Wood Buffalo Environmental Association

Ambient Air Monitoring Station Site Documentation

AMS 08 – Fort Chipewyan

LAST UPDATED: MARCH 27, 2024

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Tables and Figures

General Site Information

Revision Date: March 27, 2024

Station

Station ID	AMS 08
Station name	Fort Chipewyan
Date station established	1998

Location

Station street address	Fort Chipewyan
Legal land description	6-07-112-07 W4
Airshed Zone	Wood Buffalo Environmental Association
Latitude	58.709285
Longitude	-111.175014
UTM East	489862
UTM North	6507689
Nearest community	Located in Fort Chipewyan
Community population	798
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	NA
Approval number	NA
Contact Name	Wood Buffalo Environmental Association
Address	Unit 3 – 805 Memorial Drive, Fort McMurray, AB
Phone number	780-799-4420
Email address	info@wbea.org

Site Description

Land use by sector	0 – 90 degrees	Residential
	91 – 180 degrees	Residential, Lake
	181 – 270 degrees	Residential, Lake
	271 – 360 degrees	Residential
Site elevation (m) (above sea level)	221 m	
Angle of elevation to nearby buildings	Greatest angle	0
	Building direction	NA
Airflow restrictions	North	No
	East	No

	South	No
	West	No
Distance to nearest trees (m)	North	50m
	East	NA
	West	NA
	South	NA
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)	0

Site Influences

Localized Sources (within 20 metres of station)

Type	Distance (m)	Description
House	About 20 m, South	Local residential house, potential for wood burning.

Roadway Influences

Type	Traffic Volume	Distance (m)	Description
Driveway	Low	10	Dirt road, residential use
Local roads	Low	100	Paved road, very low volume

Major Point Sources

Facility Name	Source Type	Distance from site (km)	Compass direction from site
Suncor/Syncrude	Oil Sands Production	160	South

Station Equipment

Equipment Owner: WBEA

Analytical Equipment

Parameter	Make	Model	Serial Number	Date Instrument Installed	WBEA Data Start Date
Continuous					
SO_2	Thermo Environmental	43i-TLE	1136451241	2014	January, 1999
CO	Teledyne API	T300	3505	2019	April, 2019
CO_2	Teledyne API	T360	289	2020	April, 2019
$NO_x/NO/NO_2$	Thermo Environmental	42i	1426262592	2022	January, 1999
O_3	Teledyne API	T400	3872	2021	January, 1999
TRS	Thermo Environmental	43iq-TLE	NA	2022	-
PM $_{2.5}$	Teledyne API	T 640	216	2018	February, 2000
Time-Integrated					
VOC	Tisch	TE-123	1029	2023	-
PM10	Thermo Scientific	2000i	2000IW-20929-2106	2023	-
PM10	Thermo Scientific	2000i	2000IW-20933-2106	2023	-
PM2.5	Thermo Scientific	2000i	2000IW-20932-2106	2023	-
PM2.5 EC/OC	Thermo Scientific	2000i	2000IW-20934-2106	2023	-
PAH	Tisch	TE-PUF+BL	100111	2023	-

Meteorological Equipment

Parameter	Make	Model	Serial Number	WMO Site Class	Date Sensor Installed	WBEA Data Start Date
PC	OTT	Pluvio 2 – 400	358347	2	March, 2023	February, 1999
AT/RH	Vaisala	HMP155	N0810528	5	March, 2014	January, 2008
WS	Met One	010C-1	P22394	2	March, 2014	January, 1999
WD	Met One	020C-1	E4853	2	March, 2014	January, 1999
LW	Campbell Scientific	LWS-L	NA	NA	March, 2014	February, 1999
GR	Eppley Lab Inc.	8-48	38243	1	March, 2014	January, 1999

Support Equipment

Name	Description	Make	Model	Serial Number
Datalogger	Datalogger	Campbell Scientific	CR3000	11039
Datalogger	Datalogger	Campbell Scientific	CR310	2237
Zero air generator	Zero Air Generator	Teledyne/API	701	260
HVAC	Heating and air conditioning system. Wall mount unit	BARD	1 ton	314B132990230-02
Shelter / Building	Air monitoring portable	ITB	10 x 20 trailer	13 15920
Gas Dilution Calibrator	Mass flow-controlled gas dilution	Teledyne/API	T700	23252
Hydrogen Generator	Hydrogen Generator	Peak Scientific	100cc	720121160
Nitrogen Generator	Nitrogen Generator	Peak Scientific	NG5000A	771048318

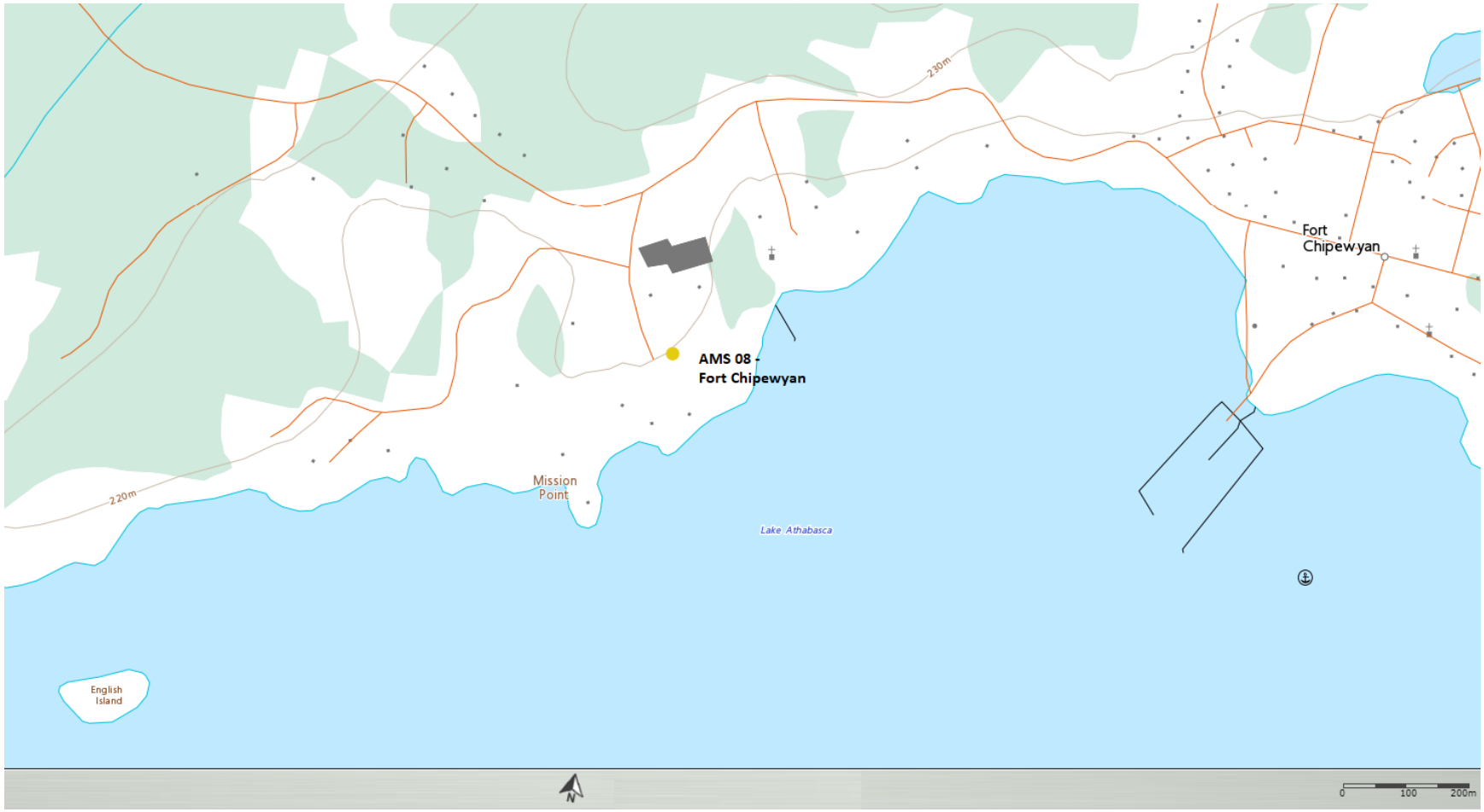
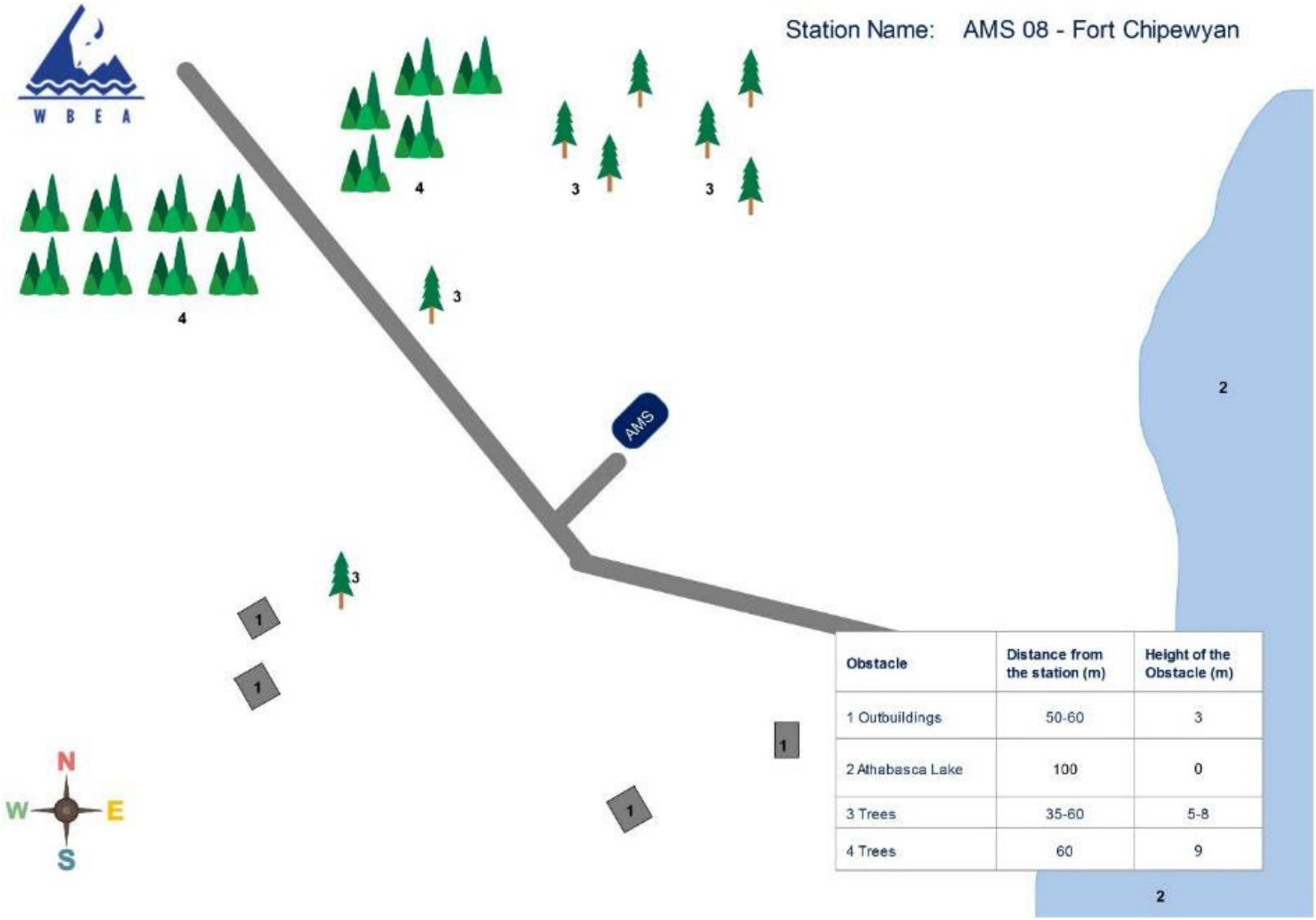


Figure 1 – Area topographic map showing AMS 08

Figure 2 – Aerial photo showing AMS 08



Obstacle	Distance from the station (m)	Height of the Obstacle (m)
1 Outbuildings	50-60	3
2 Athabasca Lake	100	0
3 Trees	35-60	5-8
4 Trees	60	9

Figure 3 – Plan view sketch for AMS 08 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.

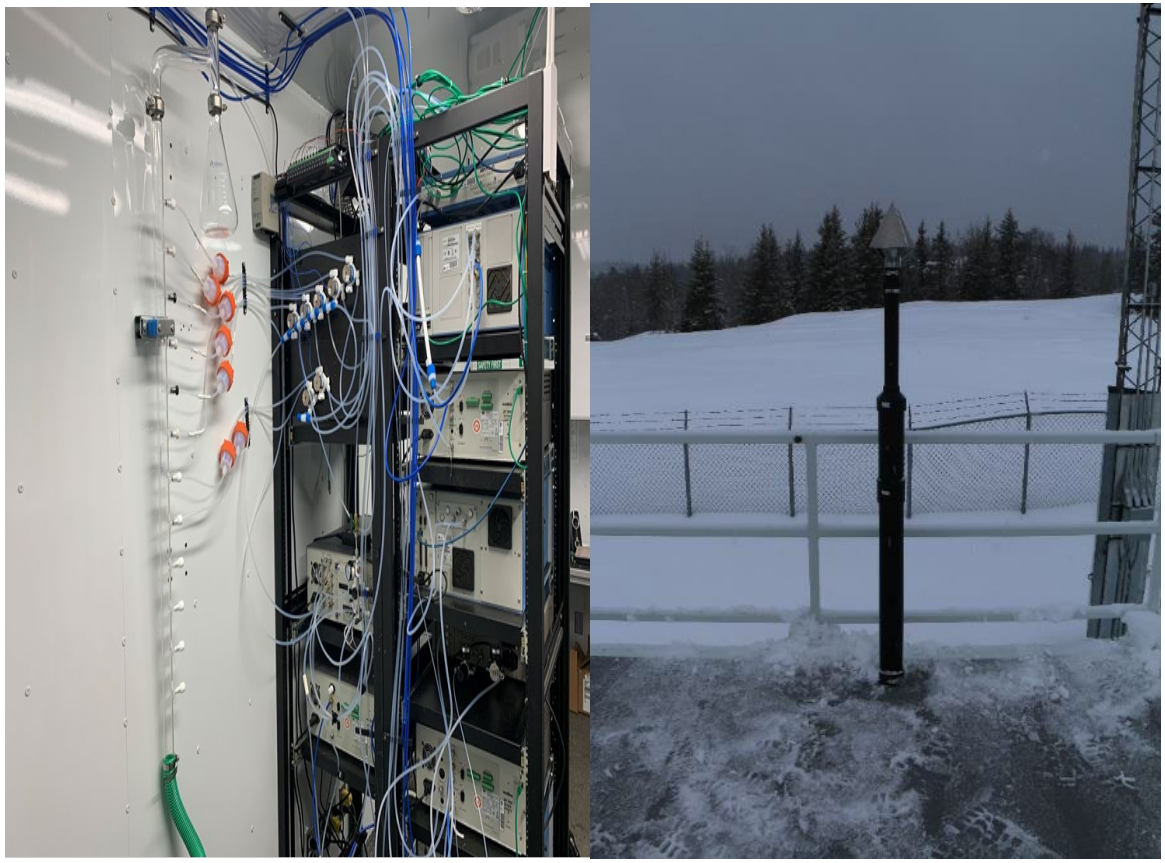


Figure 9 – Photo showing the inlet and sample manifold

Figure 10 – Curb shot of the monitoring station

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

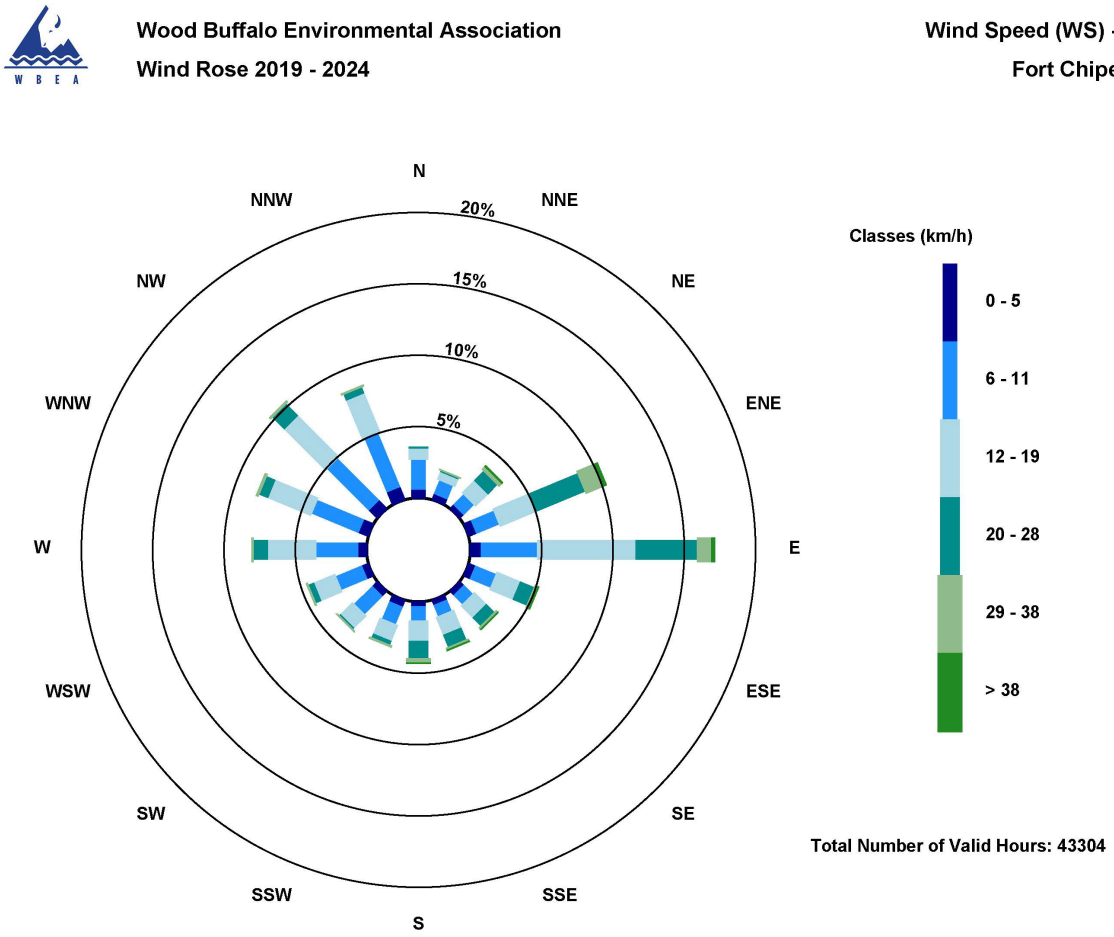


Figure 12 – Windrose (2019-2024)