



Wood Buffalo Environmental Association
Ambient Air Monitoring Station
Site Documentation

Lower Camp Meteorological Tower

LAST UPDATED: MARCH 27, 2024



Table of Contents

General Site Information	4
Station	4
Location.....	4
Owner/Operator/Approval Holder	4
Site Description	4
Site Influences	5
Localized Sources (within 20 metres of station).....	5
Roadway Influences	5
Major Point Sources.....	5
Station Equipment	6
Meteorological Equipment	6
Support Equipment.....	6
Site photos	11
Station Photos.....	16

Tables and Figures

Figure 1 – Area topographic map showing AMS 03.....	7
Figure 2 – Aerial photo showing AMS 03.....	8
Figure 3 – Plan view image for AMS 03 site.....	9
Figure 4 – Elevation view image for AMS 03 site.....	10
Figure 5 – Environment looking North.....	11
Figure 6 – Environment looking East	12
Figure 7 – Environment looking South.....	13
Figure 8 – Environment looking West.....	14
Figure 9 – Meteorological Tower	15
Figure 10 – Curb shot of the monitoring station	16
Figure 11 – Windrose – 20 Metre Level (2019-2024)	17
Figure 12 – Windrose – 45 Metre Level (2019-2024)	18
Figure 13 – Windrose – 100 Metre Level (2019-2024)	19
Figure 14 – Windrose – 163 Metre Level (2019-2024)	20

General Site Information

Revision Date: March 27, 2024

Station

Station ID	AMS 03
Station name	Lower Camp Meteorological Tower
Date station established	Original site 1975, new tower erected in 2022

Location

Station street address	Located by the Athabasca River Valley at about 115 meters NW of the Syncrude pump house
Legal land description	4-02-093-10 W4
Airshed Zone	WBEA
Latitude	57.0321738
Longitude	-111.506355
UTM East	469266.90
UTM North	6321111.10
Nearest community	Fort McMurray
Community population	66,573
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	NA
Approval number	NA
Contact Name	Wood Buffalo Environmental Association
Address	Unit 3-805 Memorial Drive, Fort McMurray, Alberta
Phone number	780-799-4420
Email address	info@wbea.org

Site Description

Land use by sector	0 – 90 degrees	Athabasca River and forest
	91 – 180 degrees	Athabasca River and forest
	181 – 270 degrees	Suncor Base Plant
	271 – 360 degrees	Syncrude plant and operations
Site elevation (m) (above sea level)	239 metres	
Angle of elevation to nearby buildings	Greatest angle	0
	Building direction	N/A
Airflow restrictions	North	No

	East	No
	South	No
	West	No
Distance to nearest trees (m)	North	100
	East	100
	West	NA
	South	NA
Sample manifold	Type	N/A
	Inlet height above roof	N/A
Wind Sensors	Type	Ultrasonic
	Height above ground (m)	20, 45, 100, 163 metres
	Distance from station (m)	Mounted on tower

Site Influences

Localized Sources (within 20 metres of station)

Type	Distance (m)	Description
Laydown	79.21m W	Equipment Laydown
Water Pond	136.8m SW	Reservoir
Athabasca River	33.8m E	River
Solar Farm	220m NW	Solar Farm
Pumping Station	114m SE	Syncrude Water Pump Station

Roadway Influences

Type	Traffic Volume	Distance (m)	Description
Gravel road	Low	20	Road access to lay down and pumping station

Major Point Sources

Facility Name	Source Type	Distance from site (km)	Compass direction from site
Suncor Energy	Oil refinery	2	South West
Syncrude	Oil refinery/open mining	3	West
Suncor Energy	Open mining operations	4	South East

Station Equipment

Equipment Owner: WBEA

Meteorological Equipment

Parameter	Make	Model	Serial Number	WMO Site Class	Date Sensor Installed	WBEA Data Start Date
20 Metre WS/WD	RM Young	81000	3079	3	2022	January, 1999
45 Metre WS/WD	RM Young	81000	1266	3	2022	March, 1999
100 Metre WS/WD	RM Young	81000	1352	3	2022	April, 1999
163 Metre WS/WD	RM Young	81000	1261	3	2022	March 1, 1999
20 Metre AT/RH	Vaisala	HMP155	J5140010	3	2022	February, 1999
45 Metre AT/RH	Vaisala	HMP155	G4330052	3	2022	January, 1999
100 Metre AT/RH	Vaisala	HMP155	J3310032	3	2022	January, 1999
163 Metre AT/RH	Vaisala	HMP155	F5010005	3	2022	January, 1999

Support Equipment

Name	Description	Make	Model	Serial Number
Datalogger	Datalogger	Campbell Scientific	CR3000	5728



Figure 1 – Area topographic map showing AMS 03



Figure 2 – Aerial photo showing AMS 03

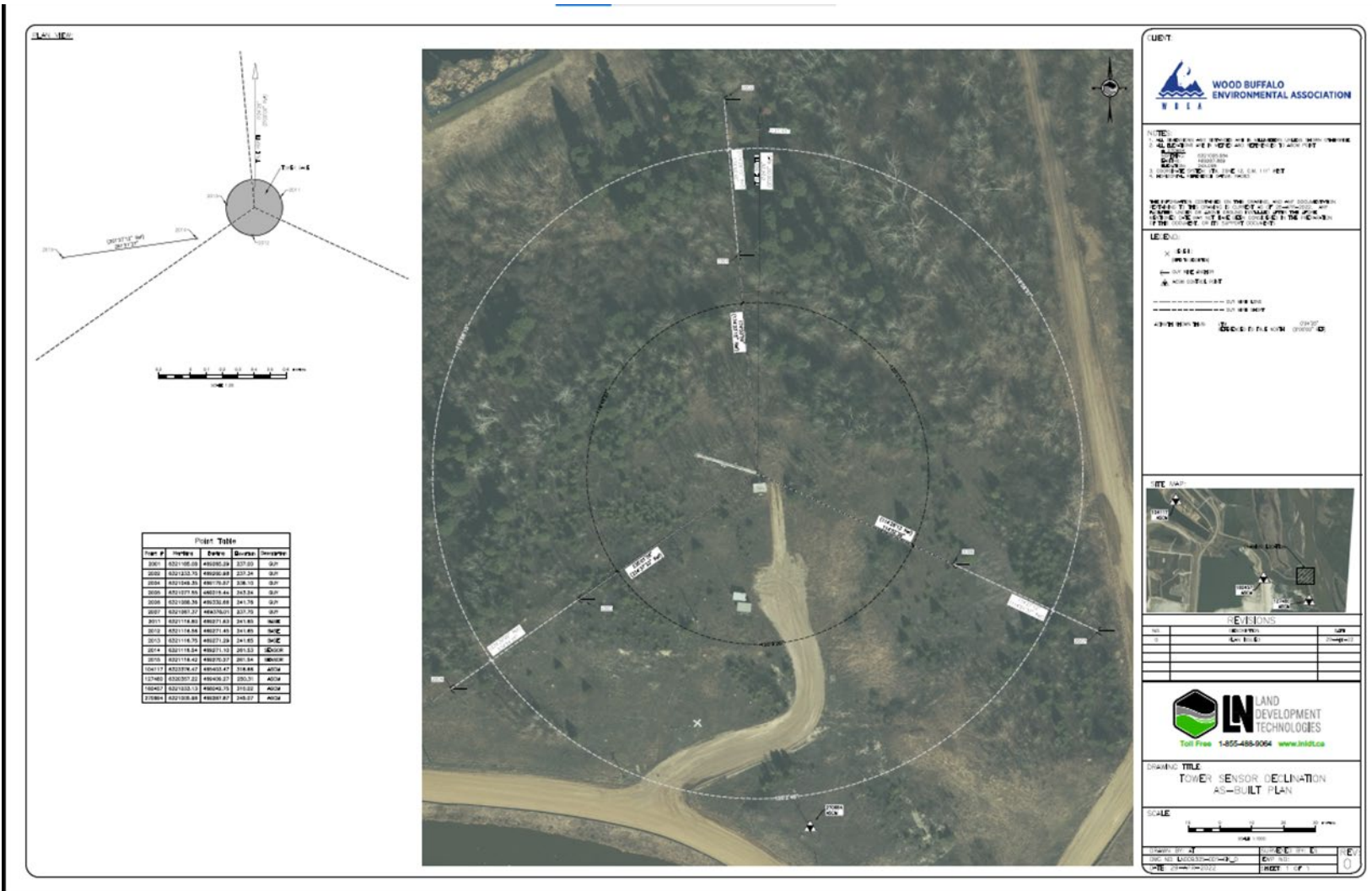


Figure 3 – Plan view image for AMS 03 site

The elevation image is currently not available.
Figure 4 – Elevation view image for AMS 03 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.



Figure 10 – Curb shot of the monitoring station



Wood Buffalo Environmental Association
Wind Rose 2019 - 2024

Wind Speed 20 m (WS20m) - km/h
Lower Camp Met Tower

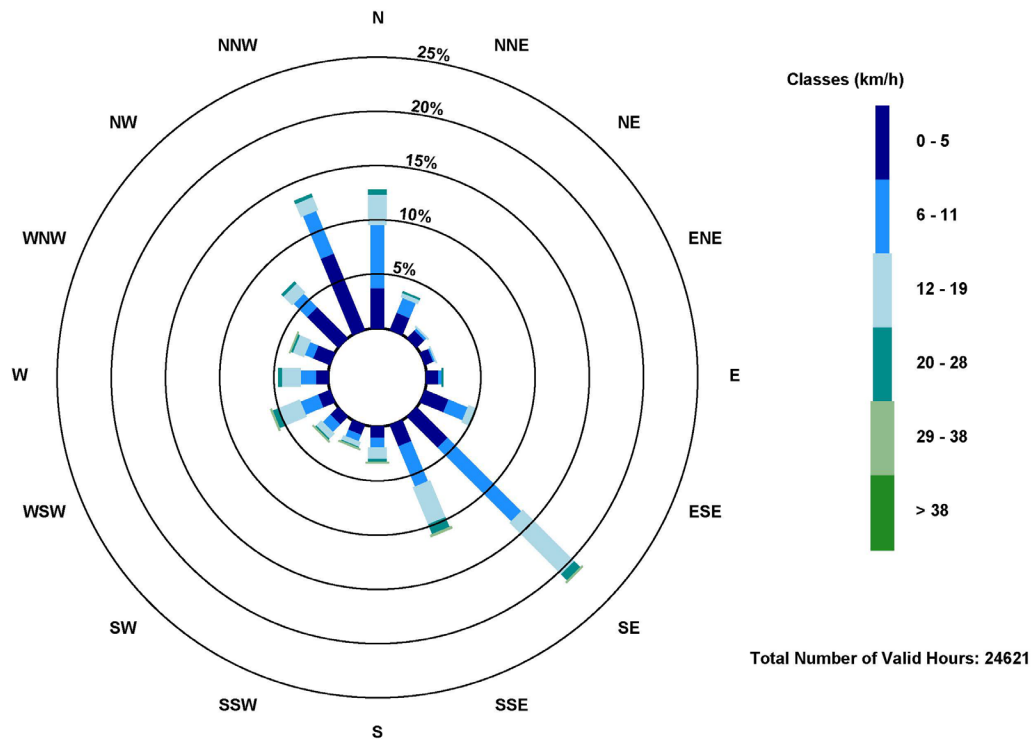


Figure 11 – Windrose – 20 Metre Level (2019-2024)



Wood Buffalo Environmental Association
Wind Rose 2019 - 2024

Wind Speed 45 m (WS45m) - km/h
Lower Camp Met Tower

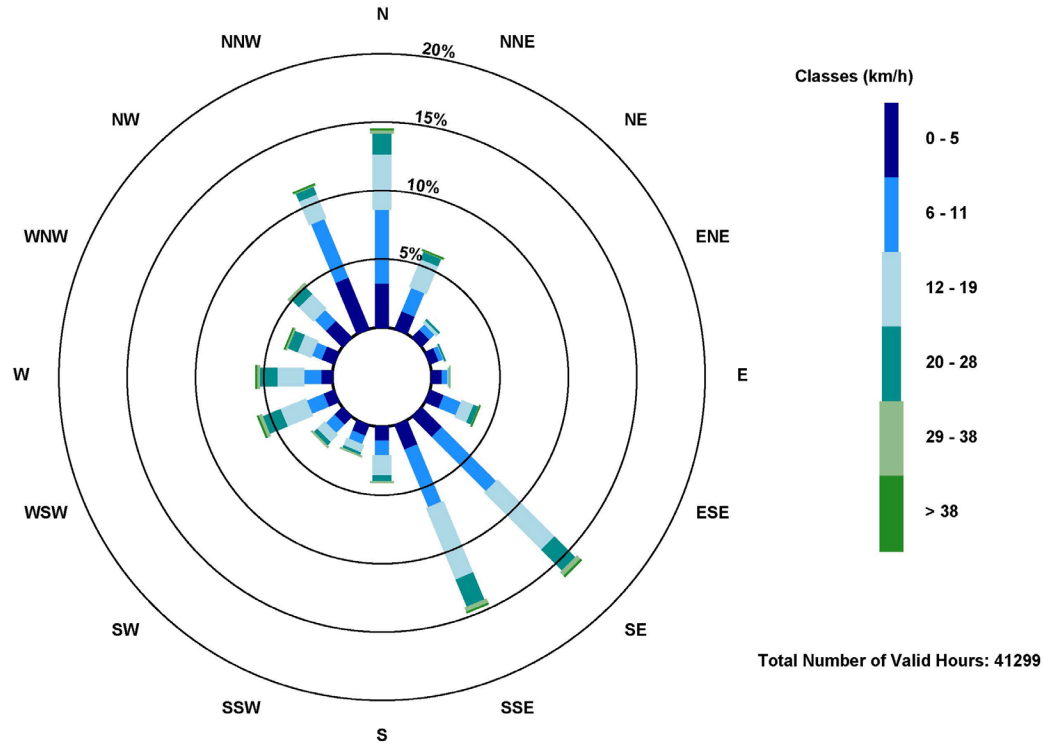


Figure 12 – Windrose – 45 Metre Level (2019-2024)



Wood Buffalo Environmental Association
Wind Rose 2019 - 2024

Wind Speed 100 m (WS100m) - km/h
Lower Camp Met Tower

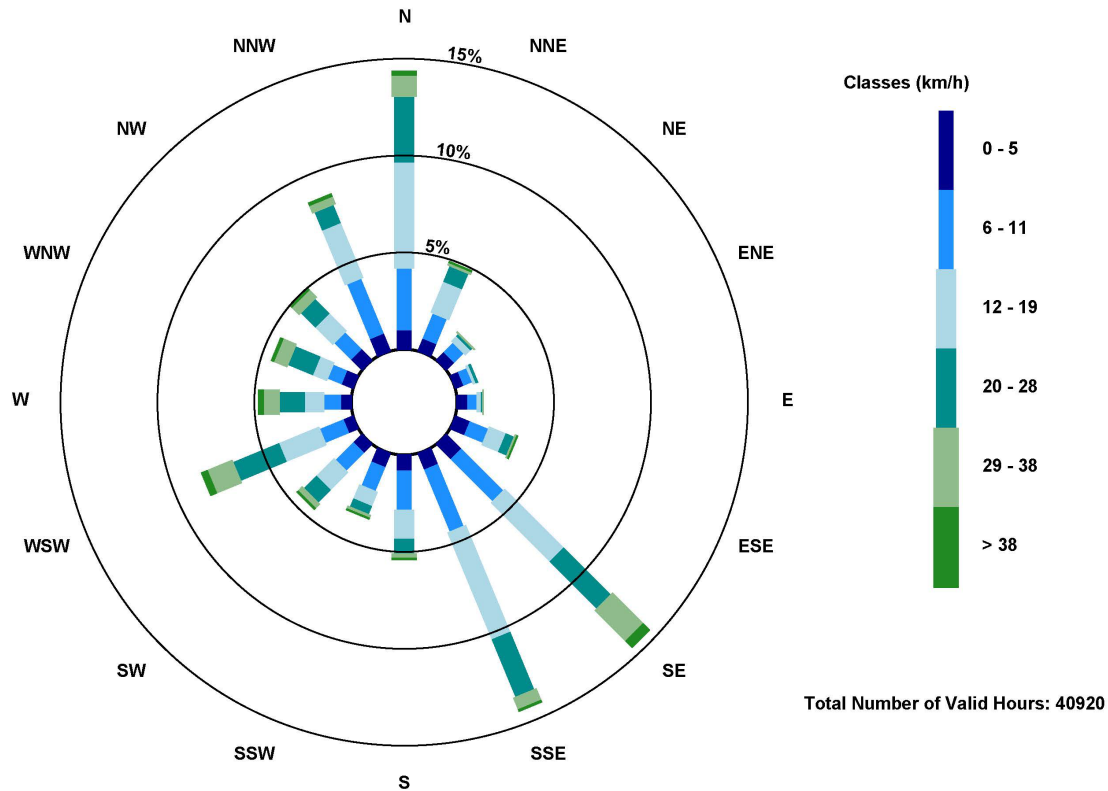


Figure 13 – Windrose – 100 Metre Level (2019-2024)



Wood Buffalo Environmental Association
Wind Rose 2019 - 2024

Wind Speed 163 m (WS163m) - km/h
Lower Camp Met Tower

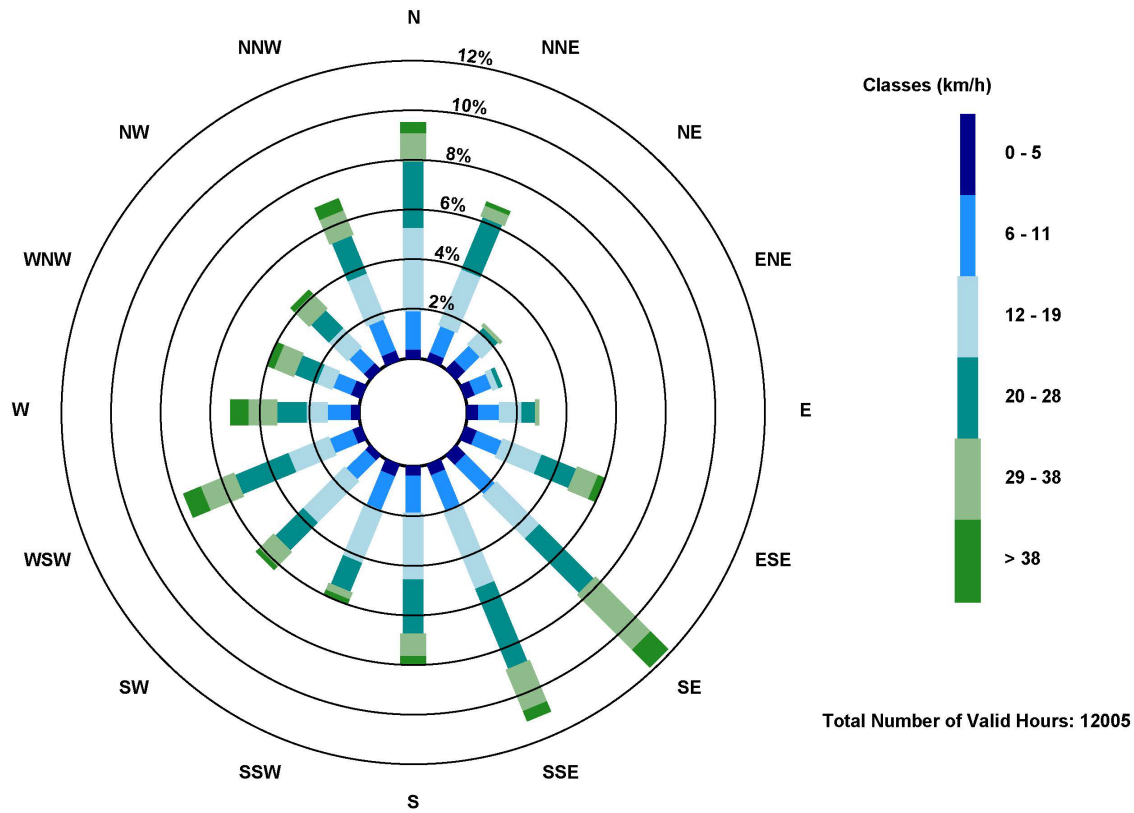


Figure 14 – Windrose – 163 Metre Level (2019-2024)