



Lakeland Industry & Community Association

JULY 2023

Monthly Ambient Air Quality Monitoring Report

LICA-202307

Operation and Maintenance:

Bureau Veritas Canada

Data Validation and Report:

Lakeland Industry & Community Association

August 17, 2023

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August 17, 2023

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RE: LICA – July 2023 Monthly Ambient Air Quality Monitoring Report

Enclosed is the July 2023 Monthly Ambient Air Quality Monitoring Report for the continuous ambient air quality monitoring stations of the Lakeland Industry & Community Association (LICA) regional air quality monitoring network.

The representative of the Person Responsible for this monitoring program is

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This report has been reviewed by Michael Bisaga of the LICA Airshed.

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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 |
| LICA | Lakeland Industry & Community Association |
| mb | millibar |
| mm | millimeter |
| NMHC | Non-Methane Hydrocarbons |
| NO | Nitric Oxide |
| NO ₂ | Nitrogen Dioxide |
| NO _x | Oxide of Nitrogen |
| PAC | Polycyclic Aromatic Compounds |
| ppb | parts per billion |
| ppm | parts per million |
| RH | Relative Humidity |
| SO ₂ | Sulphur Dioxide |
| ST | Station Temperature |
| STDWD | Standard Deviation Wind Direction |
| THC | Total Hydrocarbons |
| TRS | Total Reduced Sulphur |
| VWD | Vector Wind Direction |
| VWS | Vector Wind Speed |
| WD | Wind Direction |
| WS | Wind Speed |
| °C | Degrees Celsius |

NETWORK STATION SUMMARY

Listing of Continuous Monitoring Stations and Integrated Sampling Stations

| Station Name | | Cold Lake South | Tamarack | St. Lina | Lac La Biche |
|---------------------------------|----------------|-----------------|-------------|-------------|--------------|
| Station ID | | 1174 | 1248 | 1250 | 1690 |
| Coordinates | | 54.41402 | 54.604935 | 54.215961 | 54.76516 |
| | | -110.23316 | -110.452637 | -111.503304 | -111.9714490 |
| Continuous Monitoring Parameter | SO2 | √ | √ | √ | √ |
| | H2S | | √ | √ | √ |
| | TRS | √ | | | |
| | NOX | √ | √ | √ | √ |
| | NOX | √ | √ | √ | √ |
| | NO2 | √ | √ | √ | √ |
| | O3 | √ | √ | √ | √ |
| | THC | √ | √ | √ | √ |
| | CH4 | √ | √ | √ | √ |
| | NMHC | √ | √ | √ | √ |
| | RH | √ | √ | √ | √ |
| | BP | √ | √ | √ | √ |
| | AT | √ | √ | √ | √ |
| | ST | √ | √ | √ | √ |
| | PRECEIPITATION | | √ | √ | |
| | WS | √ | √ | √ | √ |
| | WD | √ | √ | √ | √ |
| STDWD | √ | √ | √ | √ | |
| Integrated Sampling | VOCs | √ | | | |
| | PAHs | √ | | | |
| | Partisol | √ | | | |
| | Passive | √ | | | √ |
| | NMHC Canister | | | | √ |
| | PAC | | | √ | |

List of Contractors performing air monitoring activities

| Sampling Program | Monitoring Activities Conducted By | Sample Analysis Conducted By | Data/Report Prepared By | Electronic Submission Conducted By |
|-------------------------------|------------------------------------|------------------------------|------------------------------|------------------------------------|
| Continuous Monitoring Station | Bureau Veritas Canada | Bureau Veritas Canada | LICA / Bureau Veritas Canada | LICA |
| Intermittent (VOCs/PAHs) | Bureau Veritas Canada | InnoTech Alberta Inc | InnoTech Alberta Inc | LICA |
| Partisol | Bureau Veritas Canada | InnoTech Alberta Inc | InnoTech Alberta Inc | LICA |
| Passive | Bureau Veritas Canada | Bureau Veritas Canada | Bureau Veritas Canada | LICA |
| PAC | Bureau Veritas Canada | ECCC | AEP | Not Applicable |
| NMHC Canister | Bureau Veritas Canada | InnoTech Alberta Inc | InnoTech Alberta Inc | Not Applicable |

Monitoring Notes during the Month of July 2023

Cold Lake South

- All data collected this month were compliant with the requirements outlined in the AMD 2016.
- All parameters met the 90% operational uptime requirement.
- Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) and/or Alberta Ambient Air Quality Guidelines (AAAQGs) where applicable, except PM2.5. Fifty-one 1-hour and ten 24-hour PM2.5 exceedances were recorded this month. Widespread smoke from wild fires burning throughout western Canada is the cause of the numerous exceedances of the PM2.5 objective and guideline.

| Date | Time (MST) | Parameter | Average Period | Concentration (µg/m3) | Wind speed (km/hr) | Wind Direction | Reference # |
|--------|------------|-----------|----------------|-----------------------|--------------------|----------------|-------------|
| 1-Jul | 7 | PM2.5 | 1-Hour | 84 | 6.5 | 351° (N) | 415804 |
| 8-Jul | - | PM2.5 | 24-Hour | 35 | 5.7 | 258° (WSW) | 416191 |
| 9-Jul | 11 | PM2.5 | 1-Hour | 97 | 6.6 | 54° (NE) | 416191 |
| 9-Jul | 12 | PM2.5 | 1-Hour | 115 | 4.9 | 52° (NE) | 416191 |
| 9-Jul | 13 | PM2.5 | 1-Hour | 112 | 4.0 | 68° (ENE) | 416191 |
| 9-Jul | 14 | PM2.5 | 1-Hour | 113 | 3.1 | 352° (N) | 416191 |
| 9-Jul | 15 | PM2.5 | 1-Hour | 107 | 6.1 | 354° (N) | 416191 |
| 9-Jul | - | PM2.5 | 24-Hour | 50 | 5.5 | 37° (NE) | 416191 |
| 13-Jul | 9 | PM2.5 | 1-Hour | 142 | 6.3 | 302° (WNW) | 416552 |

| Date | Time (MST) | Parameter | Average Period | Concentration (µg/m3) | Wind speed (km/hr) | Wind Direction | Reference # |
|--------|------------|-----------|----------------|-----------------------|--------------------|----------------|-------------|
| 13-Jul | 10 | PM2.5 | 1-Hour | 136 | 10.4 | 305° (WNW) | 416552 |
| 13-Jul | 11 | PM2.5 | 1-Hour | 131 | 12.0 | 320° (NW) | 416552 |
| 13-Jul | 12 | PM2.5 | 1-Hour | 142 | 12.7 | 339° (NNW) | 416552 |
| 13-Jul | 14 | PM2.5 | 1-Hour | 156 | 15.1 | 324° (NW) | 416552 |
| 13-Jul | 15 | PM2.5 | 1-Hour | 106 | 13.4 | 320° (NW) | 416552 |
| 13-Jul | 16 | PM2.5 | 1-Hour | 89 | 13.3 | 314° (NW) | 416552 |
| 13-Jul | 21 | PM2.5 | 1-Hour | 88 | 4.7 | 264° (W) | 416552 |
| 13-Jul | 22 | PM2.5 | 1-Hour | 96 | 5.3 | 261° (W) | 416552 |
| 13-Jul | 23 | PM2.5 | 1-Hour | 99 | 6.2 | 272° (W) | 416552 |
| 13-Jul | - | PM2.5 | 24-Hour | 72 | 7.3 | 303° (WNW) | 416552 |
| 14-Jul | 0 | PM2.5 | 1-Hour | 109 | 5.1 | 291° (WNW) | 416552 |
| 14-Jul | 1 | PM2.5 | 1-Hour | 122 | 4.3 | 269° (W) | 416552 |
| 14-Jul | 2 | PM2.5 | 1-Hour | 133 | 3.9 | 297° (WNW) | 416552 |
| 14-Jul | 3 | PM2.5 | 1-Hour | 156 | 4.4 | 304° (WNW) | 416552 |
| 14-Jul | 4 | PM2.5 | 1-Hour | 187 | 7.1 | 333° (NNW) | 416552 |
| 14-Jul | 5 | PM2.5 | 1-Hour | 193 | 7.0 | 333° (NNW) | 416552 |
| 14-Jul | 6 | PM2.5 | 1-Hour | 205 | 6.7 | 321° (NW) | 416552 |
| 14-Jul | 7 | PM2.5 | 1-Hour | 224 | 8.8 | 332° (NNW) | 416552 |
| 14-Jul | 8 | PM2.5 | 1-Hour | 358 | 11.4 | 337° (NNW) | 416552 |
| 14-Jul | 9 | PM2.5 | 1-Hour | 320 | 13.5 | 344° (NNW) | 416552 |
| 14-Jul | 10 | PM2.5 | 1-Hour | 219 | 12.9 | 347° (NNW) | 416552 |
| 14-Jul | 11 | PM2.5 | 1-Hour | 235 | 12.2 | 354° (N) | 416552 |
| 14-Jul | 12 | PM2.5 | 1-Hour | 175 | 10.8 | 2° (N) | 416552 |
| 14-Jul | 13 | PM2.5 | 1-Hour | 136 | 11.1 | 40° (NE) | 416552 |
| 14-Jul | 14 | PM2.5 | 1-Hour | 86 | 14.0 | 36° (NE) | 416552 |
| 14-Jul | 18 | PM2.5 | 1-Hour | 83 | 6.3 | 8° (N) | 416552 |
| 14-Jul | 19 | PM2.5 | 1-Hour | 82 | 1.6 | 3° (N) | 416552 |
| 14-Jul | 21 | PM2.5 | 1-Hour | 81 | 1.6 | 233° (SW) | 416552 |
| 14-Jul | 22 | PM2.5 | 1-Hour | 85 | 0.5 | 252° (WSW) | 416552 |
| 14-Jul | 23 | PM2.5 | 1-Hour | 82 | 1.7 | 235° (SW) | 416552 |
| 14-Jul | - | PM2.5 | 24-Hour | 147 | 7.4 | 351° (N) | 416552 |
| 15-Jul | 0 | PM2.5 | 1-Hour | 89 | 0.9 | 247° (WSW) | 416552 |
| 15-Jul | 1 | PM2.5 | 1-Hour | 88 | 0.4 | 128° (SE) | 416552 |
| 15-Jul | 2 | PM2.5 | 1-Hour | 88 | 0.5 | 231° (SW) | 416552 |
| 15-Jul | 3 | PM2.5 | 1-Hour | 95 | 1.1 | 314° (NW) | 416552 |
| 15-Jul | 4 | PM2.5 | 1-Hour | 94 | 0.5 | 289° (WNW) | 416552 |
| 15-Jul | 5 | PM2.5 | 1-Hour | 94 | 0.9 | 249° (WSW) | 416552 |
| 15-Jul | 6 | PM2.5 | 1-Hour | 101 | 2.2 | 279° (W) | 416552 |
| 15-Jul | 7 | PM2.5 | 1-Hour | 168 | 5.0 | 352° (N) | 416552 |

| Date | Time (MST) | Parameter | Average Period | Concentration (µg/m3) | Wind speed (km/hr) | Wind Direction | Reference # |
|--------|------------|-----------|----------------|-----------------------|--------------------|----------------|-------------|
| 15-Jul | 8 | PM2.5 | 1-Hour | 229 | 7.7 | 344° (NNW) | 416552 |
| 15-Jul | 9 | PM2.5 | 1-Hour | 194 | 8.7 | 349° (NNW) | 416552 |
| 15-Jul | 10 | PM2.5 | 1-Hour | 178 | 7.8 | 347° (NNW) | 416552 |
| 15-Jul | 11 | PM2.5 | 1-Hour | 164 | 6.3 | 359° (N) | 416552 |
| 15-Jul | 12 | PM2.5 | 1-Hour | 147 | 5.9 | 25° (NNE) | 416552 |
| 15-Jul | 13 | PM2.5 | 1-Hour | 131 | 6.3 | 38° (NE) | 416552 |
| 15-Jul | 14 | PM2.5 | 1-Hour | 112 | 7.5 | 52° (NE) | 416552 |
| 15-Jul | - | PM2.5 | 24-Hour | 97 | 3.9 | 19° (NNE) | 416552 |
| 21-Jul | - | PM2.5 | 24-Hour | 46 | 3.0 | 268° (W) | 416956 |
| 22-Jul | - | PM2.5 | 24-Hour | 51 | 2.5 | 353° (N) | 416956 |
| 23-Jul | - | PM2.5 | 24-Hour | 31 | 3.0 | 142° (SE) | 416956 |
| 24-Jul | - | PM2.5 | 24-Hour | 44 | 7.2 | 103° (ESE) | 417875 |
| 25-Jul | - | PM2.5 | 24-Hour | 30 | 8.3 | 268° (W) | 417875 |

- No major events were identified this month.

Tamarack

- All data collected this month were compliant with the requirements outlined in the AMD 2016.
- All parameters met the 90% operational uptime requirement.
- Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) and/or Alberta Ambient Air Quality Guidelines (AAAQGs) where applicable, except PM2.5. Twenty-six 1-hour and seven 24-hour PM2.5 exceedances were recorded this month. Widespread smoke from wild fires burning throughout western Canada is the cause of the numerous exceedances of the PM2.5 objective and guideline.

| Date | Time (MST) | Parameter | Average Period | Concentration (µg/m3) | Wind speed (km/hr) | Wind Direction | Reference # |
|--------|------------|-----------|----------------|-----------------------|--------------------|----------------|-------------|
| 8-Jul | - | PM2.5 | 24-Hour | 30 | 5.9 | 264° (W) | 416194 |
| 9-Jul | 10 | PM2.5 | 1-Hour | 82.2 | 4.0 | 6° (N) | 416194 |
| 9-Jul | 11 | PM2.5 | 1-Hour | 103.7 | 6.3 | 357° (N) | 416194 |
| 9-Jul | 12 | PM2.5 | 1-Hour | 110 | 8.9 | 16° (NNE) | 416194 |
| 9-Jul | 13 | PM2.5 | 1-Hour | 94.2 | 6.8 | 9° (N) | 416194 |
| 9-Jul | - | PM2.5 | 24-Hour | 33.9 | 6.2 | 5° (N) | 416194 |
| 13-Jul | 8 | PM2.5 | 1-Hour | 107.6 | 5.0 | 302° (WNW) | 416549 |
| 13-Jul | 9 | PM2.5 | 1-Hour | 116.8 | 5.3 | 322° (NW) | 416549 |
| 13-Jul | 10 | PM2.5 | 1-Hour | 87.7 | 6.2 | 323° (NW) | 416549 |
| 13-Jul | 13 | PM2.5 | 1-Hour | 95.9 | 7.9 | 331° (NNW) | 416549 |
| 13-Jul | - | PM2.5 | 24-Hour | 53.2 | 5.5 | 305° (WNW) | 416549 |
| 14-Jul | 1 | PM2.5 | 1-Hour | 81 | 4.3 | 318° (NW) | 416549 |
| 14-Jul | 2 | PM2.5 | 1-Hour | 92.8 | 3.6 | 347° (NNW) | 416549 |
| 14-Jul | 3 | PM2.5 | 1-Hour | 98.4 | 4.1 | 355° (N) | 416549 |

| Date | Time (MST) | Parameter | Average Period | Concentration (µg/m3) | Wind speed (km/hr) | Wind Direction | Reference # |
|--------|------------|-----------|----------------|-----------------------|--------------------|----------------|-------------|
| 14-Jul | 4 | PM2.5 | 1-Hour | 107.6 | 2.2 | 353° (N) | 416549 |
| 14-Jul | 5 | PM2.5 | 1-Hour | 137.9 | 3.1 | 330° (NNW) | 416549 |
| 14-Jul | 6 | PM2.5 | 1-Hour | 168.4 | 4.6 | 330° (NNW) | 416549 |
| 14-Jul | 7 | PM2.5 | 1-Hour | 197.5 | 3.5 | 329° (NNW) | 416549 |
| 14-Jul | 8 | PM2.5 | 1-Hour | 139.6 | 4.7 | 315° (NW) | 416549 |
| 14-Jul | 9 | PM2.5 | 1-Hour | 124.2 | 8.3 | 359° (N) | 416549 |
| 14-Jul | 10 | PM2.5 | 1-Hour | 225.5 | 9.4 | 344° (NNW) | 416549 |
| 14-Jul | 11 | PM2.5 | 1-Hour | 109.2 | 10.8 | 7° (N) | 416549 |
| 14-Jul | 12 | PM2.5 | 1-Hour | 82.1 | 10.1 | 359° (N) | 416549 |
| 14-Jul | - | PM2.5 | 24-Hour | 94.8 | 6.0 | 357° (N) | 416549 |
| 15-Jul | 6 | PM2.5 | 1-Hour | 114.8 | 1.8 | 328° (NNW) | 416549 |
| 15-Jul | 7 | PM2.5 | 1-Hour | 152.6 | 4.4 | 358° (N) | 416549 |
| 15-Jul | 8 | PM2.5 | 1-Hour | 172.1 | 4.4 | 349° (NNW) | 416549 |
| 15-Jul | 9 | PM2.5 | 1-Hour | 135.4 | 4.4 | 347° (NNW) | 416549 |
| 15-Jul | 10 | PM2.5 | 1-Hour | 105.9 | 6.5 | 5° (N) | 416549 |
| 15-Jul | 11 | PM2.5 | 1-Hour | 91.3 | 5.7 | 352° (N) | 416549 |
| 15-Jul | - | PM2.5 | 24-Hour | 67.9 | 3.4 | 12° (NNE) | 416549 |
| 21-Jul | - | PM2.5 | 24-Hour | 37.4 | 3.1 | 283° (W) | 416954 |
| 22-Jul | - | PM2.5 | 24-Hour | 40 | 2.7 | 350° (N) | 416954 |

- No major events were identified this month.

St. Lina Station

- All data collected this month were compliant with the requirements outlined in the AMD 2016.
- All parameters met the 90% operational uptime requirement.
- Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) and/or Alberta Ambient Air Quality Guidelines (AAAQGs) where applicable, except PM2.5. Fifty-five 1-hour and eight 24-hour PM2.5 exceedances were recorded this month. Widespread smoke from wild fires burning throughout western Canada is the cause of the numerous exceedances of the PM2.5 objective and guideline.

| Date | Time (MST) | Parameter | Average Period | Concentration (µg/m3) | Wind speed (km/hr) | Wind Direction | Reference # |
|--------|------------|-----------|----------------|-----------------------|--------------------|----------------|-------------|
| 7-Jul | - | PM2.5 | 24-Hour | 31 | 5.8 | 1° (N) | 416193 |
| 9-Jul | 17 | PM2.5 | 1-Hour | 81 | 6.1 | 25° (NNE) | 416193 |
| 9-Jul | - | PM2.5 | 24-Hour | 44 | 7.2 | 320° (NW) | 416193 |
| 13-Jul | 9 | PM2.5 | 1-Hour | 95 | 8.3 | 313° (NW) | 416550 |
| 13-Jul | 10 | PM2.5 | 1-Hour | 96 | 10.1 | 304° (WNW) | 416550 |
| 13-Jul | 11 | PM2.5 | 1-Hour | 95 | 11.3 | 320° (NW) | 416550 |
| 13-Jul | 12 | PM2.5 | 1-Hour | 92 | 11.5 | 326° (NW) | 416550 |

| Date | Time (MST) | Parameter | Average Period | Concentration (µg/m3) | Wind speed (km/hr) | Wind Direction | Reference # |
|--------|------------|-----------|----------------|-----------------------|--------------------|----------------|-------------|
| 13-Jul | 13 | PM2.5 | 1-Hour | 99 | 12.5 | 324° (NW) | 416550 |
| 13-Jul | 14 | PM2.5 | 1-Hour | 132 | 13.1 | 336° (NNW) | 416550 |
| 13-Jul | 15 | PM2.5 | 1-Hour | 114 | 14.8 | 331° (NNW) | 416550 |
| 13-Jul | 16 | PM2.5 | 1-Hour | 109 | 14.0 | 334° (NNW) | 416550 |
| 13-Jul | 17 | PM2.5 | 1-Hour | 111 | 11.7 | 336° (NNW) | 416550 |
| 13-Jul | 18 | PM2.5 | 1-Hour | 88 | 8.2 | 332° (NNW) | 416550 |
| 13-Jul | 20 | PM2.5 | 1-Hour | 95 | 8.6 | 302° (WNW) | 416550 |
| 13-Jul | 21 | PM2.5 | 1-Hour | 96 | 9.4 | 298° (WNW) | 416550 |
| 13-Jul | 22 | PM2.5 | 1-Hour | 89 | 10.9 | 289° (WNW) | 416550 |
| 13-Jul | 23 | PM2.5 | 1-Hour | 84 | 10.5 | 286° (WNW) | 416550 |
| 13-Jul | - | PM2.5 | 24-Hour | 74 | 10.3 | 314° (NW) | 416550 |
| 14-Jul | 5 | PM2.5 | 1-Hour | 102 | 8.4 | 338° (NNW) | 416550 |
| 14-Jul | 6 | PM2.5 | 1-Hour | 135 | 8.6 | 339° (NNW) | 416550 |
| 14-Jul | 7 | PM2.5 | 1-Hour | 206 | 7.0 | 342° (NNW) | 416550 |
| 14-Jul | 8 | PM2.5 | 1-Hour | 202 | 7.6 | 329° (NNW) | 416550 |
| 14-Jul | 9 | PM2.5 | 1-Hour | 184 | 9.2 | 342° (NNW) | 416550 |
| 14-Jul | 10 | PM2.5 | 1-Hour | 217 | 10.4 | 338° (NNW) | 416550 |
| 14-Jul | 11 | PM2.5 | 1-Hour | 175 | 11.0 | 348° (NNW) | 416550 |
| 14-Jul | 12 | PM2.5 | 1-Hour | 216 | 11.3 | 348° (NNW) | 416550 |
| 14-Jul | 13 | PM2.5 | 1-Hour | 199 | 11.8 | 335° (NNW) | 416550 |
| 14-Jul | 14 | PM2.5 | 1-Hour | 146 | 12.7 | 336° (NNW) | 416550 |
| 14-Jul | 15 | PM2.5 | 1-Hour | 103 | 14.3 | 341° (NNW) | 416550 |
| 14-Jul | 16 | PM2.5 | 1-Hour | 108 | 12.5 | 341° (NNW) | 416550 |
| 14-Jul | 17 | PM2.5 | 1-Hour | 140 | 10.2 | 341° (NNW) | 416550 |
| 14-Jul | 18 | PM2.5 | 1-Hour | 129 | 7.3 | 337° (NNW) | 416550 |
| 14-Jul | 19 | PM2.5 | 1-Hour | 124 | 5.5 | 320° (NW) | 416550 |
| 14-Jul | 20 | PM2.5 | 1-Hour | 123 | 5.1 | 302° (WNW) | 416550 |
| 14-Jul | 21 | PM2.5 | 1-Hour | 123 | 4.3 | 246° (WSW) | 416550 |
| 14-Jul | 22 | PM2.5 | 1-Hour | 132 | 6.9 | 267° (W) | 416550 |
| 14-Jul | 23 | PM2.5 | 1-Hour | 149 | 9.2 | 291° (WNW) | 416550 |
| 14-Jul | - | PM2.5 | 24-Hour | 136 | 9.3 | 325° (NW) | 416550 |
| 15-Jul | 0 | PM2.5 | 1-Hour | 140 | 9.8 | 286° (WNW) | 416550 |
| 15-Jul | 1 | PM2.5 | 1-Hour | 126 | 9.4 | 291° (WNW) | 416550 |
| 15-Jul | 2 | PM2.5 | 1-Hour | 119 | 10.5 | 292° (WNW) | 416550 |
| 15-Jul | 3 | PM2.5 | 1-Hour | 120 | 8.6 | 306° (NW) | 416550 |
| 15-Jul | 4 | PM2.5 | 1-Hour | 126 | 9.4 | 301° (WNW) | 416550 |
| 15-Jul | 5 | PM2.5 | 1-Hour | 126 | 9.2 | 306° (NW) | 416550 |

| Date | Time (MST) | Parameter | Average Period | Concentration ($\mu\text{g}/\text{m}^3$) | Wind speed (km/hr) | Wind Direction | Reference # |
|--------|------------|-----------|----------------|--|--------------------|----------------|-------------|
| 15-Jul | 6 | PM2.5 | 1-Hour | 126 | 8.1 | 313° (NW) | 416550 |
| 15-Jul | 7 | PM2.5 | 1-Hour | 124 | 6.7 | 325° (NW) | 416550 |
| 15-Jul | 8 | PM2.5 | 1-Hour | 116 | 4.3 | 13° (NNE) | 416550 |
| 15-Jul | 9 | PM2.5 | 1-Hour | 115 | 4.5 | 38° (NE) | 416550 |
| 15-Jul | 10 | PM2.5 | 1-Hour | 115 | 3.2 | 13° (NNE) | 416550 |
| 15-Jul | 11 | PM2.5 | 1-Hour | 129 | 3.2 | 16° (NNE) | 416550 |
| 15-Jul | 12 | PM2.5 | 1-Hour | 153 | 3.9 | 342° (NNW) | 416550 |
| 15-Jul | 13 | PM2.5 | 1-Hour | 173 | 6.1 | 339° (NNW) | 416550 |
| 15-Jul | 14 | PM2.5 | 1-Hour | 162 | 6.0 | 319° (NW) | 416550 |
| 15-Jul | 16 | PM2.5 | 1-Hour | 137 | 4.9 | 19° (NNE) | 416550 |
| 15-Jul | 17 | PM2.5 | 1-Hour | 133 | 4.3 | 26° (NNE) | 416550 |
| 15-Jul | 18 | PM2.5 | 1-Hour | 124 | 4.4 | 83° (E) | 416550 |
| 15-Jul | 19 | PM2.5 | 1-Hour | 123 | 4.3 | 94° (E) | 416550 |
| 15-Jul | 20 | PM2.5 | 1-Hour | 116 | 4.7 | 101° (E) | 416550 |
| 15-Jul | 21 | PM2.5 | 1-Hour | 94 | 6.5 | 108° (ESE) | 416550 |
| 15-Jul | - | PM2.5 | 24-Hour | 122 | 6.4 | 341° (NNW) | 416550 |
| 16-Jul | - | PM2.5 | 24-Hour | 39 | 9.6 | 136° (SE) | 416550 |
| 21-Jul | - | PM2.5 | 24-Hour | 38 | 4.7 | 305° (WNW) | 416955 |
| 22-Jul | - | PM2.5 | 24-Hour | 35 | 6.3 | 94° (E) | 416955 |

- No major events were identified this month.

Lac La Biche Station

- All data collected this month were compliant with the requirements outlined in the AMD 2016.
- All parameters met the 90% operational uptime requirement.
- Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) and/or Alberta Ambient Air Quality Guidelines (AAAQGs) where applicable, except PM2.5. Sixty 1-hour and five 24-hour PM2.5 exceedances were recorded this month. Widespread smoke from wild fires burning throughout western Canada is the cause of the numerous exceedances of the PM2.5 objective and guideline
- The PM2.5 objective and guideline were exceeded due to wildfire smoke.

| Date | Time (MST) | Parameter | Average Period | Concentration ($\mu\text{g}/\text{m}^3$) | Wind speed (km/hr) | Wind Direction | Reference # |
|--------|------------|-----------|----------------|--|--------------------|----------------|-------------|
| 9-Jul | 14 | PM2.5 | 1-Hour | 84.5 | 5.8 | 354° (N) | 416192 |
| 9-Jul | 15 | PM2.5 | 1-Hour | 91 | 4.5 | 351° (N) | 416192 |
| 9-Jul | 16 | PM2.5 | 1-Hour | 93 | 5.4 | 8° (N) | 416192 |
| 9-Jul | 17 | PM2.5 | 1-Hour | 85 | 5.5 | 21° (NNE) | 416192 |
| 13-Jul | 7 | PM2.5 | 1-Hour | 85.4 | 6.5 | 316° (NW) | 416551 |
| 13-Jul | 8 | PM2.5 | 1-Hour | 100.8 | 6.5 | 319° (NW) | 416551 |

| Date | Time (MST) | Parameter | Average Period | Concentration (µg/m3) | Wind speed (km/hr) | Wind Direction | Reference # |
|--------|------------|-----------|----------------|-----------------------|--------------------|----------------|-------------|
| 13-Jul | 9 | PM2.5 | 1-Hour | 128.1 | 7.2 | 330° (NNW) | 416551 |
| 13-Jul | 10 | PM2.5 | 1-Hour | 119 | 12.1 | 318° (NW) | 416551 |
| 13-Jul | 11 | PM2.5 | 1-Hour | 127.2 | 15.3 | 315° (NW) | 416551 |
| 13-Jul | 12 | PM2.5 | 1-Hour | 147 | 15.4 | 316° (NW) | 416551 |
| 13-Jul | 13 | PM2.5 | 1-Hour | 120.3 | 15.1 | 327° (NW) | 416551 |
| 13-Jul | 14 | PM2.5 | 1-Hour | 112.4 | 14.6 | 326° (NW) | 416551 |
| 13-Jul | 15 | PM2.5 | 1-Hour | 109 | 12.6 | 335° (NNW) | 416551 |
| 13-Jul | 21 | PM2.5 | 1-Hour | 88.7 | 7.3 | 294° (WNW) | 416551 |
| 13-Jul | 22 | PM2.5 | 1-Hour | 85.7 | 7.7 | 286° (WNW) | 416551 |
| 13-Jul | - | PM2.5 | 24-Hour | 83.5 | 9.2 | 318° (NW) | 416551 |
| 14-Jul | 2 | PM2.5 | 1-Hour | 111.8 | 7.2 | 342° (NNW) | 416551 |
| 14-Jul | 3 | PM2.5 | 1-Hour | 132.5 | 7.8 | 326° (NW) | 416551 |
| 14-Jul | 4 | PM2.5 | 1-Hour | 191 | 8.4 | 325° (NW) | 416551 |
| 14-Jul | 5 | PM2.5 | 1-Hour | 252 | 8.1 | 328° (NNW) | 416551 |
| 14-Jul | 6 | PM2.5 | 1-Hour | 295.3 | 7.4 | 345° (NNW) | 416551 |
| 14-Jul | 7 | PM2.5 | 1-Hour | 324.7 | 9.5 | 327° (NW) | 416551 |
| 14-Jul | 8 | PM2.5 | 1-Hour | 324.6 | 10.7 | 325° (NW) | 416551 |
| 14-Jul | 9 | PM2.5 | 1-Hour | 337.6 | 11.6 | 329° (NNW) | 416551 |
| 14-Jul | 10 | PM2.5 | 1-Hour | 260.8 | 13.9 | 327° (NW) | 416551 |
| 14-Jul | 11 | PM2.5 | 1-Hour | 254.5 | 16.7 | 323° (NW) | 416551 |
| 14-Jul | 12 | PM2.5 | 1-Hour | 337.4 | 13.0 | 325° (NW) | 416551 |
| 14-Jul | 13 | PM2.5 | 1-Hour | 106.7 | 10.3 | 347° (NNW) | 416551 |
| 14-Jul | 14 | PM2.5 | 1-Hour | 121.9 | 11.5 | 345° (NNW) | 416551 |
| 14-Jul | 15 | PM2.5 | 1-Hour | 154.6 | 8.9 | 355° (N) | 416551 |
| 14-Jul | 16 | PM2.5 | 1-Hour | 99.8 | 8.0 | 341° (NNW) | 416551 |
| 14-Jul | 17 | PM2.5 | 1-Hour | 89.8 | 9.1 | 316° (NW) | 416551 |
| 14-Jul | 19 | PM2.5 | 1-Hour | 91.1 | 5.7 | 289° (WNW) | 416551 |
| 14-Jul | 20 | PM2.5 | 1-Hour | 96.4 | 2.5 | 268° (W) | 416551 |
| 14-Jul | 21 | PM2.5 | 1-Hour | 105.6 | 1.0 | 203° (SSW) | 416551 |
| 14-Jul | 22 | PM2.5 | 1-Hour | 117.8 | 1.1 | 184° (S) | 416551 |
| 14-Jul | 23 | PM2.5 | 1-Hour | 120.2 | 3.0 | 208° (SSW) | 416551 |
| 14-Jul | - | PM2.5 | 24-Hour | 172.8 | 8.6 | 326° (NW) | 416551 |
| 15-Jul | 0 | PM2.5 | 1-Hour | 112.9 | 0.6 | 221° (SW) | 416551 |
| 15-Jul | 1 | PM2.5 | 1-Hour | 112.3 | 1.1 | 241° (WSW) | 416551 |
| 15-Jul | 2 | PM2.5 | 1-Hour | 106.4 | 2.7 | 324° (NW) | 416551 |
| 15-Jul | 3 | PM2.5 | 1-Hour | 107.3 | 1.9 | 265° (W) | 416551 |
| 15-Jul | 4 | PM2.5 | 1-Hour | 109 | 1.7 | 273° (W) | 416551 |
| 15-Jul | 5 | PM2.5 | 1-Hour | 110.5 | 2.8 | 259° (WSW) | 416551 |
| 15-Jul | 6 | PM2.5 | 1-Hour | 110.3 | 1.8 | 265° (W) | 416551 |

| Date | Time (MST) | Parameter | Average Period | Concentration (µg/m3) | Wind speed (km/hr) | Wind Direction | Reference # |
|--------|------------|-----------|----------------|-----------------------|--------------------|----------------|-------------|
| 15-Jul | 7 | PM2.5 | 1-Hour | 110.2 | 3.6 | 325° (NW) | 416551 |
| 15-Jul | 8 | PM2.5 | 1-Hour | 110.2 | 4.0 | 329° (NNW) | 416551 |
| 15-Jul | 9 | PM2.5 | 1-Hour | 113.7 | 4.0 | 339° (NNW) | 416551 |
| 15-Jul | 10 | PM2.5 | 1-Hour | 114.5 | 3.1 | 343° (NNW) | 416551 |
| 15-Jul | 11 | PM2.5 | 1-Hour | 122.5 | 3.8 | 348° (NNW) | 416551 |
| 15-Jul | 12 | PM2.5 | 1-Hour | 139.3 | 4.4 | 359° (N) | 416551 |
| 15-Jul | 13 | PM2.5 | 1-Hour | 155.2 | 5.7 | 1° (N) | 416551 |
| 15-Jul | 14 | PM2.5 | 1-Hour | 194.1 | 4.6 | 1° (N) | 416551 |
| 15-Jul | 15 | PM2.5 | 1-Hour | 162.5 | 3.8 | 341° (NNW) | 416551 |
| 15-Jul | 16 | PM2.5 | 1-Hour | 150.6 | 3.8 | 16° (NNE) | 416551 |
| 15-Jul | 17 | PM2.5 | 1-Hour | 150 | 5.3 | 48° (NE) | 416551 |
| 15-Jul | 18 | PM2.5 | 1-Hour | 144.8 | 4.8 | 79° (ENE) | 416551 |
| 15-Jul | 19 | PM2.5 | 1-Hour | 142.8 | 3.0 | 86° (E) | 416551 |
| 15-Jul | 20 | PM2.5 | 1-Hour | 139.2 | 2.0 | 117° (ESE) | 416551 |
| 15-Jul | 21 | PM2.5 | 1-Hour | 120.4 | 4.0 | 88° (E) | 416551 |
| 15-Jul | 22 | PM2.5 | 1-Hour | 100.1 | 4.3 | 105° (ESE) | 416551 |
| 15-Jul | 23 | PM2.5 | 1-Hour | 90.1 | 3.7 | 106° (ESE) | 416551 |
| 15-Jul | - | PM2.5 | 24-Hour | 126.2 | 3.4 | 9° (N) | 416551 |
| 16-Jul | - | PM2.5 | 24-Hour | 33.8 | 8.9 | 135° (SE) | 416551 |
| 21-Jul | - | PM2.5 | 24-Hour | 36.4 | 2.8 | 4° (N) | 416957 |

- No major events were identified this month.

Integrated Sampling

All the integrated sampling analytical results are included in the July 2023 Integrated Sampling Report.

- **VOCs Sampling System:**
 - The VOC sampler is programmed to collect a 24-hour sample of air every sixth day as per the National Air Pollution Surveillance schedule (NAPS).
 - Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) where applicable.
 - Five samples were collected this month: on July 5, 11, 17, 23 and 29.
- **PAHs Sampling System:**
 - The PUF sampler is programmed to collect a 24-hour sample of air every sixth day as per the National Air Pollution Surveillance schedule (NAPS).
 - Five samples were collected this month: on July 5, 11, 17, 23 and 29.
- **Partisol Sampling System:**
 - The Partisol sampler is programmed to collect a 24-hour sample of air every sixth day as per National Air Pollution Surveillance schedule (NAPS).
 - Measured parameters were below Alberta Ambient Air Quality Objectives (AAAQOs) where applicable.

- Five samples were collected this month: on July 5, 11, 17, 23 and 29.
- **Passive Sampling System:**
 - There were no exceedances of the AAAQOs for all monitored parameters at any of the passive stations during this month.
 - The passive sample filters were installed at the stations between June 30 and July 3, and were removed between July 29 and July 31.
 - A total of 13 duplicate samples were collected: 2 for H₂S, 3 for SO₂, 2 for NO₂, 2 for O₃, 2 for HNO₃ and 2 for NH₃.
 - Station 28: No sample media were collected this month as the access to the sampler was restricted (gate was locked by landowner).
 - Station 11: NO₂ sample media went missing and could not be located.
 - Station 29: NMH₃ sample media went missing and could not be located.
- **PAC Sampling System:**
 - The PAC sampling program began in December 2019, and is designed to collect a 2-month integrated sample.
 - The media for the July/August monitoring period were installed between June 30 and July 3. They will be replaced by the end of August or early September.
- **NMHC canister Sampling System:**
 - The canister sampling program collects a 1-hour sample of air when the continuously non-methane hydrocarbon (NMHC) concentration reaches a specified trigger point. The current trigger point is 0.3 ppm and is based on real-time monitoring data that are averaged over a 5-minute period.
 - One canister event was recorded this month; on July 4 at 00:50, at concentration of 0.37 ppm.

Revisions to Alberta's Ambient Air Quality Data Warehouse

No revisions to historical data previously submitted to the Alberta's Ambient Air Quality Data Warehouse were made this month.

Deviations from Authorized Monitoring Methods

No deviations from authorized monitoring methods were recorded this month.

Disclaimer

Baseline correction were performed on the 1-minute data. 5-minute and hourly data were calculated based on the post-baseline correction 1-minute data set. Data verification/validation were then performed on the 5-minute and hourly data. Hourly data that are included in this report are the post-validation hourly data set.

Equipment calibration / maintenance records were provided by Bureau Veritas Canada.

Certification

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



Lily Lin, Data & Reporting Specialist, LICA Airshed

This report was reviewed by Michael Bisaga in accordance with Chapter 9 of the Air Monitoring Directive (AMD 2016).

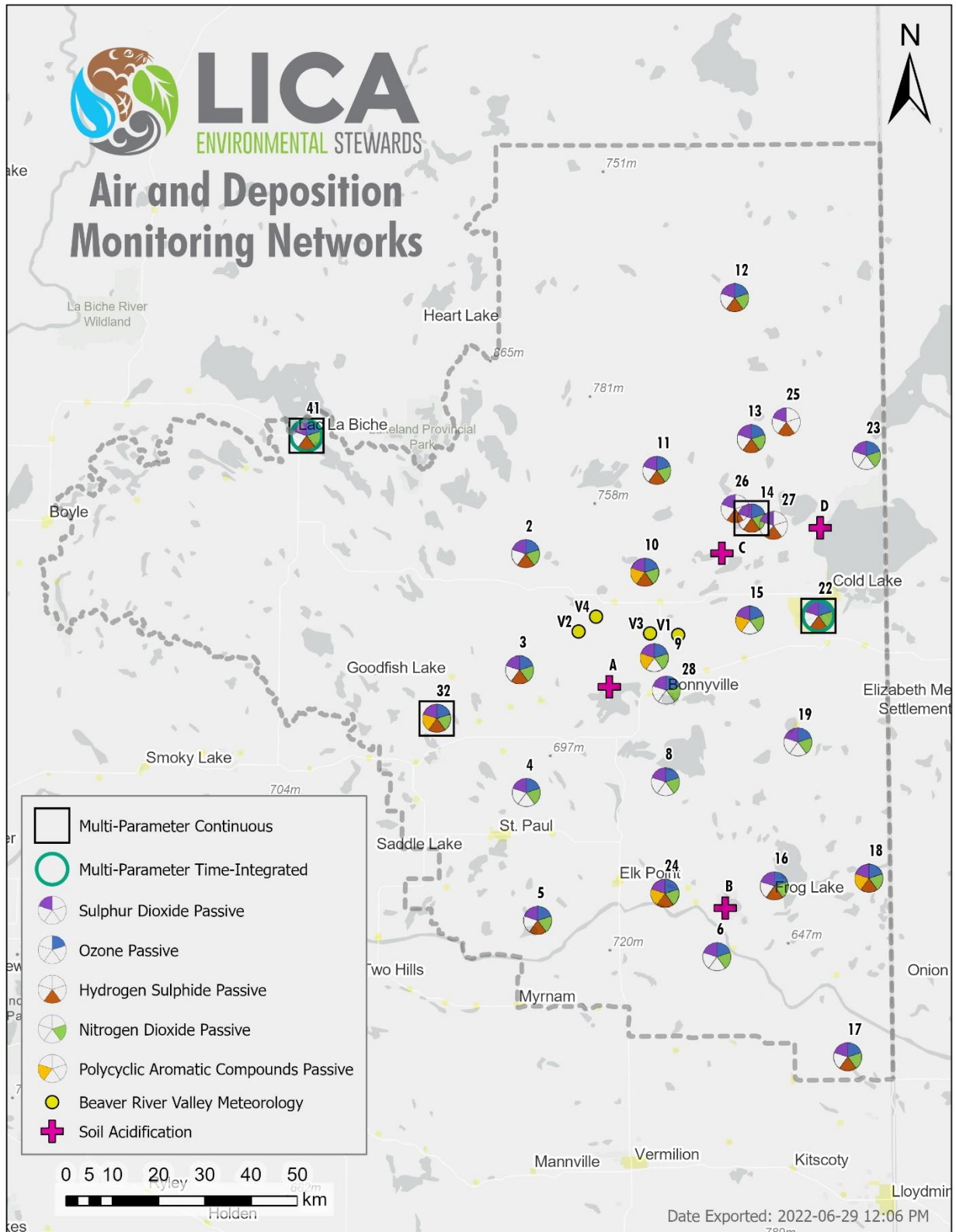
I certify that I have reviewed and verified this report and that the information is complete, accurate and representative of the monitoring results, reporting timeframe and the specified analysis, summarization and reporting requirements. I also certify that at the time of this report's submission, all air data have been electronically uploaded to Alberta's Ambient Air Quality Data Warehouse as required by the AMD. Uploading of VOC data from the canister sampling program was not required at the time of completing this report.



Michael Bisaga, Monitoring Programs Manager, LICA Airshed

August 17, 2023

Map of LICA Continuous Monitoring Network



CONTINUOUS NETWORK EQUIPMENT AND MONITORING RESULTS SUMMARY

Cold Lake South Station

Equipment Operation Summary

| Parameter | Calibration Date | Equipment Operational Summary |
|--|-------------------|--|
| SO2 Thermo 43i-TLE #1180260018 | July 12, 2023 | <ul style="list-style-type: none"> No operational issues were identified. |
| TRS Thermo 450i #812728560 TRS convertor CD Nova CDN-101 #501 | July 12, 2023 | <ul style="list-style-type: none"> No operational issues were identified. |
| NOx/NO/NO2 Thermo 42i #1505664393 | July 12, 2023 | <ul style="list-style-type: none"> No operational issues were identified. |
| O3 Thermo 49iQ #12208316585 | July 13, 2023 | <ul style="list-style-type: none"> No operational issues were identified. |
| THC/CH4/NMHC Thermo 55i #1180930025 H2 Generator HG300 #210567071 | July 13, 2023 | <ul style="list-style-type: none"> Injection issues were noticed on July 10. One-minute data were reviewed and discarded if data quality was affected by the injection issues. Hourly data collected at hour 14, hour 16 and hour 17 were invalidated due to this issue. Three hours of downtime were recorded as a result. The span gas cylinder was replaced on July 27. A repeat zero-span check was initiated afterwards to obtain a new expected span value. One hour of downtime was recorded. |
| PM2.5 Teledyne T640 #575 | July 13, 2023 | <ul style="list-style-type: none"> No operational issues were identified. |
| Parameter | Verification Date | Equipment Operational Summary |
| RH Rotronic HC2A-S3 #20257103 | July 13, 2023 | <ul style="list-style-type: none"> No operational issues were identified. |

| Parameter | Verification Date | Equipment Operational Summary |
|---|-------------------|--|
| BP Met One 092 #Y23368 | July 13, 2023 | <ul style="list-style-type: none"> No operational issues were identified. |
| AT Rotronic HC2A-S3 #20257103 | July 13, 2023 | <ul style="list-style-type: none"> No operational issues were identified. |
| ST COMET #NA | July 13, 2023 | <ul style="list-style-type: none"> No operational issues were identified. |
| WS/WD/STDWD RM Young 05305AQ #177354 | July 13, 2023 | <ul style="list-style-type: none"> Wind direction data contained in this report represents where the wind is coming from. An annual wind system calibration was completed on July 6, 2022. No operational issues were identified. |

Monitored Data Summary for Cold Lake South Station

| Parameter | Objectives/Guidelines | | | Exceedances | | | Monthly Avg. | Min. 1-hr | Max. 1-hr | Date/Time | VWS (km/hr) | VWD (sector) | Max. 24-hr | Date | Operational Uptime (%) | Valid Data (%) |
|-----------------|-----------------------|-------|--------|-------------|-------|--------|--------------|-----------|-----------|-----------------|-------------|--------------|------------|--------|------------------------|----------------|
| | 1-hr | 24-hr | 30-day | 1-hr | 24-hr | 30-day | | | | | | | | | | |
| SO2 (ppb) | 172 | 48 | 11 | 0 | 0 | 0 | 0.1 | 0 | 3 | Jul 13 at hr 10 | 10.4 | WNW | 0.9 | Jul 13 | 100.0 | 95.0 |
| TRS (ppb) | - | - | - | - | - | - | 0.4 | 0 | 5 | Jul 4 at hr 23 | 0.5 | SW | 1.0 | Jul 14 | 100.0 | 95.0 |
| NOx (ppb) | - | - | - | - | - | - | 2.0 | 0 | 9 | Jul 13 at hr 8 | 4.9 | W | 4.1 | Jul 13 | 100.0 | 94.7 |
| NO (ppb) | - | - | - | - | - | - | 0.2 | 0 | 5 | Jul 21 at hr 5 | 0.1 | ENE | 1.0 | Jul 21 | 100.0 | 94.7 |
| NO2 (ppb) | 159 | - | - | 0 | - | - | 1.8 | 0 | 8 | Jul 13 at hr 8 | 4.9 | W | 3.9 | Jul 13 | 100.0 | 94.7 |
| O3 (ppb) | 76 | - | - | 0 | - | - | 26.9 | 1.8 | 55.2 | Jul 22 at hr 16 | 6.5 | NE | 34.0 | Jul 25 | 100.0 | 95.1 |
| THC (ppm) | - | - | - | - | - | - | 2.04 | 1.91 | 2.54 | Jul 22 at hr 5 | 0.3 | WSW | 2.19 | Jul 22 | 99.5 | 94.6 |
| CH4 (ppm) | - | - | - | - | - | - | 2.04 | 1.91 | 2.54 | Jul 22 at hr 5 | 0.3 | WSW | 2.19 | Jul 22 | 99.5 | 94.6 |
| NMHC (ppm) | - | - | - | - | - | - | 0.00 | 0.00 | 0.12 | Jul 16 at hr 2 | 0.4 | SW | 0.01 | Jul 16 | 99.5 | 94.6 |
| PM2.5 (µg/m3) | 80 | 29 | - | 51 | 10 | - | 28.0 | 1 | 358 | Jul 14 at hr 8 | 11.4 | NNW | 147.5 | Jul 14 | 100.0 | 99.9 |
| RH (%) | - | - | - | - | - | - | 70.8 | 32 | 100 | Jul 1 at hr 20 | 6.5 | WSW | 93.2 | Jul 18 | 100.0 | 100.0 |
| BP (millibar) | - | - | - | - | - | - | 951 | 939 | 961 | Jul 28 at hr 5 | 0.7 | SW | 960 | Jul 28 | 100.0 | 100.0 |
| Ext. Temp. (°C) | - | - | - | - | - | - | 17.3 | 5.2 | 28.4 | Jul 9 at hr 15 | 6.1 | N | 22.0 | Jul 24 | 100.0 | 100.0 |
| Stn. Temp. (°C) | - | - | - | - | - | - | 23.7 | 22.3 | 26.2 | Jul 5 at hr 5 | 0.2 | NW | 24.7 | Jul 27 | 100.0 | 100.0 |
| WSV (km/hr) | - | - | - | - | - | - | 0.4 | 0.0 | 20.1 | Jul 3 at hr 12 | 20.1 | NNW | 11.7 | Jul 3 | 100.0 | 100.0 |
| WDV (sector) | - | - | - | - | - | - | 312 (NW) | - | - | - | - | - | - | - | 100.0 | 100.0 |

1- Date/ Time given is the first minimum and maximum value that was recorded

Alberta Ambient Air Quality Objectives (AAAQOs) and/or Alberta Ambient Air Quality Guidelines (AAAQGs) Exceedances

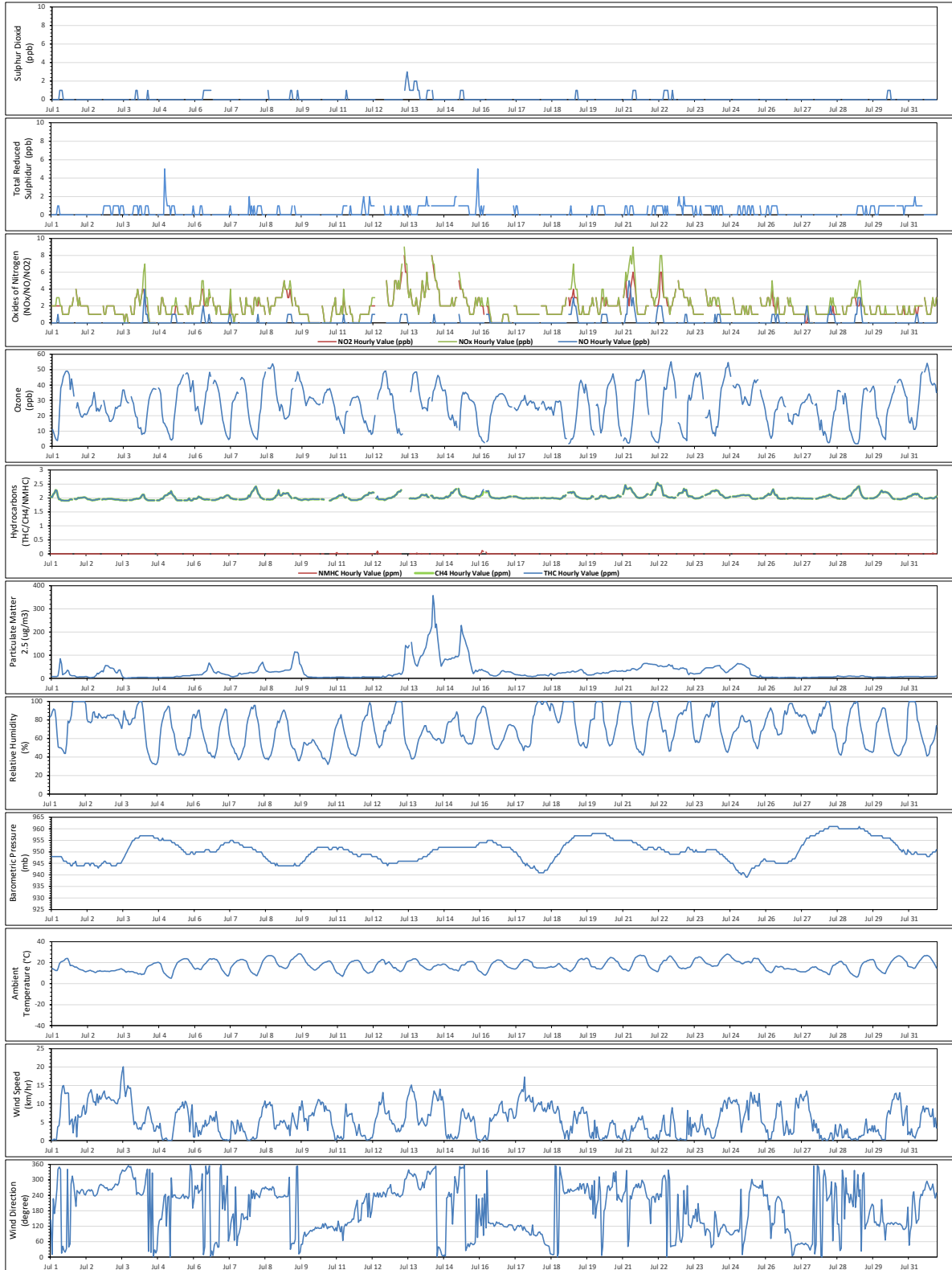
The following exceedances of AAAQO and AAAQG were observed at the Cold Lake South Station.

| Date | Time (MST) | Parameter | Average Period | AAAQOs / AAAQGs | Concentration | Wind speed | Wind Direction | Reference # |
|--------|------------|-----------|----------------|-----------------|---------------|------------|----------------|-------------|
| Jul 1 | 7 | PM2.5 | 1-Hour | 80 µg/m3 | 84 µg/m3 | 6.5 km/hr | 351° (N) | 415804 |
| Jul 8 | - | PM2.5 | 24-Hour | 29 µg/m3 | 35 µg/m3 | 5.7 km/hr | 258° (WSW) | 416191 |
| Jul 9 | 11 | PM2.5 | 1-Hour | 80 µg/m3 | 97 µg/m3 | 6.6 km/hr | 54° (NE) | 416191 |
| Jul 9 | 12 | PM2.5 | 1-Hour | 80 µg/m3 | 115 µg/m3 | 4.9 km/hr | 52° (NE) | 416191 |
| Jul 9 | 13 | PM2.5 | 1-Hour | 80 µg/m3 | 112 µg/m3 | 4.0 km/hr | 68° (ENE) | 416191 |
| Jul 9 | 14 | PM2.5 | 1-Hour | 80 µg/m3 | 113 µg/m3 | 3.1 km/hr | 352° (N) | 416191 |
| Jul 9 | 15 | PM2.5 | 1-Hour | 80 µg/m3 | 107 µg/m3 | 6.1 km/hr | 354° (N) | 416191 |
| Jul 9 | - | PM2.5 | 24-Hour | 29 µg/m3 | 50 µg/m3 | 5.5 km/hr | 37° (NE) | 416191 |
| Jul 13 | 9 | PM2.5 | 1-Hour | 80 µg/m3 | 142 µg/m3 | 6.3 km/hr | 302° (WNW) | 416552 |
| Jul 13 | 10 | PM2.5 | 1-Hour | 80 µg/m3 | 136 µg/m3 | 10.4 km/hr | 305° (WNW) | 416552 |
| Jul 13 | 11 | PM2.5 | 1-Hour | 80 µg/m3 | 131 µg/m3 | 12.0 km/hr | 320° (NW) | 416552 |
| Jul 13 | 12 | PM2.5 | 1-Hour | 80 µg/m3 | 142 µg/m3 | 12.7 km/hr | 339° (NNW) | 416552 |
| Jul 13 | 14 | PM2.5 | 1-Hour | 80 µg/m3 | 156 µg/m3 | 15.1 km/hr | 324° (NW) | 416552 |
| Jul 13 | 15 | PM2.5 | 1-Hour | 80 µg/m3 | 106 µg/m3 | 13.4 km/hr | 320° (NW) | 416552 |
| Jul 13 | 16 | PM2.5 | 1-Hour | 80 µg/m3 | 89 µg/m3 | 13.3 km/hr | 314° (NW) | 416552 |
| Jul 13 | 21 | PM2.5 | 1-Hour | 80 µg/m3 | 88 µg/m3 | 4.7 km/hr | 264° (W) | 416552 |
| Jul 13 | 22 | PM2.5 | 1-Hour | 80 µg/m3 | 96 µg/m3 | 5.3 km/hr | 261° (W) | 416552 |
| Jul 13 | 23 | PM2.5 | 1-Hour | 80 µg/m3 | 99 µg/m3 | 6.2 km/hr | 272° (W) | 416552 |
| Jul 13 | - | PM2.5 | 24-Hour | 29 µg/m3 | 72 µg/m3 | 7.3 km/hr | 303° (WNW) | 416552 |
| Jul 14 | 0 | PM2.5 | 1-Hour | 80 µg/m3 | 109 µg/m3 | 5.1 km/hr | 291° (WNW) | 416552 |
| Jul 14 | 1 | PM2.5 | 1-Hour | 80 µg/m3 | 122 µg/m3 | 4.3 km/hr | 269° (W) | 416552 |
| Jul 14 | 2 | PM2.5 | 1-Hour | 80 µg/m3 | 133 µg/m3 | 3.9 km/hr | 297° (WNW) | 416552 |
| Jul 14 | 3 | PM2.5 | 1-Hour | 80 µg/m3 | 156 µg/m3 | 4.4 km/hr | 304° (WNW) | 416552 |
| Jul 14 | 4 | PM2.5 | 1-Hour | 80 µg/m3 | 187 µg/m3 | 7.1 km/hr | 333° (NNW) | 416552 |
| Jul 14 | 5 | PM2.5 | 1-Hour | 80 µg/m3 | 193 µg/m3 | 7.0 km/hr | 333° (NNW) | 416552 |
| Jul 14 | 6 | PM2.5 | 1-Hour | 80 µg/m3 | 205 µg/m3 | 6.7 km/hr | 321° (NW) | 416552 |
| Jul 14 | 7 | PM2.5 | 1-Hour | 80 µg/m3 | 224 µg/m3 | 8.8 km/hr | 332° (NNW) | 416552 |
| Jul 14 | 8 | PM2.5 | 1-Hour | 80 µg/m3 | 358 µg/m3 | 11.4 km/hr | 337° (NNW) | 416552 |
| Jul 14 | 9 | PM2.5 | 1-Hour | 80 µg/m3 | 320 µg/m3 | 13.5 km/hr | 344° (NNW) | 416552 |
| Jul 14 | 10 | PM2.5 | 1-Hour | 80 µg/m3 | 219 µg/m3 | 12.9 km/hr | 347° (NNW) | 416552 |
| Jul 14 | 11 | PM2.5 | 1-Hour | 80 µg/m3 | 235 µg/m3 | 12.2 km/hr | 354° (N) | 416552 |
| Jul 14 | 12 | PM2.5 | 1-Hour | 80 µg/m3 | 175 µg/m3 | 10.8 km/hr | 2° (N) | 416552 |
| Jul 14 | 13 | PM2.5 | 1-Hour | 80 µg/m3 | 136 µg/m3 | 11.1 km/hr | 40° (NE) | 416552 |
| Jul 14 | 14 | PM2.5 | 1-Hour | 80 µg/m3 | 86 µg/m3 | 14.0 km/hr | 36° (NE) | 416552 |
| Jul 14 | 18 | PM2.5 | 1-Hour | 80 µg/m3 | 83 µg/m3 | 6.3 km/hr | 8° (N) | 416552 |
| Jul 14 | 19 | PM2.5 | 1-Hour | 80 µg/m3 | 82 µg/m3 | 1.6 km/hr | 3° (N) | 416552 |

| Date | Time (MST) | Parameter | Average Period | AAAOs / AAAQGs | Concentration | Wind speed | Wind Direction | Reference # |
|--------|------------|-----------|----------------|----------------|---------------|------------|----------------|-------------|
| Jul 14 | 21 | PM2.5 | 1-Hour | 80 µg/m3 | 81 µg/m3 | 1.6 km/hr | 233° (SW) | 416552 |
| Jul 14 | 22 | PM2.5 | 1-Hour | 80 µg/m3 | 85 µg/m3 | 0.5 km/hr | 252° (WSW) | 416552 |
| Jul 14 | 23 | PM2.5 | 1-Hour | 80 µg/m3 | 82 µg/m3 | 1.7 km/hr | 235° (SW) | 416552 |
| Jul 14 | - | PM2.5 | 24-Hour | 29 µg/m3 | 147 µg/m3 | 7.4 km/hr | 351° (N) | 416552 |
| Jul 15 | 0 | PM2.5 | 1-Hour | 80 µg/m3 | 89 µg/m3 | 0.9 km/hr | 247° (WSW) | 416552 |
| Jul 15 | 1 | PM2.5 | 1-Hour | 80 µg/m3 | 88 µg/m3 | 0.4 km/hr | 128° (SE) | 416552 |
| Jul 15 | 2 | PM2.5 | 1-Hour | 80 µg/m3 | 88 µg/m3 | 0.5 km/hr | 231° (SW) | 416552 |
| Jul 15 | 3 | PM2.5 | 1-Hour | 80 µg/m3 | 95 µg/m3 | 1.1 km/hr | 314° (NW) | 416552 |
| Jul 15 | 4 | PM2.5 | 1-Hour | 80 µg/m3 | 94 µg/m3 | 0.5 km/hr | 289° (WNNW) | 416552 |
| Jul 15 | 5 | PM2.5 | 1-Hour | 80 µg/m3 | 94 µg/m3 | 0.9 km/hr | 249° (WSW) | 416552 |
| Jul 15 | 6 | PM2.5 | 1-Hour | 80 µg/m3 | 101 µg/m3 | 2.2 km/hr | 279° (W) | 416552 |
| Jul 15 | 7 | PM2.5 | 1-Hour | 80 µg/m3 | 168 µg/m3 | 5.0 km/hr | 352° (N) | 416552 |
| Jul 15 | 8 | PM2.5 | 1-Hour | 80 µg/m3 | 229 µg/m3 | 7.7 km/hr | 344° (NNW) | 416552 |
| Jul 15 | 9 | PM2.5 | 1-Hour | 80 µg/m3 | 194 µg/m3 | 8.7 km/hr | 349° (NNW) | 416552 |
| Jul 15 | 10 | PM2.5 | 1-Hour | 80 µg/m3 | 178 µg/m3 | 7.8 km/hr | 347° (NNW) | 416552 |
| Jul 15 | 11 | PM2.5 | 1-Hour | 80 µg/m3 | 164 µg/m3 | 6.3 km/hr | 359° (N) | 416552 |
| Jul 15 | 12 | PM2.5 | 1-Hour | 80 µg/m3 | 147 µg/m3 | 5.9 km/hr | 25° (NNE) | 416552 |
| Jul 15 | 13 | PM2.5 | 1-Hour | 80 µg/m3 | 131 µg/m3 | 6.3 km/hr | 38° (NE) | 416552 |
| Jul 15 | 14 | PM2.5 | 1-Hour | 80 µg/m3 | 112 µg/m3 | 7.5 km/hr | 52° (NE) | 416552 |
| Jul 15 | - | PM2.5 | 24-Hour | 29 µg/m3 | 97 µg/m3 | 3.9 km/hr | 19° (NNE) | 416552 |
| Jul 21 | - | PM2.5 | 24-Hour | 29 µg/m3 | 46 µg/m3 | 3.0 km/hr | 268° (W) | 416956 |
| Jul 22 | - | PM2.5 | 24-Hour | 29 µg/m3 | 51 µg/m3 | 2.5 km/hr | 353° (N) | 416956 |
| Jul 23 | - | PM2.5 | 24-Hour | 29 µg/m3 | 31 µg/m3 | 3.0 km/hr | 142° (SE) | 416956 |
| Jul 24 | - | PM2.5 | 24-Hour | 29 µg/m3 | 44 µg/m3 | 7.2 km/hr | 103° (ESE) | 417875 |
| Jul 25 | - | PM2.5 | 24-Hour | 29 µg/m3 | 30 µg/m3 | 8.3 km/hr | 268° (W) | 417875 |

The source of the exceedances of the PM2.5 objective and guideline were due to wildfires.

Timeseries Chart of Hourly Average for the month of Jul 2023 - Cold Lake South Station



Tamarack Station

Equipment Operation Summary

| Parameter | Calibration Date | Equipment Operational Summary |
|--|-------------------|--|
| SO2 Thermo 43i-TLE #1180930031 | July 16, 2023 | <ul style="list-style-type: none"> The analyzer failed the daily span check on July 15 due to a sample pump failure. The sample pump was repaired on July 16. A successful post-repair calibration was completed afterwards. Based on diagnostic data, the point of failure was July 14 hour 11. As a result, data collected between July 14 hour 11 and July 16 hour 10 were discarded. Forty-eight hours of downtime were recorded due to this event. |
| H2S Thermo 450i #CM17360005 | July 16, 2023 | <ul style="list-style-type: none"> No operational issues were recorded. |
| NOx/NO/NO2 Thermo 42i #1180930028 | July 16, 2023 | <ul style="list-style-type: none"> No operational issues were recorded. |
| O3 Thermo 49iQ #1202068570 | July 17, 2023 | <ul style="list-style-type: none"> No operational issues were recorded. |
| THC/CH4/NMHC Thermo 55i #1180930026 | July 17, 2023 | <ul style="list-style-type: none"> No operational issues were recorded. A new span gas cylinder was installed on July 24. |
| PM2.5 Thermo Sharp 5030 #CM2209 | July 17, 2023 | <ul style="list-style-type: none"> No operational issues were recorded. |
| Parameter | Verification Date | Equipment Operational Summary |
| RH Rotronic HC2A-S3 #20433166 | July 17, 2023 | <ul style="list-style-type: none"> No operational issues were recorded. |
| BP Met One 090D #F4497 | July 17, 2023 | <ul style="list-style-type: none"> No operational issues were recorded. |
| AT Rotronic HC2A-S3 #20433166 | July 17, 2023 | <ul style="list-style-type: none"> No operational issues were recorded. |

| Parameter | Verification Date | Equipment Operational Summary |
|---|-------------------|---|
| ST COMET #NA | July 17, 2023 | <ul style="list-style-type: none"> No operational issues were recorded. |
| Precipitation MetOne 387 #C13580 | July 17, 2023 | <ul style="list-style-type: none"> No operational issues were recorded. |
| WS/WD/STDWD RM Young 05305VK #161465 | July 17, 2023 | <ul style="list-style-type: none"> Wind direction data contained in this report represents where the wind is coming from. An annual wind system calibration was completed on July 26, 2022. No operational issues were recorded. |

Monitored Data Summary for Tamarack Site

| Parameter | Objectives/Guidelines | | | Exceedances | | | Monthly Avg. | Min. 1-hr | Max. 1-hr | Date/Time | VWS (km/hr) | VWD (sector) | Max. 24-hr | Date | Operational Uptime (%) | Valid Data (%) |
|---------------------|-----------------------|-------|--------|-------------|-------|--------|--------------|-----------|-----------|-----------------|-------------|--------------|------------|--------|------------------------|----------------|
| | 1-hr | 24-hr | 30-day | 1-hr | 24-hr | 30-day | | | | | | | | | | |
| SO2 (ppb) | 172 | 48 | 11 | 0 | 0 | 0 | 0.7 | 0 | 16 | Jul 13 at hr 19 | 5.5 | WNW | 3.6 | Jul 13 | 93.5 | 89.0 |
| H2S (ppb) | 10 | 3 | - | 0 | 0 | - | 0.1 | 0 | 6 | Jul 16 at hr 23 | 6.2 | ESE | 1.0 | Jul 16 | 100.0 | 95.0 |
| NOx (ppb) | - | - | - | - | - | - | 3.1 | 0 | 27 | Jul 9 at hr 4 | 5.6 | W | 8.0 | Jul 13 | 100.0 | 94.7 |
| NO (ppb) | - | - | - | - | - | - | 0.4 | 0 | 7 | Jul 4 at hr 2 | 4.1 | WSW | 1.3 | Jul 13 | 100.0 | 94.7 |
| NO2 (ppb) | 159 | - | - | 0 | - | - | 2.7 | 0 | 20 | Jul 9 at hr 4 | 5.6 | W | 6.7 | Jul 13 | 100.0 | 94.7 |
| O3 (ppb) | 76 | - | - | 0 | - | - | 27.1 | 1.5 | 55.9 | Jul 23 at hr 16 | 2.7 | SSW | 36.5 | Jul 31 | 100.0 | 95.0 |
| THC (ppm) | - | - | - | - | - | - | 2.06 | 1.96 | 3.52 | Jul 15 at hr 1 | 1.2 | ESE | 2.20 | Jul 15 | 100.0 | 95.0 |
| CH4 (ppm) | - | - | - | - | - | - | 2.05 | 1.96 | 2.43 | Jul 29 at hr 5 | 1.3 | E | 2.13 | Jul 22 | 100.0 | 95.0 |
| NMHC (ppm) | - | - | - | - | - | - | 0.01 | 0.00 | 1.31 | Jul 15 at hr 1 | 1.2 | ESE | 0.11 | Jul 15 | 100.0 | 95.0 |
| PM2.5 (µg/m3) | 80 | 29 | - | 26 | 7 | - | 20.1 | 0 | 226 | Jul 14 at hr 10 | 9.4 | NNW | 94.8 | Jul 14 | 100.0 | 99.7 |
| RH (%) | - | - | - | - | - | - | 73.9 | 29 | 100 | Jul 1 at hr 21 | 0.7 | SW | 95.9 | Jul 18 | 100.0 | 100.0 |
| BP (millibar) | - | - | - | - | - | - | 938 | 924 | 949 | Jul 28 at hr 8 | 1.8 | SW | 948 | Jul 28 | 100.0 | 100.0 |
| Ext. Temp. (°C) | - | - | - | - | - | - | 16.7 | 5.8 | 27.5 | Jul 9 at hr 15 | 10.2 | N | 21.7 | Jul 9 | 100.0 | 100.0 |
| Stn. Temp. (°C) | - | - | - | - | - | - | 22.4 | 21.7 | 23.0 | Jul 31 at hr 11 | 7.8 | SW | 22.6 | Jul 31 | 100.0 | 100.0 |
| Precipitation (mm)* | - | - | - | - | - | - | 58.8 | 0.0 | 5.7 | Jul 1 at hr 14 | 5.7 | NW | 8.5 | Jul 17 | 100.0 | 99.9 |
| WSV (km/hr) | - | - | - | - | - | - | 0.5 | 0.0 | 13.7 | Jul 3 at hr 0 | 13.7 | W | 10.1 | Jul 3 | 100.0 | 100.0 |
| WDV (sector) | - | - | - | - | - | - | 315 (NW) | - | - | - | - | - | - | - | 100.0 | 100.0 |

1- Date/ Time given is the first minimum and maximum value that was recorded

* Data represents the total (sum) for the indicated time frame

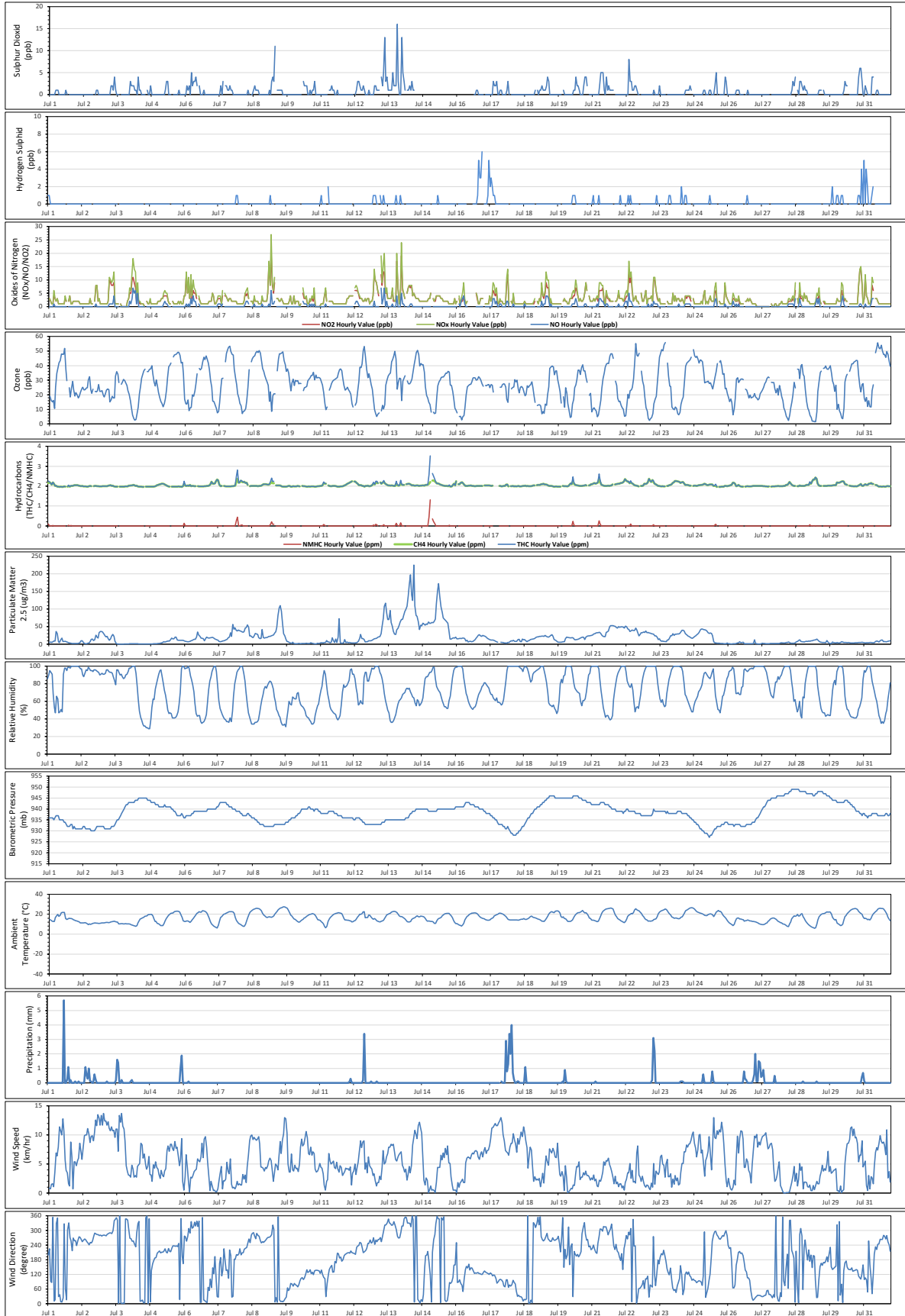
Alberta Ambient Air Quality Objectives (AAAOs) and/or Alberta Ambient Air Quality Guidelines (AAAQGs) Exceedances

The following exceedances of AAAQO and AAAQG were observed at the Tamarack Site.

| Date | Time (MST) | Parameter | Average Period | AAAOs / AAAQGs | Concentration | Wind speed | Wind Direction | Reference # |
|--------|------------|-----------|----------------|----------------|---------------|------------|----------------|-------------|
| Jul 8 | - | PM2.5 | 24-Hour | 29 µg/m3 | 30 µg/m3 | 5.9 km/hr | 264° (W) | 416194 |
| Jul 9 | 10 | PM2.5 | 1-Hour | 80 µg/m3 | 82.2 µg/m3 | 4.0 km/hr | 6° (N) | 416194 |
| Jul 9 | 11 | PM2.5 | 1-Hour | 80 µg/m3 | 103.7 µg/m3 | 6.3 km/hr | 357° (N) | 416194 |
| Jul 9 | 12 | PM2.5 | 1-Hour | 80 µg/m3 | 110 µg/m3 | 8.9 km/hr | 16° (NNE) | 416194 |
| Jul 9 | 13 | PM2.5 | 1-Hour | 80 µg/m3 | 94.2 µg/m3 | 6.8 km/hr | 9° (N) | 416194 |
| Jul 9 | - | PM2.5 | 24-Hour | 29 µg/m3 | 33.9 µg/m3 | 6.2 km/hr | 5° (N) | 416194 |
| Jul 13 | 8 | PM2.5 | 1-Hour | 80 µg/m3 | 107.6 µg/m3 | 5.0 km/hr | 302° (WNW) | 416549 |
| Jul 13 | 9 | PM2.5 | 1-Hour | 80 µg/m3 | 116.8 µg/m3 | 5.3 km/hr | 322° (NW) | 416549 |
| Jul 13 | 10 | PM2.5 | 1-Hour | 80 µg/m3 | 87.7 µg/m3 | 6.2 km/hr | 323° (NW) | 416549 |
| Jul 13 | 13 | PM2.5 | 1-Hour | 80 µg/m3 | 95.9 µg/m3 | 7.9 km/hr | 331° (NNW) | 416549 |
| Jul 13 | - | PM2.5 | 24-Hour | 29 µg/m3 | 53.2 µg/m3 | 5.5 km/hr | 305° (WNW) | 416549 |
| Jul 14 | 1 | PM2.5 | 1-Hour | 80 µg/m3 | 81 µg/m3 | 4.3 km/hr | 318° (NW) | 416549 |
| Jul 14 | 2 | PM2.5 | 1-Hour | 80 µg/m3 | 92.8 µg/m3 | 3.6 km/hr | 347° (NNW) | 416549 |
| Jul 14 | 3 | PM2.5 | 1-Hour | 80 µg/m3 | 98.4 µg/m3 | 4.1 km/hr | 355° (N) | 416549 |
| Jul 14 | 4 | PM2.5 | 1-Hour | 80 µg/m3 | 107.6 µg/m3 | 2.2 km/hr | 353° (N) | 416549 |
| Jul 14 | 5 | PM2.5 | 1-Hour | 80 µg/m3 | 137.9 µg/m3 | 3.1 km/hr | 330° (NNW) | 416549 |
| Jul 14 | 6 | PM2.5 | 1-Hour | 80 µg/m3 | 168.4 µg/m3 | 4.6 km/hr | 330° (NNW) | 416549 |
| Jul 14 | 7 | PM2.5 | 1-Hour | 80 µg/m3 | 197.5 µg/m3 | 3.5 km/hr | 329° (NNW) | 416549 |
| Jul 14 | 8 | PM2.5 | 1-Hour | 80 µg/m3 | 139.6 µg/m3 | 4.7 km/hr | 315° (NW) | 416549 |
| Jul 14 | 9 | PM2.5 | 1-Hour | 80 µg/m3 | 124.2 µg/m3 | 8.3 km/hr | 359° (N) | 416549 |
| Jul 14 | 10 | PM2.5 | 1-Hour | 80 µg/m3 | 225.5 µg/m3 | 9.4 km/hr | 344° (NNW) | 416549 |
| Jul 14 | 11 | PM2.5 | 1-Hour | 80 µg/m3 | 109.2 µg/m3 | 10.8 km/hr | 7° (N) | 416549 |
| Jul 14 | 12 | PM2.5 | 1-Hour | 80 µg/m3 | 82.1 µg/m3 | 10.1 km/hr | 359° (N) | 416549 |
| Jul 14 | - | PM2.5 | 24-Hour | 29 µg/m3 | 94.8 µg/m3 | 6.0 km/hr | 357° (N) | 416549 |
| Jul 15 | 6 | PM2.5 | 1-Hour | 80 µg/m3 | 114.8 µg/m3 | 1.8 km/hr | 328° (NNW) | 416549 |
| Jul 15 | 7 | PM2.5 | 1-Hour | 80 µg/m3 | 152.6 µg/m3 | 4.4 km/hr | 358° (N) | 416549 |
| Jul 15 | 8 | PM2.5 | 1-Hour | 80 µg/m3 | 172.1 µg/m3 | 4.4 km/hr | 349° (NNW) | 416549 |
| Jul 15 | 9 | PM2.5 | 1-Hour | 80 µg/m3 | 135.4 µg/m3 | 4.4 km/hr | 347° (NNW) | 416549 |
| Jul 15 | 10 | PM2.5 | 1-Hour | 80 µg/m3 | 105.9 µg/m3 | 6.5 km/hr | 5° (N) | 416549 |
| Jul 15 | 11 | PM2.5 | 1-Hour | 80 µg/m3 | 91.3 µg/m3 | 5.7 km/hr | 352° (N) | 416549 |
| Jul 15 | - | PM2.5 | 24-Hour | 29 µg/m3 | 67.9 µg/m3 | 3.4 km/hr | 12° (NNE) | 416549 |
| Jul 21 | - | PM2.5 | 24-Hour | 29 µg/m3 | 37.4 µg/m3 | 3.1 km/hr | 283° (W) | 416954 |
| Jul 22 | - | PM2.5 | 24-Hour | 29 µg/m3 | 40 µg/m3 | 2.7 km/hr | 350° (N) | 416954 |

The source of the exceedances of the PM2.5 objective and guideline were due to wildfires.

Timeseries Chart of Hourly Average for the month of Jul 2023 - Tamarack Site



St. Lina Station

Equipment Operation Summary

| Parameter | Calibration Date | Equipment Operational Summary |
|---|-------------------|--|
| SO2 Thermo 43i-TLE #1180930030 | July 14, 2023 | <ul style="list-style-type: none"> Four hours of downtime were recorded between July 9 hour 23 and July 10 hour 2 due to intermittent polling issues. |
| H2S Teledyne T100 #1014 | July 14, 2023 | <ul style="list-style-type: none"> Four hours of downtime were recorded between July 9 hour 23 and July 10 hour 2 due to intermittent polling issues. |
| NOx/NO/NO2 Thermo 42i #1180930029 | July 14, 2023 | <ul style="list-style-type: none"> Four hours of downtime were recorded between July 9 hour 23 and July 10 hour 2 due to intermittent polling issues. |
| O3 Thermo 49iQ #12208316586 | July 15, 2023 | <ul style="list-style-type: none"> Four hours of downtime were recorded between July 9 hour 23 and July 10 hour 2 due to intermittent polling issues. |
| THC/CH4/NMHC Thermo 55i #1180030034 | July 15, 2023 | <ul style="list-style-type: none"> Four hours of downtime were recorded between July 9 hour 23 and July 10 hour 2 due to intermittent polling issues. |
| PM2.5 Thermo Sharp 5030i #CM17091001 | July 15, 2023 | <ul style="list-style-type: none"> Four hours of downtime were recorded between July 9 hour 23 and July 10 hour 2 due to intermittent polling issues. |
| Parameter | Verification Date | Equipment Operational Summary |
| RH Rotronic HC2A-S3 #20404750 | July 15, 2023 | <ul style="list-style-type: none"> Four hours of downtime were recorded between July 9 hour 23 and July 10 hour 2 due to intermittent polling issues. |
| BP Met One 090D #F4498 | July 15, 2023 | <ul style="list-style-type: none"> Four hours of downtime were recorded between July 9 hour 23 and July 10 hour 2 due to intermittent polling issues. |
| AT Rotronic HC2A-S3 #20404750 | July 15, 2023 | <ul style="list-style-type: none"> Four hours of downtime were recorded between July 9 hour 23 and July 10 hour 2 due to intermittent polling issues. |
| ST COMET #NA | July 15, 2023 | <ul style="list-style-type: none"> Four hours of downtime were recorded between July 9 hour 23 and July 10 hour 2 due to intermittent polling issues. |

| Parameter | Verification Date | Equipment Operational Summary |
|---|-------------------|---|
| Precipitation MetOne 387D #A23775 | July 15, 2023 | <ul style="list-style-type: none"> • Four hours of downtime were recorded between July 9 hour 23 and July 10 hour 2 due to intermittent polling issues. |
| WS/WD/STDWD RM Young 05305VK #161466 | July 15, 2023 | <ul style="list-style-type: none"> • Wind direction data contained in this report represents where the wind is coming from. • An annual wind system calibration was completed on July 22, 2022. • Four hours of downtime were recorded between July 9 hour 23 and July 10 hour 2 due to intermittent polling issues. |

Monitored Data Summary for St. Lina Site

| Parameter | Objectives/Guidelines | | | Exceedances | | | Monthly Avg. | Min. 1-hr | Max. 1-hr | Date/Time | VWS (km/hr) | VWD (sector) | Max. 24-hr | Date | Operational Uptime (%) | Valid Data (%) |
|---------------------|-----------------------|-------|--------|-------------|-------|--------|--------------|-----------|-----------|-----------------|-------------|--------------|------------|--------|------------------------|----------------|
| | 1-hr | 24-hr | 30-day | 1-hr | 24-hr | 30-day | | | | | | | | | | |
| SO2 (ppb) | 172 | 48 | 11 | 0 | 0 | 0 | 0.0 | 0 | 2 | Jul 8 at hr 12 | 8.8 | WNW | 0.3 | Jul 14 | 99.5 | 94.3 |
| H2S (ppb) | 10 | 3 | - | 0 | 0 | - | 0.1 | 0 | 3 | Jul 8 at hr 5 | 6.8 | WSW | 1.0 | Jul 15 | 99.5 | 94.3 |
| NOx (ppb) | - | - | - | - | - | - | 1.6 | 0 | 6 | Jul 7 at hr 3 | 6.8 | NE | 2.8 | Jul 7 | 99.5 | 94.1 |
| NO (ppb) | - | - | - | - | - | - | 0.0 | 0 | 2 | Jul 8 at hr 6 | 7.3 | WSW | 0.1 | Jul 7 | 99.5 | 94.1 |
| NO2 (ppb) | 159 | - | - | 0 | - | - | 1.6 | 0 | 6 | Jul 7 at hr 3 | 6.8 | NE | 2.7 | Jul 7 | 99.5 | 94.1 |
| O3 (ppb) | 76 | - | - | 0 | - | - | 32.7 | 12.3 | 57.6 | Jul 8 at hr 12 | 8.8 | WNW | 43.9 | Jul 8 | 99.5 | 94.5 |
| THC (ppm) | - | - | - | - | - | - | 2.05 | 1.95 | 2.32 | Jul 8 at hr 5 | 6.8 | WSW | 2.16 | Jul 15 | 99.5 | 94.3 |
| CH4 (ppm) | - | - | - | - | - | - | 2.05 | 1.95 | 2.32 | Jul 8 at hr 5 | 6.8 | WSW | 2.16 | Jul 15 | 99.5 | 94.3 |
| NMHC (ppm) | - | - | - | - | - | - | 0.00 | 0.00 | 0.05 | Jul 14 at hr 10 | 10.4 | NNW | 0.00 | Jul 14 | 99.5 | 94.3 |
| PM2.5 (µg/m3) | 80 | 29 | - | 55 | 8 | - | 24.3 | 0 | 217 | Jul 14 at hr 10 | 10.4 | NNW | 135.8 | Jul 14 | 99.5 | 99.3 |
| RH (%) | - | - | - | - | - | - | 72.2 | 34 | 99 | Jul 18 at hr 4 | 6.4 | NE | 96.9 | Jul 18 | 99.5 | 99.5 |
| BP (millibar) | - | - | - | - | - | - | 920 | 910 | 929 | Jul 28 at hr 4 | 4.3 | N | 929 | Jul 28 | 99.5 | 99.5 |
| Ext. Temp. (°C) | - | - | - | - | - | - | 17.3 | 8.7 | 28.3 | Jul 9 at hr 15 | 6.9 | NNW | 22.7 | Jul 9 | 99.5 | 99.5 |
| Stn. Temp. (°C) | - | - | - | - | - | - | 23.0 | 22.1 | 24.4 | Jul 28 at hr 18 | 6.8 | WNW | 23.5 | Jul 3 | 99.5 | 99.5 |
| Precipitation (mm)* | - | - | - | - | - | - | 80.0 | 0.0 | 15.2 | Jul 26 at hr 17 | 6.7 | WNW | 17.9 | Jul 26 | 99.5 | 99.5 |
| WSV (km/hr) | - | - | - | - | - | - | 1.5 | 0.1 | 22.4 | Jul 25 at hr 15 | 22.4 | W | 16.0 | Jul 2 | 99.5 | 99.5 |
| WDV (sector) | - | - | - | - | - | - | 303 (WNW) | - | - | - | - | - | - | - | 99.5 | 99.5 |

1- Date/ Time given is the first minimum and maximum value that was recorded

* Data represents the total (sum) for the indicated time frame

Alberta Ambient Air Quality Objectives (AAAOs) and/or Alberta Ambient Air Quality Guidelines (AAAQGs) Exceedances

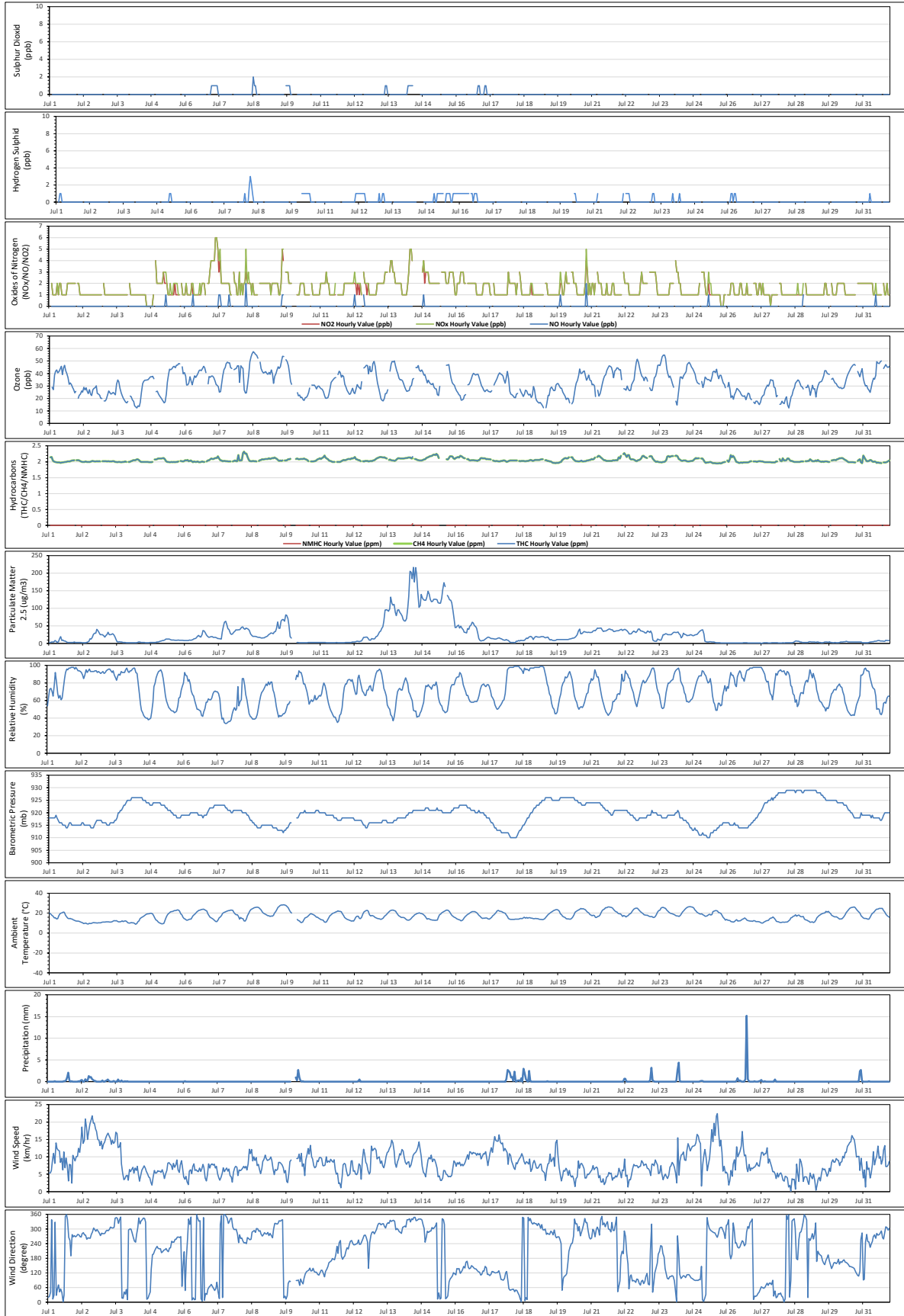
The following exceedances of AAAQO and AAAQG were observed at the St. Lina Site.

| Date | Time (MST) | Parameter | Average Period | AAAOs / AAAQGs | Concentration | Wind speed | Wind Direction | Reference # |
|--------|------------|-----------|----------------|----------------|---------------|------------|----------------|-------------|
| Jul 7 | - | PM2.5 | 24-Hour | 29 µg/m3 | 31 µg/m3 | 5.8 km/hr | 1° (N) | 416193 |
| Jul 9 | 17 | PM2.5 | 1-Hour | 80 µg/m3 | 81 µg/m3 | 6.1 km/hr | 25° (NNE) | 416193 |
| Jul 9 | - | PM2.5 | 24-Hour | 29 µg/m3 | 44 µg/m3 | 7.2 km/hr | 320° (NW) | 416193 |
| Jul 13 | 9 | PM2.5 | 1-Hour | 80 µg/m3 | 95 µg/m3 | 8.3 km/hr | 313° (NW) | 416550 |
| Jul 13 | 10 | PM2.5 | 1-Hour | 80 µg/m3 | 96 µg/m3 | 10.1 km/hr | 304° (WNW) | 416550 |
| Jul 13 | 11 | PM2.5 | 1-Hour | 80 µg/m3 | 95 µg/m3 | 11.3 km/hr | 320° (NW) | 416550 |
| Jul 13 | 12 | PM2.5 | 1-Hour | 80 µg/m3 | 92 µg/m3 | 11.5 km/hr | 326° (NW) | 416550 |
| Jul 13 | 13 | PM2.5 | 1-Hour | 80 µg/m3 | 99 µg/m3 | 12.5 km/hr | 324° (NW) | 416550 |
| Jul 13 | 14 | PM2.5 | 1-Hour | 80 µg/m3 | 132 µg/m3 | 13.1 km/hr | 336° (NNW) | 416550 |
| Jul 13 | 15 | PM2.5 | 1-Hour | 80 µg/m3 | 114 µg/m3 | 14.8 km/hr | 331° (NNW) | 416550 |
| Jul 13 | 16 | PM2.5 | 1-Hour | 80 µg/m3 | 109 µg/m3 | 14.0 km/hr | 334° (NNW) | 416550 |
| Jul 13 | 17 | PM2.5 | 1-Hour | 80 µg/m3 | 111 µg/m3 | 11.7 km/hr | 336° (NNW) | 416550 |
| Jul 13 | 18 | PM2.5 | 1-Hour | 80 µg/m3 | 88 µg/m3 | 8.2 km/hr | 332° (NNW) | 416550 |
| Jul 13 | 20 | PM2.5 | 1-Hour | 80 µg/m3 | 95 µg/m3 | 8.6 km/hr | 302° (WNW) | 416550 |
| Jul 13 | 21 | PM2.5 | 1-Hour | 80 µg/m3 | 96 µg/m3 | 9.4 km/hr | 298° (WNW) | 416550 |
| Jul 13 | 22 | PM2.5 | 1-Hour | 80 µg/m3 | 89 µg/m3 | 10.9 km/hr | 289° (WNW) | 416550 |
| Jul 13 | 23 | PM2.5 | 1-Hour | 80 µg/m3 | 84 µg/m3 | 10.5 km/hr | 286° (WNW) | 416550 |
| Jul 13 | - | PM2.5 | 24-Hour | 29 µg/m3 | 74 µg/m3 | 10.3 km/hr | 314° (NW) | 416550 |
| Jul 14 | 5 | PM2.5 | 1-Hour | 80 µg/m3 | 102 µg/m3 | 8.4 km/hr | 338° (NNW) | 416550 |
| Jul 14 | 6 | PM2.5 | 1-Hour | 80 µg/m3 | 135 µg/m3 | 8.6 km/hr | 339° (NNW) | 416550 |
| Jul 14 | 7 | PM2.5 | 1-Hour | 80 µg/m3 | 206 µg/m3 | 7.0 km/hr | 342° (NNW) | 416550 |
| Jul 14 | 8 | PM2.5 | 1-Hour | 80 µg/m3 | 202 µg/m3 | 7.6 km/hr | 329° (NNW) | 416550 |
| Jul 14 | 9 | PM2.5 | 1-Hour | 80 µg/m3 | 184 µg/m3 | 9.2 km/hr | 342° (NNW) | 416550 |
| Jul 14 | 10 | PM2.5 | 1-Hour | 80 µg/m3 | 217 µg/m3 | 10.4 km/hr | 338° (NNW) | 416550 |
| Jul 14 | 11 | PM2.5 | 1-Hour | 80 µg/m3 | 175 µg/m3 | 11.0 km/hr | 348° (NNW) | 416550 |
| Jul 14 | 12 | PM2.5 | 1-Hour | 80 µg/m3 | 216 µg/m3 | 11.3 km/hr | 348° (NNW) | 416550 |
| Jul 14 | 13 | PM2.5 | 1-Hour | 80 µg/m3 | 199 µg/m3 | 11.8 km/hr | 335° (NNW) | 416550 |
| Jul 14 | 14 | PM2.5 | 1-Hour | 80 µg/m3 | 146 µg/m3 | 12.7 km/hr | 336° (NNW) | 416550 |
| Jul 14 | 15 | PM2.5 | 1-Hour | 80 µg/m3 | 103 µg/m3 | 14.3 km/hr | 341° (NNW) | 416550 |
| Jul 14 | 16 | PM2.5 | 1-Hour | 80 µg/m3 | 108 µg/m3 | 12.5 km/hr | 341° (NNW) | 416550 |
| Jul 14 | 17 | PM2.5 | 1-Hour | 80 µg/m3 | 140 µg/m3 | 10.2 km/hr | 341° (NNW) | 416550 |
| Jul 14 | 18 | PM2.5 | 1-Hour | 80 µg/m3 | 129 µg/m3 | 7.3 km/hr | 337° (NNW) | 416550 |
| Jul 14 | 19 | PM2.5 | 1-Hour | 80 µg/m3 | 124 µg/m3 | 5.5 km/hr | 320° (NW) | 416550 |
| Jul 14 | 20 | PM2.5 | 1-Hour | 80 µg/m3 | 123 µg/m3 | 5.1 km/hr | 302° (WNW) | 416550 |
| Jul 14 | 21 | PM2.5 | 1-Hour | 80 µg/m3 | 123 µg/m3 | 4.3 km/hr | 246° (WSW) | 416550 |
| Jul 14 | 22 | PM2.5 | 1-Hour | 80 µg/m3 | 132 µg/m3 | 6.9 km/hr | 267° (W) | 416550 |

| Date | Time (MST) | Parameter | Average Period | AAAOs / AAQGs | Concentration | Wind speed | Wind Direction | Reference # |
|--------|------------|-----------|----------------|---------------|---------------|------------|----------------|-------------|
| Jul 14 | 23 | PM2.5 | 1-Hour | 80 µg/m3 | 149 µg/m3 | 9.2 km/hr | 291° (WNW) | 416550 |
| Jul 14 | - | PM2.5 | 24-Hour | 29 µg/m3 | 136 µg/m3 | 9.3 km/hr | 325° (NW) | 416550 |
| Jul 15 | 0 | PM2.5 | 1-Hour | 80 µg/m3 | 140 µg/m3 | 9.8 km/hr | 286° (WNW) | 416550 |
| Jul 15 | 1 | PM2.5 | 1-Hour | 80 µg/m3 | 126 µg/m3 | 9.4 km/hr | 291° (WNW) | 416550 |
| Jul 15 | 2 | PM2.5 | 1-Hour | 80 µg/m3 | 119 µg/m3 | 10.5 km/hr | 292° (WNW) | 416550 |
| Jul 15 | 3 | PM2.5 | 1-Hour | 80 µg/m3 | 120 µg/m3 | 8.6 km/hr | 306° (NW) | 416550 |
| Jul 15 | 4 | PM2.5 | 1-Hour | 80 µg/m3 | 126 µg/m3 | 9.4 km/hr | 301° (WNW) | 416550 |
| Jul 15 | 5 | PM2.5 | 1-Hour | 80 µg/m3 | 126 µg/m3 | 9.2 km/hr | 306° (NW) | 416550 |
| Jul 15 | 6 | PM2.5 | 1-Hour | 80 µg/m3 | 126 µg/m3 | 8.1 km/hr | 313° (NW) | 416550 |
| Jul 15 | 7 | PM2.5 | 1-Hour | 80 µg/m3 | 124 µg/m3 | 6.7 km/hr | 325° (NW) | 416550 |
| Jul 15 | 8 | PM2.5 | 1-Hour | 80 µg/m3 | 116 µg/m3 | 4.3 km/hr | 13° (NNE) | 416550 |
| Jul 15 | 9 | PM2.5 | 1-Hour | 80 µg/m3 | 115 µg/m3 | 4.5 km/hr | 38° (NE) | 416550 |
| Jul 15 | 10 | PM2.5 | 1-Hour | 80 µg/m3 | 115 µg/m3 | 3.2 km/hr | 13° (NNE) | 416550 |
| Jul 15 | 11 | PM2.5 | 1-Hour | 80 µg/m3 | 129 µg/m3 | 3.2 km/hr | 16° (NNE) | 416550 |
| Jul 15 | 12 | PM2.5 | 1-Hour | 80 µg/m3 | 153 µg/m3 | 3.9 km/hr | 342° (NNW) | 416550 |
| Jul 15 | 13 | PM2.5 | 1-Hour | 80 µg/m3 | 173 µg/m3 | 6.1 km/hr | 339° (NNW) | 416550 |
| Jul 15 | 14 | PM2.5 | 1-Hour | 80 µg/m3 | 162 µg/m3 | 6.0 km/hr | 319° (NW) | 416550 |
| Jul 15 | 16 | PM2.5 | 1-Hour | 80 µg/m3 | 137 µg/m3 | 4.9 km/hr | 19° (NNE) | 416550 |
| Jul 15 | 17 | PM2.5 | 1-Hour | 80 µg/m3 | 133 µg/m3 | 4.3 km/hr | 26° (NNE) | 416550 |
| Jul 15 | 18 | PM2.5 | 1-Hour | 80 µg/m3 | 124 µg/m3 | 4.4 km/hr | 83° (E) | 416550 |
| Jul 15 | 19 | PM2.5 | 1-Hour | 80 µg/m3 | 123 µg/m3 | 4.3 km/hr | 94° (E) | 416550 |
| Jul 15 | 20 | PM2.5 | 1-Hour | 80 µg/m3 | 116 µg/m3 | 4.7 km/hr | 101° (E) | 416550 |
| Jul 15 | 21 | PM2.5 | 1-Hour | 80 µg/m3 | 94 µg/m3 | 6.5 km/hr | 108° (ESE) | 416550 |
| Jul 15 | - | PM2.5 | 24-Hour | 29 µg/m3 | 122 µg/m3 | 6.4 km/hr | 341° (NNW) | 416550 |
| Jul 16 | - | PM2.5 | 24-Hour | 29 µg/m3 | 39 µg/m3 | 9.6 km/hr | 136° (SE) | 416550 |
| Jul 21 | - | PM2.5 | 24-Hour | 29 µg/m3 | 38 µg/m3 | 4.7 km/hr | 305° (WNW) | 416955 |
| Jul 22 | - | PM2.5 | 24-Hour | 29 µg/m3 | 35 µg/m3 | 6.3 km/hr | 94° (E) | 416955 |

The source of the exceedances of the PM2.5 objective and guideline were due to wildfires.

Timeseries Chart of Hourly Average for the month of Jul 2023 - St. Lina Site



Lac La Biche Station

Equipment Operation Summary

| Parameter | Calibration Date | Equipment Operational Summary |
|---|-------------------|--|
| SO2 Thermo 43i-TLE #1180320043 | July 7, 2023 | <ul style="list-style-type: none"> No operational issues were identified this month. |
| H2S Thermo 450i #CM17360002 | July 7, 2023 | <ul style="list-style-type: none"> No operational issues were identified this month. |
| NOx/NO/NO2 Thermo 42i #1180930027 | July 7, 2023 | <ul style="list-style-type: none"> No operational issues were identified this month. |
| O3 Thermo 49i #1002240372 | July 8, 2023 | <ul style="list-style-type: none"> No operational issues were identified this month. |
| THC/CH4/NMHC Thermo 55i #1180030044 | July 8, 2023 | <ul style="list-style-type: none"> No operational issues were identified this month. |
| PM2.5 Thermo Sharp 5030i #CM17071016 | July 8, 2023 | <ul style="list-style-type: none"> Invalid hourly data were recorded after the monthly audit on July 8 hour 16 due to a sample flow error. The issue was addressed on July 9. Hourly data collected between July 8 hour 16 and July 9 hour 13 were invalidated. Twenty-two hours of downtime were recorded as a result. |
| Parameter | Verification Date | Equipment Operational Summary |
| RH Rotronic HC2A-S3 #0020357518 | July 8, 2023 | <ul style="list-style-type: none"> No operational issues were recorded this month. |
| BP Met One 092 #Y23360 | July 8, 2023 | <ul style="list-style-type: none"> No operational issues were recorded this month. |
| AT Rotronic HC2A-S3 #0020357518 | July 8, 2023 | <ul style="list-style-type: none"> No operational issues were recorded this month. |

| Parameter | Verification Date | Equipment Operational Summary |
|--|-------------------|--|
| ST COMET #NA | July 8, 2023 | <ul style="list-style-type: none"> No operational issues were recorded this month. |
| WS/WD/STDWD RM Young 05305VK #56778 | July 8, 2023 | <ul style="list-style-type: none"> Wind direction data contained in this report represents where the wind is coming from. The last annual wind system calibration was completed on May 9, 2022. No operational issues were recorded this month. |

Monitored Data Summary for Lac La Biche Station

| Parameter | Objectives/Guidelines | | | Exceedances | | | Monthly Avg. | Min. 1-hr | Max. 1-hr | Date/Time | VWS (km/hr) | VWD (sector) | Max. 24-hr | Date | Operational Uptime (%) | Valid Data (%) |
|-----------------|-----------------------|-------|--------|-------------|-------|--------|--------------|-----------|-----------|-----------------|-------------|--------------|------------|--------|------------------------|----------------|
| | 1-hr | 24-hr | 30-day | 1-hr | 24-hr | 30-day | | | | | | | | | | |
| SO2 (ppb) | 172 | 48 | 11 | 0 | 0 | 0 | 0.1 | 0 | 5 | Jul 8 at hr 9 | 6.3 | WSW | 0.6 | Jul 8 | 100.0 | 94.7 |
| H2S (ppb) | 10 | 3 | - | 0 | 0 | - | 0.2 | 0 | 2 | Jul 6 at hr 20 | 4.5 | ENE | 0.0 | Jul 1 | 100.0 | 94.7 |
| NOx (ppb) | - | - | - | - | - | - | 3.2 | 0 | 58 | Jul 18 at hr 13 | 8.9 | NNW | 7.0 | Jul 18 | 100.0 | 94.6 |
| NO (ppb) | - | - | - | - | - | - | 0.5 | 0 | 47 | Jul 18 at hr 13 | 8.9 | NNW | 3.9 | Jul 18 | 100.0 | 94.6 |
| NO2 (ppb) | 159 | - | - | 0 | - | - | 2.6 | 0 | 12 | Jul 9 at hr 17 | 5.5 | NNE | 5.2 | Jul 14 | 100.0 | 94.6 |
| O3 (ppb) | 76 | - | - | 0 | - | - | 28.8 | 3.2 | 52.0 | Jul 23 at hr 16 | 5.8 | N | 39.1 | Jul 23 | 100.0 | 94.9 |
| THC (ppm) | - | - | - | - | - | - | 2.02 | 1.90 | 2.40 | Jul 21 at hr 6 | 1.9 | SSW | 2.12 | Jul 8 | 100.0 | 94.9 |
| CH4 (ppm) | - | - | - | - | - | - | 2.02 | 1.90 | 2.40 | Jul 21 at hr 6 | 1.9 | SSW | 2.12 | Jul 8 | 100.0 | 94.9 |
| NMHC (ppm) | - | - | - | - | - | - | 0.00 | 0.00 | 0.13 | Jul 4 at hr 0 | 2.3 | S | 0.01 | Jul 4 | 100.0 | 94.9 |
| PM2.5 (µg/m3) | 80 | 29 | - | 60 | 5 | - | 25.3 | 1 | 338 | Jul 14 at hr 9 | 11.6 | NNW | 172.8 | Jul 14 | 97.0 | 96.9 |
| RH (%) | - | - | - | - | - | - | 74.0 | 28 | 100 | Jul 1 at hr 7 | 8.1 | ENE | 99.3 | Jul 18 | 100.0 | 100.0 |
| BP (millibar) | - | - | - | - | - | - | 948 | 937 | 958 | Jul 28 at hr 5 | 1.4 | SE | 957 | Jul 28 | 100.0 | 100.0 |
| Ext. Temp. (°C) | - | - | - | - | - | - | 17.8 | 8.4 | 28.8 | Jul 24 at hr 15 | 10.4 | ESE | 23.2 | Jul 24 | 100.0 | 100.0 |
| Stn. Temp. (°C) | - | - | - | - | - | - | 21.7 | 18.8 | 24.6 | Jul 8 at hr 12 | 6 | N | 22.5 | Jul 18 | 100.0 | 100.0 |
| WSV (km/hr) | - | - | - | - | - | - | 0.7 | 0.1 | 22.0 | Jul 2 at hr 15 | 22 | NW | 13.1 | Jul 3 | 100.0 | 100.0 |
| WDV (sector) | - | - | - | - | - | - | 327 (NW) | - | - | - | - | - | - | - | 100.0 | 100.0 |

1- Date/ Time given is the first minimum and maximum value that was recorded

Alberta Ambient Air Quality Objectives (AAAOs) and/or Alberta Ambient Air Quality Guidelines (AAAQGs) Exceedances

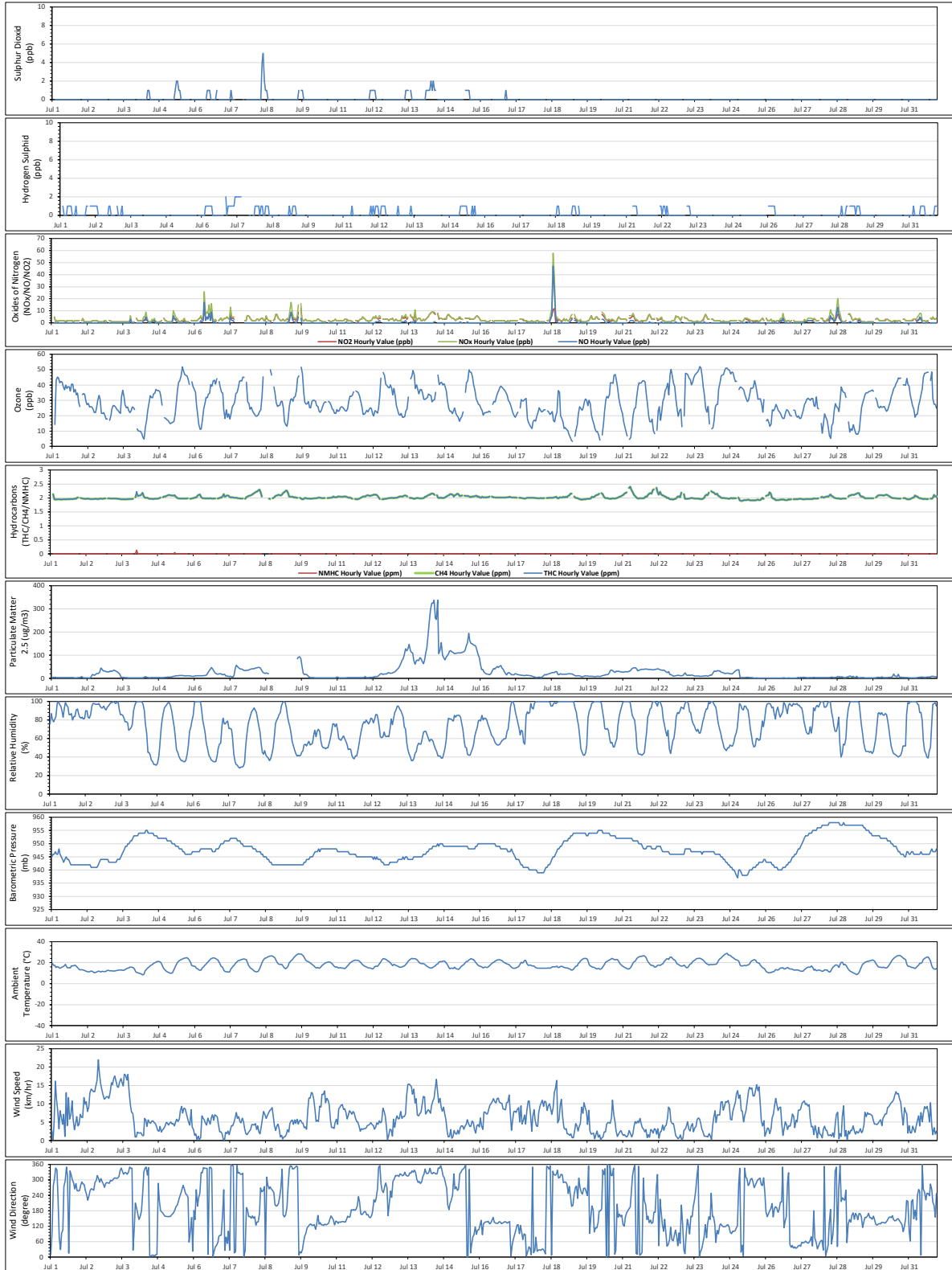
The following exceedances of AAAQO and AAAQG were observed at the Lac La Biche Station.

| Date | Time (MST) | Parameter | Average Period | AAAOs / AAAQGs | Concentration | Wind speed | Wind Direction | Reference # |
|--------|------------|-----------|----------------|----------------|---------------|------------|----------------|-------------|
| Jul 9 | 14 | PM2.5 | 1-Hour | 80 µg/m3 | 84.5 µg/m3 | 5.8 km/hr | 354° (N) | 416192 |
| Jul 9 | 15 | PM2.5 | 1-Hour | 80 µg/m3 | 91 µg/m3 | 4.5 km/hr | 351° (N) | 416192 |
| Jul 9 | 16 | PM2.5 | 1-Hour | 80 µg/m3 | 93 µg/m3 | 5.4 km/hr | 8° (N) | 416192 |
| Jul 9 | 17 | PM2.5 | 1-Hour | 80 µg/m3 | 85 µg/m3 | 5.5 km/hr | 21° (NNE) | 416192 |
| Jul 13 | 7 | PM2.5 | 1-Hour | 80 µg/m3 | 85.4 µg/m3 | 6.5 km/hr | 316° (NW) | 416551 |
| Jul 13 | 8 | PM2.5 | 1-Hour | 80 µg/m3 | 100.8 µg/m3 | 6.5 km/hr | 319° (NW) | 416551 |
| Jul 13 | 9 | PM2.5 | 1-Hour | 80 µg/m3 | 128.1 µg/m3 | 7.2 km/hr | 330° (NNW) | 416551 |
| Jul 13 | 10 | PM2.5 | 1-Hour | 80 µg/m3 | 119 µg/m3 | 12.1 km/hr | 318° (NW) | 416551 |
| Jul 13 | 11 | PM2.5 | 1-Hour | 80 µg/m3 | 127.2 µg/m3 | 15.3 km/hr | 315° (NW) | 416551 |
| Jul 13 | 12 | PM2.5 | 1-Hour | 80 µg/m3 | 147 µg/m3 | 15.4 km/hr | 316° (NW) | 416551 |
| Jul 13 | 13 | PM2.5 | 1-Hour | 80 µg/m3 | 120.3 µg/m3 | 15.1 km/hr | 327° (NW) | 416551 |
| Jul 13 | 14 | PM2.5 | 1-Hour | 80 µg/m3 | 112.4 µg/m3 | 14.6 km/hr | 326° (NW) | 416551 |
| Jul 13 | 15 | PM2.5 | 1-Hour | 80 µg/m3 | 109 µg/m3 | 12.6 km/hr | 335° (NNW) | 416551 |
| Jul 13 | 21 | PM2.5 | 1-Hour | 80 µg/m3 | 88.7 µg/m3 | 7.3 km/hr | 294° (WNNW) | 416551 |
| Jul 13 | 22 | PM2.5 | 1-Hour | 80 µg/m3 | 85.7 µg/m3 | 7.7 km/hr | 286° (WNNW) | 416551 |
| Jul 13 | - | PM2.5 | 24-Hour | 29 µg/m3 | 83.5 µg/m3 | 9.2 km/hr | 318° (NW) | 416551 |
| Jul 14 | 2 | PM2.5 | 1-Hour | 80 µg/m3 | 111.8 µg/m3 | 7.2 km/hr | 342° (NNW) | 416551 |
| Jul 14 | 3 | PM2.5 | 1-Hour | 80 µg/m3 | 132.5 µg/m3 | 7.8 km/hr | 326° (NW) | 416551 |
| Jul 14 | 4 | PM2.5 | 1-Hour | 80 µg/m3 | 191 µg/m3 | 8.4 km/hr | 325° (NW) | 416551 |
| Jul 14 | 5 | PM2.5 | 1-Hour | 80 µg/m3 | 252 µg/m3 | 8.1 km/hr | 328° (NNW) | 416551 |
| Jul 14 | 6 | PM2.5 | 1-Hour | 80 µg/m3 | 295.3 µg/m3 | 7.4 km/hr | 345° (NNW) | 416551 |
| Jul 14 | 7 | PM2.5 | 1-Hour | 80 µg/m3 | 324.7 µg/m3 | 9.5 km/hr | 327° (NW) | 416551 |
| Jul 14 | 8 | PM2.5 | 1-Hour | 80 µg/m3 | 324.6 µg/m3 | 10.7 km/hr | 325° (NW) | 416551 |
| Jul 14 | 9 | PM2.5 | 1-Hour | 80 µg/m3 | 337.6 µg/m3 | 11.6 km/hr | 329° (NNW) | 416551 |
| Jul 14 | 10 | PM2.5 | 1-Hour | 80 µg/m3 | 260.8 µg/m3 | 13.9 km/hr | 327° (NW) | 416551 |
| Jul 14 | 11 | PM2.5 | 1-Hour | 80 µg/m3 | 254.5 µg/m3 | 16.7 km/hr | 323° (NW) | 416551 |
| Jul 14 | 12 | PM2.5 | 1-Hour | 80 µg/m3 | 337.4 µg/m3 | 13.0 km/hr | 325° (NW) | 416551 |
| Jul 14 | 13 | PM2.5 | 1-Hour | 80 µg/m3 | 106.7 µg/m3 | 10.3 km/hr | 347° (NNW) | 416551 |
| Jul 14 | 14 | PM2.5 | 1-Hour | 80 µg/m3 | 121.9 µg/m3 | 11.5 km/hr | 345° (NNW) | 416551 |
| Jul 14 | 15 | PM2.5 | 1-Hour | 80 µg/m3 | 154.6 µg/m3 | 8.9 km/hr | 355° (N) | 416551 |
| Jul 14 | 16 | PM2.5 | 1-Hour | 80 µg/m3 | 99.8 µg/m3 | 8.0 km/hr | 341° (NNW) | 416551 |
| Jul 14 | 17 | PM2.5 | 1-Hour | 80 µg/m3 | 89.8 µg/m3 | 9.1 km/hr | 316° (NW) | 416551 |
| Jul 14 | 19 | PM2.5 | 1-Hour | 80 µg/m3 | 91.1 µg/m3 | 5.7 km/hr | 289° (WNNW) | 416551 |
| Jul 14 | 20 | PM2.5 | 1-Hour | 80 µg/m3 | 96.4 µg/m3 | 2.5 km/hr | 268° (W) | 416551 |
| Jul 14 | 21 | PM2.5 | 1-Hour | 80 µg/m3 | 105.6 µg/m3 | 1.0 km/hr | 203° (SSW) | 416551 |
| Jul 14 | 22 | PM2.5 | 1-Hour | 80 µg/m3 | 117.8 µg/m3 | 1.1 km/hr | 184° (S) | 416551 |

| Date | Time (MST) | Parameter | Average Period | AAAOs / AAQGs | Concentration | Wind speed | Wind Direction | Reference # |
|--------|------------|-----------|----------------|---------------|---------------|------------|----------------|-------------|
| Jul 14 | 23 | PM2.5 | 1-Hour | 80 µg/m3 | 120.2 µg/m3 | 3.0 km/hr | 208° (SSW) | 416551 |
| Jul 14 | - | PM2.5 | 24-Hour | 29 µg/m3 | 172.8 µg/m3 | 8.6 km/hr | 326° (NW) | 416551 |
| Jul 15 | 0 | PM2.5 | 1-Hour | 80 µg/m3 | 112.9 µg/m3 | 0.6 km/hr | 221° (SW) | 416551 |
| Jul 15 | 1 | PM2.5 | 1-Hour | 80 µg/m3 | 112.3 µg/m3 | 1.1 km/hr | 241° (WSW) | 416551 |
| Jul 15 | 2 | PM2.5 | 1-Hour | 80 µg/m3 | 106.4 µg/m3 | 2.7 km/hr | 324° (NW) | 416551 |
| Jul 15 | 3 | PM2.5 | 1-Hour | 80 µg/m3 | 107.3 µg/m3 | 1.9 km/hr | 265° (W) | 416551 |
| Jul 15 | 4 | PM2.5 | 1-Hour | 80 µg/m3 | 109 µg/m3 | 1.7 km/hr | 273° (W) | 416551 |
| Jul 15 | 5 | PM2.5 | 1-Hour | 80 µg/m3 | 110.5 µg/m3 | 2.8 km/hr | 259° (WSW) | 416551 |
| Jul 15 | 6 | PM2.5 | 1-Hour | 80 µg/m3 | 110.3 µg/m3 | 1.8 km/hr | 265° (W) | 416551 |
| Jul 15 | 7 | PM2.5 | 1-Hour | 80 µg/m3 | 110.2 µg/m3 | 3.6 km/hr | 325° (NW) | 416551 |
| Jul 15 | 8 | PM2.5 | 1-Hour | 80 µg/m3 | 110.2 µg/m3 | 4.0 km/hr | 329° (NNW) | 416551 |
| Jul 15 | 9 | PM2.5 | 1-Hour | 80 µg/m3 | 113.7 µg/m3 | 4.0 km/hr | 339° (NNW) | 416551 |
| Jul 15 | 10 | PM2.5 | 1-Hour | 80 µg/m3 | 114.5 µg/m3 | 3.1 km/hr | 343° (NNW) | 416551 |
| Jul 15 | 11 | PM2.5 | 1-Hour | 80 µg/m3 | 122.5 µg/m3 | 3.8 km/hr | 348° (NNW) | 416551 |
| Jul 15 | 12 | PM2.5 | 1-Hour | 80 µg/m3 | 139.3 µg/m3 | 4.4 km/hr | 359° (N) | 416551 |
| Jul 15 | 13 | PM2.5 | 1-Hour | 80 µg/m3 | 155.2 µg/m3 | 5.7 km/hr | 1° (N) | 416551 |
| Jul 15 | 14 | PM2.5 | 1-Hour | 80 µg/m3 | 194.1 µg/m3 | 4.6 km/hr | 1° (N) | 416551 |
| Jul 15 | 15 | PM2.5 | 1-Hour | 80 µg/m3 | 162.5 µg/m3 | 3.8 km/hr | 341° (NNW) | 416551 |
| Jul 15 | 16 | PM2.5 | 1-Hour | 80 µg/m3 | 150.6 µg/m3 | 3.8 km/hr | 16° (NNE) | 416551 |
| Jul 15 | 17 | PM2.5 | 1-Hour | 80 µg/m3 | 150 µg/m3 | 5.3 km/hr | 48° (NE) | 416551 |
| Jul 15 | 18 | PM2.5 | 1-Hour | 80 µg/m3 | 144.8 µg/m3 | 4.8 km/hr | 79° (ENE) | 416551 |
| Jul 15 | 19 | PM2.5 | 1-Hour | 80 µg/m3 | 142.8 µg/m3 | 3.0 km/hr | 86° (E) | 416551 |
| Jul 15 | 20 | PM2.5 | 1-Hour | 80 µg/m3 | 139.2 µg/m3 | 2.0 km/hr | 117° (ESE) | 416551 |
| Jul 15 | 21 | PM2.5 | 1-Hour | 80 µg/m3 | 120.4 µg/m3 | 4.0 km/hr | 88° (E) | 416551 |
| Jul 15 | 22 | PM2.5 | 1-Hour | 80 µg/m3 | 100.1 µg/m3 | 4.3 km/hr | 105° (ESE) | 416551 |
| Jul 15 | 23 | PM2.5 | 1-Hour | 80 µg/m3 | 90.1 µg/m3 | 3.7 km/hr | 106° (ESE) | 416551 |
| Jul 15 | - | PM2.5 | 24-Hour | 29 µg/m3 | 126.2 µg/m3 | 3.4 km/hr | 9° (N) | 416551 |
| Jul 16 | - | PM2.5 | 24-Hour | 29 µg/m3 | 33.8 µg/m3 | 8.9 km/hr | 135° (SE) | 416551 |
| Jul 21 | - | PM2.5 | 24-Hour | 29 µg/m3 | 36.4 µg/m3 | 2.8 km/hr | 4° (N) | 416957 |

The source of the exceedances of the PM2.5 objective and guidelines were due to wildfires.

Timeseries Chart of Hourly Average for the month of Jul 2023 - Lac La Biche Station



TABLES AND CHARTS

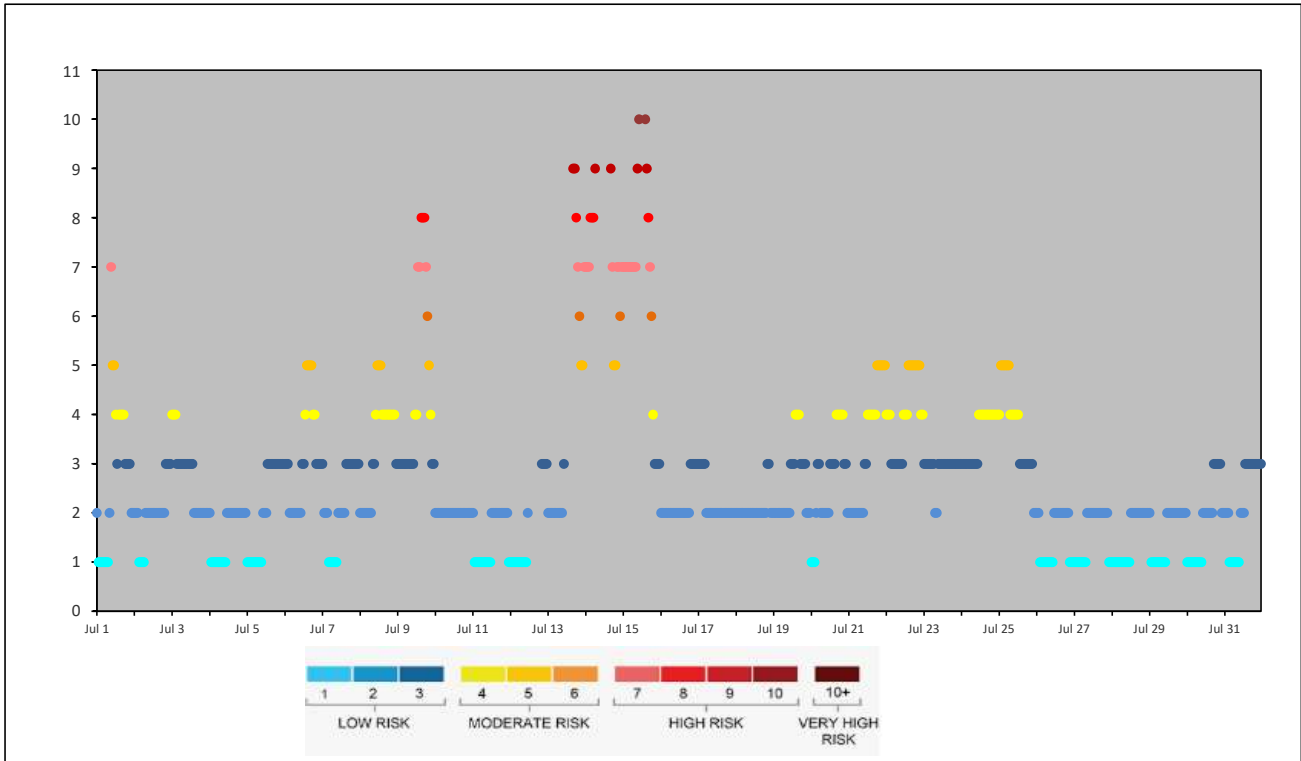
COLD LAKE SOUTH STATION

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Cold Lake South Station - July 2023

AIR QUALITY HEALTH INDEX

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | |
|--------|---------------------------------|---|---|---|---|---|---|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| Jul 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 7 | 5 | 5 | 4 | 3 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 2 | 2 |
| Jul 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 |
| Jul 3 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Jul 4 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Jul 5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Jul 6 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 4 | 5 | 5 | 5 | 5 | 4 | 4 | 3 | 3 | 3 | 1 |
| Jul 7 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Jul 8 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 5 | 5 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 |
| Jul 9 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 7 | 7 | 8 | 8 | 8 | 7 | 6 | 5 | 4 | 3 | 3 |
| Jul 10 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Jul 11 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 |
| Jul 12 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 |
| Jul 13 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Jul 14 | 7 | 7 | 7 | 8 | 8 | 8 | 9 | 10+ | 10+ | 10+ | 10+ | 10+ | 10+ | 10+ | 10+ | 9 | 9 | 8 | 7 | 5 | 5 | 7 | 6 | 7 |
| Jul 15 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 9 | 10 | 10+ | 10+ | 10+ | 10+ | 10 | 9 | 8 | 7 | 6 | 4 | 3 | 3 | 3 | 3 |
| Jul 16 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 |
| Jul 17 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Jul 18 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 2 | 2 |
| Jul 19 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 2 | 2 | 2 |
| Jul 20 | 1 | 1 | 1 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 2 |
| Jul 21 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 |
| Jul 22 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 4 |
| Jul 23 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Jul 24 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Jul 25 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 |
| Jul 26 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 |
| Jul 27 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 |
| Jul 28 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Jul 29 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Jul 30 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 2 | 2 |
| Jul 31 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |

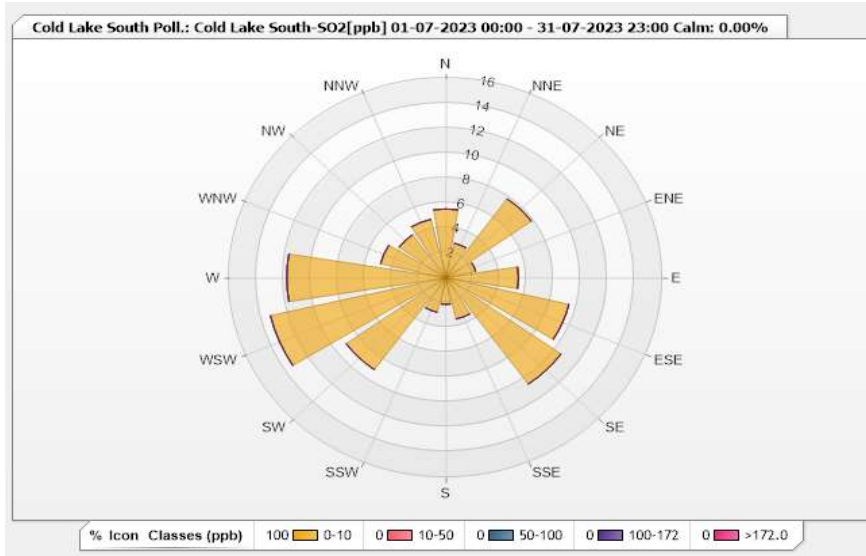


Station: Cold Lake South Poll.: Cold Lake South-SO2[ppb] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 95.03% Calm Avg: 0.00 [ppm]

| Direction | 0-10 | 10-50 | 50-100 | 100-172 | >172.0 | Total |
|-----------|-------|-------|--------|---------|--------|-------|
| N | 5.52 | 0 | 0 | 0 | 0 | 5.52 |
| NNE | 2.83 | 0 | 0 | 0 | 0 | 2.83 |
| NE | 7.78 | 0 | 0 | 0 | 0 | 7.78 |
| ENE | 2.26 | 0 | 0 | 0 | 0 | 2.26 |
| E | 5.37 | 0 | 0 | 0 | 0 | 5.37 |
| ESE | 9.34 | 0 | 0 | 0 | 0 | 9.34 |
| SE | 10.47 | 0 | 0 | 0 | 0 | 10.47 |
| SSE | 3.39 | 0 | 0 | 0 | 0 | 3.39 |
| S | 2.12 | 0 | 0 | 0 | 0 | 2.12 |
| SSW | 2.83 | 0 | 0 | 0 | 0 | 2.83 |
| SW | 9.05 | 0 | 0 | 0 | 0 | 9.05 |
| WSW | 13.3 | 0 | 0 | 0 | 0 | 13.3 |
| W | 11.74 | 0 | 0 | 0 | 0 | 11.74 |
| WNW | 4.95 | 0 | 0 | 0 | 0 | 4.95 |
| NW | 4.24 | 0 | 0 | 0 | 0 | 4.24 |
| NNW | 4.81 | 0 | 0 | 0 | 0 | 4.81 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |



Lakeland Industry & Community Association

Cold Lake South Station - July 2023

Summary of Hourly Averages

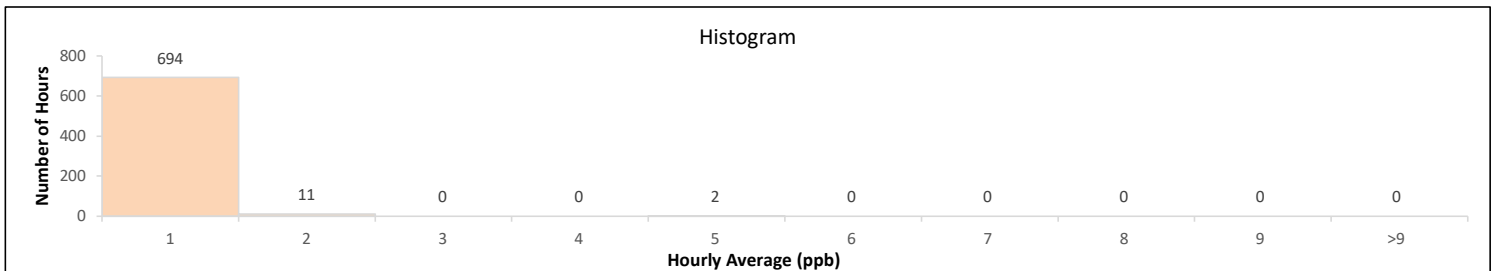
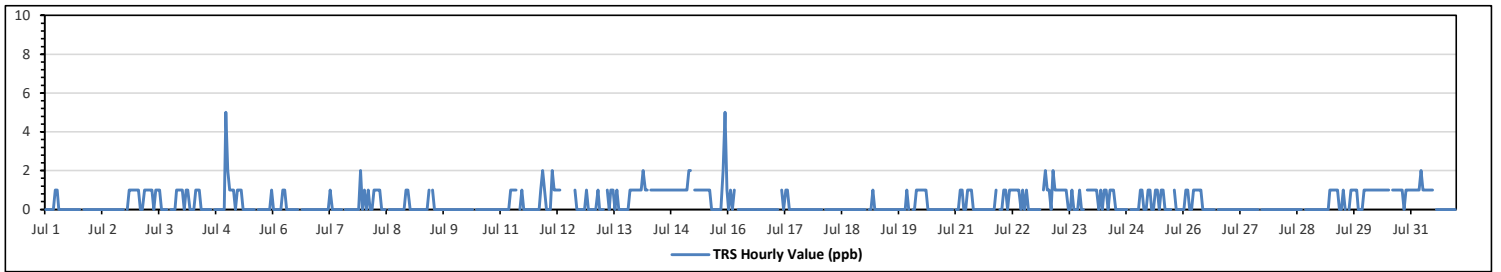
TOTAL REDUCED SULPHUR (TRS) in ppb

| | | | | |
|-----------------------|---------|-------------------|------------------------|-------|
| Maximum Hourly Value: | 5 ppb | on Jul 4 at hr 23 | Hours in Service: | 744 |
| Maximum Daily Value: | 1.0 ppb | on Jul 14 | Hours of Data: | 707 |
| Minimum Hourly Value: | 0 ppb | on Jul 1 at hr 0 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 0.0 ppb | on Jul 10 | Hours of Calibration: | 37 |
| Monthly Average: | 0.4 ppb | | Operational Uptime: | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | | | | | | | | | | | | | | | | | | | | |
|-----------------|---------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------------|---------------|---------------|-----|-----|-----|-----|-----|-----|---|---|---|---|---|---|---|-----|-----|-----|-----|-----|-----|-----|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 | | | | | | | | | | | | | | | | | | | |
| Jul 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0.1 | | |
| Jul 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0.2 |
| Jul 3 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0.6 | | |
| Jul 4 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 5 | 0 | 5 | 0.5 | |
| Jul 5 | 2 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 2 | 0.4 | | |
| Jul 6 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0.1 | |
| Jul 7 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0.1 | | |
| Jul 8 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | S | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0.3 | | |
| Jul 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | S | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.1 | | |
| Jul 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | |
| Jul 11 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | S | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 2 | 0.4 | | | |
| Jul 12 | 0 | 0 | 0 | 2 | 1 | 1 | 1 | 1 | S | 1 | C | C | C | C | C | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 2 | 0.5 | | | | | |
| Jul 13 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | S | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0.4 | | | | |
| Jul 14 | 1 | 1 | 1 | 2 | 1 | 1 | S | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1.0 | | | | |
| Jul 15 | 1 | 1 | 1 | 2 | 2 | S | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 5 | 1 | 0 | 5 | 1.0 | | | | | | |
| Jul 16 | 0 | 1 | 0 | 1 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.1 | | | |
| Jul 17 | 0 | 0 | 0 | S | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | | | |
| Jul 18 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | | | |
| Jul 19 | 0 | S | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0.1 | | | | |
| Jul 20 | S | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | | | |
| Jul 21 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | S | 0 | 0 | 1 | 0.3 | | | | | |
| Jul 22 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.6 | | | |
| Jul 23 | 1 | 1 | 0 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 1 | 1 | 1 | 0 | 2 | 0.7 | | | | | |
| Jul 24 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | | | |
| Jul 25 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | S | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | | | |
| Jul 26 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | | | |
| Jul 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | | | |
| Jul 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | | | |
| Jul 29 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | S | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | | |
| Jul 30 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | S | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | | | |
| Jul 31 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.6 | | |
| Diurnal Maximum | 2 | 1 | 1 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 5 | 5 | | | | | | | | | | | | |
| Diurnal Average | 0.4 | 0.4 | 0.4 | 0.5 | 0.4 | 0.6 | 0.7 | 0.6 | 0.5 | 0.4 | 0.3 | 0.3 | 0.3 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.4 | 0.6 | 0.6 | | | | | | | | | | | | | | |

| | | | | | |
|---|--|-----|---|---|---------------------|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance |
| K | Collection Error | ND | No Data (Machine Not in Service) | Y | Routine Maintenance |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P | Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

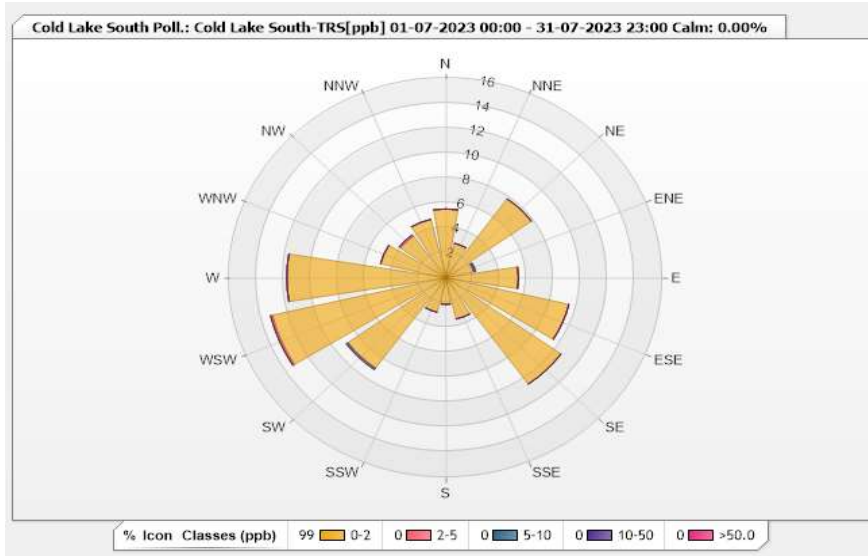


Station: Cold Lake South Poll.: Cold Lake South-TRS[ppb] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 95.03% Calm Avg: 0.00 [ppm]

| Direction | 0-2 | 2-5 | 5-10 | 10-50 | >50.0 | Total |
|-----------|-------|------|------|-------|-------|-------|
| N | 5.52 | 0 | 0 | 0 | 0 | 5.52 |
| NNE | 2.83 | 0 | 0 | 0 | 0 | 2.83 |
| NE | 7.78 | 0 | 0 | 0 | 0 | 7.78 |
| ENE | 2.12 | 0 | 0.14 | 0 | 0 | 2.26 |
| E | 5.37 | 0 | 0 | 0 | 0 | 5.37 |
| ESE | 9.34 | 0 | 0 | 0 | 0 | 9.34 |
| SE | 10.47 | 0 | 0 | 0 | 0 | 10.47 |
| SSE | 3.39 | 0 | 0 | 0 | 0 | 3.39 |
| S | 2.12 | 0 | 0 | 0 | 0 | 2.12 |
| SSW | 2.83 | 0 | 0 | 0 | 0 | 2.83 |
| SW | 8.91 | 0 | 0.14 | 0 | 0 | 9.05 |
| WSW | 13.15 | 0.14 | 0 | 0 | 0 | 13.29 |
| W | 11.74 | 0 | 0 | 0 | 0 | 11.74 |
| WNW | 4.95 | 0 | 0 | 0 | 0 | 4.95 |
| NW | 4.1 | 0.14 | 0 | 0 | 0 | 4.24 |
| NNW | 4.81 | 0 | 0 | 0 | 0 | 4.81 |
| Summary | 99.43 | 0.28 | 0.28 | 0 | 0 | 100 |



Lakeland Industry & Community Association

Cold Lake South Station - July 2023

Summary of Hourly Averages

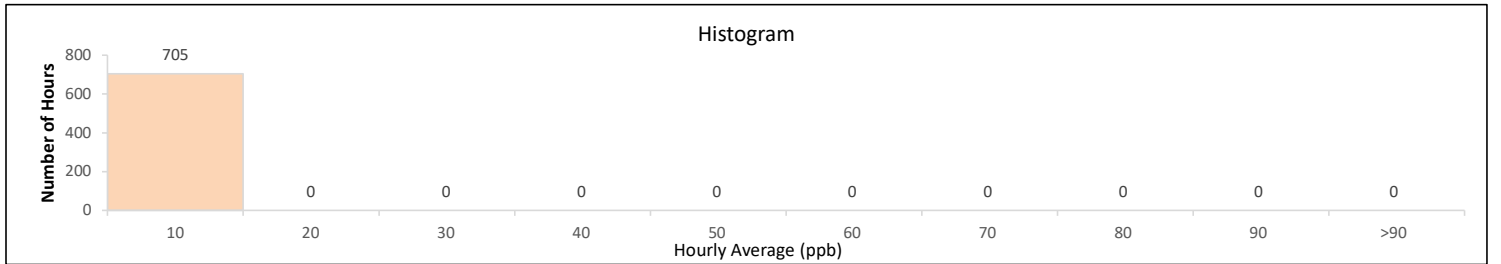
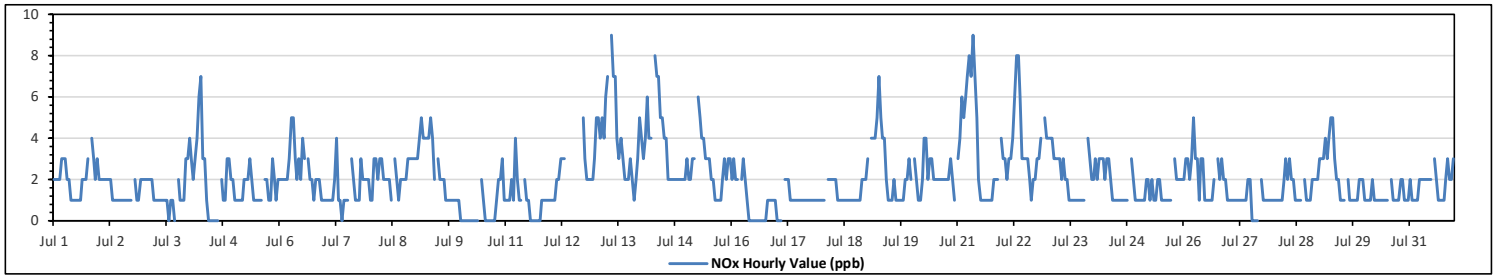
OXIDES OF NITROGEN (NOx) in ppb

| | | | | |
|-----------------------|---------|-------------------|------------------------|-------|
| Maximum Hourly Value: | 9 ppb | on Jul 13 at hr 8 | Hours in Service: | 744 |
| Maximum Daily Value: | 4.1 ppb | on Jul 13 | Hours of Data: | 705 |
| Minimum Hourly Value: | 0 ppb | on Jul 3 at hr 13 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 0.5 ppb | on Jul 10 | Hours of Calibration: | 39 |
| Monthly Average: | 2.0 ppb | | Operational Uptime: | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | | |
|-----------------|---------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------------|---------------|---------------|-----|-----|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 | |
| Jul 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | S | 4 | 3 | 2 | 3 | 1 | 4 | 2.1 | |
| Jul 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | S | 2 | 1 | 1 | 2 | 2 | 1 | 2 | 1.4 |
| Jul 3 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | S | 2 | 1 | 1 | 1 | 1 | 3 | 3 | 0 | 3 | 1.3 | |
| Jul 4 | 4 | 3 | 2 | 3 | 4 | 6 | 7 | 3 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | S | 2 | 1 | 1 | 3 | 3 | 2 | 2 | 0 | 7 | 2.2 | |
| Jul 5 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | S | 2 | 2 | 1 | 1 | 3 | 2 | 1 | 2 | 1 | 3 | 1.5 | |
| Jul 6 | 2 | 2 | 2 | 2 | 2 | 3 | 5 | 5 | 3 | 2 | 3 | 2 | 4 | 3 | S | 3 | 2 | 2 | 1 | 2 | 2 | 2 | 1 | 2 | 1 | 5 | 2.4 | |
| Jul 7 | 1 | 1 | 1 | 1 | 1 | 2 | 4 | 1 | 1 | 0 | 1 | 1 | 1 | S | 3 | 2 | 1 | 1 | 1 | 3 | 2 | 2 | 2 | 2 | 0 | 4 | 1.5 | |
| Jul 8 | 1 | 1 | 3 | 3 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 1 | S | 3 | 2 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 1 | 3 | 2.2 | |
| Jul 9 | 3 | 3 | 4 | 5 | 4 | 4 | 4 | 4 | 5 | 4 | 2 | S | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 5 | 2.6 | |
| Jul 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 2 | 3 | 1 | 0 | 3 | 0.5 |
| Jul 11 | 1 | 1 | 1 | 2 | 1 | 4 | 2 | 1 | 1 | S | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 4 | 1.0 | |
| Jul 12 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 3 | S | 4 | C | C | C | C | C | C | C | C | 5 | 3 | 2 | 2 | 2 | 2 | 3 | 1 | 5 | NA |
| Jul 13 | 5 | 5 | 4 | 5 | 4 | 6 | 7 | S | 9 | 7 | 7 | 4 | 3 | 4 | 3 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 3 | 5 | 1 | 9 | 4.1 | |
| Jul 14 | 4 | 3 | 4 | 6 | 4 | 4 | S | 8 | 7 | 7 | 5 | 5 | 4 | 4 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 8 | 3.7 | |
| Jul 15 | 3 | 2 | 2 | 3 | 3 | S | 6 | 5 | 4 | 4 | 3 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 3 | 2 | 3 | 3 | 1 | 6 | 2.7 | |
| Jul 16 | 2 | 3 | 2 | 2 | S | 2 | 3 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 3 | 1.0 | |
| Jul 17 | 0 | 0 | 0 | 0 | S | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 2 | 1.0 | |
| Jul 18 | 1 | 1 | S | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 2 | 1.3 | |
| Jul 19 | 3 | S | 4 | 4 | 4 | 5 | 7 | 5 | 4 | 4 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 2 | 1 | 7 | 2.7 | |
| Jul 20 | S | 3 | 2 | 1 | 1 | 2 | 4 | 4 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 4 | 2.2 | | |
| Jul 21 | 3 | 4 | 6 | 5 | 6 | 7 | 8 | 7 | 9 | 7 | 5 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | S | 4 | 1 | 9 | 3.7 | |
| Jul 22 | 3 | 3 | 2 | 3 | 3 | 4 | 6 | 8 | 8 | 6 | 3 | 3 | 3 | 3 | 2 | 1 | 2 | 2 | 3 | 3 | 4 | S | 5 | 4 | 1 | 8 | 3.7 | |
| Jul 23 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 2 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | S | 4 | 3 | 2 | 1 | 4 | 2.2 | |
| Jul 24 | 2 | 3 | 2 | 3 | 3 | 3 | 2 | 3 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | S | 3 | 2 | 1 | 1 | 1 | 3 | 1.8 | |
| Jul 25 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | S | 3 | 2 | 2 | 2 | 1 | 3 | 1.5 | |
| Jul 26 | 2 | 3 | 3 | 2 | 3 | 5 | 3 | 3 | 3 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | S | 3 | 2 | 3 | 2 | 2 | 2 | 1 | 1 | 5 | 2.2 | |
| Jul 27 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 0 | 0 | 0 | S | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 2 | 1.0 | |
| Jul 28 | 1 | 1 | 1 | 1 | 2 | 3 | 2 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | S | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 1 | 1 | 3 | 1.6 | |
| Jul 29 | 3 | 3 | 3 | 4 | 3 | 4 | 5 | 5 | 3 | 2 | 2 | 1 | 1 | 1 | S | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 1 | 5 | 2.3 | |
| Jul 30 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | S | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 1.2 | |
| Jul 31 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | S | 3 | 2 | 1 | 1 | 1 | 1 | 2 | 3 | 2 | 2 | 3 | 1 | 3 | 1.8 | |
| Diurnal Maximum | 5 | 5 | 6 | 6 | 6 | 7 | 8 | 8 | 9 | 7 | 7 | 5 | 4 | 4 | 3 | 3 | 2 | 5 | 3 | 3 | 4 | 4 | 5 | 5 | | | | |
| Diurnal Average | 2.0 | 2.0 | 2.1 | 2.4 | 2.4 | 3.0 | 3.4 | 2.9 | 2.9 | 2.5 | 2.1 | 1.6 | 1.4 | 1.4 | 1.3 | 1.1 | 1.2 | 1.4 | 1.4 | 1.6 | 2.1 | 1.9 | 2.0 | 2.1 | | | | |

| | | | | | |
|---|--|-----|---|---|---------------------|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance |
| K | Collection Error | ND | No Data (Machine Not in Service) | Y | Routine Maintenance |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P | Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

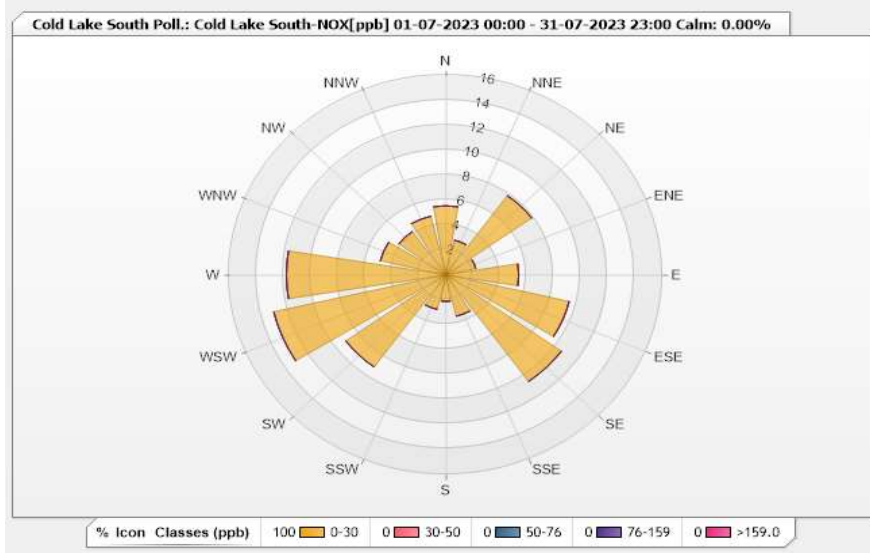


Station: Cold Lake South Poll.: Cold Lake South-NOX[ppb] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.76% Calm Avg: 0.00 [ppm]

| Direction | 0-30 | 30-50 | 50-76 | 76-159 | >159.0 | Total |
|-----------|-------|-------|-------|--------|--------|-------|
| N | 5.53 | 0 | 0 | 0 | 0 | 5.53 |
| NNE | 2.84 | 0 | 0 | 0 | 0 | 2.84 |
| NE | 7.8 | 0 | 0 | 0 | 0 | 7.8 |
| ENE | 2.27 | 0 | 0 | 0 | 0 | 2.27 |
| E | 5.39 | 0 | 0 | 0 | 0 | 5.39 |
| ESE | 9.36 | 0 | 0 | 0 | 0 | 9.36 |
| SE | 10.5 | 0 | 0 | 0 | 0 | 10.5 |
| SSE | 3.4 | 0 | 0 | 0 | 0 | 3.4 |
| S | 2.13 | 0 | 0 | 0 | 0 | 2.13 |
| SSW | 2.84 | 0 | 0 | 0 | 0 | 2.84 |
| SW | 9.08 | 0 | 0 | 0 | 0 | 9.08 |
| WSW | 13.05 | 0 | 0 | 0 | 0 | 13.05 |
| W | 11.77 | 0 | 0 | 0 | 0 | 11.77 |
| WNW | 4.96 | 0 | 0 | 0 | 0 | 4.96 |
| NW | 4.26 | 0 | 0 | 0 | 0 | 4.26 |
| NNW | 4.82 | 0 | 0 | 0 | 0 | 4.82 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |



Lakeland Industry & Community Association

Cold Lake South Station - July 2023

Summary of Hourly Averages

NITRIC OXIDE (NO) in ppb

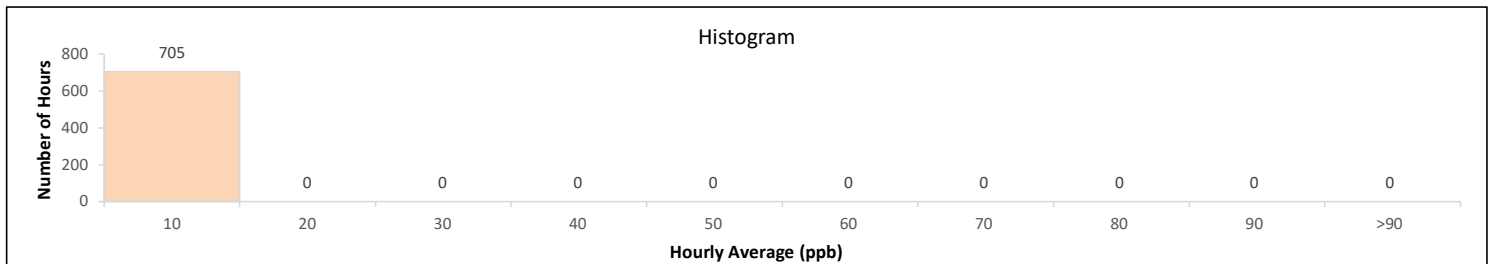
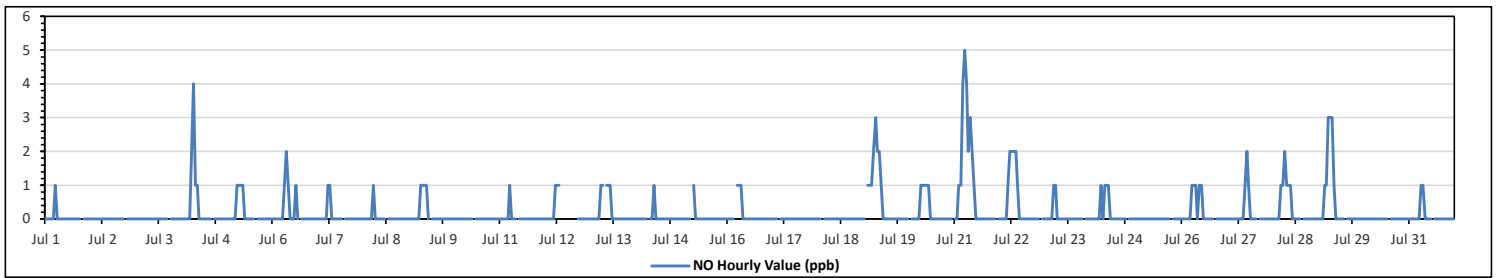
| | | | | |
|-----------------------|---------|-------------------|------------------------|-------|
| Maximum Hourly Value: | 5 ppb | on Jul 21 at hr 5 | Hours in Service: | 744 |
| Maximum Daily Value: | 1.0 ppb | on Jul 21 | Hours of Data: | 705 |
| Minimum Hourly Value: | 0 ppb | on Jul 1 at hr 0 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 0.0 ppb | on Jul 2 | Hours of Calibration: | 39 |
| Monthly Average: | 0.2 ppb | | Operational Uptime: | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | |
|-----------------|---------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------------|---------------|---------------|-----|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | | |
| Jul 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 4 | 0 | 0 | 0 | 0 | 0 | 2 | 4 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 5 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 6 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 1 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 7 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 8 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 9 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 11 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 12 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | S | 1 | C | C | C | C | C | C | C | C | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 13 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | S | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 14 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 15 | 0 | 0 | 0 | 0 | 0 | 0 | S | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 16 | 0 | 0 | 0 | 0 | 0 | S | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 18 | 0 | 0 | S | 1 | 1 | 1 | 2 | 3 | 2 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 19 | 0 | S | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 20 | S | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 21 | 0 | 0 | 1 | 1 | 4 | 5 | 4 | 2 | 3 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 22 | 0 | 0 | 0 | 0 | 1 | 2 | 2 | 2 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 23 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 |
| Jul 24 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 26 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 28 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 29 | 0 | 0 | 0 | 1 | 1 | 3 | 3 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 31 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diurnal Maximum | 0 | 0 | 1 | 1 | 4 | 5 | 4 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diurnal Average | 0.0 | 0.0 | 0.1 | 0.1 | 0.3 | 0.9 | 1.0 | 0.7 | 0.5 | 0.4 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

| | | | | | |
|---|--|-----|---|---|---------------------|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance |
| K | Collection Error | ND | No Data (Machine Not in Service) | Y | Routine Maintenance |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P | Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

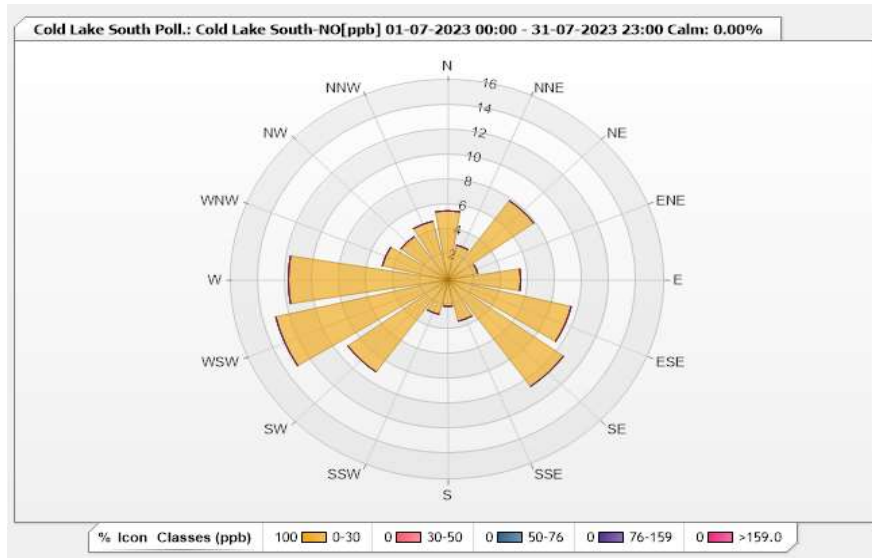


Station: Cold Lake South Poll.: Cold Lake South-NO[ppb] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.76% Calm Avg: 0.00 [ppm]

| Direction | 0-30 | 30-50 | 50-76 | 76-159 | >159.0 | Total |
|-----------|-------|-------|-------|--------|--------|-------|
| N | 5.53 | 0 | 0 | 0 | 0 | 5.53 |
| NNE | 2.84 | 0 | 0 | 0 | 0 | 2.84 |
| NE | 7.8 | 0 | 0 | 0 | 0 | 7.8 |
| ENE | 2.27 | 0 | 0 | 0 | 0 | 2.27 |
| E | 5.39 | 0 | 0 | 0 | 0 | 5.39 |
| ESE | 9.36 | 0 | 0 | 0 | 0 | 9.36 |
| SE | 10.5 | 0 | 0 | 0 | 0 | 10.5 |
| SSE | 3.4 | 0 | 0 | 0 | 0 | 3.4 |
| S | 2.13 | 0 | 0 | 0 | 0 | 2.13 |
| SSW | 2.84 | 0 | 0 | 0 | 0 | 2.84 |
| SW | 9.08 | 0 | 0 | 0 | 0 | 9.08 |
| WSW | 13.05 | 0 | 0 | 0 | 0 | 13.05 |
| W | 11.77 | 0 | 0 | 0 | 0 | 11.77 |
| WNW | 4.96 | 0 | 0 | 0 | 0 | 4.96 |
| NW | 4.26 | 0 | 0 | 0 | 0 | 4.26 |
| NNW | 4.82 | 0 | 0 | 0 | 0 | 4.82 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |

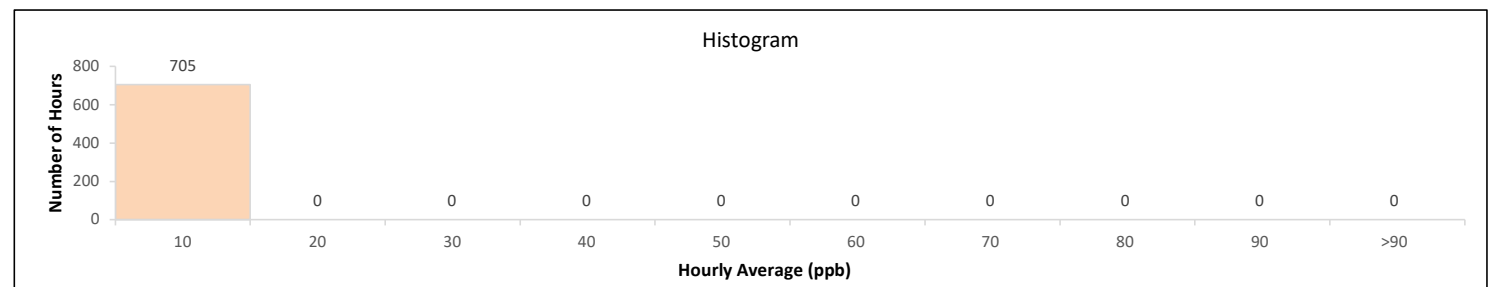
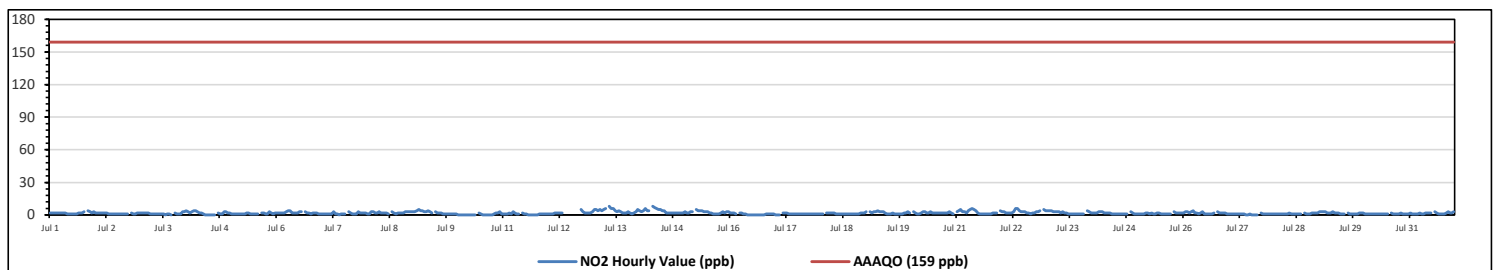


Lakeland Industry & Community Association
Cold Lake South Station - July 2023
Summary of Hourly Averages
NITROGEN DIOXIDE (NO₂) in ppb

| Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 159 ppb | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------------|---------------|---------------|-----|-----|
| Number of 1-Hour Exceedances: 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum Hourly Value: 8 ppb on Jul 13 at hr 8 | | | | | | | | | | Hours in Service: 744 | | | | | | | | | | | | | | | | | | |
| Maximum Daily Value: 3.9 ppb on Jul 13 | | | | | | | | | | Hours of Data: 705 | | | | | | | | | | | | | | | | | | |
| Minimum Hourly Value: 0 ppb on Jul 3 at hr 13 | | | | | | | | | | Hours of Missing Data: 0 | | | | | | | | | | | | | | | | | | |
| Minimum Daily Value: 0.5 ppb on Jul 10 | | | | | | | | | | Hours of Calibration: 39 | | | | | | | | | | | | | | | | | | |
| Monthly Average: 1.8 ppb | | | | | | | | | | Operational Uptime: 100.0 | | | | | | | | | | | | | | | | | | |
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | | |
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 | |
| Jul 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | S | 4 | 3 | 2 | 3 | 1 | 4 | 2.0 | |
| Jul 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | S | 2 | 1 | 1 | 2 | 2 | 1 | 2 | 1.4 |
| Jul 3 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | S | 2 | 1 | 1 | 1 | 3 | 3 | 0 | 3 | 1.3 | | |
| Jul 4 | 4 | 3 | 2 | 3 | 4 | 4 | 3 | 2 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | S | 2 | 1 | 1 | 3 | 3 | 2 | 2 | 0 | 4 | 1.8 | | |
| Jul 5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | S | 2 | 1 | 1 | 3 | 2 | 1 | 2 | 1 | 3 | 1.3 | | |
| Jul 6 | 2 | 2 | 2 | 2 | 2 | 3 | 4 | 4 | 2 | 2 | 2 | 3 | 3 | S | 3 | 2 | 2 | 1 | 2 | 2 | 2 | 1 | 1 | 1 | 4 | 2.2 | | |
| Jul 7 | 1 | 1 | 1 | 1 | 1 | 3 | 1 | 1 | 0 | 1 | 1 | 1 | S | 3 | 2 | 1 | 1 | 1 | 3 | 2 | 2 | 2 | 2 | 0 | 3 | 1.4 | | |
| Jul 8 | 1 | 1 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 1 | S | 3 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 1 | 3 | 2.2 | | | |
| Jul 9 | 3 | 3 | 4 | 5 | 4 | 4 | 3 | 3 | 4 | 3 | 2 | S | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 5 | 2.4 | | |
| Jul 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 1 | 0 | 3 | 0.5 | | |
| Jul 11 | 1 | 1 | 1 | 2 | 1 | 3 | 2 | 1 | 1 | S | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 3 | 1.0 | | |
| Jul 12 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | S | 3 | C | C | C | C | C | C | C | C | 5 | 3 | 2 | 2 | 2 | 3 | 1 | 5 | NA | | |
| Jul 13 | 5 | 5 | 4 | 5 | 4 | 5 | 6 | S | 8 | 6 | 6 | 4 | 3 | 4 | 3 | 2 | 2 | 2 | 3 | 2 | 1 | 2 | 3 | 1 | 8 | 3.9 | | |
| Jul 14 | 4 | 3 | 4 | 6 | 4 | 4 | S | 8 | 7 | 6 | 5 | 5 | 4 | 4 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 8 | 3.7 | | |
| Jul 15 | 3 | 2 | 2 | 3 | 3 | S | 5 | 4 | 4 | 4 | 3 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 2 | 3 | 2 | 3 | 3 | 1 | 5 | 2.6 | | |
| Jul 16 | 2 | 2 | 2 | 1 | S | 2 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 2 | 0.8 | | |
| Jul 17 | 0 | 0 | 0 | S | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 2 | 1.0 | | |
| Jul 18 | 1 | 1 | S | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 2 | 1.3 | | |
| Jul 19 | 3 | S | 3 | 2 | 3 | 3 | 4 | 3 | 3 | 3 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 2 | 4 | 2.1 | | |
| Jul 20 | S | 3 | 2 | 1 | 1 | 2 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 1 | S | 1 | 3 | 2.1 | |
| Jul 21 | 3 | 4 | 5 | 3 | 3 | 2 | 4 | 5 | 6 | 5 | 4 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | S | 4 | 1 | 6 | 2.7 | |
| Jul 22 | 3 | 3 | 2 | 2 | 2 | 2 | 3 | 6 | 6 | 4 | 3 | 3 | 2 | 2 | 2 | 2 | 3 | 3 | 4 | S | 5 | 4 | 1 | 6 | 3.0 | | | |
| Jul 23 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 2 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | S | 4 | 3 | 2 | 1 | 4 | 2.2 | |
| Jul 24 | 2 | 2 | 2 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | S | 3 | 2 | 1 | 1 | 3 | 1.7 | | |
| Jul 25 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | S | 3 | 2 | 2 | 2 | 1 | 3 | 1.5 | | |
| Jul 26 | 2 | 3 | 3 | 2 | 3 | 4 | 2 | 2 | 1 | 2 | 3 | 1 | 1 | 1 | 1 | 1 | 2 | S | 3 | 2 | 2 | 2 | 1 | 1 | 4 | 2.0 | | |
| Jul 27 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | S | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 2 | 0.8 | | |
| Jul 28 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | S | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 2 | 1.3 | | |
| Jul 29 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | S | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 3 | 1.9 | | |
| Jul 30 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | S | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 2 | 1.1 | | |
| Jul 31 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 2 | 2 | 2 | S | 3 | 2 | 1 | 1 | 1 | 1 | 2 | 3 | 2 | 2 | 3 | 1 | 3 | 1.7 | |
| Diurnal Maximum | 5 | 5 | 5 | 6 | 4 | 5 | 6 | 8 | 8 | 6 | 6 | 5 | 4 | 4 | 3 | 3 | 2 | 5 | 3 | 3 | 4 | 4 | 5 | 5 | | | | |
| Diurnal Average | 2.0 | 2.0 | 2.1 | 2.2 | 2.1 | 2.3 | 2.4 | 2.3 | 2.4 | 2.0 | 1.9 | 1.5 | 1.4 | 1.4 | 1.3 | 1.1 | 1.2 | 1.4 | 1.4 | 1.6 | 2.0 | 1.9 | 2.0 | 2.1 | | | | |

C Monthly Calibration **S** Daily Zero-Span Check **Q** Quality Assurance
K Collection Error **ND** No Data (Machine Not in Service) **Y** Routine Maintenance
X InValid Data (Equipment Malfunction /Recovery) **NRM** UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) **P** Power Failure

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

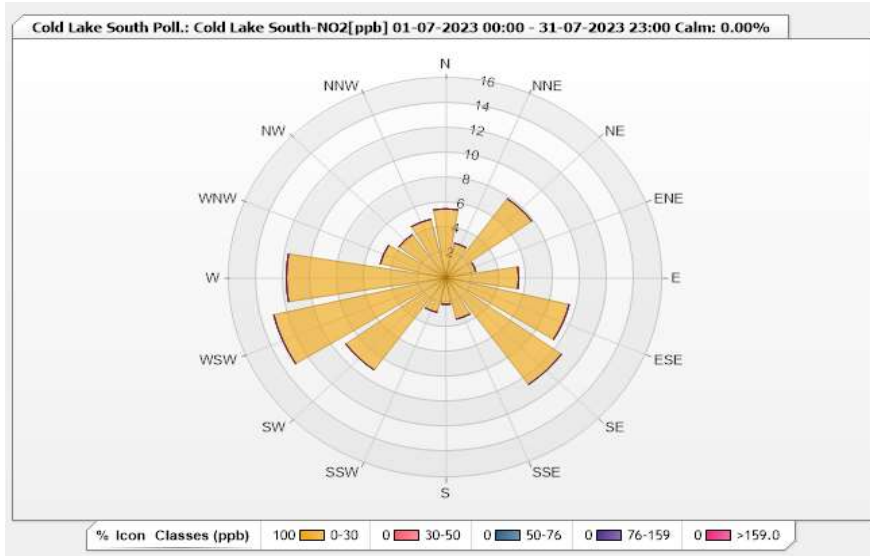


Station: Cold Lake South Poll.: Cold Lake South-NO2[ppb] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.76% Calm Avg: 0.00 [ppm]

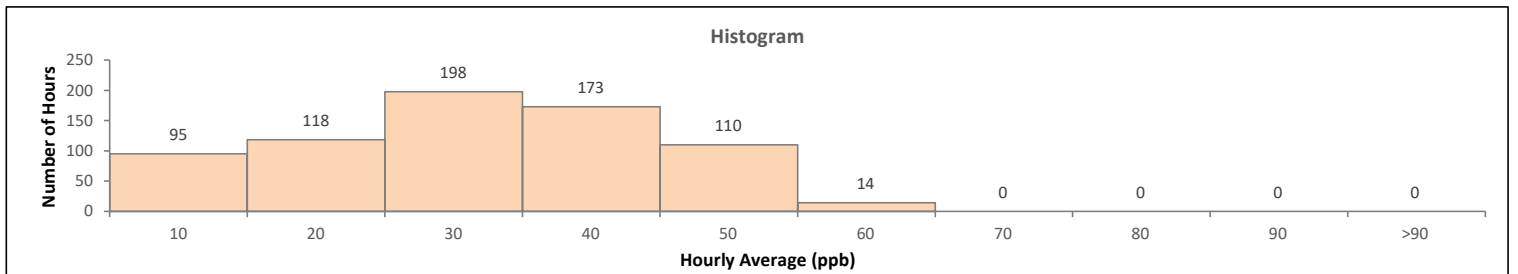
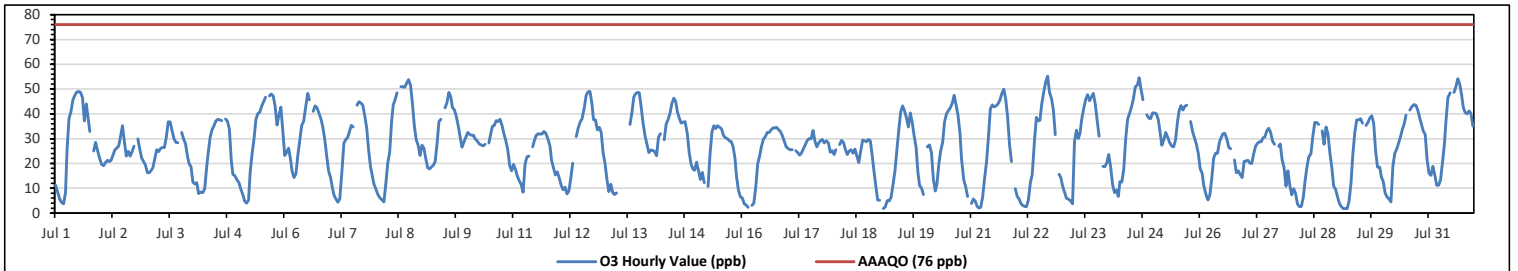
| Direction | 0-30 | 30-50 | 50-76 | 76-159 | >159.0 | Total |
|-----------|-------|-------|-------|--------|--------|-------|
| N | 5.53 | 0 | 0 | 0 | 0 | 5.53 |
| NNE | 2.84 | 0 | 0 | 0 | 0 | 2.84 |
| NE | 7.8 | 0 | 0 | 0 | 0 | 7.8 |
| ENE | 2.27 | 0 | 0 | 0 | 0 | 2.27 |
| E | 5.39 | 0 | 0 | 0 | 0 | 5.39 |
| ESE | 9.36 | 0 | 0 | 0 | 0 | 9.36 |
| SE | 10.5 | 0 | 0 | 0 | 0 | 10.5 |
| SSE | 3.4 | 0 | 0 | 0 | 0 | 3.4 |
| S | 2.13 | 0 | 0 | 0 | 0 | 2.13 |
| SSW | 2.84 | 0 | 0 | 0 | 0 | 2.84 |
| SW | 9.08 | 0 | 0 | 0 | 0 | 9.08 |
| WSW | 13.05 | 0 | 0 | 0 | 0 | 13.05 |
| W | 11.77 | 0 | 0 | 0 | 0 | 11.77 |
| WNW | 4.96 | 0 | 0 | 0 | 0 | 4.96 |
| NW | 4.26 | 0 | 0 | 0 | 0 | 4.26 |
| NNW | 4.82 | 0 | 0 | 0 | 0 | 4.82 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |



Lakeland Industry & Community Association
Cold Lake South Station - July 2023
Summary of Hourly Averages
OZONE (O₃) in ppb

| Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 76 ppb | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|------|------|------|---------------------------|------|------|------|------|------|------------|---|------|------|------|------|----------|---------------------|------|------|------|------|----------|---------------|---------------|---------------|---------------|------|
| Number of 1-Hour Exceedances: 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum Hourly Value: 55.2 ppb on Jul 22 at hr 16 | | | | | Hours in Service: 744 | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum Daily Value: 34.0 ppb on Jul 25 | | | | | Hours of Data: 708 | | | | | | | | | | | | | | | | | | | | | | | |
| Minimum Hourly Value: 1.8 ppb on Jul 19 at hr 2 | | | | | Hours of Missing Data: 0 | | | | | | | | | | | | | | | | | | | | | | | |
| Minimum Daily Value: 19.5 ppb on Jul 28 | | | | | Hours of Calibration: 36 | | | | | | | | | | | | | | | | | | | | | | | |
| Monthly Average: 26.9 ppb | | | | | Operational Uptime: 100.0 | | | | | | | | | | | | | | | | | | | | | | | |
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | |
| Jul 1 | 11.1 | 8.7 | 5.9 | 4.4 | 3.7 | 8.2 | 26.1 | 38.2 | 40.9 | 45.5 | 47.4 | 48.8 | 49.1 | 48.7 | 46.6 | 37.1 | 44 | 38 | 32.8 | S | 25 | 28.5 | 24.8 | 21.9 | 3.7 | 49.1 | 29.8 | |
| Jul 2 | 19.5 | 19.1 | 20.3 | 21.3 | 20.7 | 21.2 | 23.2 | 25.4 | 26.2 | 27 | 30.9 | 35.2 | 28.8 | 23 | 24.9 | 22.9 | 24.4 | 26.9 | S | 29.9 | 25.8 | 22.2 | 20.8 | 19.3 | 19.1 | 35.2 | 24.3 | |
| Jul 3 | 16.3 | 16.3 | 17.1 | 18.3 | 21.9 | 25.5 | 24.7 | 26 | 26.4 | 26.4 | 30.5 | 36.7 | 36.7 | 33.2 | 30 | 28.5 | 28.4 | S | 32.4 | 30 | 27.9 | 23 | 19.5 | 18.8 | 16.3 | 36.7 | 25.8 | |
| Jul 4 | 12.5 | 11.7 | 12.2 | 7.8 | 8.5 | 8.2 | 9.8 | 18.4 | 24.3 | 30.5 | 33.7 | 35.2 | 37.1 | 37.8 | 37.5 | 37.3 | S | 38 | 37 | 33.9 | 21.3 | 15.5 | 15.1 | 13.3 | 7.8 | 38.0 | 23.3 | |
| Jul 5 | 12.3 | 9.5 | 7.4 | 4.7 | 4 | 5.2 | 16.4 | 23.8 | 29.8 | 37.8 | 40.1 | 40.7 | 43.1 | 45 | 46.7 | S | 41 | 43.2 | 42.5 | 40.3 | 38.1 | 34.6 | 29.8 | 23.2 | 17 | 14.3 | 48.3 | 31.1 |
| Jul 6 | 23.2 | 24.5 | 26.1 | 21.8 | 16.9 | 14.3 | 15.8 | 23.4 | 29.3 | 35.4 | 36.9 | 43.2 | 48.3 | 33 | 30 | 28.5 | 28.4 | S | 32.4 | 30 | 27.9 | 23 | 19.5 | 18.8 | 16.3 | 36.7 | 25.8 | |
| Jul 7 | 14.4 | 10.2 | 7.2 | 5.7 | 4.4 | 5.6 | 17.3 | 28.2 | 29.7 | 30.5 | 33.2 | 35.4 | 34.6 | S | 43.4 | 45 | 44.4 | 43.4 | 39.3 | 34.4 | 25.7 | 18.9 | 14.9 | 11.6 | 4.4 | 45.0 | 25.1 | |
| Jul 8 | 9.3 | 7.2 | 6.1 | 5.3 | 4.5 | 11.8 | 20.1 | 24.5 | 36.7 | 43.5 | 45.8 | 48.5 | S | 51 | 51 | 50.7 | 52.4 | 53.8 | 51.6 | 44.4 | 35.2 | 29.6 | 27.4 | 23.2 | 4.5 | 53.8 | 31.9 | |
| Jul 9 | 27.4 | 26.2 | 21.7 | 18.1 | 17.8 | 18.7 | 19.2 | 20.6 | 27.9 | 36.9 | 37.8 | S | 42.5 | 44.5 | 48.7 | 46.9 | 42.6 | 41.7 | 39.1 | 35.4 | 30.8 | 26.6 | 28.6 | 30.6 | 17.8 | 48.7 | 31.8 | |
| Jul 10 | 32.4 | 31.7 | 31.4 | 31.3 | 29.9 | 29.1 | 27.9 | 27.5 | 27.1 | 27.7 | S | 28.2 | 32.1 | 34.9 | 35.3 | 37.3 | 36.8 | 37.8 | 35.3 | 32 | 29.1 | 25.6 | 19.3 | 17.1 | 17.1 | 37.8 | 30.3 | |
| Jul 11 | 19.5 | 17.6 | 14.9 | 13 | 11.5 | 8.4 | 19.6 | 22.7 | 22.9 | S | 26.7 | 29.2 | 31.4 | 32 | 31.9 | 31.9 | 32.8 | 32.2 | 29.7 | 26.9 | 21.2 | 18.2 | 15.3 | 16.7 | 8.4 | 32.8 | 22.9 | |
| Jul 12 | 14.1 | 11.2 | 9.4 | 10.4 | 7.7 | 8.8 | 14 | 20.1 | S | 30.8 | 34.2 | 36.6 | 37.9 | 42.3 | 47.4 | 48.9 | 49.1 | 44.1 | 37.6 | 37.5 | 33.6 | 34.5 | 32.5 | 24.2 | 7.7 | 49.1 | 29.0 | |
| Jul 13 | 20 | 13.4 | 8.7 | 11.6 | 8.2 | 7.5 | 8.1 | S | 13.7 | C | C | C | C | 35.7 | 40.5 | 46.9 | 48 | 48.6 | 48.5 | 42.7 | 36.1 | 31.1 | 27.7 | 24.3 | 7.5 | 48.6 | 27.4 | |
| Jul 14 | 25.4 | 25.3 | 24.8 | 23.1 | 30.6 | 32 | S | 29.6 | 35.9 | 37.6 | 40.3 | 44.3 | 46.3 | 45 | 40.8 | 38.3 | 36.3 | 36.6 | 36.8 | 32.2 | 24.4 | 19.5 | 17.6 | 17.3 | 17.3 | 46.3 | 32.2 | |
| Jul 15 | 20.5 | 17.2 | 13.5 | 16.4 | 12.2 | S | 10.7 | 23.6 | 32.6 | 35.2 | 34.1 | 35.2 | 34.6 | 34 | 31.3 | 30.3 | 30.1 | 29.2 | 28.9 | 26.8 | 22.2 | 14.6 | 9.1 | 6.6 | 6.6 | 35.2 | 23.9 | |
| Jul 16 | 6.1 | 3.7 | 3.2 | 2.3 | S | 3.1 | 4 | 10.4 | 19.7 | 23 | 26.9 | 29.8 | 30.8 | 32.5 | 32.4 | 33.5 | 34.3 | 34.3 | 34.5 | 33.7 | 32.8 | 31.2 | 29 | 26.7 | 2.3 | 34.5 | 22.5 | |
| Jul 17 | 26 | 25.6 | 25.6 | S | 25.1 | 24.3 | 23.3 | 24.2 | 25.9 | 27.6 | 29.3 | 30.1 | 30 | 33.3 | 28.9 | 26.7 | 28 | 29.2 | 29.7 | 28.2 | 29.1 | 28.2 | 24.5 | 25.1 | 23.3 | 33.3 | 27.3 | |
| Jul 18 | 23.6 | 25.5 | S | 27.6 | 29.3 | 28.5 | 25.7 | 23.7 | 25 | 25.6 | 24.1 | 25.8 | 23 | 20.3 | 25 | 29.4 | 29.2 | 28.7 | 29.7 | 29.1 | 23.1 | 16.3 | 10 | 5.2 | 5.2 | 29.7 | 24.1 | |
| Jul 19 | 5.1 | S | 1.8 | 2.5 | 5 | 4.8 | 6.5 | 11.5 | 17.1 | 25.4 | 33.5 | 40.8 | 43.2 | 41.1 | 38.3 | 34.7 | 40.4 | 36.5 | 31.1 | 26.5 | 16.1 | 11 | 10.1 | 7.5 | 1.8 | 43.2 | 21.3 | |
| Jul 20 | S | 26.7 | 27.5 | 24.4 | 13.7 | 8.8 | 11.5 | 19.6 | 25.2 | 28.5 | 36.7 | 40 | 41.3 | 42.5 | 44.3 | 47.4 | 43.6 | 39.4 | 32.4 | 21.9 | 13.4 | 10.6 | 6.7 | S | 6.7 | 47.4 | 27.6 | |
| Jul 21 | 3.8 | 5.6 | 4.7 | 2.7 | 2.1 | 2.3 | 6.5 | 13.9 | 20.4 | 30.3 | 41.9 | 43.6 | 42.9 | 43.2 | 44 | 45.5 | 48.3 | 49.9 | 46 | 38.8 | 27.6 | 20.8 | S | 9.8 | 2.1 | 49.9 | 25.9 | |
| Jul 22 | 6.7 | 5.6 | 4 | 3 | 2.7 | 2.5 | 5.2 | 12.1 | 15.5 | 29.2 | 38.6 | 37.1 | 37.4 | 44.2 | 48.9 | 52.8 | S | 55.2 | 48.7 | 46.3 | 41.7 | 31.6 | S | 15.5 | 14.5 | 2.5 | 55.2 | 26.0 |
| Jul 23 | 10.9 | 8.4 | 5.9 | 5.5 | 4.9 | 3.7 | 28.8 | 33.4 | 30.1 | 32 | 38.2 | 42.2 | 45.8 | 47.7 | 45.2 | 46.8 | 48.2 | 43.9 | 37.2 | 30.9 | S | 18.8 | 18.7 | 20.2 | 3.7 | 48.2 | 28.1 | |
| Jul 24 | 23.7 | 18.6 | 11.6 | 8.3 | 9.2 | 6.7 | 12.7 | 12.5 | 17.6 | 29.8 | 37.8 | 40.2 | 42.8 | 45.9 | 50.9 | 51.7 | 54.6 | 49.9 | 45.7 | S | 39.6 | 38.4 | 38.1 | 40.4 | 6.7 | 54.6 | 31.6 | |
| Jul 25 | 40.4 | 40 | 37.6 | 32.2 | 27.4 | 29.4 | 32.4 | 30.7 | 28.5 | 26.9 | 26.7 | 29.7 | 36.8 | 41.2 | 43.3 | 41.5 | 43 | 43.4 | S | 36.8 | 32.8 | 30.3 | 27.7 | 23.9 | 23.9 | 43.4 | 34.0 | |
| Jul 26 | 17.8 | 15.9 | 11 | 7.4 | 5.3 | 7.2 | 13.9 | 22.1 | 24.1 | 24.1 | 28.6 | 30.2 | 32 | 32.2 | 30 | 26.5 | 25.9 | S | 21.5 | 16.3 | 17 | 15.4 | 14.3 | 20.8 | 5.3 | 32.2 | 20.0 | |
| Jul 27 | 21.1 | 21.3 | 20.1 | 19.9 | 23.8 | 27 | 28 | 28.7 | 28.7 | 30.2 | 30.7 | 33.2 | 34.2 | 32.4 | 29 | 27.7 | S | 26.9 | 27.9 | 21.4 | 18.3 | 10.8 | 17.1 | 11 | 10.8 | 34.2 | 24.8 | |
| Jul 28 | 7.3 | 9.8 | 7.8 | 3.6 | 2.5 | 2.6 | 6.3 | 12.3 | 18.2 | 22.5 | 23.9 | 31.1 | 36.5 | 36.5 | 35.7 | S | 33.1 | 27.8 | 34.6 | 32.1 | 24.4 | 18.5 | 10.8 | 9.5 | 2.5 | 36.5 | 19.5 | |
| Jul 29 | 6.6 | 3.9 | 2.5 | 1.8 | 1.8 | 1.8 | 4.7 | 11.8 | 23.8 | 32.4 | 37.5 | 37.5 | 38.1 | 36.3 | S | 35.4 | 36.5 | 38.4 | 39.2 | 36.3 | 25 | 18.5 | 18.4 | 14.6 | 1.8 | 39.2 | 21.9 | |
| Jul 30 | 12.6 | 8 | 6.4 | 5.6 | 4.5 | 18.9 | 24.1 | 25.8 | 28.2 | 30.8 | 33.9 | 35.7 | 39.4 | S | 41.5 | 42.9 | 43.7 | 43.4 | 41.4 | 38.4 | 35.5 | 33 | 31.8 | 21.4 | 4.5 | 43.7 | 28.1 | |
| Jul 31 | 16 | 15.2 | 18.8 | 15.3 | 11.1 | 11.2 | 13.3 | 20.3 | 27.8 | 37.3 | 46.6 | 48.5 | S | 48.6 | 51 | 54.2 | 51.9 | 47.4 | 42.6 | 40.6 | 40 | 41.1 | 40.1 | 35.1 | 11.1 | 54.2 | 33.7 | |
| Diurnal Maximum | 40.4 | 40.0 | 37.6 | 32.2 | 30.6 | 32.0 | 32.4 | 38.2 | 40.9 | 45.5 | 47.4 | 48.8 | 49.1 | 51.0 | 54.2 | 55.2 | 53.8 | 51.6 | 44.4 | 40.0 | 41.1 | 42.8 | 40.4 | | | | | |
| Diurnal Average | 16.9 | 16.1 | 13.8 | 12.5 | 12.4 | 12.9 | 16.7 | 22.2 | 26.0 | 31.0 | 34.7 | 37.0 | 37.7 | 39.0 | 39.5 | 39.3 | 40.5 | 39.6 | 37.1 | 33.1 | 27.8 | 24.0 | 21.7 | 19.4 | | | | |
| K | Monthly Calibration | | | | | | | | | | S | Daily Zero-Span Check | | | | | Q | Quality Assurance | | | | | | | | | | |
| K | Collection Error | | | | | | | | | | ND | No Data (Machine Not in Service) | | | | | Y | Routine Maintenance | | | | | P | Power Failure | | | | |
| X | Invalid Data (Equipment Malfunction / Recovery) | | | | | | | | | | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | | | | | | | | | | | | | | |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

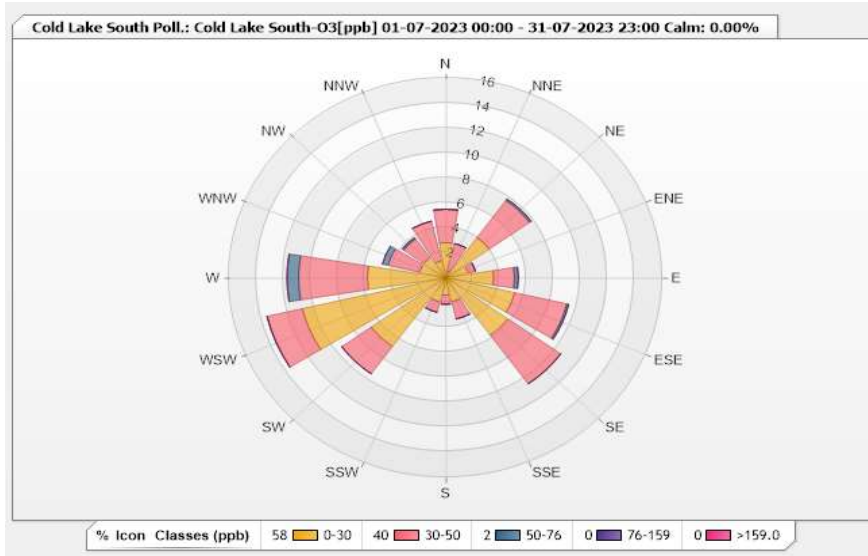


Station: Cold Lake South Poll.: Cold Lake South-O3[ppb] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 95.16% Calm Avg: 0.00 [ppm]

| Direction | 0-30 | 30-50 | 50-76 | 76-159 | >159.0 | Total |
|-----------|-------|-------|-------|--------|--------|-------|
| N | 2.82 | 2.68 | 0 | 0 | 0 | 5.5 |
| NNE | 0.56 | 2.26 | 0 | 0 | 0 | 2.82 |
| NE | 3.95 | 3.67 | 0.14 | 0 | 0 | 7.76 |
| ENE | 1.69 | 0.56 | 0 | 0 | 0 | 2.25 |
| E | 3.53 | 1.55 | 0.28 | 0 | 0 | 5.36 |
| ESE | 5.23 | 3.95 | 0.14 | 0 | 0 | 9.32 |
| SE | 5.65 | 4.8 | 0 | 0 | 0 | 10.45 |
| SSE | 1.98 | 1.41 | 0 | 0 | 0 | 3.39 |
| S | 1.41 | 0.71 | 0 | 0 | 0 | 2.12 |
| SSW | 1.98 | 0.85 | 0 | 0 | 0 | 2.83 |
| SW | 6.78 | 2.68 | 0 | 0 | 0 | 9.46 |
| WSW | 10.88 | 2.68 | 0 | 0 | 0 | 13.56 |
| W | 5.79 | 5.08 | 0.85 | 0 | 0 | 11.72 |
| WNW | 1.98 | 2.4 | 0.42 | 0 | 0 | 4.8 |
| NW | 1.98 | 1.84 | 0.14 | 0 | 0 | 3.96 |
| NNW | 1.41 | 3.25 | 0 | 0 | 0 | 4.66 |
| Summary | 57.62 | 40.37 | 1.97 | 0 | 0 | 100 |



Lakeland Industry & Community Association

Cold Lake South Station - July 2023
Summary of Hourly Averages

TOTAL HYDROCARBONS (THC) in ppm

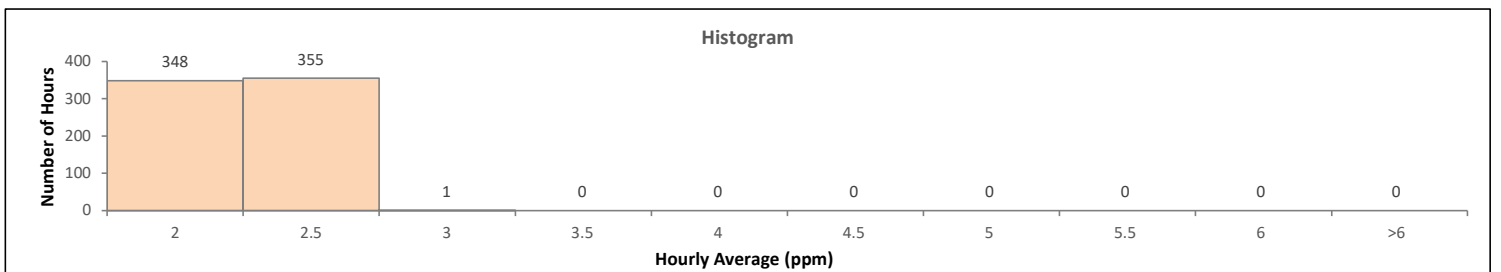
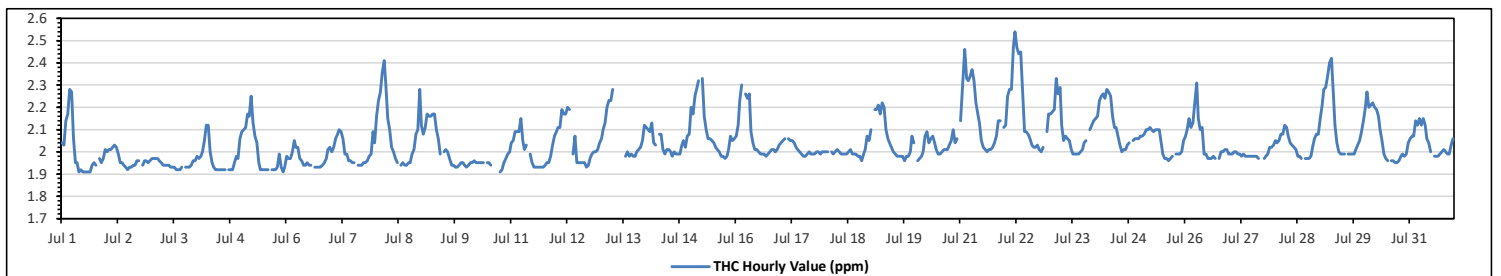
| | | | | | |
|-----------------------|------|-----|-------------------|------------------------|------|
| Maximum Hourly Value: | 2.54 | ppm | on Jul 22 at hr 5 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.19 | ppm | on Jul 22 | Hours of Data: | 704 |
| Minimum Hourly Value: | 1.91 | ppm | on Jul 1 at hr 9 | Hours of Missing Data: | 4 |
| Minimum Daily Value: | 1.94 | ppm | on Jul 3 | Hours of Calibration: | 36 |
| Monthly Average: | 2.04 | ppm | | Operational Uptime: | 99.5 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | |
|-----------------|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------|---------------|---------------|--|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | | |
| Jul 1 | 2.04 | 2.03 | 2.14 | 2.17 | 2.28 | 2.27 | 2.06 | 1.95 | 1.95 | 1.91 | 1.92 | 1.91 | 1.91 | 1.91 | 1.91 | 1.91 | 1.94 | 1.95 | 1.94 | S | 1.97 | 1.95 | 1.97 | 2.01 | 1.91 | 2.28 | 2.00 | |
| Jul 2 | 2.00 | 2.01 | 2.01 | 2.02 | 2.03 | 2.02 | 1.99 | 1.95 | 1.95 | 1.94 | 1.93 | 1.92 | 1.93 | 1.93 | 1.94 | 1.94 | 1.96 | 1.96 | S | 1.94 | 1.96 | 1.96 | 1.95 | 1.96 | 1.92 | 2.03 | 1.97 | |
| Jul 3 | 1.97 | 1.97 | 1.97 | 1.97 | 1.96 | 1.95 | 1.94 | 1.94 | 1.94 | 1.94 | 1.93 | 1.93 | 1.93 | 1.92 | 1.92 | 1.92 | 1.93 | S | 1.93 | 1.93 | 1.93 | 1.94 | 1.96 | 1.96 | 1.92 | 1.97 | 1.94 | |
| Jul 4 | 1.98 | 1.97 | 1.98 | 2.00 | 2.05 | 2.12 | 2.12 | 2.00 | 1.95 | 1.93 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | S | 1.92 | 1.92 | 1.92 | 1.92 | 1.95 | 1.98 | 1.97 | 2.06 | 1.92 | 2.12 | 1.97 | |
| Jul 5 | 2.09 | 2.10 | 2.11 | 2.17 | 2.16 | 2.25 | 2.13 | 2.07 | 2.04 | 1.95 | 1.92 | 1.92 | 1.92 | 1.92 | S | 1.92 | 1.92 | 1.92 | 1.92 | 1.93 | 1.99 | 1.93 | 1.91 | 1.93 | 1.91 | 2.25 | 2.01 | |
| Jul 6 | 1.98 | 1.97 | 1.97 | 2.00 | 2.05 | 2.02 | 2.02 | 1.97 | 1.96 | 1.94 | 1.94 | 1.95 | 1.94 | S | 1.93 | 1.93 | 1.93 | 1.93 | 1.94 | 1.95 | 1.97 | 2.01 | 2.02 | 1.93 | 2.05 | 1.97 | | |
| Jul 7 | 2.00 | 2.02 | 2.06 | 2.08 | 2.10 | 2.09 | 2.06 | 1.99 | 1.99 | 1.96 | 1.96 | 1.95 | 1.95 | S | 1.94 | 1.94 | 1.94 | 1.95 | 1.96 | 1.98 | 1.99 | 2.09 | 2.04 | 1.94 | 2.10 | 2.00 | | |
| Jul 8 | 2.16 | 2.23 | 2.27 | 2.36 | 2.41 | 2.30 | 2.15 | 2.10 | 2.02 | 2.00 | 1.97 | S | 1.94 | 1.95 | 1.94 | 1.94 | 1.95 | 1.95 | 1.99 | 2.01 | 2.08 | 2.10 | 2.28 | 1.94 | 2.41 | 2.09 | | |
| Jul 9 | 2.12 | 2.08 | 2.11 | 2.17 | 2.16 | 2.16 | 2.17 | 2.17 | 2.10 | 2.06 | 1.99 | S | 2.00 | 2.01 | 2.00 | 1.97 | 1.94 | 1.94 | 1.93 | 1.93 | 1.94 | 1.95 | 1.95 | 1.94 | 1.93 | 2.17 | 2.03 | |
| Jul 10 | 1.93 | 1.94 | 1.95 | 1.95 | 1.96 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | S | 1.95 | 1.95 | 1.94 | X | 1.94 | X | X | 1.91 | 1.92 | 1.95 | 1.97 | 1.99 | 2.00 | 1.91 | 2.00 | 1.95 | |
| Jul 11 | 2.04 | 2.05 | 2.09 | 2.09 | 2.09 | 2.15 | 2.05 | 2.01 | 2.03 | S | 1.99 | 1.95 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.94 | 1.95 | 1.95 | 1.98 | 2.03 | 2.07 | 1.93 | 2.15 | 2.00 | |
| Jul 12 | 2.09 | 2.11 | 2.11 | 2.19 | 2.17 | 2.17 | 2.20 | 2.19 | S | 1.99 | 2.07 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.93 | 1.94 | 1.97 | 1.99 | 2.00 | 2.00 | 2.01 | 2.04 | 1.93 | 2.20 | 2.04 | |
| Jul 13 | 2.06 | 2.10 | 2.13 | 2.20 | 2.23 | 2.23 | 2.28 | S | 2.19 | C | C | C | C | 1.98 | 2.00 | 1.98 | 1.99 | 1.98 | 1.98 | 1.98 | 2.00 | 2.01 | 2.02 | 2.05 | 1.98 | 2.28 | 2.08 | |
| Jul 14 | 2.11 | 2.10 | 2.09 | 2.13 | 2.04 | 2.03 | S | 2.08 | 2.08 | 2.01 | 1.99 | 2.01 | 2.01 | 2.00 | 1.98 | 2.00 | 1.99 | 1.99 | 1.99 | 2.03 | 2.05 | 2.02 | 2.07 | 2.08 | 1.98 | 2.13 | 2.04 | |
| Jul 15 | 2.20 | 2.17 | 2.25 | 2.28 | 2.32 | S | 2.33 | 2.16 | 2.10 | 2.06 | 2.06 | 2.05 | 2.04 | 2.02 | 2.01 | 2.00 | 1.98 | 1.98 | 1.98 | 1.97 | 1.98 | 2.01 | 2.05 | 2.06 | 1.97 | 2.33 | 2.09 | |
| Jul 16 | 2.07 | 2.12 | 2.23 | 2.30 | S | 2.26 | 2.24 | 2.26 | 2.09 | 2.04 | 2.01 | 2.01 | 2.00 | 1.99 | 1.99 | 1.99 | 1.98 | 1.98 | 1.99 | 2.00 | 2.01 | 2.01 | 2.07 | 2.01 | 1.98 | 2.30 | 2.07 | |
| Jul 17 | 2.04 | 2.05 | 2.06 | S | 2.06 | 2.05 | 2.05 | 2.04 | 2.02 | 2.01 | 2.00 | 1.99 | 1.98 | 1.98 | 1.99 | 2.00 | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | 2.00 | 1.99 | 2.00 | 1.98 | 2.06 | 2.01 | |
| Jul 18 | 2.00 | 2.00 | S | 2.00 | 1.99 | 2.00 | 2.01 | 2.00 | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | 2.01 | 1.99 | 1.99 | 1.99 | 1.98 | 1.98 | 1.98 | 1.96 | 1.99 | 2.01 | 2.07 | 2.05 | 2.06 | 2.01 | |
| Jul 19 | 2.10 | S | 2.19 | 2.19 | 2.21 | 2.17 | 2.22 | 2.20 | 2.10 | 2.06 | 2.04 | 2.02 | 2.00 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.96 | 1.98 | 2.00 | 2.07 | 2.04 | 1.96 | 2.22 | 2.06 | |
| Jul 20 | S | 1.96 | 1.97 | 1.98 | 2.00 | 2.07 | 2.09 | 2.04 | 2.06 | 2.07 | 2.04 | 2.01 | 1.99 | 1.99 | 2.00 | 2.01 | 2.01 | 2.01 | 2.03 | 2.05 | 2.10 | 2.04 | 2.06 | S | 1.96 | 2.10 | 2.03 | |
| Jul 21 | 2.14 | 2.29 | 2.46 | 2.33 | 2.32 | 2.34 | 2.37 | 2.32 | 2.22 | 2.17 | 2.13 | 2.05 | 2.02 | 2.01 | 2.00 | 2.01 | 2.01 | 2.02 | 2.04 | 2.07 | 2.14 | 2.14 | S | 2.11 | 2.00 | 2.46 | 2.16 | |
| Jul 22 | 2.12 | 2.25 | 2.28 | 2.28 | 2.47 | 2.54 | 2.47 | 2.44 | 2.45 | 2.27 | 2.09 | 2.09 | 2.08 | 2.06 | 2.03 | 2.02 | 2.03 | 2.01 | 2.00 | 2.02 | S | 2.09 | 2.17 | 2.00 | 2.54 | 2.19 | | |
| Jul 23 | 2.17 | 2.18 | 2.19 | 2.33 | 2.26 | 2.29 | 2.12 | 2.05 | 2.07 | 2.06 | 2.05 | 2.01 | 1.99 | 1.99 | 1.99 | 2.00 | 2.01 | 2.04 | 2.05 | S | 2.10 | 2.12 | 2.14 | 1.99 | 2.33 | 2.10 | | |
| Jul 24 | 2.15 | 2.16 | 2.23 | 2.25 | 2.26 | 2.24 | 2.28 | 2.27 | 2.25 | 2.16 | 2.11 | 2.11 | 2.07 | 2.03 | 2.00 | 2.01 | 2.01 | 2.03 | 2.04 | S | 2.05 | 2.06 | 2.06 | 2.06 | 2.00 | 2.28 | 2.13 | |
| Jul 25 | 2.07 | 2.07 | 2.08 | 2.10 | 2.10 | 2.11 | 2.10 | 2.09 | 2.10 | 2.10 | 2.10 | 2.04 | 1.99 | 1.97 | 1.97 | 1.97 | 1.96 | 1.97 | S | 1.99 | 1.99 | 1.99 | 2.00 | 2.05 | 1.96 | 2.11 | 2.04 | |
| Jul 26 | 2.07 | 2.10 | 2.15 | 2.11 | 2.13 | 2.22 | 2.31 | 2.15 | 2.10 | 2.11 | 1.99 | 1.99 | 1.97 | 1.97 | 1.97 | 1.98 | 1.97 | S | 1.97 | 2.00 | 2.00 | 2.01 | 2.01 | 1.99 | 1.97 | 2.31 | 2.06 | |
| Jul 27 | 1.99 | 1.99 | 2.00 | 2.00 | 1.99 | 1.99 | 1.98 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | S | NRM | 1.97 | 1.98 | 1.99 | 2.02 | 2.02 | 2.02 | 2.03 | 1.97 | 2.03 | 1.99 | | |
| Jul 28 | 2.05 | 2.04 | 2.05 | 2.08 | 2.08 | 2.12 | 2.11 | 2.07 | 2.04 | 2.03 | 2.02 | 2.01 | 1.98 | 1.98 | 1.97 | S | 1.97 | 1.97 | 1.98 | 2.02 | 2.06 | 2.08 | 2.08 | 1.97 | 2.12 | 2.03 | | |
| Jul 29 | 2.15 | 2.21 | 2.28 | 2.29 | 2.34 | 2.40 | 2.42 | 2.26 | 2.12 | 2.04 | 2.00 | 1.99 | 1.99 | 1.99 | S | 1.99 | 1.99 | 1.99 | 1.99 | 2.01 | 2.03 | 2.05 | 2.09 | 1.99 | 2.42 | 2.12 | | |
| Jul 30 | 2.20 | 2.27 | 2.20 | 2.21 | 2.22 | 2.20 | 2.19 | 2.16 | 2.10 | 2.05 | 1.99 | 1.97 | 1.96 | S | 1.96 | 1.96 | 1.95 | 1.95 | 1.96 | 1.98 | 1.99 | 1.98 | 1.99 | 2.04 | 1.95 | 2.27 | 2.06 | |
| Jul 31 | 2.06 | 2.07 | 2.07 | 2.14 | 2.12 | 2.15 | 2.12 | 2.15 | 2.12 | 2.06 | 2.04 | 2.00 | S | 1.98 | 1.98 | 1.98 | 1.99 | 2.00 | 2.01 | 2.00 | 1.99 | 1.99 | 2.03 | 2.06 | 1.98 | 2.15 | 2.05 | |
| Diurnal Maximum | 2.20 | 2.29 | 2.46 | 2.36 | 2.47 | 2.54 | 2.47 | 2.44 | 2.45 | 2.27 | 2.13 | 2.11 | 2.08 | 2.06 | 2.03 | 2.02 | 2.02 | 2.03 | 2.04 | 2.07 | 2.14 | 2.14 | 2.12 | 2.28 | | | | |
| Diurnal Average | 2.07 | 2.09 | 2.12 | 2.15 | 2.15 | 2.16 | 2.15 | 2.10 | 2.07 | 2.03 | 2.01 | 1.99 | 1.98 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.98 | 2.00 | 2.01 | 2.03 | 2.05 | | | |

| | | | | | |
|---|---|-----|--|---|---------------------|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance |
| K | Collection Error | ND | No Data (Machine Not in Service) | Y | Routine Maintenance |
| X | InValid Data (Equipment Malfunction/Recovery) | NRM | Unit/Maint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P | Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

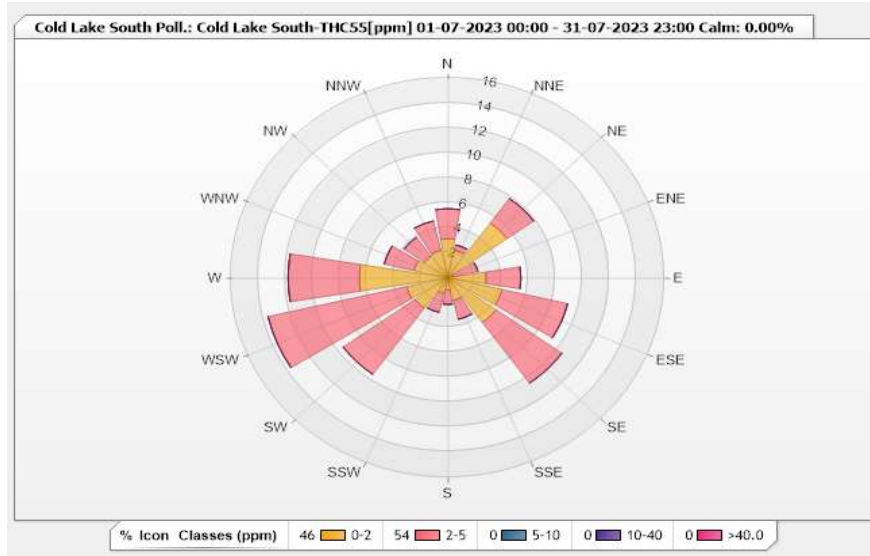


Station: Cold Lake South Poll.: Cold Lake South-THC55[ppm] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.62% Calm Avg: 0.00 [ppm]

| Direction | 0-2 | 2-5 | 5-10 | 10-40 | >40.0 | Total |
|-----------|-------|-------|------|-------|-------|-------|
| N | 3.13 | 2.41 | 0 | 0 | 0 | 5.54 |
| NNE | 2.27 | 0.43 | 0 | 0 | 0 | 2.7 |
| NE | 5.4 | 2.41 | 0 | 0 | 0 | 7.81 |
| ENE | 0.43 | 1.85 | 0 | 0 | 0 | 2.28 |
| E | 2.84 | 2.56 | 0 | 0 | 0 | 5.4 |
| ESE | 4.12 | 4.97 | 0 | 0 | 0 | 9.09 |
| SE | 4.4 | 5.97 | 0 | 0 | 0 | 10.37 |
| SSE | 1.85 | 1.56 | 0 | 0 | 0 | 3.41 |
| S | 0.99 | 1.14 | 0 | 0 | 0 | 2.13 |
| SSW | 1.28 | 1.56 | 0 | 0 | 0 | 2.84 |
| SW | 2.98 | 6.53 | 0 | 0 | 0 | 9.51 |
| WSW | 3.13 | 10.51 | 0 | 0 | 0 | 13.64 |
| W | 6.53 | 5.26 | 0 | 0 | 0 | 11.79 |
| WNW | 2.56 | 2.27 | 0 | 0 | 0 | 4.83 |
| NW | 2.13 | 1.85 | 0 | 0 | 0 | 3.98 |
| NNW | 2.27 | 2.41 | 0 | 0 | 0 | 4.68 |
| Summary | 46.31 | 53.69 | 0 | 0 | 0 | 100 |



Lakeland Industry & Community Association

Cold Lake South Station - July 2023

Summary of Hourly Averages

METHANE (CH4) in ppm

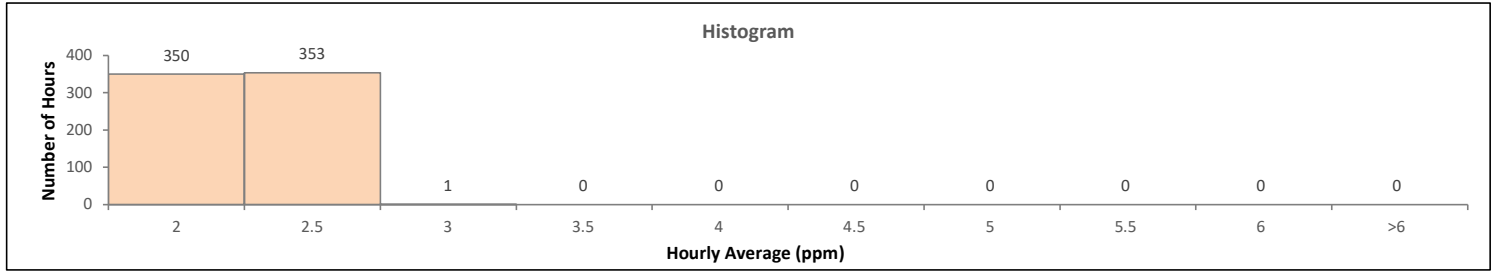
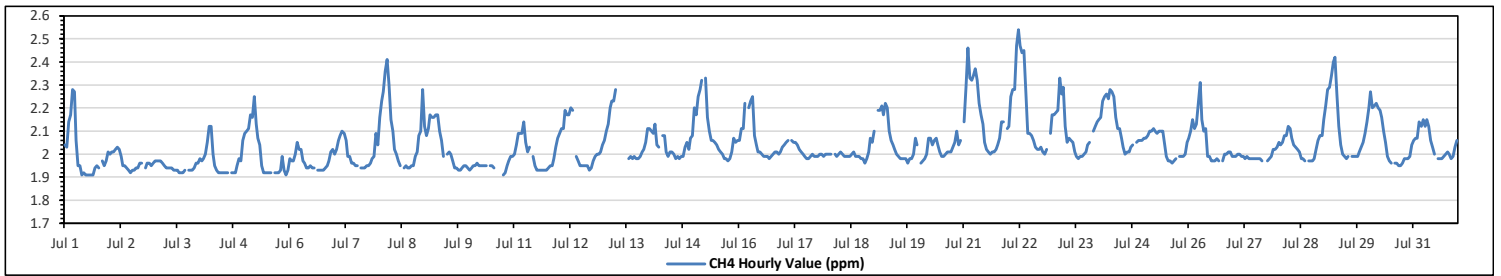
| | | | | |
|-----------------------|----------|-------------------|------------------------|------|
| Maximum Hourly Value: | 2.54 ppm | on Jul 22 at hr 5 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.19 ppm | on Jul 22 | Hours of Data: | 704 |
| Minimum Hourly Value: | 1.91 ppm | on Jul 1 at hr 9 | Hours of Missing Data: | 4 |
| Minimum Daily Value: | 1.94 ppm | on Jul 3 | Hours of Calibration: | 36 |
| Monthly Average: | 2.04 ppm | | Operational Uptime: | 99.5 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | | |
|-----------------|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------|---------------|---------------|------|------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 | |
| Jul 1 | 2.04 | 2.03 | 2.14 | 2.17 | 2.28 | 2.27 | 2.06 | 1.95 | 1.95 | 1.91 | 1.92 | 1.91 | 1.91 | 1.91 | 1.91 | 1.91 | 1.94 | 1.95 | 1.94 | S | 1.97 | 1.95 | 1.97 | 2.01 | 1.91 | 2.28 | 2.00 | |
| Jul 2 | 2.00 | 2.01 | 2.01 | 2.02 | 2.03 | 2.02 | 1.99 | 1.95 | 1.95 | 1.94 | 1.93 | 1.92 | 1.93 | 1.93 | 1.94 | 1.94 | 1.96 | 1.96 | S | 1.94 | 1.96 | 1.96 | 1.95 | 1.96 | 1.92 | 2.03 | 1.97 | |
| Jul 3 | 1.97 | 1.97 | 1.97 | 1.97 | 1.96 | 1.95 | 1.94 | 1.94 | 1.94 | 1.94 | 1.93 | 1.93 | 1.93 | 1.92 | 1.92 | 1.92 | 1.93 | S | 1.93 | 1.93 | 1.93 | 1.94 | 1.96 | 1.96 | 1.92 | 1.97 | 1.94 | |
| Jul 4 | 1.98 | 1.97 | 1.98 | 2.00 | 2.05 | 2.12 | 2.12 | 2.00 | 1.95 | 1.94 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | S | 1.92 | 1.92 | 1.92 | 1.95 | 1.98 | 1.97 | 2.06 | 1.92 | 2.12 | 1.97 | |
| Jul 5 | 2.09 | 2.10 | 2.11 | 2.17 | 2.16 | 2.25 | 2.13 | 2.07 | 2.04 | 1.95 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | S | 1.92 | 1.92 | 1.92 | 1.93 | 1.99 | 1.93 | 1.91 | 1.93 | 1.91 | 2.25 | 2.01 | |
| Jul 6 | 1.98 | 1.97 | 1.97 | 2.00 | 2.05 | 2.02 | 2.02 | 1.97 | 1.96 | 1.94 | 1.94 | 1.95 | 1.94 | 1.94 | S | 1.93 | 1.93 | 1.93 | 1.93 | 1.94 | 1.95 | 1.97 | 2.01 | 2.02 | 1.93 | 2.05 | 1.97 | |
| Jul 7 | 2.00 | 2.02 | 2.06 | 2.08 | 2.10 | 2.09 | 2.06 | 1.99 | 1.99 | 1.96 | 1.96 | 1.95 | 1.95 | S | 1.94 | 1.94 | 1.94 | 1.95 | 1.96 | 1.98 | 1.99 | 2.09 | 2.04 | 1.94 | 2.10 | 2.00 | | |
| Jul 8 | 2.16 | 2.23 | 2.27 | 2.36 | 2.41 | 2.30 | 2.15 | 2.10 | 2.02 | 2.00 | 1.97 | 1.95 | S | 1.94 | 1.95 | 1.94 | 1.94 | 1.95 | 1.95 | 1.99 | 2.01 | 2.08 | 2.10 | 2.28 | 1.94 | 2.41 | 2.09 | |
| Jul 9 | 2.12 | 2.08 | 2.11 | 2.17 | 2.16 | 2.16 | 2.17 | 2.17 | 2.10 | 2.06 | 1.99 | S | 2.00 | 2.01 | 2.00 | 1.97 | 1.94 | 1.94 | 1.93 | 1.93 | 1.94 | 1.95 | 1.95 | 1.94 | 1.93 | 2.17 | 2.03 | |
| Jul 10 | 1.93 | 1.94 | 1.95 | 1.95 | 1.96 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | S | 1.95 | 1.95 | 1.94 | X | 1.93 | X | X | 1.91 | 1.92 | 1.95 | 1.97 | 1.99 | 1.99 | 1.91 | 1.99 | 1.95 | |
| Jul 11 | 2.00 | 2.04 | 2.09 | 2.09 | 2.09 | 2.14 | 2.05 | 2.01 | 2.03 | S | 1.99 | 1.95 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.93 | 1.94 | 1.95 | 1.95 | 1.98 | 2.03 | 2.07 | 1.93 | 2.14 | 2.00 | |
| Jul 12 | 2.09 | 2.11 | 2.11 | 2.19 | 2.17 | 2.17 | 2.20 | 2.19 | S | 1.99 | 1.97 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.93 | 1.94 | 1.97 | 1.99 | 2.00 | 2.00 | 2.01 | 2.04 | 1.93 | 2.20 | 2.04 | |
| Jul 13 | 2.06 | 2.10 | 2.13 | 2.20 | 2.23 | 2.23 | 2.28 | S | 2.19 | C | C | C | C | 1.98 | 1.99 | 1.98 | 1.99 | 1.98 | 1.98 | 1.98 | 1.99 | 2.01 | 2.02 | 2.05 | 2.11 | 1.98 | 2.28 | 2.08 |
| Jul 14 | 2.11 | 2.10 | 2.09 | 2.13 | 2.04 | 2.03 | S | 2.08 | 2.08 | 2.01 | 1.99 | 2.01 | 2.01 | 2.00 | 1.98 | 1.98 | 1.99 | 1.98 | 1.99 | 1.99 | 2.03 | 2.05 | 2.02 | 2.07 | 2.08 | 1.98 | 2.13 | 2.04 |
| Jul 15 | 2.20 | 2.17 | 2.25 | 2.28 | 2.32 | S | 2.33 | 2.16 | 2.10 | 2.06 | 2.06 | 2.05 | 2.04 | 2.02 | 2.01 | 2.00 | 1.98 | 1.98 | 1.97 | 1.98 | 2.01 | 2.07 | 2.05 | 2.06 | 1.97 | 2.33 | 2.09 | |
| Jul 16 | 2.06 | 2.11 | 2.11 | 2.22 | S | 2.20 | 2.23 | 2.25 | 2.08 | 2.04 | 2.01 | 2.01 | 2.00 | 1.99 | 1.99 | 1.98 | 1.99 | 1.98 | 1.99 | 2.00 | 2.01 | 2.01 | 2.03 | 2.06 | 1.98 | 2.25 | 2.06 | |
| Jul 17 | 2.04 | 2.05 | 2.06 | S | 2.06 | 2.05 | 2.05 | 2.04 | 2.02 | 2.01 | 2.00 | 1.99 | 1.98 | 1.98 | 1.99 | 2.00 | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | 1.99 | 2.00 | 2.00 | 1.98 | 2.06 | 2.01 | |
| Jul 18 | 2.00 | 2.00 | S | 2.00 | 1.99 | 2.00 | 2.01 | 2.00 | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | 2.01 | 1.99 | 1.99 | 1.99 | 1.98 | 1.98 | 1.98 | 1.96 | 1.98 | 2.01 | 2.07 | 2.05 | 1.96 | 2.07 | 2.00 |
| Jul 19 | 2.10 | S | 2.19 | 2.19 | 2.21 | 2.17 | 2.22 | 2.20 | 2.10 | 2.06 | 2.04 | 2.02 | 2.00 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.96 | 1.98 | 1.98 | 2.00 | 2.07 | 2.04 | 1.96 | 2.22 | 2.06 |
| Jul 20 | S | 1.96 | 1.97 | 1.98 | 2.00 | 2.07 | 2.07 | 2.04 | 2.06 | 2.07 | 2.04 | 2.01 | 1.99 | 1.99 | 2.00 | 2.01 | 2.01 | 2.01 | 2.03 | 2.05 | 2.10 | 2.04 | 2.06 | S | 1.96 | 2.10 | 2.03 | |
| Jul 21 | 2.14 | 2.29 | 2.46 | 2.33 | 2.32 | 2.34 | 2.37 | 2.32 | 2.22 | 2.17 | 2.13 | 2.05 | 2.02 | 2.01 | 2.00 | 2.01 | 2.01 | 2.02 | 2.04 | 2.07 | 2.14 | 2.14 | 2.14 | S | 2.11 | 2.00 | 2.46 | 2.16 |
| Jul 22 | 2.12 | 2.25 | 2.28 | 2.28 | 2.47 | 2.54 | 2.47 | 2.44 | 2.45 | 2.27 | 2.09 | 2.09 | 2.08 | 2.06 | 2.03 | 2.02 | 2.02 | 2.03 | 2.01 | 2.00 | 2.02 | S | 2.09 | 2.17 | 2.00 | 2.54 | 2.19 | |
| Jul 23 | 2.17 | 2.18 | 2.19 | 2.33 | 2.26 | 2.29 | 2.12 | 2.05 | 2.07 | 2.06 | 2.05 | 2.01 | 1.99 | 1.98 | 1.99 | 1.99 | 2.00 | 2.01 | 2.04 | 2.05 | S | 2.10 | 2.12 | 2.14 | 1.98 | 2.33 | 2.10 | |
| Jul 24 | 2.15 | 2.16 | 2.23 | 2.25 | 2.26 | 2.24 | 2.28 | 2.27 | 2.25 | 2.16 | 2.11 | 2.11 | 2.07 | 2.03 | 2.00 | 2.01 | 2.01 | 2.03 | 2.04 | S | 2.05 | 2.06 | 2.06 | 2.06 | 2.00 | 2.28 | 2.13 | |
| Jul 25 | 2.07 | 2.07 | 2.08 | 2.10 | 2.10 | 2.11 | 2.10 | 2.09 | 2.10 | 2.10 | 2.10 | 2.10 | 2.10 | 2.09 | 1.97 | 1.97 | 1.97 | 1.96 | 1.97 | S | 1.99 | 1.99 | 1.99 | 2.00 | 2.05 | 1.96 | 2.11 | 2.04 |
| Jul 26 | 2.07 | 2.10 | 2.15 | 2.11 | 2.13 | 2.22 | 2.31 | 2.15 | 2.10 | 2.11 | 1.99 | 1.99 | 1.97 | 1.97 | 1.97 | 1.98 | 1.97 | S | 1.97 | 2.00 | 2.00 | 2.01 | 2.01 | 1.99 | 1.97 | 2.31 | 2.06 | |
| Jul 27 | 1.99 | 1.99 | 2.00 | 2.00 | 1.99 | 1.99 | 1.98 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.97 | S | NRM | 1.97 | 1.98 | 1.99 | 2.02 | 2.02 | 2.02 | 2.03 | 1.97 | 2.03 | 1.99 | |
| Jul 28 | 2.05 | 2.04 | 2.05 | 2.08 | 2.08 | 2.12 | 2.11 | 2.07 | 2.04 | 2.03 | 2.02 | 2.01 | 1.98 | 1.98 | 1.97 | S | 1.97 | 1.97 | 1.98 | 1.98 | 2.02 | 2.06 | 2.08 | 2.08 | 1.97 | 2.12 | 2.03 | |
| Jul 29 | 2.15 | 2.21 | 2.28 | 2.29 | 2.34 | 2.40 | 2.42 | 2.26 | 2.12 | 2.04 | 2.00 | 1.99 | 1.98 | 1.99 | S | 1.99 | 1.99 | 1.99 | 1.99 | 2.01 | 2.03 | 2.05 | 2.09 | 2.14 | 1.98 | 2.42 | 2.12 | |
| Jul 30 | 2.20 | 2.27 | 2.20 | 2.21 | 2.22 | 2.20 | 2.19 | 2.16 | 2.10 | 2.05 | 1.99 | 1.97 | 1.96 | S | 1.96 | 1.96 | 1.95 | 1.95 | 1.96 | 1.98 | 1.98 | 1.98 | 1.99 | 2.04 | 1.95 | 2.27 | 2.06 | |
| Jul 31 | 2.06 | 2.07 | 2.07 | 2.14 | 2.12 | 2.15 | 2.12 | 2.15 | 2.12 | 2.06 | 2.03 | 2.00 | S | 1.98 | 1.98 | 1.98 | 1.99 | 2.00 | 2.01 | 2.00 | 1.98 | 1.99 | 2.03 | 2.06 | 1.98 | 2.15 | 2.05 | |
| Diurnal Maximum | 2.20 | 2.29 | 2.46 | 2.36 | 2.47 | 2.54 | 2.47 | 2.44 | 2.45 | 2.27 | 2.13 | 2.11 | 2.08 | 2.06 | 2.03 | 2.02 | 2.02 | 2.03 | 2.04 | 2.07 | 2.14 | 2.14 | 2.12 | 2.28 | | | | |
| Diurnal Average | 2.07 | 2.09 | 2.12 | 2.14 | 2.15 | 2.16 | 2.15 | 2.10 | 2.07 | 2.03 | 2.00 | 1.99 | 1.98 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.98 | 2.00 | 2.01 | 2.03 | 2.05 | | | |

| | | | | | |
|---|--|-----|---|---|---------------------|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance |
| K | Collection Error | ND | No Data (Machine Not in Service) | Y | Routine Maintenance |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P | Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

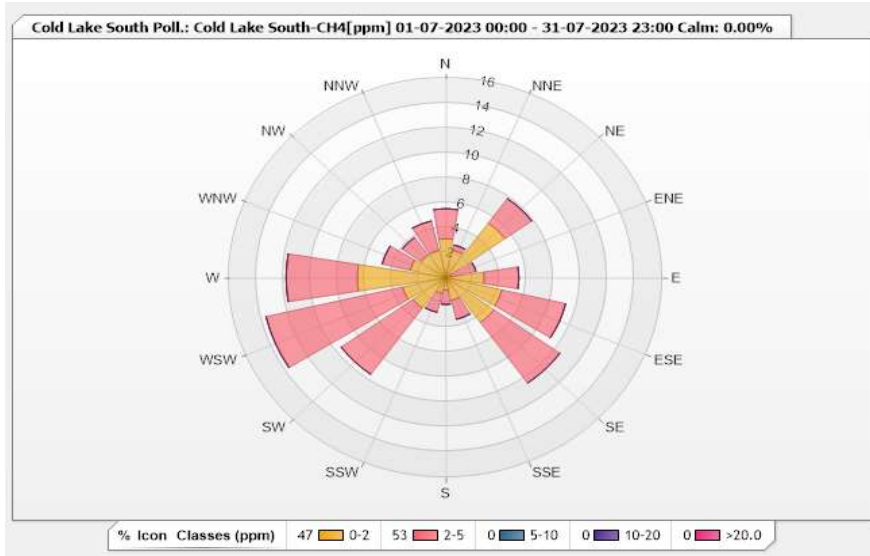


Station: Cold Lake South Poll.: Cold Lake South-CH4[ppm] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.62% Calm Avg: 0.00 [ppm]

| Direction | 0-2 | 2-5 | 5-10 | 10-20 | >20.0 | Total |
|-----------|-------|-------|------|-------|-------|-------|
| N | 3.13 | 2.41 | 0 | 0 | 0 | 5.54 |
| NNE | 2.27 | 0.43 | 0 | 0 | 0 | 2.7 |
| NE | 5.4 | 2.41 | 0 | 0 | 0 | 7.81 |
| ENE | 0.43 | 1.85 | 0 | 0 | 0 | 2.28 |
| E | 2.84 | 2.56 | 0 | 0 | 0 | 5.4 |
| ESE | 4.26 | 4.83 | 0 | 0 | 0 | 9.09 |
| SE | 4.4 | 5.97 | 0 | 0 | 0 | 10.37 |
| SSE | 1.85 | 1.56 | 0 | 0 | 0 | 3.41 |
| S | 0.99 | 1.14 | 0 | 0 | 0 | 2.13 |
| SSW | 1.28 | 1.56 | 0 | 0 | 0 | 2.84 |
| SW | 2.98 | 6.53 | 0 | 0 | 0 | 9.51 |
| WSW | 3.27 | 10.37 | 0 | 0 | 0 | 13.64 |
| W | 6.53 | 5.26 | 0 | 0 | 0 | 11.79 |
| WNW | 2.7 | 2.13 | 0 | 0 | 0 | 4.83 |
| NW | 2.27 | 1.7 | 0 | 0 | 0 | 3.97 |
| NNW | 2.27 | 2.41 | 0 | 0 | 0 | 4.68 |
| Summary | 46.87 | 53.12 | 0 | 0 | 0 | 100 |



Lakeland Industry & Community Association

Cold Lake South Station - July 2023

Summary of Hourly Averages

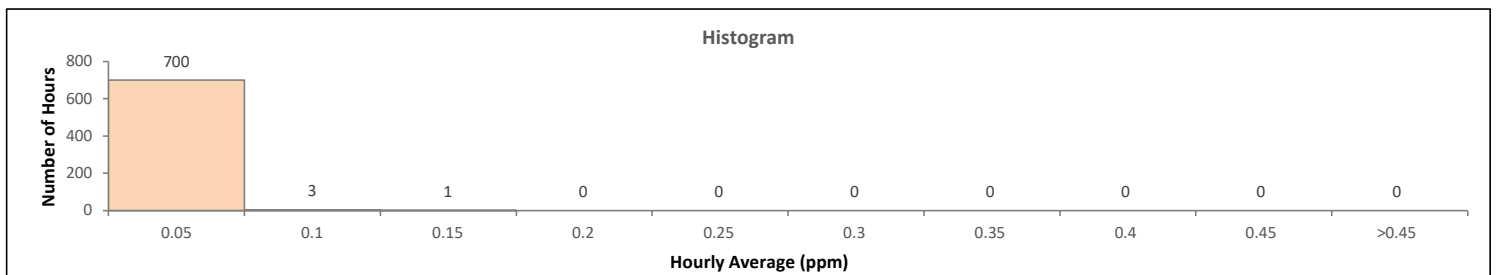
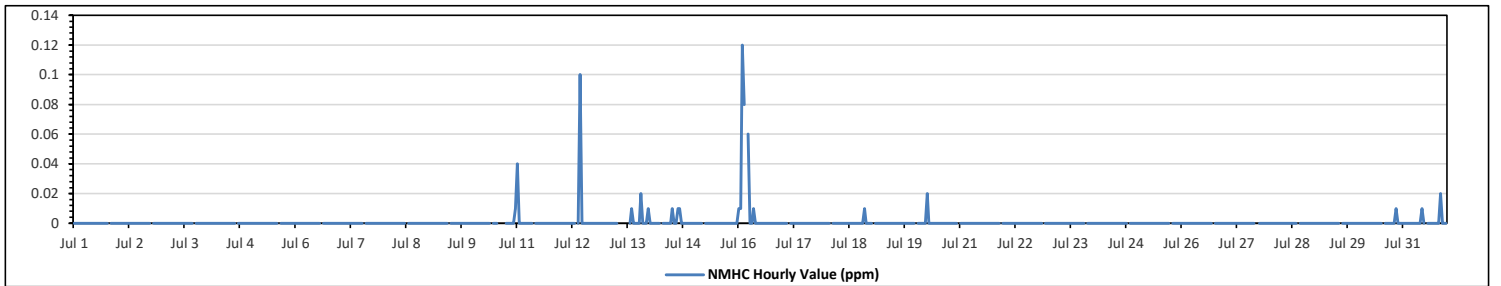
NON-METHANE HYDROCARBONS (NMHC) in ppm

| | | | | |
|-----------------------|----------|-------------------|------------------------|------|
| Maximum Hourly Value: | 0.12 ppm | on Jul 16 at hr 2 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.01 ppm | on Jul 16 | Hours of Data: | 704 |
| Minimum Hourly Value: | 0.00 ppm | on Jul 1 at hr 0 | Hours of Missing Data: | 4 |
| Minimum Daily Value: | 0.00 ppm | on Jul 1 | Hours of Calibration: | 36 |
| Monthly Average: | 0.00 ppm | | Operational Uptime: | 99.5 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | | | |
|-----------------|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------|---------------|---------------|------|------|------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 | | |
| Jul 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 11 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 16 | 0.01 | 0.01 | 0.12 | 0.08 | S | 0.06 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Jul 17 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Jul 18 | 0.00 | 0.00 | S | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Jul 19 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Jul 20 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | |
| Jul 21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | |
| Jul 22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | |
| Jul 23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | |
| Jul 24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | |
| Jul 25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | |
| Jul 26 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | |
| Jul 27 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | |
| Jul 28 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | |
| Jul 29 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | |
| Jul 30 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | |
| Jul 31 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | |
| Diurnal Maximum | 0.04 | 0.01 | 0.12 | 0.08 | 0.00 | 0.06 | 0.02 | 0.00 | 0.01 | 0.00 | 0.10 | 0.00 | 0.01 | 0.00 | 0.01 | 0.02 | 0.01 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Diurnal Average | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |

C Monthly Calibration **S** Daily Zero-Span Check **Q** Quality Assurance
K Collection Error **ND** No Data (Machine Not in Service) **Y** Routine Maintenance
X InValid Data (Equipment Malfunction /Recovery) **NRM** UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) **P** Power Failure

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

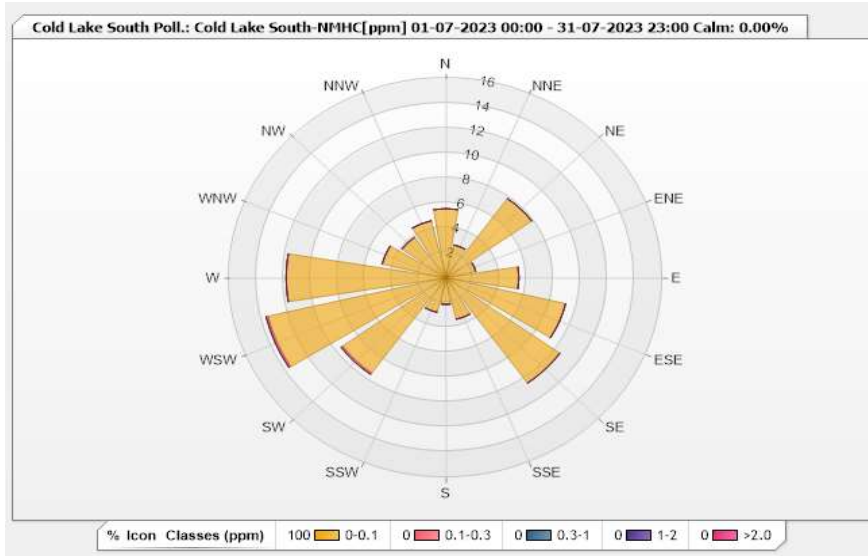


Station: Cold Lake South Poll.: Cold Lake South-NMHC[ppm] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.62% Calm Avg: 0.00 [ppm]

| Direction | 0-0.1 | 0.1-0.3 | 0.3-1 | 1-2 | >2.0 | Total |
|-----------|-------|---------|-------|-----|------|-------|
| N | 5.54 | 0 | 0 | 0 | 0 | 5.54 |
| NNE | 2.7 | 0 | 0 | 0 | 0 | 2.7 |
| NE | 7.81 | 0 | 0 | 0 | 0 | 7.81 |
| ENE | 2.27 | 0 | 0 | 0 | 0 | 2.27 |
| E | 5.4 | 0 | 0 | 0 | 0 | 5.4 |
| ESE | 9.09 | 0 | 0 | 0 | 0 | 9.09 |
| SE | 10.37 | 0 | 0 | 0 | 0 | 10.37 |
| SSE | 3.41 | 0 | 0 | 0 | 0 | 3.41 |
| S | 2.13 | 0 | 0 | 0 | 0 | 2.13 |
| SSW | 2.84 | 0 | 0 | 0 | 0 | 2.84 |
| SW | 9.38 | 0.14 | 0 | 0 | 0 | 9.52 |
| WSW | 13.49 | 0.14 | 0 | 0 | 0 | 13.63 |
| W | 11.79 | 0 | 0 | 0 | 0 | 11.79 |
| WNW | 4.83 | 0 | 0 | 0 | 0 | 4.83 |
| NW | 3.98 | 0 | 0 | 0 | 0 | 3.98 |
| NNW | 4.69 | 0 | 0 | 0 | 0 | 4.69 |
| Summary | 100 | 0.28 | 0 | 0 | 0 | 100 |



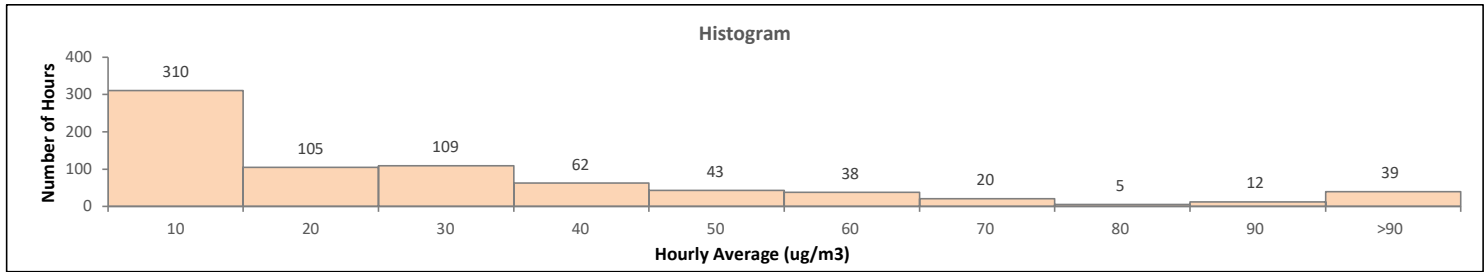
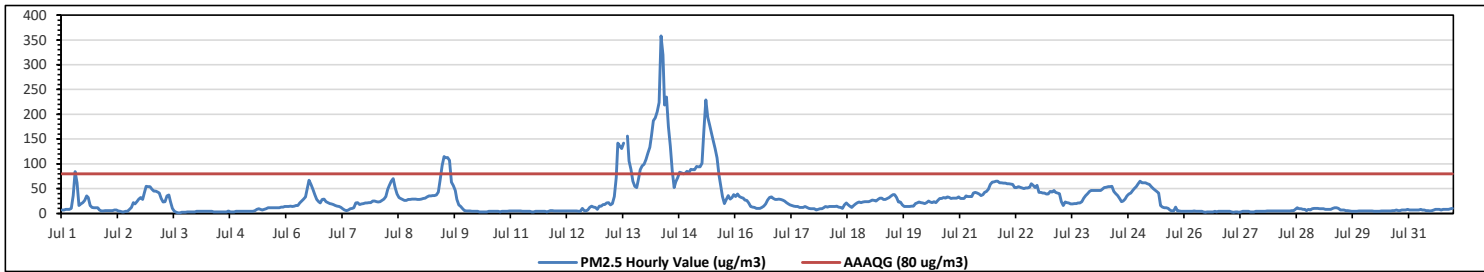
Lakeland Industry & Community Association

Cold Lake South Station - July 2023

Summary of Hourly Averages

PARTICULATE MATTER 2.5 (PM_{2.5}) in µg/m³

| Alberta Ambient Air Quality Guideline (AAAQG): 1-Hour 80 µg/m ³ , Alberta Ambient Air Quality Objective (AAAQO): 24-Hour 29 µg/m ³ | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|------|------|------|------|------|------|------|------|------|------|---|------|------|------|------|------|------|------|------|------|------|---------------------|---------------|---------------|---------------|-------|
| Number of 1-Hour Exceedances: 51 | | | | | | | | | | | | Number of 24-Hour Exceedances: 10 | | | | | | | | | | | | | | | |
| Maximum Hourly Value: 358 µg/m ³ on Jul 14 at hr 8 | | | | | | | | | | | | Hours in Service: 744 | | | | | | | | | | | | | | | |
| Maximum Daily Value: 147.5 µg/m ³ on Jul 14 | | | | | | | | | | | | Hours of Data: 743 | | | | | | | | | | | | | | | |
| Minimum Hourly Value: 1 µg/m ³ on Jul 3 at hr 14 | | | | | | | | | | | | Hours of Missing Data: 0 | | | | | | | | | | | | | | | |
| Minimum Daily Value: 4 µg/m ³ on Jul 4 | | | | | | | | | | | | Hours of Calibration: 1 | | | | | | | | | | | | | | | |
| Monthly Average: 28.0 µg/m ³ | | | | | | | | | | | | Operational Uptime: 100.0 | | | | | | | | | | | | | | | |
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | |
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 |
| Jul 1 | 7 | 7 | 8 | 8 | 8 | 10 | 36 | 84 | 62 | 16 | 19 | 22 | 26 | 35 | 32 | 16 | 12 | 11 | 11 | 7 | 5 | 5 | 6 | 5 | 84 | 19.3 | |
| Jul 2 | 6 | 6 | 6 | 6 | 7 | 7 | 5 | 4 | 3 | 3 | 4 | 4 | 8 | 12 | 22 | 19 | 24 | 29 | 32 | 28 | 43 | 55 | 54 | 54 | 3 | 55 | 18.4 |
| Jul 3 | 49 | 45 | 45 | 43 | 41 | 30 | 23 | 24 | 35 | 37 | 24 | 10 | 4 | 2 | 1 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 1 | 49 | 18.1 | |
| Jul 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 5 | 3 | 3 | 3 | 4 | 4 | 4 | 3 | 5 | 3.6 |
| Jul 5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 6 | 8 | 9 | 8 | 7 | 8 | 9 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 13 | 13 | 14 | 4 | 14 | 8.3 |
| Jul 6 | 14 | 14 | 15 | 14 | 15 | 16 | 16 | 21 | 25 | 29 | 33 | 49 | 67 | 58 | 49 | 38 | 28 | 24 | 21 | 28 | 29 | 24 | 22 | 20 | 14 | 67 | 27.9 |
| Jul 7 | 19 | 18 | 16 | 15 | 14 | 12 | 9 | 7 | 6 | 7 | 9 | 10 | 11 | 21 | 22 | 18 | 19 | 20 | 21 | 21 | 22 | 22 | 25 | 25 | 6 | 25 | 16.2 |
| Jul 8 | 24 | 23 | 24 | 26 | 29 | 34 | 49 | 57 | 65 | 70 | 52 | 39 | 32 | 30 | 28 | 26 | 26 | 28 | 28 | 29 | 29 | 29 | 28 | 28 | 23 | 70 | 34.7 |
| Jul 9 | 29 | 30 | 31 | 33 | 35 | 35 | 36 | 36 | 37 | 43 | 69 | 97 | 115 | 112 | 113 | 107 | 63 | 56 | 46 | 28 | 17 | 14 | 9 | 6 | 6 | 115 | 49.9 |
| Jul 10 | 5 | 5 | 5 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 3 | 4 | 4 | 4 | 4 | 5 | 3 | 5 | 3.9 | |
| Jul 11 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 3 | 4 | 6 | 6 | 5 | 3 | 6 | 4.3 | |
| Jul 12 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 4 | 10 | 6 | 5 | 7 | 12 | 15 | 13 | 12 | 8 | 15 | 4 | 15 | 7.1 |
| Jul 13 | 15 | 18 | 18 | 21 | 22 | 17 | 20 | 34 | 72 | 142 | 136 | 131 | 142 | C | 156 | 106 | 89 | 65 | 55 | 52 | 71 | 88 | 96 | 99 | 15 | 156 | 72.4 |
| Jul 14 | 109 | 122 | 133 | 156 | 187 | 193 | 205 | 224 | 358 | 320 | 219 | 235 | 175 | 136 | 86 | 52 | 64 | 72 | 83 | 82 | 80 | 81 | 85 | 82 | 52 | 358 | 147.5 |
| Jul 15 | 89 | 88 | 88 | 95 | 94 | 94 | 101 | 168 | 229 | 194 | 178 | 164 | 147 | 131 | 112 | 78 | 54 | 34 | 20 | 28 | 36 | 29 | 32 | 38 | 20 | 229 | 96.7 |
| Jul 16 | 34 | 39 | 34 | 32 | 31 | 27 | 26 | 21 | 14 | 13 | 12 | 10 | 10 | 10 | 12 | 15 | 19 | 27 | 32 | 33 | 30 | 28 | 28 | 29 | 10 | 39 | 23.6 |
| Jul 17 | 28 | 27 | 25 | 22 | 19 | 17 | 16 | 15 | 14 | 14 | 12 | 12 | 12 | 14 | 12 | 10 | 9 | 9 | 9 | 7 | 8 | 9 | 9 | 11 | 7 | 28 | 14.2 |
| Jul 18 | 14 | 13 | 14 | 14 | 14 | 14 | 15 | 13 | 12 | 10 | 17 | 21 | 18 | 15 | 12 | 16 | 19 | 22 | 23 | 22 | 23 | 24 | 24 | 24 | 10 | 24 | 17.2 |
| Jul 19 | 25 | 27 | 26 | 25 | 28 | 31 | 31 | 28 | 28 | 30 | 32 | 35 | 38 | 38 | 32 | 23 | 23 | 17 | 14 | 14 | 14 | 15 | 15 | 14 | 38 | 25.1 | |
| Jul 20 | 20 | 21 | 23 | 22 | 21 | 20 | 22 | 25 | 23 | 22 | 24 | 22 | 26 | 30 | 30 | 32 | 31 | 33 | 32 | 30 | 31 | 31 | 31 | 33 | 20 | 33 | 26.5 |
| Jul 21 | 30 | 30 | 30 | 35 | 34 | 34 | 34 | 41 | 42 | 41 | 39 | 36 | 38 | 42 | 44 | 49 | 58 | 63 | 64 | 65 | 65 | 62 | 62 | 61 | 30 | 65 | 45.8 |
| Jul 22 | 61 | 60 | 60 | 59 | 58 | 52 | 52 | 54 | 53 | 51 | 50 | 51 | 51 | 53 | 60 | 57 | 52 | 57 | 42 | 42 | 41 | 41 | 39 | 39 | 39 | 61 | 51.5 |
| Jul 23 | 44 | 43 | 46 | 42 | 41 | 40 | 24 | 16 | 23 | 22 | 21 | 19 | 19 | 20 | 20 | 21 | 21 | 24 | 31 | 36 | 40 | 44 | 46 | 46 | 16 | 46 | 31.2 |
| Jul 24 | 46 | 46 | 46 | 46 | 49 | 52 | 53 | 54 | 54 | 55 | 44 | 40 | 36 | 30 | 24 | 25 | 29 | 35 | 39 | 41 | 46 | 50 | 54 | 60 | 24 | 60 | 43.9 |
| Jul 25 | 65 | 62 | 62 | 62 | 60 | 58 | 54 | 50 | 47 | 44 | 41 | 16 | 13 | 11 | 11 | 10 | 7 | 5 | 5 | 13 | 5 | 5 | 4 | 4 | 4 | 65 | 29.8 |
| Jul 26 | 4 | 4 | 4 | 4 | 4 | 5 | 4 | 4 | 4 | 4 | 3 | 2 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 5 | 3.7 | |
| Jul 27 | 4 | 3 | 2 | 3 | 3 | 2 | 3 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 2 | 5 | 3.7 | |
| Jul 28 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 8 | 11 | 9 | 9 | 8 | 8 | 6 | 8 | 7 | 9 | 10 | 10 | 10 | 5 | 11 | 7.1 |
| Jul 29 | 9 | 9 | 9 | 8 | 8 | 8 | 8 | 10 | 11 | 10 | 7 | 7 | 7 | 7 | 6 | 6 | 5 | 4 | 4 | 4 | 4 | 5 | 5 | 4 | 11 | 7.1 | |
| Jul 30 | 5 | 5 | 5 | 5 | 5 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 7 | 6 | 7 | 7 | 7 | 7 | 8 | 4 | 8 | 5.5 | |
| Jul 31 | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 7 | 7 | 6 | 6 | 5 | 6 | 7 | 8 | 8 | 8 | 7 | 8 | 8 | 8 | 8 | 9 | 10 | 5 | 10 | 7.3 |
| Diurnal Maximum | 109 | 122 | 133 | 156 | 187 | 193 | 205 | 224 | 358 | 320 | 219 | 235 | 175 | 136 | 86 | 52 | 64 | 72 | 83 | 82 | 80 | 81 | 85 | 82 | 52 | 358 | 147.5 |
| Diurnal Average | 25.3 | 25.6 | 26.0 | 26.8 | 27.8 | 27.3 | 28.4 | 33.3 | 40.7 | 39.5 | 35.2 | 34.6 | 33.7 | 28.6 | 30.5 | 25.2 | 22.9 | 22.4 | 21.8 | 22.0 | 23.0 | 23.7 | 24.1 | 24.8 | | | |
| C | Monthly Calibration | | | | | | | | | | S | Daily Zero-Span Check | | | | | | | | | | Q | Quality Assurance | | | | |
| K | Collection Error | | | | | | | | | | ND | No Data (Machine Not in Service) | | | | | | | | | | Y | Routine Maintenance | | | | |
| X | Invalid Data (Equipment Malfunction / Recovery) | | | | | | | | | | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | | | | | | | | P | Power Failure | | | | |
| Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met. | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met. | | | | | | | | | | | | | | | | | | | | | | | | | | | |

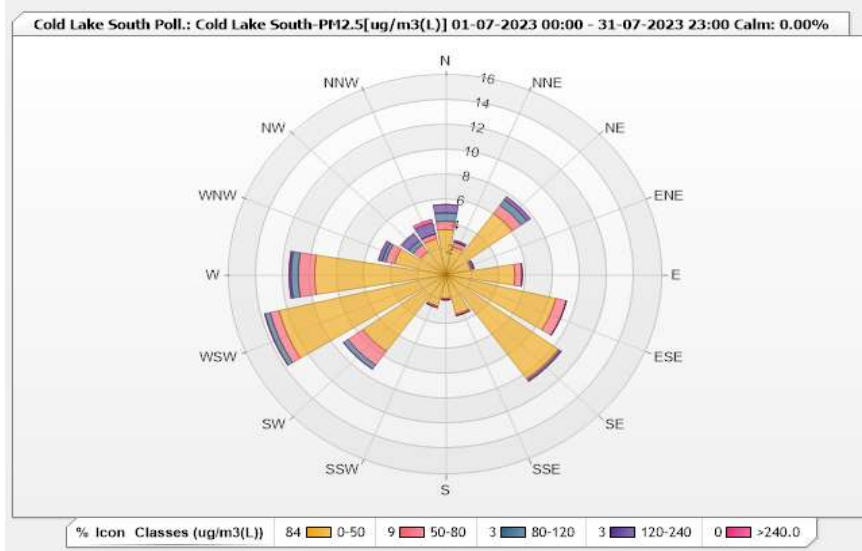


Station: Cold Lake South Poll.: Cold Lake South-PM2.5[ug/m3(L)] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 99.87% Calm Avg: 0.00 [ppm]

| Direction | 0-50 | 50-80 | 80-120 | 120-240 | >240.0 | Total |
|-----------|-------|-------|--------|---------|--------|-------|
| N | 3.63 | 0.67 | 0.67 | 0.67 | 0 | 5.64 |
| NNE | 2.29 | 0.4 | 0 | 0.13 | 0 | 2.82 |
| NE | 6.06 | 0.81 | 0.54 | 0.27 | 0 | 7.68 |
| ENE | 1.88 | 0.13 | 0.13 | 0 | 0 | 2.14 |
| E | 5.11 | 0.54 | 0 | 0 | 0 | 5.65 |
| ESE | 8.34 | 0.81 | 0 | 0 | 0 | 9.15 |
| SE | 10.23 | 0.13 | 0.13 | 0 | 0 | 10.49 |
| SSE | 3.23 | 0.13 | 0 | 0 | 0 | 3.36 |
| S | 1.88 | 0.13 | 0 | 0 | 0 | 2.01 |
| SSW | 2.56 | 0.13 | 0 | 0 | 0 | 2.69 |
| SW | 7.54 | 1.35 | 0.4 | 0 | 0 | 9.29 |
| WSW | 12.65 | 0.67 | 0.4 | 0 | 0 | 13.72 |
| W | 9.69 | 1.21 | 0.54 | 0.13 | 0 | 11.57 |
| WNW | 3.9 | 0.67 | 0.27 | 0.27 | 0 | 5.11 |
| NW | 2.29 | 0.67 | 0.4 | 0.67 | 0 | 4.03 |
| NNW | 2.96 | 0.4 | 0 | 0.94 | 0.27 | 4.57 |
| Summary | 84.24 | 8.85 | 3.48 | 3.08 | 0.27 | 100 |



Lakeland Industry & Community Association

Cold Lake South Station - July 2023

Summary of Hourly Averages

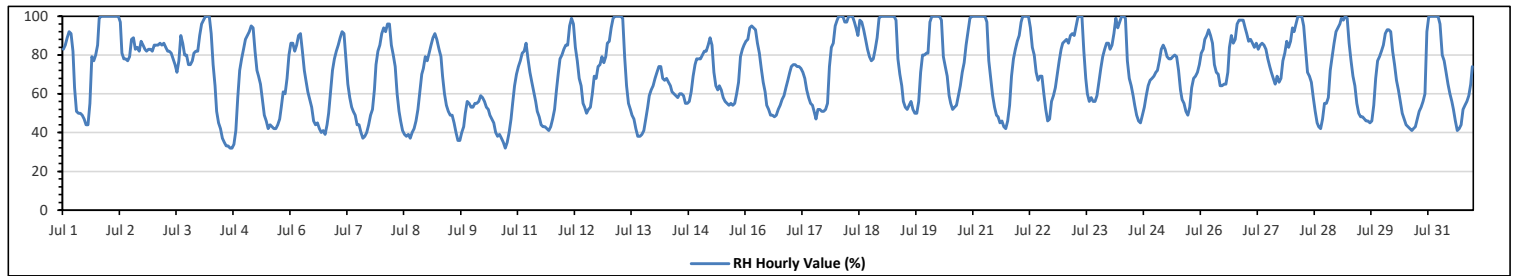
RELATIVE HUMIDITY (RH) in %

| | | | | | |
|-----------------------|------|---|-------------------|------------------------|-------|
| Maximum Hourly Value: | 100 | % | on Jul 1 at hr 20 | Hours in Service: | 744 |
| Maximum Daily Value: | 93.2 | % | on Jul 18 | Hours of Data: | 744 |
| Minimum Hourly Value: | 32 | % | on Jul 4 at hr 16 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 48.8 | % | on Jul 10 | Hours of Calibration: | 0 |
| Monthly Average: | 70.8 | % | | Operational Uptime: | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | | |
|-----------------|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------|---------------|---------------|------|------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 | |
| Jul 1 | 83 | 85 | 89 | 92 | 91 | 82 | 63 | 51 | 50 | 49 | 47 | 44 | 44 | 55 | 79 | 77 | 80 | 85 | 99 | 100 | 100 | 100 | 100 | 44 | 100 | 74.8 | | |
| Jul 2 | 100 | 100 | 100 | 100 | 100 | 100 | 97 | 81 | 78 | 78 | 77 | 79 | 88 | 89 | 83 | 84 | 82 | 87 | 85 | 83 | 82 | 83 | 83 | 82 | 77 | 100 | 87.5 | |
| Jul 3 | 85 | 85 | 85 | 86 | 85 | 86 | 84 | 82 | 82 | 81 | 78 | 75 | 71 | 77 | 90 | 86 | 80 | 80 | 75 | 75 | 77 | 81 | 82 | 82 | 71 | 90 | 81.3 | |
| Jul 4 | 90 | 96 | 98 | 100 | 100 | 100 | 91 | 75 | 64 | 51 | 45 | 42 | 37 | 35 | 33 | 33 | 32 | 32 | 34 | 41 | 58 | 72 | 78 | 83 | 32 | 100 | 63.3 | |
| Jul 5 | 88 | 90 | 92 | 95 | 94 | 82 | 72 | 69 | 65 | 57 | 49 | 46 | 42 | 44 | 43 | 42 | 42 | 44 | 47 | 53 | 61 | 60 | 68 | 80 | 42 | 95 | 63.5 | |
| Jul 6 | 86 | 86 | 82 | 85 | 90 | 91 | 82 | 72 | 67 | 61 | 57 | 53 | 46 | 44 | 45 | 42 | 40 | 41 | 39 | 44 | 50 | 61 | 72 | 78 | 39 | 91 | 63.1 | |
| Jul 7 | 82 | 85 | 89 | 92 | 91 | 78 | 65 | 58 | 53 | 51 | 49 | 44 | 44 | 40 | 37 | 38 | 40 | 44 | 49 | 52 | 62 | 75 | 82 | 85 | 37 | 92 | 61.9 | |
| Jul 8 | 91 | 94 | 92 | 96 | 96 | 85 | 80 | 74 | 60 | 51 | 46 | 41 | 39 | 38 | 39 | 37 | 40 | 42 | 46 | 52 | 61 | 70 | 73 | 79 | 37 | 96 | 63.4 | |
| Jul 9 | 77 | 81 | 85 | 89 | 91 | 88 | 83 | 79 | 69 | 60 | 54 | 51 | 49 | 49 | 45 | 40 | 36 | 36 | 40 | 43 | 50 | 56 | 55 | 53 | 36 | 91 | 60.8 | |
| Jul 10 | 53 | 55 | 55 | 56 | 59 | 58 | 56 | 53 | 52 | 49 | 47 | 45 | 40 | 38 | 39 | 37 | 35 | 32 | 35 | 40 | 47 | 55 | 64 | 70 | 32 | 70 | 48.8 | |
| Jul 11 | 74 | 77 | 81 | 82 | 86 | 78 | 71 | 66 | 61 | 56 | 51 | 48 | 44 | 43 | 43 | 42 | 41 | 43 | 47 | 52 | 62 | 71 | 78 | 80 | 41 | 86 | 61.5 | |
| Jul 12 | 83 | 85 | 85 | 95 | 99 | 96 | 84 | 77 | 68 | 64 | 55 | 53 | 50 | 52 | 53 | 60 | 69 | 68 | 74 | 75 | 79 | 76 | 79 | 86 | 50 | 99 | 73.5 | |
| Jul 13 | 87 | 94 | 99 | 100 | 100 | 100 | 100 | 99 | 79 | 64 | 55 | 52 | 49 | 47 | 42 | 38 | 38 | 39 | 41 | 47 | 53 | 59 | 62 | 64 | 38 | 100 | 67.0 | |
| Jul 14 | 68 | 71 | 74 | 74 | 68 | 67 | 68 | 66 | 64 | 61 | 60 | 59 | 58 | 60 | 60 | 59 | 55 | 55 | 56 | 61 | 69 | 75 | 78 | 78 | 55 | 78 | 65.2 | |
| Jul 15 | 78 | 80 | 82 | 82 | 85 | 89 | 85 | 71 | 64 | 62 | 64 | 62 | 58 | 56 | 55 | 54 | 55 | 54 | 55 | 60 | 66 | 79 | 83 | 85 | 54 | 89 | 69.3 | |
| Jul 16 | 87 | 88 | 94 | 95 | 94 | 93 | 86 | 81 | 73 | 66 | 61 | 54 | 52 | 49 | 49 | 48 | 49 | 52 | 54 | 57 | 59 | 63 | 67 | 71 | 48 | 95 | 68.4 | |
| Jul 17 | 74 | 75 | 75 | 74 | 74 | 73 | 71 | 68 | 62 | 58 | 55 | 54 | 51 | 47 | 52 | 52 | 51 | 51 | 52 | 55 | 74 | 84 | 86 | 95 | 47 | 95 | 65.1 | |
| Jul 18 | 98 | 100 | 100 | 100 | 100 | 97 | 97 | 100 | 100 | 100 | 97 | 94 | 90 | 98 | 97 | 93 | 88 | 83 | 79 | 77 | 78 | 83 | 89 | 99 | 100 | 77 | 100 | 93.2 |
| Jul 19 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 98 | 78 | 70 | 64 | 56 | 53 | 52 | 54 | 56 | 52 | 50 | 50 | 56 | 71 | 80 | 80 | 81 | 50 | 100 | 75.0 | |
| Jul 20 | 81 | 97 | 100 | 100 | 100 | 100 | 100 | 98 | 79 | 74 | 69 | 59 | 55 | 52 | 53 | 54 | 59 | 64 | 71 | 76 | 85 | 92 | 99 | 100 | 52 | 100 | 79.9 | |
| Jul 21 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 97 | 77 | 68 | 59 | 53 | 49 | 48 | 45 | 46 | 43 | 42 | 46 | 54 | 69 | 78 | 83 | 87 | 42 | 100 | 72.7 | |
| Jul 22 | 90 | 97 | 100 | 100 | 100 | 100 | 100 | 94 | 84 | 80 | 71 | 67 | 69 | 69 | 60 | 52 | 46 | 47 | 56 | 59 | 63 | 70 | 77 | 83 | 86 | 46 | 100 | 75.8 |
| Jul 23 | 87 | 88 | 86 | 90 | 91 | 90 | 95 | 100 | 100 | 100 | 82 | 68 | 60 | 56 | 58 | 56 | 56 | 59 | 66 | 73 | 79 | 83 | 86 | 86 | 56 | 100 | 79.0 | |
| Jul 24 | 83 | 85 | 91 | 99 | 94 | 97 | 100 | 100 | 99 | 77 | 68 | 64 | 59 | 54 | 49 | 46 | 45 | 49 | 53 | 59 | 64 | 67 | 68 | 69 | 45 | 100 | 72.5 | |
| Jul 25 | 71 | 72 | 77 | 83 | 85 | 83 | 79 | 78 | 78 | 79 | 80 | 79 | 72 | 62 | 57 | 55 | 51 | 49 | 53 | 63 | 68 | 69 | 71 | 75 | 49 | 85 | 70.4 | |
| Jul 26 | 81 | 83 | 88 | 90 | 93 | 90 | 86 | 75 | 71 | 70 | 64 | 65 | 65 | 71 | 84 | 90 | 86 | 88 | 96 | 98 | 98 | 98 | 98 | 94 | 64 | 98 | 82.8 | |
| Jul 27 | 91 | 87 | 88 | 86 | 84 | 86 | 83 | 85 | 86 | 85 | 83 | 78 | 74 | 71 | 68 | 65 | 69 | 66 | 68 | 77 | 81 | 87 | 84 | 87 | 65 | 91 | 80.0 | |
| Jul 28 | 94 | 92 | 96 | 100 | 100 | 100 | 95 | 83 | 71 | 69 | 66 | 58 | 51 | 45 | 43 | 42 | 47 | 55 | 55 | 58 | 72 | 79 | 86 | 92 | 42 | 100 | 72.9 | |
| Jul 29 | 94 | 96 | 99 | 98 | 100 | 99 | 86 | 77 | 69 | 64 | 55 | 50 | 48 | 48 | 47 | 46 | 46 | 45 | 46 | 54 | 68 | 77 | 79 | 82 | 45 | 100 | 69.7 | |
| Jul 30 | 85 | 91 | 93 | 93 | 92 | 82 | 75 | 67 | 62 | 56 | 50 | 47 | 44 | 43 | 42 | 41 | 42 | 43 | 47 | 51 | 53 | 56 | 60 | 92 | 41 | 93 | 62.8 | |
| Jul 31 | 100 | 100 | 100 | 100 | 100 | 100 | 96 | 80 | 77 | 71 | 65 | 60 | 56 | 52 | 46 | 41 | 42 | 44 | 52 | 54 | 56 | 59 | 65 | 74 | 41 | 100 | 70.4 | |
| Diurnal Maximum | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 94 | 90 | 98 | 97 | 93 | 88 | 90 | 87 | 88 | 99 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Diurnal Average | 85.2 | 87.6 | 89.5 | 91.4 | 91.6 | 89.4 | 84.7 | 78.8 | 72.2 | 66.8 | 61.9 | 58.1 | 55.3 | 53.5 | 52.9 | 52.8 | 52.7 | 53.8 | 56.3 | 61.3 | 68.6 | 74.5 | 78.4 | 82.5 | 82.5 | 82.5 | 82.5 | |

| | | |
|---|--|------------------------------|
| C Monthly Calibration | S Daily Zero-Span Check | Q Quality Assurance |
| K Collection Error | ND No Data (Machine Not in Service) | Y Routine Maintenance |
| X InValid Data (Equipment Malfunction /Recovery) | NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per days is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



Lakeland Industry & Community Association

Cold Lake South Station - July 2023

Summary of Hourly Averages

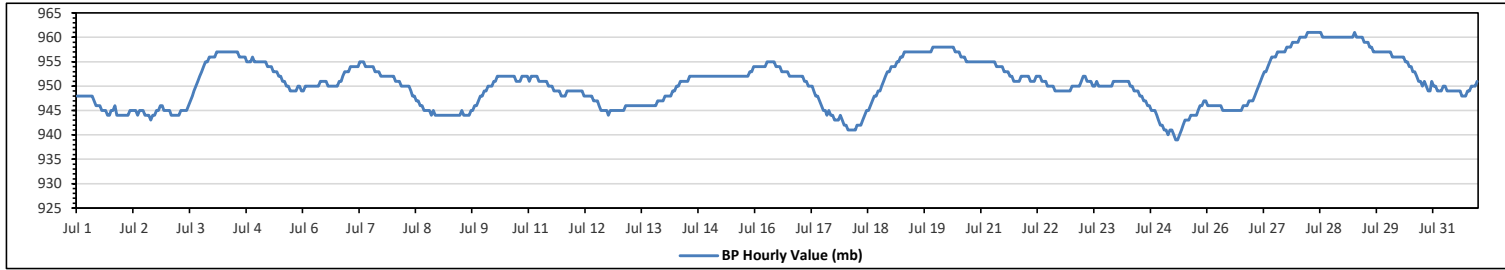
BAROMETRIC PRESSURE (BP) in millibar

| | | | | | |
|-----------------------|-----|----|-------------------|------------------------|-------|
| Maximum Hourly Value: | 961 | mb | on Jul 28 at hr 5 | Hours in Service: | 744 |
| Maximum Daily Value: | 960 | mb | on Jul 28 | Hours of Data: | 744 |
| Minimum Hourly Value: | 939 | mb | on Jul 25 at hr 7 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 943 | mb | on Jul 25 | Hours of Calibration: | 0 |
| Monthly Average: | 951 | mb | | Operational Uptime: | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | | | | | | | | |
|-----------------|---------------------------------|-----|-----|-----|-----|------------|------------|------------|------------|------------|------------|------------|------------|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------------|---------------|---------------|-----|-----|-----|-----|------------|-----|------------|-----|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 | | | | | | | |
| Jul 1 | 948 | 948 | 948 | 948 | 948 | 948 | 948 | 948 | 948 | 947 | 946 | 946 | 946 | 945 | 945 | 945 | 944 | 944 | 945 | 945 | 946 | 944 | 944 | 944 | 944 | 944 | 944 | 944 | 944 | 944 | 944 | 946 | 946 | 946 |
| Jul 2 | 944 | 944 | 944 | 944 | 945 | 945 | 945 | 945 | 944 | 945 | 945 | 945 | 944 | 944 | 944 | 943 | 944 | 944 | 945 | 945 | 946 | 946 | 945 | 945 | 945 | 945 | 945 | 945 | 945 | 945 | 946 | 946 | 945 | |
| Jul 3 | 945 | 945 | 944 | 944 | 944 | 944 | 944 | 945 | 945 | 945 | 945 | 946 | 947 | 948 | 949 | 950 | 951 | 952 | 953 | 954 | 955 | 955 | 956 | 956 | 956 | 956 | 956 | 956 | 956 | 956 | 956 | 956 | 956 | |
| Jul 4 | 956 | 956 | 957 | 957 | 957 | 957 | 957 | 957 | 957 | 957 | 957 | 957 | 957 | 957 | 956 | 956 | 956 | 956 | 955 | 955 | 955 | 956 | 955 | 955 | 955 | 955 | 955 | 955 | 955 | 955 | 955 | 955 | 955 | |
| Jul 5 | 955 | 955 | 955 | 955 | 955 | 954 | 954 | 954 | 953 | 953 | 953 | 952 | 952 | 951 | 951 | 950 | 950 | 949 | 949 | 949 | 949 | 950 | 950 | 949 | 949 | 950 | 950 | 949 | 949 | 950 | 949 | 949 | | |
| Jul 6 | 949 | 950 | 950 | 950 | 950 | 950 | 950 | 950 | 951 | 951 | 951 | 951 | 950 | 950 | 950 | 950 | 949 | 949 | 948 | 948 | 948 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | | |
| Jul 7 | 953 | 954 | 954 | 954 | 954 | 955 | 955 | 955 | 954 | 954 | 954 | 954 | 954 | 953 | 953 | 953 | 952 | 952 | 952 | 952 | 952 | 951 | 951 | 952 | 953 | 953 | 952 | 952 | 952 | 952 | 952 | 952 | | |
| Jul 8 | 952 | 951 | 951 | 951 | 950 | 950 | 950 | 950 | 949 | 948 | 948 | 947 | 947 | 946 | 946 | 945 | 945 | 945 | 945 | 945 | 944 | 944 | 945 | 944 | 944 | 944 | 944 | 944 | 944 | 944 | 944 | 944 | 944 | |
| Jul 9 | 944 | 944 | 944 | 944 | 944 | 944 | 944 | 944 | 944 | 944 | 944 | 944 | 945 | 944 | 944 | 944 | 944 | 945 | 945 | 946 | 946 | 946 | 947 | 948 | 948 | 948 | 948 | 948 | 948 | 948 | 948 | 948 | 948 | |
| Jul 10 | 949 | 949 | 950 | 950 | 950 | 951 | 951 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 951 | 951 | 951 | 951 | 949 | 949 | 948 | 948 | 948 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | |
| Jul 11 | 951 | 952 | 952 | 952 | 952 | 951 | 951 | 951 | 951 | 951 | 950 | 950 | 950 | 949 | 949 | 949 | 949 | 948 | 948 | 948 | 948 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | |
| Jul 12 | 949 | 949 | 949 | 949 | 949 | 948 | 948 | 948 | 948 | 947 | 947 | 947 | 946 | 945 | 945 | 945 | 944 | 944 | 944 | 944 | 945 | 945 | 945 | 945 | 945 | 945 | 945 | 945 | 945 | 945 | 945 | 945 | 945 | |
| Jul 13 | 945 | 945 | 945 | 946 | 946 | 946 | 946 | 946 | 946 | 946 | 946 | 946 | 946 | 946 | 946 | 946 | 946 | 946 | 946 | 946 | 946 | 946 | 947 | 947 | 947 | 947 | 947 | 947 | 947 | 947 | 947 | 947 | 947 | |
| Jul 14 | 948 | 948 | 948 | 948 | 949 | 949 | 950 | 950 | 951 | 951 | 951 | 951 | 951 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | |
| Jul 15 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | |
| Jul 16 | 954 | 954 | 954 | 954 | 954 | 954 | 955 | 955 | 955 | 955 | 955 | 954 | 954 | 954 | 953 | 953 | 953 | 953 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | |
| Jul 17 | 952 | 952 | 951 | 951 | 950 | 950 | 950 | 949 | 948 | 948 | 947 | 946 | 945 | 945 | 944 | 944 | 944 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | |
| Jul 18 | 942 | 941 | 941 | 941 | 941 | 941 | 942 | 942 | 942 | 943 | 944 | 945 | 945 | 946 | 947 | 948 | 948 | 949 | 949 | 950 | 951 | 952 | 953 | 953 | 953 | 953 | 953 | 953 | 953 | 953 | 953 | 953 | 953 | 953 |
| Jul 19 | 954 | 954 | 954 | 955 | 955 | 956 | 956 | 957 | 957 | 957 | 957 | 957 | 957 | 957 | 957 | 957 | 957 | 957 | 957 | 957 | 957 | 957 | 957 | 957 | 957 | 957 | 957 | 957 | 957 | 957 | 957 | 957 | 957 | |
| Jul 20 | 958 | 958 | 958 | 958 | 958 | 958 | 958 | 958 | 958 | 958 | 957 | 957 | 957 | 956 | 956 | 956 | 955 | 955 | 955 | 955 | 955 | 955 | 955 | 955 | 955 | 955 | 955 | 955 | 955 | 955 | 955 | 955 | 955 | |
| Jul 21 | 955 | 955 | 955 | 955 | 955 | 955 | 955 | 955 | 954 | 954 | 954 | 953 | 953 | 953 | 953 | 952 | 952 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | |
| Jul 22 | 952 | 952 | 951 | 951 | 951 | 952 | 952 | 952 | 951 | 951 | 951 | 950 | 950 | 950 | 950 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | |
| Jul 23 | 950 | 950 | 950 | 950 | 950 | 951 | 952 | 952 | 951 | 951 | 951 | 950 | 950 | 951 | 950 | 950 | 950 | 950 | 950 | 950 | 950 | 950 | 950 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | |
| Jul 24 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 950 | 949 | 949 | 949 | 948 | 948 | 947 | 947 | 946 | 946 | 945 | 945 | 944 | 944 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | |
| Jul 25 | 942 | 941 | 941 | 940 | 941 | 941 | 940 | 939 | 939 | 940 | 941 | 942 | 943 | 943 | 943 | 943 | 944 | 944 | 944 | 944 | 944 | 945 | 946 | 946 | 947 | 947 | 947 | 947 | 947 | 947 | 939 | 947 | 943 | |
| Jul 26 | 946 | 946 | 946 | 946 | 946 | 946 | 946 | 946 | 945 | 945 | 945 | 945 | 945 | 945 | 945 | 945 | 945 | 945 | 945 | 945 | 946 | 946 | 946 | 947 | 947 | 947 | 947 | 947 | 947 | 947 | 947 | 947 | 947 | |
| Jul 27 | 947 | 948 | 949 | 950 | 951 | 952 | 953 | 953 | 954 | 955 | 956 | 956 | 956 | 957 | 957 | 957 | 957 | 957 | 957 | 957 | 958 | 958 | 958 | 959 | 959 | 959 | 959 | 959 | 959 | 959 | 959 | 959 | 959 | |
| Jul 28 | 959 | 960 | 960 | 960 | 960 | 961 | 961 | 961 | 961 | 961 | 961 | 961 | 961 | 961 | 960 | 960 | 960 | 960 | 960 | 960 | 960 | 960 | 960 | 960 | 960 | 960 | 960 | 960 | 960 | 960 | 960 | 960 | | |
| Jul 29 | 960 | 960 | 960 | 960 | 960 | 961 | 960 | 960 | 960 | 960 | 960 | 959 | 959 | 959 | 958 | 958 | 957 | 957 | 957 | 957 | 957 | 957 | 957 | 957 | 957 | 957 | 957 | 957 | 957 | 957 | 957 | 957 | 957 | |
| Jul 30 | 957 | 957 | 956 | 956 | 956 | 956 | 956 | 956 | 956 | 955 | 955 | 954 | 954 | 953 | 953 | 952 | 951 | 951 | 950 | 951 | 950 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | |
| Jul 31 | 950 | 950 | 949 | 949 | 949 | 950 | 950 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 948 | 948 | 948 | 949 | 949 | 950 | 950 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | |
| Diurnal Maximum | 960 | 960 | 960 | 960 | 960 | 961 | 961 | 961 | 961 | 961 | 961 | 961 | 961 | 961 | 960 | 960 | 960 | 960 | 960 | 960 | 960 | 960 | 960 | 960 | 960 | 960 | 960 | 960 | 960 | 960 | 960 | 960 | | |
| Diurnal Average | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 950 | 950 | 950 | 950 | 950 | 950 | 950 | 950 | 950 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | 951 | | |

| | | | | | |
|----------|---|------------|---|----------|---------------------|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance |
| K | Collection Error | ND | No Data (Machine Not in Service) | Y | Routine Maintenance |
| X | Invalid Data (Equipment Malfunction/Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P | Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



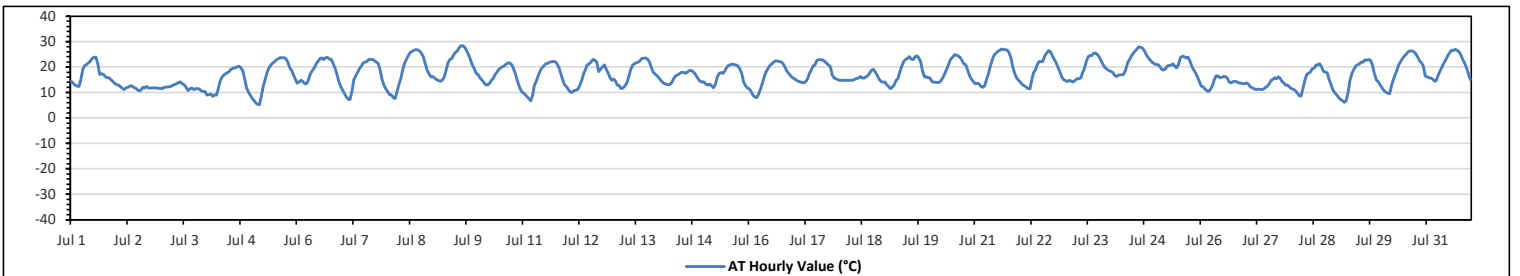
Lakeland Industry & Community Association
Cold Lake South Station - July 2023
Summary of Hourly Averages
AMBIENT TEMPERATURE (AT) in Degree Celsius

| | | | | |
|-----------------------|---------|-------------------|------------------------|-------|
| Maximum Hourly Value: | 28.4 °C | on Jul 9 at hr 15 | Hours in Service: | 744 |
| Maximum Daily Value: | 22.0 °C | on Jul 24 | Hours of Data: | 744 |
| Minimum Hourly Value: | 5.2 °C | on Jul 5 at hr 4 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 11.9 °C | on Jul 2 | Hours of Calibration: | 0 |
| Monthly Average: | 17.3 °C | | Operational Uptime: | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average |
|-----------------|---------------------------------|------|------|------|------------|------|------|------|------|------|------|------|------|------|------|-------------|------|------|------|------|------|------|------|------|---------------|---------------|---------------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | |
| Jul 1 | 14.5 | 13.7 | 13 | 12.5 | 12.4 | 15 | 19 | 20.5 | 21 | 21.5 | 22.3 | 23.4 | 23.9 | 23.9 | 21.2 | 17.1 | 17.4 | 17.2 | 16.3 | 15.8 | 15.9 | 15.1 | 14.3 | 13.7 | 12.4 | 23.9 | 17.5 |
| Jul 2 | 13.2 | 13 | 12.4 | 11.7 | 11.2 | 11.8 | 12 | 12.5 | 12.7 | 12 | 11.8 | 11.2 | 10.6 | 11 | 12 | 11.8 | 12.4 | 11.8 | 11.8 | 11.8 | 11.9 | 11.8 | 11.7 | 11.7 | 10.6 | 13.2 | 11.9 |
| Jul 3 | 11.6 | 11.9 | 12.1 | 12.1 | 12.3 | 12.4 | 12.9 | 13.2 | 13.5 | 13.9 | 14.2 | 13.4 | 13.1 | 12 | 10.8 | 11.5 | 11.8 | 11.1 | 11.6 | 11.6 | 11.4 | 10.6 | 10.4 | 10.4 | 10.4 | 14.2 | 12.1 |
| Jul 4 | 9.1 | 9.2 | 9.4 | 8.5 | 9 | 9.1 | 11.3 | 14.4 | 16 | 16.9 | 17.4 | 17.8 | 18.4 | 19.2 | 19.6 | 19.8 | 20.1 | 20.3 | 19.7 | 18.6 | 15.3 | 11.8 | 10.1 | 9 | 8.5 | 20.3 | 14.6 |
| Jul 5 | 7.8 | 6.9 | 5.9 | 5.3 | 5.2 | 8.7 | 12.5 | 15.2 | 17.9 | 19.8 | 20.8 | 21.5 | 22.2 | 23 | 23.4 | 23.7 | 23.6 | 23.7 | 23.2 | 21.8 | 19.8 | 18.6 | 16.7 | 15 | 5.2 | 23.7 | 16.8 |
| Jul 6 | 13.7 | 14.2 | 14.7 | 14.3 | 13.4 | 13.5 | 15.3 | 17.3 | 18.6 | 19.6 | 21.2 | 22.2 | 23.4 | 23.6 | 23 | 23.7 | 23.7 | 23.1 | 22.9 | 21.4 | 19.8 | 17.3 | 14.7 | 12.7 | 12.7 | 23.7 | 18.6 |
| Jul 7 | 11.1 | 9.7 | 8.4 | 7.4 | 7.2 | 10.5 | 15 | 16.6 | 18 | 19.4 | 20.4 | 21.5 | 22 | 22.3 | 23.1 | 23 | 23 | 22.5 | 21.9 | 21.4 | 18.9 | 15.2 | 13 | 11.4 | 7.2 | 23.1 | 16.8 |
| Jul 8 | 10.3 | 9.2 | 9 | 7.9 | 7.6 | 10.5 | 13.2 | 15.6 | 19.1 | 21.5 | 23.2 | 24.7 | 25.8 | 26.3 | 26.6 | 26.8 | 26.7 | 26.2 | 25.5 | 24.1 | 21.4 | 18.8 | 17.3 | 16.1 | 7.6 | 26.8 | 18.9 |
| Jul 9 | 16.3 | 15.7 | 15.1 | 14.6 | 14.5 | 14.9 | 16.3 | 18.6 | 21.5 | 23 | 23.3 | 24.6 | 25.7 | 26.3 | 27.6 | 28.4 | 28.3 | 27.8 | 26.3 | 24.7 | 22.7 | 20.6 | 19.2 | 17.6 | 14.5 | 28.4 | 21.9 |
| Jul 10 | 17.1 | 15.8 | 14.9 | 14 | 13.1 | 13 | 13.6 | 14.7 | 15.4 | 16.9 | 19.9 | 21.1 | 19.7 | 20.2 | 20.5 | 21.2 | 21.5 | 21.5 | 20.8 | 19.1 | 17 | 14.2 | 12 | 10.4 | 10.4 | 21.5 | 16.8 |
| Jul 11 | 9.7 | 9.2 | 8.2 | 7.6 | 6.7 | 9.1 | 12.8 | 14.5 | 16.6 | 18.5 | 19.7 | 20.5 | 21.3 | 21.4 | 21.9 | 22.1 | 22.2 | 22.1 | 21.1 | 19.9 | 17.3 | 14.9 | 13 | 12.2 | 6.7 | 22.2 | 15.9 |
| Jul 12 | 11 | 10.1 | 10 | 10.7 | 10.9 | 11.3 | 12.8 | 14.6 | 17.3 | 19 | 20.8 | 21.2 | 21.9 | 22.9 | 22.7 | 21.9 | 18.2 | 19.2 | 20.1 | 20.8 | 19.1 | 17.6 | 15.9 | 14.7 | 10.0 | 22.9 | 16.9 |
| Jul 13 | 15.3 | 14.4 | 12.9 | 12.8 | 11.6 | 11.8 | 12.5 | 13.8 | 16.1 | 18.9 | 20.7 | 21.3 | 21.7 | 21.9 | 22.6 | 23.4 | 23.5 | 23.6 | 23.1 | 21.9 | 20 | 18.1 | 17.3 | 16.7 | 11.6 | 23.6 | 18.2 |
| Jul 14 | 15.8 | 14.8 | 14.1 | 13.4 | 13.3 | 13.1 | 13.2 | 14.1 | 15.6 | 16.6 | 17 | 17.4 | 18 | 17.9 | 17.6 | 17.9 | 18.6 | 18.7 | 18.4 | 17.6 | 16.4 | 15.2 | 14.5 | 14.2 | 13.1 | 18.7 | 16.0 |
| Jul 15 | 14.2 | 13.3 | 13 | 13.3 | 12.6 | 11.9 | 13.3 | 16.1 | 17.6 | 17.8 | 17.6 | 18.5 | 19.9 | 20.7 | 20.8 | 21.2 | 21 | 20.9 | 20.5 | 19.3 | 17.5 | 14.2 | 12.6 | 11.8 | 11.8 | 21.2 | 16.7 |
| Jul 16 | 11.4 | 10.3 | 9.1 | 8.3 | 8 | 9.4 | 11.4 | 13.8 | 16.4 | 18.4 | 19.5 | 20.6 | 21.2 | 22 | 22.5 | 22.4 | 22.3 | 21.9 | 21.3 | 20.1 | 18.5 | 17.5 | 16.6 | 15.8 | 8.0 | 22.5 | 16.6 |
| Jul 17 | 15.4 | 14.8 | 14.5 | 14.2 | 13.9 | 13.8 | 14.4 | 15.5 | 17.5 | 18.9 | 20.5 | 20.9 | 22.6 | 22.9 | 22.8 | 22.8 | 22.2 | 21.6 | 20.8 | 20.2 | 17 | 15.7 | 15.5 | 15 | 13.8 | 22.9 | 18.1 |
| Jul 18 | 14.8 | 14.8 | 14.8 | 14.8 | 14.8 | 14.8 | 14.7 | 14.8 | 15.2 | 15.6 | 15.7 | 16.3 | 15.7 | 15.7 | 16.1 | 16.6 | 17.7 | 18.8 | 19 | 17.9 | 16.5 | 15.2 | 14.3 | 14.1 | 14.1 | 19.0 | 15.8 |
| Jul 19 | 14.2 | 13.1 | 12.4 | 11.6 | 12.1 | 13.1 | 14.6 | 15.5 | 18 | 20.3 | 22.1 | 23 | 23.4 | 24 | 23.1 | 22.9 | 24 | 24.3 | 23.8 | 22.2 | 18.6 | 16.2 | 16.1 | 15.9 | 11.6 | 24.3 | 18.5 |
| Jul 20 | 15.9 | 14.5 | 14.1 | 14.1 | 13.9 | 14 | 14.7 | 16.2 | 17.8 | 19.6 | 21.2 | 23.1 | 23.9 | 24.9 | 24.7 | 24.4 | 23.7 | 22.5 | 21.3 | 21 | 18.8 | 16.7 | 15.3 | 14.3 | 13.9 | 24.9 | 18.8 |
| Jul 21 | 13.4 | 13.6 | 13.5 | 12.5 | 12 | 12.5 | 15 | 17.3 | 20.3 | 22.8 | 24.8 | 25.4 | 26.2 | 26.6 | 27.1 | 26.8 | 26.8 | 26.6 | 25.9 | 23.7 | 20.2 | 17.6 | 15.9 | 14.8 | 12.0 | 27.1 | 20.1 |
| Jul 22 | 14 | 13.2 | 12.6 | 12.1 | 11.5 | 11.6 | 14.6 | 17.8 | 18.8 | 21.1 | 22.2 | 22.1 | 22.3 | 24.3 | 25.5 | 26.5 | 26 | 24.4 | 22.9 | 21.5 | 19.8 | 18 | 16.2 | 15.1 | 11.5 | 26.5 | 18.9 |
| Jul 23 | 14.6 | 14.3 | 14.8 | 14.4 | 14.2 | 14.7 | 15.4 | 15.4 | 15.9 | 17.7 | 19.5 | 22.2 | 24 | 24.6 | 24.5 | 25.4 | 25.5 | 24.9 | 23.9 | 22.4 | 20.9 | 19.7 | 19 | 18.6 | 14.2 | 25.5 | 19.4 |
| Jul 24 | 18.4 | 17.8 | 16.8 | 16.3 | 16.8 | 16.9 | 17 | 17.2 | 18.9 | 21.6 | 23 | 24.3 | 25.5 | 26.4 | 27.3 | 28 | 27.8 | 27.3 | 26.2 | 24.8 | 23.6 | 22.7 | 21.8 | 21.3 | 16.3 | 28.0 | 22.0 |
| Jul 25 | 21 | 21 | 20.2 | 19.2 | 18.8 | 19.2 | 20.4 | 20.6 | 20.8 | 21.2 | 20.5 | 19.7 | 21 | 23.7 | 24.2 | 24 | 23.6 | 23.9 | 22.4 | 20.2 | 18.8 | 17.6 | 16.2 | 14.4 | 14.4 | 24.2 | 20.5 |
| Jul 26 | 12.5 | 12.3 | 11.5 | 10.8 | 10.5 | 11.3 | 12.6 | 15.1 | 16.6 | 16.4 | 15.8 | 16 | 16.3 | 16.1 | 16.2 | 14 | 13.8 | 14.3 | 14.4 | 14.2 | 13.8 | 13.7 | 13.5 | 13.4 | 10.5 | 16.6 | 13.9 |
| Jul 27 | 13.8 | 13.4 | 12.2 | 11.9 | 11.5 | 11.1 | 11.3 | 11.3 | 11.2 | 11.3 | 11.9 | 12.4 | 13.3 | 14.6 | 15.2 | 15.9 | 15.4 | 16.2 | 15.6 | 14.3 | 13.7 | 12.9 | 12.9 | 12.1 | 11.1 | 16.2 | 13.1 |
| Jul 28 | 11.5 | 11.3 | 10.8 | 9.9 | 8.8 | 8.7 | 11.6 | 14.8 | 17.2 | 17.6 | 18.1 | 19.3 | 19.6 | 20.8 | 20.9 | 21.3 | 20 | 18.4 | 18.1 | 17.7 | 15.1 | 13.1 | 10.9 | 9.8 | 8.7 | 21.3 | 15.2 |
| Jul 29 | 9.1 | 8 | 7.3 | 6.8 | 6.1 | 6.7 | 10 | 14.7 | 17.6 | 19.1 | 20.4 | 20.8 | 21.2 | 22 | 21.9 | 22.8 | 22.7 | 23 | 22.7 | 20.8 | 17.6 | 15.1 | 14.3 | 13.1 | 6.1 | 23.0 | 16.0 |
| Jul 30 | 11.9 | 10.8 | 10.2 | 9.7 | 9.5 | 12.8 | 14.7 | 16.9 | 18.9 | 20.8 | 22.1 | 23.4 | 24.4 | 25.2 | 26 | 26.4 | 26.4 | 26 | 25.2 | 23.9 | 22.4 | 21.6 | 20.5 | 16.5 | 9.5 | 26.4 | 19.4 |
| Jul 31 | 16.1 | 15.9 | 15.7 | 15.2 | 14.5 | 14.8 | 16.9 | 18.6 | 20.2 | 21.7 | 23.1 | 24.6 | 25.7 | 26.6 | 26.5 | 27 | 26.5 | 26 | 24.6 | 22.8 | 21.3 | 19.4 | 17.1 | 15 | 14.5 | 27.0 | 20.7 |
| Diurnal Maximum | 21.0 | 21.0 | 20.2 | 19.2 | 18.8 | 19.2 | 20.4 | 20.6 | 21.5 | 23.0 | 24.8 | 25.4 | 26.2 | 26.6 | 27.6 | 28.4 | 28.3 | 27.8 | 26.3 | 24.8 | 23.6 | 22.7 | 21.8 | 21.3 | | | |
| Diurnal Average | 13.5 | 12.9 | 12.4 | 11.9 | 11.5 | 12.3 | 14.0 | 15.7 | 17.4 | 18.7 | 19.6 | 20.4 | 21.1 | 21.7 | 21.8 | 22.0 | 21.8 | 21.6 | 21.0 | 19.9 | 18.1 | 16.3 | 15.1 | 14.1 | | | |

| | | | | | |
|----------|--|------------|---|----------|---------------------|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance |
| K | Collection Error | ND | No Data (Machine Not in Service) | Y | Routine Maintenance |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P | Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per days is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



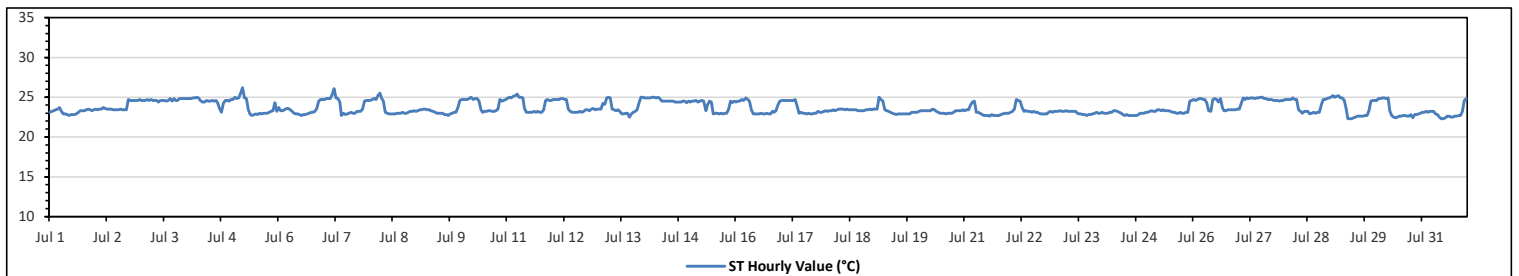
Lakeland Industry & Community Association
Cold Lake South Station - July 2023
Summary of Hourly Averages
STATION TEMPERATURE (ST) in Degree Celsius

| | | | | |
|-----------------------|---------|-------------------|------------------------|-------|
| Maximum Hourly Value: | 26.2 °C | on Jul 5 at hr 5 | Hours in Service: | 744 |
| Maximum Daily Value: | 24.7 °C | on Jul 27 | Hours of Data: | 744 |
| Minimum Hourly Value: | 22.3 °C | on Jul 29 at hr 9 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 22.9 °C | on Jul 31 | Hours of Calibration: | 0 |
| Monthly Average: | 23.7 °C | | Operational Uptime: | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | | |
|-----------------|---------------------------------|------|------|------|------|-------------|------|------|------|-------------|-------------|-------------|------|------|------|------|------|------|------|------|------|------|------|---------------|---------------|---------------|-------------|------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 | |
| Jul 1 | 23.1 | 23.2 | 23.3 | 23.4 | 23.5 | 23.7 | 23.2 | 22.9 | 22.9 | 22.8 | 22.7 | 22.8 | 22.8 | 22.8 | 22.9 | 23.1 | 23.3 | 23.3 | 23.3 | 23.4 | 23.5 | 23.4 | 23.3 | 23.4 | 22.7 | 23.7 | 23.2 | |
| Jul 2 | 23.5 | 23.4 | 23.5 | 23.5 | 23.7 | 23.6 | 23.5 | 23.5 | 23.5 | 23.4 | 23.4 | 23.4 | 23.4 | 23.5 | 23.4 | 23.4 | 24.7 | 24.6 | 24.6 | 24.6 | 24.6 | 24.6 | 24.6 | 24.7 | 23.4 | 24.7 | 23.8 | |
| Jul 3 | 24.6 | 24.6 | 24.6 | 24.7 | 24.6 | 24.7 | 24.6 | 24.6 | 24.6 | 24.4 | 24.6 | 24.6 | 24.6 | 24.5 | 24.6 | 24.8 | 24.5 | 24.8 | 24.6 | 24.6 | 24.8 | 24.8 | 24.8 | 24.8 | 24.4 | 24.8 | 24.6 | |
| Jul 4 | 24.8 | 24.8 | 24.8 | 24.9 | 24.9 | 25.0 | 24.9 | 24.6 | 24.4 | 24.4 | 24.6 | 24.5 | 24.5 | 24.6 | 24.5 | 24.6 | 24.3 | 23.6 | 23.1 | 24.2 | 24.6 | 24.6 | 24.5 | 24.7 | 23.1 | 25.0 | 24.5 | |
| Jul 5 | 24.7 | 25.0 | 24.8 | 24.9 | 25.5 | 26.2 | 24.9 | 24.8 | 23.4 | 22.8 | 22.7 | 22.8 | 22.9 | 22.8 | 23.0 | 22.9 | 23.0 | 23.0 | 23.1 | 23.2 | 23.3 | 24.3 | 23.2 | 22.7 | 26.2 | 23.8 | | |
| Jul 6 | 23.7 | 23.3 | 23.3 | 23.4 | 23.6 | 23.6 | 23.4 | 23.2 | 23.0 | 22.9 | 22.9 | 22.8 | 22.7 | 22.8 | 22.8 | 22.9 | 23.0 | 23.1 | 23.1 | 23.2 | 23.6 | 24.5 | 24.7 | 24.7 | 22.7 | 24.7 | 23.3 | |
| Jul 7 | 24.7 | 24.8 | 24.8 | 24.8 | 25.3 | 26.1 | 24.9 | 24.8 | 24.4 | 22.7 | 23.0 | 22.8 | 22.9 | 23.0 | 23.1 | 23.0 | 23.0 | 23.2 | 23.2 | 23.5 | 24.5 | 24.6 | 24.6 | 22.7 | 26.1 | 24.0 | | |
| Jul 8 | 24.6 | 24.7 | 24.8 | 24.7 | 25.2 | 25.5 | 24.8 | 24.5 | 23.1 | 23.0 | 22.9 | 22.9 | 22.9 | 22.9 | 23.0 | 23.0 | 23.0 | 23.1 | 23.0 | 23.0 | 23.1 | 23.2 | 23.2 | 22.9 | 25.5 | 23.6 | | |
| Jul 9 | 23.2 | 23.3 | 23.4 | 23.4 | 23.5 | 23.5 | 23.4 | 23.4 | 23.3 | 23.2 | 23.1 | 23.0 | 23.0 | 23.0 | 23.0 | 22.8 | 22.8 | 22.7 | 22.9 | 23.0 | 23.1 | 23.1 | 23.7 | 24.6 | 22.7 | 24.6 | 23.2 | |
| Jul 10 | 24.7 | 24.7 | 24.7 | 24.7 | 24.8 | 25.0 | 24.7 | 24.8 | 24.8 | 24.5 | 23.4 | 23.1 | 23.2 | 23.2 | 23.3 | 23.3 | 23.2 | 23.2 | 23.3 | 23.5 | 24.7 | 24.5 | 24.6 | 24.7 | 23.1 | 25.0 | 24.1 | |
| Jul 11 | 24.8 | 25.0 | 24.9 | 25.1 | 25.2 | 25.4 | 25.0 | 25.0 | 24.9 | 23.6 | 23.1 | 23.1 | 23.1 | 23.1 | 23.2 | 23.1 | 23.2 | 23.1 | 23.1 | 23.4 | 24.6 | 24.7 | 24.6 | 24.6 | 23.1 | 25.4 | 24.1 | |
| Jul 12 | 24.7 | 24.7 | 24.7 | 24.7 | 24.8 | 24.8 | 24.7 | 24.7 | 23.5 | 23.2 | 23.1 | 23.1 | 23.1 | 23.1 | 23.2 | 23.1 | 23.2 | 23.1 | 23.4 | 23.3 | 23.5 | 23.6 | 23.4 | 23.5 | 23.1 | 24.8 | 23.8 | |
| Jul 13 | 23.5 | 23.5 | 24.2 | 24.1 | 24.9 | 25.0 | 24.9 | 23.5 | 23.4 | 23.3 | 23.4 | 23.2 | 22.9 | 22.9 | 23.0 | 23.0 | 22.5 | 22.9 | 23.1 | 23.2 | 23.4 | 24.3 | 25.0 | 25.0 | 22.5 | 25.0 | 23.7 | |
| Jul 14 | 24.9 | 24.9 | 24.9 | 24.9 | 25.0 | 25.0 | 24.9 | 25.0 | 24.8 | 24.8 | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.4 | 24.4 | 24.4 | 24.5 | 24.5 | 24.3 | 24.5 | 24.3 | 24.5 | 24.3 | 24.6 | |
| Jul 15 | 24.4 | 24.5 | 24.5 | 24.6 | 24.4 | 24.5 | 24.6 | 24.5 | 23.3 | 24.0 | 24.5 | 24.4 | 22.9 | 23.0 | 23.0 | 22.9 | 23.0 | 22.9 | 23.0 | 23.0 | 23.5 | 24.5 | 24.3 | 24.5 | 22.9 | 24.6 | 23.9 | |
| Jul 16 | 24.4 | 24.5 | 24.5 | 24.7 | 24.6 | 24.6 | 24.9 | 24.7 | 24.5 | 23.4 | 22.9 | 22.9 | 22.9 | 23.0 | 22.9 | 22.9 | 23.0 | 22.9 | 22.9 | 22.9 | 23.2 | 23.1 | 23.3 | 24.0 | 24.5 | 22.9 | 24.9 | 23.6 |
| Jul 17 | 24.6 | 24.6 | 24.6 | 24.6 | 24.6 | 24.6 | 24.6 | 24.7 | 23.9 | 23.0 | 23.1 | 23.0 | 23.0 | 22.9 | 23.0 | 22.9 | 22.9 | 23.0 | 23.0 | 23.2 | 23.1 | 23.1 | 23.2 | 23.3 | 22.9 | 24.7 | 23.6 | |
| Jul 18 | 23.2 | 23.3 | 23.3 | 23.4 | 23.3 | 23.4 | 23.5 | 23.5 | 23.5 | 23.4 | 23.5 | 23.4 | 23.4 | 23.4 | 23.4 | 23.4 | 23.3 | 23.3 | 23.3 | 23.3 | 23.4 | 23.4 | 23.5 | 23.4 | 23.2 | 23.5 | 23.4 | |
| Jul 19 | 23.5 | 23.5 | 23.5 | 25.0 | 24.7 | 24.5 | 23.4 | 23.3 | 23.2 | 23.1 | 23.0 | 22.9 | 22.8 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 23.1 | 23.1 | 23.1 | 22.8 | 25.0 | 23.3 | | |
| Jul 20 | 23.2 | 23.3 | 23.3 | 23.3 | 23.3 | 23.3 | 23.3 | 23.5 | 23.4 | 23.2 | 23.1 | 23.0 | 23.0 | 23.0 | 22.9 | 23.0 | 23.0 | 23.0 | 23.1 | 23.3 | 23.3 | 23.3 | 23.3 | 23.4 | 22.9 | 23.5 | 23.2 | |
| Jul 21 | 23.3 | 23.4 | 23.4 | 24.0 | 24.4 | 24.5 | 23.1 | 23.1 | 23.0 | 22.8 | 22.7 | 22.7 | 22.7 | 22.6 | 22.8 | 22.7 | 22.7 | 22.7 | 22.7 | 22.8 | 22.9 | 23.0 | 23.0 | 23.0 | 22.6 | 24.5 | 23.1 | |
| Jul 22 | 23.1 | 23.2 | 23.5 | 24.7 | 24.6 | 24.5 | 23.7 | 23.2 | 23.3 | 23.2 | 23.2 | 23.1 | 23.2 | 23.1 | 23.1 | 23.0 | 22.9 | 22.9 | 22.9 | 22.9 | 23.1 | 23.2 | 23.1 | 23.2 | 22.9 | 24.7 | 23.3 | |
| Jul 23 | 23.2 | 23.2 | 23.3 | 23.2 | 23.2 | 23.3 | 23.2 | 23.2 | 23.2 | 23.2 | 23.2 | 23.0 | 22.9 | 22.9 | 22.8 | 22.8 | 22.7 | 22.8 | 22.8 | 22.9 | 23.0 | 23.1 | 23.0 | 23.0 | 22.7 | 23.3 | 23.0 | |
| Jul 24 | 23.1 | 23.0 | 23.0 | 23.0 | 23.1 | 23.1 | 23.3 | 23.3 | 23.2 | 23.1 | 23.0 | 22.8 | 22.7 | 22.8 | 22.7 | 22.7 | 22.7 | 22.7 | 22.7 | 22.8 | 23.0 | 23.0 | 23.0 | 23.1 | 22.7 | 23.3 | 23.0 | |
| Jul 25 | 23.1 | 23.2 | 23.3 | 23.2 | 23.2 | 23.4 | 23.4 | 23.3 | 23.4 | 23.3 | 23.3 | 23.2 | 23.1 | 23.1 | 23.0 | 23.0 | 23.1 | 23.0 | 23.0 | 23.1 | 23.0 | 23.1 | 24.5 | 24.6 | 23.0 | 24.6 | 23.3 | |
| Jul 26 | 24.7 | 24.6 | 24.7 | 24.8 | 24.8 | 24.7 | 24.7 | 24.3 | 23.3 | 23.2 | 24.7 | 24.8 | 24.7 | 24.4 | 24.8 | 23.7 | 23.3 | 23.3 | 23.4 | 23.4 | 23.4 | 23.4 | 23.4 | 23.5 | 23.2 | 24.8 | 24.1 | |
| Jul 27 | 23.5 | 24.2 | 24.9 | 24.7 | 24.9 | 24.8 | 24.9 | 24.9 | 24.8 | 24.9 | 24.9 | 25.0 | 24.8 | 24.8 | 24.8 | 24.7 | 24.7 | 24.7 | 24.6 | 24.6 | 24.6 | 24.5 | 24.6 | 24.6 | 23.5 | 25.0 | 24.7 | |
| Jul 28 | 24.7 | 24.7 | 24.7 | 24.7 | 24.9 | 24.7 | 24.7 | 23.4 | 23.2 | 23.0 | 23.2 | 23.2 | 23.2 | 22.9 | 23.0 | 23.1 | 23.0 | 23.1 | 23.1 | 24.0 | 24.7 | 24.7 | 24.8 | 24.9 | 22.9 | 24.9 | 23.9 | |
| Jul 29 | 25.0 | 25.2 | 25.0 | 25.1 | 25.2 | 24.9 | 24.9 | 24.6 | 23.5 | 22.3 | 22.3 | 22.3 | 22.4 | 22.5 | 22.6 | 22.6 | 22.6 | 22.6 | 22.7 | 22.7 | 23.3 | 24.5 | 24.6 | 24.6 | 22.3 | 25.2 | 23.7 | |
| Jul 30 | 24.6 | 24.8 | 24.8 | 24.9 | 24.9 | 24.8 | 24.9 | 23.3 | 22.7 | 22.5 | 22.4 | 22.5 | 22.6 | 22.6 | 22.7 | 22.7 | 22.6 | 22.6 | 22.8 | 22.4 | 22.8 | 22.9 | 23.0 | 22.4 | 24.9 | 23.3 | | |
| Jul 31 | 23.1 | 23.1 | 23.2 | 23.1 | 23.2 | 23.2 | 23.2 | 22.9 | 22.8 | 22.5 | 22.3 | 22.3 | 22.4 | 22.6 | 22.6 | 22.6 | 22.5 | 22.5 | 22.6 | 22.6 | 22.7 | 22.7 | 23.2 | 24.6 | 24.8 | 22.3 | 22.9 | |
| Diurnal Maximum | 25.0 | 25.2 | 25.0 | 25.1 | 25.5 | 26.2 | 25.0 | 25.0 | 24.9 | 24.9 | 24.9 | 25.0 | 25.0 | 24.8 | 24.8 | 24.8 | 24.7 | 24.8 | 24.6 | 24.6 | 24.8 | 24.8 | 25.0 | 25.0 | | | | |
| Diurnal Average | 24.0 | 24.1 | 24.1 | 24.3 | 24.4 | 24.5 | 24.2 | 24.0 | 23.6 | 23.3 | 23.3 | 23.3 | 23.2 | 23.2 | 23.2 | 23.2 | 23.1 | 23.2 | 23.2 | 23.3 | 23.6 | 23.8 | 24.0 | 24.0 | | | | |

| | | |
|---|--|------------------------------|
| C Monthly Calibration | S Daily Zero-Span Check | Q Quality Assurance |
| K Collection Error | ND No Data (Machine Not in Service) | Y Routine Maintenance |
| X InValid Data (Equipment Malfunction /Recovery) | NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P Power Failure |

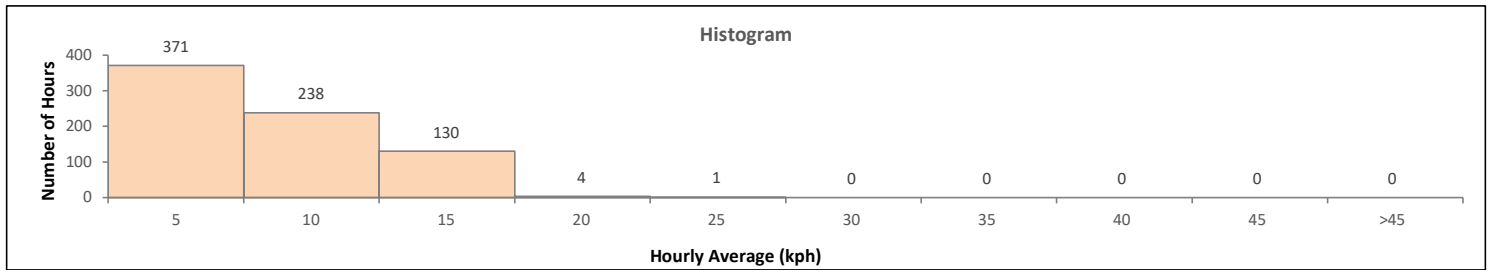
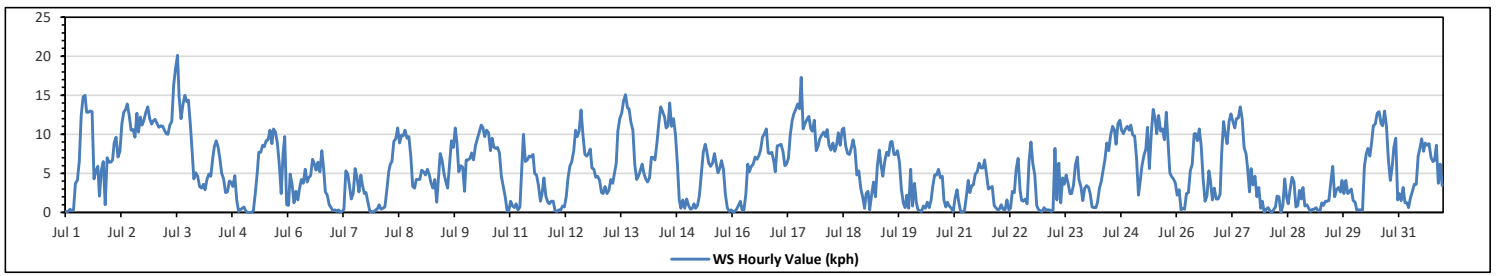
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per days is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



Lakeland Industry & Community Association
Cold Lake South Station - July 2023
Summary of Hourly Averages
VECTOR WIND SPEED (VWS) in km/hr

| Maximum Hourly Value: | | 20.1 kph on Jul 3 at hr 12 | | Hours in Service: | | 744 | | | | | | | | | | | | | | | | | | | | | |
|-----------------------|---------------------------------|----------------------------|------|------------------------|------|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------|---------------|---------------|------|
| Maximum Daily Value: | | 11.7 kph on Jul 3 | | Hours of Data: | | 744 | | | | | | | | | | | | | | | | | | | | | |
| Minimum Hourly Value: | | 0.0 kph on Jul 5 at hr 2 | | Hours of Missing Data: | | 0 | | | | | | | | | | | | | | | | | | | | | |
| Minimum Daily Value: | | 1.6 kph on Jul 28 | | Hours of Calibration: | | 0 | | | | | | | | | | | | | | | | | | | | | |
| Monthly Average: | | 0.4 kph | | Operational Uptime: | | 100.0 | | | | | | | | | | | | | | | | | | | | | |
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | |
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 |
| Jul 1 | 0.1 | 0.1 | 0.4 | 0.2 | 0.3 | 3.7 | 4.1 | 6.5 | 12.4 | 14.8 | 15.0 | 12.8 | 12.8 | 13.0 | 12.9 | 4.3 | 5.3 | 5.9 | 2.1 | 5.4 | 6.5 | 1.0 | 7.0 | 6.4 | 0.1 | 15.0 | 6.4 |
| Jul 2 | 6.4 | 6.7 | 8.9 | 9.6 | 7.1 | 7.8 | 11.3 | 12.8 | 13.2 | 13.9 | 12.4 | 10.5 | 10.6 | 9.6 | 12.7 | 10.3 | 12.2 | 11.2 | 11.8 | 12.8 | 13.5 | 12.0 | 11.3 | 11.7 | 6.4 | 13.9 | 10.8 |
| Jul 3 | 11.9 | 11.4 | 10.9 | 11.1 | 11.0 | 10.5 | 10.1 | 10.0 | 11.2 | 11.6 | 16.3 | 18.5 | 20.1 | 14.8 | 12.0 | 13.8 | 15.0 | 14.2 | 14.4 | 11.3 | 7.6 | 4.3 | 5.1 | 4.6 | 4.3 | 20.1 | 11.7 |
| Jul 4 | 3.3 | 3.1 | 3.6 | 2.9 | 4.2 | 4.9 | 4.6 | 6.9 | 8.4 | 9.2 | 8.3 | 7.0 | 5.0 | 4.3 | 2.5 | 2.6 | 4.0 | 3.9 | 3.3 | 4.7 | 1.6 | 0.1 | 0.3 | 0.5 | 0.1 | 9.2 | 4.1 |
| Jul 5 | 0.7 | 0.2 | 0.0 | 0.0 | 0.0 | 0.2 | 2.4 | 5.0 | 7.7 | 7.7 | 8.6 | 8.4 | 9.2 | 9.3 | 10.5 | 8.8 | 10.7 | 10.3 | 8.9 | 6.2 | 2.4 | 7.6 | 9.7 | 1.0 | 0.0 | 10.7 | 5.6 |
| Jul 6 | 0.9 | 4.9 | 3.6 | 1.2 | 2.7 | 1.6 | 3.0 | 4.2 | 3.7 | 5.5 | 3.9 | 4.5 | 4.7 | 6.8 | 6.3 | 5.4 | 6.4 | 5.2 | 7.9 | 5.4 | 2.6 | 2.2 | 1.0 | 0.6 | 0.6 | 7.9 | 3.9 |
| Jul 7 | 0.2 | 0.3 | 0.1 | 0.3 | 0.0 | 0.1 | 0.4 | 5.3 | 4.9 | 3.2 | 1.7 | 2.4 | 5.6 | 4.4 | 2.6 | 4.8 | 3.4 | 2.4 | 2.5 | 1.3 | 0.1 | 0.1 | 0.0 | 0.3 | 0.0 | 5.6 | 1.9 |
| Jul 8 | 0.4 | 1.0 | 0.4 | 0.5 | 0.7 | 2.8 | 5.2 | 6.2 | 6.5 | 9.1 | 9.4 | 10.8 | 8.9 | 9.9 | 9.8 | 10.5 | 9.5 | 9.7 | 7.2 | 3.3 | 3.1 | 4.2 | 4.2 | 4.2 | 0.4 | 10.8 | 5.7 |
| Jul 9 | 5.4 | 5.2 | 4.8 | 5.5 | 4.8 | 3.8 | 3.1 | 4.2 | 1.3 | 4.7 | 7.5 | 6.6 | 4.9 | 4.0 | 3.1 | 6.1 | 9.2 | 8.3 | 10.8 | 9.0 | 5.2 | 6.0 | 5.8 | 2.7 | 1.3 | 10.8 | 5.5 |
| Jul 10 | 6.7 | 6.7 | 6.9 | 7.6 | 6.7 | 8.5 | 9.4 | 10.3 | 11.2 | 10.9 | 9.7 | 10.5 | 10.2 | 7.9 | 9.5 | 8.3 | 8.2 | 8.3 | 7.6 | 4.6 | 3.3 | 2.0 | 0.2 | 0.2 | 0.2 | 11.2 | 7.3 |
| Jul 11 | 1.4 | 0.8 | 0.6 | 1.1 | 0.3 | 0.7 | 5.8 | 10.0 | 6.5 | 6.7 | 7.2 | 7.1 | 7.4 | 5.0 | 4.8 | 3.4 | 1.4 | 2.3 | 4.4 | 2.1 | 1.3 | 1.1 | 1.4 | 1.4 | 0.3 | 10.0 | 3.5 |
| Jul 12 | 0.2 | 0.1 | 0.3 | 0.3 | 0.8 | 0.7 | 2.1 | 4.3 | 5.9 | 6.5 | 7.8 | 10.5 | 9.7 | 10.4 | 13.1 | 9.9 | 7.4 | 7.2 | 7.5 | 8.1 | 5.7 | 5.5 | 4.5 | 4.6 | 0.1 | 13.1 | 5.5 |
| Jul 13 | 4.1 | 2.5 | 2.4 | 3.3 | 2.4 | 2.8 | 4.2 | 3.7 | 4.9 | 6.3 | 10.4 | 12.0 | 12.7 | 14.3 | 15.1 | 13.4 | 13.3 | 11.5 | 10.5 | 6.1 | 4.2 | 4.7 | 5.3 | 6.2 | 2.4 | 15.1 | 7.3 |
| Jul 14 | 5.1 | 4.3 | 3.9 | 4.4 | 7.1 | 7.0 | 6.7 | 8.8 | 11.4 | 13.5 | 12.9 | 12.2 | 10.8 | 11.1 | 14.0 | 11.0 | 12.0 | 10.0 | 6.3 | 1.6 | 0.5 | 1.6 | 0.5 | 1.7 | 0.5 | 14.0 | 7.4 |
| Jul 15 | 0.9 | 0.4 | 0.5 | 1.1 | 0.5 | 0.9 | 2.2 | 5.0 | 7.7 | 8.7 | 7.8 | 6.3 | 5.9 | 6.3 | 7.5 | 6.1 | 5.1 | 5.7 | 6.6 | 5.5 | 2.3 | 0.6 | 0.1 | 0.3 | 0.1 | 8.7 | 3.9 |
| Jul 16 | 0.0 | 0.1 | 0.4 | 0.9 | 1.4 | 0.2 | 0.3 | 2.3 | 6.2 | 5.2 | 5.9 | 6.2 | 7.1 | 6.8 | 7.3 | 8.0 | 9.6 | 10.1 | 10.7 | 7.6 | 7.5 | 7.7 | 6.6 | 5.2 | 0.0 | 10.7 | 5.1 |
| Jul 17 | 8.5 | 8.6 | 8.7 | 7.8 | 6.0 | 6.2 | 6.9 | 10.0 | 11.8 | 12.6 | 13.2 | 13.9 | 13.3 | 17.3 | 10.7 | 11.4 | 11.9 | 12.3 | 10.7 | 10.4 | 11.8 | 7.9 | 8.5 | 9.4 | 6.0 | 17.3 | 10.4 |
| Jul 18 | 9.9 | 10.3 | 9.7 | 10.6 | 8.6 | 8.0 | 8.9 | 7.8 | 8.7 | 10.2 | 8.6 | 10.6 | 10.8 | 8.5 | 7.5 | 7.4 | 8.3 | 9.3 | 8.1 | 4.8 | 5.3 | 3.1 | 2.0 | 0.5 | 0.5 | 10.8 | 7.8 |
| Jul 19 | 2.4 | 2.7 | 0.3 | 2.2 | 3.9 | 2.0 | 6.0 | 8.0 | 6.2 | 4.6 | 6.5 | 7.7 | 7.3 | 9.0 | 9.1 | 7.4 | 7.4 | 7.9 | 6.4 | 3.0 | 1.2 | 0.6 | 2.2 | 0.5 | 0.3 | 9.1 | 4.8 |
| Jul 20 | 5.5 | 0.8 | 3.7 | 1.2 | 0.3 | 0.2 | 0.1 | 0.8 | 0.5 | 1.3 | 0.6 | 1.6 | 3.3 | 4.8 | 4.8 | 5.5 | 4.4 | 4.6 | 1.6 | 0.7 | 1.3 | 0.8 | 0.5 | 0.1 | 0.1 | 5.5 | 2.0 |
| Jul 21 | 1.9 | 2.9 | 1.4 | 0.1 | 0.1 | 0.1 | 2.0 | 4.1 | 2.5 | 3.4 | 3.5 | 4.9 | 5.2 | 6.3 | 5.7 | 5.7 | 6.7 | 4.9 | 3.0 | 3.2 | 3.3 | 0.9 | 0.6 | 0.3 | 0.1 | 6.7 | 3.0 |
| Jul 22 | 0.4 | 1.0 | 0.4 | 0.3 | 1.6 | 0.3 | 0.5 | 2.7 | 2.5 | 5.6 | 6.9 | 2.8 | 1.5 | 1.4 | 1.7 | 1.1 | 6.5 | 9.0 | 6.2 | 4.8 | 0.9 | 0.4 | 0.2 | 0.1 | 0.1 | 9.0 | 2.5 |
| Jul 23 | 0.6 | 0.3 | 0.3 | 0.3 | 0.1 | 0.3 | 8.2 | 1.6 | 6.3 | 1.2 | 4.4 | 3.6 | 4.8 | 3.7 | 2.4 | 2.4 | 3.5 | 6.1 | 7.1 | 4.2 | 3.3 | 1.5 | 3.1 | 3.4 | 0.1 | 8.2 | 3.0 |
| Jul 24 | 3.2 | 2.4 | 0.7 | 0.6 | 0.6 | 1.3 | 3.1 | 4.0 | 5.5 | 6.7 | 8.9 | 7.9 | 9.9 | 11.0 | 10.5 | 8.7 | 11.4 | 11.8 | 10.5 | 10.1 | 10.7 | 11.0 | 10.5 | 11.2 | 0.6 | 11.8 | 7.2 |
| Jul 25 | 9.9 | 9.8 | 6.9 | 2.2 | 4.2 | 6.0 | 7.3 | 8.1 | 10.9 | 5.6 | 10.1 | 13.2 | 12.0 | 10.1 | 12.4 | 10.4 | 10.7 | 9.3 | 12.8 | 8.6 | 5.1 | 4.6 | 4.3 | 3.8 | 2.2 | 13.2 | 8.3 |
| Jul 26 | 2.2 | 2.9 | 0.3 | 0.5 | 0.4 | 2.4 | 2.5 | 5.3 | 6.2 | 10.1 | 10.1 | 9.2 | 10.7 | 8.5 | 4.3 | 1.4 | 2.1 | 5.3 | 4.0 | 1.6 | 3.1 | 1.7 | 1.7 | 2.3 | 0.3 | 10.7 | 4.1 |
| Jul 27 | 7.6 | 11.6 | 10.1 | 8.8 | 11.6 | 12.6 | 11.6 | 10.8 | 12.0 | 12.1 | 13.5 | 12.0 | 8.3 | 7.5 | 5.7 | 2.6 | 5.6 | 3.5 | 4.6 | 2.0 | 3.2 | 0.5 | 1.4 | 0.0 | 0.0 | 13.5 | 7.5 |
| Jul 28 | 0.4 | 0.6 | 0.2 | 0.0 | 0.3 | 0.7 | 2.1 | 2.0 | 0.0 | 0.8 | 4.3 | 1.9 | 1.1 | 3.0 | 4.5 | 3.9 | 0.7 | 0.9 | 2.8 | 1.7 | 3.2 | 0.8 | 1.0 | 0.5 | 0.0 | 4.5 | 1.6 |
| Jul 29 | 0.1 | 0.4 | 0.4 | 0.6 | 0.2 | 0.2 | 1.2 | 0.9 | 1.4 | 1.4 | 1.5 | 3.9 | 5.9 | 2.0 | 2.9 | 3.2 | 2.6 | 4.1 | 2.4 | 4.1 | 2.4 | 2.6 | 3.0 | 1.5 | 0.1 | 5.9 | 2.0 |
| Jul 30 | 1.3 | 0.3 | 0.3 | 0.3 | 0.2 | 5.9 | 7.5 | 8.2 | 7.2 | 9.1 | 11.1 | 11.3 | 12.7 | 12.9 | 11.4 | 11.1 | 13.0 | 11.0 | 6.7 | 4.1 | 5.9 | 8.3 | 9.5 | 1.6 | 0.2 | 13.0 | 7.1 |
| Jul 31 | 2.4 | 1.5 | 3.2 | 1.2 | 1.2 | 0.6 | 1.9 | 2.7 | 3.6 | 3.6 | 7.2 | 8.1 | 9.4 | 7.8 | 8.9 | 8.6 | 8.8 | 7.1 | 6.5 | 6.6 | 8.6 | 3.7 | 6.2 | 3.4 | 0.6 | 9.4 | 5.1 |
| Diurnal Maximum | 11.9 | 11.6 | 10.9 | 11.1 | 11.6 | 12.6 | 11.6 | 12.8 | 13.2 | 14.8 | 16.3 | 18.5 | 20.1 | 17.3 | 15.1 | 13.8 | 15.0 | 14.2 | 14.4 | 12.8 | 13.5 | 12.0 | 11.3 | 11.7 | | | |
| Diurnal Average | 3.4 | 3.4 | 3.0 | 2.8 | 2.9 | 3.3 | 4.7 | 5.9 | 6.7 | 7.3 | 8.2 | 8.4 | 8.4 | 8.1 | 7.9 | 7.0 | 7.6 | 7.5 | 7.0 | 5.3 | 4.4 | 3.5 | 3.8 | 2.9 | | | |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

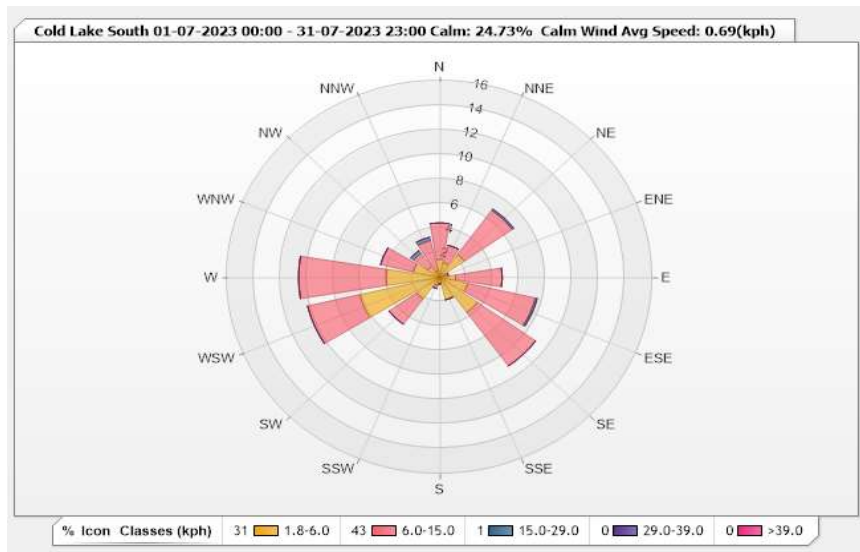


Station: Cold Lake South Monitor: WDS [kph] Monthly: 07-2023

Type: Wind Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm (WS<1.8kph): 24.73% Valid Data: 100.00%

| Direction | 1.8-6.0 | 6.0-15.0 | 15.0-29.0 | 29.0-39.0 | >39.0 | Total |
|-----------|---------|----------|-----------|-----------|-------|-------|
| N | 1.48 | 2.96 | 0 | 0 | 0 | 4.44 |
| NNE | 1.21 | 1.48 | 0 | 0 | 0 | 2.69 |
| NE | 2.28 | 4.44 | 0.13 | 0 | 0 | 6.85 |
| ENE | 0.4 | 0.27 | 0 | 0 | 0 | 0.67 |
| E | 1.21 | 3.49 | 0 | 0 | 0 | 4.7 |
| ESE | 2.15 | 5.24 | 0.13 | 0 | 0 | 7.52 |
| SE | 3.49 | 5.38 | 0 | 0 | 0 | 8.87 |
| SSE | 1.88 | 0 | 0 | 0 | 0 | 1.88 |
| S | 0.54 | 0 | 0 | 0 | 0 | 0.54 |
| SSW | 0.67 | 0.27 | 0 | 0 | 0 | 0.94 |
| SW | 2.15 | 2.55 | 0 | 0 | 0 | 4.7 |
| WSW | 6.18 | 4.03 | 0 | 0 | 0 | 10.21 |
| W | 4.03 | 6.59 | 0 | 0 | 0 | 10.62 |
| WNW | 2.02 | 2.55 | 0 | 0 | 0 | 4.57 |
| NW | 1.08 | 1.34 | 0.27 | 0 | 0 | 2.69 |
| NNW | 0.54 | 2.55 | 0.27 | 0 | 0 | 3.36 |
| Summary | 31.31 | 43.14 | 0.8 | 0 | 0 | 75.25 |



Lakeland Industry & Community Association

Cold Lake South Station - July 2023

Summary of Hourly Averages

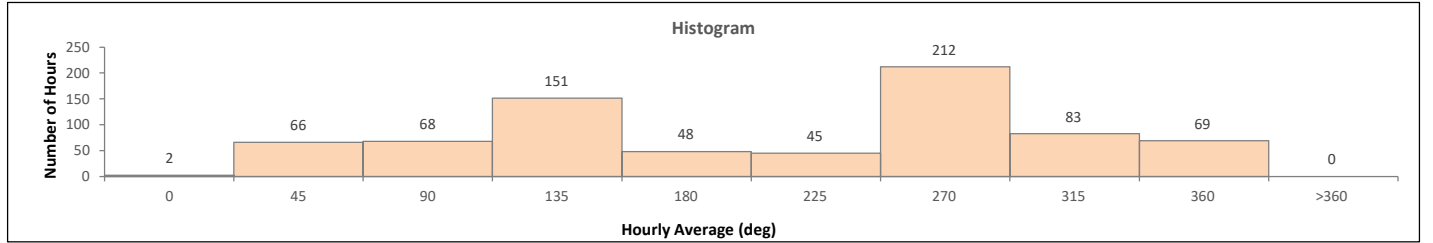
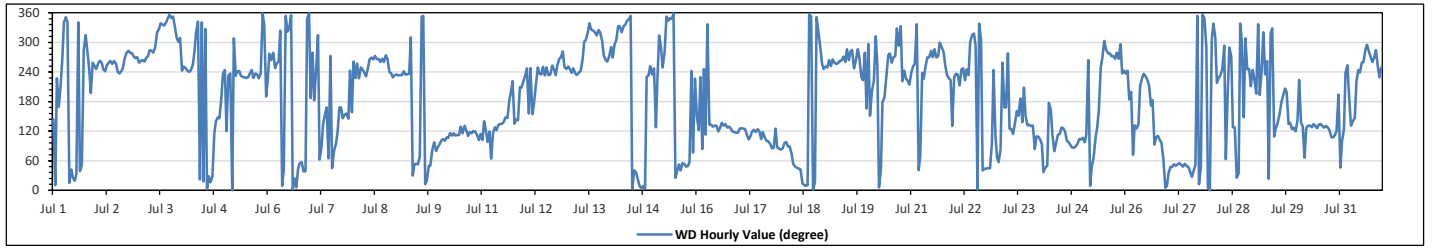
WIND DIRECTION (VWD) in sector

| | | | |
|------------------|-----------------|------------------------|-------|
| Monthly Average: | 312 (NW) degree | Hours in Service: | 744 |
| | | Hours of Data: | 744 |
| | | Hours of Missing Data: | 0 |
| | | Hours of Calibration: | 0 |
| | | Operational Uptime: | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Average | | | |
|--------|---------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------------|--------|----------|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Degree | Quadrant | |
| Jul 1 | SE | N | SW | SSE | SSW | W | NNW | N | NNW | NNE | NE | NNE | NNE | NNE | NNW | NE | NE | WNW | NW | WNW | WSW | SSW | WSW | WSW | 355 | N | |
| Jul 2 | WSW | WSW | W | WSW | WSW | WSW | WSW | WSW | W | WSW | W | WSW | WSW | SW | WSW | WSW | W | W | W | W | W | W | W | W | 260 | WSW | |
| Jul 3 | WSW | W | W | W | W | W | WNW | W | W | WNW | NW | NW | NNW | NNW | NNW | NNW | NNW | N | NNW | N | NNW | NW | WNW | NW | 312 | NW | |
| Jul 4 | WSW | WSW | WSW | WSW | WSW | WSW | WSW | W | NW | NNW | NNE | NNW | NNE | NW | N | NNE | ESE | ESE | SE | SE | S | SW | SW | SW | 320 | NW | |
| Jul 5 | WSW | ESE | SW | SW | N | NW | SW | WSW | WSW | SW | SW | SW | SW | SW | SW | WSW | SW | SW | SW | SW | N | NNW | S | 241 | WSW | | |
| Jul 6 | SW | W | W | W | WSW | WSW | W | NW | N | NE | N | NW | NNW | N | N | NNE | N | NE | ENE | NE | NE | NNW | N | 359 | N | | |
| Jul 7 | S | W | S | WSW | NW | ENE | E | SE | SSE | SSE | ENE | W | NE | E | E | ESE | SSE | SSE | SE | SSE | SSE | SE | WSW | SSE | 126 | SE | |
| Jul 8 | W | SW | WSW | SW | WSW | WSW | WSW | SW | WSW | W | W | W | W | W | W | WSW | W | WSW | W | WSW | SW | SW | SW | 258 | WSW | | |
| Jul 9 | SW | SW | SW | SW | WSW | SW | SW | SW | NW | NNE | NE | NE | NE | ENE | N | N | NNE | NNE | NE | NE | E | E | E | E | 37 | NE | |
| Jul 10 | E | E | ESE | E | ESE | ESE | ESE | ESE | ESE | ESE | ESE | ESE | ESE | ESE | ESE | ESE | ESE | ESE | ESE | ESE | ESE | ESE | ESE | ESE | 113 | ESE | |
| Jul 11 | E | SE | ESE | E | ESE | ENE | ESE | SE | ESE | SE | SE | SE | SE | SE | SE | S | SSW | SW | SE | SE | SE | SSW | SSW | SW | 139 | SE | |
| Jul 12 | SW | WSW | SSE | WSW | SSE | S | SSW | WSW | SW | SW | WSW | SW | WSW | SW | WSW | WSW | WSW | WSW | WSW | W | W | W | WSW | WSW | 245 | WSW | |
| Jul 13 | WSW | WSW | SW | WSW | SW | SW | WSW | W | WNW | WNW | NW | NNW | NW | NW | NW | NW | NW | NW | WNW | W | W | W | W | W | 303 | WNW | |
| Jul 14 | WNW | W | WNW | WNW | NNW | NNW | NW | NNW | NNW | NNW | N | N | NE | NE | NNE | N | N | N | N | N | SW | WSW | WSW | SW | 351 | N | |
| Jul 15 | WSW | SE | SW | NW | WNW | WSW | W | N | NNW | NNW | N | NNE | NE | NE | NE | NE | NE | ENE | NE | ENE | WSW | ENE | SW | 19 | NNE | | |
| Jul 16 | SSE | ESE | SW | E | WSW | ESE | NNW | SE | SE | SE | SE | ESE | SE | SE | SE | SE | SE | SE | SE | ESE | ESE | ESE | ESE | ESE | 127 | SE | |
| Jul 17 | SE | SE | SE | ESE | ESE | ESE | ESE | ESE | ESE | ESE | ESE | ESE | ESE | ESE | E | E | E | E | E | E | E | E | E | E | 109 | ESE | |
| Jul 18 | E | E | E | E | E | ENE | NE | NE | NE | NE | NE | NNE | NNE | N | N | N | N | N | NNE | N | NW | WNW | WSW | WSW | 38 | NE | |
| Jul 19 | WSW | WSW | W | WSW | W | WSW | WSW | W | W | WSW | WNW | W | W | WNW | WSW | W | WNW | WSW | W | WNW | W | SW | SW | W | SSE | 266 | W |
| Jul 20 | WNW | SSE | SSW | SW | NW | WSW | N | NE | S | S | SW | W | W | WSW | W | W | NNW | WNW | NNW | SW | WSW | SW | SW | SSW | 271 | W | |
| Jul 21 | SW | WSW | WSW | NNW | NE | ENE | SW | SW | WSW | W | W | W | WNW | W | W | WNW | W | WNW | WNW | W | WSW | SW | SW | SE | 268 | W | |
| Jul 22 | SW | SW | SW | SSW | WSW | WSW | SW | WSW | SW | WNW | NW | WNW | N | NNW | WNW | NE | NE | NE | NE | NE | E | WSW | ESE | ESE | 353 | N | |
| Jul 23 | ENE | ENE | E | WSW | SSE | SSE | W | SE | ESE | ESE | SE | SSE | S | SE | SSW | SSE | SE | SE | SE | SE | E | ESE | ESE | ESE | 142 | SE | |
| Jul 24 | ESE | E | NE | NE | NE | S | SSE | ESE | ENE | E | ESE | ESE | SE | SE | ESE | E | E | E | E | E | E | E | ESE | ESE | 103 | ESE | |
| Jul 25 | ESE | E | ESE | W | N | NE | ENE | ESE | SE | SSE | WSW | W | WNW | WNW | W | W | W | W | W | W | W | WNW | SW | WSW | 268 | W | |
| Jul 26 | SW | WSW | S | SSW | ENE | SE | SE | SE | SSW | SW | SW | SW | SW | SSW | S | S | E | ESE | ESE | ESE | E | ENE | N | N | 198 | SSW | |
| Jul 27 | NE | NE | NE | NE | NE | NE | NE | NE | NE | NE | NE | NE | NNE | NE | NE | N | NNE | NE | N | NNW | NNW | N | N | N | 43 | NE | |
| Jul 28 | NW | NNW | NW | SW | SW | WSW | WNW | ENE | SSW | WNW | W | SE | SE | NNE | NE | NNW | WNW | SE | NW | WSW | WSW | SSW | WSW | WSW | 285 | WNW | |
| Jul 29 | SW | SSW | NNW | S | WSW | NW | SW | W | NNE | NW | NNW | ESE | SE | SE | SSE | S | S | SSW | SSW | SE | SE | ESE | SE | ESE | 152 | SSE | |
| Jul 30 | SE | SW | SE | SE | ENE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | ESE | ESE | ESE | ESE | ESE | 128 | SE | |
| Jul 31 | NE | E | ESE | SW | WSW | S | SE | SE | SE | SW | WSW | WSW | WSW | WSW | WNW | WNW | W | W | WSW | W | WNW | WSW | SW | WSW | 258 | WSW | |

| | | | | | |
|---|---|-----|---|---|---------------------|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance |
| K | Collection Error | ND | No Data (Machine Not in Service) | Y | Routine Maintenance |
| X | InValid Data (Machine Malfunction/Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P | Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



Lakeland Industry & Community Association

Cold Lake South Station - July 2023

Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr & WIND DIRECTION (VWD) in sector

| WIND SPEED | |
|------------------------|----------------------------|
| Maximum Hourly Value: | 20.1 kph on Jul 3 at hr 12 |
| Maximum Daily Value: | 11.7 kph on Jul 3 |
| Minimum Hourly Value: | 0.0 kph on Jul 5 at hr 2 |
| Minimum Daily Value: | 1.6 kph on Jul 28 |
| Monthly Average: | 0.4 kph |
| Hours in Service: | 744 |
| Hours of Data: | 744 |
| Hours of Missing Data: | 0 |
| Hours of Calibration: | 0 |
| Operational Uptime: | 100.0 |

WIND DIRECTION

Monthly Average: 312 degree (NW)

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | |
|--------|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------|---------------|---------------|------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 |
| Jul 1 | 0.1 | 0.1 | 0.4 | 0.2 | 0.3 | 3.7 | 4.1 | 6.5 | 12.4 | 14.8 | 15.0 | 12.8 | 12.8 | 13.0 | 12.9 | 4.3 | 5.3 | 5.9 | 2.1 | 5.4 | 6.5 | 1.0 | 7.0 | 6.4 | 0.1 | 15.0 | 6.4 |
| Jul 2 | 6.4 | 6.7 | 8.9 | 9.6 | 7.1 | 7.8 | 11.3 | 12.8 | 13.2 | 13.9 | 12.4 | 10.5 | 10.6 | 9.6 | 12.7 | 10.3 | 12.2 | 11.2 | 11.8 | 12.8 | 13.5 | 12.0 | 11.3 | 11.7 | 6.4 | 13.9 | 10.8 |
| Jul 3 | 11.9 | 11.4 | 10.9 | 11.1 | 11.0 | 10.5 | 10.1 | 10.0 | 11.2 | 11.6 | 16.3 | 18.5 | 20.1 | 14.8 | 12.0 | 13.8 | 15.0 | 14.2 | 14.4 | 11.3 | 7.6 | 4.3 | 5.1 | 4.6 | 4.3 | 20.1 | 11.7 |
| Jul 4 | 3.3 | 3.1 | 3.6 | 2.9 | 4.2 | 4.9 | 4.6 | 6.9 | 8.4 | 9.2 | 8.3 | 7.0 | 5.0 | 4.3 | 2.5 | 4.0 | 3.9 | 3.3 | 4.7 | 1.6 | 0.1 | 0.3 | 0.5 | 0.5 | 0.1 | 9.2 | 4.1 |
| Jul 5 | 0.7 | 0.2 | 0.0 | 0.0 | 0.0 | 0.2 | 2.4 | 5.0 | 7.7 | 7.7 | 8.6 | 8.4 | 9.2 | 9.3 | 10.5 | 8.8 | 10.7 | 10.3 | 8.9 | 6.2 | 2.4 | 7.6 | 9.7 | 1.0 | 0.0 | 10.7 | 5.6 |
| Jul 6 | 0.9 | 4.9 | 3.6 | 1.2 | 2.7 | 1.6 | 3.0 | 4.2 | 3.7 | 5.5 | 3.9 | 4.5 | 4.7 | 6.8 | 6.3 | 5.4 | 6.4 | 5.2 | 7.9 | 5.4 | 2.6 | 2.2 | 1.0 | 0.6 | 0.6 | 7.9 | 3.9 |
| Jul 7 | 0.2 | 0.3 | 0.1 | 0.3 | 0.0 | 0.1 | 0.4 | 5.3 | 4.9 | 3.2 | 1.7 | 2.4 | 5.6 | 4.4 | 2.6 | 4.8 | 3.4 | 2.4 | 2.5 | 1.3 | 0.1 | 0.1 | 0.0 | 0.3 | 0.0 | 5.6 | 1.9 |
| Jul 8 | 0.4 | 1.0 | 0.4 | 0.5 | 0.7 | 2.8 | 5.2 | 6.2 | 6.5 | 9.1 | 9.4 | 10.8 | 8.9 | 9.9 | 9.8 | 10.5 | 9.5 | 9.7 | 7.2 | 3.3 | 3.1 | 4.2 | 4.2 | 4.2 | 0.4 | 10.8 | 5.7 |
| Jul 9 | 5.4 | 5.2 | 4.8 | 5.5 | 4.8 | 3.8 | 3.1 | 4.2 | 1.3 | 4.7 | 7.5 | 6.6 | 4.9 | 4.0 | 3.1 | 6.1 | 9.2 | 8.3 | 10.8 | 9.0 | 5.2 | 6.0 | 5.8 | 2.7 | 1.3 | 10.8 | 5.5 |
| Jul 10 | 6.7 | 6.7 | 6.9 | 7.6 | 6.7 | 8.5 | 9.4 | 10.3 | 11.2 | 10.9 | 9.7 | 10.5 | 10.2 | 7.9 | 9.5 | 8.3 | 8.2 | 8.3 | 7.6 | 4.6 | 3.3 | 2.0 | 0.2 | 0.2 | 0.2 | 11.2 | 7.3 |
| Jul 11 | 1.4 | 0.8 | 0.6 | 1.1 | 0.3 | 0.7 | 5.8 | 10.0 | 6.5 | 6.7 | 7.2 | 7.1 | 7.4 | 5.0 | 4.8 | 3.4 | 1.4 | 2.3 | 4.4 | 2.1 | 1.3 | 1.1 | 1.4 | 1.4 | 0.3 | 10.0 | 3.5 |
| Jul 12 | 0.2 | 0.1 | 0.3 | 0.3 | 0.8 | 0.7 | 2.1 | 4.3 | 5.9 | 6.5 | 7.8 | 10.5 | 9.7 | 10.4 | 13.1 | 9.9 | 7.4 | 7.2 | 7.5 | 8.1 | 5.7 | 5.5 | 4.5 | 4.6 | 0.1 | 13.1 | 5.5 |
| Jul 13 | 4.1 | 2.5 | 2.4 | 3.3 | 2.4 | 2.8 | 4.2 | 3.7 | 4.9 | 6.3 | 10.4 | 12.0 | 12.7 | 14.3 | 15.1 | 13.4 | 13.3 | 11.5 | 10.5 | 6.1 | 4.2 | 4.7 | 5.3 | 6.2 | 2.4 | 15.1 | 7.3 |
| Jul 14 | 5.1 | 4.3 | 3.9 | 4.4 | 7.1 | 7.0 | 6.7 | 8.8 | 11.4 | 13.5 | 12.9 | 12.2 | 10.8 | 11.1 | 14.0 | 11.0 | 12.0 | 10.0 | 6.3 | 1.6 | 0.5 | 1.6 | 0.5 | 1.7 | 0.5 | 14.0 | 7.4 |
| Jul 15 | 0.9 | 0.4 | 0.5 | 1.1 | 0.5 | 0.9 | 2.2 | 5.0 | 7.7 | 8.7 | 7.8 | 6.3 | 5.9 | 6.3 | 7.5 | 6.1 | 5.1 | 5.7 | 6.6 | 5.5 | 2.3 | 0.6 | 0.1 | 0.3 | 0.1 | 8.7 | 3.9 |
| Jul 16 | 0.0 | 0.1 | 0.4 | 0.9 | 1.4 | 0.2 | 0.3 | 2.3 | 6.2 | 5.2 | 5.9 | 6.2 | 7.1 | 6.8 | 7.3 | 8.0 | 9.6 | 10.1 | 10.7 | 7.6 | 7.5 | 7.7 | 6.6 | 5.2 | 0.0 | 10.7 | 5.1 |
| Jul 17 | 8.5 | 8.6 | 8.7 | 7.8 | 6.0 | 6.2 | 6.9 | 10.0 | 11.8 | 12.6 | 13.2 | 13.9 | 13.3 | 17.3 | 10.7 | 11.4 | 11.9 | 12.3 | 10.7 | 10.4 | 11.8 | 7.9 | 8.5 | 9.4 | 6.0 | 17.3 | 10.4 |
| Jul 18 | 9.9 | 10.3 | 9.7 | 10.6 | 8.6 | 8.0 | 8.9 | 7.8 | 8.7 | 10.2 | 8.6 | 10.6 | 10.8 | 8.5 | 7.5 | 7.4 | 8.3 | 9.3 | 8.1 | 4.8 | 5.3 | 3.1 | 2.0 | 0.5 | 0.5 | 10.8 | 7.8 |
| Jul 19 | 2.4 | 2.7 | 0.3 | 2.2 | 3.9 | 2.0 | 6.0 | 8.0 | 6.2 | 4.6 | 6.5 | 7.7 | 7.3 | 9.0 | 9.1 | 7.4 | 7.4 | 7.9 | 6.4 | 3.0 | 1.2 | 0.6 | 2.2 | 0.5 | 0.3 | 9.1 | 4.8 |
| Jul 20 | 5.5 | 0.8 | 3.7 | 1.2 | 0.3 | 0.2 | 0.1 | 0.8 | 0.5 | 1.3 | 0.6 | 1.6 | 3.3 | 4.8 | 4.8 | 5.5 | 4.4 | 4.6 | 1.6 | 0.7 | 1.3 | 0.8 | 0.5 | 0.1 | 0.1 | 5.5 | 2.0 |
| Jul 21 | 1.9 | 2.9 | 1.4 | 0.1 | 0.1 | 0.1 | 2.0 | 4.1 | 2.5 | 3.4 | 3.5 | 4.9 | 5.2 | 6.3 | 5.7 | 5.7 | 6.7 | 4.9 | 3.0 | 3.2 | 3.3 | 0.9 | 0.6 | 0.3 | 0.1 | 6.7 | 3.0 |
| Jul 22 | 0.4 | 1.0 | 0.4 | 0.3 | 1.6 | 0.3 | 0.5 | 2.7 | 2.5 | 5.6 | 6.9 | 2.8 | 1.5 | 1.4 | 1.7 | 1.1 | 6.5 | 9.0 | 6.2 | 4.8 | 0.9 | 0.4 | 0.2 | 0.1 | 0.1 | 9.0 | 2.5 |
| Jul 23 | 0.6 | 0.3 | 0.3 | 0.3 | 0.1 | 0.3 | 8.2 | 1.6 | 6.3 | 1.2 | 4.4 | 3.6 | 4.8 | 3.7 | 2.4 | 2.4 | 3.5 | 6.1 | 7.1 | 4.2 | 3.3 | 1.5 | 3.1 | 3.4 | 0.1 | 8.2 | 3.0 |
| Jul 24 | 3.2 | 2.4 | 0.7 | 0.6 | 0.6 | 1.3 | 3.1 | 4.0 | 5.5 | 6.7 | 8.9 | 7.9 | 9.9 | 11.0 | 10.5 | 8.7 | 11.4 | 11.8 | 10.5 | 10.1 | 10.7 | 11.0 | 10.5 | 11.2 | 0.6 | 11.8 | 7.2 |
| Jul 25 | 9.9 | 9.8 | 6.9 | 2.2 | 4.2 | 6.0 | 7.3 | 8.1 | 10.9 | 5.6 | 10.1 | 13.2 | 12.0 | 10.1 | 12.4 | 10.4 | 10.7 | 9.3 | 12.8 | 8.6 | 5.1 | 4.6 | 4.3 | 3.8 | 2.2 | 13.2 | 8.3 |
| Jul 26 | 2.2 | 2.9 | 0.3 | 0.5 | 0.4 | 2.4 | 2.5 | 5.3 | 6.2 | 10.1 | 10.1 | 9.2 | 10.7 | 8.5 | 4.3 | 1.4 | 2.1 | 5.3 | 4.0 | 1.6 | 3.1 | 1.7 | 1.7 | 2.3 | 0.3 | 10.7 | 4.1 |
| Jul 27 | 7.6 | 11.6 | 10.1 | 8.8 | 11.6 | 12.6 | 11.6 | 10.8 | 12.0 | 12.1 | 13.5 | 12.0 | 8.3 | 7.5 | 5.7 | 2.6 | 5.6 | 3.5 | 4.6 | 2.0 | 3.2 | 0.5 | 1.4 | 0.0 | 0.0 | 13.5 | 7.5 |
| Jul 28 | 0.4 | 0.6 | 0.2 | 0.0 | 0.3 | 0.7 | 2.1 | 2.0 | 0.0 | 0.8 | 4.3 | 1.9 | 1.1 | 3.0 | 4.5 | 3.9 | 0.7 | 0.9 | 2.8 | 1.7 | 3.2 | 0.8 | 1.0 | 0.5 | 0.0 | 4.5 | 1.6 |
| Jul 29 | 0.1 | 0.4 | 0.4 | 0.6 | 0.2 | 0.2 | 1.2 | 0.9 | 1.4 | 1.4 | 1.5 | 3.9 | 5.9 | 2.0 | 2.9 | 3.2 | 2.6 | 4.1 | 2.4 | 4.1 | 2.4 | 2.6 | 3.0 | 1.5 | 0.1 | 5.9 | 2.0 |
| Jul 30 | 1.3 | 0.3 | 0.3 | 0.3 | 0.2 | 5.9 | 7.5 | 8.2 | 7.2 | 9.1 | 11.1 | 11.3 | 12.7 | 12.9 | 11.4 | 11.1 | 13.0 | 11.0 | 6.7 | 4.1 | 5.9 | 8.3 | 9.5 | 1.6 | 0.2 | 13.0 | 7.1 |
| Jul 31 | 2.4 | 1.5 | 3.2 | 1.2 | 1.2 | 0.6 | 1.9 | 2.7 | 3.6 | 3.6 | 7.2 | 8.1 | 9.4 | 7.8 | 8.9 | 8.6 | 8.8 | 7.1 | 6.5 | 6.6 | 8.6 | 3.7 | 6.2 | 3.4 | 0.6 | 9.4 | 5.1 |

C Monthly Calibration S Daily Zero-Span Check Q Quality Assurance
 K Collection Error ND No Data (Machine Not in Service) Y Routine Maintenance P Power Failure
 X Invalid Data (Equipment Malfunction/Recovery) NRM Unit/Maint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance)

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

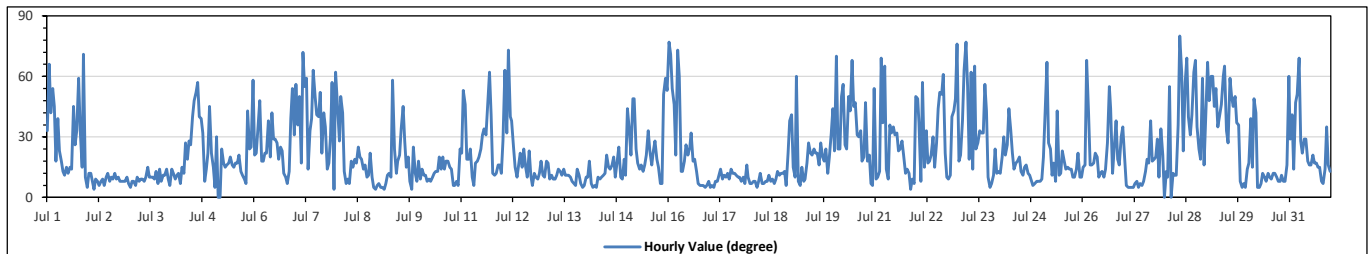
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Lakeland Industry & Community Association
Cold Lake South Station - July 2023
Summary of Hour Standard Deviations

STANDARD DEVIATION WIND DIRECTION (STDWD) in Degree

| Maximum Hourly Value: | | 80 degree on Jul 28 at hr 8 | | | | | | | | | | Hours in Service: | | 744 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------|---|-----------------------------|----|----|----|----|----|----|----|----|------------|---|----|-------|----|----|----|----|----|----|----|----------|---------------------|---------------|---------------|----|--|--|--|--|--|--|----------|---------------|--|--|--|--|--|--|--|--|--|
| Minimum Hourly Value: | | 0 degree on Jul 5 at hr 3 | | | | | | | | | | Hours of Data: | | 744 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | Hours of Missing Data: | | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | Hours of Calibration: | | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | Operational Uptime: | | 100.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | | | | | | | | | | | | | | | | | | |
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | 23 | | | | | | | | | | | | | | | | | |
| Jul 1 | 33 | 66 | 42 | 54 | 45 | 18 | 39 | 23 | 18 | 13 | 11 | 15 | 12 | 15 | 14 | 45 | 26 | 33 | 59 | 33 | 15 | 71 | 10 | 5 | 5 | 71 | | | | | | | | | | | | | | | | | |
| Jul 2 | 12 | 12 | 8 | 4 | 9 | 8 | 6 | 8 | 9 | 6 | 10 | 12 | 8 | 10 | 9 | 12 | 9 | 10 | 8 | 8 | 8 | 8 | 10 | 7 | 4 | 12 | | | | | | | | | | | | | | | | | |
| Jul 3 | 5 | 8 | 8 | 6 | 10 | 8 | 9 | 9 | 8 | 10 | 15 | 10 | 10 | 10 | 9 | 13 | 7 | 14 | 8 | 11 | 11 | 14 | 9 | 6 | 5 | 15 | | | | | | | | | | | | | | | | | |
| Jul 4 | 14 | 12 | 9 | 11 | 12 | 7 | 15 | 12 | 27 | 19 | 28 | 26 | 40 | 48 | 52 | 57 | 40 | 39 | 32 | 8 | 14 | 22 | 45 | 22 | 7 | 57 | | | | | | | | | | | | | | | | | |
| Jul 5 | 15 | 5 | 30 | 0 | 0 | 24 | 17 | 15 | 16 | 17 | 20 | 16 | 15 | 17 | 17 | 21 | 13 | 11 | 9 | 7 | 43 | 24 | 25 | 58 | 0 | 58 | | | | | | | | | | | | | | | | | |
| Jul 6 | 21 | 22 | 36 | 48 | 18 | 18 | 22 | 22 | 38 | 20 | 42 | 29 | 29 | 27 | 19 | 25 | 23 | 12 | 10 | 7 | 13 | 39 | 54 | 31 | 7 | 54 | | | | | | | | | | | | | | | | | |
| Jul 7 | 56 | 36 | 50 | 17 | 72 | 55 | 59 | 14 | 33 | 39 | 63 | 50 | 41 | 40 | 52 | 22 | 42 | 35 | 14 | 17 | 30 | 57 | 4 | 62 | 4 | 72 | | | | | | | | | | | | | | | | | |
| Jul 8 | 45 | 28 | 50 | 42 | 13 | 7 | 9 | 7 | 18 | 15 | 19 | 17 | 25 | 20 | 19 | 14 | 16 | 10 | 11 | 22 | 10 | 5 | 4 | 6 | 4 | 50 | | | | | | | | | | | | | | | | | |
| Jul 9 | 7 | 5 | 5 | 4 | 7 | 11 | 12 | 10 | 58 | 24 | 12 | 18 | 21 | 34 | 45 | 28 | 15 | 20 | 8 | 4 | 25 | 12 | 8 | 18 | 4 | 58 | | | | | | | | | | | | | | | | | |
| Jul 10 | 9 | 14 | 11 | 11 | 8 | 9 | 8 | 10 | 12 | 13 | 13 | 20 | 14 | 20 | 14 | 18 | 18 | 15 | 14 | 6 | 6 | 8 | 6 | 24 | 6 | 24 | | | | | | | | | | | | | | | | | |
| Jul 11 | 22 | 53 | 46 | 19 | 19 | 24 | 10 | 6 | 17 | 18 | 20 | 24 | 31 | 34 | 31 | 45 | 62 | 41 | 12 | 11 | 12 | 16 | 16 | 12 | 6 | 62 | | | | | | | | | | | | | | | | | |
| Jul 12 | 28 | 63 | 32 | 73 | 40 | 38 | 25 | 15 | 10 | 16 | 22 | 15 | 24 | 15 | 10 | 23 | 11 | 6 | 12 | 10 | 9 | 12 | 18 | 11 | 6 | 73 | | | | | | | | | | | | | | | | | |
| Jul 13 | 10 | 18 | 17 | 9 | 11 | 9 | 9 | 11 | 14 | 13 | 11 | 14 | 11 | 11 | 11 | 10 | 8 | 7 | 6 | 14 | 11 | 7 | 5 | 6 | 5 | 18 | | | | | | | | | | | | | | | | | |
| Jul 14 | 10 | 10 | 18 | 7 | 5 | 6 | 5 | 10 | 9 | 10 | 11 | 12 | 21 | 15 | 14 | 16 | 20 | 10 | 18 | 25 | 10 | 9 | 19 | 11 | 5 | 25 | | | | | | | | | | | | | | | | | |
| Jul 15 | 44 | 35 | 21 | 49 | 49 | 24 | 17 | 14 | 16 | 13 | 16 | 21 | 33 | 23 | 16 | 23 | 28 | 19 | 15 | 7 | 7 | 51 | 59 | 53 | 7 | 59 | | | | | | | | | | | | | | | | | |
| Jul 16 | 77 | 71 | 54 | 46 | 21 | 73 | 60 | 13 | 13 | 18 | 26 | 21 | 25 | 32 | 18 | 19 | 13 | 7 | 6 | 6 | 6 | 5 | 6 | 8 | 5 | 77 | | | | | | | | | | | | | | | | | |
| Jul 17 | 5 | 6 | 5 | 8 | 8 | 11 | 14 | 9 | 11 | 10 | 12 | 9 | 14 | 12 | 12 | 11 | 10 | 10 | 8 | 10 | 7 | 16 | 10 | 7 | 5 | 16 | | | | | | | | | | | | | | | | | |
| Jul 18 | 7 | 8 | 8 | 5 | 8 | 12 | 7 | 7 | 8 | 8 | 11 | 8 | 9 | 7 | 9 | 13 | 11 | 12 | 12 | 13 | 6 | 22 | 38 | 41 | 5 | 41 | | | | | | | | | | | | | | | | | |
| Jul 19 | 15 | 10 | 60 | 8 | 6 | 15 | 8 | 9 | 17 | 27 | 22 | 21 | 24 | 22 | 22 | 16 | 27 | 20 | 18 | 24 | 12 | 20 | 32 | 44 | 6 | 60 | | | | | | | | | | | | | | | | | |
| Jul 20 | 23 | 70 | 24 | 24 | 50 | 56 | 26 | 24 | 50 | 43 | 68 | 45 | 47 | 31 | 30 | 33 | 18 | 20 | 47 | 18 | 21 | 7 | 6 | 54 | 6 | 70 | | | | | | | | | | | | | | | | | |
| Jul 21 | 9 | 10 | 13 | 69 | 37 | 65 | 14 | 9 | 36 | 32 | 35 | 31 | 32 | 23 | 24 | 28 | 21 | 12 | 14 | 12 | 4 | 9 | 7 | 50 | 4 | 69 | | | | | | | | | | | | | | | | | |
| Jul 22 | 49 | 37 | 8 | 57 | 15 | 33 | 17 | 18 | 21 | 30 | 15 | 27 | 44 | 52 | 51 | 61 | 22 | 10 | 9 | 11 | 40 | 43 | 49 | 76 | 8 | 76 | | | | | | | | | | | | | | | | | |
| Jul 23 | 18 | 21 | 38 | 63 | 77 | 55 | 19 | 62 | 14 | 65 | 24 | 27 | 33 | 32 | 32 | 56 | 43 | 10 | 5 | 7 | 11 | 24 | 12 | 13 | 5 | 77 | | | | | | | | | | | | | | | | | |
| Jul 24 | 12 | 20 | 30 | 21 | 26 | 44 | 33 | 22 | 14 | 17 | 18 | 20 | 13 | 11 | 15 | 16 | 12 | 11 | 8 | 6 | 7 | 8 | 8 | 8 | 6 | 44 | | | | | | | | | | | | | | | | | |
| Jul 25 | 9 | 20 | 41 | 67 | 27 | 24 | 11 | 17 | 8 | 43 | 11 | 12 | 23 | 18 | 14 | 15 | 14 | 14 | 10 | 10 | 14 | 22 | 10 | 10 | 8 | 67 | | | | | | | | | | | | | | | | | |
| Jul 26 | 15 | 16 | 68 | 42 | 16 | 16 | 17 | 22 | 20 | 10 | 12 | 13 | 10 | 14 | 27 | 55 | 44 | 12 | 24 | 38 | 19 | 16 | 30 | 35 | 10 | 68 | | | | | | | | | | | | | | | | | |
| Jul 27 | 19 | 6 | 5 | 5 | 5 | 5 | 7 | 8 | 5 | 7 | 6 | 8 | 13 | 19 | 17 | 38 | 18 | 19 | 20 | 29 | 10 | 34 | 21 | 0 | 0 | 38 | | | | | | | | | | | | | | | | | |
| Jul 28 | 13 | 10 | 55 | 0 | 12 | 11 | 11 | 36 | 80 | 62 | 23 | 57 | 69 | 40 | 31 | 41 | 62 | 68 | 35 | 24 | 19 | 59 | 16 | 39 | 0 | 80 | | | | | | | | | | | | | | | | | |
| Jul 29 | 67 | 48 | 60 | 60 | 45 | 54 | 35 | 41 | 46 | 60 | 65 | 33 | 27 | 59 | 50 | 45 | 50 | 37 | 36 | 8 | 5 | 7 | 5 | 14 | 5 | 67 | | | | | | | | | | | | | | | | | |
| Jul 30 | 17 | 39 | 15 | 49 | 42 | 5 | 5 | 7 | 12 | 10 | 8 | 12 | 10 | 9 | 12 | 12 | 10 | 8 | 8 | 11 | 8 | 8 | 16 | 60 | 5 | 60 | | | | | | | | | | | | | | | | | |
| Jul 31 | 29 | 41 | 14 | 47 | 51 | 69 | 28 | 22 | 29 | 29 | 18 | 16 | 16 | 21 | 17 | 17 | 15 | 15 | 8 | 7 | 14 | 35 | 16 | 13 | 7 | 69 | | | | | | | | | | | | | | | | | |
| Diurnal Minimum | 5 | 5 | 5 | 0 | 0 | 5 | 5 | 6 | 5 | 6 | 6 | 8 | 8 | 7 | 9 | 10 | 7 | 6 | 5 | 4 | 4 | 5 | 4 | 0 | | | | | | | | | | | | | | | | | | | |
| Diurnal Maximum | 77 | 71 | 68 | 73 | 77 | 73 | 60 | 62 | 80 | 65 | 68 | 57 | 69 | 59 | 52 | 61 | 62 | 68 | 59 | 38 | 43 | 71 | 59 | 76 | | | | | | | | | | | | | | | | | | | |
| C | Monthly Calibration | | | | | | | | | | S | Daily Zero-Span Check | | | | | | | | | | Q | Quality Assurance | | | | | | | | | | | | | | | | | | | | |
| K | Collection Error | | | | | | | | | | ND | No Data (Machine Not in Service) | | | | | | | | | | Y | Routine Maintenance | | | | | | | | | | P | Power Failure | | | | | | | | | |
| X | Invalid Data (Machine Malfunction/Recovery) | | | | | | | | | | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



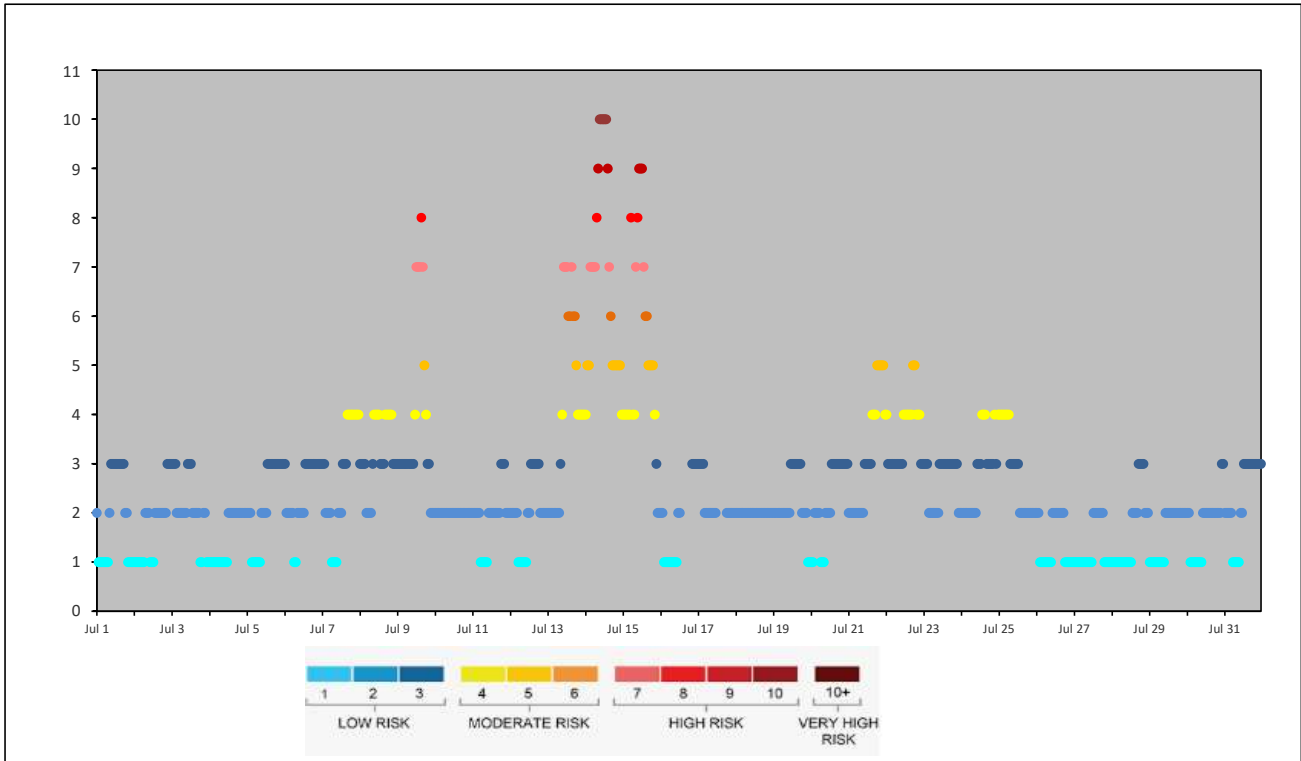
TAMARACK STATION

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Tamarack Site - July 2023

AIR QUALITY HEALTH INDEX

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | |
|--------|---------------------------------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| Jul 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 1 |
| Jul 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 |
| Jul 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 1 |
| Jul 4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Jul 5 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Jul 6 | 3 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 1 |
| Jul 7 | 3 | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Jul 8 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 3 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 3 |
| Jul 9 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 7 | 7 | 7 | 7 | 8 | 7 | 5 | 4 | 3 | 3 | 2 | 2 | 2 |
| Jul 10 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Jul 11 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 2 | 2 | 2 |
| Jul 12 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 |
| Jul 13 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 4 | 7 | 7 | 7 | 6 | 6 | 7 | 6 | 6 | 5 | 4 | 4 | 4 | 4 | 4 |
| Jul 14 | 4 | 5 | 5 | 7 | 7 | 7 | 7 | 8 | 9 | 10 | 10 | 10 | 10 | 10 | 9 | 7 | 6 | 5 | 5 | 5 | 5 | 5 | 5 | 4 |
| Jul 15 | 4 | 4 | 4 | 4 | 4 | 8 | 4 | 4 | 7 | 8 | 9 | 9 | 9 | 7 | 6 | 6 | 5 | 5 | 5 | 5 | 4 | 3 | 2 | 2 |
| Jul 16 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 |
| Jul 17 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Jul 18 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Jul 19 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 1 | 1 |
| Jul 20 | 1 | 1 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Jul 21 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 4 |
| Jul 22 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 4 | 4 | 4 | 4 | 3 | 3 |
| Jul 23 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 |
| Jul 24 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 4 | 3 | 4 |
| Jul 25 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Jul 26 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 |
| Jul 27 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 |
| Jul 28 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 2 | 2 | 2 |
| Jul 29 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Jul 30 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 |
| Jul 31 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |



Lakeland Industry & Community Association

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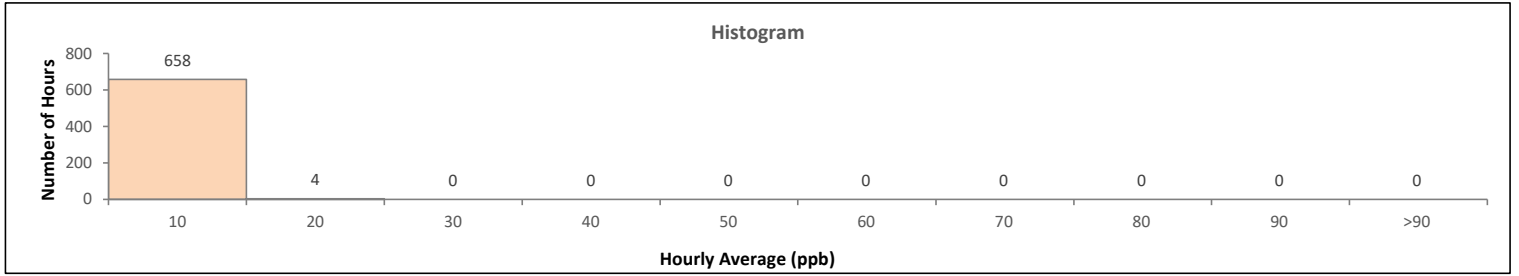
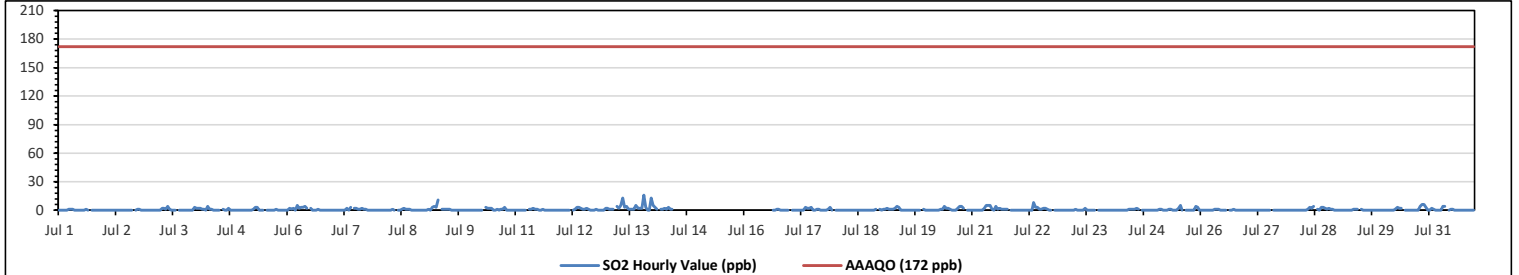
Summary of Hourly Averages

SULPHUR DIOXIDE (SO₂) in ppb

| Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 172 ppb, 24-Hour 48 ppb, 30-Day 11 ppb | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---------------------------------|-----|--------------------|-----|----------------------------------|------|-----|-----|-----|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------------|---------------|---------------|-----|-----|
| Number of 1-Hour Exceedances: 0 | | | | | Number of 24-Hour Exceedances: 0 | | | | | 30-Day Exceedence: 0 | | | | | | | | | | | | | | | | | | |
| Maximum Hourly Value: | 16 | ppb | on Jul 13 at hr 19 | | Hours in Service: | 744 | | | | | | | | | | | | | | | | | | | | | | |
| Maximum Daily Value: | 3.6 | ppb | on Jul 13 | | Hours of Data: | 662 | | | | | | | | | | | | | | | | | | | | | | |
| Minimum Hourly Value: | 0 | ppb | on Jul 1 at hr 0 | | Hours of Missing Data: | 48 | | | | | | | | | | | | | | | | | | | | | | |
| Minimum Daily Value: | 0.0 | ppb | on Jul 27 | | Hours of Calibration: | 34 | | | | | | | | | | | | | | | | | | | | | | |
| Monthly Average: | 0.7 | ppb | | | Operational Uptime: | 93.5 | | | | | | | | | | | | | | | | | | | | | | |
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | | |
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | | |
| Jul 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.2 | |
| Jul 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.1 | |
| Jul 3 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 4 | 1 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 4 | 0.6 | |
| Jul 4 | 2 | 2 | 2 | 1 | 1 | 0 | 4 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | S | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0.7 | |
| Jul 5 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0.3 | |
| Jul 6 | 0 | 2 | 1 | 2 | 0 | 5 | 2 | 3 | 3 | 4 | 2 | S | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 1.2 | |
| Jul 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 3 | S | 2 | 2 | 1 | 1 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0.7 | |
| Jul 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | S | 0 | 0 | 1 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0.3 | |
| Jul 9 | 0 | 0 | 1 | 0 | 3 | 4 | 3 | 11 | S | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 1.2 | |
| Jul 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 3 | 2 | 2 | 2 | 0 | 0 | 1 | 0 | 1 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0.7 | |
| Jul 11 | 0 | 0 | 0 | 0 | 0 | 0 | S | 1 | 1 | 2 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0.3 | |
| Jul 12 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 1 | 3 | 3 | 2 | 1 | 1 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 3 | 0.7 | |
| Jul 13 | 2 | 1 | 1 | 1 | S | 4 | 2 | 5 | 13 | 3 | 4 | 1 | 1 | 1 | 1 | 5 | 2 | 2 | 2 | 16 | 3 | 0 | 0 | 13 | 0 | 16 | 3.6 | |
| Jul 14 | 5 | 3 | 1 | S | 1 | 1 | 2 | 1 | 3 | 1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | 1 | 5 | NA | |
| Jul 15 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | - | - | - | |
| Jul 16 | X | X | X | X | X | X | X | X | X | X | X | C | C | C | C | C | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | NA | |
| Jul 17 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 2 | 3 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 3 | S | 0 | 3 | 0.7 | |
| Jul 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | S | 0 | 1 | 0.1 | |
| Jul 19 | 0 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 4 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | S | 0 | 4 | 0.7 | |
| Jul 20 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 4 | 2 | 2 | 1 | 0 | 0 | 0 | 0 | 2 | 4 | 4 | 2 | S | 0 | 0 | 0 | 0 | 4 | 1.0 | |
| Jul 21 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 5 | 5 | 5 | 1 | 0 | 4 | 1 | 2 | 1 | 1 | 1 | 1 | S | 0 | 0 | 0 | 0 | 0 | 5 | 1.3 | |
| Jul 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 3 | 3 | 1 | 1 | 2 | 2 | 1 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0.9 | |
| Jul 23 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0.1 | |
| Jul 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 1 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0.3 | |
| Jul 25 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 5 | 0 | S | 0 | 0 | 0 | 0 | 0 | 4 | 3 | 0 | 0 | 5 | 0.8 | |
| Jul 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.2 | |
| Jul 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | |
| Jul 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 2 | 4 | S | 1 | 0 | 0 | 3 | 3 | 2 | 1 | 2 | 1 | 1 | 0 | 0 | 0 | 4 | 1.0 |
| Jul 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | S | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.2 | |
| Jul 30 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 2 | 2 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 6 | 6 | 3 | 0 | 0 | 6 | 1.2 | |
| Jul 31 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 4 | 4 | S | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0.6 | |
| Diurnal Maximum | 5 | 3 | 2 | 2 | 3 | 5 | 4 | 11 | 13 | 5 | 4 | 4 | 4 | 5 | 2 | 5 | 3 | 4 | 4 | 16 | 6 | 6 | 3 | 13 | | | | |
| Diurnal Average | 0.3 | 0.4 | 0.3 | 0.3 | 0.2 | 0.6 | 0.8 | 1.8 | 2.2 | 1.7 | 1.0 | 0.8 | 0.7 | 0.7 | 0.6 | 0.6 | 0.4 | 0.6 | 0.5 | 0.9 | 0.4 | 0.5 | 0.3 | 0.7 | | | | |

C Monthly Calibration **S** Daily Zero-Span Check **Q** Quality Assurance
K Collection Error **ND** No Data (Machine Not in Service) **Y** Routine Maintenance
X InValid Data (Equipment Malfunction /Recovery) **NRM** UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) **P** Power Failure

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

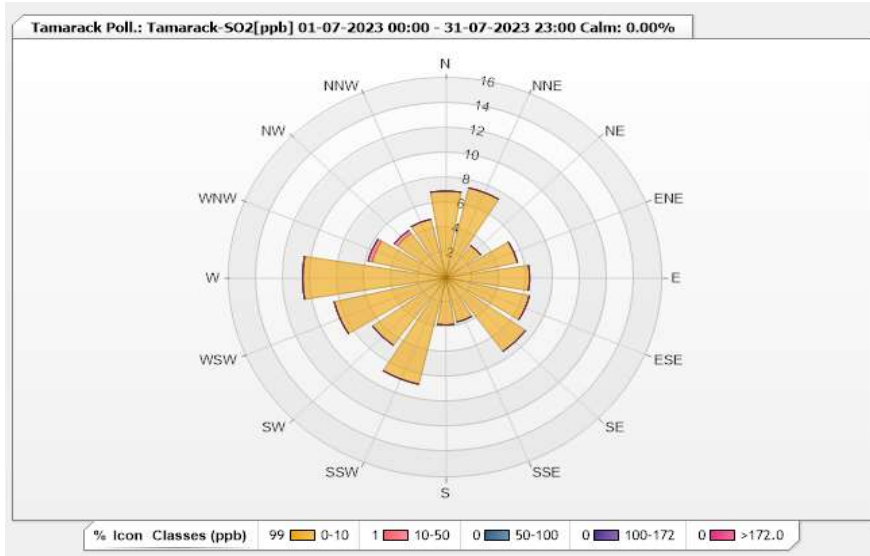


Station: Tamarack Poll.: Tamarack-SO2[ppb] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 88.98% Calm Avg: 0.00 [ppm]

| Direction | 0-10 | 10-50 | 50-100 | 100-172 | >172.0 | Total |
|-----------|-------|-------|--------|---------|--------|-------|
| N | 6.95 | 0 | 0 | 0 | 0 | 6.95 |
| NNE | 7.4 | 0 | 0 | 0 | 0 | 7.4 |
| NE | 3.17 | 0 | 0 | 0 | 0 | 3.17 |
| ENE | 5.44 | 0 | 0 | 0 | 0 | 5.44 |
| E | 6.19 | 0 | 0 | 0 | 0 | 6.19 |
| ESE | 6.34 | 0 | 0 | 0 | 0 | 6.34 |
| SE | 7.25 | 0 | 0 | 0 | 0 | 7.25 |
| SSE | 3.63 | 0 | 0 | 0 | 0 | 3.63 |
| S | 3.78 | 0 | 0 | 0 | 0 | 3.78 |
| SSW | 8.76 | 0 | 0 | 0 | 0 | 8.76 |
| SW | 6.65 | 0 | 0 | 0 | 0 | 6.65 |
| WSW | 8.46 | 0 | 0 | 0 | 0 | 8.46 |
| W | 10.57 | 0 | 0 | 0 | 0 | 10.57 |
| WNW | 5.59 | 0.3 | 0 | 0 | 0 | 5.89 |
| NW | 4.38 | 0.3 | 0 | 0 | 0 | 4.68 |
| NNW | 4.83 | 0 | 0 | 0 | 0 | 4.83 |
| Summary | 99.39 | 0.6 | 0 | 0 | 0 | 100 |

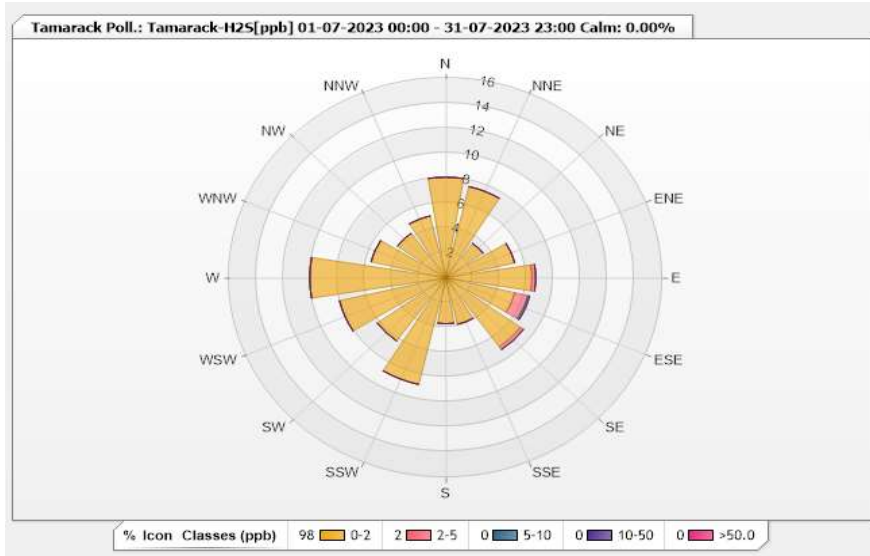


Station: Tamarack Poll.: Tamarack-H2S[ppb] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 95.03% Calm Avg: 0.00 [ppm]

| Direction | 0-2 | 2-5 | 5-10 | 10-50 | >50.0 | Total |
|-----------|-------|------|------|-------|-------|-------|
| N | 8.06 | 0 | 0 | 0 | 0 | 8.06 |
| NNE | 7.5 | 0 | 0 | 0 | 0 | 7.5 |
| NE | 3.39 | 0 | 0 | 0 | 0 | 3.39 |
| ENE | 5.23 | 0 | 0 | 0 | 0 | 5.23 |
| E | 6.36 | 0.28 | 0 | 0 | 0 | 6.64 |
| ESE | 5.23 | 0.99 | 0.14 | 0 | 0 | 6.36 |
| SE | 6.79 | 0.28 | 0 | 0 | 0 | 7.07 |
| SSE | 3.82 | 0 | 0 | 0 | 0 | 3.82 |
| S | 3.68 | 0 | 0 | 0 | 0 | 3.68 |
| SSW | 8.77 | 0 | 0 | 0 | 0 | 8.77 |
| SW | 6.22 | 0 | 0 | 0 | 0 | 6.22 |
| WSW | 8.06 | 0 | 0 | 0 | 0 | 8.06 |
| W | 10.04 | 0 | 0 | 0 | 0 | 10.04 |
| WNW | 5.66 | 0 | 0 | 0 | 0 | 5.66 |
| NW | 4.38 | 0 | 0 | 0 | 0 | 4.38 |
| NNW | 5.09 | 0 | 0 | 0 | 0 | 5.09 |
| Summary | 98.28 | 1.55 | 0.14 | 0 | 0 | 100 |



Lakeland Industry & Community Association

Tamarack Site - July 2023
Summary of Hourly Averages

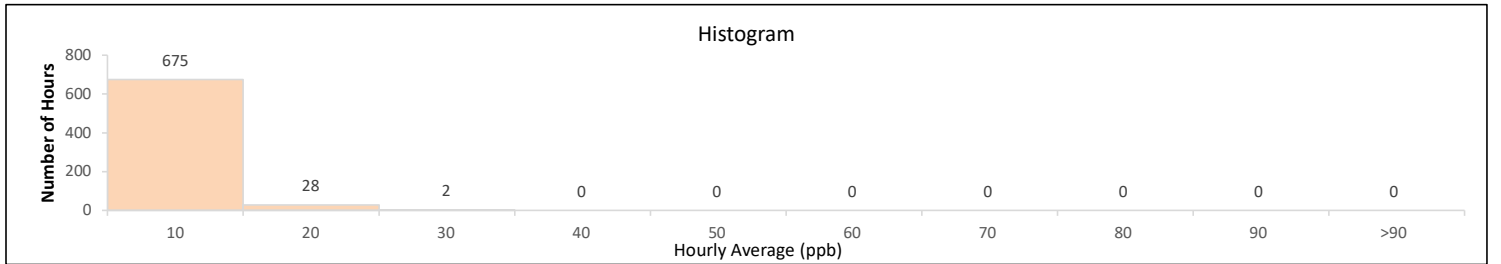
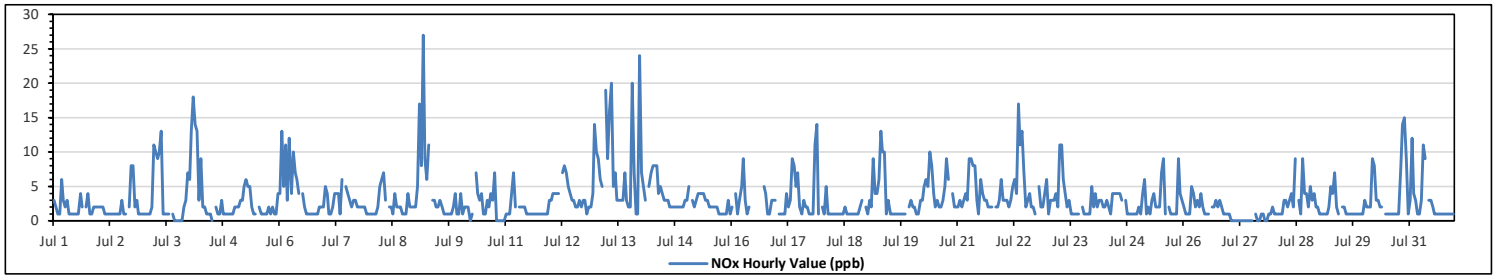
OXIDES OF NITROGEN (NOx) in ppb

| | | | | | |
|-----------------------|-----|-----|-------------------|------------------------|-------|
| Maximum Hourly Value: | 27 | ppb | on Jul 9 at hr 4 | Hours in Service: | 744 |
| Maximum Daily Value: | 8.0 | ppb | on Jul 13 | Hours of Data: | 705 |
| Minimum Hourly Value: | 0 | ppb | on Jul 3 at hr 16 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 0.3 | ppb | on Jul 27 | Hours of Calibration: | 39 |
| Monthly Average: | 3.1 | ppb | | Operational Uptime: | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | |
|-----------------|---------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------------|---------------|---------------|-----|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | | |
| Jul 1 | 3 | 2 | 1 | 1 | 6 | 3 | 2 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 2 | S | 2 | 4 | 1 | 1 | 2 | 2 | 2 | 1 | 6 | 2.0 | |
| Jul 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 1 | 1 | S | 2 | 8 | 8 | 2 | 3 | 1 | 1 | 1 | 1 | 1 | 8 | 2.0 |
| Jul 3 | 1 | 1 | 1 | 1 | 2 | 11 | 10 | 9 | 10 | 13 | 1 | 1 | 1 | 1 | S | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 7 | 0 | 13 | 3.3 | |
| Jul 4 | 6 | 13 | 18 | 14 | 13 | 3 | 9 | 2 | 2 | 1 | 1 | 1 | 0 | S | 2 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 18 | 4.2 | |
| Jul 5 | 2 | 2 | 2 | 3 | 3 | 5 | 6 | 5 | 5 | 2 | 1 | 1 | S | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 1 | 1 | 4 | 1 | 6 | 2.3 | |
| Jul 6 | 4 | 13 | 5 | 11 | 3 | 12 | 4 | 10 | 7 | 6 | 4 | S | 5 | 4 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 1 | 13 | 4.3 | |
| Jul 7 | 5 | 4 | 1 | 1 | 2 | 4 | 4 | 4 | 1 | 6 | S | 5 | 4 | 3 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 6 | 2.8 | |
| Jul 8 | 1 | 1 | 1 | 1 | 2 | 5 | 6 | 7 | 3 | S | 2 | 2 | 1 | 4 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 4 | 2 | 2 | 1 | 7 | 2.4 | |
| Jul 9 | 2 | 5 | 17 | 8 | 27 | 9 | 6 | 11 | S | 3 | 3 | 2 | 2 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 4 | 1 | 1 | 1 | 27 | 4.9 | |
| Jul 10 | 4 | 1 | 2 | 2 | 2 | 0 | 1 | S | 7 | 4 | 3 | 4 | 1 | 1 | 3 | 2 | 4 | 3 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 2.2 | |
| Jul 11 | 1 | 1 | 1 | 4 | 7 | 2 | S | 7 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 1 | 7 | 1.7 | |
| Jul 12 | 3 | 4 | 4 | 4 | 4 | S | 7 | 8 | 7 | 5 | 4 | 3 | 3 | 2 | 2 | 3 | 2 | 3 | 3 | 1 | 2 | 2 | 4 | 14 | 1 | 14 | 4.1 | |
| Jul 13 | 10 | 9 | 6 | 5 | S | 19 | 9 | 16 | 20 | 5 | 7 | 3 | 3 | 3 | 3 | 7 | 3 | 2 | 2 | 20 | 7 | 1 | 1 | 24 | 1 | 24 | 8.0 | |
| Jul 14 | 7 | 5 | 3 | S | 5 | 7 | 8 | 8 | 8 | 4 | 5 | 4 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 8 | 4.0 | |
| Jul 15 | 3 | 5 | S | 3 | 2 | 3 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 3 | 1 | 1 | 5 | 2.5 | |
| Jul 16 | 2 | S | 4 | 1 | 3 | 5 | 9 | 3 | 1 | 2 | C | C | C | C | C | C | C | 5 | 4 | 1 | 1 | 3 | 3 | 3 | 1 | 9 | NA | |
| Jul 17 | S | 1 | 1 | 1 | 1 | 4 | 2 | 3 | 9 | 8 | 5 | 7 | 2 | 1 | 3 | 2 | 2 | 1 | 1 | 1 | 11 | 14 | 1 | S | 1 | 14 | 3.7 | |
| Jul 18 | 2 | 1 | 5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | S | 2 | 1 | 5 | 1.4 | |
| Jul 19 | 1 | 3 | 2 | 9 | 4 | 4 | 6 | 13 | 10 | 10 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | S | 2 | 3 | 1 | 13 | 3.5 | |
| Jul 20 | 2 | 2 | 1 | 1 | 3 | 3 | 5 | 6 | 5 | 10 | 8 | 4 | 2 | 3 | 2 | 2 | 3 | 5 | 9 | 6 | S | 4 | 2 | 2 | 1 | 10 | 3.9 | |
| Jul 21 | 2 | 3 | 2 | 3 | 4 | 3 | 9 | 9 | 8 | 8 | 3 | 1 | 6 | 4 | 3 | 3 | 2 | 2 | 2 | S | 2 | 2 | 3 | 6 | 1 | 9 | 3.9 | |
| Jul 22 | 3 | 3 | 3 | 2 | 3 | 5 | 6 | 4 | 17 | 11 | 13 | 7 | 2 | 3 | 4 | 2 | 2 | 1 | S | 5 | 2 | 2 | 4 | 6 | 1 | 17 | 4.8 | |
| Jul 23 | 1 | 3 | 3 | 3 | 4 | 2 | 11 | 11 | 6 | 4 | 2 | 3 | 1 | 1 | 1 | 1 | S | 2 | 1 | 1 | 1 | 1 | 1 | 5 | 1 | 11 | 3.0 | |
| Jul 24 | 2 | 4 | 2 | 3 | 3 | 2 | 2 | 3 | 2 | 1 | 4 | 4 | 4 | 4 | 4 | 3 | S | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 2.4 | |
| Jul 25 | 2 | 1 | 4 | 6 | 1 | 2 | 1 | 3 | 4 | 2 | 2 | 2 | 7 | 9 | 1 | S | 2 | 1 | 1 | 1 | 1 | 9 | 4 | 3 | 1 | 9 | 3.0 | |
| Jul 26 | 2 | 1 | 1 | 1 | 5 | 4 | 2 | 3 | 2 | 4 | 2 | 1 | 1 | 1 | S | 2 | 2 | 3 | 2 | 3 | 2 | 1 | 1 | 1 | 1 | 5 | 2.0 | |
| Jul 27 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 2 | 0 | 2 | 0.3 | |
| Jul 28 | 1 | 1 | 1 | 1 | 1 | 3 | 2 | 3 | 4 | 2 | 9 | S | 3 | 1 | 9 | 4 | 4 | 2 | 5 | 3 | 4 | 2 | 2 | 1 | 9 | 3.0 | | |
| Jul 29 | 1 | 1 | 1 | 1 | 1 | 2 | 5 | 4 | 7 | 2 | 1 | S | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 7 | 1.7 | |
| Jul 30 | 3 | 2 | 2 | 2 | 9 | 8 | 3 | 3 | 2 | 2 | S | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 8 | 14 | 15 | 9 | 1 | 1 | 1 | 15 | 4.0 | |
| Jul 31 | 3 | 12 | 4 | 3 | 1 | 1 | 3 | 11 | 9 | S | 3 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 12 | 2.9 |
| Diurnal Maximum | 10 | 13 | 18 | 14 | 27 | 19 | 11 | 16 | 20 | 13 | 13 | 9 | 7 | 9 | 4 | 9 | 4 | 8 | 9 | 20 | 14 | 15 | 9 | 24 | | | | |
| Diurnal Average | 2.7 | 3.5 | 3.3 | 3.2 | 4.1 | 4.4 | 4.8 | 5.6 | 5.5 | 4.3 | 3.0 | 2.8 | 2.2 | 2.3 | 1.9 | 2.1 | 1.7 | 2.1 | 2.2 | 2.4 | 2.4 | 2.9 | 2.0 | 3.5 | | | | |

| | | | | | |
|---|--|-----|---|---|---------------------|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance |
| K | Collection Error | ND | No Data (Machine Not in Service) | Y | Routine Maintenance |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P | Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

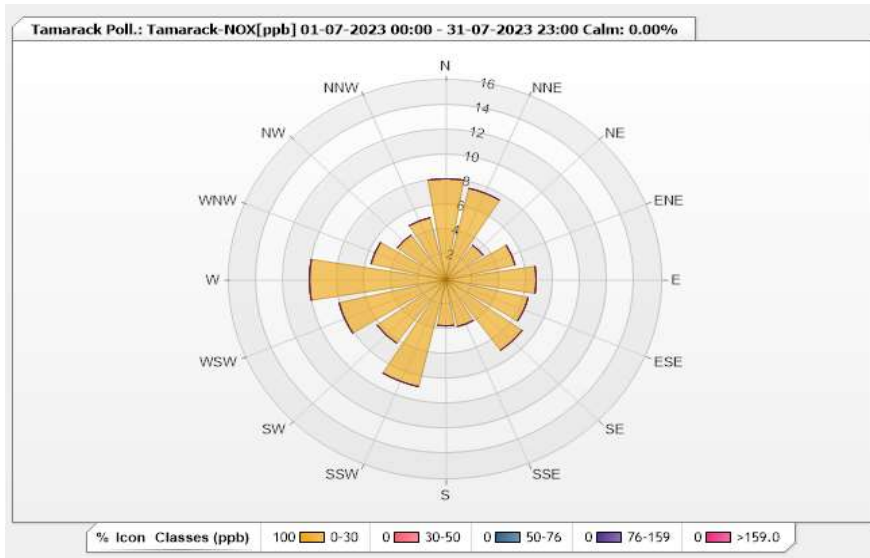


Station: Tamarack Poll.: Tamarack-NOX[ppb] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.76% Calm Avg: 0.00 [ppm]

| Direction | 0-30 | 30-50 | 50-76 | 76-159 | >159.0 | Total |
|-----------|-------|-------|-------|--------|--------|-------|
| N | 8.09 | 0 | 0 | 0 | 0 | 8.09 |
| NNE | 7.52 | 0 | 0 | 0 | 0 | 7.52 |
| NE | 3.4 | 0 | 0 | 0 | 0 | 3.4 |
| ENE | 5.25 | 0 | 0 | 0 | 0 | 5.25 |
| E | 6.67 | 0 | 0 | 0 | 0 | 6.67 |
| ESE | 6.24 | 0 | 0 | 0 | 0 | 6.24 |
| SE | 6.95 | 0 | 0 | 0 | 0 | 6.95 |
| SSE | 3.83 | 0 | 0 | 0 | 0 | 3.83 |
| S | 3.69 | 0 | 0 | 0 | 0 | 3.69 |
| SSW | 8.79 | 0 | 0 | 0 | 0 | 8.79 |
| SW | 6.24 | 0 | 0 | 0 | 0 | 6.24 |
| WSW | 8.09 | 0 | 0 | 0 | 0 | 8.09 |
| W | 10.07 | 0 | 0 | 0 | 0 | 10.07 |
| WNW | 5.67 | 0 | 0 | 0 | 0 | 5.67 |
| NW | 4.4 | 0 | 0 | 0 | 0 | 4.4 |
| NNW | 5.11 | 0 | 0 | 0 | 0 | 5.11 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |



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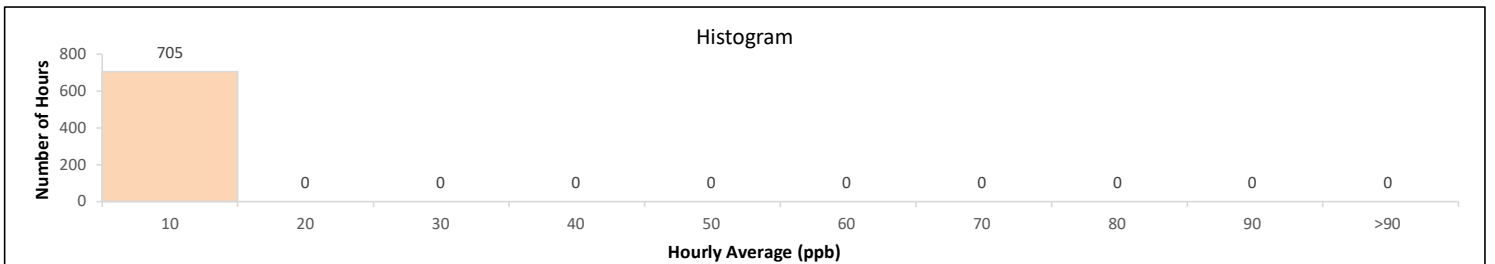
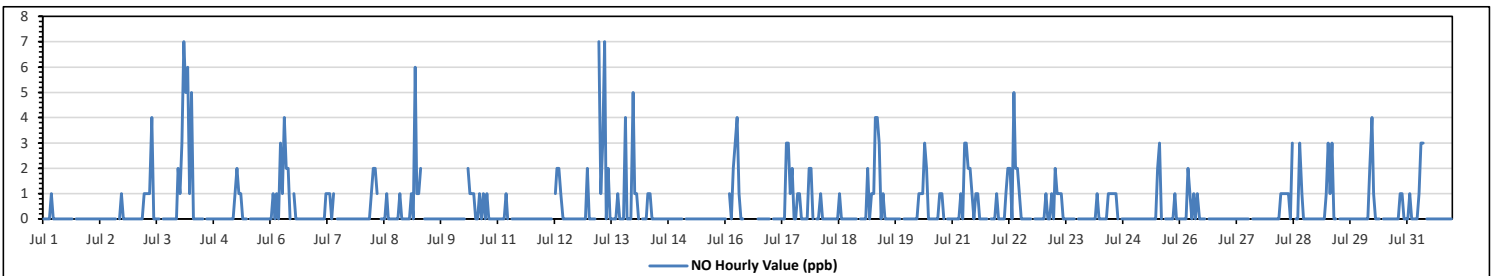
Tamarack Site - July 2023 Summary of Hourly Averages NITRIC OXIDE (NO) in ppb

| | | | | | |
|-----------------------|-----|-----|------------------|------------------------|-------|
| Maximum Hourly Value: | 7 | ppb | on Jul 4 at hr 2 | Hours in Service: | 744 |
| Maximum Daily Value: | 1.3 | ppb | on Jul 13 | Hours of Data: | 705 |
| Minimum Hourly Value: | 0 | ppb | on Jul 1 at hr 0 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 0.0 | ppb | on Jul 15 | Hours of Calibration: | 39 |
| Monthly Average: | 0.4 | ppb | | Operational Uptime: | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | | | | | | | | | |
|-----------------|---------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------------|---------------|---------------|-----|-----|-----|-----|---|---|-----|-----|-----|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | | | | | | | | | | |
| Jul 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.0 | |
| Jul 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.0 | |
| Jul 3 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0.4 | | |
| Jul 4 | 1 | 3 | 7 | 5 | 6 | 1 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 1.2 | | |
| Jul 5 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0.2 |
| Jul 6 | 0 | 1 | 0 | 1 | 0 | 3 | 1 | 4 | 2 | 2 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0.7 | | |
| Jul 7 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | |
| Jul 8 | 0 | 0 | 0 | 0 | 1 | 2 | 2 | 2 | 1 | S | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0.3 | |
| Jul 9 | 0 | 0 | 1 | 0 | 6 | 1 | 1 | 2 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0.5 | |
| Jul 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 2 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0.3 | |
| Jul 11 | 0 | 0 | 0 | 0 | 1 | 0 | S | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.0 | | |
| Jul 12 | 0 | 0 | 0 | 0 | 0 | S | 1 | 2 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0.3 | |
| Jul 13 | 0 | 0 | 0 | 0 | S | 7 | 1 | 3 | 7 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 7 | 1.3 | | |
| Jul 14 | 1 | 1 | 0 | S | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.2 | |
| Jul 15 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Jul 16 | 0 | S | 1 | 0 | 2 | 3 | 4 | 1 | 0 | 0 | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | 4 | NA | |
| Jul 17 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 1 | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | S | 0 | 0 | 0 | 3 | 0.7 | |
| Jul 18 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.1 | |
| Jul 19 | 0 | 0 | 0 | 2 | 0 | 1 | 1 | 4 | 4 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0.7 | |
| Jul 20 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0.4 | |
| Jul 21 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 3 | 2 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0.7 | |
| Jul 22 | 0 | 0 | 0 | 0 | 1 | 2 | 2 | 0 | 5 | 2 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0.7 | |
| Jul 23 | 0 | 1 | 0 | 0 | 1 | 0 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0.3 | |
| Jul 24 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.3 | |
| Jul 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0.3 | |
| Jul 26 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0.2 | |
| Jul 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Jul 28 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 3 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0.5 |
| Jul 29 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 1 | 3 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0.3 |
| Jul 30 | 0 | 0 | 0 | 0 | 2 | 4 | 1 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 4 | 0.4 | |
| Jul 31 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 3 | 3 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0.3 |
| Diurnal Maximum | 1 | 3 | 7 | 5 | 6 | 7 | 5 | 4 | 7 | 4 | 2 | 3 | 2 | 3 | 1 | 3 | 1 | 1 | 1 | 4 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | | |
| Diurnal Average | 0.1 | 0.2 | 0.3 | 0.3 | 0.8 | 1.0 | 1.1 | 1.1 | 1.3 | 0.9 | 0.4 | 0.3 | 0.2 | 0.2 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.3 | | | | | |

| | | | | | |
|---|--|-----|---|---|---------------------|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance |
| K | Collection Error | ND | No Data (Machine Not in Service) | Y | Routine Maintenance |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P | Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

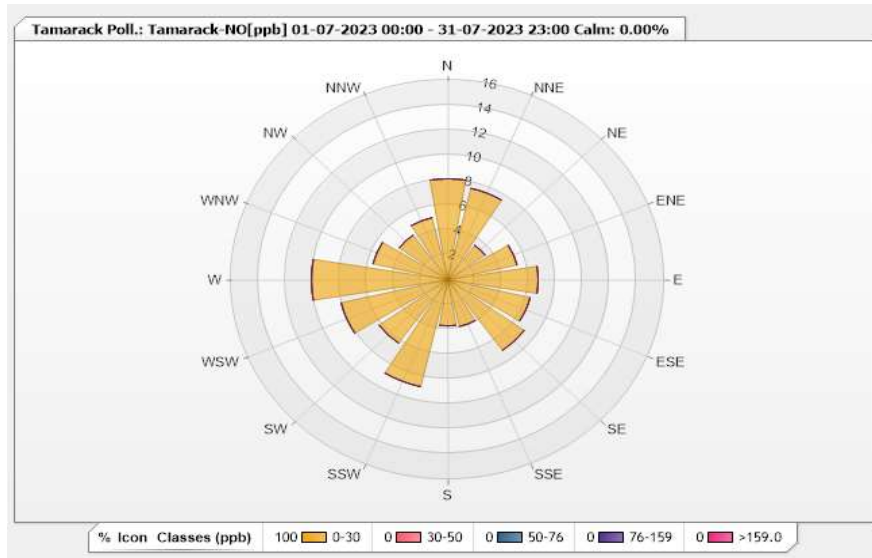


Station: Tamarack Poll.: Tamarack-NO[ppb] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.76% Calm Avg: 0.00 [ppm]

| Direction | 0-30 | 30-50 | 50-76 | 76-159 | >159.0 | Total |
|-----------|-------|-------|-------|--------|--------|-------|
| N | 8.09 | 0 | 0 | 0 | 0 | 8.09 |
| NNE | 7.52 | 0 | 0 | 0 | 0 | 7.52 |
| NE | 3.4 | 0 | 0 | 0 | 0 | 3.4 |
| ENE | 5.25 | 0 | 0 | 0 | 0 | 5.25 |
| E | 6.67 | 0 | 0 | 0 | 0 | 6.67 |
| ESE | 6.24 | 0 | 0 | 0 | 0 | 6.24 |
| SE | 6.95 | 0 | 0 | 0 | 0 | 6.95 |
| SSE | 3.83 | 0 | 0 | 0 | 0 | 3.83 |
| S | 3.69 | 0 | 0 | 0 | 0 | 3.69 |
| SSW | 8.79 | 0 | 0 | 0 | 0 | 8.79 |
| SW | 6.24 | 0 | 0 | 0 | 0 | 6.24 |
| WSW | 8.09 | 0 | 0 | 0 | 0 | 8.09 |
| W | 10.07 | 0 | 0 | 0 | 0 | 10.07 |
| WNW | 5.67 | 0 | 0 | 0 | 0 | 5.67 |
| NW | 4.4 | 0 | 0 | 0 | 0 | 4.4 |
| NNW | 5.11 | 0 | 0 | 0 | 0 | 5.11 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |



Lakeland Industry & Community Association

Tamarack Site - July 2023

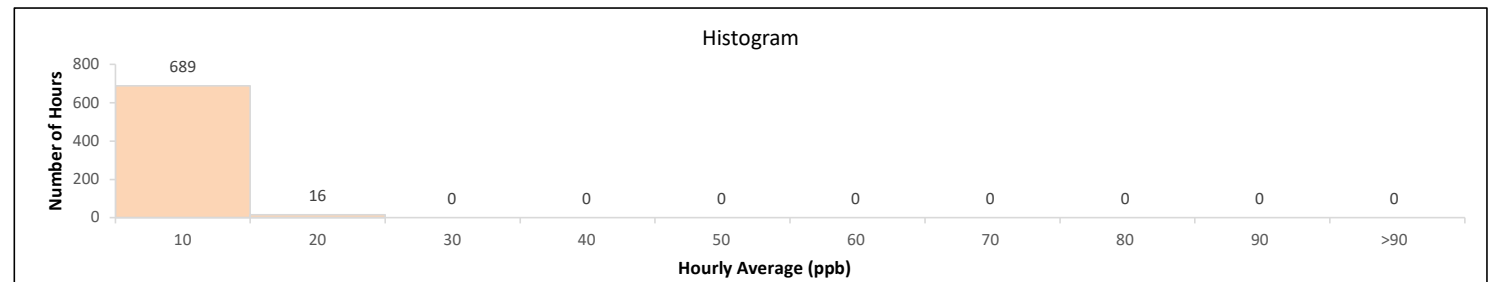
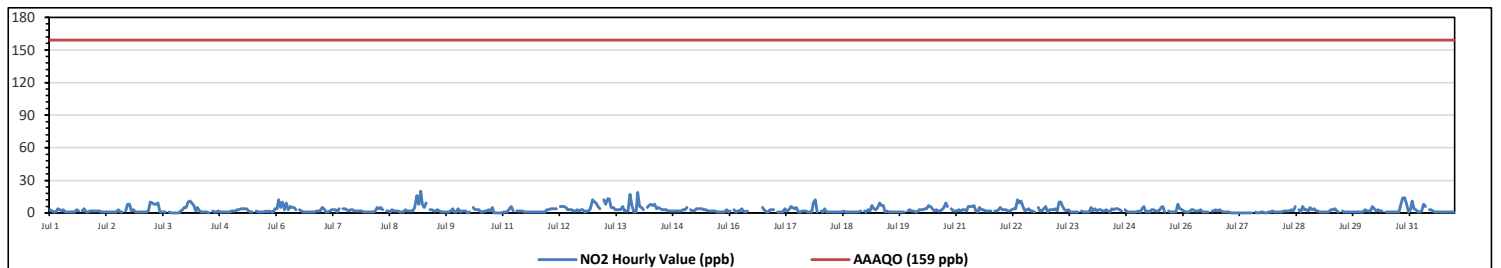
Summary of Hourly Averages

NITROGEN DIOXIDE (NO₂) in ppb

| Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 159 ppb | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------------------------|-----|-----|-----|-----|-----|-----|---|-----|-----|-----|-----|---------------|---------------|---------------|-----|-----|--|--|---------------------|--|--|--|--|--|
| Number of 1-Hour Exceedances: 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum Hourly Value: 20 ppb on Jul 9 at hr 4 | | | | | | | | | | | | Hours in Service: 744 | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum Daily Value: 6.7 ppb on Jul 13 | | | | | | | | | | | | Hours of Data: 705 | | | | | | | | | | | | | | | | | | | | | | | | |
| Minimum Hourly Value: 0 ppb on Jul 3 at hr 16 | | | | | | | | | | | | Hours of Missing Data: 0 | | | | | | | | | | | | | | | | | | | | | | | | |
| Minimum Daily Value: 0.3 ppb on Jul 27 | | | | | | | | | | | | Hours of Calibration: 39 | | | | | | | | | | | | | | | | | | | | | | | | |
| Monthly Average: 2.7 ppb | | | | | | | | | | | | Operational Uptime: 100.0 | | | | | | | | | | | | | | | | | | | | | | | | |
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | | | | | | | | | | |
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | | | | | | | | | | |
| Jul 1 | 3 | 2 | 1 | 1 | 4 | 3 | 2 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 2 | S | 2 | 4 | 1 | 1 | 2 | 2 | 2 | 1 | 4 | 1.9 | | | | | | | | | |
| Jul 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 1 | 1 | S | 2 | 8 | 8 | 2 | 3 | 1 | 1 | 1 | 1 | 8 | 2.0 | | | | | | | | | |
| Jul 3 | 1 | 1 | 1 | 1 | 2 | 10 | 9 | 8 | 8 | 9 | 1 | 1 | 1 | 1 | 1 | S | 1 | 0 | 0 | 0 | 0 | 2 | 3 | 5 | 0 | 10 | 2.8 | | | | | | | | | |
| Jul 4 | 5 | 10 | 11 | 9 | 7 | 2 | 5 | 2 | 1 | 1 | 1 | 1 | 0 | S | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 11 | 2.9 | | | | | | | | | |
| Jul 5 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 4 | 4 | 2 | 1 | 1 | S | 2 | 1 | 1 | 1 | 2 | 1 | 2 | 1 | 1 | 1 | 4 | 1 | 4 | 2.1 | | | | | | | | | |
| Jul 6 | 4 | 12 | 5 | 10 | 3 | 9 | 3 | 6 | 5 | 5 | 3 | S | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 1 | 12 | 3.6 | | | | | | | | | |
| Jul 7 | 5 | 4 | 1 | 1 | 2 | 3 | 3 | 3 | 1 | 4 | S | 4 | 4 | 3 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 5 | 2.5 | | | | | | | | | |
| Jul 8 | 1 | 1 | 1 | 1 | 2 | 5 | 4 | 5 | 3 | S | 2 | 2 | 1 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 3 | 2 | 2 | 2 | 1 | 5 | 2.1 | | | | | | | | | |
| Jul 9 | 2 | 5 | 16 | 8 | 20 | 8 | 5 | 9 | S | 5 | 3 | 3 | 2 | 2 | 3 | 2 | 1 | 1 | 1 | 1 | 2 | 4 | 1 | 1 | 1 | 20 | 4.4 | | | | | | | | | |
| Jul 10 | 4 | 1 | 2 | 2 | 2 | 0 | 1 | S | 5 | 3 | 3 | 3 | 1 | 1 | 2 | 2 | 3 | 2 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 1.8 | | | | | | | | | |
| Jul 11 | 1 | 1 | 1 | 4 | 6 | 2 | S | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 1 | 6 | 1.7 | | | | | | | | | |
| Jul 12 | 3 | 4 | 4 | 4 | 4 | S | 6 | 6 | 6 | 5 | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 3 | 3 | 1 | 2 | 2 | 4 | 12 | 1 | 12 | 3.8 | | | | | | | | | |
| Jul 13 | 10 | 9 | 6 | 4 | S | 12 | 8 | 13 | 13 | 5 | 5 | 3 | 3 | 3 | 3 | 6 | 2 | 2 | 2 | 17 | 7 | 1 | 1 | 19 | 1 | 19 | 6.7 | | | | | | | | | |
| Jul 14 | 6 | 5 | 3 | S | 5 | 7 | 8 | 7 | 8 | 4 | 5 | 4 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 8 | 3.9 | | | | | | | | | | |
| Jul 15 | 3 | 5 | S | 3 | 2 | 2 | 4 | 4 | 4 | 4 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 3 | 1 | 1 | 5 | 2.4 | | | | | | | | | | |
| Jul 16 | 2 | S | 3 | 1 | 2 | 2 | 4 | 2 | 1 | 2 | C | C | C | C | C | C | C | 5 | 3 | 1 | 1 | 3 | 3 | 3 | 1 | 5 | NA | | | | | | | | | |
| Jul 17 | S | 1 | 1 | 1 | 1 | 4 | 2 | 3 | 6 | 5 | 4 | 5 | 1 | 1 | 2 | 2 | 2 | 1 | 1 | 1 | 9 | 12 | 1 | S | 1 | 12 | 3.0 | | | | | | | | | |
| Jul 18 | 2 | 1 | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | S | 2 | 1 | 4 | 1.3 | | | | | | | | | |
| Jul 19 | 1 | 3 | 2 | 7 | 4 | 3 | 5 | 9 | 7 | 7 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | S | 2 | 3 | 1 | 9 | 2.8 | | | | | | | | | |
| Jul 20 | 2 | 2 | 1 | 1 | 3 | 3 | 3 | 4 | 4 | 7 | 6 | 4 | 2 | 3 | 2 | 2 | 3 | 5 | 9 | 6 | S | 4 | 2 | 2 | 1 | 9 | 3.5 | | | | | | | | | |
| Jul 21 | 2 | 3 | 2 | 3 | 3 | 2 | 6 | 6 | 6 | 7 | 2 | 1 | 5 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | S | 2 | 3 | 5 | 1 | 7 | 3.2 | | | | | | | | | |
| Jul 22 | 3 | 3 | 3 | 2 | 2 | 3 | 4 | 4 | 12 | 9 | 11 | 6 | 2 | 3 | 4 | 2 | 2 | 1 | S | 5 | 2 | 2 | 4 | 6 | 1 | 12 | 4.1 | | | | | | | | | |
| Jul 23 | 1 | 3 | 3 | 3 | 4 | 2 | 10 | 10 | 6 | 3 | 2 | 3 | 1 | 1 | 1 | 1 | S | 2 | 1 | 1 | 1 | 1 | 5 | 1 | 10 | 2.9 | | | | | | | | | | |
| Jul 24 | 2 | 4 | 2 | 3 | 3 | 2 | 2 | 3 | 2 | 1 | 4 | 3 | 4 | 4 | 3 | 2 | S | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 2.3 | | | | | | | | | |
| Jul 25 | 2 | 1 | 4 | 6 | 1 | 2 | 1 | 3 | 3 | 2 | 2 | 2 | 5 | 6 | 1 | S | 2 | 1 | 1 | 1 | 1 | 8 | 4 | 3 | 1 | 8 | 2.7 | | | | | | | | | |
| Jul 26 | 2 | 1 | 1 | 1 | 3 | 3 | 2 | 2 | 2 | 3 | 1 | 1 | 1 | 1 | S | 2 | 3 | 2 | 3 | 2 | 3 | 2 | 1 | 1 | 1 | 3 | 1.8 | | | | | | | | | |
| Jul 27 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 2 | 0 | 2 | 0.3 | | | | | | | | |
| Jul 28 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 2 | 6 | S | 3 | 1 | 6 | 3 | 3 | 2 | 5 | 3 | 4 | 2 | 2 | 1 | 6 | 2.5 | | | | | | | | | |
| Jul 29 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 4 | 2 | 1 | S | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 1.4 | | | | | | | | | |
| Jul 30 | 3 | 2 | 2 | 2 | 6 | 4 | 2 | 3 | 2 | 2 | S | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 8 | 14 | 14 | 8 | 1 | 1 | 14 | 3.5 | | | | | | | | | |
| Jul 31 | 3 | 11 | 4 | 3 | 1 | 1 | 2 | 8 | 6 | S | 3 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 11 | 2.5 | | | | | | | | | |
| Diurnal Maximum | 10 | 12 | 16 | 10 | 20 | 12 | 10 | 13 | 13 | 9 | 11 | 6 | 5 | 6 | 4 | 6 | 3 | 8 | 9 | 17 | 14 | 14 | 8 | 19 | | | | | | | | | | | | |
| Diurnal Average | 2.7 | 3.4 | 3.0 | 2.9 | 3.3 | 3.4 | 3.7 | 4.5 | 4.2 | 3.6 | 2.6 | 2.4 | 2.0 | 2.1 | 1.8 | 1.9 | 1.6 | 2.0 | 2.1 | 2.3 | 2.3 | 2.7 | 2.0 | 3.2 | | | | | | | | | | | | |
| C | Monthly Calibration | | | | | | | | | | | | S | | | | | | Daily Zero-Span Check | | | | | | Q | | | | | | Quality Assurance | | | | | |
| K | Collection Error | | | | | | | | | | | | ND | | | | | | No Data (Machine Not in Service) | | | | | | Y | | | | | | Routine Maintenance | | | | | |
| X | Invalid Data (Equipment Malfunction/Recovery) | | | | | | | | | | | | NRM | | | | | | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | | | | P | | | | | | Power Failure | | | | | |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

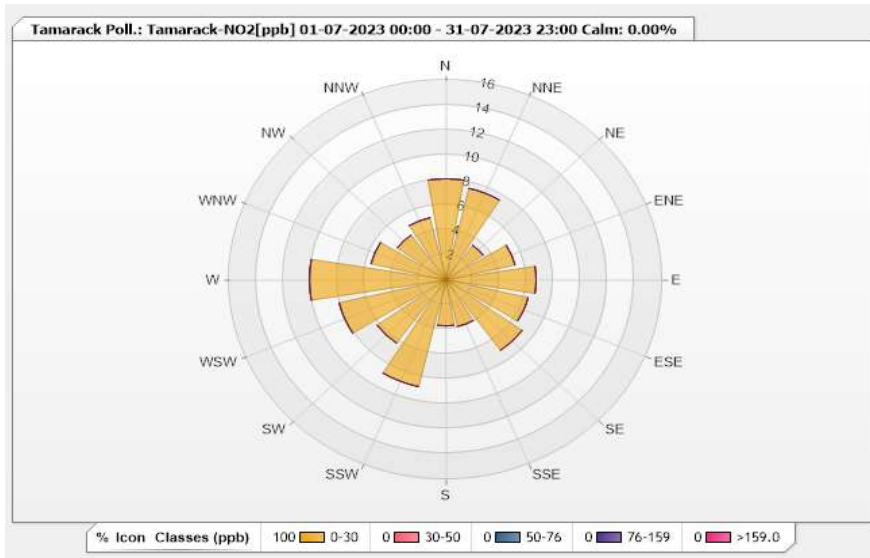


Station: Tamarack Poll.: Tamarack-NO2[ppb] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.76% Calm Avg: 0.00 [ppm]

| Direction | 0-30 | 30-50 | 50-76 | 76-159 | >159.0 | Total |
|-----------|-------|-------|-------|--------|--------|-------|
| N | 8.09 | 0 | 0 | 0 | 0 | 8.09 |
| NNE | 7.52 | 0 | 0 | 0 | 0 | 7.52 |
| NE | 3.4 | 0 | 0 | 0 | 0 | 3.4 |
| ENE | 5.25 | 0 | 0 | 0 | 0 | 5.25 |
| E | 6.67 | 0 | 0 | 0 | 0 | 6.67 |
| ESE | 6.24 | 0 | 0 | 0 | 0 | 6.24 |
| SE | 6.95 | 0 | 0 | 0 | 0 | 6.95 |
| SSE | 3.83 | 0 | 0 | 0 | 0 | 3.83 |
| S | 3.69 | 0 | 0 | 0 | 0 | 3.69 |
| SSW | 8.79 | 0 | 0 | 0 | 0 | 8.79 |
| SW | 6.24 | 0 | 0 | 0 | 0 | 6.24 |
| WSW | 8.09 | 0 | 0 | 0 | 0 | 8.09 |
| W | 10.07 | 0 | 0 | 0 | 0 | 10.07 |
| WNW | 5.67 | 0 | 0 | 0 | 0 | 5.67 |
| NW | 4.4 | 0 | 0 | 0 | 0 | 4.4 |
| NNW | 5.11 | 0 | 0 | 0 | 0 | 5.11 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |

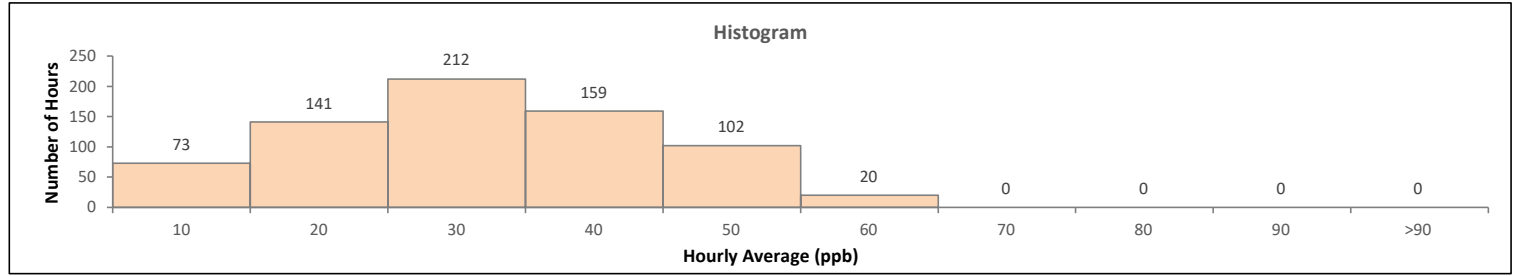
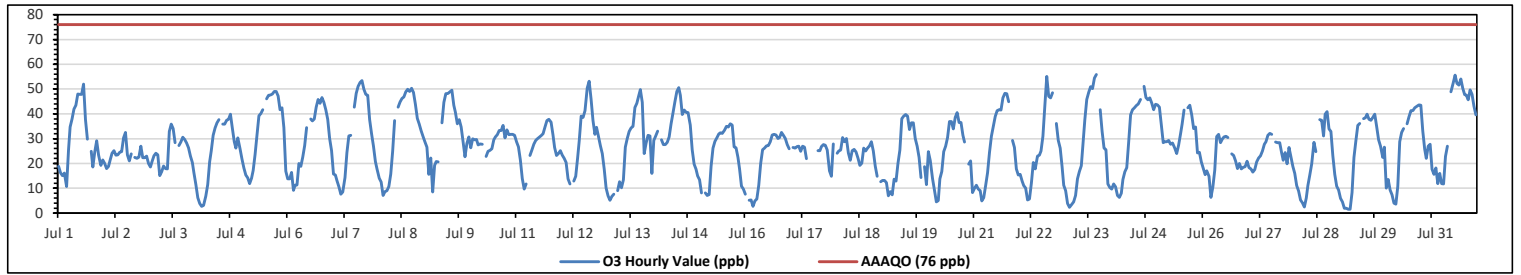


Lakeland Industry & Community Association

Tamarack Site - July 2023
 Summary of Hourly Averages
 OZONE (O₃) in ppb

| Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 76 ppb | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---------------------------------|------|------|------|------|------|------|------|------|------|-----------------------------|------|------|------|------|------|------|------|------|------|------|------|------|---------------|---------------|---------------|------|
| Number of 1-Hour Exceedances: | | | | | | | | | | | 0 | | | | | | | | | | | | | | | | |
| Maximum Hourly Value: | | | | | | | | | | | 55.9 ppb on Jul 23 at hr 16 | | | | | | | | | | | | | | | | |
| Maximum Daily Value: | | | | | | | | | | | 36.5 ppb on Jul 31 | | | | | | | | | | | | | | | | |
| Minimum Hourly Value: | | | | | | | | | | | 1.5 ppb on Jul 29 at hr 4 | | | | | | | | | | | | | | | | |
| Minimum Daily Value: | | | | | | | | | | | 20.2 ppb on Jul 28 | | | | | | | | | | | | | | | | |
| Monthly Average: | | | | | | | | | | | 27.1 ppb | | | | | | | | | | | | | | | | |
| Hours in Service: | | | | | | | | | | | 744 | | | | | | | | | | | | | | | | |
| Hours of Data: | | | | | | | | | | | 707 | | | | | | | | | | | | | | | | |
| Hours of Missing Data: | | | | | | | | | | | 0 | | | | | | | | | | | | | | | | |
| Hours of Calibration: | | | | | | | | | | | 37 | | | | | | | | | | | | | | | | |
| Operational Uptime: | | | | | | | | | | | 100.0 | | | | | | | | | | | | | | | | |
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | |
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 |
| Jul 1 | 18.9 | 16.2 | 15.1 | 16.1 | 10.7 | 25.4 | 34.7 | 37.9 | 41.9 | 43.5 | 48 | 47.8 | 47.8 | 51.9 | 37.6 | 29.8 | S | 24.9 | 18.5 | 24.6 | 29.2 | 23.3 | 19.2 | 21.5 | 10.7 | 51.9 | 29.8 |
| Jul 2 | 20 | 17.9 | 18.9 | 21.8 | 24.1 | 25.2 | 23.3 | 23.5 | 24.5 | 24.8 | 30.2 | 32.4 | 23.5 | 21.1 | 23.8 | S | 22.4 | 22 | 22.6 | 27 | 22.3 | 22.3 | 22.9 | 19.9 | 17.9 | 32.4 | 23.3 |
| Jul 3 | 18.5 | 20.8 | 23.1 | 24.1 | 23.5 | 15.1 | 16.6 | 19 | 17.9 | 17.8 | 32.8 | 35.9 | 34.1 | 28.4 | S | 27.2 | 28.6 | 30.6 | 29.7 | 28.2 | 26.3 | 22.9 | 20.4 | 16.1 | 15.1 | 35.9 | 24.2 |
| Jul 4 | 11.5 | 6.2 | 3.8 | 2.6 | 3 | 6.8 | 11.4 | 20.6 | 25 | 31.4 | 34.3 | 36.4 | 37.6 | S | 35.9 | 35.9 | 37.4 | 37.8 | 39.9 | 34.2 | 28.7 | 26.1 | 30.3 | 25.9 | 2.6 | 39.9 | 24.5 |
| Jul 5 | 21.7 | 18.2 | 15.3 | 14.2 | 11.8 | 14 | 17.2 | 23.6 | 31.5 | 39.2 | 40.1 | 41.7 | S | 46.1 | 47.4 | 47.6 | 48 | 49.1 | 49.1 | 47.2 | 41.7 | 42.4 | 34.4 | 16.9 | 11.8 | 49.1 | 33.0 |
| Jul 6 | 13.8 | 13.7 | 16.4 | 9.1 | 11.2 | 11.3 | 20 | 18.9 | 22.5 | 27.2 | 34.4 | S | 38 | 37.1 | 38 | 42.7 | 45.8 | 44.2 | 46.6 | 44.7 | 41.7 | 37.8 | 30.1 | 25.2 | 9.1 | 46.6 | 29.1 |
| Jul 7 | 15.7 | 15.3 | 13 | 10.6 | 7.6 | 8.5 | 14.3 | 24.4 | 31.1 | 31.4 | S | 42.7 | 48.3 | 51.1 | 52.7 | 53.4 | 49.9 | 47.9 | 47.4 | 37.7 | 32 | 26.9 | 20.7 | 17.8 | 7.6 | 53.4 | 30.5 |
| Jul 8 | 14.1 | 12.5 | 7.1 | 8.7 | 9 | 10.7 | 15.7 | 25 | 37.2 | S | 42.7 | 44.8 | 46.2 | 46.8 | 48.9 | 49.9 | 49 | 50.3 | 48.7 | 43.9 | 38.2 | 35.9 | 33.2 | 30.8 | 7.1 | 50.3 | 32.6 |
| Jul 9 | 28.6 | 26.6 | 15.5 | 22.1 | 8.5 | 19.3 | 20.7 | 20.6 | S | 36.4 | 44.7 | 48.1 | 48.2 | 48.9 | 49.5 | 43.4 | 40.7 | 36 | 37.7 | 34.7 | 28.8 | 22.7 | 28.1 | 30.7 | 8.5 | 49.5 | 32.2 |
| Jul 10 | 26.3 | 29.9 | 29.5 | 29.7 | 27.5 | 27.9 | 27.7 | S | 22.8 | 24.9 | 25.3 | 25.9 | 29.6 | 30.7 | 31.6 | 33.3 | 33.3 | 35.4 | 30.3 | 33.5 | 31.6 | 31.8 | 31.7 | 31.3 | 22.8 | 35.4 | 29.6 |
| Jul 11 | 28.7 | 26.7 | 21.5 | 13.9 | 9.7 | 11.7 | S | 23.2 | 25.4 | 27.8 | 29.3 | 30 | 30.6 | 31.2 | 32 | 34.7 | 37.2 | 37.8 | 36.6 | 31.5 | 26.4 | 23.2 | 24 | 25.1 | 9.7 | 37.8 | 26.9 |
| Jul 12 | 23.4 | 22 | 20.4 | 13.8 | 11.7 | S | 12.9 | 14.9 | 22.3 | 29.2 | 39 | 38.6 | 41.2 | 50.5 | 53.2 | 45.9 | 37.2 | 31.7 | 34.5 | 31 | 27.2 | 23.9 | 17.7 | 10 | 53.2 | 28.4 | |
| Jul 13 | 6.9 | 5.1 | 6.7 | 7.6 | S | 9 | 12.7 | 10.2 | 13.3 | 26.6 | 30.1 | 32.9 | 34.3 | 34.9 | 42.6 | 44.2 | 46.9 | 49.8 | 44.7 | 23.9 | 28.2 | 31.4 | 31.1 | 16 | 5.1 | 49.8 | 25.6 |
| Jul 14 | 29.3 | 31.1 | 33 | S | 29.6 | 27.6 | 27.6 | 28.5 | 30.7 | 36 | 40.4 | 45 | 49 | 50.6 | 47.5 | 39.7 | 41.5 | 40.7 | 40.6 | 35.5 | 25.6 | 19.7 | 17.6 | 15 | 15.0 | 50.6 | 34.0 |
| Jul 15 | 13.3 | 8.1 | S | 8.1 | 7.1 | 7.5 | 18.9 | 26.2 | 28.9 | 30.3 | 31.9 | 32.3 | 32.2 | 33.4 | 34.9 | 34.7 | 36 | 35.5 | 27.2 | 26.3 | 22.4 | 17.7 | 10.8 | 9.6 | 7.1 | 36.0 | 23.2 |
| Jul 16 | 7.6 | S | 5.1 | 5.3 | 2.7 | 4.9 | 5.7 | 11.2 | 20 | 25.5 | 26.2 | 27.1 | 27.2 | 28.7 | 31.5 | 31.7 | 31.5 | 30.1 | 30.4 | 32.4 | 31.4 | 30.1 | 27.6 | 25.9 | 2.7 | 32.4 | 21.7 |
| Jul 17 | S | 26.4 | 26.2 | 26.8 | 27 | 24.9 | 27 | 26.6 | 21.9 | C | C | C | C | C | 25.2 | 25.1 | 26.8 | 27.6 | 27.4 | 25.4 | 17 | 14.9 | 27.9 | S | 14.9 | 27.9 | NA |
| Jul 18 | 24.1 | 25 | 25.4 | 30.4 | 28.8 | 30.1 | 24.2 | 21.3 | 25.2 | 25.7 | 24.6 | 22.2 | 19.3 | 20.1 | 26.2 | 25 | 26.2 | 27.1 | 28.8 | 25 | 19 | 14.9 | S | 12.6 | 12.6 | 30.4 | 24.0 |
| Jul 19 | 13.1 | 13.1 | 12.2 | 6.9 | 8.7 | 7.3 | 13.6 | 12.9 | 19.9 | 25.4 | 38.1 | 39.1 | 39.7 | 39.1 | 33.7 | 36.4 | 36.4 | 30.1 | 26.9 | 22.4 | 14.3 | S | 18.7 | 11.4 | 6.9 | 39.7 | 22.6 |
| Jul 20 | 24.8 | 21.2 | 13.9 | 9.3 | 4.5 | 5 | 13.7 | 16.8 | 24.8 | 26.9 | 30.4 | 36.9 | 36.9 | 33.9 | 38.6 | 40.6 | 36.5 | 36.5 | 31.4 | 28.6 | S | 19.7 | 21.1 | 8.2 | 4.5 | 40.6 | 24.4 |
| Jul 21 | 9.9 | 11.1 | 9.7 | 9 | 4.9 | 6.2 | 11 | 16.3 | 24.3 | 31 | 34.9 | 38.9 | 41.2 | 41.6 | 41.5 | 46.4 | 48.2 | 48.1 | 45 | S | 29.3 | 26.4 | 17.7 | 15.3 | 4.9 | 48.2 | 26.4 |
| Jul 22 | 15.6 | 12.9 | 11 | 10.1 | 5.3 | 5.6 | 12.1 | 20.3 | 17.7 | 22.9 | 23.4 | 25 | 31 | 43.2 | 55.1 | 47.1 | 46.5 | 48.5 | S | 36.2 | 29.3 | 26.1 | 18.5 | 11.2 | 5.3 | 55.1 | 25.0 |
| Jul 23 | 8.9 | 3.9 | 2.3 | 3.5 | 4.5 | 7.1 | 13.8 | 16.8 | 19.1 | 27.5 | 37.7 | 45.8 | 48.7 | 51 | 50.2 | 54.4 | 55.9 | S | 41.7 | 32.9 | 26.1 | 25.6 | 11.7 | 10.3 | 2.3 | 55.9 | 26.1 |
| Jul 24 | 9.7 | 11.7 | 10.6 | 7 | 6.3 | 8 | 13.5 | 16.7 | 18.3 | 28.6 | 39.6 | 41.7 | 42.5 | 43.3 | 44 | 45.8 | S | 51.1 | 46.6 | 45.6 | 46.5 | 44.4 | 41.7 | 43.9 | 6.3 | 51.1 | 30.7 |
| Jul 25 | 43.6 | 42.7 | 35.6 | 28.3 | 28.7 | 28.8 | 29.3 | 27.7 | 28.2 | 26.2 | 24 | 27.4 | 31.9 | 35.9 | 41.5 | S | 42.5 | 43.4 | 39.6 | 34.1 | 34.6 | 24.2 | 24.5 | 20.6 | 20.6 | 43.6 | 32.3 |
| Jul 26 | 18 | 15.4 | 17.1 | 14.9 | 6.3 | 10.5 | 17.3 | 30.8 | 31.7 | 28.4 | 29.9 | 30.7 | 30.9 | 30.4 | S | 23.8 | 23.2 | 21 | 17.9 | 19.9 | 17.8 | 18.4 | 18.7 | 20.9 | 6.3 | 31.7 | 21.5 |
| Jul 27 | 18.3 | 17.8 | 16.5 | 17.5 | 20.6 | 22.1 | 23.1 | 25 | 27.8 | 28.7 | 31.3 | 32.2 | 31.7 | S | 28.6 | 28.4 | 28.4 | 24.2 | 21.3 | 24.3 | 19.8 | 26.4 | 22.7 | 18.8 | 16.5 | 32.2 | 24.2 |
| Jul 28 | 15.9 | 11 | 8.8 | 5.3 | 4.1 | 2.4 | 6.1 | 11 | 15.3 | 19.8 | 28.5 | 24.7 | S | 37.6 | 37.4 | 31.1 | 39.9 | 40.8 | 34 | 32.8 | 23.1 | 15.5 | 10.8 | 9.3 | 2.4 | 40.8 | 20.2 |
| Jul 29 | 5.9 | 4.5 | 1.9 | 1.9 | 1.5 | 1.5 | 8.2 | 22.4 | 29.1 | 35.3 | 36.2 | S | 38.1 | 38.5 | 39.8 | 37.8 | 37.4 | 38.6 | 39.9 | 34.8 | 29.6 | 27 | 22.4 | 26.6 | 1.5 | 39.9 | 24.3 |
| Jul 30 | 10 | 13.5 | 9.3 | 7.3 | 4 | 3.6 | 10.9 | 28.8 | 32.5 | 34.1 | S | 36 | 38.8 | 41.3 | 41.3 | 42.5 | 43 | 43.6 | 43.4 | 33.2 | 25.8 | 22 | 27 | 27.7 | 3.6 | 43.6 | 26.9 |
| Jul 31 | 17.6 | 15.5 | 18.2 | 11.9 | 16 | 11.8 | 11.7 | 22.8 | 26.9 | S | 48.9 | 52.4 | 55.7 | 52.2 | 51.6 | 54 | 50.3 | 47.7 | 47.6 | 45.7 | 49.7 | 47.9 | 43 | 39.6 | 11.7 | 55.7 | 36.5 |
| Diurnal Maximum | 43.6 | 42.7 | 35.6 | 30.4 | 29.6 | 30.1 | 34.7 | 37.9 | 41.9 | 43.5 | 48.9 | 52.4 | 55.7 | 52.2 | 55.1 | 54.4 | 55.9 | 51.1 | 49.1 | 47.2 | 49.7 | 47.9 | 43.0 | 43.9 | | | |
| Diurnal Average | 17.8 | 17.2 | 15.4 | 13.3 | 12.3 | 13.3 | 17.2 | 21.5 | 25.3 | 29.0 | 34.2 | 36.2 | 37.7 | 39.3 | 40.1 | 39.1 | 38.8 | 37.7 | 35.9 | 32.6 | 28.8 | 26.4 | 24.2 | 20.5 | | | |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

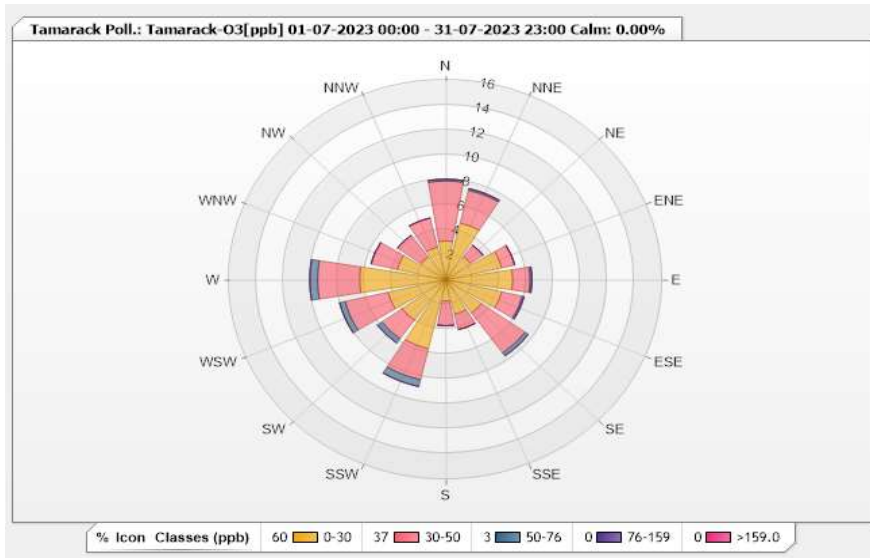


Station: Tamarack Poll.: Tamarack-O3[ppb] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 95.03% Calm Avg: 0.00 [ppm]

| Direction | 0-30 | 30-50 | 50-76 | 76-159 | >159.0 | Total |
|-----------|-------|-------|-------|--------|--------|-------|
| N | 3.11 | 4.81 | 0.14 | 0 | 0 | 8.06 |
| NNE | 4.67 | 2.69 | 0.14 | 0 | 0 | 7.5 |
| NE | 2.26 | 1.13 | 0 | 0 | 0 | 3.39 |
| ENE | 4.24 | 0.99 | 0 | 0 | 0 | 5.23 |
| E | 4.95 | 1.27 | 0.14 | 0 | 0 | 6.36 |
| ESE | 4.24 | 1.56 | 0.14 | 0 | 0 | 5.94 |
| SE | 3.25 | 3.96 | 0.28 | 0 | 0 | 7.49 |
| SSE | 2.83 | 1.27 | 0 | 0 | 0 | 4.1 |
| S | 1.7 | 1.98 | 0 | 0 | 0 | 3.68 |
| SSW | 5.66 | 2.55 | 0.57 | 0 | 0 | 8.78 |
| SW | 3.96 | 1.84 | 0.42 | 0 | 0 | 6.22 |
| WSW | 4.38 | 3.25 | 0.42 | 0 | 0 | 8.05 |
| W | 6.36 | 3.11 | 0.57 | 0 | 0 | 10.04 |
| WNW | 3.68 | 1.98 | 0 | 0 | 0 | 5.66 |
| NW | 2.26 | 2.12 | 0 | 0 | 0 | 4.38 |
| NNW | 2.69 | 2.4 | 0 | 0 | 0 | 5.09 |
| Summary | 60.24 | 36.91 | 2.82 | 0 | 0 | 100 |



Lakeland Industry & Community Association
Tamarack Site - July 2023
Summary of Hourly Averages

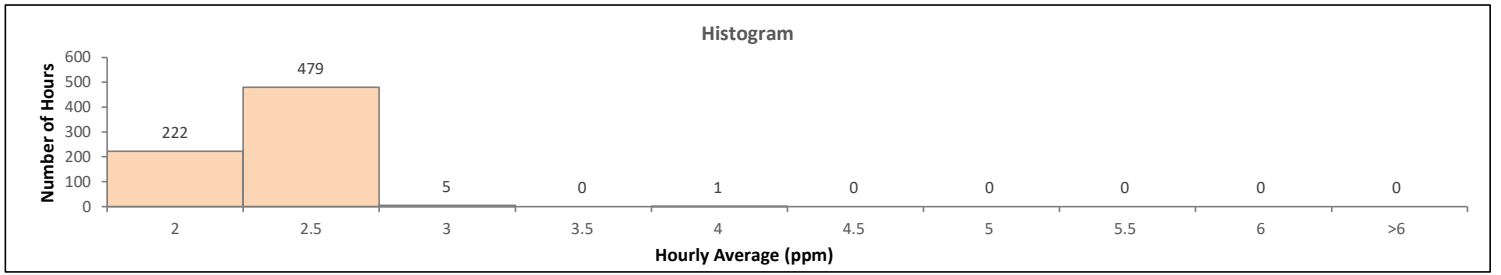
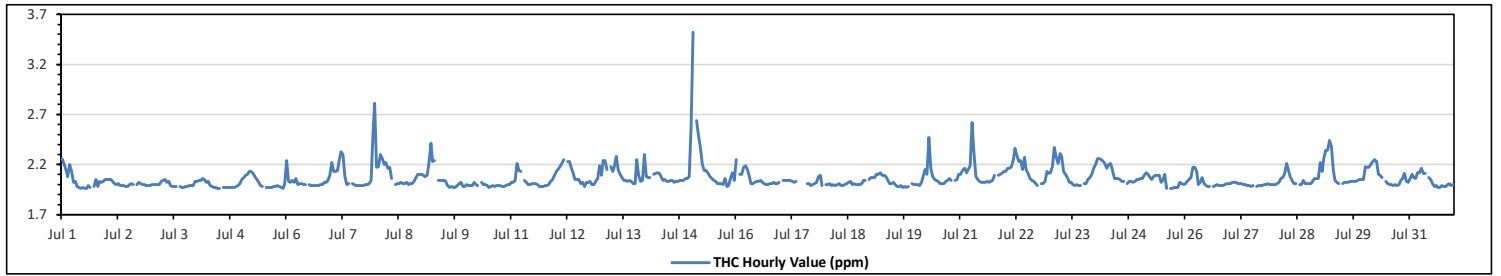
TOTAL HYDROCARBONS (THC) in ppm

| | | | | | |
|-----------------------|------|-----|-------------------|------------------------|-------|
| Maximum Hourly Value: | 3.52 | ppm | on Jul 15 at hr 1 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.20 | ppm | on Jul 15 | Hours of Data: | 707 |
| Minimum Hourly Value: | 1.96 | ppm | on Jul 1 at hr 10 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 1.99 | ppm | on Jul 10 | Hours of Calibration: | 37 |
| Monthly Average: | 2.06 | ppm | | Operational Uptime: | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | | |
|-----------------|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------|---------------|---------------|------|------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 | |
| Jul 1 | 2.26 | 2.21 | 2.15 | 2.08 | 2.20 | 2.13 | 2.02 | 2.03 | 1.98 | 1.97 | 1.96 | 1.97 | 1.96 | 1.96 | 1.99 | 1.97 | S | 1.98 | 2.05 | 1.98 | 2.03 | 2.02 | 2.03 | 2.05 | 1.96 | 2.26 | 2.04 | |
| Jul 2 | 2.05 | 2.05 | 2.05 | 2.03 | 2.01 | 2.00 | 2.01 | 1.99 | 1.99 | 1.99 | 1.98 | 1.98 | 2.00 | 2.01 | 2.00 | S | 2.00 | 2.02 | 2.01 | 2.00 | 2.00 | 1.99 | 1.99 | 1.99 | 1.99 | 1.98 | 2.05 | 2.01 |
| Jul 3 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.03 | 2.04 | 2.05 | 2.02 | 2.03 | 1.99 | 1.98 | 1.98 | 1.98 | S | 1.98 | 1.97 | 1.97 | 1.98 | 1.98 | 1.99 | 1.99 | 1.99 | 2.03 | 1.97 | 2.05 | 2.00 | |
| Jul 4 | 2.03 | 2.04 | 2.04 | 2.06 | 2.05 | 2.02 | 2.03 | 1.99 | 1.98 | 1.97 | 1.97 | 1.96 | 1.96 | S | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.98 | 1.99 | 2.01 | 1.96 | 2.06 | 1.99 | |
| Jul 5 | 2.05 | 2.07 | 2.09 | 2.10 | 2.13 | 2.13 | 2.11 | 2.08 | 2.05 | 2.02 | 1.99 | 1.98 | S | 1.97 | 1.97 | 1.97 | 1.97 | 1.98 | 1.98 | 1.99 | 1.98 | 1.97 | 1.96 | 2.01 | 1.96 | 2.13 | 2.02 | |
| Jul 6 | 2.24 | 2.03 | 2.02 | 2.04 | 2.02 | 2.06 | 2.00 | 2.01 | 2.01 | 2.00 | 2.00 | S | 2.00 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | 2.00 | 2.02 | 2.02 | 2.04 | 2.09 | 1.99 | 2.24 | 2.02 |
| Jul 7 | 2.22 | 2.13 | 2.13 | 2.14 | 2.24 | 2.33 | 2.30 | 2.08 | 2.00 | 2.01 | S | 2.01 | 2.00 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | 2.01 | 2.04 | 2.52 | 2.81 | 1.99 | 2.81 | 2.13 | |
| Jul 8 | 2.17 | 2.18 | 2.30 | 2.26 | 2.20 | 2.22 | 2.16 | 2.17 | 2.06 | S | 2.00 | 2.01 | 2.01 | 2.02 | 2.01 | 2.01 | 2.02 | 2.00 | 2.01 | 2.01 | 2.03 | 2.07 | 2.10 | 2.10 | 2.00 | 2.30 | 2.09 | |
| Jul 9 | 2.10 | 2.09 | 2.08 | 2.09 | 2.22 | 2.41 | 2.23 | 2.24 | S | 2.04 | 2.04 | 2.04 | 2.04 | 2.03 | 1.99 | 1.97 | 1.98 | 1.97 | 1.97 | 1.97 | 1.99 | 2.01 | 2.02 | 1.98 | 1.97 | 2.41 | 2.07 | |
| Jul 10 | 2.00 | 1.99 | 1.99 | 1.99 | 2.02 | 2.00 | 1.99 | S | 2.02 | 2.00 | 2.00 | 1.99 | 1.97 | 1.98 | 1.99 | 1.98 | 1.99 | 1.99 | 1.99 | 1.98 | 1.98 | 1.99 | 2.00 | 2.00 | 1.97 | 2.02 | 1.99 | |
| Jul 11 | 2.02 | 2.02 | 2.04 | 2.21 | 2.14 | 2.13 | S | 2.04 | 2.02 | 2.00 | 2.00 | 2.01 | 2.01 | 2.01 | 2.00 | 1.98 | 1.98 | 1.98 | 1.99 | 1.99 | 2.00 | 2.03 | 2.05 | 2.09 | 1.98 | 2.21 | 2.03 | |
| Jul 12 | 2.13 | 2.15 | 2.18 | 2.21 | 2.25 | S | 2.23 | 2.23 | 2.17 | 2.12 | 2.05 | 2.05 | 2.05 | 2.01 | 2.02 | 1.98 | 2.02 | 2.02 | 2.02 | 2.03 | 2.00 | 2.00 | 2.03 | 2.06 | 2.19 | 1.98 | 2.25 | 2.09 |
| Jul 13 | 2.09 | 2.24 | 2.24 | 2.15 | S | 2.18 | 2.13 | 2.18 | 2.28 | 2.15 | 2.10 | 2.07 | 2.04 | 2.04 | 2.03 | 2.04 | 2.03 | 2.01 | 2.01 | 2.25 | 2.09 | 2.03 | 2.04 | 2.30 | 2.01 | 2.30 | 2.12 | |
| Jul 14 | 2.08 | 2.07 | 2.07 | S | 2.10 | 2.11 | 2.12 | 2.11 | 2.08 | 2.04 | 2.05 | 2.03 | 2.03 | 2.04 | 2.04 | 2.02 | 2.03 | 2.03 | 2.04 | 2.04 | 2.04 | 2.06 | 2.06 | 2.08 | 2.02 | 2.12 | 2.06 | |
| Jul 15 | 2.58 | 3.52 | S | 2.64 | 2.49 | 2.37 | 2.20 | 2.14 | 2.14 | 2.11 | 2.08 | 2.06 | 2.04 | 2.03 | 2.01 | 2.01 | 2.01 | 2.00 | 2.06 | 1.98 | 1.99 | 2.06 | 2.12 | 2.04 | 1.98 | 3.52 | 2.20 | |
| Jul 16 | 2.25 | S | 2.10 | 2.10 | 2.17 | 2.19 | 2.15 | 2.08 | 2.01 | 2.01 | 2.02 | 2.03 | 2.03 | 2.04 | 2.02 | 2.01 | 2.00 | 2.00 | 2.01 | 2.01 | 2.02 | 2.01 | 2.01 | 2.02 | 2.00 | 2.25 | 2.06 | |
| Jul 17 | S | 2.04 | 2.04 | 2.04 | 2.04 | 2.04 | 2.03 | 2.02 | 2.03 | C | C | C | C | C | C | 2.01 | 2.01 | 1.99 | 2.00 | 2.01 | 2.02 | 2.08 | 2.09 | 1.99 | S | 1.99 | 2.09 | NA |
| Jul 18 | 2.00 | 2.00 | 2.01 | 1.99 | 2.00 | 1.99 | 2.00 | 2.01 | 1.99 | 1.99 | 2.00 | 2.01 | 2.02 | 2.03 | 2.00 | 2.01 | 2.00 | 2.00 | 2.00 | 2.01 | 2.04 | 2.04 | S | 2.05 | 1.99 | 2.05 | 2.01 | |
| Jul 19 | 2.07 | 2.07 | 2.07 | 2.10 | 2.10 | 2.12 | 2.09 | 2.09 | 2.08 | 2.04 | 2.01 | 2.01 | 2.02 | 2.00 | 1.98 | 1.98 | 1.98 | 1.99 | 1.97 | 1.98 | 1.97 | S | 2.01 | 2.00 | 1.97 | 2.12 | 2.03 | |
| Jul 20 | 2.00 | 2.00 | 1.99 | 2.02 | 2.08 | 2.15 | 2.10 | 2.47 | 2.16 | 2.08 | 2.05 | 2.04 | 2.03 | 2.01 | 2.01 | 2.01 | 2.03 | 2.04 | 2.06 | 2.04 | S | 2.04 | 2.05 | 2.10 | 1.99 | 2.47 | 2.07 | |
| Jul 21 | 2.10 | 2.14 | 2.16 | 2.12 | 2.15 | 2.19 | 2.62 | 2.31 | 2.08 | 2.05 | 2.03 | 2.02 | 2.02 | 2.02 | 2.03 | 2.02 | 2.03 | 2.04 | 2.09 | S | 2.09 | 2.10 | 2.11 | 2.13 | 2.02 | 2.62 | 2.12 | |
| Jul 22 | 2.13 | 2.16 | 2.16 | 2.18 | 2.25 | 2.36 | 2.29 | 2.23 | 2.24 | 2.15 | 2.27 | 2.15 | 2.11 | 2.06 | 2.04 | 2.03 | 2.01 | 1.99 | S | 2.01 | 2.01 | 2.03 | 2.13 | 2.11 | 1.99 | 2.36 | 2.13 | |
| Jul 23 | 2.12 | 2.18 | 2.37 | 2.27 | 2.21 | 2.31 | 2.28 | 2.13 | 2.10 | 2.07 | 2.02 | 2.00 | 1.99 | 2.00 | 1.99 | 1.99 | 1.99 | S | 2.01 | 2.01 | 2.05 | 2.07 | 2.10 | 2.16 | 1.99 | 2.37 | 2.11 | |
| Jul 24 | 2.20 | 2.26 | 2.26 | 2.25 | 2.23 | 2.21 | 2.16 | 2.20 | 2.21 | 2.14 | 2.06 | 2.06 | 2.06 | 2.05 | 2.03 | 2.03 | S | 2.01 | 2.03 | 2.03 | 2.02 | 2.03 | 2.05 | 2.05 | 2.01 | 2.26 | 2.11 | |
| Jul 25 | 2.06 | 2.06 | 2.09 | 2.12 | 2.10 | 2.07 | 2.05 | 2.08 | 2.09 | 2.09 | 2.09 | 2.02 | 2.04 | 2.10 | 1.96 | S | 1.96 | 1.96 | 1.97 | 1.97 | 1.97 | 2.02 | 2.01 | 2.00 | 1.96 | 2.12 | 2.04 | |
| Jul 26 | 2.01 | 2.03 | 2.05 | 2.07 | 2.17 | 2.17 | 2.13 | 2.00 | 2.02 | 2.07 | 2.01 | 1.99 | 1.98 | 1.98 | S | 1.98 | 1.99 | 2.00 | 1.99 | 1.99 | 1.99 | 2.00 | 2.01 | 2.01 | 1.98 | 2.17 | 2.03 | |
| Jul 27 | 2.01 | 2.02 | 2.02 | 2.02 | 2.01 | 2.01 | 2.01 | 2.00 | 2.00 | 1.99 | 1.99 | 1.98 | 1.99 | S | 1.98 | 1.99 | 1.99 | 1.99 | 2.00 | 2.00 | 2.01 | 2.00 | 2.00 | 2.00 | 1.98 | 2.02 | 2.00 | |
| Jul 28 | 2.00 | 2.01 | 2.02 | 2.06 | 2.07 | 2.11 | 2.21 | 2.15 | 2.08 | 2.04 | 2.01 | 2.01 | S | 2.00 | 2.00 | 2.04 | 2.01 | 2.01 | 2.01 | 2.01 | 2.03 | 2.06 | 2.06 | 2.06 | 2.00 | 2.21 | 2.05 | |
| Jul 29 | 2.22 | 2.13 | 2.26 | 2.34 | 2.34 | 2.44 | 2.38 | 2.14 | 2.04 | 2.02 | 2.01 | S | 2.01 | 2.02 | 2.02 | 2.02 | 2.03 | 2.03 | 2.03 | 2.03 | 2.04 | 2.05 | 2.05 | 2.05 | 2.01 | 2.44 | 2.12 | |
| Jul 30 | 2.18 | 2.17 | 2.17 | 2.20 | 2.23 | 2.25 | 2.23 | 2.10 | 2.09 | 2.07 | S | 2.03 | 2.01 | 2.00 | 2.00 | 1.99 | 2.00 | 1.99 | 2.00 | 2.04 | 2.06 | 2.11 | 2.03 | 2.02 | 1.99 | 2.25 | 2.09 | |
| Jul 31 | 2.06 | 2.10 | 2.07 | 2.06 | 2.12 | 2.12 | 2.16 | 2.11 | 2.11 | S | 2.07 | 2.05 | 2.01 | 1.98 | 1.99 | 1.97 | 1.97 | 1.99 | 1.98 | 1.98 | 2.00 | 2.01 | 1.99 | 2.00 | 1.97 | 2.16 | 2.04 | |
| Diurnal Maximum | 2.58 | 3.52 | 2.37 | 2.64 | 2.49 | 2.44 | 2.62 | 2.47 | 2.28 | 2.15 | 2.27 | 2.15 | 2.11 | 2.10 | 2.04 | 2.04 | 2.03 | 2.04 | 2.09 | 2.25 | 2.09 | 2.11 | 2.52 | 2.81 | | | | |
| Diurnal Average | 2.11 | 2.14 | 2.11 | 2.13 | 2.14 | 2.16 | 2.15 | 2.12 | 2.07 | 2.05 | 2.03 | 2.02 | 2.02 | 2.01 | 2.00 | 2.00 | 2.00 | 2.00 | 2.01 | 2.01 | 2.02 | 2.03 | 2.05 | 2.08 | | | | |

| | | | | | |
|---|---|-----|---|---|---------------------|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance |
| K | Collection Error | ND | No Data (Machine Not in Service) | Y | Routine Maintenance |
| X | InValid Data (Equipment Malfunction/Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P | Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

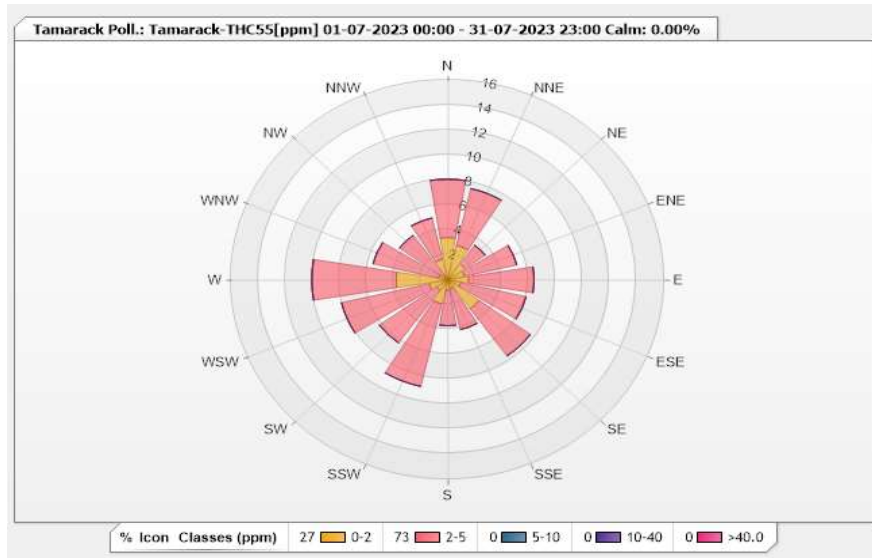


Station: Tamarack Poll.: Tamarack-THC55[ppm] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 95.03% Calm Avg: 0.00 [ppm]

| Direction | 0-2 | 2-5 | 5-10 | 10-40 | >40.0 | Total |
|-----------|-------|-------|------|-------|-------|-------|
| N | 3.39 | 4.67 | 0 | 0 | 0 | 8.06 |
| NNE | 2.83 | 4.67 | 0 | 0 | 0 | 7.5 |
| NE | 1.56 | 1.84 | 0 | 0 | 0 | 3.4 |
| ENE | 1.27 | 3.96 | 0 | 0 | 0 | 5.23 |
| E | 1.56 | 4.81 | 0 | 0 | 0 | 6.37 |
| ESE | 0.99 | 4.95 | 0 | 0 | 0 | 5.94 |
| SE | 2.83 | 4.67 | 0 | 0 | 0 | 7.5 |
| SSE | 0.71 | 3.39 | 0 | 0 | 0 | 4.1 |
| S | 0.85 | 2.83 | 0 | 0 | 0 | 3.68 |
| SSW | 1.98 | 6.79 | 0 | 0 | 0 | 8.77 |
| SW | 0.99 | 5.23 | 0 | 0 | 0 | 6.22 |
| WSW | 1.41 | 6.65 | 0 | 0 | 0 | 8.06 |
| W | 3.82 | 6.22 | 0 | 0 | 0 | 10.04 |
| WNW | 0.71 | 4.95 | 0 | 0 | 0 | 5.66 |
| NW | 0.28 | 4.1 | 0 | 0 | 0 | 4.38 |
| NNW | 1.7 | 3.39 | 0 | 0 | 0 | 5.09 |
| Summary | 26.88 | 73.12 | 0 | 0 | 0 | 100 |



Lakeland Industry & Community Association

Tamarack Site - July 2023 Summary of Hourly Averages

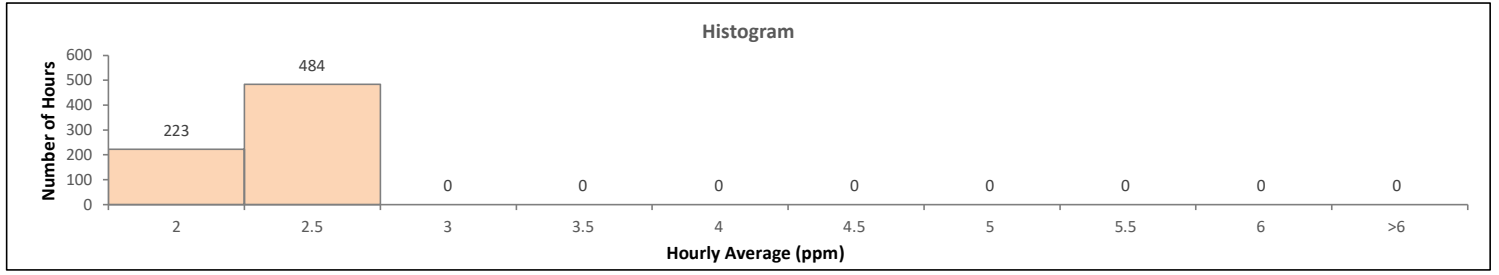
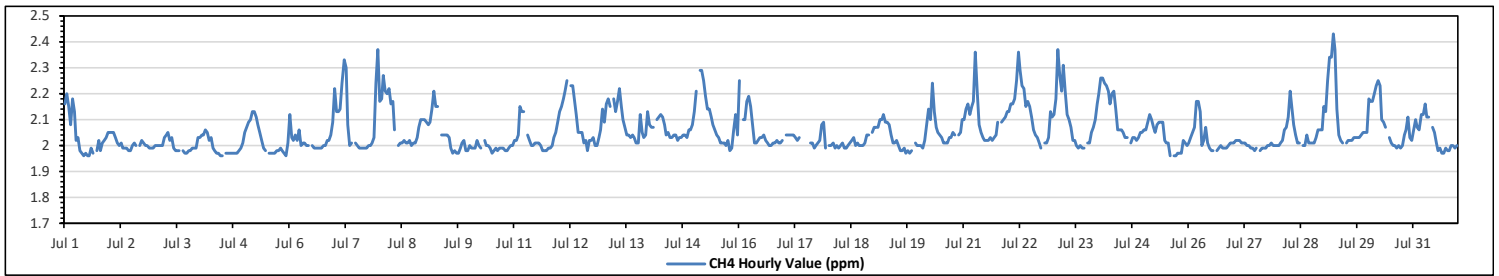
METHANE (CH4) in ppm

| | | | | | | | | | | | | | | | | |
|-----------------------|--|----------|-------------------|--|--|--|--|--|--|--|--|--|--|------------------------|--|-------|
| Maximum Hourly Value: | | 2.43 ppm | on Jul 29 at hr 5 | | | | | | | | | | | Hours in Service: | | 744 |
| Maximum Daily Value: | | 2.13 ppm | on Jul 22 | | | | | | | | | | | Hours of Data: | | 707 |
| Minimum Hourly Value: | | 1.96 ppm | on Jul 1 at hr 10 | | | | | | | | | | | Hours of Missing Data: | | 0 |
| Minimum Daily Value: | | 1.99 ppm | on Jul 10 | | | | | | | | | | | Hours of Calibration: | | 37 |
| Monthly Average: | | 2.05 ppm | | | | | | | | | | | | Operational Uptime: | | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | | |
|-----------------|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------|---------------|---------------|------|------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 | |
| Jul 1 | 2.16 | 2.20 | 2.15 | 2.08 | 2.18 | 2.13 | 2.02 | 2.03 | 1.98 | 1.97 | 1.96 | 1.97 | 1.96 | 1.96 | 1.99 | 1.97 | S | 1.98 | 2.02 | 1.98 | 2.01 | 2.02 | 2.03 | 2.05 | 1.96 | 2.20 | 2.03 | |
| Jul 2 | 2.05 | 2.05 | 2.05 | 2.03 | 2.01 | 2.00 | 2.01 | 1.99 | 1.99 | 1.99 | 1.98 | 1.98 | 2.00 | 2.01 | 2.00 | S | 2.00 | 2.02 | 2.01 | 2.00 | 2.00 | 1.99 | 1.99 | 1.99 | 1.99 | 1.98 | 2.05 | 2.01 |
| Jul 3 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.03 | 2.04 | 2.05 | 2.02 | 2.03 | 1.99 | 1.98 | 1.98 | 1.98 | S | 1.98 | 1.97 | 1.97 | 1.98 | 1.98 | 1.99 | 1.99 | 1.99 | 2.03 | 1.97 | 2.05 | 2.00 | |
| Jul 4 | 2.03 | 2.04 | 2.04 | 2.06 | 2.05 | 2.02 | 2.03 | 1.99 | 1.98 | 1.97 | 1.97 | 1.96 | 1.96 | S | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.98 | 1.99 | 2.01 | 1.96 | 2.06 | 1.99 | |
| Jul 5 | 2.05 | 2.07 | 2.09 | 2.10 | 2.13 | 2.13 | 2.11 | 2.08 | 2.05 | 2.02 | 1.99 | 1.98 | S | 1.97 | 1.97 | 1.97 | 1.97 | 1.98 | 1.98 | 1.99 | 1.98 | 1.97 | 1.96 | 2.01 | 1.96 | 2.13 | 2.02 | |
| Jul 6 | 2.12 | 2.03 | 2.02 | 2.04 | 2.02 | 2.06 | 2.00 | 2.01 | 2.01 | 2.00 | 2.00 | S | 2.00 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | 2.00 | 2.02 | 2.02 | 2.04 | 2.09 | 1.99 | 2.12 | 2.02 |
| Jul 7 | 2.22 | 2.13 | 2.13 | 2.14 | 2.24 | 2.33 | 2.30 | 2.08 | 2.00 | 2.01 | S | 2.01 | 2.00 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | 2.01 | 2.03 | 2.24 | 2.37 | 1.99 | 2.37 | 2.10 | |
| Jul 8 | 2.17 | 2.18 | 2.27 | 2.21 | 2.20 | 2.22 | 2.16 | 2.17 | 2.06 | S | 2.00 | 2.01 | 2.01 | 2.02 | 2.01 | 2.01 | 2.02 | 2.00 | 2.01 | 2.01 | 2.03 | 2.07 | 2.10 | 2.10 | 2.00 | 2.27 | 2.09 | |
| Jul 9 | 2.10 | 2.09 | 2.08 | 2.09 | 2.14 | 2.21 | 2.15 | 2.15 | S | 2.04 | 2.04 | 2.04 | 2.04 | 2.03 | 1.99 | 1.97 | 1.98 | 1.97 | 1.97 | 1.99 | 2.01 | 2.02 | 1.98 | 1.98 | 1.97 | 2.21 | 2.05 | |
| Jul 10 | 2.00 | 1.99 | 1.99 | 1.99 | 2.02 | 2.00 | 1.99 | S | 2.02 | 2.00 | 2.00 | 1.99 | 1.97 | 1.98 | 1.99 | 1.98 | 1.99 | 1.99 | 1.99 | 1.98 | 1.98 | 1.99 | 2.00 | 2.00 | 1.97 | 2.02 | 1.99 | |
| Jul 11 | 2.02 | 2.02 | 2.04 | 2.15 | 2.13 | S | 2.04 | 2.02 | 2.00 | 2.00 | 2.01 | 2.01 | 2.01 | 2.00 | 1.98 | 1.98 | 1.98 | 1.99 | 1.99 | 2.00 | 2.03 | 2.05 | 2.00 | 1.98 | 1.98 | 2.15 | 2.03 | |
| Jul 12 | 2.13 | 2.15 | 2.18 | 2.21 | 2.25 | S | 2.23 | 2.23 | 2.17 | 2.12 | 2.05 | 2.05 | 2.05 | 2.01 | 2.02 | 1.98 | 2.02 | 2.02 | 2.02 | 2.03 | 2.00 | 2.00 | 2.03 | 2.06 | 2.14 | 1.98 | 2.25 | 2.09 |
| Jul 13 | 2.09 | 2.16 | 2.18 | 2.15 | S | 2.18 | 2.13 | 2.17 | 2.22 | 2.15 | 2.10 | 2.07 | 2.04 | 2.04 | 2.03 | 2.04 | 2.03 | 2.01 | 2.01 | 2.12 | 2.05 | 2.03 | 2.04 | 2.13 | 2.01 | 2.22 | 2.09 | |
| Jul 14 | 2.08 | 2.07 | 2.07 | S | 2.10 | 2.11 | 2.12 | 2.11 | 2.08 | 2.04 | 2.05 | 2.03 | 2.03 | 2.04 | 2.04 | 2.02 | 2.03 | 2.03 | 2.04 | 2.04 | 2.03 | 2.06 | 2.06 | 2.08 | 2.02 | 2.12 | 2.06 | |
| Jul 15 | 2.13 | 2.21 | S | 2.29 | 2.29 | 2.25 | 2.19 | 2.14 | 2.14 | 2.11 | 2.08 | 2.06 | 2.04 | 2.03 | 2.01 | 2.01 | 2.01 | 2.00 | 2.02 | 1.98 | 1.99 | 2.06 | 2.12 | 2.04 | 1.98 | 2.29 | 2.10 | |
| Jul 16 | 2.25 | S | 2.10 | 2.10 | 2.17 | 2.19 | 2.15 | 2.08 | 2.01 | 2.01 | 2.02 | 2.03 | 2.03 | 2.04 | 2.02 | 2.01 | 2.00 | 2.00 | 2.01 | 2.01 | 2.02 | 2.01 | 2.01 | 2.02 | 2.00 | 2.25 | 2.06 | |
| Jul 17 | S | 2.04 | 2.04 | 2.04 | 2.04 | 2.04 | 2.03 | 2.02 | 2.03 | C | C | C | C | C | C | 2.01 | 2.01 | 1.99 | 2.00 | 2.01 | 2.02 | 2.08 | 2.09 | 1.99 | S | 1.99 | 2.09 | NA |
| Jul 18 | 2.00 | 2.00 | 2.01 | 1.99 | 2.00 | 1.99 | 2.00 | 1.99 | 1.99 | 2.00 | 2.01 | 2.01 | 2.02 | 2.03 | 2.00 | 2.01 | 2.00 | 2.00 | 2.00 | 2.01 | 2.04 | 2.04 | S | 2.05 | 1.99 | 2.05 | 2.01 | |
| Jul 19 | 2.07 | 2.07 | 2.07 | 2.10 | 2.10 | 2.12 | 2.09 | 2.09 | 2.08 | 2.04 | 2.01 | 2.01 | 2.02 | 2.00 | 1.98 | 1.98 | 1.99 | 1.97 | 1.98 | 1.97 | 1.98 | S | 2.01 | 2.00 | 1.97 | 2.12 | 2.03 | |
| Jul 20 | 2.00 | 2.00 | 1.99 | 2.02 | 2.08 | 2.14 | 2.10 | 2.24 | 2.13 | 2.07 | 2.05 | 2.04 | 2.03 | 2.01 | 2.01 | 2.01 | 2.03 | 2.03 | 2.05 | 2.04 | S | 2.04 | 2.05 | 2.10 | 1.99 | 2.24 | 2.05 | |
| Jul 21 | 2.10 | 2.14 | 2.16 | 2.12 | 2.15 | 2.17 | 2.36 | 2.21 | 2.08 | 2.05 | 2.03 | 2.02 | 2.02 | 2.02 | 2.03 | 2.02 | 2.03 | 2.04 | 2.09 | S | 2.09 | 2.10 | 2.11 | 2.13 | 2.02 | 2.36 | 2.10 | |
| Jul 22 | 2.13 | 2.16 | 2.16 | 2.18 | 2.25 | 2.36 | 2.29 | 2.23 | 2.22 | 2.15 | 2.17 | 2.15 | 2.11 | 2.06 | 2.04 | 2.03 | 2.01 | 1.99 | S | 2.01 | 2.01 | 2.03 | 2.13 | 2.11 | 1.99 | 2.36 | 2.13 | |
| Jul 23 | 2.12 | 2.18 | 2.37 | 2.27 | 2.21 | 2.31 | 2.21 | 2.12 | 2.10 | 2.07 | 2.02 | 2.02 | 2.00 | 1.99 | 2.00 | 1.99 | 1.99 | S | 2.01 | 2.01 | 2.05 | 2.07 | 2.10 | 2.16 | 1.99 | 2.37 | 2.10 | |
| Jul 24 | 2.20 | 2.26 | 2.26 | 2.24 | 2.23 | 2.21 | 2.16 | 2.20 | 2.21 | 2.14 | 2.06 | 2.06 | 2.06 | 2.05 | 2.03 | 2.03 | S | 2.01 | 2.03 | 2.03 | 2.02 | 2.03 | 2.05 | 2.05 | 2.01 | 2.26 | 2.11 | |
| Jul 25 | 2.06 | 2.06 | 2.09 | 2.12 | 2.10 | 2.07 | 2.05 | 2.08 | 2.09 | 2.09 | 2.09 | 2.02 | 2.01 | 2.01 | 1.96 | S | 1.96 | 1.96 | 1.97 | 1.97 | 1.97 | 1.97 | 2.01 | 2.00 | 1.96 | 2.12 | 2.03 | |
| Jul 26 | 2.01 | 2.03 | 2.05 | 2.07 | 2.17 | 2.17 | 2.13 | 2.00 | 2.02 | 2.07 | 2.01 | 1.99 | 1.98 | 1.98 | S | 1.98 | 1.99 | 2.00 | 1.99 | 1.99 | 1.99 | 2.00 | 2.01 | 2.01 | 1.98 | 2.17 | 2.03 | |
| Jul 27 | 2.01 | 2.02 | 2.02 | 2.02 | 2.01 | 2.01 | 2.01 | 2.00 | 2.00 | 1.99 | 1.99 | 1.98 | 1.99 | S | 1.98 | 1.99 | 1.99 | 1.99 | 2.00 | 2.00 | 2.01 | 2.00 | 2.00 | 2.00 | 1.98 | 2.02 | 2.00 | |
| Jul 28 | 2.00 | 2.01 | 2.02 | 2.06 | 2.07 | 2.11 | 2.21 | 2.15 | 2.08 | 2.04 | 2.01 | 2.01 | S | 2.00 | 2.00 | 2.04 | 2.01 | 2.01 | 2.01 | 2.01 | 2.03 | 2.06 | 2.06 | 2.06 | 2.00 | 2.21 | 2.05 | |
| Jul 29 | 2.15 | 2.13 | 2.25 | 2.34 | 2.34 | 2.43 | 2.37 | 2.14 | 2.04 | 2.02 | 2.01 | S | 2.01 | 2.02 | 2.02 | 2.02 | 2.03 | 2.03 | 2.03 | 2.03 | 2.04 | 2.05 | 2.05 | 2.05 | 2.01 | 2.43 | 2.11 | |
| Jul 30 | 2.18 | 2.17 | 2.17 | 2.20 | 2.23 | 2.25 | 2.23 | 2.10 | 2.09 | 2.07 | S | 2.03 | 2.01 | 2.00 | 2.00 | 1.99 | 2.00 | 1.99 | 2.00 | 2.04 | 2.06 | 2.11 | 2.03 | 2.02 | 1.99 | 2.25 | 2.09 | |
| Jul 31 | 2.06 | 2.10 | 2.07 | 2.06 | 2.12 | 2.12 | 2.16 | 2.11 | 2.11 | S | 2.07 | 2.05 | 2.01 | 1.98 | 1.99 | 1.97 | 1.97 | 1.99 | 1.98 | 1.98 | 2.00 | 2.00 | 1.99 | 2.00 | 1.97 | 2.16 | 2.04 | |
| Diurnal Maximum | 2.25 | 2.26 | 2.37 | 2.34 | 2.34 | 2.43 | 2.37 | 2.24 | 2.22 | 2.15 | 2.17 | 2.15 | 2.11 | 2.06 | 2.04 | 2.04 | 2.03 | 2.04 | 2.09 | 2.12 | 2.09 | 2.11 | 2.24 | 2.37 | | | | |
| Diurnal Average | 2.09 | 2.09 | 2.10 | 2.12 | 2.13 | 2.15 | 2.10 | 2.07 | 2.04 | 2.03 | 2.02 | 2.01 | 2.01 | 2.01 | 2.00 | 2.00 | 2.00 | 2.00 | 2.01 | 2.01 | 2.02 | 2.03 | 2.04 | 2.06 | | | | |

| | | |
|--|---|-----------------------|
| C Monthly Calibration | S Daily Zero-Span Check | Q Quality Assurance |
| K Collection Error | ND No Data (Machine Not in Service) | Y Routine Maintenance |
| X InValid Data (Equipment Malfunction /Recovery) | NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

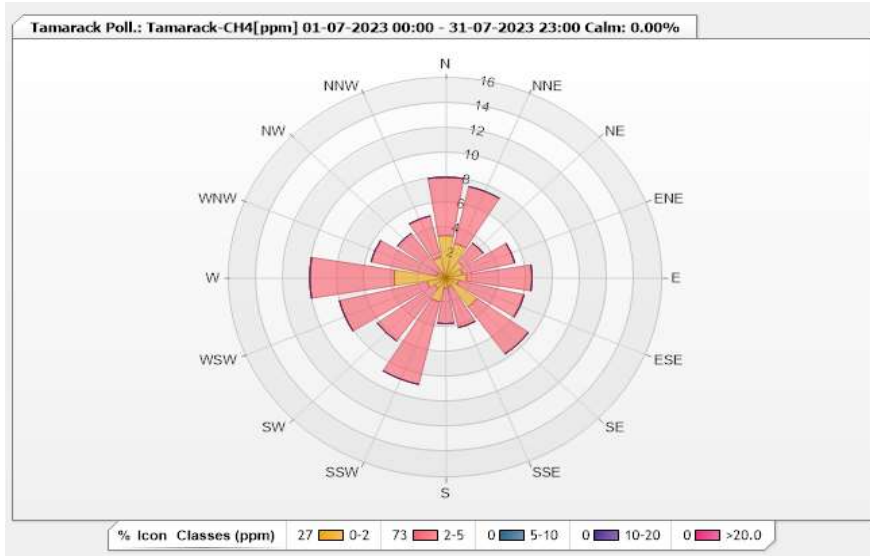


Station: Tamarack Poll.: Tamarack-CH4[ppm] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 95.03% Calm Avg: 0.00 [ppm]

| Direction | 0-2 | 2-5 | 5-10 | 10-20 | >20.0 | Total |
|-----------|-------|-------|------|-------|-------|-------|
| N | 3.39 | 4.67 | 0 | 0 | 0 | 8.06 |
| NNE | 2.83 | 4.67 | 0 | 0 | 0 | 7.5 |
| NE | 1.56 | 1.84 | 0 | 0 | 0 | 3.4 |
| ENE | 1.27 | 3.96 | 0 | 0 | 0 | 5.23 |
| E | 1.56 | 4.81 | 0 | 0 | 0 | 6.37 |
| ESE | 0.99 | 4.95 | 0 | 0 | 0 | 5.94 |
| SE | 2.83 | 4.67 | 0 | 0 | 0 | 7.5 |
| SSE | 0.71 | 3.39 | 0 | 0 | 0 | 4.1 |
| S | 0.85 | 2.83 | 0 | 0 | 0 | 3.68 |
| SSW | 1.98 | 6.79 | 0 | 0 | 0 | 8.77 |
| SW | 0.99 | 5.23 | 0 | 0 | 0 | 6.22 |
| WSW | 1.41 | 6.65 | 0 | 0 | 0 | 8.06 |
| W | 3.82 | 6.22 | 0 | 0 | 0 | 10.04 |
| WNW | 0.71 | 4.95 | 0 | 0 | 0 | 5.66 |
| NW | 0.28 | 4.1 | 0 | 0 | 0 | 4.38 |
| NNW | 1.7 | 3.39 | 0 | 0 | 0 | 5.09 |
| Summary | 26.88 | 73.12 | 0 | 0 | 0 | 100 |



Lakeland Industry & Community Association

Tamarack Site - July 2023

Summary of Hourly Averages

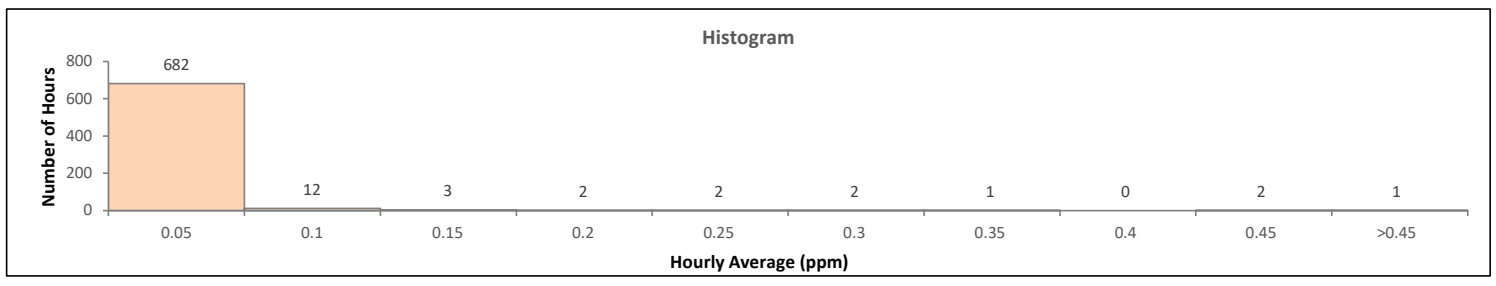
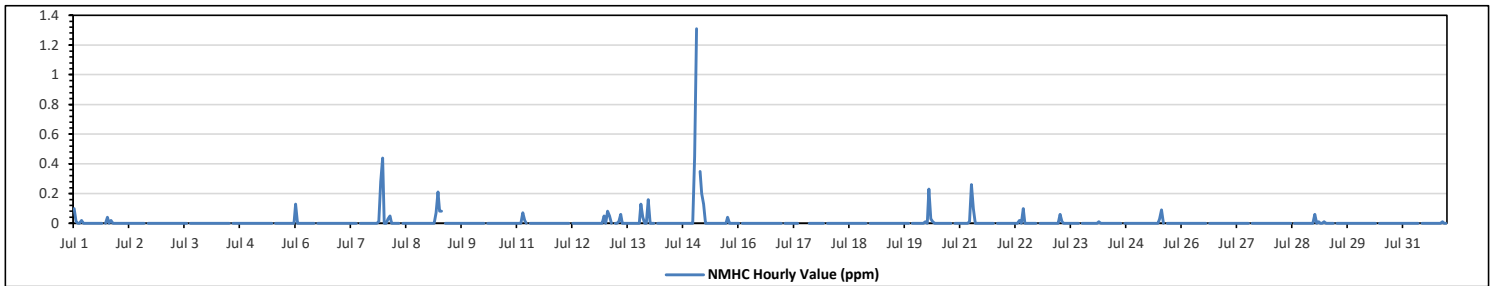
NON-METHANE HYDROCARBONS (NMHC) in ppm

| | | | | | |
|-----------------------|------|-----|-------------------|------------------------|-------|
| Maximum Hourly Value: | 1.31 | ppm | on Jul 15 at hr 1 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.11 | ppm | on Jul 15 | Hours of Data: | 707 |
| Minimum Hourly Value: | 0.00 | ppm | on Jul 1 at hr 2 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 0.00 | ppm | on Jul 2 | Hours of Calibration: | 37 |
| Monthly Average: | 0.01 | ppm | | Operational Uptime: | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | | | | | | |
|-----------------|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------|---------------|---------------|------|------|------|------|------|------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 | | | | | |
| Jul 1 | 0.10 | 0.01 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.04 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.10 | 0.01 | | |
| Jul 2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| Jul 3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| Jul 4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| Jul 5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| Jul 6 | 0.13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.13 | 0.01 | | |
| Jul 7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.28 | 0.44 | 0.00 | 0.03 | | |
| Jul 8 | 0.00 | 0.00 | 0.03 | 0.05 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Jul 9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.07 | 0.21 | 0.08 | 0.08 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.21 | 0.02 | |
| Jul 10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Jul 11 | 0.00 | 0.00 | 0.00 | 0.07 | 0.02 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.07 | 0.00 | |
| Jul 12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Jul 13 | 0.00 | 0.08 | 0.05 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.01 | 0.06 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.13 | 0.04 | 0.00 | 0.00 | 0.16 | 0.00 | 0.02 | 0.00 | |
| Jul 14 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Jul 15 | 0.45 | 1.31 | S | 0.35 | 0.20 | 0.13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.31 | 0.11 | | |
| Jul 16 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Jul 17 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | C | C | C | C | C | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | NA |
| Jul 18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | |
| Jul 19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | |
| Jul 20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.23 | 0.03 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.23 | 0.01 | |
| Jul 21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.26 | 0.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.26 | 0.02 | |
| Jul 22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.10 | 0.01 | |
| Jul 23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.06 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.06 | 0.00 | |
| Jul 24 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | |
| Jul 25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 26 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 27 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 28 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 29 | 0.06 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 30 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 31 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Diurnal Maximum | 0.45 | 1.31 | 0.05 | 0.35 | 0.20 | 0.21 | 0.26 | 0.23 | 0.06 | 0.01 | 0.10 | 0.00 | 0.03 | 0.09 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.13 | 0.04 | 0.01 | 0.28 | 0.44 | | | | | | |
| Diurnal Average | 0.02 | 0.05 | 0.00 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

C Monthly Calibration **S** Daily Zero-Span Check **Q** Quality Assurance
K Collection Error **ND** No Data (Machine Not in Service) **Y** Routine Maintenance
X InValid Data (Equipment Malfunction/Recovery) **NRM** UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) **P** Power Failure

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

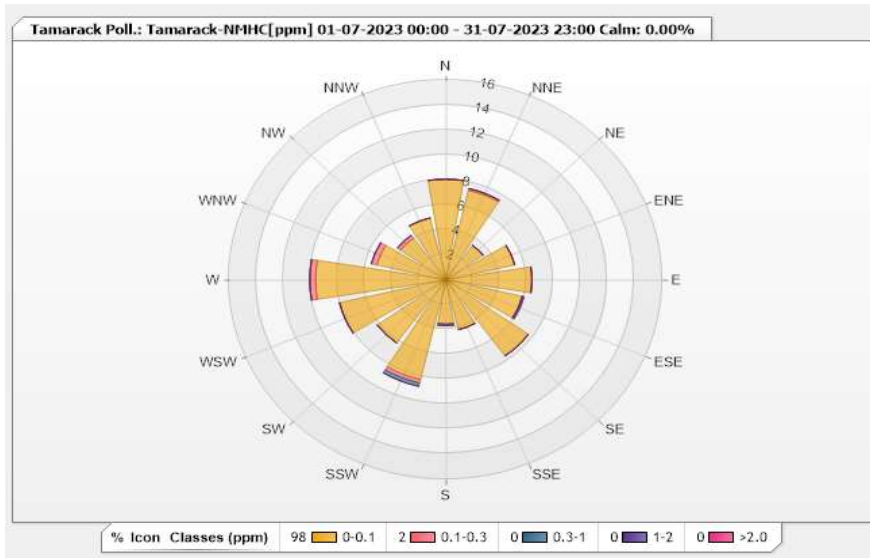


Station: Tamarack Poll.: Tamarack-NMHC[ppm] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 95.03% Calm Avg: 0.00 [ppm]

| Direction | 0-0.1 | 0.1-0.3 | 0.3-1 | 1-2 | >2.0 | Total |
|-----------|-------|---------|-------|------|------|-------|
| N | 8.06 | 0 | 0 | 0 | 0 | 8.06 |
| NNE | 7.36 | 0.14 | 0 | 0 | 0 | 7.5 |
| NE | 3.39 | 0 | 0 | 0 | 0 | 3.39 |
| ENE | 5.23 | 0 | 0 | 0 | 0 | 5.23 |
| E | 6.36 | 0 | 0 | 0 | 0 | 6.36 |
| ESE | 5.8 | 0 | 0 | 0.14 | 0 | 5.94 |
| SE | 7.5 | 0 | 0 | 0 | 0 | 7.5 |
| SSE | 4.1 | 0 | 0 | 0 | 0 | 4.1 |
| S | 3.54 | 0 | 0.14 | 0 | 0 | 3.68 |
| SSW | 8.2 | 0.28 | 0.28 | 0 | 0 | 8.76 |
| SW | 6.22 | 0 | 0 | 0 | 0 | 6.22 |
| WSW | 8.06 | 0 | 0 | 0 | 0 | 8.06 |
| W | 9.62 | 0.42 | 0 | 0 | 0 | 10.04 |
| WNW | 5.23 | 0.42 | 0 | 0 | 0 | 5.65 |
| NW | 4.1 | 0.28 | 0 | 0 | 0 | 4.38 |
| NNW | 5.09 | 0 | 0 | 0 | 0 | 5.09 |
| Summary | 97.86 | 1.54 | 0.42 | 0.14 | 0 | 100 |



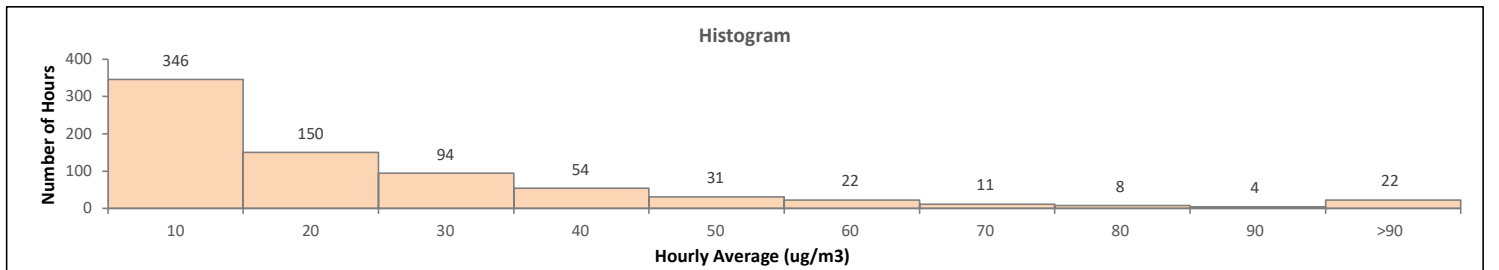
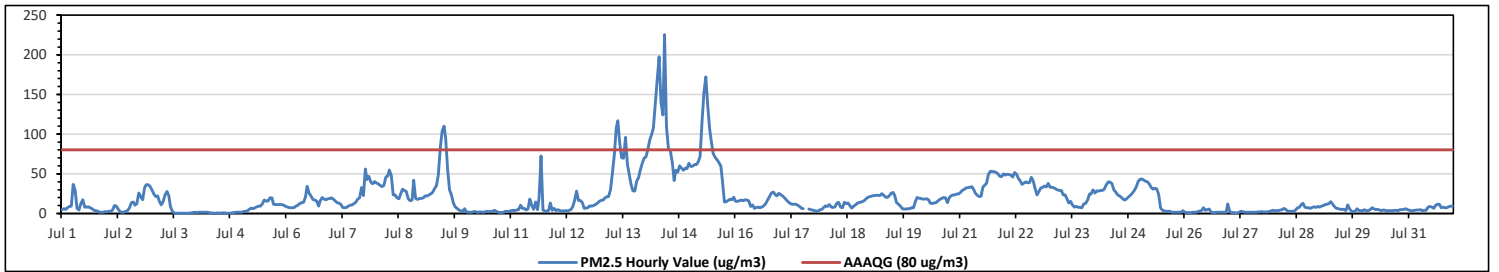
Lakeland Industry & Community Association

Tamarack Site - July 2023
Summary of Hourly Averages

PARTICULATE MATTER 2.5 (PM_{2.5}) in µg/m³

| Alberta Ambient Air Quality Guideline (AAAQG): 1-Hour 80 µg/m ³ , Alberta Ambient Air Quality Objective (AAAQO): 24-Hour 29 µg/m ³ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|------|------|------|------|------|------|------|------|---|------|---|------|------|------|------|------|------|------|------|------|------|---------------------|---------------|---------------|---------------|------|-----|---------------|--|--|--|--|
| Number of 1-Hour Exceedances: 26 | | | | | | | | | | Number of 24-Hour Exceedances: 7 | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum Hourly Value: 226 µg/m ³ on Jul 14 at hr 10 | | | | | | | | | | Hours in Service: 744 | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum Daily Value: 94.8 µg/m ³ on Jul 14 | | | | | | | | | | Hours of Data: 742 | | | | | | | | | | | | | | | | | | | | | | | |
| Minimum Hourly Value: 0 µg/m ³ on Jul 3 at hr 14 | | | | | | | | | | Hours of Missing Data: 0 | | | | | | | | | | | | | | | | | | | | | | | |
| Minimum Daily Value: 1 µg/m ³ on Jul 4 | | | | | | | | | | Hours of Calibration: 2 | | | | | | | | | | | | | | | | | | | | | | | |
| Monthly Average: 20.1 µg/m ³ | | | | | | | | | | Operational Uptime: 100.0 | | | | | | | | | | | | | | | | | | | | | | | |
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | | | | | | | |
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 | | | | | | |
| Jul 1 | 5 | 6 | 5 | 7 | 9 | 9 | 36 | 29 | 6 | 4 | 13 | 17 | 8 | 8 | 7 | 6 | 4 | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 36 | 8.4 | | | | | |
| Jul 2 | 2 | 2 | 3 | 4 | 10 | 9 | 5 | 2 | 1 | 2 | 3 | 4 | 7 | 14 | 15 | 10 | 12 | 26 | 21 | 17 | 32 | 36 | 36 | 34 | 1 | 36 | 12.8 | | | | | | |
| Jul 3 | 30 | 24 | 21 | 22 | 16 | 11 | 15 | 23 | 27 | 22 | 8 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 30 | 9.5 | | | | | |
| Jul 4 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 0.9 | | | | |
| Jul 5 | 2 | 2 | 3 | 3 | 5 | 7 | 6 | 7 | 9 | 9 | 12 | 17 | 16 | 15 | 20 | 20 | 12 | 11 | 11 | 11 | 11 | 11 | 11 | 10 | 2 | 20 | 9.9 | | | | | | |
| Jul 6 | 8 | 8 | 7 | 7 | 7 | 9 | 10 | 12 | 14 | 14 | 21 | 34 | 26 | 22 | 18 | 17 | 16 | 9 | 16 | 20 | 18 | 17 | 18 | 19 | 7 | 34 | 15.3 | | | | | | |
| Jul 7 | 20 | 18 | 15 | 14 | 13 | 11 | 7 | 7 | 7 | 9 | 10 | 11 | 12 | 14 | 18 | 20 | 33 | 23 | 56 | 43 | 47 | 39 | 38 | 40 | 7 | 56 | 21.8 | | | | | | |
| Jul 8 | 38 | 37 | 36 | 34 | 35 | 46 | 47 | 55 | 48 | 24 | 23 | 20 | 19 | 24 | 31 | 29 | 28 | 18 | 16 | 17 | 42 | 19 | 18 | 19 | 16 | 55 | 30.0 | | | | | | |
| Jul 9 | 19 | 20 | 22 | 22 | 23 | 25 | 27 | 31 | 35 | 48 | 82 | 104 | 110 | 94 | 56 | 30 | 24 | 13 | 8 | 7 | 4 | 3 | 2 | 6 | 2 | 110 | 33.9 | | | | | | |
| Jul 10 | 2 | 1 | 1 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 4 | 3 | 2 | 1 | 1 | 2 | 3 | 2 | 3 | 1 | 4 | 2.0 | | | | | | | |
| Jul 11 | 4 | 4 | 4 | 4 | 5 | 10 | 6 | 6 | 4 | 5 | 18 | 10 | 5 | 14 | 5 | 20 | 72 | 4 | 3 | 4 | 13 | 4 | 6 | 3 | 72 | 9.7 | | | | | | | |
| Jul 12 | 4 | 5 | 4 | 3 | 3 | 3 | 4 | 5 | 9 | 16 | 28 | 16 | 16 | 14 | 6 | 7 | 7 | 10 | 9 | 10 | 11 | 13 | 15 | 3 | 28 | 9.2 | | | | | | | |
| Jul 13 | 16 | 17 | 19 | 21 | 21 | 30 | 51 | 74 | 108 | 117 | 88 | 70 | 70 | 96 | 62 | 50 | 37 | 28 | 28 | 41 | 46 | 54 | 63 | 70 | 16 | 117 | 53.2 | | | | | | |
| Jul 14 | 71 | 81 | 93 | 98 | 108 | 138 | 168 | 198 | 140 | 124 | 226 | 109 | 82 | 79 | 65 | 42 | 54 | 52 | 60 | 57 | 54 | 57 | 56 | 63 | 42 | 226 | 94.8 | | | | | | |
| Jul 15 | 59 | 60 | 62 | 62 | 65 | 72 | 115 | 153 | 172 | 135 | 106 | 91 | 75 | 71 | 68 | 64 | 60 | 41 | 14 | 15 | 16 | 18 | 17 | 21 | 14 | 172 | 67.9 | | | | | | |
| Jul 16 | 15 | 15 | 16 | 17 | 16 | 17 | 17 | 16 | 9 | 11 | 6 | 8 | 8 | 7 | 8 | 10 | 13 | 17 | 21 | 26 | 27 | 24 | 22 | 25 | 6 | 27 | 15.4 | | | | | | |
| Jul 17 | 24 | 22 | 20 | 17 | 15 | 13 | 12 | 12 | 12 | 10 | 9 | 7 | 6 | C | C | 5 | 5 | 4 | 4 | 3 | 3 | 5 | 5 | 8 | 3 | 24 | 9.9 | | | | | | |
| Jul 18 | 10 | 9 | 11 | 8 | 8 | 8 | 13 | 14 | 8 | 7 | 14 | 13 | 13 | 10 | 7 | 9 | 11 | 13 | 14 | 15 | 15 | 17 | 19 | 21 | 7 | 21 | 11.9 | | | | | | |
| Jul 19 | 21 | 22 | 22 | 23 | 23 | 23 | 25 | 23 | 21 | 20 | 22 | 25 | 27 | 23 | 13 | 12 | 9 | 6 | 5 | 6 | 6 | 7 | 7 | 5 | 27 | 16.5 | | | | | | | |
| Jul 20 | 15 | 20 | 19 | 19 | 18 | 18 | 17 | 13 | 12 | 13 | 14 | 16 | 18 | 19 | 20 | 20 | 13 | 20 | 22 | 23 | 23 | 24 | 25 | 12 | 25 | 18.3 | | | | | | | |
| Jul 21 | 27 | 29 | 30 | 32 | 32 | 33 | 34 | 31 | 26 | 23 | 21 | 22 | 34 | 36 | 38 | 49 | 53 | 53 | 53 | 52 | 50 | 47 | 46 | 50 | 21 | 53 | 37.4 | | | | | | |
| Jul 22 | 48 | 49 | 49 | 48 | 46 | 52 | 49 | 44 | 41 | 36 | 38 | 40 | 39 | 39 | 46 | 41 | 31 | 23 | 28 | 32 | 33 | 35 | 34 | 38 | 23 | 52 | 40.0 | | | | | | |
| Jul 23 | 33 | 33 | 32 | 31 | 30 | 29 | 29 | 23 | 23 | 19 | 13 | 15 | 10 | 8 | 9 | 8 | 8 | 7 | 12 | 13 | 17 | 24 | 24 | 30 | 7 | 33 | 20.0 | | | | | | |
| Jul 24 | 25 | 28 | 28 | 29 | 29 | 31 | 36 | 40 | 39 | 38 | 30 | 27 | 24 | 22 | 20 | 18 | 17 | 19 | 21 | 23 | 26 | 29 | 33 | 40 | 17 | 40 | 28.0 | | | | | | |
| Jul 25 | 43 | 43 | 42 | 41 | 40 | 37 | 33 | 31 | 32 | 31 | 24 | 7 | 4 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 4 | 1 | 43 | 18.0 | | | | | | |
| Jul 26 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 4 | 7 | 4 | 5 | 5 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 12 | 1 | 12 | 2.6 | | | | | | |
| Jul 27 | 2 | 1 | 1 | 1 | 1 | 1 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 4 | 1 | 4 | 1.8 | | | | | | | |
| Jul 28 | 4 | 4 | 3 | 4 | 5 | 6 | 5 | 3 | 3 | 3 | 3 | 4 | 7 | 8 | 11 | 13 | 8 | 7 | 7 | 6 | 8 | 8 | 7 | 9 | 3 | 13 | 6.0 | | | | | | |
| Jul 29 | 8 | 9 | 10 | 11 | 12 | 12 | 15 | 12 | 8 | 6 | 6 | 5 | 5 | 5 | 4 | 11 | 5 | 3 | 2 | 2 | 6 | 4 | 4 | 2 | 15 | 7.0 | | | | | | | |
| Jul 30 | 5 | 4 | 4 | 5 | 7 | 6 | 5 | 5 | 4 | 4 | 4 | 4 | 3 | 4 | 4 | 3 | 4 | 4 | 4 | 5 | 5 | 5 | 6 | 5 | 3 | 7 | 4.4 | | | | | | |
| Jul 31 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 4 | 4 | 4 | 8 | 9 | 8 | 6 | 10 | 12 | 12 | 7 | 8 | 7 | 7 | 8 | 9 | 9 | 4 | 12 | 6.7 | | | | | | |
| Diurnal Maximum | 71 | 81 | 93 | 98 | 108 | 138 | 168 | 198 | 172 | 135 | 226 | 109 | 110 | 96 | 68 | 64 | 72 | 53 | 60 | 57 | 54 | 57 | 63 | 70 | | | | | | | | | |
| Diurnal Average | 18.2 | 18.7 | 18.9 | 19.2 | 19.6 | 21.8 | 25.7 | 28.4 | 26.7 | 24.3 | 27.2 | 23.2 | 21.2 | 22.2 | 18.9 | 17.3 | 18.4 | 13.6 | 14.5 | 14.9 | 16.7 | 16.9 | 17.1 | 19.3 | | | | | | | | | |
| C | Monthly Calibration | | | | | | | | | | S | Daily Zero-Span Check | | | | | | | | | | Q | Quality Assurance | | | | | | | | | | |
| K | Collection Error | | | | | | | | | | ND | No Data (Machine Not in Service) | | | | | | | | | | Y | Routine Maintenance | | | | | P | Power Failure | | | | |
| X | Invalid Data (Equipment Malfunction /Recovery) | | | | | | | | | | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | | | | | | | | | | | | | | | | | | | |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

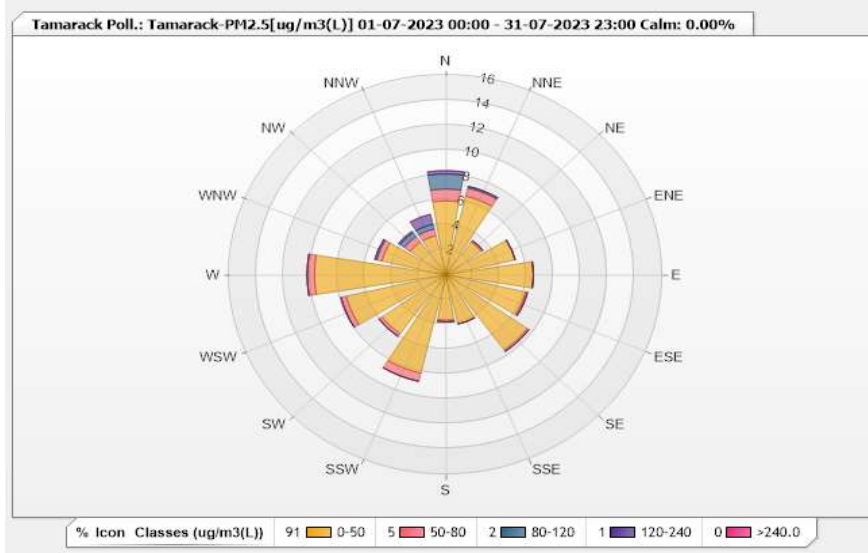


Station: Tamarack Poll.: Tamarack-PM2.5[ug/m3(L)] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 99.73% Calm Avg: 0.00 [ppm]

| Direction | 0-50 | 50-80 | 80-120 | 120-240 | >240.0 | Total |
|-----------|-------|-------|--------|---------|--------|-------|
| N | 5.93 | 0.94 | 1.21 | 0.27 | 0 | 8.35 |
| NNE | 6.47 | 0.67 | 0.13 | 0 | 0 | 7.27 |
| NE | 3.23 | 0.13 | 0 | 0 | 0 | 3.36 |
| ENE | 5.26 | 0 | 0 | 0 | 0 | 5.26 |
| E | 6.47 | 0 | 0 | 0 | 0 | 6.47 |
| ESE | 6.06 | 0.13 | 0 | 0 | 0 | 6.19 |
| SE | 7.41 | 0.13 | 0 | 0 | 0 | 7.54 |
| SSE | 4.04 | 0 | 0 | 0 | 0 | 4.04 |
| S | 3.64 | 0.13 | 0 | 0 | 0 | 3.77 |
| SSW | 8.09 | 0.67 | 0 | 0 | 0 | 8.76 |
| SW | 5.8 | 0.27 | 0 | 0 | 0 | 6.07 |
| WSW | 7.55 | 0.4 | 0 | 0 | 0 | 7.95 |
| W | 9.7 | 0.54 | 0 | 0 | 0 | 10.24 |
| WNW | 4.85 | 0.4 | 0.13 | 0 | 0 | 5.38 |
| NW | 3.23 | 0.54 | 0.4 | 0.13 | 0 | 4.3 |
| NNW | 3.23 | 0.54 | 0.4 | 0.81 | 0 | 4.98 |
| Summary | 90.96 | 5.49 | 2.27 | 1.21 | 0 | 100 |



Lakeland Industry & Community Association

Tamarack Site - July 2023

Summary of Hourly Averages

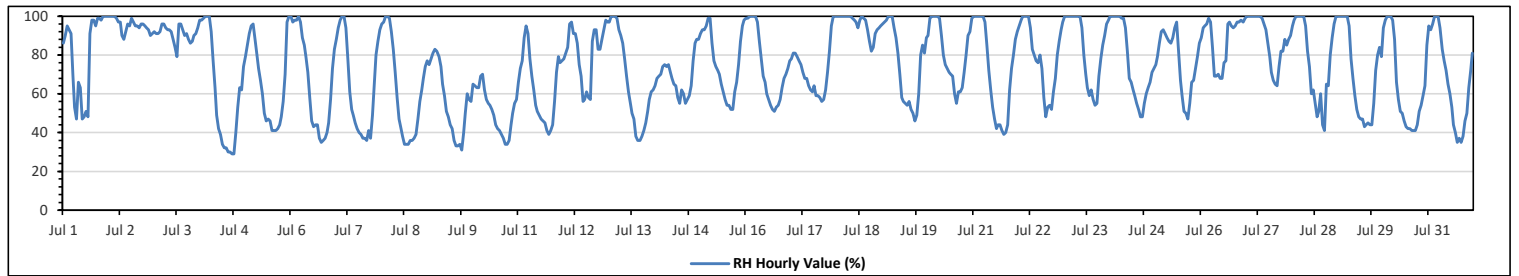
RELATIVE HUMIDITY (RH) in %

| | | | | |
|-----------------------|--------|-------------------|------------------------|-------|
| Maximum Hourly Value: | 100 % | on Jul 1 at hr 21 | Hours in Service: | 744 |
| Maximum Daily Value: | 95.9 % | on Jul 18 | Hours of Data: | 744 |
| Minimum Hourly Value: | 29 % | on Jul 4 at hr 17 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 51.5 % | on Jul 10 | Hours of Calibration: | 0 |
| Monthly Average: | 73.9 % | | Operational Uptime: | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | |
|-----------------|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------|---------------|---------------|------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 |
| Jul 1 | 86 | 90 | 95 | 93 | 91 | 69 | 53 | 47 | 66 | 63 | 47 | 48 | 51 | 48 | 91 | 98 | 98 | 95 | 99 | 99 | 98 | 100 | 100 | 100 | 47 | 100 | 80.2 |
| Jul 2 | 100 | 100 | 100 | 100 | 99 | 97 | 97 | 90 | 88 | 92 | 96 | 95 | 99 | 97 | 95 | 95 | 94 | 96 | 96 | 95 | 94 | 93 | 90 | 91 | 88 | 100 | 95.4 |
| Jul 3 | 92 | 91 | 91 | 92 | 96 | 96 | 94 | 93 | 93 | 92 | 88 | 84 | 79 | 96 | 96 | 93 | 90 | 91 | 88 | 86 | 87 | 90 | 91 | 94 | 79 | 96 | 91.0 |
| Jul 4 | 98 | 98 | 99 | 100 | 100 | 100 | 92 | 77 | 63 | 49 | 42 | 39 | 34 | 32 | 32 | 30 | 30 | 29 | 29 | 40 | 53 | 63 | 62 | 74 | 29 | 100 | 61.0 |
| Jul 5 | 79 | 85 | 91 | 95 | 96 | 88 | 80 | 73 | 67 | 60 | 50 | 46 | 47 | 46 | 41 | 41 | 42 | 44 | 48 | 56 | 70 | 97 | 100 | 41 | 100 | 66.0 | |
| Jul 6 | 100 | 97 | 98 | 98 | 100 | 97 | 89 | 85 | 79 | 71 | 58 | 46 | 43 | 44 | 44 | 37 | 35 | 36 | 37 | 40 | 45 | 57 | 73 | 83 | 35 | 100 | 66.3 |
| Jul 7 | 88 | 94 | 98 | 100 | 100 | 94 | 78 | 61 | 52 | 49 | 45 | 42 | 40 | 39 | 37 | 37 | 36 | 41 | 37 | 49 | 66 | 80 | 87 | 93 | 36 | 100 | 64.3 |
| Jul 8 | 96 | 97 | 100 | 100 | 99 | 92 | 83 | 71 | 58 | 47 | 43 | 38 | 34 | 34 | 34 | 36 | 36 | 37 | 39 | 47 | 56 | 62 | 68 | 74 | 34 | 100 | 61.7 |
| Jul 9 | 77 | 75 | 78 | 81 | 83 | 82 | 79 | 74 | 65 | 59 | 51 | 48 | 44 | 42 | 36 | 33 | 33 | 34 | 31 | 40 | 50 | 60 | 57 | 56 | 31 | 83 | 57.0 |
| Jul 10 | 65 | 64 | 63 | 63 | 69 | 70 | 62 | 57 | 55 | 54 | 52 | 49 | 44 | 42 | 41 | 39 | 37 | 34 | 34 | 36 | 44 | 50 | 55 | 57 | 34 | 70 | 51.5 |
| Jul 11 | 66 | 73 | 77 | 89 | 95 | 91 | 78 | 69 | 62 | 54 | 51 | 49 | 47 | 46 | 45 | 41 | 39 | 41 | 44 | 56 | 71 | 79 | 76 | 77 | 39 | 95 | 63.2 |
| Jul 12 | 78 | 81 | 84 | 96 | 97 | 91 | 91 | 86 | 75 | 69 | 56 | 57 | 61 | 58 | 57 | 87 | 93 | 93 | 83 | 83 | 88 | 93 | 98 | 97 | 56 | 98 | 81.3 |
| Jul 13 | 97 | 100 | 100 | 100 | 99 | 93 | 90 | 86 | 78 | 69 | 61 | 55 | 50 | 47 | 38 | 36 | 36 | 38 | 41 | 45 | 51 | 57 | 61 | 62 | 36 | 100 | 66.3 |
| Jul 14 | 64 | 68 | 69 | 70 | 74 | 75 | 74 | 75 | 71 | 68 | 65 | 64 | 58 | 55 | 62 | 60 | 55 | 57 | 59 | 64 | 77 | 86 | 88 | 88 | 55 | 88 | 68.6 |
| Jul 15 | 91 | 93 | 93 | 95 | 99 | 99 | 86 | 77 | 74 | 72 | 70 | 65 | 61 | 57 | 54 | 54 | 52 | 52 | 61 | 66 | 75 | 87 | 95 | 98 | 52 | 99 | 76.1 |
| Jul 16 | 99 | 99 | 100 | 100 | 100 | 100 | 97 | 87 | 78 | 69 | 66 | 60 | 57 | 54 | 52 | 51 | 53 | 54 | 57 | 63 | 68 | 70 | 73 | 77 | 51 | 100 | 74.3 |
| Jul 17 | 78 | 81 | 81 | 79 | 77 | 75 | 71 | 68 | 68 | 64 | 62 | 61 | 64 | 59 | 59 | 58 | 56 | 57 | 62 | 71 | 82 | 95 | 100 | 100 | 56 | 100 | 72.0 |
| Jul 18 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99 | 98 | 97 | 94 | 98 | 100 | 99 | 98 | 93 | 87 | 82 | 84 | 91 | 93 | 94 | 95 | 82 | 100 | 95.9 |
| Jul 19 | 96 | 97 | 98 | 100 | 100 | 100 | 94 | 89 | 81 | 70 | 58 | 56 | 55 | 54 | 56 | 52 | 50 | 46 | 49 | 60 | 80 | 85 | 81 | 89 | 46 | 100 | 74.8 |
| Jul 20 | 90 | 99 | 100 | 100 | 100 | 100 | 99 | 90 | 80 | 75 | 73 | 71 | 70 | 69 | 60 | 55 | 61 | 61 | 63 | 71 | 80 | 90 | 92 | 99 | 55 | 100 | 81.2 |
| Jul 21 | 100 | 100 | 100 | 100 | 100 | 100 | 97 | 85 | 72 | 62 | 53 | 47 | 42 | 44 | 44 | 41 | 39 | 40 | 44 | 62 | 73 | 80 | 88 | 92 | 39 | 100 | 71.0 |
| Jul 22 | 95 | 98 | 100 | 100 | 100 | 100 | 94 | 83 | 80 | 77 | 76 | 80 | 73 | 58 | 48 | 53 | 54 | 52 | 61 | 68 | 80 | 87 | 93 | 97 | 48 | 100 | 79.5 |
| Jul 23 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 94 | 80 | 70 | 63 | 59 | 62 | 57 | 54 | 55 | 69 | 78 | 85 | 90 | 96 | 98 | 54 | 100 | 83.8 |
| Jul 24 | 100 | 100 | 100 | 100 | 100 | 100 | 99 | 99 | 94 | 82 | 68 | 66 | 62 | 59 | 55 | 52 | 48 | 48 | 55 | 60 | 63 | 66 | 71 | 73 | 48 | 100 | 75.8 |
| Jul 25 | 75 | 79 | 86 | 92 | 93 | 91 | 89 | 87 | 86 | 89 | 94 | 97 | 82 | 67 | 59 | 51 | 50 | 47 | 55 | 66 | 67 | 73 | 79 | 86 | 47 | 97 | 76.7 |
| Jul 26 | 89 | 94 | 95 | 96 | 99 | 97 | 84 | 69 | 69 | 70 | 68 | 68 | 76 | 77 | 96 | 97 | 95 | 94 | 95 | 97 | 97 | 98 | 97 | 99 | 68 | 99 | 88.2 |
| Jul 27 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99 | 96 | 93 | 86 | 79 | 71 | 67 | 65 | 64 | 74 | 82 | 82 | 88 | 85 | 88 | 90 | 64 | 100 | 87.9 |
| Jul 28 | 95 | 98 | 100 | 100 | 100 | 100 | 100 | 95 | 82 | 74 | 60 | 62 | 55 | 48 | 51 | 60 | 44 | 41 | 65 | 64 | 80 | 89 | 96 | 100 | 41 | 100 | 77.5 |
| Jul 29 | 100 | 100 | 100 | 100 | 100 | 100 | 95 | 78 | 68 | 59 | 52 | 48 | 47 | 47 | 43 | 44 | 45 | 44 | 44 | 55 | 72 | 80 | 84 | 79 | 43 | 100 | 70.2 |
| Jul 30 | 94 | 98 | 100 | 100 | 100 | 98 | 88 | 66 | 57 | 51 | 50 | 46 | 43 | 42 | 42 | 41 | 41 | 41 | 44 | 51 | 54 | 59 | 64 | 85 | 41 | 100 | 64.8 |
| Jul 31 | 95 | 93 | 96 | 100 | 100 | 100 | 94 | 83 | 77 | 72 | 65 | 60 | 53 | 44 | 40 | 35 | 37 | 35 | 38 | 46 | 50 | 63 | 72 | 81 | 35 | 100 | 67.9 |
| Diurnal Maximum | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 98 | 97 | 97 | 99 | 100 | 99 | 98 | 98 | 96 | 99 | 99 | 98 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Diurnal Average | 89.8 | 91.7 | 93.3 | 94.8 | 95.7 | 93.4 | 88.0 | 80.6 | 75.4 | 70.0 | 64.2 | 61.2 | 58.4 | 56.0 | 56.0 | 55.7 | 54.5 | 54.6 | 57.6 | 63.6 | 71.6 | 78.4 | 82.8 | 86.6 | 86.6 | 86.6 | |

| | | |
|---|--|------------------------------|
| C Monthly Calibration | S Daily Zero-Span Check | Q Quality Assurance |
| K Collection Error | ND No Data (Machine Not in Service) | Y Routine Maintenance |
| X InValid Data (Equipment Malfunction /Recovery) | NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



Lakeland Industry & Community Association

Tamarack Site - July 2023

Summary of Hourly Averages

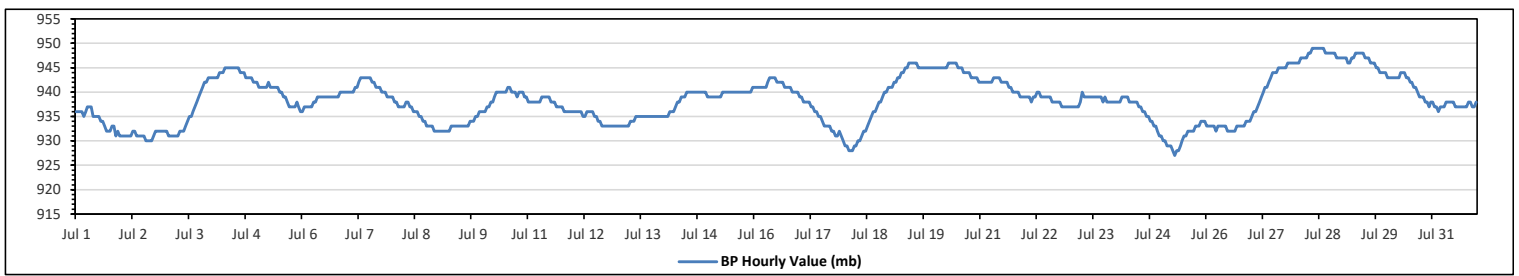
BAROMETRIC PRESSURE (BP) in millibar

| | | | | | |
|-----------------------|-----|----|-------------------|------------------------|-------|
| Maximum Hourly Value: | 949 | mb | on Jul 28 at hr 8 | Hours in Service: | 744 |
| Maximum Daily Value: | 948 | mb | on Jul 28 | Hours of Data: | 744 |
| Minimum Hourly Value: | 924 | mb | on Jul 15 at hr 7 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 931 | mb | on Jul 25 | Hours of Calibration: | 0 |
| Monthly Average: | 938 | mb | | Operational Uptime: | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | | |
|-----------------|---------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------------|---------------|---------------|-----|-----|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 | |
| Jul 1 | 936 | 936 | 936 | 936 | 935 | 936 | 937 | 937 | 937 | 935 | 935 | 935 | 935 | 934 | 934 | 933 | 932 | 932 | 932 | 933 | 933 | 931 | 932 | 931 | 931 | 937 | 934 | |
| Jul 2 | 931 | 931 | 931 | 931 | 931 | 931 | 932 | 932 | 931 | 931 | 931 | 931 | 930 | 930 | 930 | 931 | 932 | 932 | 932 | 932 | 932 | 932 | 932 | 932 | 932 | 932 | 932 | 931 |
| Jul 3 | 932 | 931 | 931 | 931 | 931 | 931 | 931 | 932 | 932 | 932 | 933 | 934 | 935 | 935 | 936 | 937 | 938 | 939 | 940 | 941 | 942 | 942 | 943 | 943 | 943 | 943 | 936 | 931 |
| Jul 4 | 943 | 943 | 943 | 943 | 944 | 944 | 944 | 945 | 945 | 945 | 945 | 945 | 945 | 945 | 945 | 944 | 944 | 944 | 943 | 943 | 943 | 943 | 942 | 942 | 942 | 942 | 944 | 944 |
| Jul 5 | 942 | 941 | 941 | 941 | 941 | 941 | 942 | 941 | 941 | 941 | 941 | 940 | 940 | 939 | 939 | 938 | 937 | 937 | 937 | 937 | 938 | 937 | 936 | 936 | 936 | 936 | 942 | 940 |
| Jul 6 | 936 | 937 | 937 | 937 | 937 | 937 | 938 | 938 | 939 | 939 | 939 | 939 | 939 | 939 | 939 | 939 | 939 | 939 | 939 | 939 | 940 | 940 | 940 | 940 | 940 | 940 | 939 | 939 |
| Jul 7 | 940 | 940 | 940 | 940 | 941 | 941 | 942 | 943 | 943 | 943 | 943 | 943 | 942 | 942 | 941 | 941 | 940 | 940 | 940 | 940 | 940 | 939 | 939 | 939 | 939 | 939 | 943 | 941 |
| Jul 8 | 939 | 938 | 938 | 937 | 937 | 937 | 937 | 938 | 938 | 937 | 937 | 936 | 936 | 936 | 935 | 935 | 934 | 934 | 933 | 933 | 933 | 933 | 932 | 932 | 932 | 932 | 939 | 936 |
| Jul 9 | 932 | 932 | 932 | 932 | 932 | 932 | 932 | 933 | 933 | 933 | 933 | 933 | 933 | 933 | 933 | 933 | 934 | 934 | 934 | 934 | 934 | 935 | 935 | 936 | 936 | 936 | 936 | 933 |
| Jul 10 | 936 | 936 | 937 | 937 | 938 | 938 | 939 | 940 | 940 | 940 | 940 | 940 | 941 | 941 | 940 | 940 | 939 | 940 | 940 | 939 | 940 | 940 | 940 | 939 | 939 | 939 | 941 | 939 |
| Jul 11 | 938 | 938 | 938 | 938 | 938 | 938 | 939 | 939 | 939 | 939 | 939 | 939 | 938 | 938 | 937 | 937 | 937 | 937 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 936 | 939 | 938 |
| Jul 12 | 936 | 936 | 936 | 936 | 936 | 935 | 935 | 936 | 936 | 936 | 936 | 935 | 935 | 934 | 934 | 933 | 933 | 933 | 933 | 933 | 933 | 933 | 933 | 933 | 933 | 933 | 936 | 935 |
| Jul 13 | 933 | 933 | 933 | 933 | 933 | 933 | 934 | 934 | 934 | 935 | 935 | 935 | 935 | 935 | 935 | 935 | 935 | 935 | 935 | 935 | 935 | 935 | 935 | 935 | 935 | 935 | 935 | 934 |
| Jul 14 | 935 | 935 | 935 | 936 | 936 | 936 | 937 | 938 | 938 | 939 | 939 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 939 | 940 | 938 |
| Jul 15 | 939 | 939 | 939 | 939 | 939 | 939 | 939 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 941 | 941 | 940 | 940 | 941 | 941 | 941 | 939 | 939 |
| Jul 16 | 941 | 941 | 941 | 941 | 941 | 941 | 941 | 942 | 943 | 943 | 943 | 943 | 942 | 942 | 942 | 942 | 941 | 941 | 941 | 941 | 940 | 940 | 940 | 940 | 940 | 940 | 943 | 941 |
| Jul 17 | 939 | 939 | 938 | 938 | 938 | 938 | 937 | 937 | 936 | 936 | 935 | 935 | 934 | 933 | 933 | 933 | 932 | 932 | 931 | 931 | 932 | 931 | 932 | 931 | 930 | 930 | 939 | 935 |
| Jul 18 | 929 | 929 | 928 | 928 | 928 | 929 | 929 | 930 | 930 | 931 | 932 | 932 | 933 | 934 | 935 | 936 | 936 | 937 | 938 | 938 | 939 | 940 | 940 | 941 | 941 | 941 | 941 | 933 |
| Jul 19 | 941 | 941 | 942 | 942 | 943 | 943 | 944 | 944 | 945 | 945 | 946 | 946 | 946 | 946 | 945 | 945 | 945 | 945 | 945 | 945 | 945 | 945 | 945 | 945 | 945 | 945 | 946 | 944 |
| Jul 20 | 945 | 945 | 945 | 945 | 945 | 945 | 945 | 946 | 946 | 946 | 946 | 946 | 945 | 945 | 945 | 944 | 944 | 944 | 944 | 943 | 943 | 943 | 943 | 942 | 942 | 942 | 946 | 945 |
| Jul 21 | 942 | 942 | 942 | 942 | 942 | 942 | 942 | 943 | 943 | 943 | 942 | 942 | 942 | 942 | 941 | 941 | 940 | 940 | 940 | 940 | 940 | 939 | 939 | 939 | 939 | 939 | 943 | 941 |
| Jul 22 | 939 | 939 | 939 | 938 | 939 | 939 | 940 | 940 | 939 | 939 | 939 | 939 | 939 | 939 | 938 | 938 | 938 | 938 | 938 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 940 | 938 |
| Jul 23 | 937 | 937 | 937 | 937 | 937 | 938 | 940 | 939 | 939 | 939 | 939 | 939 | 939 | 939 | 939 | 939 | 938 | 938 | 938 | 938 | 938 | 938 | 938 | 938 | 938 | 938 | 940 | 938 |
| Jul 24 | 938 | 938 | 938 | 939 | 939 | 939 | 938 | 938 | 938 | 938 | 938 | 937 | 937 | 937 | 936 | 936 | 935 | 934 | 934 | 933 | 933 | 932 | 931 | 931 | 931 | 931 | 939 | 936 |
| Jul 25 | 931 | 930 | 930 | 929 | 929 | 929 | 928 | 927 | 928 | 928 | 929 | 930 | 931 | 931 | 932 | 932 | 932 | 932 | 933 | 933 | 933 | 934 | 934 | 934 | 934 | 934 | 937 | 931 |
| Jul 26 | 933 | 933 | 933 | 933 | 933 | 932 | 933 | 933 | 933 | 933 | 932 | 932 | 932 | 932 | 932 | 932 | 932 | 932 | 933 | 933 | 933 | 934 | 934 | 934 | 934 | 934 | 937 | 933 |
| Jul 27 | 935 | 936 | 936 | 937 | 938 | 939 | 940 | 941 | 941 | 942 | 943 | 944 | 944 | 944 | 945 | 945 | 945 | 945 | 946 | 946 | 946 | 946 | 946 | 946 | 946 | 946 | 946 | 942 |
| Jul 28 | 946 | 946 | 947 | 947 | 947 | 947 | 948 | 948 | 949 | 949 | 949 | 949 | 949 | 949 | 948 | 948 | 948 | 948 | 948 | 948 | 948 | 947 | 947 | 947 | 946 | 949 | 948 | |
| Jul 29 | 947 | 947 | 947 | 946 | 946 | 947 | 947 | 948 | 948 | 948 | 948 | 948 | 947 | 947 | 947 | 946 | 946 | 946 | 945 | 945 | 944 | 944 | 944 | 944 | 944 | 944 | 948 | 946 |
| Jul 30 | 943 | 943 | 943 | 943 | 943 | 943 | 943 | 944 | 944 | 944 | 943 | 943 | 942 | 942 | 941 | 941 | 940 | 939 | 939 | 938 | 938 | 937 | 937 | 937 | 937 | 937 | 944 | 941 |
| Jul 31 | 938 | 937 | 937 | 936 | 937 | 937 | 937 | 938 | 938 | 938 | 938 | 938 | 937 | 937 | 937 | 937 | 937 | 937 | 937 | 938 | 938 | 937 | 937 | 938 | 938 | 938 | 938 | 937 |
| Diurnal Maximum | 947 | 947 | 947 | 947 | 947 | 948 | 948 | 949 | 949 | 949 | 949 | 949 | 949 | 949 | 948 | 948 | 948 | 948 | 948 | 948 | 947 | 947 | 947 | 947 | 947 | 947 | 947 | 947 |
| Diurnal Average | 938 | 938 | 938 | 938 | 938 | 938 | 939 | 939 | 939 | 939 | 939 | 939 | 939 | 939 | 938 | 938 | 938 | 938 | 938 | 938 | 938 | 938 | 938 | 938 | 938 | 938 | 938 | 938 |

| | | | | | |
|----------|--|------------|---|----------|---------------------|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance |
| K | Collection Error | ND | No Data (Machine Not in Service) | Y | Routine Maintenance |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P | Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per days is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



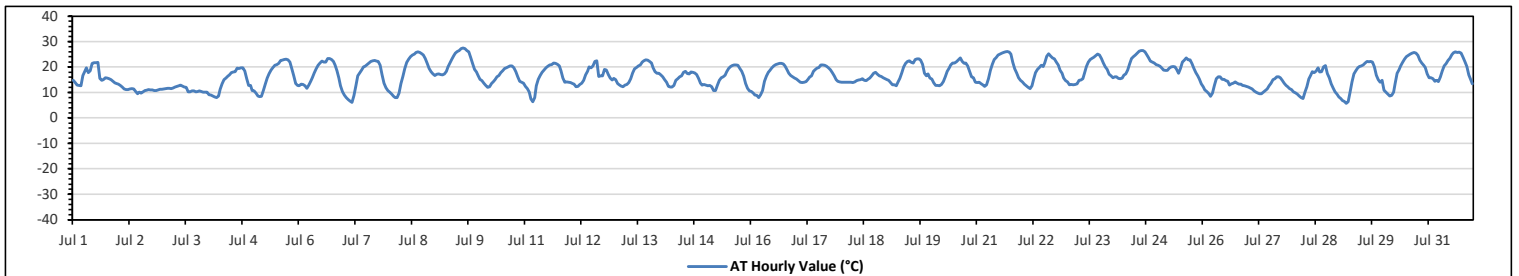
Lakeland Industry & Community Association
Tamarack Site - July 2023
Summary of Hourly Averages
AMBIENT TEMPERATURE (AT) in Degree Celsius

| | | | | |
|-----------------------|---------|-------------------|------------------------|-------|
| Maximum Hourly Value: | 27.5 °C | on Jul 9 at hr 15 | Hours in Service: | 744 |
| Maximum Daily Value: | 21.7 °C | on Jul 9 | Hours of Data: | 744 |
| Minimum Hourly Value: | 5.8 °C | on Jul 29 at hr 4 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 11.1 °C | on Jul 2 | Hours of Calibration: | 0 |
| Monthly Average: | 16.7 °C | | Operational Uptime: | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | |
|-----------------|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------|---------------|---------------|------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 |
| Jul 1 | 14.7 | 13.9 | 12.9 | 12.8 | 12.6 | 16.7 | 18.3 | 19.7 | 17.8 | 18.6 | 21.4 | 21.7 | 21.7 | 21.8 | 15.6 | 14.7 | 15.1 | 15.9 | 15.7 | 15.5 | 15.1 | 14.4 | 13.8 | 13.5 | 12.6 | 21.8 | 16.4 |
| Jul 2 | 13.3 | 12.8 | 12.1 | 11.4 | 11.1 | 11.2 | 11.4 | 11.6 | 11.4 | 10.5 | 9.5 | 10.2 | 9.8 | 10.3 | 10.7 | 10.9 | 11.1 | 11 | 11 | 10.7 | 10.8 | 11 | 11.3 | 11.3 | 9.5 | 13.3 | 11.1 |
| Jul 3 | 11.4 | 11.6 | 11.7 | 11.7 | 11.5 | 11.8 | 12.1 | 12.4 | 12.6 | 13 | 12.5 | 12.1 | 12 | 10.3 | 10.3 | 10.6 | 10.6 | 10.3 | 10.4 | 10.6 | 10.4 | 10.2 | 10.2 | 10.1 | 10.1 | 13.0 | 11.3 |
| Jul 4 | 9.2 | 9 | 8.7 | 8.3 | 7.9 | 8.6 | 11.3 | 13.4 | 15.1 | 15.7 | 16.4 | 16.9 | 17.8 | 18.1 | 18.2 | 19.6 | 19.5 | 19.8 | 19.7 | 18.5 | 15.5 | 12.8 | 12.8 | 10.7 | 7.9 | 19.8 | 14.3 |
| Jul 5 | 10.6 | 9.7 | 8.6 | 8.4 | 8.5 | 10.7 | 13.3 | 15.7 | 17.4 | 18.8 | 19.9 | 20.7 | 21 | 21.4 | 22.6 | 22.7 | 23 | 23.1 | 22.8 | 21.9 | 19.3 | 16.5 | 13.5 | 12.8 | 8.4 | 23.1 | 16.8 |
| Jul 6 | 12.7 | 13.3 | 13.2 | 12.7 | 11.7 | 12.9 | 14.5 | 15.9 | 17.7 | 19.3 | 20.7 | 21.6 | 22.4 | 22 | 22 | 23.4 | 23.3 | 22.9 | 22.2 | 20.8 | 18.6 | 15.7 | 12.7 | 10.4 | 10.4 | 23.4 | 17.6 |
| Jul 7 | 9.1 | 8 | 7.3 | 6.6 | 6.2 | 8.8 | 12.5 | 16.6 | 17.7 | 18.8 | 20 | 20.3 | 21 | 21.6 | 22.3 | 22.5 | 22.6 | 22.4 | 22.2 | 20.7 | 16.9 | 13.7 | 11.9 | 10.7 | 6.2 | 22.6 | 15.9 |
| Jul 8 | 10.1 | 9.4 | 8.5 | 7.9 | 7.9 | 9.8 | 13.5 | 16.3 | 19.5 | 21.8 | 23.1 | 24.1 | 24.8 | 25.1 | 25.7 | 26 | 25.7 | 25.3 | 24.7 | 23.4 | 21.4 | 19.4 | 18.2 | 17.3 | 7.9 | 26.0 | 18.7 |
| Jul 9 | 16.7 | 17.2 | 17.3 | 17.1 | 16.9 | 17.3 | 18.3 | 20 | 21.5 | 23.1 | 24.5 | 25.4 | 26.1 | 26.5 | 27.2 | 27.5 | 27.2 | 26.5 | 26 | 23.7 | 21.3 | 19.1 | 18.1 | 16.7 | 16.7 | 27.5 | 21.7 |
| Jul 10 | 15.2 | 14.6 | 13.6 | 12.8 | 12 | 12.2 | 13.5 | 14.3 | 15 | 16.1 | 16.7 | 17.8 | 18.6 | 19.4 | 19.7 | 20.1 | 20.5 | 20.4 | 19.7 | 18.2 | 16.2 | 14.5 | 14.1 | 13.6 | 12.0 | 20.5 | 16.2 |
| Jul 11 | 12.4 | 11.6 | 10.2 | 7.5 | 6.4 | 7.9 | 12.6 | 15.2 | 16.7 | 17.9 | 18.8 | 19.7 | 20.3 | 20.8 | 21 | 21.6 | 21.4 | 21.1 | 20.5 | 18.6 | 15.7 | 14.1 | 14.2 | 14 | 6.4 | 21.6 | 15.8 |
| Jul 12 | 13.9 | 13.5 | 13.3 | 12.2 | 12.4 | 13.2 | 13.6 | 14.8 | 17 | 18.4 | 20 | 19.7 | 20.5 | 22.3 | 22.5 | 16.3 | 16.5 | 16.5 | 19 | 18.8 | 17.1 | 15.7 | 14.9 | 15.6 | 12.2 | 22.5 | 16.6 |
| Jul 13 | 15 | 13.5 | 13.1 | 12.5 | 12.2 | 13 | 13.2 | 13.9 | 15.5 | 17.7 | 19.3 | 19.9 | 20.5 | 20.8 | 22 | 22.5 | 22.8 | 22.7 | 22.2 | 21.5 | 19.8 | 18.2 | 17.5 | 17.5 | 12.2 | 22.8 | 17.8 |
| Jul 14 | 16.9 | 16.1 | 15.1 | 14 | 12.4 | 12.1 | 12.1 | 12.8 | 14.7 | 15.5 | 16.1 | 16.5 | 17.9 | 18.3 | 17.4 | 17.3 | 18.1 | 17.9 | 17.7 | 17.1 | 15.6 | 13.7 | 12.9 | 13.2 | 12.1 | 18.3 | 15.5 |
| Jul 15 | 12.9 | 12.6 | 12.8 | 12.3 | 10.8 | 10.8 | 13 | 14.8 | 15.8 | 16.2 | 16.8 | 18.2 | 19.4 | 20.2 | 20.6 | 20.8 | 20.8 | 20.7 | 19.4 | 18.3 | 16.4 | 13.5 | 11.7 | 10.6 | 10.6 | 20.8 | 15.8 |
| Jul 16 | 10.5 | 9.7 | 9.1 | 8.9 | 8 | 9.2 | 10.8 | 14.5 | 16.4 | 17.9 | 18.7 | 19.7 | 20.4 | 21 | 21.2 | 21.4 | 21.4 | 21.2 | 20.4 | 19.1 | 17.6 | 16.7 | 16.1 | 15.7 | 8.0 | 21.4 | 16.1 |
| Jul 17 | 15.3 | 14.6 | 14.1 | 13.9 | 14 | 14.3 | 15.2 | 16 | 16.6 | 18.3 | 18.9 | 19.6 | 19.9 | 20.8 | 20.9 | 20.7 | 20.3 | 19.7 | 18.9 | 17.8 | 16.5 | 15 | 14.5 | 14.2 | 13.9 | 20.9 | 17.1 |
| Jul 18 | 14.1 | 14.1 | 14.1 | 14.1 | 14.1 | 14.1 | 13.9 | 14.2 | 14.6 | 14.9 | 15 | 15.5 | 14.8 | 14.6 | 15.2 | 15.7 | 16.6 | 17.6 | 18 | 17.2 | 16.5 | 16.3 | 15.9 | 15.4 | 13.9 | 18.0 | 15.3 |
| Jul 19 | 15 | 14.7 | 13.9 | 13.1 | 13.1 | 12.7 | 14.1 | 15.6 | 17.7 | 20.1 | 21.4 | 22.2 | 22.5 | 21.8 | 21.5 | 22.9 | 23.2 | 23.2 | 22.7 | 21.1 | 17.6 | 16.5 | 17.3 | 15.7 | 12.7 | 23.2 | 18.3 |
| Jul 20 | 15.3 | 13.8 | 12.8 | 12.8 | 12.7 | 13.2 | 14.3 | 16.2 | 18.3 | 19.6 | 20.8 | 21.5 | 21.5 | 22.1 | 22.8 | 23.6 | 22.3 | 21.4 | 21.6 | 20.4 | 18.3 | 16.1 | 15.8 | 14.1 | 12.7 | 23.6 | 18.0 |
| Jul 21 | 13.9 | 14 | 13.5 | 13.1 | 12.4 | 13.1 | 15.5 | 18.7 | 21.1 | 23 | 23.8 | 24.8 | 25.2 | 25.4 | 25.7 | 26 | 26.1 | 25.8 | 25.1 | 21.8 | 19.3 | 17.7 | 15.8 | 14.8 | 12.4 | 26.1 | 19.8 |
| Jul 22 | 14.2 | 13.3 | 12.6 | 12 | 11.6 | 12.6 | 15.2 | 17.8 | 19.1 | 19.9 | 20.7 | 20.2 | 21.7 | 24.2 | 25.3 | 24.4 | 23.6 | 23.2 | 21.9 | 20.8 | 18.7 | 17.5 | 15.7 | 14.6 | 11.6 | 25.3 | 18.4 |
| Jul 23 | 14.2 | 13.1 | 13.2 | 13.1 | 13.2 | 13.4 | 14.7 | 14.9 | 15.4 | 17.5 | 20.2 | 21.9 | 23 | 23.5 | 23.9 | 24.5 | 25.1 | 24.8 | 23.4 | 21.6 | 20 | 19 | 17.2 | 16.6 | 13.1 | 25.1 | 18.6 |
| Jul 24 | 15.9 | 16.1 | 16.1 | 15.6 | 15.4 | 15.7 | 16.8 | 17.3 | 18.8 | 21.2 | 23.4 | 24 | 24.8 | 25.5 | 26.2 | 26.5 | 26.5 | 26 | 25 | 23.7 | 22.4 | 21.9 | 21.5 | 21 | 15.4 | 26.5 | 21.1 |
| Jul 25 | 20.7 | 20.3 | 19.6 | 18.8 | 18.7 | 18.7 | 19.6 | 20 | 20.2 | 20 | 19 | 17.5 | 19.5 | 22 | 22.7 | 23.6 | 22.8 | 22.8 | 21.3 | 19.4 | 17.8 | 16.6 | 15.3 | 13.4 | 13.4 | 23.6 | 19.6 |
| Jul 26 | 12.2 | 11 | 10.4 | 9.6 | 8.5 | 9.8 | 12.8 | 15.4 | 16.2 | 16.2 | 15.2 | 15.2 | 14.6 | 14.4 | 12.9 | 13.4 | 13.7 | 14.2 | 13.7 | 13.3 | 13.3 | 12.8 | 12.6 | 12.4 | 8.5 | 16.2 | 13.1 |
| Jul 27 | 12.1 | 11.8 | 11.4 | 10.6 | 10.1 | 9.7 | 9.5 | 9.5 | 10.1 | 10.7 | 11.4 | 12.6 | 13.6 | 15.1 | 15.5 | 16.1 | 16.1 | 15.8 | 14.8 | 13.7 | 12.8 | 12.3 | 11.6 | 11.1 | 9.5 | 16.1 | 12.4 |
| Jul 28 | 10.3 | 9.9 | 9.4 | 8.6 | 7.9 | 7.7 | 10.1 | 12.3 | 15.3 | 16.8 | 18.2 | 17.8 | 18.5 | 19.8 | 18.1 | 18.2 | 20.1 | 20.6 | 17.4 | 15.9 | 13.4 | 11.8 | 10.3 | 9.3 | 7.7 | 20.6 | 14.1 |
| Jul 29 | 8.3 | 7.7 | 6.8 | 6.5 | 5.8 | 6.4 | 10.1 | 14.2 | 17.3 | 18.6 | 19.7 | 20.2 | 20.5 | 20.8 | 21.6 | 22.2 | 22.1 | 22.3 | 21.9 | 20 | 16.8 | 15.1 | 14.1 | 14.7 | 5.8 | 22.3 | 15.6 |
| Jul 30 | 10.9 | 10.2 | 9.4 | 8.7 | 8.9 | 10.1 | 13.6 | 17.5 | 18.9 | 20.5 | 21.8 | 23.1 | 24 | 24.6 | 25.2 | 25.4 | 25.7 | 25.5 | 24.6 | 22.7 | 21.5 | 20.7 | 19.9 | 17.3 | 8.7 | 25.7 | 18.8 |
| Jul 31 | 15.8 | 15.9 | 15.4 | 14.5 | 14.8 | 14.3 | 16 | 18.5 | 20.4 | 21.3 | 22.6 | 23.5 | 24.9 | 25.6 | 26 | 25.7 | 25.8 | 25.4 | 23.9 | 22.1 | 20.2 | 17 | 15 | 13.4 | 13.4 | 26.0 | 19.9 |
| Diurnal Maximum | 20.7 | 20.3 | 19.6 | 18.8 | 18.7 | 18.7 | 19.6 | 20.0 | 21.5 | 23.1 | 24.5 | 25.4 | 26.1 | 26.5 | 27.2 | 27.5 | 27.2 | 26.5 | 26.0 | 23.7 | 22.4 | 21.9 | 21.5 | 21.0 | | | |
| Diurnal Average | 13.3 | 12.8 | 12.3 | 11.7 | 11.3 | 12.0 | 13.7 | 15.5 | 16.8 | 18.0 | 18.9 | 19.5 | 20.1 | 20.6 | 20.7 | 20.9 | 21.0 | 20.8 | 20.3 | 19.0 | 17.2 | 15.7 | 14.7 | 13.9 | | | |

| | | |
|---|--|------------------------------|
| C Monthly Calibration | S Daily Zero-Span Check | Q Quality Assurance |
| K Collection Error | ND No Data (Machine Not in Service) | Y Routine Maintenance |
| X InValid Data (Equipment Malfunction /Recovery) | NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per days is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



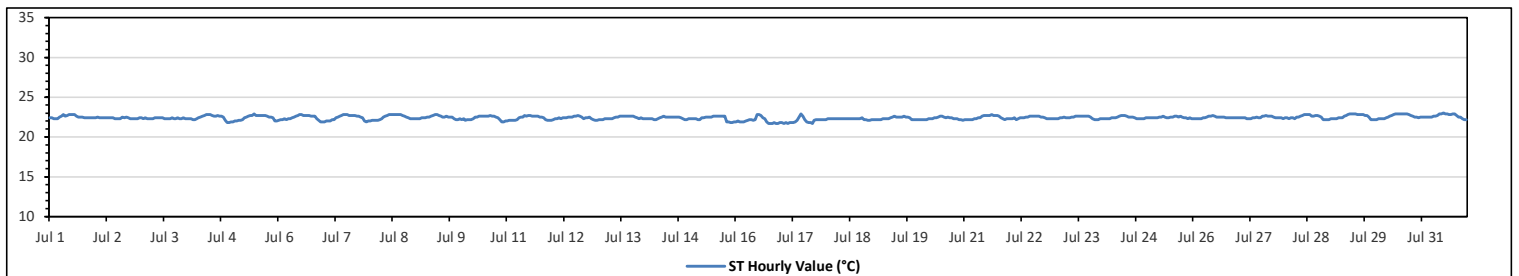
Lakeland Industry & Community Association
Tamarack Site - July 2023
Summary of Hourly Averages
STATION TEMPERATURE (ST) in Degree Celsius

| | | | | | |
|-----------------------|------|----|--------------------|------------------------|-------|
| Maximum Hourly Value: | 23.0 | °C | on Jul 31 at hr 11 | Hours in Service: | 744 |
| Maximum Daily Value: | 22.6 | °C | on Jul 31 | Hours of Data: | 744 |
| Minimum Hourly Value: | 21.7 | °C | on Jul 16 at hr 17 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 22.0 | °C | on Jul 17 | Hours of Calibration: | 0 |
| Monthly Average: | 22.4 | °C | | Operational Uptime: | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | | |
|-----------------|---------------------------------|-------------|------|-------------|------|------|------|------|------|------|------|-------------|------|------|------|------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|---------------|---------------|---------------|-------------|------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 | |
| Jul 1 | 22.4 | 22.4 | 22.3 | 22.3 | 22.3 | 22.5 | 22.6 | 22.8 | 22.6 | 22.7 | 22.8 | 22.8 | 22.8 | 22.6 | 22.5 | 22.5 | 22.5 | 22.4 | 22.4 | 22.4 | 22.4 | 22.4 | 22.4 | 22.4 | 22.3 | 22.8 | 22.5 | 22.4 |
| Jul 2 | 22.4 | 22.5 | 22.4 | 22.4 | 22.4 | 22.4 | 22.4 | 22.4 | 22.4 | 22.4 | 22.3 | 22.3 | 22.3 | 22.3 | 22.5 | 22.4 | 22.5 | 22.4 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.5 | 22.4 |
| Jul 3 | 22.4 | 22.3 | 22.4 | 22.3 | 22.3 | 22.3 | 22.3 | 22.4 | 22.4 | 22.4 | 22.4 | 22.4 | 22.3 | 22.3 | 22.3 | 22.3 | 22.4 | 22.3 | 22.3 | 22.3 | 22.4 | 22.3 | 22.3 | 22.4 | 22.3 | 22.3 | 22.4 | 22.3 |
| Jul 4 | 22.3 | 22.3 | 22.3 | 22.2 | 22.2 | 22.3 | 22.4 | 22.5 | 22.6 | 22.7 | 22.8 | 22.8 | 22.8 | 22.7 | 22.6 | 22.6 | 22.7 | 22.6 | 22.6 | 22.6 | 22.5 | 22.1 | 21.8 | 21.8 | 21.9 | 21.8 | 22.8 | 22.4 |
| Jul 5 | 21.9 | 22.0 | 22.0 | 22.1 | 22.1 | 22.2 | 22.4 | 22.5 | 22.6 | 22.7 | 22.7 | 22.9 | 22.7 | 22.7 | 22.7 | 22.7 | 22.7 | 22.7 | 22.7 | 22.6 | 22.5 | 22.5 | 22.4 | 22.0 | 22.0 | 21.9 | 22.9 | 22.4 |
| Jul 6 | 22.1 | 22.2 | 22.2 | 22.3 | 22.2 | 22.3 | 22.4 | 22.5 | 22.6 | 22.7 | 22.8 | 22.8 | 22.7 | 22.7 | 22.7 | 22.7 | 22.6 | 22.6 | 22.6 | 22.6 | 22.3 | 22.1 | 21.9 | 21.9 | 21.9 | 21.9 | 22.8 | 22.4 |
| Jul 7 | 21.9 | 22.0 | 22.0 | 22.0 | 22.2 | 22.2 | 22.4 | 22.5 | 22.6 | 22.7 | 22.8 | 22.8 | 22.7 | 22.7 | 22.7 | 22.7 | 22.6 | 22.6 | 22.6 | 22.5 | 22.4 | 22.0 | 21.9 | 22.0 | 21.9 | 22.9 | 22.8 | 22.4 |
| Jul 8 | 22.0 | 22.1 | 22.1 | 22.1 | 22.1 | 22.2 | 22.3 | 22.5 | 22.6 | 22.7 | 22.8 | 22.8 | 22.8 | 22.8 | 22.8 | 22.8 | 22.8 | 22.7 | 22.6 | 22.5 | 22.4 | 22.3 | 22.3 | 22.3 | 22.0 | 22.8 | 22.5 | 22.5 |
| Jul 9 | 22.3 | 22.3 | 22.3 | 22.4 | 22.4 | 22.4 | 22.5 | 22.5 | 22.6 | 22.7 | 22.8 | 22.8 | 22.7 | 22.6 | 22.5 | 22.5 | 22.6 | 22.5 | 22.5 | 22.5 | 22.3 | 22.2 | 22.2 | 22.3 | 22.2 | 22.8 | 22.5 | 22.5 |
| Jul 10 | 22.2 | 22.3 | 22.1 | 22.2 | 22.2 | 22.2 | 22.3 | 22.5 | 22.5 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.7 | 22.6 | 22.6 | 22.5 | 22.4 | 22.2 | 21.9 | 21.9 | 22.0 | 21.9 | 22.7 | 22.4 | 22.4 |
| Jul 11 | 22.0 | 22.1 | 22.1 | 22.1 | 22.1 | 22.2 | 22.4 | 22.5 | 22.5 | 22.7 | 22.6 | 22.7 | 22.7 | 22.6 | 22.6 | 22.6 | 22.6 | 22.5 | 22.5 | 22.4 | 22.2 | 22.1 | 22.1 | 22.1 | 22.0 | 22.7 | 22.4 | 22.4 |
| Jul 12 | 22.2 | 22.3 | 22.3 | 22.4 | 22.3 | 22.4 | 22.4 | 22.5 | 22.5 | 22.5 | 22.5 | 22.6 | 22.6 | 22.7 | 22.6 | 22.5 | 22.3 | 22.4 | 22.4 | 22.5 | 22.3 | 22.2 | 22.1 | 22.1 | 22.0 | 22.7 | 22.4 | 22.4 |
| Jul 13 | 22.2 | 22.2 | 22.2 | 22.3 | 22.3 | 22.3 | 22.3 | 22.4 | 22.5 | 22.5 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.5 | 22.4 | 22.3 | 22.4 | 22.3 | 22.2 | 22.6 | 22.4 | 22.4 |
| Jul 14 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.2 | 22.3 | 22.4 | 22.5 | 22.6 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.4 | 22.3 | 22.2 | 22.2 | 22.3 | 22.2 | 22.6 | 22.4 | 22.4 |
| Jul 15 | 22.3 | 22.3 | 22.3 | 22.3 | 22.2 | 22.2 | 22.4 | 22.4 | 22.5 | 22.5 | 22.5 | 22.5 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 21.9 | 21.9 | 21.8 | 21.8 | 21.9 | 21.8 | 22.6 | 22.3 |
| Jul 16 | 21.9 | 22.0 | 21.9 | 21.9 | 21.9 | 22.0 | 22.1 | 22.2 | 22.2 | 22.1 | 22.2 | 22.8 | 22.8 | 22.7 | 22.4 | 22.3 | 21.9 | 21.7 | 21.7 | 21.7 | 21.7 | 21.8 | 21.7 | 21.7 | 21.8 | 21.7 | 22.8 | 22.1 |
| Jul 17 | 21.8 | 21.7 | 21.8 | 21.7 | 21.8 | 21.8 | 21.8 | 21.9 | 22.1 | 22.5 | 22.9 | 22.6 | 22.2 | 21.9 | 21.8 | 21.8 | 21.7 | 22.1 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 21.7 | 22.9 | 22.0 | |
| Jul 18 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.4 | 22.2 | 22.2 | 22.1 | 22.1 | 22.2 | 22.1 | 22.4 | 22.3 |
| Jul 19 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 22.3 | 22.3 | 22.3 | 22.3 | 22.4 | 22.5 | 22.6 | 22.5 | 22.5 | 22.5 | 22.5 | 22.6 | 22.5 | 22.5 | 22.4 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 22.6 | 22.4 |
| Jul 20 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 22.3 | 22.3 | 22.3 | 22.4 | 22.4 | 22.5 | 22.6 | 22.6 | 22.5 | 22.4 | 22.5 | 22.4 | 22.4 | 22.3 | 22.3 | 22.3 | 22.2 | 22.2 | 22.1 | 22.1 | 22.6 | 22.3 | 22.3 |
| Jul 21 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 22.3 | 22.3 | 22.4 | 22.4 | 22.6 | 22.7 | 22.7 | 22.7 | 22.7 | 22.8 | 22.7 | 22.7 | 22.7 | 22.6 | 22.4 | 22.3 | 22.2 | 22.3 | 22.3 | 22.2 | 22.8 | 22.5 | 22.5 |
| Jul 22 | 22.3 | 22.3 | 22.4 | 22.2 | 22.3 | 22.4 | 22.4 | 22.4 | 22.5 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.5 | 22.5 | 22.4 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.2 | 22.6 | 22.4 | 22.4 |
| Jul 23 | 22.3 | 22.3 | 22.4 | 22.4 | 22.5 | 22.4 | 22.4 | 22.4 | 22.5 | 22.5 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.5 | 22.3 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 22.6 | 22.4 | 22.4 |
| Jul 24 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.4 | 22.4 | 22.4 | 22.5 | 22.6 | 22.7 | 22.7 | 22.7 | 22.6 | 22.5 | 22.5 | 22.4 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.2 | 22.7 | 22.4 | 22.4 |
| Jul 25 | 22.4 | 22.4 | 22.4 | 22.4 | 22.4 | 22.4 | 22.5 | 22.5 | 22.6 | 22.5 | 22.4 | 22.4 | 22.5 | 22.5 | 22.6 | 22.6 | 22.5 | 22.6 | 22.5 | 22.4 | 22.4 | 22.4 | 22.3 | 22.4 | 22.3 | 22.3 | 22.6 | 22.5 |
| Jul 26 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.4 | 22.4 | 22.5 | 22.6 | 22.6 | 22.7 | 22.6 | 22.5 | 22.5 | 22.5 | 22.5 | 22.4 | 22.4 | 22.4 | 22.4 | 22.4 | 22.4 | 22.4 | 22.4 | 22.3 | 22.7 | 22.4 | 22.4 |
| Jul 27 | 22.4 | 22.4 | 22.4 | 22.4 | 22.3 | 22.3 | 22.3 | 22.4 | 22.4 | 22.5 | 22.4 | 22.4 | 22.6 | 22.6 | 22.7 | 22.6 | 22.6 | 22.5 | 22.4 | 22.4 | 22.4 | 22.4 | 22.4 | 22.4 | 22.3 | 22.7 | 22.4 | 22.4 |
| Jul 28 | 22.4 | 22.4 | 22.3 | 22.4 | 22.4 | 22.3 | 22.5 | 22.5 | 22.6 | 22.7 | 22.8 | 22.8 | 22.8 | 22.8 | 22.6 | 22.6 | 22.7 | 22.7 | 22.6 | 22.5 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 22.8 | 22.5 | 22.5 |
| Jul 29 | 22.3 | 22.3 | 22.3 | 22.3 | 22.4 | 22.4 | 22.4 | 22.6 | 22.7 | 22.8 | 22.9 | 22.9 | 22.9 | 22.8 | 22.8 | 22.8 | 22.8 | 22.7 | 22.7 | 22.5 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 22.9 | 22.6 | 22.6 |
| Jul 30 | 22.2 | 22.3 | 22.3 | 22.3 | 22.3 | 22.4 | 22.5 | 22.6 | 22.7 | 22.8 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.7 | 22.6 | 22.5 | 22.4 | 22.5 | 22.2 | 22.9 | 22.6 |
| Jul 31 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.6 | 22.6 | 22.7 | 22.9 | 22.9 | 23.0 | 22.9 | 22.9 | 22.8 | 22.8 | 22.9 | 22.9 | 22.7 | 22.5 | 22.5 | 22.3 | 22.2 | 22.2 | 22.2 | 22.2 | 22.6 | 22.6 |
| Diurnal Maximum | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.6 | 22.8 | 22.7 | 22.9 | 22.9 | 22.9 | 23.0 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.7 | 22.7 | 22.5 | 22.5 | 22.4 | 22.5 | 22.2 | 22.9 | 22.6 | |
| Diurnal Average | 22.2 | 22.2 | 22.2 | 22.2 | 22.3 | 22.3 | 22.4 | 22.4 | 22.5 | 22.6 | 22.6 | 22.7 | 22.6 | 22.6 | 22.6 | 22.5 | 22.5 | 22.5 | 22.4 | 22.3 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 |

| | | |
|---|--|------------------------------|
| C Monthly Calibration | S Daily Zero-Span Check | Q Quality Assurance |
| K Collection Error | ND No Data (Machine Not in Service) | Y Routine Maintenance |
| X InValid Data (Equipment Malfunction /Recovery) | NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



Lakeland Industry & Community Association

Tamarack Site - July 2023
Summary of Hourly Averages

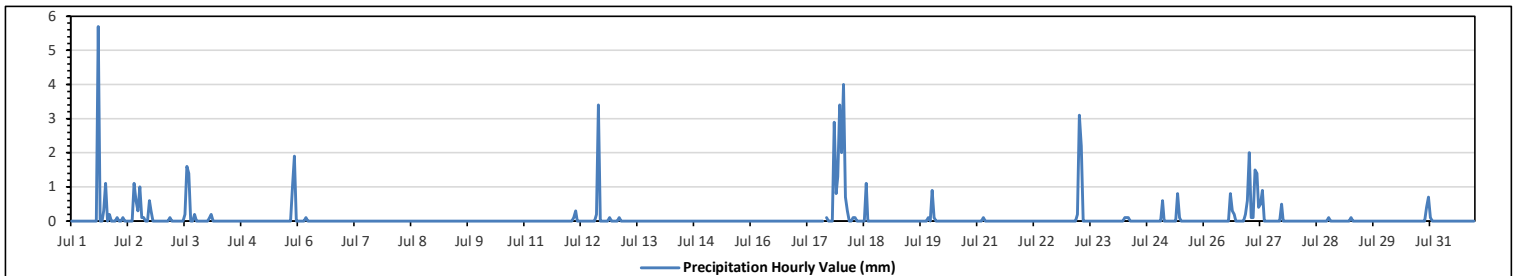
PRECIPITATION in mm

| | | | | |
|-----------------------|---------|-------------------|------------------------|-------|
| Maximum Hourly Value: | 5.7 mm | on Jul 1 at hr 14 | Hours in Service: | 744 |
| Maximum Daily Value: | 8.5 mm | on Jul 17 | Hours of Data: | 743 |
| Minimum Hourly Value: | 0.0 mm | on Jul 1 at hr 0 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 0.0 mm | on Jul 7 | Hours of Calibration: | 1 |
| Monthly Total: | 58.8 mm | | Operational Uptime: | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Total | |
|-----------------|---------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------------|---------------|-------------|-----|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 |
| Jul 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5.7 | 0 | 0 | 0.3 | 1.1 | 0 | 0.2 | 0 | 0 | 0 | 0.0 | 5.7 | 7.3 |
| Jul 2 | 0.1 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 1.1 | 0.6 | 0.3 | 1 | 0.1 | 0.1 | 0 | 0.6 | 0.3 | 0 | 0 | 0 | 0 | 0 | 0.0 | 1.1 | 4.3 |
| Jul 3 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 1.6 | 1.4 | 0 | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0.0 | 1.6 | 3.5 |
| Jul 4 | 0 | 0.1 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.2 | 0.3 |
| Jul 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1.9 | 0.0 | 1.9 | 2.9 |
| Jul 6 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.1 | 0.1 |
| Jul 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Jul 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Jul 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Jul 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Jul 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Jul 12 | 0 | 0 | 0.1 | 0.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 3.4 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0.0 | 3.4 | 4.1 |
| Jul 13 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.1 | 0.1 |
| Jul 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Jul 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Jul 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Jul 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | C | 0.1 | 0 | 0 | 0 | 2.9 | 0.8 | 1.3 | 3.4 | 0.0 | 3.4 | 8.5 |
| Jul 18 | 2 | 4 | 0.7 | 0.3 | 0 | 0 | 0.1 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 1.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 4.0 | 8.3 |
| Jul 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0.0 | 0.1 | 0.1 |
| Jul 20 | 0.9 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.9 | 1.0 |
| Jul 21 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.1 | 0.1 |
| Jul 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Jul 23 | 0 | 0 | 0 | 0 | 0 | 0.2 | 3.1 | 2.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 3.1 | 5.5 |
| Jul 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.1 | 0.1 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.1 | 0.3 |
| Jul 25 | 0 | 0 | 0.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.8 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.8 | 1.5 |
| Jul 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.8 | 0.3 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.6 | 0.0 | 0.8 | 2.1 |
| Jul 27 | 2 | 0.1 | 0.1 | 1.5 | 1.4 | 0.4 | 0.5 | 0.9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 2.0 | 7.4 |
| Jul 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.1 | 0.1 |
| Jul 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.1 | 0.1 |
| Jul 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 | 0.7 | 0.0 | 0.7 | 1.1 |
| Jul 31 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.1 | 0.1 |
| Diurnal Maximum | 2.0 | 4.0 | 0.7 | 1.5 | 1.4 | 0.4 | 3.1 | 2.2 | 0.1 | 1.1 | 0.8 | 0.3 | 1.0 | 1.6 | 5.7 | 3.4 | 0.2 | 0.6 | 1.1 | 0.0 | 2.9 | 1.0 | 1.9 | 3.4 | | | |
| Diurnal Average | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.3 | 0.1 | 0.0 | 0.1 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.2 | | | |

| | | |
|---|--|------------------------------|
| C Monthly Calibration | S Daily Zero-Span Check | Q Quality Assurance |
| K Collection Error | ND No Data (Machine Not in Service) | Y Routine Maintenance |
| X InValid Data (Equipment Malfunction /Recovery) | NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



Lakeland Industry & Community Association

Tamarack Site - July 2023
Summary of Hourly Averages

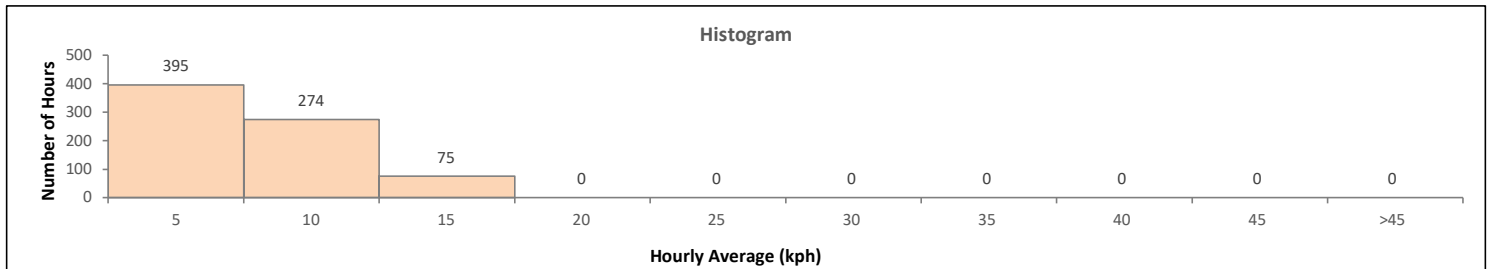
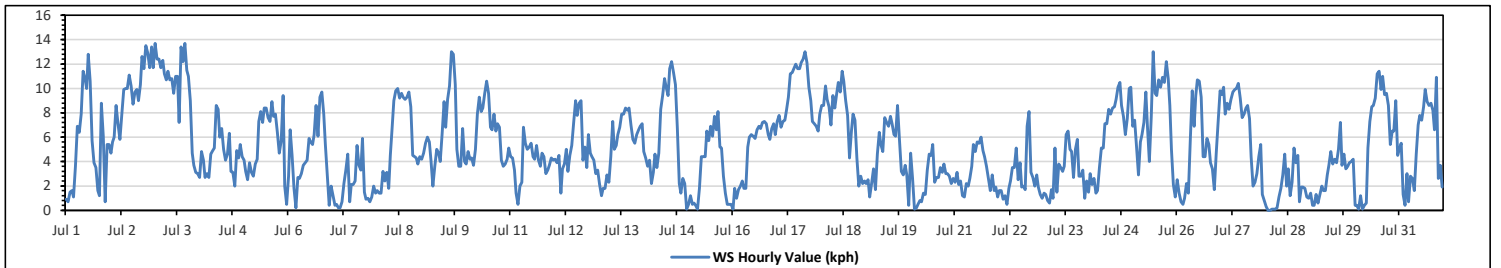
VECTOR WIND SPEED (VWS) in km/hr

| | | | | | |
|-----------------------|------|-----|-------------------|------------------------|-------|
| Maximum Hourly Value: | 13.7 | kph | on Jul 3 at hr 0 | Hours in Service: | 744 |
| Maximum Daily Value: | 10.1 | kph | on Jul 3 | Hours of Data: | 744 |
| Minimum Hourly Value: | 0.0 | kph | on Jul 28 at hr 1 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 1.8 | kph | on Jul 28 | Hours of Calibration: | 0 |
| Monthly Average: | 0.5 | kph | | Operational Uptime: | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | |
|-----------------|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------|---------------|---------------|------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 |
| Jul 1 | 0.9 | 0.7 | 1.5 | 1.6 | 1.1 | 3.6 | 6.9 | 6.4 | 7.9 | 11.4 | 10.8 | 10.0 | 12.8 | 10.6 | 5.7 | 3.9 | 3.5 | 1.6 | 1.2 | 8.8 | 6.1 | 0.7 | 5.4 | 5.4 | 0.7 | 12.8 | 5.4 |
| Jul 2 | 4.7 | 5.6 | 6.0 | 8.6 | 7.1 | 5.8 | 7.9 | 9.9 | 10.0 | 10.0 | 11.1 | 10.2 | 8.7 | 9.7 | 9.9 | 9.0 | 10.3 | 12.6 | 11.6 | 13.5 | 12.9 | 11.7 | 13.4 | 11.7 | 4.7 | 13.5 | 9.7 |
| Jul 3 | 13.7 | 12.4 | 12.4 | 11.7 | 12.3 | 11.2 | 10.7 | 11.4 | 10.7 | 10.8 | 9.6 | 11.0 | 11.0 | 7.2 | 13.4 | 12.2 | 13.7 | 11.5 | 11.0 | 9.0 | 4.7 | 3.7 | 3.1 | 3.0 | 3.0 | 13.7 | 10.1 |
| Jul 4 | 2.7 | 4.8 | 4.1 | 2.7 | 3.0 | 2.7 | 4.6 | 4.9 | 5.1 | 8.6 | 8.3 | 6.0 | 6.7 | 5.0 | 4.1 | 4.6 | 6.3 | 3.2 | 3.1 | 2.0 | 4.9 | 4.3 | 5.4 | 4.4 | 2.0 | 8.6 | 4.6 |
| Jul 5 | 4.1 | 3.2 | 2.5 | 3.9 | 3.1 | 2.8 | 3.8 | 4.2 | 7.3 | 8.1 | 7.2 | 8.4 | 8.4 | 7.6 | 7.3 | 8.9 | 7.7 | 7.9 | 6.4 | 4.7 | 5.7 | 9.4 | 2.0 | 0.5 | 0.5 | 9.4 | 5.6 |
| Jul 6 | 2.8 | 6.6 | 4.5 | 1.8 | 0.2 | 2.7 | 2.6 | 3.0 | 3.7 | 3.9 | 4.1 | 5.9 | 5.6 | 5.4 | 6.2 | 8.6 | 6.1 | 9.3 | 9.7 | 7.9 | 5.4 | 2.9 | 0.4 | 2.0 | 0.2 | 9.7 | 4.6 |
| Jul 7 | 1.2 | 0.4 | 0.5 | 0.2 | 0.2 | 0.7 | 2.2 | 3.3 | 4.6 | 0.7 | 2.1 | 2.1 | 2.4 | 5.3 | 3.7 | 3.3 | 5.9 | 1.5 | 0.9 | 1.0 | 0.7 | 1.1 | 2.0 | 1.4 | 0.2 | 5.9 | 2.0 |
| Jul 8 | 1.6 | 1.4 | 1.4 | 3.2 | 2.4 | 3.1 | 1.8 | 4.5 | 6.5 | 9.0 | 9.8 | 10.0 | 9.2 | 9.6 | 9.3 | 9.1 | 9.3 | 9.7 | 8.5 | 4.5 | 4.4 | 4.3 | 3.8 | 4.4 | 1.4 | 10.0 | 5.9 |
| Jul 9 | 4.2 | 4.7 | 5.5 | 6.0 | 5.6 | 4.1 | 2.0 | 3.6 | 5.0 | 4.7 | 4.0 | 6.3 | 8.9 | 6.8 | 9.1 | 10.2 | 13.0 | 12.8 | 10.3 | 5.0 | 3.6 | 3.6 | 6.7 | 4.0 | 2.0 | 13.0 | 6.2 |
| Jul 10 | 3.8 | 4.8 | 4.2 | 4.3 | 3.7 | 5.0 | 7.9 | 9.3 | 8.1 | 8.4 | 9.6 | 10.6 | 9.6 | 6.8 | 6.6 | 7.9 | 6.5 | 7.1 | 6.8 | 4.1 | 3.6 | 3.8 | 4.2 | 5.1 | 3.6 | 10.6 | 6.3 |
| Jul 11 | 4.4 | 4.3 | 3.3 | 1.4 | 0.5 | 2.0 | 2.3 | 6.8 | 5.5 | 5.0 | 5.2 | 5.5 | 4.4 | 4.2 | 5.3 | 4.1 | 3.6 | 4.7 | 4.4 | 3.0 | 3.3 | 3.7 | 4.3 | 4.1 | 0.5 | 6.8 | 4.0 |
| Jul 12 | 4.2 | 3.9 | 4.5 | 1.4 | 3.4 | 3.8 | 5.0 | 3.2 | 4.5 | 5.3 | 7.2 | 9.0 | 7.8 | 8.8 | 9.0 | 4.1 | 5.2 | 3.5 | 6.2 | 4.7 | 4.4 | 4.1 | 3.0 | 3.3 | 1.4 | 9.0 | 5.0 |
| Jul 13 | 2.1 | 1.2 | 1.8 | 1.8 | 2.9 | 2.3 | 4.4 | 7.3 | 5.0 | 5.3 | 6.2 | 6.8 | 7.9 | 7.9 | 8.4 | 8.2 | 8.4 | 7.0 | 5.8 | 5.5 | 6.2 | 6.6 | 6.9 | 7.1 | 1.2 | 8.4 | 5.5 |
| Jul 14 | 4.8 | 4.3 | 3.6 | 4.1 | 2.2 | 3.1 | 4.6 | 3.5 | 4.7 | 8.3 | 9.4 | 10.8 | 10.1 | 9.4 | 11.6 | 12.2 | 11.3 | 10.3 | 6.7 | 2.2 | 1.4 | 2.6 | 2.2 | 0.1 | 0.1 | 12.2 | 6.0 |
| Jul 15 | 0.5 | 1.2 | 0.5 | 0.6 | 0.4 | 0.1 | 1.8 | 4.4 | 4.4 | 4.4 | 6.5 | 5.7 | 6.9 | 6.1 | 7.7 | 6.6 | 8.1 | 5.2 | 5.1 | 2.8 | 1.4 | 0.5 | 0.5 | 0.5 | 0.1 | 8.1 | 3.4 |
| Jul 16 | 0.1 | 1.8 | 1.0 | 1.7 | 2.0 | 2.4 | 1.8 | 1.8 | 5.2 | 6.0 | 6.2 | 6.1 | 5.9 | 6.6 | 6.9 | 6.7 | 7.2 | 7.3 | 7.1 | 6.2 | 5.8 | 6.7 | 7.1 | 6.2 | 0.1 | 7.3 | 4.8 |
| Jul 17 | 7.3 | 7.8 | 6.8 | 7.3 | 7.4 | 8.2 | 9.3 | 11.2 | 11.3 | 11.6 | 12.0 | 11.6 | 11.6 | 12.1 | 12.4 | 13.0 | 12.1 | 10.1 | 9.0 | 7.3 | 7.1 | 6.9 | 6.5 | 7.9 | 6.5 | 13.0 | 9.5 |
| Jul 18 | 8.6 | 8.6 | 10.2 | 9.1 | 8.5 | 7.0 | 9.4 | 8.4 | 9.6 | 10.5 | 9.7 | 11.4 | 10.6 | 9.0 | 7.8 | 4.3 | 6.5 | 7.9 | 7.4 | 4.3 | 2.0 | 2.8 | 2.2 | 2.4 | 2.0 | 11.4 | 7.4 |
| Jul 19 | 2.2 | 2.5 | 1.1 | 2.2 | 3.4 | 1.7 | 4.6 | 6.4 | 5.4 | 4.8 | 7.6 | 7.2 | 6.9 | 7.7 | 7.1 | 6.2 | 6.1 | 8.6 | 5.8 | 3.2 | 2.9 | 3.7 | 2.9 | 0.4 | 0.4 | 8.6 | 4.6 |
| Jul 20 | 4.7 | 2.6 | 0.1 | 0.2 | 0.5 | 0.8 | 0.7 | 1.4 | 1.3 | 3.3 | 4.6 | 4.5 | 5.4 | 2.3 | 2.7 | 2.7 | 3.5 | 3.1 | 3.8 | 3.0 | 3.0 | 2.8 | 2.2 | 2.6 | 0.1 | 5.4 | 2.6 |
| Jul 21 | 2.3 | 3.1 | 2.1 | 2.4 | 1.2 | 1.1 | 2.2 | 2.0 | 2.6 | 3.6 | 5.4 | 4.8 | 5.6 | 5.5 | 6.0 | 4.9 | 4.4 | 3.6 | 2.6 | 1.6 | 2.9 | 1.6 | 1.9 | 1.1 | 1.1 | 6.0 | 3.1 |
| Jul 22 | 1.6 | 1.6 | 0.9 | 1.2 | 0.5 | 1.8 | 2.4 | 3.5 | 3.5 | 5.1 | 2.5 | 3.9 | 1.9 | 2.0 | 1.7 | 6.9 | 8.1 | 3.1 | 2.7 | 2.0 | 2.9 | 1.9 | 1.3 | 1.0 | 0.5 | 8.1 | 2.7 |
| Jul 23 | 1.4 | 1.3 | 0.8 | 0.6 | 1.7 | 1.0 | 5.1 | 1.5 | 3.8 | 3.5 | 3.2 | 3.6 | 6.2 | 6.5 | 5.0 | 4.8 | 2.7 | 5.0 | 5.8 | 2.8 | 2.8 | 3.3 | 1.0 | 2.4 | 0.6 | 6.5 | 3.2 |
| Jul 24 | 1.5 | 3.0 | 2.1 | 2.6 | 1.4 | 1.6 | 3.5 | 5.1 | 5.1 | 7.1 | 7.1 | 8.3 | 7.9 | 8.4 | 8.5 | 9.1 | 10.1 | 10.5 | 8.6 | 7.7 | 6.2 | 7.5 | 10.0 | 10.1 | 1.4 | 10.5 | 6.4 |
| Jul 25 | 6.9 | 7.4 | 5.2 | 2.9 | 5.6 | 6.2 | 7.2 | 9.7 | 6.9 | 4.0 | 7.7 | 13.0 | 9.6 | 9.4 | 10.7 | 10.1 | 10.9 | 10.5 | 12.2 | 10.8 | 8.6 | 5.0 | 2.1 | 1.1 | 1.1 | 13.0 | 7.7 |
| Jul 26 | 2.5 | 1.4 | 0.7 | 0.5 | 1.0 | 2.2 | 1.4 | 5.8 | 9.8 | 6.9 | 9.4 | 10.7 | 10.6 | 9.3 | 4.4 | 4.4 | 5.9 | 5.4 | 3.9 | 3.4 | 1.7 | 4.7 | 7.3 | 9.8 | 0.5 | 10.7 | 5.1 |
| Jul 27 | 9.5 | 10.1 | 7.9 | 8.8 | 8.3 | 9.1 | 9.7 | 9.9 | 10.0 | 10.4 | 9.2 | 7.6 | 7.9 | 8.4 | 8.6 | 7.5 | 4.4 | 2.0 | 2.3 | 3.0 | 4.4 | 5.4 | 1.3 | 0.8 | 0.8 | 10.4 | 6.9 |
| Jul 28 | 0.3 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.2 | 1.1 | 1.8 | 2.9 | 4.6 | 2.0 | 3.4 | 1.2 | 2.3 | 5.1 | 3.9 | 4.5 | 0.7 | 1.9 | 1.9 | 1.8 | 1.1 | 1.0 | 0.0 | 5.1 | 1.8 |
| Jul 29 | 1.4 | 0.4 | 0.4 | 1.3 | 0.6 | 1.3 | 2.0 | 1.6 | 1.6 | 2.9 | 3.7 | 4.8 | 3.8 | 4.2 | 3.9 | 5.0 | 7.2 | 3.7 | 4.6 | 3.4 | 3.6 | 3.9 | 4.0 | 4.2 | 0.4 | 7.2 | 3.1 |
| Jul 30 | 0.4 | 0.4 | 0.1 | 1.2 | 0.1 | 0.4 | 0.6 | 5.1 | 7.3 | 8.5 | 8.6 | 9.2 | 11.2 | 11.4 | 9.9 | 11.0 | 9.5 | 9.6 | 8.6 | 5.4 | 6.5 | 6.5 | 9.0 | 4.5 | 0.1 | 11.4 | 6.0 |
| Jul 31 | 5.0 | 5.5 | 1.3 | 0.4 | 3.0 | 0.7 | 2.8 | 2.6 | 1.6 | 4.6 | 7.0 | 7.8 | 7.4 | 8.5 | 9.9 | 8.9 | 8.6 | 8.8 | 8.2 | 6.6 | 10.9 | 2.6 | 3.7 | 1.9 | 0.4 | 10.9 | 5.3 |
| Diurnal Maximum | 13.7 | 12.4 | 12.4 | 11.7 | 12.3 | 11.2 | 10.7 | 11.4 | 11.3 | 11.6 | 12.0 | 13.0 | 12.8 | 12.1 | 13.4 | 13.0 | 13.7 | 12.8 | 12.2 | 13.5 | 12.9 | 11.7 | 13.4 | 11.7 | | | |
| Diurnal Average | 3.6 | 3.8 | 3.1 | 3.1 | 3.0 | 3.2 | 4.2 | 5.3 | 5.8 | 6.4 | 7.1 | 7.6 | 7.6 | 7.2 | 7.3 | 7.2 | 7.4 | 6.8 | 6.2 | 4.9 | 4.6 | 4.2 | 4.1 | 3.7 | | | |

| | | |
|--|--|------------------------------|
| C Monthly Calibration | S Daily Zero-Span Check | Q Quality Assurance |
| K Collection Error | ND No Data (Machine Not in Service) | Y Routine Maintenance |
| X InValid Data (Equipment Malfunction/Recovery) | NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

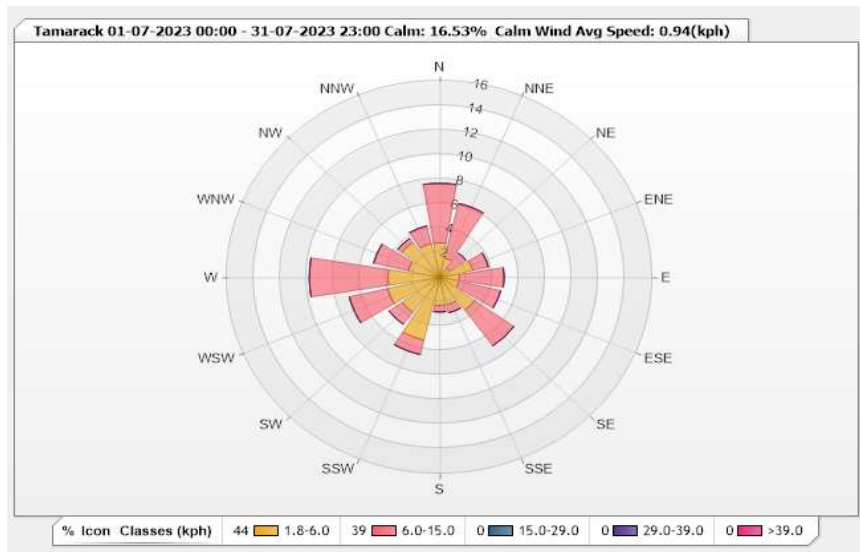


Station: Tamarack Monitor: WDS [kph] Monthly: 07-2023

Type: Wind Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm (WS<1.8kph): 16.53% Valid Data: 100.00%

| Direction | 1.8-6.0 | 6.0-15.0 | 15.0-29.0 | 29.0-39.0 | >39.0 | Total |
|-----------|---------|----------|-----------|-----------|-------|-------|
| N | 2.82 | 4.84 | 0 | 0 | 0 | 7.66 |
| NNE | 1.61 | 4.57 | 0 | 0 | 0 | 6.18 |
| NE | 0.94 | 1.48 | 0 | 0 | 0 | 2.42 |
| ENE | 2.55 | 1.21 | 0 | 0 | 0 | 3.76 |
| E | 1.48 | 3.36 | 0 | 0 | 0 | 4.84 |
| ESE | 1.48 | 3.23 | 0 | 0 | 0 | 4.71 |
| SE | 3.23 | 3.63 | 0 | 0 | 0 | 6.86 |
| SSE | 2.28 | 0.67 | 0 | 0 | 0 | 2.95 |
| S | 2.28 | 0.54 | 0 | 0 | 0 | 2.82 |
| SSW | 5.24 | 1.21 | 0 | 0 | 0 | 6.45 |
| SW | 3.49 | 1.21 | 0 | 0 | 0 | 4.7 |
| WSW | 4.03 | 2.96 | 0 | 0 | 0 | 6.99 |
| W | 3.9 | 5.91 | 0 | 0 | 0 | 9.81 |
| WNW | 2.42 | 2.69 | 0 | 0 | 0 | 5.11 |
| NW | 3.49 | 0.4 | 0 | 0 | 0 | 3.89 |
| NNW | 2.82 | 1.48 | 0 | 0 | 0 | 4.3 |
| Summary | 44.06 | 39.39 | 0 | 0 | 0 | 83.45 |



Lakeland Industry & Community Association

Tamarack Site - July 2023

Summary of Hourly Averages

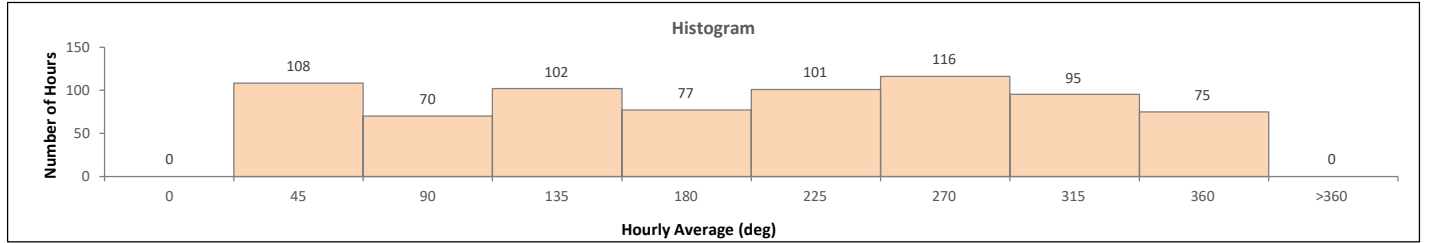
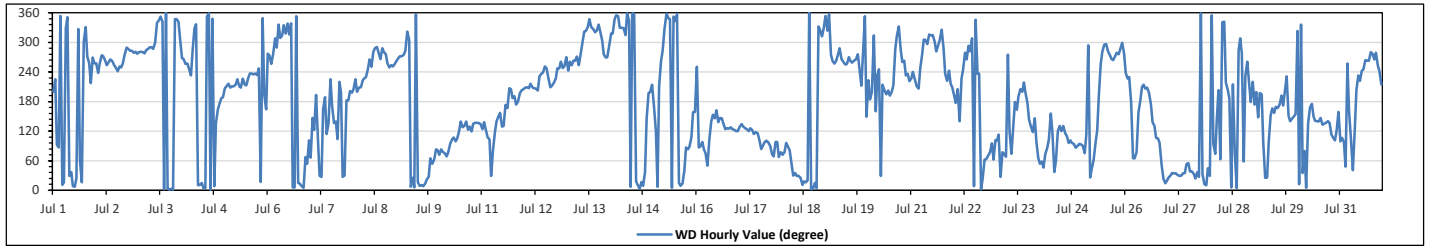
WIND DIRECTION (VWD) in sector

| | | | |
|------------------|-----------------|------------------------|-------|
| Monthly Average: | 315 (NW) degree | Hours in Service: | 744 |
| | | Hours of Data: | 744 |
| | | Hours of Missing Data: | 0 |
| | | Hours of Calibration: | 0 |
| | | Operational Uptime: | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Average | | |
|--------|---------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------------|--------|----------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Degree | Quadrant |
| Jul 1 | SSW | SW | E | E | N | NNE | NNE | NNW | N | NNE | NE | N | N | NNE | NW | ENE | NNE | WNW | NNW | W | WSW | SW | W | WSW | 355 | N |
| Jul 2 | WSW | SW | WSW | W | W | W | WSW | WSW | W | W | WSW | WSW | WSW | WSW | WSW | WSW | W | WNW | WNW | W | W | W | W | W | 267 | W |
| Jul 3 | W | W | W | W | WNW | WNW | WNW | WNW | WNW | WNW | NNW | NNW | N | NNW | N | N | N | N | N | N | NNW | NNW | NNW | NW | 320 | NW |
| Jul 4 | W | W | WSW | WSW | WSW | SW | WNW | NNW | NNW | N | NNE | NNE | N | N | N | N | N | NNW | N | SE | SSE | S | S | S | 332 | NNW |
| Jul 5 | SSW | SSW | SW | SSW | SSW | SSW | SSW | SW | SSW | SSW | SW | SSW | SSW | SW | SW | SW | SW | SW | SW | WSW | NNE | NNW | SSW | SSE | 228 | SW |
| Jul 6 | W | W | WSW | W | NW | WNW | NNW | NW | NW | NNW | NW | NNW | NW | NNW | N | N | N | NNE | NNE | N | N | ENE | NE | E | 343 | NNW |
| Jul 7 | ENE | SE | ESE | S | E | NNE | NNE | SSE | S | ESE | SE | SW | S | SE | SE | ESE | SW | SSW | NNE | NNE | S | S | SSW | SSW | 162 | SSE |
| Jul 8 | SSW | SW | SSW | SSW | SSW | SSW | SW | SW | SW | WSW | W | WSW | W | WNW | WNW | W | WNW | W | W | WSW | WSW | WSW | WSW | WSW | 264 | W |
| Jul 9 | W | W | W | W | W | W | NW | WNW | N | NNE | N | N | NNE | N | N | N | NNE | NNE | NNE | ENE | NE | ENE | E | E | 5 | N |
| Jul 10 | ENE | E | ENE | ENE | ENE | E | ESE | ESE | E | ESE | ESE | ESE | ESE | E | E | E | E | ESE | ESE | ESE | ESE | ESE | ESE | ESE | 113 | ESE |
| Jul 11 | ESE | SE | ESE | ESE | ESE | NNE | E | ESE | SE | SSE | SSE | SE | SE | S | SSE | SSW | SSW | S | S | S | S | SSW | SSW | SSW | 158 | SSE |
| Jul 12 | SSW | SSW | SSW | SW | SSW | SSW | SSW | SSW | SW | SW | WSW | WSW | WSW | WSW | SSW | SSW | SW | SW | WSW | WSW | W | WSW | WSW | W | 230 | SW |
| Jul 13 | WSW | W | WSW | W | W | W | WSW | W | WNW | NW | NW | NNW | NNW | NW | NW | NW | NNW | NW | NNW | NW | WNW | W | W | WNW | 305 | WNW |
| Jul 14 | NW | NW | NNW | N | N | NNW | NNW | NNW | NW | N | NNW | N | N | N | NNE | NNE | N | NNE | N | NE | SE | SSW | SSW | SSW | 357 | N |
| Jul 15 | SSE | ESE | N | SSW | W | W | NNW | N | NNW | NNW | N | N | NNW | N | NNE | N | NNE | NE | E | E | E | ESE | SSE | SSE | 12 | NNE |
| Jul 16 | WSW | E | E | E | E | ENE | NE | ESE | SE | SSE | SE | SSE | SE | SE | SE | SE | ESE | SE | ESE | SE | ESE | ESE | ESE | ESE | 129 | SE |
| Jul 17 | SE | SE | SE | SE | ESE | ESE | SE | ESE | ESE | ESE | ESE | ESE | E | E | E | E | E | E | ENE | ENE | E | E | ENE | ENE | 104 | ESE |
| Jul 18 | ENE | ENE | E | E | E | NE | NNE | NE | NNE | NNE | NNE | NNE | NNE | NNE | N | N | N | NNE | N | N | NNW | NW | NW | NW | 33 | NNE |
| Jul 19 | N | NW | N | W | W | WSW | W | WNW | W | WSW | WSW | WSW | W | W | WSW | W | W | W | W | WSW | SSW | W | N | SSE | 268 | W |
| Jul 20 | SW | S | SSW | NW | SSE | SW | WSW | NNE | SSW | SSW | SSW | SSW | S | SSW | SSW | WNW | NW | NNW | WNW | WSW | W | SW | SW | SW | 231 | SW |
| Jul 21 | SW | WSW | SW | SSW | SSW | WSW | W | NW | WNW | WNW | NW | NW | WNW | W | WNW | WNW | NW | WNW | WNW | SW | SW | WSW | SW | SSW | 283 | W |
| Jul 22 | S | S | SSW | SE | SW | WSW | W | W | WNW | W | NW | N | NNW | SW | SW | N | NNE | ENE | ENE | ENE | ENE | E | ENE | E | 350 | N |
| Jul 23 | E | ESE | NNE | ENE | ENE | ENE | W | ESE | ENE | ESE | S | SSE | S | SSW | SSW | SW | SSW | S | SE | SE | ESE | E | E | ENE | 163 | SSE |
| Jul 24 | NE | ENE | NE | ENE | E | ESE | SSE | ESE | NE | ENE | ESE | SE | ESE | SE | ESE | ESE | E | E | E | E | E | E | E | E | 100 | E |
| Jul 25 | E | ENE | ESE | WNW | NNE | NE | ENE | E | ESE | S | WSW | W | WNW | WNW | W | W | W | W | W | W | W | W | W | W | 286 | WNW |
| Jul 26 | WSW | SW | SW | S | ENE | ENE | ENE | SSE | S | SSW | SSW | SSW | SSW | S | SE | SE | ESE | ESE | E | NE | NNE | NNE | NNE | NNE | 168 | SSE |
| Jul 27 | NNE | NNE | NE | NE | NE | NNE | NNE | NE | NE | NE | NE | NE | NE | NNE | NNE | NE | NNE | NE | NNE | N | NNE | N | NE | NNE | 33 | NNE |
| Jul 28 | N | E | ENE | SE | SSW | ENE | NNW | NW | SSW | S | N | SSW | ENE | N | WNW | NW | W | ENE | SW | W | SSW | S | SW | 254 | WSW | |
| Jul 29 | S | SSW | SE | SSW | SSW | E | NNE | NNE | E | SSE | SSE | SSE | SSE | S | S | S | SSW | SW | SSE | SE | SE | SSE | SSE | 165 | SSE | |
| Jul 30 | NW | NNE | NNW | NE | E | N | SE | SSE | S | SSE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | ESE | ESE | ESE | ESE | 137 | SE |
| Jul 31 | E | ESE | E | NE | WSW | SSE | ESE | NE | ESE | SSW | SW | SW | WSW | WSW | W | W | W | W | W | W | W | W | W | W | 251 | WSW |

| | | | | | |
|---|---|-----|---|---|---------------------|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance |
| K | Collection Error | ND | No Data (Machine Not in Service) | Y | Routine Maintenance |
| X | Invalid Data (Machine Malfunction/Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P | Power Failure |

Daily Average is shown "*" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "*" if minimum data completeness criteria of 75% of days per month is not met.



Lakeland Industry & Community Association

Tamarack Site - July 2023
Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr & WIND DIRECTION (VWD) in sector

| | | | | | |
|-----------------------|------|-----|-------------------|------------------------|-------|
| WIND SPEED | | | | | |
| Maximum Hourly Value: | 13.7 | kph | on Jul 3 at hr 0 | Hours in Service: | 744 |
| Maximum Daily Value: | 10.1 | kph | on Jul 3 | Hours of Data: | 744 |
| Minimum Hourly Value: | 0.0 | kph | on Jul 28 at hr 1 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 1.8 | kph | on Jul 28 | Hours of Calibration: | 0 |
| Monthly Average: | 0.5 | kph | | Operational Uptime: | 100.0 |

| | | | |
|-----------------------|-----------------|--|--|
| WIND DIRECTION | | | |
| Monthly Average: | 315 degree (NW) | | |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | |
|--------|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------|---------------|---------------|------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 |
| Jul 1 | 0.9 | 0.7 | 1.5 | 1.6 | 1.1 | 3.6 | 6.9 | 6.4 | 7.9 | 11.4 | 10.8 | 10.0 | 12.8 | 10.6 | 5.7 | 3.9 | 3.5 | 1.6 | 1.2 | 8.8 | 6.1 | 0.7 | 5.4 | 5.4 | 0.7 | 12.8 | 5.4 |
| Jul 2 | 4.7 | 5.6 | 6.0 | 8.6 | 7.1 | 5.8 | 7.9 | 9.9 | 10.0 | 10.0 | 11.1 | 10.2 | 8.7 | 9.7 | 9.9 | 9.0 | 10.3 | 12.6 | 11.6 | 13.5 | 12.9 | 11.7 | 13.4 | 11.7 | 4.7 | 13.5 | 9.7 |
| Jul 3 | 13.7 | 12.4 | 12.4 | 11.7 | 12.3 | 11.2 | 10.7 | 11.4 | 10.7 | 10.8 | 9.6 | 11.0 | 11.0 | 7.2 | 13.4 | 12.2 | 13.7 | 11.5 | 11.0 | 9.0 | 4.7 | 3.7 | 3.1 | 3.0 | 3.0 | 13.7 | 10.1 |
| Jul 4 | 2.7 | 4.8 | 4.1 | 2.7 | 3.0 | 2.7 | 4.6 | 4.9 | 5.1 | 8.6 | 8.3 | 6.0 | 6.7 | 5.0 | 4.1 | 4.6 | 6.3 | 3.2 | 3.1 | 2.0 | 4.9 | 4.3 | 5.4 | 4.4 | 2.0 | 8.6 | 4.6 |
| Jul 5 | 4.1 | 3.2 | 2.5 | 3.9 | 3.1 | 2.8 | 3.8 | 4.2 | 7.3 | 8.1 | 7.2 | 8.4 | 8.4 | 7.6 | 7.3 | 8.9 | 7.7 | 7.9 | 6.4 | 4.7 | 5.7 | 9.4 | 2.0 | 0.5 | 0.5 | 9.4 | 5.6 |
| Jul 6 | 2.8 | 6.6 | 4.5 | 1.8 | 0.2 | 2.7 | 2.6 | 3.0 | 3.7 | 3.9 | 4.1 | 5.9 | 5.6 | 5.4 | 6.2 | 8.6 | 6.1 | 9.3 | 9.7 | 7.9 | 5.4 | 2.9 | 0.4 | 2.0 | 0.2 | 9.7 | 4.6 |
| Jul 7 | 1.2 | 0.4 | 0.5 | 0.2 | 0.2 | 0.7 | 2.2 | 3.3 | 4.6 | 0.7 | 2.1 | 2.1 | 2.4 | 5.3 | 3.7 | 3.3 | 5.9 | 1.5 | 0.9 | 1.0 | 0.7 | 1.1 | 2.0 | 1.4 | 0.2 | 5.9 | 2.0 |
| Jul 8 | 1.6 | 1.4 | 1.4 | 3.2 | 2.4 | 3.1 | 1.8 | 4.5 | 6.5 | 9.0 | 9.8 | 10.0 | 9.2 | 9.6 | 9.3 | 9.1 | 9.3 | 9.7 | 8.5 | 4.5 | 4.4 | 4.3 | 3.8 | 4.4 | 1.4 | 10.0 | 5.9 |
| Jul 9 | 4.2 | 4.7 | 5.5 | 6.0 | 5.6 | 4.1 | 2.0 | 3.6 | 5.0 | 4.7 | 4.0 | 6.3 | 8.9 | 6.8 | 9.1 | 10.2 | 13.0 | 12.8 | 10.3 | 5.0 | 3.6 | 3.6 | 6.7 | 4.0 | 2.0 | 13.0 | 6.2 |
| Jul 10 | 3.8 | 4.8 | 4.2 | 4.3 | 3.7 | 5.0 | 7.9 | 9.3 | 8.1 | 8.4 | 9.6 | 10.6 | 9.6 | 6.8 | 6.6 | 7.9 | 6.5 | 7.1 | 6.8 | 4.1 | 3.6 | 3.8 | 4.2 | 5.1 | 3.6 | 10.6 | 6.3 |
| Jul 11 | 4.4 | 4.3 | 3.3 | 1.4 | 0.5 | 2.0 | 2.3 | 6.8 | 5.5 | 5.0 | 5.2 | 5.5 | 4.4 | 4.2 | 5.3 | 4.1 | 3.6 | 4.7 | 4.4 | 3.0 | 3.3 | 3.7 | 4.3 | 4.1 | 0.5 | 6.8 | 4.0 |
| Jul 12 | 4.2 | 3.9 | 4.5 | 1.4 | 3.4 | 3.8 | 5.0 | 3.2 | 4.5 | 5.3 | 7.2 | 9.0 | 7.8 | 8.8 | 9.0 | 4.1 | 5.2 | 3.5 | 6.2 | 4.7 | 4.4 | 4.1 | 3.0 | 3.3 | 1.4 | 9.0 | 5.0 |
| Jul 13 | 2.1 | 1.2 | 1.8 | 1.8 | 2.9 | 2.3 | 4.4 | 7.3 | 5.0 | 5.3 | 6.2 | 6.8 | 7.9 | 7.9 | 8.4 | 8.2 | 8.4 | 7.0 | 5.8 | 5.5 | 6.2 | 6.6 | 6.9 | 7.1 | 1.2 | 8.4 | 5.5 |
| Jul 14 | 4.8 | 4.3 | 3.6 | 4.1 | 2.2 | 3.1 | 4.6 | 3.5 | 4.7 | 8.3 | 9.4 | 10.8 | 10.1 | 9.4 | 11.6 | 12.2 | 11.3 | 10.3 | 6.7 | 2.2 | 1.4 | 2.6 | 2.2 | 0.1 | 0.1 | 12.2 | 6.0 |
| Jul 15 | 0.5 | 1.2 | 0.5 | 0.6 | 0.4 | 0.1 | 1.8 | 4.4 | 4.4 | 4.4 | 6.5 | 5.7 | 6.9 | 6.1 | 7.7 | 6.6 | 8.1 | 5.2 | 5.1 | 2.8 | 1.4 | 0.5 | 0.5 | 0.5 | 0.1 | 8.1 | 3.4 |
| Jul 16 | 0.1 | 1.8 | 1.0 | 1.7 | 2.0 | 2.4 | 1.8 | 1.8 | 5.2 | 6.0 | 6.2 | 6.1 | 5.9 | 6.6 | 6.9 | 6.7 | 7.2 | 7.3 | 7.1 | 6.2 | 5.8 | 6.7 | 7.1 | 6.2 | 0.1 | 7.3 | 4.8 |
| Jul 17 | 7.3 | 7.8 | 6.8 | 7.3 | 7.4 | 8.2 | 9.3 | 11.2 | 11.3 | 11.6 | 12.0 | 11.6 | 11.6 | 12.1 | 12.4 | 13.0 | 12.1 | 10.1 | 9.0 | 7.3 | 7.1 | 6.9 | 6.5 | 7.9 | 6.5 | 13.0 | 9.5 |
| Jul 18 | 8.6 | 8.6 | 10.2 | 9.1 | 8.5 | 7.0 | 9.4 | 8.4 | 9.6 | 10.5 | 9.7 | 11.4 | 10.6 | 9.0 | 7.8 | 4.3 | 6.5 | 7.9 | 7.4 | 4.3 | 2.0 | 2.8 | 2.2 | 2.4 | 2.0 | 11.4 | 7.4 |
| Jul 19 | 2.2 | 2.5 | 1.1 | 2.2 | 3.4 | 1.7 | 4.6 | 6.4 | 5.4 | 4.8 | 7.6 | 7.2 | 6.9 | 7.7 | 7.1 | 6.2 | 6.1 | 8.6 | 5.8 | 3.2 | 2.9 | 3.7 | 2.9 | 0.4 | 0.4 | 8.6 | 4.6 |
| Jul 20 | 4.7 | 2.6 | 0.1 | 0.2 | 0.5 | 0.8 | 0.7 | 1.4 | 1.3 | 3.3 | 4.6 | 4.5 | 5.4 | 2.3 | 2.7 | 2.7 | 3.5 | 3.1 | 3.8 | 3.0 | 3.0 | 2.8 | 2.2 | 2.6 | 0.1 | 5.4 | 2.6 |
| Jul 21 | 2.3 | 3.1 | 2.1 | 2.4 | 1.2 | 1.1 | 2.2 | 2.0 | 2.6 | 3.6 | 5.4 | 4.8 | 5.6 | 5.5 | 6.0 | 4.9 | 4.4 | 3.6 | 2.6 | 1.6 | 2.9 | 1.6 | 1.9 | 1.1 | 1.1 | 6.0 | 3.1 |
| Jul 22 | 1.6 | 1.6 | 0.9 | 1.2 | 0.5 | 1.8 | 2.4 | 3.5 | 3.5 | 5.1 | 2.5 | 3.9 | 1.9 | 2.0 | 1.7 | 6.9 | 8.1 | 3.1 | 2.7 | 2.0 | 2.9 | 1.9 | 1.3 | 1.0 | 0.5 | 8.1 | 2.7 |
| Jul 23 | 1.4 | 1.3 | 0.8 | 0.6 | 1.7 | 1.0 | 5.1 | 1.5 | 3.8 | 3.5 | 3.2 | 3.6 | 6.2 | 6.5 | 5.0 | 4.8 | 2.7 | 5.0 | 5.8 | 2.8 | 2.8 | 3.3 | 1.0 | 2.4 | 0.6 | 6.5 | 3.2 |
| Jul 24 | 1.5 | 3.0 | 2.1 | 2.6 | 1.4 | 1.6 | 3.5 | 5.1 | 5.1 | 7.1 | 7.1 | 8.3 | 7.9 | 8.4 | 8.5 | 9.1 | 10.1 | 10.5 | 8.6 | 7.7 | 6.2 | 7.5 | 10.0 | 10.1 | 1.4 | 10.5 | 6.4 |
| Jul 25 | 6.9 | 7.4 | 5.2 | 2.9 | 5.6 | 6.2 | 7.2 | 9.7 | 6.9 | 4.0 | 7.7 | 13.0 | 9.6 | 9.4 | 10.7 | 10.1 | 10.9 | 10.5 | 12.2 | 10.8 | 8.6 | 5.0 | 2.1 | 1.1 | 1.1 | 13.0 | 7.7 |
| Jul 26 | 2.5 | 1.4 | 0.7 | 0.5 | 1.0 | 2.2 | 1.4 | 5.8 | 9.8 | 6.9 | 9.4 | 10.7 | 10.6 | 9.3 | 4.4 | 4.4 | 5.9 | 5.4 | 3.9 | 3.4 | 1.7 | 4.7 | 7.3 | 9.8 | 0.5 | 10.7 | 5.1 |
| Jul 27 | 9.5 | 10.1 | 7.9 | 8.8 | 8.3 | 9.1 | 9.7 | 9.9 | 10.0 | 10.4 | 9.2 | 7.6 | 7.9 | 8.4 | 8.6 | 7.5 | 4.4 | 2.0 | 2.3 | 3.0 | 4.4 | 5.4 | 1.3 | 0.8 | 0.8 | 10.4 | 6.9 |
| Jul 28 | 0.3 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.2 | 1.1 | 1.8 | 2.9 | 4.6 | 2.0 | 3.4 | 1.2 | 2.3 | 5.1 | 3.9 | 4.5 | 0.7 | 1.9 | 1.9 | 1.8 | 1.1 | 1.0 | 0.0 | 5.1 | 1.8 |
| Jul 29 | 1.4 | 0.4 | 0.4 | 1.3 | 0.6 | 1.3 | 2.0 | 1.6 | 1.6 | 2.9 | 3.7 | 4.8 | 3.8 | 4.2 | 3.9 | 5.0 | 7.2 | 3.7 | 4.6 | 3.4 | 3.6 | 3.9 | 4.0 | 4.2 | 0.4 | 7.2 | 3.1 |
| Jul 30 | 0.4 | 0.4 | 0.1 | 1.2 | 0.1 | 0.4 | 0.6 | 5.1 | 7.3 | 8.5 | 8.6 | 9.2 | 11.2 | 11.4 | 9.9 | 11.0 | 9.5 | 9.6 | 8.6 | 5.4 | 6.5 | 6.5 | 9.0 | 4.5 | 0.1 | 11.4 | 6.0 |
| Jul 31 | 5.0 | 5.5 | 1.3 | 0.4 | 3.0 | 0.7 | 2.8 | 2.6 | 1.6 | 4.6 | 7.0 | 7.8 | 7.4 | 8.5 | 9.9 | 8.9 | 8.6 | 8.8 | 8.2 | 6.6 | 10.9 | 2.6 | 3.7 | 1.9 | 0.4 | 10.9 | 5.3 |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

| | | |
|---|--|------------------------------|
| C Monthly Calibration | S Daily Zero-Span Check | Q Quality Assurance |
| K Collection Error | ND No Data (Machine Not in Service) | Y Routine Maintenance |
| X InValid Data (Equipment Malfunction /Recovery) | NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P Power Failure |

Lakeland Industry & Community Association
Tamarack Site - July 2023
Summary of Hour Standard Deviations

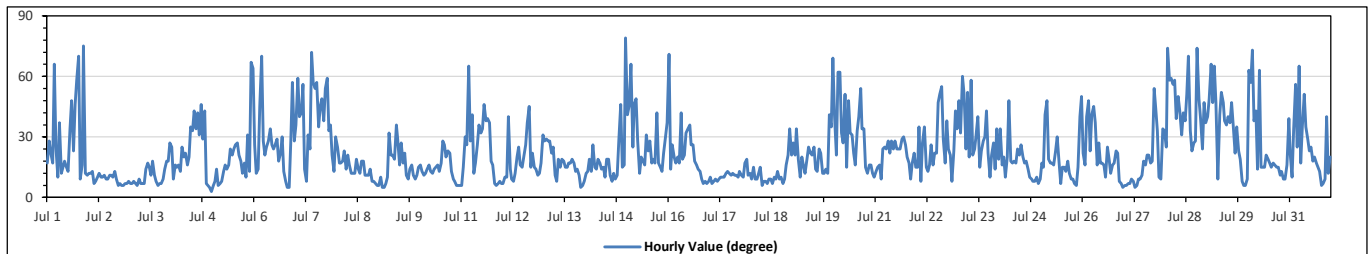
STANDARD DEVIATION WIND DIRECTION (STDWD) in Degree

| | | | |
|--|--|---------------------------|--|
| Maximum Hourly Value: 79 degree on Jul 14 at hr 23 | | Hours in Service: 744 | |
| Minimum Hourly Value: 3 degree on Jul 4 at hr 23 | | Hours of Data: 744 | |
| | | Hours of Missing Data: 0 | |
| | | Hours of Calibration: 0 | |
| | | Operational Uptime: 100.0 | |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | |
|-----------------|---------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---------------|---------------|----|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | 23 |
| Jul 1 | 17 | 28 | 22 | 17 | 66 | 25 | 10 | 37 | 12 | 15 | 18 | 15 | 13 | 34 | 48 | 23 | 46 | 58 | 70 | 9 | 16 | 75 | 12 | 11 | 9 | 75 |
| Jul 2 | 12 | 12 | 13 | 7 | 8 | 10 | 12 | 10 | 10 | 11 | 9 | 9 | 11 | 11 | 10 | 13 | 9 | 6 | 7 | 6 | 6 | 7 | 7 | 8 | 6 | 13 |
| Jul 3 | 7 | 7 | 8 | 7 | 6 | 9 | 7 | 7 | 7 | 14 | 17 | 15 | 11 | 18 | 11 | 8 | 6 | 7 | 7 | 9 | 14 | 18 | 18 | 27 | 6 | 27 |
| Jul 4 | 25 | 9 | 16 | 15 | 16 | 13 | 25 | 20 | 22 | 16 | 20 | 35 | 33 | 43 | 34 | 42 | 31 | 46 | 29 | 43 | 7 | 6 | 5 | 3 | 3 | 46 |
| Jul 5 | 6 | 8 | 14 | 6 | 7 | 8 | 13 | 16 | 14 | 16 | 24 | 21 | 24 | 26 | 27 | 21 | 18 | 12 | 17 | 10 | 31 | 13 | 67 | 64 | 6 | 67 |
| Jul 6 | 26 | 12 | 14 | 45 | 70 | 28 | 21 | 25 | 28 | 34 | 26 | 24 | 26 | 29 | 18 | 22 | 30 | 13 | 8 | 5 | 5 | 28 | 57 | 28 | 5 | 70 |
| Jul 7 | 36 | 59 | 40 | 42 | 56 | 14 | 8 | 31 | 24 | 72 | 57 | 54 | 57 | 35 | 45 | 49 | 38 | 54 | 59 | 33 | 36 | 21 | 13 | 30 | 8 | 72 |
| Jul 8 | 25 | 17 | 17 | 18 | 23 | 14 | 21 | 16 | 12 | 12 | 12 | 19 | 14 | 12 | 18 | 18 | 11 | 11 | 11 | 14 | 8 | 8 | 7 | 6 | 6 | 25 |
| Jul 9 | 6 | 10 | 5 | 5 | 7 | 10 | 32 | 21 | 21 | 19 | 36 | 29 | 16 | 27 | 17 | 22 | 11 | 9 | 14 | 16 | 11 | 9 | 11 | 15 | 5 | 36 |
| Jul 10 | 16 | 13 | 11 | 12 | 14 | 16 | 13 | 12 | 14 | 15 | 16 | 13 | 17 | 28 | 26 | 20 | 23 | 22 | 13 | 9 | 8 | 6 | 6 | 6 | 6 | 28 |
| Jul 11 | 6 | 15 | 30 | 26 | 65 | 28 | 41 | 12 | 17 | 26 | 36 | 32 | 34 | 46 | 38 | 39 | 37 | 18 | 16 | 7 | 6 | 7 | 8 | 7 | 6 | 65 |
| Jul 12 | 7 | 10 | 10 | 40 | 14 | 9 | 8 | 12 | 20 | 25 | 16 | 15 | 20 | 26 | 37 | 45 | 15 | 22 | 15 | 14 | 11 | 12 | 17 | 31 | 7 | 45 |
| Jul 13 | 28 | 29 | 28 | 28 | 22 | 25 | 11 | 8 | 19 | 15 | 19 | 18 | 15 | 15 | 17 | 17 | 19 | 17 | 13 | 14 | 11 | 5 | 6 | 8 | 5 | 29 |
| Jul 14 | 12 | 13 | 19 | 13 | 26 | 15 | 14 | 19 | 17 | 14 | 15 | 10 | 19 | 19 | 11 | 8 | 12 | 9 | 11 | 28 | 46 | 15 | 16 | 79 | 8 | 79 |
| Jul 15 | 41 | 45 | 66 | 25 | 46 | 49 | 28 | 12 | 20 | 18 | 16 | 31 | 23 | 28 | 17 | 19 | 17 | 42 | 17 | 15 | 13 | 22 | 30 | 37 | 12 | 66 |
| Jul 16 | 71 | 14 | 26 | 20 | 17 | 20 | 17 | 42 | 19 | 21 | 32 | 34 | 36 | 26 | 26 | 18 | 16 | 14 | 13 | 9 | 7 | 8 | 7 | 8 | 7 | 71 |
| Jul 17 | 10 | 7 | 8 | 9 | 8 | 9 | 10 | 10 | 10 | 12 | 13 | 12 | 11 | 12 | 11 | 11 | 10 | 13 | 11 | 10 | 17 | 19 | 11 | 12 | 7 | 19 |
| Jul 18 | 9 | 15 | 9 | 9 | 12 | 15 | 6 | 8 | 8 | 7 | 9 | 9 | 7 | 10 | 9 | 13 | 9 | 10 | 7 | 9 | 16 | 21 | 34 | 21 | 6 | 34 |
| Jul 19 | 27 | 21 | 34 | 19 | 10 | 20 | 15 | 12 | 19 | 25 | 22 | 21 | 25 | 14 | 13 | 24 | 22 | 12 | 12 | 14 | 12 | 41 | 35 | 69 | 10 | 69 |
| Jul 20 | 41 | 21 | 62 | 62 | 32 | 27 | 51 | 15 | 48 | 32 | 31 | 22 | 16 | 33 | 40 | 54 | 34 | 34 | 15 | 12 | 16 | 16 | 12 | 10 | 10 | 62 |
| Jul 21 | 13 | 15 | 16 | 9 | 24 | 25 | 24 | 28 | 22 | 28 | 24 | 28 | 24 | 24 | 24 | 29 | 30 | 26 | 20 | 17 | 9 | 17 | 22 | 15 | 9 | 30 |
| Jul 22 | 15 | 35 | 8 | 27 | 35 | 15 | 13 | 16 | 26 | 16 | 22 | 22 | 47 | 51 | 55 | 29 | 17 | 38 | 24 | 21 | 8 | 23 | 43 | 34 | 8 | 55 |
| Jul 23 | 48 | 32 | 60 | 51 | 24 | 52 | 20 | 58 | 21 | 24 | 30 | 40 | 15 | 23 | 28 | 30 | 43 | 22 | 10 | 21 | 27 | 14 | 34 | 19 | 10 | 60 |
| Jul 24 | 34 | 16 | 20 | 10 | 20 | 48 | 18 | 17 | 18 | 17 | 24 | 21 | 26 | 20 | 17 | 18 | 14 | 10 | 9 | 8 | 8 | 10 | 7 | 9 | 7 | 48 |
| Jul 25 | 17 | 15 | 41 | 48 | 19 | 17 | 17 | 16 | 23 | 30 | 17 | 7 | 15 | 15 | 13 | 18 | 12 | 9 | 9 | 7 | 6 | 15 | 40 | 50 | 6 | 50 |
| Jul 26 | 22 | 16 | 40 | 48 | 23 | 41 | 45 | 37 | 16 | 27 | 17 | 17 | 16 | 10 | 25 | 18 | 12 | 16 | 17 | 23 | 22 | 8 | 7 | 5 | 5 | 48 |
| Jul 27 | 6 | 6 | 7 | 7 | 9 | 8 | 5 | 6 | 9 | 9 | 11 | 18 | 16 | 21 | 21 | 17 | 18 | 54 | 44 | 33 | 10 | 9 | 34 | 33 | 5 | 54 |
| Jul 28 | 25 | 74 | 58 | 59 | 56 | 58 | 39 | 50 | 43 | 31 | 42 | 38 | 51 | 70 | 33 | 23 | 27 | 28 | 74 | 49 | 39 | 24 | 47 | 37 | 23 | 74 |
| Jul 29 | 40 | 49 | 66 | 47 | 65 | 47 | 9 | 41 | 52 | 47 | 38 | 36 | 40 | 37 | 47 | 36 | 22 | 35 | 23 | 19 | 8 | 6 | 6 | 9 | 6 | 66 |
| Jul 30 | 63 | 57 | 73 | 38 | 43 | 14 | 63 | 15 | 15 | 15 | 21 | 19 | 17 | 15 | 17 | 16 | 15 | 15 | 11 | 13 | 9 | 9 | 16 | 39 | 9 | 73 |
| Jul 31 | 22 | 10 | 34 | 56 | 25 | 65 | 17 | 35 | 51 | 35 | 29 | 23 | 25 | 18 | 20 | 17 | 15 | 13 | 6 | 7 | 9 | 40 | 12 | 20 | 6 | 65 |
| Diurnal Minimum | 6 | 6 | 5 | 5 | 6 | 8 | 5 | 6 | 7 | 7 | 9 | 7 | 7 | 10 | 9 | 8 | 6 | 6 | 6 | 5 | 5 | 5 | 5 | 3 | | |
| Diurnal Maximum | 71 | 74 | 73 | 62 | 70 | 65 | 63 | 58 | 52 | 72 | 57 | 54 | 57 | 70 | 55 | 54 | 46 | 58 | 74 | 49 | 46 | 75 | 67 | 79 | | |

| | | | | | |
|---|---|-----|---|---|---------------------|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance |
| K | Collection Error | ND | No Data (Machine Not in Service) | Y | Routine Maintenance |
| X | InValid Data (Machine Malfunction/Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P | Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



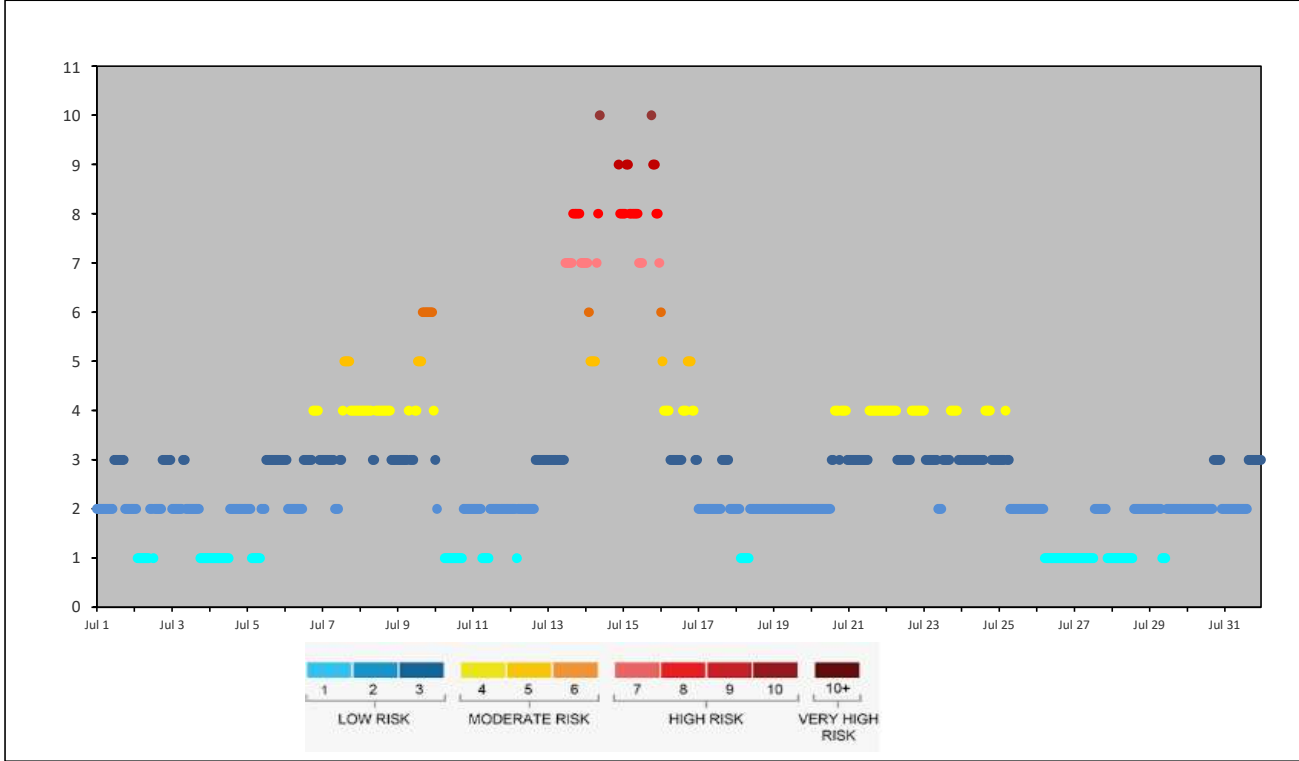
ST. LINA STATION

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

St. Lina Site - July 2023

AIR QUALITY HEALTH INDEX

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | |
|--------|---------------------------------|---|---|---|---|---|---|---|---|----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| Jul 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 |
| Jul 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 |
| Jul 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Jul 4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| Jul 5 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| Jul 6 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 3 | |
| Jul 7 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 3 | 4 | 5 | 5 | 5 | 5 | 4 | 4 | 4 | 4 | 4 | |
| Jul 8 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | |
| Jul 9 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 3 | 3 | 3 | 4 | 4 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| Jul 10 | 3 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | |
| Jul 11 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| Jul 12 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| Jul 13 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 7 | 7 | |
| Jul 14 | 7 | 7 | 6 | 5 | 5 | 5 | 5 | 7 | 8 | 10 | 10+ | 10+ | 10+ | | | | | | | | | 9 | 8 | |
| Jul 15 | 8 | 8 | 9 | 9 | 8 | 8 | 8 | 8 | 8 | 8 | 7 | 7 | 7 | | | | | | 10 | 9 | 9 | 8 | 8 | |
| Jul 16 | 6 | 5 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 4 | 4 | | |
| Jul 17 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | | |
| Jul 18 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | |
| Jul 19 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | |
| Jul 20 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 4 | 3 | 4 | 4 | 4 | | |
| Jul 21 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | |
| Jul 22 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | | |
| Jul 23 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 3 | | |
| Jul 24 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | | |
| Jul 25 | 3 | 3 | 3 | 3 | 4 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | |
| Jul 26 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | |
| Jul 27 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | | |
| Jul 28 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | |
| Jul 29 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | |
| Jul 30 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 2 | | |
| Jul 31 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | |



Lakeland Industry & Community Association

St. Lina Site - July 2023

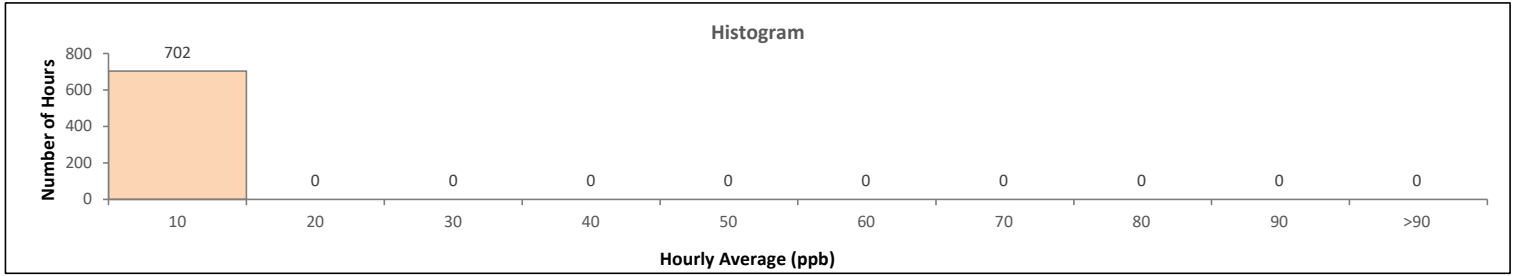
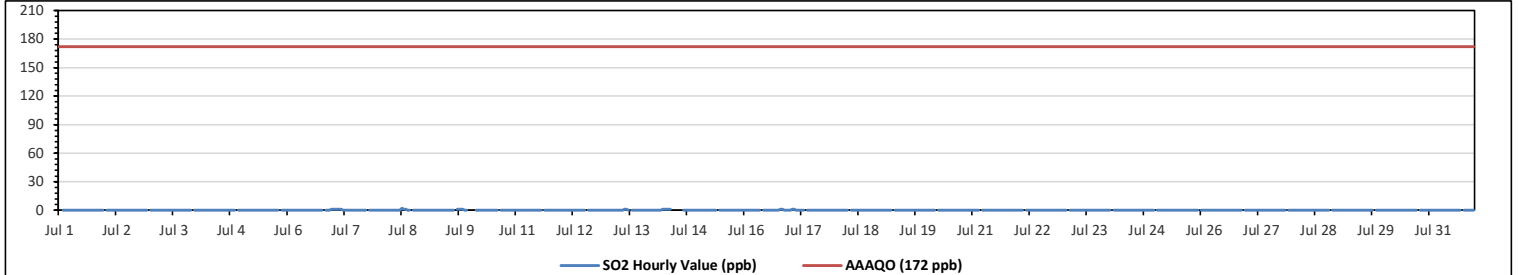
Summary of Hourly Averages

SULPHUR DIOXIDE (SO₂) in ppb

| Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 172 ppb, 24-Hour 48 ppb, 30-Day 11 ppb | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---------------------------------|-----|-----|-----|-----|-------------------------|-----|-----|-----|-----|-----|--------------------------------|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|--------------------|---------------|---------------|-----|--|--|---|--|--|--|--|--|
| Number of 1-Hour Exceedances: | | | | | | 0 | | | | | | Number of 24-Hour Exceedances: | | | | | | 0 | | | | | | 30-Day Exceedence: | | | | | | 0 | | | | | |
| Maximum Hourly Value: | | | | | | 2 ppb on Jul 8 at hr 12 | | | | | | Hours in Service: | | | | | | 744 | | | | | | | | | | | | | | | | | |
| Maximum Daily Value: | | | | | | 0.3 ppb on Jul 14 | | | | | | Hours of Data: | | | | | | 702 | | | | | | | | | | | | | | | | | |
| Minimum Hourly Value: | | | | | | 0 ppb on Jul 1 at hr 0 | | | | | | Hours of Missing Data: | | | | | | 4 | | | | | | | | | | | | | | | | | |
| Minimum Daily Value: | | | | | | 0.0 ppb on Jul 1 | | | | | | Hours of Calibration: | | | | | | 38 | | | | | | | | | | | | | | | | | |
| Monthly Average: | | | | | | 0.0 ppb | | | | | | Operational Uptime: | | | | | | 99.5 | | | | | | | | | | | | | | | | | |
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | | | | | | | | | |
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | | | | | | | | | |
| Jul 1 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | | | | | | | | |
| Jul 2 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0.0 | | | | | | | | |
| Jul 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0.0 | | | | | | | | |
| Jul 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0.0 | | | | | | | | |
| Jul 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0.0 | | | | | | | | |
| Jul 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 1 | 0 | 1 | 0.0 | | | | | | | | |
| Jul 7 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | S | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.2 | | | | | | | | |
| Jul 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0.2 | | | | | | | | |
| Jul 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 1 | 1 | 1 | 1 | 0 | 0 | K | 0 | 1 | 0.2 | | | | | | | | |
| Jul 10 | K | K | K | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | | | | | | | | |
| Jul 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | | | | | | | | |
| Jul 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | | | | | | | | |
| Jul 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.1 | | | | | | | | |
| Jul 14 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | C | C | C | C | C | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.3 | | | | | | | | |
| Jul 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | | | | | | | | |
| Jul 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0.1 | | | | | | | | |
| Jul 17 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.1 | | | | | | | | |
| Jul 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | | | | | | | | |
| Jul 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | | | | | | | | |
| Jul 20 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | | | | | | | | |
| Jul 21 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | | | | | | | | |
| Jul 22 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | | | | | | | | |
| Jul 23 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | | | | | | | | |
| Jul 24 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | | | | | | | | |
| Jul 25 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0.0 | | | | | | | | |
| Jul 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | | | | | | | | |
| Jul 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | S | 0 | 0 | 0 | 0 | 0.0 | | | | | | | | |
| Jul 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0.0 | | | | | | | | |
| Jul 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | | | | | | | | |
| Jul 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | | | | | | | | |
| Jul 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | | | | | | | | |
| Diurnal Maximum | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | | | | | | | | | | | |
| Diurnal Average | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | | | | | | | | | | | |

C Monthly Calibration **S** Daily Zero-Span Check **Q** Quality Assurance
K Collection Error **ND** No Data (Machine Not in Service) **Y** Routine Maintenance
X InValid Data (Equipment Malfunction /Recovery) **NRM** UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) **P** Power Failure

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

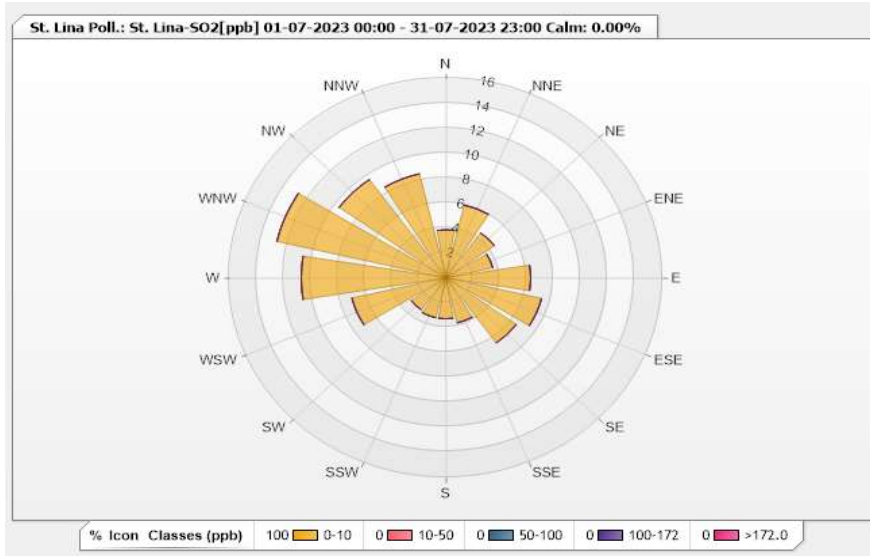


Station: St. Lina Poll.: St. Lina-THC55[ppm] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.35% Calm Avg: 0.00 [ppm]

| Direction | 0-2 | 2-5 | 5-10 | 10-40 | >40.0 | Total |
|-----------|-------|-------|------|-------|-------|-------|
| N | 0.28 | 3.56 | 0 | 0 | 0 | 3.84 |
| NNE | 1.71 | 3.99 | 0 | 0 | 0 | 5.7 |
| NE | 1 | 3.42 | 0 | 0 | 0 | 4.42 |
| ENE | 1.14 | 2.42 | 0 | 0 | 0 | 3.56 |
| E | 0.28 | 5.98 | 0 | 0 | 0 | 6.26 |
| ESE | 0 | 7.26 | 0 | 0 | 0 | 7.26 |
| SE | 1 | 5.41 | 0 | 0 | 0 | 6.41 |
| SSE | 0.28 | 3.42 | 0 | 0 | 0 | 3.7 |
| S | 0.57 | 2.71 | 0 | 0 | 0 | 3.28 |
| SSW | 0.71 | 2.56 | 0 | 0 | 0 | 3.27 |
| SW | 1.28 | 1.85 | 0 | 0 | 0 | 3.13 |
| WSW | 2.14 | 4.99 | 0 | 0 | 0 | 7.13 |
| W | 2.42 | 8.26 | 0 | 0 | 0 | 10.68 |
| WNW | 2.99 | 9.83 | 0 | 0 | 0 | 12.82 |
| NW | 0.71 | 8.83 | 0 | 0 | 0 | 9.54 |
| NNW | 1.42 | 7.55 | 0 | 0 | 0 | 8.97 |
| Summary | 17.93 | 82.04 | 0 | 0 | 0 | 100 |



Lakeland Industry & Community Association

St. Lina Site - July 2023

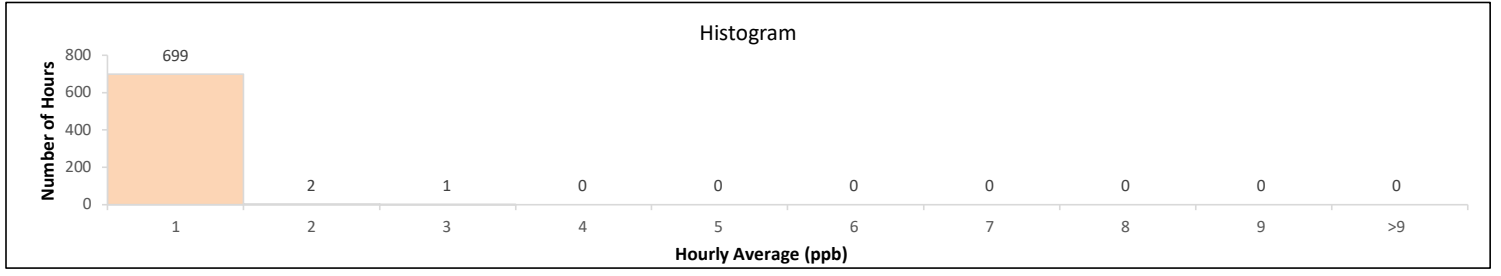
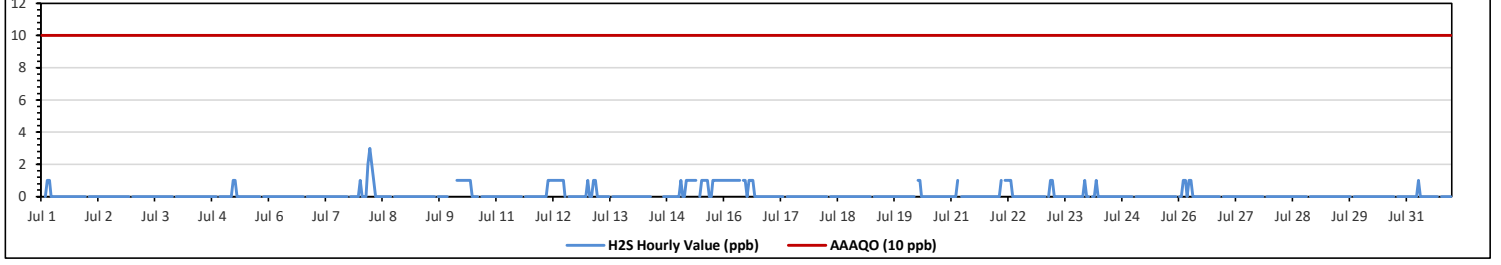
Summary of Hourly Averages

HYDROGEN SULPHIDE (H₂S) in ppb

| Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 10 ppb, 24-Hour 3 ppb | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---------------------------------|-----|-----|-----|--------------------------|-----|-----|-----|-----|--|-----|-----|-----|-----|--------------------------|-----|-----|-----|-----|-----|-----|-----|-----|---------------|---------------|---------------|---|-----|
| Number of 1-Hour Exceedances: 0 | | | | | | | | | | Number of 24-Hour Exceedances: 0 | | | | | | | | | | | | | | | | | | |
| Maximum Hourly Value: 3 ppb on Jul 8 at hr 5 | | | | | Hours in Service: 744 | | | | | Maximum Daily Value: 1.0 ppb on Jul 15 | | | | | Hours of Data: 702 | | | | | | | | | | | | | |
| Minimum Hourly Value: 0 ppb on Jul 1 at hr 0 | | | | | Hours of Missing Data: 4 | | | | | Minimum Daily Value: 0.0 ppb on Jul 1 | | | | | Hours of Calibration: 38 | | | | | | | | | | | | | |
| Monthly Average: 0.1 ppb | | | | | Operational Uptime: 99.5 | | | | | | | | | | | | | | | | | | | | | | | |
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | | |
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | | |
| Jul 1 | 0 | S | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.0 |
| Jul 2 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Jul 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0.0 |
| Jul 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0.0 |
| Jul 5 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 1 | 0.0 |
| Jul 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Jul 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Jul 8 | 1 | 0 | 0 | 0 | 2 | 3 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0.0 |
| Jul 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Jul 10 | K | K | K | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.0 |
| Jul 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Jul 12 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.0 |
| Jul 13 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.0 |
| Jul 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | C | C | C | C | C | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Jul 15 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | S | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1.0 |
| Jul 16 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | S | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1.0 |
| Jul 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Jul 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Jul 19 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Jul 20 | 0 | 0 | 0 | 0 | 0 | 0 | S | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.0 |
| Jul 21 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.0 |
| Jul 22 | 0 | 0 | 0 | 1 | S | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.0 |
| Jul 23 | 0 | 0 | S | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0.0 |
| Jul 24 | 0 | S | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.0 |
| Jul 25 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0.0 |
| Jul 26 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.0 |
| Jul 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Jul 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Jul 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Jul 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Jul 31 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.0 |
| Dialurm Maximum | 1 | 1 | 1 | 1 | 2 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Dialurm Average | 0.1 | 0.1 | 0.1 | 0.2 | 0.4 | 0.4 | 0.4 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | | |

C Monthly Calibration S Daily Zero-Span Check Q Quality Assurance
 K Collection Error ND No Data (Machine Not in Service) Y Routine Maintenance
 X InValid Data (Equipment Malfunction /Recovery) NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) P Power Failure

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

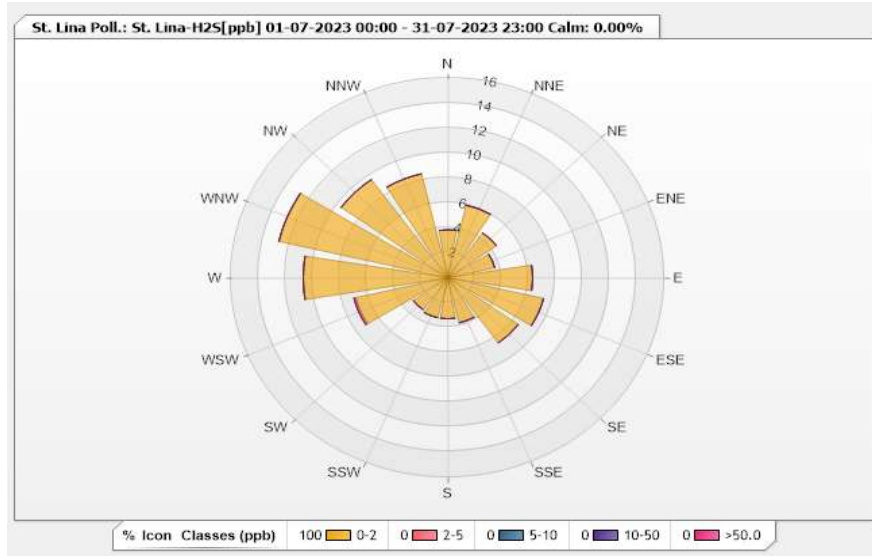


Station: St. Lina Poll.: St. Lina-H2S[ppb] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.35% Calm Avg: 0.00 [ppm]

| Direction | 0-2 | 2-5 | 5-10 | 10-50 | >50.0 | Total |
|-----------|-------|------|------|-------|-------|-------|
| N | 3.85 | 0 | 0 | 0 | 0 | 3.85 |
| NNE | 5.98 | 0 | 0 | 0 | 0 | 5.98 |
| NE | 4.42 | 0 | 0 | 0 | 0 | 4.42 |
| ENE | 3.56 | 0 | 0 | 0 | 0 | 3.56 |
| E | 6.27 | 0 | 0 | 0 | 0 | 6.27 |
| ESE | 7.26 | 0 | 0 | 0 | 0 | 7.26 |
| SE | 6.41 | 0 | 0 | 0 | 0 | 6.41 |
| SSE | 3.7 | 0 | 0 | 0 | 0 | 3.7 |
| S | 3.28 | 0 | 0 | 0 | 0 | 3.28 |
| SSW | 3.28 | 0 | 0 | 0 | 0 | 3.28 |
| SW | 3.13 | 0 | 0 | 0 | 0 | 3.13 |
| WSW | 6.98 | 0.14 | 0 | 0 | 0 | 7.12 |
| W | 10.68 | 0 | 0 | 0 | 0 | 10.68 |
| WNW | 12.82 | 0 | 0 | 0 | 0 | 12.82 |
| NW | 9.69 | 0 | 0 | 0 | 0 | 9.69 |
| NNW | 8.55 | 0 | 0 | 0 | 0 | 8.55 |
| Summary | 100 | 0.14 | 0 | 0 | 0 | 100 |



Lakeland Industry & Community Association

St. Lina Site - July 2023

Summary of Hourly Averages

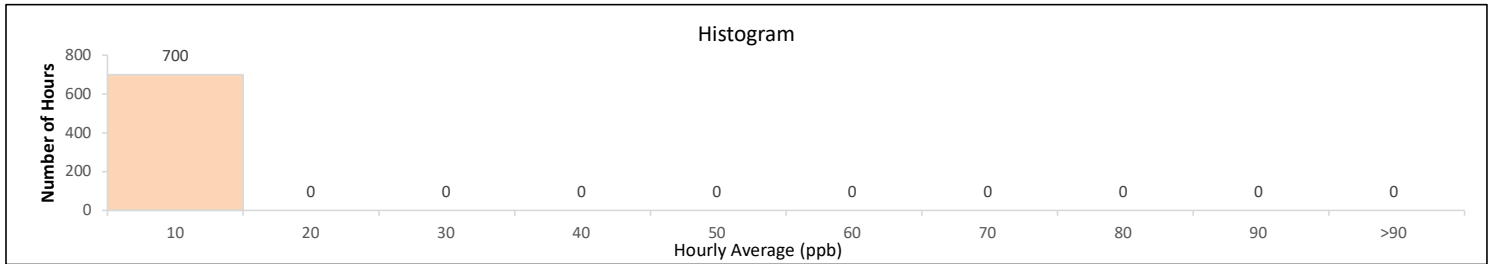
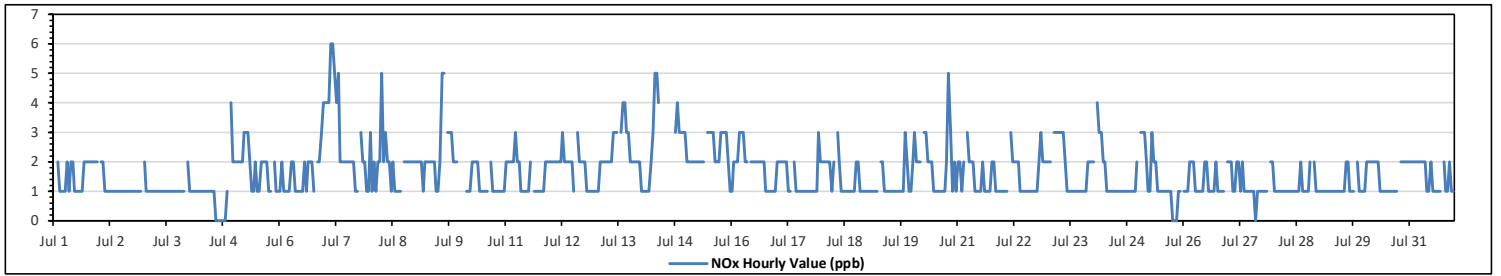
OXIDES OF NITROGEN (NOx) in ppb

| | | | | |
|-----------------------|---------|-------------------|------------------------|------|
| Maximum Hourly Value: | 6 ppb | on Jul 7 at hr 3 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.8 ppb | on Jul 7 | Hours of Data: | 700 |
| Minimum Hourly Value: | 0 ppb | on Jul 4 at hr 14 | Hours of Missing Data: | 4 |
| Minimum Daily Value: | 0.9 ppb | on Jul 4 | Hours of Calibration: | 40 |
| Monthly Average: | 1.6 ppb | | Operational Uptime: | 99.5 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | | |
|-----------------|---------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------------|---------------|---------------|-----|-----|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | | | |
| Jul 1 | 1 | S | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | 1.5 |
| Jul 2 | S | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1.1 |
| Jul 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1.1 |
| Jul 4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | S | 4 | 2 | 2 | 0 | 4 | 0.9 | |
| Jul 5 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | S | 2 | 1 | 1 | 1 | 3 | 1.8 | |
| Jul 6 | 1 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 2 | 2 | 2 | 1 | S | S | 2 | 2 | 3 | 4 | 1 | 4 | 1.6 | |
| Jul 7 | 4 | 4 | 4 | 6 | 6 | 5 | 4 | 5 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | S | 3 | 2 | 2 | 1 | 1 | 1 | 6 | 2.8 | | |
| Jul 8 | 3 | 1 | 2 | 1 | 2 | 2 | 5 | 2 | 3 | 2 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | S | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 5 | 1.9 | |
| Jul 9 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 5 | 5 | S | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 1 | 5 | 2.3 | |
| Jul 10 | K | K | K | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | S | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1.3 | |
| Jul 11 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | S | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 1 | 3 | 1.6 | |
| Jul 12 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | S | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 1.8 | |
| Jul 13 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | S | 3 | 4 | 4 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 4 | 2.3 | |
| Jul 14 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 5 | 5 | 4 | C | C | C | C | C | C | C | C | 3 | 4 | 3 | 3 | 3 | 3 | 1 | 5 | NA | | |
| Jul 15 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | S | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 2 | 1 | 1 | 3 | 2.3 | | |
| Jul 16 | 1 | 2 | 2 | 2 | 3 | 3 | 3 | 2 | 2 | S | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 1.8 | | |
| Jul 17 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | S | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 2 | 1 | 3 | 1.4 | |
| Jul 18 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | S | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 3 | 1.5 | |
| Jul 19 | 1 | 1 | 1 | 1 | 1 | 1 | S | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 2 | 1 | 1 | 1 | 3 | 1.2 | |
| Jul 20 | 2 | 3 | 2 | 2 | 2 | S | 3 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 5 | 3 | 1 | 2 | 1 | 1 | 5 | 1.9 | | |
| Jul 21 | 2 | 2 | 1 | 2 | S | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 1.5 | |
| Jul 22 | 1 | 1 | 1 | S | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 2 | 2 | 2 | 1 | 3 | 1.5 | | |
| Jul 23 | 2 | 2 | S | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 1 | 3 | 1.8 | | |
| Jul 24 | 2 | S | 4 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 1.5 | | |
| Jul 25 | S | 3 | 3 | 3 | 2 | 1 | 1 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | S | 0 | 3 | 1.4 | | | |
| Jul 26 | 1 | 1 | 1 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | S | 2 | 1 | 2 | 1.3 | | |
| Jul 27 | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | S | 2 | 2 | 0 | 2 | 1.3 | | |
| Jul 28 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 2 | S | 2 | 1 | 1 | 1 | 2 | 1.1 | | |
| Jul 29 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | S | 2 | 1 | 1 | 1 | 2 | 1.1 | | |
| Jul 30 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | S | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 1.5 | | |
| Jul 31 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | S | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 1.5 | | |
| Diurnal Maximum | 4 | 4 | 4 | 6 | 6 | 5 | 5 | 5 | 5 | 4 | 3 | 3 | 3 | 3 | 5 | 5 | 3 | 3 | 3 | 3 | 5 | 3 | 3 | 4 | 4 | | | | |
| Diurnal Average | 1.7 | 1.8 | 1.8 | 1.8 | 1.9 | 1.9 | 2.0 | 2.1 | 1.8 | 1.6 | 1.3 | 1.3 | 1.2 | 1.3 | 1.5 | 1.4 | 1.3 | 1.4 | 1.4 | 1.7 | 1.6 | 1.6 | 1.7 | 1.6 | | | | | |

| | | | | | |
|---|--|-----|---|---|---------------------|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance |
| K | Collection Error | ND | No Data (Machine Not in Service) | Y | Routine Maintenance |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P | Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

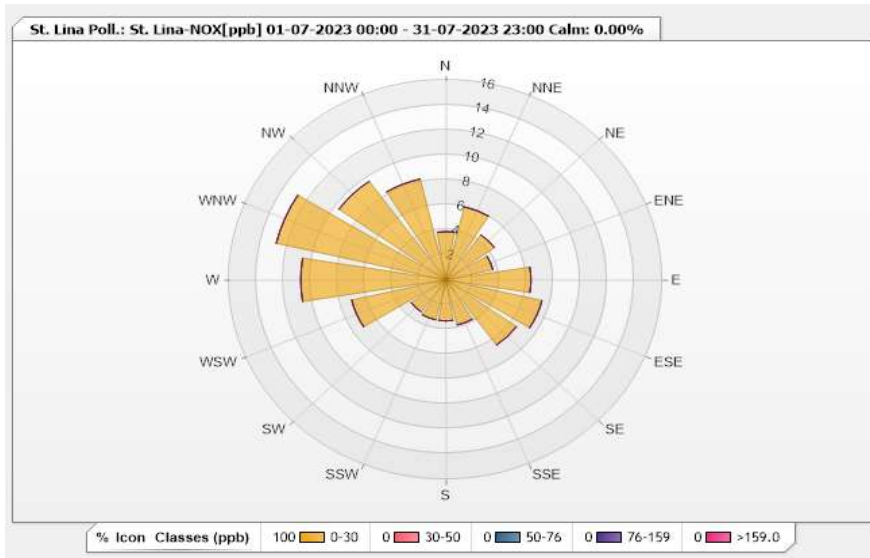


Station: St. Lina Poll.: St. Lina-NOX[ppb] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.09% Calm Avg: 0.00 [ppm]

| Direction | 0-30 | 30-50 | 50-76 | 76-159 | >159.0 | Total |
|-----------|-------|-------|-------|--------|--------|-------|
| N | 3.86 | 0 | 0 | 0 | 0 | 3.86 |
| NNE | 6 | 0 | 0 | 0 | 0 | 6 |
| NE | 4.43 | 0 | 0 | 0 | 0 | 4.43 |
| ENE | 3.57 | 0 | 0 | 0 | 0 | 3.57 |
| E | 6.29 | 0 | 0 | 0 | 0 | 6.29 |
| ESE | 7.29 | 0 | 0 | 0 | 0 | 7.29 |
| SE | 6.43 | 0 | 0 | 0 | 0 | 6.43 |
| SSE | 3.71 | 0 | 0 | 0 | 0 | 3.71 |
| S | 3.29 | 0 | 0 | 0 | 0 | 3.29 |
| SSW | 3.29 | 0 | 0 | 0 | 0 | 3.29 |
| SW | 3.14 | 0 | 0 | 0 | 0 | 3.14 |
| WSW | 7.14 | 0 | 0 | 0 | 0 | 7.14 |
| W | 10.71 | 0 | 0 | 0 | 0 | 10.71 |
| WNW | 12.86 | 0 | 0 | 0 | 0 | 12.86 |
| NW | 9.71 | 0 | 0 | 0 | 0 | 9.71 |
| NNW | 8.29 | 0 | 0 | 0 | 0 | 8.29 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |



Lakeland Industry & Community Association
St. Lina Site - July 2023
Summary of Hourly Averages
NITRIC OXIDE (NO) in ppb

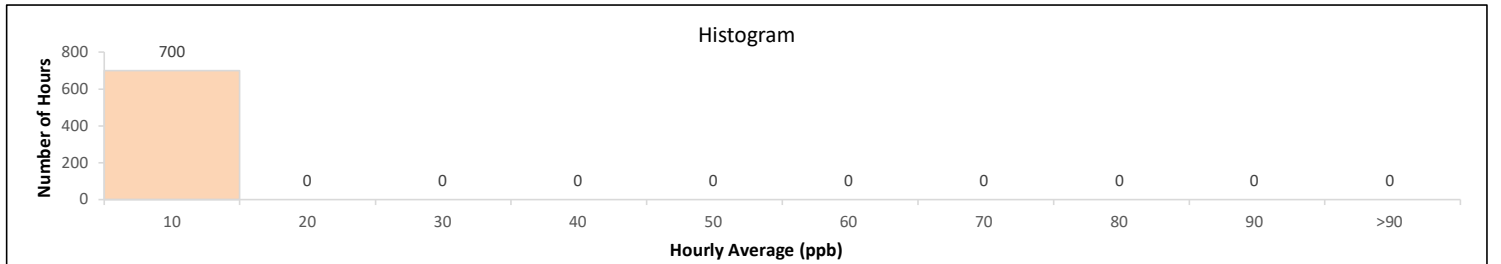
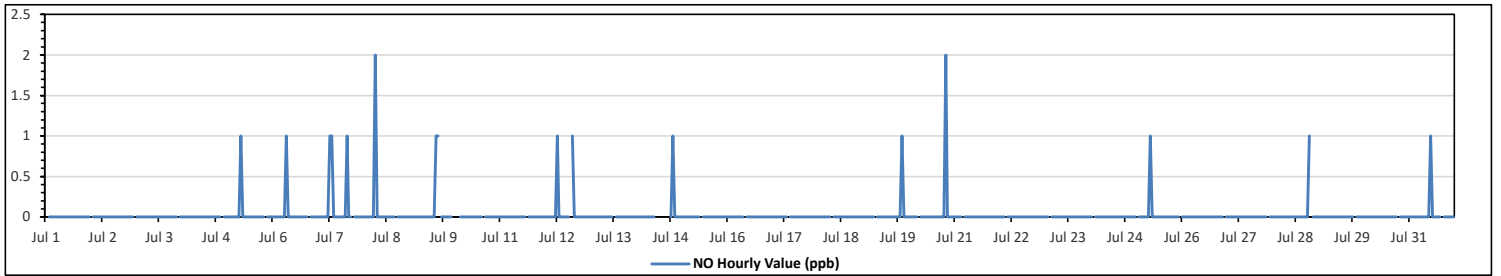
| | | | | | |
|-----------------------|-----|-----|------------------|------------------------|------|
| Maximum Hourly Value: | 2 | ppb | on Jul 8 at hr 6 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.1 | ppb | on Jul 7 | Hours of Data: | 700 |
| Minimum Hourly Value: | 0 | ppb | on Jul 1 at hr 0 | Hours of Missing Data: | 4 |
| Minimum Daily Value: | 0.0 | ppb | on Jul 1 | Hours of Calibration: | 40 |
| Monthly Average: | 0.0 | ppb | | Operational Uptime: | 99.5 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | | | | | | | |
|-----------------|---------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------------|---------------|---------------|-----|-----|-----|-----|-----|-----|-----|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | | | | | | | | |
| Jul 1 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Jul 2 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Jul 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Jul 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Jul 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Jul 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Jul 7 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 8 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 10 | K | K | K | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 12 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | C | C | C | C | C | C | C | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 25 | S | S | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diurnal Maximum | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

| | | | | | |
|---|---|-----|---|---|---------------------|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance |
| K | Collection Error | ND | No Data (Machine Not in Service) | Y | Routine Maintenance |
| X | InValid Data (Equipment Malfunction/Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P | Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

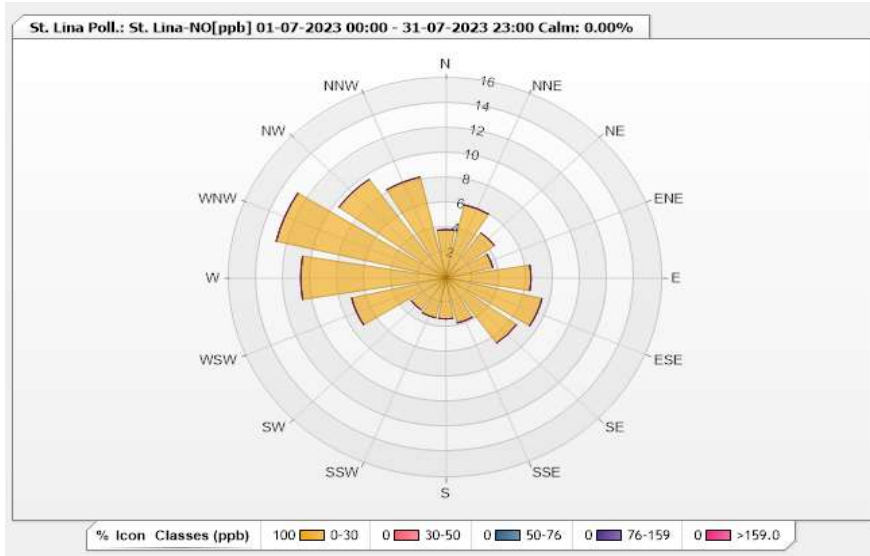


Station: St. Lina Poll.: St. Lina-NO[ppb] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.09% Calm Avg: 0.00 [ppm]

| Direction | 0-30 | 30-50 | 50-76 | 76-159 | >159.0 | Total |
|-----------|-------|-------|-------|--------|--------|-------|
| N | 3.86 | 0 | 0 | 0 | 0 | 3.86 |
| NNE | 6 | 0 | 0 | 0 | 0 | 6 |
| NE | 4.43 | 0 | 0 | 0 | 0 | 4.43 |
| ENE | 3.57 | 0 | 0 | 0 | 0 | 3.57 |
| E | 6.29 | 0 | 0 | 0 | 0 | 6.29 |
| ESE | 7.29 | 0 | 0 | 0 | 0 | 7.29 |
| SE | 6.43 | 0 | 0 | 0 | 0 | 6.43 |
| SSE | 3.71 | 0 | 0 | 0 | 0 | 3.71 |
| S | 3.29 | 0 | 0 | 0 | 0 | 3.29 |
| SSW | 3.29 | 0 | 0 | 0 | 0 | 3.29 |
| SW | 3.14 | 0 | 0 | 0 | 0 | 3.14 |
| WSW | 7.14 | 0 | 0 | 0 | 0 | 7.14 |
| W | 10.71 | 0 | 0 | 0 | 0 | 10.71 |
| WNW | 12.86 | 0 | 0 | 0 | 0 | 12.86 |
| NW | 9.71 | 0 | 0 | 0 | 0 | 9.71 |
| NNW | 8.29 | 0 | 0 | 0 | 0 | 8.29 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |



Lakeland Industry & Community Association

St. Lina Site - July 2023

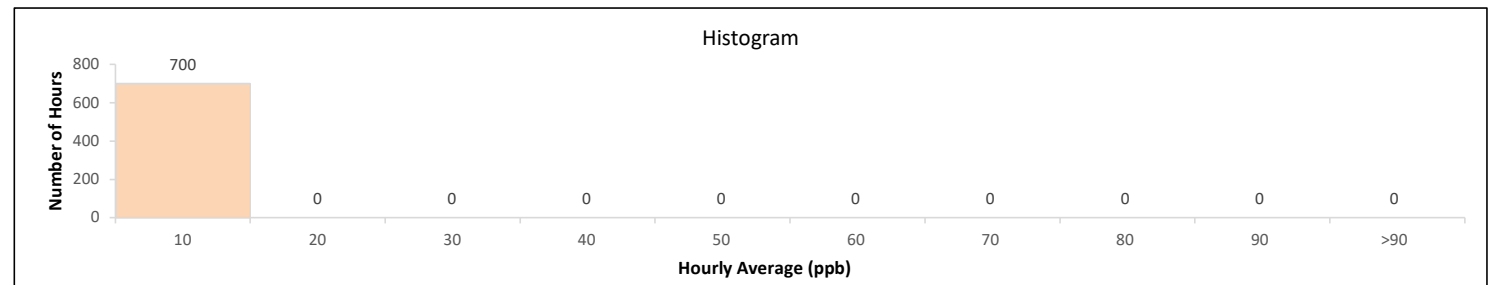
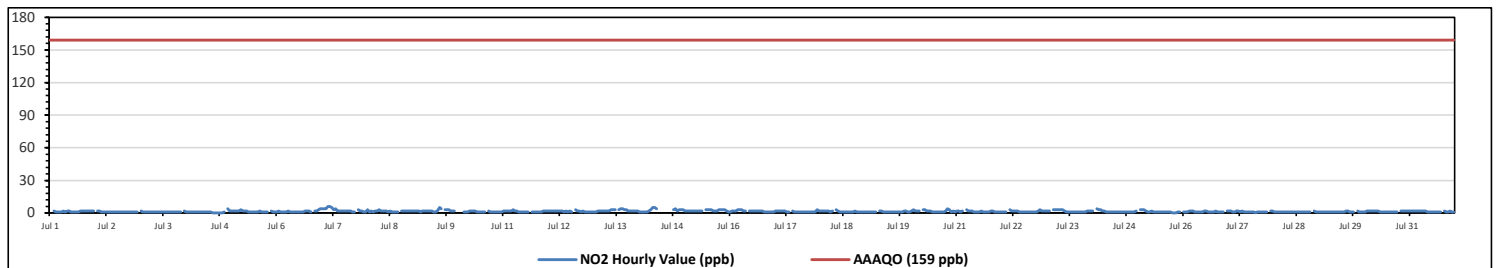
Summary of Hourly Averages

NITROGEN DIOXIDE (NO₂) in ppb

| Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 159 ppb | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|-----|-----|-----|-----|-----|-----|-----|-----|--------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---|-----|-----|-------|---------|---------|---------|--|--|--|---------------------|--|--|--|--|
| Number of 1-Hour Exceedances: 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum Hourly Value: 6 ppb on Jul 7 at hr 3 | | | | | | | | | | Hours in Service: 744 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum Daily Value: 2.7 ppb on Jul 7 | | | | | | | | | | Hours of Data: 700 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Minimum Hourly Value: 0 ppb on Jul 4 at hr 14 | | | | | | | | | | Hours of Missing Data: 4 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Minimum Daily Value: 0.9 ppb on Jul 4 | | | | | | | | | | Hours of Calibration: 40 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Monthly Average: 1.6 ppb | | | | | | | | | | Operational Uptime: 99.5 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily | | | | | | | | | |
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average | | | | | | | | |
| Jul 1 | 1 | S | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 1.5 | | | | | | | | |
| Jul 2 | S | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | S | 2 | 1 | 1.1 | | | | | | | | |
| Jul 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | S | 2 | 1 | 1.1 | | | | | | | | |
| Jul 4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | S | 4 | 2 | 0 | 4 | 0.9 | | | | | | | | |
| Jul 5 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | S | 2 | 1 | 1 | 1 | 1 | 1.5 | | | | | | | | |
| Jul 6 | 1 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 1 | S | 2 | 2 | 3 | 4 | 1 | 1.5 | | | | | | | | |
| Jul 7 | 4 | 4 | 4 | 6 | 6 | 5 | 3 | 4 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | S | 3 | 2 | 2 | 1 | 1 | 1 | 6 | 2.7 | | | | | | | | |
| Jul 8 | 3 | 1 | 2 | 1 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | S | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 3 | 1.8 | | | | | | | | |
| Jul 9 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 5 | 4 | S | 3 | 3 | 3 | 2 | 2 | 2 | 2 | K | 1 | 2.2 | | | | | | | | |
| Jul 10 | K | K | K | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | S | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1.3 | | | | | | | | |
| Jul 11 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | S | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 1 | 3 | 1.5 | | | | | | | | |
| Jul 12 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | 1 | S | 3 | 2 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1.7 | | | | | | | | |
| Jul 13 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | S | 3 | 4 | 4 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 | 2.3 | | | | | | | | |
| Jul 14 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 5 | 5 | 4 | C | C | C | C | C | C | C | C | 3 | 4 | 2 | 3 | 3 | 3 | 1 | 5 | NA | | | | | | | | |
| Jul 15 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | S | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 2 | 1 | 1 | 3 | 2.3 | | | | | | | | |
| Jul 16 | 1 | 2 | 2 | 2 | 3 | 3 | 3 | 2 | 2 | S | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 1.8 | | | | | | | | |
| Jul 17 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | S | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 2 | 1 | 3 | 1.4 | | | | | | | | |
| Jul 18 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | S | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 1.4 | | | | | | | | |
| Jul 19 | 1 | 1 | 1 | 1 | 1 | 1 | S | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 2 | 1.2 | | | | | | | | |
| Jul 20 | 2 | 3 | 2 | 2 | 2 | S | 3 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 4 | 3 | 1 | 2 | 1 | 1 | 4 | 1.9 | | | | | | | | |
| Jul 21 | 2 | 2 | 1 | 2 | S | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 3 | 1.5 | | | | | | | | |
| Jul 22 | 1 | 1 | 1 | S | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 2 | 2 | 2 | 1 | 3 | 1.5 | | | | | | | | |
| Jul 23 | 2 | 2 | S | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 1 | 3 | 1.8 | | | | | | | | |
| Jul 24 | 2 | S | 4 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 4 | 1.5 | | | | | | | | |
| Jul 25 | S | 3 | 3 | 3 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | S | 0 | 3 | 1.2 | | | | | | | | |
| Jul 26 | 1 | 1 | 1 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | S | 2 | 1 | 2 | 1.3 | | | | | | | | |
| Jul 27 | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | S | 2 | 2 | 0 | 2 | 1.3 | | | | | | | | |
| Jul 28 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | S | 2 | 1 | 1 | 1 | 2 | 1.0 | | | | | | | | |
| Jul 29 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | S | 2 | 1 | 1 | 1 | 2 | 1.1 | | | | | | | | |
| Jul 30 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | S | 2 | 2 | 2 | 2 | 1 | 2 | 1.5 | | | | | | | | |
| Jul 31 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | S | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 2 | 1.5 | | | | | | | | |
| Diurnal Maximum | 4 | 4 | 4 | 6 | 6 | 5 | 3 | 5 | 5 | 4 | 3 | 3 | 3 | 3 | 5 | 4 | 3 | 3 | 3 | 4 | 3 | 3 | 4 | 4 | 1 | 2 | 4 | | | | | | | | |
| Diurnal Average | 1.7 | 1.8 | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.7 | 1.5 | 1.3 | 1.3 | 1.2 | 1.3 | 1.4 | 1.4 | 1.2 | 1.3 | 1.4 | 1.6 | 1.5 | 1.6 | 1.7 | 1.6 | 1 | 2 | 1.5 | | | | | | | | |
| C | Monthly Calibration | | | | | | | | | | S | | | | | | | | | | Daily Zero-Span Check | | | | | Q | | | | | Quality Assurance | | | | |
| K | Collection Error | | | | | | | | | | ND | | | | | | | | | | No Data (Machine Not in Service) | | | | | Y | | | | | Routine Maintenance | | | | |
| X | Invalid Data (Equipment Malfunction/Recovery) | | | | | | | | | | NRM | | | | | | | | | | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | | | P | | | | | Power Failure | | | | |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

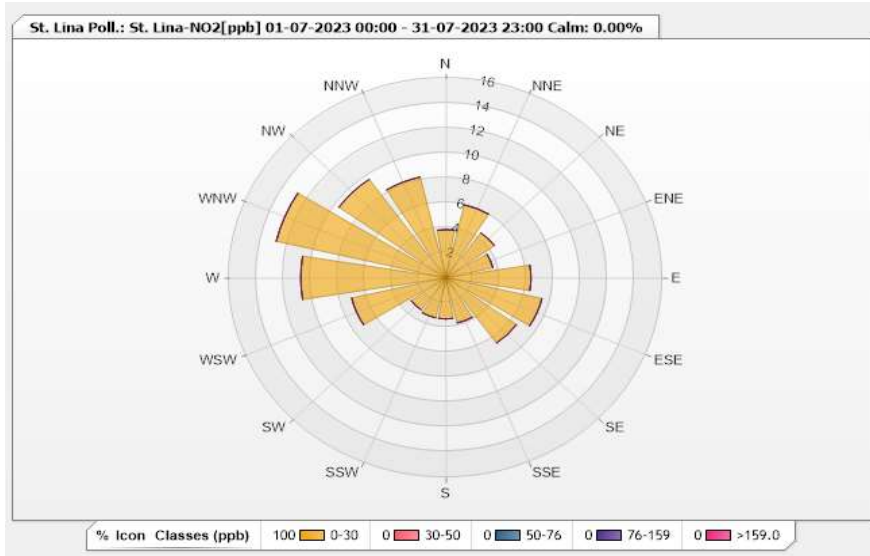


Station: St. Lina Poll.: St. Lina-NO2[ppb] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.09% Calm Avg: 0.00 [ppm]

| Direction | 0-30 | 30-50 | 50-76 | 76-159 | >159.0 | Total |
|-----------|-------|-------|-------|--------|--------|-------|
| N | 3.86 | 0 | 0 | 0 | 0 | 3.86 |
| NNE | 6 | 0 | 0 | 0 | 0 | 6 |
| NE | 4.43 | 0 | 0 | 0 | 0 | 4.43 |
| ENE | 3.57 | 0 | 0 | 0 | 0 | 3.57 |
| E | 6.29 | 0 | 0 | 0 | 0 | 6.29 |
| ESE | 7.29 | 0 | 0 | 0 | 0 | 7.29 |
| SE | 6.43 | 0 | 0 | 0 | 0 | 6.43 |
| SSE | 3.71 | 0 | 0 | 0 | 0 | 3.71 |
| S | 3.29 | 0 | 0 | 0 | 0 | 3.29 |
| SSW | 3.29 | 0 | 0 | 0 | 0 | 3.29 |
| SW | 3.14 | 0 | 0 | 0 | 0 | 3.14 |
| WSW | 7.14 | 0 | 0 | 0 | 0 | 7.14 |
| W | 10.71 | 0 | 0 | 0 | 0 | 10.71 |
| WNW | 12.86 | 0 | 0 | 0 | 0 | 12.86 |
| NW | 9.71 | 0 | 0 | 0 | 0 | 9.71 |
| NNW | 8.29 | 0 | 0 | 0 | 0 | 8.29 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |

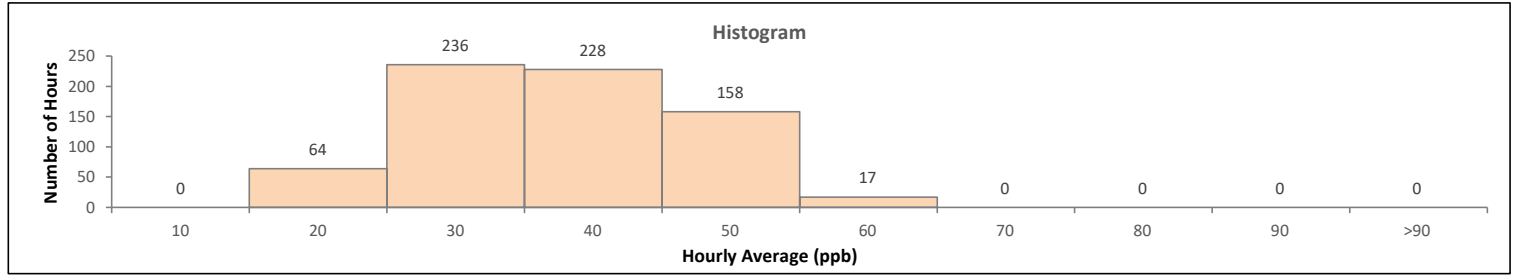
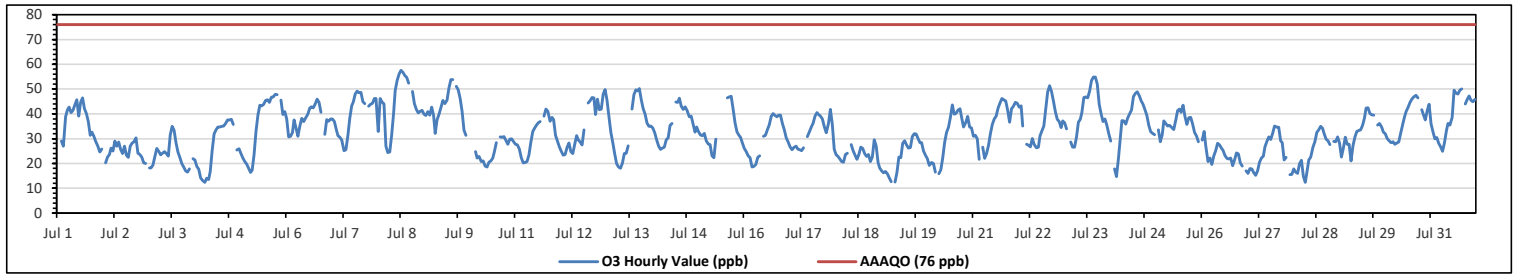


Lakeland Industry & Community Association

St. Lina Site - July 2023
Summary of Hourly Averages
OZONE (O₃) in ppb

| Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 76 ppb | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|------|------|------|------|------|------|------|------|------|------|------|--------------------------|------|---|------|------|------|------|------|------|---------------------|------|---------------|---------------|---------------|------|
| Number of 1-Hour Exceedances: 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum Hourly Value: 57.6 ppb on Jul 8 at hr 12 | | | | | | | | | | | | | Hours in Service: 744 | | | | | | | | | | | | | | |
| Maximum Daily Value: 43.9 ppb on Jul 8 | | | | | | | | | | | | | Hours of Data: 703 | | | | | | | | | | | | | | |
| Minimum Hourly Value: 12.3 ppb on Jul 4 at hr 5 | | | | | | | | | | | | | Hours of Missing Data: 4 | | | | | | | | | | | | | | |
| Minimum Daily Value: 23.2 ppb on Jul 19 | | | | | | | | | | | | | Hours of Calibration: 37 | | | | | | | | | | | | | | |
| Monthly Average: 32.7 ppb | | | | | | | | | | | | | Operational Uptime: 99.5 | | | | | | | | | | | | | | |
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | |
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | |
| Jul 1 | 40.7 | S | 29 | 27 | 38.8 | 41.7 | 42.8 | 40.6 | 41.4 | 43.6 | 45.7 | 39.1 | 44.7 | 46.5 | 42 | 40.2 | 36.8 | 31.4 | 32.6 | 31.1 | 28.9 | 27.2 | 24.6 | 25.8 | 24.6 | 46.5 | 36.6 |
| Jul 2 | S | 20.2 | 22.6 | 23.6 | 26.1 | 25 | 29 | 26.9 | 28.6 | 25.7 | 24 | 27 | 23.4 | 22.4 | 27 | 28.2 | 28.6 | 30.2 | 24.1 | 23.6 | 22.6 | 20.2 | 20 | S | 20.0 | 30.2 | 25.0 |
| Jul 3 | 18.1 | 18.1 | 19.4 | 22.8 | 26 | 24.9 | 23.5 | 24.1 | 24.8 | 24 | 23 | 31.5 | 34.9 | 33.4 | 28.3 | 24.6 | 22.4 | 19.9 | 18.5 | 17 | 16.5 | 17.7 | S | 21.9 | 16.5 | 34.9 | 23.3 |
| Jul 4 | 21.5 | 18.8 | 17.6 | 14.2 | 13.1 | 12.3 | 14.1 | 13.5 | 16.8 | 25.1 | 31.9 | 33.6 | 34.6 | 34.7 | 34.9 | 35.1 | 36.2 | 37.5 | 37.5 | 37.8 | 35.8 | S | 25.4 | 25.9 | 12.3 | 37.8 | 26.4 |
| Jul 5 | 24 | 22.1 | 20.7 | 19.7 | 18 | 16.4 | 17.3 | 23.7 | 32.8 | 39.5 | 43.4 | 43.2 | 43.9 | 45.4 | 45.7 | 44.7 | 46.7 | 46.8 | 47.9 | 47.7 | S | 45.5 | 39.7 | 40.8 | 16.4 | 47.9 | 35.5 |
| Jul 6 | 38 | 30.7 | 30.9 | 32.5 | 37.5 | 34.3 | 30.9 | 35 | 38.2 | 36.8 | 38.3 | 39.9 | 42.3 | 42.9 | 42.4 | 44 | 45.9 | 44.7 | 40.7 | S | 31.7 | 37.6 | 37 | 37.9 | 30.7 | 45.9 | 37.8 |
| Jul 7 | 37.9 | 36.9 | 34.2 | 31.2 | 30.6 | 29.4 | 25.2 | 25.5 | 31.1 | 38.2 | 43.2 | 44.8 | 48 | 49.2 | 48.5 | 48.6 | 44.9 | 44.1 | S | 43.1 | 43.8 | 44.2 | 46.2 | 46.2 | 25.2 | 49.2 | 39.8 |
| Jul 8 | 32.8 | 46.2 | 44.8 | 44 | 26.9 | 24.4 | 24.6 | 31.5 | 40.3 | 49.4 | 53.4 | 55.9 | 57.6 | 56.7 | 55.5 | 54.7 | 52.4 | S | 49.1 | 44.1 | 41.8 | 40.4 | 41 | 41.4 | 24.4 | 57.6 | 43.9 |
| Jul 9 | 39.9 | 39.3 | 40.9 | 39.5 | 42.8 | 39.3 | 32.1 | 37.7 | 39.9 | 42.6 | 45.4 | 44.1 | 45.5 | 50.4 | 53.8 | 53.7 | S | 51.1 | 49.6 | 46.2 | 41 | 33.4 | 31.3 | K | 31.3 | 53.8 | 42.7 |
| Jul 10 | K | K | K | 24.7 | 22.2 | 22.8 | 20.7 | 21 | 19 | 18.5 | 20.5 | 21 | 22.1 | 24.8 | 28.4 | S | 30.7 | 30.6 | 30.8 | 29.3 | 27.7 | 29.8 | 29.9 | 28.8 | 18.5 | 30.8 | 25.2 |
| Jul 11 | 27.8 | 27.5 | 25.8 | 22.3 | 20.2 | 20.3 | 20.8 | 23.5 | 28.6 | 32.9 | 34.3 | 35.3 | 36.4 | 36.9 | S | 39.1 | 41.9 | 41 | 37 | 38.6 | 37.6 | 31.4 | 29 | 26.7 | 20.2 | 41.9 | 31.1 |
| Jul 12 | 24.9 | 23.4 | 23.7 | 26.4 | 28.2 | 24.7 | 24 | 27.7 | 31.2 | 29.5 | 28.6 | 27.5 | 33.5 | S | 44.4 | 45.3 | 46.6 | 46.4 | 39.7 | 45.9 | 41.6 | 41.9 | 48 | 49.8 | 23.4 | 49.8 | 34.9 |
| Jul 13 | 45.4 | 38.8 | 32.4 | 28.3 | 23.8 | 19.8 | 18.5 | 18 | 20.1 | 23.9 | 24.1 | 27.1 | S | 41.9 | 47.7 | 49.7 | 49.3 | 50.2 | 45.7 | 42.1 | 39.9 | 36.3 | 34.9 | 35 | 18.0 | 50.2 | 34.5 |
| Jul 14 | 34.3 | 32.3 | 29.5 | 27.1 | 25.7 | 26.1 | 26.5 | 29.6 | 30.3 | 35.4 | 36.1 | S | 44.8 | 44.6 | 46.3 | 43 | 41.8 | 42.9 | 41.4 | 38.8 | 39.1 | 35.9 | 32.6 | 34.6 | 25.7 | 46.3 | 35.6 |
| Jul 15 | 32.7 | 31.5 | 31.2 | 32.1 | 29.2 | 27.9 | 27.6 | 23.1 | 22.3 | 29.8 | C | C | C | C | C | 46.5 | 46.9 | 47.1 | 41.9 | 36.4 | 32.7 | 31.6 | 30.5 | 28.2 | 22.3 | 47.1 | 33.1 |
| Jul 16 | 26 | 24.7 | 23.1 | 22.3 | 18.6 | 18.8 | 19.6 | 22.4 | 23.1 | S | 30.9 | 31.3 | 33.5 | 35.6 | 38.9 | 40.1 | 39.3 | 38.8 | 39.4 | 39.4 | 36.2 | 33.5 | 30.2 | 28.6 | 18.6 | 40.1 | 30.2 |
| Jul 17 | 26.7 | 25.5 | 26.5 | 27 | 25.8 | 25.5 | 25.1 | 26.3 | S | 30.8 | 32.6 | 34.5 | 36.3 | 39 | 40.6 | 39.6 | 39.1 | 38 | 34.8 | 32.3 | 36.2 | 41.8 | 35.8 | 25.7 | 25.1 | 41.8 | 32.4 |
| Jul 18 | 23.5 | 23 | 21.9 | 20.7 | 20.5 | 23.6 | 24.1 | S | 27.6 | 25.2 | 23.4 | 21.6 | 23.6 | 26.6 | 26 | 24 | 22.8 | 23.6 | 20.7 | 22.6 | 29.6 | 27.1 | 20.4 | 18.2 | 18.2 | 29.6 | 23.5 |
| Jul 19 | 17.1 | 16.3 | 16.8 | 15.8 | 14.2 | 12.6 | S | 12.5 | 16.4 | 22.6 | 22.3 | 28.1 | 29.1 | 27.5 | 26.2 | 26.4 | 30.8 | 32 | 31.9 | 30.1 | 28.3 | 28.3 | 25 | 23.3 | 12.5 | 32.0 | 23.2 |
| Jul 20 | 21.9 | 19.2 | 20.3 | 19.9 | 16.5 | S | 15.8 | 17.4 | 22.2 | 28.5 | 32.4 | 34.5 | 38.6 | 43.6 | 39.9 | 40.3 | 41.5 | 42 | 38 | 34.6 | 36.5 | 38.9 | 34.6 | 34.3 | 15.8 | 43.6 | 30.9 |
| Jul 21 | 30.9 | 31.3 | 29.9 | 21.6 | S | 26.6 | 22 | 24 | 27.2 | 32 | 35.8 | 37.9 | 39.1 | 42.3 | 44.4 | 46.2 | 45.7 | 45.1 | 41.4 | 36.6 | 42 | 43.1 | 44.7 | 44.2 | 21.6 | 46.2 | 36.3 |
| Jul 22 | 42.8 | 43.2 | 35 | S | 27.8 | 27.4 | 26.7 | 30.1 | 27.6 | 26.3 | 26.6 | 31.1 | 33.2 | 35.1 | 42.1 | 48.9 | 51.4 | 49 | 45.1 | 40.8 | 37.8 | 36.8 | 34.4 | 37.1 | 26.3 | 51.4 | 36.4 |
| Jul 23 | 36.4 | 33.9 | S | 28.6 | 26.5 | 30.6 | 36.6 | 37.8 | 40.7 | 46.6 | 46.9 | 46.4 | 49.2 | 53.5 | 54.8 | 54.9 | 52 | 43.8 | 40 | 36.8 | 38 | 35.4 | 32 | 26.5 | 54.9 | 40.3 | |
| Jul 24 | 29 | S | 17.8 | 14.7 | 21.7 | 30.2 | 37.2 | 37.1 | 35.9 | 38.4 | 40 | 41.5 | 47 | 48.3 | 48.9 | 47.1 | 45.3 | 43.9 | 41.7 | 39.3 | 35.3 | 32.7 | 32.1 | 31.6 | 14.7 | 48.9 | 36.4 |
| Jul 25 | S | 33.6 | 28.8 | 31.6 | 37.1 | 36.1 | 35 | 35.3 | 34.5 | 33.7 | 37.2 | 41.3 | 41.9 | 40.7 | 43.5 | 38.9 | 35.8 | 38.5 | 38.6 | 35.9 | 32.5 | 31.1 | 28.7 | S | 28.7 | 43.5 | 35.9 |
| Jul 26 | 29.4 | 32.8 | 27.1 | 20.7 | 22.2 | 19.5 | 22.9 | 25.2 | 28 | 27.5 | 26.2 | 25.3 | 23.2 | 22 | 21.7 | 22.1 | 19.1 | 21.4 | 24.2 | 23.8 | 20.2 | 19 | S | 17 | 17.0 | 32.8 | 23.5 |
| Jul 27 | 15.9 | 17.9 | 17.8 | 16.2 | 15.2 | 17.1 | 20.5 | 22.1 | 22.9 | 26.7 | 28.9 | 30.7 | 29.7 | 32.1 | 35 | 34.7 | 34.5 | 29.2 | 28.4 | 21.5 | 22.4 | S | 15.4 | 15.5 | 15.2 | 35.0 | 23.9 |
| Jul 28 | 17.8 | 16.5 | 15.9 | 19.8 | 21.3 | 14.8 | 12.4 | 16.4 | 21.5 | 22.6 | 26.6 | 28.8 | 32.4 | 33.5 | 34.9 | 34.2 | 32 | 29.8 | 29.2 | 27.6 | S | 28.9 | 28.8 | 30.7 | 12.4 | 34.9 | 25.1 |
| Jul 29 | 28.2 | 22.6 | 26.2 | 30.6 | 27.7 | 27.8 | 21.1 | 27.1 | 30.5 | 32.9 | 33.3 | 33.6 | 35.4 | 38.3 | 42.3 | 42.4 | 40.2 | 39.6 | 39.4 | S | 35.5 | 36.2 | 34.5 | 32.6 | 21.1 | 42.4 | 33.0 |
| Jul 30 | 32 | 30.1 | 29.2 | 28.4 | 28.8 | 27.8 | 28.2 | 28.6 | 32.2 | 35.5 | 38.7 | 40.8 | 42.6 | 44.5 | 45.9 | 46.8 | 47.5 | 46.5 | S | 41.7 | 39.3 | 37.5 | 41.3 | 43.9 | 27.8 | 47.5 | 37.3 |
| Jul 31 | 36 | 32.7 | 30 | 30.4 | 28.1 | 26.7 | 24.9 | 28.4 | 33.1 | 36.2 | 35.5 | 38.6 | 49.5 | 48.4 | 48 | 49.5 | 50 | S | 44 | 45.8 | 47.2 | 45.4 | 44.9 | 45.8 | 24.9 | 50.0 | 39.1 |
| Diurnal Maximum | 45.4 | 46.2 | 44.8 | 44.0 | 42.8 | 41.7 | 42.8 | 40.6 | 41.4 | 49.4 | 53.4 | 55.9 | 57.6 | 56.7 | 55.5 | 54.8 | 54.9 | 52.0 | 49.6 | 47.7 | 47.2 | 45.5 | 48.0 | 49.8 | | | |
| Diurnal Average | 29.7 | 28.2 | 26.5 | 25.5 | 25.4 | 25.0 | 24.8 | 26.4 | 28.9 | 31.8 | 33.6 | 35.1 | 37.7 | 39.2 | 40.6 | 41.1 | 40.0 | 39.1 | 37.1 | 35.6 | 34.4 | 34.2 | 33.0 | 32.3 | | | |
| C | Monthly Calibration | | | | | | | | | | | | | S | Daily Zero-Span Check | | | | | | Q | Quality Assurance | | | | | |
| K | Collection Error | | | | | | | | | | | | | ND | No Data (Machine Not in Service) | | | | | | Y | Routine Maintenance | | | | | |
| X | Invalid Data (Equipment Malfunction/Recovery) | | | | | | | | | | | | | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | | | | P | Power Failure | | | | | |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

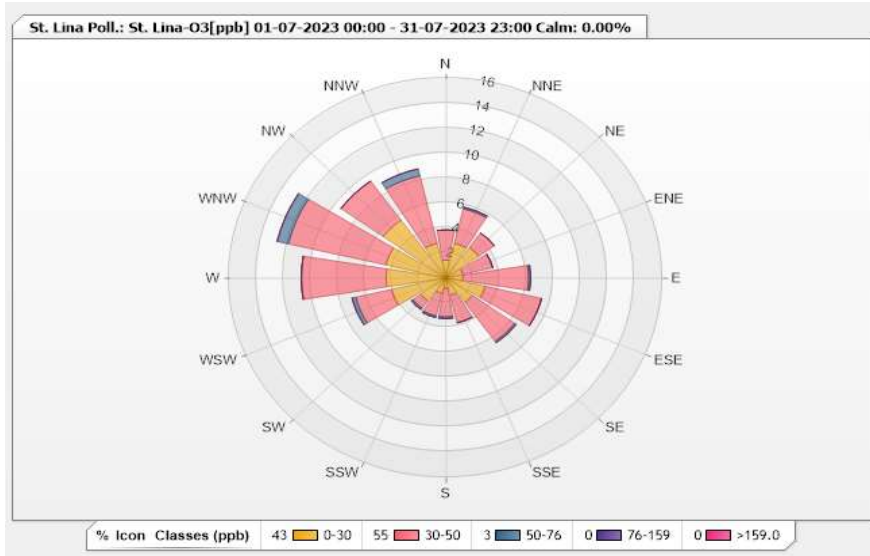


Station: St. Lina Poll.: St. Lina-O3[ppb] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.49% Calm Avg: 0.00 [ppm]

| Direction | 0-30 | 30-50 | 50-76 | 76-159 | >159.0 | Total |
|-----------|-------|-------|-------|--------|--------|-------|
| N | 1.42 | 2.42 | 0 | 0 | 0 | 3.84 |
| NNE | 2.84 | 2.84 | 0.14 | 0 | 0 | 5.82 |
| NE | 2.99 | 1.42 | 0 | 0 | 0 | 4.41 |
| ENE | 1.28 | 2.28 | 0 | 0 | 0 | 3.56 |
| E | 1.28 | 4.84 | 0.14 | 0 | 0 | 6.26 |
| ESE | 2.99 | 4.27 | 0 | 0 | 0 | 7.26 |
| SE | 2.42 | 3.84 | 0.14 | 0 | 0 | 6.4 |
| SSE | 1.42 | 2.28 | 0 | 0 | 0 | 3.7 |
| S | 0.85 | 2.28 | 0.14 | 0 | 0 | 3.27 |
| SSW | 1.28 | 1.85 | 0.14 | 0 | 0 | 3.27 |
| SW | 2.28 | 0.71 | 0.14 | 0 | 0 | 3.13 |
| WSW | 4.13 | 2.7 | 0.28 | 0 | 0 | 7.11 |
| W | 4.41 | 6.26 | 0 | 0 | 0 | 10.67 |
| WNW | 4.55 | 7.4 | 0.85 | 0 | 0 | 12.8 |
| NW | 5.69 | 3.84 | 0 | 0 | 0 | 9.53 |
| NNW | 2.84 | 5.55 | 0.57 | 0 | 0 | 8.96 |
| Summary | 42.67 | 54.78 | 2.54 | 0 | 0 | 100 |



Lakeland Industry & Community Association

St. Lina Site - July 2023

Summary of Hourly Averages

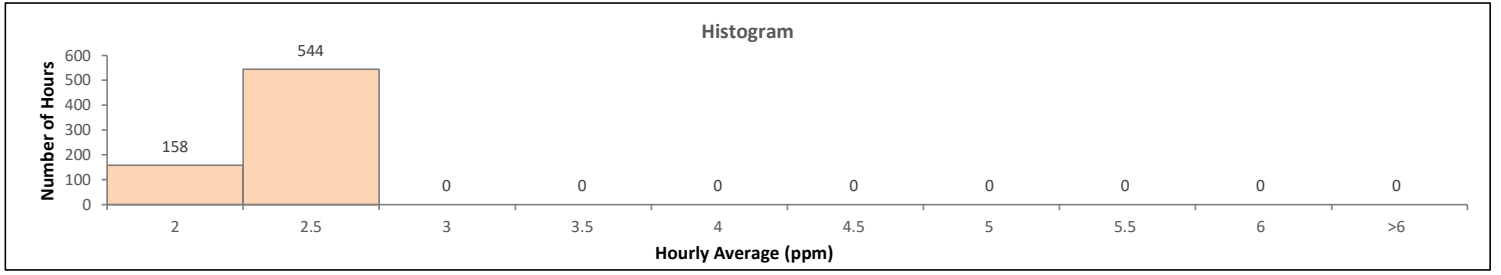
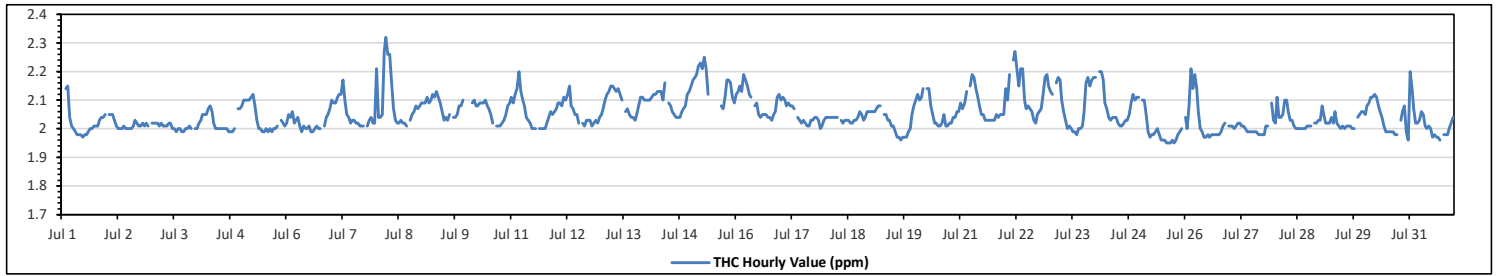
TOTAL HYDROCARBONS (THC) in ppm

| | | | | | |
|-----------------------|------|-----|--------------------|------------------------|------|
| Maximum Hourly Value: | 2.32 | ppm | on Jul 8 at hr 5 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.16 | ppm | on Jul 15 | Hours of Data: | 702 |
| Minimum Hourly Value: | 1.95 | ppm | on Jul 25 at hr 14 | Hours of Missing Data: | 4 |
| Minimum Daily Value: | 1.99 | ppm | on Jul 25 | Hours of Calibration: | 38 |
| Monthly Average: | 2.05 | ppm | | Operational Uptime: | 99.5 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | | |
|-----------------|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------|---------------|---------------|------|------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 | |
| Jul 1 | 1.98 | S | 2.14 | 2.15 | 2.04 | 2.01 | 2.00 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | 2.00 | 2.00 | 2.01 | 2.01 | 2.01 | 2.01 | 2.03 | 2.04 | 2.04 | 2.05 | 1.97 | 2.15 | 2.02 | |
| Jul 2 | S | 2.05 | 2.05 | 2.05 | 2.03 | 2.01 | 2.00 | 2.00 | 2.00 | 2.01 | 2.00 | 2.00 | 2.00 | 2.01 | 2.03 | 2.02 | 2.01 | 2.01 | 2.02 | 2.01 | 2.02 | 2.01 | 2.02 | 2.01 | S | 2.00 | 2.05 | 2.02 |
| Jul 3 | 2.02 | 2.02 | 2.02 | 2.02 | 2.01 | 2.02 | 2.01 | 2.01 | 2.01 | 2.02 | 2.02 | 2.00 | 2.00 | 1.99 | 2.00 | 2.00 | 1.99 | 1.99 | 2.00 | 2.00 | 2.01 | 2.00 | S | 2.00 | 1.99 | 2.02 | 2.01 | |
| Jul 4 | 2.00 | 2.02 | 2.03 | 2.05 | 2.05 | 2.05 | 2.07 | 2.08 | 2.06 | 2.02 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.99 | 1.99 | 1.99 | 2.00 | S | 2.07 | 2.07 | 2.07 | 1.99 | 2.08 | 2.02 | |
| Jul 5 | 2.08 | 2.10 | 2.10 | 2.10 | 2.10 | 2.11 | 2.12 | 2.08 | 2.03 | 2.00 | 2.00 | 1.99 | 1.99 | 2.00 | 1.99 | 2.00 | 1.99 | 2.00 | 2.00 | 2.01 | S | 2.03 | 2.02 | 2.01 | 1.99 | 2.12 | 2.04 | |
| Jul 6 | 2.02 | 2.05 | 2.04 | 2.06 | 2.02 | 2.03 | 2.04 | 2.01 | 1.99 | 2.01 | 2.00 | 2.00 | 2.01 | 1.99 | 1.99 | 2.00 | 2.01 | 2.00 | 2.00 | S | 2.01 | 2.04 | 2.05 | 2.07 | 1.99 | 2.07 | 2.02 | |
| Jul 7 | 2.10 | 2.09 | 2.09 | 2.11 | 2.12 | 2.12 | 2.17 | 2.10 | 2.05 | 2.04 | 2.02 | 2.03 | 2.02 | 2.02 | 2.01 | 2.01 | 2.01 | 2.01 | S | 2.01 | 2.03 | 2.04 | 2.02 | 2.02 | 2.01 | 2.17 | 2.05 | |
| Jul 8 | 2.21 | 2.04 | 2.04 | 2.05 | 2.27 | 2.32 | 2.26 | 2.26 | 2.16 | 2.07 | 2.03 | 2.02 | 2.02 | 2.03 | 2.02 | 2.02 | 2.01 | S | 2.03 | 2.05 | 2.06 | 2.08 | 2.07 | 2.08 | 2.01 | 2.32 | 2.10 | |
| Jul 9 | 2.09 | 2.09 | 2.09 | 2.11 | 2.09 | 2.10 | 2.12 | 2.11 | 2.13 | 2.11 | 2.09 | 2.06 | 2.03 | 2.04 | 2.03 | 2.05 | S | 2.04 | 2.04 | 2.05 | 2.08 | 2.08 | 2.10 | K | 2.03 | 2.13 | 2.08 | |
| Jul 10 | K | K | K | 2.09 | 2.10 | 2.08 | 2.08 | 2.09 | 2.09 | 2.09 | 2.10 | 2.08 | 2.07 | 2.05 | 2.02 | S | 2.01 | 2.01 | 2.01 | 2.02 | 2.03 | 2.05 | 2.08 | 2.09 | 2.01 | 2.10 | 2.06 | |
| Jul 11 | 2.11 | 2.09 | 2.12 | 2.14 | 2.20 | 2.13 | 2.10 | 2.08 | 2.04 | 2.03 | 2.02 | 2.00 | 2.00 | 2.00 | S | 2.00 | 2.00 | 2.00 | 2.00 | 2.02 | 2.04 | 2.06 | 2.05 | 2.06 | 2.00 | 2.20 | 2.06 | |
| Jul 12 | 2.07 | 2.09 | 2.09 | 2.08 | 2.11 | 2.10 | 2.12 | 2.15 | 2.08 | 2.07 | 2.05 | 2.05 | 2.02 | S | 2.02 | 2.01 | 2.03 | 2.03 | 2.03 | 2.01 | 2.02 | 2.03 | 2.02 | 2.04 | 2.01 | 2.15 | 2.06 | |
| Jul 13 | 2.05 | 2.07 | 2.10 | 2.12 | 2.13 | 2.15 | 2.15 | 2.14 | 2.13 | 2.14 | 2.12 | 2.10 | S | 2.06 | 2.07 | 2.05 | 2.04 | 2.04 | 2.03 | 2.05 | 2.08 | 2.11 | 2.11 | 2.10 | 2.03 | 2.15 | 2.09 | |
| Jul 14 | 2.10 | 2.10 | 2.10 | 2.11 | 2.12 | 2.12 | 2.13 | 2.13 | 2.13 | 2.10 | 2.16 | S | 2.09 | 2.08 | 2.06 | 2.05 | 2.04 | 2.04 | 2.04 | 2.06 | 2.07 | 2.08 | 2.12 | 2.13 | 2.04 | 2.16 | 2.09 | |
| Jul 15 | 2.15 | 2.17 | 2.18 | 2.19 | 2.22 | 2.23 | 2.21 | 2.25 | 2.21 | 2.12 | C | C | C | C | C | C | 2.08 | 2.07 | 2.11 | 2.17 | 2.17 | 2.16 | 2.11 | 2.09 | 2.07 | 2.25 | 2.16 | |
| Jul 16 | 2.12 | 2.13 | 2.15 | 2.13 | 2.19 | 2.17 | 2.15 | 2.12 | 2.11 | S | 2.08 | 2.09 | 2.05 | 2.04 | 2.05 | 2.05 | 2.05 | 2.04 | 2.04 | 2.03 | 2.05 | 2.06 | 2.11 | 2.12 | 2.03 | 2.19 | 2.09 | |
| Jul 17 | 2.10 | 2.11 | 2.10 | 2.08 | 2.09 | 2.08 | 2.08 | 2.07 | S | 2.04 | 2.03 | 2.02 | 2.03 | 2.02 | 2.01 | 2.01 | 2.03 | 2.03 | 2.04 | 2.04 | 2.03 | 2.00 | 2.01 | 2.03 | 2.00 | 2.11 | 2.05 | |
| Jul 18 | 2.04 | 2.04 | 2.04 | 2.04 | 2.04 | 2.04 | S | 2.03 | 2.02 | 2.03 | 2.03 | 2.03 | 2.02 | 2.02 | 2.01 | 2.03 | 2.03 | 2.04 | 2.06 | 2.05 | 2.03 | 2.04 | 2.06 | 2.06 | 2.02 | 2.06 | 2.04 | |
| Jul 19 | 2.06 | 2.06 | 2.06 | 2.07 | 2.08 | 2.08 | S | 2.05 | 2.05 | 2.03 | 2.03 | 2.01 | 2.01 | 1.99 | 1.97 | 1.97 | 1.96 | 1.97 | 1.97 | 1.99 | 1.99 | 2.00 | 2.05 | 2.08 | 1.96 | 2.08 | 2.02 | |
| Jul 20 | 2.10 | 2.12 | 2.10 | 2.11 | 2.14 | S | 2.14 | 2.14 | 2.08 | 2.05 | 2.02 | 2.02 | 2.01 | 2.01 | 2.02 | 2.05 | 2.01 | 2.01 | 2.02 | 2.02 | 2.04 | 2.04 | 2.06 | 2.06 | 2.01 | 2.14 | 2.06 | |
| Jul 21 | 2.09 | 2.07 | 2.09 | 2.13 | S | 2.15 | 2.19 | 2.18 | 2.14 | 2.11 | 2.08 | 2.05 | 2.05 | 2.03 | 2.03 | 2.03 | 2.03 | 2.03 | 2.03 | 2.05 | 2.04 | 2.05 | 2.05 | 2.05 | 2.03 | 2.19 | 2.08 | |
| Jul 22 | 2.14 | 2.10 | 2.19 | S | 2.24 | 2.27 | 2.21 | 2.15 | 2.21 | 2.21 | 2.10 | 2.07 | 2.08 | 2.07 | 2.06 | 2.03 | 2.02 | 2.05 | 2.06 | 2.07 | 2.12 | 2.18 | 2.19 | 2.15 | 2.02 | 2.27 | 2.13 | |
| Jul 23 | 2.13 | 2.12 | S | 2.16 | 2.18 | 2.17 | 2.10 | 2.06 | 2.03 | 2.00 | 2.01 | 2.00 | 1.99 | 1.99 | 1.98 | 2.00 | 2.00 | 2.01 | 2.06 | 2.16 | 2.18 | 2.15 | 2.17 | 2.18 | 1.98 | 2.18 | 2.08 | |
| Jul 24 | 2.18 | S | 2.20 | 2.20 | 2.17 | 2.09 | 2.07 | 2.04 | 2.03 | 2.04 | 2.04 | 2.04 | 2.02 | 2.01 | 2.01 | 2.02 | 2.03 | 2.03 | 2.05 | 2.09 | 2.12 | 2.10 | 2.11 | 2.11 | 2.01 | 2.20 | 2.08 | |
| Jul 25 | S | 2.10 | 2.10 | 2.05 | 1.99 | 1.97 | 1.98 | 1.98 | 1.99 | 2.00 | 1.98 | 1.96 | 1.96 | 1.96 | 1.95 | 1.95 | 1.95 | 1.96 | 1.95 | 1.96 | 1.98 | 1.99 | 2.00 | S | 1.95 | 2.10 | 1.99 | |
| Jul 26 | 2.04 | 2.00 | 2.08 | 2.21 | 2.14 | 2.19 | 2.14 | 2.06 | 2.00 | 1.99 | 1.97 | 1.97 | 1.98 | 1.97 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | 2.01 | 2.02 | S | 2.01 | 1.97 | 2.21 | 2.03 | |
| Jul 27 | 2.01 | 2.01 | 2.00 | 2.01 | 2.02 | 2.02 | 2.01 | 2.01 | 2.00 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 2.01 | 2.01 | S | 2.09 | 2.03 | 1.98 | 2.09 | 2.00 | |
| Jul 28 | 2.02 | 2.11 | 2.04 | 2.04 | 2.05 | 2.10 | 2.10 | 2.06 | 2.03 | 2.03 | 2.01 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.01 | 2.01 | 2.01 | S | 2.02 | 2.02 | 2.03 | 2.00 | 2.11 | 2.03 | |
| Jul 29 | 2.03 | 2.08 | 2.05 | 2.02 | 2.02 | 2.04 | 2.02 | 2.06 | 2.02 | 2.01 | 2.00 | 2.01 | 2.00 | 2.01 | 2.01 | 2.01 | 2.01 | 2.00 | 2.00 | S | 2.04 | 2.05 | 2.06 | 2.06 | 2.00 | 2.08 | 2.03 | |
| Jul 30 | 2.05 | 2.08 | 2.09 | 2.11 | 2.11 | 2.12 | 2.11 | 2.08 | 2.06 | 2.04 | 2.01 | 1.99 | 1.99 | 1.99 | 1.99 | 1.98 | 1.98 | 1.98 | S | 2.03 | 2.06 | 2.08 | 1.99 | 1.96 | 1.96 | 2.12 | 2.04 | |
| Jul 31 | 2.20 | 2.14 | 2.07 | 2.02 | 2.02 | 2.03 | 2.06 | 2.05 | 2.01 | 2.00 | 2.01 | 2.00 | 1.97 | 1.98 | 1.97 | 1.97 | 1.96 | S | 1.98 | 1.98 | 1.98 | 2.00 | 2.02 | 2.04 | 1.96 | 2.20 | 2.02 | |
| Diurnal Maximum | 2.21 | 2.17 | 2.20 | 2.21 | 2.27 | 2.32 | 2.26 | 2.26 | 2.21 | 2.21 | 2.16 | 2.10 | 2.09 | 2.08 | 2.07 | 2.05 | 2.08 | 2.07 | 2.11 | 2.17 | 2.18 | 2.18 | 2.19 | 2.18 | 2.01 | 2.27 | 2.18 | |
| Diurnal Average | 2.08 | 2.08 | 2.09 | 2.09 | 2.10 | 2.10 | 2.10 | 2.09 | 2.06 | 2.05 | 2.03 | 2.02 | 2.01 | 2.01 | 2.01 | 2.01 | 2.01 | 2.01 | 2.02 | 2.03 | 2.05 | 2.06 | 2.06 | 2.06 | 2.06 | 2.06 | 2.06 | |

| | | | | | |
|---|---|-----|---|---|---------------------|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance |
| K | Collection Error | ND | No Data (Machine Not in Service) | Y | Routine Maintenance |
| X | InValid Data (Equipment Malfunction/Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P | Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

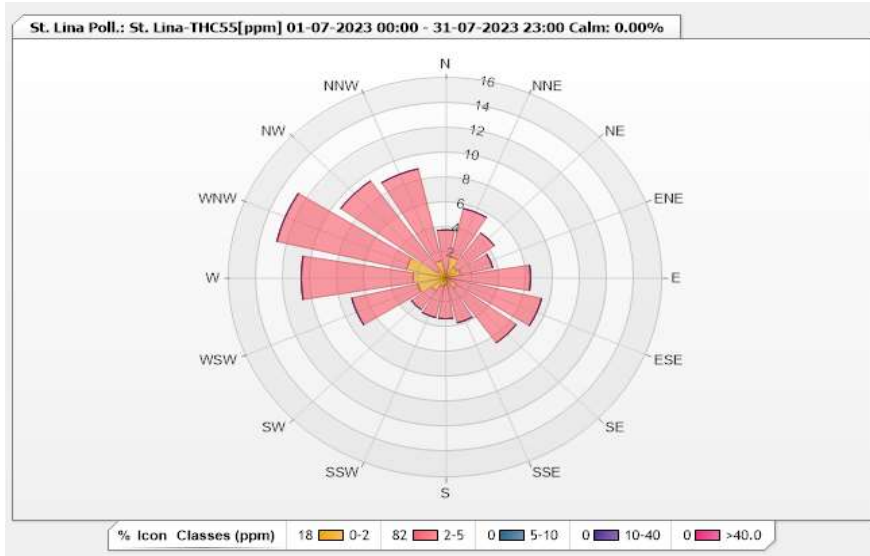


Station: St. Lina Poll.: St. Lina-THC55[ppm] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.35% Calm Avg: 0.00 [ppm]

| Direction | 0-2 | 2-5 | 5-10 | 10-40 | >40.0 | Total |
|-----------|-------|-------|------|-------|-------|-------|
| N | 0.28 | 3.56 | 0 | 0 | 0 | 3.84 |
| NNE | 1.71 | 3.99 | 0 | 0 | 0 | 5.7 |
| NE | 1 | 3.42 | 0 | 0 | 0 | 4.42 |
| ENE | 1.14 | 2.42 | 0 | 0 | 0 | 3.56 |
| E | 0.28 | 5.98 | 0 | 0 | 0 | 6.26 |
| ESE | 0 | 7.26 | 0 | 0 | 0 | 7.26 |
| SE | 1 | 5.41 | 0 | 0 | 0 | 6.41 |
| SSE | 0.28 | 3.42 | 0 | 0 | 0 | 3.7 |
| S | 0.57 | 2.71 | 0 | 0 | 0 | 3.28 |
| SSW | 0.71 | 2.56 | 0 | 0 | 0 | 3.27 |
| SW | 1.28 | 1.85 | 0 | 0 | 0 | 3.13 |
| WSW | 2.14 | 4.99 | 0 | 0 | 0 | 7.13 |
| W | 2.42 | 8.26 | 0 | 0 | 0 | 10.68 |
| WNW | 2.99 | 9.83 | 0 | 0 | 0 | 12.82 |
| NW | 0.71 | 8.83 | 0 | 0 | 0 | 9.54 |
| NNW | 1.42 | 7.55 | 0 | 0 | 0 | 8.97 |
| Summary | 17.93 | 82.04 | 0 | 0 | 0 | 100 |



Lakeland Industry & Community Association

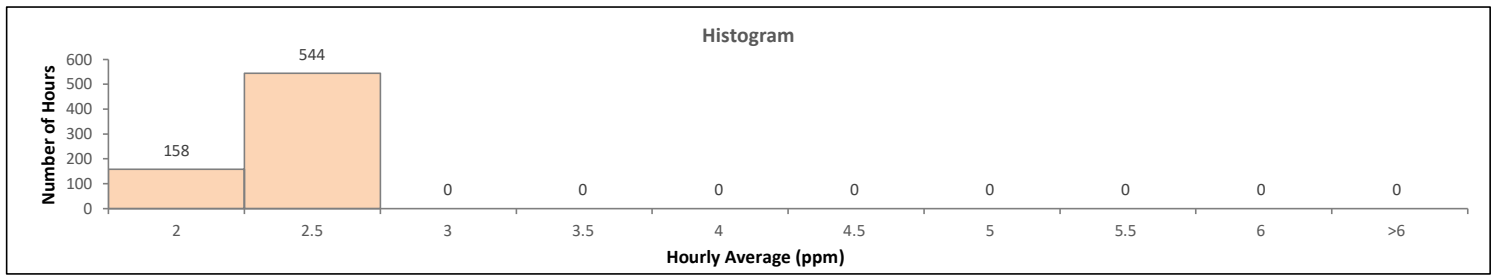
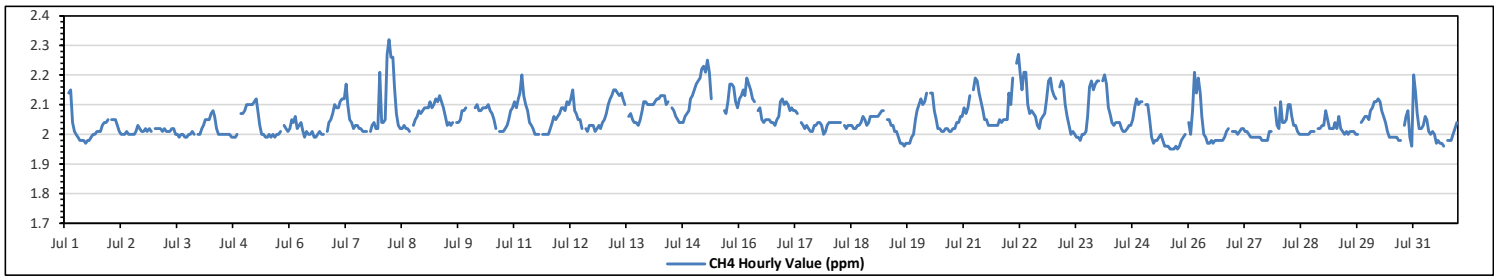
St. Lina Site - July 2023 Summary of Hourly Averages METHANE (CH4) in ppm

| | | | | |
|-----------------------|----------|--------------------|------------------------|------|
| Maximum Hourly Value: | 2.32 ppm | on Jul 8 at hr 5 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.16 ppm | on Jul 15 | Hours of Data: | 702 |
| Minimum Hourly Value: | 1.95 ppm | on Jul 25 at hr 14 | Hours of Missing Data: | 4 |
| Minimum Daily Value: | 1.99 ppm | on Jul 25 | Hours of Calibration: | 38 |
| Monthly Average: | 2.05 ppm | | Operational Uptime: | 99.5 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | | |
|-----------------|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------|---------------|---------------|------|------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 | |
| Jul 1 | 1.98 | S | 2.14 | 2.15 | 2.04 | 2.01 | 2.00 | 1.99 | 1.98 | 1.98 | 1.97 | 1.98 | 1.98 | 1.99 | 2.00 | 2.00 | 2.01 | 2.01 | 2.01 | 2.01 | 2.03 | 2.04 | 2.04 | 2.05 | 1.97 | 2.15 | 2.02 | |
| Jul 2 | S | 2.05 | 2.05 | 2.05 | 2.03 | 2.01 | 2.00 | 2.00 | 2.00 | 2.01 | 2.00 | 2.00 | 2.00 | 2.01 | 2.03 | 2.02 | 2.01 | 2.01 | 2.02 | 2.01 | 2.02 | 2.01 | 2.02 | 2.01 | S | 2.00 | 2.05 | 2.02 |
| Jul 3 | 2.02 | 2.02 | 2.02 | 2.02 | 2.01 | 2.02 | 2.01 | 2.01 | 2.01 | 2.02 | 2.02 | 2.00 | 1.99 | 2.00 | 2.00 | 1.99 | 1.99 | 2.00 | 2.00 | 2.01 | 2.00 | S | 2.00 | 1.99 | 2.02 | 2.01 | 2.02 | 2.01 |
| Jul 4 | 2.00 | 2.02 | 2.03 | 2.05 | 2.05 | 2.05 | 2.07 | 2.08 | 2.06 | 2.02 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.99 | 1.99 | 1.99 | 2.00 | S | 2.07 | 2.07 | 2.07 | 1.99 | 2.08 | 2.02 | |
| Jul 5 | 2.08 | 2.10 | 2.10 | 2.10 | 2.10 | 2.11 | 2.12 | 2.08 | 2.03 | 2.00 | 2.00 | 1.99 | 1.99 | 2.00 | 1.99 | 2.00 | 1.99 | 2.00 | 2.00 | 2.01 | S | 2.03 | 2.02 | 2.01 | 1.99 | 2.12 | 2.04 | |
| Jul 6 | 2.02 | 2.05 | 2.04 | 2.06 | 2.02 | 2.03 | 2.04 | 2.01 | 1.99 | 2.01 | 2.00 | 2.00 | 2.01 | 1.99 | 1.99 | 2.00 | 2.01 | 2.00 | 2.00 | S | 2.01 | 2.04 | 2.05 | 2.07 | 1.99 | 2.07 | 2.02 | |
| Jul 7 | 2.10 | 2.09 | 2.09 | 2.11 | 2.12 | 2.12 | 2.17 | 2.10 | 2.05 | 2.04 | 2.02 | 2.03 | 2.02 | 2.02 | 2.01 | 2.01 | 2.01 | S | 2.01 | 2.03 | 2.04 | 2.02 | 2.02 | 2.01 | 2.17 | 2.17 | 2.05 | |
| Jul 8 | 2.21 | 2.04 | 2.04 | 2.05 | 2.27 | 2.32 | 2.26 | 2.26 | 2.16 | 2.07 | 2.03 | 2.02 | 2.02 | 2.03 | 2.02 | 2.02 | 2.01 | S | 2.03 | 2.05 | 2.06 | 2.08 | 2.07 | 2.08 | 2.01 | 2.32 | 2.10 | |
| Jul 9 | 2.09 | 2.09 | 2.09 | 2.11 | 2.09 | 2.10 | 2.12 | 2.11 | 2.13 | 2.11 | 2.09 | 2.06 | 2.03 | 2.04 | 2.03 | 2.04 | S | 2.04 | 2.04 | 2.05 | 2.08 | 2.08 | 2.09 | K | 2.03 | 2.13 | 2.08 | |
| Jul 10 | K | K | K | 2.09 | 2.10 | 2.08 | 2.08 | 2.09 | 2.09 | 2.09 | 2.10 | 2.08 | 2.07 | 2.05 | 2.02 | S | 2.01 | 2.01 | 2.01 | 2.02 | 2.03 | 2.05 | 2.08 | 2.09 | 2.01 | 2.10 | 2.06 | |
| Jul 11 | 2.11 | 2.09 | 2.12 | 2.14 | 2.20 | 2.13 | 2.10 | 2.08 | 2.04 | 2.03 | 2.02 | 2.00 | 2.00 | 2.00 | S | 2.00 | 2.00 | 2.00 | 2.00 | 2.02 | 2.04 | 2.06 | 2.05 | 2.06 | 2.00 | 2.20 | 2.06 | |
| Jul 12 | 2.07 | 2.09 | 2.09 | 2.08 | 2.11 | 2.10 | 2.12 | 2.15 | 2.08 | 2.07 | 2.05 | 2.05 | 2.02 | S | 2.02 | 2.01 | 2.03 | 2.03 | 2.03 | 2.01 | 2.02 | 2.03 | 2.02 | 2.04 | 2.01 | 2.15 | 2.06 | |
| Jul 13 | 2.05 | 2.07 | 2.10 | 2.12 | 2.13 | 2.15 | 2.15 | 2.14 | 2.13 | 2.14 | 2.12 | 2.10 | S | S | 2.06 | 2.07 | 2.05 | 2.04 | 2.04 | 2.03 | 2.05 | 2.08 | 2.11 | 2.11 | 2.10 | 2.03 | 2.15 | 2.09 |
| Jul 14 | 2.10 | 2.10 | 2.10 | 2.11 | 2.12 | 2.12 | 2.13 | 2.13 | 2.13 | 2.10 | 2.11 | S | 2.09 | 2.08 | 2.06 | 2.05 | 2.04 | 2.04 | 2.04 | 2.06 | 2.07 | 2.08 | 2.12 | 2.13 | 2.04 | 2.13 | 2.09 | |
| Jul 15 | 2.15 | 2.17 | 2.18 | 2.19 | 2.22 | 2.23 | 2.21 | 2.25 | 2.21 | 2.12 | C | C | C | C | C | C | 2.08 | 2.07 | 2.11 | 2.17 | 2.17 | 2.16 | 2.11 | 2.09 | 2.07 | 2.25 | 2.16 | |
| Jul 16 | 2.12 | 2.13 | 2.15 | 2.13 | 2.19 | 2.17 | 2.15 | 2.12 | 2.11 | S | 2.08 | 2.09 | 2.05 | 2.04 | 2.05 | 2.05 | 2.05 | 2.04 | 2.04 | 2.03 | 2.05 | 2.06 | 2.11 | 2.12 | 2.03 | 2.19 | 2.09 | |
| Jul 17 | 2.10 | 2.11 | 2.10 | 2.08 | 2.09 | 2.08 | 2.08 | 2.07 | S | 2.04 | 2.03 | 2.02 | 2.03 | 2.02 | 2.01 | 2.01 | 2.03 | 2.03 | 2.04 | 2.04 | 2.03 | 2.00 | 2.01 | 2.03 | 2.00 | 2.11 | 2.05 | |
| Jul 18 | 2.04 | 2.04 | 2.04 | 2.04 | 2.04 | 2.04 | S | 2.03 | 2.02 | 2.03 | 2.03 | 2.03 | 2.02 | 2.02 | 2.01 | 2.03 | 2.03 | 2.04 | 2.06 | 2.05 | 2.03 | 2.04 | 2.06 | 2.02 | 2.02 | 2.06 | 2.04 | |
| Jul 19 | 2.06 | 2.06 | 2.06 | 2.07 | 2.08 | 2.08 | S | 2.05 | 2.05 | 2.03 | 2.03 | 2.01 | 2.01 | 1.99 | 1.97 | 1.97 | 1.96 | 1.97 | 1.97 | 1.99 | 1.99 | 2.00 | 2.05 | 2.08 | 1.96 | 2.08 | 2.02 | |
| Jul 20 | 2.10 | 2.12 | 2.10 | 2.11 | 2.14 | S | 2.14 | 2.14 | 2.08 | 2.05 | 2.02 | 2.02 | 2.01 | 2.01 | 2.02 | 2.02 | 2.01 | 2.01 | 2.02 | 2.02 | 2.04 | 2.04 | 2.06 | 2.06 | 2.01 | 2.14 | 2.06 | |
| Jul 21 | 2.09 | 2.07 | 2.09 | 2.13 | S | 2.15 | 2.19 | 2.18 | 2.14 | 2.11 | 2.08 | 2.05 | 2.05 | 2.03 | 2.03 | 2.03 | 2.03 | 2.03 | 2.03 | 2.05 | 2.04 | 2.05 | 2.05 | 2.05 | 2.03 | 2.19 | 2.08 | |
| Jul 22 | 2.14 | 2.10 | 2.19 | S | 2.24 | 2.27 | 2.21 | 2.15 | 2.21 | 2.21 | 2.10 | 2.07 | 2.08 | 2.07 | 2.06 | 2.03 | 2.02 | 2.05 | 2.06 | 2.07 | 2.12 | 2.18 | 2.19 | 2.15 | 2.02 | 2.27 | 2.13 | |
| Jul 23 | 2.13 | 2.12 | S | 2.16 | 2.18 | 2.17 | 2.10 | 2.06 | 2.03 | 2.00 | 2.01 | 2.00 | 1.99 | 1.99 | 1.98 | 2.00 | 2.00 | 2.01 | 2.06 | 2.16 | 2.18 | 2.15 | 2.17 | 2.18 | 1.98 | 2.18 | 2.08 | |
| Jul 24 | 2.18 | S | 2.18 | 2.20 | 2.17 | 2.09 | 2.07 | 2.04 | 2.03 | 2.04 | 2.04 | 2.04 | 2.02 | 2.01 | 2.01 | 2.02 | 2.03 | 2.03 | 2.05 | 2.09 | 2.12 | 2.10 | 2.11 | 2.11 | 2.01 | 2.20 | 2.08 | |
| Jul 25 | S | 2.10 | 2.10 | 2.05 | 1.99 | 1.97 | 1.98 | 1.98 | 1.99 | 2.00 | 1.98 | 1.94 | 1.96 | 1.96 | 1.95 | 1.95 | 1.95 | 1.96 | 1.95 | 1.96 | 1.98 | 1.99 | 2.00 | S | 1.95 | 2.10 | 1.99 | |
| Jul 26 | 2.04 | 2.00 | 2.08 | 2.21 | 2.14 | 2.19 | 2.14 | 2.06 | 2.00 | 1.99 | 1.97 | 1.97 | 1.98 | 1.97 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | 2.01 | 2.02 | S | 2.01 | 1.97 | 2.21 | 2.03 | |
| Jul 27 | 2.01 | 2.01 | 2.00 | 2.01 | 2.02 | 2.02 | 2.01 | 2.01 | 2.00 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 2.01 | 2.01 | S | 2.09 | 2.03 | 1.98 | 2.09 | 2.00 | |
| Jul 28 | 2.02 | 2.11 | 2.04 | 2.04 | 2.05 | 2.10 | 2.10 | 2.06 | 2.03 | 2.03 | 2.01 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.01 | 2.01 | 2.01 | S | 2.02 | 2.02 | 2.03 | 2.00 | 2.11 | 2.03 | |
| Jul 29 | 2.03 | 2.08 | 2.05 | 2.02 | 2.02 | 2.04 | 2.02 | 2.06 | 2.02 | 2.01 | 2.00 | 2.01 | 2.00 | 2.01 | 2.01 | 2.01 | 2.01 | 2.00 | 2.00 | S | 2.04 | 2.05 | 2.06 | 2.06 | 2.00 | 2.08 | 2.03 | |
| Jul 30 | 2.05 | 2.08 | 2.09 | 2.11 | 2.11 | 2.12 | 2.11 | 2.08 | 2.06 | 2.04 | 2.01 | 1.99 | 1.99 | 1.99 | 1.99 | 1.98 | 1.98 | 1.98 | S | 2.03 | 2.06 | 2.08 | 1.99 | 1.96 | 1.96 | 2.12 | 2.04 | |
| Jul 31 | 2.20 | 2.14 | 2.07 | 2.02 | 2.02 | 2.03 | 2.06 | 2.05 | 2.01 | 2.00 | 2.01 | 2.00 | 1.97 | 1.98 | 1.97 | 1.97 | 1.96 | S | 1.98 | 1.98 | 1.98 | 2.00 | 2.02 | 2.04 | 1.96 | 2.20 | 2.02 | |
| Diurnal Maximum | 2.21 | 2.17 | 2.19 | 2.21 | 2.27 | 2.32 | 2.26 | 2.26 | 2.21 | 2.21 | 2.12 | 2.10 | 2.09 | 2.08 | 2.07 | 2.05 | 2.08 | 2.07 | 2.11 | 2.17 | 2.18 | 2.18 | 2.19 | 2.18 | 2.01 | 2.27 | 2.09 | |
| Diurnal Average | 2.08 | 2.08 | 2.09 | 2.09 | 2.10 | 2.10 | 2.10 | 2.09 | 2.06 | 2.05 | 2.03 | 2.02 | 2.01 | 2.01 | 2.01 | 2.01 | 2.01 | 2.01 | 2.02 | 2.03 | 2.05 | 2.06 | 2.06 | 2.06 | 2.06 | 2.06 | 2.06 | |

| | | | | | |
|---|---|-----|---|---|---------------------|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance |
| K | Collection Error | ND | No Data (Machine Not in Service) | Y | Routine Maintenance |
| X | InValid Data (Equipment Malfunction/Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P | Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

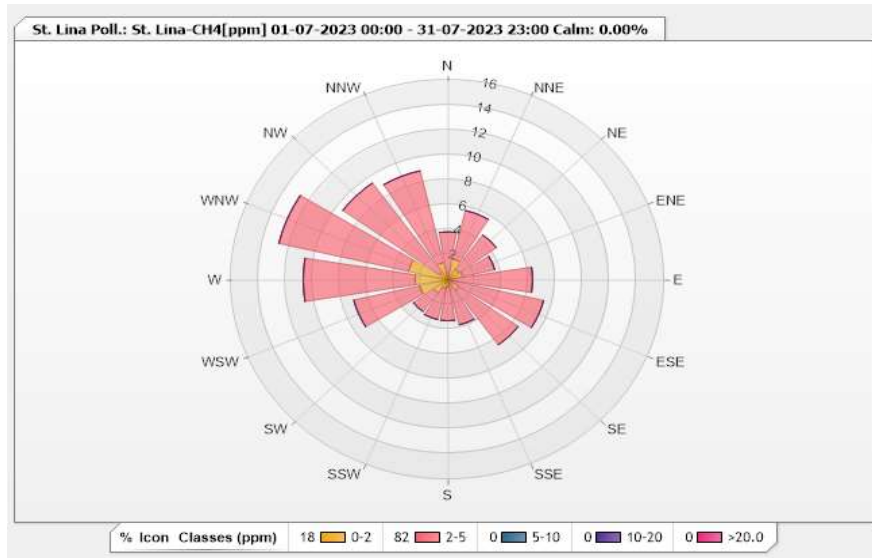


Station: St. Lina Poll.: St. Lina-CH4[ppm] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.35% Calm Avg: 0.00 [ppm]

| Direction | 0-2 | 2-5 | 5-10 | 10-20 | >20.0 | Total |
|-----------|-------|-------|------|-------|-------|-------|
| N | 0.28 | 3.56 | 0 | 0 | 0 | 3.84 |
| NNE | 1.71 | 3.99 | 0 | 0 | 0 | 5.7 |
| NE | 1 | 3.42 | 0 | 0 | 0 | 4.42 |
| ENE | 1.14 | 2.42 | 0 | 0 | 0 | 3.56 |
| E | 0.28 | 5.98 | 0 | 0 | 0 | 6.26 |
| ESE | 0 | 7.26 | 0 | 0 | 0 | 7.26 |
| SE | 1 | 5.41 | 0 | 0 | 0 | 6.41 |
| SSE | 0.28 | 3.42 | 0 | 0 | 0 | 3.7 |
| S | 0.57 | 2.71 | 0 | 0 | 0 | 3.28 |
| SSW | 0.71 | 2.56 | 0 | 0 | 0 | 3.27 |
| SW | 1.28 | 1.85 | 0 | 0 | 0 | 3.13 |
| WSW | 2.14 | 4.99 | 0 | 0 | 0 | 7.13 |
| W | 2.42 | 8.26 | 0 | 0 | 0 | 10.68 |
| WNW | 2.99 | 9.83 | 0 | 0 | 0 | 12.82 |
| NW | 0.71 | 8.83 | 0 | 0 | 0 | 9.54 |
| NNW | 1.42 | 7.55 | 0 | 0 | 0 | 8.97 |
| Summary | 17.93 | 82.04 | 0 | 0 | 0 | 100 |



Lakeland Industry & Community Association
St. Lina Site - July 2023
Summary of Hourly Averages

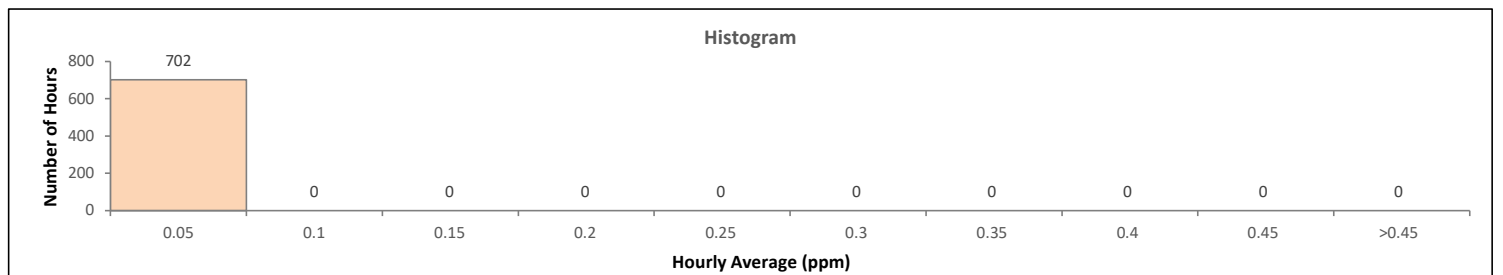
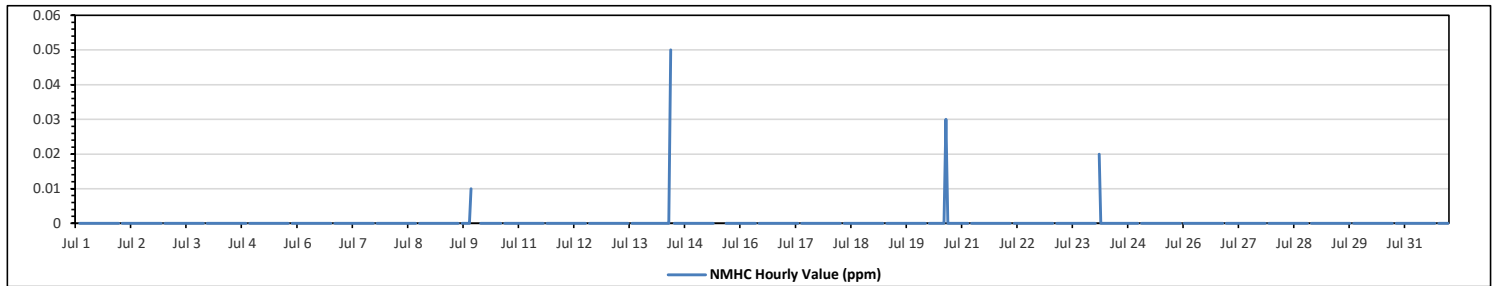
NON-METHANE HYDROCARBONS (NMHC) in ppm

| | | | | | |
|-----------------------|------|-----|--------------------|------------------------|------|
| Maximum Hourly Value: | 0.05 | ppm | on Jul 14 at hr 10 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.00 | ppm | on Jul 14 | Hours of Data: | 702 |
| Minimum Hourly Value: | 0.00 | ppm | on Jul 1 at hr 0 | Hours of Missing Data: | 4 |
| Minimum Daily Value: | 0.00 | ppm | on Jul 1 | Hours of Calibration: | 38 |
| Monthly Average: | 0.00 | ppm | | Operational Uptime: | 99.5 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | | | | |
|-----------------|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------|---------------|---------------|------|------|------|------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 | | | |
| Jul 1 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Jul 2 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 |
| Jul 3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 10 | K | K | K | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.05 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | C | C | C | C | C | C | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 21 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 22 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 23 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 24 | 0.00 | S | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 25 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 26 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 |
| Jul 27 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 28 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 29 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 30 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 31 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Diurnal Maximum | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Diurnal Average | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | |
|---|--|------------------------------|
| C Monthly Calibration | S Daily Zero-Span Check | Q Quality Assurance |
| K Collection Error | ND No Data (Machine Not in Service) | Y Routine Maintenance |
| X InValid Data (Equipment Malfunction /Recovery) | NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

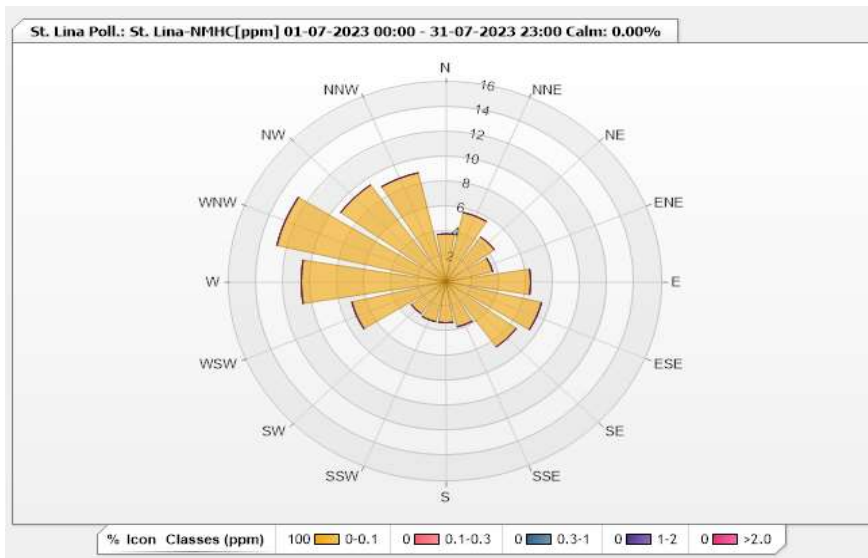


Station: St. Lina Poll.: St. Lina-NMHC[ppm] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.35% Calm Avg: 0.00 [ppm]

| Direction | 0-0.1 | 0.1-0.3 | 0.3-1 | 1-2 | >2.0 | Total |
|-----------|-------|---------|-------|-----|------|-------|
| N | 3.85 | 0 | 0 | 0 | 0 | 3.85 |
| NNE | 5.7 | 0 | 0 | 0 | 0 | 5.7 |
| NE | 4.42 | 0 | 0 | 0 | 0 | 4.42 |
| ENE | 3.56 | 0 | 0 | 0 | 0 | 3.56 |
| E | 6.27 | 0 | 0 | 0 | 0 | 6.27 |
| ESE | 7.26 | 0 | 0 | 0 | 0 | 7.26 |
| SE | 6.41 | 0 | 0 | 0 | 0 | 6.41 |
| SSE | 3.7 | 0 | 0 | 0 | 0 | 3.7 |
| S | 3.28 | 0 | 0 | 0 | 0 | 3.28 |
| SSW | 3.28 | 0 | 0 | 0 | 0 | 3.28 |
| SW | 3.13 | 0 | 0 | 0 | 0 | 3.13 |
| WSW | 7.12 | 0 | 0 | 0 | 0 | 7.12 |
| W | 10.68 | 0 | 0 | 0 | 0 | 10.68 |
| WNW | 12.82 | 0 | 0 | 0 | 0 | 12.82 |
| NW | 9.54 | 0 | 0 | 0 | 0 | 9.54 |
| NNW | 8.97 | 0 | 0 | 0 | 0 | 8.97 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |



Lakeland Industry & Community Association

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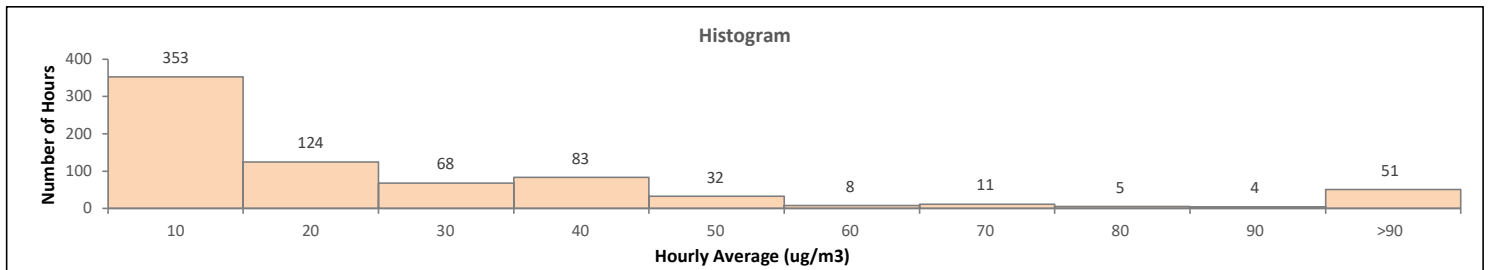
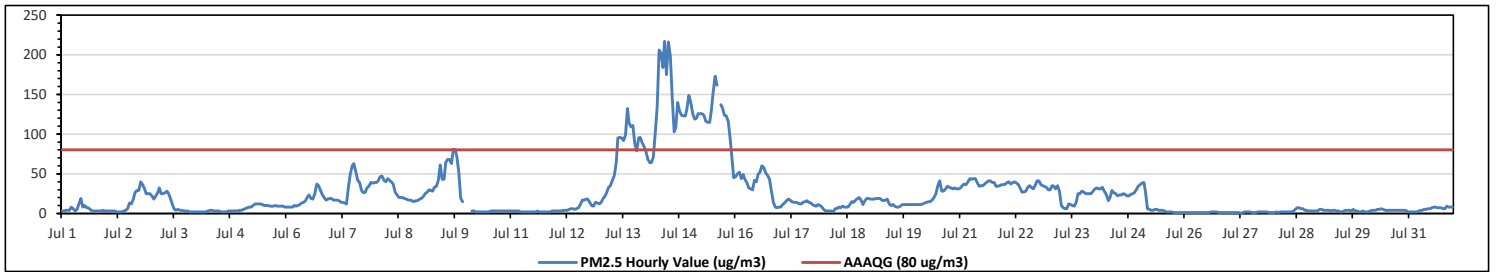
Summary of Hourly Averages

PARTICULATE MATTER 2.5 (PM_{2.5}) in µg/m³

| Alberta Ambient Air Quality Guideline (AAAQG): 1-Hour 80 µg/m ³ , Alberta Ambient Air Quality Objective (AAAQO): 24-Hour 29 µg/m ³ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|----------|----------|------|------|------|------|------|------|------|------------|---|---|------|------|----------|------|------|------|------|------|------|------|---------------|---------------------|---------------|----|--|--|--|--|--|--|--|--|----------|---------------|--|--|--|--|--|--|--|--|--|--|
| Number of 1-Hour Exceedances: 55 | | | | | | | | | | | | Number of 24-Hour Exceedances: 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum Hourly Value: 217 µg/m ³ on Jul 14 at hr 10 | | | | | | | | | | | | Hours in Service: 744 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum Daily Value: 135.8 µg/m ³ on Jul 14 | | | | | | | | | | | | Hours of Data: 739 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Minimum Hourly Value: 0 µg/m ³ on Jul 27 at hr 6 | | | | | | | | | | | | Hours of Missing Data: 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Minimum Daily Value: 1 µg/m ³ on Jul 26 | | | | | | | | | | | | Hours of Calibration: 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Monthly Average: 24.3 µg/m ³ | | | | | | | | | | | | Operational Uptime: 99.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | | | | | | | | | | | | | | | | | | | | | |
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 | | | | | | | | | | | | | | | | | | | | |
| Jul 1 | 3 | 3 | 4 | 4 | 4 | 8 | 6 | 3 | 5 | 12 | 19 | 8 | 10 | 7 | 7 | 5 | 3 | 3 | 3 | 3 | 3 | 4 | 3 | 3 | | | | | | | | | | | | | | | | | | | | | | | |
| Jul 2 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 3 | 4 | 6 | 13 | 12 | 18 | 26 | 29 | 29 | 40 | 36 | 31 | 25 | 25 | 25 | | | | | | | | | | | | | | | | | | | | | | | |
| Jul 3 | 22 | 18 | 22 | 26 | 32 | 25 | 25 | 26 | 28 | 24 | 19 | 11 | 5 | 4 | 5 | 4 | 4 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | | | | | | | | | | | | | | | | | | | | | | | |
| Jul 4 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | | | | | | | | | | | | | | | | | | | | | | | |
| Jul 5 | 4 | 5 | 6 | 7 | 8 | 8 | 10 | 12 | 12 | 12 | 12 | 11 | 10 | 10 | 10 | 9 | 9 | 9 | 10 | 9 | 9 | 9 | 9 | 8 | | | | | | | | | | | | | | | | | | | | | | | |
| Jul 6 | 8 | 8 | 8 | 8 | 10 | 9 | 10 | 11 | 13 | 14 | 16 | 20 | 23 | 19 | 18 | 25 | 37 | 35 | 30 | 24 | 20 | 17 | 18 | 19 | | | | | | | | | | | | | | | | | | | | | | | |
| Jul 7 | 19 | 17 | 17 | 17 | 16 | 14 | 14 | 13 | 12 | 33 | 50 | 60 | 63 | 53 | 42 | 39 | 29 | 26 | 27 | 32 | 34 | 39 | 38 | 39 | | | | | | | | | | | | | | | | | | | | | | | |
| Jul 8 | 39 | 41 | 46 | 47 | 42 | 40 | 44 | 42 | 40 | 37 | 27 | 23 | 20 | 20 | 20 | 19 | 18 | 17 | 17 | 16 | 15 | 16 | 16 | 18 | | | | | | | | | | | | | | | | | | | | | | | |
| Jul 9 | 19 | 21 | 25 | 27 | 30 | 29 | 28 | 33 | 34 | 42 | 61 | 43 | 43 | 64 | 68 | 68 | 63 | 81 | 80 | 71 | 52 | 19 | 15 | K | | | | | | | | | | | | | | | | | | | | | | | |
| Jul 10 | K | K | K | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | | | | | | | | | | | | | | | | | | | | | | |
| Jul 11 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | | | | | | | | | | | | | | | | | | | | | | | |
| Jul 12 | 3 | 3 | 3 | 3 | 4 | 4 | 5 | 6 | 6 | 5 | 6 | 7 | 11 | 17 | 17 | 18 | 18 | 14 | 10 | 9 | 14 | 13 | 12 | 3 | | | | | | | | | | | | | | | | | | | | | | | |
| Jul 13 | 14 | 19 | 21 | 26 | 33 | 35 | 42 | 48 | 64 | 95 | 96 | 95 | 92 | 99 | 132 | 114 | 109 | 111 | 88 | 79 | 95 | 96 | 89 | 84 | | | | | | | | | | | | | | | | | | | | | | | |
| Jul 14 | 78 | 68 | 64 | 64 | 71 | 102 | 135 | 206 | 202 | 184 | 217 | 175 | 216 | 199 | 146 | 103 | 108 | 140 | 129 | 124 | 123 | 123 | 132 | 149 | | | | | | | | | | | | | | | | | | | | | | | |
| Jul 15 | 140 | 126 | 119 | 120 | 126 | 126 | 126 | 124 | 116 | 115 | 115 | 129 | 153 | 173 | 162 | C | 137 | 133 | 124 | 123 | 116 | 94 | 68 | 45 | | | | | | | | | | | | | | | | | | | | | | | |
| Jul 16 | 46 | 50 | 52 | 44 | 49 | 43 | 39 | 32 | 31 | 30 | 42 | 40 | 49 | 52 | 60 | 58 | 51 | 48 | 43 | 28 | 14 | 8 | 7 | 8 | | | | | | | | | | | | | | | | | | | | | | | |
| Jul 17 | 8 | 11 | 13 | 16 | 18 | 17 | 15 | 14 | 14 | 13 | 12 | 12 | 14 | 15 | 16 | 14 | 13 | 11 | 10 | 9 | 11 | 10 | 8 | 5 | | | | | | | | | | | | | | | | | | | | | | | |
| Jul 18 | 3 | 3 | 3 | 3 | 2 | 6 | 6 | 8 | 7 | 9 | 8 | 8 | 8 | 11 | 15 | 14 | 17 | 19 | 20 | 17 | 11 | 16 | 19 | 19 | | | | | | | | | | | | | | | | | | | | | | | |
| Jul 19 | 18 | 18 | 18 | 19 | 19 | 19 | 17 | 16 | 17 | 18 | 12 | 10 | 11 | 9 | 8 | 8 | 9 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | | | | | | | | | | | | | | | | | | | | | | | |
| Jul 20 | 11 | 11 | 11 | 11 | 12 | 13 | 14 | 15 | 15 | 17 | 20 | 25 | 35 | 41 | 28 | 28 | 31 | 34 | 33 | 32 | 31 | 32 | 31 | 31 | | | | | | | | | | | | | | | | | | | | | | | |
| Jul 21 | 32 | 35 | 37 | 36 | 40 | 44 | 43 | 44 | 44 | 39 | 34 | 35 | 35 | 37 | 39 | 41 | 41 | 39 | 39 | 34 | 34 | 35 | 36 | 36 | | | | | | | | | | | | | | | | | | | | | | | |
| Jul 22 | 37 | 39 | 40 | 37 | 39 | 40 | 38 | 36 | 32 | 27 | 28 | 33 | 35 | 33 | 31 | 35 | 41 | 41 | 36 | 35 | 34 | 33 | 30 | 27 | | | | | | | | | | | | | | | | | | | | | | | |
| Jul 23 | 30 | 35 | 34 | 31 | 35 | 28 | 10 | 7 | 6 | 6 | 12 | 11 | 10 | 9 | 15 | 25 | 25 | 28 | 27 | 25 | 25 | 25 | 25 | 28 | | | | | | | | | | | | | | | | | | | | | | | |
| Jul 24 | 31 | 32 | 31 | 31 | 33 | 28 | 24 | 16 | 20 | 29 | 26 | 25 | 22 | 23 | 23 | 25 | 24 | 22 | 22 | 24 | 25 | 26 | 30 | 34 | | | | | | | | | | | | | | | | | | | | | | | |
| Jul 25 | 36 | 38 | 39 | 27 | 6 | 5 | 4 | 4 | 5 | 5 | 4 | 4 | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| Jul 26 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| Jul 27 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | |
| Jul 28 | 1 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 5 | 7 | 7 | 6 | 6 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | | | | | | | | | | | | | | | | | | | | | | | |
| Jul 29 | 5 | 5 | 4 | 4 | 4 | 4 | 3 | 4 | 4 | 3 | 2 | 2 | 3 | 4 | 4 | 4 | 3 | 5 | 3 | 3 | 2 | 2 | 3 | 2 | | | | | | | | | | | | | | | | | | | | | | | |
| Jul 30 | 2 | 2 | 2 | 3 | 4 | 4 | 4 | 5 | 5 | 6 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 2 | | | | | | | | | | | | | | | | | | | | | | | |
| Jul 31 | 2 | 2 | 2 | 2 | 2 | 3 | 4 | 4 | 5 | 6 | 6 | 7 | 8 | 8 | 7 | 7 | 7 | 6 | 6 | 9 | 8 | 8 | 8 | 8 | | | | | | | | | | | | | | | | | | | | | | | |
| Diurnal Maximum | 140 | 126 | 119 | 120 | 126 | 126 | 135 | 206 | 202 | 184 | 217 | 175 | 216 | 199 | 162 | 114 | 137 | 140 | 129 | 124 | 123 | 123 | 132 | 149 | | | | | | | | | | | | | | | | | | | | | | | |
| Diurnal Average | 20.7 | 20.7 | 21.1 | 20.3 | 21.1 | 21.5 | 21.8 | 23.9 | 24.3 | 25.7 | 27.9 | 26.2 | 29.2 | 30.2 | 29.6 | 23.6 | 27.2 | 28.7 | 27.1 | 25.0 | 23.8 | 22.0 | 21.2 | 21.2 | | | | | | | | | | | | | | | | | | | | | | | |
| C | Monthly Calibration | | | | | | | | | | | S | Daily Zero-Span Check | | | | | | | | | | | Q | Quality Assurance | | | | | | | | | | | | | | | | | | | | | | |
| K | Collection Error | | | | | | | | | | | ND | No Data (Machine Not in Service) | | | | | | | | | | | Y | Routine Maintenance | | | | | | | | | | | P | Power Failure | | | | | | | | | | |
| X | Invalid Data (Equipment Malfunction /Recovery) | | | | | | | | | | | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

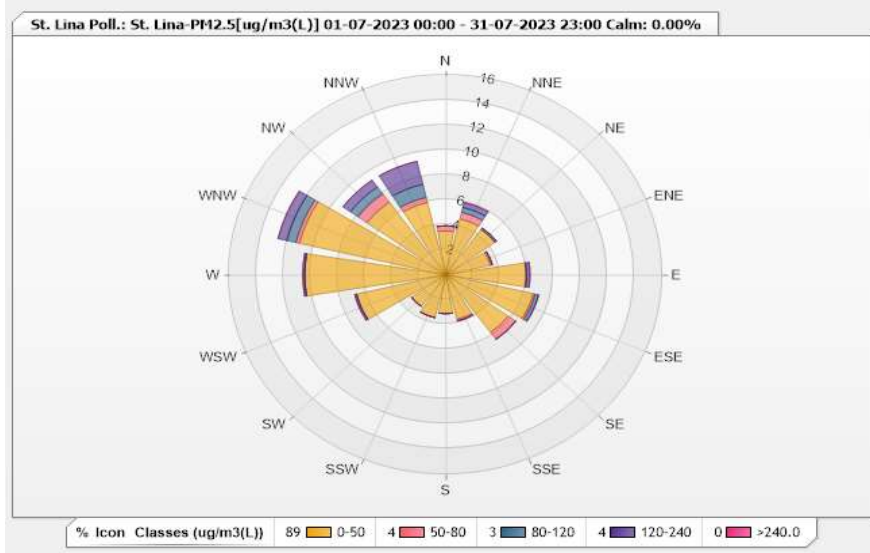


Station: St. Lina Poll.: St. Lina-PM2.5[ug/m3(L)] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 99.33% Calm Avg: 0.00 [ppm]

| Direction | 0-50 | 50-80 | 80-120 | 120-240 | >240.0 | Total |
|-----------|-------|-------|--------|---------|--------|-------|
| N | 3.52 | 0.41 | 0 | 0 | 0 | 3.93 |
| NNE | 4.6 | 0.54 | 0.41 | 0.41 | 0 | 5.96 |
| NE | 4.47 | 0 | 0.14 | 0 | 0 | 4.61 |
| ENE | 3.38 | 0.14 | 0 | 0 | 0 | 3.52 |
| E | 5.95 | 0 | 0 | 0.27 | 0 | 6.22 |
| ESE | 6.63 | 0.14 | 0.27 | 0 | 0 | 7.04 |
| SE | 5.68 | 0.68 | 0 | 0 | 0 | 6.36 |
| SSE | 3.65 | 0.14 | 0 | 0 | 0 | 3.79 |
| S | 3.11 | 0 | 0 | 0 | 0 | 3.11 |
| SSW | 3.52 | 0 | 0 | 0 | 0 | 3.52 |
| SW | 3.11 | 0 | 0 | 0 | 0 | 3.11 |
| WSW | 6.77 | 0 | 0 | 0.14 | 0 | 6.91 |
| W | 10.42 | 0 | 0 | 0.14 | 0 | 10.56 |
| WNW | 11.1 | 0.27 | 0.68 | 0.68 | 0 | 12.73 |
| NW | 7.17 | 0.81 | 0.68 | 0.68 | 0 | 9.34 |
| NNW | 5.95 | 0.41 | 1.08 | 1.89 | 0 | 9.33 |
| Summary | 89.03 | 3.54 | 3.26 | 4.21 | 0 | 100 |



Lakeland Industry & Community Association

St. Lina Site - July 2023

Summary of Hourly Averages

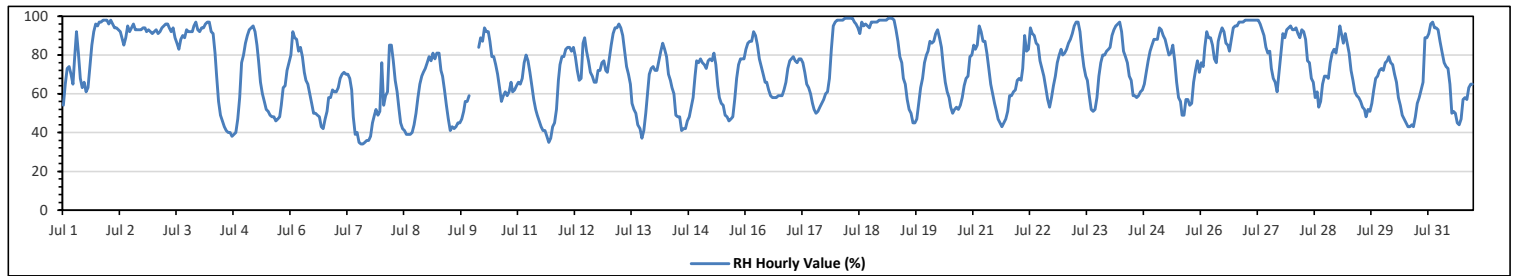
RELATIVE HUMIDITY (RH) in %

| | | | | |
|-----------------------|--------|-------------------|------------------------|------|
| Maximum Hourly Value: | 99 % | on Jul 18 at hr 4 | Hours in Service: | 744 |
| Maximum Daily Value: | 96.9 % | on Jul 18 | Hours of Data: | 740 |
| Minimum Hourly Value: | 34 % | on Jul 7 at hr 13 | Hours of Missing Data: | 4 |
| Minimum Daily Value: | 51.0 % | on Jul 7 | Hours of Calibration: | 0 |
| Monthly Average: | 72.2 % | | Operational Uptime: | 99.5 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | |
|-----------------|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------|---------------|---------------|------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 |
| Jul 1 | 54 | 65 | 73 | 74 | 70 | 65 | 78 | 92 | 81 | 68 | 63 | 66 | 61 | 63 | 74 | 85 | 92 | 96 | 95 | 97 | 97 | 98 | 98 | 98 | 54 | 98 | 79.3 |
| Jul 2 | 96 | 98 | 96 | 94 | 94 | 93 | 92 | 89 | 85 | 89 | 95 | 92 | 94 | 96 | 93 | 93 | 93 | 94 | 92 | 93 | 92 | 91 | 91 | 91 | 85 | 98 | 93.0 |
| Jul 3 | 92 | 93 | 91 | 92 | 94 | 95 | 96 | 96 | 94 | 92 | 94 | 89 | 86 | 83 | 88 | 90 | 89 | 93 | 92 | 92 | 92 | 95 | 97 | 93 | 83 | 97 | 92.0 |
| Jul 4 | 92 | 94 | 94 | 96 | 97 | 97 | 92 | 91 | 81 | 69 | 56 | 49 | 46 | 43 | 41 | 40 | 40 | 38 | 39 | 40 | 47 | 58 | 76 | 80 | 38 | 97 | 66.5 |
| Jul 5 | 86 | 90 | 93 | 94 | 95 | 92 | 85 | 77 | 66 | 60 | 56 | 52 | 51 | 49 | 48 | 48 | 46 | 47 | 48 | 54 | 63 | 64 | 72 | 76 | 46 | 95 | 67.2 |
| Jul 6 | 80 | 92 | 89 | 88 | 82 | 84 | 79 | 71 | 67 | 65 | 60 | 55 | 50 | 50 | 49 | 48 | 43 | 42 | 47 | 51 | 58 | 58 | 62 | 61 | 42 | 92 | 63.8 |
| Jul 7 | 61 | 63 | 68 | 70 | 71 | 70 | 70 | 68 | 62 | 48 | 39 | 40 | 35 | 34 | 34 | 35 | 36 | 36 | 38 | 45 | 49 | 52 | 49 | 51 | 34 | 71 | 51.0 |
| Jul 8 | 76 | 54 | 59 | 61 | 85 | 85 | 77 | 67 | 61 | 52 | 45 | 42 | 41 | 39 | 39 | 39 | 40 | 44 | 50 | 58 | 65 | 69 | 71 | 73 | 39 | 85 | 58.0 |
| Jul 9 | 76 | 79 | 77 | 81 | 78 | 81 | 81 | 72 | 69 | 62 | 54 | 47 | 41 | 43 | 42 | 43 | 45 | 45 | 47 | 51 | 56 | 56 | 59 | K | 41 | 81 | 60.2 |
| Jul 10 | K | K | K | 84 | 89 | 87 | 94 | 92 | 92 | 87 | 79 | 79 | 75 | 70 | 63 | 56 | 59 | 61 | 59 | 61 | 66 | 61 | 62 | 64 | 56 | 94 | 73.3 |
| Jul 11 | 66 | 65 | 68 | 76 | 80 | 77 | 71 | 64 | 57 | 52 | 49 | 46 | 43 | 41 | 41 | 38 | 35 | 37 | 43 | 45 | 52 | 67 | 75 | 79 | 35 | 80 | 57.0 |
| Jul 12 | 79 | 83 | 84 | 84 | 82 | 84 | 79 | 72 | 67 | 68 | 86 | 89 | 82 | 77 | 71 | 69 | 66 | 66 | 72 | 72 | 76 | 77 | 72 | 71 | 66 | 89 | 76.2 |
| Jul 13 | 78 | 85 | 91 | 94 | 94 | 96 | 94 | 90 | 82 | 74 | 70 | 65 | 55 | 52 | 50 | 44 | 42 | 37 | 41 | 50 | 61 | 70 | 73 | 74 | 37 | 96 | 69.3 |
| Jul 14 | 72 | 72 | 77 | 82 | 86 | 83 | 79 | 70 | 67 | 63 | 60 | 49 | 48 | 48 | 41 | 42 | 42 | 46 | 48 | 53 | 58 | 69 | 77 | 76 | 41 | 86 | 62.8 |
| Jul 15 | 78 | 76 | 75 | 73 | 77 | 78 | 77 | 81 | 75 | 64 | 58 | 55 | 54 | 49 | 48 | 46 | 47 | 48 | 57 | 68 | 75 | 78 | 78 | 78 | 46 | 81 | 66.4 |
| Jul 16 | 83 | 86 | 87 | 87 | 92 | 90 | 85 | 78 | 74 | 70 | 66 | 66 | 62 | 59 | 58 | 58 | 58 | 59 | 59 | 59 | 62 | 66 | 73 | 77 | 58 | 92 | 71.4 |
| Jul 17 | 78 | 79 | 77 | 76 | 78 | 78 | 76 | 71 | 65 | 63 | 60 | 55 | 52 | 50 | 51 | 53 | 55 | 57 | 60 | 61 | 68 | 83 | 95 | 97 | 50 | 97 | 68.3 |
| Jul 18 | 98 | 98 | 98 | 98 | 99 | 99 | 99 | 99 | 99 | 97 | 96 | 94 | 91 | 97 | 95 | 96 | 95 | 94 | 97 | 97 | 97 | 97 | 98 | 98 | 91 | 99 | 96.9 |
| Jul 19 | 98 | 98 | 98 | 99 | 99 | 99 | 98 | 93 | 87 | 79 | 76 | 68 | 65 | 57 | 52 | 50 | 45 | 45 | 47 | 55 | 63 | 68 | 76 | 80 | 45 | 99 | 74.8 |
| Jul 20 | 82 | 87 | 86 | 87 | 91 | 93 | 89 | 84 | 74 | 66 | 61 | 58 | 53 | 50 | 52 | 53 | 52 | 54 | 58 | 64 | 68 | 69 | 79 | 80 | 50 | 93 | 70.4 |
| Jul 21 | 85 | 83 | 85 | 95 | 92 | 87 | 87 | 81 | 73 | 65 | 60 | 55 | 51 | 47 | 45 | 43 | 45 | 47 | 51 | 59 | 59 | 61 | 62 | 67 | 43 | 95 | 66.0 |
| Jul 22 | 68 | 67 | 73 | 90 | 82 | 83 | 94 | 91 | 90 | 86 | 85 | 77 | 73 | 69 | 63 | 57 | 53 | 58 | 64 | 69 | 76 | 80 | 83 | 80 | 53 | 94 | 75.5 |
| Jul 23 | 81 | 83 | 86 | 88 | 91 | 95 | 97 | 97 | 92 | 82 | 74 | 69 | 67 | 59 | 52 | 51 | 52 | 58 | 69 | 76 | 80 | 80 | 82 | 83 | 51 | 97 | 76.8 |
| Jul 24 | 84 | 90 | 93 | 95 | 96 | 97 | 92 | 82 | 79 | 76 | 69 | 67 | 59 | 59 | 58 | 59 | 61 | 62 | 65 | 71 | 77 | 82 | 85 | 88 | 58 | 97 | 76.9 |
| Jul 25 | 88 | 88 | 94 | 93 | 90 | 88 | 84 | 80 | 81 | 85 | 77 | 66 | 58 | 56 | 49 | 49 | 57 | 57 | 54 | 55 | 66 | 72 | 77 | 71 | 49 | 94 | 72.3 |
| Jul 26 | 76 | 74 | 84 | 92 | 89 | 89 | 85 | 78 | 76 | 87 | 91 | 94 | 92 | 86 | 85 | 82 | 88 | 94 | 95 | 95 | 97 | 97 | 97 | 98 | 74 | 98 | 88.4 |
| Jul 27 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 96 | 93 | 90 | 84 | 81 | 82 | 73 | 68 | 66 | 61 | 71 | 81 | 91 | 89 | 93 | 94 | 95 | 61 | 98 | 87.3 |
| Jul 28 | 93 | 93 | 94 | 91 | 89 | 93 | 92 | 88 | 77 | 76 | 68 | 66 | 58 | 61 | 53 | 56 | 65 | 69 | 69 | 68 | 76 | 81 | 83 | 81 | 53 | 94 | 76.7 |
| Jul 29 | 87 | 95 | 91 | 86 | 91 | 86 | 81 | 72 | 67 | 61 | 59 | 58 | 56 | 53 | 52 | 48 | 52 | 51 | 55 | 62 | 68 | 69 | 72 | 73 | 48 | 95 | 68.5 |
| Jul 30 | 72 | 76 | 77 | 79 | 76 | 75 | 70 | 66 | 58 | 54 | 49 | 47 | 45 | 43 | 43 | 44 | 43 | 48 | 55 | 58 | 62 | 66 | 89 | 89 | 43 | 89 | 61.8 |
| Jul 31 | 91 | 96 | 97 | 94 | 94 | 93 | 87 | 81 | 76 | 74 | 73 | 65 | 50 | 51 | 50 | 45 | 44 | 47 | 57 | 58 | 57 | 63 | 65 | 65 | 44 | 97 | 69.7 |
| Diurnal Maximum | 98 | 98 | 98 | 99 | 99 | 99 | 99 | 99 | 99 | 97 | 96 | 94 | 94 | 97 | 95 | 96 | 95 | 96 | 97 | 97 | 97 | 98 | 98 | 98 | | | |
| Diurnal Average | 81.6 | 83.3 | 85.1 | 86.8 | 87.8 | 87.4 | 85.7 | 81.6 | 76.4 | 71.7 | 68.1 | 64.5 | 60.5 | 58.3 | 56.4 | 55.7 | 56.2 | 58.1 | 61.5 | 65.5 | 70.1 | 73.9 | 78.2 | 79.6 | | | |

| | | | | | |
|---|--|-----|---|---|---------------------|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance |
| K | Collection Error | ND | No Data (Machine Not in Service) | Y | Routine Maintenance |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P | Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per days is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



Lakeland Industry & Community Association

St. Lina Site - July 2023

Summary of Hourly Averages

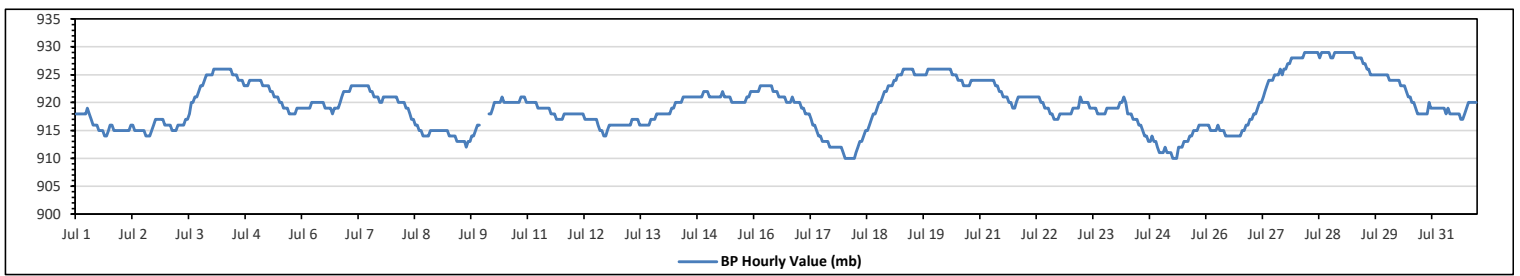
BAROMETRIC PRESSURE (BP) in millibar

| | | | | | |
|-----------------------|-----|----|-------------------|------------------------|------|
| Maximum Hourly Value: | 929 | mb | on Jul 28 at hr 4 | Hours in Service: | 744 |
| Maximum Daily Value: | 929 | mb | on Jul 28 | Hours of Data: | 740 |
| Minimum Hourly Value: | 910 | mb | on Jul 18 at hr 0 | Hours of Missing Data: | 4 |
| Minimum Daily Value: | 913 | mb | on Jul 25 | Hours of Calibration: | 0 |
| Monthly Average: | 920 | mb | | Operational Uptime: | 99.5 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | | |
|-----------------|---------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------------|---------------|---------------|-----|-----|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 | |
| Jul 1 | 918 | 918 | 918 | 918 | 918 | 918 | 919 | 918 | 917 | 916 | 916 | 915 | 915 | 915 | 914 | 914 | 914 | 915 | 916 | 916 | 915 | 915 | 915 | 915 | 914 | 919 | 919 | 916 |
| Jul 2 | 915 | 915 | 915 | 915 | 915 | 916 | 916 | 915 | 915 | 915 | 915 | 915 | 915 | 914 | 914 | 914 | 915 | 916 | 917 | 917 | 917 | 917 | 917 | 917 | 916 | 914 | 917 | 915 |
| Jul 3 | 916 | 916 | 916 | 915 | 915 | 915 | 916 | 916 | 916 | 916 | 917 | 917 | 918 | 920 | 920 | 921 | 921 | 922 | 923 | 923 | 924 | 925 | 925 | 925 | 915 | 925 | 919 | |
| Jul 4 | 925 | 926 | 926 | 926 | 926 | 926 | 926 | 926 | 926 | 926 | 926 | 925 | 925 | 925 | 924 | 924 | 924 | 923 | 923 | 924 | 924 | 924 | 924 | 923 | 923 | 926 | 925 | |
| Jul 5 | 924 | 924 | 924 | 923 | 923 | 923 | 923 | 922 | 922 | 921 | 921 | 921 | 920 | 920 | 919 | 919 | 918 | 918 | 918 | 918 | 918 | 919 | 919 | 919 | 918 | 918 | 921 | |
| Jul 6 | 919 | 919 | 919 | 919 | 919 | 920 | 920 | 920 | 920 | 920 | 920 | 919 | 919 | 919 | 919 | 918 | 919 | 919 | 919 | 919 | 920 | 921 | 922 | 922 | 918 | 922 | 920 | |
| Jul 7 | 922 | 922 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 922 | 922 | 921 | 921 | 921 | 920 | 920 | 920 | 921 | 921 | 921 | 921 | 921 | 920 | 923 | 922 | |
| Jul 8 | 921 | 921 | 921 | 920 | 920 | 920 | 919 | 919 | 918 | 917 | 917 | 916 | 916 | 916 | 915 | 915 | 914 | 914 | 914 | 914 | 914 | 915 | 915 | 915 | 914 | 921 | 917 | |
| Jul 9 | 915 | 915 | 915 | 915 | 915 | 915 | 914 | 914 | 914 | 914 | 913 | 913 | 913 | 913 | 913 | 912 | 913 | 913 | 914 | 914 | 915 | 916 | 916 | K | 912 | 916 | 914 | |
| Jul 10 | K | K | K | 918 | 918 | 919 | 920 | 920 | 920 | 921 | 920 | 920 | 920 | 920 | 920 | 920 | 920 | 920 | 920 | 920 | 921 | 921 | 921 | 920 | 918 | 921 | 920 | |
| Jul 11 | 920 | 920 | 920 | 920 | 920 | 919 | 919 | 919 | 919 | 919 | 919 | 919 | 918 | 918 | 918 | 917 | 917 | 917 | 917 | 918 | 918 | 918 | 918 | 918 | 917 | 920 | 919 | |
| Jul 12 | 918 | 918 | 918 | 918 | 918 | 918 | 917 | 917 | 917 | 917 | 917 | 917 | 916 | 915 | 915 | 914 | 914 | 915 | 916 | 916 | 916 | 916 | 916 | 916 | 914 | 918 | 917 | |
| Jul 13 | 916 | 916 | 916 | 916 | 916 | 916 | 916 | 917 | 917 | 917 | 917 | 916 | 916 | 916 | 916 | 916 | 916 | 917 | 917 | 917 | 917 | 918 | 918 | 918 | 916 | 918 | 917 | |
| Jul 14 | 918 | 918 | 918 | 918 | 919 | 919 | 920 | 920 | 920 | 921 | 921 | 921 | 921 | 921 | 921 | 921 | 921 | 921 | 921 | 921 | 921 | 921 | 922 | 922 | 918 | 922 | 920 | |
| Jul 15 | 921 | 921 | 921 | 921 | 921 | 921 | 921 | 922 | 921 | 921 | 921 | 921 | 920 | 920 | 920 | 920 | 920 | 920 | 920 | 920 | 921 | 921 | 922 | 922 | 920 | 922 | 921 | |
| Jul 16 | 922 | 922 | 922 | 923 | 923 | 923 | 923 | 923 | 923 | 922 | 922 | 922 | 921 | 921 | 921 | 921 | 920 | 920 | 920 | 920 | 921 | 920 | 920 | 920 | 920 | 923 | 922 | |
| Jul 17 | 920 | 919 | 919 | 918 | 918 | 918 | 917 | 916 | 916 | 915 | 914 | 914 | 913 | 913 | 913 | 913 | 912 | 912 | 912 | 912 | 912 | 912 | 912 | 911 | 911 | 920 | 915 | |
| Jul 18 | 910 | 910 | 910 | 910 | 910 | 910 | 911 | 912 | 913 | 913 | 914 | 915 | 915 | 916 | 917 | 918 | 918 | 919 | 920 | 920 | 921 | 922 | 922 | 923 | 910 | 923 | 915 | |
| Jul 19 | 923 | 923 | 924 | 924 | 925 | 925 | 925 | 926 | 926 | 926 | 926 | 926 | 925 | 925 | 925 | 925 | 925 | 925 | 925 | 925 | 926 | 926 | 926 | 926 | 923 | 926 | 925 | |
| Jul 20 | 926 | 926 | 926 | 926 | 926 | 926 | 926 | 926 | 926 | 925 | 925 | 925 | 924 | 924 | 924 | 923 | 923 | 923 | 923 | 924 | 924 | 924 | 924 | 923 | 926 | 925 | | |
| Jul 21 | 924 | 924 | 924 | 924 | 924 | 924 | 924 | 924 | 923 | 923 | 922 | 922 | 921 | 921 | 921 | 920 | 919 | 919 | 919 | 920 | 921 | 921 | 921 | 919 | 924 | 922 | | |
| Jul 22 | 921 | 921 | 921 | 921 | 921 | 921 | 921 | 921 | 920 | 920 | 920 | 919 | 919 | 919 | 918 | 918 | 917 | 917 | 917 | 918 | 918 | 918 | 918 | 918 | 917 | 921 | 919 | |
| Jul 23 | 918 | 919 | 919 | 919 | 919 | 921 | 920 | 920 | 920 | 920 | 919 | 919 | 919 | 919 | 918 | 918 | 918 | 918 | 919 | 919 | 919 | 919 | 919 | 919 | 918 | 921 | 919 | |
| Jul 24 | 919 | 919 | 920 | 920 | 921 | 920 | 918 | 918 | 918 | 917 | 917 | 916 | 916 | 915 | 914 | 914 | 913 | 913 | 914 | 913 | 913 | 912 | 911 | 911 | 911 | 921 | 916 | |
| Jul 25 | 911 | 911 | 912 | 911 | 911 | 911 | 910 | 910 | 910 | 912 | 912 | 912 | 913 | 913 | 913 | 914 | 914 | 915 | 915 | 915 | 916 | 916 | 916 | 910 | 916 | 913 | | |
| Jul 26 | 916 | 916 | 915 | 915 | 915 | 915 | 916 | 915 | 915 | 915 | 914 | 914 | 914 | 914 | 914 | 914 | 914 | 914 | 914 | 915 | 915 | 915 | 916 | 914 | 917 | 915 | | |
| Jul 27 | 917 | 918 | 918 | 919 | 920 | 920 | 921 | 922 | 923 | 924 | 924 | 924 | 925 | 925 | 925 | 926 | 925 | 926 | 926 | 926 | 927 | 927 | 928 | 917 | 928 | 924 | | |
| Jul 28 | 928 | 928 | 928 | 928 | 929 | 929 | 929 | 929 | 929 | 929 | 929 | 929 | 928 | 928 | 929 | 929 | 929 | 929 | 928 | 928 | 929 | 929 | 929 | 928 | 929 | 929 | 927 | |
| Jul 29 | 929 | 929 | 929 | 929 | 929 | 929 | 929 | 928 | 928 | 928 | 928 | 927 | 927 | 926 | 926 | 925 | 925 | 925 | 925 | 925 | 925 | 925 | 925 | 925 | 925 | 929 | 927 | |
| Jul 30 | 925 | 924 | 924 | 924 | 924 | 924 | 923 | 923 | 923 | 922 | 921 | 921 | 920 | 920 | 919 | 918 | 918 | 918 | 918 | 918 | 918 | 918 | 918 | 918 | 918 | 925 | 927 | |
| Jul 31 | 919 | 919 | 919 | 919 | 919 | 919 | 919 | 918 | 918 | 918 | 918 | 918 | 918 | 918 | 917 | 917 | 917 | 918 | 919 | 920 | 920 | 920 | 920 | 917 | 920 | 919 | | |
| Diurnal Maximum | 929 | 929 | 929 | 929 | 929 | 929 | 929 | 929 | 929 | 929 | 929 | 928 | 929 | 929 | 929 | 929 | 929 | 929 | 928 | 928 | 929 | 929 | 929 | 929 | 917 | 920 | 919 | |
| Diurnal Average | 920 | 920 | 920 | 920 | 920 | 920 | 920 | 920 | 920 | 920 | 920 | 919 | 919 | 919 | 919 | 919 | 919 | 919 | 919 | 919 | 920 | 920 | 920 | 917 | 920 | 919 | | |

| | | |
|---|--|------------------------------|
| C Monthly Calibration | S Daily Zero-Span Check | Q Quality Assurance |
| K Collection Error | ND No Data (Machine Not in Service) | Y Routine Maintenance |
| X InValid Data (Equipment Malfunction /Recovery) | NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per days is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



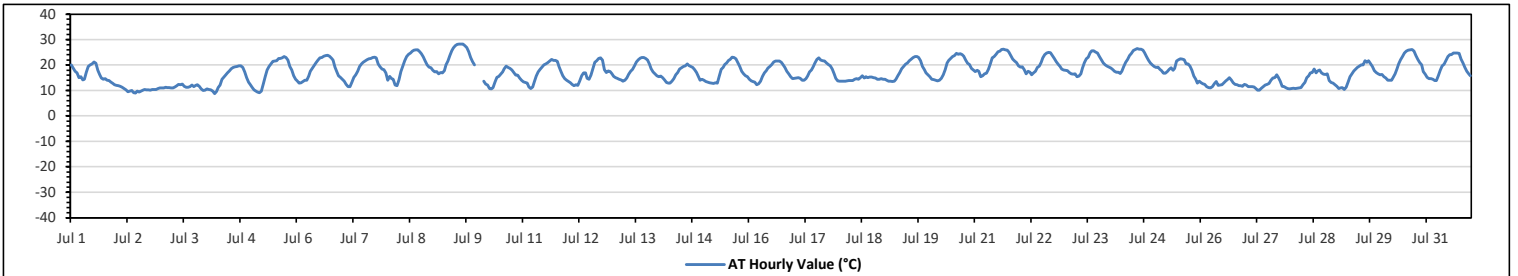
Lakeland Industry & Community Association
St. Lina Site - July 2023
Summary of Hourly Averages
AMBIENT TEMPERATURE (AT) in Degree Celsius

| | | | | |
|-----------------------|---------|-------------------|------------------------|------|
| Maximum Hourly Value: | 28.3 °C | on Jul 9 at hr 15 | Hours in Service: | 744 |
| Maximum Daily Value: | 22.7 °C | on Jul 9 | Hours of Data: | 740 |
| Minimum Hourly Value: | 8.7 °C | on Jul 4 at hr 4 | Hours of Missing Data: | 4 |
| Minimum Daily Value: | 10.4 °C | on Jul 2 | Hours of Calibration: | 0 |
| Monthly Average: | 17.3 °C | | Operational Uptime: | 99.5 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | |
|-----------------|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------|---------------|---------------|------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 |
| Jul 1 | 20.1 | 18.8 | 17.6 | 17 | 15.1 | 15.4 | 14.2 | 14.5 | 17.2 | 19.4 | 20.1 | 20.4 | 21.2 | 20.7 | 17.9 | 16.2 | 14.9 | 14.5 | 14.6 | 14.1 | 13.9 | 13.3 | 12.8 | 12.3 | 12.3 | 21.2 | 16.5 |
| Jul 2 | 12 | 11.9 | 11.7 | 11.3 | 10.7 | 10.3 | 9.5 | 9.8 | 10 | 9.2 | 9.1 | 9.8 | 9.4 | 9.8 | 10.2 | 10.5 | 10.3 | 10.3 | 10.1 | 10.4 | 10.4 | 10.4 | 10.8 | 11 | 9.1 | 12.0 | 10.4 |
| Jul 3 | 11 | 11 | 11.3 | 11.2 | 11.1 | 11 | 11 | 11.4 | 11.9 | 12.4 | 12.3 | 12.5 | 11.7 | 11.3 | 11.3 | 11.6 | 12.1 | 11.6 | 12 | 12.2 | 11.7 | 10.6 | 10 | 10.1 | 10.0 | 12.5 | 11.4 |
| Jul 4 | 10.6 | 10.4 | 10.3 | 9.7 | 8.7 | 9.6 | 11.2 | 12.1 | 14.5 | 15.3 | 16.2 | 17 | 17.7 | 18.6 | 19.1 | 19.3 | 19.4 | 19.8 | 19.7 | 19.1 | 17.3 | 15 | 13.3 | 12.4 | 8.7 | 19.8 | 14.8 |
| Jul 5 | 11.3 | 10.3 | 9.7 | 9.3 | 9.2 | 9.8 | 12.5 | 15.5 | 18.1 | 19.4 | 20.4 | 21.4 | 21.5 | 21.7 | 22.6 | 22.6 | 22.8 | 23.3 | 23 | 21.9 | 19.4 | 18.1 | 15.9 | 14.5 | 9.2 | 23.3 | 17.3 |
| Jul 6 | 13.8 | 12.9 | 13.1 | 13.5 | 14 | 14 | 15.7 | 17.6 | 18.7 | 19.9 | 21 | 21.9 | 22.8 | 22.9 | 23.5 | 23.7 | 23.9 | 23.5 | 22.7 | 21.9 | 19.2 | 17.3 | 15.9 | 15.2 | 12.9 | 23.9 | 18.7 |
| Jul 7 | 14.5 | 13.6 | 12.4 | 11.6 | 11.6 | 13.3 | 15.2 | 16.1 | 17.5 | 19.5 | 20.5 | 21.1 | 21.6 | 22.1 | 22.5 | 22.6 | 23 | 23.1 | 22.8 | 20.5 | 19.3 | 18.5 | 18.2 | 17 | 11.6 | 23.1 | 18.3 |
| Jul 8 | 14 | 15.6 | 14.6 | 14.5 | 12.1 | 11.9 | 14.2 | 17.4 | 19.6 | 21.7 | 23.4 | 24.2 | 24.7 | 25.5 | 25.8 | 26 | 26 | 25.3 | 24.5 | 23.2 | 21.5 | 20.1 | 19.2 | 18.9 | 11.9 | 26.0 | 20.2 |
| Jul 9 | 18 | 17.3 | 17.4 | 16.5 | 17.1 | 16.9 | 17.8 | 20.1 | 21.6 | 23.7 | 25.6 | 26.7 | 27.7 | 28.1 | 28.2 | 28.3 | 28.2 | 27.7 | 26.8 | 25.3 | 22.9 | 21.3 | 20 | K | 16.5 | 28.3 | 22.7 |
| Jul 10 | K | K | K | 13.7 | 12.5 | 12.1 | 10.8 | 10.6 | 11.2 | 13.3 | 15.2 | 15.6 | 16.4 | 17.3 | 18.6 | 19.6 | 19.1 | 18.7 | 18.1 | 17.1 | 16 | 16 | 14.9 | 14.1 | 10.6 | 19.6 | 15.3 |
| Jul 11 | 13.4 | 13.2 | 12.9 | 11.4 | 10.8 | 11.4 | 13.4 | 15.7 | 17.3 | 18.4 | 19.2 | 20 | 20.4 | 21 | 21.5 | 22.2 | 21.8 | 21.8 | 21.4 | 19.4 | 17.5 | 15.8 | 14.6 | 14 | 10.8 | 22.2 | 17.0 |
| Jul 12 | 13.5 | 13.1 | 12.4 | 11.9 | 12.3 | 12 | 13.8 | 15.9 | 17 | 17 | 14.7 | 14.4 | 16 | 18.6 | 21.1 | 21.7 | 22.6 | 22.8 | 21.9 | 18.2 | 17.1 | 17.7 | 17.4 | 16.7 | 11.9 | 22.8 | 16.7 |
| Jul 13 | 15.6 | 15.1 | 14.7 | 14.5 | 14.2 | 13.7 | 14.1 | 14.9 | 16.4 | 17.5 | 18.4 | 19.8 | 21.2 | 22.1 | 22.7 | 22.9 | 22.9 | 22.6 | 21.9 | 20.3 | 18.6 | 17.3 | 16.6 | 15.8 | 13.7 | 22.9 | 18.1 |
| Jul 14 | 15.5 | 15.7 | 15.1 | 14.2 | 13.2 | 12.9 | 13 | 13.6 | 14.6 | 16.2 | 17.1 | 18.5 | 18.9 | 19.5 | 19.7 | 20.4 | 19.9 | 19.5 | 19.1 | 18.2 | 17.1 | 15.4 | 14 | 14.4 | 12.9 | 20.4 | 16.5 |
| Jul 15 | 14.1 | 13.5 | 13.3 | 13.1 | 12.9 | 12.8 | 13.1 | 13 | 15.7 | 18.3 | 19.1 | 20.2 | 20.9 | 21.8 | 22.3 | 23.1 | 22.9 | 22.5 | 21 | 19.4 | 17.6 | 16.5 | 15.9 | 15.4 | 12.8 | 23.1 | 17.4 |
| Jul 16 | 14.5 | 13.8 | 13.5 | 13.3 | 12.2 | 12.6 | 13.7 | 15.6 | 17 | 17.8 | 18.8 | 19.4 | 20.2 | 21.2 | 21.5 | 21.6 | 21.6 | 21.1 | 20.2 | 19 | 17.5 | 16.5 | 15.4 | 14.6 | 12.2 | 21.6 | 17.2 |
| Jul 17 | 14.8 | 14.9 | 15.1 | 14.8 | 14.1 | 14 | 14.6 | 15.7 | 17.3 | 18.1 | 19.2 | 20.8 | 22.2 | 22.8 | 21.9 | 21.7 | 21.5 | 20.8 | 20.2 | 19.7 | 18.5 | 16.5 | 14.7 | 13.8 | 13.8 | 22.8 | 17.8 |
| Jul 18 | 13.6 | 13.7 | 13.7 | 13.7 | 13.8 | 13.9 | 13.9 | 13.9 | 14.5 | 14.6 | 14.4 | 15.1 | 15.9 | 14.9 | 15.5 | 15 | 15.3 | 15.3 | 15 | 14.9 | 14.4 | 14.4 | 14.6 | 14.5 | 13.6 | 15.9 | 14.5 |
| Jul 19 | 14.4 | 14 | 13.7 | 13.6 | 13.5 | 13.6 | 14.4 | 15.8 | 17.1 | 18.6 | 19.4 | 20.3 | 20.9 | 21.7 | 22.4 | 22.9 | 23.4 | 23.4 | 22.9 | 21.7 | 19.4 | 18.2 | 16.9 | 16.1 | 13.5 | 23.4 | 18.3 |
| Jul 20 | 15.5 | 14.5 | 14.3 | 14.1 | 13.8 | 14 | 14.8 | 16.2 | 18.2 | 20.8 | 21.8 | 22.6 | 23.3 | 23.7 | 24.6 | 24.2 | 24.5 | 24.1 | 23.5 | 22 | 20.7 | 20.2 | 18.7 | 18.1 | 13.8 | 24.6 | 19.5 |
| Jul 21 | 17.4 | 17.9 | 17.5 | 15.5 | 15.8 | 16.5 | 16.8 | 18.4 | 20.5 | 22.8 | 23.4 | 24.2 | 25.3 | 25.5 | 26.1 | 26.2 | 26 | 25.8 | 25.2 | 23.8 | 22.4 | 21.5 | 21 | 19.7 | 15.5 | 26.2 | 21.5 |
| Jul 22 | 19.2 | 19.3 | 18.2 | 16.6 | 17.5 | 17.2 | 16.2 | 17 | 17.6 | 19.1 | 19.6 | 21.1 | 22.8 | 24 | 24.7 | 25 | 24.9 | 23.8 | 22.6 | 21.3 | 20.3 | 19.5 | 18.5 | 18.1 | 16.2 | 25.0 | 20.2 |
| Jul 23 | 17.9 | 17.8 | 17.1 | 16.5 | 16.4 | 16.5 | 15.5 | 15.7 | 16.5 | 18.8 | 21 | 22.5 | 23.1 | 24.9 | 25.6 | 25.6 | 25.2 | 24.8 | 23.3 | 22.1 | 20.8 | 20.1 | 19.6 | 19.2 | 15.5 | 25.6 | 20.3 |
| Jul 24 | 18.8 | 18.2 | 17.5 | 17.2 | 17.2 | 16.7 | 17.5 | 19.4 | 21.1 | 22.2 | 23.8 | 24.6 | 25.7 | 26.1 | 26.5 | 26.3 | 26.2 | 25.9 | 24.9 | 23.3 | 21.9 | 20.8 | 20.1 | 19.4 | 16.7 | 26.5 | 21.7 |
| Jul 25 | 19.1 | 19.2 | 18.4 | 17.8 | 16.8 | 16.8 | 17.4 | 18.3 | 18.9 | 18 | 18.7 | 21.5 | 22.1 | 22.5 | 24.4 | 22.1 | 20.5 | 20.4 | 19.6 | 17.9 | 15.7 | 14.5 | 13 | 13.7 | 13.0 | 22.5 | 18.6 |
| Jul 26 | 13.1 | 12.7 | 12.4 | 11.5 | 11.2 | 11 | 11.5 | 12.6 | 13.5 | 12 | 12.1 | 12.2 | 13.1 | 13.8 | 14.3 | 15.1 | 14.2 | 13.1 | 12.4 | 12.3 | 11.9 | 11.9 | 11.7 | 12.4 | 11.0 | 15.1 | 12.6 |
| Jul 27 | 12.1 | 11.6 | 11.5 | 11.6 | 11.4 | 10.7 | 10.1 | 10.1 | 10.9 | 11.6 | 12.1 | 12.4 | 12.8 | 14.1 | 14.9 | 15.1 | 16.1 | 15.2 | 13.6 | 11.7 | 11.6 | 11.1 | 10.7 | 10.6 | 10.1 | 16.1 | 12.2 |
| Jul 28 | 10.8 | 10.9 | 10.8 | 10.9 | 11 | 11.2 | 12.2 | 13.2 | 15.1 | 15.8 | 17 | 17.1 | 18.5 | 16.9 | 17.7 | 18.1 | 16.9 | 16.4 | 16.3 | 16.5 | 13.9 | 13.2 | 12.9 | 12.3 | 10.8 | 18.5 | 14.4 |
| Jul 29 | 11.7 | 10.8 | 11 | 11.1 | 10.5 | 11.3 | 13.3 | 15.4 | 16.6 | 17.7 | 18.5 | 19.1 | 19.6 | 20 | 20 | 21.7 | 21.1 | 21.7 | 20.6 | 19.5 | 17.8 | 17.1 | 16.6 | 16.2 | 10.5 | 21.7 | 16.6 |
| Jul 30 | 16.3 | 15.5 | 14.9 | 14 | 14.1 | 14.1 | 15.2 | 16.5 | 18.6 | 20.5 | 22.1 | 23.4 | 24.7 | 25.5 | 25.8 | 26 | 26.1 | 25.5 | 23.7 | 23.3 | 21 | 20 | 17.4 | 16.4 | 14.0 | 26.1 | 20.0 |
| Jul 31 | 15.2 | 14.6 | 14.6 | 14.5 | 13.9 | 13.9 | 15.9 | 17.9 | 19.7 | 20.3 | 21.8 | 23.3 | 24.1 | 24 | 24.7 | 24.7 | 24.7 | 24.6 | 22.4 | 20.9 | 19 | 17.5 | 16.5 | 15.9 | 13.9 | 24.7 | 19.4 |
| Diurnal Maximum | 20.1 | 19.3 | 18.4 | 17.8 | 17.5 | 17.2 | 17.8 | 20.1 | 21.6 | 23.7 | 25.6 | 26.7 | 27.7 | 28.1 | 28.2 | 28.3 | 28.2 | 27.7 | 26.8 | 25.3 | 22.9 | 21.5 | 21.0 | 19.7 | | | |
| Diurnal Average | 14.7 | 14.4 | 14.0 | 13.6 | 13.2 | 13.3 | 14.0 | 15.2 | 16.6 | 17.7 | 18.6 | 19.5 | 20.2 | 20.7 | 21.1 | 21.4 | 21.2 | 20.9 | 20.2 | 19.0 | 17.6 | 16.7 | 15.7 | 15.1 | | | |

| | | |
|---|--|------------------------------|
| C Monthly Calibration | S Daily Zero-Span Check | Q Quality Assurance |
| K Collection Error | ND No Data (Machine Not in Service) | Y Routine Maintenance |
| X InValid Data (Equipment Malfunction /Recovery) | NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per days is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



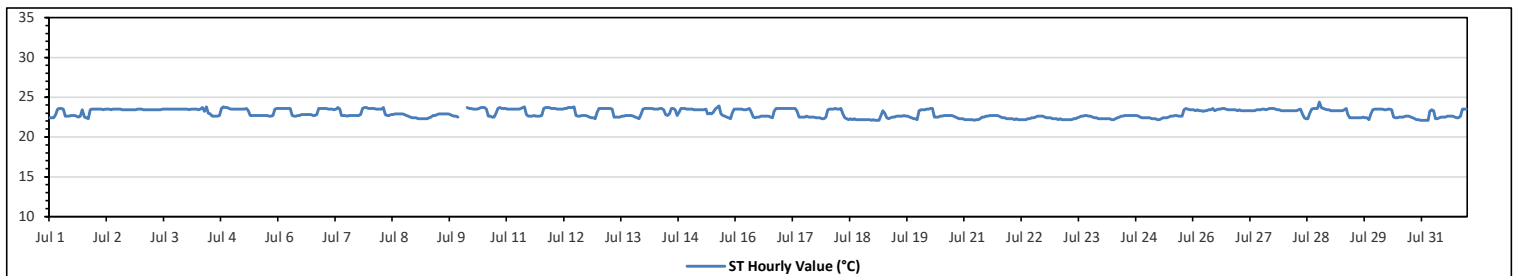
Lakeland Industry & Community Association
St. Lina Site - July 2023
Summary of Hourly Averages
STATION TEMPERATURE (ST) in Degree Celsius

| | | | | | |
|-----------------------|------|----|--------------------|------------------------|------|
| Maximum Hourly Value: | 24.4 | °C | on Jul 28 at hr 18 | Hours in Service: | 744 |
| Maximum Daily Value: | 23.5 | °C | on Jul 3 | Hours of Data: | 740 |
| Minimum Hourly Value: | 22.1 | °C | on Jul 18 at hr 23 | Hours of Missing Data: | 4 |
| Minimum Daily Value: | 22.4 | °C | on Jul 22 | Hours of Calibration: | 0 |
| Monthly Average: | 23.0 | °C | | Operational Uptime: | 99.5 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | |
|-----------------|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------|---------------|---------------|------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 |
| Jul 1 | 22.4 | 22.4 | 22.4 | 22.8 | 23.5 | 23.6 | 23.6 | 23.5 | 22.6 | 22.6 | 22.7 | 22.7 | 22.7 | 22.6 | 22.5 | 22.6 | 23.4 | 22.5 | 22.4 | 22.3 | 23.4 | 23.5 | 23.5 | 22.3 | 23.6 | 22.9 | |
| Jul 2 | 23.5 | 23.5 | 23.5 | 23.5 | 23.4 | 23.5 | 23.5 | 23.5 | 23.4 | 23.5 | 23.5 | 23.5 | 23.5 | 23.4 | 23.4 | 23.4 | 23.4 | 23.4 | 23.4 | 23.4 | 23.4 | 23.5 | 23.5 | 23.4 | 23.5 | 23.5 | |
| Jul 3 | 23.5 | 23.4 | 23.4 | 23.4 | 23.4 | 23.4 | 23.4 | 23.4 | 23.4 | 23.4 | 23.4 | 23.5 | 23.5 | 23.5 | 23.5 | 23.5 | 23.5 | 23.5 | 23.5 | 23.5 | 23.5 | 23.5 | 23.5 | 23.4 | 23.5 | 23.5 | |
| Jul 4 | 23.5 | 23.4 | 23.5 | 23.5 | 23.5 | 23.5 | 23.4 | 23.5 | 23.7 | 23.2 | 23.8 | 23.0 | 22.9 | 22.6 | 22.6 | 22.6 | 22.7 | 23.6 | 23.8 | 23.7 | 23.7 | 23.6 | 23.5 | 22.6 | 23.8 | 23.3 | |
| Jul 5 | 23.5 | 23.5 | 23.5 | 23.5 | 23.5 | 23.5 | 23.5 | 23.6 | 23.3 | 22.7 | 22.7 | 22.7 | 22.7 | 22.7 | 22.7 | 22.7 | 22.7 | 22.6 | 22.6 | 22.7 | 23.5 | 23.6 | 22.6 | 23.6 | 23.1 | | |
| Jul 6 | 23.6 | 23.6 | 23.6 | 23.6 | 23.6 | 23.6 | 23.6 | 22.7 | 22.6 | 22.6 | 22.7 | 22.7 | 22.8 | 22.8 | 22.8 | 22.8 | 22.8 | 22.7 | 22.7 | 22.8 | 23.6 | 23.6 | 22.6 | 23.6 | 23.1 | | |
| Jul 7 | 23.6 | 23.6 | 23.5 | 23.5 | 23.5 | 23.4 | 23.5 | 23.7 | 23.5 | 22.7 | 22.7 | 22.7 | 22.6 | 22.7 | 22.7 | 22.7 | 22.7 | 22.7 | 22.7 | 22.8 | 23.6 | 23.7 | 22.6 | 23.6 | 23.2 | | |
| Jul 8 | 23.6 | 23.6 | 23.6 | 23.5 | 23.5 | 23.5 | 23.5 | 23.7 | 22.8 | 22.7 | 22.7 | 22.8 | 22.8 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.8 | 22.7 | 22.6 | 22.5 | 22.4 | 22.4 | | |
| Jul 9 | 22.4 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.4 | 22.5 | 22.7 | 22.7 | 22.8 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 22.8 | 22.7 | 22.6 | 22.5 | 22.4 | 22.4 | | |
| Jul 10 | K | K | K | 23.7 | 23.6 | 23.6 | 23.5 | 23.5 | 23.5 | 23.6 | 23.7 | 23.7 | 23.7 | 23.5 | 22.6 | 22.6 | 22.5 | 23.0 | 23.6 | 23.7 | 23.6 | 23.6 | 22.5 | 22.3 | 22.9 | 22.6 | |
| Jul 11 | 23.5 | 23.5 | 23.5 | 23.5 | 23.5 | 23.5 | 23.5 | 23.6 | 23.7 | 23.8 | 22.8 | 22.6 | 22.6 | 22.6 | 22.7 | 22.6 | 22.6 | 22.6 | 22.7 | 23.6 | 23.7 | 23.7 | 23.7 | 23.6 | 22.6 | 23.8 | |
| Jul 12 | 23.6 | 23.6 | 23.5 | 23.5 | 23.5 | 23.5 | 23.6 | 23.6 | 23.7 | 23.7 | 23.7 | 23.8 | 22.7 | 22.6 | 22.6 | 22.6 | 22.7 | 22.7 | 22.6 | 22.5 | 22.4 | 22.4 | 22.3 | 23.1 | 22.3 | 23.8 | |
| Jul 13 | 23.6 | 23.6 | 23.6 | 23.6 | 23.6 | 23.6 | 23.6 | 23.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.6 | 22.6 | 22.7 | 22.7 | 22.7 | 22.6 | 22.5 | 22.4 | 22.3 | 22.8 | 23.5 | 22.3 | 23.6 | 23.0 | |
| Jul 14 | 23.6 | 23.6 | 23.6 | 23.6 | 23.6 | 23.5 | 23.5 | 23.5 | 23.6 | 23.6 | 23.4 | 22.8 | 22.7 | 22.9 | 23.6 | 23.6 | 23.4 | 22.7 | 23.1 | 23.6 | 23.6 | 23.6 | 23.5 | 23.5 | 22.7 | 23.6 | 23.4 |
| Jul 15 | 23.5 | 23.5 | 23.4 | 23.4 | 23.4 | 23.4 | 23.4 | 23.4 | 23.5 | 22.9 | 23.0 | 22.9 | 23.1 | 23.5 | 23.7 | 23.9 | 22.9 | 22.7 | 22.6 | 22.5 | 22.4 | 22.3 | 23.0 | 23.5 | 22.3 | 23.9 | 23.2 |
| Jul 16 | 23.5 | 23.5 | 23.5 | 23.5 | 23.4 | 23.4 | 23.5 | 23.6 | 23.1 | 22.5 | 22.4 | 22.5 | 22.5 | 22.6 | 22.6 | 22.6 | 22.6 | 22.5 | 22.4 | 23.2 | 23.6 | 23.6 | 23.6 | 22.4 | 23.6 | 23.0 | |
| Jul 17 | 23.6 | 23.6 | 23.6 | 23.6 | 23.6 | 23.6 | 23.6 | 23.6 | 23.2 | 22.5 | 22.5 | 22.5 | 22.5 | 22.6 | 22.5 | 22.5 | 22.5 | 22.4 | 22.4 | 22.4 | 23.6 | 23.3 | 22.5 | 22.3 | 23.6 | 22.9 | |
| Jul 18 | 23.4 | 23.5 | 23.5 | 23.5 | 23.6 | 23.5 | 23.5 | 23.6 | 22.9 | 22.4 | 22.3 | 22.2 | 22.3 | 22.2 | 22.3 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 22.1 | 22.1 | 23.6 | |
| Jul 19 | 22.2 | 22.1 | 22.1 | 22.1 | 22.7 | 23.3 | 23.0 | 22.4 | 22.3 | 22.4 | 22.5 | 22.5 | 22.6 | 22.6 | 22.6 | 22.6 | 22.7 | 22.6 | 22.5 | 22.4 | 22.3 | 22.3 | 22.2 | 22.1 | 23.3 | 22.5 | |
| Jul 20 | 23.3 | 23.4 | 23.4 | 23.4 | 23.5 | 23.5 | 23.6 | 23.6 | 22.5 | 22.5 | 22.5 | 22.6 | 22.6 | 22.7 | 22.7 | 22.7 | 22.7 | 22.6 | 22.5 | 22.4 | 22.3 | 22.3 | 22.3 | 22.3 | 23.6 | 22.8 | |
| Jul 21 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 22.1 | 22.2 | 22.2 | 22.2 | 22.3 | 22.5 | 22.5 | 22.6 | 22.6 | 22.7 | 22.7 | 22.7 | 22.7 | 22.6 | 22.5 | 22.4 | 22.4 | 22.3 | 22.3 | 22.1 | 22.7 | 22.4 |
| Jul 22 | 22.3 | 22.3 | 22.2 | 22.3 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 22.3 | 22.3 | 22.4 | 22.4 | 22.5 | 22.6 | 22.6 | 22.6 | 22.6 | 22.5 | 22.4 | 22.4 | 22.4 | 22.3 | 22.3 | 22.2 | 22.6 | 22.4 |
| Jul 23 | 22.3 | 22.2 | 22.3 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 22.3 | 22.3 | 22.4 | 22.5 | 22.6 | 22.6 | 22.7 | 22.7 | 22.6 | 22.5 | 22.4 | 22.4 | 22.3 | 22.3 | 22.2 | 22.7 | 22.4 | |
| Jul 24 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.2 | 22.2 | 22.3 | 22.4 | 22.5 | 22.6 | 22.6 | 22.7 | 22.7 | 22.7 | 22.7 | 22.7 | 22.6 | 22.5 | 22.4 | 22.4 | 22.4 | 22.2 | 22.2 | 22.2 | 22.7 | 22.5 |
| Jul 25 | 22.4 | 22.4 | 22.3 | 22.3 | 22.3 | 22.2 | 22.2 | 22.3 | 22.4 | 22.4 | 22.4 | 22.5 | 22.6 | 22.6 | 22.7 | 22.7 | 22.6 | 22.6 | 22.6 | 23.4 | 23.6 | 23.5 | 23.4 | 23.4 | 22.2 | 23.6 | 22.7 |
| Jul 26 | 23.4 | 23.3 | 23.4 | 23.3 | 23.3 | 23.2 | 23.3 | 23.3 | 23.4 | 23.4 | 23.6 | 23.3 | 23.4 | 23.5 | 23.5 | 23.6 | 23.6 | 23.5 | 23.4 | 23.4 | 23.4 | 23.4 | 23.4 | 23.3 | 23.2 | 23.6 | 23.4 |
| Jul 27 | 23.4 | 23.3 | 23.3 | 23.3 | 23.3 | 23.3 | 23.3 | 23.3 | 23.3 | 23.4 | 23.4 | 23.4 | 23.5 | 23.5 | 23.4 | 23.5 | 23.6 | 23.6 | 23.6 | 23.5 | 23.4 | 23.4 | 23.4 | 23.3 | 23.3 | 23.6 | 23.4 |
| Jul 28 | 23.3 | 23.3 | 23.3 | 23.3 | 23.3 | 23.3 | 23.3 | 23.4 | 23.5 | 22.9 | 22.4 | 22.3 | 22.3 | 23.0 | 23.5 | 23.6 | 23.6 | 24.4 | 23.7 | 23.6 | 23.5 | 23.4 | 23.4 | 22.3 | 24.4 | 23.3 | |
| Jul 29 | 23.3 | 23.3 | 23.3 | 23.3 | 23.3 | 23.3 | 23.3 | 23.4 | 23.6 | 22.8 | 22.4 | 22.4 | 22.4 | 22.4 | 22.4 | 22.4 | 22.5 | 22.4 | 22.4 | 22.2 | 22.9 | 23.4 | 23.5 | 22.2 | 23.6 | 22.9 | |
| Jul 30 | 23.5 | 23.5 | 23.5 | 23.5 | 23.4 | 23.4 | 23.5 | 23.5 | 23.4 | 22.5 | 22.4 | 22.4 | 22.5 | 22.5 | 22.5 | 22.6 | 22.6 | 22.6 | 22.5 | 22.4 | 22.3 | 22.2 | 22.2 | 22.1 | 22.1 | 23.5 | 22.8 |
| Jul 31 | 22.1 | 22.1 | 22.1 | 22.1 | 23.2 | 23.4 | 23.3 | 22.3 | 22.3 | 22.4 | 22.5 | 22.5 | 22.5 | 22.6 | 22.6 | 22.6 | 22.6 | 22.5 | 22.4 | 22.4 | 22.6 | 23.5 | 23.5 | 22.1 | 23.5 | 22.7 | |
| Diurnal Maximum | 23.6 | 23.6 | 23.6 | 23.7 | 23.6 | 23.6 | 23.6 | 23.7 | 23.7 | 23.8 | 23.8 | 23.8 | 23.7 | 23.5 | 23.7 | 23.9 | 23.6 | 23.6 | 24.4 | 23.8 | 23.7 | 23.7 | 23.7 | 23.6 | 23.6 | 23.6 | |
| Diurnal Average | 23.1 | 23.1 | 23.1 | 23.1 | 23.2 | 23.2 | 23.2 | 23.0 | 22.8 | 22.8 | 22.8 | 22.8 | 22.8 | 22.8 | 22.8 | 22.9 | 22.8 | 22.8 | 22.8 | 22.8 | 22.9 | 23.0 | 23.0 | 23.1 | 23.1 | 23.1 | |

| | | | | | |
|---|--|-----|---|---|---------------------|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance |
| K | Collection Error | ND | No Data (Machine Not in Service) | Y | Routine Maintenance |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P | Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per days is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



Lakeland Industry & Community Association

St. Lina Site - July 2023

Summary of Hourly Averages

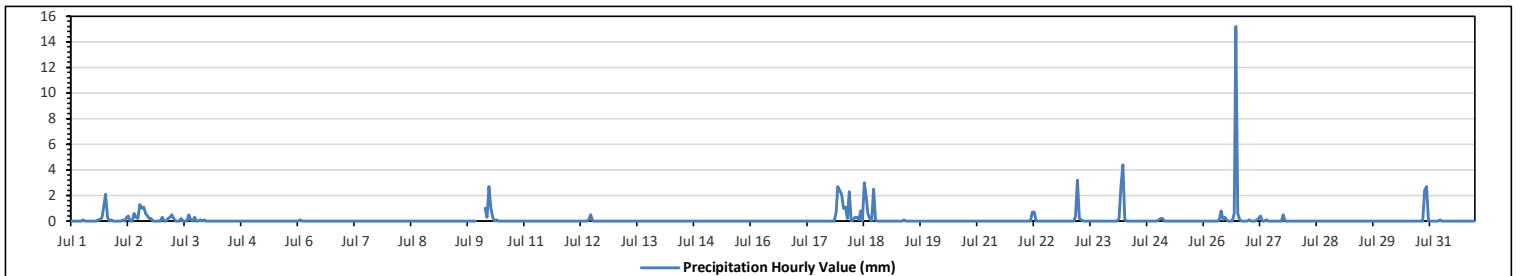
PRECIPITATION in mm

| | | | | |
|-----------------------|---------|--------------------|------------------------|------|
| Maximum Hourly Value: | 15.2 mm | on Jul 26 at hr 17 | Hours in Service: | 744 |
| Maximum Daily Value: | 17.9 mm | on Jul 26 | Hours of Data: | 740 |
| Minimum Hourly Value: | 0.0 mm | on Jul 1 at hr 0 | Hours of Missing Data: | 4 |
| Minimum Daily Value: | 0.0 mm | on Jul 4 | Hours of Calibration: | 0 |
| Monthly Total: | 80.0 mm | | Operational Uptime: | 99.5 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Total | | |
|-----------------|---------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|---------------|---------------|-------------|------|-----|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 | |
| Jul 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.1 | 0.3 | 1.1 | 2.1 | 0.3 | 0 | 0.1 | 0 | 0 | 0.0 | 2.1 | 4.2 | |
| Jul 2 | 0 | 0 | 0 | 0.1 | 0 | 0.3 | 0.4 | 0 | 0 | 0.6 | 0.3 | 0.2 | 1.3 | 1 | 1.1 | 0.6 | 0.4 | 0.2 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0.0 | 1.3 | 6.7 | |
| Jul 3 | 0.3 | 0 | 0 | 0.2 | 0.3 | 0.5 | 0.2 | 0 | 0 | 0 | 0.2 | 0 | 0 | 0 | 0.5 | 0.1 | 0 | 0.3 | 0 | 0 | 0.1 | 0 | 0.1 | 0 | 0.0 | 0.5 | 2.8 | |
| Jul 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | |
| Jul 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | |
| Jul 6 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.1 | 0.1 | |
| Jul 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | |
| Jul 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | |
| Jul 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | |
| Jul 10 | K | K | K | 1 | 0.3 | 2.7 | 1 | 0.3 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 2.7 | 5.4 | |
| Jul 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | |
| Jul 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.5 | 0.6 | |
| Jul 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | |
| Jul 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | |
| Jul 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | |
| Jul 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | |
| Jul 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.7 | 2.7 | 2.4 | 0.0 | 2.7 | 5.8 |
| Jul 18 | 2.1 | 1 | 1.1 | 0.2 | 2.3 | 0 | 0.1 | 0.3 | 0.3 | 0.1 | 0.8 | 0 | 3 | 1.9 | 0.6 | 0.2 | 0 | 2.5 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0.0 | 3.0 | 16.6 | |
| Jul 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.1 | 0.1 | |
| Jul 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | |
| Jul 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | |
| Jul 22 | 0 | 0 | 0 | 0 | 0 | 0.7 | 0.7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.7 | 1.4 | |
| Jul 23 | 0 | 0 | 0 | 0 | 0.4 | 3.2 | 0.2 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 3.2 | 3.9 | |
| Jul 24 | 0 | 0 | 0 | 0.2 | 2.7 | 4.4 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 4.4 | 7.4 | |
| Jul 25 | 0.1 | 0.2 | 0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.2 | 0.5 | |
| Jul 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0.8 | 0.1 | 0.3 | 0.1 | 0 | 0 | 0 | 0.6 | 15.2 | 0.6 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0.0 | 15.2 | 17.9 | |
| Jul 27 | 0.1 | 0 | 0 | 0 | 0.1 | 0.2 | 0.4 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.5 | 1.4 | |
| Jul 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | |
| Jul 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | |
| Jul 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2.4 | 2.7 | 0 | 0.0 | 2.7 | 5.1 | |
| Jul 31 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.1 | 0.1 | |
| Diurnal Maximum | 2.1 | 1.0 | 1.1 | 1.0 | 2.7 | 4.4 | 1.0 | 0.3 | 0.3 | 0.8 | 0.8 | 0.5 | 3.0 | 1.9 | 1.1 | 0.6 | 0.6 | 15.2 | 2.1 | 0.3 | 0.1 | 2.4 | 2.7 | 2.4 | | | | |
| Diurnal Average | 0.1 | 0.0 | 0.0 | 0.1 | 0.2 | 0.4 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.6 | 0.1 | 0.0 | 0.0 | 0.1 | 0.2 | 0.1 | | | | |

| | | |
|---|--|------------------------------|
| C Monthly Calibration | S Daily Zero-Span Check | Q Quality Assurance |
| K Collection Error | ND No Data (Machine Not in Service) | Y Routine Maintenance |
| X InValid Data (Equipment Malfunction /Recovery) | NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



Lakeland Industry & Community Association

St. Lina Site - July 2023

Summary of Hourly Averages

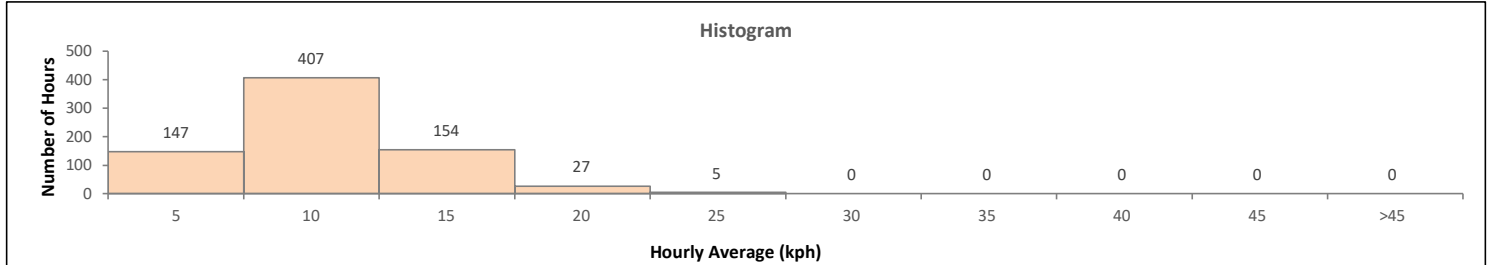
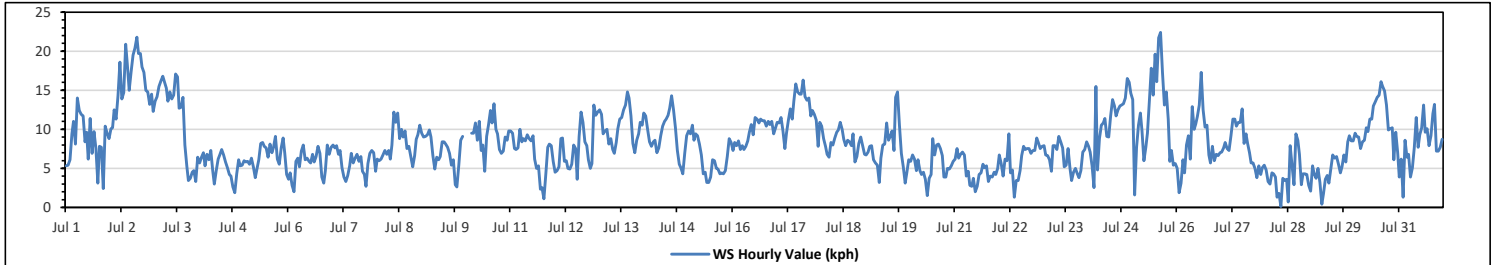
VECTOR WIND SPEED (VWS) in km/hr

| | | | | |
|-----------------------|----------|--------------------|------------------------|------|
| Maximum Hourly Value: | 22.4 kph | on Jul 25 at hr 15 | Hours in Service: | 744 |
| Maximum Daily Value: | 16.0 kph | on Jul 2 | Hours of Data: | 740 |
| Minimum Hourly Value: | 0.1 kph | on Jul 28 at hr 8 | Hours of Missing Data: | 4 |
| Minimum Daily Value: | 4.1 kph | on Jul 28 | Hours of Calibration: | 0 |
| Monthly Average: | 1.5 kph | | Operational Uptime: | 99.5 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | |
|-----------------|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------|---------------|---------------|------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 |
| Jul 1 | 5.3 | 5.4 | 6.1 | 9.4 | 11.0 | 8.1 | 14.0 | 12.4 | 11.9 | 11.7 | 8.4 | 9.6 | 6.2 | 11.4 | 6.9 | 9.7 | 7.5 | 3.1 | 7.8 | 7.7 | 2.4 | 10.4 | 9.5 | 8.8 | 2.4 | 14.0 | 8.5 |
| Jul 2 | 10.1 | 10.2 | 12.5 | 11.3 | 14.3 | 18.6 | 13.9 | 14.7 | 20.9 | 18.4 | 15.0 | 17.4 | 19.5 | 20.4 | 21.8 | 19.7 | 19.7 | 18.0 | 17.3 | 15.0 | 14.8 | 13.2 | 14.5 | 12.3 | 10.1 | 21.8 | 16.0 |
| Jul 3 | 13.6 | 14.2 | 15.5 | 16.2 | 16.8 | 16.1 | 15.3 | 13.6 | 14.8 | 13.9 | 14.4 | 17.1 | 16.7 | 12.7 | 12.8 | 14.1 | 8.0 | 5.3 | 3.4 | 3.7 | 4.5 | 4.7 | 3.3 | 6.4 | 3.3 | 17.1 | 11.5 |
| Jul 4 | 5.7 | 6.4 | 7.0 | 5.3 | 6.8 | 6.1 | 7.3 | 4.7 | 3.0 | 4.7 | 6.2 | 6.7 | 7.4 | 6.7 | 5.8 | 5.1 | 4.2 | 4.0 | 2.6 | 1.9 | 4.3 | 6.1 | 5.3 | 5.4 | 1.9 | 7.4 | 5.4 |
| Jul 5 | 6.0 | 5.8 | 5.9 | 5.5 | 6.3 | 5.2 | 3.8 | 5.1 | 6.1 | 8.2 | 8.3 | 7.8 | 7.6 | 6.4 | 8.1 | 7.0 | 7.7 | 9.1 | 6.2 | 5.5 | 7.6 | 8.9 | 7.0 | 4.2 | 3.8 | 9.1 | 6.6 |
| Jul 6 | 3.6 | 4.4 | 2.8 | 2.0 | 5.9 | 6.3 | 5.2 | 7.2 | 8.0 | 6.1 | 6.3 | 5.9 | 5.7 | 6.8 | 5.8 | 6.5 | 7.8 | 6.9 | 3.9 | 3.1 | 4.7 | 8.0 | 6.8 | 7.7 | 2.0 | 8.0 | 5.7 |
| Jul 7 | 8.0 | 7.6 | 7.9 | 6.8 | 7.3 | 5.1 | 3.9 | 3.3 | 4.1 | 5.3 | 6.9 | 5.7 | 6.3 | 6.8 | 5.9 | 6.5 | 4.6 | 4.2 | 2.7 | 5.6 | 6.9 | 7.3 | 7.0 | 4.6 | 2.7 | 8.0 | 5.8 |
| Jul 8 | 6.2 | 6.0 | 6.2 | 6.7 | 7.3 | 6.8 | 7.3 | 6.2 | 8.0 | 12.2 | 10.9 | 12.1 | 8.8 | 10.0 | 9.0 | 9.8 | 7.5 | 7.8 | 6.5 | 5.2 | 6.6 | 8.7 | 9.3 | 10.5 | 5.2 | 12.2 | 8.2 |
| Jul 9 | 9.5 | 9.0 | 9.1 | 9.3 | 9.9 | 9.0 | 6.6 | 4.9 | 6.4 | 6.1 | 6.5 | 8.4 | 8.4 | 8.1 | 7.7 | 6.9 | 5.4 | 6.1 | 2.9 | 2.6 | 5.4 | 8.6 | 9.1 | K | 2.6 | 9.9 | 7.2 |
| Jul 10 | K | K | K | 9.5 | 9.5 | 10.8 | 8.6 | 11.0 | 7.3 | 8.0 | 4.6 | 9.1 | 10.6 | 12.4 | 10.8 | 13.3 | 10.0 | 9.4 | 7.4 | 6.9 | 7.2 | 9.0 | 8.6 | 9.8 | 4.6 | 13.3 | 9.2 |
| Jul 11 | 9.8 | 9.5 | 7.5 | 7.4 | 7.6 | 10.0 | 8.4 | 8.8 | 8.5 | 9.3 | 8.8 | 8.5 | 9.2 | 6.2 | 5.0 | 5.3 | 2.3 | 2.5 | 1.1 | 4.3 | 7.7 | 8.1 | 7.9 | 5.9 | 1.1 | 10.0 | 7.1 |
| Jul 12 | 4.5 | 4.7 | 5.2 | 8.8 | 8.9 | 5.9 | 6.0 | 5.0 | 4.9 | 5.5 | 8.0 | 7.5 | 3.6 | 9.1 | 12.2 | 10.9 | 8.4 | 7.9 | 6.1 | 5.0 | 5.6 | 13.1 | 11.8 | 12.2 | 3.6 | 13.1 | 7.5 |
| Jul 13 | 12.5 | 11.9 | 9.4 | 9.8 | 10.0 | 8.1 | 8.8 | 7.4 | 6.9 | 8.3 | 10.1 | 11.3 | 11.5 | 12.5 | 13.1 | 14.8 | 14.0 | 11.7 | 8.2 | 7.0 | 8.6 | 9.4 | 10.9 | 10.5 | 6.9 | 14.8 | 10.3 |
| Jul 14 | 12.1 | 11.7 | 10.0 | 8.4 | 7.8 | 8.4 | 8.6 | 7.0 | 7.6 | 9.2 | 10.4 | 11.0 | 11.3 | 11.8 | 12.7 | 14.3 | 12.5 | 10.2 | 7.3 | 5.5 | 5.1 | 4.3 | 6.9 | 9.2 | 4.3 | 14.3 | 9.3 |
| Jul 15 | 9.8 | 9.4 | 10.5 | 8.6 | 9.4 | 9.2 | 8.1 | 6.7 | 4.3 | 4.5 | 3.2 | 3.2 | 3.9 | 6.1 | 6.0 | 5.0 | 4.9 | 4.3 | 4.4 | 4.3 | 4.7 | 6.5 | 8.8 | 8.3 | 3.2 | 10.5 | 6.4 |
| Jul 16 | 7.3 | 8.3 | 7.9 | 8.5 | 7.4 | 7.9 | 7.4 | 7.8 | 8.5 | 9.6 | 10.6 | 9.3 | 11.5 | 11.3 | 16.8 | 11.3 | 11.1 | 11.1 | 10.4 | 11.0 | 10.6 | 11.0 | 9.4 | 10.1 | 7.3 | 11.5 | 9.6 |
| Jul 17 | 10.9 | 10.8 | 11.5 | 9.8 | 7.5 | 9.5 | 11.2 | 12.6 | 11.3 | 13.6 | 15.8 | 14.8 | 14.5 | 14.5 | 16.3 | 14.2 | 13.7 | 14.0 | 11.7 | 12.4 | 11.9 | 11.2 | 7.8 | 10.9 | 7.5 | 16.3 | 12.2 |
| Jul 18 | 10.4 | 8.8 | 7.8 | 6.8 | 6.4 | 8.3 | 8.0 | 8.9 | 9.6 | 9.9 | 10.9 | 10.0 | 8.7 | 7.9 | 8.6 | 8.4 | 7.9 | 9.4 | 5.8 | 6.5 | 8.2 | 9.0 | 7.9 | 6.8 | 5.8 | 10.9 | 8.4 |
| Jul 19 | 6.7 | 7.1 | 7.8 | 7.9 | 6.1 | 5.7 | 5.4 | 3.2 | 6.3 | 8.0 | 8.1 | 10.8 | 8.6 | 9.2 | 9.8 | 7.3 | 14.1 | 14.8 | 10.5 | 6.9 | 5.2 | 3.1 | 4.4 | 6.1 | 3.1 | 14.8 | 7.6 |
| Jul 20 | 5.9 | 6.7 | 6.2 | 4.7 | 6.1 | 4.7 | 4.2 | 4.5 | 3.6 | 1.5 | 3.7 | 4.2 | 8.8 | 6.7 | 8.0 | 8.1 | 7.5 | 6.6 | 3.9 | 3.9 | 5.0 | 4.9 | 5.3 | 5.9 | 1.5 | 8.8 | 5.4 |
| Jul 21 | 6.2 | 7.5 | 6.3 | 6.8 | 7.1 | 6.7 | 4.0 | 4.6 | 2.8 | 2.7 | 3.7 | 2.0 | 2.7 | 4.2 | 4.4 | 5.5 | 5.1 | 5.3 | 3.3 | 4.0 | 3.9 | 4.5 | 4.2 | 5.0 | 2.0 | 7.5 | 4.7 |
| Jul 22 | 6.7 | 5.6 | 4.0 | 6.2 | 6.0 | 9.4 | 4.4 | 4.8 | 1.3 | 3.4 | 3.4 | 4.7 | 6.6 | 7.8 | 7.4 | 7.5 | 6.9 | 7.3 | 7.3 | 8.9 | 8.3 | 7.5 | 7.8 | 1.3 | 9.4 | 6.3 | 6.3 |
| Jul 23 | 7.9 | 6.7 | 6.6 | 6.1 | 4.6 | 7.9 | 7.9 | 7.4 | 9.1 | 8.4 | 7.6 | 5.2 | 5.4 | 7.5 | 5.0 | 3.4 | 4.5 | 5.0 | 4.3 | 3.8 | 4.7 | 7.1 | 7.4 | 8.4 | 3.4 | 9.1 | 6.3 |
| Jul 24 | 7.8 | 7.1 | 5.3 | 2.5 | 15.5 | 4.8 | 8.8 | 10.5 | 10.8 | 11.4 | 9.1 | 9.0 | 11.7 | 13.8 | 13.0 | 11.7 | 12.5 | 13.0 | 13.1 | 13.3 | 14.0 | 16.5 | 16.0 | 14.6 | 2.5 | 16.5 | 11.1 |
| Jul 25 | 13.8 | 1.6 | 7.7 | 10.5 | 12.1 | 9.8 | 6.0 | 7.7 | 9.5 | 13.6 | 17.8 | 14.4 | 19.6 | 16.1 | 21.7 | 22.4 | 17.3 | 13.1 | 14.8 | 11.3 | 5.9 | 7.3 | 5.4 | 5.6 | 1.6 | 22.4 | 11.9 |
| Jul 26 | 5.0 | 1.9 | 3.1 | 6.1 | 4.4 | 8.0 | 9.2 | 6.2 | 12.9 | 10.0 | 10.7 | 11.6 | 13.1 | 17.3 | 12.5 | 10.3 | 10.5 | 6.7 | 5.7 | 7.8 | 6.0 | 6.8 | 6.6 | 7.0 | 1.9 | 17.3 | 8.3 |
| Jul 27 | 7.1 | 7.6 | 8.3 | 7.5 | 7.3 | 9.2 | 11.3 | 10.4 | 10.9 | 10.9 | 12.6 | 8.2 | 9.4 | 8.2 | 7.0 | 5.7 | 5.7 | 5.0 | 3.8 | 5.3 | 4.2 | 5.1 | 5.4 | 3.8 | 12.6 | 7.8 | 7.8 |
| Jul 28 | 4.8 | 3.3 | 3.0 | 4.4 | 4.3 | 3.9 | 1.3 | 1.8 | 0.1 | 3.7 | 3.4 | 3.6 | 0.7 | 7.9 | 5.3 | 2.9 | 9.4 | 8.6 | 6.8 | 2.9 | 4.3 | 4.3 | 4.2 | 2.8 | 0.1 | 9.4 | 4.1 |
| Jul 29 | 2.1 | 5.3 | 4.3 | 3.7 | 5.0 | 3.2 | 0.4 | 1.7 | 3.6 | 4.1 | 3.1 | 4.9 | 6.7 | 6.3 | 6.5 | 5.5 | 4.4 | 5.2 | 6.7 | 5.8 | 8.4 | 9.2 | 8.5 | 8.5 | 0.4 | 9.2 | 5.1 |
| Jul 30 | 9.5 | 9.1 | 9.0 | 7.5 | 8.4 | 8.6 | 10.2 | 9.7 | 11.3 | 11.3 | 13.0 | 13.5 | 14.1 | 14.4 | 16.1 | 15.5 | 14.9 | 13.1 | 9.9 | 10.1 | 10.2 | 6.1 | 9.6 | 7.0 | 6.1 | 16.1 | 10.9 |
| Jul 31 | 3.9 | 6.2 | 1.3 | 8.6 | 6.4 | 6.8 | 3.9 | 5.1 | 7.7 | 11.5 | 7.7 | 9.3 | 10.2 | 13.1 | 9.6 | 10.1 | 7.9 | 9.2 | 12.0 | 13.2 | 7.2 | 7.2 | 7.7 | 8.7 | 1.3 | 13.2 | 8.1 |
| Diurnal Maximum | 13.8 | 14.2 | 15.5 | 16.2 | 16.8 | 18.6 | 15.3 | 14.7 | 20.9 | 18.4 | 17.8 | 17.4 | 19.6 | 20.4 | 21.8 | 22.4 | 19.7 | 18.0 | 17.3 | 15.0 | 14.8 | 16.5 | 16.0 | 14.6 | | | |
| Diurnal Average | 7.8 | 7.3 | 7.2 | 7.5 | 8.2 | 8.0 | 7.4 | 7.3 | 7.8 | 8.5 | 8.6 | 9.1 | 9.3 | 10.2 | 9.9 | 9.7 | 9.0 | 8.3 | 7.1 | 6.7 | 7.0 | 8.0 | 7.9 | 7.9 | | | |

| | | | | | |
|---|---|-----|---|---|---------------------|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance |
| K | Collection Error | ND | No Data (Machine Not in Service) | Y | Routine Maintenance |
| X | InValid Data (Equipment Malfunction/Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P | Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

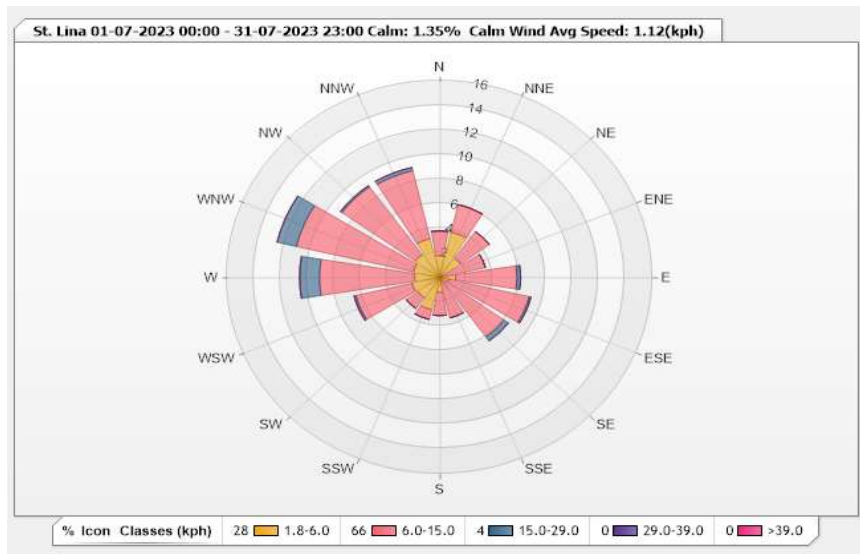


Station: St. Lina Monitor: WDS [kph] Monthly: 07-2023

Type: Wind Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm (WS<1.8kph): 1.35% Valid Data: 99.46%

| Direction | 1.8-6.0 | 6.0-15.0 | 15.0-29.0 | 29.0-39.0 | >39.0 | Total |
|-----------|---------|----------|-----------|-----------|-------|-------|
| N | 1.76 | 2.03 | 0 | 0 | 0 | 3.79 |
| NNE | 3.78 | 2.3 | 0 | 0 | 0 | 6.08 |
| NE | 1.89 | 2.7 | 0 | 0 | 0 | 4.59 |
| ENE | 0.14 | 3.38 | 0 | 0 | 0 | 3.52 |
| E | 1.22 | 4.59 | 0.27 | 0 | 0 | 6.08 |
| ESE | 0.68 | 6.22 | 0.14 | 0 | 0 | 7.04 |
| SE | 0.54 | 5.41 | 0.41 | 0 | 0 | 6.36 |
| SSE | 0.27 | 3.11 | 0 | 0 | 0 | 3.38 |
| S | 1.22 | 1.89 | 0 | 0 | 0 | 3.11 |
| SSW | 2.7 | 0.81 | 0 | 0 | 0 | 3.51 |
| SW | 2.03 | 1.08 | 0 | 0 | 0 | 3.11 |
| WSW | 2.16 | 4.32 | 0.14 | 0 | 0 | 6.62 |
| W | 1.89 | 7.16 | 1.49 | 0 | 0 | 10.54 |
| WNW | 2.03 | 9.05 | 1.49 | 0 | 0 | 12.57 |
| NW | 2.3 | 6.76 | 0.14 | 0 | 0 | 9.2 |
| NNW | 3.24 | 5.68 | 0.27 | 0 | 0 | 9.19 |
| Summary | 27.85 | 66.49 | 4.35 | 0 | 0 | 98.69 |



Lakeland Industry & Community Association

St. Lina Site - July 2023

Summary of Hourly Averages

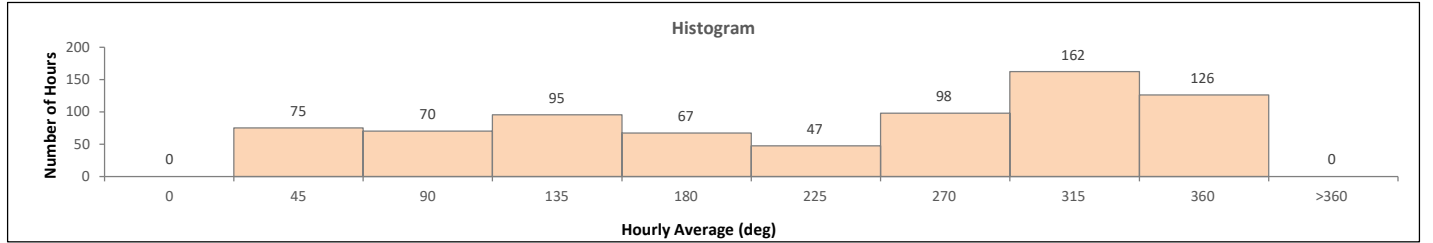
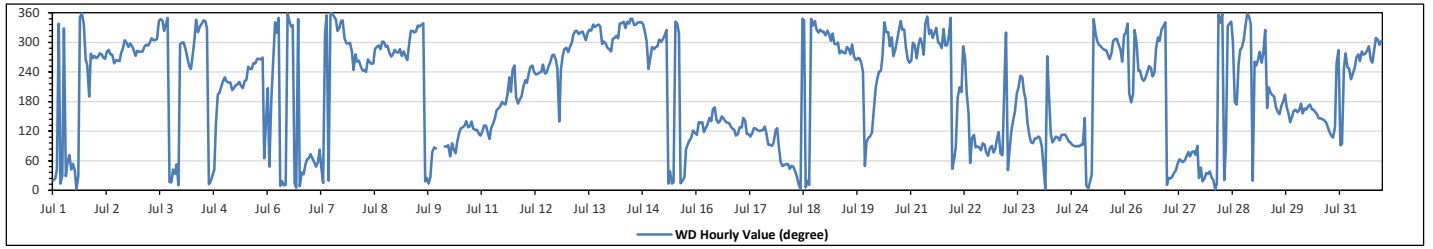
WIND DIRECTION (VWD) in sector

| | | | |
|------------------|------------------|------------------------|------|
| Monthly Average: | 303 (WNW) degree | Hours in Service: | 744 |
| | | Hours of Data: | 740 |
| | | Hours of Missing Data: | 4 |
| | | Hours of Calibration: | 0 |
| | | Operational Uptime: | 99.5 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Average | | | |
|--------|---------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------------|--------|----------|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Degree | Quadrant | |
| Jul 1 | NNE | NNE | NE | NNW | NNE | NNE | NNW | NNE | NE | ENE | NE | NE | NE | N | NNE | N | N | NNW | W | WSW | S | W | W | W | 2 | N | |
| Jul 2 | W | W | W | W | W | W | W | WNW | W | WSW | W | W | W | WNW | WNW | WNW | WNW | WNW | WNW | WNW | WNW | WNW | WNW | W | W | 279 | W |
| Jul 3 | W | W | W | WNW | WNW | WNW | WNW | NW | WNW | WNW | NW | NNW | NNW | NNW | NNW | N | NNE | NNE | NE | NNE | NE | N | WNW | 315 | NW | | |
| Jul 4 | WNW | WNW | WNW | W | WSW | WSW | W | NW | NNW | NW | NNW | NNW | NNW | NNW | NNW | NNE | NNE | NE | SE | SSW | SSW | SSW | SW | 301 | WNW | | |
| Jul 5 | SW | SW | SW | SW | SSW | SSW | SSW | SSW | SW | SSW | SSW | SW | SW | WSW | WSW | WSW | WSW | WSW | W | W | W | ENE | SE | 233 | SW | | |
| Jul 6 | SSW | NE | S | W | NNW | NW | N | N | NNE | N | NNW | N | NNW | NNW | NNW | NNE | N | NNW | N | NE | NNE | NE | ENE | ENE | 9 | N | |
| Jul 7 | ENE | ENE | ENE | NE | ENE | E | NE | NNE | NW | N | NNE | N | N | NNW | NW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | W | 1 | N | |
| Jul 8 | WSW | W | W | W | WSW | WSW | WSW | WSW | W | W | WSW | WSW | WNW | WNW | WNW | WNW | WNW | WNW | WNW | WNW | WNW | WNW | W | W | 272 | W | |
| Jul 9 | W | W | WNW | W | W | W | W | WNW | NW | NW | NW | NW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | W | 1 | N | |
| Jul 10 | K | K | K | E | E | E | ENE | E | ENE | E | ENE | E | ESE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | K | 320 | NW | |
| Jul 11 | ESE | SE | SE | ESE | ESE | SE | SE | SSE | SSE | SSE | SSE | S | S | SSW | SW | SSW | WSW | WSW | S | S | S | SSW | SSW | ESE | 112 | ESE | |
| Jul 12 | SW | SW | SW | WSW | WSW | WSW | SW | SW | WSW | WSW | SW | SW | WSW | WSW | W | W | WSW | SE | WSW | SE | WSW | W | WNW | WNW | 255 | WSW | |
| Jul 13 | W | WNW | WNW | NW | NW | NW | NW | NW | NW | NW | NW | NW | NW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | WNW | 314 | NW | |
| Jul 14 | W | NW | NW | NW | NW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | WSW | W | 325 | NW | |
| Jul 15 | WNW | WNW | WNW | NW | WNW | NW | NW | NW | NNE | NE | NNE | NNE | NNW | NNW | NNW | NNE | NNE | E | E | E | ESE | ESE | ESE | ESE | 341 | NNW | |
| Jul 16 | ESE | SE | SE | SE | ESE | SE | SE | SE | SE | SSE | SSE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | ESE | 136 | SE | |
| Jul 17 | SE | SE | SE | SE | ESE | ESE | ESE | ESE | SE | SE | ESE | ESE | ESE | ESE | ESE | E | E | E | E | ESE | ESE | E | NE | 115 | ESE | | |
| Jul 18 | NE | NE | NE | NE | NE | NE | NE | NNE | NNE | N | NNW | NNW | N | NNE | NNE | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NW | 9 | N | |
| Jul 19 | NW | NW | NW | WNW | NW | WNW | WNW | WNW | W | W | W | WNW | WNW | W | W | W | WSW | WSW | NE | E | WSW | WSW | NE | E | 287 | WNW | |
| Jul 20 | ESE | ESE | ESE | SSE | SSW | SSW | SSW | W | NNW | NW | NW | WNW | NW | W | WNW | WNW | NW | NNW | NW | NNW | NW | NNW | W | WSW | 282 | W | |
| Jul 21 | W | WNW | WNW | W | WNW | NW | WNW | W | NNW | N | NW | NW | NW | NNW | NNW | NNW | WNW | WNW | WNW | WNW | WNW | NW | N | NE | 305 | WNW | |
| Jul 22 | ENE | E | S | SSW | SSW | WNW | W | SSW | SSE | NE | ESE | ESE | E | E | E | E | E | ENE | ENE | E | E | ENE | E | ENE | 94 | E | |
| Jul 23 | ESE | ESE | ENE | ENE | SW | NW | NE | E | ESE | SE | SSE | SSW | SSW | SW | SW | SSW | S | SE | ESE | E | E | ESE | ESE | ESE | 125 | SE | |
| Jul 24 | ESE | E | NE | N | W | SSW | ESE | E | ESE | ESE | ESE | ESE | ESE | ESE | ESE | E | E | E | E | E | E | E | E | E | 100 | E | |
| Jul 25 | E | SE | N | N | NNE | NNE | NNW | NW | WNW | WNW | WNW | WNW | WNW | W | W | WNW | NW | NW | WNW | WNW | WNW | W | NW | 302 | WNW | | |
| Jul 26 | NW | NNW | SSW | S | SSW | NW | WNW | WSW | WSW | SW | SW | SW | WSW | WSW | WSW | SW | WSW | WNW | NW | WNW | NW | NNW | NNW | NNE | 261 | W | |
| Jul 27 | NNE | NNE | NNE | NE | NE | NE | ENE | ENE | ENE | ENE | ENE | ENE | ENE | ENE | ENE | E | NNE | NE | NNE | NNE | NNE | NE | NNE | NE | 54 | NE | |
| Jul 28 | NNE | NNE | N | NNE | N | NNW | N | NNE | E | NNW | NNW | NNW | WNW | S | S | WSW | WNW | WNW | WNW | N | N | NNW | NNW | NNE | 329 | NNW | |
| Jul 29 | W | WSW | W | W | WSW | W | NW | SSE | SSW | SSW | S | S | SSE | SSE | S | S | SSW | SSE | SSE | SE | SSE | SSE | SSE | SSE | 181 | S | |
| Jul 30 | SSE | SSE | S | SSE | SSE | SSE | S | SSE | SSE | SSE | SE | SE | SE | SE | SE | SE | SE | SE | ESE | ESE | ESE | SE | WSW | WNW | 152 | SSE | |
| Jul 31 | E | E | WSW | W | WSW | WSW | SW | SW | WSW | W | W | W | W | W | W | W | W | W | WSW | WNW | NW | NW | WNW | WNW | 275 | W | |

| | | | | | |
|---|---|-----|---|---|---------------------|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance |
| K | Collection Error | ND | No Data (Machine Not in Service) | Y | Routine Maintenance |
| X | Invalid Data (Machine Malfunction/Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P | Power Failure |

Daily Average is shown "*" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "*" if minimum data completeness criteria of 75% of days per month is not met.



Lakeland Industry & Community Association

St. Lina Site - July 2023

Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr & WIND DIRECTION (VWD) in sector

| WIND SPEED | |
|------------------------|-----------------------------|
| Maximum Hourly Value: | 22.4 kph on Jul 25 at hr 15 |
| Maximum Daily Value: | 16.0 kph on Jul 2 |
| Minimum Hourly Value: | 0.1 kph on Jul 28 at hr 8 |
| Minimum Daily Value: | 4.1 kph on Jul 28 |
| Monthly Average: | 1.5 kph |
| Hours in Service: | 744 |
| Hours of Data: | 740 |
| Hours of Missing Data: | 4 |
| Hours of Calibration: | 0 |
| Operational Uptime: | 99.5 |

| WIND DIRECTION | |
|------------------|------------------|
| Monthly Average: | 303 degree (WNW) |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | |
|--------|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------|---------------|---------------|------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 |
| Jul 1 | 5.3 | 5.4 | 6.1 | 9.4 | 11.0 | 8.1 | 14.0 | 12.4 | 11.9 | 11.7 | 8.4 | 9.6 | 6.2 | 11.4 | 6.9 | 9.7 | 7.5 | 3.1 | 7.8 | 7.7 | 2.4 | 10.4 | 9.5 | 8.8 | 2.4 | 14.0 | 8.5 |
| Jul 2 | 10.1 | 10.2 | 12.5 | 11.3 | 14.3 | 18.6 | 13.9 | 14.7 | 20.9 | 18.4 | 15.0 | 17.4 | 19.5 | 20.4 | 21.8 | 19.7 | 18.0 | 17.3 | 15.0 | 14.8 | 13.2 | 14.5 | 12.3 | 10.1 | 21.8 | 16.0 | |
| Jul 3 | 13.6 | 14.2 | 15.5 | 16.2 | 16.8 | 16.1 | 15.3 | 13.6 | 14.8 | 13.9 | 14.4 | 17.1 | 16.7 | 12.7 | 12.8 | 14.1 | 8.0 | 5.3 | 3.4 | 3.7 | 4.5 | 4.7 | 3.3 | 6.4 | 3.3 | 17.1 | 11.5 |
| Jul 4 | 5.7 | 6.4 | 7.0 | 5.3 | 6.8 | 6.1 | 7.3 | 4.7 | 3.0 | 4.7 | 6.2 | 6.7 | 7.4 | 6.7 | 5.8 | 5.1 | 4.2 | 4.0 | 2.6 | 1.9 | 4.3 | 6.1 | 5.3 | 5.4 | 1.9 | 7.4 | 5.4 |
| Jul 5 | 6.0 | 5.8 | 5.9 | 5.5 | 6.3 | 5.2 | 3.8 | 5.1 | 6.1 | 8.2 | 8.3 | 7.8 | 7.6 | 6.4 | 8.1 | 7.0 | 7.7 | 9.1 | 6.2 | 5.5 | 7.6 | 8.9 | 7.0 | 4.2 | 3.8 | 9.1 | 6.6 |
| Jul 6 | 3.6 | 4.4 | 2.8 | 2.0 | 5.9 | 6.3 | 5.2 | 7.2 | 8.0 | 6.1 | 6.3 | 5.9 | 5.7 | 6.8 | 5.8 | 6.5 | 7.8 | 6.9 | 3.9 | 3.1 | 4.7 | 8.0 | 6.8 | 7.7 | 2.0 | 8.0 | 5.7 |
| Jul 7 | 8.0 | 7.6 | 7.9 | 6.8 | 7.3 | 5.1 | 3.9 | 3.3 | 4.1 | 5.3 | 6.9 | 5.7 | 6.3 | 6.8 | 5.9 | 6.5 | 4.6 | 4.2 | 2.7 | 5.6 | 6.9 | 7.3 | 7.0 | 4.6 | 2.7 | 8.0 | 5.8 |
| Jul 8 | 6.2 | 6.0 | 6.2 | 6.7 | 7.3 | 6.8 | 7.3 | 6.2 | 8.0 | 12.2 | 10.9 | 12.1 | 8.8 | 10.0 | 9.0 | 9.8 | 7.5 | 7.8 | 6.5 | 5.2 | 6.6 | 8.7 | 9.3 | 10.5 | 5.2 | 12.2 | 8.2 |
| Jul 9 | 9.5 | 9.0 | 9.1 | 9.3 | 9.9 | 9.0 | 6.6 | 4.9 | 6.4 | 6.1 | 6.5 | 8.4 | 8.4 | 8.1 | 7.7 | 6.9 | 5.4 | 6.1 | 2.9 | 2.6 | 5.4 | 8.6 | 9.1 | K | 2.6 | 9.9 | 7.2 |
| Jul 10 | K | K | K | K | K | K | K | K | K | K | K | K | K | K | K | K | K | K | K | K | K | K | K | K | 4.6 | 13.3 | 9.2 |
| Jul 11 | 9.8 | 9.5 | 7.5 | 7.4 | 7.6 | 10.0 | 8.4 | 8.8 | 8.5 | 9.3 | 8.8 | 8.5 | 9.2 | 6.2 | 5.0 | 5.3 | 2.5 | 1.1 | 4.3 | 7.7 | 8.1 | 7.9 | 5.9 | 1.1 | 10.0 | 7.1 | |
| Jul 12 | 4.5 | 4.7 | 5.2 | 8.8 | 8.9 | 5.9 | 6.0 | 5.0 | 4.9 | 5.5 | 8.0 | 7.5 | 3.6 | 9.1 | 12.2 | 10.9 | 8.4 | 7.9 | 6.1 | 5.0 | 5.6 | 13.1 | 11.8 | 12.2 | 3.6 | 13.1 | 7.5 |
| Jul 13 | 12.5 | 11.9 | 9.4 | 9.8 | 10.0 | 8.1 | 8.8 | 7.4 | 6.9 | 8.3 | 10.1 | 11.3 | 11.5 | 12.5 | 13.1 | 14.8 | 14.0 | 11.7 | 8.2 | 7.0 | 8.6 | 9.4 | 10.9 | 10.5 | 6.9 | 14.8 | 10.3 |
| Jul 14 | 12.1 | 11.7 | 10.0 | 8.4 | 7.8 | 8.4 | 8.6 | 7.0 | 7.6 | 9.2 | 10.4 | 11.0 | 11.3 | 11.8 | 12.7 | 14.3 | 12.5 | 10.2 | 7.3 | 5.5 | 5.1 | 4.3 | 6.9 | 9.2 | 4.3 | 14.3 | 9.3 |
| Jul 15 | 9.8 | 9.4 | 10.5 | 8.6 | 9.4 | 9.2 | 8.1 | 6.7 | 4.3 | 4.5 | 3.2 | 3.2 | 3.9 | 6.1 | 6.0 | 5.0 | 4.9 | 4.3 | 4.4 | 4.3 | 4.7 | 6.5 | 8.8 | 8.3 | 3.2 | 10.5 | 6.4 |
| Jul 16 | 7.3 | 8.3 | 7.9 | 8.5 | 7.4 | 7.9 | 7.4 | 7.8 | 8.5 | 9.6 | 10.6 | 9.3 | 11.5 | 11.3 | 10.8 | 11.3 | 11.1 | 10.4 | 11.0 | 10.6 | 11.0 | 9.4 | 10.1 | 10.1 | 7.3 | 11.5 | 9.6 |
| Jul 17 | 10.9 | 10.8 | 11.5 | 9.8 | 7.5 | 9.5 | 11.2 | 12.6 | 11.3 | 13.6 | 15.8 | 14.8 | 14.5 | 14.5 | 16.3 | 14.2 | 13.7 | 14.0 | 11.7 | 12.4 | 11.9 | 11.2 | 7.8 | 10.9 | 7.5 | 16.3 | 12.2 |
| Jul 18 | 10.4 | 8.8 | 7.8 | 6.8 | 6.4 | 8.3 | 8.0 | 8.9 | 9.6 | 9.9 | 10.9 | 10.0 | 8.7 | 7.9 | 8.6 | 8.4 | 7.9 | 9.4 | 5.8 | 6.5 | 8.2 | 9.0 | 7.9 | 6.8 | 5.8 | 10.9 | 8.4 |
| Jul 19 | 6.7 | 7.1 | 7.8 | 7.9 | 6.1 | 5.7 | 5.4 | 3.2 | 6.3 | 8.0 | 8.1 | 10.8 | 8.6 | 9.2 | 9.8 | 7.3 | 14.1 | 14.8 | 10.5 | 6.9 | 5.2 | 3.1 | 4.4 | 6.1 | 3.1 | 14.8 | 7.6 |
| Jul 20 | 5.9 | 6.7 | 6.2 | 4.7 | 6.1 | 4.7 | 4.2 | 4.5 | 3.6 | 1.5 | 3.7 | 4.2 | 8.8 | 6.7 | 8.0 | 8.1 | 7.5 | 6.6 | 3.9 | 3.9 | 5.0 | 4.9 | 5.3 | 5.9 | 1.5 | 8.8 | 5.4 |
| Jul 21 | 6.2 | 7.5 | 6.3 | 6.8 | 7.1 | 6.7 | 4.0 | 4.6 | 2.8 | 2.7 | 3.7 | 2.0 | 2.7 | 4.2 | 4.4 | 5.5 | 5.1 | 5.3 | 3.3 | 4.0 | 3.9 | 4.5 | 4.2 | 5.0 | 2.0 | 7.5 | 4.7 |
| Jul 22 | 6.7 | 5.6 | 4.0 | 6.2 | 6.0 | 9.4 | 4.4 | 4.8 | 1.3 | 3.4 | 3.4 | 4.7 | 6.6 | 7.8 | 7.4 | 7.5 | 7.5 | 6.9 | 7.3 | 7.3 | 8.9 | 8.3 | 7.5 | 7.8 | 1.3 | 9.4 | 6.3 |
| Jul 23 | 7.9 | 6.7 | 6.6 | 6.1 | 4.6 | 7.9 | 7.9 | 7.4 | 9.1 | 8.4 | 7.6 | 5.2 | 5.4 | 7.5 | 5.0 | 3.4 | 4.5 | 5.0 | 4.3 | 3.8 | 4.7 | 7.1 | 7.4 | 8.4 | 3.4 | 9.1 | 6.3 |
| Jul 24 | 7.8 | 7.1 | 5.3 | 2.5 | 15.5 | 4.8 | 8.8 | 10.5 | 10.8 | 11.4 | 9.1 | 9.0 | 11.7 | 13.8 | 13.0 | 11.7 | 12.5 | 13.0 | 13.1 | 13.3 | 14.0 | 16.5 | 16.0 | 14.6 | 2.5 | 16.5 | 11.1 |
| Jul 25 | 13.8 | 1.6 | 7.7 | 10.5 | 12.1 | 9.8 | 6.0 | 7.7 | 9.5 | 13.6 | 17.8 | 14.4 | 19.6 | 16.1 | 21.7 | 22.4 | 17.3 | 13.1 | 14.8 | 11.3 | 5.9 | 7.3 | 5.4 | 5.6 | 1.6 | 22.4 | 11.9 |
| Jul 26 | 5.0 | 1.9 | 3.1 | 6.1 | 4.4 | 8.0 | 9.2 | 6.2 | 12.9 | 10.0 | 10.7 | 11.6 | 13.1 | 17.3 | 12.5 | 10.3 | 10.5 | 6.7 | 5.7 | 7.8 | 6.0 | 6.8 | 6.6 | 7.0 | 1.9 | 17.3 | 8.3 |
| Jul 27 | 7.1 | 7.6 | 8.3 | 7.5 | 7.3 | 9.2 | 11.3 | 11.3 | 10.4 | 10.9 | 10.9 | 12.6 | 8.2 | 9.4 | 8.2 | 7.0 | 5.7 | 5.0 | 3.8 | 5.3 | 4.2 | 5.1 | 5.4 | 5.4 | 3.8 | 12.6 | 7.8 |
| Jul 28 | 4.8 | 3.3 | 3.0 | 4.4 | 4.3 | 3.9 | 1.3 | 1.8 | 0.1 | 3.7 | 3.4 | 3.6 | 0.7 | 7.9 | 5.3 | 2.9 | 9.4 | 8.6 | 6.8 | 2.9 | 4.3 | 4.3 | 4.2 | 2.8 | 0.1 | 9.4 | 4.1 |
| Jul 29 | 2.1 | 5.3 | 4.3 | 3.7 | 5.0 | 3.2 | 0.4 | 1.7 | 3.6 | 4.1 | 3.1 | 4.9 | 6.7 | 6.3 | 6.5 | 5.5 | 4.4 | 5.2 | 6.7 | 5.8 | 8.4 | 9.2 | 8.5 | 8.5 | 0.4 | 9.2 | 5.1 |
| Jul 30 | 9.5 | 9.1 | 9.0 | 7.5 | 8.4 | 8.6 | 10.2 | 9.7 | 11.3 | 11.3 | 13.0 | 13.5 | 14.1 | 14.4 | 16.1 | 15.5 | 14.9 | 13.1 | 9.9 | 10.1 | 10.2 | 6.1 | 9.6 | 7.0 | 6.1 | 16.1 | 10.9 |
| Jul 31 | 3.9 | 6.2 | 1.3 | 8.6 | 6.4 | 6.8 | 3.9 | 5.1 | 7.7 | 11.5 | 7.7 | 9.3 | 10.2 | 13.1 | 9.6 | 10.1 | 7.9 | 9.2 | 12.0 | 13.2 | 7.2 | 7.7 | 8.7 | 8.7 | 1.3 | 13.2 | 8.1 |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

| | | | | | |
|---|--|-----|--|---|---------------------|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance |
| K | Collection Error | ND | No Data (Machine Not in Service) | Y | Routine Maintenance |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint(Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P | Power Failure |

Lakeland Industry & Community Association
St. Lina Site - July 2023
Summary of Hour Standard Deviations

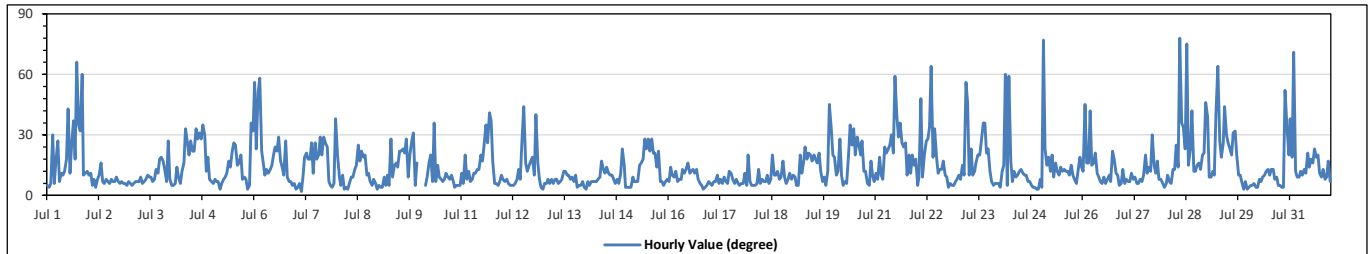
STANDARD DEVIATION WIND DIRECTION (STDWD) in Degree

| | | | |
|---|--|--------------------------|--|
| Maximum Hourly Value: 78 degree on Jul 28 at hr 8 | | Hours in Service: 744 | |
| Minimum Hourly Value: 2 degree on Jul 7 at hr 3 | | Hours of Data: 740 | |
| | | Hours of Missing Data: 4 | |
| | | Hours of Calibration: 0 | |
| | | Operational Uptime: 99.5 | |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum |
|-----------------|---------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---------------|---------------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | |
| Jul 1 | 5 | 4 | 6 | 30 | 6 | 17 | 27 | 7 | 11 | 10 | 12 | 18 | 43 | 11 | 25 | 37 | 18 | 66 | 35 | 32 | 60 | 10 | 11 | 12 | 4 | 66 |
| Jul 2 | 10 | 11 | 5 | 8 | 4 | 8 | 10 | 16 | 7 | 6 | 8 | 7 | 6 | 8 | 7 | 7 | 9 | 7 | 6 | 7 | 6 | 6 | 5 | 7 | 4 | 16 |
| Jul 3 | 6 | 5 | 6 | 7 | 7 | 7 | 9 | 6 | 7 | 8 | 10 | 9 | 9 | 7 | 8 | 13 | 11 | 18 | 19 | 17 | 13 | 7 | 27 | 8 | 5 | 27 |
| Jul 4 | 5 | 5 | 6 | 14 | 9 | 6 | 12 | 16 | 33 | 26 | 20 | 27 | 22 | 22 | 33 | 28 | 31 | 28 | 35 | 30 | 12 | 19 | 8 | 7 | 5 | 35 |
| Jul 5 | 6 | 8 | 7 | 7 | 3 | 6 | 8 | 9 | 11 | 17 | 14 | 22 | 26 | 25 | 15 | 16 | 20 | 8 | 9 | 8 | 3 | 5 | 36 | 32 | 3 | 36 |
| Jul 6 | 56 | 23 | 51 | 58 | 22 | 16 | 10 | 13 | 11 | 13 | 15 | 20 | 24 | 22 | 29 | 17 | 14 | 10 | 27 | 9 | 7 | 7 | 5 | 6 | 5 | 58 |
| Jul 7 | 3 | 4 | 6 | 2 | 9 | 19 | 21 | 18 | 18 | 26 | 11 | 26 | 18 | 20 | 29 | 20 | 29 | 26 | 24 | 7 | 5 | 4 | 6 | 38 | 2 | 38 |
| Jul 8 | 20 | 9 | 5 | 10 | 3 | 4 | 3 | 6 | 9 | 9 | 13 | 15 | 25 | 17 | 22 | 19 | 20 | 10 | 11 | 7 | 5 | 8 | 6 | 3 | 3 | 25 |
| Jul 9 | 5 | 4 | 4 | 9 | 5 | 10 | 5 | 28 | 9 | 15 | 16 | 14 | 22 | 22 | 23 | 21 | 28 | 9 | 20 | 27 | 31 | 5 | 16 | K | 4 | 31 |
| Jul 10 | K | K | K | 5 | 9 | 16 | 20 | 7 | 36 | 7 | 15 | 9 | 8 | 7 | 8 | 11 | 9 | 8 | 10 | 7 | 4 | 5 | 5 | 5 | 4 | 36 |
| Jul 11 | 11 | 6 | 20 | 8 | 12 | 7 | 8 | 11 | 11 | 13 | 13 | 20 | 17 | 25 | 35 | 26 | 41 | 37 | 17 | 6 | 5 | 7 | 10 | 5 | 4 | 41 |
| Jul 12 | 8 | 7 | 8 | 6 | 5 | 5 | 5 | 6 | 8 | 13 | 8 | 29 | 44 | 16 | 12 | 15 | 17 | 19 | 10 | 40 | 16 | 8 | 4 | 3 | 3 | 44 |
| Jul 13 | 6 | 6 | 8 | 6 | 8 | 6 | 8 | 8 | 6 | 7 | 8 | 12 | 12 | 10 | 10 | 8 | 9 | 7 | 10 | 4 | 5 | 5 | 7 | 4 | 4 | 12 |
| Jul 14 | 3 | 7 | 5 | 7 | 7 | 7 | 7 | 8 | 9 | 17 | 13 | 11 | 14 | 11 | 10 | 10 | 8 | 6 | 8 | 6 | 11 | 23 | 15 | 4 | 3 | 23 |
| Jul 15 | 4 | 4 | 4 | 9 | 7 | 7 | 7 | 15 | 16 | 18 | 28 | 23 | 28 | 22 | 28 | 21 | 21 | 14 | 22 | 7 | 7 | 5 | 7 | 8 | 4 | 28 |
| Jul 16 | 7 | 14 | 10 | 9 | 12 | 7 | 8 | 8 | 13 | 11 | 13 | 16 | 11 | 12 | 13 | 11 | 13 | 8 | 6 | 5 | 3 | 4 | 5 | 7 | 3 | 16 |
| Jul 17 | 6 | 5 | 7 | 7 | 10 | 6 | 8 | 6 | 9 | 7 | 6 | 12 | 11 | 8 | 6 | 8 | 6 | 5 | 6 | 6 | 11 | 5 | 20 | 7 | 5 | 20 |
| Jul 18 | 5 | 5 | 5 | 6 | 13 | 6 | 8 | 7 | 7 | 10 | 6 | 8 | 20 | 10 | 10 | 12 | 8 | 9 | 17 | 9 | 6 | 8 | 11 | 8 | 5 | 20 |
| Jul 19 | 10 | 9 | 5 | 5 | 20 | 11 | 17 | 24 | 18 | 21 | 20 | 17 | 20 | 18 | 16 | 21 | 12 | 7 | 9 | 5 | 12 | 45 | 33 | 20 | 5 | 45 |
| Jul 20 | 19 | 10 | 12 | 28 | 10 | 5 | 7 | 6 | 20 | 35 | 25 | 33 | 20 | 29 | 25 | 20 | 27 | 12 | 12 | 6 | 5 | 17 | 10 | 7 | 5 | 35 |
| Jul 21 | 11 | 8 | 19 | 10 | 8 | 24 | 21 | 23 | 25 | 30 | 21 | 59 | 39 | 29 | 36 | 26 | 24 | 26 | 10 | 20 | 11 | 20 | 15 | 18 | 8 | 59 |
| Jul 22 | 5 | 9 | 48 | 9 | 20 | 27 | 28 | 34 | 64 | 19 | 33 | 19 | 11 | 13 | 13 | 17 | 10 | 9 | 4 | 6 | 5 | 5 | 7 | 8 | 4 | 64 |
| Jul 23 | 10 | 8 | 15 | 10 | 56 | 46 | 10 | 23 | 10 | 12 | 16 | 20 | 20 | 27 | 36 | 36 | 21 | 23 | 12 | 7 | 5 | 6 | 6 | 6 | 5 | 56 |
| Jul 24 | 4 | 12 | 15 | 60 | 5 | 59 | 17 | 7 | 12 | 9 | 10 | 12 | 13 | 11 | 10 | 10 | 7 | 7 | 5 | 4 | 4 | 3 | 3 | 8 | 3 | 60 |
| Jul 25 | 4 | 77 | 23 | 15 | 19 | 12 | 20 | 9 | 16 | 12 | 10 | 14 | 12 | 13 | 12 | 10 | 15 | 10 | 8 | 6 | 12 | 19 | 14 | 4 | 4 | 77 |
| Jul 26 | 12 | 45 | 16 | 16 | 42 | 15 | 16 | 21 | 11 | 9 | 7 | 6 | 9 | 6 | 8 | 10 | 7 | 22 | 18 | 11 | 10 | 5 | 6 | 13 | 5 | 45 |
| Jul 27 | 6 | 8 | 7 | 7 | 11 | 8 | 9 | 6 | 6 | 8 | 7 | 10 | 20 | 11 | 14 | 12 | 30 | 15 | 11 | 17 | 8 | 8 | 6 | 4 | 4 | 30 |
| Jul 28 | 6 | 10 | 7 | 6 | 13 | 13 | 25 | 14 | 78 | 36 | 34 | 23 | 75 | 15 | 23 | 42 | 12 | 12 | 15 | 16 | 13 | 20 | 21 | 46 | 6 | 78 |
| Jul 29 | 39 | 9 | 9 | 12 | 10 | 40 | 64 | 27 | 19 | 26 | 44 | 30 | 26 | 23 | 20 | 31 | 32 | 20 | 10 | 10 | 6 | 3 | 7 | 3 | 3 | 64 |
| Jul 30 | 4 | 5 | 5 | 6 | 4 | 4 | 8 | 7 | 9 | 10 | 12 | 13 | 10 | 13 | 13 | 8 | 9 | 5 | 5 | 4 | 4 | 52 | 34 | 20 | 4 | 52 |
| Jul 31 | 38 | 19 | 71 | 12 | 9 | 9 | 12 | 10 | 13 | 11 | 21 | 14 | 18 | 16 | 23 | 19 | 20 | 11 | 9 | 13 | 8 | 9 | 17 | 7 | 7 | 71 |
| Diurnal Minimum | 3 | 4 | 4 | 2 | 3 | 4 | 3 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 6 | 5 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Diurnal Maximum | 56 | 77 | 71 | 60 | 56 | 59 | 64 | 34 | 78 | 36 | 44 | 59 | 75 | 29 | 36 | 42 | 41 | 66 | 35 | 40 | 60 | 52 | 36 | 46 | 46 | 46 |

| | | | |
|--|--|------------------------------|------------------------|
| C Monthly Calibration | S Daily Zero-Span Check | Q Quality Assurance | |
| K Collection Error | ND No Data (Machine Not in Service) | Y Routine Maintenance | P Power Failure |
| X InValid Data (Machine Malfunction/Recovery) | NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



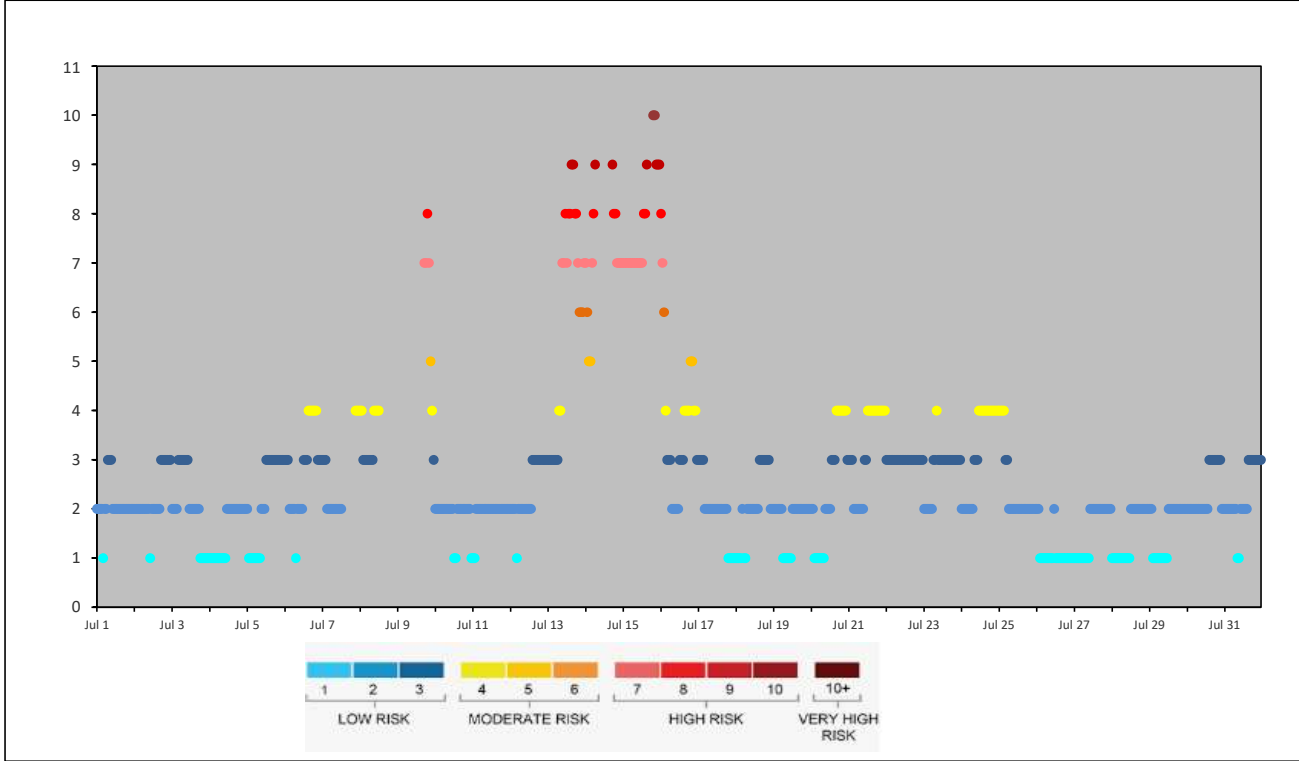
LAC LA BICHE STATION

LAKELAND INDUSTRY & COMMUNITY ASSOCIATION

Lac La Biche Station - July 2023

AIR QUALITY HEALTH INDEX

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | |
|--------|---------------------------------|---|---|---|---|---|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| Jul 1 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Jul 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 |
| Jul 3 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 |
| Jul 4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Jul 5 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Jul 6 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 1 |
| Jul 7 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | | | | | | | | 4 | 4 | 4 |
| Jul 8 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | | | | | | | | | | | |
| Jul 9 | | | | | | | | | | | | | | | | | | 7 | 7 | 8 | 7 | 5 | 4 | 3 |
| Jul 10 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 |
| Jul 11 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Jul 12 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Jul 13 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 7 | 7 | 8 | 7 | 8 | 8 | 9 | 9 | 8 | 8 | 7 | 6 | 6 | 6 | 7 |
| Jul 14 | 7 | 6 | 5 | 5 | 7 | 8 | 9 | 10+ | 10+ | 10+ | 10+ | 10+ | 10+ | 10+ | 10+ | 10+ | 10+ | 9 | 8 | 8 | 7 | 7 | 7 | 7 |
| Jul 15 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 9 | 10+ | 10+ | 10+ | 10 | 10 | 9 | 9 | 9 |
| Jul 16 | 8 | 7 | 6 | 4 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 5 | 5 | 4 | 3 |
| Jul 17 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 |
| Jul 18 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 |
| Jul 19 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Jul 20 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 |
| Jul 21 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Jul 22 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Jul 23 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Jul 24 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Jul 25 | 4 | 4 | 4 | 4 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Jul 26 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Jul 27 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Jul 28 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Jul 29 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Jul 30 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 |
| Jul 31 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |



Lakeland Industry & Community Association

Lac La Biche Station - July 2023

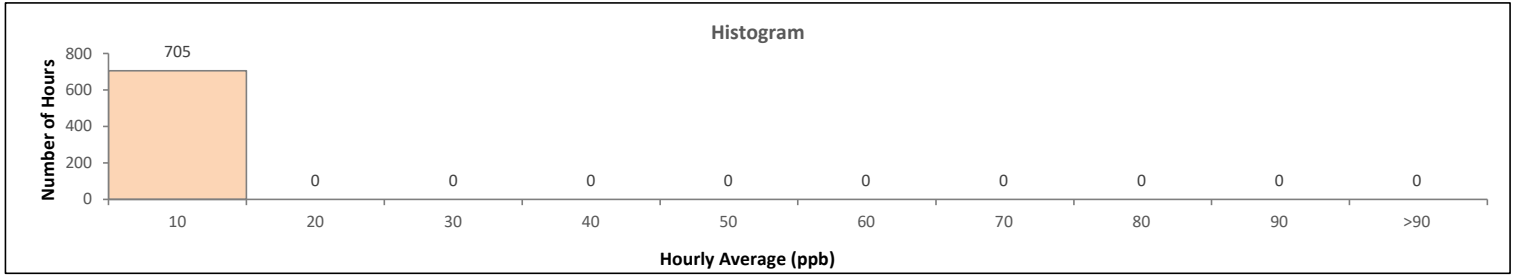
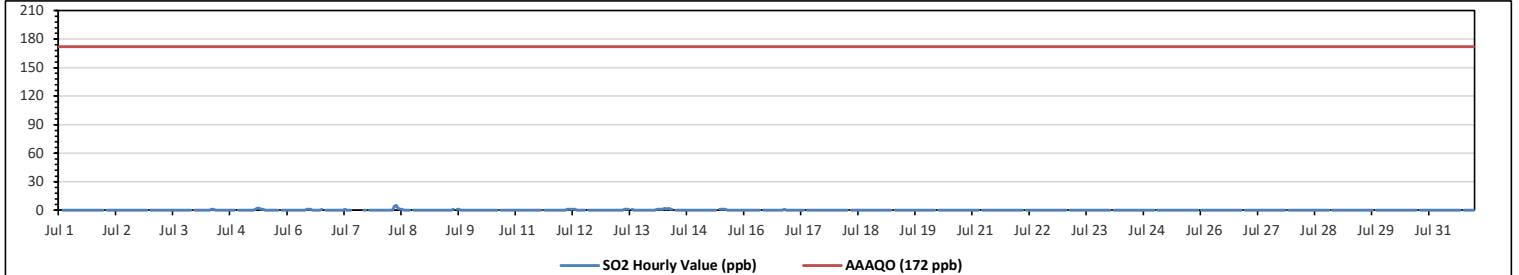
Summary of Hourly Averages

SULPHUR DIOXIDE (SO₂) in ppb

| Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 172 ppb, 24-Hour 48 ppb, 30-Day 11 ppb | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---------------------------------|-----|-----|-----|------------------------|-----|-----|-----|-----|--------------------------------|-----|-----|-----|-----|-------|-----|-----|-----|-----|--------------------|-----|-----|-----|---------------|---------------|---------------|-----|-----|-----|-----|
| Number of 1-Hour Exceedances: | | | | | 0 | | | | | Number of 24-Hour Exceedances: | | | | | 0 | | | | | 30-Day Exceedence: | | | | | 0 | | | | | |
| Maximum Hourly Value: | | | | | 5 ppb on Jul 8 at hr 9 | | | | | Hours in Service: | | | | | 744 | | | | | | | | | | | | | | | |
| Maximum Daily Value: | | | | | 0.6 ppb on Jul 8 | | | | | Hours of Data: | | | | | 705 | | | | | | | | | | | | | | | |
| Minimum Hourly Value: | | | | | 0 ppb on Jul 1 at hr 0 | | | | | Hours of Missing Data: | | | | | 0 | | | | | | | | | | | | | | | |
| Minimum Daily Value: | | | | | 0.0 ppb on Jul 1 | | | | | Hours of Calibration: | | | | | 39 | | | | | | | | | | | | | | | |
| Monthly Average: | | | | | 0.1 ppb | | | | | Operational Uptime: | | | | | 100.0 | | | | | | | | | | | | | | | |
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | | | | |
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | | | | |
| Jul 1 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0 | 0.0 |
| Jul 2 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Jul 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Jul 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0.1 |
| Jul 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0.3 |
| Jul 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | S | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0.2 |
| Jul 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | C | C | C | C | C | C | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | NA | |
| Jul 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 5 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0.6 | |
| Jul 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | S | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.1 | |
| Jul 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | |
| Jul 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Jul 12 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0.2 |
| Jul 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | S | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0.2 |
| Jul 14 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 1 | 1 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0.5 |
| Jul 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | S | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0.2 |
| Jul 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0.0 | |
| Jul 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Jul 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Jul 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Jul 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Jul 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Jul 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Jul 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Jul 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Jul 25 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Jul 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Jul 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Jul 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Jul 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Jul 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Jul 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Diurnal Maximum | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 1 | 4 | 5 | 2 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Diurnal Average | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.3 | 0.3 | 0.2 | 0.2 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

C Monthly Calibration **S** Daily Zero-Span Check **Q** Quality Assurance
K Collection Error **ND** No Data (Machine Not in Service) **Y** Routine Maintenance
X InValid Data (Equipment Malfunction /Recovery) **NRM** UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) **P** Power Failure

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

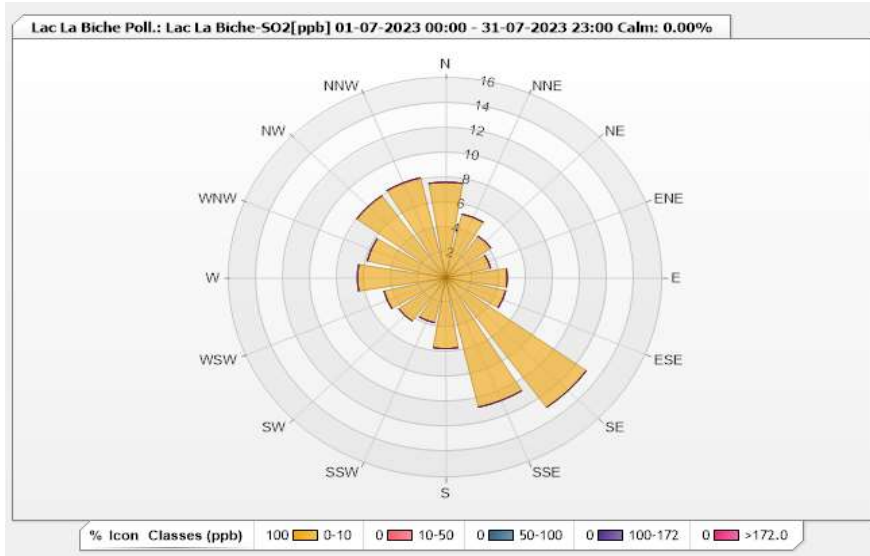


Station: Lac La Biche Poll.: Lac La Biche-SO2[ppb] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.76% Calm Avg: 0.00 [ppm]

| Direction | 0-10 | 10-50 | 50-100 | 100-172 | >172.0 | Total |
|-----------|-------|-------|--------|---------|--------|-------|
| N | 7.66 | 0 | 0 | 0 | 0 | 7.66 |
| NNE | 5.25 | 0 | 0 | 0 | 0 | 5.25 |
| NE | 4.11 | 0 | 0 | 0 | 0 | 4.11 |
| ENE | 3.4 | 0 | 0 | 0 | 0 | 3.4 |
| E | 4.54 | 0 | 0 | 0 | 0 | 4.54 |
| ESE | 4.54 | 0 | 0 | 0 | 0 | 4.54 |
| SE | 12.77 | 0 | 0 | 0 | 0 | 12.77 |
| SSE | 10.64 | 0 | 0 | 0 | 0 | 10.64 |
| S | 5.67 | 0 | 0 | 0 | 0 | 5.67 |
| SSW | 3.69 | 0 | 0 | 0 | 0 | 3.69 |
| SW | 4.26 | 0 | 0 | 0 | 0 | 4.26 |
| WSW | 4.68 | 0 | 0 | 0 | 0 | 4.68 |
| W | 6.52 | 0 | 0 | 0 | 0 | 6.52 |
| WNW | 5.96 | 0 | 0 | 0 | 0 | 5.96 |
| NW | 8.09 | 0 | 0 | 0 | 0 | 8.09 |
| NNW | 8.23 | 0 | 0 | 0 | 0 | 8.23 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |



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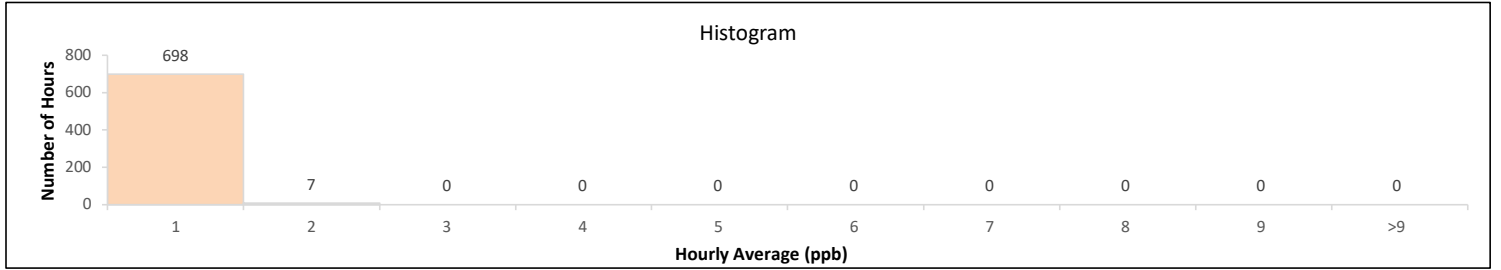
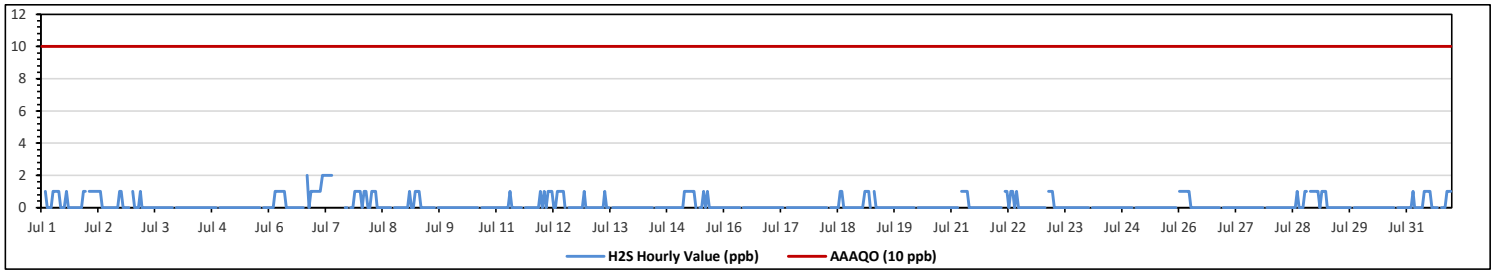
Lac La Biche Station - July 2023

Summary of Hourly Averages

HYDROGEN SULPHIDE (H₂S) in ppb

| Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 10 ppb, 24-Hour 3 ppb | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|-----|-----|-----|-----|-----|-----|-----|-----|-------------------------|-----|---|-----|-----|-----|-----|-----|-----|-----|------------------------|-----|-----|---------------------|-------|--------------------------------|---------|---------|--|--|---|--|--|--|--|
| Number of 1-Hour Exceedances: | | | | | | | | | | 0 | | | | | | | | | | | | | | | Number of 24-Hour Exceedances: | | | | | 0 | | | | |
| Maximum Hourly Value: | | | | | | | | | | 2 ppb on Jul 6 at hr 20 | | | | | | | | | | Hours in Service: | | | | | 744 | | | | | | | | | |
| Maximum Daily Value: | | | | | | | | | | 0.0 ppb on Jul 1 | | | | | | | | | | Hours of Data: | | | | | 705 | | | | | | | | | |
| Minimum Hourly Value: | | | | | | | | | | 0 ppb on Jul 1 at hr 0 | | | | | | | | | | Hours of Missing Data: | | | | | 0 | | | | | | | | | |
| Minimum Daily Value: | | | | | | | | | | 0.0 ppb on Jul 1 | | | | | | | | | | Hours of Calibration: | | | | | 39 | | | | | | | | | |
| Monthly Average: | | | | | | | | | | 0.2 ppb | | | | | | | | | | Operational Uptime: | | | | | 100.0 | | | | | | | | | |
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily | | | | | | | | |
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average | | | | | | | |
| Jul 1 | 0 | S | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0.0 | | | | | | | |
| Jul 2 | S | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | S | 0 | 1 | 0.0 | | | | | | | |
| Jul 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 1 | 0.0 | | | | | | | |
| Jul 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | | | | | | | |
| Jul 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0.0 | | | | | | | |
| Jul 6 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 2 | 0 | 1 | 1 | 0 | 2 | 0.0 | | | | | | | |
| Jul 7 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | C | C | C | C | C | C | 0 | 0 | S | 0 | 0 | 1 | 1 | 1 | 0 | 2 | - | | | | | | | |
| Jul 8 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.0 | | | | | | | |
| Jul 9 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.0 | | | | | | | |
| Jul 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | | | | | | | |
| Jul 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0.0 | | | | | | | |
| Jul 12 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0.0 | | | | | | | |
| Jul 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.0 | | | | | | | |
| Jul 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | | | | | | | |
| Jul 15 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | S | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | | | | | | | |
| Jul 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | | | | | | | |
| Jul 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | | | | | | | |
| Jul 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.0 | | | | | | | |
| Jul 19 | 0 | 0 | 1 | 1 | 1 | 0 | S | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.0 | | | | | | | |
| Jul 20 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | | | | | | | |
| Jul 21 | 0 | 0 | 0 | 0 | 0 | S | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.0 | | | | | | | |
| Jul 22 | 0 | 0 | 0 | 0 | S | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.0 | | | | | | | |
| Jul 23 | 0 | 0 | S | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.0 | | | | | | | |
| Jul 24 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | | | | | | | |
| Jul 25 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0.0 | | | | | | | |
| Jul 26 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.0 | | | | | | | |
| Jul 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | | | | | | | |
| Jul 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.0 | | | | | | | |
| Jul 29 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.0 | | | | | | | |
| Jul 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | | | | | | | |
| Jul 31 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 1 | 1 | 0 | 1 | 0.0 | | | | | | | |
| Dial Maximum | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | | | | | | | | | | |
| Dial Average | 0.2 | 0.2 | 0.2 | 0.4 | 0.4 | 0.4 | 0.3 | 0.4 | 0.3 | 0.2 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.2 | 0.2 | | | | | | | | | | |
| C | Monthly Calibration | | | | | | | | | | S | Daily Zero-Span Check | | | | | | | | | | Q | Quality Assurance | | | | | | | | | | | |
| K | Collection Error | | | | | | | | | | ND | No Data (Machine Not in Service) | | | | | | | | | | Y | Routine Maintenance | | | | | | | | | | | |
| X | Invalid Data (Equipment Malfunction /Recovery) | | | | | | | | | | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | | | | | | | | P | Power Failure | | | | | | | | | | | |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

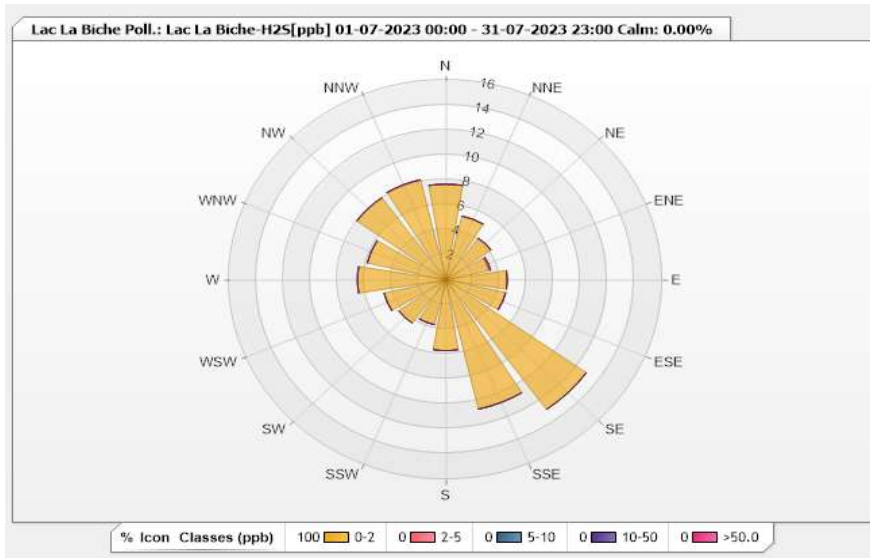


Station: Lac La Biche Poll.: Lac La Biche-H2S[ppb] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.76% Calm Avg: 0.00 [ppm]

| Direction | 0-2 | 2-5 | 5-10 | 10-50 | >50.0 | Total |
|-----------|-------|------|------|-------|-------|-------|
| N | 7.66 | 0 | 0 | 0 | 0 | 7.66 |
| NNE | 5.25 | 0 | 0 | 0 | 0 | 5.25 |
| NE | 4.11 | 0 | 0 | 0 | 0 | 4.11 |
| ENE | 3.26 | 0.14 | 0 | 0 | 0 | 3.4 |
| E | 4.54 | 0 | 0 | 0 | 0 | 4.54 |
| ESE | 4.54 | 0 | 0 | 0 | 0 | 4.54 |
| SE | 12.77 | 0 | 0 | 0 | 0 | 12.77 |
| SSE | 10.64 | 0 | 0 | 0 | 0 | 10.64 |
| S | 5.67 | 0 | 0 | 0 | 0 | 5.67 |
| SSW | 3.69 | 0 | 0 | 0 | 0 | 3.69 |
| SW | 4.26 | 0 | 0 | 0 | 0 | 4.26 |
| WSW | 4.68 | 0 | 0 | 0 | 0 | 4.68 |
| W | 6.52 | 0 | 0 | 0 | 0 | 6.52 |
| WNW | 5.96 | 0 | 0 | 0 | 0 | 5.96 |
| NW | 8.09 | 0 | 0 | 0 | 0 | 8.09 |
| NNW | 8.23 | 0 | 0 | 0 | 0 | 8.23 |
| Summary | 100 | 0.14 | 0 | 0 | 0 | 100 |



Lakeland Industry & Community Association

Lac La Biche Station - July 2023

Summary of Hourly Averages

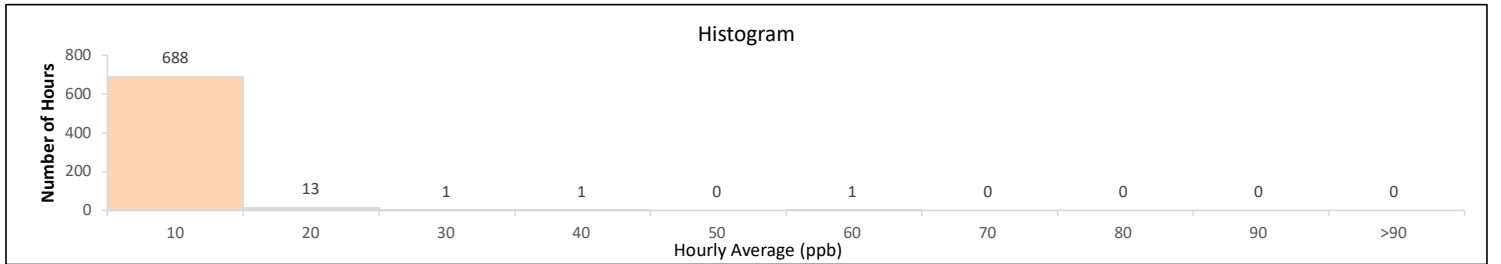
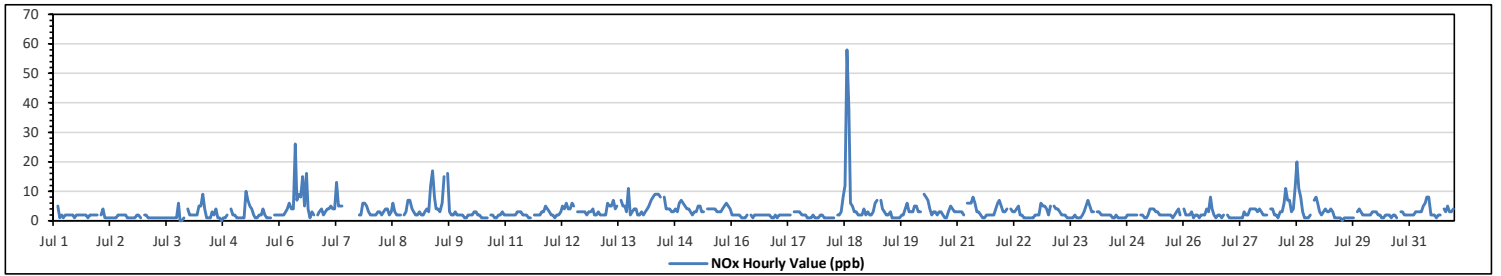
OXIDES OF NITROGEN (NOx) in ppb

| | | | | | |
|-----------------------|-----|-----|--------------------|------------------------|-------|
| Maximum Hourly Value: | 58 | ppb | on Jul 18 at hr 13 | Hours in Service: | 744 |
| Maximum Daily Value: | 7.0 | ppb | on Jul 18 | Hours of Data: | 704 |
| Minimum Hourly Value: | 0 | ppb | on Jul 3 at hr 19 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 1.3 | ppb | on Jul 3 | Hours of Calibration: | 40 |
| Monthly Average: | 3.2 | ppb | | Operational Uptime: | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average |
|-----------------|---------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------------|---------------|---------------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | |
| Jul 1 | 3 | S | 5 | 1 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 5 | 2.0 |
| Jul 2 | S | 2 | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | S | 4 | 1.5 | |
| Jul 3 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 6 | 0 | 0 | 1 | S | 4 | 0 | 1.3 | |
| Jul 4 | 2 | 2 | 2 | 2 | 2 | 5 | 5 | 9 | 4 | 1 | 1 | 3 | 2 | 4 | 1 | 1 | 0 | 1 | 1 | 2 | 2 | S | 4 | 2 | 0 | 2.5 | |
| Jul 5 | 2 | 1 | 1 | 1 | 1 | 1 | 10 | 7 | 5 | 4 | 2 | 1 | 1 | 2 | 2 | 4 | 2 | 1 | 1 | 1 | S | 2 | 2 | 2 | 1 | 2.4 | |
| Jul 6 | 2 | 2 | 2 | 3 | 4 | 6 | 4 | 4 | 26 | 7 | 9 | 8 | 15 | 5 | 16 | 4 | 1 | 3 | 2 | S | 2 | 3 | 4 | 2 | 1 | 5.8 | |
| Jul 7 | 3 | 4 | 4 | 5 | 4 | 4 | 13 | 5 | 5 | 5 | C | C | C | C | C | C | C | C | C | C | 2 | 6 | 6 | 5 | 3 | NA | |
| Jul 8 | 2 | 2 | 2 | 2 | 3 | 3 | 2 | 3 | 4 | 3 | 4 | 2 | 3 | 6 | 3 | 2 | 2 | S | 2 | 3 | 7 | 7 | 4 | 3 | 2 | 3.2 | |
| Jul 9 | 2 | 2 | 3 | 2 | 2 | 3 | 4 | 3 | 12 | 17 | 8 | 4 | 4 | 3 | 6 | 15 | S | 16 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 5.2 | |
| Jul 10 | 2 | 2 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | S | 2 | 2 | 2 | 1 | 1 | 2 | 3 | 2 | 1 | 1.8 | |
| Jul 11 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | S | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 5 | 4 | 3 | 2.4 | |
| Jul 12 | 2 | 2 | 1 | 2 | 2 | 3 | 5 | 4 | 6 | 4 | 4 | 6 | 5 | S | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 4 | 2 | 1 | 3.3 | |
| Jul 13 | 2 | 3 | 2 | 2 | 2 | 2 | 6 | 5 | 5 | 7 | 4 | 5 | S | 7 | 5 | 5 | 3 | 11 | 2 | 3 | 4 | 4 | 2 | 2 | 2 | 4.0 | |
| Jul 14 | 3 | 2 | 3 | 4 | 5 | 7 | 8 | 9 | 9 | 9 | 8 | S | 8 | 4 | 4 | 4 | 3 | 3 | 4 | 3 | 6 | 7 | 6 | 5 | 2 | 5.4 | |
| Jul 15 | 4 | 4 | 3 | 2 | 3 | 3 | 5 | 5 | 3 | 3 | S | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 4 | 5 | 6 | 5 | 4 | 2 | 3.8 | |
| Jul 16 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 2 | S | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 1 | 1.7 | |
| Jul 17 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | S | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 1 | 1.9 | |
| Jul 18 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | S | 2 | 2 | 3 | 8 | 12 | 58 | 38 | 6 | 5 | 3 | 3 | 2 | 2 | 2 | 4 | 2 | 1 | 7.0 | |
| Jul 19 | 3 | 2 | 2 | 3 | 6 | 7 | S | 7 | 4 | 3 | 2 | 2 | 3 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 4 | 6 | 3 | 3 | 1 | 3.0 | |
| Jul 20 | 3 | 5 | 5 | 3 | 3 | S | 9 | 8 | 7 | 4 | 2 | 3 | 3 | 2 | 3 | 2 | 1 | 1 | 3 | 5 | 4 | 3 | 3 | 1 | 9 | 3.7 | |
| Jul 21 | 3 | 3 | 3 | 2 | S | 6 | 6 | 6 | 8 | 6 | 3 | 3 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 4 | 6 | 7 | 5 | 1 | 3.7 | |
| Jul 22 | 3 | 3 | 4 | S | 4 | 3 | 3 | 4 | 5 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 6 | 5 | 5 | 4 | 1 | 2.8 | |
| Jul 23 | 2 | 5 | S | 5 | 4 | 4 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 3 | 5 | 7 | 5 | 3 | 1 | 2.7 | |
| Jul 24 | 3 | S | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1.8 | |
| Jul 25 | S | 2 | 2 | 1 | 1 | 2 | 4 | 4 | 4 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 3 | 4 | 2 | S | 1 | 2.4 | |
| Jul 26 | 4 | 2 | 2 | 2 | 3 | 1 | 2 | 2 | 1 | 2 | 2 | 2 | 4 | 3 | 8 | 4 | 2 | 1 | 2 | 2 | 1 | 2 | S | 2 | 1 | 2.4 | |
| Jul 27 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 2 | 2 | 4 | 4 | 4 | 3 | 4 | 3 | 2 | 2 | 2 | 2 | S | 4 | 4 | 1 | 2.4 | |
| Jul 28 | 2 | 2 | 1 | 3 | 3 | 6 | 11 | 7 | 7 | 3 | 4 | 12 | 20 | 11 | 8 | 3 | 1 | 1 | 1 | 2 | 2 | S | 7 | 8 | 6 | 5.6 | |
| Jul 29 | 3 | 2 | 3 | 4 | 3 | 3 | 4 | 3 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | S | 3 | 4 | 3 | 2 | 2.0 | |
| Jul 30 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 2 | 2 | 1 | 1 | 2 | 2 | 2 | 1 | 2 | 2 | 1 | S | 3 | 3 | 2 | 2 | 2 | 1 | 2.0 | |
| Jul 31 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 5 | 6 | 8 | 8 | 2 | 2 | 2 | 1 | 2 | 2 | S | 4 | 3 | 5 | 3 | 3 | 4 | 1 | 3.4 | |
| Diurnal Maximum | 4 | 5 | 5 | 5 | 6 | 7 | 13 | 9 | 26 | 17 | 9 | 12 | 20 | 58 | 38 | 15 | 5 | 16 | 6 | 4 | 7 | 7 | 8 | 6 | | | |
| Diurnal Average | 2.4 | 2.3 | 2.4 | 2.3 | 2.6 | 3.0 | 4.2 | 4.0 | 4.8 | 3.8 | 3.0 | 3.0 | 4.0 | 4.5 | 4.4 | 2.9 | 1.9 | 2.5 | 2.1 | 2.1 | 3.2 | 3.8 | 3.5 | 2.9 | | | |

| | | | | | |
|---|--|-----|---|---|---------------------|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance |
| K | Collection Error | ND | No Data (Machine Not in Service) | Y | Routine Maintenance |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P | Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

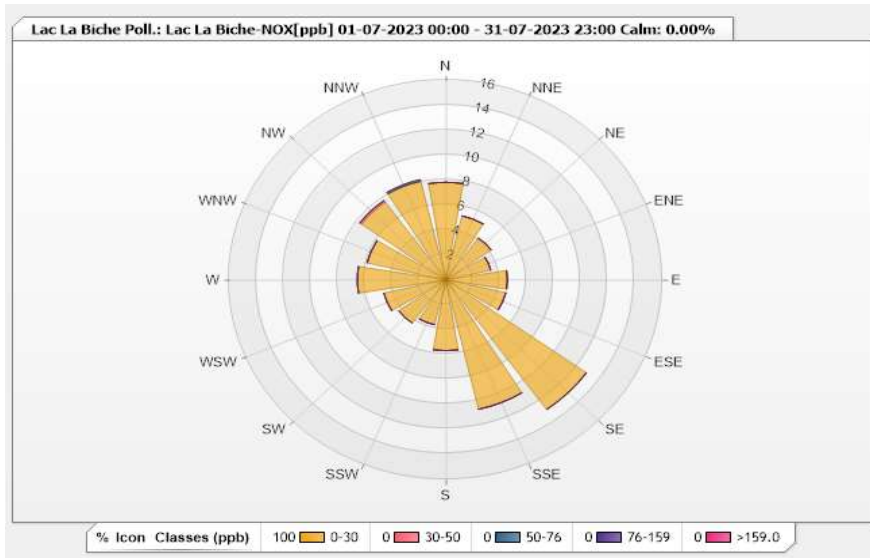


Station: Lac La Biche Poll.: Lac La Biche-NOX[ppb] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.62% Calm Avg: 0.00 [ppm]

| Direction | 0-30 | 30-50 | 50-76 | 76-159 | >159.0 | Total |
|-----------|-------|-------|-------|--------|--------|-------|
| N | 7.81 | 0 | 0 | 0 | 0 | 7.81 |
| NNE | 5.26 | 0 | 0 | 0 | 0 | 5.26 |
| NE | 4.12 | 0 | 0 | 0 | 0 | 4.12 |
| ENE | 3.41 | 0 | 0 | 0 | 0 | 3.41 |
| E | 4.55 | 0 | 0 | 0 | 0 | 4.55 |
| ESE | 4.55 | 0 | 0 | 0 | 0 | 4.55 |
| SE | 12.78 | 0 | 0 | 0 | 0 | 12.78 |
| SSE | 10.65 | 0 | 0 | 0 | 0 | 10.65 |
| S | 5.68 | 0 | 0 | 0 | 0 | 5.68 |
| SSW | 3.69 | 0 | 0 | 0 | 0 | 3.69 |
| SW | 4.26 | 0 | 0 | 0 | 0 | 4.26 |
| WSW | 4.69 | 0 | 0 | 0 | 0 | 4.69 |
| W | 6.53 | 0 | 0 | 0 | 0 | 6.53 |
| WNW | 5.97 | 0 | 0 | 0 | 0 | 5.97 |
| NW | 7.67 | 0.14 | 0 | 0 | 0 | 7.81 |
| NNW | 8.1 | 0 | 0.14 | 0 | 0 | 8.24 |
| Summary | 100 | 0.14 | 0.14 | 0 | 0 | 100 |



Lakeland Industry & Community Association

Lac La Biche Station - July 2023 Summary of Hourly Averages

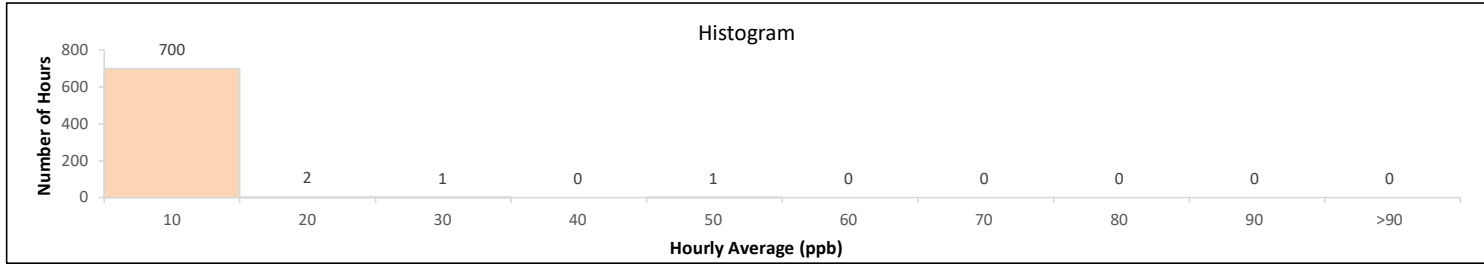
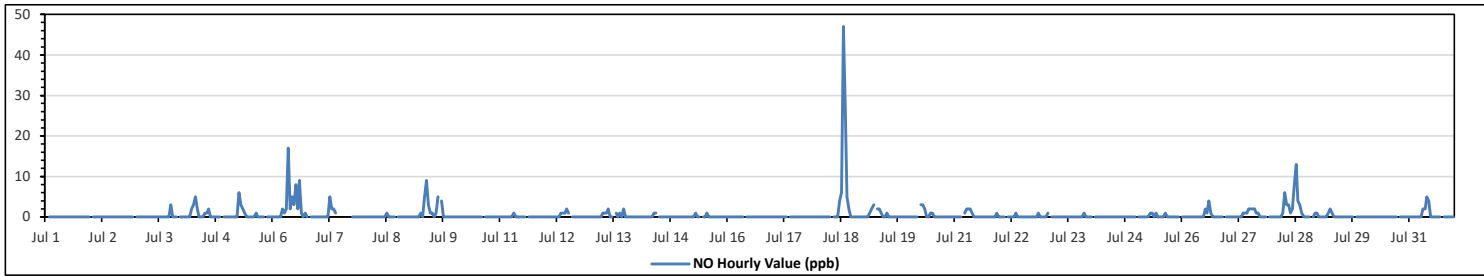
NITRIC OXIDE (NO) in ppb

| | | | | | |
|-----------------------|--|---------|--------------------|------------------------|-------|
| Maximum Hourly Value: | | 47 ppb | on Jul 18 at hr 13 | Hours in Service: | 744 |
| Maximum Daily Value: | | 3.9 ppb | on Jul 18 | Hours of Data: | 704 |
| Minimum Hourly Value: | | 0 ppb | on Jul 1 at hr 0 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | | 0.0 ppb | on Jul 1 | Hours of Calibration: | 40 |
| Monthly Average: | | 0.5 ppb | | Operational Uptime: | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average |
|-----------------|---------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------------|---------------|---------------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | |
| Jul 1 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jul 2 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 |
| Jul 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | S | 0 | 0 |
| Jul 4 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 5 | 2 | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 |
| Jul 5 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 3 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | |
| Jul 6 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 2 | 17 | 2 | 5 | 3 | 8 | 2 | 9 | 1 | 0 | 1 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | |
| Jul 7 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 2 | 2 | 1 | C | C | C | C | C | C | C | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Jul 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | |
| Jul 9 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 5 | 9 | 3 | 1 | 1 | 0 | 1 | 5 | S | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Jul 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Jul 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Jul 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 1 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Jul 13 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 0 | 0 | S | 1 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Jul 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Jul 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | S | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Jul 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Jul 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Jul 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 6 | 47 | 26 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Jul 19 | 0 | 0 | 0 | 1 | 2 | 3 | S | 2 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Jul 20 | 0 | 0 | 0 | 0 | 0 | 0 | S | 3 | 3 | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Jul 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | |
| Jul 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Jul 23 | 0 | 1 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | |
| Jul 24 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Jul 25 | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | |
| Jul 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | |
| Jul 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Jul 28 | 0 | 0 | 0 | 0 | 0 | 1 | 6 | 3 | 3 | 1 | 2 | 8 | 13 | 4 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 1 | 1 | |
| Jul 29 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | |
| Jul 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | |
| Jul 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 5 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | S | 0 | 0 | 0 | 0 | 0 | 0 | |
| Diurnal Maximum | 0 | 1 | 0 | 1 | 2 | 3 | 6 | 5 | 17 | 9 | 5 | 8 | 13 | 47 | 26 | 5 | 2 | 4 | 3 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | |
| Diurnal Average | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.3 | 1.0 | 1.0 | 1.5 | 0.9 | 0.6 | 0.7 | 1.3 | 2.0 | 1.6 | 0.6 | 0.1 | 0.3 | 0.1 | 0.3 | 0.0 | 0.1 | 0.0 | 0.1 | 0.0 | 0.0 | |

| | | |
|---|--|------------------------------|
| C Monthly Calibration | S Daily Zero-Span Check | Q Quality Assurance |
| K Collection Error | ND No Data (Machine Not in Service) | Y Routine Maintenance |
| X InValid Data (Equipment Malfunction /Recovery) | NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

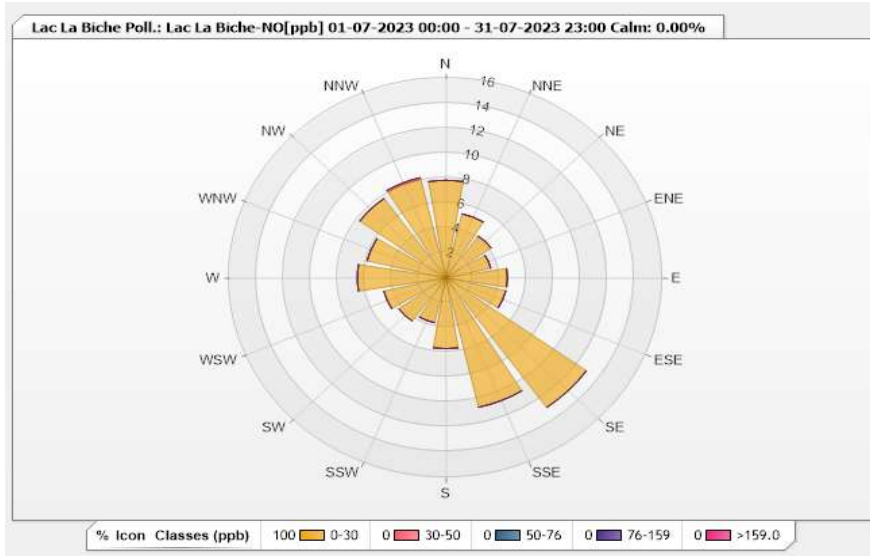


Station: Lac La Biche Poll.: Lac La Biche-NO[ppb] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.62% Calm Avg: 0.00 [ppm]

| Direction | 0-30 | 30-50 | 50-76 | 76-159 | >159.0 | Total |
|-----------|-------|-------|-------|--------|--------|-------|
| N | 7.81 | 0 | 0 | 0 | 0 | 7.81 |
| NNE | 5.26 | 0 | 0 | 0 | 0 | 5.26 |
| NE | 4.12 | 0 | 0 | 0 | 0 | 4.12 |
| ENE | 3.41 | 0 | 0 | 0 | 0 | 3.41 |
| E | 4.55 | 0 | 0 | 0 | 0 | 4.55 |
| ESE | 4.55 | 0 | 0 | 0 | 0 | 4.55 |
| SE | 12.78 | 0 | 0 | 0 | 0 | 12.78 |
| SSE | 10.65 | 0 | 0 | 0 | 0 | 10.65 |
| S | 5.68 | 0 | 0 | 0 | 0 | 5.68 |
| SSW | 3.69 | 0 | 0 | 0 | 0 | 3.69 |
| SW | 4.26 | 0 | 0 | 0 | 0 | 4.26 |
| WSW | 4.69 | 0 | 0 | 0 | 0 | 4.69 |
| W | 6.53 | 0 | 0 | 0 | 0 | 6.53 |
| WNW | 5.97 | 0 | 0 | 0 | 0 | 5.97 |
| NW | 7.81 | 0 | 0 | 0 | 0 | 7.81 |
| NNW | 8.1 | 0.14 | 0 | 0 | 0 | 8.24 |
| Summary | 100 | 0.14 | 0 | 0 | 0 | 100 |



Lakeland Industry & Community Association

Lac La Biche Station - July 2023

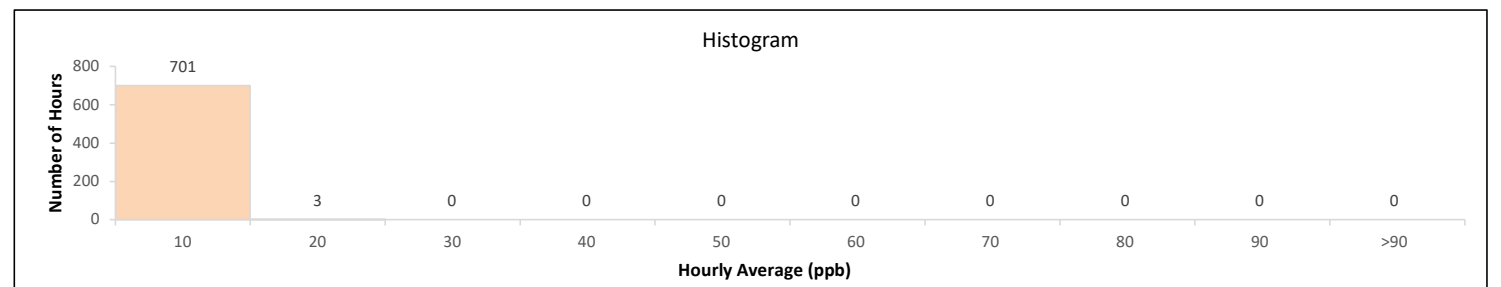
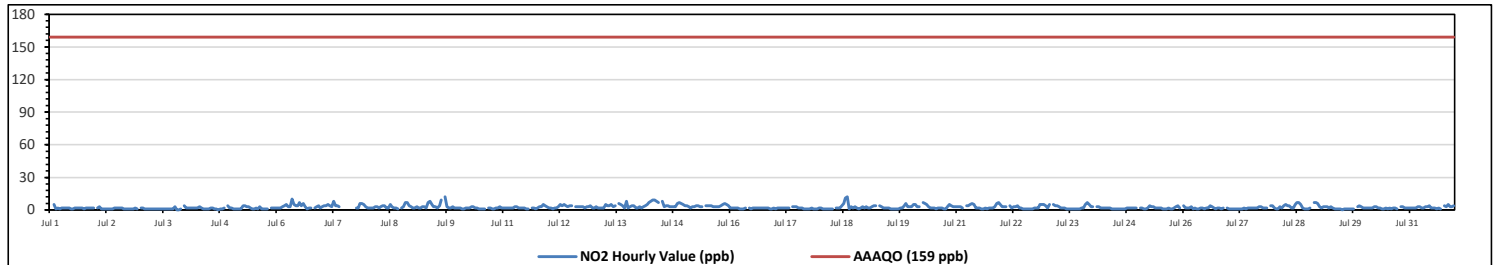
Summary of Hourly Averages

NITROGEN DIOXIDE (NO₂) in ppb

| Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 159 ppb | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|---------|---------|---------|-----|
| Number of 1-Hour Exceedances: 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum Hourly Value: 12 ppb on Jul 9 at hr 17 | | | | | | | | | | | | Hours in Service: 744 | | | | | | | | | | | | | | | | |
| Maximum Daily Value: 5.2 ppb on Jul 14 | | | | | | | | | | | | Hours of Data: 704 | | | | | | | | | | | | | | | | |
| Minimum Hourly Value: 0 ppb on Jul 3 at hr 19 | | | | | | | | | | | | Hours of Missing Data: 0 | | | | | | | | | | | | | | | | |
| Minimum Daily Value: 1.2 ppb on Jul 3 | | | | | | | | | | | | Hours of Calibration: 40 | | | | | | | | | | | | | | | | |
| Monthly Average: 2.6 ppb | | | | | | | | | | | | Operational Uptime: 100.0 | | | | | | | | | | | | | | | | |
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily | Daily | Daily | | |
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Minimum | Maximum | Average | |
| Jul 1 | 3 | S | 5 | 1 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 5 | 2.0 | |
| Jul 2 | S | 2 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | S | 1 | 3 | 1.4 | |
| Jul 3 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 0 | 0 | 1 | S | 4 | 0 | 4 | 1.2 | |
| Jul 4 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 0 | 1 | 1 | 2 | S | 4 | 2 | 0 | 4 | 1.7 | |
| Jul 5 | 2 | 1 | 1 | 1 | 1 | 1 | 4 | 4 | 3 | 3 | 2 | 1 | 1 | 2 | 1 | 3 | 1 | 1 | 1 | 1 | S | 2 | 2 | 2 | 1 | 4 | 1.8 | |
| Jul 6 | 2 | 2 | 2 | 3 | 4 | 5 | 3 | 3 | 10 | 5 | 4 | 4 | 7 | 4 | 6 | 3 | 1 | 2 | 2 | S | 2 | 3 | 4 | 2 | 1 | 10 | 3.6 | |
| Jul 7 | 3 | 4 | 4 | 5 | 4 | 3 | 8 | 4 | 4 | 3 | C | C | C | C | C | C | C | C | 2 | 2 | 6 | 6 | 5 | 3 | 2 | 8 | NA | |
| Jul 8 | 2 | 2 | 2 | 2 | 3 | 3 | 2 | 3 | 4 | 4 | 2 | 2 | 5 | 3 | 2 | 2 | 1 | S | 2 | 3 | 7 | 7 | 4 | 3 | 1 | 7 | 3.0 | |
| Jul 9 | 2 | 2 | 3 | 2 | 2 | 3 | 3 | 2 | 7 | 8 | 5 | 3 | 3 | 2 | 4 | 9 | S | 12 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 12 | 3.7 | |
| Jul 10 | 2 | 2 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | S | 2 | 2 | 1 | 1 | 2 | 2 | 3 | 2 | 1 | 3 | 1.8 | |
| Jul 11 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 2 | 2 | 2 | 1 | 1 | S | 2 | 2 | 1 | 2 | 3 | 3 | 5 | 4 | 3 | 1 | 5 | 2.3 | |
| Jul 12 | 2 | 2 | 1 | 2 | 2 | 3 | 5 | 4 | 5 | 4 | 3 | 4 | 4 | S | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 4 | 2 | 1 | 5 | 3.0 | |
| Jul 13 | 2 | 3 | 2 | 2 | 2 | 2 | 5 | 4 | 4 | 5 | 3 | 4 | S | 6 | 5 | 4 | 2 | 8 | 2 | 3 | 4 | 4 | 2 | 2 | 2 | 8 | 3.5 | |
| Jul 14 | 3 | 2 | 3 | 4 | 5 | 7 | 8 | 9 | 9 | 8 | 7 | S | 8 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 6 | 7 | 6 | 5 | 2 | 9 | 5.2 | |
| Jul 15 | 4 | 4 | 3 | 2 | 3 | 3 | 4 | 4 | 3 | 3 | S | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 4 | 5 | 6 | 5 | 4 | 2 | 6 | 3.7 | |
| Jul 16 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | S | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 1 | 2 | 1.7 | |
| Jul 17 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | S | 3 | 3 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 1 | 3 | 1.8 | |
| Jul 18 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | S | 2 | 2 | 2 | 4 | 6 | 11 | 12 | 1 | 3 | 2 | 3 | 2 | 1 | 2 | 3 | 2 | 1 | 12 | 2.9 | |
| Jul 19 | 3 | 2 | 2 | 3 | 4 | 4 | S | 4 | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 4 | 6 | 3 | 3 | 1 | 6 | 2.5 | |
| Jul 20 | 3 | 5 | 5 | 3 | 3 | S | 7 | 6 | 5 | 3 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 1 | 1 | 3 | 5 | 4 | 3 | 3 | 1 | 7 | 3.2 | |
| Jul 21 | 3 | 3 | 3 | 2 | 3 | S | 4 | 4 | 5 | 6 | 5 | 2 | 2 | 2 | 1 | 1 | 2 | 1 | 2 | 2 | 2 | 3 | 6 | 7 | 5 | 1 | 7 | 3.2 |
| Jul 22 | 3 | 3 | 3 | S | 4 | 2 | 3 | 3 | 4 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 5 | 5 | 5 | 4 | 1 | 5 | 2.6 | |
| Jul 23 | 2 | 5 | S | 5 | 4 | 4 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 5 | 7 | 5 | 3 | 1 | 7 | 2.7 | |
| Jul 24 | 3 | S | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 3 | 1.8 | |
| Jul 25 | S | 2 | 2 | 1 | 1 | 2 | 4 | 3 | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 3 | 4 | 2 | S | 1 | 4 | 2.0 | |
| Jul 26 | 4 | 2 | 2 | 2 | 3 | 1 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | 2 | 4 | 3 | 2 | 1 | 2 | 2 | 1 | 2 | S | 2 | 1 | 4 | 2.0 | |
| Jul 27 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 2 | 2 | 2 | S | 4 | 4 | 1 | 4 | 1.9 | |
| Jul 28 | 2 | 1 | 1 | 3 | 2 | 4 | 5 | 4 | 4 | 2 | 5 | 7 | 7 | 5 | 2 | 1 | 1 | 1 | 1 | 1 | S | 7 | 7 | 6 | 1 | 7 | 3.5 | |
| Jul 29 | 3 | 2 | 3 | 3 | 3 | 2 | 3 | 2 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | S | 3 | 4 | 3 | 2 | 0 | 4 | 1.9 | |
| Jul 30 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 2 | 2 | 1 | 1 | 2 | 1 | 2 | 1 | 2 | 2 | 1 | S | 3 | 3 | 2 | 2 | 2 | 1 | 3 | 2.0 | |
| Jul 31 | 2 | 2 | 2 | 2 | 3 | 3 | 2 | 2 | 3 | 4 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | 1 | S | 4 | 3 | 5 | 3 | 3 | 4 | 1 | 5 | 2.6 |
| Diurnal Maximum | 4 | 5 | 5 | 5 | 5 | 7 | 8 | 9 | 10 | 8 | 7 | 5 | 8 | 11 | 12 | 9 | 3 | 12 | 4 | 4 | 7 | 7 | 7 | 6 | | | | |
| Diurnal Average | 2.4 | 2.3 | 2.3 | 2.2 | 2.4 | 2.5 | 3.2 | 3.0 | 3.4 | 2.8 | 2.3 | 2.1 | 2.6 | 2.4 | 2.6 | 2.2 | 1.7 | 2.1 | 1.9 | 2.1 | 3.1 | 3.8 | 3.4 | 2.9 | | | | |

C Monthly Calibration **S** Daily Zero-Span Check **Q** Quality Assurance
K Collection Error **ND** No Data (Machine Not in Service) **Y** Routine Maintenance
X InValid Data (Equipment Malfunction /Recovery) **NRM** UnitMaint (Repeat Calibration / Non-Routine Maintenance) **P** Power Failure

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

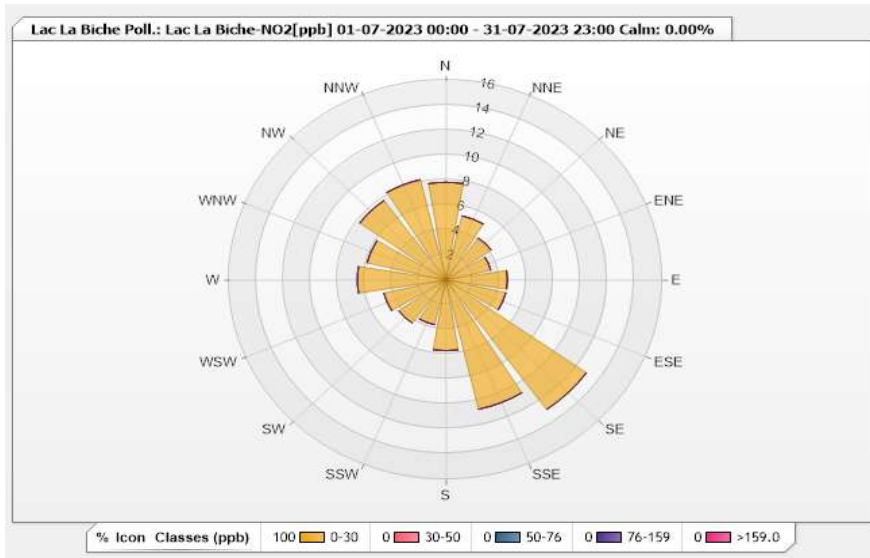


Station: Lac La Biche Poll.: Lac La Biche-NO2[ppb] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.62% Calm Avg: 0.00 [ppm]

| Direction | 0-30 | 30-50 | 50-76 | 76-159 | >159.0 | Total |
|-----------|-------|-------|-------|--------|--------|-------|
| N | 7.81 | 0 | 0 | 0 | 0 | 7.81 |
| NNE | 5.26 | 0 | 0 | 0 | 0 | 5.26 |
| NE | 4.12 | 0 | 0 | 0 | 0 | 4.12 |
| ENE | 3.41 | 0 | 0 | 0 | 0 | 3.41 |
| E | 4.55 | 0 | 0 | 0 | 0 | 4.55 |
| ESE | 4.55 | 0 | 0 | 0 | 0 | 4.55 |
| SE | 12.78 | 0 | 0 | 0 | 0 | 12.78 |
| SSE | 10.65 | 0 | 0 | 0 | 0 | 10.65 |
| S | 5.68 | 0 | 0 | 0 | 0 | 5.68 |
| SSW | 3.69 | 0 | 0 | 0 | 0 | 3.69 |
| SW | 4.26 | 0 | 0 | 0 | 0 | 4.26 |
| WSW | 4.69 | 0 | 0 | 0 | 0 | 4.69 |
| W | 6.53 | 0 | 0 | 0 | 0 | 6.53 |
| WNW | 5.97 | 0 | 0 | 0 | 0 | 5.97 |
| NW | 7.81 | 0 | 0 | 0 | 0 | 7.81 |
| NNW | 8.24 | 0 | 0 | 0 | 0 | 8.24 |
| Summary | 100 | 0 | 0 | 0 | 0 | 100 |



Lakeland Industry & Community Association

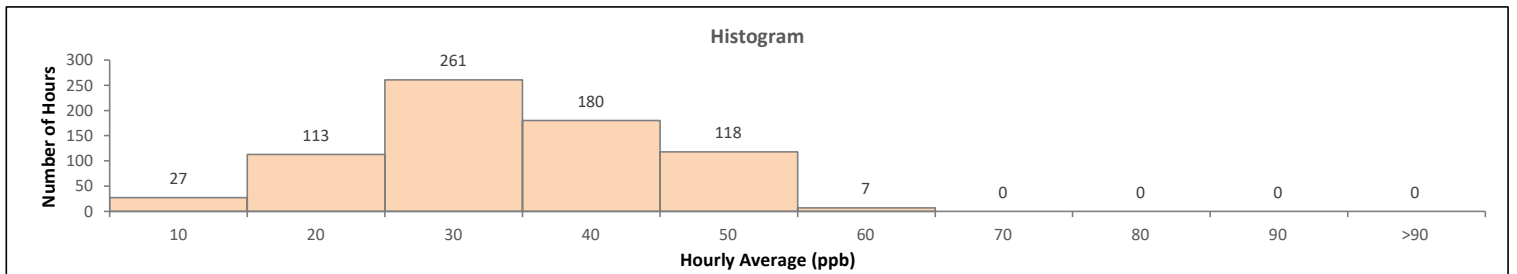
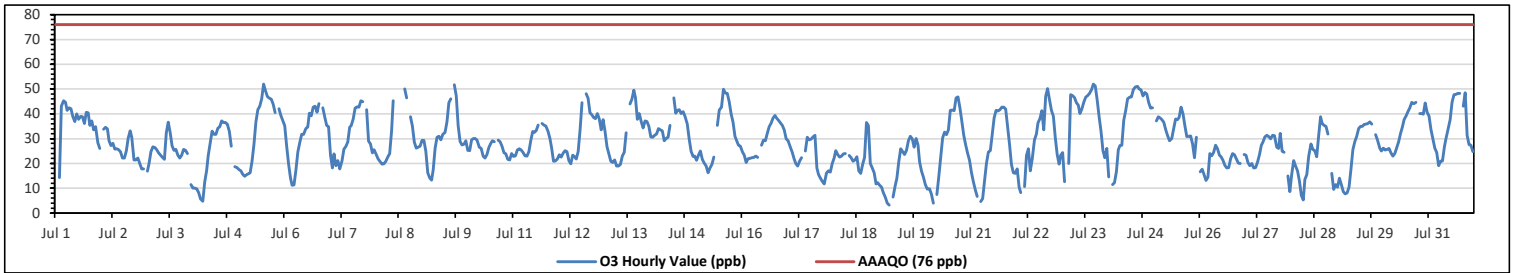
Lac La Biche Station - July 2023

Summary of Hourly Averages

OZONE (O₃) in ppb

| Alberta Ambient Air Quality Objectives (AAAQO): 1-Hour 76 ppb | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|------|------|--------------------|------|------------------------|------|------|---|------|------|------|------|------|------|------|------|------|------|------|---------------------|------|------|-------|---------------|---------------|---------------|---------------|------|--|
| Number of 1-Hour Exceedances: | | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum Hourly Value: | 52.0 | ppb | | on Jul 23 at hr 16 | | Hours in Service: | | | | | | | | | | | | | | | | | | 744 | | | | | | |
| Maximum Daily Value: | 39.1 | ppb | | on Jul 23 | | Hours of Data: | | | | | | | | | | | | | | | | | | 706 | | | | | | |
| Minimum Hourly Value: | 3.2 | ppb | | on Jul 19 at hr 5 | | Hours of Missing Data: | | | | | | | | | | | | | | | | | | 0 | | | | | | |
| Minimum Daily Value: | 18.3 | ppb | | on Jul 19 | | Hours of Calibration: | | | | | | | | | | | | | | | | | | 38 | | | | | | |
| Monthly Average: | 28.8 | ppb | | | | Operational Uptime: | | | | | | | | | | | | | | | | | | 100.0 | | | | | | |
| Day | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Daily Minimum | Daily Maximum | Daily Average | | | |
| Jul 1 | 22.8 | S | 14.3 | 43.1 | 45.2 | 44.6 | 41.4 | 42.4 | 42 | 38.8 | 36.9 | 40 | 37.8 | 38.9 | 38.8 | 36.1 | 40.7 | 40.4 | 35.4 | 37.1 | 33.5 | 34.8 | 28.4 | 26 | 14.3 | 45.2 | 36.5 | | | |
| Jul 2 | S | 33.8 | 34.5 | 33.9 | 29.2 | 27.2 | 28 | 25.8 | 25.9 | 25.6 | 24.6 | 22.2 | 22.1 | 25 | 30.2 | 33.2 | 30.5 | 21.4 | 21.4 | 22.1 | 20 | 17.8 | S | S | 17.8 | 34.5 | 26.0 | | | |
| Jul 3 | 16.9 | 20 | 24.7 | 26.7 | 26.4 | 25.6 | 24.2 | 23.4 | 22.4 | 21.6 | 32.3 | 36.6 | 32.4 | 27.1 | 25.3 | 25.7 | 23.3 | 22.1 | 23.3 | 25.7 | 25.3 | 24 | S | S | 11.5 | 11.5 | 36.6 | 24.6 | | |
| Jul 4 | 10.1 | 10 | 9.8 | 8.3 | 5.7 | 4.7 | 12.5 | 17.2 | 23.2 | 28.1 | 33 | 31.8 | 31.7 | 34.2 | 34.8 | 37.1 | 36.5 | 36.5 | 35.8 | 32.8 | 26.9 | S | S | 18.7 | 18.3 | 4.7 | 37.1 | 23.4 | | |
| Jul 5 | 17.5 | 17 | 15.6 | 14.9 | 15.4 | 15.8 | 16.2 | 21 | 27.9 | 36.7 | 41.6 | 43 | 46 | 51.9 | 49.3 | 47 | 46.3 | 45.9 | 43.9 | 40.5 | S | S | 42.1 | 39.3 | 37.2 | 14.9 | 51.9 | 33.6 | | |
| Jul 6 | 35.2 | 27.1 | 19.8 | 14.2 | 11.1 | 11.3 | 17.3 | 24.6 | 28.3 | 31.8 | 31.7 | 34.1 | 34.6 | 40.3 | 39.2 | 42.8 | 43.1 | 40.7 | 44.1 | S | S | 42.4 | 38.8 | 35.4 | 34.8 | 11.1 | 44.1 | 31.4 | | |
| Jul 7 | 23.5 | 18.2 | 23.8 | 19.1 | 21.2 | 17.8 | 21 | 25.8 | 26.8 | 28.6 | 34.5 | 35.3 | 37.9 | 42.3 | 42.9 | 42.7 | 45.2 | 45 | S | S | 41.7 | 29 | 27.9 | 24.2 | 25.5 | 17.8 | 45.2 | 30.4 | | |
| Jul 8 | 23.6 | 21.8 | 20.7 | 19.7 | 19.8 | 20.9 | 22.6 | 23.9 | 33.1 | 45.3 | C | C | C | C | C | C | 50 | 46.5 | S | S | 38.8 | 35.1 | 28.6 | 26.1 | 26.5 | 26.9 | 19.7 | 50.0 | 29.4 | |
| Jul 9 | 29.3 | 29.3 | 24.9 | 16.2 | 14.2 | 13.2 | 17.4 | 26.2 | 30.5 | 31 | 29.5 | 31.8 | 32.5 | 36.7 | 44.5 | 46.1 | S | S | 51.7 | 47.3 | 35.2 | 28.9 | 27.5 | 27.7 | 29.2 | 13.2 | 51.7 | 30.5 | | |
| Jul 10 | 25.3 | 25.2 | 29.5 | 30.1 | 30.1 | 29.4 | 26.6 | 26 | 22.9 | 22.2 | 23.7 | 26.4 | 28 | 29.1 | 28.7 | S | S | 29.4 | 28.7 | 26.9 | 24.3 | 23.8 | 21.6 | 21.5 | 24 | 21.5 | 30.1 | 26.2 | | |
| Jul 11 | 22.8 | 23.1 | 25.4 | 25.9 | 25.4 | 24.4 | 23.1 | 23 | 24.7 | 29.3 | 32.8 | 32.5 | 33.3 | 35.5 | S | S | 36.1 | 35.5 | 35.1 | 32.9 | 29.9 | 26.3 | 20.9 | 21.1 | 21.8 | 20.9 | 36.1 | 27.9 | | |
| Jul 12 | 23.5 | 22.5 | 24.1 | 25.1 | 24.7 | 21.2 | 19.8 | 23.4 | 22.7 | 21.7 | 24.8 | 33.5 | 44.5 | S | S | 48.1 | 46.3 | 40.4 | 39.6 | 38.6 | 38.1 | 40.1 | 37.9 | 33.6 | 37.7 | 19.8 | 48.1 | 31.8 | | |
| Jul 13 | 32.8 | 26.8 | 23.8 | 20.9 | 20.3 | 21.5 | 19 | 19 | 19.5 | 23 | 24.5 | 32.3 | S | S | 44 | 45.9 | 49.5 | 46.6 | 37.8 | 40.1 | 36.8 | 34.3 | 37.1 | 36.9 | 34.9 | 19.0 | 49.5 | 31.6 | | |
| Jul 14 | 30.7 | 30.6 | 31.3 | 31.9 | 34.1 | 33.5 | 33.1 | 29.1 | 30.1 | 30.5 | 35.3 | S | S | 46.4 | 40.3 | 41.4 | 41.7 | 40.2 | 40.8 | 38.9 | 35.9 | 29.8 | 24.9 | 22.8 | 23 | 22.8 | 46.4 | 33.8 | | |
| Jul 15 | 21.3 | 23.4 | 25 | 21.6 | 20.1 | 19 | 16.3 | 18.1 | 19.5 | 22.5 | S | S | 35.3 | 41.5 | 42.8 | 49.9 | 48.4 | 48.2 | 44.9 | 40 | 36.6 | 30.9 | 29.3 | 27.4 | 27 | 16.3 | 49.9 | 30.8 | | |
| Jul 16 | 24.8 | 23.3 | 20.4 | 21.9 | 22 | 22.3 | 22.4 | 23 | 22.4 | S | S | 27.4 | 29.4 | 29.1 | 32.1 | 34.8 | 36.3 | 38.4 | 39.3 | 38.4 | 37.4 | 36.4 | 35.3 | 33.5 | 29.9 | 20.4 | 39.3 | 29.6 | | |
| Jul 17 | 29.1 | 26.9 | 24.5 | 21.7 | 19.9 | 19 | 20.9 | 22.3 | S | S | 25 | 30.5 | 29.6 | 29.8 | 30.7 | 31.3 | 18.1 | 15.6 | 14 | 12.8 | 11.7 | 16.1 | 17.1 | 16.5 | 20 | 11.7 | 31.3 | 21.9 | | |
| Jul 18 | 22.1 | 25.1 | 23.6 | 22.5 | 22.9 | 23.8 | 23.9 | S | S | 23.2 | 22.3 | 20.9 | 21.4 | 22.7 | 17 | 16 | 19.6 | 22.4 | 36.5 | 35.2 | 20 | 18.2 | 16.2 | 11.7 | 12.3 | 11.7 | 36.5 | 21.7 | | |
| Jul 19 | 11.2 | 10.5 | 8.1 | 6.3 | 4 | 3.2 | S | S | 6.5 | 10.6 | 14.1 | 20.8 | 25.9 | 24.7 | 23.6 | 25.3 | 29.2 | 30.9 | 29.9 | 26.6 | 30.1 | 27.5 | 20.6 | 16.9 | 14.4 | 3.2 | 30.9 | 18.3 | | |
| Jul 20 | 11.4 | 9.6 | 9.8 | 7.6 | 4 | S | S | 7.4 | 14.7 | 22.6 | 30.3 | 32.6 | 31.6 | 33.5 | 41.4 | 41.5 | 41.2 | 46.4 | 46.9 | 42.5 | 37.9 | 31.3 | 27.5 | 24.1 | 21.3 | 4.0 | 46.9 | 26.8 | | |
| Jul 21 | 16.4 | 12.7 | 9.4 | 6.7 | S | S | 4.6 | 5.8 | 13 | 20.1 | 24.6 | 25.2 | 31.8 | 38.5 | 41.4 | 41.1 | 41.6 | 42.8 | 42.8 | 41.9 | 34.8 | 27.7 | 19.6 | 16.2 | 16 | 4.6 | 42.8 | 25.0 | | |
| Jul 22 | 17.8 | 10.5 | 8.2 | S | S | 10.7 | 23.2 | 25.9 | 17 | 21.8 | 29.5 | 31.9 | 36.4 | 38.1 | 41.2 | 33.5 | 47.1 | 50.2 | 45.6 | 41.4 | 39 | 30.4 | 23.7 | 19.7 | 23.3 | 8.2 | 50.2 | 29.0 | | |
| Jul 23 | 24.3 | 12.7 | S | S | 19.9 | 47.7 | 47.3 | 46.6 | 44.5 | 43.4 | 40.2 | 41.9 | 44.7 | 46.7 | 47.3 | 48.3 | 49.6 | S | 52 | 51.2 | 45.5 | 38.8 | 32.9 | 25.2 | 22.3 | 26 | 12.7 | 52.0 | 39.1 | |
| Jul 24 | 14.6 | S | 11.4 | 12.2 | 16.6 | 25.6 | 27.2 | 27.3 | 37.4 | 41.3 | 46.1 | 46.7 | 46.8 | 49.8 | 50.9 | 51.1 | 50 | 49.7 | 47.2 | 48.6 | 48 | 44.5 | 42.3 | 42.5 | 11.4 | 51.1 | 38.2 | 22.4 | | |
| Jul 25 | S | 37.1 | 38.8 | 38.4 | 37.7 | 36.6 | 33.7 | 31.2 | 29.2 | 30.1 | 34.1 | 37.9 | 37.7 | 38.6 | 42.8 | 40.2 | 35.2 | 30.8 | 30.9 | 31.1 | 27.9 | 22.3 | 30.5 | S | S | 22.3 | 42.8 | 34.2 | | |
| Jul 26 | 16.7 | 17.6 | 15.8 | 13.1 | 14.5 | 23.9 | 23.1 | 24.5 | 27.3 | 25.9 | 23.4 | 22.7 | 21.3 | 19.2 | 18.1 | 18.3 | 21.9 | 23.9 | 23.5 | 21.8 | 20.1 | 19.9 | S | S | 23.7 | 13.1 | 27.3 | 20.9 | | |
| Jul 27 | 23.4 | 20.4 | 19.1 | 19.9 | 18.1 | 18.3 | 20.5 | 23.5 | 27.3 | 28.6 | 30.7 | 31.4 | 30.8 | 30 | 31.3 | 31.2 | 26.5 | 26 | 32.2 | 24.9 | 24.5 | S | S | 15 | 8.6 | 8.6 | 32.2 | 24.4 | | |
| Jul 28 | 15.7 | 21.2 | 19 | 17 | 12.9 | 7 | 5.3 | 13.5 | 15.4 | 22.9 | 27.9 | 25.7 | 25.1 | 22.7 | 31.1 | 38.8 | 36.1 | 35.3 | 34.9 | 31.9 | S | S | 16 | 9.5 | 11.5 | 5.3 | 38.8 | 21.6 | | |
| Jul 29 | 10.4 | 14.1 | 11.4 | 8.7 | 7.7 | 8.1 | 10.5 | 17.6 | 25.5 | 28.8 | 31 | 34.1 | 34.9 | 34.9 | 35.7 | 35.9 | 36.2 | 36.7 | 35.9 | S | S | 31.6 | 29.4 | 26.1 | 25 | 7.7 | 36.7 | 24.8 | | |
| Jul 30 | 26.2 | 25.4 | 25.7 | 26 | 24.2 | 22.9 | 23.9 | 26.3 | 28.8 | 32.2 | 34.8 | 37.7 | 39 | 40.9 | 42.5 | 44.7 | 44.1 | 44.7 | S | S | 40.2 | 40.2 | 39.8 | 44.4 | 40.7 | 22.9 | 44.7 | 34.6 | | |
| Jul 31 | 39.1 | 33.7 | 29.9 | 26.1 | 24.4 | 19.1 | 20.9 | 21.1 | 26.7 | 30.1 | 33.5 | 37.6 | 44.8 | 47.7 | 47.9 | 48.3 | 48.3 | S | S | 43 | 48.5 | 31.3 | 27.6 | 27.3 | 24.8 | 19.1 | 48.5 | 34.0 | | |
| Diurnal Maximum | 39.1 | 37.1 | 38.8 | 43.1 | 47.7 | 47.3 | 46.6 | 44.5 | 43.4 | 45.3 | 46.1 | 46.7 | 46.8 | 51.9 | 50.9 | 51.1 | 52.0 | 51.7 | 47.3 | 48.6 | 48.0 | 44.5 | 44.4 | 42.5 | | | | | | |
| Diurnal Average | 22.0 | 21.7 | 20.7 | 20.7 | 21.0 | 21.2 | 21.9 | 23.2 | 26.0 | 28.8 | 31.0 | 33.1 | 34.9 | 36.1 | 37.6 | 39.1 | 38.3 | 37.4 | 35.8 | 33.4 | 29.8 | 27.4 | 25.4 | 24.8 | | | | | | |
| K | Monthly Calibration | | | | | | | S | Daily Zero-Span Check | | | | | | | | | | | Q | Quality Assurance | | | | | | | | | |
| K | Collection Error | | | | | | | ND | No Data (Machine Not in Service) | | | | | | | | | | | Y | Routine Maintenance | | | | | | | | | |
| X | InValid Data (Equipment Malfunction/Recovery) | | | | | | | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | | | | | | | | | | | | | | | | P | Power Failure | | |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

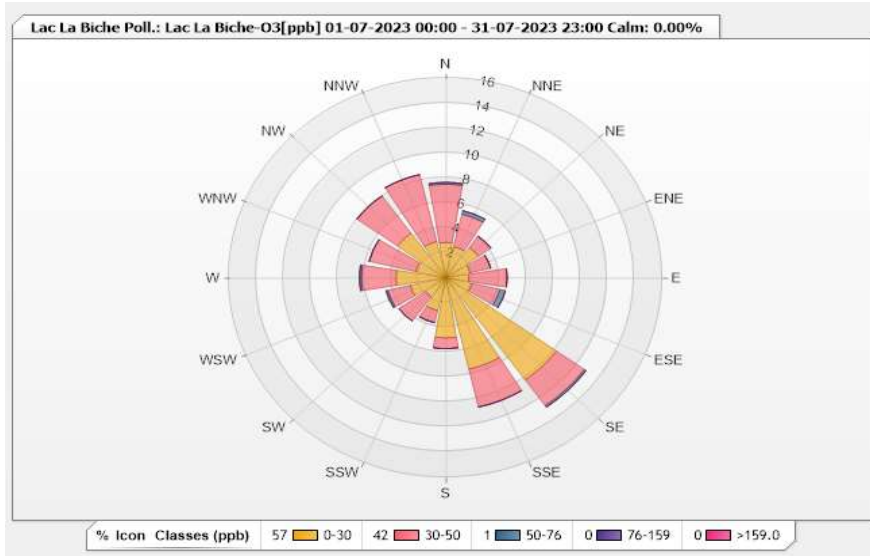


Station: Lac La Biche Poll.: Lac La Biche-O3[ppb] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.89% Calm Avg: 0.00 [ppm]

| Direction | 0-30 | 30-50 | 50-76 | 76-159 | >159.0 | Total |
|-----------|-------|-------|-------|--------|--------|-------|
| N | 2.83 | 4.67 | 0.14 | 0 | 0 | 7.64 |
| NNE | 2.55 | 2.69 | 0.28 | 0 | 0 | 5.52 |
| NE | 2.97 | 1.13 | 0 | 0 | 0 | 4.1 |
| ENE | 1.84 | 1.56 | 0 | 0 | 0 | 3.4 |
| E | 1.7 | 2.83 | 0 | 0 | 0 | 4.53 |
| ESE | 1.98 | 2.12 | 0.42 | 0 | 0 | 4.52 |
| SE | 10.06 | 2.55 | 0.14 | 0 | 0 | 12.75 |
| SSE | 7.51 | 3.12 | 0 | 0 | 0 | 10.63 |
| S | 4.82 | 0.85 | 0 | 0 | 0 | 5.67 |
| SSW | 2.69 | 0.99 | 0 | 0 | 0 | 3.68 |
| SW | 1.84 | 2.41 | 0 | 0 | 0 | 4.25 |
| WSW | 2.69 | 1.7 | 0.14 | 0 | 0 | 4.53 |
| W | 3.68 | 2.55 | 0.14 | 0 | 0 | 6.37 |
| WNW | 2.27 | 3.54 | 0 | 0 | 0 | 5.81 |
| NW | 4.39 | 3.68 | 0 | 0 | 0 | 8.07 |
| NNW | 2.97 | 5.52 | 0 | 0 | 0 | 8.49 |
| Summary | 56.79 | 41.91 | 1.26 | 0 | 0 | 100 |



Lakeland Industry & Community Association

Lac La Biche Station - July 2023

Summary of Hourly Averages

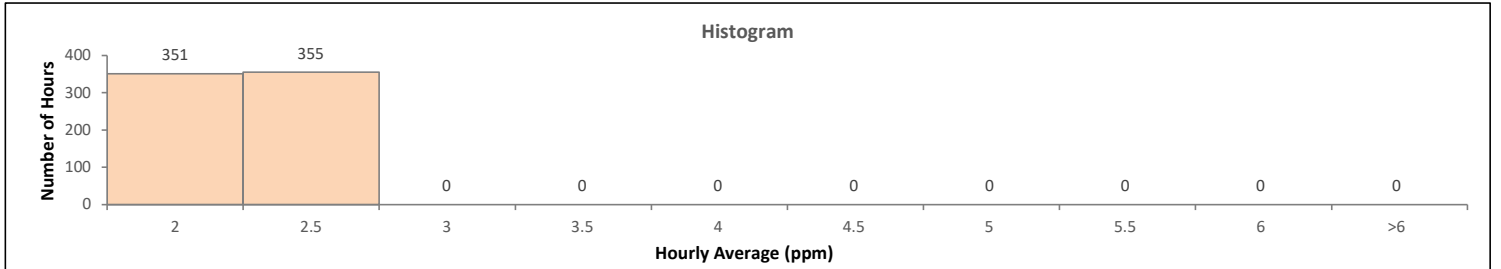
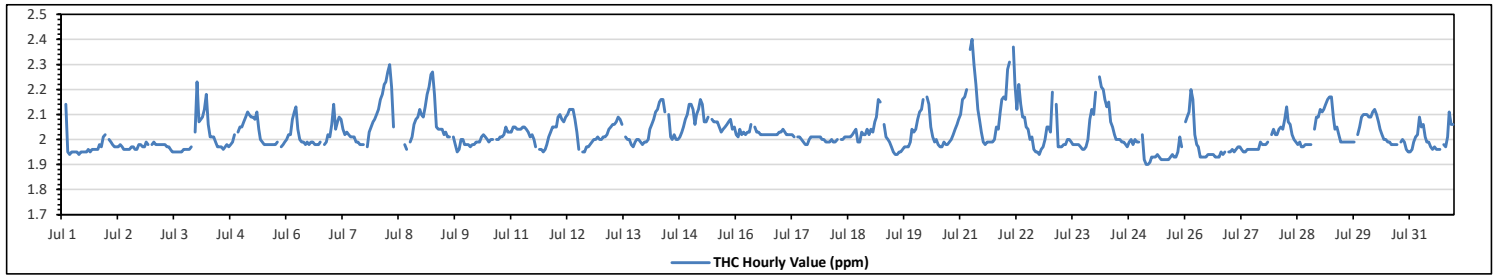
TOTAL HYDROCARBONS (THC) in ppm

| | | | | |
|-----------------------|----------|-------------------|------------------------|-------|
| Maximum Hourly Value: | 2.40 ppm | on Jul 21 at hr 6 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.12 ppm | on Jul 8 | Hours of Data: | 706 |
| Minimum Hourly Value: | 1.90 ppm | on Jul 25 at hr 3 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 1.94 ppm | on Jul 25 | Hours of Calibration: | 38 |
| Monthly Average: | 2.02 ppm | | Operational Uptime: | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | | |
|-----------------|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------|---------------|---------------|------|------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | | | |
| Jul 1 | 2.01 | S | 2.14 | 1.95 | 1.94 | 1.95 | 1.95 | 1.95 | 1.95 | 1.94 | 1.95 | 1.95 | 1.95 | 1.95 | 1.96 | 1.95 | 1.96 | 1.96 | 1.96 | 1.96 | 1.98 | 1.97 | 2.01 | 2.02 | 1.94 | 2.14 | 1.97 | | |
| Jul 2 | S | 2.00 | 1.99 | 1.98 | 1.97 | 1.97 | 1.97 | 1.98 | 1.97 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.97 | 1.96 | 1.96 | 1.98 | 1.98 | 1.97 | 1.97 | 1.99 | 1.98 | S | 2.03 | 1.95 | 2.00 | 1.97 | |
| Jul 3 | 1.98 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.97 | 1.97 | 1.96 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | S | 2.03 | 1.95 | 2.03 | 1.97 | | |
| Jul 4 | 2.23 | 2.07 | 2.08 | 2.09 | 2.12 | 2.18 | 2.06 | 2.01 | 2.01 | 2.01 | 1.99 | 1.97 | 1.97 | 1.96 | 1.97 | 1.98 | 1.97 | 1.98 | 1.99 | 2.02 | S | 2.03 | 2.05 | 1.96 | 2.23 | 2.03 | 2.03 | 2.03 | |
| Jul 5 | 2.05 | 2.07 | 2.09 | 2.11 | 2.10 | 2.09 | 2.09 | 2.08 | 2.11 | 2.04 | 2.00 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | S | 1.97 | 1.98 | 1.99 | 1.97 | 2.11 | 2.03 | | |
| Jul 6 | 2.00 | 2.02 | 2.02 | 2.08 | 2.11 | 2.13 | 2.04 | 2.00 | 1.99 | 1.99 | 1.98 | 1.99 | 1.98 | 1.99 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | S | 1.98 | 1.99 | 2.02 | 2.01 | 1.98 | 2.13 | 2.01 | |
| Jul 7 | 2.06 | 2.14 | 2.04 | 2.07 | 2.09 | 2.08 | 2.04 | 2.02 | 2.03 | 2.02 | 2.01 | 2.01 | 2.01 | 1.99 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | S | 1.97 | 2.03 | 2.05 | 2.07 | 2.08 | 1.97 | 2.14 | 2.03 | |
| Jul 8 | 2.10 | 2.12 | 2.16 | 2.18 | 2.22 | 2.23 | 2.27 | 2.30 | 2.21 | 2.05 | C | C | C | C | C | 1.98 | 1.96 | S | 1.99 | 2.01 | 2.06 | 2.08 | 2.09 | 2.12 | 1.96 | 2.30 | 2.12 | | |
| Jul 9 | 2.10 | 2.09 | 2.13 | 2.18 | 2.21 | 2.26 | 2.27 | 2.18 | 2.05 | 2.04 | 2.04 | 2.04 | 2.02 | 2.03 | 2.01 | 2.01 | S | 2.01 | 1.98 | 1.95 | 1.96 | 2.00 | 2.00 | 1.98 | 1.95 | 2.27 | 2.07 | | |
| Jul 10 | 1.98 | 1.98 | 1.97 | 1.98 | 1.98 | 1.99 | 1.99 | 1.99 | 2.01 | 2.02 | 2.01 | 2.00 | 1.99 | 2.00 | 2.00 | S | 2.00 | 2.00 | 2.01 | 2.01 | 2.02 | 2.05 | 2.03 | 2.03 | 1.97 | 2.05 | 2.00 | | |
| Jul 11 | 2.03 | 2.05 | 2.05 | 2.04 | 2.04 | 2.04 | 2.05 | 2.05 | 2.04 | 2.03 | 2.01 | 2.02 | 2.00 | 1.97 | S | 1.96 | 1.96 | 1.95 | 1.96 | 1.98 | 2.01 | 2.03 | 2.05 | 2.05 | 1.95 | 2.05 | 2.02 | | |
| Jul 12 | 2.05 | 2.09 | 2.10 | 2.08 | 2.07 | 2.09 | 2.10 | 2.12 | 2.12 | 2.12 | 2.08 | 2.03 | 1.96 | S | 1.95 | 1.95 | 1.97 | 1.97 | 1.98 | 1.99 | 2.00 | 2.00 | 2.01 | 2.00 | 1.95 | 2.12 | 2.04 | | |
| Jul 13 | 2.00 | 2.01 | 2.01 | 2.02 | 2.04 | 2.05 | 2.06 | 2.06 | 2.07 | 2.09 | 2.08 | 2.06 | S | 2.01 | 2.00 | 2.00 | 1.98 | 1.97 | 1.99 | 2.00 | 2.00 | 1.99 | 1.98 | 1.99 | 1.97 | 2.09 | 2.02 | | |
| Jul 14 | 1.99 | 2.00 | 2.04 | 2.06 | 2.08 | 2.11 | 2.12 | 2.15 | 2.16 | 2.16 | 2.11 | S | 2.10 | 2.01 | 2.00 | 2.02 | 2.00 | 2.00 | 2.01 | 2.03 | 2.05 | 2.08 | 2.10 | 2.14 | 1.99 | 2.16 | 2.07 | | |
| Jul 15 | 2.14 | 2.12 | 2.06 | 2.10 | 2.12 | 2.16 | 2.14 | 2.07 | 2.07 | 2.09 | S | 2.08 | 2.07 | 2.07 | 2.07 | 2.05 | 2.03 | 2.04 | 2.05 | 2.06 | 2.07 | 2.08 | 2.04 | 2.05 | 2.03 | 2.16 | 2.08 | | |
| Jul 16 | 2.02 | 2.01 | 2.04 | 2.02 | 2.03 | 2.02 | 2.03 | 2.03 | 2.06 | S | 2.05 | 2.03 | 2.03 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.03 | 2.01 | 2.06 | 2.03 | | |
| Jul 17 | 2.03 | 2.04 | 2.03 | 2.02 | 2.02 | 2.02 | 2.01 | S | 2.01 | 2.01 | 2.01 | 2.00 | 1.99 | 1.98 | 1.98 | 2.00 | 2.01 | 2.01 | 2.01 | 2.01 | 2.01 | 2.01 | 2.00 | 2.00 | 1.98 | 2.04 | 2.01 | | |
| Jul 18 | 1.99 | 1.99 | 1.99 | 2.00 | 1.99 | 1.99 | 2.00 | S | 2.00 | 2.01 | 2.01 | 2.01 | 2.01 | 2.01 | 2.01 | 2.02 | 2.03 | 2.04 | 1.99 | 1.99 | 2.03 | 2.02 | 2.02 | 2.04 | 2.02 | 1.99 | 2.04 | 2.01 | |
| Jul 19 | 2.04 | 2.03 | 2.07 | 2.09 | 2.16 | 2.15 | S | 2.06 | 2.01 | 2.00 | 1.99 | 1.97 | 1.95 | 1.94 | 1.94 | 1.95 | 1.95 | 1.96 | 1.97 | 1.97 | 1.97 | 1.99 | 2.04 | 2.03 | 1.94 | 2.16 | 2.01 | | |
| Jul 20 | 2.04 | 2.08 | 2.11 | 2.12 | 2.16 | S | 2.17 | 2.14 | 2.05 | 2.01 | 1.99 | 2.00 | 1.98 | 1.97 | 1.97 | 1.99 | 1.98 | 1.98 | 1.99 | 2.00 | 2.02 | 2.04 | 2.06 | 2.08 | 1.97 | 2.17 | 2.04 | | |
| Jul 21 | 2.10 | 2.16 | 2.17 | 2.20 | S | 2.36 | 2.40 | 2.30 | 2.22 | 2.12 | 2.08 | 2.03 | 1.99 | 1.98 | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | 2.05 | 2.04 | 2.11 | 2.16 | 2.17 | 1.98 | 2.40 | 2.11 | | |
| Jul 22 | 2.16 | 2.28 | 2.31 | S | 2.37 | 2.22 | 2.12 | 2.22 | 2.14 | 2.09 | 2.09 | 2.05 | 2.04 | 2.00 | 2.01 | 1.96 | 1.95 | 1.95 | 1.94 | 1.96 | 1.97 | 2.00 | 2.05 | 2.05 | 1.94 | 2.37 | 2.08 | | |
| Jul 23 | 2.03 | 2.19 | S | 2.14 | 1.97 | 1.97 | 1.97 | 1.98 | 1.98 | 2.00 | 2.00 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | 1.97 | 1.96 | 1.96 | 1.97 | 2.00 | 2.08 | 2.12 | 2.10 | 1.96 | 2.19 | 2.01 | | |
| Jul 24 | 2.19 | S | 2.25 | 2.21 | 2.20 | 2.16 | 2.13 | 2.15 | 2.07 | 2.05 | 2.02 | 2.00 | 2.00 | 2.00 | 1.99 | 1.99 | 1.98 | 1.97 | 1.99 | 2.00 | 1.98 | 2.00 | 1.99 | 1.99 | 1.97 | 2.25 | 2.06 | | |
| Jul 25 | S | 2.02 | 1.92 | 1.90 | 1.90 | 1.91 | 1.93 | 1.93 | 1.93 | 1.94 | 1.93 | 1.92 | 1.92 | 1.92 | 1.92 | 1.93 | 1.94 | 1.93 | 1.93 | 1.93 | 1.95 | 1.95 | 2.01 | 1.97 | S | 1.90 | 2.02 | 1.94 | |
| Jul 26 | 2.07 | 2.09 | 2.11 | 2.20 | 2.16 | 2.02 | 1.98 | 1.97 | 1.93 | 1.93 | 1.93 | 1.93 | 1.94 | 1.94 | 1.94 | 1.94 | 1.93 | 1.93 | 1.93 | 1.95 | 1.94 | 1.95 | 1.94 | 1.95 | S | 1.93 | 2.20 | 1.99 | |
| Jul 27 | 1.95 | 1.96 | 1.95 | 1.96 | 1.97 | 1.97 | 1.96 | 1.95 | 1.95 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | S | 2.02 | 2.04 | 1.95 | 2.04 | 1.97 |
| Jul 28 | 2.02 | 2.02 | 2.04 | 2.05 | 2.04 | 2.08 | 2.13 | 2.07 | 2.06 | 2.02 | 2.00 | 1.99 | 1.98 | 1.99 | 1.97 | 1.97 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | S | 2.04 | 2.09 | 2.09 | 1.97 | 2.13 | 2.02 | |
| Jul 29 | 2.12 | 2.11 | 2.12 | 2.14 | 2.16 | 2.17 | 2.17 | 2.09 | 2.04 | 2.05 | 2.02 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | S | 2.02 | 2.05 | 2.09 | 2.10 | 1.99 | 2.17 | 2.06 | |
| Jul 30 | 2.10 | 2.10 | 2.09 | 2.09 | 2.11 | 2.12 | 2.10 | 2.07 | 2.04 | 2.02 | 2.00 | 2.00 | 1.99 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | S | 1.99 | 2.00 | 1.99 | 1.96 | 1.95 | 1.95 | 2.12 | 2.03 | |
| Jul 31 | 1.95 | 1.96 | 1.99 | 2.01 | 2.02 | 2.09 | 2.05 | 2.06 | 2.01 | 1.99 | 1.99 | 1.97 | 1.96 | 1.97 | 1.96 | 1.96 | 1.96 | S | 1.98 | 1.97 | 2.01 | 2.11 | 2.06 | 2.06 | 1.95 | 2.11 | 2.00 | | |
| Diurnal Maximum | 2.23 | 2.28 | 2.31 | 2.21 | 2.37 | 2.36 | 2.40 | 2.30 | 2.22 | 2.16 | 2.11 | 2.08 | 2.10 | 2.07 | 2.07 | 2.05 | 2.04 | 2.04 | 2.05 | 2.06 | 2.07 | 2.11 | 2.16 | 2.17 | | | | | |
| Diurnal Average | 2.05 | 2.06 | 2.07 | 2.02 | 2.08 | 2.09 | 2.08 | 2.07 | 2.04 | 2.02 | 2.01 | 2.00 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | 2.00 | 2.02 | 2.04 | 2.04 | | | | | |

C Monthly Calibration **S** Daily Zero-Span Check **Q** Quality Assurance
K Collection Error **ND** No Data (Machine Not in Service)
X InValid Data (Equipment Malfunction/Recovery) **NRM** UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) **Y** Routine Maintenance **P** Power Failure

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

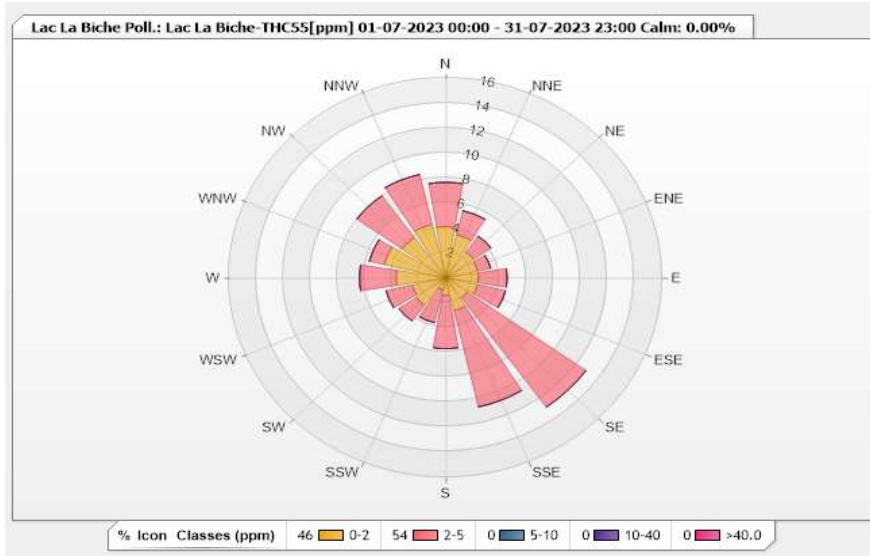


Station: Lac La Biche Poll.: Lac La Biche-THC55[ppm] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.89% Calm Avg: 0.00 [ppm]

| Direction | 0-2 | 2-5 | 5-10 | 10-40 | >40.0 | Total |
|-----------|-------|-------|------|-------|-------|-------|
| N | 4.11 | 3.54 | 0 | 0 | 0 | 7.65 |
| NNE | 3.54 | 1.98 | 0 | 0 | 0 | 5.52 |
| NE | 2.55 | 1.56 | 0 | 0 | 0 | 4.11 |
| ENE | 2.41 | 0.99 | 0 | 0 | 0 | 3.4 |
| E | 2.41 | 2.12 | 0 | 0 | 0 | 4.53 |
| ESE | 2.41 | 2.12 | 0 | 0 | 0 | 4.53 |
| SE | 1.98 | 10.76 | 0 | 0 | 0 | 12.74 |
| SSE | 2.69 | 7.93 | 0 | 0 | 0 | 10.62 |
| S | 1.42 | 4.25 | 0 | 0 | 0 | 5.67 |
| SSW | 0.99 | 2.69 | 0 | 0 | 0 | 3.68 |
| SW | 2.69 | 1.56 | 0 | 0 | 0 | 4.25 |
| WSW | 2.55 | 1.98 | 0 | 0 | 0 | 4.53 |
| W | 3.68 | 2.69 | 0 | 0 | 0 | 6.37 |
| WNW | 4.67 | 1.13 | 0 | 0 | 0 | 5.8 |
| NW | 3.97 | 4.11 | 0 | 0 | 0 | 8.08 |
| NNW | 4.39 | 4.11 | 0 | 0 | 0 | 8.5 |
| Summary | 46.46 | 53.52 | 0 | 0 | 0 | 100 |



Lakeland Industry & Community Association

Lac La Biche Station - July 2023

Summary of Hourly Averages

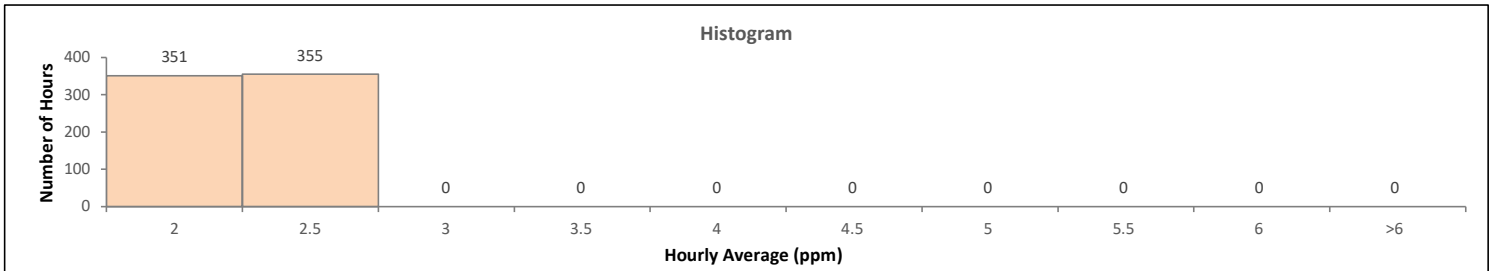
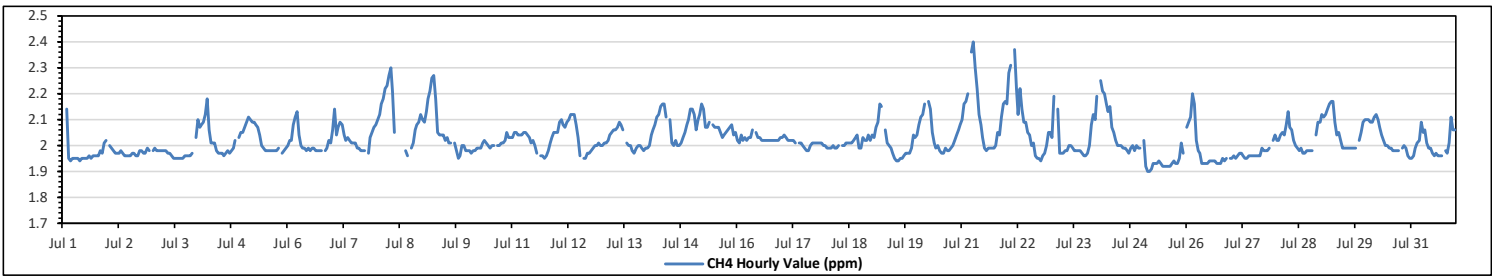
METHANE (CH4) in ppm

| | | | | | |
|-----------------------|------|-----|-------------------|------------------------|-------|
| Maximum Hourly Value: | 2.40 | ppm | on Jul 21 at hr 6 | Hours in Service: | 744 |
| Maximum Daily Value: | 2.12 | ppm | on Jul 8 | Hours of Data: | 706 |
| Minimum Hourly Value: | 1.90 | ppm | on Jul 25 at hr 3 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 1.94 | ppm | on Jul 25 | Hours of Calibration: | 38 |
| Monthly Average: | 2.02 | ppm | | Operational Uptime: | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | | |
|-----------------|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------|---------------|---------------|------|------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 | |
| Jul 1 | 2.01 | S | 2.14 | 1.95 | 1.94 | 1.95 | 1.95 | 1.95 | 1.95 | 1.94 | 1.95 | 1.95 | 1.95 | 1.95 | 1.96 | 1.95 | 1.96 | 1.96 | 1.96 | 1.96 | 1.98 | 1.97 | 2.01 | 2.02 | 1.94 | 2.14 | 1.97 | |
| Jul 2 | S | 2.00 | 1.99 | 1.98 | 1.97 | 1.97 | 1.97 | 1.98 | 1.97 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | 1.97 | 1.96 | 1.96 | 1.98 | 1.98 | 1.97 | 1.97 | 1.99 | 1.98 | S | 2.03 | 1.95 | 2.00 | 1.97 |
| Jul 3 | 1.98 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.97 | 1.97 | 1.96 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.96 | 1.96 | 1.96 | 1.96 | 1.97 | S | 2.03 | 1.95 | 2.03 | 1.97 | |
| Jul 4 | 2.10 | 2.07 | 2.08 | 2.09 | 2.12 | 2.18 | 2.06 | 2.01 | 2.01 | 2.01 | 1.98 | 1.97 | 1.97 | 1.97 | 1.96 | 1.97 | 1.98 | 1.97 | 1.98 | 1.99 | 2.02 | S | 2.03 | 2.05 | 1.96 | 2.18 | 2.02 | |
| Jul 5 | 2.05 | 2.07 | 2.09 | 2.11 | 2.10 | 2.09 | 2.09 | 2.08 | 2.07 | 2.04 | 2.00 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | S | 1.97 | 1.98 | 1.99 | 1.97 | 2.11 | 2.02 | |
| Jul 6 | 2.00 | 2.02 | 2.02 | 2.08 | 2.11 | 2.13 | 2.04 | 2.00 | 1.99 | 1.99 | 1.98 | 1.99 | 1.98 | 1.99 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | S | 1.98 | 1.99 | 2.02 | 2.01 | 1.98 | 2.13 | 2.01 |
| Jul 7 | 2.06 | 2.14 | 2.04 | 2.07 | 2.09 | 2.08 | 2.04 | 2.02 | 2.03 | 2.02 | 2.01 | 2.01 | 2.01 | 1.99 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | S | 1.97 | 2.03 | 2.05 | 2.07 | 2.08 | 1.97 | 2.14 | 2.03 |
| Jul 8 | 2.10 | 2.12 | 2.16 | 2.18 | 2.22 | 2.23 | 2.27 | 2.30 | 2.21 | 2.05 | C | C | C | C | C | 1.98 | 1.96 | S | 1.99 | 2.01 | 2.06 | 2.08 | 2.09 | 2.12 | 1.96 | 2.30 | 2.12 | |
| Jul 9 | 2.10 | 2.09 | 2.13 | 2.18 | 2.21 | 2.26 | 2.27 | 2.18 | 2.05 | 2.04 | 2.04 | 2.04 | 2.02 | 2.03 | 2.01 | 2.01 | S | 2.01 | 1.98 | 1.95 | 1.96 | 2.00 | 2.00 | 1.98 | 1.95 | 2.27 | 2.07 | |
| Jul 10 | 1.98 | 1.98 | 1.97 | 1.98 | 1.98 | 1.99 | 1.99 | 1.99 | 2.01 | 2.02 | 2.01 | 2.00 | 1.99 | 2.00 | 2.00 | S | 2.00 | 2.00 | 2.01 | 2.01 | 2.02 | 2.05 | 2.03 | 2.03 | 1.97 | 2.05 | 2.00 | |
| Jul 11 | 2.03 | 2.05 | 2.05 | 2.04 | 2.04 | 2.04 | 2.05 | 2.05 | 2.04 | 2.03 | 2.01 | 2.02 | 2.00 | 1.97 | S | 1.96 | 1.96 | 1.95 | 1.96 | 1.98 | 2.01 | 2.03 | 2.05 | 2.05 | 1.95 | 2.05 | 2.02 | |
| Jul 12 | 2.05 | 2.09 | 2.10 | 2.08 | 2.07 | 2.09 | 2.10 | 2.12 | 2.12 | 2.12 | 2.08 | 2.03 | 1.96 | S | 1.95 | 1.95 | 1.97 | 1.97 | 1.98 | 1.99 | 2.00 | 2.00 | 2.01 | 2.00 | 1.95 | 2.12 | 2.04 | |
| Jul 13 | 2.00 | 2.01 | 2.01 | 2.02 | 2.04 | 2.05 | 2.06 | 2.06 | 2.07 | 2.09 | 2.08 | 2.06 | S | 2.01 | 2.00 | 2.00 | 1.98 | 1.97 | 1.99 | 2.00 | 2.00 | 1.99 | 1.98 | 1.99 | 1.97 | 2.09 | 2.02 | |
| Jul 14 | 1.99 | 2.00 | 2.04 | 2.06 | 2.08 | 2.11 | 2.12 | 2.15 | 2.16 | 2.16 | 2.11 | S | 2.10 | 2.01 | 2.00 | 2.02 | 2.00 | 2.00 | 2.01 | 2.03 | 2.05 | 2.08 | 2.10 | 2.14 | 1.99 | 2.16 | 2.07 | |
| Jul 15 | 2.14 | 2.12 | 2.06 | 2.10 | 2.12 | 2.16 | 2.14 | 2.07 | 2.07 | 2.09 | S | 2.08 | 2.07 | 2.07 | 2.07 | 2.05 | 2.03 | 2.04 | 2.05 | 2.06 | 2.07 | 2.08 | 2.04 | 2.05 | 2.03 | 2.16 | 2.08 | |
| Jul 16 | 2.02 | 2.01 | 2.04 | 2.02 | 2.03 | 2.02 | 2.03 | 2.03 | 2.06 | S | 2.05 | 2.03 | 2.03 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 | 2.03 | 2.01 | 2.06 | 2.03 | |
| Jul 17 | 2.03 | 2.04 | 2.03 | 2.02 | 2.02 | 2.02 | 2.01 | S | 2.01 | 2.01 | 2.01 | 2.00 | 1.99 | 1.98 | 1.98 | 2.00 | 2.01 | 2.01 | 2.01 | 2.01 | 2.01 | 2.01 | 2.01 | 2.00 | 1.98 | 2.04 | 2.01 | |
| Jul 18 | 1.99 | 1.99 | 1.99 | 2.00 | 1.99 | 1.99 | 2.00 | S | 2.00 | 2.01 | 2.01 | 2.01 | 2.01 | 2.01 | 2.02 | 2.03 | 2.04 | 2.01 | 1.99 | 1.99 | 2.03 | 2.02 | 2.02 | 2.04 | 2.02 | 1.99 | 2.04 | 2.01 |
| Jul 19 | 2.04 | 2.03 | 2.07 | 2.09 | 2.16 | 2.15 | S | 2.06 | 2.01 | 2.00 | 1.99 | 1.97 | 1.95 | 1.94 | 1.94 | 1.95 | 1.95 | 1.96 | 1.97 | 1.97 | 1.97 | 1.99 | 2.04 | 2.03 | 1.94 | 2.16 | 2.01 | |
| Jul 20 | 2.04 | 2.08 | 2.11 | 2.12 | 2.16 | S | 2.17 | 2.14 | 2.05 | 2.01 | 1.99 | 2.00 | 1.98 | 1.97 | 1.97 | 1.99 | 1.98 | 1.98 | 1.99 | 2.00 | 2.02 | 2.04 | 2.06 | 2.08 | 1.97 | 2.17 | 2.04 | |
| Jul 21 | 2.10 | 2.16 | 2.17 | 2.20 | S | 2.36 | 2.40 | 2.30 | 2.22 | 2.12 | 2.08 | 2.03 | 1.99 | 1.98 | 1.99 | 1.99 | 1.99 | 1.99 | 2.00 | 2.05 | 2.04 | 2.11 | 2.16 | 2.17 | 1.98 | 2.40 | 2.11 | |
| Jul 22 | 2.16 | 2.28 | 2.31 | S | 2.37 | 2.22 | 2.12 | 2.22 | 2.14 | 2.09 | 2.09 | 2.05 | 2.04 | 2.00 | 2.01 | 1.96 | 1.95 | 1.95 | 1.94 | 1.96 | 1.97 | 2.00 | 2.05 | 2.05 | 1.94 | 2.37 | 2.08 | |
| Jul 23 | 2.03 | 2.19 | S | 2.14 | 1.97 | 1.97 | 1.97 | 1.98 | 1.98 | 2.00 | 2.00 | 1.99 | 1.98 | 1.98 | 1.98 | 1.97 | 1.96 | 1.96 | 1.97 | 1.97 | 2.00 | 2.08 | 2.12 | 2.10 | 1.96 | 2.19 | 2.01 | |
| Jul 24 | 2.19 | S | 2.25 | 2.21 | 2.20 | 2.16 | 2.13 | 2.15 | 2.07 | 2.05 | 2.02 | 2.00 | 2.00 | 2.00 | 1.99 | 1.99 | 1.98 | 1.97 | 1.99 | 2.00 | 1.98 | 2.00 | 1.99 | 1.99 | 1.97 | 2.25 | 2.06 | |
| Jul 25 | S | 2.02 | 1.92 | 1.90 | 1.90 | 1.91 | 1.93 | 1.93 | 1.93 | 1.94 | 1.93 | 1.92 | 1.92 | 1.92 | 1.92 | 1.93 | 1.94 | 1.93 | 1.93 | 1.93 | 1.95 | 1.95 | 1.95 | 1.97 | S | 1.90 | 2.02 | 1.94 |
| Jul 26 | 2.07 | 2.09 | 2.11 | 2.20 | 2.16 | 2.02 | 1.98 | 1.97 | 1.93 | 1.93 | 1.93 | 1.93 | 1.94 | 1.94 | 1.94 | 1.94 | 1.93 | 1.93 | 1.93 | 1.95 | 1.94 | 1.95 | 1.94 | 1.95 | S | 1.93 | 2.20 | 1.99 |
| Jul 27 | 1.95 | 1.96 | 1.95 | 1.96 | 1.97 | 1.97 | 1.96 | 1.95 | 1.95 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.96 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | 2.02 | 2.04 | 1.95 | 2.04 | 1.97 | |
| Jul 28 | 2.02 | 2.02 | 2.04 | 2.05 | 2.04 | 2.08 | 2.13 | 2.07 | 2.06 | 2.02 | 2.00 | 1.99 | 1.98 | 1.99 | 1.97 | 1.97 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | S | 2.04 | 2.09 | 1.97 | 2.13 | 2.02 | |
| Jul 29 | 2.12 | 2.11 | 2.12 | 2.14 | 2.16 | 2.17 | 2.17 | 2.09 | 2.04 | 2.05 | 2.02 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 | S | 2.02 | 2.05 | 2.09 | 2.10 | 1.99 | 2.17 | 2.06 |
| Jul 30 | 2.10 | 2.10 | 2.09 | 2.09 | 2.11 | 2.12 | 2.10 | 2.07 | 2.04 | 2.02 | 2.00 | 2.00 | 1.99 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | S | 1.99 | 2.00 | 1.99 | 1.96 | 1.95 | 1.95 | 2.12 | 2.03 |
| Jul 31 | 1.95 | 1.96 | 1.99 | 2.01 | 2.02 | 2.09 | 2.05 | 2.06 | 2.01 | 1.99 | 1.99 | 1.97 | 1.96 | 1.97 | 1.96 | 1.96 | 1.96 | S | 1.98 | 1.97 | 2.01 | 2.11 | 2.06 | 2.06 | 1.95 | 2.11 | 2.00 | |
| Diurnal Maximum | 2.19 | 2.28 | 2.31 | 2.21 | 2.37 | 2.36 | 2.40 | 2.30 | 2.22 | 2.16 | 2.11 | 2.08 | 2.10 | 2.07 | 2.07 | 2.05 | 2.04 | 2.04 | 2.05 | 2.06 | 2.07 | 2.11 | 2.16 | 2.17 | | | | |
| Diurnal Average | 2.05 | 2.06 | 2.07 | 2.07 | 2.08 | 2.09 | 2.08 | 2.07 | 2.04 | 2.02 | 2.01 | 2.00 | 1.99 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.99 | 2.00 | 2.02 | 2.04 | 2.04 | | | | |

| | | | | | |
|---|--|-----|---|---|---------------------|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance |
| K | Collection Error | ND | No Data (Machine Not in Service) | Y | Routine Maintenance |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P | Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

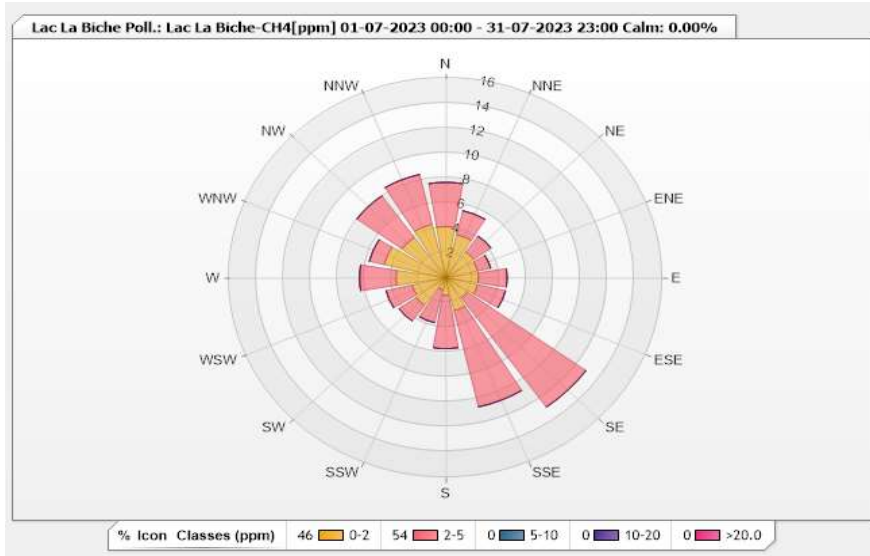


Station: Lac La Biche Poll.: Lac La Biche-CH4[ppm] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.89% Calm Avg: 0.00 [ppm]

| Direction | 0-2 | 2-5 | 5-10 | 10-20 | >20.0 | Total |
|-----------|-------|-------|------|-------|-------|-------|
| N | 4.11 | 3.54 | 0 | 0 | 0 | 7.65 |
| NNE | 3.54 | 1.98 | 0 | 0 | 0 | 5.52 |
| NE | 2.55 | 1.56 | 0 | 0 | 0 | 4.11 |
| ENE | 2.41 | 0.99 | 0 | 0 | 0 | 3.4 |
| E | 2.41 | 2.12 | 0 | 0 | 0 | 4.53 |
| ESE | 2.41 | 2.12 | 0 | 0 | 0 | 4.53 |
| SE | 1.98 | 10.76 | 0 | 0 | 0 | 12.74 |
| SSE | 2.69 | 7.93 | 0 | 0 | 0 | 10.62 |
| S | 1.42 | 4.25 | 0 | 0 | 0 | 5.67 |
| SSW | 0.99 | 2.69 | 0 | 0 | 0 | 3.68 |
| SW | 2.69 | 1.56 | 0 | 0 | 0 | 4.25 |
| WSW | 2.55 | 1.98 | 0 | 0 | 0 | 4.53 |
| W | 3.68 | 2.69 | 0 | 0 | 0 | 6.37 |
| WNW | 4.67 | 1.13 | 0 | 0 | 0 | 5.8 |
| NW | 3.97 | 4.11 | 0 | 0 | 0 | 8.08 |
| NNW | 4.39 | 4.11 | 0 | 0 | 0 | 8.5 |
| Summary | 46.46 | 53.52 | 0 | 0 | 0 | 100 |



Lakeland Industry & Community Association

Lac La Biche Station - July 2023

Summary of Hourly Averages

NON-METHANE HYDROCARBONS (NMHC) in ppm

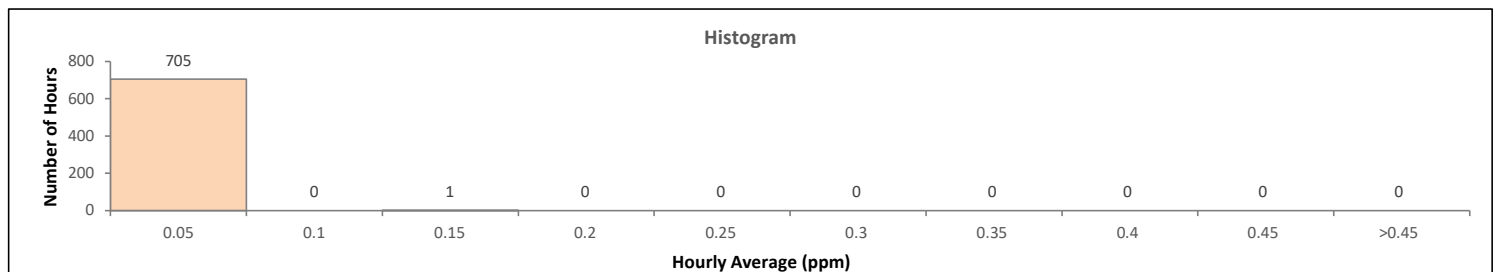
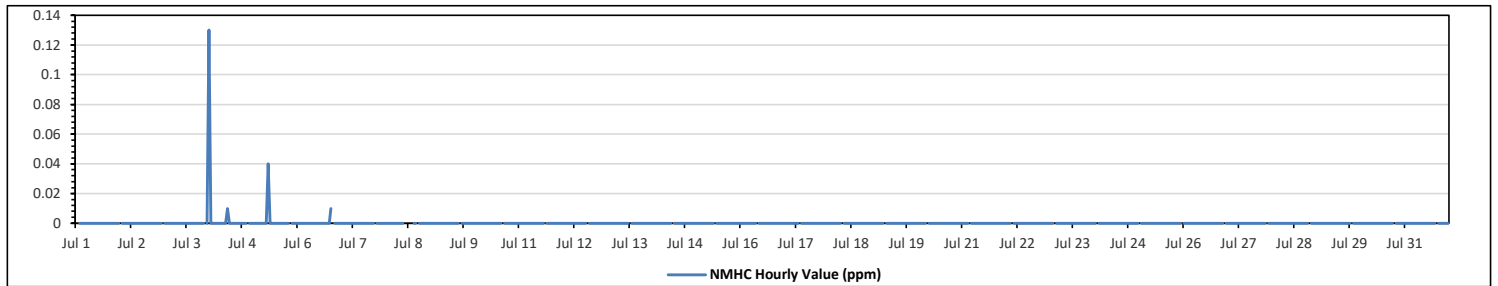
| | | | | | |
|-----------------------|------|-----|------------------|------------------------|-------|
| Maximum Hourly Value: | 0.13 | ppm | on Jul 4 at hr 0 | Hours in Service: | 744 |
| Maximum Daily Value: | 0.01 | ppm | on Jul 4 | Hours of Data: | 706 |
| Minimum Hourly Value: | 0.00 | ppm | on Jul 1 at hr 0 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 0.00 | ppm | on Jul 1 | Hours of Calibration: | 38 |
| Monthly Average: | 0.00 | ppm | | Operational Uptime: | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | | | | |
|-----------------|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------|---------------|---------------|------|------|------|------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 | | | |
| Jul 1 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 2 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | |
| Jul 3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | |
| Jul 4 | 0.13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.13 | 0.01 |
| Jul 5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.00 | 0.00 | |
| Jul 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | C | C | C | C | C | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 9 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 21 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 22 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 23 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 24 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 25 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 26 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 27 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 28 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 29 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 30 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Jul 31 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Diurnal Maximum | 0.13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Diurnal Average | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | |
|---|--|-----|---|---|---------------------|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance |
| K | Collection Error | ND | No Data (Machine Not in Service) | Y | Routine Maintenance |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P | Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

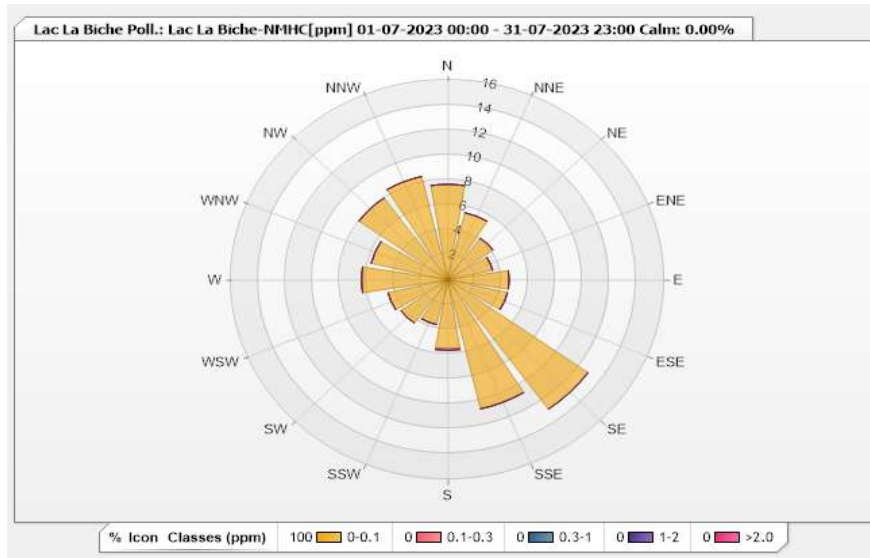


Station: Lac La Biche Poll.: Lac La Biche-NMHC[ppm] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 94.89% Calm Avg: 0.00 [ppm]

| Direction | 0-0.1 | 0.1-0.3 | 0.3-1 | 1-2 | >2.0 | Total |
|-----------|-------|---------|-------|-----|------|-------|
| N | 7.65 | 0 | 0 | 0 | 0 | 7.65 |
| NNE | 5.52 | 0 | 0 | 0 | 0 | 5.52 |
| NE | 4.11 | 0 | 0 | 0 | 0 | 4.11 |
| ENE | 3.4 | 0 | 0 | 0 | 0 | 3.4 |
| E | 4.53 | 0 | 0 | 0 | 0 | 4.53 |
| ESE | 4.53 | 0 | 0 | 0 | 0 | 4.53 |
| SE | 12.75 | 0 | 0 | 0 | 0 | 12.75 |
| SSE | 10.62 | 0 | 0 | 0 | 0 | 10.62 |
| S | 5.52 | 0.14 | 0 | 0 | 0 | 5.66 |
| SSW | 3.68 | 0 | 0 | 0 | 0 | 3.68 |
| SW | 4.25 | 0 | 0 | 0 | 0 | 4.25 |
| WSW | 4.53 | 0 | 0 | 0 | 0 | 4.53 |
| W | 6.37 | 0 | 0 | 0 | 0 | 6.37 |
| WNW | 5.81 | 0 | 0 | 0 | 0 | 5.81 |
| NW | 8.07 | 0 | 0 | 0 | 0 | 8.07 |
| NNW | 8.5 | 0 | 0 | 0 | 0 | 8.5 |
| Summary | 100 | 0.14 | 0 | 0 | 0 | 100 |



Lakeland Industry & Community Association

Lac La Biche Station - July 2023

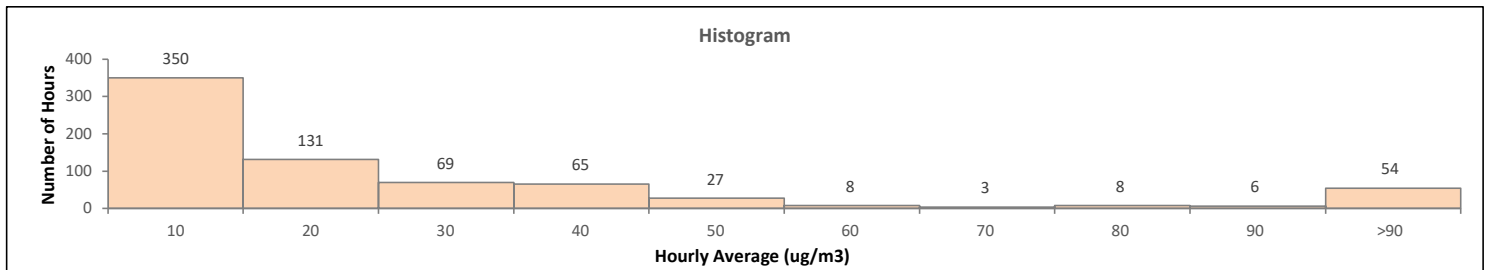
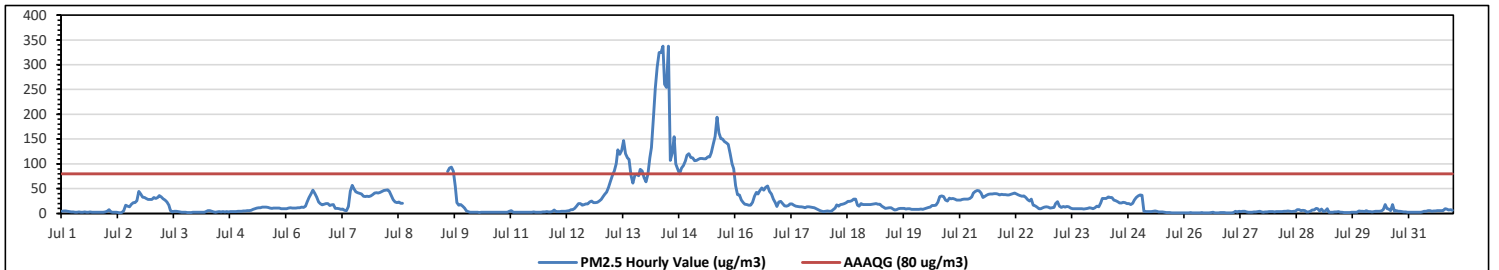
Summary of Hourly Averages

PARTICULATE MATTER 2.5 (PM_{2.5}) in µg/m³

| Alberta Ambient Air Quality Guideline (AAAQG): 1-Hour 80 µg/m ³ , Alberta Ambient Air Quality Objective (AAAO): 24-Hour 29 µg/m ³ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|------|------|------|------|------|------|------|------|------|------|---|---|------|------|------|------|------|------|------|------|------|---------------|---------------|---------------|---------------|-------|--|--|--|--|--|--|
| Number of 1-Hour Exceedances: 60 | | | | | | | | | | | | | Number of 24-Hour Exceedances: 5 | | | | | | | | | | | | | | | | | | | | |
| Maximum Hourly Value: 338 µg/m ³ on Jul 14 at hr 9 | | | | | | | | | | | | | Hours in Service: 744 | | | | | | | | | | | | | | | | | | | | |
| Maximum Daily Value: 172.8 µg/m ³ on Jul 14 | | | | | | | | | | | | | Hours of Data: 721 | | | | | | | | | | | | | | | | | | | | |
| Minimum Hourly Value: 1 µg/m ³ on Jul 25 at hr 19 | | | | | | | | | | | | | Hours of Missing Data: 22 | | | | | | | | | | | | | | | | | | | | |
| Minimum Daily Value: 1 µg/m ³ on Jul 26 | | | | | | | | | | | | | Hours of Calibration: 1 | | | | | | | | | | | | | | | | | | | | |
| Monthly Average: 25.3 µg/m ³ | | | | | | | | | | | | | Operational Uptime: 97.0 | | | | | | | | | | | | | | | | | | | | |
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | | | | | | | |
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 | | | | | | |
| Jul 1 | 4 | 5 | 5 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 3 | 2 | 5 | 3.0 | | | | | | |
| Jul 2 | 5 | 7 | 3 | 2 | 2 | 2 | 2 | 1 | 2 | 6 | 17 | 14 | 14 | 19 | 21 | 21 | 26 | 44 | 39 | 33 | 33 | 30 | 28 | 28 | 1 | 44 | 16.6 | | | | | | |
| Jul 3 | 28 | 32 | 30 | 32 | 36 | 33 | 30 | 27 | 23 | 17 | 5 | 3 | 5 | 4 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 36 | 13.6 | | | | | | |
| Jul 4 | 2 | 2 | 2 | 2 | 2 | 3 | 6 | 6 | 4 | 3 | 2 | 3 | 3 | 3 | 4 | 3 | 4 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 2 | 6 | 3.3 | | | | | | |
| Jul 5 | 5 | 5 | 5 | 5 | 6 | 6 | 8 | 9 | 11 | 11 | 12 | 12 | 13 | 12 | 12 | 11 | 10 | 11 | 11 | 11 | 10 | 9 | 9 | 9 | 5 | 13 | 9.3 | | | | | | |
| Jul 6 | 10 | 10 | 11 | 11 | 11 | 11 | 11 | 11 | 12 | 12 | 15 | 23 | 32 | 40 | 47 | 40 | 33 | 23 | 20 | 17 | 19 | 20 | 20 | 16 | 10 | 47 | 19.7 | | | | | | |
| Jul 7 | 17 | 18 | 10 | 10 | 9 | 8 | 9 | 6 | 6 | 14 | 45 | 57 | 50 | 44 | 42 | 40 | 39 | 34 | 34 | 34 | 34 | 36 | 38 | 41 | 6 | 57 | 28.1 | | | | | | |
| Jul 8 | 42 | 41 | 42 | 44 | 46 | 47 | 48 | 44 | 36 | 28 | 23 | 21 | 23 | 21 | 21 | 21 | C | X | X | X | X | X | X | X | 21 | 48 | NA | | | | | | |
| Jul 9 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | 85 | 91 | 93 | 85 | 54 | 22 | 16 | 18 | 15 | 11 | 11 | 93 | NA | | | | | | |
| Jul 10 | 5 | 4 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 5 | 2.5 | | | | | | |
| Jul 11 | 6 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 3 | 3 | 3 | 7 | 2 | 7 | 3.0 | | | | | | |
| Jul 12 | 3 | 3 | 4 | 4 | 5 | 5 | 5 | 6 | 7 | 7 | 10 | 15 | 19 | 19 | 16 | 18 | 19 | 19 | 23 | 25 | 22 | 22 | 23 | 25 | 3 | 25 | 13.5 | | | | | | |
| Jul 13 | 28 | 34 | 39 | 43 | 52 | 65 | 77 | 85 | 101 | 128 | 119 | 127 | 147 | 120 | 112 | 109 | 77 | 61 | 77 | 79 | 76 | 89 | 86 | 72 | 28 | 147 | 83.5 | | | | | | |
| Jul 14 | 63 | 79 | 112 | 133 | 191 | 252 | 295 | 325 | 325 | 338 | 261 | 255 | 337 | 107 | 122 | 155 | 100 | 90 | 80 | 91 | 96 | 106 | 118 | 120 | 63 | 338 | 172.8 | | | | | | |
| Jul 15 | 113 | 112 | 106 | 107 | 109 | 111 | 110 | 110 | 110 | 114 | 115 | 123 | 139 | 155 | 194 | 163 | 151 | 150 | 145 | 143 | 139 | 120 | 100 | 90 | 90 | 194 | 126.2 | | | | | | |
| Jul 16 | 56 | 38 | 38 | 27 | 22 | 18 | 18 | 17 | 16 | 23 | 35 | 42 | 40 | 46 | 51 | 47 | 53 | 56 | 45 | 39 | 29 | 21 | 14 | 23 | 14 | 56 | 33.8 | | | | | | |
| Jul 17 | 24 | 20 | 16 | 15 | 16 | 19 | 19 | 17 | 15 | 14 | 13 | 12 | 12 | 13 | 13 | 13 | 12 | 11 | 10 | 8 | 6 | 4 | 4 | 4 | 4 | 24 | 13.3 | | | | | | |
| Jul 18 | 4 | 5 | 4 | 4 | 7 | 11 | 17 | 14 | 18 | 19 | 20 | 22 | 24 | 24 | 26 | 29 | 29 | 16 | 15 | 19 | 18 | 18 | 18 | 18 | 4 | 29 | 16.6 | | | | | | |
| Jul 19 | 18 | 19 | 19 | 20 | 18 | 19 | 15 | 13 | 10 | 10 | 11 | 11 | 9 | 7 | 7 | 9 | 10 | 10 | 9 | 9 | 9 | 8 | 8 | 7 | 20 | 12.1 | | | | | | | |
| Jul 20 | 8 | 8 | 8 | 9 | 8 | 9 | 11 | 12 | 13 | 16 | 16 | 16 | 23 | 34 | 35 | 34 | 27 | 25 | 31 | 30 | 30 | 29 | 27 | 26 | 8 | 35 | 20.2 | | | | | | |
| Jul 21 | 27 | 28 | 29 | 28 | 29 | 30 | 33 | 41 | 44 | 46 | 46 | 41 | 32 | 34 | 37 | 39 | 39 | 39 | 40 | 40 | 40 | 37 | 38 | 38 | 27 | 46 | 36.4 | | | | | | |
| Jul 22 | 38 | 37 | 37 | 38 | 40 | 41 | 39 | 37 | 36 | 35 | 36 | 32 | 28 | 25 | 29 | 17 | 15 | 13 | 9 | 10 | 12 | 12 | 13 | 12 | 9 | 41 | 26.6 | | | | | | |
| Jul 23 | 11 | 11 | 12 | 20 | 24 | 15 | 12 | 14 | 12 | 14 | 13 | 11 | 10 | 10 | 9 | 10 | 9 | 9 | 9 | 10 | 10 | 11 | 11 | 9 | 9 | 24 | 11.8 | | | | | | |
| Jul 24 | 11 | 14 | 14 | 21 | 31 | 31 | 30 | 33 | 32 | 32 | 27 | 26 | 24 | 21 | 21 | 22 | 22 | 20 | 20 | 18 | 21 | 26 | 32 | 36 | 11 | 36 | 24.2 | | | | | | |
| Jul 25 | 37 | 36 | 4 | 3 | 3 | 4 | 3 | 4 | 5 | 3 | 3 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 37 | 5.3 | | | | | | |
| Jul 26 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 1.2 | | | | | | |
| Jul 27 | 1 | 1 | 2 | 4 | 2 | 5 | 4 | 4 | 4 | 3 | 2 | 3 | 3 | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 1 | 5 | 3.1 | | | | | | |
| Jul 28 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 5 | 4 | 4 | 4 | 5 | 7 | 8 | 6 | 6 | 6 | 3 | 3 | 4 | 7 | 7 | 10 | 9 | 3 | 10 | 5.1 | | | | | | |
| Jul 29 | 5 | 9 | 3 | 5 | 9 | 3 | 2 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 5 | 4 | 4 | 2 | 9 | 3.3 | | | | | | | |
| Jul 30 | 4 | 6 | 4 | 3 | 3 | 3 | 4 | 4 | 5 | 5 | 8 | 18 | 9 | 9 | 6 | 18 | 4 | 6 | 4 | 5 | 3 | 3 | 3 | 3 | 3 | 18 | 5.7 | | | | | | |
| Jul 31 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 5 | 4 | 6 | 6 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 9 | 9 | 7 | 7 | 6 | 2 | 9 | 4.7 | | | | | | | |
| Diurnal Maximum | 113 | 112 | 112 | 133 | 191 | 252 | 295 | 325 | 325 | 338 | 261 | 255 | 337 | 155 | 194 | 163 | 151 | 150 | 145 | 143 | 139 | 120 | 118 | 120 | | | | | | | | | |
| Diurnal Average | 19.3 | 19.8 | 19.0 | 20.2 | 23.2 | 25.5 | 27.4 | 28.7 | 28.9 | 30.6 | 29.1 | 30.4 | 34.0 | 26.4 | 30.3 | 30.6 | 26.7 | 25.0 | 23.5 | 22.5 | 22.0 | 22.0 | 21.5 | 21.1 | | | | | | | | | |
| C | Monthly Calibration | | | | | | | | | | | S | | | | | | | | | | | Q | | | | | | | | | | |
| K | Collection Error | | | | | | | | | | | ND | | | | | | | | | | | Y | | | | | | | | | | |
| X | Invalid Data (Equipment Malfunction /Recovery) | | | | | | | | | | | NRM | | | | | | | | | | | P | | | | | | | | | | |
| | | | | | | | | | | | | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | | | | | | | | | Power Failure | | | | | | | | | | |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.

Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

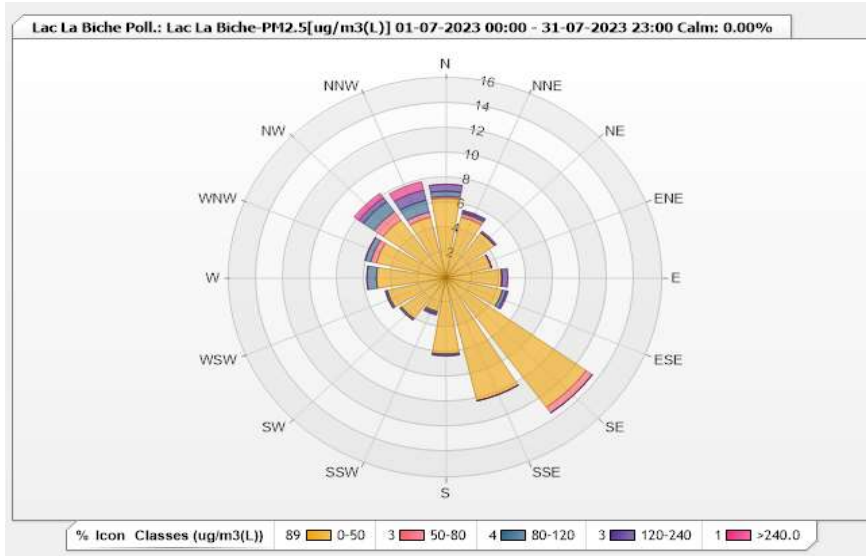


Station: Lac La Biche Poll.: Lac La Biche-PM2.5[ug/m3(L)] Monthly: 07-2023

Type: Pollution Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm: 0.00% Valid Data: 96.91% Calm Avg: 0.00 [ppm]

| Direction | 0-50 | 50-80 | 80-120 | 120-240 | >240.0 | Total |
|-----------|-------|-------|--------|---------|--------|-------|
| N | 6.38 | 0.14 | 0.42 | 0.55 | 0 | 7.49 |
| NNE | 4.99 | 0.28 | 0.14 | 0.14 | 0 | 5.55 |
| NE | 4.44 | 0 | 0 | 0.14 | 0 | 4.58 |
| ENE | 3.47 | 0 | 0 | 0 | 0 | 3.47 |
| E | 4.16 | 0 | 0 | 0.42 | 0 | 4.58 |
| ESE | 4.3 | 0 | 0.28 | 0.14 | 0 | 4.72 |
| SE | 12.76 | 0.55 | 0 | 0 | 0 | 13.31 |
| SSE | 10.12 | 0 | 0 | 0 | 0 | 10.12 |
| S | 6.1 | 0 | 0.14 | 0 | 0 | 6.24 |
| SSW | 2.77 | 0 | 0.14 | 0.14 | 0 | 3.05 |
| SW | 4.02 | 0 | 0.14 | 0 | 0 | 4.16 |
| WSW | 4.44 | 0 | 0.14 | 0 | 0 | 4.58 |
| W | 5.13 | 0 | 0.69 | 0 | 0 | 5.82 |
| WNW | 5.27 | 0.42 | 0.42 | 0 | 0 | 6.11 |
| NW | 5.69 | 0.83 | 0.97 | 0.42 | 0.42 | 8.33 |
| NNW | 4.99 | 0.42 | 0.97 | 0.83 | 0.69 | 7.9 |
| Summary | 89.03 | 2.64 | 4.45 | 2.78 | 1.11 | 100 |



Lakeland Industry & Community Association

Lac La Biche Station - July 2023

Summary of Hourly Averages

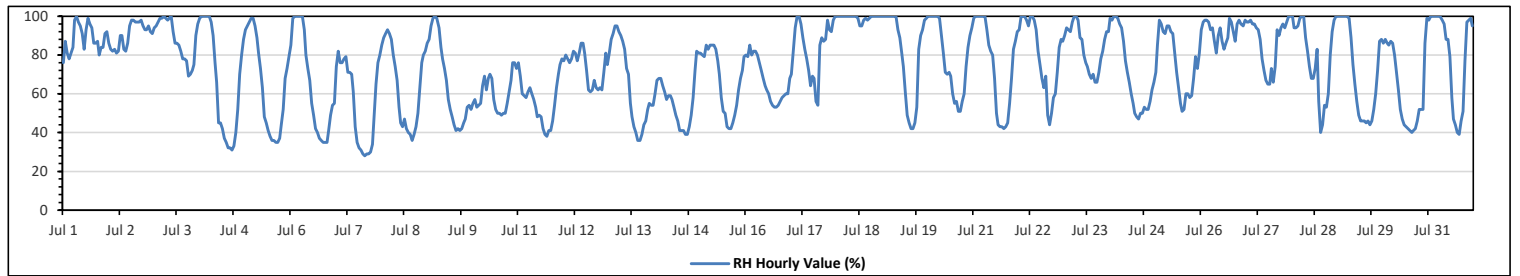
RELATIVE HUMIDITY (RH) in %

| | | | | | |
|-----------------------|------|---|-------------------|------------------------|-------|
| Maximum Hourly Value: | 100 | % | on Jul 1 at hr 7 | Hours in Service: | 744 |
| Maximum Daily Value: | 99.3 | % | on Jul 18 | Hours of Data: | 744 |
| Minimum Hourly Value: | 28 | % | on Jul 7 at hr 15 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 55.4 | % | on Jul 7 | Hours of Calibration: | 0 |
| Monthly Average: | 74.0 | % | | Operational Uptime: | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | | |
|-----------------|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------|---------------|---------------|------|------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 | |
| Jul 1 | 76 | 87 | 81 | 78 | 81 | 84 | 98 | 100 | 97 | 95 | 91 | 83 | 93 | 99 | 96 | 94 | 86 | 86 | 87 | 80 | 84 | 84 | 91 | 92 | 76 | 100 | 88.5 | |
| Jul 2 | 86 | 83 | 82 | 83 | 81 | 82 | 90 | 90 | 83 | 82 | 86 | 95 | 98 | 98 | 97 | 97 | 98 | 95 | 93 | 93 | 95 | 92 | 91 | 81 | 98 | 90.3 | | |
| Jul 3 | 94 | 95 | 97 | 99 | 99 | 100 | 99 | 98 | 99 | 100 | 92 | 86 | 86 | 85 | 82 | 78 | 78 | 77 | 69 | 70 | 72 | 75 | 90 | 96 | 69 | 100 | 88.2 | |
| Jul 4 | 99 | 100 | 100 | 100 | 100 | 100 | 97 | 90 | 76 | 66 | 45 | 45 | 42 | 37 | 35 | 32 | 32 | 31 | 33 | 40 | 52 | 70 | 80 | 88 | 31 | 100 | 66.3 | |
| Jul 5 | 93 | 95 | 97 | 99 | 99 | 95 | 89 | 81 | 73 | 63 | 48 | 45 | 41 | 38 | 36 | 35 | 35 | 37 | 44 | 52 | 68 | 73 | 79 | 35 | 99 | 64.6 | | |
| Jul 6 | 85 | 99 | 100 | 100 | 100 | 100 | 93 | 80 | 73 | 67 | 55 | 49 | 42 | 40 | 37 | 36 | 35 | 35 | 35 | 41 | 49 | 54 | 55 | 35 | 100 | 65.0 | | |
| Jul 7 | 74 | 82 | 76 | 76 | 78 | 79 | 71 | 71 | 70 | 61 | 43 | 35 | 32 | 31 | 29 | 28 | 29 | 29 | 30 | 34 | 51 | 65 | 76 | 80 | 28 | 82 | 55.4 | |
| Jul 8 | 85 | 89 | 91 | 93 | 91 | 88 | 80 | 74 | 67 | 53 | 45 | 43 | 47 | 42 | 40 | 39 | 36 | 39 | 43 | 50 | 63 | 76 | 80 | 82 | 36 | 93 | 64.0 | |
| Jul 9 | 86 | 88 | 95 | 99 | 100 | 99 | 94 | 84 | 78 | 73 | 67 | 57 | 52 | 48 | 44 | 41 | 42 | 41 | 42 | 45 | 47 | 53 | 54 | 52 | 41 | 100 | 65.9 | |
| Jul 10 | 55 | 57 | 53 | 54 | 55 | 64 | 69 | 62 | 68 | 70 | 68 | 57 | 52 | 50 | 50 | 49 | 50 | 50 | 55 | 61 | 67 | 76 | 76 | 73 | 49 | 76 | 60.0 | |
| Jul 11 | 76 | 69 | 60 | 59 | 58 | 61 | 63 | 60 | 57 | 53 | 48 | 49 | 48 | 42 | 39 | 38 | 41 | 41 | 46 | 54 | 63 | 70 | 75 | 78 | 38 | 78 | 56.2 | |
| Jul 12 | 77 | 80 | 78 | 76 | 78 | 82 | 81 | 77 | 81 | 86 | 86 | 81 | 72 | 62 | 61 | 62 | 67 | 63 | 62 | 63 | 62 | 71 | 81 | 75 | 61 | 86 | 73.5 | |
| Jul 13 | 81 | 88 | 91 | 95 | 95 | 92 | 90 | 87 | 83 | 73 | 70 | 55 | 48 | 43 | 40 | 36 | 36 | 39 | 44 | 46 | 52 | 55 | 54 | 54 | 36 | 95 | 64.5 | |
| Jul 14 | 60 | 67 | 68 | 68 | 64 | 61 | 57 | 59 | 59 | 57 | 53 | 49 | 46 | 41 | 41 | 41 | 39 | 39 | 43 | 49 | 58 | 72 | 82 | 81 | 39 | 82 | 56.4 | |
| Jul 15 | 81 | 80 | 79 | 85 | 83 | 85 | 85 | 85 | 83 | 77 | 70 | 58 | 51 | 50 | 43 | 42 | 42 | 45 | 49 | 54 | 62 | 68 | 72 | 79 | 42 | 85 | 67.0 | |
| Jul 16 | 80 | 79 | 85 | 80 | 82 | 82 | 80 | 76 | 72 | 68 | 64 | 62 | 60 | 56 | 54 | 53 | 53 | 54 | 56 | 58 | 59 | 60 | 60 | 68 | 53 | 85 | 66.7 | |
| Jul 17 | 70 | 82 | 94 | 100 | 100 | 96 | 89 | 83 | 78 | 72 | 64 | 69 | 68 | 56 | 54 | 85 | 89 | 87 | 88 | 98 | 93 | 92 | 98 | 100 | 54 | 100 | 83.5 | |
| Jul 18 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99 | 95 | 95 | 98 | 99 | 98 | 99 | 100 | 100 | 100 | 100 | 100 | 100 | 95 | 100 | 99.3 | |
| Jul 19 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 93 | 89 | 81 | 74 | 61 | 49 | 45 | 42 | 42 | 45 | 53 | 83 | 90 | 93 | 98 | 99 | 42 | 100 | 80.7 |
| Jul 20 | 100 | 100 | 100 | 100 | 100 | 100 | 99 | 90 | 81 | 71 | 70 | 71 | 69 | 60 | 55 | 56 | 51 | 51 | 56 | 60 | 74 | 84 | 90 | 94 | 51 | 100 | 78.4 | |
| Jul 21 | 99 | 100 | 100 | 100 | 100 | 100 | 100 | 93 | 85 | 82 | 80 | 68 | 50 | 44 | 43 | 43 | 42 | 43 | 45 | 55 | 68 | 83 | 87 | 92 | 42 | 100 | 75.1 | |
| Jul 22 | 93 | 100 | 100 | 100 | 98 | 95 | 100 | 100 | 98 | 93 | 82 | 75 | 68 | 63 | 69 | 49 | 44 | 50 | 58 | 60 | 71 | 84 | 88 | 87 | 44 | 100 | 80.2 | |
| Jul 23 | 90 | 94 | 93 | 92 | 97 | 100 | 100 | 98 | 89 | 88 | 80 | 76 | 74 | 70 | 68 | 70 | 66 | 66 | 71 | 78 | 82 | 88 | 92 | 92 | 66 | 100 | 83.9 | |
| Jul 24 | 99 | 98 | 100 | 100 | 99 | 96 | 94 | 87 | 77 | 71 | 66 | 60 | 55 | 50 | 48 | 47 | 50 | 50 | 53 | 52 | 52 | 56 | 62 | 66 | 47 | 100 | 70.3 | |
| Jul 25 | 71 | 85 | 98 | 96 | 92 | 91 | 95 | 95 | 92 | 91 | 81 | 71 | 63 | 55 | 51 | 52 | 60 | 60 | 58 | 59 | 68 | 79 | 73 | 81 | 51 | 98 | 75.7 | |
| Jul 26 | 93 | 97 | 98 | 98 | 97 | 93 | 94 | 87 | 81 | 90 | 94 | 87 | 83 | 86 | 89 | 99 | 97 | 92 | 87 | 96 | 98 | 96 | 95 | 98 | 81 | 99 | 92.7 | |
| Jul 27 | 97 | 97 | 98 | 96 | 96 | 94 | 93 | 88 | 78 | 72 | 67 | 65 | 65 | 73 | 66 | 74 | 93 | 90 | 94 | 96 | 94 | 97 | 100 | 100 | 65 | 100 | 86.8 | |
| Jul 28 | 100 | 94 | 94 | 95 | 99 | 100 | 100 | 89 | 82 | 74 | 68 | 68 | 73 | 83 | 56 | 40 | 44 | 54 | 53 | 60 | 80 | 92 | 98 | 100 | 40 | 100 | 79.0 | |
| Jul 29 | 100 | 100 | 100 | 100 | 100 | 100 | 99 | 89 | 75 | 65 | 56 | 49 | 46 | 46 | 46 | 45 | 46 | 44 | 46 | 52 | 60 | 72 | 87 | 88 | 44 | 100 | 71.3 | |
| Jul 30 | 86 | 88 | 86 | 85 | 87 | 86 | 80 | 71 | 62 | 52 | 47 | 44 | 43 | 42 | 41 | 40 | 41 | 42 | 46 | 52 | 52 | 52 | 86 | 99 | 40 | 99 | 62.9 | |
| Jul 31 | 98 | 100 | 100 | 100 | 100 | 100 | 98 | 96 | 88 | 88 | 79 | 58 | 47 | 44 | 40 | 39 | 46 | 51 | 77 | 97 | 98 | 99 | 95 | 39 | 100 | 80.8 | | |
| Diurnal Maximum | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99 | 98 | 99 | 98 | 99 | 98 | 99 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | |
| Diurnal Average | 86.6 | 89.5 | 90.1 | 90.5 | 90.6 | 90.5 | 89.9 | 85.6 | 80.4 | 75.7 | 69.9 | 64.8 | 60.9 | 57.5 | 54.8 | 54.3 | 54.9 | 55.5 | 57.6 | 63.0 | 69.6 | 76.5 | 82.0 | 84.3 | 39 | 100 | 80.8 | |

| | | |
|---|--|------------------------------|
| C Monthly Calibration | S Daily Zero-Span Check | Q Quality Assurance |
| K Collection Error | ND No Data (Machine Not in Service) | Y Routine Maintenance |
| X InValid Data (Equipment Malfunction /Recovery) | NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



Lakeland Industry & Community Association

Lac La Biche Station - July 2023

Summary of Hourly Averages

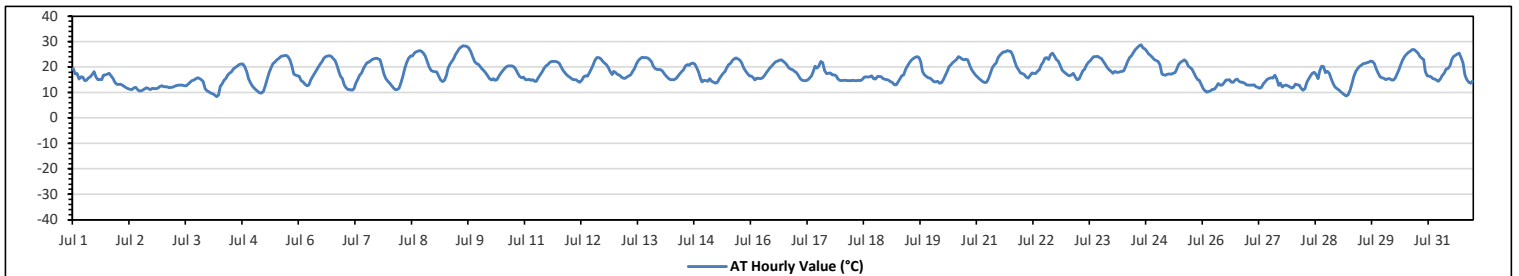
AMBIENT TEMPERATURE (AT) in Degree Celsius

| | | | | |
|-----------------------|---------|--------------------|------------------------|-------|
| Maximum Hourly Value: | 28.8 °C | on Jul 24 at hr 15 | Hours in Service: | 744 |
| Maximum Daily Value: | 23.2 °C | on Jul 24 | Hours of Data: | 744 |
| Minimum Hourly Value: | 8.4 °C | on Jul 4 at hr 4 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 11.8 °C | on Jul 2 | Hours of Calibration: | 0 |
| Monthly Average: | 17.8 °C | | Operational Uptime: | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | |
|-----------------|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------|---------------|---------------|------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 |
| Jul 1 | 19.4 | 17.3 | 17.4 | 15.3 | 16.2 | 16 | 14.6 | 14.8 | 15.7 | 16.1 | 17.1 | 18.2 | 16 | 15 | 15.2 | 15 | 16.8 | 16.9 | 17.2 | 17.5 | 16.5 | 15.6 | 14.1 | 13.3 | 13.3 | 19.4 | 16.1 |
| Jul 2 | 13.2 | 13.3 | 13 | 12.4 | 11.9 | 11.6 | 11.3 | 11.1 | 11.8 | 12 | 11.2 | 10.6 | 10.6 | 11 | 11.5 | 11.9 | 11.6 | 11.2 | 11.7 | 11.6 | 11.5 | 11.8 | 12.4 | 12.6 | 10.6 | 13.3 | 11.8 |
| Jul 3 | 12.3 | 12.2 | 12.1 | 11.9 | 12 | 12.1 | 12.5 | 12.8 | 13 | 13 | 12.9 | 12.6 | 12.6 | 13.3 | 14 | 14.6 | 14.9 | 15.5 | 15.8 | 15.6 | 15.1 | 14.3 | 11.6 | 10.6 | 10.6 | 15.8 | 13.2 |
| Jul 4 | 10.3 | 9.8 | 9.5 | 9 | 8.4 | 9 | 12.3 | 13.4 | 14.7 | 15.6 | 16.9 | 17.6 | 18.1 | 19.2 | 19.9 | 20.3 | 21 | 21.2 | 21.2 | 20.1 | 18.2 | 15.3 | 13.8 | 12.6 | 8.4 | 21.2 | 15.3 |
| Jul 5 | 11.8 | 11 | 10.5 | 9.9 | 9.7 | 10.5 | 12.6 | 15.3 | 17.8 | 19.8 | 21.3 | 21.9 | 22.8 | 23.3 | 24 | 24.3 | 24.5 | 24.6 | 24.1 | 22.8 | 20.5 | 17.3 | 16.8 | 16.6 | 9.7 | 24.6 | 18.1 |
| Jul 6 | 16.4 | 14.6 | 14.2 | 13.3 | 12.7 | 12.9 | 14.9 | 16 | 17.3 | 18.6 | 19.9 | 21.1 | 22.1 | 23.5 | 24 | 24.4 | 24.5 | 24.1 | 23.2 | 22.6 | 20.7 | 18.2 | 16.4 | 15.5 | 12.7 | 24.5 | 18.8 |
| Jul 7 | 13 | 11.8 | 11.2 | 11.2 | 10.9 | 11.4 | 13.6 | 15.2 | 16.8 | 17.7 | 19.5 | 20.6 | 21.7 | 22 | 22.6 | 23.1 | 23.3 | 23.5 | 23.2 | 22.8 | 20.1 | 17.2 | 15.4 | 14.5 | 10.9 | 23.5 | 17.6 |
| Jul 8 | 13.6 | 12.7 | 11.8 | 11.1 | 11.1 | 11.7 | 13.8 | 16.4 | 19.5 | 21.8 | 23.5 | 24.4 | 24.4 | 25.5 | 26 | 26.2 | 26.5 | 26.1 | 25.5 | 24.4 | 22.3 | 20.1 | 18.7 | 18.4 | 11.1 | 26.5 | 19.8 |
| Jul 9 | 18.2 | 18.1 | 16.4 | 14.9 | 14.3 | 14.8 | 16.7 | 19.5 | 21.1 | 22.2 | 23.3 | 24.9 | 26 | 27.2 | 27.9 | 28.4 | 28.2 | 28.1 | 27.5 | 26.1 | 24.1 | 22.3 | 21.3 | 21.2 | 14.3 | 28.4 | 22.2 |
| Jul 10 | 20.3 | 19.3 | 18.6 | 17.7 | 16.5 | 15.4 | 14.9 | 15.4 | 14.7 | 15 | 16.4 | 17.5 | 18.6 | 19.4 | 20 | 20.4 | 20.5 | 20.5 | 20 | 19.1 | 17.5 | 16.3 | 15.8 | 16 | 14.7 | 20.5 | 17.7 |
| Jul 11 | 15.1 | 15 | 15.2 | 14.8 | 15 | 14.5 | 14.5 | 15.8 | 16.9 | 18.1 | 19.5 | 20.4 | 21 | 21.8 | 22.2 | 22.3 | 22.2 | 21.9 | 21.4 | 20.2 | 18.8 | 17.8 | 17 | 16.3 | 14.5 | 22.3 | 18.2 |
| Jul 12 | 15.9 | 15.2 | 15 | 15 | 14.5 | 14 | 14.7 | 16.2 | 16.5 | 16.4 | 17.5 | 19 | 20.7 | 22.6 | 23.7 | 23.8 | 23.3 | 22.4 | 21.5 | 21 | 19.9 | 18.2 | 17.1 | 18.4 | 14.0 | 23.8 | 18.4 |
| Jul 13 | 17.8 | 17.1 | 16.9 | 16.1 | 15.7 | 15.6 | 16 | 16.5 | 17 | 18.3 | 19.4 | 21.3 | 22.6 | 23.3 | 23.9 | 23.8 | 23.8 | 23.6 | 22.9 | 22.1 | 20.5 | 19.5 | 19 | 19.1 | 15.6 | 23.9 | 19.7 |
| Jul 14 | 18.9 | 18.3 | 17.2 | 16.3 | 15.6 | 15.1 | 15 | 15.5 | 16.3 | 17.3 | 18.2 | 18.9 | 20.5 | 21 | 20.7 | 21.3 | 21.5 | 21.2 | 19.9 | 18.1 | 15.6 | 14.2 | 14.7 | 14.2 | 14.2 | 21.5 | 17.8 |
| Jul 15 | 14.6 | 14.5 | 15.5 | 14.4 | 14 | 13.6 | 14 | 15.5 | 16.5 | 17.5 | 18.4 | 19.8 | 21 | 21.4 | 22.5 | 23.2 | 23.6 | 23.2 | 22.7 | 21.5 | 19.8 | 18.5 | 17.4 | 16.5 | 13.6 | 23.6 | 18.3 |
| Jul 16 | 16.4 | 15.9 | 14.9 | 15.7 | 15.6 | 15.4 | 15.8 | 16.7 | 17.8 | 18.8 | 19.8 | 20.4 | 21.3 | 22.1 | 22.4 | 22.7 | 22.8 | 22.3 | 21.7 | 20.8 | 19.8 | 19.2 | 18.9 | 18.4 | 14.9 | 22.8 | 19.0 |
| Jul 17 | 17.8 | 16.7 | 15.4 | 14.7 | 14.6 | 14.6 | 15.1 | 15.7 | 16.5 | 18.5 | 20.3 | 19.6 | 20.5 | 22.3 | 21.7 | 18.6 | 17.4 | 17.6 | 17.7 | 16.9 | 17 | 16.5 | 15.4 | 14.8 | 14.6 | 22.3 | 17.3 |
| Jul 18 | 14.6 | 14.7 | 14.7 | 14.6 | 14.6 | 14.6 | 14.7 | 14.6 | 14.6 | 14.8 | 14.6 | 15.2 | 16 | 16.1 | 16 | 16.2 | 16.6 | 15.4 | 15.3 | 16.3 | 16.3 | 16.1 | 15.4 | 15.2 | 14.6 | 16.6 | 15.3 |
| Jul 19 | 15 | 14.8 | 14.3 | 13.9 | 13.1 | 13.1 | 14 | 15.3 | 16.6 | 17 | 19 | 20.4 | 21.7 | 22.7 | 23.4 | 23.9 | 24.1 | 23.8 | 22.3 | 18.2 | 16.9 | 16.3 | 15.8 | 15.7 | 13.1 | 24.1 | 18.0 |
| Jul 20 | 15 | 14.3 | 14.2 | 14.4 | 13.6 | 13.8 | 15 | 16.7 | 18.4 | 20.2 | 20.9 | 21.7 | 22.4 | 23 | 24.1 | 23.7 | 23.1 | 22.8 | 23.1 | 22.8 | 20.8 | 19 | 17.9 | 17 | 13.6 | 24.1 | 19.1 |
| Jul 21 | 16.1 | 15.4 | 14.9 | 14.3 | 13.9 | 14.1 | 15.4 | 17.6 | 19.8 | 20.9 | 21.6 | 23.7 | 24.7 | 25.5 | 26 | 26 | 26.5 | 26.3 | 26.1 | 24.6 | 22.3 | 20 | 18.9 | 17.7 | 13.9 | 26.5 | 20.5 |
| Jul 22 | 17.4 | 17.1 | 16 | 15.7 | 16.7 | 17.7 | 17.5 | 17.4 | 18.3 | 18.9 | 20.9 | 22 | 23.5 | 23.7 | 22.9 | 24.9 | 25.5 | 24.3 | 23 | 22.4 | 20.7 | 18.8 | 18.2 | 17.6 | 15.7 | 25.5 | 20.0 |
| Jul 23 | 16.9 | 16.5 | 16.9 | 17.5 | 16.2 | 15.1 | 15.3 | 17 | 18.6 | 19.1 | 20.7 | 21.8 | 22.5 | 23.5 | 24.1 | 24 | 24.2 | 23.8 | 23.3 | 22.3 | 21.1 | 19.9 | 18.9 | 18.4 | 15.1 | 24.2 | 19.9 |
| Jul 24 | 17.6 | 18.3 | 18 | 18 | 18.2 | 18.4 | 18.6 | 20.3 | 22.3 | 23.8 | 24.5 | 25.7 | 26.8 | 27.6 | 28.4 | 28.8 | 27.5 | 27.1 | 26.4 | 25.3 | 24.6 | 23.9 | 23 | 22.6 | 17.6 | 28.8 | 23.2 |
| Jul 25 | 22.3 | 20.9 | 17.3 | 16.9 | 16.8 | 17.2 | 17.3 | 17.2 | 17.5 | 17.8 | 19.1 | 21 | 21.8 | 22.4 | 22.8 | 22.2 | 20.4 | 19.9 | 19.2 | 17.7 | 16.2 | 15 | 14.7 | 13.2 | 13.2 | 22.8 | 18.6 |
| Jul 26 | 11.5 | 10.8 | 10.2 | 10.5 | 10.6 | 11.3 | 11.3 | 12.2 | 13.5 | 13 | 12.9 | 13.8 | 14.9 | 14.9 | 15.1 | 14 | 14.1 | 14.9 | 15.3 | 14.4 | 14 | 14 | 13.6 | 13.1 | 10.2 | 15.3 | 13.1 |
| Jul 27 | 12.9 | 13 | 13 | 13.1 | 12.3 | 12 | 11.7 | 12 | 13.4 | 14.3 | 15.2 | 15.6 | 15.8 | 15.7 | 16.8 | 15.3 | 12.8 | 13.7 | 12.1 | 12.8 | 12.9 | 12.6 | 12.2 | 11.8 | 11.7 | 16.8 | 13.5 |
| Jul 28 | 12 | 13.3 | 13.1 | 13 | 11.7 | 10.9 | 11.5 | 14 | 15.4 | 16.7 | 17.5 | 17.9 | 17.1 | 15.4 | 18.5 | 20.3 | 20.2 | 17.8 | 18.4 | 17.5 | 15.4 | 13.5 | 12.1 | 11.6 | 10.9 | 20.3 | 15.2 |
| Jul 29 | 11 | 10.3 | 9.7 | 9.2 | 8.7 | 9.2 | 10.9 | 13.5 | 16.4 | 18.4 | 19.4 | 20.2 | 20.7 | 21.3 | 21.4 | 21.7 | 21.9 | 22.4 | 22.2 | 21.3 | 19.2 | 17.5 | 16.2 | 15.8 | 8.7 | 22.4 | 16.6 |
| Jul 30 | 15.6 | 15.1 | 15.5 | 15.4 | 14.9 | 14.9 | 15.7 | 17.3 | 19 | 20.8 | 22.7 | 24 | 25 | 25.7 | 26.3 | 26.8 | 26.9 | 26.3 | 25.5 | 24.2 | 23.5 | 23 | 18.4 | 16.5 | 14.9 | 26.9 | 20.8 |
| Jul 31 | 16.4 | 16.1 | 15.4 | 15.3 | 14.8 | 14.5 | 15.3 | 16.7 | 17.6 | 19.2 | 19.4 | 20.5 | 23 | 24 | 24.6 | 25.2 | 25.5 | 23.7 | 21.6 | 16.8 | 15 | 14 | 13.7 | 14.4 | 13.7 | 25.5 | 18.4 |
| Diurnal Maximum | 22.3 | 20.9 | 18.6 | 18.0 | 18.2 | 18.4 | 18.6 | 20.3 | 22.3 | 23.8 | 24.5 | 25.7 | 26.8 | 27.6 | 28.4 | 28.8 | 28.2 | 28.1 | 27.5 | 26.1 | 24.6 | 23.9 | 23.0 | 22.6 | | | |
| Diurnal Average | 15.5 | 14.9 | 14.5 | 14.0 | 13.7 | 13.7 | 14.4 | 15.6 | 16.8 | 17.8 | 18.8 | 19.7 | 20.5 | 21.1 | 21.7 | 21.8 | 21.5 | 21.0 | 20.1 | 18.7 | 17.3 | 16.3 | 15.8 | | | | |

| | | | | | |
|----------|--|------------|---|----------|---------------------|
| C | Monthly Calibration | S | Daily Zero-Span Check | Q | Quality Assurance |
| K | Collection Error | ND | No Data (Machine Not in Service) | Y | Routine Maintenance |
| X | InValid Data (Equipment Malfunction /Recovery) | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P | Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per days is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



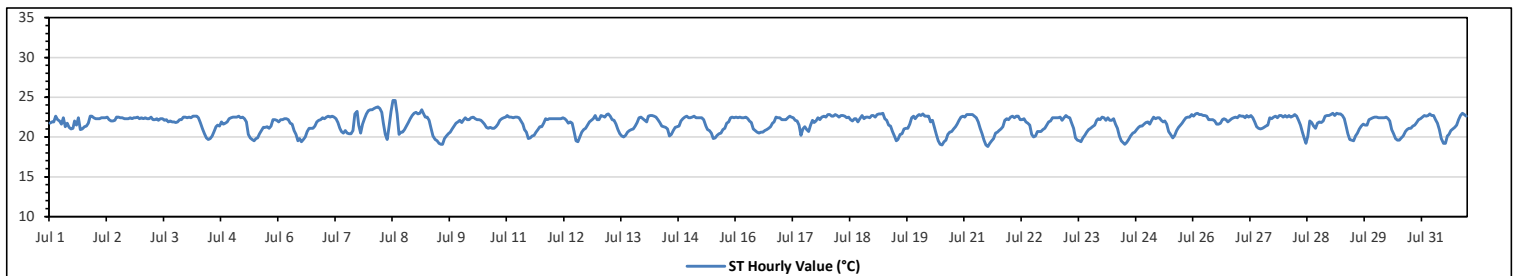
Lakeland Industry & Community Association
Lac La Biche Station - July 2023
Summary of Hourly Averages
STATION TEMPERATURE (ST) in Degree Celsius

| | | | | | |
|-----------------------|------|----|--------------------|------------------------|-------|
| Maximum Hourly Value: | 24.6 | °C | on Jul 8 at hr 12 | Hours in Service: | 744 |
| Maximum Daily Value: | 22.5 | °C | on Jul 18 | Hours of Data: | 744 |
| Minimum Hourly Value: | 18.8 | °C | on Jul 21 at hr 12 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 21.0 | °C | on Jul 24 | Hours of Calibration: | 0 |
| Monthly Average: | 21.7 | °C | | Operational Uptime: | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | |
|-----------------|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------|---------------|---------------|------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 |
| Jul 1 | 21.7 | 21.9 | 21.9 | 22.6 | 22.2 | 22.0 | 21.6 | 22.4 | 21.3 | 21.7 | 21.2 | 21.0 | 21.1 | 22.0 | 21.5 | 22.4 | 20.9 | 21.0 | 21.3 | 21.4 | 21.7 | 22.6 | 22.6 | 22.4 | 20.9 | 22.6 | 21.8 |
| Jul 2 | 22.3 | 22.3 | 22.3 | 22.4 | 22.4 | 22.4 | 22.5 | 22.2 | 22.0 | 22.0 | 22.1 | 22.5 | 22.5 | 22.4 | 22.4 | 22.3 | 22.3 | 22.4 | 22.3 | 22.4 | 22.4 | 22.5 | 22.3 | 22.0 | 22.5 | 22.3 | 22.0 |
| Jul 3 | 22.4 | 22.3 | 22.4 | 22.3 | 22.3 | 22.5 | 22.2 | 22.2 | 22.3 | 22.1 | 22.3 | 22.3 | 22.1 | 22.2 | 21.9 | 22.0 | 21.9 | 21.9 | 21.8 | 21.9 | 22.2 | 22.2 | 22.5 | 22.5 | 21.8 | 22.5 | 22.2 |
| Jul 4 | 22.4 | 22.5 | 22.4 | 22.6 | 22.6 | 22.6 | 22.4 | 21.8 | 21.0 | 20.4 | 19.9 | 19.7 | 19.8 | 20.1 | 20.7 | 21.3 | 21.5 | 21.4 | 21.9 | 21.6 | 21.7 | 21.9 | 22.3 | 22.4 | 19.7 | 22.6 | 21.5 |
| Jul 5 | 22.5 | 22.5 | 22.5 | 22.6 | 22.4 | 22.5 | 22.3 | 21.9 | 20.3 | 19.9 | 19.7 | 19.5 | 19.8 | 19.9 | 20.4 | 20.8 | 21.2 | 21.2 | 21.3 | 21.1 | 21.4 | 22.2 | 22.2 | 22.1 | 19.5 | 22.6 | 21.3 |
| Jul 6 | 21.9 | 22.2 | 22.2 | 22.3 | 22.3 | 22.2 | 21.7 | 21.6 | 20.8 | 20.3 | 19.5 | 19.8 | 19.4 | 19.7 | 20.0 | 20.7 | 21.1 | 21.1 | 21.1 | 21.4 | 21.9 | 22.1 | 22.2 | 22.4 | 19.4 | 22.4 | 21.2 |
| Jul 7 | 22.3 | 22.5 | 22.6 | 22.5 | 22.6 | 22.5 | 22.3 | 21.8 | 21.1 | 20.7 | 20.5 | 20.8 | 20.5 | 20.4 | 20.4 | 20.8 | 22.9 | 23.2 | 21.5 | 20.5 | 21.6 | 22.3 | 22.9 | 23.3 | 20.4 | 23.3 | 21.8 |
| Jul 8 | 23.4 | 23.4 | 23.6 | 23.7 | 23.8 | 23.6 | 23.1 | 21.7 | 20.3 | 19.7 | 21.4 | 23.2 | 24.6 | 24.6 | 22.9 | 20.3 | 20.6 | 20.6 | 20.9 | 21.4 | 21.8 | 22.3 | 22.7 | 23.0 | 19.7 | 24.6 | 22.4 |
| Jul 9 | 23.1 | 22.9 | 23.0 | 23.4 | 23.0 | 22.5 | 22.5 | 22.1 | 21.1 | 20.1 | 19.7 | 19.5 | 19.2 | 19.1 | 19.1 | 19.8 | 20.1 | 20.4 | 20.6 | 21.0 | 21.4 | 21.7 | 21.9 | 22.1 | 19.1 | 23.4 | 21.2 |
| Jul 10 | 21.8 | 22.2 | 22.4 | 22.2 | 22.2 | 22.4 | 22.5 | 22.3 | 22.2 | 22.2 | 22.1 | 19.9 | 21.6 | 21.2 | 21.1 | 21.2 | 21.1 | 21.1 | 21.3 | 21.6 | 22.1 | 22.3 | 22.4 | 22.5 | 21.1 | 22.5 | 21.9 |
| Jul 11 | 22.7 | 22.5 | 22.5 | 22.4 | 22.5 | 22.5 | 22.4 | 22.0 | 21.6 | 20.9 | 20.6 | 19.8 | 19.9 | 20.1 | 20.2 | 20.6 | 20.9 | 21.3 | 21.3 | 21.7 | 22.3 | 22.2 | 22.3 | 22.3 | 19.8 | 22.7 | 21.6 |
| Jul 12 | 22.3 | 22.3 | 22.3 | 22.3 | 22.3 | 22.4 | 22.3 | 22.1 | 21.7 | 21.9 | 21.7 | 20.7 | 19.5 | 19.4 | 20.0 | 20.6 | 20.9 | 21.1 | 21.5 | 21.9 | 22.1 | 22.3 | 22.7 | 22.2 | 19.4 | 22.7 | 21.6 |
| Jul 13 | 22.2 | 22.7 | 22.6 | 22.5 | 22.8 | 22.9 | 22.6 | 22.2 | 22.1 | 21.6 | 20.9 | 20.4 | 20.1 | 20.0 | 20.2 | 20.6 | 20.8 | 20.9 | 21.0 | 21.4 | 21.8 | 22.4 | 22.5 | 22.3 | 20.0 | 22.9 | 21.6 |
| Jul 14 | 22.1 | 21.9 | 22.6 | 22.7 | 22.7 | 22.6 | 22.5 | 22.2 | 21.8 | 21.4 | 21.3 | 21.2 | 21.0 | 20.1 | 20.3 | 20.8 | 21.2 | 21.3 | 21.4 | 22.0 | 22.3 | 22.5 | 22.6 | 22.4 | 20.1 | 22.7 | 21.8 |
| Jul 15 | 22.4 | 22.5 | 22.6 | 22.4 | 22.4 | 22.4 | 22.4 | 22.2 | 21.4 | 20.9 | 20.8 | 20.5 | 19.8 | 19.9 | 20.2 | 20.4 | 20.5 | 20.9 | 21.1 | 21.7 | 21.9 | 22.4 | 22.5 | 22.4 | 19.8 | 22.6 | 21.5 |
| Jul 16 | 22.5 | 22.4 | 22.5 | 22.4 | 22.4 | 22.5 | 22.3 | 22.0 | 21.8 | 21.0 | 20.8 | 20.6 | 20.5 | 20.6 | 20.6 | 20.8 | 20.9 | 21.1 | 21.3 | 21.7 | 21.9 | 22.5 | 22.4 | 22.4 | 20.5 | 22.5 | 21.7 |
| Jul 17 | 22.2 | 22.2 | 22.2 | 22.4 | 22.6 | 22.5 | 22.4 | 22.1 | 22.0 | 21.5 | 20.2 | 21.0 | 21.3 | 20.9 | 20.7 | 21.5 | 22.1 | 21.8 | 22.0 | 22.4 | 22.2 | 22.5 | 22.6 | 22.5 | 20.2 | 22.6 | 21.9 |
| Jul 18 | 22.8 | 22.8 | 22.6 | 22.6 | 22.8 | 22.7 | 22.5 | 22.7 | 22.7 | 22.6 | 22.4 | 22.5 | 22.2 | 22.0 | 22.3 | 22.3 | 21.9 | 22.3 | 22.7 | 22.3 | 22.5 | 22.5 | 22.4 | 22.7 | 21.9 | 22.8 | 22.5 |
| Jul 19 | 22.7 | 22.5 | 22.8 | 22.9 | 22.9 | 23.0 | 22.3 | 22.1 | 21.5 | 21.4 | 20.7 | 20.1 | 19.5 | 19.7 | 20.3 | 20.4 | 21.0 | 21.1 | 21.1 | 21.6 | 22.4 | 22.6 | 22.3 | 22.6 | 19.5 | 23.0 | 21.6 |
| Jul 20 | 22.8 | 22.7 | 22.9 | 22.6 | 22.6 | 22.6 | 21.9 | 22.1 | 21.2 | 20.3 | 19.5 | 19.1 | 19.0 | 19.4 | 19.6 | 20.3 | 20.6 | 20.7 | 21.0 | 21.3 | 21.6 | 22.1 | 22.5 | 22.6 | 19.0 | 22.9 | 21.3 |
| Jul 21 | 22.5 | 22.8 | 22.8 | 22.8 | 22.8 | 22.6 | 22.4 | 21.9 | 21.1 | 20.4 | 19.6 | 19.0 | 18.8 | 19.2 | 19.5 | 19.8 | 20.5 | 20.6 | 20.8 | 21.0 | 21.3 | 22.1 | 22.3 | 22.2 | 18.8 | 22.8 | 21.2 |
| Jul 22 | 22.5 | 22.6 | 22.4 | 22.6 | 22.6 | 22.2 | 22.2 | 22.3 | 21.9 | 21.7 | 21.5 | 20.3 | 20.0 | 20.1 | 20.7 | 20.7 | 20.7 | 20.9 | 21.1 | 21.5 | 21.9 | 22.0 | 22.4 | 22.4 | 20.0 | 22.6 | 21.6 |
| Jul 23 | 22.4 | 22.4 | 22.5 | 22.1 | 22.4 | 22.7 | 22.5 | 22.4 | 21.7 | 21.1 | 19.9 | 19.6 | 19.5 | 19.4 | 19.9 | 20.2 | 20.6 | 20.9 | 21.1 | 21.3 | 21.5 | 22.1 | 22.3 | 22.2 | 19.4 | 22.7 | 21.4 |
| Jul 24 | 22.5 | 22.4 | 22.1 | 22.4 | 22.1 | 22.1 | 22.3 | 21.6 | 21.1 | 20.1 | 19.5 | 19.3 | 19.1 | 19.3 | 19.7 | 20.1 | 20.5 | 20.6 | 20.9 | 21.2 | 21.4 | 21.4 | 21.6 | 21.8 | 19.1 | 22.5 | 21.0 |
| Jul 25 | 21.9 | 21.6 | 22.1 | 22.5 | 22.3 | 22.4 | 22.4 | 22.1 | 21.9 | 22.0 | 21.6 | 20.7 | 20.3 | 19.9 | 20.2 | 20.8 | 21.2 | 21.5 | 21.7 | 22.1 | 22.4 | 22.5 | 22.5 | 22.8 | 19.9 | 22.8 | 21.7 |
| Jul 26 | 22.6 | 22.9 | 23.0 | 22.8 | 22.8 | 22.7 | 22.7 | 22.6 | 22.2 | 22.2 | 22.0 | 21.6 | 21.6 | 21.6 | 21.7 | 22.2 | 22.3 | 22.2 | 21.9 | 22.1 | 22.3 | 22.4 | 22.5 | 22.4 | 21.6 | 23.0 | 22.3 |
| Jul 27 | 22.7 | 22.6 | 22.6 | 22.4 | 22.7 | 22.5 | 22.7 | 22.4 | 21.9 | 21.3 | 21.1 | 21.0 | 21.1 | 21.2 | 21.4 | 21.5 | 22.4 | 22.3 | 22.5 | 22.6 | 22.4 | 22.7 | 22.7 | 22.5 | 21.0 | 22.7 | 22.1 |
| Jul 28 | 22.7 | 22.5 | 22.7 | 22.5 | 22.6 | 22.8 | 22.6 | 22.1 | 21.5 | 20.6 | 19.8 | 19.2 | 20.1 | 22.0 | 21.8 | 21.4 | 21.1 | 21.7 | 21.9 | 21.8 | 22.0 | 22.6 | 22.7 | 22.7 | 19.2 | 22.8 | 21.8 |
| Jul 29 | 22.8 | 23.0 | 22.7 | 23.0 | 22.9 | 22.9 | 22.7 | 22.3 | 21.3 | 20.4 | 19.7 | 19.6 | 19.5 | 20.1 | 20.5 | 21.0 | 21.4 | 21.6 | 21.5 | 21.5 | 22.2 | 22.3 | 22.4 | 22.5 | 19.5 | 23.0 | 21.7 |
| Jul 30 | 22.5 | 22.4 | 22.4 | 22.4 | 22.4 | 22.5 | 22.3 | 22.0 | 20.9 | 20.4 | 19.8 | 19.6 | 19.6 | 19.9 | 20.1 | 20.7 | 20.9 | 21.1 | 21.1 | 21.4 | 21.5 | 21.8 | 22.2 | 22.3 | 19.6 | 22.5 | 21.3 |
| Jul 31 | 22.5 | 22.7 | 22.6 | 22.7 | 22.9 | 22.7 | 22.7 | 22.2 | 21.7 | 20.9 | 19.8 | 19.2 | 19.2 | 20.1 | 20.3 | 20.8 | 21.0 | 21.2 | 21.5 | 22.2 | 22.7 | 23.0 | 22.8 | 22.6 | 19.2 | 23.0 | 21.7 |
| Diurnal Maximum | 23.4 | 23.4 | 23.6 | 23.7 | 23.8 | 23.6 | 23.1 | 22.7 | 22.7 | 22.6 | 22.4 | 23.2 | 24.6 | 24.6 | 22.9 | 22.4 | 22.9 | 23.2 | 22.7 | 22.6 | 22.7 | 23.0 | 22.9 | 23.3 | | | |
| Diurnal Average | 22.5 | 22.5 | 22.5 | 22.6 | 22.6 | 22.6 | 22.4 | 22.1 | 21.5 | 21.1 | 20.7 | 20.5 | 20.4 | 20.5 | 20.7 | 20.9 | 21.2 | 21.3 | 21.4 | 21.6 | 22.0 | 22.3 | 22.4 | 22.4 | | | |

| | | |
|---|--|------------------------------|
| C Monthly Calibration | S Daily Zero-Span Check | Q Quality Assurance |
| K Collection Error | ND No Data (Machine Not in Service) | Y Routine Maintenance |
| X InValid Data (Equipment Malfunction /Recovery) | NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per days is not met.
Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



Lakeland Industry & Community Association

Lac La Biche Station - July 2023

Summary of Hourly Averages

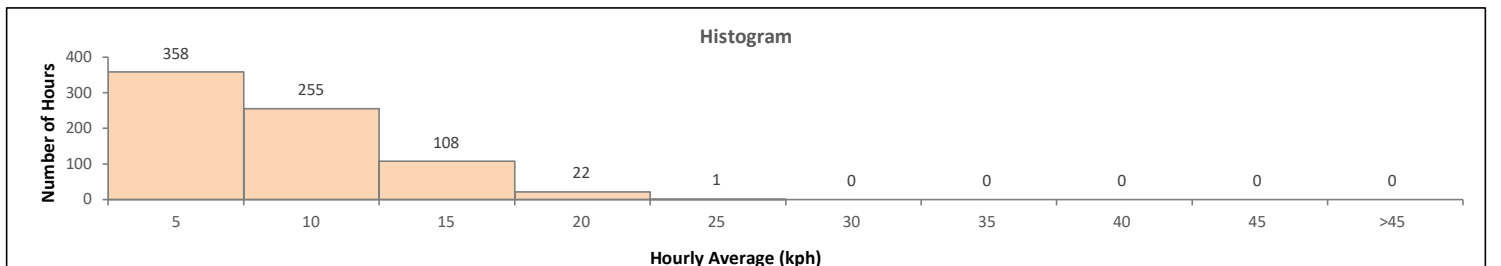
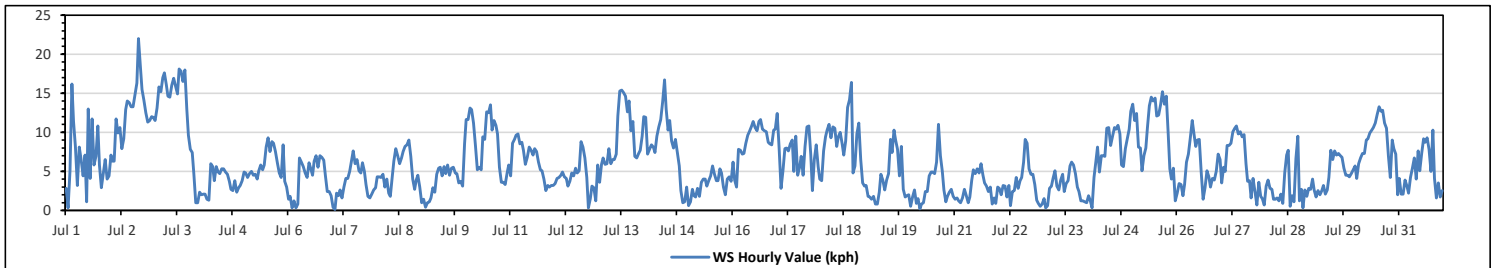
VECTOR WIND SPEED (VWS) in km/hr

| | | | | |
|-----------------------|----------|-------------------|------------------------|-------|
| Maximum Hourly Value: | 22.0 kph | on Jul 2 at hr 15 | Hours in Service: | 744 |
| Maximum Daily Value: | 13.1 kph | on Jul 3 | Hours of Data: | 744 |
| Minimum Hourly Value: | 0.1 kph | on Jul 7 at hr 1 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 2.8 kph | on Jul 21 | Hours of Calibration: | 0 |
| Monthly Average: | 0.7 kph | | Operational Uptime: | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | |
|-----------------|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------|---------------|---------------|------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 |
| Jul 1 | 2.8 | 0.3 | 5.1 | 16.2 | 11.4 | 8.1 | 3.2 | 8.1 | 6.4 | 4.4 | 7.1 | 1.1 | 13.0 | 4.1 | 11.7 | 5.8 | 6.9 | 10.8 | 5.8 | 2.9 | 4.7 | 6.5 | 4.0 | 4.4 | 0.3 | 16.2 | 6.5 |
| Jul 2 | 7.1 | 6.3 | 6.3 | 11.7 | 9.9 | 10.6 | 7.9 | 9.2 | 12.9 | 14.0 | 13.8 | 13.3 | 13.3 | 14.8 | 16.3 | 22.0 | 18.4 | 15.5 | 14.1 | 12.5 | 11.3 | 11.5 | 12.0 | 11.9 | 6.3 | 22.0 | 12.4 |
| Jul 3 | 11.5 | 13.1 | 15.8 | 15.2 | 17.0 | 17.6 | 16.1 | 14.6 | 14.5 | 16.0 | 16.9 | 15.9 | 14.9 | 18.1 | 17.8 | 16.5 | 18.0 | 13.0 | 9.6 | 7.8 | 7.4 | 4.7 | 1.0 | 1.0 | 1.0 | 18.1 | 13.1 |
| Jul 4 | 2.3 | 2.0 | 2.1 | 2.1 | 1.4 | 1.3 | 6.0 | 5.6 | 3.8 | 5.6 | 4.9 | 4.7 | 5.3 | 5.3 | 4.9 | 4.6 | 3.7 | 2.7 | 2.5 | 3.8 | 2.3 | 2.9 | 3.2 | 3.8 | 1.3 | 6.0 | 3.6 |
| Jul 5 | 4.9 | 4.8 | 4.2 | 4.7 | 5.0 | 4.5 | 4.6 | 4.0 | 5.1 | 5.8 | 5.2 | 5.8 | 8.1 | 9.3 | 7.5 | 8.8 | 8.6 | 7.5 | 6.1 | 4.8 | 4.2 | 8.4 | 3.7 | 3.0 | 3.0 | 9.3 | 5.8 |
| Jul 6 | 1.4 | 1.8 | 0.3 | 1.2 | 0.3 | 0.8 | 6.7 | 6.2 | 5.6 | 4.8 | 4.2 | 6.1 | 5.4 | 4.5 | 6.3 | 7.0 | 5.5 | 7.0 | 6.8 | 6.4 | 4.5 | 2.4 | 2.4 | 1.9 | 0.3 | 7.0 | 4.1 |
| Jul 7 | 0.4 | 0.1 | 2.2 | 1.9 | 2.6 | 1.6 | 3.0 | 4.1 | 4.1 | 5.0 | 6.2 | 7.6 | 6.0 | 6.5 | 5.1 | 4.8 | 6.1 | 5.0 | 3.3 | 1.8 | 1.6 | 2.1 | 2.6 | 2.9 | 0.1 | 7.6 | 3.6 |
| Jul 8 | 4.3 | 4.3 | 4.2 | 4.6 | 3.0 | 4.0 | 2.2 | 1.8 | 3.9 | 6.3 | 7.9 | 7.0 | 6.0 | 6.7 | 7.5 | 8.2 | 8.4 | 9.0 | 6.9 | 4.0 | 2.7 | 3.9 | 4.5 | 3.0 | 1.8 | 9.0 | 5.2 |
| Jul 9 | 1.0 | 1.4 | 0.4 | 1.0 | 1.1 | 1.6 | 2.9 | 2.3 | 4.6 | 5.4 | 5.5 | 4.4 | 5.6 | 4.7 | 5.8 | 4.5 | 5.4 | 5.5 | 4.8 | 4.7 | 3.5 | 3.7 | 3.1 | 8.5 | 0.4 | 8.5 | 3.8 |
| Jul 10 | 11.6 | 11.6 | 13.1 | 12.9 | 11.2 | 8.3 | 5.2 | 5.5 | 5.2 | 9.4 | 9.1 | 12.6 | 12.5 | 13.5 | 10.3 | 11.5 | 10.9 | 9.8 | 5.5 | 3.6 | 3.6 | 3.3 | 4.8 | 5.8 | 3.3 | 13.5 | 8.8 |
| Jul 11 | 4.4 | 8.6 | 9.1 | 9.6 | 9.8 | 8.5 | 8.7 | 7.7 | 5.9 | 6.8 | 8.1 | 7.7 | 7.1 | 7.9 | 7.5 | 6.2 | 5.2 | 5.1 | 4.0 | 2.5 | 3.2 | 3.0 | 3.2 | 3.2 | 2.5 | 9.8 | 6.4 |
| Jul 12 | 3.4 | 4.1 | 4.2 | 4.5 | 4.9 | 4.3 | 4.1 | 3.1 | 3.7 | 4.8 | 4.4 | 5.4 | 4.8 | 5.1 | 8.8 | 8.1 | 6.7 | 4.2 | 0.3 | 1.5 | 3.1 | 2.9 | 1.2 | 5.8 | 0.3 | 8.8 | 4.3 |
| Jul 13 | 3.6 | 5.9 | 6.7 | 5.9 | 6.0 | 7.9 | 6.0 | 6.5 | 6.5 | 7.2 | 12.1 | 15.3 | 15.4 | 15.1 | 14.6 | 12.6 | 14.0 | 10.2 | 11.4 | 6.9 | 6.7 | 7.3 | 7.7 | 9.5 | 3.6 | 15.4 | 9.2 |
| Jul 14 | 12.0 | 11.9 | 7.2 | 7.8 | 8.4 | 8.1 | 7.4 | 9.5 | 10.7 | 11.6 | 13.9 | 16.7 | 13.0 | 10.3 | 11.5 | 8.9 | 8.0 | 9.1 | 7.4 | 5.7 | 2.5 | 1.0 | 1.1 | 3.0 | 1.0 | 16.7 | 8.6 |
| Jul 15 | 0.6 | 1.1 | 2.7 | 1.9 | 1.7 | 2.8 | 1.8 | 3.6 | 4.0 | 4.0 | 3.1 | 3.8 | 4.4 | 5.7 | 4.6 | 3.8 | 3.8 | 5.3 | 4.8 | 3.0 | 2.0 | 4.0 | 4.3 | 3.7 | 0.6 | 5.7 | 3.4 |
| Jul 16 | 6.2 | 3.9 | 3.0 | 7.8 | 7.7 | 7.2 | 7.3 | 8.6 | 9.6 | 10.1 | 10.7 | 11.4 | 10.6 | 10.2 | 11.4 | 11.6 | 10.4 | 10.2 | 10.1 | 8.7 | 8.5 | 8.4 | 10.3 | 10.4 | 3.0 | 11.6 | 8.9 |
| Jul 17 | 12.4 | 8.0 | 2.8 | 5.1 | 7.9 | 8.0 | 7.6 | 8.5 | 9.0 | 5.0 | 9.5 | 4.5 | 5.5 | 6.9 | 4.5 | 8.2 | 10.7 | 10.8 | 7.1 | 2.5 | 6.5 | 8.4 | 5.6 | 4.0 | 2.5 | 12.4 | 7.0 |
| Jul 18 | 3.8 | 7.6 | 9.4 | 10.3 | 11.0 | 9.3 | 10.7 | 10.5 | 8.2 | 9.4 | 10.0 | 8.5 | 7.1 | 8.9 | 13.2 | 14.2 | 16.4 | 4.8 | 5.7 | 9.8 | 11.2 | 6.5 | 3.5 | 3.1 | 3.1 | 16.4 | 8.9 |
| Jul 19 | 3.2 | 1.8 | 1.7 | 1.4 | 1.8 | 0.8 | 0.8 | 2.3 | 4.6 | 3.9 | 2.6 | 3.9 | 4.7 | 9.1 | 7.4 | 10.3 | 9.0 | 7.8 | 4.4 | 8.2 | 2.7 | 1.7 | 1.9 | 2.0 | 0.8 | 10.3 | 4.1 |
| Jul 20 | 0.5 | 1.7 | 2.6 | 0.9 | 1.5 | 0.2 | 0.8 | 1.0 | 2.4 | 2.4 | 4.4 | 4.9 | 4.9 | 4.7 | 6.2 | 11.0 | 7.0 | 5.0 | 2.6 | 1.1 | 1.8 | 2.3 | 2.7 | 1.8 | 0.2 | 11.0 | 3.1 |
| Jul 21 | 1.4 | 1.6 | 1.2 | 1.0 | 1.6 | 2.7 | 1.9 | 1.0 | 1.7 | 3.9 | 5.2 | 4.7 | 5.3 | 4.8 | 6.0 | 4.5 | 3.5 | 3.1 | 2.4 | 3.0 | 0.8 | 1.6 | 0.9 | 3.0 | 0.8 | 6.0 | 2.8 |
| Jul 22 | 2.8 | 2.0 | 3.2 | 3.1 | 1.7 | 3.2 | 0.6 | 2.4 | 2.5 | 4.2 | 2.8 | 3.8 | 4.2 | 6.2 | 9.1 | 8.6 | 5.3 | 4.6 | 4.6 | 3.3 | 1.3 | 0.9 | 0.5 | 0.8 | 0.5 | 9.1 | 3.4 |
| Jul 23 | 1.5 | 0.3 | 0.6 | 2.8 | 3.1 | 4.1 | 5.1 | 3.1 | 2.6 | 3.9 | 4.6 | 2.4 | 3.4 | 3.8 | 5.7 | 6.2 | 5.8 | 4.7 | 3.0 | 2.4 | 1.2 | 1.2 | 1.1 | 1.0 | 0.3 | 6.2 | 3.1 |
| Jul 24 | 1.9 | 1.3 | 0.3 | 4.2 | 6.3 | 8.1 | 4.9 | 7.0 | 7.0 | 6.9 | 10.5 | 10.6 | 8.3 | 9.5 | 10.6 | 10.4 | 10.9 | 9.8 | 5.8 | 5.6 | 7.9 | 9.2 | 10.4 | 12.7 | 0.3 | 12.7 | 7.5 |
| Jul 25 | 13.6 | 11.5 | 12.4 | 8.1 | 8.0 | 5.1 | 7.0 | 8.0 | 10.6 | 13.4 | 14.5 | 14.0 | 14.4 | 12.1 | 12.2 | 13.5 | 15.2 | 13.6 | 14.6 | 9.7 | 5.3 | 4.0 | 5.4 | 1.2 | 1.2 | 15.2 | 10.3 |
| Jul 26 | 2.2 | 3.4 | 3.3 | 1.9 | 3.3 | 6.2 | 7.2 | 9.3 | 11.5 | 9.6 | 8.2 | 9.0 | 9.1 | 4.9 | 1.4 | 2.9 | 5.1 | 4.3 | 3.0 | 4.1 | 3.9 | 5.0 | 7.2 | 6.5 | 1.4 | 11.5 | 5.5 |
| Jul 27 | 3.5 | 5.5 | 5.0 | 8.3 | 8.3 | 8.6 | 10.1 | 10.5 | 10.8 | 9.8 | 10.1 | 9.4 | 9.7 | 6.0 | 3.7 | 3.8 | 1.6 | 4.1 | 2.4 | 0.7 | 3.6 | 1.8 | 1.5 | 0.7 | 0.7 | 10.8 | 5.8 |
| Jul 28 | 3.1 | 3.9 | 2.8 | 2.7 | 1.4 | 1.4 | 1.6 | 1.2 | 2.1 | 0.9 | 4.8 | 7.1 | 7.7 | 0.5 | 1.9 | 1.1 | 6.6 | 9.5 | 1.2 | 2.7 | 0.3 | 2.6 | 1.8 | 2.8 | 0.3 | 9.5 | 3.0 |
| Jul 29 | 2.7 | 4.0 | 2.6 | 1.7 | 2.5 | 2.0 | 2.5 | 3.2 | 2.1 | 2.6 | 4.2 | 7.7 | 6.5 | 7.6 | 7.1 | 7.3 | 7.0 | 6.8 | 5.4 | 4.5 | 4.5 | 4.3 | 4.7 | 5.2 | 1.7 | 7.7 | 4.5 |
| Jul 30 | 5.7 | 4.1 | 6.0 | 6.7 | 7.3 | 7.3 | 9.0 | 9.2 | 9.9 | 10.3 | 10.6 | 11.2 | 12.3 | 13.3 | 12.7 | 12.8 | 11.2 | 10.5 | 7.0 | 4.2 | 9.0 | 7.9 | 7.2 | 2.0 | 2.0 | 13.3 | 8.6 |
| Jul 31 | 4.1 | 2.1 | 2.1 | 3.9 | 3.1 | 2.2 | 4.2 | 5.4 | 6.7 | 4.0 | 7.6 | 5.1 | 7.3 | 9.2 | 8.7 | 9.3 | 7.8 | 5.0 | 10.3 | 4.1 | 1.6 | 3.5 | 1.7 | 2.5 | 1.6 | 10.3 | 5.1 |
| Diurnal Maximum | 13.6 | 13.1 | 15.8 | 16.2 | 17.0 | 17.6 | 16.1 | 14.6 | 14.5 | 16.0 | 16.9 | 16.7 | 15.4 | 18.1 | 17.8 | 22.0 | 18.4 | 15.5 | 14.6 | 12.5 | 11.3 | 11.5 | 12.0 | 12.7 | | | |
| Diurnal Average | 4.5 | 4.5 | 4.6 | 5.5 | 5.5 | 5.4 | 5.4 | 5.9 | 6.4 | 6.8 | 7.8 | 7.9 | 8.3 | 8.0 | 8.5 | 8.7 | 8.5 | 7.6 | 5.9 | 4.7 | 4.3 | 4.4 | 4.0 | 4.2 | | | |

| | | |
|--|--|------------------------------|
| C Monthly Calibration | S Daily Zero-Span Check | Q Quality Assurance |
| K Collection Error | ND No Data (Machine Not in Service) | Y Routine Maintenance |
| X InValid Data (Equipment Malfunction/Recovery) | NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P Power Failure |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

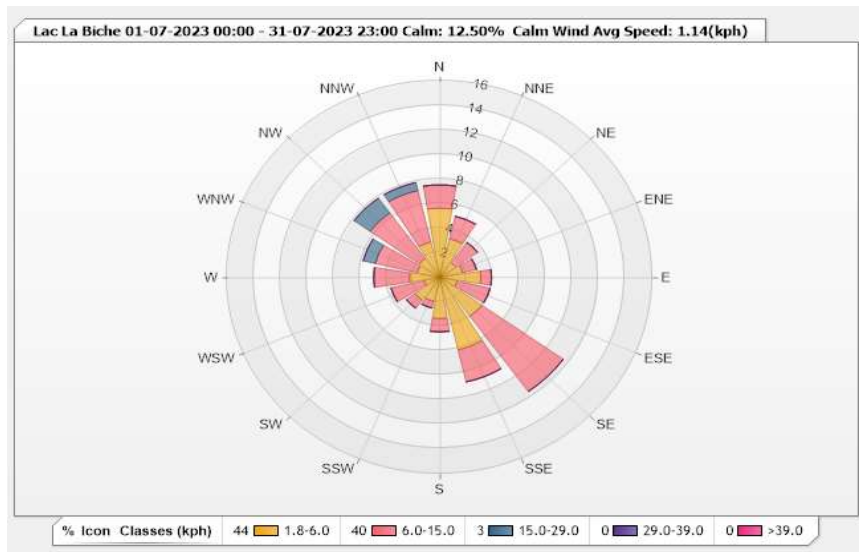


Station: Lac La Biche Monitor: WDS [kph] Monthly: 07-2023

Type: Wind Rose
 Direction: Blowing From (Wind Frequency)
 Time Base: 1 - Hour

Calm (WS<1.8kph): 12.50% Valid Data: 100.00%

| Direction | 1.8-6.0 | 6.0-15.0 | 15.0-29.0 | 29.0-39.0 | >39.0 | Total |
|-----------|---------|----------|-----------|-----------|-------|-------|
| N | 5.65 | 1.88 | 0 | 0 | 0 | 7.53 |
| NNE | 3.23 | 1.88 | 0 | 0 | 0 | 5.11 |
| NE | 1.48 | 2.02 | 0 | 0 | 0 | 3.5 |
| ENE | 1.75 | 1.08 | 0 | 0 | 0 | 2.83 |
| E | 3.09 | 0.81 | 0 | 0 | 0 | 3.9 |
| ESE | 1.34 | 2.55 | 0 | 0 | 0 | 3.89 |
| SE | 3.9 | 7.53 | 0 | 0 | 0 | 11.43 |
| SSE | 6.05 | 2.69 | 0 | 0 | 0 | 8.74 |
| S | 3.36 | 1.08 | 0 | 0 | 0 | 4.44 |
| SSW | 2.02 | 0.54 | 0 | 0 | 0 | 2.56 |
| SW | 2.28 | 0.81 | 0 | 0 | 0 | 3.09 |
| WSW | 1.21 | 2.55 | 0 | 0 | 0 | 3.76 |
| W | 2.28 | 2.69 | 0 | 0 | 0 | 4.97 |
| WNW | 1.75 | 3.23 | 0.94 | 0 | 0 | 5.92 |
| NW | 1.88 | 4.57 | 1.48 | 0 | 0 | 7.93 |
| NNW | 2.96 | 4.3 | 0.67 | 0 | 0 | 7.93 |
| Summary | 44.23 | 40.21 | 3.09 | 0 | 0 | 87.53 |



Lakeland Industry & Community Association

Lac La Biche Station - July 2023

Summary of Hourly Averages

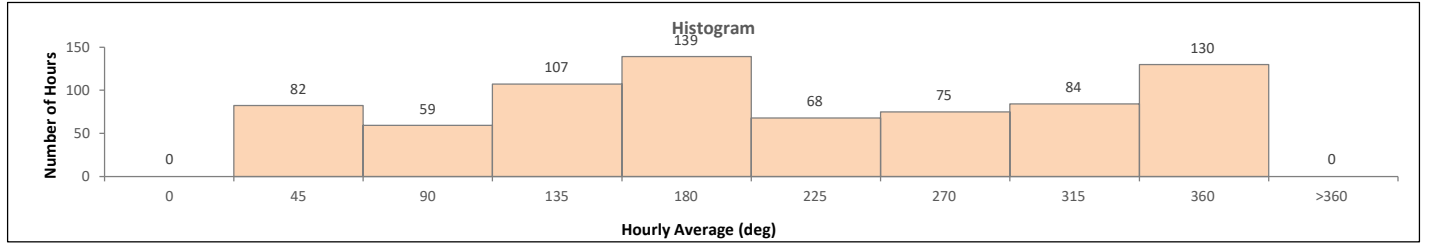
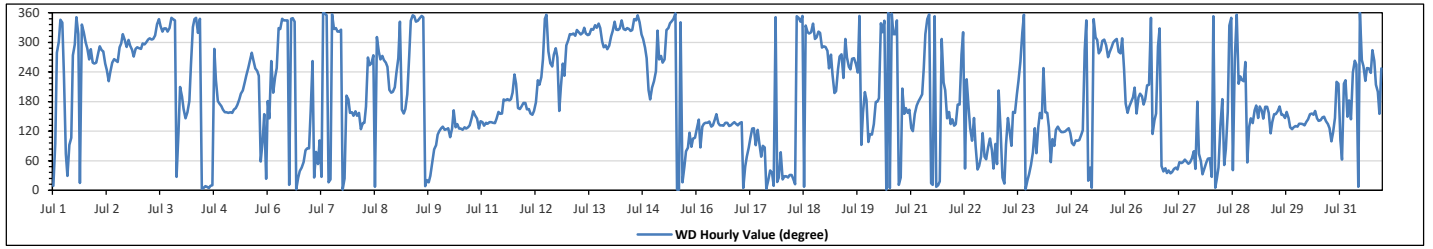
WIND DIRECTION (VWD) in sector

| | | | |
|------------------|-----------------|------------------------|-------|
| Monthly Average: | 327 (NW) degree | Hours in Service: | 744 |
| | | Hours of Data: | 744 |
| | | Hours of Missing Data: | 0 |
| | | Hours of Calibration: | 0 |
| | | Operational Uptime: | 100.0 |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Average | | | |
|--------|---------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------------|--------|----------|-----|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Degree | Quadrant | |
| Jul 1 | N | E | W | WNW | NNW | NNW | SW | ENE | NNE | E | ESE | W | WNW | N | NW | NNE | NNW | NW | WNW | WNW | W | WNW | WSW | WSW | 321 | NW | |
| Jul 2 | WSW | W | WNW | WNW | W | WSW | WSW | SW | WSW | WSW | W | W | WSW | WNW | WNW | NW | WNW | WNW | WNW | WNW | W | WNW | WNW | WSW | 280 | W | |
| Jul 3 | WNW | WNW | WNW | WNW | WNW | NW | NW | NW | NW | NW | NNW | NNW | NNW | NW | NNW | NNW | NW | NNW | N | NNW | NNW | NNE | ESE | SSW | 318 | NW | |
| Jul 4 | S | SSE | SE | SSE | S | WSW | NNW | NNW | N | NW | NNW | N | N | N | N | N | N | N | WNW | SW | S | S | SSE | SSW | 344 | NNW | |
| Jul 5 | SSE | SSE | SSE | SSE | SSE | SSE | SSE | S | S | SSW | SSW | SW | SW | WSW | W | W | W | WSW | WSW | SW | ENE | E | SSE | NNE | 207 | SSW | |
| Jul 6 | S | SE | W | SSW | SW | WSW | NNW | NW | NNW | NNW | NNW | NNW | NNE | NNW | NNW | NNW | N | NNE | NE | NE | ENE | E | E | E | 5 | N | |
| Jul 7 | SSE | W | NNE | ENE | NE | E | NNE | N | N | N | NNE | NNE | N | NW | NNW | NW | NW | N | NNE | S | S | SSE | SSE | 358 | N | | |
| Jul 8 | SSE | SSE | SSE | SSE | ESE | SE | SE | SSE | W | WSW | WSW | W | N | NW | W | W | W | WSW | WSW | SSW | SSW | SSW | SSW | 243 | WSW | | |
| Jul 9 | SW | W | NNW | SSE | SSE | SSE | SSW | W | NNW | N | N | NNW | NNW | NNW | N | N | N | NNE | NNE | NNE | E | E | ESE | 13 | NNE | | |
| Jul 10 | ESE | SE | SE | ESE | ESE | SE | ESE | SE | ESE | SE | SE | SE | ESE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | 129 | SE | | |
| Jul 11 | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | S | S | S | S | SSW | SW | SW | SSE | SSE | SSE | 5 | 158 | SSE |
| Jul 12 | S | SSE | SSE | SSE | SSE | SSE | S | SW | SSW | SW | W | NNW | N | W | WSW | WSW | W | WNW | W | SSE | SSW | WSW | SW | WNW | 237 | SW | |
| Jul 13 | WNW | NW | NW | NW | NW | NW | NW | NW | NNW | NW | NW | NW | NW | NW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | 318 | NW | |
| Jul 14 | NW | NW | NNW | NW | NW | NNW | NNW | NW | NW | NNW | NW | NW | NNW | NNW | N | NNW | NW | NNW | NW | NNW | W | SSW | S | SSW | 326 | NW | |
| Jul 15 | SW | WSW | NW | W | W | WSW | W | NW | NNW | NNW | NNW | NNW | N | N | NNW | NNE | NE | ENE | E | ESE | E | ESE | ESE | 9 | N | | |
| Jul 16 | SE | SE | E | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | SE | 135 | SE | |
| Jul 17 | SE | SE | N | NE | ENE | E | ESE | SE | E | ESE | E | ENE | E | E | N | NNE | NE | NE | N | NNE | NNE | ENE | ENE | 73 | ENE | | |
| Jul 18 | NNE | NNE | NNE | NNE | NNE | NNE | NNE | N | N | NNW | N | N | NNW | NW | NW | NW | NNW | NW | NW | NW | NW | NW | NNW | WNW | 348 | NNW | |
| Jul 19 | WNW | W | WSW | W | SW | SSW | SSW | WSW | W | W | SW | NW | W | WSW | WSW | W | W | WSW | WSW | N | E | SSE | SSW | S | 262 | W | |
| Jul 20 | E | ESE | ESE | SE | S | S | S | NNW | NW | NNW | N | N | N | N | NW | NW | NNW | NNE | NNE | SSW | SSE | SSE | SSE | 350 | N | | |
| Jul 21 | SE | ESE | SSE | S | S | S | SSW | WSW | NW | NNW | N | NNE | NNE | N | N | NNE | NW | SW | SSW | SE | SSE | SE | SE | 4 | N | | |
| Jul 22 | SE | SE | S | S | W | NW | NE | SW | SSE | SE | E | SE | E | NE | NE | ENE | ESE | ENE | ENE | E | ESE | E | NE | E | 91 | E | |
| Jul 23 | NE | SSW | ESE | NNE | NNE | E | SE | ESE | E | SSE | SSW | SW | NW | N | N | NNE | NNE | NE | ENE | SE | ENE | SE | ENE | SE | 59 | ENE | |
| Jul 24 | SSE | SE | WSW | SSE | SSE | SE | ENE | ESE | E | ESE | SE | ESE | ESE | ESE | ESE | ESE | ESE | E | E | E | E | E | E | ESE | 115 | ESE | |
| Jul 25 | ESE | WNW | NNW | NNE | NE | N | NNW | NW | WNW | W | WNW | WNW | NW | WNW | W | WNW | WNW | WNW | WNW | NW | W | NW | WSW | 303 | WNW | | |
| Jul 26 | S | SSE | SSE | S | S | SSW | SSE | S | SSW | S | S | S | SSW | SSW | N | ESE | SE | SSE | WNW | NNW | NE | NE | NE | NE | 176 | S | |
| Jul 27 | NE | NE | NE | NE | NE | NE | ENE | NE | ENE | ENE | NE | NE | ENE | NE | NE | NE | NE | NE | NE | NE | NE | NE | NE | NE | 54 | NE | |
| Jul 28 | NNE | N | N | NNE | NE | SE | S | NE | E | SSE | NNW | N | NE | W | N | SW | SW | SW | WSW | NE | SE | SE | SE | 350 | N | | |
| Jul 29 | SSE | S | SE | SSE | SSE | SE | SSE | SSE | SSE | ESE | SE | SSE | SSE | SSE | SSE | SSE | SSE | SSE | SE | SE | SE | SE | SE | 151 | SSE | | |
| Jul 30 | SE | SE | SE | SE | SE | SE | SE | SE | SSE | SSE | SE | SE | SE | SE | SE | SSE | SE | SE | E | ESE | SE | SW | SW | 144 | SE | | |
| Jul 31 | E | ENE | SW | SW | SSE | S | SE | WSW | W | WSW | N | N | W | WSW | SW | WSW | WSW | SW | WNW | W | SSW | SSW | SSE | WSW | 247 | WSW | |

| | | |
|--|--|------------------------------|
| C Monthly Calibration | S Daily Zero-Span Check | Q Quality Assurance |
| K Collection Error | ND No Data (Machine Not in Service) | Y Routine Maintenance |
| X InValid Data (Machine Malfunction/Recovery) | NRM UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P Power Failure |

Daily Average is shown "*" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "*" if minimum data completeness criteria of 75% of days per month is not met.



Lakeland Industry & Community Association

Lac La Biche Station - July 2023

Summary of Hourly Averages

VECTOR WIND SPEED (VWS) in km/hr & WIND DIRECTION (VWD) in sector

| | | | | |
|-----------------------|----------|-------------------|------------------------|-------|
| WIND SPEED | | | | |
| Maximum Hourly Value: | 22.0 kph | on Jul 2 at hr 15 | Hours in Service: | 744 |
| Maximum Daily Value: | 13.1 kph | on Jul 3 | Hours of Data: | 744 |
| Minimum Hourly Value: | 0.1 kph | on Jul 7 at hr 1 | Hours of Missing Data: | 0 |
| Minimum Daily Value: | 2.8 kph | on Jul 21 | Hours of Calibration: | 0 |
| Monthly Average: | 0.7 kph | | Operational Uptime: | 100.0 |

| | |
|-----------------------|-----------------|
| WIND DIRECTION | |
| Monthly Average: | 327 degree (NW) |

| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | Daily Average | |
|--------|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------|---------------|---------------|------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | | 23 |
| Jul 1 | 2.8 | 0.3 | 5.1 | 16.2 | 11.4 | 8.1 | 3.2 | 8.1 | 6.4 | 4.4 | 7.1 | 1.1 | 13.0 | 4.1 | 11.7 | 5.8 | 6.9 | 10.8 | 5.8 | 2.9 | 4.7 | 6.5 | 4.0 | 4.4 | 0.3 | 16.2 | 6.5 |
| Jul 2 | 7.1 | 6.3 | 6.3 | 11.7 | 9.9 | 10.6 | 7.9 | 9.2 | 12.9 | 14.0 | 13.8 | 13.3 | 13.3 | 14.8 | 16.3 | 22.0 | 18.4 | 15.5 | 14.1 | 12.5 | 11.3 | 11.5 | 12.0 | 11.9 | 6.3 | 22.0 | 12.4 |
| Jul 3 | 11.5 | 13.1 | 15.8 | 15.2 | 17.0 | 17.6 | 16.1 | 14.6 | 14.5 | 16.0 | 16.9 | 15.9 | 14.9 | 18.1 | 17.8 | 16.5 | 18.0 | 13.0 | 9.6 | 7.8 | 7.4 | 4.7 | 1.0 | 1.0 | 1.0 | 18.1 | 13.1 |
| Jul 4 | 2.3 | 2.0 | 2.1 | 2.1 | 1.4 | 1.3 | 6.0 | 5.6 | 3.8 | 5.6 | 4.9 | 4.7 | 5.3 | 5.3 | 4.9 | 4.6 | 3.7 | 2.7 | 2.5 | 3.8 | 2.3 | 2.9 | 3.2 | 3.8 | 1.3 | 6.0 | 3.6 |
| Jul 5 | 4.9 | 4.8 | 4.2 | 4.7 | 5.0 | 4.5 | 4.6 | 4.0 | 5.1 | 5.8 | 5.2 | 5.8 | 8.1 | 9.3 | 7.5 | 8.8 | 8.6 | 7.5 | 6.1 | 4.8 | 4.2 | 8.4 | 3.7 | 3.0 | 3.0 | 9.3 | 5.8 |
| Jul 6 | 1.4 | 1.8 | 0.3 | 1.2 | 0.3 | 0.8 | 6.7 | 6.2 | 5.6 | 4.8 | 4.2 | 6.1 | 5.4 | 4.5 | 6.3 | 7.0 | 5.5 | 7.0 | 6.8 | 6.4 | 4.5 | 2.4 | 2.4 | 1.9 | 0.3 | 7.0 | 4.1 |
| Jul 7 | 0.4 | 0.1 | 2.2 | 1.9 | 2.6 | 1.6 | 3.0 | 4.1 | 4.1 | 5.0 | 6.2 | 7.6 | 6.0 | 6.5 | 5.1 | 4.8 | 6.1 | 5.0 | 3.3 | 1.8 | 1.6 | 2.1 | 2.6 | 2.9 | 0.1 | 7.6 | 3.6 |
| Jul 8 | 4.3 | 4.3 | 4.2 | 4.6 | 3.0 | 4.0 | 2.2 | 1.8 | 3.9 | 6.3 | 7.9 | 7.0 | 6.0 | 6.7 | 7.5 | 8.2 | 8.4 | 9.0 | 6.9 | 4.0 | 2.7 | 3.9 | 4.5 | 3.0 | 1.8 | 9.0 | 5.2 |
| Jul 9 | 1.0 | 1.4 | 0.4 | 1.0 | 1.1 | 1.6 | 2.9 | 2.3 | 4.6 | 5.4 | 5.5 | 4.4 | 5.6 | 4.7 | 5.8 | 4.5 | 5.4 | 5.5 | 4.8 | 4.7 | 3.5 | 3.7 | 3.1 | 8.5 | 0.4 | 8.5 | 3.8 |
| Jul 10 | 11.6 | 11.6 | 13.1 | 12.9 | 11.2 | 8.3 | 5.2 | 5.5 | 5.2 | 9.4 | 9.1 | 12.6 | 12.5 | 13.5 | 10.3 | 11.5 | 10.9 | 9.8 | 5.5 | 3.6 | 3.6 | 3.3 | 4.8 | 5.8 | 3.3 | 13.5 | 8.8 |
| Jul 11 | 4.4 | 8.6 | 9.1 | 9.6 | 9.8 | 8.5 | 8.7 | 7.7 | 5.9 | 6.8 | 8.1 | 7.7 | 7.1 | 7.9 | 7.5 | 6.2 | 5.2 | 5.1 | 4.0 | 2.5 | 3.2 | 3.0 | 3.2 | 3.2 | 2.5 | 9.8 | 6.4 |
| Jul 12 | 3.4 | 4.1 | 4.2 | 4.5 | 4.9 | 4.3 | 4.1 | 3.1 | 3.7 | 4.8 | 4.4 | 5.4 | 4.8 | 5.1 | 8.8 | 8.1 | 6.7 | 4.2 | 0.3 | 1.5 | 3.1 | 2.9 | 1.2 | 5.8 | 0.3 | 8.8 | 4.3 |
| Jul 13 | 3.6 | 5.9 | 6.7 | 5.9 | 6.0 | 7.9 | 6.0 | 6.5 | 6.5 | 7.2 | 12.1 | 15.3 | 15.4 | 15.1 | 14.6 | 12.6 | 14.0 | 10.2 | 11.4 | 6.9 | 6.7 | 7.3 | 7.7 | 9.5 | 3.6 | 15.4 | 9.2 |
| Jul 14 | 12.0 | 11.9 | 7.2 | 7.8 | 8.4 | 8.1 | 7.4 | 9.5 | 10.7 | 11.6 | 13.9 | 16.7 | 13.0 | 10.3 | 11.5 | 8.9 | 8.0 | 9.1 | 7.4 | 5.7 | 2.5 | 1.0 | 1.1 | 3.0 | 1.0 | 16.7 | 8.6 |
| Jul 15 | 0.6 | 1.1 | 2.7 | 1.9 | 1.7 | 2.8 | 1.8 | 3.6 | 4.0 | 4.0 | 3.1 | 3.8 | 4.4 | 5.7 | 4.6 | 3.8 | 3.8 | 5.3 | 4.8 | 3.0 | 2.0 | 4.0 | 4.3 | 3.7 | 0.6 | 5.7 | 3.4 |
| Jul 16 | 6.2 | 3.9 | 3.0 | 7.8 | 7.7 | 7.2 | 7.3 | 8.6 | 9.6 | 10.1 | 10.7 | 11.4 | 10.6 | 10.2 | 11.4 | 11.6 | 10.4 | 10.2 | 10.1 | 8.7 | 8.5 | 8.4 | 10.3 | 10.4 | 3.0 | 11.6 | 8.9 |
| Jul 17 | 12.4 | 8.0 | 2.8 | 5.1 | 7.9 | 8.0 | 7.6 | 8.5 | 9.0 | 5.0 | 9.5 | 4.5 | 5.5 | 6.9 | 4.5 | 8.2 | 10.7 | 10.8 | 7.1 | 2.5 | 6.5 | 8.4 | 5.6 | 4.0 | 2.5 | 12.4 | 7.0 |
| Jul 18 | 3.8 | 7.6 | 9.4 | 10.3 | 11.0 | 9.3 | 10.7 | 10.5 | 8.2 | 9.4 | 10.0 | 8.5 | 7.1 | 8.9 | 13.2 | 14.2 | 16.4 | 4.8 | 5.7 | 9.8 | 11.2 | 6.5 | 3.5 | 3.1 | 3.1 | 16.4 | 8.9 |
| Jul 19 | 3.2 | 1.8 | 1.7 | 1.4 | 1.8 | 0.8 | 0.8 | 2.3 | 4.6 | 3.9 | 2.6 | 3.9 | 4.7 | 9.1 | 7.4 | 10.3 | 9.0 | 7.8 | 4.4 | 8.2 | 2.7 | 1.7 | 1.9 | 2.0 | 0.8 | 10.3 | 4.1 |
| Jul 20 | 0.5 | 1.7 | 2.6 | 0.9 | 1.5 | 0.2 | 0.8 | 1.0 | 2.4 | 2.4 | 4.4 | 4.9 | 4.9 | 4.7 | 6.2 | 11.0 | 7.0 | 5.0 | 2.6 | 1.1 | 1.8 | 2.3 | 2.7 | 1.8 | 0.2 | 11.0 | 3.1 |
| Jul 21 | 1.4 | 1.6 | 1.2 | 1.0 | 1.6 | 2.7 | 1.9 | 1.0 | 1.7 | 3.9 | 5.2 | 4.7 | 5.3 | 4.8 | 6.0 | 4.5 | 3.5 | 3.1 | 2.4 | 3.0 | 0.8 | 1.6 | 0.9 | 3.0 | 0.8 | 6.0 | 2.8 |
| Jul 22 | 2.8 | 2.0 | 3.2 | 3.1 | 1.7 | 3.2 | 0.6 | 2.4 | 2.5 | 4.2 | 2.8 | 3.8 | 4.2 | 6.2 | 9.1 | 8.6 | 5.3 | 4.6 | 4.6 | 3.3 | 1.3 | 0.9 | 0.5 | 0.8 | 0.5 | 9.1 | 3.4 |
| Jul 23 | 1.5 | 0.3 | 0.6 | 2.8 | 3.1 | 4.1 | 5.1 | 3.1 | 2.6 | 3.9 | 4.6 | 2.4 | 3.4 | 3.8 | 5.7 | 6.2 | 5.8 | 4.7 | 3.0 | 2.4 | 1.2 | 1.2 | 1.1 | 1.0 | 0.3 | 6.2 | 3.1 |
| Jul 24 | 1.9 | 1.3 | 0.3 | 4.2 | 6.3 | 8.1 | 4.9 | 7.0 | 7.0 | 6.9 | 10.5 | 10.6 | 8.3 | 9.5 | 10.6 | 10.4 | 10.9 | 9.8 | 5.8 | 5.6 | 7.9 | 9.2 | 10.4 | 12.7 | 0.3 | 12.7 | 7.5 |
| Jul 25 | 13.6 | 11.5 | 12.4 | 8.1 | 8.0 | 5.1 | 7.0 | 8.0 | 10.6 | 13.4 | 14.5 | 14.0 | 14.4 | 12.1 | 12.2 | 13.5 | 15.2 | 13.6 | 14.6 | 9.7 | 5.3 | 4.0 | 5.4 | 1.2 | 1.2 | 15.2 | 10.3 |
| Jul 26 | 2.2 | 3.4 | 3.3 | 1.9 | 3.3 | 6.2 | 7.2 | 9.3 | 11.5 | 9.6 | 8.2 | 9.0 | 9.1 | 4.9 | 1.4 | 2.9 | 5.1 | 4.3 | 3.0 | 4.1 | 3.9 | 5.0 | 7.2 | 6.5 | 1.4 | 11.5 | 5.5 |
| Jul 27 | 3.5 | 5.5 | 5.0 | 8.3 | 8.3 | 8.6 | 10.1 | 10.5 | 10.8 | 9.8 | 10.1 | 9.4 | 9.7 | 6.0 | 3.7 | 3.8 | 1.6 | 4.1 | 2.4 | 0.7 | 3.6 | 1.8 | 1.5 | 0.7 | 0.7 | 10.8 | 5.8 |
| Jul 28 | 3.1 | 3.9 | 2.8 | 2.7 | 1.4 | 1.4 | 1.6 | 1.2 | 2.1 | 0.9 | 4.8 | 7.1 | 7.7 | 0.5 | 1.9 | 1.1 | 6.6 | 9.5 | 1.2 | 2.7 | 0.3 | 2.6 | 1.8 | 2.8 | 0.3 | 9.5 | 3.0 |
| Jul 29 | 2.7 | 4.0 | 2.6 | 1.7 | 2.5 | 2.0 | 2.5 | 3.2 | 2.1 | 2.6 | 4.2 | 7.7 | 6.5 | 7.6 | 7.1 | 7.3 | 7.0 | 6.8 | 5.4 | 4.5 | 4.5 | 4.3 | 4.7 | 5.2 | 1.7 | 7.7 | 4.5 |
| Jul 30 | 5.7 | 4.1 | 6.0 | 6.7 | 7.3 | 7.3 | 9.0 | 9.2 | 9.9 | 10.3 | 10.6 | 11.2 | 12.3 | 13.3 | 12.7 | 12.8 | 11.2 | 10.5 | 7.0 | 4.2 | 9.0 | 7.9 | 7.2 | 2.0 | 2.0 | 13.3 | 8.6 |
| Jul 31 | 4.1 | 2.1 | 2.1 | 3.9 | 3.1 | 2.2 | 4.2 | 5.4 | 6.7 | 4.0 | 7.6 | 5.1 | 7.3 | 9.2 | 8.7 | 9.3 | 7.8 | 5.0 | 10.3 | 4.1 | 1.6 | 3.5 | 1.7 | 2.5 | 1.6 | 10.3 | 5.1 |

| | | |
|---|---|------------------------------|
| C Monthly Calibration | S Daily Zero-Span Check | Q Quality Assurance |
| K Collection Error | ND No Data (Machine Not in Service) | Y Routine Maintenance |
| X InValid Data (Equipment Malfunction /Recovery) | NRM UnitMaint(Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | P Power Failure |

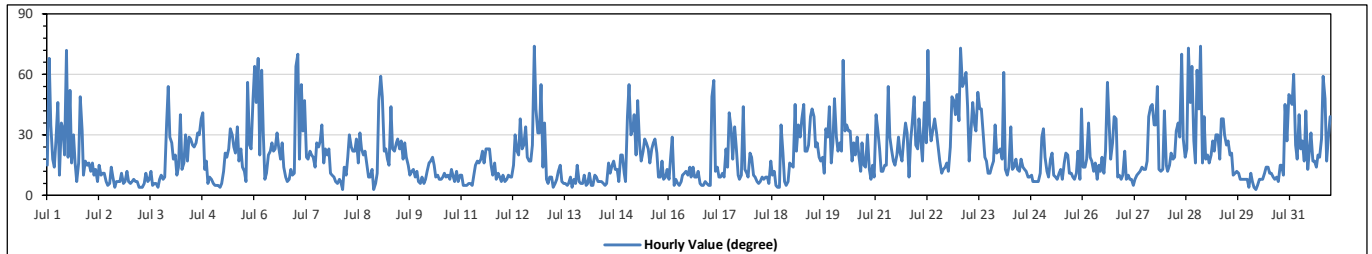
Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.

Lakeland Industry & Community Association
Lac La Biche Station - July 2023
Summary of Hour Standard Deviations

STANDARD DEVIATION WIND DIRECTION (STDWD) in Degree

| Maximum Hourly Value: | | 74 degree on Jul 12 at hr 18 | | | | | | | | | | Hours in Service: | | 744 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------|---|------------------------------|----|----|----|----|----|----|----|----|------------|---|----|-------|----|----|----|----|----|----|----|----------|---------------------|---------------|---------------|----|--|--|--|--|--|--|----------|---------------|--|--|--|--|--|--|--|--|--|
| Minimum Hourly Value: | | 3 degree on Jul 8 at hr 3 | | | | | | | | | | Hours of Data: | | 744 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | Hours of Missing Data: | | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | Hours of Calibration: | | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | Operational Uptime: | | 100.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Day | Hourly Period Starting at (MST) | | | | | | | | | | | | | | | | | | | | | | | Daily Minimum | Daily Maximum | | | | | | | | | | | | | | | | | | |
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | | 23 | | | | | | | | | | | | | | | | | |
| Jul 1 | 15 | 68 | 35 | 18 | 14 | 27 | 46 | 10 | 36 | 33 | 20 | 72 | 19 | 52 | 16 | 30 | 16 | 7 | 16 | 49 | 32 | 10 | 17 | 15 | 7 | 72 | | | | | | | | | | | | | | | | | |
| Jul 2 | 16 | 12 | 16 | 10 | 13 | 7 | 15 | 10 | 11 | 11 | 7 | 5 | 6 | 14 | 9 | 4 | 7 | 7 | 11 | 6 | 7 | 12 | 7 | 4 | 4 | 16 | | | | | | | | | | | | | | | | | |
| Jul 3 | 6 | 7 | 8 | 7 | 7 | 4 | 4 | 4 | 6 | 11 | 7 | 8 | 12 | 5 | 6 | 4 | 8 | 10 | 8 | 9 | 36 | 54 | 29 | 4 | 54 | | | | | | | | | | | | | | | | | | |
| Jul 4 | 26 | 18 | 20 | 10 | 14 | 40 | 13 | 16 | 30 | 17 | 29 | 28 | 25 | 24 | 26 | 31 | 30 | 38 | 41 | 13 | 17 | 6 | 9 | 8 | 6 | 41 | | | | | | | | | | | | | | | | | |
| Jul 5 | 6 | 5 | 5 | 5 | 4 | 6 | 12 | 21 | 19 | 23 | 33 | 30 | 24 | 21 | 34 | 17 | 23 | 14 | 12 | 7 | 56 | 25 | 23 | 48 | 4 | 56 | | | | | | | | | | | | | | | | | |
| Jul 6 | 64 | 46 | 68 | 20 | 62 | 31 | 8 | 11 | 20 | 22 | 26 | 22 | 23 | 31 | 24 | 18 | 26 | 14 | 9 | 7 | 8 | 13 | 10 | 11 | 7 | 68 | | | | | | | | | | | | | | | | | |
| Jul 7 | 64 | 70 | 18 | 55 | 32 | 47 | 19 | 18 | 22 | 20 | 19 | 14 | 26 | 24 | 27 | 35 | 16 | 23 | 20 | 23 | 11 | 10 | 9 | 7 | 7 | 70 | | | | | | | | | | | | | | | | | |
| Jul 8 | 6 | 8 | 7 | 3 | 14 | 10 | 19 | 30 | 24 | 22 | 22 | 28 | 16 | 31 | 23 | 20 | 22 | 15 | 9 | 9 | 13 | 3 | 6 | 11 | 3 | 31 | | | | | | | | | | | | | | | | | |
| Jul 9 | 47 | 59 | 49 | 22 | 23 | 18 | 15 | 44 | 23 | 22 | 26 | 28 | 23 | 27 | 18 | 26 | 19 | 15 | 10 | 12 | 13 | 9 | 12 | 7 | 7 | 59 | | | | | | | | | | | | | | | | | |
| Jul 10 | 6 | 9 | 6 | 8 | 12 | 16 | 17 | 19 | 15 | 9 | 10 | 8 | 8 | 9 | 11 | 9 | 10 | 8 | 13 | 9 | 7 | 12 | 7 | 10 | 6 | 19 | | | | | | | | | | | | | | | | | |
| Jul 11 | 10 | 5 | 5 | 5 | 6 | 6 | 5 | 10 | 15 | 17 | 16 | 18 | 22 | 16 | 23 | 23 | 23 | 15 | 10 | 16 | 8 | 11 | 9 | 7 | 5 | 23 | | | | | | | | | | | | | | | | | |
| Jul 12 | 10 | 7 | 8 | 10 | 9 | 9 | 15 | 30 | 22 | 20 | 38 | 23 | 25 | 34 | 19 | 17 | 17 | 25 | 74 | 43 | 31 | 31 | 55 | 14 | 7 | 74 | | | | | | | | | | | | | | | | | |
| Jul 13 | 36 | 8 | 6 | 9 | 9 | 4 | 6 | 8 | 12 | 15 | 7 | 6 | 6 | 5 | 6 | 9 | 4 | 8 | 6 | 15 | 7 | 6 | 6 | 10 | 4 | 36 | | | | | | | | | | | | | | | | | |
| Jul 14 | 5 | 6 | 11 | 5 | 5 | 10 | 9 | 7 | 7 | 7 | 6 | 5 | 6 | 16 | 11 | 15 | 17 | 13 | 13 | 7 | 20 | 20 | 11 | 7 | 5 | 20 | | | | | | | | | | | | | | | | | |
| Jul 15 | 39 | 55 | 30 | 33 | 40 | 20 | 47 | 25 | 17 | 22 | 28 | 26 | 23 | 16 | 23 | 26 | 28 | 21 | 9 | 9 | 17 | 8 | 9 | 13 | 8 | 55 | | | | | | | | | | | | | | | | | |
| Jul 16 | 8 | 19 | 29 | 5 | 8 | 6 | 5 | 7 | 10 | 11 | 12 | 10 | 14 | 9 | 14 | 9 | 9 | 12 | 6 | 5 | 5 | 7 | 6 | 5 | 5 | 29 | | | | | | | | | | | | | | | | | |
| Jul 17 | 5 | 49 | 57 | 12 | 14 | 9 | 9 | 11 | 9 | 23 | 14 | 41 | 33 | 18 | 34 | 24 | 10 | 8 | 10 | 44 | 13 | 11 | 9 | 21 | 5 | 57 | | | | | | | | | | | | | | | | | |
| Jul 18 | 19 | 10 | 9 | 7 | 6 | 7 | 9 | 8 | 9 | 9 | 6 | 17 | 10 | 12 | 5 | 4 | 4 | 35 | 21 | 7 | 5 | 7 | 16 | 15 | 4 | 35 | | | | | | | | | | | | | | | | | |
| Jul 19 | 14 | 45 | 22 | 35 | 29 | 38 | 45 | 22 | 22 | 25 | 39 | 43 | 39 | 24 | 26 | 19 | 17 | 19 | 11 | 33 | 29 | 44 | 16 | 26 | 11 | 45 | | | | | | | | | | | | | | | | | |
| Jul 20 | 48 | 29 | 22 | 26 | 22 | 67 | 32 | 35 | 32 | 32 | 17 | 26 | 20 | 29 | 20 | 12 | 26 | 15 | 14 | 30 | 13 | 8 | 15 | 9 | 8 | 67 | | | | | | | | | | | | | | | | | |
| Jul 21 | 40 | 33 | 23 | 12 | 12 | 15 | 15 | 54 | 29 | 23 | 17 | 15 | 20 | 29 | 21 | 17 | 27 | 36 | 31 | 9 | 27 | 36 | 49 | 25 | 9 | 54 | | | | | | | | | | | | | | | | | |
| Jul 22 | 23 | 38 | 27 | 17 | 46 | 26 | 72 | 35 | 27 | 33 | 38 | 31 | 24 | 17 | 11 | 13 | 14 | 16 | 12 | 24 | 49 | 47 | 40 | 50 | 11 | 72 | | | | | | | | | | | | | | | | | |
| Jul 23 | 37 | 73 | 54 | 56 | 61 | 44 | 17 | 33 | 46 | 35 | 32 | 51 | 43 | 43 | 30 | 19 | 17 | 11 | 11 | 14 | 17 | 35 | 21 | 22 | 11 | 73 | | | | | | | | | | | | | | | | | |
| Jul 24 | 23 | 18 | 61 | 13 | 10 | 14 | 34 | 13 | 14 | 18 | 13 | 12 | 18 | 14 | 13 | 12 | 9 | 9 | 10 | 7 | 7 | 7 | 11 | 7 | 61 | | | | | | | | | | | | | | | | | | |
| Jul 25 | 29 | 33 | 19 | 12 | 9 | 18 | 21 | 10 | 9 | 8 | 11 | 13 | 8 | 16 | 21 | 20 | 11 | 11 | 9 | 8 | 11 | 22 | 8 | 43 | 8 | 43 | | | | | | | | | | | | | | | | | |
| Jul 26 | 14 | 14 | 18 | 36 | 19 | 17 | 12 | 16 | 8 | 15 | 12 | 19 | 11 | 22 | 56 | 33 | 18 | 26 | 39 | 38 | 9 | 10 | 8 | 10 | 8 | 56 | | | | | | | | | | | | | | | | | |
| Jul 27 | 22 | 8 | 10 | 8 | 8 | 5 | 8 | 10 | 11 | 12 | 14 | 13 | 13 | 17 | 39 | 44 | 45 | 35 | 35 | 54 | 13 | 12 | 13 | 42 | 5 | 54 | | | | | | | | | | | | | | | | | |
| Jul 28 | 15 | 12 | 15 | 21 | 18 | 19 | 32 | 36 | 29 | 70 | 28 | 19 | 23 | 73 | 46 | 64 | 27 | 16 | 62 | 43 | 74 | 16 | 39 | 18 | 12 | 74 | | | | | | | | | | | | | | | | | |
| Jul 29 | 20 | 16 | 20 | 27 | 22 | 30 | 18 | 38 | 38 | 30 | 25 | 27 | 20 | 21 | 10 | 11 | 12 | 11 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 38 | | | | | | | | | | | | | | | | | |
| Jul 30 | 4 | 11 | 7 | 4 | 3 | 5 | 8 | 8 | 8 | 11 | 14 | 14 | 11 | 11 | 9 | 8 | 9 | 7 | 15 | 15 | 10 | 45 | 27 | 50 | 3 | 50 | | | | | | | | | | | | | | | | | |
| Jul 31 | 49 | 45 | 60 | 25 | 18 | 40 | 23 | 27 | 17 | 42 | 13 | 22 | 31 | 17 | 17 | 14 | 20 | 19 | 28 | 59 | 48 | 17 | 28 | 39 | 13 | 60 | | | | | | | | | | | | | | | | | |
| Diurnal Minimum | 4 | 5 | 5 | 3 | 3 | 4 | 4 | 4 | 6 | 7 | 6 | 5 | 6 | 5 | 5 | 4 | 4 | 7 | 6 | 5 | 5 | 3 | 6 | 5 | | | | | | | | | | | | | | | | | | | |
| Diurnal Maximum | 64 | 73 | 68 | 56 | 62 | 67 | 72 | 54 | 46 | 70 | 39 | 72 | 43 | 73 | 56 | 64 | 45 | 38 | 74 | 59 | 74 | 47 | 55 | 50 | | | | | | | | | | | | | | | | | | | |
| C | Monthly Calibration | | | | | | | | | | S | Daily Zero-Span Check | | | | | | | | | | Q | Quality Assurance | | | | | | | | | | | | | | | | | | | | |
| K | Collection Error | | | | | | | | | | ND | No Data (Machine Not in Service) | | | | | | | | | | Y | Routine Maintenance | | | | | | | | | | P | Power Failure | | | | | | | | | |
| X | Invalid Data (Machine Malfunction/Recovery) | | | | | | | | | | NRM | UnitMaint (Repeat Calibration / Repeat Daily Zero-Span Check / Non-Routine Maintenance) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Daily Average is shown "-" if minimum data completeness criteria of 75% or 18 hours per day is not met.
 Monthly Average is shown "-" if minimum data completeness criteria of 75% of days per month is not met.



END OF REPORT

This page, 169 of 169 ends the July 2023 Monthly Ambient Air Quality Monitoring Report.



Lakeland Industry & Community Association

JULY 2023

Ambient Air Monitoring Calibration Report

- COLD LAKE SOUTH STATION-

CAL-LICA-202307-01174

Station Operation and Maintenance:

Bureau Veritas Canada

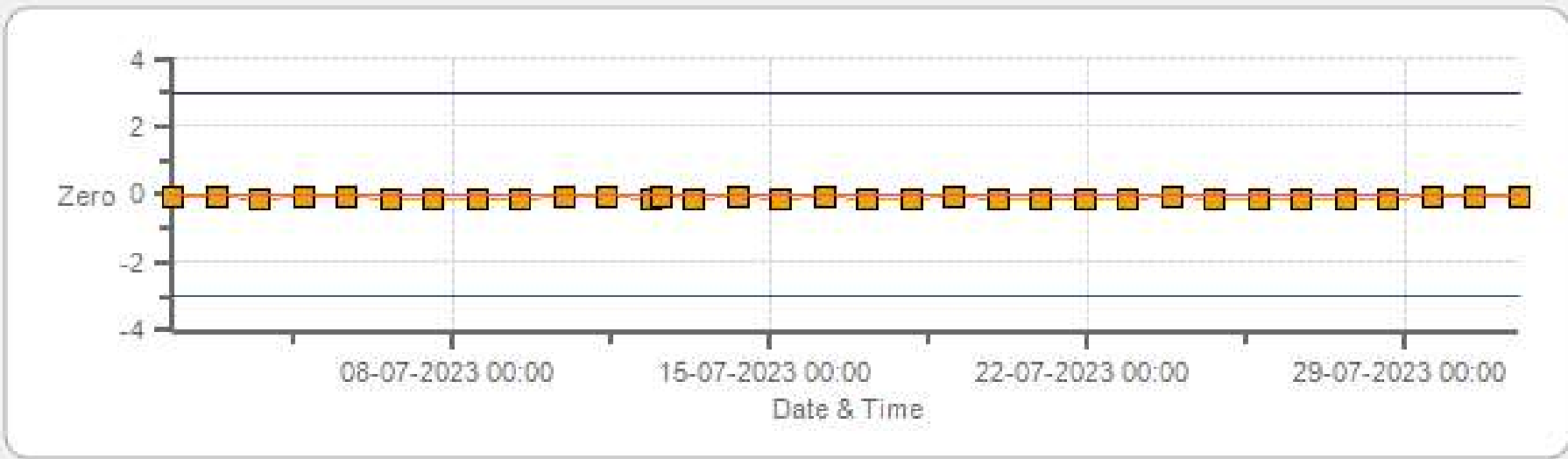
Data Validation and Report:

LICA / Bureau Veritas Canada

August 3, 2023

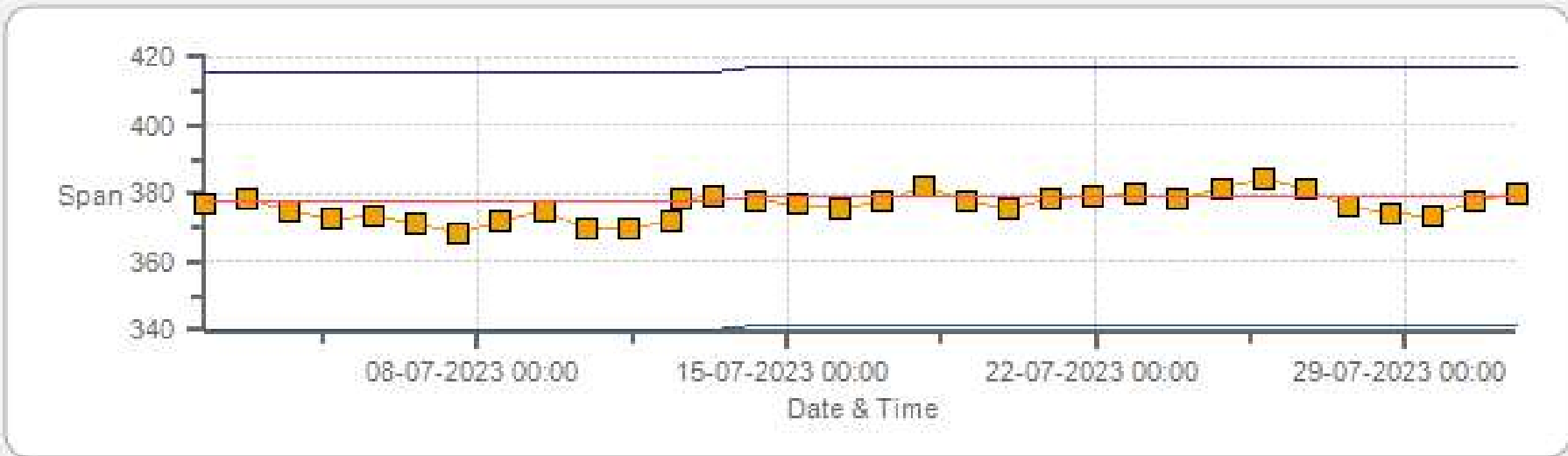
DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

SO₂[ppb] Calibration: Cold Lake South Monthly: 07-2023 Type: SpanAndZero - Zero



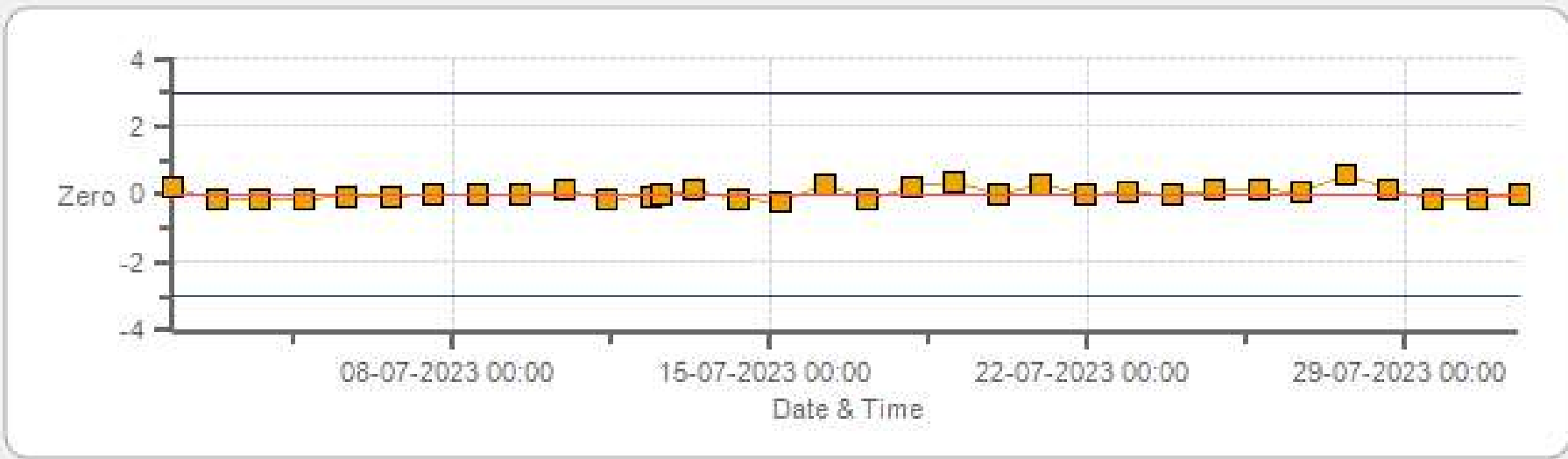
Zero Zero Ref Zero Low Zero High

SO₂[ppb] Calibration: Cold Lake South Monthly: 07-2023 Type: SpanAndZero - Span



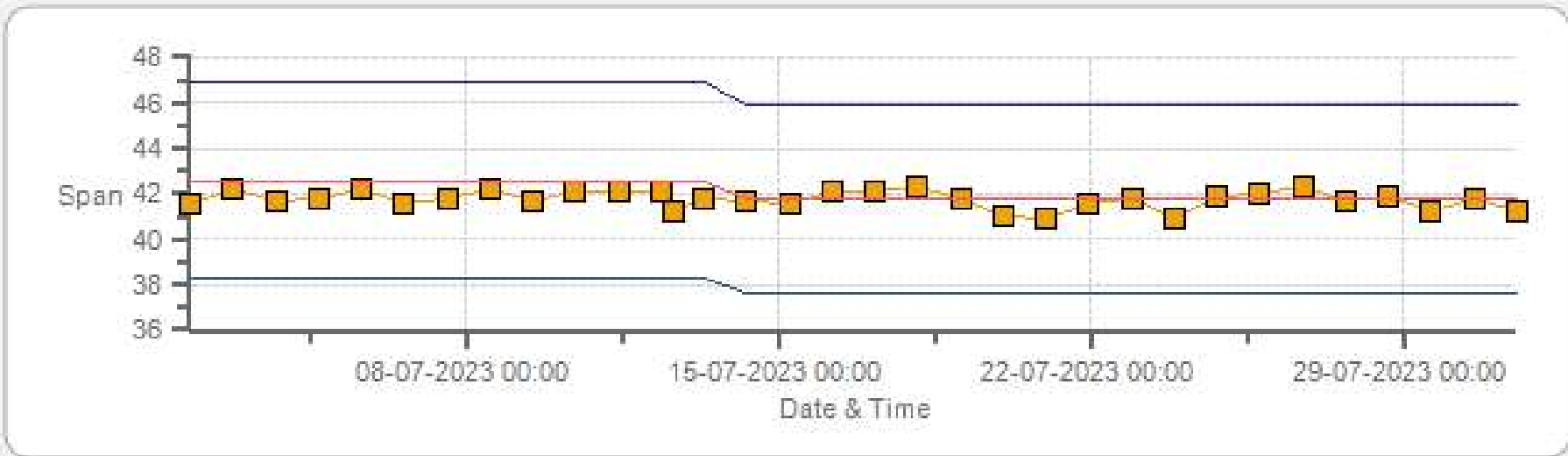
Span Span Ref Span Low Span High

TRS[ppb] Calibration: Cold Lake South Monthly: 07-2023 Type: SpanAndZero - Zero



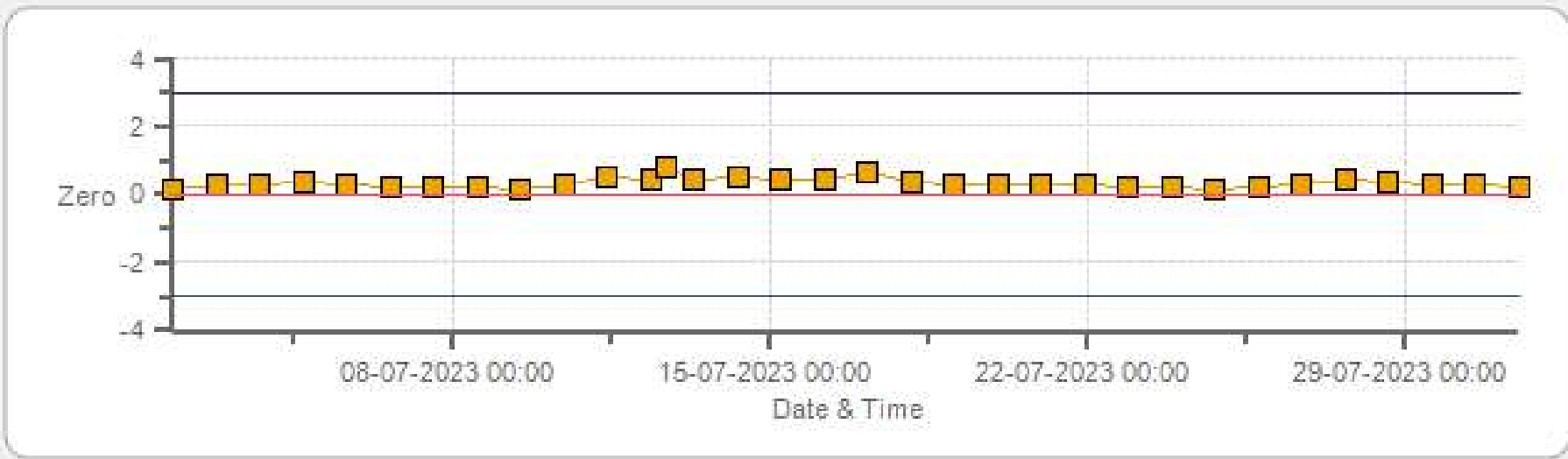
Zero Zero Ref Zero Low Zero High

TRS[ppb] Calibration: Cold Lake South Monthly: 07-2023 Type: SpanAndZero - Span



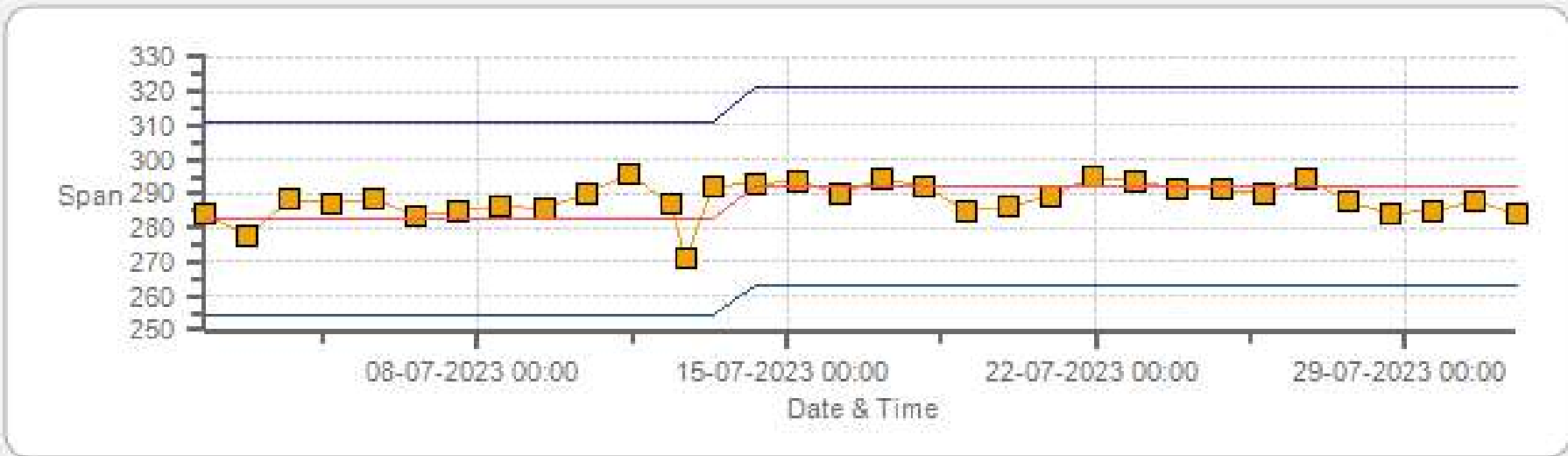
Span SpanRef Span Low Span High

NOX[ppb] Calibration: Cold Lake South Monthly: 07-2023 Type: SpanAndZero - Zero



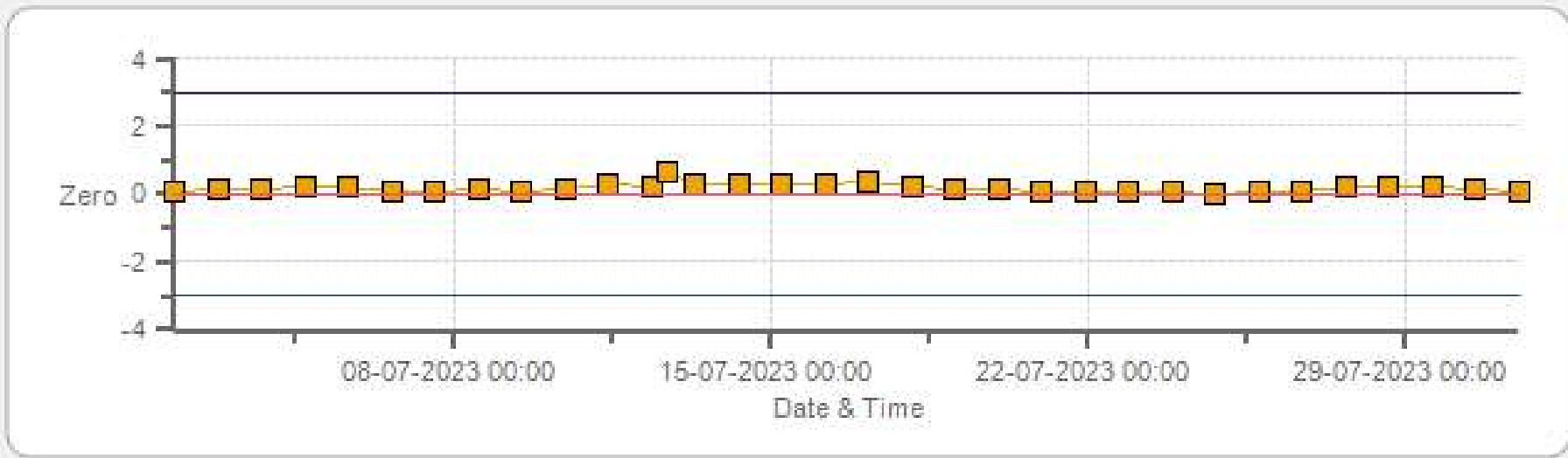
Zero Zero Ref Zero Low Zero High

NOX[ppb] Calibration: Cold Lake South Monthly: 07-2023 Type: SpanAndZero - Span



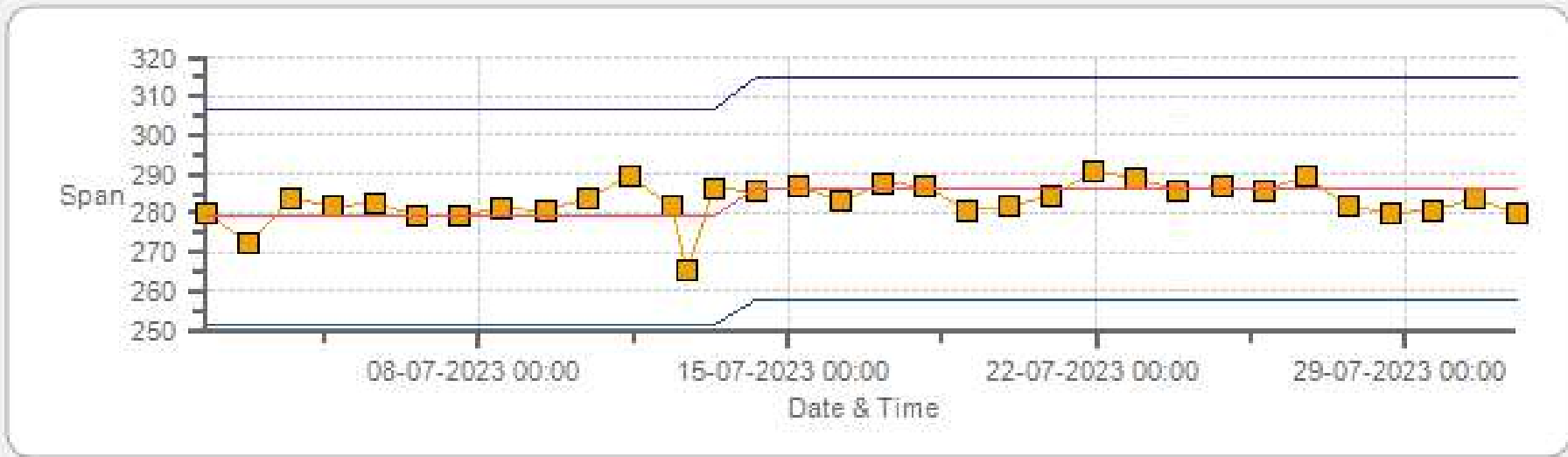
Span SpanRef Span Low Span High

NO2[ppb] Calibration: Cold Lake South Monthly: 07-2023 Type: SpanAndZero - Zero



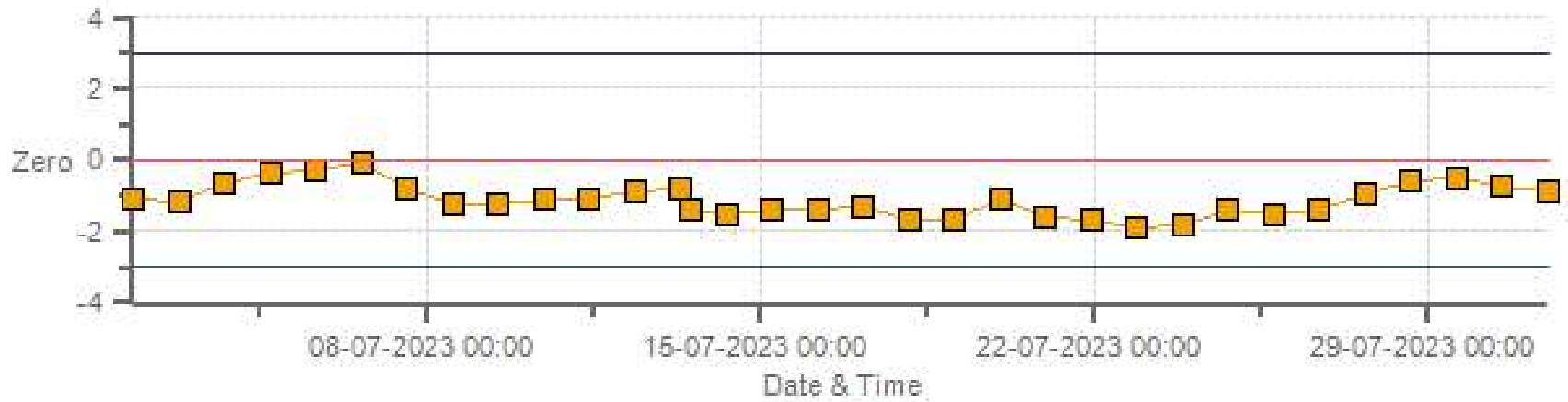
Zero Zero Ref Zero Low Zero High

NO2[ppb] Calibration: Cold Lake South Monthly: 07-2023 Type: SpanAndZero - Span



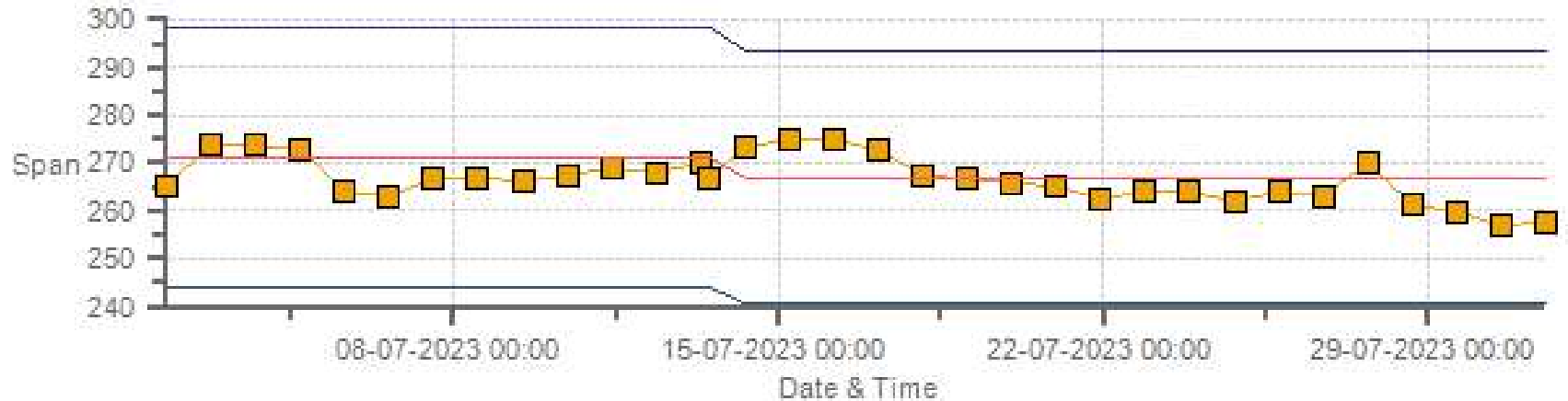
Span SpanRef Span Low Span High

O3[ppb] Calibration: Cold Lake South Monthly: 07-2023 Type: SpanAndZero - Zero



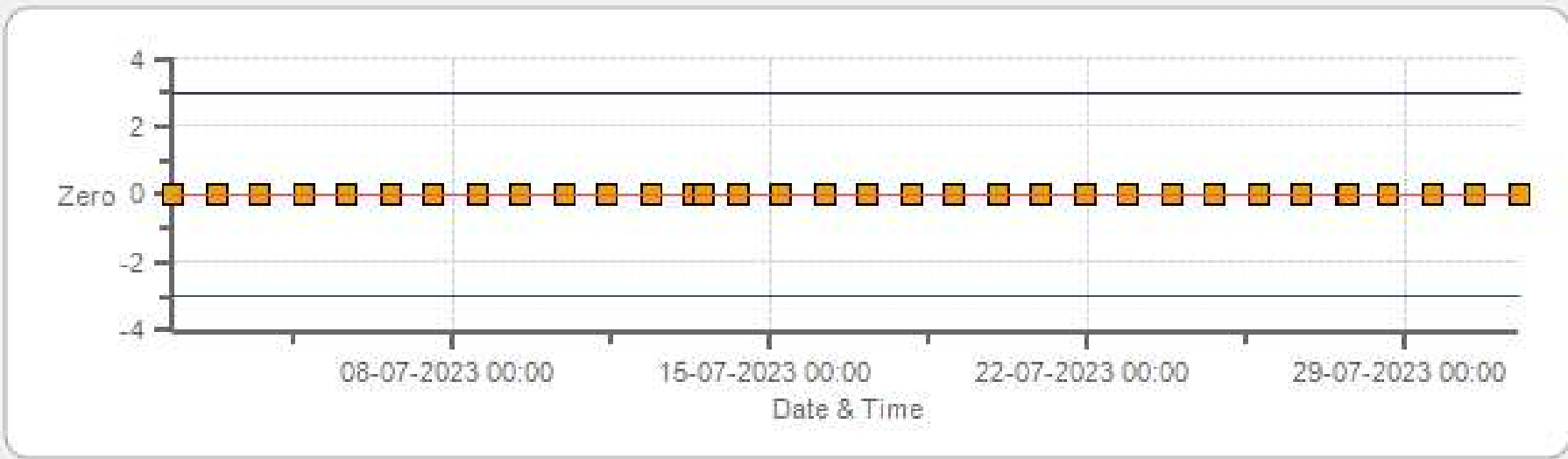
Zero Zero Ref Zero Low Zero High

O3[ppb] Calibration: Cold Lake South Monthly: 07-2023 Type: SpanAndZero - Span



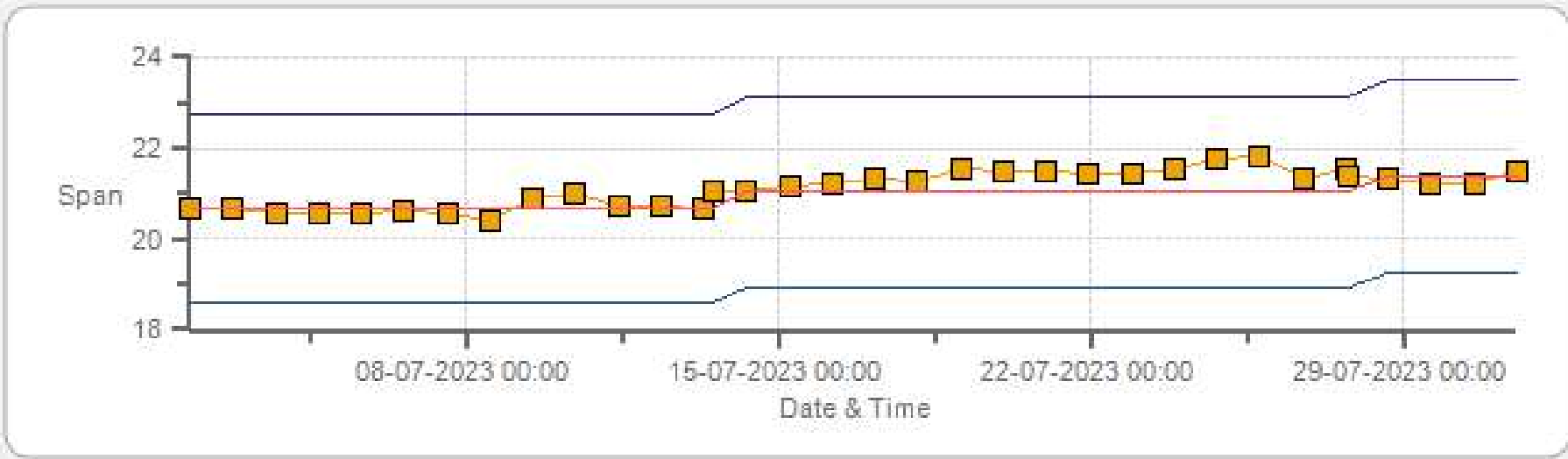
Span SpanRef Span Low Span High

THC55[ppm] Calibration: Cold Lake South Monthly: 07-2023 Type: SpanAndZero - Zero



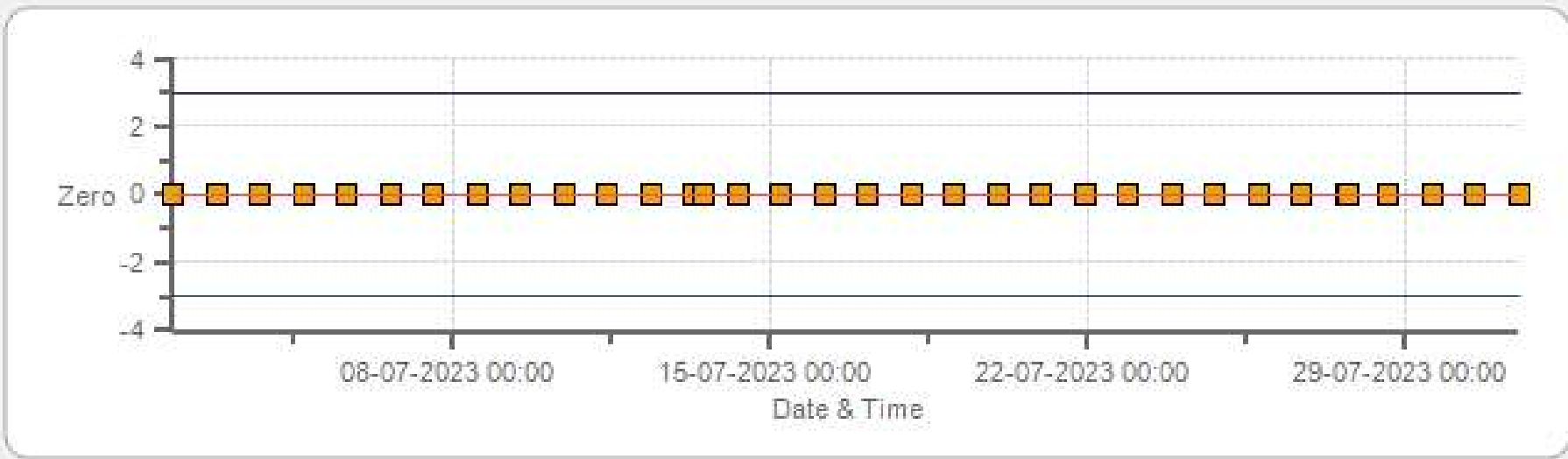
Zero Zero Ref Zero Low Zero High

THC55[ppm] Calibration: Cold Lake South Monthly: 07-2023 Type: SpanAndZero - Span



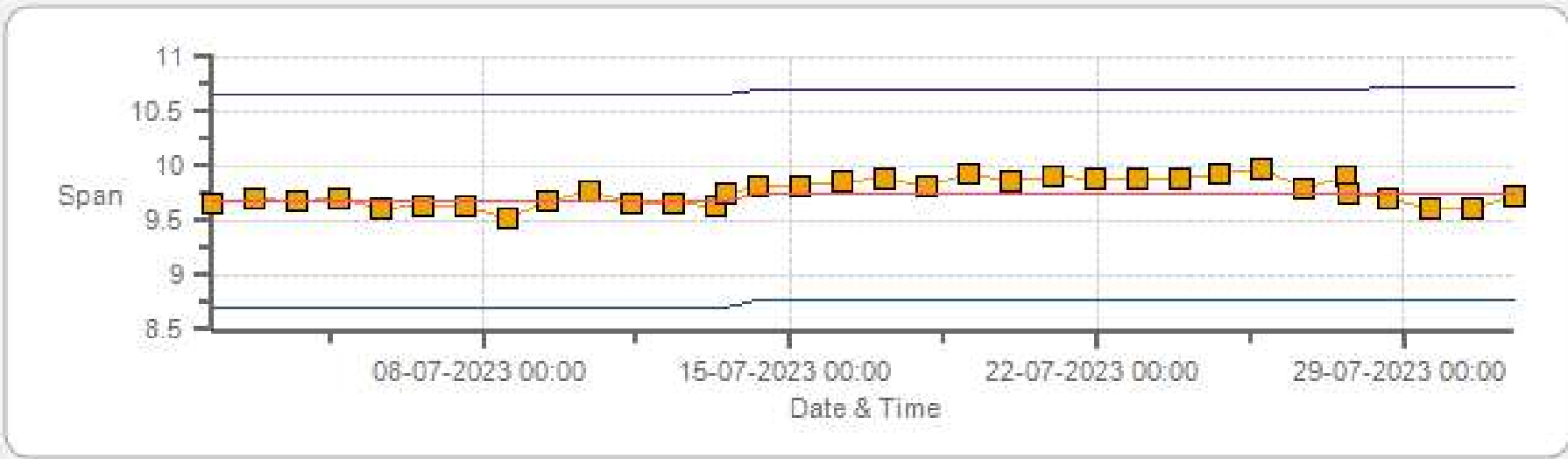
Span SpanRef Span Low Span High

CH4[ppm] Calibration: Cold Lake South Monthly: 07-2023 Type: SpanAndZero - Zero



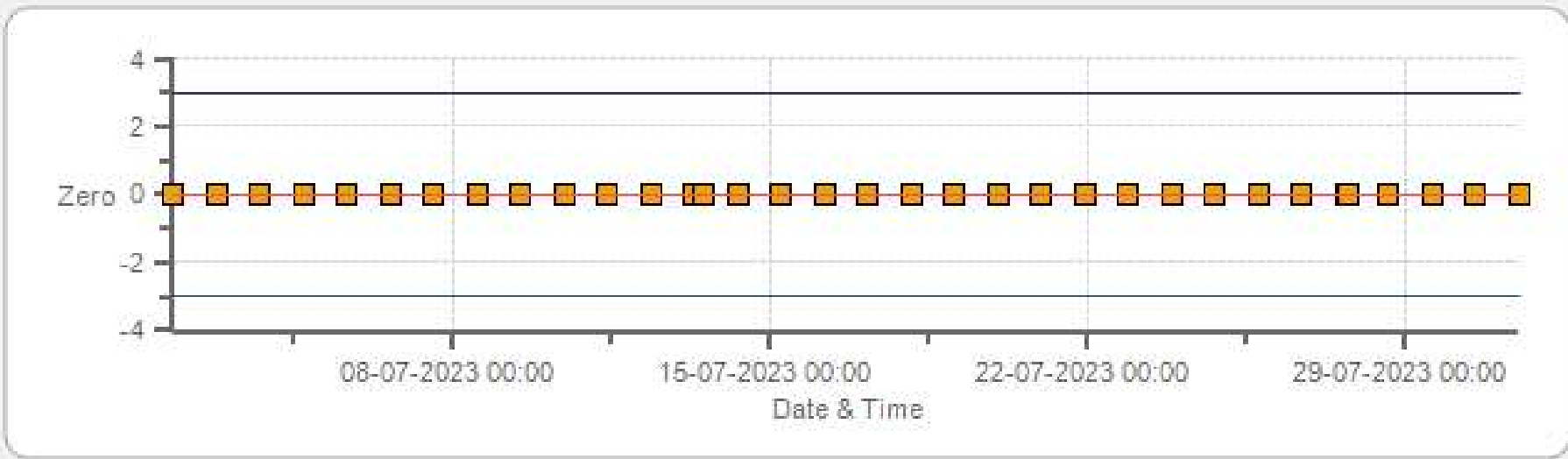
Zero Zero Ref Zero Low Zero High

CH4[ppm] Calibration: Cold Lake South Monthly: 07-2023 Type: SpanAndZero - Span



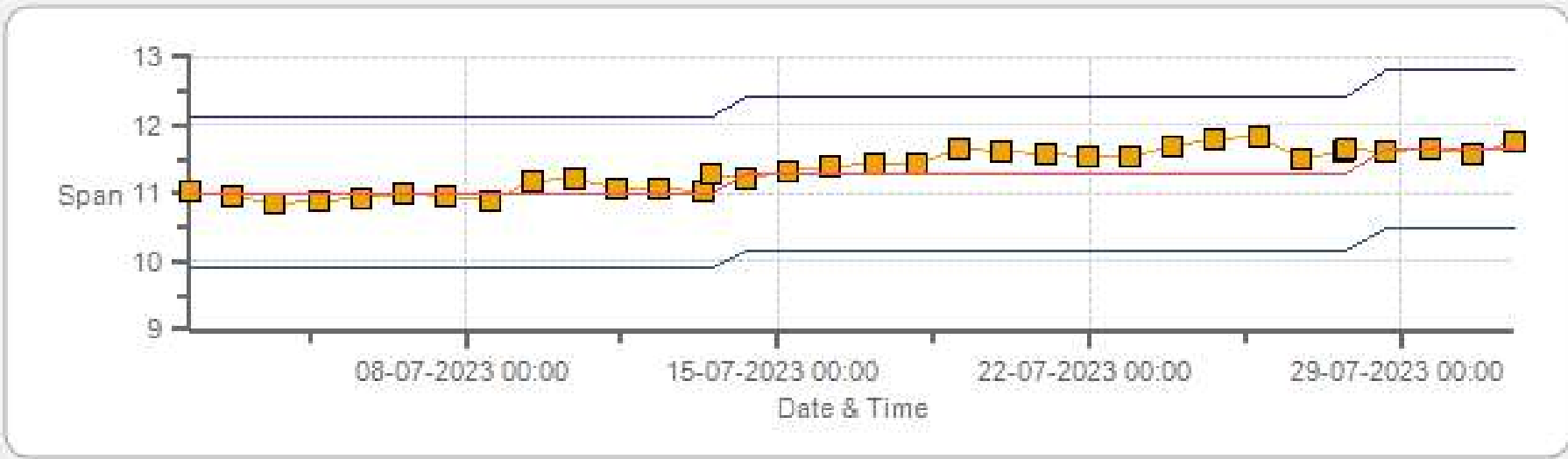
Span SpanRef Span Low Span High

NMHC[ppm] Calibration: Cold Lake South Monthly: 07-2023 Type: SpanAndZero - Zero



Zero Zero Ref Zero Low Zero High

NMHC[ppm] Calibration: Cold Lake South Monthly: 07-2023 Type: SpanAndZero - Span



Span Span Ref Span Low Span High

MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution



| | | | |
|---------------|--------------|-----------------------------|-------------|
| DATE: | 12-Jul-2023 | PREVIOUS CALIBRATION DATE: | 14-Jun-2023 |
| PARAMETER: | SO2 | PREVIOUS CORRECTION FACTOR: | 0.998 |
| CLIENT: | LICA | TEMPERATURE (°C): | 22.0 |
| LOCATION: | CLS | BAROMETRIC (mBar): | 947 |
| PURPOSE: | Routine | START TIME (MST): | 09:51 |
| PERFORMED BY: | Alex Yakupov | END TIME (MST): | 15:00 |

ANALYZER:

| | | | |
|----------------------------|----------------|----------------------------|---------|
| MAKE/MODEL | Thermo 43I-TLE | RANGE | 500 ppb |
| SERIAL # | 1180260018 | FLOW (mL/min) | 441 |
| INITIAL | | FINAL | |
| BKG/OFFSET | 2.17 | BKG/OFFSET | 2.18 |
| COEF/SLOPE | 0.969 | COEF/SLOPE | 0.984 |
| Expected (reference) Value | 378 | Expected (reference) Value | 379 |

CALIBRATION SYSTEM:

| | | | |
|-----------------------|-------------|-----------------------------|----------|
| CALIBRATOR: | | ZERO AIR: | |
| MAKE: | SABIO | MAKE: | Teledyne |
| MODEL: | 2010 | MODEL: | T701 |
| ID: | 17100415 | ID: | 132 |
| MFC CALIBRATION DATE: | 12-Apr-2023 | OXIDIZER ID: | n/a |
| CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
| CYLINDER ID: | LL 127895 | HIGH ID | n/a |
| CONC (ppm): | 50.40 | EXPIRY DATE | n/a |
| CYLINDER (psi): | 1300 | LOW ID | n/a |
| EXPIRY DATE | 27-Oct-2030 | EXPIRY DATE | n/a |

CALIBRATION PARAMETERS:

| | | | |
|--------|-----------|-----------|----------|
| POINT | HIGH | MID | LOW |
| TARGET | 390 | 190 | 95 |
| RANGE | 300 - 400 | 150 - 200 | 50 - 100 |

SCRUBBER CHECK (15 MINS; TRS/H2S ONLY):

| | | | |
|-------------|-----|-------------------------|-----|
| START TIME: | n/a | SO2 Conc (ppb) | n/a |
| END TIME: | n/a | Analyzer Response (ppb) | n/a |

CALIBRATION:

| FLOW RATES (mL/min) | | | CONCENTRATION (ppb) | | | CORRECTION FACTOR | |
|------------------------|------------------|-------|---------------------|-----------|-------|-------------------|------------------|
| DILUENT | GAS | TOTAL | ACTUAL | INDICATED | | Initial | Final |
| | | | | Initial | Final | | |
| 5000 | 37.20 | 5000 | 0.00 | -0.1 | 0 | 1.021 | 0.997 |
| 4961 | 37.20 | 4998 | 375.13 | 367.2 | 376.3 | 1.021 | 0.997 |
| 4982 | 17.60 | 5000 | 177.41 | n/a | 176.7 | n/a | 1.004 |
| 4990 | 8.80 | 4999 | 88.72 | n/a | 87.6 | n/a | 1.013 |

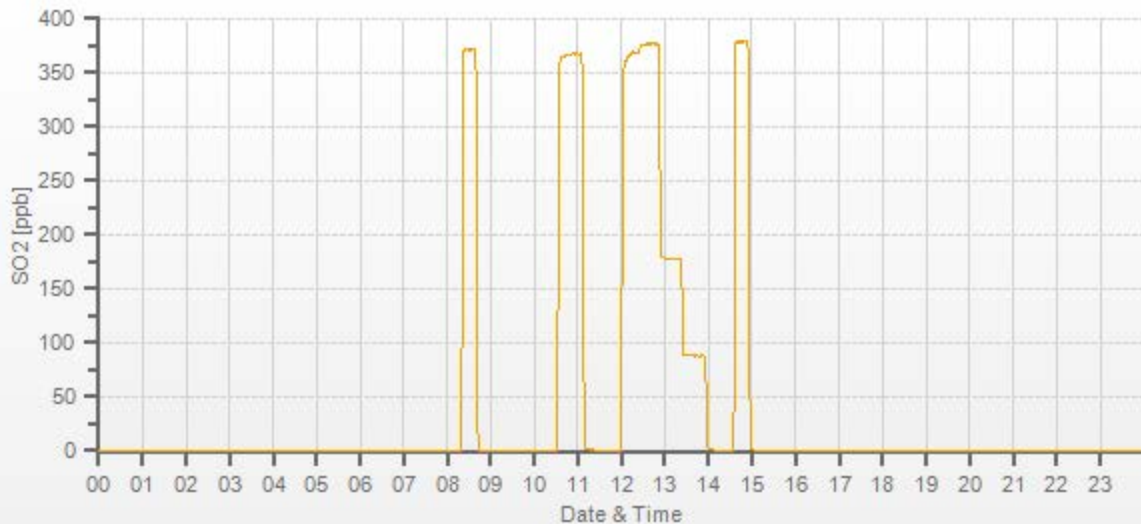
LINEAR REGRESSION ANALYSIS:

| | | | |
|-------|-------------|-------|-----------|
| | CORRELATION | SLOPE | INTERCEPT |
| VALUE | 1.000 | 1.004 | -0.2% |

COMMENTS:

Sample inlet filter was changed.

SO2[ppb] Station: Cold Lake South Daily: 12-07-2023 Type: AVG 1 Min. [1 Min.]



CAL-LICA-202307-01174

TRS Analyzer Calibration by Dilution



| | | | |
|---------------|--------------|-----------------------------|-------------|
| DATE: | 12-Jul-2023 | PREVIOUS CALIBRATION DATE: | 14-Jun-2023 |
| PARAMETER: | TRS | PREVIOUS CORRECTION FACTOR: | 1.002 |
| CLIENT: | LICA | TEMPERATURE (°C): | 22.0 |
| LOCATION: | CLS | BAROMETRIC (mBar): | 947 |
| PURPOSE: | Routine | START TIME (MST): | 09:52 |
| PERFORMED BY: | Alex Yakupov | END TIME (MST): | 15:00 |

ANALYZER:

| | | | |
|----------------------------|-------------|----------------------------|---------|
| MAKE/MODEL | Thermo 450i | RANGE | 100 ppb |
| SERIAL # | 812728560 | FLOW (mL/min) | 495 |
| INITIAL | | FINAL | |
| BKG/OFFSET | 26.9 | BKG/OFFSET | 26.6 |
| COEF/SLOPE | 1.149 | COEF/SLOPE | 1.114 |
| Expected (reference) Value | 42.6 | Expected (reference) Value | 41.8 |

CALIBRATION SYSTEM:

| | | | |
|-----------------------|-------------|-----------------------------|----------|
| CALIBRATOR: | | ZERO AIR: | |
| MAKE: | SABIO | MAKE: | Teledyne |
| MODEL: | 2010 D | MODEL: | T701 |
| ID: | 11900613 | ID: | 132 |
| MFC CALIBRATION DATE: | 12-Apr-2023 | OXIDIZER ID: | n/a |
| CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
| CYLINDER ID: | EY 0002287 | HIGH ID | n/a |
| CONC (ppm): | 10.10 | EXPIRY DATE | n/a |
| CYLINDER (psi): | 500 | LOW ID | n/a |
| EXPIRY DATE | 14-Sep-2024 | EXPIRY DATE | n/a |

CALIBRATION PARAMETERS:

| | | | |
|--------|---------|---------|---------|
| POINT | HIGH | MID | LOW |
| TARGET | 78 | 38 | 19 |
| RANGE | 60 - 80 | 30 - 40 | 10 - 20 |

SCRUBBER CHECK (15 MINS; TRS/H2S ONLY):

| | | | |
|-------------|-------|-------------------------|-----|
| START TIME: | 09:54 | SO2 Conc (ppb) | 380 |
| END TIME: | 10:09 | Analyzer Response (ppb) | 0.0 |

CALIBRATION:

| FLOW RATES (mL/min) | | | CONCENTRATION (ppb) | | | CORRECTION FACTOR | |
|------------------------|-----------------|-------|---------------------|-----------|-------|-------------------|------------------|
| DILUENT | GAS | TOTAL | ACTUAL | INDICATED | | Initial | Final |
| | | | | Initial | Final | | |
| 7500 | 7500 | 7500 | 0.00 | -0.1 | 0 | 1.002 | 1.002 |
| 7442 | 57.90 | 7500 | 77.97 | 76.1 | 77.5 | 1.023 | 1.006 |
| 7472 | 28.20 | 7500 | 37.98 | n/a | 38.1 | n/a | 0.997 |
| 7486 | 14.10 | 7500 | 18.99 | n/a | 18.7 | n/a | 1.015 |

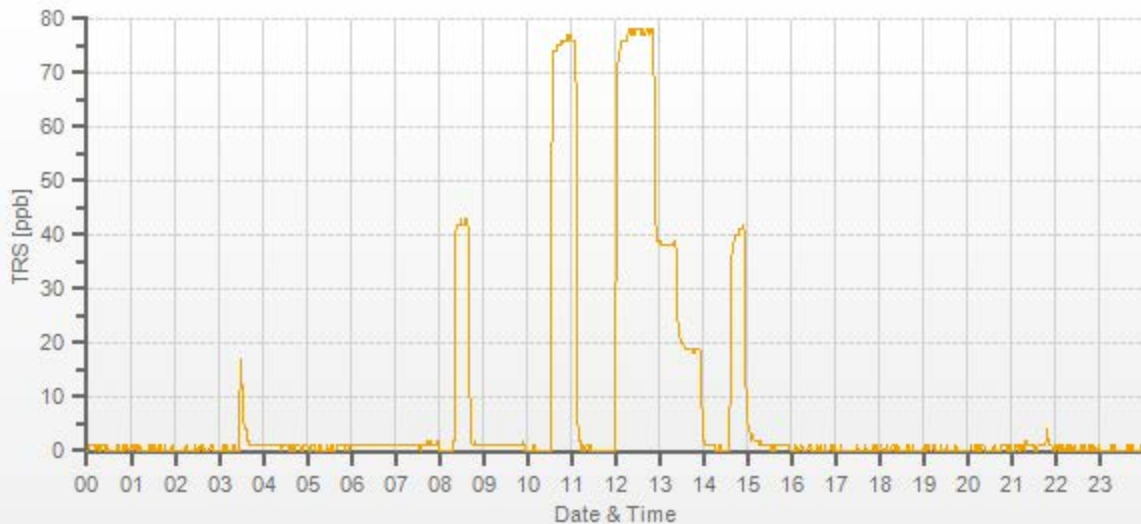
LINEAR REGRESSION ANALYSIS:

| | | | |
|-------|-------------|-------|-----------|
| | CORRELATION | SLOPE | INTERCEPT |
| VALUE | 1.000 | 0.995 | 0.0% |

COMMENTS:

| |
|----------------------------------|
| Sample inlet filter was changed. |
|----------------------------------|

TRS[ppb] Station: Cold Lake South Daily: 12-07-2023 Type: AVG 1 Min. [1 Min.]



CAL-LICA-202307-01174

NOx Calibration by Dilution/Gas-Phase Titration



| CALIBRATION: | | | | ANALYZER: | | | |
|---------------|--------------|----------------------------|-------------|---------------|------------|--------------|-------|
| DATE: | 12-Jul-2023 | PREVIOUS CALIBRATION DATE: | 14-Jun-2023 | MAKE/MODEL: | Thermo 42i | PREVIOUS CF. | |
| CLIENT: | LICA | TEMPERATURE (°C): | 22.0 | SERIAL #: | 1505664393 | NOx | 1.000 |
| LOCATION: | CLS | BAROMETRIC (mBar): | 947 | FLOW (mL/min) | 658 | NO | 1.001 |
| PURPOSE: | Routine | START TIME (MST): | 09:50 | RANGE (ppb) | 500 | NO2 | 0.998 |
| PERFORMED BY: | Alex Yakupov | END TIME (MST): | 17:02 | GPT FOR O3? | | No | |

| CALIBRATOR: | | ZERO AIR: | | CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
|-----------------------|-------------|--------------|----------|------------------|-------------|-----------------------------|-----|
| MAKE: | SABIO | MAKE: | Teledyne | CYLINDER ID: | LL 127895 | HIGH ID: | n/a |
| MODEL: | 2010 | MODEL: | T701 | NO/NOx (PPM): | 51.1 51.6 | HIGH EXPIRY: | n/a |
| ID: | 17100415 | ID: | 132 | CYLINDER (psi): | 1300 | LOW ID: | n/a |
| MFC CALIBRATION DATE: | 12-Apr-2023 | OXIDIZER ID: | n/a | EXPIRY DATE | 27-Oct-2030 | LOW EXPIRY: | n/a |

| CALIBRATION SETTINGS: | | | | | | | |
|-----------------------|-------|-------|-------|----------------|-------|-------|-------|
| INITIAL | NOx | NO | NO2 | FINAL | NOx | NO | NO2 |
| BKG/OFFSET: | 4.9 | 4.6 | n/a | BKG/OFFSET: | 4.9 | 4.7 | n/a |
| SLOPE/COEF/CE: | 1.009 | 1.064 | 0.999 | SLOPE/COEF/CE: | 1.007 | 1.071 | 0.999 |

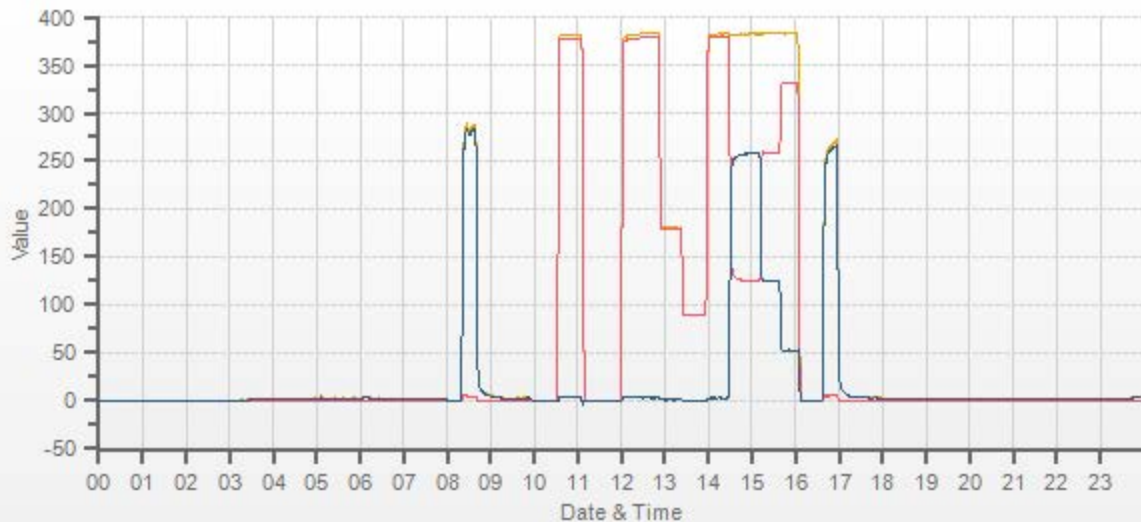
| EXPECTED (REFERENCE) VALUE: | | | | | | | |
|-----------------------------|-------|-----|-------|-------|-------|-----|-------|
| INITIAL | NOx | NO | NO2 | FINAL | NOx | NO | NO2 |
| | 282.5 | 3.5 | 279.0 | | 292.1 | 5.6 | 286.5 |

| CALIBRATION PARAMETERS: | | | | | | | |
|-------------------------|-----------------|--|------------------|--|-----------|--|----------|
| POINT | NO TARGET (PPB) | | NO2 TARGET (PPB) | | NO2 RANGE | | O3 POINT |
| HIGH | 380 | | 250 | | 230-265 | | n/a |
| MID | 180 | | 125 | | 115-150 | | n/a |
| LOW | 90 | | 45 | | 40-55 | | n/a |
| EXTRA 1 | n/a | | n/a | | n/a | | n/a |

| FLOW RATE | | | CONCENTRATION (ppb) | | | | | | | | | CORRECTION FACTOR (CF.) | | | | | |
|-----------|------------------|-------|---------------------|-------|-----|-------------------|-------|-----|-----------------|-------|-----|-------------------------|------------------|------------------|------------------|------------------|------------------|
| (mL/min) | | | CALCULATED | | | INITIAL INDICATED | | | FINAL INDICATED | | | INITIAL | | | FINAL | | |
| DILUENT | GAS | TOTAL | NO | NOx | NO2 | NO | NOx | NO2 | NO | NOx | NO2 | NO | NOx | NO2 | NO | NOx | NO2 |
| 5000 | 37.20 | 5000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.008 | 1.007 | 1.002 | 1.002 | 1.003 | 1.015 |
| 4961 | 37.20 | 4998 | 380.3 | 384.1 | 3.7 | 377.3 | 381.5 | 4.2 | 379.6 | 383.2 | 3.5 | 1.008 | 1.007 | 1.002 | 1.002 | 1.002 | 1.015 |
| 4982 | 17.60 | 5000 | 179.9 | 181.6 | 1.8 | n/a | n/a | n/a | 179.1 | 181.1 | 2.0 | n/a | n/a | 1.004 | 1.004 | 1.003 | 1.015 |
| 4990 | 8.80 | 4999 | 90.0 | 90.8 | 0.9 | n/a | n/a | n/a | 90.1 | 89.5 | 0.5 | n/a | n/a | 0.998 | 0.998 | 1.015 | 1.015 |

| GPT CALIBRATION: | | | | | | | | | | | |
|------------------------------|------------|-------|-------------|-----------------|-------|-------|-------------------------|------------------|------------------|--------------------|--|
| Point | CALIBRATOR | | | INDICATED (ppb) | | | NO DROP / O3 Conc (ppb) | NO2 GAIN (ppb) | NO2 Corr. FACTOR | CONV. EFFICIENCY | |
| | GAS | TOTAL | O3 SETPOINT | NO | NOx | NO2 | | | | | |
| REFERENCE | 37.20 | 4998 | 0 | 379.6 | 383.0 | 3.4 | 254.5 | 254.8 | 0.999 | 100.12% | |
| AS-FOUND HIGH | 37.20 | 4998 | 235 | 125.1 | 383.3 | 258.2 | 254.5 | 254.8 | 0.999 | 100.12% | |
| ADJUSTED HIGH | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | |
| MID | 37.20 | 4998 | 110 | 259.0 | 384.0 | 124.9 | 120.6 | 121.5 | 0.993 | 100.75% | |
| LOW | 37.20 | 4998 | 40 | 331.5 | 384.3 | 52.7 | 48.1 | 49.3 | 0.976 | 102.49% | |
| NO2 adjustment not required. | | | | | | | | | AVERAGE: | 101.12% | |

| LINEAR REGRESSION ANALYSIS: | | | | COMMENTS: |
|-----------------------------|-------------|-------|-----------|-----------|
| | CORRELATION | SLOPE | INTERCEPT | |
| NO | 1.000 | 0.998 | 0.01% | |
| NOx | 1.000 | 0.999 | -0.10% | |
| NO2 | 1.000 | 0.996 | 0.28% | |



CAL-LICA-202307-01174

Ozone Calibration by Photometer (Varying UV Lamp)



| | | | |
|---------------|--------------|-----------------------------|-------------|
| DATE: | 13-Jul-2023 | PREVIOUS CALIBRATION DATE: | 15-Jun-2023 |
| PARAMETER: | O3 | PREVIOUS CORRECTION FACTOR: | 1.008 |
| CLIENT: | LICA | TEMPERATURE (°C): | 22.0 |
| LOCATION: | CLS | BAROMETRIC (mBar): | 946 |
| PURPOSE: | Routine | START TIME (MST): | 09:03 |
| PERFORMED BY: | Alex Yakupov | END TIME (MST): | 12:47 |

ANALYZER:

| | | | |
|----------------------------|-------------|----------------------------|---------|
| MAKE/MODEL | Thermo 49iQ | RANGE | 500 ppb |
| SERIAL # | 12208316585 | FLOW (mL/min) | 1.31 |
| INITIAL | | FINAL | |
| BKG/OFFSET | -0.4 | BKG/OFFSET | 0.4 |
| COEF/SLOPE | 1.027 | COEF/SLOPE | 1.036 |
| Expected (reference) Value | 271 | Expected (reference) Value | 267 |

CALIBRATION SYSTEM:

| | | | |
|-----------------------|-------------|------------------------------|----------|
| CALIBRATOR: | | ZERO AIR: | |
| MAKE: | SABIO | MAKE: | Teledyne |
| MODEL: | 2010 D | MODEL: | T701 |
| ID: | 11900613 | ID: | 132 |
| MFC CALIBRATION DATE: | 12-Apr-2023 | OXIDIZER ID: | n/a |
| CALIBRATION METHOD: | | Photometer (Varying UV Lamp) | |
| GPT DATE: | n/a | GPT END TIME: | n/a |

CALIBRATION PARAMETERS:

| | | | |
|-------|-----------|-----------|----------|
| POINT | HIGH | MID | LOW |
| RANGE | 300 - 400 | 150 - 200 | 50 - 100 |

CALIBRATION:

| FLOW RATES (mL/min) | | | CONCENTRATION (ppb) | | | CORRECTION FACTOR | |
|------------------------|-----------------------|-------|---------------------|-----------|-------|-------------------|-------------------|
| DILUENT | GAS | TOTAL | ACTUAL | INDICATED | | Initial | Final |
| | | | | Initial | Final | | |
| 5000 | XXXXXXXXXX | 5000 | 0.0 | 0.4 | 0.0 | XXXXXX | XXXXXX |
| 5000 | XXXXXXXXXX | 5000 | 380.0 | 377.7 | 378.0 | 1.007 | 1.005 |
| 5000 | XXXXXXXXXX | 5000 | 180.0 | n/a | 179.2 | n/a | 1.004 |
| 5000 | XXXXXXXXXX | 5000 | 60.0 | n/a | 61.3 | n/a | 0.979 |

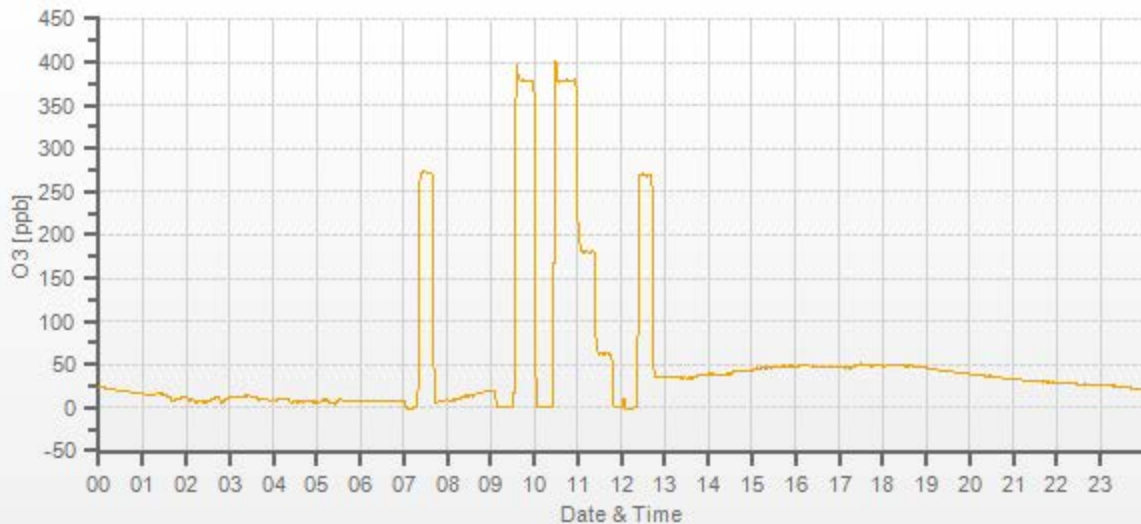
LINEAR REGRESSION ANALYSIS:

| | | | |
|-------|-------------|-------|-----------|
| | CORRELATION | SLOPE | INTERCEPT |
| VALUE | 1.000 | 0.993 | 0.1% |

COMMENTS:

Sample inlet filter was changed.

O3[ppb] Station: Cold Lake South Daily: 13-07-2023 Type: AVG 1 Min. [1 Min.]



CAL-LICA-202307-01174

Methane/Non-Methane Analyzer Calibration by Dilution



| CALIBRATION: | | | | ANALYZER: | | | |
|---------------|--------------|----------------------------|-------------|--------------|------------|------------|---------------|
| DATE: | 13-Jul-2023 | PREVIOUS CALIBRATION DATE: | 15-Jun-2023 | VALUE | MAKE/MODEL | SERIAL | FLOW (mL/min) |
| CLIENT: | LICA | TEMPERATURE (°C): | 22.0 | | Thermo 55i | 1180930025 | 1100 |
| LOCATION: | CLS | BAROMETRIC (mBar): | 946 | PARAMETER: | CH4 | NMHC | THC |
| PURPOSE | Routine | START TIME (MST): | 09:04 | RANGE (ppm): | 20 | 20 | 40 |
| PERFORMED BY: | Alex Yakupov | END TIME (MST): | 12:47 | PREVIOUS CF: | 1.003 | 1.004 | 1.003 |

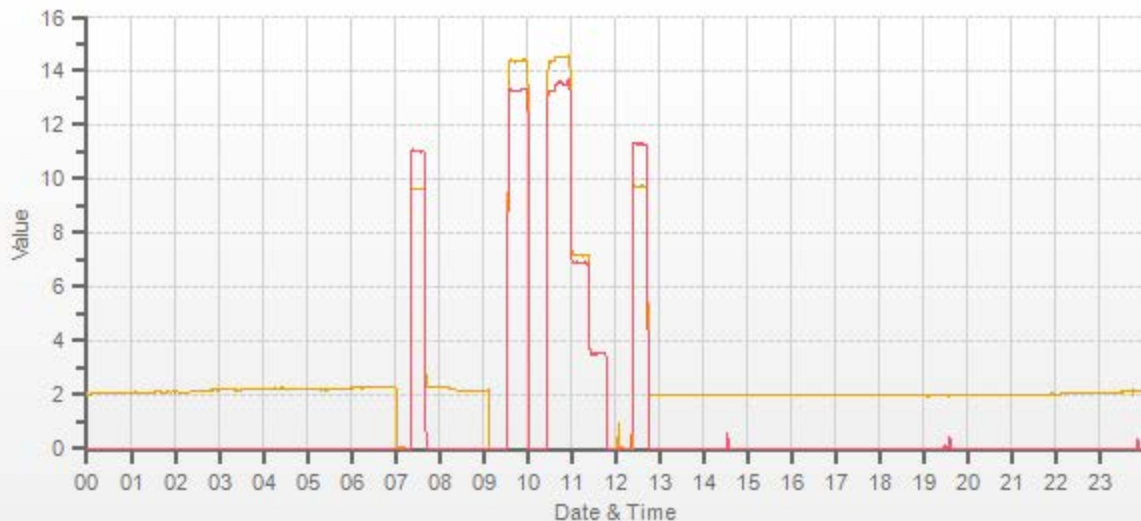
| CALIBRATOR: | | ZERO AIR: | | CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
|-----------------------|-------------|--------------|----------|---|---------------|-----------------------------|-----|
| MAKE: | SABIO | MAKE: | Teledyne | CYLINDER ID: | LL 23593 | HIGH ID: | n/a |
| MODEL: | 2010 | MODEL: | T701 | CH ₄ /C ₃ H ₈ (ppm): | 603.0 204.0 | HIGH EXPIRY: | n/a |
| ID: | 17100415 | ID: | 134 | CYLINDER (psi): | 1100 | LOW ID: | n/a |
| MFC CALIBRATION DATE: | 12-Apr-2023 | OXIDIZER ID: | n/a | EXPIRY DATE | 18-Aug-2029 | LOW EXPIRY: | n/a |

| CALIBRATION PARAMETERS: | | | | | | | |
|-------------------------------|---------|-------|-------|--|--|--------|--|
| POINT (CH ₄ /NMHC) | HIGH | MID | LOW | CH ₄ EQUIVILANCE | | | |
| TARGET | 14 | 7 | 3.5 | C ₃ H ₈ as CH ₄ | | 561.0 | |
| RANGE | 12 - 16 | 6 - 8 | 2 - 4 | THC as CH ₄ | | 1164.0 | |

| EXPECTED (REFERENCE) VALUE: | | | | | | | |
|-----------------------------|-----------------|-------|-------|-------|-----------------|-------|-------|
| INITIAL | CH ₄ | NMHC | THC | FINAL | CH ₄ | NMHC | THC |
| | 9.68 | 11.01 | 20.68 | | 9.74 | 11.29 | 21.03 |

| FLOW RATE | | | CONCENTRATION (PPM) | | | | | | | | | CORRECTION FACTOR (CF.) | | | | | |
|-----------|------------------|-------|---------------------|-------|-------|-------------------|-------|-------|-----------------|-------|-------|-------------------------|------------------|------------------|------------------|------------------|------------------|
| (mL/min) | | | CALCULATED | | | INITIAL INDICATED | | | FINAL INDICATED | | | INITIAL | | | FINAL | | |
| DILUENT | GAS | TOTAL | CH ₄ | NMHC | THC | CH ₄ | NMHC | THC | CH ₄ | NMHC | THC | CH ₄ | NMHC | THC | CH ₄ | NMHC | THC |
| 3100 | 74.60 | 3100 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.011 | 1.018 | 1.014 | 1.001 | 1.000 | 1.000 |
| 3025 | 74.60 | 3100 | 14.51 | 13.50 | 28.01 | 14.36 | 13.26 | 27.62 | 14.50 | 13.50 | 28.01 | 1.011 | 1.018 | 1.014 | 1.001 | 1.000 | 1.000 |
| 3063 | 37.30 | 3100 | 7.26 | 6.75 | 14.01 | n/a | n/a | n/a | 7.17 | 6.89 | 14.05 | n/a | n/a | n/a | 1.012 | 0.980 | 0.997 |
| 3081 | 18.60 | 3100 | 3.62 | 3.37 | 6.98 | n/a | n/a | n/a | 3.55 | 3.52 | 7.07 | n/a | n/a | n/a | 1.019 | 0.956 | 0.988 |

| LINEAR REGRESSION ANALYSIS: | | | | Comments: Sample inlet filter was changed. Use Zero Chrom? Yes |
|-----------------------------|-------------|-------|-----------|--|
| | CORRELATION | SLOPE | INTERCEPT | |
| CH ₄ | 1.000 | 1.000 | -0.2% | |
| NMHC | 1.000 | 0.997 | 0.4% | |
| THC | 1.000 | 0.999 | 0.1% | |



CAL-LICA-202307-01174



Teledyne T640 Audit/Calibration

| | | | | |
|--|-----------------|---------------|--|------------------------------|
| Date/Previous Audit Date: | July 13, 2023 | June 15, 2023 | Weather Conditions: | A few clouds |
| Company: | LICA | | Start Time (mst): | 12:56 |
| Station: | Cold Lake South | | End Time (mst): | 13:33 |
| Parameter: | PM 2.5 | | Performed By/Reviewer: | Alex Yakupov Chris Wesson |
| Instrument Data: | | | | |
| Make/Model: | Teledyne T640 | | Serial Number: | 575 |
| Owner: | LICA | | Alarms (detail in comments): | No |
| Reference Standards/I.D./Expiry Date: | | | | |
| Flow Standard: DeltaCal DC1 S/N 177246 / Sep 03, 2023 | | | Temperature: Vaisala / HM70 / #T1640130/ Jun 26, 2024 | |
| Digital Manometer: DeltaCal DC1 S/N 177246 / Sep 03, 2023 | | | Pressure: Fisher / FB 61291/ #130168457/ Mar 20, 2024 | |

| | | | | | |
|-------------------------|-------|--------------------|------|---------------------|-------|
| DIAGNOSTICS: | | | | | |
| Ambient Pressure (mmHg) | 708.7 | Ambient Temp (°C) | 21.6 | ASC Heater Duty (%) | 0.0 |
| Box Temp (°C) | 28.6 | Current PMT HV (V) | 1429 | LED Temp (°C) | 37.77 |
| P3 Value | 52 | PMT Setting (V) | 1432 | Pump PWM (%) | 73 |
| Sample Flow (L/min) | 5.00 | Sample RH (%RH) | 33.3 | Sample Temp (°C) | 26.6 |

| Monthly Audit/Calibration: | | | | | |
|--|-----------|-------|-----------|-------|--|
| Item: | As-found | | As-left | | Tolerance |
| | Reference | T640x | Reference | T640x | |
| Zero Test (Leak Check) | PM10 | 0.0 | PM10 | 0.0 | 0.0 to 0.2 |
| | PM2.5 | 0.0 | PM2.5 | 0.0 | |
| Ambient Pressure (mmHg) | 709.5 | 708.7 | 709.5 | 708.7 | +/- 10 mm Hg |
| Ambient Temperature (°C) | 22.60 | 21.6 | n/a | | +/- 2°C |
| Sample Flow (L/min) | 5.00 | 5 | 5.00 | 5 | +/-5% of T640x (e.g., 4.75 – 5.25 lpm) |
| Additional Monthly Maintenance : | | | | | Completed |
| Inlet cleaned? | | | | | Yes |
| Sample tubing inspected (inner and outer)? | | | | | Yes |

Comments:

A new filter was installed.

Meteorological System Checklist



| | | | |
|--|---|--------------------------------|------------------|
| Date: | July 13, 2023 | | |
| Technician: | Alex Yakupov | | |
| Station: | Cold Lake South | | |
| Unit: | Make: | Model: | Serial #: |
| Temperature Sensor: | Rotronic | HC2A-S3 | 20257103 |
| Barometric Pressure Sensor: | MetOne | 92 | Y23368 |
| Relative Humidity Sensor: | Rotronic | HC2A-S3 | 20257103 |
| Anemometer: | RM Young | 05305AQ | 177354 |
| AMBIENT TEMPERATURE SENSOR CHECK | | | |
| Parameter: | Temperature @ 2 metres | | |
| Reference Thermometer ID: | Vaisala / HM70 / #T1640130/ Jun 26, 2024 | | |
| Reference Temperature (°C): | 22.7 | | |
| Station - Ambient Temperature (°C): | 22.0 | | |
| Temperature Difference (°C): | 0.7 | | |
| BAROMETRIC PRESSURE SENSOR CHECK | | | |
| Reference Barometer ID: | Fisher / FB 61291/ #130168457/ Mar 20, 2024 | | |
| Reference Pressure - Units/Reading: | millibar | 946 | |
| Station Pressure - Units/Reading: | millibar | 944 | |
| Pressure Tolerance +/- 15% of error: | 804 - 1088 | 0.21% | |
| RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK | | | |
| Reference Hygrometer ID: | Vaisala / HM70 / #T1640130/ Jun 26, 2024 | | |
| Reference Hygrometer % RH- Reading: | 48.10 | | |
| Station Hygrometer % RH- Reading: | 42.40 | | |
| RH Tolerance +/- 15% of difference: | 40.89 - 55.32 | 11.9% | |
| ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK | | | |
| WIND SPEED | | WIND DIRECTION | |
| Previous check date: | June 15, 2023 | Previous check date: | June 15, 2023 |
| Wind Speed Observed (kph): | 0 - 10 | Wind Direction Observed: | W |
| Wind speed on Data Logger (kph): | 8 | Wind Direction on Data Logger: | W |
| | Annual audit: Jul 6, 2022 | Wind Direction Pass/Fail?: | Pass |
| Comments | | | |
| Station (Trailer) temperature vs Reference gauge: 22.4 vs 22.2, Difference = 0.2 degrees. Passed. Wind system: Model 05305AQ. Signal box # 32400 | | | |



Meteorological Sensor Audit/Calibration

Location Information

Company: LICA
 Audit Location: Cold Lake South
 Audit Date: July 6, 2022
 Calibration Purpose: routine annual

Performed By: Alex Yakupov
 Reviewed By: Chris Wesson
 Start/End Time (mst): 15:54 / 17:48
 Weather Conditions: A few clouds

Wind Sensor Information

| Sensor ID Data: | | Sensor Outputs: | |
|--------------------------|----------------|---------------------------------|-------|
| Sensor Make: | RM Young | Velocity Voltage Output Range: | n/a |
| Sensor Model: | 05305AQ | Velocity Unit Output Range: | 0-200 |
| Serial #: | 177354 | Direction Voltage Output Range: | n/a |
| Previous Cal/Audit Date: | April 20, 2021 | Direction Unit Output Range: | 0-360 |

Wind Calibrator Information

Calibrator I.D. and Expiry Date: RM Young 18802 id# CA4744 expires Aug 6, 2022

Wind Speed Audit Data ****+/- 2% of the average correction factor is the limit****

| RPM | Wind Speed Generated kph | Clockwise Wind Speed kph | Counter Clockwise Wind Speed kph | Correction Factor |
|-----------------------------------|--------------------------|--------------------------|----------------------------------|-------------------|
| 0 | 0 | 0.0 | 0.0 | - |
| 1000 | 18.4 | 18.2 | 18.2 | 1.013 |
| 2000 | 36.9 | 36.6 | 36.6 | 1.007 |
| 3000 | 55.3 | 55.1 | 55.1 | 1.003 |
| 4000 | 73.7 | 73.5 | 73.5 | 1.003 |
| 5000 | 92.2 | 92.1 | 92.0 | 1.001 |
| 6000 | 110.6 | 110.4 | 110.3 | 1.002 |
| 7000 | 129.0 | 128.8 | 128.8 | 1.002 |
| 8000 | 147.4 | 147.3 | 147.3 | 1.001 |
| 9000 | 165.9 | 165.6 | 165.6 | 1.002 |
| 10000 | 184.3 | 184.2 | 184.2 | 1.001 |
| The audit meets AMD requirements. | | | Average Correction Factor= | 1.003 |

Wind Direction Audit Data ****+/- 3° of the absolute average degrees difference for all points is the limit****

| Generated Wind Direction 0-360 (Up) | Generated Wind Direction 360-0 (Down) | Indicated Wind Direction 0-360 (Up) | Indicated Wind Direction 360-0 (Down) | Degrees Difference 0-360 (Up) | Degrees Difference 360-0 (Down) | Average Absolute Degrees Difference |
|-------------------------------------|---------------------------------------|-------------------------------------|---------------------------------------|--------------------------------------|---------------------------------|-------------------------------------|
| 0 | 355 | 0 | 355 | 0.1 | 0.0 | 0.1 |
| 30 | 330 | 27 | 329 | 2.7 | 1.4 | 2.0 |
| 60 | 300 | 58 | 298 | 2.4 | 1.9 | 2.1 |
| 90 | 270 | 89 | 268 | 1.1 | 2.1 | 1.6 |
| 120 | 240 | 119 | 239 | 0.9 | 1.1 | 1.0 |
| 150 | 210 | 148 | 208 | 1.6 | 2.1 | 1.8 |
| 180 | 180 | 178 | 180 | 2.4 | -0.2 | 1.3 |
| 210 | 150 | 208 | 149 | 2.3 | 1.1 | 1.7 |
| 240 | 120 | 239 | 119 | 1.3 | 0.6 | 1.0 |
| 270 | 90 | 268 | 91 | 2.2 | -1.2 | 1.7 |
| 300 | 60 | 298 | 58 | 2.3 | 1.9 | 2.1 |
| 330 | 30 | 329 | 28 | 1.3 | 2.5 | 1.9 |
| 355 | 0 | 355 | 0 | -0.1 | 0.1 | 0.1 |
| The audit meets AMD requirements. | | | | Average Absolute Degrees Difference= | | 1.4 |

Comments:

Output via RMY32400 Serial Interface

End of Report



Lakeland Industry & Community Association

JULY 2023

Ambient Air Monitoring Calibration Report

- TAMARACK STATION-

CAL-LICA-202307-01248

Station Operation and Maintenance:

Bureau Veritas Canada

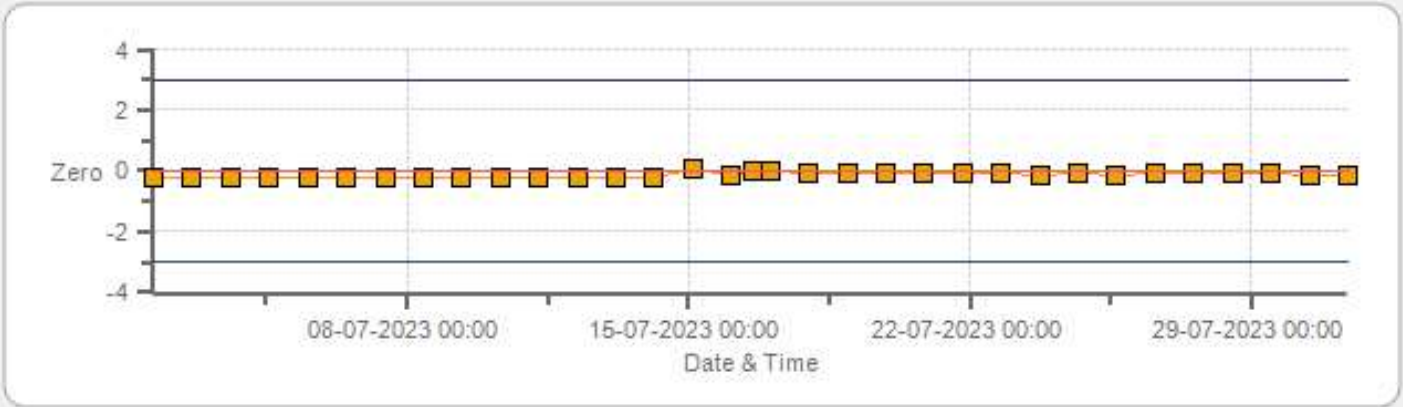
Data Validation and Report:

LICA / Bureau Veritas Canada

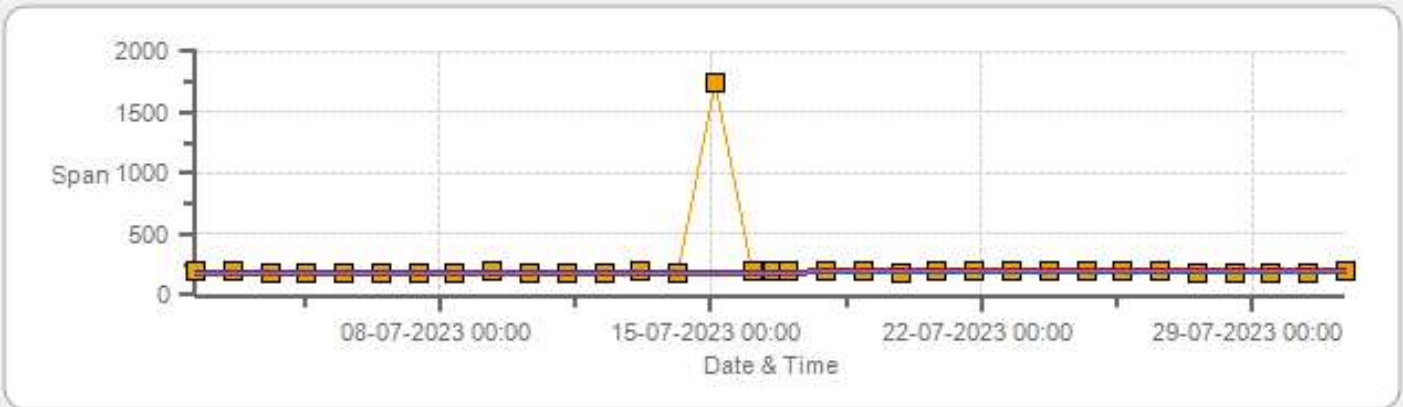
August 3, 2023

DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

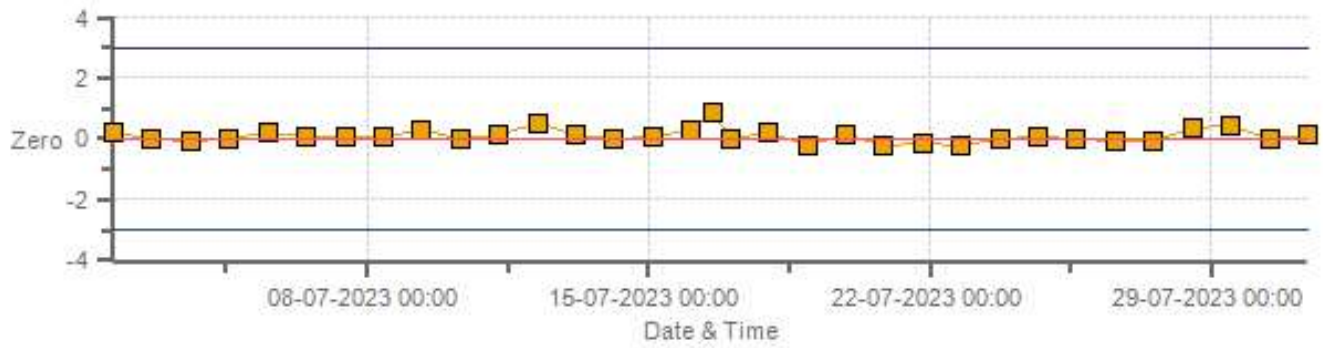
SO2[ppb] Calibration: Tamarack Monthly: 07-2023 Type: SpanAndZero - Zero



SO2[ppb] Calibration: Tamarack Monthly: 07-2023 Type: SpanAndZero - Span

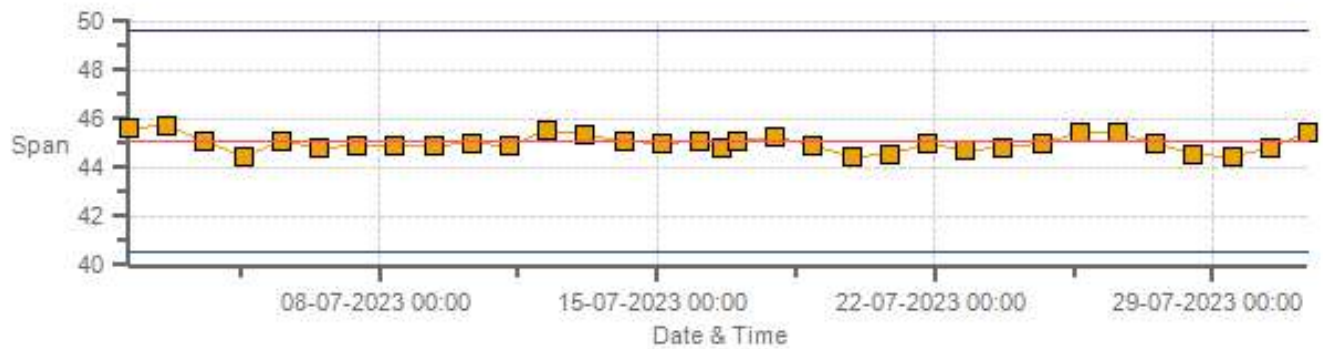


H2S[ppb] Calibration: Tamarack Monthly: 07-2023 Type: SpanAndZero - Zero



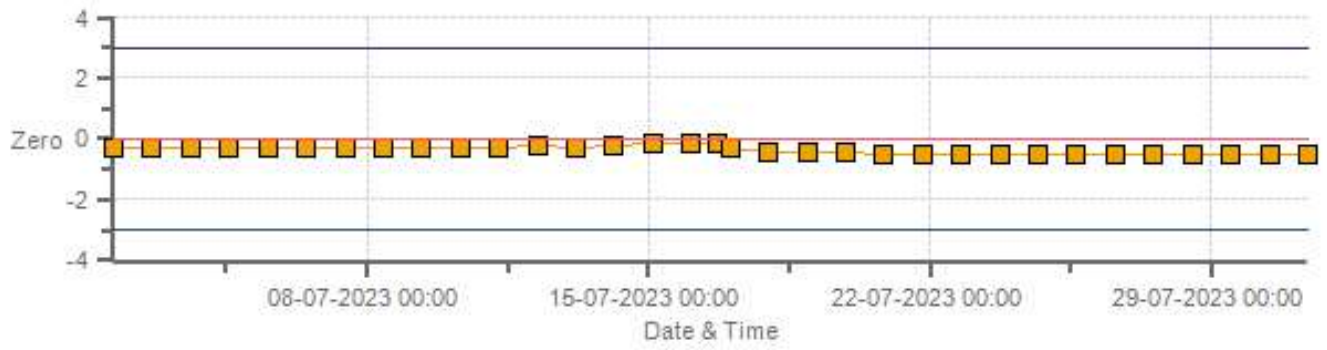
Zero Zero Ref Zero Low Zero High

H2S[ppb] Calibration: Tamarack Monthly: 07-2023 Type: SpanAndZero - Span



Span SpanRef Span Low Span High

NOX[ppb] Calibration: Tamarack Monthly: 07-2023 Type: SpanAndZero - Zero



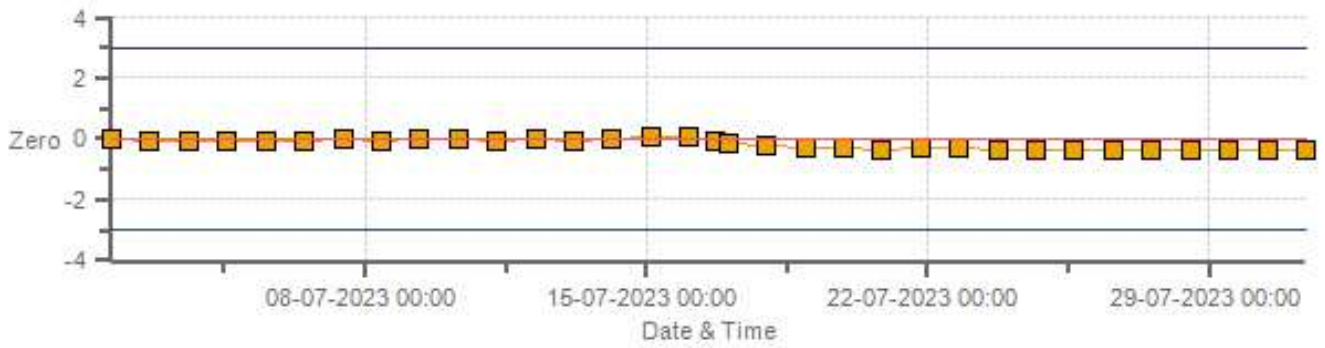
Zero Zero Ref Zero Low Zero High

NOX[ppb] Calibration: Tamarack Monthly: 07-2023 Type: SpanAndZero - Span



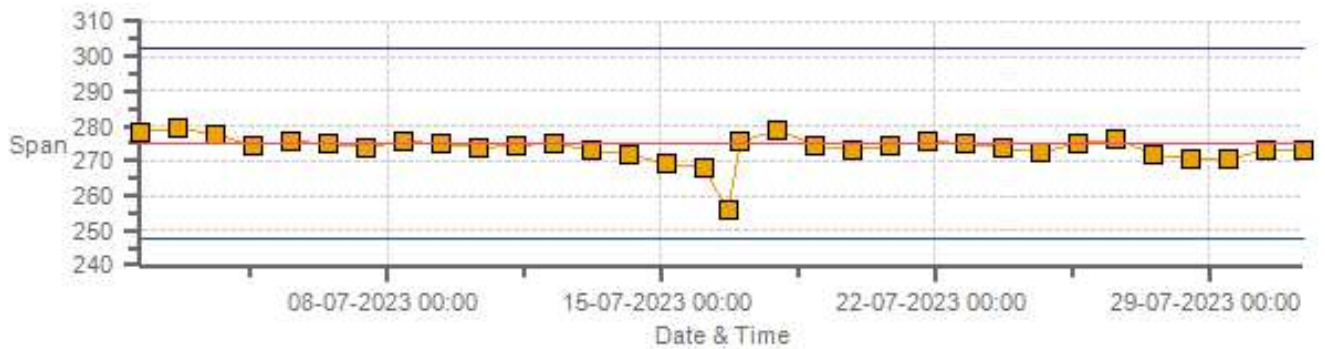
Span Span Ref Span Low Span High

NO2[ppb] Calibration: Tamarack Monthly: 07-2023 Type: SpanAndZero - Zero



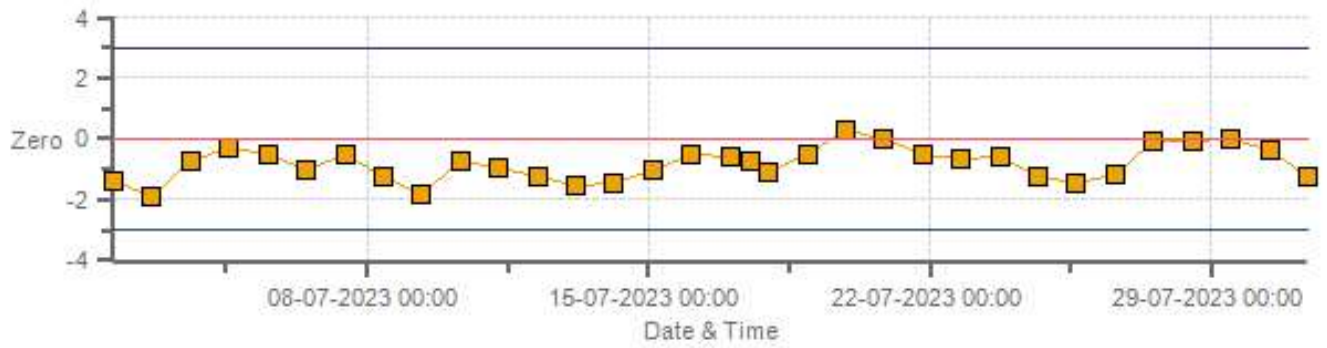
Zero Zero Ref Zero Low Zero High

NO2[ppb] Calibration: Tamarack Monthly: 07-2023 Type: SpanAndZero - Span



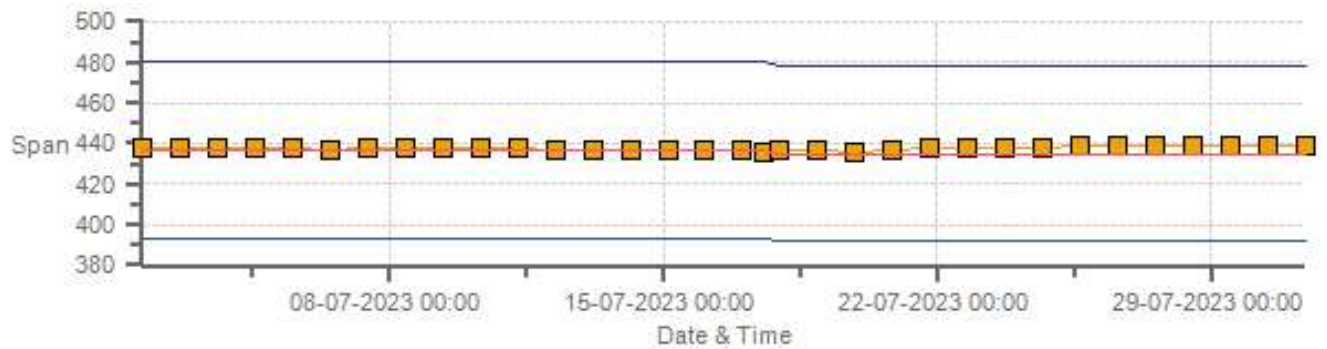
Span SpanRef Span Low Span High

O3[ppb] Calibration: Tamarack Monthly: 07-2023 Type: SpanAndZero - Zero



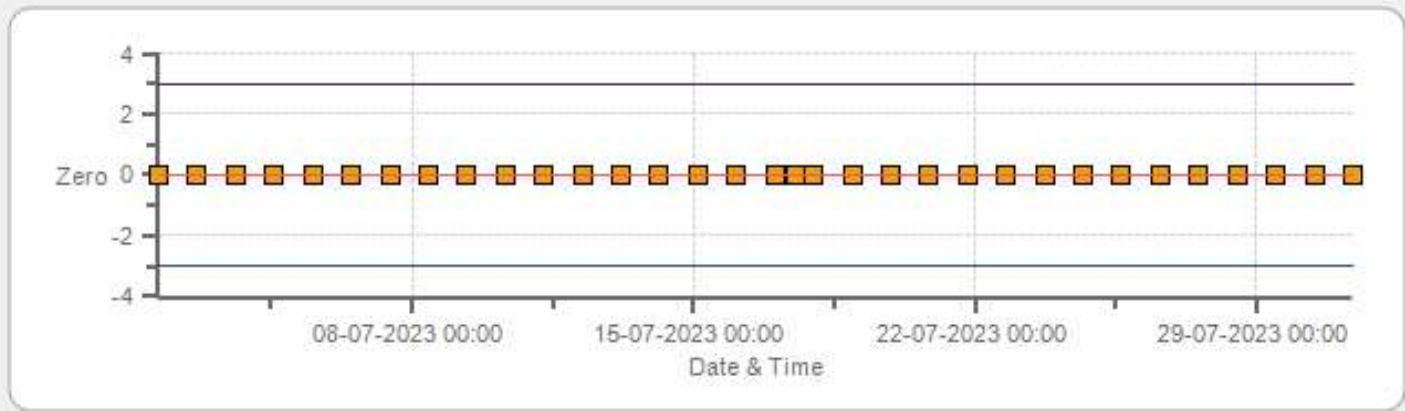
Zero Zero Ref Zero Low Zero High

O3[ppb] Calibration: Tamarack Monthly: 07-2023 Type: SpanAndZero - Span



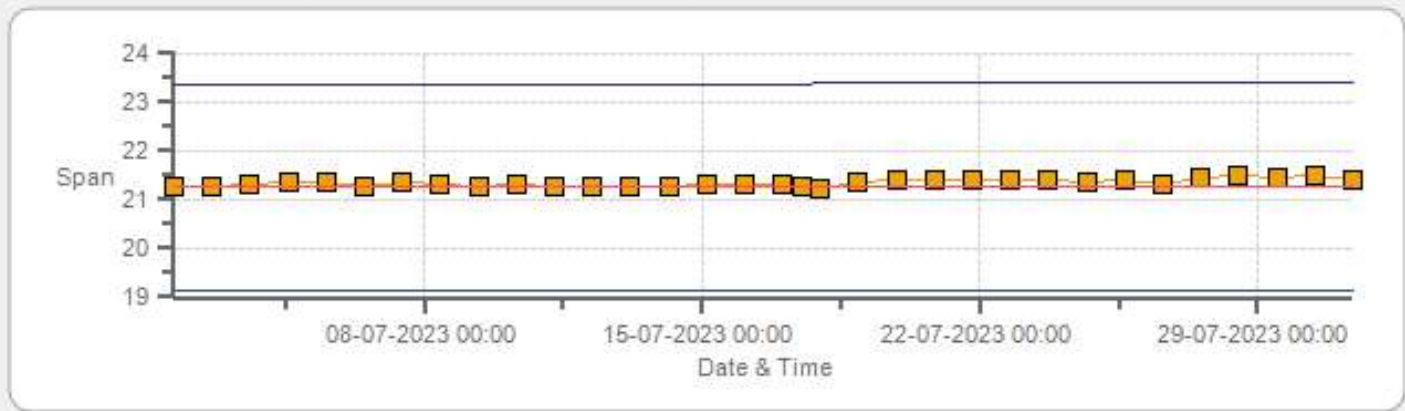
Span SpanRef Span Low Span High

THC55[ppm] Calibration: Tamarack Monthly: 07-2023 Type: SpanAndZero - Zero



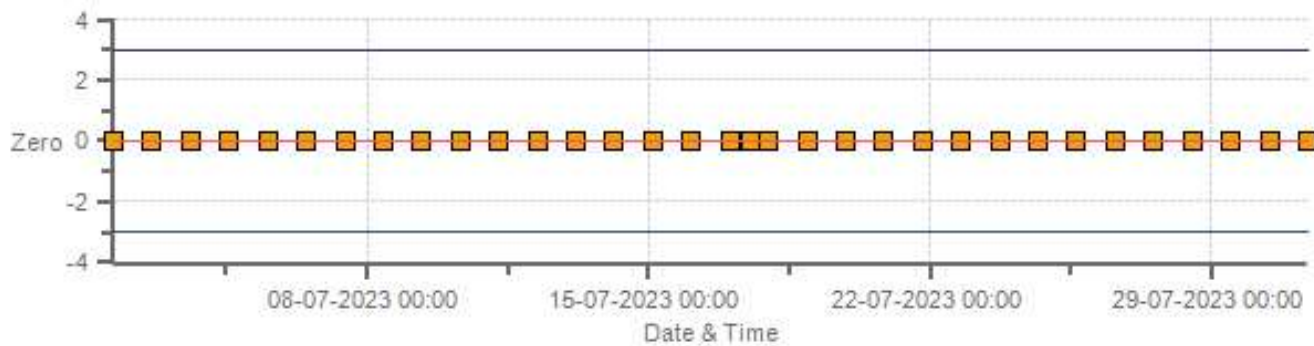
■ Zero
 — Zero Ref
 — Zero Low
 — Zero High

THC55[ppm] Calibration: Tamarack Monthly: 07-2023 Type: SpanAndZero - Span



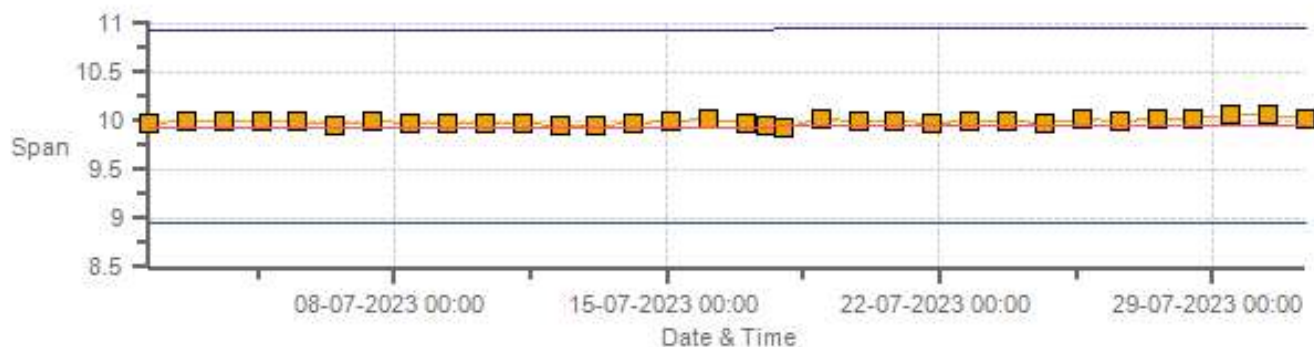
■ Span
 — SpanRef
 — Span Low
 — Span High

CH4[ppm] Calibration: Tamarack Monthly: 07-2023 Type: SpanAndZero - Zero



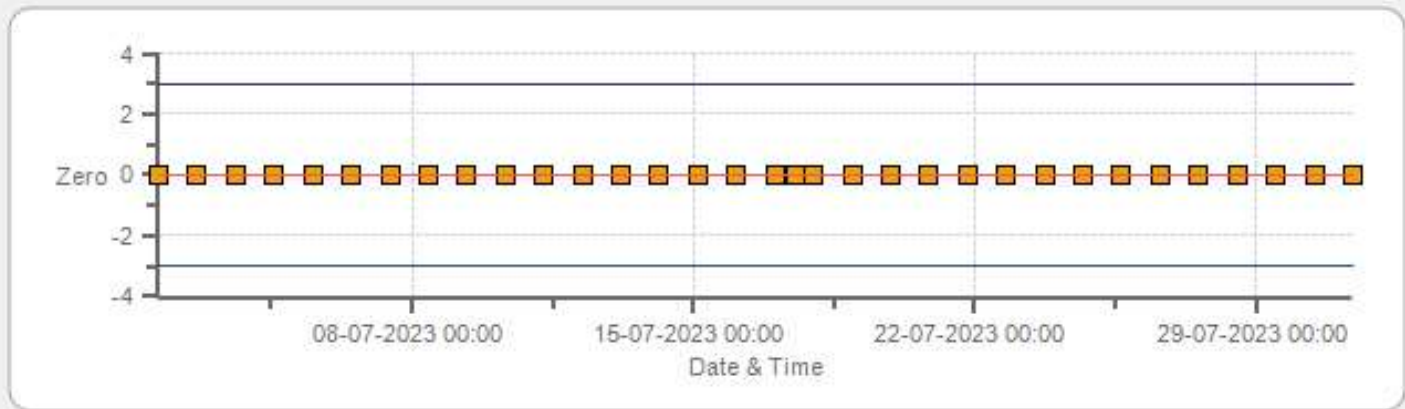
Zero Zero Ref Zero Low Zero High

CH4[ppm] Calibration: Tamarack Monthly: 07-2023 Type: SpanAndZero - Span



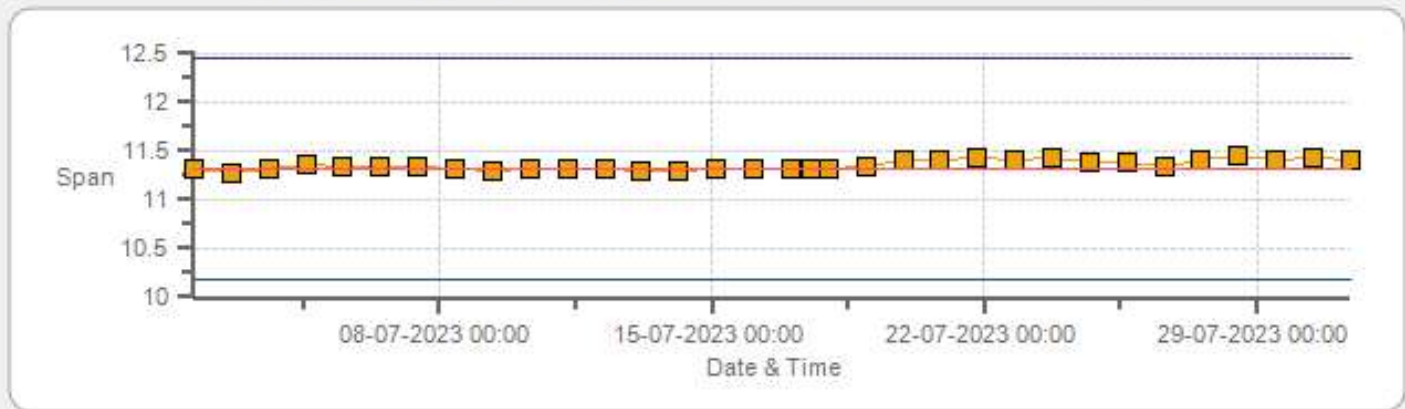
Span SpanRef Span Low Span High

NMHC[ppm] Calibration: Tamarack Monthly: 07-2023 Type: SpanAndZero - Zero



Zero Zero Ref Zero Low Zero High

NMHC[ppm] Calibration: Tamarack Monthly: 07-2023 Type: SpanAndZero - Span



Span Span Ref Span Low Span High

MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution



| | | | |
|---------------|---------------------|-----------------------------|-------|
| DATE: | 16-Jul-2023 | PREVIOUS CALIBRATION DATE: | n/a |
| PARAMETER: | SO2 | PREVIOUS CORRECTION FACTOR: | n/a |
| CLIENT: | LICA | TEMPERATURE (°C): | 22.0 |
| LOCATION: | Tamarack | BAROMETRIC (mBar): | 942 |
| PURPOSE: | Install/Post-Repair | START TIME (MST): | 11:16 |
| PERFORMED BY: | Alex Yakupov | END TIME (MST): | 14:46 |

ANALYZER:

| | | | |
|----------------------------|----------------|----------------------------|---------|
| MAKE/MODEL | Thermo 43I-TLE | RANGE | 500 ppb |
| SERIAL # | 1180930031 | FLOW (mL/min) | 448 |
| INITIAL | | FINAL | |
| BKG/OFFSET | 2.85 | BKG/OFFSET | 2.73 |
| COEF/SLOPE | 0.995 | COEF/SLOPE | 0.999 |
| Expected (reference) Value | 189.2 | Expected (reference) Value | 192 |

CALIBRATION SYSTEM:

| | | | |
|-----------------------|-------------|-----------------------------|----------|
| CALIBRATOR: | | ZERO AIR: | |
| MAKE: | SABIO | MAKE: | Teledyne |
| MODEL: | 2010 | MODEL: | T701 |
| ID: | 17100415 | ID: | 132 |
| MFC CALIBRATION DATE: | 12-Apr-2023 | OXIDIZER ID: | n/a |
| CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
| CYLINDER ID: | LL 127895 | HIGH ID | n/a |
| CONC (ppm): | 50.40 | EXPIRY DATE | n/a |
| CYLINDER (psi): | 1200 | LOW ID | n/a |
| EXPIRY DATE | 27-Oct-2030 | EXPIRY DATE | n/a |

CALIBRATION PARAMETERS:

| | | | |
|--------|-----------|-----------|----------|
| POINT | HIGH | MID | LOW |
| TARGET | 390 | 190 | 95 |
| RANGE | 300 - 400 | 150 - 200 | 50 - 100 |

SCRUBBER CHECK (15 MINS; TRS/H2S ONLY):

| | | | |
|-------------|-----|-------------------------|-----|
| START TIME: | n/a | SO2 Conc (ppb) | n/a |
| END TIME: | n/a | Analyzer Response (ppb) | n/a |

CALIBRATION:

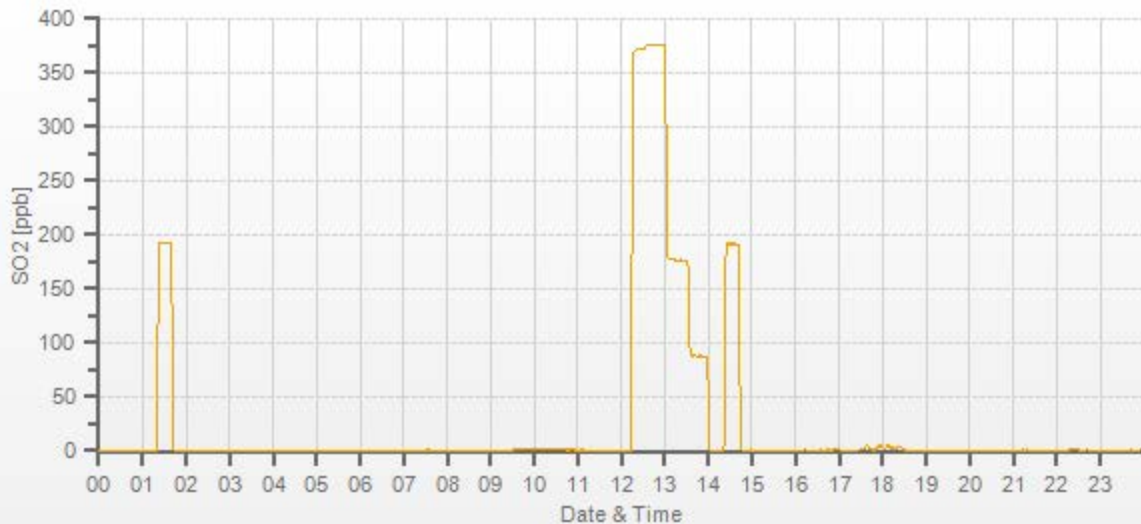
| FLOW RATES (mL/min) | | | CONCENTRATION (ppb) | | | CORRECTION FACTOR | |
|------------------------|-----------------------|-------|---------------------|-----------|-------|-----------------------|-----------------------|
| DILUENT | GAS | TOTAL | ACTUAL | INDICATED | | Initial | Final |
| | | | | Initial | Final | | |
| 5000 | | 5000 | 0.00 | n/a | 0 | | |
| 4961 | 37.20 | 4998 | 375.13 | n/a | 375.3 | n/a | 1.000 |
| 4982 | 17.60 | 5000 | 177.41 | n/a | 176.3 | n/a | 1.006 |
| 4990 | 8.80 | 4999 | 88.72 | n/a | 87.4 | n/a | 1.015 |

LINEAR REGRESSION ANALYSIS:

| | | | |
|-------|-------------|-------|-----------|
| | CORRELATION | SLOPE | INTERCEPT |
| VALUE | 1.000 | 1.001 | -0.2% |

COMMENTS:

Sample inlet filter was changed. No shutdown calibration was possible. The analyzer was found with flow at 0.0 lpm. Sample pump failed and was repaired. Repair Kit was used: Part NO: 204142



H2S Analyzer Calibration by Dilution



| | | | |
|---------------|--------------|-----------------------------|-------------|
| DATE: | 16-Jul-2023 | PREVIOUS CALIBRATION DATE: | 23-Jun-2023 |
| PARAMETER: | H2S | PREVIOUS CORRECTION FACTOR: | 1.001 |
| CLIENT: | LICA | TEMPERATURE (°C): | 22.0 |
| LOCATION: | Tamarack | BAROMETRIC (mBar): | 942 |
| PURPOSE: | Routine | START TIME (MST): | 10:02 |
| PERFORMED BY: | Alex Yakupov | END TIME (MST): | 14:46 |

ANALYZER:

| | | | |
|----------------------------|-------------|----------------------------|---------|
| MAKE/MODEL | Thermo 450i | RANGE | 100 ppb |
| SERIAL # | CM 17360005 | FLOW (mL/min) | 909 |
| INITIAL | | FINAL | |
| BKG/OFFSET | 35.3 | BKG/OFFSET | 35.5 |
| COEF/SLOPE | 0.802 | COEF/SLOPE | 0.805 |
| Expected (reference) Value | 45.1 | Expected (reference) Value | 45.1 |

CALIBRATION SYSTEM:

| | | | |
|-----------------------|-------------|-----------------------------|----------|
| CALIBRATOR: | | ZERO AIR: | |
| MAKE: | SABIO | MAKE: | Teledyne |
| MODEL: | 2010 D | MODEL: | T701 |
| ID: | 11900613 | ID: | 134 |
| MFC CALIBRATION DATE: | 12-Apr-2023 | OXIDIZER ID: | n/a |
| CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
| CYLINDER ID: | EY 0002287 | HIGH ID | n/a |
| CONC (ppm): | 10.10 | EXPIRY DATE | n/a |
| CYLINDER (psi): | 500 | LOW ID | n/a |
| EXPIRY DATE | 14-Sep-2024 | EXPIRY DATE | n/a |

CALIBRATION PARAMETERS:

| | | | |
|--------|---------|---------|---------|
| POINT | HIGH | MID | LOW |
| TARGET | 78 | 38 | 19 |
| RANGE | 60 - 80 | 30 - 40 | 10 - 20 |

SCRUBBER CHECK (15 MINS; TRS/H2S ONLY):

| | | | |
|-------------|-------|-------------------------|-----|
| START TIME: | 10:04 | SO2 Conc (ppb) | 380 |
| END TIME: | 10:19 | Analyzer Response (ppb) | 0.0 |

CALIBRATION:

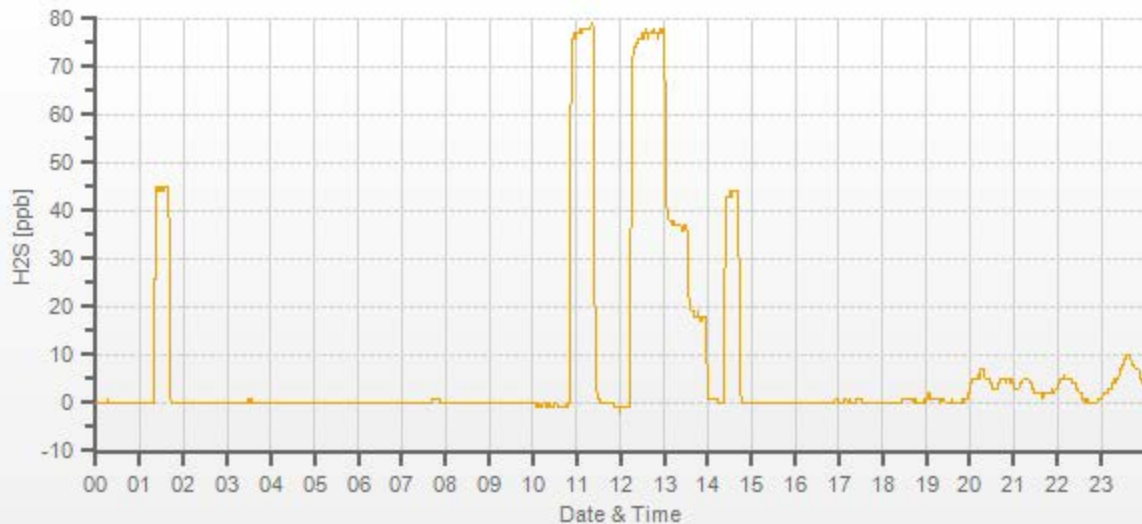
| FLOW RATES (mL/min) | | | CONCENTRATION (ppb) | | | CORRECTION FACTOR | |
|------------------------|-----------------|-------|---------------------|-----------|-------|-------------------|------------------|
| DILUENT | GAS | TOTAL | ACTUAL | INDICATED | | Initial | Final |
| | | | | Initial | Final | | |
| 7500 | 7500 | 7500 | 0.00 | 0 | 0 | 0.988 | 1.001 |
| 7442 | 57.90 | 7500 | 77.97 | 78.9 | 77.9 | 0.988 | 1.001 |
| 7472 | 28.20 | 7500 | 37.98 | n/a | 38.1 | n/a | 0.997 |
| 7486 | 14.10 | 7500 | 18.99 | n/a | 18.4 | n/a | 1.032 |

LINEAR REGRESSION ANALYSIS:

| | | | |
|-------|-------------|-------|-----------|
| | CORRELATION | SLOPE | INTERCEPT |
| VALUE | 1.000 | 1.002 | -0.2% |

COMMENTS:

Sample inlet filter was changed.



NOx Calibration by Dilution/Gas-Phase Titration



| CALIBRATION: | | | | ANALYZER: | | | |
|---------------|--------------|----------------------------|-------------|---------------|------------|--------------|-------|
| DATE: | 16-Jul-2023 | PREVIOUS CALIBRATION DATE: | 23-Jun-2023 | MAKE/MODEL: | Thermo 42i | PREVIOUS CF. | |
| CLIENT: | LICA | TEMPERATURE (°C): | 22.0 | SERIAL #: | 1180930028 | NOx | 1.001 |
| LOCATION: | Tamarack | BAROMETRIC (mBar): | 942 | FLOW (mL/min) | 784 | NO | 1.001 |
| PURPOSE: | Routine | START TIME (MST): | 10:04 | RANGE (ppb) | 500 | NO2 | 1.003 |
| PERFORMED BY: | Alex Yakupov | END TIME (MST): | 16:57 | GPT FOR O3? | | No | |

| CALIBRATOR: | | ZERO AIR: | | CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
|-----------------------|-------------|--------------|----------|------------------|-------------|-----------------------------|-----|
| MAKE: | SABIO | MAKE: | Teledyne | CYLINDER ID: | LL 127895 | HIGH ID: | n/a |
| MODEL: | 2010 | MODEL: | T701 | NO/NOx (PPM): | 51.1 51.6 | HIGH EXPIRY: | n/a |
| ID: | 17100415 | ID: | 134 | CYLINDER (psi): | 1200 | LOW ID: | n/a |
| MFC CALIBRATION DATE: | 12-Apr-2023 | OXIDIZER ID: | n/a | EXPIRY DATE | 27-Oct-2030 | LOW EXPIRY: | n/a |

| CALIBRATION SETTINGS: | | | | | | | |
|-----------------------|-------|------|-----|----------------|------|-------|-----|
| INITIAL | NOx | NO | NO2 | FINAL | NOx | NO | NO2 |
| BKG/OFFSET: | 2.1 | 2 | n/a | BKG/OFFSET: | 2.5 | 2 | n/a |
| SLOPE/COEF/CE: | 1.009 | 1.06 | 1 | SLOPE/COEF/CE: | 1.01 | 1.093 | 1 |

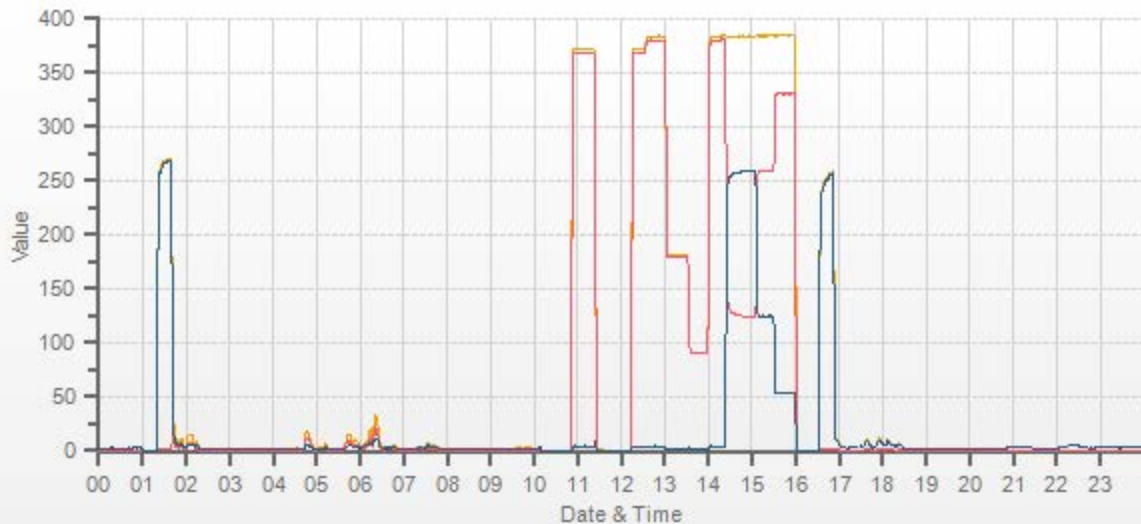
| EXPECTED (REFERENCE) VALUE: | | | | | | | |
|-----------------------------|-------|-----|-------|-------|-------|-----|-------|
| INITIAL | NOx | NO | NO2 | FINAL | NOx | NO | NO2 |
| | 277.0 | 2.0 | 275.0 | | 278.0 | 2.4 | 275.0 |

| CALIBRATION PARAMETERS: | | | | | | | |
|-------------------------|-----------------|--|------------------|--|-----------|--|----------|
| POINT | NO TARGET (PPB) | | NO2 TARGET (PPB) | | NO2 RANGE | | O3 POINT |
| HIGH | 380 | | 250 | | 230-265 | | n/a |
| MID | 180 | | 125 | | 115-150 | | n/a |
| LOW | 90 | | 45 | | 40-55 | | n/a |
| EXTRA 1 | n/a | | n/a | | n/a | | n/a |

| FLOW RATE | | | CONCENTRATION (ppb) | | | | | | | | | CORRECTION FACTOR (CF.) | | | | | |
|-----------|------------------|-------|---------------------|-------|-----|-------------------|-------|-----|-----------------|-------|-----|-------------------------|------------------|------------------|------------------|------------------|------------------|
| (mL/min) | | | CALCULATED | | | INITIAL INDICATED | | | FINAL INDICATED | | | INITIAL | | | FINAL | | |
| DILUENT | GAS | TOTAL | NO | NOx | NO2 | NO | NOx | NO2 | NO | NOx | NO2 | NO | NOx | NO2 | NO | NOx | NO2 |
| 5000 | 37.20 | 5000 | 0.0 | 0.0 | 0.0 | -0.1 | 0.2 | 0.3 | 0.0 | 0.0 | 0.0 | 1.033 | 1.032 | 1.000 | 1.000 | 1.000 | 1.000 |
| 4961 | 37.20 | 4998 | 380.3 | 384.1 | 3.7 | 368.2 | 372.2 | 4.1 | 379.8 | 383.9 | 4.1 | 1.033 | 1.032 | 1.000 | 1.000 | 1.000 | 1.000 |
| 4982 | 17.60 | 5000 | 179.9 | 181.6 | 1.8 | n/a | n/a | n/a | 179.9 | 181.9 | 2.0 | n/a | n/a | 1.000 | 0.999 | 1.000 | 1.000 |
| 4990 | 8.80 | 4999 | 90.0 | 90.8 | 0.9 | n/a | n/a | n/a | 89.8 | 90.6 | 0.8 | n/a | n/a | 1.002 | 1.003 | 1.000 | 1.000 |

| GPT CALIBRATION: | | | | | | | | | | | |
|------------------------------|------------|-------|-------------|-----------------|-------|-------|-------------------------|------------------|------------------|-------------------|--|
| Point | CALIBRATOR | | | INDICATED (ppb) | | | NO DROP / O3 Conc (ppb) | NO2 GAIN (ppb) | NO2 Corr. FACTOR | CONV. EFFICIENCY | |
| | GAS | TOTAL | O3 SETPOINT | NO | NOx | NO2 | | | | | |
| REFERENCE | 37.20 | 4998 | 0 | 380.4 | 384.2 | 3.7 | 255.4 | 255.3 | 1.000 | 99.96% | |
| AS-FOUND HIGH | 37.20 | 4998 | 235 | 125.0 | 384.0 | 259.0 | 255.4 | 255.3 | 1.000 | 99.96% | |
| ADJUSTED HIGH | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | |
| MID | 37.20 | 4998 | 110 | 259.1 | 384.3 | 125.2 | 121.3 | 121.5 | 0.998 | 100.16% | |
| LOW | 37.20 | 4998 | 40 | 330.5 | 384.2 | 53.8 | 49.9 | 50.1 | 0.996 | 100.40% | |
| NO2 adjustment not required. | | | | | | | | | AVERAGE: | 100.18% | |

| LINEAR REGRESSION ANALYSIS: | | | | COMMENTS: |
|-----------------------------|-------------|-------|-----------|-----------|
| | CORRELATION | SLOPE | INTERCEPT | |
| NO | 1.000 | 0.999 | 0.01% | |
| NOx | 1.000 | 1.000 | 0.00% | |
| NO2 | 1.000 | 0.998 | 0.06% | |



CAL-LICA-202307-01248

Ozone Calibration by Photometer (Varying UV Lamp)



| | | | |
|---------------|--------------|-----------------------------|-------------|
| DATE: | 17-Jul-2023 | PREVIOUS CALIBRATION DATE: | 24-Jun-2023 |
| PARAMETER: | O3 | PREVIOUS CORRECTION FACTOR: | 0.996 |
| CLIENT: | LICA | TEMPERATURE (°C): | 22.0 |
| LOCATION: | Tamarack | BAROMETRIC (mBar): | 936 |
| PURPOSE: | Routine | START TIME (MST): | 09:00 |
| PERFORMED BY: | Alex Yakupov | END TIME (MST): | 13:19 |

ANALYZER:

| | | | |
|----------------------------|-------------|----------------------------|---------|
| MAKE/MODEL | Thermo 49iQ | RANGE | 500 ppb |
| SERIAL # | 1202068570 | FLOW (mL/min) | 1350 |
| INITIAL | | FINAL | |
| BKG/OFFSET | 4.9 | BKG/OFFSET | 4.4 |
| COEF/SLOPE | 1.037 | COEF/SLOPE | 1.033 |
| Expected (reference) Value | 437 | Expected (reference) Value | 435 |

CALIBRATION SYSTEM:

| | | | |
|-----------------------|-------------|------------------------------|----------|
| CALIBRATOR: | | ZERO AIR: | |
| MAKE: | SABIO | MAKE: | Teledyne |
| MODEL: | 2010 D | MODEL: | T701 |
| ID: | 11900613 | ID: | 134 |
| MFC CALIBRATION DATE: | 12-Apr-2023 | OXIDIZER ID: | n/a |
| CALIBRATION METHOD: | | Photometer (Varying UV Lamp) | |
| GPT DATE: | n/a | GPT END TIME: | n/a |

CALIBRATION PARAMETERS:

| | | | |
|-------|-----------|-----------|----------|
| POINT | HIGH | MID | LOW |
| RANGE | 300 - 400 | 150 - 200 | 50 - 100 |

CALIBRATION:

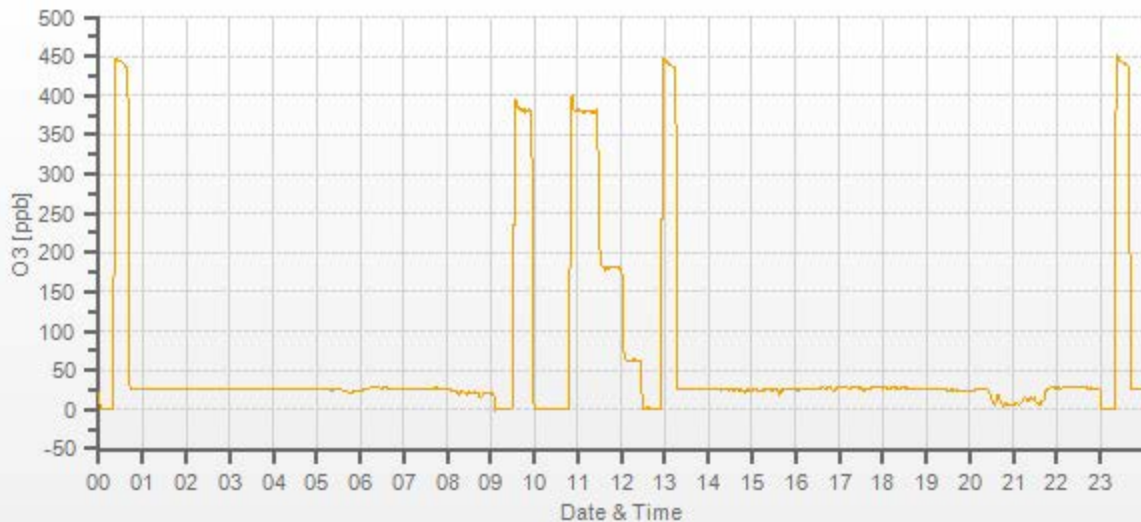
| FLOW RATES (mL/min) | | | CONCENTRATION (ppb) | | | CORRECTION FACTOR | |
|------------------------|-----------------------|-------|---------------------|-----------|-------|-----------------------|-----------------------|
| DILUENT | GAS | TOTAL | ACTUAL | INDICATED | | Initial | Final |
| | | | | Initial | Final | | |
| 5000 | XXXXXXXXXX | 5000 | 0.0 | -0.5 | 0.0 | XXXXXXXXXX | XXXXXXXXXX |
| 5000 | XXXXXXXXXX | 5000 | 378.0 | 380.2 | 377.9 | 0.993 | 1.000 |
| 5000 | XXXXXXXXXX | 5000 | 180.0 | n/a | 180.6 | n/a | 0.997 |
| 5000 | XXXXXXXXXX | 5000 | 61.0 | n/a | 62.1 | n/a | 0.982 |

LINEAR REGRESSION ANALYSIS:

| | | | |
|-------|-------------|-------|-----------|
| | CORRELATION | SLOPE | INTERCEPT |
| VALUE | 1.000 | 0.999 | 0.1% |

COMMENTS:

Sample inlet filter was changed.



Methane/Non-Methane Analyzer Calibration by Dilution



| CALIBRATION: | | | | ANALYZER: | | | |
|---------------|--------------|----------------------------|-------------|--------------|------------|------------|---------------|
| DATE: | 17-Jul-2023 | PREVIOUS CALIBRATION DATE: | 24-Jun-2023 | VALUE | MAKE/MODEL | SERIAL | FLOW (mL/min) |
| CLIENT: | LICA | TEMPERATURE (°C): | 22.0 | | Thermo 55i | 1180930026 | 1190 |
| LOCATION: | Tamarack | BAROMETRIC (mBar): | 936 | PARAMETER: | CH4 | NMHC | THC |
| PURPOSE: | Routine | START TIME (MST): | 09:01 | RANGE (ppm): | 20 | 20 | 40 |
| PERFORMED BY: | Alex Yakupov | END TIME (MST): | 13:19 | PREVIOUS CF: | 0.999 | 0.999 | 0.999 |

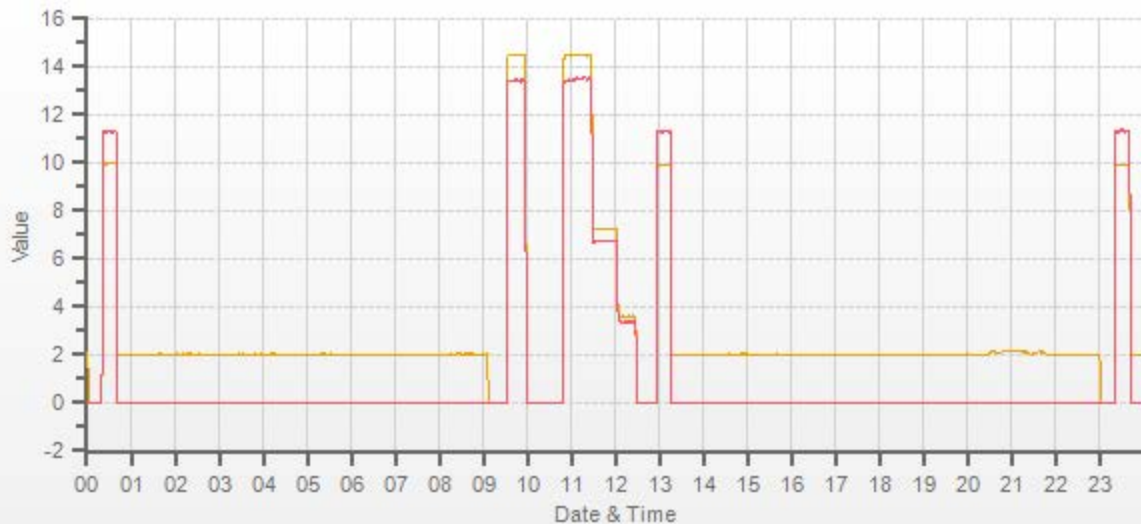
| CALIBRATOR: | | ZERO AIR: | | CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
|-----------------------|-------------|--------------|----------|---|---------------|-----------------------------|-----|
| MAKE: | SABIO | MAKE: | Teledyne | CYLINDER ID: | LL 23593 | HIGH ID: | n/a |
| MODEL: | 2010 | MODEL: | T701 | CH ₄ /C ₃ H ₈ (ppm): | 603.0 204.0 | HIGH EXPIRY: | n/a |
| ID: | 17100415 | ID: | 132 | CYLINDER (psi): | 1100 | LOW ID: | n/a |
| MFC CALIBRATION DATE: | 12-Apr-2023 | OXIDIZER ID: | 115 | EXPIRY DATE | 18-Aug-2029 | LOW EXPIRY: | n/a |

| CALIBRATION PARAMETERS: | | | | | | | |
|-------------------------------|---------|-------|-------|--|--|--------|--|
| POINT (CH ₄ /NMHC) | HIGH | MID | LOW | CH ₄ EQUIVILANCE | | | |
| TARGET | 14 | 7 | 3.5 | C ₃ H ₈ as CH ₄ | | 561.0 | |
| RANGE | 12 - 16 | 6 - 8 | 2 - 4 | THC as CH ₄ | | 1164.0 | |

| EXPECTED (REFERENCE) VALUE: | | | | | | | |
|-----------------------------|-----------------|-------|-------|-------|-----------------|-------|-------|
| INITIAL | CH ₄ | NMHC | THC | FINAL | CH ₄ | NMHC | THC |
| | 9.94 | 11.32 | 21.26 | | 9.96 | 11.32 | 21.27 |

| FLOW RATE | | | CONCENTRATION (PPM) | | | | | | | | | CORRECTION FACTOR (CF.) | | | | | |
|-----------|------------------|-------|---------------------|-------|-------|-------------------|-------|-------|-----------------|-------|-------|-------------------------|------------------|------------------|------------------|------------------|------------------|
| (mL/min) | | | CALCULATED | | | INITIAL INDICATED | | | FINAL INDICATED | | | INITIAL | | | FINAL | | |
| DILUENT | GAS | TOTAL | CH ₄ | NMHC | THC | CH ₄ | NMHC | THC | CH ₄ | NMHC | THC | CH ₄ | NMHC | THC | CH ₄ | NMHC | THC |
| 3100 | 74.60 | 3100 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.001 | 1.005 | 1.003 | 1.002 | 1.000 | 1.001 |
| 3025 | 74.60 | 3100 | 14.51 | 13.50 | 28.01 | 14.49 | 13.43 | 27.92 | 14.48 | 13.50 | 27.98 | 1.001 | 1.005 | 1.003 | 1.002 | 1.000 | 1.001 |
| 3063 | 37.30 | 3100 | 7.26 | 6.75 | 14.01 | n/a | n/a | n/a | 7.24 | 6.74 | 13.98 | n/a | n/a | n/a | 1.002 | 1.001 | 1.002 |
| 3081 | 18.60 | 3100 | 3.62 | 3.37 | 6.98 | n/a | n/a | n/a | 3.63 | 3.38 | 7.02 | n/a | n/a | n/a | 0.997 | 0.996 | 0.995 |

| LINEAR REGRESSION ANALYSIS: | | | | Comments: | | | |
|-----------------------------|-------------|-------|-----------|----------------------------------|--|-----|--|
| | CORRELATION | SLOPE | INTERCEPT | Sample inlet filter was changed. | | | |
| CH ₄ | 1.000 | 0.997 | 0.0% | | | | |
| NMHC | 1.000 | 1.000 | 0.0% | | | | |
| THC | 1.000 | 0.998 | 0.0% | Use Zero Chrom? | | Yes | |



CAL-LICA-202307-01248

Thermo 5030 SHARP Monitor Monthly Check

| | |
|---|--|
| Date: <u>July 17, 2023</u> | Performed By/Reviewer: <u>Alex Yakupov</u> <u>Chris Wesson</u> |
| Company: <u>LICA</u> | Start Time (mst): <u>13:34</u> |
| Station Name/Location: <u>Tamarack</u> | End Time (mst): <u>14:53</u> |
| Previous Audit Date: <u>June 24, 2023</u> | Calibration Purpose: <u>routine monthly</u> |
| Parameter: <u>PM 2.5</u> | Weather Conditions: <u>Mainly sunny</u> |

SHARP Information and Status:

| | |
|------------------------------------|-------------------------|
| Serial Number: <u>CM-2209</u> | Status: <u>0.00</u> |
| Approx Tape remaining: <u>5/10</u> | Error Code: <u>0.00</u> |

Reference Standards:

| Air Flow | | | | |
|------------------------------|--------------------------|--------------------------|-----------------------|----------------------|
| | Manometer | Orifice | Pressure: | Temperature: |
| Make: | <u>DeltaCal</u> | <u>DeltaCal</u> | <u>Fisher</u> | <u>Vaisala</u> |
| Model: | <u>DC1</u> | <u>DC1</u> | <u>FB61291</u> | <u>HM70</u> |
| Serial Number: | <u>177246</u> | <u>177246</u> | <u>130168457</u> | <u>T1640130</u> |
| Calibration Expiration Date: | <u>September 7, 2023</u> | <u>September 7, 2023</u> | <u>March 20, 2024</u> | <u>June 26, 2023</u> |

As found temperature and pressure:

| | |
|---|---|
| Tolerance +/- 4°C SHARP T1 °C: <u>21.0</u> Reference °C: <u>21.4</u> Difference °C: <u>0.4</u> | Tolerance +/- 13.33 hPa SHARP P3 (hPa): <u>935.000</u> Reference (hPa): <u>935.000</u> Difference (hPa) : <u>0.000</u> |
|---|---|

As left temperature and pressure (same as above if as found adequate):

| | |
|---|---|
| Tolerance +/- 4°C SHARP T1 °C: <u>21.0</u> Reference °C: <u>21.4</u> Difference °C: <u>0.4</u> | Tolerance +/- 13.33 hPa SHARP P3 (hPa): <u>935.000</u> Reference (hPa): <u>935.000</u> Difference : <u>0.000</u> |
|---|---|

As found flows:

| | |
|---|---|
| Targets: 1000 l/hr / <90% SHARP AirFlow l/hr <u>1000.00</u> Pump Voltage (%) <u>48.90</u> | Flow Tolerance 16.67 lpm +/- 0.67 lpm SHARP Airflow (l/min) <u>16.67</u> Reference AirFlow (l/min) <u>16.69</u> Difference (l/min) <u>0.02</u> |
|---|---|

As left flows (same as above if as found adequate):

| | |
|---|---|
| Targets: 1000 l/hr / <90% SHARP AirFlow l/hr <u>1000.00</u> Pump Voltage (%) <u>52.50</u> | Flow Tolerance 16.67 lpm +/- 0.67 lpm SHARP Airflow (l/min) <u>16.67</u> Reference AirFlow (l/min) <u>16.69</u> Difference (l/min) <u>0.02</u> |
|---|---|

Inlet Assembly:

| | Yes/No? | If No, give reason |
|-----------------------|---------|--------------------|
| PM10 Inlet Cleaned | yes | |
| PM2.5 Cyclone Cleaned | yes | |

Comments:

Leak check: 16.62 vs 16.52, 0.10 < 0.80 lpm, passed.

Meteorological System Checklist



| | |
|-------------|--------------------------------------|
| Date: | July 17, 2023 |
| Technician: | Alex Yakupov |
| Station: | Tamarack / Audit time: 14:53 - 15:27 |

| Unit: | Make: | Model: | Serial #: |
|-----------------------------|----------|-----------|-----------|
| Precipitation Sampler: | Met One | 387 D | C 13580 |
| Temperature Sensor: | Rotronic | HC2A-S3 | 20433166 |
| Barometric Pressure Sensor: | MetOne | Part 090D | F4497 |
| Relative Humidity Sensor: | Rotronic | HC2A-S3 | 20433166 |
| Anemometer: | RM Young | 05305VK | 161465 |

PRECIPITATION SENSOR CHECK

| Checklist: | Reply: | Comments: |
|--|--------|--|
| Is the sensor Level? | yes | |
| Is the heater operating properly? | yes | |
| Are the bucket drain holes clean? | yes | |
| Is the screen on the housing? (screen should be on between July and September) | no | 15:01 - water test. Response is timely and accurate. |
| Is the housing clean? | yes | |
| Is the area around the housing clean and free from obstacles? | yes | |

TIP TEST - Slowly pour water until 10 tip are heard. (10 tips = 1 mm)

| # of Tips | Data Logger Response (mm): | Manual Specification = +/- 0.2 mm |
|-----------|----------------------------|-----------------------------------|
| 10 | 1.00 | 0.00 |

AMBIENT TEMPERATURE SENSOR CHECK

| | | | |
|-------------------------------------|---|--|--|
| Parameter: | Temperature @ 2 metres | | |
| Reference Thermometer ID: | Vaisala HMP76B #T1640130, Exp. Date: Jun 26, 2024 | | |
| Reference Temperature (°C): | 21.6 | | |
| Station - Ambient Temperature (°C): | 21.1 | | |
| Temperature Difference (°C): | 0.5 | | |

BAROMETRIC PRESSURE SENSOR CHECK

| | | | |
|--------------------------------------|---|--------|--|
| Reference Barometer ID: | Fisher / FB 61291/ #130168457/ Mar 20, 2024 | | |
| Reference Pressure - Units/Reading: | millibar | 934 | |
| Station Pressure - Units/Reading: | millibar | 935 | |
| Pressure Tolerance +/- 15% of error: | 794 - 1074 | -0.11% | |

RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK

| | | | |
|-------------------------------------|---|-------|--|
| Reference Hygrometer ID: | Vaisala HMP76B #T1640130, Exp. Date: Jun 26, 2024 | | |
| Reference Hygrometer % RH- Reading: | 58.50 | | |
| Station Hygrometer % RH- Reading: | 59.10 | | |
| RH Tolerance +/- 15% of difference: | 49.73 - 67.28 | -1.0% | |

ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK

| WIND SPEED | | WIND DIRECTION | |
|----------------------------------|----------------------------|--------------------------------|---------------|
| Previous check date: | June 24, 2023 | Previous check date: | June 24, 2023 |
| Wind Speed Observed (kph): | 10 to 20 | Wind Direction Observed: | E |
| Wind speed on Data Logger (kph): | 12.9 | Wind Direction on Data Logger: | E |
| | Annual audit: Jul 26, 2022 | Wind Direction Pass/Fail?: | Pass |

Comments

Station (Trailer) temperature vs Reference gauge temperature: 21.8 vs 22.1 degrees, difference = 0.3 => Passed.



Meteorological Sensor Audit/Calibration

Location Information

Company: LICA
 Audit Location: Tamarack
 Audit Date: July 26, 2022
 Calibration Purpose: routine annual

Performed By: Alex Yakupov
 Reviewed By: Chris Wesson
 Start/End Time (mst): 16:01 / 17:14
 Weather Conditions: Mix of sun and clouds

Wind Sensor Information

| Sensor ID Data: | | Sensor Outputs: | |
|--------------------------|--------------------|---------------------------------|-------|
| Sensor Make: | RM Young | Velocity Voltage Output Range: | 0-1 |
| Sensor Model: | 05305VK | Velocity Unit Output Range: | 0-200 |
| Serial #: | 161465 | Direction Voltage Output Range: | 0-1 |
| Previous Cal/Audit Date: | September 20, 2021 | Direction Unit Output Range: | 0-360 |

Wind Calibrator Information

Calibrator I.D. and Expiry Date: Model 18860-90/18802 SN: CA 4744, expires - Aug 6, 2022

Wind Speed Audit Data ****+/- 2% of the average correction factor is the limit****

| RPM | Wind Speed Generated kph | Clockwise Wind Speed kph | Counter Clockwise Wind Speed kph | Correction Factor |
|-----------------------------------|--------------------------|--------------------------|----------------------------------|-------------------|
| 0 | 0 | 0.1 | 0.1 | - |
| 1000 | 18.4 | 18.5 | 18.5 | 0.996 |
| 2000 | 36.9 | 36.9 | 36.9 | 0.999 |
| 3000 | 55.3 | 55.4 | 55.4 | 0.998 |
| 4000 | 73.7 | 73.9 | 73.9 | 0.998 |
| 5000 | 92.2 | 92.5 | 92.4 | 0.997 |
| 6000 | 110.6 | 111.0 | 111.0 | 0.996 |
| 7000 | 129.0 | 129.5 | 129.5 | 0.996 |
| 8000 | 147.4 | 148.1 | 148.1 | 0.996 |
| 9000 | 165.9 | 166.7 | 166.7 | 0.995 |
| 10000 | 184.3 | 185.2 | 185.2 | 0.995 |
| The audit meets AMD requirements. | | | Average Correction Factor= | 0.997 |

Wind Direction Audit Data ****+/- 3° of the absolute average degrees difference for all points is the limit****

| Generated Wind Direction 0-360 (Up) | Generated Wind Direction 360-0 (Down) | Indicated Wind Direction 0-360 (Up) | Indicated Wind Direction 360-0 (Down) | Degrees Difference 0-360 (Up) | Degrees Difference 360-0 (Down) | Average Absolute Degrees Difference |
|-------------------------------------|---------------------------------------|-------------------------------------|---------------------------------------|--------------------------------------|---------------------------------|-------------------------------------|
| 0 | 355 | 3 | 355 | 2.7 | -0.1 | 1.4 |
| 30 | 330 | 34 | 331 | -4.1 | -1.3 | 2.7 |
| 60 | 300 | 64 | 301 | -4.3 | -1.0 | 2.7 |
| 90 | 270 | 95 | 272 | -4.7 | -1.5 | 3.1 |
| 120 | 240 | 125 | 242 | -4.6 | -2.2 | 3.4 |
| 150 | 210 | 154 | 213 | -4.4 | -3.4 | 3.9 |
| 180 | 180 | 184 | 185 | -4.4 | -4.6 | 4.5 |
| 210 | 150 | 213 | 153 | -2.7 | -3.2 | 2.9 |
| 240 | 120 | 242 | 125 | -1.6 | -4.6 | 3.1 |
| 270 | 90 | 270 | 94 | -0.1 | -4.0 | 2.1 |
| 300 | 60 | 300 | 63 | 0.2 | -3.3 | 1.7 |
| 330 | 30 | 330 | 32 | -0.4 | -1.6 | 1.0 |
| 355 | 0 | 355 | 3 | -0.1 | 2.7 | 1.4 |
| The audit meets AMD requirements. | | | | Average Absolute Degrees Difference= | | 2.6 |

Comments:

n/a

End of Report



Lakeland Industry & Community Association

JULY 2023

Ambient Air Monitoring Calibration Report

- ST. LINA STATION-

CAL-LICA-202307-01250

Station Operation and Maintenance:

Bureau Veritas Canada

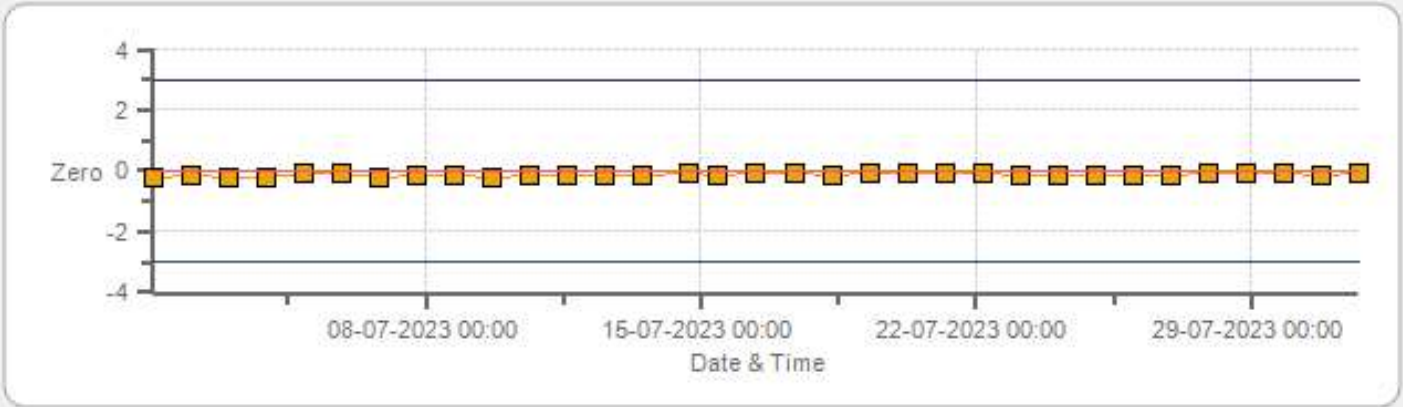
Data Validation and Report:

LICA / Bureau Veritas Canada

August 3, 2023

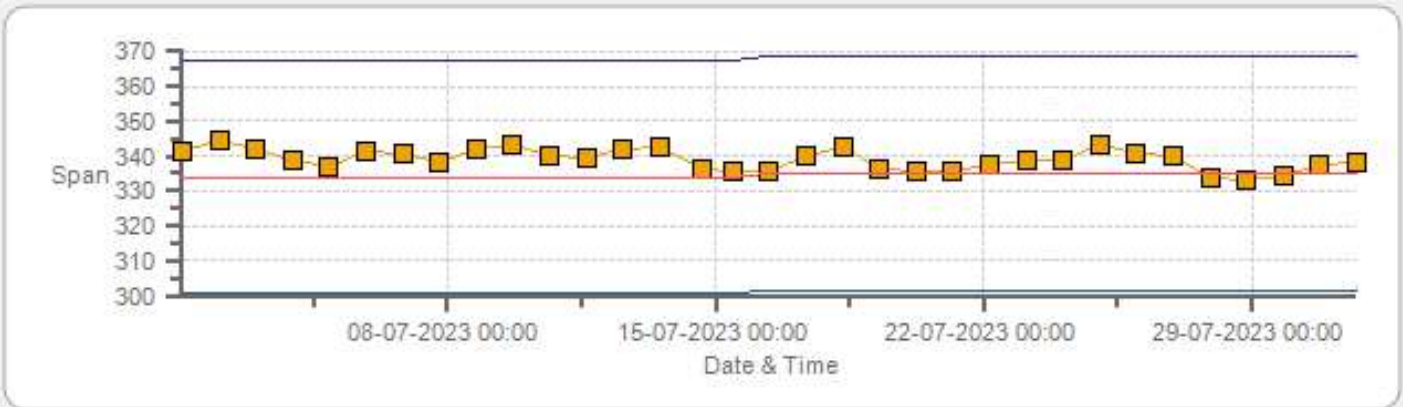
DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

SO2[ppb] Calibration: St. Lina Monthly: 07-2023 Type: SpanAndZero - Zero



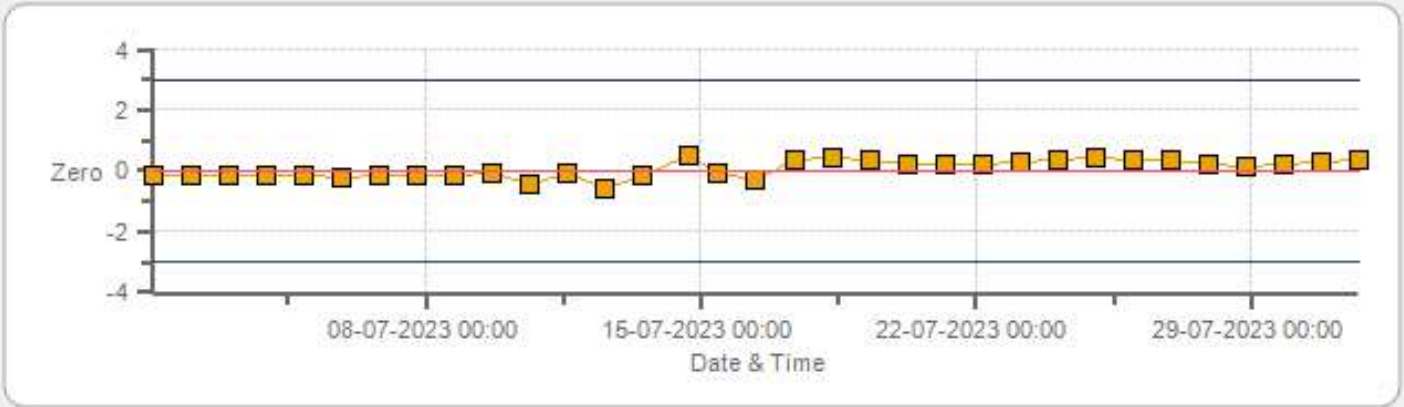
Zero Zero Ref Zero Low Zero High

SO2[ppb] Calibration: St. Lina Monthly: 07-2023 Type: SpanAndZero - Span



Span SpanRef Span Low Span High

H2S[ppb] Calibration: St. Lina Monthly: 07-2023 Type: SpanAndZero - Zero



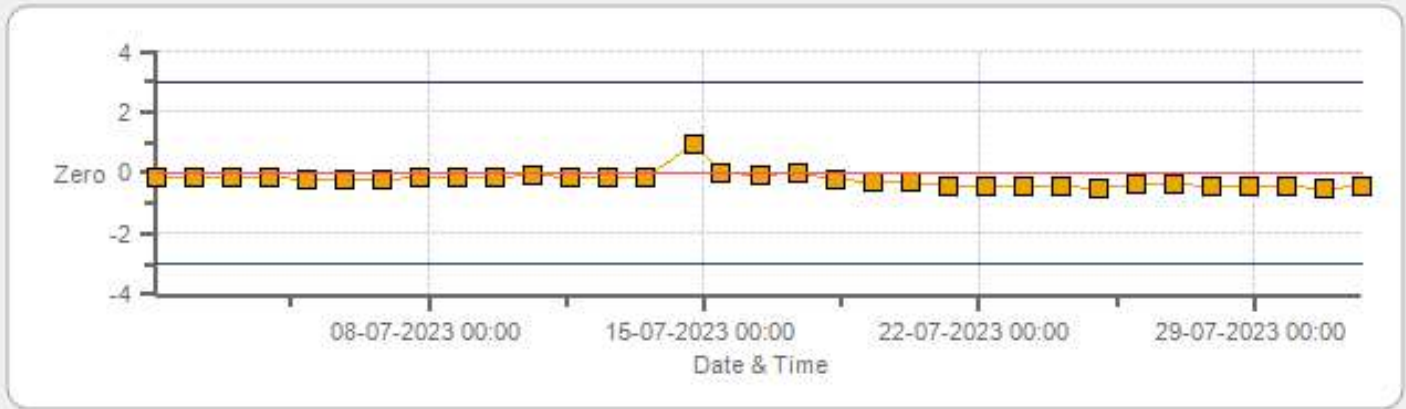
Zero Zero Ref Zero Low Zero High

H2S[ppb] Calibration: St. Lina Monthly: 07-2023 Type: SpanAndZero - Span



Span SpanRef Span Low Span High

NOX[ppb] Calibration: St. Lina Monthly: 07-2023 Type: SpanAndZero - Zero



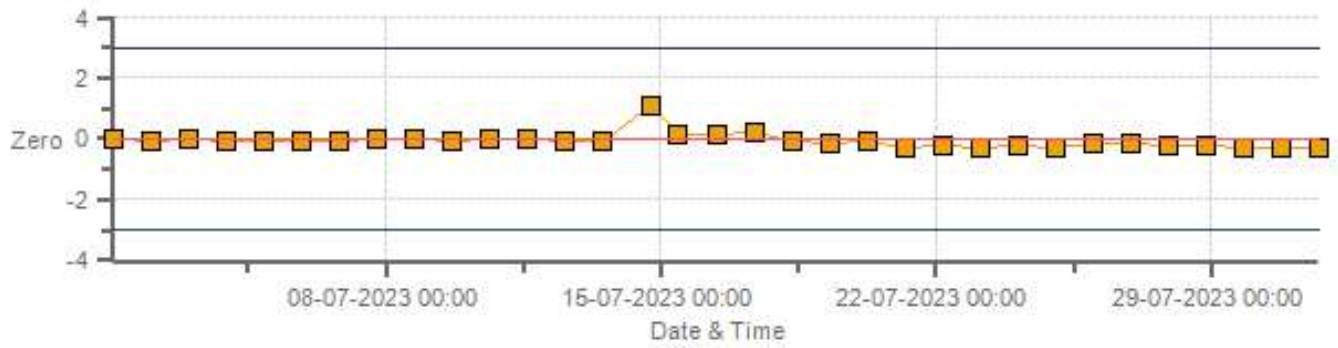
Zero Zero Ref Zero Low Zero High

NOX[ppb] Calibration: St. Lina Monthly: 07-2023 Type: SpanAndZero - Span



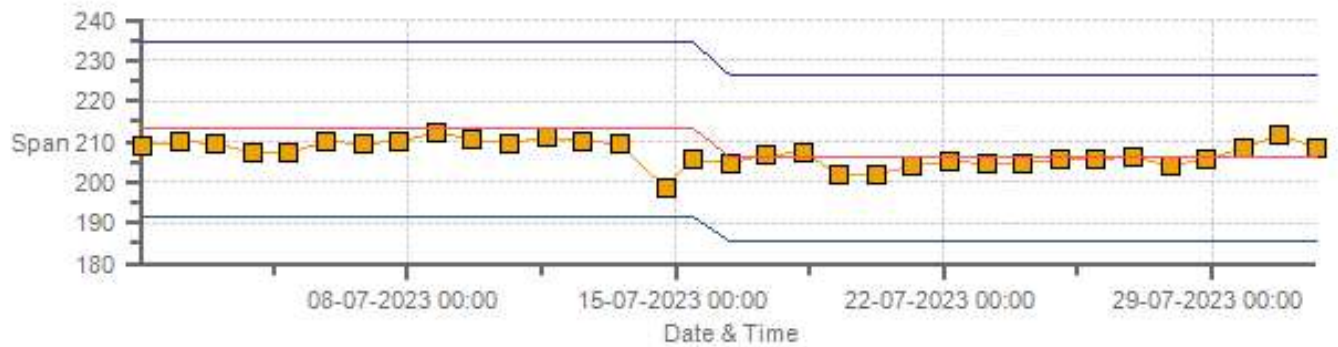
Span SpanRef Span Low Span High

NO2[ppb] Calibration: St. Lina Monthly: 07-2023 Type: SpanAndZero - Zero



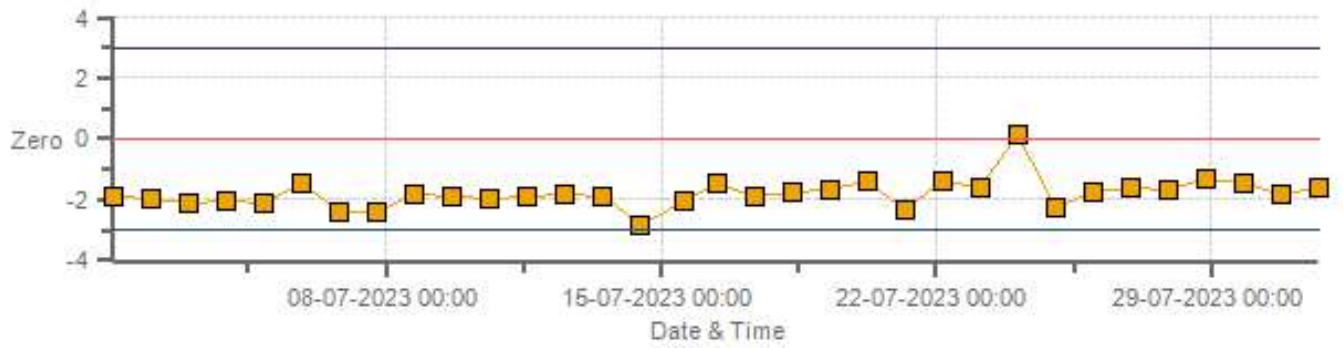
Zero Zero Ref Zero Low Zero High

NO2[ppb] Calibration: St. Lina Monthly: 07-2023 Type: SpanAndZero - Span



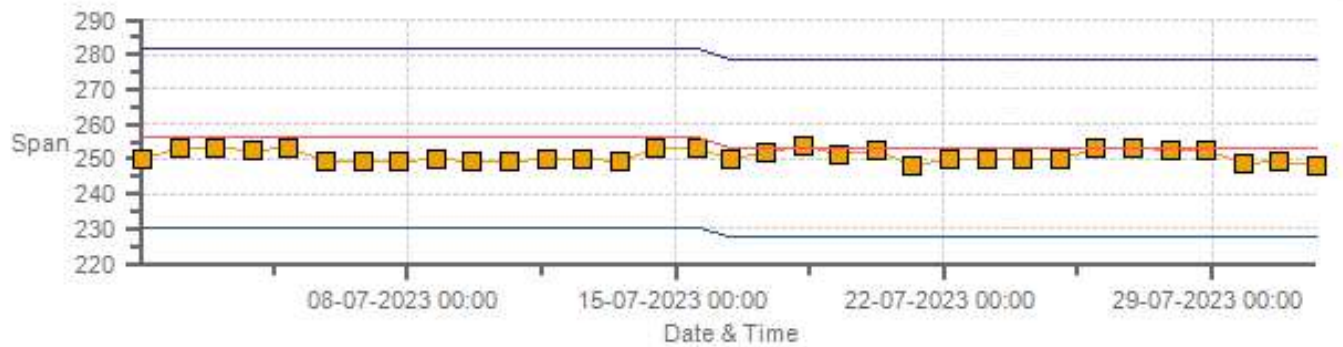
Span SpanRef Span Low Span High

O3[ppb] Calibration: St. Lina Monthly: 07-2023 Type: SpanAndZero - Zero



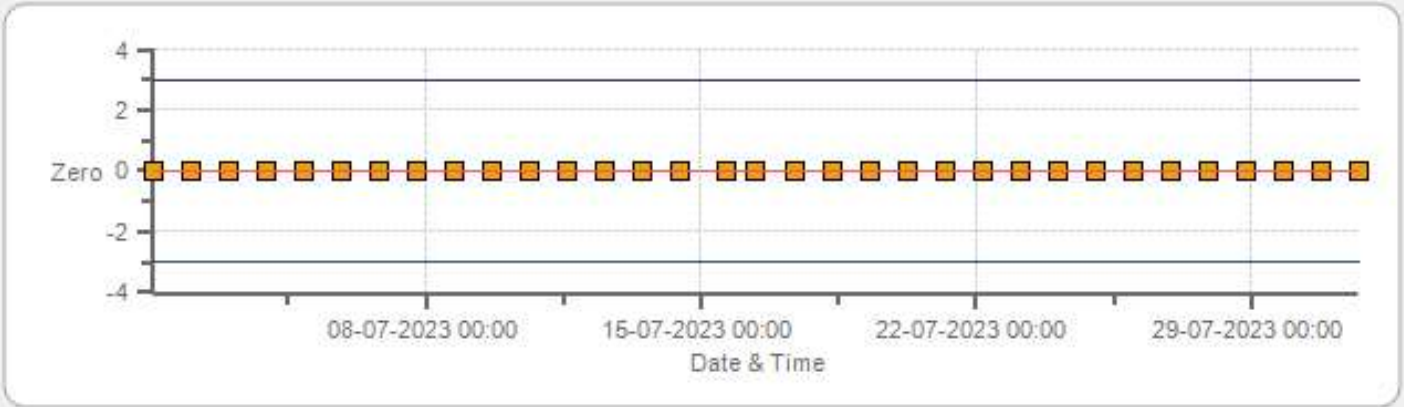
Zero Zero Ref Zero Low Zero High

O3[ppb] Calibration: St. Lina Monthly: 07-2023 Type: SpanAndZero - Span



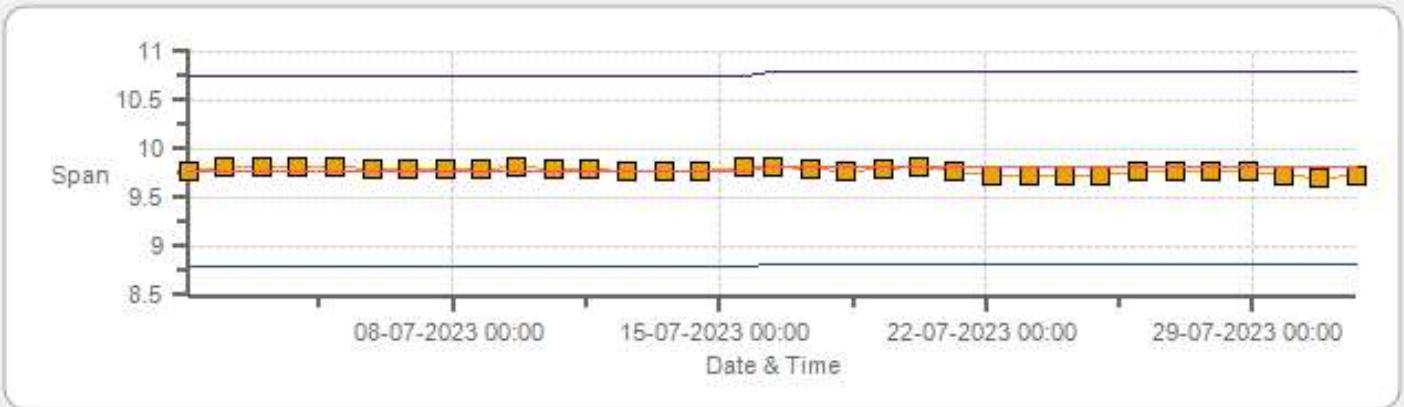
Span SpanRef Span Low Span High

CH4[ppm] Calibration: St. Lina Monthly: 07-2023 Type: SpanAndZero - Zero



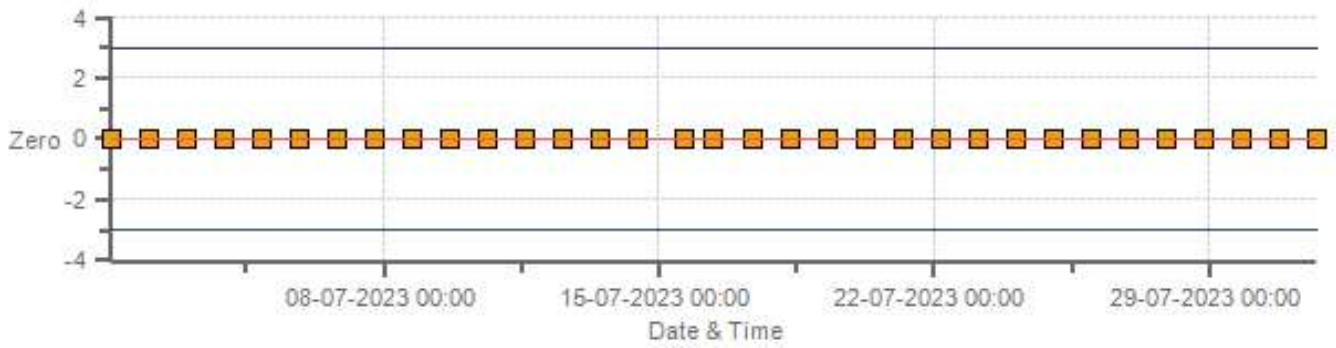
Zero Zero Ref Zero Low Zero High

CH4[ppm] Calibration: St. Lina Monthly: 07-2023 Type: SpanAndZero - Span



Span SpanRef Span Low Span High

NMHC[ppm] Calibration: St. Lina Monthly: 07-2023 Type: SpanAndZero - Zero



Zero Zero Ref Zero Low Zero High

NMHC[ppm] Calibration: St. Lina Monthly: 07-2023 Type: SpanAndZero - Span



Span SpanRef Span Low Span High

MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution



| | | | |
|---------------|--------------|-----------------------------|-------------|
| DATE: | 14-Jul-2023 | PREVIOUS CALIBRATION DATE: | 17-Jun-2023 |
| PARAMETER: | SO2 | PREVIOUS CORRECTION FACTOR: | 0.998 |
| CLIENT: | LICA | TEMPERATURE (°C): | 22.0 |
| LOCATION: | St. Lina | BAROMETRIC (mBar): | 920 |
| PURPOSE: | Routine | START TIME (MST): | 10:43 |
| PERFORMED BY: | Alex Yakupov | END TIME (MST): | 16:00 |

ANALYZER:

| | | | |
|----------------------------|----------------|----------------------------|---------|
| MAKE/MODEL | Thermo 43I-TLE | RANGE | 500 ppb |
| SERIAL # | 1180930030 | FLOW (mL/min) | 432 |
| INITIAL | | FINAL | |
| BKG/OFFSET | 4.78 | BKG/OFFSET | 4.64 |
| COEF/SLOPE | 1.183 | COEF/SLOPE | 1.171 |
| Expected (reference) Value | 334 | Expected (reference) Value | 335 |

CALIBRATION SYSTEM:

| | | | |
|-----------------------|-------------|-----------------------------|----------|
| CALIBRATOR: | | ZERO AIR: | |
| MAKE: | SABIO | MAKE: | Teledyne |
| MODEL: | 2010 | MODEL: | T701 |
| ID: | 17100415 | ID: | 132 |
| MFC CALIBRATION DATE: | 12-Apr-2023 | OXIDIZER ID: | n/a |
| CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
| CYLINDER ID: | LL 127895 | HIGH ID | n/a |
| CONC (ppm): | 50.40 | EXPIRY DATE | n/a |
| CYLINDER (psi): | 1200 | LOW ID | n/a |
| EXPIRY DATE | 27-Oct-2030 | EXPIRY DATE | n/a |

CALIBRATION PARAMETERS:

| | | | |
|--------|-----------|-----------|----------|
| POINT | HIGH | MID | LOW |
| TARGET | 390 | 190 | 95 |
| RANGE | 300 - 400 | 150 - 200 | 50 - 100 |

SCRUBBER CHECK (15 MINS; TRS/H2S ONLY):

| | | | |
|-------------|-----|-------------------------|-----|
| START TIME: | n/a | SO2 Conc (ppb) | n/a |
| END TIME: | n/a | Analyzer Response (ppb) | n/a |

CALIBRATION:

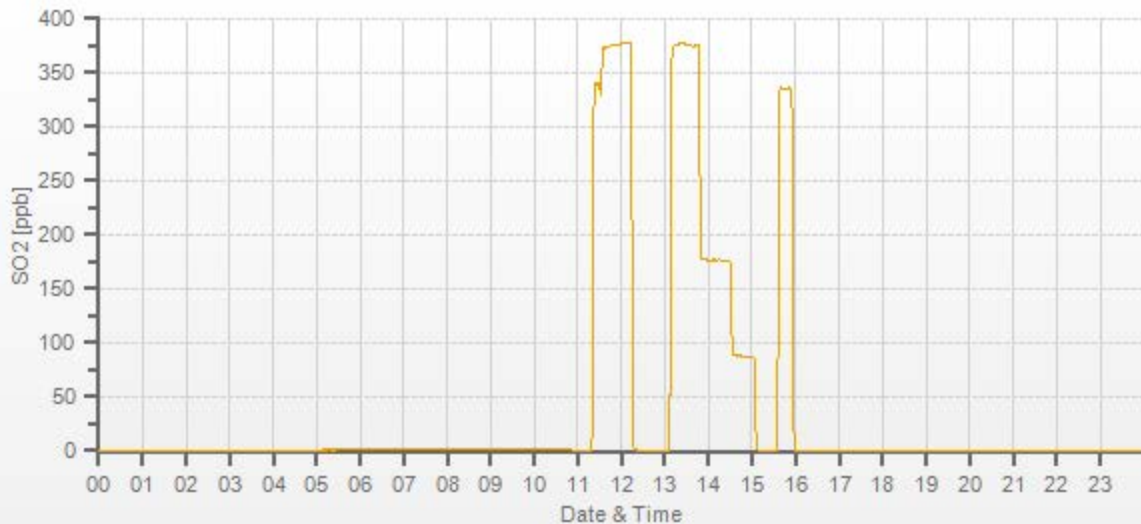
| FLOW RATES (mL/min) | | | CONCENTRATION (ppb) | | | CORRECTION FACTOR | |
|------------------------|------------------|-------|---------------------|-----------|-------|-------------------|------------------|
| DILUENT | GAS | TOTAL | ACTUAL | INDICATED | | Initial | Final |
| | | | | Initial | Final | | |
| 5000 | 37.20 | 5000 | 0.00 | -0.1 | 0 | 0.996 | 1.002 |
| 4961 | 37.20 | 4998 | 375.13 | 376.4 | 374.5 | 0.996 | 1.002 |
| 4982 | 17.60 | 5000 | 177.41 | n/a | 176.1 | n/a | 1.007 |
| 4990 | 8.80 | 4999 | 88.72 | n/a | 87.1 | n/a | 1.019 |

LINEAR REGRESSION ANALYSIS:

| | | | |
|-------|-------------|-------|-----------|
| | CORRELATION | SLOPE | INTERCEPT |
| VALUE | 1.000 | 0.999 | -0.2% |

COMMENTS:

Sample inlet filter was changed.
11:00 - scheduled ZS check interfered with the calibration. As Found High point restarted.



H2S Analyzer Calibration by Dilution



| | | | |
|---------------|--------------|-----------------------------|-------------|
| DATE: | 14-Jul-2023 | PREVIOUS CALIBRATION DATE: | 22-Jun-2023 |
| PARAMETER: | H2S | PREVIOUS CORRECTION FACTOR: | 0.998 |
| CLIENT: | LICA | TEMPERATURE (°C): | 22.0 |
| LOCATION: | St. Lina | BAROMETRIC (mBar): | 920 |
| PURPOSE: | Routine | START TIME (MST): | 10:44 |
| PERFORMED BY: | Alex Yakupov | END TIME (MST): | 16:00 |

ANALYZER:

| | | | |
|----------------------------|---------------|----------------------------|---------|
| MAKE/MODEL | Teledyne T100 | RANGE | 100 ppb |
| SERIAL # | 1014 | FLOW (mL/min) | 519 |
| INITIAL | | FINAL | |
| BKG/OFFSET | 12.8 | BKG/OFFSET | 12 |
| COEF/SLOPE | 1.016 | COEF/SLOPE | 1.034 |
| Expected (reference) Value | 68.5 | Expected (reference) Value | 73.6 |

CALIBRATION SYSTEM:

| | | | |
|-----------------------|-------------|-----------------------------|----------|
| CALIBRATOR: | | ZERO AIR: | |
| MAKE: | SABIO | MAKE: | Teledyne |
| MODEL: | 2010 D | MODEL: | T701 |
| ID: | 11900613 | ID: | 132 |
| MFC CALIBRATION DATE: | 12-Apr-2023 | OXIDIZER ID: | n/a |
| CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
| CYLINDER ID: | EY 0002287 | HIGH ID | n/a |
| CONC (ppm): | 10.10 | EXPIRY DATE | n/a |
| CYLINDER (psi): | 500 | LOW ID | n/a |
| EXPIRY DATE | 14-Sep-2024 | EXPIRY DATE | n/a |

CALIBRATION PARAMETERS:

| | | | |
|--------|---------|---------|---------|
| POINT | HIGH | MID | LOW |
| TARGET | 78 | 38 | 19 |
| RANGE | 60 - 80 | 30 - 40 | 10 - 20 |

SCRUBBER CHECK (15 MINS; TRS/H2S ONLY):

| | | | |
|-------------|-------|-------------------------|-----|
| START TIME: | 10:47 | SO2 Conc (ppb) | 380 |
| END TIME: | 11:02 | Analyzer Response (ppb) | 0.0 |

CALIBRATION:

| FLOW RATES (mL/min) | | | CONCENTRATION (ppb) | | | CORRECTION FACTOR | |
|------------------------|-----------------|-------|---------------------|-----------|-------|-------------------|------------------|
| DILUENT | GAS | TOTAL | ACTUAL | INDICATED | | Initial | Final |
| | | | | Initial | Final | | |
| 7500 | 7500 | 7500 | 0.00 | 0.1 | 0 | 1.017 | 1.002 |
| 7442 | 57.90 | 7500 | 77.97 | 76.8 | 77.8 | 1.017 | 1.002 |
| 7472 | 28.20 | 7500 | 37.98 | n/a | 37.6 | n/a | 1.010 |
| 7486 | 14.10 | 7500 | 18.99 | n/a | 18.7 | n/a | 1.015 |

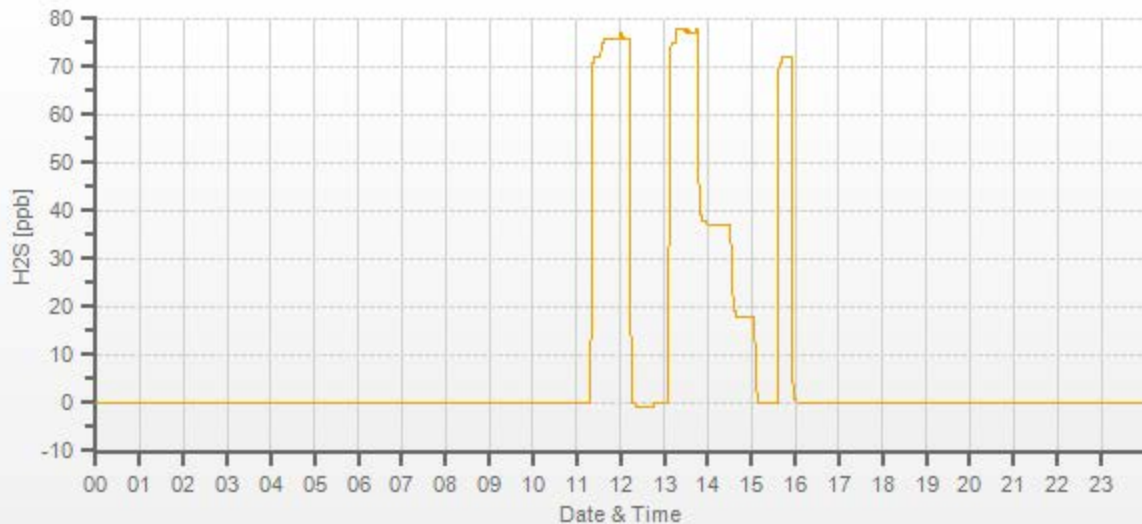
LINEAR REGRESSION ANALYSIS:

| | | | |
|-------|-------------|-------|-----------|
| | CORRELATION | SLOPE | INTERCEPT |
| VALUE | 1.000 | 0.999 | -0.2% |

COMMENTS:

Sample inlet filter was changed.
11:00 - scheduled ZS check interfered with the calibration. As Found High point restarted.

H2S[ppb] Station: St. Lina Daily: 14-07-2023 Type: AVG 1 Min. [1 Min.]



CAL-LICA-202307-01250

NOx Calibration by Dilution/Gas-Phase Titration



| CALIBRATION: | | | | ANALYZER: | | | |
|---------------|--------------|----------------------------|-------------|---------------|------------|--------------|-------|
| DATE: | 14-Jul-2023 | PREVIOUS CALIBRATION DATE: | 17-Jun-2023 | MAKE/MODEL: | Thermo 42i | PREVIOUS CF. | |
| CLIENT: | LICA | TEMPERATURE (°C): | 22.0 | SERIAL #: | 1180930029 | NOx | 1.001 |
| LOCATION: | St. Lina | BAROMETRIC (mBar): | 920 | FLOW (mL/min) | 820 | NO | 1.002 |
| PURPOSE: | Routine | START TIME (MST): | 10:45 | RANGE (ppb) | 500 | NO2 | 0.996 |
| PERFORMED BY: | Alex Yakupov | END TIME (MST): | 17:44 | GPT FOR O3? | | No | |

| CALIBRATOR: | | ZERO AIR: | | CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
|-----------------------|-------------|--------------|----------|------------------|-------------|-----------------------------|-----|
| MAKE: | SABIO | MAKE: | Teledyne | CYLINDER ID: | LL 127895 | HIGH ID: | n/a |
| MODEL: | 2010 | MODEL: | T701 | NO/NOx (PPM): | 51.1 51.6 | HIGH EXPIRY: | n/a |
| ID: | 17100415 | ID: | 132 | CYLINDER (psi): | 1200 | LOW ID: | n/a |
| MFC CALIBRATION DATE: | 12-Apr-2023 | OXIDIZER ID: | n/a | EXPIRY DATE | 27-Oct-2030 | LOW EXPIRY: | n/a |

| CALIBRATION SETTINGS: | | | | | | | |
|-----------------------|-------|-------|-----|----------------|-------|-------|-----|
| INITIAL | NOx | NO | NO2 | FINAL | NOx | NO | NO2 |
| BKG/OFFSET: | 4.4 | 4.1 | n/a | BKG/OFFSET: | 4.6 | 4.1 | n/a |
| SLOPE/COEF/CE: | 1.011 | 0.879 | 1 | SLOPE/COEF/CE: | 1.011 | 0.871 | 1 |

| EXPECTED (REFERENCE) VALUE: | | | | | | | |
|-----------------------------|-------|-----|-------|-------|-------|-----|-------|
| INITIAL | NOx | NO | NO2 | FINAL | NOx | NO | NO2 |
| | 215.0 | 1.7 | 213.0 | | 207.0 | 1.6 | 206.0 |

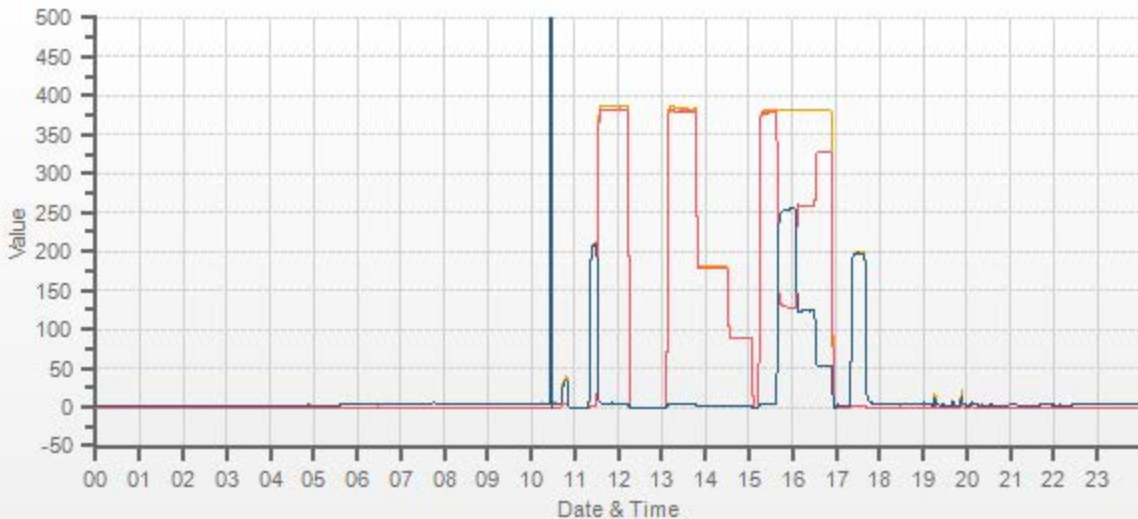
| CALIBRATION PARAMETERS: | | | | | | | |
|-------------------------|-----------------|--|------------------|--|-----------|--|----------|
| POINT | NO TARGET (PPB) | | NO2 TARGET (PPB) | | NO2 RANGE | | O3 POINT |
| HIGH | 380 | | 250 | | 230-265 | | n/a |
| MID | 180 | | 125 | | 115-150 | | n/a |
| LOW | 90 | | 45 | | 40-55 | | n/a |
| EXTRA 1 | n/a | | n/a | | n/a | | n/a |

| FLOW RATE | | | CONCENTRATION (ppb) | | | | | | | | | CORRECTION FACTOR (CF.) | | | | | |
|-----------|------------------|-------|---------------------|-------|-----|-------------------|-------|-----|-----------------|-------|-----|-------------------------|------------------|------------------|------------------|------------------|------------------|
| (mL/min) | | | CALCULATED | | | INITIAL INDICATED | | | FINAL INDICATED | | | INITIAL | | | FINAL | | |
| DILUENT | GAS | TOTAL | NO | NOx | NO2 | NO | NOx | NO2 | NO | NOx | NO2 | NO | NOx | NO2 | NO | NOx | NO2 |
| 5000 | 37.20 | 5000 | 0.0 | 0.0 | 0.0 | -0.1 | 0.1 | 0.2 | 0.0 | 0.0 | 0.0 | 0.993 | 0.990 | 1.000 | 1.000 | 1.000 | 1.000 |
| 4961 | 37.20 | 4998 | 380.3 | 384.1 | 3.7 | 383.1 | 387.9 | 4.9 | 380.2 | 384.1 | 3.8 | 0.993 | 0.990 | 1.000 | 1.000 | 1.000 | 1.000 |
| 4982 | 17.60 | 5000 | 179.9 | 181.6 | 1.8 | n/a | n/a | n/a | 180.0 | 181.7 | 1.7 | n/a | n/a | 0.999 | 1.000 | 1.000 | 1.000 |
| 4990 | 8.80 | 4999 | 90.0 | 90.8 | 0.9 | n/a | n/a | n/a | 89.2 | 90.1 | 1.0 | n/a | n/a | 1.008 | 1.008 | 1.008 | 1.008 |

| GPT CALIBRATION: | | | | | | | | | | | |
|------------------------------|------------|-------|-------------|-----------------|-------|-------|-------------------------|------------------|------------------|-------------------|--|
| Point | CALIBRATOR | | | INDICATED (ppb) | | | NO DROP / O3 Conc (ppb) | NO2 GAIN (ppb) | NO2 Corr. FACTOR | CONV. EFFICIENCY | |
| | GAS | TOTAL | O3 SETPOINT | NO | NOx | NO2 | | | | | |
| REFERENCE | 37.20 | 4998 | 0 | 378.5 | 382.5 | 4.0 | 250.8 | 250.5 | 1.001 | 99.88% | |
| AS-FOUND HIGH | 37.20 | 4998 | 240 | 127.7 | 382.2 | 254.5 | 250.8 | 250.5 | 1.001 | 99.88% | |
| ADJUSTED HIGH | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | |
| MID | 37.20 | 4998 | 125 | 258.7 | 382.5 | 123.7 | 119.8 | 119.7 | 1.001 | 99.92% | |
| LOW | 37.20 | 4998 | 45 | 329.2 | 382.9 | 53.7 | 49.3 | 49.7 | 0.992 | 100.81% | |
| NO2 adjustment not required. | | | | | | | | | AVERAGE: | 100.20% | |

| LINEAR REGRESSION ANALYSIS: | | | | COMMENTS: |
|-----------------------------|-------------|-------|-----------|-----------|
| | CORRELATION | SLOPE | INTERCEPT | |
| NO | 1.000 | 1.000 | -0.05% | |
| NOx | 1.000 | 1.001 | -0.06% | |
| NO2 | 1.000 | 0.997 | 0.09% | |

Sample inlet filter was changed.
11:00 - scheduled ZS check interfered with the calibration. As Found High point restarted.



CAL-LICA-202307-01250

NOx [ppb] NO [ppb] NO2 [ppb]

Ozone Calibration by Photometer (Varying UV Lamp)



| | | | |
|---------------|--------------|-----------------------------|-------------|
| DATE: | 15-Jul-2023 | PREVIOUS CALIBRATION DATE: | 18-Jun-2023 |
| PARAMETER: | O3 | PREVIOUS CORRECTION FACTOR: | 1.002 |
| CLIENT: | LICA | TEMPERATURE (°C): | 22.0 |
| LOCATION: | St. Lina | BAROMETRIC (mBar): | 920 |
| PURPOSE: | Routine | START TIME (MST): | 09:56 |
| PERFORMED BY: | Alex Yakupov | END TIME (MST): | 14:15 |

ANALYZER:

| | | | |
|----------------------------|-------------|----------------------------|---------|
| MAKE/MODEL | Thermo 49iQ | RANGE | 500 ppb |
| SERIAL # | 12208316586 | FLOW (mL/min) | 1.33 |
| INITIAL | | FINAL | |
| BKG/OFFSET | 0.6 | BKG/OFFSET | 0 |
| COEF/SLOPE | 1.021 | COEF/SLOPE | 1.023 |
| Expected (reference) Value | 256 | Expected (reference) Value | 253 |

CALIBRATION SYSTEM:

| | | | |
|-----------------------|-------------|------------------------------|----------|
| CALIBRATOR: | | ZERO AIR: | |
| MAKE: | SABIO | MAKE: | Teledyne |
| MODEL: | 2010 D | MODEL: | T701 |
| ID: | 11900613 | ID: | 132 |
| MFC CALIBRATION DATE: | 12-Apr-2023 | OXIDIZER ID: | n/a |
| CALIBRATION METHOD: | | Photometer (Varying UV Lamp) | |
| GPT DATE: | n/a | GPT END TIME: | n/a |

CALIBRATION PARAMETERS:

| | | | |
|-------|-----------|-----------|----------|
| POINT | HIGH | MID | LOW |
| RANGE | 300 - 400 | 150 - 200 | 50 - 100 |

CALIBRATION:

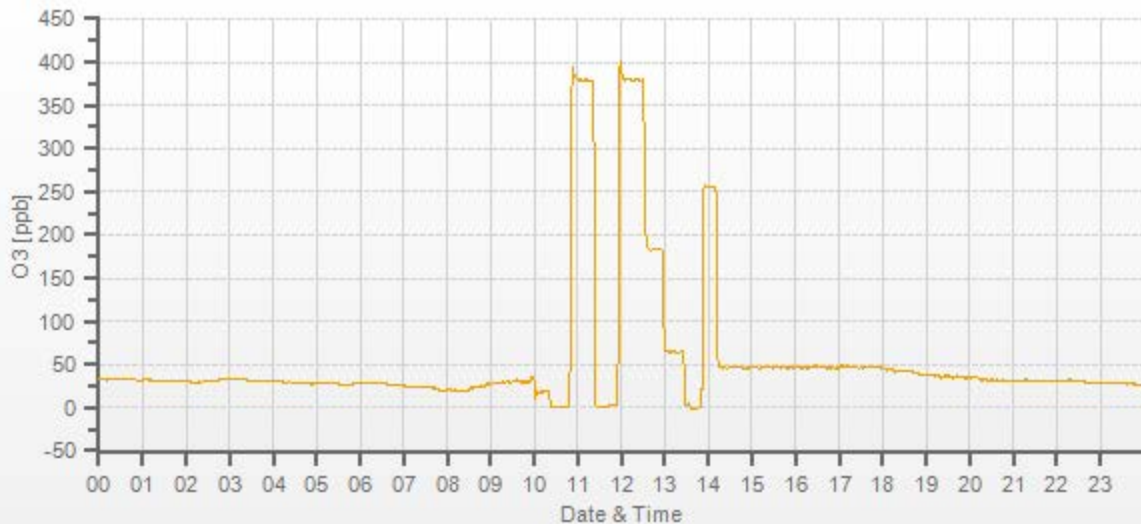
| FLOW RATES (mL/min) | | | CONCENTRATION (ppb) | | | CORRECTION FACTOR | |
|------------------------|-----------------------|-------|---------------------|-----------|-------|-------------------|-------------------|
| DILUENT | GAS | TOTAL | ACTUAL | INDICATED | | Initial | Final |
| | | | | Initial | Final | | |
| 5000 | XXXXXXXXXX | 5000 | 0.0 | -0.7 | 0.0 | XXXXXX | XXXXXX |
| 5000 | XXXXXXXXXX | 5000 | 378.0 | 377.4 | 378.0 | 1.000 | 1.000 |
| 5000 | XXXXXXXXXX | 5000 | 180.0 | n/a | 181.3 | n/a | 0.993 |
| 5000 | XXXXXXXXXX | 5000 | 61.0 | n/a | 61.6 | n/a | 0.990 |

LINEAR REGRESSION ANALYSIS:

| | | | |
|-------|-------------|-------|-----------|
| | CORRELATION | SLOPE | INTERCEPT |
| VALUE | 1.000 | 1.000 | 0.1% |

COMMENTS:

Sampe inlet filter was changed.



Methane/Non-Methane Analyzer Calibration by Dilution



| CALIBRATION: | | | | ANALYZER: | | | |
|---------------|--------------|----------------------------|-------------|--------------|------------|------------|---------------|
| DATE: | 15-Jul-2023 | PREVIOUS CALIBRATION DATE: | 18-Jun-2023 | VALUE | MAKE/MODEL | SERIAL | FLOW (mL/min) |
| CLIENT: | LICA | TEMPERATURE (°C): | 22.0 | | Thermo 55i | 1180030034 | 1180 |
| LOCATION: | St. Lina | BAROMETRIC (mBar): | 920 | PARAMETER: | CH4 | NMHC | THC |
| PURPOSE | Routine | START TIME (MST): | 09:55 | RANGE (ppm): | 20 | 20 | 40 |
| PERFORMED BY: | Alex Yakupov | END TIME (MST): | 15:40 | PREVIOUS CF: | 1.001 | 1.003 | 1.002 |

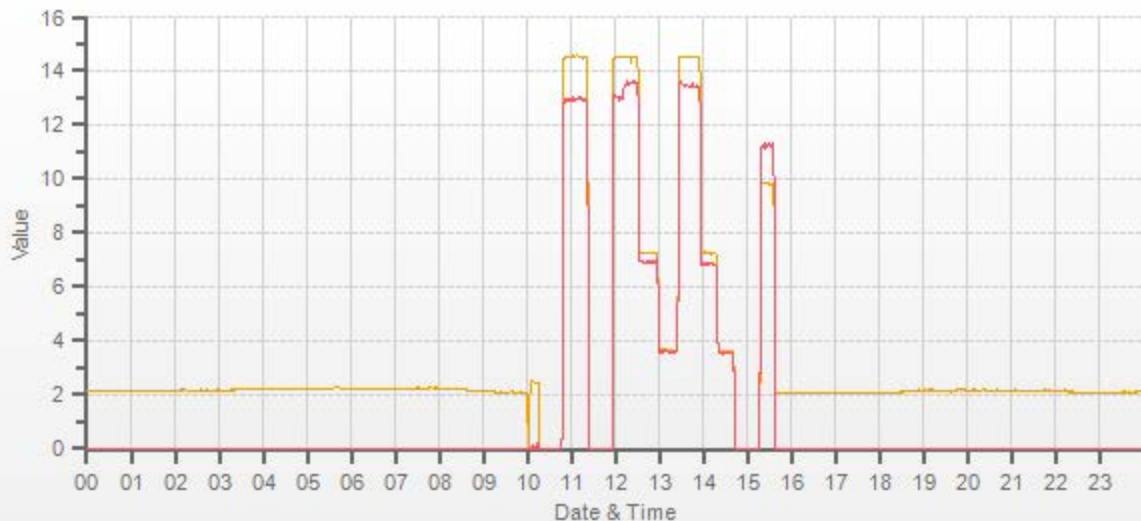
| CALIBRATOR: | | ZERO AIR: | | CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
|-----------------------|-------------|--------------|----------|---|---------------|-----------------------------|-----|
| MAKE: | SABIO | MAKE: | Teledyne | CYLINDER ID: | LL 23593 | HIGH ID: | n/a |
| MODEL: | 2010 | MODEL: | T701 | CH ₄ /C ₃ H ₈ (ppm): | 603.0 204.0 | HIGH EXPIRY: | n/a |
| ID: | 17100415 | ID: | 132 | CYLINDER (psi): | 1100 | LOW ID: | n/a |
| MFC CALIBRATION DATE: | 12-Apr-2023 | OXIDIZER ID: | 115 | EXPIRY DATE | 18-Aug-2029 | LOW EXPIRY: | n/a |

| CALIBRATION PARAMETERS: | | | | | | | |
|-------------------------------|---------|-------|-------|--|--|--------|--|
| POINT (CH ₄ /NMHC) | HIGH | MID | LOW | CH ₄ EQUIVILANCE | | | |
| TARGET | 14 | 7 | 3.5 | C ₃ H ₈ as CH ₄ | | 561.0 | |
| RANGE | 12 - 16 | 6 - 8 | 2 - 4 | THC as CH ₄ | | 1164.0 | |

| EXPECTED (REFERENCE) VALUE: | | | | | | | |
|-----------------------------|-----------------|-------|-------|-------|-----------------|-------|-------|
| INITIAL | CH ₄ | NMHC | THC | FINAL | CH ₄ | NMHC | THC |
| | 9.77 | 11.10 | 20.87 | | 9.81 | 11.24 | 21.05 |

| FLOW RATE | | | CONCENTRATION (PPM) | | | | | | | | | CORRECTION FACTOR (CF.) | | | | | |
|-----------|--------------|-------|---------------------|-------|-------|-------------------|-------|-------|-----------------|-------|-------|-------------------------|--------------|--------------|-----------------|--------------|--------------|
| (mL/min) | | | CALCULATED | | | INITIAL INDICATED | | | FINAL INDICATED | | | INITIAL | | | FINAL | | |
| DILUENT | GAS | TOTAL | CH ₄ | NMHC | THC | CH ₄ | NMHC | THC | CH ₄ | NMHC | THC | CH ₄ | NMHC | THC | CH ₄ | NMHC | THC |
| 3100 | X | 3100 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | X | X | X | X | X | X |
| 3025 | 74.60 | 3100 | 14.51 | 13.50 | 28.01 | 14.54 | 12.96 | 27.50 | 14.51 | 13.53 | 28.04 | 0.998 | 1.042 | 1.019 | 1.000 | 0.998 | 0.999 |
| 3063 | 37.30 | 3100 | 7.26 | 6.75 | 14.01 | n/a | n/a | n/a | 7.29 | 6.86 | 14.16 | n/a | n/a | n/a | 0.995 | 0.984 | 0.989 |
| 3081 | 18.60 | 3100 | 3.62 | 3.37 | 6.98 | n/a | n/a | n/a | 3.66 | 3.51 | 7.17 | n/a | n/a | n/a | 0.989 | 0.959 | 0.974 |

| LINEAR REGRESSION ANALYSIS: | | | | Comments: | | | |
|-----------------------------|-------------|-------|-----------|---|--|--|--|
| | CORRELATION | SLOPE | INTERCEPT | Sample inlet filter was changed. Initial calibration failed at low-point. Repeated from adjusted high - no further issues. Use Zero Chrom? Yes | | | |
| CH ₄ | 1.000 | 0.999 | 0.1% | | | | |
| NMHC | 1.000 | 1.000 | 0.4% | | | | |
| THC | 1.000 | 0.999 | 0.2% | | | | |



CAL-LICA-202307-01250

Thermo 5030i SHARP Monitor Monthly Check

| | |
|---|---|
| Date: July 15, 2023 | Performed By/Reviewer: Alex Yakupov Chris Wesson |
| Company: LICA | Start Time (mst): 14:57 |
| Station Name/Location: St. Lina | End Time (mst): 15:40 |
| Previous Audit Date: June 18, 2023 | Calibration Purpose: routine monthly |
| Parameter: PM 2.5 | Weather Conditions: Overcast |

| | | | |
|--|-------------|----------------------------|-----|
| SHARP 5030i Information and Status: | | | |
| Serial Number: | CM 17091001 | Filter Tape Counter | 256 |

| | | | | |
|-------------------------------------|-------------------|-------------------|------------------|-------------------|
| Reference Standards: | | | | |
| Air Flow | | | | |
| | Manometer | Orifice | Pressure: | Temp / RH: |
| Make: | DeltaCal | DeltaCal | Fisher | Vaisala HMP76B |
| Model: | DC1 | DC1 | FB61291 | HMP 76B |
| Serial Number: | 177246 | 177246 | 130168457 | T1640130 |
| Calibration Expiration Date: | September 7, 2023 | September 7, 2023 | March 20, 2024 | June 26, 2024 |

| | | | | | |
|---------------------------------|-----------|-------|------------|---------|-------------|
| Ambient Temperature (°C) | | | | Range | Action |
| | Reference | SHARP | Difference | < ± 2°C | OK |
| #1 | 23.80 | 24.8 | -1.0 | 2-3 °C | Recalibrate |
| | | | | > 3°C | Fail |

| | | | | | |
|--|-----------|-------|------------|-----------|-------------|
| Ambient Relative Humidity (%RH) | | | | Range | Action |
| As Found: | | | | < ± 2 %RH | OK |
| | Reference | SHARP | Difference | 2-5 %RH | Recalibrate |
| #1 | 41.60 | 40.0 | 1.6 | > 5 %RH | Fail |

| | | | | | |
|-----------------------------------|-----------|-------|------------|-------------|-------------|
| Barometric Pressure (mmHg) | | | | Range | Action |
| As Found: | | | | < ± 10 mmHg | OK |
| | Reference | SHARP | Difference | 10-12 mmHg | Recalibrate |
| #1 | 699.0 | 700.0 | -1.0 | > 12 mmHg | Fail |

| | | | | | | | |
|---------------------------|-----------|-------|--------------|-------|--|--------|-------------|
| Flow Audit (L/min) | | | | | | Range | Action |
| As Found: | | | | | | < ± 4% | OK |
| | Reference | SHARP | | | | 4-5% | Recalibrate |
| #1 | 16.64 | 16.67 | % Difference | 0.14% | | >5% | Fail |
| #2 | 16.65 | 16.66 | | | | | |
| #3 | 16.64 | 16.67 | | | | | |
| Average | 16.64 | 16.67 | | | | | |

| | | | | | | |
|-----------------------------------|-----------|-------|--------------------------------|-----------|-------------------|-------------------------------|
| Leak Check (L/min) | | | | | | |
| Without Leak Check Adapter | | | With leak Check Adapter | | | |
| | Reference | SHARP | Difference | Reference | SHARP | Difference |
| #1 | 16.64 | 16.67 | -0.03 | 16.12 | 16.64 | -0.52 |
| | | | | | LEAK RATE: | -0.49 |
| | | | | | | <i>Leak Limit: 0.80 L/min</i> |

Meteorological System Checklist



| | |
|-------------|--|
| Date: | July 15, 2023 |
| Technician: | Alex Yakupov / Audit time: 15:06 - 16:38 |
| Reviewer: | Chris Wesson |
| Station: | St. Lina |

| Unit: | Make: | Model: | Serial #: |
|-----------------------------|----------|---------|-----------|
| Temperature Sensor: | Rotronic | HC2-S3 | 20404750 |
| Barometric Pressure Sensor: | Met One | O90D | F4498 |
| Relative Humidity Sensor: | Rotronic | HC2-S3 | 20404750 |
| Anemometer: | RM Young | 05305VK | 161466 |

PRECIPITATION SENSOR CHECK

| Checklist: | Reply: | Comments: |
|--|--------|--|
| Is the sensor Level? | yes | |
| Is the heater operating properly? | yes | |
| Are the bucket drain holes clean? | yes | |
| Is the screen on the housing? (screen should be on between July and September) | yes | 15:31 - tests with water (1.0 mm for water) No issues. Response is timely and accurate. |
| Is the housing clean? | yes | |
| Is the area around the housing clean and free from obstacles? | yes | |

TIP TEST - Slowly pour water until 10 tip are heard. (10 tips = 1 mm)

| # of Tips | Data Logger Response (mm): | Manual Specification = +/- 0.2 mm |
|-----------|----------------------------|-----------------------------------|
| 10 | 1.00 | TRUE |

AMBIENT TEMPERATURE SENSOR CHECK

| | | |
|-------------------------------------|---|--|
| Parameter: | Temperature @ 2 metres | |
| Reference Thermometer ID: | Vaisala / HM70 / #T1640130, Exp. Date: Jun 26, 2024 | |
| Reference Temperature (°C): | 23.8 | |
| Station - Ambient Temperature (°C): | 22.9 | |
| Temperature Difference (°C): | 0.9 | |

BAROMETRIC PRESSURE SENSOR CHECK

| | | |
|--------------------------------------|---|-------|
| Reference Barometer ID: | Fisher / FB 61291/ #130168457/ Mar 20, 2024 | |
| Reference Pressure - Units/Reading: | millibar | 932 |
| Station Pressure - Units/Reading: | millibar | 919 |
| Pressure Tolerance +/- 15% of error: | 792 - 1072 | 1.39% |

RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK

| | | |
|-------------------------------------|---|--------|
| Reference Hygrometer ID: | Vaisala / HM70 / #T1640130, Exp. Date: Jun 26, 2024 | |
| Reference Hygrometer % RH- Reading: | 41.20 | |
| Station Hygrometer % RH- Reading: | 46.70 | |
| RH Tolerance +/- 15% of difference: | 35.02 - 47.38 | -13.3% |

ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK

| WIND SPEED | | WIND DIRECTION | |
|----------------------------------|----------------------------|--------------------------------|---------------|
| Previous check date: | June 18, 2023 | Previous check date: | June 18, 2023 |
| Wind Speed Observed (kph): | 0-10 | Wind Direction Observed: | E |
| Wind speed on Data Logger (kph): | 4.7 | Wind Direction on Data Logger: | E |
| | Annual audit: Jul 22, 2022 | Wind Direction Pass/Fail?: | Pass |

Comments

Station (Trailer) temperature vs Reference gauge temperature: 24.3 vs 23.9. Difference: 0.4 degrees. Passed



Meteorological Sensor Audit/Calibration

Location Information

Company: LICA
 Audit Location: St. Lina
 Audit Date: July 22, 2022
 Calibration Purpose: routine annual

Performed By: Alex Yakupov
 Reviewed By: Chris Wesson
 Start/End Time (mst): 15:07 / 16:23
 Weather Conditions: A few clouds

Wind Sensor Information

| Sensor ID Data: | | Sensor Outputs: | |
|--------------------------|----------------|---------------------------------|-------|
| Sensor Make: | RM Young | Velocity Voltage Output Range: | 0-1 |
| Sensor Model: | 05305VK | Velocity Unit Output Range: | 0-200 |
| Serial #: | 161466 | Direction Voltage Output Range: | 0-1 |
| Previous Cal/Audit Date: | March 16, 2021 | Direction Unit Output Range: | 0-360 |

Wind Calibrator Information

Calibrator I.D. and Expiry Date: Model 18860-90/18802 SN: CA 4744, expires - Aug 6, 2022

Wind Speed Audit Data ****+/- 2% of the average correction factor is the limit****

| RPM | Wind Speed Generated kph | Clockwise Wind Speed kph | Counter Clockwise Wind Speed kph | Correction Factor |
|-----------------------------------|--------------------------|--------------------------|----------------------------------|-------------------|
| 0 | 0 | 0.1 | 0.1 | - |
| 1000 | 18.4 | 18.5 | 18.5 | 0.996 |
| 2000 | 36.9 | 36.9 | 37.0 | 0.998 |
| 3000 | 55.3 | 55.4 | 55.5 | 0.997 |
| 4000 | 73.7 | 74.1 | 74.1 | 0.995 |
| 5000 | 92.2 | 92.5 | 92.4 | 0.997 |
| 6000 | 110.6 | 111.0 | 111.0 | 0.996 |
| 7000 | 129.0 | 129.4 | 129.4 | 0.997 |
| 8000 | 147.4 | 148.1 | 148.1 | 0.996 |
| 9000 | 165.9 | 166.6 | 166.6 | 0.996 |
| 10000 | 184.3 | 185.1 | 185.1 | 0.996 |
| The audit meets AMD requirements. | | | Average Correction Factor= | 0.996 |

Wind Direction Audit Data ****+/- 3° of the absolute average degrees difference for all points is the limit****

| Generated Wind Direction 0-360 (Up) | Generated Wind Direction 360-0 (Down) | Indicated Wind Direction 0-360 (Up) | Indicated Wind Direction 360-0 (Down) | Degrees Difference 0-360 (Up) | Degrees Difference 360-0 (Down) | Average Absolute Degrees Difference |
|-------------------------------------|---------------------------------------|-------------------------------------|---------------------------------------|--------------------------------------|---------------------------------|-------------------------------------|
| 0 | 355 | 0 | 355 | 0.4 | 0.0 | 0.2 |
| 30 | 330 | 31 | 331 | -0.6 | -0.8 | 0.7 |
| 60 | 300 | 62 | 301 | -2.1 | -0.6 | 1.4 |
| 90 | 270 | 93 | 270 | -2.7 | -0.1 | 1.4 |
| 120 | 240 | 123 | 241 | -2.9 | -1.2 | 2.1 |
| 150 | 210 | 152 | 212 | -2.1 | -2.1 | 2.1 |
| 180 | 180 | 182 | 183 | -2.0 | -2.9 | 2.5 |
| 210 | 150 | 211 | 153 | -1.2 | -2.8 | 2.0 |
| 240 | 120 | 241 | 123 | -0.8 | -3.1 | 2.0 |
| 270 | 90 | 270 | 93 | -0.3 | -3.0 | 1.7 |
| 300 | 60 | 301 | 62 | -0.8 | -2.3 | 1.6 |
| 330 | 30 | 331 | 30 | -0.5 | -0.4 | 0.4 |
| 355 | 0 | 355 | 1 | 0.0 | 0.5 | 0.3 |
| The audit meets AMD requirements. | | | | Average Absolute Degrees Difference= | | 1.4 |

Comments:

n/a

End of Report



Lakeland Industry & Community Association

JULY 2023

Ambient Air Monitoring Calibration Report

- LAC LA BICHE STATION-

CAL-LICA-202307-01690

Station Operation and Maintenance:

Bureau Veritas Canada

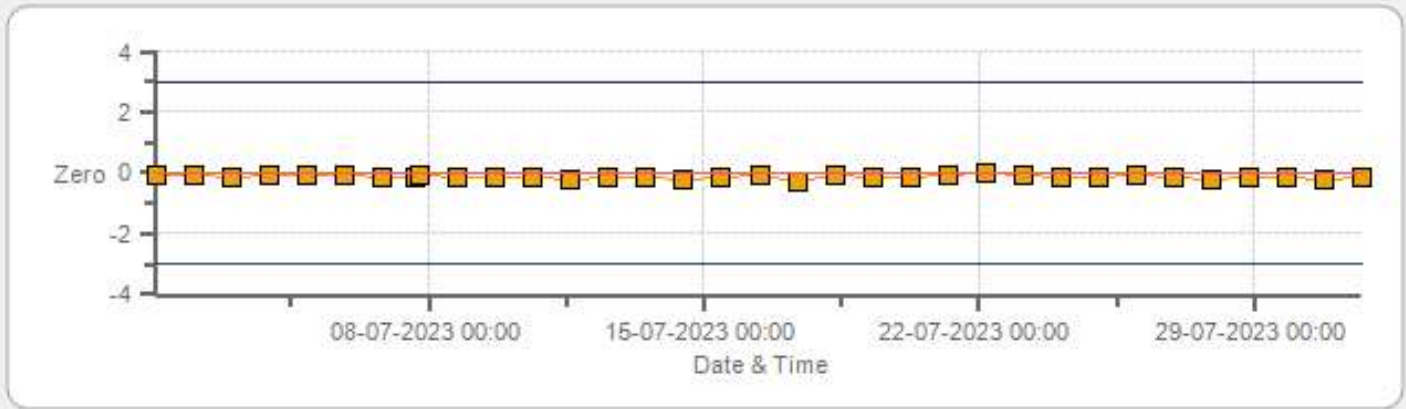
Data Validation and Report:

LICA / Bureau Veritas Canada

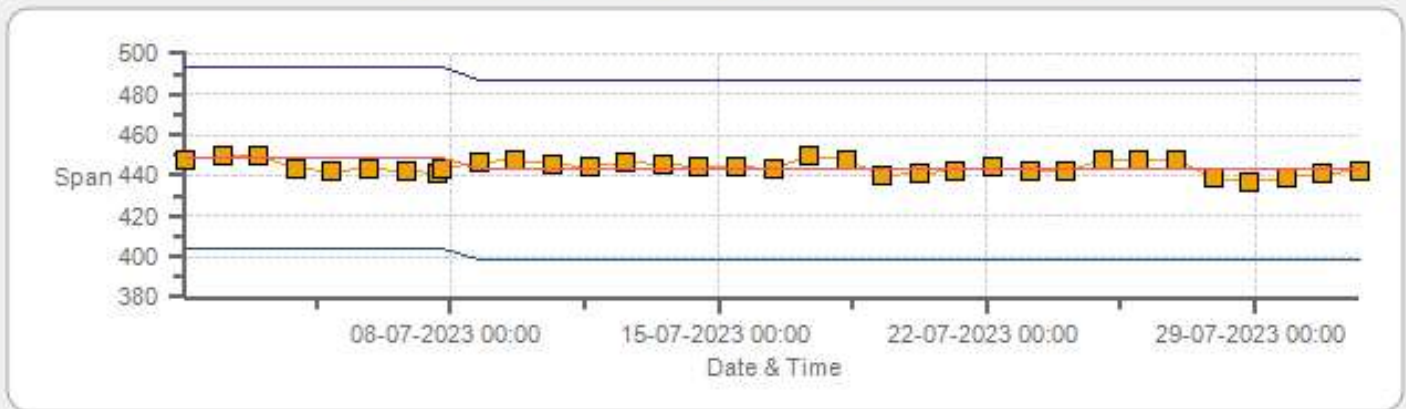
August 3, 2023

DAILY INTERNAL ZERO-SPAN CALIBRATION RECORDS

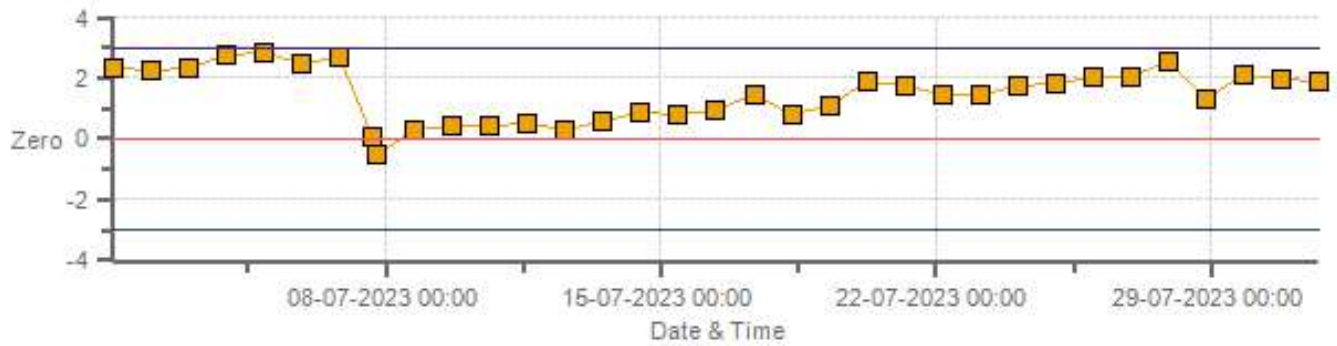
SO2[ppb] Calibration: Lac La Biche Monthly: 07-2023 Type: SpanAndZero - Zero



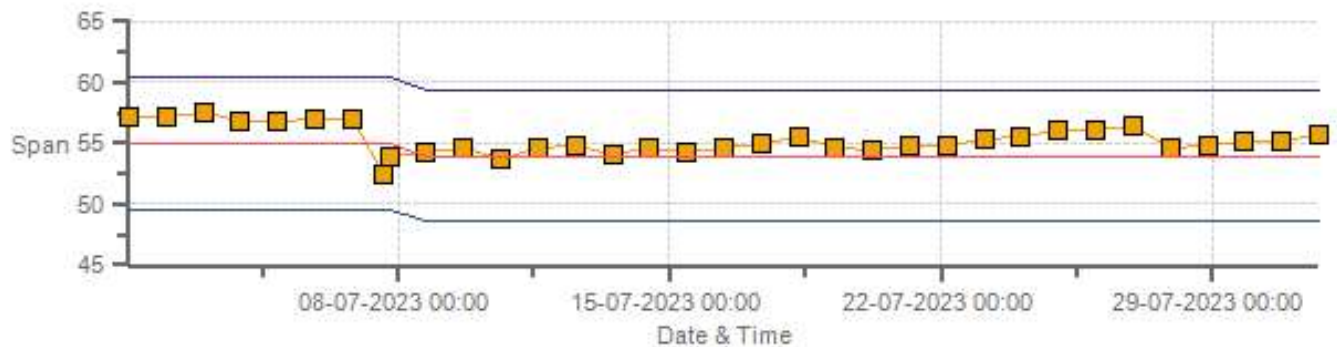
SO2[ppb] Calibration: Lac La Biche Monthly: 07-2023 Type: SpanAndZero - Span



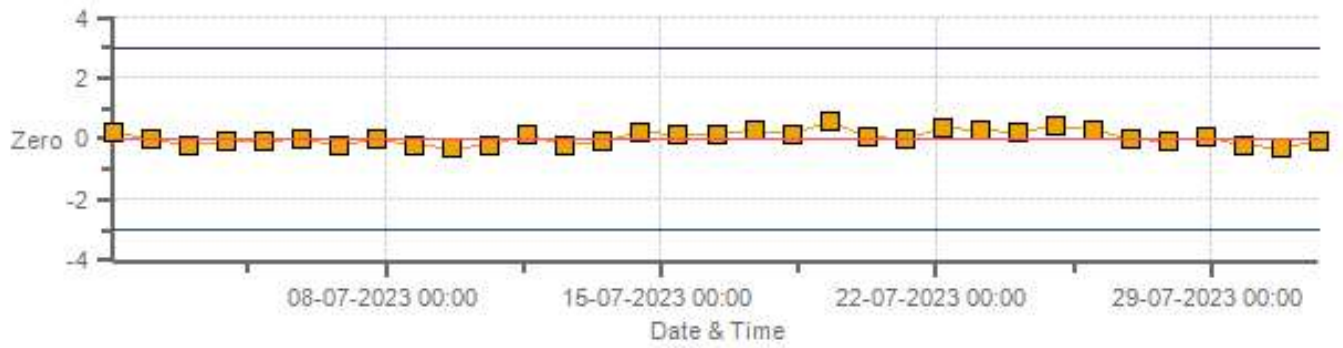
H2S[ppb] Calibration: Lac La Biche Monthly: 07-2023 Type: SpanAndZero - Zero



H2S[ppb] Calibration: Lac La Biche Monthly: 07-2023 Type: SpanAndZero - Span



NOX[ppb] Calibration: Lac La Biche Monthly: 07-2023 Type: SpanAndZero - Zero



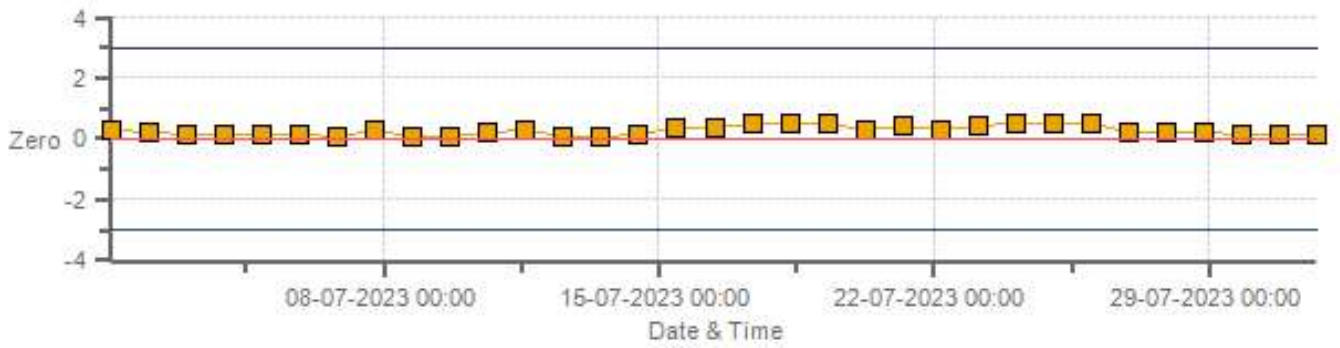
Zero Zero Ref Zero Low Zero High

NOX[ppb] Calibration: Lac La Biche Monthly: 07-2023 Type: SpanAndZero - Span



Span SpanRef Span Low Span High

NO2[ppb] Calibration: Lac La Biche Monthly: 07-2023 Type: SpanAndZero - Zero



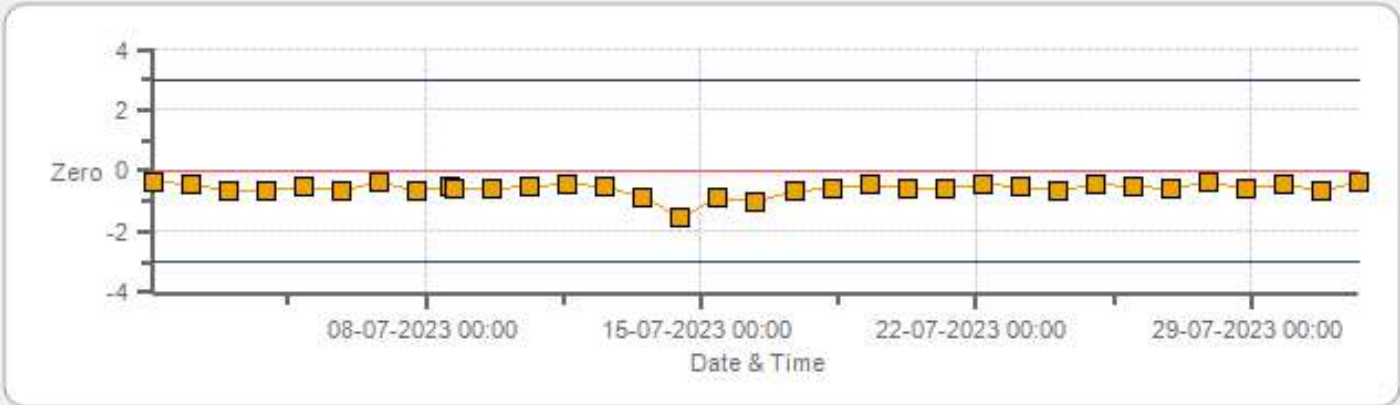
Zero Zero Ref Zero Low Zero High

NO2[ppb] Calibration: Lac La Biche Monthly: 07-2023 Type: SpanAndZero - Span



Span SpanRef Span Low Span High

O3[ppb] Calibration: Lac La Biche Monthly: 07-2023 Type: SpanAndZero - Zero



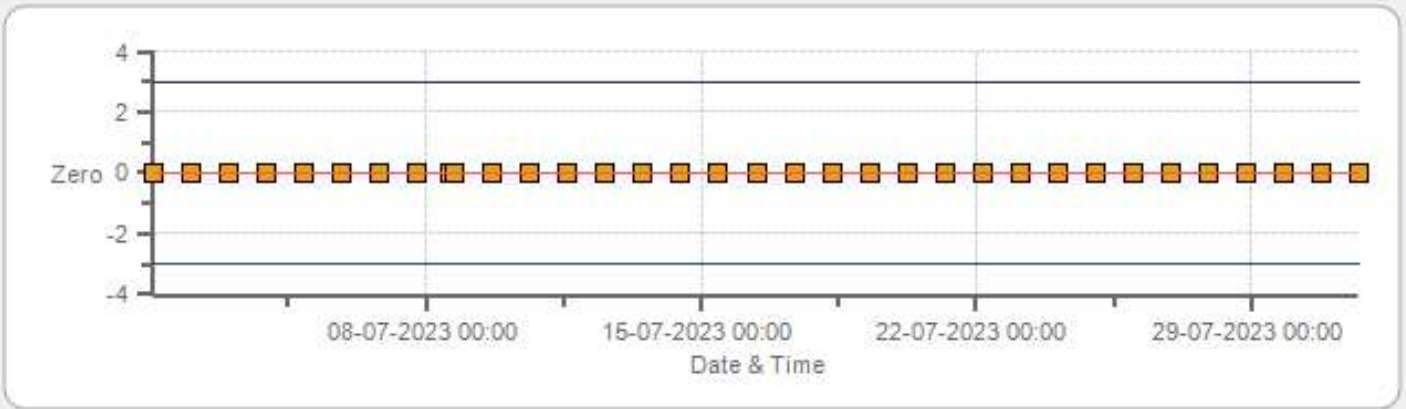
Zero Zero Ref Zero Low Zero High

O3[ppb] Calibration: Lac La Biche Monthly: 07-2023 Type: SpanAndZero - Span



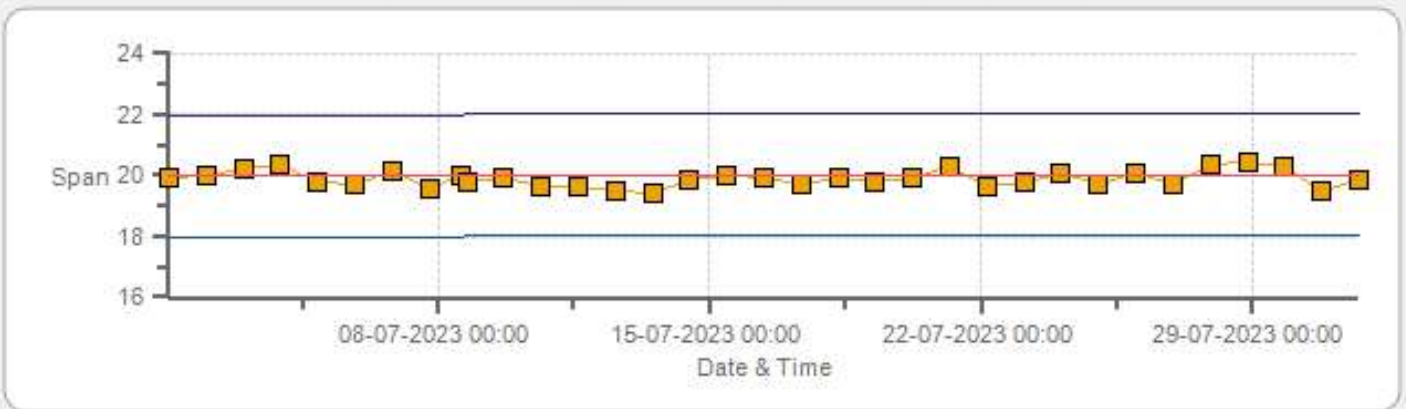
Span SpanRef Span Low Span High

THC55[ppm] Calibration: Lac La Biche Monthly: 07-2023 Type: SpanAndZero - Zero



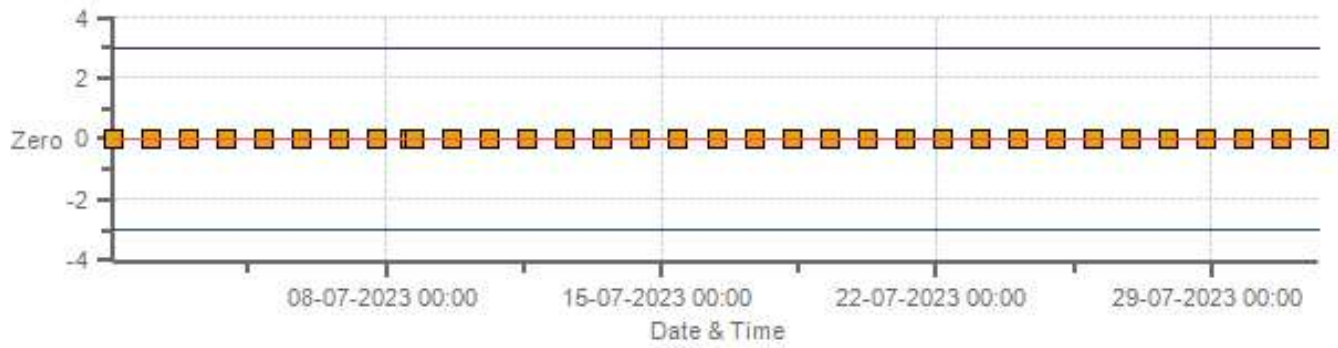
Zero Zero Ref Zero Low Zero High

THC55[ppm] Calibration: Lac La Biche Monthly: 07-2023 Type: SpanAndZero - Span



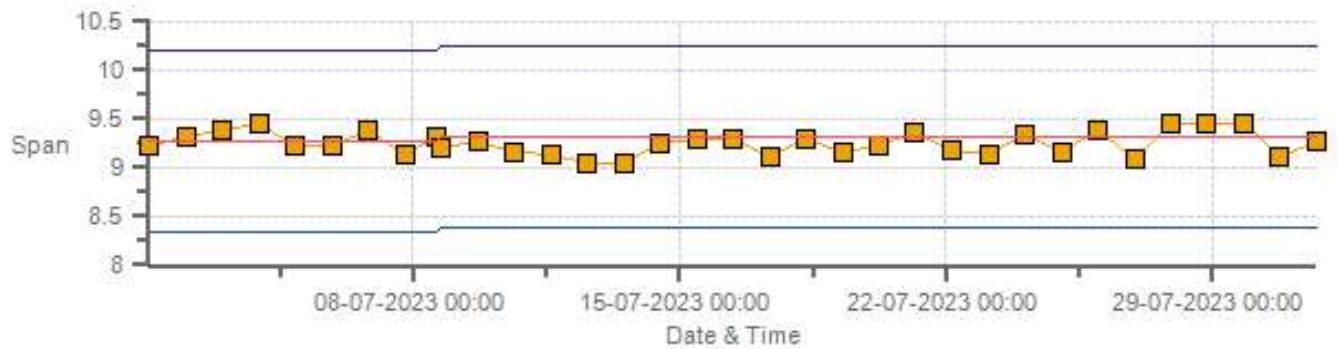
Span Span Ref Span Low Span High

CH4[ppm] Calibration: Lac La Biche Monthly: 07-2023 Type: SpanAndZero - Zero



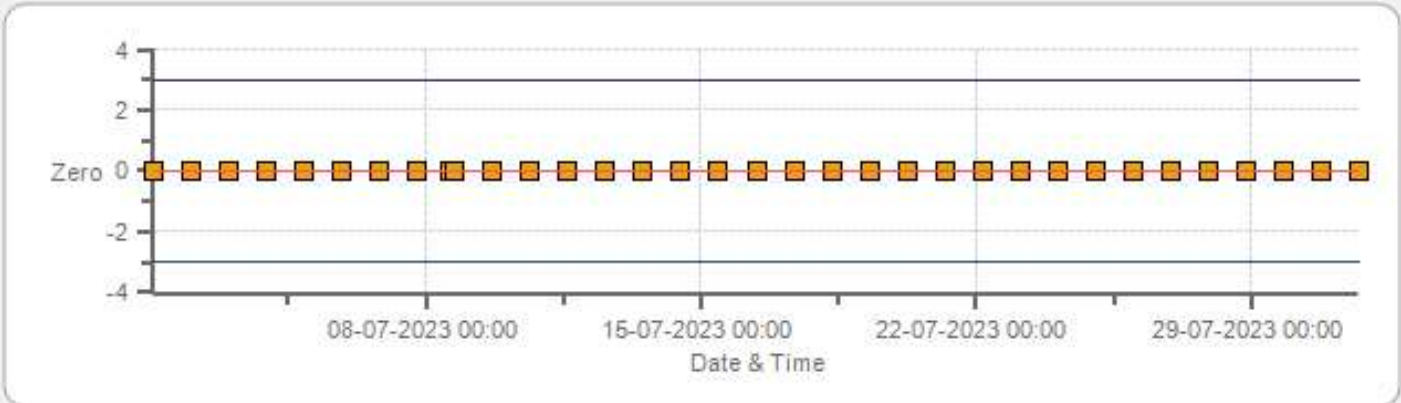
Zero Zero Ref Zero Low Zero High

CH4[ppm] Calibration: Lac La Biche Monthly: 07-2023 Type: SpanAndZero - Span



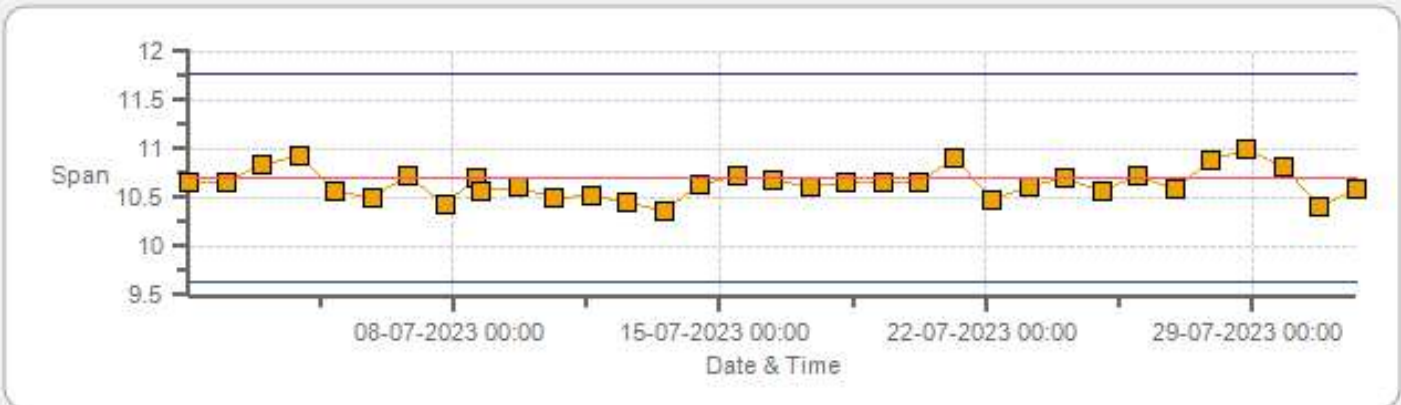
Span SpanRef Span Low Span High

NMHC[ppm] Calibration: Lac La Biche Monthly: 07-2023 Type: SpanAndZero - Zero



Zero Zero Ref Zero Low Zero High

NMHC[ppm] Calibration: Lac La Biche Monthly: 07-2023 Type: SpanAndZero - Span



Span SpanRef Span Low Span High

MULTI-POINT CALIBRATION RECORDS

SO2 Analyzer Calibration by Dilution



| | | | |
|---------------|--------------|-----------------------------|-------------|
| DATE: | 07-Jul-2023 | PREVIOUS CALIBRATION DATE: | 12-Jun-2023 |
| PARAMETER: | SO2 | PREVIOUS CORRECTION FACTOR: | 0.997 |
| CLIENT: | LICA | TEMPERATURE (°C): | 22.0 |
| LOCATION: | Lac La Biche | BAROMETRIC (mBar): | 951 |
| PURPOSE: | Routine | START TIME (MST): | 10:43 |
| PERFORMED BY: | Alex Yakupov | END TIME (MST): | 15:26 |

ANALYZER:

| | | | |
|----------------------------|----------------|----------------------------|---------|
| MAKE/MODEL | Thermo 43I-TLE | RANGE | 500 ppb |
| SERIAL # | 1180320043 | FLOW (mL/min) | 457 |
| INITIAL | | FINAL | |
| BKG/OFFSET | 6.5 | BKG/OFFSET | 6.6 |
| COEF/SLOPE | 1.349 | COEF/SLOPE | 1.351 |
| Expected (reference) Value | 449 | Expected (reference) Value | 443 |

CALIBRATION SYSTEM:

| | | | |
|-----------------------|-------------|-----------------------------|----------|
| CALIBRATOR: | | ZERO AIR: | |
| MAKE: | SABIO | MAKE: | Teledyne |
| MODEL: | 2010 | MODEL: | T701 |
| ID: | 17100415 | ID: | 132 |
| MFC CALIBRATION DATE: | 12-Apr-2023 | OXIDIZER ID: | n/a |
| CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
| CYLINDER ID: | LL 127895 | HIGH ID | n/a |
| CONC (ppm): | 50.40 | EXPIRY DATE | n/a |
| CYLINDER (psi): | 1200 | LOW ID | n/a |
| EXPIRY DATE | 27-Oct-2030 | EXPIRY DATE | n/a |

CALIBRATION PARAMETERS:

| | | | |
|--------|-----------|-----------|----------|
| POINT | HIGH | MID | LOW |
| TARGET | 390 | 190 | 95 |
| RANGE | 300 - 400 | 150 - 200 | 50 - 100 |

SCRUBBER CHECK (15 MINS; TRS/H2S ONLY):

| | | | |
|-------------|-----|-------------------------|-----|
| START TIME: | n/a | SO2 Conc (ppb) | n/a |
| END TIME: | n/a | Analyzer Response (ppb) | n/a |

CALIBRATION:

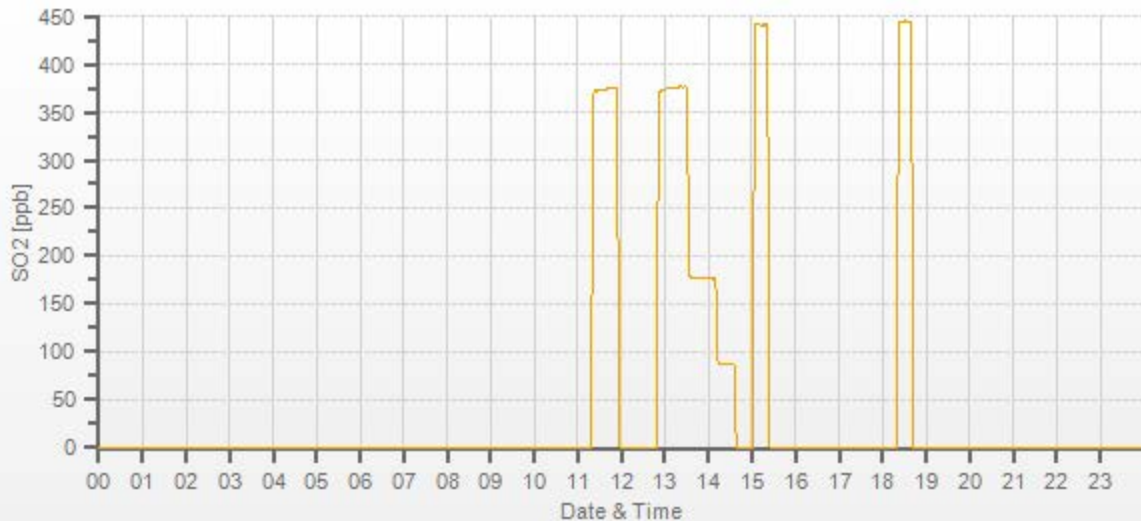
| FLOW RATES | | | CONCENTRATION (ppb) | | | CORRECTION FACTOR | |
|------------|------------------|-------|---------------------|-----------|--------|-------------------|------------------|
| (mL/min) | | | ACTUAL | INDICATED | | Initial | Final |
| DILUENT | GAS | TOTAL | | Initial | Final | | |
| 5000 | 37.20 | 5000 | 0.00 | -0.08 | 0 | 1.007 | 0.995 |
| 4961 | 37.20 | 4998 | 375.13 | 372.59 | 376.85 | 1.007 | 0.995 |
| 4982 | 17.60 | 5000 | 177.41 | n/a | 177.28 | n/a | 1.001 |
| 4990 | 8.80 | 4999 | 88.72 | n/a | 87.8 | n/a | 1.010 |

LINEAR REGRESSION ANALYSIS:

| | | | |
|-------|-------------|-------|-----------|
| | CORRELATION | SLOPE | INTERCEPT |
| VALUE | 1.000 | 1.006 | -0.1% |

COMMENTS:

| |
|----------------------------------|
| Sample inlet filter was changed. |
|----------------------------------|



H2S Analyzer Calibration by Dilution



| | | | |
|---------------|--------------|-----------------------------|-------------|
| DATE: | 07-Jul-2023 | PREVIOUS CALIBRATION DATE: | 12-Jun-2023 |
| PARAMETER: | H2S | PREVIOUS CORRECTION FACTOR: | 1.001 |
| CLIENT: | LICA | TEMPERATURE (°C): | 22.0 |
| LOCATION: | Lac La Biche | BAROMETRIC (mBar): | 942 |
| PURPOSE: | Routine | START TIME (MST): | 10:42 |
| PERFORMED BY: | Alex Yakupov | END TIME (MST): | 15:26 |

ANALYZER:

| | | | |
|----------------------------|-------------|----------------------------|---------|
| MAKE/MODEL | Thermo 450i | RANGE | 100 ppb |
| SERIAL # | CM17360002 | FLOW (mL/min) | 940 |
| INITIAL | | FINAL | |
| BKG/OFFSET | 77.6 | BKG/OFFSET | 79.7 |
| COEF/SLOPE | 1.006 | COEF/SLOPE | 0.993 |
| Expected (reference) Value | 55 | Expected (reference) Value | 54 |

CALIBRATION SYSTEM:

| | | | |
|-----------------------|-------------|-----------------------------|----------|
| CALIBRATOR: | | ZERO AIR: | |
| MAKE: | SABIO | MAKE: | Teledyne |
| MODEL: | 2010 D | MODEL: | T701 |
| ID: | 11900613 | ID: | 132 |
| MFC CALIBRATION DATE: | 12-Apr-2023 | OXIDIZER ID: | n/a |
| CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
| CYLINDER ID: | EY 0002287 | HIGH ID | n/a |
| CONC (ppm): | 10.10 | EXPIRY DATE | n/a |
| CYLINDER (psi): | 500 | LOW ID | n/a |
| EXPIRY DATE | 14-Sep-2024 | EXPIRY DATE | n/a |

CALIBRATION PARAMETERS:

| | | | |
|--------|---------|---------|---------|
| POINT | HIGH | MID | LOW |
| TARGET | 78 | 38 | 19 |
| RANGE | 60 - 80 | 30 - 40 | 10 - 20 |

SCRUBBER CHECK (15 MINS; TRS/H2S ONLY):

| | | | |
|-------------|-------|-------------------------|-----|
| START TIME: | 10:44 | SO2 Conc (ppb) | 380 |
| END TIME: | 10:59 | Analyzer Response (ppb) | 0.0 |

CALIBRATION:

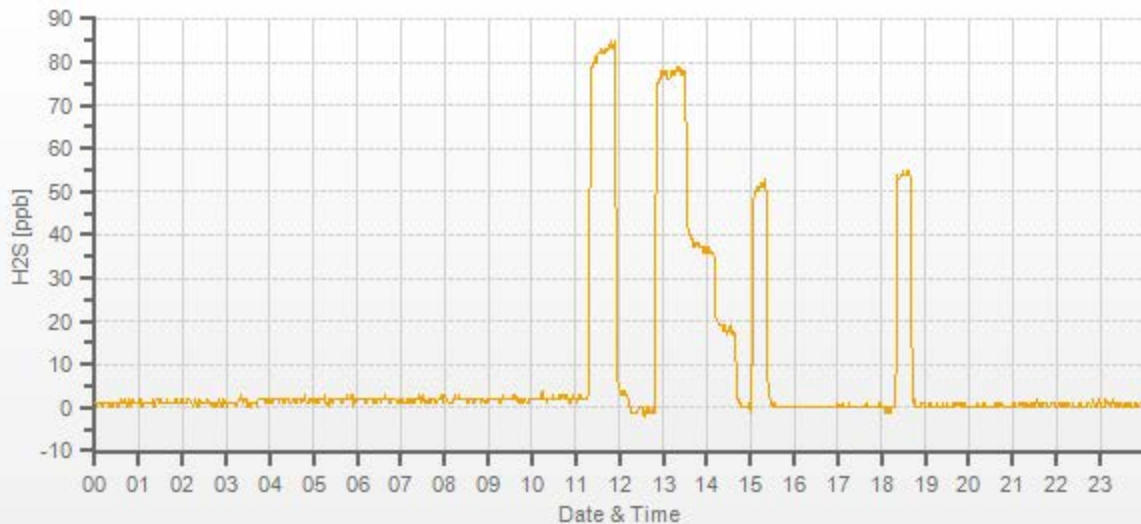
| FLOW RATES (mL/min) | | | CONCENTRATION (ppb) | | | CORRECTION FACTOR | |
|------------------------|-----------------|-------|---------------------|-----------|-------|-------------------|------------------|
| DILUENT | GAS | TOTAL | ACTUAL | INDICATED | | Initial | Final |
| | | | | Initial | Final | | |
| 7500 | 7500 | 7500 | 0.00 | 2.7 | 0 | 0.970 | 1.005 |
| 7442 | 57.90 | 7500 | 77.97 | 83.1 | 77.6 | 0.970 | 1.005 |
| 7472 | 28.20 | 7500 | 37.98 | n/a | 38 | n/a | 0.999 |
| 7486 | 14.10 | 7500 | 18.99 | n/a | 18.7 | n/a | 1.015 |

LINEAR REGRESSION ANALYSIS:

| | | | |
|-------|-------------|-------|-----------|
| | CORRELATION | SLOPE | INTERCEPT |
| VALUE | 1.000 | 0.996 | 0.0% |

COMMENTS:

| |
|----------------------------------|
| Sample inlet filter was changed. |
|----------------------------------|



NOx Calibration by Dilution/Gas-Phase Titration



| CALIBRATION: | | | | ANALYZER: | | | |
|---------------|--------------|----------------------------|-------------|---------------|------------|--------------|-------|
| DATE: | 07-Jul-2023 | PREVIOUS CALIBRATION DATE: | 12-Jun-2023 | MAKE/MODEL: | Thermo 42i | PREVIOUS CF. | |
| CLIENT: | LICA | TEMPERATURE (°C): | 22.0 | SERIAL #: | 1180930027 | NOx | 1.001 |
| LOCATION: | Lac La Biche | BAROMETRIC (mBar): | 951 | FLOW (mL/min) | 763 | NO | 1.000 |
| PURPOSE: | Routine | START TIME (MST): | 10:44 | RANGE (ppb) | 500 | NO2 | 1.003 |
| PERFORMED BY: | Alex Yakupov | END TIME (MST): | 18:03 | GPT FOR O3? | | No | |

| CALIBRATOR: | | ZERO AIR: | | CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
|-----------------------|-------------|--------------|----------|------------------|-------------|-----------------------------|-----|
| MAKE: | SABIO | MAKE: | Teledyne | CYLINDER ID: | LL 127895 | HIGH ID: | n/a |
| MODEL: | 2010 | MODEL: | T701 | NO/NOx (PPM): | 51.1 51.6 | HIGH EXPIRY: | n/a |
| ID: | 17100415 | ID: | 132 | CYLINDER (psi): | 1200 | LOW ID: | n/a |
| MFC CALIBRATION DATE: | 12-Apr-2023 | OXIDIZER ID: | n/a | EXPIRY DATE | 27-Oct-2030 | LOW EXPIRY: | n/a |

| CALIBRATION SETTINGS: | | | | | | | |
|-----------------------|-------|------|-------|----------------|-------|-------|------|
| INITIAL | NOx | NO | NO2 | FINAL | NOx | NO | NO2 |
| BKG/OFFSET: | 8.5 | 8.3 | n/a | BKG/OFFSET: | 8.4 | 8.2 | n/a |
| SLOPE/COEF/CE: | 1.007 | 0.83 | 0.999 | SLOPE/COEF/CE: | 1.007 | 0.821 | 0.99 |

| EXPECTED (REFERENCE) VALUE: | | | | | | | |
|-----------------------------|-------|-----|-------|-------|-------|-----|-------|
| INITIAL | NOx | NO | NO2 | FINAL | NOx | NO | NO2 |
| | 343.0 | 3.2 | 340.0 | | 343.0 | 3.2 | 340.0 |

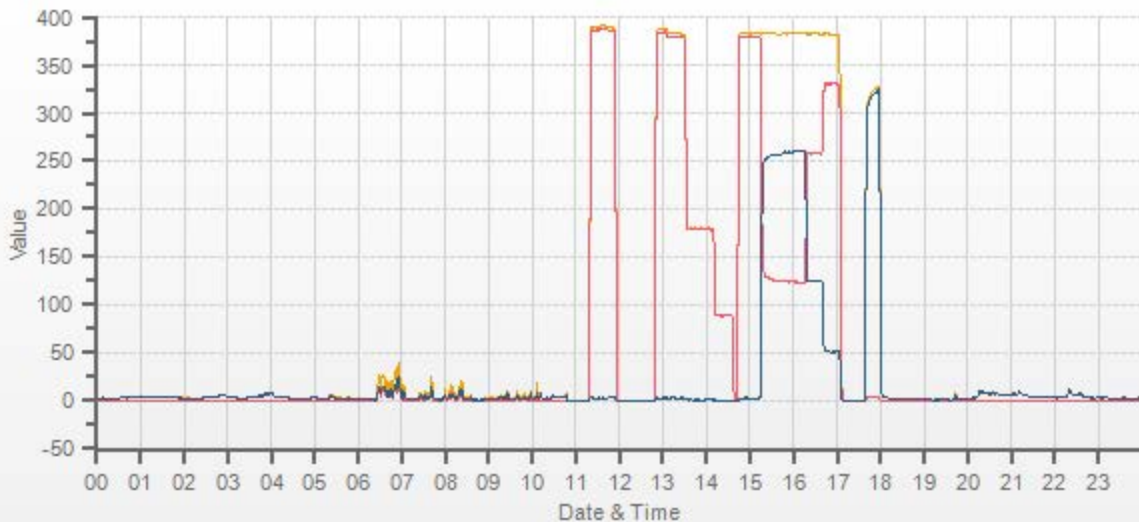
| CALIBRATION PARAMETERS: | | | | | | | |
|-------------------------|-----------------|--|------------------|--|-----------|--|----------|
| POINT | NO TARGET (PPB) | | NO2 TARGET (PPB) | | NO2 RANGE | | O3 POINT |
| HIGH | 380 | | 250 | | 230-265 | | n/a |
| MID | 180 | | 125 | | 115-150 | | n/a |
| LOW | 90 | | 45 | | 40-55 | | n/a |
| EXTRA 1 | n/a | | n/a | | n/a | | n/a |

| FLOW RATE | | | CONCENTRATION (ppb) | | | | | | | | | CORRECTION FACTOR (CF.) | | | | | |
|-----------|------------------|-------|---------------------|-------|-----|-------------------|-------|-----|-----------------|-------|-----|-------------------------|------------------|------------------|------------------|------------------|------------------|
| (mL/min) | | | CALCULATED | | | INITIAL INDICATED | | | FINAL INDICATED | | | INITIAL | | | FINAL | | |
| DILUENT | GAS | TOTAL | NO | NOx | NO2 | NO | NOx | NO2 | NO | NOx | NO2 | NO | NOx | NO2 | NO | NOx | NO2 |
| 5000 | 37.20 | 5000 | 0.0 | 0.0 | 0.0 | -0.2 | -0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.982 | 0.983 | 1.001 | 1.003 | 1.006 | 1.008 |
| 4961 | 37.20 | 4998 | 380.3 | 384.1 | 3.7 | 387.2 | 390.6 | 3.4 | 379.9 | 383.0 | 3.1 | 0.982 | 0.983 | 1.001 | 1.003 | 1.006 | 1.008 |
| 4982 | 17.60 | 5000 | 179.9 | 181.6 | 1.8 | n/a | n/a | n/a | 178.8 | 180.2 | 1.4 | n/a | n/a | 1.006 | 1.008 | 1.016 | 1.018 |
| 4990 | 8.80 | 4999 | 90.0 | 90.8 | 0.9 | n/a | n/a | n/a | 88.5 | 89.2 | 0.8 | n/a | n/a | 1.016 | 1.018 | 1.001 | 1.003 |

| GPT CALIBRATION: | | | | | | | | | | | |
|--|------------|-------|-------------|-----------------|-------|-------|-------------------------|------------------|------------------|-------------------|--|
| Point | CALIBRATOR | | | INDICATED (ppb) | | | NO DROP / O3 Conc (ppb) | NO2 GAIN (ppb) | NO2 Corr. FACTOR | CONV. EFFICIENCY | |
| | GAS | TOTAL | O3 SETPOINT | NO | NOx | NO2 | | | | | |
| REFERENCE | 37.20 | 4998 | 0 | 380.0 | 382.9 | 2.9 | 254.3 | 253.6 | 1.003 | 99.72% | |
| AS-FOUND HIGH | 37.20 | 4998 | 235 | 125.7 | 382.2 | 256.5 | 254.3 | 253.6 | 1.003 | 99.72% | |
| ADJUSTED HIGH | 37.20 | 4998 | 235 | 123.9 | 382.9 | 259.0 | 256.1 | 256.1 | 1.000 | 100.00% | |
| MID | 37.20 | 4998 | 110 | 258.0 | 382.9 | 124.8 | 122 | 121.9 | 1.001 | 99.92% | |
| LOW | 37.20 | 4998 | 40 | 330.6 | 382.1 | 51.5 | 49.4 | 48.6 | 1.016 | 98.38% | |
| NO2 COEF/CONVERTER EFFICIENCY ADJUSTED | | | | | | | | | AVERAGE: | 99.43% | |

| LINEAR REGRESSION ANALYSIS: | | | | COMMENTS: |
|-----------------------------|-------------|-------|-----------|-----------|
| | CORRELATION | SLOPE | INTERCEPT | |
| NO | 1.000 | 1.000 | -0.14% | |
| NOx | 1.000 | 0.998 | -0.15% | |
| NO2 | 1.000 | 1.003 | -0.16% | |

Sample inlet filter was changed.



CAL-LICA-202307-01690

Ozone Calibration by Photometer (Varying UV Lamp)



| | | | |
|---------------|--------------|-----------------------------|-------------|
| DATE: | 08-Jul-2023 | PREVIOUS CALIBRATION DATE: | 13-Jun-2023 |
| PARAMETER: | O3 | PREVIOUS CORRECTION FACTOR: | 1.002 |
| CLIENT: | LICA | TEMPERATURE (°C): | 22.0 |
| LOCATION: | Lac La Biche | BAROMETRIC (mBar): | 945 |
| PURPOSE: | Routine | START TIME (MST): | 10:21 |
| PERFORMED BY: | Alex Yakupov | END TIME (MST): | 14:25 |

ANALYZER:

| | | | |
|----------------------------|------------|----------------------------|---------|
| MAKE/MODEL | Thermo 49i | RANGE | 500 ppb |
| SERIAL # | 1002240372 | FLOW (mL/min) | 1434 |
| INITIAL | | FINAL | |
| BKG/OFFSET | 0.2 | BKG/OFFSET | 0.2 |
| COEF/SLOPE | 1.025 | COEF/SLOPE | 1.029 |
| Expected (reference) Value | 285 | Expected (reference) Value | 303 |

CALIBRATION SYSTEM:

| | | | |
|-----------------------|-------------|------------------------------|----------|
| CALIBRATOR: | | ZERO AIR: | |
| MAKE: | SABIO | MAKE: | Teledyne |
| MODEL: | 2010 D | MODEL: | T701 |
| ID: | 11900613 | ID: | 132 |
| MFC CALIBRATION DATE: | 12-Apr-2023 | OXIDIZER ID: | n/a |
| CALIBRATION METHOD: | | Photometer (Varying UV Lamp) | |
| GPT DATE: | n/a | GPT END TIME: | n/a |

CALIBRATION PARAMETERS:

| | | | |
|-------|-----------|-----------|----------|
| POINT | HIGH | MID | LOW |
| RANGE | 300 - 400 | 150 - 200 | 50 - 100 |

CALIBRATION:

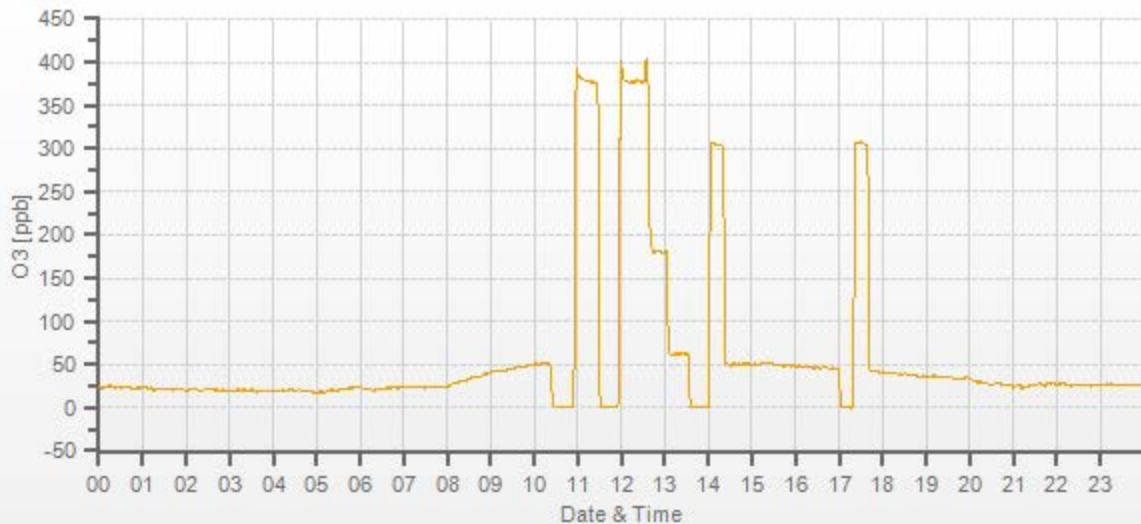
| FLOW RATES (mL/min) | | | CONCENTRATION (ppb) | | | CORRECTION FACTOR | |
|------------------------|-------------------|-------|---------------------|-----------|-------|-------------------|-------------------|
| DILUENT | GAS | TOTAL | ACTUAL | INDICATED | | Initial | Final |
| | | | | Initial | Final | | |
| 5000 | XXXXXX | 5000 | 0.0 | -0.3 | 0.0 | XXXXXX | XXXXXX |
| 5000 | XXXXXX | 5000 | 378.0 | 379.7 | 377.2 | 0.995 | 1.002 |
| 5000 | XXXXXX | 5000 | 180.0 | n/a | 179.9 | n/a | 1.001 |
| 5000 | XXXXXX | 5000 | 60.0 | n/a | 61.0 | n/a | 0.984 |

LINEAR REGRESSION ANALYSIS:

| | | | |
|-------|-------------|-------|-----------|
| | CORRELATION | SLOPE | INTERCEPT |
| VALUE | 1.000 | 0.997 | 0.1% |

COMMENTS:

Sample inlet filter was changed. 12:32 - operator error (a wrong point was started on the calibrator)



Methane/Non-Methane Analyzer Calibration by Dilution



| CALIBRATION: | | | | ANALYZER: | | | |
|---------------|--------------|----------------------------|-------------|--------------|------------|------------|---------------|
| DATE: | 08-Jul-2023 | PREVIOUS CALIBRATION DATE: | 13-Jun-2023 | VALUE | MAKE/MODEL | SERIAL | FLOW (mL/min) |
| CLIENT: | LICA | TEMPERATURE (°C): | 22.0 | | Thermo 55i | 1180320044 | 1018 |
| LOCATION: | Lac La Biche | BAROMETRIC (mBar): | 945 | PARAMETER: | CH4 | NMHC | THC |
| PURPOSE | Routine | START TIME (MST): | 10:19 | RANGE (ppm): | 20 | 20 | 40 |
| PERFORMED BY: | Alex Yakupov | END TIME (MST): | 14:25 | PREVIOUS CF: | 1.000 | 0.994 | 0.997 |

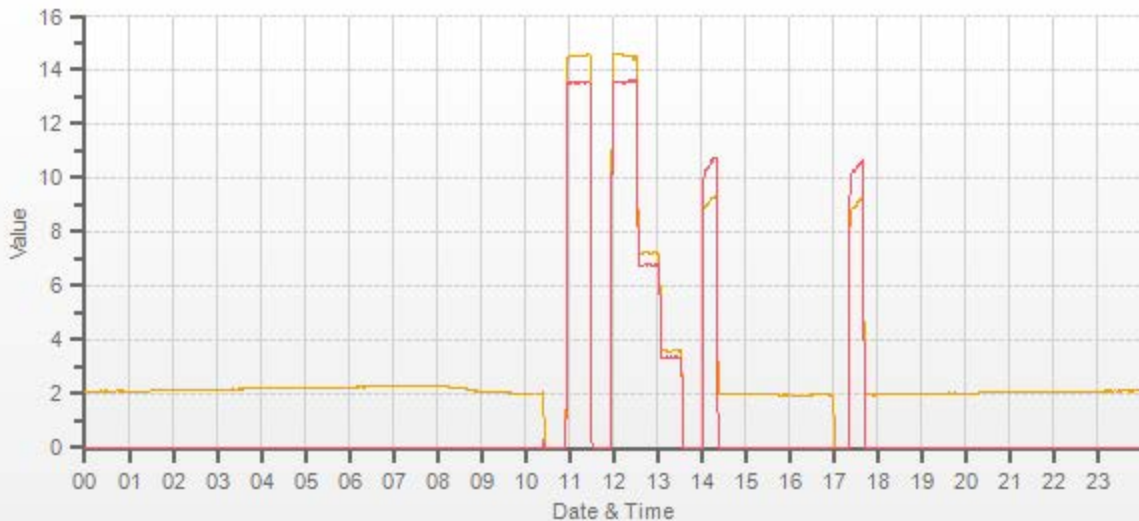
| CALIBRATOR: | | ZERO AIR: | | CALIBRATION GAS: | | FLOWMETERS (if applicable): | |
|-----------------------|-------------|--------------|----------|---|---------------|-----------------------------|-----|
| MAKE: | SABIO | MAKE: | Teledyne | CYLINDER ID: | LL 23593 | HIGH ID: | n/a |
| MODEL: | 2010 | MODEL: | T701 | CH ₄ /C ₃ H ₈ (ppm): | 603.0 204.0 | HIGH EXPIRY: | n/a |
| ID: | 17100415 | ID: | 134 | CYLINDER (psi): | 1200 | LOW ID: | n/a |
| MFC CALIBRATION DATE: | 12-Apr-2023 | OXIDIZER ID: | n/a | EXPIRY DATE | 18-Aug-2029 | LOW EXPIRY: | n/a |

| CALIBRATION PARAMETERS: | | | | | | | |
|-------------------------------|---------|-------|-------|--|--|--------|--|
| POINT (CH ₄ /NMHC) | HIGH | MID | LOW | CH ₄ EQUIVILANCE | | | |
| TARGET | 14 | 7 | 3.5 | C ₃ H ₈ as CH ₄ | | 561.0 | |
| RANGE | 12 - 16 | 6 - 8 | 2 - 4 | THC as CH ₄ | | 1164.0 | |

| EXPECTED (REFERENCE) VALUE: | | | | | | | |
|-----------------------------|-----------------|-------|-------|-------|-----------------|-------|-------|
| INITIAL | CH ₄ | NMHC | THC | FINAL | CH ₄ | NMHC | THC |
| | 9.28 | 10.70 | 19.98 | | 9.32 | 10.71 | 20.03 |

| FLOW RATE | | | CONCENTRATION (PPM) | | | | | | | | | CORRECTION FACTOR (CF.) | | | | | |
|-----------|------------------|-------|---------------------|-------|-------|-------------------|-------|-------|-----------------|-------|-------|-------------------------|------------------|------------------|------------------|------------------|------------------|
| (mL/min) | | | CALCULATED | | | INITIAL INDICATED | | | FINAL INDICATED | | | INITIAL | | | FINAL | | |
| DILUENT | GAS | TOTAL | CH ₄ | NMHC | THC | CH ₄ | NMHC | THC | CH ₄ | NMHC | THC | CH ₄ | NMHC | THC | CH ₄ | NMHC | THC |
| 3100 | 74.60 | 3100 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.999 | 0.998 | 0.999 | 1.002 | 0.993 | 0.998 |
| 3025 | 74.60 | 3100 | 14.51 | 13.50 | 28.01 | 14.52 | 13.53 | 28.04 | 14.48 | 13.59 | 28.07 | 0.999 | 0.998 | 0.999 | 1.002 | 0.993 | 0.998 |
| 3063 | 37.30 | 3100 | 7.26 | 6.75 | 14.01 | n/a | n/a | n/a | 7.23 | 6.78 | 14.02 | n/a | n/a | n/a | 1.004 | 0.996 | 0.999 |
| 3081 | 18.60 | 3100 | 3.62 | 3.37 | 6.98 | n/a | n/a | n/a | 3.60 | 3.35 | 6.95 | n/a | n/a | n/a | 1.005 | 1.005 | 1.005 |

| LINEAR REGRESSION ANALYSIS: | | | | Comments: | | | |
|-----------------------------|-------------|-------|-----------|----------------------------------|--|-----|--|
| | CORRELATION | SLOPE | INTERCEPT | Sample inlet filter was changed. | | | |
| CH ₄ | 1.000 | 0.998 | 0.0% | | | | |
| NMHC | 1.000 | 1.008 | -0.1% | | | | |
| THC | 1.000 | 1.003 | -0.1% | Use Zero Chrom? | | Yes | |



CAL-LICA-202307-01690

Thermo 5030i SHARP Monitor Monthly Check

| | |
|--|---|
| Date: July 8, 2023 | Performed By/Reviewer: Alex Yakupov Chris Wesson |
| Company: LICA | Start Time (mst): 14:46 |
| Station Name/Location: Lac La Biche | End Time (mst): 15:42 |
| Previous Audit Date: June 13, 2023 | Calibration Purpose: routine monthly |
| Parameter: PM 2.5 | Weather Conditions: Mainly sunny |

| | | | |
|--|-------------|----------------------------|-----|
| SHARP 5030i Information and Status: | | | |
| Serial Number: | CM 17071016 | Filter Tape Counter | 394 |

| | | | | |
|-------------------------------------|-------------------|-------------------|-------------------|-------------------|
| Reference Standards: | | | | |
| Air Flow | | | | |
| | Manometer | Orifice | Pressure: | Temp / RH: |
| Make: | DeltaCal | DeltaCal | Fisher Scientific | Vaisala HMP76B |
| Model: | DC1 | DC1 | FB 61291 | HMP 76B |
| Serial Number: | 177246 | 177246 | 130168457 | T1640130 |
| Calibration Expiration Date: | September 7, 2023 | September 7, 2023 | March 20, 2024 | June 26, 2024 |

| | | | | | |
|---------------------------------|-----------|-------|------------|---------|-------------|
| Ambient Temperature (°C) | | | | Range | Action |
| | Reference | SHARP | Difference | < ± 2°C | OK |
| #1 | 28.00 | 27.9 | 0.1 | 2-3 °C | Recalibrate |
| | | | | > 3°C | Fail |

| | | | | | |
|--|-----------|-------|------------|-----------|-------------|
| Ambient Relative Humidity (%RH) | | | | Range | Action |
| As Found: | | | | < ± 2 %RH | OK |
| | Reference | SHARP | Difference | 2-5 %RH | Recalibrate |
| #1 | 31.20 | 31.5 | -0.3 | > 5 %RH | Fail |

| | | | | | |
|-----------------------------------|-----------|-------|------------|-------------|-------------|
| Barometric Pressure (mmHg) | | | | Range | Action |
| As Found: | | | | < ± 10 mmHg | OK |
| | Reference | SHARP | Difference | 10-12 mmHg | Recalibrate |
| #1 | 705.0 | 705.0 | 0.0 | > 12 mmHg | Fail |

| | | | | | | |
|---------------------------|-----------|-------|--------------|--------|--------|-------------|
| Flow Audit (L/min) | | | | | | |
| As Found: | | | | | | |
| | Reference | SHARP | | | Range | Action |
| #1 | 16.71 | 16.67 | % Difference | -0.20% | < ± 4% | OK |
| #2 | 16.70 | 16.67 | | | 4-5% | Recalibrate |
| #3 | 16.70 | 16.67 | | | >5% | Fail |
| Average | 16.70 | 16.67 | | | | |

| | | | | | | |
|-----------------------------------|-----------|-------|--------------------------------|-----------|-------------------|-------------------------------|
| Leak Check (L/min) | | | | | | |
| Without Leak Check Adapter | | | With leak Check Adapter | | | |
| | Reference | SHARP | Difference | Reference | SHARP | Difference |
| #1 | 16.70 | 16.67 | 0.03 | 16.55 | 16.67 | -0.12 |
| | | | | | LEAK RATE: | -0.15 |
| | | | | | | <i>Leak Limit: 0.80 L/min</i> |

Meteorological System Checklist



| | | | |
|--|---|--------------------------------|------------------|
| Date: | July 8, 2023 | | |
| Technician: | Alex Yakupov | | |
| Station: | Lac La Biche | | |
| Unit: | Make: | Model: | Serial #: |
| Temperature Sensor: | Rotronic | HC2A-S3 | 20357518 |
| Barometric Pressure Sensor: | MetOne | 92 | Y23360 |
| Relative Humidity Sensor: | Rotronic | HC2A-S3 | 20357518 |
| Anemometer: | RM Young | 05305VK | 56778 |
| AMBIENT TEMPERATURE SENSOR CHECK | | | |
| Parameter: | Temperature @ 2 metres | | |
| Reference Thermometer ID: | Vaisala / HM70 / #T1640130/ Jun 26, 2024 | | |
| Reference Temperature (°C): | 27.1 | | |
| Station - Ambient Temperature (°C): | 26.4 | | |
| Temperature Difference (°C): | 0.7 | | |
| BAROMETRIC PRESSURE SENSOR CHECK | | | |
| Reference Barometer ID: | Fisher Scientific / FB 61291 / #130168457/ Mar 20, 2024 | | |
| Reference Pressure - Units/Reading: | millibar | 940 | |
| Station Pressure - Units/Reading: | millibar | 943 | |
| Pressure Tolerance +/- 15% of error: | 799 - 1081 | -0.32% | |
| RELATIVE HUMIDITY (HYGROMETER) SENSOR CHECK | | | |
| Reference Hygrometer ID: | Vaisala / HM70 / #T1640130/ Jun 14, 2023 | | |
| Reference Hygrometer % RH- Reading: | 38.30 | | |
| Station Hygrometer % RH- Reading: | 41.50 | | |
| RH Tolerance +/- 15% of difference: | 32.56 - 44.05 | -8.4% | |
| ANEMOMETER - WIND SPEED & WIND DIRECTION SENSOR CHECK | | | |
| WIND SPEED | | WIND DIRECTION | |
| Previous check date: | June 13, 2023 | Previous check date: | June 13, 2023 |
| Wind Speed Observed (kph): | 10-20 | Wind Direction Observed: | W |
| Wind speed on Data Logger (kph): | 16.5 | Wind Direction on Data Logger: | W |
| | Annual audit: May 09, 2022 | Wind Direction Pass/Fail?: | Pass |
| Comments | | | |
| Station (Trailer) temperature vs Reference gauge: 20.3 vs 20.5 - passed. | | | |



Meteorological Sensor Audit/Calibration

Location Information

Company: LICA
 Audit Location: Lac La Biche
 Audit Date: May 9, 2022
 Calibration Purpose: installation

Performed By: Alex Yakupov
 Reviewed By: Chris Wesson
 Start/End Time (mst): 17:47/18:45
 Weather Conditions: A few clouds

Wind Sensor Information

| Sensor ID Data: | | Sensor Outputs: | |
|--------------------------|----------|---------------------------------|-------|
| Sensor Make: | RM Young | Velocity Voltage Output Range: | 0-1 |
| Sensor Model: | 05305VK | Velocity Unit Output Range: | 0-200 |
| Serial #: | 56778 | Direction Voltage Output Range: | 0-1 |
| Previous Cal/Audit Date: | n/a | Direction Unit Output Range: | 0-360 |

Wind Calibrator Information

Calibrator I.D. and Expiry Date: RM Young 18802 id# CA 4744 expires August 6, 2022

Wind Speed Audit Data ****+/- 2% of the average correction factor is the limit****

| RPM | Wind Speed Generated kph | Clockwise Wind Speed kph | Counter Clockwise Wind Speed kph | Correction Factor |
|-----------------------------------|--------------------------|--------------------------|----------------------------------|-------------------|
| 0 | 0 | 0.1 | 0.1 | - |
| 1000 | 18.4 | 18.4 | 18.4 | 1.002 |
| 2000 | 36.9 | 36.9 | 36.9 | 0.999 |
| 3000 | 55.3 | 55.3 | 55.3 | 1.000 |
| 4000 | 73.7 | 73.8 | 73.8 | 0.999 |
| 5000 | 92.2 | 92.2 | 92.2 | 0.999 |
| 6000 | 110.6 | 110.6 | 110.6 | 1.000 |
| 7000 | 129.0 | 129.1 | 129.1 | 0.999 |
| 8000 | 147.4 | 147.5 | 147.5 | 1.000 |
| 9000 | 165.9 | 165.9 | 166.0 | 1.000 |
| 10000 | 184.3 | 184.3 | 184.4 | 1.000 |
| The audit meets AMD requirements. | | | Average Correction Factor= | 1.000 |

Wind Direction Audit Data ****+/- 3° of the absolute average degrees difference for all points is the limit****

| Generated Wind Direction 0-360 (Up) | Generated Wind Direction 360-0 (Down) | Indicated Wind Direction 0-360 (Up) | Indicated Wind Direction 360-0 (Down) | Degrees Difference 0-360 (Up) | Degrees Difference 360-0 (Down) | Average Absolute Degrees Difference |
|-------------------------------------|---------------------------------------|-------------------------------------|---------------------------------------|--------------------------------------|---------------------------------|-------------------------------------|
| 0 | 355 | 1 | 356 | 1.0 | -1.0 | 1.0 |
| 30 | 330 | 30 | 331 | -0.4 | -1.4 | 0.9 |
| 60 | 300 | 61 | 301 | -1.1 | -1.2 | 1.2 |
| 90 | 270 | 92 | 272 | -2.1 | -1.7 | 1.9 |
| 120 | 240 | 121 | 240 | -1.4 | -0.2 | 0.8 |
| 150 | 210 | 152 | 211 | -2.1 | -1.3 | 1.7 |
| 180 | 180 | 182 | 181 | -2.0 | -1.3 | 1.7 |
| 210 | 150 | 212 | 153 | -2.1 | -2.5 | 2.3 |
| 240 | 120 | 241 | 122 | -1.4 | -2.3 | 1.9 |
| 270 | 90 | 271 | 92 | -1.4 | -2.1 | 1.7 |
| 300 | 60 | 300 | 61 | -0.1 | -1.2 | 0.7 |
| 330 | 30 | 330 | 31 | -0.2 | -1.2 | 0.7 |
| 355 | 0 | 356 | 1 | -1.0 | 0.6 | 0.8 |
| The audit meets AMD requirements. | | | | Average Absolute Degrees Difference= | | 1.3 |

Comments:

No issues.

End of Report

| Parameter | Method & Procedure |
|---|--|
| SULPHUR DIOXIDE (SO₂) | Bureau Veritas EMS SOP-00209: Ambient Sulphur Monitoring |
| HYDROGEN SULPHIDE (H₂S) | Bureau Veritas EMS SOP-00209: Ambient Sulphur Monitoring |
| TOTAL HYDROCARBONS (THC), METHANE (CH₄), NON-METHANE(NMHC) | Bureau Veritas EMS SOP-00001: Methane, Non-Methane Hydrocarbon Analyzer Monitoring |
| OXIDES OF NITROGEN (NO_x), NITRIC OXIDE (NO) & NITROGEN DIOXIDE (NO₂) | Bureau Veritas EMS SOP-00213: Ambient NO/NO₂/NO_x Monitoring |
| OZONE (O₃) | Bureau Veritas EMS SOP-00212: Ambient O₃ Monitoring |
| PARTICULATE MATTER < 2.5 MICRONS (PM_{2.5}) | Bureau Veritas EMS SOP-00010: Thermo Model 5030 SHARP Monitor & EMS SOP-00015: Teledyne API PM Monitor Model T640 |
| WIND SPEED (WS) & WIND DIRECTION (WD) | Bureau Veritas EMS SOP-00013: RM Young Wind Monitor Calibration |
| RELATIVE HUMIDITY (RH) | Operation Manual |
| BAROMETRIC PRESSURE (BP) | Operation Manual |
| AMBIENT TEMPERATURE (AmbTPX) | Operation Manual |
| STATION TEMPERATURE (StnTPX) | Operation Manual |
| PRECIPITATION | Bureau Veritas EMS SOP-00242: Precipitation Collector Installation / Maintenance |