

Wood Buffalo Environmental Association
Ambient Air Monitoring Station
Site Documentation

Fort McKay South

LAST UPDATED: MARCH 27, 2024

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General Site Information

Revision Date: March 27, 2024

Station

Station ID	AMS 13
Station name	Fort McKay South
Date station established	2002

Location

Station street address	None
Legal land description	4-13-094-11 W4
Airshed Zone	Wood Buffalo Environmental Association
Latitude	57.149175
Longitude	-111.642344
UTM East	461136
UTM North	6334175
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	Syncrude Canada Ltd
Approval number	026-03-00
Contact Name	Nikola Stears
Address	Bag 4009, MD 4160, Fort McMurray, Alberta, T9H 3L1
Phone number	780-742-7281
Email address	nstears@suncor.com

Site Description

Land use by sector	0 – 90 degrees	Forest
	91 – 180 degrees	Forest
	181 – 270 degrees	Forest
	271 – 360 degrees	Forest
Site elevation (m) (above sea level)	268 m	
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	150
	East	108
	West	56
	South	150
Sample manifold	Type	All glass
	Inlet height above roof	1 metre
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
Asphalt	High	326	Main Road to Fort McKay and CNRL Horizon
Dirt	Low	99	Road to AMS 13
Dirt	Very Low	10	Access Road to AMS 13

Major Point Sources

Facility Name	Source Type	Distance from site (km)	Compass direction from site
CNRL Horizon	OilSands Plant	21.9	N
Syncrude	Tailings pond	6.2	SW
Syncrude	OilSands Plant	12.3	S
Fort McKay Enterprises Ltd.	Laydown Yard	1	SE
Bouchier Group	LayDown Yard	1	SE
BME Ltd.	Laydown Yard	1	SE
Wood Buffalo Water Treatment Plant	Water Treatment Plant	4.9	N
CNRL Albian	Tailings pond	9.2	NE
CNRL Albian	Oilsands Plant	14.1	NE

Station Equipment

Equipment Owner: Syncrude Canada Ltd.

Analytical Equipment

Parameter	Make	Model	Serial Number	Date Instrument Installed	WBEA Data Start Date
Continuous					
SO ₂	Teledyne/API	T100	599	2016	January, 1999
TRS	Thermo Scientific	43i-TLE	1180540017	2016	January, 1999
NO/NO _x /NO ₂	Thermo Scientific	42i	1410661329	2016	January, 1999
THC/CH ₄ /NMHC	Thermo Scientific	55i	1172750023	2023	January, 1999
O ₃	Teledyne/API	T400	3871	2021	January, 1999
PM _{2.5}	Teledyne/API	T640	1335	2023	January, 1999
PM ₁₀	Thermo Scientific	2000i	20001203861408	2016	July, 2019
Time-Integrated					
PM ₁₀	Thermo Scientific	2000i	20001203861408	2016	-
VOC	Tisch	TE123	1023	2016	-
TRS converter	Thermo Scientific	CDN-101	521	2016	-

Commented [DM1]: Same serial number as above, is that accurate?

Commented [DM2]: Do we need this?

Meteorological Equipment

Parameter	Make	Model	Serial Number	WMO Site Class	Date Sensor Installed	WBEA Data Start Date
AT/RH	Vaisala	HMP155	G430047	Class 3	2016	January, 2002
WS	Met One	010C-1	N10022	Class 4	2022	January, 1999
WD	Met One	020C-1	W16101	Class 4	2021	January, 1999

Support Equipment

Name	Description	Make	Model	Serial Number
Datalogger	Datalogger	Campbell Scientific	CR3000	11038
Gas Dilution Calibrator	Dynamic dilution calibrator	Teledyne/API	T700	2248
Zero air generator	Zero Air Generator	Teledyne/API	701	1117
Shelter / Building	Air monitoring portable	C&V	8 x 16 trailer	5201657
HVAC	Heating and air conditioning system. Wall mount unit	Intherem	E2EB-010HB	E2E011101302

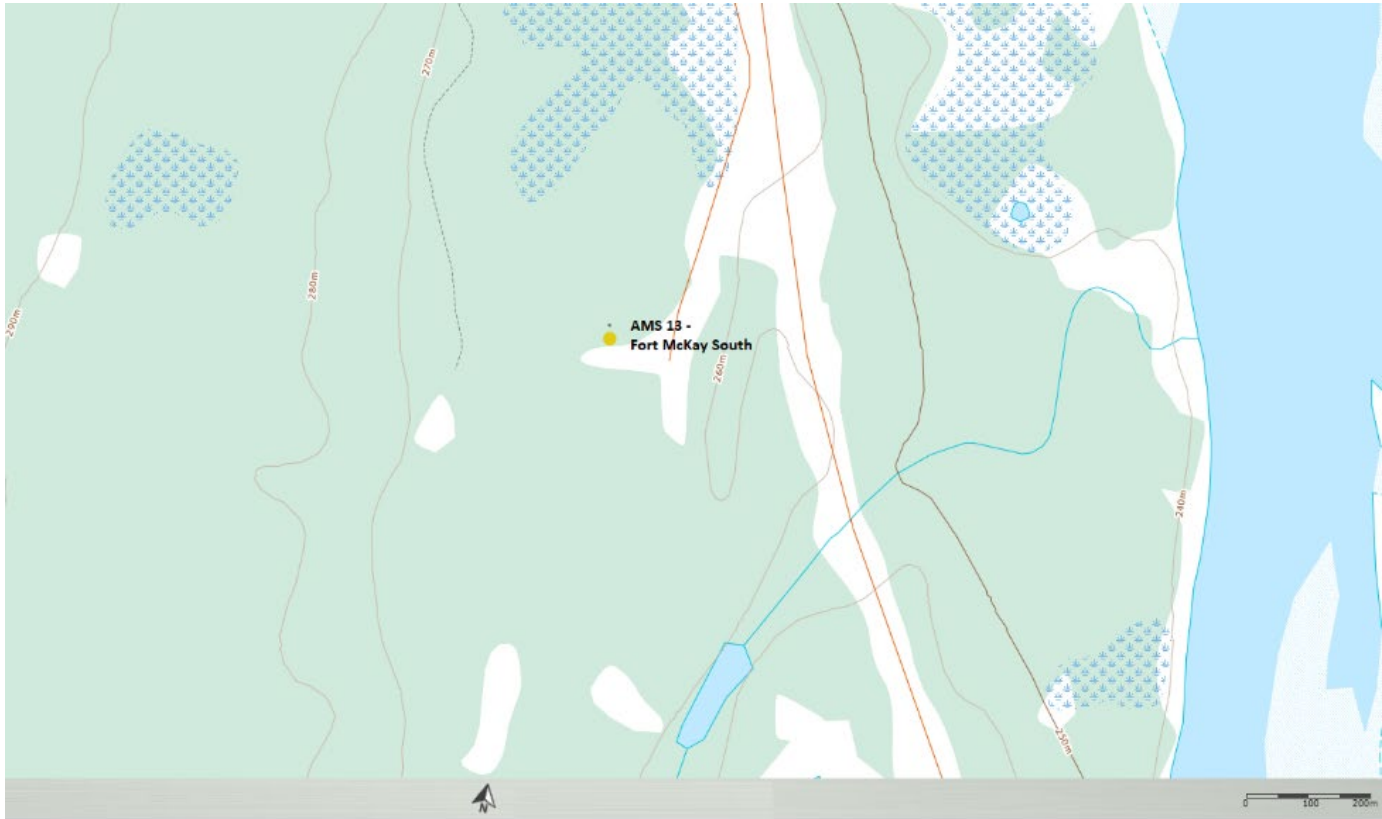


Figure 1 – Area Topographic map showing AMS 13





Figure 2 – Aerial image showing AMS 13



Figure 3 – Plan view image for AMS 13 – Fort McKay South

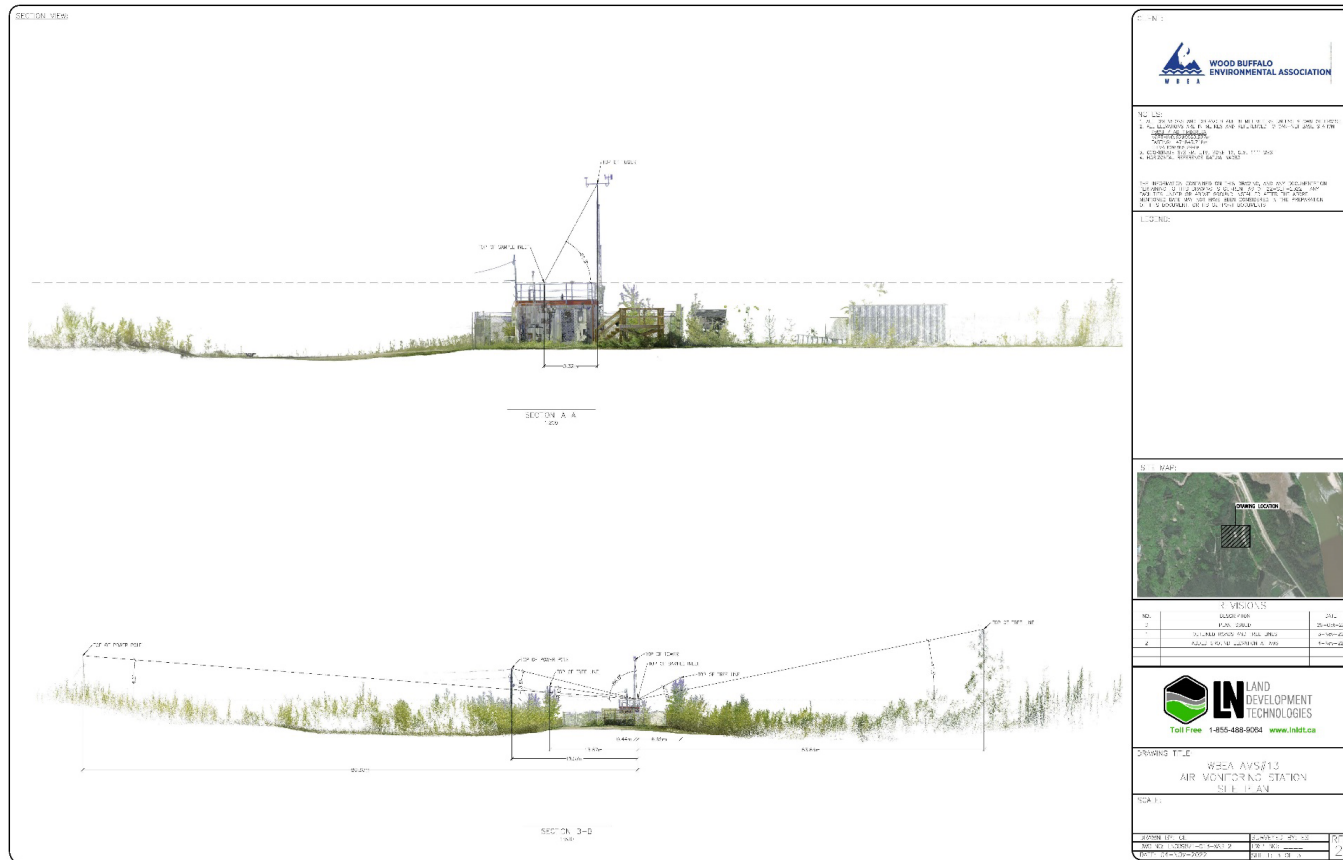


Figure 4 – Elevation image for AMS 13 – Fort McKay South

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.

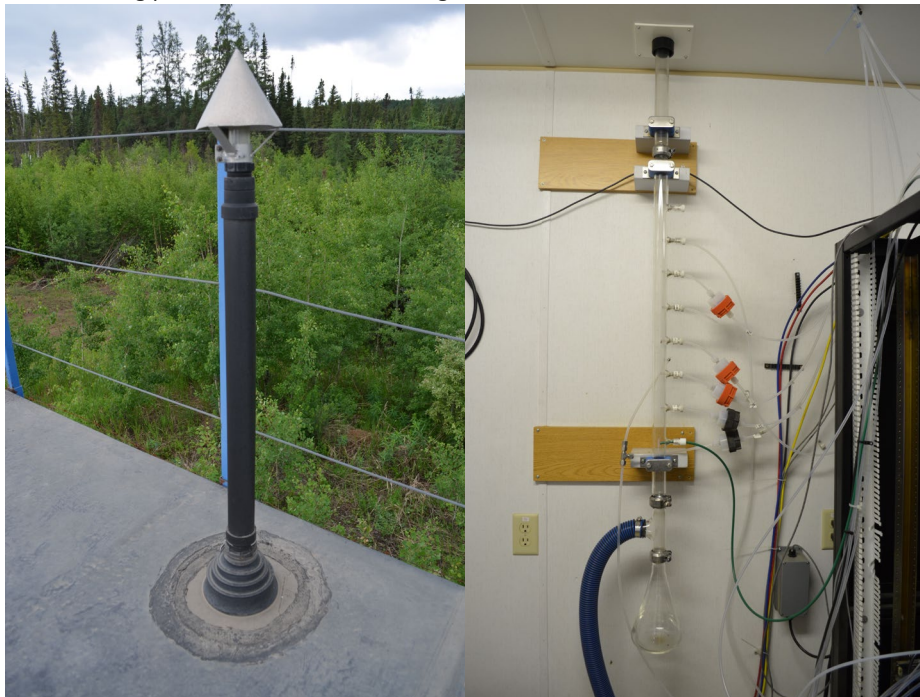


Figure 10 – Photo showing the inlet and sample manifold.





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 2019 - 2024

Wind Speed (WS) - km/h
Fort McKay South

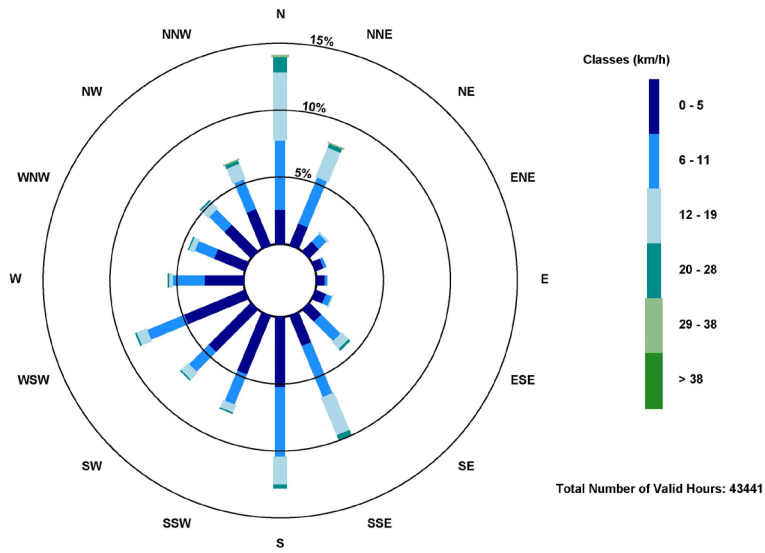


Figure 13 – Windrose (2019-2024)

