

Site Documentation: St. Lina Continuous Monitoring Station

General Site Information

Item	Description
Site ID (ETS Station ID)	31 (01250)
Station Name	St. Lina Continuous Monitoring Station (STL)
General Description	The STL monitoring station is located just outside the LICA airshed boundary south west of the hamlet of St. Lina.
Community	St. Lina
Station Address	LSD 4-SW30-60-10-4
Coordinates	54.215961° -111.503304°
Station Type	Regional Upwind
Area Land Use	Rural, Agricultural
Angle of elevation to nearby building in area	<15 degrees, trees surrounding knoll.
Airflow Restrictions (yes/no)	North: No East: No South: No West: No
Nearest Tree	Tree stands 10 - meters away in all directions
Sample Manifold Type	Glass
Meteorological Tower Information	Height: 10 meters Type: Crank Position: Attached to north side of monitoring shelter
Station Install Date	Original installation: June 2009
Station Origin	LICA owned and operated
Site Preparation	Grassy open area on top of treed knoll.

Site Influences

Localized Sources (within 20 meters of station)

Type	Distance	Description
Automobile	To the west	Regional highway
Industrial	To the east	Compressor pad

Road Way Sources

Name	Type	Traffic Volume	Distance (m)	Description
Highway 867	Regional highway	Unknown – Minimal	Within 20 meters	Side Street

Major Point/Area Sources

Name	Type	Major Emissions	Distance (m)	Direction
CNRL Compressor Pad	Oil and Gas	NOx, PM, HC	Approximately 20 meters	East

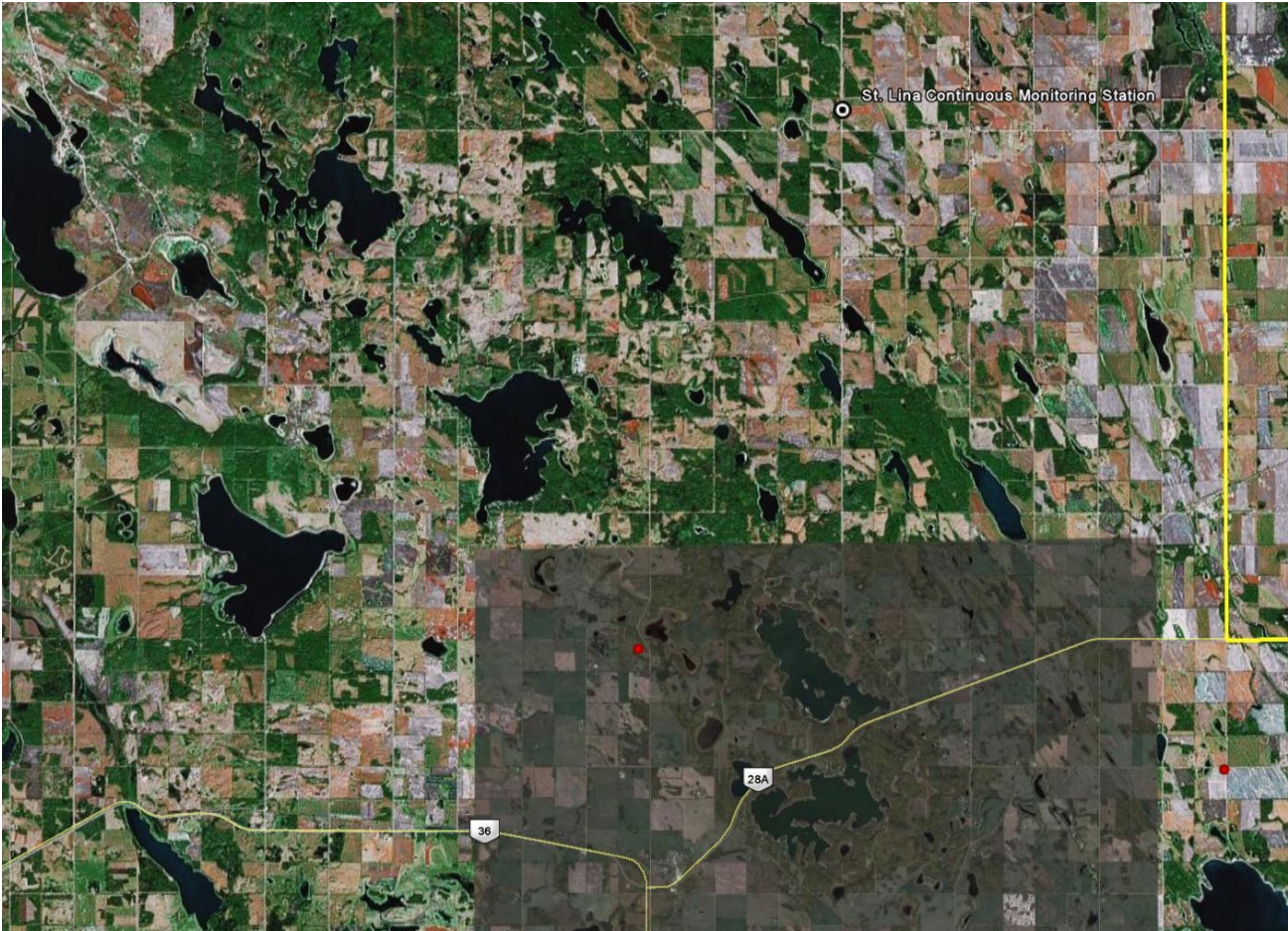


Figure 1: Satellite image showing St. Lina Continuous Monitoring Station Location

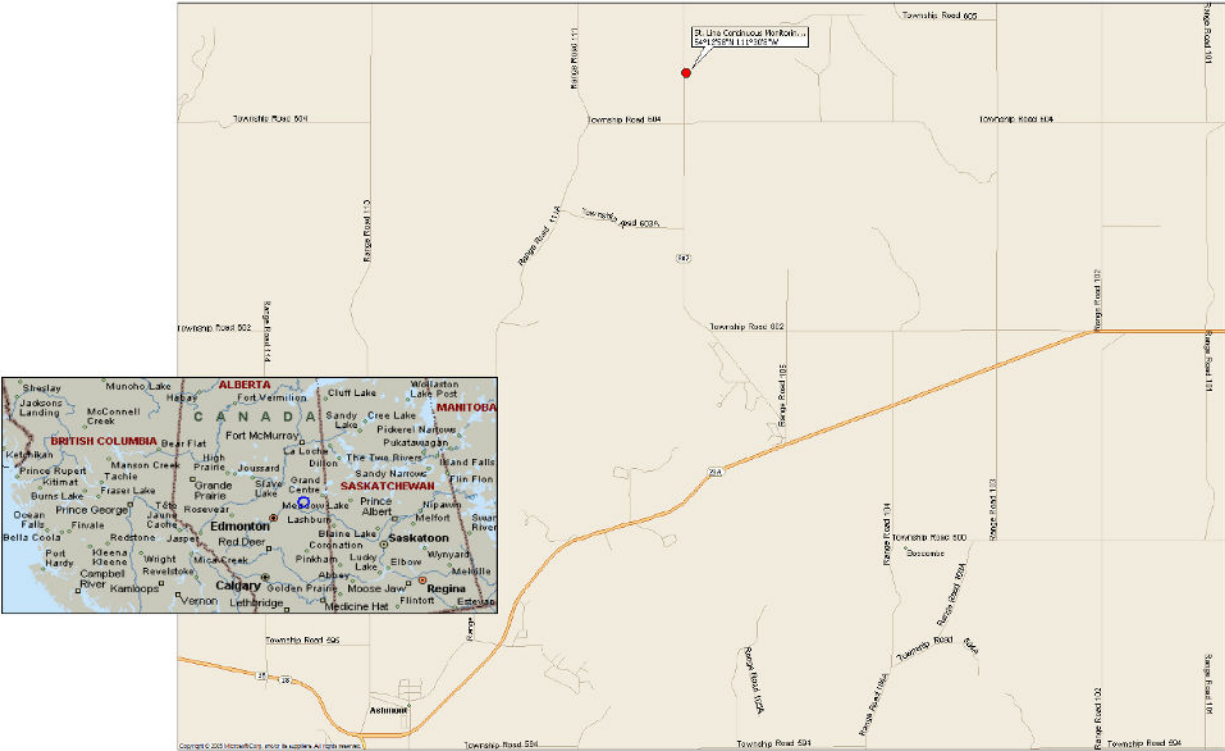


Figure 2: Road Map showing STL Continuous Monitoring Station Location

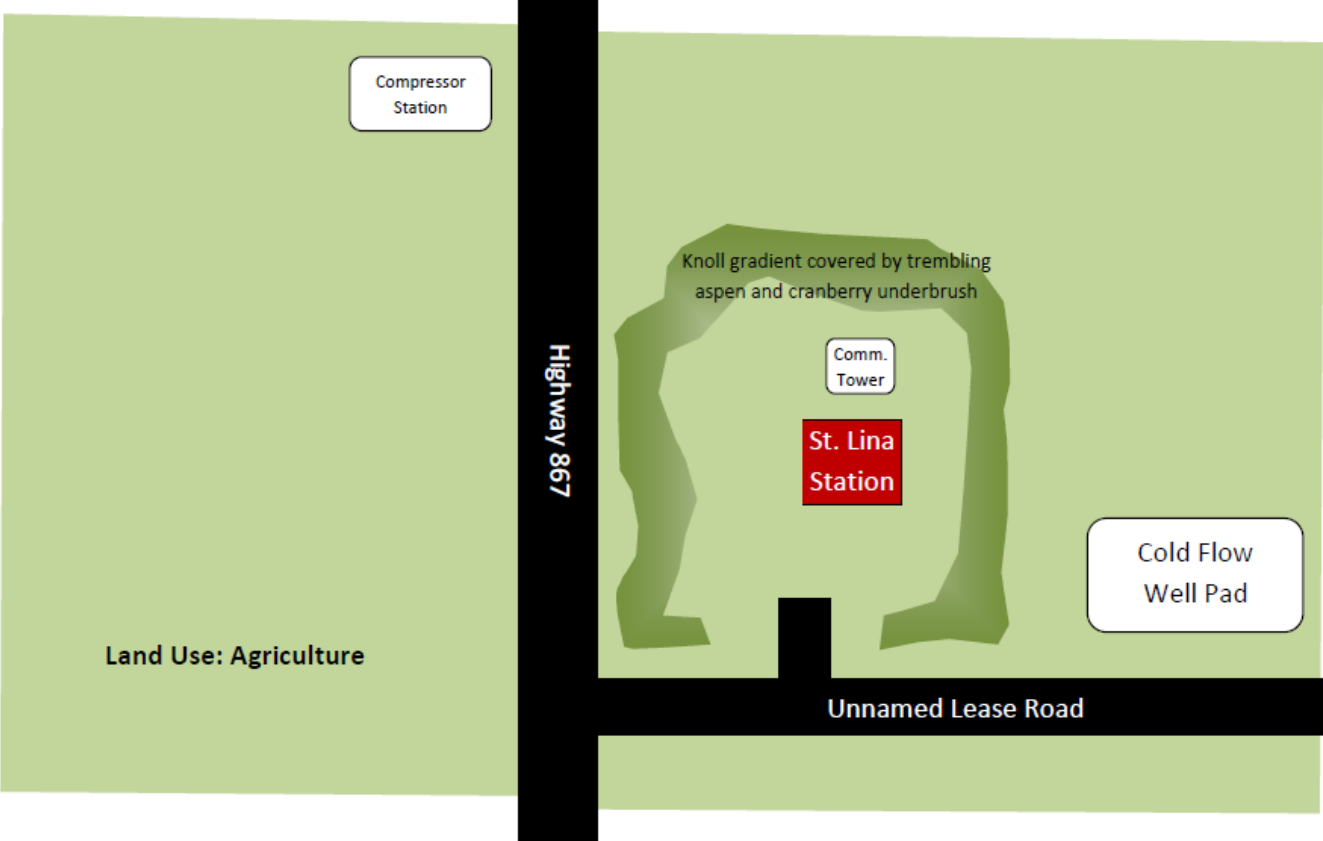
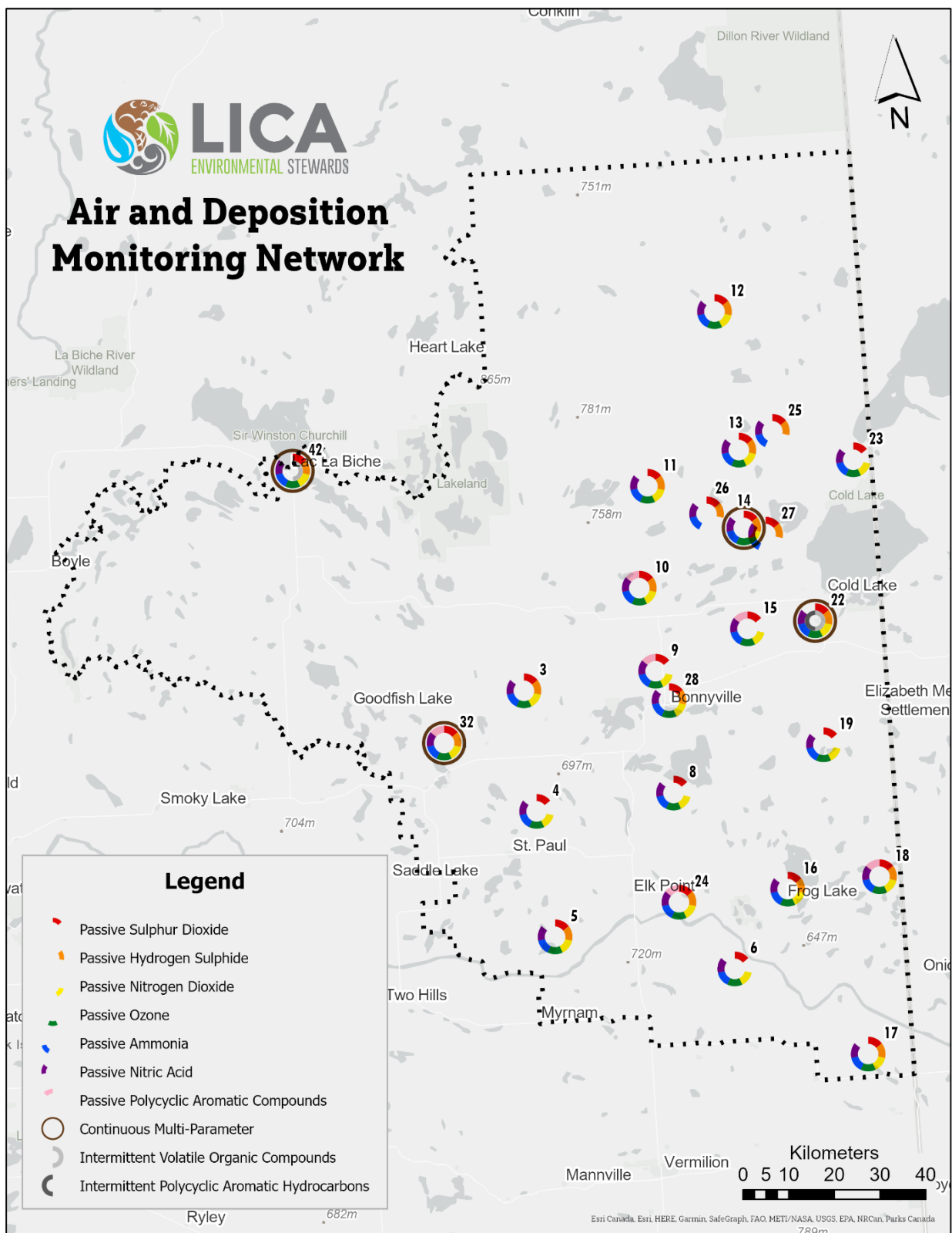
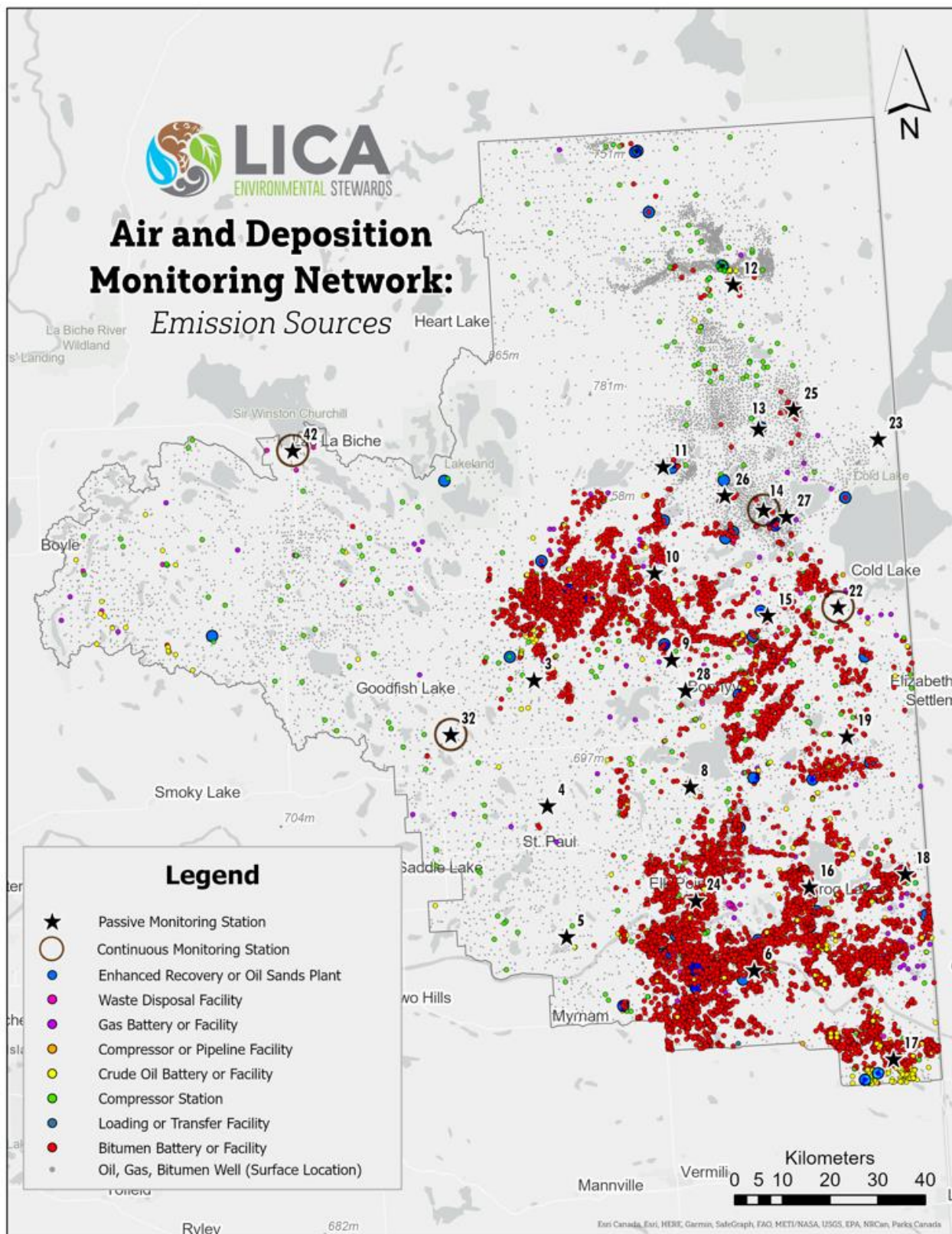


Figure 3: Schematic showing STL Continuous Monitoring Station and surrounding features.

LICA Network Map



LICA Network Map – Emission Sources



Site Photographs – Cardinal Directions

North



East



South



West

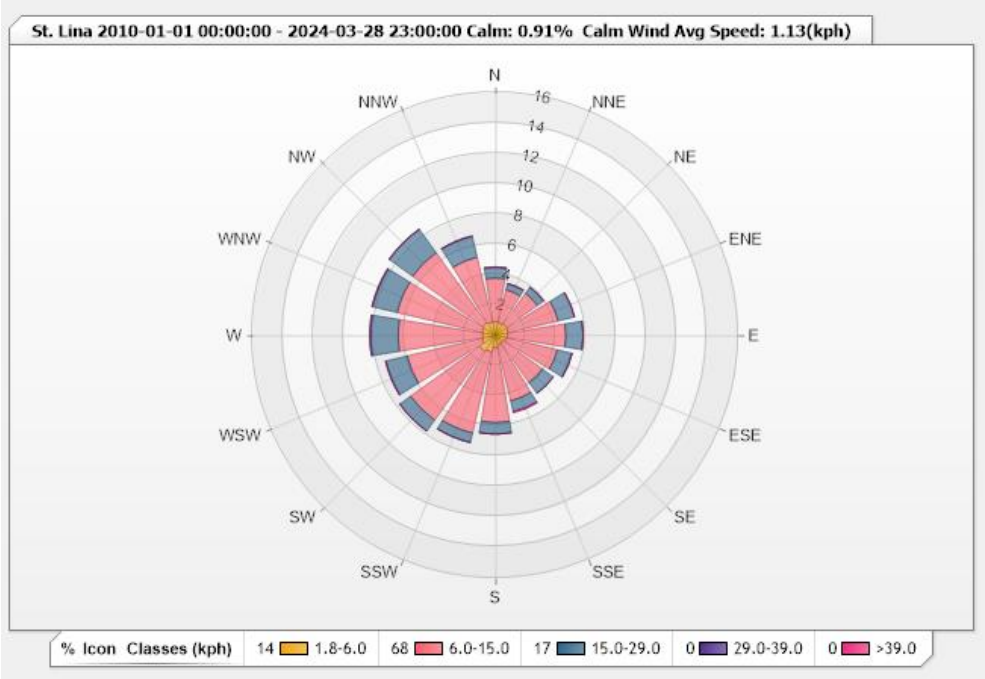


Site Photographs – Monitoring Station

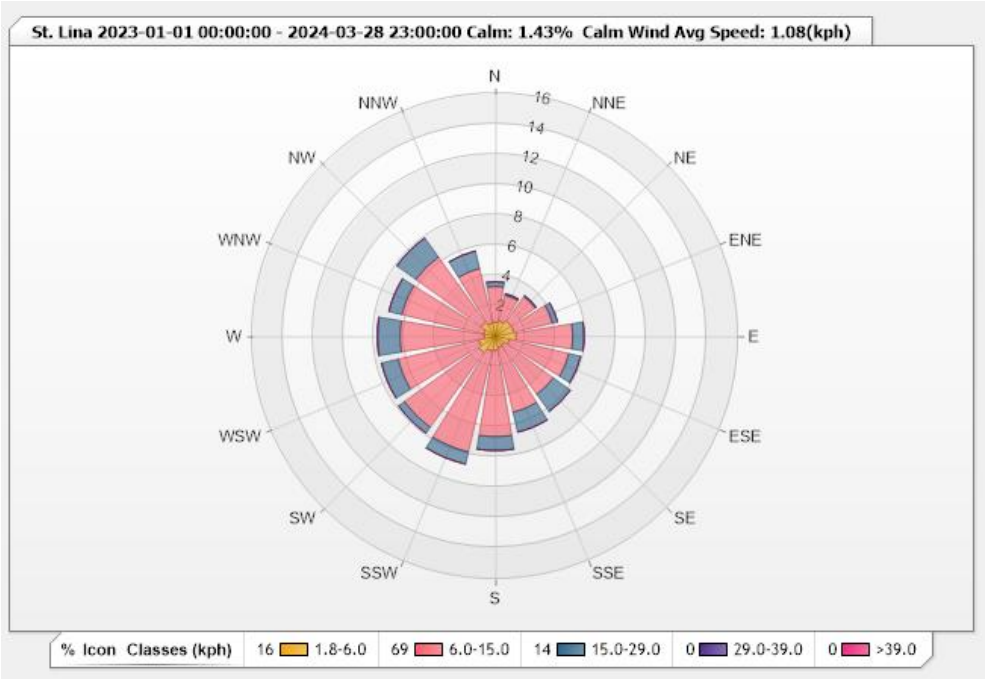
Exterior	Interior (Instrument Rack)	Interior (Intake Manifold)
 A photograph showing the exterior of the monitoring station. It features a small, light-colored rectangular building with a door, situated in a grassy field. A tall, slender metal tower stands next to the building against a clear sky.	 A photograph of the interior instrument rack. It contains several Thermo Scientific analyzers stacked vertically. Each unit has a blue screen displaying data. Cables and other equipment are visible in the background.	 A photograph of the intake manifold area. It shows a complex arrangement of white and blue tubes, electrical outlets, and various connectors on a wall. A black rack is visible on the right side.
Interior (gas cylinders)	Interior (modem and communications)	
 A photograph of three gas cylinders standing upright. They are secured with metal chains. The cylinders are silver with different colored regulators (blue, red, and black).	 A photograph of a black NETGEAR modem. Several blue network cables are plugged into the front ports. The modem is sitting on a white surface.	

Wind Rose Diagram

Wind Speed / Direction Frequency Distribution



Data range: January 1, 2010 – March 28, 2024



Data range: January 1, 2023 – March 28, 2024

St. Lina Continuous Monitoring Station Equipment Inventory

Air Quality

Parameter	Make/Model	Serial Number	Sampling Height (m)	Equipment Owner
Analytical Systems				
Hydrogen Sulphide	Thermo / 43i -TLE	CM18010058	4	LICA
Sulphur Dioxide	Thermo / 43i-TLE	1226154720	4	LICA
Oxides of Nitrogen	Thermo / 42i	1180930029	4	LICA
Particulate Matter 2.5	Thermo / Sharp 5030i	CM17091001	4	LICA
Hydrocarbons	Thermo / 55i	1180930026	4	LICA
Ozone	Thermo / 49iQ	12208316586	4	LICA
Meteorological Systems				
Wind Speed	RM Young 05305VK	161466	10	LICA
Wind Direction	RM Young 05305VK	161466	10	LICA
Barometric Pressure	Met One 090D	F4498	4	LICA
Relative Humidity	Rotornic HC2A-S3	20404750	4	LICA
Ambient Temperature	Rotornic HC2A-S3	20404750	4	LICA
Precipitation Sampler	Met One 387D	A23775	Ground level	LICA
Support Systems				
Datalogger	Ultimate IPC-510	KMA3518726	N/A	LICA
Trailer Temperature	COMET	N/A	N/A	LICA
Zero Air Supply	Teledyne API/701	11109	N/A	LICA
HVAC	BARD WA-121-A05EPXXXJ	158N082573045-01	N/A	LICA
Hydrogen Generator	AMA HG300	210567070	N/A	LICA

Owner/Approval Holder

Item	Description
Name of owner/approval holder	LICA
Address	5107W-50 th Street P.O. Box 8237 Bonnyville, AB Canada T9N 2J5
Contact name	Mike Bisaga
Phone number	(780) 266-7068
Email address	monitoring@lica.ca
Approval number	N/A

Operator

Item	Description
Name of operating agency	Bureau Veritas Canada
Address	#1 2080 39 th Ave NE Calgary, AB T2E 6P7
Contact name	Alexander Yakupov
Title	Field technician, Emission Services
Phone number	(780) 545-9363
Email address	Alexander.yakupov@bvlabs.com
Contact name	Chris Wesson
Title	Senior Project Manager, Emission Services / Oil & Gas Division
Phone number	(780) 446-2724
Email address	Christopher.wesson@bvlabs.com

Revisions

Document Revision History

Revision No.	Date	Reason for Revision	Prepared By	Approved By
0	October 2009	Original Issue	M. Bisaga, Airshed Program Manager	M. Bisaga, Airshed Program Manager
1	June 2013	Updated equipment list, wind rose	M. Bisaga, Airshed Program Manager	M. Bisaga, Airshed Program Manager
2	June 2013	Corrected location details	M. Bisaga, Airshed Program Manager	M. Bisaga, Airshed Program Manager
3	June 2014	Updated equipment list	M. Bisaga, Manager – EMP	M. Bisaga, Manager – EMP
4	October 2015	Serial numbers, wind rose.	M. Bisaga, Manager – EMP	M. Bisaga, Manager – EMP
5	July 2017	Updated equipment list, wind rose diagram, trailer exterior photos, added owner/operator info	M. Bisaga, Airshed Program Manager	M. Bisaga, Airshed Program Manager
6	May 2018	Added LICA Network Map on page 5, updated wind rose diagram	L. Lin, Data & Reporting Specialist	L. Lin, Data & Reporting Specialist
7	November 2018	Updated a photo to show new instruments and updated the equipment list	L. Lin, Data & Reporting Specialist	L. Lin, Data & Reporting Specialist
8	January 2019	Updated trailer equipment list and serial numbers	L. Lin, Data & Reporting Specialist	L. Lin, Data & Reporting Specialist
9	March 2020	Updated trailer equipment list, serial numbers, site photos, operator contact info and wind rose diagrams	L. Lin, Data & Reporting Specialist	L. Lin, Data & Reporting Specialist
10	January 2021	Updated trailer equipment list, serial numbers and wind rose diagrams	L. Lin, Data & Reporting Specialist	L. Lin, Data & Reporting Specialist
11	March 2022	Updated trailer equipment list, serial numbers, network map and wind rose diagrams	L. Lin, Data & Reporting Specialist	L. Lin, Data & Reporting Specialist
12	March 2023	Updated trailer equipment list, serial numbers, network map and wind rose diagrams	L. Lin, Data & Reporting Specialist	M. Bisaga, Airshed Program Manager
13	March 2024	Updated trailer equipment list, serial numbers and wind rose diagrams	L. Lin, Data & Reporting Specialist	M. Bisaga, Airshed Program Manager