



Wood Buffalo Environmental Association  
**Ambient Air Monitoring Station  
Site Documentation**

## Barge Landing

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LAST UPDATED: MARCH 27, 2024



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## General Site Information

Revision Date: March 27, 2024

### Station

Station ID	AMS 09
Station name	Barge Landing
Date station established	2000

### Location

Station street address	Northeast of the Barge Landing Road, approximately 460 meters northwest of the Highway 63 intersection
Legal land description	7-31-094-10 W4
Airshed Zone	Wood Buffalo Environmental Association
Latitude	57.198178
Longitude	-111.59946327
UTM East	463778
UTM North	6339606
Nearest community	Fort Mackay
Community population	757
Census Year	2021

### Owner/Operator/Approval Holder

Operating Agency	Wood Buffalo Environmental Association
Address of Operating Agency	Unit 3, 805 Memorial Drive, Fort McMurray, Alberta T9K 0K4
Name of Approval Holder	Canadian Natural Upgrading Limited
Approval number	20809-02-00
Contact Name	Tina Ding
Address	Albian Sands, P.O. Box 5670
Phone number	780-713-4454
Email address	Tina.Ding@cnrl.com

### Site Description

Land use by sector	0 – 90 degrees	Wooded area
	91 – 180 degrees	Wooded area
	181 – 270 degrees	Wooded area
	271 – 360 degrees	Wooded area
Site elevation (m) (above sea level)	282 m	
Angle of elevation to nearby buildings	Greatest angle	N/A
	Building direction	N/A
Airflow restrictions	North	Trees

	East	Trees
	South	Trees
	West	Trees
Distance to nearest trees (m)	North	10 m
	East	10 m
	West	10 m
	South	20 m
Sample manifold	Type	All glass
	Inlet height above roof	1 metre
Wind Sensors	Type	Cup and vane
	Height above ground (m)	20 m
	Distance from station (m)	2 m

### Site Influences

#### Localized Sources (within 20 metres of station)

Type	Distance (m)	Description
None	N/A	N/A

#### Roadway Influences

Type	Traffic Volume	Distance (m)	Description
Barge Landing Road	Very low	70	Well maintained dirt access road frequented by pickup trucks and heavy equipment
Highway 63	Medium	400	Provincial highway frequented by tractor trailers and pickup trucks.

#### Major Point Sources

Facility Name	Source Type	Distance from site (km)	Compass direction from site
CNRL Albion	Oil Sands Plant	10	NE
CNRL Horizon	Oil Sands Plant	20	NW

## Station Equipment

Equipment Owner: Canadian Natural

### Analytical Equipment

Parameter	Make	Model	Serial Number	Date Instrument Installed	WBEA Data Start Date
<b>Continuous</b>					
SO <sub>2</sub>	Thermo Environmental	43i	1118148498	2018	December, 2018
TRS	Thermo Environmental	43i-TLE	1331259320	N/A	January, 1999
NO <sub>x</sub> /NO/NO <sub>2</sub>	Thermo Environmental	42i	1426262593	2018	December, 2018
THC/CH <sub>4</sub> /NMHC	Thermo Environmental	55i	1170050131	2021	January, 1999
PM 2.5	Teledyne	T640	844	2023	January, 2019
<b>Time-Integrated</b>					
VOC	Global Analyzers Systems Ltd.	G170	2023-236	2023	-

### Meteorological Equipment

Parameter	Make	Model	Serial Number	WMO Site Class	Date Sensor Installed	WBEA Data Start Date
AT/RH	Vaisala	HMP155	P3640808	3	2023	January, 2000
WS	Met One	010C-1	B4129	4	2023	August, 2021
WD	Met One	020C-1	D14061	4	2023	August, 2021
Barometric Pressure	WBEA	61302V-10	BPA4394	N/A	2018	December, 2018

### Support Equipment

Name	Description	Make	Model	Serial Number
Datalogger	Datalogger	Campbell Scientific	CR3000	1850
Gas Dilution Calibrator	Dynamic dilution calibrator	Teledyne/API	T700	3812
Zero air generator	Zero Air Generator	Teledyne/API	701	4888
Hydrogen Generator	Hydrogen Generator	AMA Instruments	HG 300	171067036
TRS Converter	Thermal Oxidizer	CD Nova	CDN-101	519
Shelter / Building	Air monitoring portable	ITB	10 x 20	ITB0814464

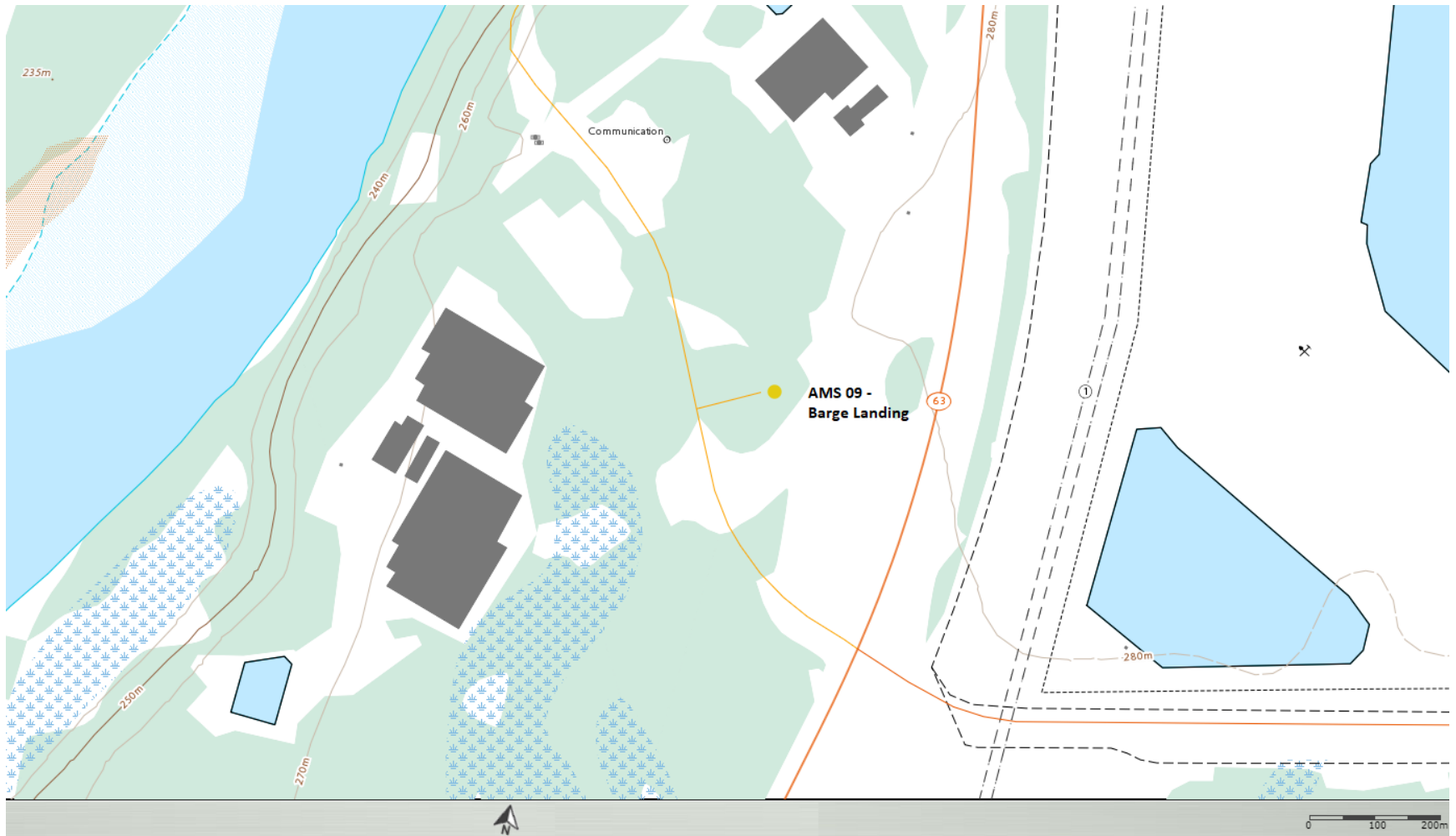


Figure 1 – Area topographic map showing AMS 09



Figure 2 – Aerial photo showing AMS 09



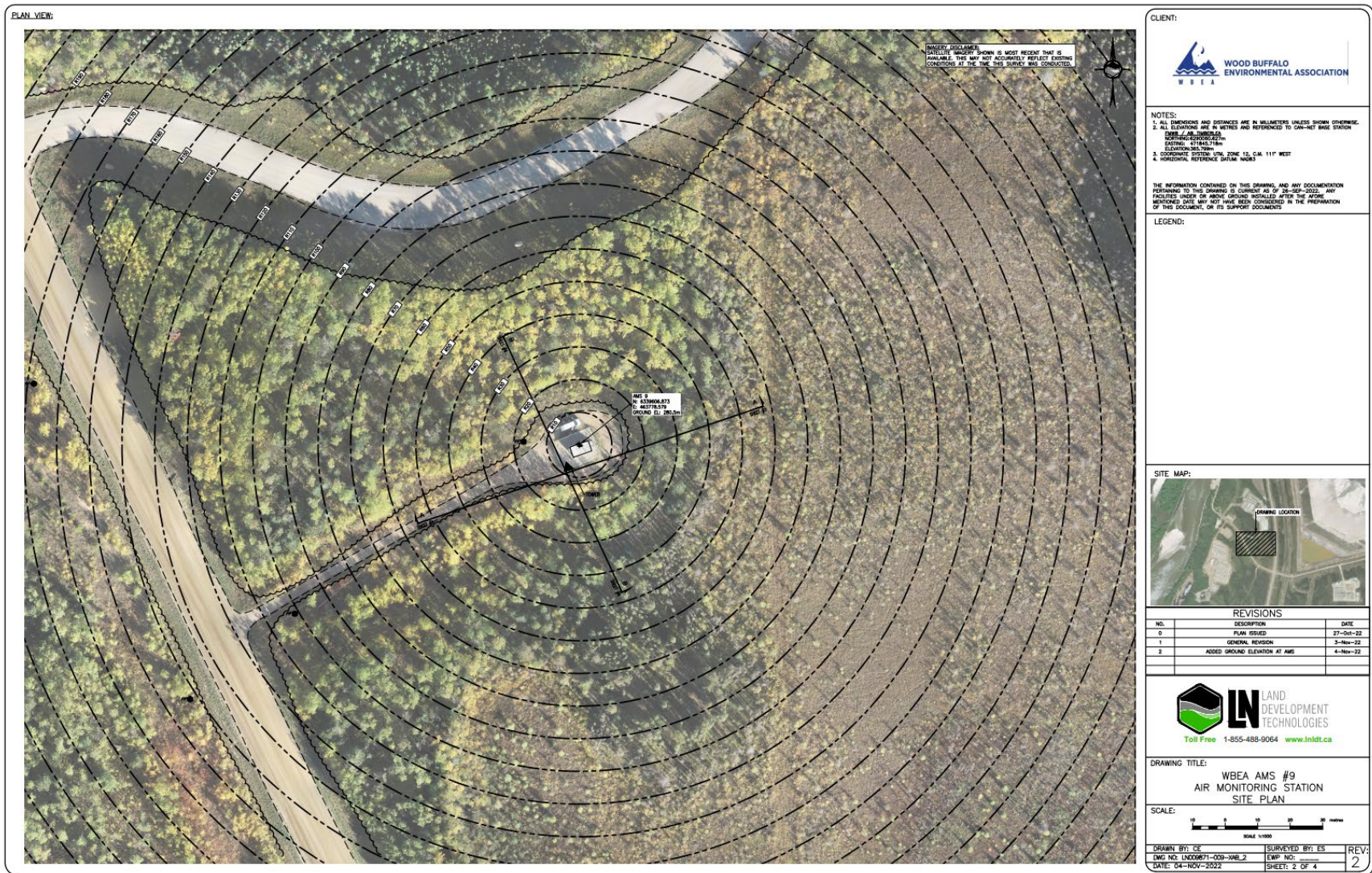
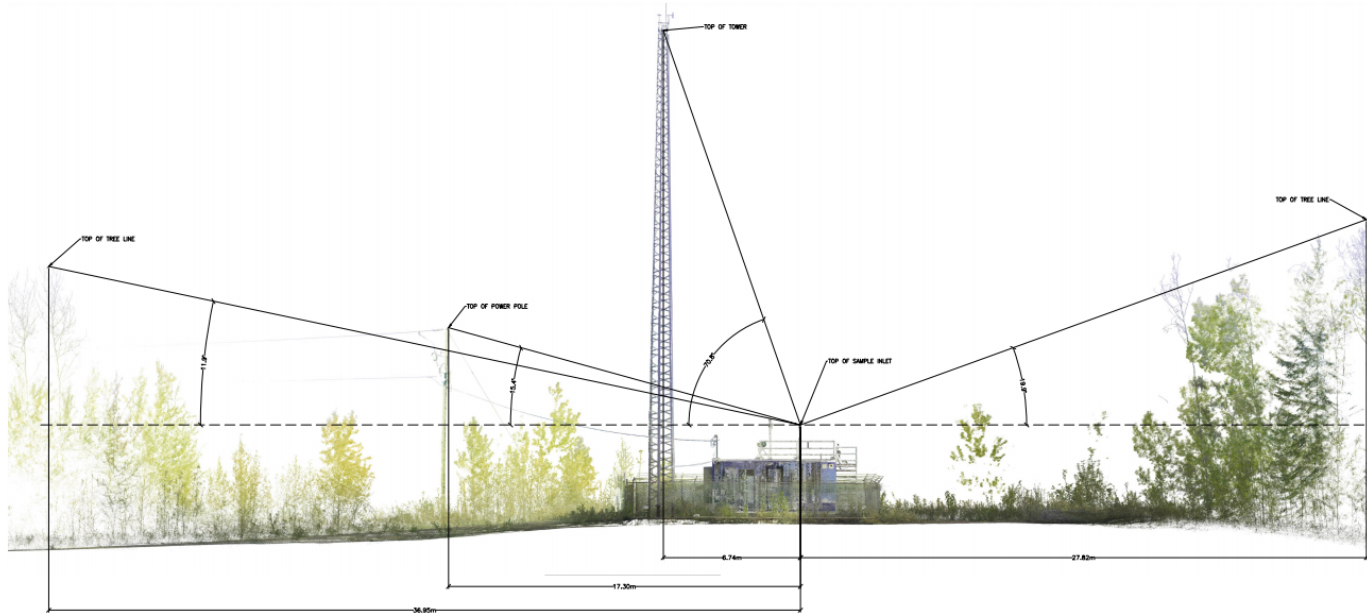


Figure 3 – Plan view sketch for AMS 09 site

SECTION VIEW:



SECTION A-A  
1:200

CLIENT:



NOTES:

1. ALL DIMENSIONS AND DISTANCES ARE IN MILLIMETERS UNLESS SHOWN OTHERWISE.
2. ALL ELEVATIONS ARE IN METRES AND REFERENCED TO CAN-MET BASE STATION DATUM UNLESS INDICATED OTHERWISE.
3. DATE: 01-18-2022
4. ELEVATION: 431945.714m
5. COORDINATE SYSTEM: UTM, ZONE 18, UTM, 11° WEST
6. HORIZONTAL REFERENCE DATUM: NAD83

THE INFORMATION CONTAINED ON THIS DRAWING, AND ANY DOCUMENTATION PERTAINING TO THIS DRAWING IS CURRENT AS OF 28-NOV-2022. ANY FACILITIES UNDER OR ABOVE GROUND INSTALLED AFTER THE ABOVE MENTIONED DATE, AND NOT HAVE BEEN CONSIDERED IN THE PREPARATION OF THIS DOCUMENT, OR ITS SUPPORT DOCUMENTS.

LEGEND:

SITE MAP:



REVISIONS

NO.	DESCRIPTION	DATE
0	PLAN ISSUED	27-08-22
1	GENERAL REVISION	2-Nov-22
2	ADDED GROUND ELEVATION AT AMS	4-Nov-22



DRAWING TITLE:

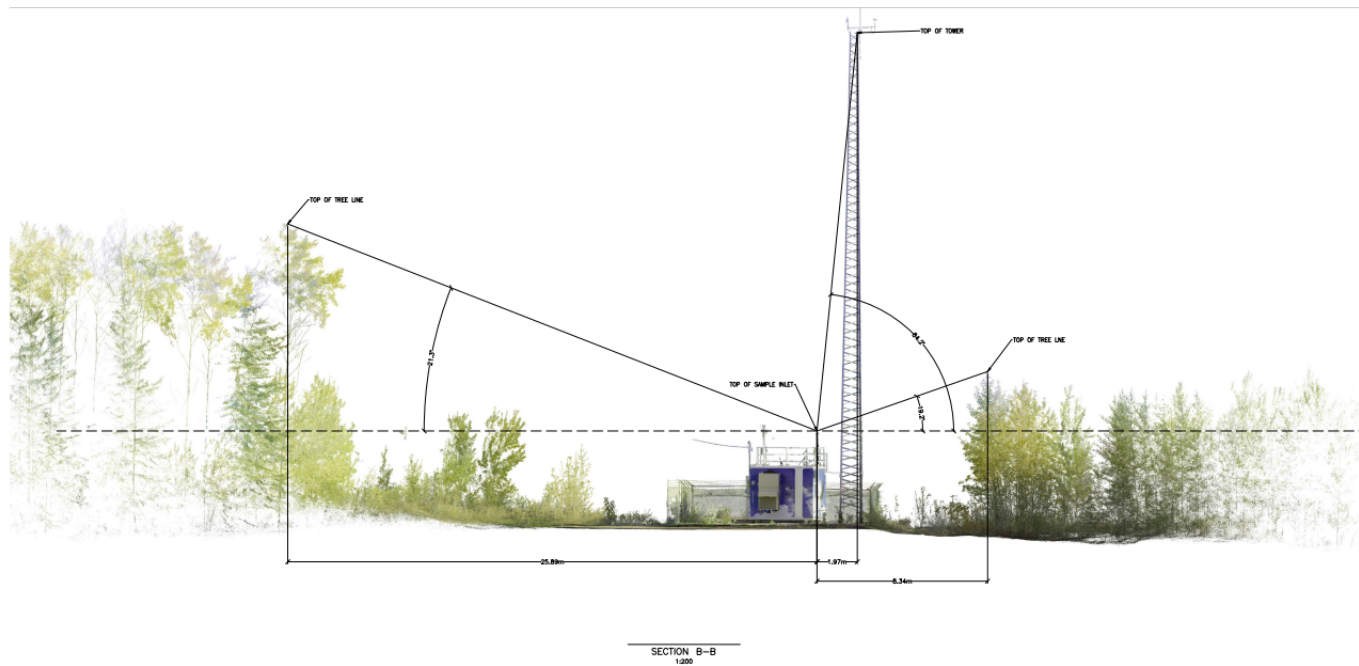
WB EA AMS #9  
AIR MONITORING STATION  
SITE PLAN

SCALE:

DRAWN BY:	SURVEYED BY:	REV:
CE	ES	2
DWG NO: LND0671-009-WBL-2	EMP NO:	
DATE: 04-NOV-2022	SHEET: 3 OF 4	

Figure 4 – Elevation view image for AMS 09 site, section A-A

SECTION VIEW:



CLIENT:



NOTES:

1. ALL DIMENSIONS AND DISTANCES ARE IN MILLIMETERS UNLESS SHOWN OTHERWISE.
2. ALL ELEVATIONS ARE IN METRES AND REFERENCED TO CAN-NAD BASE STATION (DATA: 48 20051214) SCHEMATIC: 20050404-07
3. EATING: 471445.718m
4. COORDINATE SYSTEM: UTM, ZONE 18, Q, U.S. 11° WEST
5. HORIZONTAL REFERENCE DATUM: NAD83

THE INFORMATION CONTAINED IN THIS DRAWING, AND ANY DOCUMENTATION PERTAINING TO THIS DRAWING IS CURRENT AS OF 26-SEP-2022. ANY FACILITIES UNDER OR ABOVE GROUND INSTALLED AFTER THE ABOVE MENTIONED DATE MAY NOT HAVE BEEN CONSIDERED IN THE PREPARATION OF THIS DOCUMENT, OR ITS SUPPORT DOCUMENTS

LEGEND:

SITE MAP:



REVISIONS

NO.	DESCRIPTION	DATE
0	PLAN ISSUED	27-Oct-22
1	GENERAL REVISION	3-Nov-22
2	ADDED GROUND ELEVATION AT AMS	4-Nov-22



DRAWING TITLE:

WBEA AMS #9  
AIR MONITORING STATION  
SITE PLAN

SCALE:

DRAWN BY:	SURVEYED BY:	REV:
CE	ES	2
DWG NO: LND00871-009-WBL2	LWP NO: -	
DATE: 04-NOV-2022	SHEET: 4 OF 4	

Figure 5 – Elevation view image for AMS 09 site, section B-B

## Site photos

The following photos show the environment surrounding the monitoring station.



Figure 6 – Environment looking North



Figure 7 – Environment looking East



Figure 8 – Environment looking South



Figure 9 – Environment looking West



Figure 10 – Meteorological Tower



## Station Photos

The following photos show the monitoring station and instrumentation.



Figure 11 – Photo showing the inlet and sample manifold



Figure 12 – Curb shot of the monitoring station



Figure 13 –Photo of the front and the back of instrument rack



Wood Buffalo Environmental Association  
Wind Rose 2019 - 2024

Wind Speed 20 m (WS20m) - km/h  
Barge Landing

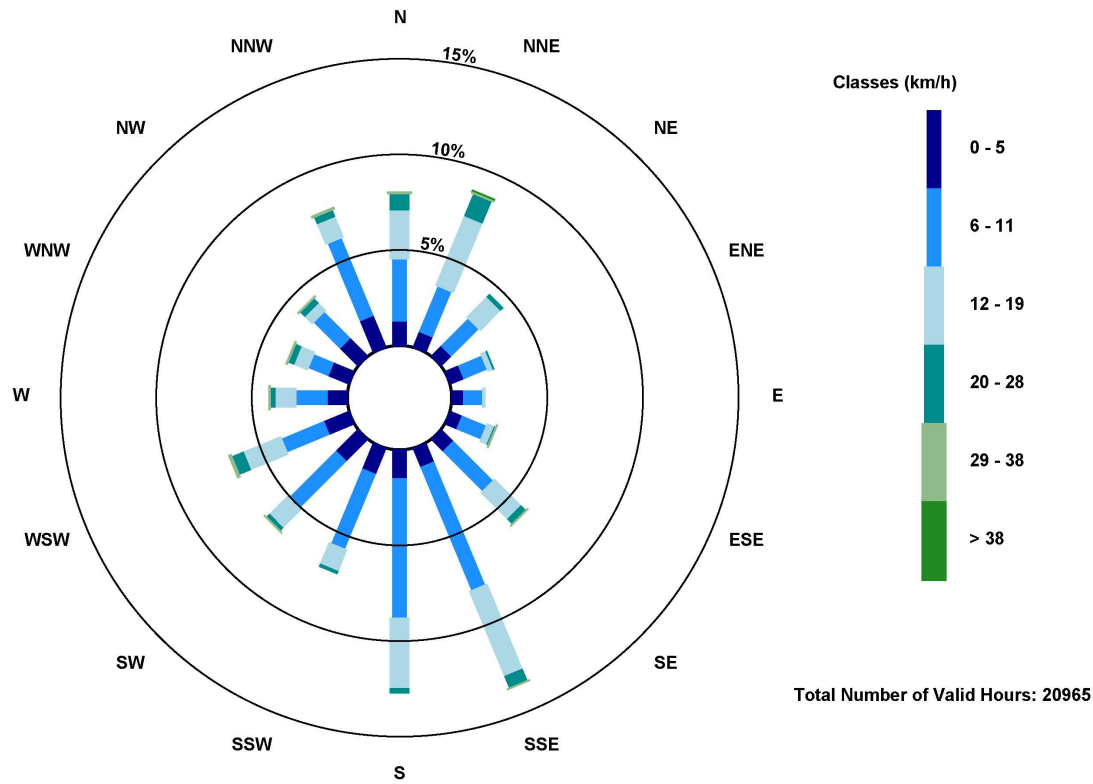


Figure 14 – Windrose (2019 – 2024)