Wood Buffalo Environmental Association

Ambient Air Monitoring Station Site Documentation

Kirby North

LAST UPDATED: MARCH 28, 2024

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Tables and Figures

General Site Information

Revision Date: March 28, 2024

Station

Station ID	AMS 508
Station name	Kirby North
Date station established	2022

Location

Station street address	Industrial Pad
Legal land description	Industrial - SAGD
Airshed Zone	Wood Buffalo Environmental Association
Latitude	55.4616480
Longitude	-111.2188230
UTM East	486163
UTM North	6146187
Nearest community	Conklin
Community population	178
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 Resources Ltd.
Approval number	149968-01-00
Contact Name	Shawn Milligan
Address	2100, 855 – 2 Street S.W. Calgary, AB
Phone number	(403) 896-3109
Email address	shawn.milligan@cnrl.com

Site Description

Land use by sector	0 – 90 degrees	SAGD Plant
	91 – 180 degrees	SAGD Land / Forest
	181 – 270 degrees	SAGD Land / Forest
	271 – 360 degrees	SAGD Plant
Site elevation (m) (above sea level)	700m	
Angle of elevation to nearby buildings	Greatest angle	None
	Building direction	None
Airflow restrictions	North	None
	East	None

	South	None
	West	None
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)	Tower is attached to the shelter

Site Influences

Localized Sources (within 20 metres of station)

Type	Distance (m)	Description
SAGD Pad	50	Station is located on the SE side of the pad

Roadway Influences

Type	Traffic Volume	Distance (m)	Description
Dirt Road	Medium	50	Road used to access the SAGD plant

Major Point Sources

Facility Name	Source Type	Distance from site (km)	Compass direction from site
Kirby North	SAGD Plant	100	W

Station Equipment

Equipment Owner: WBEA

Analytical Equipment

Parameter	Make	Model	Serial Number	Date Instrument Installed	WBEA Data Start Date
SO_2	Thermo Environmental	43-iQ	1182340007	2019	May, 2019
H_2S	Thermo Environmental	43i-TLE	1150840012	2022	May, 2019
$NO/NO_x/NO_2$	Teledyne/API	42-iQ	1182340006	2023	May, 2019
THC	Thermo Environmental	51i	1182340005	2019	May, 2019

Meteorological Equipment

Parameter	Make	Model	Serial Number	WMO Site Class	Date Sensor Installed	WBEA Data Start Date
AT/RH	Vaisala	HMP155	F5010010	3	2019	May, 2019
WS	Met One	010C-1	X16479	3	2019	May, 2019
WD	Met One	020C-1	X16495	3	2019	May, 2019

Support Equipment

Name	Description	Make	Model	Serial Number
Datalogger	Datalogger	Campbell Scientific	CR3000	2372
Gas Dilution Calibrator	Dynamic dilution calibrator	Teledyne/API	T700	3804
Zero air generator	Zero Air Generator	Teledyne/API	701H	880
Shelter / Building	Air monitoring portable	ITB	8 x 16 trailer	17541-1
Tower	10 metre crank up	Aluma	T-135	218148.00.7
H2S converter	H2S converter	Global	G-150	2022-197

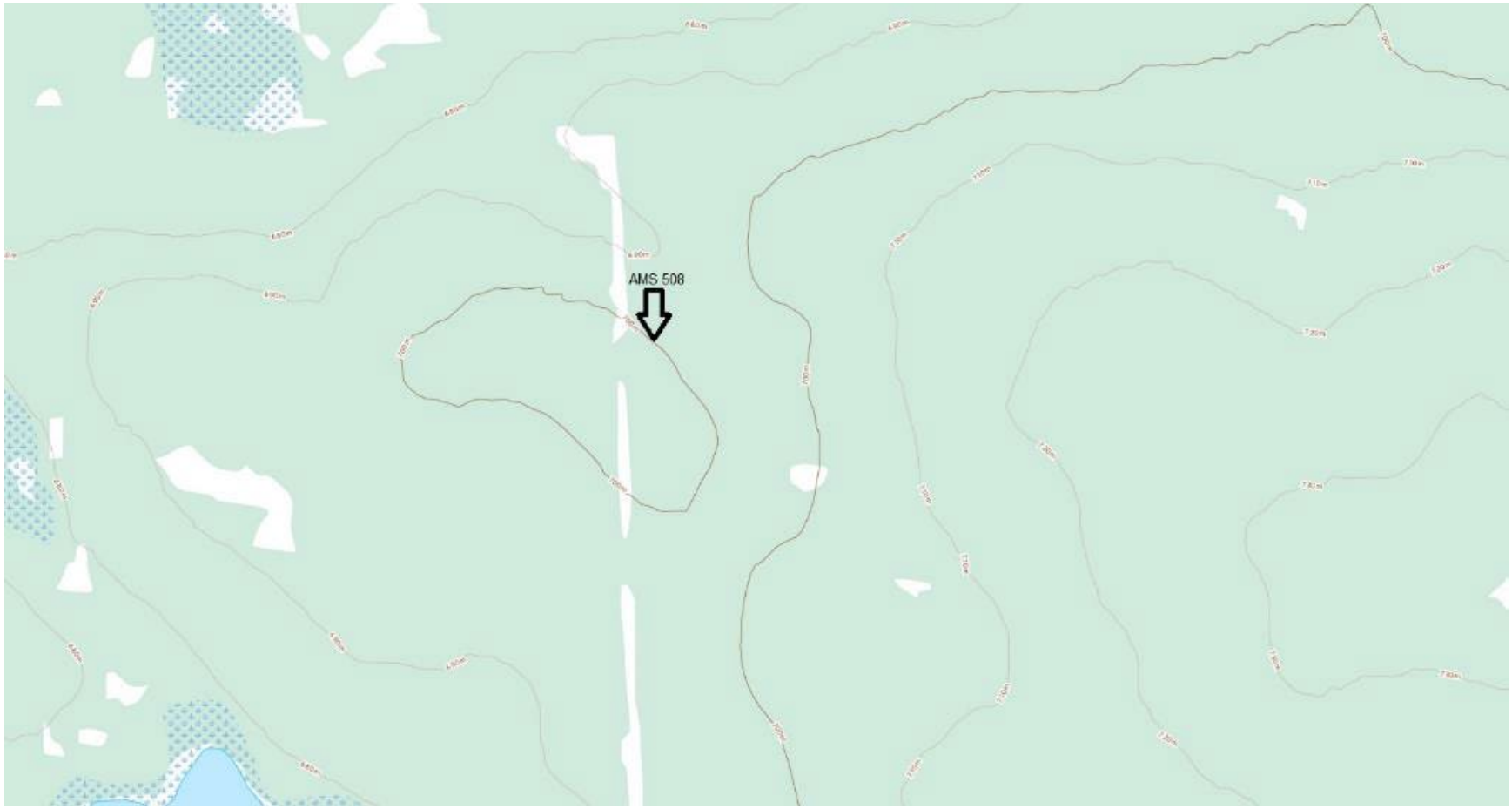
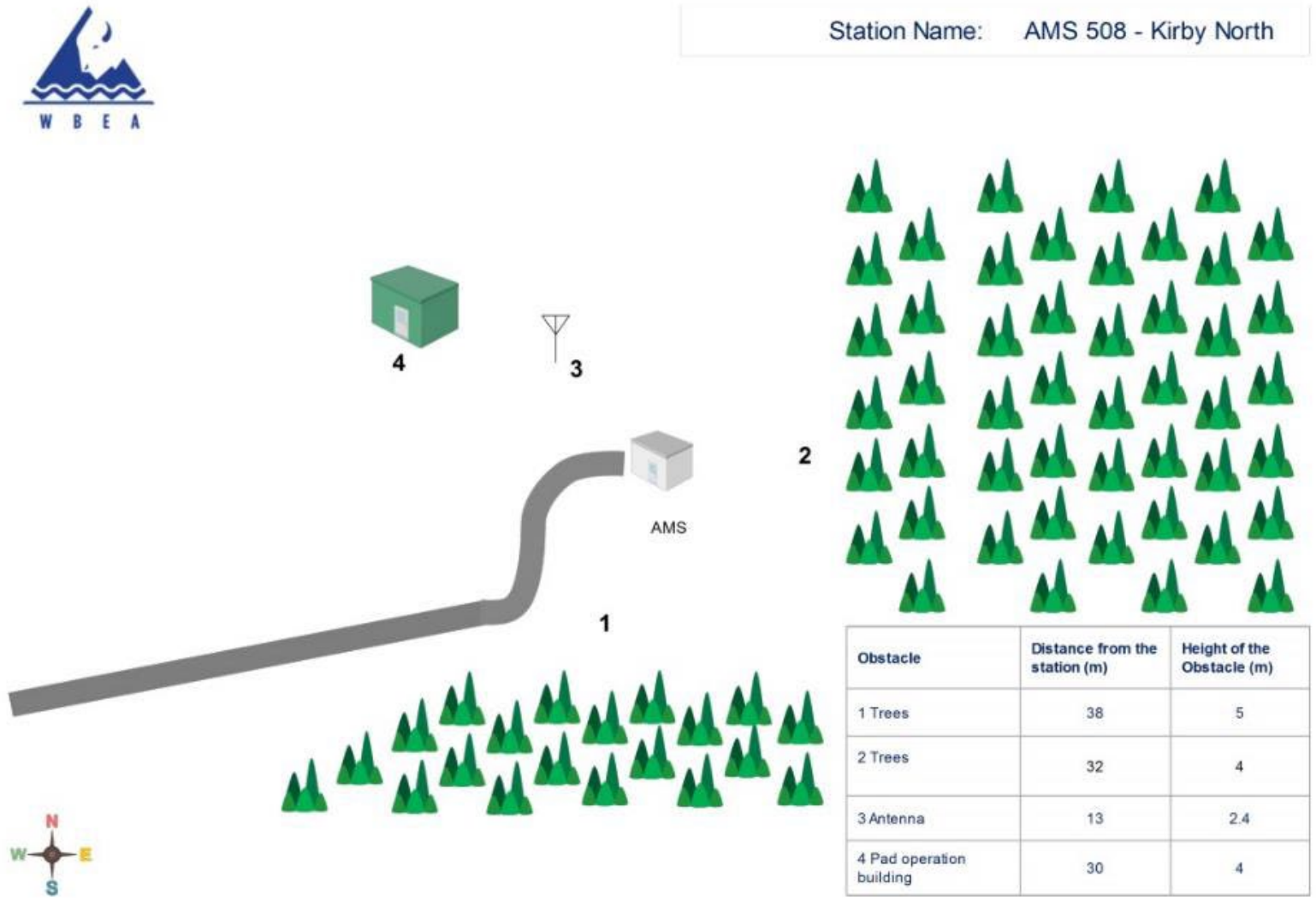


Figure 1 – Area topographic map showing AMS 508



Obstacle	Distance from the station (m)	Height of the Obstacle (m)
1 Trees	38	5
2 Trees	32	4
3 Antenna	13	2.4
4 Pad operation building	30	4

Figure 2 – Plan view sketch for AMS 508 site

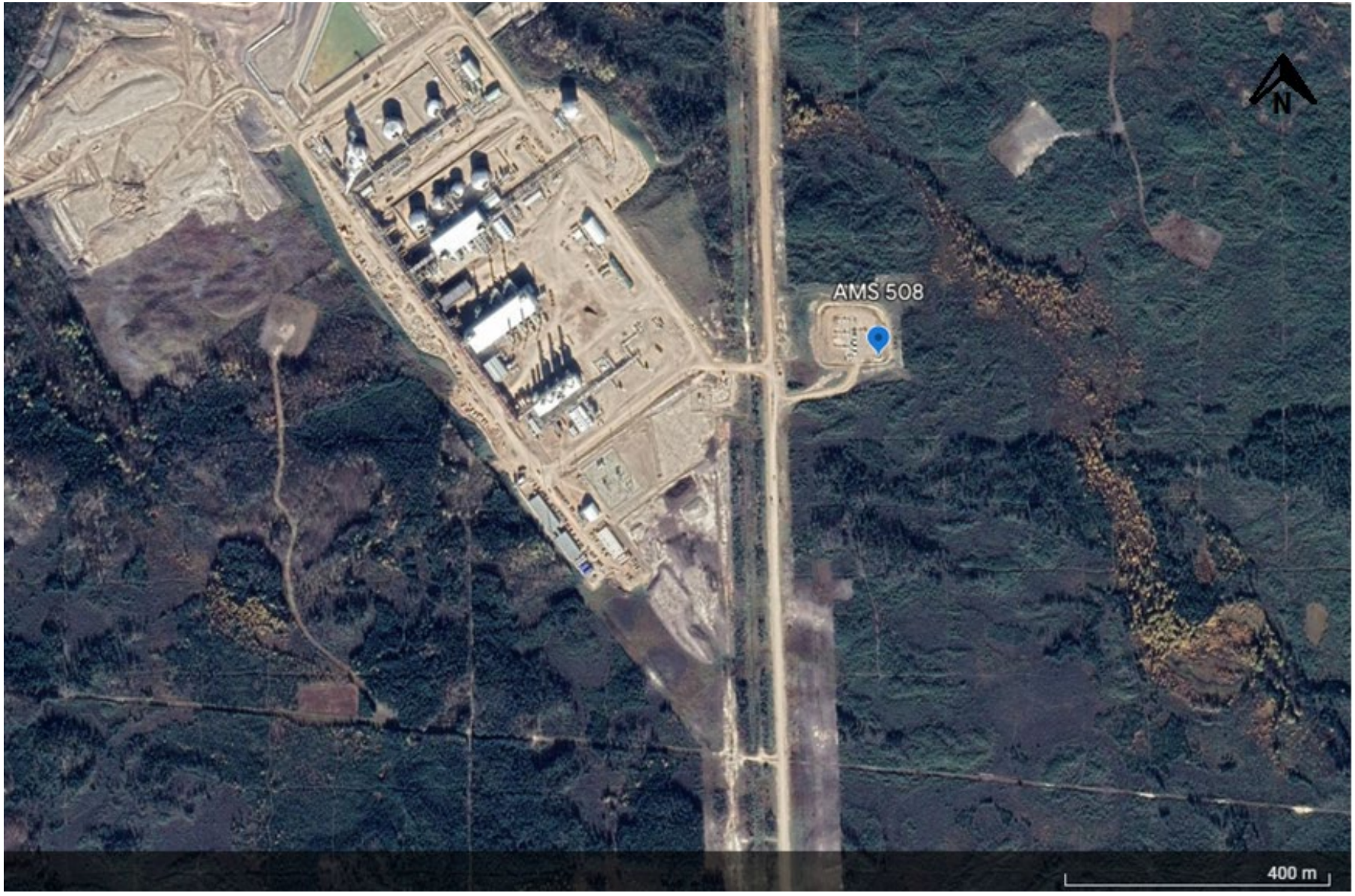


Figure 3 – Aerial photo showing AMS 508

Site photos

The following photos show the environment surrounding the monitoring station.

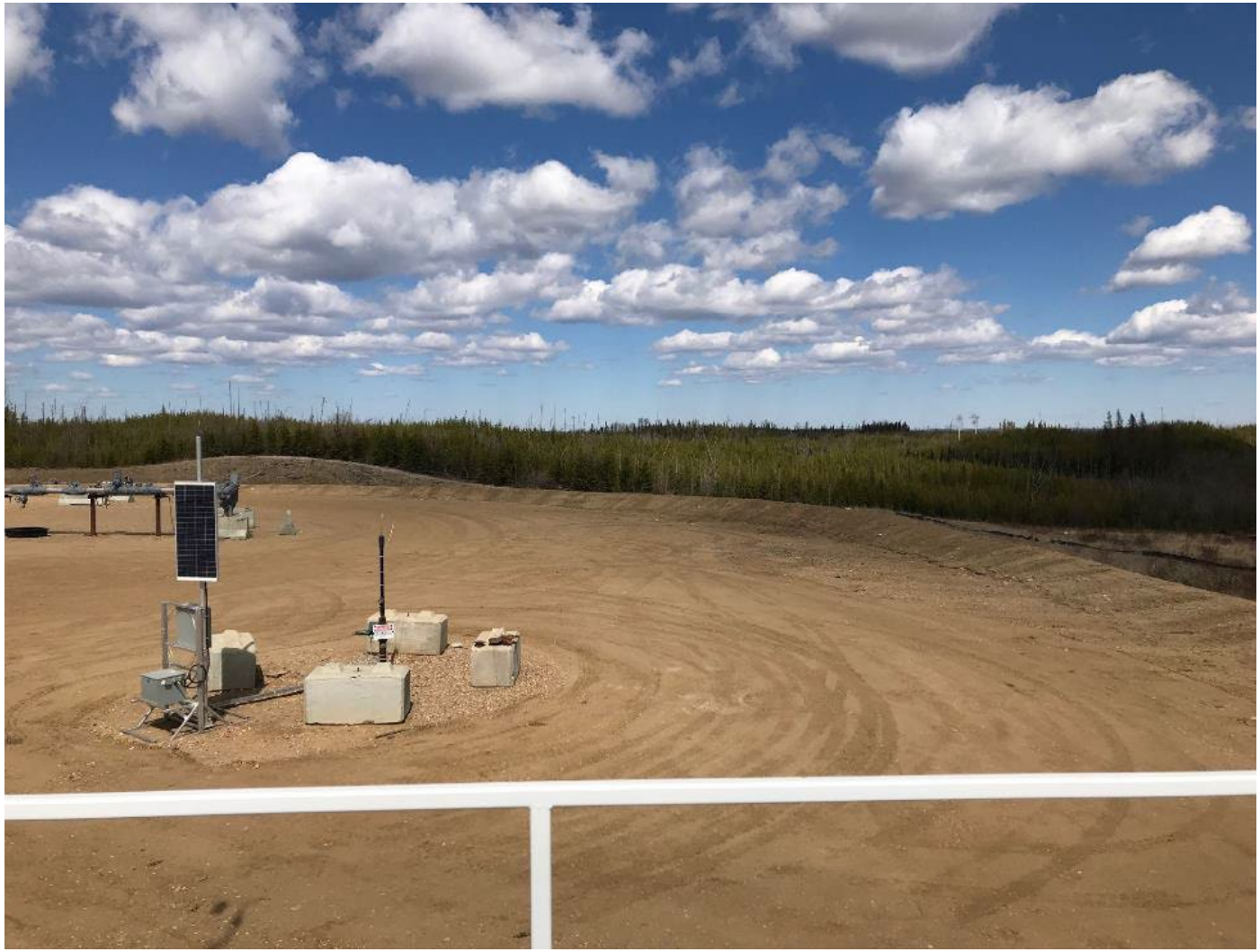


Figure 4 – Environment looking North

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.

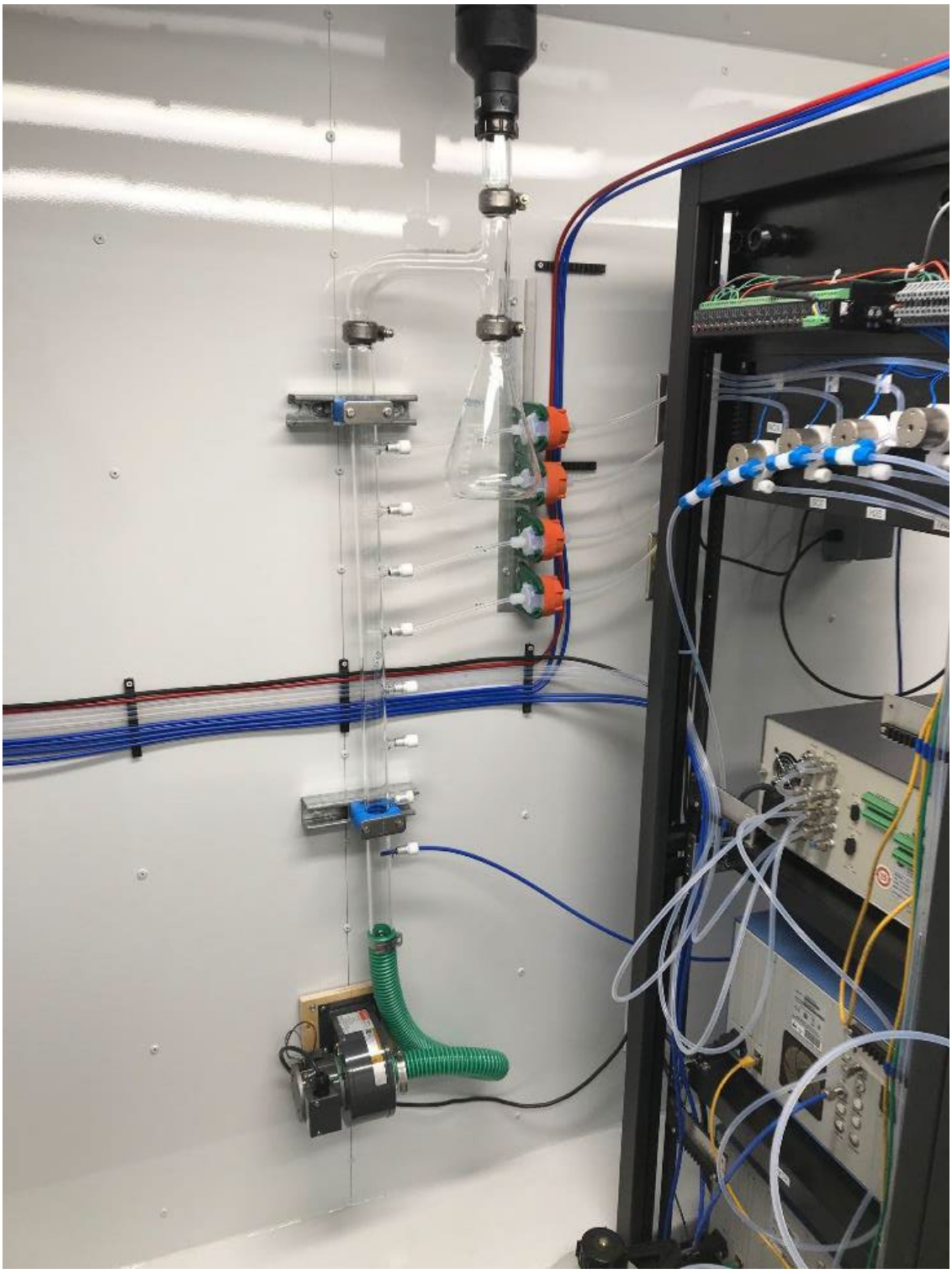


Figure 9 – Photo showing the inlet and sample manifold

Figure 10 – Curb shot of the monitoring station

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

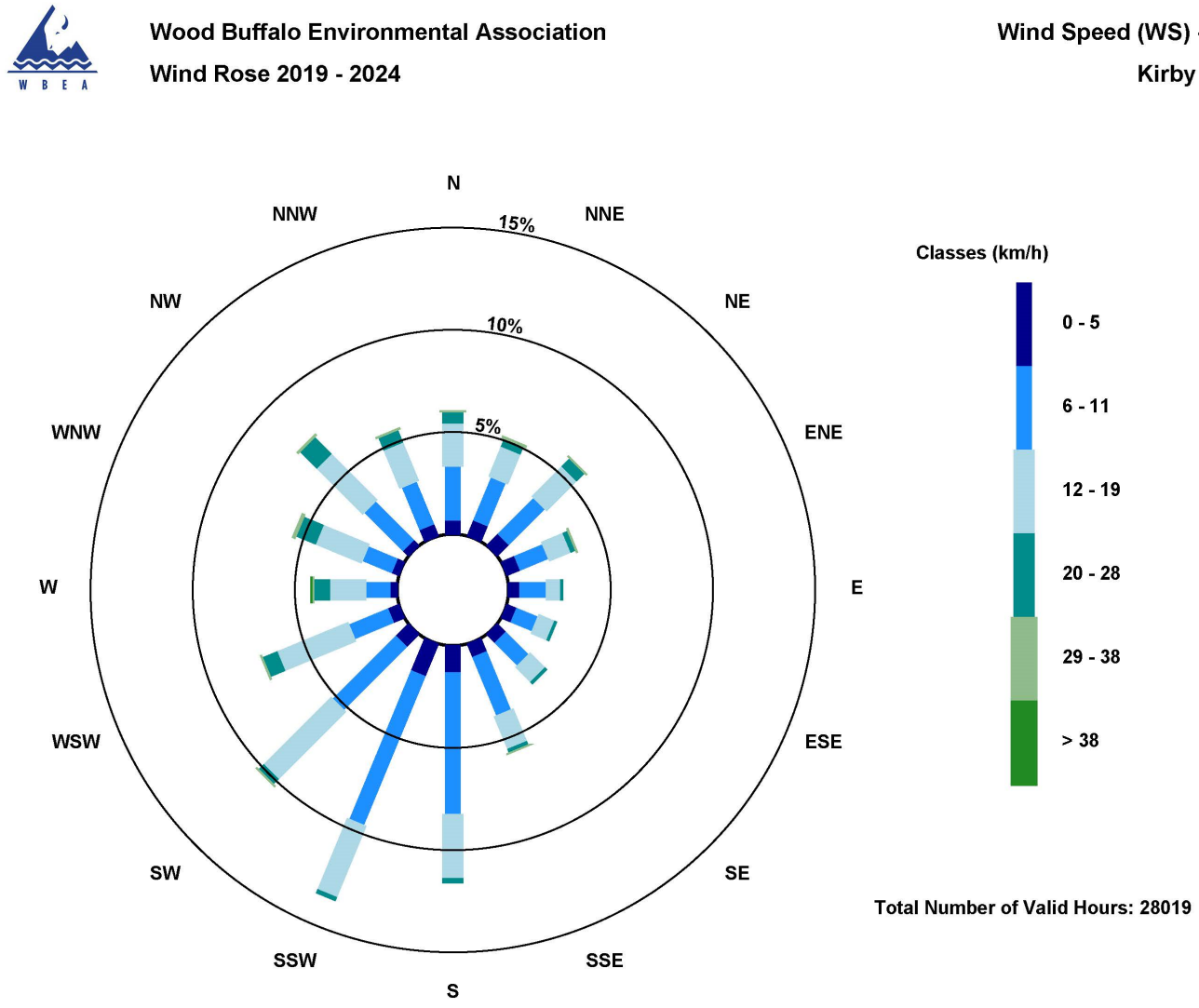


Figure 12 – Windrose (2019 - 2024)