

Wood Buffalo Environmental Association
Ambient Air Monitoring Station
Site Documentation

Kirby South

LAST UPDATED: MARCH 28, 2024



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General Site Information

Revision Date: March 28, 2024

Station

Station ID	AMS 507
Station name	Kirby South
Date station established	July 1, 2021

Location

Station street address	G-Pad
Legal land description	15-21-73-7-W4
Airshed Zone	Wood Buffalo Environmental Association
Latitude	55.3437334
Longitude	-111.0139229
UTM East	499117.19
UTM North	6133043.08
Nearest community	Conklin
Community population	229
Census Year	2018

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 Ltd.
Approval number	20809-02-00
Contact Name	Shawn Milligan
Address	2100, 855 – 2 st SW. 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 Operation
	91 – 180 degrees	SAGD Operation
	181 – 270 degrees	SAGD Operation
	271 – 360 degrees	SAGD Operation
Site elevation (above sea level)	730m	
Angle of elevation to nearby buildings	Greatest angle	N/A
	Building direction	None
Airflow restrictions	North	None
	East	None



	South	None
	West	None
Distance to nearest trees (m)	North	250
	East	100
	West	None
	South	100
Sample manifold	Type	All glass
	Inlet height above roof	1 metre
Wind Sensors	Type	Cup and vane
	Height above ground	10 metres
	Distance from station	0 metre

Site Influences

Localized Sources (within 20 metres of station)

Type	Distance (m)	Description
SAGD Operation	25	SAGD Oil Pad

Roadway Influences

Type	Traffic Volume	Distance (m)	Description
Site Roadway	Low	200m	Roadway used by the site workers

Major Point Sources

Facility Name	Source Type	Distance from site (km)	Compass direction from site
Kirby South	SAGD Plant	0.5	SW



Station Equipment

Equipment Owner: WBEA

Analytical Equipment

Parameter	Make	Model	Serial Number	Date Instrument Installed	WBEA Data Start Date
SO ₂	Thermo Scientific	43iQ	1182340007	July, 2021	January, 2019
H ₂ S	Thermo Scientific	43i-LTE	1150840012	2023	January, 2019
NO/NO _x /NO ₂	Thermo Scientific	42iQ	118234006	July, 2021	January, 2019
THC	Thermo Scientific	51i	1182340005	September, 2021	January, 2019

Meteorological Equipment

Parameter	Make	Model	Serial Number	WMO Site Class	Date Sensor Installed	WBEA Date Start Date
AT/RH	Vaisala	HMP155	G0840083	4	July, 2021	January, 2019
WS	Met One	010C-1	X16479	3	July, 2021	January, 2019
WD	Met One	020C-1	X16495	3	July, 2021	January, 2019

Support Equipment

Name	Description	Make	Model	Serial Number
Datalogger	Datalogger	Campbell Scientific	CR3000	2372
Zero air generator	Zero Air Generator	Teledyne/API	701H	880
HVAC	Heating and air conditioning system. Wall mount unit	BARD	1 ton	-
Shelter / Building	Air monitoring portable	ITB	8 x 16 trailer	17451-1
Gas Dilution Calibrator	Mass flow controlled gas dilution	Teledyne/API	T700	3804
H ₂ S Converter	H ₂ S converter	Global Analyzer Systems	G150	NA





Figure 1 – Area Topographic map showing AMS 507





Figure 2 – Aerial photo showing AMS 507



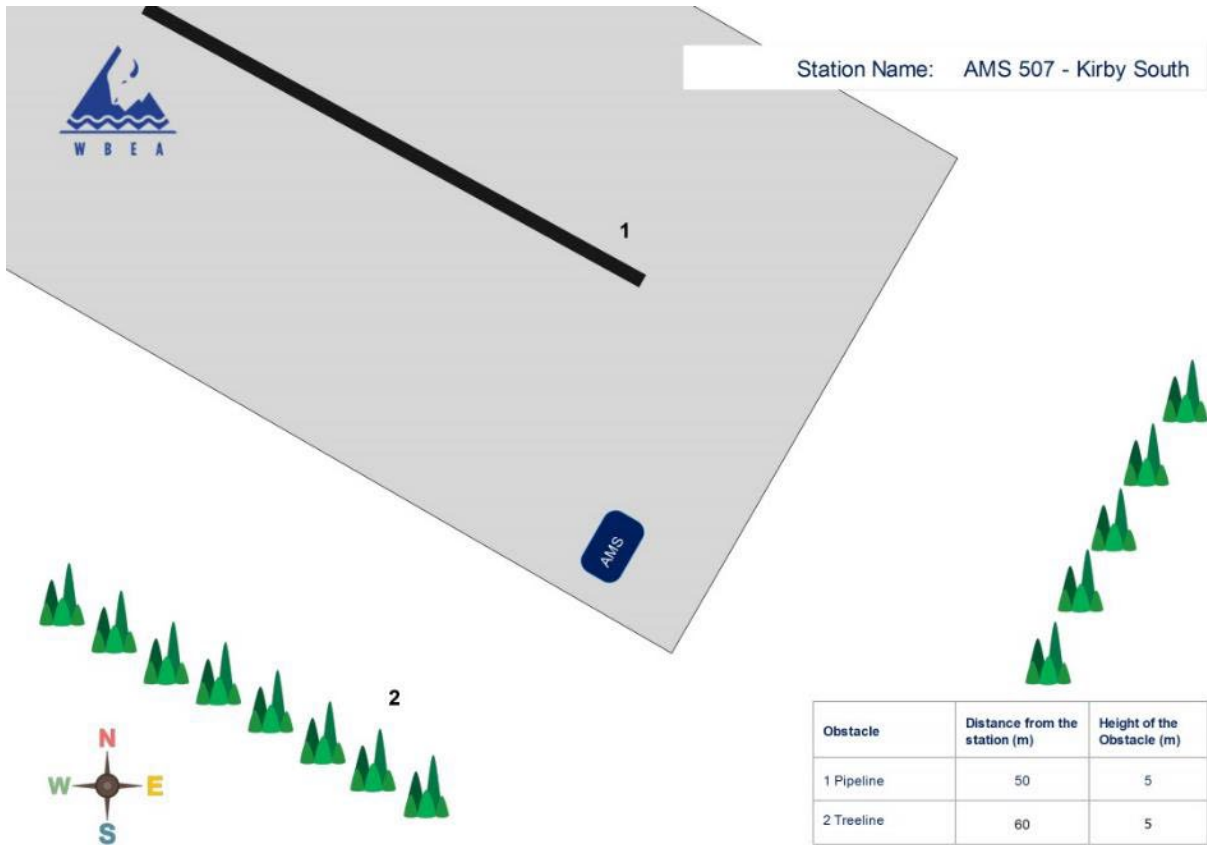


Figure 3 – Plan view sketch for AMS 507 site



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



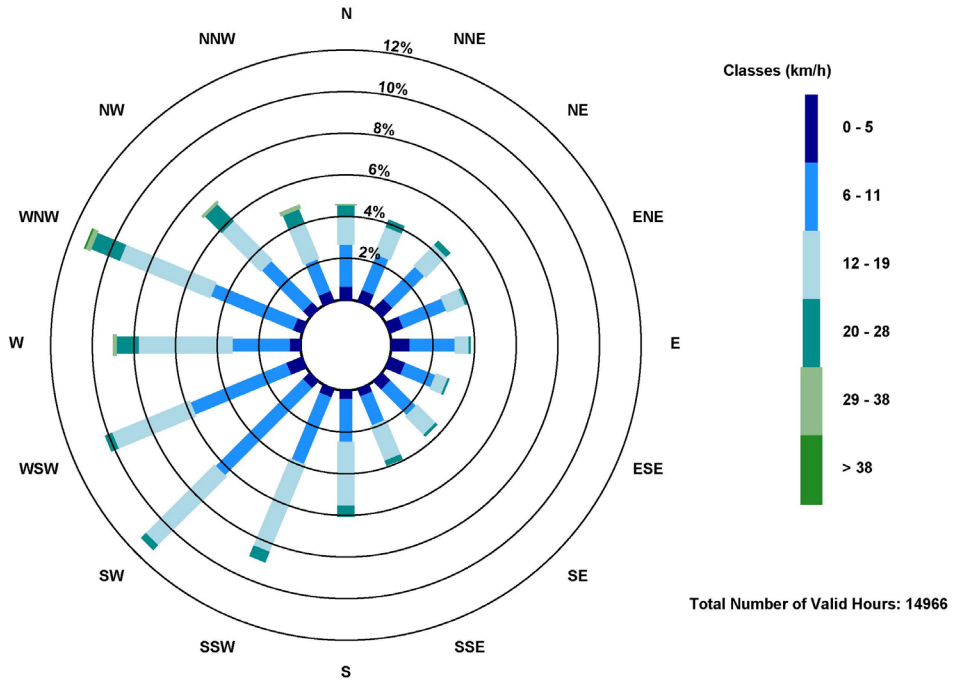


Figure 12 – Windrose (Five Year)

