KITIMAT AIRSHED GROUP

Quarterly Air Quality Data Reports Q2 2023

April – June 2023

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Kitimat Airshed Group Society

Quarterly Data Summary Reports for April 1 to June 30, 2023

Our second quarterly data summary report includes ambient air quality stations in Kitimat, Haisla Village and Terrace. These reports are automatically generated using unverified data extracted from the BC Air Data Archive (Envista database) managed by the Ministry of Environment and Climate Change Strategy (BC ENV). Summary reports will be posted quarterly to provide an overview of the air quality status in the Kitimat Terrace airshed. These reports are reviewed and elaborated on by the Data Review Committee.

During this quarter, Rio Tinto's aluminum smelter was operating at approximately 75% production capacity with the carbon process facilities shut down. The reduced production capacity for the smelter resulted from a 2021 labour dispute that was resolved in early October 2021. Smelter restart activities commenced in May 2022 and will continue until June 2023. Rio Tinto is in the process of restarting their coke calciner. Further information can be found on the Rio Tinto BC Works Website. Trinity Consultants maintains and operates the air quality stations for Rio Tinto; their station notes are attached at the end of the report for reference.

Other notable activities in the Kitimat airshed are the ongoing construction at <u>LNG</u> <u>Canada's</u> project site, which is approximately 80% complete, the construction of the Haisla bridge replacement project, and road dust.

Submitted by Brittany Bayne on behalf of the Kitimat Airshed Data Review Committee

270 City Centre Kitimat, BC, V8C 2H7



Kitimat Haisla Village 2023 Q2

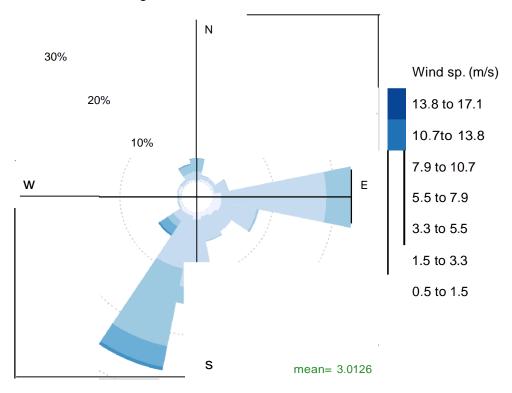
Provided to the Kitimat Airshed Group by the B.C. Ministry of Environment and Climate Change Strategy

Kitimat Haisla Village 2023 Q2

Parameter	Unit Avg Prd	Obj	Excd	Qtr Avg	% Neg	Min	Max	Prd of Max	% Comp	Comp
SO2	1 H	70	0	-0.2	68.3	-1.3	21.2	2023-04-21 11:00:00	93.8	Υ
PM2.5	1 H			3.4	0.0	0.0	15.0	2023-04-21 11:00:00	98.1	Υ
_	24 H	25	0	3.4	0.0	0.5	8.2	2023-05-18	97.8	Υ
Wind spd	1 H			3.0	0.0	0.1	10.9	2023-04-18 18:00:00	98.5	Υ
Temp	1 H			11.5		-0.6	27.6	2023-05-14 15:00:00	98.5	Υ

Parameter	Conversion	Unit	Notes
SO2	1 : 2.62	ppb : ug/m3	
PM2.5			
Wind spd			
Temp			

Windrose Kitimat Haisla Village - 2023 Q2

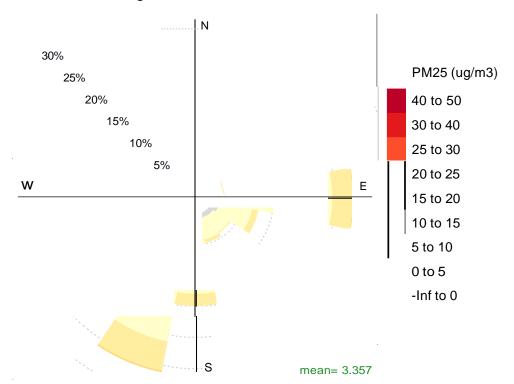


calms = 0.14%

SO2 pollution rose Kitimat Haisla Village - 2023 Q2



PM2.5 pollution rose Kitimat Haisla Village - 2023 02



Notes

1) The SO2 analyzer showed a negative drift and Rio Tinto is following up with Trinity Consultants.



Kitimat Haul Road 2023 Q2

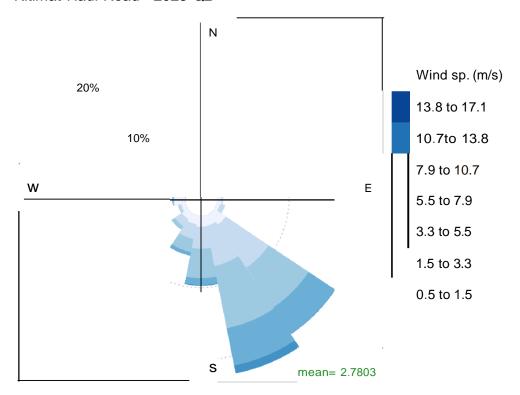
Provided to the Kitimat Airshed Group by the B.C. Ministry of Environment and Climate Change Strategy

Kitimat Haul Road 2023 Q2

Parameter	Unit Avg Prd	Obj	Excd	Qtr Avg	% Neg	Min	Max	Prd of Max	% Comp	Comp
SO2	1 H	70	1	5.3	5.4	-0.3	70.5	2023-05-10 10:00:00	93.9	Υ
HF	1 H	63	0	0.2	0.0	0.1	0.4	2023-06-26 23:00:00 2023-06-28 15:00:00	89.9	Υ
_	24 H			0.2	0.0	0.1	0.3	More than 5 occurrences (n = 21)	92.3	Υ
PM2.5	1 H			8.4	0.0	0.0	152.0	2023-06-13 12:00:00	98.3	Υ
_	24 H	25	1	8.4	0.0	3.5	34.4	2023-06-13	97.8	Υ
Wind spd	1 H			2.8	0.0	0.4	10.6	2023-06-21 17:00:00	98.6	Υ
Temp	1 H			11.6		-2.3	28.9	2023-05-14 16:00:00	98.6	Υ

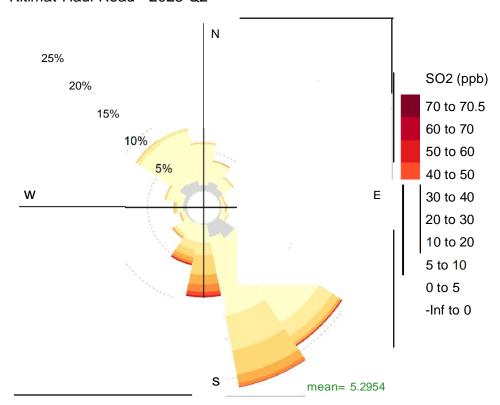
Parameter	Conversion	Unit	Notes
SO2	1 : 2.62	ppb:ug/m3	
HF	1:0.82	ppb : ug/m3	
PM2.5			
Wind spd			
Temp			

Windrose Kitimat Haul Road - 2023 Q2

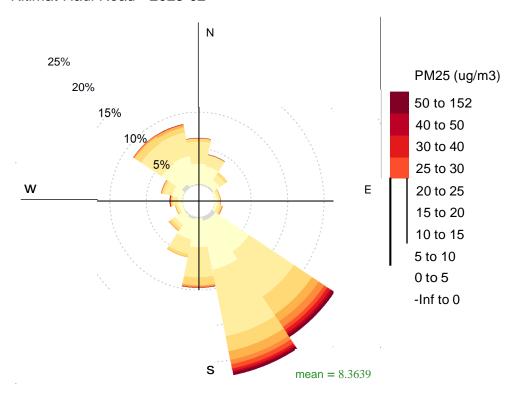


calms = 0.37%

S02 pollution rose Kitimat Haul Road - 2023 Q2



PM2.5 pollution rose Kitimat Haul Road - 2023 02





Kitimat Industrial Ave 2023 Q2

Provided to the Kitimat Airshed Group by the B.C. Ministry of Environment and Climate Change Strategy

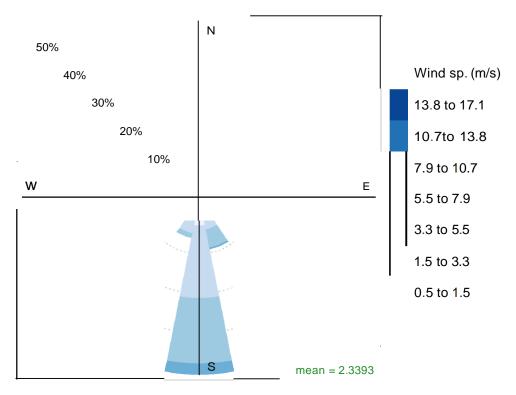
Kitimat Industrial Ave

2023 Q2

Parameter	Unit Avg Prd	Obj	Excd	Qtr Avg	% Neg	Min	Max	Prd of Max	% Comp	Comp
SO2	1 H	70	0	2.9	0.0	0.0	44.9	2023-06-09 09:00:00	92.4	Υ
Wind spd	1 H			2.3	0.0	0.1	7.7	2023-06-16 13:00:00 2023-06-21 16:00:00	97.6	Υ
Temp	1 H			11.7		-1.9	30.0	2023-05-14 17:00:00	94.8	Υ
Humidity	1 H			68.4	0.0	15.8	96.4	2023-04-06 08:00:00 2023-04-09 10:00:00	94.8	Υ

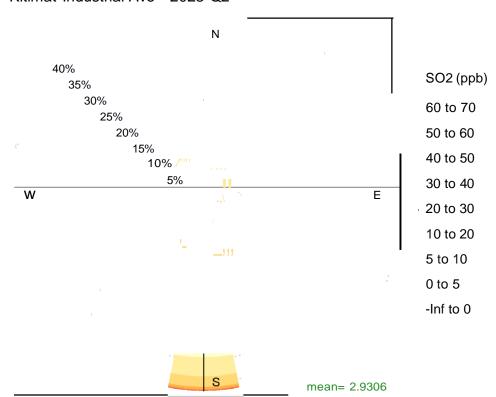
Parameter	Conversion	Unit	Notes
SO2	1 : 2.62	ppb : ug/m3	
Wind spd			
Temp			
Humidity			

Windrose Kitimat Industrial Ave - 2023 Q2



calms = 0.00%

S02 pollution rose Kitimat Industrial Ave - 2023 Q2





Kitimat Riverlodge 2023 Q2

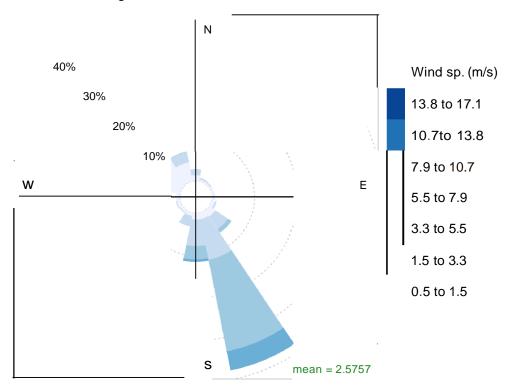
Provided to the Kitimat Airshed Group by the B.C. Ministry of Environment and Climate Change Strategy

Kitimat Riverlodge 2023 Q2

Parameter	Unit Avg Prd	Obj	Excd	Qtr Avg	% Neg	Min	Max	Prd of Max	% Comp	Comp
SO2	1 H	70	0	1.1	0.0	0.1	40.0	2023-06-23 11:00:00	93.7	Υ
HF	1 H	63	0	0.2	0.0	0.0	0.6	More than 5 occurrences (n = 6)	91.3	Υ
_	24 H			0.2	0.0	0.1	0.5	2023-05-18	94.5	Υ
PM2.5	1 H			4.0	0.0	0.0	74.0	2023-05-06 19:00:00	97.8	Υ
_	24 H	25	0	4.0	0.0	1.7	8.3	2023-05-18	97.8	Υ
PM10	1 H			10.6	0.0	0.0	125.0	2023-05-15 20:00:00	98.2	Υ
_	24 H	50	0	10.7	0.0	1.8	24.3	2023-05-17	97.8	Υ
Wind spd	1 H			2.6	0.0	0.3	7.4	2023-06-21 16:00:00	98.6	Υ
Temp	1 H			11.7		-3.5	29.5	2023-05-14 17:00:00	98.6	Υ

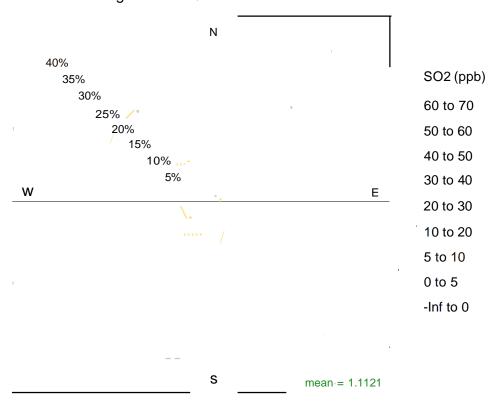
Parameter	Conversion	Unit	Notes
SO2 HF	1 : 2.62	ppb : ug/m3	
HF	1:0.82	ppb : ug/m3	
PM2.5			
PM10			
Wind spd			
Temp			

Windrose Kitimat Riverlodge - 2023 Q2

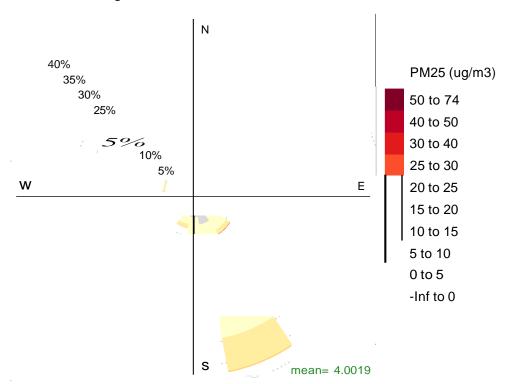


calms = 0.65%

S02 pollution rose Kitimat Riverlodge - 2023 Q2



PM2.5 pollution rose Kitimat Riverlodge - 2023 02





Kitimat Whitesail 2023 Q2

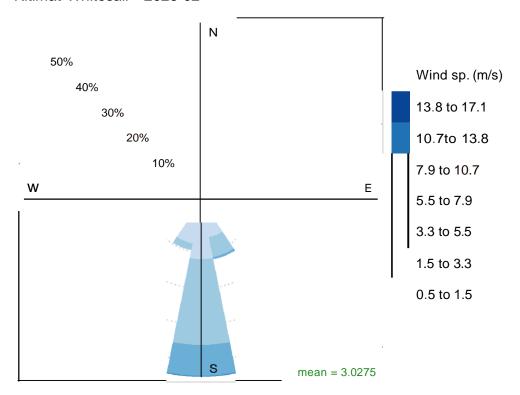
Provided to the Kitimat Airshed Group by the B.C. Ministry of Environment and Climate Change Strategy

Kitimat Whitesail 2023 Q2

Parameter	Unit Avg Prd	Obj	Excd	Qtr Avg	% Neg	Min	Max	Prd of Max	% Comp	Comp
AQHI	1 H					1	13	2023-06-23 11:00:00	98.1	Υ
NO2	1 H	60	0	0.9	0.0	0.1	7.7	2023-04-05 20:00:00 2023-04-21 06:00:00	93.1	Υ
SO2	1 H	70	0	0.2	40.2	-0.5	38.2	2023-06-23 11:00:00	61.5	Υ
O3	1 H	82	0	26.1	0.0	4.2	50.0	2023-04-20 17:00:00	93.0	Υ
PM2.5	1 H			4.5	0.0	0.0	18.0	2023-05-12 21:00:00	97.8	Υ
_	24 H	25	0	4.5	0.0	1.8	8.5	2023-05-18	97.8	Υ
Wind spd	1 H			2.9	0.0	0.0	9.1	2023-04-26 14:00:00	96.3	Υ
Temp	1 H			11.3		-3.0	28.7	2023-05-14 17:00:00	96.4	Υ
Humidity	1 H			70.6	0.0	21.8	99.0	2023-06-03 05:00:00 2023-06-03 06:00:00	96.3	Υ

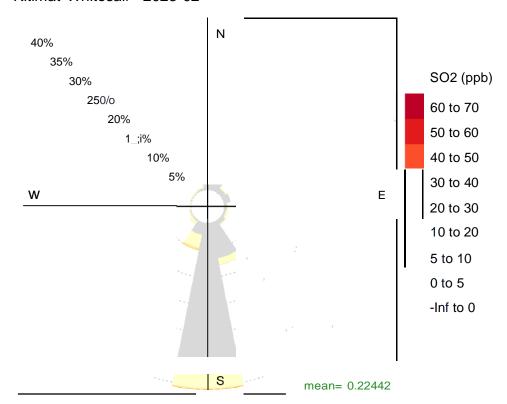
Parameter	Conversion	Unit	Notes
AQHI			
NO2	1 : 1.88	ppb : ug/m3	
SO2	1 : 2.62	ppb : ug/m3	
O3	1:1.96	ppb : ug/m3	
PM2.5			
Wind spd			
Temp			
Humidity			

Windrose Kitimat Whitesail - 2023 02

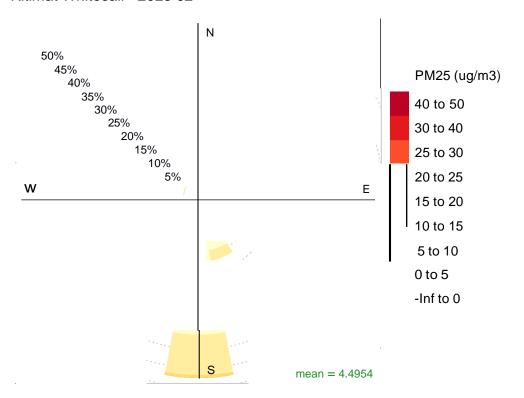


calms = 3.80%

SO2 pollution rose Kitimat Whitesail - 2023 02



PM2.5 pollution rose Kitimat Whitesail - 2023 02





Kitimat Yacht Club 2023 Q2

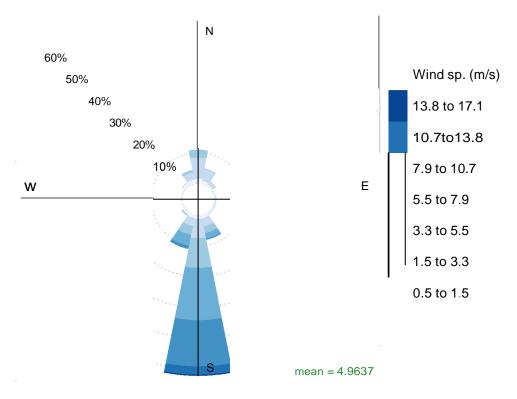
Provided to the Kitimat Airshed Group by the B.C. Ministry of Environment and Climate Change Strategy

Kitimat Yacht Club 2023 Q2

Parameter	Unit Avg Prd	Obj Excd	Qtr Avg	% Neg	Min	Max Prd of Max	% Comp	Comp
Wind spd	1 H		5.0	0.0	0.2	15.3 2023-06-21 14:00:00	98.6	Υ
Temp	1 H		11.1		-1.4	27.4 2023-05-14 15:00:00	98.6	Υ

Parameter	Conversion Unit	Notes
Wind spd		
Temp		

Windrose Kitimat Yacht Club - 2023 02



calms = 0.19%



Terrace Skeena Middle School 2023 Q2

Provided to the Kitimat Airshed Group by the B.C. Ministry of Environment and Climate Change Strategy

Generated: 4 July 2023

Note

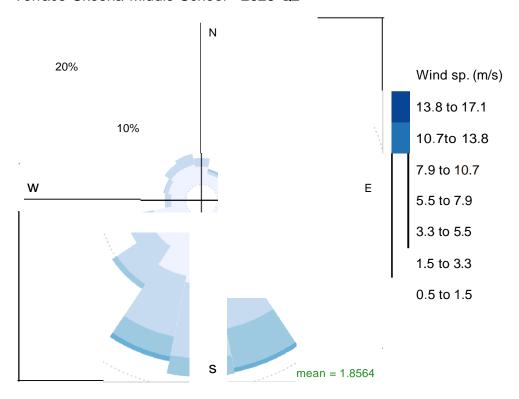
This report is generated automatically and contains unvalidated data.

Terrace Skeena Middle School 2023 Q2

Parameter	Unit Avg Prd	Obj	Excd	Qtr Avg	% Neg	Min	Max	Prd of Max	% Comp	Comp
AQHI	1 H					1	3	More than 5 occurrences (n = 58)	98.5	Υ
NO2	1 H	60	0	0.7	40.9	-2.0	13.7	2023-04-03 06:00:00	94.5	Υ
SO2	1 H	70	0	0.6	2.2	-0.3	11.1	2023-05-12 10:00:00	94.6	Υ
O3	1 H	82	0	26.8	0.1	-0.1	52.7	2023-04-20 16:00:00	94.6	Υ
PM2.5	1 H			4.4	0.0	1.3	27.3	2023-05-18 17:00:00	98.4	Υ
_	24 H	25	0	4.5	0.0	2.4	10.5	2023-05-18	97.8	Υ
Wind spd	1 H			1.6	0.0	0.0	6.5	2023-06-05 16:00:00	98.6	Υ
Temp	1 H			12.7		-4.0	30.0	2023-05-15 17:00:00	98.6	Υ
Humidity	1 H			61.2	0.0	14.3	97.6	2023-04-07 03:00:00	98.6	Υ

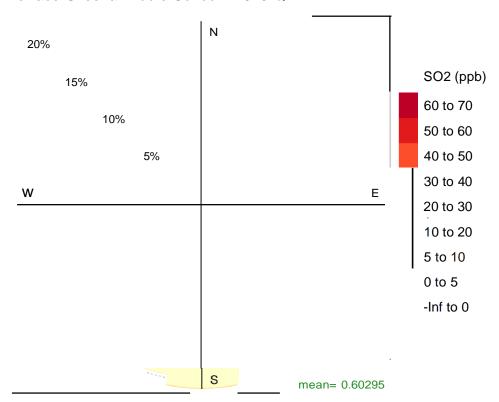
Parameter	Conversion	Unit	Notes
AQHI			
NO2	1 : 1.88	ppb : ug/m3	
SO2	1 : 2.62	ppb : ug/m3	
O3	1 : 1.96	ppb : ug/m3	
PM2.5			
Wind spd			
Temp			
Humidity			

Windrose Terrace Skeena Middle School - 2023 Q2

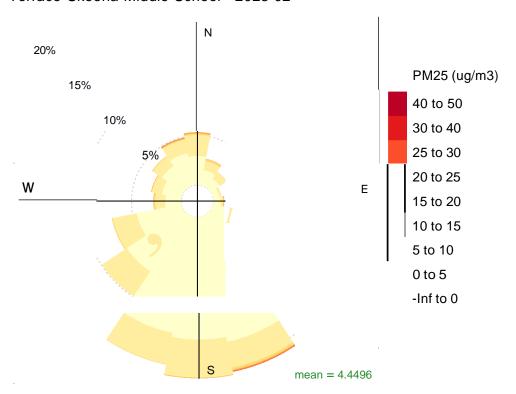


calms = 15.23%

SO2 pollution rose Terrace Skeena Middle School - 2023 Q2



PM2.5 pollution rose Terrace Skeena Middle School - 2023 02



Air Quality Station Downtime and Maintenance Summaries Provided by Trinity Consultants

Significant Offline Periods

- 0	iit Offilite i effous					
<u>Station</u>	Start Date	Start Hour	End Date	End Hour	Parameters	<u>Description</u>
<u> </u>	<u> </u>	11041	<u> </u>	<u> </u>	<u>rarameters</u>	
Haul Road	2023-04-10	1300	2023-04-11	500	PM	Temperature Sensor Issue
Haul Road	2023-04-11	1000	2023-04-11	1200	PM	Temperature Sensor Issue
Haul Road	2023-04-12	1900	2023-04-17	2300	PM	Temperature Sensor Issue
Haul Road	2023-04-18	700	2023-04-21	1100	HF	Instability Issue
Haul Road	2023-04-18	800	2023-04-20	2100	PM	Temperature Sensor Issue
Haul Road	2023-04-21	900	2023-04-21	1900	PM	Temperature Sensor Issue
Haul Road	2023-04-22	1600	2023-04-29	2200	PM	Temperature Sensor Issue
Haul Road	2023-05-01	200	2023-05-01	2000	PM	Temperature Sensor Issue
Haul Road	2023-05-01	2300	2323-05-02	2100	PM	Temperature Sensor Issue
Haul Road	2023-05-04	900	2023-05-08	2300	PM	Temperature Sensor Issue
Haul Road	2023-05-14	1900	2023-05-14	2300	PM	Temperature Sensor Issue
Haul Road	2023-05-17	900	2023-05-17	1900	PM	Temperature Sensor Issue
Haul Road	2023-05-18	700	2023-05-18	1600	PM	Temperature Sensor Issue
Haul Road	2023-05-19	700	2023-05-19	1700	HF	Instability Issue
Haul Road	2023-05-23	100	5/27/23023	100	PM	Temperature Sensor Issue
Haul Road	2023-05-27	800	2023-05-31	1200	PM	Temperature Sensor Issue
Haul Road	2023-06-03	1000	2023-06-03	1300	PM	Temperature Sensor Issue
Haul Road	2023-06-05	0	2023-06-07	200	PM	Temperature Sensor Issue
Haul Road	2023-06-08	800	2023-06-08	900	PM	Temperature Sensor Issue
Haul Road	2023-06-16	600	2023-06-16	600	PM	Temperature Sensor Issue
Haul Road	2023-06-20	1000	2023-06-20	2200	PM	Temperature Sensor Issue
Haul Road	2023-06-23	900	2023-06-25	1000	PM	Temperature Sensor Issue
Haul Road	2023-06-27	2200	2023-06-29	600	PM	Temperature Sensor Issue
Industrial	2023-04-01	2300	2023-04-02	1300	SO2	Generator Failure
Industrial	2023-04-03	1900	2023-04-04	800	SO2	Generator Failure
Industrial	2023-04-04	1300	2023-04-04	1800	SO2	Generator Failure

Riverlodge	2023-04-20	2300	2023-04-25	1300	HF	Heating Coil GFCI Tripped
Riverlodge	2023-04-26	200	2023-04-26	1300	HF	Heating Coil GFCI Tripped
Riverlodge	2023-05-01	900	2023-05-02	1600	HF	Heating Coil GFCI Tripped
Riverlodge	2023-05-05	1000	2023-05-08	800	HF	Heating Coil GFCI Tripped
Riverlodge	2023-05-10	1500	2023-05-12	1700	HF	Heating Coil Issue
Riverlodge	2023-05-13	100	2023-05-17	1800	HF	Heating Coil GFCI Tripped
Riverlodge	2023-05-18	1000	2023-05-19	900	HF	Heating Coil GFCI Tripped
Riverlodge	2023-05-20	1500	2023-05-23	1300	HF	Heating Coil GFCI Tripped
Riverlodge	2023-05-24	1300	2023-05-25	1200	HF	Heating Coil GFCI Tripped
Riverlodge	2023-06-23	1200	2023-06-25	500	HF	Heating Coil GFCI Tripped
Riverlodge	2023-06-27	1600	2023-06-27	2100	HF	Shelter Temperature > 35C
Whitesail	2023-04-09	2000	2023-04-11	1100	SO2	Instability Issue
Whitesail	2023-04-13	1300	2023-05-12	700	SO2	Instability Issue

Maintenance

Station	Start Date	Start Hour	End Date	End Hour	Parameters	Description
Village	2023-04-11	1000	2023-04-11	1000	SO2	Filter Change
Village	2023-04-27	1100	2023-04-27	1100	PM	Monthly Maintenance
Village	2023-05-08	1100	2023-05-08	1300	Met	Calibration Check
Village	2023-05-08	1400	2023-05-08	1500	SO2	MFC Verification
Village	2023-05-08	1500	2023-05-08	1500	PM	BAM Calibration
Village	2023-05-26	1200	2023-05-26	1400	SO2	Mirror Assembly Replaced
Village	2023-05-26	1500	2023-05-26	1600	SO2	Zero/Span and Multipoint Verification
Village	2023-05-31	1600	2023-05-31	1700	PM	Monthly Maintenance
Village	2023-06-08	1000	2023-06-08	1200	SO2	Zero/Span and Multipoint Verification
Village	2023-06-29	800	2023-06-29	900	SO2	MOE Audit
Village	2023-06-29	800	2023-06-29	1000	PM	MOE Audit
Haul Road	2023-04-11	1400	2023-04-11	1500	SO2/HF	Filters Replaced; SO2 Pump Rebuild
Haul Road	2023-05-02	N/A	2023-05-02	N/A	PM	Tape Change (unable to access roof for flow check due to compromised ladder)
Haul Road	2023-05-11	1400	2023-05-11	1500	SO2/HF	MFC Verification; Filters Replaced
Haul Road	2023-05-11	1500	2023-05-11	1500	PM	BAM Calibration
Haul Road	2023-05-19	1800	2023-05-19	1800	SO2/HF	HF Analyzer Swap
Haul Road	2023-06-06	1500	2023-06-06	1500	SO2/HF	SO2 Leak Test
Haul Road	2023-06-09	1500	2023-06-09	1500	SO2/HF	HF Multipoint Verification
Haul Road	2023-06-14	1000	2023-06-14	1000	SO2/HF	SO2 Multipoint Verification
Haul Road	2023-06-28	1600	2023-06-28	1700	SO2/HF	MOE Audit
Haul Road	2023-06-28	N/A	2023-06-28	N/A	PM	MOE Audit (BAM Temperature Issue)
Haul Road	2023-06-29	1200	2023-06-29	1400	PM	Monthly Maintenance (Temperatue Sensor Working)
Industrial	2023-04-21	900	2023-04-21	1000	SO2	Envidas Logger Replaced
Industrial	2023-05-10	1600	2023-05-10	1600	Met	Calibration Check
Industrial	2023-05-11	1600	2023-05-11	1700	SO2	MFC Verification; Filter Changed
Industrial	2023-05-22	1200	2023-05-22	1400	SO2	Zero/Span and Multipoint Verification

Riverlodge 2023-04-26 1400 2023-05-10 1100 PM Monthly Maintenance Riverlodge 2023-05-10 1100 2023-05-10 1100 2023-05-10 1100 2023-05-10 1400 SO2/HF MFC Verification; Filters Replaced; HF Heating Coil Swap Riverlodge 2023-05-12 1400 2023-05-12 1600 SO2/HF HF Troubleshooting / Analyzer Swap Riverlodge 2023-05-12 1500 2023-05-52 1400 PM Toubleshooting / Analyzer Swap Riverlodge 2023-05-30 1300 2023-05-30 1800 PM Troubleshooting Riverlodge 2023-05-30 1300 2023-05-30 1800 PM Monthly Maintenance Riverlodge 2023-06-14 700 2023-06-19 300 SO2/HF Internal Filter Replaced and Multipoint Verification Riverlodge 2023-06-14 700 2023-06-28 1200 SO2/HF MOE Audit Riverlodge 2023-06-28 1100 2023-06-28 1200 SO2 Troubleshooting Riverlodge </th <th>Industrial</th> <th>2023-06-28</th> <th>1400</th> <th>2023-06-28</th> <th>1500</th> <th>SO2</th> <th>MOE Audit</th>	Industrial	2023-06-28	1400	2023-06-28	1500	SO2	MOE Audit
Riverlodge 2023-04-12 1100 2023-04-12 1600 HF Verification Riverlodge 2023-04-26 1400 2023-04-26 1700 PM Monthly Maintenance Riverlodge 2023-05-10 1100 2023-05-10 1400 SO2/HF MFC Verification; Filters Replaced; HF Heating Coil Swap Riverlodge 2023-05-10 1400 2023-05-12 1600 SO2/HF MFC Verification; Filters Replaced; HF Heating Coil Swap Riverlodge 2023-05-12 1500 2023-05-12 1600 SO2/HF HF Troubleshooting / Analyzer Swap Riverlodge 2023-05-30 1300 2023-05-30 1800 PM Troubleshooting Riverlodge 2023-06-30 1300 2023-06-30 1800 PM Monthly Maintenance Riverlodge 2023-06-14 700 2023-06-28 1900 SO2/HF Internal Filter Replaced and Multipoint Verification Riverlodge 2023-06-28 1100 2023-06-28 1200 SO2/HF MDE Audit Riverlodge 2023-06-28 1100							
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Whitesail 2023-05-31 1300 2023-05-31 1600 PM Monthly Maintenance	Whitesail	2023-05-12	1200	2023-05-12	1300	SO2/O3/NOx	
·	Whitesail	2023-05-31	1300	2023-05-31	1600	PM	·
Wintestin 2023 00 07 1200 2023 00 07 1200 302/03/NOX 1 liters hepiated	Whitesail	2023-06-07	1200	2023-06-07	1200	SO2/O3/NOx	Filters Replaced

Whitesail	2023-06-14	900	2023-06-14	900	SO2/O3/NOx	O3 Multipoint Verification
Whitesail	2023-06-21	1200	2023-06-21	1300	SO2/O3/NOx	Calibrator Troubleshooting
Whitesail	2023-06-28	800	2023-06-28	1000	SO2/O3/NOx	MOE Audit
Whitesail	2023-06-28	800	2023-06-28	1000	PM	MOE Audit
Whitesail	2023-06-29	1600	2023-06-29	1700	PM	Monthly Maintenance