



Peace River Area Monitoring Program

2020

Annual Ambient Air Quality Monitoring Report

PRAMP-2020

Report Prepared By:

Peace River Area Monitoring Program

February 5, 2021

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List of Acronyms

AAAQOs	Alberta Ambient Air Quality Objectives
AEP	Alberta Environment and Parks
AMD	Air Monitoring Directive
AT	Ambient Temperature
BP	Barometric Pressure
CH ₄	Methane
EPEA	Environmental Protection and Enhancement Act
H ₂ S	Hydrogen Sulphide
kph	kilometers per hour
mb	millibar
mm	millimeter
NMHC	Non-Methane Hydrocarbons
ppb	parts per billion
ppm	parts per million
PRAMP	Peace River Area Monitoring Program
RH	Relative Humidity
SO ₂	Sulphur Dioxide
ST	Station Temperature
THC	Total Hydrocarbons
TRS	Total Reduced Sulphur
VWD	Vector Wind Direction
VWS	Vector Wind Speed
WD	Wind Direction
WS	Wind Speed
°C	Degrees Celsius



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February 5, 2021

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RE: 2020 Annual Ambient Air Quality Monitoring Report -PRAMP Airshed

Enclosed is the *2020 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 2020.

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

PRAMP Airshed
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This report was prepared by Lily Lin and reviewed by Mike 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:

- 986c Station
- 842b Station
- Reno Station
- AQHI Cadotte Lake

Station ID	Station Name	Latitude	Longitude
1562	986c	56.36980	-116.92500
1561	842b	56.27406	-116.98129
1563	Reno	55.86936	-117.05739
1651	AQHI-Cadotte Lake	56.49022	-116.42739

Calibration Report and Data Submission

Hourly data and calibration reports for 2020 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
N	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 2020

986c Station:

- There were no exceedances of the AAAQOs at the 986c Station in 2020.
- The BV-supplied Thermo 43i-TLE TRS analyzer, s/n: 1152940011, was removed on July 14. The PRAMP-owned Thermo 43iQTL TRS analyzer, s/n: 1191833341, was installed on July 16. Multiple troubleshooting and additional quality checks were performed on the replacement analyzer as the analyzer kept having unstable span response issues. One hundred and four hours of downtime were recorded in July. The operational uptime was 86.0%. **AEP reference #: 370019.**
- The BV-supplied Thermo 55i HC analyzer, s/n: 1022143392, was removed on July 14. The PRAMP-owned Thermo 55i HC analyzer, s/n: 1193585652, was installed on July 16. The replacement analyzer failed the August's monthly calibration. Available diagnostic data did not reveal a point of failure. Data were invalidated back to last valid calibration, which was July 16. Four hundred sixteen hours of downtime were recorded in July. The operational uptime was 44.1%. **AEP reference #: 370634.**
- The HC analyzer failed the monthly calibration on August 5. As available diagnostic available data did not reveal a point of failure, data were invalidated back to last valid calibration, which was July 16. One hundred and twelve hours of data were discarded in August. The operational uptime was 84.9%. **AEP reference #: 371297.**
- An ambient station audit was conducted on March 12 by AEP.
- SO₂: The BV-supplied API 100A SO₂ analyzer, s/n: 1298, was removed on July 14. The PRAMP-owned Thermo 43iQTL SO₂ analyzer, s/n: 119358646, was installed on July 16.
- RH/AT: The BV-supplied RM Young 43182VC sensor, s/n: 030978, was removed on July 14. The PRAMP-owned Rotronic HC2-S3 sensor, s/n: 20357528, was installed on July 16.
- BP: The BV-supplied MetOne 090D sensor, s/n: F3845, was removed on July 14. The PRAMP-owned MetOne 092, s/n: Y23358 sensor, was installed on July 16.
- WS/WD: The BV-supplied RM Young 05305VK sensor, s/n: 129612, was removed on July 14. The PRAMP-owned RM Young 05305L sensor, s/n: 174795, was installed on July 16.
- Precipitation: The sensor was set offline during the cold-weather seasons between January and March, November and December as the sensor does not equip with a heating system to measure precipitation in cold temperature. The AMD 90% operational uptime requirement does not apply to this parameter as this instrumentation was added at the request of the landowner host.

842b Station:

- There were no exceedances of the AAAQOs at the 842b Station in 2020.
- In February, the Thermo 55i HC analyzer, s/n: 1505664392, was removed due to poor injections, and the Thermo 55i analyzer, s/n: 1314057759, was attempted to be installed.

However, it failed three days after it was installed. One hundred twenty-eight hours of data were discarded. The operational uptime was 81.6%. **AEP reference #: 364605.**

- In May, the TRS analyzer malfunctioned two times due to converter failures. The converter was replaced on May 19. The analyzer failed the June's monthly calibration. The reason was due to delayed stabilization of the new converter. Data were invalidated back to the time the converter was installed. Three hundred forty-eight hours of downtime were recorded. The operational uptime was 53.2%. **AEP reference #: 367172.**
- The BV-supplied Thermo 55i HC analyzer, s/n: 1314057759, was removed on December 15. The PRAMP-owned Thermo 55i HC analyzer, s/n: 1501663728, was installed on December 17. The replacement analyzer started having injection issues on December 20. The actuator was replaced on December 22. Ninety-three hours of downtime were recorded due to this event plus trailer and equipment transition. The operational uptime was 87.5%. **AEP reference #: 374751.**
- An ambient station audit was conducted on March 13 by AEP.
- THC/CH4/NMHC: The PRAMP-owned Thermo 55i analyzer, s/n: 1191032505, was removed on May 20. The analyzer was sent back to the BV shop for maintenance due to intermittent injection issue and daily span drift. A BV-supplied Thermo 55i analyzer, s/n: 1505664392, was installed on May 20. A successful installation calibration was completed on May 21.
- Precipitation: A RM Young 5202, s/n: TB1877, precipitation gauge was installed on October 20. Valid hourly data will be collected, starting November 1.
- The BV-supplied AQM trailer and all monitoring equipment were replaced with the PRAMP-owned trailer on December 15.
- SO2: The BV-supplied Thermo 43i analyzer, s/n: 835033373, was removed on December 15. The PRAMP-owned Thermo 43iQTL SO2 analyzer, s/n: 1200736629, was installed on December 17.
- TRS: The BV-supplied Thermo 43i-TLE TRS analyzer, s/n: 1162460023, was removed on December 15. The PRAMP-owned Thermo 43iQTL TRS analyzer, s/n: 1200736630, was installed on December 17.
- RH/TPX: The BV-supplied Campbell Scientific HMP45C sensor, s/n: C2608, was removed on December 15. The PRAMP-owned Rotronic HC2-S3 sensor, s/n: 20370767, was installed on December 16.
- BP: The BV-supplied MetOne 092 sensor, s/n: K12864, was removed on December 15. The PRAMP-owned MetOne 092, s/n: Y23362 sensor, was installed on December 16.
- WS/WD: The BV-supplied RM Young 05305VK sensor, s/n: 124638, was removed on December 15. The PRAMP-owned RM Young 05305AQ sensor, s/n: 174802, was installed on December 16.

Reno Station:

- There were no exceedances of the AAAQOs at the Reno Station in 2020.
- In January, the Thermo 55i HC analyzer, s/n: 1314057759, was removed due to valve/injection issues,

and the Thermo 55i analyzer, s/n: 1433563261, was installed. As the replacement analyzer continued having intermittent poor sample injections throughout the month, multiple troubleshooting was performed. One hundred fifty hours of downtime were recorded due to these events. The operational uptime was 79.8%. **AEP reference #: 363422.**

- In February, due to poor injections, the Thermo 55i HC analyzer, s/n: 1433563261, was removed, and the thermo 55i analyzer, s/n: 1191032505, was installed. Seventy hours of downtime were recorded due to this event. The operational uptime was 89.9%. **AEP reference #: 364603.**
- The Thermo 43i-TLE TRS analyzer, s/n: 1162460022, failed on July 25. A replacement Thermo 43C analyzer, s/n: 43CTL-66268-352, was installed on July 31. One hundred forty-nine hours of data were discarded. The operational uptime was 80.0%. **AEP reference #: 370020.**
- The requirements outlined in the AMD 2016 were contravened between October 27 and November 1 for all gas parameters; the daily automated zero-span check was not executed due to a datalogger error. **AEP reference #: 373328.**
- An ambient station audit was conducted on March 11 by AEP.
- The AQM trailer was replaced on June 16 and 17 as the trailer required offsite maintenance.
- SO₂: Due to a persistent technical issue (PMT Temp alarm), the API 100A, s/n: 841, was replaced and the API 100A, s/n: 1502, was installed on April 9.
- Elevated concentrations of PM_{2.5}/TRS/THC/CH₄/NMHC were recorded on July 15 between hour 12 and hour 14. After reviewing images taken by the station surveillance camera, it was determined that the elevated concentrations were contributed by heavy excavator emissions and land reclamation activities around the station.
- TRS: The Thermo 43C analyzer failed the daily span check on October 16 and 17. The Thermo 43C analyzer, s/n: 43CTL-66268-352, was removed, and the Thermo 43iTL analyzer, s/n: 1162460022, was installed on October 21.
- Precipitation: A RM Young 5202, s/n: TB1588, precipitation gauge was installed on October 20. Valid hourly data will be collected, starting November 1.

AQHI - Cadotte Lake Station:

- There were no exceedances of the AAAQOs at the AQHI - Cadotte Lake Station in 2020, except PM_{2.5}.
- PM_{2.5}:
 - One hour of exceedance was recorded on February 24 hour 10, at concentration of 80.6 ug/m³. Elevated PM measurements were likely caused by smoke from a local source. Brush burning associated with land clearing activities was carried out in February. Both the presence of smoke and the source were confirmed by local observations in the Cadotte Lake - Woodland Cree community. **AEP reference #: 363997.**
 - Three exceedances of the 1-hour hour Guideline were recorded on October 30 between hour 19 and 21, at concentration of 120 ug/m³, 82.3 ug/m³ and 85.9 ug/m³, respectively. Throughout the Peace River – Three Creeks region, brush piles are being burned due to land clearing activities and are creating wide-spread smoke. This smoke was the cause of the elevated particulate matter concentrations detected by PRAMP. **AEP reference #: 373264.**
 - One exceedance of the 24-hour Objectives was recorded on November 3, at

concentration of 30.7 ug/m3. Throughout the Peace River – Three Creeks region, brush piles are being burned due to land clearing activities and are creating wide-spread smoke. This smoke was the cause of the elevated particulate matter concentrations detected by PRAMP. **AEP reference #: 373389.**

- TRS: Ninety hours of downtime were recorded in January due to multiple analyzer malfunctions and firmware crashes. The operational uptime was 87.9%. **AEP reference #: 363669.**
- The TRS analyzer malfunctioned on August 12 hour 15 due to a UV lamp warning alarm. This was traced to a loose electrical connection. The issue was fixed on August 13. Eighty-nine hours of downtime were recorded due to this event plus a power outage event and a scheduled analyzer maintenance performed in August. The operational uptime was 88.0%. **AEP reference #: 371541.**
- The HC analyzer started having intermittent poor sample injections in August. The Thermo 55i HC analyzer, s/n: 1501663728, was removed, and the Thermo 55i analyzer, s/n: 1191032505, was installed on August 28. Eighty-one hours of downtime were recorded due to this event plus a power outage event in August. The operational uptime was 89.1%. **AEP reference #: 371542.**
- An ambient station audit was conducted on March 12 by AEP.
- TRS: The Teledyne T100U analyzer, s/n: 132, was removed from the site for repair due to having firmware issues on November 4. The Thermo 43i-TLE TRS analyzer, s/n: 1152940011, was installed on November 5.
- WS/WD: The MetOne wind system, s/n: W15277 / W16102, was replaced with a RM Young wind system, s/n: 05305AQ, on June 18.

Special Studies

A multi-year integrated sampling program continued operating at 986b station, 986c station, 842b station and Reno 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 2020, the program collected a 1-hour sample of air in a canister when the continuously measured methane (CH₄) and/or non-methane hydrocarbon (NMHC) concentration reached a specified trigger point. The trigger points were 5.5 ppm for methane and 0.3 ppm for non-methane hydrocarbons. Both trigger points were 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 reports following the month of sample collections.

A total of 11 methane canister samples and 5 non-methane canister samples were collected in 2020.

Date	Time	Station	Parameter	Concentration (ppm)
03-Jan	1:45	Reno	CH ₄	6.79
24-Jan	3:45	Reno	CH ₄	9.3
24-Feb	8:25	Reno	CH ₄	7.25
24-Feb	18:55	Reno	CH ₄	6.66
21-Jul	22:50	Reno	NMHC	0.4
26-Jul	21:35	Reno	CH ₄	7.61
26-Jul	20:40	Reno	NMHC	0.48
12-Aug	12:35	842b	NMHC	0.38
21-Aug	1:05	Reno	CH ₄	6.42
30-Sep	2:10	Reno	CH ₄	6.24
07-Oct	2:45	Reno	CH ₄	5.81
11-Oct	22:30	Reno	CH ₄	5.63
11-Nov	2:20	Reno	CH ₄	6.33
13-Nov	16:55	Reno	CH ₄	7.79
14-Nov	21:20	986c	NMHC	0.34
03-Dec	15:55	Reno	NMHC	0.91

Notes:

* October 8 CH₄ canister event was recorded but sample was not collected as no spare canister was available for sampling.

*October 20 CH₄ canister events were recorded but samples were not collected as the previously-triggered canister (October 11) had not yet been replaced.

Notification of Changes Made After Monthly Report Issuance

No revisions to historical data previously submitted to the Alberta's Ambient Air Quality Data Warehouse were made during the time this annual report is being prepared.

Deviations from Authorized Monitoring Methods

At the Reno station, nearby trees exceed the height allowed under section 2.3 of the wind speed and wind direction siting criteria in Chapter 3 of the AMD. This non-conformance was documented in the updated station site documents. Further actions are being considered including siting the wind sensor so that it meets AMD Chapter 3 siting requirements, or obtaining written authorization from "The Director" to deviate from AMD Siting requirements.

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

February 5, 2021

1. Summaries of Statistics and Data Qualifier Flag Summaries

1.1 986c Station

Table 1 SO2 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (ppb)	# of 30-day AAAQO Exceedances	Min. 1-hr (ppb)	Max. 1-hr (ppb)	# of 1-hr AAAQO Exceedances	Max. 24-hr (ppb)	# of 24-hr AAAQO Exceedances
January	100.0	707	0.1	0	0	2	0	1	0
February	100.0	661	0.0	0	0	2	0	0	0
March	100.0	706	0.1	0	0	2	0	1	0
April	99.0	677	0.1	0	0	1	0	1	0
May	100.0	707	0.0	0	0	1	0	0	0
June	100.0	684	0.0	0	0	2	0	0	0
July	93.1	656	0.0	0	0	2	0	1	0
August	100.0	707	0.1	0	0	1	0	1	0
September	99.9	683	0.1	0	0	3	0	1	0
October	100.0	706	0.0	0	0	1	0	0	0
November	100.0	684	0.0	0	0	1	0	0	0
December	99.9	705	0.1	0	0	1	0	1	0
Annual	99.3	8283	0.0	0	0	3	0	1	0

Table 2 SO2 2020 Annual Frequency Distribution

Month	Percentage of Readings in Concentration Range (in ppb)				
	0 - 10	11 -50	51 -100	101 - 172	>172
January	100.0%	0.0%	0.0%	0.0%	0.0%
February	100.0%	0.0%	0.0%	0.0%	0.0%
March	100.0%	0.0%	0.0%	0.0%	0.0%
April	100.0%	0.0%	0.0%	0.0%	0.0%
May	100.0%	0.0%	0.0%	0.0%	0.0%
June	100.0%	0.0%	0.0%	0.0%	0.0%
July	100.0%	0.0%	0.0%	0.0%	0.0%
August	100.0%	0.0%	0.0%	0.0%	0.0%
September	100.0%	0.0%	0.0%	0.0%	0.0%
October	100.0%	0.0%	0.0%	0.0%	0.0%
November	100.0%	0.0%	0.0%	0.0%	0.0%
December	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	100.0%	0.0%	0.0%	0.0%	0.0%

Table 3 SO2 2020 Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
2	2	1	1	50	4	62	377	2
Total Hours of Downtime		60	Total Hours of Calibration Time		441	Total Hours of Flagged		501

Table 4 TRS 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (ppb)	Min. 1-hr (ppb)	Max. 1-hr (ppb)	Max. 24-hr (ppb)
January	100.0	706	0.51	0.07	1.01	0.64
February	99.9	660	0.52	0.26	0.91	0.59
March	99.6	700	0.51	0.23	2.06	0.79
April	96.9	662	0.52	0.00	1.36	0.64
May	92.7	657	0.25	0.00	5.05	0.95
June	99.9	683	0.22	0.00	1.29	0.43
July	86.0	605	0.53	0.00	2.46	1.65
August	98.8	700	0.26	0.00	1.35	0.62
September	99.9	683	0.20	0.00	1.10	0.40
October	100.0	706	0.18	0.00	3.75	0.93
November	97.1	664	0.09	0.00	0.53	0.24
December	99.9	705	0.10	0.00	0.49	0.33
Annual	97.6	8131	0.33	0.00	5.05	1.65

Table 5 TRS 2020 Annual Frequency Distribution

Month	Percentage of Readings in Concentration Range (in ppb)				
	0 - 2	3 - 5	6 - 10	11 - 50	>50
January	100.0%	0.0%	0.0%	0.0%	0.0%
February	100.0%	0.0%	0.0%	0.0%	0.0%
March	100.0%	0.0%	0.0%	0.0%	0.0%
April	100.0%	0.0%	0.0%	0.0%	0.0%
May	99.7%	0.3%	0.0%	0.0%	0.0%
June	100.0%	0.0%	0.0%	0.0%	0.0%
July	99.8%	0.2%	0.0%	0.0%	0.0%
August	100.0%	0.0%	0.0%	0.0%	0.0%
September	100.0%	0.0%	0.0%	0.0%	0.0%
October	99.7%	0.3%	0.0%	0.0%	0.0%
November	100.0%	0.0%	0.0%	0.0%	0.0%
December	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	99.9%	0.1%	0.0%	0.0%	0.0%

Table 6 TRS 2020 Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
2	70	40	1	50	54	68	366	2
Total Hours of Downtime		217	Total Hours of Calibration Time		436	Total Hours of Flagged		653

Table 7 THC 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (ppm)	Min. 1-hr (ppm)	Max. 1-hr (ppm)	Max. 24-hr (ppm)
January	99.9	705	2.03	1.92	2.54	2.15
February	99.6	659	2.01	1.93	2.28	2.09
March	100.0	705	2.02	1.94	2.31	2.09
April	98.5	674	1.98	1.93	2.27	2.08
May	100.0	707	1.95	1.88	2.11	2.00
June	99.7	683	1.92	1.85	2.14	2.00
July	44.1	307	1.98	1.90	2.38	2.04
August	84.9	602	1.91	1.80	2.60	2.09
September	99.9	684	1.95	1.81	2.42	2.04
October	100.0	706	1.97	1.86	2.66	2.06
November	100.0	684	1.99	1.87	2.42	2.08
December	99.9	706	2.00	1.91	2.37	2.11
Annual	93.9	7822	1.97	1.80	2.66	2.15

Table 8 THC 2020 Annual Frequency Distribution

Month	Percentage of Readings in Concentration Range (in ppm)				
	0 - 2	3 - 5	6 - 10	11 - 40	>40
January	99.6%	0.4%	0.0%	0.0%	0.0%
February	100.0%	0.0%	0.0%	0.0%	0.0%
March	100.0%	0.0%	0.0%	0.0%	0.0%
April	100.0%	0.0%	0.0%	0.0%	0.0%
May	100.0%	0.0%	0.0%	0.0%	0.0%
June	100.0%	0.0%	0.0%	0.0%	0.0%
July	100.0%	0.0%	0.0%	0.0%	0.0%
August	99.3%	0.7%	0.0%	0.0%	0.0%
September	99.9%	0.1%	0.0%	0.0%	0.0%
October	99.7%	0.3%	0.0%	0.0%	0.0%
November	99.9%	0.1%	0.0%	0.0%	0.0%
December	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	99.9%	0.1%	0.0%	0.0%	0.0%

Table 9 THC 2020 Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
2	481	1	3	50	10	57	356	2
Total Hours of Downtime		547	Total Hours of Calibration Time		415	Total Hours of Flagged		962

Table 10 CH4 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (ppm)	Min. 1-hr (ppm)	Max. 1-hr (ppm)	Max. 24-hr (ppm)
January	99.9	705	2.03	1.92	2.53	2.15
February	99.6	659	2.01	1.93	2.27	2.09
March	100.0	705	2.02	1.94	2.31	2.09
April	98.5	674	1.98	1.93	2.27	2.08
May	100.0	707	1.95	1.88	2.11	2.00
June	99.7	683	1.92	1.85	2.14	2.00
July	44.1	307	1.98	1.90	2.38	2.04
August	84.9	602	1.91	1.80	2.60	2.09
September	99.9	684	1.95	1.81	2.42	2.04
October	100.0	706	1.97	1.86	2.59	2.05
November	100.0	684	1.99	1.87	2.21	2.07
December	99.9	706	2.00	1.91	2.37	2.11
Annual	93.9	7822	1.97	1.80	2.60	2.15

Table 11 CH4 2020 Annual Frequency Distribution

Month	Percentage of Readings in Concentration Range (in ppm)				
	0 - 2	3 - 5	6 - 10	11 - 20	>20
January	99.6%	0.4%	0.0%	0.0%	0.0%
February	100.0%	0.0%	0.0%	0.0%	0.0%
March	100.0%	0.0%	0.0%	0.0%	0.0%
April	100.0%	0.0%	0.0%	0.0%	0.0%
May	100.0%	0.0%	0.0%	0.0%	0.0%
June	100.0%	0.0%	0.0%	0.0%	0.0%
July	100.0%	0.0%	0.0%	0.0%	0.0%
August	99.3%	0.7%	0.0%	0.0%	0.0%
September	99.9%	0.1%	0.0%	0.0%	0.0%
October	99.7%	0.3%	0.0%	0.0%	0.0%
November	100.0%	0.0%	0.0%	0.0%	0.0%
December	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	99.9%	0.1%	0.0%	0.0%	0.0%

Table 12 CH4 2020 Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
2	481	1	3	50	10	57	356	2
Total Hours of Downtime		547	Total Hours of Calibration Time		415	Total Hours of Flagged		962

Table 13 NMHC 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (ppm)	Min. 1-hr (ppm)	Max. 1-hr (ppm)	Max. 24-hr (ppm)
January	99.9	705	0.00	0.00	0.01	0.00
February	99.6	659	0.00	0.00	0.03	0.00
March	100.0	705	0.00	0.00	0.00	0.00
April	98.5	674	0.00	0.00	0.00	0.00
May	100.0	707	0.00	0.00	0.00	0.00
June	99.7	683	0.00	0.00	0.00	0.00
July	44.1	307	0.00	0.00	0.00	0.00
August	84.9	602	0.00	0.00	0.08	0.00
September	99.9	684	0.00	0.00	0.00	0.00
October	100.0	706	0.00	0.00	0.07	0.01
November	100.0	684	0.00	0.00	0.36	0.04
December	99.9	706	0.00	0.00	0.00	0.00
Annual	93.9	7822	0.00	0.00	0.36	0.04

Table 14 NMHC 2020 Annual Frequency Distribution

Month	Percentage of Readings in Concentration Range (in ppm)				
	0 - 0.1	0.2 - 0.3	0.4 - 0.9	1 - 2	>2
January	100.0%	0.0%	0.0%	0.0%	0.0%
February	100.0%	0.0%	0.0%	0.0%	0.0%
March	100.0%	0.0%	0.0%	0.0%	0.0%
April	100.0%	0.0%	0.0%	0.0%	0.0%
May	100.0%	0.0%	0.0%	0.0%	0.0%
June	100.0%	0.0%	0.0%	0.0%	0.0%
July	100.0%	0.0%	0.0%	0.0%	0.0%
August	100.0%	0.0%	0.0%	0.0%	0.0%
September	100.0%	0.0%	0.0%	0.0%	0.0%
October	100.0%	0.0%	0.0%	0.0%	0.0%
November	99.3%	0.6%	0.1%	0.0%	0.0%
December	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	99.9%	0.0%	0.0%	0.0%	0.0%

Table 15 NMHC 2020 Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
2	481	1	3	50	10	57	356	2
Total Hours of Downtime		547	Total Hours of Calibration Time		415	Total Hours of Flagged		962

Table 16 RH 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (%)	Min. 1-hr (%)	Max. 1-hr (%)	Max. 24-hr (%)
January	100.0	744	79.7	45	100	99
February	100.0	696	74.7	32	100	94
March	100.0	744	68.6	32	100	85
April	99.6	717	59.5	19	100	81
May	100.0	744	64.1	19	100	100
June	91.8	661	71.9	28	100	97
July	93.1	693	79.6	36	100	100
August	100.0	744	71.0	31	98	94
September	100.0	720	71.8	23	100	89
October	100.0	744	76.4	31	100	97
November	100.0	720	82.7	38	100	97
December	99.9	743	79.0	34	100	95
Annual	98.7	8670	73.2	19	100	100

Table 17 RH Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
2	56	1	1	50	4	0	0	0
Total Hours of Downtime		114	Total Hours of Calibration Time		0	Total Hours of Flagged		114

Table 18 BP 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (mb)	Min. 1-hr (mb)	Max. 1-hr (mb)	Max. 24-hr (mb)
January	100.0	744	941	920	965	961
February	100.0	696	941	916	959	957
March	100.0	744	944	920	971	968
April	99.6	717	943	927	961	958
May	100.0	744	945	930	966	964
June	91.8	661	941	927	953	951
July	93.1	693	941	928	952	951
August	100.0	744	939	925	947	945
September	100.0	720	943	921	963	960
October	100.0	744	943	920	962	961
November	100.0	720	936	915	953	949
December	99.9	743	940	917	960	954
Annual	98.7	8670	941	915	971	968

Table 19 BP Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
2	56	1	1	50	4	0	0	0
Total Hours of Downtime		114	Total Hours of Calibration Time		0	Total Hours of Flagged		114

Table 20 AT 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (°C)	Min. 1-hr (°C)	Max. 1-hr (°C)	Max. 24-hr (°C)
January	100.0	744	-14.8	-40.1	4.8	1.4
February	100.0	696	-8.2	-31.2	6.2	3.0
March	100.0	744	-8.8	-33.3	4.8	1.9
April	99.6	717	0.9	-27.8	16.4	10.9
May	100.0	744	9.6	-3.9	24.3	17.7
June	91.8	661	14.5	2.6	26.6	19.8
July	93.1	693	15.9	7.7	29.1	22.2
August	100.0	744	14.7	1.9	28.7	22.8
September	100.0	720	10.6	-2.8	23.2	16.2
October	100.0	744	0.4	-13.2	21.9	13.9
November	100.0	720	-6.0	-22.2	13.6	11.5
December	99.9	743	-7.6	-26.7	8.6	6.2
Annual	98.7	8670	1.8	-40.1	29.1	22.8

Table 21 AT Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
2	56	1	1	50	4	0	0	0
Total Hours of Downtime		114	Total Hours of Calibration Time		0	Total Hours of Flagged		114

Table 22 Precipitation 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Total (mm)	Min. Total 1-hr (mm)	Max. Total 1-hr (mm)	Max. Total 24-hr (mm)
January	-	-	-	-	-	-
February	-	-	-	-	-	-
March	-	-	-	-	-	-
April	63.8	459	9.0	0.0	1.2	3.2
May	97.2	723	42.2	0.0	4.6	12.4
June	89.0	641	48.0	0.0	6.8	14.2
July	92.5	688	102.0	0.0	11.8	38.6
August	100.0	744	68.6	0.0	11.6	18.0
September	100.0	720	31.0	0.0	2.6	14.6
October	99.6	741	32.2	0.0	2.0	10.2
November	-	-	-	-	-	-
December	-	-	-	-	-	-
Annual	91.7	4716	333.0	0.0	11.8	38.6

Table 23 Precipitation Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
2	58	1	279	55	25	0	0	0
Total Hours of Downtime		420	Total Hours of Calibration Time		0	Total Hours of Flagged		420

Table 24 ST 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (°C)	Min. 1-hr (°C)	Max. 1-hr (°C)	Max. 24-hr (°C)
January	100.0	744	21.3	20.4	23.1	21.8
February	100.0	696	21.5	20.5	23.5	22.2
March	100.0	744	21.5	20.5	24.2	22.4
April	99.9	719	22.0	20.0	24.6	22.7
May	100.0	744	22.6	20.8	26.7	23.4
June	100.0	720	22.6	21.3	27.4	23.5
July	93.1	693	22.8	21.3	24.8	23.4
August	100.0	744	22.9	21.4	24.2	23.4
September	100.0	720	22.5	21.3	24.4	23.2
October	100.0	744	22.0	21.3	24.0	22.9
November	100.0	720	22.0	20.9	23.4	22.4
December	99.9	743	22.0	21.4	22.6	22.5
Annual	99.4	8731	22.1	20.0	27.4	23.5

Table 25 ST Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
0	0	1	1	50	1	0	0	0
Total Hours of Downtime		53	Total Hours of Calibration Time		0	Total Hours of Flagged		53

Table 26 WS 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (kph)	Min. 1-hr (kph)	Max. 1-hr (kph)	Max. 24-hr (kph)
January	100.0	744	2.7	0.4	37.7	25.0
February	100.0	696	6.3	0.1	36.6	22.3
March	100.0	744	1.9	0.2	32.4	21.6
April	99.9	719	5.7	0.4	30.3	23.4
May	100.0	744	2.1	0.3	32.1	20.9
June	99.7	718	2.5	0.2	29.7	18.7
July	93.1	688	3.7	0.0	23.7	14.2
August	100.0	744	6.0	0.1	24.7	17.0
September	100.0	720	2.9	0.2	28.4	17.0
October	100.0	744	2.8	0.2	24.5	15.0
November	100.0	720	4.8	0.6	34.3	23.9
December	99.9	743	5.6	0.0	42.5	21.6
Annual	99.4	8724	3.3	0.0	42.5	25.0

Table 27 WS 2020 Annual Frequency Distribution

Month	Percentage of Readings in Concentration Range (in kph)				
	0 - 6	7 - 15	16 - 29	30 - 39	>39
January	28.2%	51.6%	19.1%	1.1%	0.0%
February	17.2%	52.3%	29.5%	1.0%	0.0%
March	14.8%	48.8%	35.1%	1.3%	0.0%
April	19.1%	47.6%	33.2%	0.1%	0.0%
May	21.8%	52.7%	25.3%	0.3%	0.0%
June	27.4%	51.9%	20.5%	0.1%	0.0%
July	38.2%	50.4%	11.3%	0.0%	0.0%
August	21.1%	62.6%	16.3%	0.0%	0.0%
September	33.9%	57.2%	8.9%	0.0%	0.0%
October	35.5%	50.3%	14.2%	0.0%	0.0%
November	25.7%	43.5%	29.7%	1.1%	0.0%
December	27.9%	49.9%	20.2%	1.9%	0.1%
Annual	25.9%	51.6%	21.9%	0.6%	0.0%

Table 28 WS Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
0	2	1	1	50	1	5	0	0
Total Hours of Downtime		55	Total Hours of Calibration Time		5	Total Hours of Flagged		60

1.2 842b Station

Table 29 SO2 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (ppb)	# of 30-day AAAQO Exceedances	Min. 1-hr (ppb)	Max. 1-hr (ppb)	# of 1-hr AAAQO Exceedances	Max. 24-hr (ppb)	# of 24-hr AAAQO Exceedances
January	100.0	706	0.1	0	0	2	0	1	0
February	100.0	662	0.1	0	0	2	0	1	0
March	99.7	703	0.2	0	0	4	0	1	0
April	99.6	680	0.0	0	0	1	0	0	0
May	99.6	705	0.0	0	0	2	0	0	0
June	95.4	652	0.0	0	0	1	0	0	0
July	100.0	707	0.0	0	0	1	0	0	0
August	96.6	684	0.0	0	0	1	0	0	0
September	100.0	685	0.0	0	0	3	0	1	0
October	100.0	707	0.0	0	0	1	0	0	0
November	99.7	682	0.0	0	0	1	0	0	0
December	94.0	662	0.0	0	0	1	0	0	0
Annual	98.7	8235	0.0	0	0	4	0	1	0

Table 30 SO2 2020 Annual Frequency Distribution

Month	Percentage of Readings in Concentration Range (in ppb)				
	0 - 10	11 -50	51 -100	101 - 172	>172
January	100.0%	0.0%	0.0%	0.0%	0.0%
February	100.0%	0.0%	0.0%	0.0%	0.0%
March	100.0%	0.0%	0.0%	0.0%	0.0%
April	100.0%	0.0%	0.0%	0.0%	0.0%
May	100.0%	0.0%	0.0%	0.0%	0.0%
June	100.0%	0.0%	0.0%	0.0%	0.0%
July	100.0%	0.0%	0.0%	0.0%	0.0%
August	100.0%	0.0%	0.0%	0.0%	0.0%
September	100.0%	0.0%	0.0%	0.0%	0.0%
October	100.0%	0.0%	0.0%	0.0%	0.0%
November	100.0%	0.0%	0.0%	0.0%	0.0%
December	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	100.0%	0.0%	0.0%	0.0%	0.0%

Table 31 SO2 2020 Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
32	34	0	0	45	2	60	373	3
Total Hours of Downtime		113	Total Hours of Calibration Time		436	Total Hours of Flagged		549

Table 32 TRS 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (ppb)	Min. 1-hr (ppb)	Max. 1-hr (ppb)	Max. 24-hr (ppb)
January	100.0	705	0.47	0.35	1.05	0.59
February	99.9	661	0.50	0.31	0.86	0.61
March	99.7	703	0.46	0.29	0.78	0.55
April	97.5	665	0.48	0.31	0.98	0.54
May	53.2	375	0.39	0.07	0.68	0.51
June	94.9	647	0.22	0.00	1.89	0.50
July	100.0	707	0.43	0.05	2.79	1.07
August	96.5	682	0.36	0.01	1.33	0.59
September	100.0	683	0.24	0.05	0.80	0.40
October	99.9	703	0.32	0.09	0.74	0.51
November	99.7	682	0.39	0.00	0.66	0.46
December	92.9	655	0.55	0.27	1.88	1.06
Annual	94.5	7868	0.40	0.00	2.79	1.07

Table 33 TRS 2020 Annual Frequency Distribution

Month	Percentage of Readings in Concentration Range (in ppb)				
	0 - 2	3 - 5	6 - 10	11 - 50	>50
January	100.0%	0.0%	0.0%	0.0%	0.0%
February	100.0%	0.0%	0.0%	0.0%	0.0%
March	100.0%	0.0%	0.0%	0.0%	0.0%
April	100.0%	0.0%	0.0%	0.0%	0.0%
May	100.0%	0.0%	0.0%	0.0%	0.0%
June	100.0%	0.0%	0.0%	0.0%	0.0%
July	99.3%	0.7%	0.0%	0.0%	0.0%
August	100.0%	0.0%	0.0%	0.0%	0.0%
September	100.0%	0.0%	0.0%	0.0%	0.0%
October	100.0%	0.0%	0.0%	0.0%	0.0%
November	100.0%	0.0%	0.0%	0.0%	0.0%
December	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	99.9%	0.1%	0.0%	0.0%	0.0%

Table 34 TRS 2020 Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
32	388	0	0	45	23	68	357	3
Total Hours of Downtime		488	Total Hours of Calibration Time		428	Total Hours of Flagged		916

Table 35 THC 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (ppm)	Min. 1-hr (ppm)	Max. 1-hr (ppm)	Max. 24-hr (ppm)
January	100.0	707	2.04	1.94	2.64	2.16
February	81.6	542	2.03	1.95	2.68	2.17
March	95.2	672	2.00	1.92	2.44	2.12
April	99.4	679	1.98	1.91	2.41	2.10
May	99.3	702	1.90	1.81	2.15	2.00
June	100.0	684	1.93	1.82	2.23	1.98
July	100.0	708	1.95	1.85	2.52	2.07
August	94.9	671	1.91	1.80	2.78	2.07
September	100.0	685	1.90	1.81	2.23	1.97
October	98.3	693	1.95	1.81	2.45	2.01
November	99.7	682	1.98	1.87	2.29	2.05
December	87.5	616	1.93	1.80	2.40	2.12
Annual	96.3	8041	1.96	1.80	2.78	2.17

Table 36 THC 2020 Annual Frequency Distribution

Month	Percentage of Readings in Concentration Range (in ppm)				
	0 - 2	3 - 5	6 - 10	11 - 40	>40
January	98.7%	1.3%	0.0%	0.0%	0.0%
February	98.9%	1.1%	0.0%	0.0%	0.0%
March	99.9%	0.1%	0.0%	0.0%	0.0%
April	99.7%	0.3%	0.0%	0.0%	0.0%
May	100.0%	0.0%	0.0%	0.0%	0.0%
June	100.0%	0.0%	0.0%	0.0%	0.0%
July	99.6%	0.4%	0.0%	0.0%	0.0%
August	99.1%	0.9%	0.0%	0.0%	0.0%
September	100.0%	0.0%	0.0%	0.0%	0.0%
October	99.7%	0.3%	0.0%	0.0%	0.0%
November	100.0%	0.0%	0.0%	0.0%	0.0%
December	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	99.6%	0.4%	0.0%	0.0%	0.0%

Table 37 THC 2020 Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
32	216	1	0	45	25	56	366	2
Total Hours of Downtime		319	Total Hours of Calibration Time		424	Total Hours of Flagged		743

Table 38 CH4 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (ppm)	Min. 1-hr (ppm)	Max. 1-hr (ppm)	Max. 24-hr (ppm)
January	100.0	707	2.04	1.94	2.64	2.16
February	81.6	542	2.03	1.95	2.68	2.17
March	95.2	672	2.00	1.92	2.44	2.12
April	99.4	679	1.98	1.91	2.41	2.10
May	99.3	702	1.90	1.81	2.15	2.00
June	100.0	684	1.93	1.82	2.23	1.98
July	100.0	708	1.95	1.85	2.52	2.07
August	94.9	671	1.91	1.80	2.78	2.07
September	100.0	685	1.90	1.81	2.23	1.97
October	98.3	693	1.95	1.81	2.40	2.01
November	99.7	682	1.98	1.87	2.29	2.05
December	87.5	616	1.93	1.80	2.40	2.12
Annual	96.3	8041	1.96	1.80	2.78	2.17

Table 39 CH4 2020 Annual Frequency Distribution

Month	Percentage of Readings in Concentration Range (in ppm)				
	0 - 2	3 - 5	6 - 10	11 - 20	>20
January	98.9%	1.1%	0.0%	0.0%	0.0%
February	98.9%	1.1%	0.0%	0.0%	0.0%
March	99.9%	0.1%	0.0%	0.0%	0.0%
April	99.7%	0.3%	0.0%	0.0%	0.0%
May	100.0%	0.0%	0.0%	0.0%	0.0%
June	100.0%	0.0%	0.0%	0.0%	0.0%
July	99.6%	0.4%	0.0%	0.0%	0.0%
August	99.1%	0.9%	0.0%	0.0%	0.0%
September	100.0%	0.0%	0.0%	0.0%	0.0%
October	100.0%	0.0%	0.0%	0.0%	0.0%
November	100.0%	0.0%	0.0%	0.0%	0.0%
December	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	99.7%	0.3%	0.0%	0.0%	0.0%

Table 40 CH4 2020 Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
32	216	1	0	45	25	56	366	2
Total Hours of Downtime		319	Total Hours of Calibration Time		424	Total Hours of Flagged		743

Table 41 NMHC 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (ppm)	Min. 1-hr (ppm)	Max. 1-hr (ppm)	Max. 24-hr (ppm)
January	100.0	707	0.00	0.00	0.09	0.00
February	81.6	542	0.00	0.00	0.06	0.00
March	95.2	672	0.00	0.00	0.01	0.00
April	99.4	679	0.00	0.00	0.00	0.00
May	99.3	702	0.00	0.00	0.00	0.00
June	100.0	684	0.00	0.00	0.00	0.00
July	100.0	708	0.00	0.00	0.02	0.00
August	94.9	671	0.00	0.00	0.08	0.00
September	100.0	685	0.00	0.00	0.03	0.00
October	98.3	693	0.00	0.00	0.06	0.00
November	99.7	682	0.00	0.00	0.00	0.00
December	87.5	616	0.00	0.00	0.03	0.00
Annual	96.3	8041	0.00	0.00	0.09	0.00

Table 42 NMHC 2020 Annual Frequency Distribution

Month	Percentage of Readings in Concentration Range (in ppm)				
	0 - 0.1	0.2 - 0.3	0.4 - 0.9	1 - 2	>2
January	100.0%	0.0%	0.0%	0.0%	0.0%
February	100.0%	0.0%	0.0%	0.0%	0.0%
March	100.0%	0.0%	0.0%	0.0%	0.0%
April	100.0%	0.0%	0.0%	0.0%	0.0%
May	100.0%	0.0%	0.0%	0.0%	0.0%
June	100.0%	0.0%	0.0%	0.0%	0.0%
July	100.0%	0.0%	0.0%	0.0%	0.0%
August	100.0%	0.0%	0.0%	0.0%	0.0%
September	100.0%	0.0%	0.0%	0.0%	0.0%
October	100.0%	0.0%	0.0%	0.0%	0.0%
November	100.0%	0.0%	0.0%	0.0%	0.0%
December	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	100.0%	0.0%	0.0%	0.0%	0.0%

Table 43 NMHC 2020 Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
32	216	1	0	45	25	56	366	2
Total Hours of Downtime		319	Total Hours of Calibration Time		424	Total Hours of Flagged		743

Table 44 RH 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (%)	Min. 1-hr (%)	Max. 1-hr (%)	Max. 24-hr (%)
January	100.0	744	75.3	41	94	91
February	100.0	696	70.4	40	95	87
March	100.0	744	65.6	30	95	80
April	99.7	718	56.7	18	96	74
May	99.6	741	59.1	17	96	92
June	100.0	720	66.8	25	95	92
July	100.0	744	74.5	32	94	92
August	96.6	719	68.5	31	94	90
September	100.0	720	68.6	20	96	86
October	99.9	743	73.3	28	96	92
November	99.7	718	78.5	41	96	91
December	96.1	715	74.6	35	95	89
Annual	99.3	8722	69.3	17	96	92

Table 45 RH Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
32	0	1	0	29	0	0	0	0
Total Hours of Downtime		62	Total Hours of Calibration Time		0	Total Hours of Flagged		62

Table 46 BP 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (mb)	Min. 1-hr (mb)	Max. 1-hr (mb)	Max. 24-hr (mb)
January	100.0	744	940	919	964	960
February	100.0	696	940	915	959	956
March	100.0	744	943	918	970	968
April	99.7	718	942	925	959	957
May	99.6	741	944	929	965	963
June	100.0	720	939	925	951	949
July	100.0	744	940	926	952	951
August	96.6	719	940	926	948	945
September	100.0	720	943	921	964	960
October	99.9	743	943	921	963	962
November	99.7	718	937	916	954	950
December	96.1	715	940	916	960	955
Annual	99.3	8722	941	915	970	968

Table 47 BP Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
32	0	1	0	29	0	0	0	0
Total Hours of Downtime		62	Total Hours of Calibration Time		0	Total Hours of Flagged		62

Table 48 AT 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (°C)	Min. 1-hr (°C)	Max. 1-hr (°C)	Max. 24-hr (°C)
January	100.0	744	-14.9	-39.8	4.9	1.2
February	100.0	696	-8.5	-32.0	5.7	2.7
March	100.0	744	-9.1	-32.8	4.6	1.1
April	99.7	718	0.5	-29.8	16.3	10.6
May	99.6	741	9.5	-4.1	23.8	17.8
June	100.0	720	13.8	0.9	26.4	19.5
July	100.0	744	15.7	7.3	29.0	21.6
August	96.6	719	14.4	1.0	28.5	22.8
September	100.0	720	10.4	-2.8	23.7	16.2
October	99.9	743	0.1	-13.7	21.8	14.2
November	99.7	718	-6.2	-22.6	13.4	10.7
December	96.1	715	-7.4	-28.3	8.5	5.5
Annual	99.3	8722	1.5	-39.8	29.0	22.8

Table 49 AT Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
32	0	1	0	29	0	0	0	0
Total Hours of Downtime		62	Total Hours of Calibration Time		0	Total Hours of Flagged		62

Table 50 Precipitation 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Total (mm)	Min. Total 1-hr (mm)	Max. Total 1-hr (mm)	Max. Total 24-hr (mm)
January	-	-	-	-	-	-
February	-	-	-	-	-	-
March	-	-	-	-	-	-
April	-	-	-	-	-	-
May	-	-	-	-	-	-
June	-	-	-	-	-	-
July	-	-	-	-	-	-
August	-	-	-	-	-	-
September	-	-	-	-	-	-
October	-	-	-	-	-	-
November	99.7	718	7.1	0.0	1.6	2.3
December	96.0	714	1.5	0.0	0.3	0.7
Annual	97.8	1432	8.6	0.0	1.6	2.3

Table 51 Precipitation Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
2	0	0	0	29	1	0	0	0
Total Hours of Downtime		32	Total Hours of Calibration Time		0	Total Hours of Flagged		32

Table 52 ST 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (°C)	Min. 1-hr (°C)	Max. 1-hr (°C)	Max. 24-hr (°C)
January	100.0	744	22.4	21.3	22.8	22.6
February	100.0	696	22.2	21.2	23.1	22.6
March	100.0	744	22.0	19.6	23.3	22.4
April	99.7	718	22.3	20.6	23.4	22.8
May	99.6	741	22.8	21.6	23.7	23.4
June	100.0	720	23.2	21.9	23.7	23.4
July	100.0	744	23.2	21.8	24.2	23.5
August	96.6	719	23.0	21.7	23.8	23.4
September	100.0	720	22.8	21.7	24.0	23.3
October	94.8	705	22.3	21.3	23.6	23.1
November	99.7	718	22.1	21.7	23.2	23.1
December	96.1	715	22.3	17.3	23.3	22.8
Annual	98.9	8684	22.5	17.3	24.2	23.5

Table 53 ST Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
32	38	1	0	29	0	0	0	0
Total Hours of Downtime		100	Total Hours of Calibration Time		0	Total Hours of Flagged		100

Table 54 WS 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (kph)	Min. 1-hr (kph)	Max. 1-hr (kph)	Max. 24-hr (kph)
January	100.0	744	1.8	0.1	33.0	20.2
February	100.0	696	5.4	0.3	36.0	19.7
March	100.0	744	2.3	0.1	27.6	17.1
April	99.7	718	5.7	0.6	30.1	20.7
May	99.6	741	0.2	0.4	26.0	15.7
June	100.0	717	3.9	0.2	27.4	15.0
July	100.0	744	4.5	0.2	23.4	13.4
August	96.6	719	6.4	0.1	25.6	15.9
September	100.0	720	3.5	0.1	27.9	17.2
October	99.9	743	3.1	0.1	30.9	13.2
November	99.7	718	4.2	0.1	30.5	19.0
December	96.2	714	5.1	0.2	38.5	19.2
Annual	99.3	8718	3.7	0.1	38.5	20.7

Table 55 WS 2020 Annual Frequency Distribution

Month	Percentage of Readings in Concentration Range (in kph)				
	0 - 6	7 - 15	16 - 29	30 - 39	>39
January	49.1%	42.6%	7.8%	0.5%	0.0%
February	28.4%	55.0%	15.5%	1.0%	0.0%
March	27.7%	55.9%	16.4%	0.0%	0.0%
April	29.4%	50.7%	19.8%	0.1%	0.0%
May	38.3%	52.9%	8.8%	0.0%	0.0%
June	40.4%	47.4%	12.1%	0.0%	0.0%
July	41.4%	51.7%	6.9%	0.0%	0.0%
August	32.0%	50.5%	17.5%	0.0%	0.0%
September	44.4%	46.7%	8.9%	0.0%	0.0%
October	48.5%	43.9%	7.5%	0.1%	0.0%
November	35.2%	47.1%	17.1%	0.6%	0.0%
December	43.7%	42.9%	12.3%	1.1%	0.0%
Annual	38.2%	48.9%	12.6%	0.3%	0.0%

Table 56 WS Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
32	0	1	0	28	0	5	0	0
Total Hours of Downtime		61	Total Hours of Calibration Time		5	Total Hours of Flagged		66

1.3 Reno Station

Table 57 SO2 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (ppb)	# of 30-day AAAQO Exceedances	Min. 1-hr (ppb)	Max. 1-hr (ppb)	# of 1-hr AAAQO Exceedances	Max. 24-hr (ppb)	# of 24-hr AAAQO Exceedances
January	100.0	706	0.1	0	0	1	0	0	0
February	100.0	662	0.0	0	0	2	0	0	0
March	99.6	701	0.1	0	0	4	0	1	0
April	98.3	672	0.0	0	0	1	0	0	0
May	100.0	708	0.0	0	0	1	0	0	0
June	96.0	656	0.0	0	0	0	0	0	0
July	100.0	705	0.1	0	0	3	0	1	0
August	100.0	707	0.0	0	0	1	0	0	0
September	100.0	684	0.1	0	0	7	0	1	0
October	100.0	710	0.3	0	0	2	0	1	0
November	99.6	683	0.4	0	0	3	0	2	0
December	99.7	705	0.4	0	0	2	0	2	0
Annual	99.4	8299	0.1	0	0	7	0	2	0

Table 58 SO2 2020 Annual Frequency Distribution

Month	Percentage of Readings in Concentration Range (in ppb)				
	0 - 10	11 -50	51 -100	101 - 172	>172
January	100.0%	0.0%	0.0%	0.0%	0.0%
February	100.0%	0.0%	0.0%	0.0%	0.0%
March	100.0%	0.0%	0.0%	0.0%	0.0%
April	100.0%	0.0%	0.0%	0.0%	0.0%
May	100.0%	0.0%	0.0%	0.0%	0.0%
June	100.0%	0.0%	0.0%	0.0%	0.0%
July	100.0%	0.0%	0.0%	0.0%	0.0%
August	100.0%	0.0%	0.0%	0.0%	0.0%
September	100.0%	0.0%	0.0%	0.0%	0.0%
October	100.0%	0.0%	0.0%	0.0%	0.0%
November	100.0%	0.0%	0.0%	0.0%	0.0%
December	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	100.0%	0.0%	0.0%	0.0%	0.0%

Table 59 SO2 2020 Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
9	1	0	0	29	10	62	371	3
Total Hours of Downtime		49	Total Hours of Calibration Time		436	Total Hours of Flagged		485

Table 60 TRS 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (ppb)	Min. 1-hr (ppb)	Max. 1-hr (ppb)	Max. 24-hr (ppb)
January	99.7	703	0.45	0.17	1.02	0.72
February	99.9	661	0.47	0.00	2.16	1.11
March	100.0	703	0.37	0.23	0.96	0.46
April	98.5	674	0.37	0.12	1.73	0.50
May	100.0	706	0.38	0.14	3.32	0.62
June	96.0	656	0.44	0.25	1.89	0.60
July	80.0	564	0.49	0.21	1.77	0.71
August	99.9	706	0.43	0.01	4.34	1.04
September	93.9	640	0.34	0.00	6.27	0.76
October	99.9	706	0.40	0.00	11.47	1.92
November	99.7	684	0.43	0.17	0.60	0.52
December	93.1	651	0.18	0.02	0.98	0.31
Annual	96.7	8054	0.40	0.00	11.47	1.92

Table 61 TRS 2020 Annual Frequency Distribution

Month	Percentage of Readings in Concentration Range (in ppb)				
	0 - 2	3 - 5	6 - 10	11 - 50	>50
January	100.0%	0.0%	0.0%	0.0%	0.0%
February	100.0%	0.0%	0.0%	0.0%	0.0%
March	100.0%	0.0%	0.0%	0.0%	0.0%
April	100.0%	0.0%	0.0%	0.0%	0.0%
May	99.9%	0.1%	0.0%	0.0%	0.0%
June	100.0%	0.0%	0.0%	0.0%	0.0%
July	100.0%	0.0%	0.0%	0.0%	0.0%
August	97.7%	2.3%	0.0%	0.0%	0.0%
September	99.2%	0.6%	0.2%	0.0%	0.0%
October	99.0%	0.7%	0.1%	0.1%	0.0%
November	100.0%	0.0%	0.0%	0.0%	0.0%
December	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	99.7%	0.3%	0.0%	0.0%	0.0%

Table 62 TRS 2020 Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
9	150	44	0	29	59	75	361	3
Total Hours of Downtime		291	Total Hours of Calibration Time		439	Total Hours of Flagged		730

Table 63 THC 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (in ppm)	Min. 1-hr (in ppm)	Max. 1-hr (in ppm)	Max. 24-hr (in ppm)
January	79.8	563	2.07	1.93	3.96	2.32
February	89.9	596	2.06	1.94	3.76	2.28
March	96.4	679	2.02	1.89	3.17	2.21
April	98.2	672	2.06	1.91	3.15	2.34
May	98.0	691	2.04	1.94	2.14	2.09
June	95.7	654	1.95	1.84	2.06	2.00
July	100.0	705	1.96	1.81	6.57	2.36
August	100.0	708	1.98	1.82	4.56	2.41
September	100.0	685	1.94	1.82	4.10	2.20
October	100.0	707	1.97	1.83	5.31	2.44
November	99.9	686	2.01	1.84	4.06	2.33
December	100.0	709	2.00	1.91	3.00	2.20
Annual	96.5	8055	2.00	1.81	6.57	2.44

Table 64 THC 2020 Annual Frequency Distribution

Month	Percentage of Readings in Concentration Range (in ppm)				
	0 - 2	3 - 5	6 - 10	11 - 40	>40
January	96.3%	3.7%	0.0%	0.0%	0.0%
February	96.6%	3.4%	0.0%	0.0%	0.0%
March	97.8%	2.2%	0.0%	0.0%	0.0%
April	97.8%	2.2%	0.0%	0.0%	0.0%
May	100.0%	0.0%	0.0%	0.0%	0.0%
June	100.0%	0.0%	0.0%	0.0%	0.0%
July	98.0%	1.6%	0.4%	0.0%	0.0%
August	97.7%	2.3%	0.0%	0.0%	0.0%
September	99.1%	0.9%	0.0%	0.0%	0.0%
October	96.5%	3.5%	0.0%	0.0%	0.0%
November	97.8%	2.2%	0.0%	0.0%	0.0%
December	98.9%	1.1%	0.0%	0.0%	0.0%
Annual	98.0%	1.9%	0.0%	0.0%	0.0%

Table 65 THC 2020 Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
9	179	17	0	29	73	60	359	3
Total Hours of Downtime		307	Total Hours of Calibration Time		422	Total Hours of Flagged		729

Table 66 CH4 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (in ppm)	Min. 1-hr (in ppm)	Max. 1-hr (in ppm)	Max. 24-hr (in ppm)
January	79.8	563	2.07	1.93	3.94	2.32
February	89.9	596	2.06	1.94	3.76	2.28
March	96.4	679	2.02	1.89	3.17	2.21
April	98.2	672	2.06	1.91	3.15	2.34
May	98.0	691	2.04	1.94	2.14	2.09
June	95.7	654	1.95	1.84	2.06	2.00
July	100.0	705	1.96	1.81	5.77	2.27
August	100.0	708	1.98	1.82	4.56	2.41
September	100.0	685	1.94	1.82	4.10	2.20
October	100.0	707	1.97	1.83	5.31	2.44
November	99.9	686	2.01	1.84	4.06	2.33
December	100.0	709	2.00	1.91	3.00	2.20
Annual	96.5	8055	2.00	1.81	5.77	2.44

Table 67 CH4 2020 Annual Frequency Distribution

Month	Percentage of Readings in Concentration Range (in ppm)				
	0 - 2	3 - 5	6 - 10	11 - 20	>20
January	96.3%	3.7%	0.0%	0.0%	0.0%
February	96.6%	3.4%	0.0%	0.0%	0.0%
March	97.9%	2.1%	0.0%	0.0%	0.0%
April	97.8%	2.2%	0.0%	0.0%	0.0%
May	100.0%	0.0%	0.0%	0.0%	0.0%
June	100.0%	0.0%	0.0%	0.0%	0.0%
July	98.2%	1.6%	0.3%	0.0%	0.0%
August	97.7%	2.3%	0.0%	0.0%	0.0%
September	99.1%	0.9%	0.0%	0.0%	0.0%
October	96.5%	3.5%	0.0%	0.0%	0.0%
November	97.8%	2.2%	0.0%	0.0%	0.0%
December	99.2%	0.8%	0.0%	0.0%	0.0%
Annual	98.1%	1.9%	0.0%	0.0%	0.0%

Table 68 CH4 2020 Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
9	179	17	0	29	73	60	359	3
Total Hours of Downtime		307	Total Hours of Calibration Time		422	Total Hours of Flagged		729

Table 69 NMHC 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (in ppm)	Min. 1-hr (in ppm)	Max. 1-hr (in ppm)	Max. 24-hr (in ppm)
January	79.8	563	0.00	0.00	0.03	0.00
February	89.9	596	0.00	0.00	0.02	0.00
March	96.4	679	0.00	0.00	0.02	0.00
April	98.2	672	0.00	0.00	0.03	0.00
May	98.0	691	0.00	0.00	0.01	0.00
June	95.7	654	0.00	0.00	0.00	0.00
July	100.0	705	0.01	0.00	0.87	0.09
August	100.0	708	0.00	0.00	0.02	0.00
September	100.0	685	0.00	0.00	0.01	0.00
October	100.0	707	0.00	0.00	0.02	0.00
November	99.9	686	0.00	0.00	0.01	0.00
December	100.0	709	0.00	0.00	0.77	0.04
Annual	96.5	8055	0.00	0.00	0.87	0.09

Table 70 NMHC 2020 Annual Frequency Distribution

Month	Percentage of Readings in Concentration Range (in ppm)				
	0 - 0.1	0.2 - 0.3	0.4 - 0.9	1 - 2	>2
January	100.0%	0.0%	0.0%	0.0%	0.0%
February	100.0%	0.0%	0.0%	0.0%	0.0%
March	100.0%	0.0%	0.0%	0.0%	0.0%
April	100.0%	0.0%	0.0%	0.0%	0.0%
May	100.0%	0.0%	0.0%	0.0%	0.0%
June	100.0%	0.0%	0.0%	0.0%	0.0%
July	99.1%	0.1%	0.7%	0.0%	0.0%
August	100.0%	0.0%	0.0%	0.0%	0.0%
September	100.0%	0.0%	0.0%	0.0%	0.0%
October	100.0%	0.0%	0.0%	0.0%	0.0%
November	100.0%	0.0%	0.0%	0.0%	0.0%
December	99.9%	0.0%	0.1%	0.0%	0.0%
Annual	99.9%	0.0%	0.1%	0.0%	0.0%

Table 71 NMHC 2020 Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
9	179	17	0	29	73	60	359	3
Total Hours of Downtime		307	Total Hours of Calibration Time		422	Total Hours of Flagged		729

Table 72 RH 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (%)	Min. 1-hr (%)	Max. 1-hr (%)	Max. 24-hr (%)
January	100.0	744	68.3	48	94	88
February	100.0	696	66.1	37	98	87
March	100.0	744	61.8	30	97	78
April	98.8	711	54.4	17	99	71
May	100.0	744	59.8	15	100	98
June	95.7	689	67.2	24	100	97
July	100.0	744	74.0	29	100	99
August	100.0	744	65.8	23	100	93
September	100.0	720	67.8	20	100	91
October	99.9	743	71.2	25	100	97
November	100.0	720	76.2	42	100	93
December	100.0	744	71.3	37	100	86
Annual	99.5	8743	67.0	15	100	99

Table 73 RH Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
9	0	1	0	31	0	0	0	0
Total Hours of Downtime		41	Total Hours of Calibration Time		0	Total Hours of Flagged		41

Table 74 BP 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (mb)	Min. 1-hr (mb)	Max. 1-hr (mb)	Max. 24-hr (mb)
January	100.0	744	935	913	957	954
February	100.0	696	935	910	953	951
March	100.0	744	938	915	964	962
April	98.8	711	938	921	955	952
May	100.0	744	939	924	960	958
June	95.4	687	934	921	946	944
July	100.0	744	936	921	947	946
August	100.0	744	935	922	943	940
September	100.0	720	939	917	959	956
October	99.9	743	939	915	958	957
November	100.0	720	932	912	949	945
December	100.0	744	936	912	955	949
Annual	99.5	8741	936	910	964	962

Table 75 BP Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
9	2	1	0	31	0	0	0	0
Total Hours of Downtime		43	Total Hours of Calibration Time		0	Total Hours of Flagged		43

Table 76 AT 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (°C)	Min. 1-hr (°C)	Max. 1-hr (°C)	Max. 24-hr (°C)
January	100.0	744	-14.9	-38.7	3.9	0.6
February	100.0	696	-8.3	-30.0	6.8	3.0
March	100.0	744	-8.9	-28.2	5.3	1.2
April	98.8	711	0.6	-25.0	16.5	10.4
May	100.0	744	9.8	-3.3	23.5	17.9
June	95.7	689	14.0	2.9	25.9	18.7
July	100.0	744	16.1	8.6	30.0	22.4
August	100.0	744	15.0	2.9	30.2	22.7
September	100.0	720	10.8	-1.4	24.4	16.8
October	99.9	743	0.5	-14.8	22.8	14.0
November	100.0	720	-5.7	-23.1	12.5	9.2
December	100.0	744	-7.6	-26.2	7.8	5.5
Annual	99.5	8743	1.8	-38.7	30.2	22.7

Table 77 AT Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
9	0	1	0	31	0	0	0	0
Total Hours of Downtime		41	Total Hours of Calibration Time		0	Total Hours of Flagged		41

Table 78 Precipitation 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Total (mm)	Min. Total 1-hr (mm)	Max. Total 1-hr (mm)	Max. Total 24-hr (mm)
January	-	-	-	-	-	-
February	-	-	-	-	-	-
March	-	-	-	-	-	-
April	-	-	-	-	-	-
May	-	-	-	-	-	-
June	-	-	-	-	-	-
July	-	-	-	-	-	-
August	-	-	-	-	-	-
September	-	-	-	-	-	-
October	-	-	-	-	-	-
November	100.0	720	7.3	0.0	1.5	2.7
December	100.0	744	1.7	0.0	0.5	0.6
Annual	100.0	1464	9.0	0.0	1.5	2.7

Table 79 Precipitation Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
0	0	0	0	0	0	0	0	0
Total Hours of Downtime		0	Total Hours of Calibration Time		0	Total Hours of Flagged		0

Table 80 ST 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (°C)	Min. 1-hr (°C)	Max. 1-hr (°C)	Max. 24-hr (°C)
January	100.0	744	22.4	20.2	24.0	23.3
February	100.0	696	22.2	20.7	23.8	22.8
March	100.0	744	22.4	20.5	23.9	22.9
April	98.8	711	22.7	19.4	25.2	23.5
May	100.0	744	23.5	21.7	25.8	24.3
June	95.7	689	22.8	19.8	23.9	23.3
July	100.0	744	22.6	19.8	26.4	23.7
August	100.0	744	22.1	19.5	24.0	22.9
September	100.0	720	22.4	19.4	24.2	23.3
October	99.9	743	21.5	19.5	24.0	23.0
November	100.0	720	21.9	20.2	23.9	22.8
December	100.0	744	21.7	19.6	25.3	23.4
Annual	99.5	8743	22.3	19.4	26.4	24.3

Table 81 ST Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
9	0	1	0	31	0	0	0	0
Total Hours of Downtime		41	Total Hours of Calibration Time		0	Total Hours of Flagged		41

Table 82 WS 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (kph)	Min. 1-hr (kph)	Max. 1-hr (kph)	Max. 24-hr (kph)
January	100.0	744	1.5	0.0	20.6	10.3
February	100.0	696	3.1	0.1	21.6	11.4
March	100.0	744	1.2	0.1	21.2	13.0
April	98.8	711	3.4	0.1	18.1	11.6
May	100.0	744	1.0	0.1	20.0	13.0
June	95.8	689	2.2	0.0	17.6	11.5
July	100.0	744	2.8	0.0	14.7	8.6
August	100.0	744	4.3	0.0	17.2	10.2
September	100.0	720	2.5	0.0	15.0	8.4
October	99.9	743	2.5	0.2	21.5	9.6
November	100.0	720	2.3	0.2	19.4	9.8
December	100.0	744	2.7	0.0	20.7	10.3
Annual	99.5	8743	2.1	0.0	21.6	13.0

Table 83 WS 2020 Annual Frequency Distribution

Month	Percentage of Readings in Concentration Range (in kph)				
	0 - 6	7 - 15	16 - 29	30 -39	>39
January	63.4%	35.3%	1.2%	0.0%	0.0%
February	49.3%	48.0%	2.7%	0.0%	0.0%
March	45.7%	50.4%	3.9%	0.0%	0.0%
April	49.5%	49.8%	0.7%	0.0%	0.0%
May	50.3%	46.4%	3.4%	0.0%	0.0%
June	65.6%	34.0%	0.4%	0.0%	0.0%
July	69.2%	30.8%	0.0%	0.0%	0.0%
August	56.9%	42.1%	1.1%	0.0%	0.0%
September	70.1%	29.9%	0.0%	0.0%	0.0%
October	62.0%	36.7%	1.2%	0.0%	0.0%
November	58.6%	40.4%	1.0%	0.0%	0.0%
December	64.8%	34.1%	1.1%	0.0%	0.0%
Annual	58.8%	39.8%	1.4%	0.0%	0.0%

Table 84 WS Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
9	0	1	0	30	0	1	0	0
Total Hours of Downtime		40	Total Hours of Calibration Time		1	Total Hours of Flagged		41

1.4 AQHI - Cadotte Lake Station

Table 85 SO2 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (ppb)	# of 30-day AAAQO Exceedances	Min. 1-hr (ppb)	Max. 1-hr (ppb)	# of 1-hr AAAQO Exceedances	Max. 24-hr (ppb)	# of 24-hr AAAQO Exceedances
January	100.0	707	0.0	0	0	0	0	0	0
February	100.0	662	0.0	0	0	0	0	0	0
March	99.6	702	0.0	0	0	1	0	0	0
April	100.0	683	0.0	0	0	0	0	0	0
May	99.6	705	0.0	0	0	0	0	0	0
June	99.9	684	0.0	0	0	0	0	0	0
July	100.0	707	0.0	0	0	0	0	0	0
August	97.2	686	0.0	0	0	0	0	0	0
September	100.0	684	0.0	0	0	1	0	0	0
October	100.0	707	0.0	0	0	1	0	0	0
November	99.0	680	0.1	0	0	2	0	1	0
December	100.0	706	0.0	0	0	1	0	0	0
Annual	99.6	8313	0.0	0	0	2	0	1	0

Table 86 SO2 2020 Annual Frequency Distribution

Month	Percentage of Readings in Concentration Range (in ppb)				
	0 - 10	11 -50	51 -100	101 - 172	>172
January	100.0%	0.0%	0.0%	0.0%	0.0%
February	100.0%	0.0%	0.0%	0.0%	0.0%
March	100.0%	0.0%	0.0%	0.0%	0.0%
April	100.0%	0.0%	0.0%	0.0%	0.0%
May	100.0%	0.0%	0.0%	0.0%	0.0%
June	100.0%	0.0%	0.0%	0.0%	0.0%
July	100.0%	0.0%	0.0%	0.0%	0.0%
August	100.0%	0.0%	0.0%	0.0%	0.0%
September	100.0%	0.0%	0.0%	0.0%	0.0%
October	100.0%	0.0%	0.0%	0.0%	0.0%
November	100.0%	0.0%	0.0%	0.0%	0.0%
December	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	100.0%	0.0%	0.0%	0.0%	0.0%

Table 87 SO2 2020 Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
23	0	2	0	0	10	57	377	2
Total Hours of Downtime		35	Total Hours of Calibration Time		436	Total Hours of Flagged		471

Table 88 TRS 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (ppb)	Min. 1-hr (ppb)	Max. 1-hr (ppb)	Max. 24-hr (ppb)
January	87.9	621	0.41	0.00	1.73	0.80
February	97.7	645	0.61	0.00	4.80	1.81
March	97.0	684	0.55	0.00	4.53	0.98
April	100.0	683	0.70	0.07	28.40	2.09
May	98.8	698	0.42	0.00	1.40	0.76
June	98.8	675	0.46	0.00	1.43	1.23
July	97.4	685	0.56	0.00	29.50	3.62
August	88.0	617	0.42	0.00	2.72	0.99
September	99.2	678	0.22	0.01	0.84	0.35
October	97.3	688	0.23	0.00	1.08	0.68
November	97.1	664	0.35	0.07	0.62	0.42
December	100.0	706	0.54	0.31	2.60	1.71
Annual	96.6	8044	0.46	0.00	29.50	3.62

Table 89 TRS 2020 Annual Frequency Distribution

Month	Percentage of Readings in Concentration Range (in ppb)				
	0 - 2	3 - 5	6 - 10	11 - 50	>50
January	100.0%	0.0%	0.0%	0.0%	0.0%
February	98.3%	1.7%	0.0%	0.0%	0.0%
March	99.1%	0.9%	0.0%	0.0%	0.0%
April	96.5%	2.3%	1.0%	0.1%	0.0%
May	100.0%	0.0%	0.0%	0.0%	0.0%
June	100.0%	0.0%	0.0%	0.0%	0.0%
July	99.3%	0.3%	0.0%	0.4%	0.0%
August	99.8%	0.2%	0.0%	0.0%	0.0%
September	100.0%	0.0%	0.0%	0.0%	0.0%
October	100.0%	0.0%	0.0%	0.0%	0.0%
November	100.0%	0.0%	0.0%	0.0%	0.0%
December	99.7%	0.3%	0.0%	0.0%	0.0%
Annual	99.4%	0.5%	0.1%	0.0%	0.0%

Table 90 TRS 2020 Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
23	213	18	0	0	47	68	369	2
Total Hours of Downtime		301	Total Hours of Calibration Time		439	Total Hours of Flagged		740

Table 91 NOx 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (ppb)	Min. 1-hr (ppb)	Max. 1-hr (ppb)	Max. 24-hr (ppb)
January	100.0	706	2.9	0	36	8
February	100.0	658	1.7	0	27	4
March	99.6	699	1.0	0	24	4
April	100.0	682	0.9	0	19	2
May	99.2	699	0.8	0	18	5
June	99.6	679	0.5	0	15	3
July	100.0	704	0.7	0	18	4
August	97.2	684	0.4	0	41	3
September	100.0	683	0.5	0	6	2
October	100.0	703	0.7	0	10	2
November	99.3	680	1.6	0	18	6
December	100.0	704	1.8	0	32	5
Annual	99.6	8281	1.1	0	41	8

Table 92 NOx 2020 Annual Frequency Distribution

Month	Percentage of Readings in Concentration Range (in ppb)				
	0 - 30	31 - 50	51 - 82	83 - 159	>159
January	99.7%	0.3%	0.0%	0.0%	0.0%
February	100.0%	0.0%	0.0%	0.0%	0.0%
March	100.0%	0.0%	0.0%	0.0%	0.0%
April	100.0%	0.0%	0.0%	0.0%	0.0%
May	100.0%	0.0%	0.0%	0.0%	0.0%
June	100.0%	0.0%	0.0%	0.0%	0.0%
July	100.0%	0.0%	0.0%	0.0%	0.0%
August	99.9%	0.1%	0.0%	0.0%	0.0%
September	100.0%	0.0%	0.0%	0.0%	0.0%
October	100.0%	0.0%	0.0%	0.0%	0.0%
November	100.0%	0.0%	0.0%	0.0%	0.0%
December	99.9%	0.1%	0.0%	0.0%	0.0%
Annual	100.0%	0.0%	0.0%	0.0%	0.0%

Table 93 NOx 2020 Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
23	0	9	0	0	6	88	374	3
Total Hours of Downtime		38	Total Hours of Calibration Time		465	Total Hours of Flagged		503

Table 94 NO 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (ppb)	Min. 1-hr (ppb)	Max. 1-hr (ppb)	Max. 24-hr (ppb)
January	100.0	706	1.0	0	24	4
February	100.0	658	0.3	0	20	2
March	99.6	699	0.1	0	14	1
April	100.0	682	0.1	0	7	1
May	99.2	699	0.3	0	9	2
June	99.6	679	0.2	0	9	1
July	100.0	704	0.3	0	14	2
August	97.2	684	0.2	0	18	2
September	100.0	683	0.2	0	5	1
October	100.0	703	0.2	0	6	1
November	99.3	680	0.3	0	12	2
December	100.0	704	0.3	0	22	2
Annual	99.6	8281	0.3	0	24	4

Table 95 NO 2020 Annual Frequency Distribution

Month	Percentage of Readings in Concentration Range (in ppb)				
	0 - 30	31 - 50	51 - 82	83 - 159	>159
January	100.0%	0.0%	0.0%	0.0%	0.0%
February	100.0%	0.0%	0.0%	0.0%	0.0%
March	100.0%	0.0%	0.0%	0.0%	0.0%
April	100.0%	0.0%	0.0%	0.0%	0.0%
May	100.0%	0.0%	0.0%	0.0%	0.0%
June	100.0%	0.0%	0.0%	0.0%	0.0%
July	100.0%	0.0%	0.0%	0.0%	0.0%
August	100.0%	0.0%	0.0%	0.0%	0.0%
September	100.0%	0.0%	0.0%	0.0%	0.0%
October	100.0%	0.0%	0.0%	0.0%	0.0%
November	100.0%	0.0%	0.0%	0.0%	0.0%
December	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	100.0%	0.0%	0.0%	0.0%	0.0%

Table 96 NO 2020 Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
23	0	9	0	0	6	88	374	3
Total Hours of Downtime		38	Total Hours of Calibration Time		465	Total Hours of Flagged		503

Table 97 NO2 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (ppb)	Min. 1-hr (ppb)	Max. 1-hr (ppb)	# of 1-hr AAAQO Exceedances	Max. 24-hr (ppb)
January	100.0	706	1.9	0	21	0	6
February	100.0	658	1.3	0	16	0	3
March	99.6	699	0.8	0	10	0	3
April	100.0	682	0.7	0	11	0	2
May	99.2	699	0.5	0	9	0	3
June	99.6	679	0.3	0	6	0	1
July	100.0	704	0.4	0	8	0	2
August	97.2	684	0.3	0	23	0	2
September	100.0	683	0.3	0	4	0	1
October	100.0	703	0.6	0	5	0	2
November	99.3	680	1.3	0	8	0	4
December	100.0	704	1.5	0	10	0	3
Annual	99.6	8281	0.8	0	23	0	6

Table 98 NO2 2020 Annual Frequency Distribution

Month	Percentage of Readings in Concentration Range (in ppb)				
	0 - 30	31 - 50	51 - 82	83 - 159	>159
January	100.0%	0.0%	0.0%	0.0%	0.0%
February	100.0%	0.0%	0.0%	0.0%	0.0%
March	100.0%	0.0%	0.0%	0.0%	0.0%
April	100.0%	0.0%	0.0%	0.0%	0.0%
May	100.0%	0.0%	0.0%	0.0%	0.0%
June	100.0%	0.0%	0.0%	0.0%	0.0%
July	100.0%	0.0%	0.0%	0.0%	0.0%
August	100.0%	0.0%	0.0%	0.0%	0.0%
September	100.0%	0.0%	0.0%	0.0%	0.0%
October	100.0%	0.0%	0.0%	0.0%	0.0%
November	100.0%	0.0%	0.0%	0.0%	0.0%
December	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	100.0%	0.0%	0.0%	0.0%	0.0%

Table 99 NO2 2020 Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
23	0	9	0	0	6	88	374	3
Total Hours of Downtime		38	Total Hours of Calibration Time		465	Total Hours of Flagged		503

Table 100 O3 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (ppb)	Min. 1-hr (ppb)	Max. 1-hr (ppb)	# of 1-hr AAAQO Exceedances	Max. 24-hr (ppb)
January	100.0	707	20.8	0	44	0	40
February	100.0	663	29.9	4	47	0	44
March	99.6	702	34.7	11	52	0	47
April	100.0	684	38.0	2	56	0	46
May	99.5	704	27.1	0	55	0	36
June	99.6	682	20.9	0	44	0	30
July	100.0	707	14.9	0	37	0	22
August	97.2	686	18.9	1	42	0	27
September	100.0	684	18.0	2	41	0	34
October	100.0	708	19.8	0	40	0	26
November	99.7	683	22.1	1	41	0	35
December	99.9	706	23.7	1	45	0	42
Annual	99.6	8316	24.1	0	56	0	47

Table 101 O3 2020 Annual Frequency Distribution

Month	Percentage of Readings in Concentration Range (in ppb)				
	0 - 30	31 - 50	51 - 82	83 - 159	>159
January	82.0%	18.0%	0.0%	0.0%	0.0%
February	49.9%	50.1%	0.0%	0.0%	0.0%
March	28.3%	70.8%	0.9%	0.0%	0.0%
April	21.5%	72.8%	5.7%	0.0%	0.0%
May	57.5%	41.5%	1.0%	0.0%	0.0%
June	78.9%	21.1%	0.0%	0.0%	0.0%
July	98.0%	2.0%	0.0%	0.0%	0.0%
August	91.0%	9.0%	0.0%	0.0%	0.0%
September	86.8%	13.2%	0.0%	0.0%	0.0%
October	89.1%	10.9%	0.0%	0.0%	0.0%
November	79.5%	20.5%	0.0%	0.0%	0.0%
December	72.7%	27.3%	0.0%	0.0%	0.0%
Annual	69.6%	29.8%	0.6%	0.0%	0.0%

Table 102 O3 2020 Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
23	0	4	0	0	7	54	378	2
Total Hours of Downtime		34	Total Hours of Calibration Time		434	Total Hours of Flagged		468

Table 103 THC 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (ppm)	Min. 1-hr (ppm)	Max. 1-hr (ppm)	Max. 24-hr (ppm)
January	100.0	707	2.01	1.93	2.51	2.13
February	100.0	661	1.97	1.90	2.35	2.03
March	99.5	700	1.94	1.88	2.06	1.97
April	100.0	684	1.89	1.81	2.20	1.97
May	94.9	671	1.89	1.80	2.15	1.93
June	99.7	683	1.89	1.81	2.16	1.98
July	98.0	692	1.92	1.80	2.42	2.00
August	89.1	628	1.91	1.80	2.34	2.15
September	100.0	684	1.96	1.86	2.30	2.06
October	100.0	707	1.88	1.80	2.15	1.96
November	93.9	642	1.92	1.81	2.19	2.00
December	100.0	708	1.94	1.82	2.09	2.03
Annual	97.9	8167	1.93	1.80	2.51	2.15

Table 104 THC 2020 Annual Frequency Distribution

Month	Percentage of Readings in Concentration Range (in ppm)				
	0 - 2	3 - 5	6 - 10	11 - 40	>40
January	99.6%	0.4%	0.0%	0.0%	0.0%
February	100.0%	0.0%	0.0%	0.0%	0.0%
March	100.0%	0.0%	0.0%	0.0%	0.0%
April	100.0%	0.0%	0.0%	0.0%	0.0%
May	100.0%	0.0%	0.0%	0.0%	0.0%
June	100.0%	0.0%	0.0%	0.0%	0.0%
July	99.9%	0.1%	0.0%	0.0%	0.0%
August	100.0%	0.0%	0.0%	0.0%	0.0%
September	100.0%	0.0%	0.0%	0.0%	0.0%
October	100.0%	0.0%	0.0%	0.0%	0.0%
November	100.0%	0.0%	0.0%	0.0%	0.0%
December	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	100.0%	0.0%	0.0%	0.0%	0.0%

Table 105 THC 2020 Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
23	121	25	0	0	15	57	374	2
Total Hours of Downtime		184	Total Hours of Calibration Time		433	Total Hours of Flagged		617

Table 106 CH4 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (ppm)	Min. 1-hr (ppm)	Max. 1-hr (ppm)	Max. 24-hr (ppm)
January	100.0	707	2.01	1.93	2.27	2.10
February	100.0	661	1.97	1.90	2.16	2.01
March	99.5	700	1.93	1.88	2.06	1.97
April	100.0	684	1.89	1.81	2.20	1.97
May	94.9	671	1.88	1.80	1.99	1.93
June	99.7	683	1.88	1.81	2.08	1.98
July	98.0	692	1.91	1.80	2.42	2.00
August	89.1	628	1.90	1.80	2.32	2.11
September	100.0	684	1.96	1.86	2.30	2.05
October	100.0	707	1.88	1.80	2.15	1.96
November	93.9	642	1.92	1.81	2.05	1.98
December	100.0	708	1.94	1.82	2.06	2.03
Annual	97.9	8167	1.92	1.80	2.42	2.11

Table 107 CH4 2020 Annual Frequency Distribution

Month	Percentage of Readings in Concentration Range (in ppm)				
	0 - 2	3 - 5	6 - 10	11 - 20	>20
January	100.0%	0.0%	0.0%	0.0%	0.0%
February	100.0%	0.0%	0.0%	0.0%	0.0%
March	100.0%	0.0%	0.0%	0.0%	0.0%
April	100.0%	0.0%	0.0%	0.0%	0.0%
May	100.0%	0.0%	0.0%	0.0%	0.0%
June	100.0%	0.0%	0.0%	0.0%	0.0%
July	99.9%	0.1%	0.0%	0.0%	0.0%
August	100.0%	0.0%	0.0%	0.0%	0.0%
September	100.0%	0.0%	0.0%	0.0%	0.0%
October	100.0%	0.0%	0.0%	0.0%	0.0%
November	100.0%	0.0%	0.0%	0.0%	0.0%
December	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	100.0%	0.0%	0.0%	0.0%	0.0%

Table 108 CH4 2020 Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
23	121	25	0	0	15	57	374	2
Total Hours of Downtime		184	Total Hours of Calibration Time		433	Total Hours of Flagged		617

Table 109 NMHC 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (ppm)	Min. 1-hr (ppm)	Max. 1-hr (ppm)	Max. 24-hr (ppm)
January	100.0	707	0.01	0.00	0.26	0.10
February	100.0	661	0.00	0.00	0.19	0.02
March	99.5	700	0.00	0.00	0.01	0.00
April	100.0	684	0.00	0.00	0.03	0.01
May	94.9	671	0.00	0.00	0.19	0.02
June	99.7	683	0.01	0.00	0.28	0.09
July	98.0	692	0.00	0.00	0.22	0.04
August	89.1	628	0.01	0.00	0.25	0.05
September	100.0	684	0.00	0.00	0.01	0.00
October	100.0	707	0.00	0.00	0.08	0.01
November	93.9	642	0.00	0.00	0.24	0.03
December	100.0	708	0.00	0.00	0.07	0.01
Annual	97.9	8167	0.00	0.00	0.28	0.10

Table 110 NMHC 2020 Annual Frequency Distribution

Month	Percentage of Readings in Concentration Range (in ppm)				
	0 - 0.1	0.2 - 0.3	0.4 - 0.9	1 - 2	>2
January	98.0%	2.0%	0.0%	0.0%	0.0%
February	99.8%	0.2%	0.0%	0.0%	0.0%
March	100.0%	0.0%	0.0%	0.0%	0.0%
April	100.0%	0.0%	0.0%	0.0%	0.0%
May	99.6%	0.4%	0.0%	0.0%	0.0%
June	98.8%	1.2%	0.0%	0.0%	0.0%
July	99.7%	0.3%	0.0%	0.0%	0.0%
August	99.4%	0.6%	0.0%	0.0%	0.0%
September	100.0%	0.0%	0.0%	0.0%	0.0%
October	100.0%	0.0%	0.0%	0.0%	0.0%
November	99.7%	0.3%	0.0%	0.0%	0.0%
December	100.0%	0.0%	0.0%	0.0%	0.0%
Annual	99.6%	0.4%	0.0%	0.0%	0.0%

Table 111 NMHC 2020 Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
23	121	25	0	0	15	57	374	2
Total Hours of Downtime		184	Total Hours of Calibration Time		433	Total Hours of Flagged		617

Table 112 PM2.5 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (ug/m3)	Min. 1-hr (ug/m3)	Max. 1-hr (ug/m3)	# of 1-hr AAAQO Exceedances	Max. 24-hr (ug/m3)	# of 24-hr AAAQO Exceedances
January	100.0	743	3.9	0	16	0	8	0
February	100.0	695	3.2	0	81	1	12	0
March	99.6	740	3.0	0	14	0	5	0
April	100.0	719	2.9	0	10	0	7	0
May	99.9	742	5.3	0	80	0	20	0
June	100.0	719	4.1	0	13	0	8	0
July	100.0	742	4.0	1	30	0	8	0
August	97.3	723	4.1	0	14	0	11	0
September	100.0	718	3.9	1	32	0	21	0
October	100.0	743	3.4	0	121	3	21	0
November	99.7	717	7.3	0	74	0	31	1
December	100.0	742	5.3	0	71	0	25	0
Annual	99.7	8743	4.2	0	121	4	31	1

Table 113 PM2.5 2020 Annual Frequency Distribution

Month	Percentage of Readings in Concentration Range (in ug/m3)				
	0 - 50	51 - 80	81 - 120	121 - 240	>240
January	100.0%	0.0%	0.0%	0.0%	0.0%
February	99.7%	0.1%	0.1%	0.0%	0.0%
March	100.0%	0.0%	0.0%	0.0%	0.0%
April	100.0%	0.0%	0.0%	0.0%	0.0%
May	99.1%	0.9%	0.0%	0.0%	0.0%
June	100.0%	0.0%	0.0%	0.0%	0.0%
July	100.0%	0.0%	0.0%	0.0%	0.0%
August	100.0%	0.0%	0.0%	0.0%	0.0%
September	100.0%	0.0%	0.0%	0.0%	0.0%
October	99.3%	0.3%	0.3%	0.1%	0.0%
November	98.6%	1.4%	0.0%	0.0%	0.0%
December	98.8%	1.2%	0.0%	0.0%	0.0%
Annual	99.6%	0.3%	0.0%	0.0%	0.0%

Table 114 PM2.5 2020 Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
23	0	3	0	0	0	15	0	0
Total Hours of Downtime		26	Total Hours of Calibration Time		15	Total Hours of Flagged		41

Table 115 RH 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (%)	Min. 1-hr (%)	Max. 1-hr (%)	Max. 24-hr (%)
January	100.0	744	76.9	47	97	89
February	100.0	696	68.5	26	94	82
March	99.6	741	62.5	26	96	80
April	100.0	720	56.1	18	98	82
May	100.0	744	62.4	17	99	94
June	99.9	719	71.3	25	99	95
July	100.0	744	77.3	29	99	95
August	97.3	724	71.5	27	99	97
September	100.0	720	75.2	26	99	91
October	100.0	744	76.5	32	99	96
November	99.7	718	79.7	37	97	91
December	99.9	743	76.6	34	97	91
Annual	99.7	8757	71.2	17	99	97

Table 116 RH 2020 Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
23	0	3	0	0	1	0	0	0
Total Hours of Downtime		27	Total Hours of Calibration Time		0	Total Hours of Flagged		27

Table 117 AT 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (mb)	Min. 1-hr (mb)	Max. 1-hr (mb)	Max. 24-hr (mb)
January	100.0	744	-17.1	-41.1	4.7	1.2
February	100.0	696	-9.4	-38.3	7.8	3.4
March	99.6	741	-9.0	-33.8	5.7	1.8
April	100.0	720	0.7	-31.1	17.2	11.4
May	100.0	744	8.8	-7.0	23.4	16.0
June	99.9	719	13.4	1.7	26.0	18.6
July	100.0	744	15.7	4.2	30.8	21.5
August	97.3	724	14.3	-2.6	29.6	22.9
September	100.0	720	9.6	-3.9	23.9	15.9
October	100.0	744	-0.6	-18.2	21.5	11.4
November	99.7	718	-7.5	-25.3	14.8	10.0
December	99.9	743	-10.0	-30.2	9.8	7.2
Annual	99.7	8757	0.7	-41.1	30.8	22.9

Table 118 AT 2020 Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
23	0	3	0	0	1	0	0	0
Total Hours of Downtime		27	Total Hours of Calibration Time		0	Total Hours of Flagged		27

Table 119 ST 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (°C)	Min. 1-hr (°C)	Max. 1-hr (°C)	Max. 24-hr (°C)
January	100.0	744	22.3	19.5	24.4	22.9
February	100.0	696	22.2	20.9	23.2	22.7
March	99.6	741	22.1	20.8	23.3	22.6
April	100.0	720	22.4	20.4	23.3	22.7
May	100.0	744	22.4	21.4	23.2	22.9
June	100.0	720	22.3	21.0	23.2	22.8
July	100.0	744	21.8	20.3	23.1	22.4
August	97.3	724	21.9	20.4	23.7	23.3
September	100.0	720	22.9	21.2	24.0	23.4
October	100.0	744	22.7	21.4	24.2	23.1
November	99.7	718	22.4	18.1	24.1	23.4
December	100.0	744	22.8	20.9	24.4	23.5
Annual	99.7	8759	22.3	18.1	24.4	23.5

Table 120 ST Qualifier Flag Summary

P	X	Y	K	N	NRM	C	S	Q
23	0	2	0	0	0	0	0	0
Total Hours of Downtime		25	Total Hours of Calibration Time		0	Total Hours of Flagged		25

Table 121 WS 2020 Annual Continuous Data Summary

Month	Operational Uptime (%)	# of Readings	Monthly Avg. (kph)	Min. 1-hr (kph)	Max. 1-hr (kph)	Max. 24-hr (kph)
January	100.0	744	0.6	0.1	24.8	11.7
February	100.0	696	3.2	0.1	25.6	19.5
March	99.6	741	1.6	0.2	23.8	12.4
April	100.0	720	3.9	0.2	25.7	16.9
May	100.0	744	0.8	0.2	23.8	13.6
June	99.4	714	1.0	0.1	21.5	13.5
July	100.0	744	2.2	0.0	20.1	10.2
August	97.3	724	3.2	0.0	19.9	11.9
September	100.0	720	2.2	0.0	22.7	14.5
October	100.0	744	2.5	0.0	18.4	7.4
November	99.7	718	1.6	0.0	24.7	12.3
December	90.2	671	2.2	0.0	23.6	13.5
Annual	98.9	8680	1.8	0.0	25.7	19.5

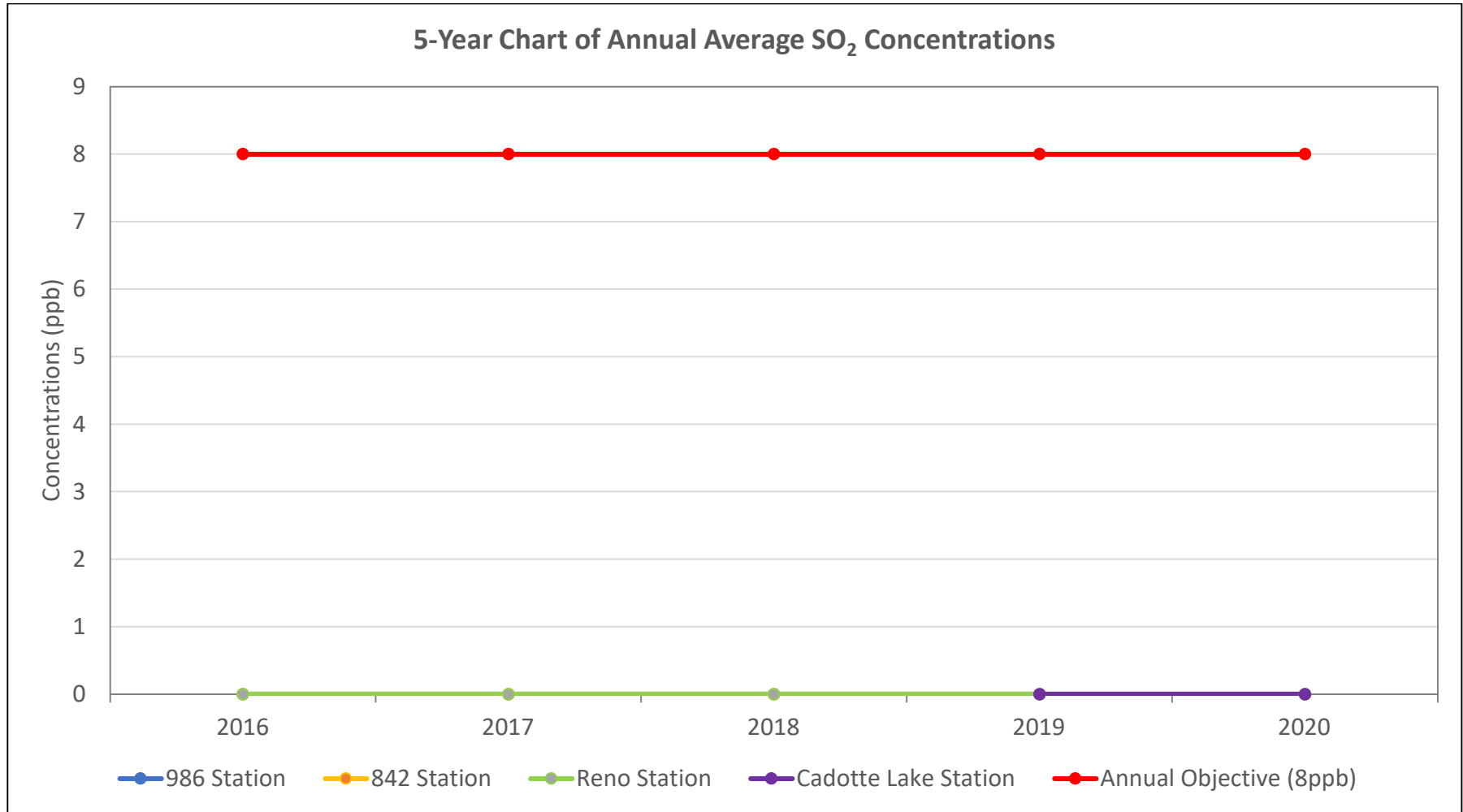
Table 122 WS 2020 Annual Frequency Distribution

Month	Percentage of Readings in Concentration Range (in kph)				
	0 - 6	7 - 15	16 - 29	30 -39	>39
January	70.3%	26.9%	2.8%	0.0%	0.0%
February	56.3%	36.1%	7.6%	0.0%	0.0%
March	43.5%	52.5%	4.0%	0.0%	0.0%
April	41.7%	51.5%	6.8%	0.0%	0.0%
May	47.7%	46.2%	6.0%	0.0%	0.0%
June	53.9%	42.2%	3.9%	0.0%	0.0%
July	68.3%	30.6%	1.1%	0.0%	0.0%
August	51.7%	44.3%	4.0%	0.0%	0.0%
September	66.8%	29.7%	3.5%	0.0%	0.0%
October	68.0%	31.5%	0.5%	0.0%	0.0%
November	63.6%	32.2%	4.2%	0.0%	0.0%
December	67.7%	27.1%	5.2%	0.0%	0.0%
Annual	58.3%	37.6%	4.1%	0.0%	0.0%

Table 123 WS 2020 Qualifier Flag Summary

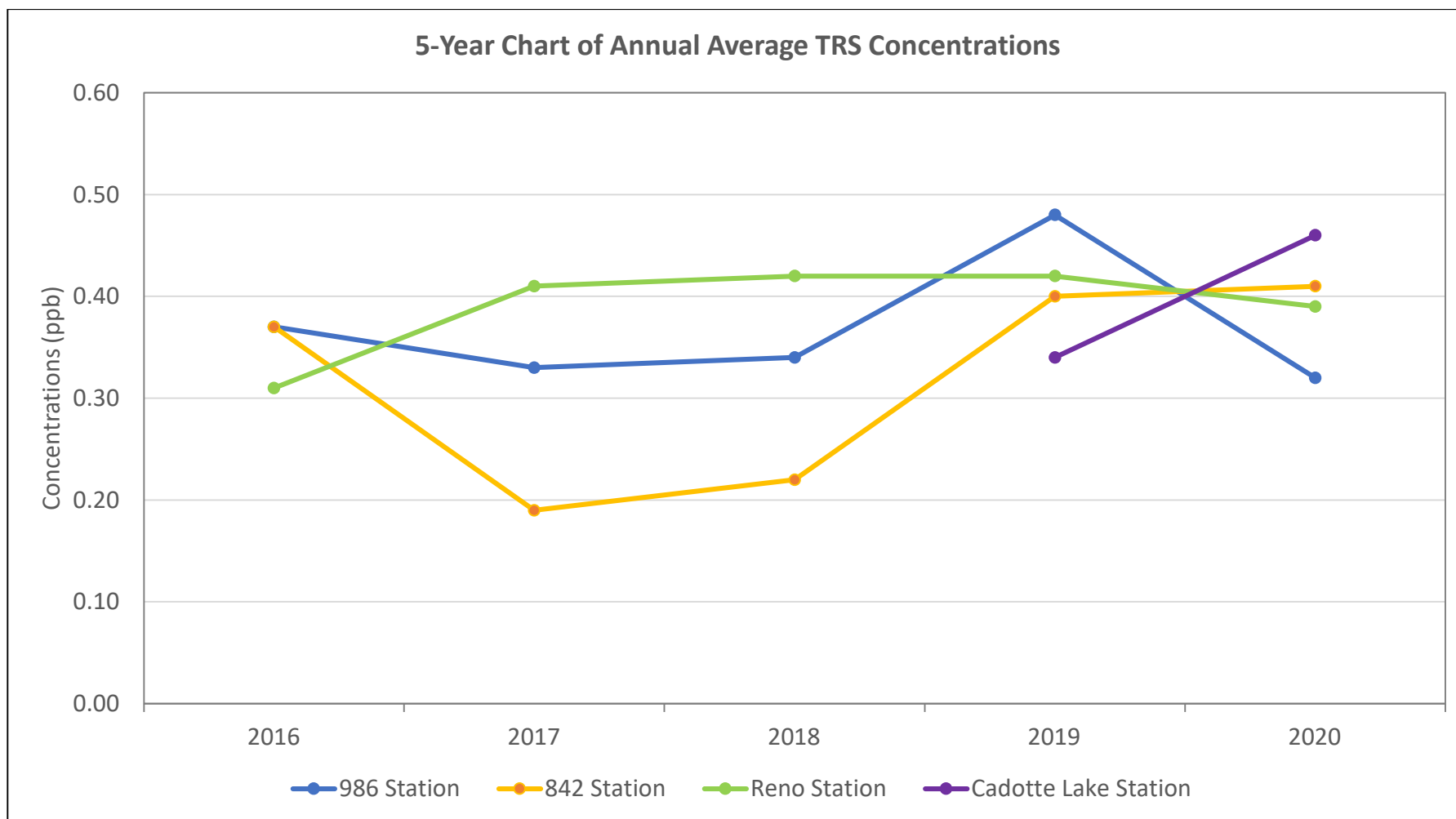
P	X	Y	K	N	NRM	C	S	Q
23	72	6	0	0	1	2	0	0
Total Hours of Downtime		102	Total Hours of Calibration Time		2	Total Hours of Flagged		104

2 5-Year Charts of Annual Average Concentrations



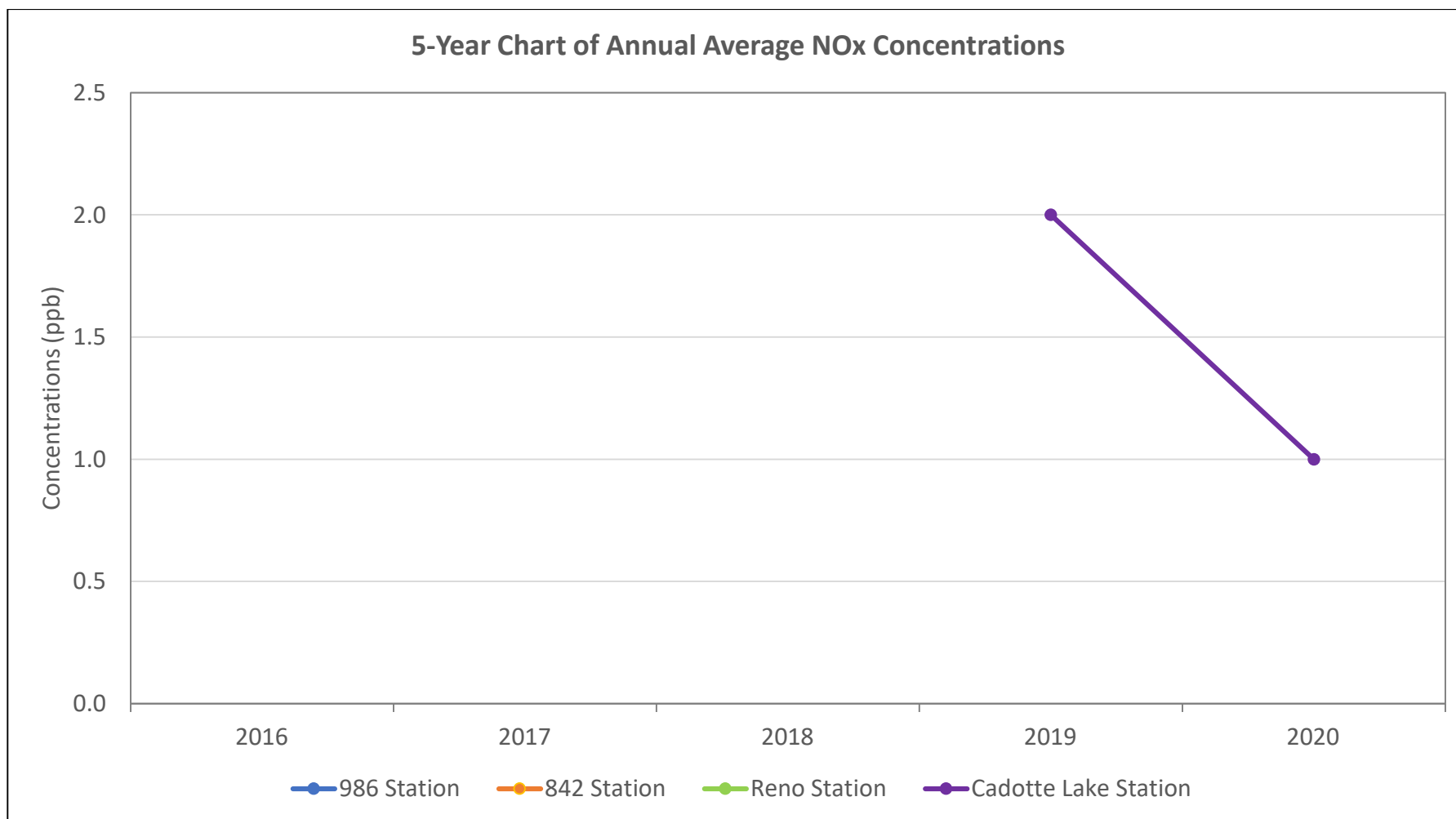
Note:

1. Cadotte Lake Station was installed in October 2019 – no previous data available. 2019 annual average SO₂ concentration for Cadotte Lake Station was calculated based on the monthly averages of October, November and December.
2. 2019 average for 986 Station was calculated using both 986b and 986c data.



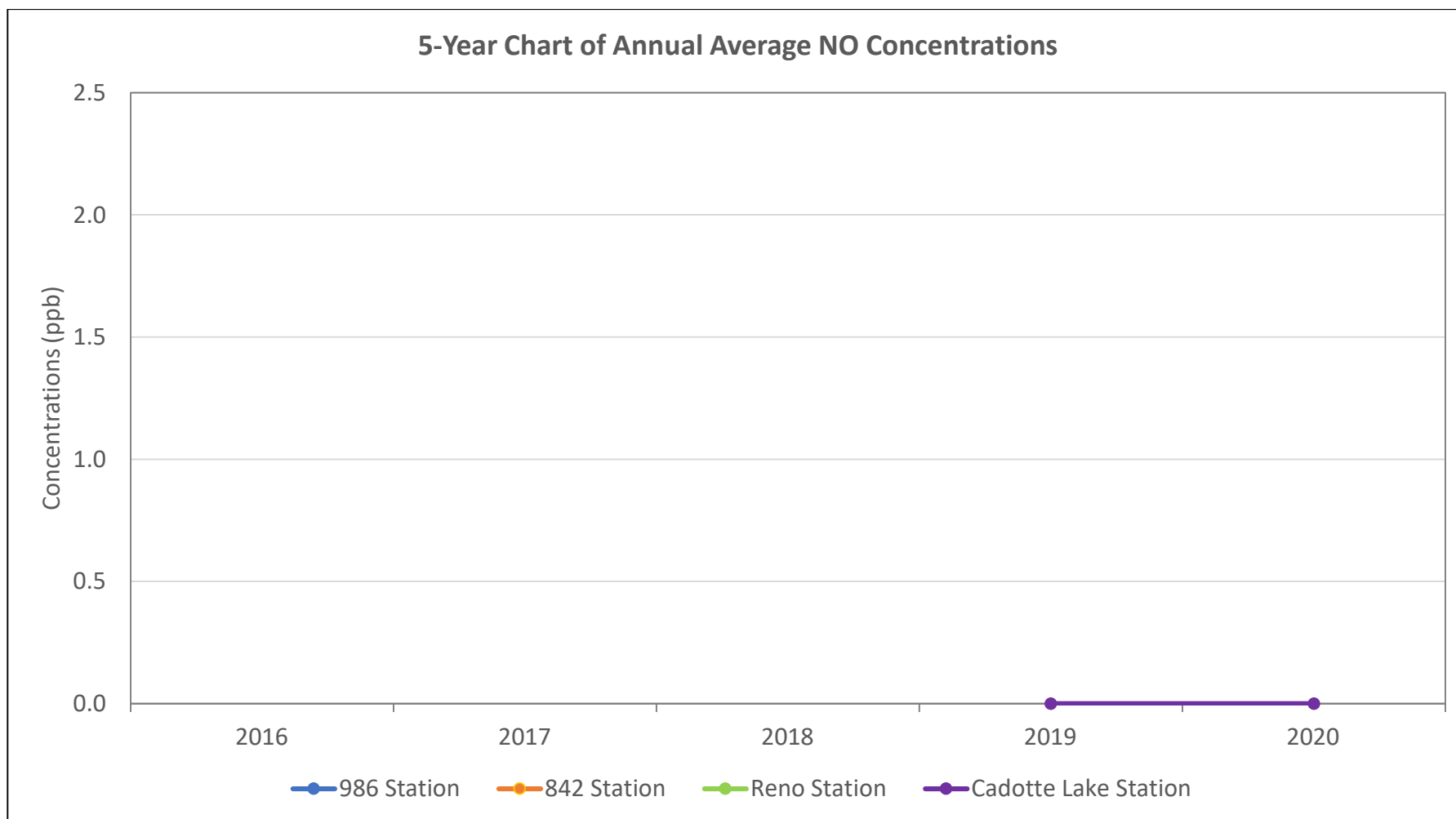
Note:

1. Cadotte Lake Station was installed in October 2019 – no previous data available. 2019 annual average TRS concentration for Cadotte Lake Station was calculated based on the monthly averages of October, November and December.
2. 2019 average for 986 Station was calculated using both 986b and 986c data.



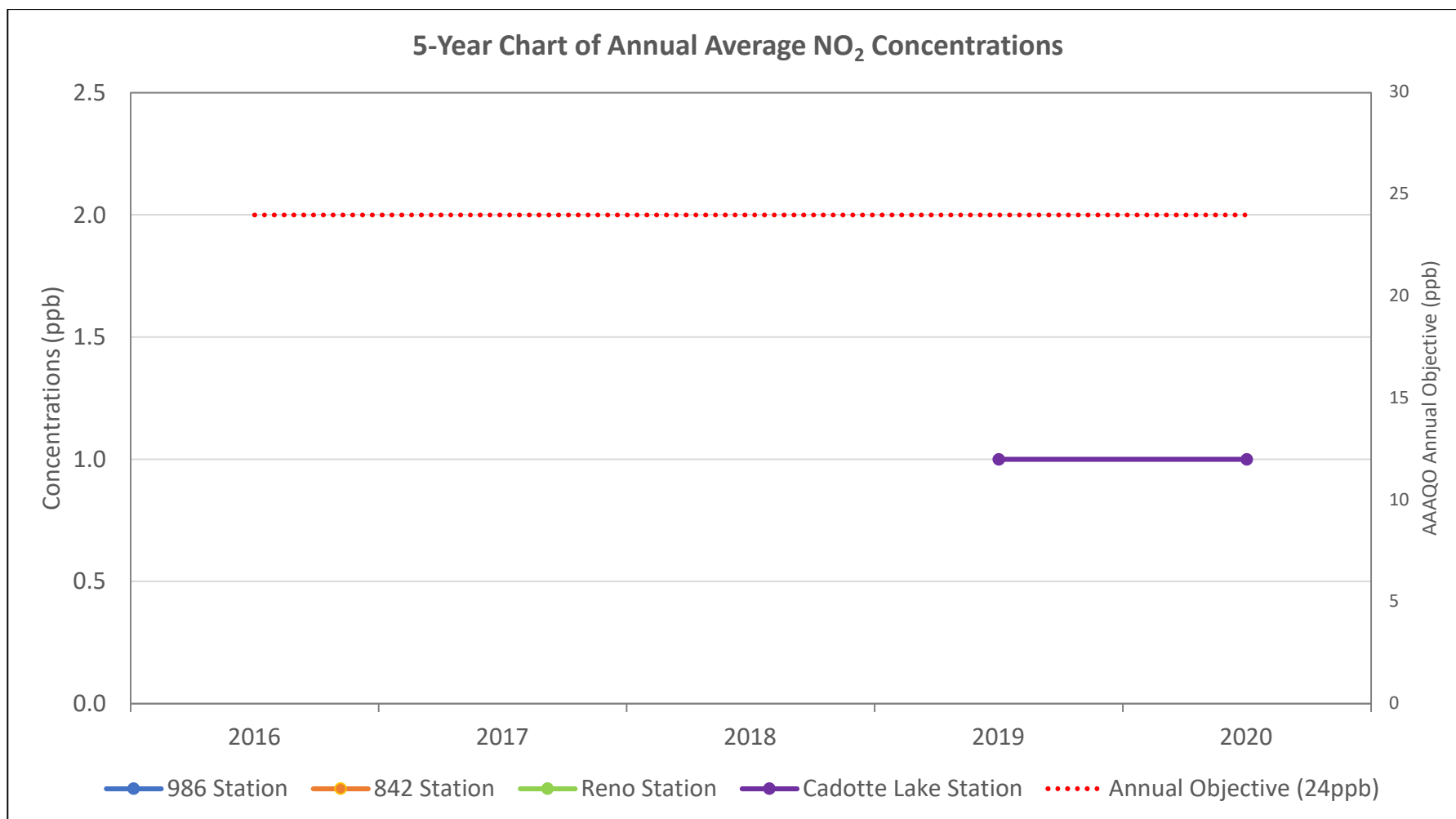
Note:

1. NOx is only monitored at the Cadotte Station Lake Station.
2. Cadotte Lake Station was installed in October 2019 – no previous data available. 2019 annual average NOx concentration for Cadotte Lake Station was calculated based on the monthly averages of October, November and December.



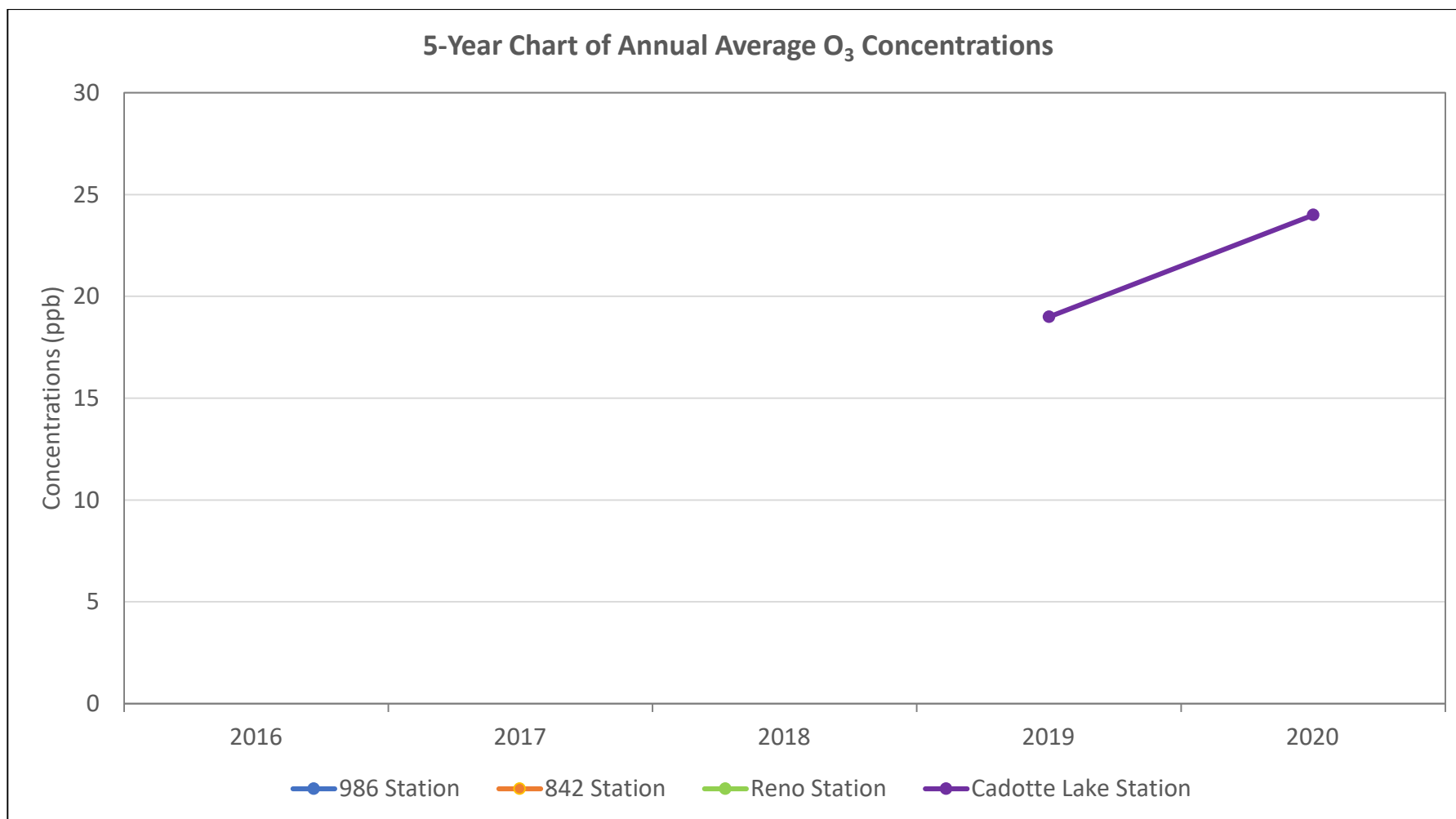
Note:

1. NO is only monitored at the Cadotte Station Lake Station.
2. Cadotte Lake Station was installed in October 2019 – no previous data available. 2019 annual average NO concentration for Cadotte Lake Station was calculated based on the monthly averages of October, November and December.



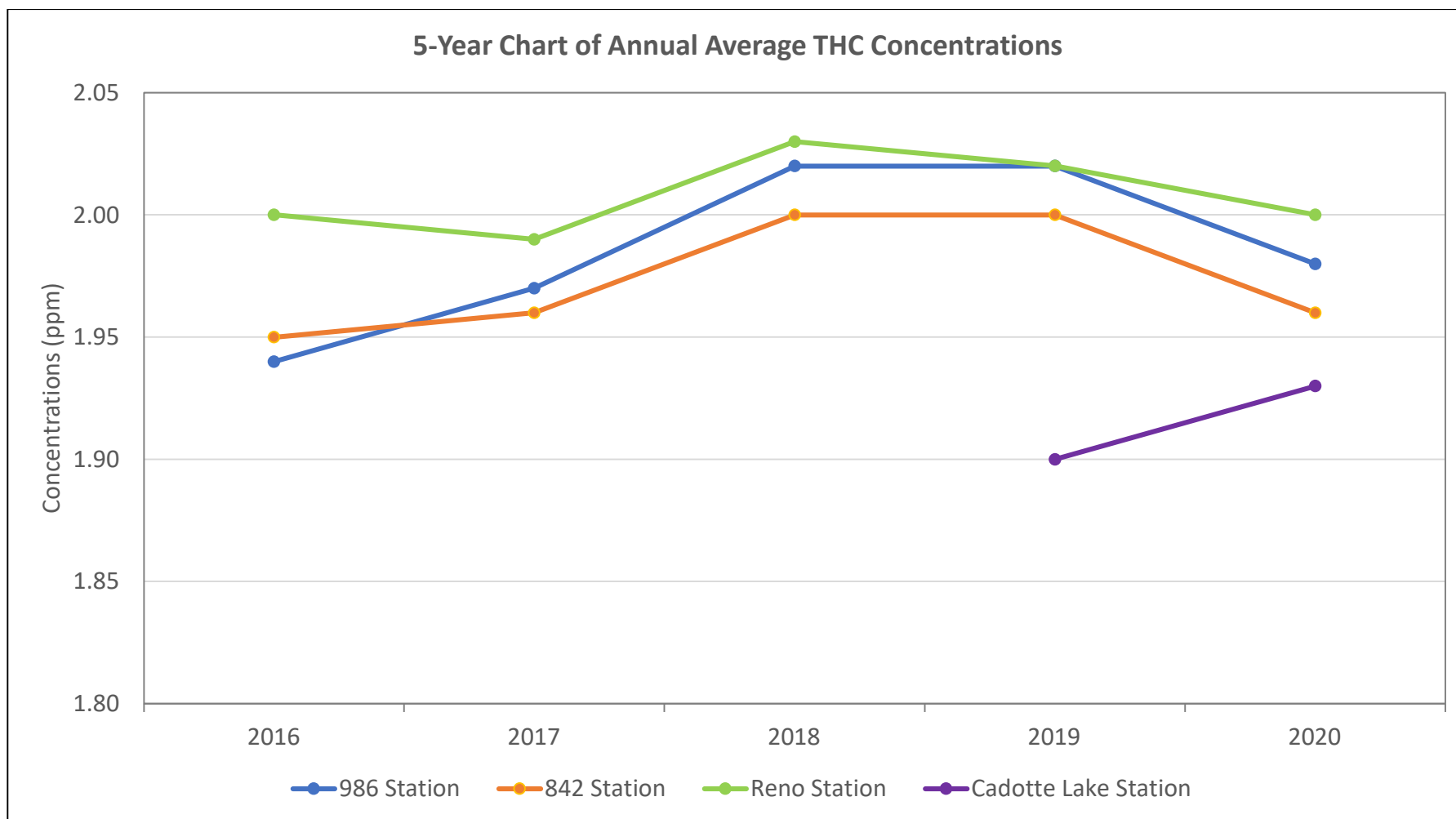
Note:

1. NO₂ is only monitored at the Cadotte Station Lake Station.
2. Cadotte Lake Station was installed in October 2019 – no previous data available. Annual average NO₂ concentration for Cadotte Lake Station was calculated based on the monthly averages of October, November and December.



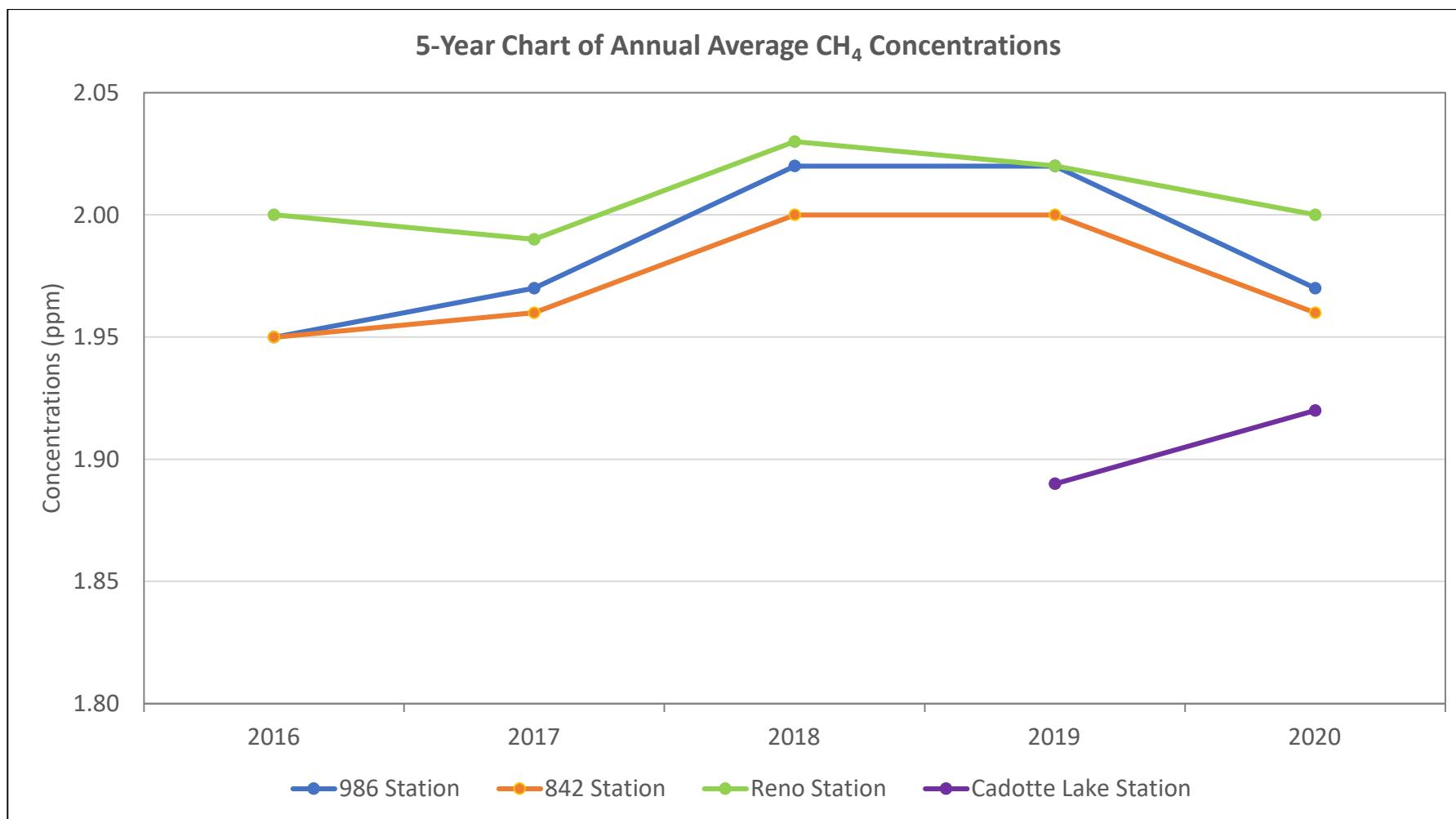
Note:

1. O₃ is only monitored at the Cadotte Lake Station.
2. Cadotte Lake Station was installed in October 2019 – no previous data available. 2019 annual average O₃ concentration for Cadotte Lake Station was calculated based on the monthly averages of October, November and December.



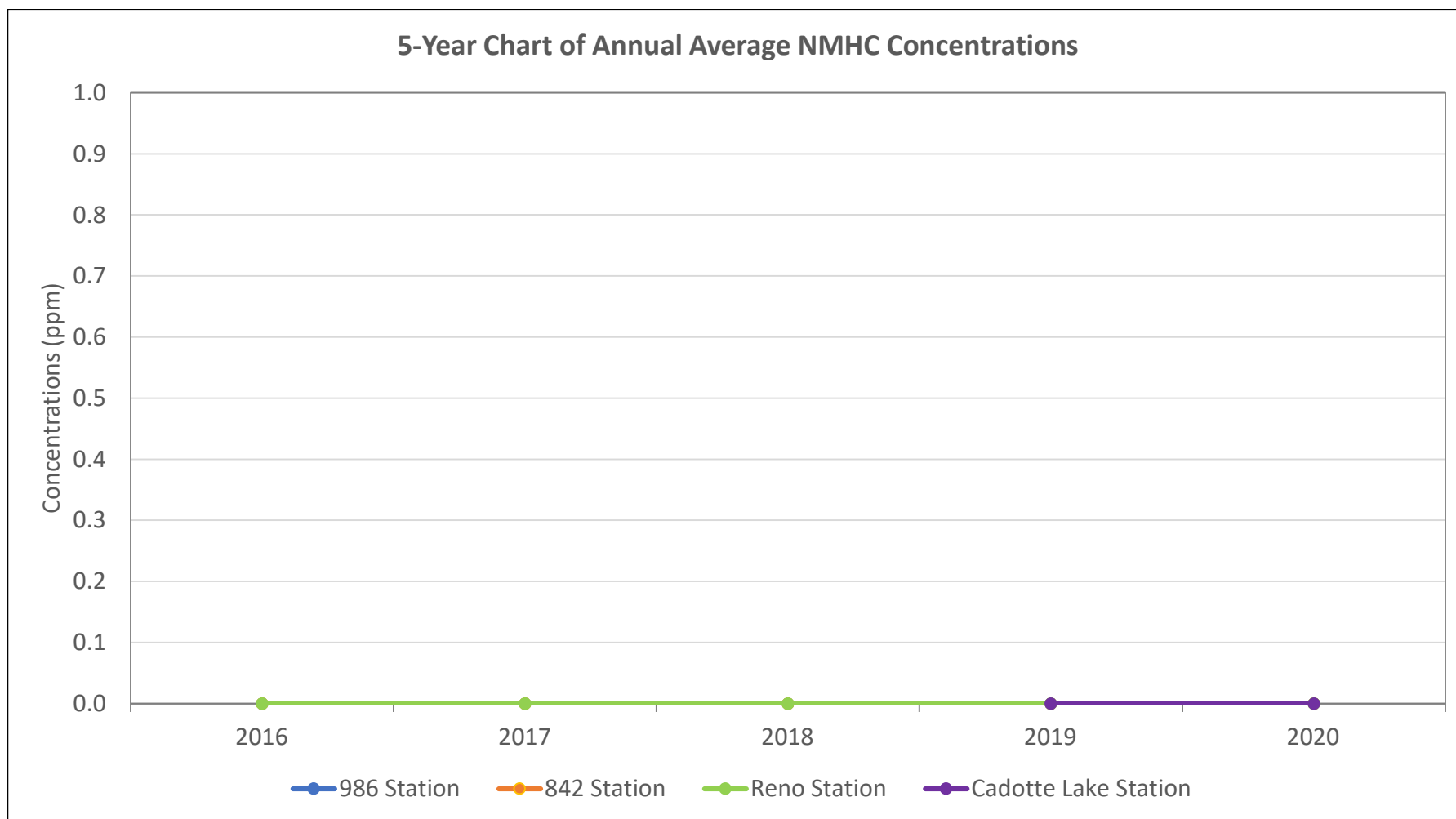
Note:

1. Cadotte Lake Station was installed in October 2019 – no previous data available. 2019 annual average THC concentration for Cadotte Lake Station was calculated based on the monthly averages of October, November and December.
2. 2019 average for 986 Station was calculated using both 986b and 986c data.



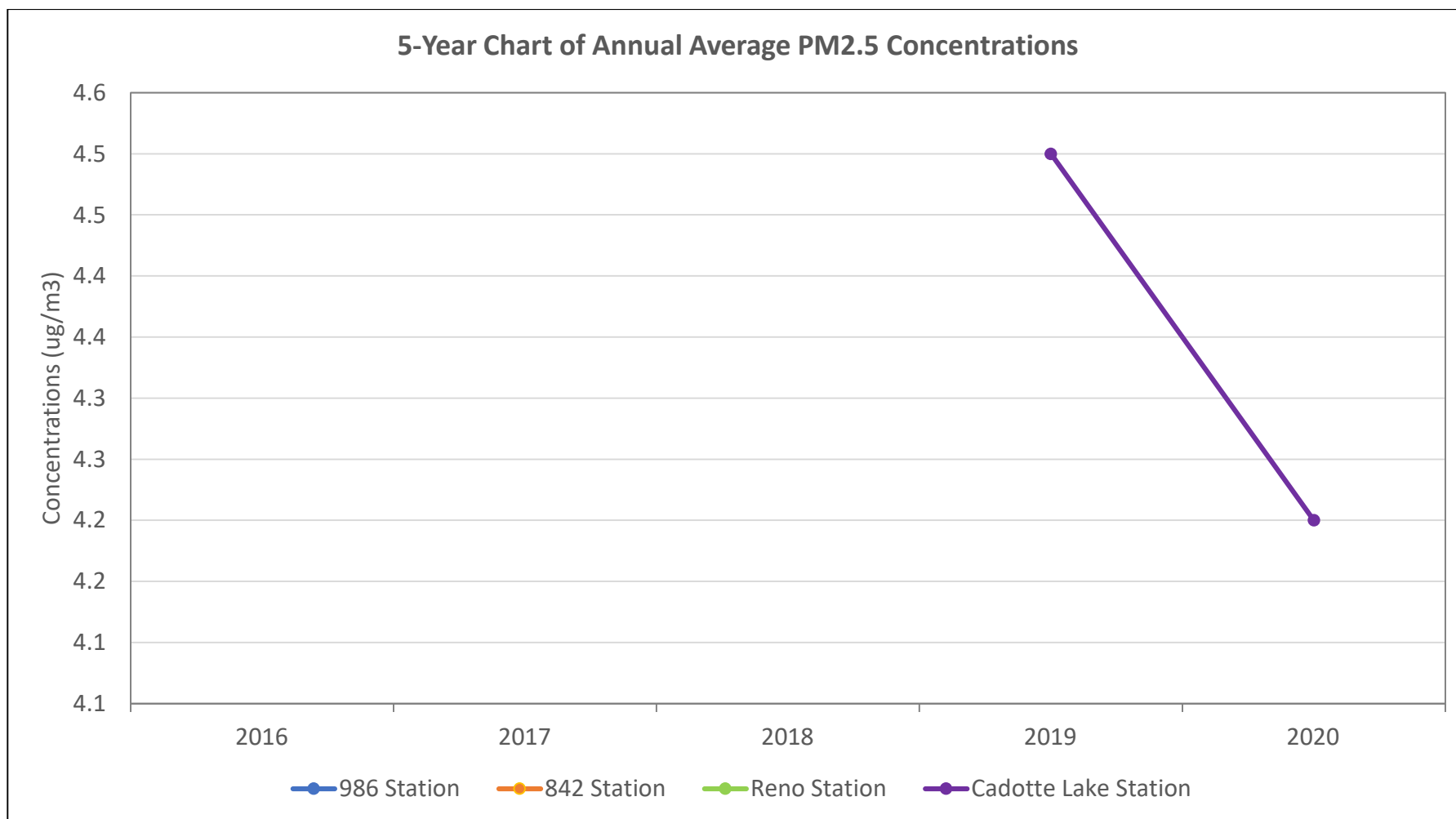
Note:

1. Cadotte Lake Station was installed in October 2019 – no previous data available. 2019 annual average CH₄ concentration for Cadotte Lake Station was calculated based on the monthly averages of October, November and December.
2. 2019 average for 986 Station was calculated using both 986b and 986c data.



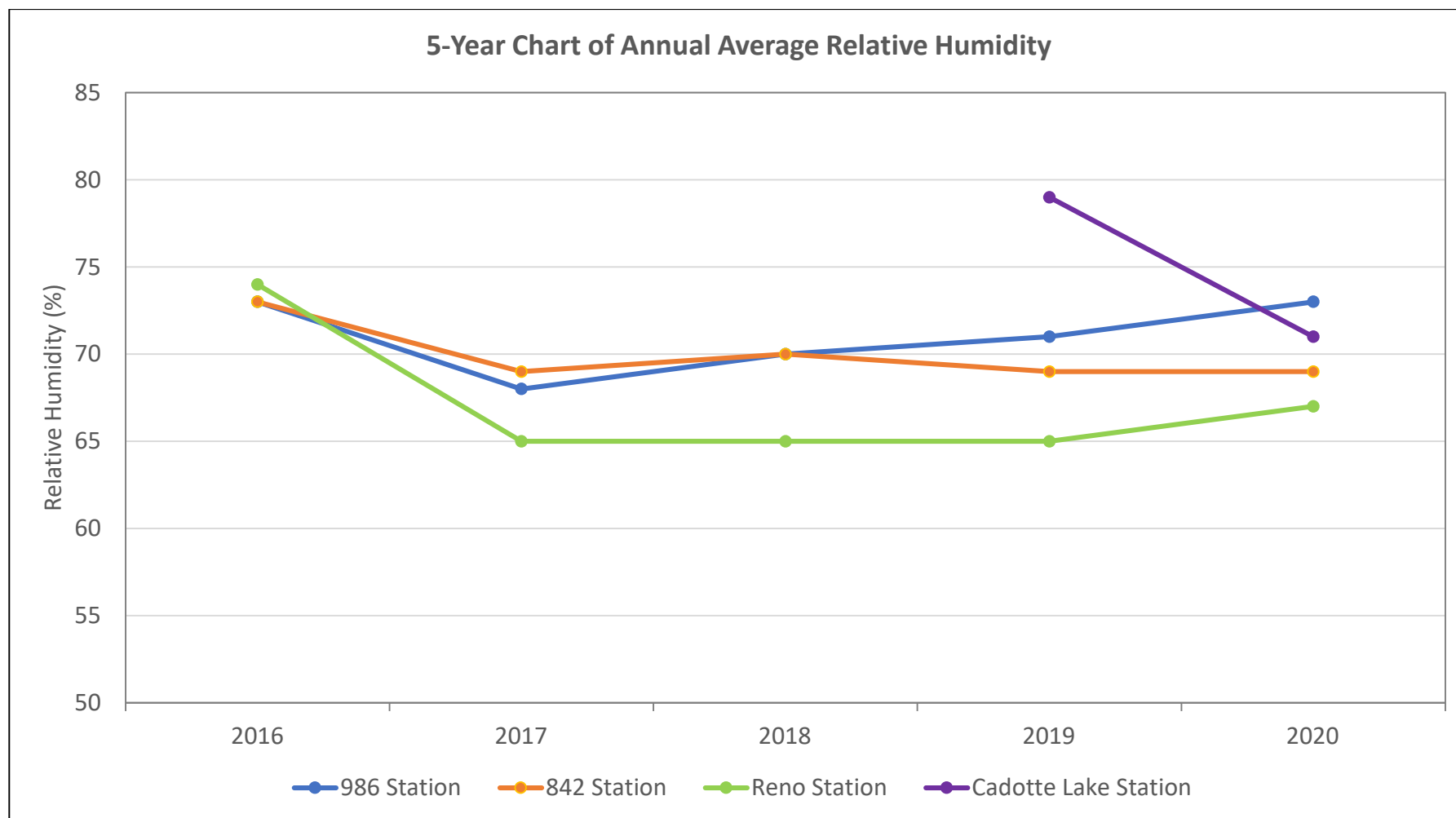
Note:

1. Cadotte Lake Station was installed in October 2019 – no previous data available. 2019 annual average NMHC concentration for Cadotte Lake Station was calculated based on the monthly averages of October, November and December.
2. 2019 average for 986 Station was calculated using both 986b and 986c data.



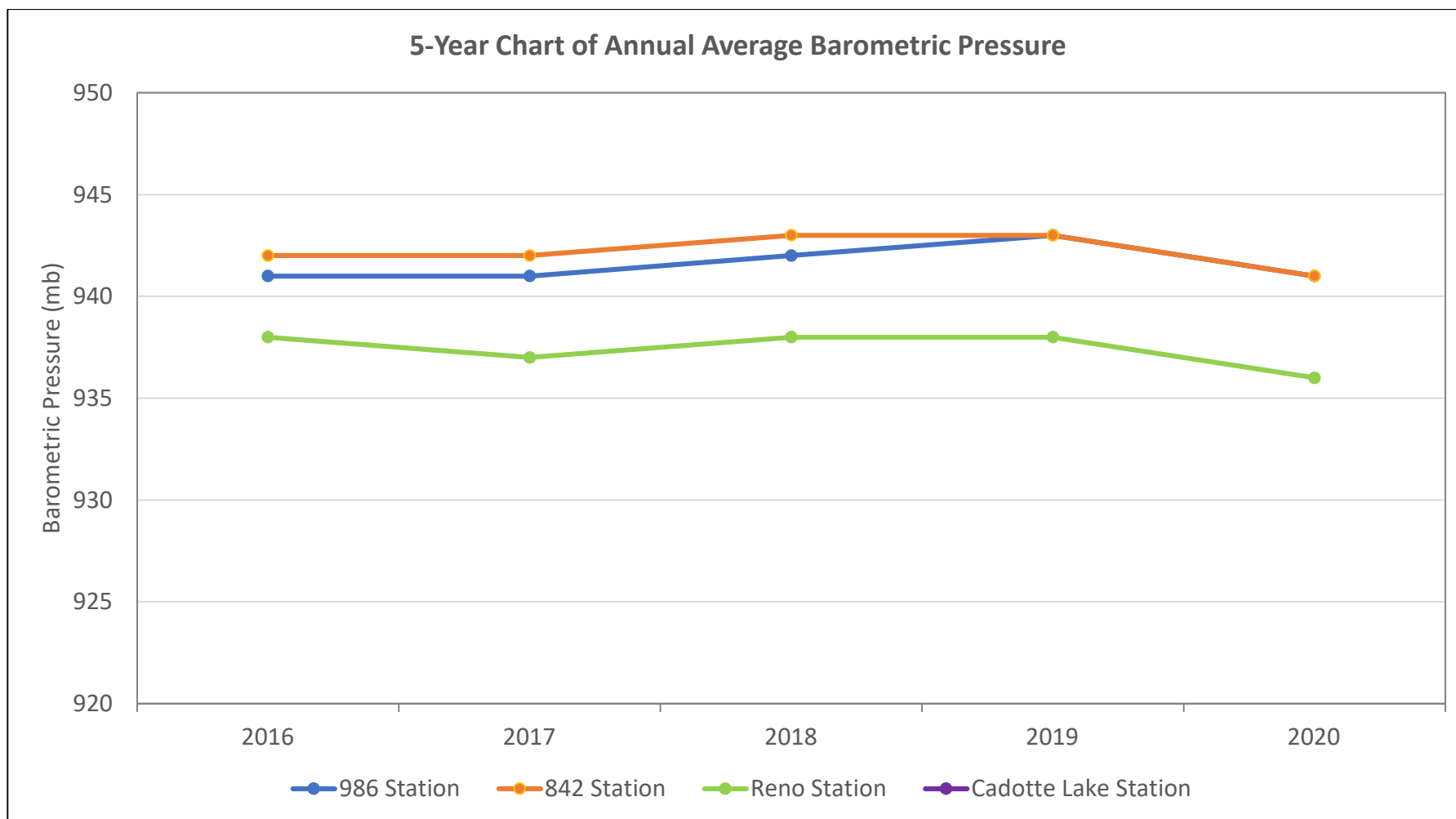
Note:

1. PM2.5 is only monitored at the Cadotte Station Lake Station.
2. Cadotte Lake Station was installed in October 2019 – no previous data available. 2019 annual average PM2.5 concentration for Cadotte Lake Station was calculated based on the monthly averages of October, November and December.



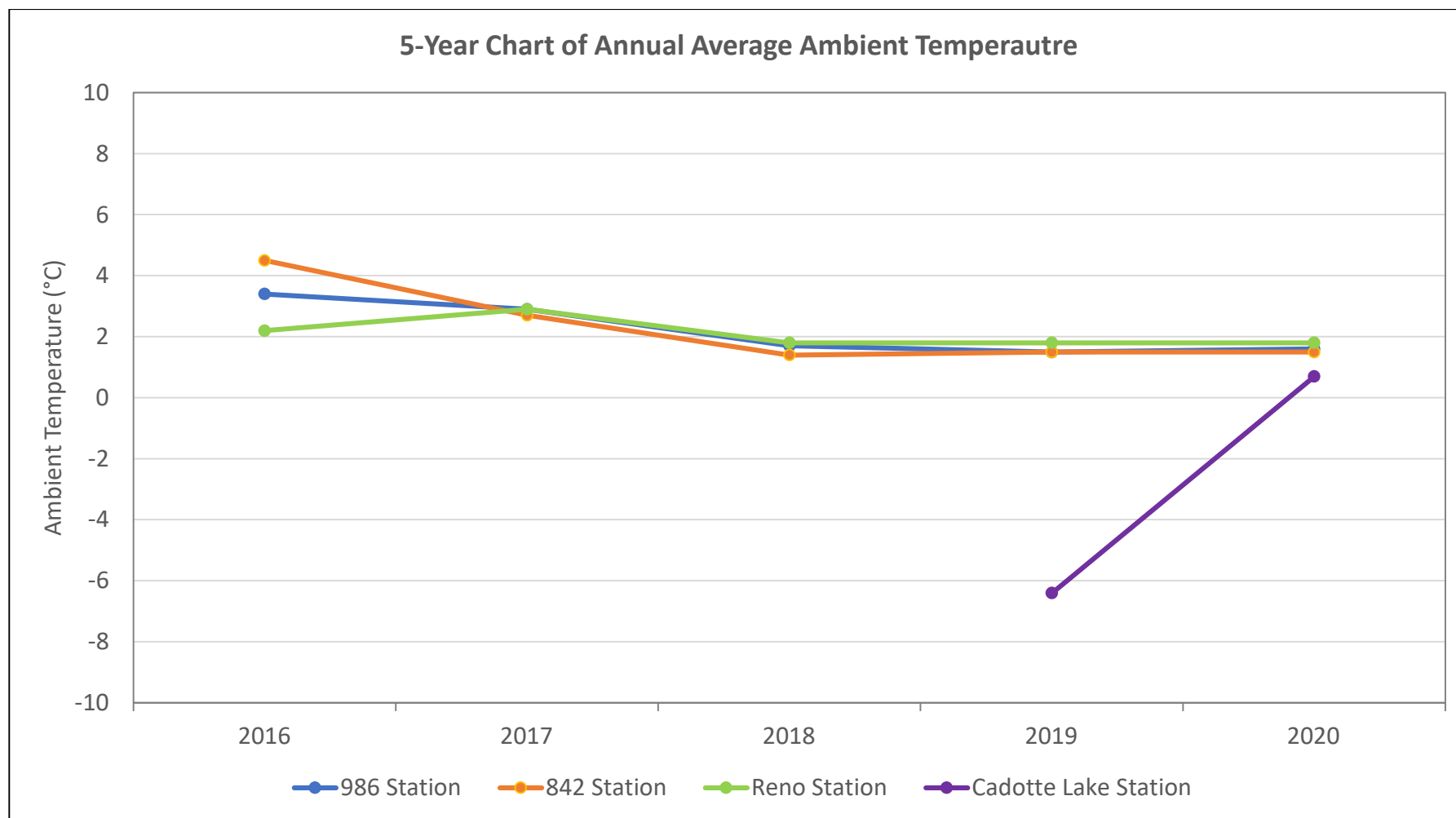
Note:

1. Cadotte Lake Station was installed in October 2019 – no previous data available. 2019 annual average relative humidity for Cadotte Lake Station was calculated based on the monthly averages of October, November and December.
2. 2019 average for 986 Station was calculated using both 986b and 986c data.



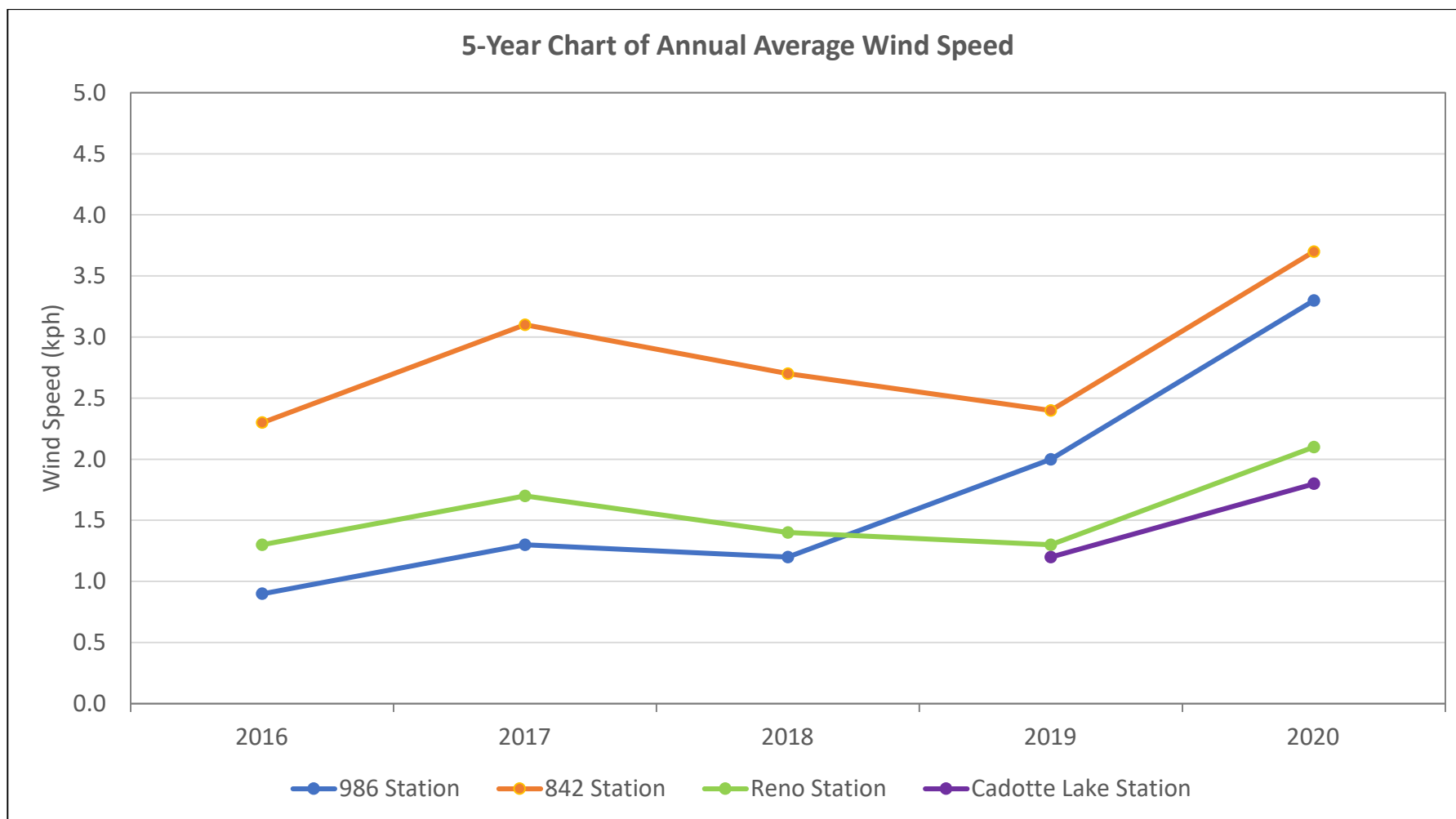
Note:

1. BP sensor was installed at Reno station in 2016 - no previous data available.
2. BP was not monitored at the Cadotte Lake Station.
3. 2019 average for 986 Station was calculated using both 986b and 986c data.



Note:

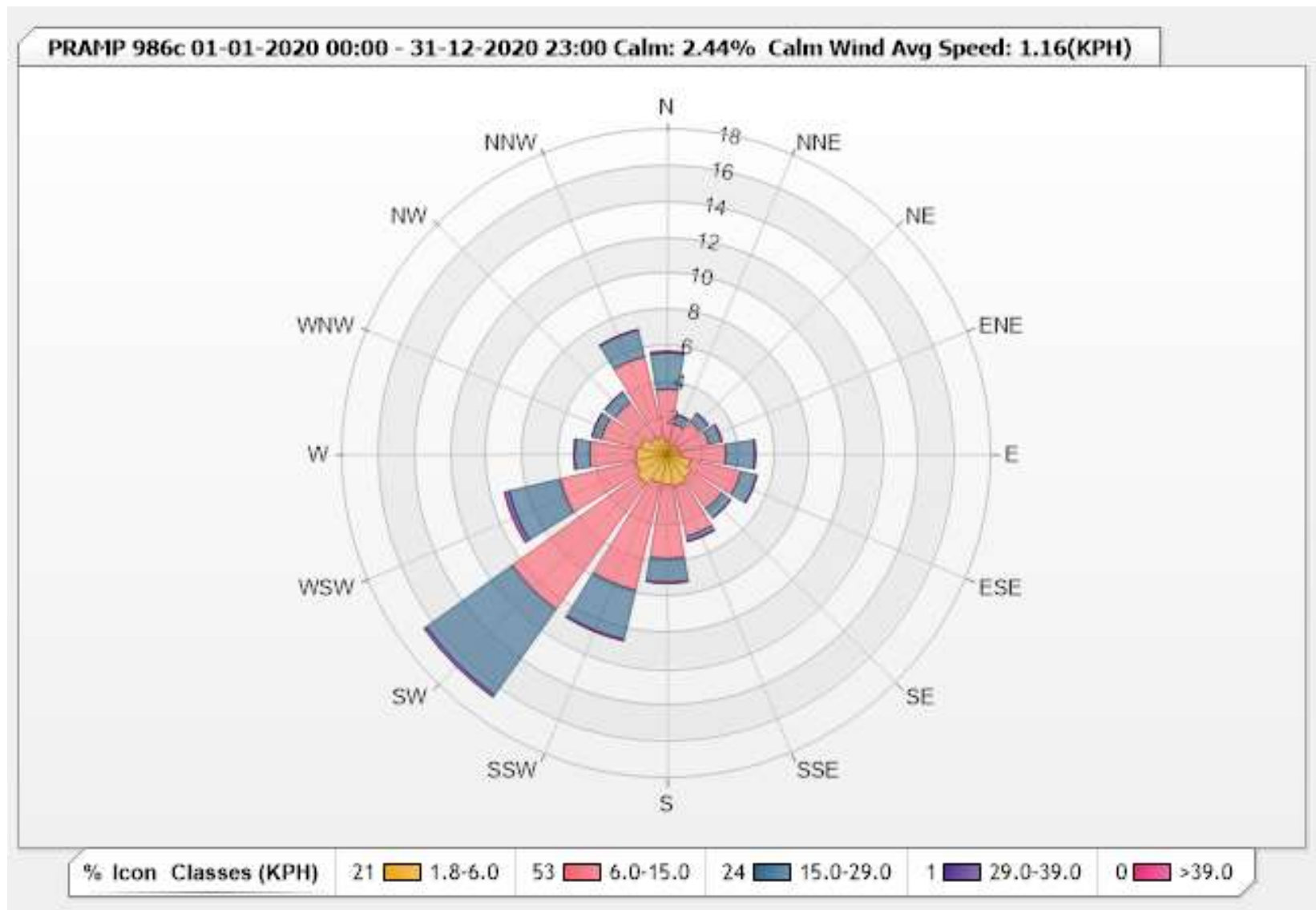
1. Cadotte Lake Station was installed in October 2019 – no previous data available. 2019 annual average ambient temperature concentration for Cadotte Lake Station was calculated based on the monthly averages of October, November and December.
2. 2019 average for 986 Station was calculated using both 986b and 986c data.



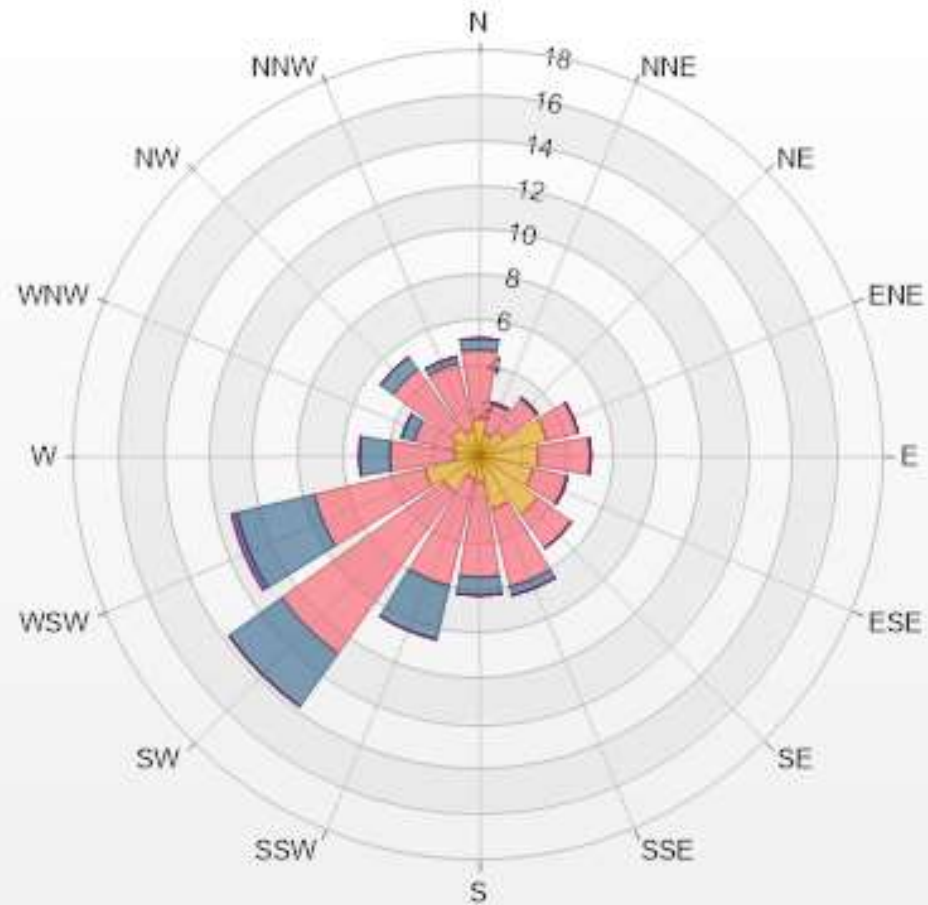
Note:

1. Cadotte Lake Station was installed in October 2019 – no previous data available. 2019 annual average wind speed for Cadotte Lake Station was calculated based on the monthly averages of October, November and December.
2. 2019 average for 986 Station was calculated using both 986b and 986c data.

3 Annual Windrose Plots

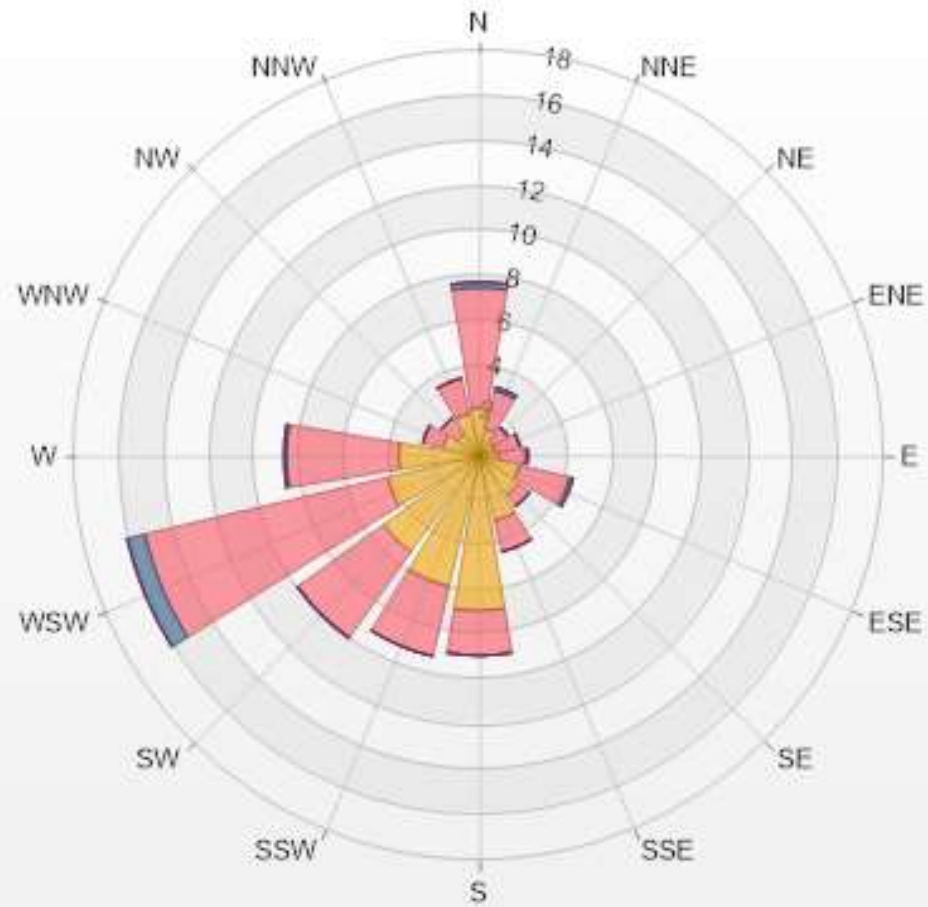


PRAMP 842b 01-01-2020 00:00 - 31-12-2020 23:00 Calm: 5.68% Calm Wind Avg Speed: 1.10(KPH)



% Icon Classes (KPH)					
29	1.8-6.0	51	6.0-15.0	14	15.0-29.0
0	29.0-39.0	0	>39.0		

PRAMP RENO 01-01-2020 00:00 - 31-12-2020 23:00 Calm: 11.08% Calm Wind Avg Speed: 1.04(KPH)



% Icon Classes (KPH)

43 1.8-6.0

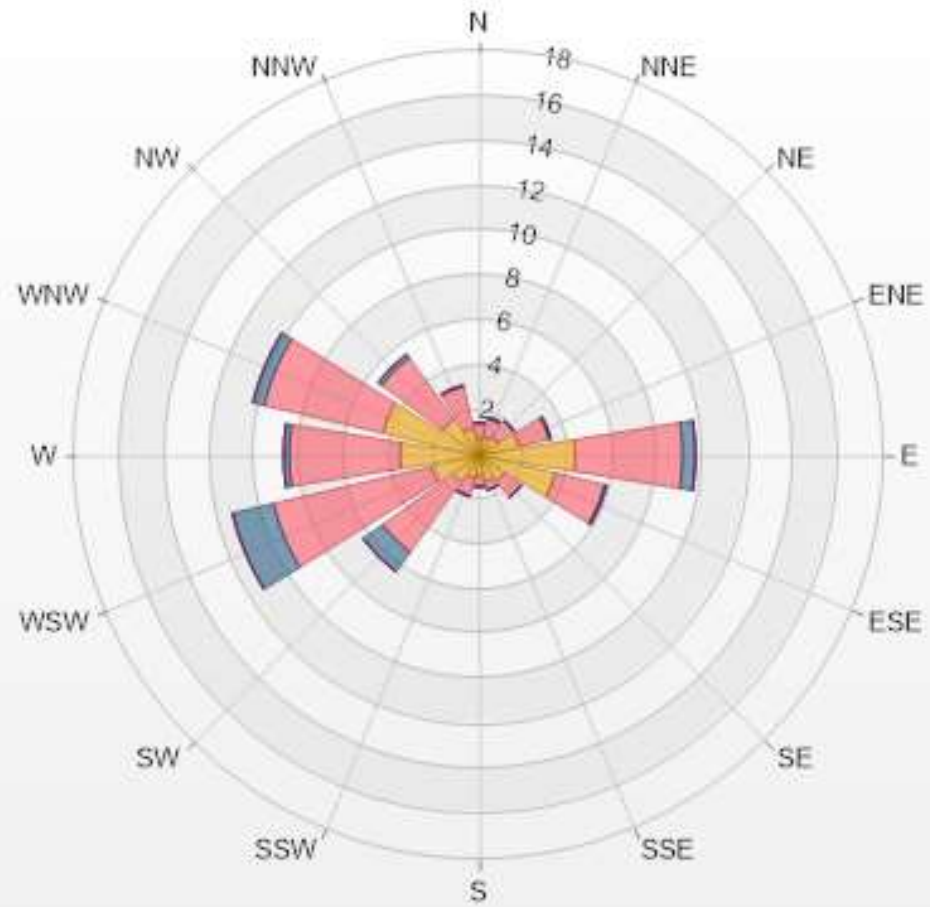
44 6.0-15.0

2 15.0-29.0

0 29.0-39.0

0 >39.0

AQHI Cadotte Lake 01-01-2020 00:00 - 31-12-2020 23:00 Calm: 23.64% Calm Wind Avg Speed: 0.89(KPH)



% Icon Classes (KPH)					
31	1.8-6.0	40	6.0-15.0	5	15.0-29.0
0	29.0-39.0	0	>39.0		

End of Report

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