Peace River Area Monitoring Program

2024

Annual Ambient Air Quality Monitoring Report

PRAMP-2024

Report Prepared By:

Peace River Area Monitoring Program

March 10, 2025

Pages may be left blank for double-sided printing

Table of Contents

List of Acronyms

AAAQOs	Alberta Ambient Air Quality Objectives
AEPA	Alberta Environment and Protected Areas
AMD	Air Monitoring Directive
AT	Ambient Temperature
BP	Barometric Pressure
CH4	Methane
EPEA	Environmental Protection and Enhancement Act
H2S	Hydrogen Sulphide
kph	kilometers per hour
mb	millibar
mm	millimeter
NMHC	Non-Methane Hydrocarbons
NO	Nitric Oxide
NO2	Nitrogen Dioxide
NOx	Oxide of Nitrogen
O3	Ozone
PAC	Polycyclic Aromatic Compounds
PAHs	Polycyclic Aromatic Hydrocarbons
PM2.5	Particulate Matters
ppb	parts per billion
ppm	parts per million
PRAMP	Peace River Area Monitoring Program
Precip	Precipitation
RH	Relative Humidity
SO2	Sulphur Dioxide
ST	Station Temperature
THC	Total Hydrocarbons
TRS	Total Reduced Sulphur
VOCs	Volatile Organic Compounds
VWD	Vector Wind Direction
VWS	Vector Wind Speed
WD	Wind Direction
WS	Wind Speed
°C	Degrees Celsius

Peace River Area Monitoring Program
Suite 91, 305 – 4625 Varity Drive NW
Calgary, AB, T3A 0Z9
Phone #: 780-226-7068 / 587-225-2248
E-mail: pramptech@prampairshed.ca
www.prampairshed.ca

March 10, 2025

Alberta Environment and Protected Areas (AEPA)
11th Floor, Oxbridge Place
9820 106 Street
Edmonton, AB, T5K 2J6
Emailed to: Air.Reporting@gov.ab.ca

RE: 2024 Annual Ambient Air Quality Monitoring Report -PRAMP Airshed

---

Enclosed is the *2024 Annual Ambient Air Quality Monitoring Report* for the continuous ambient air quality monitoring stations of the Peace River Area Monitoring Program (PRAMP) Airshed regional air quality monitoring network, as operated in the year 2024.

The representative of the Person Responsible for this monitoring program is:

PRAMP Airshed
Michael Bisaga / Lily Lin, Technical Program Managers
Suite 91, 305 – 4625 Varity Drive NW
Calgary, AB, T3A 0Z9
Phone #: 780-226-7068 / 587-225-2248
E-mail: pramptech@prampairshed.ca

This report was prepared by Lily Lin and reviewed by Michael Bisaga of PRAMP Airshed.

PRAMP Airshed has retained the services of Bureau Veritas to conduct continuous ambient monitoring on its behalf.

Listing of Continuous Monitoring Stations and Integrated Sampling Stations

The PRAMP continuous ambient air quality monitoring network stations are:

- 986-C Station
- 842-B Station
- Reno (Reno-B) Station
- PRC Station
- AQHI Grimshaw Station

Station ID	Station Name	Latitude	Longitude
1562	986-C	56.36980	-116.92500
1561	842-B	56.27406	-116.98129
1563	Reno	55.86936	-117.05739
1563	Reno-B	55.890868	-117.137080
1689	AQHI-Grimshaw	56.49022	-116.42739
1698	PRC	56.38257	-116.769283

Listing of Passive Sampling Stations

Site ID	Latitude	Longitude
1	56.377841	-116.787142
2	56.378638	-116.780496
3	56.382958	-116.783813
4	56.377044	-116.794220
7	56.384796	-116.780488
8	56.388710	-116.771234
9	56.388943	-116.756205
10	56.388642	-116.797817
11	56.383771	-116.841165
12	56.388962	-116.885263
13	56.390972	-116.822083
14	56.424825	-116.853181
15	56.38257	-116.769283

Calibration Report and Data Submission

Hourly data and calibration reports for 2024 were submitted to Alberta's Ambient Air Data Warehouse for all stations. Data Qualifier Flags used in the monthly reports are summarized below.

Flag	Description	Instrument is operational?	Hour is valid?
P	Power failure	No	No
X	Machine malfunction / recovery	No	No
Y	Maintenance	Yes (unless otherwise noted)	No
K	Recording system failure	No	No
ND	Instrument not in service	No	No
NRM	Repeat quality assurance checks	Yes	No
C	Calibration	Yes	No
S	Daily zero/span	Yes	No
Q	Quality assurance	Yes	No

Major Operations and Maintenance Events at Continuous Monitoring Stations During 2024

All Station:

- **TRS/H2S**: Low ambient temperatures had a marked effect on TRS/H2S span results. This is a perennial problem when the moisture levels in sample air drop very low, causing TRS/H2S analyzer to respond more slowly due to the SO2 scrubber requiring a certain humidity to function optimally. This issue affected some daily zero-span check results in January and February. Although daily span check results were often below the requirements, and the daily zero check results were occasionally close to or outside the allowable drift range (while low temperatures were occurring), experience indicates the analyzer's performance remains in compliance with AMD performance criteria, and collected data remain valid.
- **AT**: Ambient temperatures were below the sensor recordable range (minimum= -40 °C) on January 14. As a result, real ambient temperatures may be lower than the readings in this report.
- **Precipitation** (only apply for 986-C, 842-B and Reno-B Station): Due to extreme cold weather conditions, precipitation gauge did not work; the built-in heating system does not work efficiently in very low ambient temperatures. Because of this issue, the precipitation gauge malfunctioned for the most time of the month in January, February and March. Precipitation data are excluded from these monthly reports. Precipitation is not required by OSM monitoring project. It is monitored to provide nearby residences/communities useful information for farming purposes.
- To meet the new AAAQG requirement for TRS, 30-minute data starts being recorded in October.

986-C Station:

- There were no exceedances of the AAAQOs at the 986-C Station in 2024.
- **THC/CH4/NMHC**:
    - The analyzer failed the monthly calibration on January 10 due to bad injections. The injection issue was caused by unstable station temperatures. Minute data were reviewed and discarded if data quality was affected by injection issues. Hourly data were recalculated based on the revised minute data result and were invalidated if hourly data completeness requirement was not met. Sixty-six hours of downtime were recorded due to this event. The analyzer failed on January 13 due to an issue with the H2 generator. The H2 generator was restarted following a zero-span check on January 15. Fifty-three hours of downtime were recorded due to this event. Operation uptime: 83.6% – *DINC0005037*.
    - The station's zero air supply was exchanged on March 19; BV's Teledyne T701 unit, s/n: 80, was removed, and PRAMP's Teledyne T701, s/n: 468, was installed. On March 19, PRAMP's Thermo 55i analyzer, s/n: 12208316589, was removed, and BV's Thermo 55i analyzer, s/n: 1022143392, was installed. The Analyzer was allowed time to stabilize overnight. A successful installation calibration was completed on March 20. Seventeen hours of downtime were recorded.
    - The analyzer failed due to an issue with the hydrogen generator on July 19 hour 22. The generator was serviced following a successful post-repair calibration on July 23. Ninety- one hours of downtime were recorded due to this event. Operation uptime: 87.1% - *DINC0010231*
    - Due to injection issues, BV's Thermo 55i analyzer, s/n: 1022143392, was removed after a successful shut-down calibration on December 28. PRAMP's Thermo 55i analyzer, s/n: 1191032505, was installed afterwards. The analyzer was allowed to stabilize overnight. A successful installation calibration was completed on December 29. Twenty hours of downtime were recorded due to this event.

- AEPA station audit was conducted on June 18.
    - The sample manifold was found dirty during the June 18 AEPA station audit. The sample manifold was cleaned during the site visit on July 18.
- **Precipitation**: The precipitation gauge was found blocked by debris (mostly avian droppings) on August 22. The issue was corrected, and temporary bird wires were modified on August 22. Factory-built bird wires will be installed once the parts become available to prevent the issue from reoccurring. After reviewing and comparing data with those collected at the 842-B station and Reno-B station, it was determined that the issue had a moderate impact on data collection. However, the decision was made to keep data for two reasons: 1) there were no significant rainfall events recorded between July and August, and 2) the equipment was installed at the request of local farmers for agricultural purposes and the monitoring data are not submitted to the Alberta ETS data warehouse for compliance purposes. However, as errors have been identified, data collection between the last system verification on August 7 and August 22 should be used with caution.

842-B Station:

- There were no exceedances of the AAAQOs at the 842-B Station in 2024.
- **TRS**:
    - The analyzer failed the shut-down calibration on January 17. The SO2 scrubber beads were replaced, and a successful post-repair calibration was completed on January 17. Data were discarded back to the last valid calibration check, which was January 10. One hundred seventy-five hours of downtime were recorded due to this event. Operational uptime: 74.6% - *DINC0005038*.
    - The CD Nova CDN-101 TRS convertor, s/n: 583, failed following a brief power outage on August 1 hour 20. It was replaced by the CDN-101, s/n: 552, on August 3. A successful installation calibration was completed afterwards. Thirty-seven hours of downtime were recorded due to this event.
- **THC/CH4/NMHC**:
    - The station's zero air supply was exchanged on March 13; BV's Teledyne T701 unit, s/n: 74, was removed, and PRAMP's Teledyne T701, s/n: 1087, was installed.
    - The Thermo 55i analyzer, s/n: 1501663728, failed the October 1's as found-point check due to baseline drift. The analyzer was calibrated to correct the drift on October 1. Data were invalidated back to the last valid calibration check, which was September 30. Twelve hours of downtime were invalidated this month due to this event.
    - The Thermo 55i analyzer, s/n: 1501663728, failed the October 10's shut down calibration due to bad injections. The analyzer was replaced by the Thermo 55i analyzer, s/n: 12208316589. The analyzer was allowed to stabilize overnight. A successful installation calibration was completed on October 11. Data were invalidated back to the last valid zero-span check, which was October 10 hour 3. Thirty-five hours of downtime were recorded due to this event.
- AEPA station audit was conducted on June 17.
    - **RH/AT**: To address AEPA station audit finding, which was conducted on June 17, the Rotronic HC2-S3 sensor, s/n: 20370767, was removed for manufacture maintenance/calibration, and a new Rotronic HC2-S3 sensor, s/n: 24010202, was installed On October 1.
- **Precipitation**: The precipitation gauge system was found not tipping during the June 17 AEPA station audit. A site visit on July 9 revealed debris (mostly avian droppings) covered the base of the collection funnel of the tipping bucket. On July 9, the funnel and the bucket assembly were cleaned, the tipping bucket was leveled, and a successful system verification was completed. After reviewing and

comparing data with those from collected at the 986-C station and Reno-B station, it was determined that the issue had a moderate impact on data collection. However, the decision was made to keep data for two reasons: 1) the precipitation gauge registered major rainfall events detected at other PRAMP stations on June 14-15 and June 23-24, and 2) the equipment was installed at the request of local farmers for agricultural purposes and the monitoring data are not submitted to the Alberta ETS data warehouse for compliance purposes. However, as errors have been identified, data collection between the last system verification on June 6 and July 9 should be used with caution.

Reno (Reno-B) Station:

- There were no exceedances of the AAAQOs at the Reno Station in 2024.
- **THC/CH4/NMHC**:
    - A successful monthly calibration was completed on January 9. Problem was traced to analyzer drift following work that was conducted on the H2 generator on January 9. The analyzer was recalibrated without further issue on February 15. Data collected between January 9 and February 15 were discarded. Five hundred thirty-nine hours of downtime in January and three hundred forty-five hours of downtime in February were recorded due to this event. Operational uptime: 27.6% and 50.4% in January and February, respectively – *DINC0005039*.
    - The Thermo 55i analyzer, s/n: 12101910497, failed on April 6 hour 3 and was replaced by the Thermo 55i analyzer, s/n: 1193585652, on April 8. The analyzer remained offline overnight for column conditioning. The channels were brought back online after a successful installation calibration on April 9. Eighty hours of downtime were recorded. Operational uptime: 88.2% - *DINC0006946*.
- AEPA station audit was conducted on June 17.

PRC Station:

- There were no exceedances of the AAAQOs at the PRC Station in 2024.
- AEPA station audit was conducted on June 18.
- **THC/CH4/NMHC:**
    - CNRL's Thermo 55i analyzer, s/n: 1034745845, failed on June 11. The analyzer was replaced by PRAMP's Thermo 55i analyzer, s/n: 1191032505, on June 12. The HC channels were brought back online after a successful installation calibration on June 12. Forty-one hours of downtime were recorded due to this event.
    - PRAMP's Thermo 55i analyzer, s/n: 1191032505, was removed, and CNRL's Thermo 55i analyzer, s/n: 1034745845, was installed on July 17. The CNRL's analyzer was allowed to stabilize overnight, and an installation calibration was completed on July 18. The CNRL analyzer had previously been removed for repair on June 11. Sixteen hours of downtime were recorded due to this event.
- **SO2:** The analyzer failed the daily span check on October 9 due to permeation tube depletion. The permeation tube was replaced on October 16. A new expected span value was entered on October 18. Data quality was not compromised due to this event.
- **H2S:** Due to unstable lamp voltages, the analyzer failed the daily span check on both December 2 and 9. The Thermo 450i analyzer, s/n: 1308857354, was replaced by the Teledyne T101 analyzer, s/n: 1014, on December 10. A successful installation calibration was completed on the newly installed analyzer on December 11. Eighty-five hours of downtime were recorded due to this issue. Operational

uptime: 88.6% - *DINC0013545*.

AQHI - Grimshaw Station:

- There were no exceedances of the AAAQOs at the AQHI - Grimshaw Station in 2024, except PM2.5. One hundred thirty-three 1-Hour exceedances and fifteen 24-Hour exceedances of PM2.5 were recorded in 2024.
- The 2024 bulk reporting protocol was in effect from April through October. During this time, exceedances of the 1-hour $PM_{2.5}$ AAAQG did not require direct reporting to Alberta EDGE, as submission of real-time data satisfied the reporting obligation. For 24-hour $PM_{2.5}$ AAAQO exceedances, a monthly exceedance summary was submitted for each monitoring station, and Alberta EDGE assigned a unique reference number per station covering all exceedances for that calendar month.

Date	Time (MST)	Parameter	Average Period	Concentration (ug/m3)	Wind speed (km/hr)	Wind Direction	Reference #
24-Jan	-	PM2.5	24-Hour	38	2.8	316°(NW)	424674
25-Jan	-	PM2.5	24-Hour	32	3.7	332°(NNW)	424675
10-May	22	PM2.5	1-Hour	101	14.8	14°(NNE)	N/A
10-May	23	PM2.5	1-Hour	697	11.5	18°(NNE)	N/A
10-May	-	PM2.5	24-Hour	38	20	260°(WSW)	428835
11-May	0	PM2.5	1-Hour	1144	9.8	354°(N)	N/A
11-May	1	PM2.5	1-Hour	1120	8.2	339°(NNW)	N/A
11-May	2	PM2.5	1-Hour	970	8.5	338°(NNW)	N/A
11-May	3	PM2.5	1-Hour	822	7.7	336°(NNW)	N/A
11-May	4	PM2.5	1-Hour	765	7.2	327°(NW)	N/A
11-May	5	PM2.5	1-Hour	950	9.2	322°(NW)	N/A
11-May	6	PM2.5	1-Hour	907	9.4	325°(NW)	N/A
11-May	7	PM2.5	1-Hour	793	8	332°(NNW)	N/A
11-May	8	PM2.5	1-Hour	536	6.7	341°(NNW)	N/A
11-May	9	PM2.5	1-Hour	307	5.3	318°(NW)	N/A
11-May	10	PM2.5	1-Hour	280	5.9	304°(WNW)	N/A
11-May	11	PM2.5	1-Hour	228	7.4	303°(WNW)	N/A
11-May	12	PM2.5	1-Hour	203	6.6	308°(NW)	N/A
11-May	13	PM2.5	1-Hour	163	6.3	324°(NW)	N/A
11-May	14	PM2.5	1-Hour	175	4.1	350°(N)	N/A
11-May	15	PM2.5	1-Hour	172	3.9	274°(W)	N/A
11-May	16	PM2.5	1-Hour	165	2.1	271°(W)	N/A
11-May	17	PM2.5	1-Hour	212	7.2	226°(SW)	N/A
11-May	18	PM2.5	1-Hour	271	11.6	205°(SSW)	N/A
11-May	19	PM2.5	1-Hour	269	7.3	215°(SSW)	N/A
11-May	20	PM2.5	1-Hour	272	3.6	241°(WSW)	N/A
11-May	21	PM2.5	1-Hour	278	3.5	284°(WNW)	N/A
11-May	22	PM2.5	1-Hour	274	2.7	340°(NNW)	N/A
11-May	23	PM2.5	1-Hour	274	2.2	348°(NNW)	N/A
11-May	-	PM2.5	24-Hour	481	6.4	310°(NW)	428835
12-May	0	PM2.5	1-Hour	257	1	342°(NNW)	N/A
12-May	1	PM2.5	1-Hour	271	2.1	48°(NE)	N/A
12-May	2	PM2.5	1-Hour	285	3.1	50°(NE)	N/A
12-May	3	PM2.5	1-Hour	288	3.3	56°(NE)	N/A
12-May	4	PM2.5	1-Hour	289	3	70°(ENE)	N/A

Date	Time (MST)	Parameter	Average Period	Concentration (ug/m3)	Wind speed (km/hr)	Wind Direction	Reference #
12-May	5	PM2.5	1-Hour	288	4	53°(NE)	N/A
12-May	6	PM2.5	1-Hour	282	6.6	69°(ENE)	N/A
12-May	7	PM2.5	1-Hour	235	5.2	84°(E)	N/A
12-May	8	PM2.5	1-Hour	163	6.8	89°(E)	N/A
12-May	10	PM2.5	1-Hour	100	8.9	67°(ENE)	N/A
12-May	11	PM2.5	1-Hour	131	5.7	84°(E)	N/A
12-May	12	PM2.5	1-Hour	154	6	76°(ENE)	N/A
12-May	13	PM2.5	1-Hour	128	0.8	273°(W)	N/A
12-May	14	PM2.5	1-Hour	92	4.8	222°(SW)	N/A
12-May	-	PM2.5	24-Hour	136	6	66°(ENE)	428835
15-May	9	PM2.5	1-Hour	86	2.5	49°(NE)	N/A
15-May	10	PM2.5	1-Hour	98	3.2	81°(E)	N/A
06-Jul	3	PM2.5	1-Hour	128	6.6	334°(NNW)	N/A
06-Jul	4	PM2.5	1-Hour	178	7.7	327°(NW)	N/A
06-Jul	6	PM2.5	1-Hour	118	8.4	323°(NW)	N/A
06-Jul	7	PM2.5	1-Hour	114	8.8	318°(NW)	N/A
06-Jul	8	PM2.5	1-Hour	99	11.7	322°(NW)	N/A
06-Jul	-	PM2.5	24-Hour	47	7.4	294°(WNW)	431489
19-Jul	18	PM2.5	1-Hour	102	19.6	268°(W)	N/A
20-Jul	-	PM2.5	24-Hour	38	3.8	221°(SW)	431489
21-Jul	3	PM2.5	1-Hour	92	4.4	345°(NNW)	N/A
21-Jul	4	PM2.5	1-Hour	115	2.2	3°(N)	N/A
21-Jul	5	PM2.5	1-Hour	121	4	358°(N)	N/A
21-Jul	6	PM2.5	1-Hour	142	6.7	5°(N)	N/A
21-Jul	7	PM2.5	1-Hour	137	5.2	16°(NNE)	N/A
21-Jul	8	PM2.5	1-Hour	115	6.1	38°(NE)	N/A
21-Jul	9	PM2.5	1-Hour	106	5.1	50°(NE)	N/A
21-Jul	10	PM2.5	1-Hour	90	7.1	75°(ENE)	N/A
21-Jul	17	PM2.5	1-Hour	89	12.5	67°(ENE)	N/A
21-Jul	18	PM2.5	1-Hour	88	10.7	60°(ENE)	N/A
21-Jul	19	PM2.5	1-Hour	91	7.4	45°(NE)	N/A
21-Jul	20	PM2.5	1-Hour	96	9.7	50°(NE)	N/A
21-Jul	21	PM2.5	1-Hour	99	8.6	48°(NE)	N/A
21-Jul	22	PM2.5	1-Hour	128	9.7	52°(NE)	N/A
21-Jul	23	PM2.5	1-Hour	172	10.1	49°(NE)	N/A
21-Jul	-	PM2.5	24-Hour	96	8	40°(NE)	431489
22-Jul	0	PM2.5	1-Hour	216	10.3	54°(NE)	N/A
22-Jul	1	PM2.5	1-Hour	218	8.2	52°(NE)	N/A
22-Jul	2	PM2.5	1-Hour	224	7.6	49°(NE)	N/A
22-Jul	3	PM2.5	1-Hour	211	7.8	43°(NE)	N/A
22-Jul	4	PM2.5	1-Hour	200	7.8	52°(NE)	N/A
22-Jul	5	PM2.5	1-Hour	181	8.2	53°(NE)	N/A
22-Jul	6	PM2.5	1-Hour	156	5.9	38°(NE)	N/A
22-Jul	7	PM2.5	1-Hour	147	6.3	35°(NE)	N/A
22-Jul	8	PM2.5	1-Hour	137	7.7	21°(NNE)	N/A
22-Jul	9	PM2.5	1-Hour	129	7.5	27°(NNE)	N/A
22-Jul	10	PM2.5	1-Hour	126	9.2	19°(NNE)	N/A
22-Jul	11	PM2.5	1-Hour	134	10.3	30°(NNE)	N/A
22-Jul	12	PM2.5	1-Hour	130	11.6	39°(NE)	N/A
22-Jul	13	PM2.5	1-Hour	120	14.2	58°(ENE)	N/A
22-Jul	14	PM2.5	1-Hour	104	11.2	57°(ENE)	N/A

Date	Time (MST)	Parameter	Average Period	Concentration (ug/m3)	Wind speed (km/hr)	Wind Direction	Reference #
22-Jul	15	PM2.5	1-Hour	101	6.1	23°(NNE)	N/A
22-Jul	-	PM2.5	24-Hour	120	9.1	47°(NE)	431489
23-Jul	5	PM2.5	1-Hour	81	5.5	99°(E)	N/A
13-Aug	16	PM2.5	1-Hour	179	15.7	278°(W)	N/A
13-Aug	17	PM2.5	1-Hour	254	16.2	279°(W)	N/A
13-Aug	18	PM2.5	1-Hour	400	12.1	313°(NW)	N/A
13-Aug	19	PM2.5	1-Hour	817	11.5	353°(N)	N/A
13-Aug	20	PM2.5	1-Hour	704	8.3	341°(NNW)	N/A
13-Aug	21	PM2.5	1-Hour	532	8.9	334°(NNW)	N/A
13-Aug	22	PM2.5	1-Hour	444	6.8	328°(NNW)	N/A
13-Aug	23	PM2.5	1-Hour	451	5.9	340°(NNW)	N/A
13-Aug	-	PM2.5	24-Hour	179	5.7	287°(WNW)	432828
14-Aug	1	PM2.5	1-Hour	364	7.6	344°(NNW)	N/A
14-Aug	2	PM2.5	1-Hour	316	7.7	340°(NNW)	N/A
14-Aug	3	PM2.5	1-Hour	265	6.8	342°(NNW)	N/A
14-Aug	4	PM2.5	1-Hour	232	5.1	342°(NNW)	N/A
14-Aug	5	PM2.5	1-Hour	162	5.5	351°(N)	N/A
14-Aug	6	PM2.5	1-Hour	149	5.7	345°(NNW)	N/A
14-Aug	7	PM2.5	1-Hour	130	6.2	342°(NNW)	N/A
14-Aug	8	PM2.5	1-Hour	121	3.8	358°(N)	N/A
14-Aug	9	PM2.5	1-Hour	112	3.9	353°(N)	N/A
14-Aug	10	PM2.5	1-Hour	100	2.1	309°(NW)	N/A
14-Aug	11	PM2.5	1-Hour	90	3.7	265°(W)	N/A
14-Aug	12	PM2.5	1-Hour	89	3	231°(SW)	N/A
14-Aug	13	PM2.5	1-Hour	95	5	141°(SE)	N/A
14-Aug	14	PM2.5	1-Hour	97	4.9	89°(E)	N/A
14-Aug	15	PM2.5	1-Hour	92	6.3	92°(E)	N/A
14-Aug	16	PM2.5	1-Hour	86	8.4	86°(E)	N/A
14-Aug	17	PM2.5	1-Hour	83	7.9	83°(E)	N/A
14-Aug	-	PM2.5	24-Hour	139	5.7	13°(NNE)	432828
15-Aug	-	PM2.5	24-Hour	32	8.6	32°(NNE)	432828
21-Aug	6	PM2.5	1-Hour	103	9	19°(NNE)	N/A
21-Aug	7	PM2.5	1-Hour	129	12.6	14°(NNE)	N/A
06-Sep	10	PM2.5	1-Hour	159	9.6	265°(W)	N/A
06-Sep	11	PM2.5	1-Hour	159	10.3	270°(W)	N/A
06-Sep	12	PM2.5	1-Hour	135	13.2	274°(W)	N/A
06-Sep	13	PM2.5	1-Hour	107	14.1	267°(W)	N/A
06-Sep	20	PM2.5	1-Hour	107	5.3	232°(SW)	N/A
06-Sep	21	PM2.5	1-Hour	153	4.1	286°(WNW)	N/A
06-Sep	22	PM2.5	1-Hour	89	5.7	281°(W)	N/A
06-Sep	23	PM2.5	1-Hour	89	6.1	261°(W)	N/A
06-Sep	-	PM2.5	24-Hour	57	6.5	257°(WSW)	433796
07-Sep	0	PM2.5	1-Hour	117	6.3	243°(WSW)	N/A
07-Sep	1	PM2.5	1-Hour	130	4.4	244°(WSW)	N/A
07-Sep	2	PM2.5	1-Hour	172	5.8	239°(WSW)	N/A
07-Sep	3	PM2.5	1-Hour	198	7.3	226°(SW)	N/A
07-Sep	4	PM2.5	1-Hour	196	5.2	259°(WSW)	N/A
07-Sep	5	PM2.5	1-Hour	175	8.4	292°(WNW)	N/A
07-Sep	6	PM2.5	1-Hour	134	8.2	306°(NW)	N/A
07-Sep	7	PM2.5	1-Hour	139	5.1	298°(WNW)	N/A
07-Sep	8	PM2.5	1-Hour	135	4.1	244°(WSW)	N/A

Date	Time (MST)	Parameter	Average Period	Concentration (ug/m3)	Wind speed (km/hr)	Wind Direction	Reference #
07-Sep	9	PM2.5	1-Hour	158	8.9	186°(S)	N/A
07-Sep	10	PM2.5	1-Hour	179	11.5	175°(S)	N/A
07-Sep	-	PM2.5	24-Hour	89	8.4	269°(W)	433796
08-Sep	9	PM2.5	1-Hour	84	3.4	191°(S)	N/A
08-Sep	10	PM2.5	1-Hour	93	4.3	177°(S)	N/A
08-Sep	-	PM2.5	24-Hour	50	5	286°(WNW)	433796

- **SO2:** The analyzer spanned high on March 26 due to higher station temperatures. The span check result was within the acceptable range after station temperatures were improved the next day. Also, elevated readings were recorded for most gas parameters on March 5, 11 and 22. Additionally, extreme high NMHC concentrations were recorded on March 9 at hour 20. One-Minute data were reviewed, and data validity was confirmed, although some of the 1-minute data recorded for NOx, NO and NMHC were above the calibration range, which was 500 ppb.
- **THC/CH4/NMHC:** The Thermo 55i analyzer, s/n: 1191032505, failed the April 18's shut-down calibration due to injection issues. It was replaced by the Thermo 55i analyzer, s/n: 12101910497, on April 18. The analyzer was allowed time to stabilize overnight, and a successful installation calibration was completed on April 19. Data were invalidated back to the last valid calibration check, which was April 17 hour 20. Thirty-eight hours of downtime were recorded due to this event.
- Elevated readings were recorded for most gas parameters on April 17, 18, 21, 23 and 24. Additionally, extreme high TRS concentrations were recorded on April 23 at hours 4-7. One-Minute data were reviewed, and data validity was confirmed, although some of the 1-minute data recorded for NOx, NO and NMHC were above the calibration range, which was 500 ppb. These elevated values are likely due to a sustained wind pattern predominantly from the north, with low wind speeds hindering the dispersion of pollutants, especially overnight. This positioned the main commercial district and residential areas of Grimshaw north of the station.
- Elevated NOx readings were recorded on May 2 and May 3. One-Minute data were reviewed, and data validity was confirmed, although some of the 1-minute data were above the calibration range, which was 500 ppb. These elevated values are likely due to a sustained wind pattern predominantly from the north, with low wind speeds hindering the dispersion of pollutants, especially overnight. This positioned the main commercial district and residential areas of Grimshaw north of the station.
- AEPA station audit was conducted on June 19.
    - **PM2.5**: The glass jar for the T640 PM2.5 unit was found to be broken and not connected to the T640 unit. While waiting for a replacement, the housing was temporarily covered with duct tape. The glass jar was intact during the May 7 verification check but was found broken during BV's routine site visit on June 11. The glass jar was replaced on July 10. After reviewing the metadata (sample RH and heater operating rate (%) collected between May 1 and June 26, it was determined that sample RH was maintained at approximately 35%, as required by the T640 standard operating procedure. The data quality was not compromised despite the missing jar concern, and therefore, data were considered valid.
    - **NOx/NO/NO2:**
        - The analyzer failed the initial AEPA audit on June 17 but passed the second audit. Both audit

results showed unstable negative (low) responses. To address this audit finding, the analyzer was replaced to determine the root cause on July 10. As of the preparation of the audit response letter, the network operator has not yet determined the root cause for the noted audit findings. However, investigating this remains a priority, with a target for completion by Q2 2024 (September 30, 2024).

- Following issues noted during the AEPA station audit on June 19, 2024, the Teledyne T200 NOx/NO/NO2 analyzer, s/n:837, was removed from the station for troubleshooting/maintenance on July 10. It was concluded that the root cause for analyzer drifting on the low NO/NOx point check was due to analyzer contamination, which was caused by heavy smoke during wildfire events.
    - The performance issues noted during the audit (unstable/inaccurate NO2 concentration following a rapid change in concentration) can be explained by the reduced flow through the device resulting in a failure to completely flush the reaction chamber for each NO:NOx measurement cycle. This would result in: (i) spurious NO2 readings due to inaccurate NO:NOx measurements when concentrations are changing rapidly; (ii) inaccurate AZERO values (background noise) at higher concentration values. These errors are more pronounced in Teledyne analyzers due to their use of dynamic averaging periods.
    - To address this issue, the sample flow path, critical orifices and sinter filters were cleaned/replaced as appropriate. In addition, the molybdenum converter was replaced with a known good unit to avoid any possible contamination issues

- **Station HVAC unit:** Due to station's HVAC malfunction, station temperatures rose above the manufacturer's recommended/EPA designated operating temperature ranges for most gas analyzers (EPA designation for NOx/NO/NO2, TRS and THC/CH4/NMHC < 35°C and for SO2 and O3 < 30 °C) during some period between July 1 and July 9. Data quality could have been affected by the issue and therefore were discarded. Twenty-two to thirty-six hours of data were discarded due to this event. Based on the manufacturer's specification for PM2.5 (T640 analyzer), the acceptable operation temperature range is 4 °C - 50°C. Data quality was not affected by the high shelter temperatures. A portable AC unit was added, and repairs were made to the HVAC system to correct the issue on July 9.
- **NOx/NO/NO2:** Due to unstable station temperatures which affected data quality, eighteen hours of data collected between July 1 and July 9 were invalidated. PRAMP's Teledyne T200 analyzer, s/n: 837, failed the July 10's shut-down calibration. The analyzer was removed, and BV's Thermo 42i analyzer, s/n: 1173100003, was installed and calibrated on July 10. Data were invalidated back to the last valid calibration check, which was July 9. BV's Thermo 42i analyzer, s/n: 1173100003, failed the August 20's shut-down calibration. In the absence of a clear point of failure, data were invalidated back to the last valid multi-point calibration, which was July 16. The analyzer was replaced by a new Thermo 42iQ analyzer, s/n: 12409233392, on August 20. A successful installation calibration was completed on August 21. Four hundred twenty-nine hours and four hundred nineteen hours of downtime in July and August were recorded. Operational uptime: 42.3% and 34.0%, respectively - *DINC0011199*.
- **TRS**: Following a successful shut-down calibration on August 20, the Teledyne T100U analyzer, s/n: 132, was successfully shut-down and replaced by the Thermo 43iQTL analyzer, s/n: 12409233394. The new analyzer was allowed to stabilize overnight. An installation calibration was completed on August 21. Twenty-four hours of downtime were recorded due to this event.

- **O3**: Following a successful shut-down calibration on August 20, the Teledyne T400 analyzer, s/n: 824, was successfully shut-down and replaced by the Thermo 49iQ analyzer, s/n: 12326230141. The new analyzer was allowed to stabilize overnight. An installation calibration was completed on August 21. Twenty-three hours of downtime were recorded due to this event.

Passive Monitoring Summary

13 multi-parameter passive stations were used around the PRC station. The 13th station (Station # 15) was added to the network to bring the Peace River Complex's (PRC) compliance, based on the AMD requirements of ME 3-U and ME 3-V on July 1. The site location is at latitude of 56.38257 and longitude of -116.769283. The first sample collection starts on July 1. These stations monitored both SO_2, and H_2S. Passive samples, including blanks were handled and deployed in accordance with the AMD. Analyses of the passive samples were performed by Bureau Veritas Canada. The full results of these analyses were submitted to Alberta's Ambient Air Data Warehouse in accordance with the AMD.

SO2 (ppb) 30-Day Objective: 11 ppb	
Month	**# Stations of Exceedance**
January	0
February	0
March	0
April	0
May	0
June	0
July	0
August	0
September	0
October	0
November	0
December	0
Total	**0**
SO2 (ppb) Annual Objective: 8.0 ppb	
Year	**AAAQO Exceedance**
2024	0

NMHC Canister Events

A multi-year integrated sampling program continued operating at 986-C station, 842-B station, Reno station and Reno-B station; this program collects air samples using Silco/Summa Canisters which are analyzed in a laboratory for VOCs, reduced sulphur compounds, and methane isotopes. In 2024, the program collected a 1-hour sample of air in a canister when the continuously measured non-methane hydrocarbon (NMHC) concentration reached a specified trigger point. The trigger point was 0.3 ppm. The trigger point was based on real-time monitoring data that were averaged over a 5-minute period. Analysis of these samples were performed by InnoTech Alberta. Analytical results were included in the monthly integrated sampling reports following the month of sample collections.

The canister sampling program was temporarily paused between May 13 and May 21 due to wildfire smoke. Starting May 10, intense wildfire smoke in the region caused NMHC concentrations to spike, resulting in PRAMP's canister systems being automatically activated to collect samples. The objective of the PRAMP canister program is to provide data and information about ambient hydrocarbon concentrations from local industrial sources. Collecting samples triggered by wildfire smoke is not within the intended scope of this component of the regional monitoring program. Therefore, the canister sampling program was paused pending dissipation of wildfire smoke and an improvement in air quality conditions.

A total of 5 valid non-methane canister samples were collected in 2024.

Station	Date	Time of Concentration Reached Trigger Point	NMHC 5-minute Concentration (ppm)	Time of Canister Triggered
Reno-B	11-May	3:05	0.34	3:10
Reno-B	18-Jul	20:50	0.4	20:55
Reno-B	13-Aug	19:45	0.32	19:50
986-C	14-Aug	0:35	0.32	0:40
Reno-B	22-Nov	5:00	0.33	5:05

The results of the canister sample analysis were reviewed and compared against the Alberta Ambient Air Quality Objectives (AAAQOs). All measured parameters were below the AAAQOs, where applicable, except Acrolein and Benzene.

	Date	Acrolein	Benzene	DINC #
AAAQOs (ppb)		1.9	9.0	
Reno-B	2024-08-13	3.7		0011197
986-C	2024-08-14	2.4	9.45	0011198

Notification of Changes Made After Monthly Report Issuance

- **AQHI - Grimshaw Station**: PM2.5 data collected from November 2019 to December 2022 were resubmitted on July 1, 2024. In June 2024, Alberta Airsheds received the anticipated request from AEPA to adjust the T640 PM2.5 data. AEPA applied alignment factor calculations (see table below) to the data previously uploaded by PRAMP to the Air Data Warehouse. The revised dataset was provided to PRAMP on June 28. Revised data were reviewed and submitted by PRAMP TPMs on July 1, 2024. ***ETS request #s for November - December 2019, January - December 2020, January - December 2021, January - December 2022 are 4695299, 4695300, 4695301 and 4695302, respectively.***

Criteria		Action on data
Ambient Temperature ≤ 20°C	PM2.5 concentration ≤ 10 µg/m3	Multiply by 0.813233
	PM2.5 concentration > 10 µg/m3	Subtract 1.861 µg/m3
Ambient Temperature > 20°C	PM2.5 concentration ≤ 5 µg/m3	Multiply by 0.813233
	PM2.5 concentration > 5 µg/m3	Subtract 0.925 µg/m3

- AQHI Grimshaw station: The NOx/NO/NO2 analyzer failed the August 20's shut-down calibration. In the absence of a clear point of failure, data were invalidated back to the last valid multi-point calibration, which was July 16. As a result, the July report and data were revised.
    - July 2024 monthly report (PRAMP-202407) was amended, and this amended report (PRAMP-202407-Amended) was prepared and submitted to ETS. **ETS Request #: 4721130**.
    - July 2024 hourly data file (AMB-PRAMP-202407) was revised, and AMB-202401-01689-VVC35 VVC37 VVC39-V02 was prepared and submitted to ETS. **ETS Request #: 4721114**.
    - Non-compliance event for the AQHI-Grimshaw Station NOx/NO/NO2 event was reported to DRAS on September 23, 2024. *DINC0011199*.

- The EPA 2023 data review indicated that errors were noticed in the December 2023 monthly report; December monthly report sections "Monitored Data Summary" and "Tables, Charts and Wind Roses" are blank for all stations. An incorrect version of the monthly report was accidentally submitted in January 2024. The monthly report with all required tables and charts was resubmitted on October 17, 2024. ***ETS Request # 4729758.***

- During the 2024 annual data review, it was noted that the THC/CH4/NMHC data collected at the 842-B station on October 4 at 00:57–00:59, and on October 11 at 16:50–16:51 and 16:57, were incorrect. Data quality was affected either by injection issues or unstable analyzer behaviour. The data was revised, and the revised dataset was submitted to ETS on March 4, 2025. AMB-PRAMP-202410-01561-VVC52 60 76-R1, **ETS Request #: 4778191**.

- During the 2024 annual data review, it was noted that the THC/CH4/NMHC data collected at the Reno-B station on December 1 at hour 11, 12 and 23, on December 2 at hour 22, on December 4 at hour 9 and hour 17, and on December 13 at hours 19-23 were incorrect. Some one-minute data collected during these hours were discarded because the data quality was affected by unstable analyzer behaviour. The data was revised, and the revised dataset was submitted to ETS on March 4, 2025. AMB-PRAMP-202412-01563-VVC 52 60 76-R1, **ETS Request #: 4778192**.

- During the 2024 annual data review, an error was noted in the October monthly report. The ambient temperature table for the PRC station for data collected was incorrect. The page was corrected, and the monthly report was revised. This issue did not affect the data file that was submitted to ETS. PRAMP-202410-R1, **ETS # 4773589.**

- During the 2024 annual data review, an error was noted in the November monthly report. The barometric pressure table for the PRC station for data collected was incorrect. The page was corrected, and the monthly report was revised. This issue did not affect the data file that was submitted to ETS. PRAMP-202411-R2, **ETS # 4773590.**

Deviations from Authorized Monitoring Methods

None to report.

Certification

This report was prepared and submitted by Lily Lin in accordance with Chapter 9 of the Air Monitoring Directive (AMD 2016).

Lily Lin, Environmental Monitoring Program Manager, PRAMP Airshed

This report was reviewed by Mike Bisaga in accordance with Chapter 9 of the Air Monitoring Directive (AMD 2016).
I certify that I have reviewed and verified this report and that the information is complete, accurate and representative of the monitoring results, reporting timeframe and the specified analysis, summarization and reporting requirements.

Michael Bisaga, Environmental Monitoring Program Manager, PRAMP Airshed

March 10, 2025

1.0 Continuous Monitoring Statistics and Data Qualifier Flag Summaries - 2024

1.1 986-C Station

1.1.1 Parameters Monitoring Summary

	SO2	TRS	THC55	CH4	NMHC	RH	BP	AT	PRECIP
	ppb	ppb	ppm	ppm	ppm	%RH	mb	°C	mm
Minimum	0	0	1.83	1.83	0.00	8	910	-39.9	0
Min Date	2024-01-01 00:00	2024-10-11 22:00	2024-01-31 13:00	2024-01-31 13:00	2024-01-01 00:00	2024-04-20 16:00	2024-11-17 07:00	2024-01-14 00:00	2024-03-01 0:00
Maximum	3	5.15	2.61	2.61	0.20	100	965	32.7	22.6
Max Date	2024-02-16 16:00	2024-07-24 04:00	2024-01-17 09:00	2024-01-17 09:00	2024-08-14 00:00	2024-01-03 06:00	2024-01-18 10:00	2024-07-18 15:00	2024-07-02 23:00
Average	0	0.42	2.03	2.03	0.00	73	940	2.8	323*
# of Reading	8288	8233	8044	8044	8044	8763	8699	8763	7332
Valid Data [%]	94.4	93.7	91.6	91.6	91.6	99.8	99.0	99.8	83.2
Operational Uptime [%]	99.3	98.7	96.5	96.5	96.5	99.8	99.0	99.8	83.2

	WDS	WDV
	KPH	Deg
Minimum	0.0	0
Min Date	2024-09-27 02:00	2024-01-21 16:00
Maximum	33.8	360
Max Date	2024-01-30 11:00	2024-01-02 08:00
Average	2.1	198
# of Reading	8760	8760
Valid Data [%]	99.7	99.7
Operational Uptime [%]	99.7	99.7

* Total amounts were presented on the table

1.1.2 Monitoring Parameters – Continuous Data Summary and Frequency Distribution

986-C STATION
SULPHUR DIOXIDE (SO_2) in parts per billion (ppb)

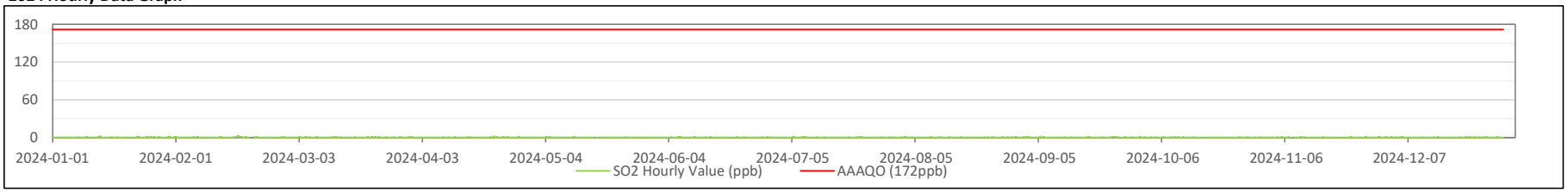
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 1-hr	Max. 1-hr	Max. 24-hr	Monthly Avg.	# of AAAQOExceedances				Percentage Readings in Concentration Range				
							1-hour	24-hour	30-day	Annual	0 - 10	11 -50	51 -100	101 - 172	>172
January	99.6	704	0	2	1	0.1	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
February	96.3	635	0	3	1	0.1	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
March	100.0	708	0	1	0	0.1	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
April	100.0	684	0	2	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
May	99.7	704	0	1	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
June	99.9	681	0	1	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
July	99.5	703	0	1	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
August	100.0	707	0	1	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
September	99.6	682	0	2	1	0.1	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
October	99.3	702	0	1	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
November	98.2	672	0	1	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
December	100.0	706	0	1	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	99.3	8288	0	3	1	0.1	0	0	0	0	100.0%	0.0%	0.0%	0.0%	0.0%

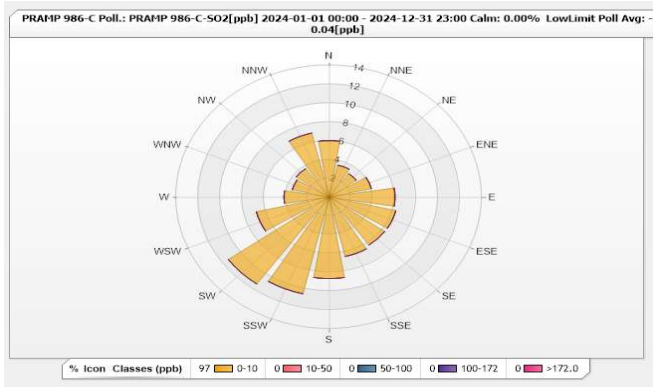
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
15	0	0	38	0	4	59	378	2
Total Hours of Downtime		57	Total Hours of Calibration		439	Total Hours of Flagged		496

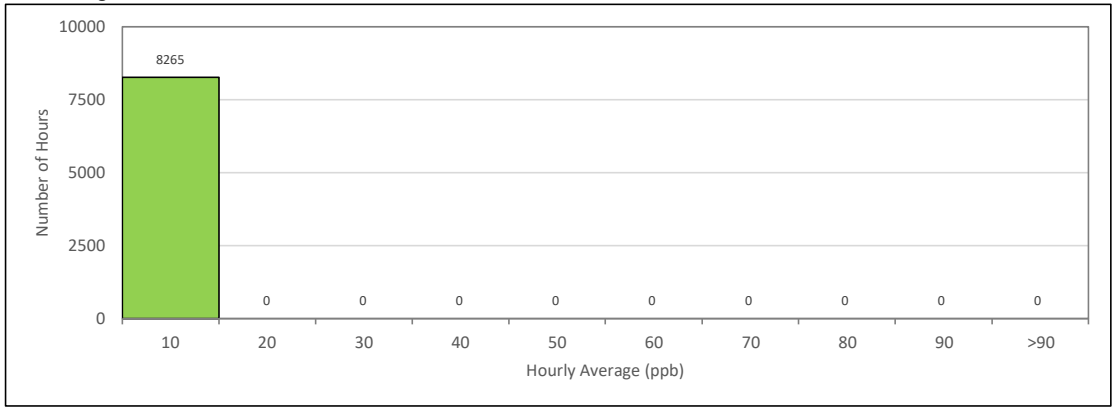
2024 Hourly Data Graph



2024 Pollution Rose



2024 Histogram



986-C STATION
TOTAL REDUCED SULPHUR (TRS) in parts per billion (ppb)

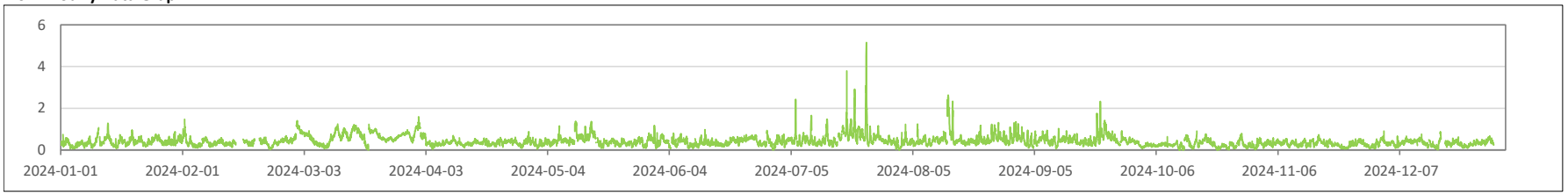
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 1-hr	Max. 1-hr	Max. 24-hr	Monthly Avg.	Percentage Readings in Concentration Range				
							0 - 2	3 - 5	6 - 10	11 - 50	>50
January	99.6	704	0.05	1.28	0.69	0.39	100.0%	0.0%	0.0%	0.0%	0.0%
February	90.1	593	0.04	1.47	0.76	0.36	100.0%	0.0%	0.0%	0.0%	0.0%
March	100.0	708	0.03	1.40	1.11	0.66	100.0%	0.0%	0.0%	0.0%	0.0%
April	100.0	684	0.05	1.59	1.01	0.37	100.0%	0.0%	0.0%	0.0%	0.0%
May	99.7	704	0.04	1.38	0.90	0.43	100.0%	0.0%	0.0%	0.0%	0.0%
June	100.0	682	0.01	0.97	0.58	0.38	100.0%	0.0%	0.0%	0.0%	0.0%
July	99.5	703	0.03	5.15	1.31	0.58	98.7%	1.3%	0.0%	0.0%	0.0%
August	100.0	707	0.01	2.63	1.22	0.51	99.6%	0.4%	0.0%	0.0%	0.0%
September	99.6	681	0.06	2.26	0.86	0.48	100.0%	0.0%	0.0%	0.0%	0.0%
October	99.3	702	0.00	0.90	0.56	0.26	100.0%	0.0%	0.0%	0.0%	0.0%
November	100.0	684	0.06	0.73	0.50	0.29	100.0%	0.0%	0.0%	0.0%	0.0%
December	96.6	681	0.02	0.91	0.53	0.34	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	98.7	8233	0.00	5.15	1.31	0.42	99.9%	0.1%	0.0%	0.0%	0.0%

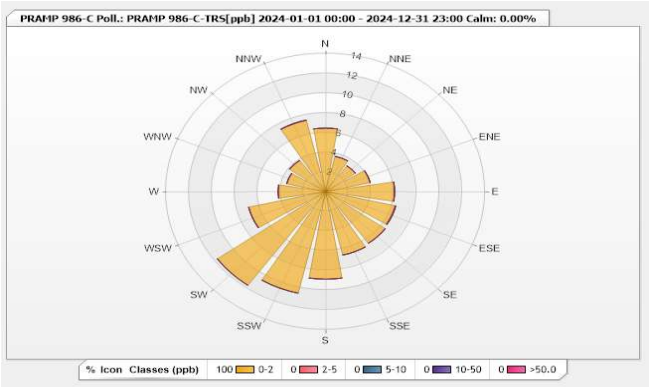
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
15	48	0	26	0	22	60	378	2
Total Hours of Downtime		111	Total Hours of Calibration		440	Total Hours of Flagged		551

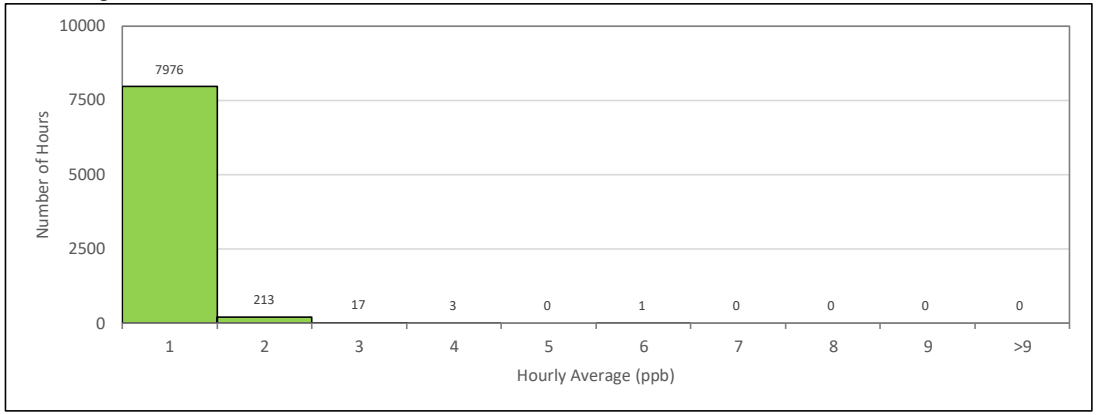
2024 Hourly Data Graph



2024 Pollution Rose



2024 Histogram



986-C STATION
TOTAL REDUCED SULPHUR (TRS) in parts per billion (ppb)

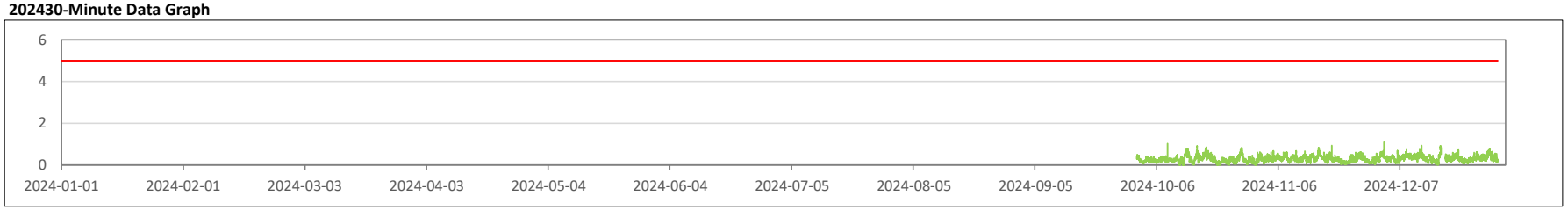
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 30-min	Max. 30-min	Max. 24-hr	Monthly Avg.	# of AAAQO	Percentage Readings in Concentration Range				
							30-min	0 - 2	3 - 5	6 - 10	11 - 50	>50
January	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
February	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
March	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
April	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
May	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
June	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
July	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
August	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
September	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
October	99.4	1406	0.00	1.02	0.56	0.26	0	100.0%	0.0%	0.0%	0.0%	0.0%
November	100.0	1370	0.03	0.93	0.51	0.29	0	100.0%	0.0%	0.0%	0.0%	0.0%
December	96.6	1362	0.01	1.10	0.57	0.34	0	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	24.7	4138	0.00	1.10	0.57	0.07	0	100.0%	0.0%	0.0%	0.0%	0.0%

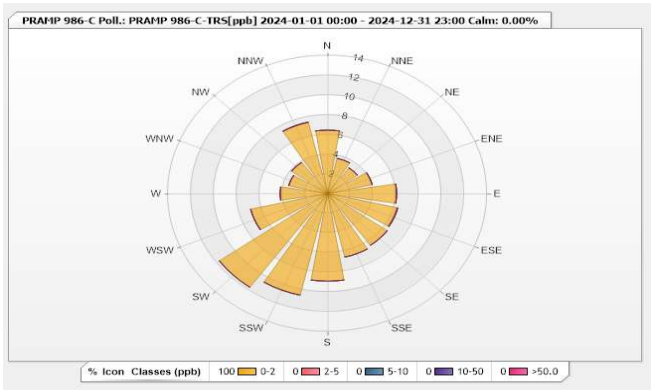
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
9	50	0	0	0	0	30	189	0
Total Hours of Downtime		0	Total Hours of Calibration		0	Total Hours of Flagged		0

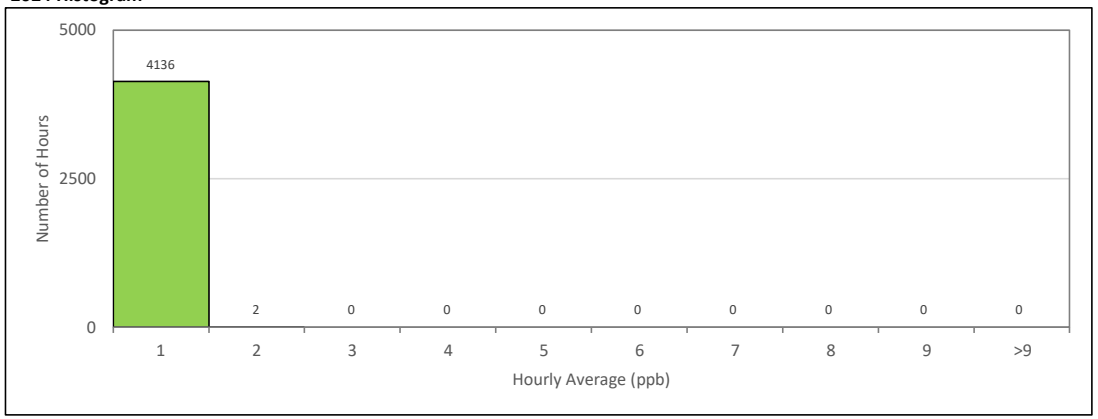
202430-Minute Data Graph



2024 Pollution Rose



2024 Histogram



986-C STATION
TOTAL HYDROCARBONS (THC) in parts per million (ppm)

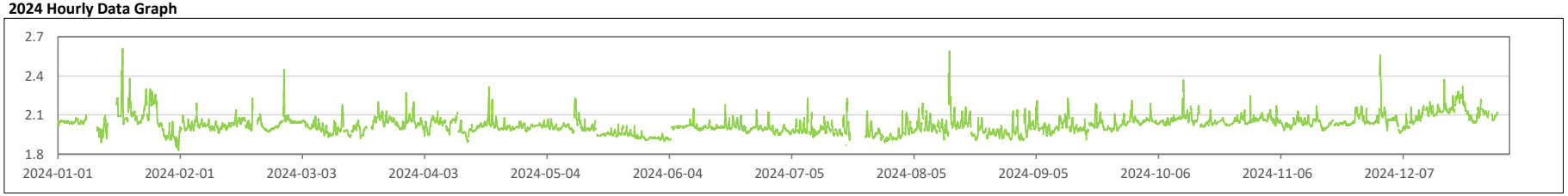
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 1-hr	Max. 1-hr	Max. 24-hr	Monthly Avg.	Percentage Readings in Concentration Range				
							0 - 2	3 - 5	6 - 10	11 - 40	>40
January	83.6	592	1.83	2.61	2.24	2.06	99.0%	1.0%	0.0%	0.0%	0.0%
February	95.7	631	1.96	2.45	2.13	2.03	99.7%	0.3%	0.0%	0.0%	0.0%
March	97.7	686	1.92	2.27	2.11	2.02	100.0%	0.0%	0.0%	0.0%	0.0%
April	99.9	683	1.89	2.31	2.09	2.02	100.0%	0.0%	0.0%	0.0%	0.0%
May	99.9	706	1.91	2.23	2.11	1.98	100.0%	0.0%	0.0%	0.0%	0.0%
June	100.0	682	1.90	2.18	2.04	2.00	100.0%	0.0%	0.0%	0.0%	0.0%
July	87.1	615	1.87	2.23	2.04	1.98	100.0%	0.0%	0.0%	0.0%	0.0%
August	100.0	707	1.91	2.59	2.15	2.00	99.4%	0.6%	0.0%	0.0%	0.0%
September	99.6	682	1.91	2.23	2.09	2.02	100.0%	0.0%	0.0%	0.0%	0.0%
October	99.2	701	2.01	2.37	2.16	2.06	100.0%	0.0%	0.0%	0.0%	0.0%
November	100.0	685	1.98	2.17	2.11	2.05	100.0%	0.0%	0.0%	0.0%	0.0%
December	95.7	674	1.96	2.56	2.25	2.11	99.1%	0.9%	0.0%	0.0%	0.0%
Annual	96.5	8044	1.83	2.61	2.25	2.03	99.8%	0.2%	0.0%	0.0%	0.0%

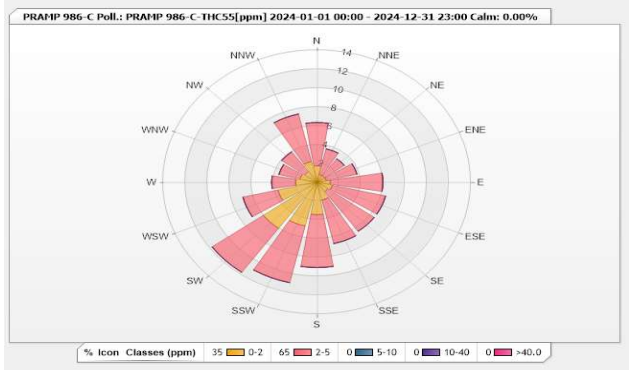
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
15	221	0	26	0	46	62	368	2
Total Hours of Downtime		308	Total Hours of Calibration		432	Total Hours of Flagged		740

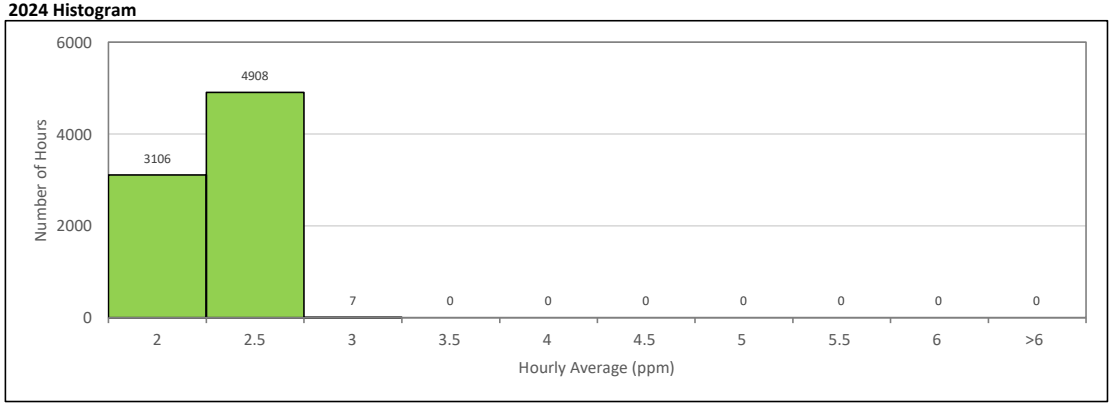
2024 Hourly Data Graph



2024 Pollution Rose



2024 Histogram



986-C STATION
METHANE (CH_4) in parts per million (ppm)

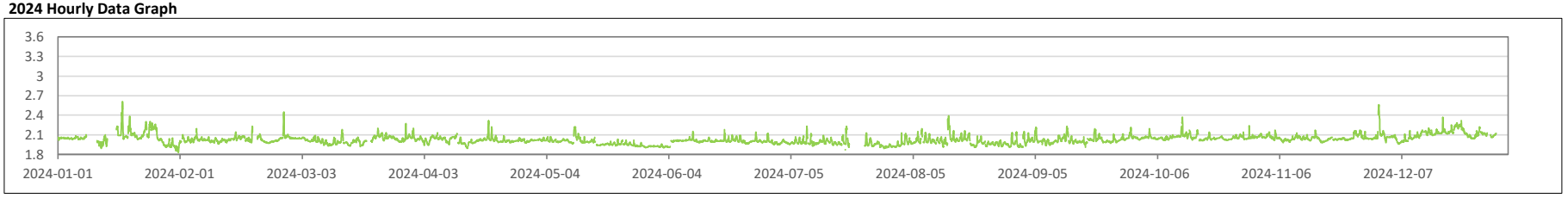
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 1-hr	Max. 1-hr	Max. 24-hr	Monthly Avg.	Percentage Readings in Concentration Range				
							0 - 2	3 - 5	6 - 10	11 - 20	>20
January	83.6	592	1.83	2.61	2.24	2.06	99.0%	1.0%	0.0%	0.0%	0.0%
February	95.7	631	1.96	2.45	2.13	2.03	99.7%	0.3%	0.0%	0.0%	0.0%
March	97.7	686	1.92	2.27	2.11	2.02	100.0%	0.0%	0.0%	0.0%	0.0%
April	99.9	683	1.89	2.31	2.09	2.02	100.0%	0.0%	0.0%	0.0%	0.0%
May	99.9	706	1.90	2.22	2.11	1.98	100.0%	0.0%	0.0%	0.0%	0.0%
June	100.0	682	1.90	2.18	2.04	2.00	100.0%	0.0%	0.0%	0.0%	0.0%
July	87.1	615	1.87	2.23	2.04	1.98	100.0%	0.0%	0.0%	0.0%	0.0%
August	100.0	707	1.91	2.39	2.13	2.00	100.0%	0.0%	0.0%	0.0%	0.0%
September	99.6	682	1.91	2.23	2.09	2.02	100.0%	0.0%	0.0%	0.0%	0.0%
October	99.2	701	2.01	2.37	2.16	2.06	100.0%	0.0%	0.0%	0.0%	0.0%
November	100.0	685	1.98	2.17	2.11	2.05	100.0%	0.0%	0.0%	0.0%	0.0%
December	95.7	674	1.96	2.56	2.25	2.11	99.1%	0.9%	0.0%	0.0%	0.0%
Annual	96.5	8044	1.83	2.61	2.25	2.03	99.8%	0.2%	0.0%	0.0%	0.0%

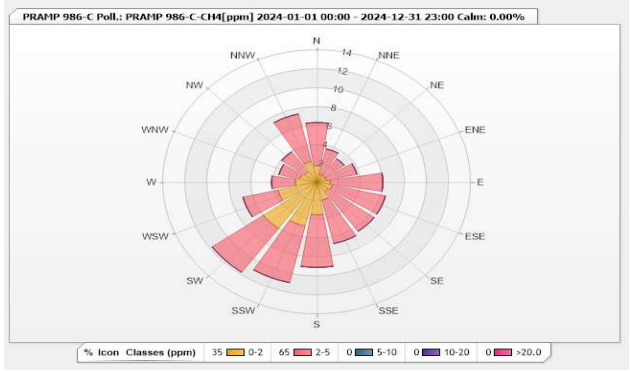
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
15	221	0	26	0	46	62	368	2
Total Hours of Downtime		308	Total Hours of Calibration		432	Total Hours of Flagged		740

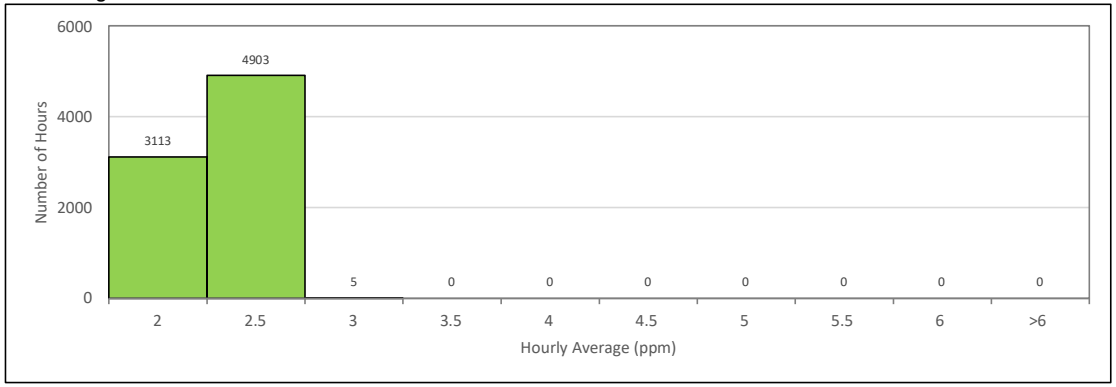
2024 Hourly Data Graph



2024 Pollution Rose



2024 Histogram



986-C STATION
NON-METHANE HYDROCARBONS (NMHC) in parts per million (ppm)

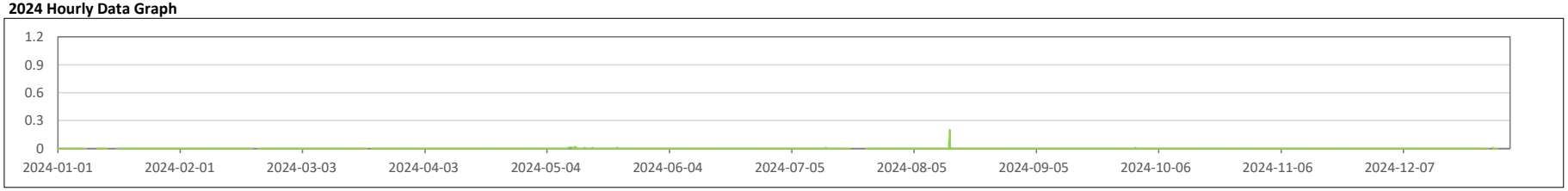
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 1-hr	Max. 1-hr	Max. 24-hr	Monthly Avg.	Percentage Readings in Concentration Range				
							0 - 0.1	0.2 - 0.3	0.4 - 0.9	1 -2	>2
January	83.6	592	0.00	0.00	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
February	95.7	631	0.00	0.00	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
March	97.7	686	0.00	0.00	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
April	99.9	683	0.00	0.00	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
May	99.9	706	0.00	0.02	0.01	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
June	100.0	682	0.00	0.00	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
July	87.1	615	0.00	0.01	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
August	100.0	707	0.00	0.20	0.02	0.00	99.7%	0.3%	0.0%	0.0%	0.0%
September	99.6	682	0.00	0.01	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
October	99.2	701	0.00	0.00	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
November	100.0	685	0.00	0.00	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
December	95.7	674	0.00	0.01	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	96.5	8044	0.00	0.20	0.02	0.00	100.0%	0.0%	0.0%	0.0%	0.0%

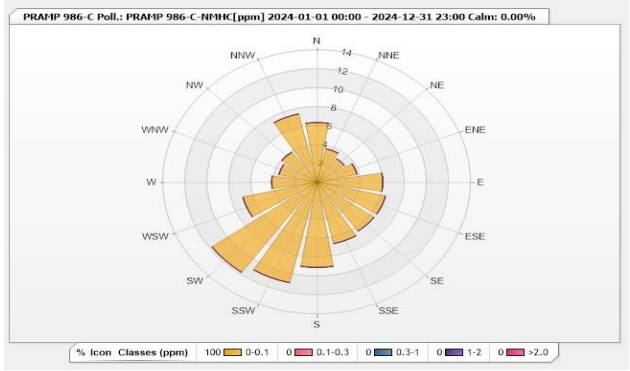
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
15	221	0	26	0	46	62	368	2
Total Hours of Downtime		308	Total Hours of Calibration		432	Total Hours of Flagged		740

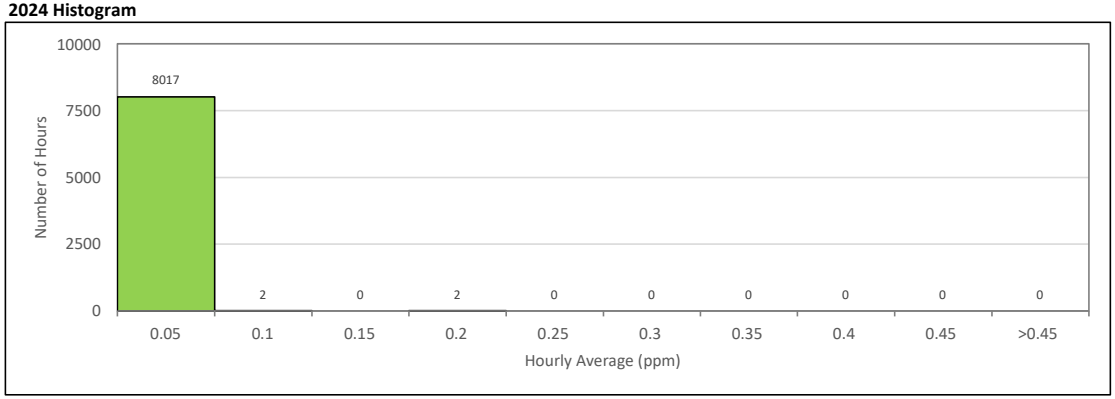
2024 Hourly Data Graph



2024 Pollution Rose



2024 Histogram



986-C STATION
RELATIVE HUMIDITY (RH) in percent (%)

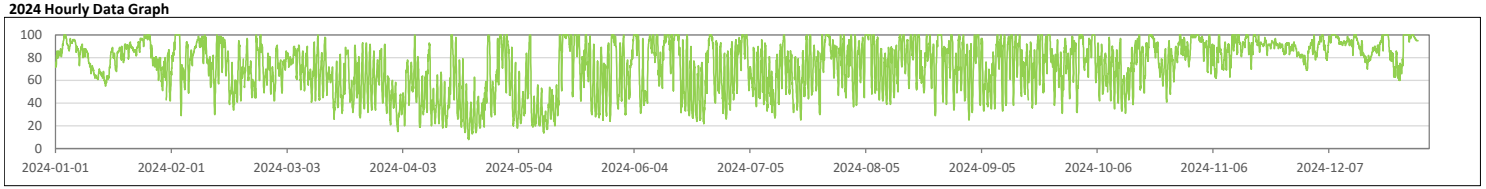
2024 Annual Continuous Data Summary

Month	Operational	# of Reading	Monthly Avg.	Min. 1-hr	Max. 1-hr	Max. 24-hr
January	99.6	741	81.0	42	100	99
February	99.1	690	74.3	29	100	100
March	100.0	744	63.8	21	100	81
April	100.0	720	49.1	8	100	90
May	100.0	744	59.6	14	100	99
June	100.0	720	70.3	22	100	99
July	99.6	741	71.7	25	100	99
August	100.0	744	77.0	29	100	99
September	99.4	716	73.6	25	100	93
October	99.3	739	77.6	31	100	99
November	100.0	720	88.9	62	100	99
December	100.0	744	89.8	60	100	100
Annual	99.8	8763	73.1	8	100	100

2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
14	0	1	6	0	0	0	0	0
Total Hours of Downtime	21		Total Hours of Calibration		0	Total Hours of Flagged		21

2024 Hourly Data Graph



986-C STATION
AMBIENT TEMPERATURE (AT) in degree celsius (°C)

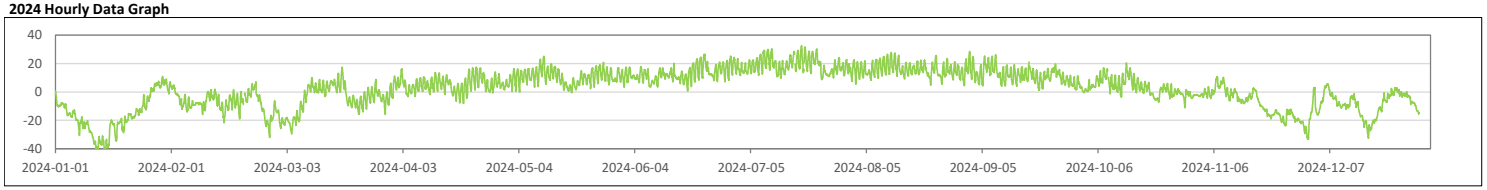
2024 Annual Continuous Data Summary

Month	Operational	# of Reading	Monthly Avg.	Min. 1-hr	Max. 1-hr	Max. 24-hr
January	99.6	741	-16.2	-39.9	10.9	6.9
February	99.1	690	-7.6	-32.0	7.2	3.3
March	100.0	744	-4.3	-29.3	17.6	8.8
April	100.0	720	5.4	-7.9	17.4	10.6
May	100.0	744	10.5	-0.5	25.3	18.2
June	100.0	720	13.0	0.7	26.6	20.2
July	99.6	741	18.9	8.8	32.7	24.5
August	100.0	744	15.9	4.5	27.8	20.5
September	99.4	716	12.1	1.4	28.5	19.6
October	99.3	739	3.2	-11.1	20.5	12.6
November	100.0	720	-7.9	-31.9	10.8	7.1
December	100.0	744	-9.1	-33.5	5.5	4.2
Annual	99.8	8763	2.8	-39.9	32.7	24.5

2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
14	64	1	6	0	0	0	0	0
Total Hours of Downtime	85		Total Hours of Calibration		0	Total Hours of Flagged		85

2024 Hourly Data Graph



986-C STATION
BAROMETRIC PRESSURE (BP) in millibar (mb)

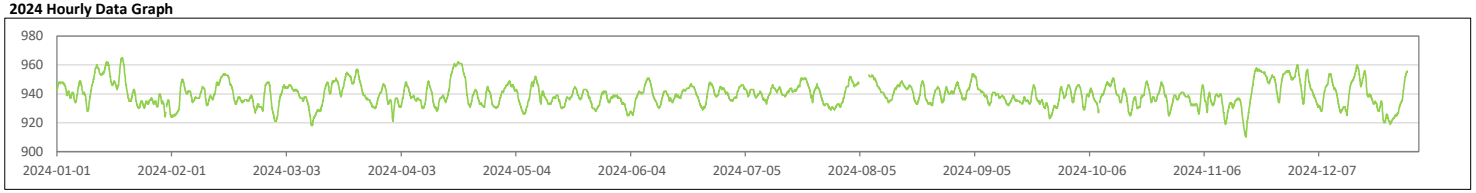
2024 Annual Continuous Data Summary

Month	Operational	# of Reading	Monthly Avg.	Min. 1-hr	Max. 1-hr	Max. 24-hr
January	99.6	741	942.4	924	965	963
February	99.1	690	938.1	921	954	953
March	100.0	744	940.1	918	957	954
April	100.0	720	940.0	927	962	961
May	100.0	744	938.1	926	952	950
June	100.0	720	938.7	925	951	950
July	99.6	741	940.0	929	951	950
August	91.4	680	942.5	932	953	952
September	99.4	716	937.8	923	954	952
October	99.3	739	938.5	925	951	949
November	100.0	720	940.0	910	958	957
December	100.0	744	939.5	919	960	958
Annual	99.0	8699	939.6	910	965	963

2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
14	0	1	6	0	0	0	0	0
Total Hours of Downtime		21	Total Hours of Calibration		0	Total Hours of Flagged		21

2024 Hourly Data Graph



986-C STATION
PRECIPITATION in millimeter (mm)

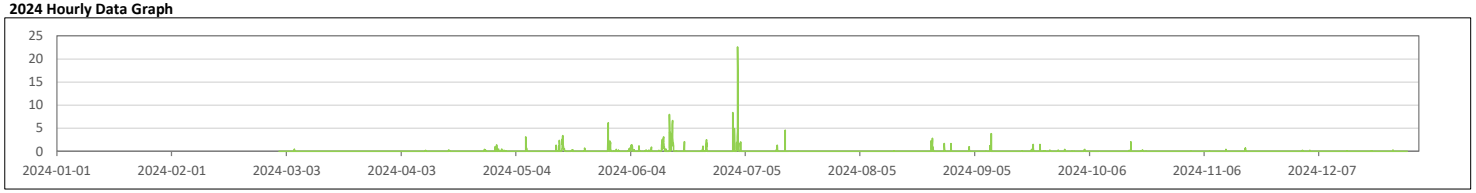
2024 Annual Continuous Data Summary

Month	Operational	# of Reading	Mthly Total	Min. 1-hr	Max. 1-hr	Max. 24-hr
January	0.0	0	N/A	N/A	N/A	N/A
February	0.0	0	N/A	N/A	N/A	N/A
March	100.0	744	0.4	0.0	0.4	0.4
April	100.0	720	7.5	0.0	1.4	3.0
May	100.0	744	66.5	0.0	6.2	17.6
June	100.0	720	119.2	0.0	8.0	40.5
July	99.6	741	88.3	0.0	22.6	43.8
August	99.9	743	16.6	0.0	2.8	12.8
September	99.6	717	15.6	0.0	3.8	5.9
October	99.3	739	5.0	0.0	2.0	2.2
November	100.0	720	2.6	0.0	0.7	1.6
December	100.0	744	1.3	0.0	0.3	0.4
Annual	83.2	7332	323.0	0.0	22.6	43.8

2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
11	0	0	0	0	1	0	0	0
Total Hours of Downtime		12	Total Hours of Calibration		0	Total Hours of Flagged		12

2024 Hourly Data Graph



986-C STATION
VECTOR WIND SPEED (VWS) in kilometer per hour (km/hr)

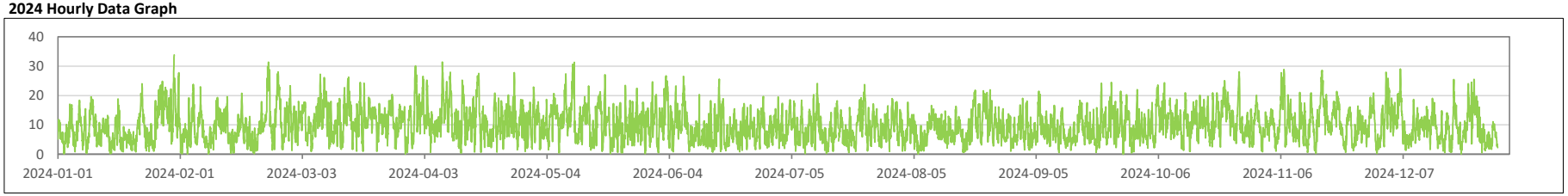
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 1-hr	Max. 1-hr	Max. 24-hr	Monthly Avg.	Percentage Readings in Concentration Range				
							0 - 6	7 - 15	16 - 29	30 -39	>39
January	99.6	741	0.1	33.8	17.6	1.1	38.3%	46.8%	14.4%	0.4%	0.0%
February	99.1	690	0.1	31.2	21.8	2.0	34.2%	50.9%	14.5%	0.4%	0.0%
March	100.0	744	0.2	30.1	17.8	3.0	18.4%	59.4%	21.9%	0.3%	0.0%
April	100.0	720	0.4	31.4	21.4	3.0	18.9%	56.1%	24.9%	0.1%	0.0%
May	100.0	744	0.2	31.3	21.6	1.0	23.8%	55.8%	20.0%	0.4%	0.0%
June	100.0	720	0.5	26.6	18.0	0.9	38.8%	49.4%	11.8%	0.0%	0.0%
July	99.6	741	0.2	24.1	15.8	4.4	36.2%	52.1%	11.7%	0.0%	0.0%
August	100.0	742	0.2	21.9	15.7	2.3	35.0%	57.1%	7.8%	0.0%	0.0%
September	99.3	715	0.0	24.5	13.0	5.4	35.5%	54.3%	10.2%	0.0%	0.0%
October	99.3	739	1.0	28.0	18.4	4.4	19.4%	60.2%	20.4%	0.0%	0.0%
November	100.0	720	0.3	28.9	22.3	1.1	25.0%	56.9%	18.1%	0.0%	0.0%
December	100.0	744	0.1	29.0	17.0	3.0	34.0%	50.4%	15.6%	0.0%	0.0%
Annual	99.7	8760	0.0	33.8	22.3	2.1	29.8%	54.1%	15.9%	0.1%	0.0%

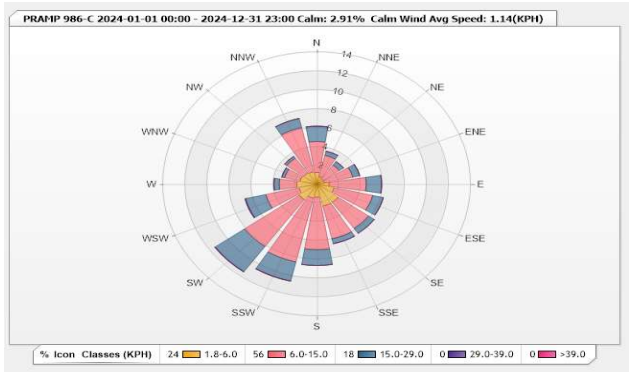
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
14	0	0	6	0	2	2	0	0
Total Hours of Downtime		22	Total Hours of Calibration		2	Total Hours of Flagged		24

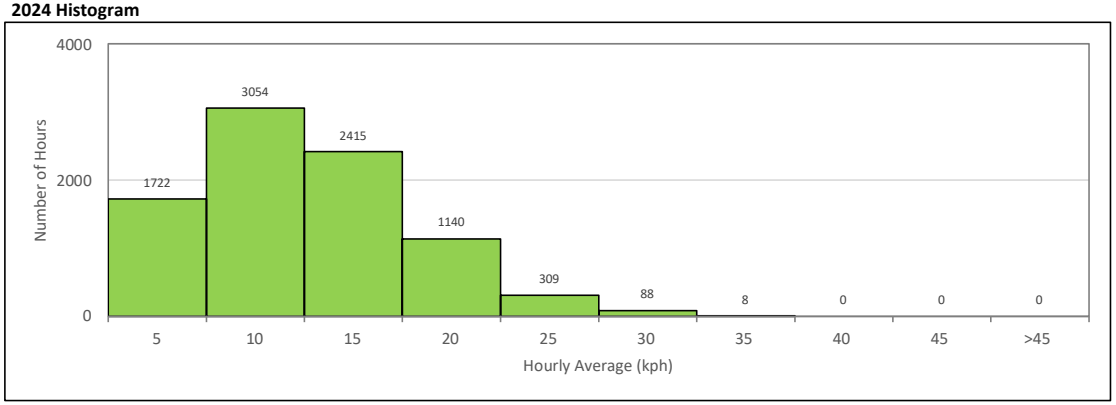
2024 Hourly Data Graph



2024 Wind Rose



2024 Histogram



1.2 842-B Station

1.2.1 Parameters Monitoring Summary

	SO2	TRS	THC55	CH4	NMHC	RH	BP	AT	PRECIP
	ppb	ppb	ppm	ppm	ppm	%RH	mb	°C	mm
Minimum	0	0.16	1.85	1.85	0.00	8	910	-39.7	0
Min Date	2024-01-01 00:00	2024-09-11 10:00	2024-08-20 15:00	2024-08-20 15:00	2024-01-01 00:00	2024-04-20 16:00	2024-11-17 02:00	2024-01-11 23:00	2024-03-01 0:00
Maximum	3	3.87	2.79	2.79	0	100	964	32.8	13.1
Max Date	2024-02-16 15:00	2024-07-24 04:00	2024-12-01 09:00	2024-12-01 09:00	2024-01-01 00:00	2024-07-13 21:00	2024-01-18 10:00	2024-07-19 15:00	2024-08-04 18:00
Average	0	0.66	1.99	1.99	0.00	72	939	3.1	351.4*
# of Reading	8279	8073	8206	8206	8206	8718	8707	8718	7294
Valid Data [%]	94.3	91.9	93.4	93.4	93.4	99.3	99.1	99.3	83.0
Operational Uptime [%]	99.3	96.9	98.4	98.4	98.4	99.3	99.1	99.3	82.8

	WDS	WDV
	KPH	Deg
Minimum	0.0	0
Min Date	2024-02-13 19:00	2024-01-03 08:00
Maximum	34.6	360
Max Date	2024-02-23 09:00	2024-04-17 04:00
Average	2.1	223
# of Reading	8717	8717
Valid Data [%]	99.2	99.2
Operational Uptime [%]	99.3	99.3

* Total amounts were presented on the table

1.2.2 Monitoring Parameters – Continuous Data Summary and Frequency Distribution

842-B STATION
SULPHUR DIOXIDE (SO_2) in parts per billion (ppb)

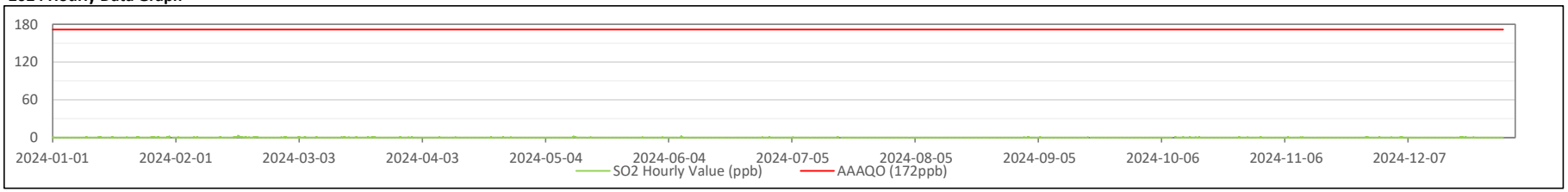
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 1-hr	Max. 1-hr	Max. 24-hr	Monthly Avg.	# of AAAQOExceedances				Percentage Readings in Concentration Range				
							1-hour	24-hour	30-day	Annual	0 - 10	11 -50	51 -100	101 - 172	>172
January	98.1	693	0	2	1	0.1	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
February	100.0	661	0	3	1	0.2	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
March	100.0	708	0	1	0	0.1	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
April	100.0	684	0	1	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
May	100.0	707	0	2	1	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
June	100.0	681	0	2	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
July	98.0	694	0	1	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
August	99.6	700	0	0	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
September	98.1	671	0	1	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
October	97.6	690	0	1	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
November	100.0	684	0	1	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
December	99.9	706	0	1	1	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	99.3	8279	0	3	1	0.0	0	0	0	0	100.0%	0.0%	0.0%	0.0%	0.0%

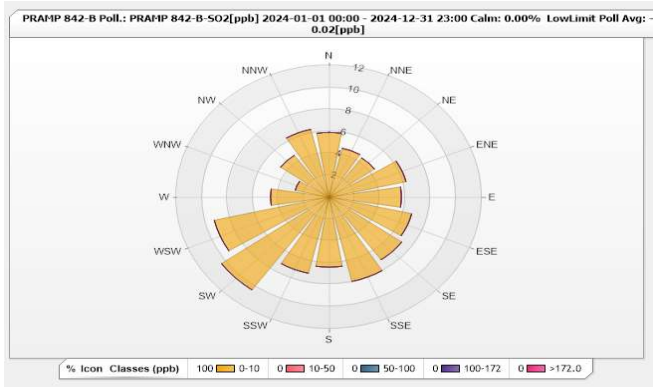
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
62	0	1	2	0	0	58	379	3
Total Hours of Downtime		65	Total Hours of Calibration		440	Total Hours of Flagged		505

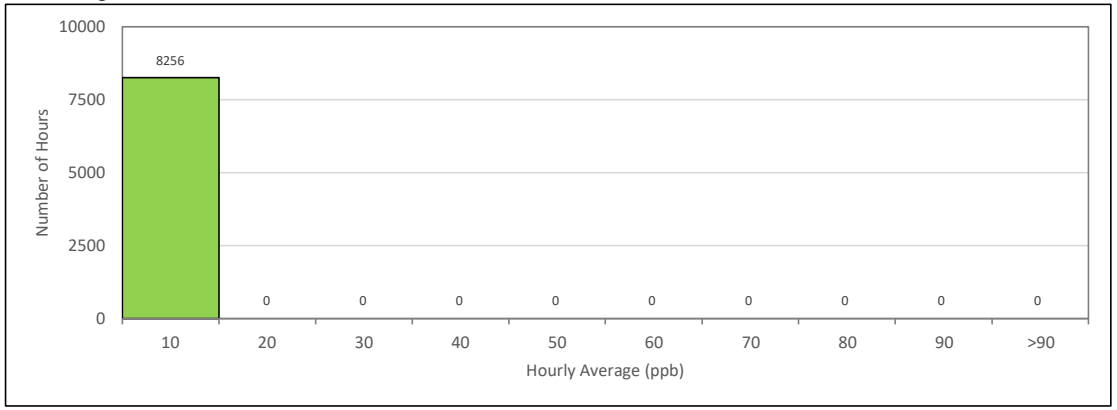
2024 Hourly Data Graph



2024 Pollution Rose



2024 Histogram



842-B STATION
TOTAL REDUCED SULPHUR (TRS) in parts per billion (ppb)

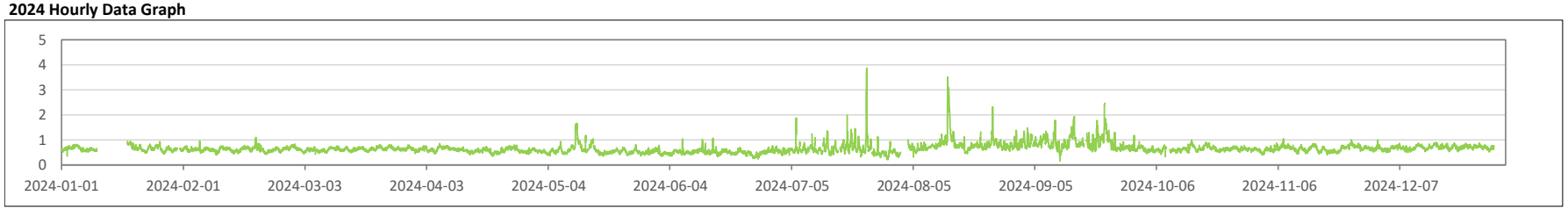
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 1-hr	Max. 1-hr	Max. 24-hr	Monthly Avg.	Percentage Readings in Concentration Range				
							0 - 2	3 - 5	6 - 10	11 - 50	>50
January	74.6	521	0.35	0.94	0.83	NA	100.0%	0.0%	0.0%	0.0%	0.0%
February	100.0	661	0.41	1.09	0.75	0.62	100.0%	0.0%	0.0%	0.0%	0.0%
March	100.0	708	0.43	0.81	0.73	0.62	100.0%	0.0%	0.0%	0.0%	0.0%
April	100.0	684	0.35	0.85	0.73	0.59	100.0%	0.0%	0.0%	0.0%	0.0%
May	100.0	707	0.36	1.66	1.23	0.58	100.0%	0.0%	0.0%	0.0%	0.0%
June	100.0	681	0.25	1.07	0.61	0.50	100.0%	0.0%	0.0%	0.0%	0.0%
July	98.0	693	0.22	3.87	1.20	0.64	99.6%	0.4%	0.0%	0.0%	0.0%
August	94.9	667	0.31	3.47	1.71	0.80	98.7%	1.3%	0.0%	0.0%	0.0%
September	98.1	671	0.16	2.46	1.34	0.88	99.7%	0.3%	0.0%	0.0%	0.0%
October	97.6	690	0.33	1.00	0.78	0.64	100.0%	0.0%	0.0%	0.0%	0.0%
November	100.0	684	0.41	1.03	0.83	0.65	100.0%	0.0%	0.0%	0.0%	0.0%
December	99.9	706	0.46	0.99	0.80	0.69	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	96.9	8073	0.16	3.87	1.71	0.66	99.8%	0.2%	0.0%	0.0%	0.0%

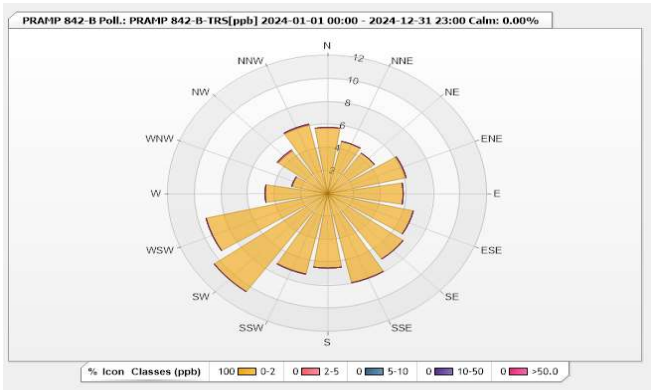
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
60	212	1	2	0	0	64	369	3
Total Hours of Downtime		275	Total Hours of Calibration		436	Total Hours of Flagged		711

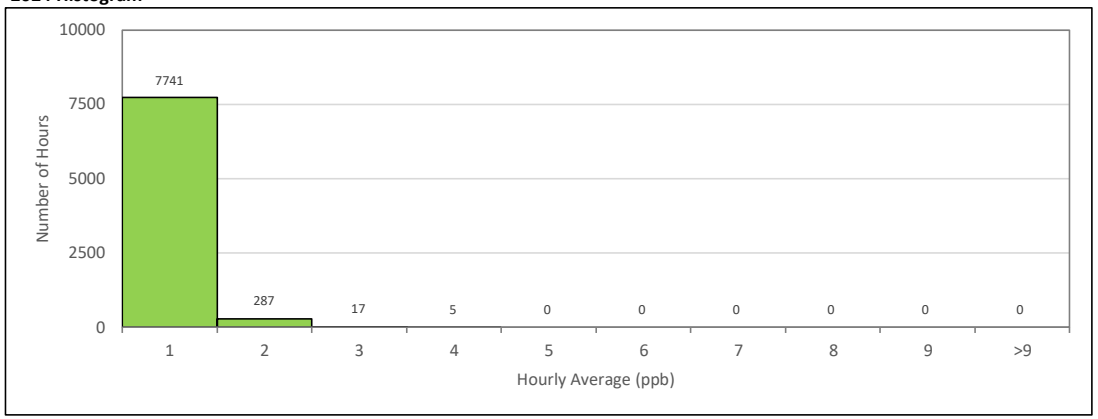
2024 Hourly Data Graph



2024 Pollution Rose



2024 Histogram



842-B STATION
TOTAL REDUCED SULPHUR (TRS) in parts per billion (ppb)

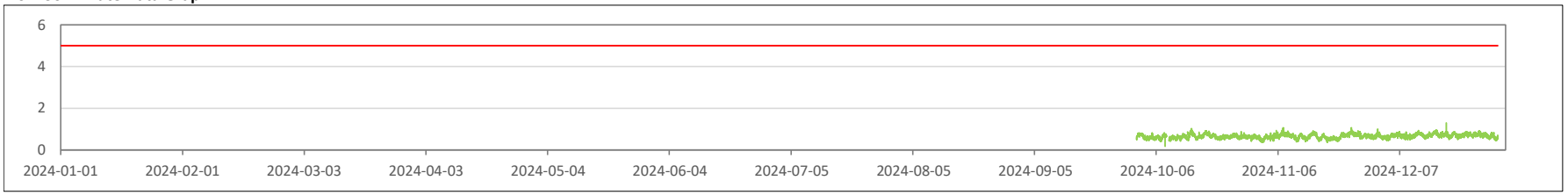
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 30-min	Max. 30-min	Max. 24-hr	Monthly Avg.	# of AAAQO 30-min	Percentage Readings in Concentration Range				
								0 - 2	3 - 5	6 - 10	11 - 50	>50
January	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
February	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
March	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
April	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
May	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
June	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
July	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
August	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
September	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
October	97.7	1381	0.18	1.03	0.78	0.64	0	100.0%	0.0%	0.0%	0.0%	0.0%
November	100.0	1368	0.36	1.07	0.83	0.65	0	100.0%	0.0%	0.0%	0.0%	0.0%
December	99.9	1414	0.44	1.29	0.80	0.69	0	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	99.2	4163	0.18	1.29	0.83	0.66	0	100.0%	0.0%	0.0%	0.0%	0.0%

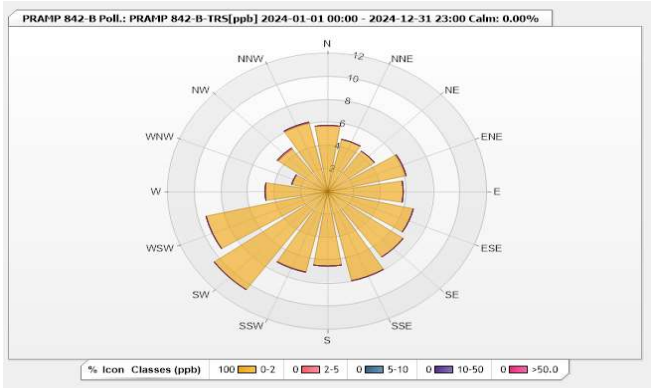
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
33	0	0	2	0	0	27	191	0
Total Hours of Downtime		0	Total Hours of Calibration		0	Total Hours of Flagged		0

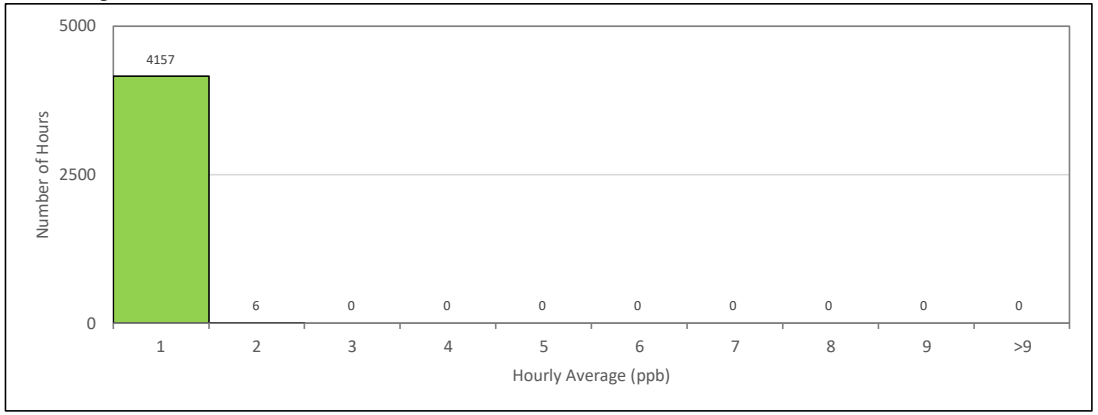
202430-Minute Data Graph



2024 Pollution Rose



2024 Histogram



842-B STATION
TOTAL HYDROCARBONS (THC) in parts per million (ppm)

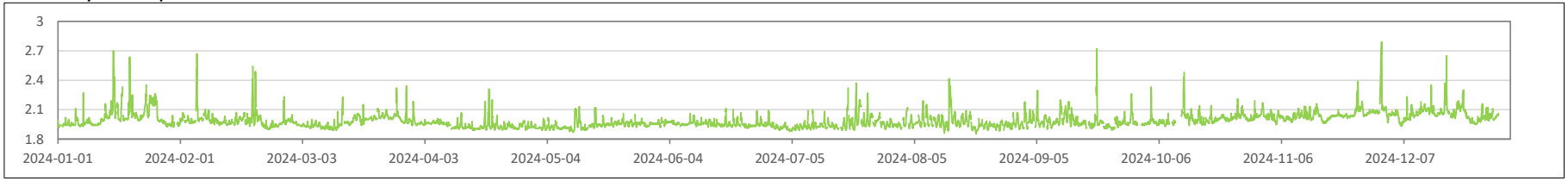
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 1-hr	Max. 1-hr	Max. 24-hr	Monthly Avg.	Percentage Readings in Concentration Range				
							0 - 2	3 - 5	6 - 10	11 - 40	>40
January	98.1	694	1.92	2.70	2.25	2.02	98.4%	1.6%	0.0%	0.0%	0.0%
February	100.0	661	1.90	2.66	2.13	1.99	98.9%	1.1%	0.0%	0.0%	0.0%
March	99.9	706	1.89	2.34	2.07	1.98	100.0%	0.0%	0.0%	0.0%	0.0%
April	100.0	684	1.89	2.31	2.00	1.94	100.0%	0.0%	0.0%	0.0%	0.0%
May	99.9	706	1.87	2.13	2.02	1.94	100.0%	0.0%	0.0%	0.0%	0.0%
June	99.3	676	1.90	2.11	1.98	1.96	100.0%	0.0%	0.0%	0.0%	0.0%
July	97.7	692	1.88	2.37	2.08	1.95	100.0%	0.0%	0.0%	0.0%	0.0%
August	98.1	692	1.85	2.41	2.10	1.97	99.9%	0.1%	0.0%	0.0%	0.0%
September	96.5	660	1.89	2.72	2.08	1.98	99.8%	0.2%	0.0%	0.0%	0.0%
October	91.1	645	1.93	2.48	2.13	2.01	99.5%	0.5%	0.0%	0.0%	0.0%
November	100.0	684	1.95	2.39	2.15	2.04	100.0%	0.0%	0.0%	0.0%	0.0%
December	99.9	706	1.93	2.79	2.32	2.06	98.4%	1.6%	0.0%	0.0%	0.0%
Annual	98.4	8206	1.85	2.79	2.32	1.99	99.6%	0.4%	0.0%	0.0%	0.0%

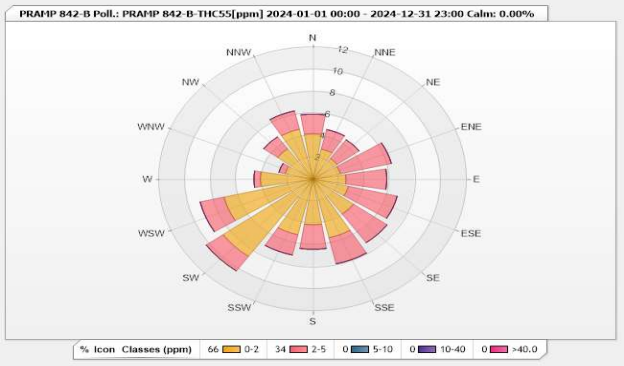
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
62	55	1	2	0	24	53	378	3
Total Hours of Downtime		144	Total Hours of Calibration		434	Total Hours of Flagged		578

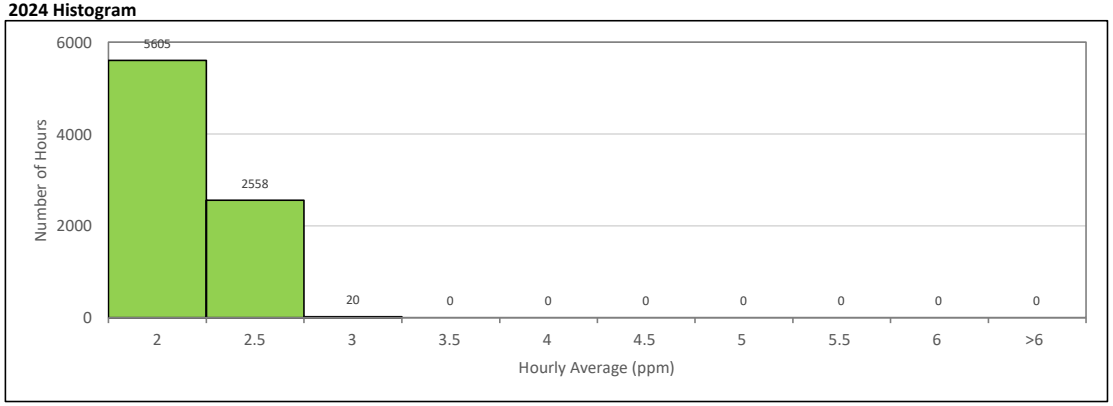
2024 Hourly Data Graph



2024 Pollution Rose



2024 Histogram



842-B STATION
METHANE (CH_4) in parts per million (ppm)

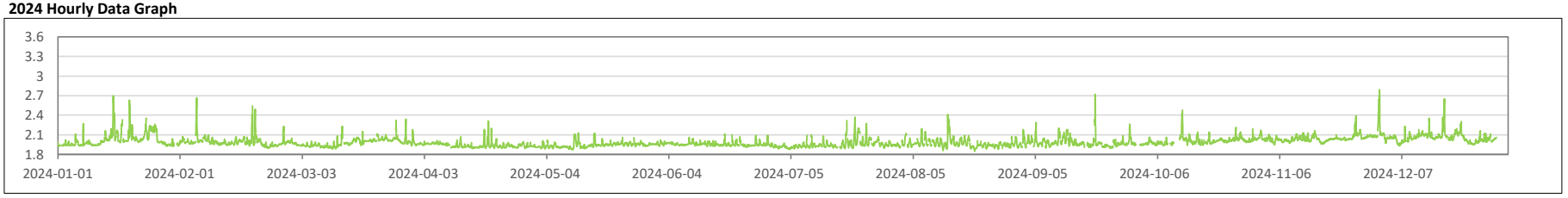
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 1-hr	Max. 1-hr	Max. 24-hr	Monthly Avg.	Percentage Readings in Concentration Range				
							0 - 2	3 - 5	6 - 10	11 - 20	>20
January	98.1	694	1.92	2.70	2.25	2.02	98.4%	1.6%	0.0%	0.0%	0.0%
February	100.0	661	1.90	2.66	2.13	1.99	98.9%	1.1%	0.0%	0.0%	0.0%
March	99.9	706	1.89	2.34	2.07	1.98	100.0%	0.0%	0.0%	0.0%	0.0%
April	100.0	684	1.89	2.31	2.00	1.94	100.0%	0.0%	0.0%	0.0%	0.0%
May	99.9	706	1.87	2.13	2.02	1.94	100.0%	0.0%	0.0%	0.0%	0.0%
June	99.3	676	1.90	2.11	1.98	1.96	100.0%	0.0%	0.0%	0.0%	0.0%
July	97.7	692	1.88	2.37	2.08	1.95	100.0%	0.0%	0.0%	0.0%	0.0%
August	98.1	692	1.85	2.41	2.10	1.97	99.9%	0.1%	0.0%	0.0%	0.0%
September	96.5	660	1.89	2.72	2.08	1.98	99.8%	0.2%	0.0%	0.0%	0.0%
October	91.1	645	1.93	2.48	2.13	2.01	99.5%	0.5%	0.0%	0.0%	0.0%
November	100.0	684	1.95	2.39	2.15	2.04	100.0%	0.0%	0.0%	0.0%	0.0%
December	99.9	706	1.93	2.79	2.32	2.06	98.4%	1.6%	0.0%	0.0%	0.0%
Annual	98.4	8206	1.85	2.79	2.32	1.99	99.6%	0.4%	0.0%	0.0%	0.0%

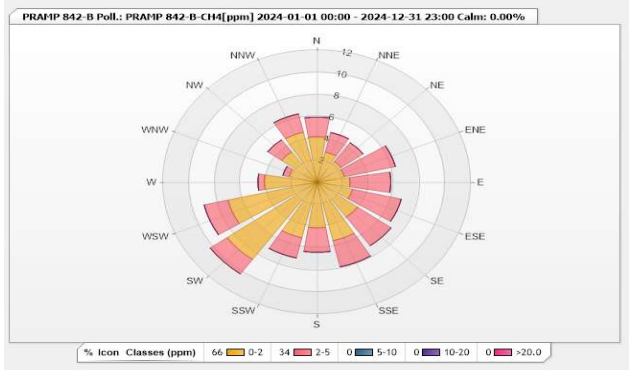
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
62	55	1	2	0	24	53	378	3
Total Hours of Downtime		144	Total Hours of Calibration		434	Total Hours of Flagged		578

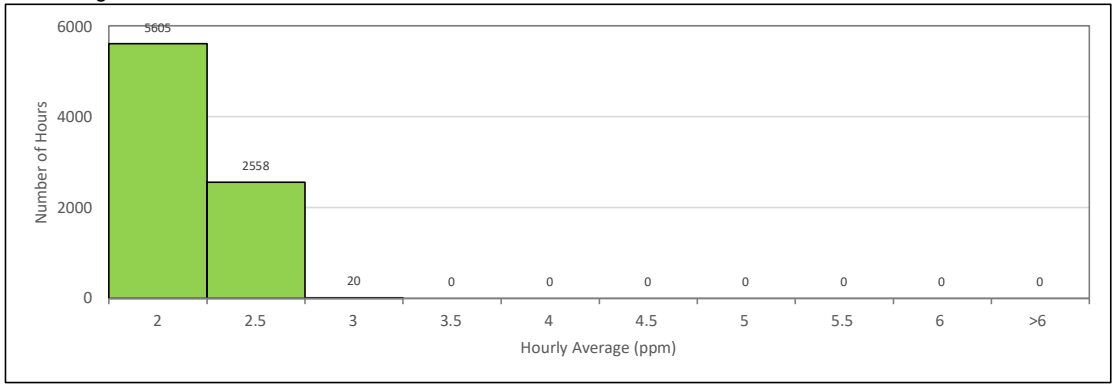
2024 Hourly Data Graph



2024 Pollution Rose



2024 Histogram



842-B STATION
NON-METHANE HYDROCARBONS (NMHC) in parts per million (ppm)

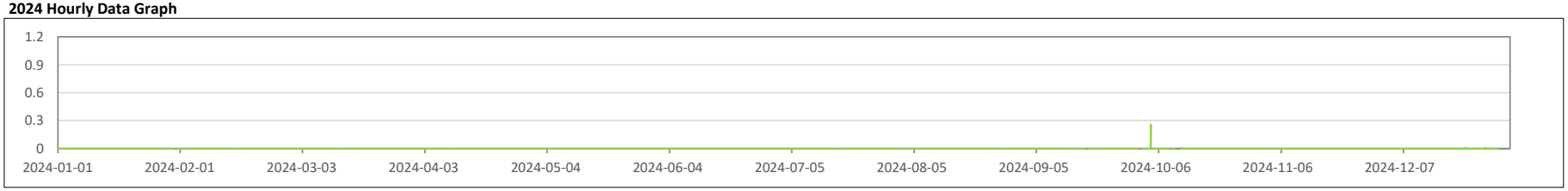
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 1-hr	Max. 1-hr	Max. 24-hr	Monthly Avg.	Percentage Readings in Concentration Range				
							0 - 0.1	0.2 - 0.3	0.4 - 0.9	1 -2	>2
January	98.1	694	0.00	0.00	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
February	100.0	661	0.00	0.00	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
March	99.9	706	0.00	0.00	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
April	100.0	684	0.00	0.00	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
May	99.9	706	0.00	0.00	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
June	99.3	676	0.00	0.00	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
July	97.7	692	0.00	0.00	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
August	98.1	692	0.00	0.00	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
September	96.5	660	0.00	0.00	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
October	91.1	645	0.00	0.00	0.00	0.00	99.8%	0.2%	0.0%	0.0%	0.0%
November	100.0	684	0.00	0.00	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
December	99.9	706	0.00	0.01	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	98.4	8206	0.00	0.01	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%

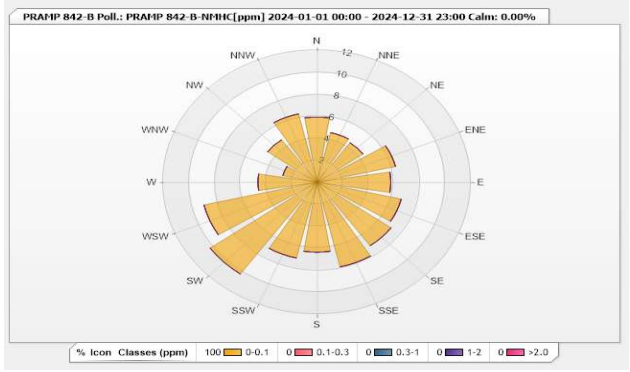
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
62	55	1	2	0	24	53	378	3
Total Hours of Downtime		144	Total Hours of Calibration		434	Total Hours of Flagged		578

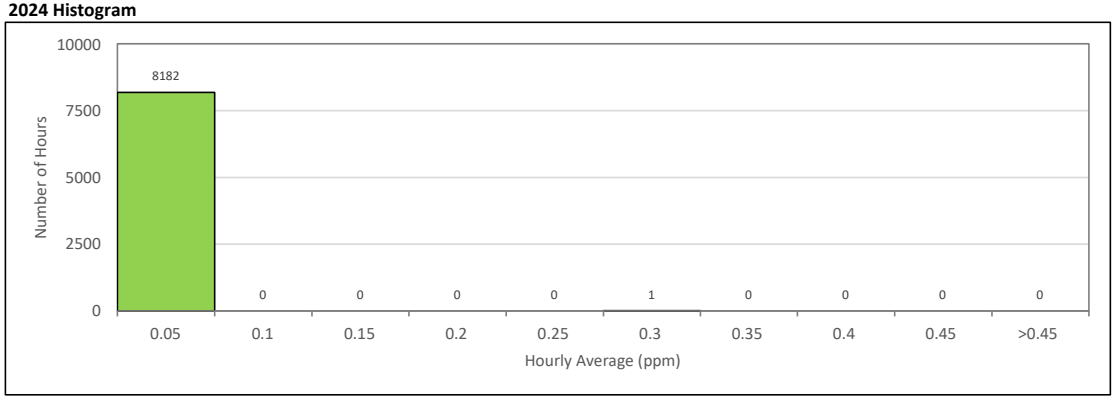
2024 Hourly Data Graph



2024 Pollution Rose



2024 Histogram



842-B STATION
RELATIVE HUMIDITY (RH) in percent (%)

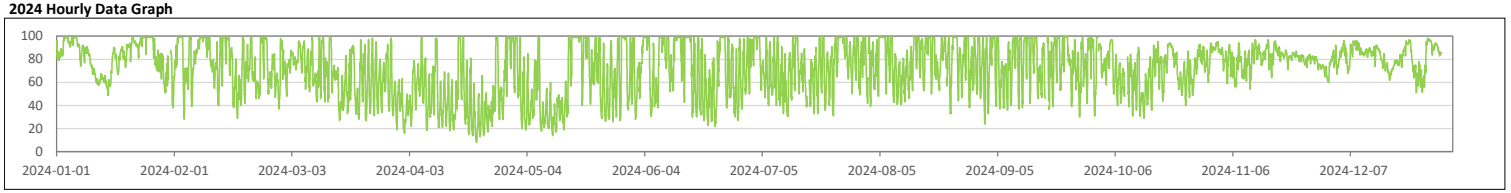
2024 Annual Continuous Data Summary

Month	Operational	# of Reading	Monthly Avg.	Min. 1-hr	Max. 1-hr	Max. 24-hr
January	98.1	730	82.2	38	99	99
February	100.0	696	76.5	28	99	99
March	100.0	744	64.8	19	99	84
April	100.0	720	50.0	8	99	91
May	100.0	744	60.3	14	99	99
June	100.0	720	71.1	22	99	99
July	98.0	729	74.0	31	100	99
August	99.6	741	77.8	33	100	99
September	97.9	705	76.5	24	100	95
October	97.4	725	70.7	29	99	93
November	100.0	720	80.7	54	97	91
December	100.0	744	81.7	51	98	96
Annual	99.3	8718	72.2	8	100	99

2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
62	0	2	0	0	2	0	0	0
Total Hours of Downtime		66	Total Hours of Calibration		0	Total Hours of Flagged		66

2024 Hourly Data Graph



842-B STATION
AMBIENT TEMPERATURE (AT) in degree celsius (°C)

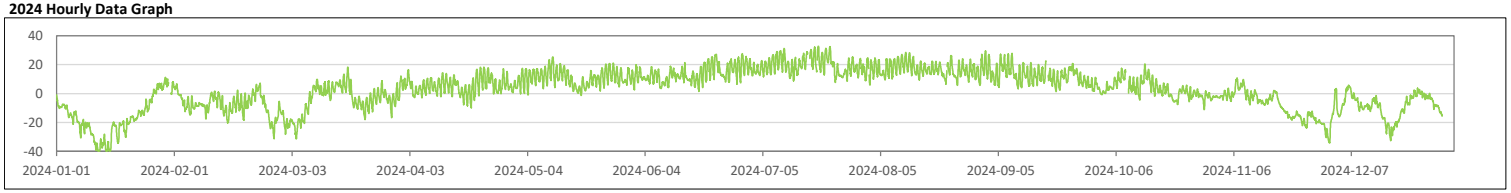
2024 Annual Continuous Data Summary

Month	Operational	# of Reading	Monthly Avg.	Min. 1-hr	Max. 1-hr	Max. 24-hr
January	98.1	730	-16.4	-39.7	11.2	7.5
February	100.0	696	-7.7	-31.2	7.3	4.0
March	100.0	744	-4.2	-31.4	18.3	9.5
April	100.0	720	5.6	-9.7	18.4	11.2
May	100.0	744	10.9	-1.2	25.4	18.3
June	100.0	720	13.7	1.5	27.7	21.6
July	98.0	729	19.4	7.8	32.8	26.3
August	99.6	741	16.9	5.8	28.5	22.0
September	97.9	705	12.7	1.4	29.6	20.3
October	97.4	725	3.1	-11.2	20.3	12.9
November	100.0	720	-8.1	-32.1	10.7	6.4
December	100.0	744	-9.2	-34.1	5.8	4.2
Annual	99.3	8718	3.1	-39.7	32.8	26.3

2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
62	13	2	0	0	0	0	0	0
Total Hours of Downtime		77	Total Hours of Calibration		0	Total Hours of Flagged		77

2024 Hourly Data Graph



842-B STATION
BAROMETRIC PRESSURE (BP) in millibar (mb)

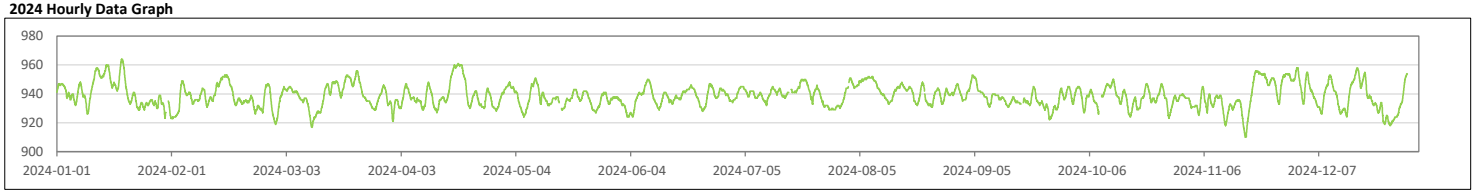
2024 Annual Continuous Data Summary

Month	Operational	# of Reading	Monthly Avg.	Min. 1-hr	Max. 1-hr	Max. 24-hr
January	98.1	730	941.3	923	964	962
February	100.0	696	937.0	919	953	952
March	100.0	744	939.1	917	956	952
April	100.0	720	939.0	926	961	960
May	98.3	731	937.2	924	951	949
June	100.0	720	937.7	924	950	949
July	98.0	729	939.1	929	950	950
August	99.6	741	942.3	931	952	951
September	97.9	705	937.0	922	953	951
October	97.7	727	937.5	923	950	948
November	100.0	720	938.8	910	957	955
December	100.0	744	938.3	918	958	956
Annual	99.1	8707	938.7	910	964	962

2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
62	0	2	0	0	2	0	0	0
Total Hours of Downtime	66	Total Hours of Calibration		0	Total Hours of Flagged		66	

2024 Hourly Data Graph



842-B STATION
PRECIPITATION in millimeter (mm)

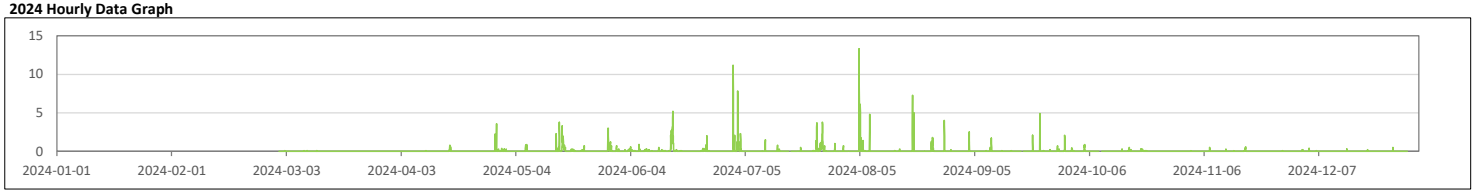
2024 Annual Continuous Data Summary

Month	Operational	# of Reading	Mthly Total	Min. 1-hr	Max. 1-hr	Max. 24-hr
January	0.0	0	N/A	N/A	N/A	N/A
February	0.0	0	N/A	N/A	N/A	N/A
March	100.0	744	0.4	0.0	0.1	0.1
April	100.0	720	12.2	0.0	3.6	6.9
May	100.0	744	59.6	0.0	3.7	16.2
June	100.0	720	55.1	0.0	5.2	33.9
July	98.0	728	95.0	0.0	11.2	24.0
August	99.6	741	89.5	0.0	13.1	30.0
September	98.1	706	23.0	0.0	4.9	6.2
October	97.7	727	9.8	0.0	0.9	4.1
November	100.0	720	4.2	0.0	0.6	2.2
December	100.0	744	2.6	0.0	0.5	0.9
Annual	82.8	7294	351.4	0.0	13.1	33.9

2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
48	0	1	0	0	0	1	0	0
Total Hours of Downtime	49	Total Hours of Calibration		1	Total Hours of Flagged		50	

2024 Hourly Data Graph



842-B STATION
VECTOR WIND SPEED (VWS) in kilometer per hour (km/hr)

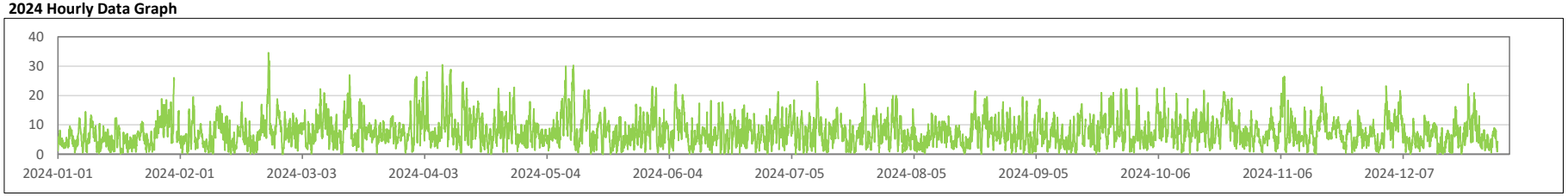
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 1-hr	Max. 1-hr	Max. 24-hr	Monthly Avg.	Percentage Readings in Concentration Range				
							0 - 6	7 - 15	16 - 29	30 -39	>39
January	98.1	730	0.1	26.1	12.8	0.7	62.1%	35.8%	2.2%	0.0%	0.0%
February	100.0	696	0.0	34.6	20.2	1.9	50.3%	44.4%	4.5%	0.9%	0.0%
March	100.0	744	0.1	27.0	16.4	1.8	37.6%	53.9%	8.5%	0.0%	0.0%
April	100.0	720	0.0	30.5	17.3	3.7	37.2%	47.1%	15.4%	0.3%	0.0%
May	100.0	744	0.0	30.3	19.2	2.9	42.1%	46.5%	11.2%	0.3%	0.0%
June	100.0	720	0.1	23.8	14.7	1.7	49.4%	45.7%	4.9%	0.0%	0.0%
July	98.0	729	0.0	24.7	14.7	4.5	40.1%	52.8%	7.1%	0.0%	0.0%
August	99.6	739	0.1	21.5	13.7	1.8	51.3%	46.0%	2.7%	0.0%	0.0%
September	97.8	704	0.1	22.6	12.0	4.5	49.3%	42.8%	8.0%	0.0%	0.0%
October	97.7	727	0.2	22.6	17.3	3.8	36.9%	54.2%	8.9%	0.0%	0.0%
November	100.0	720	0.2	26.4	20.0	0.9	49.3%	44.2%	6.5%	0.0%	0.0%
December	100.0	744	0.1	23.9	13.9	2.5	53.2%	42.3%	4.4%	0.0%	0.0%
Annual	99.3	8717	0.0	34.6	20.2	2.1	46.6%	46.3%	7.0%	0.1%	0.0%

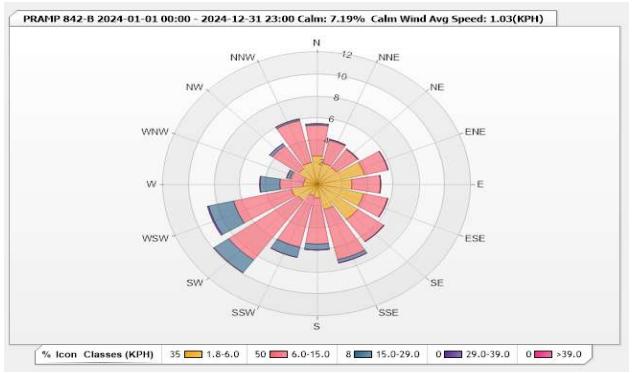
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
62	0	1	0	0	2	2	0	0
Total Hours of Downtime		65	Total Hours of Calibration		2	Total Hours of Flagged		67

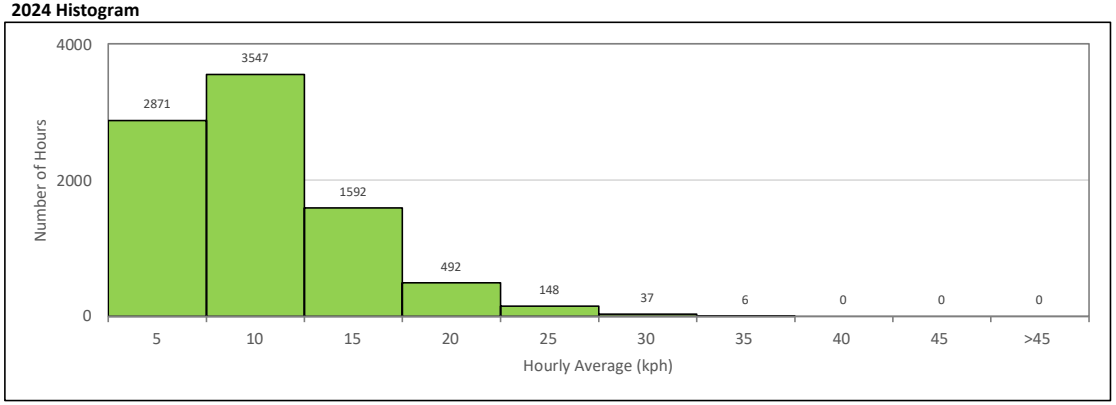
2024 Hourly Data Graph



2024 Wind Rose



2024 Histogram



1.3 Reno Station

1.3.1 Parameters Monitoring Summary

	SO2	TRS	THC55	CH4	NMHC	RH	BP	AT	PRECIP
	ppb	ppb	ppm	ppm	ppm	%RH	mb	°C	mm
Minimum	0	0.19	1.84	1.84	0.00	9	910	-39.9	0
Min Date	2024-01-01 00:00	2024-11-07 11:00	2024-07-15 15:00	2024-07-15 15:00	2024-01-01 00:00	2024-04-20 16:00	2024-11-17 02:00	2024-01-14 06:00	2024-03-01 0:00
Maximum	3	4.41	4.11	3.83	0.54	100	964	32.8	14.0
Max Date	2024-02-16 22:00	2024-07-21 02:00	2024-11-22 05:00	2024-11-22 05:00	2024-08-14 02:00	2024-01-02 15:00	2024-01-18 10:00	2024-07-18 16:00	2024-06-23 16:00
Average	0	0.43	1.99	1.99	0.00	72	938	2.9	295.2*
# of Reading	8295	8295	7374	7374	7374	8730	8730	8730	7306
Valid Data [%]	94.4	94.4	84.0	84.0	84.0	99.4	99.4	99.4	83.2
Operational Uptime [%]	99.4	99.4	88.3	88.3	88.3	99.4	99.4	99.4	82.9

	WDS	WDV
	KPH	Deg
Minimum	0.0	0
Min Date	2024-02-08 06:00	2024-01-06 06:00
Maximum	52.7	360
Max Date	2024-05-10 16:00	2024-01-06 04:00
Average	2.3	220
# of Reading	8728	8728
Valid Data [%]	99.4	99.4
Operational Uptime [%]	99.4	99.4

* Total amounts were presented on the table

1.3.2 Monitoring Parameters – Continuous Data Summary and Frequency Distribution

Reno-B STATION
SULPHUR DIOXIDE (SO_2) in parts per billion (ppb)

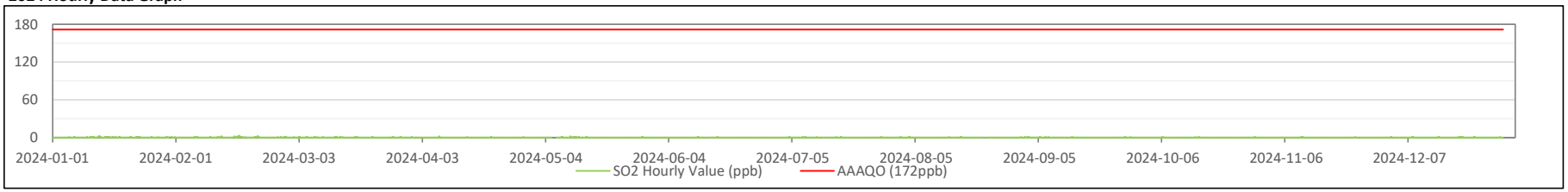
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 1-hr	Max. 1-hr	Max. 24-hr	Monthly Avg.	# of AAAQOExceedances				Percentage Readings in Concentration Range				
							1-hour	24-hour	30-day	Annual	0 - 10	11 -50	51 -100	101 - 172	>172
January	98.1	693	0	2	1	0.1	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
February	100.0	661	0	3	1	0.2	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
March	99.9	707	0	1	0	0.1	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
April	99.3	680	0	2	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
May	96.5	680	0	2	1	0.1	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
June	99.7	680	0	1	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
July	100.0	707	0	1	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
August	99.7	704	0	1	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
September	99.9	683	0	1	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
October	100.0	708	0	1	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
November	100.0	683	0	1	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
December	100.0	709	0	1	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	99.4	8295	0	3	1	0.0	0	0	0	0	100.0%	0.0%	0.0%	0.0%	0.0%

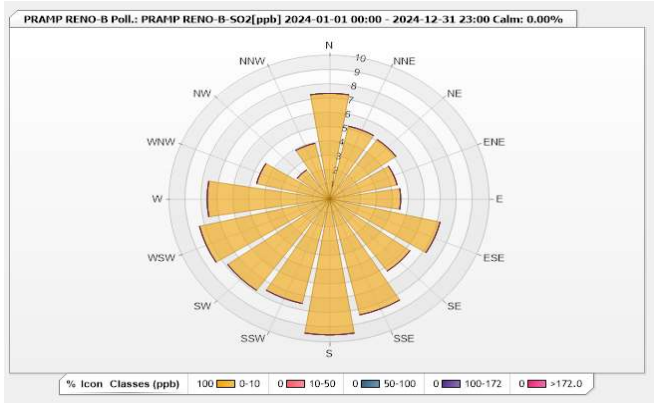
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
14	0	0	34	0	3	57	378	3
Total Hours of Downtime		51	Total Hours of Calibration		438	Total Hours of Flagged		489

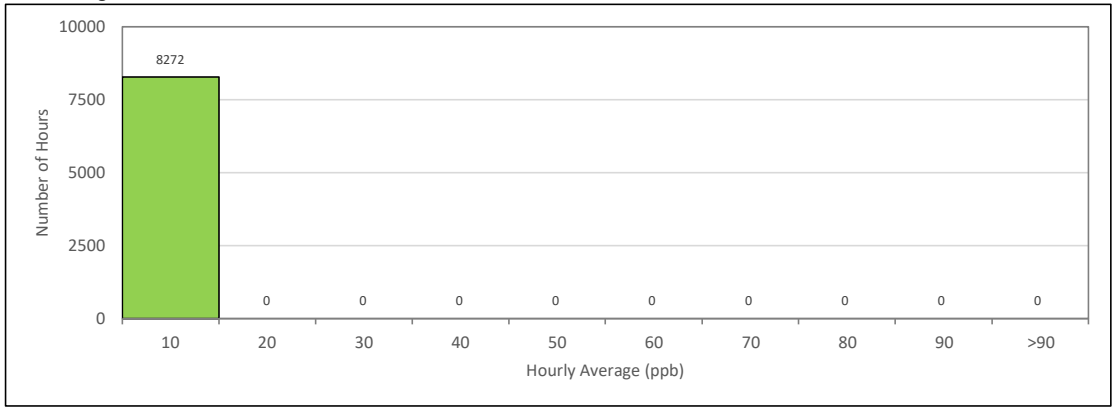
2024 Hourly Data Graph



2024 Pollution Rose



2024 Histogram



Reno-B STATION
TOTAL REDUCED SULPHUR (TRS) in parts per billion (ppb)

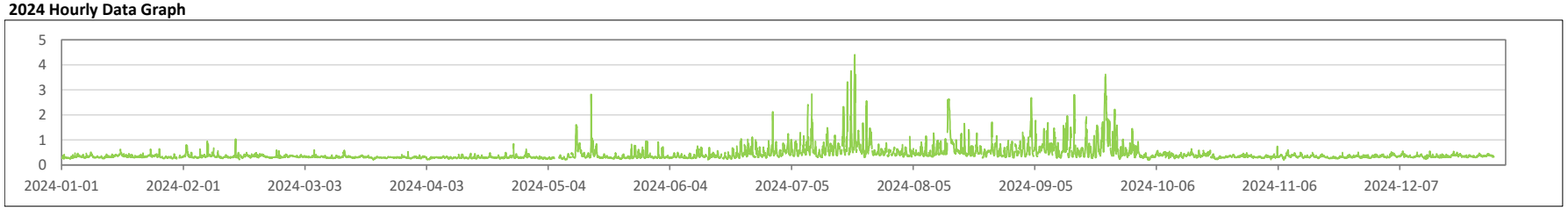
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 1-hr	Max. 1-hr	Max. 24-hr	Monthly Avg.	Percentage Readings in Concentration Range				
							0 - 2	3 - 5	6 - 10	11 - 50	>50
January	98.1	693	0.24	0.64	0.41	0.33	100.0%	0.0%	0.0%	0.0%	0.0%
February	100.0	661	0.21	1.04	0.47	0.35	100.0%	0.0%	0.0%	0.0%	0.0%
March	99.9	707	0.20	0.60	0.36	0.31	100.0%	0.0%	0.0%	0.0%	0.0%
April	99.3	680	0.22	0.84	0.38	0.30	100.0%	0.0%	0.0%	0.0%	0.0%
May	96.5	680	0.20	2.82	0.99	0.37	99.9%	0.1%	0.0%	0.0%	0.0%
June	99.7	680	0.21	2.12	0.74	0.40	100.0%	0.0%	0.0%	0.0%	0.0%
July	100.0	707	0.31	4.41	1.55	0.69	98.3%	1.7%	0.0%	0.0%	0.0%
August	99.7	704	0.28	2.63	1.57	0.58	99.0%	1.0%	0.0%	0.0%	0.0%
September	99.9	683	0.24	3.62	1.88	0.74	98.1%	1.9%	0.0%	0.0%	0.0%
October	100.0	708	0.21	0.93	0.52	0.36	100.0%	0.0%	0.0%	0.0%	0.0%
November	100.0	683	0.19	0.74	0.43	0.33	100.0%	0.0%	0.0%	0.0%	0.0%
December	100.0	709	0.24	0.55	0.41	0.35	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	99.4	8295	0.19	4.41	1.88	0.43	99.6%	0.4%	0.0%	0.0%	0.0%

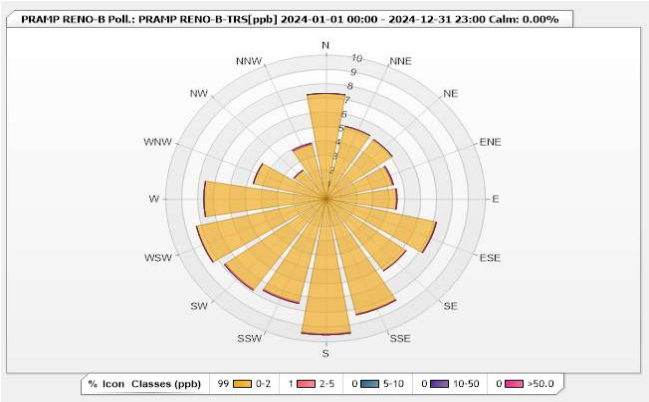
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
14	0	0	34	0	3	53	382	3
Total Hours of Downtime		51	Total Hours of Calibration		438	Total Hours of Flagged		489

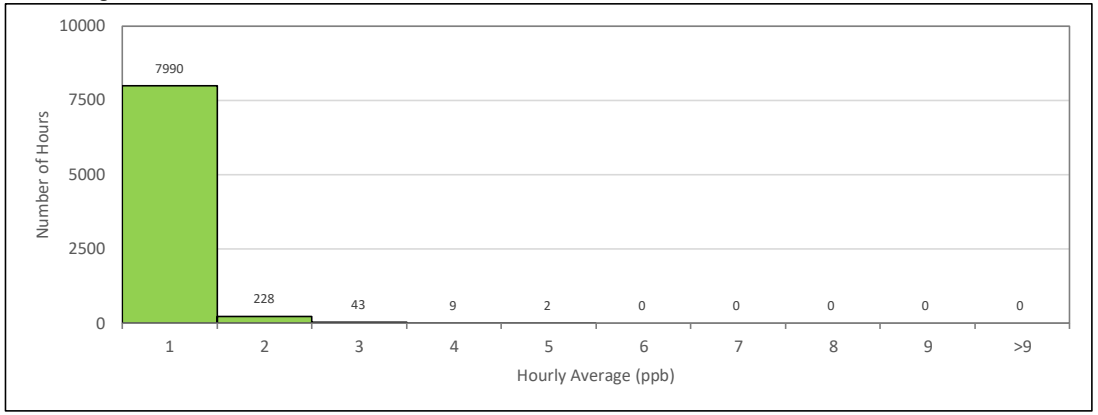
2024 Hourly Data Graph



2024 Pollution Rose



2024 Histogram



Reno-B STATION
TOTAL REDUCED SULPHUR (TRS) in parts per billion (ppb)

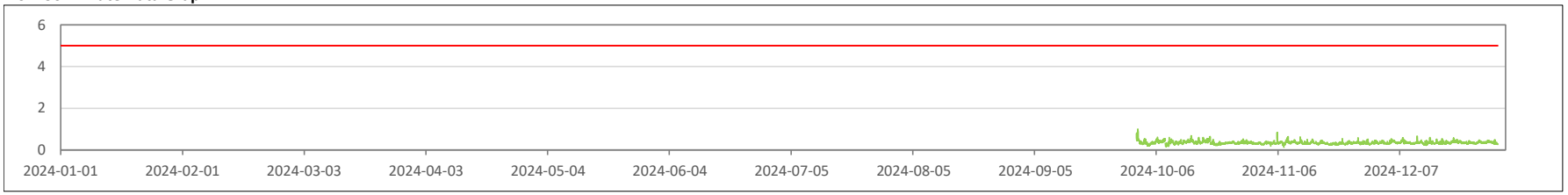
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 30-min	Max. 30-min	Max. 24-hr	Monthly Avg.	# of AAAQO 30-min	Percentage Readings in Concentration Range				
								0 - 2	3 - 5	6 - 10	11 - 50	>50
January	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
February	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
March	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
April	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
May	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
June	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
July	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
August	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
September	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
October	99.9	1416	0.16	0.99	0.52	0.36	0	100.0%	0.0%	0.0%	0.0%	0.0%
November	100.0	1367	0.14	0.84	0.43	0.33	0	100.0%	0.0%	0.0%	0.0%	0.0%
December	100.0	1418	0.23	0.66	0.42	0.35	0	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	25.0	4201	0.00	0.99	0.52	0.09	0	100.0%	0.0%	0.0%	0.0%	0.0%

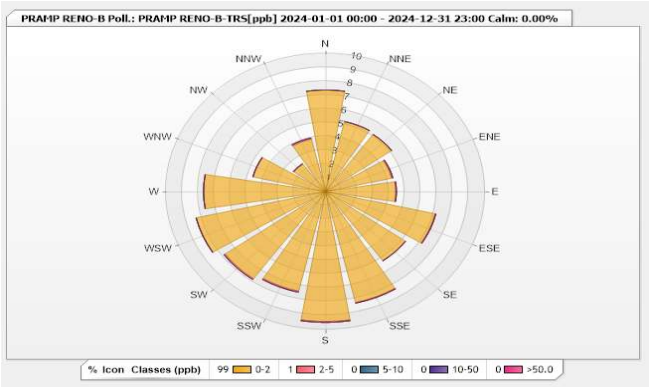
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
0	0	0	1	0	0	26	188	0
Total Hours of Downtime		0	Total Hours of Calibration		0	Total Hours of Flagged		0

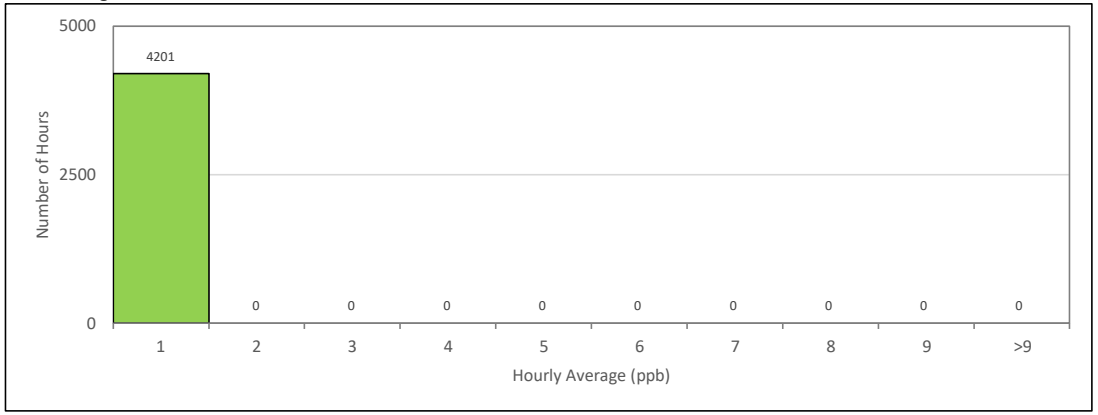
202430-Minute Data Graph



2024 Pollution Rose



2024 Histogram



Reno-B STATION
TOTAL HYDROCARBONS (THC) in parts per million (ppm)

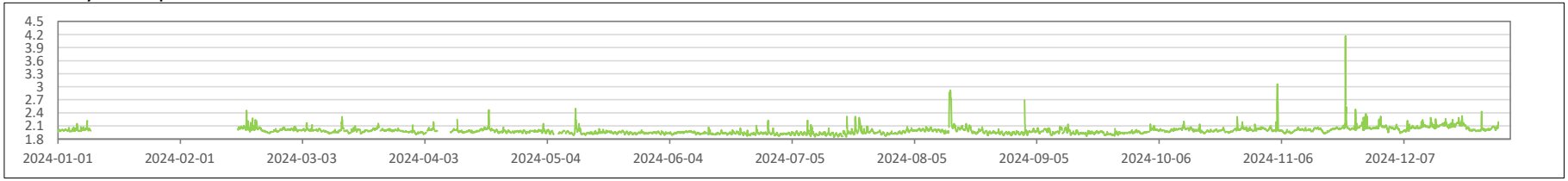
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 1-hr	Max. 1-hr	Max. 24-hr	Monthly Avg.	Percentage Readings in Concentration Range				
							0 - 2	3 - 5	6 - 10	11 - 40	>40
January	27.6	191	1.97	2.22	2.04	NA	100.0%	0.0%	0.0%	0.0%	0.0%
February	50.4	331	1.93	2.45	2.10	NA	99.7%	0.3%	0.0%	0.0%	0.0%
March	98.4	696	1.91	2.31	2.04	1.99	100.0%	0.0%	0.0%	0.0%	0.0%
April	88.2	604	1.91	2.47	2.08	1.98	99.8%	0.2%	0.0%	0.0%	0.0%
May	96.5	680	1.89	2.50	2.11	1.95	99.7%	0.3%	0.0%	0.0%	0.0%
June	99.7	680	1.87	2.23	1.97	1.94	100.0%	0.0%	0.0%	0.0%	0.0%
July	100.0	706	1.84	2.32	2.05	1.94	100.0%	0.0%	0.0%	0.0%	0.0%
August	99.3	702	1.88	2.92	2.36	2.00	98.1%	1.9%	0.0%	0.0%	0.0%
September	99.9	684	1.86	2.70	2.02	1.95	99.9%	0.1%	0.0%	0.0%	0.0%
October	100.0	709	1.92	2.31	2.07	2.00	100.0%	0.0%	0.0%	0.0%	0.0%
November	100.0	683	1.93	4.11	2.30	2.04	98.5%	1.5%	0.0%	0.0%	0.0%
December	99.9	708	1.93	2.43	2.16	2.07	99.7%	0.3%	0.0%	0.0%	0.0%
Annual	88.3	7374	1.84	4.11	2.36	1.99	99.6%	0.4%	0.0%	0.0%	0.0%

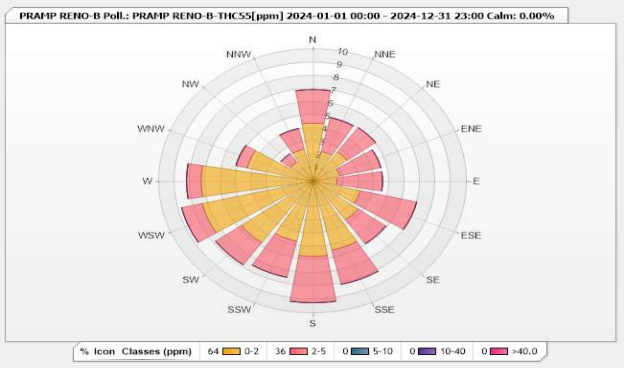
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
2	965	0	34	0	15	55	336	3
Total Hours of Downtime		1016	Total Hours of Calibration		394	Total Hours of Flagged		1410

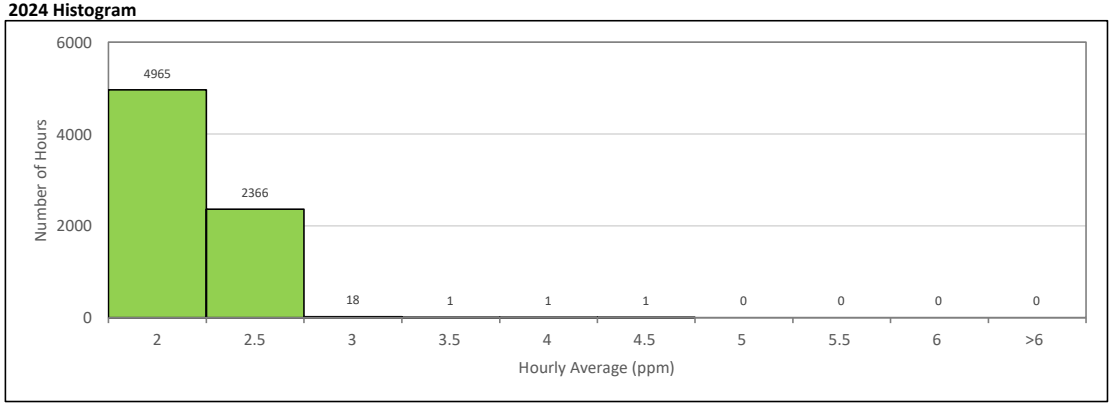
2024 Hourly Data Graph



2024 Pollution Rose



2024 Histogram



Reno-B STATION
METHANE (CH_4) in parts per million (ppm)

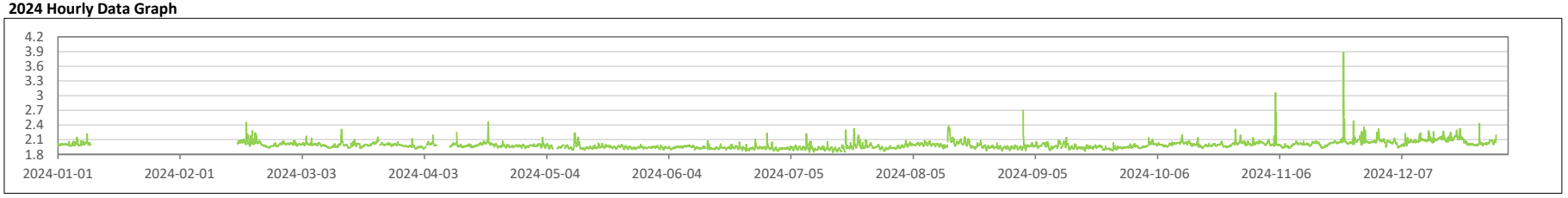
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 1-hr	Max. 1-hr	Max. 24-hr	Monthly Avg.	Percentage Readings in Concentration Range				
							0 - 2	3 - 5	6 - 10	11 - 20	>20
January	27.6	191	1.97	2.22	2.04	NA	100.0%	0.0%	0.0%	0.0%	0.0%
February	50.4	331	1.93	2.45	2.10	NA	99.7%	0.3%	0.0%	0.0%	0.0%
March	98.4	696	1.91	2.31	2.04	1.99	100.0%	0.0%	0.0%	0.0%	0.0%
April	88.2	604	1.91	2.46	2.08	1.98	99.8%	0.2%	0.0%	0.0%	0.0%
May	96.5	680	1.89	2.24	2.08	1.95	100.0%	0.0%	0.0%	0.0%	0.0%
June	99.7	680	1.87	2.23	1.97	1.94	100.0%	0.0%	0.0%	0.0%	0.0%
July	100.0	706	1.84	2.32	2.04	1.94	100.0%	0.0%	0.0%	0.0%	0.0%
August	99.3	702	1.88	2.38	2.18	1.99	100.0%	0.0%	0.0%	0.0%	0.0%
September	99.9	684	1.86	2.70	2.02	1.95	99.9%	0.1%	0.0%	0.0%	0.0%
October	100.0	709	1.92	2.31	2.07	2.00	100.0%	0.0%	0.0%	0.0%	0.0%
November	100.0	683	1.93	3.83	2.28	2.04	98.5%	1.5%	0.0%	0.0%	0.0%
December	99.9	708	1.93	2.43	2.16	2.07	99.7%	0.3%	0.0%	0.0%	0.0%
Annual	88.3	7374	1.84	3.83	2.28	1.99	99.8%	0.2%	0.0%	0.0%	0.0%

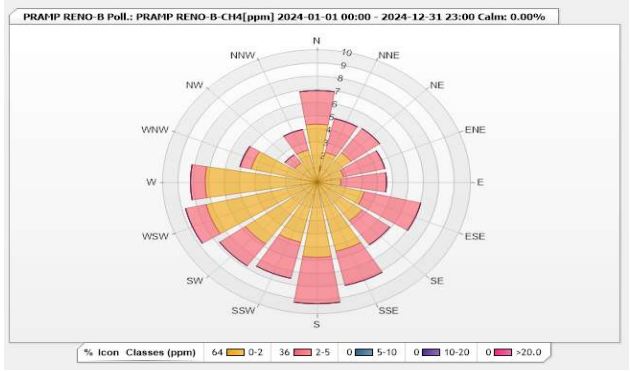
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
2	965	0	34	0	15	55	336	3
Total Hours of Downtime		1016	Total Hours of Calibration		394	Total Hours of Flagged		1410

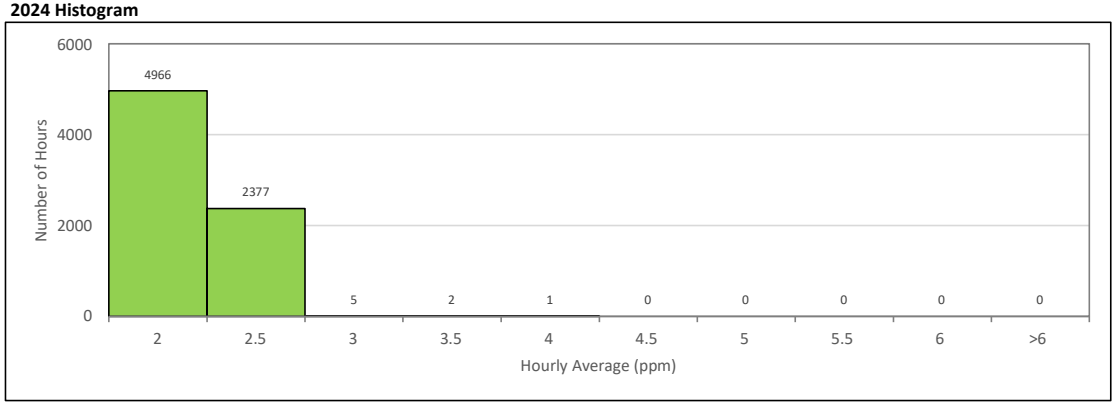
2024 Hourly Data Graph



2024 Pollution Rose



2024 Histogram



Reno-B STATION
NON-METHANE HYDROCARBONS (NMHC) in parts per million (ppm)

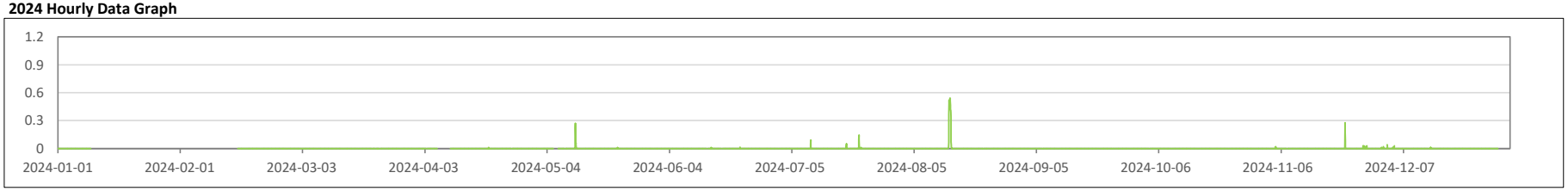
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 1-hr	Max. 1-hr	Max. 24-hr	Monthly Avg.	Percentage Readings in Concentration Range				
							0 - 0.1	0.2 - 0.3	0.4 - 0.9	1 -2	>2
January	27.6	191	0.00	0.00	0.00	NA	100.0%	0.0%	0.0%	0.0%	0.0%
February	50.4	331	0.00	0.00	0.00	NA	100.0%	0.0%	0.0%	0.0%	0.0%
March	98.4	696	0.00	0.00	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
April	88.2	604	0.00	0.01	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
May	96.5	680	0.00	0.27	0.03	0.00	99.7%	0.3%	0.0%	0.0%	0.0%
June	99.7	680	0.00	0.01	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
July	100.0	706	0.00	0.14	0.01	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
August	99.3	702	0.00	0.54	0.18	0.01	98.0%	0.3%	1.7%	0.0%	0.0%
September	99.9	684	0.00	0.00	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
October	100.0	709	0.00	0.00	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
November	100.0	683	0.00	0.27	0.02	0.00	99.7%	0.3%	0.0%	0.0%	0.0%
December	99.9	708	0.00	0.01	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	88.3	7374	0.00	0.54	0.18	0.00	99.8%	0.1%	0.1%	0.0%	0.0%

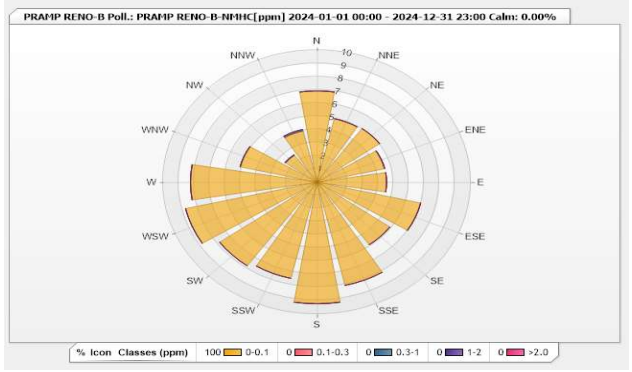
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
2	965	0	34	0	15	55	336	3
Total Hours of Downtime		1016	Total Hours of Calibration		394	Total Hours of Flagged		1410

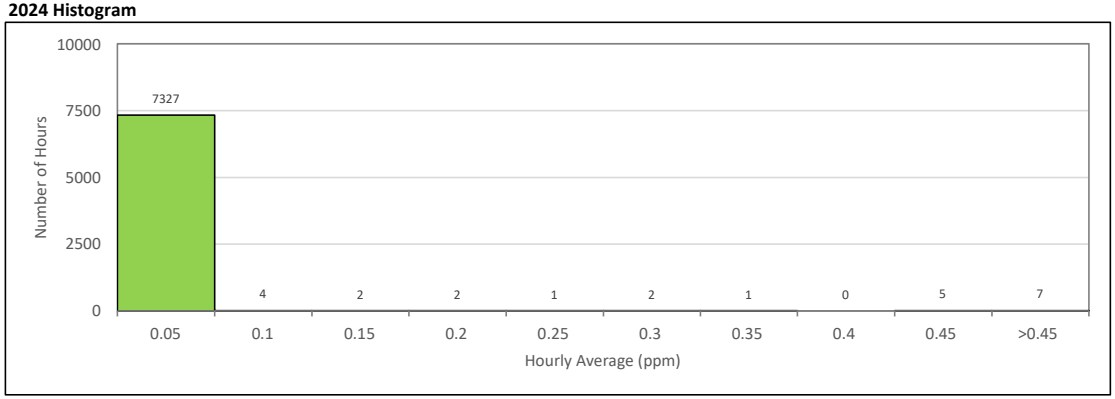
2024 Hourly Data Graph



2024 Pollution Rose



2024 Histogram



Reno-B STATION
RELATIVE HUMIDITY (RH) in percent (%)

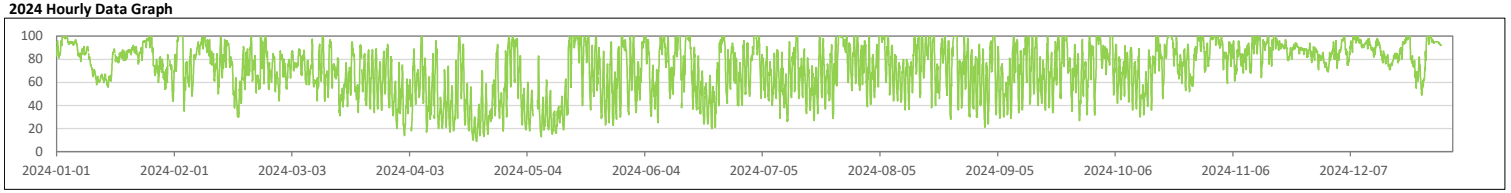
2024 Annual Continuous Data Summary

Month	Operational	# of Reading	Monthly Avg.	Min. 1-hr	Max. 1-hr	Max. 24-hr
January	98.0	729	81.0	44	100	99
February	99.9	695	75.6	30	100	100
March	99.9	743	65.3	20	100	79
April	99.0	713	48.4	9	100	89
May	96.5	718	58.3	13	100	98
June	99.7	718	69.2	20	100	99
July	100.0	744	70.7	26	100	99
August	99.7	742	73.2	28	100	99
September	100.0	720	68.9	21	100	94
October	100.0	744	77.2	30	100	100
November	100.0	720	87.1	59	100	99
December	100.0	744	86.8	49	100	98
Annual	99.4	8730	71.8	9	100	100

2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
14	0	0	40	0	0	0	0	0
Total Hours of Downtime		54	Total Hours of Calibration		0	Total Hours of Flagged		54

2024 Hourly Data Graph



Reno-B STATION
AMBIENT TEMPERATURE (AT) in degree celsius (°C)

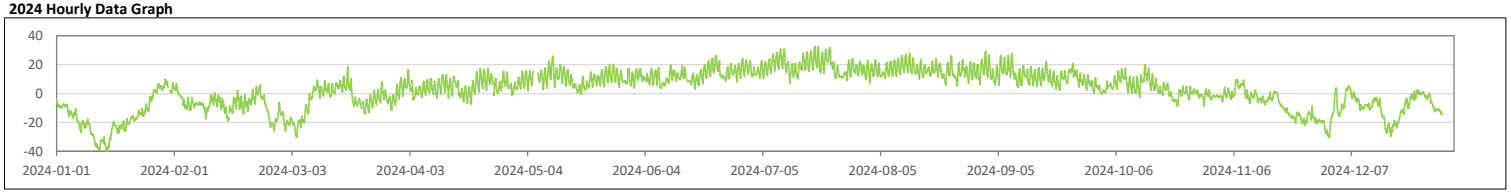
2024 Annual Continuous Data Summary

Month	Operational	# of Reading	Monthly Avg.	Min. 1-hr	Max. 1-hr	Max. 24-hr
January	98.0	729	-15.9	-39.9	10.1	6.7
February	99.9	695	-7.7	-25.7	6.8	3.6
March	99.9	743	-4.4	-30.2	18.7	8.2
April	99.0	713	5.1	-7.4	17.4	10.4
May	96.5	718	10.4	-0.4	25.8	18.2
June	99.7	718	13.1	3.1	26.6	20.8
July	100.0	744	18.9	7.2	32.8	25.9
August	99.7	742	16.4	5.5	28.0	21.0
September	100.0	720	12.5	0.0	29.4	20.4
October	100.0	744	3.6	-8.8	19.9	12.7
November	100.0	720	-7.6	-29.5	9.6	6.2
December	100.0	744	-9.1	-30.6	5.5	3.6
Annual	99.4	8730	2.9	-39.9	32.8	25.9

2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
14	0	0	40	0	0	0	0	0
Total Hours of Downtime		54	Total Hours of Calibration		0	Total Hours of Flagged		54

2024 Hourly Data Graph



Reno-B STATION
BAROMETRIC PRESSURE (BP) in millibar (mb)

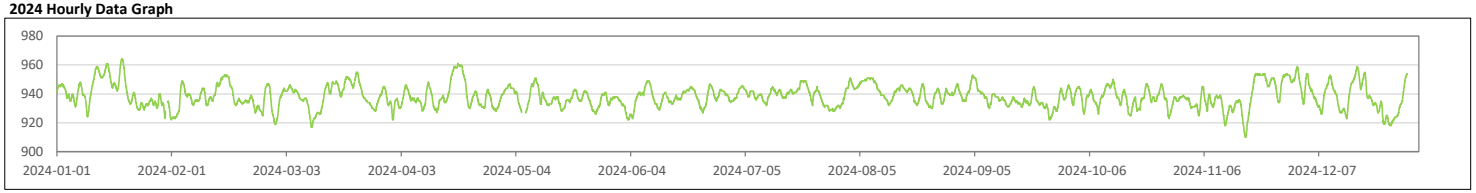
2024 Annual Continuous Data Summary

Month	Operational	# of Reading	Monthly Avg.	Min. 1-hr	Max. 1-hr	Max. 24-hr
January	98.0	729	941.2	922	964	962
February	99.9	695	936.8	919	953	953
March	99.9	743	938.7	917	955	951
April	99.0	713	938.8	926	961	959
May	96.5	718	937.2	926	951	949
June	99.7	718	937.2	922	949	948
July	100.0	744	938.8	928	949	949
August	99.7	742	941.7	930	951	951
September	100.0	720	936.6	922	953	951
October	100.0	744	937.3	923	950	947
November	100.0	720	938.5	910	957	953
December	100.0	744	938.3	918	959	956
Annual	99.4	8730	938.4	910	964	962

2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
14	0	0	40	0	0	0	0	0
Total Hours of Downtime		54	Total Hours of Calibration		0	Total Hours of Flagged		54

2024 Hourly Data Graph



Reno-B STATION
PRECIPITATION in millimeter (mm)

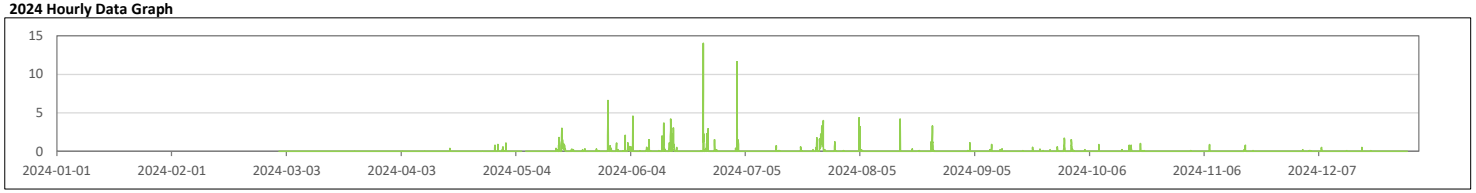
2024 Annual Continuous Data Summary

Month	Operational	# of Reading	Mthly Total	Min. 1-hr	Max. 1-hr	Max. 24-hr
January	0.0	0	N/A	N/A	N/A	N/A
February	0.0	0	N/A	N/A	N/A	N/A
March	99.9	743	0.0	0.0	0.0	0.0
April	99.0	713	4.3	0.0	0.9	1.4
May	96.5	718	52.2	0.0	6.5	16.4
June	99.7	718	105.6	0.0	14.0	19.9
July	100.0	744	71.6	0.0	11.6	33.1
August	99.7	742	28.3	0.0	4.3	11.7
September	100.0	720	12.6	0.0	1.7	6.2
October	100.0	744	14.0	0.0	1.5	6.4
November	100.0	720	3.8	0.0	0.9	1.7
December	100.0	744	2.8	0.0	0.5	1.3
Annual	82.9	7306	295.2	0.0	14.0	33.1

2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
2	0	0	36	0	0	0	0	0
Total Hours of Downtime		38	Total Hours of Calibration		0	Total Hours of Flagged		38

2024 Hourly Data Graph



Reno-B STATION
VECTOR WIND SPEED (VWS) in kilometer per hour (km/hr)

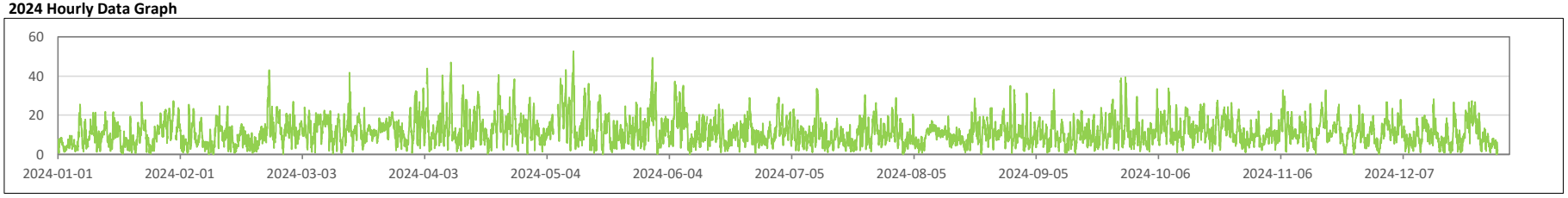
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 1-hr	Max. 1-hr	Max. 24-hr	Monthly Avg.	Percentage Readings in Concentration Range				
							0 - 6	7 - 15	16 - 29	30 -39	>39
January	98.0	729	0.2	27.3	16.5	2.8	34.4%	48.8%	16.7%	0.0%	0.0%
February	99.9	695	0.0	43.0	26.1	2.0	33.2%	48.8%	16.4%	1.3%	0.3%
March	99.9	743	0.4	41.8	20.2	3.8	14.9%	55.6%	28.1%	1.2%	0.1%
April	99.0	713	0.3	46.9	25.6	5.2	14.3%	46.8%	31.6%	5.5%	1.8%
May	96.5	718	0.0	52.7	29.8	5.6	18.7%	48.5%	24.0%	7.0%	1.9%
June	99.7	718	0.0	37.2	25.8	2.1	22.6%	55.7%	19.1%	2.6%	0.0%
July	100.0	744	1.1	33.4	20.1	5.7	23.3%	56.2%	19.4%	1.2%	0.0%
August	99.7	740	0.0	35.0	16.5	2.1	23.0%	63.9%	12.4%	0.7%	0.0%
September	100.0	720	0.3	39.4	19.3	5.9	26.0%	52.8%	18.6%	2.6%	0.0%
October	100.0	744	1.1	33.7	19.5	4.2	16.8%	57.7%	25.0%	0.5%	0.0%
November	100.0	720	0.0	32.8	21.3	1.3	21.7%	59.3%	18.5%	0.6%	0.0%
December	100.0	744	0.0	28.3	19.5	4.1	28.6%	47.7%	23.7%	0.0%	0.0%
Annual	99.4	8728	0.0	52.7	29.8	2.3	23.1%	53.5%	21.1%	1.9%	0.3%

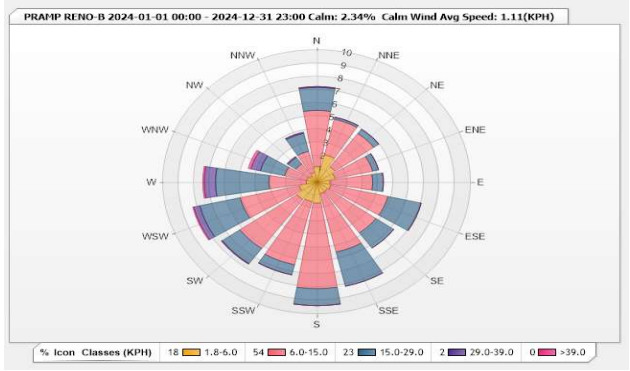
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
14	0	0	40	0	0	2	0	0
Total Hours of Downtime		54	Total Hours of Calibration		2	Total Hours of Flagged		56

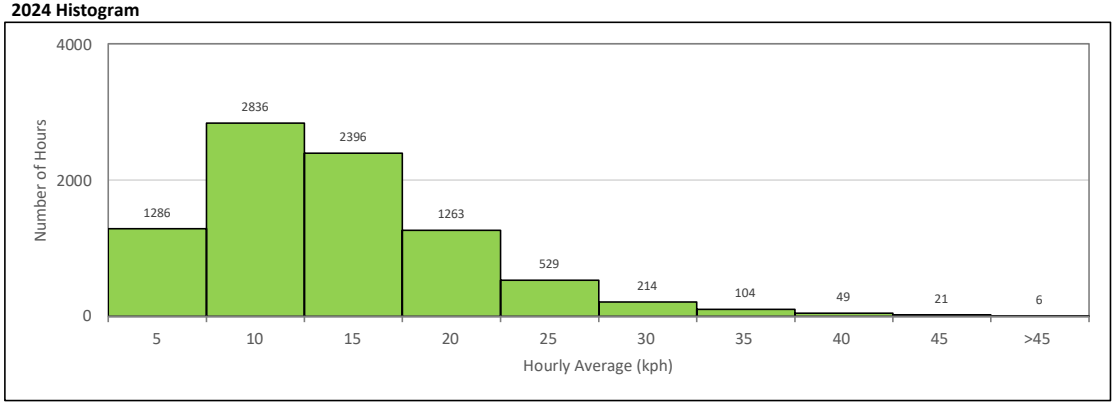
2024 Hourly Data Graph



2024 Wind Rose



2024 Histogram



1.4 PRC Station

1.4.1 Parameters Monitoring Summary

	SO2	H2S	TRS	THC55	CH4	NMHC	RH	BP	AT
	ppb	ppb	ppb	ppm	ppm	ppm	%RH	mb	°C
Minimum	0	0	0	1.88	1.88	0.00	10	911	-39.6
Min Date	2024-01-01 01:00	2024-01-01 00:00	2024-01-01 00:00	2024-07-28 20:00	2024-07-28 20:00	2024-01-01 00:00	2024-04-20 15:00	2024-11-17 03:00	2024-01-11 19:00
Maximum	17	9	9	2.83	2.37	0.46	100	965	33.5
Max Date	2024-08-01 19:00	2024-09-04 05:00	2024-09-04 05:00	2024-08-14 01:00	2024-08-14 01:00	2024-08-14 01:00	2024-01-03 11:00	2024-01-18 14:00	2024-07-18 16:00
Average	0	0	0	2.01	2.01	0.00	74	940	2.5
# of Reading	8256	8139	8250	8193	8193	8193	8733	8733	8733
Valid Data [%]	94.0	92.7	93.9	93.3	93.3	93.3	99.4	99.4	99.4
Operational Uptime [%]	99.0	97.7	98.9	98.2	98.2	98.2	99.4	99.4	99.4

	WDS	WDV
	KPH	Deg
Minimum	0.2	0
Min Date	2024-07-13 20:00	2024-01-06 06:00
Maximum	36.2	360
Max Date	2024-02-23 09:00	2024-01-01 15:00
Average	3.1	214
# of Reading	8730	8730
Valid Data [%]	99.4	99.4
Operational Uptime [%]	99.4	99.4

1.4.2 Monitoring Parameters – Continuous Data Summary and Frequency Distribution

Peace River Complex (PRC) Station
SULPHUR DIOXIDE (SO_2) in parts per billion (ppb)

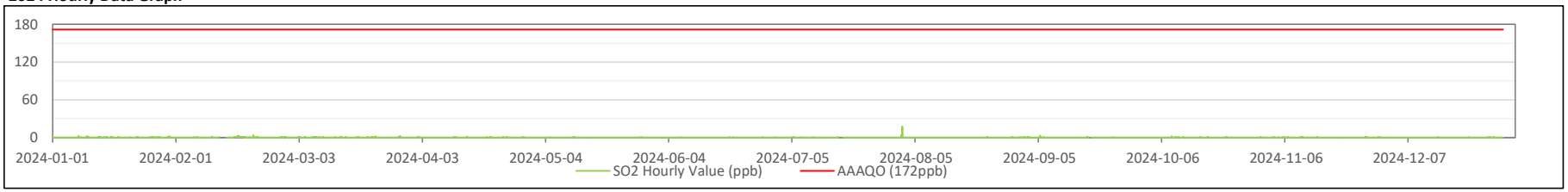
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 1-hr	Max. 1-hr	Max. 24-hr	Monthly Avg.	# of AAAQOExceedances				Percentage Readings in Concentration Range				
							1-hour	24-hour	30-day	Annual	0 - 10	11 -50	51 -100	101 - 172	>172
January	99.6	704	0	2	1	0.1	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
February	94.7	623	0	4	1	0.2	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
March	100.0	707	0	2	0	0.1	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
April	99.6	681	0	1	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
May	100.0	706	0	1	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
June	98.9	673	0	1	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
July	97.3	688	0	1	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
August	100.0	706	0	17	2	0.1	0	0	0	-	99.9%	0.1%	0.0%	0.0%	0.0%
September	97.6	669	0	3	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
October	100.0	707	0	2	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
November	100.0	684	0	1	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
December	100.0	708	0	1	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	99.0	8256	0	17	2	0.1	0	0	0	0	100.0%	0.0%	0.0%	0.0%	0.0%

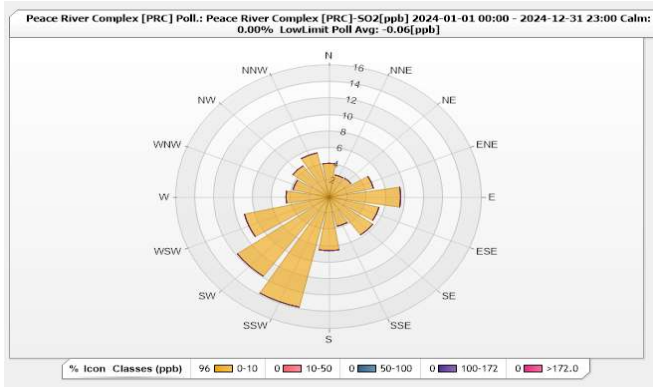
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
51	12	0	0	0	25	60	376	4
Total Hours of Downtime		88	Total Hours of Calibration		440	Total Hours of Flagged		528

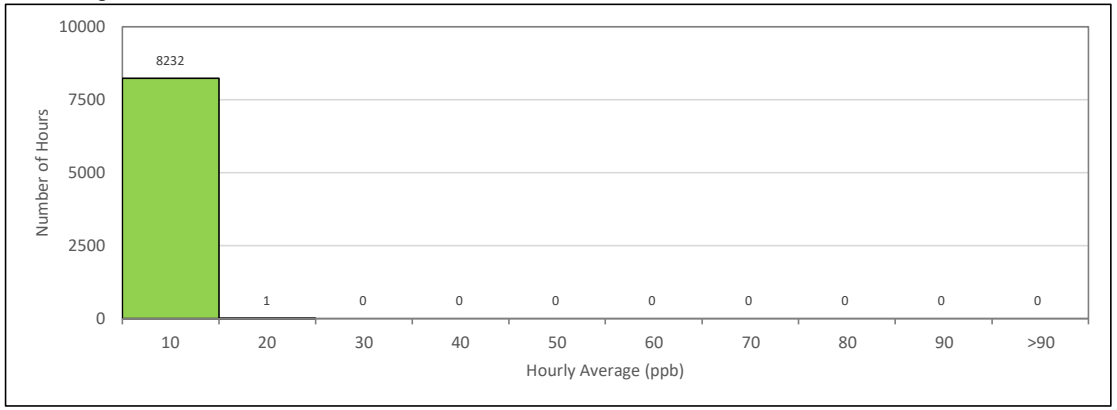
2024 Hourly Data Graph



2024 Pollution Rose



2024 Histogram



Peace River Complex (PRC) Station
HYDROGEN SULPHIDE (H_2S) in parts per billion (ppb)

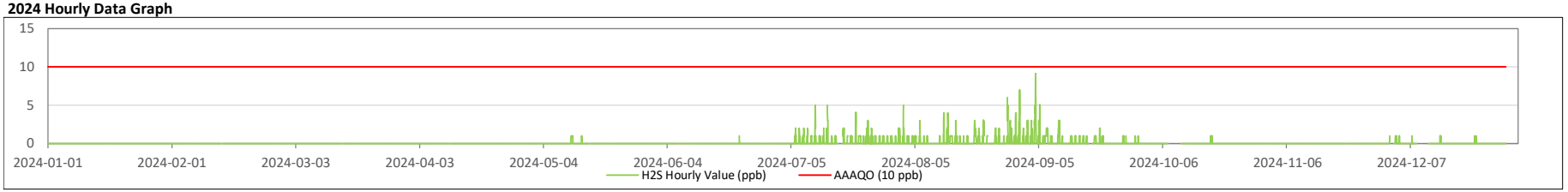
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 1-hr	Max. 1-hr	Max. 24-hr	Monthly Avg.	# of AAAQO Exceedances		Percentage Readings in Concentration Range				
							1-hour	24-hour	0 - 2	3 - 5	6 - 10	11 - 50	>50
January	99.6	704	0	0	0	0.0	0	0	100.0%	0.0%	0.0%	0.0%	0.0%
February	100.0	659	0	0	0	0.0	0	0	100.0%	0.0%	0.0%	0.0%	0.0%
March	100.0	707	0	0	0	0.0	0	0	100.0%	0.0%	0.0%	0.0%	0.0%
April	99.6	681	0	0	0	0.0	0	0	100.0%	0.0%	0.0%	0.0%	0.0%
May	100.0	706	0	1	0	0.0	0	0	100.0%	0.0%	0.0%	0.0%	0.0%
June	98.9	674	0	1	0	0.0	0	0	100.0%	0.0%	0.0%	0.0%	0.0%
July	97.3	688	0	5	1	0.3	0	0	98.7%	1.3%	0.0%	0.0%	0.0%
August	100.0	706	0	7	1	0.3	0	0	97.2%	2.5%	0.3%	0.0%	0.0%
September	97.6	669	0	9	2	0.3	0	0	97.3%	2.4%	0.3%	0.0%	0.0%
October	90.3	638	0	1	0	0.0	0	0	100.0%	0.0%	0.0%	0.0%	0.0%
November	100.0	684	0	0	0	0.0	0	0	100.0%	0.0%	0.0%	0.0%	0.0%
December	88.6	623	0	1	0	0.0	0	0	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	97.7	8139	0	9	2	0.1	0	0	99.4%	0.5%	0.0%	0.0%	0.0%

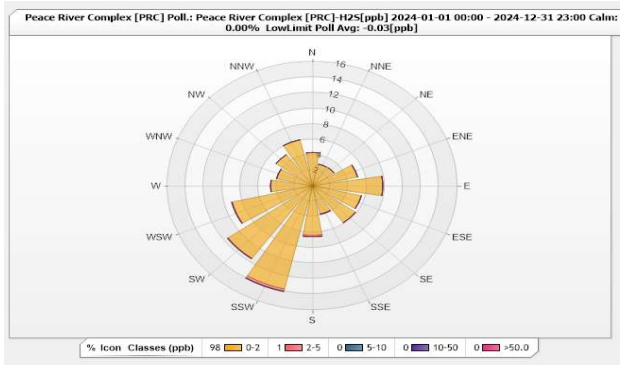
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
51	137	0	0	0	20	61	373	3
Total Hours of Downtime		208	Total Hours of Calibration		437	Total Hours of Flagged		645

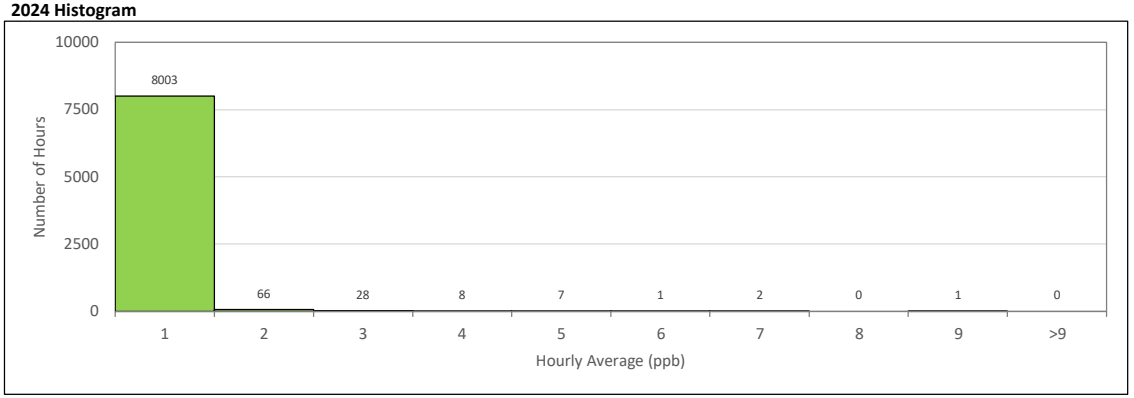
2024 Hourly Data Graph



2024 Pollution Rose



2024 Histogram



Peace River Complex (PRC) Station
TOTAL REDUCED SULPHUR (TRS) in parts per billion (ppb)

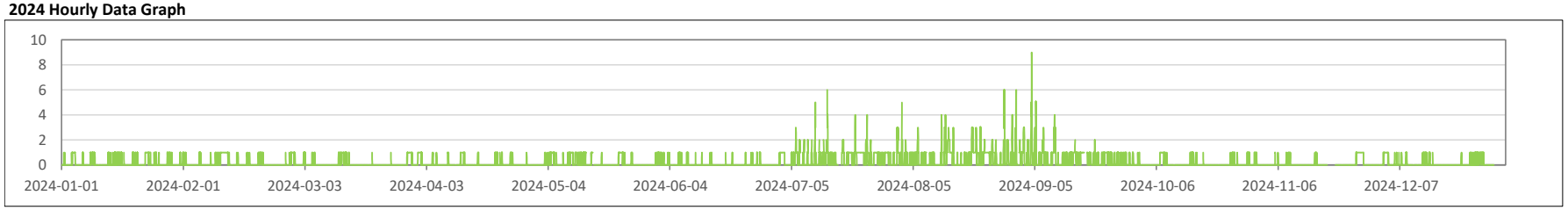
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 1-hr	Max. 1-hr	Max. 24-hr	Monthly Avg.	Percentage Readings in Concentration Range				
							0 - 2	3 - 5	6 - 10	11 - 50	>50
January	99.6	704	0	1	0.7	0.2	100.0%	0.0%	0.0%	0.0%	0.0%
February	100.0	659	0	1	1.0	0.2	100.0%	0.0%	0.0%	0.0%	0.0%
March	100.0	707	0	1	0.9	0.1	100.0%	0.0%	0.0%	0.0%	0.0%
April	99.6	681	0	1	0.8	0.1	100.0%	0.0%	0.0%	0.0%	0.0%
May	100.0	706	0	1	1.0	0.2	100.0%	0.0%	0.0%	0.0%	0.0%
June	98.9	675	0	1	0.7	0.1	100.0%	0.0%	0.0%	0.0%	0.0%
July	97.3	688	0	6	1.1	0.6	98.3%	1.6%	0.1%	0.0%	0.0%
August	100.0	706	0	6	1.7	0.6	96.0%	3.5%	0.4%	0.0%	0.0%
September	97.6	669	0	9	1.8	0.6	97.3%	2.4%	0.3%	0.0%	0.0%
October	100.0	707	0	1	1.0	0.1	100.0%	0.0%	0.0%	0.0%	0.0%
November	93.9	640	0	1	1.0	0.1	100.0%	0.0%	0.0%	0.0%	0.0%
December	100.0	708	0	1	1.0	0.1	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	98.9	8250	0	9	1.8	0.2	99.3%	0.6%	0.1%	0.0%	0.0%

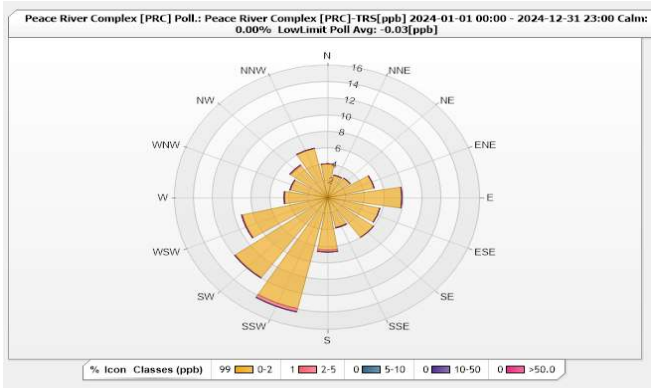
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
51	28	0	0	0	16	60	377	2
Total Hours of Downtime		95	Total Hours of Calibration		439	Total Hours of Flagged		534

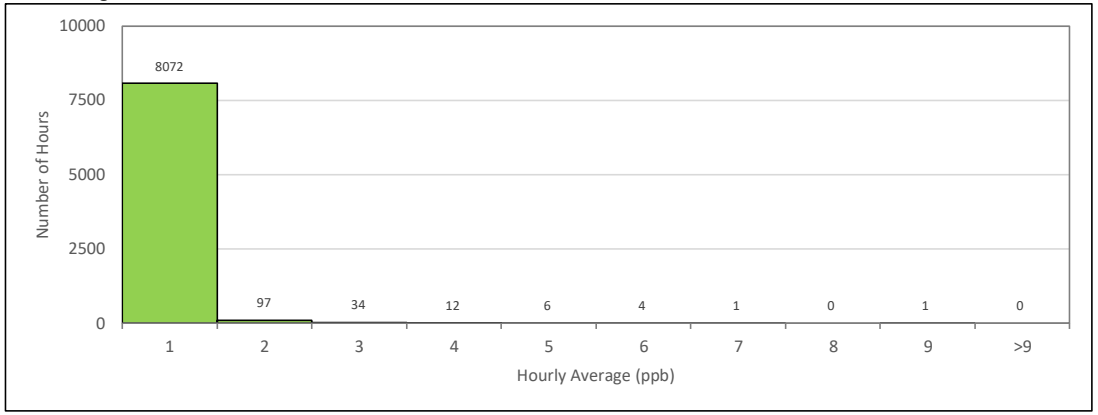
2024 Hourly Data Graph



2024 Pollution Rose



2024 Histogram



Peace River Complex (PRC) Station
TOTAL REDUCED SULPHUR (TRS) in parts per billion (ppb)

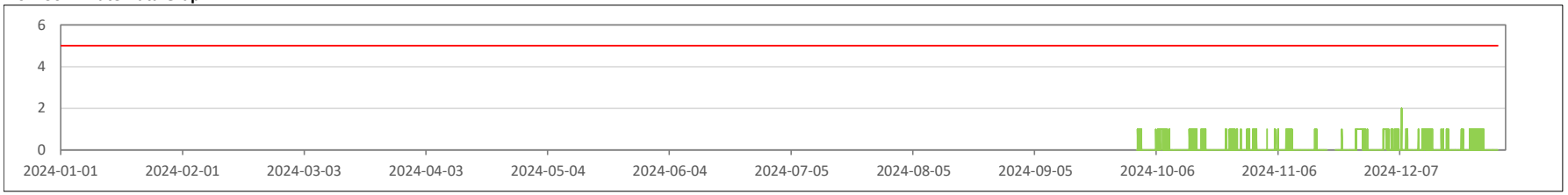
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 30-min	Max. 30-min	Max. 24-hr	Monthly Avg.	# of AAAQO 30-min	Percentage Readings in Concentration Range				
								0 - 2	3 - 5	6 - 10	11 - 50	>50
January	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
February	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
March	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
April	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
May	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
June	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
July	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
August	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
September	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
October	100.0	1416	0	1	1.0	0.1	0	100.0%	0.0%	0.0%	0.0%	0.0%
November	94.0	1280	0	1	1.0	0.1	0	100.0%	0.0%	0.0%	0.0%	0.0%
December	100.0	1417	0	2	1.0	0.2	0	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	24.5	4113	0	2	1.0	0.1	0	100.0%	0.0%	0.0%	0.0%	0.0%

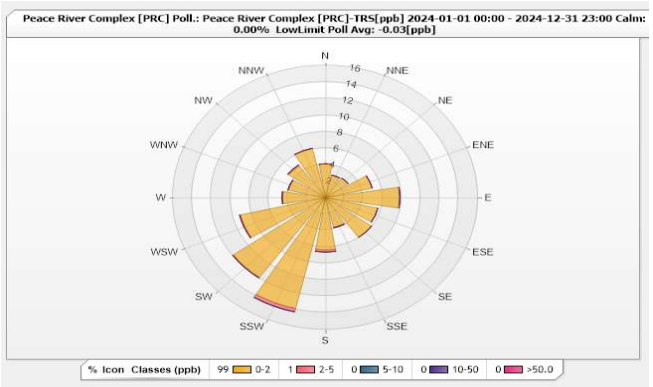
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
0	56	0	0	0	30	31	186	0
Total Hours of Downtime		0	Total Hours of Calibration		0	Total Hours of Flagged		0

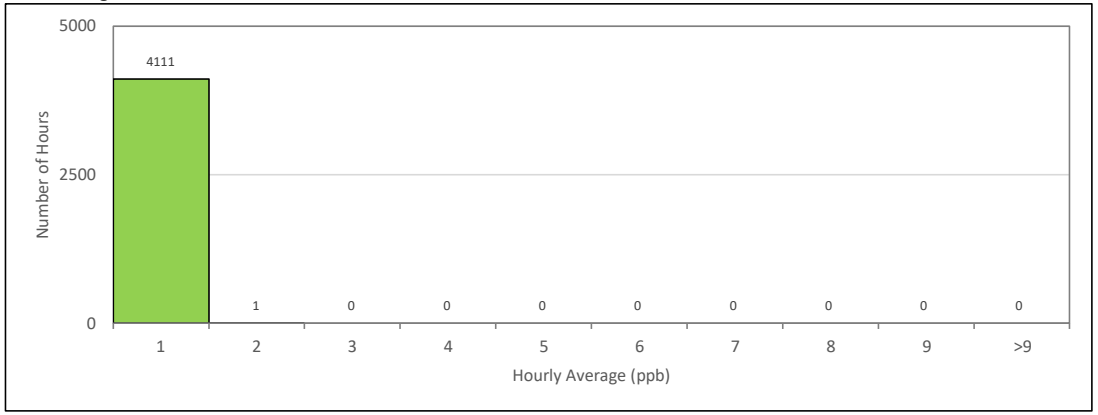
202430-Minute Data Graph



2024 Pollution Rose



2024 Histogram



Peace River Complex (PRC) Station
TOTAL HYDROCARBONS (THC) in parts per million (ppm)

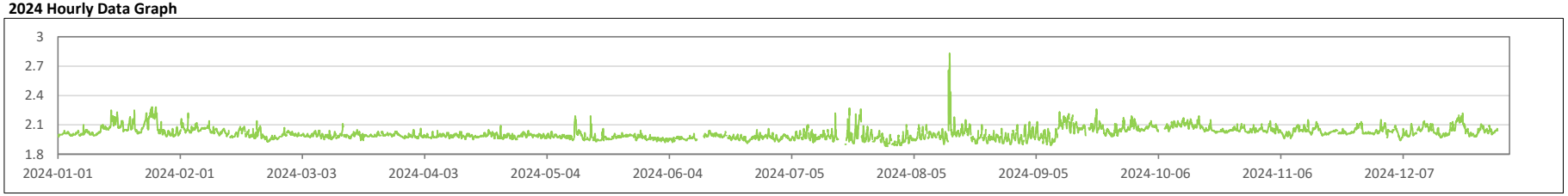
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 1-hr	Max. 1-hr	Max. 24-hr	Monthly Avg.	Percentage Readings in Concentration Range				
							0 - 2	3 - 5	6 - 10	11 - 40	>40
January	99.6	704	1.98	2.28	2.21	2.06	100.0%	0.0%	0.0%	0.0%	0.0%
February	100.0	660	1.93	2.22	2.08	2.02	100.0%	0.0%	0.0%	0.0%	0.0%
March	100.0	707	1.94	2.11	2.02	1.99	100.0%	0.0%	0.0%	0.0%	0.0%
April	99.4	681	1.95	2.09	2.01	1.99	100.0%	0.0%	0.0%	0.0%	0.0%
May	100.0	705	1.93	2.19	2.07	1.98	100.0%	0.0%	0.0%	0.0%	0.0%
June	91.9	626	1.91	2.06	2.01	1.97	100.0%	0.0%	0.0%	0.0%	0.0%
July	95.0	670	1.88	2.27	2.12	1.98	100.0%	0.0%	0.0%	0.0%	0.0%
August	100.0	707	1.89	2.83	2.20	1.99	98.7%	1.3%	0.0%	0.0%	0.0%
September	97.6	669	1.89	2.26	2.13	2.04	100.0%	0.0%	0.0%	0.0%	0.0%
October	95.2	672	2.02	2.19	2.12	2.07	100.0%	0.0%	0.0%	0.0%	0.0%
November	100.0	684	1.96	2.15	2.08	2.04	100.0%	0.0%	0.0%	0.0%	0.0%
December	100.0	708	1.94	2.22	2.15	2.04	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	98.2	8193	1.88	2.83	2.21	2.01	99.9%	0.1%	0.0%	0.0%	0.0%

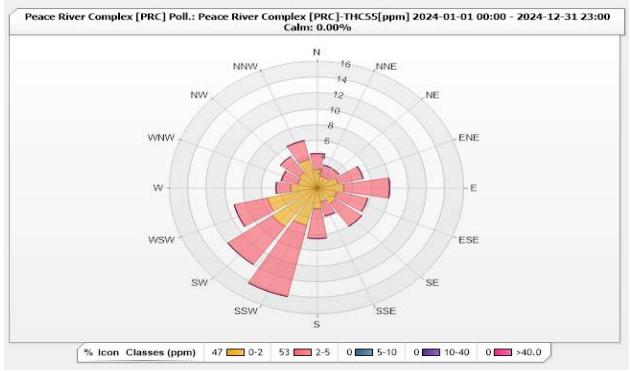
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
51	79	0	0	0	25	59	374	3
Total Hours of Downtime		155	Total Hours of Calibration		436	Total Hours of Flagged		591

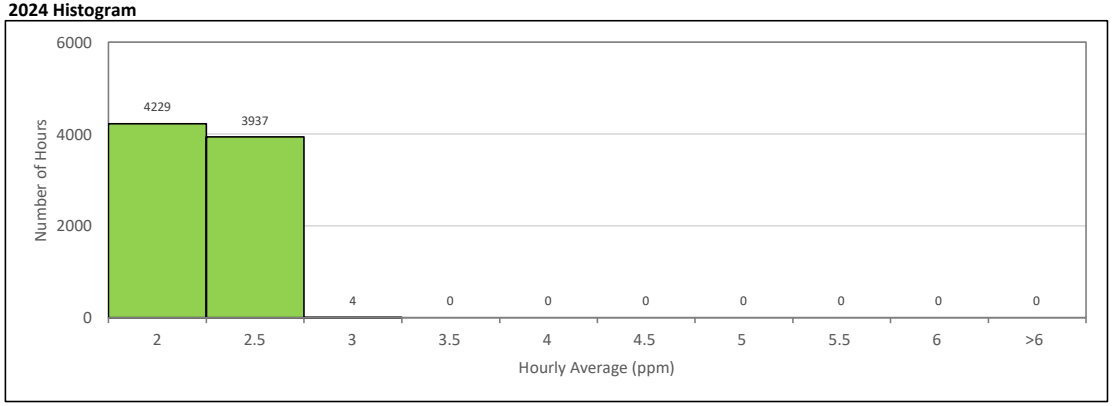
2024 Hourly Data Graph



2024 Pollution Rose



2024 Histogram



Peace River Complex (PRC) Station
METHANE (CH_4) in parts per million (ppm)

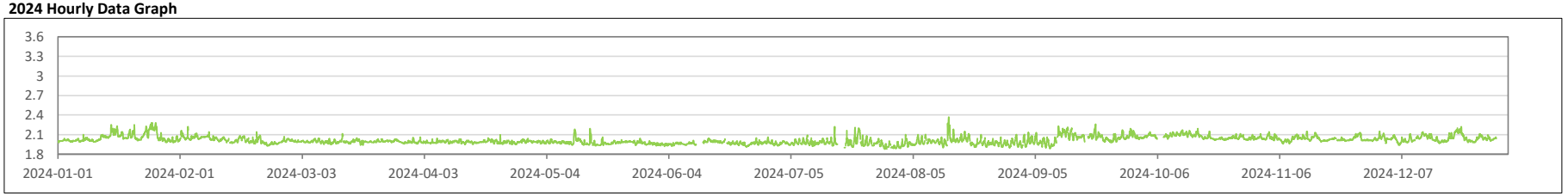
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 1-hr	Max. 1-hr	Max. 24-hr	Monthly Avg.	Percentage Readings in Concentration Range				
							0 - 2	3 - 5	6 - 10	11 - 20	>20
January	99.6	704	1.98	2.28	2.21	2.06	100.0%	0.0%	0.0%	0.0%	0.0%
February	100.0	660	1.93	2.22	2.08	2.02	100.0%	0.0%	0.0%	0.0%	0.0%
March	100.0	707	1.94	2.11	2.02	1.99	100.0%	0.0%	0.0%	0.0%	0.0%
April	99.4	681	1.95	2.09	2.01	1.99	100.0%	0.0%	0.0%	0.0%	0.0%
May	100.0	705	1.93	2.19	2.07	1.98	100.0%	0.0%	0.0%	0.0%	0.0%
June	91.9	626	1.91	2.06	2.01	1.97	100.0%	0.0%	0.0%	0.0%	0.0%
July	95.0	670	1.88	2.22	2.09	1.97	100.0%	0.0%	0.0%	0.0%	0.0%
August	100.0	707	1.89	2.37	2.10	1.99	100.0%	0.0%	0.0%	0.0%	0.0%
September	97.6	669	1.89	2.26	2.13	2.04	100.0%	0.0%	0.0%	0.0%	0.0%
October	95.2	672	2.02	2.19	2.12	2.07	100.0%	0.0%	0.0%	0.0%	0.0%
November	100.0	684	1.96	2.15	2.08	2.04	100.0%	0.0%	0.0%	0.0%	0.0%
December	100.0	708	1.94	2.22	2.15	2.04	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	98.2	8193	1.88	2.37	2.21	2.01	100.0%	0.0%	0.0%	0.0%	0.0%

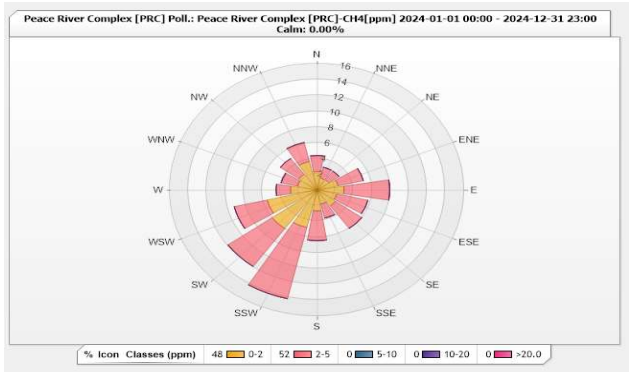
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
51	79	0	0	0	25	59	374	3
Total Hours of Downtime		155	Total Hours of Calibration		436	Total Hours of Flagged		591

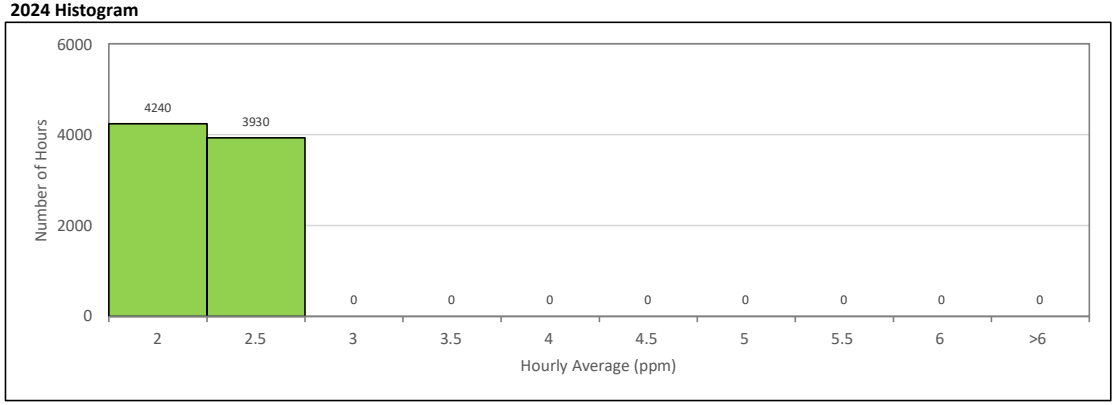
2024 Hourly Data Graph



2024 Pollution Rose



2024 Histogram



Peace River Complex (PRC) Station
NON-METHANE HYDROCARBONS (NMHC) in parts per million (ppm)

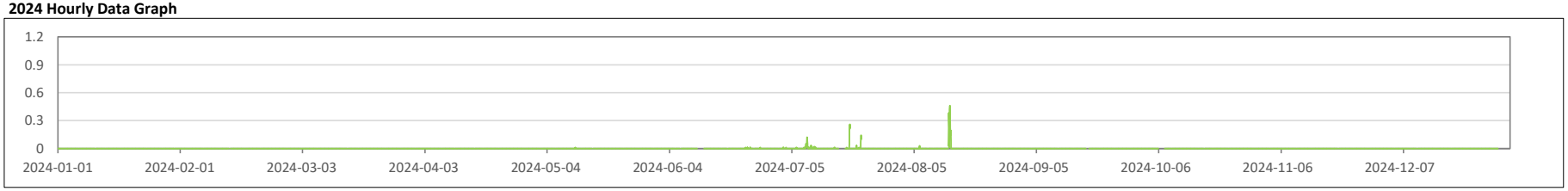
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 1-hr	Max. 1-hr	Max. 24-hr	Monthly Avg.	Percentage Readings in Concentration Range				
							0 - 0.1	0.2 - 0.3	0.4 - 0.9	1 -2	>2
January	99.6	704	0.00	0.00	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
February	100.0	660	0.00	0.00	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
March	100.0	707	0.00	0.00	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
April	99.4	681	0.00	0.00	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
May	100.0	705	0.00	0.01	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
June	91.9	626	0.00	0.01	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
July	95.0	670	0.00	0.26	0.05	0.00	99.4%	0.6%	0.0%	0.0%	0.0%
August	100.0	707	0.00	0.46	0.10	0.00	98.4%	1.1%	0.4%	0.0%	0.0%
September	97.6	669	0.00	0.00	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
October	95.2	672	0.00	0.00	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
November	100.0	684	0.00	0.00	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
December	100.0	708	0.00	0.00	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	98.2	8193	0.00	0.46	0.10	0.00	99.8%	0.1%	0.0%	0.0%	0.0%

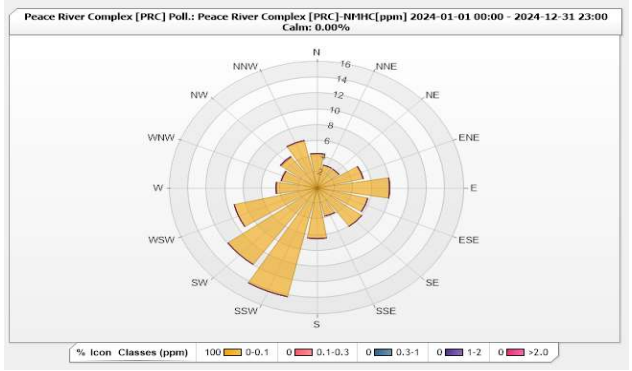
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
51	79	0	0	0	25	59	374	3
Total Hours of Downtime		155	Total Hours of Calibration		436	Total Hours of Flagged		591

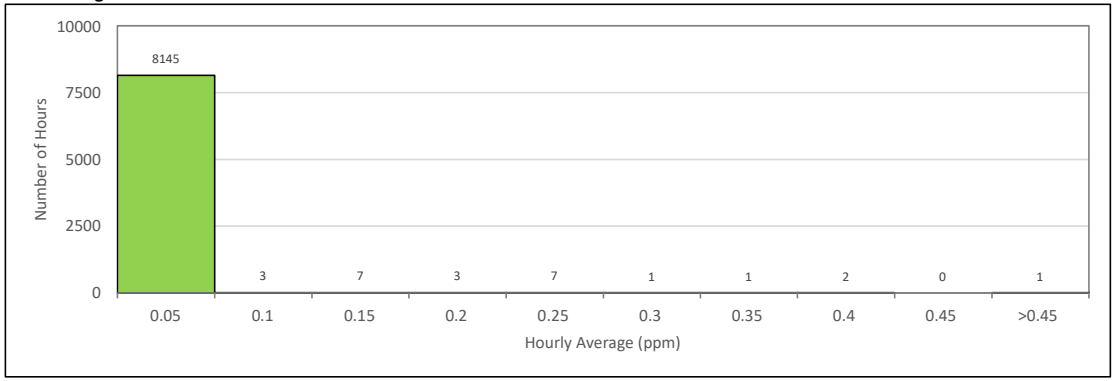
2024 Hourly Data Graph



2024 Pollution Rose



2024 Histogram



Peace River Complex (PRC) Station
RELATIVE HUMIDITY (RH) in percent (%)

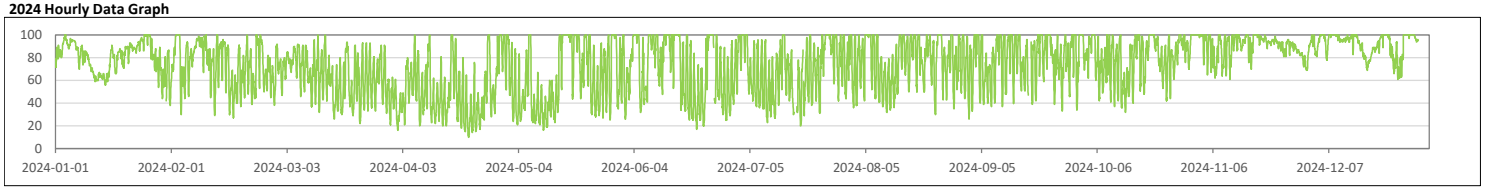
2024 Annual Continuous Data Summary

Month	Operational	# of Reading	Monthly Avg.	Min. 1-hr	Max. 1-hr	Max. 24-hr
January	99.6	741	80.2	38	100	99
February	100.0	696	73.6	27	100	99
March	100.0	744	62.7	21	100	80
April	99.6	717	51.2	10	100	91
May	100.0	744	62.9	16	100	100
June	98.9	712	70.2	17	100	100
July	97.3	724	70.4	20	100	98
August	100.0	744	76.0	30	100	100
September	97.6	703	77.9	26	100	95
October	100.0	744	80.5	32	100	100
November	100.0	720	90.9	61	100	100
December	100.0	744	91.7	61	100	100
Annual	99.4	8733	74.0	10	100	100

2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
51	0	0	0	0	0	0	0	0
Total Hours of Downtime	51	Total Hours of Calibration		0	Total Hours of Flagged			51

2024 Hourly Data Graph



Peace River Complex (PRC) Station
AMBIENT TEMPERATURE (AT) in degree celsius (°C)

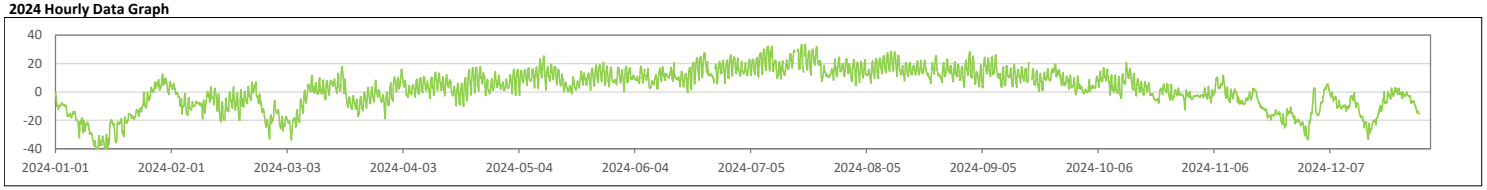
2024 Annual Continuous Data Summary

Month	Operational	# of Reading	Monthly Avg.	Min. 1-hr	Max. 1-hr	Max. 24-hr
January	99.6	741	-16.4	-39.6	12.8	7.3
February	100.0	696	-8.1	-33.2	7.2	3.7
March	100.0	744	-4.8	-33.7	18.1	9.7
April	99.6	717	4.8	-10.0	18.0	10.7
May	100.0	744	10.0	-2.3	25.2	17.7
June	98.9	712	12.8	-0.4	27.8	20.9
July	97.3	724	19.0	7.7	33.5	25.3
August	100.0	744	16.0	3.2	28.7	22.1
September	97.6	703	11.5	-1.8	28.4	19.0
October	100.0	744	2.8	-12.7	20.8	12.5
November	100.0	720	-8.4	-32.4	11.6	6.7
December	100.0	744	-9.4	-33.6	5.7	3.9
Annual	99.4	8733	2.5	-39.6	33.5	25.3

2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
51	0	0	0	0	0	0	0	0
Total Hours of Downtime		51	Total Hours of Calibration		0	Total Hours of Flagged		51

2024 Hourly Data Graph



Peace River Complex (PRC) Station
BAROMETRIC PRESSURE (BP) in millibar (mb)

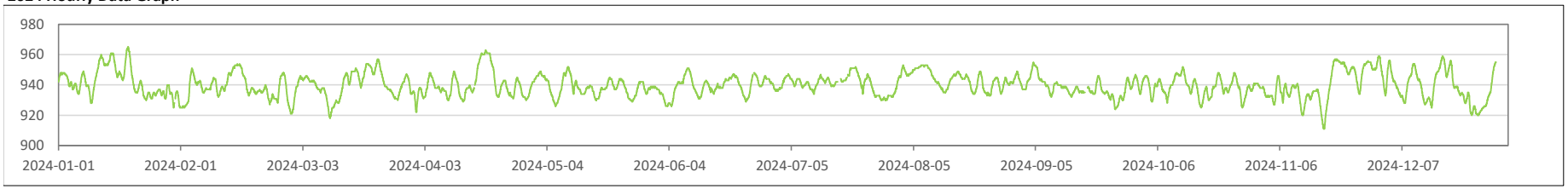
2024 Annual Continuous Data Summary

Month	Operational	# of Reading	Monthly Avg.	Min. 1-hr	Max. 1-hr	Max. 24-hr
January	99.6	741	942.3	925	965	962
February	100.0	696	938.2	921	954	953
March	100.0	744	940.3	918	957	954
April	99.6	717	940.3	927	963	961
May	100.0	744	938.5	926	952	950
June	98.9	712	939.1	926	951	950
July	97.3	724	940.5	930	952	951
August	100.0	744	943.8	933	953	953
September	97.6	703	938.3	924	955	953
October	100.0	744	938.7	925	952	949
November	100.0	720	939.9	911	958	957
December	100.0	744	939.4	920	959	957
Annual	99.4	8733	940.0	911	965	962

2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
51	0	0	0	0	0	0	0	0
Total Hours of Downtime		51	Total Hours of Calibration		0	Total Hours of Flagged		51

2024 Hourly Data Graph



Peace River Complex (PRC) Station
VECTOR WIND SPEED (VWS) in kilometer per hour (km/hr)

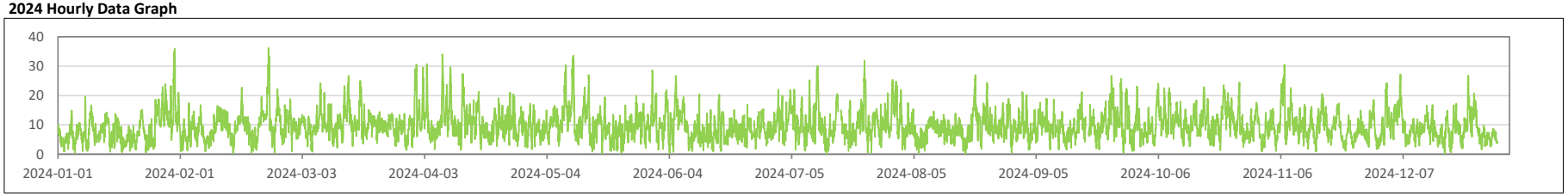
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 1-hr	Max. 1-hr	Max. 24-hr	Monthly Avg.	Percentage Readings in Concentration Range				
							0 - 6	7 - 15	16 - 29	30 -39	>39
January	99.6	741	0.5	36.0	19.1	1.7	40.8%	52.1%	6.6%	0.5%	0.0%
February	100.0	696	0.4	36.2	22.6	3.4	28.2%	64.1%	6.5%	1.3%	0.0%
March	100.0	744	0.8	30.5	17.9	2.6	14.9%	75.7%	9.3%	0.1%	0.0%
April	99.6	717	1.4	34.0	18.5	3.8	17.9%	66.8%	14.5%	0.8%	0.0%
May	100.0	744	0.4	33.6	22.7	1.8	22.6%	64.5%	11.8%	1.1%	0.0%
June	98.9	712	0.5	26.7	15.9	0.6	31.7%	61.2%	7.0%	0.0%	0.0%
July	97.3	724	0.2	31.9	20.0	6.5	20.2%	62.7%	16.6%	0.6%	0.0%
August	100.0	744	0.2	26.8	18.1	2.9	25.4%	67.5%	7.1%	0.0%	0.0%
September	97.6	700	0.5	26.6	16.4	6.8	20.6%	67.9%	11.6%	0.0%	0.0%
October	100.0	744	1.3	24.5	17.9	4.9	18.3%	66.0%	15.7%	0.0%	0.0%
November	100.0	720	0.9	30.5	22.0	1.5	29.7%	60.8%	9.3%	0.1%	0.0%
December	100.0	744	0.3	27.2	17.1	3.4	35.3%	55.4%	9.3%	0.0%	0.0%
Annual	99.4	8730	0.2	36.2	22.7	3.1	25.5%	63.7%	10.4%	0.4%	0.0%

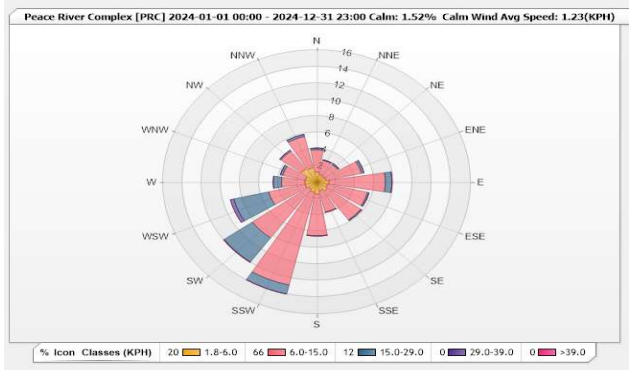
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
51	0	0	0	0	0	3	0	0
Total Hours of Downtime		51	Total Hours of Calibration		3	Total Hours of Flagged		54

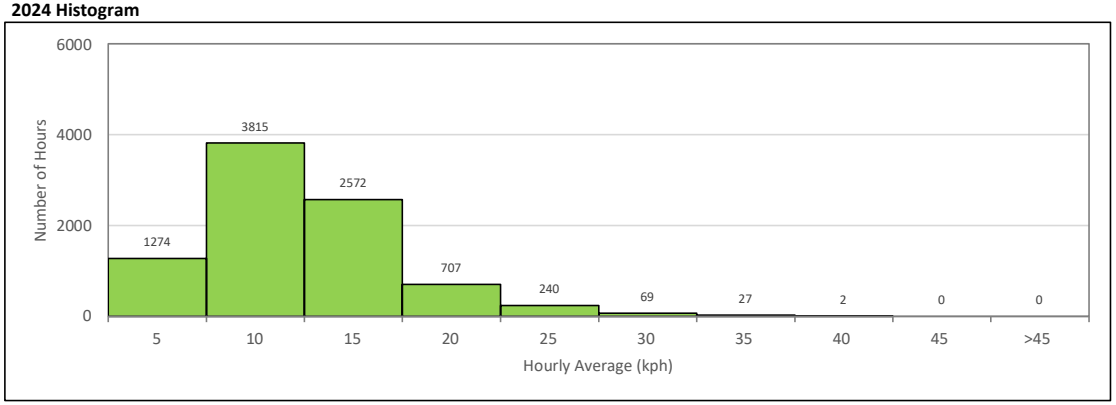
2024 Hourly Data Graph



2024 Wind Rose



2024 Histogram



1.5 AQHI - Grimshaw Station

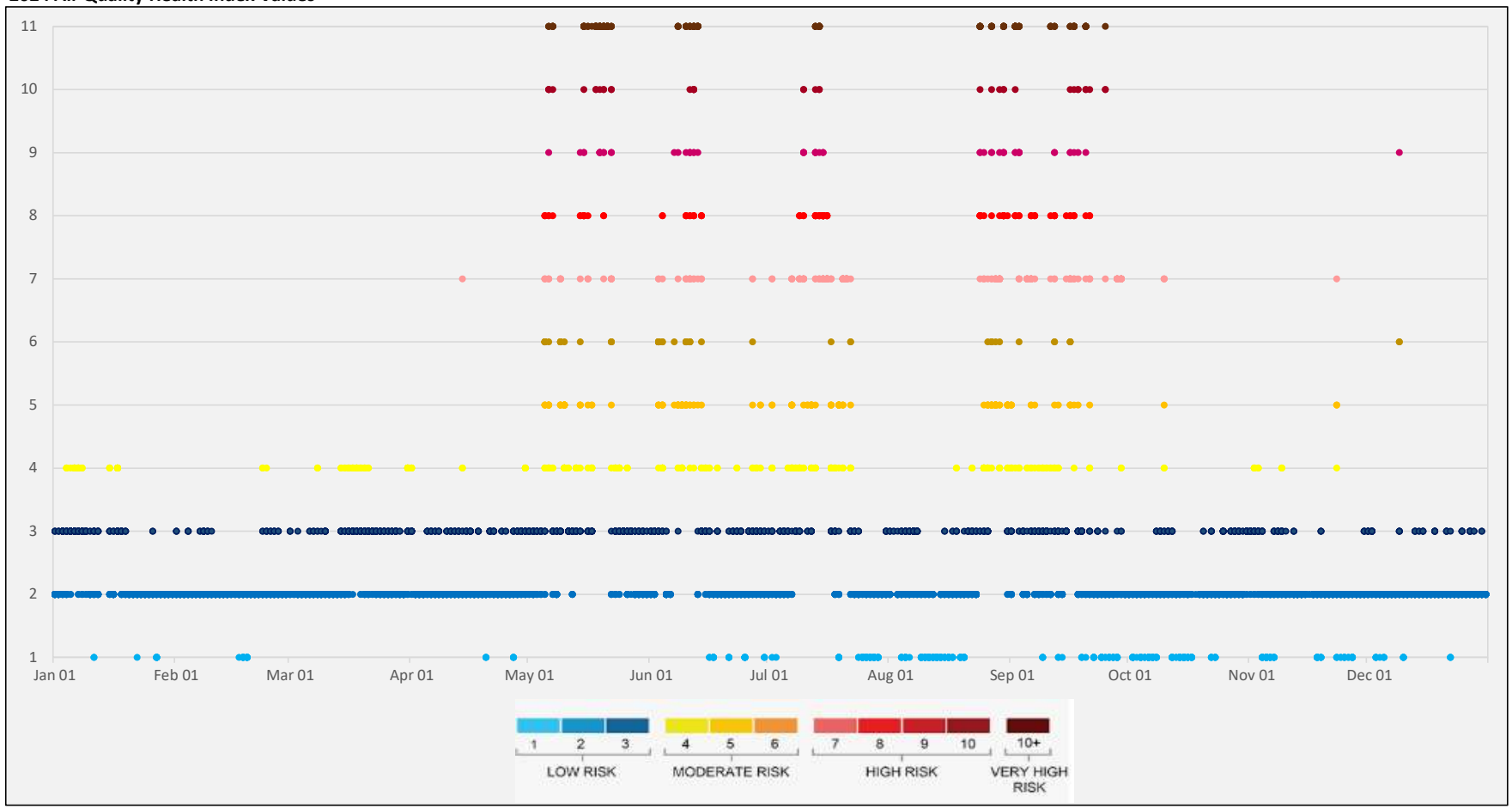
1.5.1 Parameters Monitoring Summary

	SO2	TRS	NOx	NO	NO2	O3	THC55	CH4	NMHC	PM2.5
	ppb	ppb	ppb	ppb	ppb	ppb	ppm	ppm	ppm	ug/m3
Minimum	0	0.00	0	0	0	0.0	1.87	1.87	0.00	0
Min Date	2024-01-01 00:00	2024-01-01 00:00	2024-03-10 13:00	2024-01-01 03:00	2024-03-10 13:00	2024-01-26 21:00	2024-07-28 14:00	2024-07-28 14:00	2024-01-01 00:00	2024-01-30 12:00
Maximum	3	30.73	164	116	56	59.8	14.83	2.95	12.69	1144
Max Date	2024-02-19 10:00	2024-04-24 05:00	2024-03-11 06:00	2024-01-26 06:00	2024-03-11 06:00	2024-07-22 21:00	2024-03-09 20:00	2024-01-19 02:00	2024-03-09 20:00	2024-05-11 00:00
Average	0	0.21	6	1	5	26.5	2.03	2.03	0.01	10
# of Reading	8294	8250	7417	7417	7417	8266	8267	8267	8267	8753
Valid Data [%]	94.4	93.9	84.4	84.4	84.4	94.1	94.1	94.1	94.1	99.7
Operational Uptime [%]	99.4	99.0	89.5	89.5	89.5	99.1	99.1	99.1	99.1	99.8

	RH	BP	AT	WDS	WDV
	%RH	mb	°C	KPH	Deg
Minimum	9	911	-38.7	0.0	0
Min Date	2024-04-20 15:00	2024-11-17 05:00	2024-01-12 10:00	2024-03-06 02:00	2024-01-06 14:00
Maximum	100	967	33.6	36.2	360
Max Date	2024-05-16 03:00	2024-01-18 11:00	2024-07-18 15:00	2024-01-30 15:00	2024-01-14 01:00
Average	68	940	3.1	7.9	312
# of Reading	8766	8766	8770	8762	8762
Valid Data [%]	99.8	99.8	99.84	99.75	99.75
Operational Uptime [%]	99.8	99.8	99.8	99.8	99.8

AQHI - GRIMSHAW STATION
AIR QUALITY HEALTH INDEX (AQHI)

2024 Air Quality Health Index Values



1.5.3 Monitoring Parameters – Continuous Data Summary and Frequency Distribution

AQHI - GRIMSHAW STATION
SULPHUR DIOXIDE (SO_2) in parts per billion (ppb)

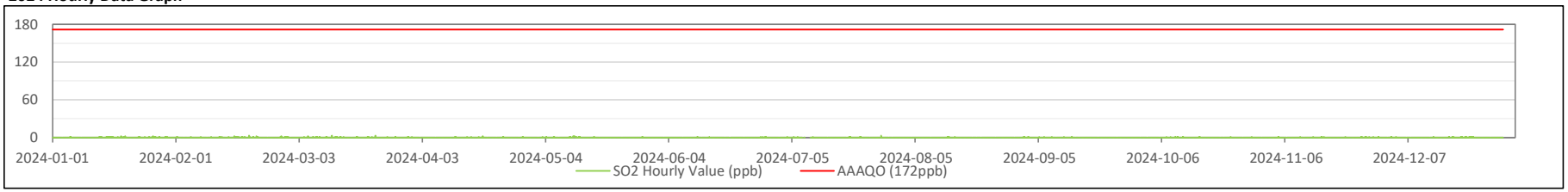
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 1-hr	Max. 1-hr	Max. 24-hr	Monthly Avg.	# of AAAQOExceedances				Percentage Readings in Concentration Range				
							1-hour	24-hour	30-day	Annual	0 - 10	11 -50	51 -100	101 - 172	>172
January	100.0	707	0	2	1	0.1	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
February	100.0	660	0	3	1	0.1	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
March	99.7	706	0	3	0	0.1	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
April	99.7	683	0	2	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
May	100.0	707	0	2	1	0.1	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
June	99.7	678	0	1	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
July	94.1	664	0	3	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
August	99.9	706	0	1	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
September	100.0	684	0	1	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
October	100.0	709	0	1	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
November	100.0	683	0	1	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
December	100.0	707	0	1	0	0.0	0	0	0	-	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	99.4	8294	0	3	1	0.0	0	0	0	0	100.0%	0.0%	0.0%	0.0%	0.0%

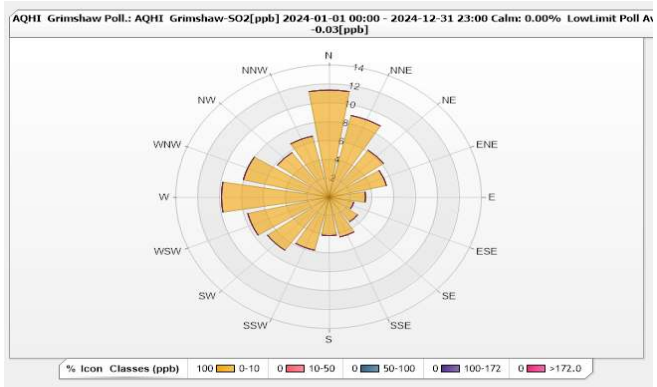
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
2	37	2	8	0	2	55	379	5
Total Hours of Downtime		51	Total Hours of Calibration		439	Total Hours of Flagged		490

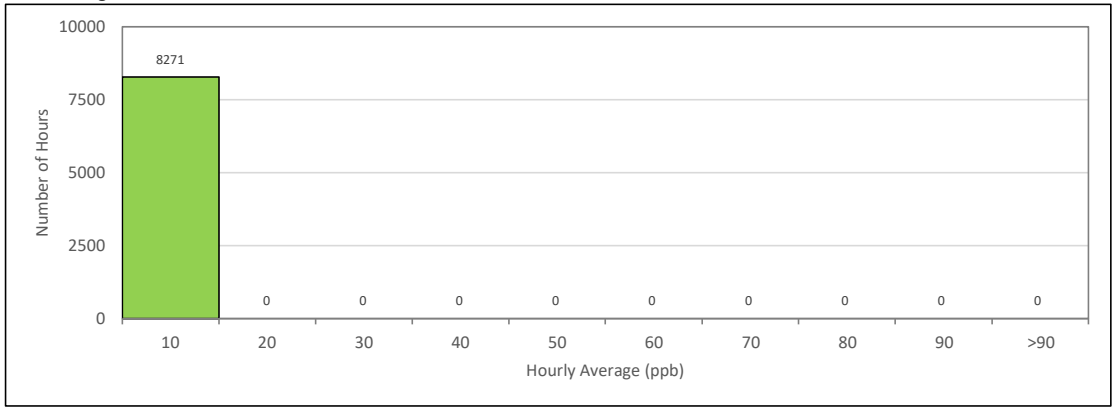
2024 Hourly Data Graph



2024 Pollution Rose



2024 Histogram



AQHI - GRIMSHAW STATION
TOTAL REDUCED SULPHUR (TRS) in parts per billion (ppb)

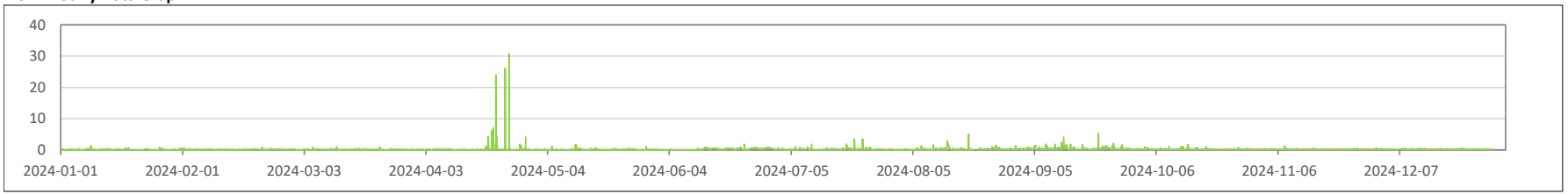
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 1-hr	Max. 1-hr	Max. 24-hr	Monthly Avg.	Percentage Readings in Concentration Range				
							0 - 2	3 - 5	6 - 10	11 - 50	>50
January	98.1	693	0.00	1.33	0.23	0.08	100.0%	0.0%	0.0%	0.0%	0.0%
February	99.7	658	0.00	0.95	0.25	0.12	100.0%	0.0%	0.0%	0.0%	0.0%
March	99.9	706	0.00	0.95	0.18	0.09	100.0%	0.0%	0.0%	0.0%	0.0%
April	99.7	683	0.00	30.73	2.70	0.33	97.8%	1.2%	0.3%	0.7%	0.0%
May	99.3	702	0.00	1.59	0.64	0.09	100.0%	0.0%	0.0%	0.0%	0.0%
June	99.7	678	0.00	1.83	0.63	0.24	100.0%	0.0%	0.0%	0.0%	0.0%
July	96.2	679	0.00	3.53	0.57	0.21	99.7%	0.3%	0.0%	0.0%	0.0%
August	95.3	671	0.00	5.03	0.70	0.24	99.6%	0.4%	0.0%	0.0%	0.0%
September	100.0	684	0.11	5.30	0.87	0.42	99.6%	0.4%	0.0%	0.0%	0.0%
October	100.0	709	0.09	1.67	0.44	0.22	100.0%	0.0%	0.0%	0.0%	0.0%
November	100.0	683	0.11	1.30	0.30	0.21	100.0%	0.0%	0.0%	0.0%	0.0%
December	99.7	704	0.12	0.53	0.31	0.22	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	99.0	8250	0.00	30.73	2.70	0.21	99.7%	0.2%	0.0%	0.1%	0.0%

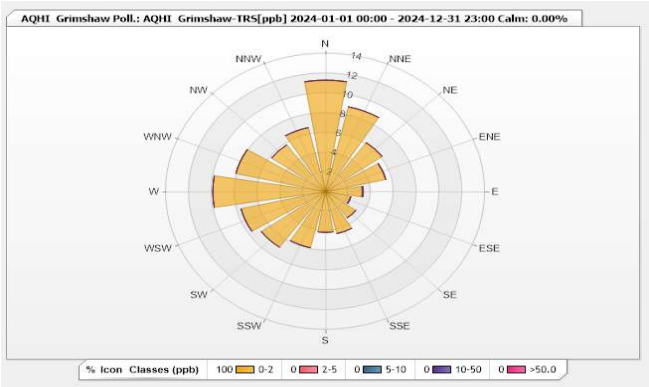
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
2	45	2	11	0	31	60	378	5
Total Hours of Downtime		91	Total Hours of Calibration		443	Total Hours of Flagged		534

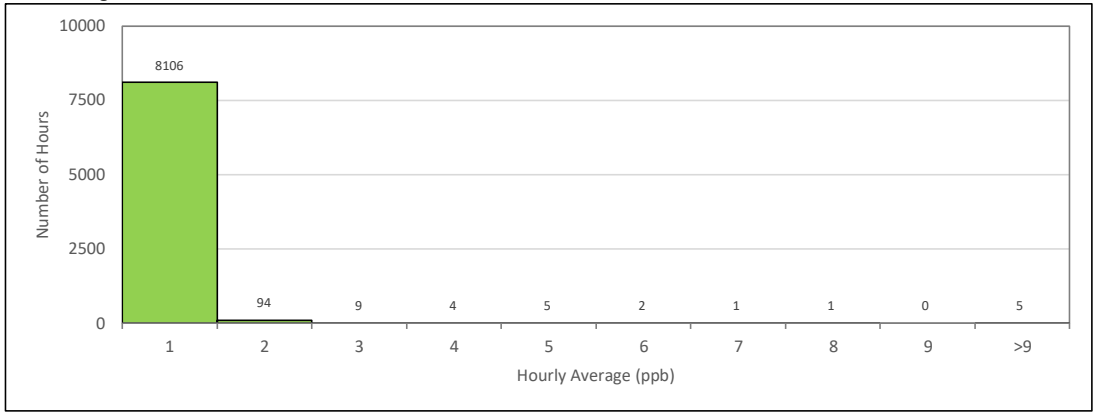
2024 Hourly Data Graph



2024 Pollution Rose



2024 Histogram



AQHI - GRIMSHAW STATION
TOTAL REDUCED SULPHUR (TRS) in parts per billion (ppb)

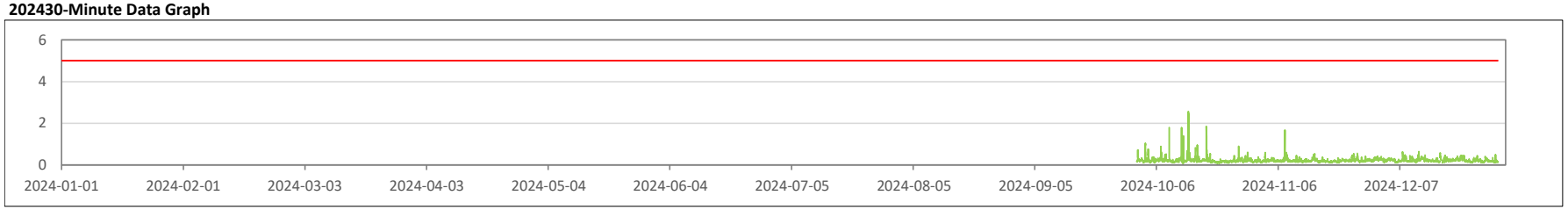
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 30-min	Max. 30-min	Max. 24-hr	Monthly Avg.	# of AAAQO 30-min	Percentage Readings in Concentration Range				
								0 - 2	3 - 5	6 - 10	11 - 50	>50
January	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
February	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
March	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
April	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
May	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
June	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
July	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
August	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
September	0.0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
October	100.0	1417	0.08	2.56	0.44	0.22	0	99.9%	0.1%	0.0%	0.0%	0.0%
November	100.0	1367	0.11	1.64	0.30	0.21	0	100.0%	0.0%	0.0%	0.0%	0.0%
December	99.7	1409	0.11	0.63	0.31	0.22	0	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	25.0	4193	0.08	2.56	0.44	0.22	0	100.0%	0.0%	0.0%	0.0%	0.0%

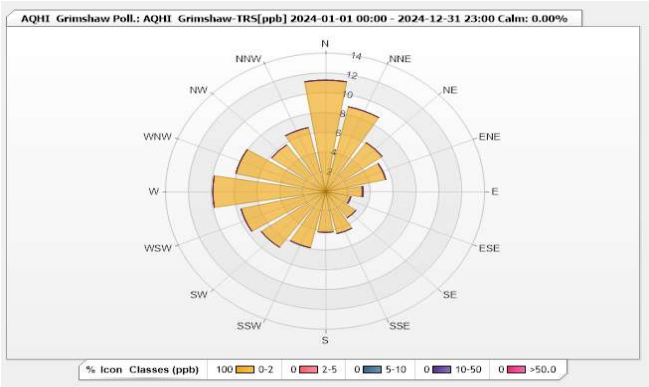
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
0	0	0	0	0	5	28	190	0
Total Hours of Downtime		0	Total Hours of Calibration		0	Total Hours of Flagged		0

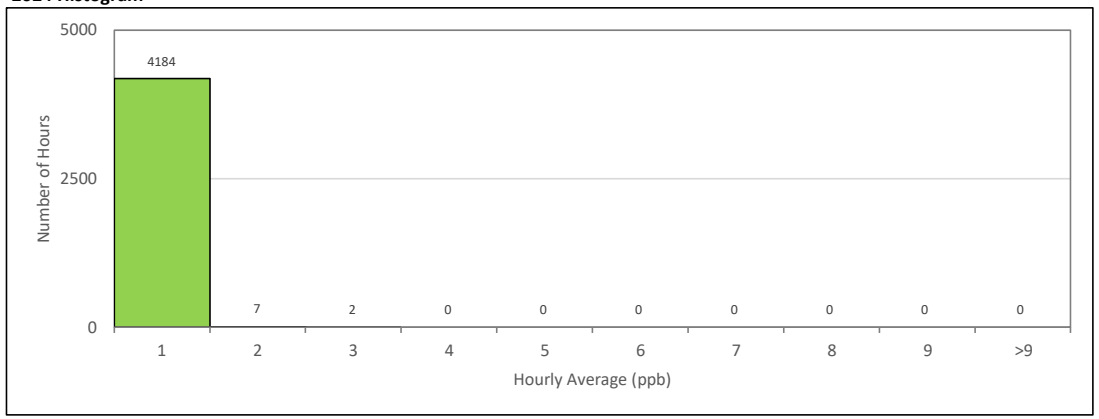
202430-Minute Data Graph



2024 Pollution Rose



2024 Histogram



AQHI - GRIMSHAW STATION
OXIDES OF NITROGEN (NOx) in parts per billion (ppb)

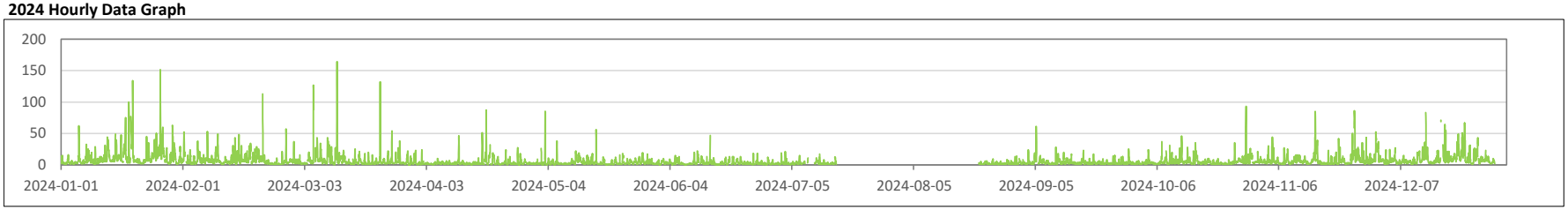
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 1-hr	Max. 1-hr	Max. 24-hr	Monthly Avg.	Percentage Readings in Concentration Range				
							0 - 30	31 - 50	51 - 82	83 - 159	>159
January	99.9	704	1	151	33	11.4	92.3%	6.1%	1.1%	0.4%	0.0%
February	100.0	658	1	113	16	8.1	97.4%	1.8%	0.6%	0.2%	0.0%
March	99.7	703	0	164	21	7.3	97.0%	2.0%	0.3%	0.6%	0.1%
April	99.7	681	0	87	11	3.5	99.3%	0.4%	0.1%	0.1%	0.0%
May	100.0	704	0	84	10	4.1	99.3%	0.4%	0.1%	0.1%	0.0%
June	99.7	673	0	47	6	3.2	99.9%	0.1%	0.0%	0.0%	0.0%
July	42.3	295	0	21	5	NA	100.0%	0.0%	0.0%	0.0%	0.0%
August	34.0	237	0	14	3	NA	100.0%	0.0%	0.0%	0.0%	0.0%
September	100.0	682	1	61	6	3.7	99.9%	0.0%	0.1%	0.0%	0.0%
October	100.0	706	1	93	11	5.0	98.9%	1.0%	0.0%	0.1%	0.0%
November	100.0	681	1	86	25	7.6	96.3%	2.5%	0.9%	0.3%	0.0%
December	98.9	693	1	83	22	9.7	95.8%	2.7%	1.3%	0.1%	0.0%
Annual	89.5	7417	0	164	33	6.4	98.0%	1.4%	0.4%	0.2%	0.0%

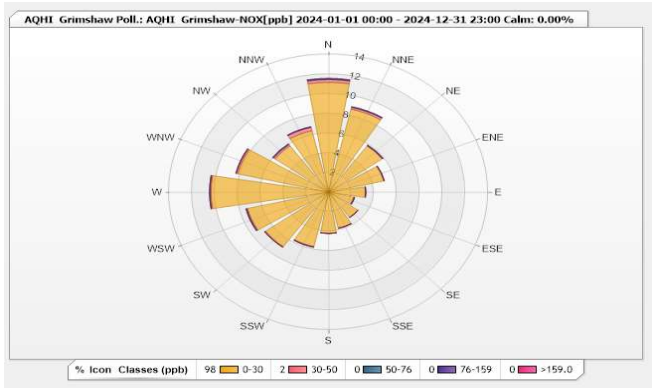
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
2	893	4	4	0	32	85	340	7
Total Hours of Downtime		935	Total Hours of Calibration		432	Total Hours of Flagged		1367

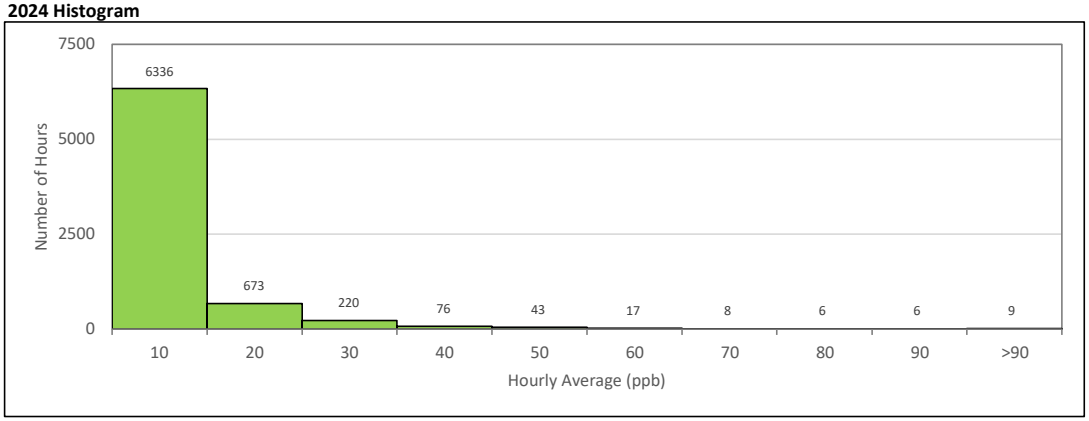
2024 Hourly Data Graph



2024 Pollution Rose



2024 Histogram



AQHI - GRIMSHAW STATION
NITRIC OXIDE (NO) in parts per billion (ppb)

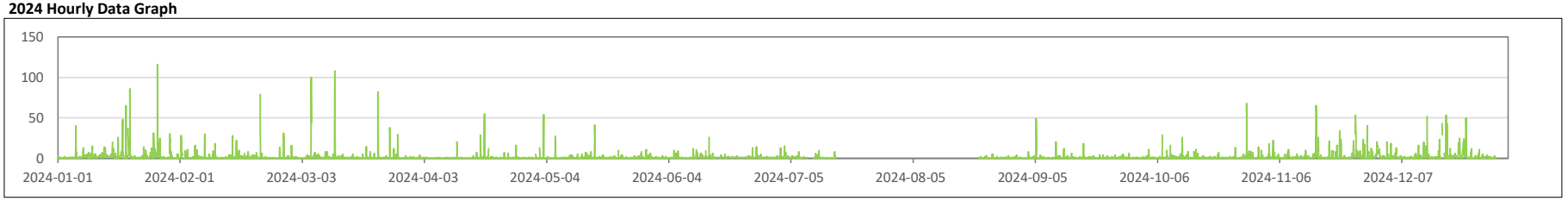
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 1-hr	Max. 1-hr	Max. 24-hr	Monthly Avg.	Percentage Readings in Concentration Range				
							0 - 30	31 - 50	51 - 82	83 - 159	>159
January	99.9	704	0	116	13	2.9	99.0%	0.6%	0.1%	0.3%	0.0%
February	100.0	658	0	79	7	1.4	99.5%	0.3%	0.2%	0.0%	0.0%
March	99.7	703	0	108	9	1.5	99.0%	0.4%	0.3%	0.3%	0.0%
April	99.7	681	0	55	3	0.5	99.9%	0.0%	0.1%	0.0%	0.0%
May	100.0	704	0	54	3	0.9	99.7%	0.1%	0.1%	0.0%	0.0%
June	99.7	673	0	26	2	1.1	100.0%	0.0%	0.0%	0.0%	0.0%
July	42.3	295	0	15	3	NA	100.0%	0.0%	0.0%	0.0%	0.0%
August	34.0	237	0	5	1	NA	100.0%	0.0%	0.0%	0.0%	0.0%
September	100.0	682	0	49	1	0.6	99.9%	0.1%	0.0%	0.0%	0.0%
October	100.0	706	0	68	4	1.0	99.9%	0.0%	0.1%	0.0%	0.0%
November	100.0	681	0	65	12	2.5	98.8%	0.9%	0.3%	0.0%	0.0%
December	98.9	693	0	67	8	2.6	98.8%	0.7%	0.4%	0.0%	0.0%
Annual	89.5	7417	0	116	13	1.5	99.5%	0.3%	0.1%	0.0%	0.0%

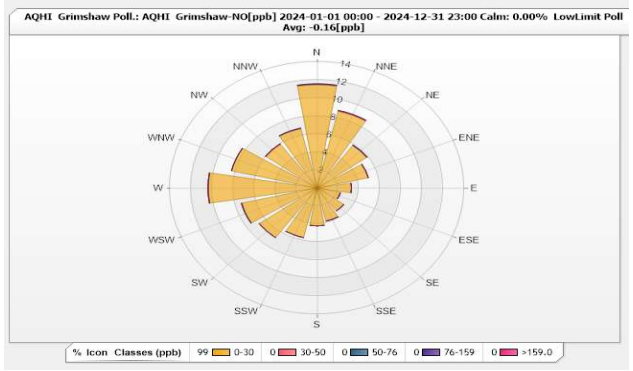
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
2	893	4	4	0	32	85	340	7
Total Hours of Downtime		935	Total Hours of Calibration		432	Total Hours of Flagged		1367

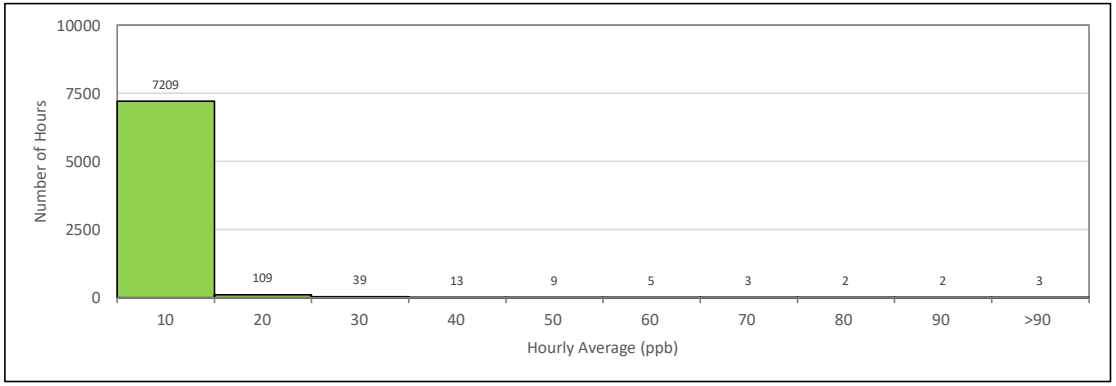
2024 Hourly Data Graph



2024 Pollution Rose



2024 Histogram



AQHI - GRIMSHAW STATION
NITROGEN DIOXIDE (NO_2) in parts per billion (ppb)

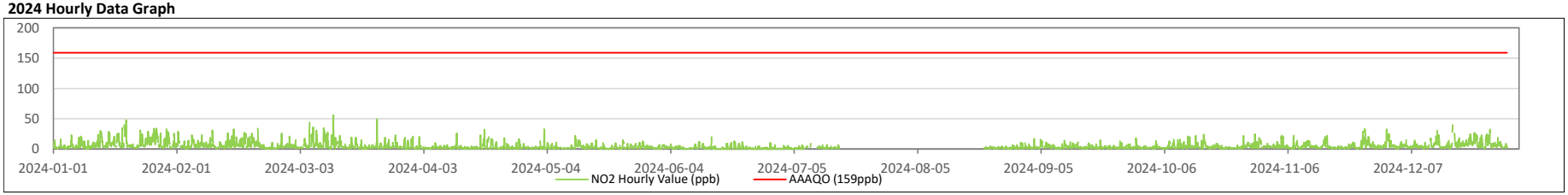
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 1-hr	Max. 1-hr	Max. 24-hr	Monthly Avg.	# of AAAQO Exceedances	Percentage Readings in Concentration Range				
							1-hour	0 - 30	31 - 50	51 - 82	83 - 159	>159
January	99.9	704	1	48	21	8.5	0	98.3%	1.7%	0.0%	0.0%	0.0%
February	100.0	658	1	34	12	6.6	0	99.5%	0.5%	0.0%	0.0%	0.0%
March	99.7	703	0	56	14	5.8	0	98.4%	1.4%	0.1%	0.0%	0.0%
April	99.7	681	0	32	8	3.0	0	99.9%	0.1%	0.0%	0.0%	0.0%
May	100.0	704	0	33	10	3.1	0	99.9%	0.1%	0.0%	0.0%	0.0%
June	99.7	673	0	20	4	2.1	0	100.0%	0.0%	0.0%	0.0%	0.0%
July	42.3	295	0	9	3	NA	0	100.0%	0.0%	0.0%	0.0%	0.0%
August	34.0	237	0	11	3	NA	0	100.0%	0.0%	0.0%	0.0%	0.0%
September	100.0	682	1	18	5	3.0	0	100.0%	0.0%	0.0%	0.0%	0.0%
October	100.0	706	1	25	8	3.9	0	100.0%	0.0%	0.0%	0.0%	0.0%
November	100.0	681	1	33	14	5.1	0	99.7%	0.3%	0.0%	0.0%	0.0%
December	98.9	693	0	40	15	7.1	0	99.6%	0.4%	0.0%	0.0%	0.0%
Annual	89.5	7417	0	56	21	4.8	0	99.6%	0.4%	0.0%	0.0%	0.0%

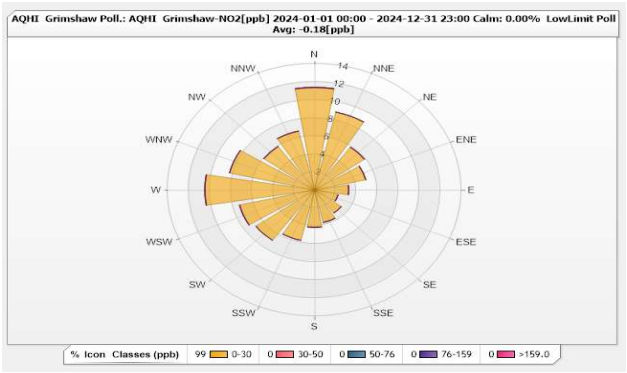
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
2	893	4	4	0	32	85	340	7
Total Hours of Downtime		935	Total Hours of Calibration		432	Total Hours of Flagged		1367

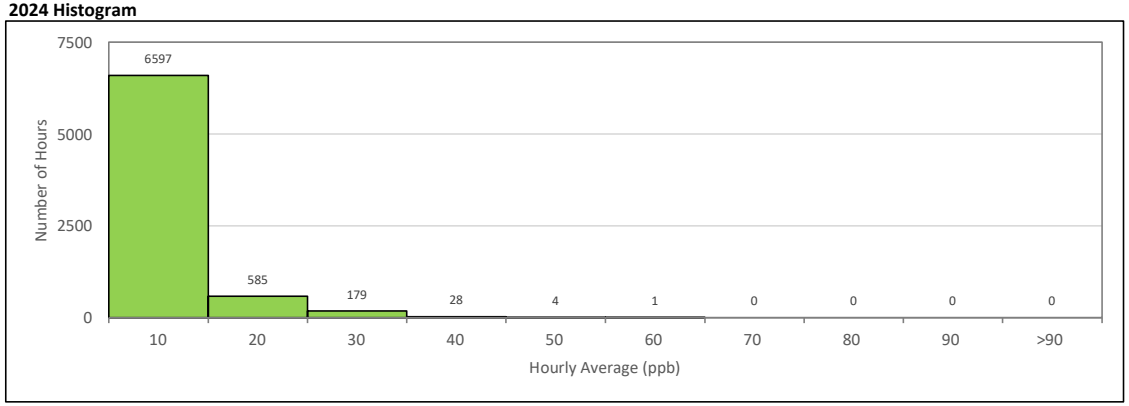
2024 Hourly Data Graph



2024 Pollution Rose



2024 Histogram



AQHI - GRIMSHAW STATION
OZONE (O_3) in parts per billion (ppb)

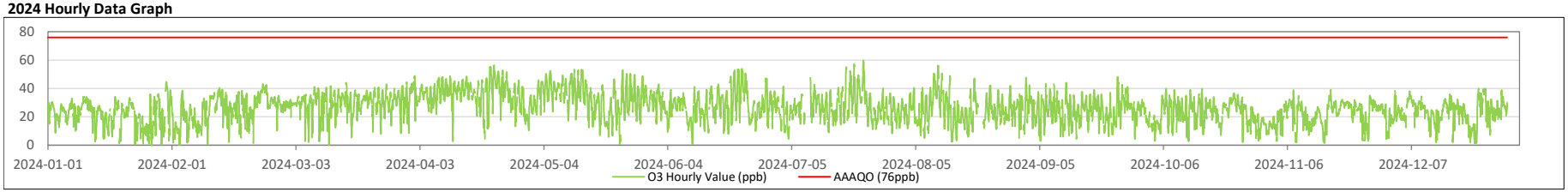
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 1-hr	Max. 1-hr	Max. 24-hr	Monthly Avg.	# of AAAQO Exceedances	Percentage Readings in Concentration Range				
							1-hour	0 - 30	31 - 50	51 - 82	83 - 159	>159
January	99.7	705	0.0	44.6	33.8	21.8	0	86.4%	13.6%	0.0%	0.0%	0.0%
February	100.0	661	0.1	43.1	38.2	25.0	0	66.7%	33.3%	0.0%	0.0%	0.0%
March	99.7	706	0.0	44.4	33.9	29.6	0	47.5%	52.5%	0.0%	0.0%	0.0%
April	99.7	682	2.8	56.4	44.5	36.0	0	22.3%	73.6%	4.1%	0.0%	0.0%
May	100.0	706	0.7	53.3	43.3	33.0	0	37.1%	59.9%	3.0%	0.0%	0.0%
June	99.6	678	0.4	53.9	40.7	28.0	0	61.5%	35.1%	3.4%	0.0%	0.0%
July	94.1	664	4.3	59.8	38.9	27.0	0	68.2%	29.4%	2.4%	0.0%	0.0%
August	96.8	681	2.3	56.0	41.2	25.1	0	70.5%	28.5%	1.0%	0.0%	0.0%
September	100.0	685	2.9	48.1	32.1	24.8	0	73.7%	26.3%	0.0%	0.0%	0.0%
October	100.0	707	2.1	39.8	33.0	22.4	0	82.7%	17.3%	0.0%	0.0%	0.0%
November	100.0	683	1.5	39.0	31.8	21.8	0	90.2%	9.8%	0.0%	0.0%	0.0%
December	100.0	708	1.3	39.8	33.9	23.2	0	83.3%	16.7%	0.0%	0.0%	0.0%
Annual	99.1	8266	0.0	59.8	44.5	26.5	0	65.8%	33.0%	1.2%	0.0%	0.0%

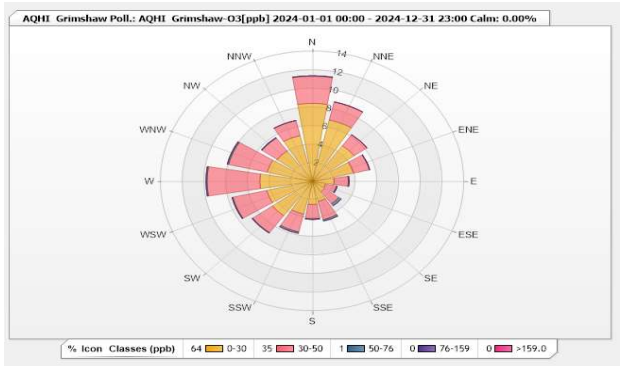
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
2	37	2	10	0	26	58	379	4
Total Hours of Downtime		77	Total Hours of Calibration		441	Total Hours of Flagged		518

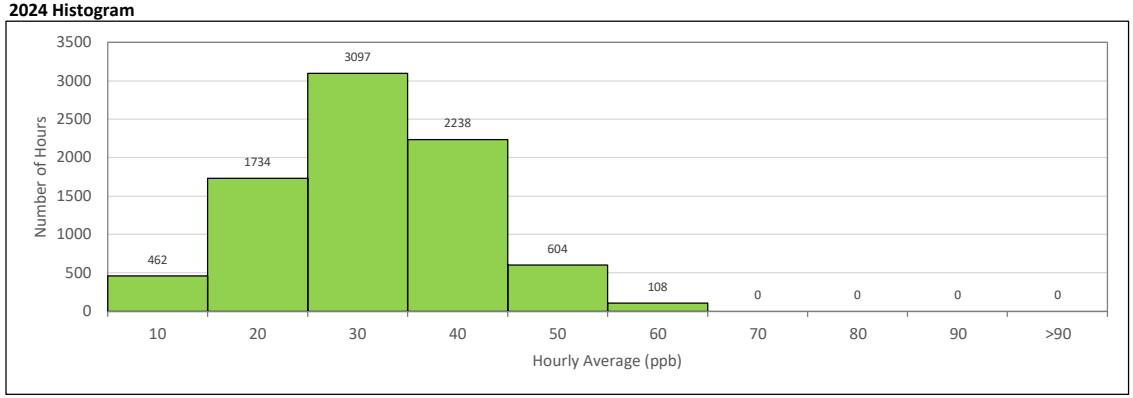
2024 Hourly Data Graph



2024 Pollution Rose



2024 Histogram



AQHI - GRIMSHAW STATION
TOTAL HYDROCARBONS (THC) in parts per million (ppm)

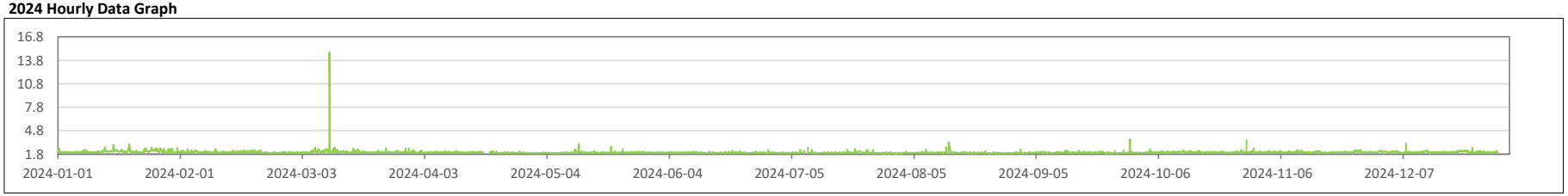
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 1-hr	Max. 1-hr	Max. 24-hr	Monthly Avg.	Percentage Readings in Concentration Range				
							0 - 2	3 - 5	6 - 10	11 - 40	>40
January	99.9	706	1.97	3.05	2.30	2.14	94.1%	5.9%	0.0%	0.0%	0.0%
February	100.0	661	1.93	2.47	2.13	2.05	99.5%	0.5%	0.0%	0.0%	0.0%
March	99.7	706	1.96	14.83	2.78	2.10	97.0%	2.8%	0.0%	0.1%	0.0%
April	93.9	642	1.90	2.24	2.07	2.01	100.0%	0.0%	0.0%	0.0%	0.0%
May	100.0	706	1.90	3.11	2.15	2.00	99.4%	0.6%	0.0%	0.0%	0.0%
June	99.6	678	1.93	2.31	2.03	1.99	100.0%	0.0%	0.0%	0.0%	0.0%
July	96.5	682	1.87	2.67	2.09	1.97	99.6%	0.4%	0.0%	0.0%	0.0%
August	99.9	705	1.87	3.31	2.25	1.98	98.3%	1.7%	0.0%	0.0%	0.0%
September	100.0	686	1.88	3.68	2.07	1.98	99.7%	0.3%	0.0%	0.0%	0.0%
October	100.0	706	1.95	3.59	2.11	2.05	99.6%	0.4%	0.0%	0.0%	0.0%
November	100.0	682	1.93	2.35	2.16	2.06	100.0%	0.0%	0.0%	0.0%	0.0%
December	100.0	707	1.95	3.15	2.21	2.07	99.7%	0.3%	0.0%	0.0%	0.0%
Annual	99.1	8267	1.87	14.83	2.78	2.03	98.9%	1.1%	0.0%	0.0%	0.0%

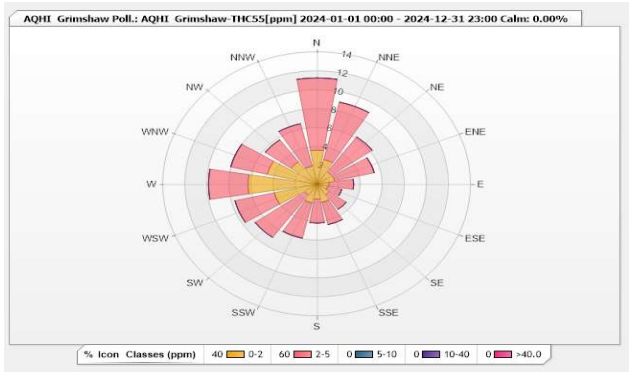
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
2	58	2	10	0	5	59	378	3
Total Hours of Downtime		77	Total Hours of Calibration		440	Total Hours of Flagged		517

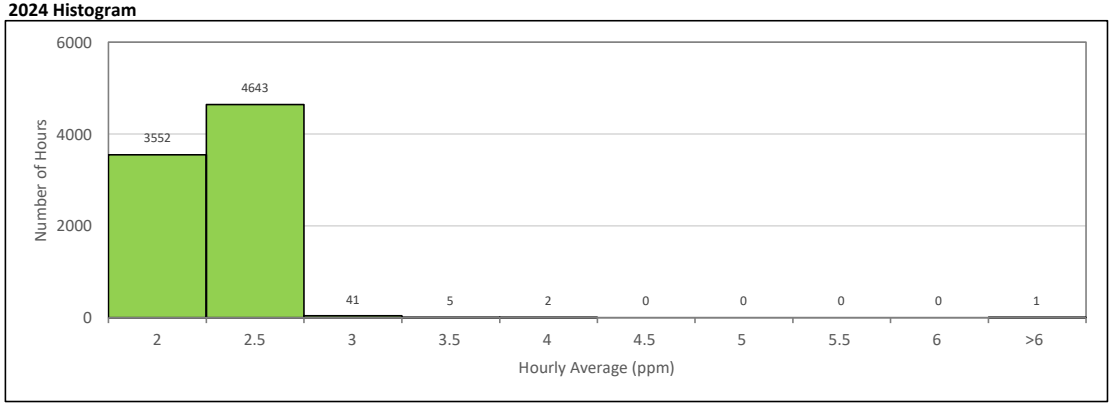
2024 Hourly Data Graph



2024 Pollution Rose



2024 Histogram



AQHI - GRIMSHAW STATION
METHANE (CH_4) in parts per million (ppm)

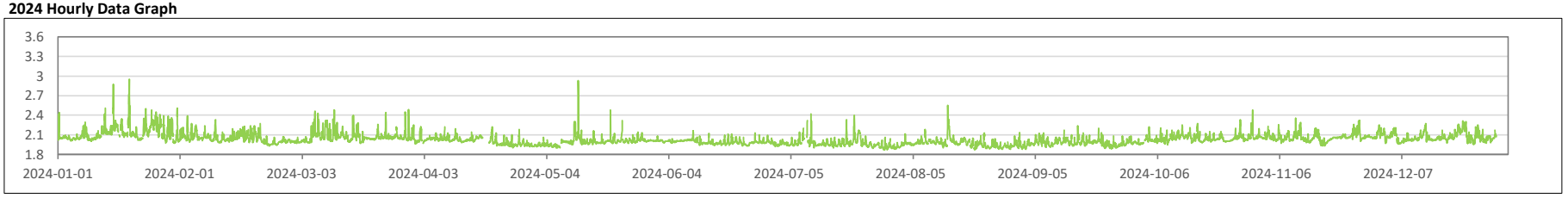
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 1-hr	Max. 1-hr	Max. 24-hr	Monthly Avg.	Percentage Readings in Concentration Range				
							0 - 2	3 - 5	6 - 10	11 - 20	>20
January	99.9	706	1.97	2.95	2.27	2.13	96.7%	3.3%	0.0%	0.0%	0.0%
February	100.0	661	1.93	2.39	2.12	2.05	100.0%	0.0%	0.0%	0.0%	0.0%
March	99.7	706	1.96	2.48	2.18	2.07	99.0%	1.0%	0.0%	0.0%	0.0%
April	93.9	642	1.90	2.22	2.07	2.01	100.0%	0.0%	0.0%	0.0%	0.0%
May	100.0	706	1.90	2.93	2.14	2.00	99.7%	0.3%	0.0%	0.0%	0.0%
June	99.6	678	1.93	2.16	2.03	1.99	100.0%	0.0%	0.0%	0.0%	0.0%
July	96.5	682	1.87	2.42	2.09	1.97	99.9%	0.1%	0.0%	0.0%	0.0%
August	99.9	705	1.87	2.55	2.09	1.97	99.7%	0.3%	0.0%	0.0%	0.0%
September	100.0	686	1.88	2.24	2.02	1.98	100.0%	0.0%	0.0%	0.0%	0.0%
October	100.0	706	1.95	2.48	2.10	2.05	99.9%	0.1%	0.0%	0.0%	0.0%
November	100.0	682	1.93	2.35	2.15	2.06	100.0%	0.0%	0.0%	0.0%	0.0%
December	100.0	707	1.95	2.31	2.20	2.07	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	99.1	8267	1.87	2.95	2.27	2.03	99.6%	0.4%	0.0%	0.0%	0.0%

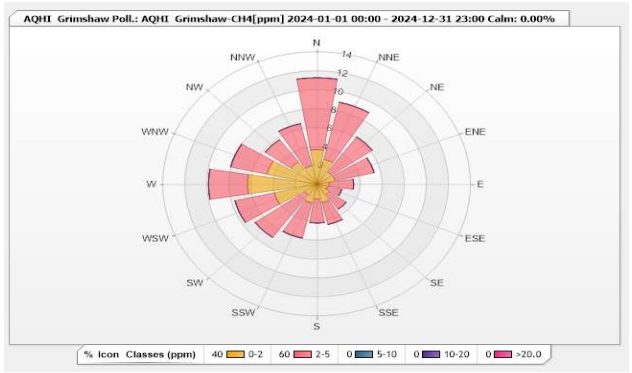
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
2	58	2	10	0	5	59	378	3
Total Hours of Downtime		77	Total Hours of Calibration		440	Total Hours of Flagged		517

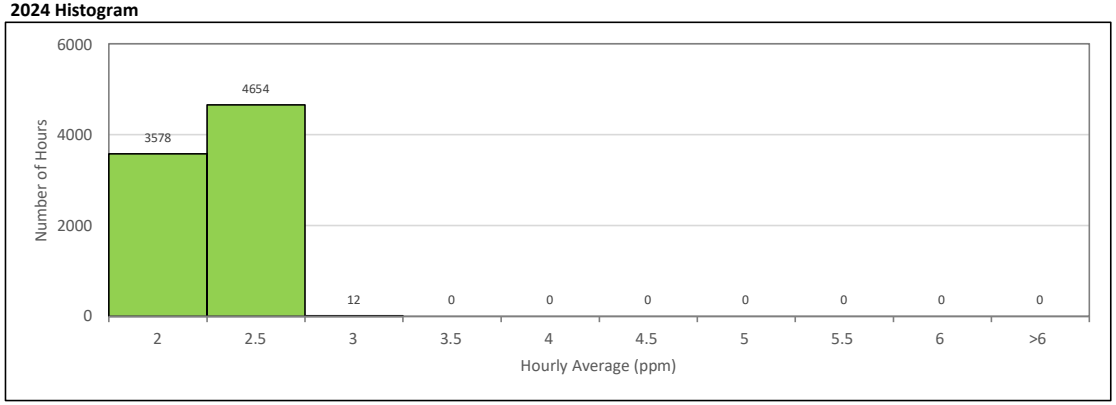
2024 Hourly Data Graph



2024 Pollution Rose



2024 Histogram



AQHI - GRIMSHAW STATION
NON-METHANE HYDROCARBONS (NMHC) in parts per million (ppm)

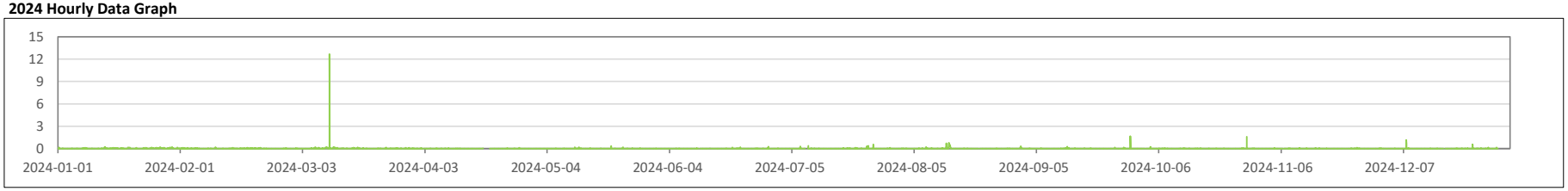
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 1-hr	Max. 1-hr	Max. 24-hr	Monthly Avg.	Percentage Readings in Concentration Range				
							0 - 0.1	0.2 - 0.3	0.4 - 0.9	1 -2	>2
January	99.9	706	0.00	0.18	0.06	0.01	99.3%	0.7%	0.0%	0.0%	0.0%
February	100.0	661	0.00	0.15	0.02	0.01	99.8%	0.2%	0.0%	0.0%	0.0%
March	99.7	706	0.00	12.69	0.61	0.03	99.2%	0.6%	0.1%	0.0%	0.1%
April	93.9	642	0.00	0.08	0.00	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
May	100.0	706	0.00	0.31	0.01	0.00	99.6%	0.4%	0.0%	0.0%	0.0%
June	99.6	678	0.00	0.23	0.01	0.00	99.7%	0.3%	0.0%	0.0%	0.0%
July	96.5	682	0.00	0.50	0.04	0.00	99.3%	0.3%	0.4%	0.0%	0.0%
August	99.9	705	0.00	0.76	0.19	0.01	97.6%	0.9%	1.6%	0.0%	0.0%
September	100.0	686	0.00	1.66	0.08	0.00	99.3%	0.6%	0.0%	0.1%	0.0%
October	100.0	706	0.00	1.57	0.07	0.00	99.7%	0.1%	0.0%	0.1%	0.0%
November	100.0	682	0.00	0.10	0.01	0.00	100.0%	0.0%	0.0%	0.0%	0.0%
December	100.0	707	0.00	1.12	0.05	0.00	99.7%	0.0%	0.1%	0.1%	0.0%
Annual	99.1	8267	0.00	12.69	0.61	0.01	99.4%	0.3%	0.2%	0.0%	0.0%

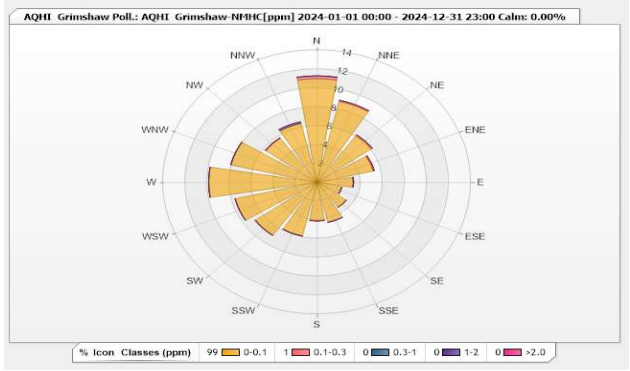
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
2	58	2	10	0	5	59	378	3
Total Hours of Downtime		77	Total Hours of Calibration		440	Total Hours of Flagged		517

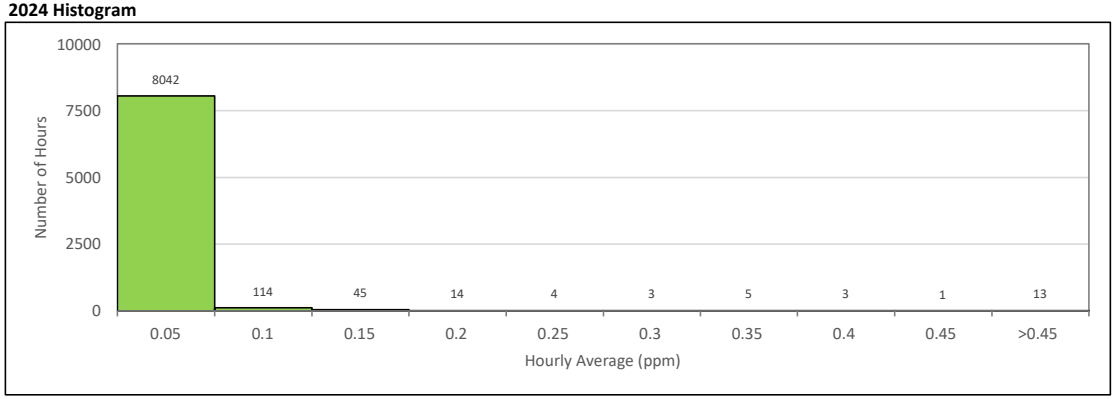
2024 Hourly Data Graph



2024 Pollution Rose



2024 Histogram



AQHI - GRIMSHAW STATION

PARTICULATE MATTER 2.5 ($PM_{2.5}$) in microgram per cubic meter ($\mu g/m^3$)

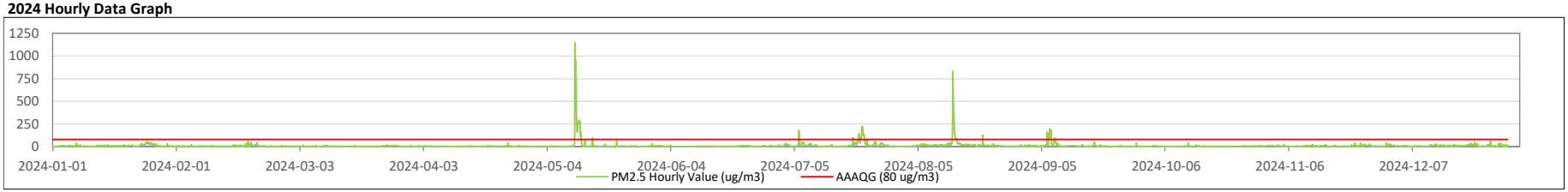
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 1-hr	Max. 1-hr	Max. 24-hr	Monthly Avg.	# of AAAQO Exceedances		Percentage Readings in Concentration Range				
							1-hour	24-hour	0 - 50	51 - 80	81 - 120	121 - 240	>240
January	99.9	742	0	55	38	8.3	0	2	99.9%	0.1%	0.0%	0.0%	0.0%
February	100.0	694	0	55	21	5.6	0	0	99.9%	0.1%	0.0%	0.0%	0.0%
March	99.7	741	0	18	9	3.7	0	0	100.0%	0.0%	0.0%	0.0%	0.0%
April	100.0	719	0	42	7	3.0	0	0	100.0%	0.0%	0.0%	0.0%	0.0%
May	100.0	743	0	1144	481	25.2	43	3	93.5%	0.7%	0.7%	1.7%	3.4%
June	99.6	714	0	14	8	4.1	0	0	100.0%	0.0%	0.0%	0.0%	0.0%
July	99.1	735	0	224	120	19.2	40	4	92.1%	2.4%	2.6%	2.9%	0.0%
August	99.9	742	1	817	179	21.5	28	3	95.6%	0.7%	1.3%	0.9%	1.5%
September	100.0	719	0	198	89	11.2	22	3	95.1%	1.8%	1.1%	1.9%	0.0%
October	100.0	742	0	43	8	3.5	0	0	100.0%	0.0%	0.0%	0.0%	0.0%
November	100.0	719	1	44	15	6.3	0	0	100.0%	0.0%	0.0%	0.0%	0.0%
December	100.0	743	0	61	22	8.6	0	0	99.9%	0.1%	0.0%	0.0%	0.0%
Annual	99.8	8753	0	1144	481	10.0	133	15	98.0%	0.5%	0.5%	0.6%	0.4%

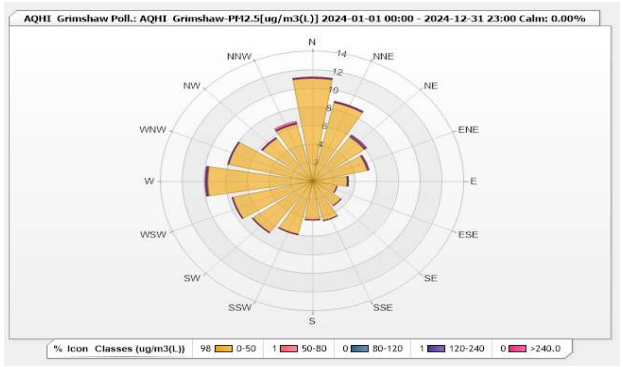
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
2	0	2	9	0	0	15	0	2
Total Hours of Downtime		13	Total Hours of Calibration		17	Total Hours of Flagged		30

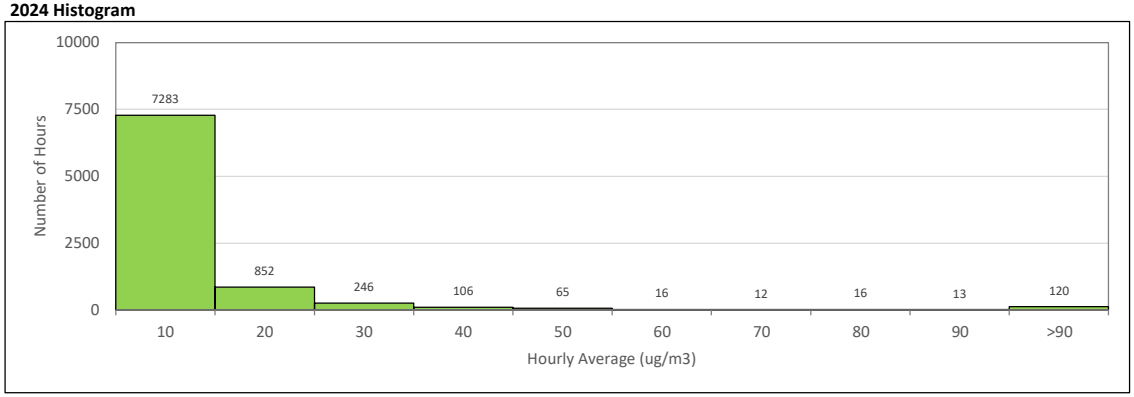
2024 Hourly Data Graph



2024 Pollution Rose



2024 Histogram



AQHI - GRIMSHAW STATION
RELATIVE HUMIDITY (RH) in percent (%)

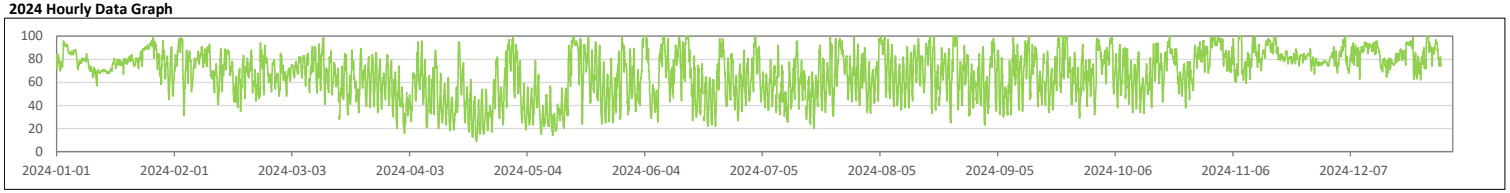
2024 Annual Continuous Data Summary

Month	Operational	# of Reading	Monthly Avg.	Min. 1-hr	Max. 1-hr	Max. 24-hr
January	99.5	740	78.0	45	99	93
February	100.0	696	70.6	31	98	94
March	99.7	742	63.9	20	99	77
April	99.9	719	47.3	9	99	84
May	100.0	744	54.6	14	100	96
June	99.3	715	64.0	22	100	94
July	99.5	740	62.0	20	99	91
August	99.9	743	67.6	25	100	94
September	99.9	719	65.5	23	100	87
October	100.0	744	72.8	33	100	94
November	100.0	720	83.0	59	100	97
December	100.0	744	83.0	62	100	95
Annual	99.8	8766	67.7	9	100	97

2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
2	0	2	14	0	0	0	0	0
Total Hours of Downtime		18	Total Hours of Calibration		0	Total Hours of Flagged		18

2024 Hourly Data Graph



AQHI - GRIMSHAW STATION
AMBIENT TEMPERATURE (AT) in degree celsius (°C)

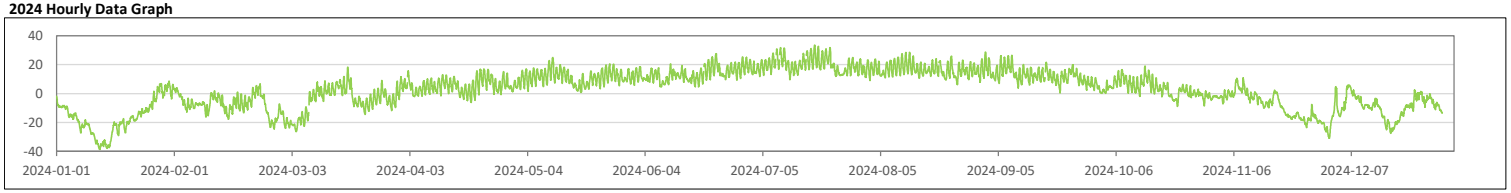
2024 Annual Continuous Data Summary

Month	Operational	# of Reading	Monthly Avg.	Min. 1-hr	Max. 1-hr	Max. 24-hr
January	100.0	744	-16.3	-38.7	8.6	5.4
February	100.0	696	-7.3	-24.4	6.5	2.7
March	99.7	742	-4.5	-26.3	18.4	7.6
April	99.9	719	5.5	-6.1	16.9	11.5
May	100.0	744	11.1	0.8	24.9	18.2
June	99.3	715	13.7	4.7	27.6	20.5
July	99.5	740	20.0	9.6	33.6	25.8
August	99.9	743	16.8	6.2	28.6	20.8
September	99.9	719	12.9	0.5	28.8	19.7
October	100.0	744	3.5	-8.8	19.1	11.7
November	100.0	720	-8.2	-29.4	10.8	4.9
December	100.0	744	-9.6	-30.9	5.9	4.9
Annual	99.8	8770	3.1	-38.7	33.6	25.8

2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
2	0	2	14	0	0	0	0	0
Total Hours of Downtime		18	Total Hours of Calibration		0	Total Hours of Flagged		18

2024 Hourly Data Graph



AQHI - GRIMSHAW STATION
BAROMETRIC PRESSURE (BP) in millibar (mb)

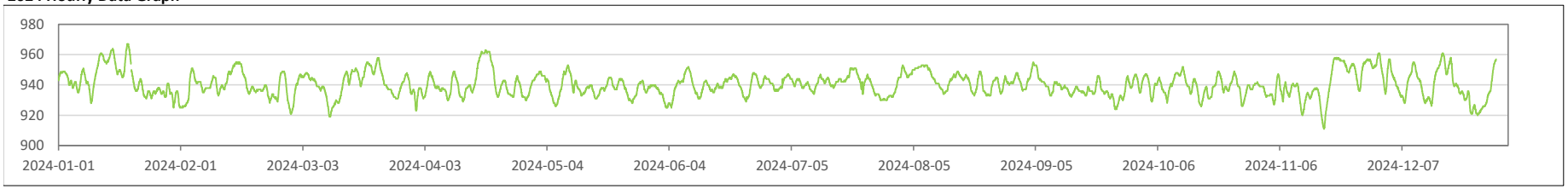
2024 Annual Continuous Data Summary

Month	Operational	# of Reading	Monthly Avg.	Min. 1-hr	Max. 1-hr	Max. 24-hr
January	99.5	740	943.5	925	967	964
February	100.0	696	939.1	921	955	955
March	99.7	742	941.0	919	958	954
April	99.9	719	940.8	928	963	962
May	100.0	744	938.8	926	953	951
June	99.3	715	939.1	925	952	950
July	99.5	740	940.4	930	951	951
August	99.9	743	943.5	933	953	953
September	99.9	719	938.3	924	955	953
October	100.0	744	939.2	926	952	949
November	100.0	720	940.9	911	960	957
December	100.0	744	940.5	920	961	959
Annual	99.8	8766	940.4	911	967	964

2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
2	0	2	10	0	0	0	0	0
Total Hours of Downtime		14	Total Hours of Calibration		0	Total Hours of Flagged		14

2024 Hourly Data Graph



AQHI - GRIMSHAW STATION
VECTOR WIND SPEED (VWS) in kilometer per hour (km/hr)

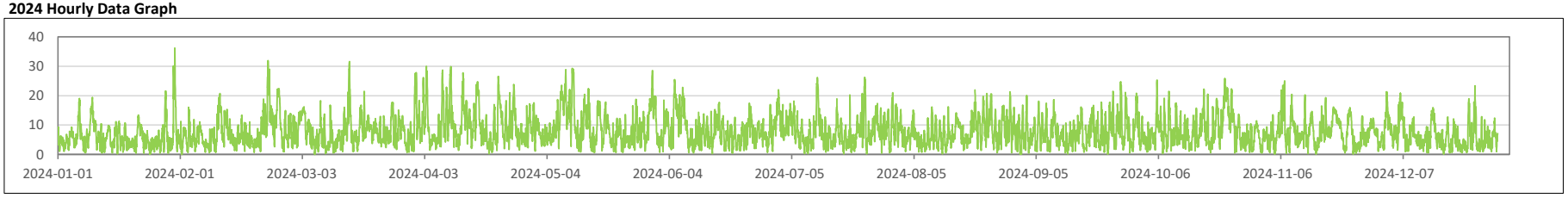
2024 Annual Continuous Data Summary and Annual Frequency Distribution

Month	Operational Uptime (%)	# of Reading	Min. 1-hr	Max. 1-hr	Max. 24-hr	Monthly Avg.	Percentage Readings in Concentration Range				
							0 - 6	7 - 15	16 - 29	30 -39	>39
January	99.5	740	0.1	36.2	17.3	6.0	67.4%	27.7%	4.5%	0.4%	0.0%
February	100.0	696	0.1	31.7	20.7	7.7	50.0%	41.5%	8.2%	0.3%	0.0%
March	99.7	742	0.0	31.6	14.8	7.8	45.0%	49.2%	5.7%	0.1%	0.0%
April	99.9	719	0.3	30.0	19.7	10.2	35.5%	44.9%	19.3%	0.3%	0.0%
May	100.0	744	0.6	29.2	20.0	9.6	38.6%	43.1%	18.3%	0.0%	0.0%
June	99.3	715	0.3	25.4	17.9	7.8	47.4%	45.9%	6.7%	0.0%	0.0%
July	99.5	740	0.2	26.1	16.8	8.6	38.6%	52.2%	9.2%	0.0%	0.0%
August	99.9	741	0.1	21.9	13.5	7.7	47.5%	46.8%	5.7%	0.0%	0.0%
September	99.6	717	0.1	24.7	13.3	7.8	46.3%	45.7%	7.9%	0.0%	0.0%
October	100.0	744	0.3	25.8	18.0	8.2	45.0%	44.4%	10.6%	0.0%	0.0%
November	100.0	720	0.1	25.0	16.9	7.5	44.0%	52.1%	3.9%	0.0%	0.0%
December	100.0	744	0.2	23.3	14.9	6.4	59.8%	35.8%	4.4%	0.0%	0.0%
Annual	99.8	8762	0.0	36.2	20.7	7.9	47.1%	44.1%	8.7%	0.1%	0.0%

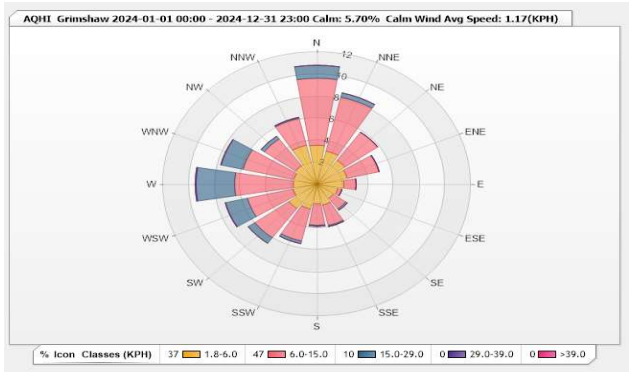
2024 Data Qualifier Flag Summary

P	X	Y	K	ND	NRM	C	S	Q
2	0	1	14	0	3	2	0	0
Total Hours of Downtime		20	Total Hours of Calibration		2	Total Hours of Flagged		22

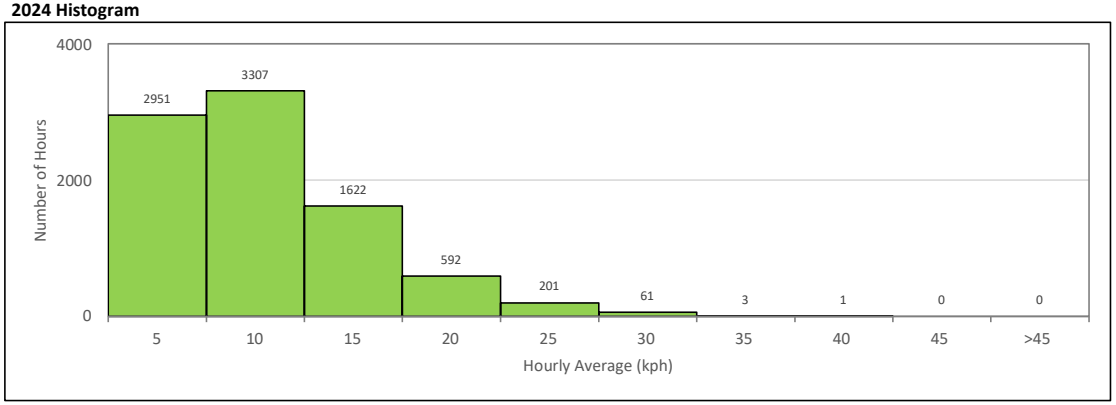
2024 Hourly Data Graph



2024 Wind Rose



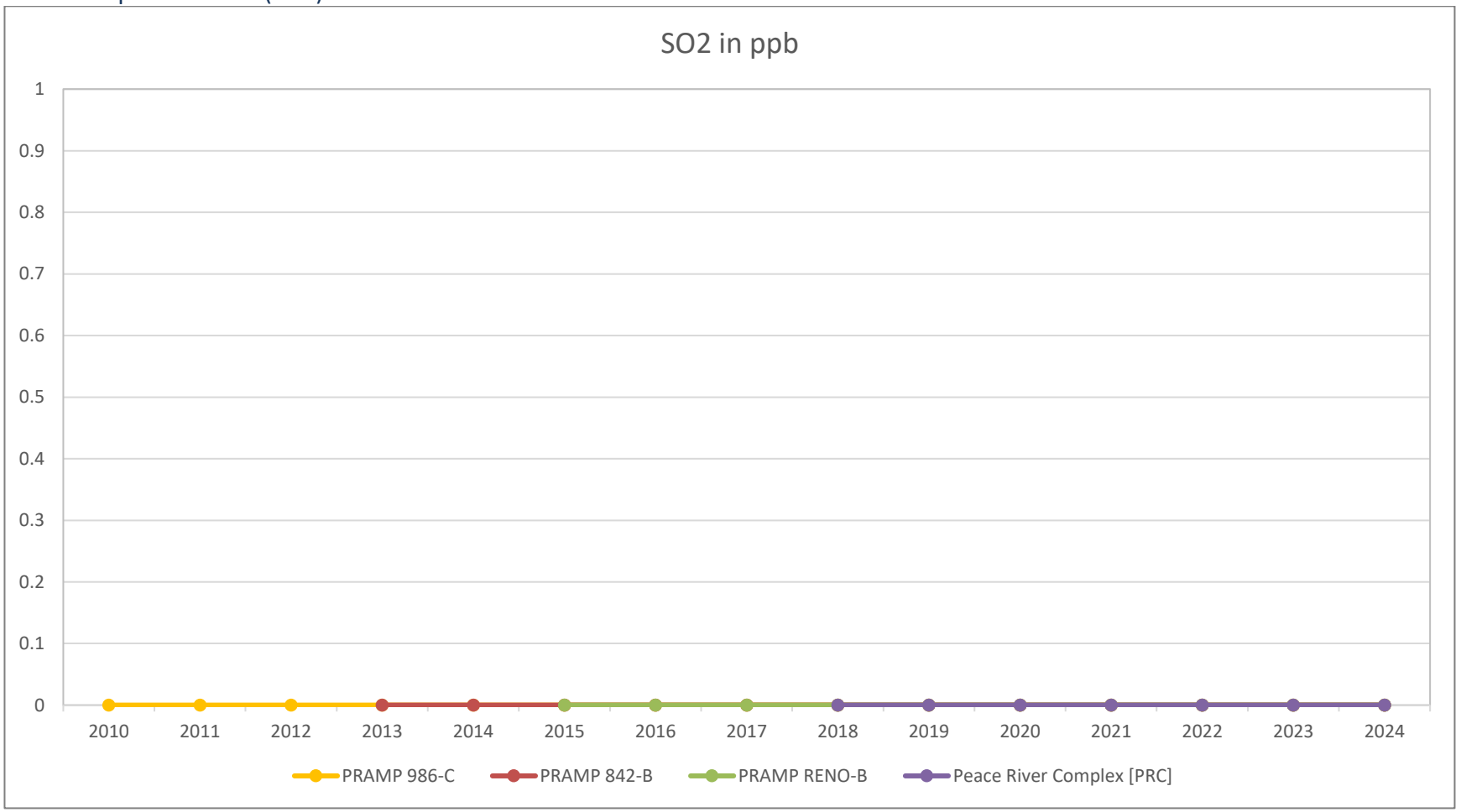
2024 Histogram



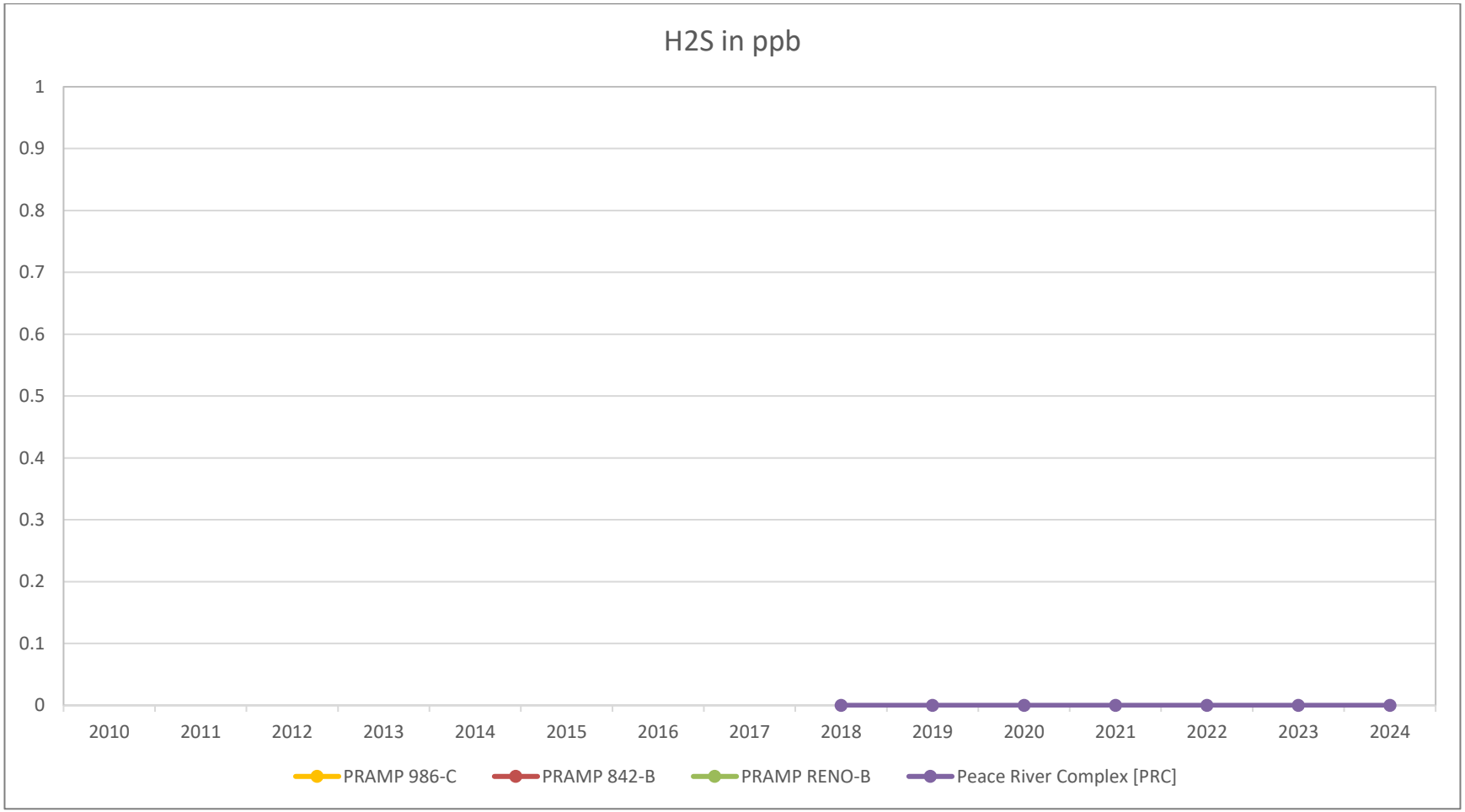
2.0 Continuous Monitoring 15- Year Charts (2010 – 2024) of Annual Average Concentrations

Only data collected at the 986-C, 842-B, Reno-B and PRC stations are included in this long-term data study. As the AQHI portable monitoring station only collects data at one location for maximum of 24-months period, they do not provide enough data for long-term trend study; therefore, they are excluded from this section.

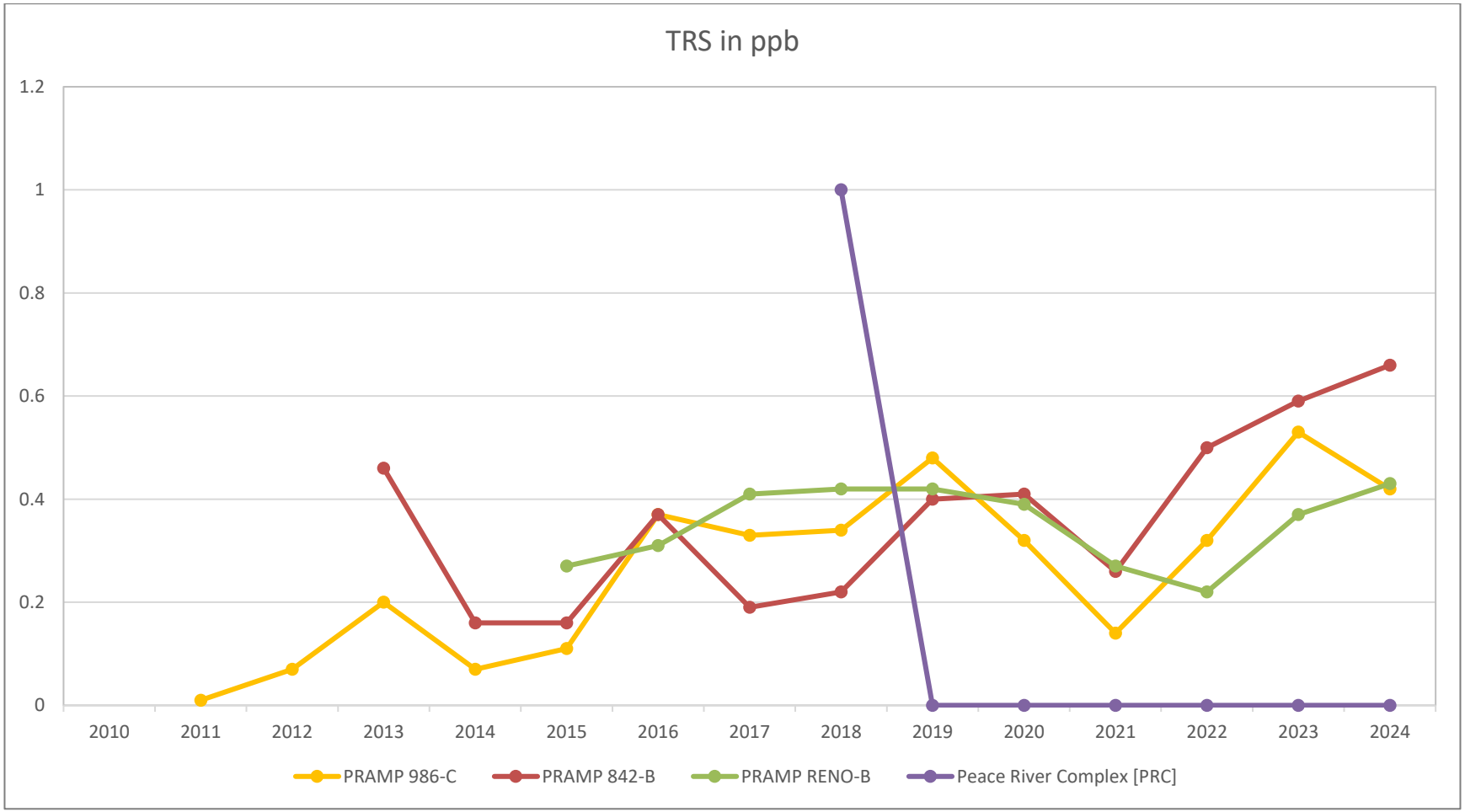
2.1 Sulphur Dioxide (SO2)



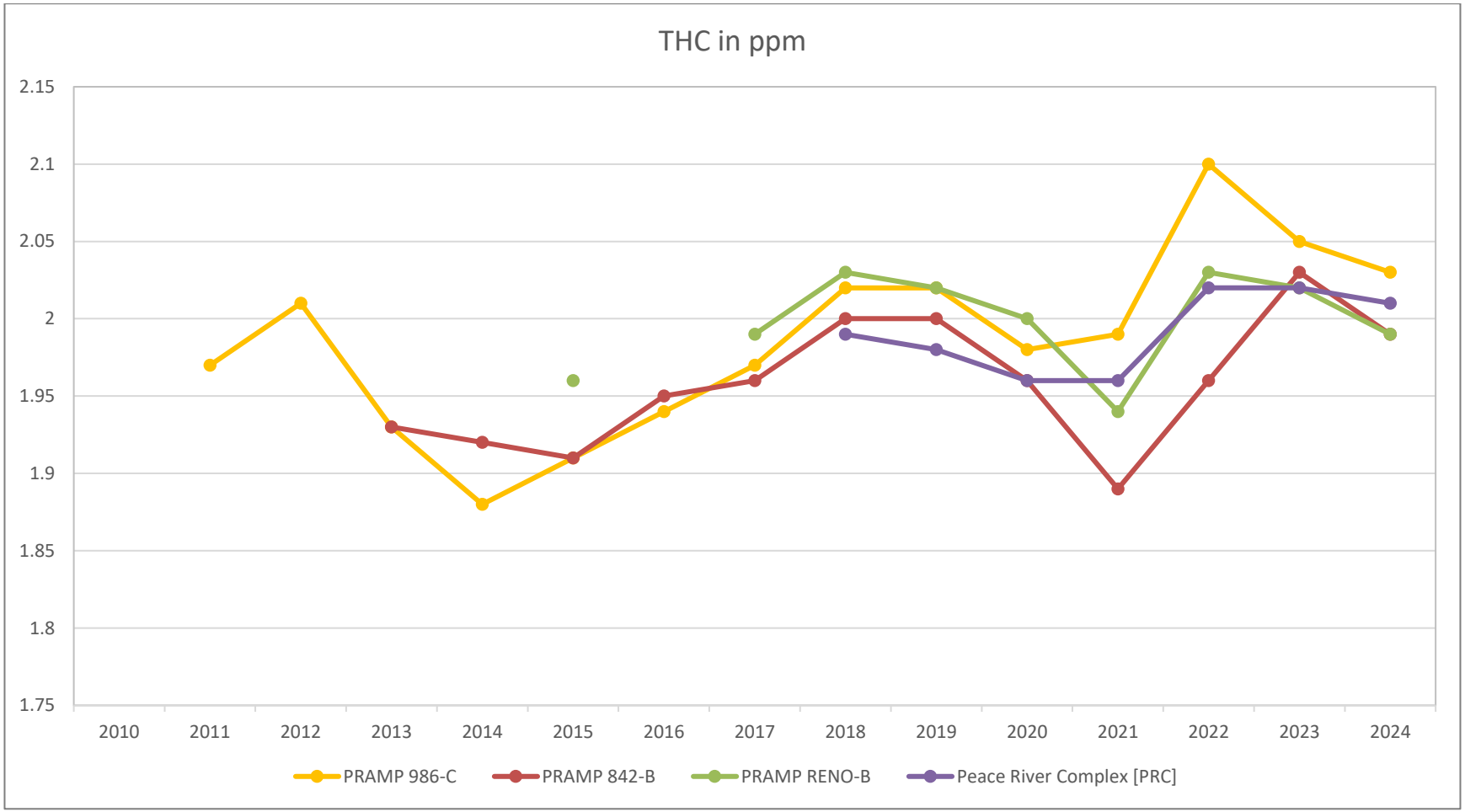
2.2 Hydrogen Sulphide (H2S)



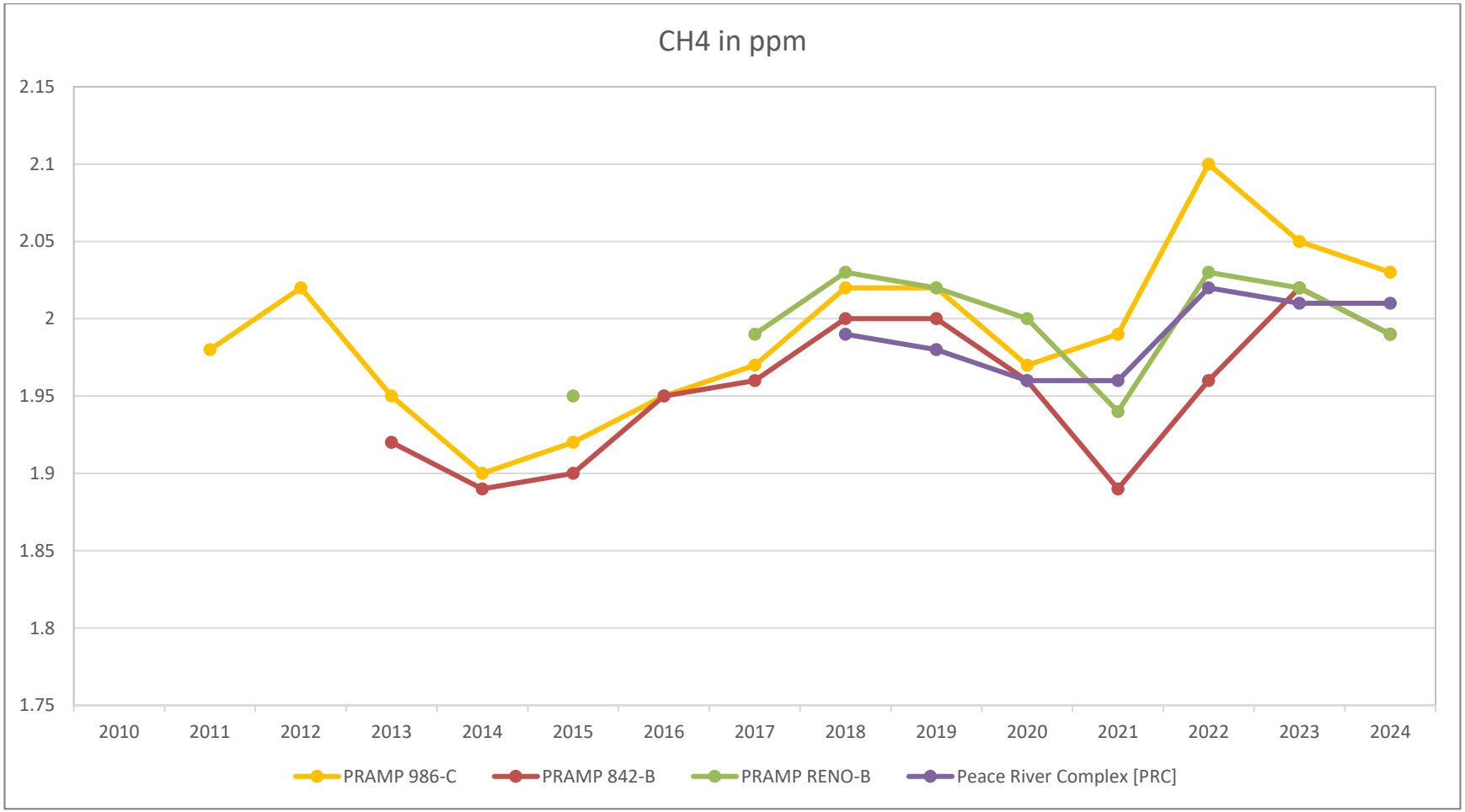
2.3 Total Reduced Sulphur (TRS)



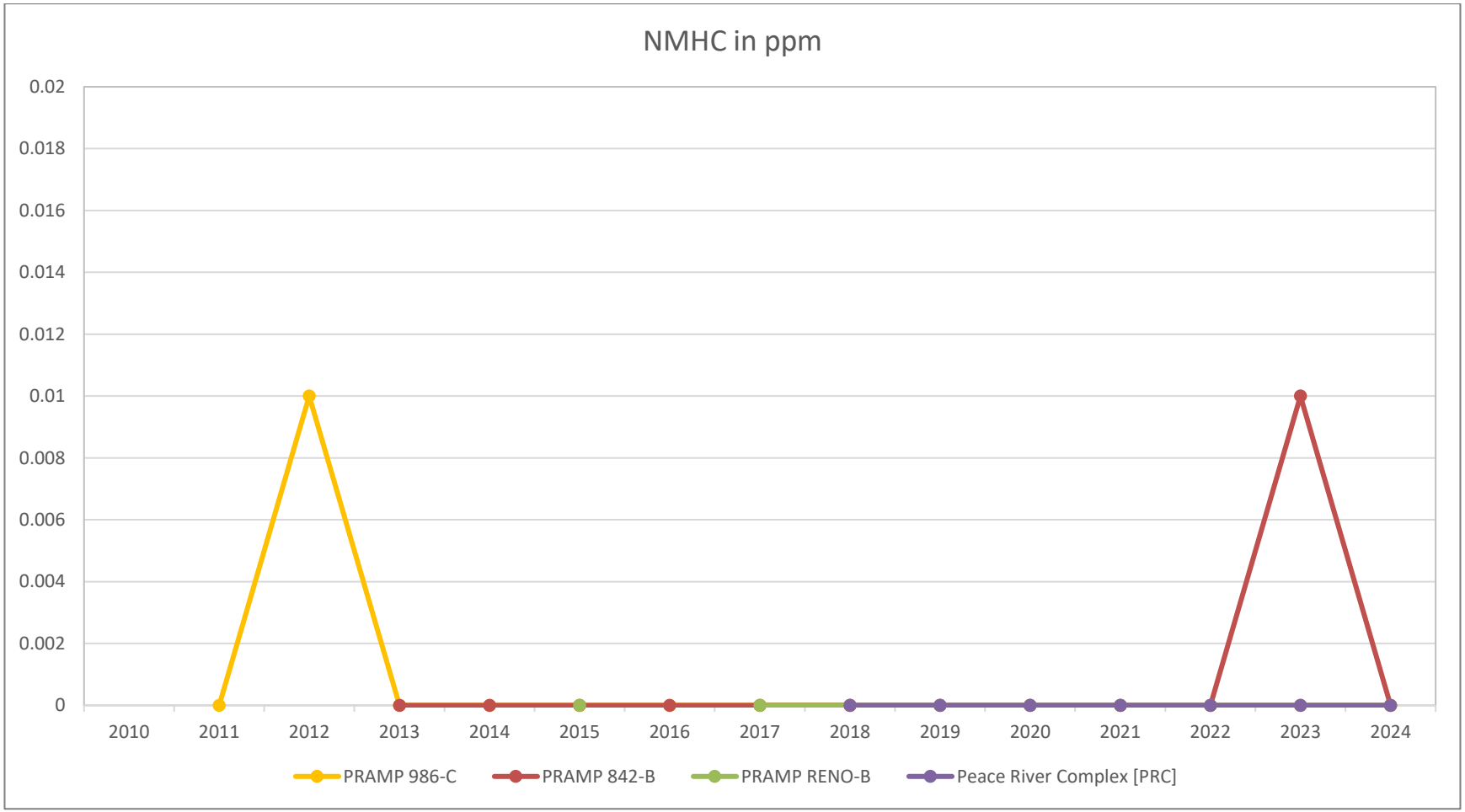
2.4 Total Hydrocarbons (THC)



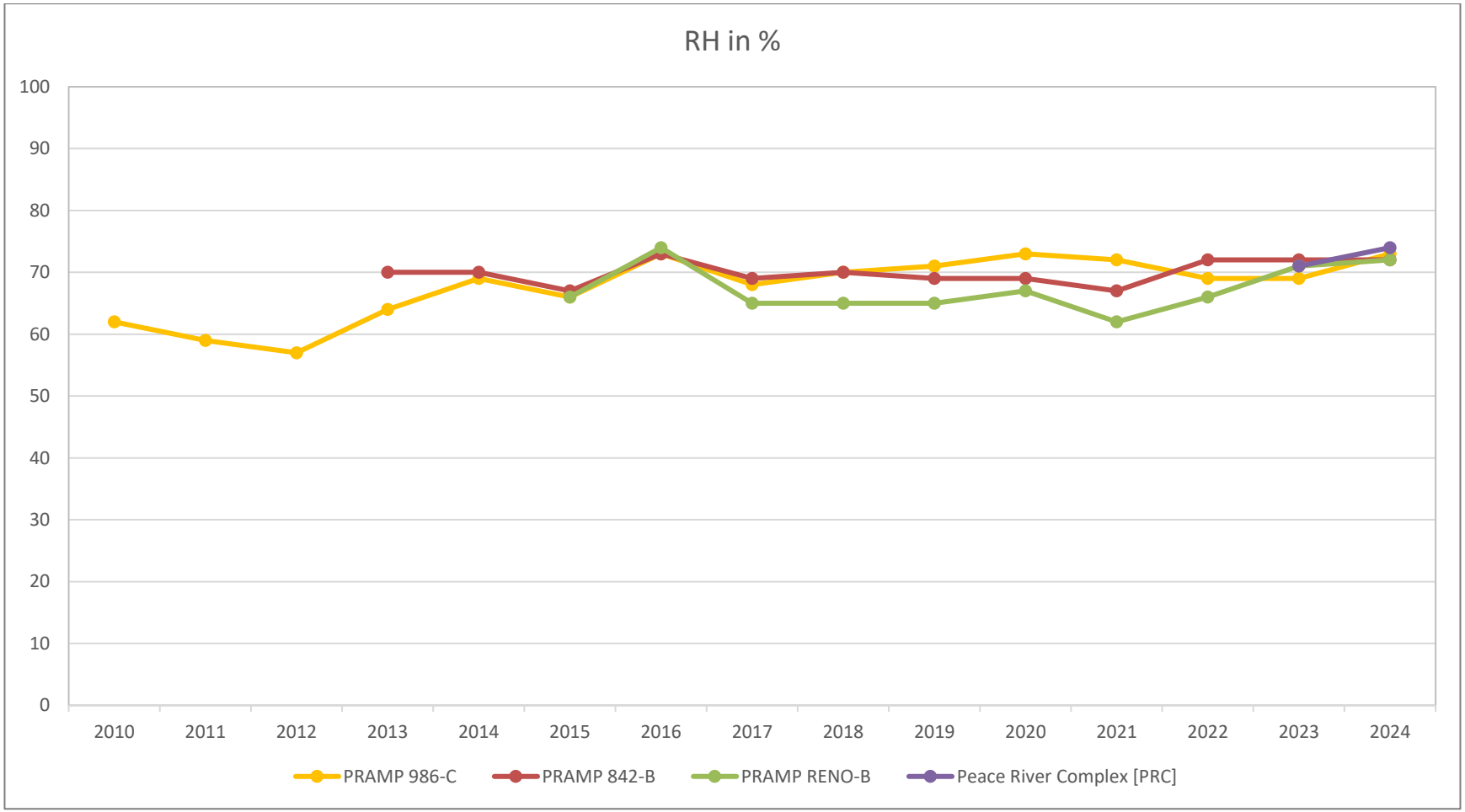
2.5 Methane (CH4)



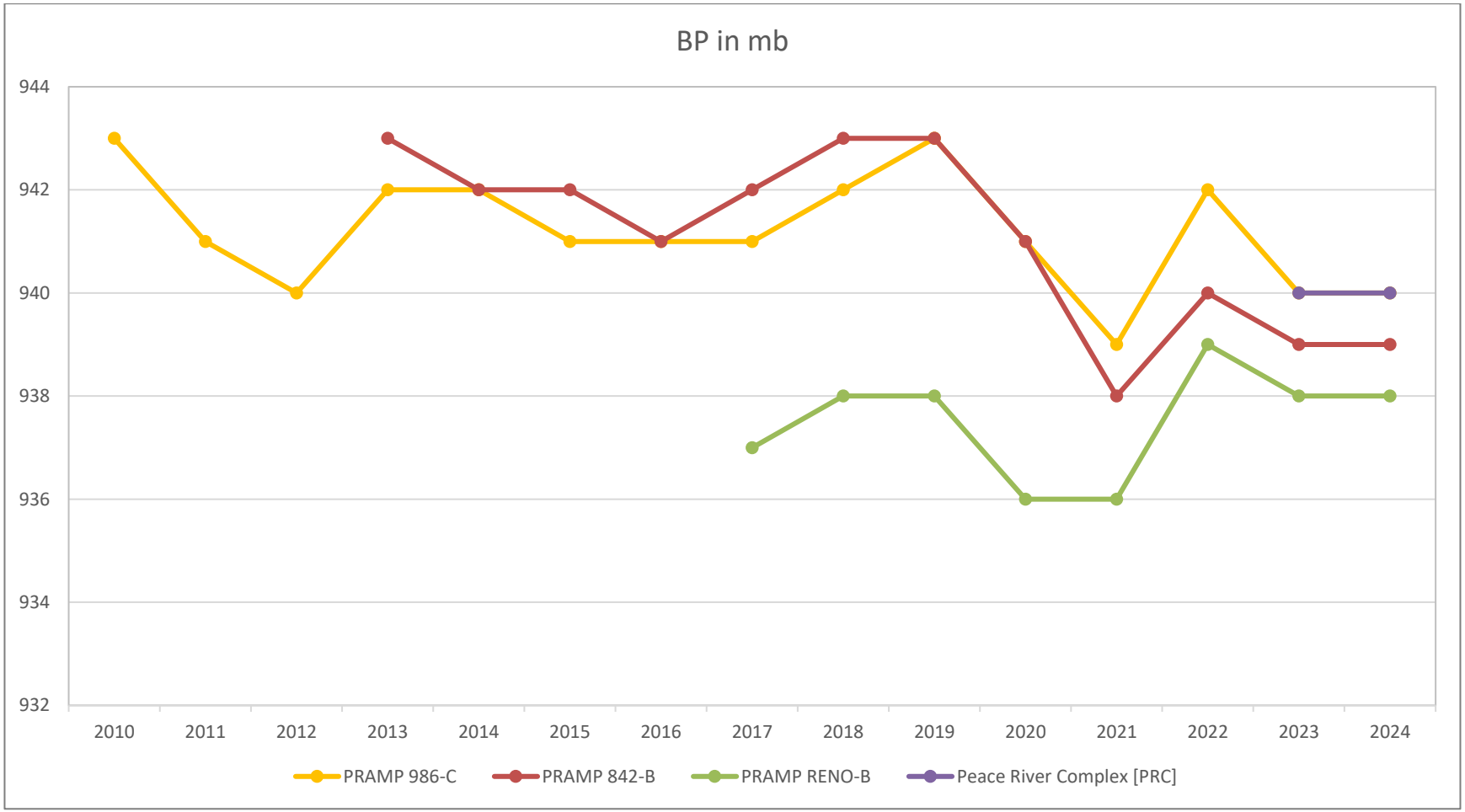
2.6 Non-Methane Hydrocarbons (NMHC)



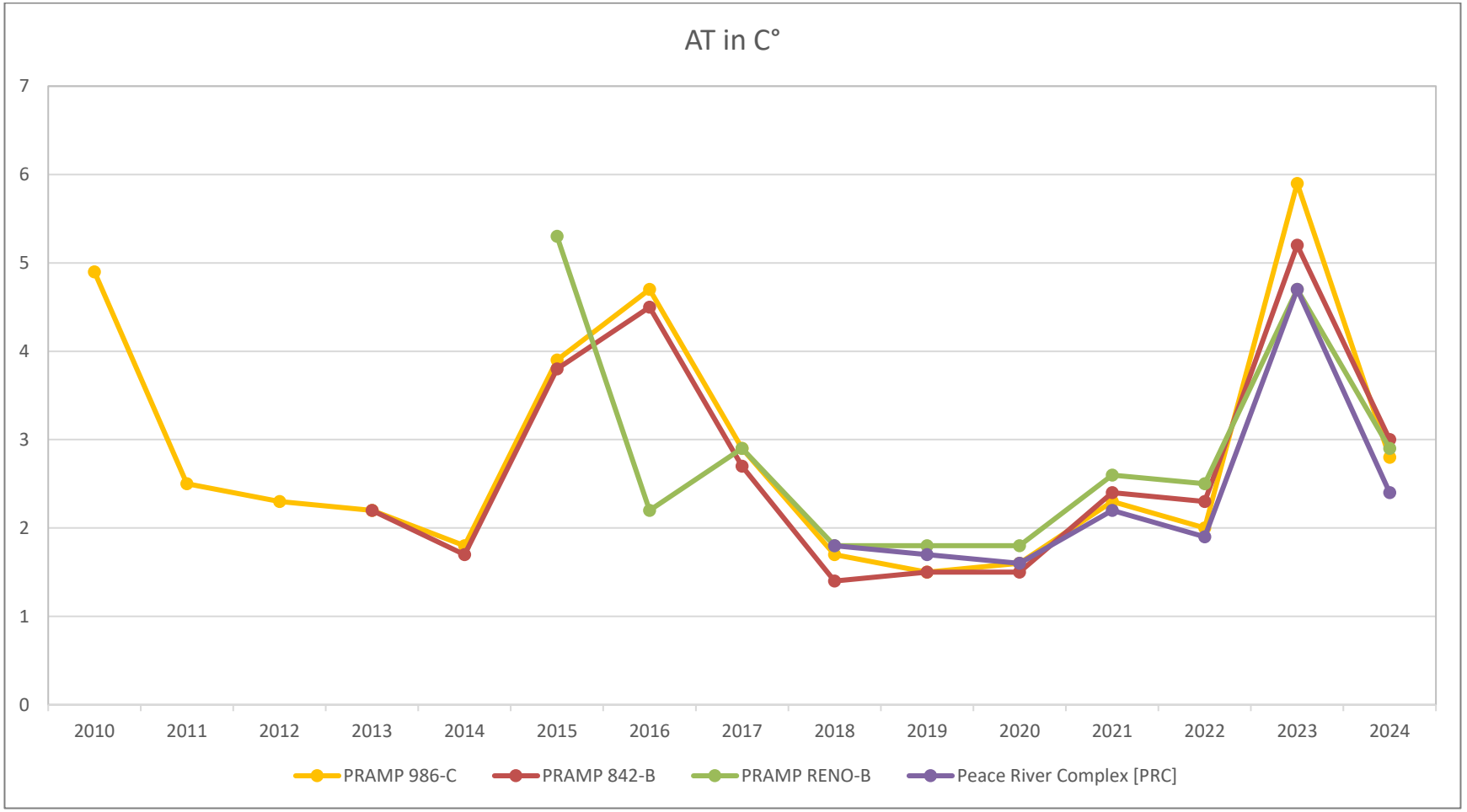
2.7 Relative Humidity (RH)



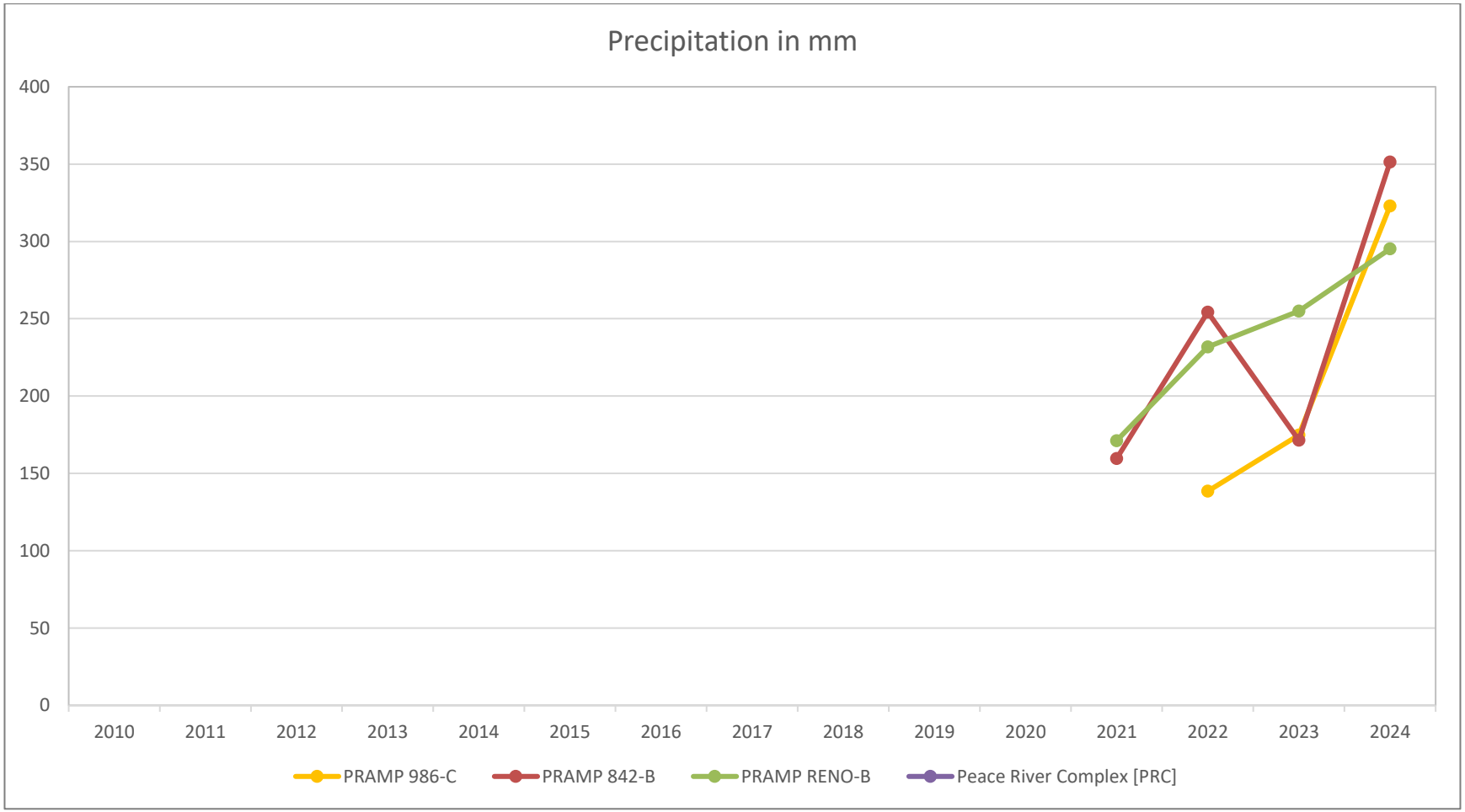
2.8 Barometric Pressure (BP)



2.9 Ambient Temperature (AT)

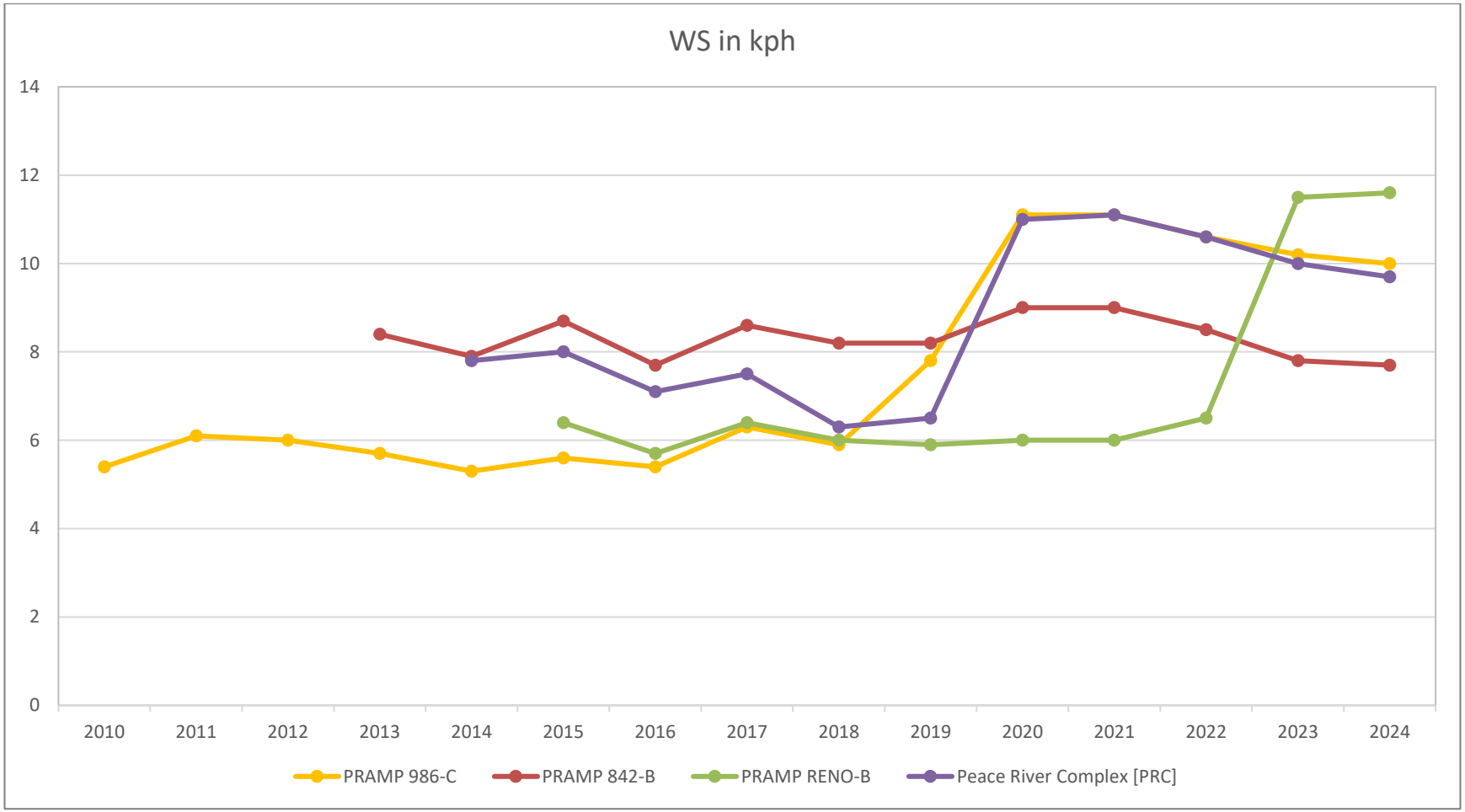


2.10 Precipitation (Precip)

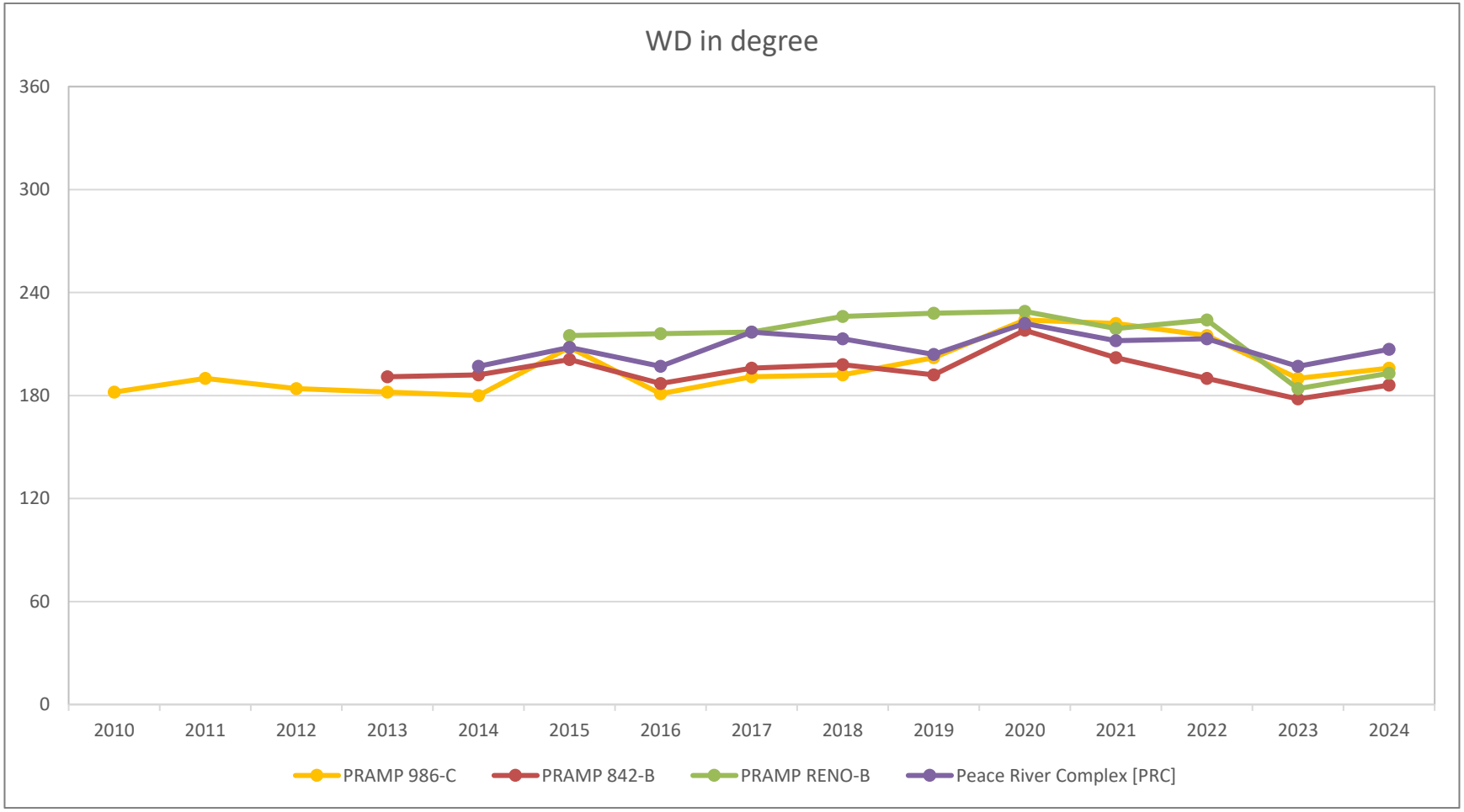


Note: Values on this chart are the total amount of precipitation collected in the year.

2.11 Vector Wind Speed (WS)



2.12 Vector Wind Direction (WD)



3.0 Integrated Monitoring Statistics Summaries – 2024

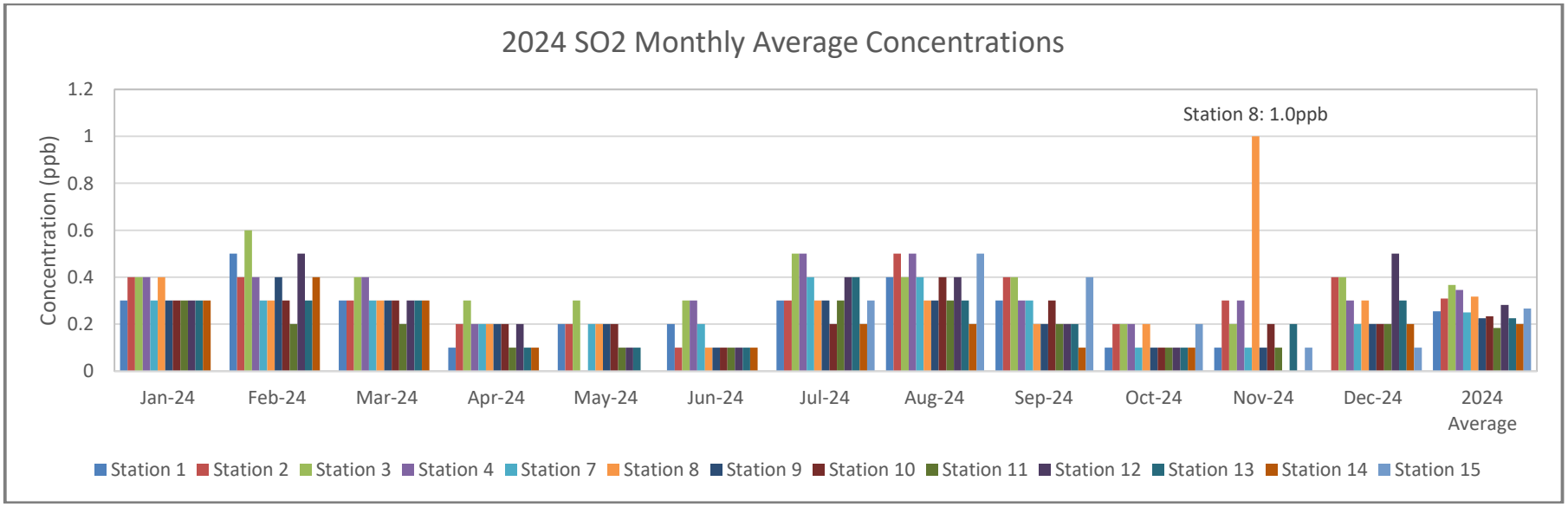
3.1 Passive Sampling System

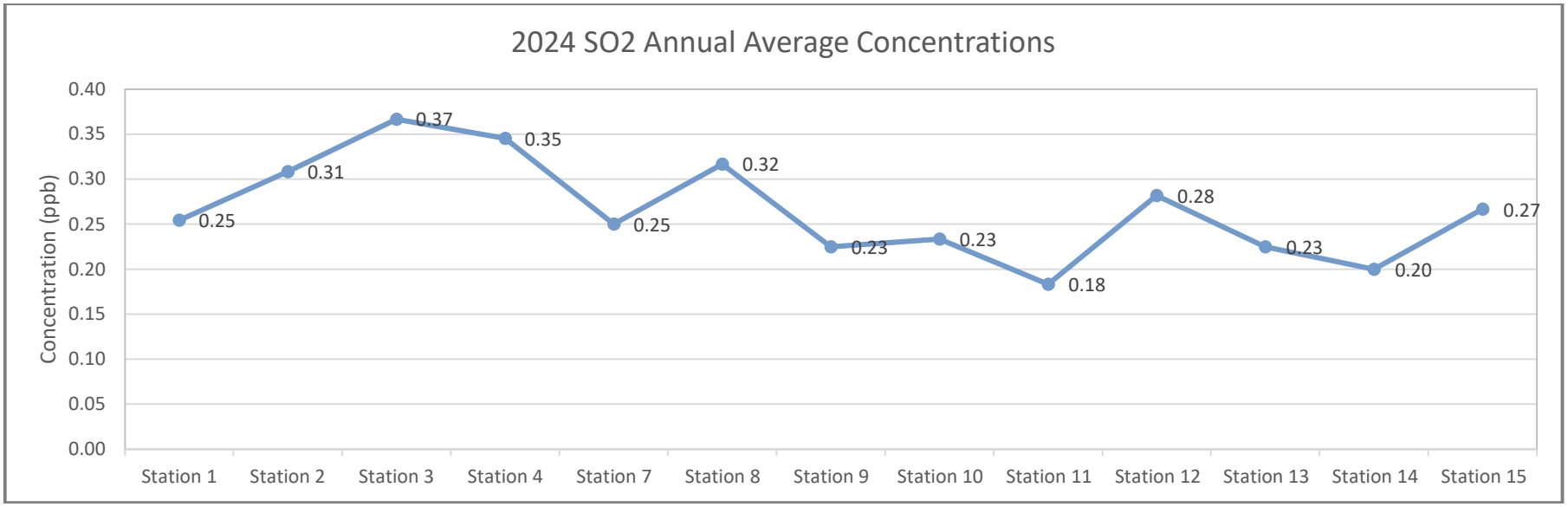
3.1.1 Sulphur Dioxide (SO_2)

Station	Annual Average	Maximum	Month	Minimum	Month	# of Samples
1	0.3	0.5	February	<0.1	December	12
2	0.3	0.5	August	0.1	June	12
3	0.4	0.6	February	0.2	November	12
4	0.3	0.5	July	<0.1	May	12
7	0.3	0.4	July	0.1	October	12
8	0.3	1.0	November	0.1	June	12
9	0.2	0.4	February	0.1	June	12
10	0.2	0.4	August	0.1	June	12
11	0.2	0.3	January	0.1	April	12
12	0.3	0.5	February	<0.1	November	12
13	0.2	0.4	July	0.1	April	12
14	0.2	0.4	February	<0.1	May	12
15	0.3	0.5	August	0.1	November	6

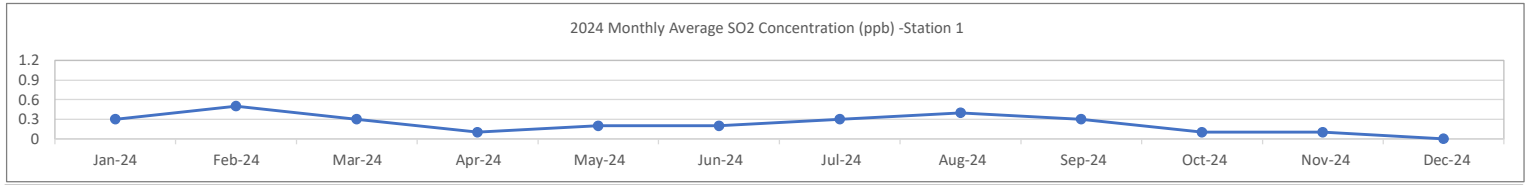
Notes:

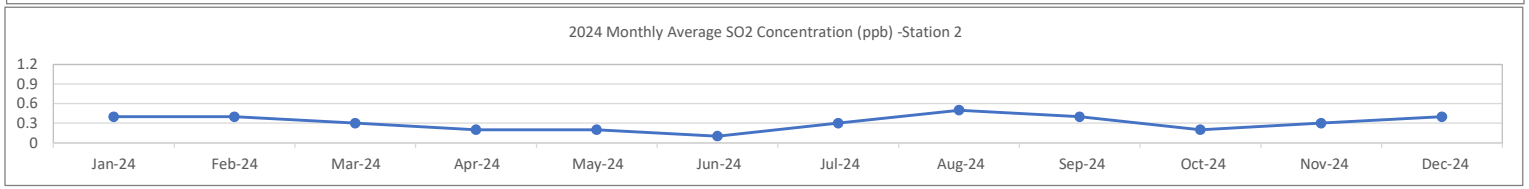
- Concentration unit: ppb
- Station 15 was established in late June 2024. The first valid sample collected started on July 1, 2024.

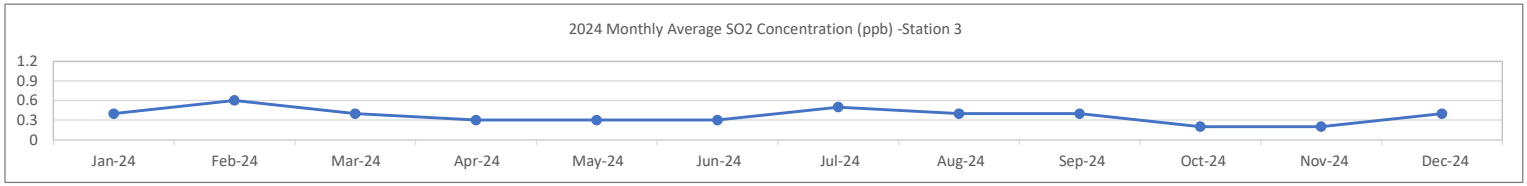


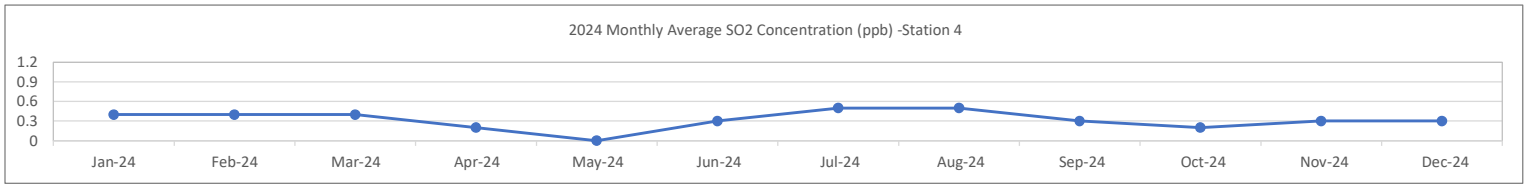


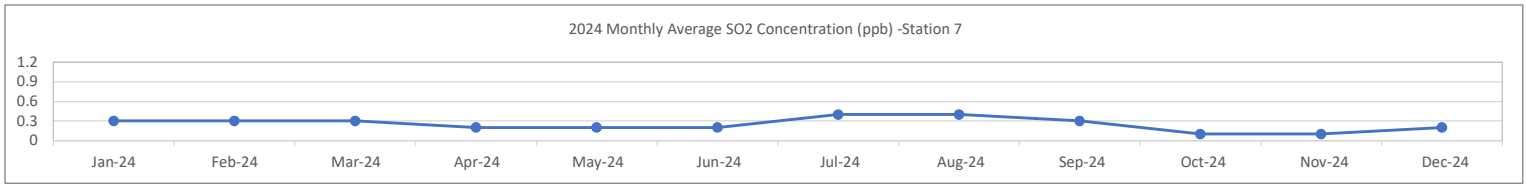
Note: Station 15 was installed in June 2024, and the first valid sample was collected in July 2024. A total of six valid samples were collected in 2024. The annual average is not considered valid and is shown on the chart for reference purposes.

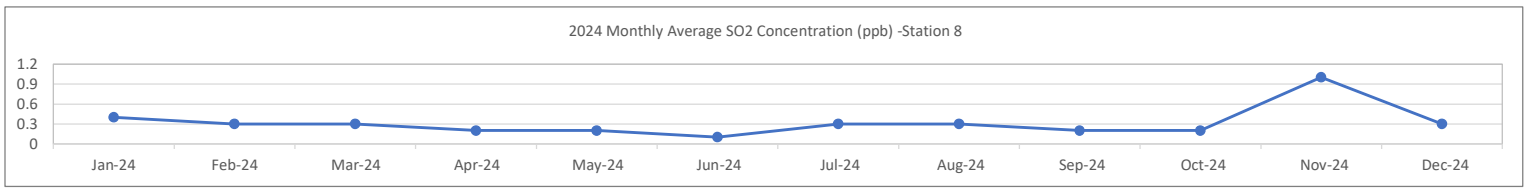

2024 Monthly Average SO2 Concentration (ppb) -Station 1
1.2
0.9
0.6
0.3
0
Jan-24
Feb-24
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24

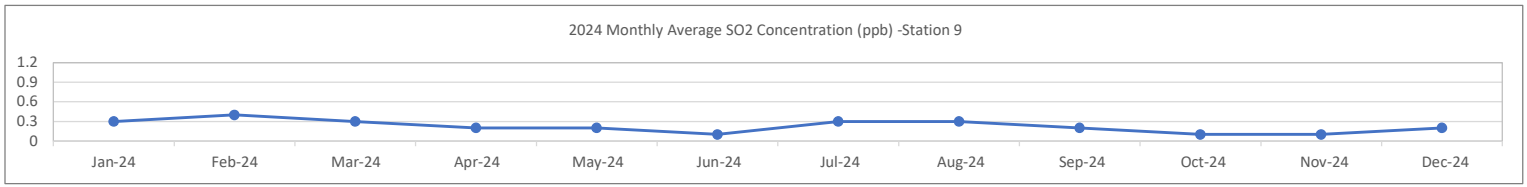

2024 Monthly Average SO2 Concentration (ppb) -Station 2
1.2
0.9
0.6
0.3
0
Jan-24
Feb-24
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24

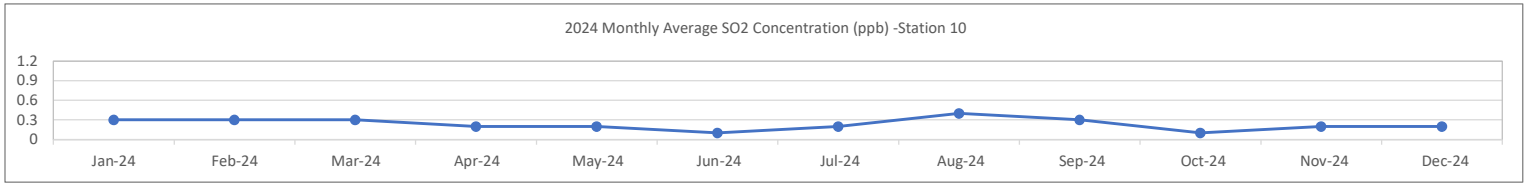

2024 Monthly Average SO2 Concentration (ppb) -Station 3
1.2
0.9
0.6
0.3
0
Jan-24
Feb-24
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24

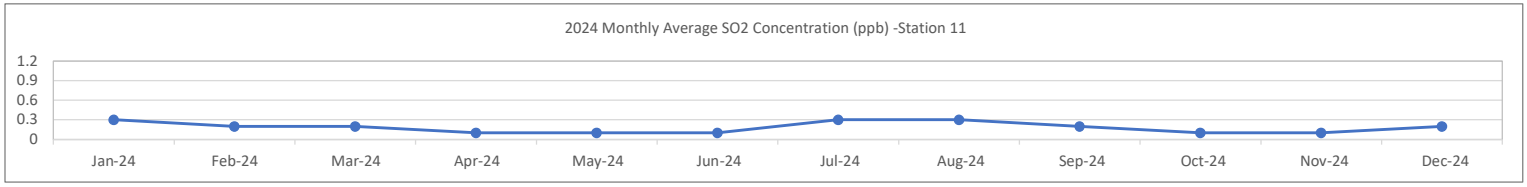

2024 Monthly Average SO2 Concentration (ppb) -Station 4
1.2
0.9
0.6
0.3
0
Jan-24
Feb-24
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24

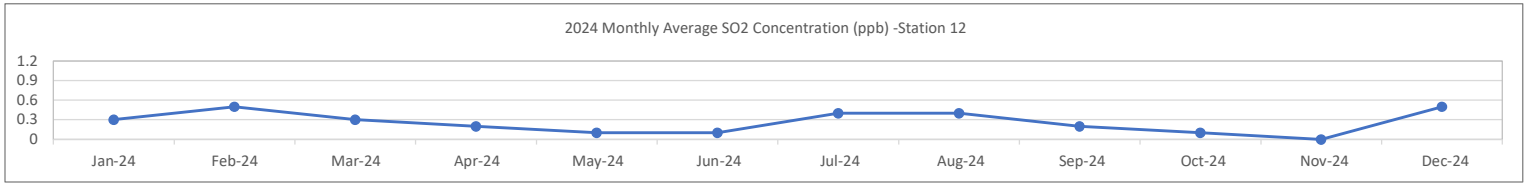

2024 Monthly Average SO2 Concentration (ppb) -Station 7
1.2
0.9
0.6
0.3
0
Jan-24
Feb-24
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24

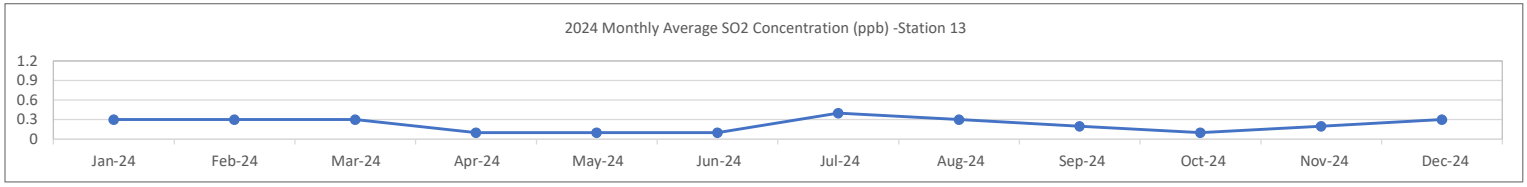

2024 Monthly Average SO2 Concentration (ppb) -Station 8
1.2
0.9
0.6
0.3
0
Jan-24
Feb-24
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24

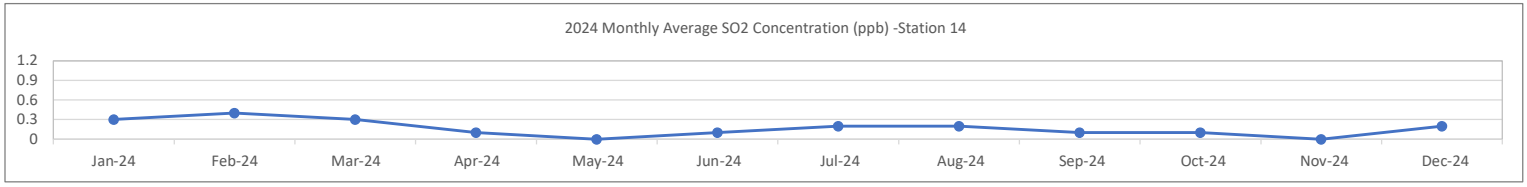

2024 Monthly Average SO2 Concentration (ppb) -Station 9
1.2
0.9
0.6
0.3
0
Jan-24
Feb-24
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24

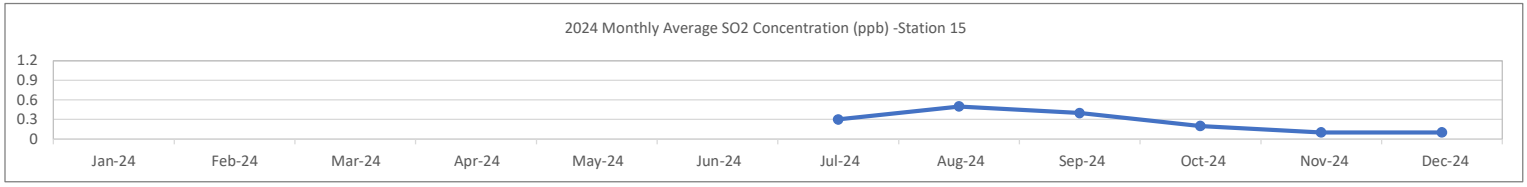

2024 Monthly Average SO2 Concentration (ppb) -Station 10
1.2
0.9
0.6
0.3
0
Jan-24
Feb-24
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24

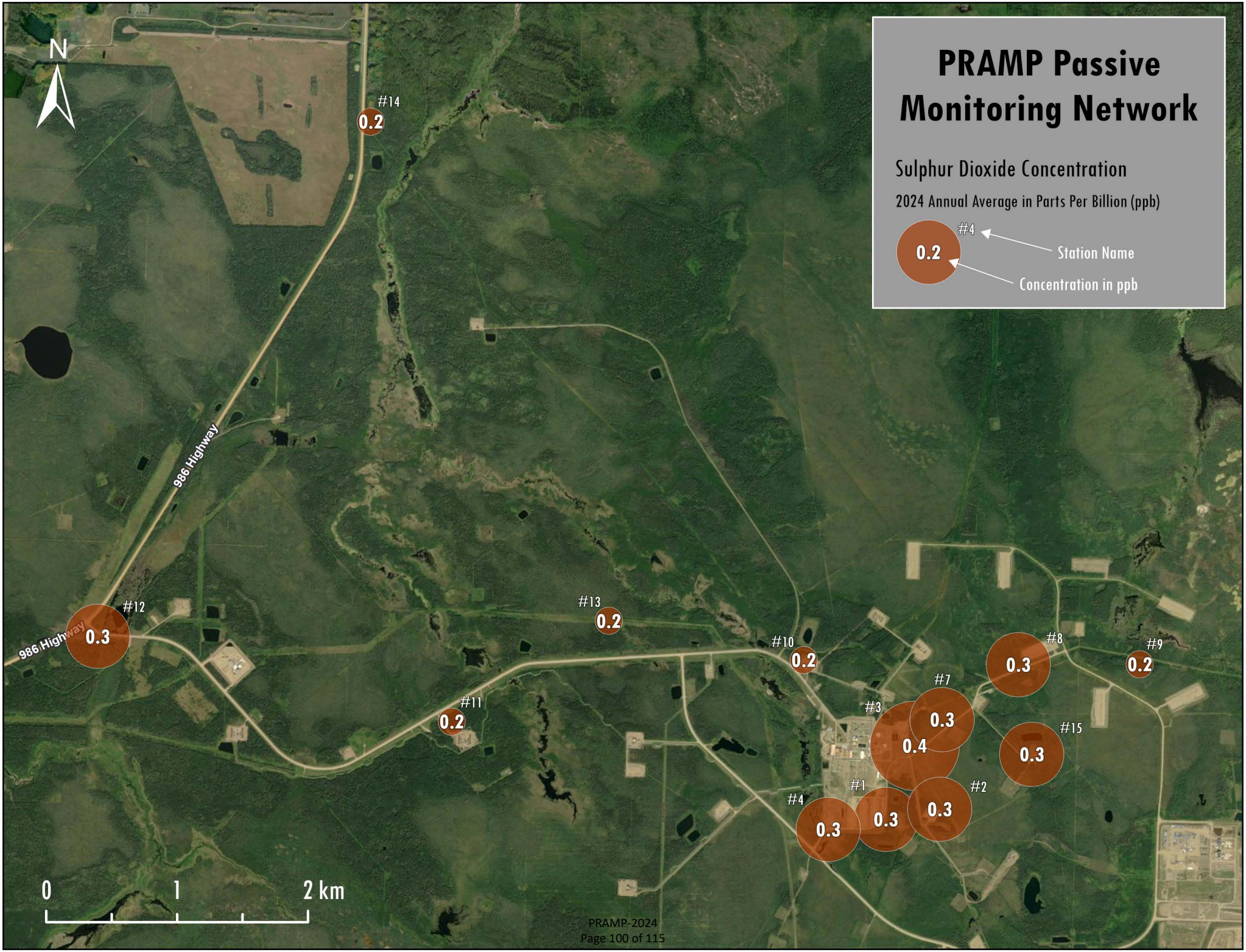

2024 Monthly Average SO2 Concentration (ppb) -Station 11
1.2
0.9
0.6
0.3
0
Jan-24
Feb-24
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24


2024 Monthly Average SO2 Concentration (ppb) -Station 12
1.2
0.9
0.6
0.3
0
Jan-24
Feb-24
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24


2024 Monthly Average SO2 Concentration (ppb) -Station 13
1.2
0.9
0.6
0.3
0
Jan-24
Feb-24
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24


2024 Monthly Average SO2 Concentration (ppb) -Station 14
1.2
0.9
0.6
0.3
0
Jan-24
Feb-24
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24


2024 Monthly Average SO2 Concentration (ppb) -Station 15
1.2
0.9
0.6
0.3
0
Jan-24
Feb-24
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24

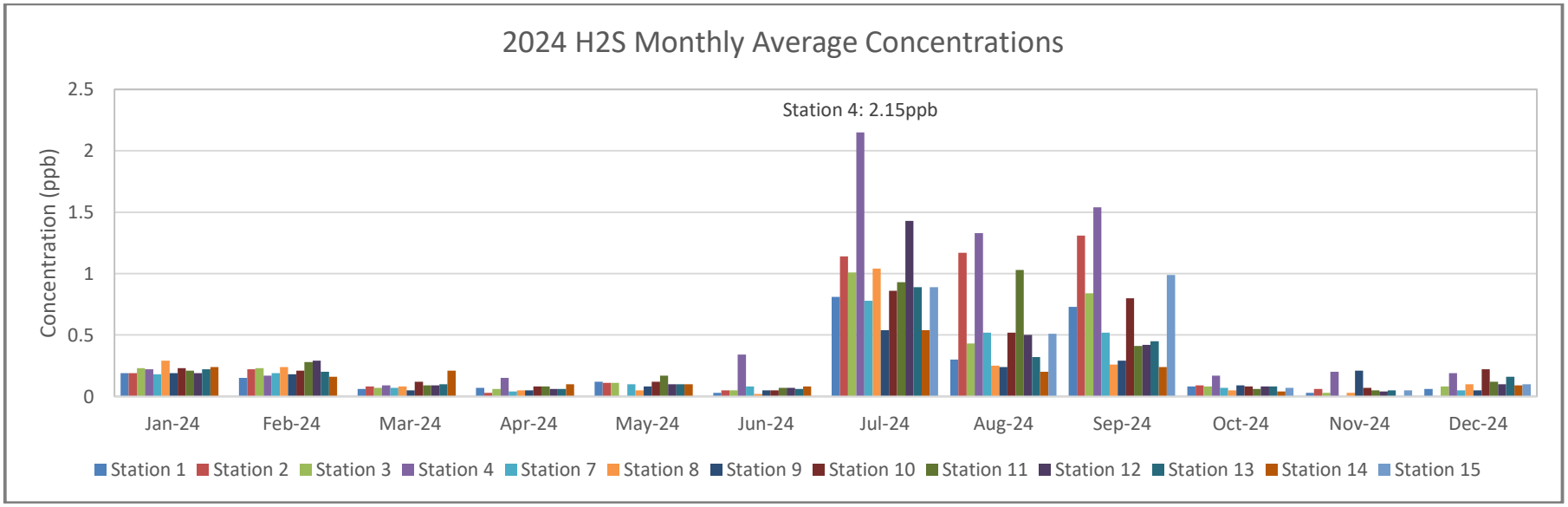

PRAMP Passive Monitoring Network
Sulphur Dioxide Concentration
2024 Annual Average in Parts Per Billion (ppb)
#4
0.2
Station Name
Concentration in ppb
N
986 Highway
986 Highway
#14
0.2
#12
0.3
#13
0.2
#10
0.2
#11
0.2
#8
0.3
#9
0.2
#7
0.3
#3
0.4
#15
0.3
#1
0.3
#2
0.3
#4
0.3
0
1
2 km

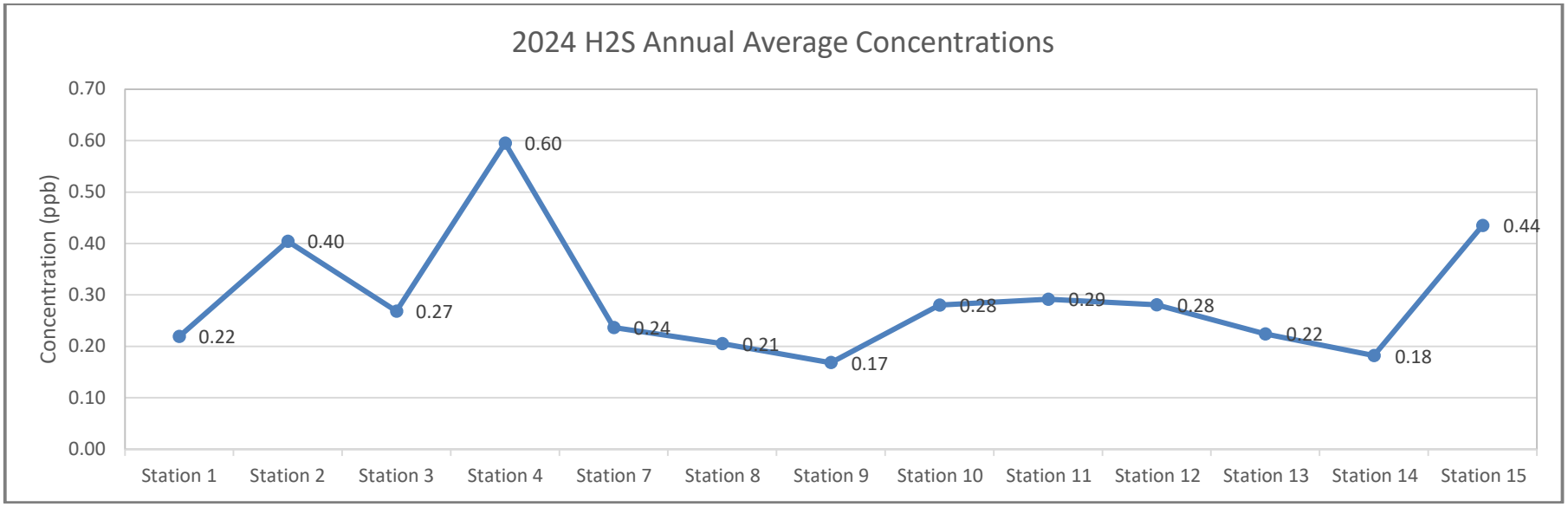
3.1.2 Hydrogen Sulphide (H_2S)

Station	Annual Average	Maximum	Month	Minimum	Month	# of Samples
1	0.22	0.81	July	0.03	June	12
2	0.40	1.31	September	<0.02	December	12
3	0.27	1.01	July	0.03	December	12
4	0.60	2.15	July	<0.02	May	12
7	0.24	0.78	July	<0.02	November	12
8	0.21	1.04	July	0.02	June	12
9	0.17	0.54	July	0.05	March	12
10	0.28	0.86	July	0.05	June	12
11	0.29	1.03	August	0.05	November	12
12	0.28	1.43	July	0.04	November	12
13	0.22	0.89	July	0.05	November	12
14	0.18	0.54	July	<0.02	November	12
15	0.44	0.99	September	0.05	November	6

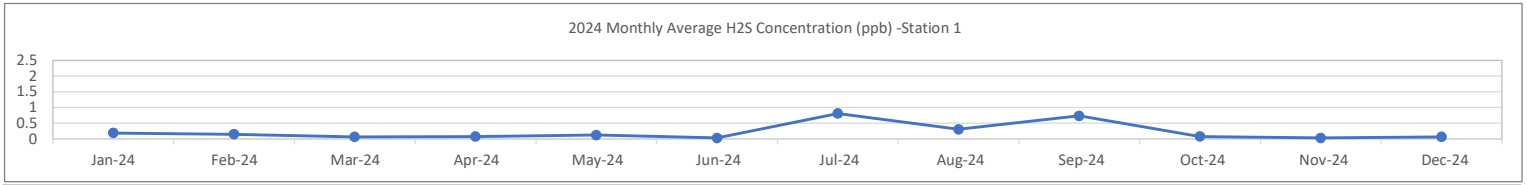
Notes:

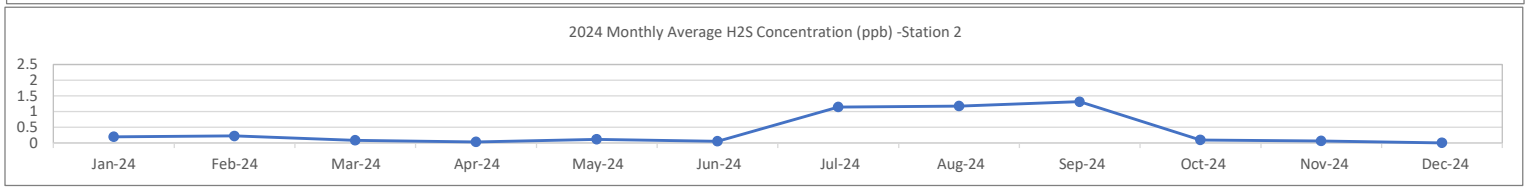
- Concentration unit: ppb
- Station 15 was established in late June 2024. The first valid sample collected started on July 1, 2024.

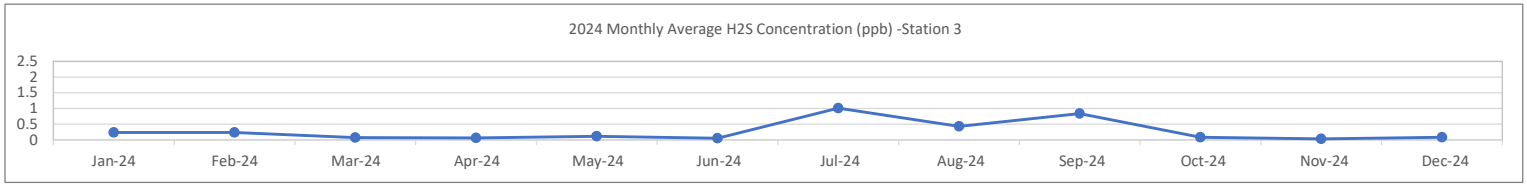


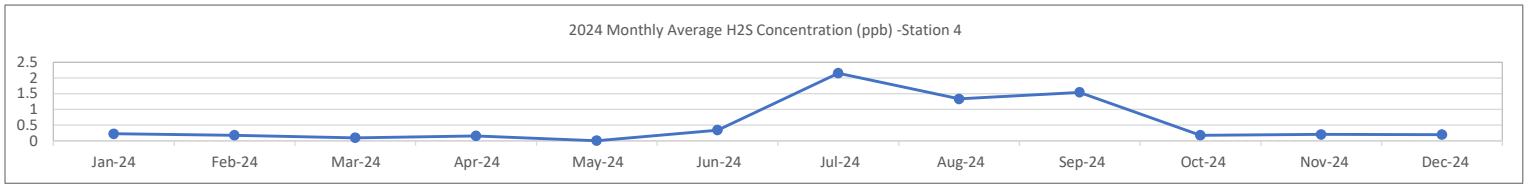


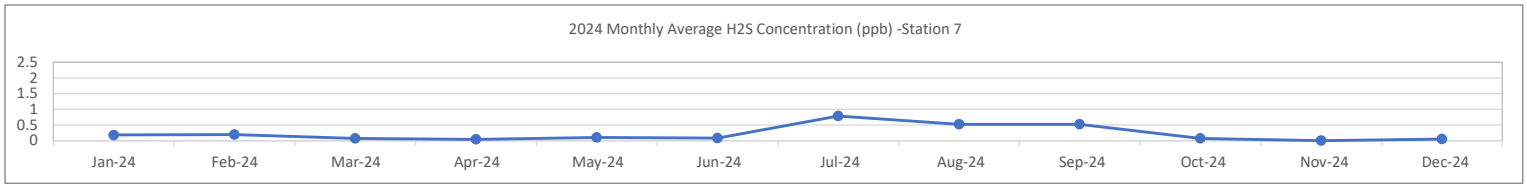
Note: Station 15 was installed in June 2024, and the first valid sample was collected in July 2024. A total of six valid samples were collected in 2024. The annual average is not considered valid and is shown on the chart for reference purposes.

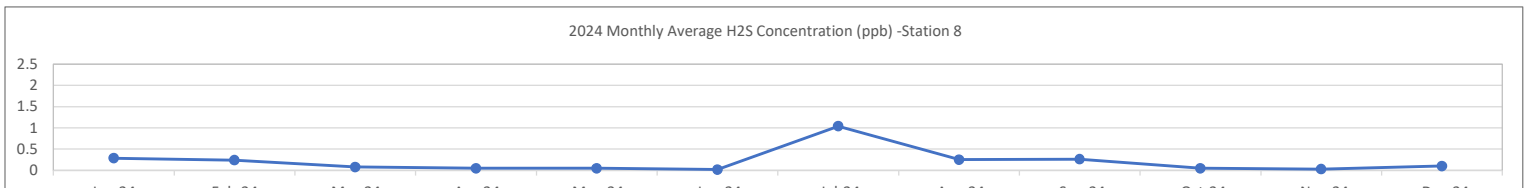

2024 Monthly Average H2S Concentration (ppb) -Station 1
2.5
2
1.5
1
0.5
0
Jan-24
Feb-24
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24

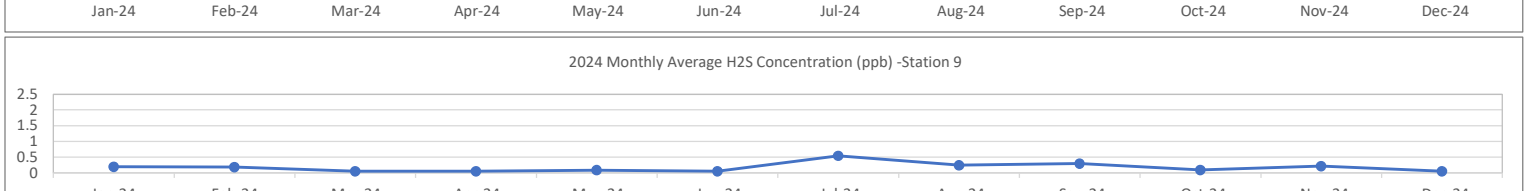

2024 Monthly Average H2S Concentration (ppb) -Station 2
2.5
2
1.5
1
0.5
0
Jan-24
Feb-24
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24

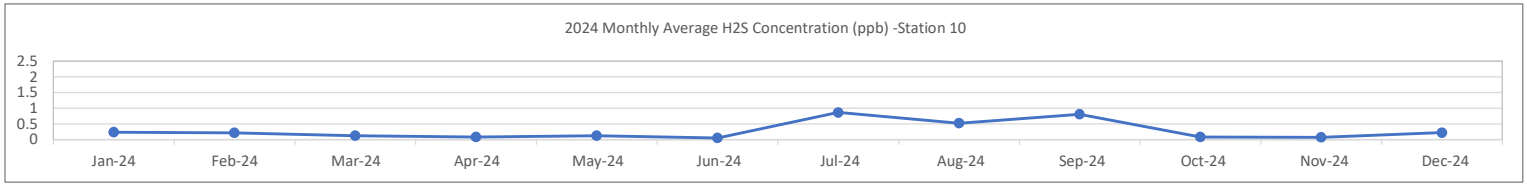

2024 Monthly Average H2S Concentration (ppb) -Station 3
2.5
2
1.5
1
0.5
0
Jan-24
Feb-24
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24

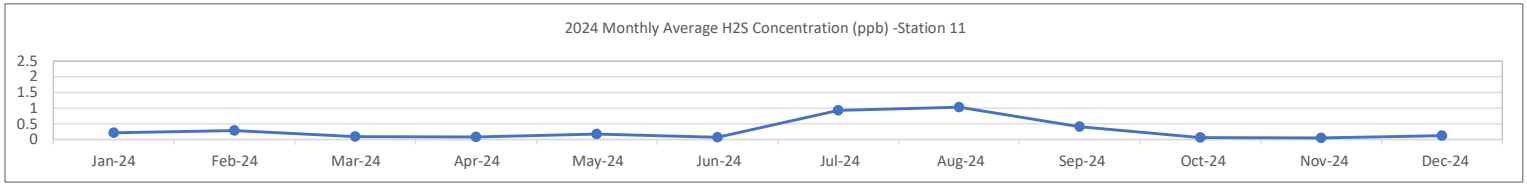

2024 Monthly Average H2S Concentration (ppb) -Station 4
2.5
2
1.5
1
0.5
0
Jan-24
Feb-24
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24

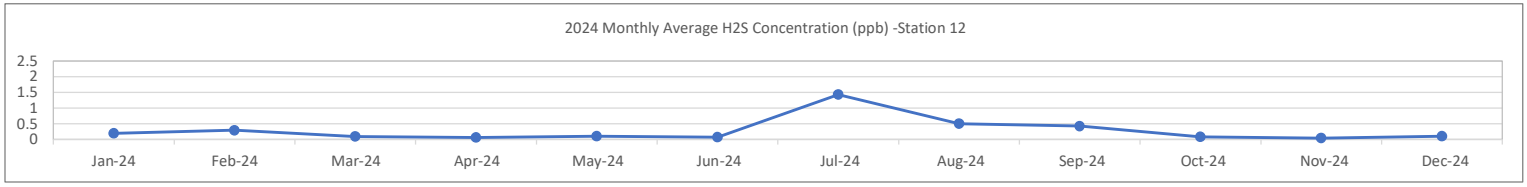

2024 Monthly Average H2S Concentration (ppb) -Station 7
2.5
2
1.5
1
0.5
0
Jan-24
Feb-24
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24

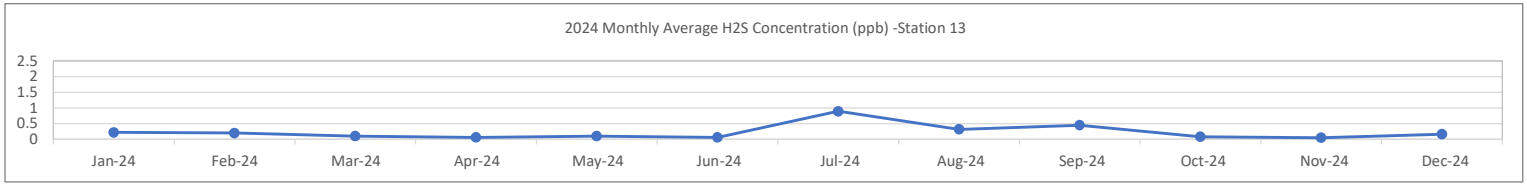

2024 Monthly Average H2S Concentration (ppb) -Station 8
2.5
2
1.5
1
0.5
0
Jan-24
Feb-24
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24

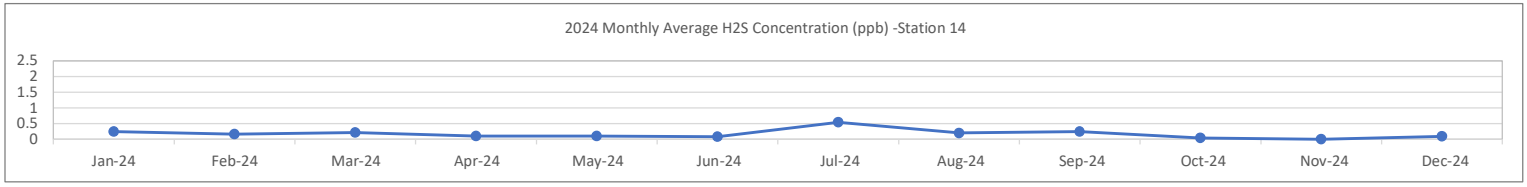

2024 Monthly Average H2S Concentration (ppb) -Station 9
2.5
2
1.5
1
0.5
0
Jan-24
Feb-24
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24

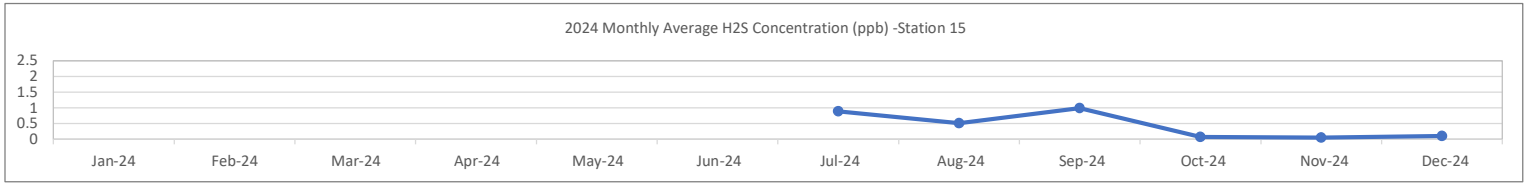

2024 Monthly Average H2S Concentration (ppb) -Station 10
2.5
2
1.5
1
0.5
0
Jan-24
Feb-24
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24

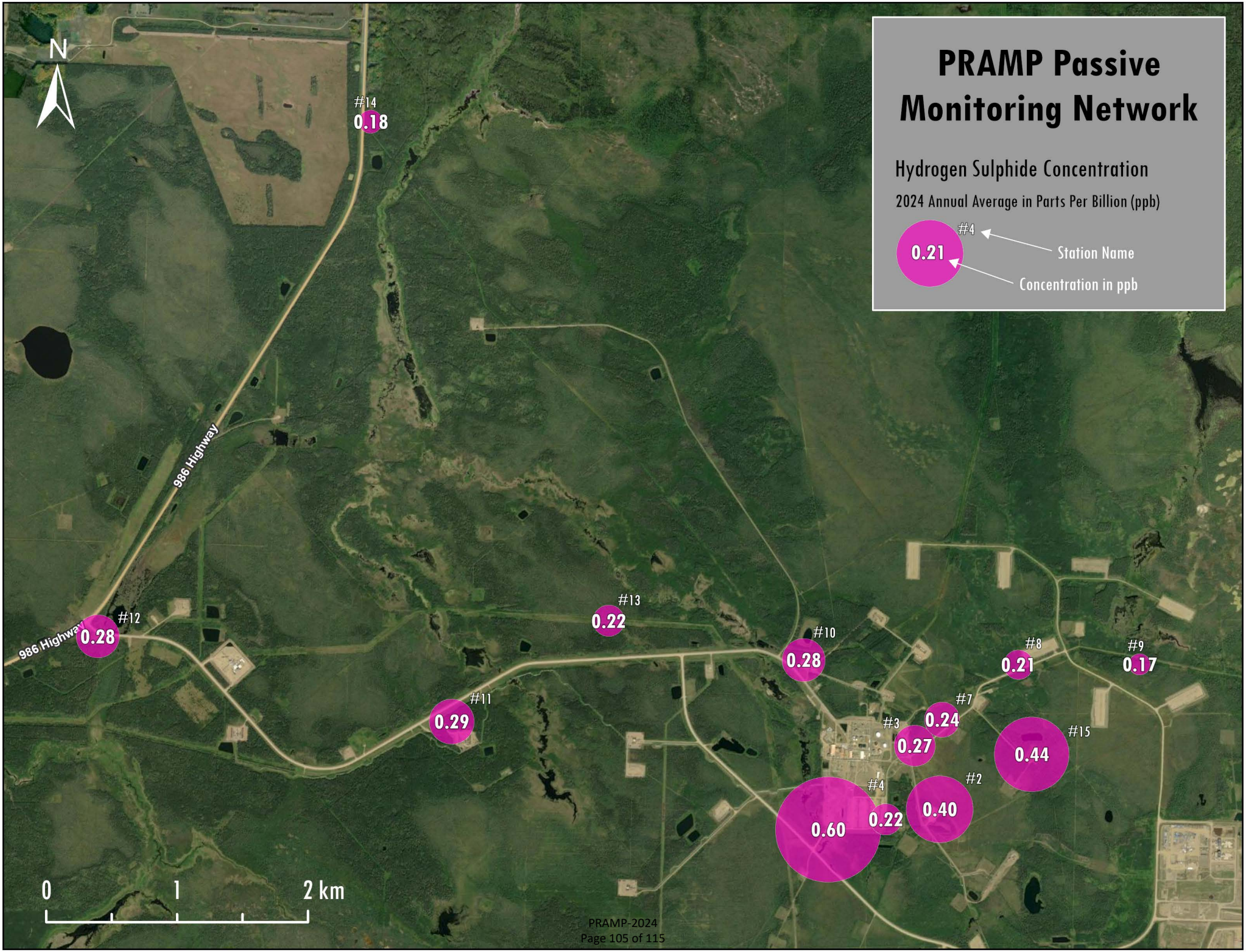

2024 Monthly Average H2S Concentration (ppb) -Station 11
2.5
2
1.5
1
0.5
0
Jan-24
Feb-24
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24


2024 Monthly Average H2S Concentration (ppb) -Station 12
2.5
2
1.5
1
0.5
0
Jan-24
Feb-24
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24


2024 Monthly Average H2S Concentration (ppb) -Station 13
2.5
2
1.5
1
0.5
0
Jan-24
Feb-24
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24


2024 Monthly Average H2S Concentration (ppb) -Station 14
2.5
2
1.5
1
0.5
0
Jan-24
Feb-24
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24


2024 Monthly Average H2S Concentration (ppb) -Station 15
2.5
2
1.5
1
0.5
0
Jan-24
Feb-24
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24


PRAMP Passive Monitoring Network
Hydrogen Sulphide Concentration
2024 Annual Average in Parts Per Billion (ppb)
#4
0.21
Station Name
Concentration in ppb
N
986 Highway
986 Highway
#14
0.18
#12
0.28
#13
0.22
#10
0.28
#8
0.21
#9
0.17
#11
0.29
#7
0.24
#3
0.27
#15
0.44
#4
0.60
0.22
#2
0.40
0
1
2 km

3.2 NMHC Canister Sampling System

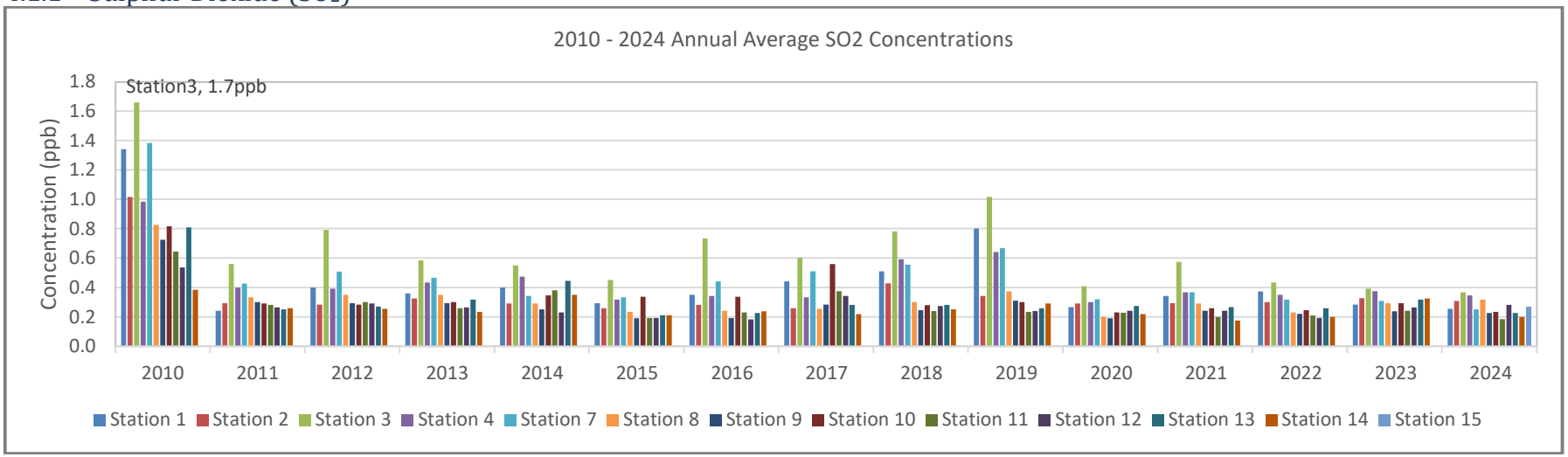
Sample Date/Time	Canister Triggered Conc. (ppm)	Station	Canister ID	Method	Maximum Reading (ppmv)	Parameter
2024-05-11@03:05	0.34	Reno-B	28933	NA-025	1.9	Methane
				NA-024	1.1	Carbonyl sulphide
				AC-058	10.00	Acetone
2024-07-18@20:50	0.3	Reno-B	29015	NA-025	1.7	Methane
				NA-024	0.6	Carbonyl sulphide
				AC-058	17.20	Isoprene
2024-08-13@19:50	0.34	Reno-B	28916	NA-025	2.5	Methane
				NA-024	1.3	Carbonyl sulphide
				AC-058	25.7	Acetone
2024-08-14@00:35	0.3	986-C	28939	NA-025	2.9	Methane
				NA-024	1.9	Carbonyl sulphide
				AC-058	21.1	Acetone
2024-11-22@05:05	0.43	Reno-B	32250	NA-025	2.9	Methane
				NA-024	3.0	Carbonyl sulphide
				AC-058	16.0	n-Butane

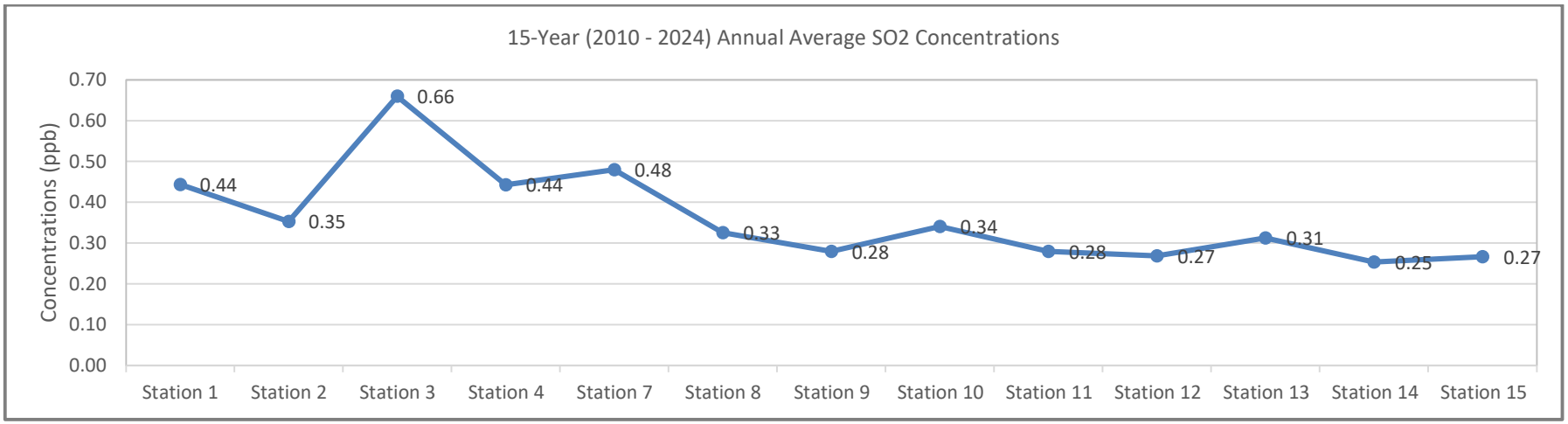
4.0 Integrated Monitoring 15-Year (2010- 2024) Charts of Annual Average Concentrations

Each canister sample is considered a discrete collection event and not part of a continuous record of monitoring; it is therefore not visualized in this section.

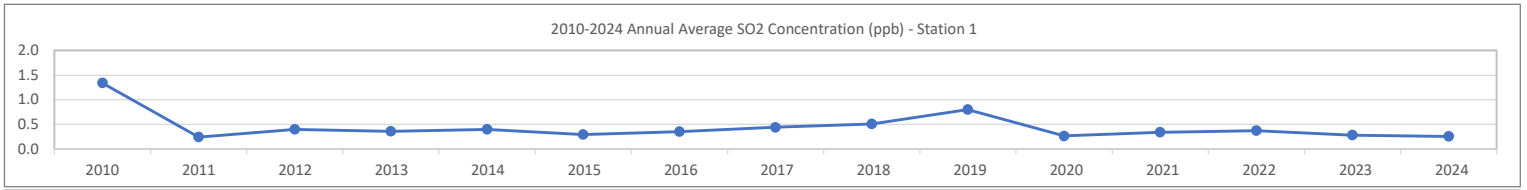
4.1 Passive Sampling System

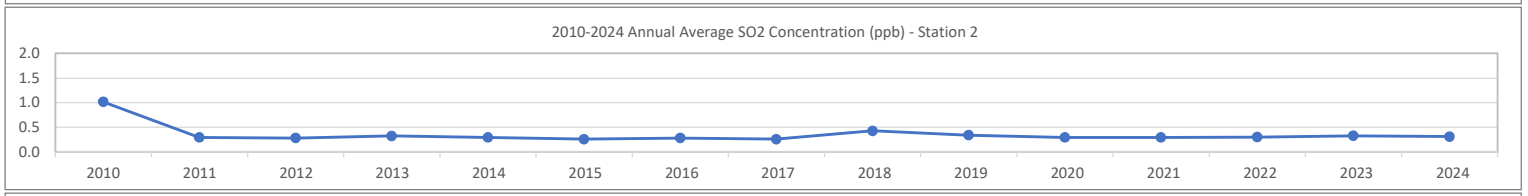
4.1.1 Sulphur Dioxide (SO_2)

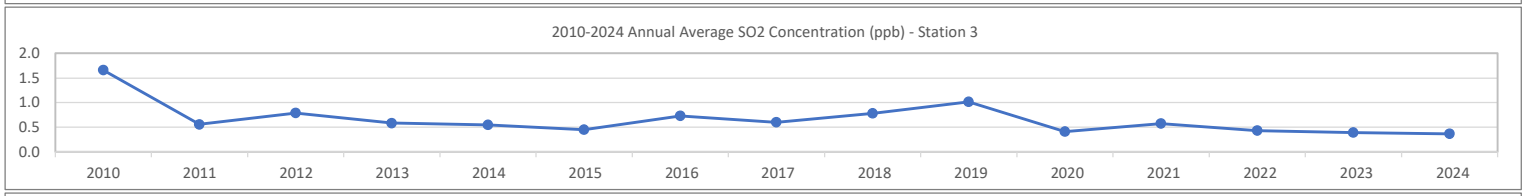


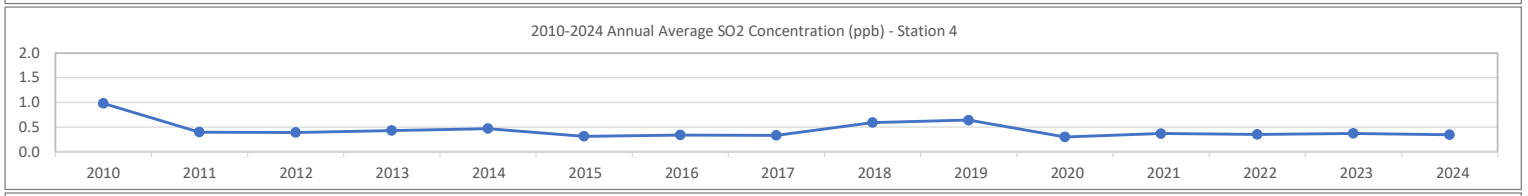


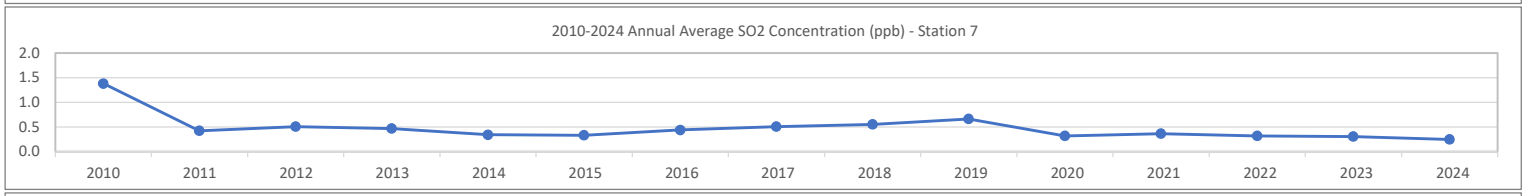
Note: Station 15 was installed in June 2024, and the first valid sample was collected in July 2024. A total of six valid samples were collected in 2024. The annual average is not considered valid and is shown on the chart for reference purposes.

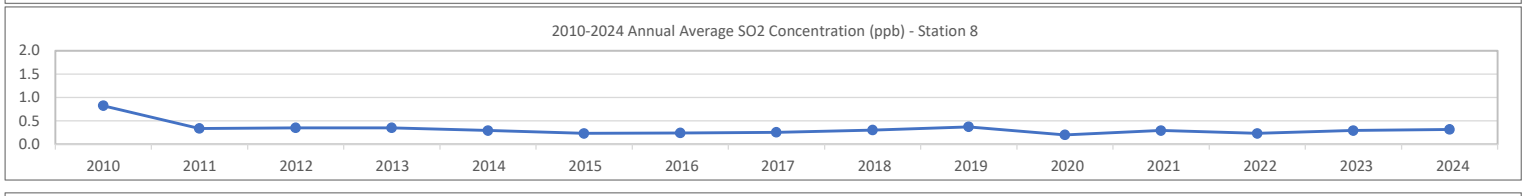

2010-2024 Annual Average SO2 Concentration (ppb) - Station 1
2.0
1.5
1.0
0.5
0.0
2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024

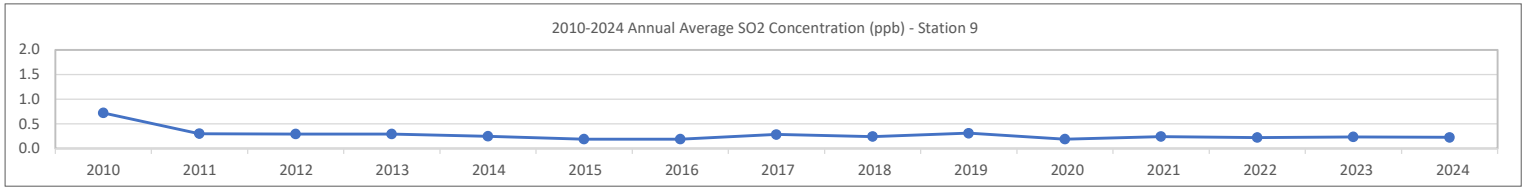

2010-2024 Annual Average SO2 Concentration (ppb) - Station 2
2.0
1.5
1.0
0.5
0.0
2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024

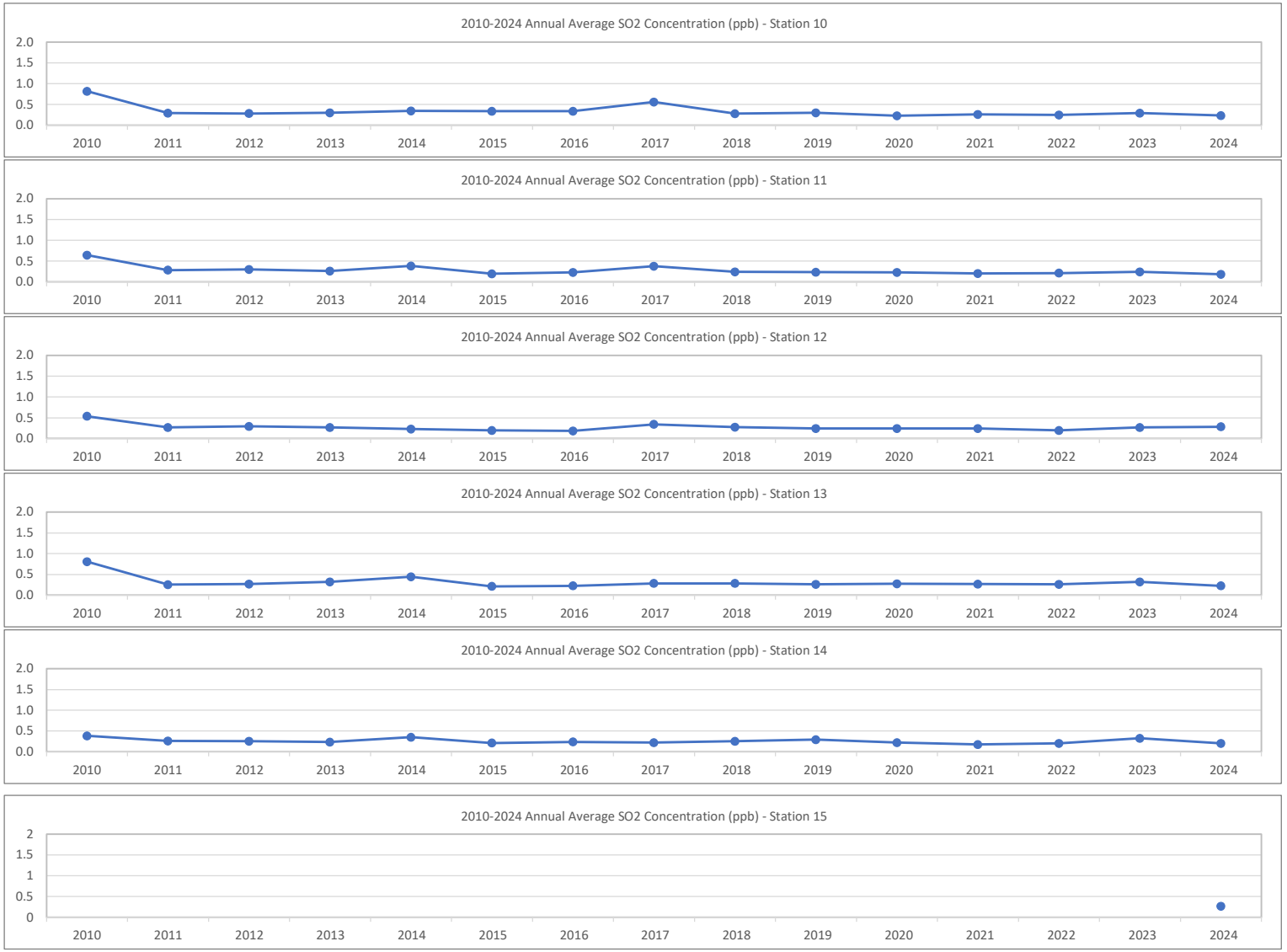

2010-2024 Annual Average SO2 Concentration (ppb) - Station 3
2.0
1.5
1.0
0.5
0.0
2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024

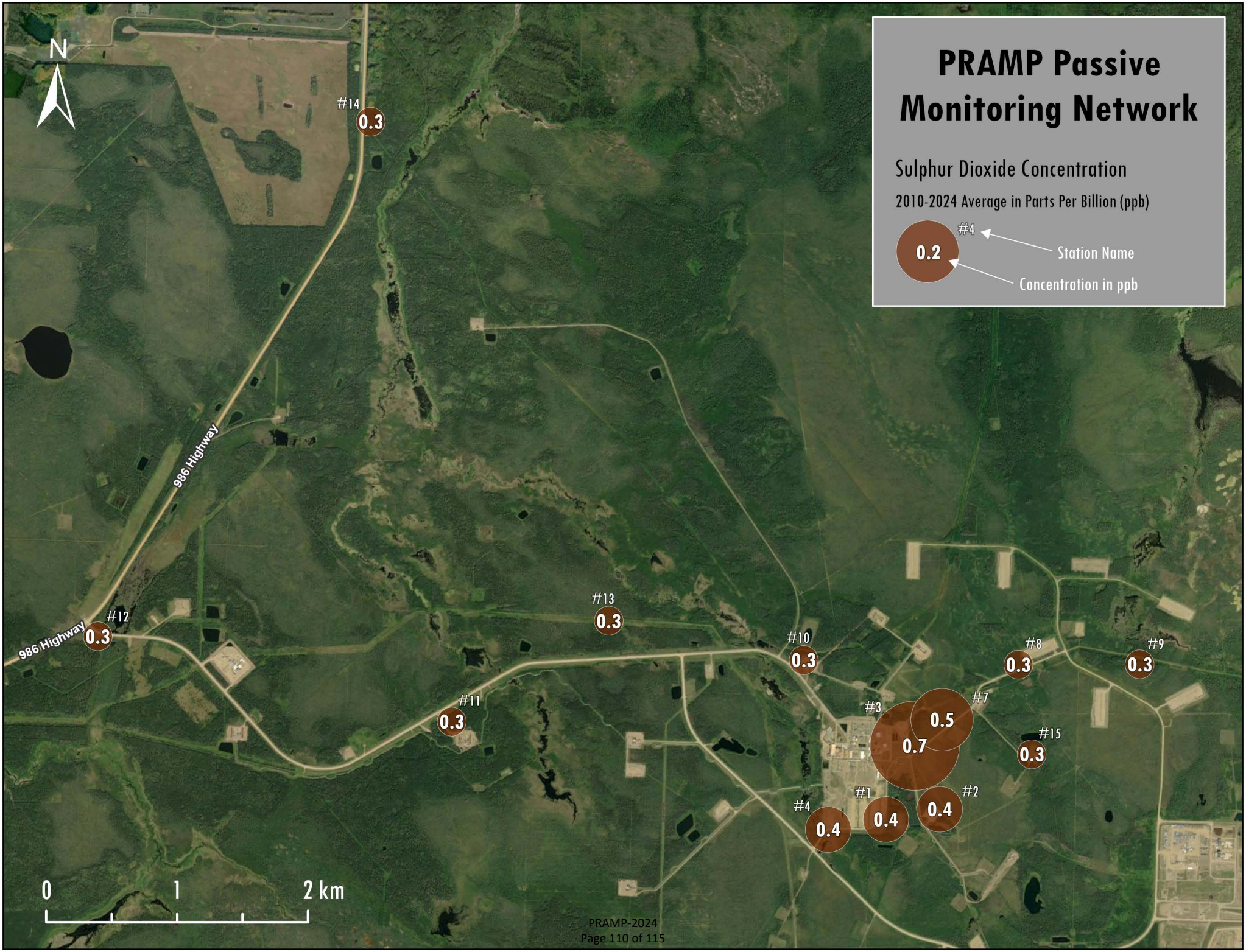

2010-2024 Annual Average SO2 Concentration (ppb) - Station 4
2.0
1.5
1.0
0.5
0.0
2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024


2010-2024 Annual Average SO2 Concentration (ppb) - Station 7
2.0
1.5
1.0
0.5
0.0
2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024

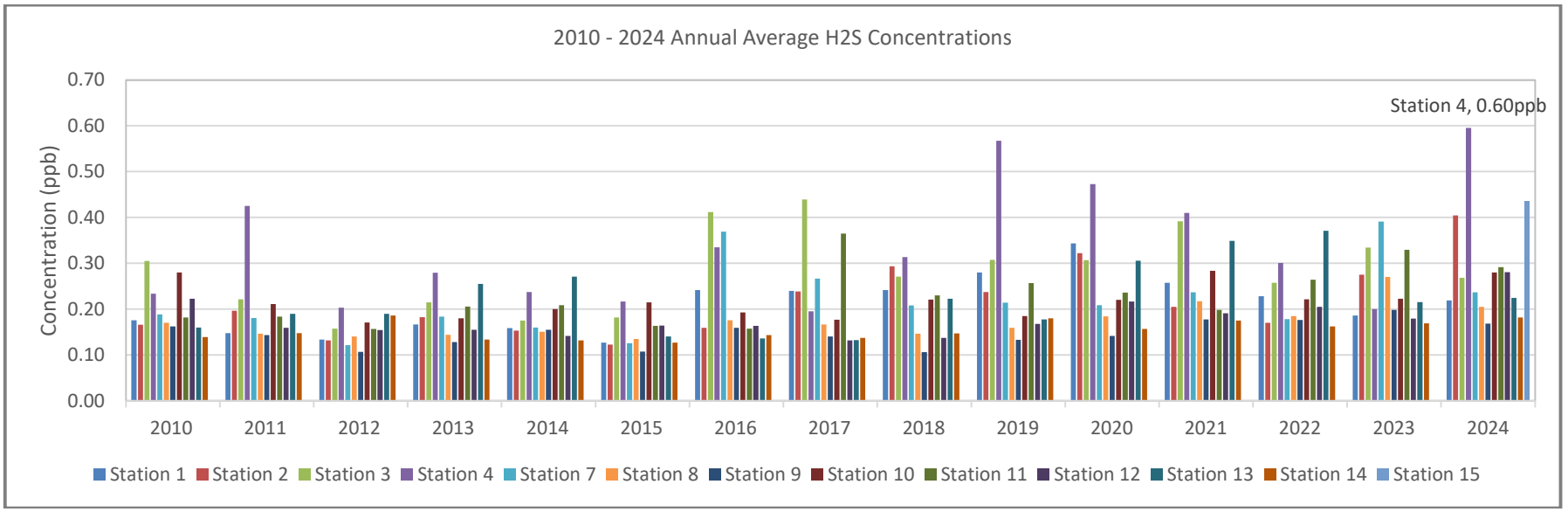

2010-2024 Annual Average SO2 Concentration (ppb) - Station 8
2.0
1.5
1.0
0.5
0.0
2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024

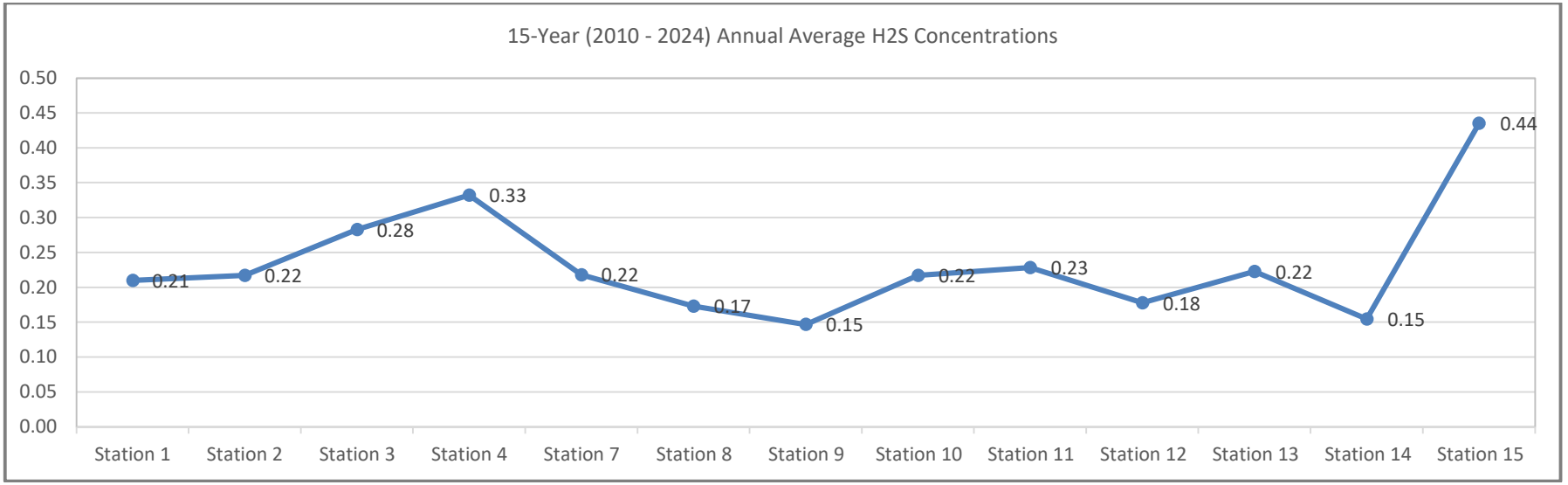

2010-2024 Annual Average SO2 Concentration (ppb) - Station 9
2.0
1.5
1.0
0.5
0.0
2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024


2010-2024 Annual Average SO2 Concentration (ppb) - Station 10
2.0
1.5
1.0
0.5
0.0
2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024
2010-2024 Annual Average SO2 Concentration (ppb) - Station 11
2.0
1.5
1.0
0.5
0.0
2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024
2010-2024 Annual Average SO2 Concentration (ppb) - Station 12
2.0
1.5
1.0
0.5
0.0
2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024
2010-2024 Annual Average SO2 Concentration (ppb) - Station 13
2.0
1.5
1.0
0.5
0.0
2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024
2010-2024 Annual Average SO2 Concentration (ppb) - Station 14
2.0
1.5
1.0
0.5
0.0
2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024
2010-2024 Annual Average SO2 Concentration (ppb) - Station 15
2
1.5
1
0.5
0
2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024

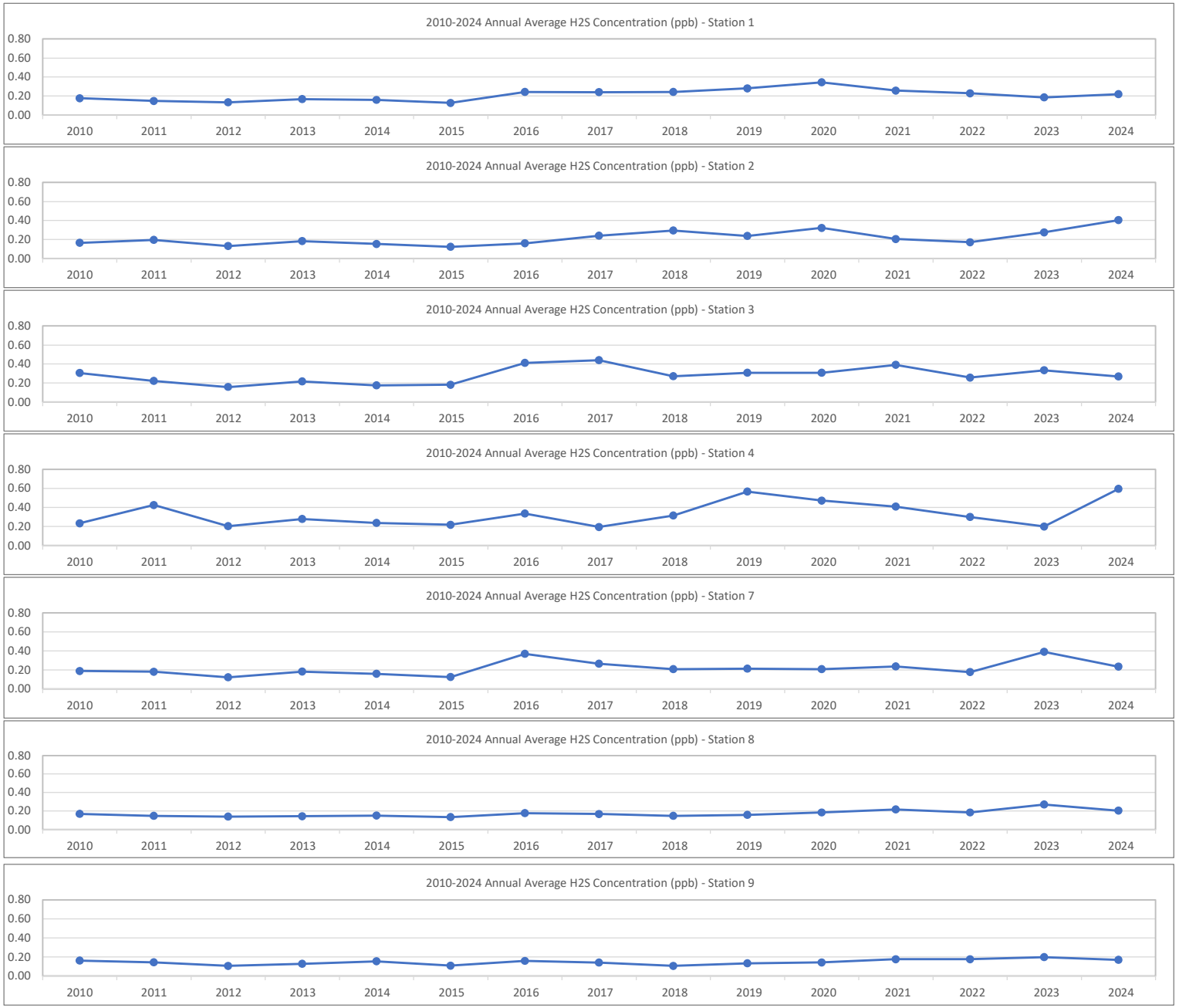

PRAMP Passive Monitoring Network
Sulphur Dioxide Concentration
2010-2024 Average in Parts Per Billion (ppb)
#4
0.2
Station Name
Concentration in ppb
N
986 Highway
986 Highway
#14
0.3
#12
0.3
#13
0.3
#10
0.3
#8
0.3
#9
0.3
#11
0.3
#3
0.7
#7
0.5
#15
0.3
#1
0.4
#2
0.4
#4
0.4
0
1
2 km

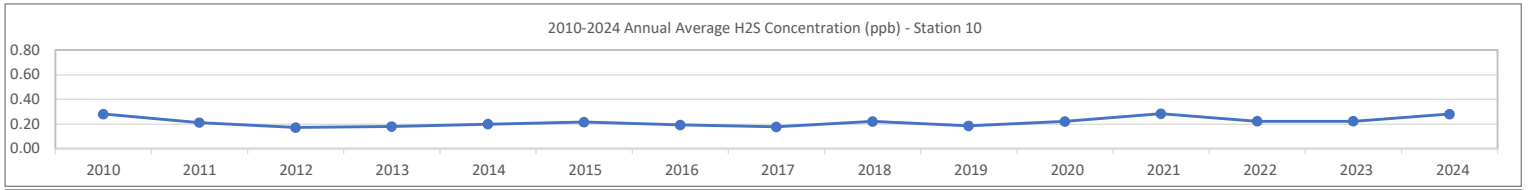
4.1.2 Hydrogen Sulphide (H_2S)

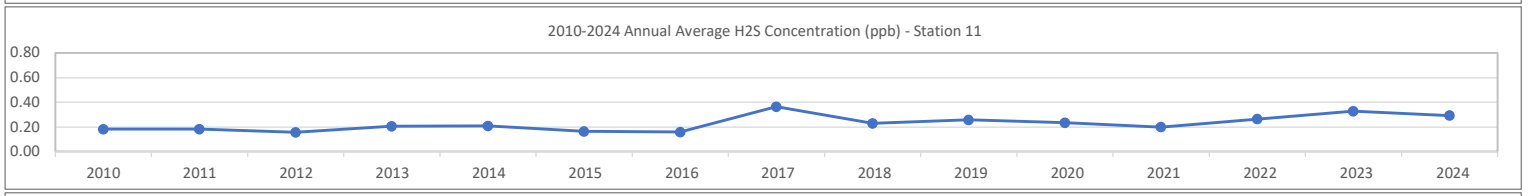


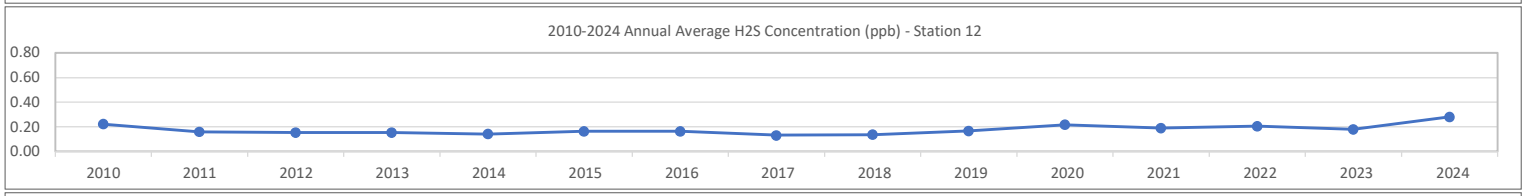


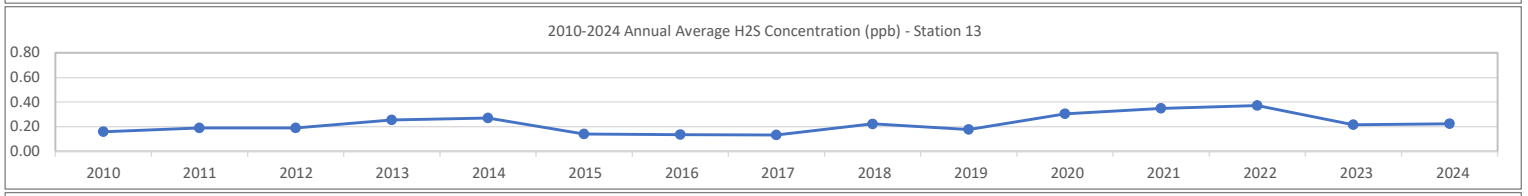
Note: Station 15 was installed in June 2024, and the first valid sample was collected in July 2024. A total of six valid samples were collected in 2024. The annual average is not considered valid and is shown on the chart for reference purposes.

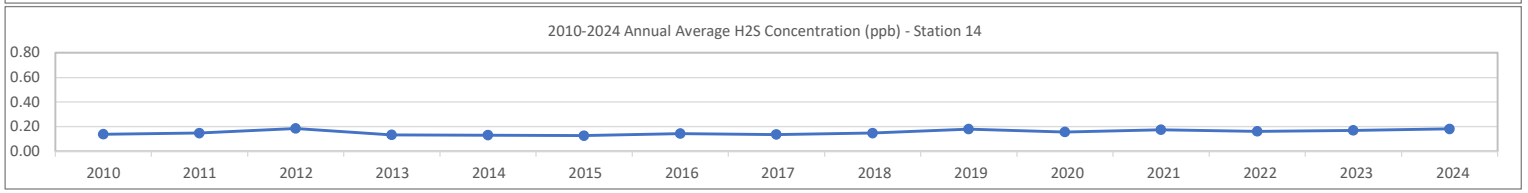

2010-2024 Annual Average H2S Concentration (ppb) - Station 1
2010-2024 Annual Average H2S Concentration (ppb) - Station 2
2010-2024 Annual Average H2S Concentration (ppb) - Station 3
2010-2024 Annual Average H2S Concentration (ppb) - Station 4
2010-2024 Annual Average H2S Concentration (ppb) - Station 7
2010-2024 Annual Average H2S Concentration (ppb) - Station 8
2010-2024 Annual Average H2S Concentration (ppb) - Station 9
0.80
0.60
0.40
0.20
0.00
2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024

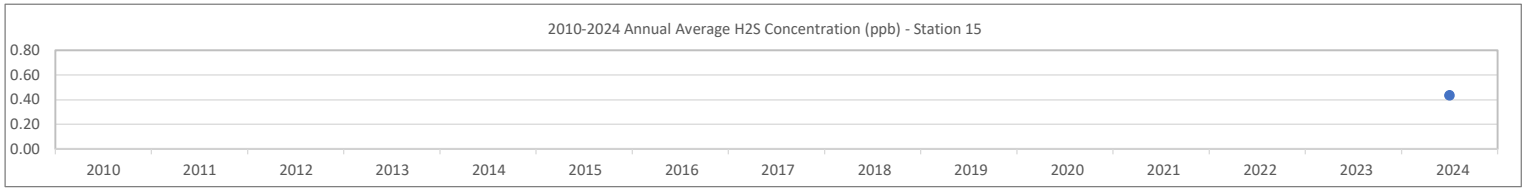

2010-2024 Annual Average H2S Concentration (ppb) - Station 10
0.80
0.60
0.40
0.20
0.00
2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024

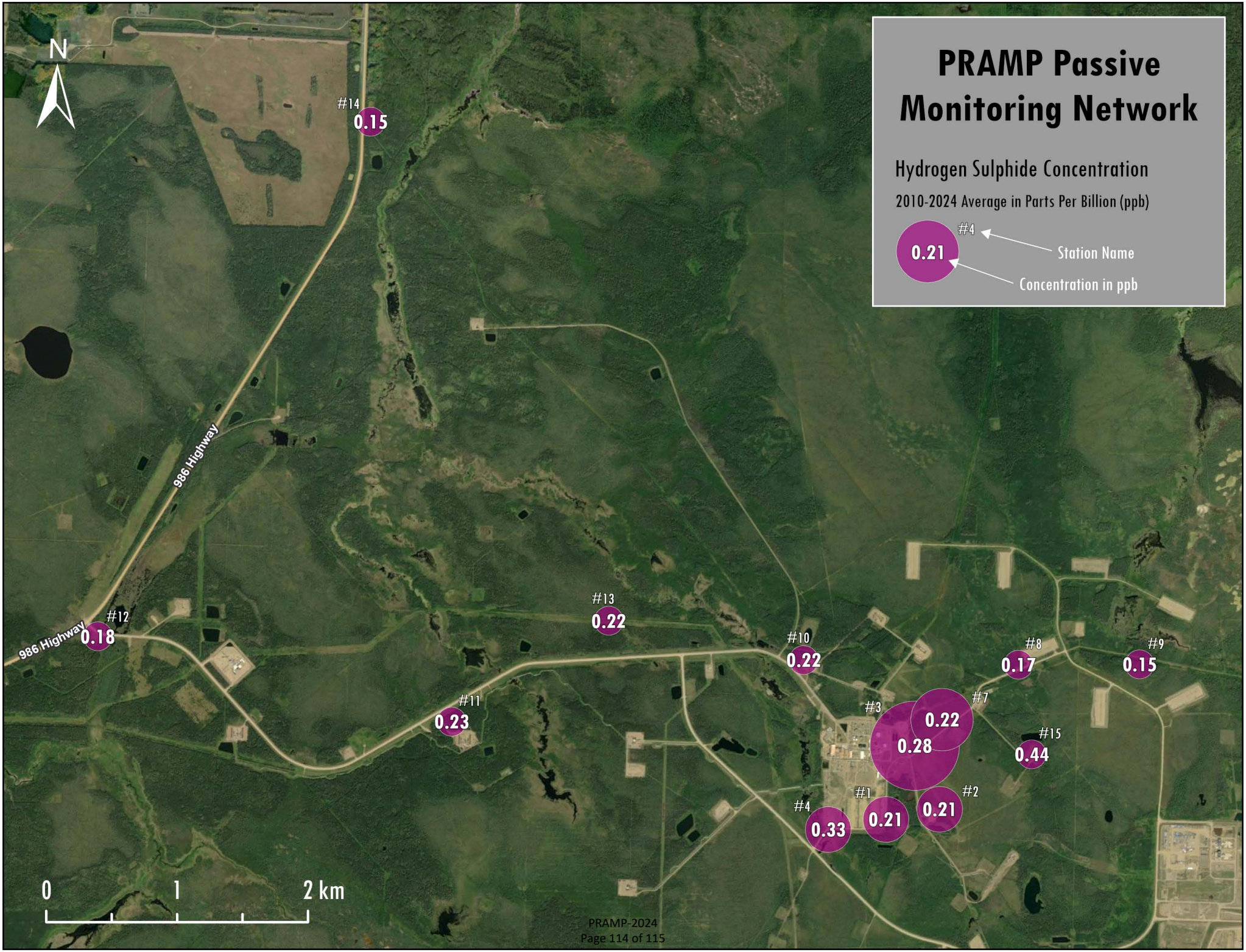

2010-2024 Annual Average H2S Concentration (ppb) - Station 11
0.80
0.60
0.40
0.20
0.00
2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024


2010-2024 Annual Average H2S Concentration (ppb) - Station 12
0.80
0.60
0.40
0.20
0.00
2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024


2010-2024 Annual Average H2S Concentration (ppb) - Station 13
0.80
0.60
0.40
0.20
0.00
2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024


2010-2024 Annual Average H2S Concentration (ppb) - Station 14
0.80
0.60
0.40
0.20
0.00
2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024


2010-2024 Annual Average H2S Concentration (ppb) - Station 15
0.80
0.60
0.40
0.20
0.00
2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024


PRAMP Passive Monitoring Network
Hydrogen Sulphide Concentration
2010-2024 Average in Parts Per Billion (ppb)
#4
0.21
Station Name
Concentration in ppb
N
986 Highway
986 Highway
#14
0.15
#12
0.18
#13
0.22
#10
0.22
#8
0.17
#9
0.15
#11
0.23
#3
0.28
#7
0.22
#15
0.44
#1
0.21
#2
0.21
#4
0.33
0
1
2 km

END OF REPORT

This page, 115 of 115, ends the 2024 Annual Ambient Air Quality Monitoring Report.