



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

## Fort Hills

---

LAST UPDATED: MARCH 28, 2024



# Table of Contents

General Site Information .....	4
Station .....	4
Location.....	4
Owner/Operator/Approval Holder .....	4
Site Description .....	4
Site Influences .....	5
Localized Sources (within 20 metres of station).....	5
Roadway Influences .....	5
Major Point Sources.....	5
Station Equipment .....	6
Analytical Equipment .....	6
Meteorological Equipment .....	6
Support Equipment.....	6
Site photos .....	10
Station Photos.....	15

## Tables and Figures

Figure 1 – Area topographic map showing AMS 23.....	7
Figure 2 – Aerial photo showing AMS 23.....	8
Figure 3 – Plan view sketch for AMS 23 site .....	9
Figure 4 – Environment looking North.....	10
Figure 5 – Environment looking East .....	11
Figure 6 – Environment looking South.....	12
Figure 7 – Environment looking West.....	13
Figure 8 – Meteorological Tower .....	14
Figure 9 – Photo showing the inlet and sample manifold .....	15
Figure 10 – Curb shot of the monitoring station .....	16
Figure 11 –Photo of the front and the back of instrument rack.....	17
Figure 12 –Photo of the T640 PM monitor and inlet.....	18
Figure 13 – Windrose (2019-2024) .....	19

## General Site Information

Revision Date: March 28, 2024

### Station

Station ID	AMS 23
Station name	Fort Hills
Date station established	March 2017

### Location

Station street address	Located North of the Southwest Raw Water Pond
Legal land description	15-24-096-11 W4
Airshed Zone	Wood Buffalo Environmental Association
Latitude	57.3489012253
Longitude	-111.639688536
UTM East	461505
UTM North	6356406
Nearest community	Fort McKay
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	Fort Hills Energy Corporation
Approval number	151469-01-00
Contact Name	Ty Callioux
Address	P.O. Box 4001 Fort McMurray, Alberta, T9H 3E3
Phone number	780-743-7780 (business hours); 780-762-4200 (non-business hours)
Email address	<a href="mailto:tcallioux@suncor.com">tcallioux@suncor.com</a>

### Site Description

Land use by sector	0 – 90 degrees	Water treatment building
	91 – 180 degrees	Raw Water Pond
	181 – 270 degrees	Raw Water Pond
	271 – 360 degrees	Access road, drilling lay down yard
Site elevation (m) (above sea level)	283m	
Angle of elevation to nearby buildings	Greatest angle	20°
	Building direction	West
Airflow restrictions	North	N/A

	East	N/A
	South	N/A
	West	N/A
Distance to nearest trees (m)	North	N/A
	East	N/A
	West	N/A
	South	N/A
Sample manifold	Type	All glass
	Inlet height above roof	1 metre
Wind Sensors	Type	Cup and vane
	Height above ground (m)	10m
	Distance from station (m)	0m

### Site Influences

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

Type	Distance (m)	Description
Raw water pond	20m	Storage pond for raw process water

#### Roadway Influences

Type	Traffic Volume	Distance (m)	Description
Gravel Road	Low	100	Mine access road used by pickup trucks and heavy equipment

#### Major Point Sources

Facility Name	Source Type	Distance from site (km)	Compass direction from site
Fort Hills	Oil Sands Plant	0	N/A
CNRL Horizon	Oil Sands Plant	10	Southwest
CNRL Albian	Oil Sands Plant	15	South

## Station Equipment

Equipment Owner: Suncor – Fort Hills

### Analytical Equipment

Parameter	Make	Model	Serial Number	Date Instrument Installed	WBEA Data Start Date
<b>Continuous</b>					
SO <sub>2</sub>	Thermo Scientific	43i	1160290012	December, 2021	June, 2017
TRS	Thermo Scientific	43i-TLE	1300156232	December, 2021	June, 2017
NO/NO <sub>x</sub> /NO <sub>2</sub>	Thermo Scientific	42i	1152430007	December, 2021	June, 2017
THC/CH <sub>4</sub> /NMHC	Thermo Scientific	55i	1193585648	December, 2021	July, 2017
PM <sub>2.5</sub>	Teledyne API	T640	1546	December, 2021	June, 2017
<b>Time-Integrated</b>					
PM <sub>10</sub> A	Thermo Scientific	2000i-A-N	2000I2-0382-308	December, 2021	-
PM <sub>10</sub> B	Thermo Scientific	2000i-A-N	2000IW 20930 2108	December, 2021	-
VOC	Global Analyzer Systems	G170	2023-234	2023	-

### Meteorological Equipment

Parameter	Make	Model	Serial Number	WMO Site Class	Date Instrument Installed	WBEA Data Start Date
AT/RH	Vaisala	HMP155	T2950501	Class 3	December, 2021	June, 2017
WS	Met One	010C-1	P19837	Class 3	December, 2021	June, 2017
WD	Met One	020C-1	B14267	Class 3	December, 2021	June, 2017

### Support Equipment

Name	Description	Make	Model	Serial Number
Datalogger	Datalogger	Campbell Scientific	CR3000	7882
Gas Dilution Calibrator	Dynamic dilution calibrator	Teledyne/API	T700	451
Zero air generator	Zero Air Generator	Teledyne/API	T701	5611
Shelter / Building	Air monitoring portable	ITB	8 x 14 trailer	2C9CSC2G7M1044018
HVAC	Heating and air conditioning system. Wall mount unit	BARD	1 ton	12345
TRS Converter	Thermal Oxidizer	CD Nova	CDN-101	594
H2Generator	Hydrogen Generator	Parker Hannifin	63-0100	14950646



Figure 1 – Area topographic map showing AMS 23



Figure 2 – Aerial photo showing AMS 23





Station Name: AMS 23 - Fort Hills

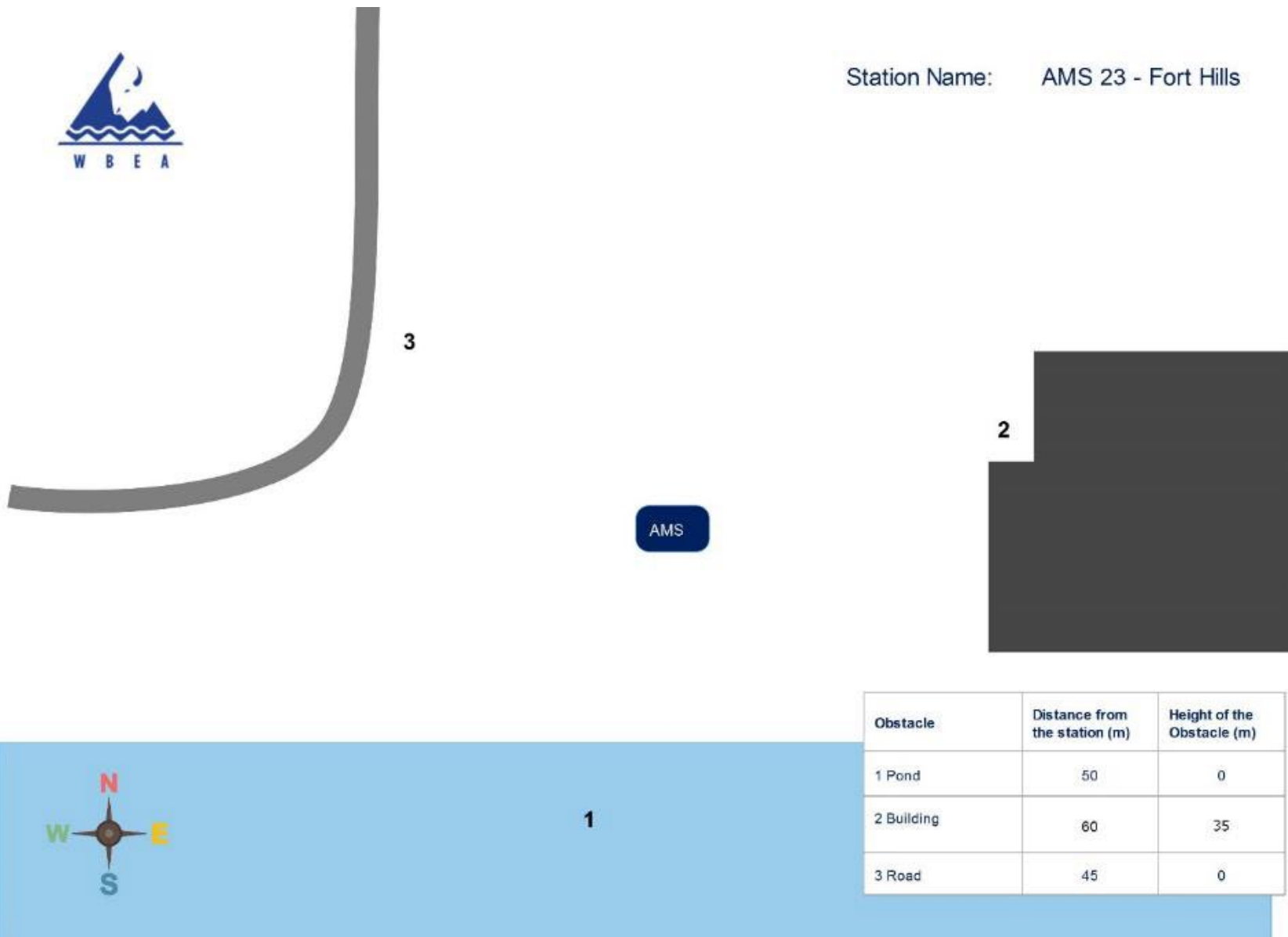


Figure 3 – Plan view sketch for AMS 23 site

## Site photos

The following photos show the environment surrounding the monitoring station.



Figure 4 – Environment looking North



Figure 5 – Environment looking East



Figure 6 – Environment looking South

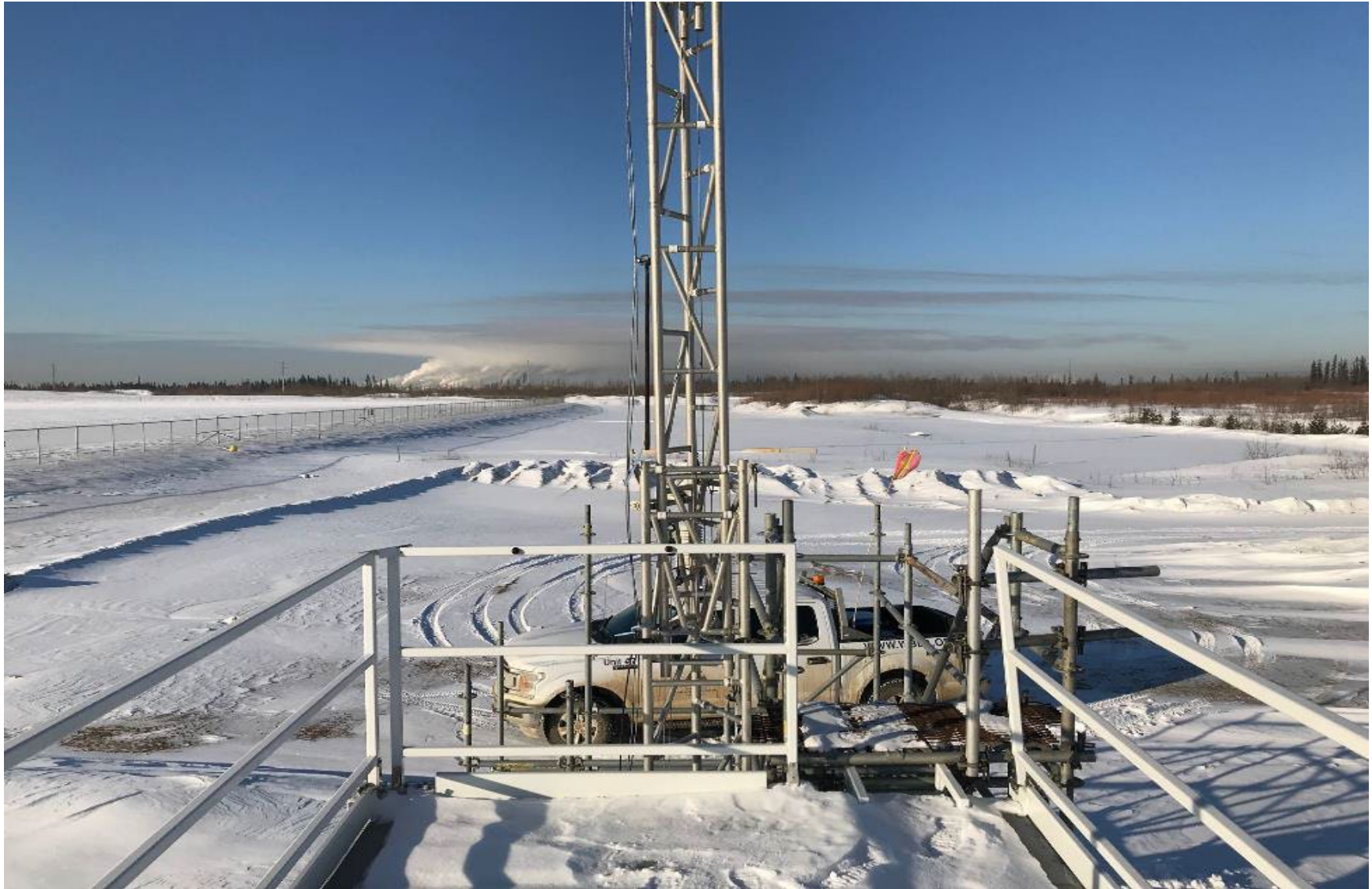


Figure 7 – Environment looking West



Figure 8 – Meteorological Tower

## Station Photos

The following photos show the monitoring station and instrumentation.



Figure 9 – Photo showing the inlet and sample manifold

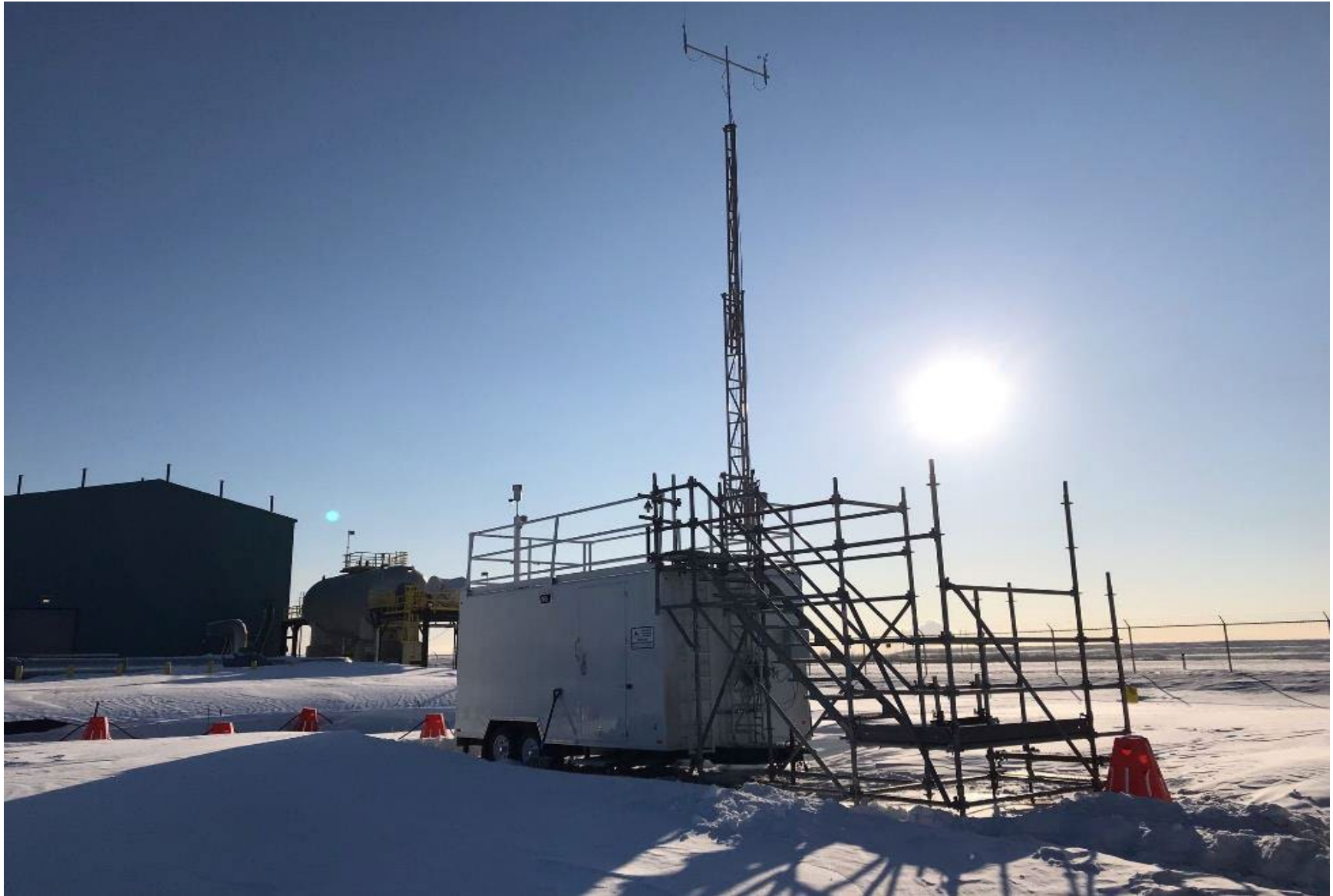


Figure 10 – Curb shot of the monitoring station





Figure 11 –Photo of the front and the back of instrument rack



Figure 12 –Photo of the T640 PM monitor and inlet



Wood Buffalo Environmental Association  
Wind Rose 2019 - 2024

Wind Speed (WS) - km/h  
Fort Hills

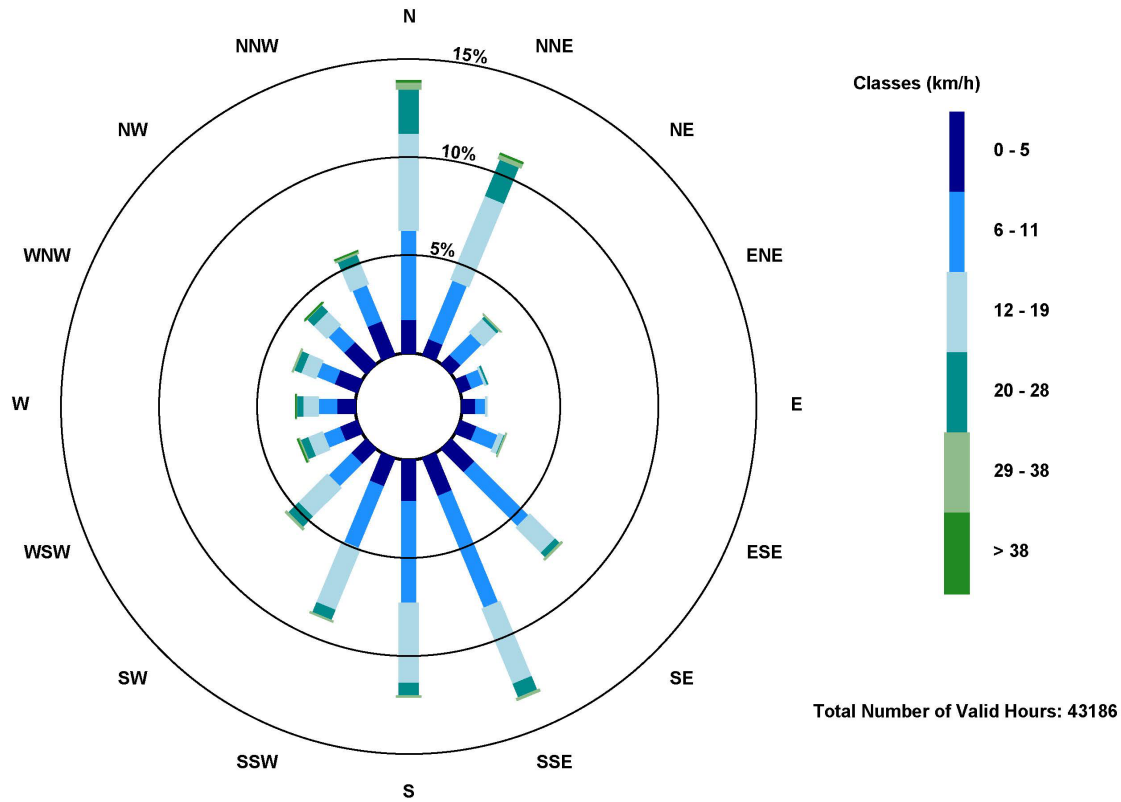


Figure 13 – Windrose (2019-2024)