

Wood Buffalo Environmental Association
Ambient Air Monitoring Station
Site Documentation

Jackfish 2/3

LAST UPDATED: MARCH 28, 2024



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General Site Information

Revision Date: March 28, 2024

Station

Station ID	AMS 27
Station name	Jackfish 2/3
Date station established	Sep 15, 2018

Location

Station street address	Located southeast of CNRL Jackfish Lodge, left side of the road right after CNRL Energy Plant
Legal land description	15-23-75-7-W4
Airshed Zone	Wood Buffalo Environmental Association
Latitude	55.51870937
Longitude	-110.9759839
UTM East	501516
UTM North	6152516
Elevation	679
Nearest community	Conklin
Community population	154
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 Limited
Approval number	224816-00-00
Contact Name	Shawn Milligan
Address	2100, 855 - 2 Street S.W. Calgary, AB T2P 4J8
Phone number	403-896-3109
Email address	shawn.milligan@cnrl.com

Site Description

Land use by sector	0 – 90 degrees	SAGD Operations
	91 – 180 degrees	SAGD Operations
	181 – 270 degrees	SAGD Operations
	271 – 360 degrees	SAGD Operations
Site elevation (m) (above sea level)	670 m	
Angle of elevation to nearby buildings	Greatest angle	23 degrees
	Building direction	South



Airflow restrictions	North	None
	East	None
	South	None
	West	None
Distance to nearest trees (m)	North	40
	East	45
	West	45
	South	45
Sample manifold	Type	All glass
	Inlet height above roof	1 meter
Wind Sensors	Type	Cup and vane
	Height above ground (m)	10 m
	Distance from station (m)	0 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
Dirt/Gravel	Medium	100	Used by site workers

Major Point Sources

Facility Name	Source Type	Distance from site (km)	Compass direction from site
Devon Energy	SAGD Plant	1	Northwest
Devon Energy	SAGD Plant	2	East



Station Equipment

Equipment Owner: Canadian Natural Resources Ltd.

Analytical Equipment

Parameter	Make	Model	Serial Number	Date Instrument Installed	WBEA Data Start Date
SO ₂	Teledyne/API	43iQ-ANN	12124313138	2022	September, 2018
H ₂ S	Teledyne/API	T101	621	2018	September, 2018
NO/NO _x /NO ₂	Teledyne/API	T200	722	2018	September, 2018

Meteorological Equipment

Parameter	Make	Model	Serial Number	WMO Site Class	Date Sensor Installed	WBEA Data Start Date
AT/RH	Vaisala	HMP155	N2910505	Class 3	2018	September, 2018
WS	Met One	010C-1	X16480	Class 4	2018	September, 2018
WD	Met One	020C-1	X16496	Class 4	2018	September, 2018

Support Equipment

Name	Description	Make	Model	Serial Number
Datalogger	Datalogger	Campbell Scientific	CR3000	12310
Gas Dilution Calibrator	Dynamic dilution calibrator	Teledyne/API	T700	3811
Zero air generator	Zero Air Generator	Teledyne/API	701	135
Shelter / Building	Air monitoring portable	ITB	ITB-18-17684	17684-1
HVAC	Heating and air conditioning system. Wall mount unit	BARD	1 ton	NA



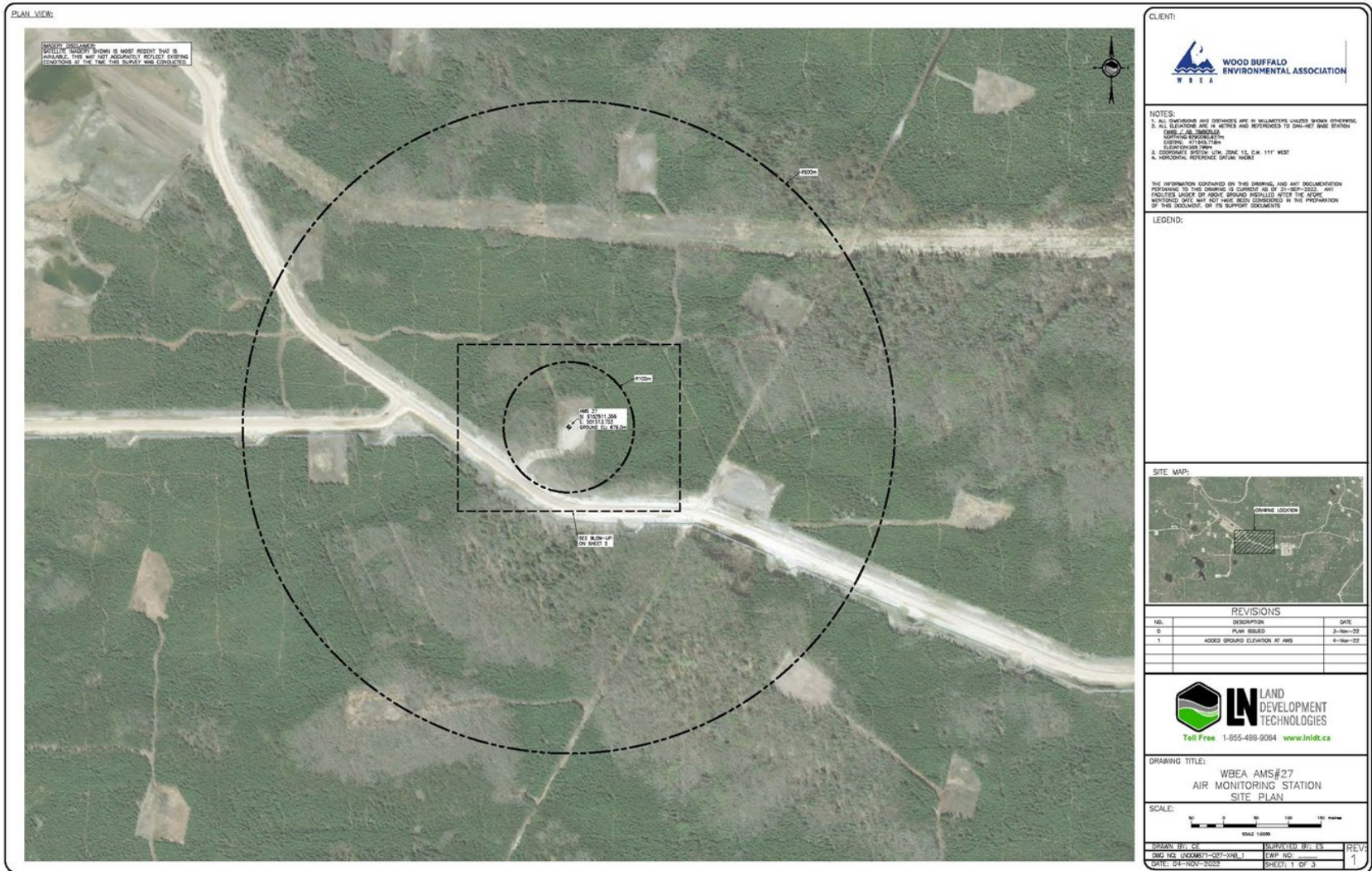


Figure 1 – Aerial photo showing AMS 27.

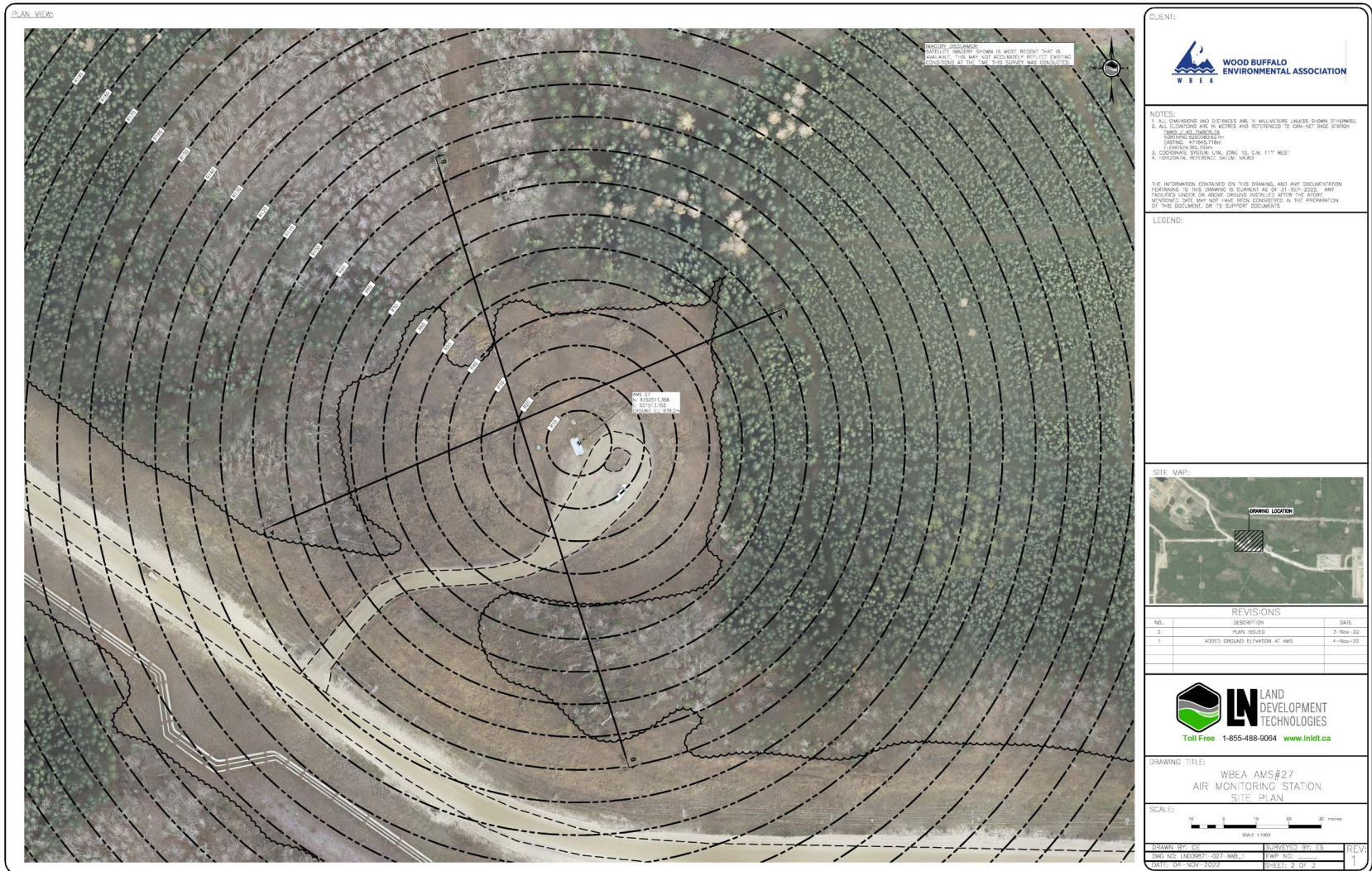


Figure 2 – Plan view sketch for AMS 27.

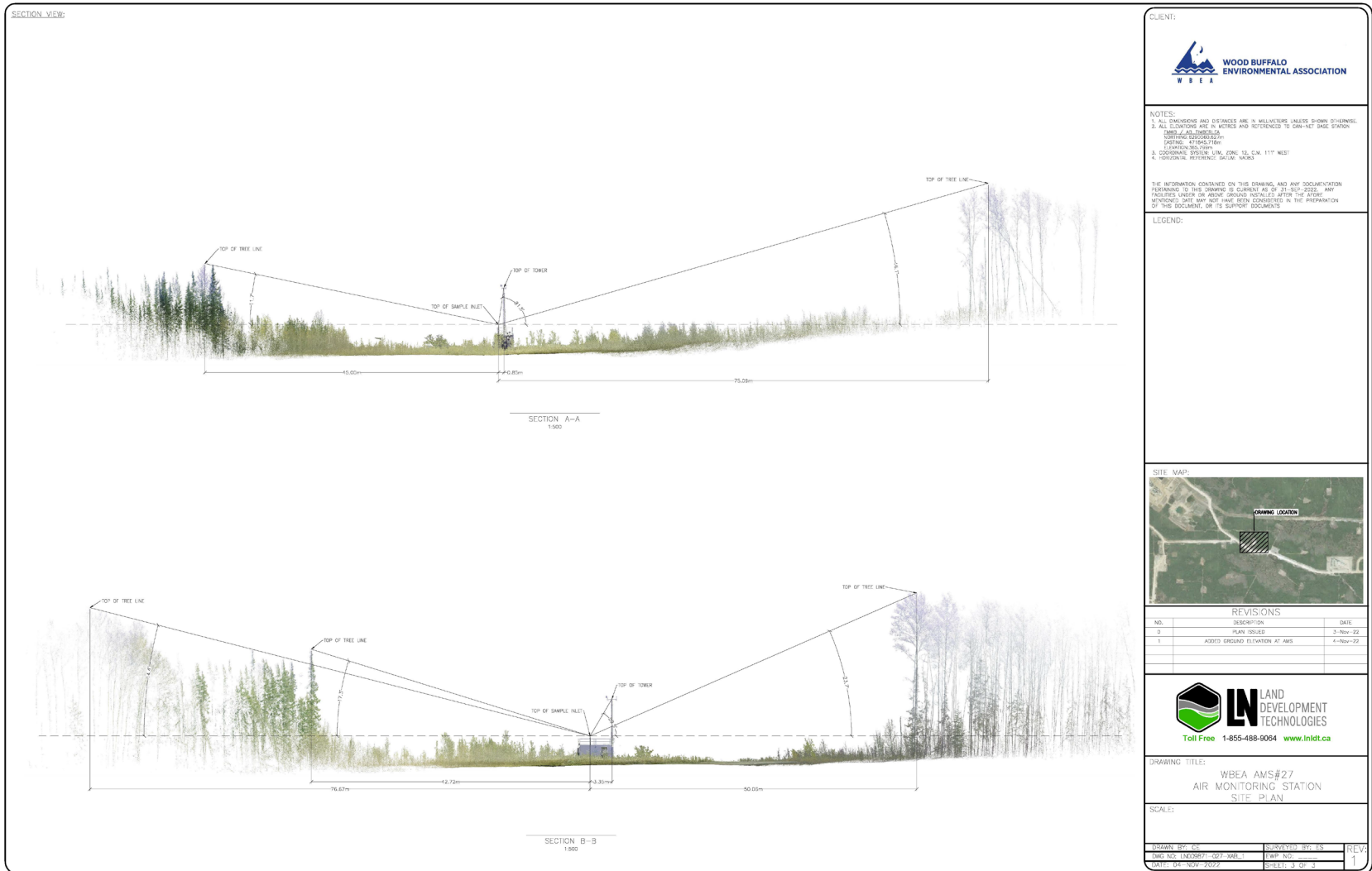


Figure 3 – Cross-Sectional Elevation Drawing of AMS 27.

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



Wood Buffalo Environmental Association
Wind Rose 2019 - 2024

Wind Speed (WS) - km/h
Jackfish 2/3

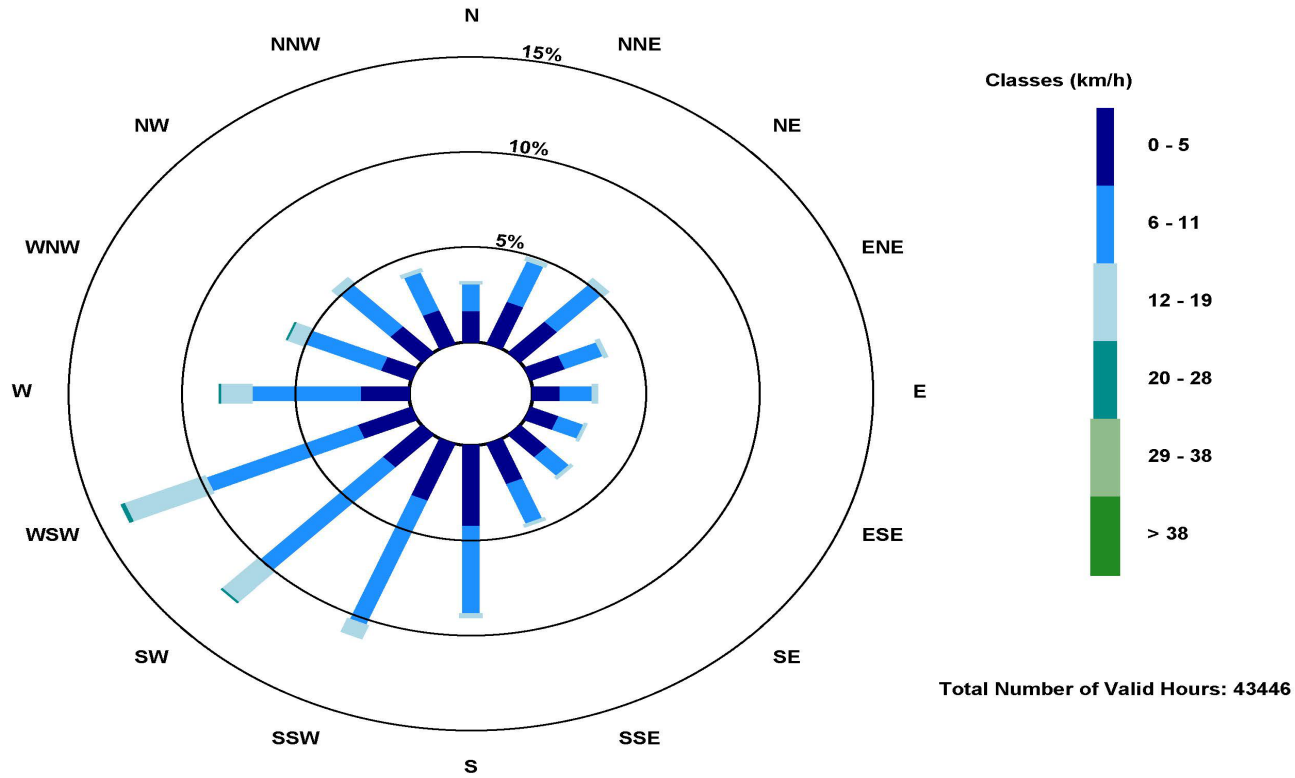


Figure 12 – Windrose (five years).