.6	0.6	0.3	0.2	0.0	0.0	0.2	0.8	
25-Jul	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	1.8	1.9	1.9	4.3	0.4	0.3	1.3	1.7	0.6	0.2	0.1	0.6	4.3	
26-Jul	0.2	0.7	Z	3.0	2.2	2.1	3.3	2.5	2.8	1.8	0.3	0.1	0.2	0.1	0.1	0.2	0.3	0.9	0.6	4.9	3.3	0.6	0.4	0.3	1.3	4.9	
27-Jul	0.3	0.2	0.2	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.2	0.3	0.9	0.6	0.3	0.5	0.3	0.2	0.2	0.3	0.2	0.9	
28-Jul	0.3	0.3	0.2	0.3	Z	0.0	0.1	0.4	0.6	1.0	1.8	1.7	0.5	1.1	0.9	0.4	0.2	1.1	0.2	1.0	0.3	0.2	0.2	0.2	0.6	1.8	
29-Jul	0.2	0.2	0.2	0.2	0.3	Z	0.0	0.0	0.1	0.1	0.2	0.1	1.6	0.9	0.7	0.6	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.2	1.6	
30-Jul	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.7	0.3	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.4	0.5	0.2	0.1	0.7	
31-Jul	0.1	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.7	1.0	0.5	0.2	0.1	0.0	0.1	0.1	0.1	0.2	0.3	0.2	0.2	1.1	1.1	1.9	0.3	1.9	
																									Diurnal Average		
																									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 2/3 - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Jackfish 2/3 - July 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
Jackfish 2/3 - July 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	26	24	18	15	5	12	23	28	68	115	108	110	62	40	36	19	709
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	26	24	18	15	5	12	23	28	68	115	108	110	62	40	36	19	709

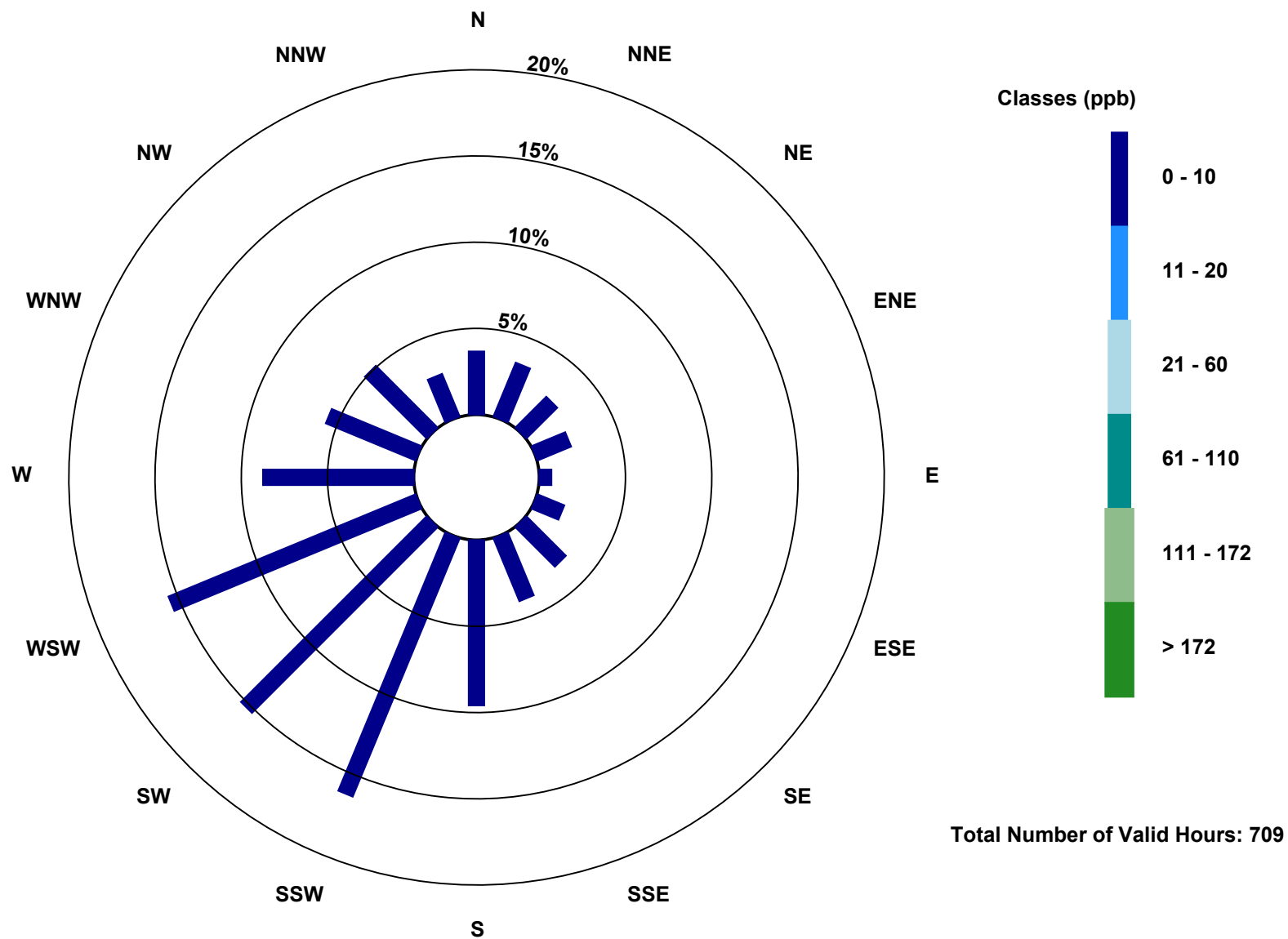
Total Number of Valid Hours: 709

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

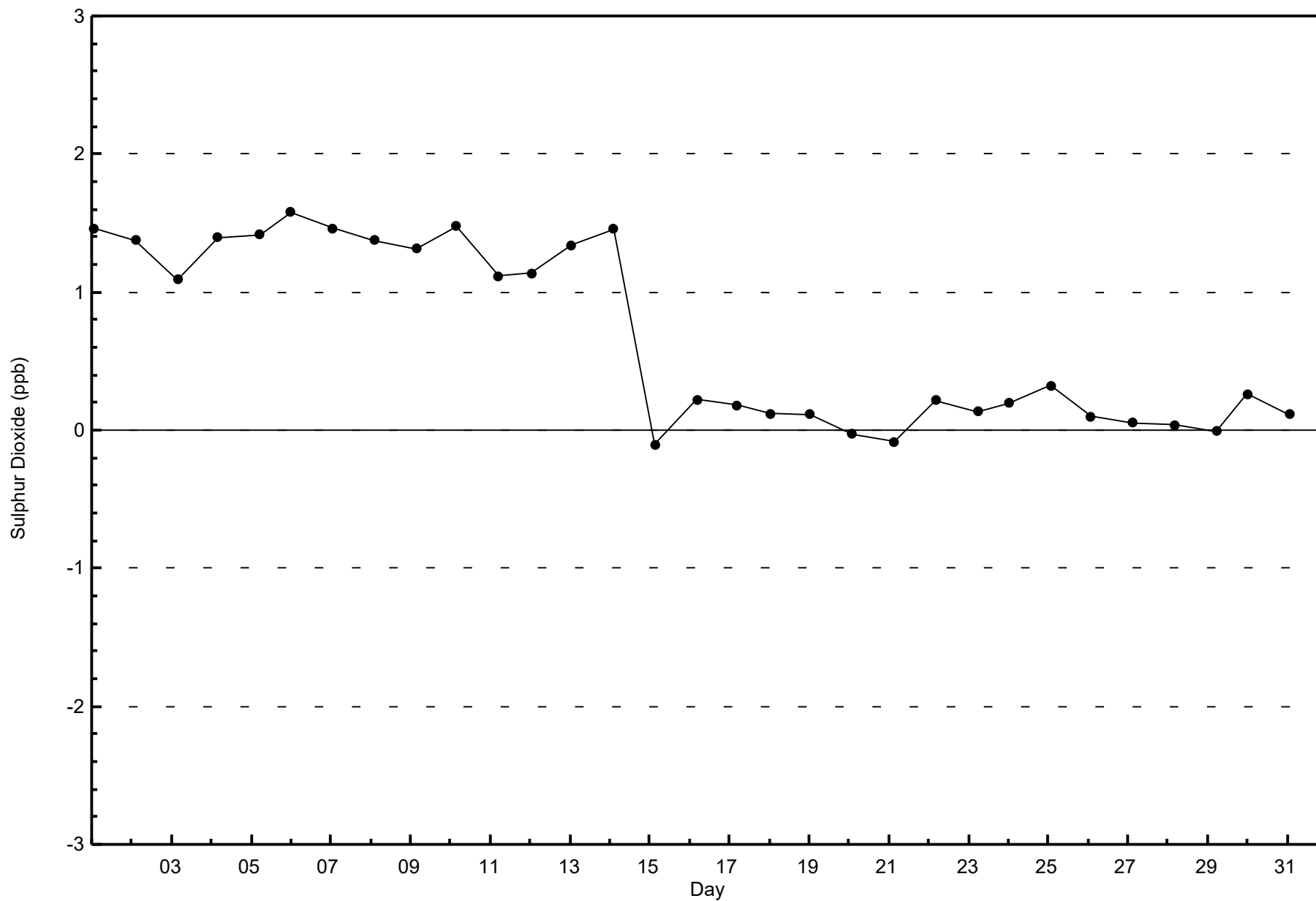
Sulphur Dioxide (SO₂) - ppb
Jackfish 2/3





Wood Buffalo Environmental Association
Zero Responses

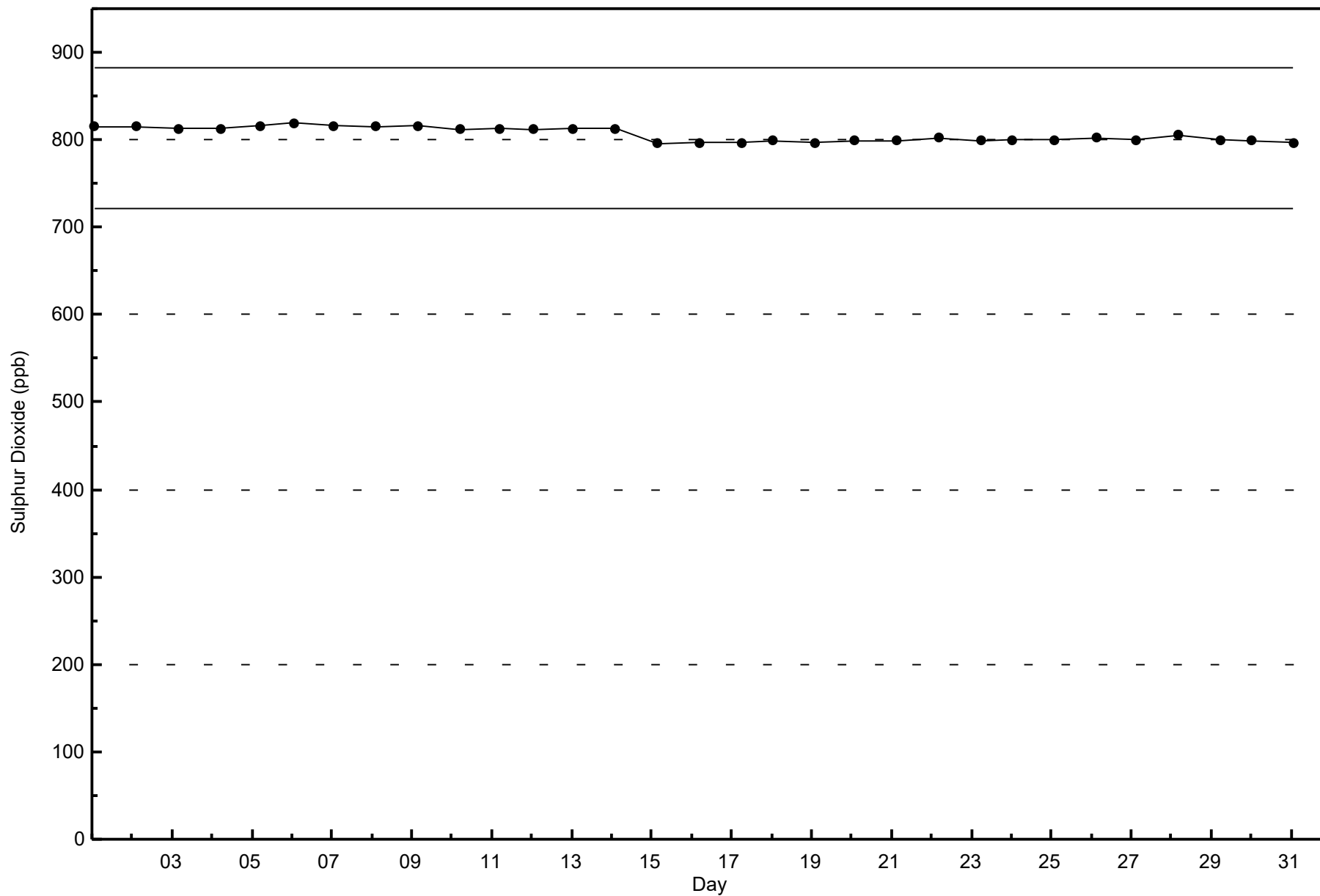
Sulphur Dioxide (SO₂) - ppb
Jackfish 2/3 - July 2025





Wood Buffalo Environmental Association
Span Responses

Sulphur Dioxide (SO₂) - ppb
Jackfish 2/3 - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Hydrogen Sulphide (H₂S) - ppb

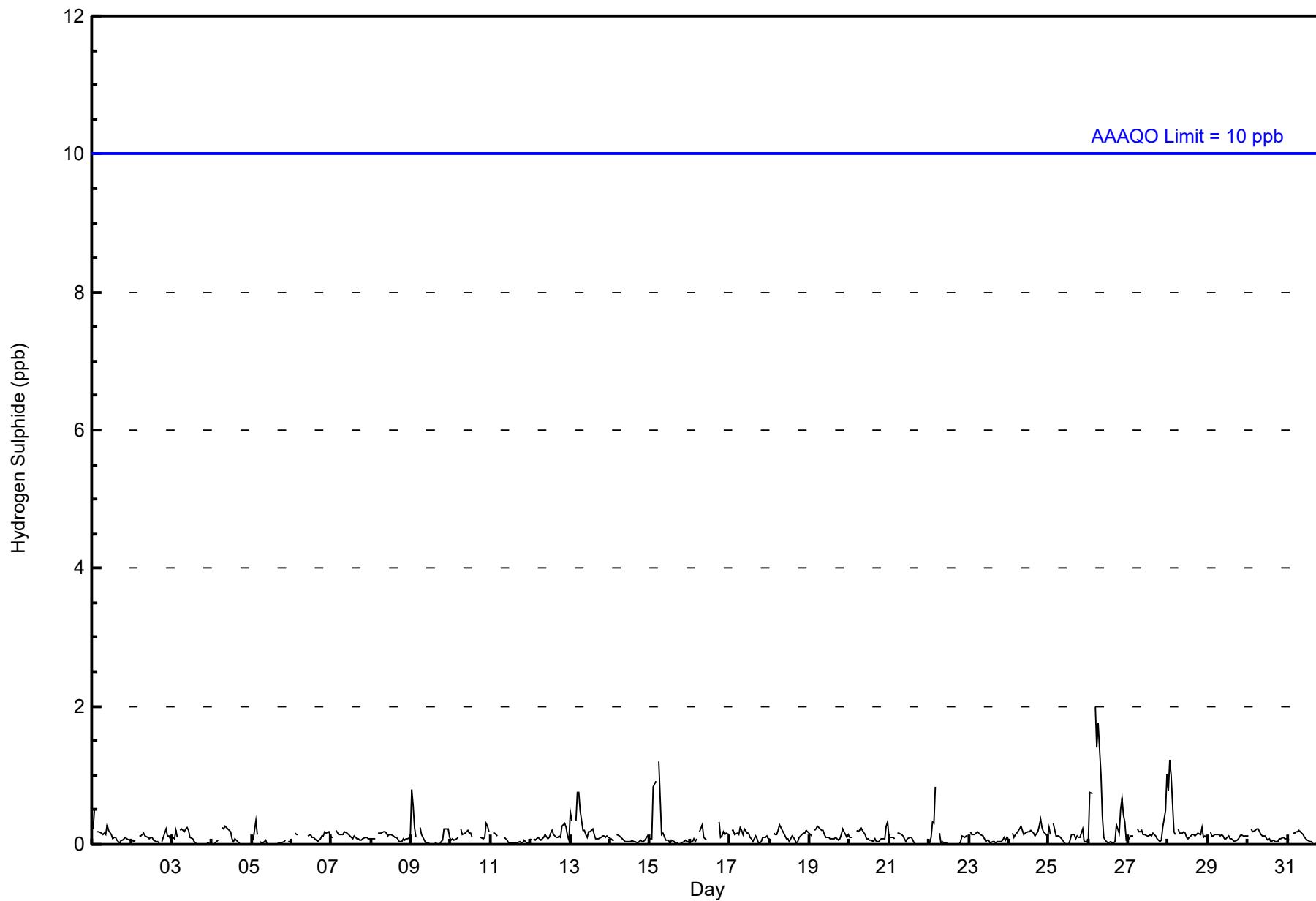
Jackfish 2/3 - July 2025

Number of Exceedences (AAAQO): Maximum Value: 2.0 ppb on Jul 26 05:00																			1-hr: 0 24-hr: 0 Maximum Daily Average: 0.5 ppb on Jul 26						Hours in Service: 744 Hours of Data: 687 Hours of Missing Data: 57 Hours of Calibration: 37 Percent Operational Time: 97.3					
Minimum Value: 0.0 ppb on Jul 3 16:00 Maximum Diurnal Average: 0.3 ppb at hour 6 Monthly Average: 0.14 ppb																			Minimum Daily Average: 0.0 ppb on Jul 5 Minimum Diurnal Average: 0.0 ppb at hour 17 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.1 Q ₃ = 0.2 P ₉₀ = 0.2 P ₉₉ = 1.0											
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-Jul	0.2	0.5	Z	0.2	0.2	0.2	0.1	0.2	0.1	0.3	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	0.5			
2-Jul	0.1	0.0	0.1	Z	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	UO	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2			
3-Jul	0.1	0.1	0.2	0.1	Z	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	UO	0.0	0.0	0.0	0.1	0.2				
4-Jul	0.0	0.0	0.0	0.0	0.1	Z	0.2	0.2	0.3	0.2	0.2	0.2	0.1	0.0	0.1	0.1	0.0	0.0	UO	UO	UO	UO	0.0	0.0	0.1	0.3				
5-Jul	Z	0.1	0.3	0.1	UO	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	UO	0.0	0.0	0.0	0.3				
6-Jul	0.1	Z	0.2	0.1	0.1	UO	UO	UO	UO	UO	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.2				
7-Jul	0.1	0.1	Z	0.2	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	0.1	0.1	0.2				
8-Jul	0.1	0.1	0.1	Z	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	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2				
9-Jul	0.8	0.6	0.2	0.1	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	0.0	0.0	0.1	0.2	0.2	0.2	0.1	0.1	0.8				
10-Jul	0.1	0.1	0.1	0.1	0.1	Z	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.1	UO	UO	UO	UO	0.1	0.1	0.1	0.3	0.3	0.2	0.1	0.3				
11-Jul	Z	0.2	0.2	0.1	0.1	UO	UO	UO	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	0.0	0.0	0.0	0.1	0.2				
12-Jul	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	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.2	0.1	0.1	0.1	0.3				
13-Jul	0.5	0.4	Z	0.3	0.8	0.7	0.5	0.2	0.2	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	0.8				
14-Jul	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1				
15-Jul	0.1	0.1	0.8	0.9	Z	1.2	0.7	0.1	0.2	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.2	1.2				
16-Jul	0.0	0.0	0.1	0.0	0.1	Z	0.2	0.3	0.1	0.1	0.1	C	C	C	C	C	C	0.3	0.1	0.1	0.2	0.1	0.2	0.1	--	0.3				
17-Jul	Z	0.2	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	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	0.2				
18-Jul	0.1	Z	0.2	0.1	0.1	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.3				
19-Jul	0.1	0.1	Z	0.2	0.2	0.3	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	0.2	0.2	0.1	0.1	0.1	0.3				
20-Jul	0.1	0.1	0.1	Z	0.2	0.2	0.2	0.3	0.2	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	0.3	0.3	0.1	0.3				
21-Jul	0.1	0.1	0.1	0.1	Z	0.2	0.2	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	0.0	0.0	0.0	0.0	0.1	0.2				
22-Jul	0.0	0.1	0.3	0.3	0.8	Z	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	0.1	0.1	0.1	0.1	0.1	0.8				
23-Jul	Z	0.2	0.1	0.1	0.2	0.2	0.2	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	0.1	0.1	0.1	0.1	0.1	0.2				
24-Jul	0.1	Z	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	0.1	0.2	0.3	0.4	0.3	0.2	0.1	0.1	0.2	0.4				
25-Jul	0.2	0.1	Z	0.3	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.1	0.3				
26-Jul	0.1	0.8	0.7	Z	2.0	1.4	1.8	1.0	0.4	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.5	0.7	0.4	0.3	0.1	0.5	2.0				
27-Jul	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	0.2	0.1	0.1	0.1	0.0	0.1	0.2	0.5	1.0	0.2	1.0				
28-Jul	0.8	1.2	1.0	0.2	0.1	Z	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.3	1.2				
29-Jul	Z	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	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2				
30-Jul	0.1	Z	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	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2				
31-Jul	0.1	0.1	Z	0.2	0.2	0.2	0.2	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	0.1	0.1	0.1	0.2				
																									Diurnal Average					
																									Diurnal Maximum					
Z - zerospan C - Calibration UO - Unstable Operation																														
Alberta Ambient Air Quality Objective (AAAQO): 1-hour 10 ppb 24-hr 3 ppb																														



Wood Buffalo Environmental Association
Hourly Averages

Hydrogen Sulphide (H₂S) - ppb
Jackfish 2/3 - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Hydrogen Sulphide (H₂S) - ppb
Jackfish 2/3 - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	687	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: 687

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Hydrogen Sulphide (H₂S) - ppb
Jackfish 2/3 - July 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	29	23	17	15	5	12	20	26	69	109	100	110	61	40	31	20	687
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	29	23	17	15	5	12	20	26	69	109	100	110	61	40	31	20	687

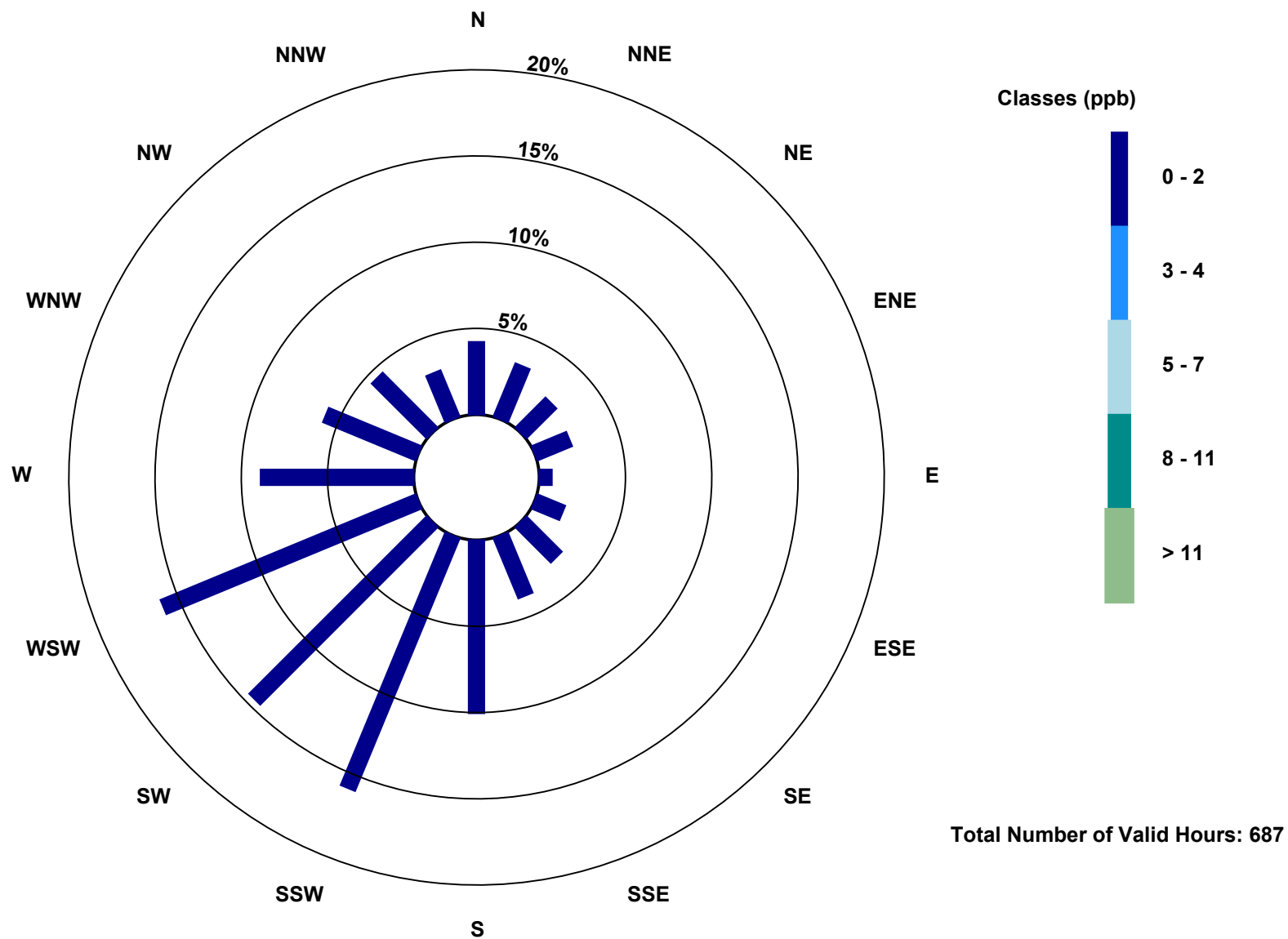
Total Number of Valid Hours: 687

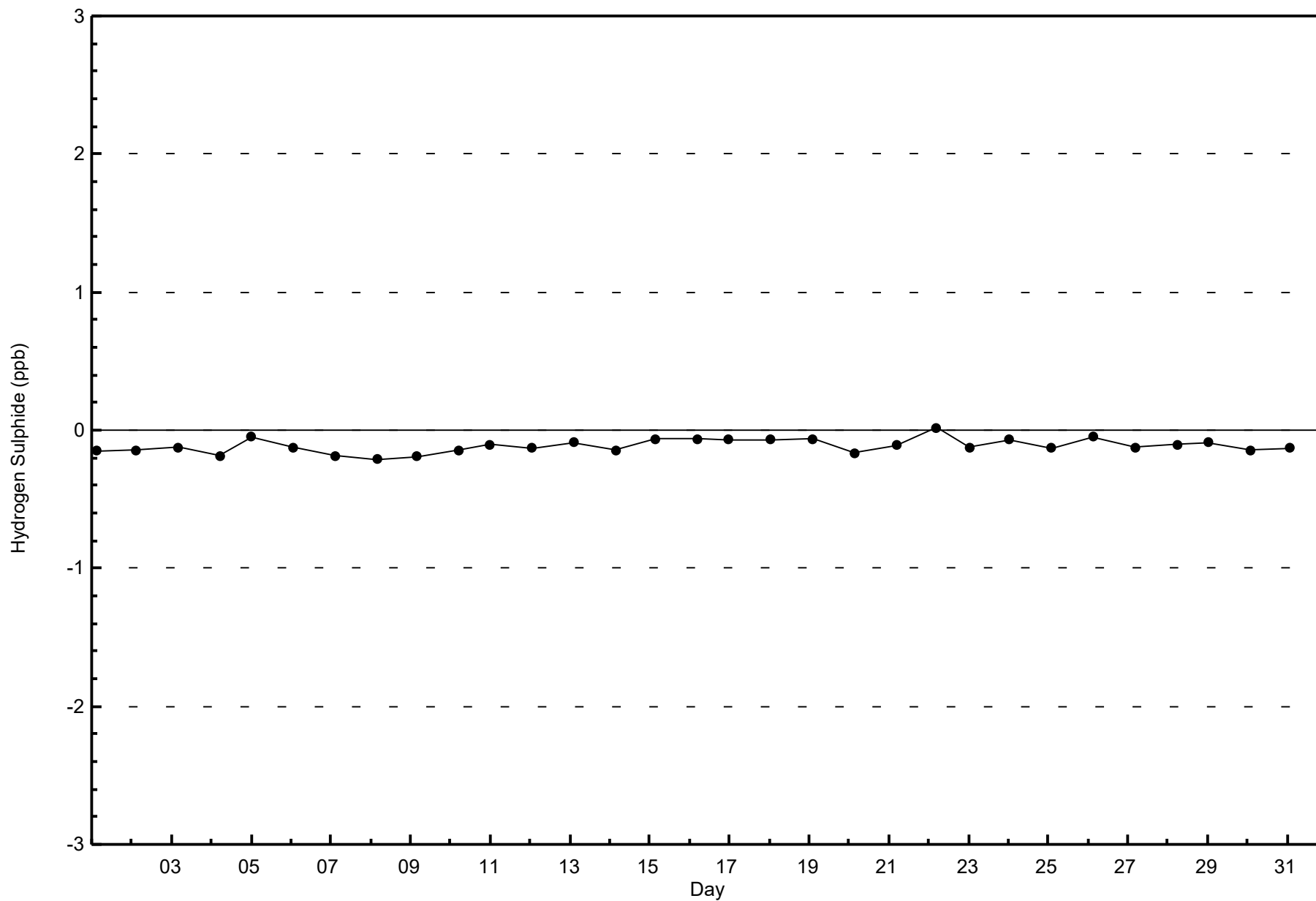
Total Number of Hours: 744

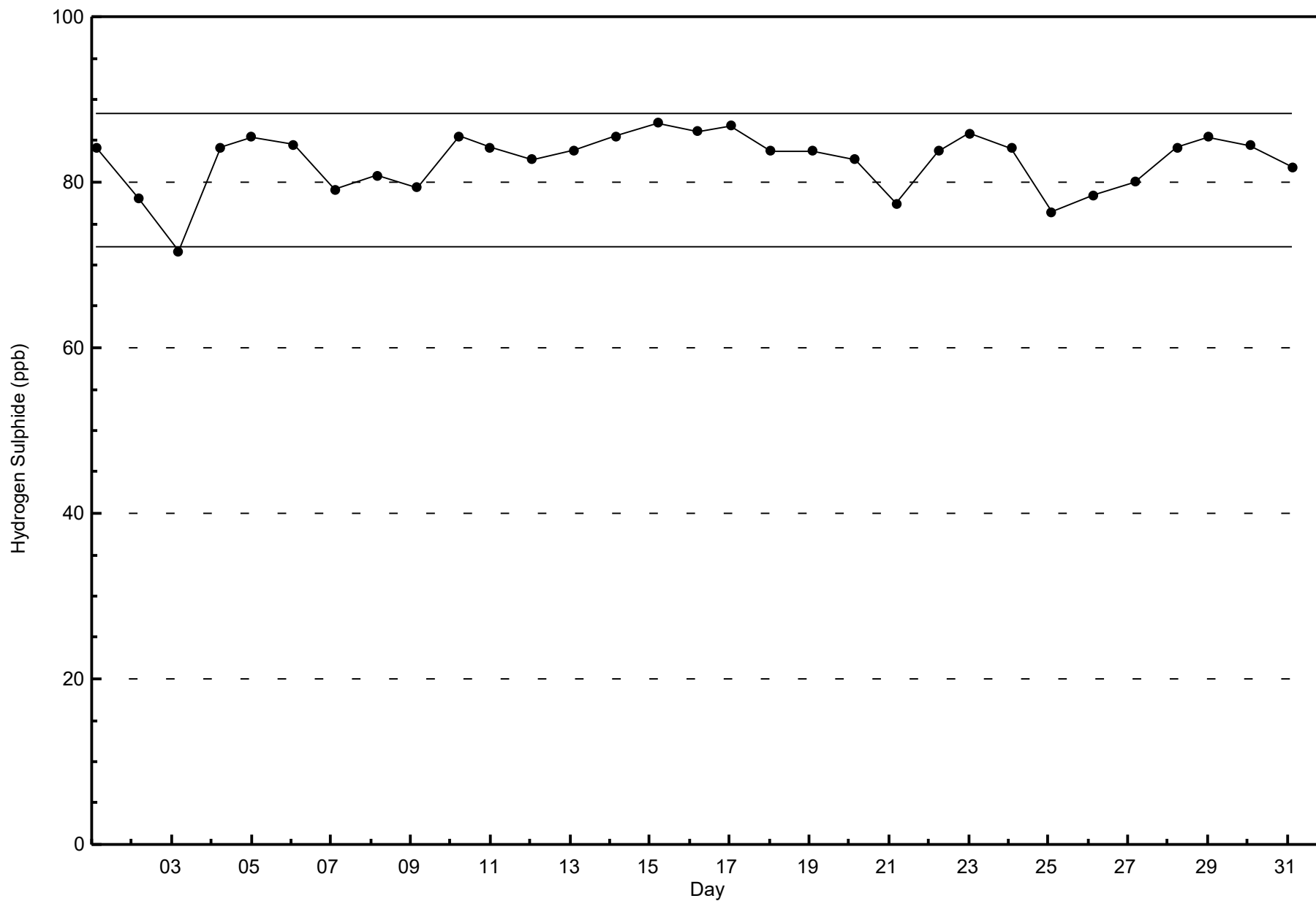


Wood Buffalo Environmental Association
Wind Rose Jul 2025

Hydrogen Sulphide (H₂S) - ppb
Jackfish 2/3









Wood Buffalo Environmental Association

Summary of Hour Averages

Nitric Oxide (NO) - ppb

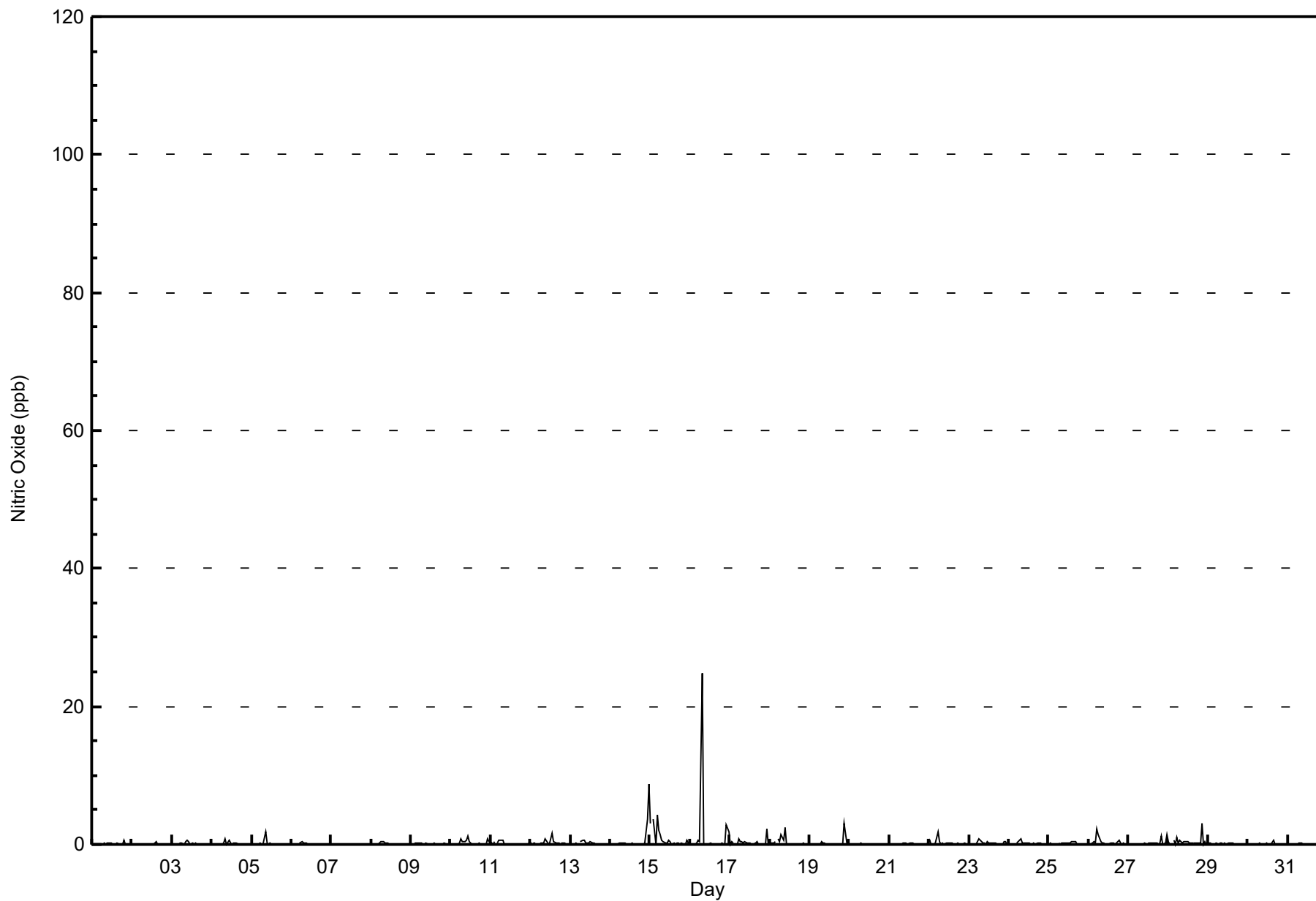
Jackfish 2/3 - July 2025

Maximum Value: 24.9 ppb on Jul 16 08:00																			Maximum Daily Average: 1.4 ppb on Jul 16							Hours in Service: 744	
Minimum Value: 0.0 ppb on Jul 1 01:00																			Minimum Daily Average: 0.0 ppb on Jul 7							Hours of Data: 707	
Maximum Diurnal Average: 1.1 ppb at hour 8																			Minimum Diurnal Average: 0.0 ppb at hour 2							Hours of Missing Data: 37	
Monthly Average: 0.23 ppb																			Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.2 P ₉₀ = 0.4 P ₉₉ = 3.0							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-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.2	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.1	0.1	0.5	
2-Jul	Z	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	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	
3-Jul	0.0	Z	0.0	0.0	0.0	0.1	0.2	0.1	0.3	0.6	0.4	0.0	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	0.6	
4-Jul	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.8	0.0	0.7	0.2	0.1	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	
5-Jul	0.0	0.0	0.0	Z	0.0	0.2	0.0	0.1	1.9	0.1	0.1	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	1.9	
6-Jul	0.0	0.0	0.0	0.0	Z	0.2	0.3	0.3	0.2	0.2	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	0.3	
7-Jul	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	
8-Jul	Z	0.0	0.0	0.0	0.0	0.3	0.4	0.4	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	0.0	0.0	0.0	0.4	
9-Jul	0.0	Z	0.2	0.2	0.2	0.3	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.3	
10-Jul	0.0	0.0	Z	0.0	0.0	0.2	0.8	0.3	0.4	0.6	1.1	0.4	0.2	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.9	0.4	0.3	1.1	
11-Jul	0.4	0.0	0.4	Z	0.2	0.6	0.6	0.5	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.6	
12-Jul	0.2	0.0	0.1	0.1	Z	0.0	0.2	0.2	0.2	0.8	0.2	0.0	0.9	1.5	0.4	0.2	0.2	0.2	0.1	0.2	0.2	0.0	0.0	0.0	0.3	1.5	
13-Jul	0.0	0.0	0.1	0.3	0.0	Z	0.5	0.6	0.6	0.1	0.1	0.3	0.4	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.6	
14-Jul	Z	0.0	0.0	0.0	0.0	0.2	0.3	0.1	0.1	0.2	0.1	0.1	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	3.8	8.7	0.6	8.7	
15-Jul	3.1	Z	3.7	0.0	4.2	2.1	1.4	0.6	0.4	0.1	0.3	0.5	0.4	0.1	0.3	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.7	0.2	0.8	4.2	
16-Jul	0.0	0.1	Z	0.0	0.2	0.6	0.5	24.9	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	2.9	1.8	1.4	24.9	
17-Jul	0.0	0.5	0.2	Z	0.1	0.9	0.5	0.3	0.1	0.5	0.3	0.2	0.2	0.1	0.1	0.2	0.3	0.0	0.0	0.1	0.1	0.0	2.2	0.0	0.3	2.2	
18-Jul	0.1	0.1	0.1	0.4	Z	0.8	0.4	1.4	0.7	2.5	0.1	C	C	C	C	C	C	0.0	0.0	0.0	0.1	0.0	0.0	0.0	-	2.5	
19-Jul	0.0	0.0	0.0	0.0	0.1	Z	0.1	0.4	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	3.0	0.1	0.0	0.2	3.0	
20-Jul	Z	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	
21-Jul	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.1	0.0	0.1	0.3	0.2	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.3	0.1	0.3	
22-Jul	0.6	0.0	Z	0.0	0.1	1.8	0.3	0.1	0.2	0.1	0.2	0.2	0.2	0.3	0.1	0.1	0.0	0.2	0.1	0.0	0.0	0.3	0.0	0.0	0.2	1.8	
23-Jul	0.2	0.0	0.0	Z	0.0	0.5	0.8	0.6	0.1	0.1	0.1	0.4	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.4	0.4	0.1	0.2	0.8	
24-Jul	0.0	0.0	0.1	0.0	Z	0.2	0.6	0.8	0.3	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.0	0.0	0.1	0.2	0.8	
25-Jul	0.0	0.1	0.0	0.1	0.0	Z	0.2	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.3	0.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	
26-Jul	Z	0.0	0.1	0.5	0.2	2.2	1.5	0.4	0.3	0.1	0.0	0.0	0.0	0.2	0.2	0.2	0.0	0.1	0.6	0.1	0.1	0.1	0.0	0.0	0.3	2.2	
27-Jul	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	0.2	0.1	0.1	0.1	1.2	0.1	0.1	1.4	0.2	1.4	
28-Jul	0.4	0.0	Z	0.6	0.0	1.0	0.2	0.5	0.1	0.3	0.4	0.4	0.3	0.3	0.2	0.3	0.1	0.2	0.1	0.2	3.1	0.1	0.5	0.0	0.4	3.1	
29-Jul	0.2	0.3	0.0	Z	0.0	0.2	0.1	0.2	0.1	0.1	0.2	0.1	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.3	
30-Jul	0.0	0.0	0.0	0.0	Z	0.1	0.1	0.2	0.1	0.1	0.0	0.2	0.1	0.0	0.0	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.5	
31-Jul	0.0	0.0	0.0	0.0	0.1	Z	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
Diurnal Average																										Diurnal Maximum	
Diurnal Maximum																											
Z - zerospan C - Calibration																											



Wood Buffalo Environmental Association
Hourly Averages

Nitric Oxide (NO) - ppb
Jackfish 2/3 - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitric Oxide (NO) - ppb
Jackfish 2/3 - July 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

Nitric Oxide (NO) - ppb
Jackfish 2/3 - July 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	24	19	15	5	11	22	24	66	113	108	112	64	38	36	19	706
21 - 40	0	0	0	0	0	0	0	0	0	1	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	30	24	19	15	5	11	22	24	66	114	108	112	64	38	36	19	707

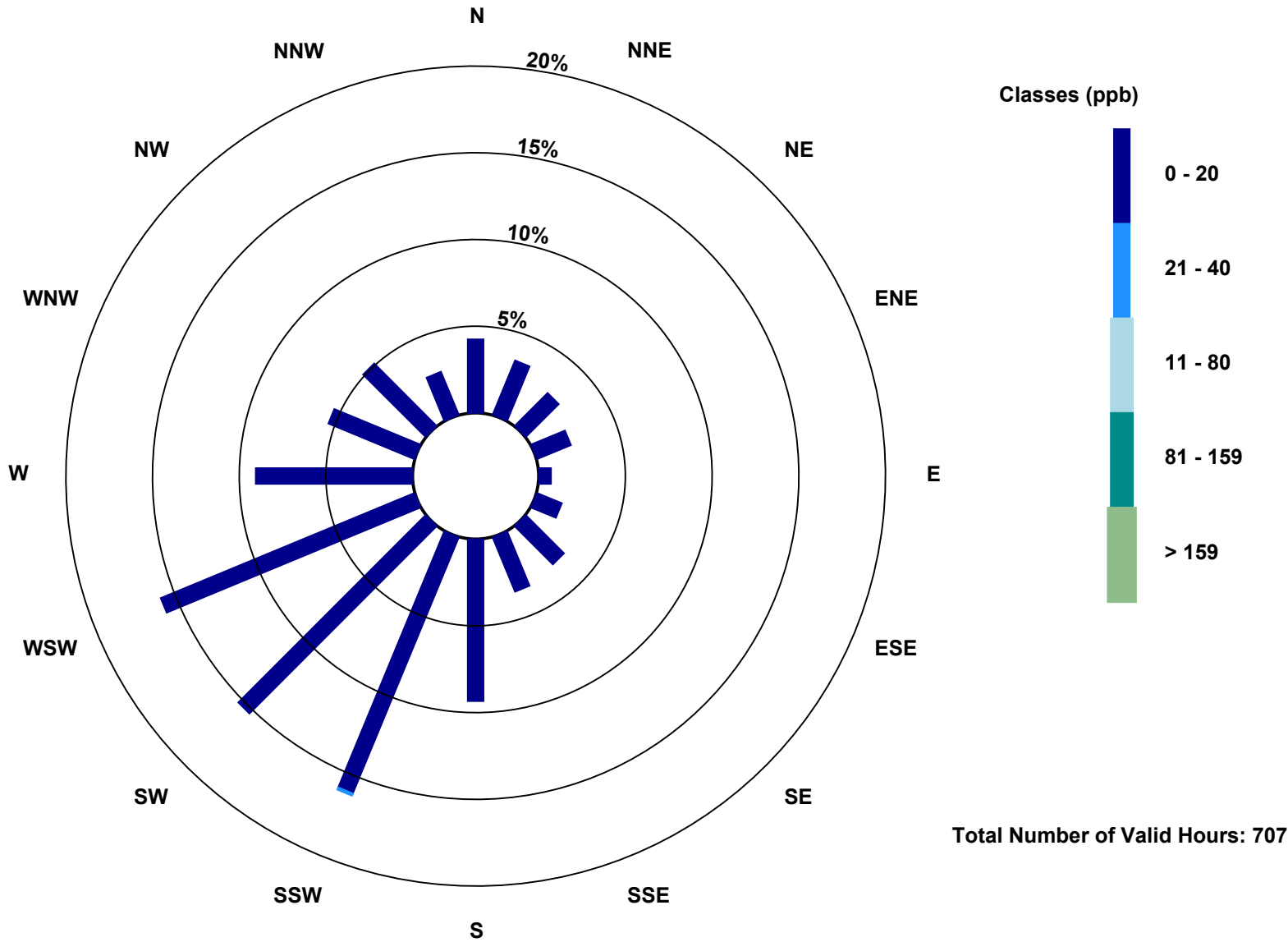
Total Number of Valid Hours: 707

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

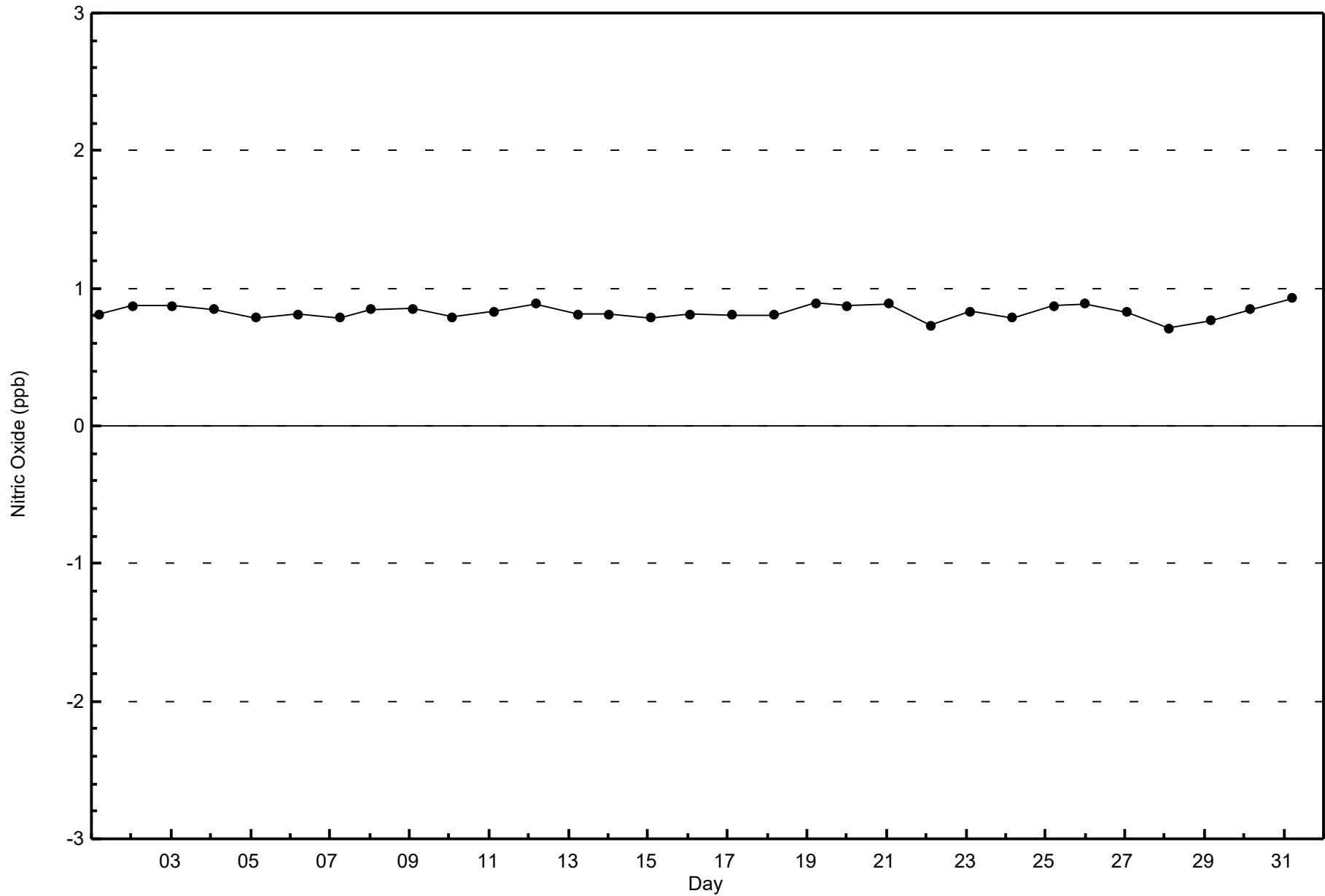
Nitric Oxide (NO) - ppb
Jackfish 2/3





Wood Buffalo Environmental Association
Zero Responses

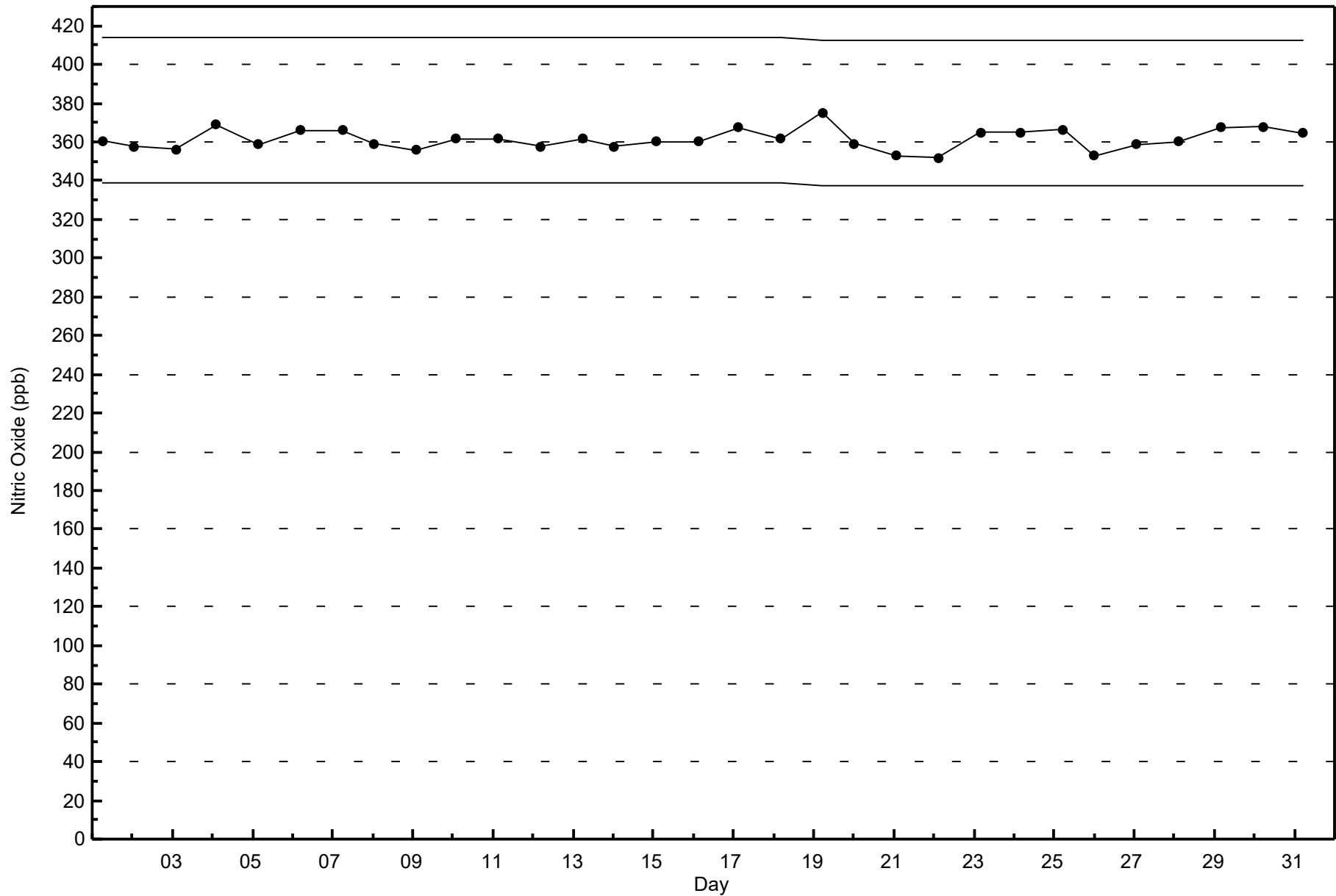
Nitric Oxide (NO) - ppb
Jackfish 2/3 - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitric Oxide (NO) - ppb
Jackfish 2/3 - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Dioxide (NO₂) - ppb

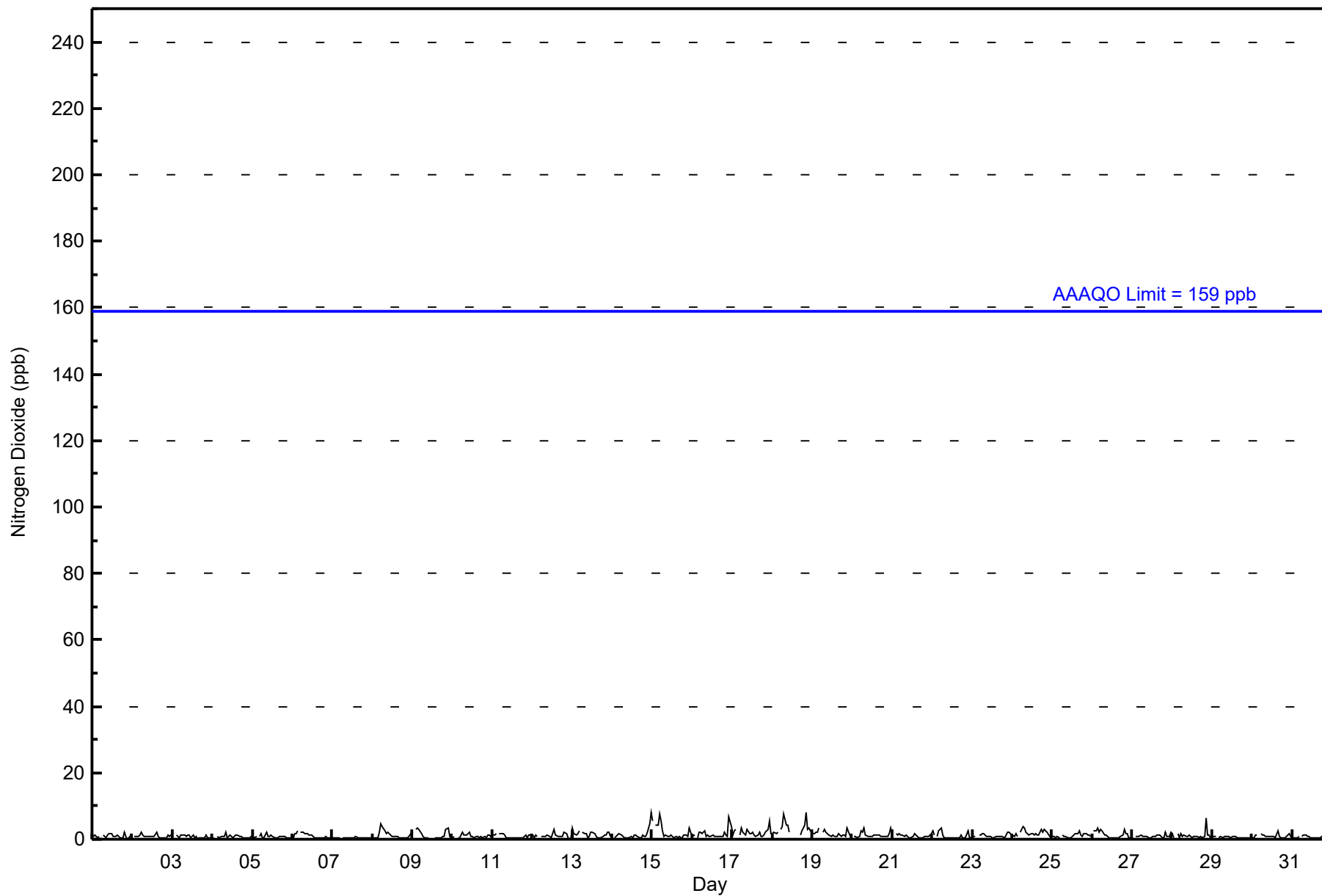
Jackfish 2/3 - July 2025

Number of Exceedences (AAAQO): Maximum Value: 8.2 ppb on Jul 18 21:00																			1-hr: 0 24-hr: 0 Maximum Daily Average: 2.1 ppb on Jul 15						Hours in Service: 744		
Minimum Value: 0.2 ppb on Jul 1 22:00 Maximum Diurnal Average: 2.1 ppb at hour 6 Monthly Average: 1.21 ppb																			Minimum Daily Average: 0.4 ppb on Jul 7 Minimum Diurnal Average: 0.7 ppb at hour 18 Percentiles: P ₁ = 0.2 P ₁₀ = 0.4 Q ₁ = 0.6 Median = 0.9 Q ₃ = 1.4 P ₉₀ = 2.3 P ₉₉ = 5.5						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-Jul	1.0	1.4	0.9	0.5	0.7	Z	1.1	0.9	0.6	1.2	1.6	1.9	0.8	0.7	0.8	1.1	0.6	0.5	0.4	2.1	1.0	0.2	0.8	1.6	1.0	2.1	
2-Jul	Z	0.8	1.0	1.0	1.4	2.0	1.4	1.0	0.9	0.8	0.8	0.9	0.7	0.7	2.1	0.8	0.5	0.5	0.5	0.4	0.6	1.2	1.0	1.3	1.0	2.1	
3-Jul	1.5	Z	1.2	0.8	0.6	1.4	1.4	1.1	1.0	1.4	1.1	0.4	1.2	0.6	0.8	0.2	0.4	0.3	0.3	0.3	1.2	0.3	0.3	0.6	0.8	1.5	
4-Jul	0.3	0.2	Z	0.9	0.5	0.7	0.7	1.0	2.2	0.4	1.3	0.7	0.5	0.8	1.2	1.4	0.7	0.8	0.6	0.4	0.4	0.4	0.5	0.9	0.8	2.2	
5-Jul	0.9	0.6	0.7	Z	0.9	1.6	0.6	0.6	2.2	1.0	0.9	1.1	0.8	0.5	0.6	0.6	0.8	0.9	0.7	0.7	0.5	0.3	0.3	0.3	0.8	2.2	
6-Jul	0.5	1.6	1.8	2.4	Z	2.3	2.3	1.8	1.7	1.7	1.2	1.3	0.8	0.6	0.6	0.5	0.5	0.6	0.6	0.5	1.0	0.6	0.4	0.3	1.1	2.4	
7-Jul	0.4	0.5	0.4	0.4	0.3	Z	0.5	0.5	0.6	0.6	0.5	0.4	0.5	0.5	0.7	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.7	
8-Jul	Z	0.6	0.6	0.6	2.2	4.5	3.7	2.7	1.7	2.0	1.7	1.3	1.0	0.9	1.0	0.8	0.6	0.4	0.4	0.5	0.6	0.6	0.8	2.1	1.4	4.5	
9-Jul	2.2	Z	3.1	3.2	2.9	1.8	0.9	0.5	0.4	0.6	0.2	0.2	0.2	0.2	0.4	0.3	0.4	0.3	0.7	0.7	2.9	3.4	0.7	0.7	1.2	3.4	
10-Jul	0.4	0.7	Z	0.6	0.4	1.1	2.1	1.3	1.4	1.7	2.3	1.0	1.0	0.6	0.9	0.8	0.6	0.9	0.6	0.7	0.6	1.4	1.3	1.0	1.0	2.3	
11-Jul	1.1	1.1	1.6	Z	1.8	1.6	1.6	1.3	0.6	0.4	0.5	0.6	0.4	0.4	0.5	0.4	0.3	0.3	0.5	1.0	1.3	0.5	1.1	1.1	0.9	1.8	
12-Jul	1.2	0.3	1.1	0.7	Z	0.7	0.7	0.8	0.8	1.3	0.8	0.4	1.5	2.9	1.3	0.7	0.7	0.8	0.9	2.3	1.6	0.4	0.2	0.4	1.0	2.9	
13-Jul	3.3	1.7	1.3	1.5	2.6	Z	2.0	1.5	1.5	0.6	1.0	2.2	2.1	1.7	0.9	0.5	0.5	0.4	0.8	1.1	1.3	2.1	2.2	1.0	1.5	3.3	
14-Jul	Z	0.6	0.8	1.1	1.5	1.2	1.0	0.5	0.6	0.6	0.5	0.7	0.6	1.4	1.1	0.7	0.5	0.6	1.2	0.9	0.8	1.8	4.7	8.1	1.4	8.1	
15-Jul	5.5	Z	4.3	4.3	7.5	5.6	2.5	0.8	1.1	0.7	1.0	1.3	0.9	0.6	1.0	0.4	0.7	0.6	0.5	1.1	1.1	0.8	3.2	2.0	2.1	7.5	
16-Jul	1.0	1.1	Z	0.6	2.0	2.1	1.8	2.5	1.0	1.1	0.7	0.8	1.1	0.8	0.7	0.9	0.9	0.8	1.0	2.1	1.2	1.0	6.7	4.0	1.6	6.7	
17-Jul	1.3	2.7	3.0	Z	1.4	3.3	2.3	1.7	1.4	3.0	1.8	1.7	2.0	1.2	1.0	1.2	2.0	0.8	0.8	1.3	2.0	2.8	5.5	1.7	2.0	5.5	
18-Jul	1.9	2.1	1.9	2.3	Z	3.0	3.7	7.8	4.4	4.4	2.3	C	C	C	C	C	C	1.1	2.7	4.1	8.2	2.8	3.2	2.5	-	8.2	
19-Jul	1.5	1.5	2.3	2.1	3.2	Z	2.2	2.8	2.3	1.7	1.2	1.0	1.3	0.9	0.9	0.9	1.5	1.0	1.3	1.1	1.0	3.6	1.2	0.6	1.6	3.6	
20-Jul	Z	0.7	0.8	0.6	1.0	2.4	2.2	3.3	1.1	0.9	1.0	0.9	1.0	1.2	1.1	1.2	1.2	1.0	0.8	0.9	1.0	0.9	1.5	3.4	1.3	3.4	
21-Jul	1.5	Z	1.5	1.4	1.7	1.1	1.3	0.9	1.1	0.7	0.5	0.4	1.0	1.5	1.2	0.8	0.5	0.6	0.5	0.9	0.9	1.0	1.0	1.5	1.0	1.7	
22-Jul	2.7	1.3	Z	0.8	2.4	3.6	1.2	0.6	0.6	0.4	0.6	0.6	0.5	0.5	0.5	0.3	0.3	1.1	0.6	0.4	0.3	2.6	0.4	0.4	1.0	3.6	
23-Jul	0.9	0.8	0.8	Z	1.1	1.4	1.9	1.7	1.0	0.8	0.7	0.8	0.6	0.6	0.8	0.9	0.8	0.8	0.7	0.6	1.1	2.3	2.1	1.9	1.1	2.3	
24-Jul	1.3	0.8	1.5	0.9	Z	2.1	3.9	3.4	2.0	1.5	1.4	1.8	1.8	1.4	1.5	1.3	1.2	2.8	2.3	3.1	2.6	2.1	0.8	1.1	1.9	3.9	
25-Jul	0.7	0.9	0.6	0.9	0.6	Z	1.2	0.8	0.7	0.6	0.6	0.5	0.7	1.2	1.5	1.8	2.4	1.3	0.9	1.8	1.8	1.3	1.1	1.0	1.1	2.4	
26-Jul	Z	2.7	2.6	3.2	2.3	2.9	2.7	1.2	1.1	0.7	0.4	0.4	0.4	0.5	0.5	0.5	0.4	0.9	1.3	2.9	1.8	1.6	0.5	0.6	1.4	3.2	
27-Jul	0.6	Z	0.8	0.7	0.9	1.1	0.8	0.9	0.9	0.8	0.6	0.6	0.7	0.8	0.8	1.1	1.3	0.7	0.4	0.6	2.0	0.7	0.7	2.3	0.9	2.3	
28-Jul	1.6	0.6	Z	1.8	0.5	1.7	1.0	1.2	0.9	1.0	1.2	0.9	0.6	0.8	0.8	0.8	0.5	0.7	0.4	1.0	6.3	1.2	1.2	0.4	1.2	6.3	
29-Jul	0.7	0.7	0.7	Z	0.5	0.8	0.6	0.7	0.9	0.7	0.8	0.6	1.0	0.7	0.8	0.6	0.3	0.3	0.4	0.4	0.6	0.5	0.4	0.3	0.6	1.0	
30-Jul	0.4	0.5	1.3	1.4	Z	1.9	1.3	1.2	0.8	0.7	0.8	1.0	0.7	0.7	0.5	2.6	1.0	0.4	0.4	0.4	0.5	1.1	1.5	0.7	0.9	2.6	
31-Jul	0.6	0.5	0.6	0.6	1.0	Z	0.8	1.1	1.2	0.8	0.7	0.6	0.5	0.4	0.3	0.4	0.5	0.6	0.8	0.9	0.9	2.0	2.4	4.3	1.0	4.3	
1.3 1.0 1.4 1.4 1.6 2.1 1.7 1.6 1.2 1.1 1.0 0.9 0.9 0.9 0.9 0.8 0.8 0.7 0.8 1.1 1.5 1.3 1.5 1.6																										Diurnal Average	
5.5 2.7 4.3 4.3 7.5 5.6 3.9 7.8 4.4 4.4 2.3 2.2 2.1 2.9 2.1 2.6 2.4 2.8 2.7 4.1 8.2 3.6 6.7 8.1																										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
Jackfish 2/3 - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Jackfish 2/3 - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	707	100.00	100.00
21 - 40	0	0.00	100.00
41 - 60	0	0.00	100.00
61 - 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
Jackfish 2/3 - July 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	24	19	15	5	11	22	24	66	114	108	112	64	38	36	19	707
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	30	24	19	15	5	11	22	24	66	114	108	112	64	38	36	19	707

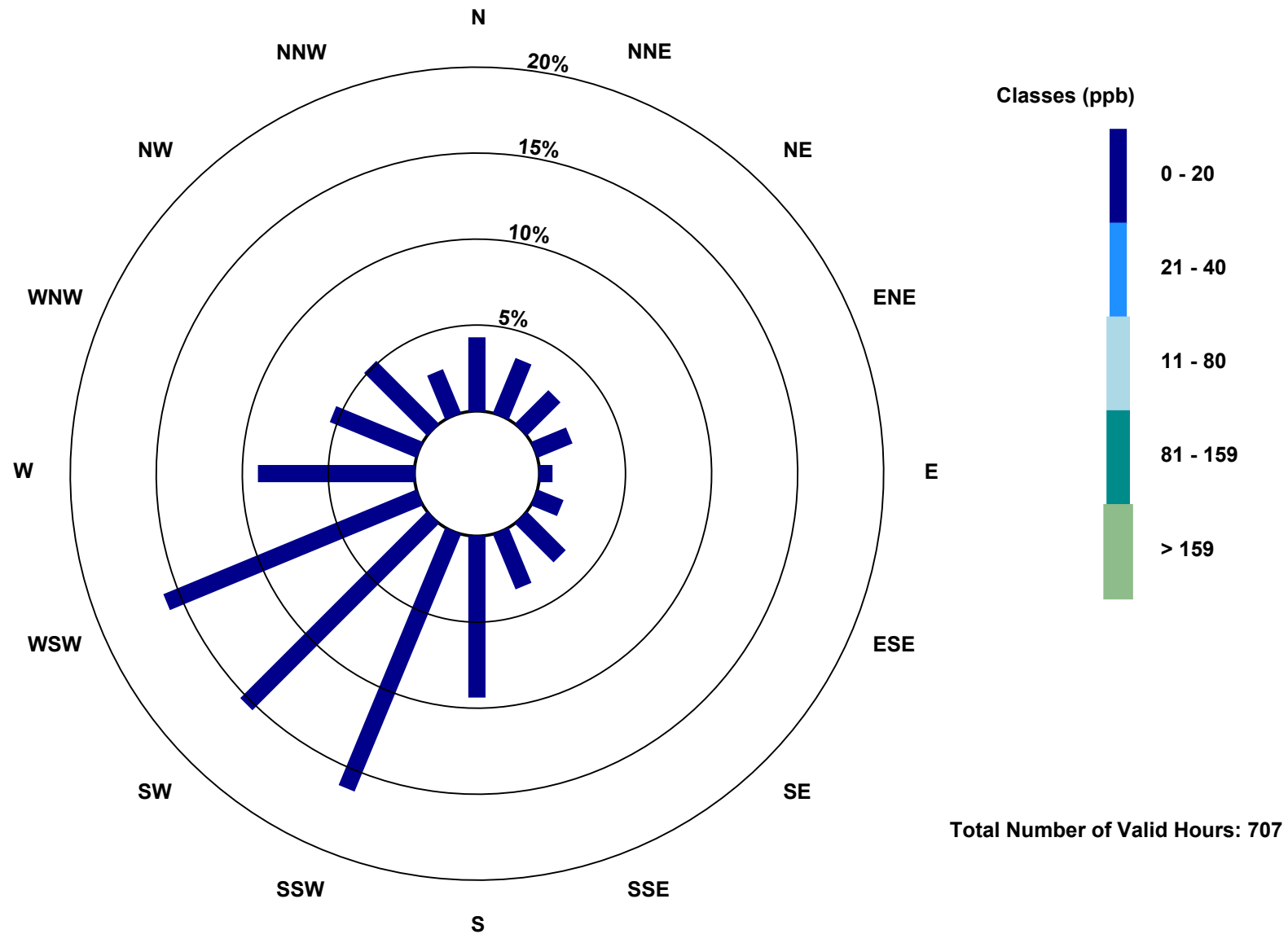
Total Number of Valid Hours: 707

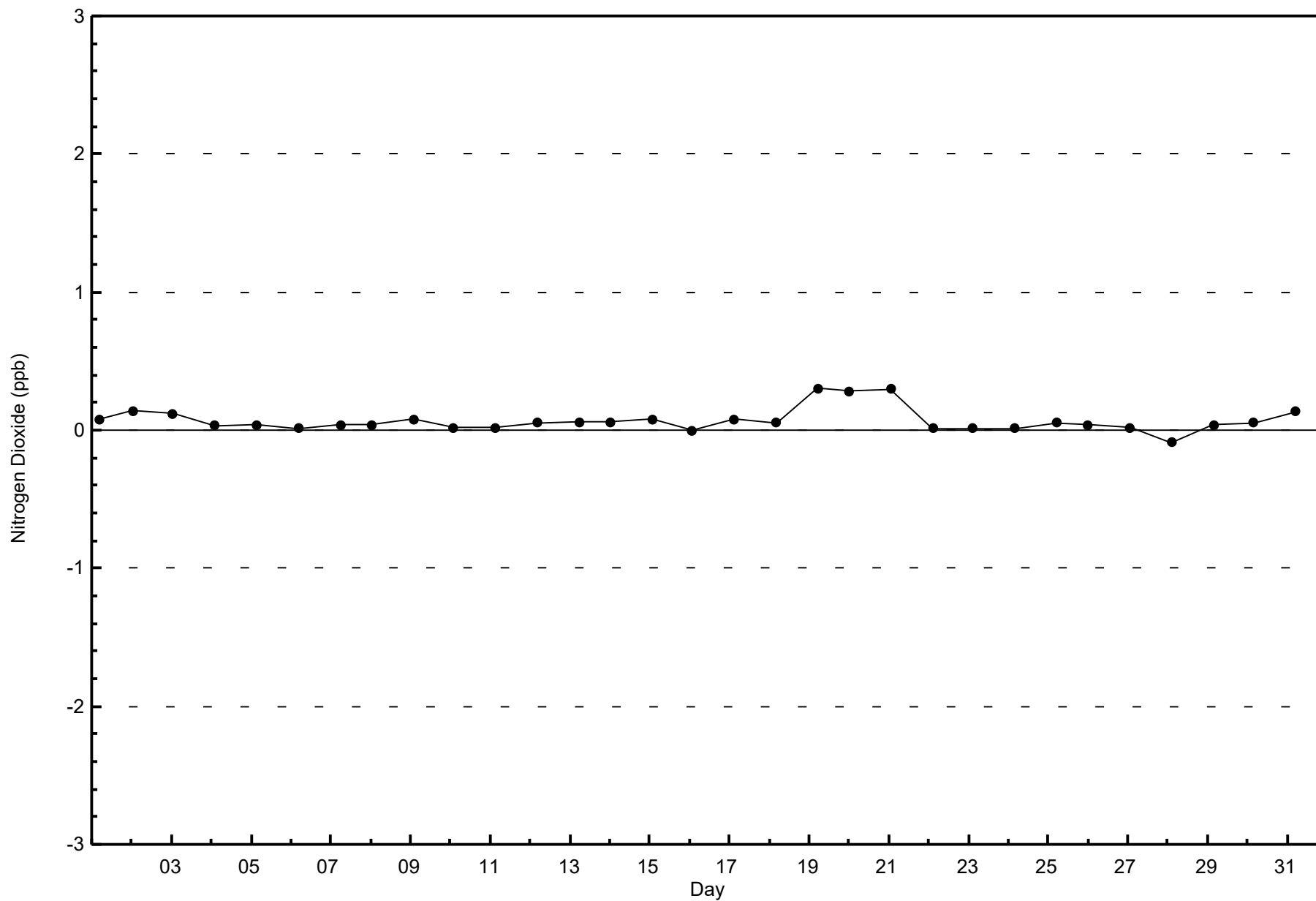
Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Nitrogen Dioxide (NO₂) - ppb
Jackfish 2/3

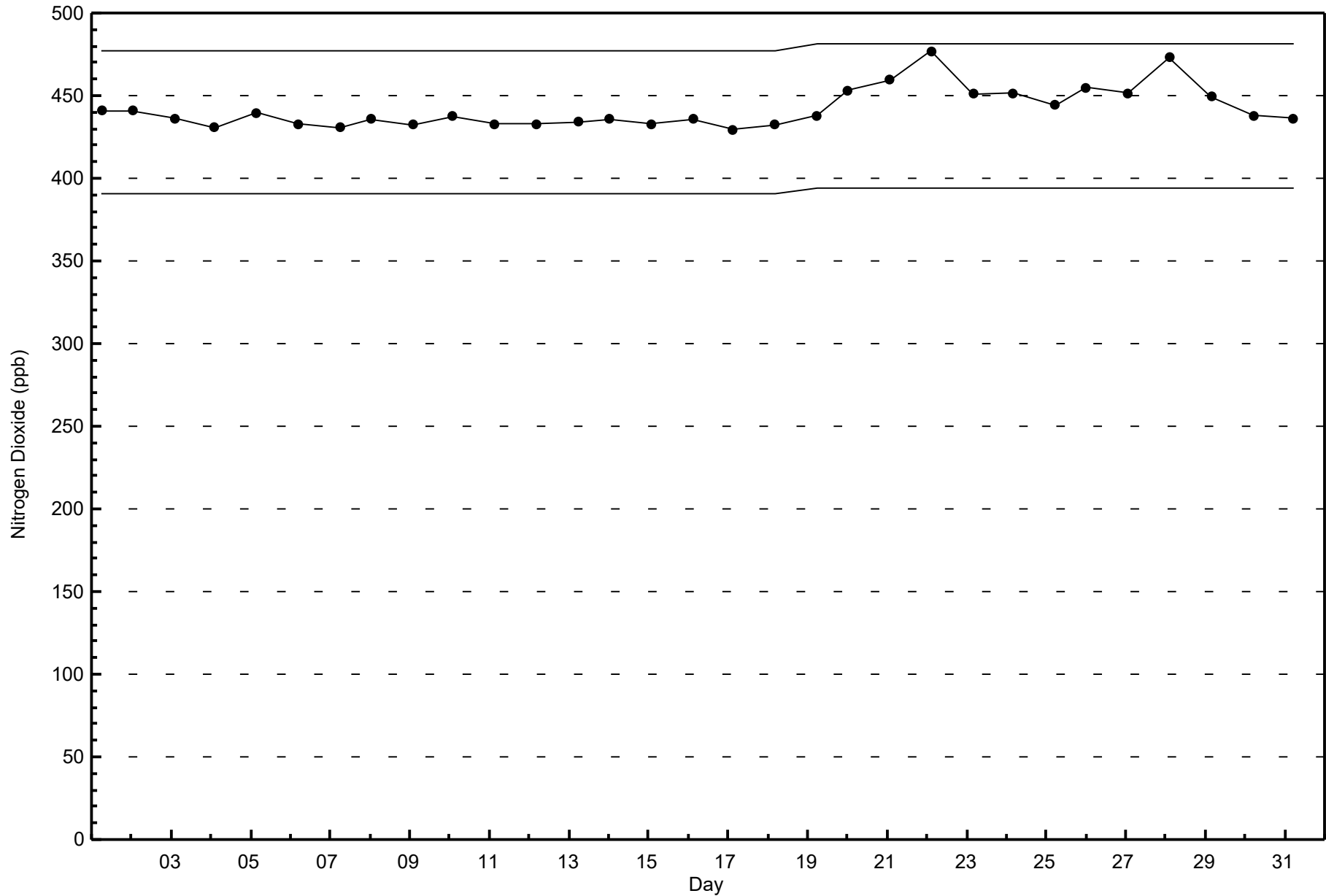






Wood Buffalo Environmental Association
Span Responses

Nitrogen Dioxide (NO₂) - ppb
Jackfish 2/3 - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Oxides (NO_x) - ppb

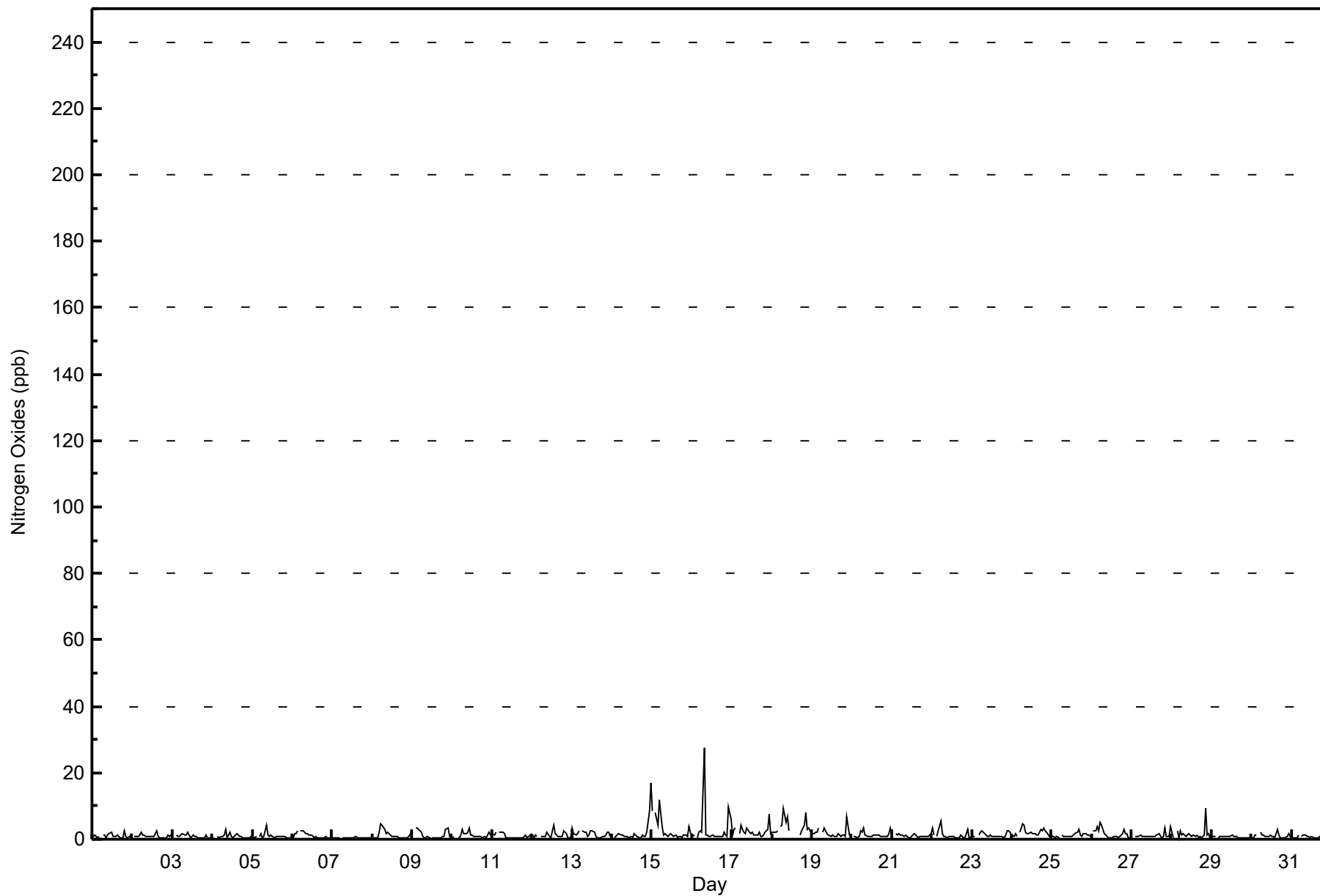
Jackfish 2/3 - July 2025

Maximum Value: 27.4 ppb on Jul 16 08:00																				Maximum Daily Average: 3.0 ppb on Jul 16					Hours in Service: 744	
Minimum Value: 0.2 ppb on Jul 9 12:00																				Minimum Daily Average: 0.4 ppb on Jul 7					Hours of Data: 707	
Maximum Diurnal Average: 2.6 ppb at hour 8																				Minimum Diurnal Average: 0.8 ppb at hour 18					Hours of Missing Data: 37	
Monthly Average: 1.43 ppb																				Percentiles: P ₁ = 0.2 P ₁₀ = 0.4 Q ₁ = 0.6 Median = 1.0 Q ₃ = 1.6 P ₉₀ = 2.7 P ₉₉ = 8.5					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-Jul	1.0	1.4	0.9	0.5	0.7	Z	1.1	1.1	0.6	1.3	1.7	2.1	0.9	0.8	0.9	1.2	0.6	0.5	0.4	2.6	1.0	0.2	0.8	1.7	1.0	2.6
2-Jul	Z	0.8	1.0	1.0	1.4	2.1	1.4	1.1	1.0	0.8	0.8	0.9	0.7	0.7	2.5	0.8	0.5	0.5	0.5	0.4	0.6	1.2	1.0	1.3	1.0	2.5
3-Jul	1.5	Z	1.2	0.8	0.6	1.5	1.6	1.2	1.3	2.0	1.5	0.4	1.4	0.7	1.0	0.2	0.4	0.3	0.3	0.3	1.2	0.3	0.3	0.6	0.9	2.0
4-Jul	0.3	0.2	Z	0.9	0.5	0.7	0.7	1.1	3.0	0.4	2.0	0.9	0.6	0.9	1.4	1.6	0.7	0.8	0.6	0.4	0.4	0.4	0.5	0.9	0.9	3.0
5-Jul	0.9	0.6	0.7	Z	0.9	1.8	0.6	0.7	4.1	1.1	1.0	1.3	0.9	0.5	0.7	0.6	0.8	0.9	0.7	0.7	0.5	0.3	0.3	0.3	0.9	4.1
6-Jul	0.5	1.6	1.8	2.4	Z	2.5	2.6	2.1	1.9	1.9	1.3	1.4	0.8	0.6	0.7	0.5	0.5	0.6	0.6	0.5	1.0	0.6	0.4	0.3	1.2	2.6
7-Jul	0.4	0.5	0.4	0.4	0.3	Z	0.5	0.5	0.6	0.6	0.6	0.4	0.5	0.5	0.7	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.7
8-Jul	Z	0.6	0.6	0.6	2.2	4.8	4.1	3.1	1.9	2.3	1.9	1.4	1.0	0.9	1.0	0.8	0.6	0.4	0.4	0.5	0.6	0.6	0.8	2.1	1.4	4.8
9-Jul	2.2	Z	3.3	3.4	3.1	2.1	1.1	0.6	0.5	0.7	0.2	0.2	0.2	0.2	0.5	0.3	0.5	0.3	0.8	0.8	3.0	3.5	0.7	0.7	1.2	3.5
10-Jul	0.4	0.7	Z	0.6	0.4	1.3	2.9	1.6	1.8	2.3	3.4	1.4	1.2	0.7	0.9	0.9	0.6	1.0	0.6	0.7	0.6	1.4	2.2	1.4	1.3	3.4
11-Jul	1.5	1.1	2.0	Z	2.0	2.2	2.2	1.8	0.6	0.4	0.6	0.6	0.4	0.4	0.6	0.5	0.3	0.3	0.5	1.0	1.3	0.5	1.1	1.3	1.0	2.2
12-Jul	1.4	0.3	1.2	0.8	Z	0.7	0.9	1.0	1.0	2.1	1.0	0.4	2.4	4.4	1.7	0.9	0.9	1.0	1.0	2.5	1.8	0.4	0.2	0.4	1.2	4.4
13-Jul	3.3	1.7	1.4	1.8	2.6	Z	2.5	2.1	2.1	0.7	1.1	2.5	2.5	1.9	1.0	0.5	0.5	0.4	0.8	1.1	1.3	2.1	2.2	1.0	1.6	3.3
14-Jul	Z	0.6	0.8	1.1	1.5	1.4	1.3	0.6	0.7	0.8	0.6	0.8	0.6	1.6	1.2	0.7	0.5	0.6	1.2	0.9	0.8	2.0	8.5	16.8	2.0	16.8
15-Jul	8.6	Z	8.0	4.3	11.7	7.7	3.9	1.4	1.5	0.8	1.3	1.8	1.3	0.7	1.3	0.4	0.8	0.7	0.5	1.2	1.2	0.8	3.9	2.2	2.9	11.7
16-Jul	1.0	1.2	Z	0.6	2.2	2.7	2.3	27.4	1.1	1.2	0.7	0.8	1.2	0.9	0.7	1.0	1.0	0.8	1.0	2.2	1.2	1.0	9.6	5.8	3.0	27.4
17-Jul	1.3	3.2	3.2	Z	1.5	4.2	2.8	2.0	1.5	3.5	2.1	1.9	2.2	1.3	1.1	1.4	2.3	0.8	0.8	1.4	2.1	2.8	7.7	1.7	2.3	7.7
18-Jul	2.0	2.2	2.0	2.7	Z	3.8	4.1	9.2	5.1	6.9	2.4	C	C	C	C	C	C	1.1	2.7	4.1	8.3	2.8	3.2	2.5	-	9.2
19-Jul	1.5	1.5	2.3	2.1	3.3	Z	2.3	3.2	2.4	1.8	1.2	1.0	1.4	0.9	0.9	0.9	1.6	1.0	1.3	1.1	1.0	6.6	1.3	0.6	1.8	6.6
20-Jul	Z	0.7	0.8	0.6	1.0	2.5	2.2	3.5	1.1	0.9	1.0	0.9	1.0	1.2	1.1	1.2	1.2	1.0	0.8	0.9	1.0	0.9	1.5	3.4	1.3	3.5
21-Jul	1.5	Z	1.5	1.4	1.7	1.1	1.3	0.9	1.4	0.9	0.6	0.4	1.1	1.8	1.4	0.9	0.5	0.7	0.6	0.9	0.9	1.0	1.0	1.8	1.1	1.8
22-Jul	3.3	1.3	Z	0.8	2.5	5.4	1.5	0.7	0.8	0.5	0.8	0.8	0.7	0.8	0.6	0.4	0.3	1.3	0.7	0.4	0.3	2.9	0.4	0.4	1.2	5.4
23-Jul	1.1	0.8	0.8	Z	1.1	1.9	2.7	2.3	1.1	0.9	0.8	1.2	0.7	0.7	1.0	1.0	0.9	0.9	0.7	0.6	1.2	2.7	2.5	2.0	1.3	2.7
24-Jul	1.3	0.8	1.6	0.9	Z	2.3	4.5	4.2	2.3	1.6	1.6	2.0	1.9	1.5	1.6	1.4	1.3	3.0	2.5	3.3	2.7	2.1	0.8	1.2	2.0	4.5
25-Jul	0.7	1.0	0.6	1.0	0.6	Z	1.4	0.9	0.8	0.7	0.7	0.7	1.0	1.4	1.8	2.1	2.8	1.3	0.9	1.8	1.8	1.3	1.1	1.0	1.2	2.8
26-Jul	Z	2.7	2.7	3.7	2.5	5.1	4.2	1.6	1.4	0.8	0.4	0.4	0.4	0.7	0.7	0.7	0.4	1.0	1.9	3.0	1.9	1.7	0.5	0.6	1.7	5.1
27-Jul	0.6	Z	0.8	0.7	0.9	1.1	0.9	0.9	1.0	0.9	0.7	0.7	0.8	0.9	0.9	1.2	1.5	0.8	0.5	0.7	3.2	0.8	0.8	3.7	1.1	3.7
28-Jul	2.0	0.6	Z	2.4	0.5	2.7	1.2	1.7	1.0	1.3	1.6	1.3	0.9	1.1	1.0	1.1	0.6	0.9	0.5	1.2	9.4	1.3	1.7	0.4	1.6	9.4
29-Jul	0.9	1.0	0.7	Z	0.5	1.0	0.7	0.9	1.0	0.8	1.0	0.7	1.3	0.9	1.0	0.8	0.4	0.4	0.5	0.5	0.6	0.5	0.4	0.3	0.7	1.3
30-Jul	0.4	0.5	1.3	1.4	Z	2.0	1.4	1.4	0.9	0.8	0.8	1.2	0.8	0.7	0.5	3.1	1.1	0.4	0.4	0.4	0.5	1.1	1.5	0.7	1.0	3.1
31-Jul	0.6	0.5	0.6	0.6	1.1	Z	0.8	1.2	1.3	0.8	0.7	0.6	0.6	0.4	0.3	0.4	0.5	0.6	0.8	0.9	0.9	2.0	2.4	4.3	1.0	4.3
																									Diurnal Average	
																									Diurnal Maximum	
Z - zerospan C - Calibration																										



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Jackfish 2/3 - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Jackfish 2/3 - July 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
Jackfish 2/3 - July 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	24	19	15	5	11	22	24	66	113	108	112	64	38	36	19	706
21 - 40	0	0	0	0	0	0	0	0	0	1	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	30	24	19	15	5	11	22	24	66	114	108	112	64	38	36	19	707

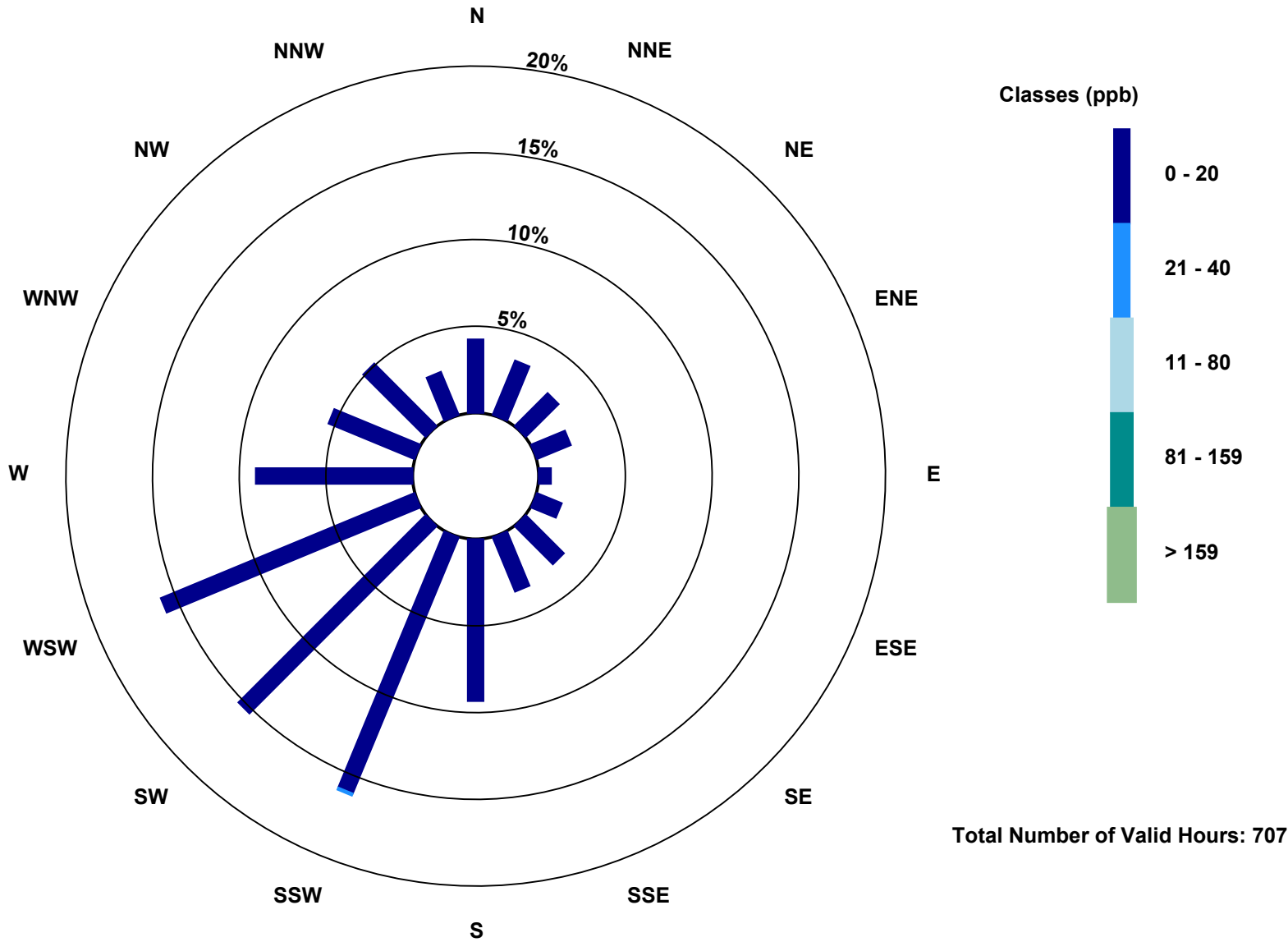
Total Number of Valid Hours: 707

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

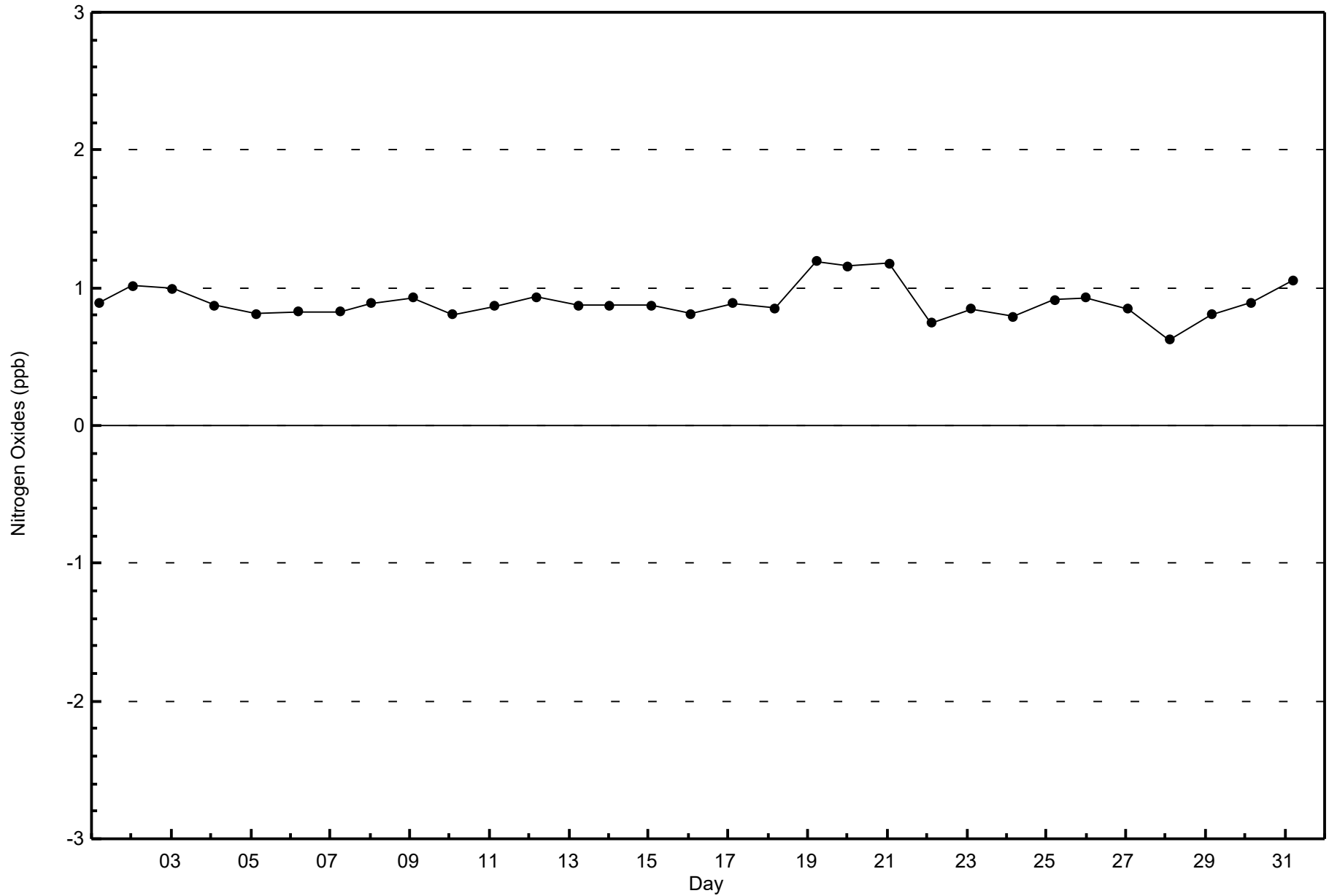
Nitrogen Oxides (NO_x) - ppb
Jackfish 2/3





Wood Buffalo Environmental Association
Zero Responses

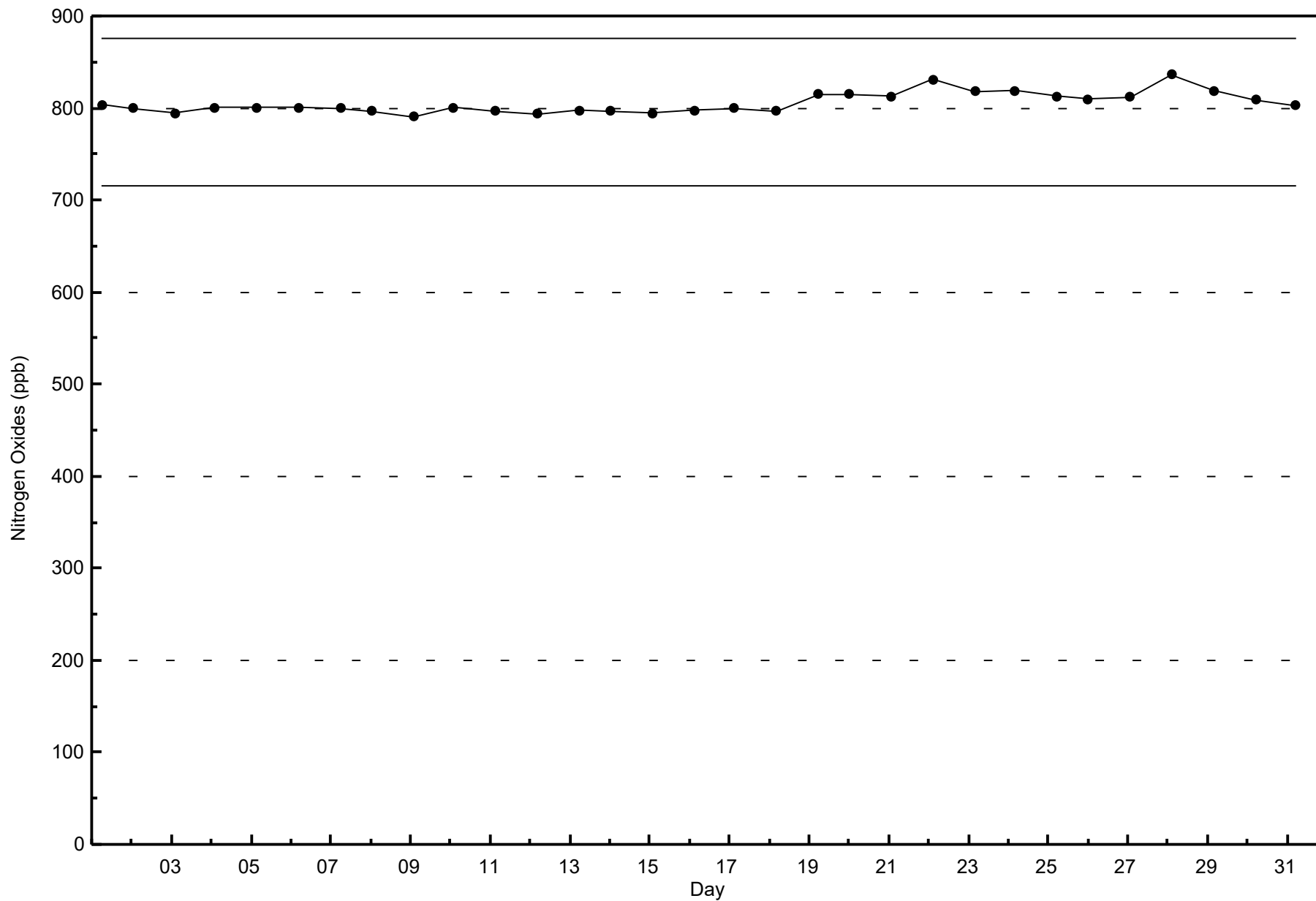
Nitrogen Oxides (NO_x) - ppb
Jackfish 2/3 - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitrogen Oxides (NO_x) - ppb
Jackfish 2/3 - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Ambient Temperature 2m (AT2) - C

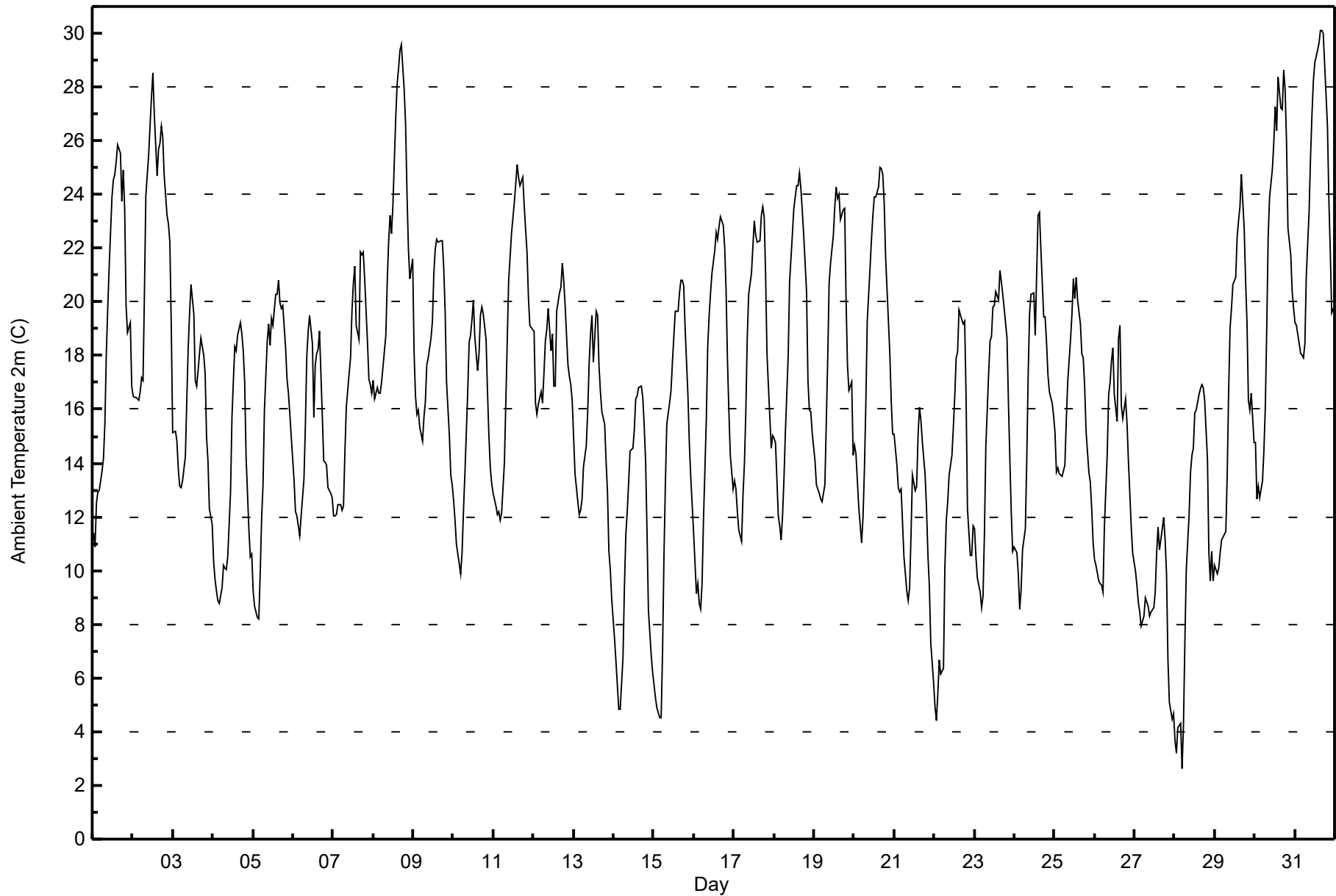
Jackfish 2/3 - July 2025

Maximum Value: 30.1 C on Jul 31 17:00																			Maximum Daily Average: 23.9 C on Jul 31										Hours in Service: 744	
Minimum Value: 2.6 C on Jul 28 05:00																			Minimum Daily Average: 8.9 C on Jul 27										Hours of Data: 744	
Maximum Diurnal Average: 21.3 C at hour 17																			Minimum Diurnal Average: 11.1 C at hour 5										Hours of Missing Data: 0	
Monthly Average: 16.51 C																			Percentiles: P ₁ = 4.5 P ₁₀ = 9.6 Q ₁ = 12.6 Median = 16.5 Q ₃ = 20.1 P ₉₀ = 23.6 P ₉₉ = 28.9										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-Jul	11.4	10.9	12.5	12.9	13.0	13.7	14.2	15.5	18.1	19.8	21.3	23.9	24.5	24.7	25.2	25.9	25.5	23.7	24.9	23.5	19.9	18.8	19.2	16.8	19.2	25.9				
2-Jul	16.5	16.5	16.4	16.3	16.7	17.2	17.1	20.3	23.9	25.5	26.6	27.6	28.5	27.0	24.7	25.7	25.9	26.5	26.1	24.7	23.2	22.9	22.2	19.1	22.4	28.5				
3-Jul	15.1	15.2	14.8	13.8	13.1	13.1	13.3	14.3	16.4	18.3	19.6	20.7	19.5	17.1	16.9	17.5	18.1	18.7	18.0	17.3	15.0	14.1	12.3	11.7	16.0	20.7				
4-Jul	10.3	9.7	9.3	8.9	8.8	9.4	10.2	10.1	10.0	10.5	12.9	15.7	17.1	18.3	18.2	18.8	19.2	18.8	18.2	17.0	14.2	11.5	10.5	10.6	13.3	19.2				
5-Jul	9.2	8.7	8.3	8.2	9.9	11.9	13.2	16.0	18.6	19.2	18.4	19.4	19.1	20.3	20.3	20.8	20.0	19.8	19.9	18.3	17.2	16.6	15.8	15.0	16.0	20.8				
6-Jul	13.3	12.2	12.0	11.6	11.3	12.0	13.4	15.4	18.0	18.9	19.5	18.4	15.7	17.6	18.1	18.2	18.9	15.7	14.1	14.0	13.9	13.1	12.9	12.7	15.0	19.5				
7-Jul	12.1	12.0	12.1	12.5	12.4	12.3	12.4	14.4	16.1	17.4	17.9	19.6	20.7	21.3	19.1	18.6	21.8	21.8	21.9	20.9	18.5	17.1	16.9	16.6	16.9	21.9				
8-Jul	17.1	16.4	16.8	16.6	16.6	17.0	17.6	18.8	20.7	22.3	23.2	22.5	23.6	26.9	28.1	28.7	29.4	29.6	27.9	26.6	24.0	22.0	20.9	21.6	22.3	29.6				
9-Jul	18.1	16.5	15.8	16.0	15.4	14.8	15.7	16.3	17.6	17.9	18.7	19.3	21.1	22.0	22.3	22.2	22.3	22.3	21.3	19.6	17.1	15.0	13.5	13.2	18.1	22.3				
10-Jul	12.6	11.9	11.0	10.3	9.9	10.7	12.2	13.6	16.6	18.5	18.7	19.3	20.1	18.7	17.4	18.1	19.5	19.8	19.5	18.6	16.7	15.0	13.8	13.3	15.7	20.1				
11-Jul	12.9	12.4	12.1	12.2	11.9	12.1	14.0	16.3	18.6	20.8	21.7	22.5	23.7	24.4	25.1	24.6	24.3	24.7	23.6	22.7	21.8	20.2	19.1	19.0	19.2	25.1				
12-Jul	18.9	16.2	15.8	16.2	16.7	16.3	17.4	18.5	19.0	19.8	18.2	18.8	16.9	16.9	19.6	20.3	20.5	21.4	20.8	19.9	17.7	17.3	16.9	16.4	18.2	21.4				
13-Jul	15.0	13.6	12.5	12.1	12.3	12.7	13.9	14.6	15.9	17.7	18.8	19.5	17.7	19.6	19.5	17.6	16.7	15.9	15.4	14.1	13.0	10.7	10.0	8.9	14.9	19.6				
14-Jul	7.5	6.6	5.7	4.8	4.8	6.8	9.4	11.3	12.2	13.3	14.5	14.5	15.2	16.4	16.5	16.8	16.9	16.5	15.4	14.1	11.5	8.5	6.8	6.2	11.3	16.9				
15-Jul	5.7	5.3	4.9	4.5	4.5	6.9	10.5	13.2	15.5	16.3	16.7	17.7	18.7	19.6	19.7	20.3	20.8	20.8	20.6	19.0	16.5	14.7	13.5	12.4	14.1	20.8				
16-Jul	11.4	9.1	9.5	8.8	8.6	9.5	11.9	15.6	18.4	19.5	20.3	21.0	21.9	22.6	22.4	22.8	23.2	22.9	22.1	20.4	17.8	15.9	14.3	13.0	16.8	23.2				
17-Jul	13.3	13.0	12.2	11.5	11.1	12.8	14.0	15.9	18.7	20.3	21.1	22.1	23.0	22.5	22.2	22.3	23.2	23.2	23.2	21.0	18.0	15.7	14.5	15.0	17.9	23.6				
18-Jul	14.9	14.7	12.0	11.7	11.2	12.0	13.4	15.2	18.0	20.7	21.7	22.6	23.5	24.3	24.3	24.8	24.2	23.4	22.5	20.4	17.1	15.9	15.9	15.1	18.3	24.8				
19-Jul	14.1	13.2	13.0	12.9	12.7	12.6	13.2	15.5	17.9	20.7	21.4	22.5	23.5	24.3	23.9	24.0	23.1	23.4	23.5	20.1	17.6	16.7	17.0	14.3	18.4	24.3				
20-Jul	14.7	14.3	13.3	12.4	11.0	12.0	13.8	16.2	19.3	21.3	22.3	23.2	23.9	23.9	24.3	25.0	25.0	24.8	23.7	21.7	19.3	18.1	16.3	15.1	18.9	25.0				
21-Jul	15.1	13.9	13.1	12.9	13.0	11.8	10.5	9.2	8.9	9.3	11.3	13.5	13.0	13.1	15.0	16.1	15.6	14.8	13.6	12.3	10.5	9.4	7.3	5.8	12.0	16.1				
22-Jul	4.9	4.4	5.4	6.7	6.1	6.4	10.2	11.9	12.6	13.6	14.3	15.3	16.5	17.9	18.1	19.7	19.4	19.2	19.3	16.5	12.3	10.5	10.5	11.7	12.6	19.7				
23-Jul	11.6	10.5	9.7	9.2	8.6	9.0	11.3	14.6	17.3	18.6	18.7	19.8	19.9	20.4	20.1	21.2	20.7	20.3	19.7	18.6	16.3	14.2	12.2	10.7	15.6	21.2				
24-Jul	10.9	10.7	9.9	8.6	9.3	10.8	11.6	14.1	17.3	19.6	20.3	20.3	18.7	21.0	23.2	23.3	22.0	19.4	19.4	18.5	17.3	16.7	16.3	15.8	16.5	23.3				
25-Jul	15.1	13.7	13.8	13.6	13.5	13.7	13.9	15.6	17.0	18.6	19.6	20.9	20.1	20.9	20.1	19.2	18.1	17.9	16.9	15.2	13.7	13.3	12.3	11.0	16.2	20.9				
26-Jul	10.4	10.2	9.6	9.5	9.5	9.2	11.6	14.3	16.5	17.0	17.8	18.3	16.6	15.6	18.7	19.2	16.1	15.7	16.4	15.5	14.1	12.9	11.6	10.7	14.0	19.2				
27-Jul	10.0	9.4	8.8	8.5	8.0	8.3	9.0	8.8	8.7	8.3	8.5	8.6	9.2	10.7	11.6	10.8	11.5	12.0	11.1	9.9	6.7	5.1	4.4	4.7	8.9	12.0				
28-Jul	3.7	3.2	4.2	4.3	2.6	4.2	7.4	10.1	12.1	13.7	14.3	14.5	15.8	16.0	16.6	16.7	16.9	16.8	16.3	14.2	10.7	9.6	10.7	9.6	11.0	16.9				
29-Jul	10.2	9.9	10.1	10.7	11.2	11.2	11.5	13.6	16.7	19.0	19.7	20.6	20.9	22.4	23.0	23.5	24.7	22.7	20.8	19.2	16.3	16.0	16.6	14.8	16.9	24.7				
30-Jul	14.7	12.7	13.2	12.7	13.4	14.5	16.1	19.1	22.4	23.9	25.0	25.9	27.3	26.4	28.4	27.2	27.2	28.7	27.9	26.0	22.8	21.8	20.4	19.8	21.6	28.7				
31-Jul	19.2	19.1	18.4	18.1	18.0	17.9	18.4	21.0	23.4	25.4	27.0	28.2	28.9	29.4	29.7	30.1	30.1	30.0	28.9	26.5	23.8	21.9	19.6	19.7	23.9	30.1				
12.6 11.8 11.5 11.3 11.1 11.7 13.0 14.8 16.8 18.2 19.0 19.9 20.2 20.7 21.0 21.3 21.3 21.0 20.4 18.9 16.6 15.2 14.3 13.6																									Diurnal Average					
19.2 19.1 18.4 18.1 18.0 17.9 18.4 21.0 23.9 25.5 27.0 28.2 28.9 29.4 29.7 30.1 30.1 30.0 28.9 26.6 24.0 22.9 22.2 21.6																									Diurnal Maximum					



Wood Buffalo Environmental Association
Hourly Averages

Ambient Temperature 2m (AT2) - C
Jackfish 2/3 - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ambient Temperature 2m (AT2) - C
Jackfish 2/3 - July 2025

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	0	0.00	0.00
-20 - 0	0	0.00	0.00
0 - 10	83	11.16	11.16
10 - 20	473	63.58	74.73
> 20	188	25.27	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) - %

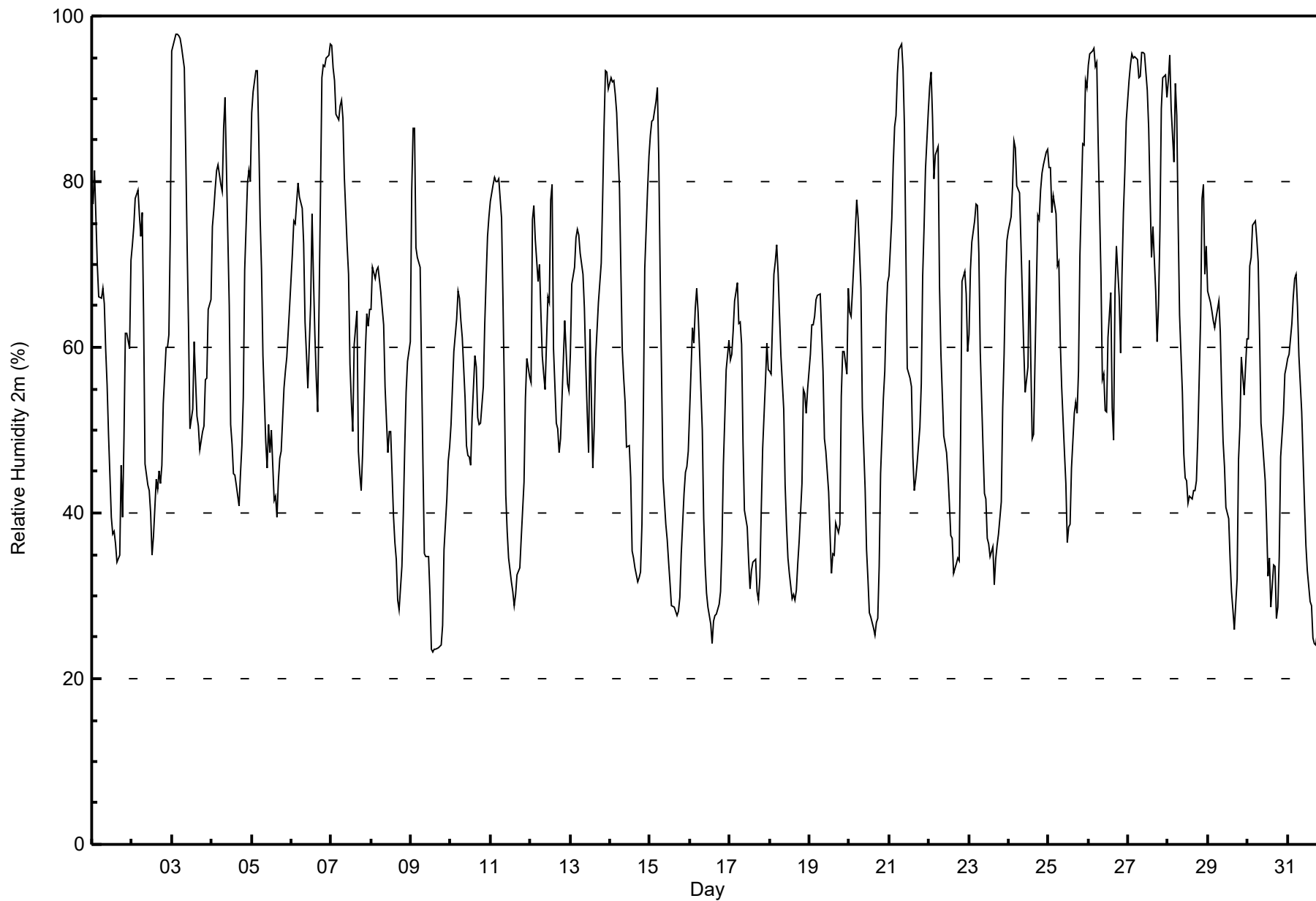
Jackfish 2/3 - July 2025

Maximum Value: 97.9 % on Jul 3 03:00																				Maximum Daily Average: 86.3 % on Jul 27					Hours in Service: 744				
Minimum Value: 23.1 % on Jul 9 14:00																				Minimum Daily Average: 44.0 % on Jul 16					Hours of Data: 744				
Maximum Diurnal Average: 78.4 % at hour 5																				Minimum Diurnal Average: 40.7 % at hour 17					Hours of Missing Data: 0				
Monthly Average: 59.18 %																				Percentiles: P ₁ = 24.1 P ₁₀ = 33.6 Q ₁ = 44.2 Median = 59.0 Q ₃ = 73.1 P ₉₀ = 87.4 P ₉₉ = 96.4					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-Jul	77.3	81.4	75.7	70.0	66.1	65.9	67.1	65.2	59.6	55.3	49.5	39.4	37.4	37.9	36.3	34.0	34.9	45.7	39.6	48.9	61.8	61.7	59.9	70.6	55.9	81.4			
2-Jul	72.3	74.6	77.9	78.9	75.9	73.3	76.2	63.5	45.9	43.4	42.6	39.9	35.0	37.0	44.1	42.8	45.1	43.6	45.8	53.3	60.0	60.0	61.5	73.8	56.9	78.9			
3-Jul	95.8	97.1	97.9	97.9	97.6	97.2	96.3	93.8	83.7	72.3	62.4	50.2	52.5	60.6	56.1	51.6	50.5	47.6	49.8	50.5	56.2	56.4	64.5	65.8	71.0	97.9			
4-Jul	74.6	76.7	79.2	81.4	82.1	79.6	78.8	86.5	90.2	81.8	65.0	50.6	48.4	44.7	44.6	43.4	40.9	44.7	48.2	53.9	69.3	79.9	81.4	79.9	66.9	90.2			
5-Jul	88.3	90.8	93.4	93.3	85.6	75.6	69.4	59.0	48.6	45.4	50.6	47.3	50.0	41.5	42.0	39.6	43.9	46.6	47.5	55.1	57.1	58.8	61.8	64.8	60.7	93.4			
6-Jul	71.3	75.2	75.0	77.5	79.9	78.2	76.9	72.6	63.0	59.1	55.1	65.3	76.2	68.3	61.5	56.4	52.1	78.6	92.6	94.1	94.0	94.9	95.3	96.6	75.4	96.6			
7-Jul	96.4	93.8	92.2	88.1	87.4	89.1	89.9	87.6	80.5	72.2	68.8	58.0	53.3	49.9	60.4	64.4	47.5	44.8	42.8	47.2	59.7	64.2	62.6	64.6	69.4	96.4			
8-Jul	64.6	69.6	68.4	69.3	69.7	68.2	66.7	62.8	55.2	51.2	47.2	49.9	49.8	39.7	36.4	34.3	29.5	28.4	33.6	39.9	47.9	54.6	58.3	60.6	52.3	69.7			
9-Jul	79.0	86.5	86.4	72.1	70.8	69.7	57.7	46.0	35.1	34.7	34.8	30.2	23.5	23.1	23.6	23.5	23.8	23.9	24.0	26.4	35.6	41.8	46.3	48.0	44.4	86.5			
10-Jul	50.7	55.0	59.5	63.5	66.8	65.9	63.3	61.2	54.0	48.1	46.9	46.8	45.8	51.5	59.0	57.7	51.4	50.7	50.9	55.2	62.7	68.2	73.3	75.7	57.7	75.7			
11-Jul	77.7	79.7	80.6	79.9	80.0	80.3	75.7	65.7	54.6	42.2	37.7	34.5	31.7	30.5	28.9	30.2	32.6	33.4	37.0	40.3	43.7	53.9	58.6	56.4	52.7	80.6			
12-Jul	55.7	75.4	77.2	73.1	67.9	69.9	64.2	59.0	56.8	55.0	66.2	65.5	77.8	79.6	59.8	50.9	50.2	47.3	49.0	53.6	63.3	59.5	55.7	54.8	62.0	79.6			
13-Jul	59.1	67.6	69.6	73.3	74.2	73.6	71.4	68.8	64.8	57.8	52.3	47.2	62.2	45.4	50.3	58.7	62.1	65.5	70.2	78.0	86.6	93.4	93.2	91.2	68.2	93.4			
14-Jul	92.5	92.0	92.2	90.6	88.4	79.2	69.1	59.7	56.3	53.4	48.0	48.2	44.2	35.4	34.6	33.4	31.7	32.2	32.9	38.6	52.3	69.5	78.9	83.1	59.9	92.5			
15-Jul	85.6	87.2	87.5	89.7	91.4	82.7	68.6	56.4	44.3	38.6	36.8	34.1	31.6	28.8	28.7	28.2	27.7	28.1	29.8	35.0	42.3	44.9	45.5	47.4	50.9	91.4			
16-Jul	52.3	62.4	60.4	64.7	67.2	64.2	59.8	50.1	39.3	33.7	30.4	28.6	26.7	24.3	26.9	27.7	27.7	28.9	30.4	36.1	45.8	51.3	57.2	60.9	44.0	67.2			
17-Jul	58.5	59.2	62.1	65.6	67.9	63.0	60.4	48.5	40.4	38.4	34.3	30.8	33.1	34.1	34.4	30.4	29.5	32.2	40.3	47.7	56.0	60.5	57.3	47.8	67.9				
18-Jul	57.1	56.9	68.8	70.3	72.4	69.0	63.9	59.0	52.5	43.4	38.4	34.7	32.7	29.6	30.2	29.5	30.6	33.9	36.6	43.5	54.9	54.3	52.0	54.9	48.7	72.4			
19-Jul	59.2	62.7	62.6	63.8	65.7	66.3	66.4	61.9	57.1	48.9	47.4	42.6	37.4	32.6	35.0	34.9	38.9	37.6	38.7	54.0	59.6	59.5	56.8	67.1	52.4	67.1			
20-Jul	64.2	63.8	66.9	70.3	77.8	75.5	71.5	67.1	52.8	42.8	35.5	32.0	27.9	27.5	26.2	25.2	26.8	27.4	33.6	44.8	53.9	57.2	63.9	67.7	50.1	77.8			
21-Jul	68.7	75.6	82.0	86.5	88.0	93.1	95.9	96.5	93.6	86.6	72.1	57.4	56.3	55.3	46.8	42.8	44.2	46.0	50.3	55.7	68.6	74.6	81.6	88.5	71.1	96.5			
22-Jul	91.5	93.2	87.9	80.3	83.2	84.2	67.3	59.2	54.2	49.3	47.2	44.7	41.2	37.4	37.0	32.7	33.9	34.5	34.3	49.0	67.9	69.1	66.5	59.4	58.6	93.2			
23-Jul	61.5	69.2	72.7	75.2	77.3	77.0	71.3	59.6	47.7	42.4	41.7	37.0	36.3	34.8	36.0	31.4	34.3	36.1	37.4	41.4	52.6	59.1	68.2	72.9	53.1	77.3			
24-Jul	74.1	75.7	79.3	84.9	84.0	79.5	78.7	72.5	66.3	59.9	54.6	57.6	70.4	58.6	49.0	49.5	58.3	75.9	75.4	78.9	81.1	82.1	83.5	83.9	71.4	84.9			
25-Jul	81.7	81.7	76.2	78.2	76.0	69.8	70.3	60.8	55.3	47.3	43.5	36.4	38.3	38.7	45.3	52.0	53.4	52.1	57.1	71.0	84.5	84.4	92.2	91.3	64.1	92.2			
26-Jul	94.1	95.3	95.8	96.0	93.9	94.4	84.7	68.7	56.1	56.8	52.4	52.2	61.2	66.6	52.7	48.8	66.7	72.3	66.2	59.4	68.8	76.2	81.3	87.2	72.8	96.0			
27-Jul	92.3	94.1	95.5	94.9	95.1	94.8	92.6	92.7	95.6	95.7	95.5	91.0	86.5	78.3	70.9	74.6	66.7	60.8	65.1	74.1	88.8	92.6	92.9	90.2	86.3	95.7			
28-Jul	92.2	95.3	88.8	82.4	91.9	87.9	74.9	63.8	54.7	47.1	44.3	44.0	41.2	42.0	41.7	42.7	42.7	43.9	49.2	63.6	78.0	79.6	68.8	72.3	63.9	95.3			
29-Jul	66.7	65.4	64.4	63.3	62.4	63.6	65.6	61.9	54.5	48.6	45.5	40.7	39.3	34.4	30.4	28.2	25.9	32.1	46.5	50.4	58.9	56.5	54.2	61.0	50.9	66.7			
30-Jul	61.0	69.8	70.8	74.7	75.2	73.0	70.3	61.6	50.8	48.8	43.9	38.7	32.3	34.5	28.6	33.7	33.5	27.3	28.7	34.7	46.7	52.0	56.7	57.7	50.2	75.2			
31-Jul	58.6	59.1	62.9	66.2	68.4	68.8	64.9	59.0	52.3	46.7	41.0	36.1	33.0	29.3	28.9	25.0	24.2	24.1	25.4	30.2	37.7	42.8	50.0	48.5	45.1	68.8			
73.4 76.8 77.7 77.9 78.4 76.5 72.6 66.5 58.8 53.2 49.5 45.6 45.5 42.9 41.5 40.7 40.7 42.7 45.2 51.5 60.9 64.8 67.2 69.5																									Diurnal Average				
96.4 97.1 97.9 97.9 97.6 97.2 96.3 96.5 95.6 95.7 95.5 91.0 86.5 79.6 70.9 74.6 66.7 78.6 92.6 94.1 94.0 94.9 95.3 96.6																									Diurnal Maximum				



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 2m (RH2) - %
Jackfish 2/3 - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Relative Humidity 2m (RH2) - %
Jackfish 2/3 - July 2025

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	146	19.62	19.62
40 - 60	249	33.47	53.09
60 - 80	232	31.18	84.27
80 - 100	117	15.73	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

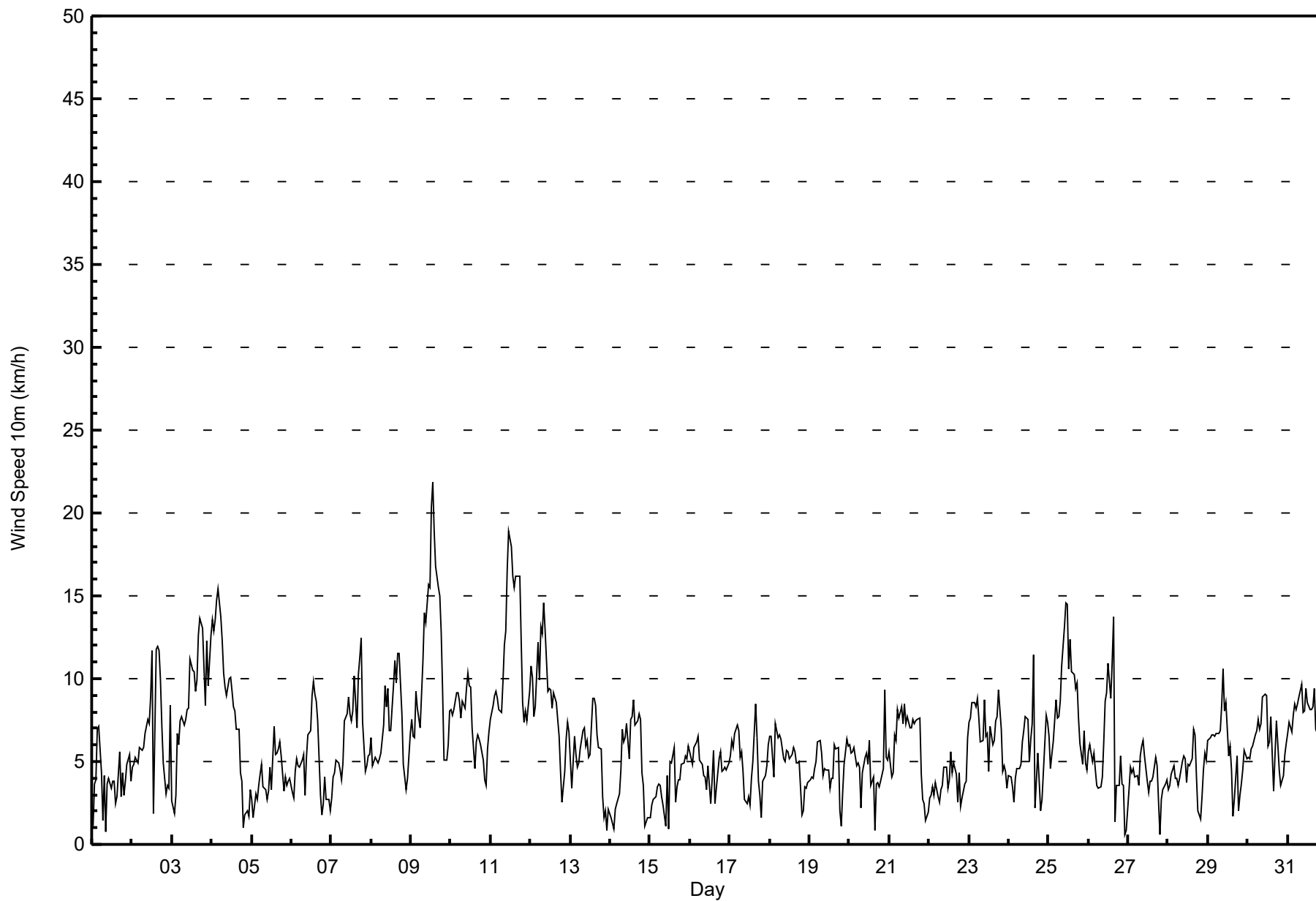
Jackfish 2/3 - July 2025

Maximum Speed: 22 km/h on Jul 9 14:00										Maximum Daily Speed Average: 11.6 km/h on Jul 11										Hours in Service: 744							
Minimum Speed Value: 1 km/h on Jul 27 20:00										Minimum Daily Speed Average: 1.5 km/h on Jul 1										Hours of Data: 744							
Maximum Diurnal Speed Average: 4.7 km/h at hour 12										Minimum Diurnal Speed Average: 2.0 km/h at hour 20										Hours of Missing Data: 0							
Monthly Average Velocity: 3.7 km/h 239.9 deg										Percentiles: P ₁ = 1 P ₁₀ = 3 Q ₁ = 4 Median = 6 Q ₃ = 8 P ₉₀ = 10 P ₉₉ = 16										Percent Operational Time: 100.0							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
1-Jul	ENE1	ENE4	SE4	S7	S7	S4	S1	SSW4	NNE1	ENE4	ENE4	N3	WSW4	NNE4	NE2	E3	WSW6	WSW3	W4	SSW3	SSW4	SSW5	SW5	SSW4	S1.5	S7	
2-Jul	SSW5	SSW5	SSW5	SSW5	SSW6	SSW6	S6	S6	S7	SSE8	S7	S9	SSW12	ENE2	NE12	NE12	ENE12	NE10	ENE7	NE5	ESE3	SE4	SE3	WSW8	SSE2.7	NE12	
3-Jul	SW3	SSW2	W3	WSW7	W6	W7	W8	W7	W8	WNW8	W8	W11	W11	W10	W9	WSW10	WSW13	WSW14	WSW13	W11	W8	W12	WSW10	WSW13	W8.5	WSW14	
4-Jul	WSW14	WSW13	WSW14	WSW15	WSW15	WSW14	W12	W10	WNW10	NW9	WNW10	NW10	NW9	NW8	NW8	NW7	NW7	NNW4	NNE4	NW1	SW2	S2	ESE2	ENE3	W6.9	WSW15	
5-Jul	ENE3	SE2	S3	SSE3	SSE4	S4	S5	S3	S3	SSE3	SE3	ENE5	ESE3	SE7	SSE5	SSE5	SE6	SSE6	SSE5	SE3	ESE4	SE4	SE4	SE4	SE3.6	SE7	
6-Jul	S3	S3	SSW4	SSW5	SSW5	S5	SSW5	SW5	SW3	SSW5	SSW7	SW7	WSW9	SW10	WSW9	WSW9	SW7	ESE3	ENE2	E2	E4	SE3	SSE3	S2	SSW3.9	SW10	
7-Jul	SSW3	SSW4	SW4	SW5	SSW5	SSW4	SSW4	SW5	SW7	SW8	WSW9	WSW8	WSW7	SW8	WSW10	SSW7	SW10	SSW12	SW12	SW8	SSW5	SSW4	SSW3	SSW5	SSW5	SSW6.4	WSW12
8-Jul	SSW6	SSW5	SSW5	SSW5	SSW5	SSW6	SSW7	SSW10	SSW8	SW9	SSW7	S7	SSW10	SSW11	SSW10	SSW12	SW12	SW8	SSW5	SSW4	SSW3	SSE4	W7	SSW6.8	SW12		
9-Jul	WNW8	WNW6	WNW6	W9	W8	W7	W9	W11	W14	W13	WSW16	WSW15	WSW20	WSW22	WSW19	W17	W15	W15	W13	W9	W5	W5	WSW6	WSW8	W11.3	WSW22	
10-Jul	WSW8	WSW8	WSW8	WSW9	WSW9	WSW9	W8	WSW9	W8	WNW9	WNW10	NW10	NW7	NW5	NW6	NW7	NW6	NW6	NW5	WNW4	WSW4	WSW6	WSW7	W6.5	WNW10		
11-Jul	WSW8	WSW8	SW9	SW9	SW9	SW8	SW8	SW10	WSW12	WSW13	WSW17	SW19	WSW18	WSW16	WSW16	SW16	WSW16	WSW16	WSW12	SW9	WSW7	WSW8	SW7	WSW9	WSW11.6	SW19	
12-Jul	W11	WSW10	SW8	SW8	WSW12	WSW10	WSW13	W13	W15	WNW13	NW9	NW9	WNW9	WNW8	NW9	NW9	NW8	NW7	WNW4	WNW3	SW4	WSW6	WSW7	WSW7	W7.8	W15	
13-Jul	W5	WSW3	WSW6	WSW5	W5	W5	W6	W7	WNW7	NW6	W6	NW5	WNW5	NW9	NNW9	N8	N7	N6	NNE6	N3	WSW2	SW2	E1	ENE2	WNW3.8	NW9	
14-Jul	ENE2	NE1	NE1	NE2	NE2	NNE3	NNE4	NNE7	NNE6	N6	NNE7	N5	N8	NNW8	N9	N7	N7	NNE8	NNE8	NNE4	NNE4	ENE1	SSE2	SSE2	NNE4.3	N9	
15-Jul	S2	SSW2	SW3	SW3	SW4	WSW4	SW4	SW3	NW2	NW1	WSW4	W1	WSW5	WNW5	SW6	NW3	WSW4	WSW4	WSW4	SW5	SW5	SW5	SSW5	SSW6	SW3.2	SSW6	
16-Jul	SSW6	SSW5	SSW6	SSW6	SSW6	SSW6	SSW5	SSW5	SSW4	S4	ESE3	SW5	SSW2	SW4	WSW6	SSW2	SE3	SW5	SW6	SW4	SSW4	SSW5	SSW4	SW5	SSW4.4	SSW6	
17-Jul	SSW5	SSW6	SSW6	SW7	SSW7	SW7	WSW5	SW6	WSW4	W3	SW2	SSW3	S2	N4	NNW5	WNW8	W6	N4	N3	ESE2	S4	SSW4	SSW5	SSW6	SSW3.0	WNW8	
18-Jul	SW6	SSW7	S4	S7	S7	S6	S7	S6	S5	SSE5	S6	S6	SSE5	ESE5	SE6	SSE6	SSE5	SE5	SE5	SE2	SE2	SE3	S3	SSE4	SSE4.6	S7	
19-Jul	SSE4	S4	S4	S5	S5	S6	S6	S6	S4	SSE5	S4	S5	ESE3	S4	SE4	E6	SSW6	WSW6	W2	SW1	SSE3	SW5	SW6	S6	S3.8	SW6	
20-Jul	SSW6	SSW6	SSW6	SSW6	S5	S5	S5	S2	S4	SE5	SSE5	SE5	ESE6	SE4	S4	NW1	ESE4	SW4	WSW3	SSW4	SSW5	WSW9	W5	WNW5	S3.4	WSW9	
21-Jul	NW6	NNW4	N4	N7	N6	N8	N8	N8	N7	N8	NNE7	NNW8	N7	N7	N8	N7	N7	NNE8	NNE8	NE4	NE3	NE2	NNE1	SSW2	N5.7	N8	
22-Jul	SSW3	SSW3	SW4	SW3	WSW4	SW3	NNW3	WNW3	NNW4	NNW5	NW5	NNW3	WNW4	W6	WNW4	NNW5	NNE4	WNW3	NNE4	ENE2	S3	S4	S4	SSW6	W1.8	SSW6	
23-Jul	SW7	SW8	SW9	SW9	SW8	SW9	SW8	SW6	WSW6	WSW9	WSW6	WSW7	WSW4	SW7	SW6	SW6	SW7	SW8	SW9	SW7	SW4	SW5	SSW4	S3	SW6.6	SW9	
24-Jul	S4	SSW4	S3	S3	S4	SSE5	S5	SSE5	SSE6	S7	S8	SSW8	SSE5	SSE6	SSW7	SW11	NNW2	NE6	ENE4	SSE2	S3	SSW4	SW8	SW7	S4.0	SW11	
25-Jul	WSW6	WSW5	SW5	SW6	WSW9	WSW8	WSW8	WSW9	WSW11	WSW13	WSW15	WSW15	W11	WSW12	WNW10	WNW10	WNW9	W10	WNW8	W6	WNW5	NNW7	NNW5	NW5	W7.9	WSW15	
26-Jul	WNW6	WNW6	W5	W6	W4	W4	W3	NW3	WNW4	WSW6	W9	W9	WSW11	SW9	SW11	WSW14	N1	ESE4	SW4	WNW5	WNW4	W4	W1	S1	W4.7	WSW14	
27-Jul	NE3	NE5	NE4	NE5	NE4	NE4	NE4	NNE5	NNE6	NNE6	NNE5	NNE4	NNW3	NNW4	N4	NW4	NNW5	NW5	NNW3	N1	SSW3	SW3	SW4	SW4	N2.5	NNE6	
28-Jul	SW3	SW4	SW4	SW5	SW4	SW4	WSW4	SW4	SW5	WNW5	W5	W4	NW5	WNW5	NNW5	W7	W7	WNW4	WNW2	S2	S3	SSW4	SSW6	SSW5	WSW3.5	W7	
29-Jul	SSW6	SSW6	SSW7	SSW7	SSW7	SSW7	SSW7	SW7	SW8	WSW11	WSW8	WSW9	WNW5	W6	W4	W2	NW3	WSW5	S2	S3	S4	SSW4	SSW6	SSW5	SW4.9	WSW11	
30-Jul	SSW5	SSW5	SSW6	SSW6	S7	SSW7	SSW8	SSW7	SW7	SW9	SW9	WSW9	SW6	WSW6	WSW8	SW3	SW5	WSW7	SW6	SW4	S4	S4	SSW5	SSW6	SW5.9	SW9	
31-Jul	SW7	SW7	SSW7	SW8	SW8	SW8	SSW8	SW9	WSW10	WSW8	WSW8	WSW9	SW9	SW8	SW8	SSW8	SW9	SSW7	SSW7	SSW5	SSW5	SSW5	SSW4	SSW6	SW7.3	WSW10	
SW3.7 SW3.6 SW4.1 SW4.6 SW4.7 SW4.4 SW4.2WSW4.3WSW4.3WSW4.0WSW4.4WSW4.7WSW4.6WSW4.4 W3.9 W3.6 W3.5WSW3.1 W2.4WSW2.0 SW2.3 SW3.2 SW3.5 SW4.1																									Diurnal Average		
WSW14WSW13WSW14WSW15WSW15WSW14WSW13 W13 W15 W13WSW17 SW19WSW20WSW22WSW19 W17WSW16WSW16WSW13 W11 W8 W12WSW10WSW13																									Diurnal Maximum		
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 2/3 - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 10m (WS10) - km/h
Jackfish 2/3 - July 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	366	49.19	49.19
6 - 11	327	43.95	93.15
12 - 19	49	6.59	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
Jackfish 2/3 - July 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	13	16	14	4	11	20	23	50	67	48	21	19	20	14	16	366
6 - 11	20	11	2	1	1	1	3	5	22	54	63	63	36	19	22	4	327
12 - 19	0	0	2	1	0	0	0	0	0	2	3	30	10	1	0	0	49
20 - 28	0	0	0	0	0	0	0	0	0	0	0	2	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	30	24	20	16	5	12	23	28	72	123	114	116	65	40	36	20	744

Total Number of Valid Hours: 744

Total Number of Hours: 744

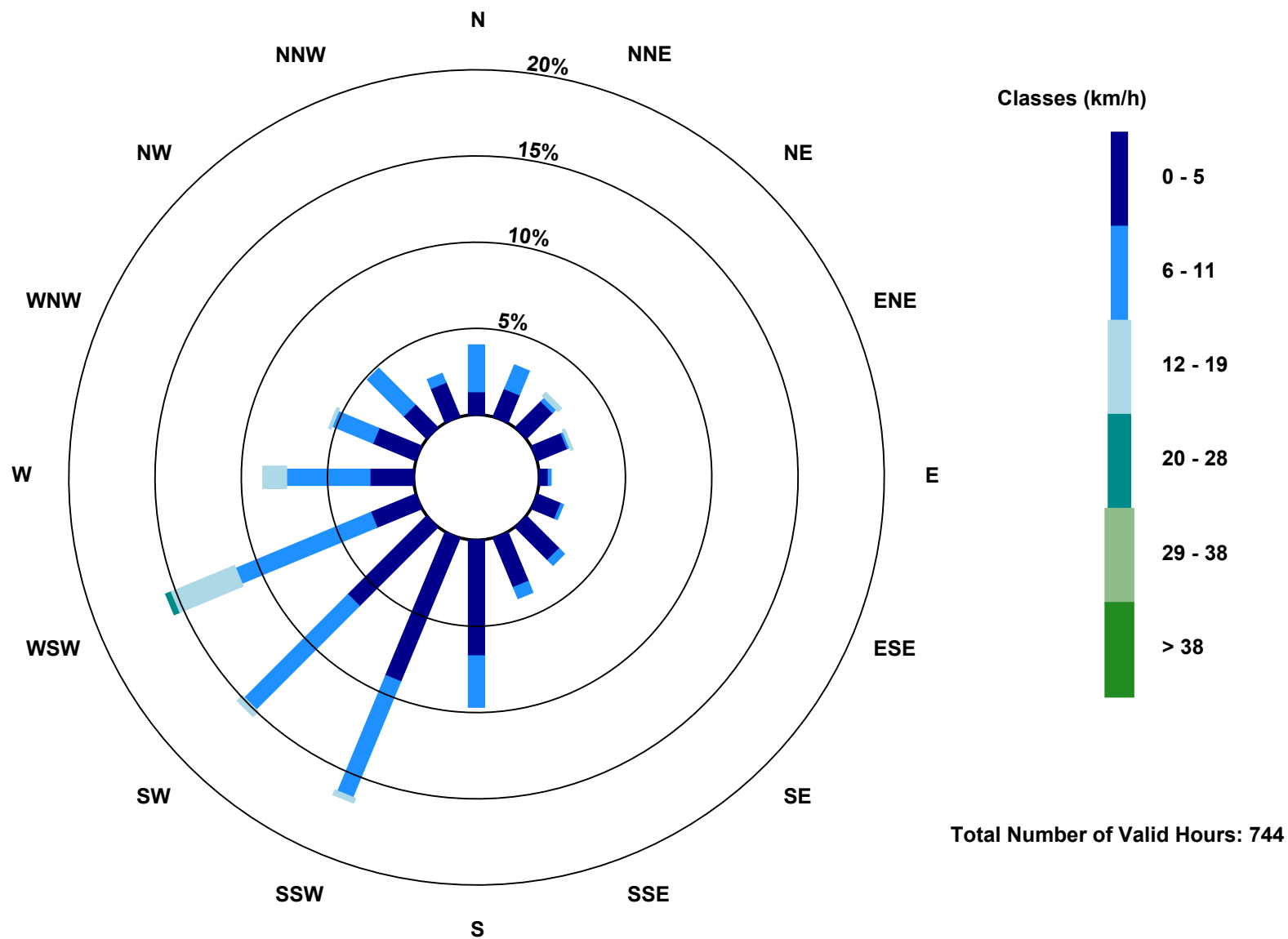


Wood Buffalo Environmental Association

Wind Rose Jul 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 - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 7 km/h on Jul 9 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 Jul 22 21:00																									
Percentiles: P ₁ = 0 P ₁₀ = 1 Q ₁ = 1 Median = 2 Q ₃ = 3 P ₉₀ = 4 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-Jul	1	1	1	2	1	2	1	2	1	1	1	2	3	2	2	2	3	1	3	1	1	1	2	1	3
2-Jul	1	1	1	1	2	2	2	2	3	3	3	4	5	5	4	4	4	3	2	1	1	2	2	7	7
3-Jul	3	2	1	2	2	3	3	3	3	3	4	5	5	5	4	4	4	5	4	4	3	5	3	4	5
4-Jul	4	4	4	5	5	5	5	4	4	4	4	4	4	4	4	4	3	3	2	2	1	1	2	1	5
5-Jul	1	1	1	1	1	2	1	1	1	2	2	2	2	3	2	2	2	3	2	2	1	2	2	2	3
6-Jul	1	1	1	2	1	1	1	2	2	2	3	4	4	3	3	3	3	3	1	1	2	1	1	1	4
7-Jul	1	1	1	1	1	1	1	2	2	3	3	3	4	3	5	3	4	4	4	2	1	1	2	2	5
8-Jul	2	2	2	2	2	2	2	3	4	4	4	3	3	4	5	4	5	4	3	2	2	1	2	4	5
9-Jul	4	3	3	4	4	3	4	5	6	6	7	6	7	7	7	6	6	7	5	4	2	2	2	2	7
10-Jul	2	2	2	2	2	3	3	3	3	4	4	4	4	3	3	3	3	3	2	2	2	1	2	1	4
11-Jul	2	2	2	2	2	2	2	4	4	5	6	6	6	6	6	6	6	6	4	3	3	4	2	3	6
12-Jul	4	3	2	2	4	3	5	5	6	6	4	4	4	4	4	4	3	3	2	2	1	2	2	2	6
13-Jul	2	2	2	2	2	2	2	2	3	3	3	2	3	4	4	4	3	3	2	2	1	1	1	1	4
14-Jul	1	1	1	1	1	1	2	3	2	3	3	3	3	4	4	4	3	3	3	2	1	1	1	1	4
15-Jul	1	1	1	0	0	1	1	1	2	2	2	3	3	2	3	2	3	2	2	2	2	1	1	1	3
16-Jul	1	1	1	1	1	1	1	1	1	2	2	3	3	3	3	3	2	3	2	1	2	1	1	1	3
17-Jul	1	1	1	1	1	2	1	1	2	2	2	2	2	3	3	4	3	2	1	2	1	1	1	1	4
18-Jul	1	2	2	1	1	1	1	2	2	2	2	2	3	3	3	3	2	2	2	1	1	2	2	2	3
19-Jul	2	2	2	2	1	1	2	2	1	2	2	2	3	3	2	3	3	2	1	1	1	1	1	1	3
20-Jul	1	1	1	1	1	1	1	1	1	2	3	3	3	2	2	2	2	2	1	2	1	2	2	3	3
21-Jul	2	2	2	3	3	4	4	4	3	4	3	4	3	3	3	4	4	3	3	2	1	1	1	1	4
22-Jul	0	0	1	1	1	1	1	1	2	2	2	2	3	3	3	2	2	2	2	1	0	1	1	1	3
23-Jul	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	1	1	1	1	3
24-Jul	1	1	1	1	2	2	2	2	3	3	3	4	2	3	3	5	4	2	2	1	1	2	2	2	5
25-Jul	2	2	1	1	2	2	2	3	4	5	6	5	4	6	5	4	4	4	3	3	2	3	2	2	6
26-Jul	2	2	2	2	2	1	1	2	2	3	3	4	4	3	4	5	3	1	3	2	2	1	1	1	5
27-Jul	1	1	1	1	1	1	1	2	2	2	2	2	1	2	2	2	3	2	1	1	1	1	1	1	3
28-Jul	1	1	1	1	0	1	1	1	2	2	2	3	3	2	2	3	3	2	2	1	0	1	1	1	3
29-Jul	1	1	1	1	2	1	2	2	3	3	3	3	3	3	2	2	3	2	3	1	0	1	1	2	3
30-Jul	1	1	1	1	1	2	2	2	3	3	4	3	3	2	4	2	3	3	2	1	1	1	1	1	4
31-Jul	2	2	2	2	2	2	2	2	3	3	3	4	4	4	4	4	4	3	3	2	2	2	1	2	4
4 4 4 5 5 5 5 5 6 6 7 6 7 7 7 6 6 7 5 4 3 5 3 7																									
Diurnal Maximum																									



Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Direction 10m (WD10) - deg

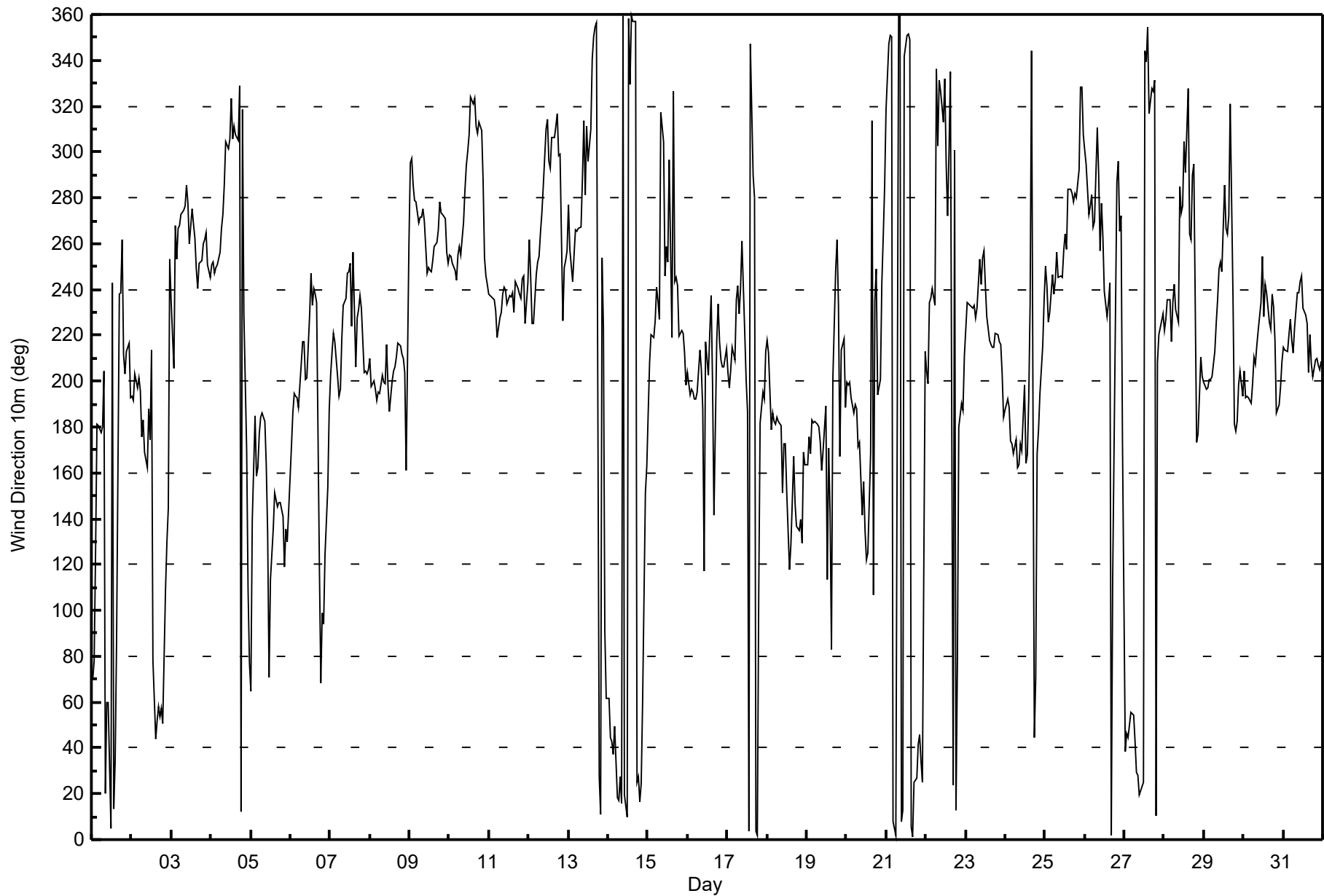
Jackfish 2/3 - July 2025

Direction of Maximum Speed: 248 deg on Jul 9 14:00																				Hours in Service:		744			
Direction of Maximum Daily Speed Average: 236.6 deg on Jul 11																				Hours of Data:		744			
Direction of Minimum Speed: 10 deg on Jul 27 20:00										Direction of Minimum Daily Speed Average: 1.5 deg on Jul 1										Hours of Missing Data:		0			
Monthly Average Direction: 239.9 deg																				Percent Operational Time:				100.0	
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-Jul	70	78	126	181	181	178	180	204	20	60	60	5	243	13	34	86	238	238	262	212	203	213	216	193	189.9
2-Jul	193	192	203	197	201	196	175	183	169	163	188	174	213	78	44	52	58	54	57	50	109	130	145	253	147.5
3-Jul	235	206	268	253	267	268	273	274	277	286	278	260	275	269	262	249	240	251	253	260	262	265	251	245	260.4
4-Jul	251	252	247	249	251	256	266	273	286	305	302	306	323	306	311	307	305	329	12	319	230	169	110	77	277.8
5-Jul	65	139	185	159	162	177	184	186	183	164	133	71	114	135	151	149	145	147	147	141	119	136	130	143	145.5
6-Jul	171	186	195	193	193	188	207	217	217	201	201	229	247	233	240	238	234	119	68	99	94	124	154	188	208.4
7-Jul	202	212	221	217	202	193	197	218	233	236	247	248	252	224	256	206	228	231	237	232	204	204	203	205	226.4
8-Jul	210	198	200	197	192	195	194	203	200	199	216	198	187	200	204	206	210	217	215	212	210	204	161	260	205.1
9-Jul	295	297	286	279	279	269	271	271	275	270	247	250	249	248	253	259	261	266	278	273	273	271	256	251	263.9
10-Jul	255	255	252	248	244	255	259	255	269	283	294	300	307	324	321	323	311	308	313	309	287	254	246	242	277.9
11-Jul	238	237	236	235	230	219	228	230	238	241	240	234	238	237	239	230	244	241	238	236	245	246	225	243	236.6
12-Jul	262	245	225	225	246	252	254	265	273	285	310	315	296	293	306	306	311	317	298	299	226	250	253	257	272.6
13-Jul	277	258	243	255	266	265	267	267	289	313	281	311	296	310	341	350	355	357	28	11	254	223	91	61	302.8
14-Jul	62	45	42	37	50	18	17	27	16	360	19	10	358	329	359	357	357	25	28	16	25	60	151	163	13.1
15-Jul	186	208	220	219	226	241	235	227	317	304	246	259	252	296	219	326	244	245	242	220	222	221	212	198	234.5
16-Jul	204	194	196	195	192	192	195	213	205	188	117	217	202	221	237	199	141	218	234	217	209	206	206	214	203.5
17-Jul	204	197	205	215	209	235	242	230	240	261	221	201	187	4	347	290	280	4	2	106	182	195	192	213	230.9
18-Jul	218	212	179	186	182	181	184	182	181	151	173	173	152	118	129	148	167	146	137	135	140	129	169	164	167.9
19-Jul	164	176	169	183	182	182	181	180	173	161	170	189	114	171	143	83	201	248	262	233	167	214	218	188	181.0
20-Jul	200	198	200	193	186	190	188	172	174	141	156	135	122	125	169	314	107	235	249	194	201	243	263	285	190.4
21-Jul	319	347	351	350	8	5	2	360	360	8	13	342	351	351	349	5	1	25	27	41	46	34	25	213	2.2
22-Jul	205	199	234	236	240	233	336	303	331	327	313	332	295	272	300	335	24	301	13	77	180	191	187	211	279.7
23-Jul	223	234	234	233	232	233	228	232	253	242	254	257	241	228	218	216	215	215	221	220	217	216	203	184	228.5
24-Jul	188	192	188	174	173	168	174	163	164	173	169	198	164	168	192	235	344	44	71	168	179	195	216	236	185.4
25-Jul	250	242	226	230	247	238	244	256	245	246	245	257	264	258	284	284	282	278	282	280	292	328	328	308	263.2
26-Jul	301	295	273	276	281	267	270	310	290	257	278	263	239	228	234	243	2	114	230	287	296	265	272	174	262.2
27-Jul	39	46	44	50	56	54	43	29	28	20	21	25	344	339	354	317	328	326	331	10	208	221	226	230	11.0
28-Jul	222	227	235	235	217	234	242	231	226	285	273	276	305	291	328	264	262	290	295	173	177	193	210	202	248.9
29-Jul	199	197	197	201	201	202	213	225	236	249	252	247	286	266	264	272	321	237	181	178	182	198	204	193	224.1
30-Jul	205	193	194	193	190	199	210	207	215	222	234	255	228	242	238	226	223	238	233	218	186	190	197	209	216.7
31-Jul	215	214	213	220	227	218	212	223	239	238	244	246	232	229	225	204	220	208	202	209	210	207	205	209	221.2
231.3 224.4 222.5 224.3 223.8 225.2 232.1 239.2 248.1 252.6 250.9 254.6 254.9 255.8 261.9 261.6 259.2 258.5 260.6 239.5 214.6 221.1 214.8 223.9																									
Diurnal Average																									
All monthly, daily, and diurnal averages have been calculated using vector methods																									



Wood Buffalo Environmental Association
Hourly Averages

Wind Direction 10m (WD10) - deg
Jackfish 2/3 - July 2025





Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg

Jackfish 2/3 - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 116 deg on Jul 15 12:00																			Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0						
Minimum Value: 6 deg on Jul 28 21:00																									
Percentiles: P ₁ = 11 P ₁₀ = 17 Q ₁ = 25 Median = 41 Q ₃ = 57 P ₉₀ = 70 P ₉₉ = 97																									
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-Jul	73	18	42	20	18	40	70	28	85	54	50	74	86	67	84	82	31	58	64	37	22	19	23	23	86
2-Jul	22	24	27	21	29	39	44	43	55	50	48	59	40	93	33	34	32	29	29	19	60	69	74	61	93
3-Jul	95	85	50	30	39	43	46	46	49	47	48	46	44	41	42	33	30	33	27	35	35	39	25	24	95
4-Jul	25	25	25	24	25	30	41	43	47	55	50	55	60	66	59	56	58	68	81	99	59	49	63	18	99
5-Jul	9	52	14	31	46	44	31	42	61	72	60	43	53	50	45	49	48	52	49	51	40	66	65	67	72
6-Jul	70	83	41	25	25	27	28	32	73	51	48	47	28	30	32	32	40	66	73	37	20	33	38	35	83
7-Jul	32	16	14	18	21	23	29	32	30	36	33	42	44	39	43	36	31	29	25	23	21	22	22	27	44
8-Jul	29	32	33	33	36	40	43	38	41	45	35	50	49	49	42	45	40	33	32	33	51	70	82	61	82
9-Jul	54	51	45	44	45	43	48	46	44	46	33	32	31	29	36	36	39	39	44	46	44	31	22	20	54
10-Jul	26	22	19	17	19	26	32	30	47	51	51	50	55	66	77	62	66	55	54	54	58	28	17	15	77
11-Jul	16	17	18	18	20	18	20	26	28	32	31	29	29	29	30	30	27	28	25	26	32	37	22	25	37
12-Jul	39	25	23	24	28	28	31	39	43	49	63	57	50	51	51	57	54	61	61	75	16	20	19	27	75
13-Jul	29	51	16	24	30	37	46	42	48	62	54	57	54	49	59	62	62	58	48	54	40	25	89	41	89
14-Jul	43	68	78	35	45	40	54	45	56	55	63	65	65	61	61	65	66	52	51	58	50	69	51	37	78
15-Jul	49	24	17	14	11	13	24	61	91	111	74	116	75	74	58	94	79	70	59	22	23	20	23	18	116
16-Jul	20	15	17	15	15	14	17	27	41	62	83	74	94	96	55	96	72	54	31	21	30	22	19	16	96
17-Jul	16	18	18	16	15	17	17	21	51	80	81	85	81	95	66	52	58	64	69	85	35	19	15	17	95
18-Jul	17	17	49	15	12	16	19	28	45	62	54	52	66	67	58	67	62	53	54	80	57	52	70	71	80
19-Jul	66	65	67	43	25	18	23	31	44	50	60	61	87	79	65	41	50	38	73	75	32	18	19	10	87
20-Jul	15	17	16	12	16	10	16	52	47	62	65	67	59	76	69	101	68	63	44	35	20	21	28	58	101
21-Jul	60	70	68	54	53	59	56	57	57	51	59	62	61	61	59	64	66	55	44	36	32	36	92	33	92
22-Jul	11	11	19	38	31	24	84	70	84	70	71	93	81	70	80	65	74	80	54	38	13	12	15	18	93
23-Jul	17	18	16	16	16	17	19	32	47	31	53	56	63	42	43	53	46	33	33	26	20	18	19	19	63
24-Jul	24	29	43	49	55	57	56	62	55	55	57	48	62	52	50	28	82	31	48	47	33	27	22	24	82
25-Jul	18	30	19	18	20	21	25	35	29	34	29	37	41	53	51	50	47	46	49	48	53	60	67	59	67
26-Jul	46	44	34	37	49	36	37	60	63	47	52	47	25	26	30	29	86	42	47	58	74	31	115	98	115
27-Jul	41	20	27	25	21	31	43	43	43	53	53	52	61	70	70	57	64	65	82	106	25	17	15	12	106
28-Jul	12	12	11	13	13	13	22	30	48	64	62	83	68	74	61	47	46	53	69	73	6	9	15	13	83
29-Jul	15	15	16	18	18	20	21	24	30	31	37	38	60	53	67	98	85	38	48	16	10	17	18	18	98
30-Jul	19	14	15	13	14	20	23	27	34	37	38	41	72	31	42	53	51	37	25	17	31	20	18	21	72
31-Jul	20	20	19	20	19	21	19	22	25	41	41	41	43	51	52	48	35	45	39	33	27	29	32	28	52
95 85 78 54 55 59 84 70 91 111 83 116 94 96 84 101 86 80 82 106 74 70 115 98																									
Diurnal Maximum																									



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS29 SURMONT 2 JULY 2025

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

August 29, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - SURMONT2 (AMS29)
JULY 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	8.1	0	1.1	0
H2S (ppb) Average	705	38	39	99.87	0.8	0	0.2	0
THC(ppm) Average	706	37	38	99.87	2.8	-	2.4	-
NO2 (ppb) Average	706	37	38	99.87	6.9	0	1.9	-
NO (ppb) Average	706	37	38	99.87	2.2	-	0.5	-
NOX (ppb) Average	706	37	38	99.87	7.3	-	2	-
PM2.5 (ug/m3) Average	741	2	3	99.87	286.4	0	101.4	3
Temperature 2 m (C) Average	744	0	0	100	31.6	-	23.6	-
Relative Humidity (%) Average	744	0	0	100	100.6	-	79.9	-
Wind Speed 10 m (km/h) Average	736	0	8	98.92	21	-	11	-
Wind Direction 10 m (deg) Average	736	0	8	98.92	-	-	-	-

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

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - SURMONT 2 (AMS29)
JULY 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	0.37	0.8	-	0	0	0	0.1	0.4	0.8	8.1
H2S (ppb) Average	705	0.11	0.1	-	0	0	0.1	0.1	0.1	0.2	0.8
THC (ppm) Average	706	2.3	0.1	-	2.1	2.2	2.3	2.3	2.3	2.4	2.8
NO2 (ppb) Average	706	0.94	0.8	-	0	0.3	0.4	0.7	1.2	1.9	6.9
NO (ppb) Average	706	0.09	0.2	-	0	0	0	0.1	0.1	0.2	2.2
NOX (ppb) Average	706	1.03	0.9	-	0	0.3	0.5	0.7	1.3	2.1	7.3
PM2.5 (ug/m3) Average	741	16.75	27.9	-	1	2.8	4.4	8.1	17.2	34.9	286.4
Temperature 2 m (C) Average	744	16.3	5.8	-	0.8	8.9	12.2	16.2	20.4	24	31.6
Relative Humidity (%) Average	744	65.62	21.5	-	24.3	34.8	49	65.5	84.7	94.3	100.6
Wind Speed 10 m (km/h) Average	736	4.8	3	-	0	1	2	4	7	9	21
Wind Direction 10 m (deg) Average	736	-	-	-	-	-	-	-	-	-	-

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - SURMONT 2 (AMS29)
JULY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
AIR QUALITY ANALYZERS	22 Jul 2025 08:00	22 Jul 2025 08:00	1	Station power failure
Wind Speed, Wind Direction	15 Jul 2025 00:00	15 Jul 2025 06:00	7	Flat line in sensor output signal
Wind Speed, Wind Direction	18 Jul 2025 07:00	18 Jul 2025 07:00	1	Flat line in sensor output signal



Wood Buffalo Environmental Association

Summary of Hour Averages

Sulphur Dioxide (SO₂) - ppb

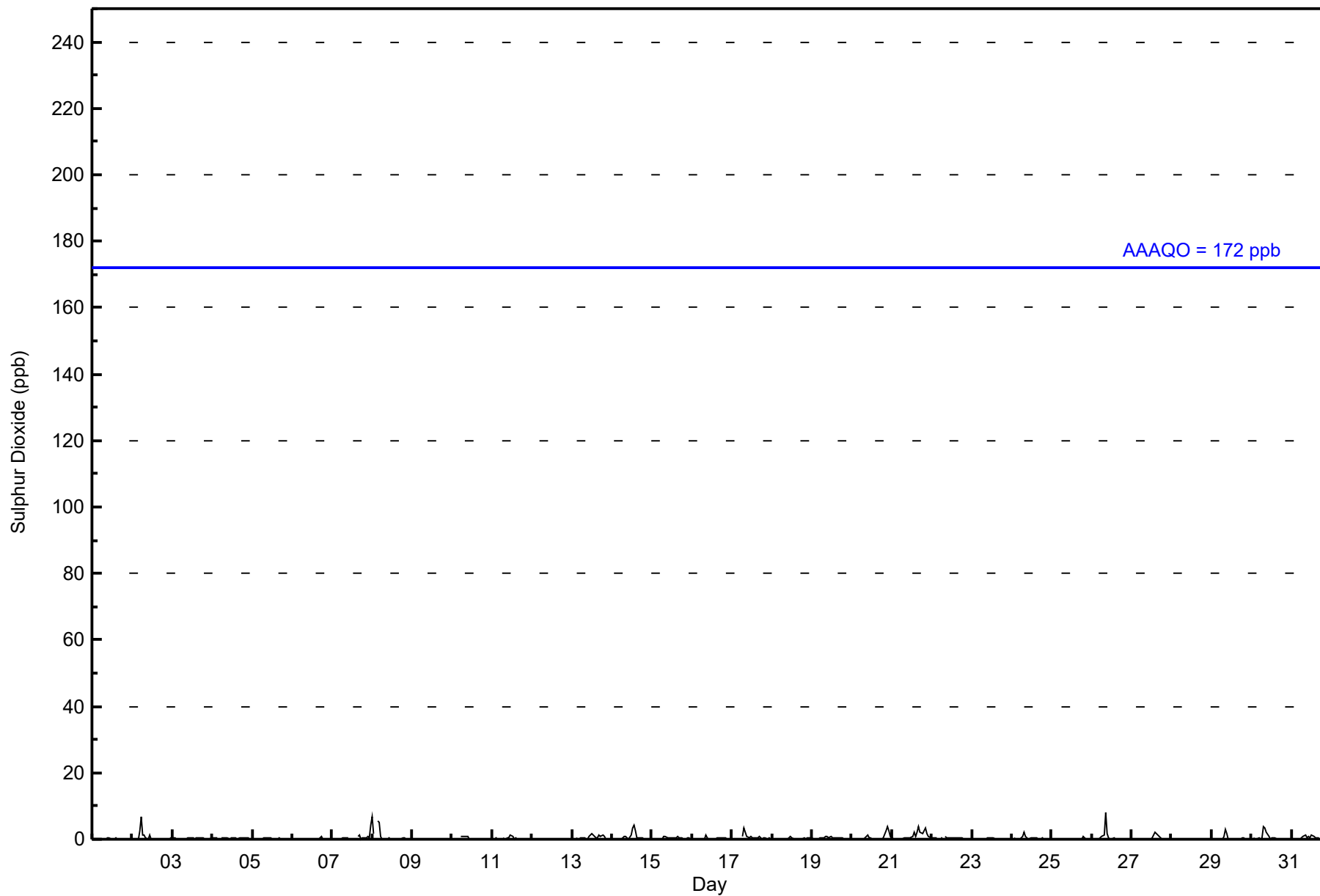
Surmont 2 - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																			Hours in Service: 744							
Maximum Value: 8.1 ppb on Jul 26 09:00 Maximum Daily Average: 1.1 ppb on Jul 21																			Hours of Data: 707							
Minimum Value: 0.0 ppb on Jul 1 05:00 Minimum Daily Average: 0.0 ppb on Jul 9																			Hours of Missing Data: 37							
Maximum Diurnal Average: 0.9 ppb at hour 9 Minimum Diurnal Average: 0.1 ppb at hour 3																			Hours of Calibration: 36							
Monthly Average: 0.37 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.4 P ₉₀ = 0.8 P ₉₉ = 4.3																			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-Jul	0.1	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.5	0.1	0.2	0.1	0.4	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.5
2-Jul	0.2	0.1	Z	0.1	2.5	6.9	1.3	1.1	0.3	0.2	1.4	0.1	0.0	0.0	0.2	0.2	0.0	0.1	0.1	0.0	0.2	0.2	0.1	0.2	0.7	6.9
3-Jul	0.2	0.3	0.2	Z	0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.3	0.2	0.2	0.4	0.4	0.2	0.3	0.3	0.1	0.1	0.1	0.1	0.2	0.2	0.4
4-Jul	0.2	0.4	0.3	0.2	Z	0.3	0.3	0.6	0.6	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.4	0.4	0.3	0.3	0.4	0.4	0.2	0.1	0.3	0.6
5-Jul	0.1	0.1	0.1	0.1	0.1	Z	0.0	0.4	0.4	0.4	0.5	0.4	0.0	0.0	0.0	0.1	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.5
6-Jul	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	0.0	0.1	0.7	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.7
7-Jul	0.2	Z	0.1	0.1	0.0	0.0	0.3	0.4	0.4	0.6	C	C	C	C	C	0.7	1.2	0.0	0.2	0.5	0.4	0.7	0.4	4.3	0.6	4.3
8-Jul	6.8	1.6	Z	5.6	5.0	0.7	0.2	0.2	0.1	0.1	0.3	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.5	0.3	0.0	0.0	0.0	0.0	1.0	6.8
9-Jul	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
10-Jul	0.0	0.1	0.1	0.1	Z	0.9	0.8	1.0	0.7	0.7	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	0.2	1.0
11-Jul	0.0	0.2	0.2	0.0	0.0	Z	0.4	0.2	0.0	0.3	0.4	1.2	0.7	0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	1.2
12-Jul	Z	0.2	0.2	0.1	0.2	0.1	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.2	0.0	0.0	0.1	0.0	0.1	0.2
13-Jul	0.0	Z	0.2	0.0	0.0	0.4	0.5	0.4	0.1	0.0	0.8	1.4	1.9	0.8	0.6	0.4	1.1	1.0	1.4	0.8	0.1	0.1	0.1	0.1	0.5	1.9
14-Jul	0.0	0.0	Z	0.1	0.0	0.0	0.4	0.8	0.7	0.3	0.2	1.4	3.3	4.4	2.5	0.4	0.3	0.3	0.4	0.1	0.1	0.2	0.1	0.1	0.7	4.4
15-Jul	0.1	0.0	0.0	Z	0.1	0.0	0.0	0.7	0.9	0.4	0.4	0.3	0.6	0.5	0.9	0.6	0.4	0.4	0.1	0.0	0.2	0.3	0.0	0.0	0.3	0.9
16-Jul	0.0	0.0	0.0	0.0	Z	0.2	0.2	0.1	1.2	0.2	0.1	0.0	0.0	0.1	0.2	0.3	0.3	0.4	0.3	0.3	0.2	0.1	0.1	0.1	0.2	1.2
17-Jul	0.1	0.2	0.1	0.2	0.2	Z	0.8	3.3	2.0	0.9	0.4	0.7	0.5	0.6	0.3	0.2	0.7	0.3	0.1	0.2	0.3	0.2	0.2	0.1	0.5	3.3
18-Jul	Z	0.0	0.2	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.6	0.7	0.2	0.1	0.2	0.2	0.1	0.1	0.2	0.3	0.1	0.6	0.3	0.3	0.2	0.7
19-Jul	0.2	Z	0.2	0.1	0.2	0.3	0.3	0.4	0.9	0.7	0.6	0.7	0.6	0.3	0.4	0.3	0.2	0.3	0.3	0.2	0.1	0.0	0.1	0.0	0.3	0.9
20-Jul	0.1	0.1	Z	0.1	0.1	0.1	0.0	0.1	0.3	1.2	0.4	0.4	0.2	0.2	0.1	0.2	0.0	0.2	0.1	0.3	2.4	3.7	2.4	1.0	0.6	3.7
21-Jul	0.2	0.2	0.2	Z	0.1	0.1	0.2	0.3	0.3	0.3	0.2	0.2	0.7	1.9	0.8	2.2	3.9	2.2	1.6	2.7	3.6	1.8	0.7	0.6	1.1	3.9
22-Jul	0.3	0.4	0.5	0.4	Z	0.5	0.6	PF	0.7	0.5	0.4	0.4	0.4	0.3	0.4	0.4	0.3	0.3	0.3	0.0	0.1	0.0	0.0	0.0	0.3	0.7
23-Jul	0.0	0.0	0.1	0.1	0.1	Z	0.1	0.1	0.2	0.3	0.5	0.6	0.3	0.4	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.6
24-Jul	Z	0.5	0.2	0.1	0.2	0.2	0.8	2.0	0.9	0.3	0.2	0.3	0.5	0.4	0.4	0.3	0.0	0.1	0.4	0.1	0.0	0.0	0.0	0.0	0.3	2.0
25-Jul	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	0.2	0.8	0.0	0.0	0.0	0.0	0.0	0.8
26-Jul	0.4	0.2	Z	0.1	0.1	0.4	0.9	1.2	8.1	1.8	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	0.0	0.6	8.1
27-Jul	0.0	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.2	2.2	1.9	0.9	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.3	2.2
28-Jul	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.1	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	0.2
29-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.1	1.0	2.8	1.6	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.4	0.2	0.0	0.0	0.0	0.0	0.3	2.8
30-Jul	Z	0.6	0.2	0.1	0.2	0.2	0.5	3.7	3.3	2.0	0.8	0.2	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.6	3.7
31-Jul	0.0	Z	0.1	0.1	0.2	0.2	0.4	1.0	1.4	0.5	0.8	0.4	1.1	0.7	0.5	0.2	0.4	0.2	0.1	0.2	0.7	4.9	3.1	3.4	0.9	4.9
0.4 0.2 0.1 0.3 0.4 0.4 0.3 0.6 0.9 0.5 0.4 0.4 0.4 0.5 0.4 0.3 0.4 0.3 0.3 0.3 0.3 0.3 0.4 0.3 0.4																									Diurnal Average	
6.8 1.6 0.5 5.6 5.0 6.9 1.3 3.7 8.1 2.0 1.4 1.4 3.3 4.4 2.5 2.2 3.9 2.2 1.6 2.7 3.6 4.9 3.1 4.3																									Diurnal Maximum	
Z - zerospan C - Calibration 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
Surmont 2 - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Surmont 2 - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	707	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: 707

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Surmont 2 - July 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	13	5	10	11	24	65	45	18	23	63	120	130	80	34	40	700
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	13	5	10	11	24	65	45	18	23	63	120	130	80	34	40	700

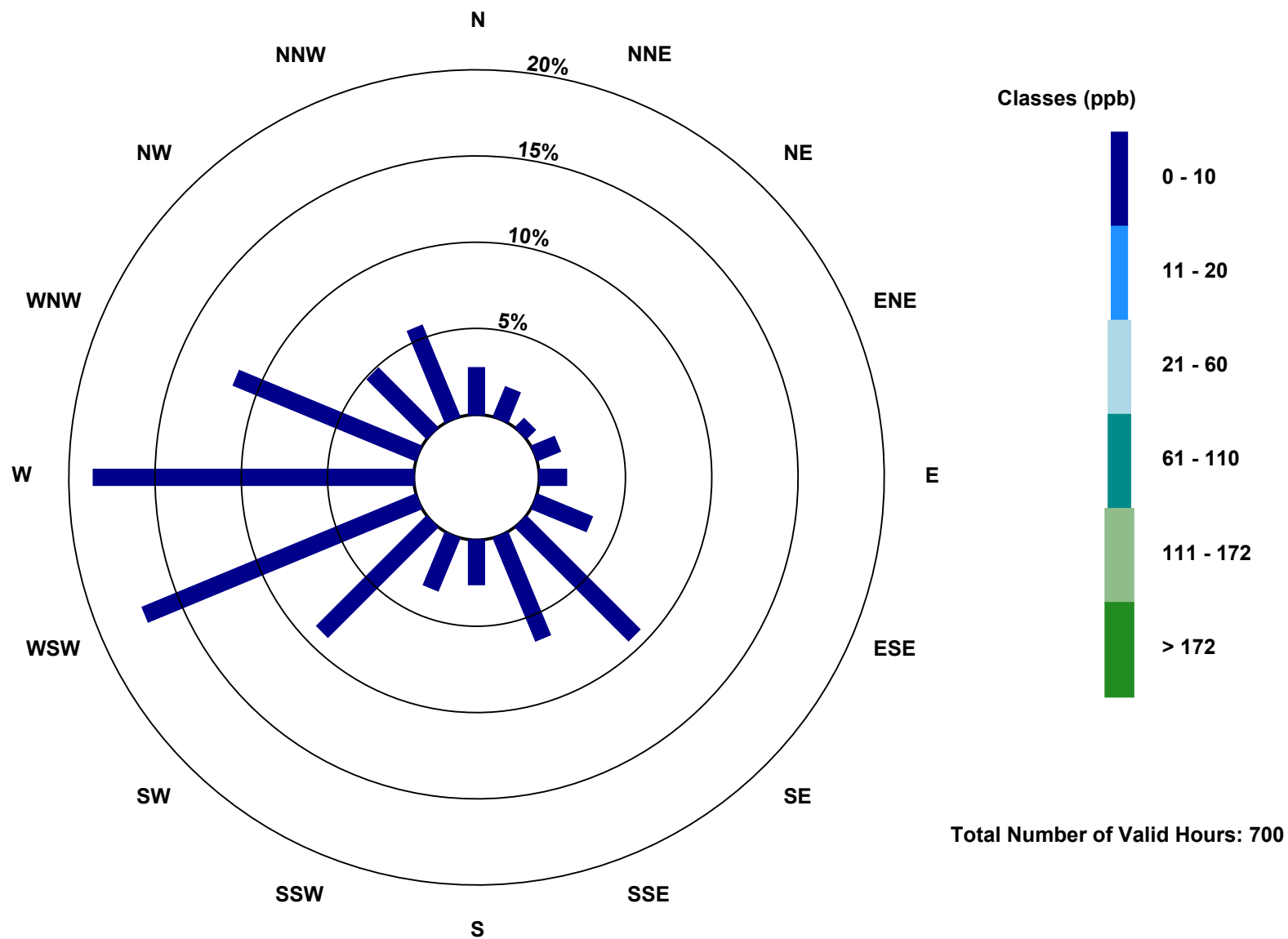
Total Number of Valid Hours: 700

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

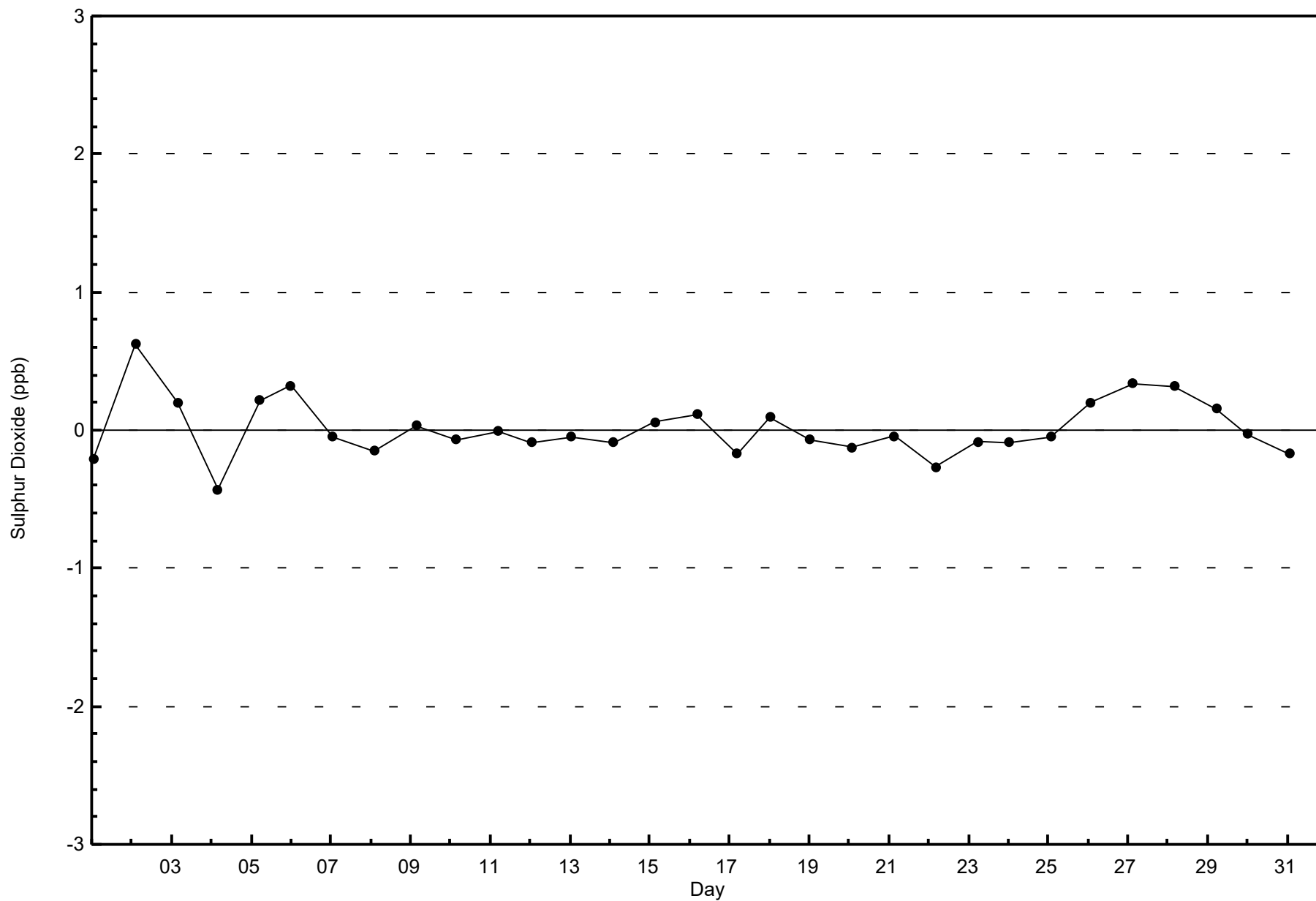
Sulphur Dioxide (SO₂) - ppb
Surmont 2





Wood Buffalo Environmental Association
Zero Responses

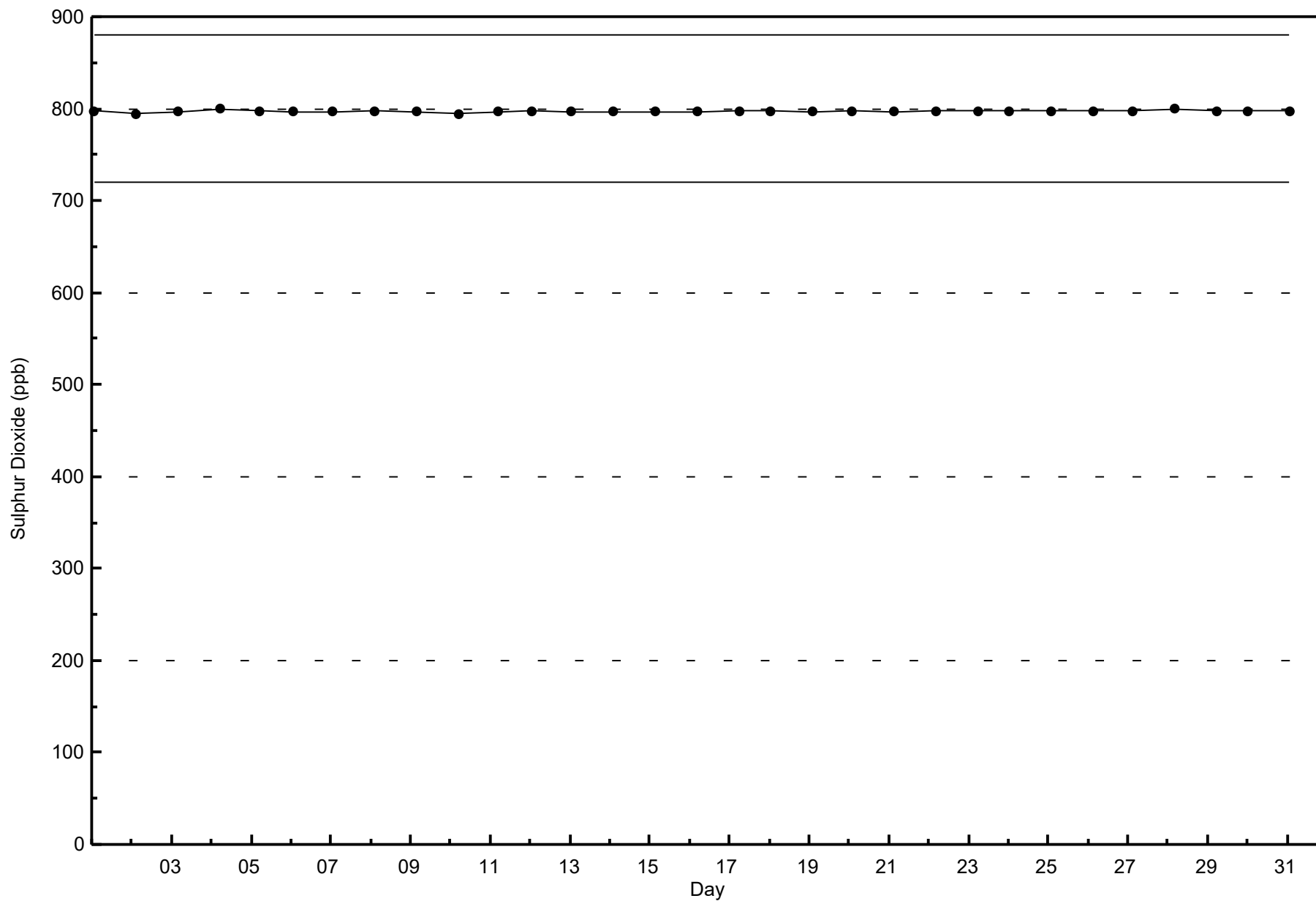
Sulphur Dioxide (SO₂) - ppb
Surmont 2 - July 2025





Wood Buffalo Environmental Association
Span Responses

Sulphur Dioxide (SO₂) - ppb
Surmont 2 - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Hydrogen Sulphide (H₂S) - ppb

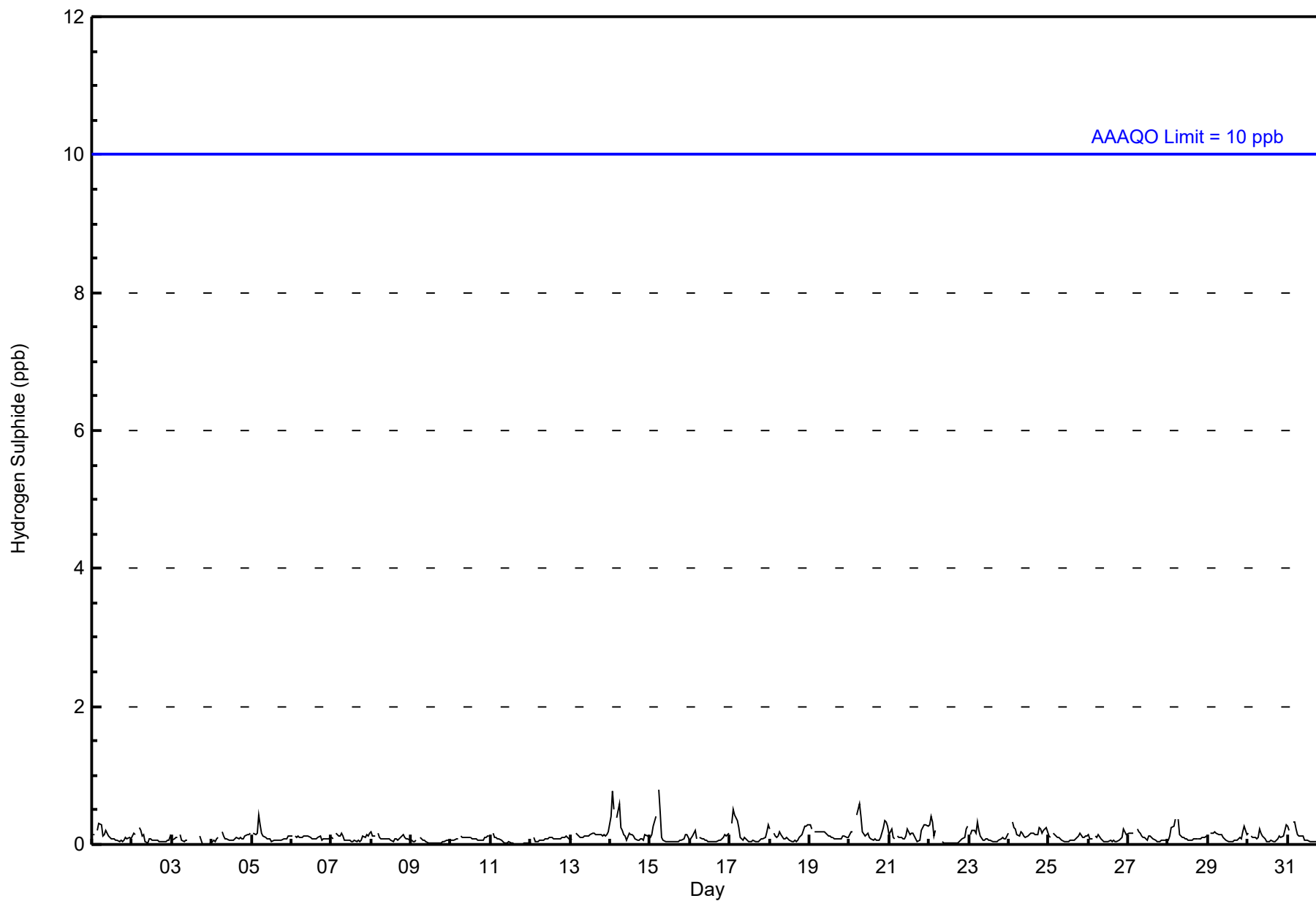
Surmont 2 - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																			Hours in Service: 744							
Maximum Value: 0.8 ppb on Jul 15 06:00 Maximum Daily Average: 0.2 ppb on Jul 20																			Hours of Data: 705							
Minimum Value: 0.0 ppb on Jul 3 19:00 Minimum Daily Average: 0.0 ppb on Jul 11																			Hours of Missing Data: 39							
Maximum Diurnal Average: 0.2 ppb at hour 6 Minimum Diurnal Average: 0.1 ppb at hour 17																			Hours of Calibration: 38							
Monthly Average: 0.11 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.1 Q ₃ = 0.1 P ₉₀ = 0.2 P ₉₉ = 0.5																			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-Jul	0.1	0.1	Z	0.2	0.3	0.3	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
2-Jul	0.1	0.2	0.1	Z	0.2	0.2	0.1	0.1	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	0.1	0.1	0.1	0.1	
3-Jul	0.1	0.1	0.1	0.1	Z	0.1	0.1	0.0	0.1	0.1	C	C	C	C	C	C	C	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
4-Jul	0.0	0.1	0.0	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	0.2	0.1	
5-Jul	Z	0.2	0.1	0.2	0.4	0.3	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	0.1	0.1	0.1	
6-Jul	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	
7-Jul	0.1	0.1	Z	0.2	0.1	0.1	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	0.1	0.1	0.1	0.1	0.2	0.1	
8-Jul	0.2	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	
9-Jul	0.1	0.0	0.0	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	0.1	0.1	0.1	0.0	
10-Jul	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	0.1	0.1	0.1	
11-Jul	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	
12-Jul	0.0	Z	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	0.1	0.1	0.1	0.1	
13-Jul	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	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	
14-Jul	0.4	0.8	0.5	Z	0.4	0.6	0.2	0.2	0.2	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	0.2	
15-Jul	0.1	0.1	0.3	0.4	Z	0.8	0.5	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	
16-Jul	0.1	0.1	0.2	0.2	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	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	
17-Jul	Z	0.3	0.5	0.4	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.3	0.1	
18-Jul	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	0.0	0.0	0.1	0.0	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.1	
19-Jul	0.3	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	
20-Jul	0.1	0.2	0.2	Z	0.4	0.5	0.6	0.4	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.4	0.3	0.3	0.2	
21-Jul	0.1	0.2	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.1	0.1	0.0	0.1	0.2	0.3	0.3	0.3	0.3	0.2	
22-Jul	0.3	0.4	0.3	0.1	0.2	Z	0.1	PF	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	
23-Jul	Z	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	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
24-Jul	0.2	Z	0.3	0.3	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
25-Jul	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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	
26-Jul	0.1	0.1	0.1	Z	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	0.0	0.1	0.1	0.1	0.2	0.2	0.1	0.1	
27-Jul	0.2	0.2	0.2	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	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	
28-Jul	0.1	0.1	0.2	0.3	0.4	Z	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	0.1	0.1	0.1	0.1	
29-Jul	Z	0.2	0.2	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	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.1	0.1	
30-Jul	0.2	Z	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.1	
31-Jul	0.3	0.2	Z	0.3	0.3	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	0.1	0.2	0.3	0.2	0.2	0.1	
0.1 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 0.1 0.1 0.1 0.1																									Diurnal Average	
0.4 0.8 0.5 0.4 0.4 0.8 0.6 0.4 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 0.3 0.4 0.3 0.3																									Diurnal Maximum	
Z - zerospan C - Calibration PF - Power Failure																										
Alberta Ambient Air Quality Objective (AAAQO): 1-hour 10 ppb 24-hr 3 ppb																										



Wood Buffalo Environmental Association
Hourly Averages

Hydrogen Sulphide (H₂S) - ppb
Surmont 2 - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Hydrogen Sulphide (H₂S) - ppb
Surmont 2 - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	705	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: 705

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Hydrogen Sulphide (H₂S) - ppb
Surmont 2 - July 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	13	6	10	11	24	67	47	21	22	64	116	124	80	34	40	698
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	13	6	10	11	24	67	47	21	22	64	116	124	80	34	40	698

Total Number of Valid Hours: 698

Total Number of Hours: 744

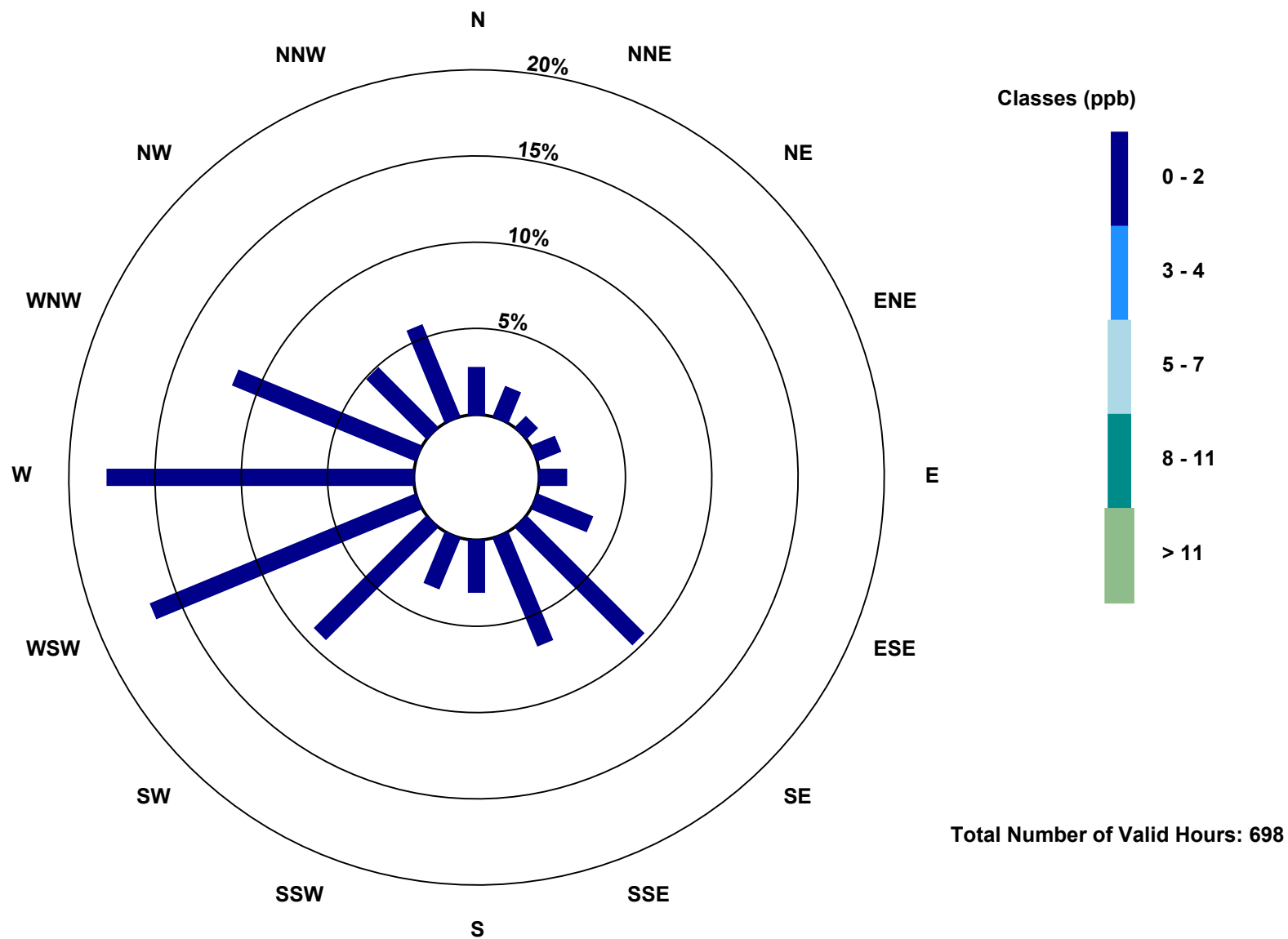


Wood Buffalo Environmental Association

Wind Rose Jul 2025

Hydrogen Sulphide (H_2S) - ppb

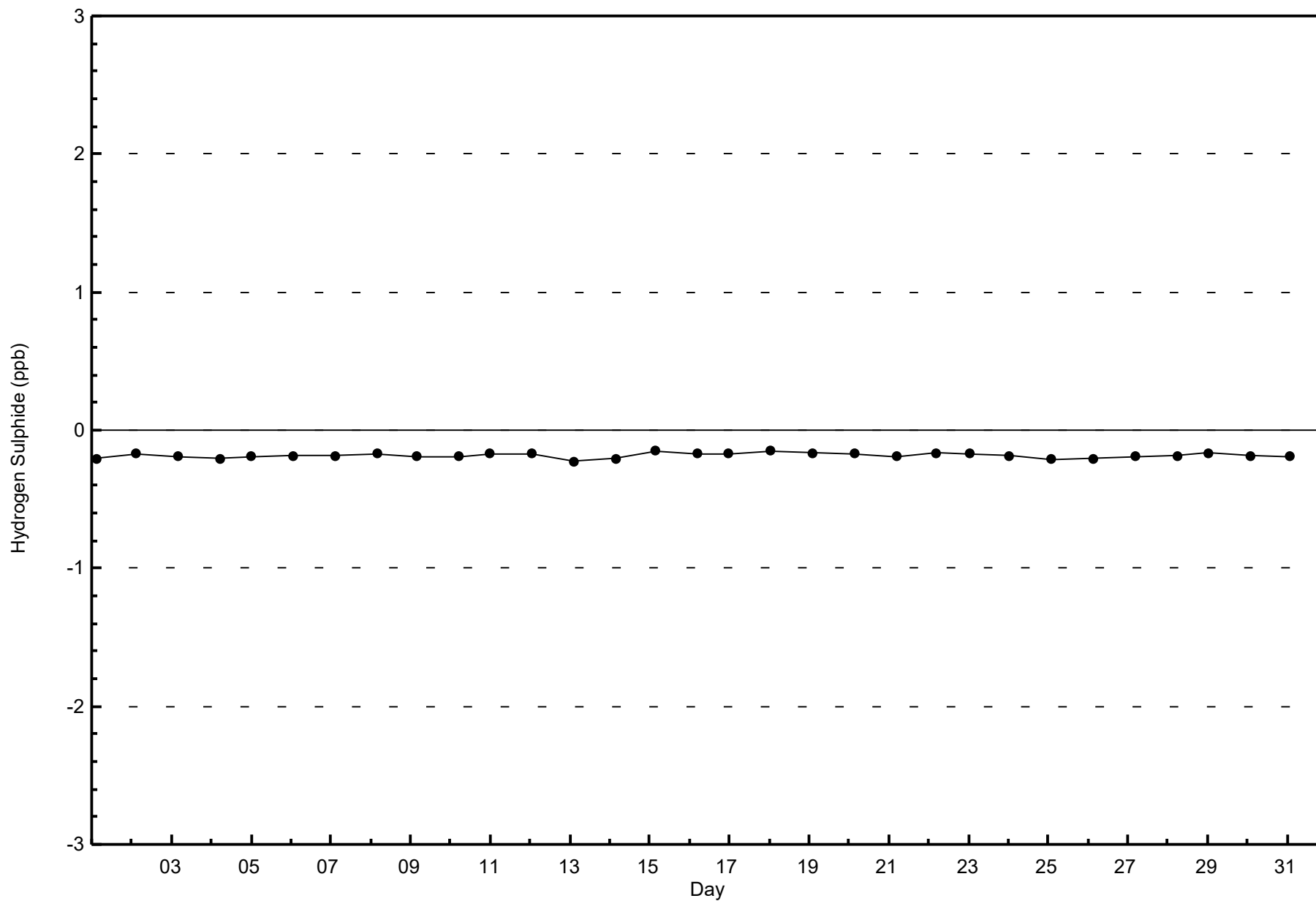
Surmont 2





Wood Buffalo Environmental Association
Zero Responses

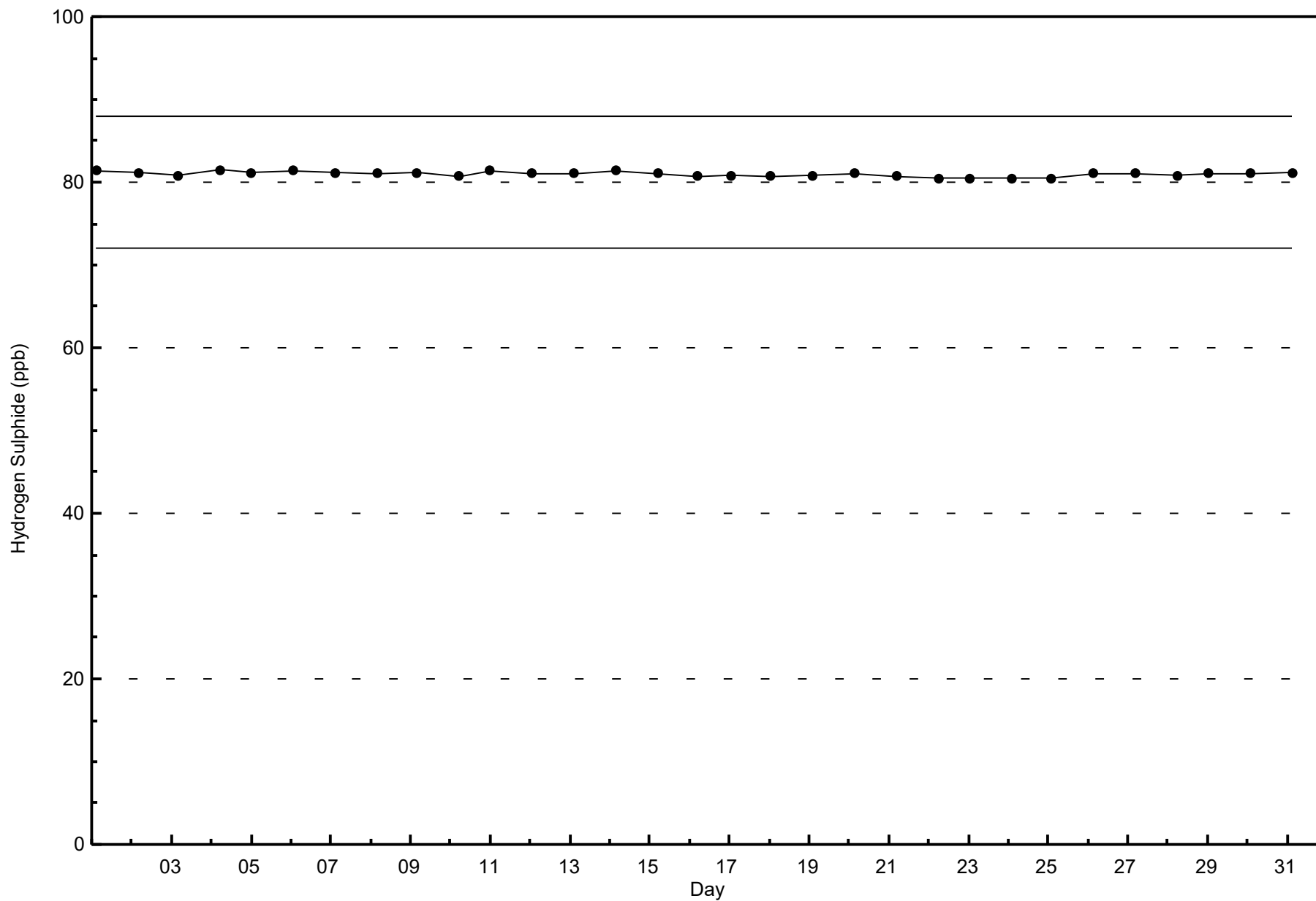
Hydrogen Sulphide (H₂S) - ppb
Surmont 2 - July 2025





Wood Buffalo Environmental Association
Span Responses

Hydrogen Sulphide (H₂S) - ppb
Surmont 2 - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Total Hydrocarbons (THC) - ppm

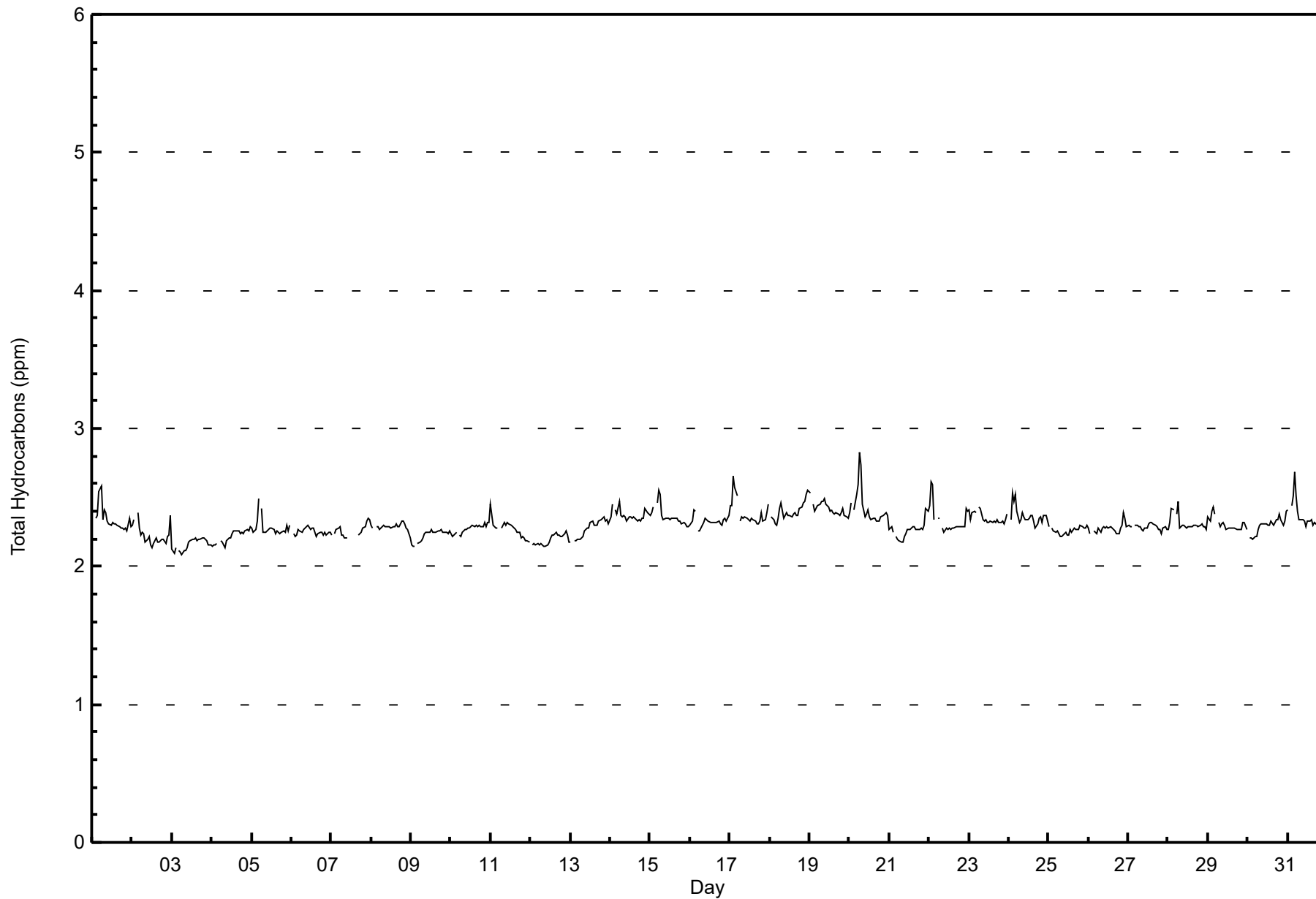
Surmont 2 - July 2025

Number of Exceedences (AAAQO): Maximum Value: 2.8 ppm on Jul 20 07:00																			1-hr: 0 24-hr: 0 Maximum Daily Average: 2.4 ppm on Jul 20							Hours in Service: 744	
Minimum Value: 2.1 ppm on Jul 3 07:00 Maximum Diurnal Average: 2.3 ppm at hour 5 Monthly Average: 2.30 ppm																			Minimum Daily Average: 2.2 ppm on Jul 3 Minimum Diurnal Average: 2.3 ppm at hour 17 Percentiles: P ₁ = 2.1 P ₁₀ = 2.2 Q ₁ = 2.3 Median = 2.3 Q ₃ = 2.3 P ₉₀ = 2.4 P ₉₉ = 2.6							Hours of Data: 706	
																										Hours of Missing Data: 38	
																										Hours of Calibration: 37	
																										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-Jul	2.3	Z	2.4	2.4	2.5	2.6	2.3	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-Jul	2.3	2.3	Z	2.4	2.3	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	2.2	2.2	2.2	2.2	2.4	2.2	
3-Jul	2.1	2.1	2.1	Z	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	2.2	
4-Jul	2.1	2.2	2.2	2.2	Z	2.2	2.2	2.2	2.1	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.2	
5-Jul	2.3	2.2	2.3	2.3	2.5	Z	2.4	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.2	2.3	2.2	2.2	2.2	2.2	2.3	2.2	2.3	2.3	2.3	2.3	
6-Jul	Z	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	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	
7-Jul	2.2	Z	2.2	2.3	2.3	2.3	2.2	2.2	2.2	2.2	C	C	C	C	C	C	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.4	2.3	--	
8-Jul	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	2.2	2.3	
9-Jul	2.2	2.1	2.1	Z	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.2	2.3	2.2	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.3	2.2	2.3	2.2	
10-Jul	2.2	2.2	2.2	2.2	Z	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	2.3	2.3	2.3	2.3	2.3	
11-Jul	2.4	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	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	
12-Jul	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	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.2	2.2	2.2	
13-Jul	2.2	Z	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	2.4	2.3	2.3	2.3	2.3	
14-Jul	2.4	2.5	Z	2.4	2.4	2.5	2.4	2.4	2.4	2.4	2.3	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.4	
15-Jul	2.4	2.4	2.4	Z	2.5	2.5	2.5	2.4	2.3	2.3	2.4	2.4	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	2.4	
16-Jul	2.3	2.3	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	2.4	2.3	
17-Jul	2.4	2.4	2.7	2.6	2.5	Z	2.3	2.4	2.3	2.4	2.3	2.4	2.3	2.3	2.4	2.3	2.3	2.3	2.3	2.3	2.4	2.3	2.3	2.4	2.5	2.4	
18-Jul	Z	2.4	2.3	2.3	2.3	2.3	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	2.5	2.5	2.5	2.6	2.4	
19-Jul	2.5	Z	2.4	2.4	2.4	2.4	2.4	2.5	2.5	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	2.4	2.4	2.4	2.4	
20-Jul	2.4	2.5	Z	2.4	2.5	2.6	2.8	2.7	2.5	2.4	2.4	2.4	2.4	2.3	2.3	2.4	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.4	
21-Jul	2.3	2.3	2.3	Z	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	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.3	
22-Jul	2.4	2.6	2.6	2.3	Z	2.4	2.3	PF	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	2.4	2.4	2.4	2.3	
23-Jul	2.4	2.3	2.4	2.4	2.4	Z	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	2.4	2.4	2.3	
24-Jul	Z	2.3	2.5	2.5	2.5	2.4	2.3	2.3	2.4	2.4	2.3	2.3	2.4	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.4	2.3	2.4	2.4	2.3	2.4	
25-Jul	2.3	Z	2.3	2.3	2.2	2.3	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	2.3	2.3	2.3	2.3	2.3	2.3	
26-Jul	2.3	2.2	Z	2.3	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	2.2	2.2	2.3	2.3	2.3	2.4	2.3	2.3	2.3	
27-Jul	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	2.2	2.3	2.3	2.3	2.3	2.3	
28-Jul	2.3	2.3	2.4	2.4	Z	2.4	2.5	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	
29-Jul	2.4	2.3	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	
30-Jul	Z	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	2.3	2.4	2.3	2.3	2.3	2.4	2.3	
31-Jul	2.4	Z	2.4	2.5	2.7	2.5	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	2.3	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 2.3 2.3 2.3 2.3 2.3 2.3 2.3 2.3 2.3 2.3 2.3																										Diurnal Average	
2.5 2.6 2.7 2.6 2.7 2.6 2.8 2.7 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 2.5 2.5 2.6																										Diurnal Maximum	
Z - zerospan C - Calibration PF - Power Failure																											



Wood Buffalo Environmental Association
Hourly Averages

Total Hydrocarbons (THC) - ppm
Surmont 2 - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Hydrocarbons (THC) - ppm
Surmont 2 - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	0	0.00	0.00
2.1 - 3.0	706	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: 706

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Total Hydrocarbons (THC) - ppm
Surmont 2 - July 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	19	13	5	10	11	24	65	44	18	23	63	120	130	80	34	40	699
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	19	13	5	10	11	24	65	44	18	23	63	120	130	80	34	40	699

Total Number of Valid Hours: 699

Total Number of Hours: 744

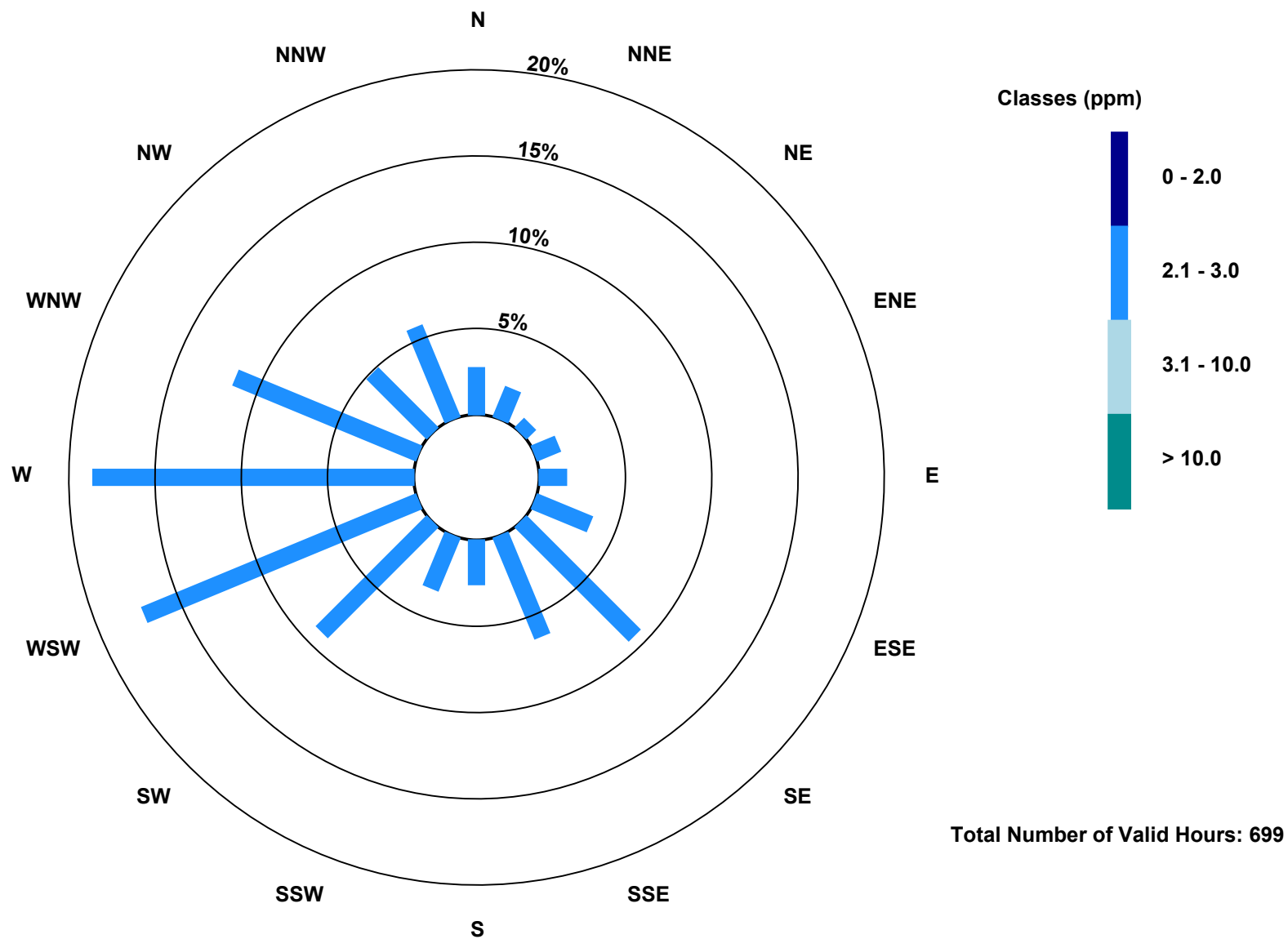


Wood Buffalo Environmental Association

Wind Rose Jul 2025

Total Hydrocarbons (THC) - ppm

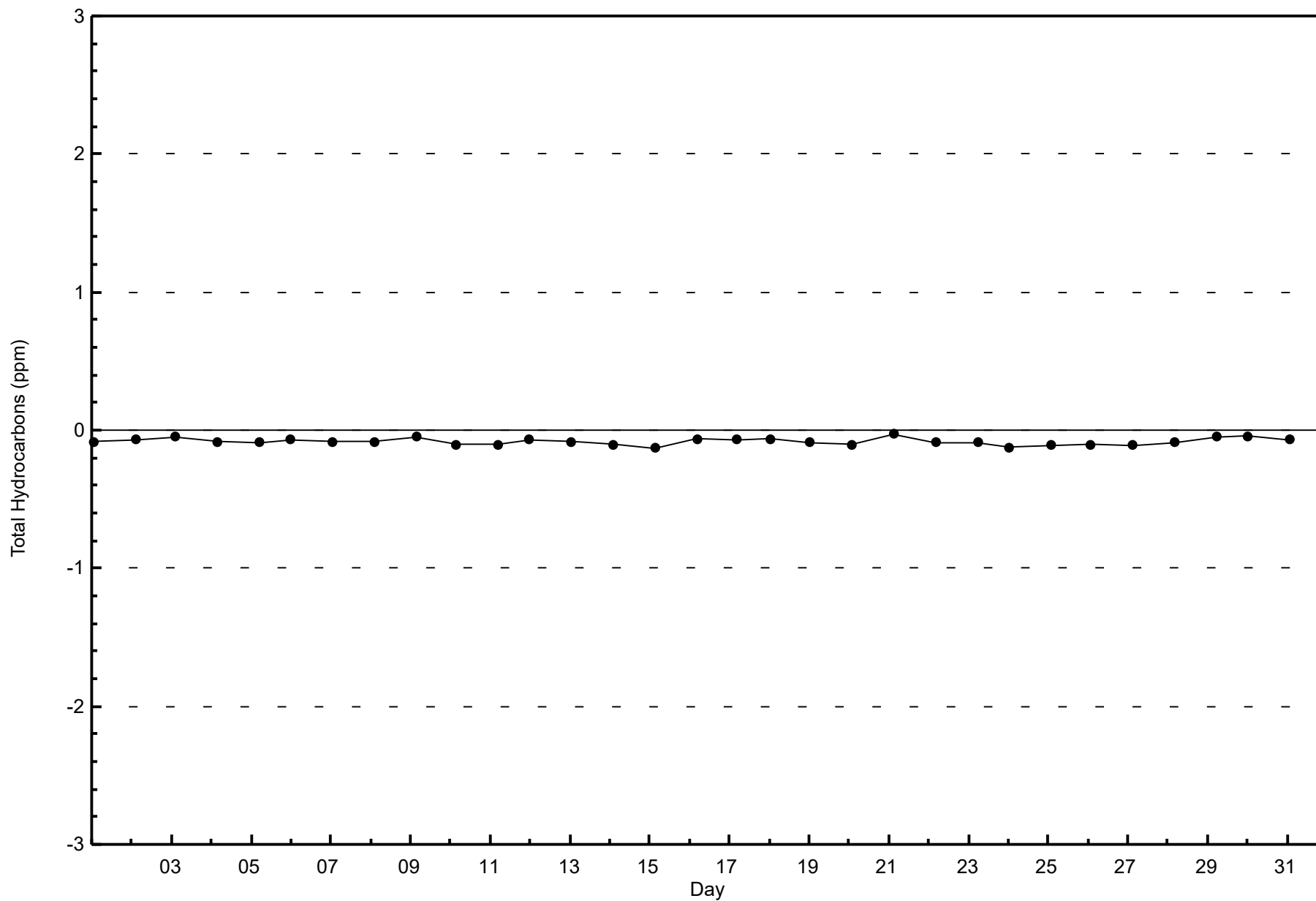
Surmont 2





Wood Buffalo Environmental Association
Zero Responses

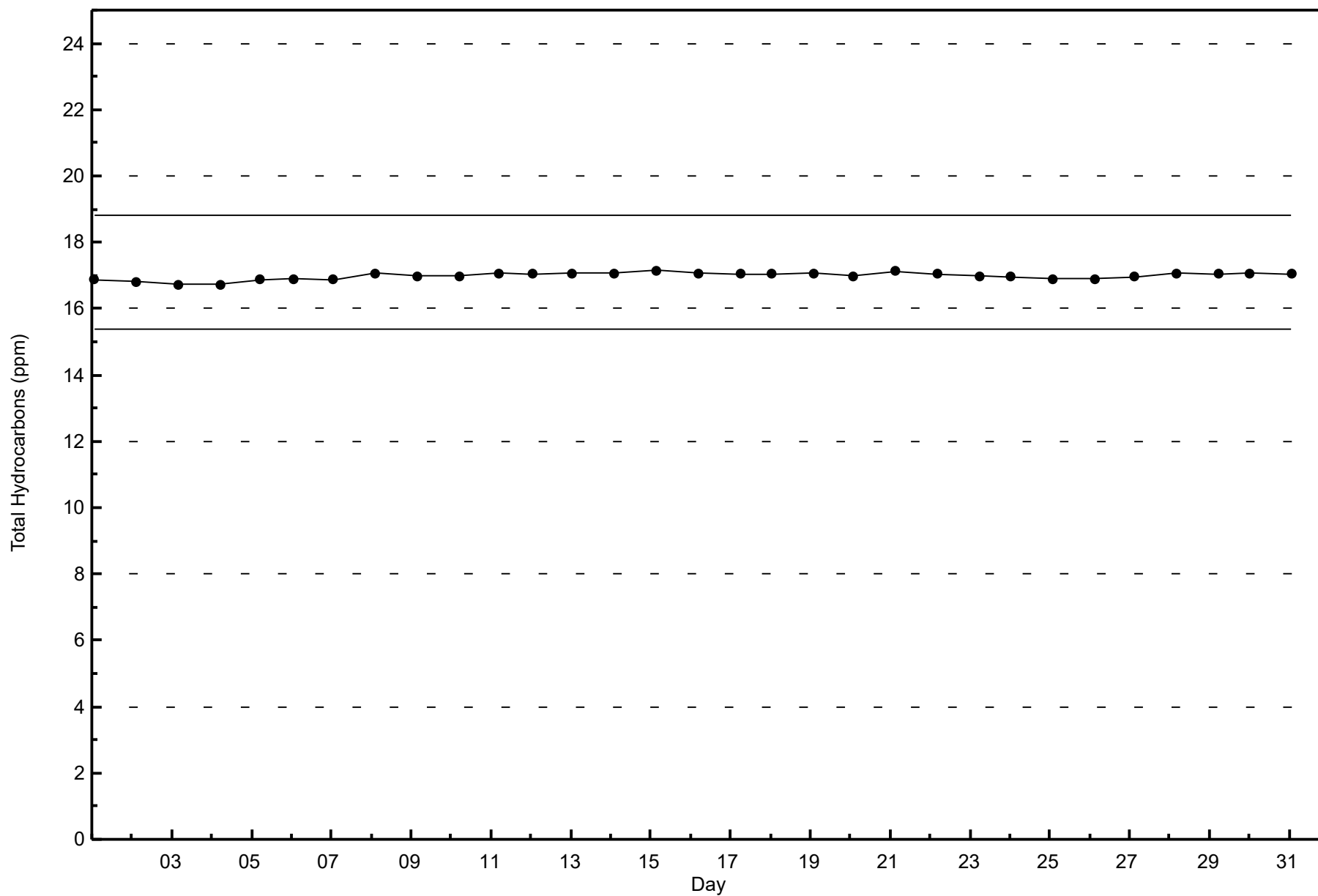
Total Hydrocarbons (THC) - ppm
Surmont 2 - July 2025





Wood Buffalo Environmental Association
Span Responses

Total Hydrocarbons (THC) - ppm
Surmont 2 - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitric Oxide (NO) - ppb

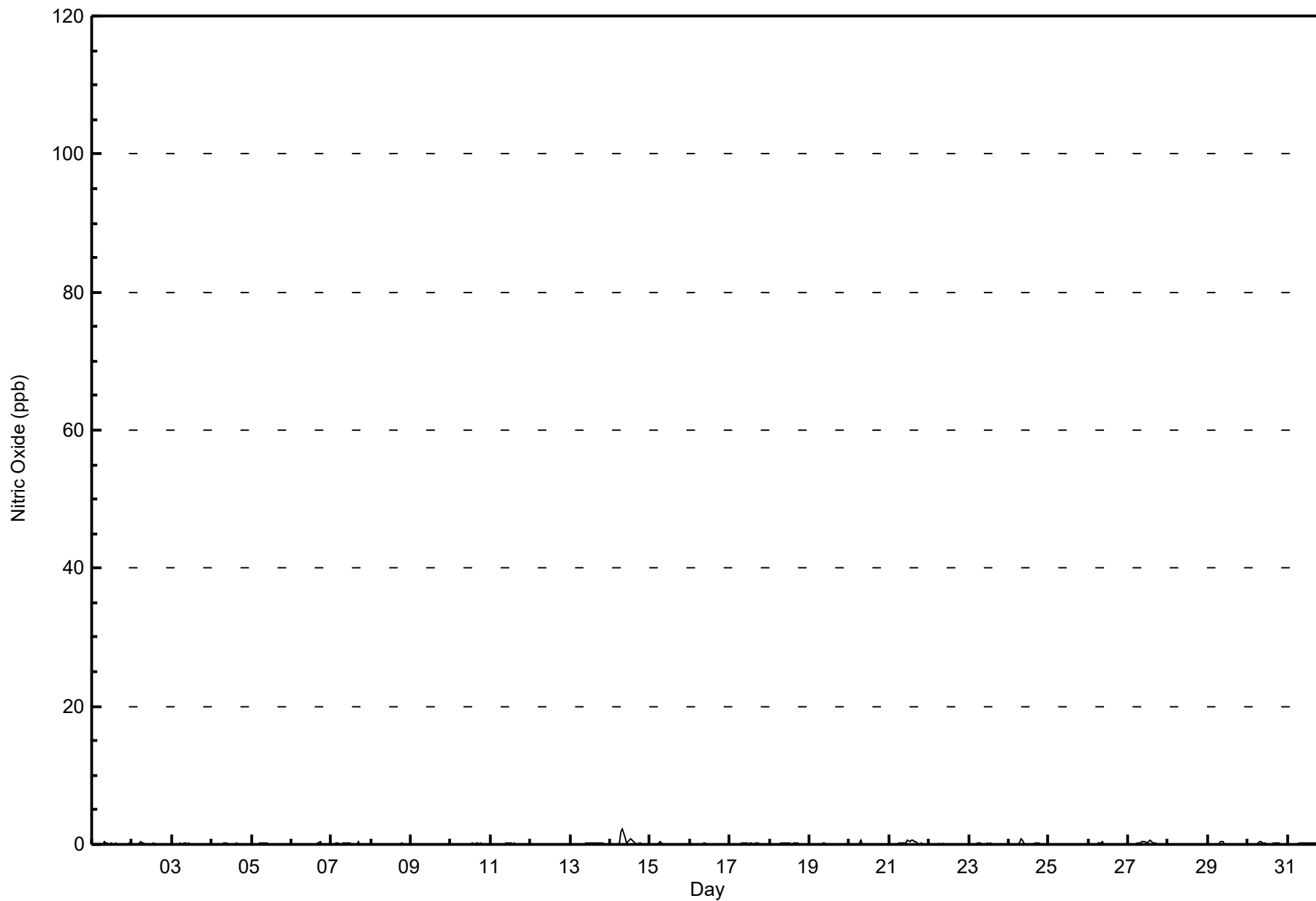
Surmont 2 - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 2.2 ppb on Jul 14 08:00 Maximum Daily Average: 0.5 ppb on Jul 14																		Hours in Service: 744								
Minimum Value: 0.0 ppb on Jul 6 02:00 Minimum Daily Average: 0.0 ppb on Jul 9 Maximum Diurnal Average: 0.3 ppb at hour 8 Minimum Diurnal Average: 0.0 ppb at hour 2 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 = 0.7																		Hours of Data: 706								
																		Hours of Missing Data: 38								
																		Hours of Calibration: 37								
																		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-Jul	0.0	0.0	0.0	0.0	0.1	Z	0.1	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	0.1	0.1	0.0	0.1	0.5
2-Jul	Z	0.0	0.0	0.0	0.1	0.4	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	0.0	0.0	0.0	0.0	0.1	0.1	0.4
3-Jul	0.0	Z	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	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
4-Jul	0.0	0.0	Z	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	0.0	0.1	0.0	0.0	0.0	0.1	0.1
5-Jul	0.0	0.0	0.0	Z	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2
6-Jul	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	0.0	0.1	0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4
7-Jul	0.0	0.0	0.0	0.1	0.2	Z	0.1	0.2	0.2	0.3	0.1	0.1	0.1	0.1	0.0	0.1	0.5	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.5
8-Jul	Z	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	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.1
9-Jul	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
10-Jul	0.0	0.0	Z	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	0.0	0.0	0.0	0.1	0.1
11-Jul	0.0	0.0	0.0	Z	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.1	0.3
12-Jul	0.0	0.0	0.0	0.0	Z	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	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
13-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.1	0.1	0.0	0.0	0.0	0.1	0.3
14-Jul	Z	0.0	0.1	0.0	0.1	0.1	1.8	2.2	1.6	1.0	0.3	0.7	0.8	0.6	0.3	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.5	2.2
15-Jul	0.0	Z	0.0	0.0	0.1	0.3	0.5	0.3	0.1	0.0	C	C	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	0.5
16-Jul	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2
17-Jul	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.2
18-Jul	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	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1
19-Jul	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	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1
20-Jul	Z	0.0	0.0	0.0	0.0	0.0	0.2	0.6	0.0	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.6
21-Jul	0.0	Z	0.0	0.0	0.0	0.0	0.2	0.3	0.3	0.2	0.2	0.6	0.5	0.7	0.6	0.5	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.2	0.7
22-Jul	0.0	0.0	Z	0.0	0.1	0.1	0.2	PF	0.2	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.2
23-Jul	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	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1
24-Jul	0.0	0.0	0.0	0.0	Z	0.1	0.2	0.8	0.5	0.2	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	0.8
25-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
26-Jul	Z	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.5	0.1	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	0.1	0.5
27-Jul	0.0	Z	0.0	0.0	0.0	0.1	0.2	0.2	0.4	0.4	0.4	0.2	0.4	0.5	0.5	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.5
28-Jul	0.0	0.0	Z	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	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
29-Jul	0.0	0.0	0.0	Z	0.1	0.1	0.1	0.3	0.4	0.5	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	0.5
30-Jul	0.0	0.0	0.0	0.1	Z	0.1	0.1	0.4	0.4	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.1	0.4
31-Jul	0.0	0.0	0.0	0.0	0.1	Z	0.1	0.1	0.2	0.1	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.2
0.0 0.0 0.0 0.0 0.0 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 0.1 0.1 0.1 0.0 0.0 0.0 0.0																										Diurnal Average
0.0 0.0 0.1 0.1 0.2 0.4 1.8 2.2 1.6 1.0 0.4 0.7 0.8 0.7 0.6 0.5 0.5 0.4 0.3 0.2 0.1 0.1 0.1 0.1																										Diurnal Maximum
Z - zerospan C - Calibration PF - Power Failure																										



Wood Buffalo Environmental Association
Hourly Averages

Nitric Oxide (NO) - ppb
Surmont 2 - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitric Oxide (NO) - ppb
Surmont 2 - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	706	100.00	100.00
21 - 40	0	0.00	100.00
41 - 60	0	0.00	100.00
61 - 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
Surmont 2 - July 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	13	6	10	8	24	67	46	20	24	62	121	128	78	33	40	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	19	13	6	10	8	24	67	46	20	24	62	121	128	78	33	40	699

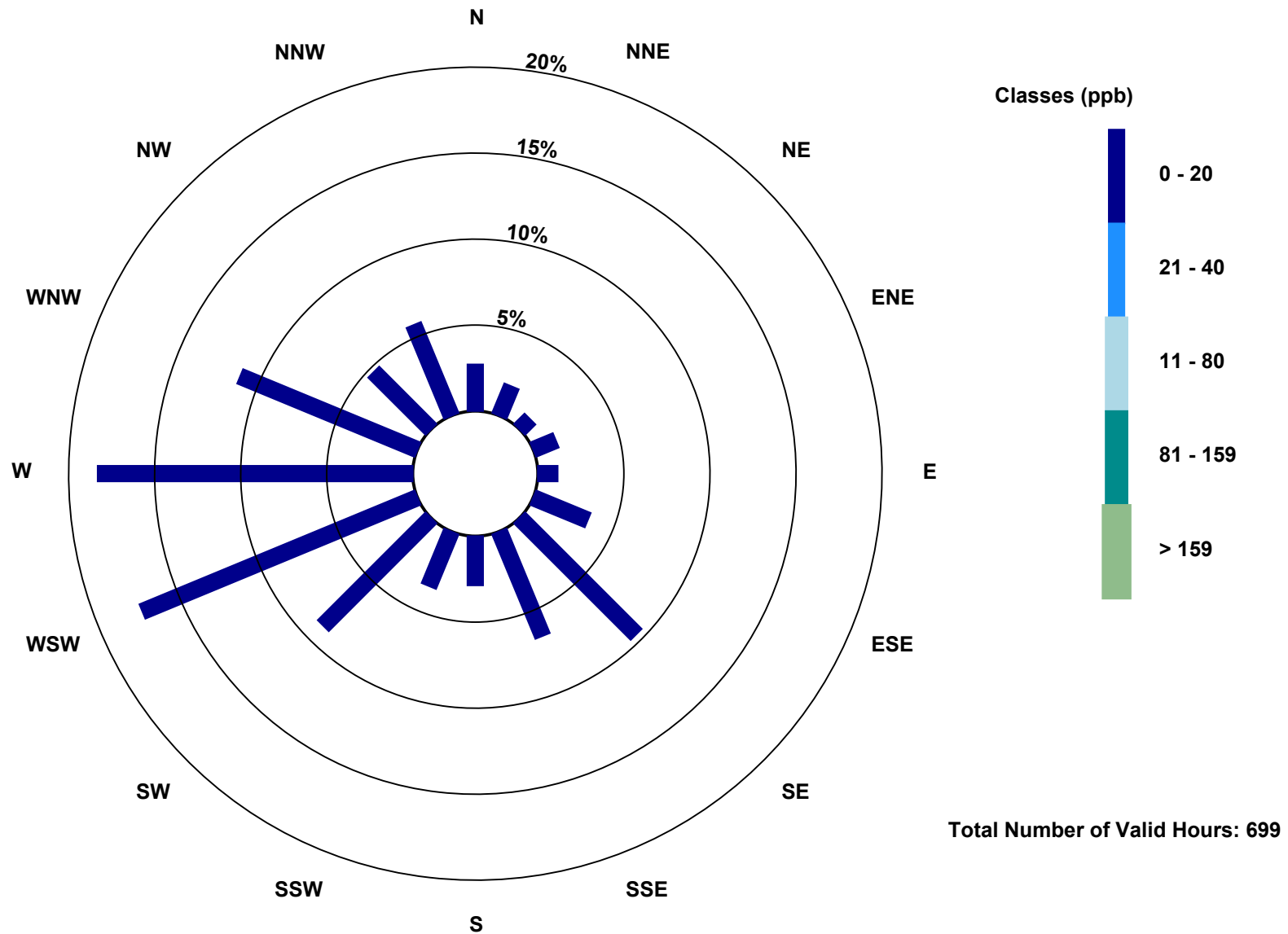
Total Number of Valid Hours: 699

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

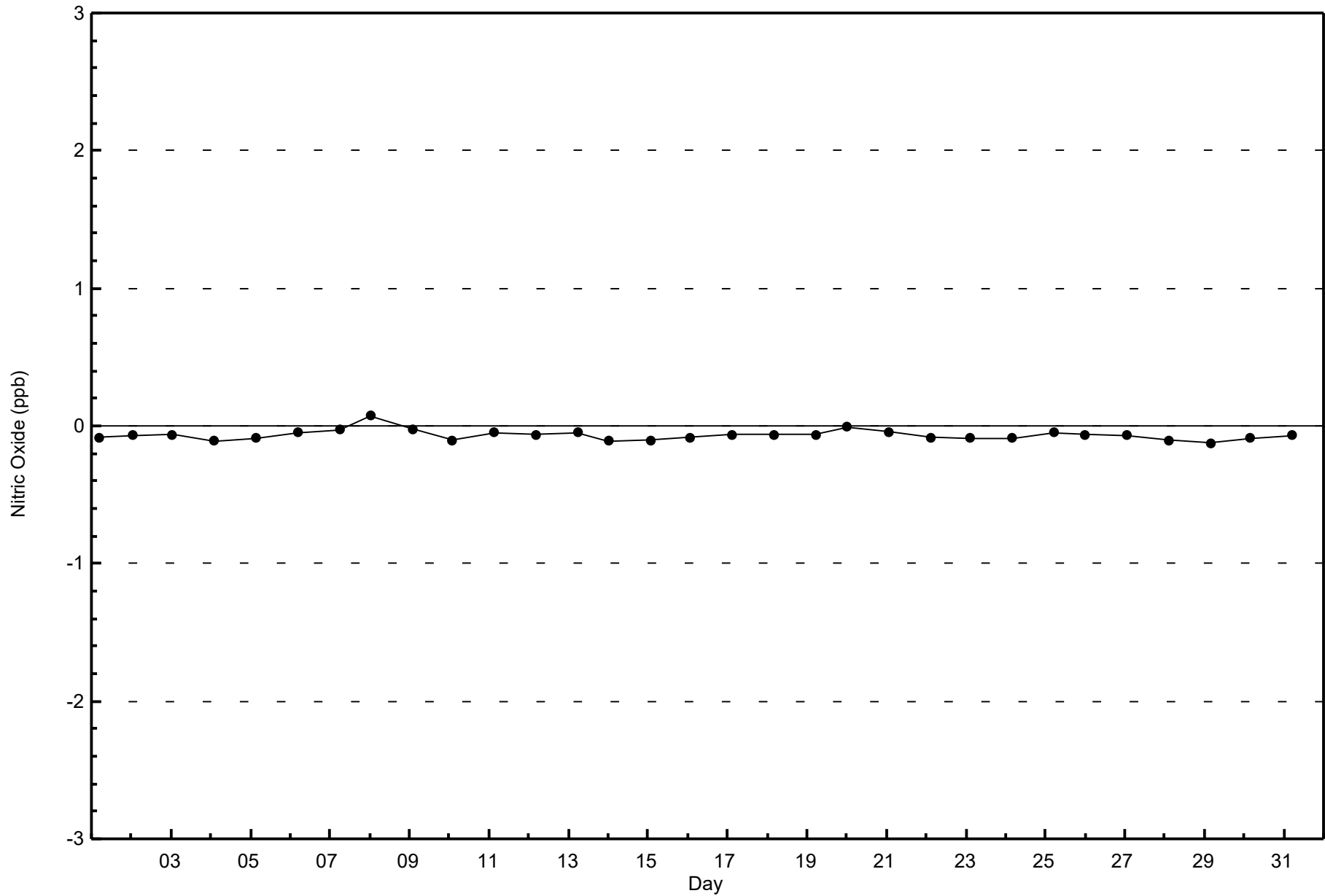
Nitric Oxide (NO) - ppb
Surmont 2





Wood Buffalo Environmental Association
Zero Responses

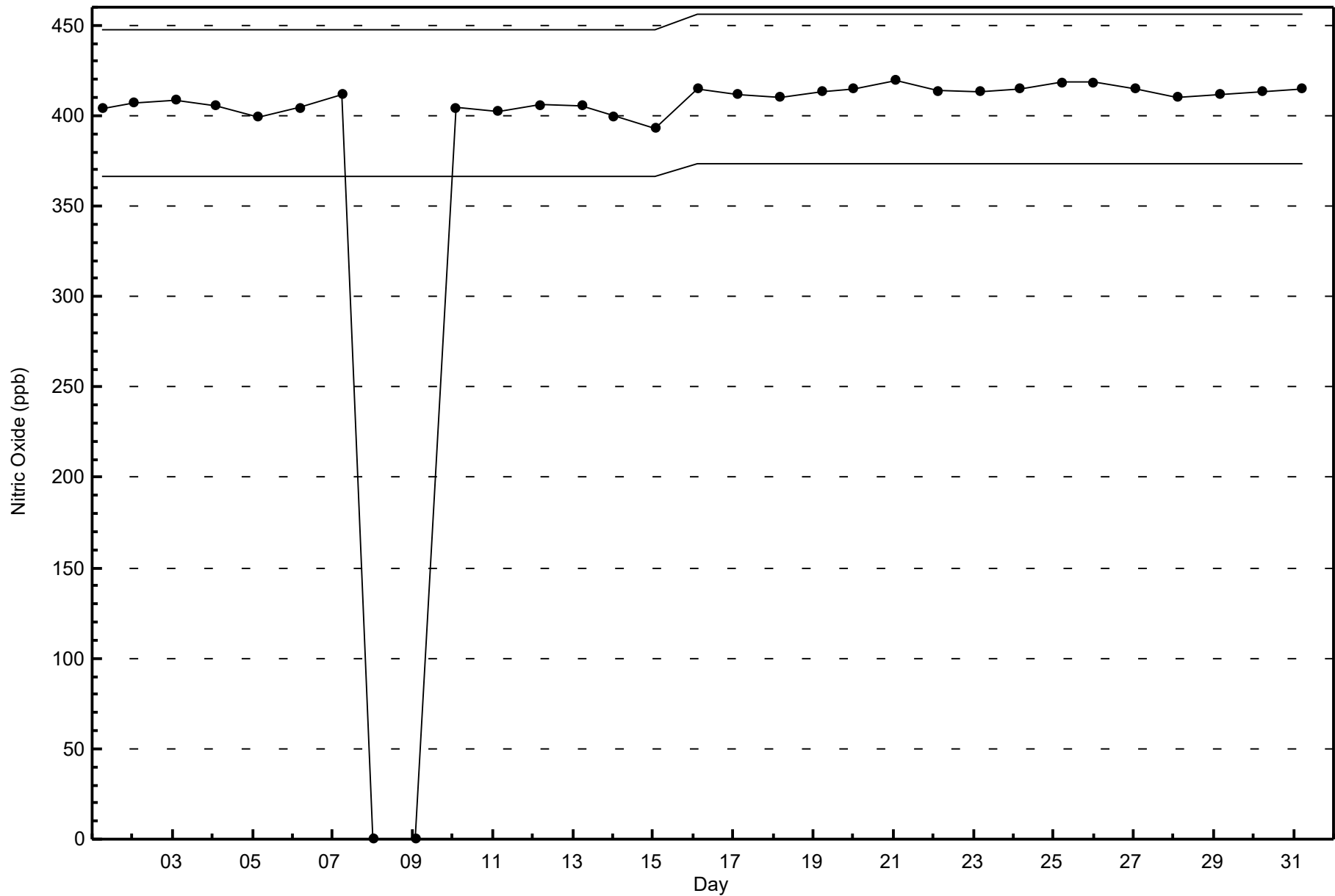
Nitric Oxide (NO) - ppb
Surmont 2 - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitric Oxide (NO) - ppb
Surmont 2 - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Dioxide (NO₂) - ppb

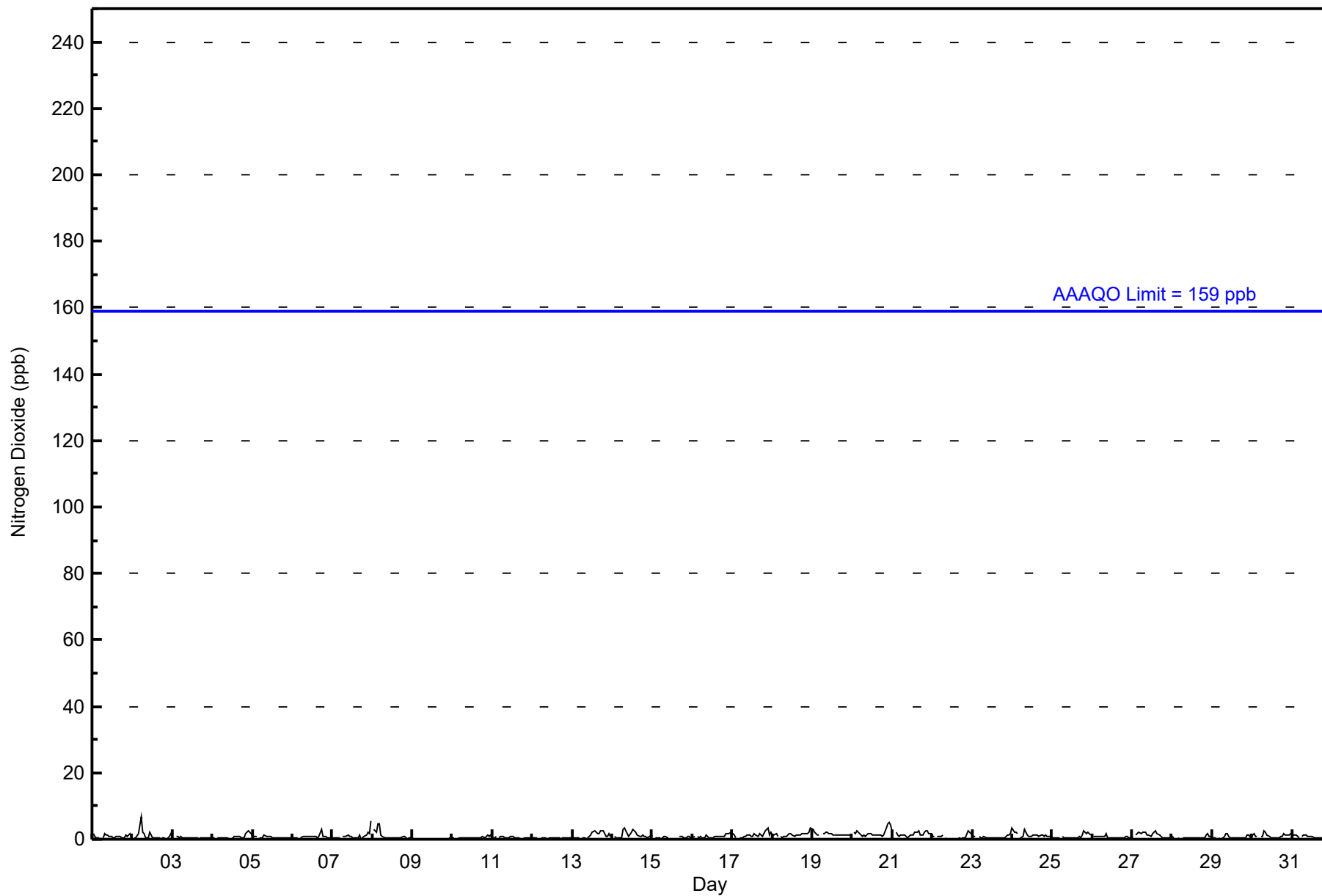
Surmont 2 - July 2025

Number of Exceedences (AAAQO): Maximum Value: 6.9 ppb on Jul 2 06:00																1-hr: 0 24-hr: 0 Maximum Daily Average: 1.9 ppb on Jul 20										Hours in Service: 744	
Minimum Value: 0.0 ppb on Jul 9 09:00 Maximum Diurnal Average: 1.5 ppb at hour 22 Monthly Average: 0.94 ppb																Minimum Daily Average: 0.1 ppb on Jul 9 Minimum Diurnal Average: 0.7 ppb at hour 19 Percentiles: P ₁ = 0.1 P ₁₀ = 0.3 Q ₁ = 0.4 Median = 0.7 Q ₃ = 1.2 P ₉₀ = 1.9 P ₉₉ = 4.3										Hours of Data: 706	
																										Hours of Missing Data: 38	
																										Hours of Calibration: 37	
																										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-Jul	1.6	0.7	0.4	0.5	0.5	Z	0.6	1.6	1.4	1.1	0.7	0.7	0.6	0.6	1.0	0.7	0.7	0.5	0.4	0.4	1.1	0.9	1.7	0.7	0.8		
2-Jul	Z	0.6	0.5	1.6	4.3	6.9	2.1	1.9	0.6	0.3	2.2	1.3	0.6	0.6	0.5	0.4	0.3	0.2	0.3	0.3	0.2	0.4	0.7	1.7	1.2		
3-Jul	0.8	Z	1.0	0.7	0.4	0.7	0.5	0.6	0.5	0.5	0.4	0.3	0.3	0.4	0.4	0.4	0.2	0.3	0.4	0.4	0.4	0.3	0.3	0.4	0.5		
4-Jul	0.6	0.6	Z	0.6	0.6	0.5	0.3	0.5	0.3	0.3	0.2	0.2	0.4	0.9	1.0	0.8	0.7	0.6	0.4	0.4	1.7	2.6	2.1	1.7	0.8		
5-Jul	0.9	0.8	0.9	Z	0.5	0.4	0.4	1.3	0.8	0.8	0.8	0.7	0.4	0.5	0.4	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.5	0.6		
6-Jul	0.4	0.4	0.4	0.6	Z	0.6	0.8	0.8	0.8	0.9	0.9	0.8	0.9	0.9	0.8	0.6	0.9	2.8	0.8	0.7	0.7	0.6	0.5	0.4	0.8		
7-Jul	0.4	0.4	0.4	0.5	0.6	Z	0.7	0.7	0.7	1.1	0.8	0.9	0.5	0.5	0.6	0.6	1.1	0.2	0.3	0.8	1.2	2.0	1.5	5.7	1.0		
8-Jul	Z	2.9	2.3	4.8	4.5	1.2	0.7	0.6	0.5	0.5	0.6	0.5	0.5	0.4	0.5	0.5	0.3	0.3	1.0	0.7	0.3	0.1	0.3	0.3	1.1		
9-Jul	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.2	0.1		
10-Jul	0.3	0.3	Z	0.3	0.3	0.5	0.5	0.4	0.3	0.4	0.3	0.4	0.4	0.5	0.3	0.5	0.6	0.5	0.7	0.6	0.9	1.2	0.9	1.3	0.5		
11-Jul	0.5	0.6	0.7	Z	0.6	0.9	0.9	0.6	0.4	0.5	0.5	0.9	0.7	0.3	0.5	0.3	0.3	0.2	0.2	0.3	0.4	0.4	0.5	0.4	0.5		
12-Jul	0.5	0.4	0.4	0.3	Z	0.5	0.5	0.4	0.3	0.2	0.3	0.4	0.4	0.5	0.4	0.3	0.4	0.2	0.3	0.4	0.5	0.4	0.4	0.3	0.4		
13-Jul	0.2	0.3	0.4	0.3	0.5	Z	0.4	0.3	0.2	0.5	1.0	1.2	2.0	2.5	2.0	1.5	1.9	2.6	2.7	1.8	1.0	1.0	1.7	1.0	1.2		
14-Jul	Z	0.9	0.4	0.5	0.4	0.4	3.1	3.3	2.4	1.7	0.7	2.2	2.9	2.5	2.0	1.1	0.8	0.7	1.2	0.7	0.9	0.6	0.7	1.2	1.4		
15-Jul	0.9	Z	0.6	0.5	0.3	0.2	0.5	0.7	0.7	0.6	C	C	C	C	C	C	0.7	0.7	0.7	0.5	0.5	1.0	0.9	0.4	--		
16-Jul	0.3	0.7	Z	0.8	0.6	0.7	0.6	0.6	1.4	0.8	0.6	0.6	0.6	0.7	0.8	0.8	0.7	0.8	0.9	0.9	1.6	1.7	1.7	2.0	0.9		
17-Jul	1.6	1.4	0.6	Z	0.5	0.5	0.4	1.0	1.0	1.1	1.2	1.0	1.0	1.6	1.2	1.0	1.6	1.1	0.9	1.7	2.7	3.6	1.3	2.1	1.3		
18-Jul	1.1	1.1	1.5	1.0	Z	1.0	0.6	0.7	0.9	1.2	1.6	1.7	1.2	1.0	1.4	1.4	1.2	1.4	1.8	1.5	1.6	1.9	2.3	3.2	1.4		
19-Jul	2.8	2.3	1.8	1.2	1.3	Z	1.7	1.6	2.3	2.2	1.6	1.7	1.4	1.2	1.4	1.2	1.2	1.2	1.1	1.2	1.3	1.4	1.4	0.9	1.5		
20-Jul	Z	2.2	1.8	2.5	1.9	1.2	0.7	1.2	1.0	1.9	1.7	1.9	1.2	1.1	1.1	1.2	1.1	1.1	0.8	1.2	3.5	4.8	5.0	4.1	1.9		
21-Jul	2.0	Z	2.2	1.1	0.8	1.1	1.2	1.3	0.7	0.6	0.8	1.3	1.4	2.0	2.1	2.1	2.4	1.4	1.1	2.1	2.5	2.5	1.6	1.7	1.6		
22-Jul	1.0	1.0	Z	0.7	0.8	0.8	1.2	PF	0.5	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.3	0.2	0.4	0.5	0.5	2.5	2.3	1.9	0.7		
23-Jul	1.2	0.9	1.0	Z	0.9	0.4	0.4	0.7	0.5	0.3	0.6	0.6	0.3	0.6	0.5	0.5	0.4	0.4	0.3	0.4	0.9	1.1	1.4	1.9	0.7		
24-Jul	3.3	2.1	2.2	1.5	Z	0.5	1.0	2.8	2.1	1.3	0.9	1.0	1.2	1.1	1.1	1.3	0.8	1.1	1.1	1.0	1.1	0.9	1.0	0.9	1.4		
25-Jul	0.6	0.5	0.5	0.5	0.5	Z	0.7	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.7	0.5	1.1	2.4	1.6	2.3	1.5	1.4	0.8		
26-Jul	Z	0.8	0.7	0.7	0.8	0.7	0.8	0.7	1.7	0.6	0.3	0.3	0.3	0.4	0.6	0.6	0.3	0.3	0.3	0.5	0.7	0.9	0.6	0.6	0.6		
27-Jul	0.8	Z	1.4	1.8	2.0	1.9	2.3	2.0	2.1	1.3	1.2	0.7	1.5	2.1	2.6	1.7	1.2	0.7	0.4	0.3	0.3	0.3	0.4	0.4	1.3		
28-Jul	0.7	0.3	Z	0.3	0.2	0.2	0.2	0.4	0.5	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.5	1.1	1.6	1.0	0.7	0.5		
29-Jul	0.5	0.4	0.4	Z	0.4	0.2	0.3	0.9	1.5	1.8	0.7	0.4	0.3	0.3	0.4	0.4	0.4	0.3	0.5	0.4	0.3	1.3	1.1	0.6	0.6		
30-Jul	1.3	1.5	0.8	0.7	Z	0.8	0.9	2.6	2.2	1.4	0.8	0.4	0.4	0.4	0.4	0.4	0.5	0.7	0.7	1.7	1.2	1.3	1.1	1.7	1.0		
31-Jul	1.9	1.4	1.1	0.8	0.5	Z	0.8	1.2	1.4	0.9	1.0	0.8	0.8	0.6	0.4	0.4	0.5	0.4	0.4	0.4	1.4	5.9	3.7	3.3	1.3		
1.0 1.0 0.9 1.0 1.0 0.9 0.8 1.1 1.0 0.8 0.8 0.8 0.8 0.8 0.9 0.7 0.7 0.7 0.7 0.8 1.1 1.5 1.3 1.4																								Diurnal Average			
3.3 2.9 2.3 4.8 4.5 6.9 3.1 3.3 2.4 2.2 2.2 2.2 2.9 2.5 2.6 2.1 2.4 2.8 2.7 2.4 3.5 5.9 5.0 5.7																								Diurnal Maximum			
Z - zerospan C - Calibration PF - Power Failure																											
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb																											



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
Surmont 2 - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Surmont 2 - July 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

Nitrogen Dioxide (NO₂) - ppb
Surmont 2 - July 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	13	6	10	8	24	67	46	20	24	62	121	128	78	33	40	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	19	13	6	10	8	24	67	46	20	24	62	121	128	78	33	40	699

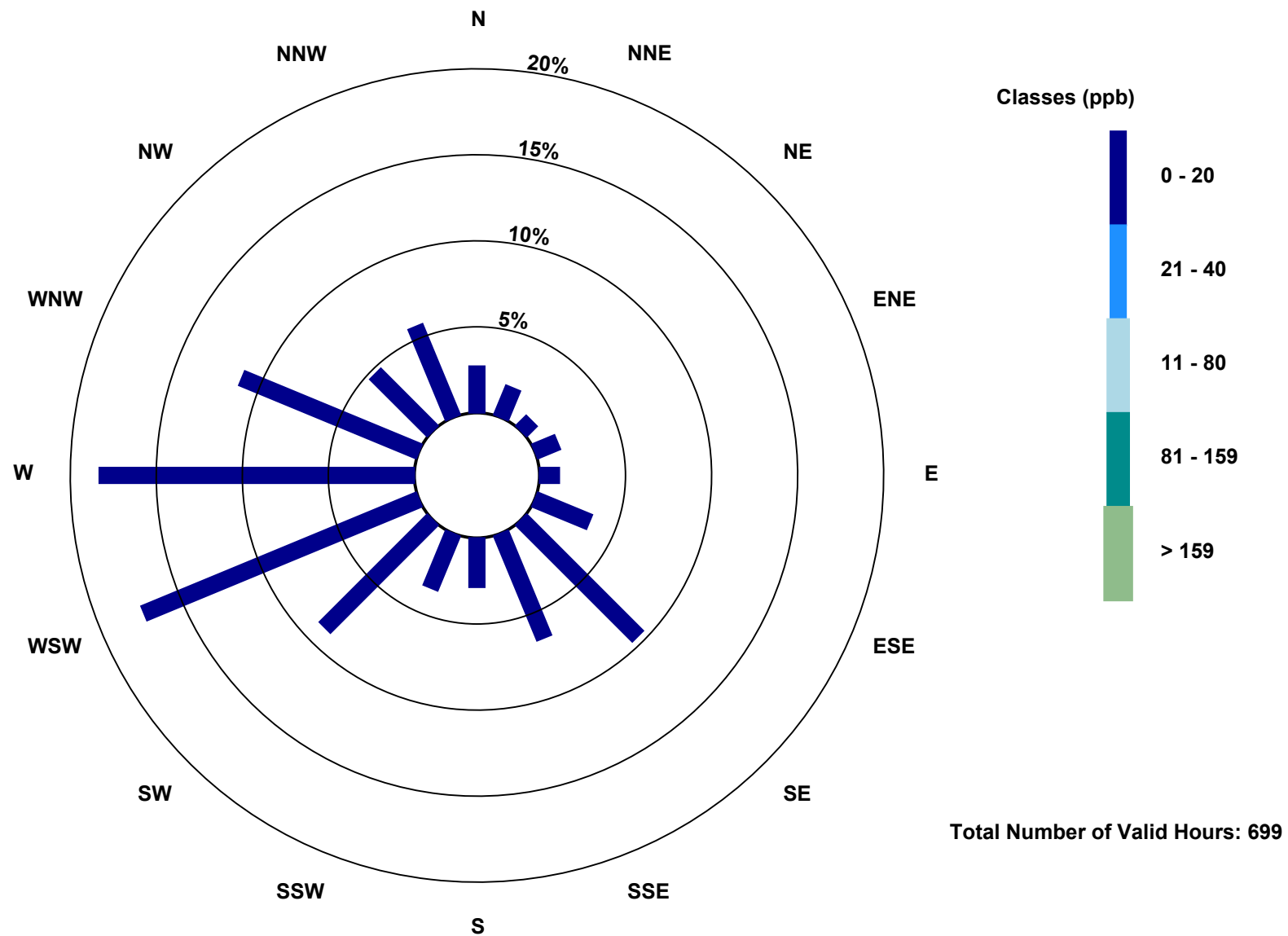
Total Number of Valid Hours: 699

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

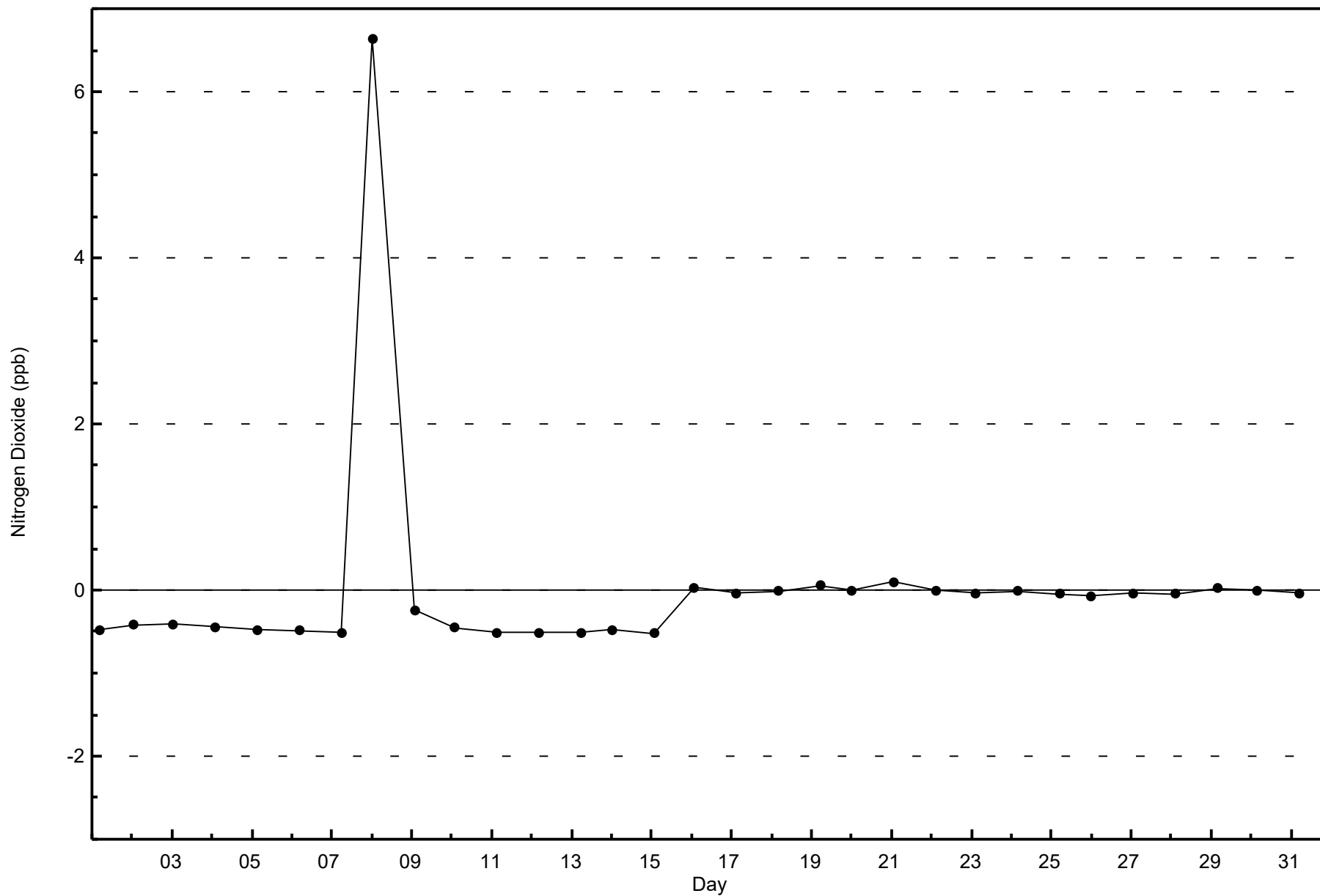
Nitrogen Dioxide (NO₂) - ppb
Surmont 2





Wood Buffalo Environmental Association
Zero Responses

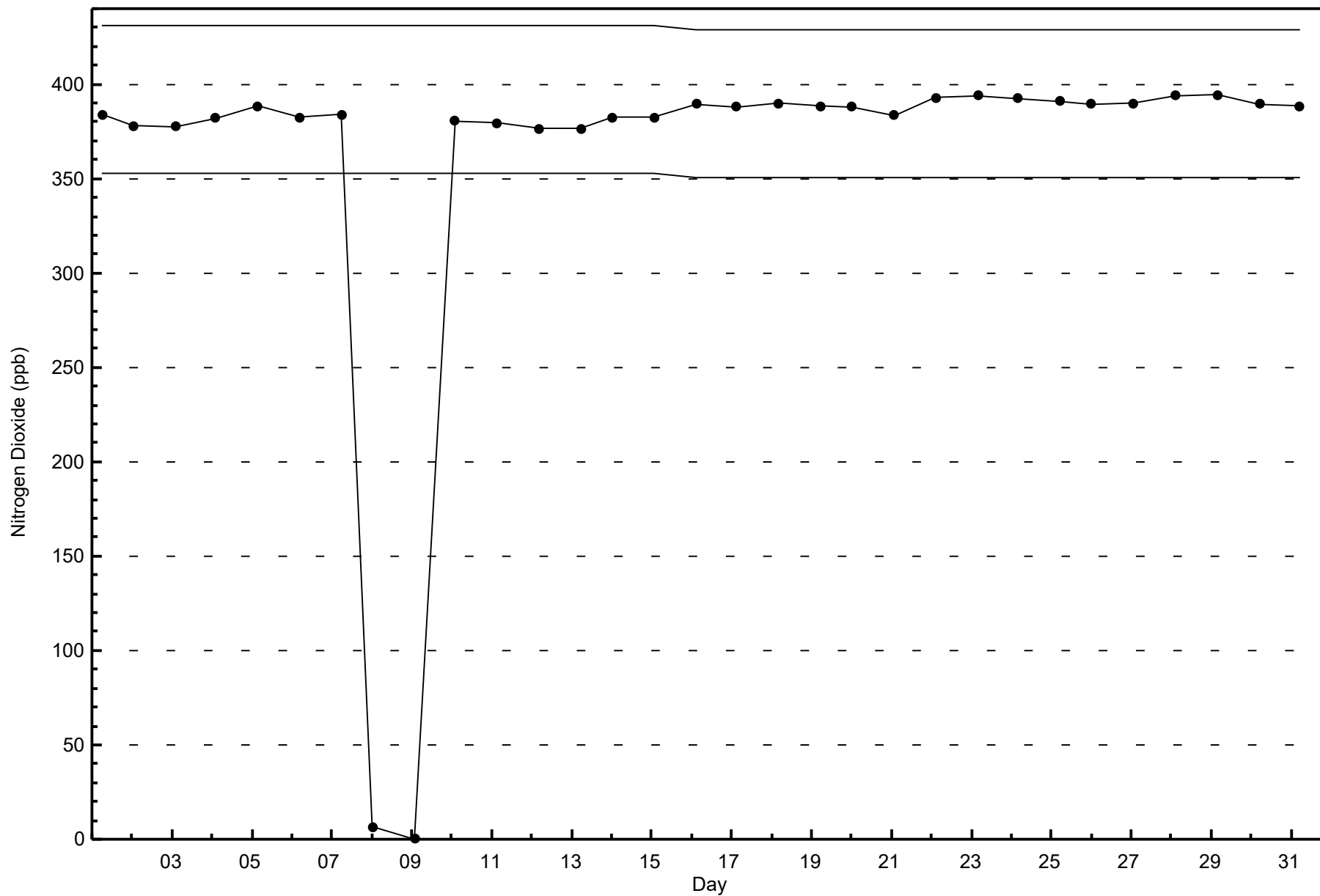
Nitrogen Dioxide (NO₂) - ppb
Surmont 2 - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitrogen Dioxide (NO₂) - ppb
Surmont 2 - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Oxides (NO_x) - ppb

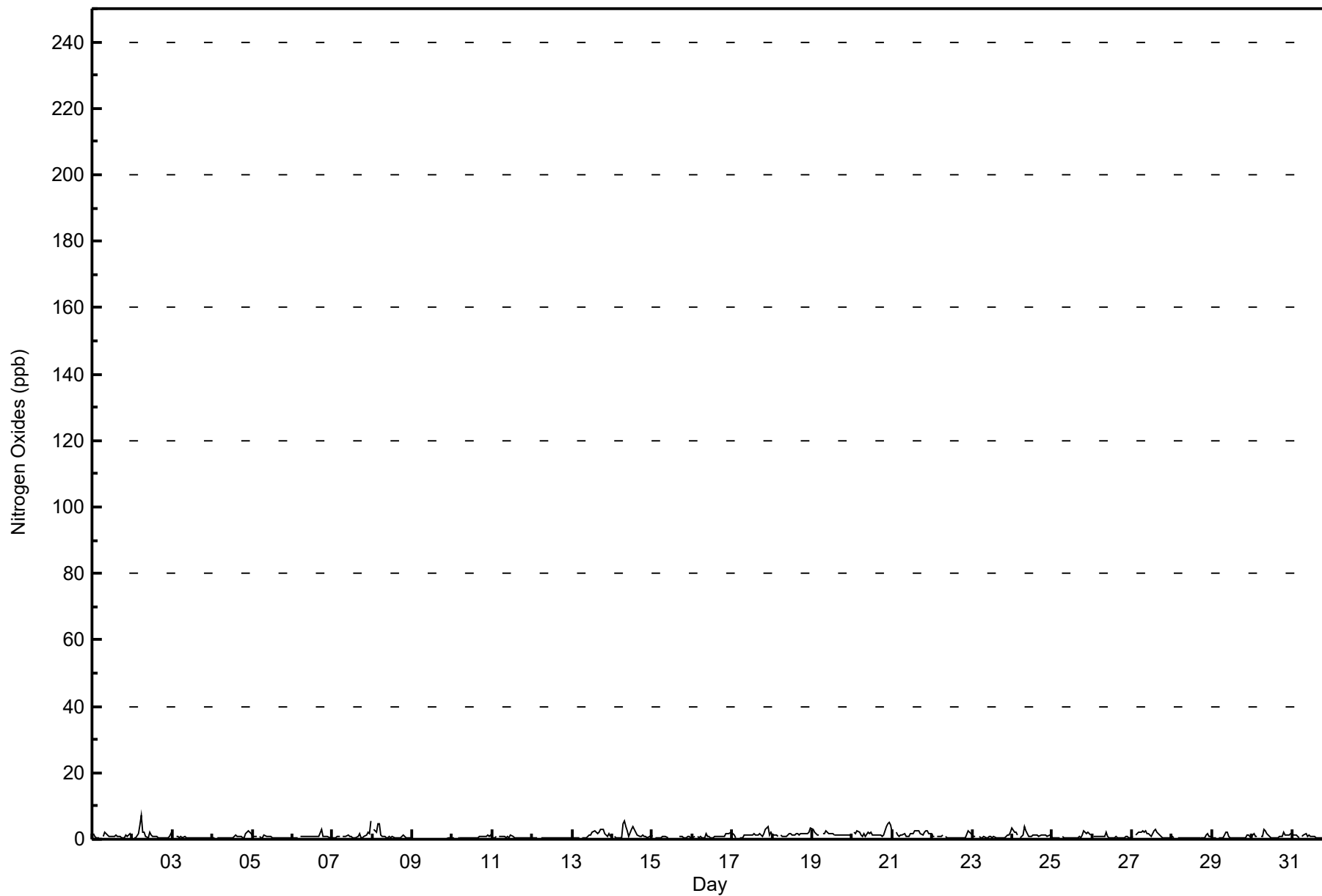
Surmont 2 - July 2025

Number of Exceedences (AAAQO): Maximum Value: 7.3 ppb on Jul 2 06:00																			1-hr: 0 24-hr: 0 Maximum Daily Average: 2.0 ppb on Jul 20																			Hours in Service: 744	
Minimum Value: 0.0 ppb on Jul 9 13:00 Maximum Diurnal Average: 1.5 ppb at hour 22 Monthly Average: 1.03 ppb																			Minimum Daily Average: 0.1 ppb on Jul 9 Minimum Diurnal Average: 0.8 ppb at hour 19 Percentiles: P ₁ = 0.1 P ₁₀ = 0.3 Q ₁ = 0.5 Median = 0.7 Q ₃ = 1.3 P ₉₀ = 2.1 P ₉₉ = 4.8																			Hours of Data: 706	
																																						Hours of Missing Data: 38	
																																						Hours of Calibration: 37	
																																						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-Jul	1.6	0.7	0.4	0.5	0.6	Z	0.7	2.1	1.6	1.3	0.8	0.8	0.7	0.7	1.1	0.8	0.8	0.6	0.5	0.5	1.2	1.0	1.8	0.7	0.9	2.1													
2-Jul	Z	0.6	0.5	1.6	4.4	7.3	2.3	2.0	0.7	0.4	2.3	1.3	0.7	0.7	0.6	0.5	0.4	0.3	0.4	0.3	0.2	0.4	0.7	1.8	1.3	7.3													
3-Jul	0.8	Z	1.0	0.7	0.5	0.8	0.6	0.7	0.6	0.6	0.5	0.4	0.4	0.5	0.5	0.4	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.4	0.5	1.0													
4-Jul	0.6	0.6	Z	0.6	0.6	0.6	0.3	0.6	0.4	0.4	0.3	0.3	0.5	1.0	1.1	0.9	0.8	0.7	0.5	0.4	1.8	2.6	2.1	1.7	0.8	2.6													
5-Jul	0.9	0.8	0.9	Z	0.7	0.6	0.6	1.5	1.0	0.9	0.9	0.8	0.4	0.6	0.5	0.5	0.6	0.6	0.5	0.4	0.4	0.4	0.3	0.5	0.7	1.5													
6-Jul	0.4	0.4	0.4	0.6	Z	0.7	0.9	0.9	0.9	1.0	1.0	0.9	1.0	1.0	0.8	0.7	1.0	3.2	0.8	0.7	0.7	0.6	0.5	0.4	0.9	3.2													
7-Jul	0.4	0.4	0.4	0.6	0.8	Z	0.8	0.9	0.9	1.4	0.9	1.0	0.6	0.6	0.6	0.7	1.6	0.2	0.3	0.9	1.2	2.0	1.5	5.7	1.1	5.7													
8-Jul	Z	2.9	2.3	4.8	4.6	1.2	0.7	0.7	0.5	0.5	0.7	0.6	0.6	0.5	0.6	0.6	0.4	0.4	1.1	0.8	0.3	0.2	0.3	0.4	1.1	4.8													
9-Jul	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.2	0.1	0.3													
10-Jul	0.3	0.3	Z	0.3	0.3	0.6	0.5	0.5	0.4	0.5	0.4	0.5	0.5	0.6	0.4	0.6	0.7	0.6	0.8	0.7	1.0	1.2	0.9	1.3	0.6	1.3													
11-Jul	0.5	0.6	0.7	Z	0.6	0.9	1.0	0.7	0.5	0.6	0.6	1.2	0.9	0.4	0.6	0.4	0.4	0.3	0.3	0.3	0.4	0.4	0.5	0.4	0.6	1.2													
12-Jul	0.5	0.4	0.4	0.3	Z	0.5	0.6	0.4	0.4	0.3	0.4	0.5	0.5	0.6	0.5	0.4	0.5	0.3	0.3	0.4	0.5	0.4	0.4	0.4	0.4	0.6													
13-Jul	0.2	0.3	0.4	0.3	0.5	Z	0.5	0.4	0.3	0.6	1.2	1.4	2.2	2.7	2.2	1.8	2.2	2.9	3.0	1.9	1.1	1.0	1.7	1.0	1.3	3.0													
14-Jul	Z	0.9	0.5	0.5	0.5	0.5	4.9	5.5	4.0	2.7	1.0	2.9	3.7	3.1	2.3	1.3	0.9	0.8	1.3	0.7	0.9	0.6	0.7	1.2	1.8	5.5													
15-Jul	0.9	Z	0.6	0.5	0.4	0.5	1.0	1.0	0.8	0.6	C	C	C	C	C	C	0.7	0.7	0.7	0.5	0.5	1.0	0.9	0.4	--	1.0													
16-Jul	0.3	0.7	Z	0.8	0.6	0.7	0.6	0.6	1.6	0.9	0.7	0.6	0.6	0.7	0.9	0.9	0.8	0.9	0.9	0.9	1.7	1.7	1.7	2.0	0.9	2.0													
17-Jul	1.6	1.4	0.6	Z	0.5	0.5	0.5	1.1	1.1	1.2	1.4	1.1	1.1	1.7	1.3	1.1	1.8	1.2	1.0	1.8	2.8	3.7	1.3	2.1	1.4	3.7													
18-Jul	1.1	1.1	1.5	1.0	Z	1.1	0.7	0.8	1.0	1.3	1.7	1.8	1.3	1.1	1.5	1.5	1.3	1.5	1.9	1.6	1.7	1.9	2.3	3.2	1.5	3.2													
19-Jul	2.8	2.3	1.8	1.2	1.3	Z	1.8	1.7	2.4	2.3	1.7	1.8	1.5	1.3	1.5	1.3	1.3	1.3	1.2	1.2	1.3	1.4	1.4	0.9	1.6	2.8													
20-Jul	Z	2.2	1.8	2.5	1.9	1.2	0.9	1.8	1.0	2.0	1.7	2.0	1.2	1.2	1.2	1.3	1.2	1.2	0.9	1.3	3.6	4.8	5.1	4.1	2.0	5.1													
21-Jul	2.0	Z	2.2	1.1	0.8	1.1	1.4	1.6	1.0	0.8	1.0	1.9	1.9	2.7	2.7	2.6	2.7	1.5	1.2	2.2	2.5	2.5	1.6	1.7	1.8	2.7													
22-Jul	1.0	1.0	Z	0.7	0.9	0.9	1.4	PF	0.7	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.4	0.3	0.4	0.6	0.5	2.5	2.3	1.9	0.8	2.5													
23-Jul	1.2	0.9	1.0	Z	1.0	0.5	0.5	0.8	0.6	0.4	0.7	0.7	0.4	0.7	0.6	0.6	0.5	0.5	0.4	0.5	1.0	1.1	1.4	1.9	0.8	1.9													
24-Jul	3.3	2.1	2.2	1.5	Z	0.6	1.2	3.6	2.6	1.5	1.0	1.1	1.3	1.2	1.2	1.4	0.9	1.3	1.2	1.1	1.2	1.0	1.1	1.0	1.5	3.6													
25-Jul	0.6	0.5	0.5	0.5	0.5	Z	0.7	0.4	0.4	0.3	0.3	0.3	0.4	0.5	0.5	0.5	0.8	0.5	1.1	2.5	1.6	2.3	1.5	1.4	0.8	2.5													
26-Jul	Z	0.8	0.7	0.7	0.8	0.8	1.0	0.8	2.2	0.7	0.3	0.3	0.3	0.5	0.7	0.6	0.3	0.3	0.3	0.5	0.7	0.9	0.6	0.6	0.7	2.2													
27-Jul	0.8	Z	1.4	1.8	2.0	2.0	2.5	2.2	2.5	1.7	1.6	0.9	1.9	2.6	3.1	2.0	1.3	0.8	0.4	0.3	0.3	0.3	0.4	0.4	1.4	3.1													
28-Jul	0.7	0.3	Z	0.3	0.2	0.2	0.3	0.4	0.5	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.6	0.5	0.5	1.1	1.6	1.0	0.7	0.5	1.6													
29-Jul	0.5	0.4	0.4	Z	0.5	0.3	0.4	1.2	1.9	2.3	0.8	0.5	0.4	0.4	0.5	0.5	0.5	0.4	0.6	0.5	0.4	1.3	1.1	0.6	0.7	2.3													
30-Jul	1.3	1.5	0.8	0.8	Z	0.9	1.0	3.0	2.6	1.7	0.9	0.5	0.5	0.5	0.5	0.5	0.6	0.8	0.8	1.9	1.3	1.4	1.2	1.7	1.2	3.0													
31-Jul	1.9	1.4	1.1	0.8	0.6	Z	0.9	1.3	1.6	1.0	1.2	0.9	1.0	0.8	0.5	0.5	0.6	0.5	0.5	0.5	1.5	6.0	3.8	3.3	1.4	6.0													
1.0 1.0 0.9 1.0 1.0 1.0 1.0 1.3 1.2 1.0 0.9 0.9 0.9 1.0 1.0 0.9 0.9 0.8 0.8 0.9 1.1 1.5 1.3 1.4																										Diurnal Average													
3.3 2.9 2.3 4.8 4.6 7.3 4.9 5.5 4.0 2.7 2.3 2.9 3.7 3.1 3.1 2.6 2.7 3.2 3.0 2.5 3.6 6.0 5.1 5.7																										Diurnal Maximum													
Z - zerospan C - Calibration PF - Power Failure																																							



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Surmont 2 - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Surmont 2 - July 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

Nitrogen Oxides (NO_x) - ppb
Surmont 2 - July 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	13	6	10	8	24	67	46	20	24	62	121	128	78	33	40	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	19	13	6	10	8	24	67	46	20	24	62	121	128	78	33	40	699

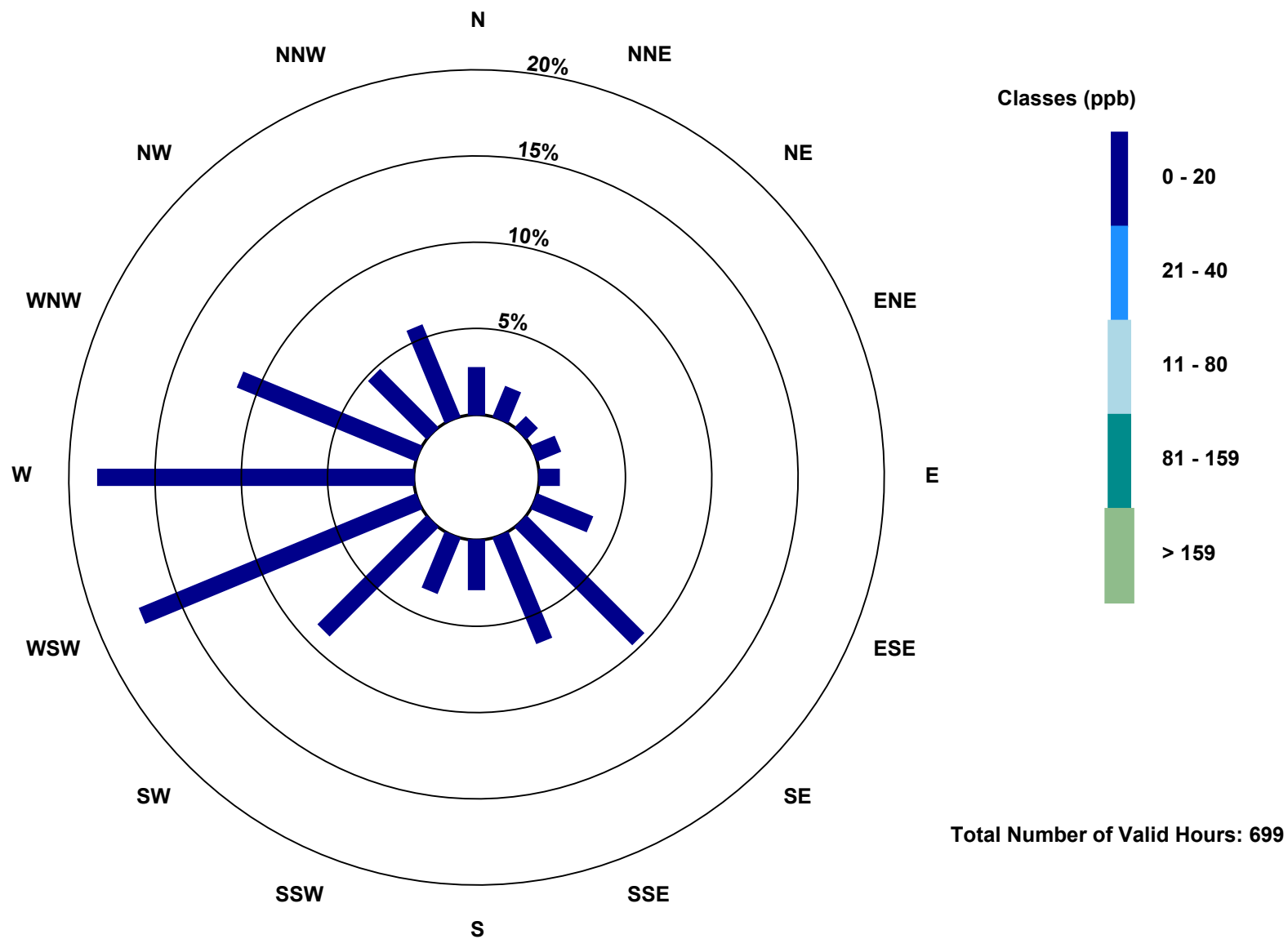
Total Number of Valid Hours: 699

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

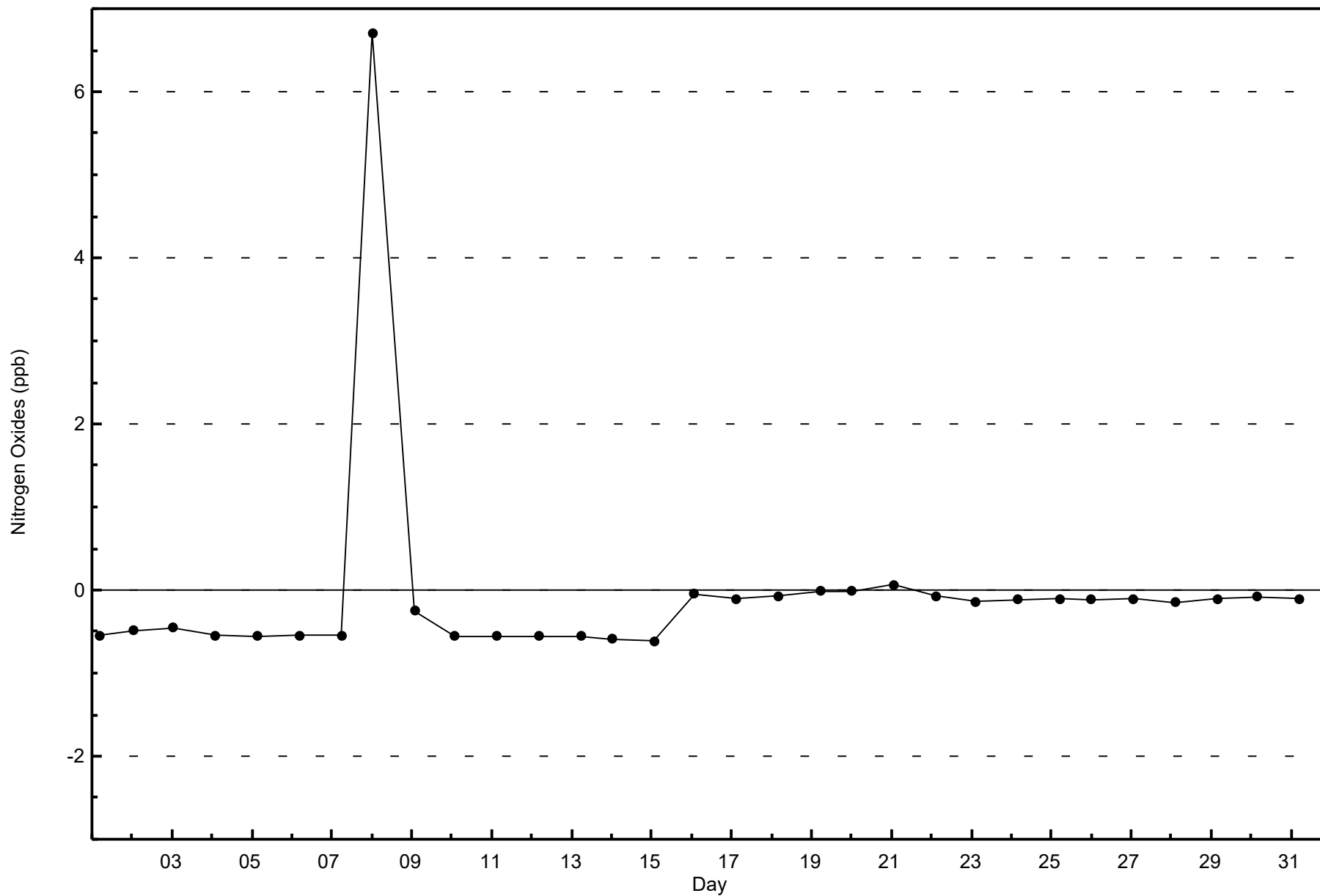
Nitrogen Oxides (NO_x) - ppb
Surmont 2





Wood Buffalo Environmental Association
Zero Responses

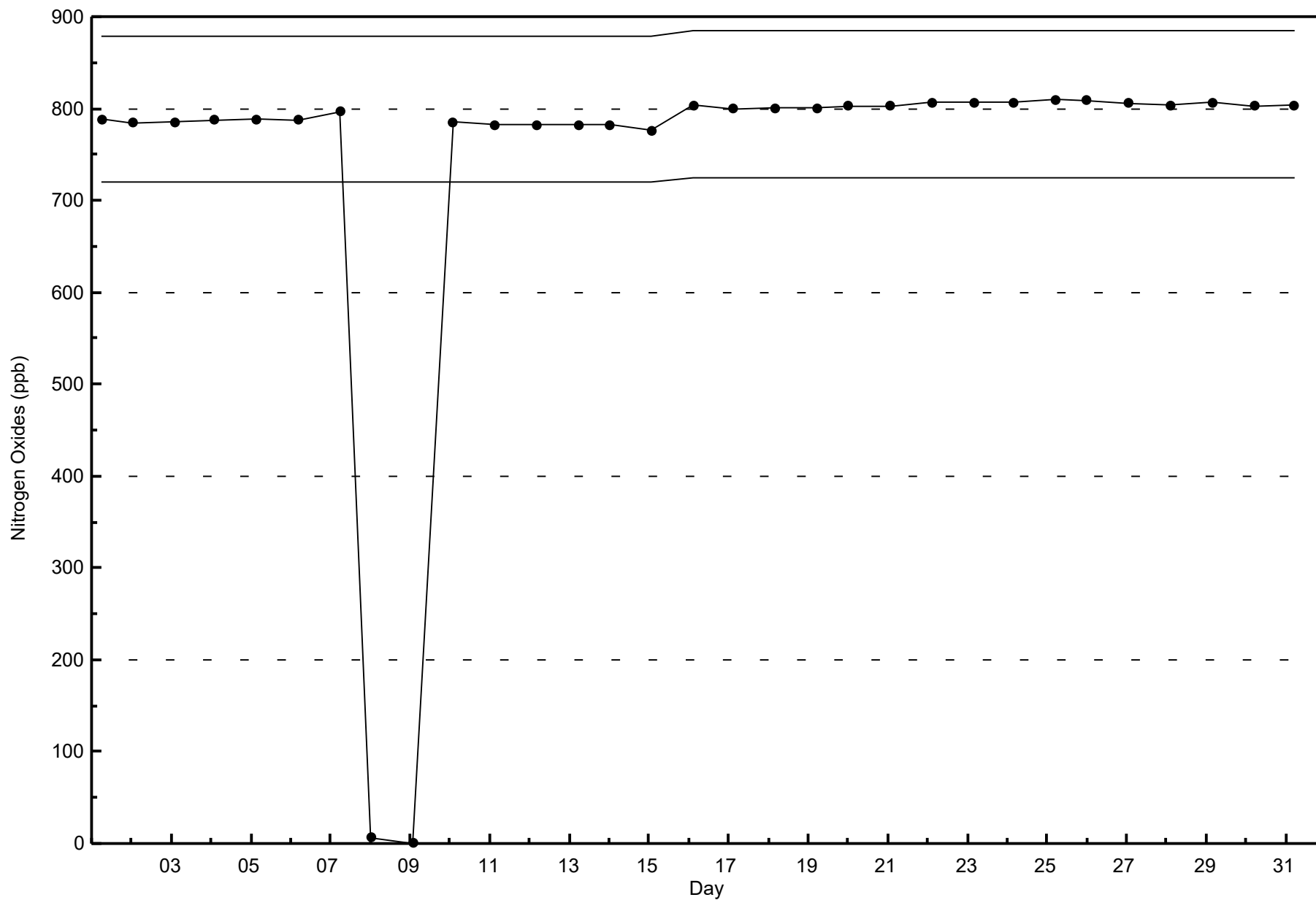
Nitrogen Oxides (NO_x) - ppb
Surmont 2 - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitrogen Oxides (NO_x) - ppb
Surmont 2 - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

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

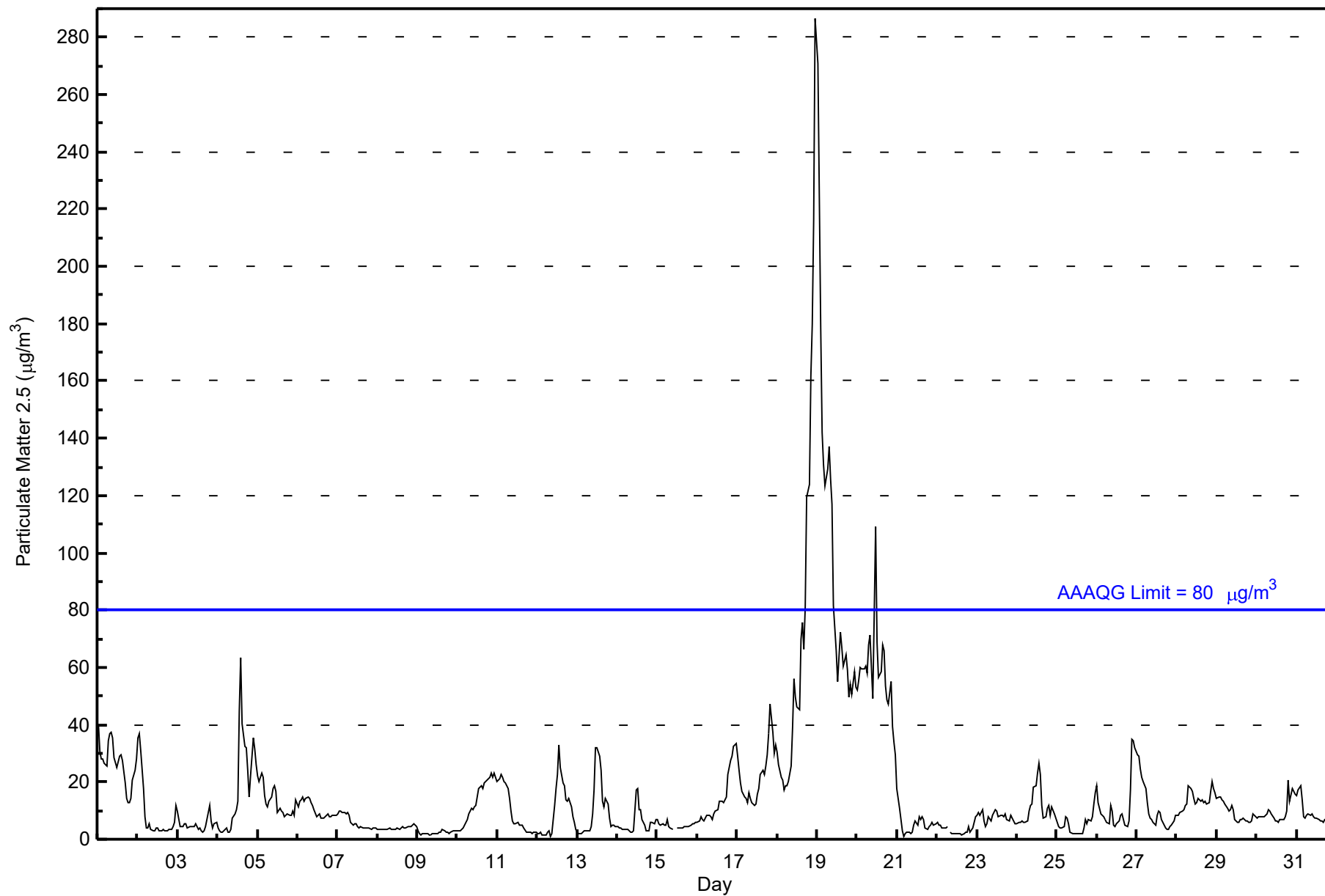
Surmont 2 - July 2025

Number of Exceedences (AAAQO): 1-hr: 19 24-hr: 3 Maximum Value: 286.4 µg/m³ on Jul 19 00:00 Maximum Daily Average: 101.4 µg/m³ on Jul 19																				Hours in Service: 744 Hours of Data: 741 Hours of Missing Data: 3 Hours of Calibration: 2 Percent Operational Time: 99.9						
Minimum Value: 1.0 µg/m³ on Jul 21 05:00 Maximum Diurnal Average: 23.3 µg/m³ at hour 24 Monthly Average: 16.75 µg/m³																				Minimum Daily Average: 2.3 µg/m³ on Jul 9 Minimum Diurnal Average: 13.9 µg/m³ at hour 6 Percentiles: P ₁ = 1.7 P ₁₀ = 2.8 Q ₁ = 4.4 Median = 8.1 Q ₃ = 17.2 P ₉₀ = 34.9 P ₉₉ = 139.9						
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-Jul	39.8	30.7	28.1	27.8	26.7	25.7	34.3	36.8	37.5	35.6	28.6	25.0	27.2	29.2	29.6	27.4	19.6	14.1	12.9	12.6	14.3	20.7	23.8	28.0	26.5	39.8
2-Jul	35.6	36.8	30.9	17.9	7.6	4.1	3.9	5.6	3.6	2.8	3.1	3.8	3.8	3.1	3.2	3.6	3.1	2.8	2.8	3.4	3.5	4.4	5.9	11.8	8.6	36.8
3-Jul	9.9	4.3	4.7	4.3	5.6	5.2	4.2	4.4	4.4	4.3	4.5	5.5	3.3	4.1	2.9	2.6	3.1	4.4	9.2	12.0	6.3	4.1	5.3	5.7	5.2	12.0
4-Jul	3.8	2.7	2.5	2.5	3.2	4.1	2.4	2.3	3.5	7.4	8.6	10.3	13.5	44.6	63.5	40.5	32.5	32.1	24.0	14.8	21.9	35.3	31.3	26.2	18.1	63.5
5-Jul	22.0	20.3	23.0	21.4	15.0	12.3	11.5	13.3	14.9	17.5	18.5	16.7	9.1	11.0	10.0	9.4	8.0	8.5	8.8	8.5	8.1	10.0	8.5	13.6	13.3	23.0
6-Jul	11.5	13.2	13.8	14.5	13.4	14.1	14.5	14.1	12.9	11.8	10.2	7.9	8.2	8.9	7.2	7.3	7.3	8.4	8.9	8.0	7.8	8.4	8.4	8.6	10.4	14.5
7-Jul	8.9	9.7	9.7	9.4	9.5	9.1	9.4	8.6	6.0	5.0	5.3	5.5	4.2	3.9	4.4	4.1	3.8	3.8	3.7	3.8	3.6	3.7	4.0	3.7	6.0	9.7
8-Jul	3.3	3.4	3.5	3.3	3.3	3.3	3.5	3.7	3.5	3.3	3.7	3.6	3.7	3.6	4.0	4.2	4.1	3.9	4.4	4.3	4.2	4.8	5.5	4.4	3.9	5.5
9-Jul	2.8	1.7	1.7	1.9	2.2	1.8	1.7	1.7	1.5	1.8	2.0	1.9	2.2	2.2	2.5	3.3	3.0	2.6	2.3	2.1	2.6	2.8	3.0	2.8	2.3	3.3
10-Jul	3.0	3.0	2.9	3.7	5.0	6.1	7.1	8.8	10.6	10.3	11.5	11.7	14.6	17.7	18.7	17.7	19.8	20.0	20.8	21.7	23.2	21.6	22.9	21.7	13.5	23.2
11-Jul	20.1	21.1	22.4	21.7	20.3	19.5	17.5	14.1	9.6	6.6	5.3	5.6	6.1	4.8	4.8	4.9	3.9	2.7	2.2	2.5	2.6	2.2	2.3	2.4	9.4	22.4
12-Jul	2.2	2.1	2.5	1.7	1.6	1.7	2.5	3.0	1.2	1.7	11.7	17.8	22.8	33.1	25.1	19.8	18.7	14.0	13.5	14.0	11.1	7.7	5.8	3.3	9.9	33.1
13-Jul	2.3	2.1	2.2	2.4	3.1	2.8	2.8	2.9	4.7	8.8	17.2	31.7	31.8	28.9	24.2	13.4	11.2	14.3	12.4	7.5	4.6	4.8	4.8	4.6	10.2	31.8
14-Jul	4.5	4.1	3.9	3.7	3.4	3.2	3.6	2.9	2.5	2.6	3.1	17.1	17.7	10.3	10.1	6.7	4.9	3.1	2.8	3.0	5.9	6.1	5.4	7.1	5.7	17.7
15-Jul	7.0	5.2	4.9	5.3	5.0	5.1	6.7	4.5	3.9	3.6	C	C	4.0	3.7	3.9	3.9	4.5	4.4	4.4	4.5	4.9	5.5	5.4	5.7	4.8	7.0
16-Jul	6.0	6.4	7.7	6.8	6.2	7.3	8.1	8.2	8.0	7.0	8.6	9.8	10.5	13.0	13.5	13.4	12.8	14.9	22.4	25.1	27.5	28.8	32.3	33.3	14.1	33.3
17-Jul	28.9	24.2	19.6	16.7	14.7	14.0	12.6	16.1	14.5	12.8	12.0	12.1	15.7	17.9	22.5	24.2	22.7	25.7	29.3	36.9	47.1	37.2	29.9	33.0	22.5	47.1
18-Jul	30.5	26.0	21.6	20.5	17.4	18.5	18.7	20.1	25.5	38.8	55.8	49.8	46.1	45.1	70.0	75.5	66.5	81.1	119.2	124.0	161.6	179.8	216.4	286.4	75.6	286.4
19-Jul	271.0	224.6	178.3	141.9	130.9	123.4	129.4	137.0	125.8	117.1	81.5	65.9	55.2	63.7	72.3	66.8	60.4	64.6	59.1	49.5	54.0	50.7	58.4	53.1	101.4	271.0
20-Jul	52.1	55.8	60.2	59.5	59.3	60.2	58.0	67.8	71.0	49.0	78.7	109.0	68.9	56.6	58.5	67.9	65.9	53.7	48.8	47.0	55.1	39.4	34.1	29.4	58.6	109.0
21-Jul	17.8	10.6	7.1	3.0	1.0	1.9	2.6	2.4	1.8	2.7	4.8	6.4	5.0	7.8	6.8	8.1	6.8	4.2	3.2	4.5	5.0	6.0	5.1	5.6	5.4	17.8
22-Jul	5.9	5.1	4.9	4.1	4.0	3.8	4.3	PF	2.3	2.1	1.9	1.7	1.9	2.2	1.8	1.6	2.0	2.3	2.6	4.2	2.6	4.1	5.7	7.9	3.4	7.9
23-Jul	8.5	9.1	8.6	10.3	6.2	4.6	5.2	7.8	6.6	8.5	9.5	10.5	9.7	8.0	8.3	8.1	7.9	8.7	7.0	6.4	8.2	7.4	6.5	5.6	7.8	10.5
24-Jul	5.3	5.8	5.7	6.4	6.1	5.9	6.5	9.9	11.6	12.2	18.0	18.7	23.1	26.3	22.7	11.9	7.5	7.9	10.6	11.7	8.3	11.2	8.6	7.2	11.2	26.3
25-Jul	5.7	4.6	4.1	3.8	4.6	7.9	7.5	5.5	2.2	1.9	2.1	1.9	2.0	2.0	1.8	2.0	4.2	7.0	5.3	6.7	6.5	7.7	12.1	16.3	5.2	16.3
26-Jul	18.4	12.9	9.1	8.2	8.1	7.1	6.0	5.2	11.8	9.7	5.0	4.5	5.4	6.2	8.1	8.7	7.1	5.1	4.5	6.4	17.4	34.9	34.6	32.1	11.5	34.9
27-Jul	29.6	28.9	24.6	21.6	20.3	17.7	12.8	9.0	7.4	7.1	6.0	4.9	8.6	9.8	9.4	7.1	5.0	3.7	3.3	3.5	4.2	4.9	6.2	8.5	11.0	29.6
28-Jul	8.3	8.5	9.3	9.9	10.1	11.7	12.5	18.6	17.8	16.8	14.2	12.5	12.9	14.1	13.5	13.6	12.9	13.4	12.5	12.7	16.9	20.3	17.9	16.3	13.6	20.3
29-Jul	14.3	14.7	14.8	13.8	13.4	12.1	11.1	9.8	10.5	11.7	10.4	7.1	6.1	6.0	6.9	6.9	7.4	6.5	6.3	6.1	5.8	6.4	9.1	7.9	9.4	14.8
30-Jul	7.2	7.9	8.0	7.7	7.8	8.3	8.9	10.1	10.0	8.9	7.5	6.4	6.4	6.1	6.7	6.6	6.9	7.7	9.9	20.9	13.1	17.5	16.9	15.6	9.7	20.9
31-Jul	15.0	17.0	18.6	13.6	8.1	7.4	8.2	8.7	8.6	8.9	8.0	7.6	7.4	7.1	6.5	6.5	6.1	7.0	7.1	6.5	8.2	9.1	11.1	14.0	9.4	18.6
22.6 20.1 18.0 15.8 14.3 13.9 14.1 15.4 14.7 14.1 15.2 16.4 14.8 16.2 17.5 16.1 14.5 14.6 15.6 16.0 18.3 19.6 20.9 23.3																								Diurnal Average		
271.0 224.6 178.3 141.9 130.9 123.4 129.4 137.0 125.8 117.1 81.5 109.0 68.9 63.7 72.3 75.5 66.5 81.1 119.2 124.0 161.6 179.8 216.4 286.4																								Diurnal Maximum		
C - Calibration PF - Power Failure																										
Alberta Ambient Air Quality Guideline/Objectives: 1-hr 80 µg/m³ 24-hr 29 µg/m³																										



Wood Buffalo Environmental Association
Hourly Averages

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Surmont 2 - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - µg/m³
Surmont 2 - July 2025

Concentration Ranges (µg/m³)	Number of Hours	%	Cumulative %
0 - 5	245	33.06	33.06
6 - 15	298	40.22	73.28
16 - 25	84	11.34	84.62
26 - 80	95	12.82	97.44
> 81.0	19	2.56	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
Surmont 2 - July 2025

Concentration Ranges (µg/m³)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	5	3	2	4	5	7	12	14	9	5	11	34	78	24	10	17	240
6 - 15	8	8	3	4	4	9	29	23	8	12	36	49	39	31	16	17	296
16 - 25	3	1	1	0	2	1	8	4	1	2	7	17	14	14	5	3	83
26 - 80	3	1	0	2	0	5	15	5	2	5	10	21	7	12	3	4	95
> 81.0	0	0	0	0	0	2	3	3	2	1	4	4	0	0	0	0	19
Totals	19	13	6	10	11	24	67	49	22	25	68	125	138	81	34	41	733

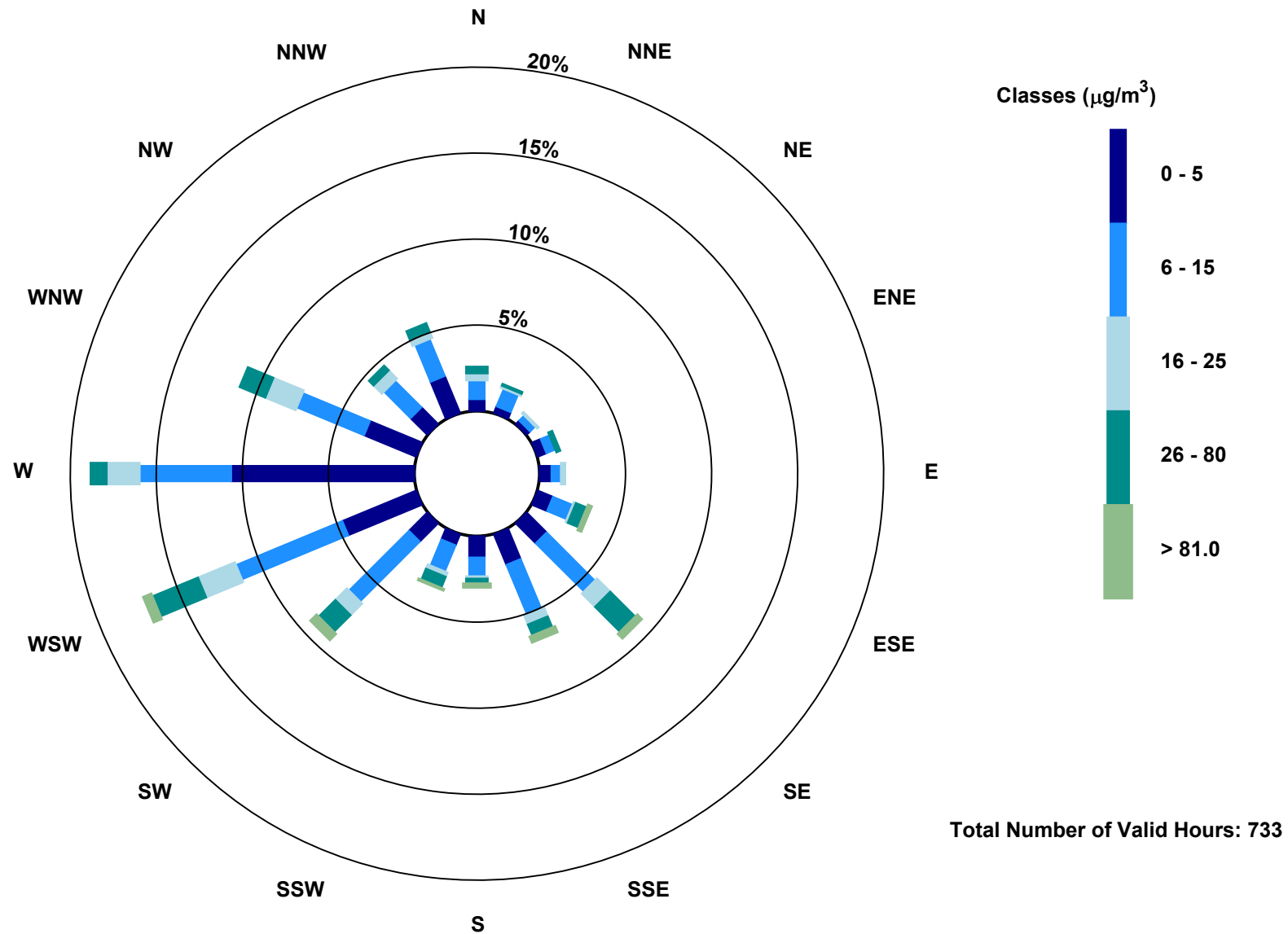
Total Number of Valid Hours: 733

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 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

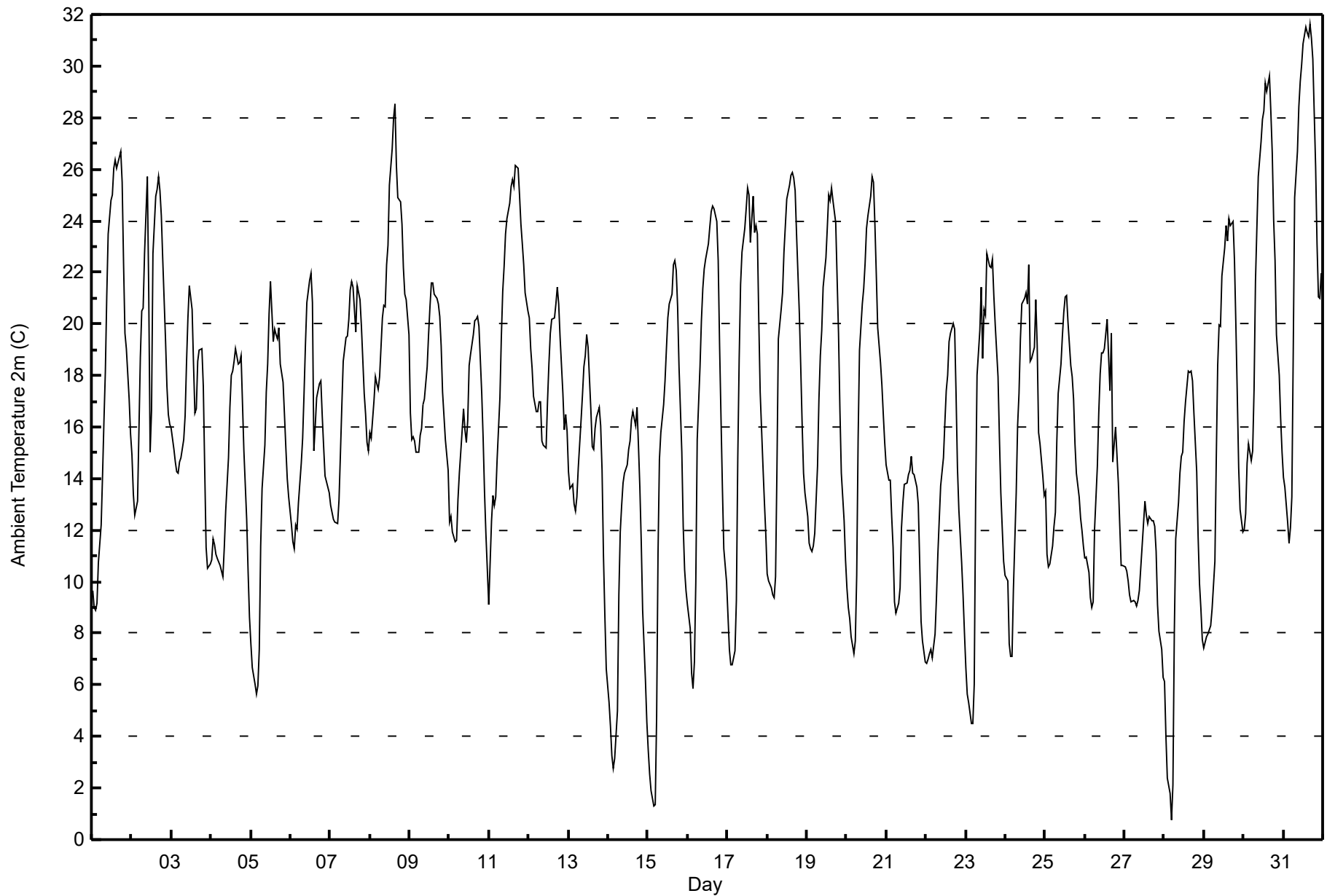
Surmont 2 - July 2025

Maximum Value: 31.6 C on Jul 31 17:00																				Maximum Daily Average: 23.6 C on Jul 31					Hours in Service: 744	
Minimum Value: 0.8 C on Jul 28 05:00																				Minimum Daily Average: 10.3 C on Jul 27					Hours of Data: 744	
Maximum Diurnal Average: 21.5 C at hour 17																				Minimum Diurnal Average: 10.0 C at hour 4					Hours of Missing Data: 0	
Monthly Average: 16.30 C																				Percentiles: P ₁ = 2.6 P ₁₀ = 8.9 Q ₁ = 12.2 Median = 16.2 Q ₃ = 20.4 P ₉₀ = 24.0 P ₉₉ = 29.9					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-Jul	9.6	9.0	8.9	9.2	10.8	12.2	14.2	16.3	18.2	21.1	23.5	24.8	25.0	26.0	26.4	26.0	26.5	26.7	25.5	22.4	19.6	19.0	17.1	15.7	18.9	26.7
2-Jul	14.9	13.4	12.6	13.1	15.9	18.7	20.5	20.6	22.7	25.7	21.2	15.0	16.6	22.7	25.0	25.2	25.7	25.1	24.2	22.5	19.4	17.6	16.5	16.1	19.6	25.7
3-Jul	15.9	15.1	14.7	14.3	14.2	14.6	14.8	15.5	16.4	18.5	20.2	21.5	20.5	18.5	16.5	16.7	18.6	19.0	19.0	17.6	14.4	11.4	10.5	10.7	16.2	21.5
4-Jul	10.9	11.7	11.4	11.1	10.9	10.6	10.4	10.2	11.3	12.8	14.8	16.7	18.0	18.2	18.5	19.1	18.5	18.5	18.8	16.9	15.1	12.4	10.4	8.6	14.0	19.1
5-Jul	7.6	6.6	6.0	5.6	6.0	7.4	11.4	13.6	15.3	17.4	18.4	20.4	21.6	19.3	19.8	19.6	19.4	19.8	18.5	17.7	16.5	15.2	14.0	13.3	14.6	21.6
6-Jul	12.2	11.6	11.3	12.2	12.0	13.1	14.6	15.6	17.3	19.2	20.8	21.7	21.9	20.8	15.1	16.0	17.1	17.7	17.8	16.5	15.2	14.1	13.7	13.4	15.9	21.9
7-Jul	13.0	12.7	12.4	12.3	12.2	13.2	15.0	16.8	18.5	19.4	19.5	20.2	21.3	21.6	21.4	19.7	21.5	21.2	20.9	19.9	17.3	16.5	15.4	15.1	17.4	21.6
8-Jul	15.8	15.6	17.0	17.9	17.7	17.5	17.9	20.3	20.7	20.7	22.3	23.1	25.4	26.8	28.0	28.5	26.1	24.9	24.7	23.9	22.2	21.1	21.0	19.6	21.6	28.5
9-Jul	16.6	15.5	15.6	15.4	15.0	15.0	15.7	15.9	16.9	17.1	18.3	19.6	20.7	21.6	21.6	21.2	21.0	20.8	20.3	19.1	17.3	15.5	14.9	14.3	17.7	21.6
10-Jul	12.3	12.5	12.0	11.5	11.6	13.2	14.2	15.0	16.7	15.9	15.4	16.3	18.4	18.8	19.6	20.1	20.2	20.3	19.9	17.3	15.6	13.5	11.8	10.5	15.5	20.3
11-Jul	9.1	12.4	13.3	12.9	13.3	14.7	17.1	19.4	21.3	22.2	23.5	24.1	24.7	25.3	25.6	25.3	26.1	26.0	25.0	23.9	23.1	22.3	21.2	20.5	20.5	26.1
12-Jul	20.2	19.1	18.3	17.2	16.6	16.6	17.0	17.0	15.5	15.3	15.2	17.0	18.4	19.6	20.2	20.2	20.8	21.4	20.8	19.5	17.3	15.9	16.5	15.8	18.0	21.4
13-Jul	14.3	13.6	13.8	13.0	12.7	13.3	14.4	16.3	17.2	18.4	18.8	19.6	19.1	16.7	15.2	15.2	15.9	16.4	16.8	16.1	14.3	11.0	8.7	6.6	14.9	19.6
14-Jul	5.3	4.4	3.3	2.7	3.1	5.0	9.5	11.9	13.0	13.9	14.2	14.6	15.2	15.4	16.2	16.6	16.0	16.8	15.3	13.7	11.6	8.9	6.2	4.6	10.7	16.8
15-Jul	3.5	2.5	1.9	1.3	1.4	4.7	11.1	14.8	15.8	16.9	17.8	19.0	20.2	20.8	21.1	22.3	22.4	22.1	20.7	18.3	15.0	12.2	10.4	9.7	13.6	22.4
16-Jul	9.1	8.2	6.4	5.9	6.9	10.0	15.5	18.3	20.1	21.4	22.1	22.5	23.1	23.8	24.4	24.6	24.5	24.0	22.5	19.2	16.4	13.7	11.3	10.0	16.8	24.6
17-Jul	8.7	7.4	6.8	6.8	7.3	9.3	14.8	18.7	21.5	22.8	23.7	24.5	25.3	25.0	23.1	25.0	23.5	23.8	23.5	20.2	17.4	14.5	13.1	11.9	17.4	25.3
18-Jul	10.3	10.0	9.8	9.5	9.4	10.2	14.4	19.4	20.6	21.2	22.8	23.8	24.8	25.4	25.8	25.9	25.6	25.2	23.5	20.4	18.3	16.1	14.2	13.4	18.3	25.9
19-Jul	12.5	11.5	11.3	11.2	11.4	11.9	14.5	17.1	18.8	19.7	21.4	22.6	23.7	25.0	24.8	25.3	24.8	23.9	21.7	19.6	16.7	14.2	12.4	10.9	17.8	25.3
20-Jul	9.8	9.0	8.5	7.8	7.2	7.7	10.2	15.5	19.0	20.8	21.3	22.3	23.7	24.2	25.0	25.7	25.5	23.9	21.9	19.8	18.5	17.6	16.5	15.4	17.4	25.7
21-Jul	14.5	14.0	13.9	12.5	11.3	9.2	8.8	9.1	9.7	12.1	13.1	13.8	13.8	14.2	14.3	14.8	14.2	14.2	13.7	13.0	10.8	8.4	7.7	6.9	12.0	14.8
22-Jul	6.8	7.0	7.2	7.4	7.1	8.0	9.4	11.1	12.4	13.7	14.8	16.2	17.4	18.0	19.3	19.6	20.0	19.8	17.3	14.4	12.8	10.7	9.5	8.0	12.8	20.0
23-Jul	6.7	5.7	5.3	4.5	4.5	6.0	13.2	18.0	19.7	21.4	18.6	20.6	20.3	22.7	22.2	22.2	22.5	21.1	20.0	17.9	15.5	13.5	12.1	10.8	15.2	22.7
24-Jul	10.3	10.0	7.6	7.1	7.1	9.7	13.5	16.0	17.3	19.4	20.8	21.0	21.2	20.8	22.3	18.6	18.6	19.1	20.9	19.1	15.8	15.3	14.1	13.3	15.8	22.3
25-Jul	13.5	11.1	10.6	10.7	11.4	12.2	12.7	15.4	17.3	18.5	19.5	20.4	21.0	21.1	20.1	18.4	17.9	17.1	15.4	14.2	13.3	12.5	12.0	11.4	15.3	21.1
26-Jul	10.9	11.0	10.4	9.4	9.0	9.2	12.0	14.5	16.5	18.1	18.9	18.9	19.0	20.2	18.7	17.4	19.6	14.6	16.0	14.9	13.8	12.2	10.6	10.6	14.4	20.2
27-Jul	10.6	10.4	10.0	9.5	9.2	9.3	9.2	9.1	9.3	9.7	10.5	12.2	13.1	12.6	12.2	12.5	12.3	12.4	12.2	11.2	9.1	8.1	7.4	6.3	10.3	13.1
28-Jul	6.1	4.0	2.4	1.8	0.8	2.1	8.0	11.7	13.1	14.2	14.9	15.0	16.2	17.0	18.1	18.1	18.2	17.8	16.5	14.3	11.8	9.9	8.9	7.8	11.2	18.2
29-Jul	7.4	7.9	8.0	8.1	8.3	9.0	10.8	14.8	18.4	19.9	19.9	21.9	23.0	23.8	23.2	24.1	23.8	24.0	22.4	20.0	17.2	14.4	12.8	12.0	16.5	24.1
30-Jul	12.1	12.7	14.6	15.3	14.7	15.1	17.5	21.6	23.7	25.7	27.1	27.9	28.3	29.3	29.0	29.6	28.2	26.6	24.0	22.4	19.6	18.0	16.3	15.0	21.4	29.6
31-Jul	14.0	13.7	12.3	11.5	12.1	13.3	18.9	24.9	26.7	28.4	29.4	30.0	30.9	31.5	31.3	31.2	31.6	31.1	30.3	26.1	23.1	21.1	21.0	22.0	23.6	31.6
Diurnal Average																										
Diurnal Maximum																										



Wood Buffalo Environmental Association
Hourly Averages

Ambient Temperature 2m (AT2) - C
Surmont 2 - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ambient Temperature 2m (AT2) - C
Surmont 2 - July 2025

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	0	0.00	0.00
-20 - 0	0	0.00	0.00
0 - 10	108	14.52	14.52
10 - 20	430	57.80	72.31
> 20	206	27.69	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) - %

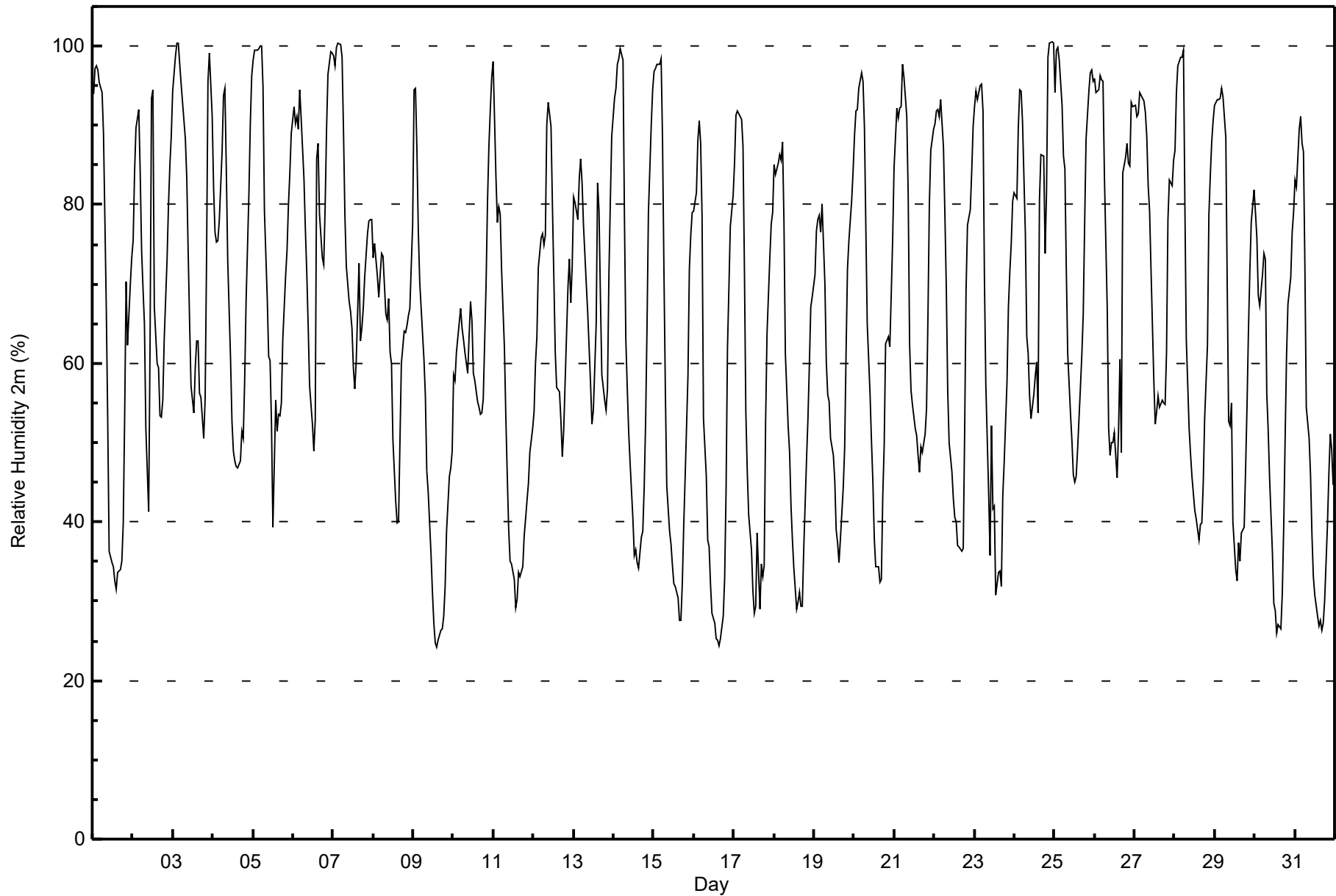
Surmont 2 - July 2025

Maximum Value: 100.6 % on Jul 24 23:00																					Maximum Daily Average: 79.9 % on Jul 6					Hours in Service: 744	
Minimum Value: 24.3 % on Jul 9 15:00																					Minimum Daily Average: 48.2 % on Jul 9					Hours of Data: 744	
Maximum Diurnal Average: 88.7 % at hour 4																					Minimum Diurnal Average: 43.0 % at hour 14					Hours of Missing Data: 0	
Monthly Average: 65.62 %																					Percentiles: P ₁ = 26.1 P ₁₀ = 34.8 Q ₁ = 49.0 Median = 65.5 Q ₃ = 84.7 P ₉₀ = 94.3 P ₉₉ = 100.0					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-Jul	94.0	97.2	97.5	97.0	95.4	94.1	88.9	77.9	66.7	52.7	36.3	34.8	34.3	32.6	31.5	33.7	34.0	35.1	39.8	53.4	70.3	62.4	69.9	73.3	62.6	97.5	
2-Jul	75.5	83.9	89.7	92.0	83.9	74.3	69.4	65.0	51.7	41.3	62.8	93.4	94.5	67.0	60.1	59.5	53.4	53.2	55.4	63.0	73.0	79.8	84.9	88.6	71.5	94.5	
3-Jul	94.3	98.8	100.4	100.3	97.7	95.2	92.9	88.2	83.3	73.8	65.1	57.2	53.8	59.4	62.8	62.9	56.2	55.7	50.5	55.5	73.2	95.5	99.2	91.1	77.6	100.4	
4-Jul	82.0	76.6	75.3	75.4	78.0	86.6	93.8	94.6	84.4	73.0	60.6	52.6	49.0	47.7	47.0	46.8	47.6	51.4	50.5	57.8	67.8	81.3	90.3	96.2	69.4	96.2	
5-Jul	98.2	99.4	99.4	99.7	100.1	100.0	94.9	79.2	68.1	60.8	60.3	52.3	39.3	55.3	51.4	53.5	53.4	55.0	62.9	71.0	74.3	79.8	84.0	89.0	74.2	100.1	
6-Jul	92.4	90.3	91.1	89.5	94.6	91.0	83.2	76.9	71.4	64.6	57.1	52.3	49.0	52.9	85.9	87.7	78.9	73.3	72.4	79.8	89.5	96.4	99.4	99.1	79.9	99.4	
7-Jul	98.8	97.4	99.9	100.4	100.3	98.5	89.3	78.6	72.3	67.8	66.6	64.5	59.4	56.8	60.2	72.6	62.7	64.5	66.9	70.8	76.4	77.9	78.1	78.1	77.5	100.4	
8-Jul	73.3	75.1	71.1	68.3	71.3	73.8	73.5	66.3	65.5	68.2	61.4	59.9	50.3	42.5	39.9	40.1	50.3	59.9	64.1	63.8	64.8	66.1	67.0	77.6	63.1	77.6	
9-Jul	94.6	94.7	87.1	76.7	70.3	63.7	60.5	56.0	46.5	43.9	35.9	31.2	27.2	24.8	24.3	25.2	26.3	26.5	28.2	31.9	38.8	45.7	46.9	48.9	48.2	94.7	
10-Jul	58.5	57.8	61.4	65.2	66.9	64.5	63.1	61.4	58.8	63.6	67.9	65.4	58.6	57.8	55.2	54.5	53.5	53.8	55.6	70.0	80.3	87.3	92.1	96.0	65.4	96.0	
11-Jul	98.0	83.5	77.8	79.8	78.9	71.8	62.0	53.2	45.9	39.1	35.1	34.7	32.8	29.2	30.2	33.7	33.2	34.3	38.2	40.4	42.8	44.9	48.8	51.7	50.8	98.0	
12-Jul	53.9	60.0	63.4	72.1	75.7	76.4	75.0	76.3	90.0	92.9	89.9	79.9	70.8	61.4	56.9	56.4	52.9	48.2	51.6	57.7	69.5	73.2	67.6	72.2	68.5	92.9	
13-Jul	81.0	80.3	78.1	83.2	85.9	82.8	77.4	69.9	66.3	61.9	57.5	52.3	54.1	64.9	82.8	79.2	68.3	58.6	55.3	54.1	56.7	71.0	80.3	88.6	70.4	88.6	
14-Jul	93.4	94.7	97.7	98.4	99.6	98.3	78.7	62.9	57.0	51.4	47.6	40.5	35.8	36.4	34.9	34.3	38.1	38.8	44.4	52.5	64.6	78.9	90.1	94.5	65.1	99.6	
15-Jul	96.8	97.2	97.7	97.8	98.4	88.2	71.6	56.5	44.6	38.8	37.2	34.6	32.2	31.9	30.5	27.6	27.7	32.2	39.5	45.6	58.4	71.9	76.3	79.0	58.8	98.4	
16-Jul	79.3	81.5	88.1	90.7	87.8	78.4	53.0	45.7	37.8	36.9	32.0	28.4	27.3	25.2	25.2	24.3	25.3	28.1	33.0	44.0	62.0	69.4	77.2	81.1	52.6	90.7	
17-Jul	85.3	91.2	91.9	91.5	90.8	87.4	72.0	53.9	46.4	41.0	36.6	31.3	28.5	29.4	38.5	29.0	34.8	33.2	34.5	52.4	63.7	73.3	77.6	79.0	58.0	91.9	
18-Jul	85.1	83.8	85.2	86.4	85.6	87.8	78.0	61.2	52.0	48.8	42.0	37.7	34.1	29.0	29.9	31.2	29.3	29.4	36.5	47.9	53.1	59.8	67.1	68.3	56.2	87.8	
19-Jul	71.2	76.7	78.2	78.7	76.6	80.0	70.1	60.1	56.1	55.2	50.5	48.4	45.2	39.1	37.3	34.9	37.9	44.3	49.3	61.4	72.0	75.5	80.6	84.4	61.0	84.4	
20-Jul	88.8	91.8	92.1	94.6	96.7	95.6	89.8	77.3	65.0	56.1	50.2	45.0	37.9	34.3	34.4	32.3	32.7	43.2	49.6	62.5	63.4	62.2	68.6	75.6	64.2	96.7	
21-Jul	84.7	92.3	91.0	92.3	92.5	97.7	96.1	91.1	81.3	62.5	56.6	54.8	51.7	50.9	48.5	46.2	49.4	48.8	51.1	54.2	65.8	80.0	86.9	89.4	71.5	97.7	
22-Jul	90.2	91.7	92.1	91.2	93.3	87.3	78.9	69.5	56.6	50.0	46.3	42.9	40.5	40.1	37.1	36.8	36.4	36.6	51.5	69.2	77.5	79.3	84.2	89.9	65.4	93.3	
23-Jul	92.3	94.3	93.2	95.1	95.2	91.8	70.9	57.4	43.7	35.7	52.1	41.7	42.0	30.8	33.5	33.9	31.9	43.3	47.4	57.6	67.1	71.5	75.1	80.5	61.6	95.2	
24-Jul	81.6	80.8	89.6	94.5	94.4	90.4	76.3	63.4	61.2	55.8	53.0	56.1	58.3	60.2	53.8	80.6	86.3	86.2	73.8	81.7	98.6	100.3	100.6	100.3	78.2	100.6	
25-Jul	94.1	99.5	99.9	98.2	92.5	86.1	84.6	71.9	61.1	53.5	50.1	45.9	45.0	45.7	49.1	57.0	61.0	66.2	77.6	88.3	94.3	96.7	97.0	95.6	75.5	99.9	
26-Jul	95.9	94.1	94.6	96.3	95.8	95.7	83.7	66.9	51.8	48.3	50.0	50.1	51.3	45.6	51.4	60.5	48.8	83.9	86.0	87.7	85.2	84.8	92.9	92.4	74.7	96.3	
27-Jul	92.6	91.2	91.4	94.1	93.8	93.1	91.7	88.6	82.3	79.1	71.9	57.9	52.2	53.9	56.0	54.5	55.4	55.1	54.8	61.5	78.2	83.1	82.3	85.5	75.0	94.1	
28-Jul	86.8	94.1	97.5	98.6	98.6	99.6	79.8	62.9	51.9	48.7	45.8	43.6	41.5	40.3	37.7	39.6	39.9	44.9	53.1	62.3	78.6	83.6	87.9	90.6	67.0	99.6	
29-Jul	92.5	93.2	93.3	93.5	94.7	93.7	88.5	69.5	52.8	52.2	55.0	40.0	33.9	32.5	37.3	35.0	38.5	39.4	46.7	54.4	63.9	71.5	77.7	81.9	63.8	94.7	
30-Jul	79.0	75.8	68.5	67.3	71.2	73.9	73.1	56.3	51.7	45.5	36.1	29.8	28.8	26.0	27.0	26.6	31.0	39.3	50.3	60.9	67.4	70.8	76.5	79.1	54.7	79.1	
31-Jul	83.0	82.3	89.5	91.1	87.8	86.7	72.3	54.4	50.6	46.0	38.5	33.0	30.9	28.1	26.9	27.6	26.4	27.2	30.0	39.7	46.1	51.2	49.0	44.7	51.8	91.1	
86.0 87.1 87.9 88.7 88.5 86.6 78.5 68.2 60.5 55.1 51.9 48.1 44.9 43.0 44.4 45.7 45.2 48.0 51.6 59.8 68.9 75.0 79.2 82.0																										Diurnal Average	
98.8 99.5 100.4 100.4 100.3 100.0 96.1 94.6 90.0 92.9 89.9 93.4 94.5 67.0 85.9 87.7 86.3 86.2 86.0 88.3 98.6 100.3 100.6 100.3																										Diurnal Maximum	



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 2m (RH2) - %
Surmont 2 - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Relative Humidity 2m (RH2) - %
Surmont 2 - July 2025

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	121	16.26	16.26
40 - 60	192	25.81	42.07
60 - 80	205	27.55	69.62
80 - 100	218	29.30	98.92

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

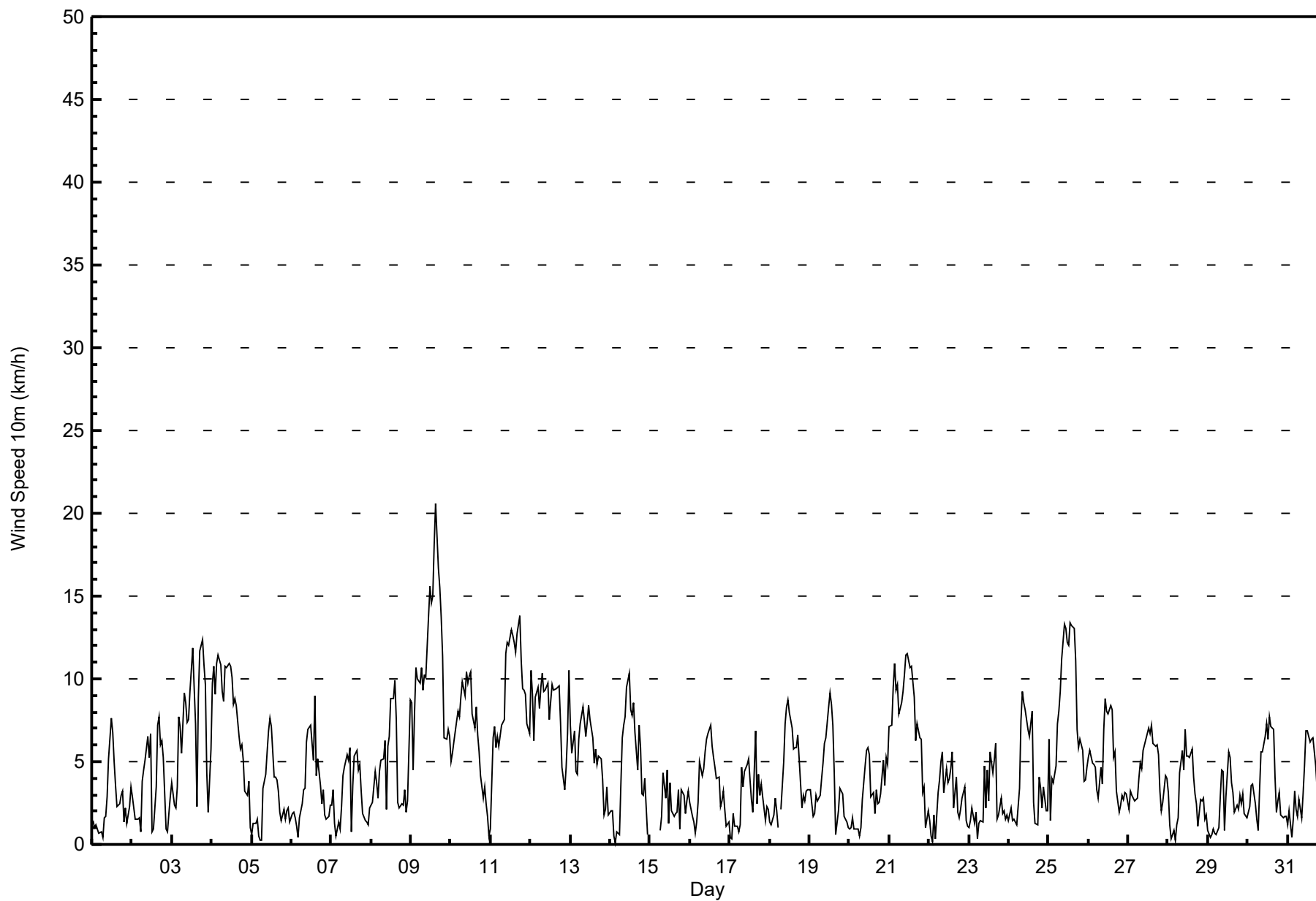
Surmont 2 - July 2025

Maximum Speed: 21 km/h on Jul 9 16:00																	Maximum Daily Speed Average: 11.3 km/h on Jul 9										Hours in Service: 744	
Minimum Speed Value: 0 km/h on Jul 14 04:00																	Minimum Daily Speed Average: 0.6 km/h on Jul 15										Hours of Data: 736	
Maximum Diurnal Speed Average: 3.0 km/h at hour 1																	Minimum Diurnal Speed Average: 1.7 km/h at hour 18										Hours of Missing Data: 8	
Monthly Average Velocity: 2.4 km/h 264.7 deg																	Percentiles: P ₁ = 0 P ₁₀ = 1 Q ₁ = 2 Median = 4 Q ₃ = 7 P ₉₀ = 9 P ₉₉ = 14										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-Jul	SW1	WSW1	WSW1	WNW1	WNW1	NNW1	WNW0	ENE2	N2	SE3	SE5	E8	SE7	ESE5	SE4	SE2	S2	SE3	SSE3	SW1	SSE2	WNW1	W2	WSW4	SE1.3	E8		
2-Jul	SW3	WSW2	S2	SSE2	SE2	NE1	ESE4	SE5	S5	S7	SW5	W7	ENE1	ENE1	E4	ESE7	ESE8	E6	ESE6	ESE5	E1	WSW1	W2	W3	SE1.8	ESE8		
3-Jul	NW4	W2	SW2	WSW3	W8	WNW7	WNW5	WNW9	W9	W7	W8	W9	W12	W9	W7	SSW2	WSW9	WSW12	WSW12	W11	W10	WSW4	SW2	W6	W6.9	WSW12		
4-Jul	W10	W11	W9	W11	W11	W11	W9	WNW9	WNW11	WNW11	WNW11	WNW11	NW10	NW9	WNW9	NW8	NNW7	WNW6	WNW6	WNW5	NNW3	W3	WSW4	SW1	WNW7.6	W11		
5-Jul	W1	WSW1	SSW1	W1	SW0	S0	ESE0	SSW3	SSE4	SE6	SE7	SE8	SE7	NNE4	SE4	SE4	ESE3	S2	NNW1	SW2	SW2	WSW2	WSW2	W1	SSE1.8	SE8		
6-Jul	SW2	SSW2	SW2	SSW1	SSE0	SSE2	SE2	SE3	SSE3	SSE6	SE7	SE7	SE6	SW5	W9	NNE4	NE5	NNE4	ENE2	E3	W2	SW2	S2	ESE2	SSE1.5	W9		
7-Jul	SW2	SW3	W1	WNW1	WSW1	S1	SSE2	SSE4	SSE5	S5	S5	SE6	NE1	SSE4	S5	SSE6	S4	SSE5	S3	SSW2	SSW1	SSW1	SW1	WSW2	S2.5	SE6		
8-Jul	WSW2	SSE3	SSE4	SSE4	SE3	SE4	SE5	SE5	SE6	SSE2	SE6	SE7	SE9	SSE9	SSE10	SSE8	S3	SW2	SW2	SW2	WSW3	SW2	SE3	W9	SSE3.5	SSE10		
9-Jul	WNW9	WNW4	W8	W11	W10	W10	W11	W9	W10	WSW10	WSW14	WSW16	W15	W15	W18	W21	W17	W15	W14	W11	W6	WSW6	W7	W7	W11.3	W21		
10-Jul	WSW5	W5	W6	W7	WSW8	W8	W9	W10	WNW9	WNW10	WNW10	WNW10	WNW10	NW8	WNW7	WNW8	N7	N6	NW4	W3	WSW3	WSW2	SW2	WSW0	WNW6.0	WNW10		
11-Jul	SW1	WSW6	WSW7	W6	WSW7	W6	W7	WSW7	WSW8	WSW11	WSW12	WSW12	WSW13	WSW13	WSW12	WSW12	WSW13	W14	W11	W9	WSW9	W9	W7	W7	WSW9.1	W14		
12-Jul	W11	W9	W6	W9	W9	W8	W9	W10	W9	W9	WNW10	WNW8	WNW9	WNW10	WNW9	WNW9	W9	WNW10	W7	WNW5	WSW3	WSW5	WSW7	W10	W8.2	W11		
13-Jul	W7	W6	W7	W4	W4	W6	WNW7	WNW8	WNW7	N7	N7	N8	NNW8	NNW6	NW5	WNW6	NNW5	N5	NNW5	N4	NNW2	W2	W3	W2	NW4.5	N8		
14-Jul	W2	W2	WNW1	WNW0	ESE1	SE1	NW4	N6	NNE7	NNW8	NNW9	NNW10	NNW8	NW8	N9	N7	NNW4	NNE7	N6	NNE3	W3	WSW4	WSW1	UO	NNW4.0	NNW10		
15-Jul	UO	UO	UO	UO	UO	UO	ESE1	WNW2	WNW4	W3	WNW4	SSW1	E4	E2	S2	SSE2	NNW2	ENE3	SE1	SE3	WSW3	WSW2	SW3	SW3	WSW0.6	WNW4		
16-Jul	WSW3	W2	W1	SSE1	W1	WSW3	WSW5	SW4	SW5	SE6	SSE6	SE7	SE7	SE6	SE5	SSE5	S4	ESE4	SSE2	WSW3	W3	W2	SW1	WSW1	S2.3	SE7		
17-Jul	S0	SE0	SW2	SW1	ENE1	SSE1	WSW1	W5	NNW3	N4	NE5	ENE5	NE4	NNE3	SE2	E7	WSW2	NNE4	N3	WSW4	W3	SW1	WSW2	WSW2	N0.7	E7		
18-Jul	SW1	SW1	W2	WSW3	SW2	WSW1	UO	ESE2	SSE5	SE7	SE8	SE9	SE8	SSE7	SE6	SE6	SSE6	SE7	ESE5	SSE2	S3	SW3	SW3	WSW3	SSE3.4	SE9		
19-Jul	WSW3	SW2	SSW2	SW2	WSW3	WSW3	SSE3	SE4	SE5	SE6	SSE6	ESE8	ESE9	SE8	ESE7	SE4	SSW1	SW2	WSW3	WSW3	W3	WSW2	WSW1	WSW1	SSE2.4	ESE9		
20-Jul	SSW1	WSW1	SW2	WSW1	WSW1	WSW1	SE1	ENE1	SE3	SSE5	SE6	S6	S5	SW3	SSW3	SSW2	WSW3	WSW2	SW3	WSW3	WNW5	WNW4	WNW5	WNW5	SW1.6	S6		
21-Jul	NW7	NW7	NNW10	NNW11	NNW9	NNW10	NNW8	NNW9	NNW9	N10	NNW11	NNW12	NNW11	NNW11	NNW10	NW9	N6	NNW7	NNW6	N6	WNW3	W4	WSW1	WSW2	NNW7.5	NNW12		
22-Jul	W1	ENE1	SSE0	SW2	WSW0	WSW3	W4	WNW5	NW6	WNW3	WNW5	W4	NW4	WNW5	NW6	N2	NNW4	NNW2	WSW2	WSW2	WSW3	SW4	SW1	W1	WNW2.3	NW6		
23-Jul	WSW1	WSW1	WSW2	WSW1	WSW2	SSE0	ESE1	E1	NNE1	SE5	SW2	SSE5	SE3	WNW6	WNW4	W5	W6	WSW1	SSW2	SW3	SW2	SSW2	SSE2	SE2	SW1.3	W6		
24-Jul	SSW1	WSW2	WSW1	WSW2	SW1	S1	SE3	ESE7	SE9	SE9	SE8	SSE7	SE7	ESE7	SE8	SW3	NNE1	ENE1	SE4	SE3	SSE2	SW3	WSW2	WNW2	SE3.0	SE9		
25-Jul	WSW6	W1	WSW4	WSW4	W5	W7	W8	W9	W11	W13	W13	W12	W12	W13	W13	W13	W11	WNW7	NW6	NW6	NW6	WNW4	W4	W5	W7.7	W13		
26-Jul	W5	W6	W5	WSW5	WSW5	W3	W3	NW5	WNW4	WNW7	WNW9	WNW8	W8	W8	NW8	WSW5	WNW6	W3	WSW2	WNW2	W3	NW3	WNW3	W3	W4.6	WNW9		
27-Jul	W2	WNW3	WNW3	WNW3	WNW3	WNW3	NW4	NNW5	NNW5	NNW6	NNW6	NW7	NNW7	NW7	NW7	NW6	NW6	NW6	NW5	WNW3	WSW2	WSW3	WSW4	WSW4	NW4.1	NW7		
28-Jul	WSW3	W1	WSW0	WSW1	SE0	W1	ESE2	NW4	WNW6	NW4	WNW7	W5	NW5	NW5	NNW6	N4	N3	NNE2	NW1	WSW3	W3	WSW3	WSW1	WSW2	WNW2.3	WNW7		
29-Jul	SW1	WNW0	WSW1	SW1	W1	SSW1	E1	ESE3	SSW4	SSE4	SSW1	NNW3	NW6	WNW5	NW4	W3	NNE2	S2	S2	SW3	SSW2	WSW3	SW2	SW2	WSW1.1	NW6		
30-Jul	SSW2	SW2	WSW4	WSW4	SW2	WNW2	SE1	SSW3	SW6	SW6	SW7	WSW7	W6	W8	W7	WNW7	WNW4	NW2	WSW3	WSW3	WSW2	SW2	WSW2	SW2	WSW3.4	W8		
31-Jul	SW1	WSW2	SSW0	SW2	WSW3	E2	SE2	ESE3	NE2	SE3	SW5	SW7	SW7	SSE6	SSE6	SSE6	SSE6	SSE5	SE3	SW2	WSW2	SSW2	WNW0	SW2	S2.3	SW7		
W3.0 W2.7 W2.5 W2.7 W2.8 W2.6 W2.2 W2.2 W2.5WSW2.0WSW2.7WSW2.3 W2.2 W2.8 W2.7 W2.2WNW2.4WNW1.7 W1.9 W2.2 W2.6WSW2.6WSW2.4 W2.8																									Diurnal Average			
W11 W11NNW10NNW11 W11 W11 W11 W10 W11 W11 W13WSW14WSW16 W15 W15 W18 W21 W17 W15 W14 W11 W10 W9 W7 W10																									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
Surmont 2 - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 10m (WS10) - km/h
Surmont 2 - July 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	460	62.50	62.50
6 - 11	248	33.70	96.20
12 - 19	27	3.67	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: 736

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Wind Speed 10m (WS10) - km/h
Surmont 2 - July 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	11	6	10	8	15	37	34	20	26	64	99	52	42	13	16	460
6 - 11	12	2	0	0	3	9	30	15	2	0	4	15	70	41	21	24	248
12 - 19	0	0	0	0	0	0	0	0	0	0	0	11	15	0	0	1	27
20 - 28	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	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	19	13	6	10	11	24	67	49	22	26	68	125	138	83	34	41	736

Total Number of Valid Hours: 736

Total Number of Hours: 744



Surmont 2





Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

Wind Speed 10m (WS10) - km/h

Surmont 2 - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 8 km/h on Jul 9 16:00																	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 Jul 16 20:00																														
Percentiles: P ₁ = 0 P ₁₀ = 1 Q ₁ = 1 Median = 2 Q ₃ = 3 P ₉₀ = 4 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-Jul	1	1	1	1	1	1	1	1	1	2	2	3	3	3	3	2	2	2	2	1	2	2	1	1	3					
2-Jul	1	1	1	1	2	1	2	2	3	3	3	4	1	2	1	3	3	2	3	2	1	1	1	3	4					
3-Jul	3	2	1	2	2	3	2	3	3	3	3	3	4	4	3	2	4	5	5	5	4	3	1	3	5					
4-Jul	4	4	3	4	4	4	3	4	4	5	5	5	4	4	4	3	3	2	3	2	2	0	1	1	5					
5-Jul	1	1	1	1	1	1	1	2	2	2	3	3	3	3	2	2	2	1	1	1	1	1	1	1	3					
6-Jul	1	1	1	1	1	1	1	1	1	2	3	3	2	4	4	2	2	2	2	2	1	1	1	1	4					
7-Jul	1	1	1	1	1	1	1	2	2	2	3	3	2	2	3	2	2	2	2	1	1	1	1	1	3					
8-Jul	1	2	2	2	1	1	2	2	2	1	2	3	3	4	4	3	2	1	1	1	1	1	2	5	5					
9-Jul	3	3	4	4	4	4	4	4	4	4	5	6	7	6	7	8	7	6	5	4	2	2	3	3	8					
10-Jul	2	3	2	2	2	3	3	4	4	4	4	4	4	3	3	3	3	2	2	1	1	2	1	1	4					
11-Jul	2	2	2	2	2	2	3	3	4	5	5	5	6	5	6	6	5	5	5	4	4	4	3	2	6					
12-Jul	4	3	3	4	4	3	4	4	3	3	3	3	4	4	4	3	4	4	3	2	1	1	2	4	4					
13-Jul	3	2	2	1	2	3	3	3	3	3	3	3	4	3	2	2	3	3	2	2	1	1	1	1	4					
14-Jul	1	0	1	1	1	1	2	3	3	3	4	4	4	4	4	3	3	4	3	1	1	2	1	UO	4					
15-Jul	UO	UO	UO	UO	UO	UO	1	2	2	2	2	2	2	3	3	2	2	2	1	3	1	1	1	1	3					
16-Jul	1	1	1	1	1	1	2	2	2	3	3	3	3	3	3	2	2	2	2	0	1	1	1	1	3					
17-Jul	1	1	1	1	1	1	2	2	2	2	2	2	3	3	2	3	2	2	2	1	1	1	1	2	3					
18-Jul	1	1	1	1	1	1	UO	1	2	3	3	3	4	3	3	3	2	3	3	1	1	1	1	1	4					
19-Jul	1	1	0	1	1	1	1	2	2	2	2	3	3	3	3	2	1	1	1	1	1	1	1	1	3					
20-Jul	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	1	1	0	1	2	2	2	2	2					
21-Jul	3	3	4	5	5	4	4	4	4	5	5	5	4	5	4	4	3	3	3	3	1	1	1	1	5					
22-Jul	1	1	1	1	1	2	1	1	3	3	3	3	3	3	3	3	2	2	1	1	1	1	1	1	3					
23-Jul	1	1	1	1	1	1	1	1	1	2	1	3	2	3	2	2	3	1	1	1	1	1	1	1	3					
24-Jul	1	0	1	1	1	1	3	3	3	3	4	3	3	3	3	2	1	1	2	3	3	1	1	2	4					
25-Jul	2	1	1	1	2	2	3	3	5	5	5	5	5	5	5	5	5	3	3	3	2	2	1	1	5					
26-Jul	2	1	1	1	2	1	2	2	2	3	3	3	3	4	5	2	3	4	1	1	1	1	1	1	5					
27-Jul	1	1	1	1	1	1	2	2	2	2	3	3	4	3	3	3	3	2	2	1	0	0	1	1	4					
28-Jul	1	1	1	1	1	3	1	2	2	3	3	2	3	2	3	3	2	2	1	1	1	1	1	1	3					
29-Jul	1	1	1	1	1	1	1	1	2	2	2	3	3	3	3	2	1	2	1	1	1	1	1	1	3					
30-Jul	1	1	2	2	1	1	1	2	2	3	3	3	3	4	3	3	3	1	1	1	1	1	2	1	4					
31-Jul	1	1	1	1	1	1	1	1	1	2	3	3	3	4	3	3	2	2	2	1	1	1	1	2	4					
4 4 4 5 5 4 4 4 4 5 5 5 6 7 6 7 8 7 6 5 5 4 4 3 5																	Diurnal Maximum													
UO - Unstable Operation																														



Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Direction 10m (WD10) - deg

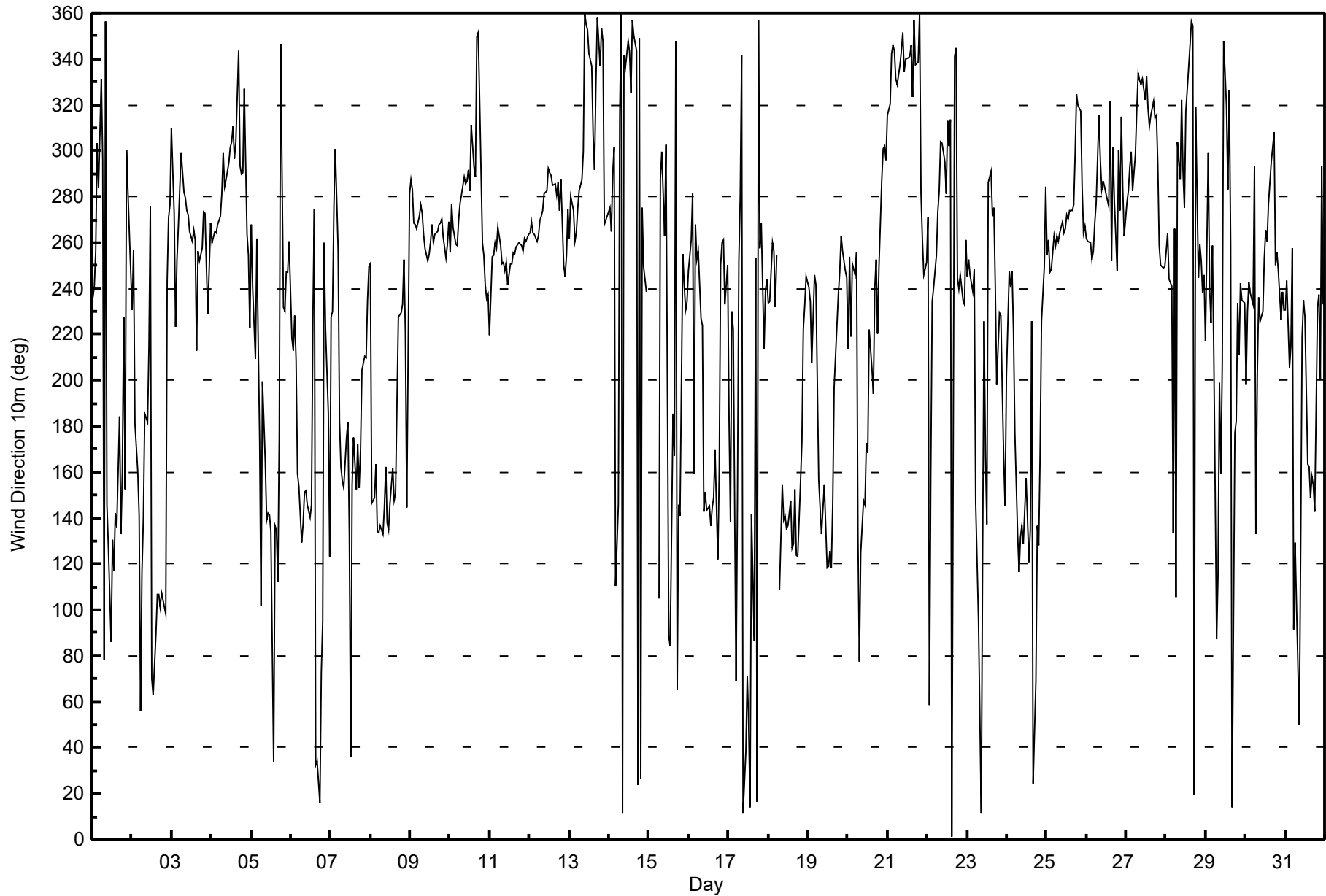
Surmont 2 - July 2025

Direction of Maximum Speed: 263 deg on Jul 9 16:00																					Hours in Service:		744		
Direction of Maximum Daily Speed Average: 265.2 deg on Jul 9																					Hours of Data:		736		
Direction of Minimum Speed: 301 deg on Jul 14 04:00										Direction of Minimum Daily Speed Average: 0.6 deg on Jul 15											Hours of Missing Data:		8		
Monthly Average Direction: 264.7 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-Jul	236	241	256	303	284	331	296	78	356	146	128	86	131	117	142	136	184	133	160	228	152	300	264	247	143.3
2-Jul	231	257	181	160	141	56	117	140	186	182	215	276	70	63	90	107	107	101	108	105	98	243	271	277	143.4
3-Jul	310	273	223	253	267	284	299	282	279	274	272	265	261	265	261	213	256	252	258	273	273	250	229	268	266.9
4-Jul	260	263	265	264	268	271	281	299	285	287	295	302	304	311	297	304	344	293	290	291	327	263	254	222	285.9
5-Jul	268	241	210	262	216	174	102	200	165	139	142	142	135	33	137	135	113	176	347	232	230	247	247	260	157.4
6-Jul	219	213	228	209	159	154	129	137	151	152	146	140	146	226	274	32	34	16	73	95	260	223	186	123	153.0
7-Jul	227	230	276	301	257	183	162	156	153	175	182	133	36	154	175	152	172	153	170	204	211	210	235	250	175.2
8-Jul	251	147	149	164	134	134	137	133	145	162	138	135	146	161	148	151	190	228	229	233	253	221	144	281	161.1
9-Jul	287	283	269	268	266	272	276	273	264	257	252	255	260	268	260	263	265	268	269	270	262	253	259	269	265.2
10-Jul	255	277	267	259	258	269	277	281	289	286	287	292	283	311	293	289	350	351	322	260	255	242	235	237	284.2
11-Jul	220	254	255	260	257	267	259	251	251	247	251	242	251	251	255	255	258	260	259	259	256	262	261	264	255.0
12-Jul	264	269	264	263	261	263	270	272	274	281	283	292	291	289	285	285	281	286	274	288	250	245	254	274	274.6
13-Jul	262	280	274	261	264	275	282	287	300	360	355	353	342	337	307	292	330	358	337	353	348	268	269	271	308.7
14-Jul	275	265	291	301	110	146	315	360	12	342	336	348	343	325	357	350	344	24	349	26	275	250	239	UO	343.2
15-Jul	UO	UO	UO	UO	UO	UO	105	288	300	263	303	196	88	84	185	167	348	65	146	141	255	242	231	234	241.3
16-Jul	248	261	281	159	268	253	256	227	224	143	151	143	145	137	145	149	170	122	160	250	260	261	233	250	180.8
17-Jul	183	139	230	222	69	148	252	280	341	11	38	71	50	14	142	87	253	17	357	257	269	214	239	244	2.4
18-Jul	234	234	260	256	232	254	UO	108	155	139	141	135	137	148	127	129	153	124	123	156	173	222	232	246	152.1
19-Jul	240	234	208	227	246	242	157	145	133	144	155	119	119	126	118	146	197	224	238	247	263	256	248	245	161.9
20-Jul	213	254	219	250	246	255	132	77	125	147	146	173	169	222	205	194	240	253	220	249	288	301	302	296	220.1
21-Jul	315	320	343	346	343	331	329	337	344	352	334	340	341	341	346	323	357	337	338	360	282	261	246	251	336.1
22-Jul	271	59	160	235	240	255	273	282	304	303	295	281	313	302	314	1	341	345	245	240	246	235	233	261	288.7
23-Jul	245	253	246	238	249	147	121	96	12	126	226	167	137	286	291	271	275	242	198	229	228	196	167	145	230.3
24-Jul	202	247	240	248	222	177	132	116	132	137	129	158	140	121	135	226	24	69	137	128	168	226	249	284	145.9
25-Jul	254	261	247	248	263	259	263	260	265	269	264	266	272	270	274	274	277	299	324	319	317	284	264	267	272.5
26-Jul	262	261	260	253	256	268	277	316	296	283	287	285	281	276	321	252	301	278	248	300	274	315	283	263	280.2
27-Jul	278	282	293	300	282	299	318	334	331	329	331	322	332	318	310	316	321	314	315	294	258	250	249	250	309.1
28-Jul	256	264	244	241	133	266	106	304	287	322	291	275	317	326	346	356	355	19	319	245	260	252	238	246	301.3
29-Jul	218	299	240	225	259	210	87	116	199	159	207	348	320	283	326	259	14	177	183	234	211	242	235	234	243.6
30-Jul	199	230	243	238	233	294	133	202	236	226	230	253	265	261	277	295	302	308	250	256	248	227	239	231	252.2
31-Jul	231	243	206	215	258	92	129	102	50	129	219	235	227	163	162	149	158	154	143	232	237	200	293	233	184.6
260.6 263.3 260.2 260.8 263.2 269.4 270.0 272.6 266.2 248.6 255.8 257.4 265.4 274.9 271.4 265.4 286.0 291.1 270.7 266.7 260.9 250.8 251.0 260.8																									
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
Surmont 2 - July 2025





Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg
Surmont 2 - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 111 deg on Jul 2 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: 8 deg on Jul 23 05:00																									
Percentiles: P ₁ = 13 P ₁₀ = 25 Q ₁ = 36 Median = 51 Q ₃ = 62 P ₉₀ = 78 P ₉₉ = 100																									
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-Jul	55	94	69	52	81	61	72	47	72	88	55	43	52	58	82	90	82	83	52	73	62	95	49	33	95
2-Jul	55	37	36	62	100	111	51	62	74	50	67	52	105	95	54	37	32	33	26	29	91	98	31	74	111
3-Jul	89	77	43	45	26	42	52	35	37	42	43	42	33	35	51	85	42	41	35	35	33	46	78	49	89
4-Jul	35	32	32	32	33	34	35	47	37	44	52	49	53	55	45	55	62	53	41	44	59	18	21	78	78
5-Jul	66	20	57	53	84	97	96	63	59	52	43	53	46	73	68	69	71	62	70	45	54	23	48	64	97
6-Jul	40	40	49	47	94	58	34	48	49	44	52	46	57	72	40	59	46	59	59	62	50	53	45	51	94
7-Jul	61	34	33	86	67	82	62	53	73	62	59	48	97	68	70	53	62	56	60	69	56	73	79	65	97
8-Jul	75	90	59	78	83	39	40	52	51	68	45	48	53	55	57	53	69	51	35	28	32	70	62	45	90
9-Jul	43	43	33	31	32	34	37	41	39	42	38	34	38	38	35	34	36	35	34	31	26	23	32	31	43
10-Jul	26	47	28	22	22	31	34	37	44	39	44	43	47	55	49	43	53	59	51	21	13	15	23	61	61
11-Jul	65	25	26	29	29	40	35	36	49	43	49	55	43	43	52	43	39	36	33	35	37	35	33	33	65
12-Jul	33	33	42	34	36	33	34	35	33	34	31	45	44	43	43	37	38	43	35	44	26	11	19	33	45
13-Jul	27	35	31	28	40	31	33	37	48	58	60	55	59	56	62	48	63	57	54	62	100	75	12	23	100
14-Jul	27	19	75	90	39	65	63	58	56	59	59	59	63	68	58	62	66	56	59	63	33	16	42	UO	90
15-Jul	UO	UO	UO	UO	UO	UO	17	99	58	85	68	97	80	106	97	93	89	78	97	59	18	33	28	35	106
16-Jul	37	77	56	102	70	37	35	51	54	65	55	62	61	59	54	60	60	71	64	15	28	31	58	62	102
17-Jul	95	46	71	83	82	81	80	35	61	63	58	63	77	79	78	52	84	59	69	15	18	54	50	52	95
18-Jul	15	50	18	17	31	23	UO	33	46	50	42	46	52	58	61	58	51	38	41	62	51	50	37	23	62
19-Jul	23	22	36	32	15	31	57	55	45	47	44	33	33	37	31	54	97	63	14	13	16	22	54	40	97
20-Jul	63	87	47	67	60	70	73	45	46	45	53	52	66	83	66	86	54	36	22	11	44	57	47	53	87
21-Jul	51	59	57	57	62	58	61	63	53	61	55	54	53	56	59	59	59	58	59	65	48	12	58	79	79
22-Jul	73	48	101	62	88	41	40	29	52	83	71	89	95	70	68	91	70	84	79	18	23	15	18	34	101
23-Jul	16	36	13	20	8	73	22	66	86	58	41	58	81	60	52	37	41	69	71	37	38	49	52	56	86
24-Jul	37	12	41	48	51	63	55	34	37	48	51	51	49	35	46	72	90	62	47	63	61	28	39	85	90
25-Jul	17	21	14	15	21	24	31	34	38	34	38	37	37	37	35	36	34	53	56	55	63	47	28	25	63
26-Jul	21	20	20	17	21	29	60	41	67	45	39	33	38	44	65	49	64	80	47	50	46	58	56	21	80
27-Jul	40	28	61	48	51	43	49	56	62	49	60	55	68	58	51	57	58	51	54	45	16	14	12	13	68
28-Jul	22	76	93	73	67	44	37	48	51	75	48	56	68	60	60	66	69	77	69	16	38	23	39	14	93
29-Jul	54	67	34	57	27	87	81	41	59	59	90	87	65	62	67	68	86	58	53	29	30	22	21	47	90
30-Jul	66	63	76	70	84	89	63	62	49	58	53	53	53	51	43	52	64	70	23	12	37	31	43	62	89
31-Jul	44	24	24	39	61	37	29	30	79	76	68	57	68	66	61	62	57	57	60	55	22	61	109	104	109
95 94 101 102 100 111 96 99 86 88 90 97 105 106 97 93 97 84 97 73 100 98 109 104																									
Diurnal Maximum																									
UO - Unstable Operation																									



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS30 ELLS RIVER JULY 2025

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

August 29, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - ELLS RIVER (AMS30)
JULY 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	34	35	99.87	-	-	205.6	1	24.4	0
TRS (ppb) Average	704	36	40	99.46	3.5	0	4.7	0	1.5	0
THC (ppm) Average	708	35	36	99.87	-	-	4.8	-	2.8	-
NMHC (ppm) Average	708	35	36	99.87	-	-	1.502	-	0.44	-
CH4 (ppm) Average	708	35	36	99.87	-	-	4	-	2.3	-
NO2 (ppb) Average	707	36	37	99.87	-	-	32.6	0	9.8	-
NO (ppb) Average	707	36	37	99.87	-	-	81.9	-	9	-
NOX (ppb) Average	707	36	37	99.87	-	-	111.3	-	16.5	-
PM2.5 (ug/m3) Average	491	2	253	66.26	-	-	248.5	0	132.8	4
Temperature 2 m (C) Average	744	0	0	100	-	-	33.5	-	24.7	-
Relative Humidity (%) Average	744	0	0	100	-	-	96.9	-	91.8	-
Wind Speed 10 m (km/h) Average	725	0	19	97.45	-	-	30	-	18	-
Wind Direction 10 m (deg) Average	725	0	19	97.45	-	-	-	-	-	-
Global Solar Radiation (W/m2) Average	744	0	0	100	-	-	984.2	-	364.1	-

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

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - ELLS RIVER (AMS30)
JULY 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	1.61	9.9	-	0	0	0	0.1	0.4	1.7	205.6
TRS (ppb) Average	704	0.59	0.4	-	0.2	0.4	0.4	0.5	0.6	0.9	4.7
THC (ppm) Average	708	2.22	0.3	-	1.9	2	2	2.1	2.4	2.6	4.8
NMHC(ppm) Average	708	0.119	0.184	-	0	0	0	0	0.2	0.4	1.502
CH4(ppm) Average	708	2.1	0.2	-	1.9	2	2	2	2.1	2.3	4
NO2 (ppb) Average	707	3.86	4.7	-	0.1	0.3	0.6	2.3	5.1	9.6	32.6
NO (ppb) Average	707	1.24	5.2	-	0	0	0	0.1	0.6	2.4	81.9
NOX (ppb) Average	707	5.1	8.8	-	0.2	0.4	0.6	2.5	5.9	12	111.3
PM2.5 (ug/m3) Average	491	20.38	33.3	-	1.3	2.6	4.5	11.2	21.2	35.9	248.5
Temperature 2 m (C) Average	744	17.54	5.8	-	3	10.5	13.4	17	21.7	25.7	33.5
Relative Humidity (%) Average	744	62.31	21.1	-	22.2	32.6	44.9	62.8	81.4	90.9	96.9
Wind Speed 10 m (km/h) Average	725	9.2	5	-	1	3	5	8	12	16	30
Wind Direction 10 m (deg) Average	725	249.5	-	-	-	-	-	-	-	-	-
Global Solar Radiation (W/m2) Average	744	264.05	292.2	-	0	0	0.5	142.2	503.2	730.9	984.2

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - ELLS RIVER (AMS30)
JULY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
AIR QUALITY ANALYZERS	09 Jul 2025 16:00	09 Jul 2025 16:00	1	Maintenance - station logger/modem reset
PM2.5	01 Jul 2025 01:00	09 Jul 2025 15:00	207	Unstable Operation - AMD non compliance
PM2.5	09 Jul 2025 17:00	11 Jul 2025 11:00	43	Unstable Operation - AMD non compliance
TRS	09 Jul 2025 11:00	09 Jul 2025 13:00	3	Maintenance - verify daily QA response
Wind Speed, Wind Direction	01 Jul 2025 01:00	01 Jul 2025 01:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	01 Jul 2025 05:00	01 Jul 2025 05:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	15 Jul 2025 00:00	15 Jul 2025 00:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	16 Jul 2025 02:00	16 Jul 2025 04:00	3	Flat line in sensor output signal
Wind Speed, Wind Direction	16 Jul 2025 22:00	16 Jul 2025 23:00	2	Flat line in sensor output signal
Wind Speed, Wind Direction	17 Jul 2025 04:00	17 Jul 2025 04:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	17 Jul 2025 22:00	18 Jul 2025 03:00	6	Flat line in sensor output signal
Wind Speed, Wind Direction	19 Jul 2025 04:00	19 Jul 2025 04:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	19 Jul 2025 06:00	19 Jul 2025 06:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	22 Jul 2025 22:00	22 Jul 2025 22:00	1	Flat line in sensor output signal
Wind Speed, Wind Direction	30 Jul 2025 21:00	30 Jul 2025 21:00	1	Flat line in sensor output signal



Wood Buffalo Environmental Association

Summary of Hour Averages

Sulphur Dioxide (SO₂) - ppb

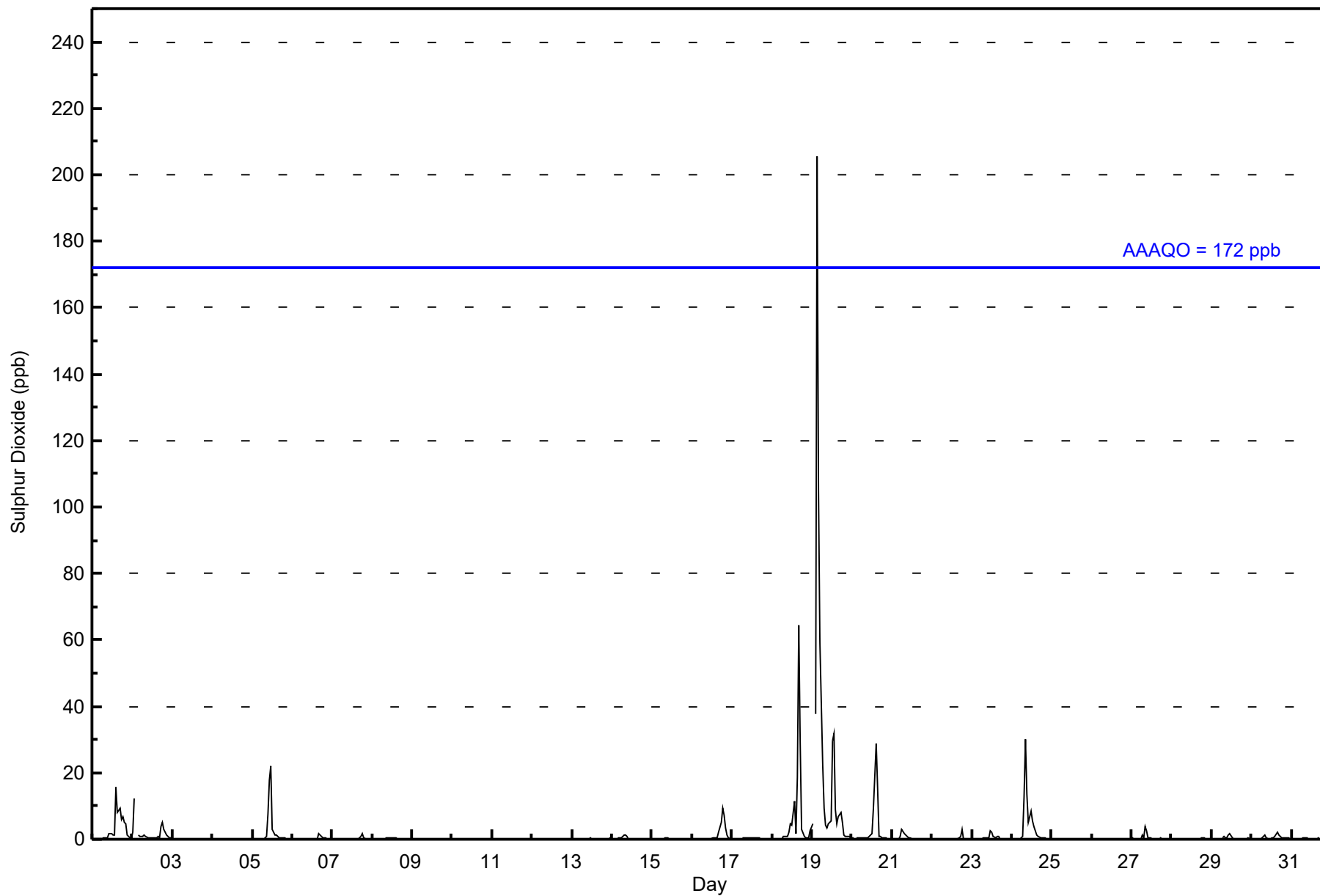
Ells River - July 2025

Number of Exceedences (AAAQO): 1-hr: 1 24-hr: 0 Maximum Value: 205.6 ppb on Jul 19 04:00 Maximum Daily Average: 24.4 ppb on Jul 19																			Hours in Service: 744 Hours of Data: 709							
Minimum Value: 0.0 ppb on Jul 1 05:00 Maximum Diurnal Average: 8.0 ppb at hour 4 Monthly Average: 1.61 ppb																			Minimum Daily Average: 0.0 ppb on Jul 10 Minimum Diurnal Average: 0.1 ppb at hour 23 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 = 29.5		Hours of Missing Data: 35 Hours of Calibration: 34 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-Jul	0.0	Z	0.0	0.0	0.0	0.1	0.3	0.4	0.5	0.3	1.7	1.9	1.5	1.3	15.7	8.2	9.4	6.0	6.9	4.9	4.7	1.1	0.5	0.4	2.9	15.7
2-Jul	1.9	12.2	Z	1.1	0.7	0.9	1.0	1.4	0.8	0.4	0.4	0.4	0.5	0.5	0.5	0.7	0.6	4.0	5.3	3.0	1.4	0.9	0.4	0.3	1.7	12.2
3-Jul	0.2	0.2	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	0.2
4-Jul	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	0.0	0.0	0.0	0.0	0.0	0.0	0.1
5-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.8	7.7	18.0	22.1	2.9	1.1	1.1	0.7	0.5	0.4	0.3	0.2	0.2	0.1	0.0	0.0	2.4	22.1
6-Jul	Z	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	0.1	0.0	1.9	0.9	0.4	0.4	0.2	0.1	0.1	0.0	0.2	1.9
7-Jul	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.2	C	C	C	0.0	0.0	0.0	0.3	0.8	1.7	0.4	0.1	0.0	0.0	0.1	0.2	1.7
8-Jul	0.2	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.4
9-Jul	0.1	0.2	0.1	Z	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	M	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2
10-Jul	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
11-Jul	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	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1
12-Jul	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	0.0	0.0	0.0	0.0	0.0	0.1
13-Jul	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.0	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.3
14-Jul	0.2	0.1	Z	0.0	0.3	0.5	0.7	1.2	1.4	0.7	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	0.2	1.4
15-Jul	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.4	0.4	0.2	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	0.4
16-Jul	0.0	0.0	0.0	0.0	Z	0.0	0.1	0.1	0.0	0.1	0.2	0.2	0.3	0.4	0.3	0.4	2.3	5.1	9.3	7.0	3.5	1.2	0.3	0.2	1.3	9.3
17-Jul	0.2	0.2	0.1	0.1	0.1	Z	0.3	0.4	0.5	0.4	0.4	0.3	0.2	0.3	0.5	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.5
18-Jul	Z	0.1	0.1	0.1	0.1	0.2	0.2	0.7	0.9	0.8	2.1	4.5	4.3	11.4	1.6	18.6	64.5	29.3	3.0	0.7	0.5	0.4	0.3	2.7	6.4	64.5
19-Jul	4.5	Z	37.6	205.6	105.2	59.3	22.7	9.3	4.4	3.3	4.5	5.6	29.5	31.7	8.9	4.5	6.7	7.9	5.3	1.2	1.0	0.8	0.7	0.6	24.4	205.6
20-Jul	0.6	0.6	Z	0.4	0.4	0.2	0.3	0.3	0.3	0.4	0.7	1.1	1.7	9.4	29.0	15.3	0.8	0.6	0.6	0.4	0.3	0.2	0.1	0.0	2.8	29.0
21-Jul	0.0	0.0	0.0	Z	0.0	0.7	2.8	1.6	1.4	0.9	0.5	0.6	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.0	0.4	2.8
22-Jul	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.2	0.8	2.8	0.0	0.1	0.1	0.0	0.0	0.2	2.8
23-Jul	0.1	0.0	0.0	0.0	0.1	Z	0.1	0.2	0.3	0.5	0.3	2.6	2.0	0.7	0.4	0.9	0.8	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.4	2.6
24-Jul	Z	0.0	0.0	0.0	0.0	0.0	0.7	12.8	29.9	13.5	5.1	8.3	5.7	4.0	2.7	1.5	0.7	0.5	0.5	0.5	0.4	0.1	0.1	0.1	3.8	29.9
25-Jul	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	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2
26-Jul	0.1	0.1	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
27-Jul	0.4	0.0	0.0	Z	0.0	0.2	1.2	0.4	4.0	2.6	0.6	0.5	0.1	0.0	0.0	0.0	0.1	0.4	0.2	0.1	0.1	0.1	0.0	0.0	0.5	4.0
28-Jul	0.0	0.0	0.0	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.3	0.3	0.2	0.0	0.0	0.0	0.1	0.3
29-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.3	1.0	0.5	0.4	1.3	1.7	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.3	1.7
30-Jul	Z	0.1	0.1	0.0	0.0	0.1	0.2	1.0	1.1	0.4	0.1	0.2	0.2	0.2	0.7	2.2	1.3	0.7	0.5	0.4	0.4	0.2	0.3	0.2	0.5	2.2
31-Jul	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.2	0.2	0.2	0.1	0.2	0.1	0.2	0.3	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3
Diurnal Average																										
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
Ells River - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Ells River - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	689	97.18	97.18
11 - 20	8	1.13	98.31
21 - 60	9	1.27	99.58
61 - 110	2	0.28	99.86
111 - 172	0	0.00	99.86
> 172	1	0.14	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 - July 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	77	32	20	15	8	8	29	70	89	56	63	53	48	29	39	37	673
11 - 20	0	0	0	0	0	0	3	3	1	0	0	0	0	0	0	1	8
21 - 60	0	0	0	0	0	0	2	3	1	0	1	1	0	0	0	0	8
61 - 110	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
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	77	32	20	15	8	8	34	77	91	56	65	54	48	29	39	38	691

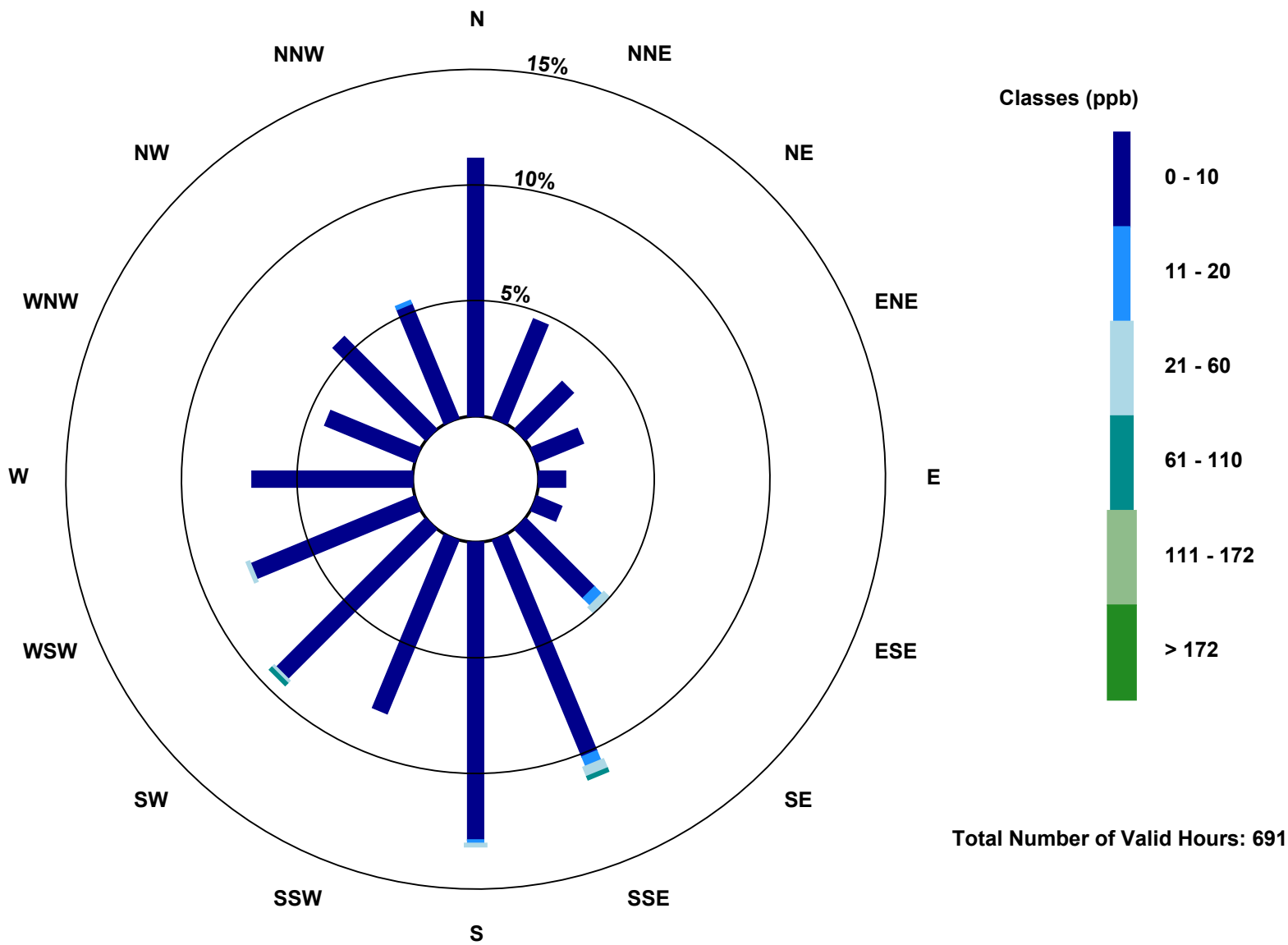
Total Number of Valid Hours: 691

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

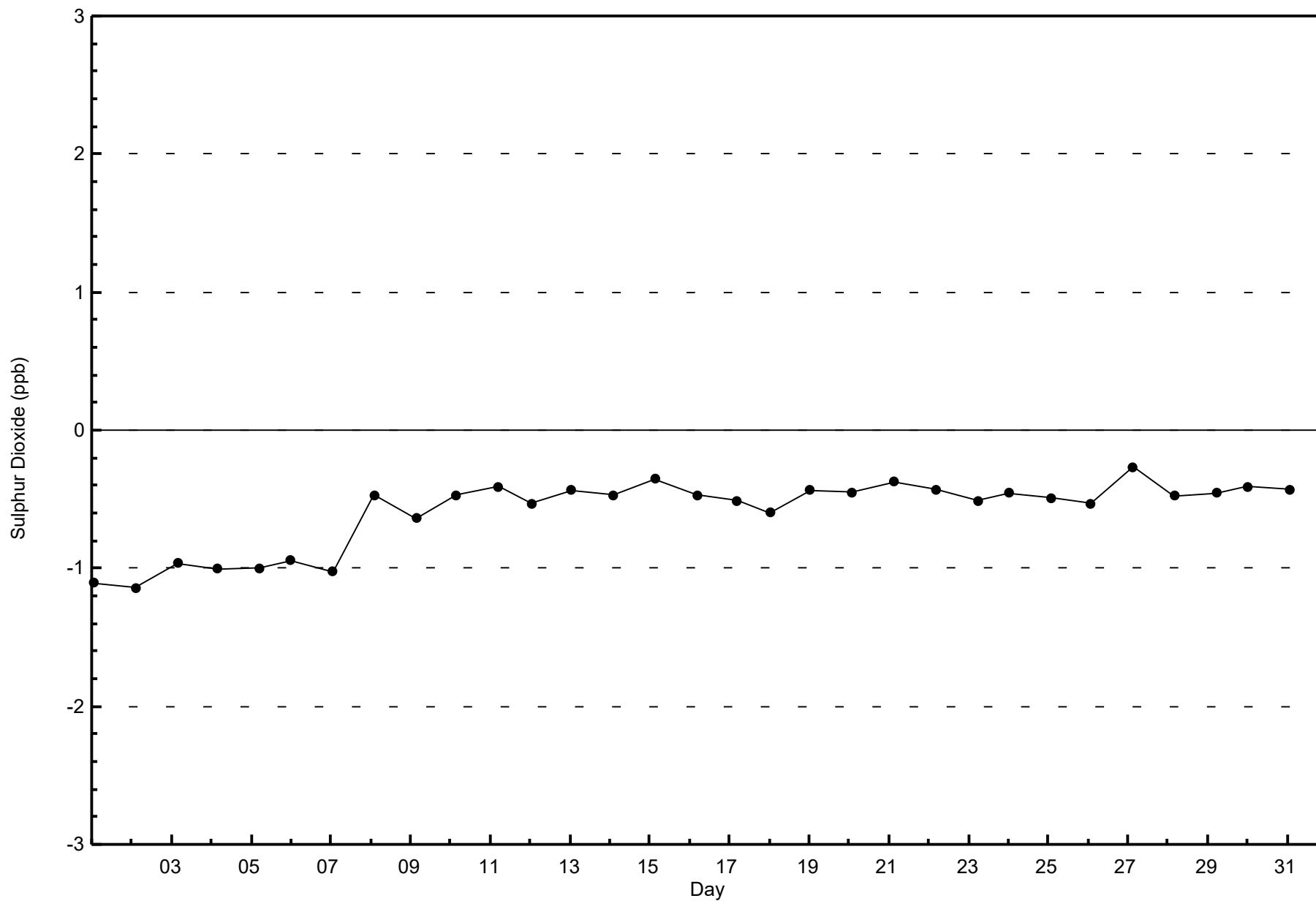
Sulphur Dioxide (SO₂) - ppb
Ells River





Wood Buffalo Environmental Association
Zero Responses

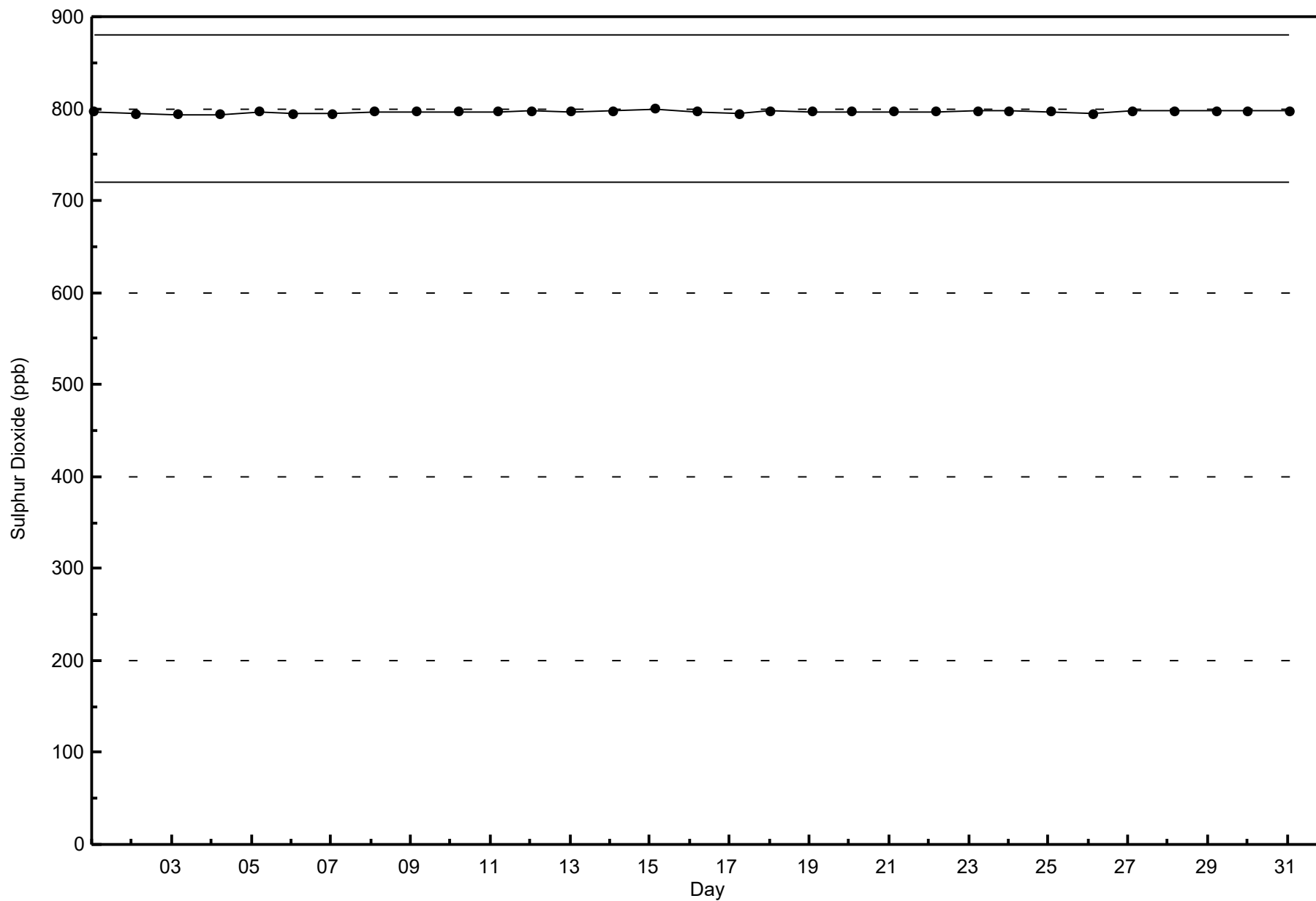
Sulphur Dioxide (SO₂) - ppb
Ells River - July 2025





Wood Buffalo Environmental Association
Span Responses

Sulphur Dioxide (SO₂) - ppb
Ells River - July 2025





Wood Buffalo Environmental Association

Summary of 30-Minute Averages

Total Reduced Sulphur (TRS) - ppb

Ells River - July 2025

Number of Exceedences (AAAQG): 30-Min: 1																			Periods in Service: 1488							
Maximum Value: 5.7 ppb on Jul 19 05:30 Maximum Daily Average: 1.5 ppb on Jul 19																			Periods of Valid Data: 1409							
Minimum Value: 0.2 ppb on Jul 29 17:00 Minimum Daily Average: 0.4 ppb on Jul 9																			Periods of Invalid Data: 79							
Maximum Diurnal Average: 0.9 ppb at hour 5 Minimum Diurnal Average: 0.4 ppb at hour 17																			Periods of Calibration: 71							
Monthly Average: 0.59 ppb Percentiles: P ₁ = 0.3 P ₁₀ = 0.4 Q ₁ = 0.4 Median = 0.5 Q ₃ = 0.6 P ₉₀ = 0.9 P ₉₉ = 2.7																			Percent Operational Time: 99.5							
Day	Period Ending At (MST)																								Daily Average	Daily Maximum
	00:30 01:00	01:30 02:00	02:30 03:00	03:30 04:00	04:30 05:00	05:30 06:00	06:30 07:00	07:30 08:00	08:30 09:00	09:30 10:00	10:30 11:00	11:30 12:00	12:30 13:00	13:30 14:00	14:30 15:00	15:30 16:00	16:30 17:00	17:30 18:00	18:30 19:00	19:30 20:00	20:30 21:00	21:30 22:00	22:30 23:00	23:30 24:00		
1-Jul	0.5 1.1	1.0 1.3	Z SP	1.8 1.2	2.0 1.3	0.6 0.6	0.8 1.0	1.2 1.2	1.4 1.2	0.9 0.8	0.8 0.7	0.7 0.7	0.6 0.6	0.5 0.5	0.5 0.7	0.6 0.5	0.5 0.5	0.4 0.4	0.5 0.5	0.5 0.6	0.5 0.5	0.5 0.5	0.5 0.6	0.7 0.6	0.8	2.0
2-Jul	0.7 0.8	1.2 0.8	0.8 1.8	Z SP	3.3 3.5	2.7 2.6	2.5 1.5	1.1 1.0	0.8 0.7	0.6 0.6	0.6 0.7	0.7 0.7	0.6 0.6	0.6 0.5	0.5 0.5	0.5 0.4	0.5 0.4	0.4 0.4	0.4 0.5	0.5 0.7	0.5 0.8	0.9 0.4	0.5 0.4	0.4 0.4	0.9	3.5
3-Jul	0.4 0.5	0.7 0.6	0.6 0.7	0.6 0.6	Z SP	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 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	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.5	0.7
4-Jul	0.4 0.4	0.4 0.4	0.5 0.5	0.5 0.5	0.5 0.4	Z SP	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	0.4 0.4	0.4 0.4	0.4 0.5	0.5 0.4	0.4 0.5	0.5 0.5	0.6 1.1	1.4 0.9	0.5	1.4	
5-Jul	Z SP	0.6 1.0	1.1 1.3	0.8 1.3	1.3 0.6	0.7 0.8	0.8 0.7	0.4 0.6	0.6 0.5	0.5 0.5	0.7 0.7	0.7 0.5	0.4 0.4	0.3 0.3	0.3 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	0.4 0.4	0.5 0.5	0.5 0.5	0.6	1.3
6-Jul	0.6 0.5	Z SP	0.3 0.3	0.5 0.4	0.4 0.5	0.6 0.6	0.6 0.6	0.6 0.6	0.6 0.6	0.5 0.5	0.5 0.5	0.5 0.5	0.5 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.3 0.4	0.5 0.5	0.4 0.4	0.4 0.5	0.5 0.5	0.5 0.4	0.4 0.4	0.5 0.4	0.5	0.6
7-Jul	0.6 0.5	0.5 0.4	Z SP	0.7 0.6	0.6 1.1	0.7 0.8	0.5 0.6	0.6 0.5	0.5 0.6	0.6 0.6	0.6 0.6	0.6 0.5	0.5 0.5	0.4 0.5	0.5 0.5	0.4 0.4	0.5 0.5	0.5 0.5	0.5 0.5	0.5 0.5	0.4 0.4	0.4 0.4	0.4 0.4	0.5 0.4	0.5	1.1
8-Jul	0.5 0.5	0.4 0.4	0.4 0.7	Z SP	0.5 0.5	0.5 0.5	0.4 0.5	0.5 0.5	0.4 0.5	0.5 0.6	0.6 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 0.4	0.4 0.4	0.4 0.4	0.5 0.4	0.4 0.4	0.4 0.4	0.5	0.7
9-Jul	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.4	Z SP	0.5 0.5	0.5 0.5	0.5 0.4	0.4 0.4	0.4 M	M M	M M	M 0.4	0.4 0.4	0.4 M	0.4 0.4	0.3 0.4	0.4 0.3	0.4 0.4	0.3 0.4	0.3 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.4	0.5
10-Jul	0.4 0.4	0.4 0.4	0.5 0.4	0.4 0.4	0.4 0.4	Z SP	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	0.4 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 0.6	0.6 0.5	0.5 0.5	0.4	0.6	
11-Jul	Z SP	0.5 0.5	0.6 0.6	0.7 0.5	0.5 0.4	0.4 0.4	0.5 0.5	0.5 0.5	0.4 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 0.4	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	0.7
12-Jul	0.4 0.4	Z SP	0.4 0.4	0.4 0.5	0.5 0.5	0.6 0.6	0.6 0.6	0.6 0.6	0.5 0.5	0.5 0.6	0.7 0.7	0.6 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	0.4 0.3	0.3 0.3	0.3 0.3	0.3 0.4	0.5 0.5	0.5 0.5	0.5	0.7
13-Jul	0.5 0.5	0.6 0.7	Z SP	0.6 0.7	0.6 0.7	0.6 0.7	0.7 0.7	0.6 0.5	0.5 0.4	0.5 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 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.4 0.4	0.4 0.4	0.4 0.4	0.5 0.7	0.4	0.7
14-Jul	0.7 0.6	0.8 0.8	0.8 0.7	Z SP	0.7 0.6	0.6 0.8	0.8 0.7	0.5 0.6	0.5 0.5	C C	C C	C C	C C	C 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	0.5	0.8
15-Jul	2.2 1.7	2.1 1.2	1.5 3.1	2.1 2.5	Z SP	0.9 0.9	0.9 0.8	0.6 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	0.3 0.4	0.4 0.4	0.4 0.4	0.3 0.4	0.4 0.4	0.4 0.4	0.4 0.5	0.4 0.7	0.6 0.7	0.6 0.7	0.8	3.1



Wood Buffalo Environmental Association

Summary of 30-Minute Averages

Total Reduced Sulphur (TRS) - ppb

Ells River - July 2025

Day	Period Ending At (MST)																								Daily Average	Daily Maximum
	00:30 01:00	01:30 02:00	02:30 03:00	03:30 04:00	04:30 05:00	05:30 06:00	06:30 07:00	07:30 08:00	08:30 09:00	09:30 10:00	10:30 11:00	11:30 12:00	12:30 13:00	13:30 14:00	14:30 15:00	15:30 16:00	16:30 17:00	17:30 18:00	18:30 19:00	19:30 20:00	20:30 21:00	21:30 22:00	22:30 23:00	23:30 24:00		
16-Jul	0.7 0.8	0.7 1.6	1.1 1.0	1.7 2.7	0.7 0.8	Z SP	0.5 0.4	0.4 0.5	0.5 0.5	0.4 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	0.4 0.4	0.4 0.4	0.4 0.4	0.5 0.5	0.5 0.5	0.5 0.5	0.5 0.6	0.5 0.6	0.6	2.7
17-Jul	Z SP	0.7 0.8	0.9 0.9	1.1 2.1	1.3 1.1	0.9 0.8	0.8 1.0	1.0 1.0	1.1 1.2	1.1 1.1	1.0 1.1	0.7 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	0.5 0.5	0.5 0.5	0.5 0.5	0.5 0.6	0.7 0.9	0.7	2.1
18-Jul	0.9 0.9	Z SP	2.2 2.8	0.7 0.6	1.0 0.9	0.8 0.9	0.7 0.9	1.2 1.2	1.1 0.8	0.9 0.8	1.1 0.9	0.9 0.8	0.7 0.6	0.5 0.5	0.4 0.4	0.4 0.4	0.4 0.4	0.5 0.4	0.5 0.5	0.6 0.8	1.3 1.2	1.1 1.2	1.9 1.5	1.2 1.3	0.9	2.8
19-Jul	2.1 2.0	1.3 1.0	Z SP	1.6 2.3	3.5 3.0	5.7 3.6	4.0 4.9	4.2 3.5	2.8 2.1	1.6 1.6	1.3 1.1	1.1 1.0	0.8 1.1	1.1 0.7	0.6 0.5	0.5 0.5	0.5 0.5	0.5 0.5	0.5 0.5	0.6 0.6	0.5 0.6	0.5 0.5	0.5 0.5	0.5 0.7	1.5	5.7
20-Jul	0.8 0.5	0.4 0.4	0.4 0.4	Z SP	0.4 0.4	0.4 0.4	0.4 0.5	0.5 0.5	0.6 0.7	0.7 0.7	0.8 0.8	0.8 0.8	0.7 0.7	0.8 1.0	0.8 0.6	0.5 0.5	0.5 0.5	0.4 0.4	0.5 0.4	0.4 0.4	0.4 0.4	0.4 0.5	0.5 0.6	0.5 0.5	0.6	1.0
21-Jul	0.4 0.6	0.5 0.4	0.4 0.6	0.7 0.6	Z SP	0.8 0.7	0.8 0.7	0.7 0.6	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 0.4	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 0.5	0.5	0.8
22-Jul	0.5 0.4	0.4 0.4	0.4 0.6	0.7 0.8	0.6 0.5	Z SP	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	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.5	0.4 0.4	0.8 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.5	0.6 0.8	0.5	0.8
23-Jul	Z SP	1.4 1.0	1.9 1.7	0.9 1.1	0.9 0.8	0.8 1.0	0.9 0.7	1.0 0.8	1.0 0.8	0.7 0.8	0.6 0.5	0.5 0.5	0.4 0.4	0.4 0.4	0.4 0.5	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.4 0.4	0.5 0.5	0.5 0.4	0.4 0.4	0.4 0.4	0.7	1.9
24-Jul	0.4 0.4	Z SP	0.7 0.6	0.8 0.7	0.8 0.7	0.7 0.9	1.0 1.2	1.7 1.8	1.5 1.0	1.0 1.4	0.9 0.6	0.5 0.7	0.6 0.7	0.6 0.7	0.5 0.6	0.6 0.9	0.7 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	0.7	1.8
25-Jul	0.5 0.4	0.4 0.5	Z SP	0.4 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	0.4 0.4	0.4 0.4	0.4 0.5	0.4 0.5	0.5 0.5	0.7 0.6	0.9 0.7	0.7 0.7	0.7 0.5	0.6 0.5	0.5 0.5	0.5 0.4	0.4 0.4	0.4 0.3	0.5	0.9
26-Jul	0.3 0.3	0.4 0.4	0.4 0.3	Z SP	0.4 0.4	0.4 0.4	0.4 0.5	0.5 0.4	0.4 0.3	0.4 0.3	0.4 0.4	0.4 0.5	0.5 0.6	0.5 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 0.5	0.5 0.5	0.5 0.5	0.5 0.7	0.5	0.7
27-Jul	0.9 1.0	0.8 0.9	1.1 0.7	0.5 0.4	Z SP	0.8 0.7	0.5 0.7	1.1 0.8	0.6 0.6	0.6 0.5	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	0.4 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	1.1
28-Jul	0.5 0.4	0.5 0.4	0.5 0.6	0.5 0.7	0.6 1.0	Z SP	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	0.4 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	0.5 0.5	0.4 0.5	0.6 0.5	0.5	1.0	
29-Jul	Z SP	0.7 0.6	0.9 0.7	1.2 1.1	0.5 0.6	0.8 0.5	0.5 0.7	0.9 0.8	0.9 0.9	1.0 0.8	0.6 0.5	0.5 0.4	0.3 0.3	0.3 0.3	0.3 0.3	0.2 0.2	0.2 0.2	0.2 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.4 0.5	0.7 0.8	0.8 0.7	0.5	1.2
30-Jul	0.7 0.6	Z SP	0.4 0.4	0.5 0.5	0.5 0.6	0.7 0.6	0.6 0.7	0.7 0.6	0.6 0.5	0.5 0.4	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.4 0.4	0.4 0.4	0.4 0.4	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.3 0.3	0.4 0.4	0.4 0.5	0.4	0.7
31-Jul	0.6 0.8	0.7 0.8	Z SP	0.7 1.0	0.6 0.6	0.6 0.6	0.6 0.7	0.6 0.5	0.5 0.5	0.5 0.5	0.5 0.5	0.5 0.5	0.4 0.4	0.4 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 0.4	0.4 0.4	0.5 0.4	0.4 0.5	0.5	1.0
																								Diurnal Average		
																								Diurnal Maximum		
Z - zerospan C - Calibration M - Maintenance SP - Span																										
Alberta Ambient Air Quality Guideline (AAAQG): 30-Min: 5 ppb																										



Wood Buffalo Environmental Association

Summary of Hour Averages

Total Reduced Sulphur (TRS) - ppb

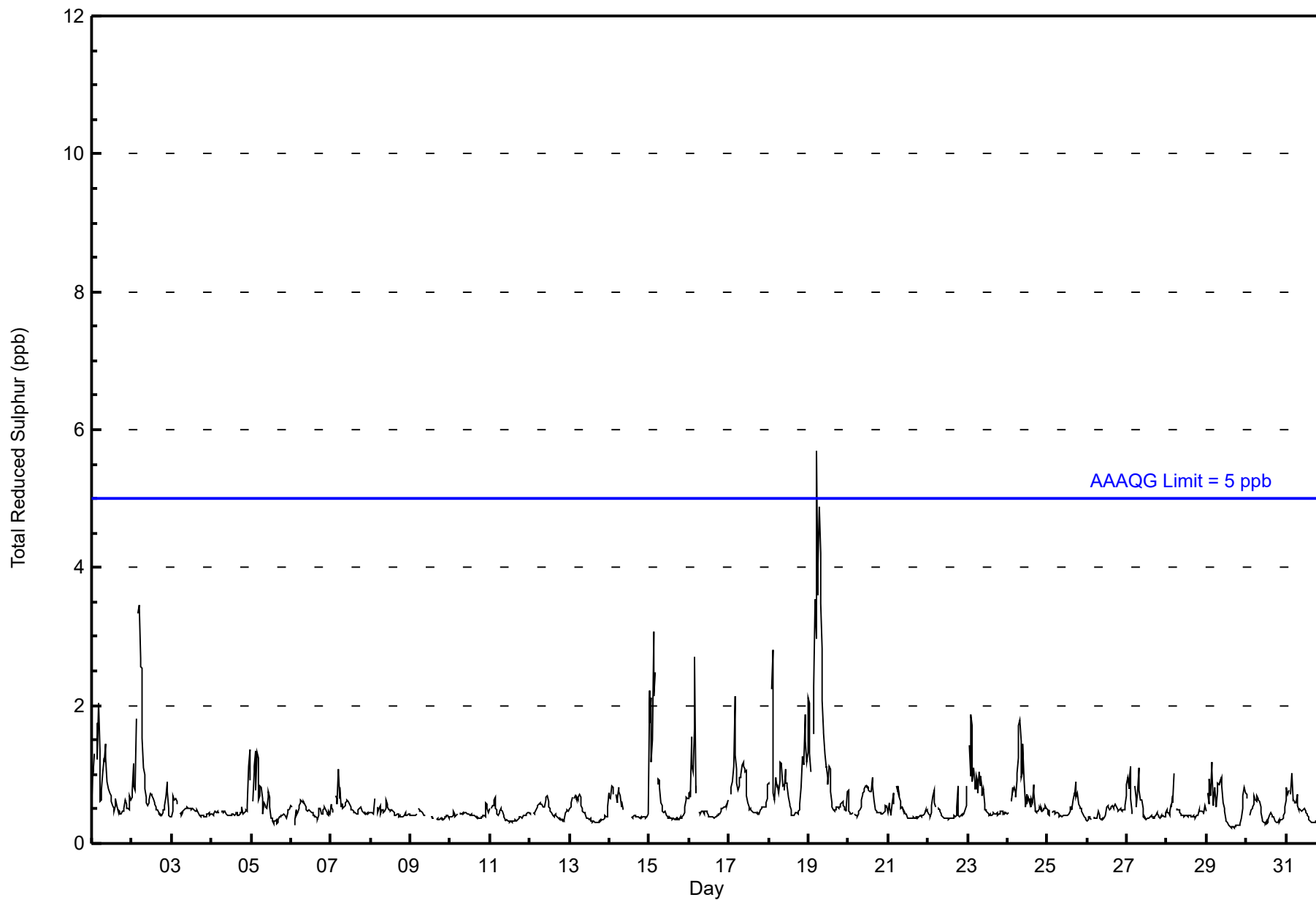
Ells River - July 2025

Maximum Value: 4.7 ppb on Jul 19 06:00																			Maximum Daily Average: 1.5 ppb on Jul 19																			Hours in Service: 744	
Minimum Value: 0.2 ppb on Jul 29 17:00																			Minimum Daily Average: 0.4 ppb on Jul 9																			Hours of Data: 704	
Maximum Diurnal Average: 0.9 ppb at hour 4																			Minimum Diurnal Average: 0.4 ppb at hour 17																			Hours of Missing Data: 40	
Monthly Average: 0.59 ppb																			Percentiles: P ₁ = 0.3 P ₁₀ = 0.4 Q ₁ = 0.4 Median = 0.5 Q ₃ = 0.6 P ₉₀ = 0.9 P ₉₉ = 2.4																			Hours of Calibration: 36	
																																						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-Jul	0.8	1.1	Z	1.5	1.7	0.6	0.9	1.2	1.3	0.8	0.8	0.7	0.6	0.5	0.6	0.5	0.5	0.4	0.5	0.5	0.6	0.5	0.5	0.7	0.8	1.7													
2-Jul	0.7	1.0	1.2	Z	3.4	2.6	2.0	1.0	0.7	0.6	0.6	0.7	0.7	0.6	0.5	0.5	0.4	0.4	0.4	0.5	0.6	0.8	0.5	0.4	0.9	3.4													
3-Jul	0.4	0.7	0.6	0.6	Z	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.7														
4-Jul	0.4	0.4	0.5	0.5	0.4	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	0.4	0.5	0.5	0.8	1.2	0.5														
5-Jul	Z	0.8	1.2	1.1	0.9	0.8	0.7	0.5	0.6	0.5	0.7	0.6	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.6														
6-Jul	0.5	Z	0.3	0.4	0.5	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.5	0.4	0.5	0.5	0.5	0.4	0.4	0.5														
7-Jul	0.6	0.5	Z	0.7	0.8	0.7	0.6	0.5	0.5	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	0.5														
8-Jul	0.5	0.4	0.5	Z	0.5	0.5	0.5	0.5	0.5	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	0.4	0.5														
9-Jul	0.4	0.4	0.4	0.4	Z	0.5	0.5	0.5	0.4	0.4	M	M	M	0.4	0.4	M	0.4	0.3	0.4	0.3	0.4	0.4	0.4	0.4	0.4														
10-Jul	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	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.4														
11-Jul	Z	0.5	0.6	0.6	0.5	0.4	0.5	0.5	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.6														
12-Jul	0.4	Z	0.4	0.5	0.5	0.6	0.6	0.6	0.5	0.6	0.7	0.6	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.4	0.5	0.5	0.5														
13-Jul	0.5	0.6	Z	0.7	0.6	0.7	0.7	0.5	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.6	0.4														
14-Jul	0.7	0.8	0.8	Z	0.7	0.7	0.7	0.6	0.5	C	C	C	C	C	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5														
15-Jul	2.0	1.6	2.3	2.3	Z	0.9	0.9	0.6	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.7	0.6	0.8														
16-Jul	0.7	1.1	1.1	2.2	0.8	Z	0.5	0.4	0.5	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.6														
17-Jul	Z	0.8	0.9	1.6	1.2	0.8	0.9	1.0	1.2	1.1	1.0	0.6	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.8	0.7														
18-Jul	0.9	Z	2.5	0.7	0.9	0.8	0.8	1.2	1.0	0.8	1.0	0.9	0.6	0.5	0.4	0.4	0.4	0.4	0.5	0.7	1.3	1.2	1.7	1.2	0.9														
19-Jul	2.1	1.2	Z	1.9	3.3	4.7	4.4	3.8	2.5	1.6	1.2	1.0	1.0	0.9	0.6	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.6	1.5														
20-Jul	0.6	0.4	0.4	Z	0.4	0.4	0.4	0.5	0.7	0.7	0.8	0.8	0.8	0.7	0.9	0.7	0.5	0.5	0.4	0.4	0.4	0.4	0.5	0.5	0.6														
21-Jul	0.5	0.5	0.5	0.7	Z	0.8	0.8	0.6	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5														
22-Jul	0.4	0.4	0.5	0.7	0.6	Z	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	0.4	0.4	0.4	0.5	0.7	0.5														
23-Jul	Z	1.2	1.8	1.0	0.8	0.9	0.8	0.9	0.9	0.7	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.7														
24-Jul	0.4	Z	0.6	0.8	0.8	0.8	1.1	1.7	1.2	1.2	0.8	0.6	0.6	0.6	0.6	0.7	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.7														
25-Jul	0.5	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	0.5	0.6	0.7	0.8	0.7	0.5	0.5	0.5	0.4	0.4	0.5														
26-Jul	0.3	0.4	0.4	Z	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.5														
27-Jul	0.9	0.9	0.9	0.5	Z	0.7	0.6	0.9	0.6	0.6	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														
28-Jul	0.5	0.4	0.5	0.6	0.8	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	0.4	0.4	0.5	0.5	0.4	0.5	0.5														
29-Jul	Z	0.7	0.8	1.1	0.6	0.7	0.6	0.9	0.9	0.9	0.5	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.8	0.8	0.5														
30-Jul	0.7	Z	0.4	0.5	0.5	0.7	0.6	0.6	0.6	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.5	0.4														
31-Jul	0.7	0.7	Z	0.9	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.5														
		0.7	0.7	0.8	0.9	0.9	0.9	0.8	0.8	0.7	0.6	0.6	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	Diurnal Average														
		2.1	1.6	2.5	2.3	3.4	4.7	4.4	3.8	2.5	1.6	1.2	1.0	1.0	0.9	0.9	0.7	0.7	0.8	0.7	1.3	1.2	1.7	1.2	Diurnal Maximum														
Z - zerospan		C - Calibration				M - Maintenance																																	
Alberta Ambient Air Quality Objective (AAAQO):		1-hour				NA				24-hr				NA																									



Wood Buffalo Environmental Association
Hourly Averages

Total Reduced Sulphur (TRS) - ppb
Ells River - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Reduced Sulphur (TRS) - ppb
Ells River - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	697	99.01	99.01
3 - 4	6	0.85	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: 704

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Total Reduced Sulphur (TRS) - ppb
Ells River - July 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	72	31	20	15	8	8	34	81	89	56	63	50	49	28	38	39	681
3 - 4	0	0	0	0	0	0	0	1	3	0	1	0	0	0	0	0	5
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	72	31	20	15	8	8	34	82	92	56	64	50	49	28	38	39	686

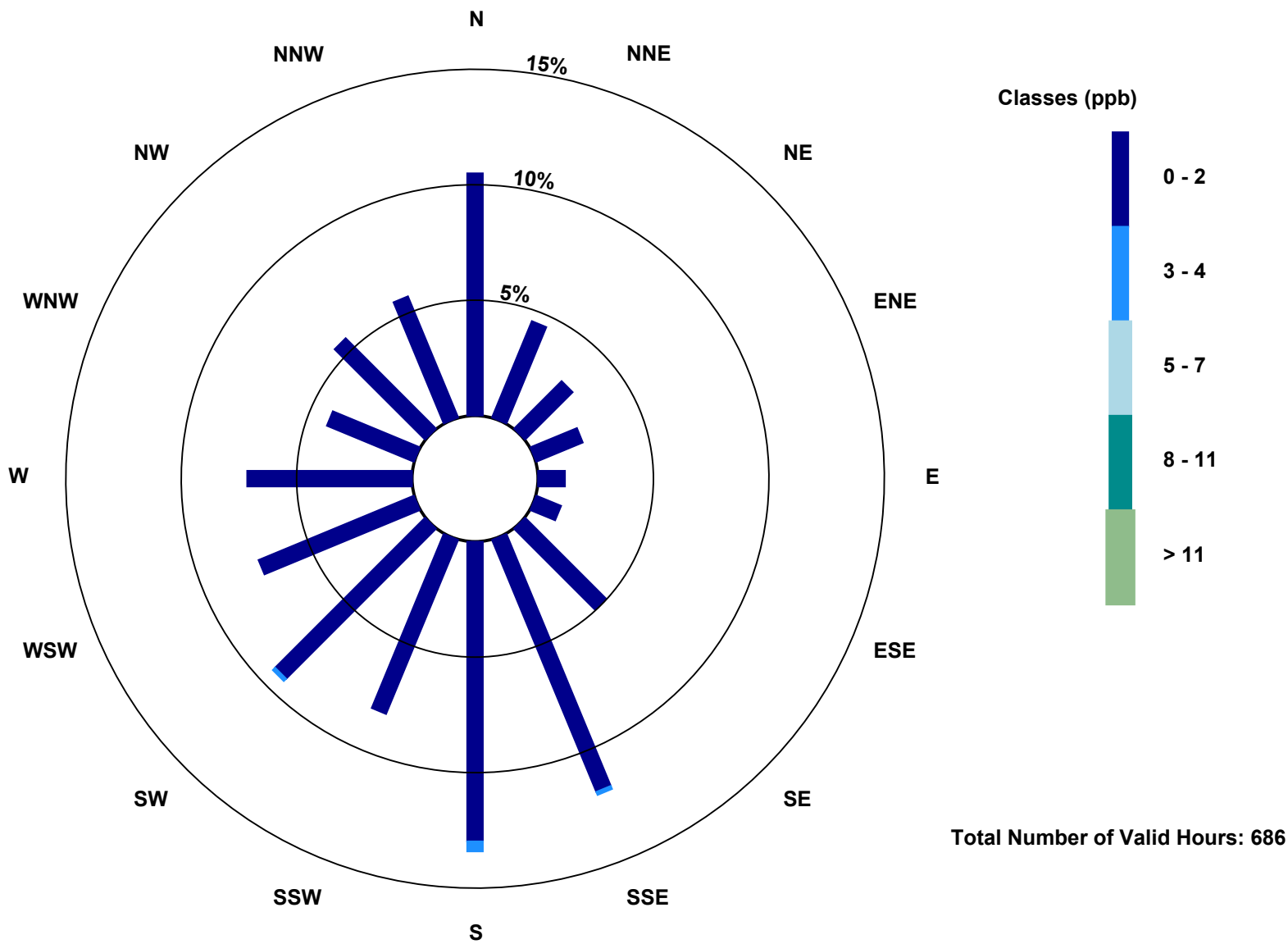
Total Number of Valid Hours: 686

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

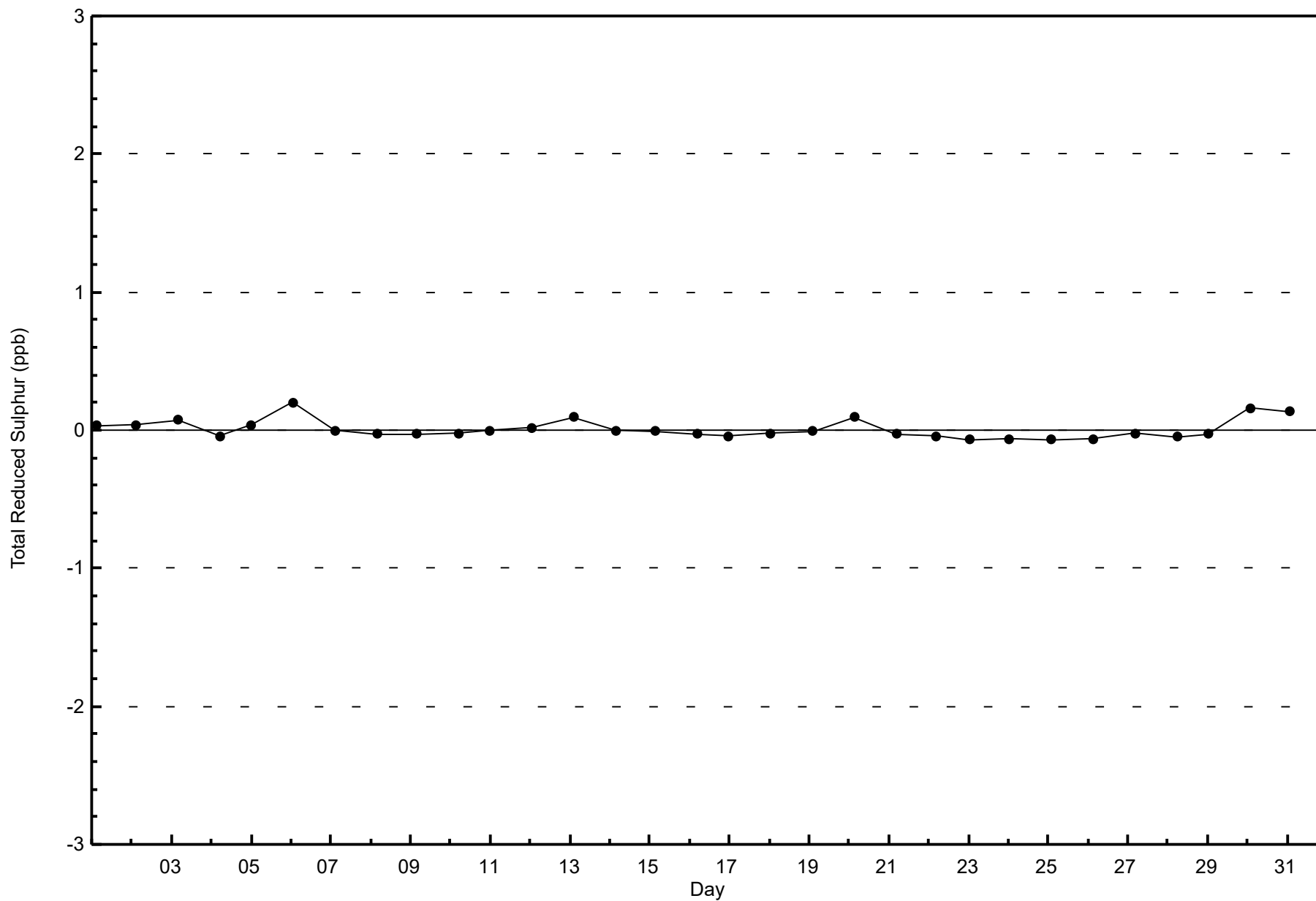
Total Reduced Sulphur (TRS) - ppb
Ells River





Wood Buffalo Environmental Association
Zero Responses

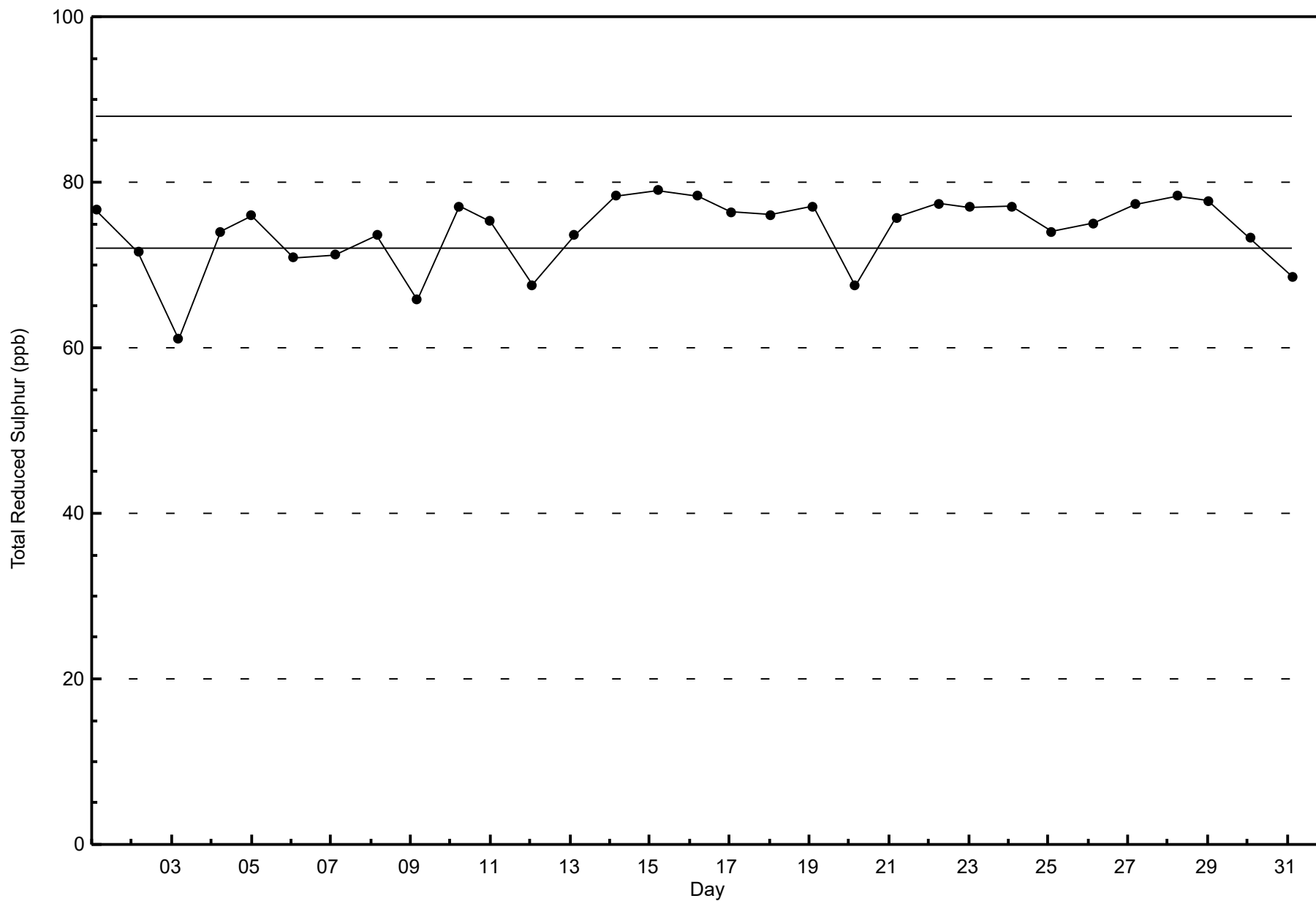
Total Reduced Sulphur (TRS) - ppb
Ells River - July 2025





Wood Buffalo Environmental Association
Span Responses

Total Reduced Sulphur (TRS) - ppb
Ells River - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Total Hydrocarbons (THC) - ppm

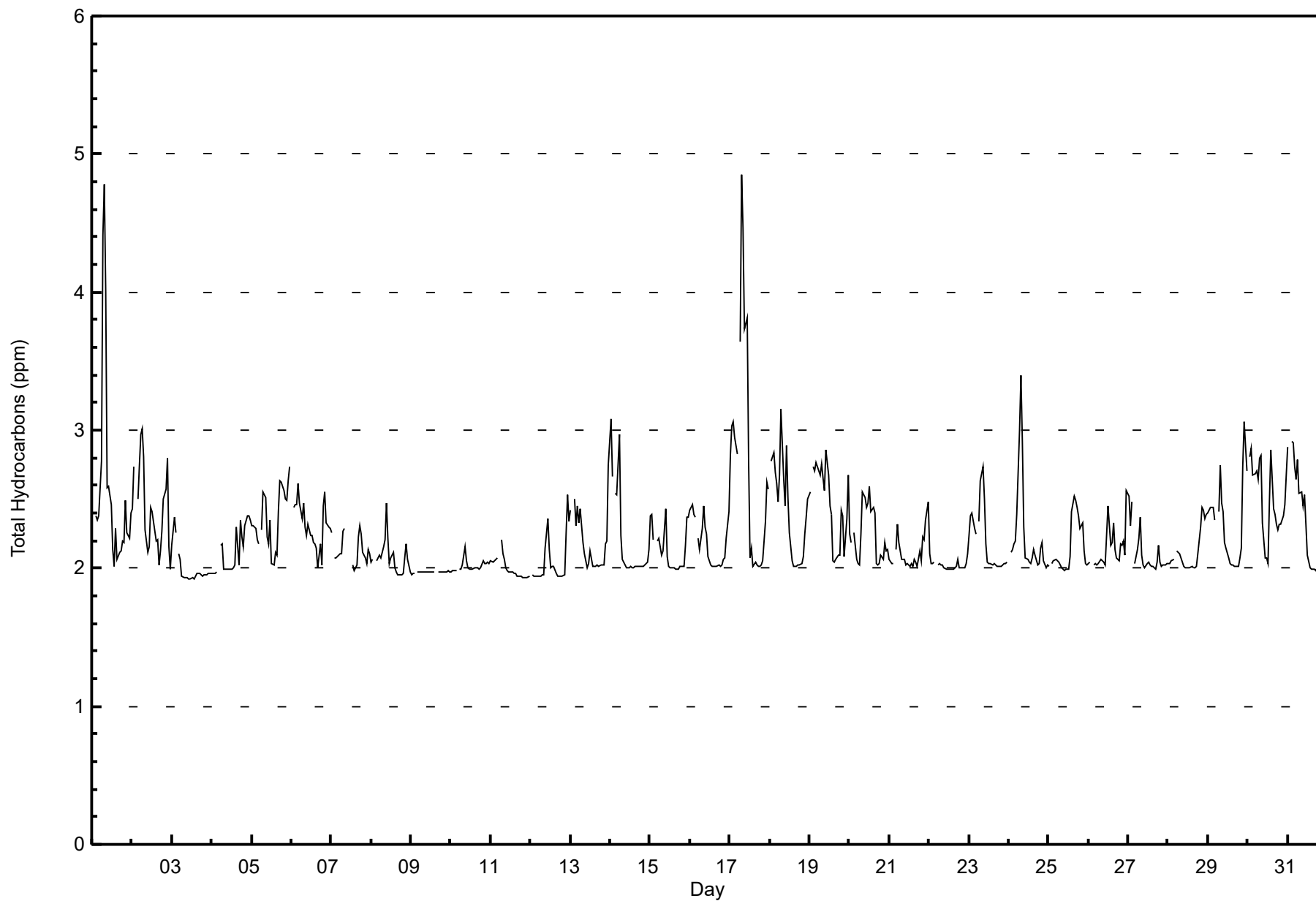
Ells River - July 2025

Maximum Value: 4.8 ppm on Jul 17 08:00																	Maximum Daily Average: 2.8 ppm on Jul 17										Hours in Service: 744	
Minimum Value: 1.9 ppm on Jul 3 12:00																	Minimum Daily Average: 2.0 ppm on Jul 9										Hours of Data: 708	
Maximum Diurnal Average: 2.5 ppm at hour 8																	Minimum Diurnal Average: 2.1 ppm at hour 17										Hours of Missing Data: 36	
Monthly Average: 2.22 ppm																	Percentiles: P ₁ = 1.9 P ₁₀ = 2.0 Q ₁ = 2.0 Median = 2.1 Q ₃ = 2.4 P ₉₀ = 2.6 P ₉₉ = 3.6										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-Jul	2.2	Z	2.4	2.3	2.4	2.8	4.4	4.8	4.0	2.6	2.6	2.5	2.1	2.0	2.3	2.1	2.1	2.1	2.2	2.2	2.5	2.3	2.2	2.4	2.6	4.8		
2-Jul	2.4	2.7	Z	2.5	2.7	3.0	3.0	2.8	2.3	2.1	2.2	2.4	2.4	2.3	2.2	2.2	2.0	2.1	2.3	2.5	2.6	2.8	2.2	2.0	2.4	3.0		
3-Jul	2.2	2.4	2.3	Z	2.1	2.1	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.4		
4-Jul	2.0	2.0	2.0	2.0	Z	2.2	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.0	2.4	2.2	2.2	2.3	2.4	2.4	2.3	2.1	2.4		
5-Jul	2.3	2.3	2.3	2.2	2.2	Z	2.3	2.5	2.5	2.2	2.2	2.3	2.0	2.0	2.1	2.1	2.4	2.6	2.6	2.6	2.5	2.5	2.6	2.7	2.4	2.7		
6-Jul	Z	2.4	2.5	2.5	2.6	2.5	2.4	2.5	2.3	2.2	2.3	2.2	2.2	2.2	2.2	2.1	2.0	2.2	2.0	2.5	2.5	2.3	2.3	2.3	2.3	2.6		
7-Jul	2.3	Z	2.1	2.1	2.1	2.1	2.1	2.3	2.3	C	C	C	C	2.0	2.0	2.0	2.2	2.3	2.3	2.1	2.1	2.0	2.1	2.1	2.1	2.3		
8-Jul	2.0	2.1	Z	2.1	2.1	2.1	2.1	2.2	2.2	2.5	2.2	2.0	2.1	2.1	2.0	2.0	2.0	1.9	2.0	2.0	2.1	2.2	2.1	2.0	2.1	2.5		
9-Jul	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	M	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		
10-Jul	2.0	2.0	2.0	2.0	Z	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	2.1	2.0	2.0	2.0	2.0	2.0	2.2		
11-Jul	2.1	2.0	2.1	2.1	2.1	Z	2.2	2.1	2.1	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	2.0	2.2		
12-Jul	Z	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.1	2.4	2.1	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	2.3	2.5	2.3	2.0	2.5		
13-Jul	2.4	Z	2.5	2.3	2.5	2.3	2.4	2.2	2.1	2.1	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.2	2.7	2.2	2.7		
14-Jul	3.1	2.7	Z	2.5	2.5	3.0	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	2.0	2.0	2.1	2.2	3.1		
15-Jul	2.4	2.4	2.2	Z	2.2	2.2	2.2	2.1	2.1	2.4	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.4	2.4	2.1	2.4		
16-Jul	2.4	2.5	2.4	2.4	Z	2.2	2.1	2.3	2.5	2.3	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.4	2.2	2.5		
17-Jul	2.8	3.0	3.1	2.9	2.8	Z	3.6	4.8	4.5	3.7	3.8	2.8	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.3	2.6	2.6	2.8	4.8		
18-Jul	Z	2.8	2.8	2.7	2.6	2.5	2.7	3.2	2.6	2.5	2.9	2.5	2.3	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.3	2.4	2.5	2.4	3.2		
19-Jul	2.6	Z	2.7	2.7	2.8	2.7	2.7	2.8	2.7	2.6	2.9	2.7	2.5	2.4	2.1	2.0	2.1	2.1	2.1	2.4	2.4	2.1	2.4	2.7	2.5	2.9		
20-Jul	2.2	2.2	Z	2.3	2.1	2.0	2.0	2.2	2.6	2.5	2.4	2.5	2.6	2.4	2.4	2.4	2.0	2.0	2.0	2.1	2.1	2.2	2.1	2.1	2.2	2.6		
21-Jul	2.1	2.0	2.0	Z	2.1	2.3	2.2	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.1	2.0	2.2	2.2	2.4	2.5	2.1	2.5		
22-Jul	2.1	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	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.1		
23-Jul	2.2	2.4	2.4	2.3	2.2	Z	2.3	2.6	2.7	2.5	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	2.2	2.7		
24-Jul	Z	2.1	2.1	2.2	2.2	2.4	3.0	3.4	2.9	2.3	2.1	2.1	2.0	2.0	2.1	2.1	2.1	2.0	2.0	2.1	2.2	2.1	2.0	2.0	2.2	3.4		
25-Jul	2.0	Z	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.4	2.5	2.5	2.4	2.4	2.3	2.3	2.1	2.0	2.0	2.1	2.5		
26-Jul	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.2	2.5	2.2	2.2	2.3	2.1	2.1	2.0	2.2	2.2	2.2	2.1	2.6	2.1	2.6		
27-Jul	2.5	2.3	2.5	Z	2.0	2.1	2.2	2.4	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.0	2.0	2.0	2.0	2.0	2.1	2.5		
28-Jul	2.0	2.0	2.1	2.1	Z	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	2.3	2.4	2.4	2.4	2.4	2.1	2.4		
29-Jul	2.4	2.4	2.4	2.4	2.3	Z	2.4	2.7	2.5	2.4	2.2	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.7	3.1	2.7	2.3	3.1		
30-Jul	Z	2.8	2.9	2.7	2.7	2.7	2.6	2.8	2.8	2.3	2.1	2.1	2.0	2.5	2.9	2.4	2.4	2.3	2.3	2.3	2.3	2.4	2.5	2.7	2.5	2.9		
31-Jul	2.9	Z	2.9	2.9	2.7	2.6	2.8	2.5	2.5	2.5	2.5	2.3	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.3	2.3	2.3	2.3	2.4	2.9		
2.3 2.3 2.3 2.3 2.3 2.3 2.4 2.5 2.4 2.3 2.2 2.2 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.2 2.2 2.2 2.3																										Diurnal Average		
3.1 3.0 3.1 2.9 2.8 3.0 4.4 4.8 4.5 3.7 3.8 2.8 2.6 2.5 2.9 2.5 2.5 2.6 2.6 2.6 2.6 2.8 3.1 2.7																										Diurnal Maximum		
Z - zerospan C - Calibration M - Maintenance																												



Wood Buffalo Environmental Association
Hourly Averages

Total Hydrocarbons (THC) - ppm
Ells River - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Hydrocarbons (THC) - ppm
Ells River - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	296	41.81	41.81
2.1 - 3.0	399	56.36	98.16
3.1 - 10.0	13	1.84	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
Ells River - July 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	30	10	5	2	3	2	13	15	27	29	47	34	32	16	25	5	295
2.1 - 3.0	46	21	14	12	5	6	21	59	64	27	18	19	15	12	12	31	382
3.1 - 10.0	1	1	1	1	0	0	0	2	0	0	0	1	1	1	2	2	13
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	77	32	20	15	8	8	34	76	91	56	65	54	48	29	39	38	690

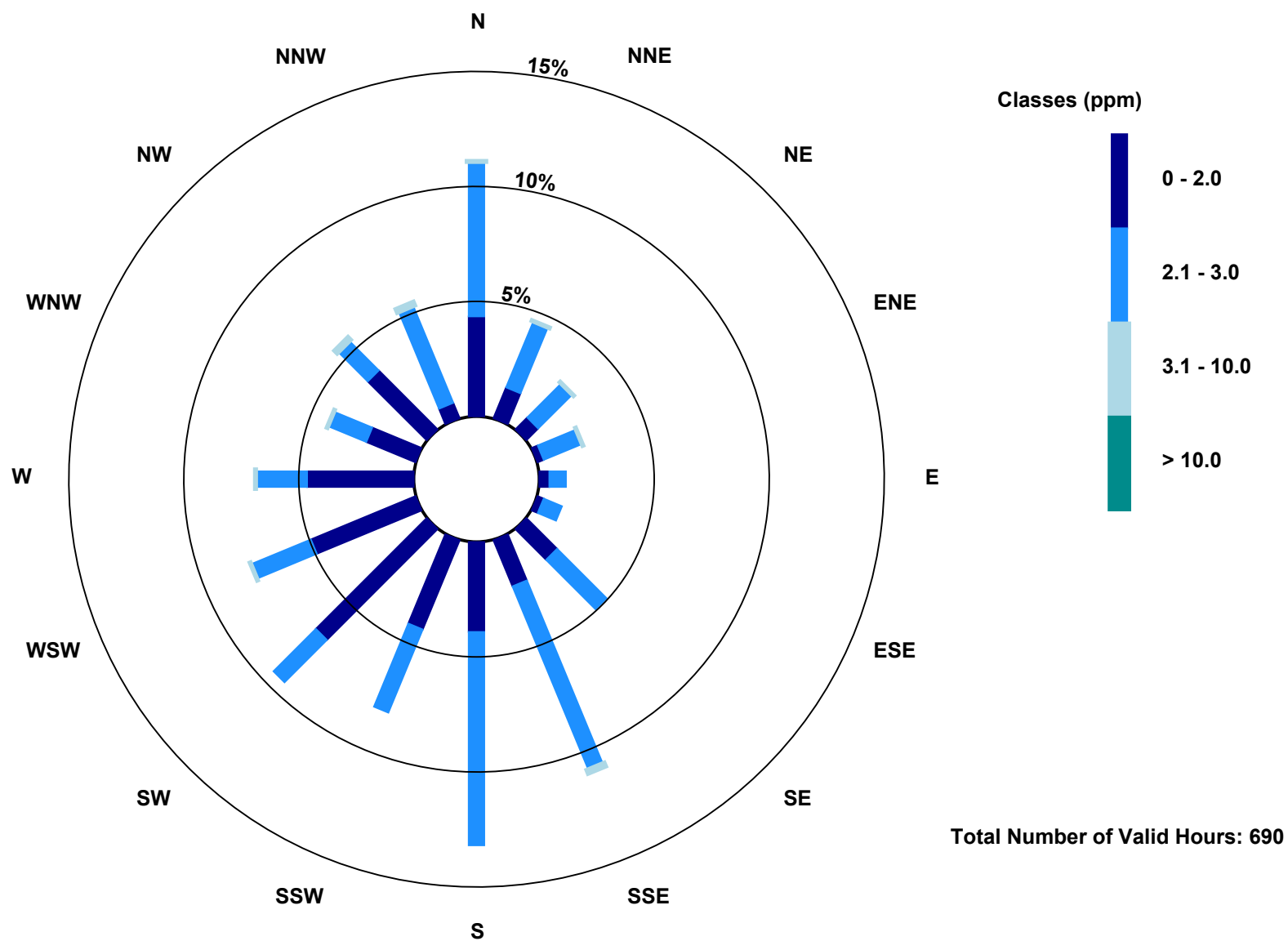
Total Number of Valid Hours: 690

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Total Hydrocarbons (THC) - ppm
Ells River



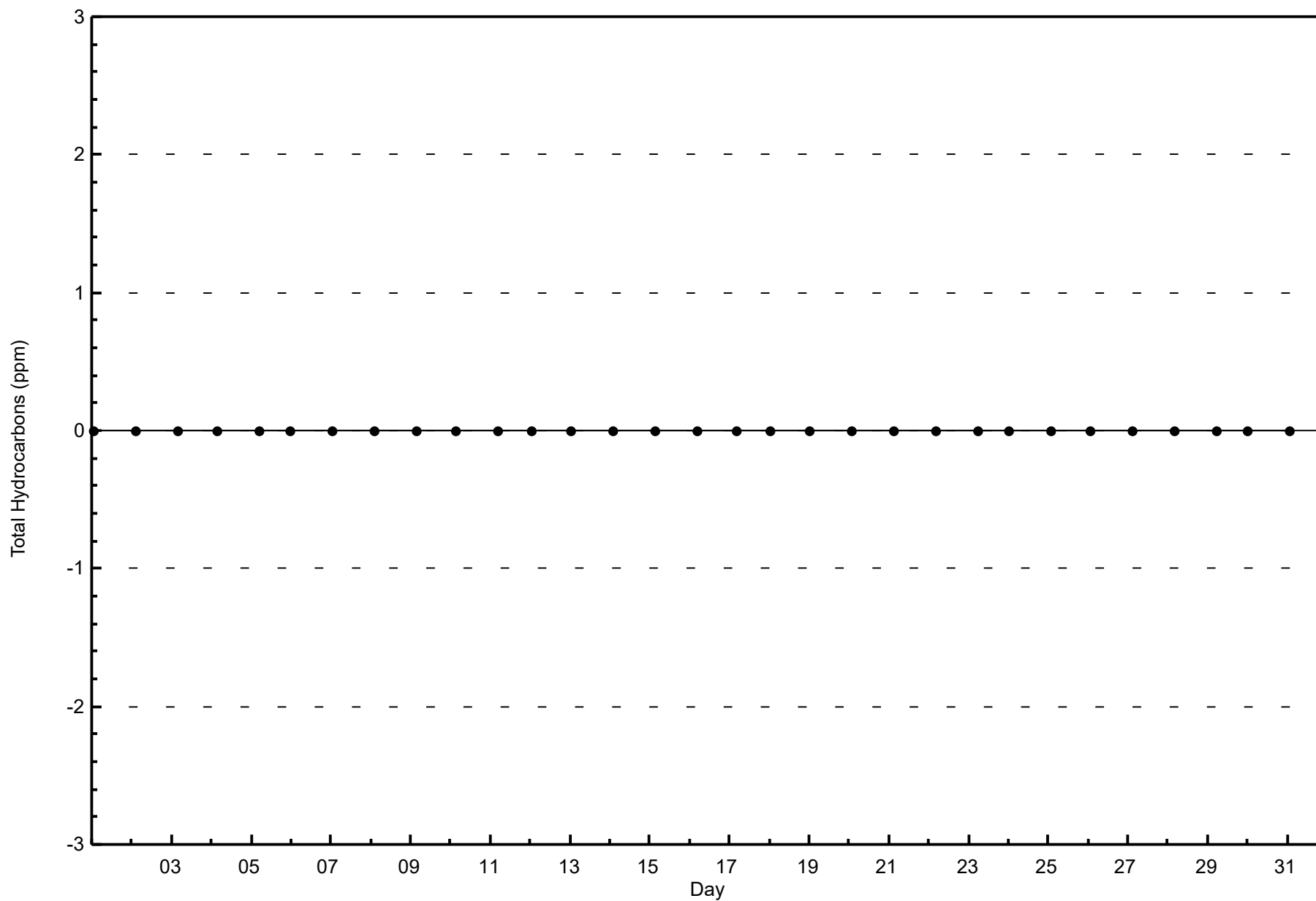


Wood Buffalo Environmental Association

Zero Responses

Total Hydrocarbons (THC) - ppm

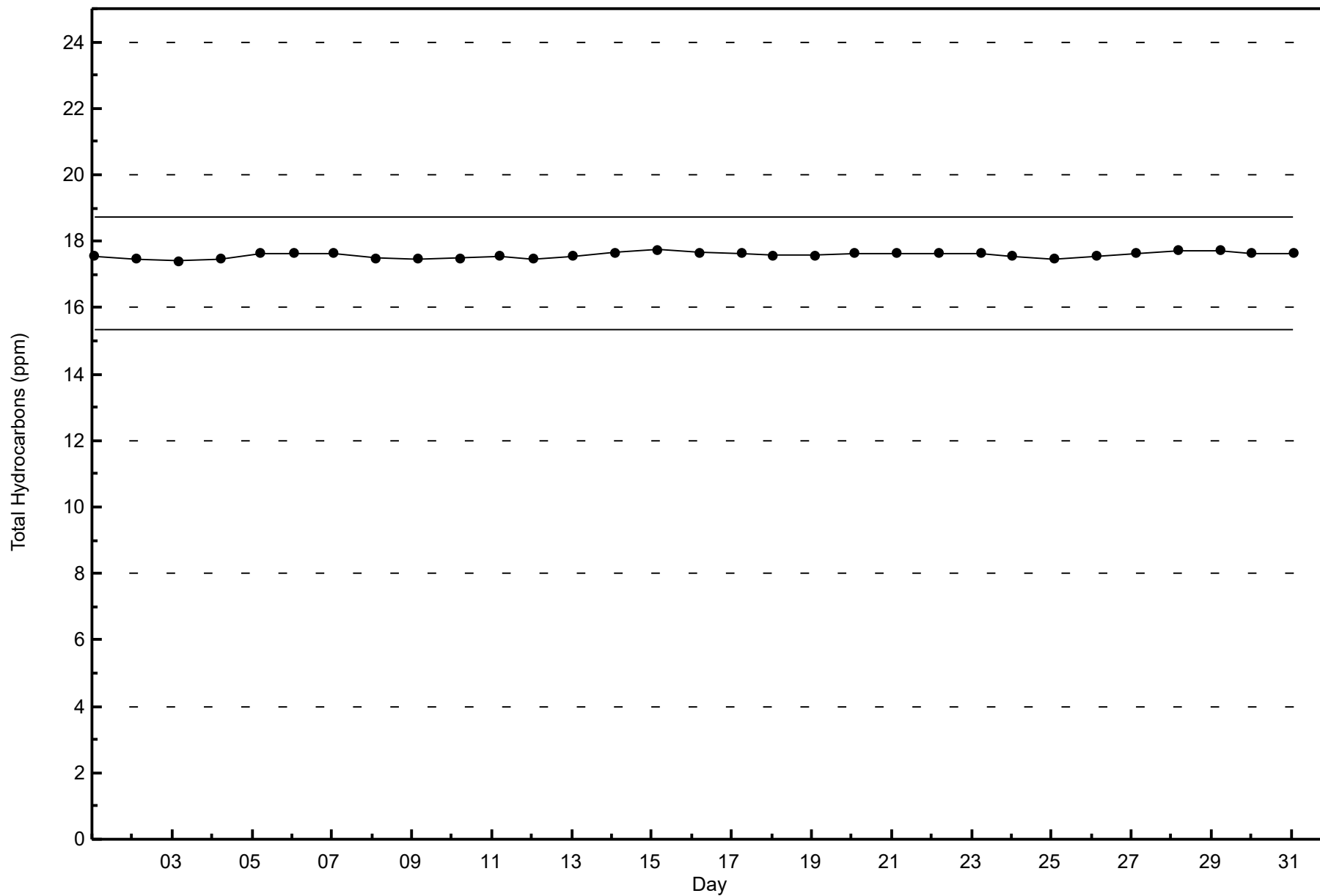
Ells River - July 2025





Wood Buffalo Environmental Association
Span Responses

Total Hydrocarbons (THC) - ppm
Ells River - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Non Methane Hydrocarbons (NMHC) - ppm

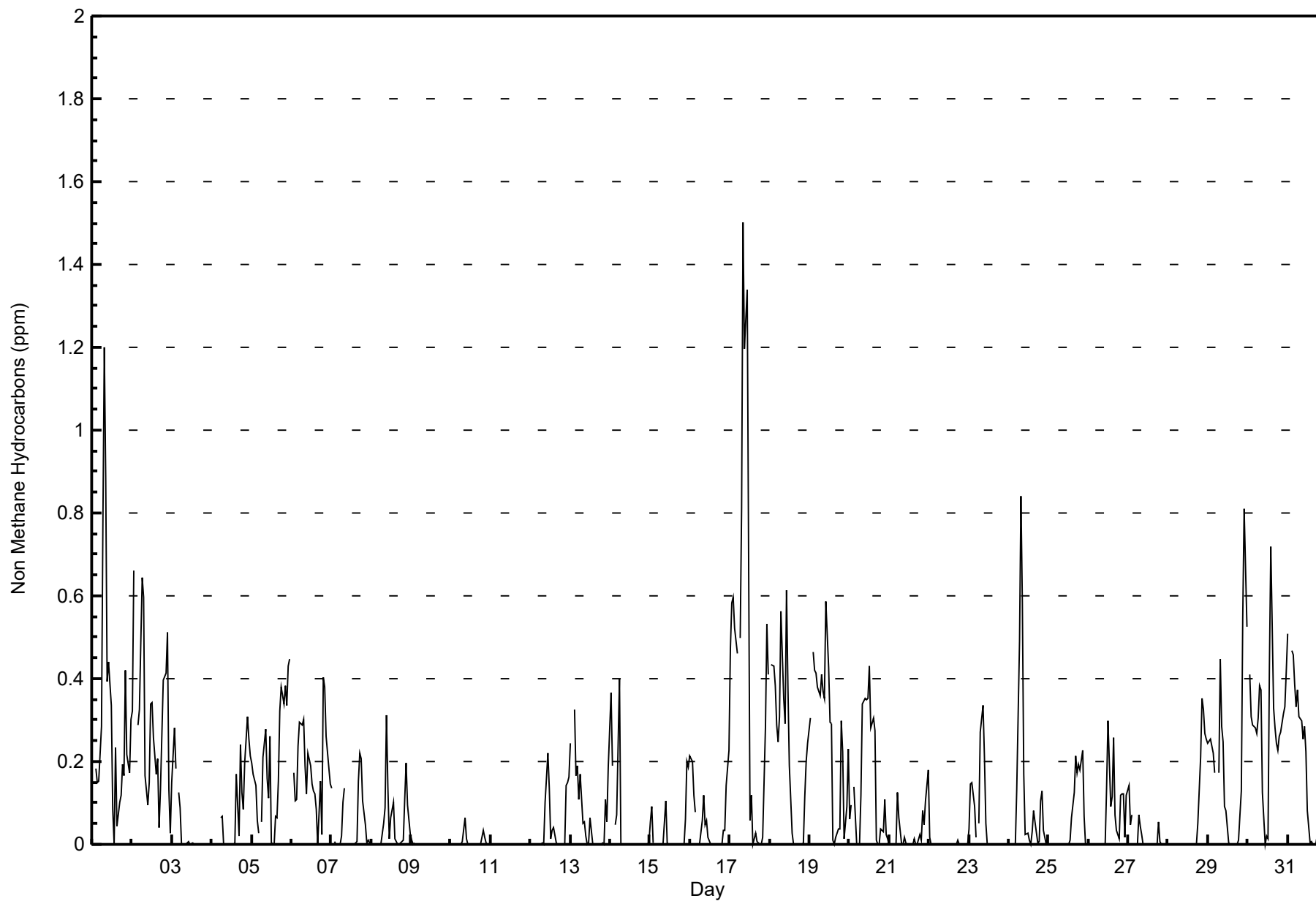
Ells River - July 2025

Maximum Value: 1.502 ppm on Jul 17 09:00																			Maximum Daily Average: 0.440 ppm on Jul 17																			Hours in Service: 744	
Minimum Value: 0.000 ppm on Jul 1 14:00																			Minimum Daily Average: 0.000 ppm on Jul 11																			Hours of Data: 708	
Maximum Diurnal Average: 0.219 ppm at hour 8																			Minimum Diurnal Average: 0.036 ppm at hour 17																			Hours of Missing Data: 36	
Monthly Average: 0.119 ppm																			Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.2 P ₉₀ = 0.4 P ₉₉ = 0.8																			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-Jul	0.148	Z	0.182	0.150	0.152	0.286	0.781	1.199	0.883	0.394	0.442	0.335	0.085	0.000	0.235	0.043	0.101	0.120	0.193	0.167	0.420	0.215	0.174	0.303	0.305	1.199													
2-Jul	0.323	0.660	Z	0.288	0.326	0.487	0.645	0.598	0.166	0.095	0.151	0.339	0.344	0.257	0.171	0.207	0.042	0.132	0.266	0.396	0.415	0.512	0.134	0.028	0.303	0.660													
3-Jul	0.148	0.281	0.184	Z	0.127	0.087	0.000	0.000	0.000	0.002	0.005	0.001	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.036	0.281													
4-Jul	0.000	0.000	0.000	0.000	Z	0.063	0.067	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.170	0.019	0.241	0.126	0.084	0.198	0.309	0.255	0.213	0.076	0.309													
5-Jul	0.196	0.168	0.141	0.057	0.026	Z	0.054	0.210	0.280	0.158	0.113	0.262	0.003	0.000	0.069	0.066	0.151	0.321	0.378	0.337	0.384	0.337	0.431	0.448	0.200	0.448													
6-Jul	Z	0.174	0.105	0.109	0.237	0.296	0.288	0.303	0.189	0.123	0.219	0.191	0.147	0.130	0.123	0.085	0.000	0.153	0.023	0.404	0.378	0.261	0.183	0.147	0.186	0.404													
7-Jul	0.135	Z	0.006	0.000	0.000	0.000	0.019	0.103	0.135	C	C	C	C	0.000	0.000	0.007	0.152	0.219	0.206	0.104	0.047	0.002	0.011	0.003	0.060	0.219													
8-Jul	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.050	0.087	0.313	0.139	0.015	0.064	0.101	0.014	0.006	0.001	0.000	0.008	0.011	0.109	0.196	0.095	0.024	0.053	0.313													
9-Jul	0.009	0.002	0.002	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	0.000	0.000	0.000	0.000	0.001	0.009													
10-Jul	0.000	0.000	0.000	0.000	Z	0.000	0.000	0.005	0.065	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.034	0.016	0.002	0.000	0.000	0.006	0.065													
11-Jul	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-Jul	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.000	0.100	0.222	0.136	0.015	0.034	0.040	0.003	0.000	0.000	0.000	0.000	0.000	0.142	0.150	0.163	0.044	0.222													
13-Jul	0.245	Z	0.326	0.167	0.189	0.108	0.171	0.052	0.055	0.020	0.000	0.005	0.063	0.000	0.000	0.000	0.000	0.000	0.002	0.003	0.000	0.107	0.056	0.185	0.076	0.326													
14-Jul	0.367	0.189	Z	0.047	0.070	0.398	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	0.006	0.047	0.398													
15-Jul	0.053	0.091	0.002	Z	0.000	0.000	0.000	0.000	0.000	0.106	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.062	0.199	0.188	0.031	0.199													
16-Jul	0.214	0.200	0.118	0.078	Z	0.000	0.000	0.059	0.120	0.047	0.057	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.034	0.033	0.142	0.226	0.058	0.226													
17-Jul	0.473	0.583	0.596	0.523	0.461	Z	0.499	0.812	1.502	1.196	1.339	0.689	0.056	0.119	0.001	0.027	0.006	0.003	0.000	0.000	0.016	0.286	0.533	0.410	0.440	1.502													
18-Jul	Z	0.433	0.432	0.385	0.288	0.247	0.309	0.563	0.351	0.290	0.613	0.379	0.190	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.115	0.199	0.244	0.220	0.613													
19-Jul	0.306	Z	0.463	0.422	0.413	0.381	0.360	0.409	0.371	0.354	0.587	0.428	0.295	0.292	0.011	0.000	0.018	0.039	0.038	0.298	0.223	0.012	0.091	0.231	0.263	0.587													
20-Jul	0.060	0.094	Z	0.140	0.000	0.000	0.000	0.120	0.340	0.352	0.348	0.352	0.430	0.283	0.305	0.276	0.010	0.000	0.000	0.039	0.032	0.110	0.022	0.013	0.145	0.430													
21-Jul	0.000	0.000	0.000	Z	0.000	0.127	0.063	0.000	0.002	0.015	0.003	0.001	0.000	0.000	0.000	0.013	0.000	0.000	0.024	0.011	0.082	0.049	0.104	0.181	0.029	0.181													
22-Jul	0.018	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	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.018													
23-Jul	0.039	0.146	0.148	0.093	0.018	Z	0.052	0.272	0.335	0.209	0.051	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.059	0.335													
24-Jul	Z	0.000	0.000	0.000	0.000	0.133	0.492	0.842	0.582	0.170	0.022	0.027	0.011	0.000	0.031	0.080	0.056	0.003	0.007	0.103	0.128	0.035	0.000	0.000	0.118	0.842													
25-Jul	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	0.012	0.066	0.124	0.213	0.171	0.192	0.181	0.228	0.069	0.000	0.000	0.055	0.228													
26-Jul	0.000	0.000	Z	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.135	0.299	0.090	0.117	0.259	0.071	0.034	0.014	0.120	0.122	0.121	0.015	0.119	0.066	0.299													
27-Jul	0.142	0.046	0.071	Z	0.000	0.001	0.073	0.045	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.054	0.006	0.000	0.000	0.000	0.000	0.020	0.142													
28-Jul	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	0.049	0.209	0.353	0.325	0.268	0.255	0.063	0.353													
29-Jul	0.245	0.253	0.239	0.220	0.173	Z	0.174	0.447	0.283	0.247	0.090	0.080	0.004	0.000	0.000	0.000	0.000	0.000	0.011	0.070	0.128	0.546	0.811	0.527	0.198	0.811													
30-Jul	Z	0.410	0.310	0.289	0.280	0.268	0.305	0.382	0.373	0.126	0.000	0.019	0.014	0.432	0.717	0.330	0.282	0.246	0.226	0.261	0.271	0.314	0.333	0.417	0.287	0.717													
31-Jul	0.508	Z	0.467	0.458	0.387	0.333	0.373	0.308	0.300	0.255	0.283	0.223	0.083	0.005	0.005	0.000	0.000	0.000	0.022	0.160	0.261	0.287	0.255	0.250	0.227	0.508													
0.140 0.149 0.146 0.132 0.121 0.124 0.152 0.219 0.208 0.153 0.156 0.121 0.070 0.057 0.062 0.057 0.036 0.055 0.059 0.097 0.124 0.143 0.144 0.148																										Diurnal Average													
0.508 0.660 0.596 0.523 0.461 0.487 0.781 1.199 1.502 1.196 1.339 0.689 0.430 0.432 0.717 0.330 0.282 0.321 0.378 0.404 0.420 0.546 0.811 0.527																										Diurnal Maximum													
Z - zerospan C - Calibration M - Maintenance																																							



Wood Buffalo Environmental Association
Hourly Averages

Non Methane Hydrocarbons (NMHC) - ppm
Ells River - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Non Methane Hydrocarbons (NMHC) - ppm
Ells River - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 0.005	320	45.20	45.20
0.006 - 0.05	81	11.44	56.64
0.06 - 0.1	98	13.84	70.48
> 0.1	209	29.52	100.00

Total Number of Valid Hours: 708

Total Number of Hours: 744



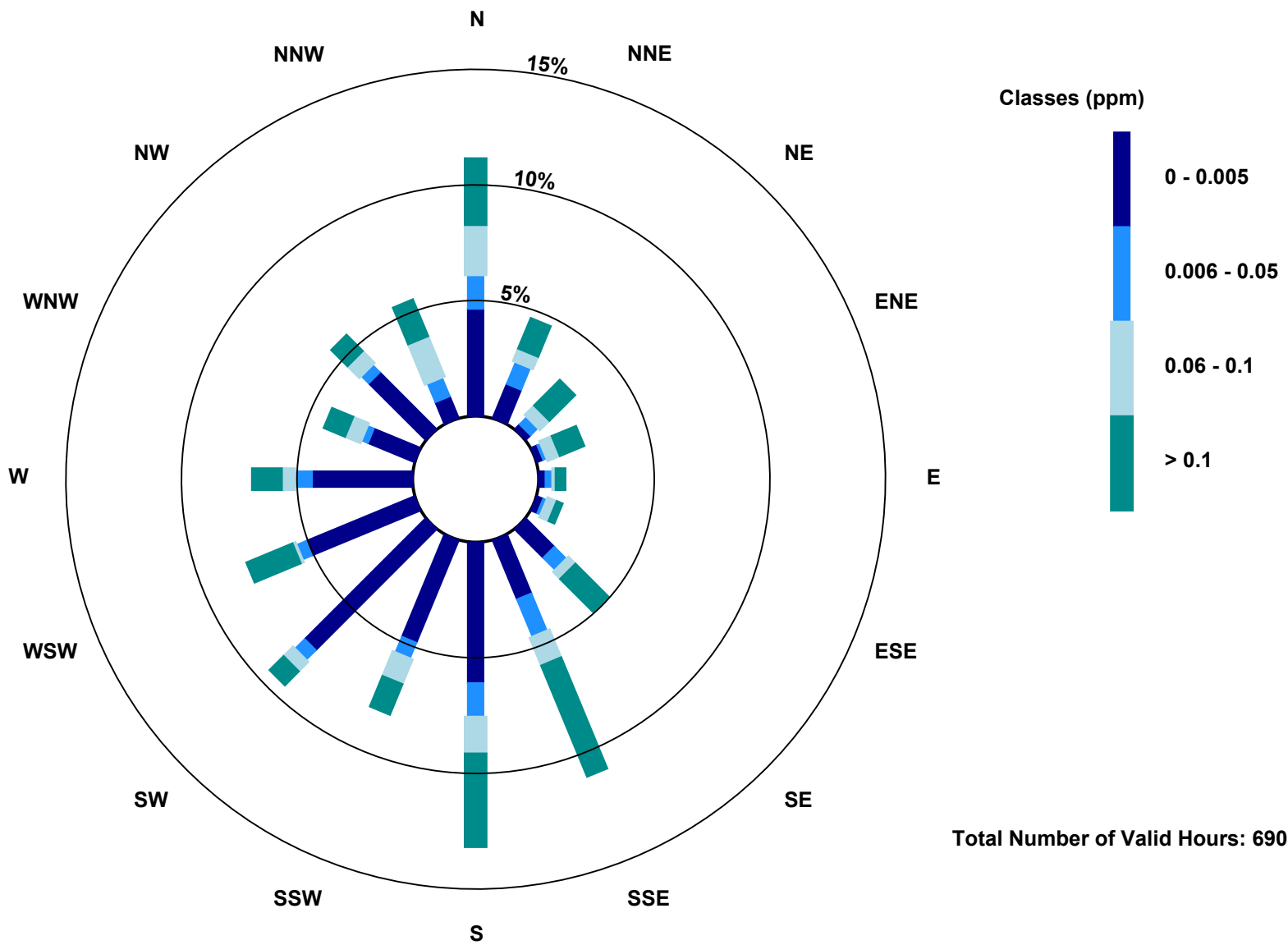
Wood Buffalo Environmental Association
Frequency Distribution

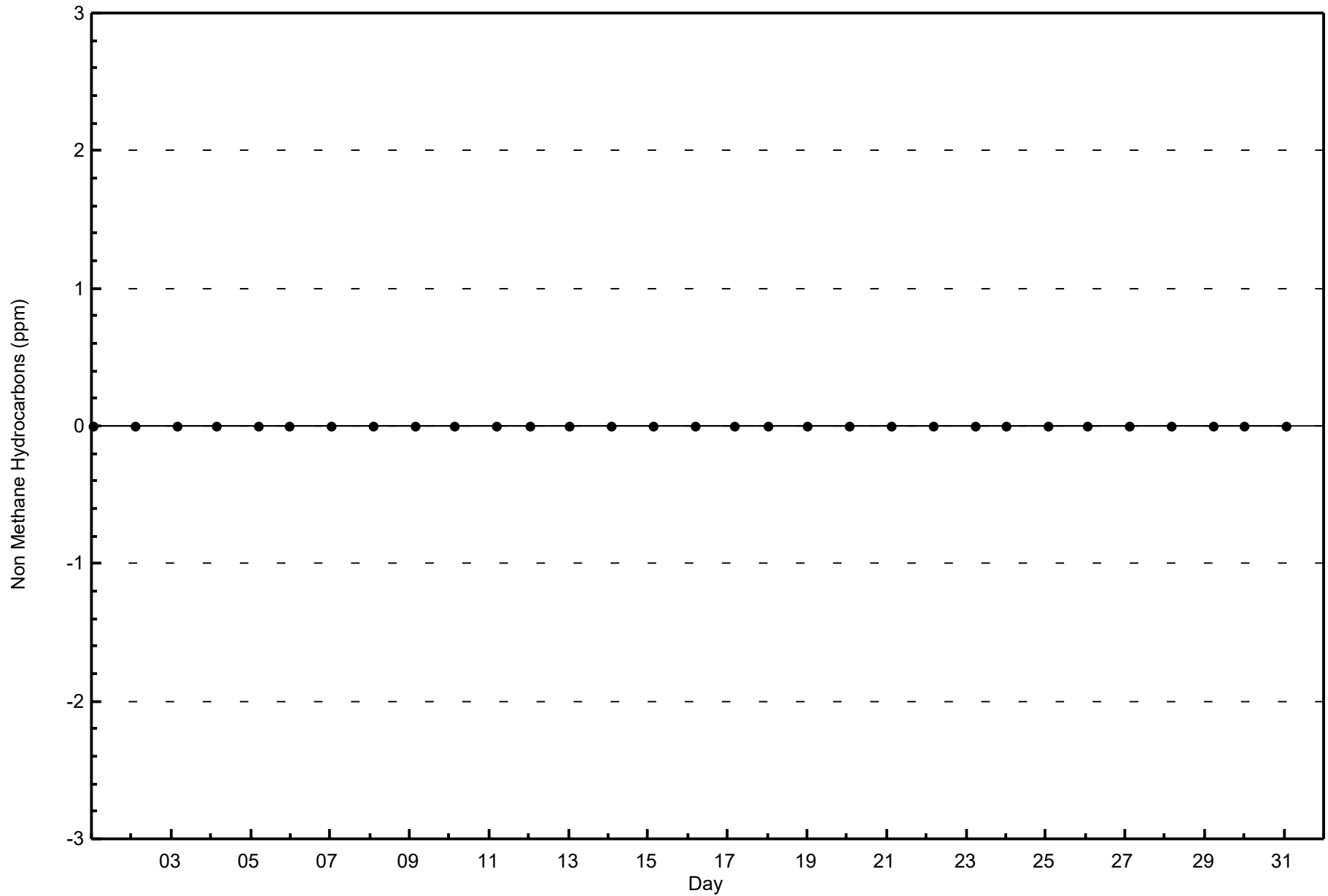
Non Methane Hydrocarbons (NMHC) - ppm
Ells River - July 2025

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	32	11	2	2	2	2	12	19	42	33	51	35	30	15	24	7	319
0.006 - 0.05	10	7	3	1	2	1	5	12	10	5	4	3	5	2	3	6	79
0.06 - 0.1	15	4	4	4	1	3	3	9	11	8	4	1	4	5	5	13	94
> 0.1	20	10	11	8	3	2	14	36	28	10	6	15	9	7	7	12	198
Totals	77	32	20	15	8	8	34	76	91	56	65	54	48	29	39	38	690

Total Number of Valid Hours: 690

Total Number of Hours: 744

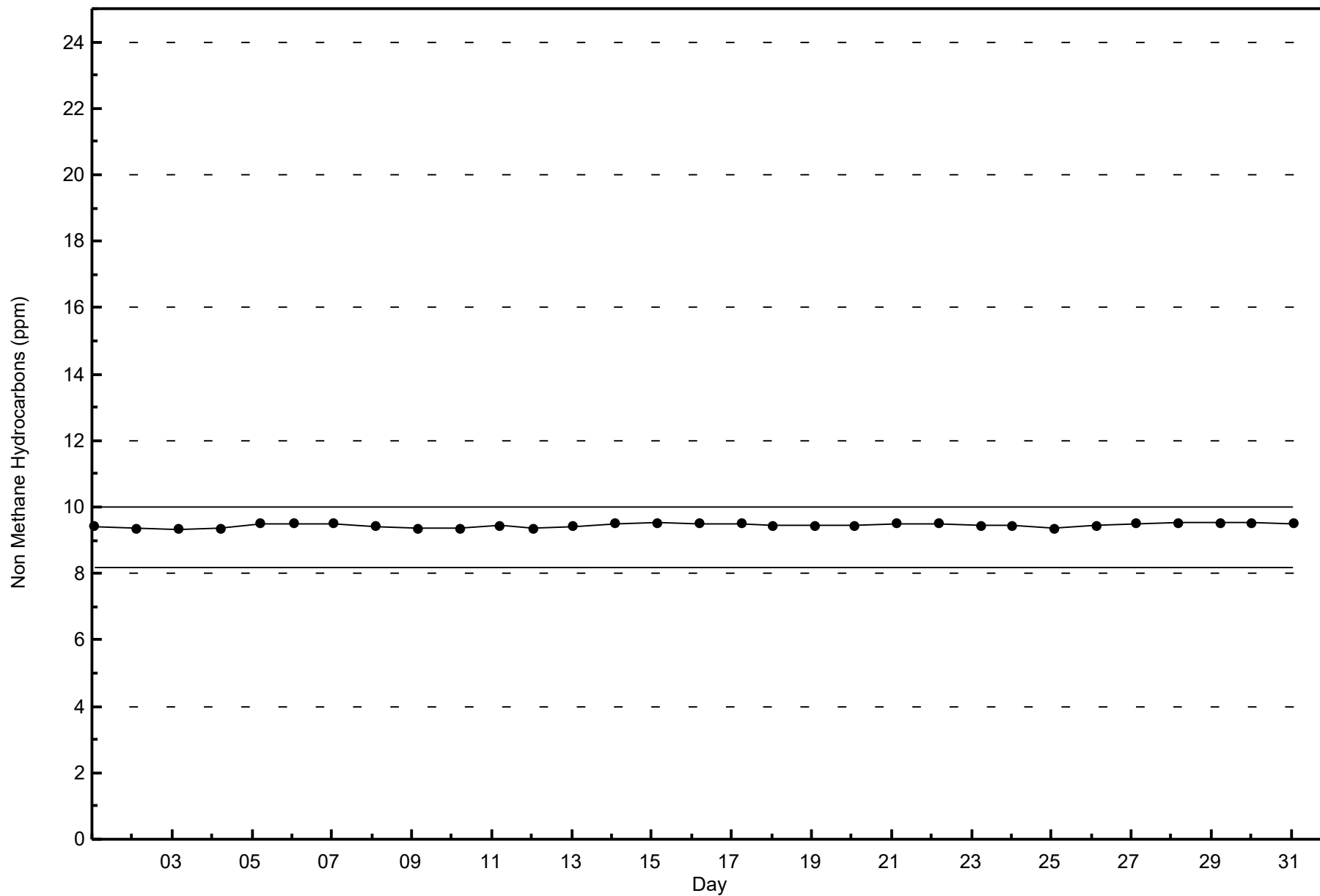






Wood Buffalo Environmental Association
Span Responses

Non Methane Hydrocarbons (NMHC) - ppm
Ells River - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Methane (CH₄) - ppm

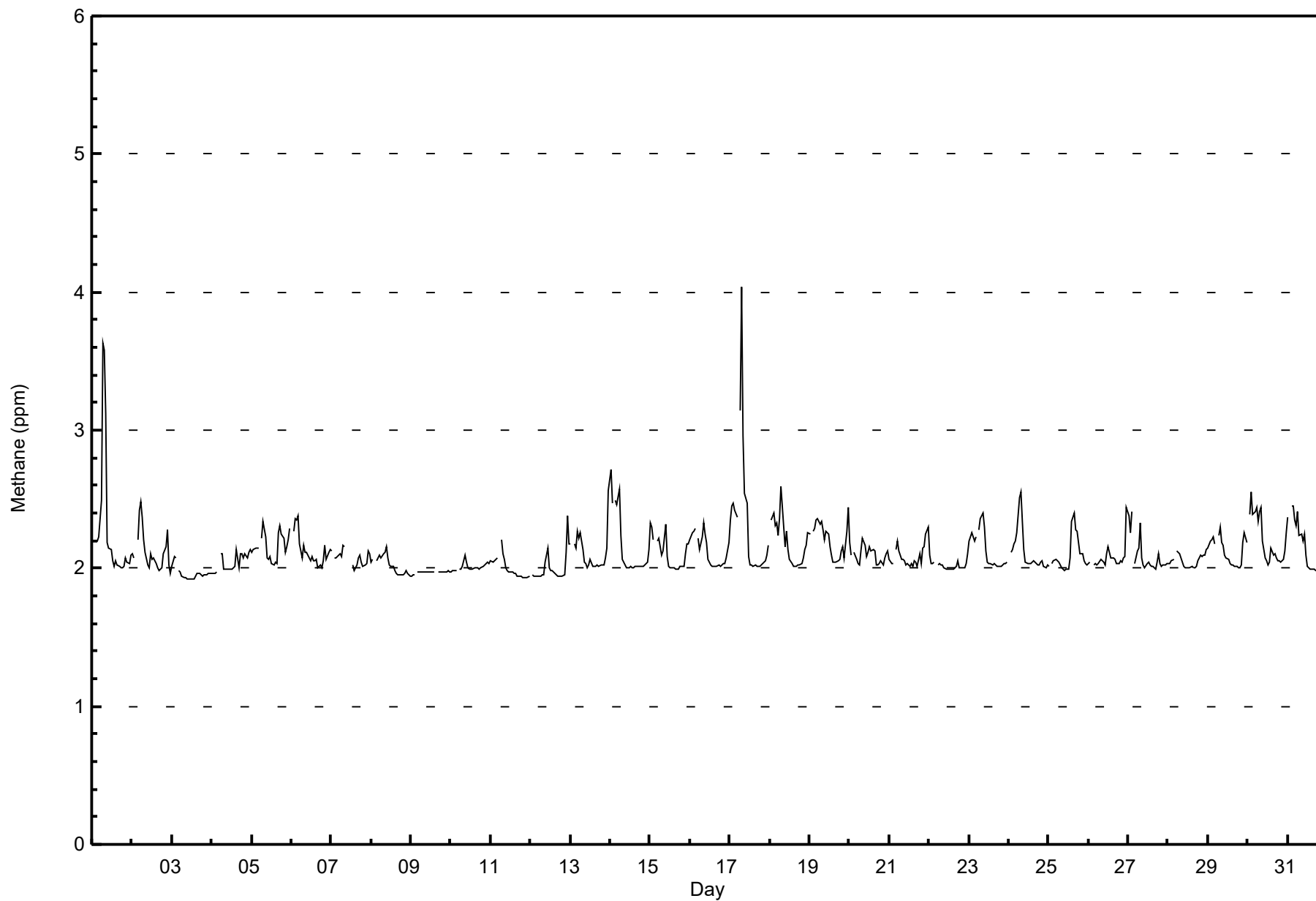
Ells River - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																		Hours in Service: 744								
Maximum Value: 4.0 ppm on Jul 17 08:00 Maximum Daily Average: 2.3 ppm on Jul 17																		Hours of Data: 708								
Minimum Value: 1.9 ppm on Jul 3 12:00 Minimum Daily Average: 2.0 ppm on Jul 3																		Hours of Missing Data: 36								
Maximum Diurnal Average: 2.3 ppm at hour 8 Minimum Diurnal Average: 2.0 ppm at hour 14																		Hours of Calibration: 35								
Monthly Average: 2.10 ppm Percentiles: P ₁ = 1.9 P ₁₀ = 2.0 Q ₁ = 2.0 Median = 2.0 Q ₃ = 2.1 P ₉₀ = 2.3 P ₉₉ = 2.6																		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-Jul	2.1	Z	2.2	2.2	2.2	2.5	3.6	3.6	3.1	2.2	2.1	2.1	2.1	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.1	2.3	3.6
2-Jul	2.1	2.1	Z	2.2	2.4	2.5	2.4	2.2	2.1	2.0	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.3	2.0	2.0	2.1	2.5
3-Jul	2.0	2.1	2.1	Z	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.1
4-Jul	2.0	2.0	2.0	2.0	Z	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1
5-Jul	2.1	2.1	2.1	2.2	2.1	Z	2.2	2.3	2.2	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.3	2.3	2.2	2.2	2.1	2.2	2.2	2.3	2.2	2.3
6-Jul	Z	2.3	2.4	2.4	2.4	2.2	2.1	2.2	2.1	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.2	2.1	2.1	2.1	2.1	2.4
7-Jul	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.2	2.2	C	C	C	C	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
8-Jul	2.0	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.1	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	2.0	2.0	2.0	2.0	1.9	2.0	2.2
9-Jul	1.9	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	M	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
10-Jul	2.0	2.0	2.0	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	2.0	2.0	2.0	2.0	2.1
11-Jul	2.1	2.0	2.1	2.1	2.1	Z	2.2	2.1	2.1	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	2.0	2.2
12-Jul	Z	2.0	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	2.1	2.4	2.2	2.0	2.4
13-Jul	2.2	Z	2.2	2.1	2.3	2.2	2.3	2.1	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	2.1	2.1	2.6	2.1	2.6
14-Jul	2.7	2.5	Z	2.5	2.5	2.6	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	2.1	2.1	2.7
15-Jul	2.3	2.3	2.2	Z	2.2	2.2	2.2	2.1	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	2.2	2.2	2.1	2.3
16-Jul	2.2	2.3	2.3	2.3	Z	2.2	2.1	2.2	2.3	2.2	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.1	2.1	2.3
17-Jul	2.3	2.4	2.5	2.4	2.4	Z	3.1	4.0	3.0	2.5	2.5	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.2	2.3	4.0
18-Jul	Z	2.3	2.4	2.3	2.3	2.2	2.4	2.6	2.3	2.2	2.3	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.3	2.2	2.6
19-Jul	2.2	Z	2.3	2.3	2.3	2.4	2.3	2.3	2.3	2.2	2.3	2.2	2.2	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.1	2.3	2.4	2.2	2.4
20-Jul	2.2	2.1	Z	2.1	2.1	2.0	2.0	2.1	2.2	2.2	2.1	2.1	2.2	2.1	2.1	2.1	2.0	2.0	2.0	2.1	2.0	2.1	2.1	2.1	2.1	2.2
21-Jul	2.1	2.0	2.0	Z	2.1	2.2	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.1	2.0	2.1	2.2	2.2	2.3	2.1	2.3
22-Jul	2.1	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	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.1
23-Jul	2.2	2.2	2.3	2.2	2.2	Z	2.3	2.4	2.4	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	2.4
24-Jul	Z	2.1	2.1	2.2	2.2	2.3	2.5	2.6	2.3	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.1	2.6
25-Jul	2.0	Z	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.3	2.4	2.3	2.3	2.2	2.1	2.1	2.1	2.0	2.0	2.1	2.4
26-Jul	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.1	2.2	2.1	2.1	2.1	2.1	2.0	2.0	2.1	2.0	2.1	2.1	2.4	2.1	2.4
27-Jul	2.4	2.3	2.4	Z	2.0	2.1	2.1	2.3	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.4
28-Jul	2.0	2.0	2.1	2.1	Z	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	2.1	2.1	2.1	2.1
29-Jul	2.1	2.2	2.2	2.2	2.2	Z	2.2	2.3	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	2.2	2.3	2.2	2.1	2.3
30-Jul	Z	2.4	2.6	2.4	2.4	2.4	2.3	2.4	2.4	2.2	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	2.3	2.2	2.6
31-Jul	2.4	Z	2.4	2.5	2.3	2.3	2.4	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	2.1	2.0	2.1	2.2	2.5
2.2 2.2 2.2 2.2 2.2 2.2 2.2 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 2.1 2.1 2.1																									Diurnal Average	
2.7 2.5 2.6 2.5 2.5 2.6 3.6 4.0 3.1 2.5 2.5 2.2 2.2 2.1 2.3 2.4 2.3 2.3 2.2 2.2 2.2 2.3 2.4 2.6																									Diurnal Maximum	
Z - zerospan C - Calibration M - Maintenance																										



Wood Buffalo Environmental Association
Hourly Averages

Methane (CH₄) - ppm
Ells River - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Methane (CH₄) - ppm
Ells River - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	357	50.42	50.42
2.1 - 3.0	346	48.87	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
Ells River - July 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	31	17	7	6	6	4	18	25	34	32	53	36	34	17	29	5	354
2.1 - 3.0	46	14	12	9	2	4	16	51	57	24	12	18	14	11	9	32	331
3.1 - 10.0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1	1	5
> 10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	77	32	20	15	8	8	34	76	91	56	65	54	48	29	39	38	690

Total Number of Valid Hours: 690

Total Number of Hours: 744



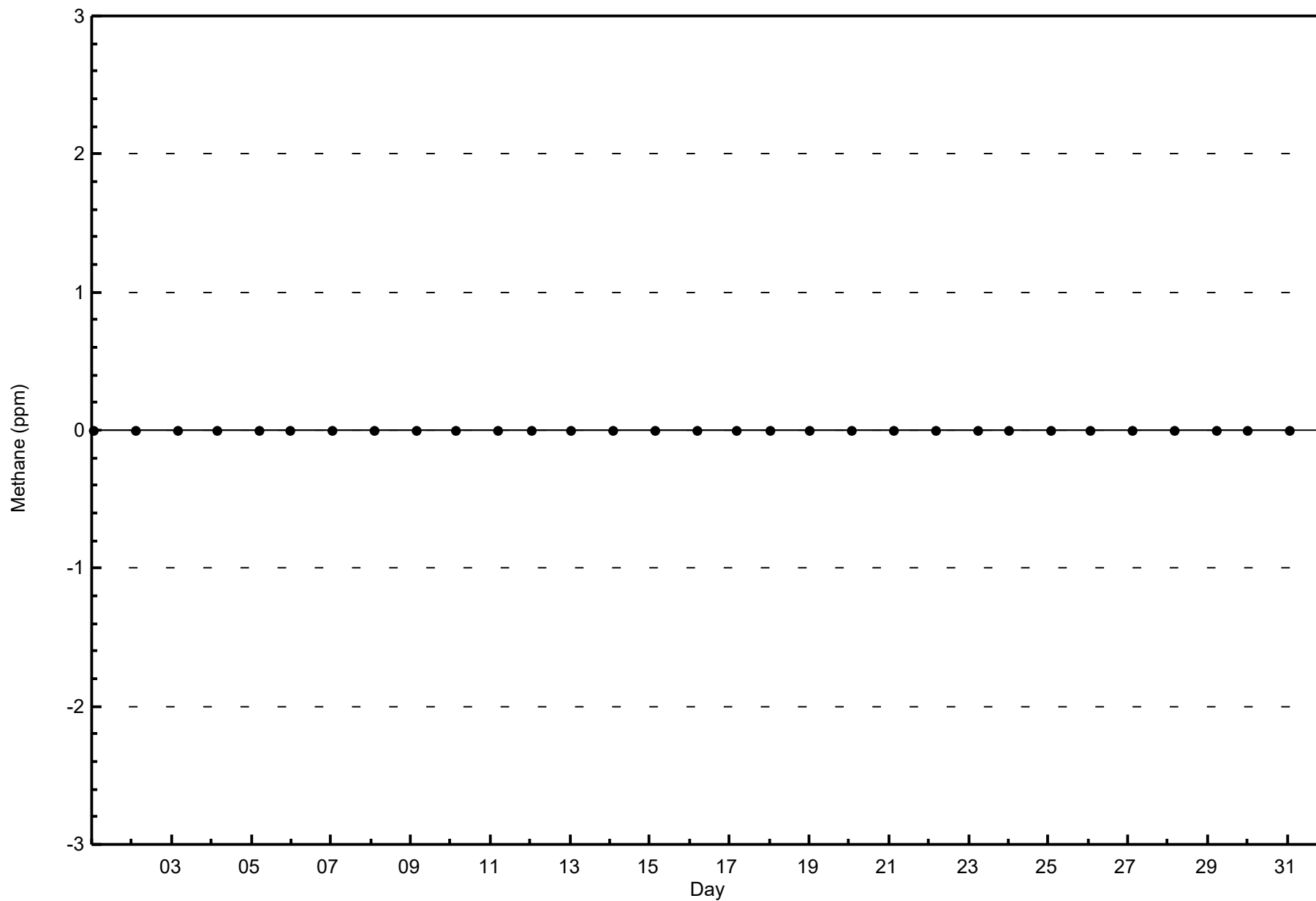
Methane (CH₄) - ppm
Ells River





Wood Buffalo Environmental Association
Zero Responses

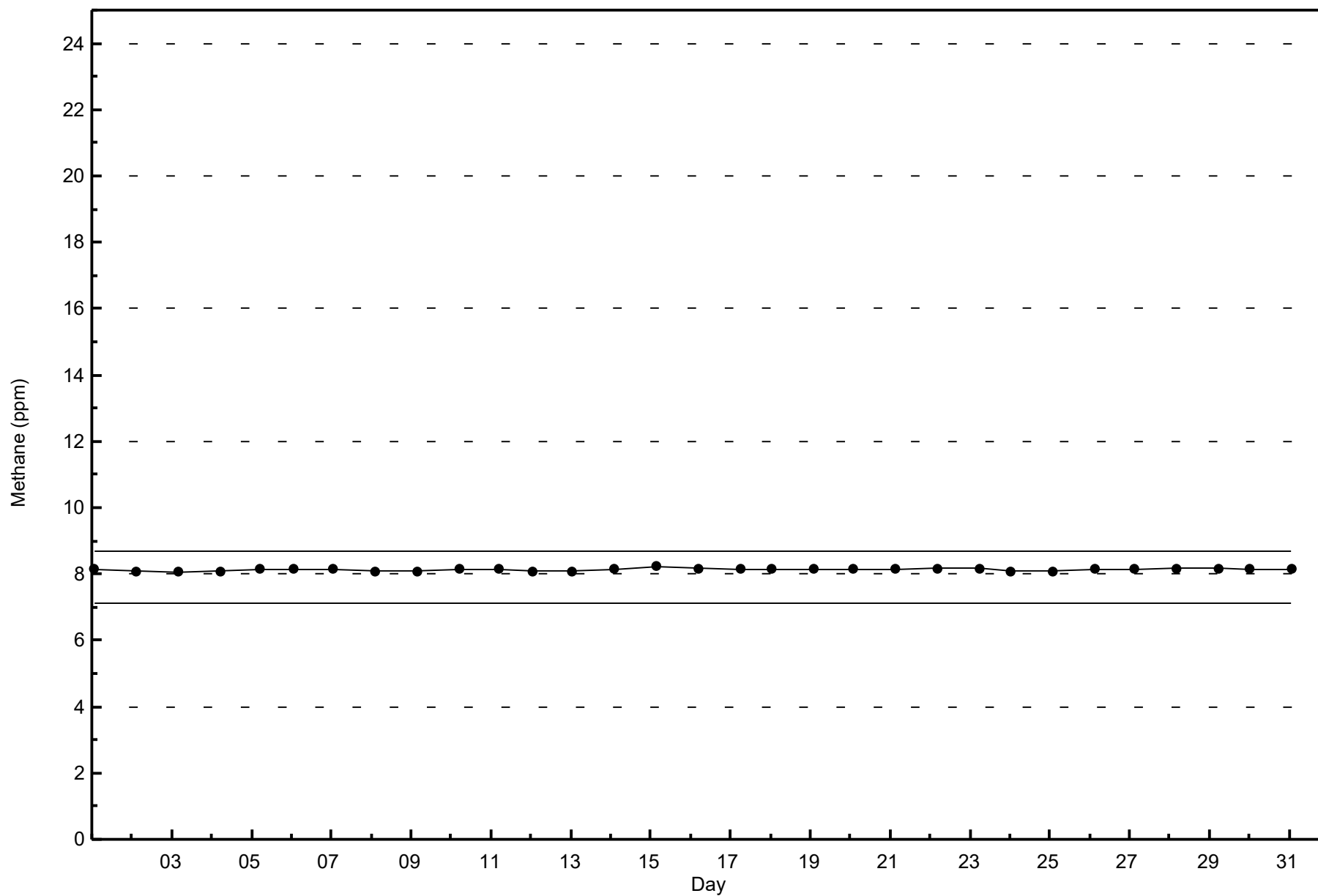
Methane (CH₄) - ppm
Ells River - July 2025





Wood Buffalo Environmental Association
Span Responses

Methane (CH₄) - ppm
Ells River - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitric Oxide (NO) - ppb

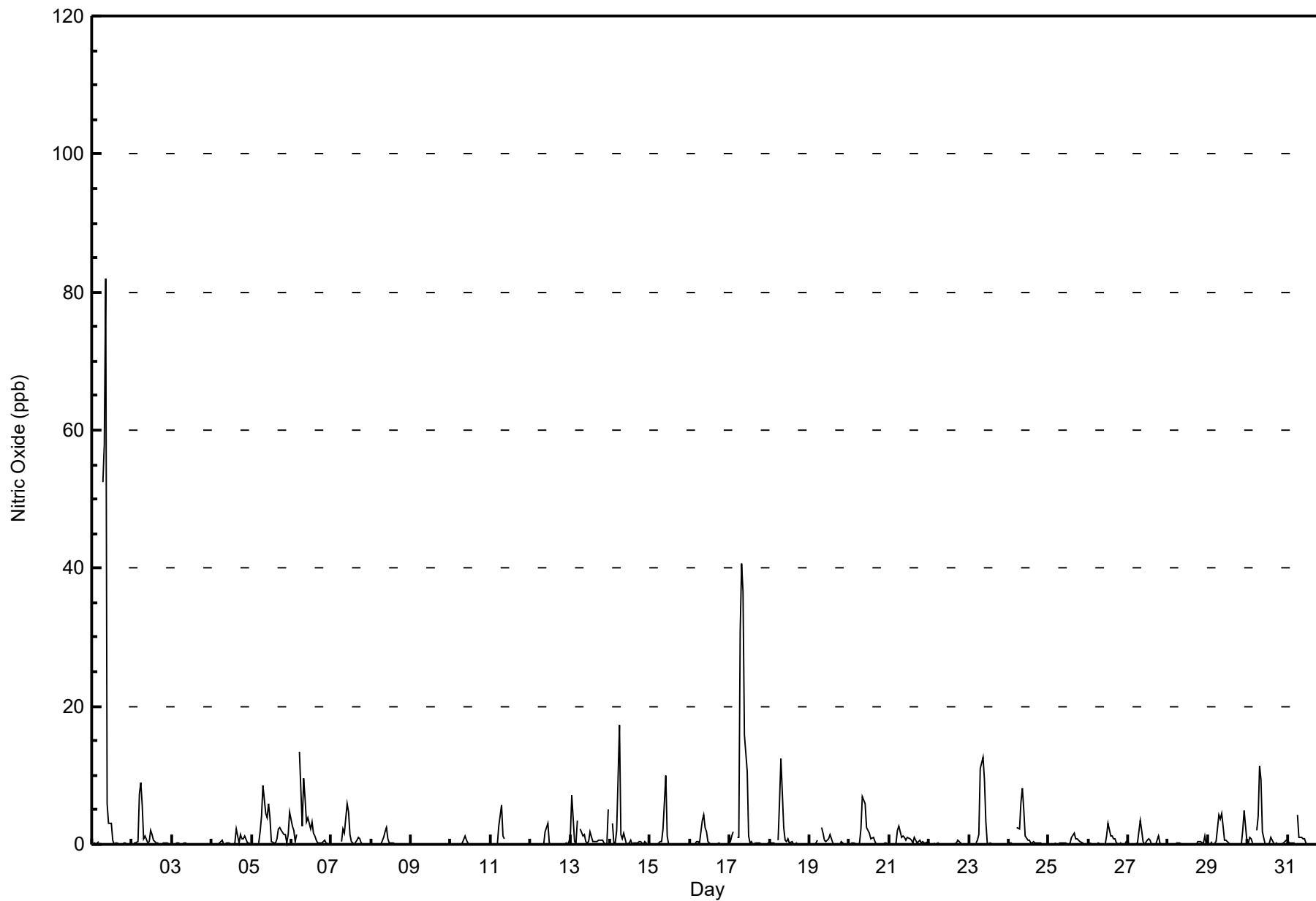
Ells River - July 2025

Maximum Value: 81.9 ppb on Jul 1 09:00																			Maximum Daily Average: 9.0 ppb on Jul 1																			Hours in Service: 744	
Minimum Value: 0.0 ppb on Jul 3 12:00																			Minimum Daily Average: 0.0 ppb on Jul 9																			Hours of Data: 707	
Maximum Diurnal Average: 6.3 ppb at hour 9																			Minimum Diurnal Average: 0.1 ppb at hour 22																			Hours of Missing Data: 37	
Monthly Average: 1.24 ppb																			Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.6 P ₉₀ = 2.4 P ₉₉ = 15.8																			Hours of Calibration: 36	
																																						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-Jul	0.0	0.2	0.0	0.1	0.4	Z	52.4	58.0	81.9	5.9	3.1	3.0	0.7	0.1	0.2	0.1	0.1	0.0	0.1	0.2	0.2	0.0	0.0	0.1	9.0	81.9													
2-Jul	Z	0.1	0.1	0.4	7.3	9.0	5.6	0.9	1.3	0.2	0.4	2.1	1.5	0.7	0.3	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.0	0.0	1.3	9.0													
3-Jul	0.0	Z	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	0.0	0.1	0.0	0.0	0.1													
4-Jul	0.0	0.0	Z	0.1	0.1	0.4	0.6	0.1	0.1	0.1	0.2	0.1	0.0	0.1	0.3	2.2	0.2	1.4	0.7	0.7	1.3	0.2	0.1	0.1	0.4	2.2													
5-Jul	0.1	0.1	0.0	Z	0.2	1.8	4.0	8.5	4.5	3.9	5.9	3.8	0.4	0.2	0.2	0.9	2.2	2.5	2.1	1.4	1.4	0.3	1.4	4.8	2.2	8.5													
6-Jul	2.7	2.0	0.3	1.4	Z	13.4	2.7	9.5	6.7	3.3	3.8	2.3	3.2	1.6	1.2	0.5	0.2	0.3	0.2	0.5	0.6	0.1	0.1	0.1	2.5	13.4													
7-Jul	0.1	0.1	0.0	0.1	0.1	Z	0.3	2.3	1.6	5.8	4.6	1.3	0.3	0.2	0.0	0.6	1.0	0.8	0.2	0.0	0.0	0.0	0.0	0.0	0.8	5.8													
8-Jul	Z	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.8	2.5	0.7	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	0.3	2.5													
9-Jul	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	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1													
10-Jul	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.3	1.2	0.6	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	1.2													
11-Jul	0.0	0.0	0.0	Z	0.0	2.7	5.8	1.3	0.7	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	0.6	5.8													
12-Jul	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	1.9	3.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.5	0.3	3.0													
13-Jul	1.2	7.1	0.5	0.2	3.4	Z	2.2	1.2	1.4	0.4	0.1	0.5	1.9	0.3	0.4	0.3	0.4	0.6	0.6	0.5	0.2	0.1	0.1	5.0	1.2	7.1													
14-Jul	Z	2.9	0.2	0.3	2.1	17.3	1.5	0.9	1.7	0.9	0.0	0.2	0.6	0.0	0.1	0.2	0.3	0.3	0.5	0.3	0.0	0.3	0.0	0.1	1.3	17.3													
15-Jul	0.1	Z	0.1	0.1	0.1	0.2	0.3	0.4	2.3	10.1	1.1	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	10.1													
16-Jul	0.1	0.1	Z	0.2	0.3	0.3	0.1	3.5	4.3	2.5	1.8	0.5	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.6	4.3													
17-Jul	0.5	1.2	1.8	Z	1.0	1.1	30.9	40.6	36.6	15.9	10.6	1.1	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.2	6.2	40.6													
18-Jul	0.1	0.1	0.2	0.1	Z	0.6	6.1	12.4	2.5	0.6	0.5	0.8	0.2	0.3	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.1	12.4													
19-Jul	0.0	0.0	0.1	0.0	0.2	0.6	Z	2.4	1.7	0.5	0.5	0.8	1.4	0.8	0.1	0.0	0.1	0.1	0.1	0.4	0.2	0.1	0.1	0.1	0.4	2.4													
20-Jul	Z	0.1	0.2	0.1	0.1	0.1	0.3	2.2	6.9	5.9	2.5	2.1	1.7	0.8	1.0	0.5	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	1.1	6.9													
21-Jul	0.1	Z	0.0	0.1	0.2	2.0	2.7	1.0	1.3	1.0	0.6	1.1	0.8	0.7	0.2	0.9	0.5	0.2	0.7	0.2	0.3	0.1	0.1	0.4	0.7	2.7													
22-Jul	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	0.0	0.0	0.0	0.1	0.7	0.3	0.2	0.0	0.0	0.0	0.0	0.1	0.7													
23-Jul	0.1	0.1	0.0	Z	0.2	0.5	1.4	11.0	12.7	9.3	3.3	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	1.7	12.7													
24-Jul	0.2	0.2	0.0	0.0	Z	2.5	2.1	6.0	8.1	5.0	1.2	0.5	0.6	0.2	0.2	0.3	0.2	0.1	0.1	0.2	0.1	0.0	0.0	0.1	1.2	8.1													
25-Jul	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	0.2	1.0	1.7	0.8	0.8	0.7	0.4	0.2	0.1	0.1	0.1	0.3	1.7													
26-Jul	Z	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0	1.2	3.1	1.3	1.3	0.9	0.8	0.1	0.1	0.2	0.0	0.0	0.0	0.4	0.4	3.1													
27-Jul	0.2	Z	0.1	0.0	0.0	0.1	1.7	3.4	2.1	0.4	0.1	0.7	0.8	0.7	0.0	0.0	0.0	0.5	1.2	0.2	0.0	0.0	0.0	0.1	0.5	3.4													
28-Jul	0.1	0.1	Z	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	0.4	0.3	0.1	0.2	1.1	0.0	0.1	1.1													
29-Jul	0.2	0.0	0.4	Z	0.2	0.4	4.2	3.7	4.5	2.6	0.6	0.6	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	2.1	4.9	0.4	1.1	4.9													
30-Jul	0.1	1.1	0.7	0.2	Z	2.0	4.2	11.3	9.4	1.7	0.0	0.0	0.0	0.2	1.0	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.3	0.5	1.5	11.3													
31-Jul	0.5	0.2	0.2	0.1	0.1	Z	4.2	1.0	0.9	0.9	0.9	0.3	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.4	4.2													
		0.3	0.6	0.2	0.2	0.6	2.1	4.5	5.9	6.3	2.7	1.5	0.8	0.6	0.3	0.2	0.3	0.2	0.3	0.3	0.2	0.2	0.1	0.3	0.4	Diurnal Average													
		2.7	7.1	1.8	1.4	7.3	17.3	52.4	58.0	81.9	15.9	10.6	3.8	3.2	1.6	1.3	2.2	2.2	2.5	2.1	1.4	1.4	2.1	4.9	5.0	Diurnal Maximum													
Z - zerospan		C - Calibration				M - Maintenance																																	



Wood Buffalo Environmental Association
Hourly Averages

Nitric Oxide (NO) - ppb
Ells River - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitric Oxide (NO) - ppb
Ells River - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	701	99.15	99.15
21 - 40	2	0.28	99.43
41 - 80	3	0.42	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

Nitric Oxide (NO) - ppb
Ells River - July 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	76	31	19	14	8	8	34	80	91	53	65	54	46	29	38	38	684
21 - 40	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
11 - 80	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3
81 - 159	0	0	1	0	0	0	0	0	0	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	76	32	20	14	8	8	34	80	91	53	65	54	46	30	39	40	690

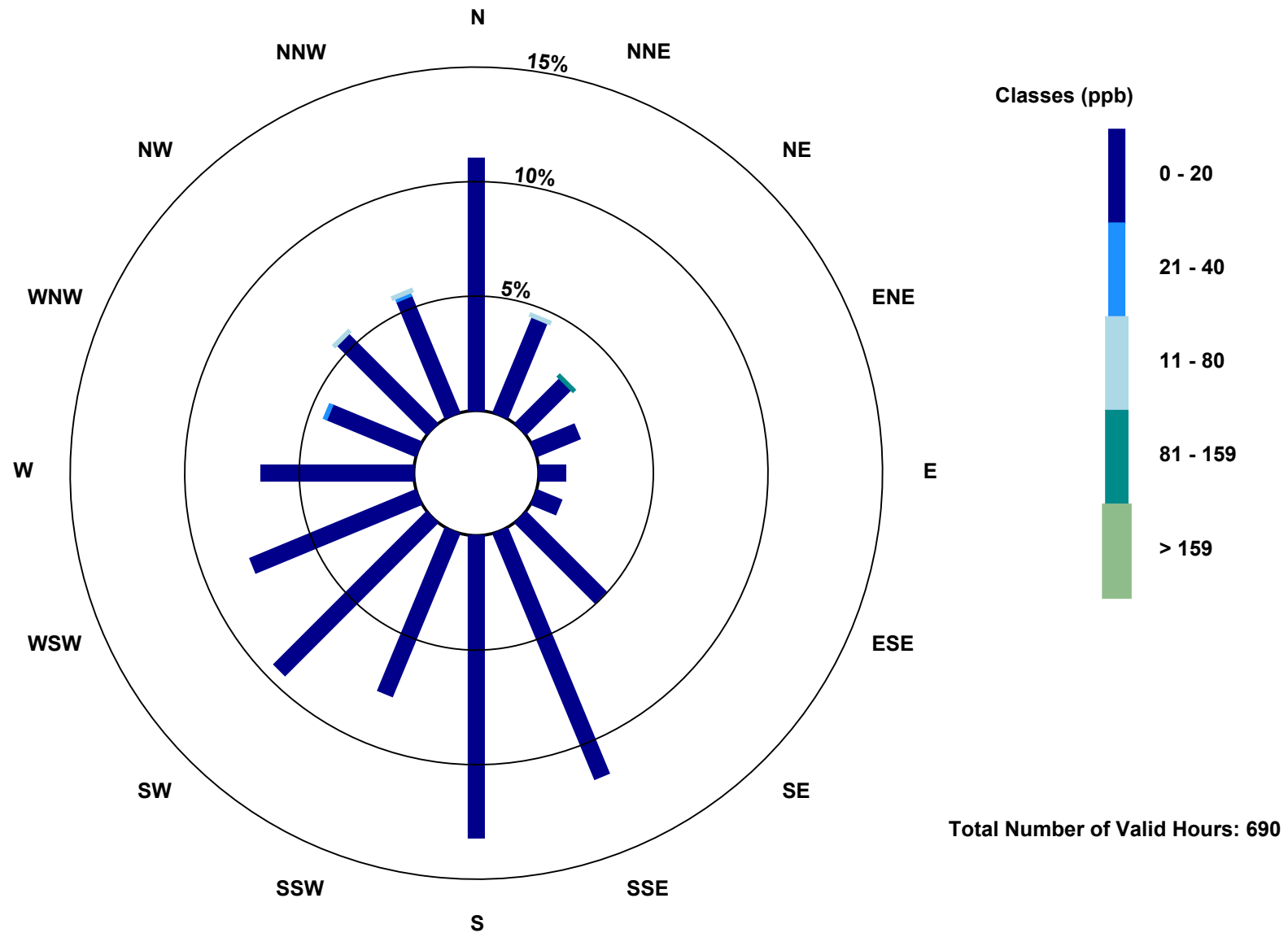
Total Number of Valid Hours: 690

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

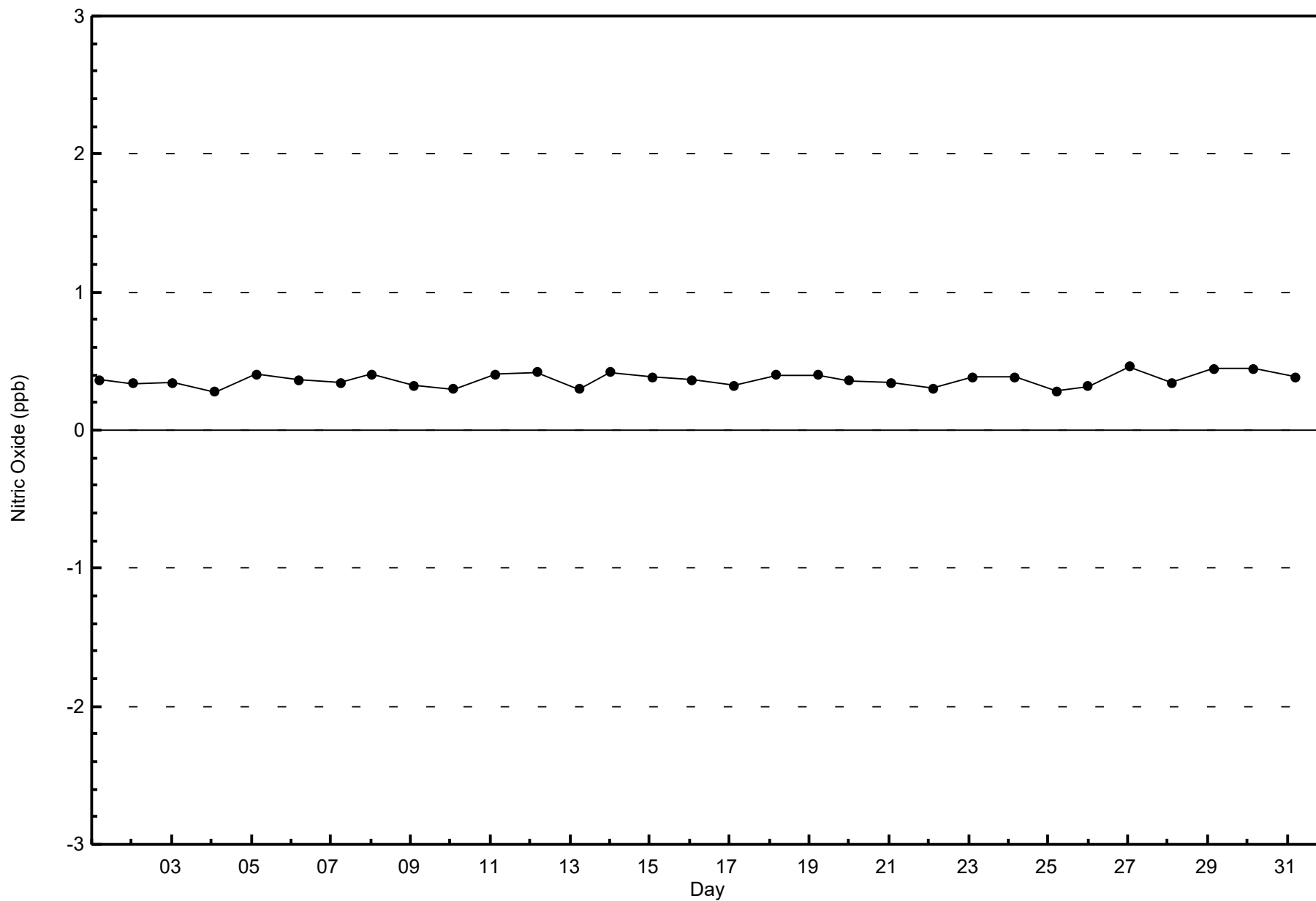
Nitric Oxide (NO) - ppb
Ells River





Wood Buffalo Environmental Association
Zero Responses

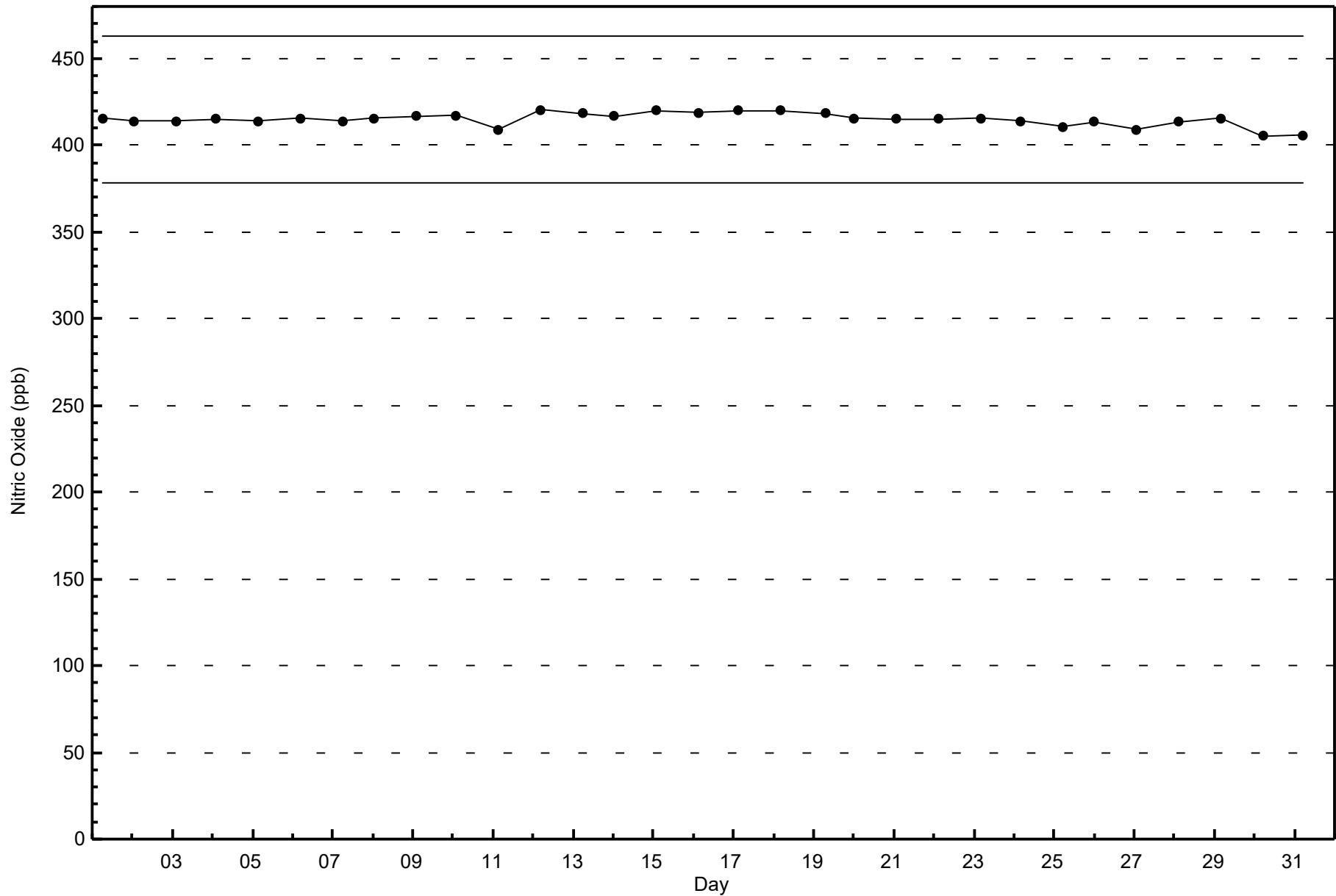
Nitric Oxide (NO) - ppb
Ells River - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitric Oxide (NO) - ppb
Ells River - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Dioxide (NO₂) - ppb

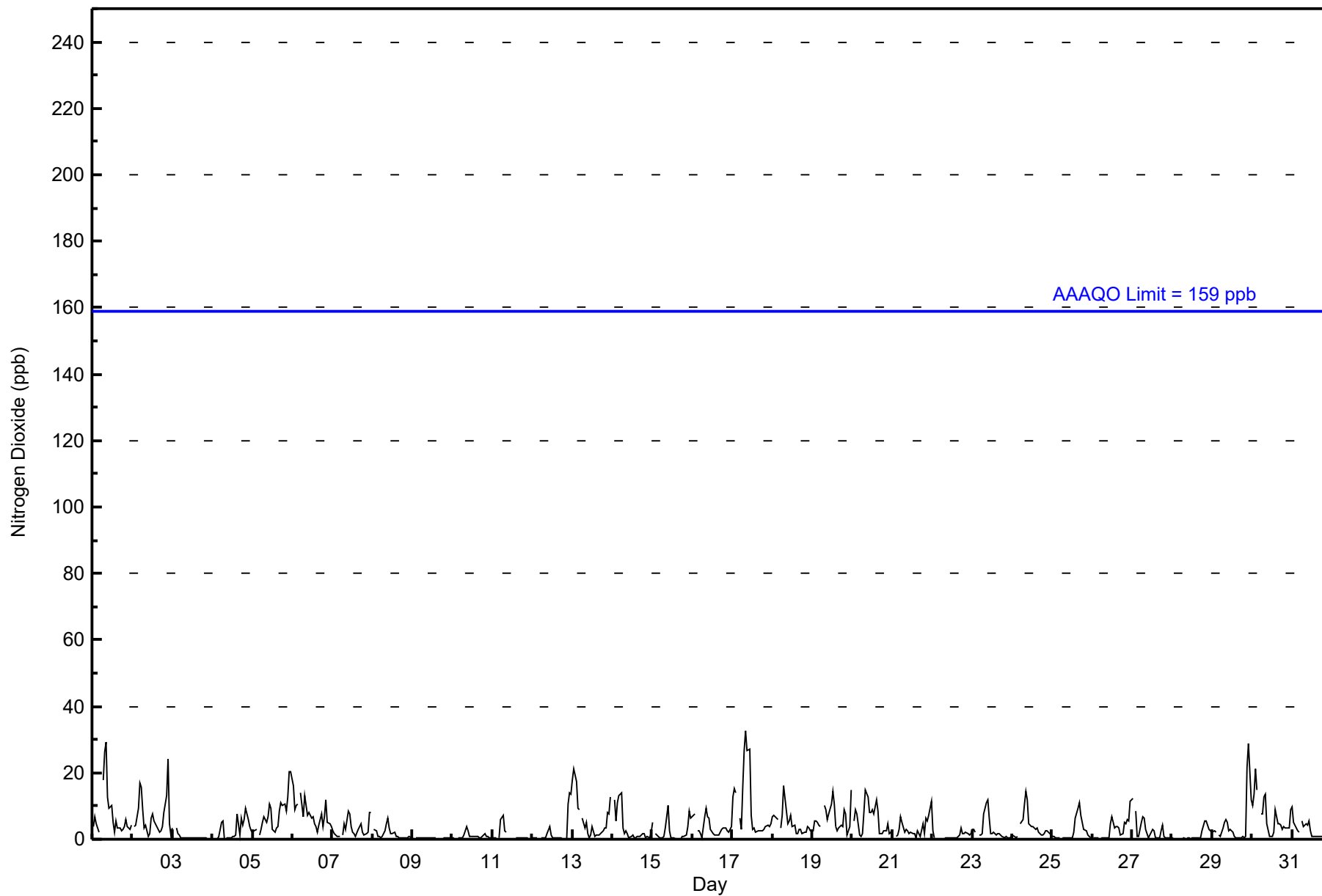
Ells River - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 32.6 ppb on Jul 17 09:00 Maximum Daily Average: 9.8 ppb on Jul 17																			Hours in Service: 744							
Minimum Value: 0.1 ppb on Jul 3 23:00 Minimum Daily Average: 0.4 ppb on Jul 9 Maximum Diurnal Average: 6.7 ppb at hour 9 Minimum Diurnal Average: 2.2 ppb at hour 17 Monthly Average: 3.86 ppb Percentiles: P ₁ = 0.2 P ₁₀ = 0.3 Q ₁ = 0.6 Median = 2.3 Q ₃ = 5.1 P ₉₀ = 9.6 P ₉₉ = 23.9																			Hours of Data: 707							
																			Hours of Missing Data: 37							
																			Hours of Calibration: 36							
																			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-Jul	3.7	6.6	4.6	3.2	2.0	Z	17.9	26.2	29.4	12.8	9.5	10.2	5.1	2.2	5.4	3.5	3.2	2.5	3.0	4.0	5.8	3.7	3.1	4.2	7.5	29.4
2-Jul	Z	4.0	4.1	9.2	16.9	15.5	9.1	3.3	4.2	0.8	1.8	6.5	7.8	5.7	3.7	3.0	2.1	2.7	3.8	7.9	13.1	24.0	4.7	1.3	6.7	24.0
3-Jul	3.2	Z	3.4	1.9	1.1	0.6	0.5	0.5	0.6	0.5	0.5	0.5	0.4	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.2	0.1	0.2	0.7	3.4
4-Jul	0.2	0.2	Z	0.1	0.9	5.1	5.7	0.2	0.2	0.3	0.4	0.5	0.7	0.8	1.4	7.6	1.2	6.2	4.2	6.1	9.4	5.8	3.9	2.5	2.8	9.4
5-Jul	2.0	2.7	2.8	Z	1.4	2.9	5.1	6.8	5.1	6.8	10.7	9.3	2.9	2.2	3.5	3.8	8.6	11.2	10.2	10.4	8.5	12.5	20.3	20.2	7.4	20.3
6-Jul	16.0	9.0	10.1	10.5	Z	13.8	6.8	13.0	10.1	7.1	8.2	6.5	6.6	4.5	4.0	2.3	4.2	7.5	3.7	6.8	11.8	5.2	4.7	3.8	7.7	16.0
7-Jul	2.6	1.6	1.1	0.8	0.7	Z	1.2	4.8	3.1	8.3	7.6	3.9	2.3	1.9	0.9	2.8	3.8	4.8	2.1	1.4	1.9	2.3	8.1	8.0	3.3	8.3
8-Jul	Z	2.8	2.4	1.0	0.8	0.6	0.7	2.5	4.7	6.2	3.4	1.8	1.8	2.1	1.0	0.7	0.4	0.4	0.4	0.4	0.4	0.6	0.7	0.4	1.6	6.2
9-Jul	0.5	Z	0.4	0.5	0.5	0.4	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3	M	0.2	0.2	0.2	0.3	0.3	0.4	0.5	0.4	0.4	0.5
10-Jul	0.3	0.3	Z	0.4	0.4	0.4	0.4	1.3	4.0	2.4	0.8	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.7	1.5	1.0	0.7	0.5	0.5	0.9	4.0
11-Jul	0.4	0.4	0.4	Z	0.4	6.0	7.2	2.6	2.0	C	C	C	C	C	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.2	0.2	1.3	7.2
12-Jul	0.3	0.3	0.3	0.3	Z	0.4	0.4	0.4	0.3	1.9	4.0	1.1	0.5	0.5	0.5	0.4	0.4	0.3	0.2	0.2	0.2	10.5	13.9	13.5	2.2	13.9
13-Jul	18.0	21.2	17.3	9.5	9.1	Z	6.2	3.2	5.1	1.6	0.6	1.4	3.7	1.0	1.4	1.1	1.1	1.7	2.4	3.2	3.5	8.1	7.7	12.7	6.1	21.2
14-Jul	Z	11.9	5.6	11.1	13.2	14.0	3.5	1.8	2.7	1.8	0.5	0.7	1.4	0.3	0.5	0.8	0.8	1.2	1.9	1.5	0.6	0.8	0.4	2.0	3.4	14.0
15-Jul	5.1	Z	1.9	0.8	0.4	0.3	0.6	0.9	3.3	10.3	2.4	0.5	0.3	0.3	0.2	0.2	0.2	0.2	0.7	0.8	1.2	3.7	8.5	6.3	2.1	10.3
16-Jul	6.6	7.5	Z	2.6	2.7	1.8	0.5	6.9	9.3	6.7	6.4	3.0	1.6	1.3	1.2	1.1	1.4	2.9	3.3	3.4	3.2	2.6	2.0	4.0	3.6	9.3
17-Jul	12.6	15.4	13.8	Z	6.2	3.0	15.6	26.8	32.6	26.8	27.3	7.1	2.8	3.5	2.2	2.5	2.5	2.5	2.5	3.1	3.9	4.3	3.7	4.5	9.8	32.6
18-Jul	6.7	7.0	6.2	5.9	Z	3.3	7.4	16.0	8.3	4.5	5.7	7.2	3.7	4.4	1.8	1.9	3.1	2.8	1.9	2.0	2.2	4.0	3.2	2.7	4.9	16.0
19-Jul	2.6	5.3	5.3	5.2	4.4	3.9	Z	10.3	9.1	6.0	7.5	10.6	14.3	10.4	3.7	2.7	3.2	4.3	3.7	9.0	7.8	1.3	4.0	15.0	6.5	15.0
20-Jul	Z	5.7	8.9	7.6	1.2	0.8	1.7	8.0	14.8	12.8	7.9	8.1	8.9	7.7	11.9	8.6	1.8	1.9	1.8	2.4	2.7	4.6	1.9	2.1	5.8	14.8
21-Jul	0.9	Z	0.7	1.2	3.1	6.8	4.9	2.0	3.0	2.4	1.5	2.3	1.5	1.8	0.5	2.4	1.9	0.7	4.5	1.6	6.4	5.4	7.3	11.6	3.2	11.6
22-Jul	2.7	0.4	Z	0.2	0.2	0.1	0.2	0.2	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.5	1.1	3.2	1.8	1.9	2.0	1.7	1.4	1.6	0.9	3.2
23-Jul	2.8	3.0	2.2	Z	1.2	1.1	1.6	7.8	11.2	11.8	6.4	1.9	1.5	2.3	1.3	1.9	1.5	1.2	0.7	0.5	0.7	0.6	0.6	0.6	2.8	11.8
24-Jul	1.2	0.7	0.6	0.7	Z	4.8	5.8	10.8	14.5	11.7	4.7	4.0	4.0	3.5	3.0	3.6	2.3	1.4	1.2	1.8	2.5	2.4	1.6	1.1	3.8	14.5
25-Jul	1.0	0.8	0.6	0.6	0.5	Z	0.5	0.4	0.4	0.5	0.5	0.5	0.5	2.2	6.5	9.3	11.2	7.1	5.1	2.9	2.7	1.3	0.7	0.4	2.4	11.2
26-Jul	Z	0.4	0.5	0.3	0.2	0.2	0.4	0.3	0.3	0.4	0.5	4.8	6.9	3.4	3.9	3.9	3.6	1.4	1.9	5.0	4.5	6.0	5.6	11.4	2.9	11.4
27-Jul	12.4	Z	8.5	1.0	0.9	5.1	6.8	6.4	3.0	1.6	0.6	2.3	2.8	2.5	0.4	0.6	0.5	2.4	4.1	1.0	0.3	0.4	0.4	0.5	2.8	12.4
28-Jul	0.5	0.2	Z	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.2	0.3	0.3	0.4	0.4	0.3	0.5	2.6	5.5	5.3	4.2	3.1	2.5	1.2	5.5
29-Jul	2.2	2.4	2.1	Z	1.4	1.0	3.6	5.2	5.9	5.0	2.5	2.9	2.2	0.8	0.5	0.5	0.5	0.6	0.8	0.5	1.0	21.6	28.9	12.0	4.5	28.9
30-Jul	10.0	13.5	21.0	15.0	Z	7.6	7.7	12.6	13.5	4.7	0.9	0.8	0.7	2.3	8.8	4.7	4.5	4.1	2.9	3.7	3.4	3.3	3.5	8.8	6.9	21.0
31-Jul	9.8	5.1	3.4	2.7	2.1	Z	5.7	3.9	4.6	4.4	5.4	2.5	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	1.4	1.9	1.7	1.7	2.7	9.8
Diurnal Average																										
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
Ells River - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Ells River - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	696	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: 707

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Ells River - July 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	74	31	19	13	8	7	34	80	91	53	64	54	45	29	39	38	679
21 - 40	2	1	1	1	0	1	0	0	0	0	1	0	1	1	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	76	32	20	14	8	8	34	80	91	53	65	54	46	30	39	40	690

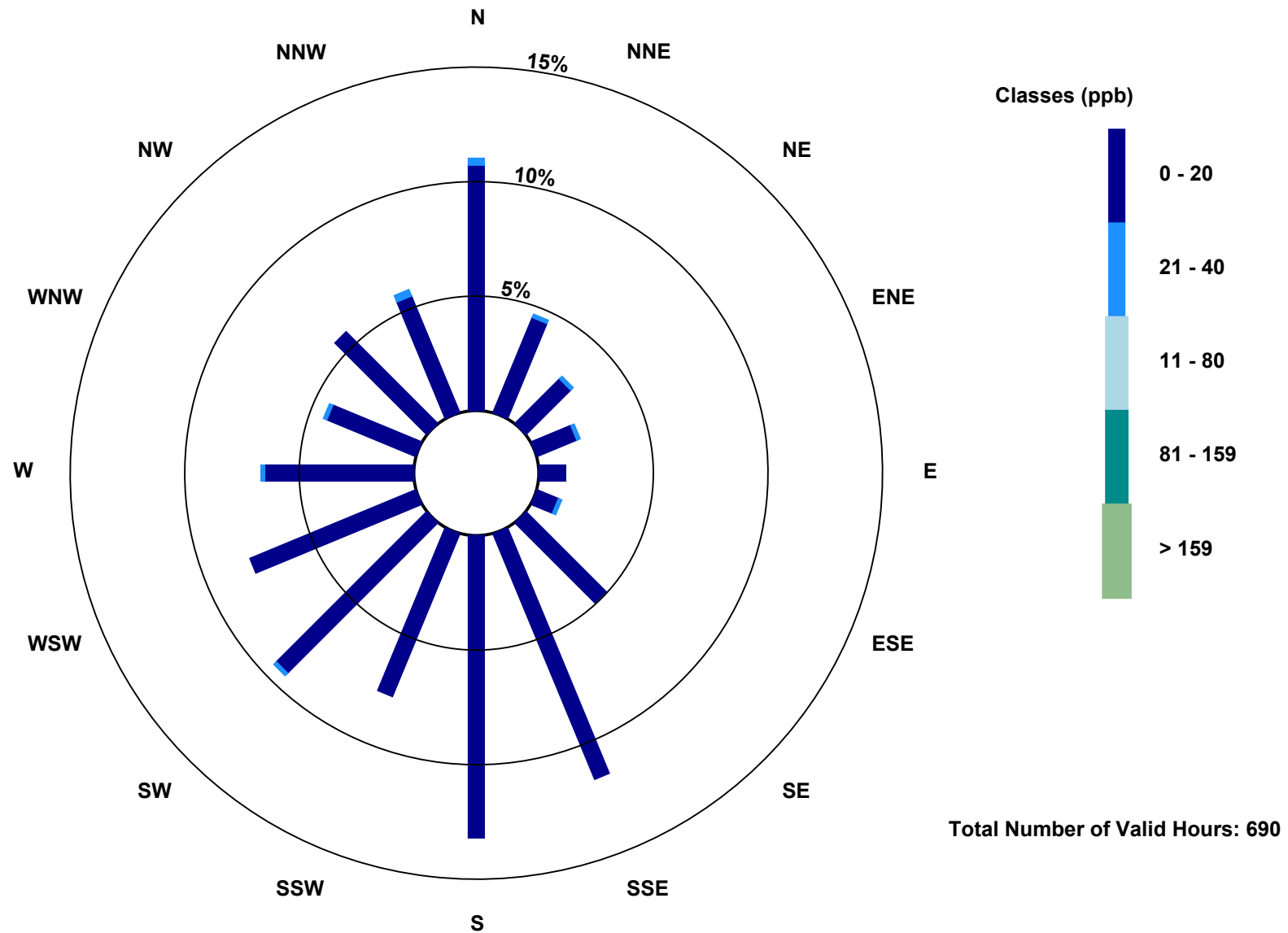
Total Number of Valid Hours: 690

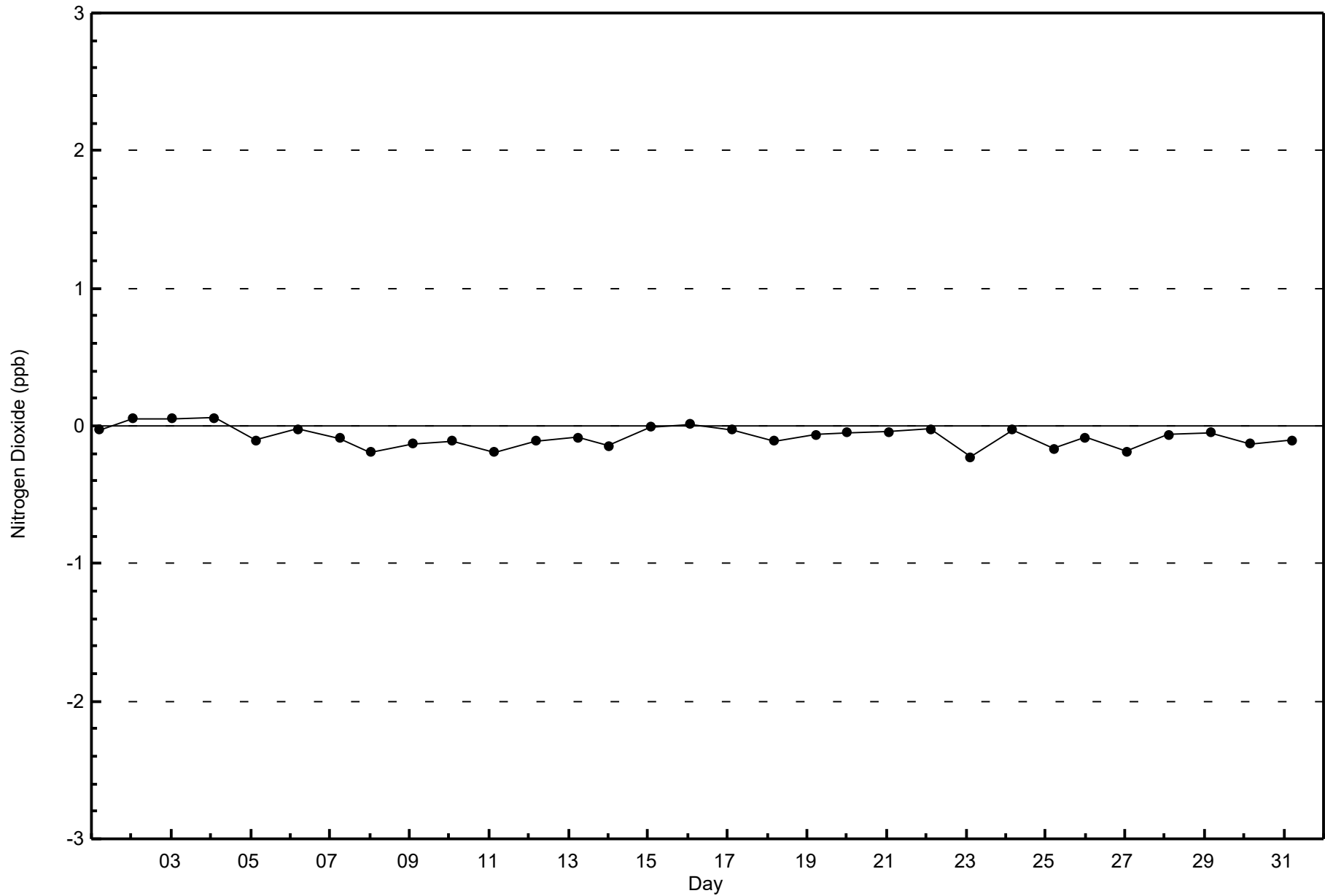
Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Nitrogen Dioxide (NO₂) - ppb
Ells River

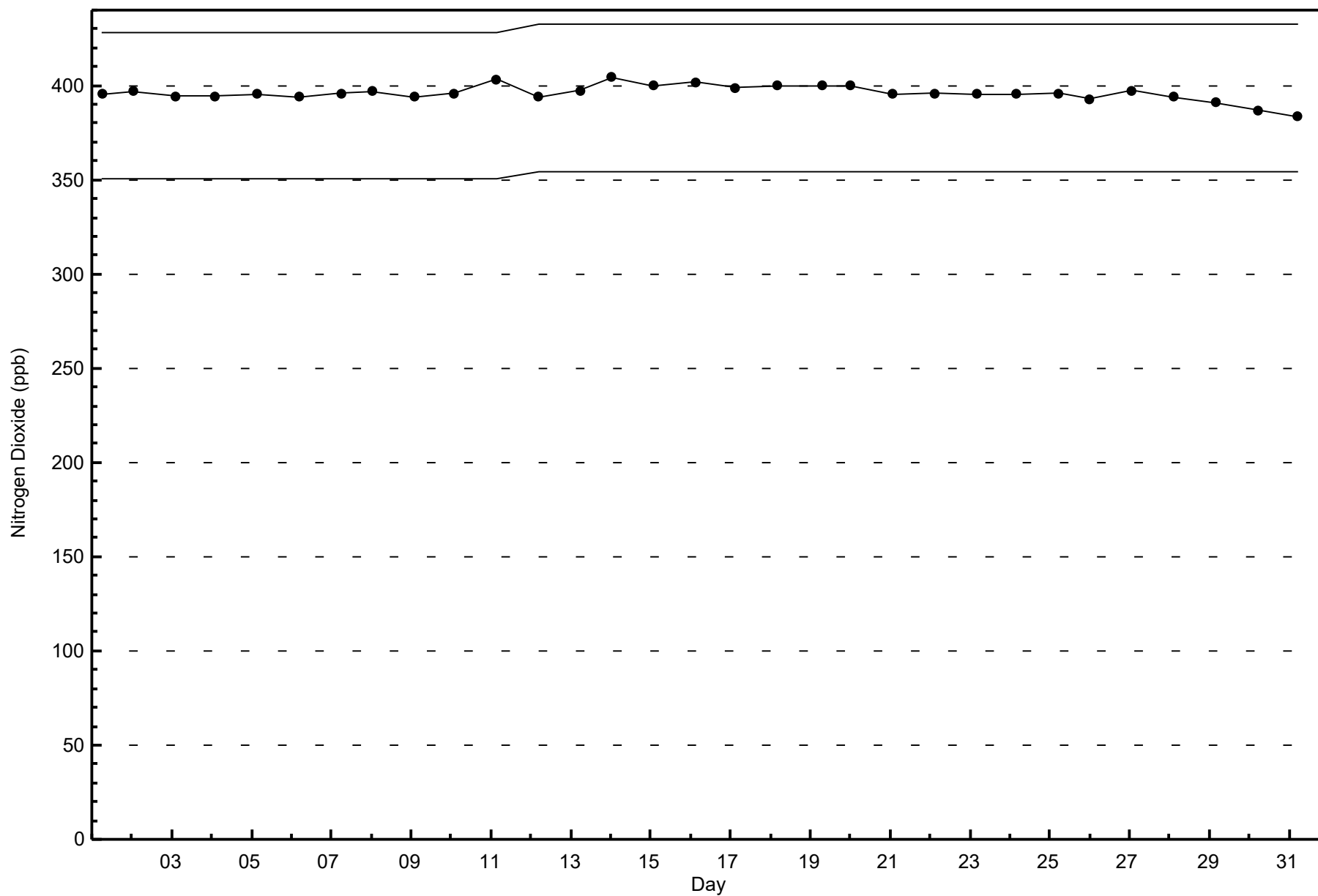






Wood Buffalo Environmental Association
Span Responses

Nitrogen Dioxide (NO₂) - ppb
Ells River - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Oxides (NO_x) - ppb

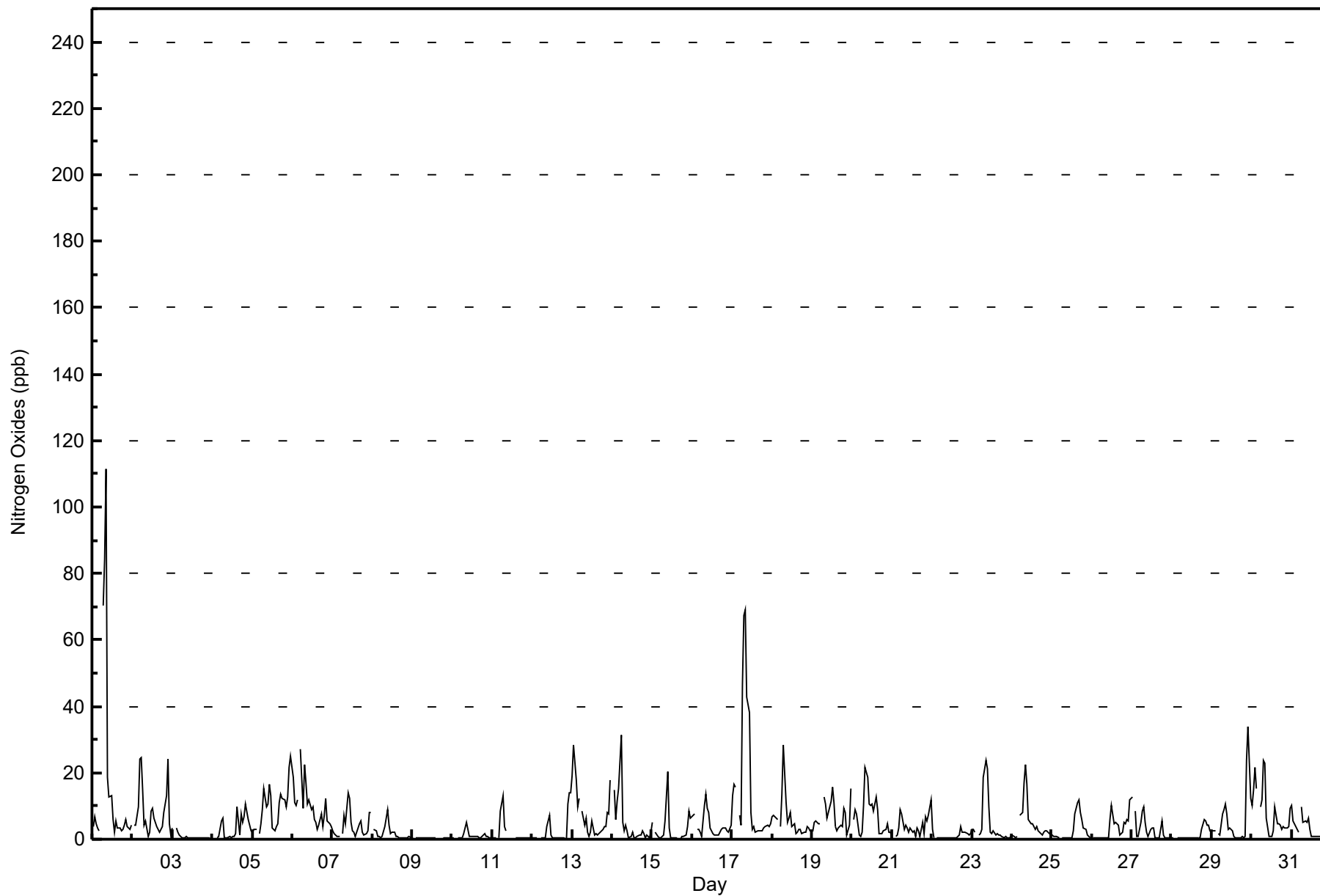
Ells River - July 2025

Maximum Value: 111.3 ppb on Jul 1 09:00																				Maximum Daily Average: 16.5 ppb on Jul 1					Hours in Service: 744		
Minimum Value: 0.2 ppb on Jul 4 01:00																				Minimum Daily Average: 0.4 ppb on Jul 9					Hours of Data: 707		
Maximum Diurnal Average: 13.0 ppb at hour 9																				Minimum Diurnal Average: 2.4 ppb at hour 17					Hours of Missing Data: 37		
Monthly Average: 5.10 ppb																				Percentiles: P ₁ = 0.2 P ₁₀ = 0.4 Q ₁ = 0.6 Median = 2.5 Q ₃ = 5.9 P ₉₀ = 12.0 P ₉₉ = 37.7					Hours of Calibration: 36		
																									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-Jul	3.7	6.8	4.6	3.3	2.4	Z	70.3	84.2	111.3	18.7	12.6	13.2	5.8	2.3	5.6	3.6	3.3	2.5	3.1	4.2	6.0	3.7	3.1	4.3	16.5	111.3	
2-Jul	Z	4.1	4.2	9.6	24.2	24.5	14.7	4.2	5.5	1.0	2.2	8.6	9.3	6.4	4.0	3.1	2.2	2.8	3.9	8.1	13.3	24.2	4.7	1.3	8.1	24.5	
3-Jul	3.2	Z	3.5	2.0	1.2	0.7	0.6	0.6	0.7	0.6	0.6	0.5	0.4	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.8	3.5	
4-Jul	0.2	0.2	Z	0.2	1.0	5.5	6.3	0.3	0.3	0.4	0.6	0.6	0.7	0.9	1.7	9.8	1.4	7.6	4.9	6.8	10.7	6.0	4.0	2.6	3.2	10.7	
5-Jul	2.1	2.8	2.8	Z	1.6	4.7	9.1	15.3	9.6	10.7	16.6	13.1	3.3	2.4	3.7	4.7	10.8	13.7	12.3	11.8	9.9	12.8	21.7	25.0	9.6	25.0	
6-Jul	18.7	11.0	10.4	11.9	Z	27.2	9.5	22.5	16.8	10.4	12.0	8.8	9.8	6.1	5.2	2.8	4.4	7.8	3.9	7.3	12.4	5.3	4.8	3.9	10.1	27.2	
7-Jul	2.7	1.7	1.1	0.9	0.8	Z	1.5	7.1	4.7	14.1	12.2	5.2	2.6	2.1	0.9	3.4	4.8	5.6	2.3	1.4	1.9	2.3	8.1	8.0	4.1	14.1	
8-Jul	Z	2.8	2.4	1.0	0.8	0.6	0.7	3.6	6.5	8.7	4.1	1.9	2.0	2.3	1.0	0.7	0.4	0.4	0.4	0.4	0.4	0.6	0.7	0.4	1.9	8.7	
9-Jul	0.5	Z	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3	M	0.2	0.2	0.2	0.3	0.3	0.4	0.5	0.4	0.4	0.5	
10-Jul	0.4	0.4	Z	0.5	0.5	0.5	0.5	1.6	5.2	3.0	0.9	0.8	0.7	0.8	0.8	0.7	0.6	0.6	0.7	1.6	1.0	0.7	0.5	0.5	1.0	5.2	
11-Jul	0.4	0.4	0.4	Z	0.4	8.7	13.0	3.9	2.7	C	C	C	C	C	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.2	0.2	1.8	13.0	
12-Jul	0.3	0.3	0.3	0.3	Z	0.4	0.4	0.4	0.4	3.8	7.0	1.4	0.6	0.5	0.5	0.4	0.4	0.3	0.2	0.2	0.2	10.6	14.0	14.0	2.5	14.0	
13-Jul	19.2	28.3	17.8	9.7	12.5	Z	8.4	4.4	6.5	2.0	0.7	1.9	5.6	1.3	1.8	1.4	1.5	2.3	3.0	3.7	3.7	8.2	7.8	17.7	7.4	28.3	
14-Jul	Z	14.8	5.8	11.4	15.3	31.3	5.0	2.7	4.4	2.7	0.5	0.9	2.0	0.3	0.6	1.0	1.1	1.5	2.4	1.8	0.6	1.1	0.4	2.1	4.8	31.3	
15-Jul	5.2	Z	2.0	0.9	0.5	0.5	0.9	1.3	5.6	20.4	3.5	0.5	0.3	0.3	0.2	0.2	0.2	0.2	0.7	0.8	1.2	3.7	8.5	6.4	2.8	20.4	
16-Jul	6.7	7.6	Z	2.8	3.0	2.1	0.6	10.4	13.6	9.2	8.2	3.5	1.7	1.3	1.2	1.1	1.4	3.0	3.4	3.4	3.2	2.6	2.0	4.1	4.2	13.6	
17-Jul	13.1	16.6	15.6	Z	7.2	4.1	46.5	67.4	69.2	42.7	37.9	8.2	3.0	3.8	2.3	2.6	2.6	2.6	2.6	3.2	4.0	4.3	3.8	4.7	16.0	69.2	
18-Jul	6.8	7.1	6.4	6.0	Z	3.9	13.5	28.4	10.8	5.1	6.2	8.0	3.9	4.7	1.8	1.9	3.2	2.9	1.9	2.0	2.2	4.0	3.2	2.7	5.9	28.4	
19-Jul	2.6	5.3	5.4	5.2	4.6	4.5	Z	12.7	10.8	6.5	8.0	11.4	15.7	11.2	3.8	2.7	3.3	4.4	3.8	9.4	8.0	1.4	4.1	15.1	6.9	15.7	
20-Jul	Z	5.8	9.1	7.7	1.3	0.9	2.0	10.2	21.7	18.7	10.4	10.2	10.6	8.5	12.9	9.1	1.8	1.9	1.8	2.5	2.8	4.7	2.0	2.2	6.9	21.7	
21-Jul	1.0	Z	0.7	1.3	3.3	8.8	7.6	3.0	4.3	3.4	2.1	3.4	2.3	2.5	0.7	3.3	2.4	0.9	5.2	1.8	6.7	5.5	7.4	12.0	3.9	12.0	
22-Jul	2.8	0.5	Z	0.3	0.3	0.2	0.3	0.3	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.5	1.2	3.9	2.1	2.1	2.0	1.7	1.4	1.6	1.0	3.9	
23-Jul	2.9	3.1	2.2	Z	1.4	1.6	3.0	18.8	23.9	21.1	9.7	2.2	1.5	2.4	1.3	1.9	1.5	1.2	0.7	0.5	0.7	0.6	0.6	0.6	4.5	23.9	
24-Jul	1.4	0.9	0.6	0.7	Z	7.3	7.9	16.8	22.6	16.7	5.9	4.5	4.6	3.7	3.2	3.9	2.5	1.5	1.3	2.0	2.6	2.4	1.6	1.2	5.0	22.6	
25-Jul	1.1	0.9	0.7	0.7	0.6	Z	0.6	0.5	0.5	0.6	0.6	0.6	0.6	2.4	7.5	11.0	12.0	7.9	5.8	3.3	2.9	1.4	0.8	0.5	2.8	12.0	
26-Jul	Z	0.5	0.5	0.4	0.3	0.2	0.5	0.4	0.4	0.5	0.5	6.0	10.0	4.7	5.2	4.8	4.4	1.5	2.0	5.2	4.5	6.0	5.6	11.8	3.3	11.8	
27-Jul	12.6	Z	8.6	1.0	0.9	5.2	8.5	9.8	5.1	2.0	0.7	3.0	3.6	3.2	0.4	0.6	0.5	2.9	5.3	1.2	0.3	0.4	0.4	0.6	3.3	12.6	
28-Jul	0.6	0.3	Z	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.2	0.3	0.3	0.4	0.4	0.3	0.5	3.0	5.8	5.4	4.4	4.2	2.5	1.4	5.8	
29-Jul	2.4	2.4	2.5	Z	1.6	1.4	7.8	8.9	10.4	7.6	3.1	3.5	2.4	0.8	0.5	0.5	0.5	0.6	0.9	0.5	1.0	23.7	33.8	12.4	5.6	33.8	
30-Jul	10.1	14.6	21.7	15.2	Z	9.6	11.9	23.9	22.9	6.4	0.9	0.8	0.7	2.5	9.8	4.8	4.6	4.2	3.0	3.7	3.4	3.4	3.8	9.3	8.3	23.9	
31-Jul	10.3	5.3	3.6	2.8	2.2	Z	9.9	4.9	5.5	5.3	6.3	2.8	0.9	0.8	0.8	0.8	0.8	0.9	0.7	0.8	1.4	2.0	1.8	1.8	3.2	10.3	
5.0 5.5 5.1 3.7 3.4 6.0 8.7 11.9 13.0 8.1 5.8 4.2 3.5 2.6 2.6 2.8 2.4 2.8 2.7 3.1 3.6 4.8 5.0 5.5																										Diurnal Average	
19.2 28.3 21.7 15.2 24.2 31.3 70.3 84.2 111.3 42.7 37.9 13.2 15.7 11.2 12.9 11.0 12.0 13.7 12.3 11.8 13.3 24.2 33.8 25.0																										Diurnal Maximum	
Z - zerospan C - Calibration M - Maintenance																											



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Ells River - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Ells River - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	680	96.18	96.18
21 - 40	20	2.83	99.01
41 - 80	5	0.71	99.72
81 - 159	2	0.28	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
Ells River - July 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	70	31	18	13	8	7	32	78	87	53	64	54	45	28	37	38	663
21 - 40	5	0	1	1	0	1	2	2	4	0	1	0	1	1	1	0	20
11 - 80	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	5
81 - 159	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
> 159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	76	32	20	14	8	8	34	80	91	53	65	54	46	30	39	40	690

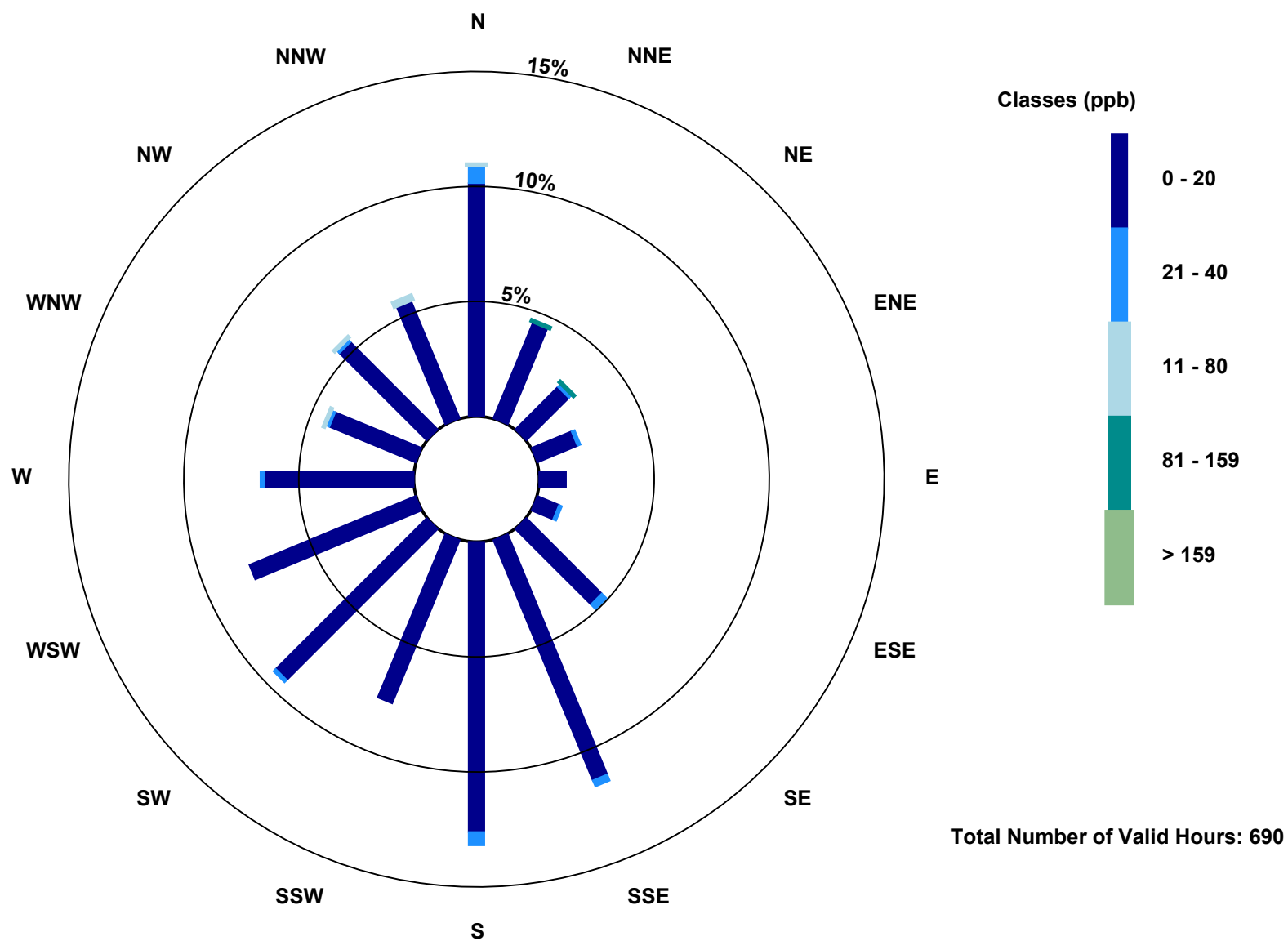
Total Number of Valid Hours: 690

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

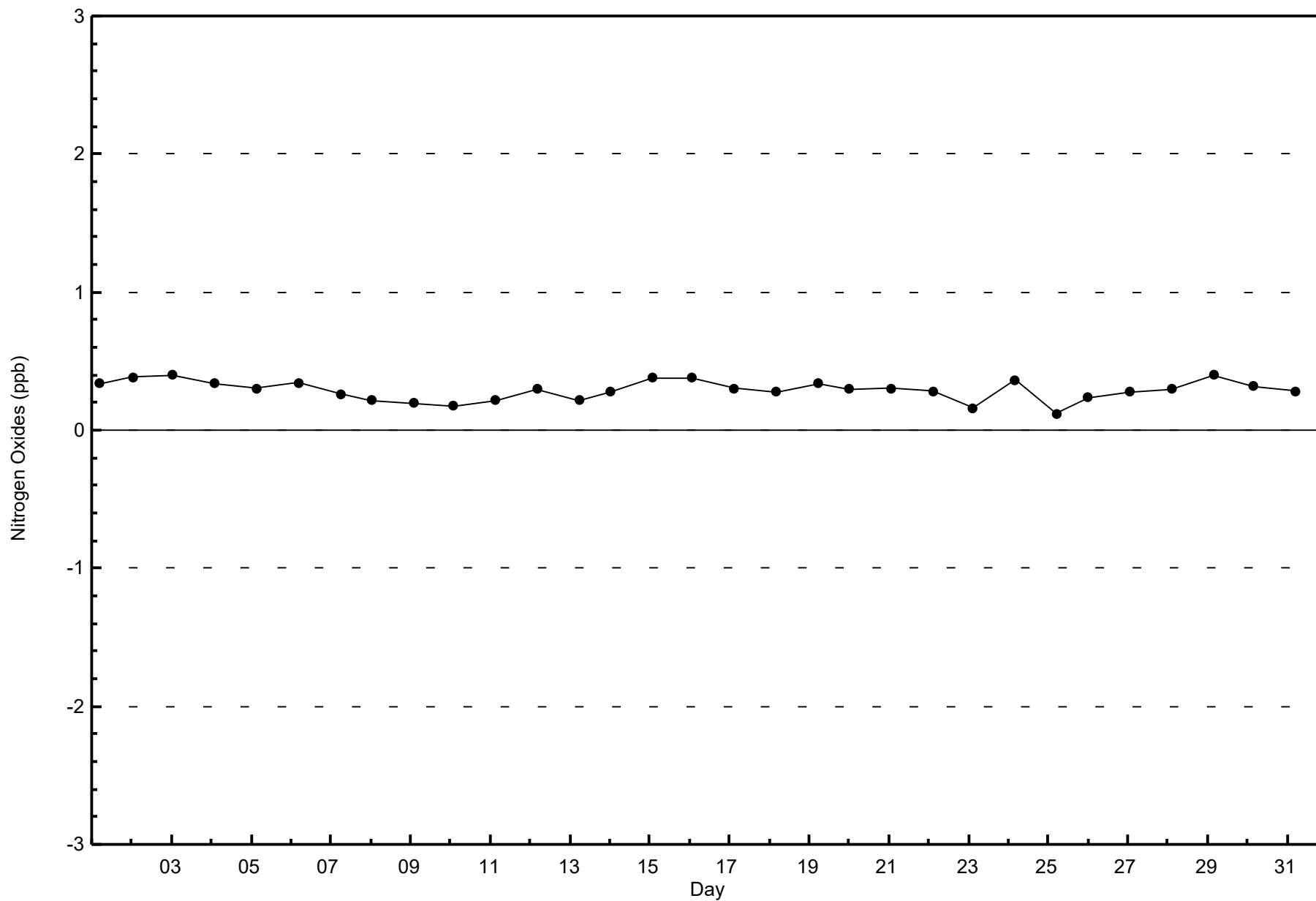
Nitrogen Oxides (NO_x) - ppb
Ells River





Wood Buffalo Environmental Association
Zero Responses

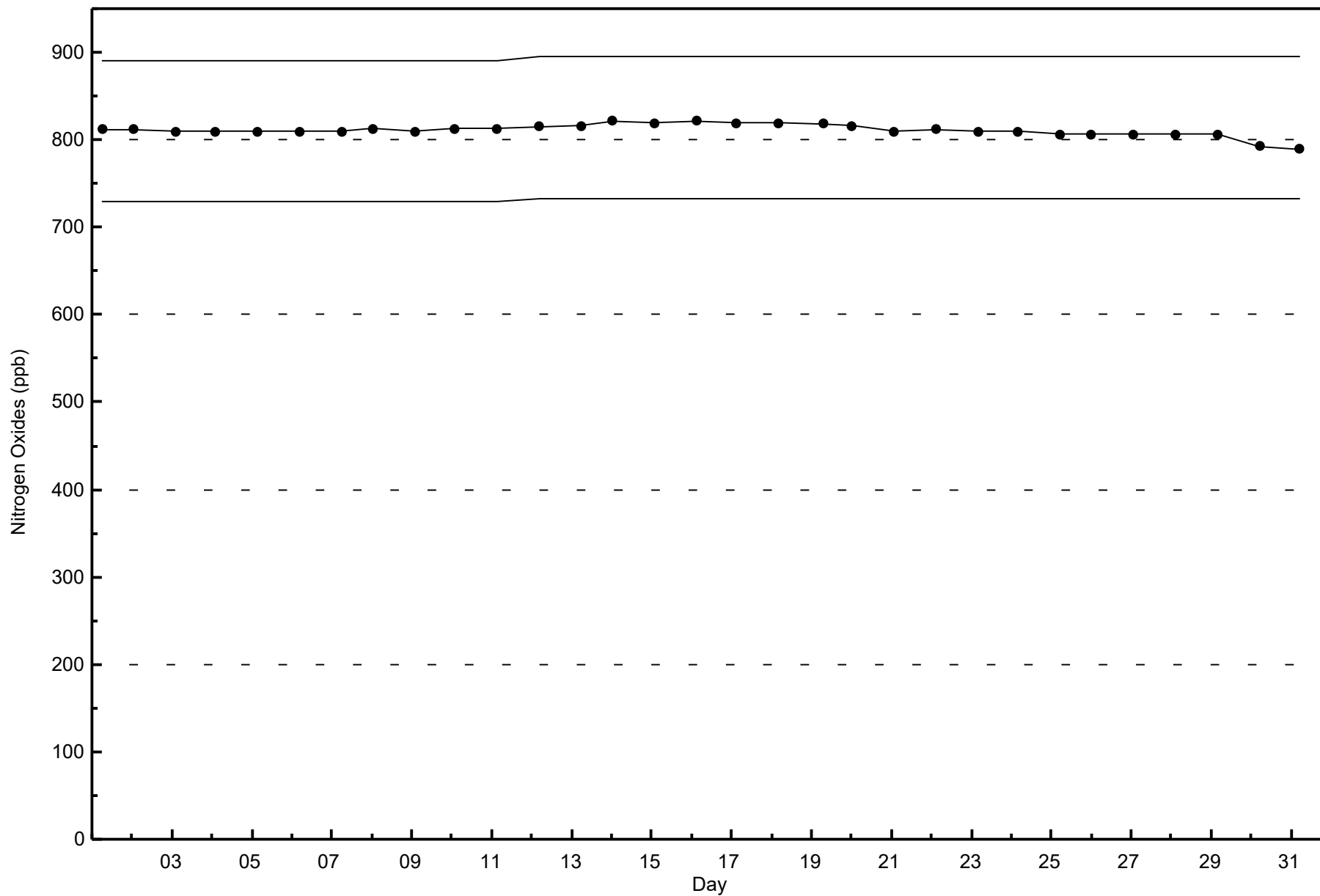
Nitrogen Oxides (NO_x) - ppb
Ells River - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitrogen Oxides (NO_x) - ppb
Ells River - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

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

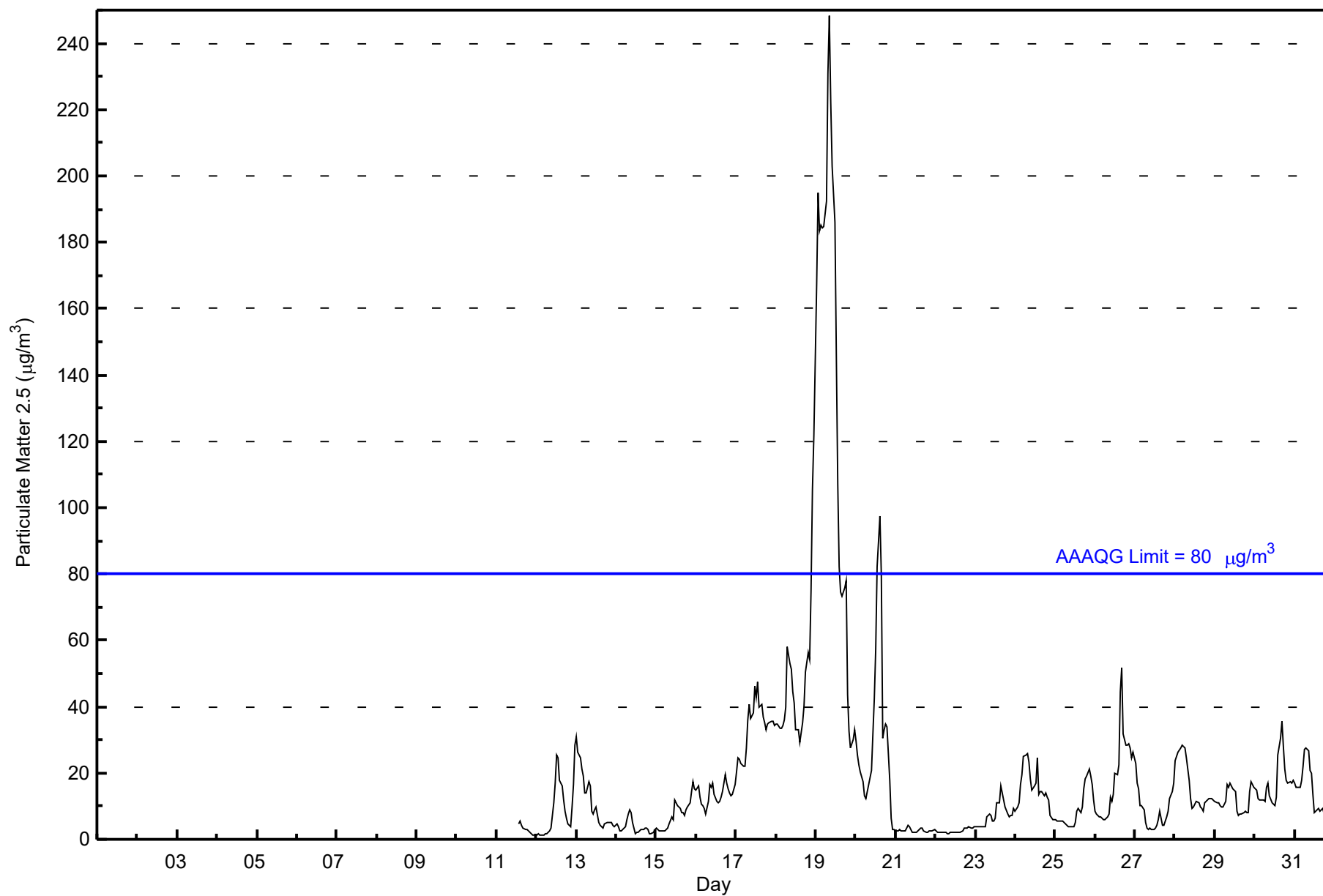
Ells River - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 4 Maximum Value: 248.5 µg/m³ on Jul 19 09:00 Minimum Value: 1.3 µg/m³ on Jul 12 00:00 Maximum Diurnal Average: 26.8 µg/m³ at hour 9 Monthly Average: 20.38 µg/m³																					Maximum Daily Average: 132.8 µg/m³ on Jul 19 Minimum Daily Average: 2.5 µg/m³ on Jul 22 Minimum Diurnal Average: 14.7 µg/m³ at hour 21 Percentiles: P ₁ = 1.5 P ₁₀ = 2.6 Q ₁ = 4.5 Median = 11.2 Q ₃ = 21.2 P ₉₀ = 35.9 P ₉₉ = 192.6				Hours in Service: 744 Hours of Data: 491 Hours of Missing Data: 253 Hours of Calibration: 2 Percent Operational Time: 66.3		
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-Jul	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	--	--
2-Jul	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-Jul	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-Jul	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-Jul	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-Jul	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-Jul	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-Jul	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	--	--
9-Jul	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	M	UO	UO	UO	UO	UO	UO	UO	UO	UO	--	--
10-Jul	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	--	--
11-Jul	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	UO	C	C	4.7	5.3	4.4	3.4	3.0	3.1	2.6	2.0	1.6	1.4	1.3	--	5.3	
12-Jul	1.3	1.5	1.4	1.4	1.5	1.7	1.9	2.2	2.5	3.5	11.1	17.1	25.5	24.5	17.9	16.1	11.8	8.4	6.2	4.8	3.9	9.6	16.6	28.5	9.2	28.5	
13-Jul	30.9	26.3	24.6	21.4	19.1	13.9	13.9	17.3	16.1	8.5	7.6	8.9	9.7	5.1	4.1	4.0	3.3	4.5	5.0	5.0	5.2	5.1	4.1	3.7	11.1	30.9	
14-Jul	4.5	3.8	2.7	2.5	3.0	3.9	6.1	7.7	8.9	8.1	4.9	1.9	2.3	2.3	2.6	3.1	3.1	3.3	3.5	2.8	1.6	1.6	2.0	2.8	3.7	8.9	
15-Jul	3.5	3.2	2.7	2.6	2.6	2.6	2.9	3.3	4.6	6.8	5.7	11.9	11.2	10.0	9.3	8.1	8.2	7.3	8.8	9.8	11.1	14.5	17.3	15.1	7.6	17.3	
16-Jul	14.8	16.2	12.9	10.6	10.2	9.5	7.6	11.5	16.4	15.8	17.1	13.7	11.6	11.1	11.6	12.8	14.4	19.6	16.9	15.2	14.2	13.3	13.7	16.6	13.6	19.6	
17-Jul	20.2	24.6	24.0	23.0	22.2	22.1	27.7	35.9	40.7	36.3	38.3	46.2	42.6	47.4	39.7	40.7	36.8	35.1	33.1	34.7	35.2	35.4	35.4	34.2	33.8	47.4	
18-Jul	34.6	34.9	33.3	33.7	34.3	35.9	39.9	57.9	53.1	51.1	44.6	41.0	33.0	33.2	29.4	32.2	35.2	40.2	50.4	56.1	54.4	74.9	105.7	121.7	48.4	121.7	
19-Jul	167.3	195.1	183.5	185.0	184.4	184.8	192.3	230.9	248.5	222.5	202.9	186.0	145.5	107.3	82.1	74.7	73.3	75.8	78.0	43.8	32.8	27.7	30.2	32.9	132.8	248.5	
20-Jul	29.7	25.6	22.5	20.4	17.4	13.2	12.2	14.2	16.3	20.8	31.8	42.5	57.3	82.3	97.3	79.5	30.3	33.2	34.7	34.0	18.0	6.4	3.1	3.2	31.1	97.3	
21-Jul	2.5	2.4	3.0	2.7	2.6	2.6	2.7	4.3	4.0	2.9	1.9	2.1	2.0	2.6	2.9	3.4	3.2	2.4	2.1	2.0	2.4	2.5	2.5	3.1	2.7	4.3	
22-Jul	2.5	2.2	2.1	2.1	2.1	2.0	1.9	1.8	1.8	1.9	1.9	2.1	2.0	2.0	2.0	2.3	2.7	3.3	3.2	3.4	3.6	3.5	3.5	3.7	2.5	3.7	
23-Jul	3.8	3.7	3.7	3.6	3.7	3.7	4.0	6.9	7.5	7.1	5.6	5.3	6.2	11.0	11.0	16.0	14.0	11.7	9.9	7.4	6.9	7.2	7.4	9.2	7.4	16.0	
24-Jul	8.4	9.6	10.9	16.7	19.3	25.1	25.3	26.0	23.3	18.1	15.0	16.1	16.9	24.5	13.6	14.2	14.5	13.0	13.8	12.8	11.7	7.0	6.1	5.9	15.3	26.0	
25-Jul	6.1	5.3	5.6	5.4	5.5	5.2	4.7	4.1	3.6	3.7	3.6	4.0	4.9	8.3	9.2	8.0	9.8	15.1	18.4	18.9	21.0	18.9	16.3	11.7	9.1	21.0	
26-Jul	8.4	7.5	6.8	6.7	6.3	5.9	6.0	6.8	7.8	12.8	11.4	13.6	19.7	19.4	22.7	44.3	51.6	32.0	28.4	28.6	29.0	27.7	24.5	26.4	18.9	51.6	
27-Jul	22.9	16.9	15.1	10.1	10.4	9.0	5.1	3.4	3.0	3.3	2.8	3.1	3.6	4.4	5.9	8.5	4.3	4.2	5.4	6.7	8.3	12.3	14.3	17.1	8.3	22.9	
28-Jul	23.8	25.2	26.4	27.5	28.3	28.2	27.7	24.6	17.8	12.1	9.3	9.8	10.6	11.3	11.2	9.8	9.1	8.3	11.2	11.9	12.1	12.2	12.3	11.7	16.4	28.3	
29-Jul	11.2	10.8	11.1	10.0	9.9	9.7	11.4	16.6	15.8	16.8	15.9	15.4	14.5	8.6	7.3	7.8	7.6	8.1	8.4	8.2	8.3	14.2	17.2	15.6	11.7	17.2	
30-Jul	15.1	14.8	12.4	11.7	11.8	11.7	11.6	15.5	17.1	13.3	11.1	10.4	10.2	12.7	25.5	30.4	35.8	27.9	21.0	17.9	17.1	17.4	16.9	17.9	17.0	35.8	
31-Jul	17.1	15.5	15.6	15.8	17.7	22.1	27.3	27.7	26.6	20.8	20.1	13.7	8.2	8.8	9.2	8.6	8.9	9.2	7.7	11.9	9.9	12.4	11.8	12.2	15.0	27.7	
21.4 22.3 21.0 20.7 20.6 20.6 21.6 25.9 26.8 24.3 23.1 23.2 21.9 21.0 20.0 20.4 18.2 17.4 17.6 16.1 14.7 15.5 17.3 18.8																								Diurnal Average			
167.3 195.1 183.5 185.0 184.4 184.8 192.3 230.9 248.5 222.5 202.9 186.0 145.5 107.3 97.3 79.5 73.3 75.8 78.0 56.1 54.4 74.9 105.7 121.7																								Diurnal Maximum			
C - Calibration M - Maintenance UO - Unstable Operation Alberta Ambient Air Quality Guideline/Objectives: 1-hr 80 µg/m³ 24-hr 29 µg/m³																											



Wood Buffalo Environmental Association
Hourly Averages

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Ells River - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - $\mu\text{g}/\text{m}^3$
Ells River - July 2025

Concentration Ranges ($\mu\text{g}/\text{m}^3$)	Number of Hours	%	Cumulative %
0 - 5	142	28.92	28.92
6 - 15	169	34.42	63.34
16 - 25	78	15.89	79.23
26 - 80	83	16.90	96.13
> 81.0	19	3.87	100.00

Total Number of Valid Hours: 491

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Particulate Matter 2.5 (PM_{2.5}) - µg/m³
Ells River - July 2025

Concentration Ranges (µg/m³)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	30	10	0	1	1	0	0	3	6	8	26	11	9	4	14	17	140
6 - 15	13	4	3	2	2	3	10	16	36	22	8	13	11	8	8	6	165
16 - 25	6	4	4	1	0	1	7	8	10	2	5	9	10	3	0	5	75
26 - 80	11	8	6	5	1	1	6	16	5	3	2	1	2	2	2	6	77
> 81.0	0	0	0	0	0	0	1	11	1	1	2	1	0	0	0	0	17
Totals	60	26	13	9	4	5	24	54	58	36	43	35	32	17	24	34	474

Total Number of Valid Hours: 474

Total Number of Hours: 744



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





Wood Buffalo Environmental Association

Summary of Hour Averages

Ambient Temperature 2m (AT2) - C

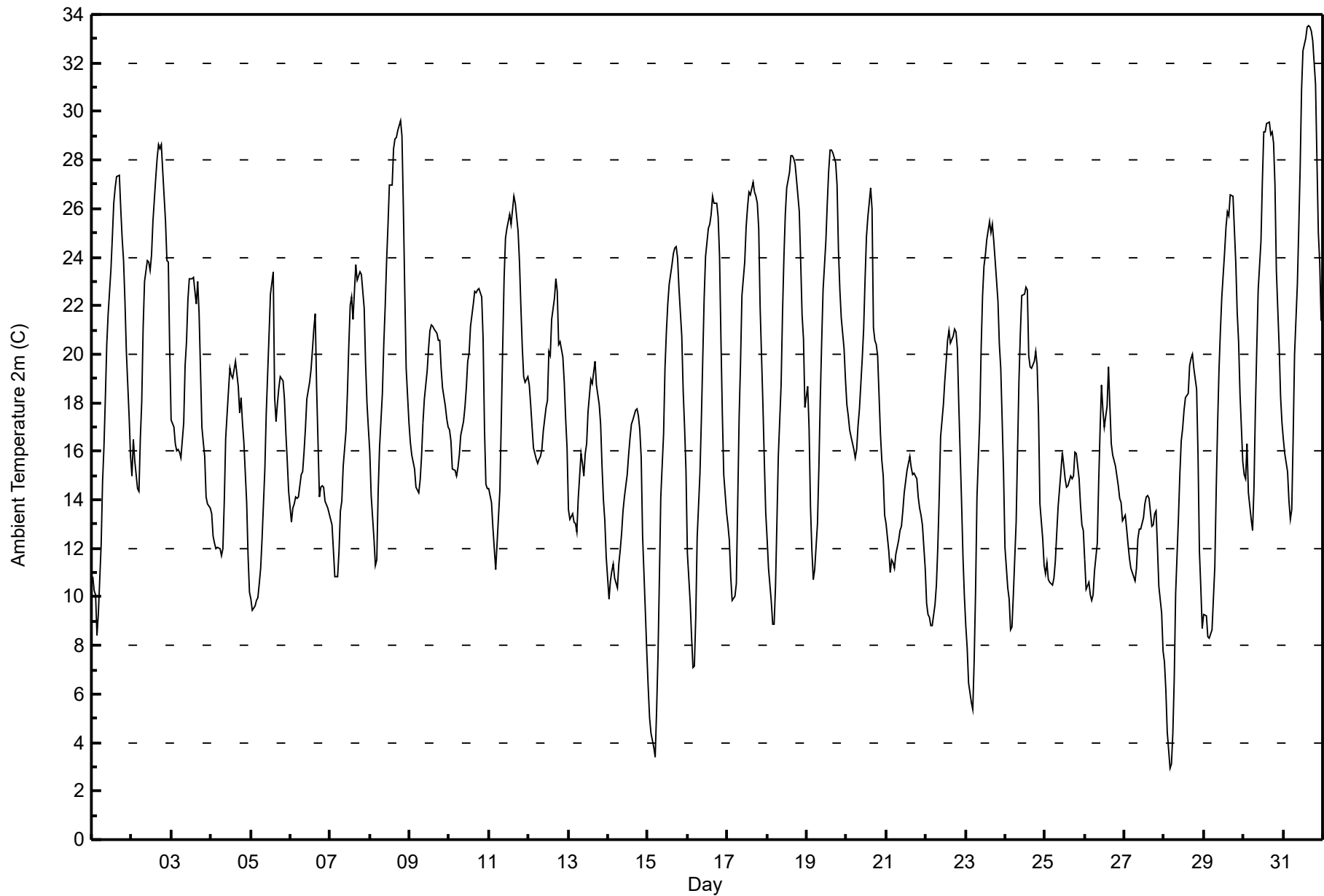
Ells River - July 2025

Maximum Value: 33.5 C on Jul 31 16:00																				Maximum Daily Average: 24.7 C on Jul 31										Hours in Service: 744									
Minimum Value: 3.0 C on Jul 28 04:00																				Minimum Daily Average: 12.2 C on Jul 27										Hours of Data: 744									
Maximum Diurnal Average: 23.0 C at hour 16																				Minimum Diurnal Average: 10.9 C at hour 5										Hours of Missing Data: 0									
Monthly Average: 17.54 C																				Percentiles: P ₁ = 5.1 P ₁₀ = 10.5 Q ₁ = 13.4 Median = 17.0 Q ₃ = 21.7 P ₉₀ = 25.7 P ₉₉ = 31.0										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-Jul	10.8	10.3	10.1	8.4	9.3	12.2	14.7	16.2	18.2	20.4	21.7	23.5	24.8	26.2	26.9	27.3	27.4	26.0	24.8	23.9	22.2	20.1	17.4	15.8	19.1	27.4													
2-Jul	15.0	16.5	15.6	14.5	14.4	16.6	18.0	21.1	23.0	23.9	23.8	23.5	24.1	25.5	27.3	28.1	28.6	28.5	28.6	27.6	25.5	23.9	23.8	20.1	22.4	28.6													
3-Jul	17.3	17.0	16.3	16.0	16.1	16.0	15.7	17.2	19.5	20.5	22.3	23.1	23.1	23.2	22.6	22.1	23.0	21.7	17.0	16.4	15.8	14.1	13.8	13.6	18.5	23.2													
4-Jul	13.4	12.5	12.2	12.0	12.0	12.0	11.7	12.0	13.9	16.6	18.5	19.4	19.1	19.0	19.4	19.7	18.7	17.6	18.2	17.2	16.4	13.9	11.7	10.2	15.3	19.7													
5-Jul	9.9	9.4	9.6	9.8	10.0	10.6	11.2	12.4	15.3	17.6	19.2	20.8	22.5	23.4	18.2	17.2	18.0	18.6	19.1	18.9	18.2	16.8	15.6	14.4	15.7	23.4													
6-Jul	13.1	13.7	13.8	14.1	14.0	14.1	15.0	15.1	16.0	17.0	18.2	18.9	19.4	20.1	21.1	21.7	18.6	14.1	14.5	14.6	14.5	14.0	13.7	13.5	15.9	21.7													
7-Jul	13.2	13.0	11.9	10.8	10.9	11.9	13.5	13.9	15.4	16.8	18.4	20.3	22.0	22.3	21.4	23.7	23.0	23.2	23.4	23.3	21.9	19.6	18.0	16.9	17.9	23.7													
8-Jul	16.0	14.2	12.4	11.3	11.5	14.3	16.2	18.4	20.4	22.0	23.8	25.3	27.0	27.0	28.4	28.9	29.0	29.2	29.6	29.0	26.0	22.6	19.4	17.2	21.6	29.6													
9-Jul	16.3	15.9	15.5	15.3	14.5	14.3	14.8	15.8	17.2	18.2	19.3	20.3	21.0	21.2	21.1	21.1	20.9	20.6	20.5	19.4	18.6	17.9	17.3	17.0	18.1	21.2													
10-Jul	16.9	16.4	15.2	15.2	15.0	15.3	15.8	16.6	17.2	17.8	18.6	19.7	20.0	21.1	22.0	22.6	22.5	22.6	22.7	22.3	20.6	16.9	14.6	14.5	18.4	22.7													
11-Jul	14.4	13.9	12.9	12.0	11.1	12.2	14.4	17.3	20.3	23.1	24.8	25.2	25.8	25.3	25.9	26.5	26.2	25.0	23.8	21.9	20.3	19.1	18.9	19.1	20.0	26.5													
12-Jul	18.8	17.9	17.0	16.1	15.7	15.5	15.6	15.8	16.1	16.8	17.8	18.1	20.1	20.0	21.5	22.3	23.1	22.6	20.4	20.5	19.9	18.8	17.4	16.1	18.5	23.1													
13-Jul	13.6	13.2	13.5	13.1	13.0	12.7	14.0	15.9	15.5	15.0	15.9	16.3	17.6	19.0	18.8	19.3	19.7	18.7	17.9	17.1	15.4	14.0	13.2	11.6	15.6	19.7													
14-Jul	9.9	10.7	11.1	11.3	10.8	10.4	11.3	12.0	12.6	13.5	14.1	15.0	15.9	16.5	17.1	17.3	17.7	17.7	17.5	16.9	15.7	12.5	9.3	7.7	13.5	17.7													
15-Jul	6.3	5.0	4.4	3.8	3.4	5.3	7.5	10.8	14.1	16.7	19.4	20.9	22.1	22.9	23.7	24.2	24.4	24.4	24.0	22.7	20.8	18.5	17.0	15.2	15.7	24.4													
16-Jul	11.8	9.8	8.4	7.1	7.1	9.2	12.5	15.1	17.3	19.8	22.3	24.0	25.2	25.4	25.7	26.5	26.2	26.2	25.6	24.0	20.6	17.5	15.0	13.5	18.2	26.5													
17-Jul	13.0	12.3	10.9	9.9	10.0	10.5	13.9	17.4	19.6	22.4	23.8	25.3	26.1	26.7	26.6	27.1	26.7	26.5	26.2	25.2	21.9	17.9	15.6	13.5	19.5	27.1													
18-Jul	12.4	11.2	9.8	8.8	8.9	10.5	13.1	15.8	18.7	21.6	24.0	25.7	26.9	27.5	28.2	28.2	28.1	27.8	27.2	25.9	23.8	21.6	20.7	17.8	20.2	28.2													
19-Jul	18.7	17.0	13.7	11.9	10.7	11.1	13.0	15.3	18.2	20.5	22.7	24.7	26.2	27.5	28.4	28.4	28.3	27.9	27.0	24.3	22.6	21.5	20.2	18.9	20.8	28.4													
20-Jul	17.9	17.5	16.9	16.6	16.1	15.7	16.1	17.0	17.7	19.8	21.0	23.1	24.8	25.6	26.8	26.0	21.1	20.6	20.4	20.0	16.7	15.6	15.0	13.4	19.2	26.8													
21-Jul	13.0	11.9	11.0	11.5	11.4	11.2	11.7	12.4	12.7	12.9	13.6	14.3	15.2	15.5	15.8	15.3	15.0	15.1	14.9	14.1	13.7	13.4	13.0	11.2	13.3	15.8													
22-Jul	9.8	9.3	9.1	8.8	8.8	9.7	10.5	12.1	14.1	16.6	17.9	18.9	19.7	20.6	21.0	20.5	20.8	21.1	20.9	20.2	17.9	13.9	11.7	10.0	15.2	21.1													
23-Jul	8.8	7.9	6.5	5.7	5.3	7.4	10.3	14.1	17.3	20.3	22.4	23.6	24.1	24.7	25.5	25.0	25.3	24.7	23.9	22.2	20.4	19.4	17.3	15.1	17.4	25.5													
24-Jul	12.0	10.4	9.9	8.6	8.7	10.1	13.1	16.0	18.9	20.9	22.4	22.5	22.8	22.6	19.9	19.5	19.4	19.7	20.1	19.5	17.4	13.9	12.4	11.3	16.3	22.8													
25-Jul	10.9	11.4	10.7	10.6	10.5	10.8	11.5	12.6	13.7	15.2	16.0	15.4	14.9	14.5	14.6	15.0	14.9	15.0	16.0	15.9	14.8	13.8	13.0	12.7	13.5	16.0													
26-Jul	11.5	10.3	10.6	10.1	9.9	10.1	11.1	12.2	14.8	16.9	18.7	17.7	17.0	17.9	19.5	17.9	16.3	15.8	15.4	15.0	14.6	14.1	13.9	13.2	14.3	19.5													
27-Jul	13.4	12.8	12.1	11.6	11.2	10.8	10.6	11.2	12.4	12.8	12.8	13.3	13.8	14.1	14.2	14.1	12.9	13.0	13.4	13.5	12.0	10.4	9.3	7.8	12.2	14.2													
28-Jul	7.3	6.2	4.4	3.0	3.1	4.4	6.6	10.1	13.3	15.0	16.4	16.9	17.7	18.2	18.4	19.5	19.8	20.0	19.4	18.6	15.8	11.9	10.4	8.7	12.7	20.0													
29-Jul	9.3	9.2	8.4	8.3	8.5	8.6	11.2	14.4	17.1	19.4	21.0	22.4	24.2	25.2	25.9	25.7	26.6	26.5	25.1	23.7	21.7	20.5	18.4	15.6	18.2	26.6													
30-Jul	15.1	14.9	16.3	14.3	13.2	12.8	14.5	17.8	20.3	22.7	24.7	27.2	29.1	29.1	29.5	29.5	29.0	29.2	28.7	27.0	23.4	20.3	18.3	17.2	21.8	29.5													
31-Jul	16.5	15.9	15.1	13.9	13.2	13.6	16.6	20.0	22.9	25.2	27.7	30.9	32.5	33.0	33.5	33.5	33.5	33.3	32.9	31.1	28.0	25.0	23.7	21.4	24.7	33.5													
Diurnal Average																																							
Diurnal Maximum																																							



Wood Buffalo Environmental Association
Hourly Averages

Ambient Temperature 2m (AT2) - C
Ells River - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ambient Temperature 2m (AT2) - C
Ells River - July 2025

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	0	0.00	0.00
-20 - 0	0	0.00	0.00
0 - 10	58	7.80	7.80
10 - 20	442	59.41	67.20
> 20	244	32.80	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) - %

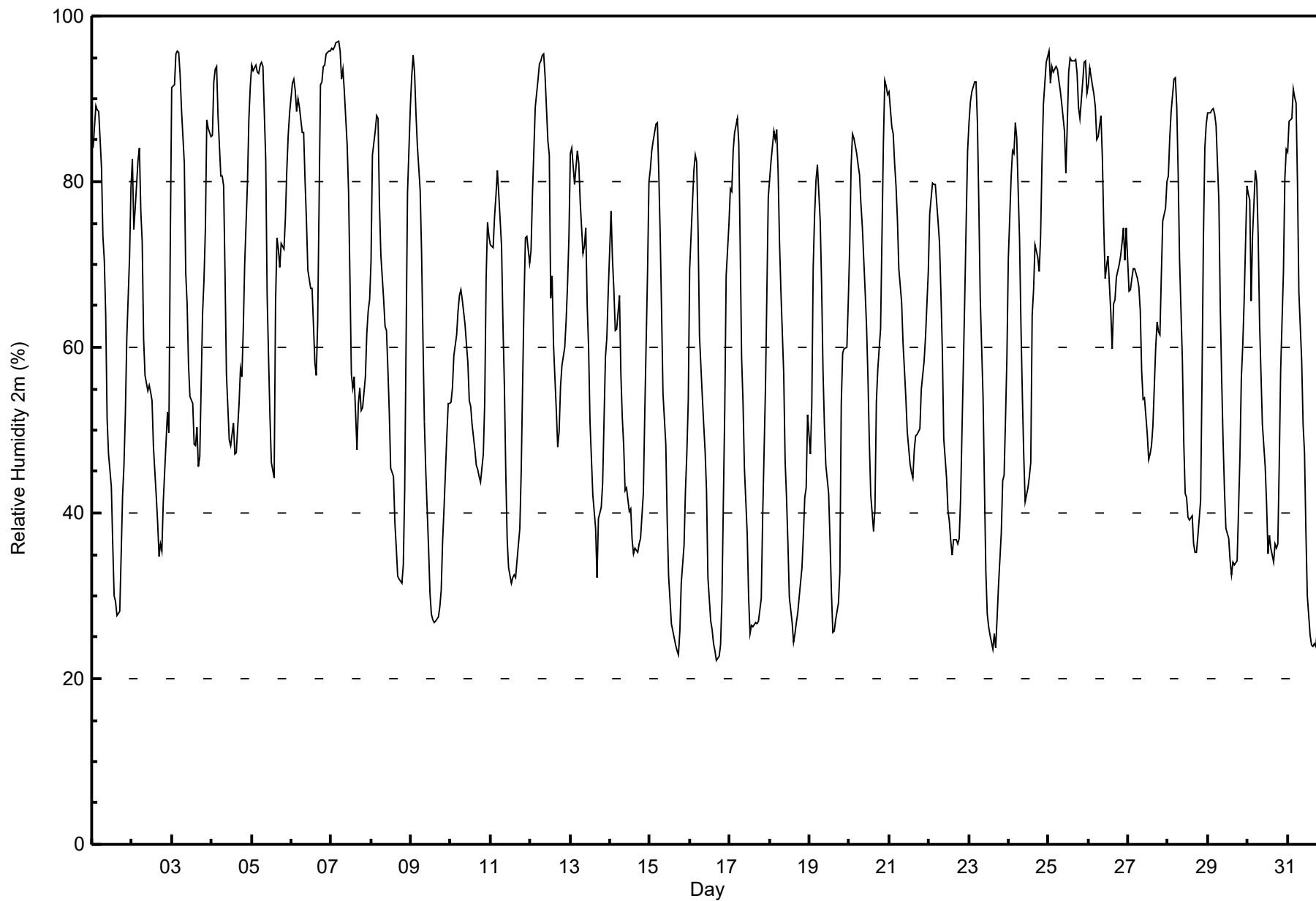
Ells River - July 2025

Maximum Value: 96.9 % on Jul 7 05:00																				Maximum Daily Average: 91.8 % on Jul 25					Hours in Service: 744		
Minimum Value: 22.2 % on Jul 16 17:00																				Minimum Daily Average: 49.7 % on Jul 16					Hours of Data: 744		
Maximum Diurnal Average: 85.2 % at hour 5																				Minimum Diurnal Average: 41.6 % at hour 16					Hours of Missing Data: 0		
Monthly Average: 62.31 %																				Percentiles: P ₁ = 23.9 P ₁₀ = 32.6 Q ₁ = 44.9 Median = 62.8 Q ₃ = 81.4 P ₉₀ = 90.9 P ₉₉ = 95.8					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-Jul	84.0	86.7	89.1	88.6	88.4	81.7	73.4	70.6	63.8	51.3	47.2	43.2	36.3	30.0	29.4	27.6	28.2	34.9	42.1	45.7	52.1	61.0	71.1	79.2	58.6	89.1	
2-Jul	82.7	74.2	76.8	82.6	84.0	76.4	72.7	61.1	56.6	54.7	55.4	54.6	53.5	47.9	42.0	38.8	34.8	36.2	35.4	41.3	48.6	52.2	49.7	72.7	57.7	84.0	
3-Jul	91.4	91.8	95.4	95.8	95.5	92.9	88.7	82.3	69.0	65.3	57.9	54.0	53.3	48.2	48.1	50.3	45.6	46.8	64.1	68.2	74.3	87.4	86.5	85.5	72.4	95.8	
4-Jul	85.6	92.0	93.6	93.9	87.9	80.8	80.6	79.6	68.8	56.8	48.7	48.1	49.5	50.8	47.2	47.2	53.1	57.5	56.4	62.2	69.9	79.9	87.6	91.6	69.6	93.9	
5-Jul	94.0	93.4	94.0	93.2	93.1	94.0	94.4	93.9	82.5	66.3	58.8	51.7	46.2	44.2	65.5	73.2	71.9	69.6	72.5	71.9	75.6	81.4	85.6	88.4	77.3	94.4	
6-Jul	91.8	92.4	91.0	88.4	90.1	89.1	85.9	86.0	80.2	75.2	69.3	67.1	67.2	62.8	58.1	56.7	63.1	91.7	92.1	93.9	94.0	95.5	95.8	95.7	82.2	95.8	
7-Jul	96.2	95.9	96.3	96.8	96.9	95.8	92.4	93.5	90.8	84.5	78.8	68.1	56.8	55.1	56.5	47.7	53.2	55.1	52.3	52.8	56.4	61.7	64.4	65.8	73.5	96.9	
8-Jul	70.4	83.3	86.1	88.0	87.6	77.3	71.2	65.8	62.6	62.0	57.4	52.2	45.5	44.5	38.7	35.7	32.4	32.0	31.5	33.7	42.8	61.0	78.7	89.1	59.6	89.1	
9-Jul	92.8	95.3	93.2	88.3	84.5	79.0	71.5	61.1	51.0	45.0	35.7	30.4	27.8	27.1	26.8	27.0	27.5	28.6	30.7	36.6	40.5	49.4	53.2	53.3	52.3	95.3	
10-Jul	53.4	55.1	59.0	61.4	64.5	66.3	66.9	65.7	62.8	60.3	58.2	53.6	52.8	50.7	47.7	45.7	45.2	44.5	43.6	47.1	53.3	68.4	75.2	73.4	57.3	75.2	
11-Jul	72.3	72.0	75.8	78.3	81.4	78.5	72.2	62.6	55.4	44.9	36.9	33.5	31.6	32.2	32.5	32.2	34.3	38.2	45.1	55.5	65.5	73.2	73.3	70.1	56.1	81.4	
12-Jul	71.6	78.5	83.7	89.1	92.4	94.2	94.6	95.3	95.5	92.7	84.9	83.1	66.0	68.6	60.4	52.4	48.0	49.9	55.2	57.8	59.9	63.3	67.6	73.4	74.1	95.5	
13-Jul	83.4	84.1	79.6	81.6	83.8	82.3	77.7	71.3	72.1	74.5	65.1	60.1	51.0	42.2	40.2	38.1	32.3	39.4	40.7	43.6	51.2	58.8	61.3	66.7	61.7	84.1	
14-Jul	76.5	70.6	67.0	62.1	62.2	66.3	56.7	51.5	48.2	42.8	43.1	40.2	40.5	36.8	35.1	35.8	35.2	36.3	36.9	39.6	42.4	51.8	69.1	80.0	51.1	80.0	
15-Jul	81.6	83.7	85.0	87.0	87.1	81.1	73.5	64.2	54.4	48.3	39.0	32.4	29.5	26.6	25.0	24.1	23.4	22.9	25.8	31.5	36.1	42.7	47.3	53.6	50.2	87.1	
16-Jul	69.5	77.5	81.3	83.2	82.4	74.1	61.3	54.0	50.6	47.4	42.7	32.3	26.9	25.9	24.2	23.4	22.2	22.6	24.1	29.7	41.4	52.5	68.7	74.9	49.7	83.2	
17-Jul	79.2	78.8	83.7	85.9	87.7	84.6	72.0	58.8	53.4	45.4	37.5	29.8	25.4	26.5	26.3	26.8	26.6	27.0	28.3	29.6	39.6	55.0	66.5	78.2	52.2	87.7	
18-Jul	80.3	82.6	86.2	85.1	86.2	81.2	72.7	66.8	56.8	46.2	41.8	36.4	29.8	26.9	24.3	25.5	26.8	27.9	29.9	33.5	37.2	41.8	43.1	51.9	50.9	86.2	
19-Jul	47.2	53.0	69.7	75.9	80.1	82.0	75.3	67.5	57.1	50.5	45.7	42.4	36.6	30.3	25.6	25.8	27.1	29.1	32.9	53.2	59.4	59.8	60.0	65.7	52.2	82.0	
20-Jul	72.1	81.9	85.7	85.2	83.3	82.0	80.9	77.3	74.6	66.8	62.6	56.4	48.5	42.2	37.8	40.5	53.4	57.2	59.9	62.2	84.5	92.2	91.5	90.6	69.6	92.2	
21-Jul	90.9	86.6	85.8	82.2	79.5	75.4	69.5	65.4	60.5	57.3	54.0	49.8	46.0	44.9	44.3	47.6	49.4	49.5	50.2	54.8	56.7	58.3	61.2	69.1	62.0	90.9	
22-Jul	76.2	78.0	79.8	79.7	79.6	75.1	72.5	66.4	59.7	48.9	44.3	40.3	39.0	36.6	34.9	36.8	36.8	36.3	37.0	41.6	49.8	66.3	75.3	83.7	57.3	83.7	
23-Jul	87.2	89.7	90.8	92.1	92.1	87.1	77.1	66.0	54.1	43.3	32.8	27.8	26.3	25.3	23.6	25.5	23.7	27.3	31.2	37.7	43.9	44.6	51.4	58.8	52.5	92.1	
24-Jul	70.7	80.5	83.7	83.5	87.1	85.2	73.1	62.7	54.3	47.0	41.4	43.0	44.4	46.0	63.9	67.0	72.4	70.9	69.2	73.4	82.6	89.3	94.5	95.1	70.0	95.1	
25-Jul	95.8	91.9	93.8	93.2	93.9	93.6	92.3	91.0	89.6	86.1	81.0	86.7	93.3	94.9	94.6	94.6	94.8	93.0	89.0	87.6	92.1	94.3	94.6	90.6	91.8	95.8	
26-Jul	91.8	93.7	91.5	90.5	89.0	85.1	85.4	88.0	82.9	74.6	68.3	69.8	71.0	64.2	59.9	65.3	65.7	68.5	69.9	71.0	72.5	74.4	70.4	74.4	76.6	93.7	
27-Jul	66.7	67.0	68.2	69.4	69.5	68.3	67.3	64.4	57.1	53.7	54.0	49.4	46.5	47.2	48.2	50.4	59.9	63.0	61.9	61.6	68.7	75.2	76.8	80.0	62.3	80.0	
28-Jul	80.7	85.2	88.5	92.4	92.5	88.9	81.0	70.6	58.5	48.5	42.3	41.9	39.4	39.2	39.7	36.3	35.3	35.3	37.0	41.5	56.2	73.3	84.1	86.9	61.5	92.5	
29-Jul	88.2	88.3	88.6	88.8	88.1	86.8	77.7	64.9	56.0	48.6	42.8	38.1	36.9	34.3	32.6	34.0	33.8	34.3	40.4	46.8	56.3	60.2	65.5	79.5	58.8	88.8	
30-Jul	78.4	77.9	65.6	73.6	81.4	80.1	73.4	62.9	56.8	50.7	45.7	41.1	35.0	37.3	35.8	34.1	36.3	35.8	36.3	46.0	57.0	69.1	80.4	83.8	57.3	83.8	
31-Jul	83.6	87.3	87.7	91.1	90.2	89.4	79.8	66.6	58.3	50.7	47.2	37.7	30.0	25.2	24.1	23.9	24.2	23.9	25.5	31.7	40.4	49.7	52.3	59.7	53.3	91.1	
80.2 82.2 83.7 84.7 85.2 82.4 76.9 70.9 64.3 57.7 52.3 48.2 44.6 42.4 41.7 41.6 42.5 44.7 46.7 51.1 58.1 65.9 71.1 76.2																										Diurnal Average	
96.2 95.9 96.3 96.8 96.9 95.8 94.6 95.3 95.5 92.7 84.9 86.7 93.3 94.9 94.6 94.6 94.8 93.0 92.1 93.9 94.0 95.5 95.8 95.7																										Diurnal Maximum	



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 2m (RH2) - %
Ells River - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Relative Humidity 2m (RH2) - %
Ells River - July 2025

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	140	18.82	18.82
40 - 60	205	27.55	46.37
60 - 80	195	26.21	72.58
80 - 100	204	27.42	100.00

Total Number of Valid Hours: 744

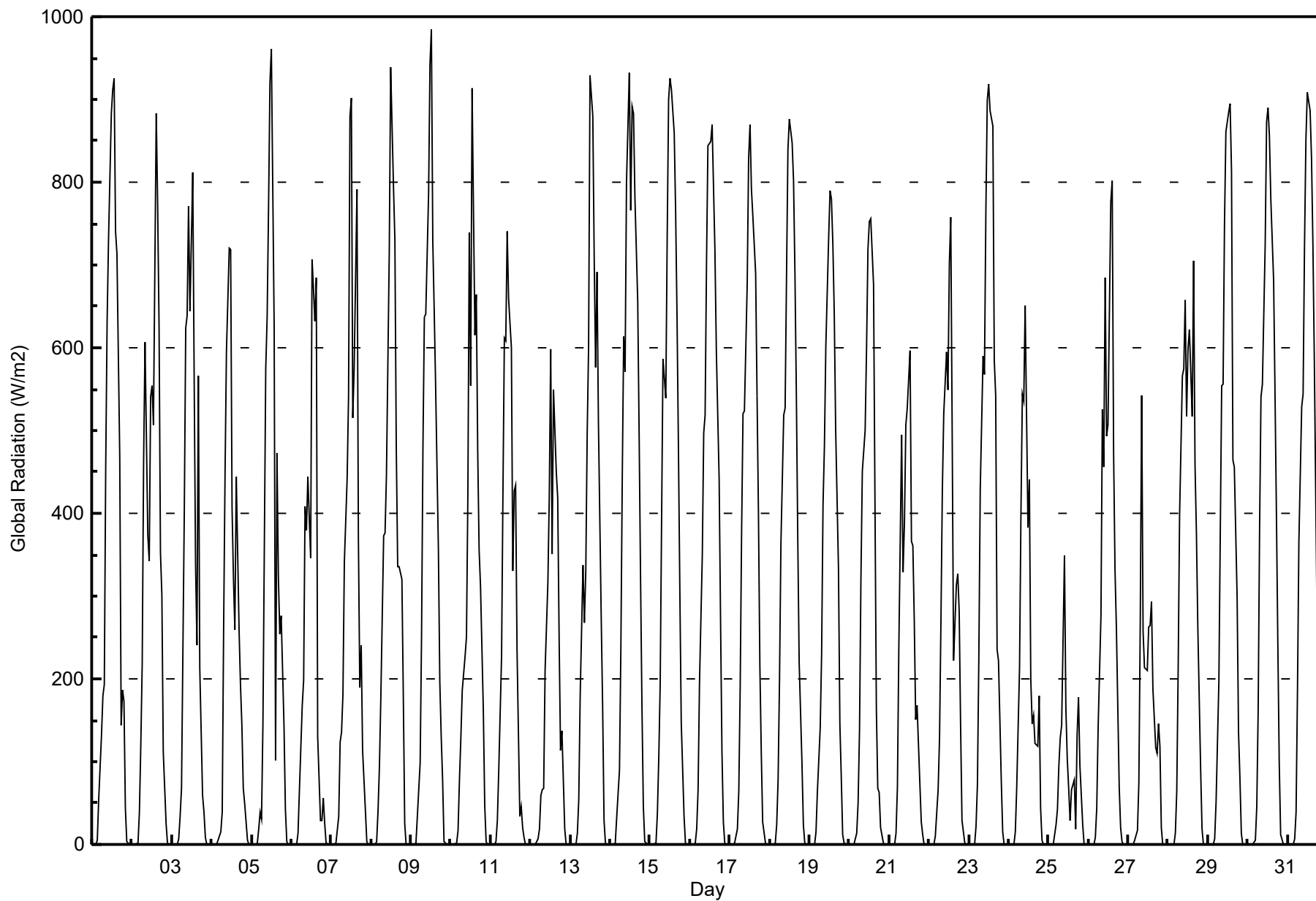
Total Number of Hours: 744

Maximum Value: 984.2 W/m2 on Jul 9 13:00																					Maximum Daily Average: 364.1 W/m2 on Jul 14				Hours in Service: 744	
Minimum Value: 0.0 W/m2 on Jul 1 01:00																					Minimum Daily Average: 72.4 W/m2 on Jul 25				Hours of Data: 744	
Maximum Diurnal Average: 724.6 W/m2 at hour 13																					Minimum Diurnal Average: 0.0 W/m2 at hour 1				Hours of Missing Data: 0	
Monthly Average: 264.05 W/m2																					Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.5 Median = 142.2 Q ₃ = 503.2 P ₉₀ = 730.9 P ₉₉ = 923.2				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-Jul	0.0	0.0	0.0	4.6	54.1	131.5	180.1	192.4	455.9	631.7	731.3	883.3	911.5	924.7	740.3	714.0	467.6	143.8	187.1	172.7	43.9	3.6	0.0	0.0	315.6	924.7
2-Jul	0.0	0.0	0.0	2.0	39.4	120.7	219.2	463.2	606.6	372.1	341.9	540.7	554.5	506.5	883.3	773.2	626.0	352.8	301.2	111.5	25.5	1.9	0.0	0.0	285.1	883.3
3-Jul	0.0	0.0	0.0	0.0	6.0	33.9	67.4	405.7	624.0	638.9	770.4	643.7	811.3	565.5	338.7	239.9	566.4	214.3	59.3	39.1	8.6	0.2	0.0	0.0	251.4	811.3
4-Jul	0.0	0.0	0.0	0.1	5.5	15.2	39.4	260.4	445.1	595.5	720.0	718.0	407.1	321.9	260.1	444.7	259.8	193.8	144.9	67.2	49.7	4.4	0.0	0.0	206.4	720.0
5-Jul	0.0	0.0	0.0	1.0	18.1	39.7	31.2	145.7	574.3	636.9	770.2	921.2	961.3	625.8	102.1	473.3	323.5	253.6	276.4	144.6	41.9	3.5	0.0	0.0	264.3	961.3
6-Jul	0.0	0.0	0.0	0.7	14.3	66.1	168.6	198.7	408.1	379.2	444.9	345.5	707.5	672.0	631.5	685.3	130.6	29.5	28.1	55.9	26.2	2.0	0.0	0.0	208.1	707.5
7-Jul	0.0	0.0	0.0	2.3	33.1	123.8	136.2	180.6	340.0	442.3	541.8	878.9	901.4	515.3	577.0	790.8	370.4	189.9	240.2	112.9	39.9	4.1	0.0	0.0	267.5	901.4
8-Jul	0.0	0.0	0.0	3.1	41.2	94.7	177.1	373.0	376.2	446.6	581.2	716.0	939.3	794.1	729.9	478.2	335.2	336.4	321.1	179.0	25.3	0.5	0.0	0.0	289.5	939.3
9-Jul	0.0	0.0	0.0	2.2	33.6	99.1	252.5	481.7	637.6	641.5	784.6	942.3	984.2	729.5	645.2	555.4	356.7	197.4	130.5	77.6	3.9	0.5	0.0	0.0	314.8	984.2
10-Jul	0.0	0.0	0.0	1.0	16.3	78.4	128.0	186.0	226.8	250.8	423.9	738.7	554.5	914.2	614.6	663.7	475.8	356.3	311.1	162.0	46.9	3.4	0.0	0.0	256.3	914.2
11-Jul	0.0	0.0	0.0	2.6	28.3	89.9	227.0	428.2	612.4	608.0	740.9	658.6	599.9	330.9	426.9	434.2	237.8	33.3	46.4	20.8	7.7	0.2	0.0	0.0	230.6	740.9
12-Jul	0.0	0.0	0.0	0.2	6.0	17.9	59.5	66.0	67.8	209.9	316.2	422.3	598.2	351.4	549.3	449.1	419.2	249.3	114.4	137.1	18.1	0.6	0.0	0.0	168.9	598.2
13-Jul	0.0	0.0	0.0	0.4	13.2	53.4	179.0	336.6	267.2	330.5	496.4	602.2	929.2	880.1	707.2	577.0	692.2	511.0	272.8	165.5	28.7	2.4	0.0	0.0	293.5	929.2
14-Jul	0.0	0.0	0.0	1.9	31.4	90.1	238.7	445.8	612.8	570.5	800.1	932.0	766.1	892.3	883.2	780.7	655.7	495.5	324.2	168.4	45.5	2.9	0.0	0.0	364.1	932.0
15-Jul	0.0	0.0	0.0	1.9	36.9	104.9	193.0	392.2	585.8	539.2	735.6	900.8	925.1	911.4	859.0	763.8	636.5	477.6	306.3	148.3	33.4	1.9	0.0	0.0	356.4	925.1
16-Jul	0.0	0.0	0.0	1.3	18.6	65.8	194.3	349.3	497.0	518.2	701.3	843.5	848.8	869.4	793.4	716.9	597.2	439.9	270.5	111.6	27.6	1.6	0.0	0.0	327.7	869.4
17-Jul	0.0	0.0	0.0	1.0	19.4	64.2	191.0	378.1	521.0	523.1	677.2	828.8	869.3	792.0	759.7	689.2	541.9	400.0	216.5	112.6	27.2	1.2	0.0	0.0	317.2	869.3
18-Jul	0.0	0.0	0.0	0.9	23.4	78.7	198.5	362.7	518.8	527.8	687.2	838.9	876.0	847.9	801.1	690.4	544.0	371.3	220.8	98.5	23.7	1.1	0.1	0.0	321.3	876.0
19-Jul	0.0	0.0	0.0	0.5	14.9	64.2	141.5	230.3	409.4	481.0	601.8	732.9	790.1	779.5	725.7	642.1	502.3	333.7	145.4	82.0	11.8	0.9	0.0	0.0	278.7	790.1
20-Jul	0.0	0.0	0.0	0.4	13.0	50.1	139.7	320.7	451.6	499.8	598.9	718.1	751.9	755.1	676.7	415.5	164.5	68.2	62.0	19.9	1.1	0.0	0.0	0.0	237.8	755.1
21-Jul	0.0	0.0	0.0	0.1	13.5	70.2	236.5	495.6	329.6	388.7	506.0	527.3	597.1	365.9	361.7	271.0	150.8	167.7	73.2	27.1	12.2	0.3	0.0	0.0	191.4	597.1
22-Jul	0.0	0.0	0.0	0.0	10.3	65.8	129.0	268.8	427.8	520.1	594.4	548.9	701.8	758.4	502.2	221.4	313.4	327.4	281.7	143.6	28.9	1.0	0.0	0.0	243.5	758.4
23-Jul	0.0	0.0	0.0	0.5	22.7	73.1	226.0	429.1	589.0	568.1	761.9	898.8	919.4	885.9	867.6	584.3	542.8	235.7	222.2	76.2	15.0	0.4	0.0	0.0	329.9	919.4
24-Jul	0.0	0.0	0.0	0.5	15.5	69.5	213.0	399.3	543.6	535.5	651.5	382.5	441.2	199.3	145.3	155.3	122.2	119.2	180.0	44.8	5.8	0.0	0.0	0.0	176.0	651.5
25-Jul	0.0	0.0	0.0	0.1	24.0	41.7	94.2	128.1	144.9	348.8	164.1	103.8	67.3	29.2	65.6	77.4	18.2	131.5	178.3	95.0	24.2	0.3	0.0	0.0	72.4	348.8
26-Jul	0.0	0.0	0.0	0.0	8.6	44.4	142.9	277.1	526.1	456.6	684.3	493.3	506.1	776.2	802.1	474.6	332.7	261.0	70.0	20.9	3.3	0.0	0.0	0.0	245.0	802.1
27-Jul	0.0	0.0	0.0	0.0	4.6	17.8	73.9	269.2	542.0	257.2	214.1	210.7	262.0	264.6	292.6	188.6	116.9	109.6	145.6	119.0	20.2	0.2	0.0	0.0	129.5	542.0
28-Jul	0.0	0.0	0.0	0.1	13.1	64.1	212.2	397.2	566.8	575.2	657.6	516.9	597.9	621.2	517.7	705.3	458.7	376.0	262.9	92.2	18.9	0.3	0.0	0.0	277.3	705.3
29-Jul	0.0	0.0	0.0	0.0	7.3	50.0	197.3	376.9	553.5	556.0	748.6	861.6	885.0	894.3	813.9	463.9	456.3	298.0	134.8	79.6	13.1	0.0	0.0	0.0	307.9	894.3
30-Jul	0.0	0.0	0.0	0.0	4.7	45.5	163.2	382.1	540.1	556.0	724.7	873.3	890.3	855.7	780.5	682.2	544.3	397.7	243.0	98.2	12.4	0.1	0.0	0.0	324.7	890.3
31-Jul	0.0	0.0	0.0	0.0	7.0	38.5	187.0	365.7	529.4	544.5	722.4	851.2	908.7	886.7	828.9	723.2	584.9	422.6	258.8	109.1	12.5	0.0	0.0	0.0	332.5	908.7
0.0 0.0 0.0 0.9 19.3 66.5 162.5 322.1 468.7 488.7 609.5 679.8 724.6 661.8 602.7 533.0 404.7 274.0 194.5 99.8 22.7 1.3 0.0 0.0																									Diurnal Average	
0.0 0.0 0.0 4.6 54.1 131.5 252.5 495.6 637.6 641.5 800.1 942.3 984.2 924.7 883.3 790.8 692.2 511.0 324.2 179.0 49.7 4.4 0.1 0.0																									Diurnal Maximum	



Wood Buffalo Environmental Association
Hourly Averages

Global Radiation (GR) - W/m²
Ells River - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Speed 10m (WS10) - km/h

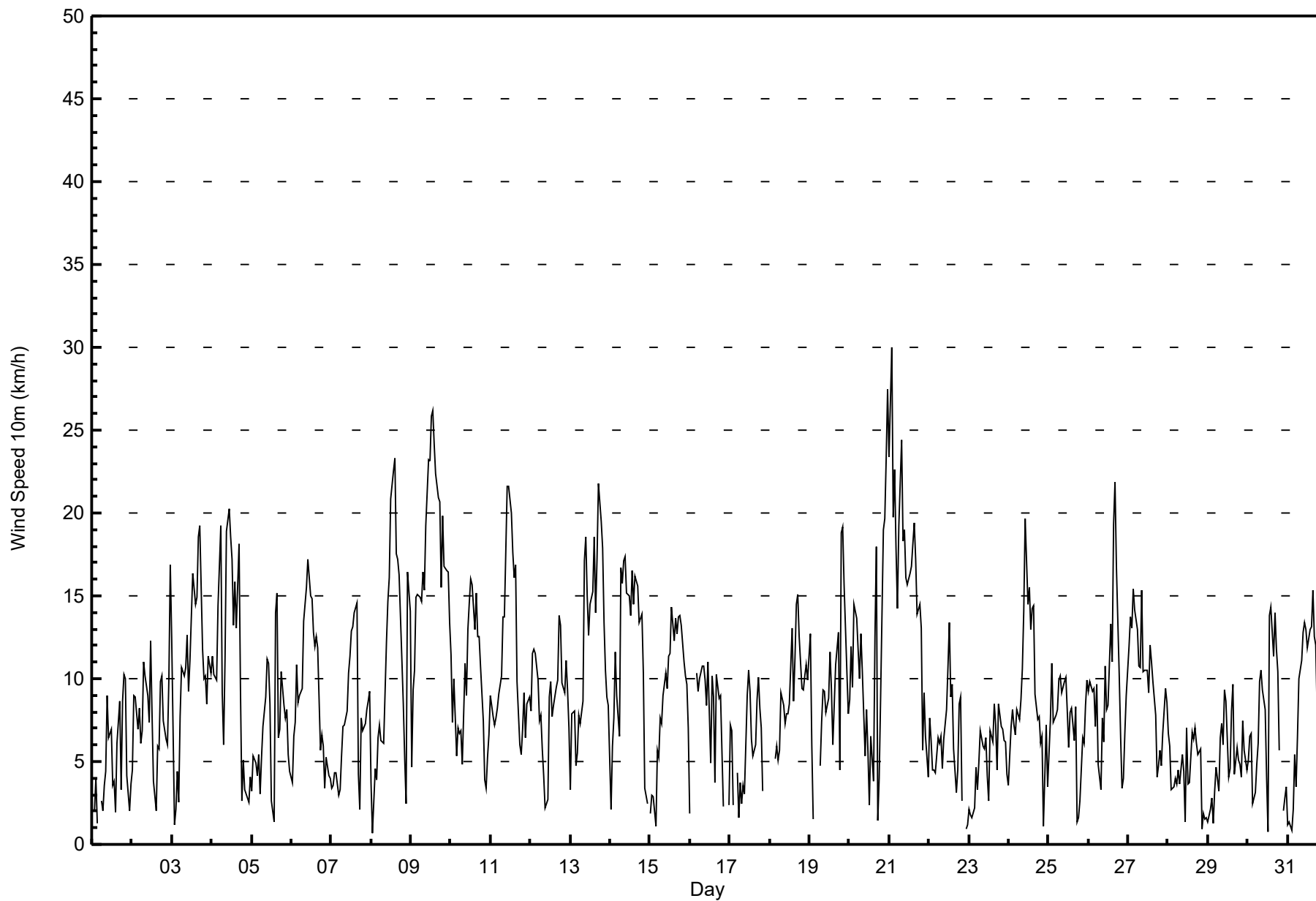
Ells River - July 2025

Maximum Speed: 30 km/h on Jul 21 02:00																		Maximum Daily Speed Average: 15.9 km/h on Jul 9										Hours in Service: 744	
Minimum Speed Value: 1 km/h on Jul 19 05:00																		Minimum Daily Speed Average: 1.0 km/h on Jul 5										Hours of Data: 725	
Maximum Diurnal Speed Average: 3.9 km/h at hour 24																		Minimum Diurnal Speed Average: 0.3 km/h at hour 19										Hours of Missing Data: 19	
Monthly Average Velocity: 1.8 km/h 247.8 deg																		Percentiles: P ₁ = 1 P ₁₀ = 3 Q ₁ = 5 Median = 8 Q ₃ = 12 P ₉₀ = 16 P ₉₉ = 23										Percent Operational Time: 97.5	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum			
1-Jul	UO	W2	W4	W1	UO	W3	NW2	NNE4	NE4	ENE9	NE6	NE7	ENE4	S4	SSE2	SW6	E9	S3	S9	SSE10	SE10	SE4	WSW2	SW4	SE1.5	SSE10			
2-Jul	SSW5	S9	S9	S7	S8	S6	S7	SSE11	SSW10	SW9	NW7	NNW12	NNE8	N4	ENE2	SE6	SSE6	NE10	ENE10	E7	ENE6	ESE6	ESE10	WSW17	SSE2.5	WSW17			
3-Jul	NW12	ENE1	S2	SSW4	SSW3	SW8	WSW11	W10	W11	WSW13	WSW9	SW11	SW16	SW15	SSW14	SSW15	SSW19	WSW19	W12	WSW10	W10	SW9	SW11	SW10	SW9.3	WSW19			
4-Jul	WSW11	WSW10	W10	W10	NW14	NW19	WNW9	WSW6	WNW11	NW19	NW20	NW19	NW17	NW13	NW16	N13	N18	NNW9	NE3	ESE5	E3	SSE3	S3	SSW4	NW8.3	NW20			
5-Jul	WNW3	S5	SSW5	SSE4	SSE5	SW3	SSE5	SE7	SE9	SE11	SE11	SSE8	NNW3	S1	NW14	N15	NW6	N7	N10	N8	N8	N8	N5	N4	NNE1.0	N15			
6-Jul	NNW4	N7	NNW7	N11	N9	NE9	NNE9	N13	N15	N16	NNE17	NNE15	N15	N13	NNW12	N13	SE12	S6	NE7	E6	SSW3	WSW5	WSW4	S4	N6.7	NNE17			
7-Jul	SSW3	S4	S4	SSW4	S3	S3	S5	SSE7	S7	SSE8	SSE10	S11	S13	SSE13	SSE14	SSE15	SE4	SE2	SSE8	S7	SSE7	S8	SSE9	S9	SSE7.4	SSE15			
8-Jul	SSW4	NNE1	SSE5	S4	SSE6	SSE7	S6	S6	S9	SSE12	S15	S16	S21	SSE23	S23	S18	SSW17	SSW16	SSW11	S8	S5	SW2	W16	W14	S9.4	S23			
9-Jul	SSW5	SSE9	SSW11	SW15	SSW15	SSW15	SSW15	SW16	SW15	SW19	SW23	SW23	SW26	SW26	SW24	WSW22	WSW21	WSW21	WSW15	WNW20	W17	W17	W16	W13	SW15.9	SW26			
10-Jul	WSW11	SW7	SW10	WSW5	WSW7	W7	W7	NW5	NW11	WNW9	WNW13	WNW15	WNW16	W16	NW13	WNW15	WNW13	WNW13	WNW11	NW7	W4	WSW3	WSW5	SW7	W8.5	WNW16			
11-Jul	SW9	SW8	SSW7	S8	SSE8	SSE9	S10	S14	S14	S18	SSW22	SSW22	SW20	SW18	SW16	SW17	WSW10	SW6	WSW5	WSW7	SSW9	SW6	SW8	SSW9	SSW10.8	SSW22			
12-Jul	SSW8	SW12	SW12	SW12	SW10	SW7	WSW8	WSW6	WSW4	NNE2	WSW3	W9	NNW10	SW8	SW8	WSW9	WSW10	WSW14	WSW13	SW10	SW9	NNW11	NNW9	N7	WSW6.8	WSW14			
13-Jul	W3	SW8	SW8	WSW5	NNW5	W8	WNW7	NNE9	NNE17	N19	NNE15	NNE13	NNW15	NW15	N19	N14	N17	NNE22	NNE19	NNE18	NNE13	N11	NNW9	NW8	N9.7	NNE22			
14-Jul	NW2	NNW6	NNW8	NNW12	NNW9	NW7	N17	N16	N17	N17	NNE15	N15	N14	N17	N14	NNE16	N16	NNE13	N14	N14	N10	NNW3	W2	UO	N11.4	N17			
15-Jul	SW2	SSW3	SSW3	SW1	S6	SSE5	S8	S7	SSE9	S10	S9	S11	S12	S14	S12	S14	S13	S14	S14	SSE13	SSE11	SSE10	SSE10	SSE7	S8.9	S14			
16-Jul	WSW2	UO	UO	UO	S10	S9	S10	S11	SSE11	S10	S8	SSE11	S5	SE10	SSE9	SSW4	SE10	ESE9	SE9	SSE6	SSW2	UO	UO	WSW2	SSE7.1	SSE11			
17-Jul	WNW7	WNW7	WSW2	UO	W4	W2	WNW4	NNW2	NNW4	N3	ENE9	ENE11	ENE9	ENE6	N5	N6	N9	N10	NE8	ENE7	E3	UO	UO	UO	NNE3.7	ENE11			
18-Jul	UO	UO	UO	S5	SSW6	S5	SSE6	SSE9	SSE8	SSE7	SE8	SSE8	SSE8	SE13	S9	SSE11	SSE14	SE15	SE13	SSE9	SSE9	SSE10	SSE11	SSE10	SSE9.1	SE15			
19-Jul	SSE13	SSW6	WSW2	UO	SW1	UO	S5	SSE7	SSE9	SSE9	SSE8	SE9	SSE12	SSE9	SSE6	SSE8	SSE11	SE13	SE5	NNE19	N19	N16	N10	NNW8	SE3.2	N19			
20-Jul	N9	N12	N9	N14	N14	N12	N10	N13	N10	NNE5	NNE8	NNE6	ESE2	SSE7	SW4	NNW13	NW18	NW1	W4	NNE9	NNE19	NNE20	N23	N27	N9.6	N27			
21-Jul	N23	N30	N20	N23	N18	NNW14	N19	N24	NNW18	NNW19	N16	NNW16	NW16	NW17	NW18	NW19	NW17	NW14	NNW14	N13	NNW6	N9	NNW7	W4	NNW15.8	N30			
22-Jul	W8	W6	W4	S5	SW4	WSW6	WSW6	SW7	SW5	W6	WNW8	WNW11	NW13	WNW9	NW10	NW6	ENE3	NNE4	NNE8	N9	NNW3	UO	W1	W1	WNW4.1	NW13			
23-Jul	W2	WNW2	SSW2	SSW2	S5	S3	SSE5	SSE7	SSE6	SE6	ESE6	E4	NE3	E7	SE6	SE8	SE7	SSW4	SSW9	SSW7	S7	SSW6	SW6	SSW4	SSE3.7	SSW9			
24-Jul	SSE4	S7	S8	S7	S7	S8	S8	SSE9	SE11	SE14	SE20	SSE14	SE16	SE13	SSE14	SE14	SE9	ESE8	E8	ESE6	WNW7	WSW1	SSW7	S3	SSE8.0	SE20			
25-Jul	SW5	SSW8	SSW11	SW7	SW8	SW8	SW10	SW10	SW9	SW10	WSW10	SW8	WSW6	NNW8	NW8	WNW6	NNW8	NNW1	NNW2	SE3	SW6	WSW6	W8	W10	WSW5.7	SSW11			
26-Jul	W9	W10	W9	WSW9	WSW7	W10	SW5	S3	SSW8	SSW6	S11	WNW8	NE8	ENE13	NE11	NE19	NNE22	NNE17	NE10	NE7	NNE3	NNW4	NNW7	NNW9	NNW3.0	NNE22			
27-Jul	NNW12	N14	N13	N15	N14	NNW13	N11	NNW11	N15	N10	N10	NNW11	NW9	NW12	WNW11	NW10	N8	SW4	WSW5	W6	W5	W7	W9	W9	NNW8.2	N15			
28-Jul	W7	WSW6	WSW3	SSW3	S4	SSW4	SW5	WSW4	SW5	SW4	SSW1	WSW7	NW4	NW4	N7	NW6	WNW7	NW6	ENE5	ENE6	N1	WSW2	NW1	S2	W2.2	WNW7			
29-Jul	W1	WSW2	SSW3	S1	S3	S5	SSE3	SSE6	SSE7	SSE6	SSE9	SSE9	SW4	S5	SSW8	SE10	SSE4	SE6	SSW5	SW5	SW4	WNW7	W6	WNW5	S3.7	SE10			
30-Jul	WNW5	NW6	N7	WSW2	W3	S5	S6	S10	S11	SSW9	SSW8	SSW4	NE1	NE14	NE14	NE11	NNE14	NE12	NE10	N6	UO	WSW2	W3	W3	NE1.4	NE14			
31-Jul	SW1	W1	WSW1	SSW2	S5	S3	SSE7	S10	SSE11	SSE13	S13	S13	SSW12	SSW13	S13	SSE15	S13	S12	S8	SSE6	S7	SSW7	S9	SSW5	S8.1	SSE15			
W3.6 W2.7WSW2.7WSW2.4 SW2.1WSW2.9 SW2.5SSW2.1SSW1.7SSW1.8 S1.7 SW2.4WSW2.5SSW2.3WSW2.3 W1.4WNW0.9WSW0.7 N0.3NNE1.1WNW1.0WNW1.8 W3.0 W3.9																										Diurnal Average			
N23 N30 N20 N23 N18 NW19 N19 N24 NNW18 SW19 SW23 SW23 SW26 SW26 SW24WSW22 NNE22 NNE22 NNE19WNW20 N19 NNE20 N23 N27																										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
Ells River - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 10m (WS10) - km/h
Ells River - July 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	185	25.52	25.52
6 - 11	339	46.76	72.28
12 - 19	174	24.00	96.28
20 - 28	26	3.59	99.86
29 - 38	1	0.14	100.00
> 38	0	0.00	100.00

Total Number of Valid Hours: 725

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Wind Speed 10m (WS10) - km/h
Ells River - July 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	6	6	4	5	3	2	5	11	32	27	18	24	20	6	6	10	185
6 - 11	28	7	12	9	5	6	19	58	45	21	34	23	24	17	13	18	339
12 - 19	39	16	4	1	0	0	9	12	19	10	12	6	8	6	20	12	174
20 - 28	6	3	0	0	0	0	1	1	2	2	6	3	0	1	1	0	26
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	80	32	20	15	8	8	34	82	98	60	70	56	52	30	40	40	725

Total Number of Valid Hours: 725

Total Number of Hours: 744

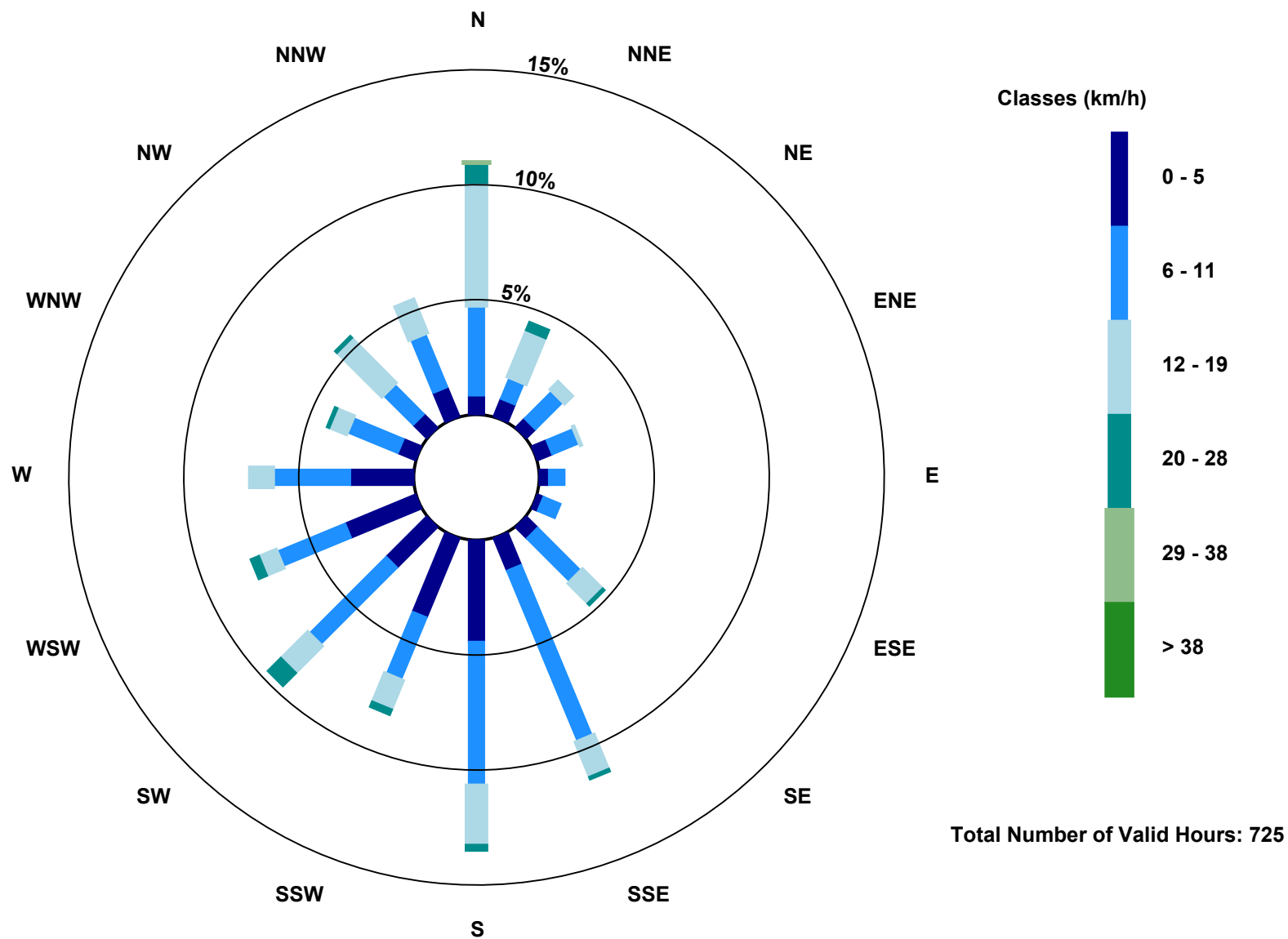


Wood Buffalo Environmental Association

Wind Rose Jul 2025

Wind Speed 10m (WS10) - km/h

Ells River





Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

Wind Speed 10m (WS10) - km/h

Ells River - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 12 km/h on Jul 20 20:00																		Hours in Service: 744 Hours of Data: 725 Hours of Missing Data: 19 Hours of Calibration: 0 Percent Operational Time: 97.5								
Minimum Value: 0 km/h on Jul 31 21:00																										
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-Jul	UO	2	2	2	UO	2	2	2	3	3	3	3	3	4	2	3	3	2	4	2	2	2	2	2	1	4
2-Jul	2	2	1	4	1	2	4	2	4	4	5	4	2	3	4	4	3	3	2	2	2	2	2	2	8	8
3-Jul	4	2	2	2	3	2	3	3	3	5	3	4	5	5	4	4	7	8	6	3	4	3	3	3	8	8
4-Jul	3	3	3	3	4	4	5	2	5	5	4	5	5	3	3	3	5	4	2	1	2	2	2	2	5	5
5-Jul	2	2	2	2	1	2	3	3	3	3	3	5	3	4	4	4	2	2	2	3	1	2	2	1	5	5
6-Jul	2	1	2	2	1	2	2	2	3	2	2	3	3	3	3	4	6	4	2	1	2	1	1	2	6	6
7-Jul	2	1	1	2	2	1	1	1	2	2	2	4	4	5	3	4	5	2	1	2	1	1	1	1	5	5
8-Jul	3	1	2	1	1	2	1	1	2	3	4	4	5	5	6	5	5	5	4	4	1	2	7	5	7	7
9-Jul	2	1	4	4	3	4	4	5	5	6	7	7	8	9	9	7	8	7	6	5	6	5	5	4	9	9
10-Jul	4	3	3	2	3	2	2	3	3	3	6	5	5	4	4	4	4	4	3	2	1	1	2	2	6	6
11-Jul	2	2	2	1	1	2	2	3	3	5	6	6	6	6	5	5	4	2	2	3	3	2	2	2	6	6
12-Jul	2	4	3	3	3	2	2	2	1	2	1	3	3	2	3	3	3	8	4	3	3	3	2	2	8	8
13-Jul	1	2	2	3	2	1	2	4	4	4	3	3	5	5	5	5	5	4	3	3	3	1	2	2	5	5
14-Jul	2	1	2	2	3	3	3	3	4	5	5	4	4	5	6	5	5	4	3	2	2	1	1	UO	6	6
15-Jul	1	2	2	1	1	1	1	1	3	3	3	4	5	5	5	4	5	3	4	2	2	1	1	3	5	5
16-Jul	2	UO	UO	UO	1	1	2	2	2	2	3	4	5	4	4	3	4	2	2	1	2	UO	UO	2	5	5
17-Jul	1	1	1	UO	2	2	1	1	1	3	3	3	4	3	3	4	4	3	2	2	2	UO	UO	UO	4	4
18-Jul	UO	UO	UO	3	1	2	1	2	2	2	3	3	4	4	5	4	4	3	3	2	1	2	2	1	5	5
19-Jul	2	3	2	UO	1	UO	2	1	2	2	2	2	3	4	3	3	3	2	3	4	3	2	4	3	4	4
20-Jul	2	2	3	3	2	2	2	2	2	2	3	2	3	3	3	7	5	3	2	12	6	5	4	5	12	12
21-Jul	4	6	3	4	3	3	4	4	4	4	4	4	5	4	4	4	4	3	3	3	2	3	2	2	6	6
22-Jul	1	2	1	1	2	2	2	2	2	3	3	4	4	3	3	2	2	3	4	2	2	UO	1	2	4	4
23-Jul	2	2	2	2	2	2	1	1	2	2	3	3	3	4	5	4	4	3	2	1	1	1	1	2	5	5
24-Jul	2	2	1	1	1	2	2	2	2	4	5	4	3	4	3	3	2	2	2	2	8	3	2	2	8	8
25-Jul	3	2	2	3	2	3	3	3	3	3	3	3	2	3	1	2	3	1	1	1	1	2	2	2	3	3
26-Jul	1	2	2	2	2	2	2	2	2	2	4	8	4	4	9	5	4	2	2	2	2	2	2	2	9	9
27-Jul	3	2	2	2	3	2	2	2	4	3	2	3	3	3	3	3	2	1	1	1	1	1	2	1	4	4
28-Jul	3	1	2	2	2	2	1	2	3	3	3	2	3	3	3	3	3	3	2	1	1	2	2	2	3	3
29-Jul	2	1	2	2	2	2	1	2	2	2	3	3	3	4	4	3	3	3	1	1	2	2	3	2	4	4
30-Jul	3	3	3	2	2	2	1	3	3	3	3	3	3	4	3	4	3	2	2	3	UO	1	2	1	4	4
31-Jul	1	2	2	2	2	3	2	2	2	2	3	4	5	5	4	4	4	3	2	1	0	2	1	1	5	5
4 6 4 4 4 4 5 5 5 6 7 8 8 9 9 7 8 8 6 12 8 5 7 8																										
Diurnal Maximum																										
UO - Unstable Operation																										



Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Direction 10m (WD10) - deg

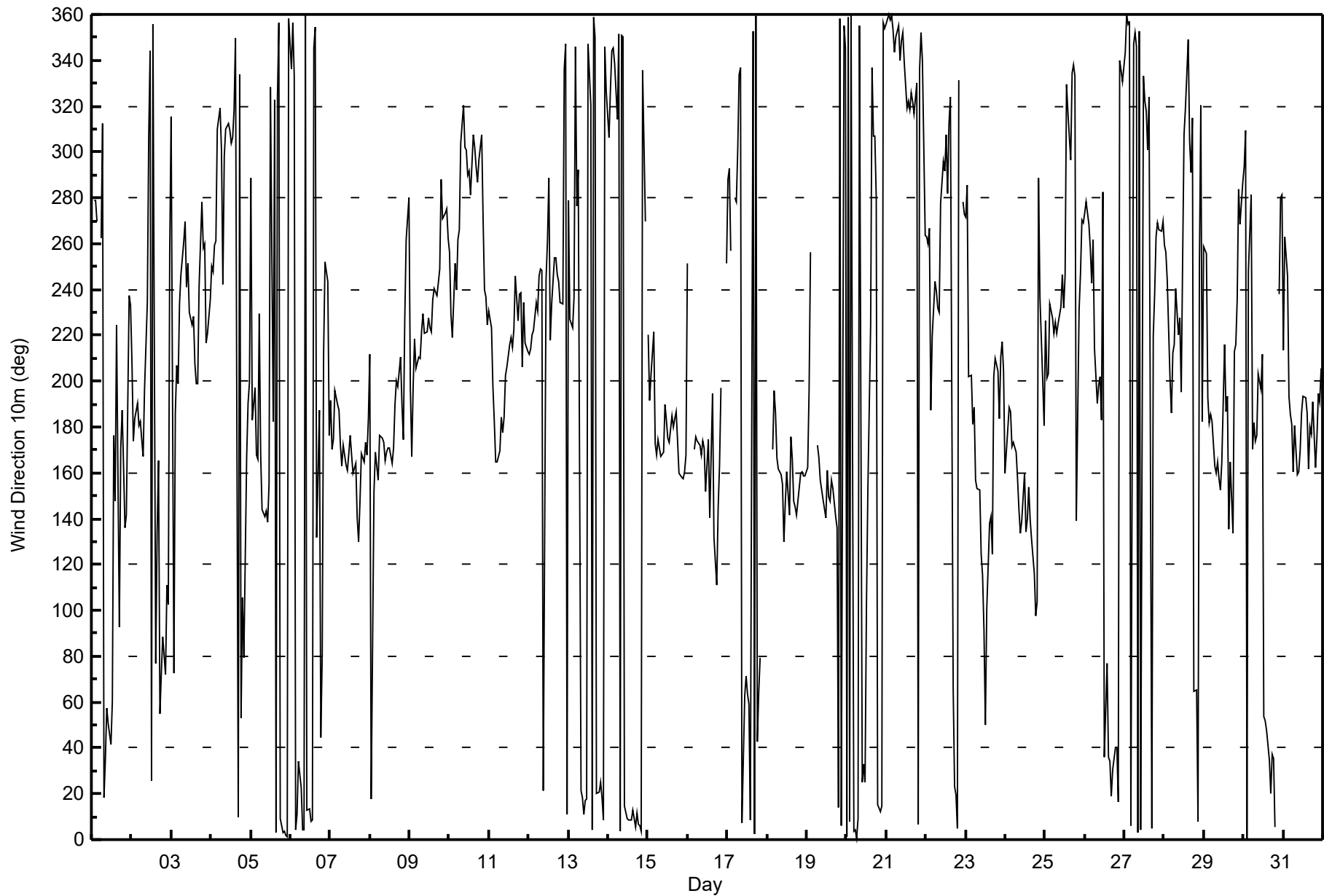
Ells River - July 2025

Direction of Maximum Speed: 360 deg on Jul 21 02:00 Direction of Maximum Daily Speed Average: 233.7 deg on Jul 9																				Hours in Service: 744						
Direction of Minimum Speed: 220 deg on Jul 19 05:00 Direction of Minimum Daily Speed Average: 1.0 deg on Jul 5																				Hours of Data: 725						
Monthly Average Direction: 247.8 deg																				Hours of Missing Data: 19						
																				Percent Operational Time: 97.5						
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-Jul	UO	279	279	270	UO	262	313	18	35	57	51	42	61	177	148	224	93	171	187	163	136	142	238	233	129.1	
2-Jul	209	174	184	190	181	183	174	167	197	234	307	344	26	356	77	134	165	55	72	89	72	111	102	256	158.8	
3-Jul	315	73	186	207	199	233	246	260	269	241	251	230	224	228	207	199	199	242	278	258	260	217	221	236	236.0	
4-Jul	250	248	259	261	310	319	301	242	298	310	313	310	304	306	319	350	9	334	53	106	79	167	191	199	306.3	
5-Jul	289	183	197	168	166	230	168	144	141	143	138	155	328	183	323	3	324	357	9	3	4	2	1	358	32.3	
6-Jul	336	356	333	4	11	34	23	4	4	360	13	14	8	9	346	355	132	187	44	80	212	252	243	176	8.3	
7-Jul	192	170	175	196	190	187	172	163	172	164	161	169	177	168	160	164	140	130	148	169	165	173	168	184	168.2	
8-Jul	211	18	152	169	163	157	176	175	173	165	169	171	171	164	171	190	200	198	211	190	175	227	262	280	185.8	
9-Jul	197	167	197	218	205	211	210	221	229	221	222	228	224	221	236	241	237	243	249	288	271	273	275	262	233.7	
10-Jul	257	229	219	252	240	262	266	304	320	302	301	290	292	281	308	302	293	287	297	308	270	240	237	225	281.1	
11-Jul	231	223	198	182	165	165	169	184	177	184	203	206	216	219	215	223	246	227	238	238	206	234	216	213	206.1	
12-Jul	212	214	220	222	234	231	246	249	248	21	245	261	289	218	233	254	254	247	244	234	233	336	347	11	247.8	
13-Jul	279	227	223	237	346	277	292	22	18	11	17	18	347	320	4	359	350	20	21	25	18	9	346	326	358.0	
14-Jul	306	327	344	345	339	314	352	3	351	350	15	9	9	9	8	13	6	12	7	6	4	335	270	UO	359.1	
15-Jul	220	192	202	221	172	168	174	171	167	169	190	183	175	173	185	180	184	187	174	160	158	158	160	168	174.6	
16-Jul	251	UO	UO	UO	170	176	174	172	168	174	171	152	175	141	168	194	132	111	145	163	197	UO	UO	252	162.6	
17-Jul	288	293	257	UO	280	278	301	334	337	7	63	72	63	59	8	353	3	359	43	64	79	UO	UO	UO	16.2	
18-Jul	UO	UO	UO	UO	170	196	186	166	162	159	155	130	147	160	142	176	166	148	145	142	154	160	160	159	159	156.4
19-Jul	163	196	256	UO	220	UO	172	167	157	153	148	141	161	150	148	157	153	141	136	14	358	6	355	346	129.6	
20-Jul	1	359	8	360	4	4	1	9	355	25	33	25	102	152	225	337	307	307	280	16	12	14	356	354	359.7	
21-Jul	356	360	357	359	354	343	350	355	340	348	352	339	319	322	318	326	322	316	330	7	336	352	340	264	342.8	
22-Jul	263	260	267	187	220	244	239	232	230	278	296	291	307	282	312	324	66	23	19	5	331	UO	278	273	289.1	
23-Jul	272	286	202	202	181	189	157	153	152	125	116	92	50	100	138	141	125	202	210	204	184	211	217	205	165.2	
24-Jul	160	179	189	186	172	174	169	158	144	133	139	160	134	140	154	140	131	116	97	104	289	237	200	180	151.0	
25-Jul	226	202	203	233	227	221	226	221	225	233	247	232	247	330	318	296	334	338	333	139	231	247	270	269	245.2	
26-Jul	273	278	268	258	243	262	214	190	198	202	183	282	36	77	36	34	19	30	40	40	17	340	336	331	347.3	
27-Jul	344	360	356	357	6	347	352	346	3	353	4	333	322	318	301	324	5	220	238	263	269	266	266	270	334.3	
28-Jul	259	256	244	200	186	213	216	240	220	228	195	252	307	319	349	305	291	315	64	65	8	251	320	182	266.0	
29-Jul	259	256	193	182	185	182	163	160	165	158	153	165	216	187	193	135	165	134	213	216	236	283	268	287	186.1	
30-Jul	294	310	0	248	281	170	182	174	176	203	196	212	53	52	47	35	20	37	35	5	UO	238	280	281	34.8	
31-Jul	214	263	246	193	185	181	160	181	159	161	170	186	193	193	186	162	180	177	191	162	176	195	191	206	179.7	
272.6 266.3 247.5 256.7 236.1 240.8 227.9 201.6 212.4 209.3 190.9 232.6 248.4 210.8 253.9 271.7 290.0 252.1 350.2 27.8 283.4 286.4 267.1 265.6																										
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
Ells River - July 2025





Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg

Ells River - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 101 deg on Jul 28 11:00																			Hours in Service: 744 Hours of Data: 725 Hours of Missing Data: 19 Hours of Calibration: 0 Percent Operational Time: 97.5						
Minimum Value: 5 deg on Jul 7 23:00																									
Percentiles: P ₁ = 8 P ₁₀ = 12 Q ₁ = 16 Median = 23 Q ₃ = 35 P ₉₀ = 58 P ₉₉ = 90																									
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-Jul	UO	32	28	31	UO	49	22	33	41	25	49	35	79	86	96	48	25	43	26	17	9	14	67	42	96
2-Jul	40	10	9	37	10	18	23	20	32	41	47	28	26	55	86	64	54	19	18	16	19	38	17	49	86
3-Jul	23	84	62	49	67	18	20	26	29	29	37	37	24	24	21	16	22	33	35	22	26	23	20	21	84
4-Jul	23	21	22	25	15	11	26	32	25	15	15	16	17	16	15	16	16	18	66	29	34	51	66	53	66
5-Jul	37	34	73	38	18	58	49	19	15	15	24	56	78	91	41	15	29	25	12	16	14	13	20	31	91
6-Jul	22	14	16	13	21	10	13	12	13	13	11	16	19	20	16	21	63	82	11	22	60	25	38	19	82
7-Jul	35	26	19	20	59	30	20	13	23	21	24	30	24	28	16	21	82	88	19	18	9	6	5	10	88
8-Jul	55	49	25	17	13	10	20	27	19	18	17	19	18	16	14	19	17	20	27	22	9	64	26	23	64
9-Jul	51	12	24	20	16	19	21	22	28	24	25	25	23	27	25	25	27	23	27	21	20	22	20	23	51
10-Jul	24	35	20	32	26	29	33	38	17	24	23	23	22	25	24	20	18	19	21	14	21	45	29	24	45
11-Jul	15	19	20	16	11	11	15	14	19	23	21	21	23	23	23	30	25	18	29	38	28	40	21	19	40
12-Jul	19	21	21	22	25	22	26	20	27	61	74	25	19	25	33	29	27	27	21	22	22	36	19	21	74
13-Jul	34	18	23	31	40	10	19	48	11	13	19	21	21	25	26	32	24	14	13	10	8	10	12	13	48
14-Jul	73	12	13	11	23	28	12	15	17	21	25	23	27	24	32	23	25	22	16	13	11	21	34	UO	73
15-Jul	39	32	30	58	9	12	14	19	24	25	36	35	32	23	35	33	32	24	22	12	9	9	9	31	58
16-Jul	49	UO	UO	UO	9	9	12	16	16	21	40	39	91	40	43	77	29	27	16	14	87	UO	UO	41	91
17-Jul	13	12	36	UO	32	38	16	19	15	57	28	25	34	58	70	63	26	21	23	13	44	UO	UO	UO	70
18-Jul	UO	UO	UO	19	9	23	14	16	21	25	20	37	46	24	54	33	20	14	9	7	6	7	8	7	54
19-Jul	9	31	20	UO	66	UO	49	12	13	15	24	23	23	37	54	37	20	12	80	11	14	12	14	16	80
20-Jul	13	13	13	15	11	11	12	14	15	45	27	39	89	45	74	36	16	92	54	54	13	13	14	16	92
21-Jul	13	15	14	14	13	15	15	16	16	20	27	20	23	18	18	15	14	14	14	12	33	26	19	44	44
22-Jul	9	19	26	29	32	27	27	33	44	61	42	39	22	39	27	26	75	51	29	12	28	UO	61	48	75
23-Jul	46	58	72	55	24	26	15	19	25	36	39	61	84	55	80	38	61	48	16	13	12	16	17	37	84
24-Jul	59	13	9	14	13	8	14	17	19	15	15	22	16	15	14	10	13	15	18	29	51	98	20	54	98
25-Jul	38	22	16	28	26	27	24	23	24	27	25	22	34	39	11	18	28	87	67	60	17	19	14	10	87
26-Jul	9	8	11	12	21	16	47	71	20	33	28	57	62	18	63	14	10	12	10	15	40	31	26	20	71
27-Jul	13	13	13	14	11	11	12	16	20	23	19	18	19	19	17	34	23	20	25	22	34	9	10	10	34
28-Jul	29	15	27	29	37	30	28	63	41	66	101	36	73	70	41	47	45	46	41	23	67	54	44	64	101
29-Jul	66	54	50	79	51	22	50	30	31	39	24	39	75	91	43	17	75	40	19	27	45	8	39	33	91
30-Jul	28	20	22	78	57	20	16	17	20	28	36	72	97	23	17	21	13	18	11	15	UO	40	34	33	97
31-Jul	65	61	63	80	22	70	13	15	16	16	17	28	32	31	37	22	27	20	20	10	14	11	7	18	80
73 84 73 80 67 70 50 71 44 66 101 72 97 91 96 77 82 92 80 60 87 98 67 64 Diurnal Maximum																									
UO - Unstable Operation																									



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS31 BLACKROD JULY 2025

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

August 29, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - BLACKROD (AMS31)
JULY 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	1	0	0.3	0
H2S (ppb) Average	706	36	38	99.73	0.6	0	0.2	0
NO2 (ppb) Average	705	36	39	99.6	15.1	0	6.8	-
NO (ppb) Average	705	36	39	99.6	24.9	-	9.6	-
NOX (ppb) Average	705	36	39	99.6	35.5	-	15.9	-
Temperature 2 m (C) Average	744	0	0	100	30.1	-	24.6	-
Relative Humidity (%) Average	744	0	0	100	99.1	-	84.3	-
Wind Speed 10 m (km/h) Average	744	0	0	100	27	-	15	-
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 - BLACKROD (AMS31)
JULY 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	0.11	0.1	-	0	0	0	0.1	0.2	0.3	1
H2S (ppb) Average	706	0.13	0.1	-	0	0	0.1	0.1	0.2	0.2	0.6
NO2 (ppb) Average	705	3.06	2.8	-	0	0.6	1	1.9	4.3	7	15.1
NO (ppb) Average	705	3.36	4.6	-	0	0	0.2	1	5	10	24.9
NOX (ppb) Average	705	6.42	7.1	-	0	0.7	1.4	3.1	9.6	17	35.5
Temperature 2 m (C) Average	744	17.05	5.5	-	2.5	9.9	13.2	17.4	20.8	24.2	30.1
Relative Humidity (%) Average	744	59.28	20.4	-	21.2	32.9	42.5	57.2	75.3	89.8	99.1
Wind Speed 10 m (km/h) Average	744	9.5	5	-	0	3	5	9	13	16	27
Wind Direction 10 m (deg) Average	744	-	-	-	-	-	-	-	-	-	-

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - BLACKROD (AMS31)
JULY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
H2S, SO2	10 Jul 2025 13:00	10 Jul 2025 14:00	2	Maintenance - WBEA internal audit
NO2	10 Jul 2025 12:00	10 Jul 2025 14:00	3	Maintenance - WBEA internal audit



Wood Buffalo Environmental Association

Summary of Hour Averages

Sulphur Dioxide (SO₂) - ppb

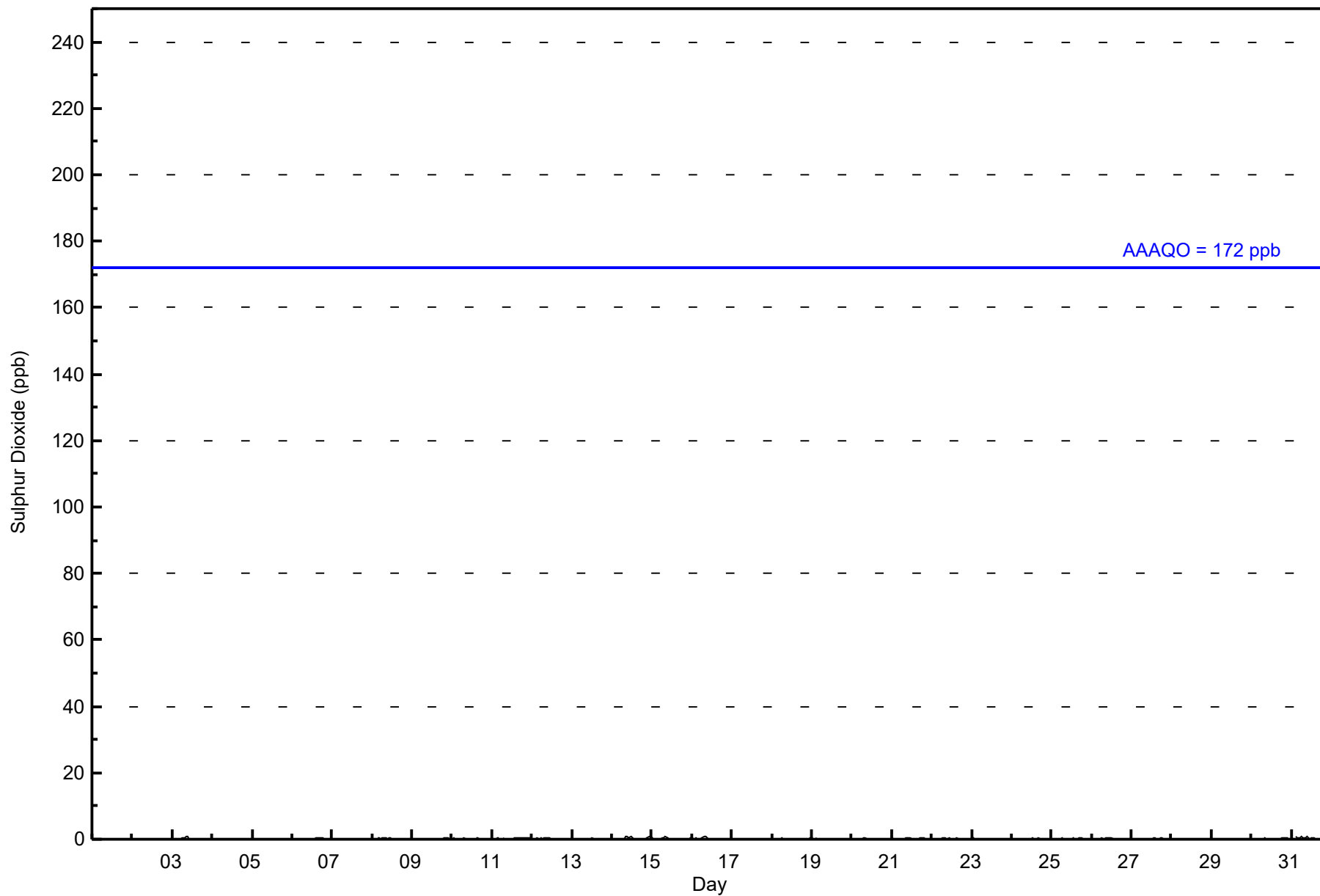
Blackrod - July 2025

Number of Exceedences (AAAQO): Maximum Value: 1.0 ppb on Jul 14 10:00																		1-hr: 0 24-hr: 0 Maximum Daily Average: 0.3 ppb on Jul 14										Hours in Service: 744	
Minimum Value: 0.0 ppb on Jul 1 01:00 Maximum Diurnal Average: 0.2 ppb at hour 9 Monthly Average: 0.11 ppb																		Minimum Daily Average: 0.0 ppb on Jul 28 Minimum Diurnal Average: 0.1 ppb at hour 5 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 = 0.7										Hours of Data: 707	
																												Hours of Missing Data: 37	
																												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-Jul	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	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
2-Jul	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0			
3-Jul	0.0	0.0	0.0	Z	0.0	0.1	0.4	0.6	0.6	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	0.0	0.1	0.7			
4-Jul	0.0	0.0	0.1	0.1	Z	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	0.0	0.0	0.0	0.0	0.0	0.0	0.1			
5-Jul	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	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1			
6-Jul	Z	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	0.4	0.6	0.4	0.4	0.3	0.2	0.0	0.0	0.0	0.0	0.1	0.6			
7-Jul	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			
8-Jul	0.0	0.0	Z	0.3	0.3	0.1	0.2	0.3	0.2	0.1	0.4	0.3	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.2	0.2	0.4			
9-Jul	0.2	0.0	0.0	Z	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.2	0.0	0.1	0.2	0.2	0.3	0.3	0.3	0.2	0.0	0.1	0.3			
10-Jul	0.1	0.4	0.2	0.1	Z	0.0	0.0	0.2	0.2	0.1	0.1	0.0	M	M	0.3	0.3	0.1	0.1	0.1	0.1	0.2	0.0	0.1	0.0	0.1	0.4			
11-Jul	0.2	0.1	0.2	0.2	0.2	Z	0.2	0.1	0.0	0.0	0.2	0.1	0.1	0.3	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.4	0.4	0.2	0.3	0.5			
12-Jul	Z	0.2	0.1	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.3	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	0.3			
13-Jul	0.0	Z	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.3	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.3			
14-Jul	0.0	0.0	Z	0.1	0.0	0.1	0.1	0.1	0.8	1.0	0.4	0.7	0.6	0.2	0.1	0.1	0.2	0.1	0.0	0.0	0.0	0.2	0.7	0.9	0.3	1.0			
15-Jul	0.3	0.0	0.0	Z	0.0	0.0	0.2	0.2	0.7	0.4	0.0	0.0	0.2	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.1	0.7			
16-Jul	0.3	0.2	0.3	0.2	Z	0.1	0.3	0.7	0.8	0.3	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.2	0.8			
17-Jul	0.0	0.1	0.1	0.1	0.1	Z	0.0	0.0	0.1	0.1	0.1	0.1	0.0	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			
18-Jul	Z	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.0	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	0.2	0.3	0.1	0.3			
19-Jul	0.2	Z	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.2	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			
20-Jul	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.2	0.2	0.1	0.2	0.1	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.3			
21-Jul	0.3	0.1	0.0	Z	0.2	0.0	0.0	0.2	0.2	0.3	0.4	0.4	0.2	0.0	0.0	0.1	0.0	0.4	0.5	0.3	0.1	0.1	0.1	0.2	0.2	0.5			
22-Jul	0.1	0.2	0.2	0.1	Z	0.1	0.2	0.4	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.2	0.4			
23-Jul	0.2	0.3	0.1	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.3			
24-Jul	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.2	0.1	0.3	0.1	0.1	0.1	0.2	0.0	0.1	0.0	0.0	0.2	0.0	0.0	0.1	0.3			
25-Jul	0.0	Z	0.1	0.0	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	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.3			
26-Jul	0.1	0.1	Z	0.2	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.3	0.3	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.2	0.4			
27-Jul	0.1	0.1	0.1	Z	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.3	0.2	0.2	0.2	0.4	0.3	0.1	0.1	0.0	0.0	0.0	0.1	0.4			
28-Jul	0.0	0.0	0.0	0.0	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	0.1			
29-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.1	0.1	0.2	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	0.2			
30-Jul	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.3	0.3	0.4	0.1	0.2	0.1	0.4			
31-Jul	0.2	Z	0.6	0.6	0.5	0.4	0.6	0.5	0.6	0.7	0.4	0.1	0.2	0.4	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.3	0.7			
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 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1																										Diurnal Average			
0.3 0.4 0.6 0.6 0.5 0.4 0.6 0.7 0.8 1.0 0.4 0.7 0.6 0.4 0.4 0.6 0.4 0.4 0.5 0.5 0.5 0.4 0.7 0.9																										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
Hourly Averages

Sulphur Dioxide (SO₂) - ppb
Blackrod - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Blackrod - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	707	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: 707

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Blackrod - July 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	25	35	11	10	11	13	38	148	143	71	45	36	30	40	29	22	707
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	25	35	11	10	11	13	38	148	143	71	45	36	30	40	29	22	707

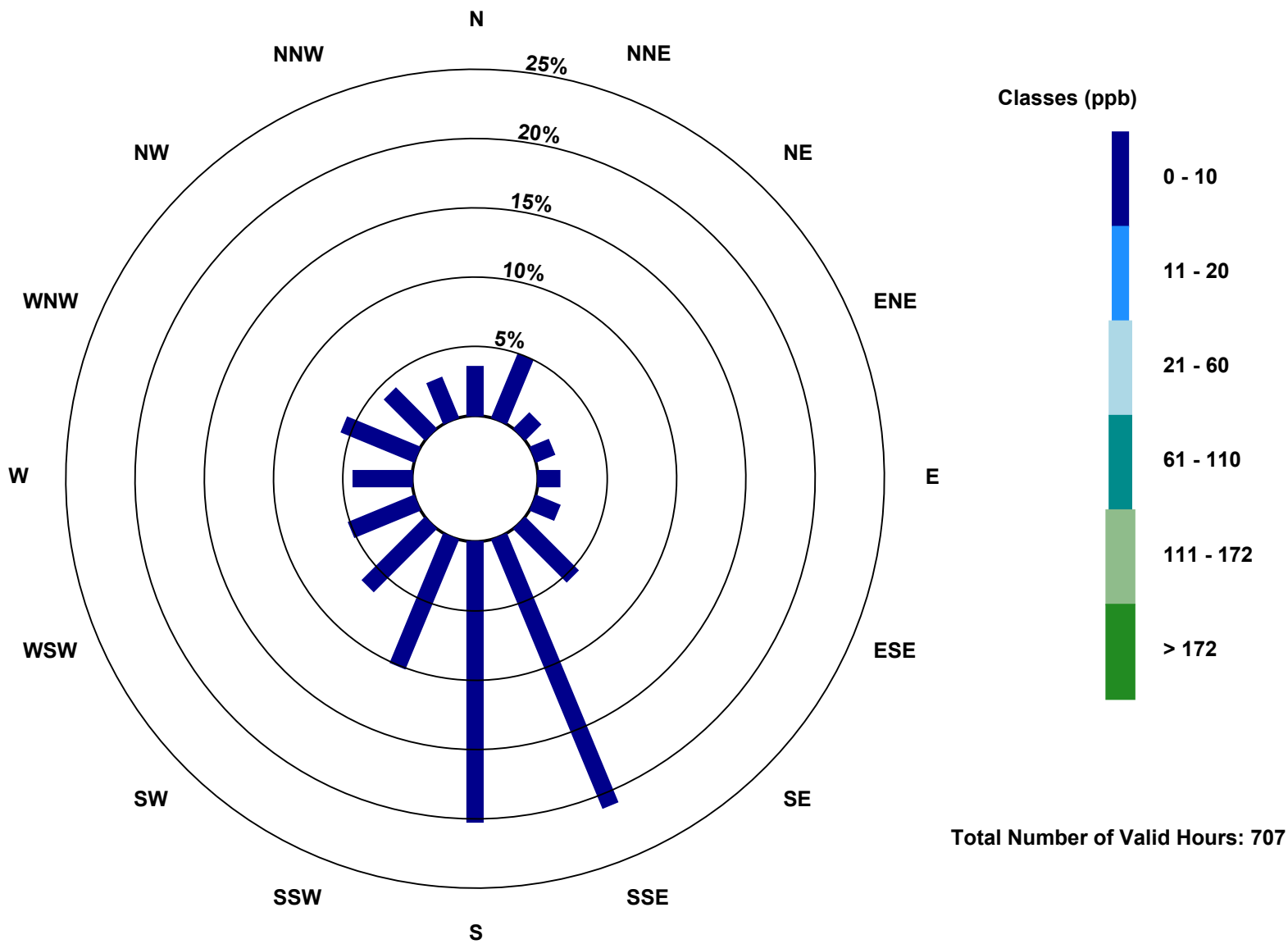
Total Number of Valid Hours: 707

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Sulphur Dioxide (SO₂) - ppb
Blackrod



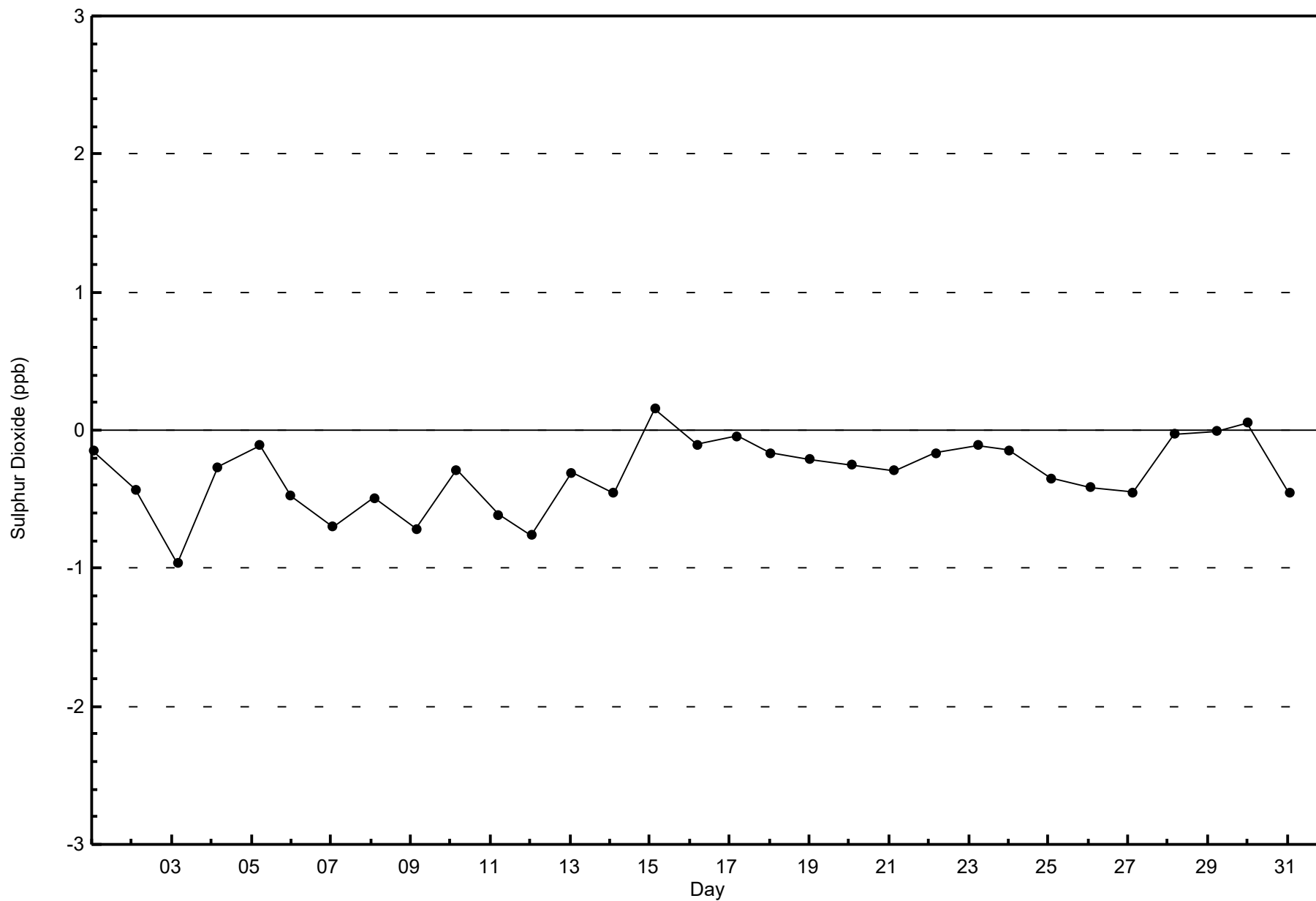


Wood Buffalo Environmental Association

Zero Responses

Sulphur Dioxide (SO₂) - ppb

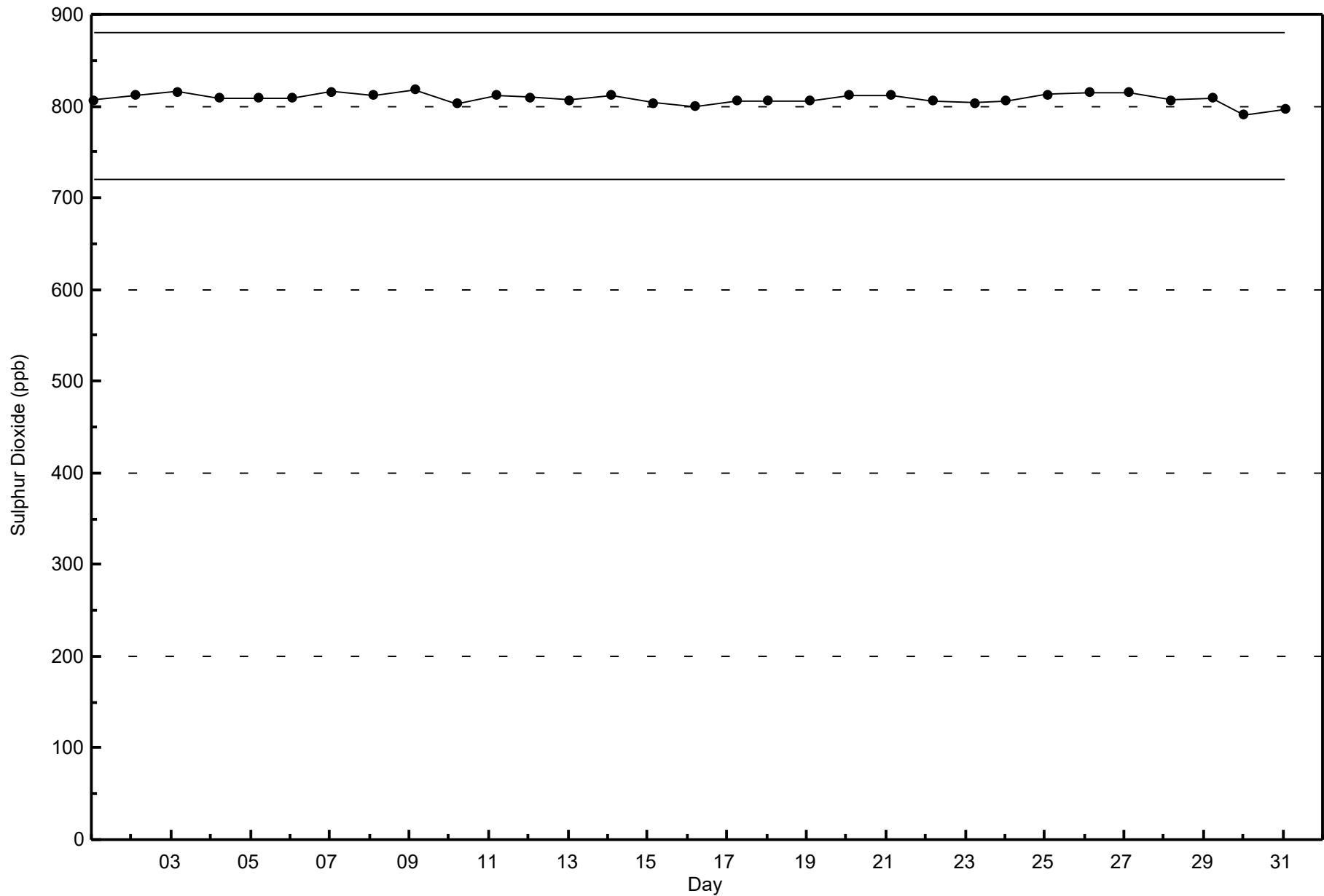
Blackrod - July 2025





Wood Buffalo Environmental Association
Span Responses

Sulphur Dioxide (SO₂) - ppb
Blackrod - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Hydrogen Sulphide (H₂S) - ppb

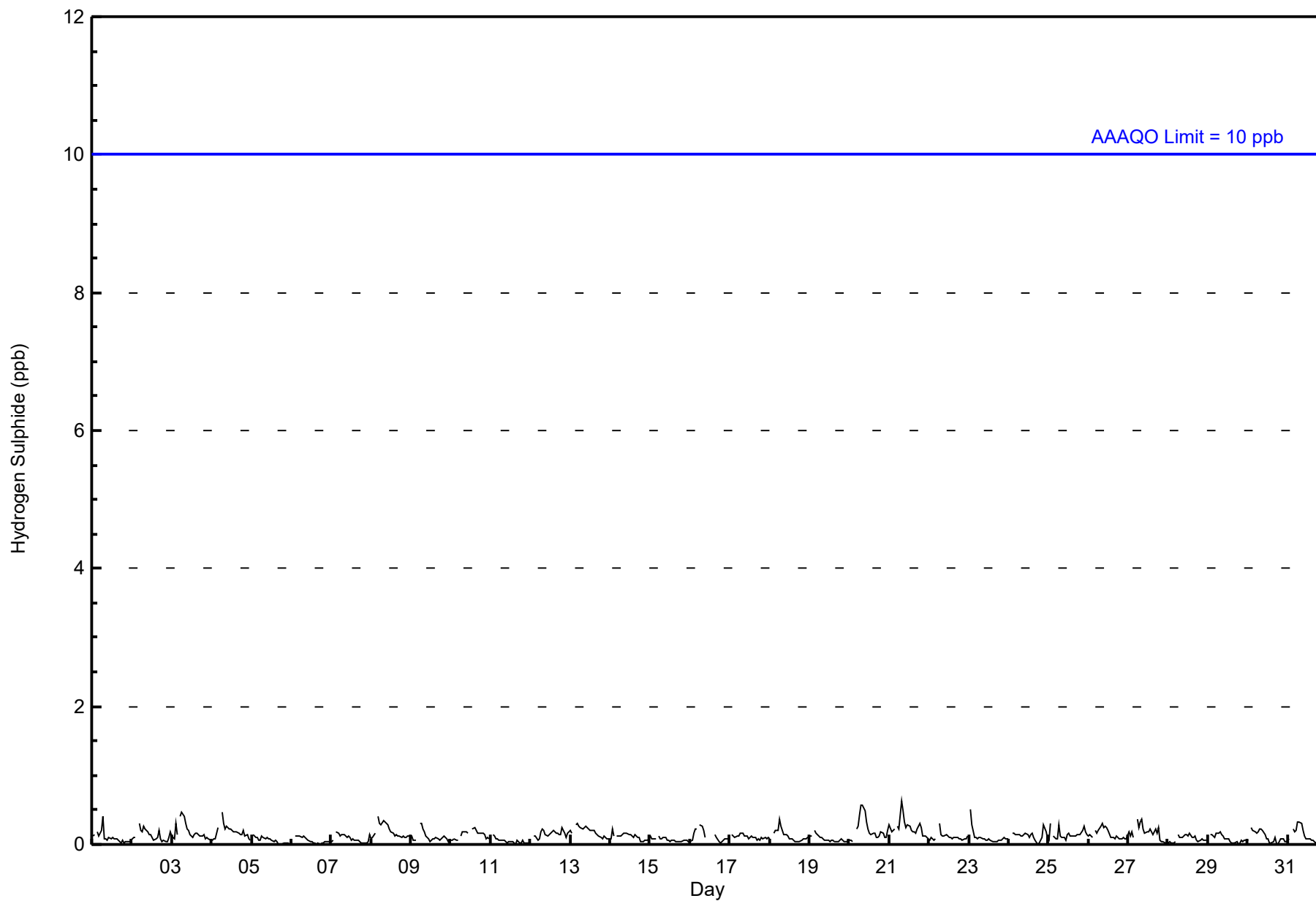
Blackrod - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																			Hours in Service: 744							
Maximum Value: 0.6 ppb on Jul 21 08:00																			Maximum Daily Average: 0.2 ppb on Jul 21		Hours of Data: 706					
Minimum Value: 0.0 ppb on Jul 5 18:00																			Minimum Daily Average: 0.0 ppb on Jul 11		Hours of Missing Data: 38					
Maximum Diurnal Average: 0.2 ppb at hour 7																			Minimum Diurnal Average: 0.1 ppb at hour 23		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 = 0.2 P ₉₉ = 0.5		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-Jul	0.1	0.1	Z	0.2	0.1	0.2	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.4
2-Jul	0.1	0.1	0.1	Z	0.3	0.2	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.2	0.3
3-Jul	0.1	0.1	0.3	0.1	Z	0.4	0.5	0.4	0.3	0.2	0.2	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	0.5
4-Jul	0.1	0.1	0.1	0.2	0.2	Z	0.5	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.5
5-Jul	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	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2
6-Jul	0.0	Z	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	0.0	0.0	0.0	0.1	0.1
7-Jul	0.0	0.1	Z	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	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2
8-Jul	0.1	0.1	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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.4
9-Jul	0.1	0.1	0.1	0.1	Z	0.3	0.3	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	0.0	0.1	0.1	0.3
10-Jul	0.1	0.1	0.1	0.1	0.1	Z	0.1	0.2	0.2	0.2	0.2	M	M	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
11-Jul	Z	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	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
12-Jul	0.0	Z	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	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.1	0.2
13-Jul	0.2	0.2	Z	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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3
14-Jul	0.1	0.2	0.1	Z	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	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2
15-Jul	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	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1
16-Jul	0.0	0.1	0.2	0.2	0.2	Z	0.3	0.3	0.2	0.1	C	C	C	C	C	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.3
17-Jul	Z	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
18-Jul	0.1	Z	0.2	0.2	0.2	0.2	0.4	0.3	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	0.1	0.1	0.1	0.4
19-Jul	0.1	0.1	Z	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.2
20-Jul	0.1	0.1	0.0	Z	0.2	0.3	0.4	0.6	0.6	0.5	0.3	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.6
21-Jul	0.3	0.2	0.2	0.2	Z	0.3	0.2	0.6	0.5	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.1	0.1	0.1	0.1	0.2	0.6
22-Jul	0.1	0.1	0.1	0.1	0.1	Z	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	0.1	0.1	0.1	0.3
23-Jul	Z	0.5	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5
24-Jul	0.1	Z	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.1	0.1	0.3	0.2	0.1	0.1	0.3
25-Jul	0.1	0.3	Z	0.1	0.1	0.1	0.3	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	0.3	0.2	0.1	0.1	0.3
26-Jul	0.1	0.1	0.1	Z	0.2	0.2	0.2	0.3	0.3	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3
27-Jul	0.2	0.1	0.2	0.1	Z	0.4	0.3	0.3	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.2	0.4
28-Jul	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	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2
29-Jul	Z	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.2
30-Jul	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	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.2
31-Jul	0.1	0.1	Z	0.2	0.2	0.2	0.3	0.3	0.3	0.2	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	0.1	0.1	0.3
																									Diurnal Average	
																									Diurnal Maximum	
Z - zerospan C - Calibration M - Maintenance																										
Alberta Ambient Air Quality Objective (AAAQO): 1-hour 10 ppb 24-hr 3 ppb																										



Wood Buffalo Environmental Association
Hourly Averages

Hydrogen Sulphide (H₂S) - ppb
Blackrod - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Hydrogen Sulphide (H₂S) - ppb
Blackrod - July 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
Blackrod - July 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	26	35	10	10	8	15	40	144	144	69	45	38	30	41	29	22	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	26	35	10	10	8	15	40	144	144	69	45	38	30	41	29	22	706

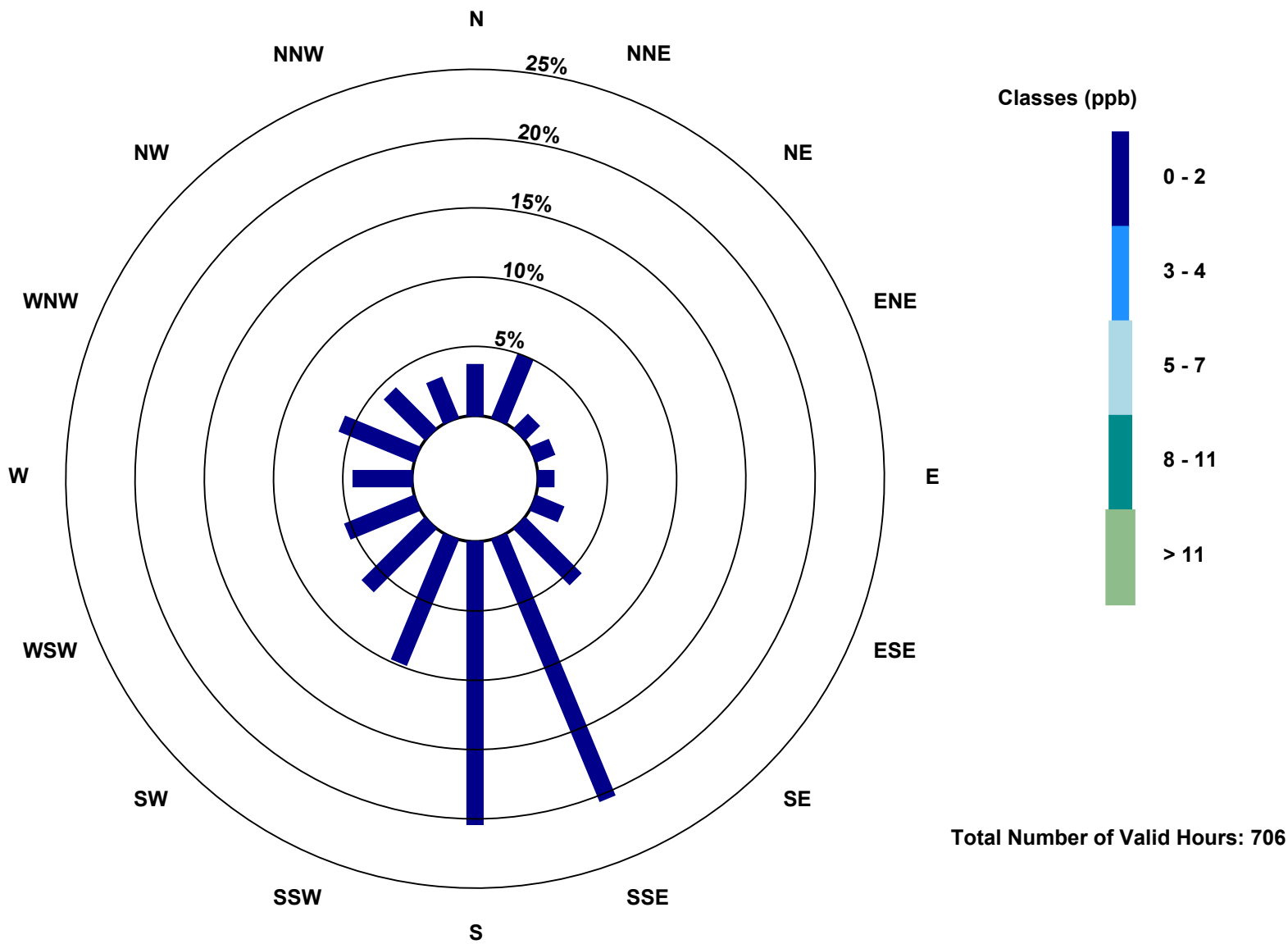
Total Number of Valid Hours: 706

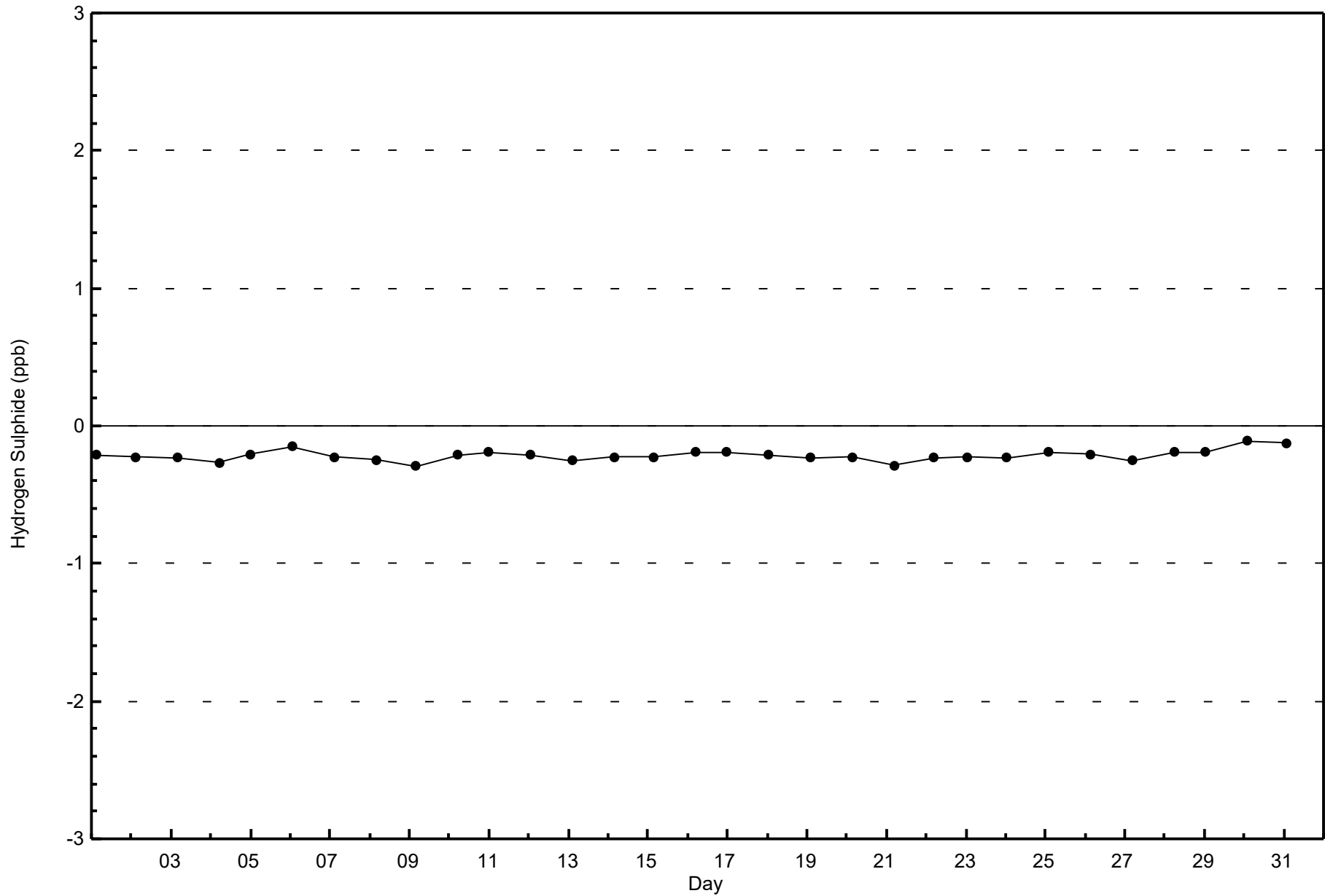
Total Number of Hours: 744

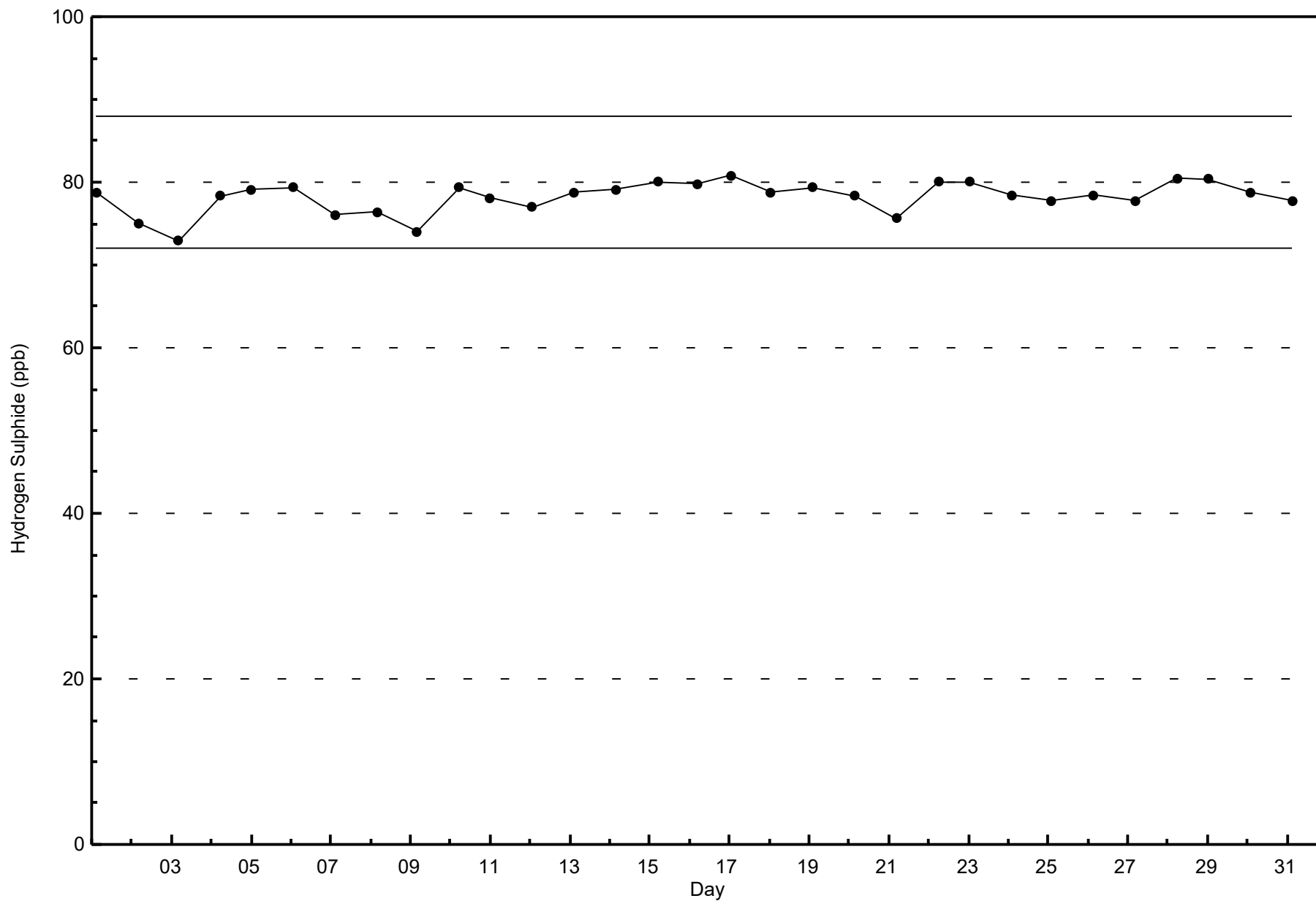


Wood Buffalo Environmental Association
Wind Rose Jul 2025

Hydrogen Sulphide (H₂S) - ppb
Blackrod









Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Oxide (NO) - ppb

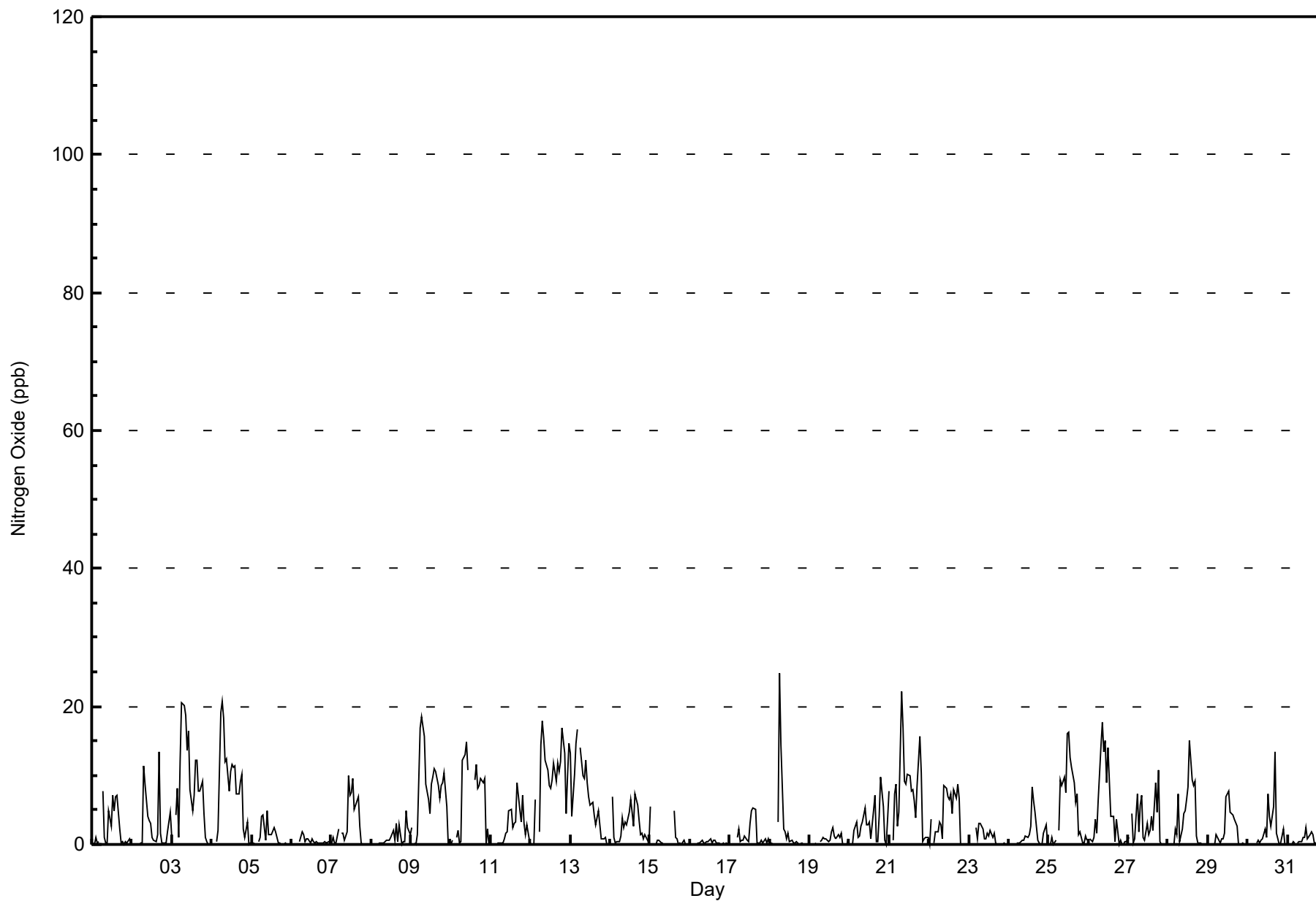
Blackrod - July 2025

Maximum Value: 24.9 ppb on Jul 18 07:00																		Maximum Daily Average: 9.6 ppb on Jul 12										Hours in Service: 744	
Minimum Value: 0.0 ppb on Jul 4 00:00																		Minimum Daily Average: 0.2 ppb on Jul 16										Hours of Data: 705	
Maximum Diurnal Average: 6.4 ppb at hour 8																		Minimum Diurnal Average: 0.7 ppb at hour 2										Hours of Missing Data: 39	
Monthly Average: 3.36 ppb																		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.2 Median = 1.0 Q ₃ = 5.0 P ₉₀ = 10.0 P ₉₉ = 18.4										Hours of Calibration: 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-Jul	0.3	0.1	1.0	0.2	0.5	Z	7.7	1.0	0.2	0.2	4.9	2.7	7.1	4.8	7.0	7.1	2.2	0.2	0.3	0.1	0.3	0.2	0.9	0.0	2.1	7.7			
2-Jul	Z	0.1	0.1	0.1	0.1	0.1	0.1	11.4	8.7	4.1	3.4	3.1	1.0	0.6	0.4	1.5	13.5	1.6	0.2	0.2	0.3	1.8	3.2	4.6	2.6	13.5			
3-Jul	1.1	Z	4.4	8.1	1.0	12.0	20.5	20.1	18.7	13.7	16.5	7.9	4.9	7.1	12.1	12.2	7.8	7.7	9.2	4.4	1.1	0.3	0.0	0.0	8.3	20.5			
4-Jul	0.0	0.0	Z	0.3	2.0	19.0	20.8	18.2	12.0	12.5	7.8	10.6	11.6	11.3	11.4	7.2	7.2	9.1	10.1	2.2	0.9	3.2	0.0	0.1	7.7	20.8			
5-Jul	0.0	0.1	0.0	Z	0.4	1.1	4.0	4.3	0.6	4.9	1.4	1.3	1.5	2.5	1.8	1.1	0.3	0.1	0.0	0.0	0.1	0.1	0.0	0.0	1.1	4.9			
6-Jul	0.0	0.0	0.0	0.0	Z	0.4	1.8	1.4	0.4	0.8	0.9	0.2	0.7	0.4	0.1	0.4	0.2	0.1	0.3	0.3	0.4	0.2	0.4	0.2	0.4	1.8			
7-Jul	0.3	0.9	0.3	0.2	2.3	Z	1.6	1.7	0.6	1.8	9.9	7.1	7.6	9.5	5.2	6.3	7.0	2.6	0.1	0.0	0.0	0.1	0.0	0.0	2.8	9.9			
8-Jul	Z	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.5	0.6	0.5	0.5	1.0	2.0	0.5	3.0	0.4	2.8	0.1	0.4	0.4	4.9	2.5	1.4	1.0	4.9			
9-Jul	2.4	Z	0.2	0.1	1.5	16.9	18.4	17.0	15.6	8.8	6.5	4.5	8.8	9.8	10.9	10.6	8.6	6.8	8.6	8.9	10.4	5.5	0.1	0.1	7.9	18.4			
10-Jul	0.1	0.6	Z	0.9	2.0	0.3	0.3	12.1	13.1	14.8	10.7	M	M	M	9.4	11.5	8.1	8.5	9.5	8.9	9.6	0.1	2.3	0.1	6.2	14.8			
11-Jul	0.0	0.0	0.0	Z	0.1	0.1	0.1	0.3	0.8	1.6	1.7	4.9	5.0	2.5	3.1	3.3	9.0	5.2	3.2	7.1	3.0	1.5	2.9	0.3	2.4	9.0			
12-Jul	0.1	0.0	0.1	6.5	Z	1.9	14.4	17.9	15.4	12.3	10.8	8.5	8.1	9.4	11.7	9.2	11.8	10.5	12.0	17.0	13.2	4.5	10.0	14.6	9.6	17.9			
13-Jul	13.2	4.1	10.2	14.7	16.7	Z	14.0	9.9	9.6	12.3	9.0	6.9	5.8	6.1	4.3	2.9	3.8	4.9	0.9	0.8	0.9	0.9	0.0	0.0	6.6	16.7			
14-Jul	Z	6.8	0.9	0.1	0.4	0.4	1.2	3.8	2.4	3.2	2.8	4.7	6.5	4.6	2.6	7.3	5.6	3.4	1.4	1.5	0.8	1.4	0.6	0.2	2.7	7.3			
15-Jul	5.6	Z	0.1	0.0	0.6	0.5	0.4	0.2	0.1	C	C	C	C	C	4.9	1.0	0.8	0.0	0.2	0.0	0.6	0.0	0.0	0.0	0.8	5.6			
16-Jul	0.0	0.0	Z	0.0	0.1	0.2	0.3	0.7	0.3	0.3	0.4	0.3	0.9	0.2	0.5	0.7	0.2	0.1	0.0	0.0	0.2	0.1	0.1	0.0	0.2	0.9			
17-Jul	0.0	0.0	0.0	Z	0.9	2.2	0.3	0.5	0.6	1.2	0.7	0.4	3.1	4.9	5.4	5.1	0.3	0.2	0.1	0.6	0.1	0.8	0.3	0.7	1.2	5.4			
18-Jul	0.0	0.2	0.1	0.0	Z	3.3	24.9	14.4	2.2	1.7	0.8	1.6	0.4	0.7	0.2	0.3	0.4	0.2	0.1	0.1	0.1	0.1	0.1	0.1	2.3	24.9			
19-Jul	0.1	0.1	0.1	0.1	0.1	Z	0.5	0.6	0.9	0.9	0.8	0.3	0.5	1.8	2.5	1.2	0.8	1.4	1.1	1.6	0.0	0.0	0.0	0.9	0.7	2.5			
20-Jul	Z	0.0	0.0	2.0	3.3	1.1	1.2	2.7	3.2	5.3	2.8	2.8	3.3	0.9	4.8	7.2	0.4	0.5	4.1	9.7	5.6	0.5	0.0	3.6	2.8	9.7			
21-Jul	7.6	Z	0.6	7.4	8.7	2.6	4.6	22.2	16.9	9.1	8.8	10.1	10.0	7.7	8.0	6.4	3.9	8.5	15.7	10.3	0.3	0.9	1.0	1.0	7.5	22.2			
22-Jul	0.1	3.7	Z	0.2	1.8	1.9	3.3	2.9	0.8	8.5	8.1	6.9	6.6	7.3	4.5	7.9	6.6	8.7	6.7	0.0	0.0	0.0	0.0	0.0	3.8	8.7			
23-Jul	0.0	0.0	0.0	Z	2.4	0.8	3.1	3.0	2.3	0.8	0.9	1.5	1.3	2.0	1.0	1.6	0.2	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.9	3.1			
24-Jul	0.0	0.0	0.0	0.0	Z	0.2	0.2	0.3	0.6	0.6	1.2	1.1	1.4	2.7	8.4	6.2	4.6	0.6	0.1	0.0	0.0	1.7	2.9	0.0	1.4	8.4			
25-Jul	0.0	0.0	0.9	0.0	0.6	Z	2.0	9.3	8.5	9.7	7.5	16.1	16.3	12.6	11.1	8.9	6.0	7.3	1.4	1.8	0.3	0.1	1.2	0.7	5.3	16.3			
26-Jul	Z	0.8	0.4	1.0	3.7	1.6	6.3	14.2	17.6	13.5	15.0	9.0	14.0	4.0	4.0	4.0	0.4	3.6	0.1	0.6	0.0	0.0	0.3	0.3	5.0	17.6			
27-Jul	1.0	Z	4.5	0.2	0.7	7.3	1.8	5.7	7.1	1.0	0.6	3.0	1.4	2.1	4.0	2.1	9.0	4.6	10.9	0.4	0.1	0.1	0.0	0.0	2.9	10.9			
28-Jul	0.1	0.0	Z	0.0	2.2	1.5	7.4	0.4	2.3	4.4	4.8	6.6	8.4	15.0	9.3	8.5	9.2	1.1	0.2	0.2	0.1	0.1	0.0	0.0	3.5	15.0			
29-Jul	0.0	0.0	0.0	Z	0.1	1.4	0.7	0.2	0.9	0.8	1.5	7.0	7.7	4.6	4.5	4.4	3.7	2.7	0.0	0.1	0.1	0.3	0.0	0.0	1.8	7.7			
30-Jul	0.0	0.0	0.0	0.0	Z	0.2	0.7	0.2	0.6	0.8	2.3	1.0	7.2	4.0	2.6	5.4	13.4	1.6	0.8	0.1	0.2	2.2	0.0	0.0	1.9	13.4			
31-Jul	0.0	0.0	0.0	0.4	0.1	Z	0.3	0.4	0.3	1.1	1.0	2.5	0.8	1.5	1.9	1.4	0.1	0.1	0.1	0.0	0.0	0.0	0.2	0.0	0.5	2.5			
1.2 0.7 0.9 1.6 2.0 3.1 5.3 6.4 5.3 5.0 4.8 4.6 5.3 4.9 5.1 5.0 4.7 3.4 3.1 2.5 1.6 1.0 0.9 0.9																									Diurnal Average				
13.2 6.8 10.2 14.7 16.7 19.0 24.9 22.2 18.7 14.8 16.5 16.1 16.3 15.0 12.1 12.2 13.5 10.5 15.7 17.0 13.2 5.5 10.0 14.6																									Diurnal Maximum				
Z - zerospan C - Calibration M - Maintenance																													



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxide (NO) - ppb
Blackrod - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Oxide (NO) - ppb
Blackrod - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	702	99.57	99.57
21 - 40	3	0.43	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 Oxide (NO) - ppb
Blackrod - July 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	35	10	10	11	15	38	144	145	68	44	37	32	39	28	21	702
21 - 40	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0	3
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	25	36	10	10	11	15	38	144	146	68	44	37	32	40	28	21	705

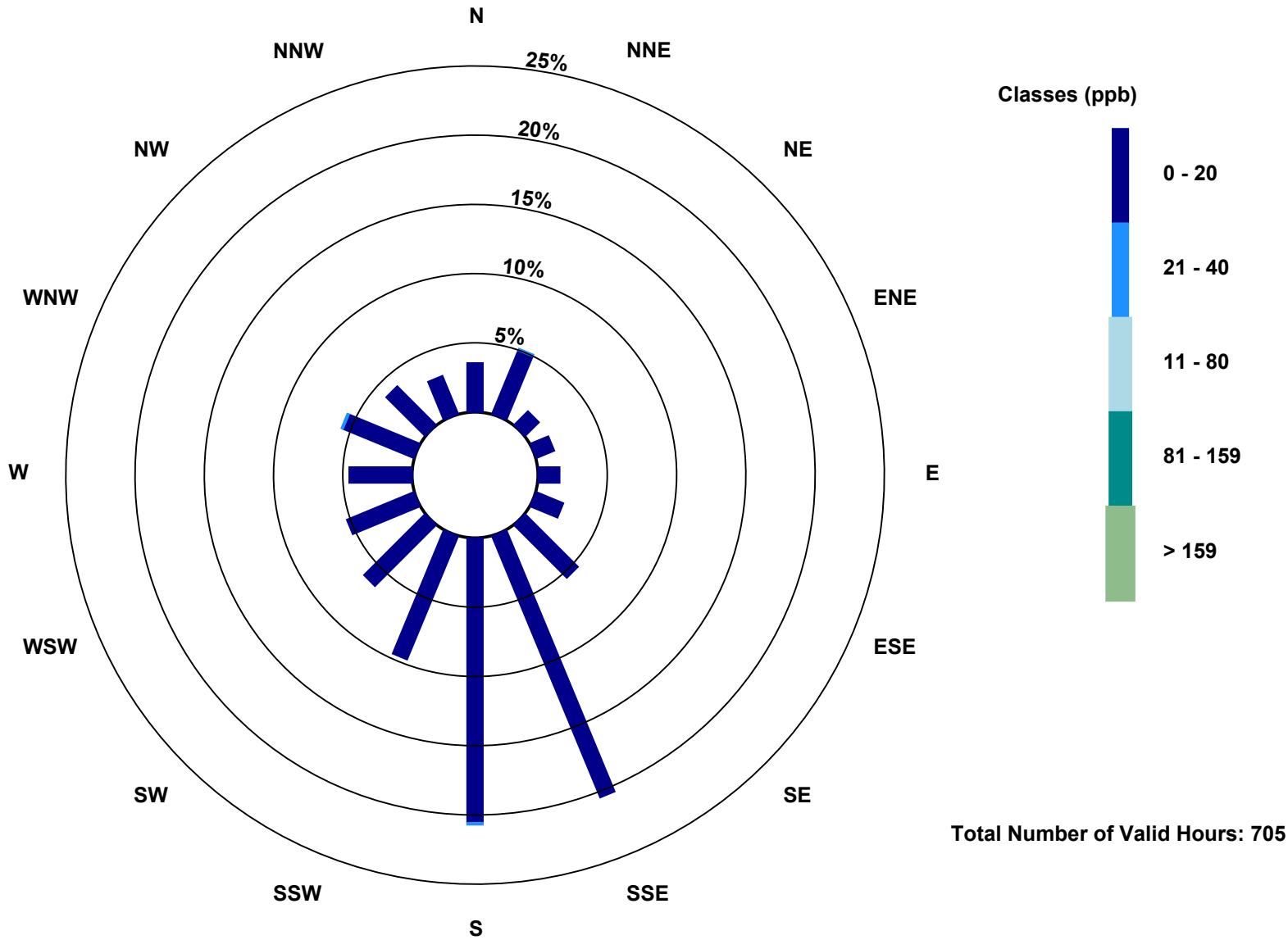
Total Number of Valid Hours: 705

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Nitrogen Oxide (NO) - ppb
Blackrod



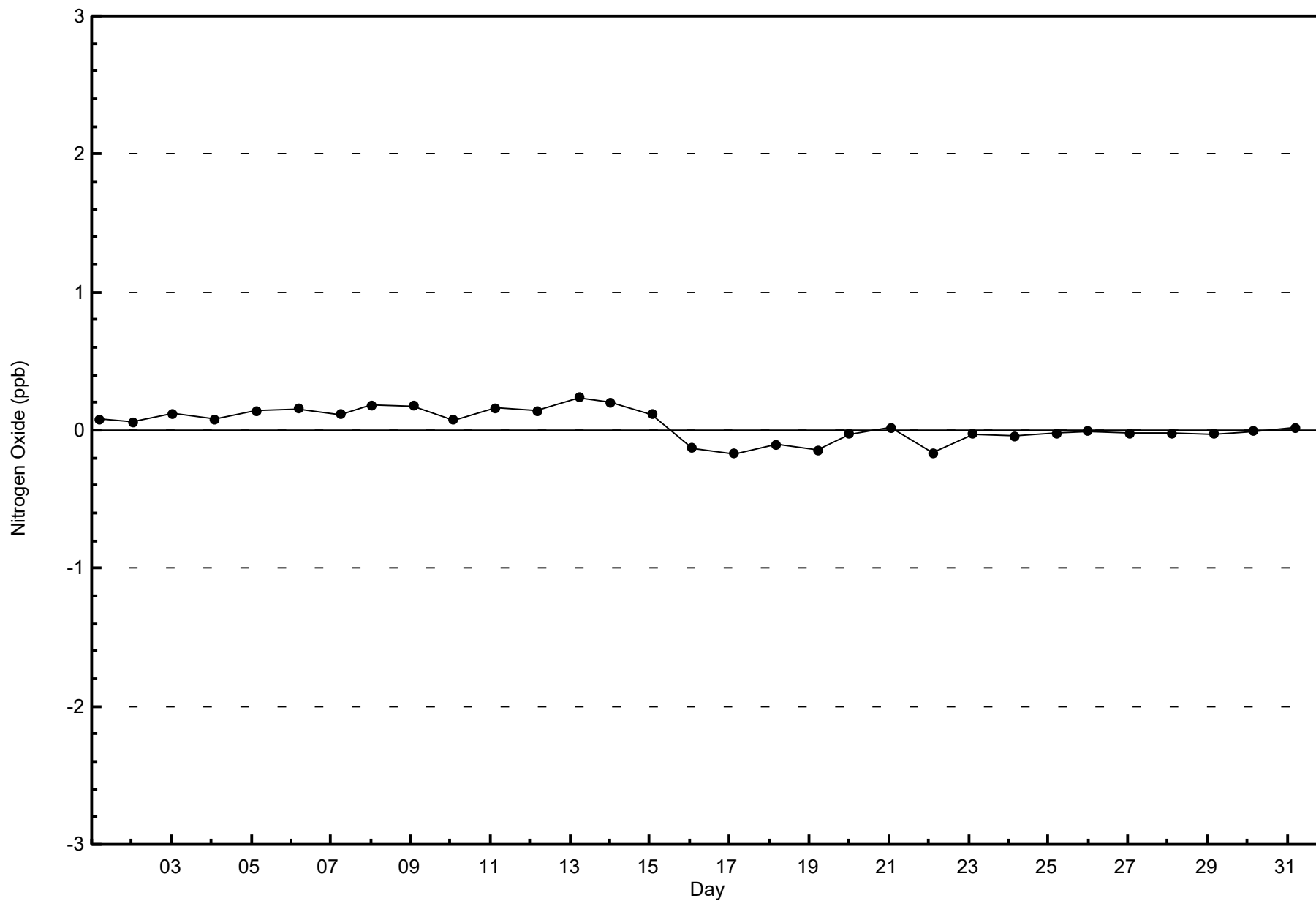


Wood Buffalo Environmental Association

Zero Responses

Nitrogen Oxide (NO) - ppb

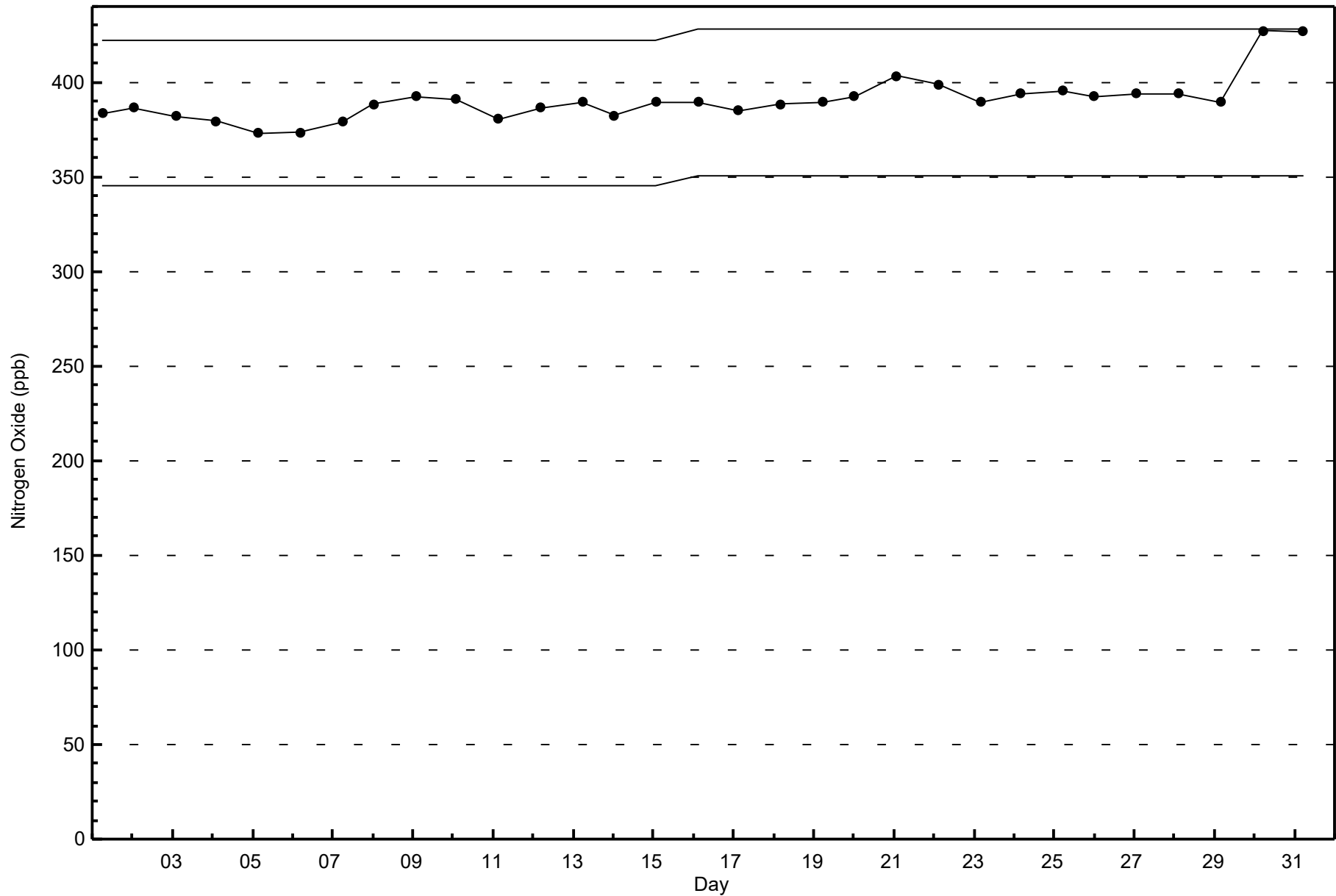
Blackrod - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitrogen Oxide (NO) - ppb
Blackrod - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Dioxide (NO₂) - ppb

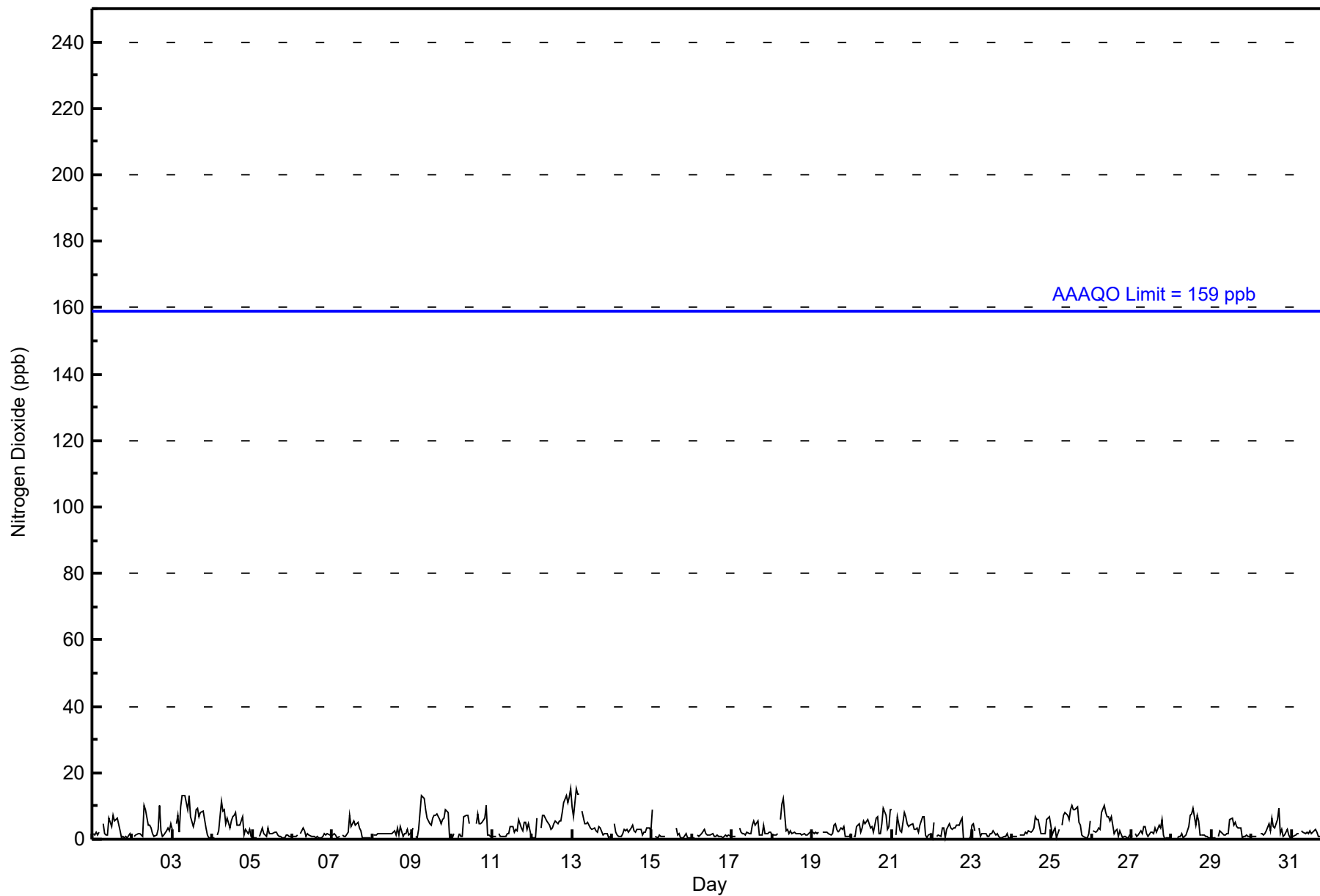
Blackrod - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 15.1 ppb on Jul 13 03:00 Maximum Daily Average: 6.8 ppb on Jul 3																				Hours in Service: 744						
Minimum Value: 0.0 ppb on Jul 22 20:00 Minimum Daily Average: 1.1 ppb on Jul 16 Maximum Diurnal Average: 4.6 ppb at hour 8 Minimum Diurnal Average: 1.7 ppb at hour 2 Monthly Average: 3.06 ppb Percentiles: P ₁ = 0.3 P ₁₀ = 0.6 Q ₁ = 1.0 Median = 1.9 Q ₃ = 4.3 P ₉₀ = 7.0 P ₉₉ = 13.0																				Hours of Data: 705						
																				Hours of Missing Data: 39						
																				Hours of Calibration: 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-Jul	1.9	1.1	2.0	1.2	2.1	Z	4.8	1.6	1.2	1.2	6.5	3.7	7.4	5.3	6.1	6.5	2.4	0.6	0.9	0.4	1.0	0.5	1.6	0.5	2.6	7.4
2-Jul	Z	0.8	1.1	1.5	1.5	1.2	1.0	10.2	8.9	4.4	4.1	3.4	1.7	1.0	1.3	3.1	10.3	2.6	1.0	1.2	2.5	3.3	2.5	4.7	3.2	10.3
3-Jul	2.8	Z	4.5	7.4	2.3	9.8	13.0	13.3	11.1	8.8	13.3	6.6	3.8	5.7	8.7	9.5	6.6	8.0	8.5	6.1	3.2	1.3	0.6	0.4	6.8	13.3
4-Jul	0.6	0.5	Z	1.2	2.7	11.6	8.4	8.7	4.8	6.5	3.6	5.4	6.9	7.3	8.0	4.3	4.1	5.6	6.9	1.2	3.1	1.5	3.0	0.7	4.6	11.6
5-Jul	0.7	0.6	0.4	Z	0.9	2.3	3.2	1.7	0.9	3.4	1.6	1.6	1.7	2.0	2.1	1.4	0.9	0.7	0.6	0.6	1.1	1.3	0.9	0.8	1.4	3.4
6-Jul	0.7	0.8	0.9	1.1	Z	1.8	3.6	2.6	1.0	1.6	1.4	0.8	1.0	0.7	0.6	0.8	0.6	0.6	0.8	1.8	1.3	1.8	1.2	1.4	1.3	3.6
7-Jul	1.3	1.7	1.2	0.6	0.7	Z	1.4	1.0	0.7	2.0	7.1	4.0	4.6	5.4	4.2	5.2	3.5	2.4	0.5	0.4	0.3	0.5	0.4	0.5	2.2	7.1
8-Jul	Z	1.3	1.4	1.7	1.7	1.6	1.5	1.7	1.6	1.8	1.7	1.7	1.9	2.5	1.4	3.3	1.2	3.9	0.8	1.6	1.5	3.1	1.4	2.3	1.9	3.9
9-Jul	3.2	Z	0.8	0.4	2.8	13.1	12.7	12.1	8.8	6.5	4.8	4.3	6.4	7.3	7.4	7.6	6.0	4.5	5.9	6.4	8.8	8.1	0.6	0.5	6.0	13.1
10-Jul	0.5	1.9	Z	0.6	1.5	0.8	1.0	6.7	7.3	7.2	4.6	M	M	M	4.6	7.5	4.8	4.6	5.1	6.5	10.2	1.2	1.3	0.8	3.9	10.2
11-Jul	0.8	1.0	1.0	Z	1.5	1.0	0.7	0.7	1.0	1.6	1.6	3.9	3.9	2.3	3.1	2.6	6.0	3.2	2.6	5.2	4.9	3.0	4.6	1.0	2.5	6.0
12-Jul	0.4	0.5	0.6	6.3	Z	3.5	7.4	7.1	6.4	5.5	4.4	2.9	3.3	4.5	5.5	4.6	5.5	5.5	8.2	11.2	13.0	11.2	12.5	15.1	6.3	15.1
13-Jul	9.9	6.8	15.1	13.7	13.7	Z	8.4	4.6	4.6	4.9	4.3	3.6	2.9	3.4	2.4	2.2	3.7	3.5	1.3	1.8	1.7	1.8	0.5	1.0	5.0	15.1
14-Jul	Z	4.8	2.2	1.3	1.0	1.0	1.5	2.8	2.5	2.8	2.3	3.3	4.2	2.7	2.2	3.1	3.0	3.1	1.4	2.0	2.1	3.3	3.6	2.5	2.6	4.8
15-Jul	8.7	Z	0.7	0.5	1.1	1.0	0.9	0.9	0.9	C	C	C	C	C	3.2	1.1	1.5	0.3	0.6	0.4	1.7	0.5	0.6	0.4	1.4	8.7
16-Jul	0.5	0.6	Z	1.1	1.0	1.2	1.8	3.0	1.7	1.1	1.3	1.4	1.6	0.8	1.0	1.1	0.8	0.7	0.5	0.7	1.2	0.8	1.1	0.7	1.1	3.0
17-Jul	1.0	0.9	0.8	Z	3.3	2.1	1.5	1.7	1.4	2.1	1.9	1.6	4.1	5.4	4.4	5.3	1.1	1.1	1.1	4.2	1.5	1.8	2.0	2.3	2.3	5.4
18-Jul	1.3	1.3	1.4	1.7	Z	6.1	10.6	12.4	2.7	2.9	1.9	2.7	1.6	2.0	1.6	1.5	1.9	1.5	1.4	1.8	1.4	1.3	1.6	2.1	2.8	12.4
19-Jul	2.0	1.9	2.0	1.9	2.0	Z	2.3	2.2	2.2	2.0	1.8	1.2	1.6	4.3	4.8	3.0	2.0	3.5	3.0	3.8	0.8	1.0	0.9	1.6	2.3	4.8
20-Jul	Z	1.0	1.0	3.9	4.5	2.2	3.5	5.5	4.6	6.0	4.7	3.3	3.9	2.0	6.5	6.8	1.8	1.7	4.6	9.2	7.2	3.0	4.0	8.8	4.3	9.2
21-Jul	8.8	Z	1.1	6.7	4.8	2.5	2.3	7.9	6.6	4.6	3.8	4.2	4.8	2.9	3.1	3.2	2.1	4.2	6.9	6.7	1.4	0.6	1.1	1.8	4.0	8.8
22-Jul	0.4	5.1	Z	0.8	1.3	0.7	3.6	3.3	0.6	3.1	4.7	3.4	2.8	3.5	3.3	4.4	4.1	5.4	6.2	0.0	0.1	0.2	0.2	0.9	2.5	6.2
23-Jul	4.1	4.5	2.5	Z	3.6	0.9	1.6	1.9	1.5	1.0	0.9	1.8	1.9	2.7	1.4	1.9	0.7	0.5	0.5	1.0	1.0	1.6	0.6	0.6	1.7	4.5
24-Jul	0.7	0.7	0.8	1.0	Z	1.2	1.3	1.3	2.0	1.9	2.4	2.3	2.6	3.6	6.7	5.9	5.9	1.6	1.6	1.5	1.7	6.0	6.6	4.4	2.8	6.7
25-Jul	1.2	2.4	3.6	0.6	3.1	Z	4.2	7.3	7.9	7.4	6.1	8.7	10.3	9.1	9.1	9.6	5.0	4.3	1.3	1.0	0.6	0.6	1.6	5.4	4.8	10.3
26-Jul	Z	2.7	2.3	2.7	3.2	2.8	8.1	10.0	8.0	6.8	6.8	5.5	6.9	1.5	2.5	2.9	1.0	2.4	0.6	0.7	0.7	0.4	0.4	1.1	3.5	10.0
27-Jul	0.9	Z	1.5	0.9	1.1	2.6	1.9	3.9	3.7	1.7	1.0	2.2	2.0	1.9	3.6	2.2	4.3	3.3	6.0	1.2	0.2	0.3	0.3	0.3	2.0	6.0
28-Jul	0.2	0.2	Z	0.3	1.0	0.9	1.9	0.5	1.1	2.5	3.9	7.0	7.6	9.2	4.3	7.2	5.6	1.4	1.2	1.3	0.8	0.7	0.4	0.4	2.6	9.2
29-Jul	0.4	0.5	0.6	Z	0.8	2.4	1.6	1.2	1.3	1.5	1.9	5.8	6.5	4.1	5.0	4.0	3.6	3.2	0.6	0.8	1.0	1.4	0.7	0.7	2.2	6.5
30-Jul	0.7	0.8	0.9	0.9	Z	1.5	1.8	1.3	1.9	2.4	4.5	2.4	6.3	3.8	3.5	5.8	9.3	1.8	3.0	0.9	1.3	3.1	1.1	0.5	2.6	9.3
31-Jul	0.9	1.0	1.1	1.9	1.6	Z	2.7	2.3	1.8	2.3	1.9	2.7	1.8	2.5	2.9	2.3	0.9	0.8	0.7	0.5	0.6	0.7	1.3	0.9	1.6	2.9
																									Diurnal Average	
																									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
Blackrod - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Blackrod - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	705	100.00	100.00
21 - 40	0	0.00	100.00
41 - 60	0	0.00	100.00
61 - 80	0	0.00	100.00
81 - 100	0	0.00	100.00
101 - 120	0	0.00	100.00
121 - 140	0	0.00	100.00
141 - 160	0	0.00	100.00
161 - 180	0	0.00	100.00
181 - 200	0	0.00	100.00
201 - 220	0	0.00	100.00
221 - 240	0	0.00	100.00
241 - 260	0	0.00	100.00
261 - 280	0	0.00	100.00
281 - 300	0	0.00	100.00
301 - 320	0	0.00	100.00
321 - 340	0	0.00	100.00
341 - 360	0	0.00	100.00
361 - 380	0	0.00	100.00
381 - 400	0	0.00	100.00
401 - 420	0	0.00	100.00
421 - 440	0	0.00	100.00
441 - 460	0	0.00	100.00
461 - 480	0	0.00	100.00
481 - 500	0	0.00	100.00
501 - 520	0	0.00	100.00
521 - 540	0	0.00	100.00
541 - 560	0	0.00	100.00
561 - 580	0	0.00	100.00
581 - 600	0	0.00	100.00
601 - 620	0	0.00	100.00
621 - 640	0	0.00	100.00
641 - 660	0	0.00	100.00
661 - 680	0	0.00	100.00
681 - 700	0	0.00	100.00
701 - 720	0	0.00	100.00
721 - 740	0	0.00	100.00
741 - 760	0	0.00	100.00
761 - 780	0	0.00	100.00
781 - 800	0	0.00	100.00
801 - 820	0	0.00	100.00
821 - 840	0	0.00	100.00
841 - 860	0	0.00	100.00
861 - 880	0	0.00	100.00
881 - 900	0	0.00	100.00
901 - 920	0	0.00	100.00
921 - 940	0	0.00	100.00
941 - 960	0	0.00	100.00
961 - 980	0	0.00	100.00
981 - 1000	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
Blackrod - July 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	36	10	10	11	15	38	144	146	68	44	37	32	40	28	21	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	25	36	10	10	11	15	38	144	146	68	44	37	32	40	28	21	705

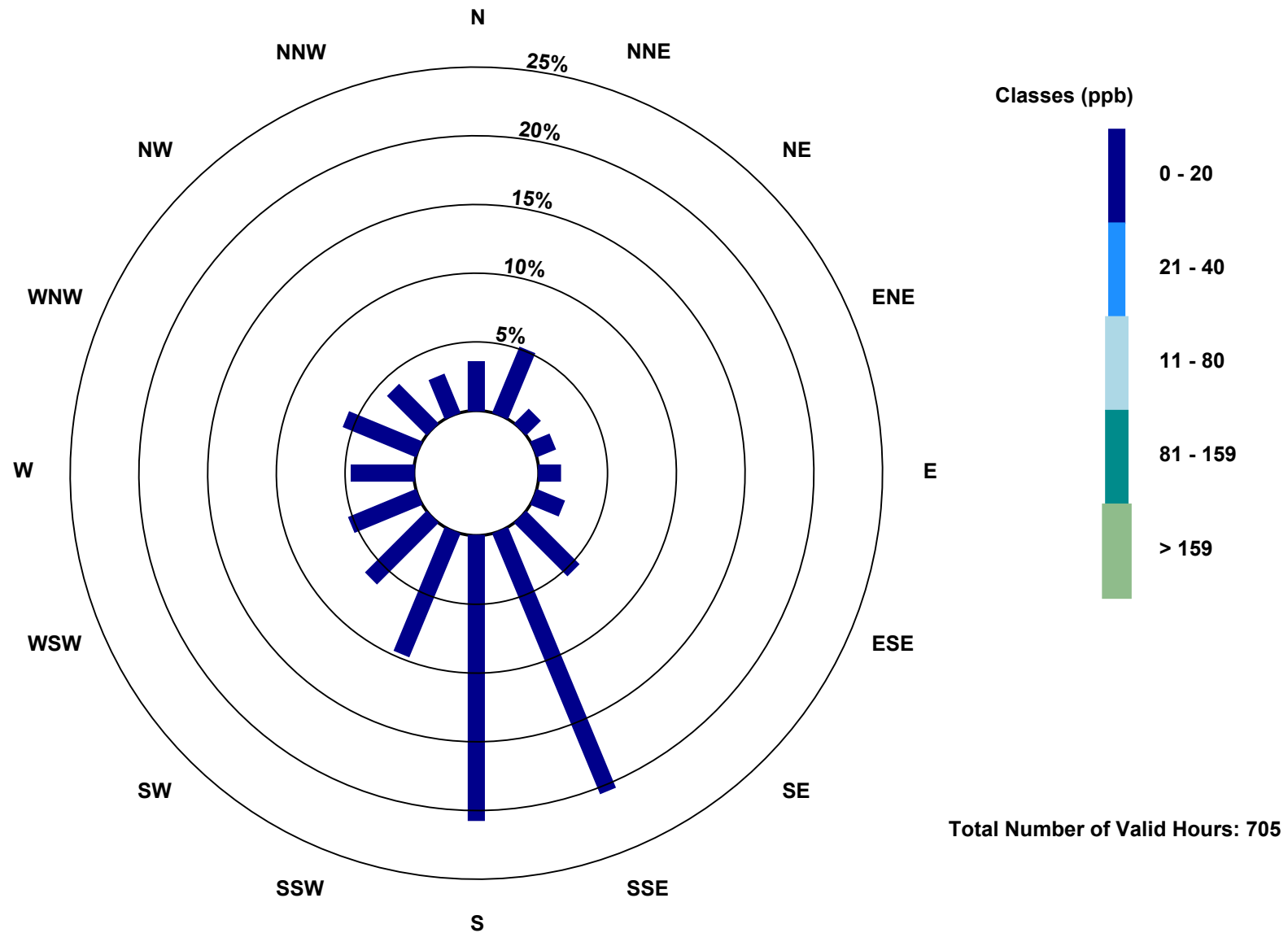
Total Number of Valid Hours: 705

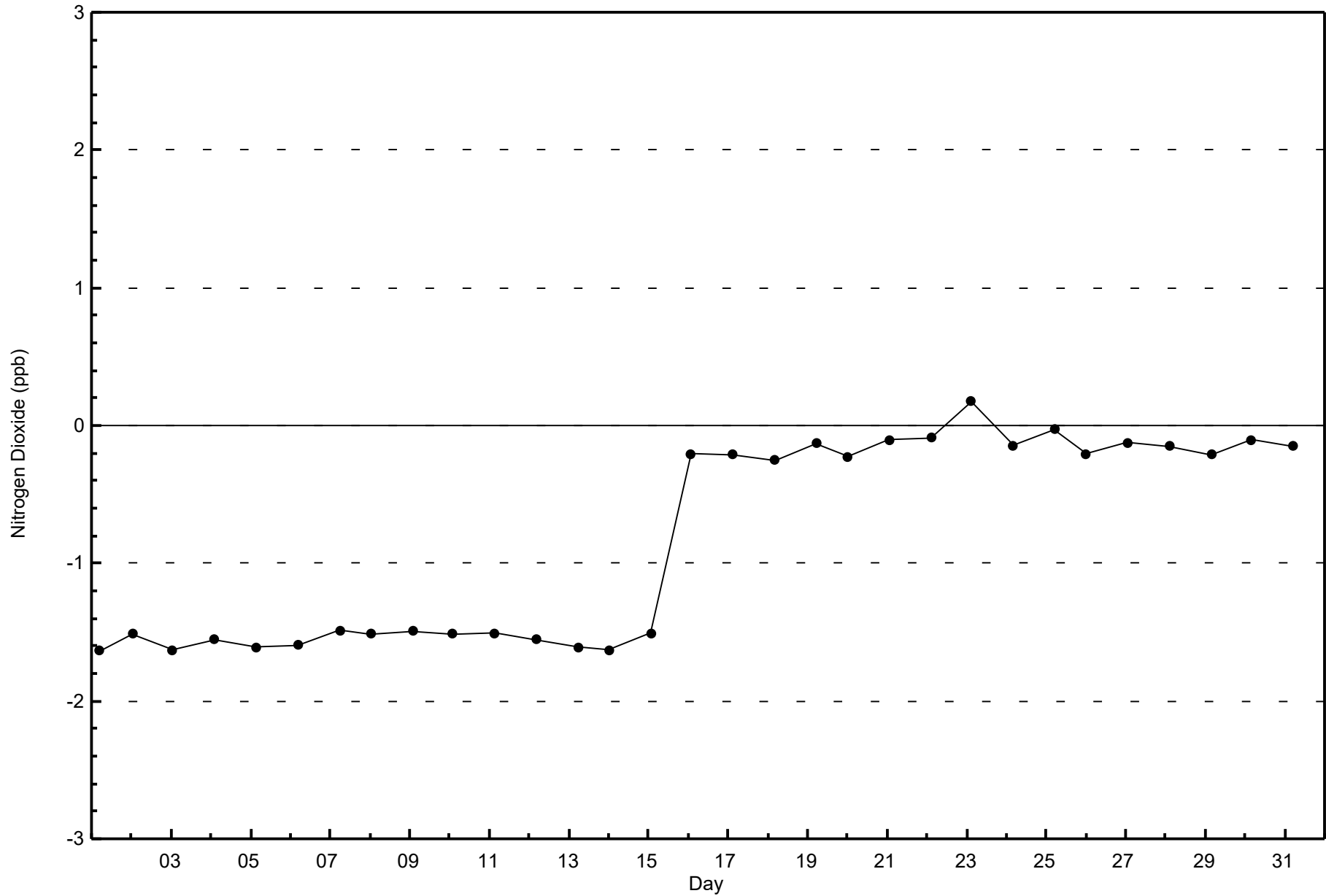
Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Nitrogen Dioxide (NO₂) - ppb
Blackrod

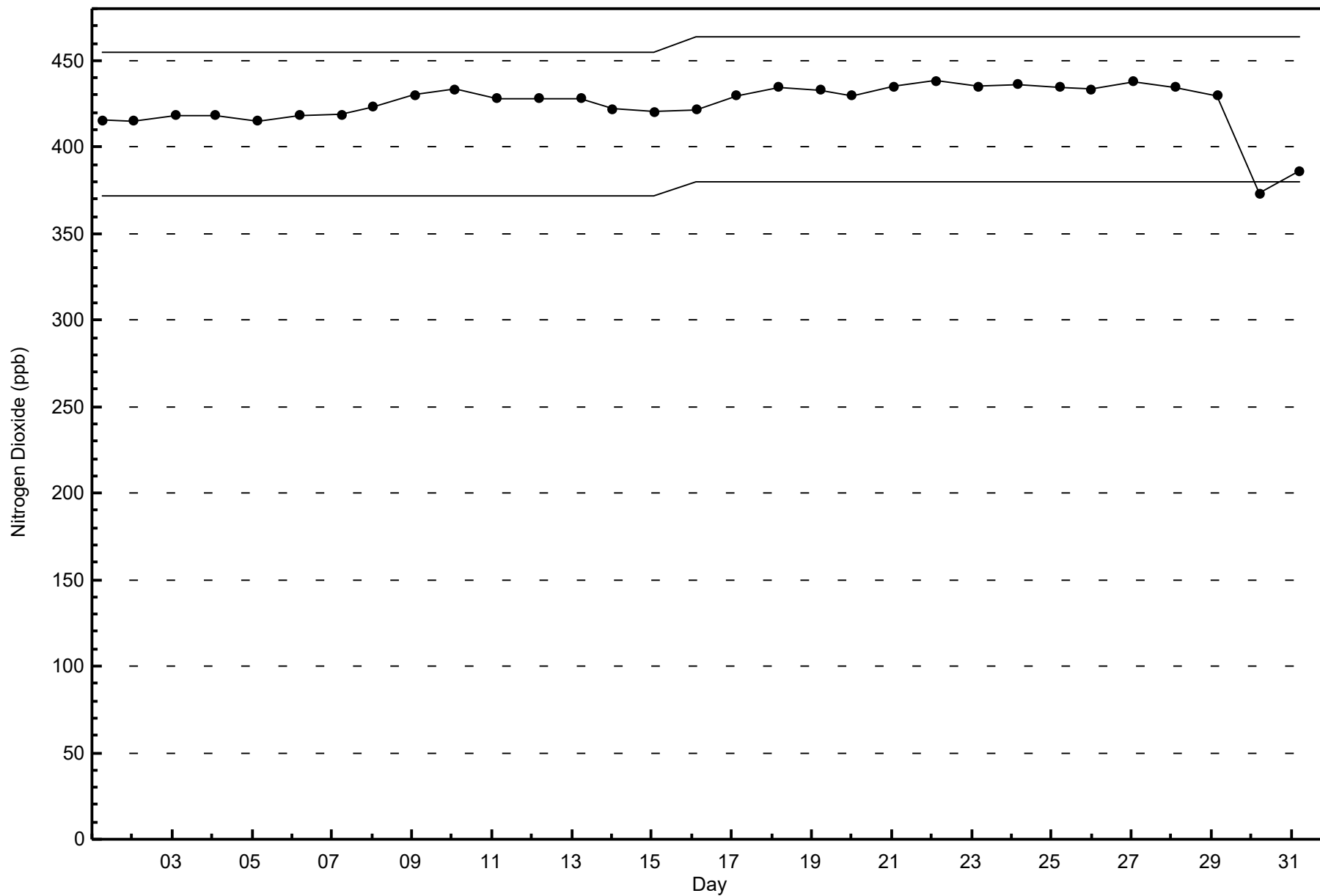






Wood Buffalo Environmental Association
Span Responses

Nitrogen Dioxide (NO₂) - ppb
Blackrod - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Oxides (NO_x) - ppb

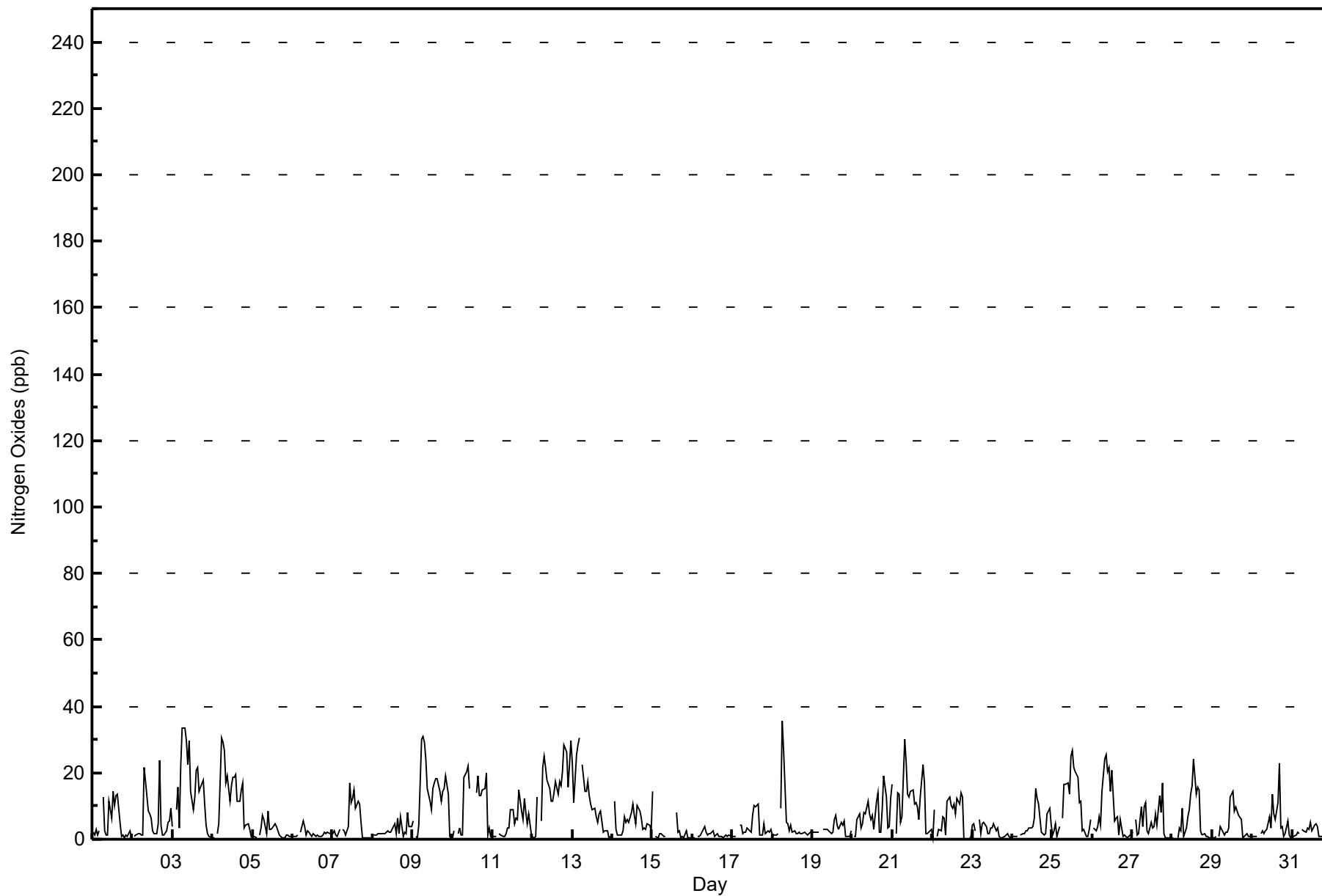
Blackrod - July 2025

Maximum Value: 35.5 ppb on Jul 18 07:00																		Maximum Daily Average: 15.9 ppb on Jul 12										Hours in Service: 744	
Minimum Value: 0.0 ppb on Jul 22 20:00																		Minimum Daily Average: 1.4 ppb on Jul 16										Hours of Data: 705	
Maximum Diurnal Average: 10.9 ppb at hour 8																		Minimum Diurnal Average: 2.4 ppb at hour 2										Hours of Missing Data: 39	
Monthly Average: 6.42 ppb																		Percentiles: P ₁ = 0.3 P ₁₀ = 0.7 Q ₁ = 1.4 Median = 3.1 Q ₃ = 9.6 P ₉₀ = 17.0 P ₉₉ = 30.0										Hours of Calibration: 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-Jul	2.2	1.2	3.0	1.4	2.6	Z	12.5	2.6	1.4	1.4	11.4	6.4	14.5	10.1	13.1	13.6	4.6	0.8	1.2	0.5	1.3	0.7	2.5	0.5	4.8	14.5			
2-Jul	Z	0.9	1.2	1.6	1.6	1.3	1.1	21.6	17.6	8.5	7.5	6.5	2.7	1.6	1.7	4.6	23.8	4.2	1.2	1.4	2.8	5.1	5.7	9.3	5.8	23.8			
3-Jul	3.9	Z	8.9	15.5	3.3	21.8	33.5	33.4	29.8	22.5	29.8	14.5	8.7	12.8	20.8	21.7	14.4	15.7	17.7	10.5	4.3	1.6	0.6	0.4	15.1	33.5			
4-Jul	0.6	0.5	Z	1.5	4.7	30.6	29.2	26.9	16.8	19.0	11.4	16.0	18.5	18.6	19.4	11.5	11.3	14.7	17.0	3.4	4.0	4.7	3.0	0.8	12.3	30.6			
5-Jul	0.7	0.7	0.4	Z	1.3	3.4	7.2	6.0	1.5	8.3	3.0	2.9	3.2	4.5	3.9	2.5	1.2	0.8	0.6	0.6	1.2	1.4	0.9	0.8	2.5	8.3			
6-Jul	0.7	0.8	0.9	1.1	Z	2.2	5.4	4.0	1.4	2.4	2.3	1.0	1.7	1.1	0.7	1.2	0.8	0.7	1.1	2.1	1.7	2.0	1.6	1.6	1.7	5.4			
7-Jul	1.6	2.6	1.5	0.8	3.0	Z	3.0	2.7	1.3	3.8	17.0	11.1	12.2	14.9	9.4	11.5	10.5	5.0	0.6	0.4	0.3	0.6	0.4	0.5	5.0	17.0			
8-Jul	Z	1.3	1.4	1.7	1.7	1.8	1.7	1.9	2.1	2.4	2.2	2.2	2.9	4.5	1.9	6.3	1.6	6.7	0.9	2.0	1.9	8.0	3.9	3.7	2.8	8.0			
9-Jul	5.6	Z	1.0	0.5	4.3	30.0	31.1	29.1	24.4	15.3	11.3	8.8	15.2	17.1	18.3	18.2	14.6	11.3	14.5	15.3	19.2	13.6	0.7	0.6	13.9	31.1			
10-Jul	0.6	2.5	Z	1.5	3.5	1.1	1.3	18.8	20.4	22.0	15.3	M	M	M	14.0	19.0	12.9	13.1	14.6	15.4	19.8	1.3	3.6	0.9	10.1	22.0			
11-Jul	0.8	1.0	1.0	Z	1.6	1.1	0.8	1.0	1.8	3.2	3.3	8.8	8.9	4.8	6.2	5.9	15.0	8.4	5.8	12.3	7.9	4.5	7.5	1.3	4.9	15.0			
12-Jul	0.5	0.5	0.7	12.8	Z	5.4	21.8	25.0	21.8	17.8	15.2	11.4	11.4	13.9	17.2	13.8	17.3	16.0	20.2	28.2	26.2	15.7	22.5	29.7	15.9	29.7			
13-Jul	23.1	10.9	25.3	28.4	30.4	Z	22.4	14.5	14.2	17.2	13.3	10.5	8.7	9.5	6.7	5.1	7.5	8.4	2.2	2.6	2.6	2.7	0.5	1.0	11.6	30.4			
14-Jul	Z	11.6	3.1	1.4	1.4	1.4	2.7	6.6	4.9	6.0	5.1	8.0	10.7	7.3	4.8	10.4	8.6	6.5	2.8	3.5	2.9	4.7	4.2	2.7	5.3	11.6			
15-Jul	14.3	Z	0.8	0.5	1.7	1.5	1.3	1.1	1.0	C	C	C	C	C	8.1	2.1	2.3	0.3	0.8	0.4	2.3	0.5	0.6	0.4	2.2	14.3			
16-Jul	0.5	0.6	Z	1.1	1.1	1.4	2.1	3.7	2.0	1.4	1.7	1.7	2.5	1.0	1.5	1.8	1.0	0.8	0.5	0.7	1.4	0.9	1.2	0.7	1.4	3.7			
17-Jul	1.0	0.9	0.8	Z	4.2	4.3	1.8	2.2	2.0	3.3	2.6	2.0	7.2	10.3	9.8	10.4	1.4	1.3	1.2	4.8	1.6	2.6	2.3	3.0	3.5	10.4			
18-Jul	1.3	1.5	1.5	1.7	Z	9.4	35.5	26.8	4.9	4.6	2.7	4.3	2.0	2.7	1.8	1.8	2.3	1.7	1.5	1.9	1.5	1.4	1.7	2.2	5.1	35.5			
19-Jul	2.1	2.0	2.1	2.0	2.1	Z	2.8	2.8	3.1	2.9	2.6	1.5	2.1	6.1	7.3	4.2	2.8	4.9	4.1	5.4	0.8	1.0	0.9	2.5	3.0	7.3			
20-Jul	Z	1.0	1.0	5.9	7.8	3.3	4.7	8.2	7.8	11.3	7.5	6.1	7.2	2.9	11.3	14.0	2.2	2.2	8.7	18.9	12.8	3.5	4.0	12.4	7.2	18.9			
21-Jul	16.4	Z	1.7	14.1	13.5	5.1	6.9	30.1	23.5	13.7	12.6	14.3	14.8	10.6	11.1	9.6	6.0	12.7	22.6	17.0	1.7	1.5	2.1	2.8	11.5	30.1			
22-Jul	0.5	8.8	Z	1.0	3.1	2.6	6.9	6.2	1.4	11.6	12.8	10.3	9.4	10.8	7.8	12.3	10.7	14.1	12.9	0.0	0.1	0.2	0.2	0.9	6.3	14.1			
23-Jul	4.1	4.5	2.5	Z	6.0	1.7	4.7	4.9	3.8	1.8	1.8	3.3	3.2	4.7	2.4	3.5	0.9	0.5	0.5	1.0	1.1	1.8	0.6	0.6	2.6	6.0			
24-Jul	0.7	0.7	0.8	1.0	Z	1.4	1.5	1.6	2.6	2.5	3.6	3.4	4.0	6.3	15.1	12.1	10.5	2.2	1.7	1.5	1.7	7.7	9.5	4.4	4.2	15.1			
25-Jul	1.2	2.4	4.5	0.6	3.7	Z	6.2	16.6	16.4	17.1	13.6	24.8	26.6	21.7	20.2	18.5	11.0	11.6	2.7	2.8	0.9	0.7	2.8	6.1	10.1	26.6			
26-Jul	Z	3.5	2.7	3.7	6.9	4.4	14.4	24.2	25.6	20.3	21.8	14.5	20.9	5.5	6.5	6.9	1.4	6.0	0.7	1.3	0.7	0.4	0.7	1.4	8.4	25.6			
27-Jul	1.9	Z	6.0	1.1	1.8	9.9	3.7	9.6	10.8	2.7	1.6	5.2	3.4	4.0	7.6	4.3	13.3	7.9	16.9	1.6	0.3	0.4	0.3	0.3	5.0	16.9			
28-Jul	0.3	0.2	Z	0.3	3.2	2.4	9.3	0.9	3.4	6.9	8.7	13.6	16.0	24.2	13.6	15.7	14.8	2.5	1.4	1.5	0.9	0.8	0.4	0.4	6.2	24.2			
29-Jul	0.4	0.5	0.6	Z	0.9	3.8	2.3	1.4	2.2	2.3	3.4	12.8	14.2	8.7	9.5	8.4	7.3	5.9	0.6	0.9	1.1	1.7	0.7	0.7	3.9	14.2			
30-Jul	0.7	0.8	0.9	0.9	Z	1.7	2.5	1.5	2.5	3.2	6.8	3.4	13.5	7.8	6.1	11.2	22.7	3.4	3.8	1.0	1.5	5.3	1.1	0.5	4.5	22.7			
31-Jul	0.9	1.0	1.1	2.3	1.7	Z	3.0	2.7	2.1	3.4	2.9	5.2	2.6	4.0	4.8	3.7	1.0	0.9	0.8	0.5	0.6	0.7	1.5	0.9	2.1	5.2			
3.3 2.4 2.9 4.0 4.5 6.1 9.1 10.9 8.8 8.6 8.5 8.1 9.3 8.7 9.1 9.2 8.2 6.2 5.9 5.1 4.1 3.2 2.8 3.0																										Diurnal Average			
23.1 11.6 25.3 28.4 30.4 30.6 35.5 33.4 29.8 22.5 29.8 24.8 26.6 24.2 20.8 21.7 23.8 16.0 22.6 28.2 26.2 15.7 22.5 29.7																										Diurnal Maximum			
Z - zerospan C - Calibration M - Maintenance																													



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Blackrod - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Blackrod - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	661	93.76	93.76
21 - 40	44	6.24	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
Blackrod - July 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	35	10	10	11	15	38	143	145	68	42	31	15	29	26	21	661
21 - 40	3	1	0	0	0	0	0	1	1	0	2	6	17	11	2	0	44
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	25	36	10	10	11	15	38	144	146	68	44	37	32	40	28	21	705

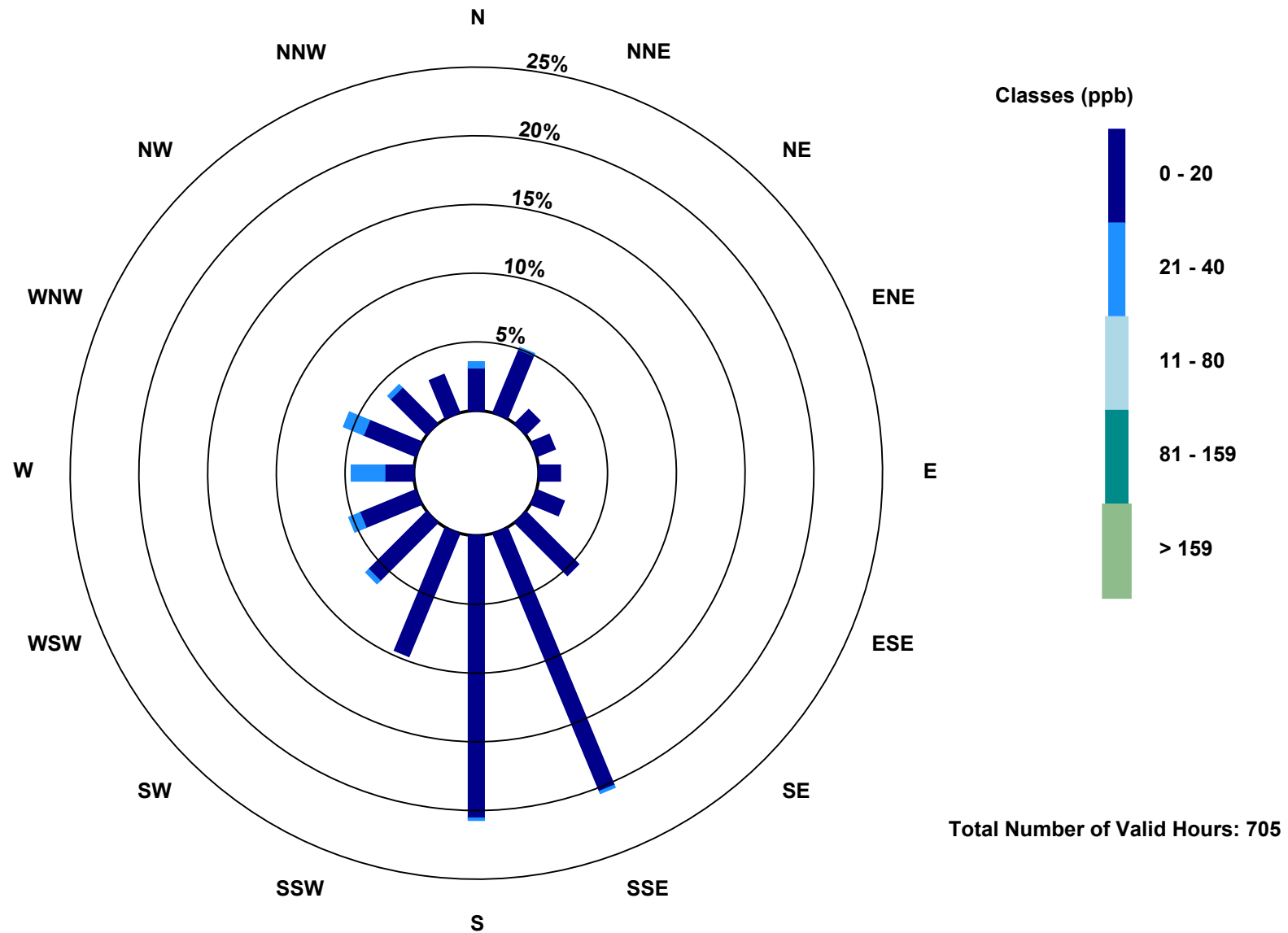
Total Number of Valid Hours: 705

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

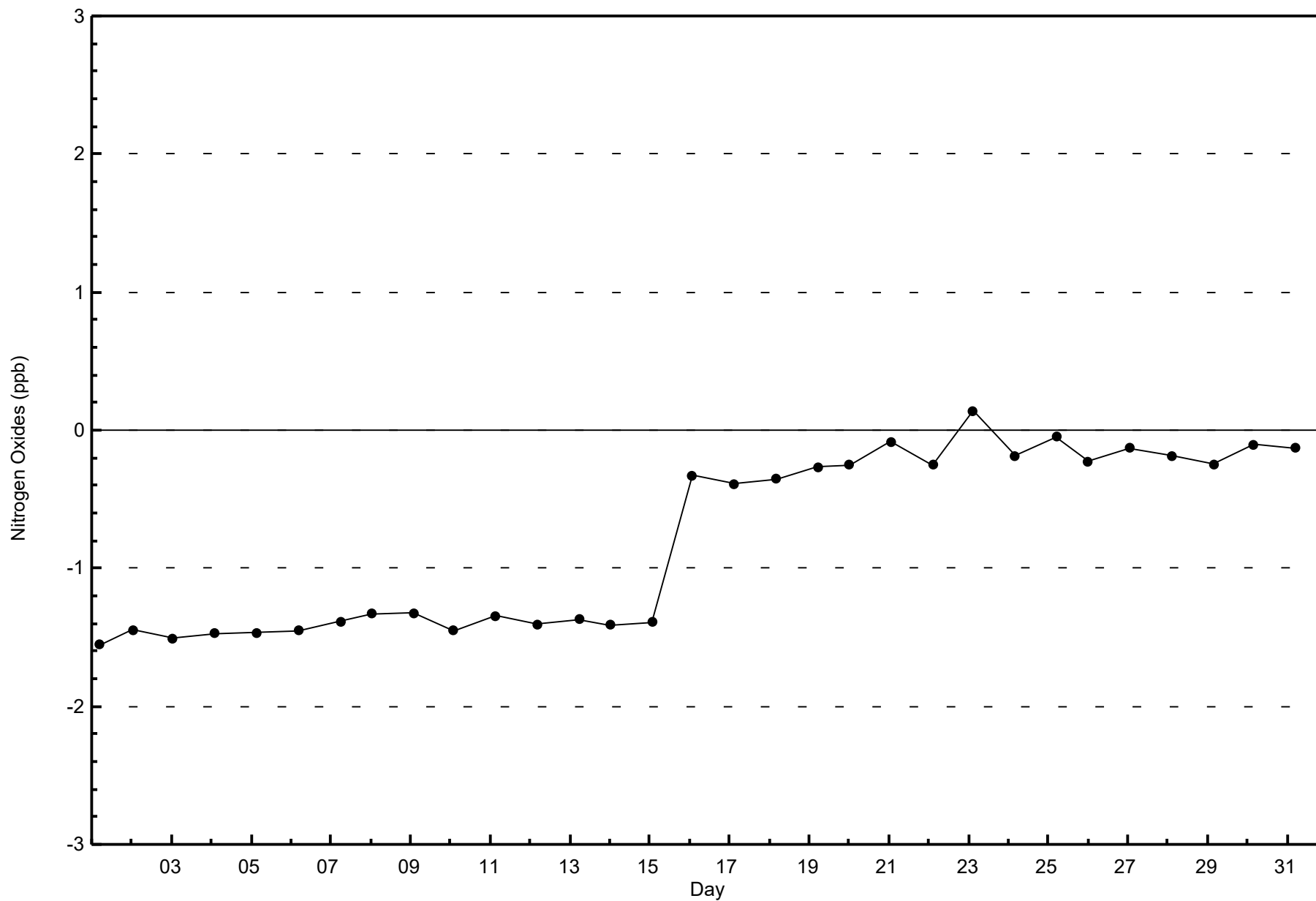
Nitrogen Oxides (NO_x) - ppb
Blackrod





Wood Buffalo Environmental Association
Zero Responses

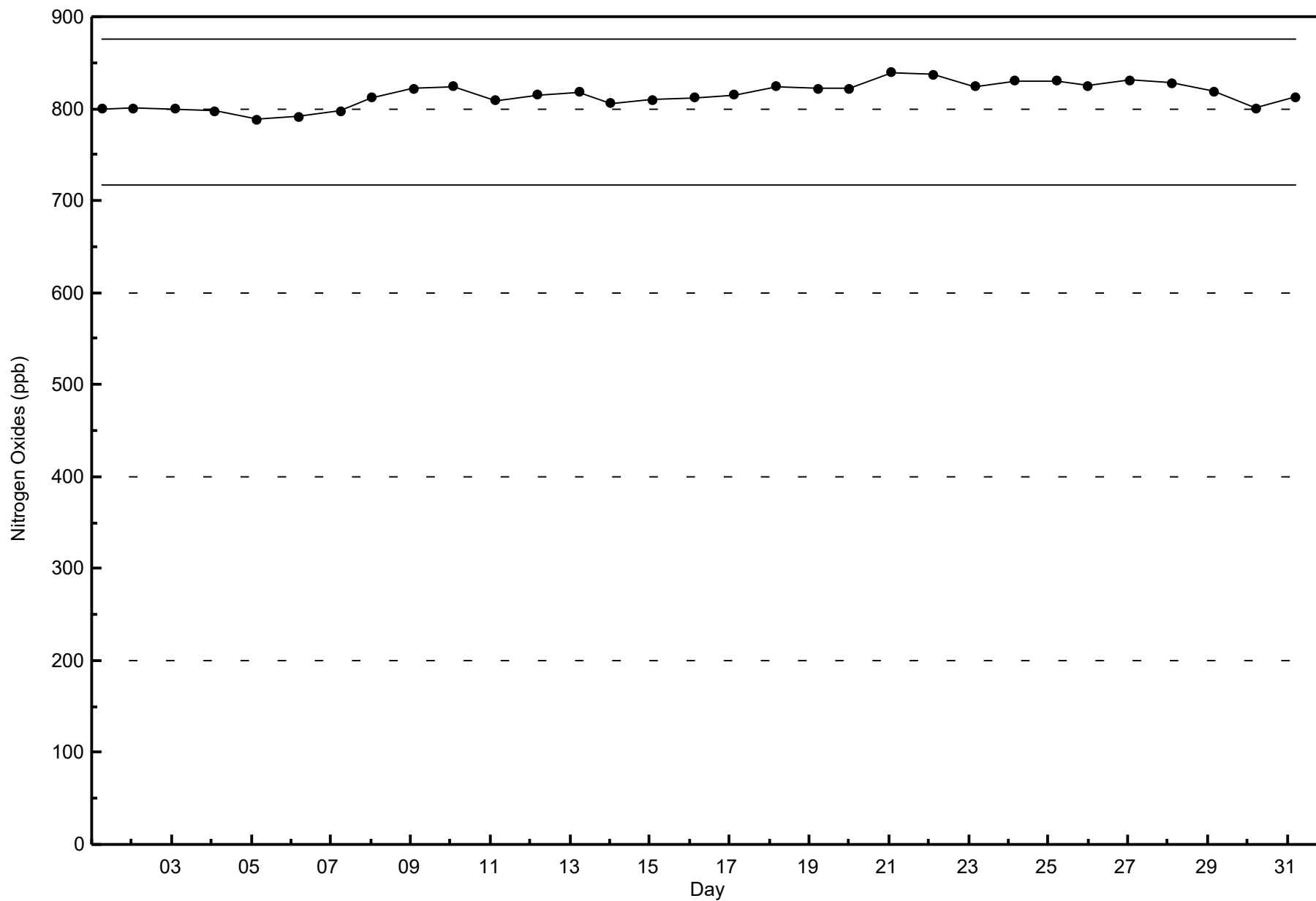
Nitrogen Oxides (NO_x) - ppb
Blackrod - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitrogen Oxides (NO_x) - ppb
Blackrod - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Ambient Temperature 2m (AT2) - C

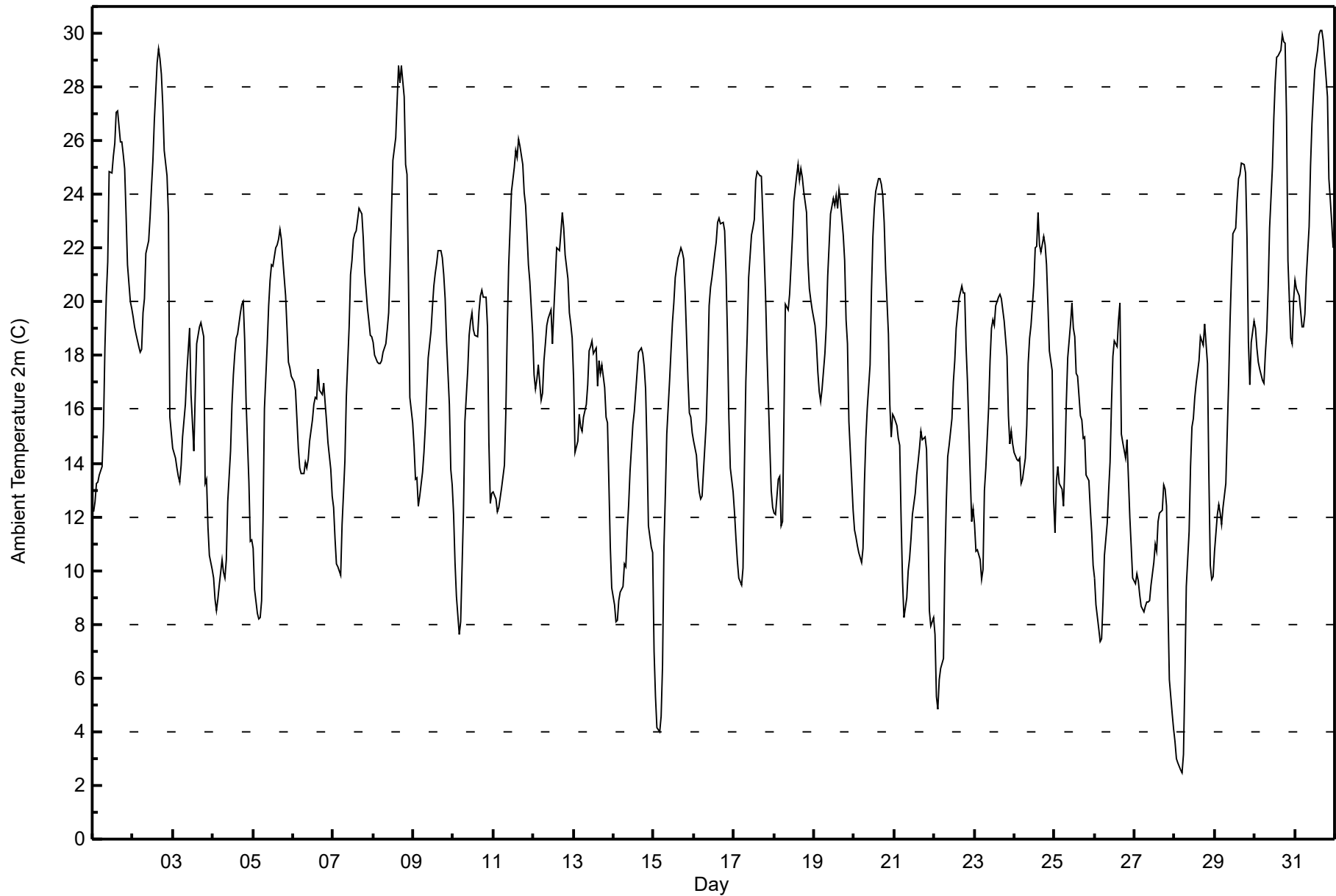
Blackrod - July 2025

Maximum Value: 30.1 C on Jul 31 16:00																				Maximum Daily Average: 24.6 C on Jul 31										Hours in Service: 744	
Minimum Value: 2.5 C on Jul 28 05:00																				Minimum Daily Average: 9.6 C on Jul 27										Hours of Data: 744	
Maximum Diurnal Average: 22.0 C at hour 16																				Minimum Diurnal Average: 11.7 C at hour 5										Hours of Missing Data: 0	
Monthly Average: 17.05 C																				Percentiles: P ₁ = 4.1 P ₁₀ = 9.9 Q ₁ = 13.2 Median = 17.4 Q ₃ = 20.8 P ₉₀ = 24.2 P ₉₉ = 29.4										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-Jul	12.2	12.5	13.2	13.3	13.6	13.9	15.3	18.3	20.2	21.5	24.9	24.8	25.5	25.9	27.1	27.1	25.9	26.0	25.5	25.0	23.2	21.4	20.0	19.8	20.7	27.1					
2-Jul	19.5	19.1	18.8	18.3	18.1	18.2	19.6	20.1	21.8	22.3	23.2	24.3	25.3	26.7	28.9	29.4	29.0	28.5	27.3	25.6	24.7	23.2	15.7	15.1	22.6	29.4					
3-Jul	14.5	14.2	13.8	13.5	13.3	13.9	15.0	16.2	17.3	18.2	19.0	16.6	14.4	16.6	18.5	18.8	19.1	19.2	18.7	13.2	13.4	11.6	10.5	10.0	15.4	19.2					
4-Jul	9.7	8.9	8.5	8.9	9.4	10.4	10.0	9.7	10.4	12.5	14.5	16.2	17.3	18.1	18.7	18.8	19.6	19.9	20.0	18.6	16.3	13.3	11.1	11.1	13.8	20.0					
5-Jul	10.8	9.3	8.4	8.2	8.2	8.9	11.9	16.0	18.4	19.8	20.8	21.4	21.3	22.0	22.1	22.4	22.7	22.3	21.6	20.2	19.0	17.8	17.6	17.2	17.0	22.7					
6-Jul	17.0	16.7	15.7	14.5	13.8	13.6	13.6	14.0	13.8	14.1	14.8	15.6	16.2	16.4	16.4	17.5	16.7	16.5	17.0	16.3	15.5	14.8	13.7	12.7	15.3	17.5					
7-Jul	12.3	11.2	10.3	10.1	9.8	11.7	12.9	14.1	16.5	19.1	21.0	21.5	22.3	22.5	22.6	23.5	23.4	23.3	22.4	21.1	19.8	19.3	18.8	18.7	17.8	23.5					
8-Jul	18.5	18.0	17.8	17.7	17.7	17.8	18.1	18.4	19.0	19.6	21.3	23.4	25.3	26.1	27.5	28.8	28.2	28.8	27.6	25.1	24.7	20.9	16.4	15.5	21.8	28.8					
9-Jul	14.6	13.4	13.5	12.4	12.8	13.6	14.4	15.4	16.7	17.9	18.9	19.8	20.6	21.1	21.5	21.9	21.9	21.7	21.0	20.1	18.6	16.2	13.8	13.2	17.3	21.9					
10-Jul	12.1	10.3	9.0	7.6	8.1	10.1	12.2	15.5	17.5	18.8	19.3	19.6	19.0	18.7	18.7	19.7	20.2	20.4	20.2	20.2	19.1	14.8	12.5	12.9	15.7	20.4					
11-Jul	12.9	12.7	12.2	12.4	12.7	13.1	13.9	15.9	18.9	21.3	22.7	24.1	25.0	25.7	25.4	26.1	25.8	25.1	24.0	23.6	22.6	21.4	20.8	18.8	19.9	26.1					
12-Jul	17.3	16.7	17.1	17.6	16.3	16.6	17.8	18.4	19.1	19.4	19.7	18.5	19.7	20.8	22.0	21.9	22.6	23.3	22.7	21.8	20.8	19.6	19.2	18.6	19.5	23.3					
13-Jul	17.2	14.4	14.8	15.8	15.4	15.2	15.7	16.2	16.9	18.2	18.4	18.5	18.1	18.3	16.9	17.8	17.3	17.7	16.8	15.7	15.5	13.2	10.9	9.3	16.0	18.5					
14-Jul	8.7	8.1	8.2	8.9	9.2	9.4	10.2	10.1	11.5	12.5	13.7	15.4	15.9	16.7	17.4	18.1	18.3	18.1	17.6	16.8	14.6	11.6	10.9	10.7	13.0	18.3					
15-Jul	7.0	5.3	4.1	4.0	4.6	6.4	10.9	12.9	15.1	17.1	18.2	19.2	19.9	20.9	21.7	21.8	22.0	21.8	21.6	20.3	17.2	15.9	15.7	15.2	14.9	22.0					
16-Jul	14.8	14.3	13.5	12.9	12.7	12.8	13.7	15.5	17.4	19.9	20.6	20.9	21.8	22.2	23.0	23.1	22.9	23.0	22.6	21.0	18.7	15.7	13.8	12.9	17.9	23.1					
17-Jul	12.1	11.2	10.3	9.7	9.5	10.1	13.9	17.0	18.8	20.9	22.5	22.7	23.1	24.5	24.9	24.7	24.7	23.3	21.7	20.2	18.1	14.6	13.0	12.3	17.7	24.9					
18-Jul	12.2	12.1	13.4	13.5	11.6	11.8	15.7	19.9	19.7	20.3	21.3	22.4	23.8	24.7	25.1	24.5	25.0	24.6	24.1	23.3	21.5	20.5	20.1	19.7	19.6	25.1					
19-Jul	19.1	18.5	17.4	16.7	16.3	16.8	18.1	19.1	21.0	22.1	23.3	23.8	23.6	23.9	23.5	24.2	23.7	22.5	21.5	19.3	18.5	15.6	13.3	12.3	19.8	24.2					
20-Jul	11.5	11.2	10.9	10.7	10.3	10.8	13.2	14.9	16.0	17.7	20.4	22.4	23.5	24.1	24.6	24.6	24.4	24.0	23.0	21.3	18.8	16.2	15.0	15.8	17.7	24.6					
21-Jul	15.7	15.4	14.9	14.6	11.9	9.6	8.3	9.0	10.0	10.5	11.2	12.1	12.9	13.5	14.0	14.6	15.2	14.9	15.0	14.5	12.0	8.5	7.9	8.3	12.3	15.7					
22-Jul	7.6	5.3	4.8	5.9	6.3	6.7	10.2	12.6	14.2	14.7	15.7	17.0	17.8	19.0	19.6	20.1	20.6	20.3	20.3	18.3	17.0	13.5	11.8	12.3	13.8	20.6					
23-Jul	11.7	10.7	10.8	10.4	9.7	10.1	13.0	13.8	16.1	17.8	19.0	19.3	19.1	19.8	20.2	20.3	20.1	19.7	19.3	18.0	15.7	14.7	15.2	14.7	15.8	20.3					
24-Jul	14.4	14.1	14.1	14.2	13.2	13.4	14.2	15.4	17.7	18.6	19.1	20.6	22.0	22.0	23.3	22.1	21.9	22.4	22.1	21.4	19.9	18.2	17.5	12.7	18.1	23.3					
25-Jul	11.4	13.3	13.9	13.2	13.0	12.4	14.0	16.2	17.9	19.2	20.0	19.0	18.7	17.4	17.2	15.8	15.6	14.9	15.0	13.6	13.3	12.3	11.4	10.2	15.0	20.0					
26-Jul	9.7	8.7	7.8	7.4	7.5	8.8	10.6	11.8	13.0	14.0	16.2	18.0	18.5	18.3	19.3	20.0	15.1	14.8	14.2	14.9	13.5	12.0	10.9	9.7	13.1	20.0					
27-Jul	9.5	9.9	9.6	9.1	8.6	8.5	8.7	8.8	8.8	8.9	9.5	10.3	11.0	10.7	11.8	12.1	12.2	13.2	13.0	12.4	8.7	5.9	4.7	4.1	9.6	13.2					
28-Jul	3.6	3.0	2.9	2.6	2.5	3.1	6.0	9.4	11.5	13.9	15.4	15.7	16.4	17.0	17.8	18.7	18.5	18.4	19.2	17.7	13.5	10.2	9.6	9.8	11.5	19.2					
29-Jul	10.7	12.1	12.5	12.1	11.7	12.3	13.2	15.1	17.0	19.3	21.0	22.5	22.7	23.8	24.6	24.8	25.2	25.1	24.8	22.4	18.5	16.9	18.5	19.3	18.6	25.2					
30-Jul	19.0	18.3	17.8	17.5	17.1	17.0	18.1	18.9	20.6	22.8	25.0	26.8	28.2	29.1	29.2	29.4	30.0	29.7	29.6	26.9	21.6	18.7	18.4	20.1	22.9	30.0					
31-Jul	20.8	20.5	20.2	19.6	19.1	19.1	19.6	20.9	22.8	25.1	26.7	27.7	28.7	29.4	30.0	30.1	30.1	29.7	29.0	27.6	24.6	23.8	23.0	22.0	24.6	30.1					
13.2 12.6 12.3 12.0 11.7 12.1 13.6 15.2 16.6 18.0 19.3 20.0 20.6 21.2 21.7 22.0 21.9 21.7 21.2 19.9 18.0 15.9 14.6 14.0																										Diurnal Average					
20.8 20.5 20.2 19.6 19.1 19.1 19.6 20.9 22.8 25.1 26.7 27.7 28.7 29.4 30.0 30.1 30.1 29.7 29.6 27.6 24.7 23.8 23.0 22.0																										Diurnal Maximum					



Wood Buffalo Environmental Association
Hourly Averages

Ambient Temperature 2m (AT2) - C
Blackrod - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ambient Temperature 2m (AT2) - C
Blackrod - July 2025

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	0	0.00	0.00
-20 - 0	0	0.00	0.00
0 - 10	77	10.35	10.35
10 - 20	447	60.08	70.43
> 20	220	29.57	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) - %

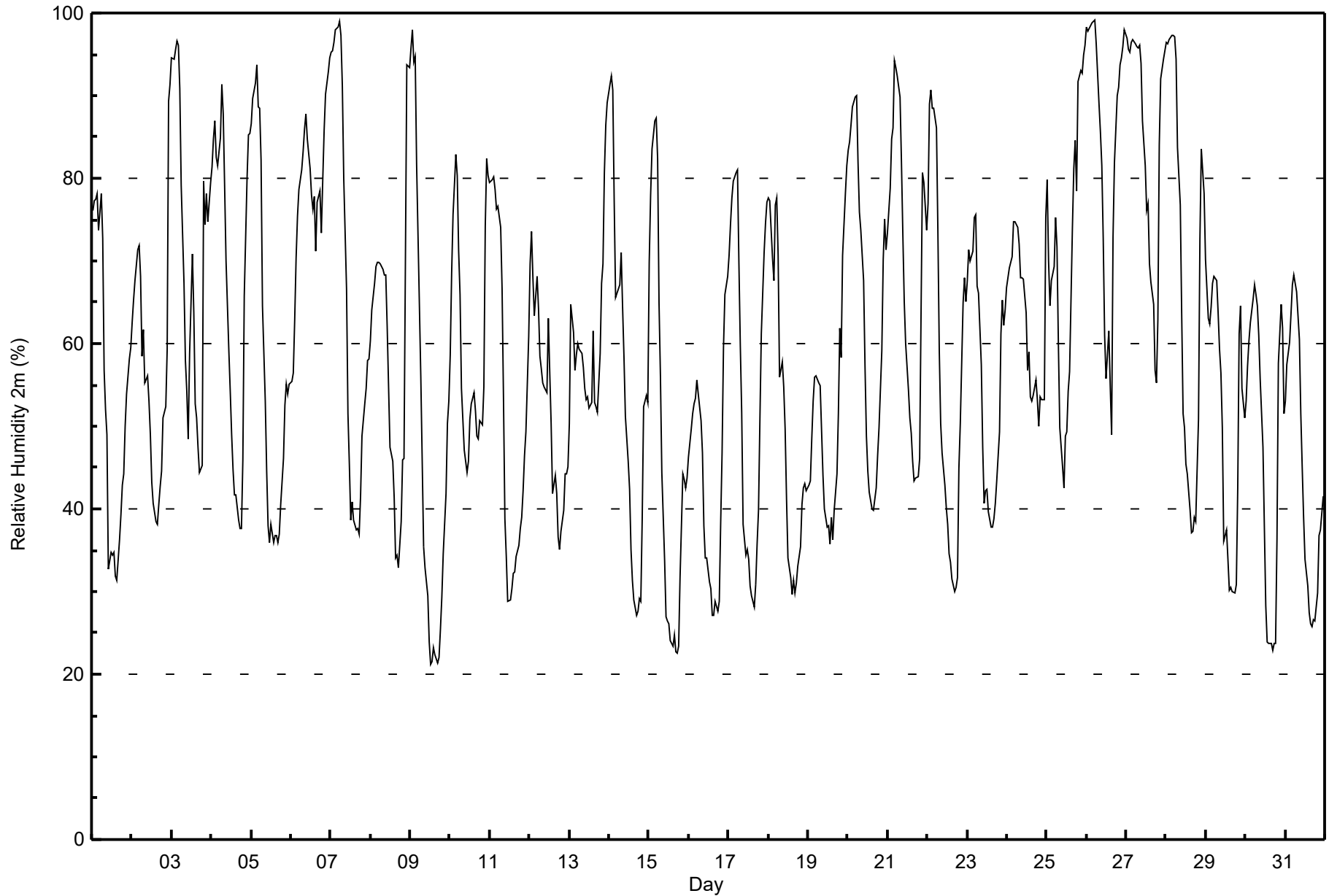
Blackrod - July 2025

Maximum Value: 99.1 % on Jul 26 06:00																				Maximum Daily Average: 84.3 % on Jul 27										Hours in Service: 744			
Minimum Value: 21.2 % on Jul 9 13:00																				Minimum Daily Average: 43.6 % on Jul 16										Hours of Data: 744			
Maximum Diurnal Average: 78.2 % at hour 5																				Minimum Diurnal Average: 39.9 % at hour 16										Hours of Missing Data: 0			
Monthly Average: 59.28 %																				Percentiles: P ₁ = 23.0 P ₁₀ = 32.9 Q ₁ = 42.5 Median = 57.2 Q ₃ = 75.3 P ₉₀ = 89.8 P ₉₉ = 98.0										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-Jul	76.2	77.3	77.4	78.1	73.8	78.1	72.7	56.7	52.1	49.0	32.7	34.8	34.4	34.7	31.9	31.3	36.3	39.4	42.9	44.2	50.0	53.8	58.2	59.4	53.1	78.1							
2-Jul	62.6	65.3	67.6	71.3	71.9	68.1	58.5	61.6	55.2	56.0	53.1	49.0	43.3	40.7	38.5	38.1	40.5	42.8	44.5	51.1	52.4	59.3	89.4	91.3	57.2	91.3							
3-Jul	94.5	94.4	95.7	96.7	96.2	90.8	79.2	67.2	57.9	54.2	48.5	58.8	70.9	63.7	52.7	50.9	47.5	44.5	45.3	79.7	74.4	78.1	74.7	79.5	70.7	96.7							
4-Jul	81.3	84.7	87.0	82.6	81.6	84.9	91.3	87.8	79.0	69.9	59.2	54.3	49.0	44.7	41.6	41.7	38.6	37.6	37.6	45.9	65.7	80.0	85.2	85.5	66.5	91.3							
5-Jul	86.6	89.7	91.6	93.7	88.6	88.4	82.2	64.6	53.0	44.6	38.0	35.9	38.1	36.0	36.8	36.8	36.0	36.9	40.5	46.1	52.5	55.1	53.8	55.0	57.5	93.7							
6-Jul	55.4	56.5	62.9	70.3	75.4	78.6	81.0	83.2	85.9	87.8	84.7	81.3	77.9	76.3	77.9	71.1	77.0	78.5	73.5	79.7	85.8	90.1	92.9	94.5	78.3	94.5							
7-Jul	95.3	95.5	96.4	97.9	98.3	99.0	97.3	91.1	80.0	66.6	51.5	45.3	38.7	40.9	38.7	37.5	37.6	37.0	41.5	48.9	52.7	54.5	58.0	58.1	64.9	99.0							
8-Jul	60.3	64.1	67.2	69.3	69.8	69.9	69.6	68.9	68.3	68.3	62.1	54.7	47.5	45.7	41.3	34.1	34.5	32.8	38.5	45.9	46.0	69.7	93.7	93.4	59.0	93.7							
9-Jul	95.8	98.0	94.1	94.7	81.6	64.6	55.9	45.7	35.4	32.8	29.5	23.8	21.2	21.6	23.2	22.4	21.3	22.1	25.3	29.3	34.6	41.9	50.4	53.0	46.6	98.0							
10-Jul	58.7	68.5	75.5	82.8	80.3	71.2	65.9	54.6	47.2	45.7	44.3	45.7	50.8	52.7	54.1	51.8	48.9	48.5	50.7	50.1	54.7	74.2	82.3	80.3	60.0	82.8							
11-Jul	79.5	79.8	80.1	78.7	76.2	76.5	74.0	66.7	53.4	38.8	34.2	28.9	29.0	30.3	32.1	32.5	34.3	35.7	37.6	38.9	42.3	46.4	49.3	60.9	51.5	80.1							
12-Jul	69.6	73.6	67.9	63.3	68.2	64.3	58.4	56.9	55.3	54.7	54.0	63.0	56.6	50.4	41.9	44.0	41.9	36.7	35.1	37.3	39.8	44.2	44.3	45.2	52.8	73.6							
13-Jul	50.4	64.8	61.4	56.7	58.7	60.0	59.3	58.9	57.1	54.5	53.2	53.5	52.3	52.9	61.5	53.0	52.3	51.7	58.8	67.3	69.6	80.6	86.5	89.1	61.0	89.1							
14-Jul	91.4	92.4	90.7	77.3	65.5	66.6	67.2	71.1	64.5	58.2	51.2	45.7	42.4	35.0	31.3	29.0	27.1	27.7	29.1	28.8	38.8	52.3	53.7	52.9	53.7	92.4							
15-Jul	69.9	77.9	83.5	86.9	87.3	82.4	64.9	56.0	44.4	33.7	27.0	26.4	26.1	24.1	23.4	24.7	22.7	22.6	23.5	31.7	44.3	43.6	42.6	43.8	46.4	87.3							
16-Jul	46.3	49.7	51.5	52.6	53.3	55.6	53.9	50.7	46.8	37.9	34.1	34.1	31.2	30.4	27.1	27.1	28.8	27.6	28.8	38.4	46.7	59.5	65.9	68.2	43.6	68.2							
17-Jul	70.6	74.5	77.6	79.6	80.6	81.0	69.8	59.8	51.7	38.1	34.4	35.0	33.9	30.6	29.6	28.1	30.8	35.7	39.9	50.9	61.1	71.0	74.5	77.2	54.8	81.0							
18-Jul	77.6	77.3	70.4	67.6	76.7	77.7	70.6	56.0	57.8	54.8	49.7	41.2	34.1	31.8	29.6	31.3	29.9	31.1	33.0	35.5	40.6	42.5	43.0	42.3	50.1	77.7							
19-Jul	42.8	43.5	48.4	53.1	56.0	56.1	55.3	55.0	49.5	44.0	39.9	37.9	38.0	35.7	38.9	36.3	39.9	44.2	51.6	61.8	58.2	70.6	78.2	81.5	50.7	81.5							
20-Jul	83.4	84.5	86.4	88.7	89.8	90.0	82.0	76.0	73.7	67.7	57.3	48.9	44.6	42.0	39.9	39.9	41.2	42.5	46.5	49.9	59.1	70.2	75.2	71.3	64.6	90.0							
21-Jul	73.4	78.8	84.7	86.2	94.3	93.4	92.4	89.8	82.1	73.3	65.0	60.0	54.5	51.1	49.1	45.7	43.3	43.8	43.9	46.1	63.8	80.6	79.4	73.7	68.7	94.3							
22-Jul	76.9	89.0	90.7	88.5	88.5	86.1	73.7	59.2	50.3	46.8	43.0	40.2	38.2	34.6	33.6	31.5	30.0	30.4	31.6	44.8	50.3	64.9	67.9	65.2	56.5	90.7							
23-Jul	67.7	71.4	69.9	71.2	75.3	75.6	67.0	66.1	57.4	47.5	40.6	42.2	42.4	39.6	37.7	37.8	38.8	40.7	43.5	49.4	61.1	65.3	62.1	64.1	55.6	75.6							
24-Jul	66.8	69.2	69.9	70.6	74.8	74.7	74.1	72.0	67.9	68.0	67.9	63.7	56.8	59.1	53.6	53.0	53.7	55.6	53.3	50.0	53.6	53.2	53.3	75.3	62.9	75.3							
25-Jul	79.8	70.1	64.6	67.7	69.4	75.3	71.7	60.0	49.8	45.1	42.5	48.9	49.3	54.3	56.6	73.8	81.3	84.5	78.5	91.7	93.1	92.7	94.9	96.1	70.5	96.1							
26-Jul	98.3	97.9	98.6	98.8	99.0	99.1	96.2	89.0	85.7	81.6	72.8	61.0	55.8	61.5	54.9	48.9	72.8	81.8	90.0	91.0	93.8	94.5	96.0	98.0	84.0	99.1							
27-Jul	96.9	95.5	95.2	96.4	96.7	96.4	96.0	95.8	96.1	93.8	86.9	81.5	76.1	77.0	69.6	67.4	64.8	56.8	55.2	62.8	84.1	92.1	94.3	95.4	84.3	96.9							
28-Jul	96.4	96.3	96.8	97.3	97.3	97.2	94.4	83.7	76.8	63.6	51.5	49.9	45.4	44.2	39.8	37.2	37.3	39.1	38.5	50.9	72.6	83.6	80.9	78.2	68.7	97.3							
29-Jul	70.2	63.0	62.3	64.5	67.4	68.1	67.7	63.7	59.4	56.5	49.8	36.1	37.4	33.8	30.2	30.4	29.9	29.8	30.8	42.5	61.2	64.6	54.5	50.9	51.0	70.2							
30-Jul	53.0	57.3	60.3	62.5	65.4	67.2	65.9	64.6	61.0	55.7	47.4	37.9	28.3	23.9	23.8	23.7	22.9	23.7	23.7	36.3	57.6	64.7	61.8	51.6	47.5	67.2							
31-Jul	53.0	57.5	60.2	63.6	67.2	68.3	67.2	66.2	60.5	51.6	45.0	39.0	34.0	30.6	27.5	26.1	25.8	26.6	26.5	29.9	36.8	37.5	39.4	41.5	45.1	68.3							
73.6 76.1 77.0 77.7 78.2 77.6 73.4 67.7 61.8 56.2 50.0 47.0 44.5 42.9 40.9 39.9 40.9 41.5 43.2 50.2 58.0 65.5 68.9 70.1																										Diurnal Average							
98.3 98.0 98.6 98.8 99.0 99.1 97.3 95.8 96.1 93.8 86.9 81.5 77.9 77.0 77.9 73.8 81.3 84.5 90.0 91.7 93.8 94.5 96.0 98.0																										Diurnal Maximum							



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 2m (RH2) - %
Blackrod - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Relative Humidity 2m (RH2) - %
Blackrod - July 2025

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	160	21.51	21.51
40 - 60	243	32.66	54.17
60 - 80	203	27.28	81.45
80 - 100	138	18.55	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

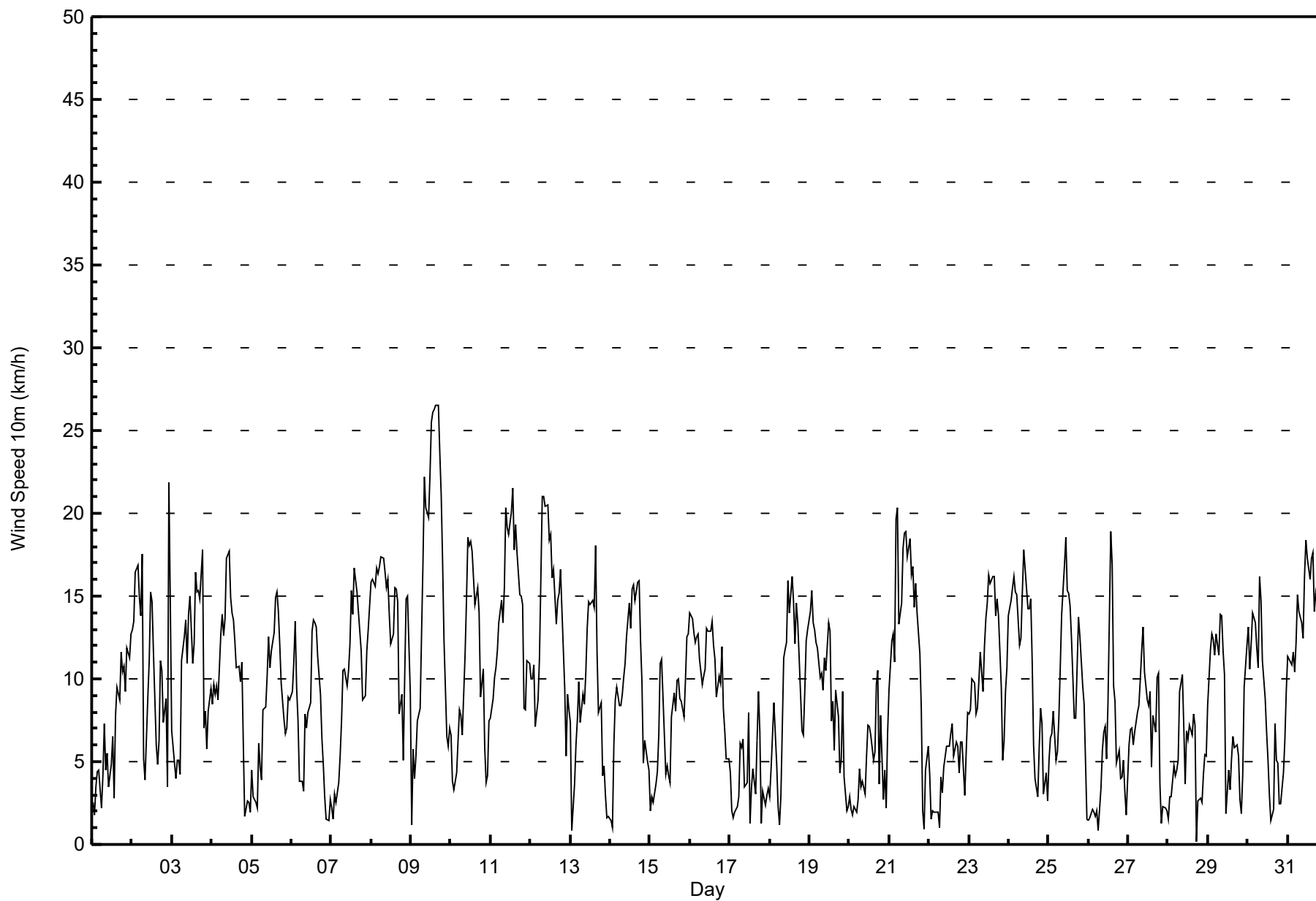
Blackrod - July 2025

Maximum Speed: 27 km/h on Jul 9 16:00										Maximum Daily Speed Average: 14.0 km/h on Jul 9										Hours in Service: 744						
Minimum Speed Value: 0 km/h on Jul 28 18:00										Minimum Daily Speed Average: 1.7 km/h on Jul 22										Hours of Data: 744						
Maximum Diurnal Speed Average: 6.5 km/h at hour 14										Minimum Diurnal Speed Average: 2.4 km/h at hour 20										Hours of Missing Data: 0						
Monthly Average Velocity: 4.0 km/h 204.1 deg										Percentiles: P ₁ = 1 P ₁₀ = 3 Q ₁ = 5 Median = 9 Q ₃ = 13 P ₉₀ = 16 P ₉₉ = 22										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-Jul	SSE3	SSE2	S3	S4	SSE4	S2	SSW4	SSW7	S5	S6	SW3	SW5	SW7	SW3	SW8	SW10	SSW9	S12	S10	S11	SSE9	SSE12	SSE11	SSE13	S6.2	SSE13
2-Jul	SSE13	SSE13	SSE16	SSE17	SSE15	SSE14	SSE18	WSW5	WNW4	N9	NNE11	NNE15	NE15	NE12	E6	S5	N6	NE11	NE10	ENE7	E9	W3	NW22	N15	E2.6	NW22
3-Jul	NNE7	NE5	S4	WSW5	SSW5	WSW4	WNW11	WNW13	WNW14	NW11	W14	SW15	SSW11	SSW12	WSW16	SW15	WSW15	WSW15	W18	WSW7	SW8	SSW6	SSW8	SSW9	WSW7.9	W18
4-Jul	SSW8	SSW10	SSW9	SW10	SW9	W13	WNW14	NW13	NW14	NW17	NW18	NW15	NW14	NW14	WNW12	NW11	NNW11	NW10	WNW11	NNW6	SE2	SSE3	SSE3	SE2	WNW7.3	NW18
5-Jul	SSE4	SSE3	SSE3	SSE2	S6	S5	SSW4	S8	S8	SSW10	S13	S11	S12	SSW13	SSW15	S15	S14	S12	S10	SSE8	SSE7	SSE7	SSE9	SSE9	S8.3	S15
6-Jul	SSE9	SSE11	SSE13	S10	S7	SSE4	SSW4	S3	S8	S7	S8	SSE9	S13	S14	S13	S13	SSW11	S9	S6	SW5	S3	SE2	SE1	SSE3	S7.5	S14
7-Jul	SE2	SE1	SSE3	SSE3	SSE4	SSE5	SSW7	S11	S11	SSW10	SW10	SW12	SW15	SW14	SW17	SW15	SW14	SW13	SSW12	S9	S9	SSE12	SSE13	SSE14	SSW8.9	SW17
8-Jul	SSE16	SSE16	SSE16	SSE17	SSE16	SSE17	S17	S17	S16	S16	S16	S14	S12	S13	S15	SSW15	SSW15	SW8	S9	SSE5	SSE10	WNW15	NNW15	N9	S10.8	S17
9-Jul	NNE1	S6	S4	S5	SW7	W8	WNW13	W17	W22	WSW20	WSW20	WSW22	WSW26	WSW26	W26	W27	W27	W24	WNW21	WNW17	WNW12	WSW7	SSW6	SSW7	W14.0	W27
10-Jul	S7	S4	SSE3	SSE4	SSE6	S8	S8	W7	WNW11	WNW15	WNW19	NW18	NW18	NW18	WNW15	WNW15	WNW16	NW14	NW9	WNW11	W6	SSE4	SSE4	SSE7	WNW6.4	WNW19
11-Jul	S8	SSE9	SSE10	SSE11	S12	S13	S15	S13	SSW16	SSW20	SW19	WSW19	WSW20	SW22	SW18	SW19	WSW18	WSW15	WSW15	WSW14	SW8	SW8	WSW11	SW11	SW12.7	SW22
12-Jul	S10	S10	SSW11	WSW7	SSW9	SW11	W16	WNW21	WNW21	WNW20	WNW21	NW18	NW19	WNW16	WNW17	NW13	WNW15	WNW15	WNW17	W14	W9	WSW5	W9	W8	W11.4	WNW21
13-Jul	WNW7	WNW1	W4	W6	W8	WNW10	WNW7	NW9	NW8	WNW10	NW13	NW15	NNW14	NW15	NNW14	N18	N12	NNW8	NNE9	ENE4	NNE5	ENE3	SE2	SSE2	NW6.9	N18
14-Jul	SSE1	NW1	NNE6	NE9	ENE9	NE8	NNE8	NNE9	NNE10	N11	N13	N15	N13	N15	N16	N15	N16	NNE16	NNE12	NNE10	ENE5	E6	E5	ESE4	NNE8.5	NNE16
15-Jul	S2	S3	SSE3	S4	SSE4	S7	S11	S11	S9	SW4	S5	WSW4	SW4	SSW8	WSW9	SSW8	SSW10	SSW10	SSW9	S9	SSE8	SSE10	SSE13	SSE13	S6.7	SSE13
16-Jul	SSE14	SSE14	SSE13	SSE12	SSE13	SSE13	SSE11	SSE10	S10	SSW11	S13	S13	S13	S12	S12	S11	SSE9	S10	S10	S12	S8	SSE7	SSE5	SSE5	S10.6	SSE14
17-Jul	SSE4	SSE2	SE2	SE2	SE2	S3	S6	SSW6	SSW6	SSE3	S4	S8	S1	SW3	W5	SW3	E6	ESE9	SE7	SE1	SSE3	SE2	SE3	SE3	SSE3.0	ESE9
18-Jul	SSE3	SSE5	SSE9	SSE7	SSE5	SSE2	S1	SSE3	SSW11	SSW12	S12	S16	S14	S16	SSE15	SSE12	S15	S13	SSE11	SE7	SE7	SE9	SE12	SE13	SSE9.1	S16
19-Jul	SE14	SSE15	SSE13	SSE13	SSE12	SSE12	SSE10	S10	S9	S11	S11	S13	S13	S7	S9	S6	S9	SSW8	S4	SSE5	SSE9	SSE4	ESE2	SE2	SSE9.0	SSE15
20-Jul	SE3	SE2	ESE2	E2	ESE2	ENE3	NE5	NNE4	NNE4	NW3	SSW5	SSW7	SSW7	S7	SSW5	SSW6	S10	S10	SSW4	NW8	WSW3	SSW5	E2	NNE7	S1.8	S10
21-Jul	N9	NNW12	NNW13	N11	NNE20	NNE20	NNE13	NNE15	N18	N19	N19	N17	N18	NNW16	NNW17	N14	NNW16	N14	N12	NNE8	E2	ESE1	ENE4	E6	N12.3	NNE20
22-Jul	ESE4	SSE2	SE2	SE2	SE2	E2	NE1	SW4	S3	WNW5	WNW6	WSW6	NW6	WNW7	NW7	NW5	NW6	WNW6	W4	S6	S6	SSE3	SSE6	SSE8	WSW1.7	SSE8
23-Jul	SSE8	SSE8	SSE10	SSE10	SSE8	S8	S10	SSW12	SSW9	S12	S14	S15	SSW16	S16	S16	S16	S14	SSW15	SSW14	S9	SSE5	SSE6	SSE9	SSE11	S10.9	SSW16
24-Jul	SSE14	SSE15	SSE16	SSE16	SSE15	SSE15	SSE12	S12	S15	S18	S17	S14	S14	SSW15	SSW11	NNW6	NNW4	SSE3	SSW6	SSW8	S7	SW3	NNW4	SE3	S9.5	S18
25-Jul	SSE5	S6	SSW7	SSW8	SSW5	S6	S8	SW11	SW14	WSW17	SW19	W15	W15	W14	W12	W8	WSW8	NW11	NNW14	NNW13	NNW10	NNW8	NNW5	NNE2	W6.3	SW19
26-Jul	N1	ESE2	ESE2	E2	ESE2	ESE2	S1	WSW3	W6	W7	SW7	WSW5	WSW9	SSW19	SSW17	SSW10	E9	ESE5	SSE6	SSE4	SSE4	SSE5	SE3	ENE2	S3.2	SSW19
27-Jul	NNE6	NNE7	NNE7	NNE6	NNE7	N8	NNE8	NNE10	NNE12	NNE13	NE10	NNE9	NNE8	NNW9	NNW5	NNE8	NNE7	N10	NNE10	NE4	ESE1	SE2	SE2	SE2	NNE6.5	NNE13
28-Jul	SE2	SSE3	SSE3	SSE5	SSE4	SSE4	S5	S9	S10	SSW7	SW4	SW7	WSW6	WSW7	WNW7	WSW8	NNW7	WNW0	ENE3	ESE3	ESE3	SE4	SE5	SE5	SSW2.9	S10
29-Jul	SSE8	SSE12	SSE13	SSE12	SSE11	SSE13	S11	S14	S14	S12	S10	W2	W4	WSW3	WSW5	SW7	SW6	SSW6	S5	SE3	SE2	SE4	SSE10	SSE12	S7.3	S14
30-Jul	SSE13	SSE11	SSE12	SSE14	SSE13	SSE12	S11	S16	S15	S11	SSW9	S7	WSW5	SW3	SE1	WSW2	WNW7	SSW5	SW5	SSE2	SE2	SE4	SSE6	SSE9	S7.2	S16
31-Jul	SSE11	SSE11	SSE11	SSE12	SSE10	SSE12	S15	S14	S13	S12	S16	SSW18	S17	SSW16	SSW17	SSW18	S14	S15	SSE14	SSE10	SSE8	SSE11	SSE14	SSE16	S13.2	SSW18
SSE5.0 SSE5.4 SSE5.8 SSE5.6 SSE5.5 S4.5 S4.5 SW5.0 SW5.2 SW5.3 SW5.7 SW5.4WSW5.6WSW6.5WSW6.5WSW5.9WSW4.6 SW4.0 SW3.0 SW2.4 S3.0 SSE3.4 SSE3.2 SSE4.5																										Diurnal Average
SSE16 SSE16 SSE16 SSE17 NNE20 NNE20 SSE18WNW21 W22WNW20WNW21WSW22WSW26WSW26 W26 W27 W27 W24WNW21WNW17WNW12WNW15 NW22 SSE16																										Diurnal Maximum
All monthly, daily, and diurnal averages have been calculated using vector methods																										



Wood Buffalo Environmental Association
Hourly Averages

Wind Speed 10m (WS10) - km/h
Blackrod - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 10m (WS10) - km/h
Blackrod - July 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	200	26.88	26.88
6 - 11	277	37.23	64.11
12 - 19	246	33.06	97.18
20 - 28	21	2.82	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
Blackrod - July 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	5	4	8	5	14	33	54	24	10	13	12	6	4	3	4	200
6 - 11	7	23	5	2	6	1	4	51	66	40	18	11	11	13	11	8	277
12 - 19	18	7	2	0	0	0	3	56	62	20	14	9	10	19	16	10	246
20 - 28	0	2	0	0	0	0	0	0	0	1	1	6	5	5	1	0	21
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	26	37	11	10	11	15	40	161	152	71	46	38	32	41	31	22	744

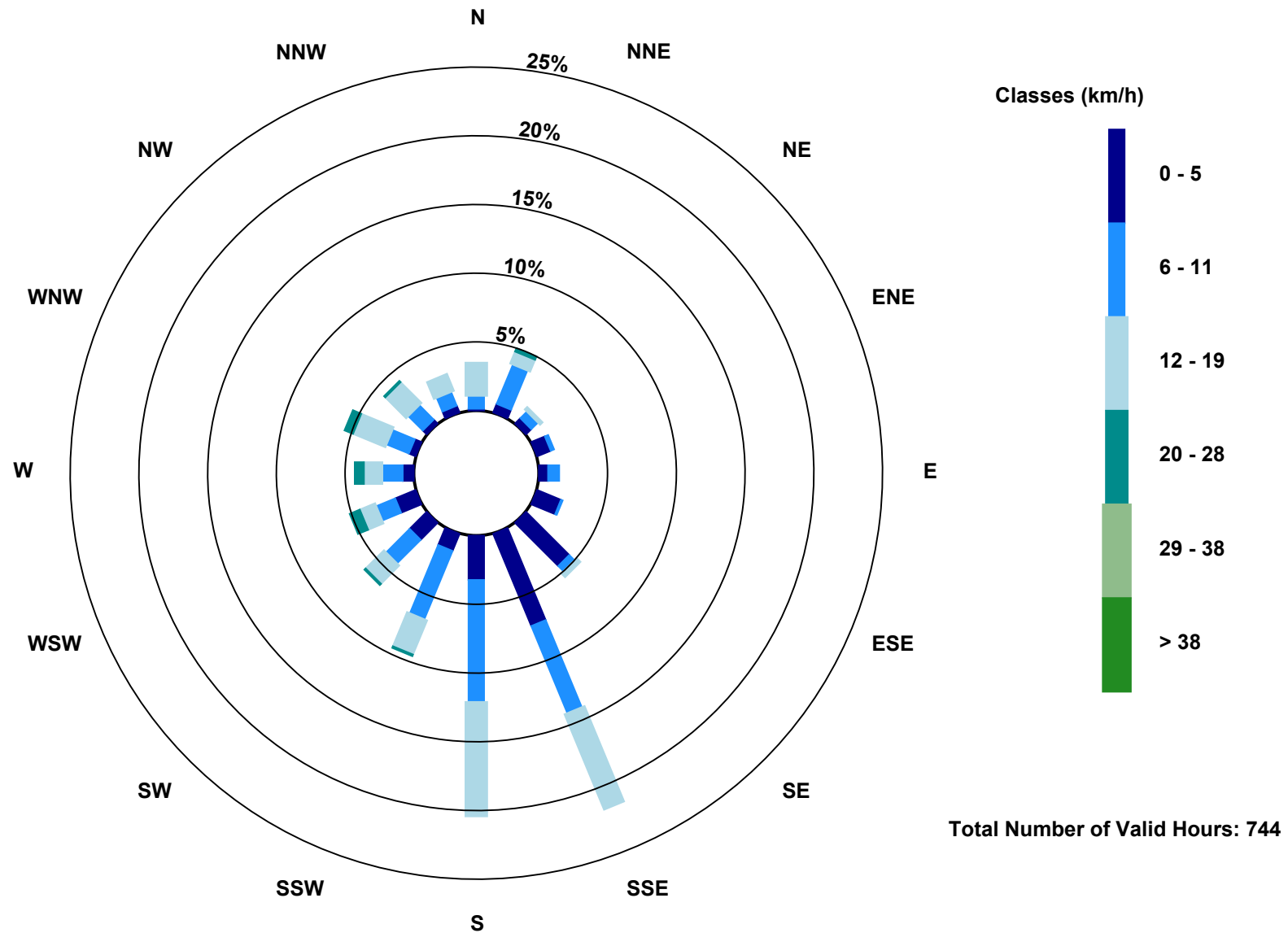
Total Number of Valid Hours: 744

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Wind Speed 10m (WS10) - km/h
Blackrod





Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

Wind Speed 10m (WS10) - km/h

Blackrod - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 12 km/h on Jul 2 22:00																	Hours in Service: 744 Hours of Data: 744 Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0								
Minimum Value: 1 km/h on Jul 10 22:00																									
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-Jul	1	2	1	1	1	1	2	2	1	1	3	2	3	4	5	4	3	4	3	2	1	1	2	2	5
2-Jul	2	3	3	3	3	3	3	6	2	3	4	4	4	4	3	2	4	3	3	2	2	12	8	4	12
3-Jul	2	2	3	2	1	2	4	4	3	3	4	4	4	4	5	5	5	5	5	8	3	1	2	2	8
4-Jul	2	2	1	2	2	4	4	4	4	5	5	4	4	4	4	4	3	3	3	1	1	1	1	2	5
5-Jul	1	1	1	2	1	1	1	2	2	3	4	4	5	4	4	5	4	3	2	1	1	1	2	2	5
6-Jul	2	3	2	2	2	1	2	3	2	2	2	3	4	4	3	4	3	2	2	1	1	1	1	1	4
7-Jul	1	1	1	2	1	1	2	2	2	3	4	4	5	4	5	5	5	4	3	2	1	2	2	2	5
8-Jul	3	3	3	3	3	3	3	4	3	3	3	3	3	4	4	5	3	3	2	4	9	4	4	4	9
9-Jul	2	1	1	2	2	3	6	6	7	7	7	7	9	8	8	8	8	7	6	5	3	2	1	2	9
10-Jul	1	1	1	1	2	1	2	4	3	5	5	5	5	5	4	4	5	4	3	3	3	1	1	1	5
11-Jul	1	1	1	1	2	2	2	2	3	5	5	6	6	6	5	6	6	5	4	5	2	3	4	3	6
12-Jul	2	2	2	4	2	3	5	5	6	6	6	5	5	5	5	4	4	5	5	5	3	2	3	3	6
13-Jul	3	2	2	2	3	3	3	3	3	3	4	4	4	4	4	4	5	3	2	1	1	1	1	1	5
14-Jul	1	2	2	2	2	2	2	2	2	3	3	4	4	5	6	5	4	4	3	3	2	1	1	1	6
15-Jul	1	1	1	1	1	2	2	2	2	3	3	3	4	4	4	4	4	3	2	2	2	2	2	2	4
16-Jul	3	3	2	2	2	3	2	2	2	3	3	4	5	5	5	4	3	3	3	3	1	1	1	1	5
17-Jul	1	1	1	1	1	1	2	2	1	2	2	3	3	3	4	2	6	4	4	1	1	1	1	1	6
18-Jul	1	3	2	1	1	1	1	3	2	3	3	3	4	5	5	4	4	3	3	2	2	3	3	4	5
19-Jul	3	3	3	2	2	2	2	2	2	3	4	5	4	3	4	4	3	2	1	3	2	2	1	1	5
20-Jul	1	1	1	1	1	1	1	2	1	1	3	3	3	4	3	2	3	2	3	3	2	1	1	2	4
21-Jul	3	2	2	3	6	6	3	3	4	4	4	4	5	4	5	4	4	3	3	2	1	1	2	1	6
22-Jul	1	1	1	1	1	1	1	2	2	3	3	3	4	3	4	4	4	3	2	2	1	1	2	1	4
23-Jul	1	1	1	1	1	1	2	2	2	3	3	5	4	6	5	5	4	4	3	3	2	2	2	2	6
24-Jul	2	3	3	3	3	3	2	3	4	4	4	3	4	4	4	6	2	2	3	2	1	2	3	1	6
25-Jul	2	1	1	1	1	2	2	4	4	5	5	5	5	4	4	3	4	4	5	4	2	2	1	1	5
26-Jul	1	1	1	1	1	1	1	1	2	2	3	3	4	4	4	4	3	2	2	1	1	2	1	1	4
27-Jul	2	2	2	1	2	2	2	3	3	2	3	2	2	2	2	2	2	3	3	1	1	1	1	1	3
28-Jul	1	1	2	1	1	1	2	1	2	3	3	2	3	3	3	3	3	2	1	1	1	1	2	1	3
29-Jul	2	1	2	2	2	2	2	2	2	3	4	3	3	3	3	3	2	3	2	1	1	2	3	2	4
30-Jul	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	2	3	2	2	1	1	1	3	2	3
31-Jul	2	2	2	2	2	2	2	3	3	3	4	4	5	5	5	4	5	4	3	2	2	3	3	3	5
3 3 3 4 6 6 6 6 7 7 7 7 9 8 8 8 8 7 6 8 4 12 8 4																									
Diurnal Maximum																									



Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Direction 10m (WD10) - deg

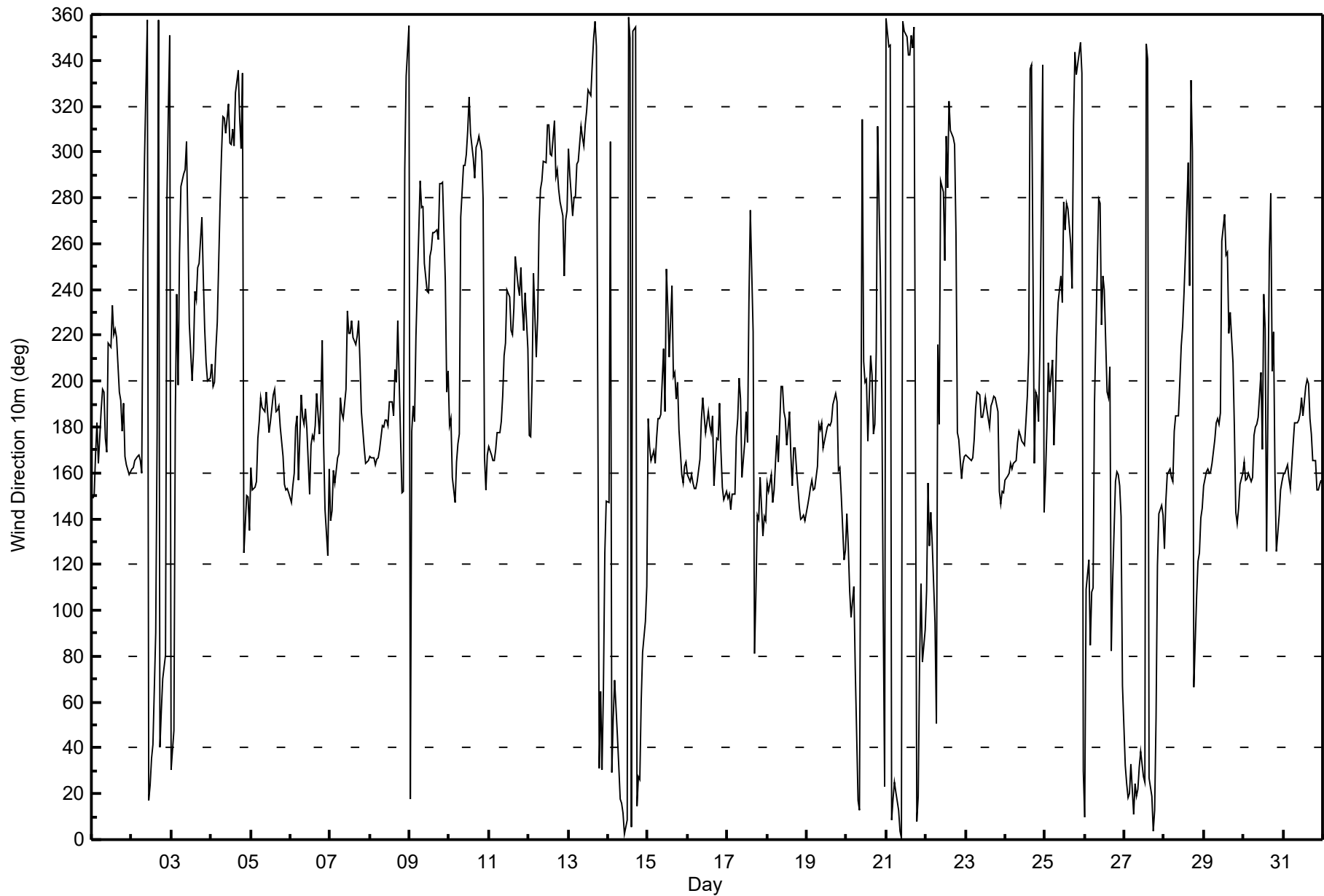
Blackrod - July 2025

Direction of Maximum Speed: 265 deg on Jul 9 16:00																					Hours in Service:		744		
Direction of Maximum Daily Speed Average: 259.1 deg on Jul 9																					Hours of Data:		744		
Direction of Minimum Speed: 300 deg on Jul 28 18:00										Direction of Minimum Daily Speed Average: 1.7 deg on Jul 22											Hours of Missing Data:		0		
Monthly Average Direction: 204.1 deg																					Percent Operational Time:		100.0		
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-Jul	149	150	169	182	164	188	196	195	175	169	217	215	233	220	223	219	195	191	178	191	167	164	159	160	185.2
2-Jul	162	162	165	167	168	165	160	255	298	358	17	24	36	42	90	178	358	41	56	70	80	279	318	351	86.6
3-Jul	31	47	185	238	198	255	285	290	292	304	267	225	200	213	239	236	249	251	271	245	222	208	200	201	247.2
4-Jul	207	198	200	214	226	278	299	316	315	308	321	304	304	310	302	326	336	315	301	335	125	150	150	135	294.9
5-Jul	162	153	154	156	175	182	193	189	187	195	186	178	183	194	197	187	187	189	180	167	155	153	153	152	179.7
6-Jul	147	154	160	180	185	157	194	184	181	188	179	150	172	176	175	181	195	177	191	218	173	144	124	162	174.3
7-Jul	139	144	161	156	167	168	193	186	184	197	230	221	221	227	219	216	219	227	208	187	171	164	165	165	198.8
8-Jul	167	167	167	164	166	167	170	181	180	183	183	180	191	191	185	205	199	226	175	152	152	293	333	355	182.7
9-Jul	18	178	189	183	219	265	288	276	276	252	239	238	255	257	265	265	266	262	286	286	287	243	196	205	259.1
10-Jul	181	184	158	147	165	173	177	271	294	294	299	310	324	308	297	288	302	304	307	300	279	166	153	168	286.0
11-Jul	172	168	165	165	170	178	178	182	193	211	216	240	237	222	221	232	255	242	237	249	233	222	239	214	214.7
12-Jul	177	176	199	247	211	227	269	283	287	296	295	312	312	299	298	313	289	292	284	278	272	246	270	274	279.5
13-Jul	301	290	272	280	281	295	296	311	306	303	312	318	327	324	338	350	357	346	31	64	30	66	125	148	325.6
14-Jul	147	305	29	53	69	45	32	18	16	11	2	8	359	350	6	353	354	15	27	26	61	82	95	111	19.4
15-Jul	184	172	166	170	164	175	184	184	185	214	187	249	232	210	242	202	204	192	199	179	159	156	163	165	186.7
16-Jul	160	156	159	155	153	153	156	166	183	193	185	177	187	181	177	185	154	175	174	191	170	154	149	152	169.6
17-Jul	149	150	144	151	151	175	184	201	192	158	174	187	173	234	274	222	81	108	142	140	158	132	141	139	162.8
18-Jul	155	152	159	147	153	165	177	165	198	197	187	184	172	187	167	154	171	171	161	145	140	140	142	139	166.4
19-Jul	146	150	154	157	153	153	163	181	179	182	171	177	180	181	181	182	190	195	191	161	162	150	122	126	167.2
20-Jul	142	128	109	97	110	74	46	17	13	314	209	199	201	174	211	202	177	181	213	311	245	194	98	23	184.0
21-Jul	358	346	346	9	18	25	21	13	4	0	357	353	350	342	342	351	345	355	8	19	79	112	78	92	2.5
22-Jul	109	155	128	143	130	94	51	216	181	288	283	253	307	284	322	309	306	303	264	177	174	157	164	167	241.7
23-Jul	168	167	167	165	166	175	188	195	194	184	184	188	193	188	180	189	191	194	193	187	152	147	152	151	180.7
24-Jul	157	159	160	164	162	164	165	173	178	177	174	172	183	194	213	336	338	164	195	194	182	216	338	143	174.8
25-Jul	159	180	208	196	209	172	191	219	234	246	235	278	266	278	275	260	240	312	343	334	343	348	334	30	261.4
26-Jul	10	109	122	85	108	110	191	251	279	277	225	246	240	196	193	206	82	113	156	160	159	154	141	67	189.6
27-Jul	32	24	18	20	33	11	24	19	22	32	38	27	25	347	340	27	19	4	13	53	119	142	146	142	22.9
28-Jul	127	147	159	162	158	156	178	185	185	199	216	224	239	256	295	242	332	300	66	106	121	125	141	145	191.3
29-Jul	154	161	162	160	160	164	175	182	184	181	186	261	273	255	256	221	230	208	179	143	138	145	155	160	177.0
30-Jul	165	157	157	160	156	158	176	180	181	184	204	170	238	222	126	257	282	205	221	159	126	141	153	156	174.5
31-Jul	159	160	164	157	153	163	173	182	182	183	186	193	185	198	201	199	184	177	165	165	153	153	155	157	175.0
157.7 159.7 164.7 165.3 163.8 170.7 190.5 214.2 222.5 233.2 230.9 233.4 239.9 236.6 236.9 237.4 245.3 233.9 228.8 216.2 172.0 168.7 166.3 157.6																									
Diurnal Average																									
All monthly, daily, and diurnal averages have been calculated using vector methods																									



Wood Buffalo Environmental Association
Hourly Averages

Wind Direction 10m (WD10) - deg
Blackrod - July 2025





Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg

Blackrod - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 100 deg on Jul 28 18:00																		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 Jul 15 07:00																									
Percentiles: P ₁ = 8 P ₁₀ = 11 Q ₁ = 15 Median = 20 Q ₃ = 29 P ₉₀ = 56 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-Jul	26	67	14	16	16	54	36	17	22	22	71	61	53	89	44	32	30	19	14	13	10	8	9	9	89
2-Jul	10	13	10	12	15	13	12	71	69	27	19	20	20	25	66	60	71	25	16	29	25	83	25	17	83
3-Jul	20	68	77	40	23	43	17	18	18	21	27	19	23	30	25	26	26	22	20	59	24	19	17	13	77
4-Jul	15	14	13	16	19	20	19	19	18	20	22	22	26	23	23	25	23	21	22	14	39	22	18	44	44
5-Jul	12	10	14	20	20	16	16	12	14	21	21	35	29	27	16	18	21	18	17	11	14	15	14	15	35
6-Jul	16	15	12	18	20	24	52	52	14	17	20	27	22	19	17	22	16	17	32	17	32	51	55	33	55
7-Jul	38	32	28	25	27	16	16	13	16	26	34	23	26	27	21	25	25	21	17	11	9	8	8	9	38
8-Jul	11	11	12	11	15	12	12	13	13	12	13	18	19	34	18	20	18	27	14	21	16	63	18	30	63
9-Jul	83	14	27	22	27	29	22	20	19	24	24	24	24	22	22	22	19	21	17	16	17	29	23	19	83
10-Jul	15	39	36	13	15	10	11	46	21	24	21	21	20	20	23	20	21	18	20	20	37	24	9	9	46
11-Jul	13	10	9	8	9	11	11	13	14	17	21	23	25	21	25	20	23	23	22	25	22	20	22	19	25
12-Jul	10	9	18	29	19	19	22	17	18	18	19	21	22	24	23	22	19	20	17	18	19	28	23	19	29
13-Jul	20	97	68	24	26	18	22	26	30	25	24	23	19	21	20	18	29	46	22	20	26	23	44	50	97
14-Jul	44	92	18	14	17	20	16	15	19	21	21	21	26	25	28	28	23	22	18	16	24	16	22	32	92
15-Jul	61	11	20	21	11	12	7	11	23	59	72	74	79	56	44	62	29	24	26	13	11	11	10	10	79
16-Jul	13	13	11	12	13	13	13	15	15	20	25	26	29	25	34	37	38	29	20	12	14	10	13	14	38
17-Jul	17	34	51	62	37	31	11	14	20	74	62	37	100	92	80	74	70	39	22	67	29	29	18	16	100
18-Jul	26	18	12	13	12	50	62	50	13	15	15	16	24	20	24	23	20	17	17	19	19	20	19	20	62
19-Jul	18	16	14	12	13	13	18	15	22	23	37	32	20	41	23	63	21	16	20	21	8	19	26	29	63
20-Jul	13	28	28	30	34	33	16	47	48	59	47	38	45	57	56	55	29	16	60	32	68	39	48	15	68
21-Jul	17	15	13	17	17	16	15	14	17	17	16	18	23	24	22	20	23	17	17	19	39	50	17	16	50
22-Jul	25	56	30	45	43	45	40	62	65	69	65	64	66	62	64	80	70	49	56	11	15	21	16	9	80
23-Jul	8	7	9	8	10	12	11	12	22	18	20	24	20	25	20	25	25	17	15	15	22	15	14	15	25
24-Jul	13	12	12	12	11	12	15	15	17	16	15	19	19	19	27	81	56	60	26	11	8	63	67	23	81
25-Jul	10	11	23	13	21	16	21	21	24	25	23	25	26	22	27	41	37	31	18	15	13	11	17	46	46
26-Jul	81	45	38	57	35	44	86	47	28	29	38	58	46	14	23	68	31	51	26	13	15	21	33	50	86
27-Jul	22	20	21	16	17	15	21	16	17	16	18	24	22	14	58	23	26	23	17	20	22	18	17	16	58
28-Jul	43	8	18	15	11	10	11	8	13	41	95	30	50	48	54	46	40	100	47	32	18	15	16	16	100
29-Jul	12	7	7	8	9	9	11	9	13	18	31	97	72	85	64	61	57	45	39	27	30	21	12	9	97
30-Jul	10	11	10	10	11	18	20	11	13	18	25	47	78	98	93	93	40	36	35	24	17	17	14	11	98
31-Jul	9	11	15	13	12	12	12	11	13	21	20	19	20	22	23	18	20	18	15	13	14	13	13	13	23
83 97 77 62 43 54 86 71 69 74 95 97 100 98 93 93 71 100 60 67 68 83 67 50																									
Diurnal Maximum																									



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS33 MONDAY CREEK JULY 2025

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

August 29, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - MONDAY CREEK (AMS33)
JULY 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	699	33	45	98.39	7.7	0	1.3	0
H2S (ppb) Average	699	34	45	98.52	0.9	0	0.2	0
NO2 (ppb) Average	697	35	47	98.39	10.8	0	4.3	-
NO (ppb) Average	697	35	47	98.39	37.1	-	10.6	-
NOX (ppb) Average	697	35	47	98.39	47.2	-	15	-
Temperature 2 m (C) Average	709	0	35	95.3	30.6	-	23.9	-
Relative Humidity (%) Average	709	0	35	95.3	99.4	-	80.9	-
Wind Speed 10 m (km/h) Average	706	0	38	94.89	34	-	22	-
Wind Direction 10 m (deg) Average	706	0	38	94.89	-	-	-	-

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

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - MONDAY CREEK (AMS33)
JULY 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	699	0.56	1	-	0	0	0.1	0.2	0.6	1.6	7.7
H2S (ppb) Average	699	0.12	0.1	-	0	0	0.1	0.1	0.2	0.2	0.9
NO2 (ppb) Average	697	1.71	1.6	-	0.2	0.5	0.8	1.2	2	3.5	10.8
NO (ppb) Average	697	0.8	3.5	-	0	0	0	0.1	0.3	1	37.1
NOX (ppb) Average	697	2.51	4.5	-	0.2	0.6	0.8	1.3	2.4	4.4	47.2
Temperature 2 m (C) Average	709	17.17	6.2	-	-0.8	9	13.1	17.6	21.5	24.9	30.6
Relative Humidity (%) Average	709	57.2	20.9	-	19.1	30.1	39.8	55.3	74.6	87.4	99.4
Wind Speed 10 m (km/h) Average	706	8.9	6	-	0	2	4	8	12	17	34
Wind Direction 10 m (deg) Average	706	-	-	-	-	-	-	-	-	-	-

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - MONDAY CREEK (AMS33)
JULY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
ALL GASEOUS ANALYZERS	03 Jul 2025 01:00	03 Jul 2025 11:00	11	Station power failure
NO2, SO2	03 Jul 2025 15:00	03 Jul 2025 15:00	1	Maintenance - reinitiated communications
Relative Humidity, Temperature	03 Jul 2025 01:00	04 Jul 2025 11:00	35	Station power failure
Wind Speed, Wind Direction	03 Jul 2025 01:00	04 Jul 2025 11:00	35	Station power failure
Wind Speed, Wind Direction	15 Jul 2025 05:00	15 Jul 2025 06:00	2	Unstable Operation - flatline in analyzer output signal
Wind Speed, Wind Direction	17 Jul 2025 06:00	17 Jul 2025 06:00	1	Unstable Operation - flatline in analyzer output signal



Wood Buffalo Environmental Association

Summary of Hour Averages

Sulphur Dioxide (SO₂) - ppb

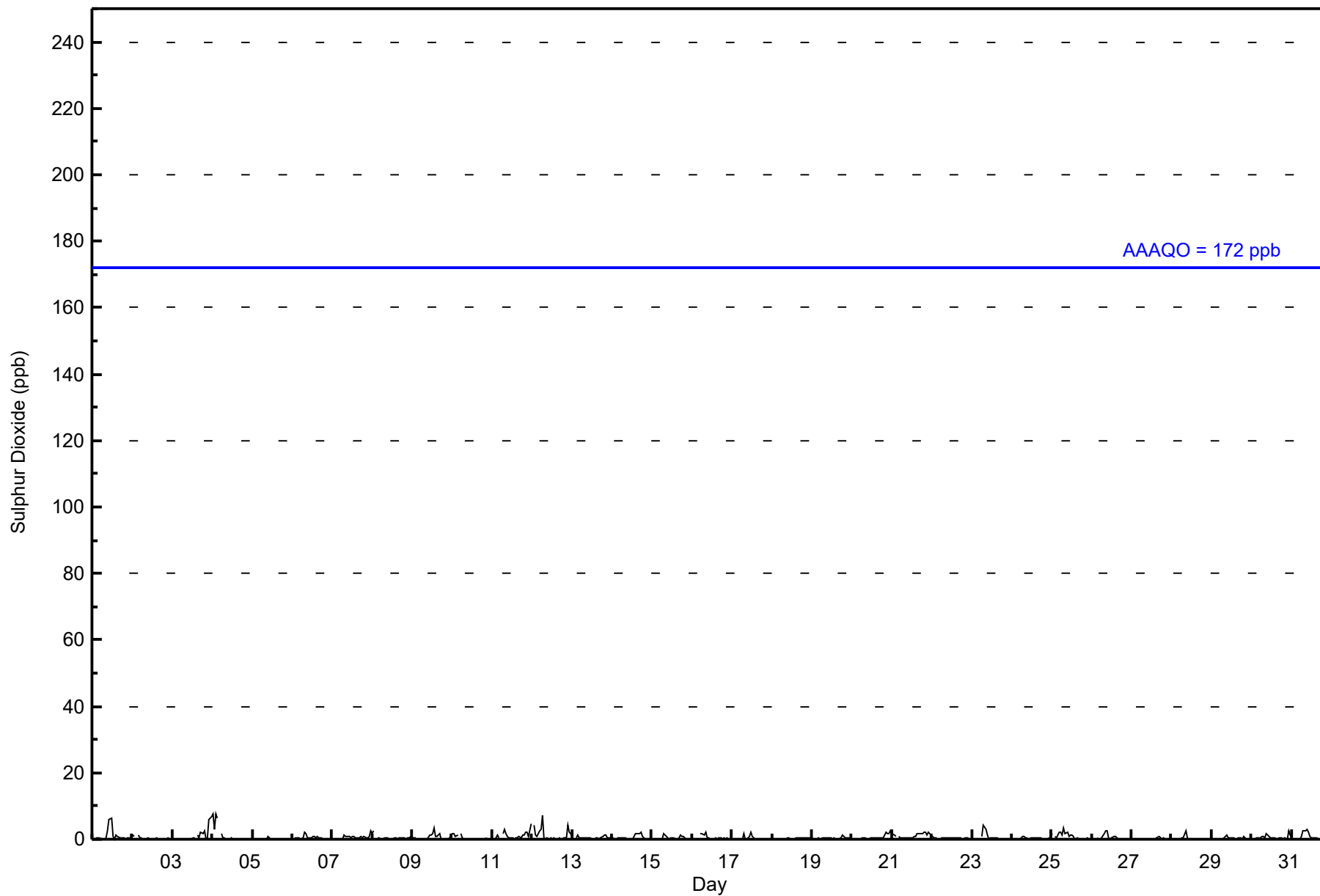
Monday Creek - July 2025

Number of Exceedences (AAAQO): Maximum Value: 7.7 ppb on Jul 4 01:00																	1-hr: 0 24-hr: 0 Maximum Daily Average: 1.3 ppb on Jul 12										Hours in Service: 744	
Minimum Value: 0.0 ppb on Jul 2 16:00 Maximum Diurnal Average: 1.0 ppb at hour 8 Monthly Average: 0.56 ppb																	Minimum Daily Average: 0.1 ppb on Jul 27 Minimum Diurnal Average: 0.3 ppb at hour 15 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.6 P ₉₀ = 1.6 P ₉₉ = 5.9										Hours of Data: 699	
																											Hours of Missing Data: 45	
																											Hours of Calibration: 33	
																											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-Jul	0.3	Z	0.3	0.2	0.3	0.2	0.1	0.2	0.3	2.3	5.9	6.4	0.7	0.2	1.1	1.0	0.5	0.6	0.5	0.4	0.1	0.3	0.3	0.3	1.0	6.4		
2-Jul	1.1	0.8	Z	1.1	0.5	0.6	0.2	0.2	0.1	0.3	0.2	0.1	0.2	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.1	0.3	1.1		
3-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	0.0	0.2	0.3	M	1.1	0.3	1.9	1.7	2.5	0.2	0.4	6.0	6.8	--	6.8		
4-Jul	7.7	2.8	7.5	6.3	Z	1.7	0.5	0.3	0.2	0.2	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.0	0.1	0.1	0.0	0.0	1.2	7.7		
5-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.8	0.3	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.8		
6-Jul	Z	0.4	0.4	0.3	0.3	0.2	0.4	2.0	1.9	0.3	0.2	0.3	0.9	0.7	0.3	0.7	0.6	0.3	0.1	0.2	0.1	0.1	0.1	0.1	0.5	2.0		
7-Jul	0.1	Z	0.1	0.1	0.2	0.1	0.2	1.2	0.8	1.0	0.9	0.4	0.8	0.7	0.3	0.4	0.5	0.7	0.5	0.8	0.6	0.3	0.6	2.4	0.6	2.4		
8-Jul	1.7	2.4	Z	0.5	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.1	0.2	0.4	0.8	0.4	2.4		
9-Jul	0.4	0.3	0.3	Z	0.1	0.1	0.2	0.1	0.0	0.0	1.2	1.1	1.7	3.4	0.7	0.8	1.7	0.2	0.0	0.0	0.0	0.0	0.5	1.3	0.6	3.4		
10-Jul	1.5	1.7	1.0	1.4	Z	1.6	0.4	0.2	0.2	0.2	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.4	1.7		
11-Jul	0.1	0.1	0.2	1.3	0.6	Z	1.6	3.1	1.7	0.7	0.6	0.3	0.3	0.2	0.5	0.3	0.7	0.3	1.1	1.2	2.3	2.2	0.9	4.9	1.1	4.9		
12-Jul	Z	4.2	1.1	1.0	2.5	2.8	7.3	0.5	0.2	0.2	0.1	0.2	0.2	0.3	0.2	0.2	0.4	0.1	0.2	0.3	0.3	4.3	2.0	1.7	1.3	7.3		
13-Jul	0.6	Z	0.6	1.3	0.2	0.3	0.4	0.4	0.5	0.5	0.3	0.4	0.2	0.1	0.2	0.2	0.2	0.3	0.7	1.2	1.2	0.6	0.6	0.4	0.5	1.3		
14-Jul	0.2	0.1	Z	0.3	0.2	0.2	0.2	0.4	0.3	0.1	0.1	0.2	0.0	1.0	1.6	1.7	1.7	2.0	0.7	0.2	0.1	0.2	0.1	0.0	0.5	2.0		
15-Jul	0.0	0.0	0.0	Z	0.1	0.0	0.0	1.6	1.3	0.3	0.2	0.5	0.5	0.2	0.2	0.1	0.6	1.1	0.9	0.7	0.1	0.1	0.0	0.0	0.4	1.6		
16-Jul	0.0	0.0	0.0	0.0	Z	1.8	1.8	1.4	2.0	0.2	0.3	0.0	0.0	0.0	0.2	0.2	0.2	0.3	0.1	0.4	0.1	0.4	0.0	0.0	0.4	2.0		
17-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.2	1.9	0.2	0.0	0.6	2.2	0.8	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.0	0.2	0.3	2.2		
18-Jul	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.5	0.4	0.4	0.5	0.5	0.2	0.5		
19-Jul	0.4	Z	0.2	0.1	0.2	0.2	0.2	0.3	0.5	0.5	0.3	0.4	0.2	0.2	0.1	0.2	0.2	0.4	1.1	1.0	0.5	0.3	0.2	0.1	0.3	1.1		
20-Jul	0.0	0.0	Z	0.1	0.2	0.2	0.2	0.3	0.6	0.1	0.1	0.2	0.4	0.3	0.3	0.3	0.4	0.3	0.4	0.4	2.1	1.5	1.6	2.7	0.6	2.7		
21-Jul	1.6	1.1	0.8	Z	0.6	0.6	0.5	0.6	0.5	0.6	0.4	0.5	0.6	0.7	0.9	1.5	1.7	1.7	1.6	1.9	2.0	1.4	2.0	1.3	1.1	2.0		
22-Jul	0.7	0.6	0.5	0.4	Z	0.6	0.5	0.6	0.4	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.2	0.3	0.2	0.1	0.2	0.2	0.1	0.0	0.4	0.7		
23-Jul	0.1	0.1	0.0	0.0	0.1	Z	1.0	4.4	2.9	1.3	0.2	0.5	0.6	0.3	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.5	4.4		
24-Jul	Z	0.1	0.0	0.0	0.0	0.0	0.7	0.9	0.5	0.4	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.0	0.1	0.2	0.9	0.3	0.9		
25-Jul	1.9	Z	0.7	0.4	2.2	2.3	1.1	3.3	1.8	2.2	0.9	1.5	1.2	0.8	0.1	0.2	0.1	0.1	0.1	0.0	0.1	0.3	0.1	0.1	0.9	3.3		
26-Jul	0.3	0.5	Z	0.3	0.2	0.2	0.5	1.9	2.7	2.5	0.5	0.1	0.5	0.8	0.9	0.4	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.5	2.7		
27-Jul	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	0.3	0.7	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.1	0.7		
28-Jul	0.0	0.0	0.0	0.0	Z	0.0	0.3	0.3	2.5	0.5	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	0.2	2.5		
29-Jul	0.1	0.0	0.2	0.1	0.0	Z	0.0	0.6	0.8	1.2	0.3	0.6	0.6	0.2	0.0	0.0	0.4	0.2	0.1	0.7	0.2	0.0	0.0	0.0	0.3	1.2		
30-Jul	Z	0.0	0.0	0.4	0.5	0.4	0.6	0.9	0.3	1.7	0.9	0.5	0.2	0.3	0.3	0.1	0.6	0.4	0.2	0.2	0.2	0.1	2.5	1.1	0.5	2.5		
31-Jul	0.3	Z	0.2	0.1	0.1	0.1	1.0	2.4	2.4	3.0	2.0	0.9	0.6	0.2	0.3	0.2	0.1	0.2	0.2	0.2	0.2	0.4	0.5	0.3	0.7	3.0		
Diurnal Average																										Diurnal Maximum		
7.7 4.2 7.5 6.3 2.5 2.8 7.3 4.4 2.9 3.0 5.9 6.4 1.7 3.4 1.6 1.7 1.7 2.0 1.7 2.5 2.3 4.3 6.0 6.8																												
Z - zerospan C - Calibration M - Maintenance 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
Monday Creek - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Monday Creek - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	699	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: 699

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Monday Creek - July 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	32	26	12	10	17	24	46	39	68	78	64	57	62	64	37	39	675
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	32	26	12	10	17	24	46	39	68	78	64	57	62	64	37	39	675

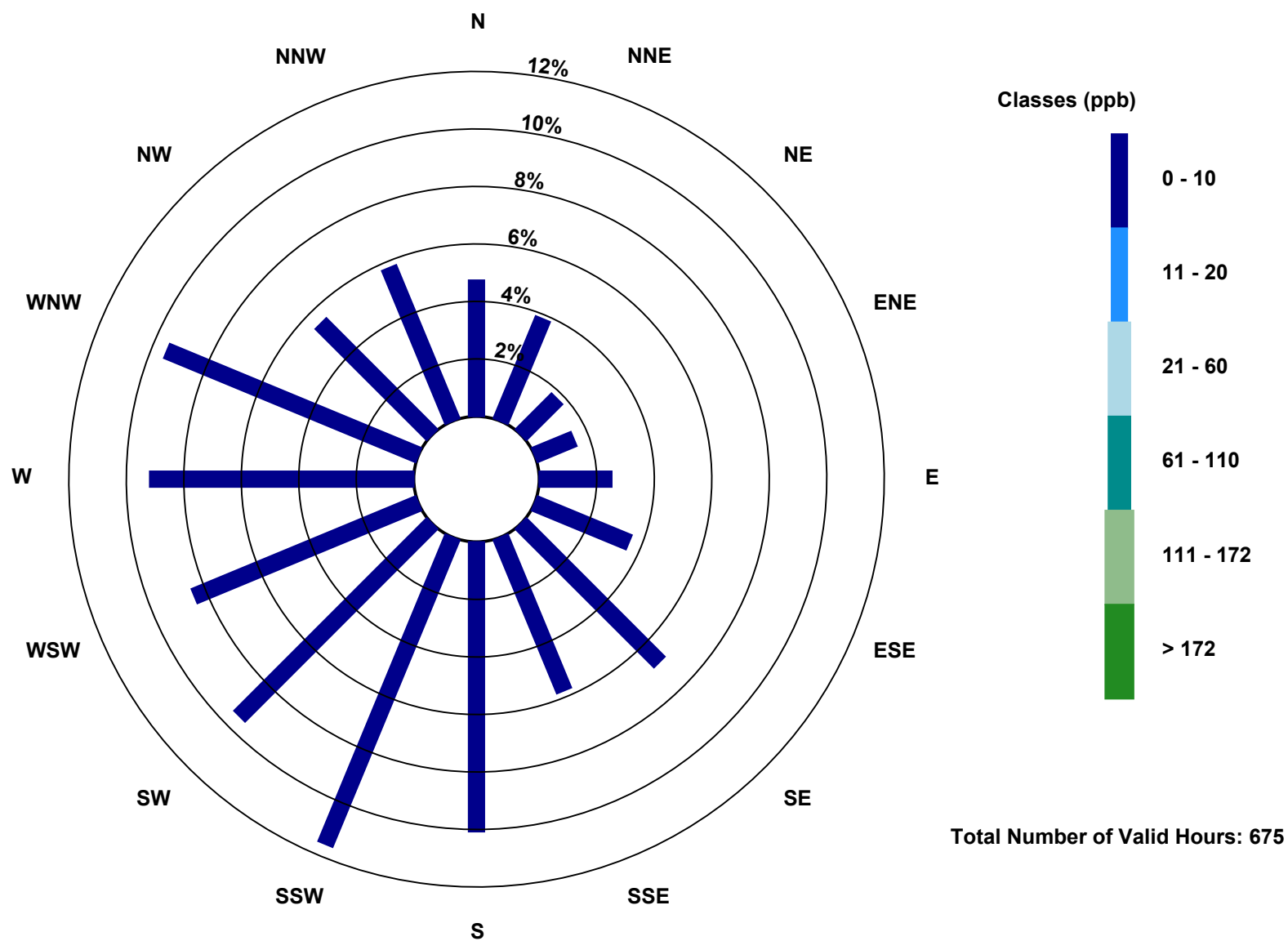
Total Number of Valid Hours: 675

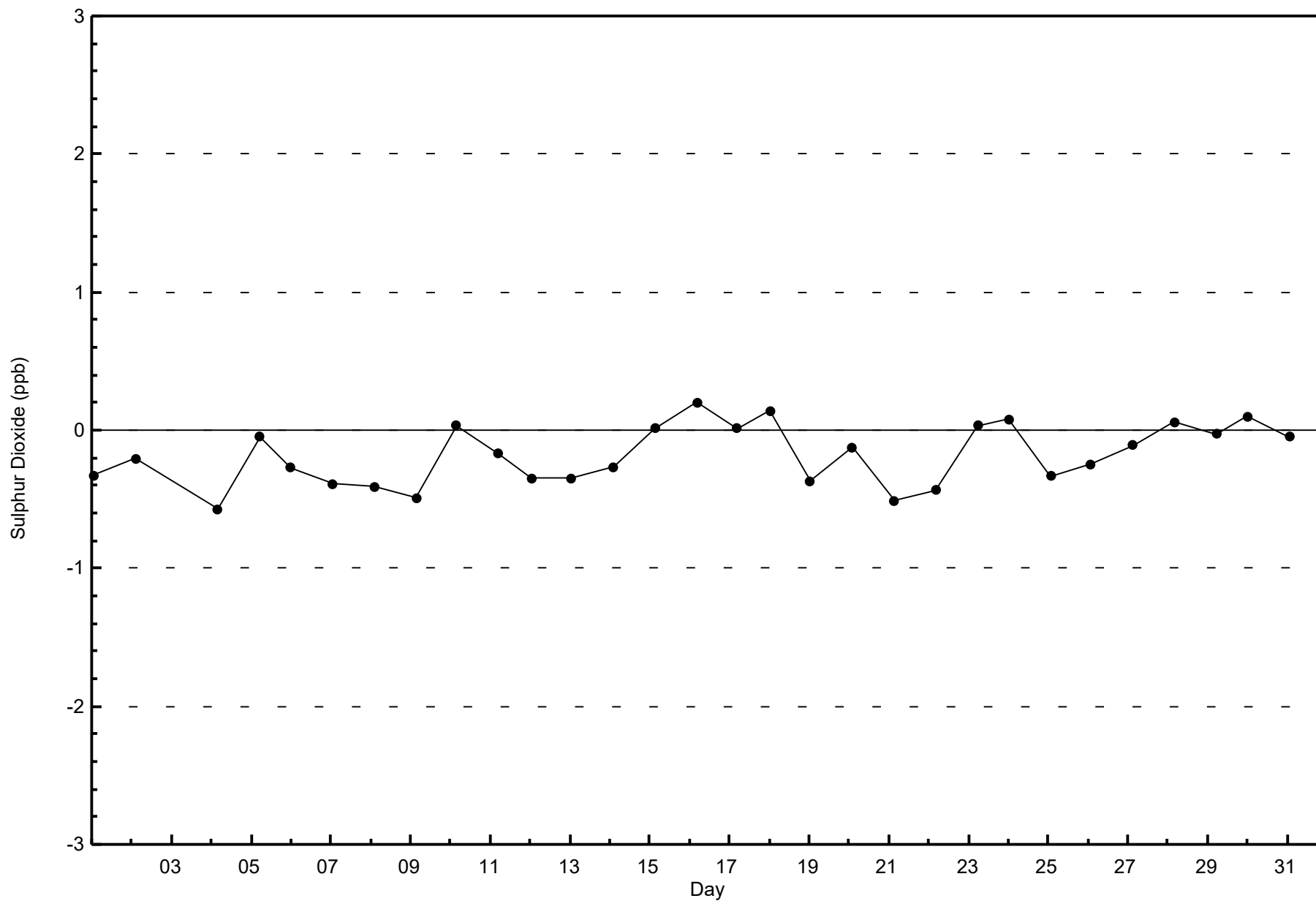
Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Sulphur Dioxide (SO₂) - ppb
Monday Creek

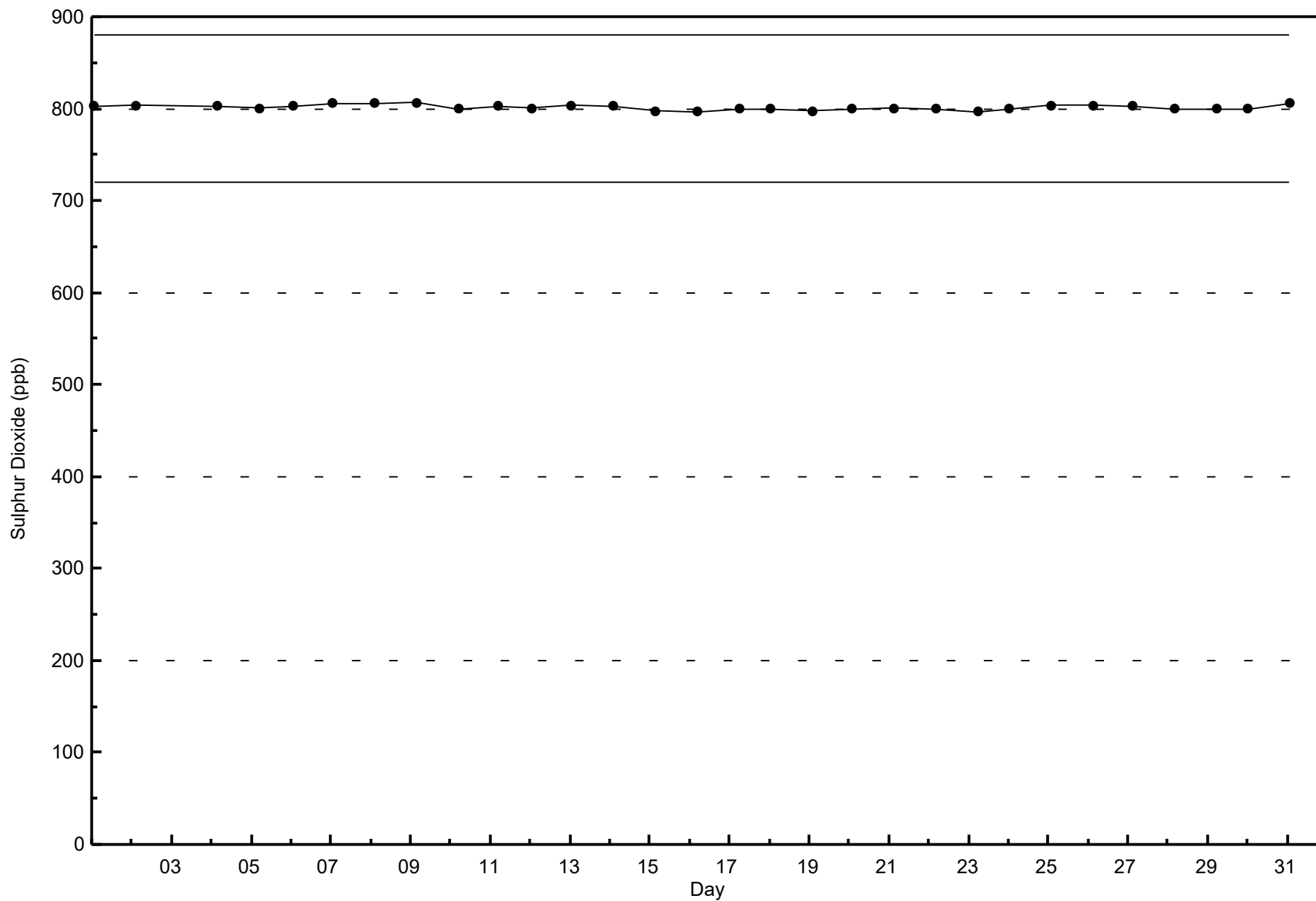






Wood Buffalo Environmental Association
Span Responses

Sulphur Dioxide (SO₂) - ppb
Monday Creek - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Hydrogen Sulphide (H₂S) - ppb

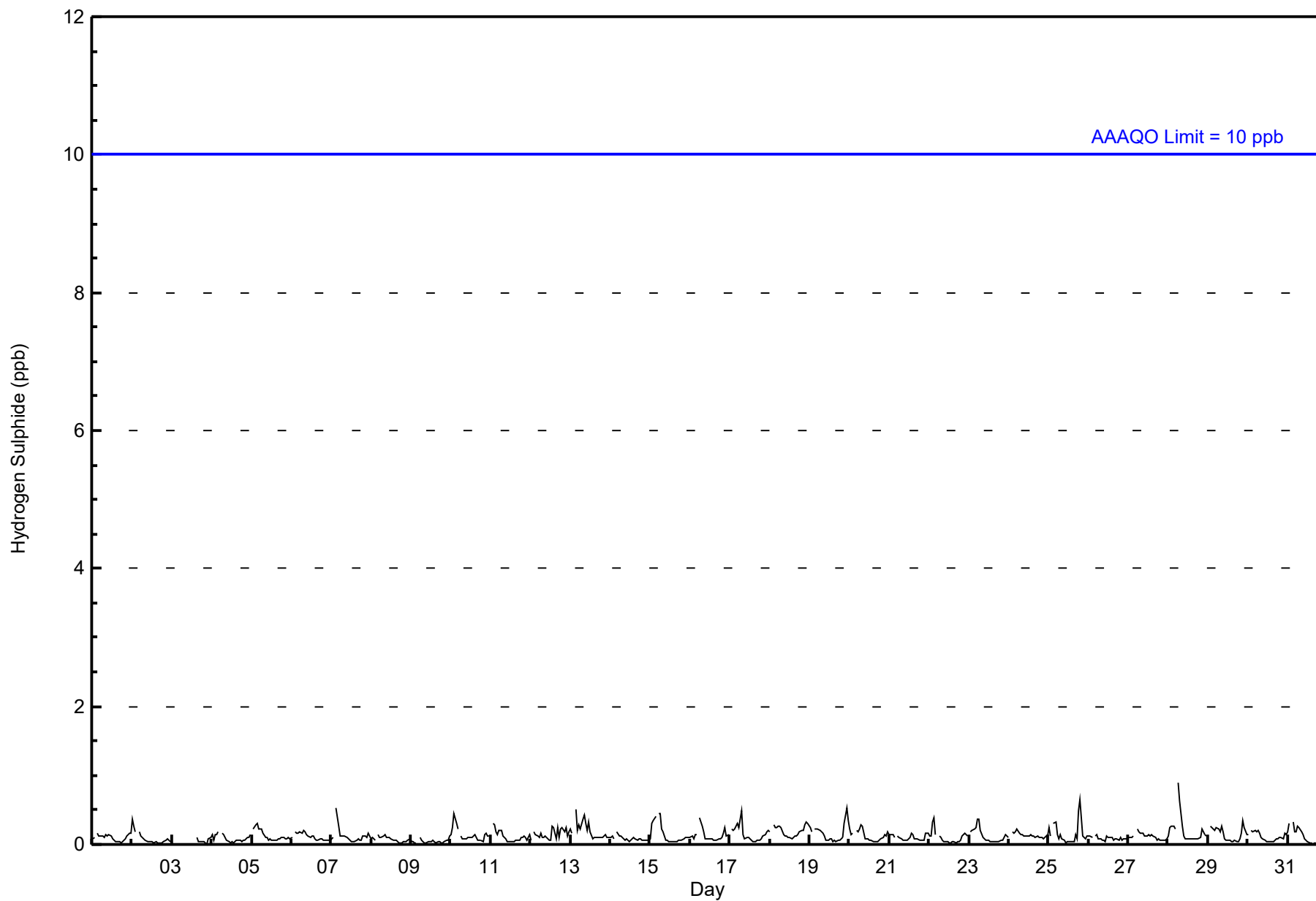
Monday Creek - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 0.9 ppb on Jul 28 07:00 Maximum Daily Average: 0.2 ppb on Jul 13																			Hours in Service: 744 Hours of Data: 699							
Minimum Value: 0.0 ppb on Jul 31 16:00 Minimum Daily Average: 0.0 ppb on Jul 9 Maximum Diurnal Average: 0.2 ppb at hour 4 Minimum Diurnal Average: 0.1 ppb at hour 16 Monthly Average: 0.12 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.1 Q ₃ = 0.2 P ₉₀ = 0.2 P ₉₉ = 0.5																			Hours of Missing Data: 45 Hours of Calibration: 34 Percent Operational Time: 98.5							
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-Jul	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	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.1	0.2
2-Jul	0.4	0.3	0.2	Z	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	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.4
3-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	C	C	C	C	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	–	0.1
4-Jul	0.1	0.1	0.1	0.1	0.2	Z	0.2	0.1	0.1	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	0.1	0.1	0.1	0.2
5-Jul	Z	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3
6-Jul	0.1	Z	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	0.1	0.1	0.2
7-Jul	0.1	0.1	Z	0.5	0.3	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	0.2	0.1	0.1	0.5
8-Jul	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	0.0	0.0	0.0	0.1	0.1	0.1	0.1
9-Jul	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	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1
10-Jul	0.1	0.3	0.4	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	0.0	0.1	0.2	0.1	0.1	0.1	0.4
11-Jul	Z	0.3	0.3	0.2	0.1	0.2	0.2	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	0.3
12-Jul	0.1	Z	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.1	0.3	0.1	0.2	0.2	0.2	0.3	0.1	0.2	0.2	0.3
13-Jul	0.2	0.2	Z	0.5	0.2	0.3	0.2	0.4	0.4	0.3	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	0.2	0.5
14-Jul	0.1	0.1	0.1	Z	0.2	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	0.2
15-Jul	0.1	0.3	0.4	0.4	Z	0.4	0.4	0.2	0.2	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	0.4
16-Jul	0.1	0.1	0.1	0.1	0.1	Z	0.4	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	0.2	0.2	0.1	0.1	0.1	0.4
17-Jul	Z	0.2	0.2	0.2	0.3	0.2	0.4	0.5	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	0.2	0.5
18-Jul	0.2	Z	0.3	0.3	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	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.3
19-Jul	0.3	0.2	Z	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	0.0	0.1	0.1	0.1	0.1	0.3	0.5	0.4	0.2	0.5
20-Jul	0.2	0.2	0.2	Z	0.2	0.2	0.2	0.3	0.3	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	0.2	0.1	0.3
21-Jul	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	0.2	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-Jul	0.1	0.1	0.3	0.4	0.1	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	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.4
23-Jul	Z	0.2	0.2	0.2	0.2	0.4	0.4	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.4
24-Jul	0.1	Z	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	0.1	0.1	0.2
25-Jul	0.2	0.1	Z	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.5	0.7	0.1	0.1	0.1	0.1	0.2	0.7
26-Jul	0.1	0.1	0.1	Z	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	0.1
27-Jul	0.1	0.1	0.1	0.1	Z	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	0.2
28-Jul	0.1	0.2	0.3	0.3	0.2	Z	0.9	0.6	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.9
29-Jul	Z	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.1	0.2	0.3	0.2	0.1	0.1	0.3
30-Jul	0.1	Z	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	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2
31-Jul	0.2	0.3	Z	0.3	0.2	0.2	0.3	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	0.0	0.1	0.0	0.0	0.1	0.3
0.1 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 0.1 0.1 0.1																									Diurnal Average	
0.4 0.3 0.4 0.5 0.3 0.4 0.9 0.6 0.4 0.3 0.2 0.3 0.2 0.3 0.2 0.1 0.3 0.1 0.5 0.7 0.2 0.3 0.5 0.4																									Diurnal Maximum	
Z - zerospan C - Calibration PF - Power Failure																										
Alberta Ambient Air Quality Objective (AAAQO): 1-hour 10 ppb 24-hr 3 ppb																										



Wood Buffalo Environmental Association
Hourly Averages

Hydrogen Sulphide (H₂S) - ppb
Monday Creek - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Hydrogen Sulphide (H₂S) - ppb
Monday Creek - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	699	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: 699

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Hydrogen Sulphide (H₂S) - ppb
Monday Creek - July 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	32	27	12	9	17	25	45	43	65	80	60	55	65	64	39	40	678
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	32	27	12	9	17	25	45	43	65	80	60	55	65	64	39	40	678

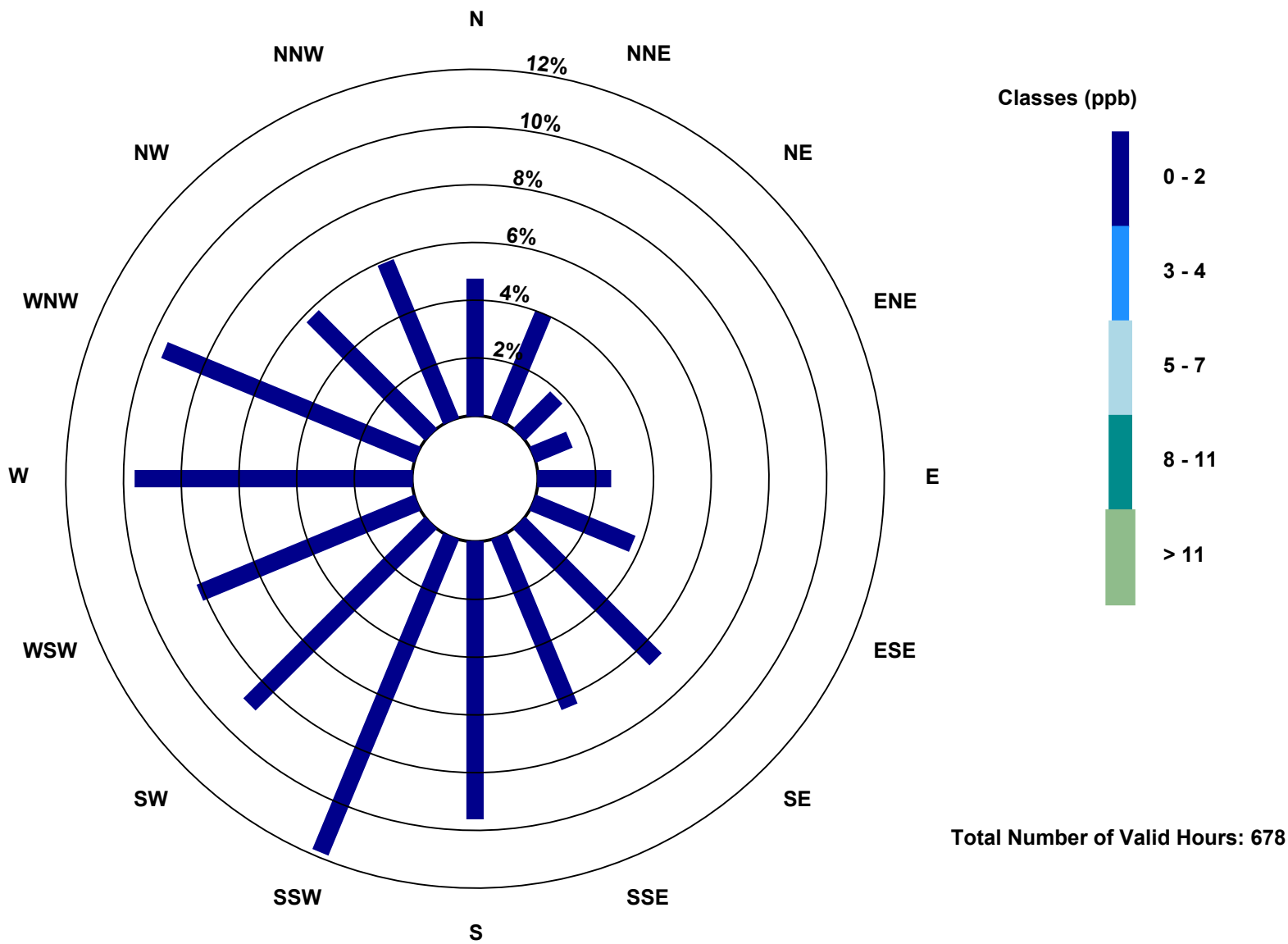
Total Number of Valid Hours: 678

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

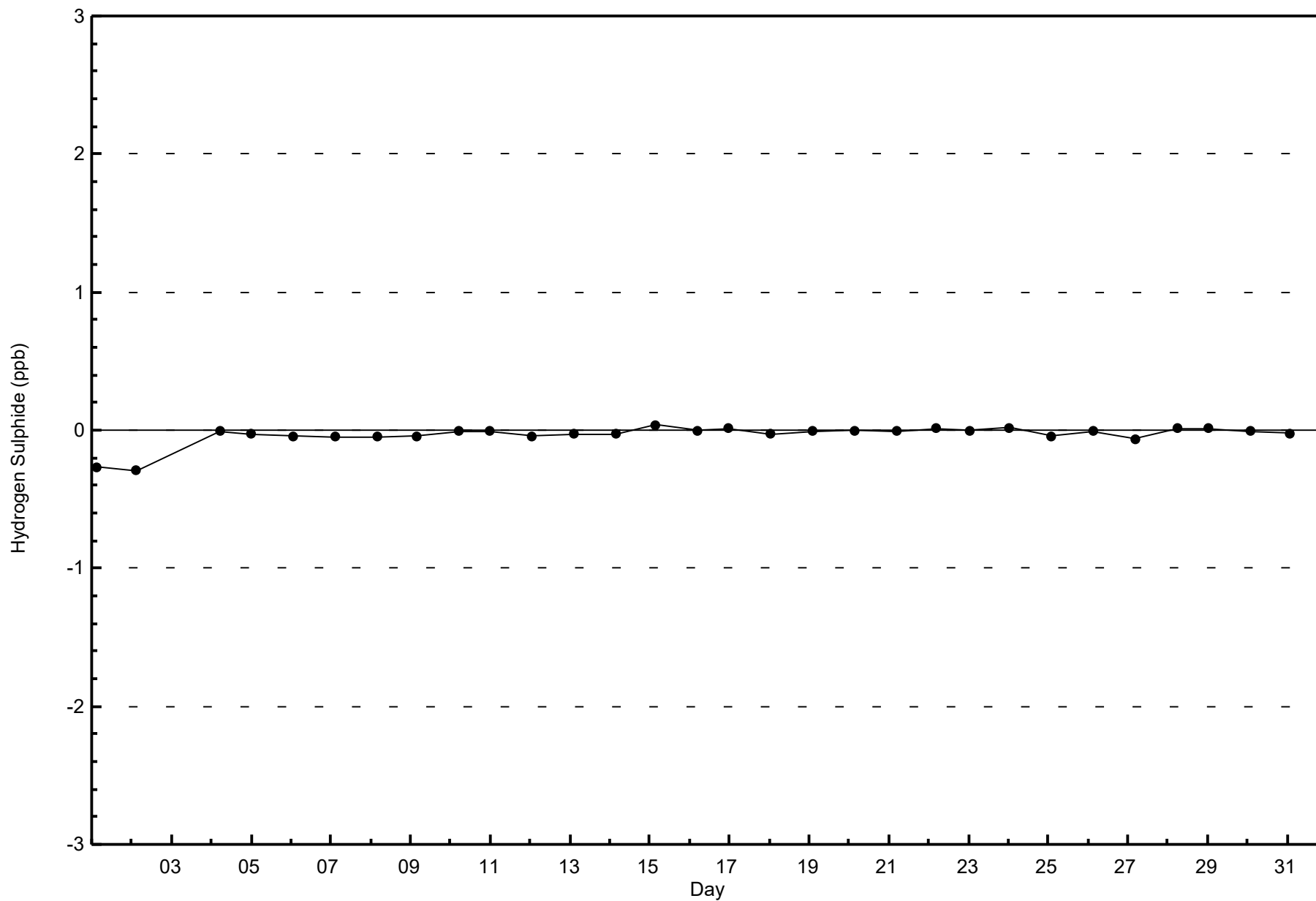
Hydrogen Sulphide (H₂S) - ppb
Monday Creek





Wood Buffalo Environmental Association
Zero Responses

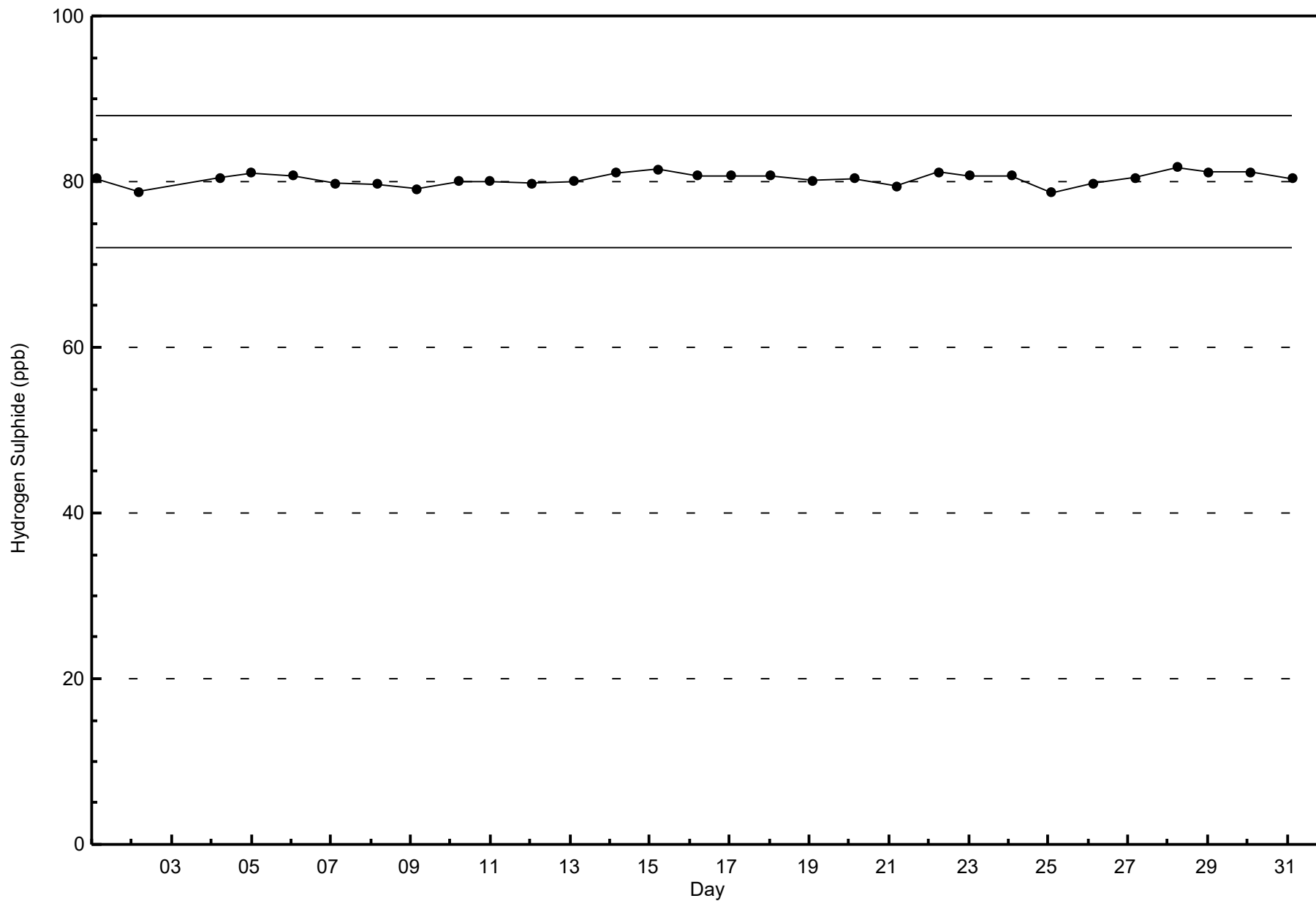
Hydrogen Sulphide (H₂S) - ppb
Monday Creek - July 2025





Wood Buffalo Environmental Association
Span Responses

Hydrogen Sulphide (H_2S) - ppb
Monday Creek - July 2025

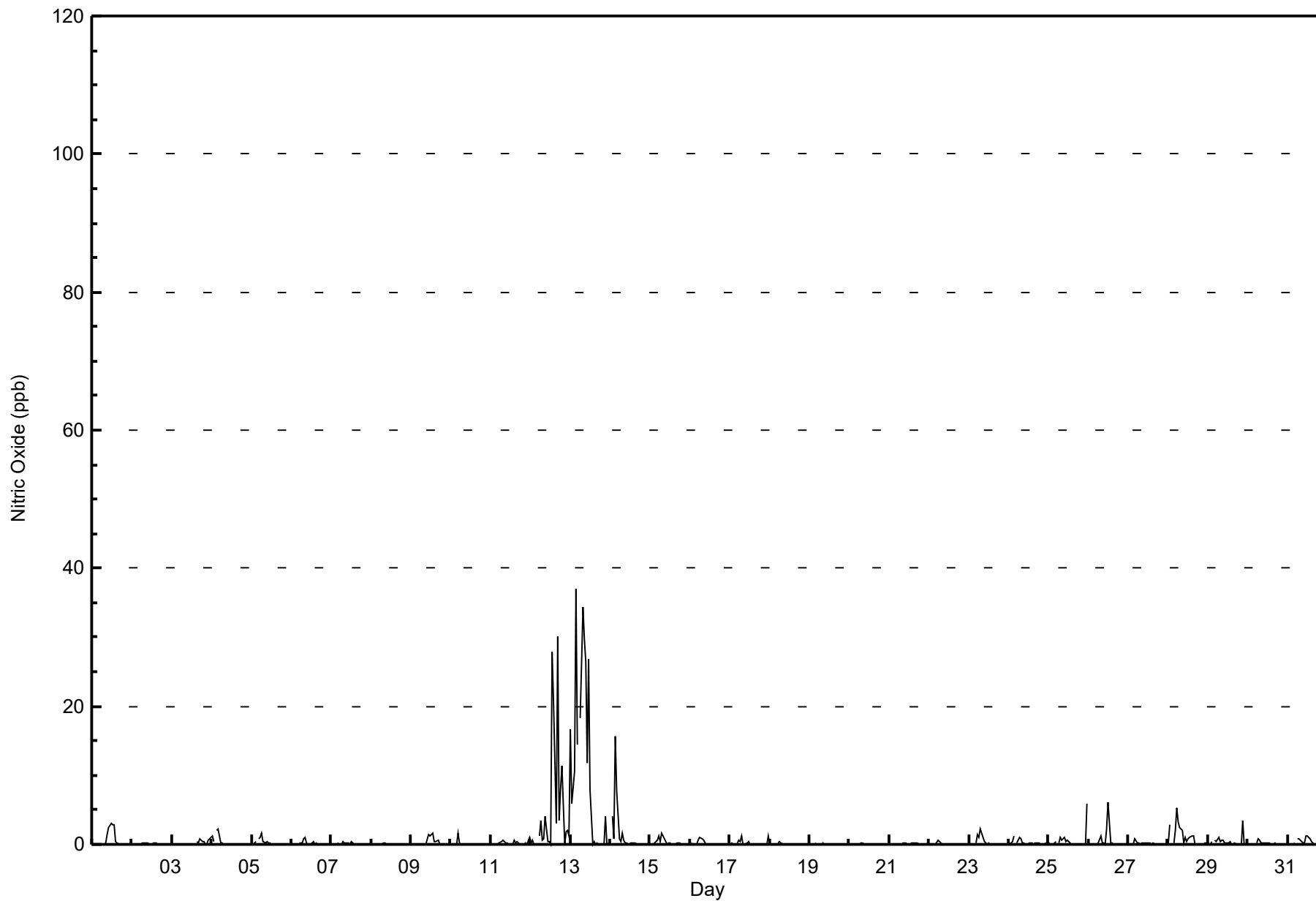


Maximum Value: 37.1 ppb on Jul 13 04:00																		Maximum Daily Average: 10.6 ppb on Jul 13										Hours in Service: 744			
Minimum Value: 0.0 ppb on Jul 1 02:00																		Minimum Daily Average: 0.0 ppb on Jul 8										Hours of Data: 697			
Maximum Diurnal Average: 2.3 ppb at hour 4																		Minimum Diurnal Average: 0.0 ppb at hour 21										Hours of Missing Data: 47			
Monthly Average: 0.80 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 = 20.9										Hours of Calibration: 35			
																												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-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.1	0.1	0.3	1.3	2.4	3.1	2.8	2.9	0.4	0.3	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.6	3.1					
2-Jul	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2					
3-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	0.1	0.1	0.1	M	0.4	0.2	0.9	0.5	0.4	0.0	0.0	0.5	0.9	--	0.9					
4-Jul	1.2	0.5	Z	2.0	2.3	0.2	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	0.0	0.0	0.0	0.0	0.1	0.3	2.3					
5-Jul	0.0	0.0	0.5	Z	0.9	1.0	1.5	0.3	0.1	0.3	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.5					
6-Jul	0.0	0.0	0.0	0.0	Z	0.2	0.3	0.9	1.0	0.2	0.1	0.1	0.2	0.5	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.0					
7-Jul	0.0	0.0	0.0	0.0	0.2	Z	0.1	0.4	0.3	0.2	0.2	0.1	0.4	0.2	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4					
8-Jul	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	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	0.1					
9-Jul	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	1.5	1.2	1.4	1.7	0.4	0.4	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.7					
10-Jul	0.0	0.0	Z	0.0	1.6	0.2	0.1	0.0	0.1	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	0.1	1.6					
11-Jul	0.0	0.0	0.0	Z	0.1	0.1	0.4	0.6	0.3	0.2	0.2	0.1	0.1	0.1	0.6	0.1	0.3	0.1	0.0	0.0	0.1	0.2	0.0	0.9	0.2	0.9					
12-Jul	0.1	0.6	0.0	0.0	Z	1.1	3.4	0.7	0.9	4.1	0.4	0.4	0.0	27.9	20.6	3.1	30.0	3.4	8.0	11.5	0.0	1.9	2.0	1.3	5.3	30.0					
13-Jul	16.7	5.8	10.6	37.1	14.5	Z	18.3	34.3	29.6	26.5	11.8	26.8	8.0	0.0	0.3	0.0	0.2	0.0	0.0	0.0	0.1	4.1	0.2	0.0	10.6	37.1					
14-Jul	Z	4.0	0.9	15.6	7.7	0.8	0.5	1.6	0.5	0.1	0.1	0.1	0.1	0.3	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.4	15.6					
15-Jul	0.0	Z	0.0	0.3	0.6	1.1	0.4	1.7	1.2	0.3	0.1	0.3	0.2	0.1	0.1	0.1	0.2	0.3	0.1	0.1	0.0	0.0	0.0	0.1	0.3	1.7					
16-Jul	0.0	0.1	Z	0.0	0.1	0.5	0.9	0.8	0.6	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	0.2	0.9					
17-Jul	0.0	0.2	0.0	Z	0.2	0.6	0.5	1.2	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	1.2	0.2	1.2					
18-Jul	0.1	0.0	0.0	0.0	Z	0.2	0.4	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4					
19-Jul	0.0	0.0	0.0	0.0	0.2	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	0.2					
20-Jul	Z	0.0	0.0	0.0	0.0	0.1	0.0	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	0.0	0.3					
21-Jul	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.3	0.1	0.1	0.3	0.2	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.3					
22-Jul	0.0	0.1	Z	0.1	0.1	0.7	0.5	0.3	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	0.0	0.0	0.1	0.7					
23-Jul	0.0	0.0	0.0	Z	0.3	1.4	1.0	2.3	1.0	0.5	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	2.3					
24-Jul	0.0	0.3	0.4	1.3	Z	0.3	0.9	0.7	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	0.2	0.1	0.2	1.3					
25-Jul	0.1	0.0	0.0	0.0	0.3	Z	0.3	1.1	0.5	1.0	0.3	0.7	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.9	0.5	5.9					
26-Jul	Z	0.0	0.0	0.0	0.0	0.1	0.2	1.3	0.3	0.2	0.1	2.2	6.1	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.5	6.1					
27-Jul	0.1	Z	0.1	0.1	0.8	0.3	0.1	0.1	0.3	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.8					
28-Jul	0.2	2.8	Z	0.3	2.0	5.3	3.3	2.3	2.0	0.3	1.0	0.4	0.8	0.9	1.3	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	1.1	5.3					
29-Jul	0.2	0.1	0.3	Z	0.5	0.5	1.1	0.5	0.7	0.6	0.1	0.2	0.2	0.5	0.1	0.0	0.1	0.1	0.0	0.1	0.0	3.4	0.0	0.0	0.4	3.4					
30-Jul	0.1	0.1	0.0	0.0	Z	0.2	0.7	0.7	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.7					
31-Jul	0.0	0.0	0.1	0.0	0.2	Z	0.9	0.8	0.4	0.3	0.3	1.3	1.3	0.7	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.3					
0.8 0.6 0.5 2.3 1.3 0.6 1.2 1.8 1.4 1.3 0.7 1.3 0.8 1.2 0.9 0.2 1.1 0.2 0.3 0.4 0.0 0.3 0.1 0.4																									Diurnal Average						
16.7 5.8 10.6 37.1 14.5 5.3 18.3 34.3 29.6 26.5 11.8 26.8 8.0 27.9 20.6 3.1 30.0 3.4 8.0 11.5 0.1 4.1 2.0 5.9																									Diurnal Maximum						
Z - zerospan C - Calibration M - Maintenance PF - Power Failure																															



Wood Buffalo Environmental Association
Hourly Averages

Nitric Oxide (NO) - ppb
Monday Creek - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitric Oxide (NO) - ppb
Monday Creek - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	689	98.85	98.85
21 - 40	8	1.15	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: 697

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitric Oxide (NO) - ppb
Monday Creek - July 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	33	25	12	10	17	25	45	42	64	74	63	54	66	57	37	40	664
21 - 40	0	0	0	0	0	0	0	0	0	0	0	0	1	7	0	0	8
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	33	25	12	10	17	25	45	42	64	74	63	54	67	64	37	40	672

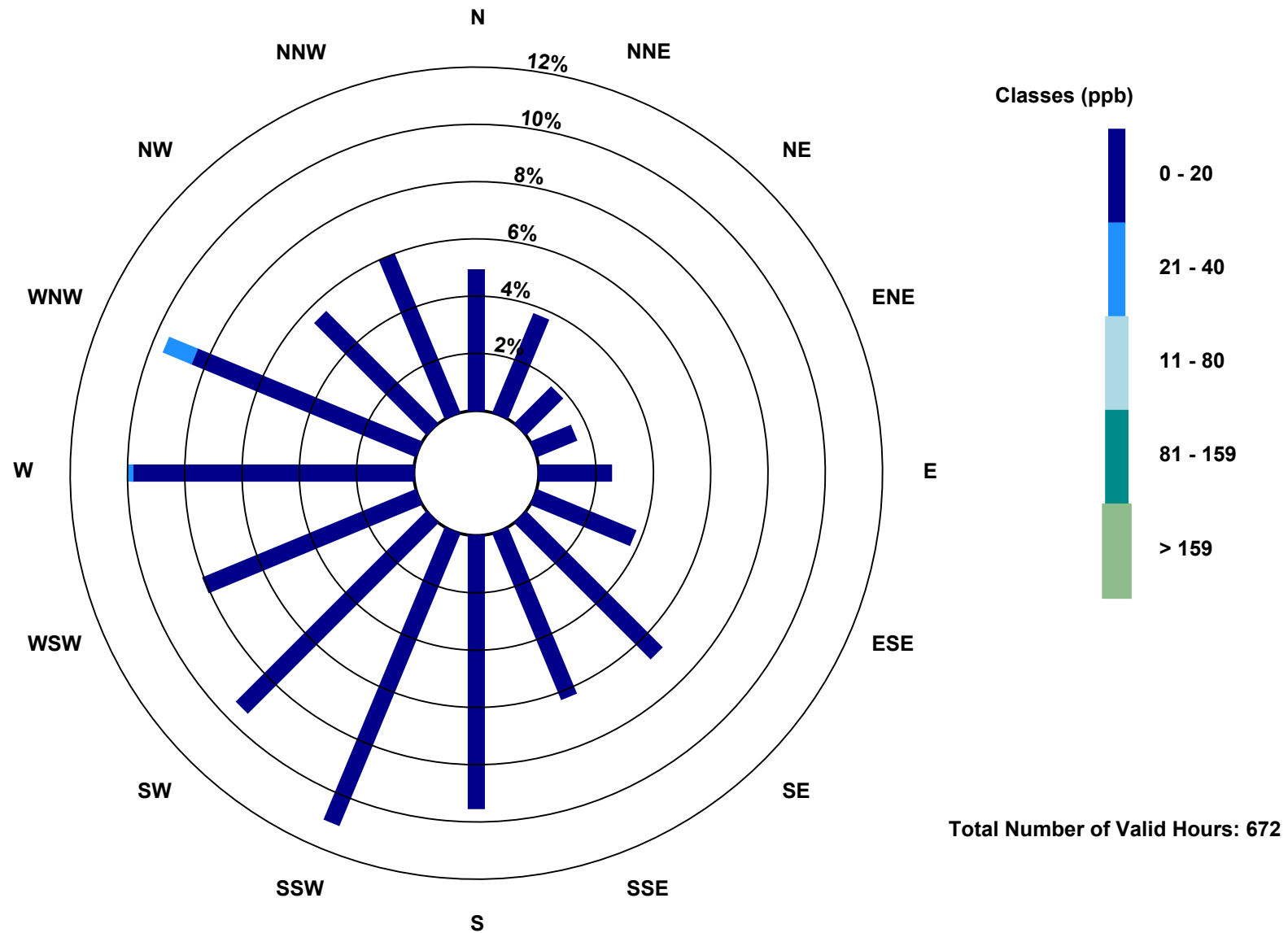
Total Number of Valid Hours: 672

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

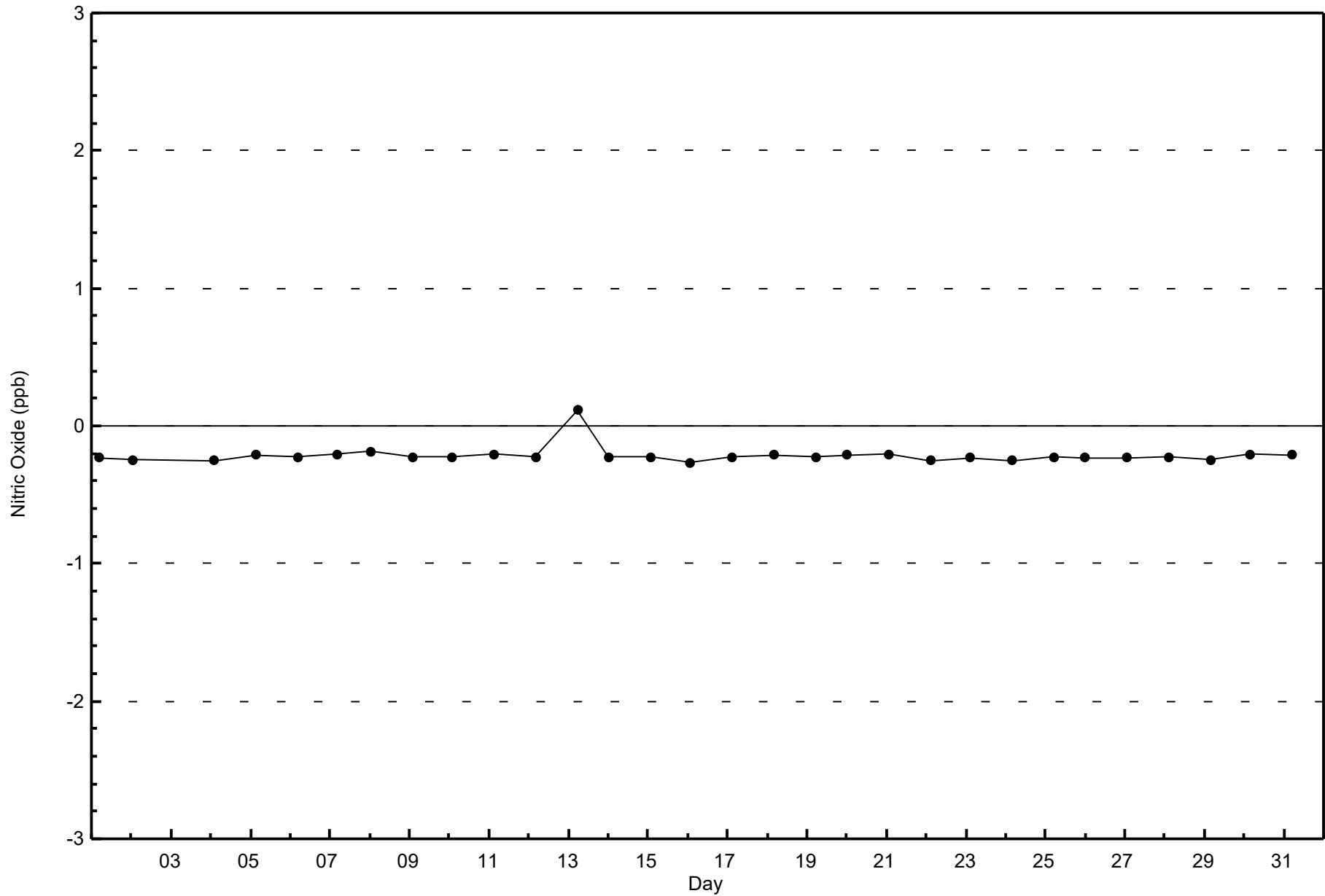
Nitric Oxide (NO) - ppb
Monday Creek





Wood Buffalo Environmental Association
Zero Responses

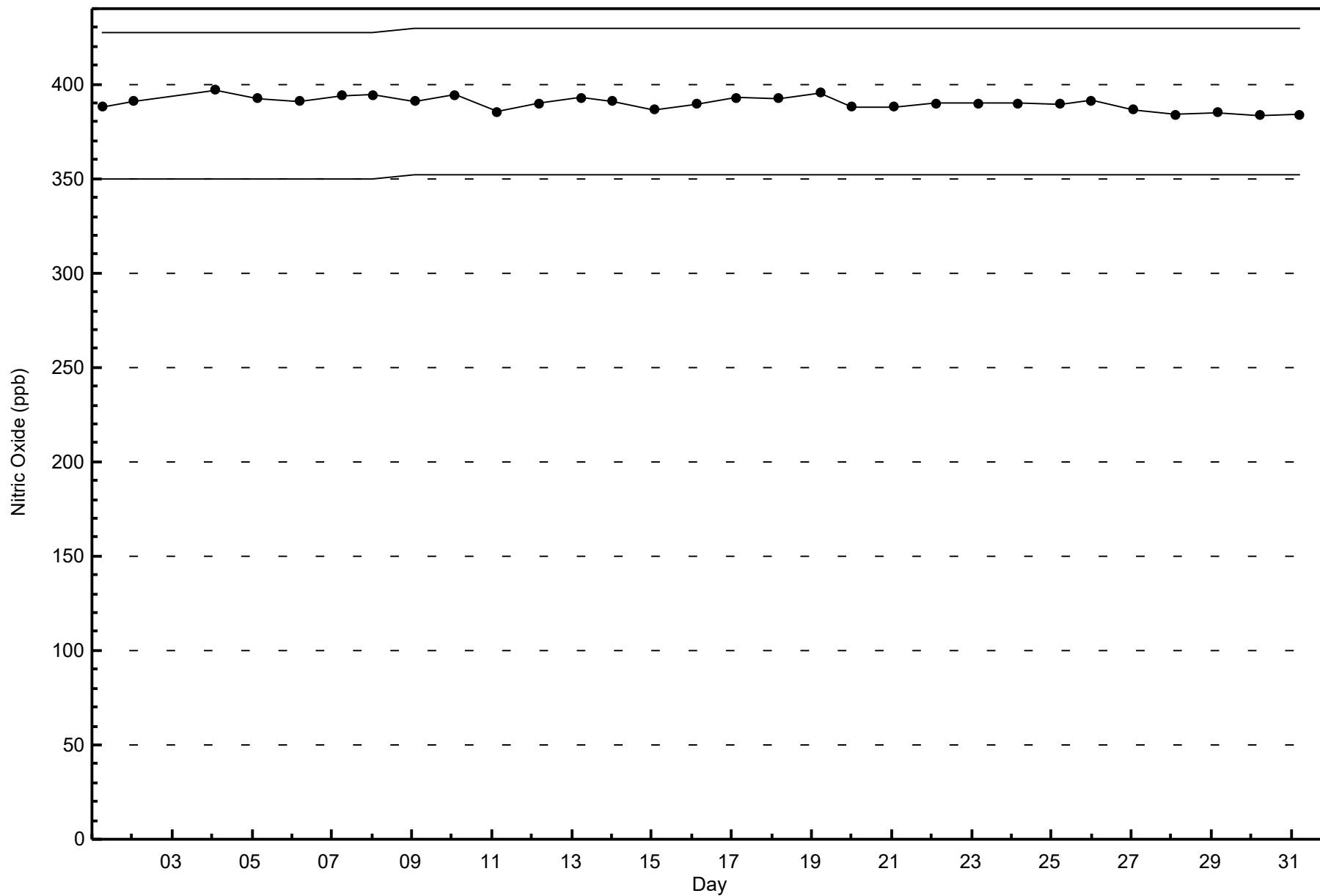
Nitric Oxide (NO) - ppb
Monday Creek - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitric Oxide (NO) - ppb
Monday Creek - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Dioxide (NO₂) - ppb

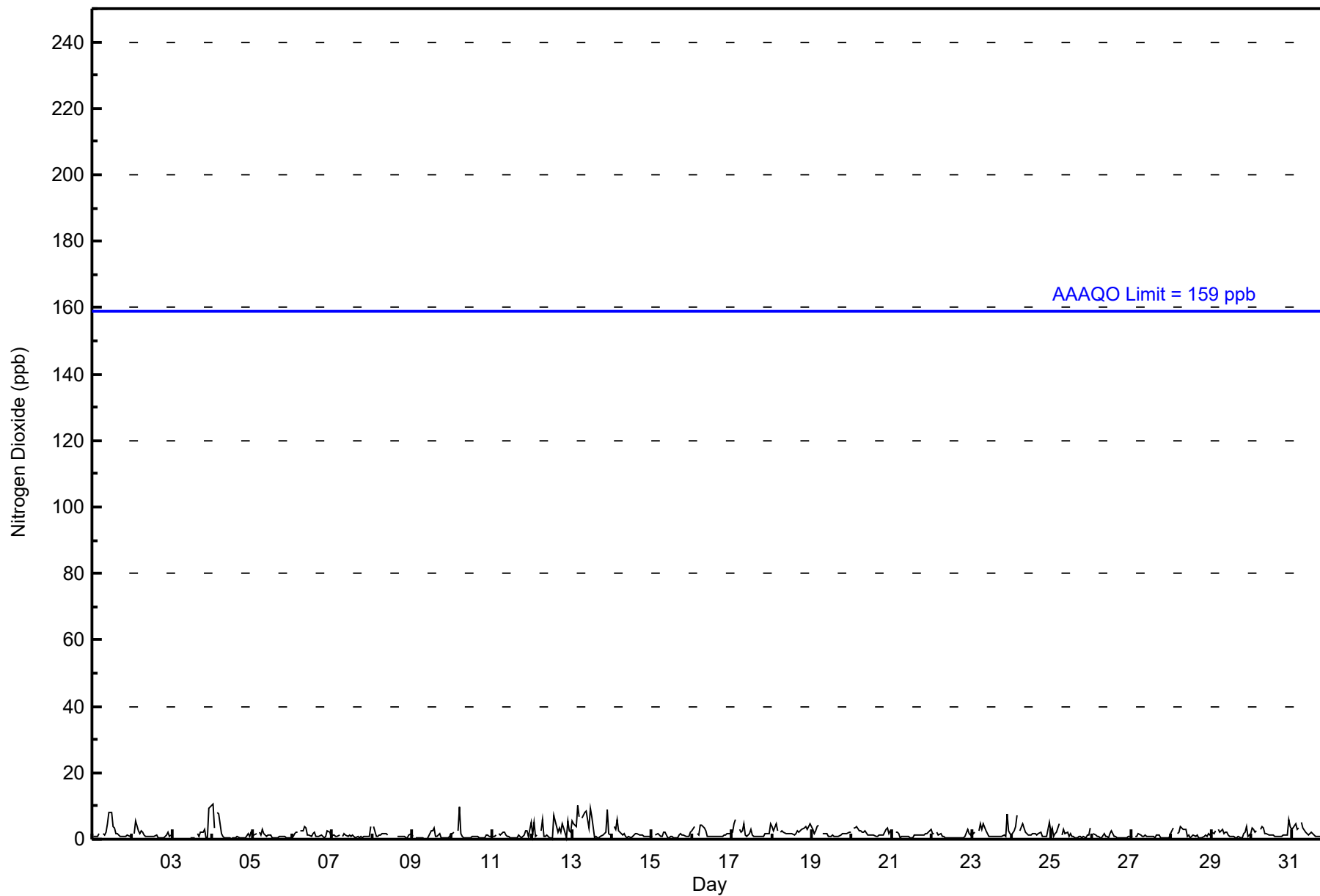
Monday Creek - July 2025

Number of Exceedences (AAAQO): Maximum Value: 10.8 ppb on Jul 4 01:00																			1-hr: 0 24-hr: 0 Maximum Daily Average: 4.3 ppb on Jul 13						Hours in Service: 744 Hours of Data: 697	
Minimum Value: 0.2 ppb on Jul 4 12:00 Maximum Diurnal Average: 2.9 ppb at hour 4 Monthly Average: 1.71 ppb																			Minimum Daily Average: 0.8 ppb on Jul 26 Minimum Diurnal Average: 0.9 ppb at hour 16 Percentiles: P ₁ = 0.3 P ₁₀ = 0.5 Q ₁ = 0.8 Median = 1.2 Q ₃ = 2.0 P ₉₀ = 3.5 P ₉₉ = 8.3						Hours of Missing Data: 47 Hours of Calibration: 35 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-Jul	1.0	0.9	0.7	0.9	1.5	Z	1.5	1.1	2.1	4.8	8.0	8.0	3.9	3.6	1.8	1.5	0.9	0.8	0.8	1.0	1.0	1.3	0.8	1.1	2.1	8.0
2-Jul	Z	1.9	5.7	2.7	1.9	2.5	2.1	1.4	1.0	1.0	0.9	0.8	0.8	0.8	1.4	0.6	0.6	0.6	0.6	0.6	1.4	2.2	0.9	1.4	1.5	5.7
3-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	0.4	0.4	0.6	M	1.5	0.7	2.3	2.1	3.1	0.5	0.6	9.2	10.3	—	10.3
4-Jul	10.8	3.6	Z	7.9	7.5	1.9	0.8	0.6	0.4	0.3	0.3	0.2	0.4	0.4	0.6	0.9	0.6	0.5	0.5	0.4	0.4	1.6	0.9	2.1	1.9	10.8
5-Jul	1.3	1.3	1.8	Z	2.0	1.2	2.8	1.5	1.0	1.3	1.2	1.1	0.5	0.5	0.5	0.5	0.7	0.9	0.8	0.8	0.6	0.4	0.3	0.3	1.0	2.8
6-Jul	0.9	1.8	2.1	2.0	Z	2.4	2.4	4.0	3.3	1.3	1.1	1.0	1.7	2.1	0.8	1.0	0.7	1.1	0.7	0.6	0.7	2.5	2.3	0.6	1.6	4.0
7-Jul	1.1	1.1	1.0	0.8	1.4	Z	1.0	1.9	1.2	1.0	1.2	0.7	1.3	0.8	0.6	0.7	0.6	0.7	0.6	0.7	0.7	0.7	1.0	4.0	1.1	4.0
8-Jul	Z	3.9	0.9	1.0	1.1	1.4	1.6	1.8	1.5	1.3	C	C	C	C	C	0.8	0.9	0.7	0.7	0.8	0.5	0.6	1.1	1.9	1.3	3.9
9-Jul	0.7	Z	0.6	0.4	0.4	0.4	0.3	0.2	0.2	0.2	1.6	2.7	2.5	3.6	0.9	1.0	1.9	0.6	0.3	0.3	0.5	0.4	0.8	1.6	1.0	3.6
10-Jul	1.8	2.2	Z	2.4	9.7	1.7	0.7	0.5	0.5	0.5	0.4	0.5	0.7	0.8	0.7	0.7	0.5	0.4	0.4	0.4	1.1	1.1	0.7	1.0	1.3	9.7
11-Jul	0.9	0.8	1.1	Z	1.9	1.4	2.0	2.2	1.4	0.8	0.7	0.5	0.6	0.5	0.3	0.6	1.1	0.5	1.0	1.1	2.6	2.5	0.8	5.1	1.3	5.1
12-Jul	1.3	5.0	0.9	1.2	Z	2.6	6.1	0.7	0.8	1.2	0.5	0.6	0.2	7.0	5.7	2.0	3.3	2.3	4.5	3.3	0.5	5.3	2.5	2.0	2.6	7.0
13-Jul	5.5	4.6	3.7	10.1	6.6	Z	6.2	8.2	8.3	5.8	3.5	9.4	6.6	0.6	0.8	0.5	0.6	0.9	1.3	1.5	2.0	8.9	1.9	1.4	4.3	10.1
14-Jul	Z	3.7	3.0	5.8	2.7	1.5	1.4	1.6	0.8	0.5	0.7	0.6	0.7	1.3	1.7	1.5	1.1	1.2	1.1	0.8	0.9	0.9	0.9	0.8	1.5	5.8
15-Jul	0.8	Z	1.2	1.6	1.2	0.9	1.0	2.3	2.0	0.6	0.5	1.0	0.8	0.5	0.4	0.5	1.1	1.6	1.2	1.1	0.8	0.8	1.0	2.0	1.1	2.3
16-Jul	2.5	3.8	Z	1.5	1.2	4.2	4.4	3.3	2.5	1.0	1.0	0.8	0.9	0.8	0.9	0.9	0.9	1.0	0.9	1.2	1.4	1.7	1.7	1.6	1.7	4.4
17-Jul	2.0	4.7	5.9	Z	3.0	2.2	2.6	4.7	1.1	1.0	1.5	2.9	1.4	0.9	0.7	0.8	0.7	0.7	0.8	0.9	1.6	1.5	1.6	4.5	2.1	5.9
18-Jul	4.0	2.4	4.8	2.7	Z	2.1	2.4	2.2	1.9	1.7	1.5	1.5	1.5	1.4	1.5	2.4	2.0	2.4	3.1	3.5	3.9	2.9	3.7	4.7	2.6	4.8
19-Jul	2.9	1.7	2.4	3.9	4.1	Z	1.8	1.8	1.8	1.5	0.9	1.0	1.1	1.0	0.8	0.8	0.8	1.1	1.6	1.9	1.9	1.9	2.1	2.3	1.8	4.1
20-Jul	Z	3.6	3.4	3.9	2.7	2.4	2.0	2.3	2.5	1.2	1.1	1.1	1.1	1.1	0.9	1.0	1.1	1.2	1.1	1.2	3.0	3.4	1.7	2.6	2.0	3.9
21-Jul	1.9	Z	2.1	2.0	1.7	0.6	0.8	0.9	0.9	0.8	0.7	0.4	0.6	1.4	1.2	1.2	1.2	1.2	1.2	1.4	1.5	1.5	2.2	2.9	1.3	2.9
22-Jul	1.8	1.6	Z	2.1	1.1	1.8	1.0	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	1.0	2.9	1.5	1.4	0.9	2.9
23-Jul	2.6	1.7	2.3	Z	2.4	4.5	3.0	4.5	2.6	1.5	0.7	0.7	0.8	0.7	0.9	0.7	0.8	0.9	0.9	1.2	1.0	7.8	2.5	1.6	2.0	7.8
24-Jul	1.2	2.6	4.0	7.3	Z	2.5	4.7	3.2	2.0	1.7	1.3	1.3	1.9	1.7	1.5	1.4	1.6	2.1	1.0	0.9	0.9	0.8	5.2	2.1	2.3	7.3
25-Jul	3.4	0.7	1.7	2.0	4.6	Z	1.3	2.9	1.6	2.1	0.9	1.5	1.0	0.8	0.6	0.5	1.0	0.9	0.6	0.7	0.6	1.3	1.4	3.5	1.5	4.6
26-Jul	Z	1.5	1.3	0.8	0.7	0.6	0.6	1.5	0.9	0.7	0.3	1.6	2.6	0.7	0.7	0.6	0.5	0.5	0.4	0.4	0.4	0.4	0.7	1.0	0.8	2.6
27-Jul	0.7	Z	0.8	0.7	1.9	1.2	0.9	0.7	1.3	1.0	0.7	0.8	1.0	1.0	0.6	1.1	1.1	0.6	0.6	0.5	0.3	0.3	0.3	1.7	0.9	1.9
28-Jul	2.5	3.5	Z	1.9	2.3	4.0	3.4	3.1	3.0	0.8	1.4	0.6	0.8	1.1	0.9	1.1	0.4	0.4	0.4	0.7	1.2	0.9	1.9	1.3	1.6	4.0
29-Jul	2.0	1.7	2.6	Z	2.8	2.2	3.1	1.7	2.0	2.0	1.1	1.0	1.0	0.8	0.5	0.4	0.9	0.6	0.6	1.6	2.0	3.8	1.0	1.7	1.6	3.8
30-Jul	3.3	3.1	2.1	2.7	Z	2.8	4.0	3.2	1.6	1.6	1.2	1.2	1.1	1.1	0.9	0.7	1.0	1.0	0.9	1.3	1.3	1.1	5.9	3.9	2.0	5.9
31-Jul	3.1	3.5	4.8	3.1	3.3	Z	4.9	3.6	2.1	1.9	1.4	1.9	2.0	1.2	0.7	1.0	0.7	0.8	0.7	0.8	0.9	0.9	0.9	1.1	2.0	4.9
2.4 2.6 2.4 2.9 2.8 2.0 2.4 2.3 1.8 1.4 1.3 1.5 1.3 1.3 1.0 0.9 1.0 1.0 1.0 1.0 1.1 1.2 2.0 1.9 2.4 Diurnal Average																										
10.8 5.0 5.9 10.1 9.7 4.5 6.2 8.2 8.3 5.8 8.0 9.4 6.6 7.0 5.7 2.4 3.3 2.4 4.5 3.5 3.9 8.9 9.2 10.3 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
Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
Monday Creek - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Monday Creek - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	697	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: 697

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Monday Creek - July 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	33	25	12	10	17	25	45	42	64	74	63	54	67	64	37	40	672
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	33	25	12	10	17	25	45	42	64	74	63	54	67	64	37	40	672

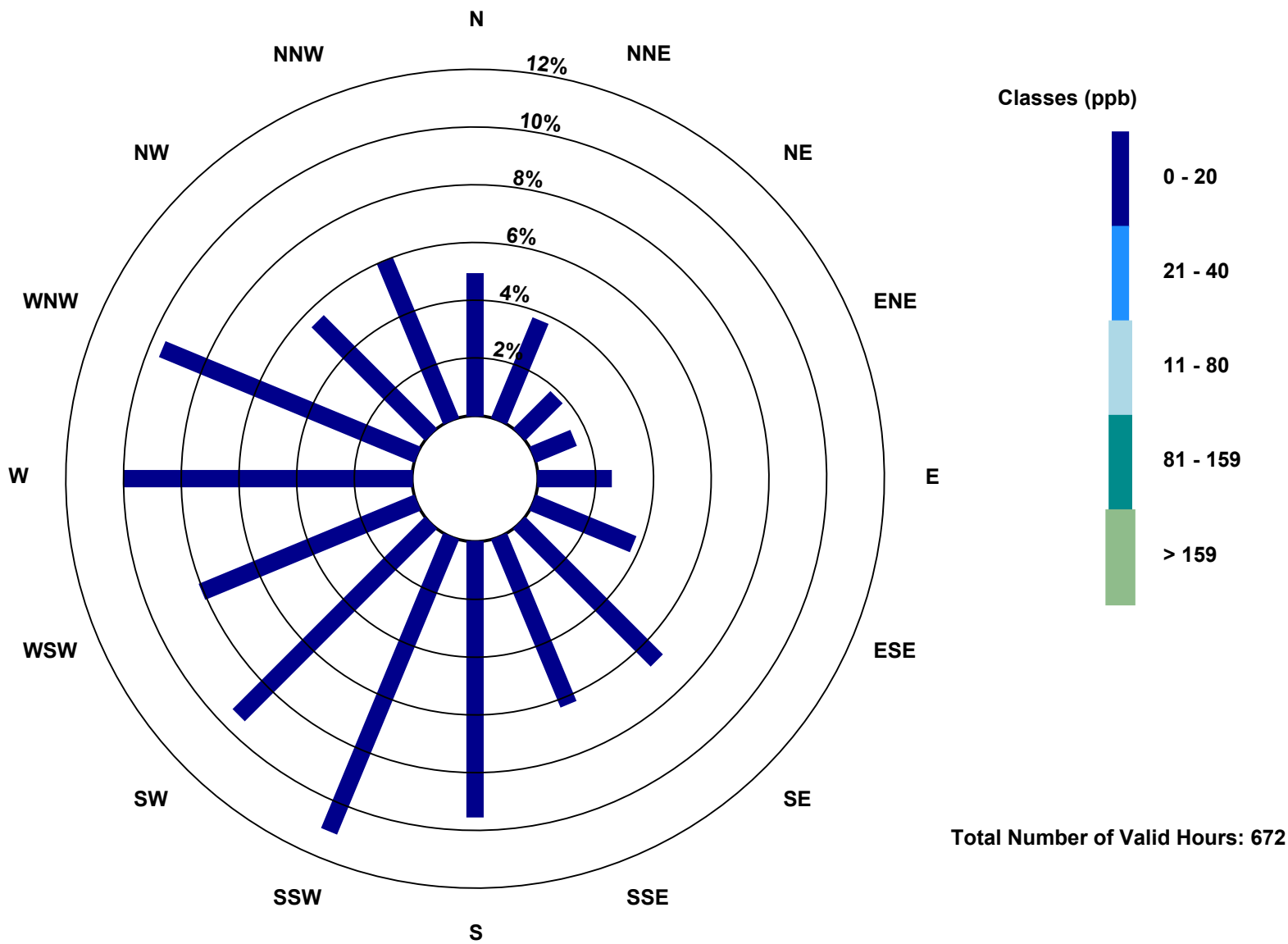
Total Number of Valid Hours: 672

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

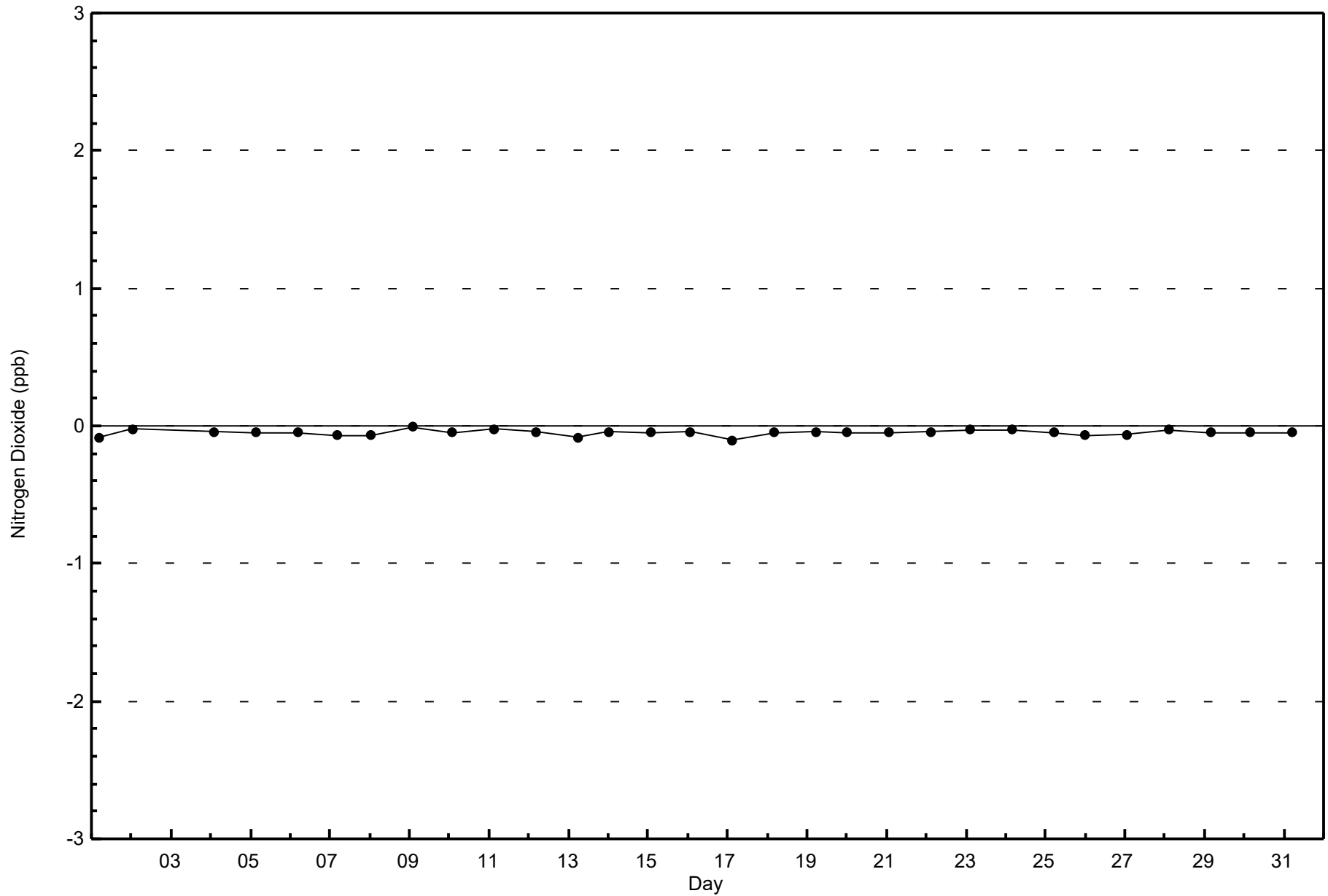
Nitrogen Dioxide (NO₂) - ppb
Monday Creek





Wood Buffalo Environmental Association
Zero Responses

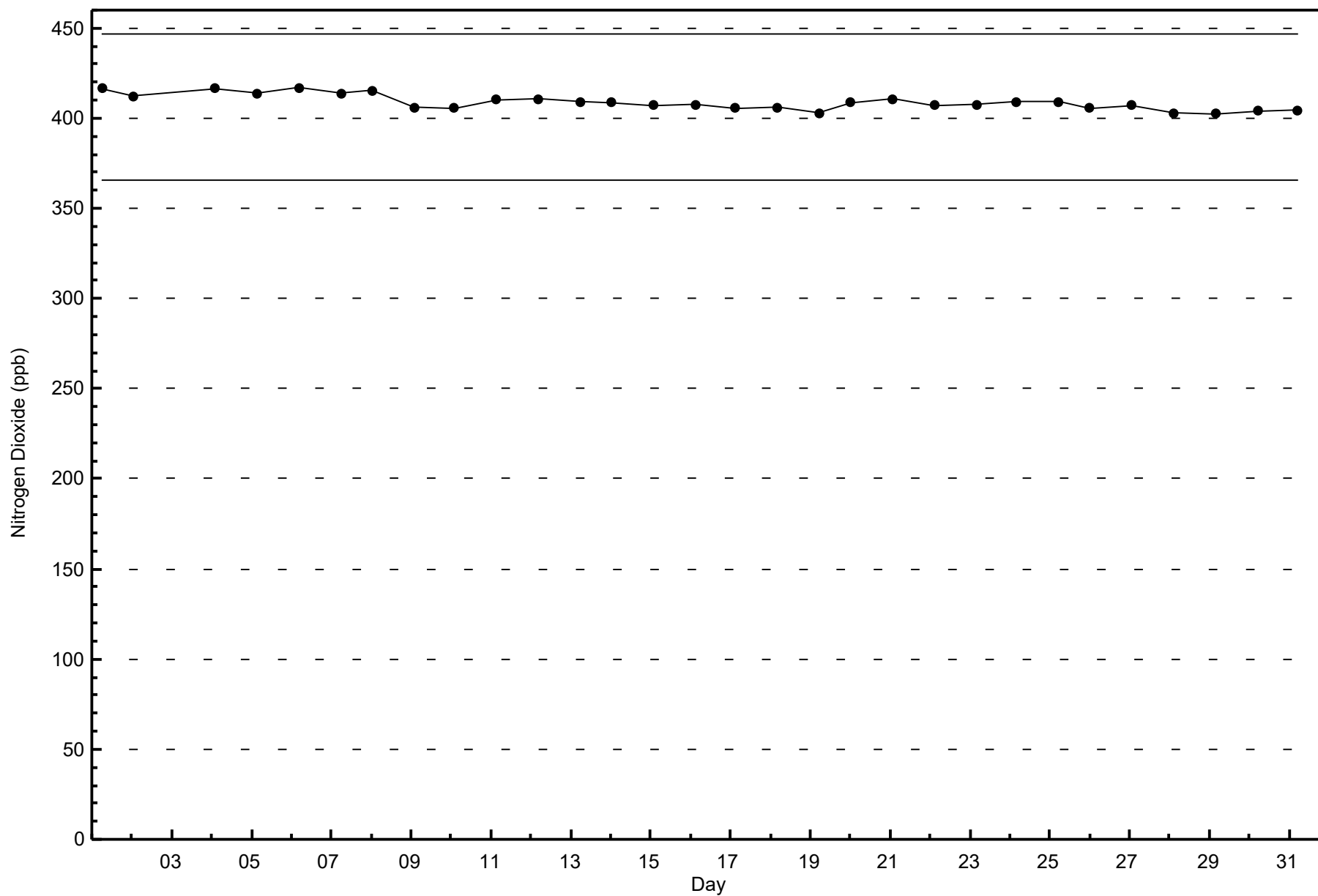
Nitrogen Dioxide (NO₂) - ppb
Monday Creek - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitrogen Dioxide (NO₂) - ppb
Monday Creek - July 2025

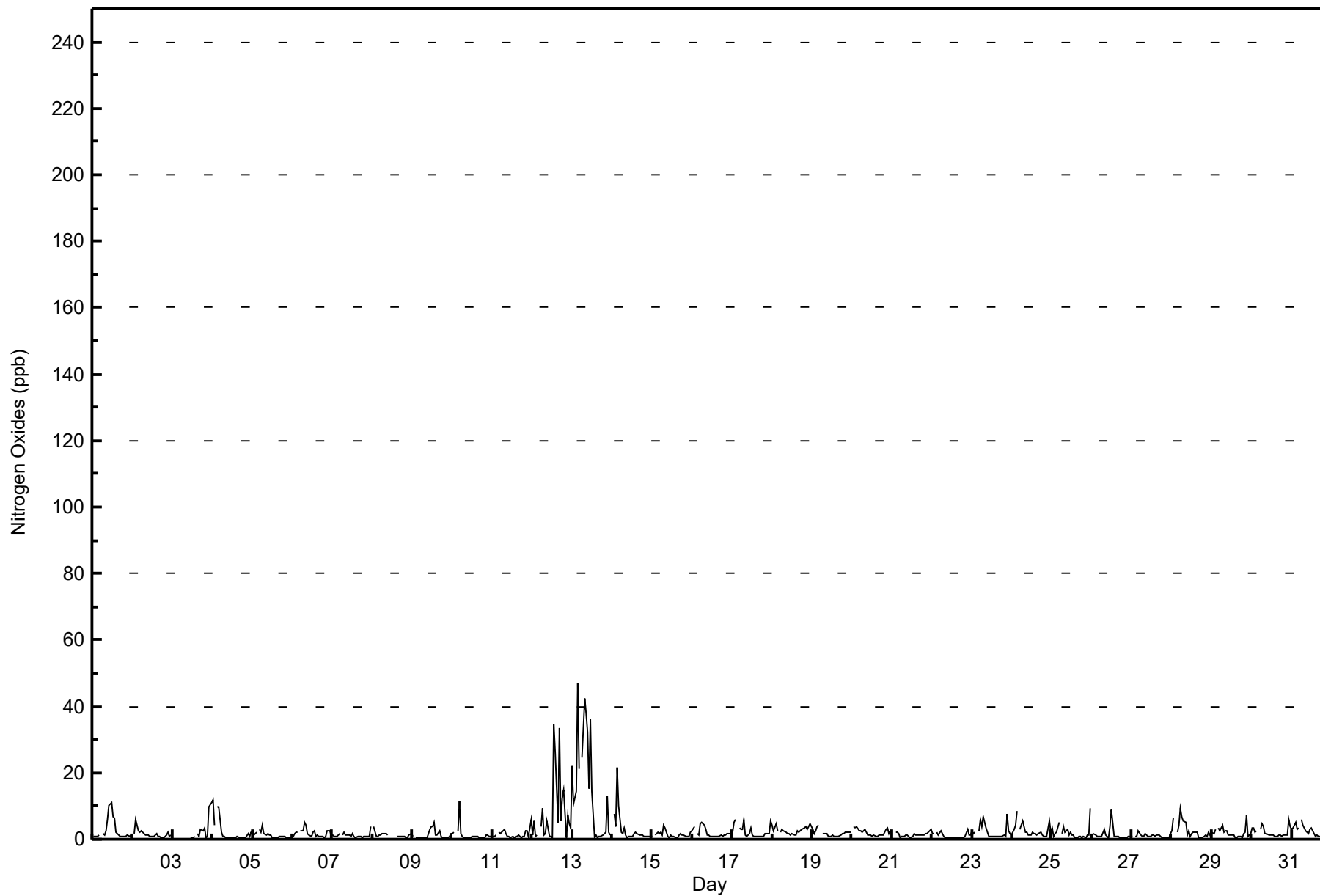


Maximum Value: 47.2 ppb on Jul 13 04:00															Maximum Daily Average: 15.0 ppb on Jul 13										Hours in Service: 744	
Minimum Value: 0.2 ppb on Jul 9 09:00															Minimum Daily Average: 1.0 ppb on Jul 27										Hours of Data: 697	
Maximum Diurnal Average: 5.1 ppb at hour 4															Minimum Diurnal Average: 1.2 ppb at hour 16										Hours of Missing Data: 47	
Monthly Average: 2.51 ppb															Percentiles: P ₁ = 0.3 P ₁₀ = 0.6 Q ₁ = 0.8 Median = 1.3 Q ₃ = 2.4 P ₉₀ = 4.4 P ₉₉ = 26.5										Hours of Calibration: 35	
															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-Jul	1.0	0.9	0.7	0.9	1.5	Z	1.6	1.2	2.4	6.1	10.4	11.1	6.7	6.5	2.2	1.8	1.0	0.9	0.9	1.1	1.0	1.3	0.8	1.1	2.7	11.1
2-Jul	Z	1.9	5.7	2.7	1.9	2.5	2.2	1.6	1.2	1.1	1.0	0.9	0.9	0.9	1.6	0.7	0.7	0.6	0.6	0.6	1.4	2.2	0.9	1.4	1.5	5.7
3-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	0.5	0.5	0.7	M	1.9	0.9	3.2	2.6	3.5	0.5	0.6	9.7	11.2	--	11.2
4-Jul	12.0	4.1	Z	9.9	9.8	2.1	0.9	0.7	0.5	0.3	0.4	0.3	0.4	0.4	0.6	0.9	0.6	0.5	0.5	0.4	0.4	1.6	0.9	2.2	2.2	12.0
5-Jul	1.3	1.3	2.3	Z	2.9	2.2	4.3	1.8	1.1	1.6	1.3	1.2	0.6	0.6	0.5	0.5	0.8	0.9	0.8	0.8	0.6	0.4	0.3	0.3	1.2	4.3
6-Jul	0.9	1.8	2.1	2.0	Z	2.6	2.7	4.9	4.3	1.5	1.2	1.1	1.9	2.6	0.9	1.1	0.8	1.1	0.7	0.6	0.7	2.5	2.3	0.6	1.8	4.9
7-Jul	1.1	1.1	1.0	0.8	1.6	Z	1.1	2.3	1.5	1.2	1.4	0.8	1.7	1.0	0.6	0.8	0.7	0.7	0.6	0.7	0.7	1.0	4.0	1.2	4.0	
8-Jul	Z	3.9	0.9	1.0	1.1	1.4	1.7	1.9	1.6	1.3	C	C	C	C	C	0.8	0.9	0.7	0.7	0.8	0.5	0.6	1.1	1.9	1.3	3.9
9-Jul	0.7	Z	0.6	0.4	0.4	0.4	0.3	0.3	0.2	0.2	3.1	3.9	3.9	5.3	1.3	1.4	2.5	0.7	0.3	0.3	0.5	0.4	0.8	1.6	1.3	5.3
10-Jul	1.8	2.2	Z	2.4	11.3	1.9	0.8	0.5	0.6	0.5	0.5	0.6	0.7	0.8	0.8	0.7	0.5	0.4	0.4	0.4	1.1	1.1	0.7	1.0	1.4	11.3
11-Jul	0.9	0.8	1.1	Z	2.0	1.5	2.4	2.8	1.7	1.0	0.9	0.6	0.7	0.6	0.9	0.7	1.4	0.6	1.0	1.1	2.7	2.7	0.8	6.0	1.5	6.0
12-Jul	1.4	5.6	0.9	1.2	Z	3.7	9.5	1.4	1.7	5.3	0.9	1.0	0.2	34.9	26.3	5.1	33.3	5.7	12.5	14.8	0.5	7.2	4.5	3.3	7.9	34.9
13-Jul	22.2	10.4	14.3	47.2	21.1	Z	24.5	42.5	37.9	32.3	15.3	36.2	14.6	0.6	1.1	0.5	0.8	0.9	1.3	1.5	2.1	13.0	2.1	1.4	15.0	47.2
14-Jul	Z	7.7	3.9	21.5	10.4	2.3	1.9	3.2	1.3	0.6	0.8	0.7	0.8	1.6	1.9	1.6	1.2	1.3	1.1	0.8	0.9	0.9	0.9	0.8	3.0	21.5
15-Jul	0.8	Z	1.2	1.9	1.8	2.0	1.4	4.0	3.2	0.9	0.6	1.3	1.0	0.6	0.5	0.6	1.3	1.9	1.3	1.2	0.8	0.8	1.0	2.1	1.4	4.0
16-Jul	2.5	3.9	Z	1.5	1.3	4.7	5.3	4.1	3.1	1.1	1.1	0.9	1.0	0.9	1.0	1.0	1.0	1.1	0.9	1.2	1.4	1.7	1.7	1.6	1.9	5.3
17-Jul	2.0	4.9	5.9	Z	3.2	2.8	3.1	5.9	1.2	1.0	1.7	3.3	1.5	0.9	0.7	0.8	0.7	0.7	0.8	0.9	1.6	1.5	1.6	5.7	2.3	5.9
18-Jul	4.1	2.4	4.8	2.7	Z	2.3	2.8	2.4	2.0	1.8	1.6	1.5	1.5	1.4	1.5	2.4	2.0	2.4	3.1	3.5	3.9	2.9	3.7	4.7	2.7	4.8
19-Jul	2.9	1.7	2.4	3.9	4.3	Z	1.9	1.9	1.9	1.6	0.9	1.0	1.1	1.0	0.8	0.8	0.8	1.1	1.6	1.9	1.9	1.9	2.1	2.3	1.8	4.3
20-Jul	Z	3.6	3.4	3.9	2.7	2.5	2.0	2.5	2.8	1.2	1.1	1.1	1.1	1.1	0.9	1.0	1.1	1.2	1.1	1.2	3.0	3.4	1.7	2.6	2.0	3.9
21-Jul	1.9	Z	2.1	2.0	1.7	0.6	0.8	1.0	1.1	1.1	1.0	0.5	0.7	1.7	1.4	1.3	1.3	1.4	1.3	1.5	1.5	1.5	2.2	3.0	1.4	3.0
22-Jul	1.8	1.7	Z	2.2	1.2	2.5	1.5	1.0	0.5	0.4	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	1.0	3.0	1.5	1.4	1.0	3.0
23-Jul	2.6	1.7	2.3	Z	2.7	5.9	4.0	6.8	3.6	2.0	0.8	0.8	0.9	0.8	1.0	0.8	0.9	1.0	0.9	1.2	1.0	7.8	2.5	1.7	2.3	7.8
24-Jul	1.2	2.9	4.4	8.6	Z	2.8	5.6	3.9	2.2	1.9	1.4	1.4	2.0	1.8	1.6	1.5	1.7	2.2	1.1	1.0	0.9	0.8	5.4	2.2	2.5	8.6
25-Jul	3.5	0.7	1.7	2.0	4.9	Z	1.6	4.0	2.1	3.1	1.2	2.2	1.4	1.1	0.6	0.5	1.0	0.9	0.6	0.7	0.6	1.3	1.4	9.4	2.0	9.4
26-Jul	Z	1.5	1.3	0.8	0.7	0.7	0.8	2.8	1.2	0.9	0.4	3.8	8.7	0.8	0.9	0.7	0.6	0.6	0.4	0.4	0.4	0.4	0.7	1.0	1.3	8.7
27-Jul	0.8	Z	0.9	0.8	2.7	1.5	1.0	0.8	1.6	1.2	0.9	0.9	1.2	1.2	0.7	1.2	1.2	0.7	0.6	0.5	0.3	0.3	0.3	1.8	1.0	2.7
28-Jul	2.7	6.3	Z	2.2	4.3	9.3	6.7	5.4	5.0	1.1	2.4	1.0	1.6	2.0	2.2	2.3	0.4	0.4	0.4	0.7	1.2	0.9	2.1	1.4	2.7	9.3
29-Jul	2.2	1.8	2.9	Z	3.3	2.7	4.2	2.2	2.7	2.6	1.2	1.2	1.2	1.3	0.6	0.4	1.0	0.7	0.6	1.7	2.0	7.2	1.0	1.7	2.0	7.2
30-Jul	3.4	3.2	2.1	2.7	Z	3.0	4.7	3.9	1.8	1.8	1.3	1.4	1.2	1.2	1.0	0.8	1.1	1.1	0.9	1.3	1.3	1.1	5.9	3.9	2.2	5.9
31-Jul	3.1	3.5	4.9	3.1	3.5	Z	5.8	4.4	2.5	2.2	1.7	3.2	3.3	1.9	1.0	1.1	0.7	0.8	0.7	0.8	0.9	0.9	0.9	1.1	2.3	5.8
																									Diurnal Average	
																									Diurnal Maximum	
Z - zerospan C - Calibration M - Maintenance PF - Power Failure																										



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Monday Creek - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Monday Creek - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	685	98.28	98.28
21 - 40	10	1.43	99.71
41 - 80	2	0.29	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 697

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Monday Creek - July 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	33	25	12	10	17	25	45	42	64	74	63	54	64	56	36	40	660
21 - 40	0	0	0	0	0	0	0	0	0	0	0	0	2	7	1	0	10
11 - 80	0	0	0	0	0	0	0	0	0	0	0	0	1	1	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	33	25	12	10	17	25	45	42	64	74	63	54	67	64	37	40	672

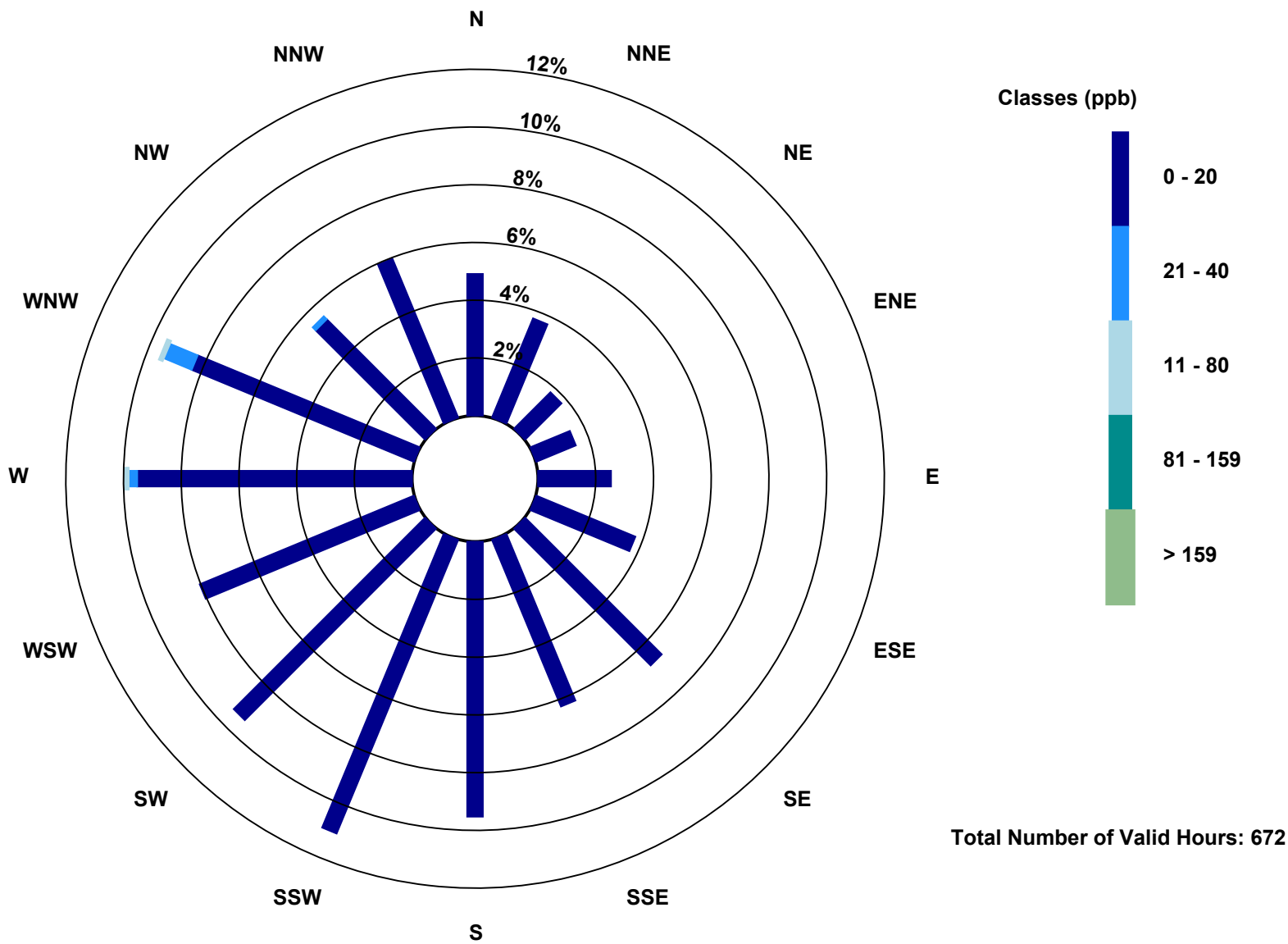
Total Number of Valid Hours: 672

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

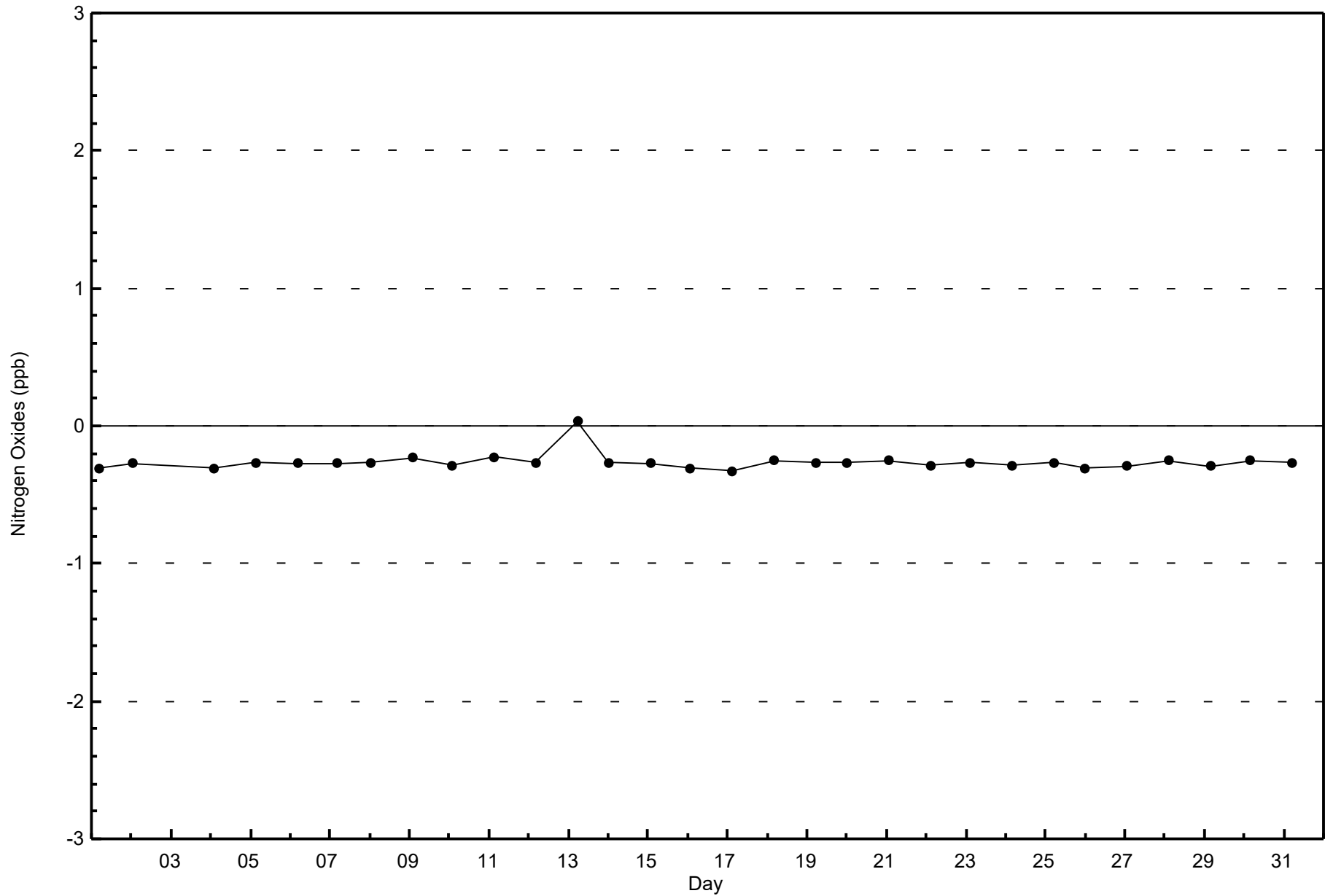
Nitrogen Oxides (NO_x) - ppb
Monday Creek





Wood Buffalo Environmental Association
Zero Responses

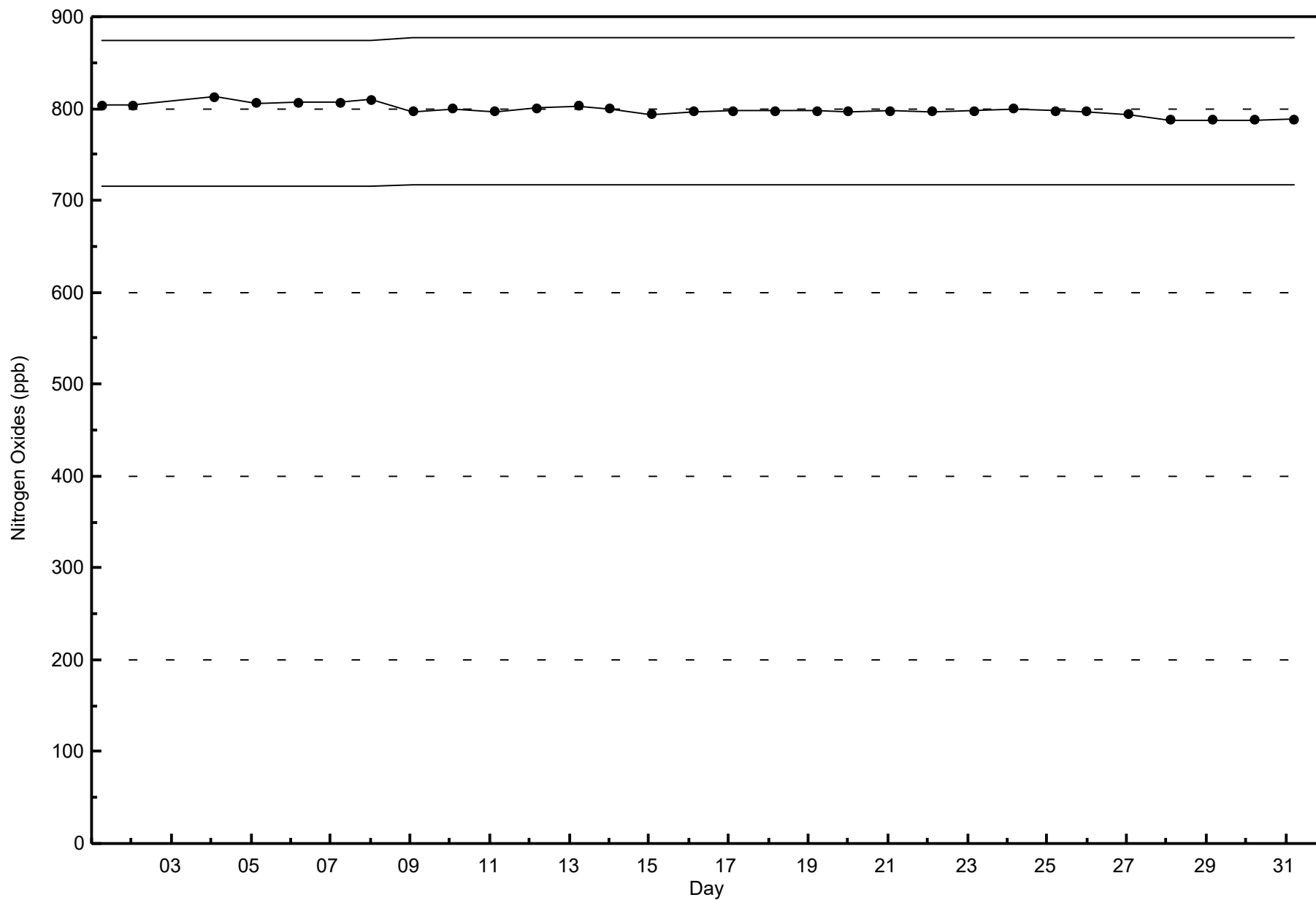
Nitrogen Oxides (NO_x) - ppb
Monday Creek - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitrogen Oxides (NO_x) - ppb
Monday Creek - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Ambient Temperature 2m (AT2) - C

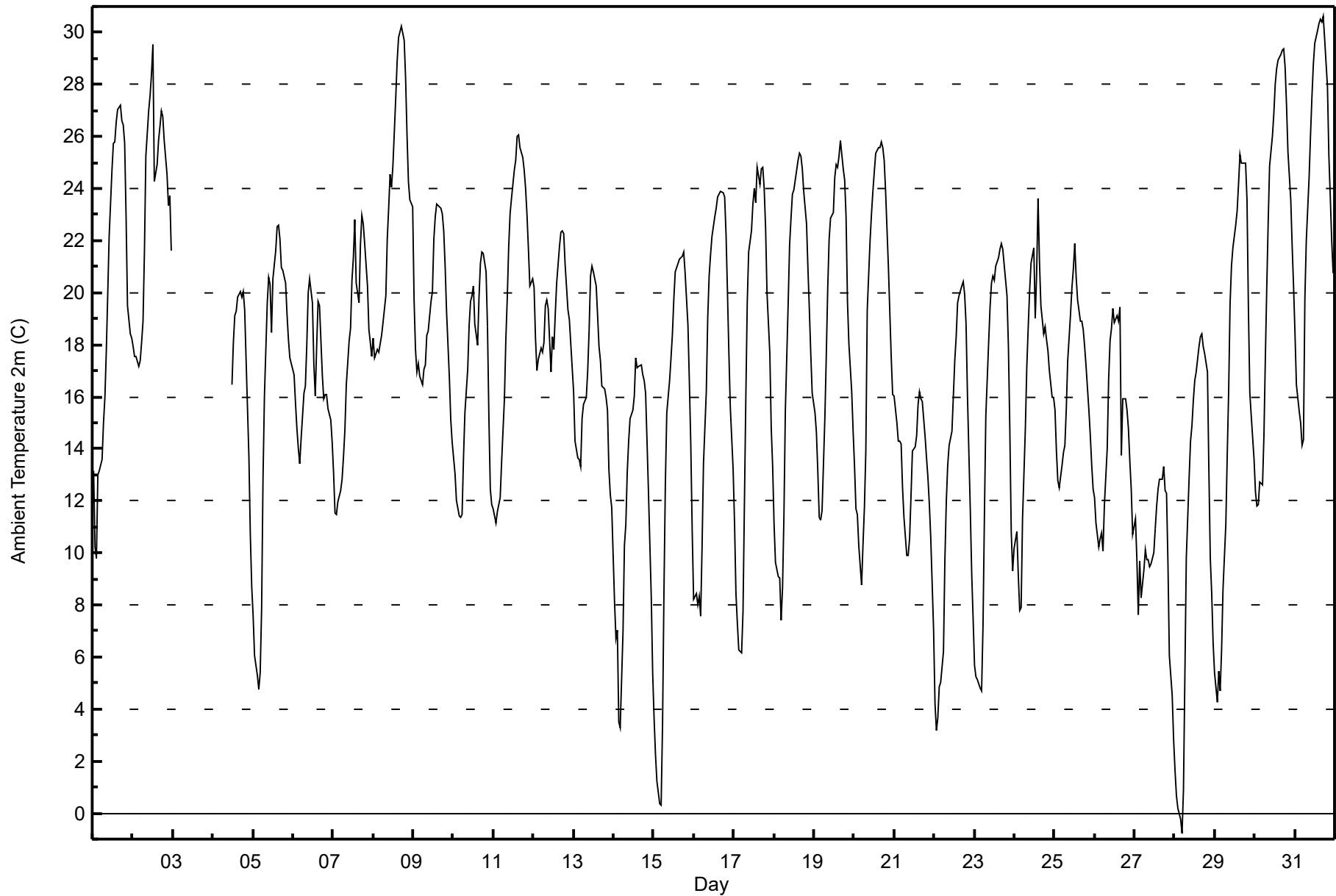
Monday Creek - July 2025

Maximum Value: 30.6 C on Jul 31 18:00																				Maximum Daily Average: 23.9 C on Jul 31				Hours in Service: 744			
Minimum Value: -0.8 C on Jul 28 05:00																				Minimum Daily Average: 9.8 C on Jul 27				Hours of Data: 709			
Maximum Diurnal Average: 22.3 C at hour 16																				Minimum Diurnal Average: 10.1 C at hour 5				Hours of Missing Data: 35			
Monthly Average: 17.17 C																				Percentiles: P ₁ = 1.3 P ₁₀ = 9.0 Q ₁ = 13.1 Median = 17.6 Q ₃ = 21.5 P ₉₀ = 24.9 P ₉₉ = 29.8				Hours of Calibration: 0			
																								Percent Operational Time: 95.3			
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-Jul	13.2	10.2	9.8	13.0	13.2	13.6	15.0	16.0	17.8	19.9	22.1	24.7	25.8	25.8	26.5	27.1	27.2	26.6	26.4	25.7	22.9	19.5	18.4	18.3	19.9	27.2	
2-Jul	17.9	17.5	17.5	17.1	17.4	18.1	18.9	21.6	25.2	27.0	27.6	28.4	29.6	24.3	24.9	25.8	26.4	27.0	26.8	25.9	24.5	23.3	23.8	21.6	23.3	29.6	
3-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	--	
4-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	16.4	18.1	19.1	19.3	19.8	20.0	19.8	20.1	19.4	17.5	13.7	10.7	8.7	--	20.1
5-Jul	7.6	6.1	5.3	4.8	5.4	7.8	12.9	16.0	19.6	20.6	20.3	18.5	20.5	21.6	22.6	22.6	22.0	21.0	20.9	20.4	19.2	18.2	17.5	17.3	16.2	22.6	
6-Jul	16.9	15.8	14.8	14.0	13.4	14.4	16.1	16.4	18.0	20.0	20.5	19.6	17.3	16.0	17.9	19.7	19.5	16.8	15.9	16.1	16.1	15.5	15.1	14.2	16.7	20.5	
7-Jul	13.1	11.5	11.5	12.0	12.4	12.8	13.7	14.8	16.5	18.2	18.6	20.5	21.3	22.8	20.4	19.6	21.8	23.0	22.7	21.9	20.2	18.6	18.1	17.6	17.6	23.0	
8-Jul	18.3	17.5	17.8	17.7	18.0	18.4	18.8	19.9	22.0	23.2	24.6	24.1	24.9	27.4	28.9	29.8	30.0	30.2	29.7	28.2	26.0	24.3	23.5	23.3	23.6	30.2	
9-Jul	19.7	17.8	16.9	17.3	16.8	16.4	17.0	17.2	18.4	18.5	19.7	20.0	22.0	22.9	23.4	23.3	23.3	23.0	22.4	21.0	19.3	16.7	15.1	14.2	19.3	23.4	
10-Jul	13.7	13.0	12.0	11.4	11.4	11.5	13.7	15.4	17.1	18.8	19.7	19.9	20.3	18.8	18.0	19.9	21.1	21.5	21.5	20.8	18.7	15.2	12.5	11.9	16.6	21.5	
11-Jul	11.7	11.2	11.6	11.8	12.2	13.5	15.9	18.2	19.8	21.7	23.0	23.7	24.7	25.1	26.0	26.1	25.6	25.2	24.7	24.0	23.0	21.7	20.3	20.6	20.0	26.1	
12-Jul	20.2	18.2	17.0	17.4	17.9	17.7	18.1	19.5	19.7	19.4	17.0	18.3	17.8	19.2	20.4	21.8	22.3	22.4	22.3	21.1	19.4	19.0	18.1	17.1	19.2	22.4	
13-Jul	16.2	14.3	13.6	13.6	13.3	15.1	15.7	16.0	17.0	18.6	20.7	21.0	20.8	20.3	19.1	17.9	17.4	16.4	16.3	16.0	15.5	13.2	12.2	11.8	16.3	21.0	
14-Jul	8.1	6.7	7.0	3.5	3.3	7.0	10.3	11.1	13.1	14.3	15.1	15.5	16.0	17.5	17.1	17.2	17.2	16.9	16.6	16.1	14.3	12.4	8.3	5.4	12.1	17.5	
15-Jul	3.6	2.3	1.2	0.4	0.3	3.4	8.5	12.6	15.4	16.6	17.5	18.4	19.8	20.8	21.1	21.3	21.4	21.4	21.5	20.8	18.8	16.6	14.2	10.9	13.7	21.5	
16-Jul	8.2	8.4	8.0	8.3	7.6	10.2	13.4	16.2	19.0	20.7	21.5	22.2	22.9	23.2	23.7	23.8	23.9	23.9	23.7	22.2	20.0	17.6	15.6	13.2	17.4	23.9	
17-Jul	11.2	8.5	7.3	6.3	6.2	7.7	11.9	16.0	19.6	21.5	22.4	23.4	24.0	23.5	24.8	24.2	24.7	24.8	24.0	22.5	20.0	17.6	14.8	13.3	17.5	24.8	
18-Jul	11.1	9.6	9.1	9.0	7.4	8.6	11.5	15.5	19.6	21.8	22.9	23.8	23.9	24.7	25.1	25.3	25.2	24.8	23.9	22.7	20.9	19.4	17.7	16.1	18.3	25.3	
19-Jul	15.4	14.6	13.1	11.4	11.2	11.6	15.2	17.6	20.1	22.0	22.9	23.1	24.4	24.9	24.8	25.3	25.9	24.8	24.4	22.9	19.7	18.0	16.2	14.6	19.3	25.9	
20-Jul	13.3	11.7	11.5	10.3	8.8	10.3	11.8	13.9	19.3	22.0	23.0	23.9	24.6	25.3	25.6	25.6	25.8	25.6	25.1	23.9	21.0	19.2	17.5	16.1	19.0	25.8	
21-Jul	16.1	15.0	14.3	14.3	14.2	12.5	11.4	9.9	9.9	10.6	12.2	13.9	14.1	14.5	15.7	16.2	15.9	15.8	14.4	13.7	12.9	11.8	10.5	7.0	13.2	16.2	
22-Jul	4.2	3.2	3.7	4.9	5.0	6.2	9.7	12.0	13.4	14.1	14.7	16.0	17.4	18.3	19.6	19.9	20.3	20.4	19.9	18.8	16.0	11.6	9.2	7.5	12.8	20.4	
23-Jul	5.7	5.2	5.1	4.8	4.7	7.2	11.4	15.3	18.1	19.4	20.3	20.6	20.5	21.0	21.3	21.7	21.9	21.7	21.1	19.9	18.0	14.7	10.8	9.3	15.0	21.9	
24-Jul	10.2	10.8	9.2	7.8	7.9	11.3	14.8	17.1	18.6	20.0	21.1	21.7	19.0	20.8	23.6	21.2	19.5	18.4	18.7	18.2	17.8	17.0	16.0	16.0	16.5	23.6	
25-Jul	15.5	13.9	12.8	12.5	13.4	13.9	14.1	15.6	17.4	19.2	20.2	20.9	21.9	20.6	19.7	18.9	18.9	18.6	18.0	17.2	15.5	14.5	13.4	12.4	16.6	21.9	
26-Jul	12.1	11.1	10.2	10.6	10.8	10.1	11.9	14.0	16.7	18.1	18.6	19.4	18.9	19.1	18.9	19.5	13.8	15.9	15.9	15.5	14.8	13.5	12.5	10.7	14.7	19.5	
27-Jul	11.3	9.7	7.6	9.7	8.3	9.4	10.1	9.7	9.7	9.5	9.6	10.0	10.9	11.8	12.4	12.8	12.8	13.3	12.4	12.3	9.6	6.1	4.5	2.8	9.8	13.3	
28-Jul	1.6	0.7	0.2	-0.2	-0.8	0.9	5.3	9.8	12.9	14.3	14.9	15.9	16.6	16.9	17.9	18.3	18.4	17.9	17.6	16.9	13.2	9.8	8.4	6.5	10.6	18.4	
29-Jul	5.4	4.3	5.5	4.7	6.3	8.6	11.1	13.8	16.2	19.6	21.0	21.7	22.6	23.1	24.2	25.3	25.0	25.0	25.0	23.6	19.4	16.1	15.3	13.6	16.5	25.3	
30-Jul	12.4	11.8	11.8	12.7	12.6	14.5	17.5	20.2	22.7	24.9	26.0	26.9	28.0	28.6	29.0	29.2	29.3	29.4	28.7	27.2	25.4	23.6	21.8	20.2	22.3	29.4	
31-Jul	18.4	16.5	15.4	15.0	14.1	14.4	19.8	22.0	24.5	26.0	27.5	28.8	29.6	30.1	30.4	30.5	30.4	30.6	29.7	27.9	25.3	23.7	22.0	20.7	23.9	30.6	
Diurnal Average																										Diurnal Maximum	
20.2 18.2 17.8 17.7 18.0 18.4 19.8 22.0 25.2 27.0 27.6 28.8 29.6 30.1 30.4 30.5 30.4 30.6 29.7 28.2 26.0 24.3 23.8 23.3																											
PF - Power Failure																											



Wood Buffalo Environmental Association
Hourly Averages

Ambient Temperature 2m (AT2) - C
Monday Creek - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ambient Temperature 2m (AT2) - C
Monday Creek - July 2025

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	0	0.00	0.00
-20 - 0	2	0.28	0.28
0 - 10	89	12.55	12.84
10 - 20	381	53.74	66.57
> 20	237	33.43	100.00

Total Number of Valid Hours: 709

Total Number of Hours: 744



Wood Buffalo Environmental Association

Summary of Hour Averages

Relative Humidity 2m (RH2) - %

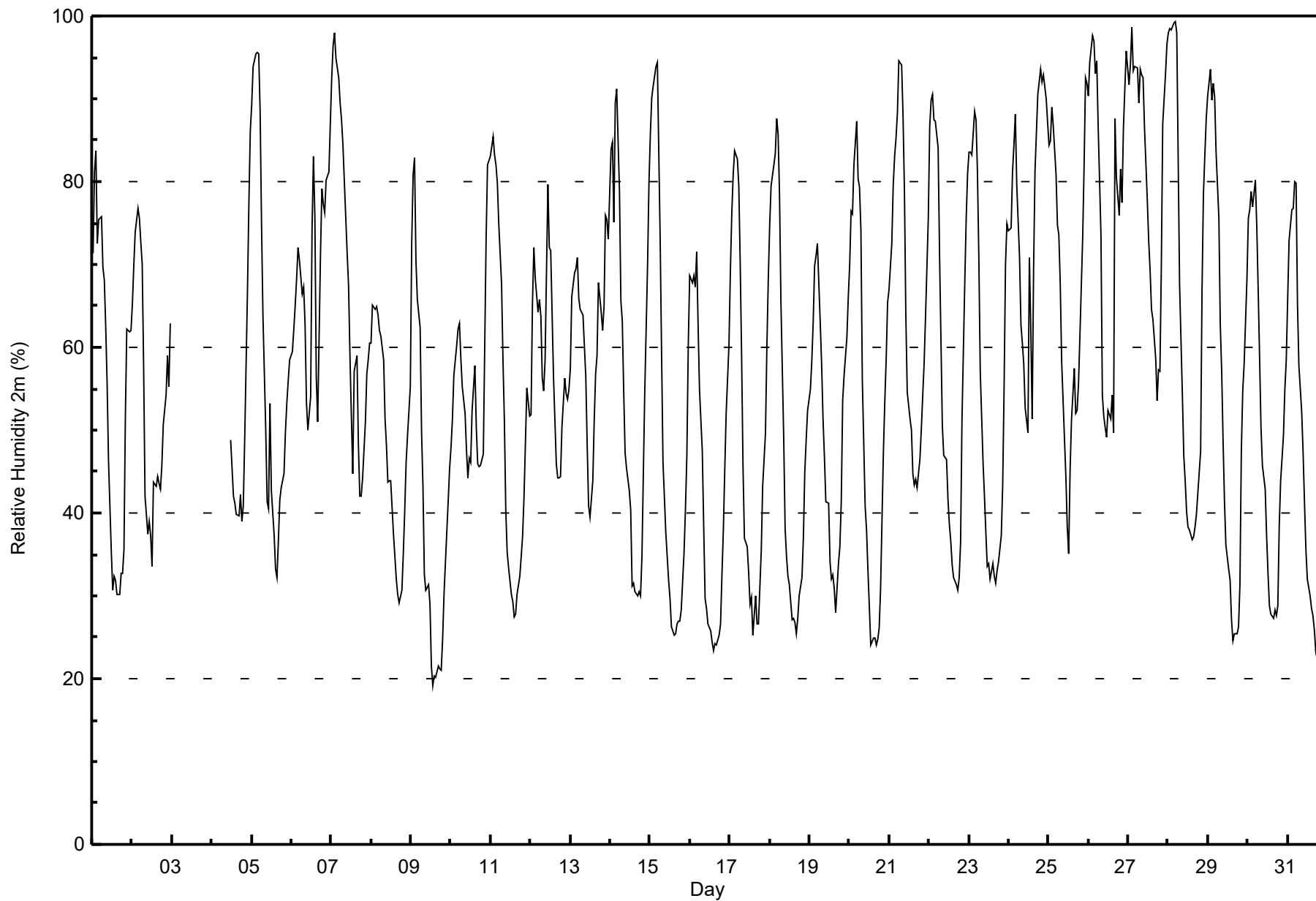
Monday Creek - July 2025

Maximum Value: 99.4 % on Jul 28 05:00																				Maximum Daily Average: 80.9 % on Jul 27										Hours in Service: 744			
Minimum Value: 19.1 % on Jul 9 14:00																				Minimum Daily Average: 40.7 % on Jul 9										Hours of Data: 709			
Maximum Diurnal Average: 81.7 % at hour 5																				Minimum Diurnal Average: 38.4 % at hour 16										Hours of Missing Data: 35			
Monthly Average: 57.20 %																				Percentiles: P ₁ = 23.4 P ₁₀ = 30.1 Q ₁ = 39.8 Median = 55.3 Q ₃ = 74.6 P ₉₀ = 87.4 P ₉₉ = 97.9										Hours of Calibration: 0			
																														Percent Operational Time: 95.3			
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-Jul	71.4	81.2	83.8	72.6	75.4	75.8	69.7	68.1	62.6	55.6	46.3	35.3	30.7	32.4	31.9	30.1	30.2	32.7	32.8	35.6	51.5	62.2	61.8	62.1	53.8	83.8							
2-Jul	65.3	69.8	73.9	76.8	75.6	72.7	70.0	57.8	42.0	37.5	38.9	37.3	33.6	43.7	43.2	44.5	43.5	42.9	45.7	50.7	54.3	59.0	55.2	62.9	54.0	76.8							
3-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	--							
4-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	86.1							
5-Jul	89.3	93.8	95.4	95.6	95.5	88.5	74.9	63.9	49.9	41.4	40.5	53.1	42.7	37.3	33.3	32.3	36.7	41.5	43.0	44.7	49.7	53.2	55.9	58.4	58.8	95.6							
6-Jul	59.4	62.2	65.0	68.4	72.1	70.5	66.5	67.4	62.9	53.4	50.0	54.1	74.3	83.1	75.7	56.4	51.0	71.3	79.2	77.4	76.3	80.2	81.1	86.9	68.5	86.9							
7-Jul	92.6	96.5	98.0	94.9	92.5	89.5	87.4	84.4	80.1	71.3	67.4	59.0	51.7	44.8	57.2	59.0	48.3	42.0	42.0	44.2	51.0	56.8	58.5	60.5	67.9	98.0							
8-Jul	60.6	65.1	64.6	65.0	63.9	62.1	61.4	58.5	51.3	48.2	43.7	44.0	44.0	37.4	34.7	32.0	30.2	29.2	30.7	35.1	40.3	46.1	49.3	55.2	48.0	65.1							
9-Jul	72.7	80.9	82.8	70.5	65.7	62.4	49.8	43.2	32.5	30.7	31.4	28.9	21.6	19.1	20.4	20.2	21.5	21.2	21.1	24.7	30.2	37.8	41.5	45.4	40.7	82.8							
10-Jul	47.9	51.4	56.6	60.2	62.3	63.0	58.7	55.2	52.0	47.6	44.3	46.6	46.1	52.4	57.7	50.3	46.0	45.5	45.8	47.2	60.1	73.2	82.0	82.5	55.6	82.5							
11-Jul	83.1	85.5	83.2	82.0	79.9	74.9	67.6	58.5	51.1	40.3	35.3	33.3	30.1	29.3	27.5	27.7	30.1	32.3	34.7	37.3	42.1	48.5	55.0	51.7	50.9	85.5							
12-Jul	51.9	65.3	72.0	68.2	64.3	65.8	63.7	56.2	54.7	58.5	79.6	72.1	71.7	64.0	56.5	45.9	44.2	44.3	44.3	50.3	56.3	54.4	53.7	54.9	58.9	79.6							
13-Jul	57.4	66.0	69.1	69.6	70.9	66.0	64.5	64.0	60.2	56.5	48.1	40.8	39.5	44.0	51.2	56.8	59.0	67.8	64.2	62.0	65.0	75.9	75.4	73.0	61.1	75.9							
14-Jul	83.9	84.8	75.0	89.5	91.1	78.7	65.7	63.3	54.7	47.2	45.3	42.7	40.3	31.1	31.6	30.5	29.9	30.5	30.0	34.8	44.7	54.6	69.8	79.8	55.4	91.1							
15-Jul	85.8	90.2	91.6	93.9	94.4	83.6	73.0	59.1	46.0	37.6	34.7	31.8	29.6	26.3	25.3	25.5	26.6	27.0	27.0	28.3	35.2	40.5	46.9	60.2	50.8	94.4							
16-Jul	68.6	67.8	68.7	67.2	71.6	62.8	54.9	47.4	38.2	29.6	28.5	26.7	25.8	24.5	23.4	24.2	24.1	25.2	26.7	32.6	37.9	45.3	52.0	60.4	43.1	71.6							
17-Jul	69.2	76.1	80.9	83.8	82.6	79.5	70.1	58.9	45.6	36.9	36.0	32.9	29.0	29.9	25.2	30.0	26.6	26.5	31.0	35.4	43.1	49.7	60.0	68.1	50.3	83.8							
18-Jul	74.7	79.5	82.1	83.3	87.6	85.7	78.5	65.6	49.0	38.1	34.7	32.4	31.3	27.1	27.3	26.8	25.4	27.2	30.0	32.2	36.9	44.9	48.9	52.3	50.1	87.6							
19-Jul	54.9	58.3	63.0	69.8	71.0	72.6	63.1	58.0	51.3	46.8	41.4	41.1	34.0	32.0	32.6	30.8	28.0	33.9	35.9	41.4	53.5	56.6	61.1	66.1	49.9	72.6							
20-Jul	70.0	76.4	76.1	82.0	87.3	80.4	79.3	74.1	56.0	40.9	37.9	33.0	28.7	24.1	24.8	24.9	24.1	24.8	26.1	30.8	47.3	53.4	58.6	65.4	51.1	87.3							
21-Jul	67.0	72.5	79.5	83.1	85.2	88.4	94.6	94.1	88.0	78.8	63.8	54.6	51.4	49.9	44.7	43.4	44.0	43.1	46.4	50.0	54.1	58.0	63.5	75.6	65.6	94.6							
22-Jul	86.7	89.8	90.4	87.5	87.3	84.1	71.3	61.0	50.4	46.9	46.5	41.6	38.6	36.6	33.6	32.2	31.3	30.7	32.1	36.5	51.4	67.9	75.6	81.0	58.0	90.4							
23-Jul	83.6	83.5	83.3	88.5	87.5	81.2	70.9	57.1	46.1	42.0	37.6	33.6	33.9	32.0	33.8	32.4	31.5	33.0	34.2	37.3	43.4	55.3	70.1	74.9	54.5	88.5							
24-Jul	74.1	74.4	81.2	84.4	88.1	79.6	70.8	62.7	60.5	57.9	52.7	49.7	70.8	62.4	51.3	69.4	81.2	90.5	92.0	93.6	92.0	92.9	90.1	87.1	75.4	93.6							
25-Jul	84.4	84.9	88.9	86.8	80.8	74.8	73.5	67.6	58.2	48.9	44.4	38.3	35.0	45.1	51.2	57.4	52.0	52.4	55.7	61.3	73.4	82.1	92.6	91.8	65.9	92.6							
26-Jul	90.3	94.5	97.6	96.9	93.1	94.6	86.8	73.6	54.2	51.7	50.3	49.2	52.3	51.3	54.3	49.7	87.6	80.5	76.0	81.5	77.5	86.4	91.3	95.8	75.7	97.6							
27-Jul	91.8	94.2	98.7	93.3	93.9	93.8	89.5	93.5	92.8	92.6	86.6	77.9	72.9	69.3	64.6	63.4	58.7	53.6	57.3	57.1	69.6	87.0	93.1	96.6	80.9	98.7							
28-Jul	98.0	98.5	98.3	99.1	99.4	97.9	82.9	67.6	54.3	47.0	43.9	40.2	38.4	38.0	36.7	37.1	38.2	39.8	42.5	47.4	67.0	78.5	83.2	87.6	65.1	99.4							
29-Jul	90.3	93.5	89.8	91.9	90.2	83.6	75.6	62.7	57.2	48.7	41.4	36.0	33.2	31.8	27.1	24.7	25.4	25.4	26.3	31.4	47.4	54.7	58.0	68.3	54.8	93.5							
30-Jul	75.6	76.7	78.8	77.0	80.1	74.6	67.0	58.7	50.4	45.8	42.8	37.3	32.7	28.9	27.7	27.4	28.3	27.6	28.8	38.5	43.9	49.4	54.9	58.4	50.5	80.1							
31-Jul	65.7	72.9	76.6	76.8	80.0	79.9	65.2	57.8	52.3	47.2	41.3	35.6	32.1	30.0	28.5	27.7	25.9	23.4	24.5	27.7	34.4	38.5	42.4	45.8	47.2	80.0							
74.7 78.8 80.9 81.3 81.7 78.2 71.3 64.1 55.3 49.2 46.0 42.9 41.4 40.0 39.1 38.4 39.0 40.3 41.5 44.9 52.6 60.3 65.3 69.8																									Diurnal Average								
98.0 98.5 98.7 99.1 99.4 97.9 94.6 94.1 92.8 92.6 86.6 77.9 74.3 83.1 75.7 69.4 87.6 90.5 92.0 93.6 92.0 92.9 93.1 96.6																									Diurnal Maximum								
PF - Power Failure																																	



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 2m (RH2) - %
Monday Creek - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Relative Humidity 2m (RH2) - %
Monday Creek - July 2025

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	1	0.14	0.14
20 - 40	178	25.11	25.25
40 - 60	223	31.45	56.70
60 - 80	176	24.82	81.52
80 - 100	131	18.48	100.00

Total Number of Valid Hours: 709

Total Number of Hours: 744



Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Speed 10m (WS10) - km/h

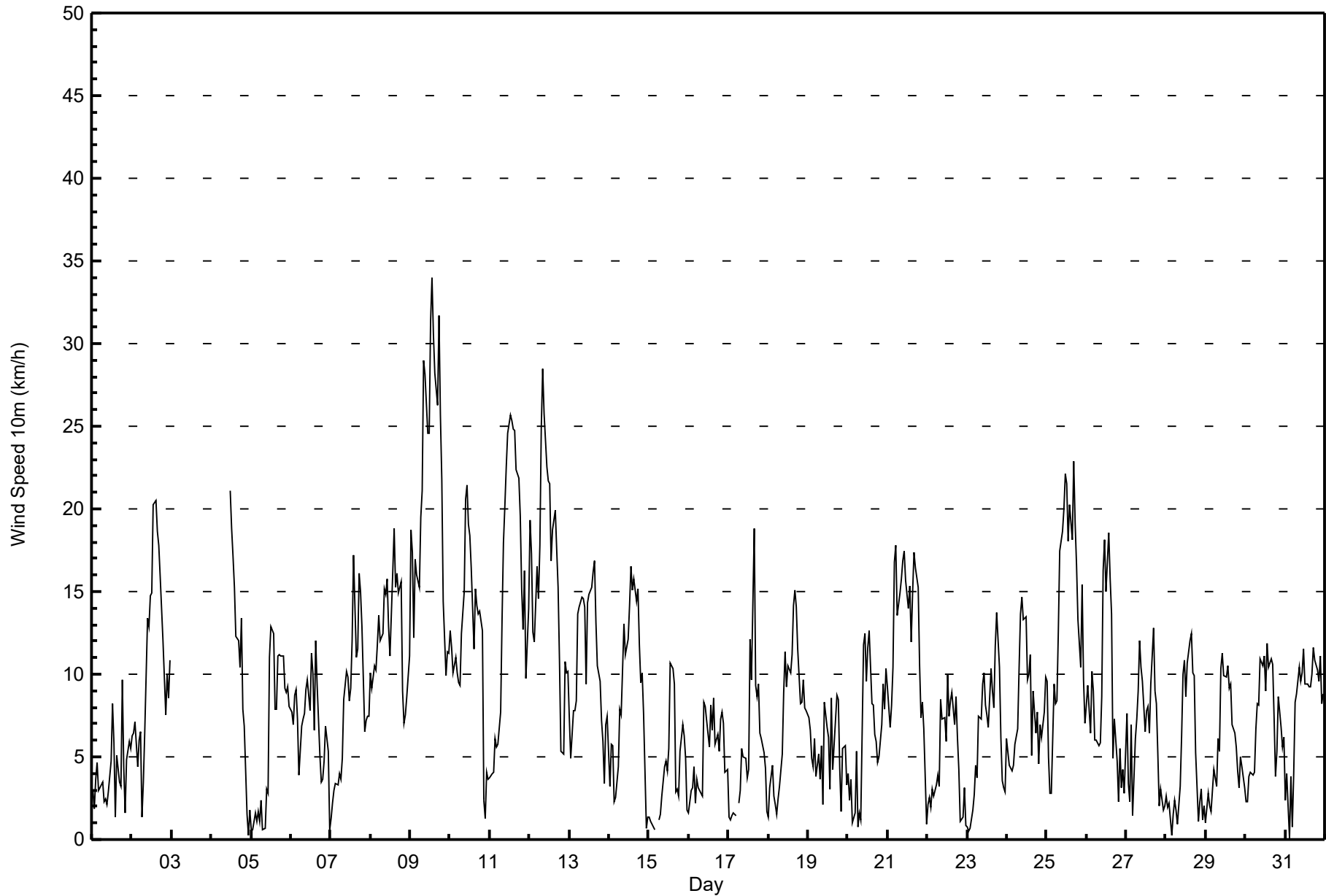
Monday Creek - July 2025

Maximum Speed: 34 km/h on Jul 9 14:00														Maximum Daily Speed Average: 21.1 km/h on Jul 9														Hours in Service: 744	
Minimum Speed Value: 0 km/h on Jul 31 03:00														Minimum Daily Speed Average: 0.6 km/h on Jul 1														Hours of Data: 706	
Maximum Diurnal Speed Average: 6.3 km/h at hour 14														Minimum Diurnal Speed Average: 1.7 km/h at hour 21														Hours of Missing Data: 38	
Monthly Average Velocity: 3.6 km/h 258.9 deg														Percentiles: P ₁ = 1 P ₁₀ = 2 Q ₁ = 4 Median = 8 Q ₃ = 12 P ₉₀ = 17 P ₉₉ = 28														Percent Operational Time: 94.9	
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-Jul	ESE3	E2	S4	SE5	E3	SE3	SE3	SSW2	NE2	NE2	NE3	N5	NNW8	NNW6	NNE1	SW5	WNW3	NNW3	WSW10	WSW4	S2	SSE5	SSW6	S6	SW0.6	WSW10			
2-Jul	SSW6	SSW6	S7	S4	SSE6	SSE7	ESE1	SSE3	SSW6	S13	SSW13	SSW15	SSW15	NNE20	NE20	ENE19	ENE18	ENE16	ENE14	ENE12	E8	E10	SE9	WSW11	ESE4.5	NE20			
3-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	---	---			
4-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	NW21	NW19	NW17	NW15	NNW12	NNW12	N10	NNW13	NNW8	N7	ENE2	ENE0	SE2	---	NW21			
5-Jul	WSW1	S1	SSE2	SSE1	ESE2	SSE1	ENE2	NNW1	WNW1	WSW3	ESE3	ESE11	E13	ESE12	SSE8	S8	S11	SSE11	SE11	SE11	SE9	SE9	SE9	SSE8	SE5.2	E13			
6-Jul	SSE8	S7	S9	SSW9	S7	S4	SSW7	S7	SSE8	SSW9	SW10	SSW8	WSW11	WNW10	W7	WSW12	SW9	SW5	NW3	NNW4	NNE5	E7	E5	WSW1	SSW4.5	WSW12			
7-Jul	ENE1	SSE2	SW3	S3	SE3	SE4	S4	SSW5	SSW8	WSW10	WSW10	W8	W9	WSW12	W17	SW11	SW11	WSW16	SW15	SW13	SSW7	SSW7	SSW7	SSW7	SW7.0	W17			
8-Jul	SSW10	S9	S10	S10	S12	SSW14	S12	SSW12	SSW15	S15	S16	S13	S11	SSW16	SSW19	SSW15	SSW16	SSW15	SSW16	SSW9	S7	S8	SSE9	WSW11	SSW12.1	SSW19			
9-Jul	WNW19	WNW17	WNW12	WNW17	WNW16	WNW15	W19	W21	W29	W28	W25	WSW25	WSW31	WSW34	W31	W28	W26	W32	WNW26	WNW22	WNW14	W10	W11	W11	W21.1	WSW34			
10-Jul	W13	WSW12	WSW10	W11	W10	W10	W9	W12	W15	WNW21	WNW21	NW19	NW18	NNW16	NNW12	NW15	NW14	WNW14	NW14	NW13	NE2	S1	SSW4	SW4	WNW10.7	WNW21			
11-Jul	SW4	SW4	SW4	WSW6	SW6	SSW6	SW8	SW13	SW18	WSW20	WSW23	SW25	WSW26	SW25	SW25	WSW25	WSW22	WSW22	SW20	SW15	WSW13	WSW16	SW10	WSW14	SW15.2	WSW26			
12-Jul	W19	WSW17	SW13	SW12	WSW17	W15	W18	W25	W28	WNW26	NW23	WNW22	WNW22	WNW17	WNW19	NW20	WNW18	WNW15	WNW11	WNW5	W5	WSW11	W10	W10	W15.3	WNW28			
13-Jul	NW7	W5	W8	W8	W8	WNW14	WNW14	WNW15	WNW15	WNW14	NW9	WNW14	NW15	NNW15	NNW16	NNW17	NNW13	NNE10	NNE10	NNW7	NNW6	NNW3	NNE7	NE7	NW9.0	NNW17			
14-Jul	NNE3	N6	N6	W2	WNW3	NNW4	N8	N8	N10	NNE13	N11	N12	N14	NNW16	N15	NNE16	NNE14	NNE15	N12	N10	NNE10	NNE8	NE1	SW1	N8.6	NNW16			
15-Jul	SW1	SW1	S1	S1	UO	UO	NW1	S1	WNW3	NW4	WNW5	NW4	N6	NNW11	NW10	NNW9	SSW3	SE3	SE3	SSE5	SSE7	SSE6	S5	SE2	WNW1.0	NNW11			
16-Jul	S2	SSE3	SSW3	S4	SSW2	SSW4	SSE3	S3	SSE3	SW8	S8	S7	SW6	SSW8	SSW7	SW9	SW6	W6	SW5	SW7	SSW8	S7	S4	SSW4	SSW4.9	SW9			
17-Jul	SSW1	SSW1	SW1	S2	S1	UO	SW2	SW3	W6	W5	SSW5	SSE4	WSW4	NNW12	NNW10	WNW19	NW9	NW9	NNE9	ESE6	SSE6	S5	SSW4	E2	WNW2.1	WNW19			
18-Jul	E1	E3	SE4	SSE3	ESE2	SE2	S2	S3	SSE5	SE9	SE11	SE9	ESE11	E10	SE11	ESE14	SE15	ESE14	SE12	SE8	SE8	SE10	SE8	SE8	SE7.4	SE15			
19-Jul	SE7	SE7	ESE5	SE4	ESE6	SSE4	SE5	SSE4	ESE6	SW2	SSW8	SSW7	ESE6	SSW3	SSE9	SE4	S6	SSW9	W8	NNW4	NE2	SSW6	S6	S3	SSE3.6	SSW9			
20-Jul	S4	SSW2	SSE4	SE1	SE2	SE5	S1	WSW2	ESE1	SE12	ESE12	ESE10	E12	ESE13	ESE8	ESE8	SE6	SSE6	SSW5	S5	SW7	WSW9	WNW8	WNW10	SE3.5	ESE13			
21-Jul	NW9	NW7	NNW8	NNW10	N17	N18	N14	N15	N16	N17	N17	N16	N14	NNW15	N12	N15	NNE17	N16	NNE15	NNE11	NNE7	NNE8	NNE7	W1	N12.0	N18			
22-Jul	W2	S3	SSW2	W3	W3	SW3	WNW4	WNW3	WNW8	NNW7	N7	NNW6	NW10	NW7	NNW8	NNW9	N7	NNW9	NW6	N4	NE1	SE1	S3	S1	NW3.6	NW10			
23-Jul	ENE1	SSW0	SSW1	SW2	SSW3	SW4	SSW4	W7	WNW7	WSW9	W10	SSW8	WSW8	SSW7	SW10	SW9	S8	SW12	SW14	SW10	SW6	SW4	S3	SSE3	SW5.6	SW14			
24-Jul	SSE6	SE4	E4	E4	E4	ESE6	SE7	SE10	SSE14	SSE15	S13	S13	S10	SSE10	SE11	E5	NE9	E6	ESE8	SSE5	SE7	SSE6	SSW8	WSW10	SSE6.2	SSE15			
25-Jul	W10	W5	SW3	WSW3	WSW9	W8	W8	W13	W17	WSW19	W20	WSW22	WSW22	W18	WNW20	WNW18	WNW23	W19	WNW17	WNW13	WNW10	NNW15	NNW10	NW7	W12.7	WNW23			
26-Jul	NW8	WNW9	W6	WNW10	WNW9	WSW6	WNW6	WNW6	NW6	WNW9	WNW16	WNW18	W15	SW19	SW16	W14	SW5	SE7	SSE5	NNW2	W5	W3	WNW4	WNW3	W6.9	SW19			
27-Jul	NNE8	NNE3	N2	NNE7	E1	NE6	NNE7	NNE9	NNE12	N10	N10	NNE7	NNW8	NW8	NNW6	WN9	NNW13	NW9	NNW8	NW5	NW2	WNW3	WNW2	SSW2	N5.5	NNW13			
28-Jul	SW3	SW2	SSW2	SW0	SSW2	SW2	SW2	SSW1	W3	WNW6	NW10	WNW11	NW9	W11	W12	W12	W10	WNW10	NW5	WSW1	S2	S3	SE1	SSW2	W4.2	WNW12			
29-Jul	S1	S3	NE2	E2	SE3	ESE4	ESE3	SSE6	SW5	WSW10	WNW11	W10	W10	WNW11	W9	NW9	W7	W6	W6	SW4	S3	S5	S4	SSE3	WSW3.3	WNW11			
30-Jul	ESE2	S2	SSW4	S4	S4	SSE4	SSW7	SSW8	SW8	SW11	WSW11	WSW11	WSW9	WSW12	WSW10	W11	SW11	SW7	WSW4	SSE5	S9	SSW7	SSW6	SSW6	SW6.1	WSW12			
31-Jul	SSW2	SSW4	SSE0	SSE4	WSW1	SSW4	SSW8	SSW9	SW10	SW10	WSW10	WSW12	SW9	WSW9	S9	SSW9	SSW10	SSW12	SSW11	SSW10	SSW10	S11	S8	S9	SSW7.4	SSW12			
WSW2.4WSW2.5 SW2.4 SW2.3WSW2.3WSW2.4WSW2.8WSW4.2 W5.3WSW6.1 W5.9 W6.3 W6.2WNW6.3 W5.5WNW6.1 W4.3 W4.1 W3.7 W2.4SSW1.7SSW2.6SSW2.7 SW3.3 W19WNW17 SW13WNW17 N17 N18 W19 W25 W29 W28 W25WSW25WSW31WSW34 W31 W28 W26 W32WNW26WNW22WNW14WSW16 W11WSW14																								Diurnal Average	Diurnal Maximum				
UO - Unstable Operation PF - Power Failure																													
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 - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 10m (WS10) - km/h
Monday Creek - July 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	231	32.72	32.72
6 - 11	287	40.65	73.37
12 - 19	148	20.96	94.33
20 - 28	35	4.96	99.29
29 - 38	5	0.71	100.00
> 38	0	0.00	100.00

Total Number of Valid Hours: 706

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Wind Speed 10m (WS10) - km/h
Monday Creek - July 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	3	4	8	5	12	10	21	25	37	31	26	12	10	13	7	7	231
6 - 11	14	15	3	0	5	11	23	17	26	38	24	22	33	18	19	19	287
12 - 19	16	7	0	5	2	5	3	2	8	13	11	12	15	25	10	14	148
20 - 28	0	1	1	0	0	0	0	0	0	0	4	9	7	10	3	0	35
29 - 38	0	0	0	0	0	0	0	0	0	0	0	2	3	0	0	0	5
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	33	27	12	10	19	26	47	44	71	82	65	57	68	66	39	40	706

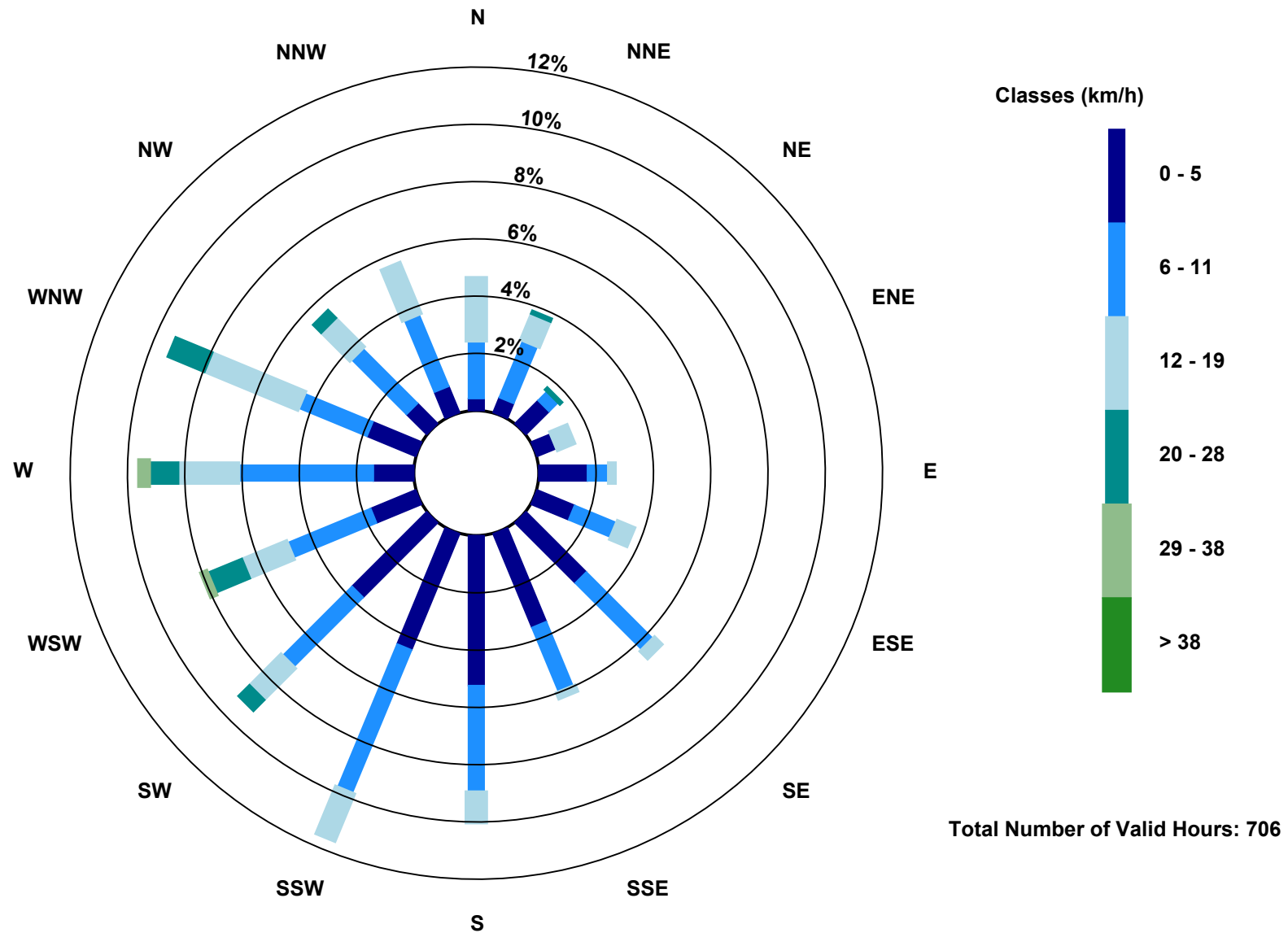
Total Number of Valid Hours: 706

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

Wind Speed 10m (WS10) - km/h
Monday Creek





Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

Wind Speed 10m (WS10) - km/h

Monday Creek - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 11 km/h on Jul 3 00:00																		Hours in Service: 744 Hours of Data: 706 Hours of Missing Data: 38 Hours of Calibration: 0 Percent Operational Time: 94.9								
Minimum Value: 1 km/h on Jul 23 06:00																										
Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 2 Median = 3 Q ₃ = 4 P ₉₀ = 5 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-Jul	1	2	2	1	1	2	1	2	1	1	2	3	3	3	2	3	3	2	3	2	2	2	1	1	3	
2-Jul	1	1	2	1	2	2	2	2	5	4	4	4	5	7	5	5	4	3	3	2	2	1	2	11	11	
3-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--	
4-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	5	6	4	4	4	3	3	4	3	2	2	1	1	6
5-Jul	2	1	2	2	1	1	2	1	2	2	3	4	2	3	4	3	3	3	3	3	2	1	1	2	4	
6-Jul	2	2	2	2	2	1	2	2	2	3	3	5	6	3	3	4	4	3	2	1	2	1	2	1	6	
7-Jul	1	1	2	1	1	1	1	1	2	2	3	4	3	4	9	3	3	5	4	4	1	1	1	1	9	
8-Jul	3	2	2	3	3	4	3	4	5	4	5	4	4	5	5	5	5	5	5	3	2	2	2	7	7	
9-Jul	5	4	3	5	3	3	5	5	8	7	6	6	8	7	8	7	8	8	5	7	3	2	2	2	8	
10-Jul	2	2	1	2	3	1	2	4	4	4	5	5	5	5	4	5	4	4	4	4	3	2	1	1	5	
11-Jul	1	1	1	1	1	1	3	4	4	5	5	6	6	6	7	7	6	6	5	3	3	5	2	4	7	
12-Jul	4	5	3	3	5	4	6	6	7	7	6	5	6	4	5	5	4	5	3	1	2	3	2	2	7	
13-Jul	3	1	2	1	2	4	3	3	4	3	3	5	5	4	5	5	3	3	3	2	2	2	2	2	5	
14-Jul	2	2	2	1	2	2	2	2	3	3	4	4	4	5	4	5	4	4	3	2	3	1	2	1	5	
15-Jul	1	1	1	1	UO	UO	2	1	2	3	3	3	4	4	4	3	2	3	2	1	1	1	1	1	4	
16-Jul	1	1	1	1	1	1	1	2	2	3	4	4	5	4	4	4	3	2	3	1	1	2	1	1	5	
17-Jul	1	1	1	1	1	UO	1	1	2	2	2	3	3	5	4	5	3	3	2	3	2	2	1	3	5	
18-Jul	2	2	2	2	1	1	1	1	2	3	3	3	4	5	5	4	3	3	3	1	2	1	1	1	5	
19-Jul	1	1	1	1	1	2	1	2	2	1	2	3	4	3	4	3	3	2	2	1	3	1	2	2	4	
20-Jul	2	1	2	1	2	2	2	1	2	4	4	5	4	5	4	4	3	3	3	3	2	4	2	4	5	
21-Jul	3	2	2	3	5	5	4	4	5	5	5	4	4	4	4	5	4	4	4	3	2	2	2	1	5	
22-Jul	2	1	1	1	2	1	1	2	3	3	3	4	4	4	4	4	3	2	3	1	1	1	1	1	4	
23-Jul	1	1	1	1	1	1	1	3	2	3	3	3	3	3	3	4	3	3	3	3	2	1	1	1	4	
24-Jul	1	1	1	1	1	1	1	4	3	4	4	4	4	3	3	3	3	3	2	2	1	1	2	2	4	
25-Jul	2	1	1	1	3	2	2	3	4	5	6	5	5	6	6	5	5	4	4	3	4	5	2	2	6	
26-Jul	2	1	1	2	2	1	2	2	2	4	4	4	4	4	4	5	4	2	2	3	4	2	2	2	5	
27-Jul	2	2	2	1	2	2	2	2	3	3	2	3	2	3	3	3	3	3	3	1	1	1	2	1	3	
28-Jul	1	1	2	1	1	1	1	1	3	4	3	5	4	4	4	3	4	4	2	1	2	2	1	2	5	
29-Jul	2	2	1	2	1	2	2	1	2	3	3	3	5	3	4	4	3	3	3	2	1	1	1	1	5	
30-Jul	1	1	1	1	1	1	2	2	2	3	3	4	4	5	4	4	3	3	2	4	4	2	1	2	5	
31-Jul	1	1	1	2	1	2	2	2	2	3	4	4	5	4	4	3	4	4	3	2	2	2	2	2	5	
5 5 3 5 5 5 6 6 8 7 6 6 8 7 9 7 8 8 5 7 4 5 2 11																										
Diurnal Maximum																										
UO - Unstable Operation PF - Power Failure																										



Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Direction 10m (WD10) - deg

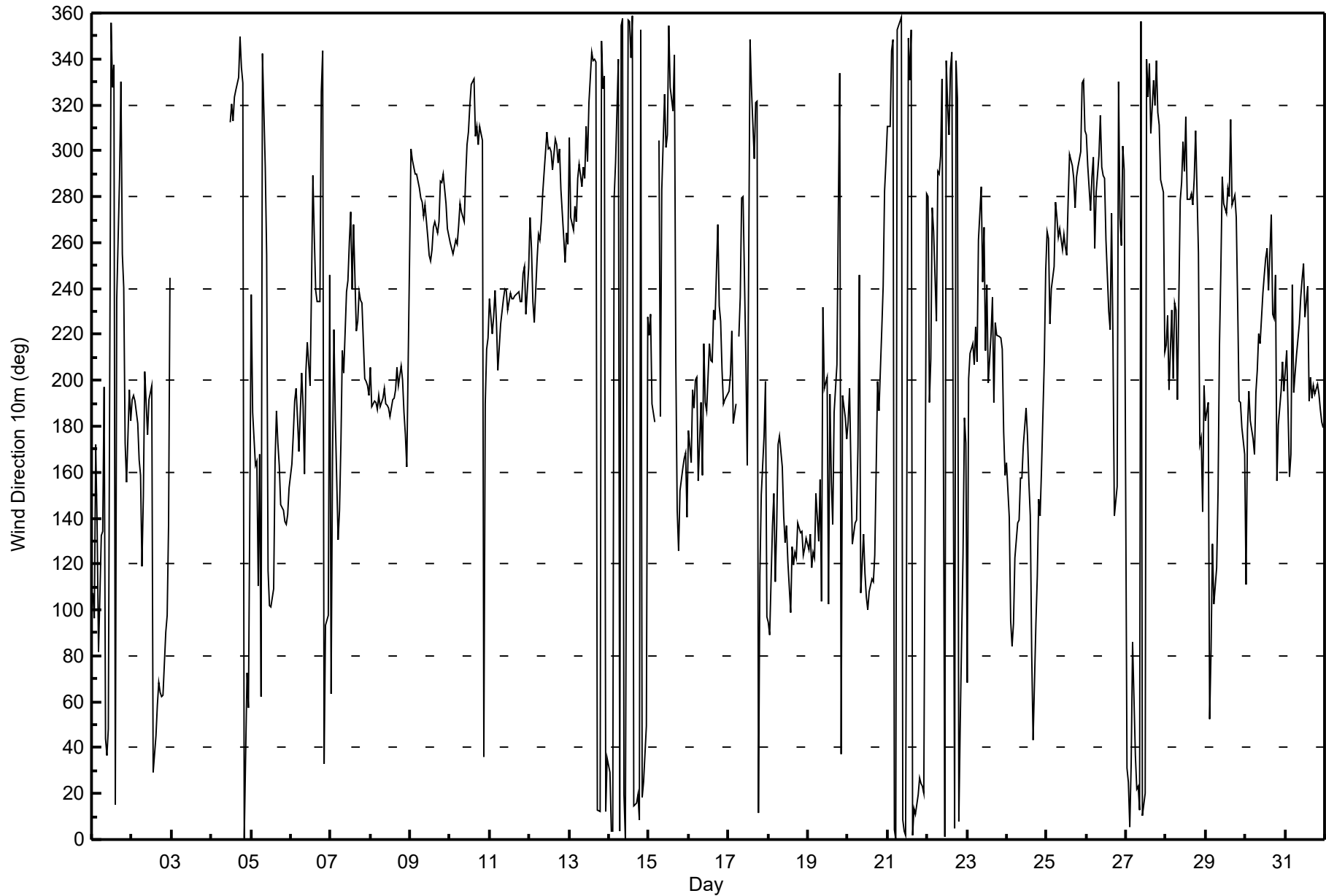
Monday Creek - July 2025

Direction of Maximum Speed: 257 deg on Jul 9 14:00																				Hours in Service:		744			
Direction of Maximum Daily Speed Average: 273.6 deg on Jul 9																				Hours of Data:		706			
Direction of Minimum Speed: 158 deg on Jul 31 03:00										Direction of Minimum Daily Speed Average: 0.6 deg on Jul 1										Hours of Missing Data:		38			
Monthly Average Direction: 258.9 deg																				Percent Operational Time:		94.9			
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-Jul	107	97	172	137	82	133	134	197	44	37	48	356	328	337	15	235	288	330	255	241	173	155	196	182	213.9
2-Jul	192	194	191	181	165	158	119	150	204	176	192	195	198	29	45	58	69	64	62	63	90	98	137	245	114.5
3-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	--
4-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	313	321	313	323	327	332	350	336	329	1	73	57	146	--
5-Jul	237	186	163	165	111	168	62	342	293	254	117	102	101	109	165	186	173	163	146	144	139	137	141	153	141.2
6-Jul	163	176	191	197	184	169	203	189	159	204	217	198	240	289	263	239	234	234	326	343	33	93	97	246	208.1
7-Jul	64	166	222	183	130	143	173	213	203	238	243	260	273	240	268	221	226	239	235	234	201	199	198	193	227.5
8-Jul	206	189	191	190	188	193	189	192	196	190	189	188	184	192	192	196	205	198	206	200	186	177	162	253	194.3
9-Jul	301	296	293	290	290	284	280	277	272	277	262	255	252	257	267	269	264	269	287	286	290	277	266	263	273.6
10-Jul	260	257	255	261	260	267	277	273	269	288	303	308	320	329	331	306	311	303	310	305	36	190	213	218	291.6
11-Jul	236	220	227	239	225	204	225	230	235	240	239	230	238	235	235	237	237	238	235	234	247	249	229	249	236.1
12-Jul	271	258	234	225	253	264	261	269	281	290	308	301	301	300	292	305	302	294	301	283	263	252	264	259	280.1
13-Jul	305	271	266	276	269	288	294	284	293	288	311	296	321	343	339	340	339	13	12	348	327	333	12	35	316.7
14-Jul	29	4	4	279	295	340	4	354	358	20	0	357	356	341	358	14	16	19	8	353	18	25	49	228	3.3
15-Jul	219	229	190	182	UO	UO	304	184	283	324	301	307	355	327	317	342	209	143	126	152	162	166	169	140	286.1
16-Jul	178	164	196	188	200	201	156	191	159	216	190	186	216	209	208	230	226	268	233	226	204	190	191	194	206.1
17-Jul	195	203	221	181	190	UO	219	236	280	280	209	163	249	348	327	297	321	322	12	115	150	176	200	97	290.1
18-Jul	95	89	137	151	112	136	172	176	162	141	129	137	121	99	128	119	125	123	138	134	134	124	127	131	128.7
19-Jul	127	133	118	125	123	151	130	157	104	232	197	201	103	194	156	137	186	207	274	334	37	193	183	175	162.0
20-Jul	182	196	162	129	138	139	171	246	108	133	116	106	100	108	113	112	124	161	199	187	222	241	283	295	144.7
21-Jul	311	311	343	348	4	0	353	356	358	9	4	2	349	331	353	2	13	11	20	27	25	23	20	281	359.8
22-Jul	280	190	209	275	265	226	291	290	298	331	1	340	320	307	335	343	5	339	323	8	51	124	184	173	321.9
23-Jul	68	201	212	216	207	224	208	261	284	243	267	213	242	199	220	236	190	225	220	219	218	214	177	159	226.0
24-Jul	164	141	95	84	94	123	138	139	157	158	172	188	176	156	141	81	43	94	115	148	141	161	209	248	148.8
25-Jul	265	262	225	240	249	278	271	262	266	257	263	258	254	278	298	294	288	275	288	293	299	329	331	309	278.0
26-Jul	307	294	274	289	297	258	282	298	315	293	289	288	261	230	222	273	217	141	154	330	271	259	302	292	271.1
27-Jul	31	25	5	33	86	37	22	23	13	356	11	20	340	324	338	308	331	320	339	317	311	287	282	212	352.9
28-Jul	215	228	196	230	201	234	231	192	278	286	304	291	315	279	279	281	276	288	309	256	172	175	143	198	276.9
29-Jul	182	191	52	82	129	102	119	151	215	248	289	277	273	284	280	314	276	280	271	233	191	191	180	168	255.3
30-Jul	111	179	195	183	175	168	195	204	220	216	238	246	253	257	239	272	229	227	246	156	181	195	208	196	220.0
31-Jul	204	213	158	168	241	194	203	211	225	236	244	251	228	241	191	201	193	198	194	199	194	188	182	179	207.9
255.6 239.0 224.8 234.1 238.5 238.6 250.9 250.5 261.5 258.4 263.5 264.1 273.7 283.5 276.9 285.8 276.2 269.8 278.6 259.4 210.9 197.9 201.5 226.6																									
Diurnal Average																									
UO - Unstable Operation PF - Power Failure																									
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 - July 2025





Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg
Monday Creek - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																		Hours in Service:		744					
Maximum Value: 109 deg on Jul 5 09:00																		Hours of Data:		706					
Minimum Value: 8 deg on Jul 23 06:00																		Hours of Missing Data:		38					
Percentiles: P ₁ = 9 P ₁₀ = 14 Q ₁ = 17 Median = 23 Q ₃ = 39 P ₉₀ = 63 P ₉₉ = 93																		Hours of Calibration:		0					
																		Percent Operational Time:		94.9					
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-Jul	47	44	59	23	30	28	30	47	41	62	45	65	49	44	93	66	78	58	21	19	68	17	15	21	93
2-Jul	15	16	21	21	23	24	76	56	53	25	29	26	27	35	15	19	16	16	13	14	19	14	19	63	76
3-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	—
4-Jul	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	20	22	22	19	22	24	31	18	20	33	70	90	60	90
5-Jul	85	88	68	84	47	81	59	94	109	77	90	25	19	22	52	43	26	21	19	14	12	12	12	18	109
6-Jul	19	20	18	18	22	27	24	22	27	35	26	62	29	26	26	19	19	50	47	43	51	9	12	82	82
7-Jul	67	49	54	20	30	15	23	27	20	23	21	43	32	33	32	31	22	17	16	13	17	11	14	16	67
8-Jul	16	16	18	19	19	19	21	22	21	23	22	22	22	23	22	25	22	22	19	19	19	19	19	55	55
9-Jul	17	14	14	12	12	12	14	13	14	15	17	17	17	16	20	18	16	17	14	14	12	11	9	9	20
10-Jul	10	10	9	11	16	10	15	14	15	17	19	20	19	17	21	20	23	23	21	18	65	58	10	16	65
11-Jul	15	19	18	14	15	19	21	18	16	16	18	20	17	16	17	18	18	17	14	14	22	18	14	17	22
12-Jul	13	16	13	14	22	13	15	15	14	18	18	17	17	20	21	21	21	19	20	20	16	15	9	12	22
13-Jul	20	22	10	13	15	13	15	14	20	20	30	23	36	22	20	19	19	23	22	19	14	19	24	11	36
14-Jul	83	31	27	31	28	26	22	33	28	24	30	29	27	27	33	24	25	23	25	24	16	9	87	40	87
15-Jul	24	29	61	77	UO	UO	55	67	78	76	75	81	67	32	34	46	94	75	63	28	17	15	15	43	94
16-Jul	48	28	15	14	16	19	28	57	76	42	47	64	81	56	69	39	58	48	61	16	13	16	13	12	81
17-Jul	63	69	66	47	16	UO	27	40	32	48	52	75	76	26	42	18	35	37	23	60	18	29	15	89	89
18-Jul	45	43	31	41	45	48	29	40	31	33	23	35	29	42	34	22	18	14	14	10	13	10	9	10	48
19-Jul	11	13	19	13	10	30	15	42	35	90	26	39	73	95	45	70	49	30	17	39	88	18	30	27	95
20-Jul	36	33	34	68	92	28	80	48	93	28	26	47	30	30	44	45	43	41	44	26	17	32	19	19	93
21-Jul	20	20	21	24	20	19	20	20	20	20	24	23	22	21	32	27	19	25	17	14	15	13	13	89	89
22-Jul	13	22	43	44	57	27	33	77	37	42	54	69	42	60	55	45	58	30	45	20	83	66	28	71	83
23-Jul	78	55	62	33	13	8	16	24	28	33	31	44	28	34	32	34	34	26	16	15	13	20	24	19	78
24-Jul	14	25	12	14	15	16	15	19	20	22	26	26	25	20	32	79	37	56	20	21	11	17	16	25	79
25-Jul	10	26	21	30	15	15	15	13	14	19	18	17	21	32	19	17	15	14	14	18	29	19	17	21	32
26-Jul	20	9	18	13	16	14	31	32	37	34	19	20	24	17	17	41	61	20	23	70	31	63	29	51	70
27-Jul	14	48	47	14	81	25	16	17	15	21	16	34	26	27	41	21	17	28	22	27	33	11	34	41	81
28-Jul	15	16	53	94	22	12	20	75	66	71	34	37	41	31	26	25	29	26	27	70	77	34	70	53	94
29-Jul	74	12	58	72	48	25	45	21	36	28	23	33	39	29	51	37	41	33	32	34	29	13	15	21	74
30-Jul	41	19	9	13	18	21	20	23	25	25	30	30	53	28	28	33	28	31	57	58	22	18	12	15	58
31-Jul	22	15	99	43	89	30	17	19	19	21	28	30	53	42	41	32	28	25	20	17	16	18	19	20	99
85 88 99 94 92 81 80 94 109 90 90 81 81 95 93 79 94 75 63 70 88 70 90 89																									Diurnal Maximum
UO - Unstable Operation PF - Power Failure																									



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS505 SAWBONES BAY JULY 2025

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

August 29, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - SAWBONES BAY (AMS505)
JULY 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	26.7	0	6.4	0
H2S (ppb) Average	708	36	36	100	1.2	0	0.5	0
NO2 (ppb) Average	706	36	38	99.73	16.8	0	5.5	-
NO (ppb) Average	706	36	38	99.73	12.2	-	3.4	-
NOX (ppb) Average	706	36	38	99.73	26.6	-	8.8	-
Temperature 2 m (C) Average	744	0	0	100	32.6	-	24.4	-
Relative Humidity (%) Average	744	0	0	100	98.3	-	80.4	-
Wind Speed 10 m (km/h) Average	744	0	0	100	37	-	24	-
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 - SAWBONES BAY (AMS505)
JULY 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	1.34	3.2	-	0	0	0.1	0.3	1	3.3	26.7
H2S (ppb) Average	708	0.19	0.2	-	0	0.1	0.1	0.1	0.2	0.4	1.2
NO2 (ppb) Average	706	2.26	2.3	-	0	0.4	0.8	1.5	2.9	4.9	16.8
NO (ppb) Average	706	0.95	1.7	-	0	0	0.1	0.2	1	2.8	12.2
NOX (ppb) Average	706	3.2	3.9	-	0	0.5	0.9	1.7	3.9	7.8	26.6
Temperature 2 m (C) Average	744	17.07	6.1	-	1.9	9.3	12.8	17	21.3	25.1	32.6
Relative Humidity (%) Average	744	57.95	20.4	-	17	29.6	41.8	57.8	73.7	86.7	98.3
Wind Speed 10 m (km/h) Average	744	10	6	-	0	3	6	8	14	19	37
Wind Direction 10 m (deg) Average	744	222.2	0	-	0	-	-	-	-	-	0

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - SAWBONES BAY (AMS505)
JULY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
NO2	25 Jul 2025 08:00	25 Jul 2025 09:00	2	Maintenance - reinitiated daily QA check



Wood Buffalo Environmental Association

Summary of Hour Averages

Sulphur Dioxide (SO₂) - ppb

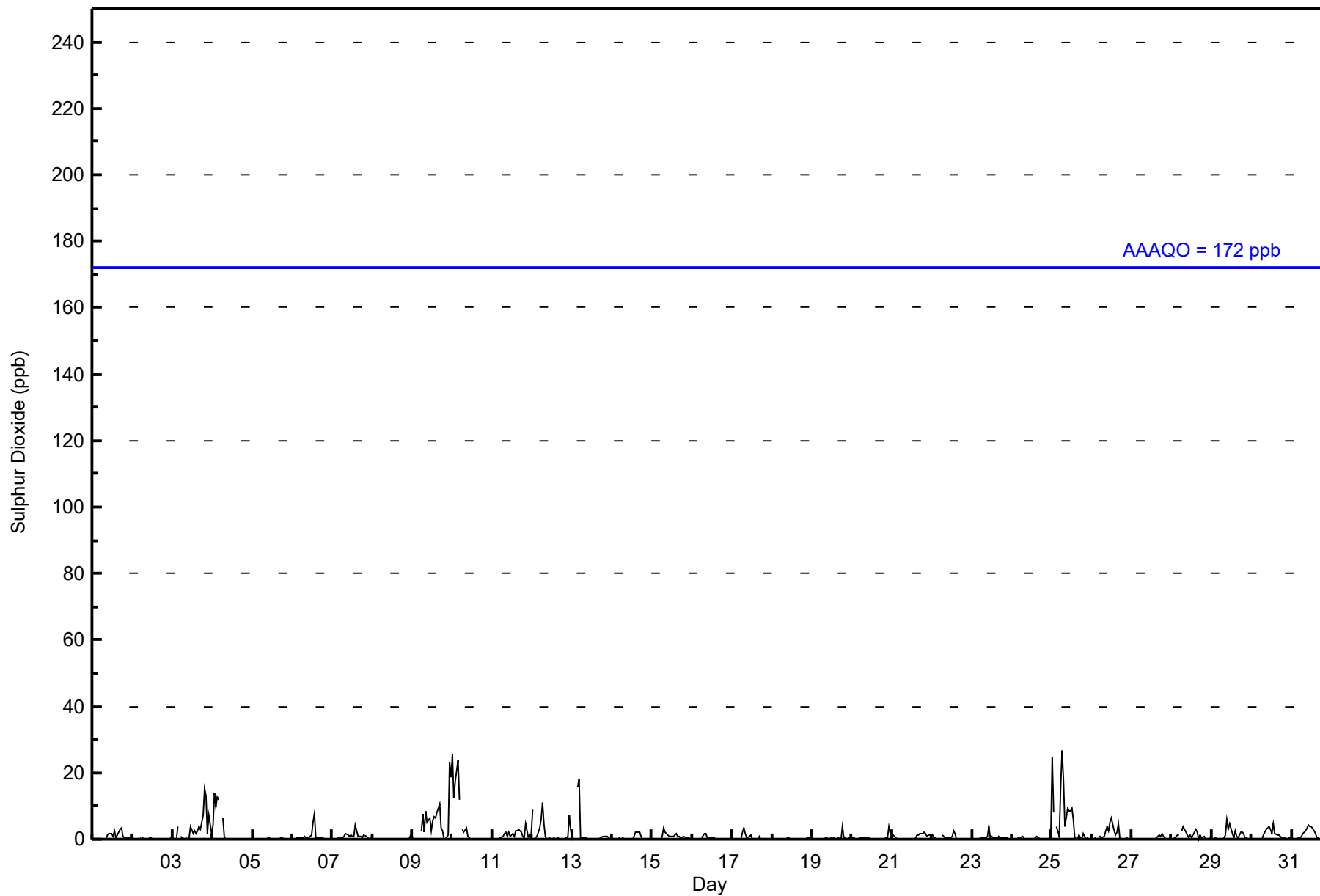
Sawbones Bay - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																			Hours in Service: 744								
Maximum Value: 26.7 ppb on Jul 25 07:00																			Maximum Daily Average: 6.4 ppb on Jul 25		Hours of Data: 709						
Minimum Value: 0.0 ppb on Jul 1 01:00																			Minimum Daily Average: 0.1 ppb on Jul 8		Hours of Missing Data: 35						
Maximum Diurnal Average: 2.7 ppb at hour 1																			Minimum Diurnal Average: 0.4 ppb at hour 22		Hours of Calibration: 35						
Monthly Average: 1.34 ppb																			Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.3 Q ₃ = 1.0 P ₉₀ = 3.3 P ₉₉ = 17.7		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-Jul	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	1.4	1.6	1.5	1.0	2.5	0.4	1.4	3.1	3.6	0.9	0.4	0.4	0.3	0.3	0.2	0.8	3.6	
2-Jul	0.3	0.2	0.2	Z	0.2	0.2	0.2	0.2	0.1	0.1	0.3	0.3	0.2	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.2	0.6	0.2	0.6	
3-Jul	0.3	0.0	0.2	3.9	Z	0.7	0.3	0.2	0.4	0.1	0.3	3.8	1.6	2.4	1.8	2.4	3.8	2.8	7.3	15.4	13.3	1.8	7.3	1.6	3.1	15.4	
4-Jul	4.4	13.8	9.8	12.7	11.7	Z	6.1	0.9	0.2	0.2	0.2	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	13.8	
5-Jul	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.5	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	0.1	0.5	
6-Jul	0.2	Z	0.6	0.5	0.3	0.3	0.3	0.7	0.3	0.2	0.2	1.1	4.9	7.8	0.2	0.3	0.5	0.5	0.3	0.1	0.1	0.1	0.1	0.0	0.9	7.8	
7-Jul	0.0	0.0	Z	0.3	0.3	0.3	0.2	0.7	1.5	1.4	0.8	1.3	0.8	0.9	4.2	0.7	0.6	0.8	0.5	1.1	0.9	0.2	0.1	0.2	0.8	4.2	
8-Jul	0.2	0.1	0.2	Z	0.1	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	0.1	0.1	1.7	0.1	1.7	
9-Jul	0.1	0.0	0.0	0.1	Z	2.5	7.4	1.9	8.3	5.3	6.2	2.5	5.4	6.8	6.2	8.0	10.5	3.3	2.3	0.1	0.0	1.1	23.4	18.5	5.2	23.4	
10-Jul	25.6	12.2	17.3	23.9	11.8	Z	3.1	2.0	3.4	0.7	0.3	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.2	0.1	0.1	0.1	0.1	0.1	4.4	25.6	
11-Jul	Z	0.2	0.2	0.2	0.1	0.4	0.8	1.5	2.2	1.0	2.3	1.0	1.6	0.7	2.4	2.4	2.9	2.0	0.9	0.5	4.6	2.7	0.5	1.5	1.4	4.6	
12-Jul	9.0	Z	0.6	0.8	3.3	5.7	11.0	4.9	0.9	0.2	0.3	0.1	0.2	0.3	0.1	0.3	0.1	0.0	0.0	0.0	0.2	0.8	7.1	3.0	2.1	11.0	
13-Jul	0.1	0.2	Z	15.7	18.1	0.5	0.4	0.3	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.3	0.7	0.7	0.7	0.7	0.4	0.0	1.7	18.1	
14-Jul	0.0	0.0	0.0	Z	0.3	0.2	0.3	0.2	0.1	0.0	0.0	0.1	0.0	0.7	2.0	2.0	2.0	1.0	0.1	0.1	0.1	0.1	0.0	0.1	0.4	2.0	
15-Jul	0.1	0.1	0.1	0.1	Z	0.2	0.7	3.5	2.2	1.4	0.8	0.8	1.0	0.7	1.5	1.0	0.9	0.6	0.6	0.8	0.6	0.4	0.3	0.2	0.8	3.5	
16-Jul	0.0	0.1	0.0	0.0	0.1	Z	0.4	1.7	1.7	0.5	0.4	0.3	0.4	0.3	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.7	
17-Jul	Z	0.0	0.0	0.0	0.0	0.0	2.0	3.6	1.8	0.5	0.8	1.2	0.1	0.0	0.0	0.1	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	3.6	
18-Jul	0.0	Z	0.0	0.0	0.1	0.2	0.2	0.2	0.1	0.4	0.3	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.2	0.4	0.2	0.2	0.4	
19-Jul	0.0	0.1	Z	0.2	0.1	0.0	0.1	0.2	0.2	0.3	0.2	0.3	0.2	0.2	0.1	0.1	0.2	0.1	4.0	0.6	0.2	0.2	0.3	0.4	0.4	4.0	
20-Jul	0.4	0.4	0.4	Z	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.3	0.6	3.7	1.6	0.5	3.7	
21-Jul	1.9	0.8	0.3	0.1	Z	0.1	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.3	1.4	1.1	1.6	1.7	2.3	1.6	1.0	1.2	1.4	0.8	2.3	
22-Jul	1.3	0.5	0.2	0.1	0.1	Z	1.2	0.9	0.3	0.3	0.4	0.3	1.0	2.5	1.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.5	2.5	
23-Jul	Z	0.1	0.2	0.2	0.1	0.3	0.3	0.4	0.5	0.8	3.9	0.3	0.6	0.4	0.2	0.2	0.7	0.2	0.4	0.4	0.3	0.3	0.2	0.2	0.5	3.9	
24-Jul	0.1	Z	0.1	0.1	0.2	0.5	0.9	0.4	C	C	C	C	0.2	0.2	0.2	0.9	0.3	0.0	0.1	0.0	0.0	0.0	0.0	1.2	0.3	1.2	
25-Jul	24.4	7.9	Z	3.8	1.0	15.7	26.7	17.7	3.7	9.1	8.6	8.4	9.4	5.8	0.4	0.1	1.2	0.3	0.2	1.5	0.1	0.3	0.2	0.1	6.4	26.7	
26-Jul	0.1	0.2	0.4	Z	0.3	0.8	0.6	0.9	2.5	3.8	2.6	5.0	6.4	2.4	1.4	2.1	4.8	0.4	0.2	0.1	0.2	0.2	0.1	0.1	1.5	6.4	
27-Jul	0.1	0.1	0.0	0.0	Z	0.0	0.1	0.0	0.1	0.0	0.1	0.1	0.2	0.1	0.1	0.2	1.1	0.9	1.5	0.8	0.3	0.1	0.0	0.0	0.2	1.5	
28-Jul	0.0	0.1	0.4	1.2	1.4	Z	2.4	3.6	2.1	1.1	0.5	1.2	0.4	1.1	2.9	2.0	0.2	1.3	0.6	1.0	0.1	0.1	0.2	0.2	1.0	3.6	
29-Jul	Z	0.3	0.3	0.1	0.2	0.2	0.2	0.2	1.3	6.1	2.9	4.7	1.6	0.4	2.4	1.1	0.4	2.1	2.0	1.6	0.1	0.3	0.2	0.1	1.3	6.1	
30-Jul	0.1	Z	0.2	0.1	0.1	0.1	0.2	1.3	2.1	3.1	3.7	2.9	1.5	4.7	1.6	1.2	1.3	0.8	0.5	0.3	0.3	0.2	0.3	0.3	1.2	4.7	
31-Jul	0.6	0.5	Z	0.5	0.4	0.6	0.9	1.8	2.7	3.3	4.3	3.7	3.7	2.5	1.5	0.2	0.5	0.2	0.0	0.1	0.1	0.2	0.3	0.2	1.3	4.3	
2.7 1.5 1.3 2.5 2.0 1.2 2.2 1.6 1.3 1.4 1.4 1.4 1.4 1.4 1.1 0.9 1.2 0.8 0.8 0.9 0.8 0.4 1.5 1.1																										Diurnal Average	
25.6 13.8 17.3 23.9 18.1 15.7 26.7 17.7 8.3 9.1 8.6 8.4 9.4 7.8 6.2 8.0 10.5 3.6 7.3 15.4 13.3 2.7 23.4 18.5																										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
Sawbones Bay - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Sawbones Bay - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	689	97.18	97.18
11 - 20	15	2.12	99.29
21 - 60	5	0.71	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
Sawbones Bay - July 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	35	8	7	7	23	38	55	87	75	52	51	37	67	68	28	51	689
11 - 20	0	0	0	0	0	0	0	0	0	0	1	13	1	0	0	0	15
21 - 60	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5
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	35	8	7	7	23	38	55	87	75	52	52	55	68	68	28	51	709

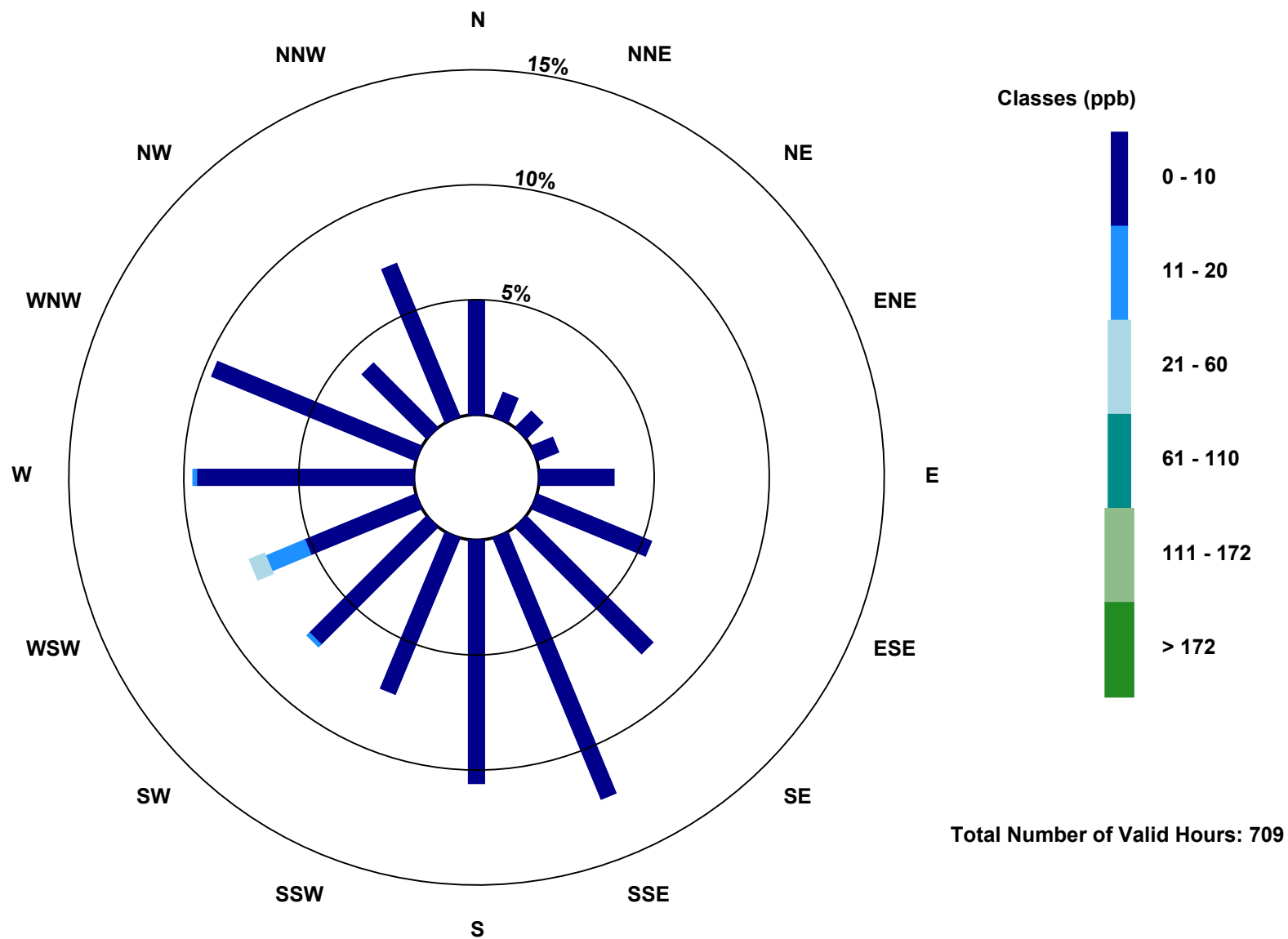
Total Number of Valid Hours: 709

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

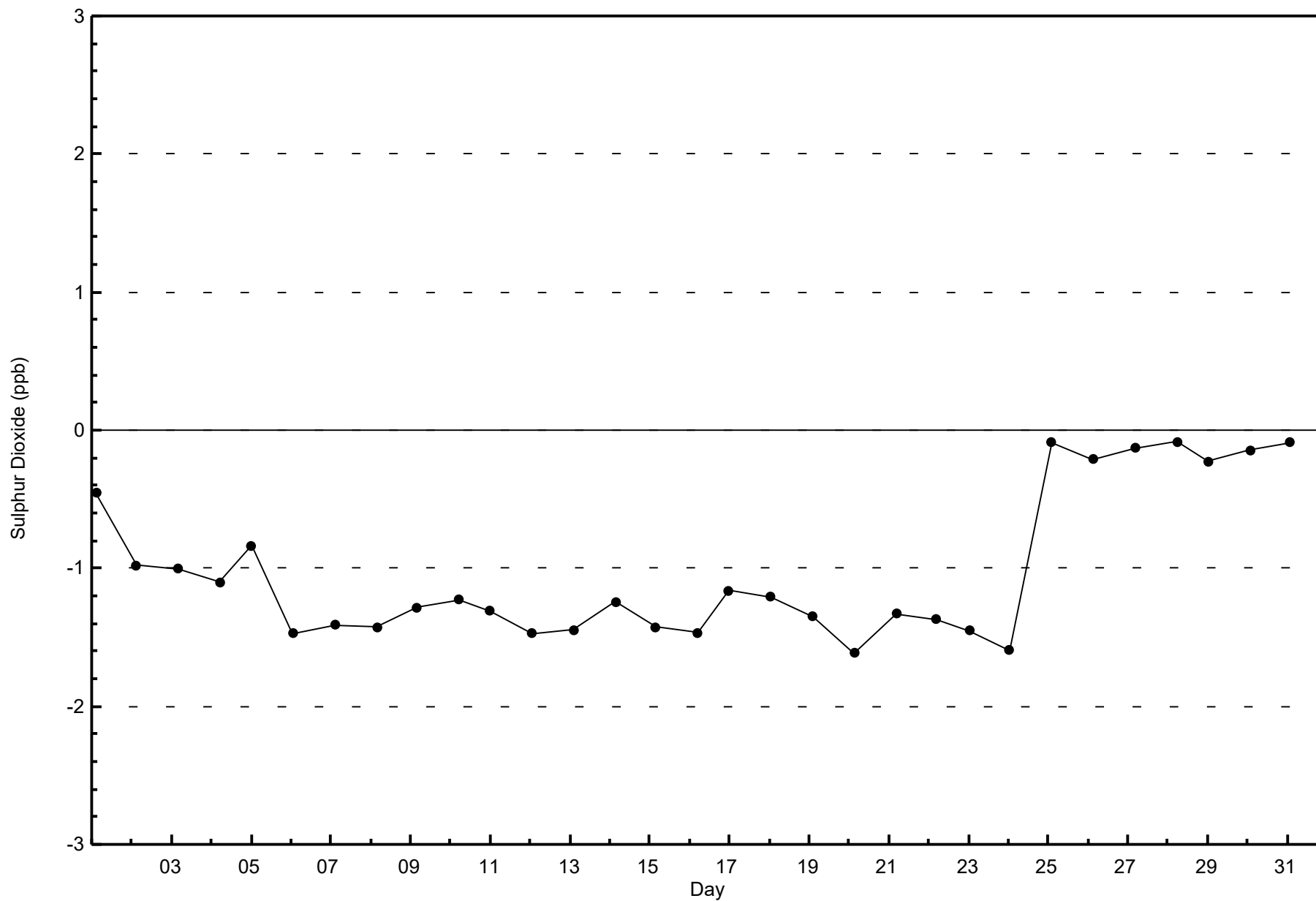
Sulphur Dioxide (SO₂) - ppb
Sawbones Bay





Wood Buffalo Environmental Association
Zero Responses

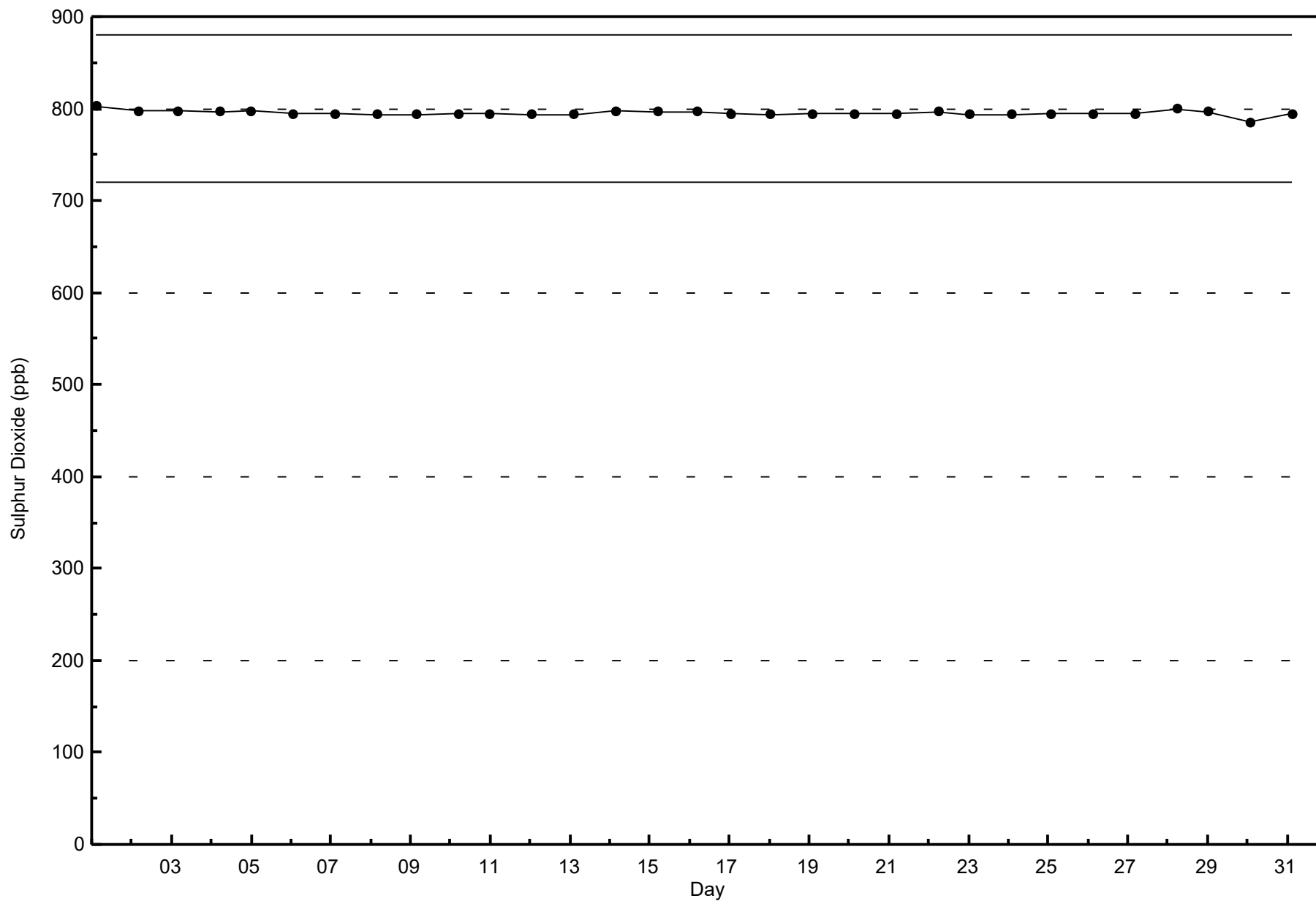
Sulphur Dioxide (SO₂) - ppb
Sawbones Bay - July 2025





Wood Buffalo Environmental Association
Span Responses

Sulphur Dioxide (SO₂) - ppb
Sawbones Bay - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Hydrogen Sulphide (H2S) - ppb

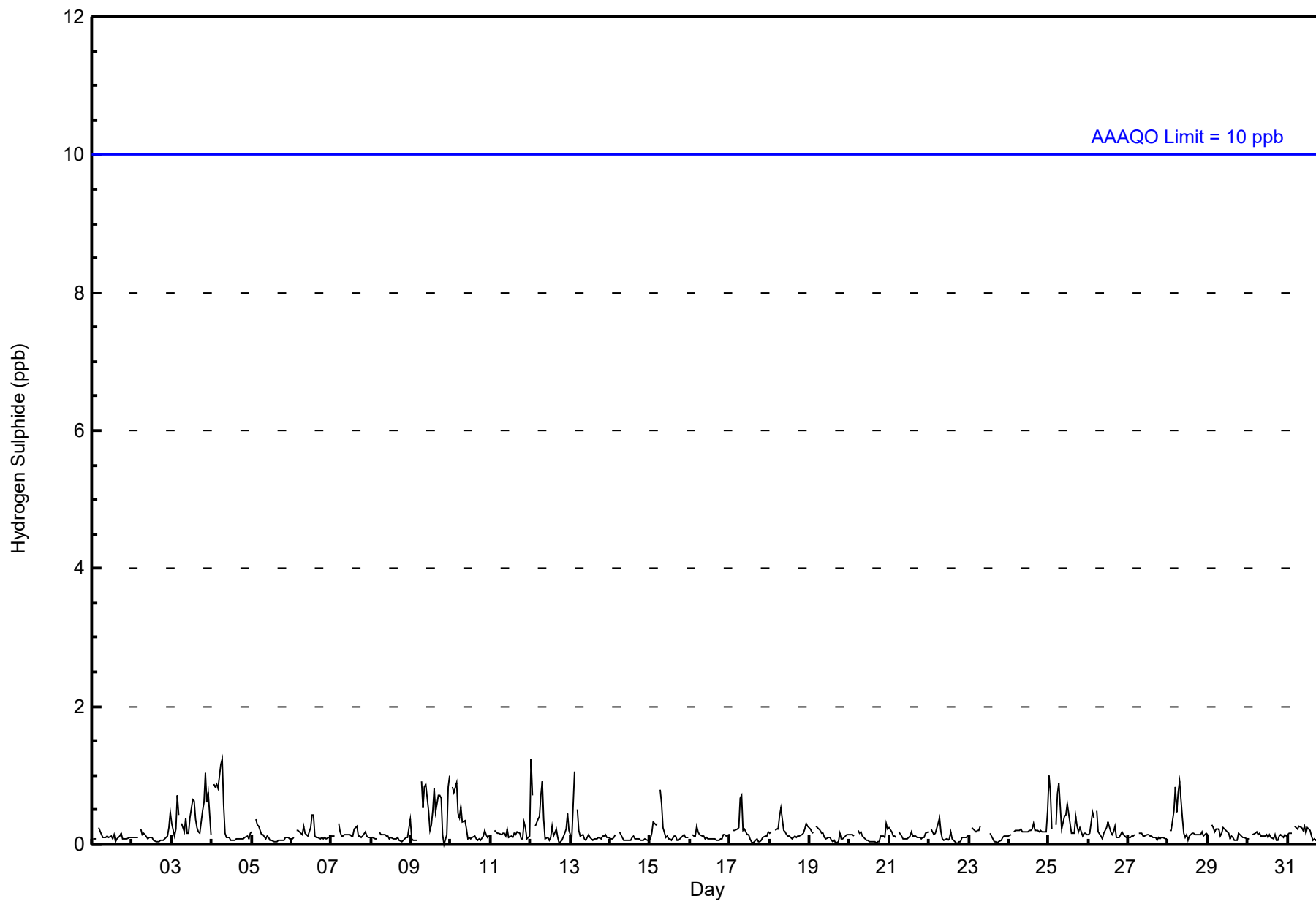
Sawbones Bay - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0																			Hours in Service: 744								
Maximum Value: 1.2 ppb on Jul 12 01:00 Maximum Daily Average: 0.5 ppb on Jul 9																			Hours of Data: 708								
Minimum Value: 0.0 ppb on Jul 9 21:00 Minimum Daily Average: 0.1 ppb on Jul 14																			Hours of Missing Data: 36								
Maximum Diurnal Average: 0.4 ppb at hour 7 Minimum Diurnal Average: 0.1 ppb at hour 18																			Hours of Calibration: 36								
Monthly Average: 0.19 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.1 Median = 0.1 Q ₃ = 0.2 P ₉₀ = 0.4 P ₉₉ = 0.9																			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-Jul	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	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
2-Jul	0.1	0.1	0.1	0.1	Z	0.2	0.1	0.2	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	0.2	0.5	0.1	0.5	
3-Jul	0.3	0.1	0.2	0.7	0.4	Z	0.3	0.2	0.4	0.2	0.2	0.4	0.7	0.6	0.4	0.2	0.2	0.2	0.5	0.6	1.0	0.6	0.8	0.1	0.4	1.0	
4-Jul	Z	0.9	0.8	0.9	0.8	1.2	1.2	0.6	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	0.3	1.2	
5-Jul	0.2	Z	0.4	0.3	0.3	0.2	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	0.4	
6-Jul	0.1	0.1	Z	0.2	0.2	0.2	0.1	0.3	0.2	0.1	0.1	0.2	0.4	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.4	
7-Jul	0.1	0.1	0.1	Z	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.3	
8-Jul	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	0.0	0.1	0.1	0.1	0.1	0.4	0.1	0.4	
9-Jul	0.1	0.1	0.1	0.1	0.1	Z	0.9	0.5	0.8	0.9	0.5	0.2	0.3	0.5	0.8	0.5	0.7	0.7	0.7	0.1	0.0	0.1	0.8	1.0	0.5	1.0	
10-Jul	Z	0.8	0.7	0.9	0.4	0.4	0.6	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	0.2	0.1	0.1	0.1	0.3	0.9	
11-Jul	0.1	Z	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.1	0.1	0.3	0.3	0.1	0.1	0.2	0.3	
12-Jul	1.2	0.7	Z	0.3	0.4	0.4	0.7	0.9	0.4	0.1	0.1	0.1	0.1	0.3	0.1	0.2	0.1	0.0	0.0	0.1	0.2	0.2	0.5	0.2	0.3	1.2	
13-Jul	0.1	0.1	1.1	Z	0.5	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	1.1	
14-Jul	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	0.1	0.1	0.1	0.1	0.1	0.2	
15-Jul	0.1	0.2	0.3	0.3	0.3	Z	0.8	0.6	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	0.2	0.8	
16-Jul	Z	0.1	0.1	0.1	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	0.1	0.1	0.1	0.1	0.1	0.3	
17-Jul	0.1	Z	0.2	0.2	0.2	0.2	0.7	0.7	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.7	
18-Jul	0.2	0.2	Z	0.2	0.2	0.2	0.4	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	0.2	0.2	0.3	0.3	0.2	0.5	
19-Jul	0.2	0.2	0.2	Z	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.3	
20-Jul	0.1	0.1	0.1	0.1	Z	0.2	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	0.1	0.1	0.1	0.3	0.2	0.1	0.3	
21-Jul	0.2	0.2	0.1	0.1	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	0.2	0.2	0.1	0.2	
22-Jul	Z	0.2	0.2	0.1	0.2	0.3	0.4	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.4	
23-Jul	0.1	Z	0.2	0.2	0.2	0.2	0.2	0.3	C	C	C	C	C	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.3	
24-Jul	0.1	0.1	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	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.2	0.5	
25-Jul	1.0	0.7	0.2	Z	0.3	0.7	0.9	0.6	0.2	0.4	0.4	0.6	0.5	0.3	0.2	0.2	0.4	0.3	0.2	0.3	0.1	0.2	0.2	0.1	0.4	1.0	
26-Jul	0.2	0.2	0.5	0.4	Z	0.5	0.2	0.1	0.1	0.2	0.2	0.3	0.2	0.1	0.2	0.3	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.5	
27-Jul	0.1	0.1	0.1	0.1	0.1	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	0.2	
28-Jul	Z	0.2	0.2	0.5	0.8	0.5	0.8	0.9	0.4	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.2	0.3	0.9	
29-Jul	0.2	Z	0.3	0.2	0.2	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	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.3	
30-Jul	0.1	0.1	Z	0.2	0.2	0.2	0.1	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	0.1	0.1	0.1	0.2	
31-Jul	0.1	0.2	0.2	Z	0.3	0.2	0.2	0.3	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	0.1	0.2	0.3	
																									Diurnal Average		
																									Diurnal Maximum		
Z - zerospan C - Calibration																											
Alberta Ambient Air Quality Objective (AAAQO): 1-hour 10 ppb 24-hr 3 ppb																											



Wood Buffalo Environmental Association
Hourly Averages

Hydrogen Sulphide (H₂S) - ppb
Sawbones Bay - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Hydrogen Sulphide (H₂S) - ppb
Sawbones Bay - July 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
Sawbones Bay - July 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	36	8	7	6	24	39	57	87	73	50	52	55	68	67	28	51	708
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	36	8	7	6	24	39	57	87	73	50	52	55	68	67	28	51	708

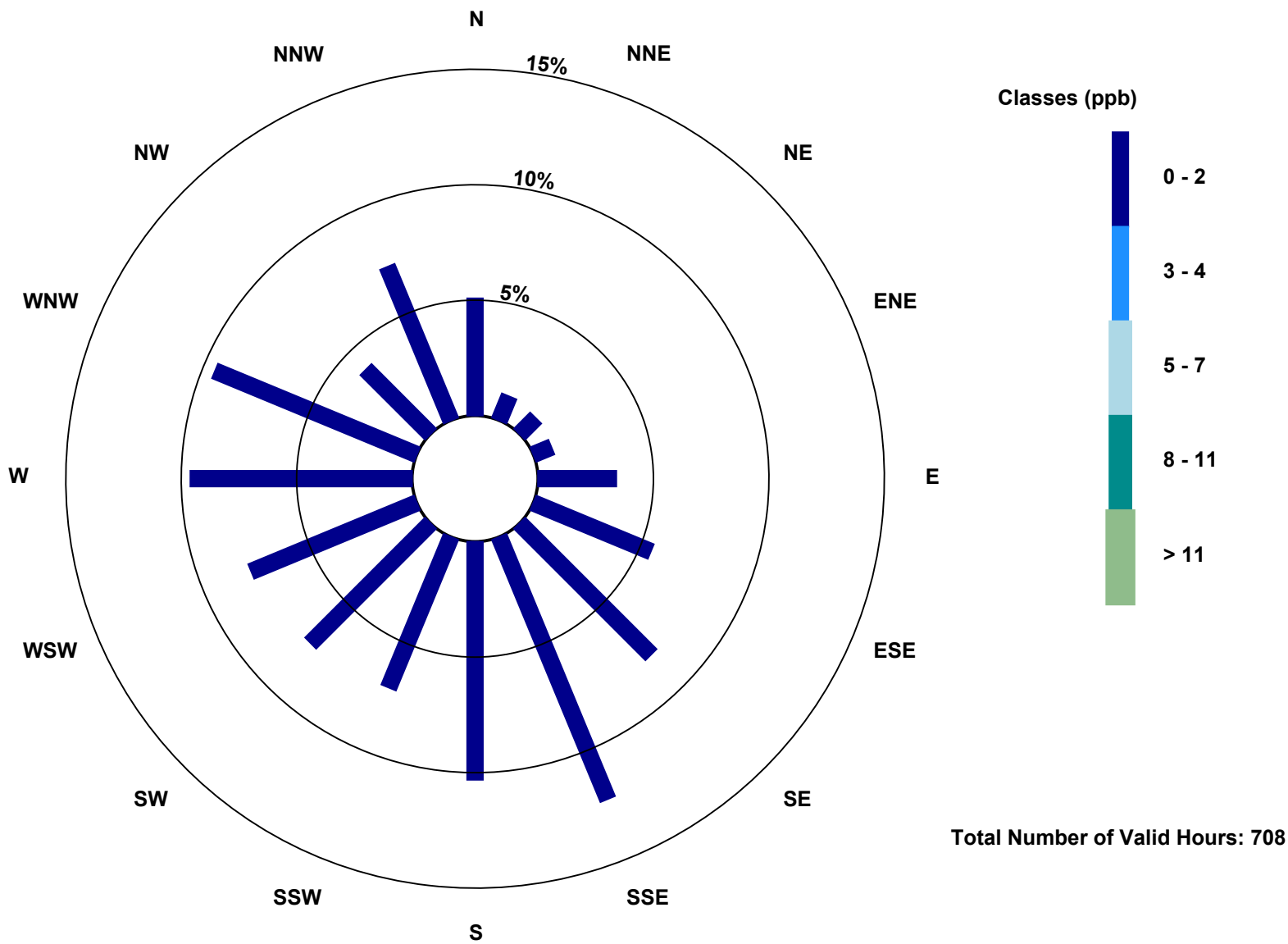
Total Number of Valid Hours: 708

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

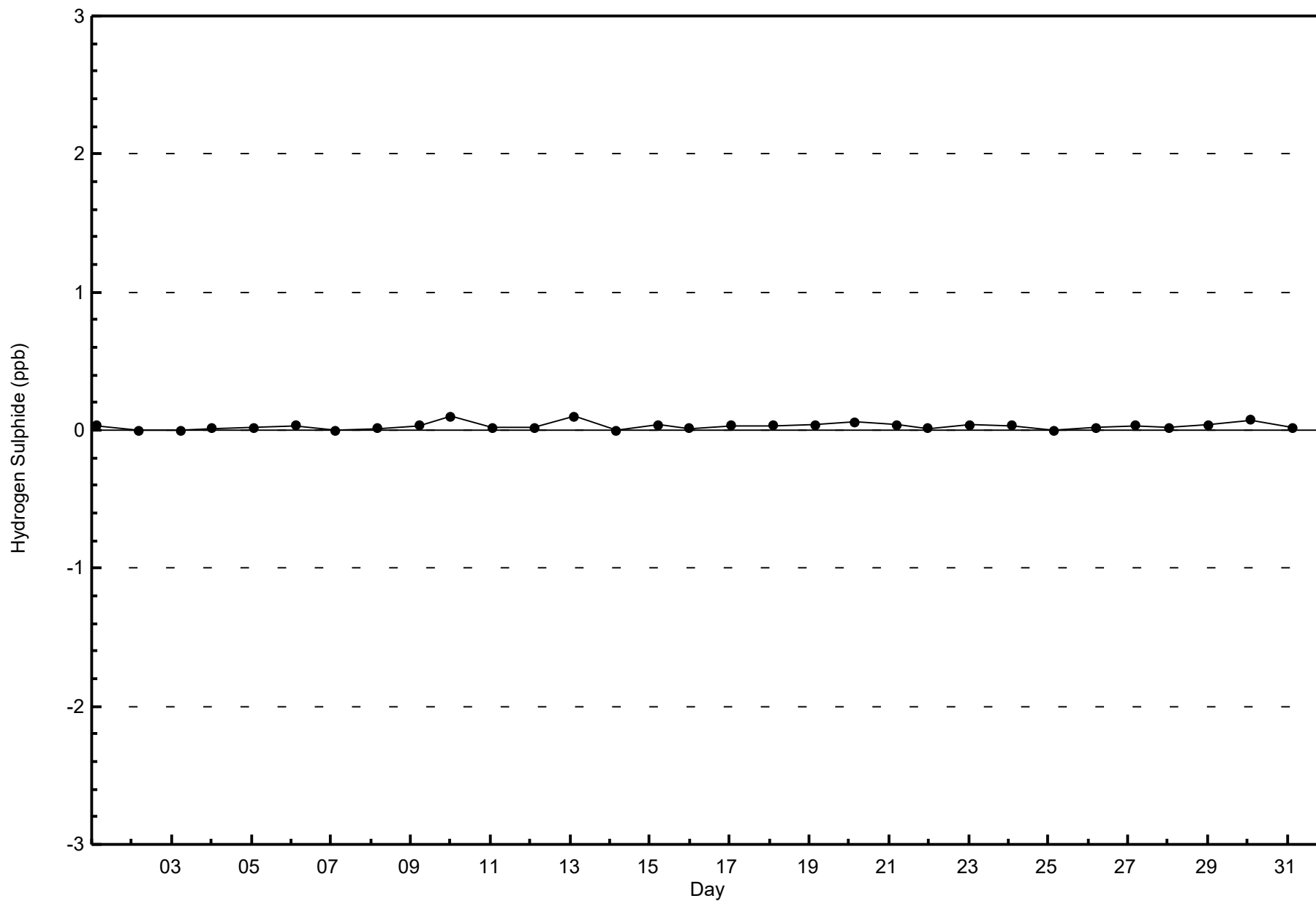
Hydrogen Sulphide (H₂S) - ppb
Sawbones Bay

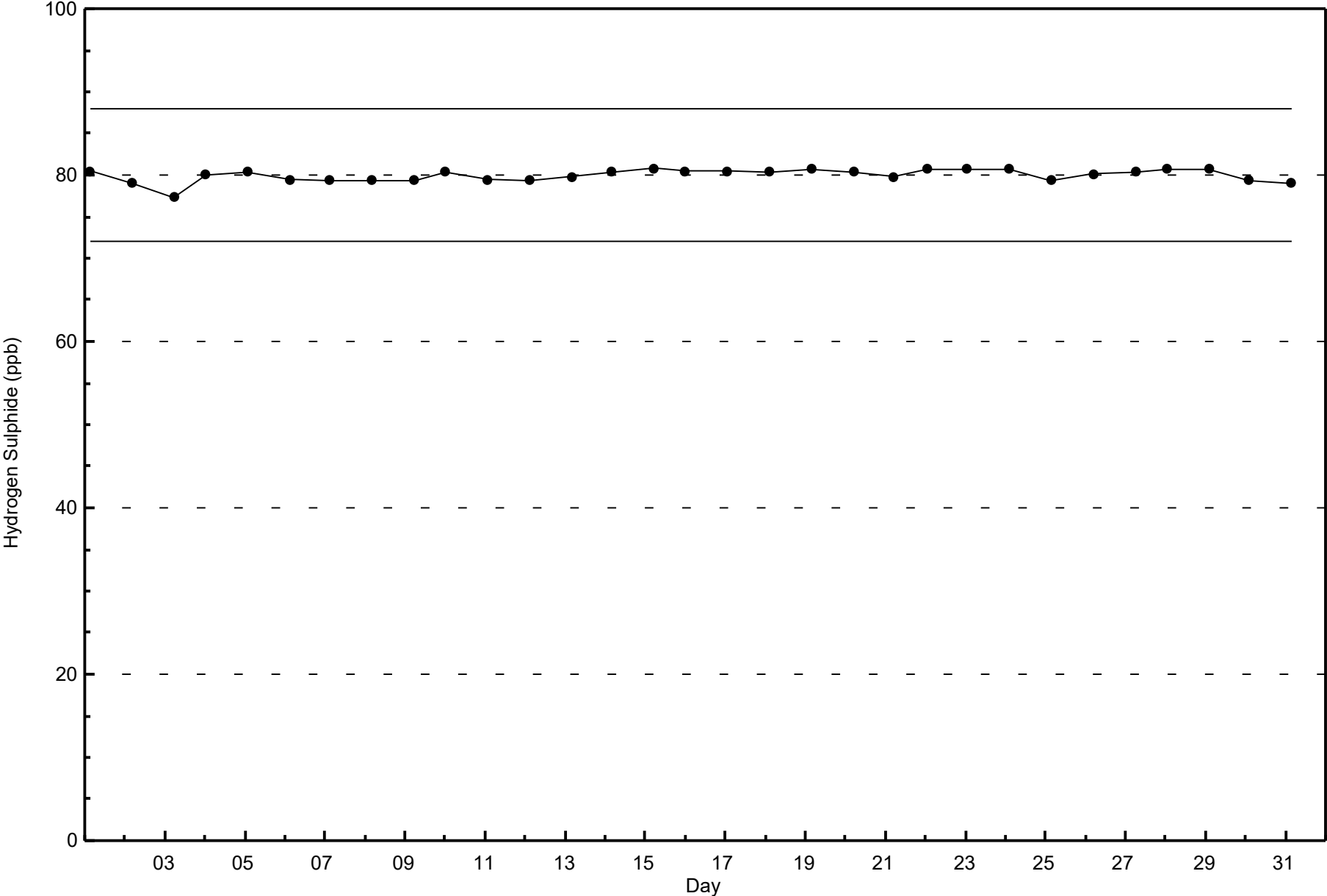




Wood Buffalo Environmental Association
Zero Responses

Hydrogen Sulphide (H₂S) - ppb
Sawbones Bay - July 2025







Wood Buffalo Environmental Association

Summary of Hour Averages

Nitric Oxide (NO) - ppb

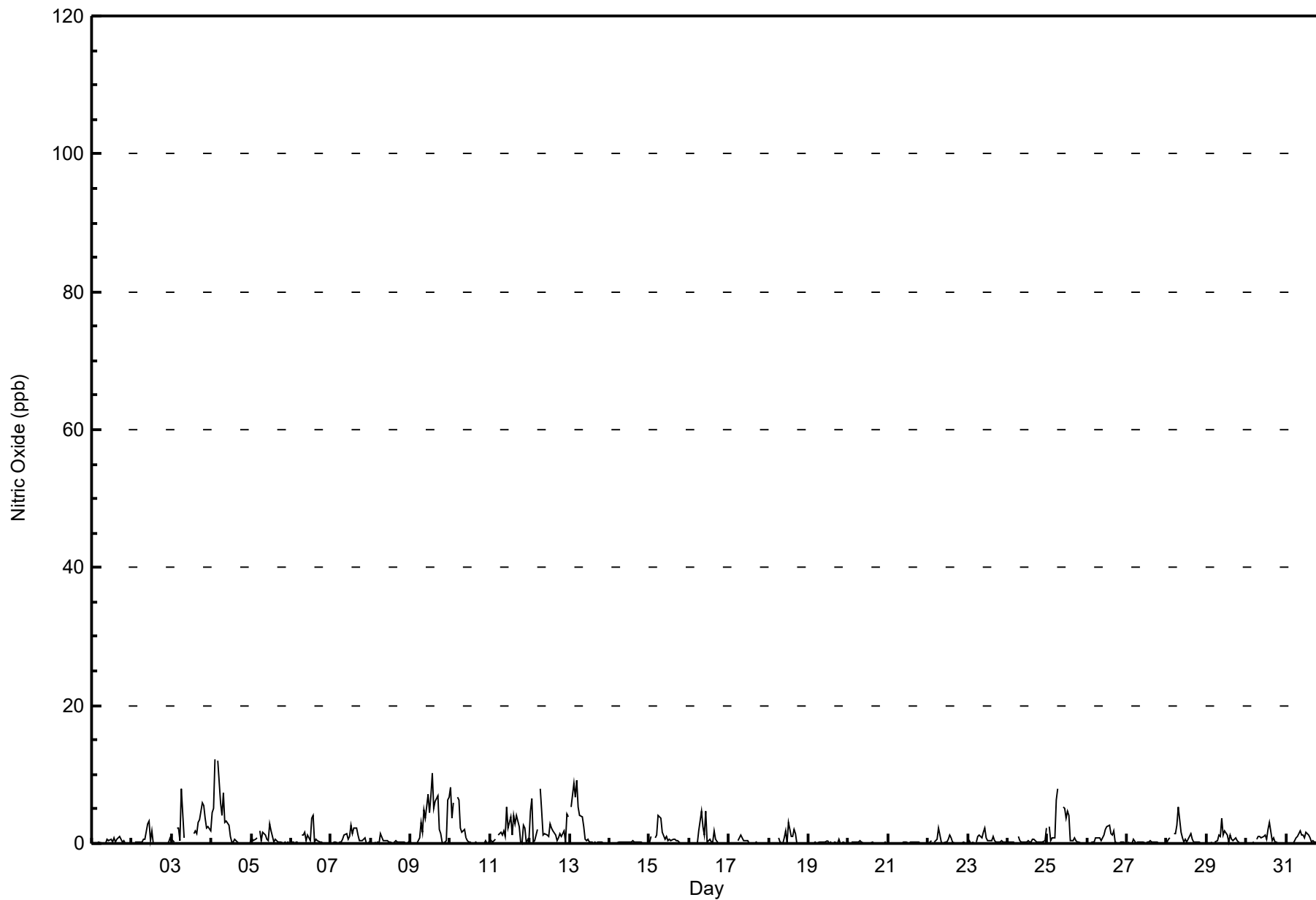
Sawbones Bay - July 2025

Maximum Value: 12.2 ppb on Jul 4 03:00																			Maximum Daily Average: 3.4 ppb on Jul 9						Hours in Service: 744	
Minimum Value: 0.0 ppb on Jul 1 03:00																			Minimum Daily Average: 0.1 ppb on Jul 21						Hours of Data: 706	
Maximum Diurnal Average: 1.9 ppb at hour 7																			Minimum Diurnal Average: 0.2 ppb at hour 22						Hours of Missing Data: 38	
Monthly Average: 0.95 ppb																			Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.2 Q ₃ = 1.0 P ₉₀ = 2.8 P ₉₉ = 7.9						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-Jul	Z	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.5	0.5	0.6	0.3	0.8	0.2	0.7	1.0	0.7	0.2	0.3	0.1	0.0	0.0	0.1	0.3	1.0
2-Jul	0.1	Z	0.1	0.1	0.1	0.2	0.2	0.1	0.5	0.7	2.9	3.2	0.3	1.8	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.9	0.5	3.2
3-Jul	0.5	0.1	Z	2.2	2.3	0.3	7.9	0.9	C	C	C	C	C	1.5	1.9	1.5	3.0	3.5	5.9	5.6	3.6	2.3	2.4	1.9	2.6	7.9
4-Jul	4.5	5.2	12.2	Z	11.9	6.0	4.0	7.4	3.1	3.3	2.6	0.9	0.2	0.2	0.7	0.4	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	2.7	12.2
5-Jul	1.1	0.4	0.6	0.7	Z	1.8	0.3	1.7	1.1	0.6	0.3	2.8	1.8	0.2	0.6	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.7	2.8
6-Jul	0.1	0.2	0.1	0.1	0.2	Z	1.1	1.2	1.6	0.5	1.1	0.4	3.6	4.1	0.2	0.6	0.5	0.3	0.1	0.0	0.1	0.0	0.1	0.1	0.7	4.1
7-Jul	Z	0.1	0.1	0.1	0.1	0.2	0.2	0.6	1.2	1.5	0.6	0.9	2.7	1.5	2.2	2.2	1.2	0.4	0.4	0.3	0.7	0.1	0.0	0.1	0.8	2.7
8-Jul	0.3	Z	0.2	0.1	0.1	0.1	1.5	0.4	0.4	0.3	0.3	0.2	0.1	0.1	0.1	0.3	0.2	0.2	0.2	0.3	0.2	0.0	0.0	0.3	0.3	1.5
9-Jul	0.0	0.0	Z	0.0	0.0	0.9	3.0	1.7	4.9	3.7	7.0	4.6	6.9	10.2	5.0	6.1	7.0	2.0	1.4	0.3	0.0	0.4	6.4	6.7	3.4	10.2
10-Jul	8.1	3.7	6.0	Z	6.8	6.2	2.2	1.5	2.1	0.7	0.5	0.3	0.1	0.1	0.1	0.2	0.1	0.0	0.0	0.1	0.0	0.5	0.1	0.0	1.7	8.1
11-Jul	0.5	0.2	0.5	0.7	Z	1.2	1.6	1.2	1.8	1.0	5.2	2.2	3.9	1.3	4.2	2.9	4.1	2.5	0.2	0.1	2.6	2.3	0.1	0.7	1.8	5.2
12-Jul	4.7	6.5	0.2	0.5	2.0	Z	7.9	4.6	1.3	1.4	1.2	1.0	2.8	2.2	1.8	1.2	0.4	0.7	1.3	1.0	1.7	0.2	4.3	3.8	2.3	7.9
13-Jul	Z	5.3	8.8	6.7	9.2	5.2	4.1	3.9	2.3	0.6	0.4	0.7	0.3	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.0	2.1	9.2
14-Jul	0.1	Z	0.0	0.0	0.1	0.2	0.3	0.3	0.1	0.2	0.2	0.2	0.2	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
15-Jul	0.2	1.1	Z	0.7	1.2	4.2	3.9	3.7	1.7	0.7	0.9	0.4	0.5	0.3	0.6	0.6	0.4	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.9	4.2
16-Jul	0.0	0.0	0.0	Z	0.0	0.0	1.8	4.8	2.4	1.2	4.7	0.2	0.7	0.3	0.2	1.8	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	4.8
17-Jul	0.1	0.0	0.0	0.0	Z	0.5	0.8	1.2	0.9	0.4	0.3	0.5	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.2
18-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.8	0.2	0.1	0.8	1.9	0.0	3.0	1.0	1.1	1.9	1.3	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.5	3.0
19-Jul	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.6	0.1	0.0	0.1	0.1	0.1	0.1	0.6
20-Jul	0.1	Z	0.1	0.1	0.2	0.1	0.3	0.4	0.3	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.0	0.1	0.4
21-Jul	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.2
22-Jul	0.0	0.2	0.3	Z	0.1	0.7	2.3	1.2	0.1	0.0	0.1	0.2	0.6	1.1	0.7	0.2	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.1	0.4	2.3
23-Jul	0.1	0.3	0.1	0.1	Z	0.2	1.1	1.2	0.7	1.6	2.3	0.9	0.4	0.4	0.4	1.0	0.4	0.2	0.2	0.3	0.4	0.1	0.1	0.2	0.6	2.3
24-Jul	0.1	0.1	0.1	0.1	0.1	Z	1.1	0.4	0.2	0.2	0.2	0.2	0.4	0.3	0.3	0.5	0.6	0.2	0.2	0.2	0.1	0.1	0.3	2.3	0.4	2.3
25-Jul	Z	2.4	0.5	0.9	0.9	6.4	7.9	M	M	5.3	5.0	3.6	4.8	4.0	0.5	0.4	0.8	0.4	0.3	0.3	0.0	0.0	0.0	0.0	2.1	7.9
26-Jul	0.0	Z	0.1	0.2	0.2	0.7	0.8	0.8	0.4	0.8	1.3	2.0	2.4	2.6	1.4	1.2	1.9	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.8	2.6
27-Jul	0.1	0.3	Z	0.1	0.7	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.1	0.5	0.2	0.2	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.2	0.7
28-Jul	0.1	0.5	0.8	Z	1.3	1.5	2.6	5.4	1.7	0.8	0.3	0.6	0.1	0.6	1.3	0.7	0.1	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.8	5.4
29-Jul	0.0	0.0	0.0	0.1	Z	0.2	0.3	1.3	1.0	3.7	1.3	1.8	1.2	0.2	1.2	0.6	0.4	0.8	0.4	0.2	0.0	0.0	0.0	0.0	0.7	3.7
30-Jul	0.0	0.0	0.0	0.0	0.1	Z	0.6	1.0	0.9	0.8	1.1	1.3	0.6	1.9	3.0	0.4	0.7	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.6	3.0
31-Jul	Z	0.1	0.0	0.1	0.1	0.4	0.7	1.0	1.9	1.2	1.3	0.9	1.5	1.2	0.9	0.3	0.5	0.1	0.2	0.2	0.3	0.1	0.2	0.1	0.6	1.9
Diurnal Average																										
Diurnal Maximum																										
Z - zerospan C - Calibration M - Maintenance																										



Wood Buffalo Environmental Association
Hourly Averages

Nitric Oxide (NO) - ppb
Sawbones Bay - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitric Oxide (NO) - ppb
Sawbones Bay - July 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
Sawbones Bay - July 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	9	7	7	24	38	57	89	74	53	52	52	66	64	28	52	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	34	9	7	7	24	38	57	89	74	53	52	52	66	64	28	52	706

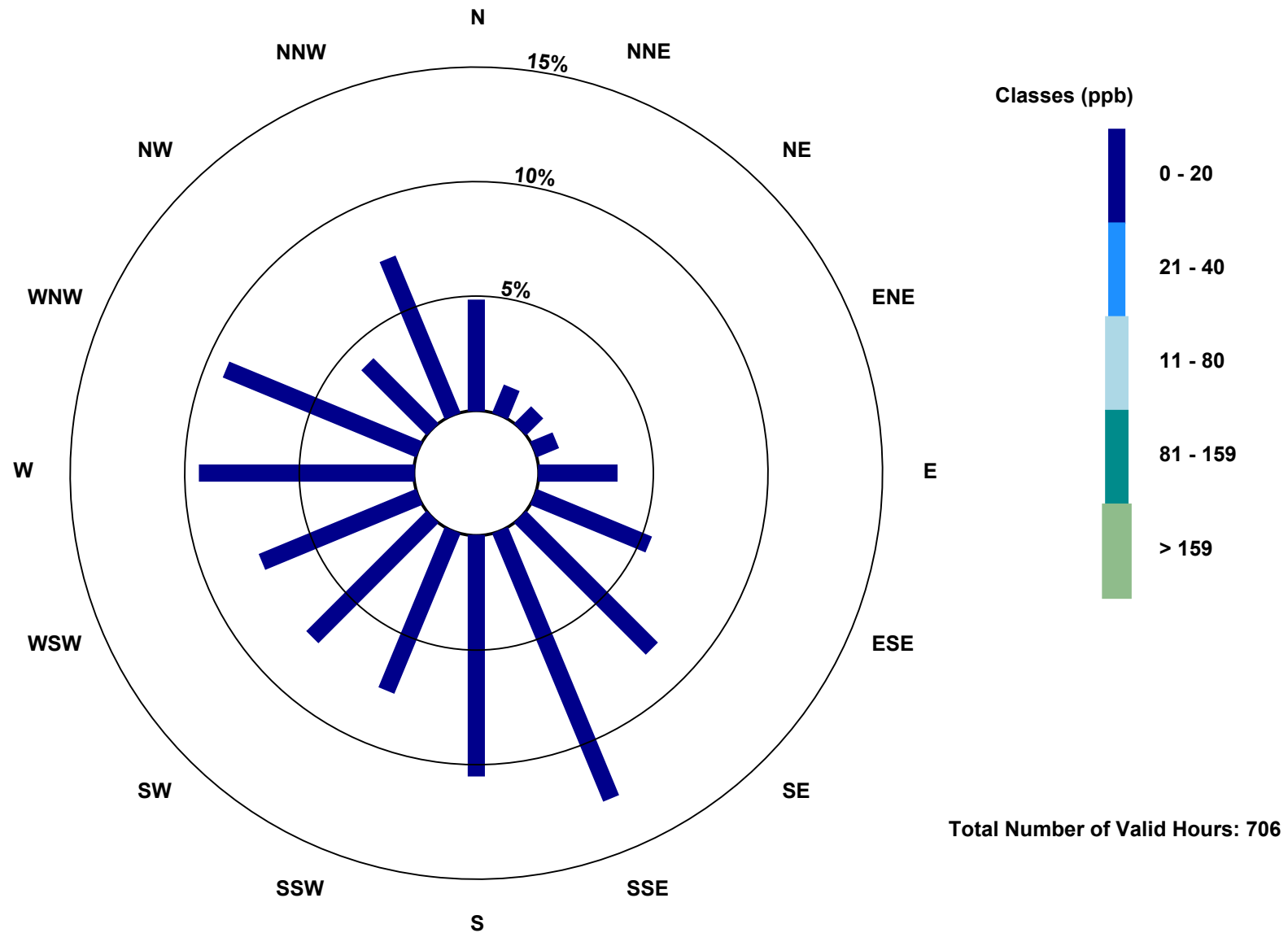
Total Number of Valid Hours: 706

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

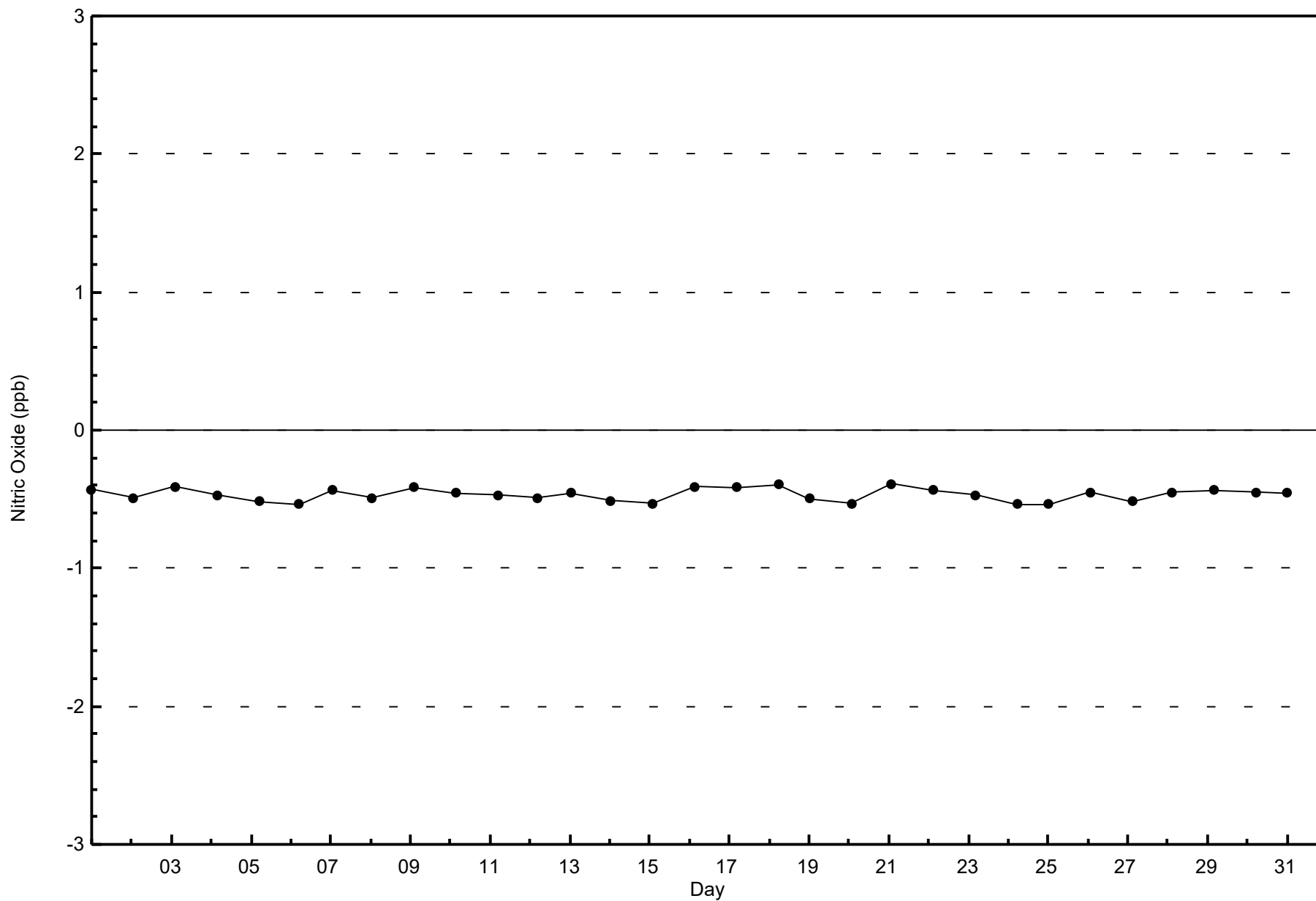
Nitric Oxide (NO) - ppb
Sawbones Bay





Wood Buffalo Environmental Association
Zero Responses

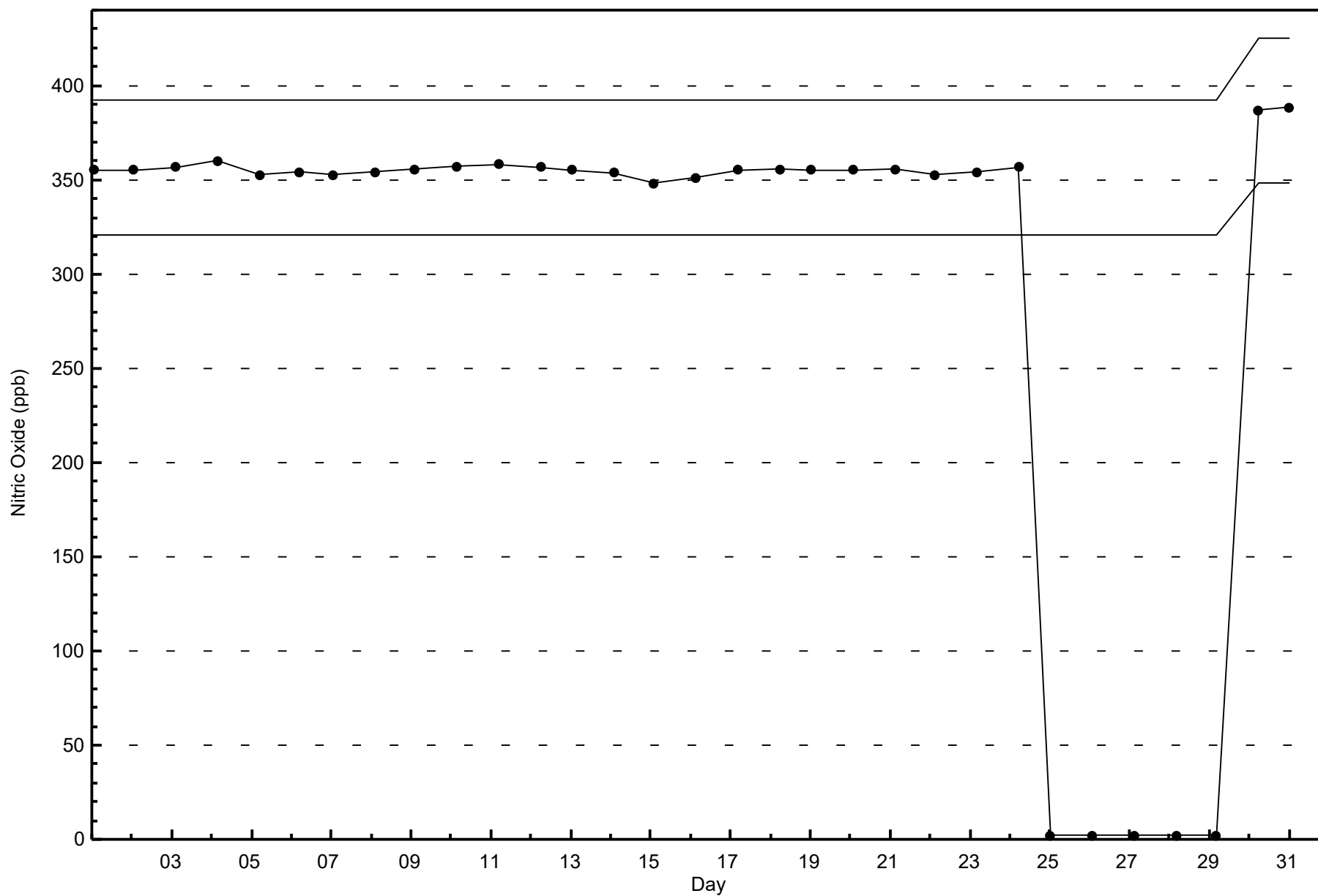
Nitric Oxide (NO) - ppb
Sawbones Bay - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitric Oxide (NO) - ppb
Sawbones Bay - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Dioxide (NO₂) - ppb

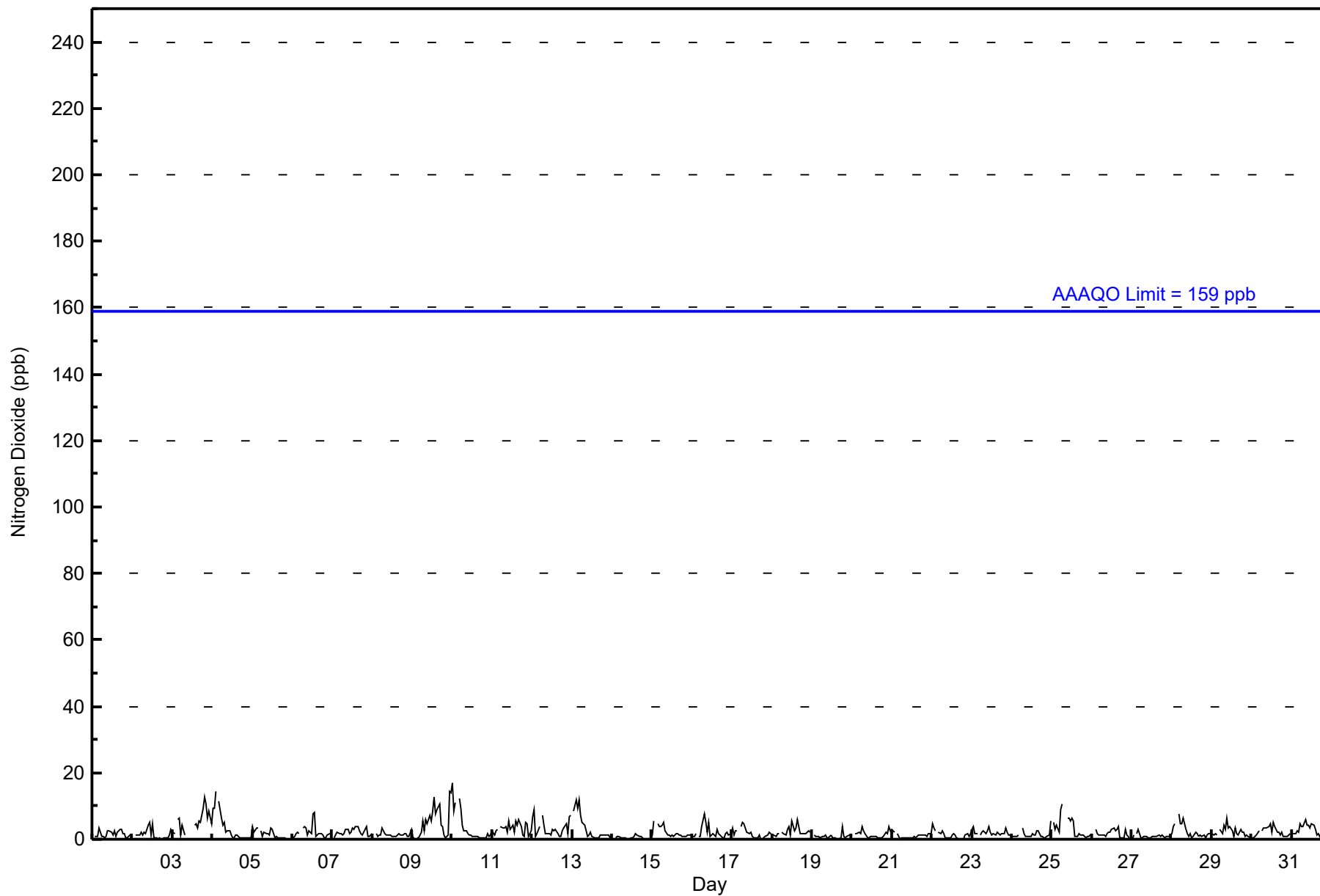
Sawbones Bay - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 16.8 ppb on Jul 10 01:00 Maximum Daily Average: 5.5 ppb on Jul 3																			Hours in Service: 744 Hours of Data: 706 Hours of Missing Data: 38 Hours of Calibration: 36 Percent Operational Time: 99.7							
Minimum Value: 0.0 ppb on Jul 14 22:00 Minimum Daily Average: 0.5 ppb on Jul 14 Maximum Diurnal Average: 3.4 ppb at hour 5 Minimum Diurnal Average: 1.4 ppb at hour 18 Monthly Average: 2.26 ppb Percentiles: P ₁ = 0.1 P ₁₀ = 0.4 Q ₁ = 0.8 Median = 1.5 Q ₃ = 2.9 P ₉₀ = 4.9 P ₉₉ = 11.9																										
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
1-Jul	Z	0.9	0.9	1.0	3.6	0.8	0.7	0.5	0.7	2.4	2.7	2.3	1.4	2.6	0.7	2.1	2.9	3.1	1.5	1.9	0.6	0.5	1.2	1.0	1.6	3.6
2-Jul	0.9	Z	1.1	1.1	1.3	2.1	1.1	2.2	1.9	4.3	5.0	1.3	4.6	0.5	0.4	0.2	0.3	0.2	0.2	0.3	0.3	0.3	1.3	3.0	1.5	5.0
3-Jul	2.3	1.7	Z	6.1	6.2	1.2	4.4	1.4	C	C	C	C	C	4.1	4.6	3.3	5.7	5.2	9.3	12.6	10.7	6.4	8.5	4.7	5.5	12.6
4-Jul	9.4	9.3	14.4	Z	11.5	6.2	4.1	5.2	2.3	2.6	2.5	1.1	0.3	0.4	1.2	1.4	0.5	0.3	0.3	0.3	0.4	0.4	0.4	0.4	3.3	14.4
5-Jul	3.8	2.2	3.2	3.3	Z	2.5	1.0	2.1	1.5	1.5	1.1	3.5	2.9	0.3	0.9	0.6	0.3	0.4	0.4	0.3	0.1	0.1	0.1	0.2	1.4	3.8
6-Jul	0.4	0.8	1.5	2.2	1.7	Z	3.2	3.8	3.5	1.3	2.7	1.6	7.7	8.1	0.9	1.2	1.6	1.8	1.1	0.6	0.3	1.3	1.7	1.6	2.2	8.1
7-Jul	Z	0.6	1.2	2.3	1.8	1.5	1.2	1.9	2.9	2.9	1.6	2.2	3.6	2.8	4.0	3.9	2.4	1.5	1.3	2.1	3.7	0.8	0.7	1.4	2.1	4.0
8-Jul	1.8	Z	1.6	1.0	1.2	1.3	3.3	1.8	1.3	1.4	1.1	1.2	0.9	0.8	0.8	1.2	1.6	1.3	1.3	1.8	1.8	0.8	1.0	3.1	1.5	3.3
9-Jul	0.5	0.3	Z	0.5	0.5	2.2	5.6	2.7	5.9	4.5	7.4	5.5	8.6	12.7	7.7	9.0	10.6	4.2	3.7	1.1	0.6	1.1	14.6	13.8	5.4	14.6
10-Jul	16.8	8.5	11.0	Z	12.1	9.2	4.1	2.7	2.6	1.6	1.2	1.3	0.9	0.8	0.7	0.8	0.4	0.4	0.3	0.4	0.4	1.7	0.9	1.1	3.5	16.8
11-Jul	2.7	1.4	2.6	2.8	Z	3.9	3.5	3.5	3.7	2.2	5.5	3.1	4.4	2.1	5.5	4.4	5.8	4.0	1.4	0.9	4.9	4.7	0.9	2.5	3.3	5.8
12-Jul	6.8	9.0	0.8	1.6	3.8	Z	7.2	4.4	1.9	1.6	1.5	1.4	2.9	2.5	3.0	1.8	0.7	1.0	2.4	3.4	4.5	1.5	6.7	7.2	3.4	9.0
13-Jul	Z	8.3	11.8	9.3	11.9	7.0	5.0	4.1	2.4	0.8	1.4	2.2	0.9	0.6	0.5	0.6	0.6	1.2	1.3	1.3	1.2	1.3	1.1	0.4	3.3	11.9
14-Jul	0.2	Z	0.5	0.7	0.7	0.6	0.6	0.4	0.3	0.1	0.1	0.5	0.6	0.9	1.6	1.1	0.9	0.9	0.4	0.1	0.1	0.0	0.0	0.1	0.5	1.6
15-Jul	1.4	5.7	Z	4.8	3.9	3.9	4.3	4.9	2.6	1.3	1.4	0.9	1.4	0.8	1.5	1.6	1.3	1.1	0.8	0.9	0.8	1.1	1.4	1.2	2.1	5.7
16-Jul	0.7	0.9	1.5	Z	0.8	0.8	3.8	7.6	5.2	2.3	5.1	0.7	1.7	1.2	1.0	2.9	1.8	0.7	0.5	0.6	1.8	2.0	1.1	1.8	2.0	7.6
17-Jul	3.3	1.1	2.7	2.6	Z	4.0	5.0	4.7	3.3	2.0	1.6	2.3	0.7	0.3	0.3	0.6	1.1	0.2	0.2	0.3	1.0	1.3	2.3	1.5	1.8	5.0
18-Jul	1.2	1.3	0.8	1.6	1.6	Z	2.3	1.8	1.4	2.9	3.9	1.1	5.4	2.6	3.3	6.0	3.8	1.6	1.5	1.6	1.6	2.0	2.7	2.0	2.3	6.0
19-Jul	Z	1.1	0.8	0.8	0.8	0.6	0.9	1.0	1.3	0.6	0.3	1.1	0.6	0.4	0.3	0.2	0.2	0.3	3.8	0.8	0.4	0.7	1.3	1.4	0.9	3.8
20-Jul	1.2	Z	1.5	1.7	2.0	1.5	3.7	2.4	1.5	0.5	0.5	0.9	0.9	0.8	0.9	0.4	0.3	0.5	0.5	0.9	2.0	1.9	4.0	2.4	1.4	4.0
21-Jul	2.8	2.3	Z	1.5	0.9	0.0	0.3	0.6	0.5	0.3	0.3	0.3	0.4	0.8	0.6	1.0	1.1	1.2	1.2	1.4	1.1	0.9	1.5	1.7	1.0	2.8
22-Jul	4.5	3.2	2.6	Z	2.0	1.6	2.7	1.8	0.6	0.3	0.4	0.4	1.1	1.8	1.4	0.4	0.1	0.1	0.0	0.1	1.3	1.5	1.0	1.5	1.3	4.5
23-Jul	2.9	3.7	1.7	1.5	Z	1.3	2.1	2.6	1.9	2.6	4.0	2.2	1.2	1.6	1.1	2.0	1.8	1.4	1.5	1.7	3.4	2.0	1.2	1.3	2.0	4.0
24-Jul	0.7	0.9	0.8	1.0	1.3	Z	3.3	1.5	0.9	0.9	1.0	1.0	1.7	1.3	1.2	2.5	2.4	0.9	0.7	0.3	0.4	1.0	1.3	5.3	1.4	5.3
25-Jul	Z	5.2	3.0	4.2	2.2	8.8	10.8	M	M	6.4	6.3	5.3	6.5	5.4	1.0	0.8	1.9	1.2	1.1	1.2	0.4	0.9	1.0	1.1	3.6	10.8
26-Jul	1.0	Z	2.8	1.9	1.1	1.4	1.2	1.2	1.0	1.5	2.0	2.1	3.0	3.2	2.7	3.0	4.0	0.4	0.3	0.4	2.8	1.1	0.8	0.2	1.7	4.0
27-Jul	0.2	1.3	Z	1.8	3.1	0.5	0.4	0.7	1.0	0.7	0.5	0.4	0.7	0.8	0.7	0.8	1.2	0.8	1.2	0.8	0.5	0.8	1.0	1.1	0.9	3.1
28-Jul	1.8	3.9	4.8	Z	7.8	4.6	4.7	6.4	3.1	1.7	0.9	1.5	0.6	1.0	2.3	1.7	0.8	1.2	0.9	1.2	0.6	1.2	1.5	1.9	2.4	7.8
29-Jul	1.8	1.4	1.5	1.1	Z	2.8	1.9	4.3	2.8	6.3	3.3	3.8	2.6	1.0	3.2	1.8	1.3	2.9	2.3	2.2	0.9	1.3	0.7	0.6	2.3	6.3
30-Jul	0.5	0.5	0.7	1.1	2.4	Z	2.7	3.3	3.5	3.6	3.8	4.6	2.1	4.9	4.0	2.1	2.1	1.2	2.3	1.0	0.9	1.0	1.1	1.9	2.2	4.9
31-Jul	Z	1.7	1.5	2.5	2.3	4.5	4.0	3.9	5.8	4.3	4.4	3.4	4.6	4.2	2.8	1.1	1.7	1.0	1.8	3.4	5.4	2.4	3.0	3.0	3.2	5.8
																									Diurnal Average	
																									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
Sawbones Bay - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Sawbones Bay - July 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

Nitrogen Dioxide (NO₂) - ppb
Sawbones Bay - July 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	9	7	7	24	38	57	89	74	53	52	52	66	64	28	52	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	34	9	7	7	24	38	57	89	74	53	52	52	66	64	28	52	706

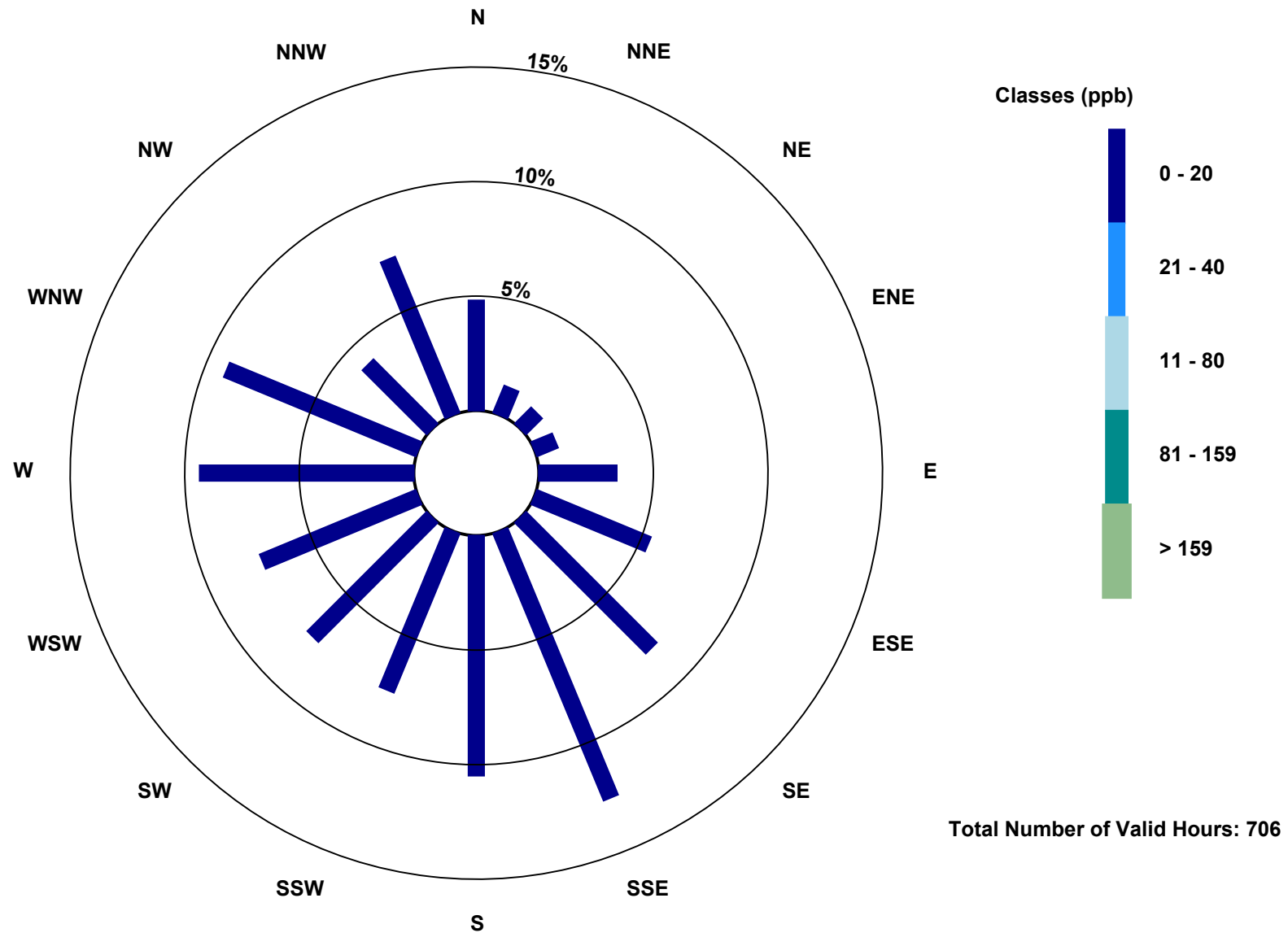
Total Number of Valid Hours: 706

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

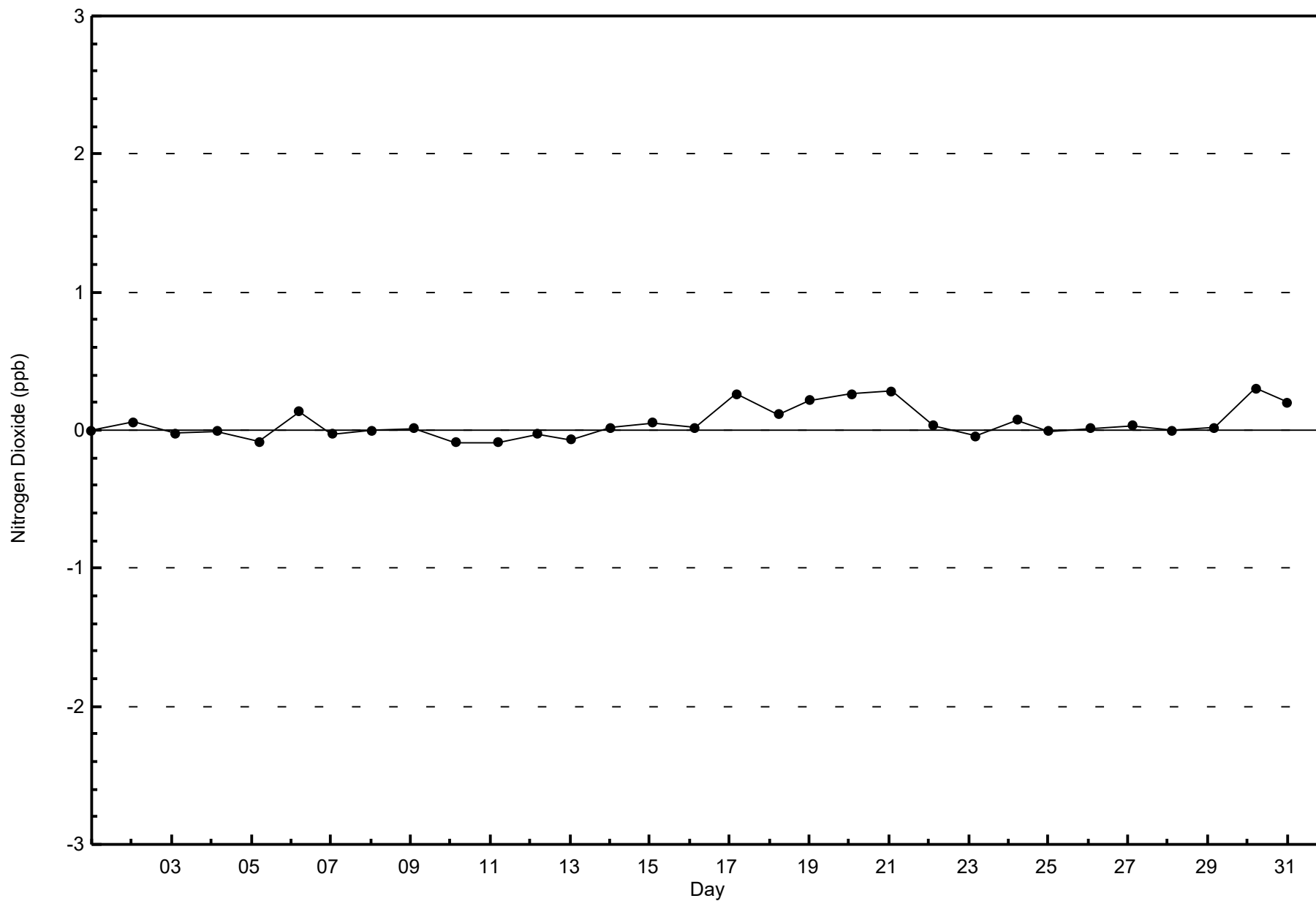
Nitrogen Dioxide (NO₂) - ppb
Sawbones Bay





Wood Buffalo Environmental Association
Zero Responses

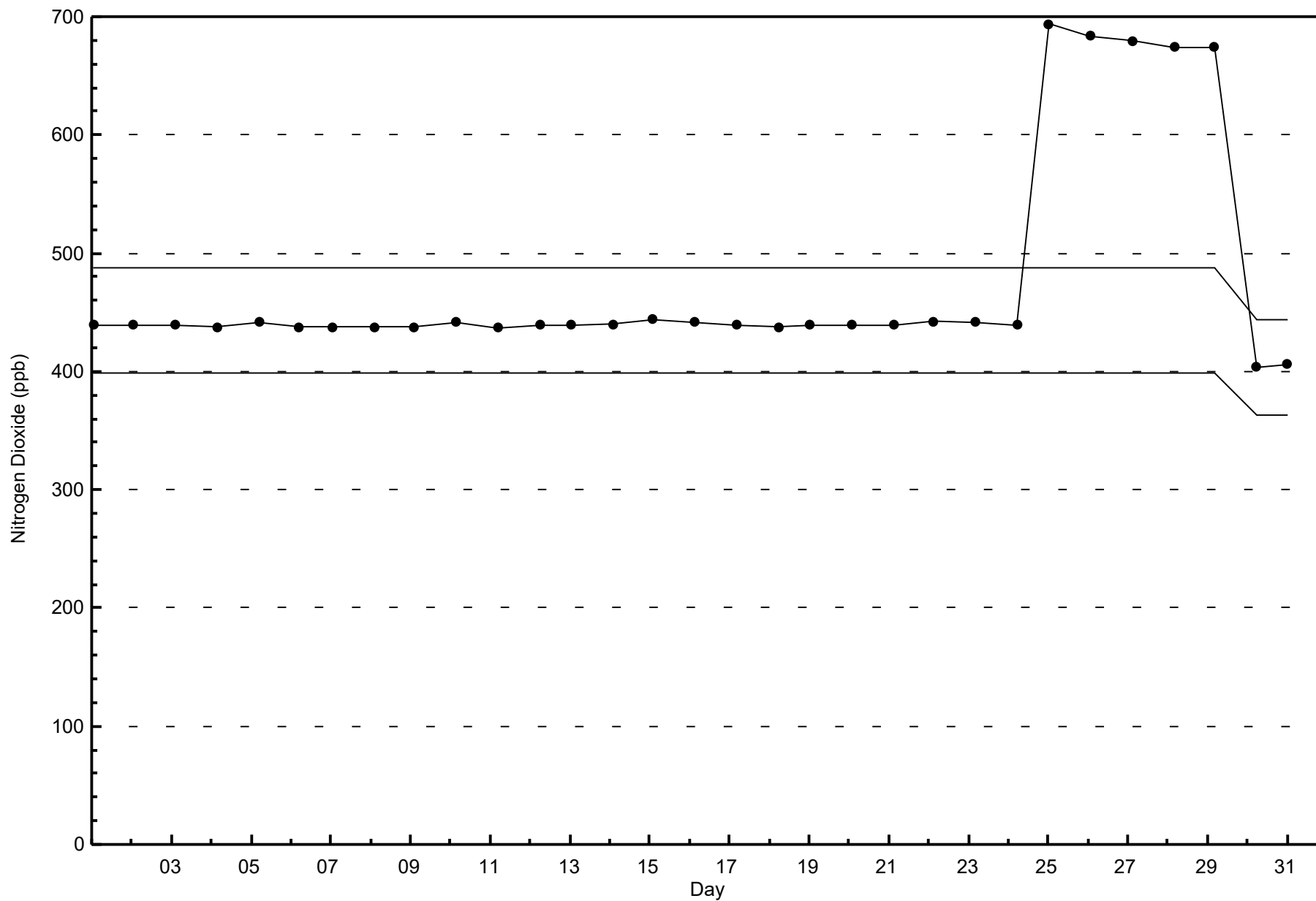
Nitrogen Dioxide (NO₂) - ppb
Sawbones Bay - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitrogen Dioxide (NO₂) - ppb
Sawbones Bay - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Oxides (NO_x) - ppb

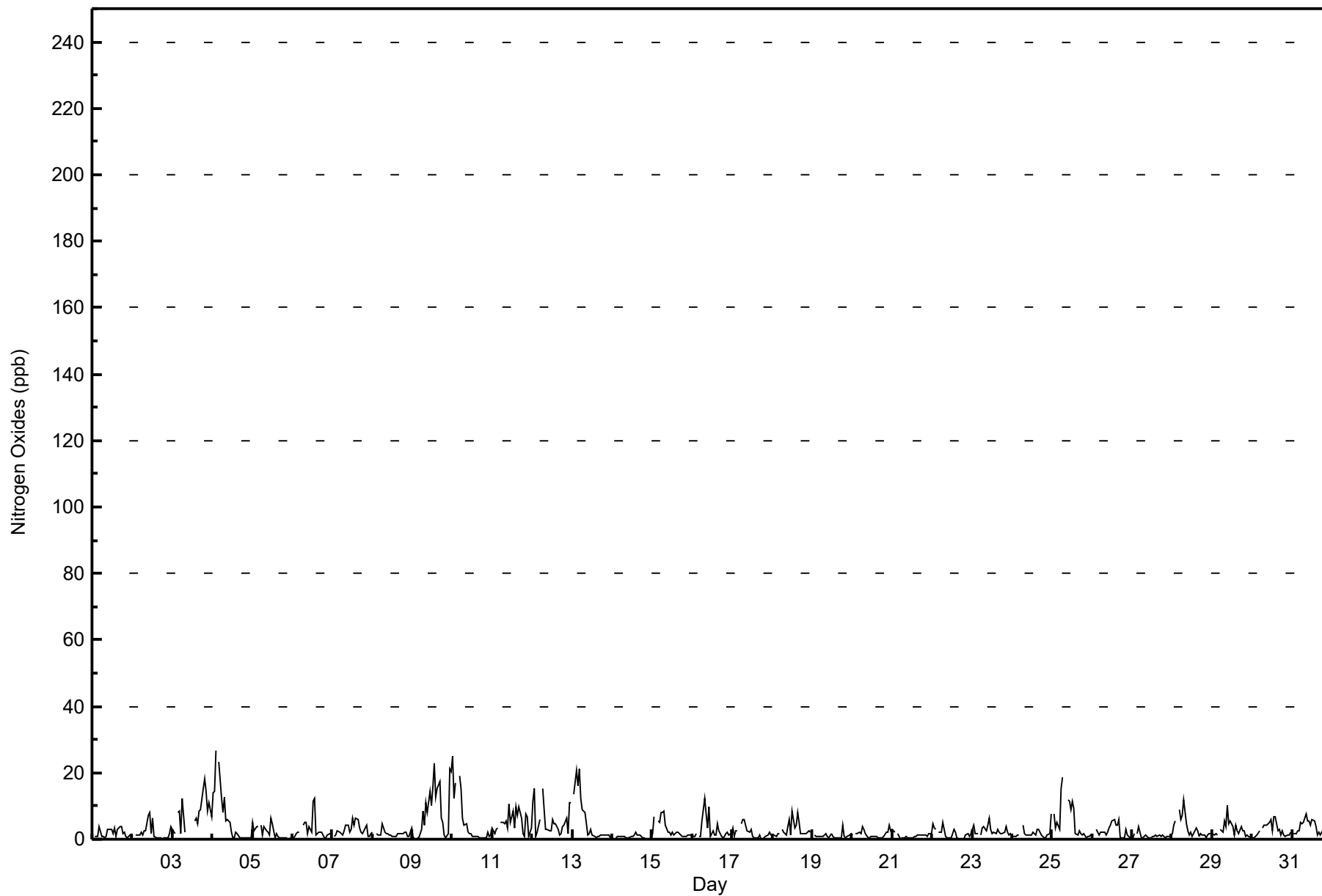
Sawbones Bay - July 2025

Maximum Value: 26.6 ppb on Jul 4 03:00																				Maximum Daily Average: 8.8 ppb on Jul 9						Hours in Service: 744	
Minimum Value: 0.0 ppb on Jul 21 06:00																				Minimum Daily Average: 0.7 ppb on Jul 14						Hours of Data: 706	
Maximum Diurnal Average: 5.1 ppb at hour 7																				Minimum Diurnal Average: 1.6 ppb at hour 22						Hours of Missing Data: 38	
Monthly Average: 3.20 ppb																				Percentiles: P ₁ = 0.2 P ₁₀ = 0.5 Q ₁ = 0.9 Median = 1.7 Q ₃ = 3.9 P ₉₀ = 7.8 P ₉₉ = 20.5						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-Jul	Z	0.9	0.9	1.0	3.7	0.8	0.7	0.5	0.8	2.9	3.2	2.9	1.7	3.4	0.9	2.8	3.9	3.8	1.7	2.2	0.7	0.5	1.2	1.1	1.8	3.9	
2-Jul	1.0	Z	1.2	1.2	1.5	2.3	1.2	2.7	2.6	7.2	8.2	1.6	6.4	0.6	0.5	0.3	0.3	0.3	0.2	0.3	0.3	0.3	1.5	3.9	2.0	8.2	
3-Jul	2.8	1.8	Z	8.3	8.5	1.5	12.3	2.3	C	C	C	C	C	5.6	6.5	4.8	8.7	8.7	15.2	18.2	14.3	8.7	10.9	6.6	8.1	18.2	
4-Jul	13.9	14.5	26.6	Z	23.4	12.2	8.1	12.6	5.4	5.9	5.1	2.0	0.5	0.6	1.9	1.8	0.6	0.4	0.4	0.4	0.4	0.5	0.4	0.5	6.0	26.6	
5-Jul	4.9	2.6	3.8	4.0	Z	4.3	1.3	3.8	2.6	2.1	1.4	6.3	4.7	0.5	1.5	1.0	0.4	0.5	0.5	0.4	0.2	0.2	0.2	0.3	2.1	6.3	
6-Jul	0.5	1.0	1.6	2.3	1.9	Z	4.3	5.0	5.1	1.8	3.8	2.0	11.3	12.2	1.1	1.8	2.1	2.1	1.2	0.6	0.4	1.3	1.8	1.7	2.9	12.2	
7-Jul	Z	0.7	1.3	2.4	1.9	1.7	1.4	2.5	4.1	4.4	2.2	3.1	6.3	4.3	6.2	6.1	3.6	1.9	1.7	2.4	4.4	0.9	0.7	1.5	2.9	6.3	
8-Jul	2.1	Z	1.8	1.1	1.3	1.4	4.8	2.2	1.7	1.7	1.4	1.4	1.0	0.9	0.9	1.5	1.8	1.5	1.5	2.1	2.0	0.8	1.0	3.4	1.7	4.8	
9-Jul	0.5	0.3	Z	0.5	0.5	3.1	8.6	4.4	10.8	8.2	14.4	10.1	15.5	22.9	12.7	15.1	17.6	6.2	5.1	1.4	0.6	1.5	21.0	20.5	8.8	22.9	
10-Jul	24.9	12.2	17.0	Z	18.9	15.4	6.3	4.2	4.7	2.3	1.7	1.6	1.0	0.9	0.8	1.0	0.5	0.4	0.3	0.5	0.4	2.2	1.0	1.1	5.2	24.9	
11-Jul	3.2	1.6	3.1	3.5	Z	5.1	5.1	4.7	5.5	3.2	10.7	5.3	8.3	3.4	9.7	7.3	9.9	6.5	1.6	1.0	7.5	7.0	1.0	3.2	5.1	10.7	
12-Jul	11.5	15.5	1.0	2.1	5.8	Z	15.1	9.0	3.2	3.0	2.7	2.4	5.7	4.7	4.8	3.0	1.1	1.7	3.7	4.4	6.2	1.7	11.0	11.0	5.7	15.5	
13-Jul	Z	13.6	20.6	16.0	21.1	12.2	9.1	8.0	4.7	1.4	1.8	2.9	1.2	0.8	0.6	0.7	0.7	1.3	1.5	1.4	1.3	1.4	1.2	0.4	5.4	21.1	
14-Jul	0.3	Z	0.5	0.7	0.8	0.8	0.9	0.7	0.4	0.3	0.3	0.7	0.8	1.1	1.9	1.3	1.1	1.0	0.5	0.2	0.2	0.1	0.1	0.2	0.7	1.9	
15-Jul	1.6	6.8	Z	5.5	5.1	8.1	8.2	8.6	4.3	2.0	2.3	1.3	1.9	1.1	2.1	2.2	1.7	1.4	1.0	0.9	0.8	1.1	1.4	1.2	3.1	8.6	
16-Jul	0.7	0.9	1.5	Z	0.8	0.8	5.6	12.4	7.6	3.5	9.8	0.9	2.4	1.5	1.2	4.7	2.5	0.7	0.5	0.6	1.8	2.0	1.1	1.8	2.8	12.4	
17-Jul	3.4	1.1	2.7	2.6	Z	4.5	5.8	5.9	4.2	2.4	1.9	2.8	0.7	0.3	0.3	0.6	1.3	0.2	0.2	0.3	1.0	1.3	2.3	1.5	2.0	5.9	
18-Jul	1.2	1.3	0.8	1.6	1.6	Z	3.1	2.0	1.5	3.7	5.8	1.1	8.4	3.6	4.4	7.9	5.1	1.6	1.5	1.6	1.6	2.0	2.8	2.1	2.9	8.4	
19-Jul	Z	1.2	0.9	0.9	0.9	0.7	1.0	1.2	1.5	0.7	0.4	1.5	0.7	0.5	0.4	0.3	0.3	0.4	4.4	0.9	0.4	0.8	1.4	1.5	1.0	4.4	
20-Jul	1.3	Z	1.6	1.8	2.2	1.6	4.0	2.8	1.8	0.6	0.6	0.9	1.0	0.9	1.0	0.4	0.3	0.5	0.5	0.9	2.0	2.0	4.3	2.4	1.5	4.3	
21-Jul	2.8	2.3	Z	1.5	0.9	0.0	0.3	0.6	0.6	0.5	0.4	0.5	0.5	1.0	0.8	1.2	1.3	1.4	1.3	1.4	1.1	0.9	1.5	1.7	1.1	2.8	
22-Jul	4.5	3.4	2.9	Z	2.1	2.3	5.0	3.0	0.7	0.3	0.5	0.6	1.7	2.9	2.1	0.6	0.1	0.1	0.1	0.1	1.4	1.6	1.0	1.6	1.7	5.0	
23-Jul	3.0	4.0	1.8	1.6	Z	1.5	3.2	3.8	2.6	4.2	6.3	3.1	1.6	2.0	1.5	3.0	2.2	1.6	1.7	2.0	3.8	2.1	1.3	1.5	2.6	6.3	
24-Jul	0.8	1.0	0.9	1.1	1.4	Z	4.4	1.9	1.1	1.1	1.2	1.2	2.1	1.6	1.5	3.0	3.0	1.1	0.9	0.5	0.5	1.1	1.6	7.6	1.8	7.6	
25-Jul	Z	7.6	3.5	5.1	3.1	15.2	18.7	M	M	11.7	11.3	8.9	11.3	9.4	1.5	1.2	2.7	1.6	1.4	1.5	0.4	0.9	1.0	1.1	5.7	18.7	
26-Jul	1.0	Z	2.9	2.1	1.3	2.1	2.0	2.0	1.4	2.3	3.3	4.1	5.4	5.8	4.1	4.2	5.9	0.6	0.4	0.5	2.9	1.2	0.9	0.3	2.5	5.9	
27-Jul	0.3	1.6	Z	1.9	3.8	0.6	0.5	0.8	1.2	0.9	0.6	0.5	0.9	0.9	1.2	1.0	1.4	0.9	1.3	0.8	0.5	0.9	1.0	1.2	1.1	3.8	
28-Jul	1.9	4.4	5.6	Z	9.1	6.1	7.3	11.8	4.8	2.5	1.2	2.1	0.7	1.6	3.6	2.4	0.9	1.5	1.1	1.3	0.6	1.2	1.5	1.9	3.3	11.8	
29-Jul	1.8	1.4	1.5	1.2	Z	3.0	2.2	5.6	3.8	10.0	4.6	5.6	3.8	1.2	4.4	2.4	1.7	3.7	2.7	2.4	0.9	1.3	0.7	0.6	2.9	10.0	
30-Jul	0.5	0.5	0.7	1.1	2.5	Z	3.3	4.3	4.4	4.4	4.9	5.9	2.7	6.8	7.0	2.5	2.8	1.5	2.6	1.1	1.0	1.1	1.2	2.0	2.8	7.0	
31-Jul	Z	1.8	1.5	2.6	2.4	4.9	4.7	4.9	7.7	5.5	5.7	4.3	6.1	5.4	3.7	1.4	2.2	1.1	2.0	3.6	5.7	2.5	3.2	3.1	3.7	7.7	
3.6 4.0 4.2 2.8 4.9 4.3 5.1 4.5 3.5 3.4 3.9 2.9 3.9 3.5 2.9 2.8 2.8 1.8 1.9 1.8 2.1 1.6 2.6 2.9																								Diurnal Average			
24.9 15.5 26.6 16.0 23.4 15.4 18.7 12.6 10.8 11.7 14.4 10.1 15.5 22.9 12.7 15.1 17.6 8.7 15.2 18.2 14.3 8.7 21.0 20.5																								Diurnal Maximum			
Z - zerospan C - Calibration M - Maintenance																											



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Sawbones Bay - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Sawbones Bay - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	698	98.87	98.87
21 - 40	8	1.13	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 Oxides (NO_x) - ppb
Sawbones Bay - July 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	9	7	7	24	38	57	89	74	53	52	45	65	64	28	52	698
21 - 40	0	0	0	0	0	0	0	0	0	0	0	7	1	0	0	0	8
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	34	9	7	7	24	38	57	89	74	53	52	52	66	64	28	52	706

Total Number of Valid Hours: 706

Total Number of Hours: 744



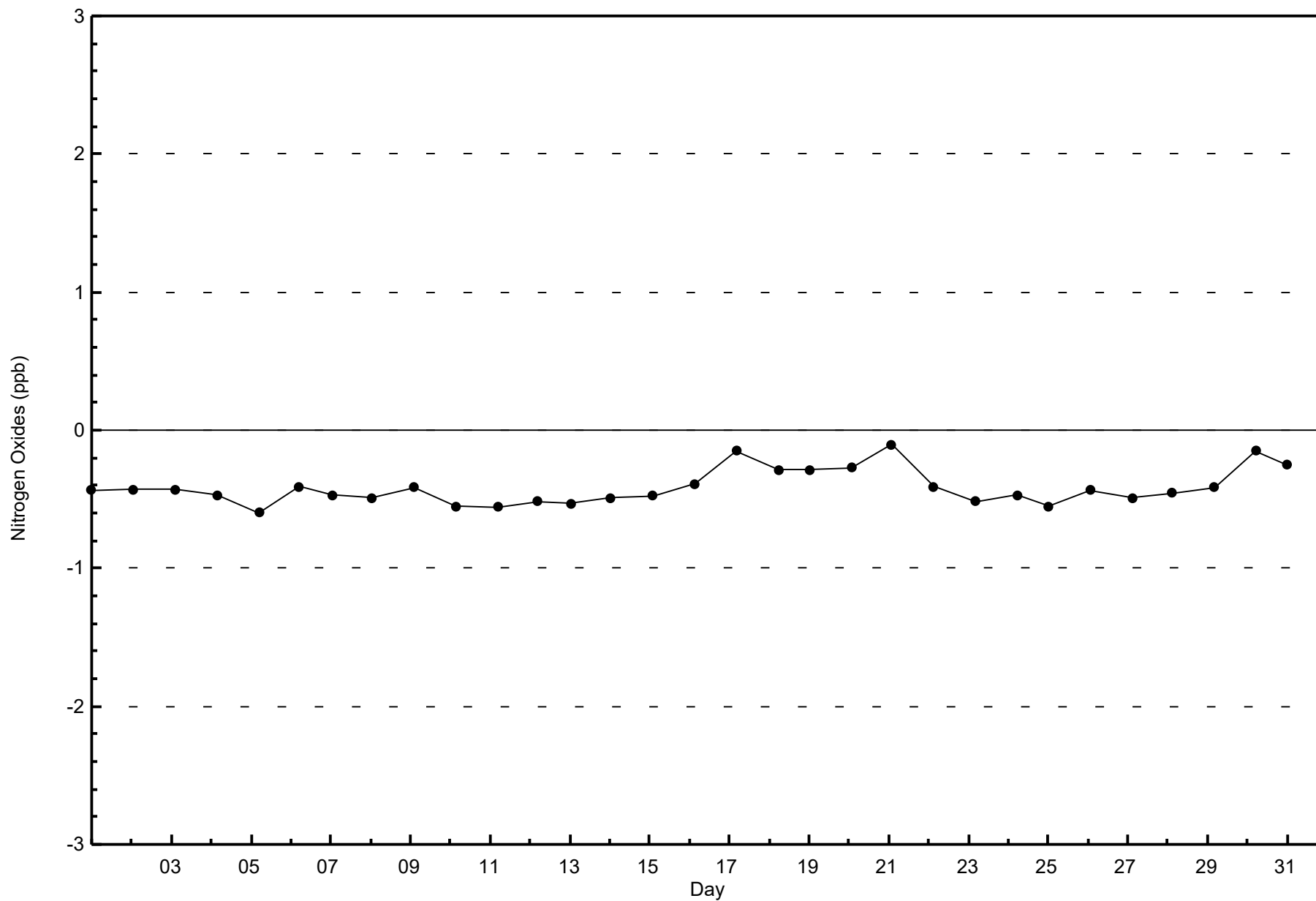
Nitrogen Oxides (NO_x) - ppb
Sawbones Bay





Wood Buffalo Environmental Association
Zero Responses

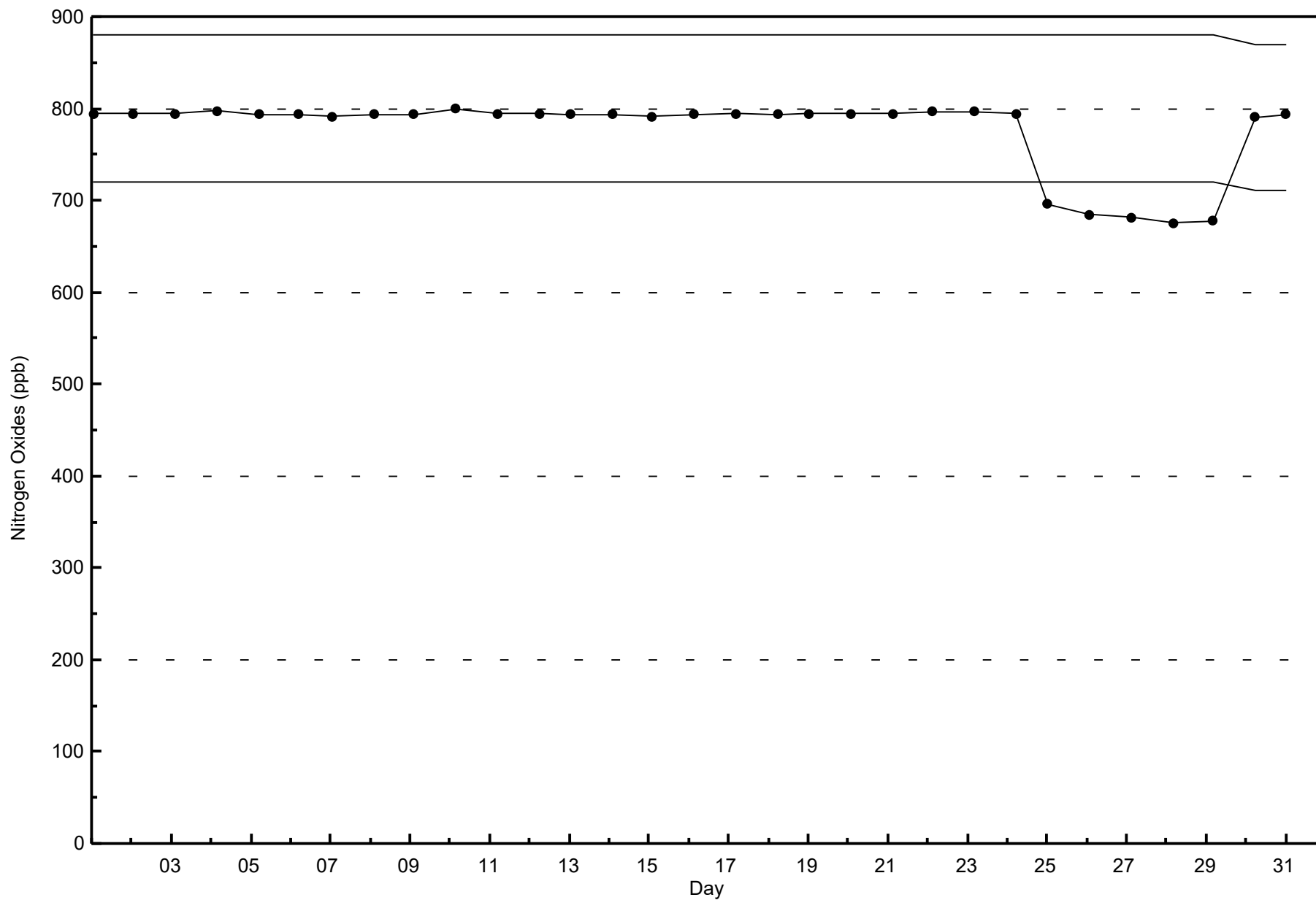
Nitrogen Oxides (NO_x) - ppb
Sawbones Bay - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitrogen Oxides (NO_x) - ppb
Sawbones Bay - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Ambient Temperature 2m (AT2) - C

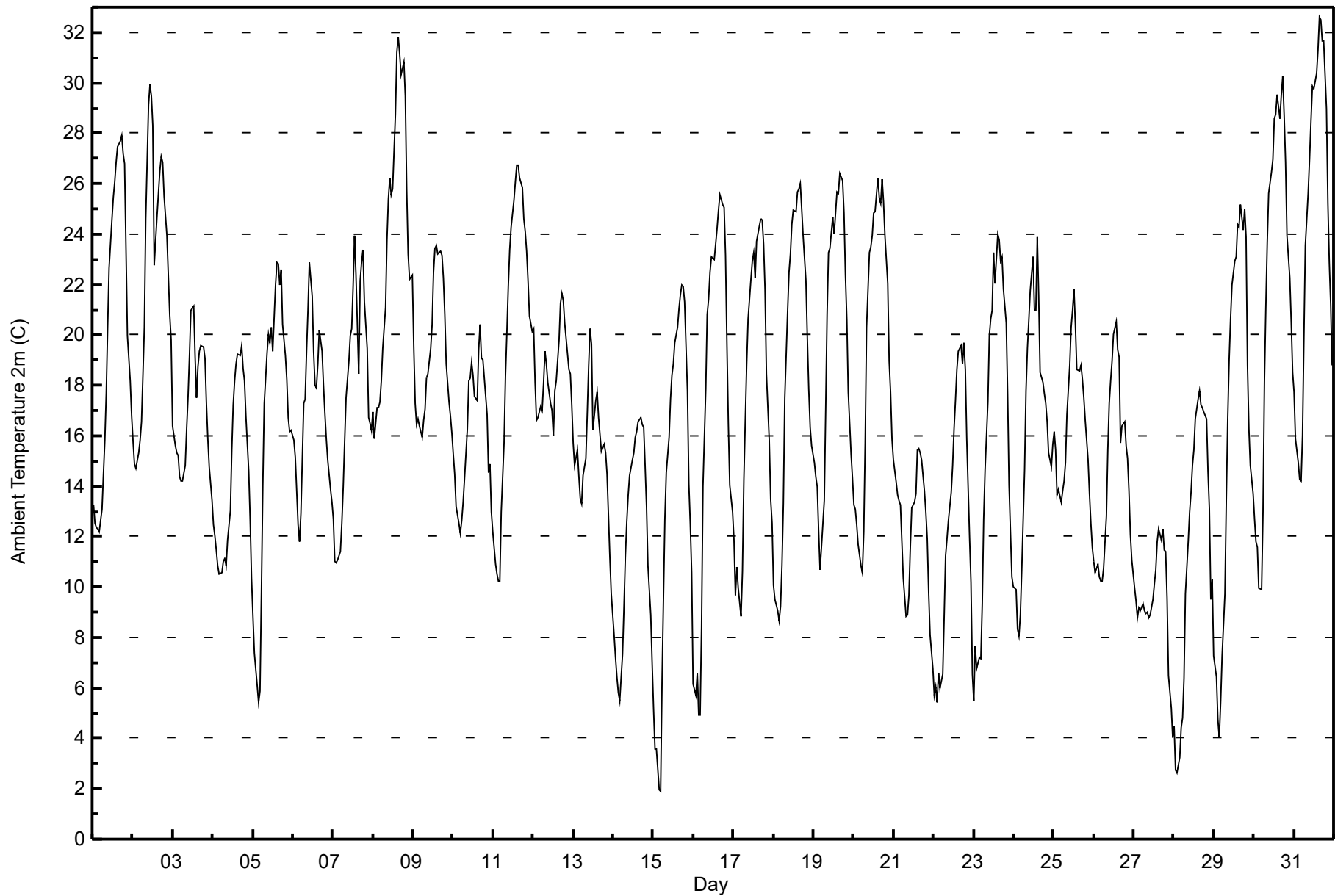
Sawbones Bay - July 2025

Maximum Value: 32.6 C on Jul 31 16:00																			Maximum Daily Average: 24.4 C on Jul 31							Hours in Service: 744	
Minimum Value: 1.9 C on Jul 15 05:00																			Minimum Daily Average: 9.5 C on Jul 27							Hours of Data: 744	
Maximum Diurnal Average: 22.2 C at hour 17																			Minimum Diurnal Average: 10.4 C at hour 5							Hours of Missing Data: 0	
Monthly Average: 17.07 C																			Percentiles: P ₁ = 4.0 P ₁₀ = 9.3 Q ₁ = 12.8 Median = 17.0 Q ₃ = 21.3 P ₉₀ = 25.1 P ₉₉ = 31.0							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-Jul	13.2	12.5	12.4	12.3	12.2	13.1	14.5	15.8	17.7	20.3	22.7	24.6	25.4	26.0	26.8	27.5	27.7	27.9	27.2	26.8	23.4	20.0	18.2	16.8	20.2	27.9	
2-Jul	15.8	14.9	14.7	15.3	15.8	16.6	18.4	20.3	24.6	29.1	29.9	29.5	28.3	22.8	24.7	25.6	26.5	27.1	26.8	25.5	23.9	22.4	20.8	19.8	22.5	29.9	
3-Jul	16.4	15.6	15.3	15.2	14.4	14.2	14.2	14.8	16.3	17.6	19.2	21.0	21.1	19.2	17.5	18.7	19.4	19.6	19.5	19.1	17.3	15.9	14.7	13.4	17.1	21.1	
4-Jul	12.5	12.0	11.5	10.8	10.5	10.6	11.0	11.1	10.9	11.9	13.1	15.4	17.3	18.2	18.8	19.3	19.2	19.6	18.7	18.2	16.8	14.6	12.7	10.3	14.4	19.6	
5-Jul	8.9	7.4	6.1	5.4	5.9	9.8	14.0	17.3	19.3	20.0	19.7	20.3	19.4	22.0	22.9	22.8	22.0	22.6	20.4	19.2	18.2	16.7	16.2	16.2	16.4	22.9	
6-Jul	15.8	15.2	13.8	12.5	11.8	12.9	17.3	17.4	19.4	21.0	22.9	21.5	19.3	18.0	17.9	18.9	20.2	19.4	18.0	16.9	15.9	15.0	13.9	13.3	17.0	22.9	
7-Jul	12.7	11.0	11.0	11.1	11.4	12.5	14.0	15.8	17.5	19.0	20.0	20.3	21.9	23.9	22.4	18.5	22.1	22.9	23.4	21.3	19.4	16.7	16.5	16.2	17.6	23.9	
8-Jul	17.0	15.9	17.1	17.1	17.3	18.2	19.5	21.1	23.7	25.4	26.2	25.6	25.8	28.8	31.2	31.8	31.1	30.3	30.8	29.5	25.7	23.2	22.2	22.4	24.0	31.8	
9-Jul	19.5	17.3	16.5	16.7	16.4	15.9	16.6	17.1	18.3	18.4	19.5	20.4	22.5	23.4	23.5	23.2	23.3	23.2	22.2	20.8	18.8	17.4	16.8	16.1	19.3	23.5	
10-Jul	15.3	14.5	13.2	12.6	12.1	12.6	13.4	14.3	16.3	18.2	18.3	18.9	18.4	17.6	17.4	19.4	20.4	19.1	19.0	17.5	16.8	14.6	14.9	13.0	16.2	20.4	
11-Jul	12.2	10.9	10.5	10.2	10.3	13.0	15.7	18.3	20.1	21.9	23.4	24.3	25.3	26.1	26.7	26.7	26.2	25.8	24.6	24.1	23.3	22.1	20.8	20.1	20.1	26.7	
12-Jul	20.2	18.1	16.6	16.7	17.2	17.0	18.0	19.3	18.8	18.1	17.3	17.0	16.0	17.8	18.2	19.8	21.2	21.6	21.4	20.5	19.3	18.6	18.5	17.2	18.5	21.6	
13-Jul	15.7	14.8	15.5	14.4	13.6	13.3	14.4	15.1	16.9	18.8	20.3	19.6	16.2	17.4	17.7	16.7	16.0	15.4	15.6	15.3	14.5	12.9	11.2	9.7	15.5	20.3	
14-Jul	8.1	7.2	6.5	5.8	5.5	7.4	9.2	11.2	12.6	13.6	14.4	15.1	15.3	15.9	16.1	16.6	16.7	16.5	16.3	14.8	13.2	10.8	8.9	6.9	11.9	16.7	
15-Jul	5.2	3.6	3.6	1.9	1.9	6.3	9.6	12.7	14.6	15.9	17.5	18.4	18.9	19.7	20.3	21.0	21.6	22.0	21.9	21.3	17.8	14.1	12.6	10.6	13.9	22.0	
16-Jul	6.2	5.7	6.6	4.9	4.9	8.4	14.0	17.9	20.8	21.4	22.5	23.1	23.0	23.6	24.2	24.9	25.6	25.2	25.1	23.2	19.6	16.5	14.1	13.0	17.3	25.6	
17-Jul	11.8	9.7	10.8	9.9	8.8	10.7	14.2	16.6	18.8	20.6	22.2	22.9	23.3	22.2	23.7	24.3	24.6	24.6	23.6	21.8	18.5	15.9	13.5	12.5	17.7	24.6	
18-Jul	10.1	9.5	9.1	8.7	9.2	10.9	13.3	17.5	20.9	22.5	23.2	24.4	24.9	24.9	25.7	25.8	26.0	25.0	23.9	22.1	19.9	17.8	16.3	15.6	18.6	26.0	
19-Jul	14.9	14.4	14.0	12.2	10.7	11.6	13.4	17.0	20.8	23.3	23.4	24.7	24.0	24.9	25.7	25.6	26.4	26.1	24.9	22.4	20.6	17.8	15.2	14.3	19.5	26.4	
20-Jul	13.3	13.1	12.5	11.7	10.9	10.6	12.2	15.7	20.3	23.3	23.5	24.0	24.8	24.9	26.2	25.5	25.2	26.2	25.3	23.9	22.0	19.0	17.7	15.9	19.5	26.2	
21-Jul	15.0	14.2	13.7	13.4	13.2	11.8	10.4	8.8	8.9	9.7	11.6	13.2	13.4	13.7	15.5	15.5	15.3	15.0	13.8	13.0	11.9	9.8	8.1	6.8	12.3	15.5	
22-Jul	5.7	6.0	5.4	6.6	6.0	6.5	8.9	11.2	11.9	12.7	13.8	14.8	16.3	17.4	18.6	19.4	19.6	18.9	19.7	18.6	15.9	12.0	10.2	6.6	12.6	19.7	
23-Jul	5.5	7.7	6.8	7.2	7.2	9.3	12.7	14.7	17.4	20.0	20.6	21.0	23.2	22.1	24.0	23.8	22.9	23.1	21.8	20.5	17.6	14.1	12.2	10.4	16.1	24.0	
24-Jul	10.0	9.9	8.3	8.0	8.9	10.7	14.6	17.8	19.5	20.6	21.8	23.1	21.0	21.0	23.9	21.5	18.5	18.1	17.7	17.3	16.5	15.3	14.8	15.7	16.4	23.9	
25-Jul	16.2	15.4	13.7	13.9	13.4	13.8	14.2	14.9	16.8	18.8	20.3	21.0	21.8	20.4	18.6	18.6	18.8	18.2	17.5	16.6	15.0	13.7	12.5	11.6	16.5	21.8	
26-Jul	11.0	10.6	10.9	10.4	10.2	10.3	10.7	12.8	15.4	17.3	18.2	19.0	20.0	20.5	19.4	19.2	15.7	16.4	16.5	15.6	15.1	13.8	12.1	11.1	14.7	20.5	
27-Jul	9.9	9.5	8.8	9.2	9.1	9.3	9.0	9.0	8.8	8.9	9.5	10.1	10.7	11.8	12.3	11.9	12.3	11.5	11.4	9.6	6.5	5.2	4.0	9.5	12.3		
28-Jul	4.5	2.7	2.6	3.2	4.4	4.8	6.4	9.7	11.8	13.0	13.8	14.8	15.5	16.7	17.4	17.8	17.2	17.1	17.0	16.7	14.6	13.1	9.5	10.3	11.4	17.8	
29-Jul	7.2	6.5	4.7	4.0	5.5	7.3	9.7	13.5	16.7	19.0	20.6	22.0	22.9	23.1	24.4	24.3	25.2	24.2	25.0	23.9	18.8	16.3	14.8	13.7	16.4	25.2	
30-Jul	12.7	11.8	11.6	9.9	9.9	13.0	18.1	21.1	23.7	25.6	26.4	27.0	28.6	28.8	29.5	28.6	29.5	30.3	28.7	26.8	23.9	22.3	20.6	18.5	21.9	30.3	
31-Jul	17.7	15.9	14.9	14.3	14.2	16.0	19.9	23.5	25.6	27.0	28.5	29.9	29.8	30.4	31.3	32.6	32.5	31.7	31.7	29.0	25.2	22.9	21.2	18.8	24.4	32.6	
Diurnal Average																											
Diurnal Maximum																											



Wood Buffalo Environmental Association
Hourly Averages

Ambient Temperature 2m (AT2) - C
Sawbones Bay - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ambient Temperature 2m (AT2) - C
Sawbones Bay - July 2025

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	0	0.00	0.00
-20 - 0	0	0.00	0.00
0 - 10	95	12.77	12.77
10 - 20	418	56.18	68.95
> 20	231	31.05	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) - %

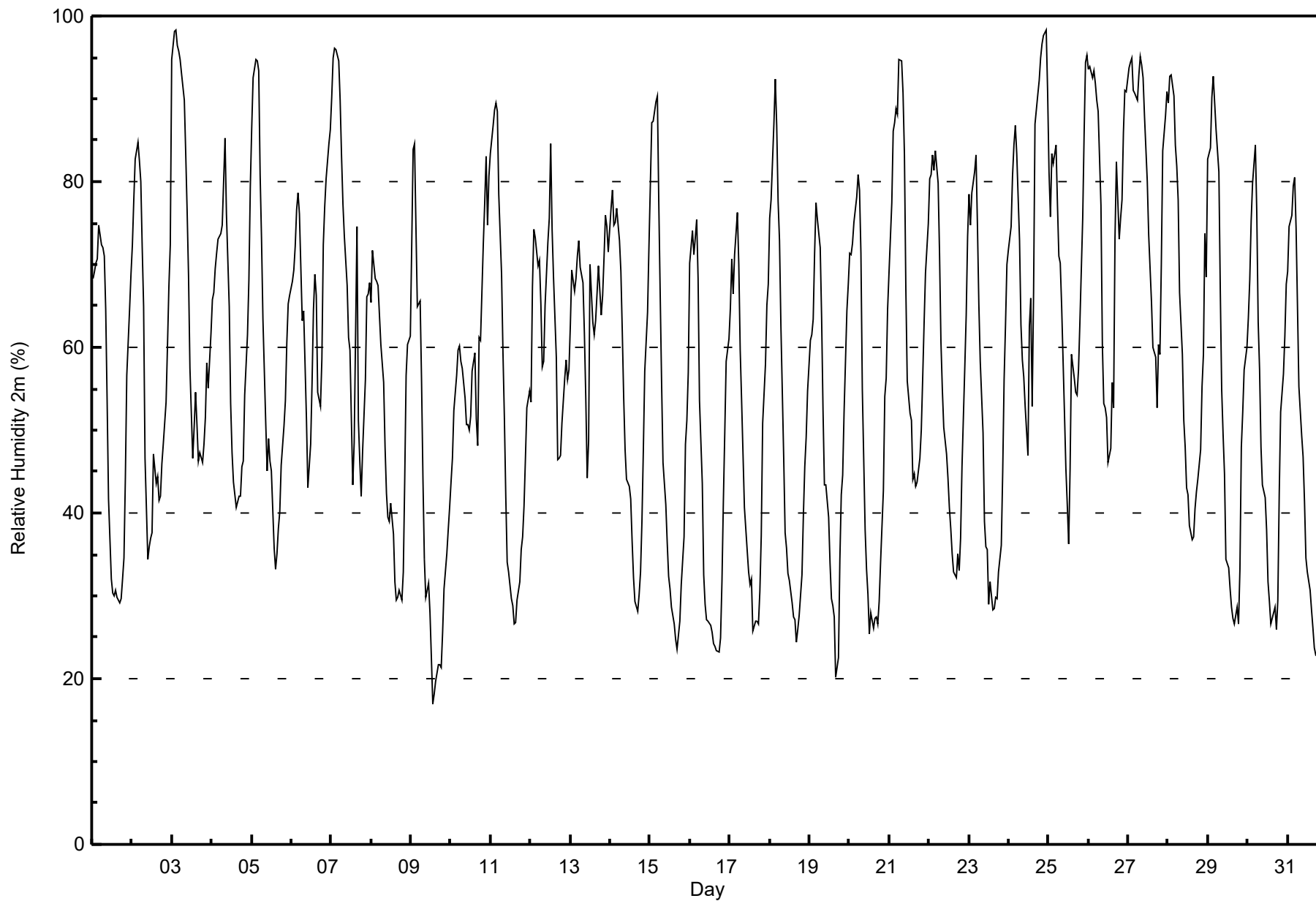
Sawbones Bay - July 2025

Maximum Value: 98.3 % on Jul 3 03:00																				Maximum Daily Average: 80.4 % on Jul 27				Hours in Service: 744		
Minimum Value: 17.0 % on Jul 9 14:00																				Minimum Daily Average: 40.9 % on Jul 9				Hours of Data: 744		
Maximum Diurnal Average: 81.4 % at hour 5																				Minimum Diurnal Average: 39.3 % at hour 17				Hours of Missing Data: 0		
Monthly Average: 57.95 %																				Percentiles: P ₁ = 22.5 P ₁₀ = 29.6 Q ₁ = 41.8 Median = 57.8 Q ₃ = 73.7 P ₉₀ = 86.7 P ₉₉ = 95.8				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-Jul	68.3	69.2	70.1	70.8	74.8	72.3	72.0	71.1	64.6	53.5	41.7	32.0	30.3	30.0	30.7	29.9	29.1	29.7	32.1	34.5	44.2	56.7	64.6	68.8	51.7	74.8
2-Jul	72.4	77.8	82.7	84.7	82.6	79.9	72.0	64.9	46.5	34.3	35.9	36.9	37.6	47.2	43.6	44.4	41.6	42.1	45.9	48.2	53.4	60.2	67.2	72.4	57.3	84.7
3-Jul	94.8	98.2	98.3	96.4	95.7	94.8	93.0	89.8	83.4	76.4	68.6	57.4	46.6	50.4	54.6	50.6	46.2	47.2	46.1	48.4	51.6	58.1	55.0	61.7	69.3	98.3
4-Jul	65.8	66.7	69.6	71.4	73.0	73.8	74.7	80.1	85.3	76.2	64.9	53.3	47.3	43.7	42.3	40.6	42.0	42.1	45.5	46.2	54.2	61.5	68.1	79.3	61.1	85.3
5-Jul	86.5	92.5	94.7	94.6	93.3	80.8	73.1	63.4	50.9	45.1	49.0	46.3	45.0	35.8	33.2	35.0	38.2	40.1	45.8	50.5	53.5	60.4	65.3	66.2	60.0	94.7
6-Jul	68.0	69.4	72.2	76.6	78.6	76.1	63.2	64.3	58.0	51.3	43.1	48.3	55.8	64.6	68.8	66.3	54.6	52.9	58.6	72.3	76.9	80.3	84.5	86.3	66.3	86.3
7-Jul	90.2	95.0	96.1	95.9	94.6	89.9	83.0	77.3	73.4	67.5	61.2	59.6	51.3	43.4	48.4	74.6	51.2	46.2	42.1	47.4	56.0	66.1	66.4	67.7	68.5	96.1
8-Jul	65.5	71.6	68.2	68.0	67.4	63.9	60.4	55.7	48.0	42.5	39.6	39.0	41.1	37.5	31.8	29.5	29.9	30.7	29.5	32.9	44.0	56.6	60.4	61.3	49.0	71.6
9-Jul	72.4	83.9	84.6	74.6	65.0	65.5	55.9	44.0	34.4	29.9	31.6	27.9	22.6	17.0	18.2	19.7	21.6	21.6	21.3	25.5	30.8	35.1	37.9	40.6	40.9	84.6
10-Jul	43.8	46.6	52.4	56.6	59.7	60.1	58.4	57.4	54.0	50.7	50.7	50.0	51.8	57.1	59.3	51.4	48.2	61.2	60.8	72.6	77.5	83.0	74.8	80.8	59.1	83.0
11-Jul	83.4	86.8	88.6	89.6	88.4	78.5	68.9	59.3	51.6	42.1	34.1	32.9	29.7	28.7	26.6	26.8	29.6	31.8	35.6	37.1	40.9	46.5	52.7	54.8	51.9	89.6
12-Jul	53.3	67.2	74.2	73.2	69.8	70.5	65.3	57.6	58.4	65.1	72.8	75.6	84.6	74.3	68.5	58.8	46.5	46.6	47.0	50.8	56.3	58.4	56.1	57.3	62.8	84.6
13-Jul	62.7	69.3	66.8	68.4	71.0	72.9	69.7	67.9	61.6	53.8	44.2	48.7	70.0	63.0	61.6	63.3	66.4	69.8	64.0	66.2	70.9	76.0	74.6	71.5	65.6	76.0
14-Jul	76.8	78.9	74.7	75.1	76.7	73.0	69.1	61.9	53.9	47.5	44.1	43.2	41.8	36.7	32.2	29.2	28.1	30.2	32.9	38.9	47.7	57.2	64.2	72.2	53.6	78.9
15-Jul	79.7	87.1	87.3	89.6	90.4	77.4	66.4	55.7	46.2	41.1	36.4	32.4	30.8	28.6	26.5	24.8	23.5	25.2	26.9	31.3	37.1	48.3	51.2	57.0	50.0	90.4
16-Jul	70.2	74.1	71.1	73.2	75.4	68.3	53.6	43.6	32.5	29.0	27.0	26.9	26.5	25.6	24.3	23.9	23.5	23.2	24.9	31.7	41.4	49.7	58.2	61.1	44.1	75.4
17-Jul	64.8	70.7	66.5	71.2	76.3	69.9	59.6	53.6	47.2	40.6	35.4	32.9	31.4	32.0	25.8	26.9	27.0	26.6	30.4	37.2	50.8	58.0	65.0	67.6	48.7	76.3
18-Jul	75.6	77.8	86.9	92.3	86.8	77.7	72.9	62.5	46.7	37.6	35.8	32.7	31.8	29.2	27.5	27.1	24.4	25.9	27.7	32.5	39.7	45.6	49.1	54.7	50.0	92.3
19-Jul	60.8	61.5	63.3	71.3	77.4	75.4	72.1	63.6	52.4	43.4	43.4	39.4	34.0	29.6	28.9	27.5	20.1	22.5	34.4	42.2	44.6	52.2	64.4	67.6	49.7	77.4
20-Jul	71.3	71.2	72.5	75.2	78.2	80.8	79.0	71.3	54.9	37.9	33.2	30.2	25.4	28.0	26.1	27.3	27.5	26.6	29.4	34.1	42.6	54.0	56.3	64.7	49.9	80.8
21-Jul	68.9	77.5	86.1	87.1	88.9	88.1	94.7	94.6	90.8	83.3	67.2	55.9	52.0	51.1	44.1	44.7	43.3	43.7	46.7	50.1	56.3	62.9	69.0	75.0	67.6	94.7
22-Jul	80.4	80.9	83.2	81.3	83.7	79.9	71.3	60.7	54.9	50.3	47.1	44.3	40.7	38.1	35.0	32.9	32.2	35.1	33.0	36.9	45.6	57.6	63.9	73.4	55.9	83.7
23-Jul	78.5	74.8	78.6	81.3	83.2	74.8	65.2	58.4	49.6	38.9	35.9	35.7	29.0	31.7	28.3	28.4	29.8	29.6	32.8	36.2	45.0	56.1	62.7	70.0	51.4	83.2
24-Jul	71.7	74.6	80.7	84.4	86.7	83.4	72.9	62.7	58.5	56.5	52.9	46.9	62.6	66.0	53.0	66.6	86.9	90.5	92.3	95.0	96.6	97.6	98.3	90.9	76.2	98.3
25-Jul	81.2	75.7	83.4	82.2	84.3	77.3	71.0	70.3	65.0	52.1	45.4	41.0	36.2	45.2	59.1	56.3	54.6	54.2	57.3	63.1	75.5	85.8	94.4	95.3	66.9	95.3
26-Jul	93.6	94.0	92.5	93.4	91.9	89.9	88.5	77.1	60.3	53.2	52.7	51.5	46.1	47.7	55.7	52.7	73.1	82.5	73.0	75.6	77.8	86.0	91.0	90.9	74.6	94.0
27-Jul	93.7	94.5	94.9	90.9	90.8	89.8	92.9	95.1	94.0	92.5	87.9	80.0	73.5	69.5	65.4	60.0	58.8	52.7	60.3	59.1	69.9	83.7	88.0	90.8	80.4	95.1
28-Jul	89.5	92.6	92.9	90.3	84.4	81.9	77.8	66.7	59.1	51.2	48.0	43.1	42.2	38.5	36.7	37.2	40.5	42.6	44.0	47.7	55.3	59.2	73.7	68.6	61.0	92.9
29-Jul	82.8	84.1	90.2	92.7	89.4	86.3	81.3	67.0	55.0	49.4	44.8	34.4	33.3	30.8	28.7	27.3	26.6	28.7	26.7	33.2	48.0	52.3	57.3	60.1	54.6	92.7
30-Jul	63.6	68.1	75.3	79.8	84.3	76.3	63.0	57.3	48.0	43.4	41.8	38.0	31.7	29.4	26.5	27.9	28.6	26.0	29.5	42.3	52.2	56.7	61.3	67.7	50.8	84.3
31-Jul	69.2	74.6	76.0	79.5	80.5	74.3	64.8	55.3	49.4	46.7	41.3	34.6	32.8	30.6	28.4	26.0	23.7	22.9	23.1	28.1	35.7	42.1	46.0	53.4	47.5	80.5
74.2 77.6 79.8 81.0 81.4 77.5 71.8 65.5 57.7 51.1 47.0 43.6 42.4 41.3 40.0 39.9 39.3 40.3 41.9 46.7 53.9 61.4 65.9 69.3																									Diurnal Average	
94.8 98.2 98.3 96.4 95.7 94.8 94.7 95.1 94.0 92.5 87.9 80.0 84.6 74.3 68.8 74.6 86.9 90.5 92.3 95.0 96.6 97.6 98.3 95.3																									Diurnal Maximum	



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 2m (RH2) - %
Sawbones Bay - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Relative Humidity 2m (RH2) - %
Sawbones Bay - July 2025

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	3	0.40	0.40
20 - 40	168	22.58	22.98
40 - 60	223	29.97	52.96
60 - 80	228	30.65	83.60
80 - 100	122	16.40	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

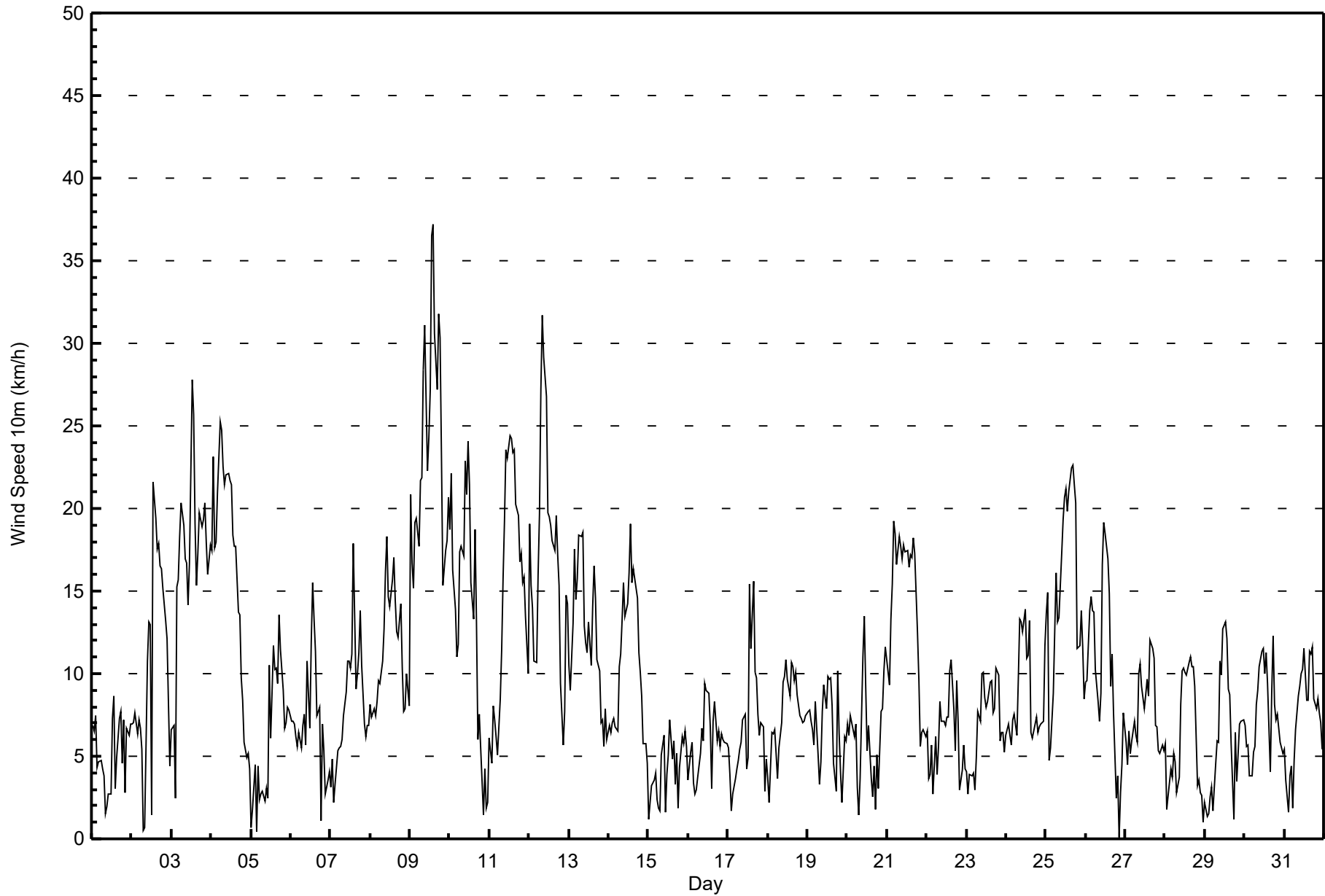
Sawbones Bay - July 2025

Maximum Speed: 37 km/h on Jul 9 15:00															Maximum Daily Speed Average: 22.9 km/h on Jul 9										Hours in Service: 744	
Minimum Speed Value: 0 km/h on Jul 26 21:00															Minimum Daily Speed Average: 2.0 km/h on Jul 15										Hours of Data: 744	
Maximum Diurnal Speed Average: 6.7 km/h at hour 13															Minimum Diurnal Speed Average: 1.7 km/h at hour 20										Hours of Missing Data: 0	
Monthly Average Velocity: 4.1 km/h 247.0 deg															Percentiles: P ₁ = 1 P ₁₀ = 3 Q ₁ = 6 Median = 8 Q ₃ = 14 P ₉₀ = 19 P ₉₉ = 29										Percent Operational Time: 100.0	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
1-Jul	ESE7	ESE7	SE7	ESE4	E5	E5	E4	E4	SE2	E2	ESE3	WNW3	WNW7	W9	W3	SW5	WSW7	SW8	SSW5	SSW7	ESE3	SSE7	SSE6	SSE7	SSE2.2	W9
2-Jul	S7	SSE7	S8	S6	SSE7	SSE7	ESE5	SSE1	SSW1	SSE11	SSE13	SE13	SSE1	NNE22	NE19	NE18	NE18	ENE17	ENE16	ENE15	E13	E12	ESE8	SSW4	E6.2	NNE22
3-Jul	W7	SSE7	WSW2	W15	W16	W18	W20	W19	W17WNW17	WNW14	W17	W28	W26	W19	SW15	SW17	SW20WSW19	WSW19	WSW20	W18WSW16	SW18	WSW15.5	W28	WSW15.5	W28	
4-Jul	SW17WSW23	WSW18	WSW18	WSW21	WSW25	WSW25	W23WNW21	WNW22	WNW22	WNW22	NW21	NW18	NW18	WNW18	NNW14	NW14	N10	NNW8	NNW6	NNW5	NNW5	NNE4	WNW13.7	WSW25		
5-Jul	NNW1	S2	SSE5	SE0	SSE4	SE2	E3	SE3	SSE2	W3	SSE2	SSE11	SE6	E12	SE10	SE10	SE9	SSE14	SE11	SSE9	SE7	ESE7	SE8	SSE8	SE5.6	SSE14
6-Jul	SSE7	SSE7	SSE7	SSE6	SE6	SE6	SSE6	SSW7	S8	SSE6	SE11	SW7	SW12WSW16	WNW13	WNW11	SW7	SSW8	N1	NE7	E5	NE3	ENE4	ENE4	S3.2	WSW16	
7-Jul	E3	ESE5	ESE2	SSE3	SSE5	SSE6	SSE6	S6	S7	S9	SSW11	SSW11	SSW10	SSW11	SW18	WSW9	SSW10	SSW11	SSW14	SSW11	S7	S6	S7	S7	SSW7.1	SW18
8-Jul	S8	S7	S8	S7	SSE8	SSE10	SSE9	S11	S13	S16	S18	S15	SSE14	SSE16	S17	S14	S13	S12	S14	S10	SSE8	SE8	SE10	SW8	S11.1	S18
9-Jul	WNW21WNW17	W15	W19	W19	W18	W22	W22WSW28	WSW31	WSW22	SW24	SW27WSW36	WSW37	WSW31	WSW27	W32	W30	W23WNW15	W17WSW18	WSW21	W22.9	WSW37	W22.9	WSW37	W22.9	WSW37	
10-Jul	WSW19WSW22	WSW16	WSW14	SW11WSW12	W17	W18	W17	W23WNW21	WNW24	WNW21	NW16	NW13	WNW19	NW13	NNW6	NNE8	NE3	SE1	S4	S2	SE2	W11.1	WNW24	WNW24		
11-Jul	SSW6	S5	SSW8	SSW7	S6	S5	SSW8	SSW11	SW16	SW19	SW24	SSW23	SW24	SSW24	SW23	SW24	SW20	SW20	SSW17	SW17	SW16	SW16	SSW13	SSW10	SW14.9	SW24
12-Jul	WSW19	SW15	SSW14	SSW11	WSW11	WSW16	WSW20	WSW27	W32WNW29	W27WNW20	W19	W19WNW18	WNW17	WNW20	WNW17	WNW15	WNW9	WSW6	SW8	W15	W14	W15.9	W32	W32		
13-Jul	WNW11	W9WSW13	WSW18	W15	W16	W18	W18	W19	NW13	NW12WNW11	NNW13	NNW10	NW14	NNW16	NNW15	N11	NNW10	NW7	WNW7	NW6	N8	N6	WNW10.7	W19		
14-Jul	N7	N6	N7	N7	NNW7	NNW7	N10	N11	N13	N15	N13	NNW14	NNW16	NNW19	NNW15	NNW16	NNW15	NNW15	N11	N10	N9	N6	N6	NNW5	N10.8	NNW19
15-Jul	W1	WSW2	W3	S4	SSE4	SSE2	WNW2	W2	NW5	WNW6	WSW2	SW4	NW5	WNW7	WNW5	W6	W3	SW5	SW2	SSE4	SE6	SSE6	SSE7	SSE6	SW2.0	WNW7
16-Jul	SE4	SE5	SSE6	SSE3	SE3	ESE3	SE4	S5	S7	SSW6	SE9	SE9	E9	ESE7	SE3	SE7	S8	SSE6	SSE7	SSE6	S6	S6	S6	S6	SSE5.2	SE9
17-Jul	S5	SSE4	SSW2	S3	S4	S4	SW5	SW5	W6	WNW7	WNW8	WNW4	NNW5	NW15WNW12	WNW16	NNW10	N10	N8	ESE6	SSE7	SSE7	SSE3	E5	WNW2.4	WNW16	
18-Jul	SE4	E2	ESE6	SSE6	SSE7	SSE5	SE4	SSE6	SSE7	SE9	SE10	SE11	ESE10	ESE9	ESE11	ESE10	SE10	SE10	SE9	SE7	ESE7	ESE7	ESE7	ESE7	SE7.3	SE11
19-Jul	ESE8	ESE8	ESE7	ESE7	ESE6	E8	E5	ESE3	S5	SSE8	SE9	SSE8	E10	E10	ESE10	E8	ENE5	E3	W10	N6	N4	ESE2	SSE6	S6	ESE4.6	W10
20-Jul	S7	S6	SSE7	SSE7	SSE6	SSE7	SSE3	SSE1	S4	SSE11	SE13	ESE9	ESE5	ESE7	SSE4	E3	NNW4	S2	ESE5	SE3	SSW8	S8WNW10	NW12	SSE3.7	SE13	
21-Jul	WNW11	NNW9	NNW13	NNW15	NNW19	NNW18	NNW17	NNW18	NNW18	NNW17	NNW18	NNW17	NNW17	NNW16	NNW17	N17	N18	N17	N12	N10	N6	NNW6	NNW7	NW6	NNW13.9	NNW19
22-Jul	WNW7	WNW4	W4	WNW6	W3	W6	WSW4	WNW6	NW8	NW7	NNW7	WNW7	WNW7	W7	W10WNW11	NNW8	NNW5	N10	NNE7	E3	SE4	SSE6	SE4	WNW4.2	WNW11	
23-Jul	SSE4	S3	SSE4	SSE4	S4	SSE3	S5	SSW8	SSW7	SSW10	WSW10	S9	S8	S8	SSW9	SSW10	SW8	S8	SSW10	SSW10	S6	S6	S6	SSE5	S6.4	SSW10
24-Jul	SE6	ESE7	SE6	SE6	ESE7	ESE8	ESE6	SE10	SE13	SE13	SSE13	SSE14	S11	SSE11	SE13	SE6	NNE6	ESE7	ESE7	SE6	SE7	SSE7	S7	SW12	SE7.6	SSE14
25-Jul	WSW14	W15	S5	WSW5	SSW9	WSW13	WSW16	WSW13	SW13	SW17WSW19	WSW21	WSW21	W20WNW21	WNW22	W23	W21	W20WNW12	NW12	NNW14	NNW12	NNW9	W13.2	W23	W23		
26-Jul	WNW10	W10	W14	W15	W14	W14	W10	WNW8	NW7	WNW9	W17	W19	W18	SW17	SSW15	SW9WSW11	SSE8	ESE2	N4	SSE0	NE3	NW5	N8	W8.0	W19	
27-Jul	N6	NNE4	N7	NNE5	NNE6	NNE7	NNW6	NNW6	N10	NNW11	N9	N8	NNW9	NW10	WNW9	NW12	NW12	NW11	NNW7	WNW7	NW5	NW5	WNW6	WNW5	NNW6.9	NW12
28-Jul	W6	SW2	WSW3	W4	SW4	WSW5	W5	SW3	WSW4	WNW8WNW10	NNW10	NNW10	NNW10	W11	W11WNW10	W10	WNW9	WNW3	E4	E3	SSE3	SSW1	W5.1	W11		
29-Jul	SSE2	ENE1	E2	SE3	SE3	SE2	SE5	SSE6	S6	SW11WSW10	SW13WSW13	WNW12	SW9	WNW9	SW6	WNW1	WSW6	SSW3	SSE5	SSE7	SSE7	SSE7	SW4.1	WSW13		
30-Jul	SSE7	S6	S6	SSE4	SE4	SSE5	SSE6	S8	SSW9	SSW10	SW11	SW12	SW10WSW11	SW9	SSW4	SW9	SSW12	SSW8	SE7	SSE8	S6	S5	S5	SSW6.5	SSW12	
31-Jul	S5	SSE4	SE2	S4	S4	SSE2	SSE5	S7	SSW9	SSW9	SW10	SSW10	WSW11	SW8	SSW8	SSW11	SSW11	SSW12	S8	S8	S8	S8	S7	S5	SSW6.9	SSW12
SW3.7 SW3.3 SW3.3 SW3.6 SW3.1WSW3.4WSW4.4WSW5.3WSW5.9WSW6.4WSW6.0WSW6.5 W6.7 W6.4 W6.5 W6.1 W5.3WSW3.9WSW3.2WSW1.7SSW1.8SSW2.2SSW2.7 SW3.1																								Diurnal Average		
WNW21WSW23WSW18 W19WSW21WSW25WSW25WSW27 W32WSW31 W27 SW24 W28WSW36WSW37WSW31WSW27 W32 W30 W23WSW20 W18WSW18WSW21																								Diurnal Maximum		
All monthly, daily, and diurnal averages have been calculated using vector methods																										



Wood Buffalo Environmental Association
Hourly Averages

Wind Speed 10m (WS10) - km/h
Sawbones Bay - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 10m (WS10) - km/h
Sawbones Bay - July 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	174	23.39	23.39
6 - 11	340	45.70	69.09
12 - 19	170	22.85	91.94
20 - 28	52	6.99	98.92
29 - 38	8	1.08	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
Sawbones Bay - July 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	3	3	3	4	16	13	22	32	24	7	9	9	9	8	4	8	174
6 - 11	26	5	1	0	5	29	32	56	48	36	17	10	15	31	10	19	340
12 - 19	7	0	3	3	3	0	5	6	8	8	18	22	32	16	13	26	170
20 - 28	0	1	0	0	0	0	0	0	0	2	9	14	13	12	1	0	52
29 - 38	0	0	0	0	0	0	0	0	0	0	0	4	3	1	0	0	8
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	36	9	7	7	24	42	59	94	80	53	53	59	72	68	28	53	744

Total Number of Valid Hours: 744

Total Number of Hours: 744



Wind Speed 10m (WS10) - km/h

Sawbones Bay





Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

Wind Speed 10m (WS10) - km/h
Sawbones Bay - July 2025

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



Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Direction 10m (WD10) - deg

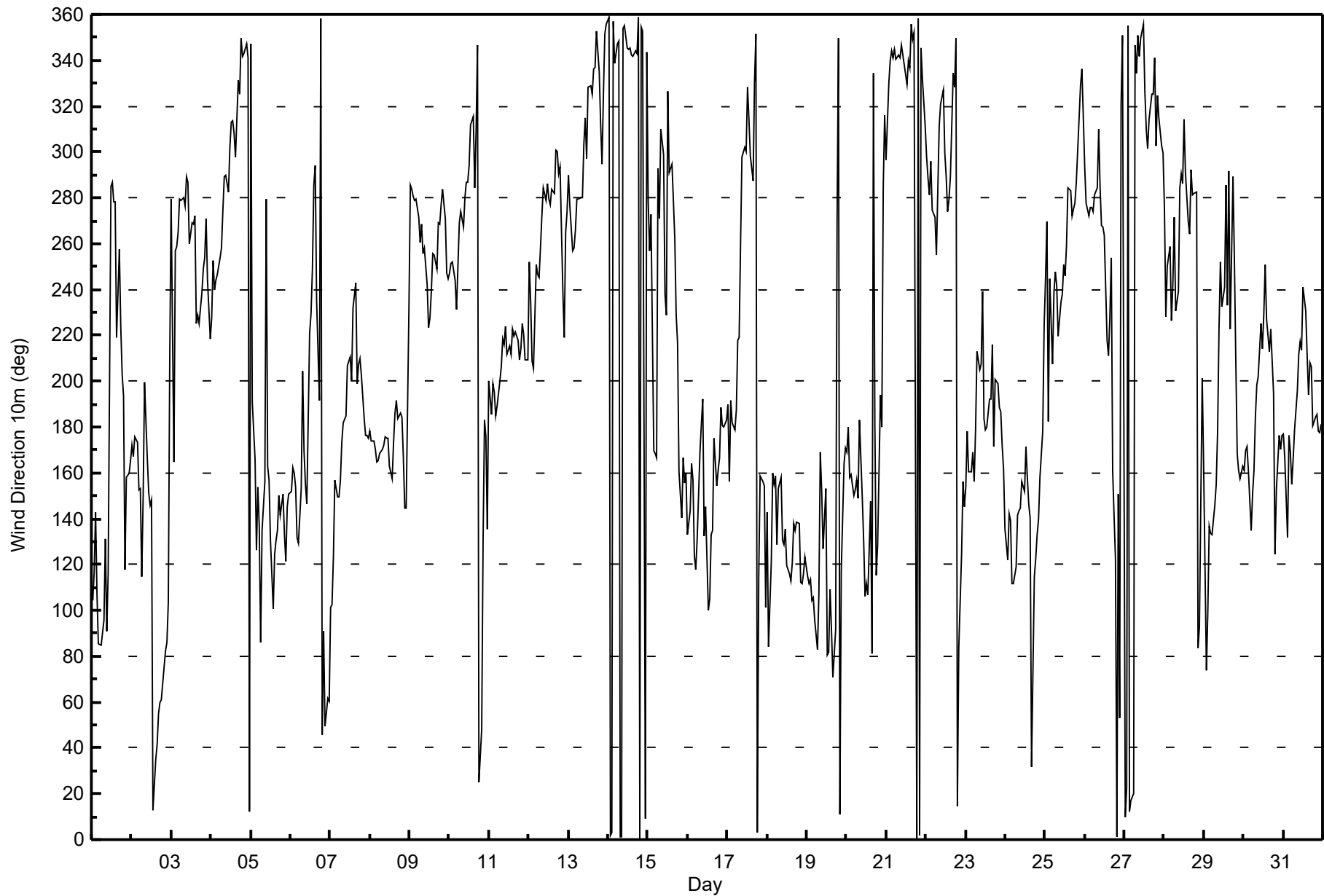
Sawbones Bay - July 2025

Direction of Maximum Speed: 256 deg on Jul 9 15:00																				Hours in Service:		744			
Direction of Maximum Daily Speed Average: 259.4 deg on Jul 9																				Hours of Data:		744			
Direction of Minimum Speed: 150 deg on Jul 26 21:00										Direction of Minimum Daily Speed Average: 2.0 deg on Jul 15										Hours of Missing Data:		0			
Monthly Average Direction: 247.0 deg																				Percent Operational Time:		100.0			
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-Jul	104	116	143	108	85	85	90	96	131	91	116	285	287	278	278	219	257	224	203	193	118	158	160	166	166.1
2-Jul	172	167	176	173	152	153	115	149	200	166	151	146	148	13	35	41	55	60	61	68	82	86	104	207	89.3
3-Jul	280	165	257	259	265	279	279	280	276	289	287	260	269	268	272	225	229	225	239	249	254	271	244	218	258.7
4-Jul	228	252	240	244	246	254	258	275	289	290	283	302	313	314	308	297	331	325	350	342	343	347	341	12	284.6
5-Jul	347	191	166	126	154	137	86	135	156	280	163	157	130	101	124	131	135	150	141	151	133	121	145	151	139.0
6-Jul	152	162	160	154	132	130	153	204	170	155	146	221	229	249	286	294	235	192	358	46	91	50	62	60	187.9
7-Jul	101	102	123	157	149	149	157	173	182	185	207	209	211	200	232	243	199	208	210	203	184	176	176	175	194.1
8-Jul	178	174	174	170	165	165	168	170	172	176	175	175	163	158	173	186	191	184	186	184	166	144	145	232	173.9
9-Jul	285	283	281	279	279	271	261	268	256	258	242	223	228	239	256	255	249	269	268	277	284	271	247	245	259.4
10-Jul	247	252	252	244	231	250	269	274	267	280	287	287	294	312	315	284	310	347	25	48	132	183	176	136	276.2
11-Jul	200	186	199	195	185	189	200	206	219	216	224	212	216	212	222	220	221	218	209	214	225	220	209	209	213.8
12-Jul	252	235	209	205	250	246	245	258	272	284	279	286	280	277	284	282	301	300	291	293	239	219	265	274	268.4
13-Jul	290	276	257	258	266	279	280	280	280	304	315	297	328	329	325	336	337	353	335	312	295	325	352	356	302.0
14-Jul	359	2	3	357	339	347	349	1	1	354	355	345	344	345	342	342	344	343	359	0	354	353	9	344	350.8
15-Jul	278	257	273	170	168	167	293	271	310	299	238	229	326	291	295	279	262	229	216	160	140	166	156	160	234.4
16-Jul	133	144	164	157	124	118	131	169	181	192	132	145	100	105	133	135	175	154	161	166	188	181	180	183	153.4
17-Jul	190	156	192	182	179	188	218	219	260	298	302	300	328	314	299	287	331	352	3	114	158	156	154	101	281.4
18-Jul	143	84	121	160	155	158	129	153	158	131	129	136	119	116	113	121	138	135	139	138	112	112	116	123	130.5
19-Jul	115	112	114	104	106	96	83	107	169	152	127	153	81	82	109	92	71	92	269	350	11	117	164	171	110.9
20-Jul	169	180	158	159	150	152	157	149	183	149	131	106	112	107	147	81	335	182	115	129	194	180	284	316	153.0
21-Jul	297	330	340	344	341	345	340	342	341	347	342	338	330	340	337	356	349	352	0	358	2	346	332	311	341.8
22-Jul	298	289	281	296	275	272	255	283	311	321	327	300	289	274	279	289	334	328	350	15	84	124	156	145	301.9
23-Jul	154	178	161	161	169	156	179	213	205	208	239	184	179	180	192	192	216	171	201	199	189	187	172	162	190.3
24-Jul	135	122	142	139	111	112	119	142	143	145	156	152	172	158	146	140	32	115	122	133	140	158	178	224	144.3
25-Jul	245	270	183	245	208	238	248	241	219	235	238	251	246	259	284	283	272	275	278	286	315	329	336	315	263.9
26-Jul	294	277	272	276	276	274	281	285	310	284	268	267	263	218	211	228	254	161	122	1	150	53	320	351	266.7
27-Jul	10	23	355	12	17	20	347	334	351	342	350	356	327	310	301	314	325	325	341	303	324	315	302	300	335.4
28-Jul	275	228	250	259	226	242	272	230	239	284	291	286	314	291	270	264	292	281	282	283	83	93	147	201	275.9
29-Jul	164	74	99	137	133	133	146	155	178	223	252	232	241	285	233	291	223	289	252	209	168	161	157	163	215.0
30-Jul	161	170	171	161	135	151	161	184	198	202	225	214	229	251	227	213	222	209	195	124	153	176	170	177	194.8
31-Jul	177	167	132	176	169	155	166	179	196	212	217	213	241	231	211	194	208	206	181	184	186	178	178	181	197.1
234.4 227.8 217.2 230.6 226.7 240.9 250.6 250.7 251.3 253.5 246.8 241.7 260.9 268.3 264.7 268.7 273.8 255.4 256.8 238.5 197.8 192.1 204.4 219.1																									
Diurnal Average																									
All monthly, daily, and diurnal averages have been calculated using vector methods																									



Wood Buffalo Environmental Association
Hourly Averages

Wind Direction 10m (WD10) - deg
Sawbones Bay - July 2025





Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg

Sawbones Bay - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 102 deg on Jul 15 11:00																		Hours in Service: 744							
Minimum Value: 5 deg on Jul 4 23:00																		Hours of Data: 744							
Percentiles: P ₁ = 8 P ₁₀ = 12 Q ₁ = 16 Median = 21 Q ₃ = 34 P ₉₀ = 59 P ₉₉ = 92																		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-Jul	29	24	13	31	13	19	21	35	64	77	63	88	65	45	82	70	65	43	39	22	49	12	14	12	88
2-Jul	12	10	15	15	15	15	24	87	98	27	25	31	86	20	19	18	15	15	13	11	13	12	20	70	98
3-Jul	92	43	94	16	21	10	10	12	16	15	18	25	14	15	18	26	23	21	20	17	13	16	26	17	94
4-Jul	21	12	18	17	18	13	14	13	17	15	15	18	19	18	22	20	24	20	18	22	14	15	5	14	24
5-Jul	81	79	19	97	42	46	52	53	82	72	66	23	36	35	36	30	29	21	19	16	15	18	16	15	97
6-Jul	15	15	13	14	16	16	24	31	27	44	29	60	27	26	16	26	52	23	94	20	14	41	14	25	94
7-Jul	33	22	44	44	28	13	19	24	28	28	26	31	33	35	28	44	22	20	19	16	17	13	15	15	44
8-Jul	17	17	20	19	19	20	20	22	24	23	22	23	21	23	25	25	23	23	22	21	25	15	16	60	60
9-Jul	12	11	11	10	10	16	16	17	16	16	23	21	22	20	16	16	18	16	15	11	10	17	12	13	23
10-Jul	13	11	17	16	21	37	16	15	19	18	18	15	17	19	16	16	29	46	22	10	67	15	83	63	83
11-Jul	23	38	11	18	17	26	28	20	19	20	20	23	22	21	21	21	20	20	18	17	22	19	16	23	38
12-Jul	15	23	16	19	38	25	20	18	13	13	12	14	10	15	14	20	15	17	14	11	33	14	26	17	38
13-Jul	27	12	16	13	19	10	10	11	12	29	37	22	21	23	19	18	17	18	17	16	9	12	15	11	37
14-Jul	10	10	11	13	9	13	16	18	21	24	25	27	28	24	29	26	23	25	28	21	20	18	17	22	29
15-Jul	68	35	30	68	15	27	49	60	56	77	102	82	72	64	75	80	92	59	83	20	19	11	7	9	102
16-Jul	21	28	10	50	27	23	20	32	35	59	43	46	50	68	101	62	43	68	20	18	16	16	13	14	101
17-Jul	14	60	50	37	53	18	28	30	48	31	44	93	73	17	24	26	49	34	21	50	17	18	45	22	93
18-Jul	11	55	23	8	9	11	25	19	23	32	36	26	39	52	39	37	29	22	19	15	21	14	15	14	55
19-Jul	13	13	15	11	13	10	14	40	37	26	31	31	32	33	50	58	81	84	39	18	13	66	15	12	84
20-Jul	15	21	10	9	13	10	78	74	46	27	25	45	68	58	72	90	59	79	23	51	58	28	33	30	90
21-Jul	14	17	16	17	17	17	16	18	17	19	21	21	19	21	27	24	23	22	19	16	11	9	6	10	27
22-Jul	5	41	64	17	58	16	37	40	29	57	52	64	61	58	39	37	38	35	28	12	48	27	9	9	64
23-Jul	36	37	28	32	28	28	27	21	31	27	38	27	43	30	33	39	52	25	21	19	15	11	8	7	52
24-Jul	10	16	11	12	12	14	25	25	25	23	25	24	23	21	28	65	41	38	21	16	12	16	17	26	65
25-Jul	20	13	33	37	27	22	14	18	20	24	23	21	22	33	19	15	16	14	12	22	12	17	16	18	37
26-Jul	10	11	10	10	8	10	11	11	32	50	32	20	23	23	21	59	53	18	50	59	96	23	39	16	96
27-Jul	16	21	12	21	25	16	18	14	17	18	16	19	26	21	42	20	16	23	18	13	17	20	9	5	42
28-Jul	10	32	32	29	34	35	28	53	62	37	30	37	30	42	40	29	23	21	21	79	20	28	54	70	79
29-Jul	61	65	56	28	39	63	41	17	32	28	40	30	34	29	46	44	63	89	42	50	8	9	8	7	89
30-Jul	11	12	13	14	20	16	21	25	26	25	33	31	44	42	51	71	67	25	22	44	16	16	15	13	71
31-Jul	11	44	63	44	20	68	53	28	23	28	31	40	40	54	56	34	32	21	22	21	18	19	18	14	68
92 79 94 97 58 68 78 87 98 77 102 93 86 68 101 90 92 89 94 79 96 66 83 70																									
Diurnal Maximum																									



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

CONTINUOUS AMBIENT AIR QUALITY
MONITORING PROGRAM
MONTHLY REPORT

AMS507
KIRBY SOUTH
JULY 2025

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

August 29, 2025

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - KIRBY SOUTH (AMS 507)
JULY 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	511	25	25	100	8.7	0	1.2	0
H2S (ppb) Average	513	27	27	100	0.7	0	0.2	0
THC (ppm) Average	509	25	27	99.63	3.2	-	2.5	-
NO2 (ppb) Average	511	29	29	100	5.8	0	2	-
NO (ppb) Average	511	29	29	100	6.5	-	1.4	-
NOX (ppb) Average	511	29	29	100	12	-	3.5	-
Temperature 2 m (C) Average	567	0	0	100	29.6	-	23.3	-
Relative Humidity (%) Average	567	0	0	100	94.3	-	76.8	-
Wind Speed 10 m (km/h) Average	558	5	5	100	30	-	18	-
Wind Direction 10 m (deg) Average	558	5	5	100	-	-	-	-

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

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - KIRBY SOUTH(AMS507)
JULY 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	511	0.46	0.7	-	0	0.1	0.1	0.2	0.6	1	8.7
H2S (ppb) Average	513	0.11	0.1	-	0	0	0.1	0.1	0.1	0.2	0.7
THC (ppm) Average	509	2.34	0.2	-	2.1	2.2	2.2	2.3	2.4	2.5	3.2
NO2 (ppb) Average	511	1.08	0.8	-	0	0.4	0.6	0.9	1.4	1.9	5.8
NO (ppb) Average	511	0.25	0.8	-	0	0	0	0	0.1	0.5	6.5
NOX (ppb) Average	511	1.33	1.4	-	0	0.4	0.6	1	1.5	2.3	12
Temperature 2 m (C) Average	567	16.55	5.3	-	1.9	10.1	13	16.6	20.2	23	29.6
Relative Humidity (%) Average	567	54.75	18	-	24.8	31.4	39.4	53.5	68.1	80.8	94.3
Wind Speed 10 m (km/h) Average	558	11.2	5	-	0	5	8	11	14	17	30
Wind Direction 10 m (deg) Average	558	-	-	-	-	-	-	-	-	-	-

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION - KIRBY SOUTH (AMS507)
JULY 2025

OPERATIONAL NOTES

Parameter	Period Start	Period End	Duration (Hours)	Notes
THC	16 Jul 2025 13:00	16 Jul 2025 14:00	2	Maintenance - replaced support gas cylinder



Wood Buffalo Environmental Association

Summary of Hour Averages

Sulphur Dioxide (SO₂) - ppb

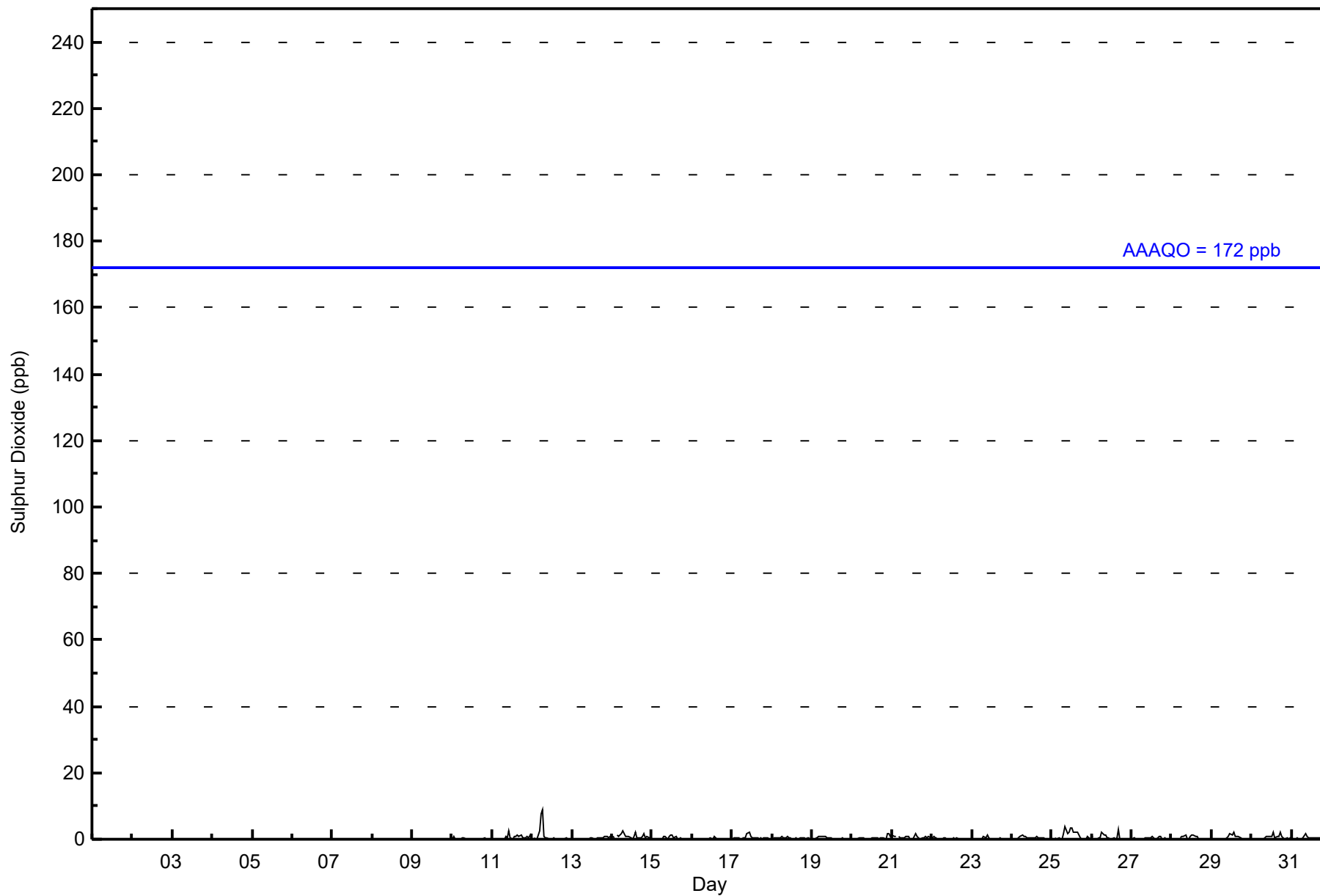
Kirby South - July 2025

Number of Exceedences (AAAQO): Maximum Value: 8.7 ppb on Jul 12 07:00																				1-hr: 0 24-hr: 0 Maximum Daily Average: 1.2 ppb on Jul 25				Hours in Service: 536 Hours of Data: 511 Hours of Missing Data: 25 Hours of Calibration: 25 Percent Operational Time: 100.0			
Minimum Value: 0.0 ppb on Jul 15 20:00 Maximum Diurnal Average: 0.9 ppb at hour 7 Monthly Average: 0.46 ppb																				Minimum Daily Average: 0.1 ppb on Jul 16 Minimum Diurnal Average: 0.2 ppb at hour 3 Percentiles: P ₁ = 0.0 P ₁₀ = 0.1 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.6 P ₉₀ = 1.0 P ₉₉ = 2.8							
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-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
2-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
3-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
4-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
5-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
6-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
7-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
8-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
9-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	C	C	C	0.1	0.1	0.1	0.1	0.1	0.1	--	0.1
10-Jul	0.2	0.7	0.2	0.1	Z	0.1	0.2	0.3	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.7
11-Jul	0.2	0.1	0.1	0.1	0.0	Z	0.2	0.2	0.7	0.6	2.5	0.3	0.2	0.7	0.7	1.1	0.7	1.1	0.4	0.2	0.2	1.0	0.2	1.8	0.6	2.5	
12-Jul	Z	0.4	0.1	0.1	2.7	7.4	8.7	0.9	0.5	0.3	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.3	0.2	0.2	0.1	1.0	8.7	
13-Jul	0.1	Z	0.1	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.3	1.0	0.9	0.6	0.4	0.7	0.3	1.0	
14-Jul	0.8	0.6	Z	1.1	0.7	1.6	2.6	1.7	0.7	1.1	0.9	0.5	0.2	0.7	2.0	0.4	0.3	0.3	1.0	1.6	0.5	0.7	0.5	0.2	0.9	2.6	
15-Jul	0.2	0.2	0.2	Z	0.1	0.0	0.1	0.8	1.1	0.2	1.0	1.3	1.1	0.3	0.7	0.1	0.1	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.4	1.3	
16-Jul	0.0	0.0	0.0	0.0	Z	0.1	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.7	0.4	0.2	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.0	0.1	0.7	
17-Jul	0.1	0.2	0.2	0.2	0.3	Z	0.3	0.3	0.4	1.7	2.1	0.9	0.3	0.3	0.5	0.3	0.2	0.3	0.2	0.4	0.4	0.4	0.2	0.2	0.5	2.1	
18-Jul	Z	0.3	0.2	0.4	0.3	0.3	0.8	0.5	0.6	0.7	0.5	0.3	0.2	0.2	0.3	0.2	0.2	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.3	0.8	
19-Jul	0.2	Z	0.4	0.5	0.9	1.0	0.9	0.9	0.7	0.4	0.3	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.4	1.0	
20-Jul	0.2	0.1	Z	0.1	0.4	0.2	0.3	0.3	0.1	0.2	0.1	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.2	1.9	1.6	1.0	0.4	1.9	
21-Jul	1.1	1.0	0.9	Z	0.8	0.6	0.6	0.4	0.7	0.8	0.7	0.1	0.1	0.7	1.7	1.0	0.3	0.1	0.5	0.6	0.7	0.4	1.0	0.6	0.7	1.7	
22-Jul	0.3	0.7	0.5	0.2	Z	0.1	0.0	0.3	0.4	0.1	0.0	0.1	0.0	0.2	0.2	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.7	
23-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.0	0.7	0.4	1.2	0.3	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	1.2	
24-Jul	Z	0.1	0.2	0.2	0.4	0.7	1.2	1.0	0.7	0.5	0.5	0.4	0.4	0.3	0.2	0.6	0.3	0.3	0.3	0.4	0.2	0.1	0.2	0.3	0.4	1.2	
25-Jul	0.3	Z	0.3	0.2	0.3	0.1	0.2	1.6	3.8	1.8	2.2	3.3	3.4	2.0	2.2	2.2	1.1	0.6	0.0	0.1	0.0	0.7	0.3	0.1	1.2	3.8	
26-Jul	0.8	0.7	Z	0.1	0.2	0.6	2.1	1.2	1.2	0.6	0.6	0.2	0.1	0.3	0.1	0.3	2.9	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.5	2.9	
27-Jul	0.2	0.5	0.2	Z	0.1	0.1	0.1	0.1	0.4	0.5	0.4	0.4	1.0	0.5	0.1	0.2	0.7	1.0	0.2	0.2	0.2	0.1	0.1	0.0	0.3	1.0	
28-Jul	0.0	0.1	0.0	0.1	Z	0.3	0.8	0.9	1.3	0.1	0.0	0.8	1.1	1.1	0.9	0.9	0.1	0.2	0.0	0.0	0.1	0.1	0.1	0.0	0.4	1.3	
29-Jul	0.1	0.1	0.1	0.2	0.0	Z	0.1	0.2	0.2	0.3	1.0	1.7	1.3	2.1	0.8	1.0	0.8	0.4	0.2	0.2	0.1	0.1	0.2	0.1	0.5	2.1	
30-Jul	Z	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.4	1.1	0.9	1.0	0.7	2.3	0.4	0.7	0.9	2.1	0.9	0.3	0.1	0.3	0.1	0.2	0.6	2.3	
31-Jul	0.3	Z	0.1	0.2	0.2	0.2	0.2	0.3	1.5	0.9	0.4	0.3	0.6	0.3	0.3	0.3	0.4	0.3	0.4	0.3	0.4	0.8	0.6	0.4	0.4	1.5	
Diurnal Average																											
Diurnal Maximum																											
Z - zerospan C - Calibration NS - Not in Service																											
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 South - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Kirby South - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 10	511	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: 511

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Sulphur Dioxide (SO₂) - ppb
Kirby South - July 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	16	7	0	1	6	15	35	39	67	65	33	56	55	36	29	511
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	16	7	0	1	6	15	35	39	67	65	33	56	55	36	29	511

Total Number of Valid Hours: 511

Total Number of Hours: 744



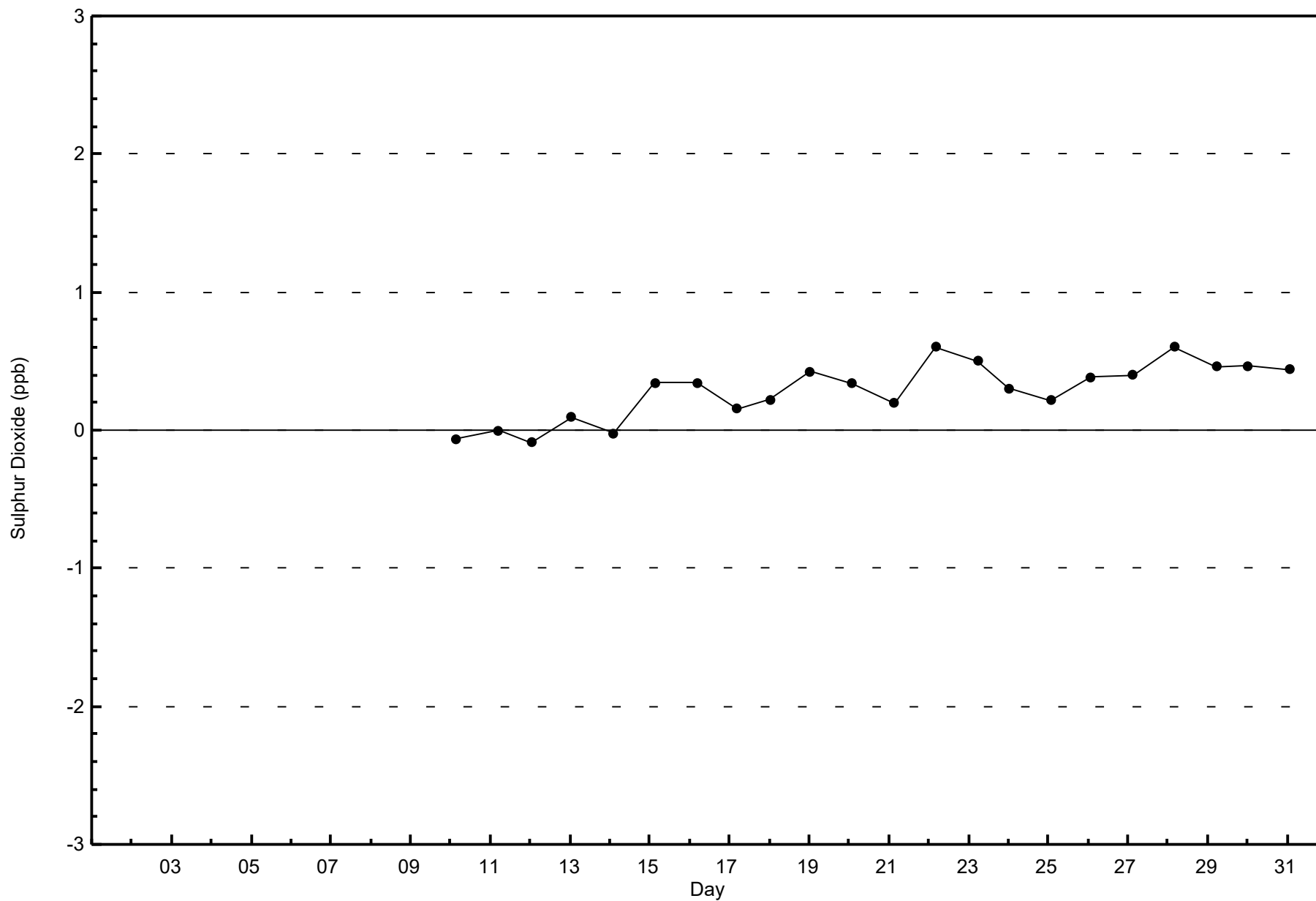
Sulphur Dioxide (SO₂) - ppb
Kirby South





Wood Buffalo Environmental Association
Zero Responses

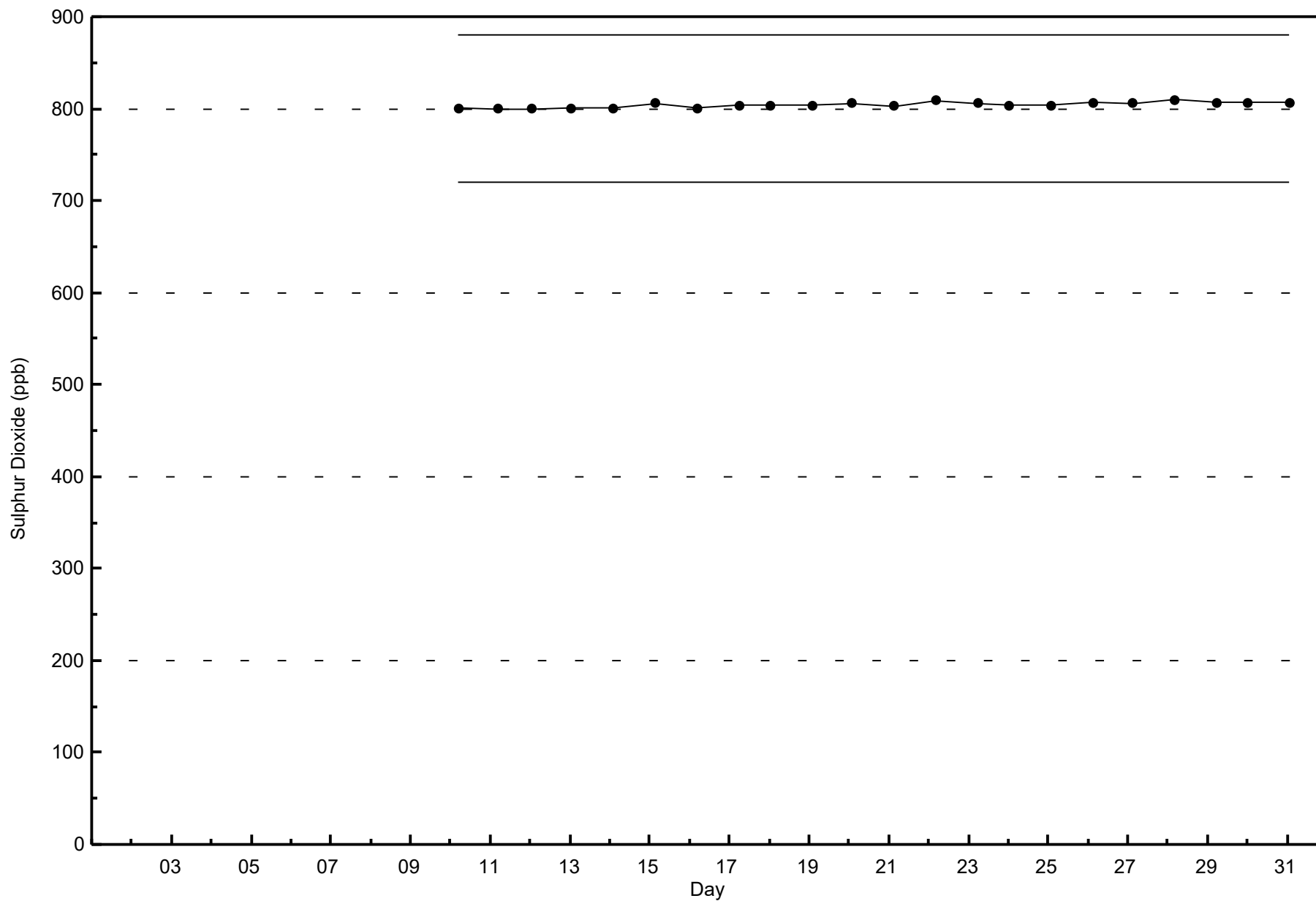
Sulphur Dioxide (SO₂) - ppb
Kirby South - July 2025





Wood Buffalo Environmental Association
Span Responses

Sulphur Dioxide (SO₂) - ppb
Kirby South - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Hydrogen Sulphide (H₂S) - ppb

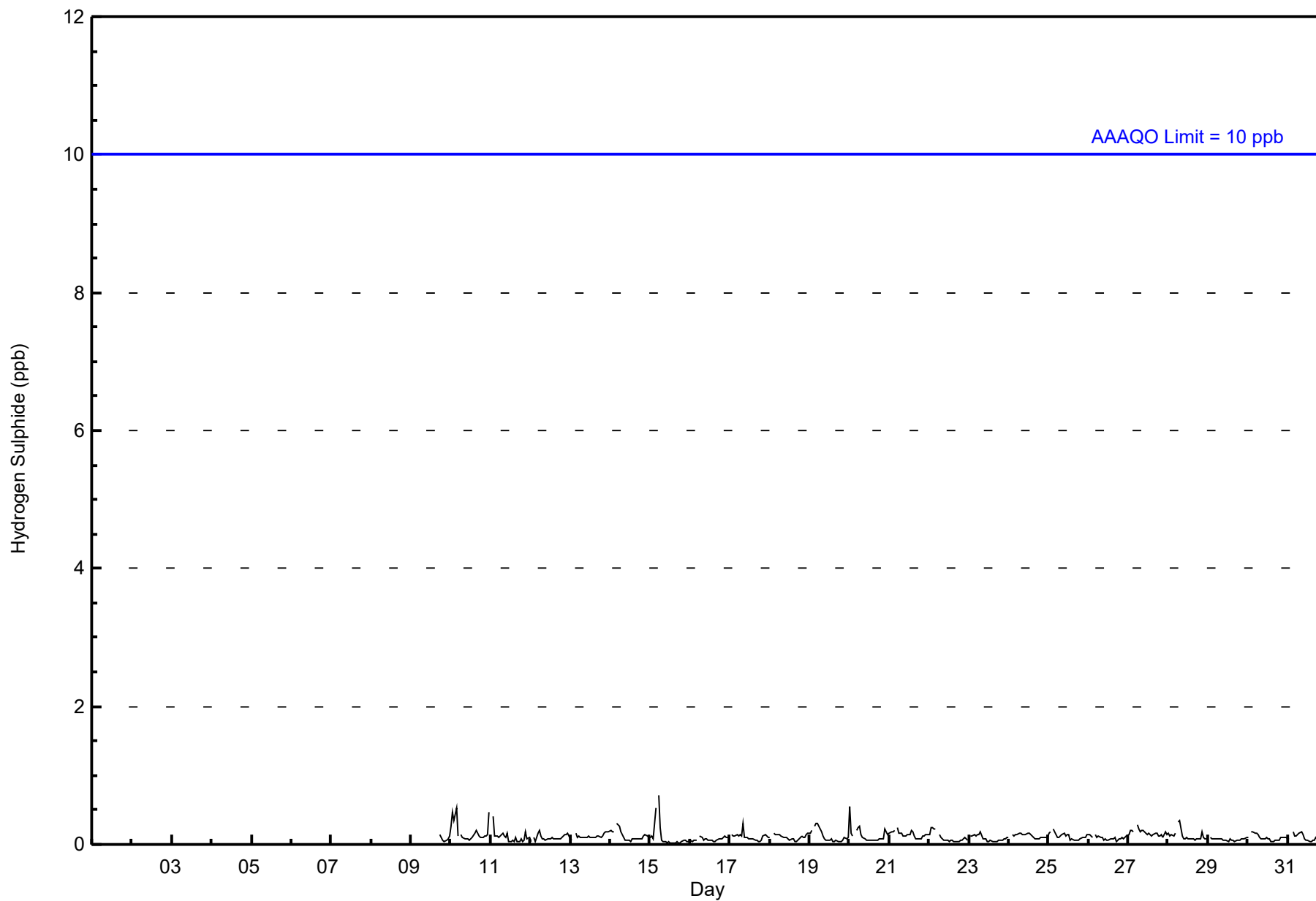
Kirby South - July 2025

Number of Exceedences (AAAQO): Maximum Value: 0.7 ppb on Jul 15 06:00																				1-hr: 0 24-hr: 0 Maximum Daily Average: 0.2 ppb on Jul 10					Hours in Service: 540 Hours of Data: 513 Hours of Missing Data: 27 Hours of Calibration: 27 Percent Operational Time: 100.0				
Minimum Value: 0.0 ppb on Jul 15 14:00 Maximum Diurnal Average: 0.2 ppb at hour 6 Monthly Average: 0.11 ppb										Minimum Daily Average: 0.1 ppb on Jul 29 Minimum Diurnal Average: 0.1 ppb at hour 17 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.1 Q ₃ = 0.1 P ₉₀ = 0.2 P ₉₉ = 0.5																			
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-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--		
2-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--		
3-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--		
4-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--		
5-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--		
6-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--		
7-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--		
8-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--		
9-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	C	C	C	C	C	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	--	0.1		
10-Jul	0.3	0.5	0.3	0.5	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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.2	0.5		
11-Jul	Z	0.4	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.2	0.1	0.1	0.1	0.1	0.4		
12-Jul	0.0	Z	0.1	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	0.2	0.1	0.1	0.1	0.2		
13-Jul	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	0.2	0.2	0.2	0.2	0.1	0.1	0.2		
14-Jul	0.2	0.2	0.2	Z	0.3	0.3	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	0.1	0.1	0.1	0.1	0.3		
15-Jul	0.1	0.1	0.1	0.5	Z	0.7	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	0.0	0.1	0.1	0.0	0.0	0.1	0.7			
16-Jul	0.1	0.0	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		
17-Jul	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	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	0.3		
18-Jul	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	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2		
19-Jul	0.2	0.2	Z	0.3	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.3		
20-Jul	0.6	0.2	0.1	Z	0.2	0.3	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	0.2	0.2	0.1	0.1	0.6			
21-Jul	0.2	0.2	0.2	0.2	Z	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	0.1	0.1	0.1	0.2		
22-Jul	0.1	0.2	0.2	0.2	0.2	Z	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	0.1	0.1	0.1	0.1	0.1	0.2		
23-Jul	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2		
24-Jul	0.1	Z	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2		
25-Jul	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	0.1	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-Jul	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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
27-Jul	0.2	0.2	0.2	0.2	Z	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.3		
28-Jul	0.2	0.1	0.1	0.1	0.2	Z	0.3	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	0.1	0.1	0.1	0.1	0.1	0.3		
29-Jul	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	0.1	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		
30-Jul	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	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2		
31-Jul	0.1	0.1	Z	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	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		
0.2 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 0.1 0.1 0.1 0.1 0.1																									Diurnal Average				
0.6 0.5 0.3 0.5 0.3 0.7 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 0.2 0.2 0.2 0.5																									Diurnal Maximum				
Z - zerospan C - Calibration NS - Not in Service																													
Alberta Ambient Air Quality Objective (AAAQO): 1-hour 10 ppb 24-hr 3 ppb																													



Wood Buffalo Environmental Association
Hourly Averages

Hydrogen Sulphide (H₂S) - ppb
Kirby South - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Hydrogen Sulphide (H₂S) - ppb
Kirby South - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 2	513	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: 513

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Hydrogen Sulphide (H₂S) - ppb
Kirby South - July 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	51	17	6	0	1	6	15	35	38	67	66	35	55	55	37	29	513
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	51	17	6	0	1	6	15	35	38	67	66	35	55	55	37	29	513

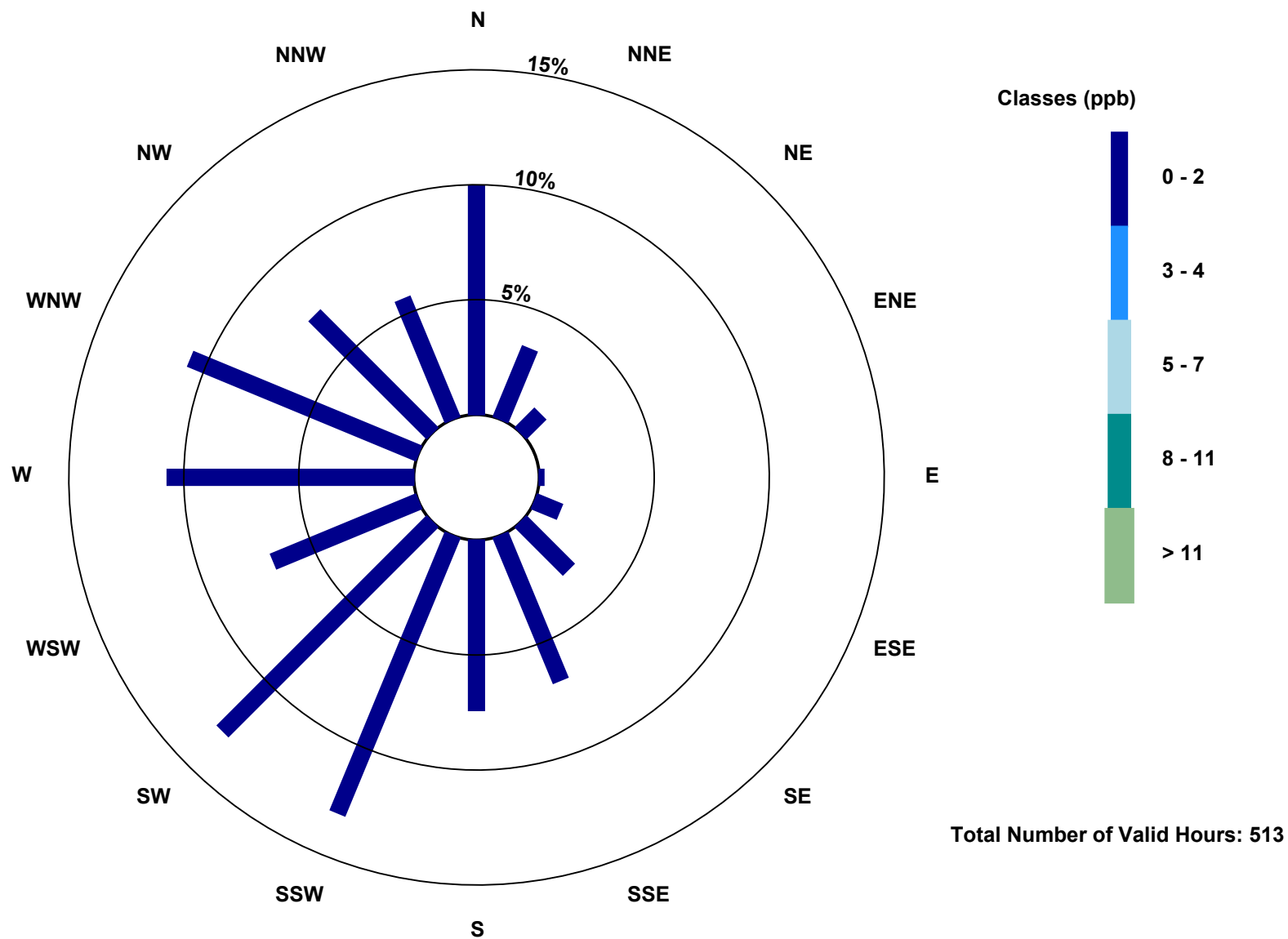
Total Number of Valid Hours: 513

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

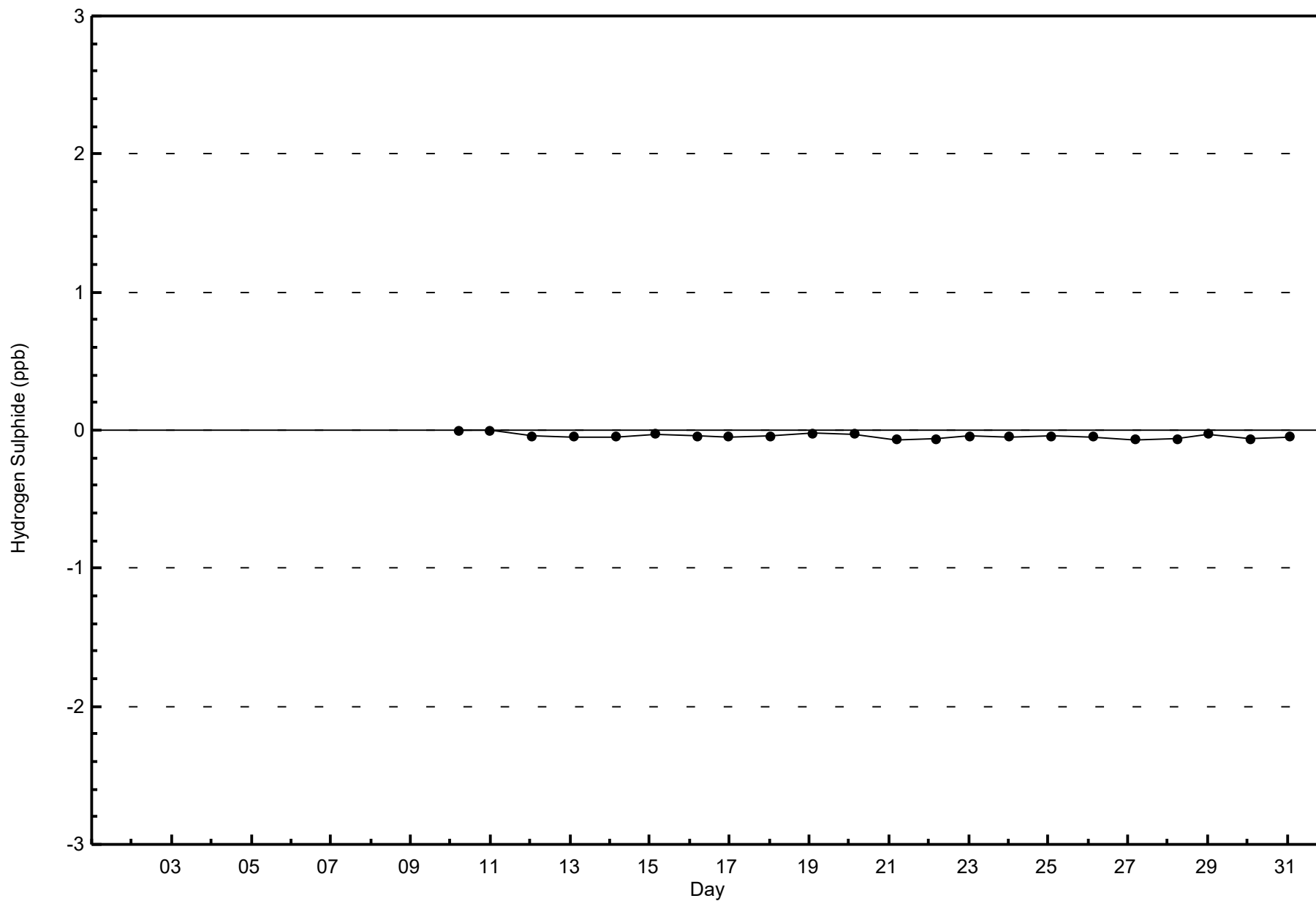
Hydrogen Sulphide (H₂S) - ppb
Kirby South

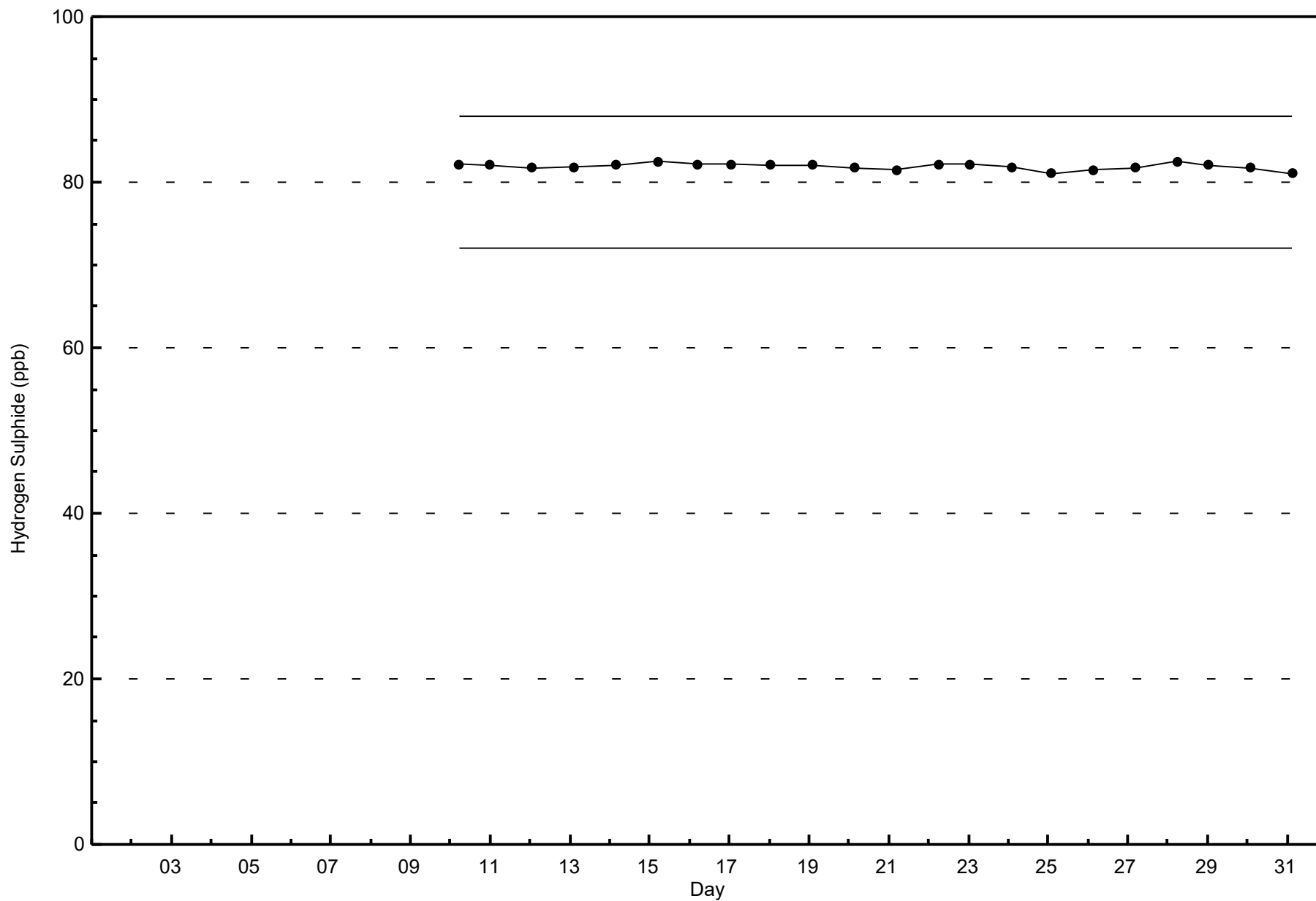




Wood Buffalo Environmental Association
Zero Responses

Hydrogen Sulphide (H₂S) - ppb
Kirby South - July 2025







Wood Buffalo Environmental Association

Summary of Hour Averages

Total Hydrocarbons (THC) - ppm

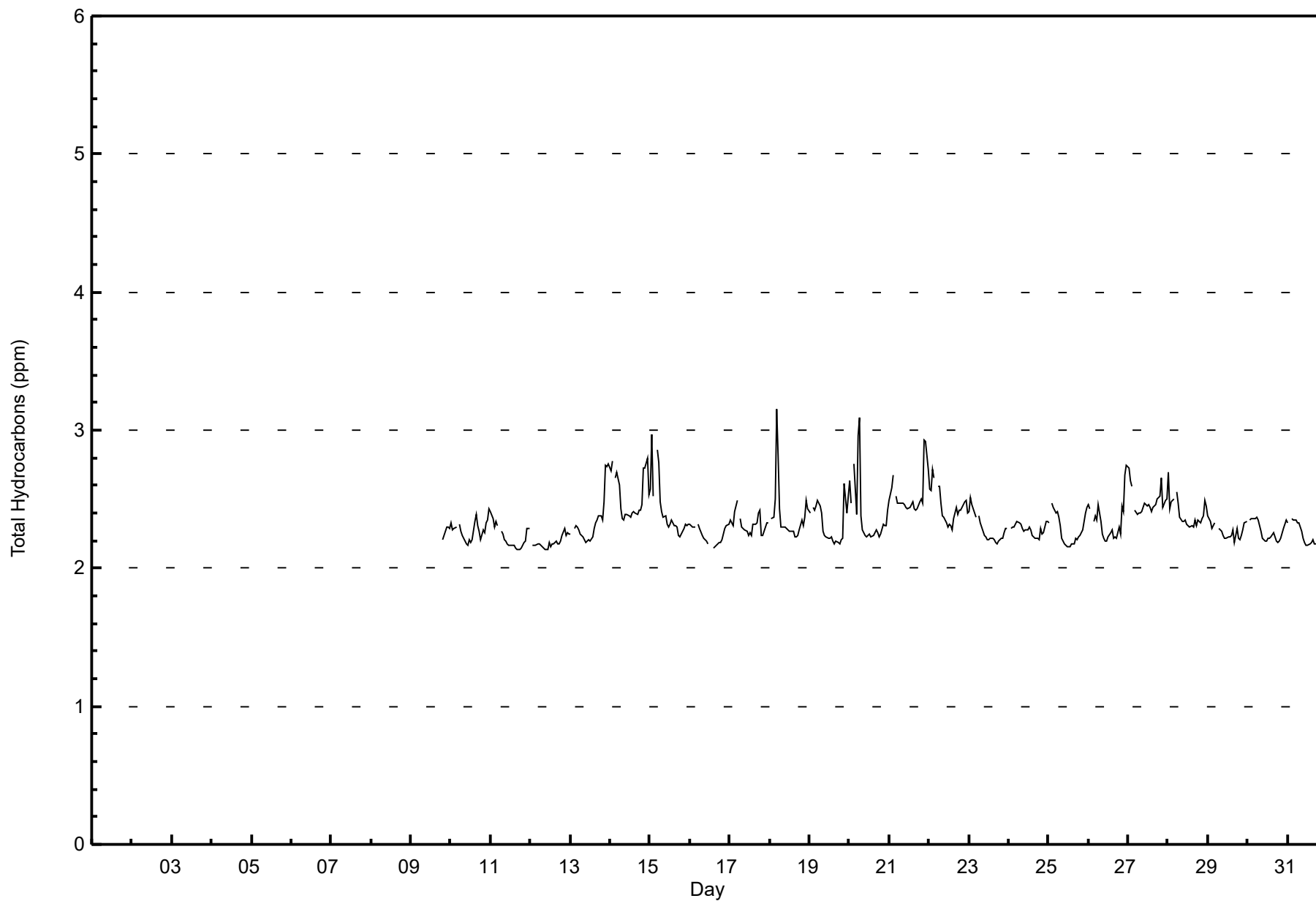
Kirby South - July 2025

Maximum Value: 3.2 ppm on Jul 18 05:00																		Maximum Daily Average: 2.5 ppm on Jul 21																		Hours in Service: 536	
Minimum Value: 2.1 ppm on Jul 11 17:00																		Minimum Daily Average: 2.2 ppm on Jul 12																		Hours of Data: 509	
Maximum Diurnal Average: 2.5 ppm at hour 6																		Minimum Diurnal Average: 2.3 ppm at hour 12																		Hours of Missing Data: 27	
Monthly Average: 2.34 ppm																		Percentiles: P ₁ = 2.1 P ₁₀ = 2.2 Q ₁ = 2.2 Median = 2.3 Q ₃ = 2.4 P ₉₀ = 2.5 P ₉₉ = 2.9																		Hours of Calibration: 25	
																																				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-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--											
2-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--											
3-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--											
4-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--											
5-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--											
6-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--											
7-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--											
8-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--											
9-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	C	C	C	2.2	2.2	2.3	2.3	2.3	--	2.3											
10-Jul	2.3	2.3	2.3	2.3	Z	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.4	2.3	2.3	2.2	2.3	2.3	2.3	2.3	2.4	2.3	2.4											
11-Jul	2.4	2.4	2.3	2.3	2.3	Z	2.3	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	2.2	2.3	2.3	2.2	2.4											
12-Jul	Z	2.2	2.2	2.2	2.2	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	2.3	2.2	2.3	2.2	2.2	2.3											
13-Jul	2.2	Z	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.4	2.4	2.3	2.5	2.7	2.7	2.8	2.3	2.8											
14-Jul	2.7	2.8	Z	2.7	2.7	2.6	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	2.5	2.7	2.7	2.8	2.5	2.5	2.8											
15-Jul	2.6	3.0	2.5	Z	2.9	2.8	2.5	2.4	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.4	3.0											
16-Jul	2.3	2.3	2.3	2.3	Z	2.3	2.3	2.2	2.2	2.2	2.2	2.2	M	M	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.2	2.3											
17-Jul	2.4	2.3	2.3	2.4	2.5	Z	2.4	2.3	2.3	2.3	2.3	2.2	2.3	2.2	2.3	2.3	2.3	2.4	2.4	2.2	2.2	2.3	2.3	2.3	2.3	2.5											
18-Jul	Z	2.4	2.4	2.5	3.2	2.8	2.4	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	2.4	2.3	2.4	2.5	2.4	3.2											
19-Jul	2.4	Z	2.4	2.4	2.4	2.5	2.5	2.4	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	2.6	2.4	2.5	2.3	2.6											
20-Jul	2.6	2.5	Z	2.8	2.4	3.0	3.1	2.4	2.3	2.2	2.2	2.2	2.3	2.2	2.2	2.3	2.3	2.3	2.2	2.2	2.3	2.3	2.3	2.4	2.4	3.1											
21-Jul	2.5	2.6	2.7	Z	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.4	2.4	2.5	2.5	2.4	2.4	2.4	2.5	2.5	2.5	2.9	2.9	2.7	2.5	2.9											
22-Jul	2.6	2.6	2.7	2.7	Z	2.6	2.6	2.5	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	2.5	2.5	2.4	2.4	2.7											
23-Jul	2.4	2.5	2.5	2.4	2.4	Z	2.4	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	2.3	2.3	2.3	2.3	2.5											
24-Jul	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	2.2	2.2	2.2	2.2	2.2	2.3	2.2	2.3	2.3	2.3	2.3											
25-Jul	2.3	Z	2.5	2.4	2.4	2.4	2.4	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	2.3	2.3	2.4	2.4	2.3	2.5											
26-Jul	2.5	2.4	Z	2.3	2.4	2.4	2.5	2.3	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.2	2.2	2.2	2.2	2.3	2.2	2.4	2.4	2.7	2.3	2.7											
27-Jul	2.7	2.6	2.6	Z	2.4	2.4	2.4	2.4	2.4	2.4	2.5	2.5	2.5	2.4	2.4	2.4	2.5	2.5	2.5	2.5	2.7	2.4	2.5	2.5	2.5	2.7											
28-Jul	2.7	2.4	2.5	2.5	Z	2.6	2.5	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.3	2.4	2.4	2.5	2.5	2.4	2.7											
29-Jul	2.4	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	2.2	2.3	2.2	2.3	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.4											
30-Jul	Z	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.4											
31-Jul	2.3	Z	2.4	2.4	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	2.3	2.3	2.3	2.3	2.4											
2.5 2.5 2.4 2.4 2.5 2.5 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																										Diurnal Average											
2.7 3.0 2.7 2.8 3.2 3.0 3.1 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 2.7 2.9 2.9 2.8																										Diurnal Maximum											
Z - zerospan C - Calibration M - Maintenance NS - Not in Service																																					



Wood Buffalo Environmental Association
Hourly Averages

Total Hydrocarbons (THC) - ppm
Kirby South - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Total Hydrocarbons (THC) - ppm
Kirby South - July 2025

Concentration Ranges (ppm)	Number of Hours	%	Cumulative %
0 - 2.0	0	0.00	0.00
2.1 - 3.0	507	99.61	99.61
3.1 - 10.0	2	0.39	100.00
> 10.0	0	0.00	100.00

Total Number of Valid Hours: 509

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Total Hydrocarbons (THC) - ppm
Kirby South - July 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	16	7	0	1	4	15	35	39	66	64	33	56	55	36	29	507
3.1 - 10.0	0	0	0	0	0	2	0	0	0	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	51	16	7	0	1	6	15	35	39	66	64	33	56	55	36	29	509

Total Number of Valid Hours: 509

Total Number of Hours: 744

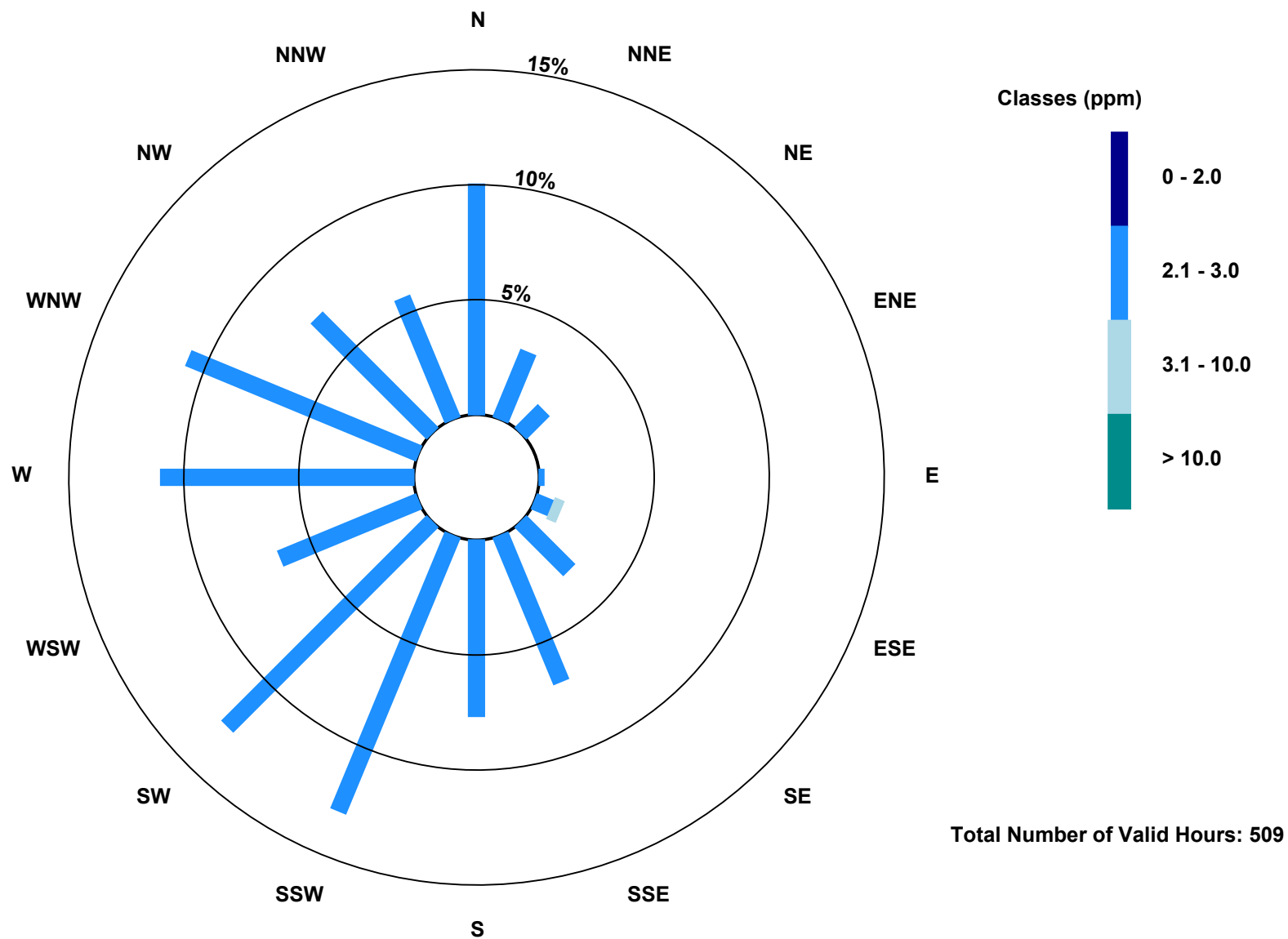


Wood Buffalo Environmental Association

Wind Rose Jul 2025

Total Hydrocarbons (THC) - ppm

Kirby South



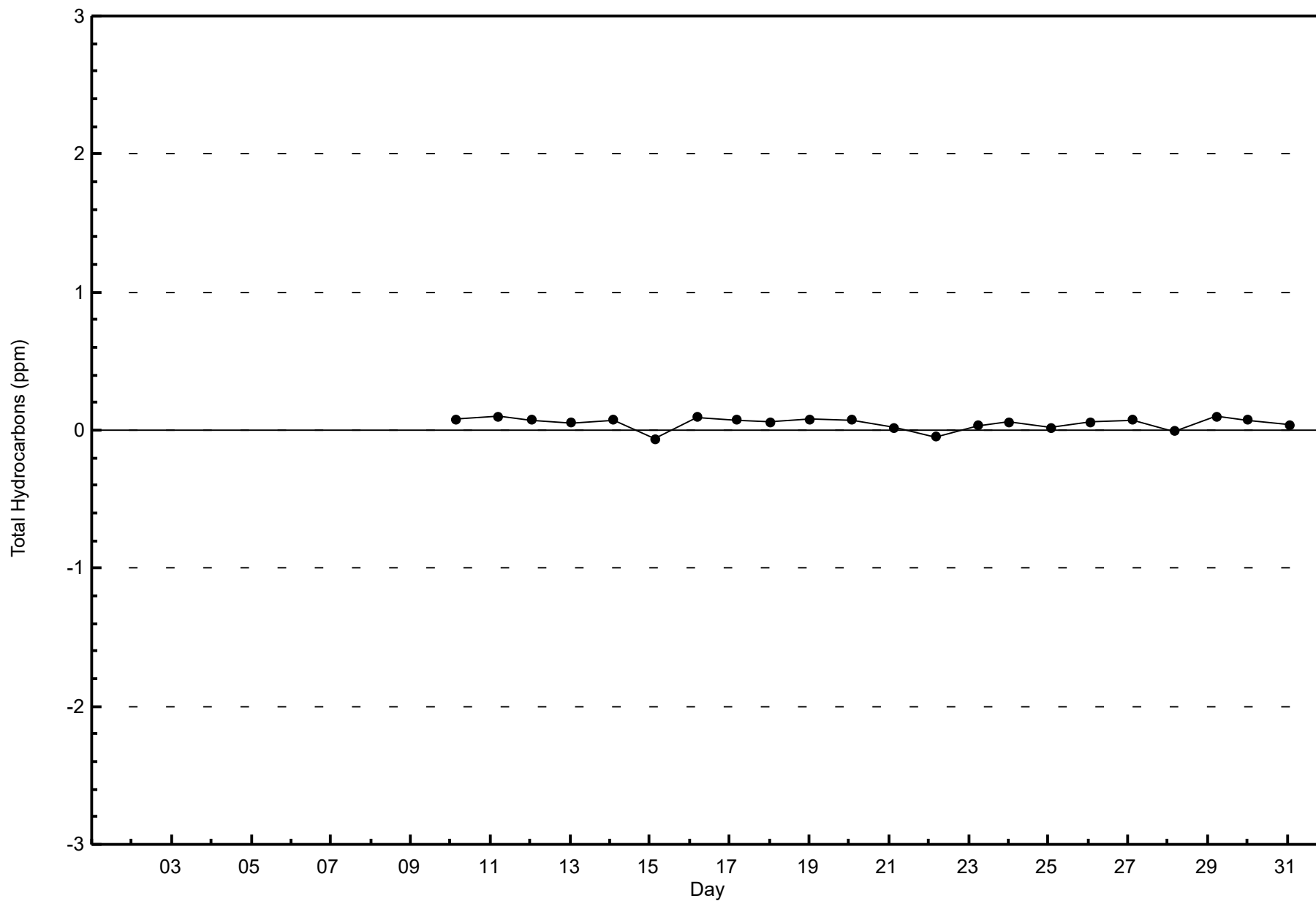


Wood Buffalo Environmental Association

Zero Responses

Total Hydrocarbons (THC) - ppm

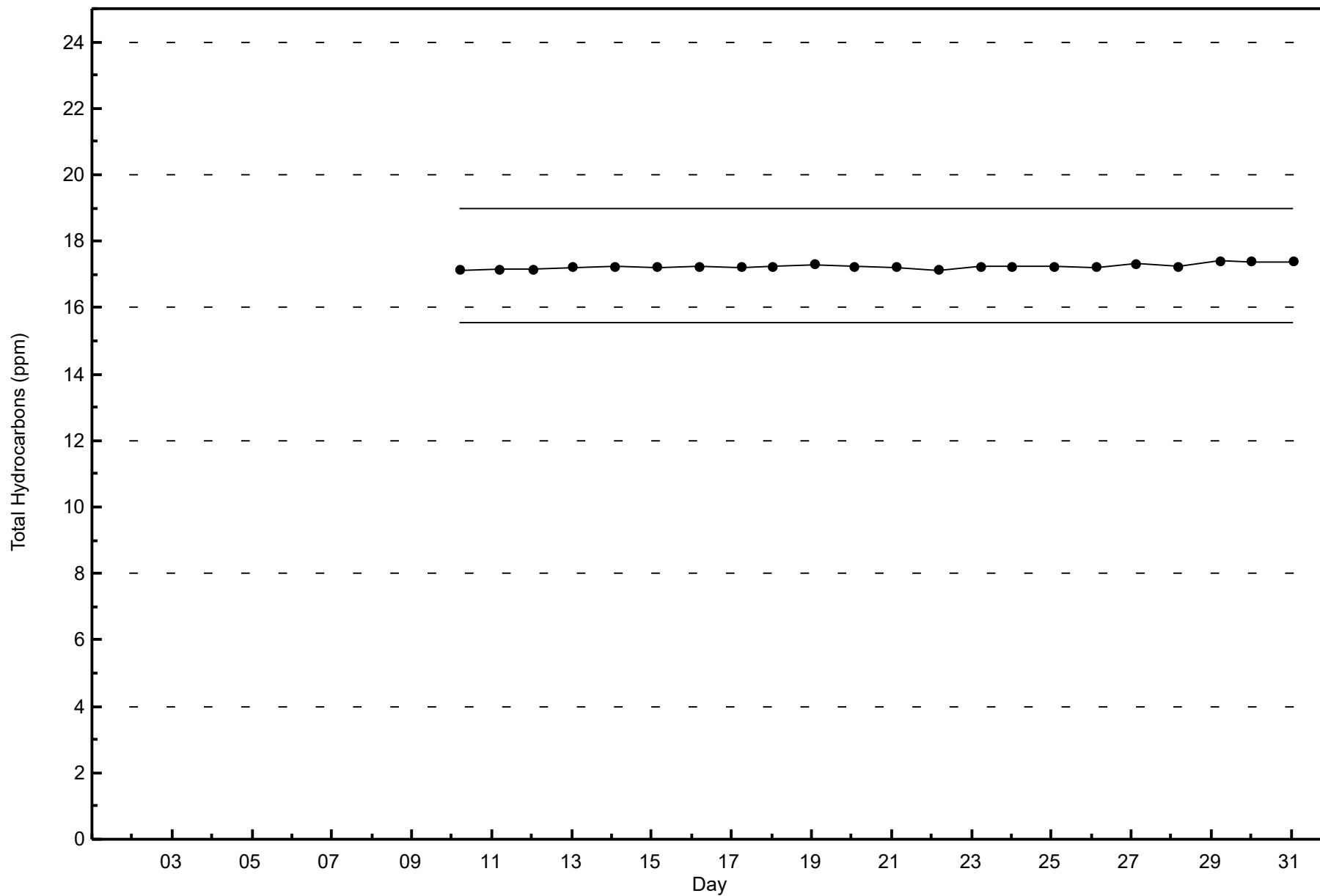
Kirby South - July 2025





Wood Buffalo Environmental Association
Span Responses

Total Hydrocarbons (THC) - ppm
Kirby South - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitric Oxide (NO) - ppb

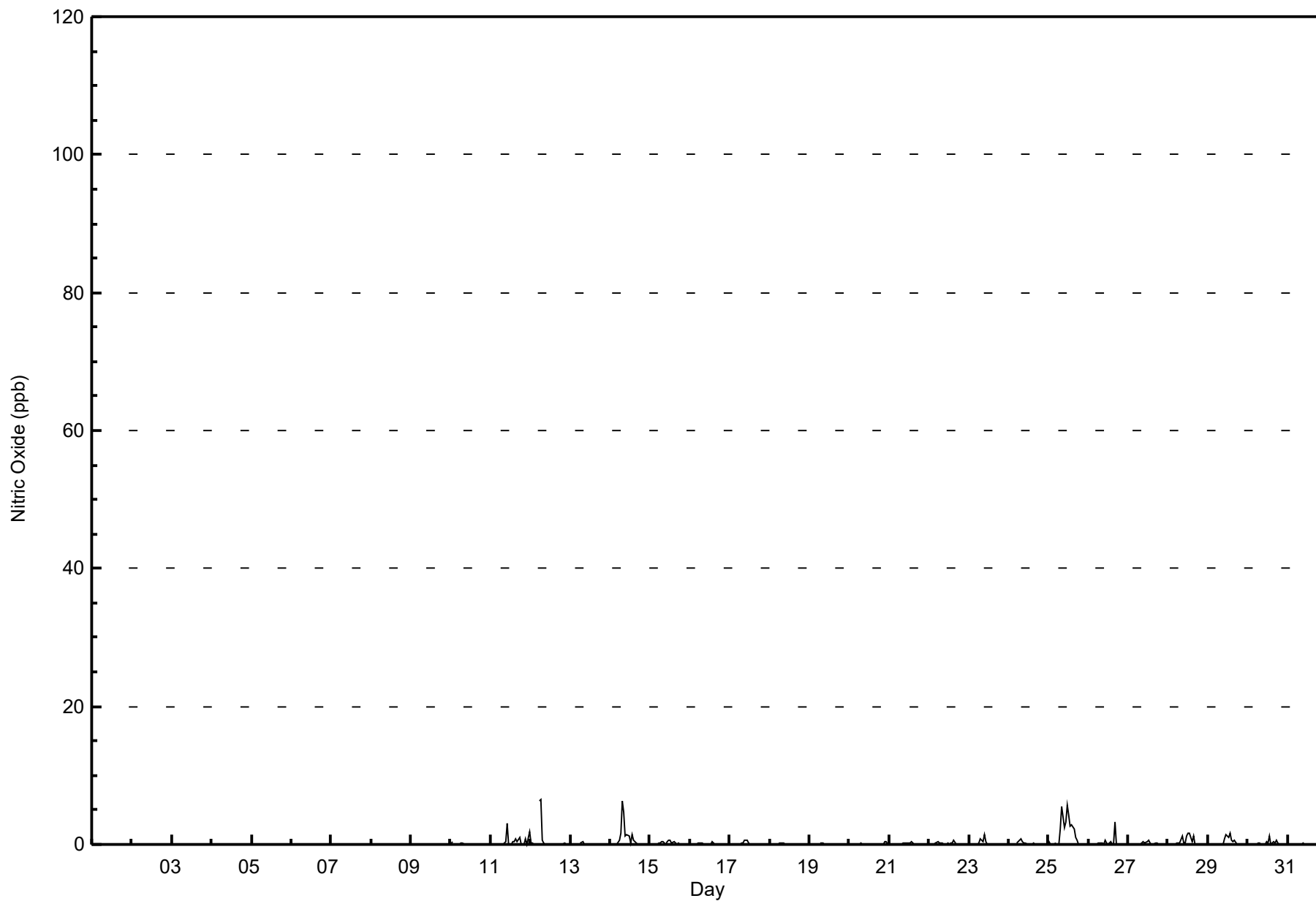
Kirby South - July 2025

Maximum Value: 6.5 ppb on Jul 12 07:00																				Maximum Daily Average: 1.4 ppb on Jul 25					Hours in Service: 540		
Minimum Value: 0.0 ppb on Jul 9 20:00																				Minimum Daily Average: 0.0 ppb on Jul 31					Hours of Data: 511		
Maximum Diurnal Average: 0.7 ppb at hour 9																				Minimum Diurnal Average: 0.0 ppb at hour 20					Hours of Missing Data: 29		
Monthly Average: 0.25 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 = 4.6					Hours of Calibration: 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-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
2-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
3-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
4-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
5-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
6-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
7-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
8-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
9-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	C	C	C	C	C	C	C	0.0	0.0	0.0	0.0	0.2	--	0.2	
10-Jul	0.1	0.4	Z	0.1	0.0	0.1	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	
11-Jul	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.5	3.1	0.1	0.0	0.5	0.3	0.9	0.3	1.0	0.0	0.0	0.0	0.7	0.0	1.9	0.4	3.1	
12-Jul	0.2	0.2	0.0	0.0	Z	6.2	6.5	0.6	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	0.0	0.1	0.0	0.6	6.5	
13-Jul	0.0	0.0	0.0	0.0	0.0	Z	0.1	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	0.4	
14-Jul	Z	0.1	0.1	0.0	0.1	0.6	1.6	6.3	4.7	1.1	1.3	1.3	0.2	1.4	0.6	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	6.3	
15-Jul	0.0	Z	0.0	0.0	0.0	0.2	0.2	0.4	0.3	0.1	0.5	0.6	0.6	0.2	0.4	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.6	
16-Jul	0.0	0.0	Z	0.1	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.1	0.0	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	
17-Jul	0.0	0.0	0.0	Z	0.0	0.1	0.1	0.1	0.3	0.6	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	0.1	0.6	
18-Jul	0.0	0.1	0.1	0.0	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	0.0	0.0	0.0	0.0	0.0	0.1	
19-Jul	0.0	0.1	0.0	0.0	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	0.0	0.0	0.0	0.2	
20-Jul	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	0.4	0.4	0.0	0.0	0.4	
21-Jul	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.3	0.1	0.1	0.3	0.2	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	
22-Jul	0.1	0.0	Z	0.0	0.3	0.3	0.2	0.1	0.1	0.1	0.0	0.2	0.0	0.3	0.3	0.5	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.5	
23-Jul	0.0	0.0	0.0	Z	0.0	0.1	0.1	0.9	0.4	1.4	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	0.1	1.4	
24-Jul	0.0	0.0	0.0	0.0	Z	0.2	0.7	0.8	0.4	0.2	0.2	0.1	0.1	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.8	
25-Jul	0.3	0.1	0.0	0.0	0.3	Z	0.1	2.3	5.5	2.5	3.2	5.6	4.3	2.7	2.8	2.2	0.9	0.6	0.0	0.0	0.0	0.0	0.0	0.0	1.4	5.6	
26-Jul	Z	0.0	0.0	0.0	0.0	0.1	0.3	0.1	0.2	0.1	0.5	0.1	0.0	0.4	0.0	0.2	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	3.2	
27-Jul	0.0	Z	0.0	0.0	0.0	0.1	0.1	0.1	0.3	0.4	0.3	0.3	0.6	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.6	
28-Jul	0.0	0.0	Z	0.0	0.1	0.2	0.3	0.3	1.2	0.1	0.1	1.1	1.5	1.7	0.3	1.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.4	1.7	
29-Jul	0.1	0.1	0.0	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.9	1.5	1.0	1.7	0.5	0.4	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.7	
30-Jul	0.0	0.0	0.0	0.0	Z	0.1	0.1	0.1	0.1	0.1	0.0	0.3	0.2	1.2	0.0	0.3	0.2	0.6	0.2	0.0	0.0	0.0	0.0	0.0	0.2	1.2	
31-Jul	0.0	0.0	0.0	0.0	0.0	Z	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	0.1	
Diurnal Average																									Diurnal Maximum		
Diurnal Maximum																											
Z - zerospan C - Calibration NS - Not in Service																											



Wood Buffalo Environmental Association
Hourly Averages

Nitric Oxide (NO) - ppb
Kirby South - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitric Oxide (NO) - ppb
Kirby South - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	511	100.00	100.00
21 - 40	0	0.00	100.00
41 - 60	0	0.00	100.00
61 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 511

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitric Oxide (NO) - ppb
Kirby South - July 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	48	18	7	0	1	5	16	35	38	69	63	33	58	56	37	27	511
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	48	18	7	0	1	5	16	35	38	69	63	33	58	56	37	27	511

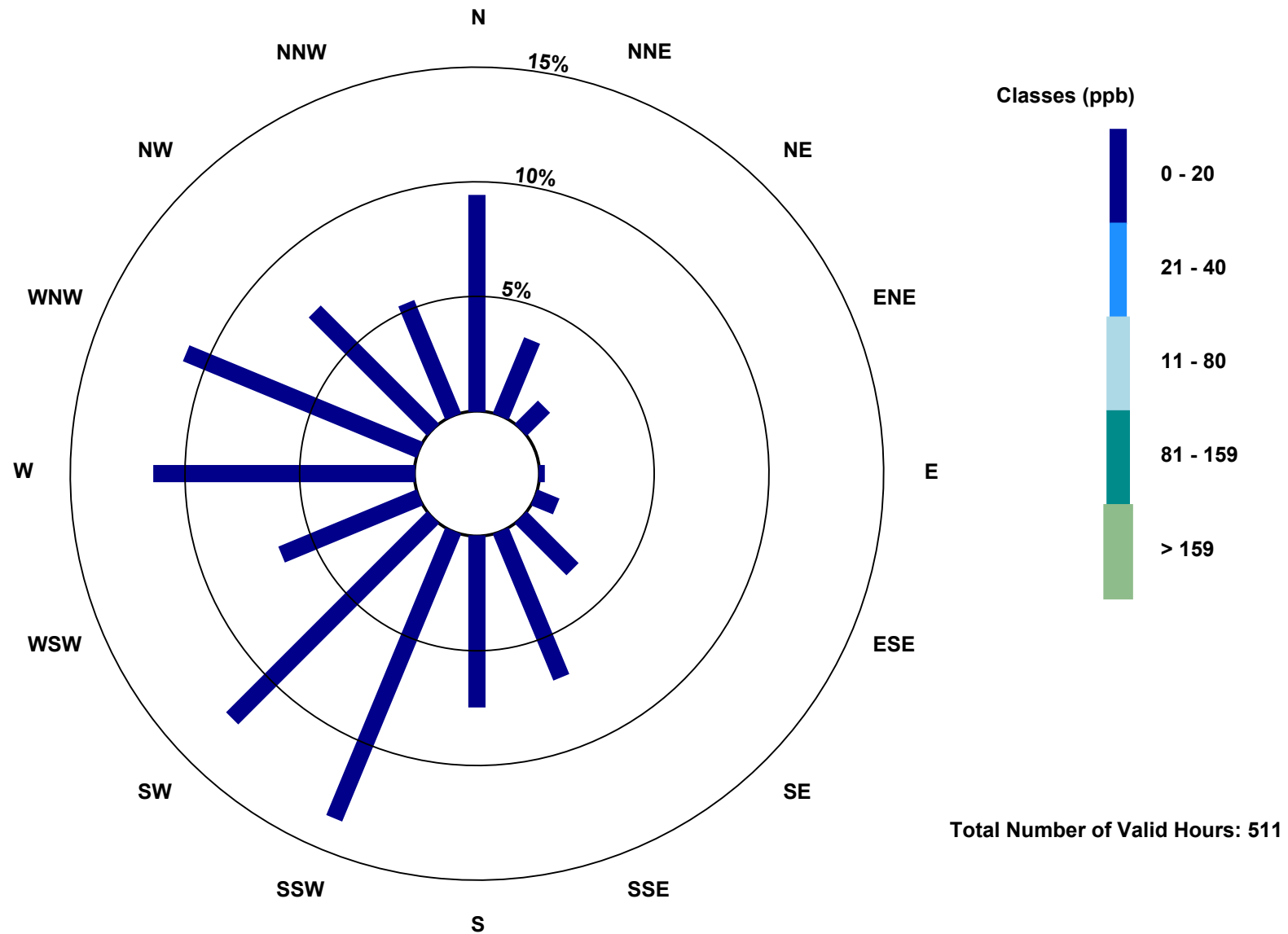
Total Number of Valid Hours: 511

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

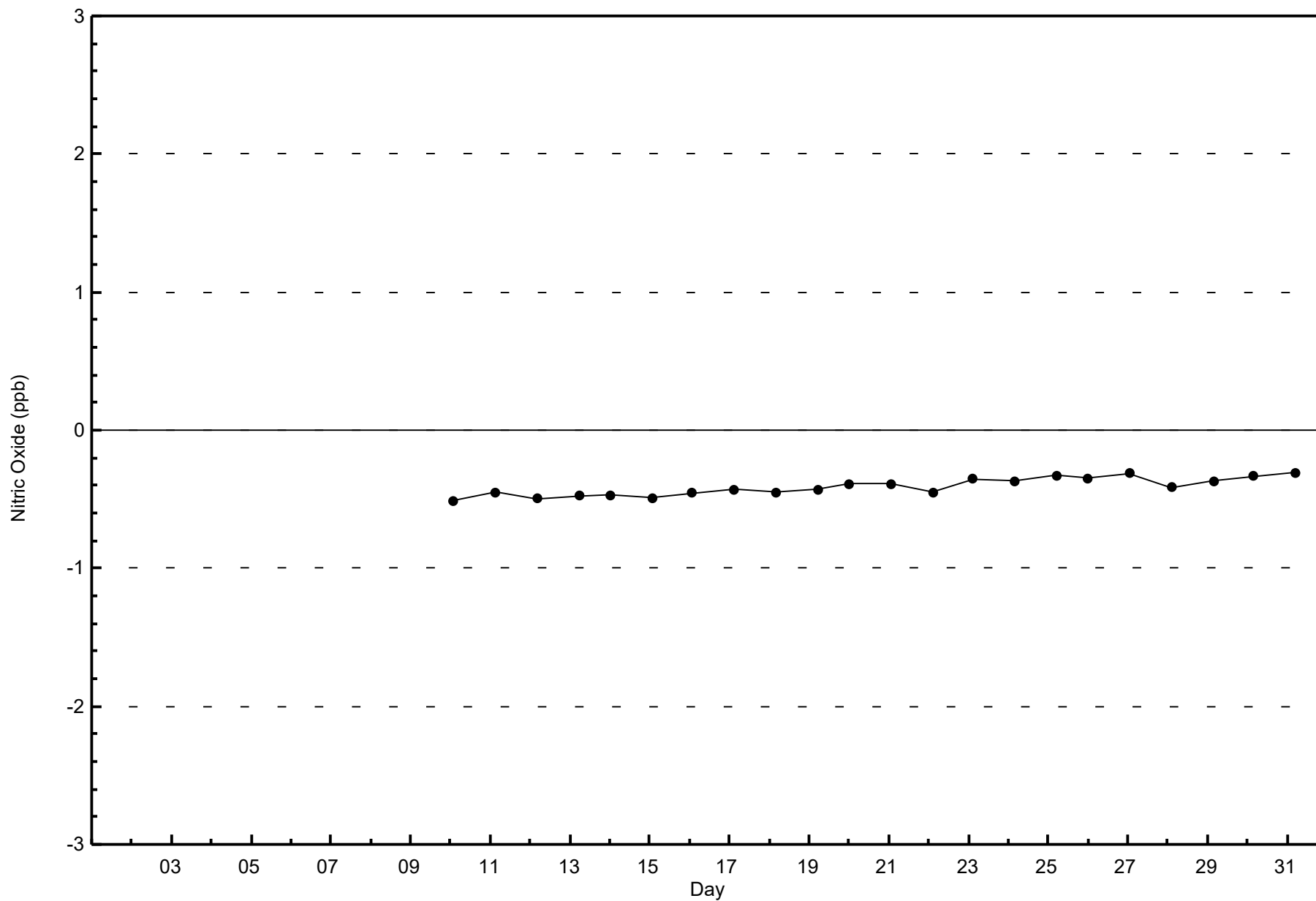
Nitric Oxide (NO) - ppb
Kirby South





Wood Buffalo Environmental Association
Zero Responses

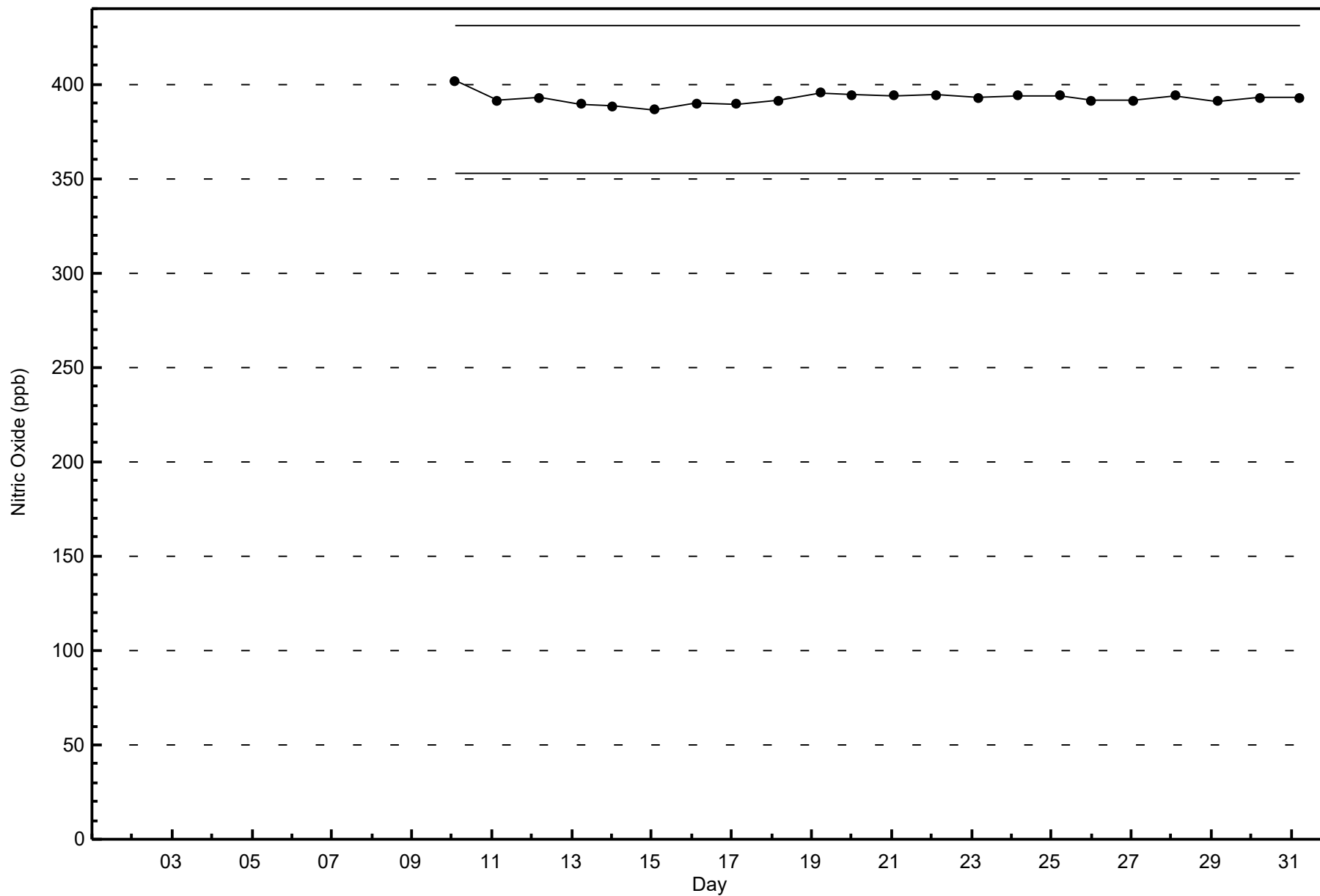
Nitric Oxide (NO) - ppb
Kirby South - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitric Oxide (NO) - ppb
Kirby South - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Dioxide (NO₂) - ppb

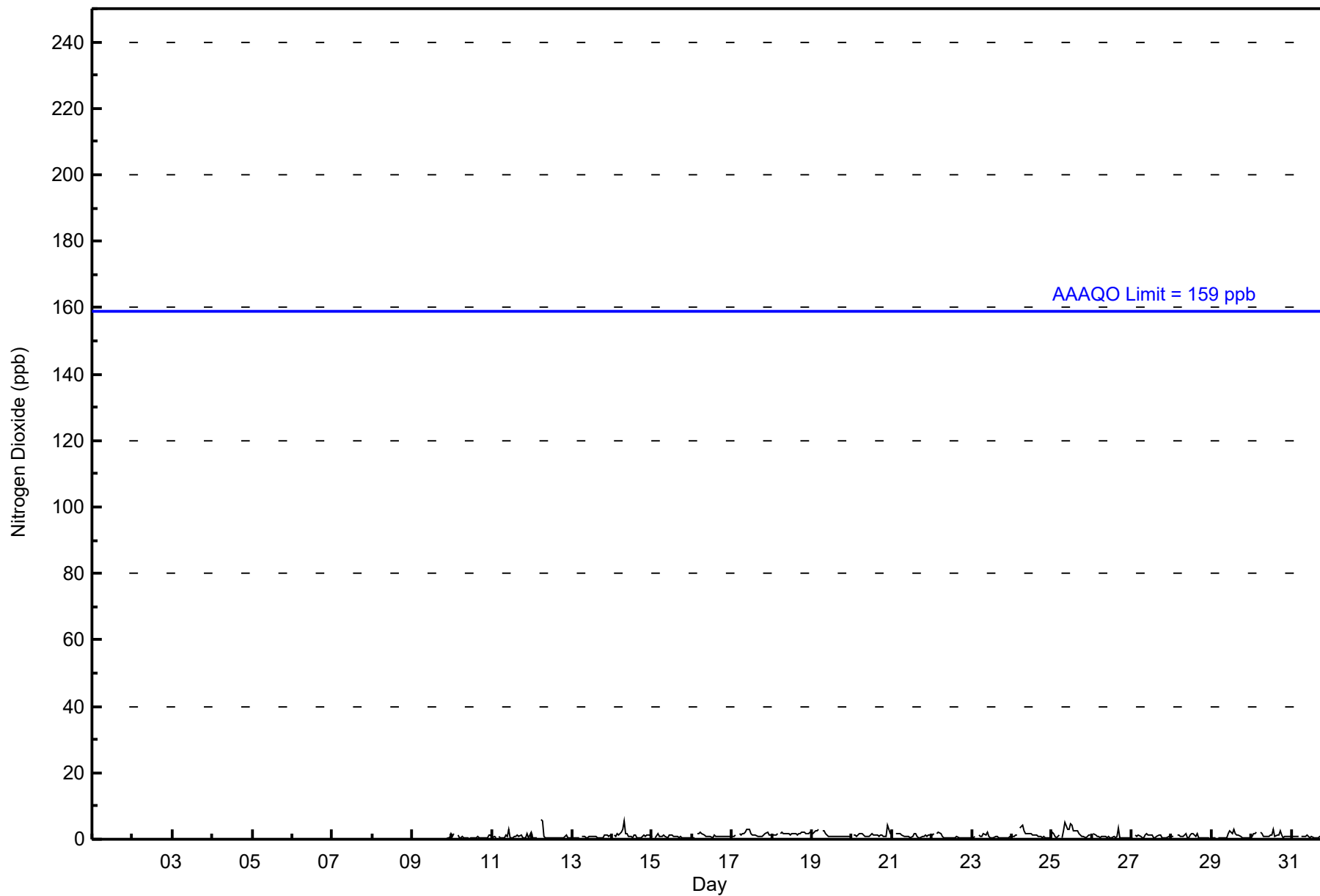
Kirby South - July 2025

Number of Exceedences (AAAQO): Maximum Value: 5.8 ppb on Jul 12 06:00																				1-hr: 0 24-hr: 0 Maximum Daily Average: 2.0 ppb on Jul 25					Hours in Service: 540 Hours of Data: 511 Hours of Missing Data: 29 Hours of Calibration: 29 Percent Operational Time: 100.0				
Minimum Value: 0.0 ppb on Jul 9 20:00 Maximum Diurnal Average: 1.6 ppb at hour 6 Monthly Average: 1.08 ppb										Minimum Daily Average: 0.7 ppb on Jul 10 Minimum Diurnal Average: 0.7 ppb at hour 20 Percentiles: P ₁ = 0.3 P ₁₀ = 0.4 Q ₁ = 0.6 Median = 0.9 Q ₃ = 1.4 P ₉₀ = 1.9 P ₉₉ = 4.4																			
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-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--		
2-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--		
3-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--		
4-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--		
5-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--		
6-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--		
7-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--		
8-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--		
9-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	C	C	C	C	C	C	C	0.0	0.0	0.4	0.3	1.6	--	1.6			
10-Jul	1.0	1.7	Z	1.1	0.5	0.6	0.7	0.6	0.4	0.3	0.2	0.3	0.4	0.4	0.6	0.9	0.5	0.5	0.5	0.5	0.5	0.6	0.6	1.1	1.1	0.7	1.7		
11-Jul	0.6	0.7	0.3	Z	0.7	0.6	0.6	0.6	1.2	1.0	2.9	0.6	0.4	0.9	0.9	1.2	1.0	1.3	0.5	0.4	0.5	1.9	0.4	2.0	0.9	2.9			
12-Jul	0.6	0.6	0.3	0.3	Z	5.8	5.5	0.9	0.6	0.3	0.3	0.4	0.4	0.4	0.6	0.5	0.3	0.3	0.4	0.5	1.2	0.6	0.5	0.3	0.9	5.8			
13-Jul	0.4	0.4	0.5	0.4	0.3	Z	0.7	0.8	0.4	0.3	0.7	0.8	0.8	1.0	0.9	0.6	0.5	0.5	0.4	1.2	1.3	1.1	0.9	1.2	0.7	1.3			
14-Jul	Z	1.3	1.0	1.7	1.3	2.2	3.0	5.3	1.6	1.7	0.9	1.0	0.4	1.1	1.4	0.6	0.4	0.4	0.7	1.2	0.9	1.1	1.2	1.0	1.4	5.3			
15-Jul	1.0	Z	0.6	1.6	0.7	0.8	1.0	1.1	0.9	0.5	1.1	1.4	1.2	0.7	1.0	0.8	0.5	1.0	0.6	0.3	0.3	0.3	0.3	0.3	0.8	1.6			
16-Jul	0.3	0.3	Z	1.7	1.9	2.2	1.8	1.2	0.7	0.8	0.8	0.7	0.6	1.1	1.0	0.7	0.9	1.0	0.9	1.0	1.0	1.0	1.0	0.9	1.0	2.2			
17-Jul	1.0	1.0	1.3	Z	1.5	1.3	1.5	1.5	2.1	2.8	3.0	1.9	1.4	1.3	1.3	0.7	0.8	0.7	0.7	1.1	1.7	2.2	1.4	1.2	1.5	3.0			
18-Jul	1.1	1.3	1.4	1.7	Z	1.6	2.1	1.6	1.7	1.8	1.6	1.3	1.5	1.5	1.6	1.4	1.5	1.9	2.1	2.3	1.8	1.8	1.9	2.0	1.7	2.3			
19-Jul	1.8	2.1	2.5	2.7	3.0	Z	2.6	2.7	1.9	1.1	0.9	1.0	1.0	1.0	0.9	1.0	1.0	0.9	0.9	0.8	0.8	0.7	0.8	0.9	1.4	3.0			
20-Jul	Z	1.2	1.4	1.0	1.6	1.6	1.6	1.4	1.0	0.9	0.8	1.1	1.5	1.3	1.2	1.1	1.0	1.2	1.2	1.0	1.0	4.4	2.8	1.6	1.4	4.4			
21-Jul	1.6	Z	1.9	1.6	1.8	1.5	1.1	0.9	0.9	0.8	0.7	0.6	0.7	1.6	1.5	0.9	0.6	0.4	0.7	0.8	1.1	1.0	1.4	1.2	1.1	1.9			
22-Jul	1.1	1.5	Z	1.9	2.3	1.8	0.9	0.5	0.6	0.4	0.3	0.5	0.4	0.5	0.5	1.0	0.3	0.3	0.4	0.5	0.4	0.4	0.4	0.5	0.8	2.3			
23-Jul	0.6	0.6	0.8	Z	1.1	1.0	0.9	1.9	1.2	2.1	1.0	0.4	0.5	0.6	0.7	0.7	0.6	0.6	0.5	0.5	0.5	0.5	0.6	0.8	0.8	2.1			
24-Jul	0.8	1.0	1.4	1.3	Z	3.2	4.1	2.6	1.8	1.6	1.6	1.5	1.4	1.4	1.1	1.3	0.9	0.8	0.6	0.8	0.6	0.5	0.5	0.6	1.4	4.1			
25-Jul	2.2	1.9	0.9	0.6	1.2	Z	0.6	2.6	5.0	3.0	3.1	4.8	4.4	2.4	2.6	2.4	1.9	1.3	0.7	0.7	0.6	1.0	1.1	1.1	2.0	5.0			
26-Jul	Z	1.5	1.1	0.9	0.7	0.6	0.9	0.8	0.9	0.5	0.8	0.4	0.3	0.8	0.4	0.8	3.2	0.3	0.4	0.3	0.4	0.5	0.5	0.3	0.8	3.2			
27-Jul	0.4	Z	1.1	0.8	1.4	0.9	0.6	0.4	1.3	1.8	1.3	1.3	1.4	0.6	0.6	0.8	1.1	1.4	0.6	0.3	0.4	0.5	1.0	1.1	0.9	1.8			
28-Jul	0.9	0.8	Z	1.3	1.1	1.0	1.0	0.8	1.5	0.4	0.4	1.3	1.6	1.9	0.8	1.5	0.4	0.5	0.4	0.5	0.6	0.3	0.3	0.2	0.8	1.9			
29-Jul	0.3	0.3	0.3	Z	0.3	0.4	0.5	0.6	0.6	0.6	1.8	2.7	1.8	2.9	1.7	1.4	1.4	0.9	0.5	0.4	0.4	0.4	0.5	0.5	0.9	2.9			
30-Jul	1.0	1.6	1.9	2.1	Z	2.0	1.6	1.0	0.8	0.7	0.8	1.4	1.4	2.9	0.9	1.4	1.4	2.5	1.3	0.5	0.8	1.0	0.9	0.9	1.3	2.9			
31-Jul	0.8	0.7	0.8	0.8	0.7	Z	0.9	0.8	1.0	1.1	0.7	0.5	0.8	0.5	0.5	0.6	0.6	0.7	0.8	0.8	0.8	0.9	1.0	1.0	0.8	1.1			
																									Diurnal Average				
																									Diurnal Maximum				
Z - zerospan C - Calibration NS - Not in Service																													
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb																													



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
Kirby South - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Kirby South - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	511	100.00	100.00
21 - 40	0	0.00	100.00
41 - 60	0	0.00	100.00
61 - 80	0	0.00	100.00
81 - 159	0	0.00	100.00
> 159	0	0.00	100.00

Total Number of Valid Hours: 511

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitrogen Dioxide (NO₂) - ppb
Kirby South - July 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	48	18	7	0	1	5	16	35	38	69	63	33	58	56	37	27	511
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	48	18	7	0	1	5	16	35	38	69	63	33	58	56	37	27	511

Total Number of Valid Hours: 511

Total Number of Hours: 744



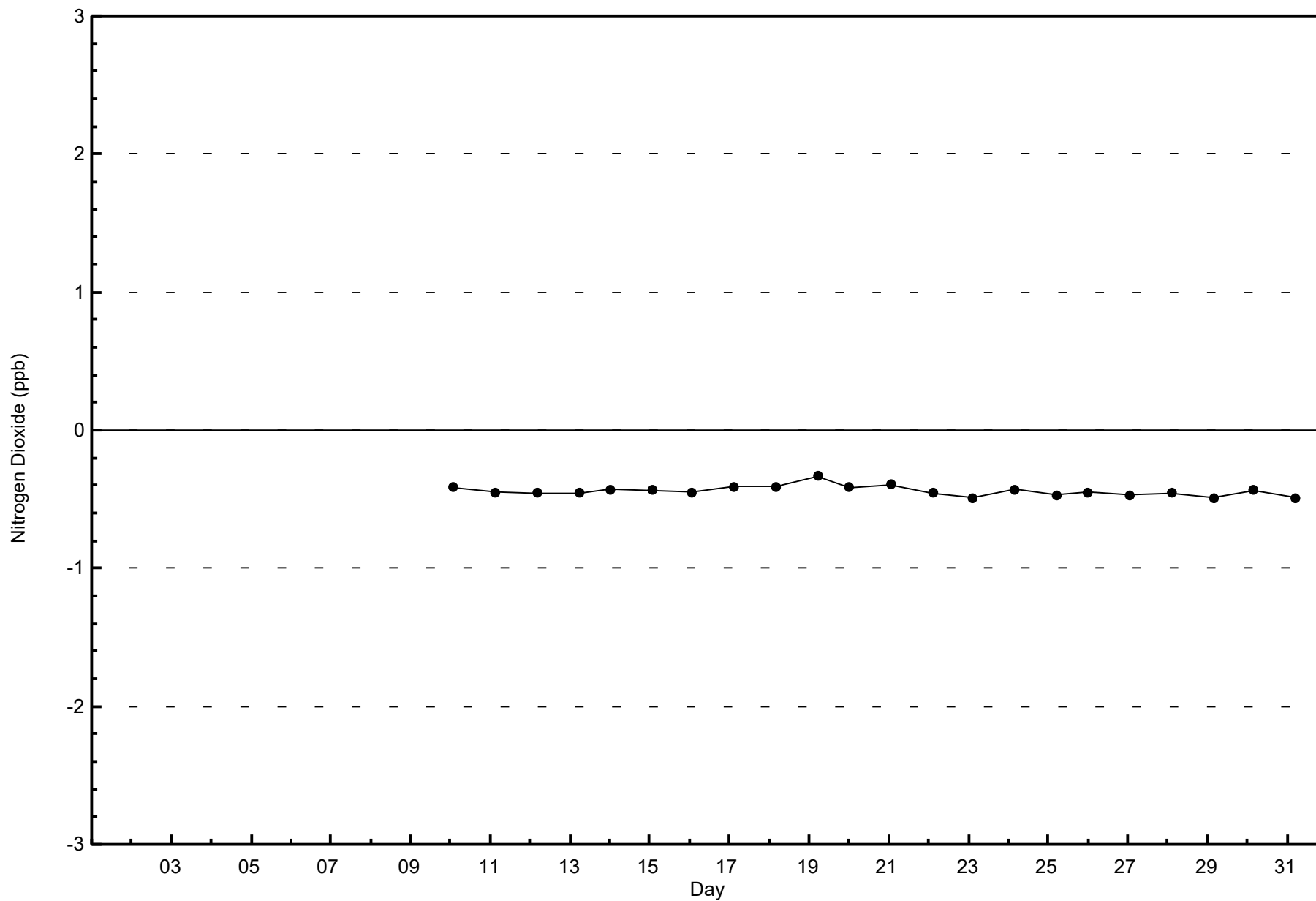
Nitrogen Dioxide (NO₂) - ppb
Kirby South





Wood Buffalo Environmental Association
Zero Responses

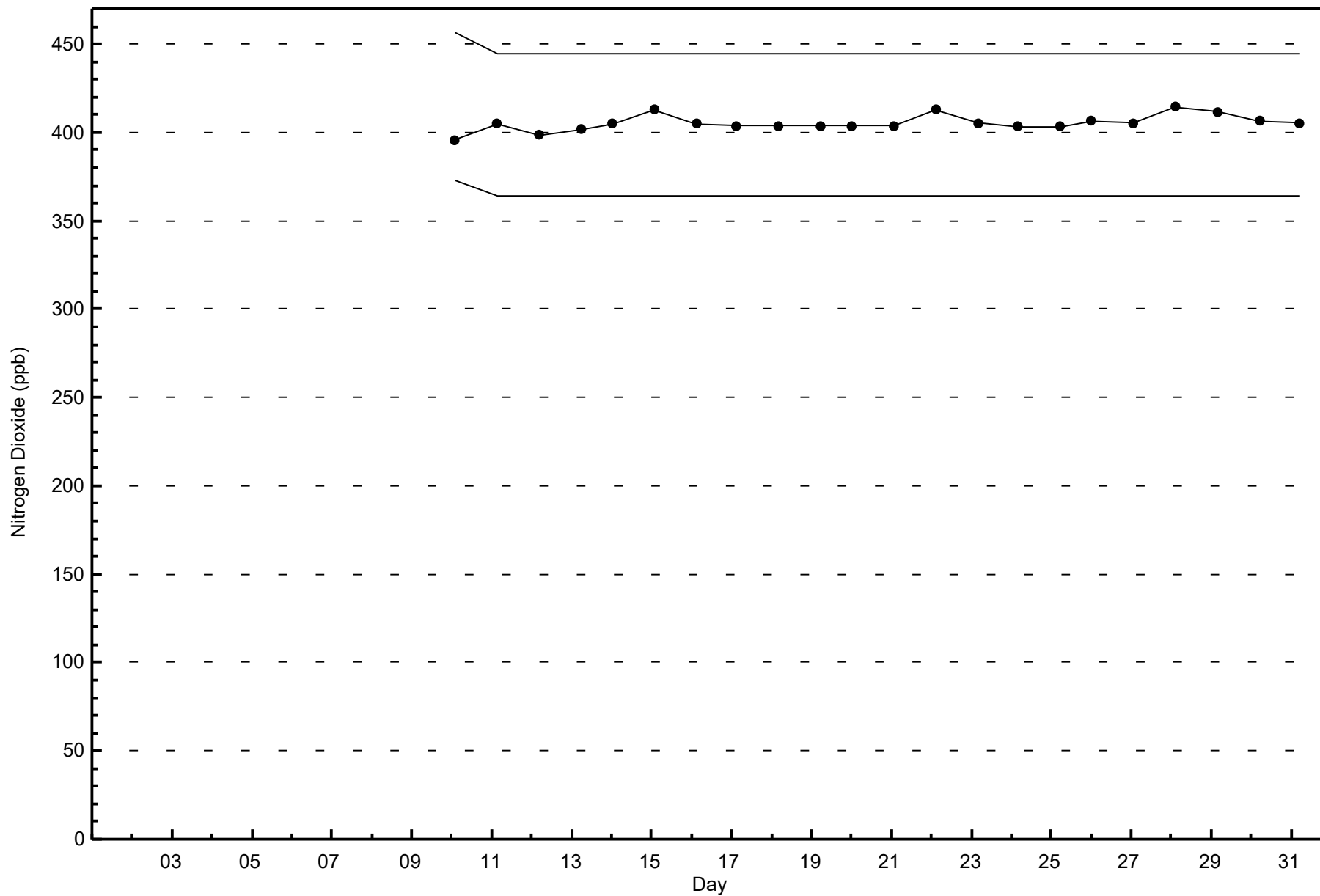
Nitrogen Dioxide (NO₂) - ppb
Kirby South - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitrogen Dioxide (NO₂) - ppb
Kirby South - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Nitrogen Oxides (NO_x) - ppb

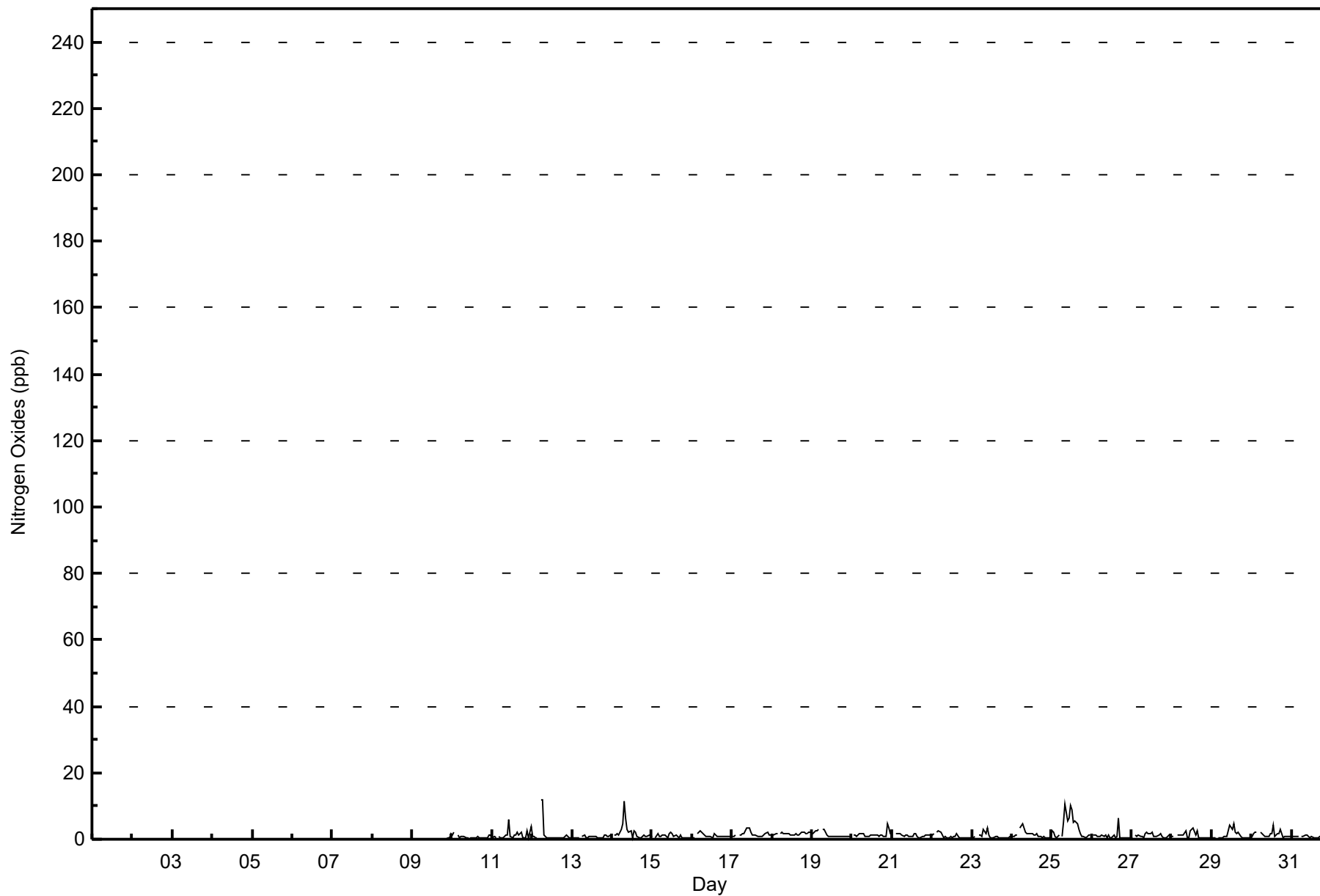
Kirby South - July 2025

Maximum Value: 12.0 ppb on Jul 12 07:00																				Maximum Daily Average: 3.5 ppb on Jul 25					Hours in Service: 540		
Minimum Value: 0.0 ppb on Jul 9 20:00																				Minimum Daily Average: 0.7 ppb on Jul 10					Hours of Data: 511		
Maximum Diurnal Average: 2.1 ppb at hour 6																				Minimum Diurnal Average: 0.7 ppb at hour 20					Hours of Missing Data: 29		
Monthly Average: 1.33 ppb																				Percentiles: P ₁ = 0.3 P ₁₀ = 0.4 Q ₁ = 0.6 Median = 1.0 Q ₃ = 1.5 P ₉₀ = 2.3 P ₉₉ = 8.5					Hours of Calibration: 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-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
2-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
3-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
4-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
5-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
6-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
7-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
8-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
9-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	C	C	C	C	C	C	C	0.0	0.0	0.4	0.3	1.8	--	1.8	
10-Jul	1.1	2.1	Z	1.2	0.5	0.7	0.9	0.9	0.4	0.3	0.2	0.3	0.4	0.4	0.6	0.9	0.5	0.5	0.5	0.5	0.6	0.6	1.1	1.1	0.7	2.1	
11-Jul	0.6	0.7	0.3	Z	0.7	0.6	0.6	0.6	1.3	1.5	6.0	0.7	0.4	1.4	1.2	2.1	1.3	2.3	0.5	0.4	0.5	2.6	0.4	3.9	1.3	6.0	
12-Jul	0.8	0.8	0.3	0.3	Z	12.0	12.0	1.5	0.8	0.4	0.3	0.4	0.4	0.4	0.6	0.5	0.3	0.3	0.4	0.5	1.3	0.6	0.6	0.3	1.6	12.0	
13-Jul	0.4	0.4	0.5	0.4	0.3	Z	0.8	1.2	0.4	0.3	0.7	0.8	0.8	1.0	0.9	0.6	0.5	0.5	0.4	1.2	1.3	1.1	0.9	1.2	0.7	1.3	
14-Jul	Z	1.4	1.1	1.7	1.4	2.8	4.6	11.6	6.3	2.8	2.2	2.3	0.6	2.5	2.0	0.9	0.5	0.4	0.7	1.2	0.9	1.1	1.2	1.0	2.2	11.6	
15-Jul	1.0	Z	0.6	1.6	0.7	1.0	1.2	1.5	1.2	0.6	1.6	2.0	1.8	0.9	1.4	0.9	0.6	1.2	0.6	0.3	0.3	0.3	0.3	0.3	1.0	2.0	
16-Jul	0.3	0.3	Z	1.8	2.0	2.4	2.0	1.3	0.8	0.8	0.8	0.8	0.6	1.5	1.1	0.7	0.9	1.0	0.9	1.0	1.0	1.0	1.0	0.9	1.1	2.4	
17-Jul	1.0	1.0	1.3	Z	1.5	1.4	1.6	1.6	2.4	3.4	3.6	2.1	1.4	1.3	1.3	0.7	0.8	0.7	0.7	1.1	1.7	2.2	1.4	1.2	1.5	3.6	
18-Jul	1.1	1.4	1.5	1.7	Z	1.7	2.2	1.7	1.8	1.9	1.7	1.4	1.5	1.5	1.6	1.4	1.5	1.9	2.1	2.3	1.8	1.8	1.9	2.0	1.7	2.3	
19-Jul	1.8	2.2	2.5	2.7	3.1	Z	2.8	2.9	2.1	1.2	1.0	1.0	1.0	1.0	0.9	1.0	1.0	0.9	0.9	0.8	0.8	0.7	0.8	0.9	1.5	3.1	
20-Jul	Z	1.2	1.4	1.0	1.6	1.6	1.6	1.5	1.0	0.9	0.8	1.1	1.5	1.3	1.2	1.1	1.0	1.2	1.2	1.0	1.0	4.8	3.2	1.6	1.5	4.8	
21-Jul	1.6	Z	1.9	1.6	1.8	1.5	1.2	1.0	1.1	1.1	1.0	0.7	0.8	1.9	1.7	1.0	0.6	0.4	0.8	0.9	1.2	1.1	1.5	1.3	1.2	1.9	
22-Jul	1.2	1.5	Z	1.9	2.6	2.1	1.1	0.6	0.7	0.5	0.3	0.7	0.4	0.8	0.8	1.5	0.3	0.3	0.4	0.6	0.4	0.4	0.4	0.5	0.9	2.6	
23-Jul	0.6	0.6	0.8	Z	1.1	1.1	1.0	2.8	1.6	3.5	1.4	0.4	0.5	0.6	0.7	0.7	0.6	0.6	0.5	0.5	0.5	0.5	0.6	0.8	1.0	3.5	
24-Jul	0.8	1.0	1.4	1.3	Z	3.4	4.8	3.4	2.2	1.8	1.8	1.6	1.5	1.4	1.1	1.6	0.9	0.8	0.6	0.8	0.6	0.5	0.5	0.7	1.5	4.8	
25-Jul	2.5	2.0	0.9	0.6	1.5	Z	0.7	4.9	10.5	5.5	6.3	10.4	8.7	5.1	5.4	4.6	2.8	1.9	0.7	0.7	0.6	1.0	1.1	1.1	3.5	10.5	
26-Jul	Z	1.5	1.1	0.9	0.7	0.7	1.2	0.9	1.1	0.6	1.3	0.5	0.3	1.2	0.4	1.0	6.4	0.3	0.4	0.3	0.4	0.5	0.5	0.3	1.0	6.4	
27-Jul	0.4	Z	1.1	0.8	1.4	1.0	0.7	0.5	1.6	2.2	1.6	1.6	2.0	0.8	0.7	0.9	1.3	1.5	0.7	0.4	0.5	0.6	1.1	1.2	1.1	2.2	
28-Jul	0.9	0.8	Z	1.3	1.2	1.2	1.3	1.1	2.7	0.5	0.5	2.4	3.1	3.6	1.1	2.6	0.4	0.6	0.4	0.5	0.6	0.3	0.4	0.3	1.2	3.6	
29-Jul	0.4	0.4	0.3	Z	0.4	0.5	0.6	0.7	0.7	0.7	2.7	4.2	2.8	4.6	2.2	1.8	1.9	1.0	0.5	0.4	0.4	0.4	0.5	0.5	1.2	4.6	
30-Jul	1.0	1.6	1.9	2.1	Z	2.1	1.7	1.1	0.9	0.8	0.8	1.7	1.6	4.1	0.9	1.7	1.6	3.1	1.5	0.5	0.8	1.0	0.9	0.9	1.5	4.1	
31-Jul	0.8	0.7	0.8	0.8	0.7	Z	0.9	0.8	1.1	1.2	0.7	0.5	0.9	0.5	0.5	0.6	0.6	0.7	0.8	0.8	0.8	0.9	1.0	1.0	0.8	1.2	
Diurnal Average																											
Diurnal Maximum																											
Z - zerospan C - Calibration NS - Not in Service																											



Wood Buffalo Environmental Association
Hourly Averages

Nitrogen Oxides (NO_x) - ppb
Kirby South - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Kirby South - July 2025

Concentration Ranges (ppb)	Number of Hours	%	Cumulative %
0 - 20	511	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: 511

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Nitrogen Oxides (NO_x) - ppb
Kirby South - July 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	48	18	7	0	1	5	16	35	38	69	63	33	58	56	37	27	511
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	48	18	7	0	1	5	16	35	38	69	63	33	58	56	37	27	511

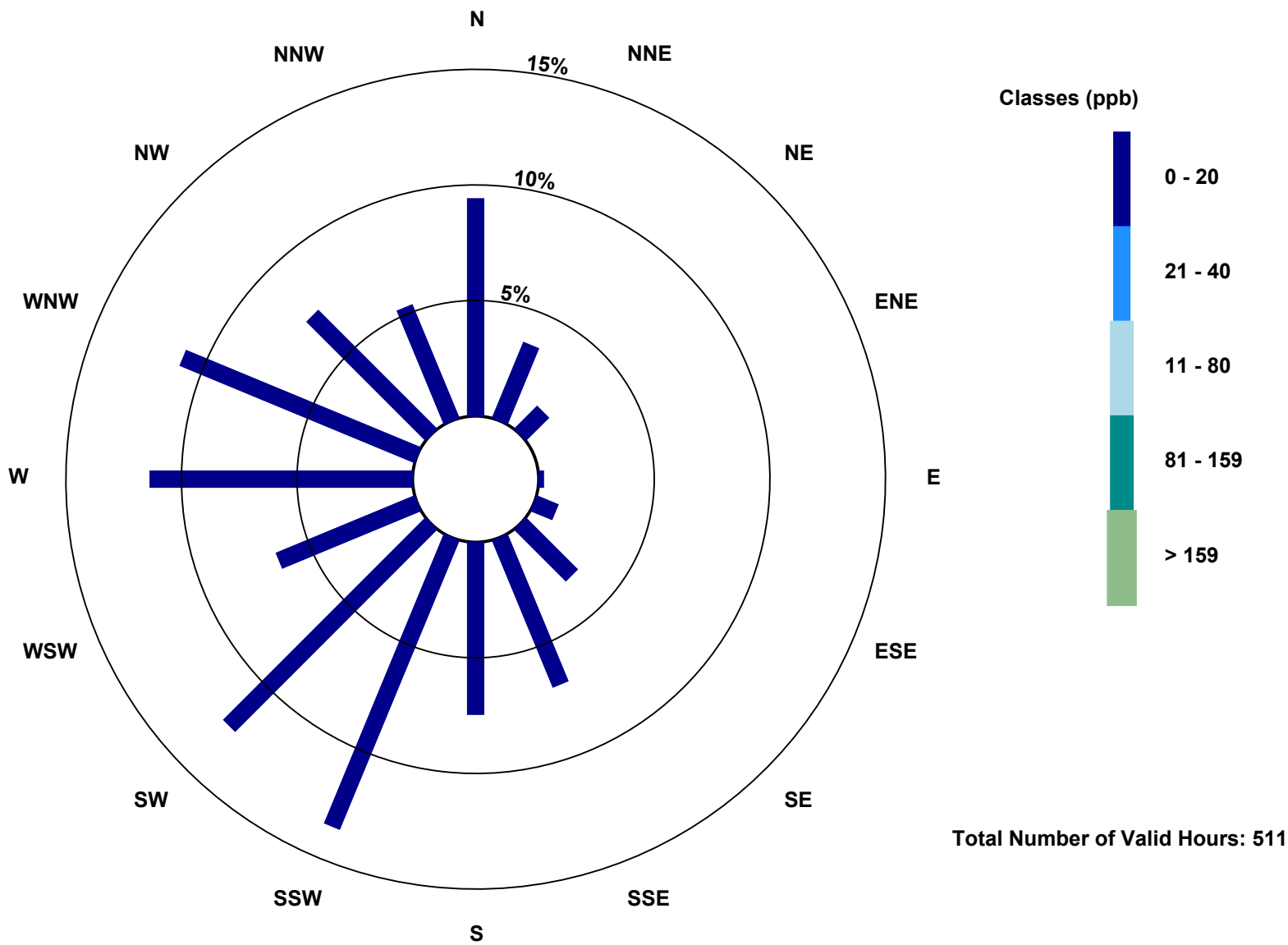
Total Number of Valid Hours: 511

Total Number of Hours: 744



Wood Buffalo Environmental Association
Wind Rose Jul 2025

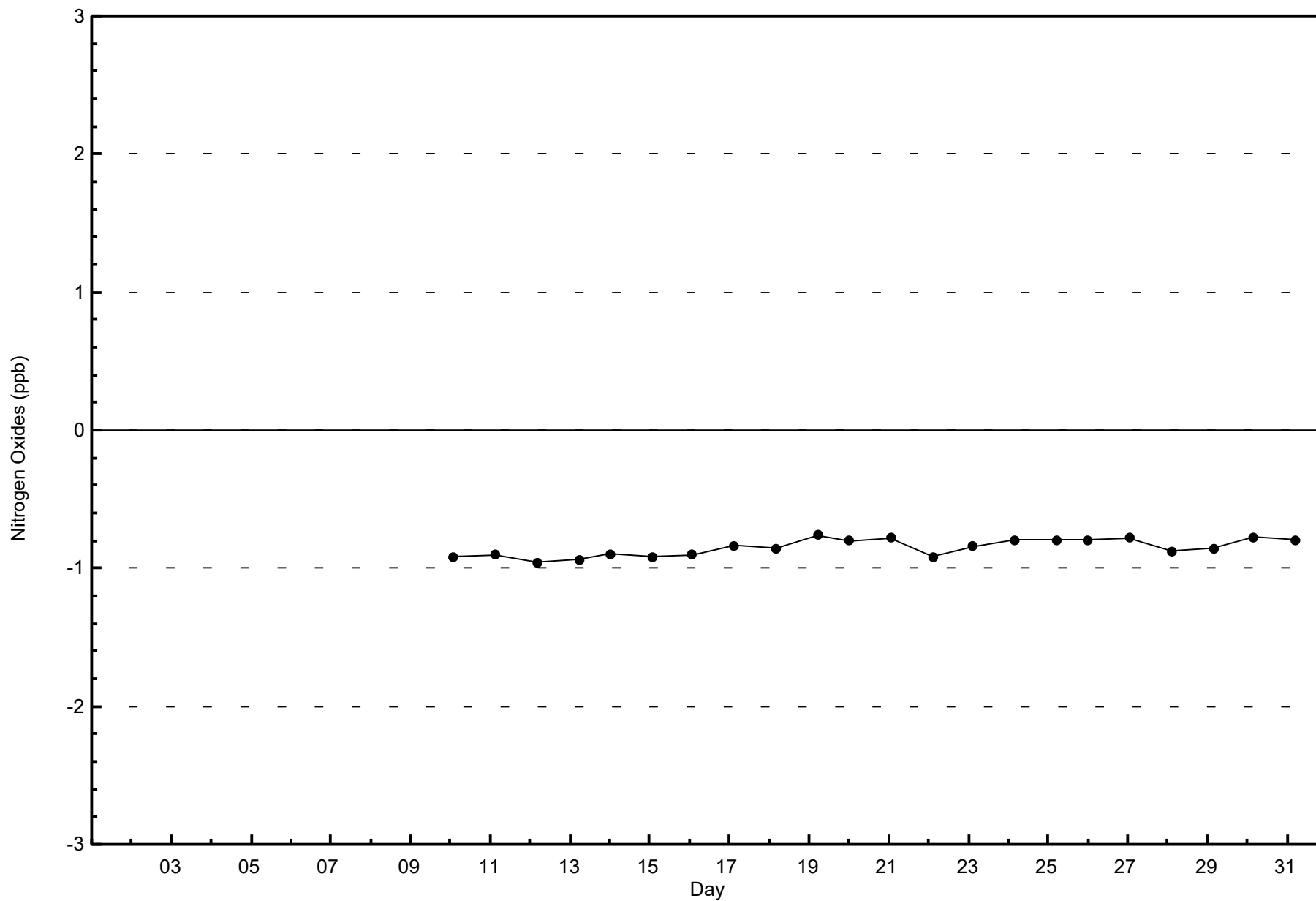
Nitrogen Oxides (NO_x) - ppb
Kirby South





Wood Buffalo Environmental Association
Zero Responses

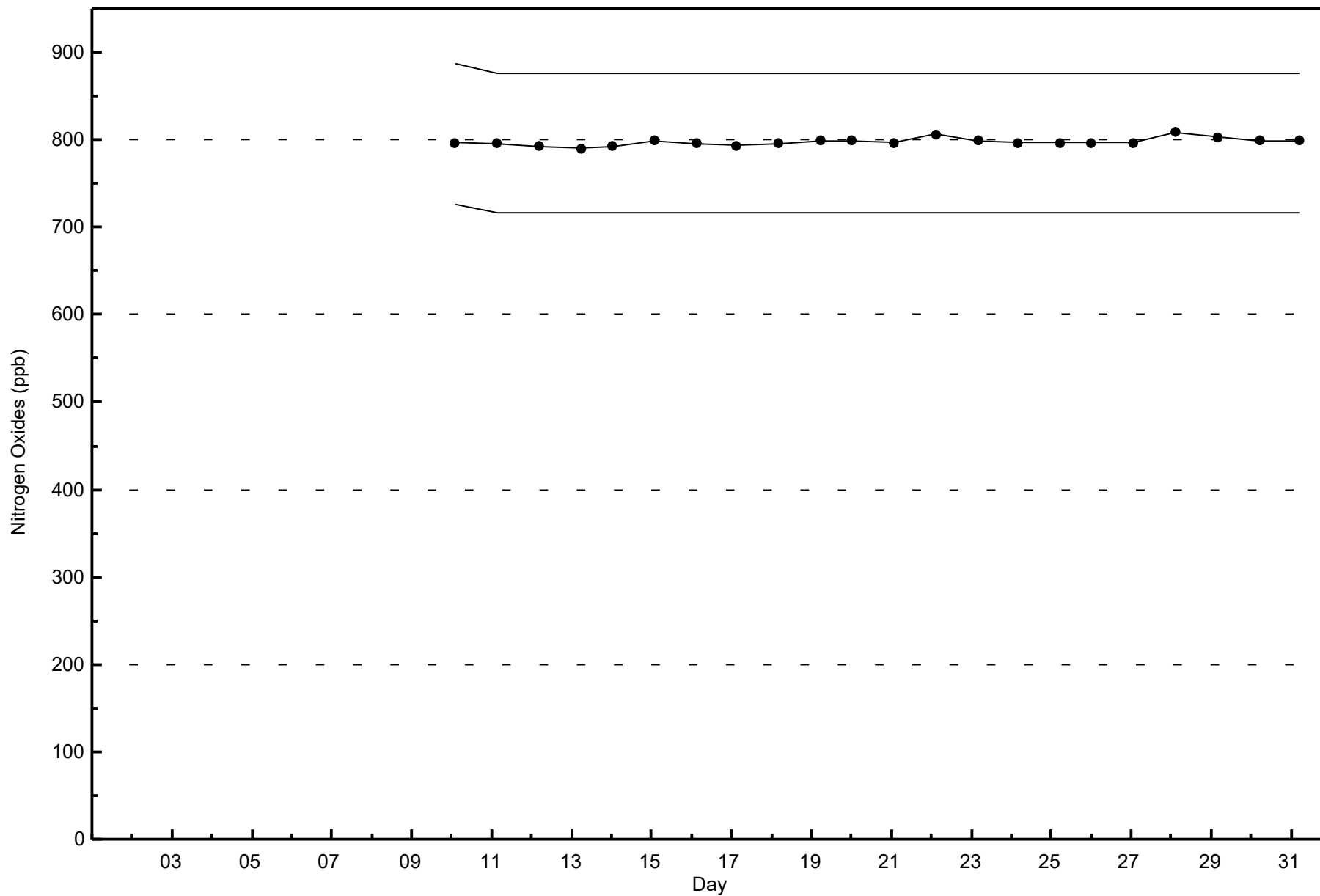
Nitrogen Oxides (NO_x) - ppb
Kirby South - July 2025





Wood Buffalo Environmental Association
Span Responses

Nitrogen Oxides (NO_x) - ppb
Kirby South - July 2025





Wood Buffalo Environmental Association

Summary of Hour Averages

Ambient Temperature 2m (AT2) - C

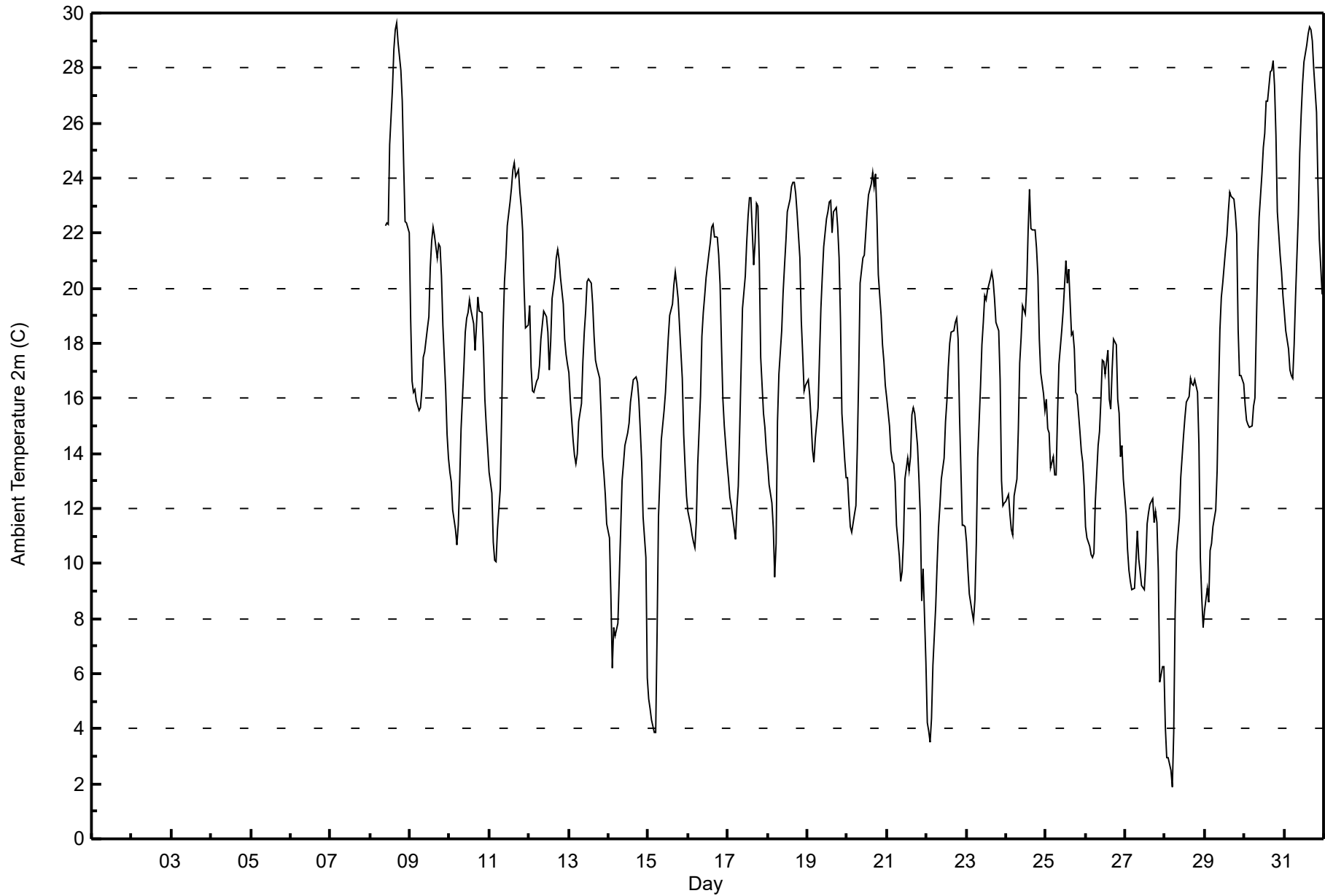
Kirby South - July 2025

Maximum Value: 29.6 C on Jul 8 17:00																		Maximum Daily Average: 23.3 C on Jul 31										Hours in Service: 567	
Minimum Value: 1.9 C on Jul 28 05:00																		Minimum Daily Average: 10.0 C on Jul 27										Hours of Data: 567	
Maximum Diurnal Average: 21.1 C at hour 18																		Minimum Diurnal Average: 10.9 C at hour 5										Hours of Missing Data: 0	
Monthly Average: 16.55 C																		Percentiles: P ₁ = 3.8 P ₁₀ = 10.1 Q ₁ = 13.0 Median = 16.6 Q ₃ = 20.2 P ₉₀ = 23.0 P ₉₉ = 29.0										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-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--			
2-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--			
3-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--			
4-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--			
5-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--			
6-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--			
7-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--			
8-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	22.3	22.4	22.3	25.2	27.2	28.7	29.4	29.6	28.9	27.9	26.8	24.5	22.4	22.3	22.0	--	29.6			
9-Jul	18.9	16.6	16.2	16.3	15.9	15.5	15.7	16.3	17.5	17.7	18.5	19.0	20.8	21.7	22.2	21.9	21.1	21.6	21.5	20.4	18.7	16.3	14.7	13.8	18.3	22.2			
10-Jul	13.3	12.9	12.0	11.3	10.7	11.4	13.0	14.9	17.1	18.4	18.9	19.1	19.6	19.2	18.7	17.8	18.6	19.7	19.2	19.1	17.8	16.0	15.0	14.2	16.2	19.7			
11-Jul	13.3	12.6	10.8	10.1	10.1	11.2	12.7	15.5	18.5	20.2	21.1	22.3	23.1	23.6	24.3	24.6	24.1	24.3	23.5	23.0	22.1	20.0	18.6	18.6	18.7	24.6			
12-Jul	19.4	17.1	16.3	16.2	16.6	16.7	17.2	18.2	18.7	19.2	19.0	18.4	17.0	18.1	19.6	20.4	21.1	21.4	21.1	20.4	19.4	18.2	17.6	17.2	18.5	21.4			
13-Jul	16.9	16.0	14.5	13.9	13.6	14.0	15.2	15.8	17.3	18.4	19.2	20.2	20.3	20.2	19.4	18.2	17.4	17.1	16.7	15.4	13.9	13.3	12.5	11.4	16.3	20.3			
14-Jul	10.9	8.9	6.2	7.7	7.4	7.8	9.5	11.2	13.0	13.6	14.3	14.7	15.1	15.9	16.3	16.7	16.8	16.6	15.9	14.9	13.7	11.7	10.2	5.8	12.3	16.8			
15-Jul	5.1	4.7	4.3	3.8	3.9	7.5	11.7	13.1	14.5	15.5	16.2	17.2	18.2	19.0	19.4	20.1	20.6	20.1	19.6	18.7	16.7	14.7	13.5	12.5	13.8	20.6			
16-Jul	11.9	11.4	11.0	10.8	10.6	11.5	13.6	16.1	18.3	19.1	19.7	20.4	21.2	21.7	22.2	22.3	21.9	21.9	21.2	20.1	17.9	16.0	15.0	13.6	17.1	22.3			
17-Jul	13.0	12.4	12.1	11.7	10.9	12.0	12.8	14.8	17.1	19.3	20.4	21.7	22.6	23.3	23.3	20.9	21.6	23.1	23.0	21.0	17.5	15.5	14.9	14.1	17.5	23.3			
18-Jul	13.6	12.9	12.2	11.3	9.5	10.7	15.2	16.9	18.5	19.8	20.8	21.7	22.8	23.2	23.7	23.9	23.8	23.4	22.7	21.1	18.8	17.6	16.3	16.5	18.2	23.9			
19-Jul	16.7	16.1	15.2	14.1	13.7	14.6	15.7	17.5	19.3	20.4	21.5	22.5	22.8	23.1	23.2	22.0	22.8	23.0	22.2	21.1	18.8	15.5	13.8	13.1	18.7	23.2			
20-Jul	13.1	12.1	11.4	11.2	11.8	12.1	14.2	16.8	20.2	21.1	21.2	22.0	22.8	23.4	23.8	24.2	23.7	24.1	22.6	20.5	19.0	18.0	17.4	16.5	18.5	24.2			
21-Jul	16.0	15.0	14.1	13.7	13.6	13.0	11.4	10.3	9.4	9.7	10.9	13.1	13.8	13.3	13.9	15.4	15.7	15.5	14.3	13.1	11.7	8.6	9.8	6.4	12.6	16.0			
22-Jul	4.2	3.9	3.5	4.4	6.3	8.4	10.0	11.3	12.1	13.1	13.8	15.2	15.9	17.2	18.0	18.4	18.5	18.7	18.9	18.1	15.4	11.4	11.4	11.4	12.5	18.9			
23-Jul	10.8	9.8	8.9	8.2	7.9	8.7	10.7	13.8	16.4	18.0	18.7	19.7	19.6	19.9	20.3	20.6	20.3	19.6	18.8	18.5	16.7	13.0	12.1	12.2	15.1	20.6			
24-Jul	12.3	12.5	11.8	11.2	11.0	12.5	13.1	14.9	17.3	18.2	19.4	19.1	20.1	22.1	23.6	22.2	22.1	22.1	21.5	20.4	18.1	16.9	16.2	15.6	17.3	23.6			
25-Jul	16.0	14.9	14.7	13.5	13.9	13.2	13.2	15.4	17.2	18.5	19.2	20.1	21.0	20.2	20.7	18.3	18.4	17.8	16.2	16.1	14.8	14.1	13.7	12.8	16.4	21.0			
26-Jul	11.3	10.9	10.6	10.3	10.2	10.4	12.3	14.3	14.8	16.0	17.4	17.4	16.9	17.8	16.0	15.6	17.0	18.2	17.9	15.9	15.5	13.9	14.3	13.1	14.5	18.2			
27-Jul	11.8	10.5	9.8	9.4	9.1	9.1	10.1	11.2	10.2	9.7	9.2	9.0	10.0	11.4	11.9	12.2	12.4	11.5	11.9	11.5	9.7	5.7	6.3	6.2	10.0	12.4			
28-Jul	4.1	3.0	2.9	2.5	1.9	3.8	8.2	10.4	11.6	13.1	13.9	14.6	15.3	15.8	16.1	16.7	16.5	16.5	16.7	16.2	14.3	10.2	8.8	7.7	10.9	16.7			
29-Jul	8.3	9.1	8.6	10.5	10.8	11.3	12.0	13.4	16.2	18.5	19.7	20.2	21.4	21.9	22.8	23.5	23.4	23.2	22.7	22.0	18.5	16.8	16.8	16.5	17.0	23.5			
30-Jul	15.8	15.2	15.0	14.9	15.0	15.7	16.0	18.6	21.0	22.6	24.2	25.1	25.6	26.8	26.8	27.8	27.9	28.3	27.3	25.6	22.8	21.2	20.6	19.7	21.7	28.3			
31-Jul	19.1	18.5	17.8	17.0	16.8	16.7	18.0	19.7	22.7	24.9	26.3	27.4	28.2	28.8	29.2	29.5	29.4	29.0	28.0	26.4	23.8	21.7	20.8	19.8	23.3	29.5			
Diurnal Average																													
Diurnal Maximum																													
NS - Not in Service																													



Wood Buffalo Environmental Association
Hourly Averages

Ambient Temperature 2m (AT2) - C
Kirby South - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Ambient Temperature 2m (AT2) - C
Kirby South - July 2025

Concentration Ranges (C)	Number of Hours	%	Cumulative %
-50 - -20	0	0.00	0.00
-20 - 0	0	0.00	0.00
0 - 10	55	9.70	9.70
10 - 20	359	63.32	73.02
> 20	153	26.98	100.00

Total Number of Valid Hours: 567

Total Number of Hours: 744



Wood Buffalo Environmental Association

Summary of Hour Averages

Relative Humidity 2m (RH2) - %

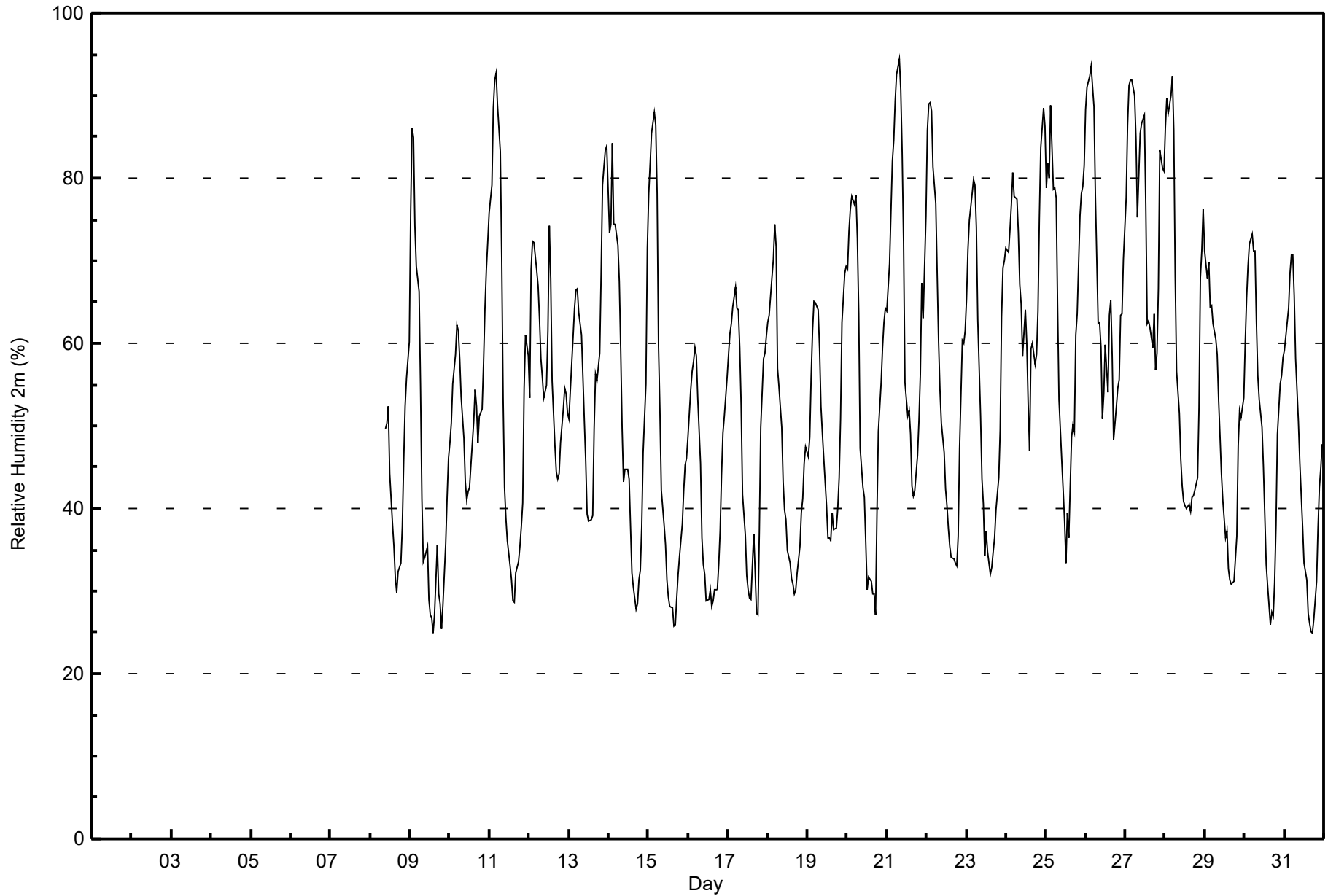
Kirby South - July 2025

Maximum Value: 94.3 % on Jul 21 08:00																				Maximum Daily Average: 76.8 % on Jul 27					Hours in Service: 567	
Minimum Value: 24.8 % on Jul 31 18:00																				Minimum Daily Average: 42.2 % on Jul 16					Hours of Data: 567	
Maximum Diurnal Average: 76.2 % at hour 5																				Minimum Diurnal Average: 37.8 % at hour 15					Hours of Missing Data: 0	
Monthly Average: 54.75 %																				Percentiles: P ₁ = 26.0 P ₁₀ = 31.4 Q ₁ = 39.4 Median = 53.5 Q ₃ = 68.1 P ₉₀ = 80.8 P ₉₉ = 92.1					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-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
2-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
3-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
4-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
5-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
6-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
7-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
8-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--
9-Jul	76.1	86.1	85.0	74.2	69.4	66.2	54.9	41.2	33.6	34.1	35.5	29.0	27.0	26.7	24.9	27.2	35.7	29.6	28.5	25.5	28.3	35.8	41.4	46.1	44.2	86.1
10-Jul	48.0	50.4	55.1	58.7	62.2	61.6	58.2	53.5	48.5	43.2	41.1	42.1	42.6	45.3	50.5	54.4	52.3	48.0	51.3	52.0	57.5	64.0	68.8	72.3	53.4	72.3
11-Jul	75.8	79.2	88.4	91.9	92.7	88.9	83.3	70.4	53.4	42.5	38.8	36.2	33.1	31.4	28.9	28.7	32.2	33.6	35.4	37.7	40.7	54.6	61.0	58.4	54.9	92.7
12-Jul	53.3	68.9	72.4	72.2	68.8	67.0	62.8	58.1	55.9	53.3	55.0	61.5	74.3	67.7	55.5	47.7	44.4	43.6	44.2	48.0	52.1	54.5	53.8	51.6	57.8	74.3
13-Jul	50.8	54.2	60.8	64.3	66.5	66.7	63.8	61.0	55.9	50.6	45.8	39.3	38.4	38.6	39.2	49.7	56.3	55.5	58.8	68.3	79.2	81.3	83.4	84.0	58.8	84.0
14-Jul	73.4	74.4	84.2	74.3	74.4	71.8	67.5	59.1	49.7	43.2	44.8	44.8	43.6	37.7	32.3	30.5	27.8	28.5	31.3	32.6	37.7	46.8	55.2	71.4	51.5	84.2
15-Jul	78.2	81.7	85.4	88.0	86.5	78.1	59.6	51.9	42.2	38.0	35.5	31.4	29.4	28.2	27.9	25.7	25.9	29.1	32.1	34.2	38.1	42.2	45.2	46.1	48.4	88.0
16-Jul	48.7	54.4	56.7	57.8	59.5	58.5	53.4	45.3	36.4	33.2	32.0	28.8	29.1	30.1	28.1	28.8	30.2	30.2	33.2	37.3	44.1	49.2	51.1	55.9	42.2	59.5
17-Jul	58.6	61.2	62.3	64.5	66.8	64.3	64.0	59.6	52.5	41.6	36.8	31.8	30.1	29.2	29.1	37.0	32.4	27.2	27.1	37.1	49.9	58.2	58.8	60.9	47.5	66.8
18-Jul	62.6	63.4	67.9	70.2	74.4	71.8	56.9	54.8	49.8	43.3	39.8	38.6	34.9	33.4	31.5	30.9	29.7	30.2	32.2	35.5	39.5	41.2	45.5	47.5	46.9	74.4
19-Jul	46.3	48.7	55.9	61.5	65.2	64.8	64.0	59.3	52.4	49.1	46.0	40.3	36.5	36.4	36.1	39.5	37.4	37.6	39.9	43.7	50.9	62.6	68.4	69.4	50.5	69.4
20-Jul	69.0	73.5	76.3	77.8	76.8	78.0	72.7	63.5	47.3	42.6	41.3	35.9	30.1	31.7	31.2	29.7	29.6	27.1	39.3	49.3	55.3	59.4	62.5	64.2	52.7	78.0
21-Jul	63.9	69.7	75.9	82.0	84.7	89.3	92.6	94.3	90.7	83.0	72.4	55.3	51.2	51.9	49.0	42.7	41.6	42.3	46.5	50.7	56.3	67.3	63.1	75.4	66.3	94.3
22-Jul	85.8	89.0	89.2	88.2	81.3	76.9	68.5	60.3	54.4	50.3	46.8	42.4	40.4	37.6	35.4	34.1	33.9	33.3	33.1	36.6	47.3	60.3	60.0	61.6	56.1	89.2
23-Jul	65.4	71.3	74.9	78.2	79.8	79.2	74.1	62.9	51.1	43.5	40.6	34.3	37.3	34.8	32.0	32.9	34.8	36.4	39.8	43.8	49.4	63.3	69.1	70.0	54.1	79.8
24-Jul	71.5	71.1	73.8	76.8	80.7	77.8	77.4	73.3	67.0	64.7	58.5	64.0	60.0	52.7	46.9	59.4	59.9	57.5	58.7	63.9	75.3	83.7	88.5	86.3	68.7	88.5
25-Jul	78.8	81.9	80.0	88.8	78.6	78.8	77.6	64.6	53.2	45.8	42.2	38.5	33.4	39.6	36.4	48.7	50.1	49.4	61.0	63.5	75.5	78.1	79.0	81.5	62.7	88.8
26-Jul	88.3	91.0	92.4	93.6	91.1	88.6	78.0	62.4	62.5	59.5	50.9	54.0	59.8	54.1	63.3	65.3	58.5	48.4	52.5	54.6	55.5	63.4	63.6	70.3	67.6	93.6
27-Jul	77.6	86.5	91.2	91.9	91.9	90.0	84.7	75.3	80.3	85.4	86.6	87.6	76.5	62.3	62.7	61.9	59.5	63.5	56.8	58.8	66.7	83.4	81.2	80.9	76.8	91.9
28-Jul	86.1	89.7	87.8	90.0	92.4	85.7	68.2	56.7	51.5	45.9	42.7	40.9	40.3	40.0	40.5	39.7	41.4	41.5	42.2	43.7	52.2	67.9	71.2	76.3	59.8	92.4
29-Jul	71.2	67.7	69.9	64.4	64.5	62.4	60.4	58.6	53.2	48.8	44.2	41.1	36.4	37.3	32.8	31.3	30.9	31.2	33.9	36.7	47.6	51.8	51.1	53.3	49.2	71.2
30-Jul	60.0	65.4	69.3	72.0	73.2	71.2	71.2	62.6	56.2	53.2	49.8	45.1	39.1	33.2	30.7	26.0	27.5	27.0	31.0	37.9	49.1	55.1	56.1	58.4	50.8	73.2
31-Jul	59.1	60.9	64.2	68.4	70.7	70.6	65.8	58.2	50.5	45.6	41.7	37.7	33.4	31.3	27.3	26.1	25.2	24.8	26.7	31.2	37.6	42.5	44.9	47.8	45.5	70.7
67.3 71.3 74.7 76.1 76.2 74.3 68.7 61.2 54.3 49.6 46.6 43.9 41.7 39.6 37.8 38.7 38.6 37.8 40.4 44.2 51.3 59.1 61.6 64.6																								Diurnal Average		
88.3 91.0 92.4 93.6 92.7 90.0 92.6 94.3 90.7 85.4 86.6 87.6 76.5 67.7 63.3 65.3 59.9 63.5 61.0 68.3 79.2 83.7 88.5 86.3																								Diurnal Maximum		
NS - Not in Service																										



Wood Buffalo Environmental Association
Hourly Averages

Relative Humidity 2m (RH2) - %
Kirby South - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Relative Humidity 2m (RH2) - %
Kirby South - July 2025

Concentration Ranges (%)	Number of Hours	%	Cumulative %
0 - 20	0	0.00	0.00
20 - 40	149	26.28	26.28
40 - 60	202	35.63	61.90
60 - 80	157	27.69	89.59
80 - 100	59	10.41	100.00

Total Number of Valid Hours: 567

Total Number of Hours: 744



Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Speed 10m (WS10) - km/h

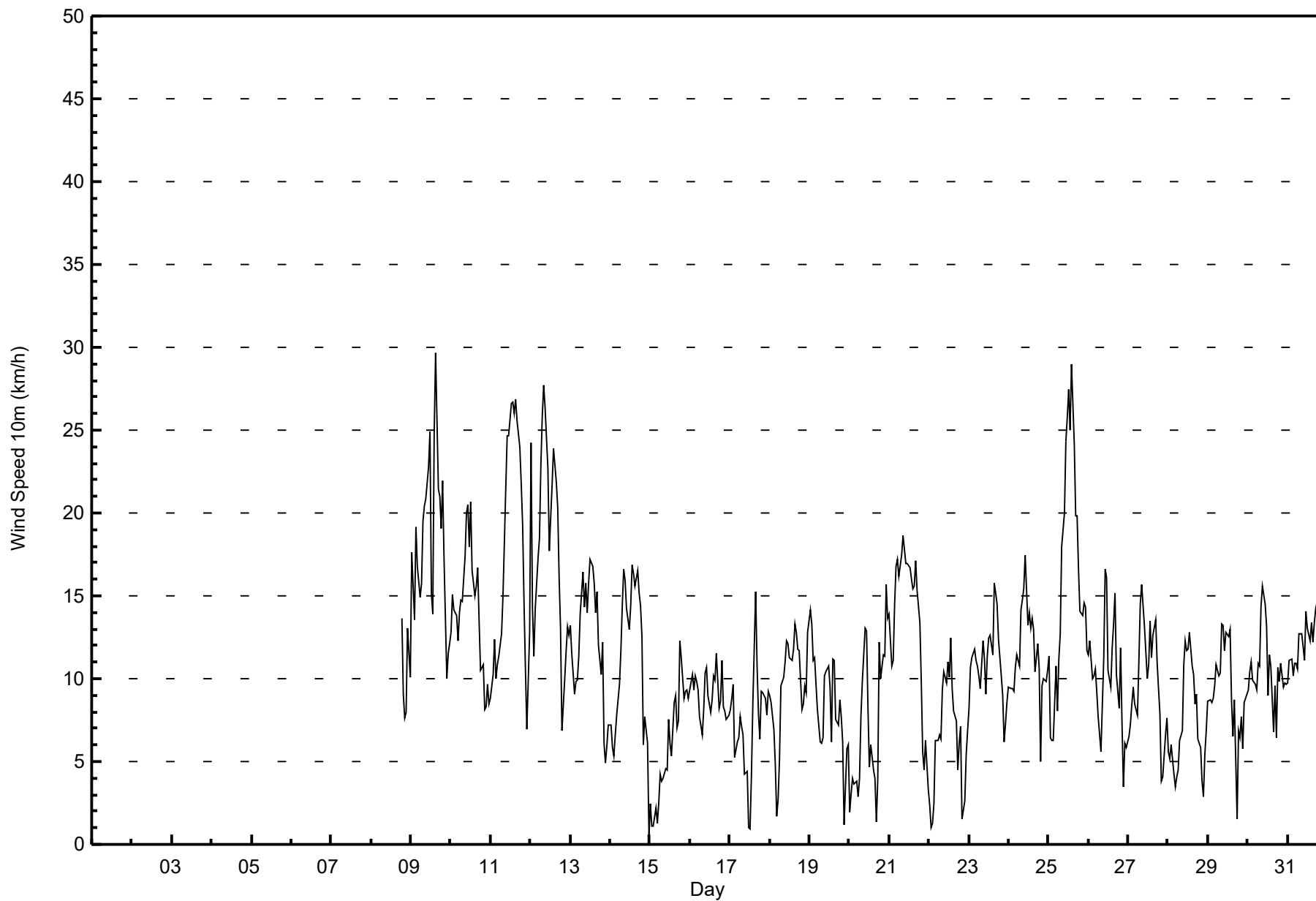
Kirby South - July 2025

Maximum Speed: 30 km/h on Jul 9 16:00																		Maximum Daily Speed Average: 17.4 km/h on Jul 11								Hours in Service: 563	
Minimum Speed Value: 0 km/h on Jul 15 00:00																		Minimum Daily Speed Average: 3.0 km/h on Jul 17								Hours of Data: 558	
Maximum Diurnal Speed Average: 8.4 km/h at hour 16																		Minimum Diurnal Speed Average: 3.7 km/h at hour 22								Hours of Missing Data: 5	
Monthly Average Velocity: 5.4 km/h 257.8 deg																		Percentiles: P ₁ = 1 P ₁₀ = 5 Q ₁ = 8 Median = 11 Q ₃ = 14 P ₉₀ = 17 P ₉₉ = 27								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-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	----	----	
2-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	----	----	
3-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	----	----	
4-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	----	----	
5-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	----	----	
6-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	----	----	
7-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	----	----	
8-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	C	C	C	C	C	SSW14	S9	SSE8	SSE8	SSE13	SSW10	----	SSW14	
9-Jul	WNW18	WNW16	WNW14	WNW14	WNW19	WNW17	WNW15	W16	W19	W20	W21	WSW23	WSW25	W15	NE14	NE25	W30	SW21	WSW21	W19	WNW22	WNW17	WNW10	W12	W12	W14.7	W30
10-Jul	W13	W15	W14	W14	W12	W14	W15	W15	WNW17	WNW20	WNW21	NW18	NW21	NW17	NW15	NNW16	NW17	NW13	WNW11	NW11	WNW8	W8	W10	W9	WNW13.1	NW21	
11-Jul	W9	WSW10	SW12	SW10	SW11	SW11	SW13	SW15	SW18	WSW21	WSW25	SW25	SW27	SW27	SW26	WSW27	WSW26	WSW24	SW22	SW19	SW15	W11	SW7	WSW13	SW17.4	WSW27	
12-Jul	W24	W14	SW11	SW14	WSW17	W19	W23	W26	W28	WNW26	WNW23	NW18	NW20	NW22	WNW24	NW22	NW20	NW16	NW13	WNW7	W10	W12	W13	W13	WNW16.4	W28	
13-Jul	W13	WNW12	W9	W10	W10	WNW11	WNW14	WNW16	WNW14	WNW16	WNW14	WNW16	WNW17	NW17	NNW16	NNW14	N15	N12	N10	NNE12	NNW6	NNW5	NNW6	N7	NW10.3	WNW17	
14-Jul	N7	N6	NNE5	NNE7	N8	N10	NNE12	NE14	NNE17	N16	N14	N13	NNW14	N17	N16	N16	NNW17	N15	N14	NNE13	N6	N8	NNE6	NE0	N10.9	N17	
15-Jul	N2	N1	WNW1	W2	WNW1	WNW3	WSW4	WSW4	WNW4	NNW5	W4	WSW8	W6	N5	NW9	NW9	WNW7	SW7	SSW12	SW11	SW9	SSW9	SSW9	SSW9	WSW4.1	SSW12	
16-Jul	SSW9	S10	SSW9	SSW10	SSW10	S9	SSW8	SSW7	S8	SSE10	SSW11	SW9	SSW8	SW9	SW10	SSW10	SW12	SSW8	S9	S11	S8	S8	SSW8	SSW8	SSW8.8	SW12	
17-Jul	SSW8	SSW9	SSW10	SW5	SW6	SW6	SW8	SW7	WSW7	WNW4	NNW4	ESE1	W1	WNW4	N9	NNW15	NW11	N8	NNE6	SE9	S9	S9	SSW8	SSW9	WSW3.0	NNW15	
18-Jul	SW9	SW9	S7	S5	E2	SSE3	SSE5	SSE7	SSE10	SSE11	SSE12	SSE12	SSE11	S11	S12	S13	SSE13	SSE12	SE12	SE8	SE8	SE10	ESE9	SE13	SSE8.7	S13	
19-Jul	SSE14	SE13	SE11	SSE11	SSE10	SSE8	SE6	SE6	SSE6	SSE10	SSE10	SSE11	SSE9	ESE6	SSW11	SSW11	S8	SSW7	SSW9	SSW8	SSW6	SW1	SSW6	SSW6	S7.8	SSE14	
20-Jul	WSW2	SSW3	SSE4	SSE4	S4	SSE3	ESE4	SE8	SE10	SE13	SE13	SE8	ESE5	SE6	SSE5	SSW4	E1	WSW4	S12	SSW10	SW11	WSW11	W16	NW14	S4.0	W16	
21-Jul	NNW14	N11	NNE11	N14	N17	N17	N16	N17	N19	N18	N17	N17	N17	N16	NNW15	N16	N17	N15	NNE13	NNE10	NE6	NNE5	N6	N3	N13.4	N19	
22-Jul	N2	N1	NNW1	NW2	WNW6	WNW6	NNW7	N6	NW9	WNW10	WNW10	WNW11	WNW10	WNW12	W9	NNW8	NNW7	NNW5	NW6	WNW7	NW2	SW3	WSW5	SW7	WNW5.5	WNW12	
23-Jul	SW8	SW11	SW11	SW12	SW11	SW11	SW10	WSW9	WSW12	WSW11	SW9	SSW11	SW12	SSW13	SW11	SW16	SSW15	SSW15	SSW12	SSW10	SW9	S6	S7	SSE9	SW10.4	SW16	
24-Jul	SSE10	SSE9	SSE9	SSE9	SSE11	SSE11	SSE11	SSE14	SSE15	SSE15	SSE17	S13	S14	S13	SSW14	SW13	SW10	SSW12	SSW11	S5	S10	SSW10	SSW10	SW11	S10.5	SSE17	
25-Jul	W11	WSW6	W6	WSW6	WSW11	SW8	SW11	WSW13	W18	W20	W24	WSW26	W27	W25	W29	WSW24	W20	W20	W17	WNW14	NW14	NW15	NNW14	NNW12	W14.6	W29	
26-Jul	NNW11	NW12	NW10	WNW10	NW11	NW9	NNW8	NW6	WNW8	WNW11	W17	W16	WNW10	NW10	WNW12	WSW13	W15	WNW10	NW8	WNW12	NNW7	NNW3	N6	NNW6	WNW9.3	W17	
27-Jul	N7	N7	NNE8	NNE10	NE8	NE8	NE11	NE14	NNE16	NNE14	NNE13	NNE10	N11	N13	N11	N13	N14	NNW11	NNW9	N8	NNW4	WNW4	WNW7	WNW8	N8.8	NNE16	
28-Jul	NW6	NW5	WNW6	WNW4	WNW3	WSW4	W4	SW6	W7	WNW11	WNW12	WNW12	W12	WNW13	WNW11	W10	NW8	WNW9	NW6	W6	WSW4	SSW3	SSW5	SSW7	W6.5	WNW13	
29-Jul	SSW9	SSW9	SSW9	SSW9	SSW10	SSW11	SSW10	SW10	SW13	SW13	WSW12	WSW13	W13	W13	W9	NNW7	WSW9	NW2	SW7	S6	SSE8	S6	S9	SSW9	SW7.7	SW13	
30-Jul	SSW9	SSW10	S11	S10	S10	SSW9	SSW11	SSW11	SSW14	SSW16	SSW14	WSW13	WSW9	W11	WNW11	WNW7	W10	WSW6	SW11	S10	S11	S10	SSW10	SSW10	SW9.1	SSW16	
31-Jul	SSW10	SSW11	SSW11	SW10	SW11	SW11	SW11	SW13	SW13	SW12	SW11	SW14	SW13	SW12	SSW13	SSW12	S13	SSW14	S15	S12	S10	S11	S11	S11	SSW11.3	S15	
WSW5.3WSW4.8 SW4.4WSW4.5WSW4.5WSW4.7WSW4.7WSW5.0 W6.3 W6.8 W7.4WSW7.5 W7.7WNW6.8WNW7.1 W8.4 W7.1 W6.0WSW5.1WSW3.8 SW4.2 SW3.7 SW4.2 SW4.9																									Diurnal Average		
W24WNW16 W14WNW19WSW17 W19 W23 W26 W28WNW26WSW25WSW26 W27 SW27 W29 W30WSW26WSW24 SW22WNW22WNW17 NW15 W16 NW14																									Diurnal Maximum		
C - Calibration NS - Not in Service																											
All monthly, daily, and diurnal averages have been calculated using vector methods																											



Wood Buffalo Environmental Association
Hourly Averages

Wind Speed 10m (WS10) - km/h
Kirby South - July 2025





Wood Buffalo Environmental Association
Cumulative Frequency Distribution

Wind Speed 10m (WS10) - km/h
Kirby South - July 2025

Wind Speed Ranges (km/h)	Number of Hours	%	Cumulative %
0 - 5	61	10.93	10.93
6 - 11	276	49.46	60.39
12 - 19	179	32.08	92.47
20 - 28	40	7.17	99.64
29 - 38	2	0.36	100.00
> 38	0	0.00	100.00

Total Number of Valid Hours: 558

Total Number of Hours: 744



Wood Buffalo Environmental Association
Frequency Distribution

Wind Speed 10m (WS10) - km/h
Kirby South - July 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	6	2	1	0	1	4	0	6	3	4	3	7	4	9	4	7	61
6 - 11	19	8	4	0	0	2	11	24	28	55	40	13	19	26	15	12	276
12 - 19	27	8	3	0	0	0	5	10	9	14	20	8	29	23	13	10	179
20 - 28	0	0	1	0	0	0	0	0	0	0	6	10	12	6	5	0	40
29 - 38	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	52	18	9	0	1	6	16	40	40	73	69	38	66	64	37	29	558

Total Number of Valid Hours: 558

Total Number of Hours: 744



Wind Speed 10m (WS10) - km/h





Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

Wind Speed 10m (WS10) - km/h

Kirby South - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 10 km/h on Jul 9 15:00																	Hours in Service: 563									
Minimum Value: 0 km/h on Jul 28 05:00																	Hours of Data: 558									
Percentiles: P ₁ = 1 P ₁₀ = 1 Q ₁ = 2 Median = 3 Q ₃ = 4 P ₉₀ = 5 P ₉₉ = 7																	Hours of Missing Data: 5									
																	Hours of Calibration: 5									
																	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-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
2-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
3-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
4-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
5-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
6-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
7-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
8-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	C	C	C	C	C							4
9-Jul	6	5	3	4	4	3	5	4	6	6	6	6	7	8	10	6	5	5	6	6	5	2	1	3	4	10
10-Jul	2	3	2	2	2	2	3	4	4	5	5	4	5	4	4	4	4	4	4	3	2	1	1	2	5	
11-Jul	2	2	2	2	2	3	3	4	4	5	7	6	7	6	6	6	6	6	6	5	4	6	3	6	7	
12-Jul	5	5	2	3	4	4	6	5	6	6	6	5	5	5	5	5	5	4	4	2	3	2	2	2	6	
13-Jul	2	3	2	2	2	2	3	4	3	4	3	5	4	4	4	4	4	4	3	3	2	1	1	1	5	
14-Jul	1	1	2	1	1	2	3	4	4	4	5	4	4	5	5	5	5	4	4	3	2	1	2	1	5	
15-Jul	1	2	1	1	2	1	1	2	3	3	4	3	4	3	3	4	3	3	3	3	1	1	1	1	4	
16-Jul	1	1	1	1	1	1	2	2	3	3	4	4	4	4	5	5	4	3	2	3	1	1	1	1	5	
17-Jul	1	1	1	2	1	2	2	1	1	2	3	2	3	3	4	6	3	2	2	4	2	2	2	1	6	
18-Jul	1	1	3	2	2	1	2	2	2	3	3	3	4	4	4	4	4	4	3	1	1	1	2	2	4	
19-Jul	3	3	2	2	1	2	2	1	2	3	3	4	4	4	5	3	2	2	2	2	1	1	1	2	5	
20-Jul	1	2	2	2	2	2	1	3	3	4	4	3	3	4	3	3	2	1	5	2	3	3	3	4	5	
21-Jul	3	2	3	3	4	6	4	5	5	5	5	5	5	4	4	5	5	5	4	3	1	1	1	1	6	
22-Jul	1	1	2	1	2	1	1	2	3	4	4	4	5	5	4	3	2	3	2	3	2	2	2	1	5	
23-Jul	2	1	2	1	1	2	2	2	2	3	4	4	4	4	4	4	4	4	3	3	3	1	1	1	4	
24-Jul	1	1	1	1	2	2	3	4	3	3	4	4	4	4	4	5	2	3	2	3	2	2	2	3	5	
25-Jul	2	2	2	2	2	2	3	5	4	5	6	7	6	6	7	6	5	4	5	3	3	4	4	4	7	
26-Jul	3	3	2	2	2	2	2	2	2	2	3	3	4	4	5	5	3	3	3	3	2	2	1	1	5	
27-Jul	1	2	2	2	2	2	2	4	4	4	4	2	3	3	3	4	3	4	2	2	2	2	1	1	4	
28-Jul	1	1	1	1	0	1	1	2	3	4	4	4	4	4	3	3	2	2	1	2	1	2	2	1	4	
29-Jul	1	1	1	1	2	2	2	2	4	3	4	5	4	5	4	5	3	2	2	1	1	1	1	1	5	
30-Jul	2	2	2	2	2	2	2	2	4	4	3	4	4	4	3	4	2	3	3	2	2	2	2	1	4	
31-Jul	1	1	1	1	1	2	3	3	3	3	4	4	4	4	5	5	4	4	4	3	2	2	2	2	5	
Diurnal Maximum																										
C - Calibration NS - Not in Service																										



Wood Buffalo Environmental Association

Summary of Hour Averages

Wind Direction 10m (WD10) - deg

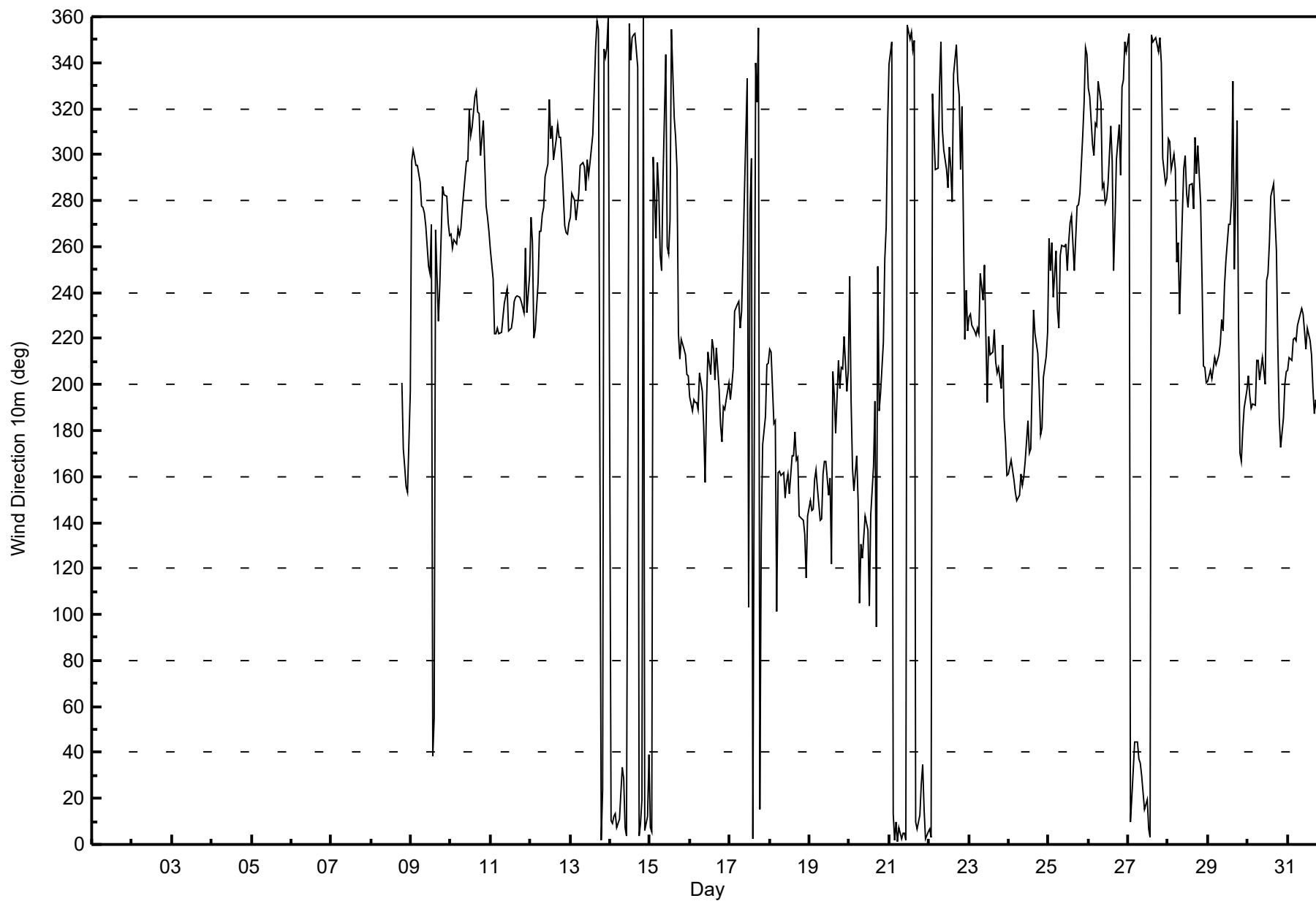
Kirby South - July 2025

Direction of Maximum Speed: 267 deg on Jul 9 16:00 Direction of Maximum Daily Speed Average: 234.2 deg on Jul 11																				Hours in Service: 563						
Direction of Minimum Speed: 39 deg on Jul 15 00:00 Direction of Minimum Daily Speed Average: 3.0 deg on Jul 17																				Hours of Data: 558						
Monthly Average Direction: 257.8 deg																				Hours of Missing Data: 5						
																				Percent Operational Time: 100.0						
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-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
2-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
3-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
4-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
5-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
6-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
7-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
8-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	C	C	C	C	C	201	172	164	156	153	197	--	
9-Jul	297	302	299	295	295	288	278	277	274	269	251	248	270	38	55	267	228	243	265	286	282	282	270	265	276.8	
10-Jul	265	259	263	261	268	265	268	276	291	297	297	320	308	312	325	328	319	318	300	315	296	278	273	267	292.4	
11-Jul	259	246	222	222	225	222	223	230	235	238	242	223	224	229	236	238	238	238	236	234	231	259	231	248	234.2	
12-Jul	273	262	220	224	244	267	266	274	277	290	296	324	307	312	298	307	313	308	308	297	269	266	265	270	283.5	
13-Jul	273	283	280	272	277	283	295	296	294	284	298	291	296	309	328	346	358	355	2	24	346	342	346	360	310.7	
14-Jul	10	9	12	13	7	11	22	34	29	7	3	357	341	351	352	353	338	3	9	19	360	6	12	39	4.9	
15-Jul	8	6	299	264	296	284	256	250	289	343	260	257	271	355	316	308	294	222	211	219	215	213	205	204	252.0	
16-Jul	195	188	193	192	192	189	205	197	182	158	192	214	204	219	215	202	216	198	182	175	190	189	193	201	195.1	
17-Jul	193	200	207	232	235	236	224	232	256	283	333	103	275	298	2	340	323	355	15	136	174	186	209	210	241.8	
18-Jul	215	214	183	184	101	162	162	160	162	150	158	161	152	169	169	179	167	168	143	141	141	135	116	143	160.8	
19-Jul	150	145	146	158	163	155	141	142	161	167	166	152	160	122	206	195	179	210	198	207	207	221	197	206	169.5	
20-Jul	247	193	164	154	169	150	105	131	124	142	139	137	104	144	165	193	95	252	189	197	219	254	268	312	180.1	
21-Jul	340	349	14	2	10	1	7	3	5	5	2	356	350	353	346	350	10	7	13	26	35	15	2	5	1.9	
22-Jul	7	3	327	308	293	294	329	349	311	302	294	285	303	294	279	335	348	332	326	293	321	219	241	223	302.6	
23-Jul	229	230	226	223	222	225	222	248	237	252	221	192	221	213	214	224	210	205	208	198	217	186	175	160	216.5	
24-Jul	161	167	163	159	153	149	152	161	156	160	167	184	170	172	202	232	222	213	198	178	181	203	212	223	179.7	
25-Jul	264	250	262	238	258	232	224	256	261	260	261	250	262	270	273	249	264	277	278	283	308	322	347	343	269.3	
26-Jul	329	325	305	300	314	313	332	323	286	287	279	281	287	312	297	249	271	298	313	291	330	332	349	344	300.4	
27-Jul	353	10	21	33	44	45	37	35	30	23	15	20	6	3	352	349	351	348	345	351	340	299	288	290	7.2	
28-Jul	307	306	293	300	293	253	262	231	275	294	300	283	277	287	287	276	308	291	304	279	246	208	207	201	280.1	
29-Jul	201	207	203	207	212	209	213	218	228	223	243	254	270	269	281	332	250	315	225	170	166	180	189	198	225.3	
30-Jul	204	195	190	191	191	210	210	202	207	212	200	245	248	262	282	288	272	258	217	185	173	186	200	206	215.0	
31-Jul	206	212	211	220	220	219	226	228	233	231	223	216	225	219	213	198	187	194	187	189	184	182	179	184	207.8	
257.4 246.3 232.8 240.2 248.8 250.2 253.7 257.1 262.2 264.4 259.9 258.1 269.1 284.2 284.9 276.7 275.3 271.5 250.0 241.2 229.2 232.6 232.6 232.9																										
Diurnal Average																										
C - Calibration NS - Not in Service																										
All monthly, daily, and diurnal averages have been calculated using vector methods																										



Wood Buffalo Environmental Association
Hourly Averages

Wind Direction 10m (WD10) - deg
Kirby South - July 2025





Wood Buffalo Environmental Association

Summary of Hour Standard Deviations

Wind Direction 10m (WD10) - deg
Kirby South - July 2025

Number of Exceedences (AAAQO): 1-hr: 0 24-hr: 0 Maximum Value: 104 deg on Jul 17 13:00 Minimum Value: 4 deg on Jul 23 23:00 Percentiles: $P_1 = 5$ $P_{10} = 9$ $Q_1 = 13$ Median = 17 $Q_3 = 24$ $P_{90} = 39$ $P_{99} = 85$																									Hours in Service: 563 Hours of Data: 558 Hours of Missing Data: 5 Hours of Calibration: 5 Percent Operational Time: 100.0
Day	Hourly Period Ending At (MST)																								Daily Maximum
1-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
2-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
3-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
4-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
5-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
6-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
7-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
8-Jul	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	C	C	C	C	C	22	18	12	12	16	46	46
9-Jul	24	14	15	14	14	15	16	16	19	20	21	18	76	78	60	16	18	18	29	14	11	11	9	8	78
10-Jul	8	10	8	8	9	10	13	16	16	17	20	21	21	19	24	17	19	20	16	15	16	7	6	10	24
11-Jul	13	17	7	9	10	13	12	14	16	16	18	19	20	19	18	17	15	17	15	13	14	29	20	17	29
12-Jul	12	26	12	13	14	11	13	13	15	15	16	19	17	17	17	18	18	19	15	12	11	9	9	9	26
13-Jul	10	11	13	9	10	13	15	14	16	19	21	22	24	21	19	27	20	20	22	16	20	16	14	15	27
14-Jul	11	13	14	11	12	14	14	16	18	20	27	25	25	28	29	27	25	22	23	14	17	13	13	81	81
15-Jul	10	19	44	22	24	23	24	52	83	74	87	53	77	79	35	39	49	43	24	16	11	7	6	6	87
16-Jul	8	10	10	10	8	10	15	24	29	26	35	40	58	52	43	47	27	31	31	19	9	7	7	5	58
17-Jul	5	8	4	23	10	11	9	13	19	69	71	102	104	88	36	18	18	24	22	50	18	16	10	4	104
18-Jul	5	5	21	13	44	32	18	16	20	19	24	26	30	29	33	34	29	21	17	9	7	7	17	11	44
19-Jul	12	12	13	10	9	14	17	19	22	22	29	35	31	61	51	20	34	34	18	13	6	67	21	10	67
20-Jul	33	48	24	12	36	49	15	17	23	24	21	38	78	78	76	78	94	35	33	13	17	14	11	23	94
21-Jul	18	20	14	16	16	19	15	17	18	17	19	23	24	21	23	26	22	21	17	13	12	11	13	16	26
22-Jul	15	30	67	13	5	11	28	44	26	29	42	32	43	37	50	47	28	67	35	38	88	37	16	12	88
23-Jul	9	9	9	7	8	10	14	24	18	28	44	36	27	29	35	24	28	24	21	19	12	13	4	7	44
24-Jul	5	7	8	8	10	12	14	16	16	17	20	20	20	23	29	20	17	22	16	40	13	12	11	19	40
25-Jul	11	20	27	19	16	13	14	22	18	19	19	18	18	21	15	22	22	13	13	13	16	16	19	18	27
26-Jul	15	14	14	17	13	13	18	32	18	19	17	16	21	47	26	20	13	17	24	14	20	50	16	16	50
27-Jul	15	17	11	11	14	13	14	17	17	17	16	16	19	21	31	22	21	18	18	18	20	16	7	7	31
28-Jul	8	8	7	10	17	9	10	21	38	30	24	28	26	24	24	29	24	16	25	19	14	22	12	9	38
29-Jul	6	4	5	8	12	10	14	15	15	25	30	28	32	32	50	73	37	83	25	15	6	5	6	9	83
30-Jul	10	11	11	11	10	12	13	15	17	18	21	36	53	32	22	50	27	63	20	18	11	12	10	9	63
31-Jul	8	8	7	9	9	11	13	16	15	22	31	28	34	33	30	38	28	24	19	14	9	10	11	9	38
33 48 67 23 44 49 28 52 83 74 87 102 104 88 76 78 94 83 35 50 88 67 21 81 Diurnal Maximum																									
C - Calibration NS - Not in Service																									



<u>Site</u>	<u>Paramter</u>	<u>Date/Time</u>	<u>Reference</u>	<u>Period</u>	<u>Reported</u>	<u>Final</u>	<u>Status</u>
Patricia McInnes	PM2.5	1Jul25, 24:00	443708	24-hr	29	29.1	exc
Athabasca Valley	PM2.5	1Jul25, 24:00	443709	24-hr	29	29.1	exc
Barge Landing	PM2.5	1Jul25, 24:00	443710	24-hr	29	29.5	exc
Bertha Ganter	PM2.5	1Jul25, 24:00	443711	24-hr	34	33.8	exc
Bertha Ganter	PM2.5	2Jul25, 24:00	443711	24-hr	31	30.9	exc
Mildred Lake	H2S	16Jul25, 01:00	443025	1-hr	13	12.5	exc
Bertha Ganter	PM2.5	17Jul25, 24:00	443711	24-hr	46	45.9	exc
Buffalo Viewpoint	PM2.5	17Jul25, 24:00	443712	24-hr	33	33.1	exc
Barge Landing	PM2.5	17Jul25, 24:00	443710	24-hr	39	39.0	exc
Ft. McKay S	PM2.5	17Jul25, 24:00	443713	24-hr	33	33.5	exc
Fort Hills	PM2.5	17Jul25, 24:00	443714	24-hr	51	51.3	exc
Ells River	PM2.5	17Jul25, 24:00	443715	24-hr	34	33.8	exc
Mildred Lake	H2S	18Jul25, 23:00	443182	1-hr	12	11.7	exc
Bertha Ganter	PM2.5	18Jul25, 24:00	443711	24-hr	57	57.0	exc
Buffalo Viewpoint	PM2.5	18Jul25, 24:00	443712	24-hr	47	46.7	exc
Patricia McInnes	PM2.5	18Jul25, 24:00	443708	24-hr	61	61.0	exc
Athabasca Valley	PM2.5	18Jul25, 24:00	443709	24-hr	64	64.3	exc
Barge Landing	PM2.5	18Jul25, 24:00	443710	24-hr	56	56.1	exc
Ft. McKay S	PM2.5	18Jul25, 24:00	443713	24-hr	49	49.3	exc
Anzac	PM2.5	18Jul25, 24:00	443716	24-hr	67	67.0	exc
Wapasu	PM2.5	18Jul25, 24:00	443717	24-hr	51	50.9	exc
Stony Mtn.	PM2.5	18Jul25, 24:00	443718	24-hr	90	90.5	exc
Conklin	PM2.5	18Jul25, 24:00	443719	24-hr	90	90.4	exc
Janvier	PM2.5	18Jul25, 24:00	443720	24-hr	116	115.6	exc
Fort Hills	PM2.5	18Jul25, 24:00	443714	24-hr	55	54.8	exc
Surmont 2	PM2.5	18Jul25, 24:00	443721	24-hr	76	75.6	exc
Ells River	PM2.5	18Jul25, 24:00	443715	24-hr	48	48.4	exc
Ells River	SO2	19Jul25, 04:00	443187	1-hr	205	205.6	exc
Fort Chip	SO2	19Jul25, 05:00	443188	1-hr	179	179.4	exc
Fort Chip	SO2	19Jul25, 06:00	443190	1-hr	210	210.3	exc
Fort Chip	SO2	19Jul25, 07:00	443193	1-hr	209	209.2	exc
Fort Chip	SO2	19Jul25, 08:00	443196	1-hr	175	175.1	exc
Bertha Ganter	PM2.5	19Jul25, 24:00	443711	24-hr	153	153.2	exc
Buffalo Viewpoint	PM2.5	19Jul25, 24:00	443712	24-hr	136	135.8	exc
Patricia McInnes	PM2.5	19Jul25, 24:00	443708	24-hr	144	143.9	exc
Athabasca Valley	PM2.5	19Jul25, 24:00	443709	24-hr	157	157.2	exc
Fort Chip	PM2.5	19Jul25, 24:00	443722	24-hr	44	43.8	exc
Fort Chip	SO2	19Jul25, 24:00	443215	24-hr	49	49.4	exc
Barge Landing	PM2.5	19Jul25, 24:00	443710	24-hr	158	157.6	exc
Ft. McKay S	PM2.5	19Jul25, 24:00	443713	24-hr	144	143.7	exc



Site	Paramter	Date/Time	Reference	Period	Reported	Final	Status
Anzac	PM2.5	19Jul25, 24:00	443716	24-hr	133	132.8	exc
Wapasu	PM2.5	19Jul25, 24:00	443717	24-hr	135	135.0	exc
Stony Mtn.	PM2.5	19Jul25, 24:00	443718	24-hr	87	87.3	exc
Conklin	PM2.5	19Jul25, 24:00	443719	24-hr	82	81.5	exc
Janvier	PM2.5	19Jul25, 24:00	443720	24-hr	119	119.1	exc
Fort Hills	PM2.5	19Jul25, 24:00	443714	24-hr	137	137.3	exc
Surmont 2	PM2.5	19Jul25, 24:00	443721	24-hr	101	101.4	exc
Ells River	PM2.5	19Jul25, 24:00	443715	24-hr	133	132.8	exc
Wapasu	PM2.5	20Jul25, 24:00	443717	24-hr	38	38.4	exc
Stony Mtn.	PM2.5	20Jul25, 24:00	443718	24-hr	62	62.4	exc
Janvier	PM2.5	20Jul25, 24:00	443720	24-hr	57	56.6	exc
Fort Hills	PM2.5	20Jul25, 24:00	443714	24-hr	32	31.7	exc
Ells River	PM2.5	20Jul25, 24:00	443715	24-hr	31	31.1	exc
Bertha Ganter	PM2.5	20Jul25, 24:00	443711	24-hr	53	52.6	exc
Buffalo Viewpoint	PM2.5	20Jul25, 24:00	443712	24-hr	35	35.4	exc
Patricia McInnes	PM2.5	20Jul25, 24:00	443708	24-hr	50	50.4	exc
Athabasca Valley	PM2.5	20Jul25, 24:00	443709	24-hr	83	83.0	exc
Barge Landing	PM2.5	20Jul25, 24:00	443710	24-hr	39	39.1	exc
Ft. McKay S	PM2.5	20Jul25, 24:00	443713	24-hr	38	38.0	exc
Anzac	PM2.5	20Jul25, 24:00	443716	24-hr	85	84.5	exc
Conklin	PM2.5	20Jul25, 24:00	443719	24-hr	52	52.1	exc
Surmont 2	PM2.5	20Jul25, 24:00	443721	24-hr	59	58.6	exc
Ells River	TRS	19Jul25, 05:30		30-min	5.709	5.7	exc
Anzac	TRS	23Jul25, 12:00		30-min	10.2	10.2	late

*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

**ELECTRONIC TRANSFER SYSTEM
AIRDATA
SUBMISSION REPORT**

August 29, 2025
6:49:20 AM
Request # 4836781

Submitted by: EN6138_DENNY
Submission Date: Aug 29, 2025 6:46:52 AM

File Type

Ambient Data

File Name

AMB-WBEA-202507-V00.xml

Total Number of Files: 1

*** End of Report ***

**ELECTRONIC TRANSFER SYSTEM
AIRDATA
SUBMISSION REPORT**

August 29, 2025
6:50:03 AM
Request # 4836782

Submitted by: EN6138_DENNY
Submission Date: Aug 29, 2025 6:49:57 AM

File Type

Calibration Report

File Name

CAL-WBEA-202507.pdf

Total Number of Files: 1

*** End of Report ***

**ELECTRONIC TRANSFER SYSTEM
AIRDATA
SUBMISSION REPORT**

August 29, 2025
6:50:58 AM
Request # 4836783

Submitted by: EN6138_DENNY
Submission Date: Aug 29, 2025 6:50:57 AM

File Type
Airshed Monitoring Report

File Name
WBEA-202507.pdf

Total Number of Files: 1

*** End of Report ***



End of Report