



Wood Buffalo Environmental Association
Ambient Air Monitoring Station
Site Documentation

Jackfish 1

LAST UPDATED: MARCH 28, 2024



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General Site Information

Revision Date: March 28, 2024

Station

Station ID	AMS 506
Station name	Jackfish 1
Date station established	Aug 16, 2018

Location

Station street address	Located SE of Jackfish construction camp
Legal land description	8-28-75-6-W4
Airshed Zone	Wood Buffalo Environmental Association
Latitude	55.523816
Longitude	-110.865345
UTM East	508503
UTM North	6153091
Nearest community	Conklin
Community population	154
Census Year	2016

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	224816-01-00
Contact Name	Shawn Milligan
Address	2100, 855 - 2 Street SW Calgary, Alberta, Canada 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)	620	
Angle of elevation to nearby buildings	Greatest angle	0
	Building direction	NA
Airflow restrictions	North	Trees
	East	Trees

	South	Trees
	West	Trees
Distance to nearest trees (m)	North	100
	East	75
	West	40
	South	25
Sample manifold	Type	All glass
	Inlet height above roof	1 metre
Wind Sensors	Type	Cup and vane
	Height above ground (m)	10
	Distance from station (m)	attached

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	Low	20	Used by site workers

Major Point Sources

Facility Name	Source Type	Distance from site (km)	Compass direction from site
CNRL	SAGD Plant	400	N

Station Equipment

Equipment Owner: WBEA

Analytical Equipment

Parameter	Make	Model	Serial Number	Date Instrument Installed	WBEA Data Start Date
SO ₂	Thermo Environmental	43i	1160290011	2022	September, 2018
H ₂ S	Thermo Environmental	43iQ	1180540020	2023	September, 2018
NO/NO _x /NO ₂	Thermo Environmental	42i	1218153356	2022	September, 2018

Meteorological Equipment

Parameter	Make	Model	Serial Number	WMO Site Class	Date Sensor Installed	WBEA Data Start Date
AT/RH	Vaisala	HMP155	K1720033	Class 3	2022	September, 2018
WS	Met One	010C-1	Y18362	Class 3	2022	September, 2018
WD	Met One	020C-1	R14654	Class 3	2022	September, 2018

Support Equipment

Name	Description	Make	Model	Serial Number
Datalogger	Datalogger	Campbell Scientific	CR3000	9035
Zero air generator	Zero Air Generator	Teledyne/API	701	4427
Shelter / Building	Air monitoring portable	ITB	8 x 16 trailer	ITB1315940
Gas Dilution Calibrator	Mass flow controlled gas dilution	Teledyne/API	T700	2659
Tower	10 Metre crank up	Aluma	T-135	AT213029-Y-3-1
H ₂ S converter	H ₂ S converter	Global Analyzer Systems	G150	2022-218



Figure 1 – Area topographic map showing AMS 506



Figure 2 – Aerial image showing AMS 506



Figure 3 – Plan view image for AMS 506 site

The elevation view is currently not available for this site.

Figure 4 – Elevation view image for AMS 506 site

Site photos

The following photos show the environment surrounding the monitoring station.



Figure 5 – Environment looking North



Figure 6 – Environment looking East

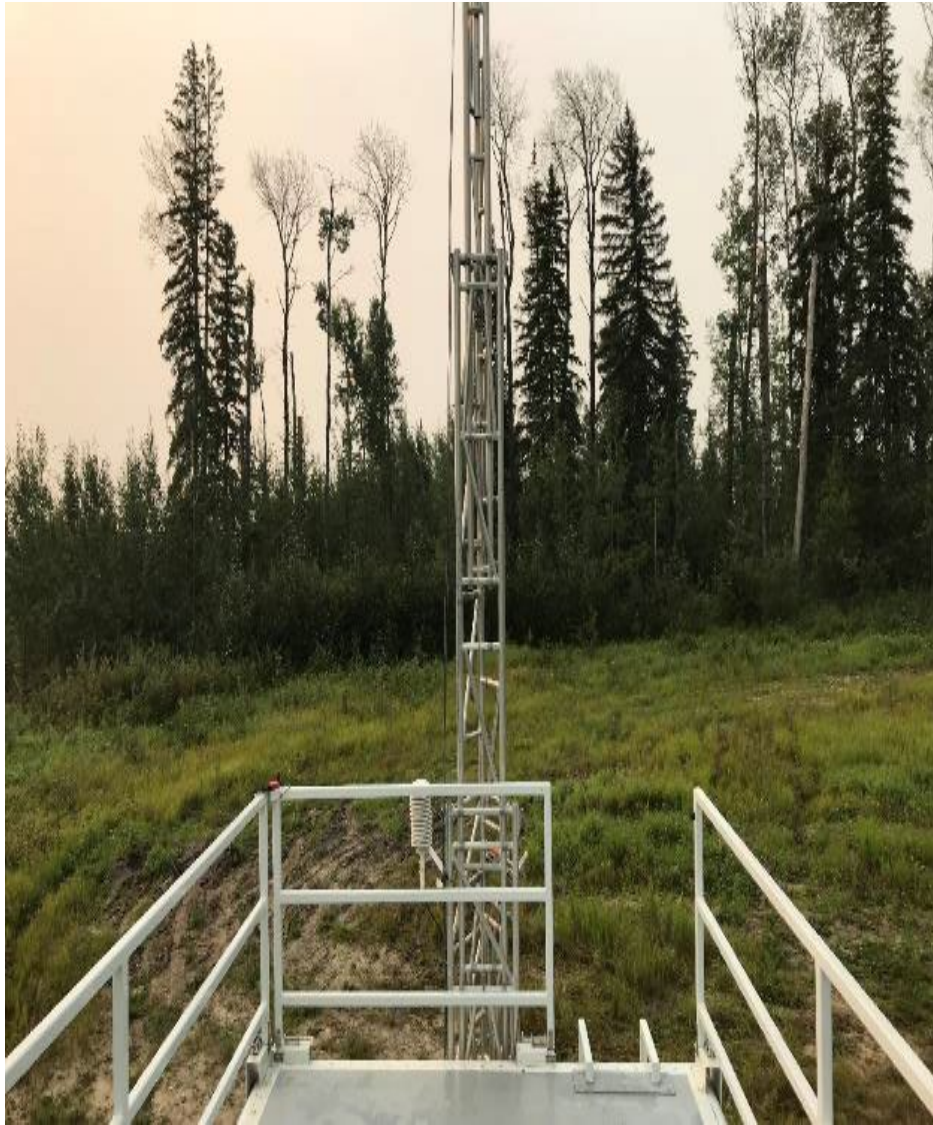


Figure 7 – Environment looking South



Figure 8 – Environment looking West



Figure 9 – Meteorological Tower

Station Photos

The following photos show the monitoring station and instrumentation.



Figure 10 – Photo showing the inlet and sample manifold



Figure 11 – Curb shot of the monitoring station



Figure 12 –Photo of the front and the back of instrument rack



Wood Buffalo Environmental Association
Wind Rose Jan 2019

Wind Speed (WS) - km/h
Jackfish 1

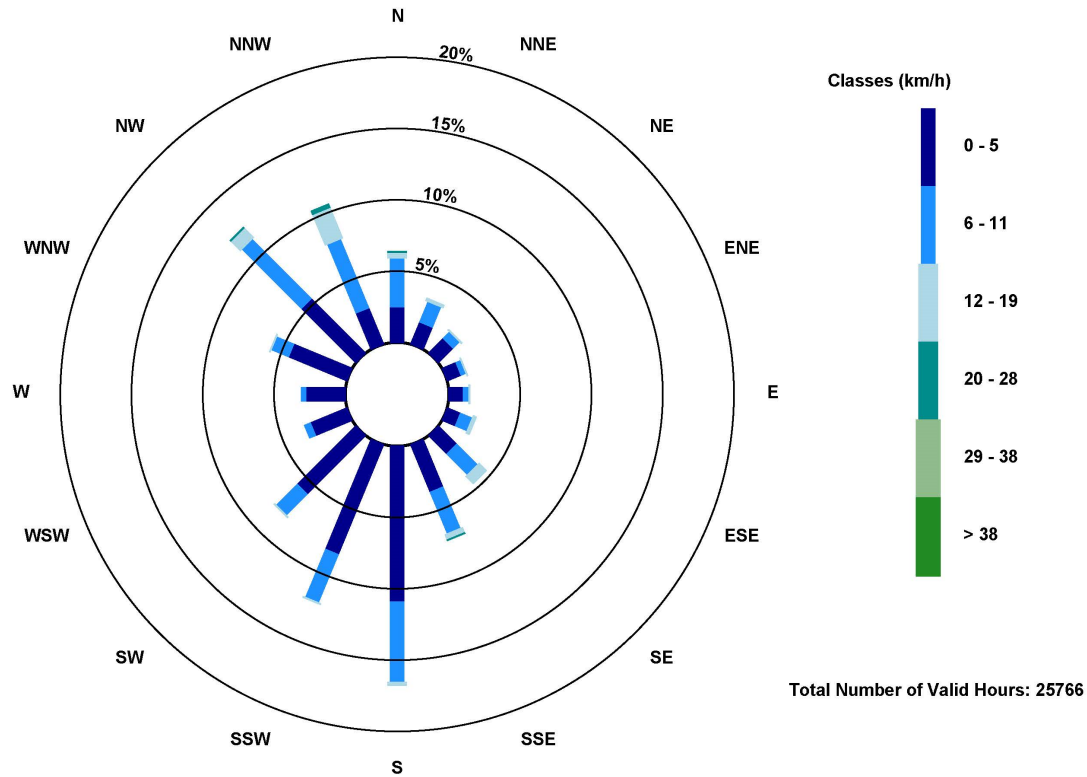


Figure 13 – Windrose (2019-2024)