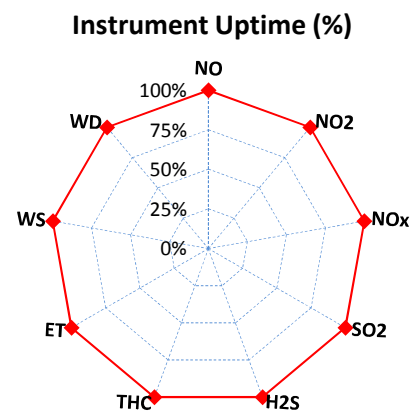
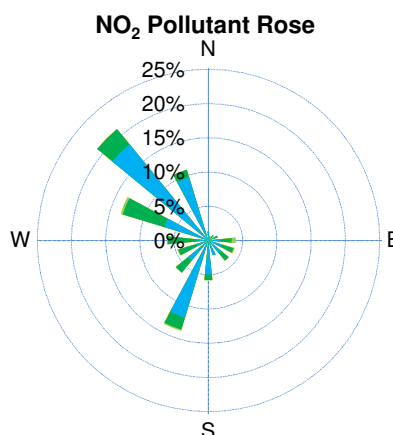
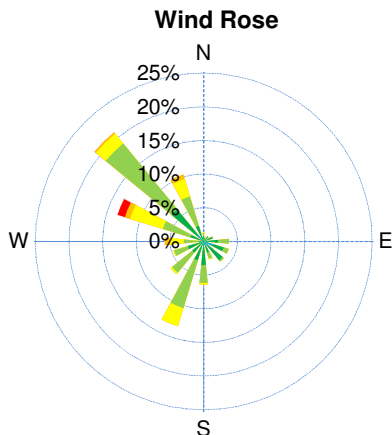
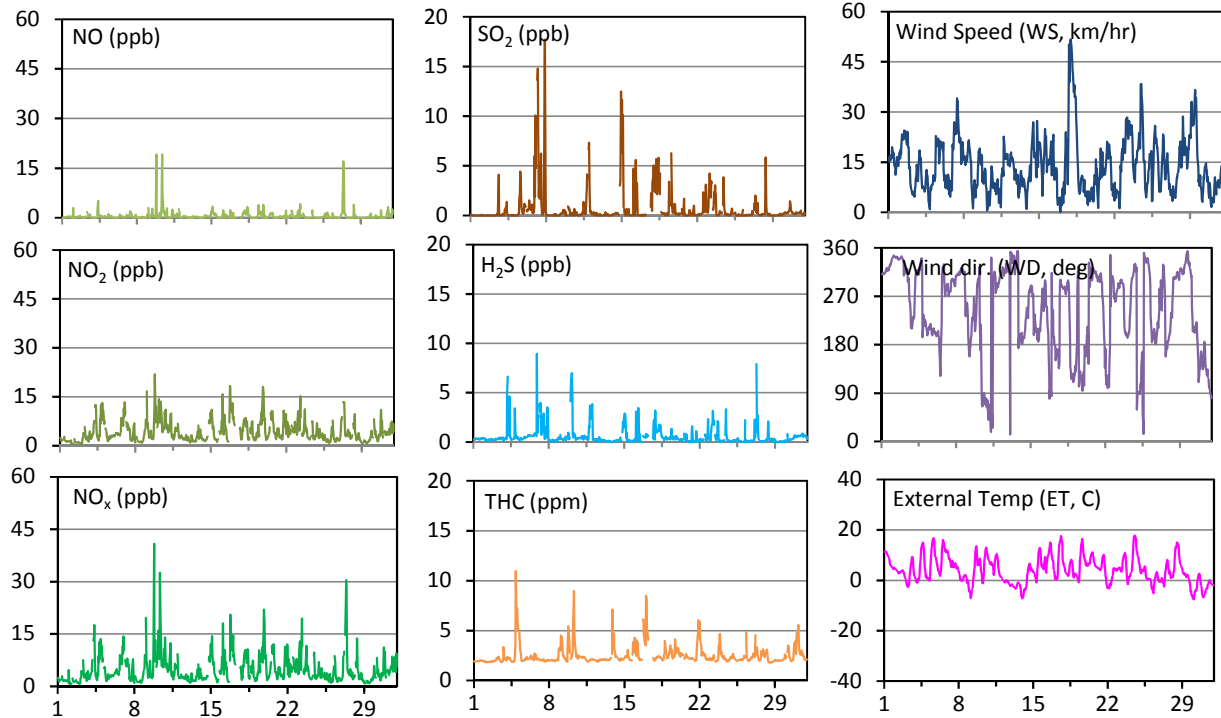


Husky Energy East Station - October 2017 Summary Report

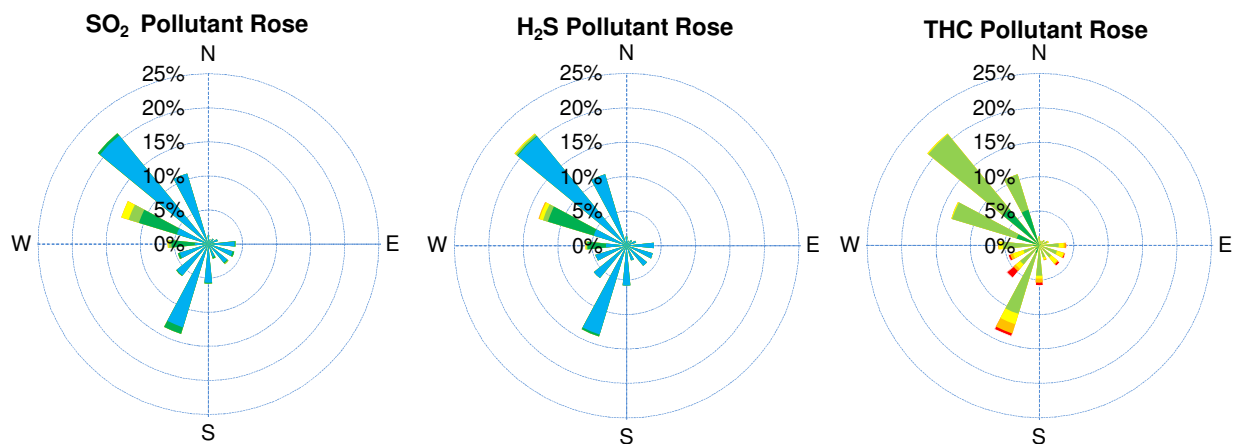
Pollutants		Month Records		24-Hour Records				1-Hour Records			
Name	Conc. Unit	Avg. Conc.	Uptime	Maximum		SAAQS Standards	Exceed Days	Maximum		SAAQS Standards	Exceed Hours
				Conc.	Time			Conc.	Time		
NO	ppb	0.6	100.0%	2.3	Oct-27	-	-	19.2	Oct-10 09:00	-	-
NO ₂	ppb	4.3	100.0%	7.9	Oct-10	106	0	21.9	Oct-09 20:00	159	0
NO _x	ppb	4.9	100.0%	10.1	Oct-10	-	-	40.8	Oct-09 20:00	-	-
SO ₂	ppb	0.4	100.0%	5.7	Oct-7	48	0	17.7	Oct-07 22:00	172	0
H ₂ S	ppb	0.6	100.0%	1.9	Oct-7	3.6	0	8.9	Oct-06 22:00	11.0	0
THC	ppm	2.5	100.0%	3.3	Oct-10	-	-	11.0	Oct-04 22:00	-	-

SAAQS: Saskatchewan Ambient Air Quality Standards



Parameters	Unit	Color Code for Wind Spd & Pollutant Conc. Class					
Wind Speed	km/hr	1 ≤ WS < 5	5 ≤ WS < 10	10 ≤ WS < 20	20 ≤ WS < 30	30 ≤ WS < 40	WS ≥ 40
SO ₂	ppb	0 ≤ C < 1	1 ≤ C < 5	5 ≤ C < 10	10 ≤ C < 57	57 ≤ C < 172	C ≥ 172
NO ₂	ppb	0 ≤ C < 5	5 ≤ C < 15	15 ≤ C < 30	30 ≤ C < 100	100 ≤ C < 212	C ≥ 212
H ₂ S	ppb	0 ≤ C < 1	1 ≤ C < 3.6	3.6 ≤ C < 5	5 ≤ C < 8	8 ≤ C < 11	C ≥ 11
THC	ppm	0 ≤ C < 1	1 ≤ C < 2	2 ≤ C < 3	3 ≤ C < 4	4 ≤ C < 5	C ≥ 5

Husky Energy East Station - October 2017 Summary Report



Monthly Update

*Air monitoring data has been slope, intercept, and baseline corrected. Data may change after validation process.

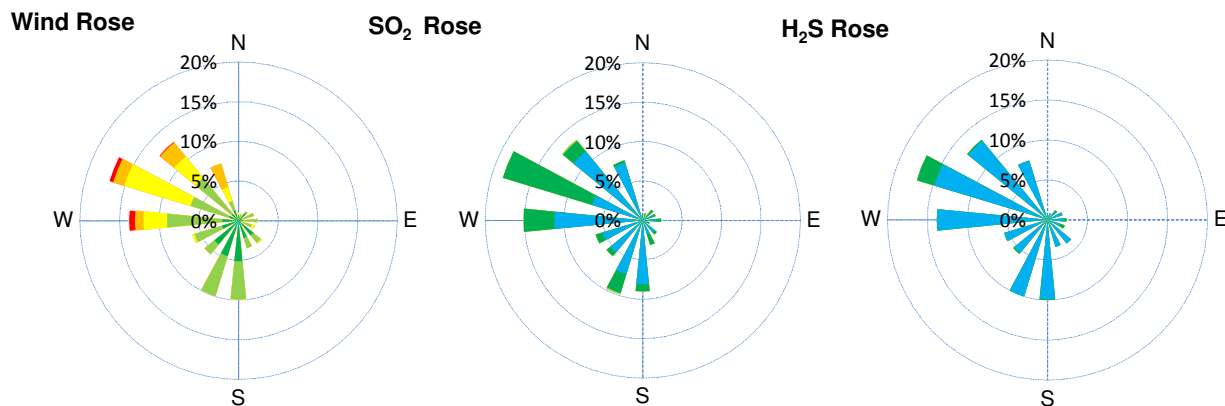
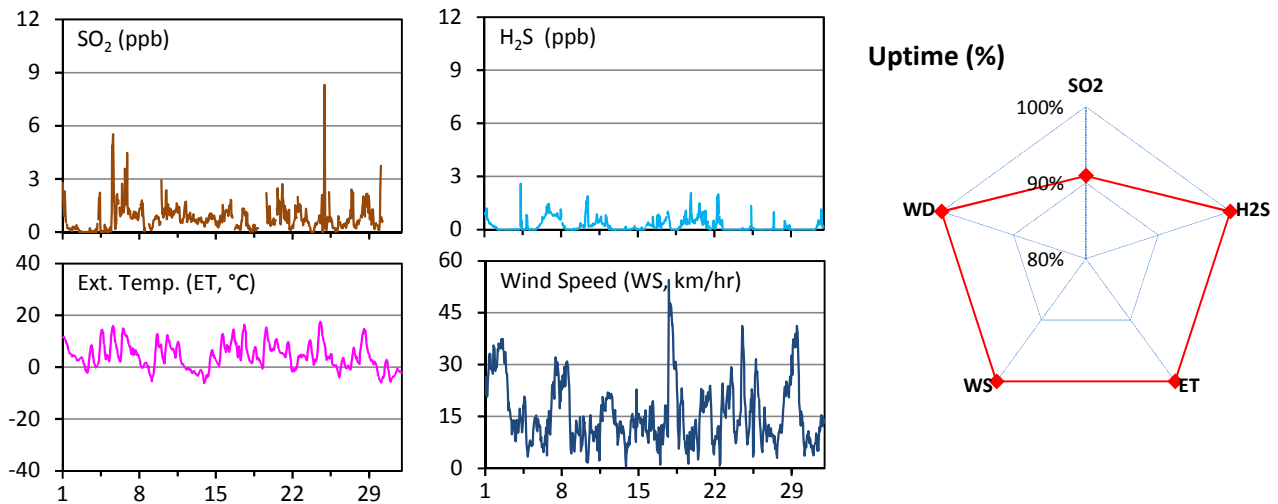
*All compliance parameters were within the Saskatchewan Ambient Air Quality Standards.

*All compliance parameters are above 90% operational. There are no operational issues to report.

Husky Energy West Station - October 2017 Summary Report

Pollutants		Month Records		24-Hour Records				1-Hour Records			
Name	Conc. Unit	Avg. Conc.	Uptime	Maximum		AAAQO / SAAQS	Exceed Days	Maximum		AAAQO / SAAQS	Exceed Hours
				Conc.	Time			Conc.	Time		
SO ₂	ppb	0.8	90.9%	1.8	Oct-6	48 / 48	0 / 0	8.3	Oct-24 23:00	172 / 172	0 / 0
H ₂ S	ppb	0.4	100.0%	0.8	Oct-7	3 / 3.6	0 / 0	3.0	Oct-04 08:00	10 / 11.0	0 / 0

AAAQO: Alberta Ambient Air Quality Objectives; SAAQS: Saskatchewan Ambient Air Quality Standards.



Parameters	Unit	Color Code for Wind Spd & Pollutant Conc. Class					
Wind Speed	km/hr	1 ≤ WS < 5	5 ≤ WS < 10	10 ≤ WS < 20	20 ≤ WS < 30	30 ≤ WS < 40	WS ≥ 40
SO ₂	ppb	0 ≤ C < 1	1 ≤ C < 5	5 ≤ C < 10	10 ≤ C < 57	57 ≤ C < 172	C ≥ 172
H ₂ S	ppb	0 ≤ C < 1	1 ≤ C < 3.6	3.6 ≤ C < 5	5 ≤ C < 8	8 ≤ C < 11	C ≥ 11

Monthly Update

*Air monitoring data has been slope, intercept, and baseline corrected. Data may change after validation process.

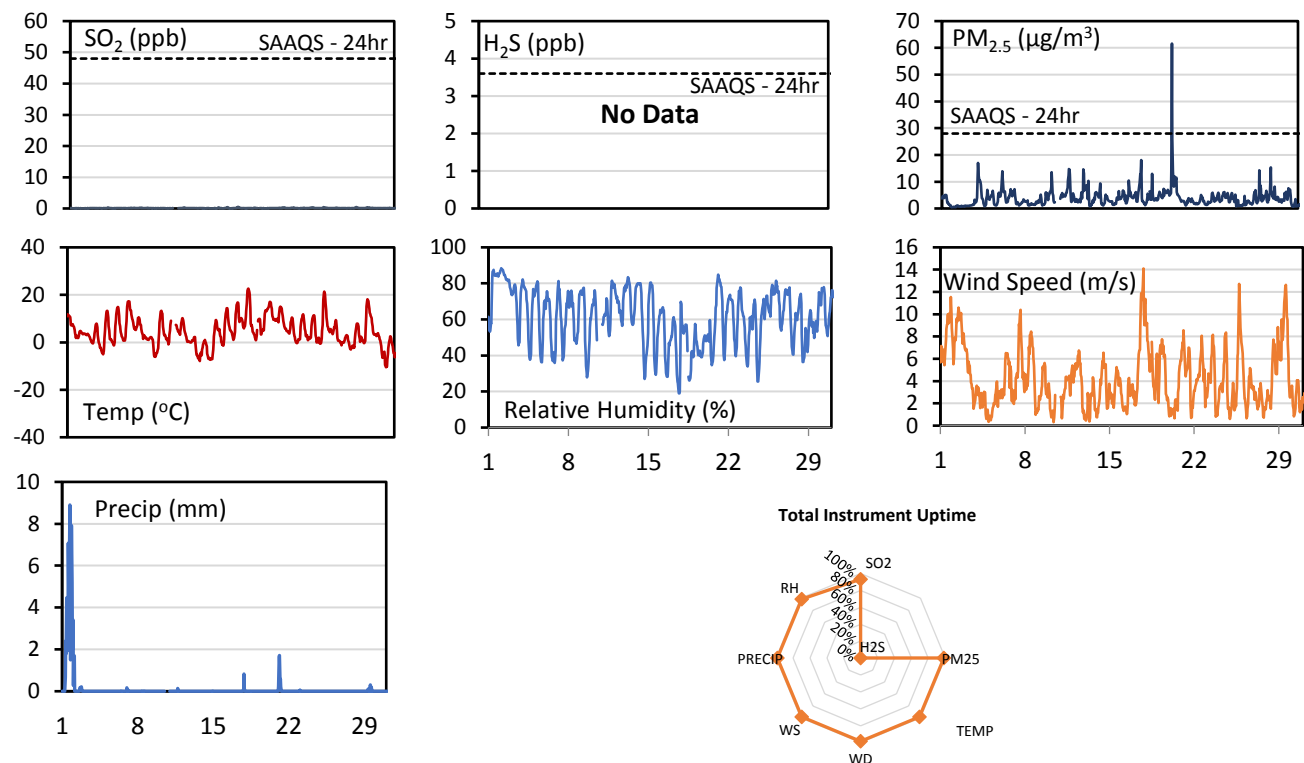
*All compliance parameters were within the Alberta Ambient Air Quality Objectives and the Saskatchewan Ambient Air Quality Standards.

*All compliance parameters are above 90% operational. Operational issues include the SO₂ analyzer malfunctioning throughout the month. The analyzer experienced intermittent flatlining on Oct 2, 8, 18-19. Analyzer failure also occurred Oct 30-31 as well, due to a failure with the UV lamp and 12V power supply.

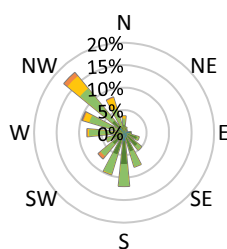
WYAMZ Kindersley Station - October 2017 Summary Report

Pollutants		Month Records		24-Hour Records				1-Hour Records			
Name	Conc. Unit	Avg. Conc.	Total Uptime	Maximum		SAAQS Standard	Exceed Days	Maximum		SAAQS Standard	Exceed Hours
				Conc.	Time			Conc.	Time		
SO ₂	ppb	0.1	93%	0.2	Oct-23	48	0	0.5	Oct-16 13:00	172	0
H ₂ S	ppb	N/A	0%	0.0	N/A	3.6	0	0.0	N/A	11	0
PM _{2.5}	µg/m ³	3.9	99%	11.0	Oct-20	28	0	61.6	Oct-20 09:00	-	-

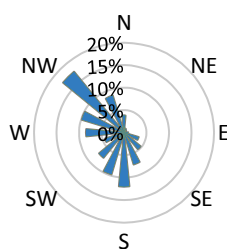
SAAQS: Saskatchewan Ambient Air Quality Standards



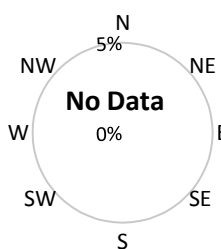
Wind Rose



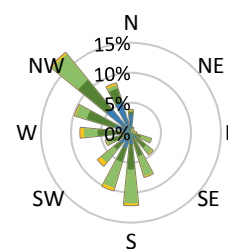
SO₂ Pollutant Rose



H₂S Pollutant Rose



H₂S Pollutant Rose



Parameters	Unit	Color Code for Wind Speed and Pollution Concentration Class					
Wind Speed	m/s	0.3 ≤ WS < 1.4	1.4 ≤ WS < 3.1	3.1 ≤ WS < 7.8	7.8 ≤ WS < 10.8	10.8 ≤ WS < 13.6	WS ≥ 13.6
SO ₂	ppb	0 ≤ C < 1	1 ≤ C < 5	5 ≤ C < 10	10 ≤ C < 57	57 ≤ C < 172	C ≥ 172
H ₂ S	ppb	0 ≤ C < 1	1 ≤ C < 3.6	3.6 ≤ C < 5	5 ≤ C < 8	8 ≤ C < 10.8	C ≥ 10.8
PM _{2.5}	µg/m ³	0 ≤ C < 2	2 ≤ C < 4	4 ≤ C < 10	10 ≤ C < 20	20 ≤ C < 30	C ≥ 30

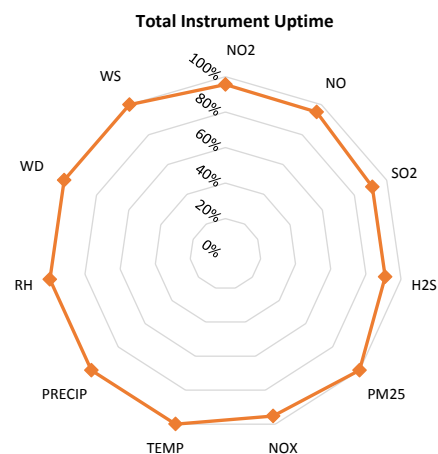
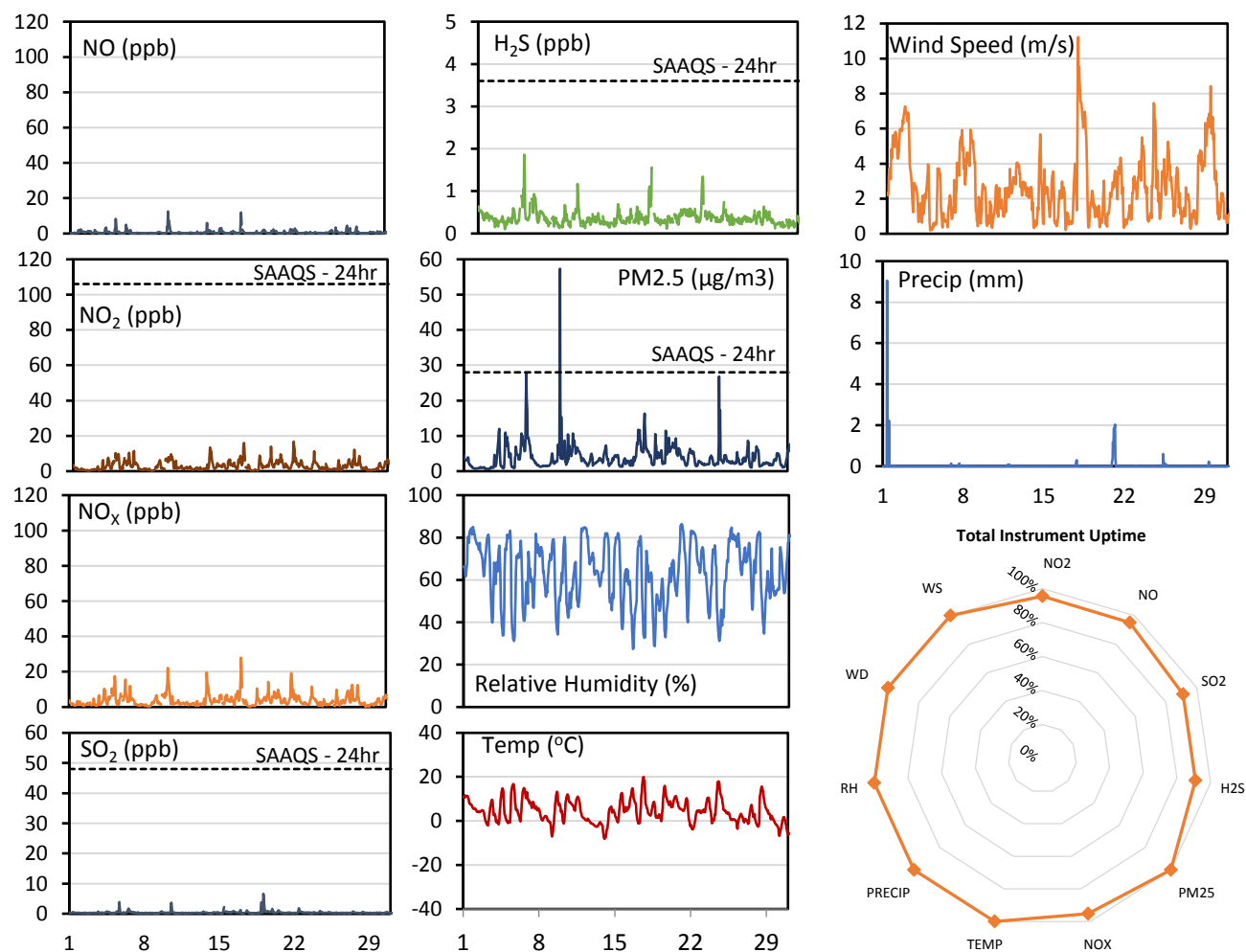
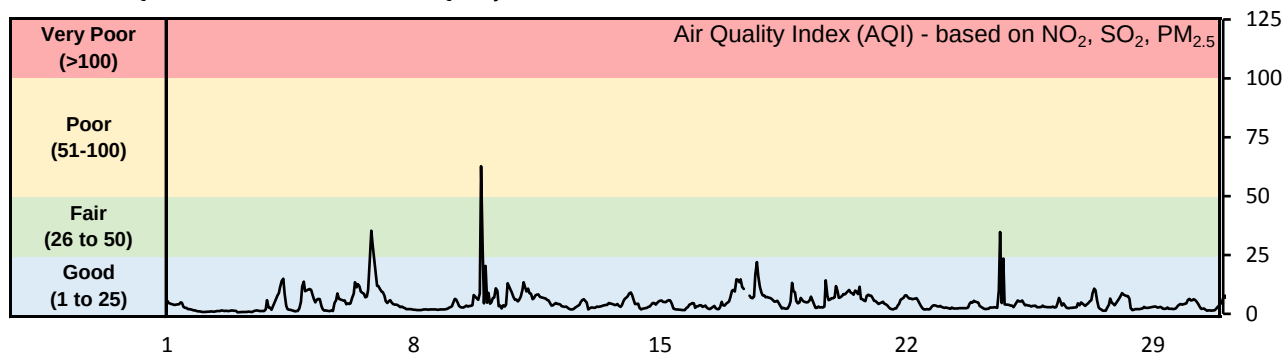
Monthly Update

- Achieved >90% of scheduled uptime for all parameters except H₂S (0%)
- Downtime of 4% results from routine daily internal zeroes and spans
- H₂S downtime due to instrument repairs
- Repaired H₂S analyzer installed October 30
- Calibration performed October 31

WYAMZ Maidstone Station - October 2017 Summary Report

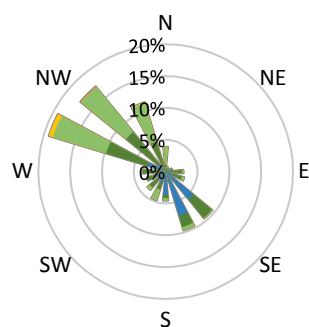
Pollutants		Month Records		24-Hour Records				1-Hour Records			
Name	Conc. Unit	Avg. Conc.	Total Uptime	Maximum		SAAQS Standard	Exceed Days	Maximum		SAAQS Standard	Exceed Hours
				Conc.	Time			Conc.	Time		
NO	ppb	0.7	95%	2.1	Oct-10	-	-	12.5	Oct-10 08:00	-	-
NO ₂	ppb	3.0	96%	6.1	Oct-22	106	0	16.8	Oct-22 01:00	159	0
NO _x	ppb	3.7	95%	7.4	Oct-10	-	-	28.0	Oct-17 07:00	-	-
SO ₂	ppb	0.4	91%	1.4	Oct-19	48	0	6.6	Oct-19 03:00	172	0
H ₂ S	ppb	0.4	91%	0.7	Oct-05	3.6	0	1.9	Oct-05 08:00	11	0
PM _{2.5}	µg/m ³	3.9	100%	9.0	Oct-06	28	0	57.3	Oct-09 22:00	-	-

SAAQS: Saskatchewan Ambient Air Quality Standards

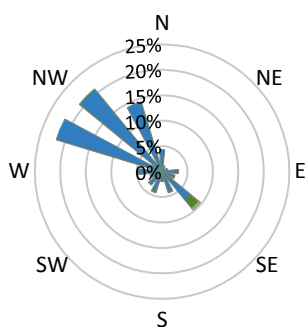


WYAMZ Maidstone Station - October 2017 Summary Report

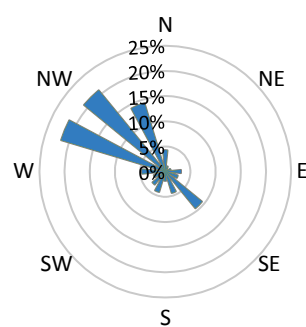
Wind Rose



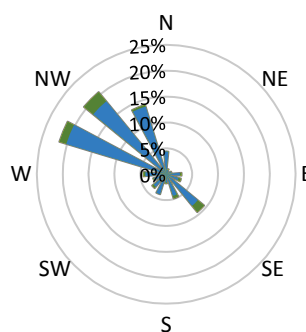
SO₂ Pollutant Rose



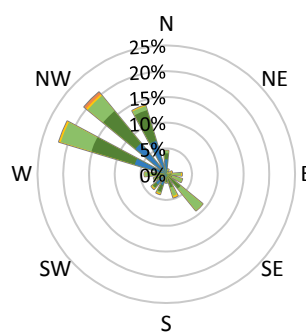
H₂S Pollutant Rose



NO₂ Pollutant Rose



PM_{2.5} Pollutant Rose



Parameters	Unit	Color Code for Wind Speed and Pollution Concentration Class					
Wind Speed	m/s	$0.3 \leq WS < 1.4$	$1.4 \leq WS < 3.1$	$3.1 \leq WS < 7.8$	$7.8 \leq WS < 10.8$	$10.8 \leq WS < 13.6$	$WS \geq 13.6$
SO ₂	ppb	$0 \leq C < 1$	$1 \leq C < 5$	$5 \leq C < 10$	$10 \leq C < 57$	$57 \leq C < 172$	$C \geq 172$
NO ₂	ppb	$0 \leq C < 5$	$5 \leq C < 15$	$15 \leq C < 30$	$30 \leq C < 100$	$100 \leq C < 212$	$C \geq 212$
H ₂ S	ppb	$0 \leq C < 1$	$1 \leq C < 3.6$	$3.6 \leq C < 5$	$5 \leq C < 8$	$8 \leq C < 10.8$	$C \geq 10.8$
PM _{2.5}	$\mu\text{g}/\text{m}^3$	$0 \leq C < 2$	$2 \leq C < 4$	$4 \leq C < 10$	$10 \leq C < 20$	$20 \leq C < 30$	$C \geq 30$

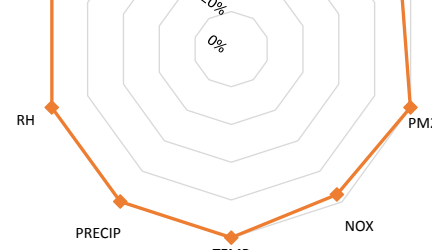
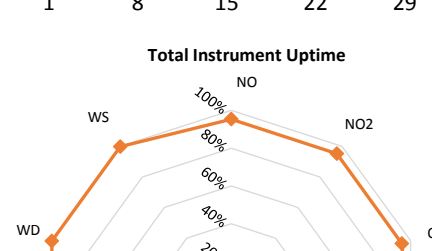
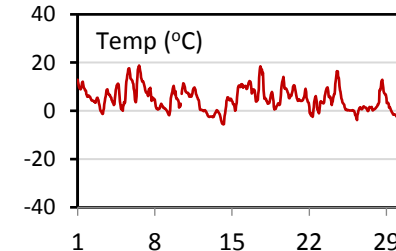
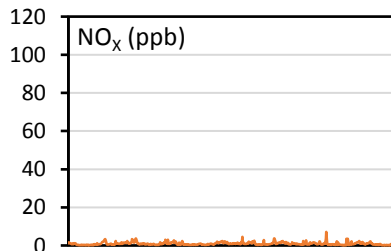
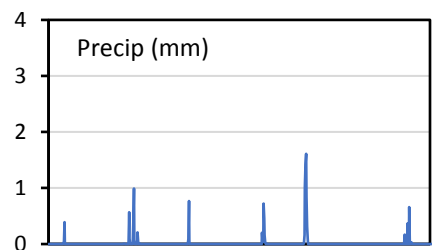
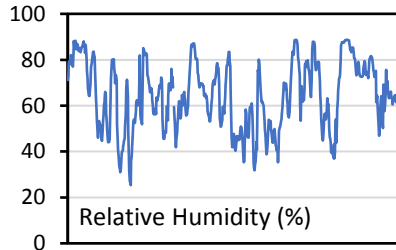
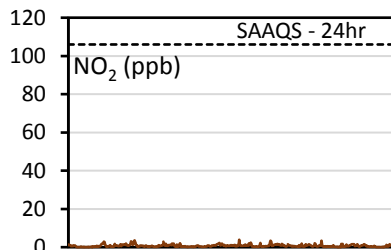
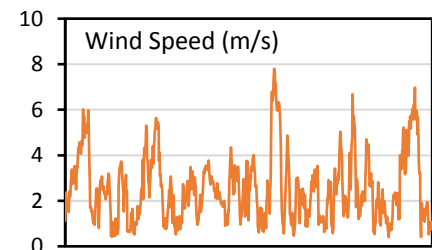
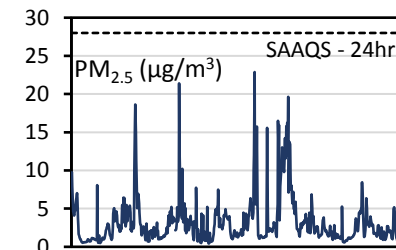
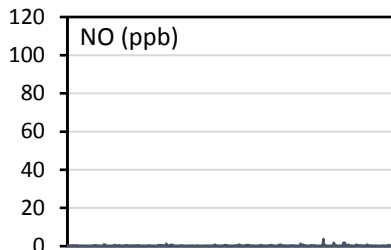
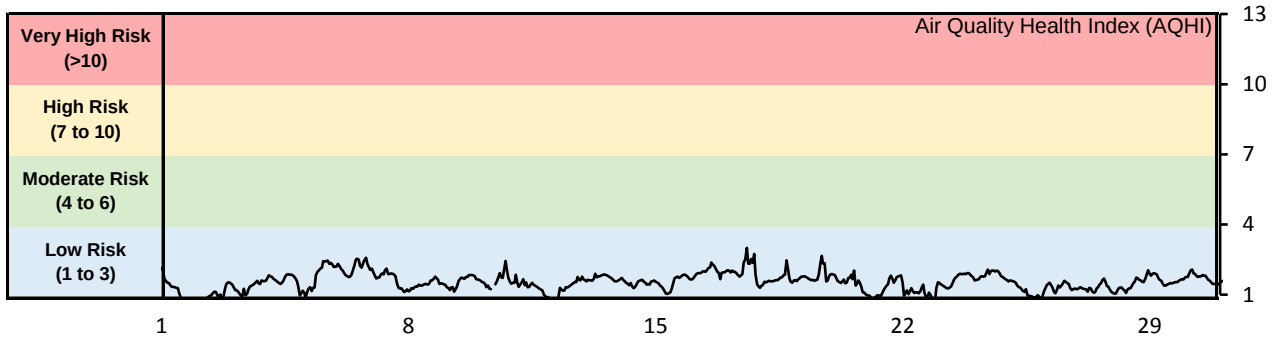
Monthly Update

- Achieved >90% of scheduled uptime for all parameters
- Downtime of 4% results from routine daily internal zeroes and spans (8% for SO₂/H₂S)

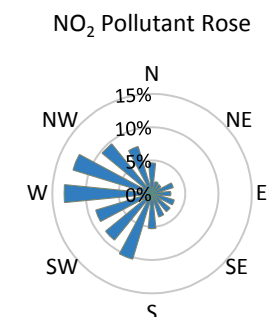
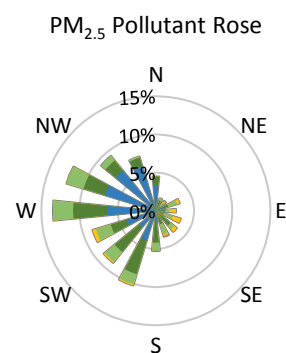
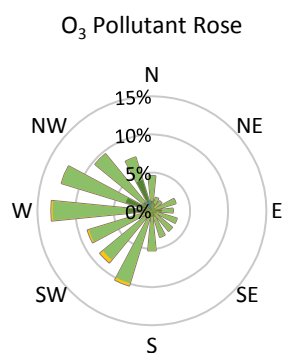
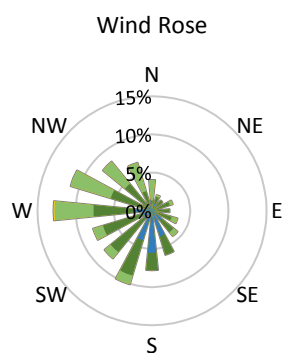
WYAMZ Meadow Lake Station - October 2017 Summary Report

Pollutants		Month Records		24-Hour Records				1-Hour Records			
Name	Conc. Unit	Avg. Conc.	Total Uptime	Maximum		SAAQS Standard	Exceed Days	Maximum		SAAQS Standard	Exceed Hours
				Conc.	Time			Conc.	Time		
NO	ppb	0.2	95%	0.4	Oct-24	-	-	3.7	Oct-24 10:00	-	-
NO ₂	ppb	0.8	95%	1.4	Oct-06	106	0	3.9	Oct-16 19:00	159	0
NO _x	ppb	1.0	95%	1.6	Oct-06	-	-	7.1	Oct-24 10:00	-	-
O ₃	ppb	25.4	95%	34.0	Oct-06	-	-	44.1	Oct-06 12:00	82	0
PM _{2.5}	µg/m ³	3.2	100%	11.8	Oct-20	28	0	22.9	Oct-17 14:00	-	-

SAAQS: Saskatchewan Ambient Air Quality Standards



WYAMZ Meadow Lake Station - October 2017 Summary Report



Parameters	Unit	Color Code for Wind Speed and Pollution Concentration Class						
Wind Speed	m/s	$0.3 \leq WS < 1.4$	$1.4 \leq WS < 3.1$	$3.1 \leq WS < 7.8$	$7.8 \leq WS < 10.8$	$10.8 \leq WS < 13.6$	$WS \geq 13.6$	
O ₃	ppb	$0 \leq C < 10$	$10 \leq C < 20$	$20 \leq C < 40$	$40 \leq C < 60$	$60 \leq C < 82$	$C \geq 82$	
NO ₂	ppb	$0 \leq C < 5$	$5 \leq C < 15$	$15 \leq C < 30$	$30 \leq C < 100$	$100 \leq C < 212$	$C \geq 212$	
PM _{2.5}	$\mu\text{g}/\text{m}^3$	$0 \leq C < 2$	$2 \leq C < 4$	$4 \leq C < 10$	$10 \leq C < 20$	$20 \leq C < 30$	$C \geq 30$	

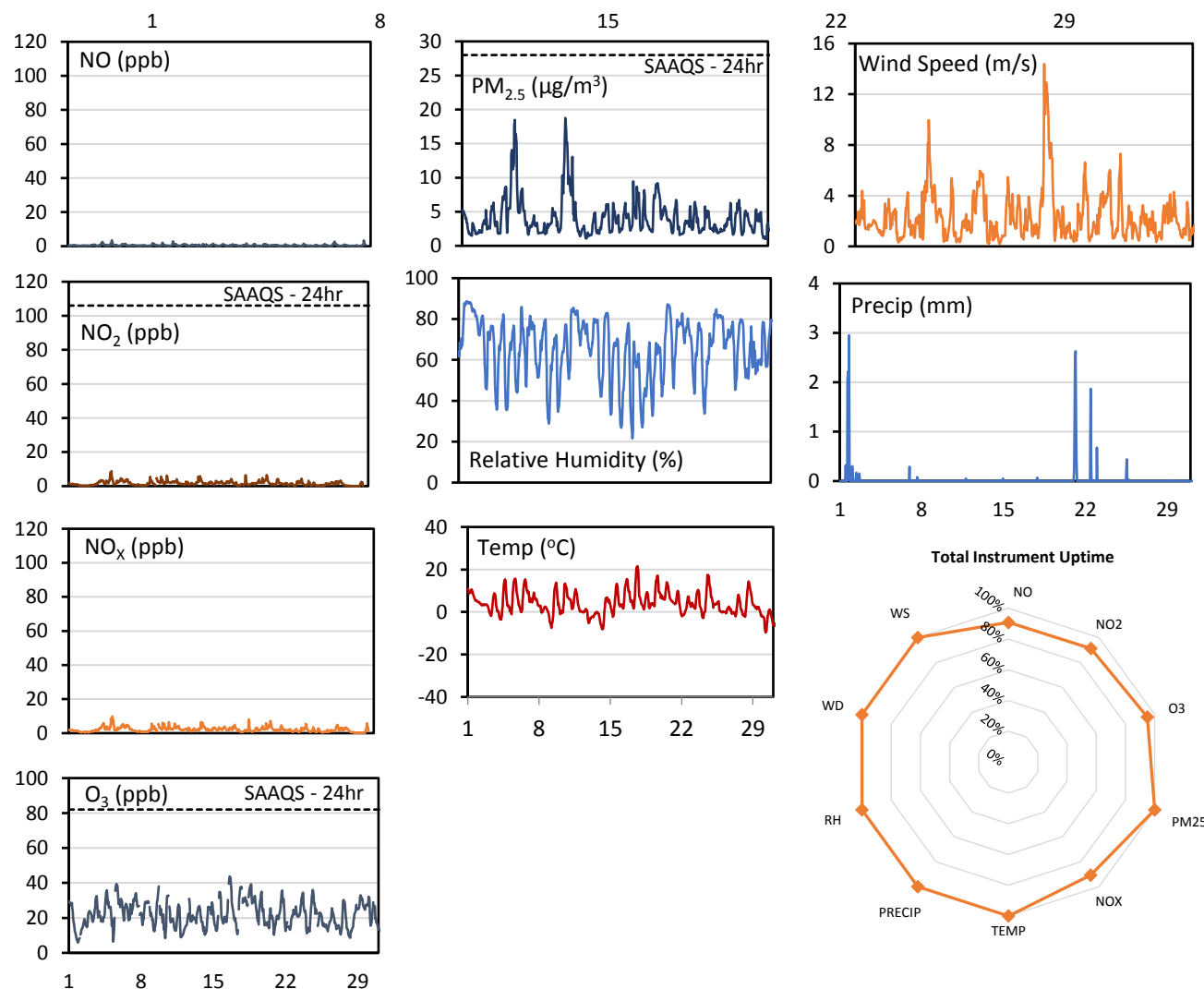
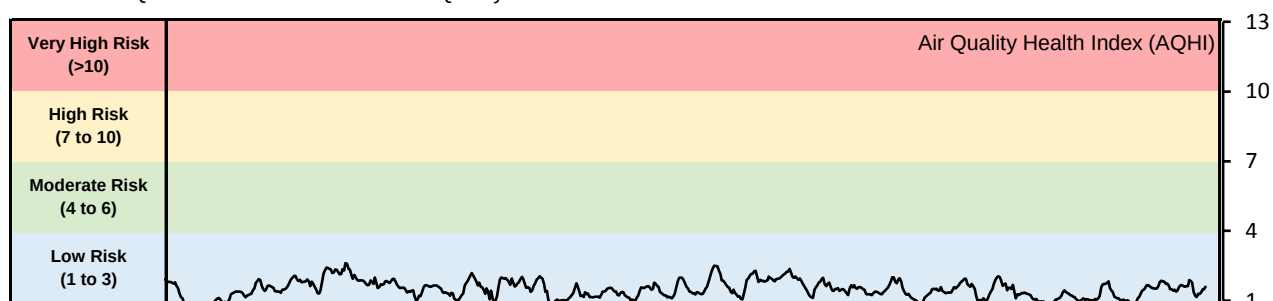
Monthly Update

- Achieved >90% of scheduled uptime for all parameters
- Downtime of 4% results from routine daily internal zeroes and spans

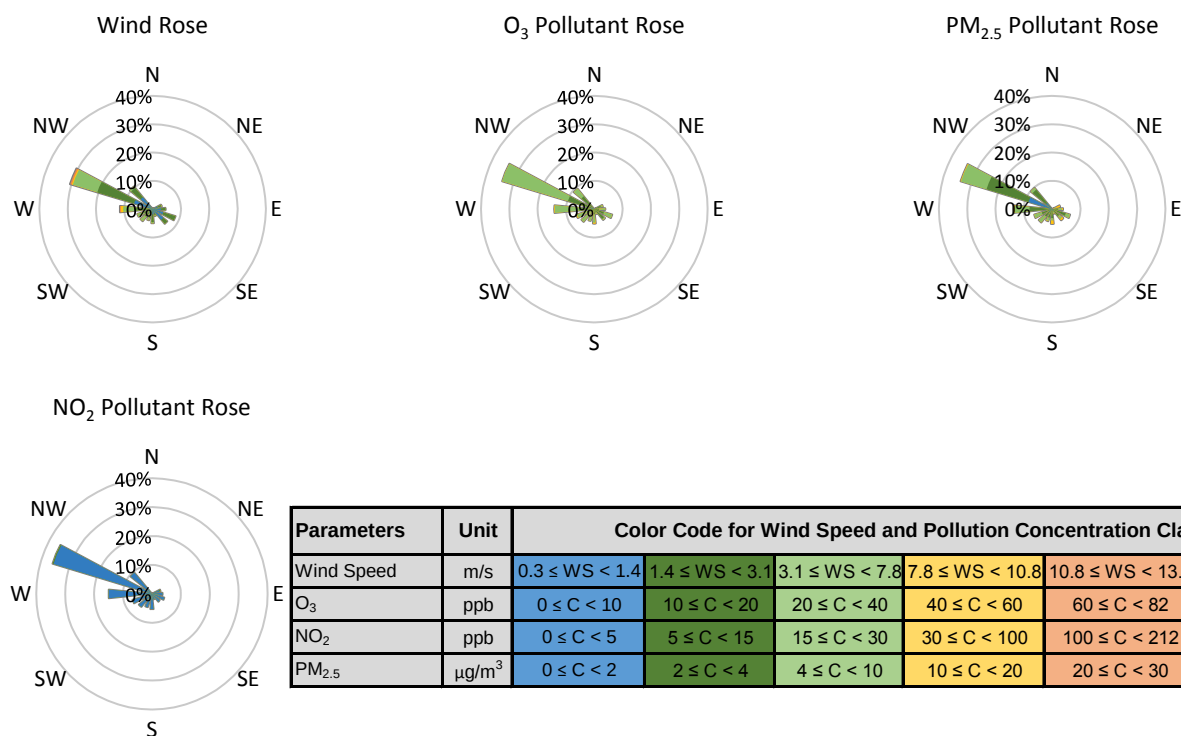
WYAMZ Unity Station - October 2017 Summary Report

Pollutants		Month Records		24-Hour Records				1-Hour Records			
				Maximum		SAAQS Standard	Exceed Days	Maximum		SAAQS Standard	Exceed Hours
				Conc.	Time			Conc.	Time		
NO	ppb	0.5	91%	0.9	Oct-05	-	-	3.4	Oct-05 09:00	-	-
NO ₂	ppb	1.6	91%	3.3	Oct-20	106	0	8.8	Oct-05 07:00	159	0
NO _x	ppb	2.2	91%	4.0	Oct-05	-	-	9.8	Oct-05 07:00	-	-
O ₃	ppb	21.9	95%	31.8	Oct-18	-	-	43.8	Oct-16 14:00	82	0
PM _{2.5}	µg/m ³	4.1	100%	11.3	Oct-11	28	0	18.8	Oct-11 03:00	-	-

SAAQS: Saskatchewan Ambient Air Quality Standards



WYAMZ Unity Station - October 2017 Summary Report



Monthly Update

- Achieved >90% of scheduled uptime for all parameters
- Downtime of 4% results from routine daily internal zeroes and spans
- NO_x analyzer removed October 30 for repairs