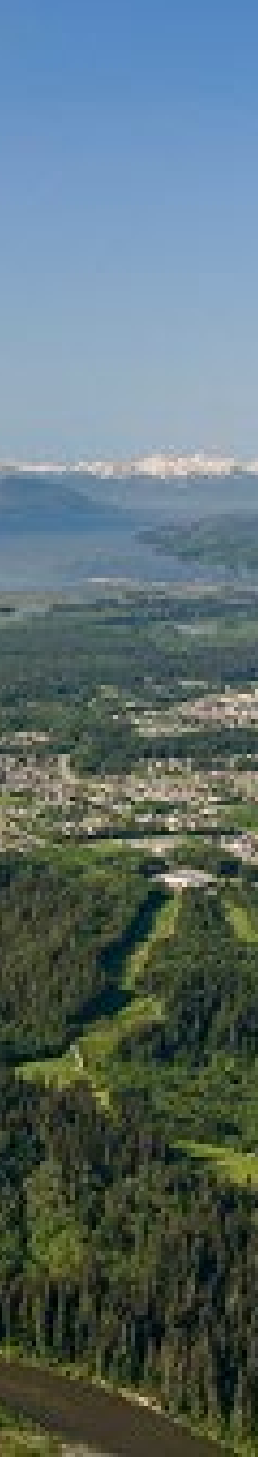
Roaming Air Monitoring Vehicle
Kitimat, B.C. Deployment Report

May - November 2024

BRITISH COLUMBIA **ENERGY REGULATOR**



Contents

Role of the BC Energy Regulator (BCER)

The British Columbia Energy Regulator oversees the full life cycle of energy resource activities in B.C., from site planning to restoration. We ensure activities are undertaken in a manner that protects public safety and the environment, supports reconciliation with Indigenous peoples, conserves energy resources and fosters a sound economy and social well-being. Our role includes the management of natural gas, hydrogen, ammonia, methanol, oil and aspects of geothermal resources, with an expanded role in carbon capture and storage (CCS).

We regulate energy resources through the Energy Resource Activities Act (ERAA) and other associated laws related to heritage conservation, roads, land and water use, forestry, and other natural resources. We work closely with land owners, rights holders, local government, industry, academia and other regulators to gather skills, knowledge and multiple perspectives to evolve our regulatory model.

We respect Indigenous values and seek learning opportunities as we co-develop new processes that we put into practice in all facets of our business and decision-making. We are focused on advancing reconciliation and building trust and apply this in our work with First Nations and Indigenous communities as partners in building B.C.'s energy resource future.

We currently have over 280 employees operating out of seven locations: Fort Nelson, Fort St. John, Dawson Creek, Terrace, Prince George, Kelowna and Victoria. The largest number of employees are in the Fort St. John office.

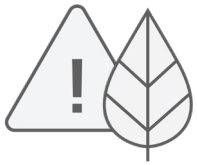
Vision, Mission and Values

Vision

A resilient energy future where B.C.'s energy resource activities are safe, environmentally leading and socially responsible.

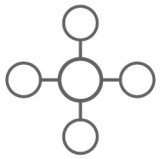
Mission

We regulate the life cycle of energy resource activities in B.C., from site planning to restoration, ensuring activities are undertaken in a manner that:



Protects public safety and the environment

Supports reconciliation with Indigenous peoples and the transition to low-carbon energy



Conserves energy resources

Fosters a sound economy and social well-being

Values

Respect is our commitment to listen, accept and value diverse perspectives.

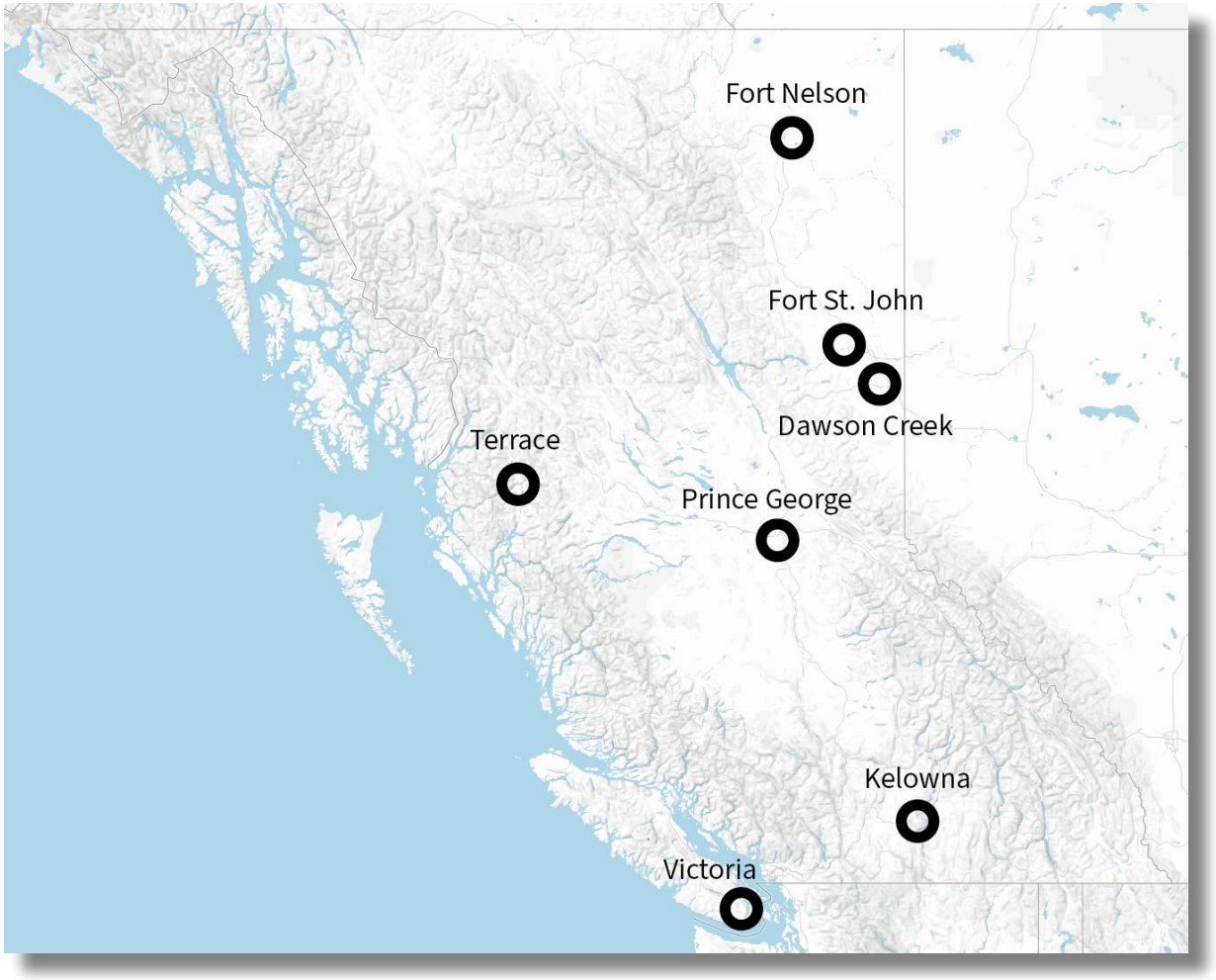
Integrity is our commitment to the principles of fairness, trust and accountability.

Transparency is our commitment to be open and provide clear information on decisions, operations and actions.

Innovation is our commitment to learn, adapt, act and grow.

Responsiveness is our commitment to listening and timely and meaningful action.

BC Energy Regulator Office Locations Throughout B.C.



We acknowledge and respect the many First Nations, each with unique cultures, languages, legal traditions and relationships to the land and water, on whose territories the British Columbia Energy Regulator's work spans.

About The Roaming Air Monitoring Report

The purpose of this report is to transparently monitor, record, summarize and publish the results of air quality testing with the British Columbia Energy Regulator (BCER) Roaming Air Monitoring Vehicle (RAM) in Kitimat, B.C. that occurred between May and November 2024.

This report summarizes the one-hour continuous data from monitoring periods prior to and during early commissioning phase of the the LNG Canada Facility.

Parameters

Parameters monitored can include continuous monitoring for:

Ozone (O_3)

Carbon Monoxide (CO)

Nitrogen Oxide (NO)

Nitrogen Dioxide (NO_2)

Total Oxides of Nitrogen (NO_x)

Sulphur Dioxide (SO_2)

Hydrogen Sulfide (H_2S)

Methane (CH_4)

Non-Methane Hydrocarbons (NMHC)

Particulate Matter less than 2.5 microns ($PM_{2.5}$)

Optical Particulate Matter less than 2.5 microns (Opt $PM_{2.5}$)

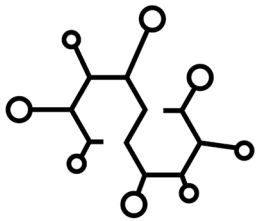
Wind Speed (WS)

Wind Direction (WD)

Ambient Temperature (AT)

Relative Humidity (RH)

Barometric Pressure (BP)



The Roaming Air Monitoring Vehicle

The RAM is a specially designed van housing equipment for monitoring air pollutants that could be associated with resource development. It's capable of recording air quality levels while being driven or parked. It serves as a quick response unit for emergencies. However, it can also be used for other ambient monitoring deployments when it is not in emergency service.

WHAT CAN RAM MEASURE?

RAM measures the following air pollutants and atmospheric conditions:

Air Pollutants

- Hydrogen Sulphide
- Sulphur Dioxide
- Total Hydrocarbons
- Particulates

Atmospheric Conditions

- Temperature
- Wind speed and direction
- Humidity

Monitoring Location Maps

Monitoring for the purposes of this summary includes the measurements made during both mobile and hour-long stationary measurements during the day, and stationary, overnight
measurements.

The following images include:

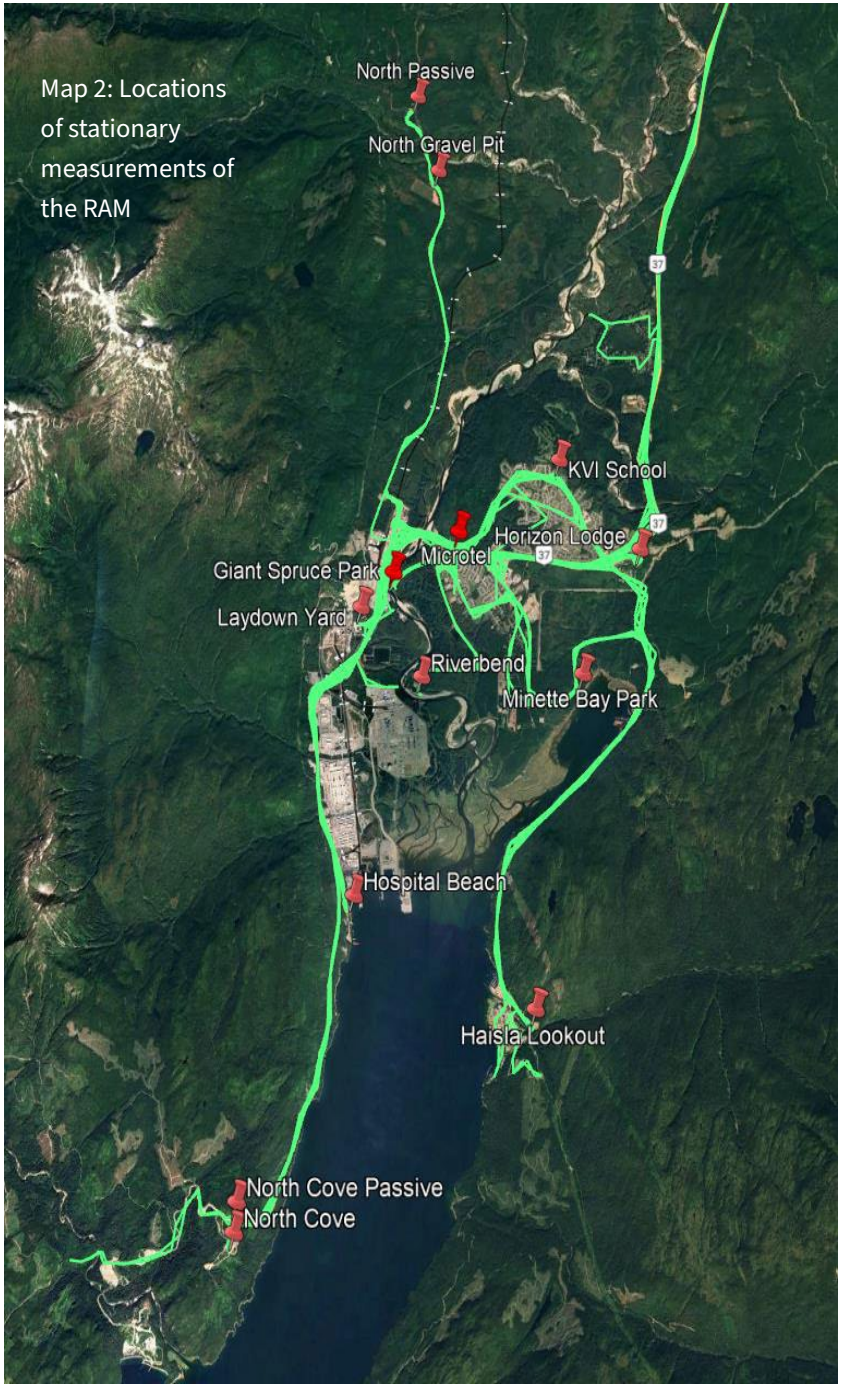
1. Locations of Air Quality Monitoring Stations (AQMS) in the Kitimat Area.

2. Locations of stationary measurements of the RAM.

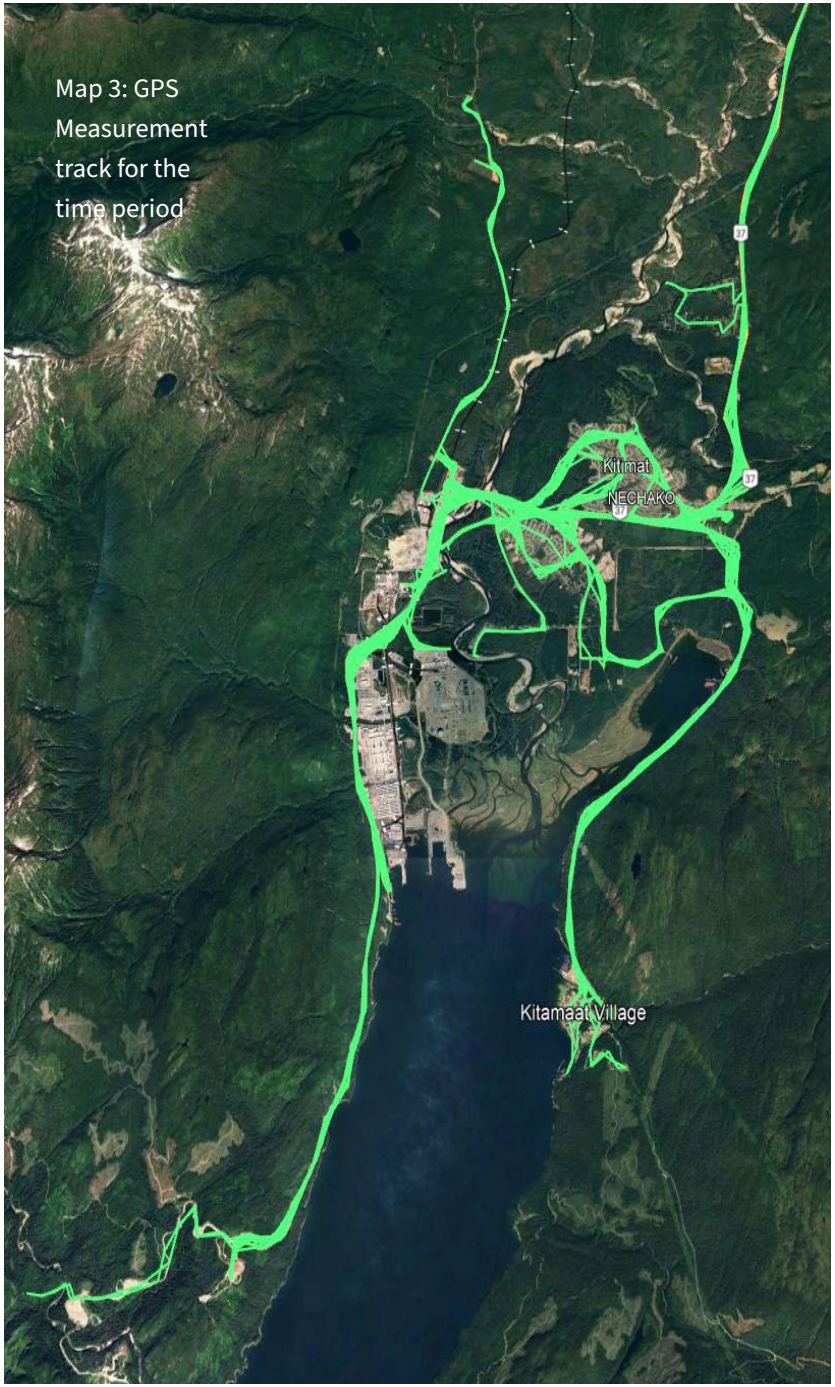
3. GPS measurement track for the time period.

4. Combined AQMS, RAM Stationary Locations and GPS Track.

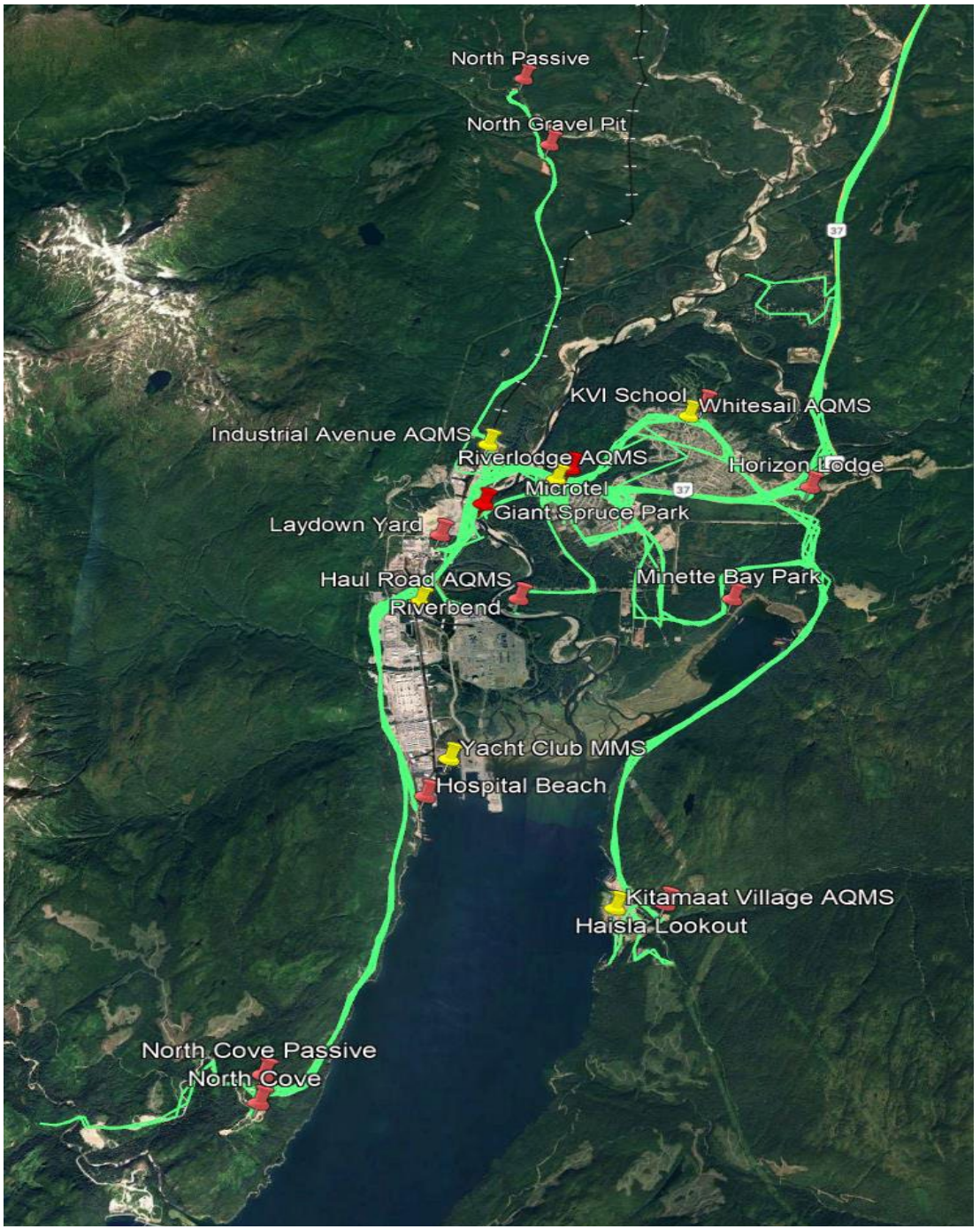
Map 1: Locations of Air Quality Monitoring Stations (AQMS) in the Kitimat Area



Map 2: Locations of stationary measurements of the RAM

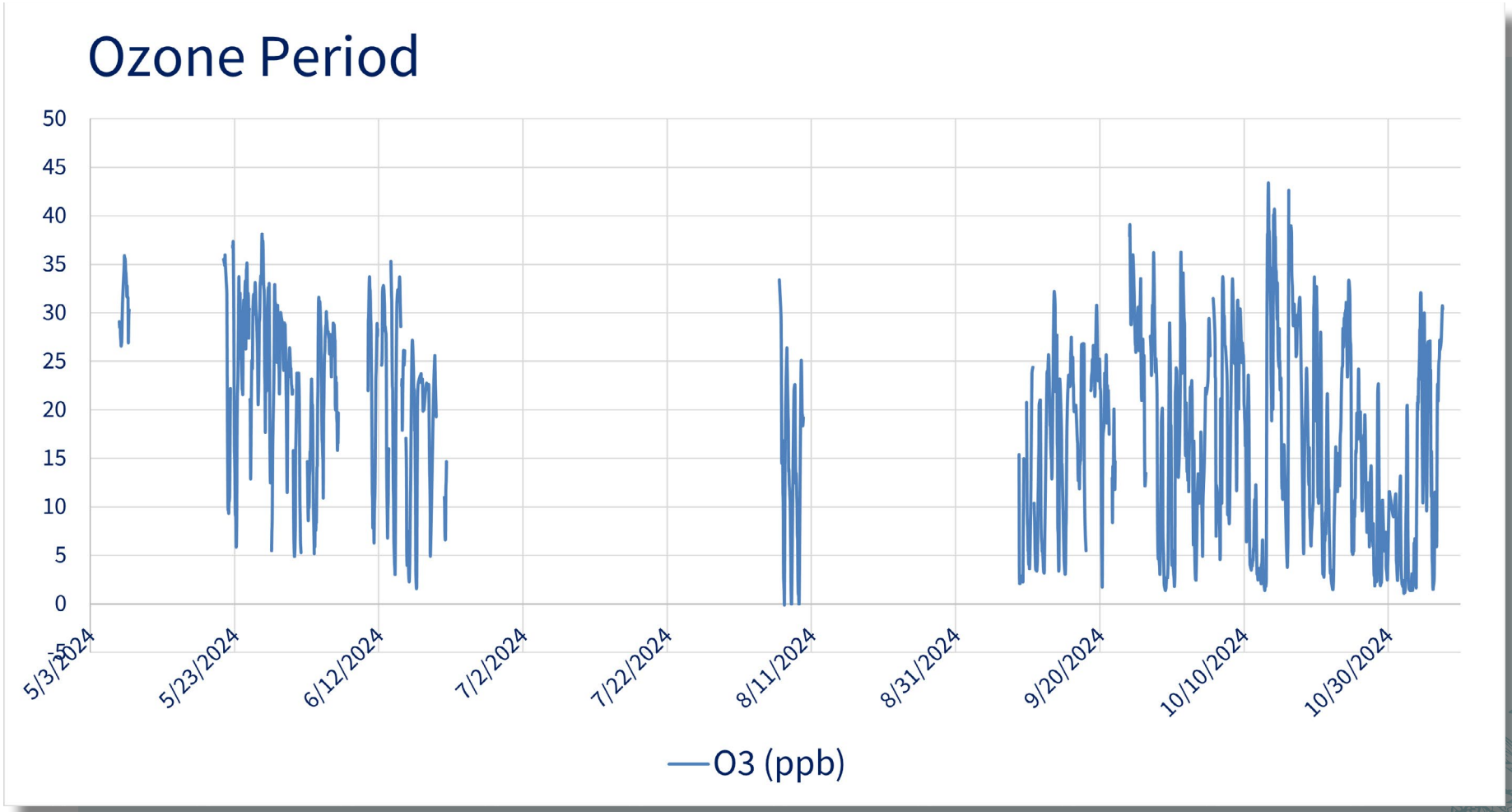


Map 3: GPS Measurement track for the time period



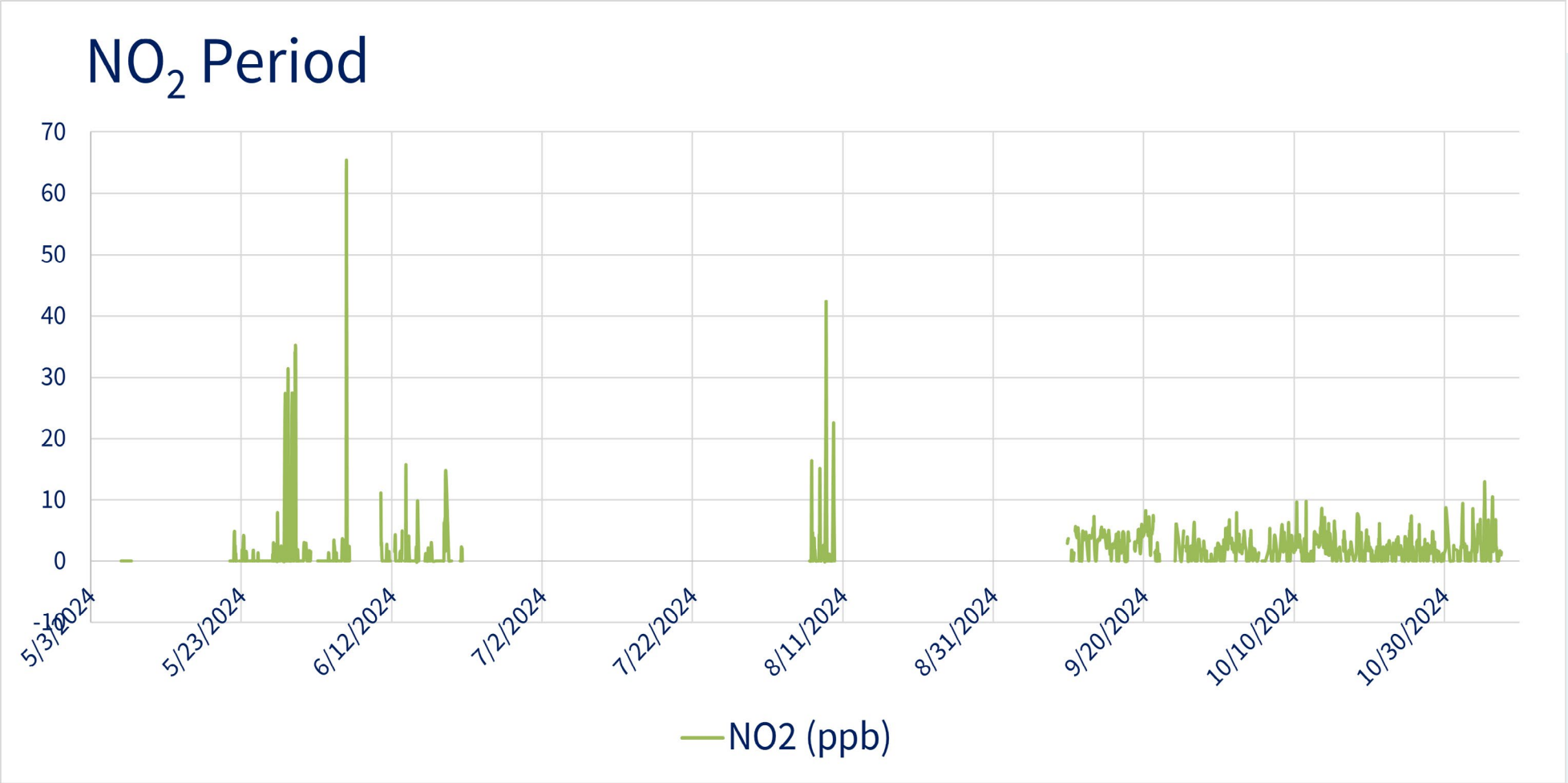
Map 4: Combined AQMS, RAM Stationary Locations and GPS Track

Data Graphs



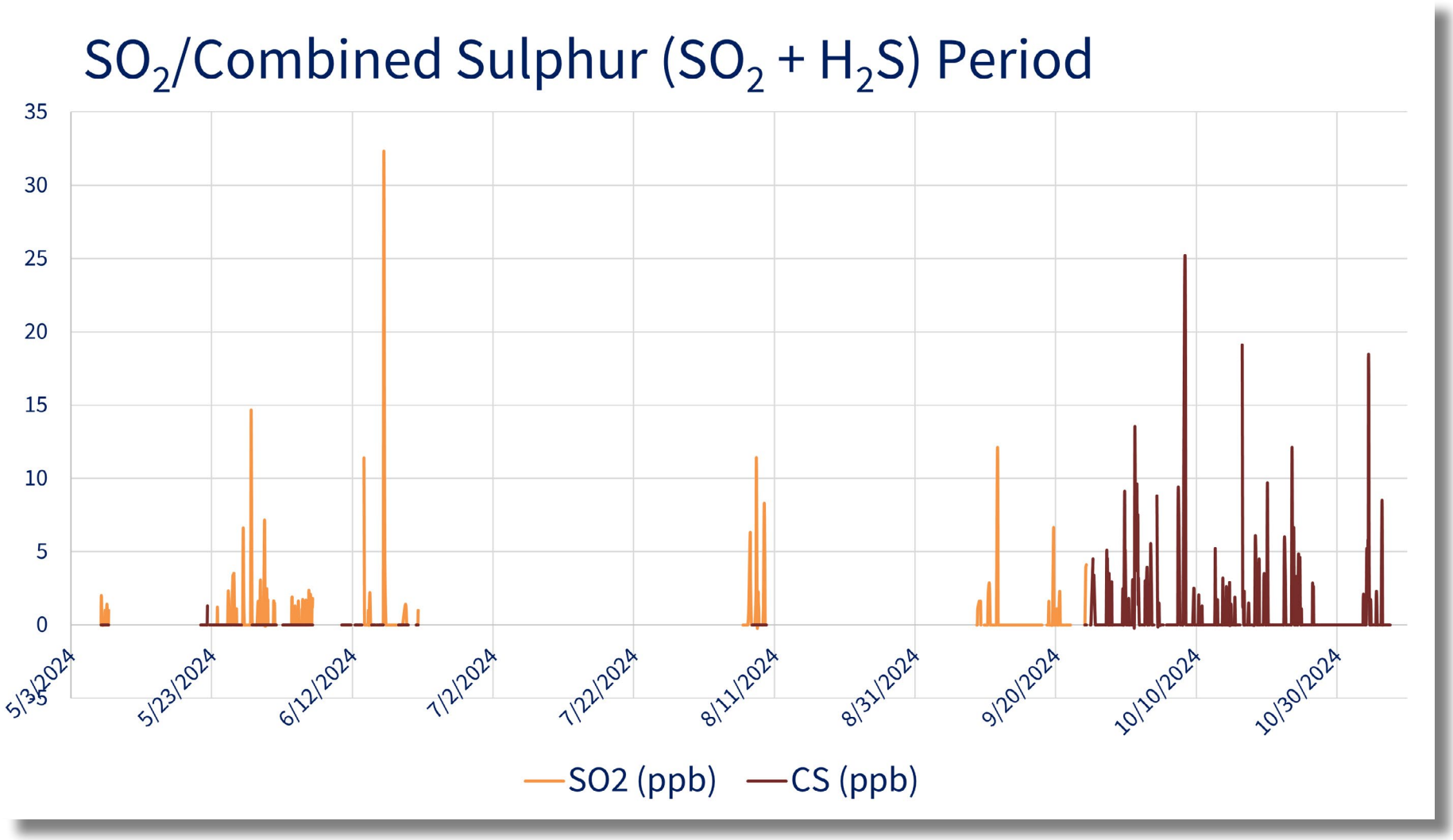
ppb = parts per billion

Data Graphs Continued



ppb = parts per billion

Data Graphs Continued



ppb = parts per billion

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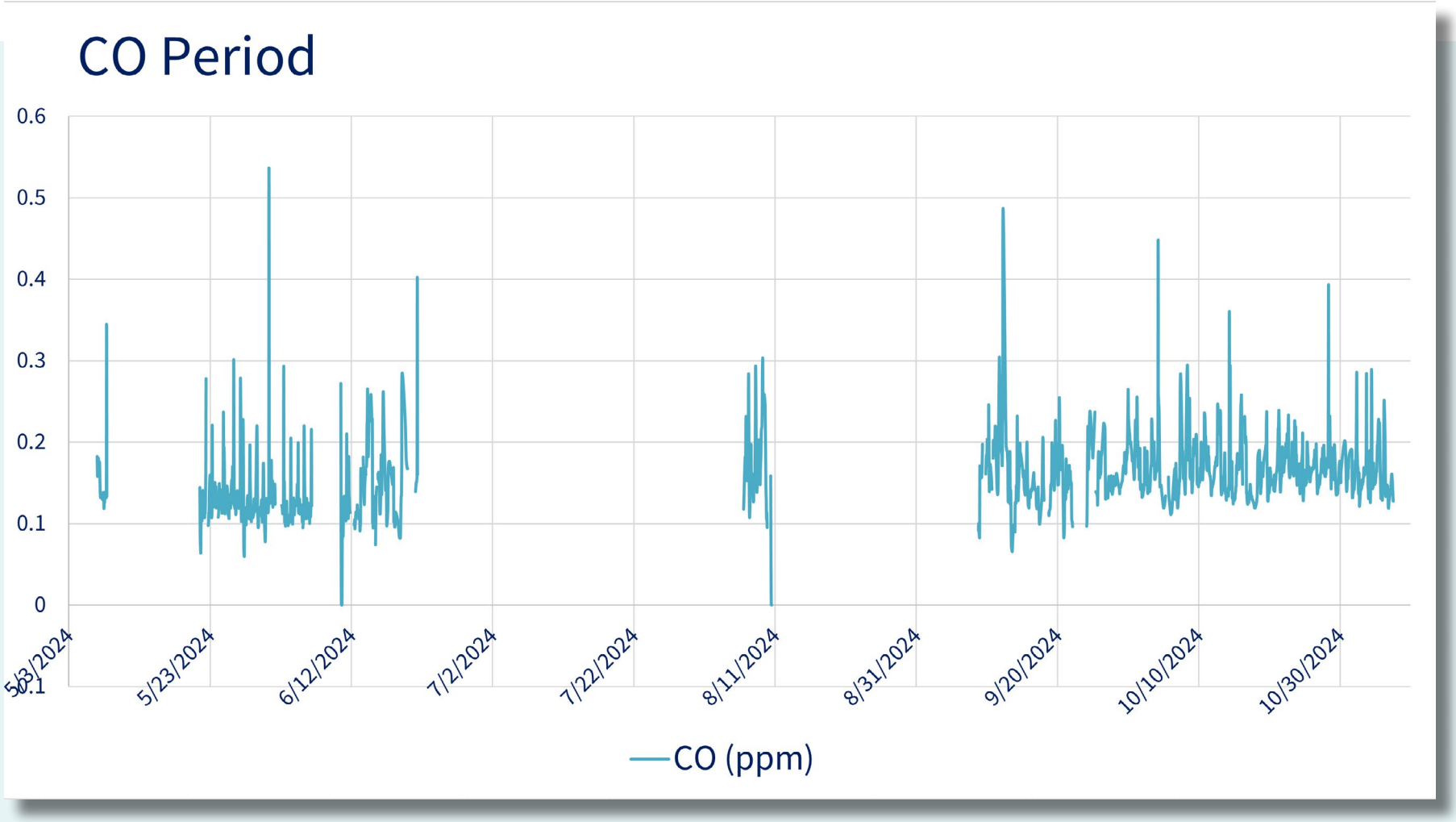
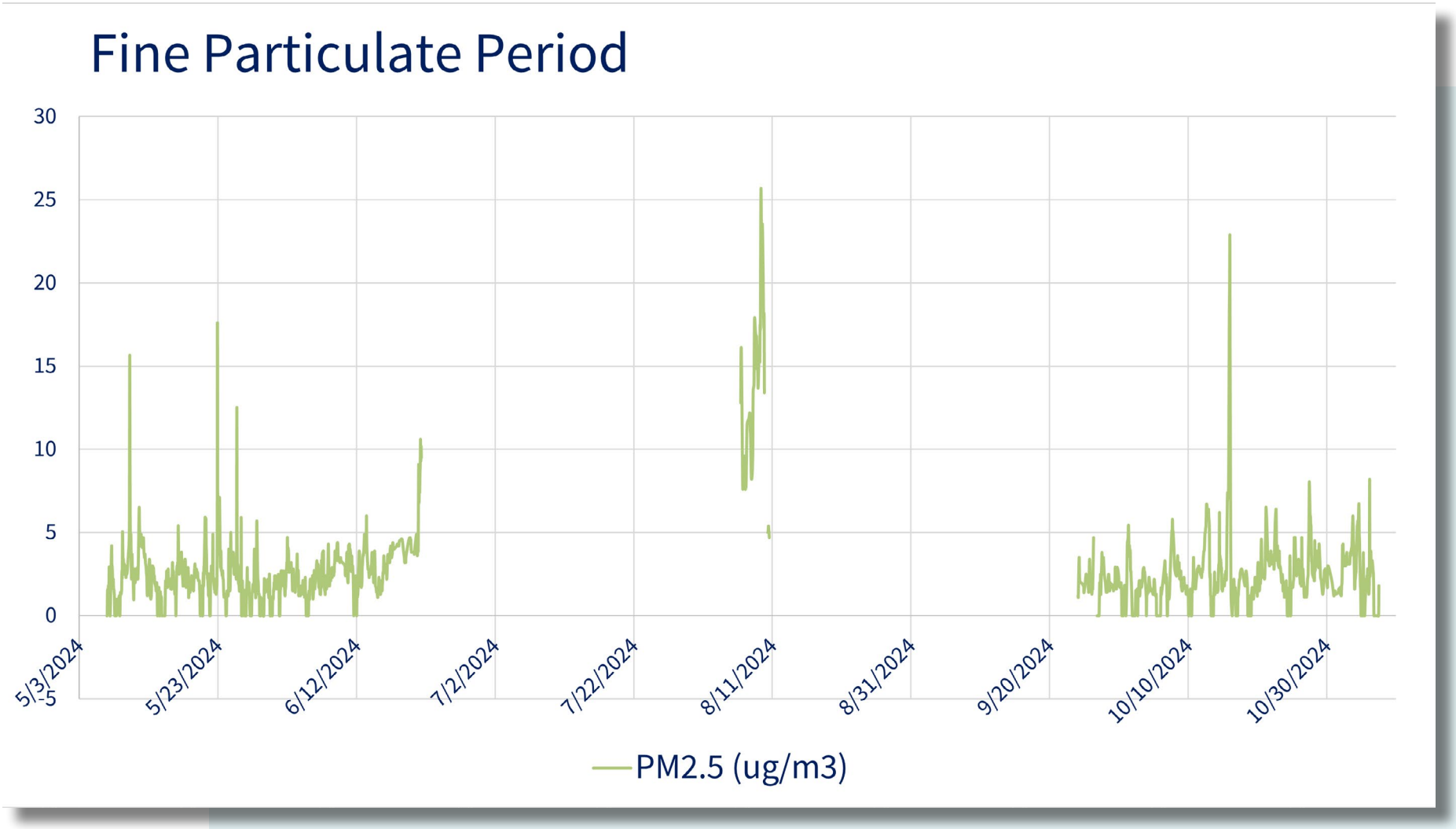
Data Graphs Continued



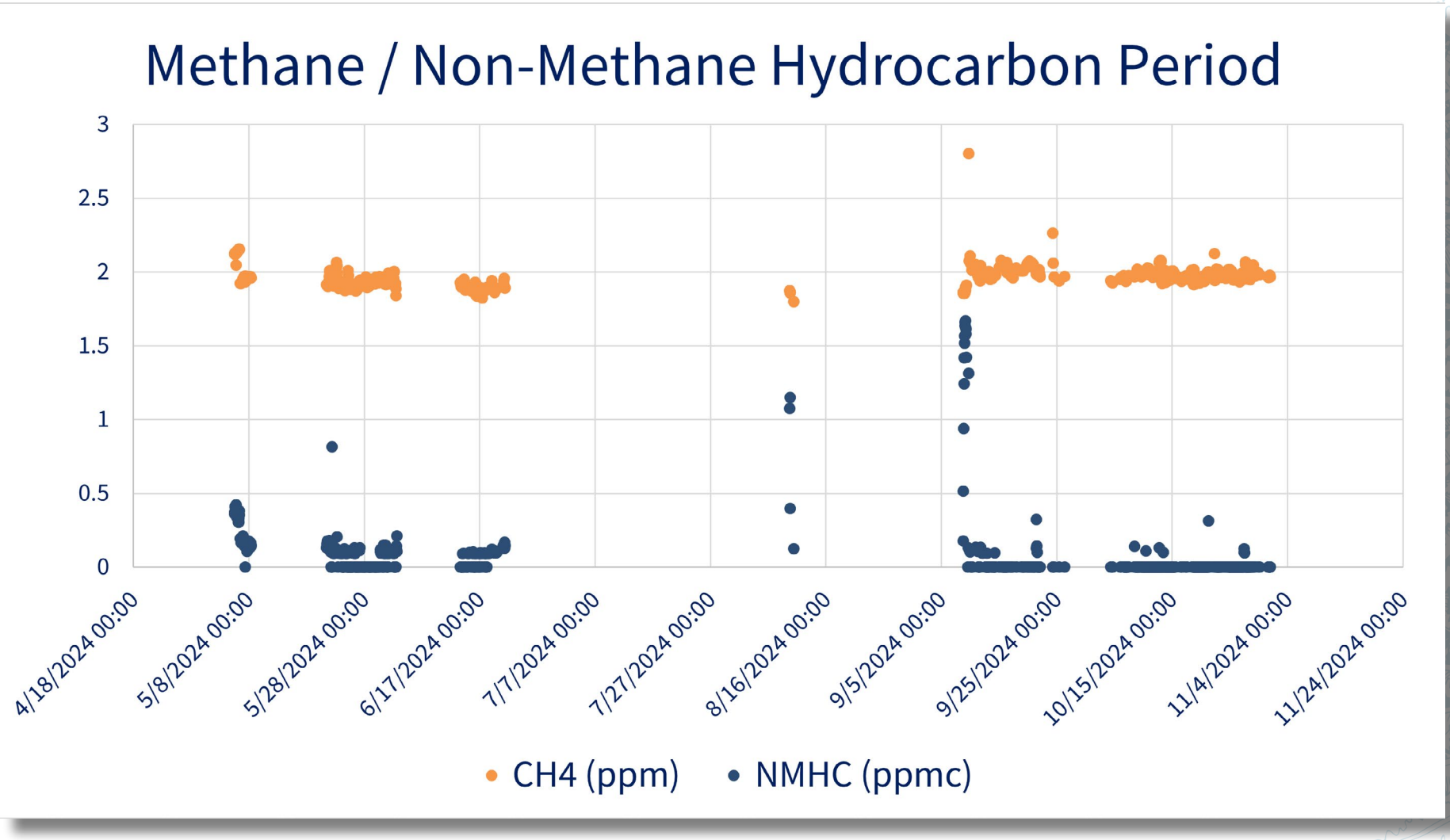
ppm = parts per million

Data Graphs Continued



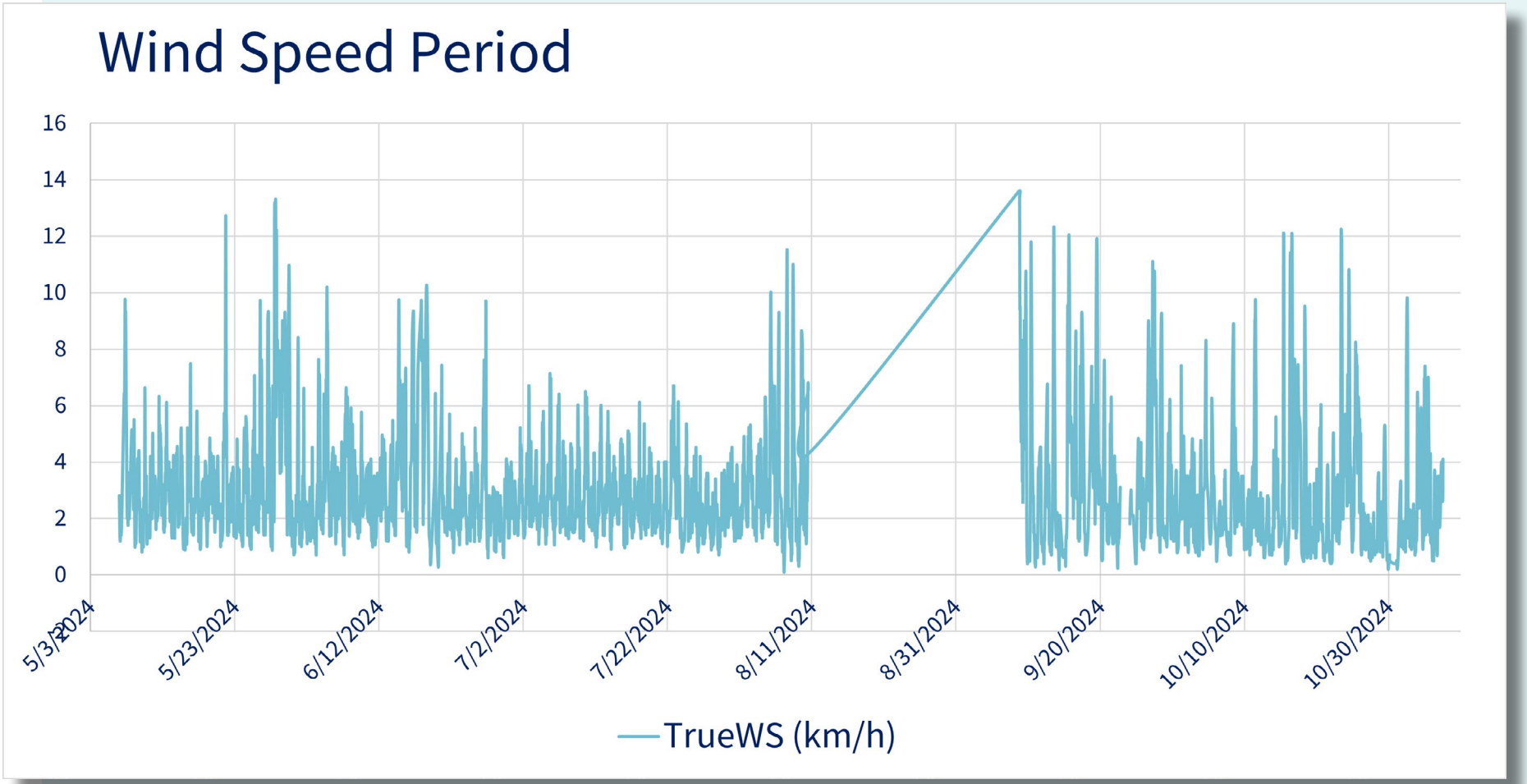
ug/m3 = micrograms per cubic metre of air

Data Graphs Continued

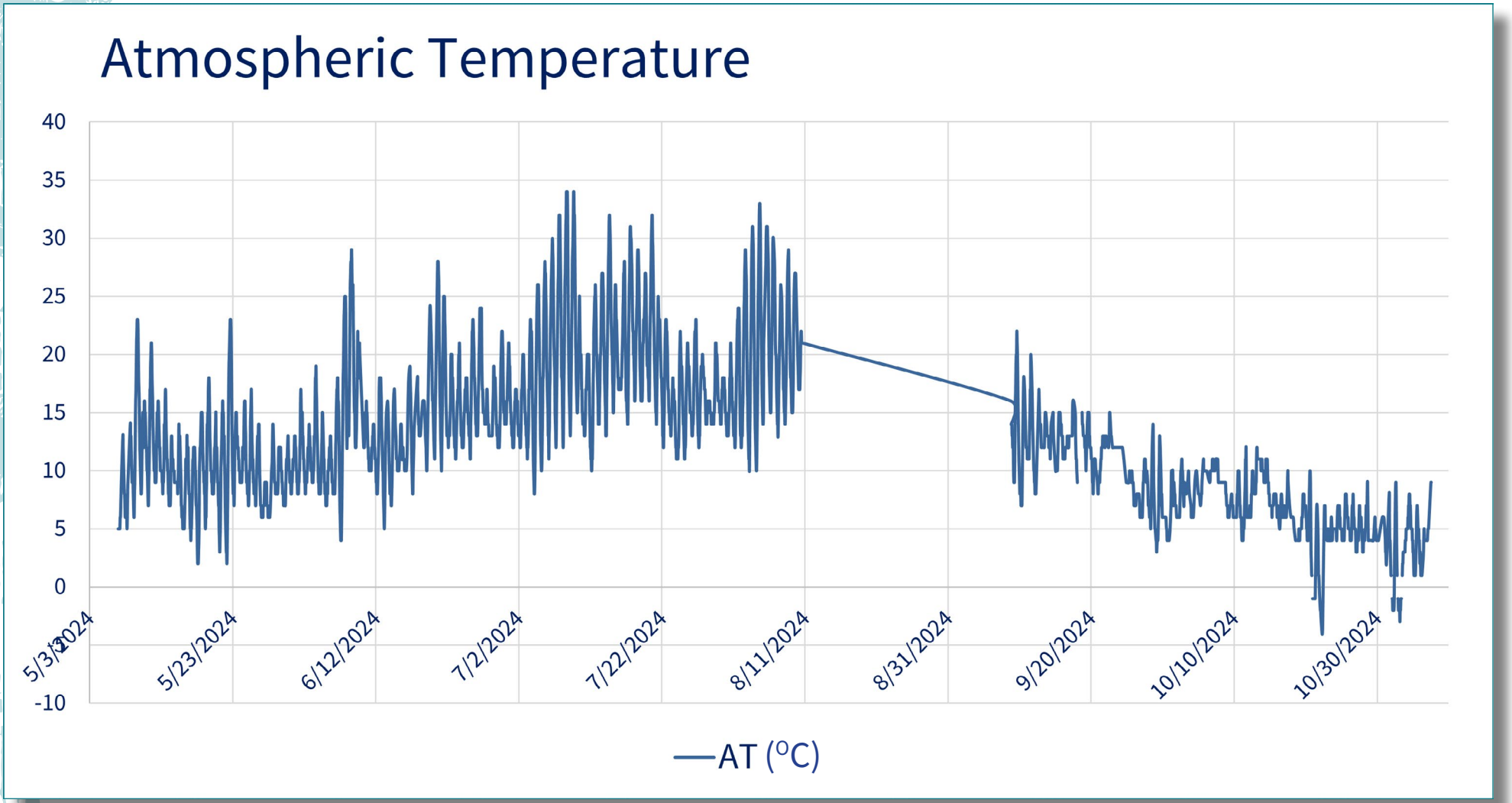


ppm = parts per million ppmc = parts per million combined

Data Graphs Continued



Data Graphs Continued



Summary

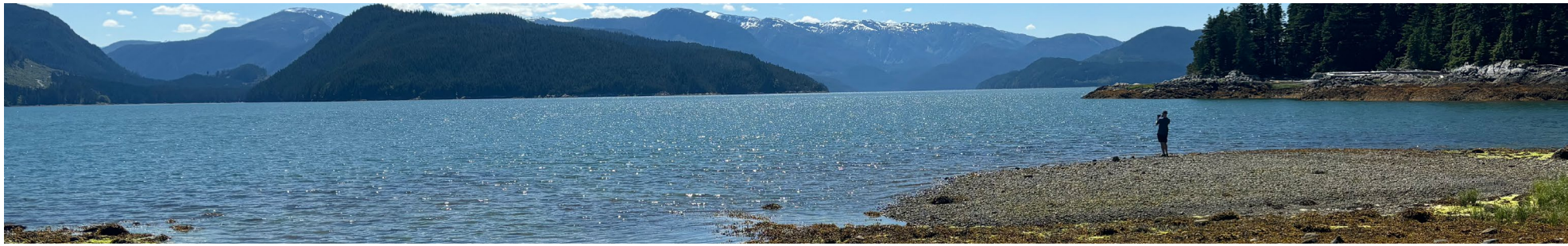
This summary contains a compilation of one-hour continuous monitoring data from the RAM deployment to the Kitimat Valley during May - November 2024. The full data set contains additional details including locations, wind direction, humidity and five-minute continuous monitoring data during mobile operation.

The full data set is available in csv format and the hourly data is also provided in kmz format so that it can be viewed in Google Earth. The data files can be found on the BCER Air Quality page.

The data set for the complete monitoring period may take a long time to load so the data has been broken down info file folders with shorter time periods for ease of viewing. Each time period also identifies the top 10 measured values of that period for the following parameters and indicates these values with the stars on the map.

No_2 - Yellow Stars
SO_2 - Red Stars
CO - Pink Stars
PM2.5 - Grey Stars

The results of the BCER monitoring program are consistent with data collected by the existing air quality monitoring network in Kitimat. Data from the active air quality monitoring stations may be found on the ministry website. Latest air quality data - Province of British Columbia.



This report was published March 2025.

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Discover how we regulate energy in B.C.