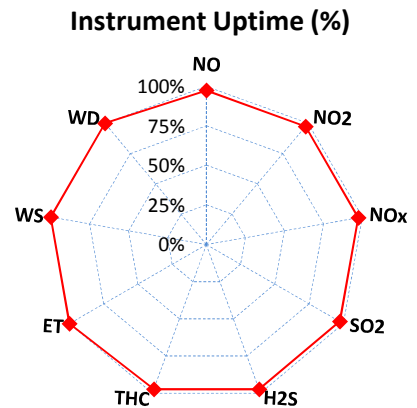
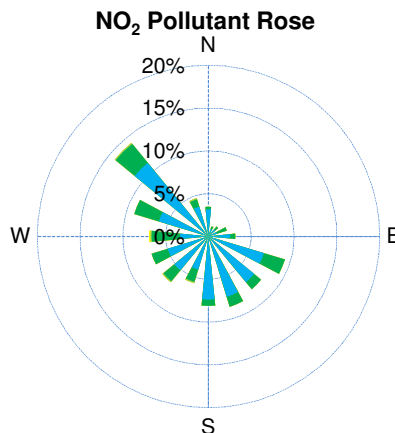
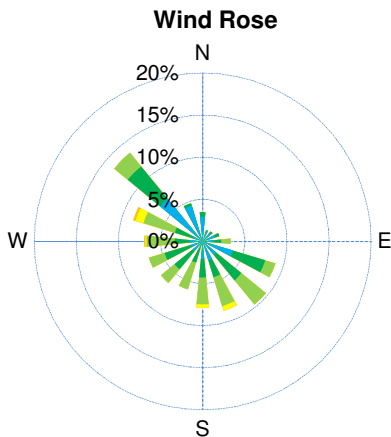
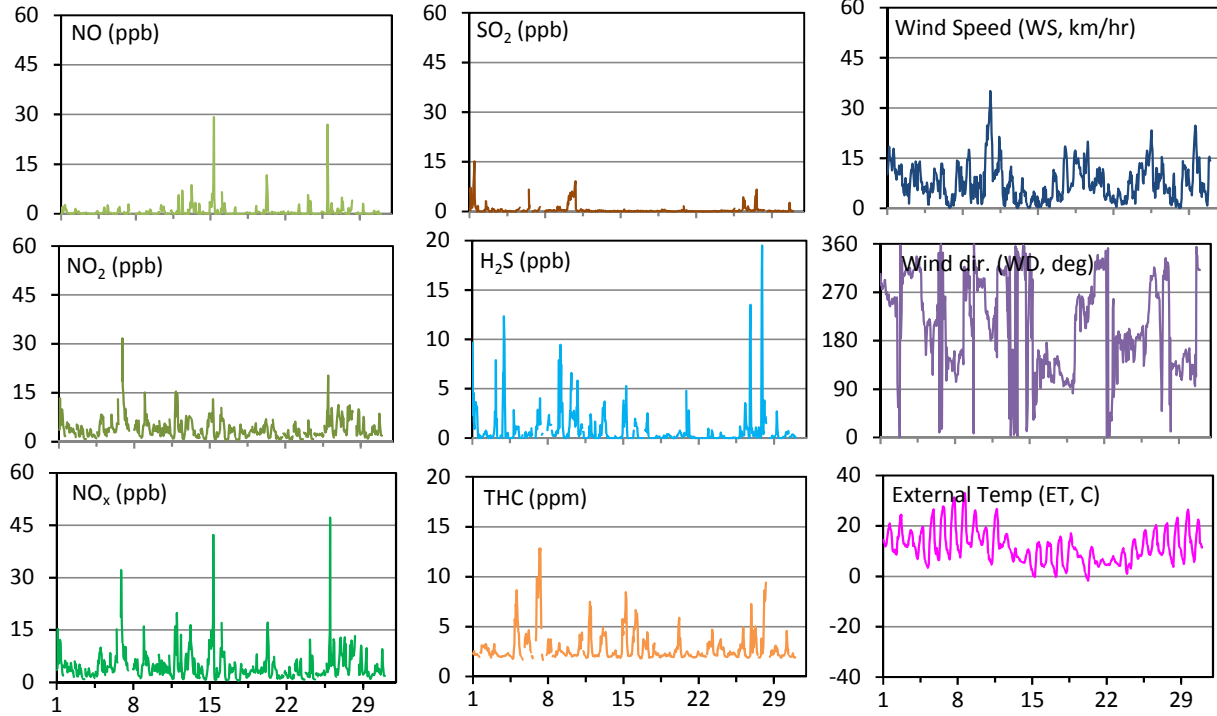


# Husky Energy East Station - September 2017 Summary Report

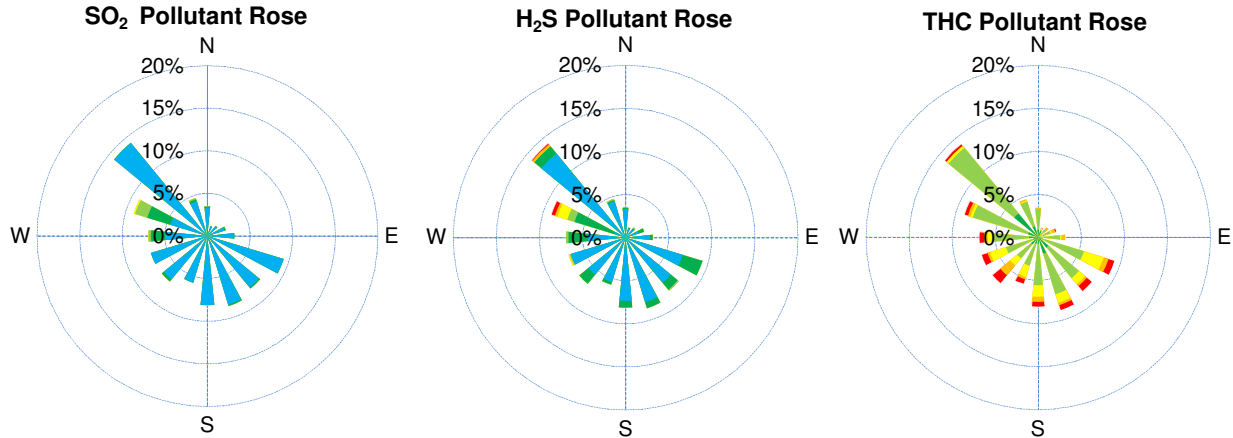
Pollutants		Month Records		24-Hour Records				1-Hour Records			
Name	Conc. Unit	Avg. Conc.	Uptime	Maximum		SAAQS Standards	Exceed Days	Maximum		SAAQS Standards	Exceed Hours
				Conc.	Time			Conc.	Time		
NO	ppb	0.7	97.4%	2.9	Sep-15	-	-	29.3	Sep-15 08:00	-	-
NO <sub>2</sub>	ppb	3.9	97.4%	6.2	Sep-27	106	0	31.7	Sep-06 22:00	159	0
NO <sub>x</sub>	ppb	4.5	97.4%	7.3	Sep-15	-	-	47.2	Sep-26 00:00	-	-
SO <sub>2</sub>	ppb	0.4	97.4%	3.9	Sep-10	48	0	15.2	Sep-01 11:00	172	0
H <sub>2</sub> S	ppb	0.8	97.4%	2.4	Sep-10	3.6	0	19.5	Sep-27 22:00	11.0	4
THC	ppm	2.8	97.4%	4.0	Sep-5	-	-	12.8	Sep-07 07:00	-	-

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 <sub>2</sub>	ppb	0 ≤ C < 1	1 ≤ C < 5	5 ≤ C < 10	10 ≤ C < 57	57 ≤ C < 172	C ≥ 172
NO <sub>2</sub>	ppb	0 ≤ C < 5	5 ≤ C < 15	15 ≤ C < 30	30 ≤ C < 100	100 ≤ C < 212	C ≥ 212
H <sub>2</sub> 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 - September 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, with the exception of four 1-hour H<sub>2</sub>S exceedance events. Refer to the Exceedance Summary Table for details.

\*All compliance parameters are above 90% operational. Operational issues include a total of 19 hours on Sept 5, 6, and 7 where station internal temperature exceeded normal operating temperatures (>30C); pollutant data collected during this time period was invalidated.

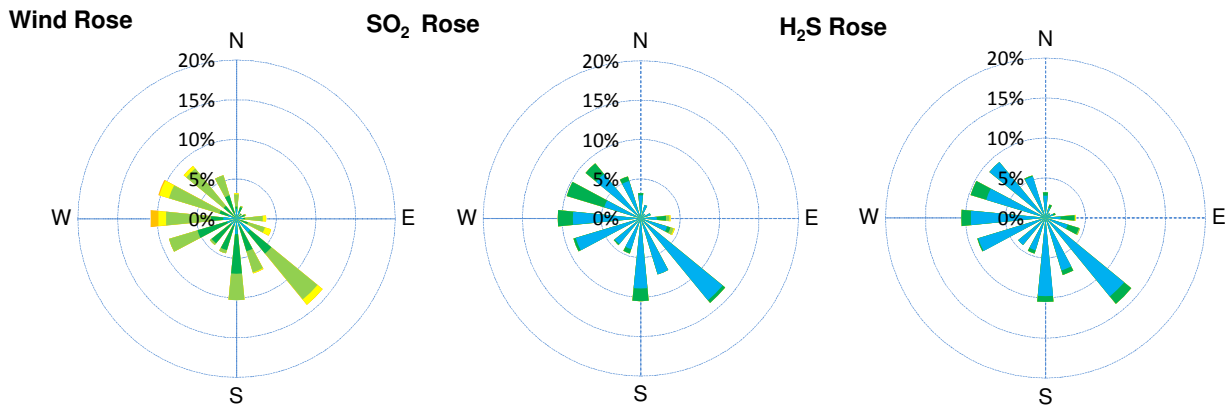
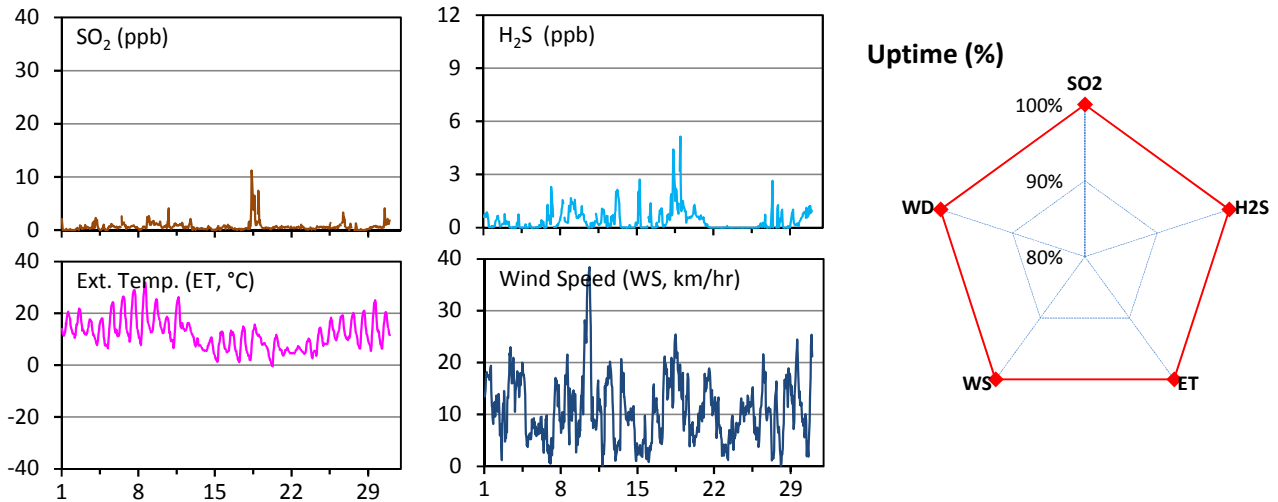
## Exceedance Summary

1-hour Exceedance Information			Summary of Other Parameters During Exceedance						
Pollutant	Conc. ppb	Exceedance Time mmm-dd hh:mm	WS km/hr	WD deg	ET C	SO <sub>2</sub> ppb	H <sub>2</sub> S ppb	NO <sub>2</sub> ppb	THC ppm
H <sub>2</sub> S	19.5	Sep-27 22:00	2.3	314	10.4	0.4	19.5	6.5	2.7
H <sub>2</sub> S	16.6	Sep-27 21:00	2.6	293	11.4	0.4	16.6	10.3	3.8
H <sub>2</sub> S	13.5	Sep-26 20:00	7.1	300	13.1	1.6	13.5	7.4	2.1
H <sub>2</sub> S	12.3	Sep-03 23:00	11.7	301	12.0	0.7	12.3	4.0	2.1

# Husky Energy West Station - September 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 <sub>2</sub>	ppb	0.7	100.0%	3.6	Sep-18	48 / 48	0 / 0	11.2	Sep-18 09:00	172 / 172	0 / 0
H <sub>2</sub> S	ppb	0.4	100.0%	1.9	Sep-18	3 / 3.6	0 / 0	5.0	Sep-19 00:00	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 <sub>2</sub>	ppb	0 ≤ C < 1	1 ≤ C < 5	5 ≤ C < 10	10 ≤ C < 57	57 ≤ C < 172	C ≥ 172
H <sub>2</sub> S	ppb	0 ≤ C < 1	1 ≤ C < 3.6	3.6 ≤ C < 5	5 ≤ C < 8	8 ≤ C < 11	C ≥ 11

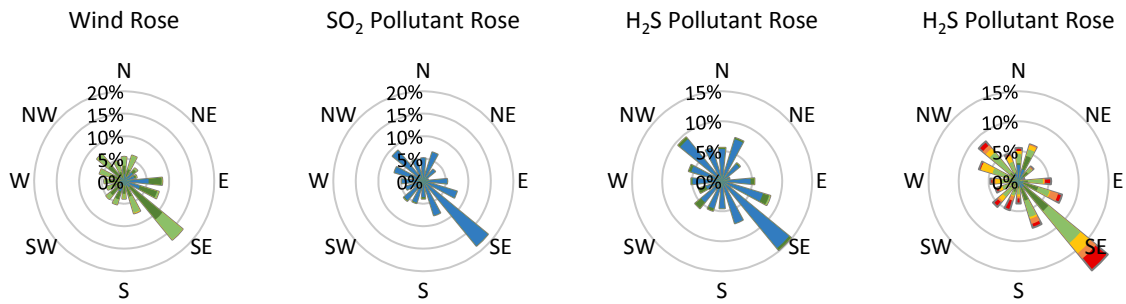
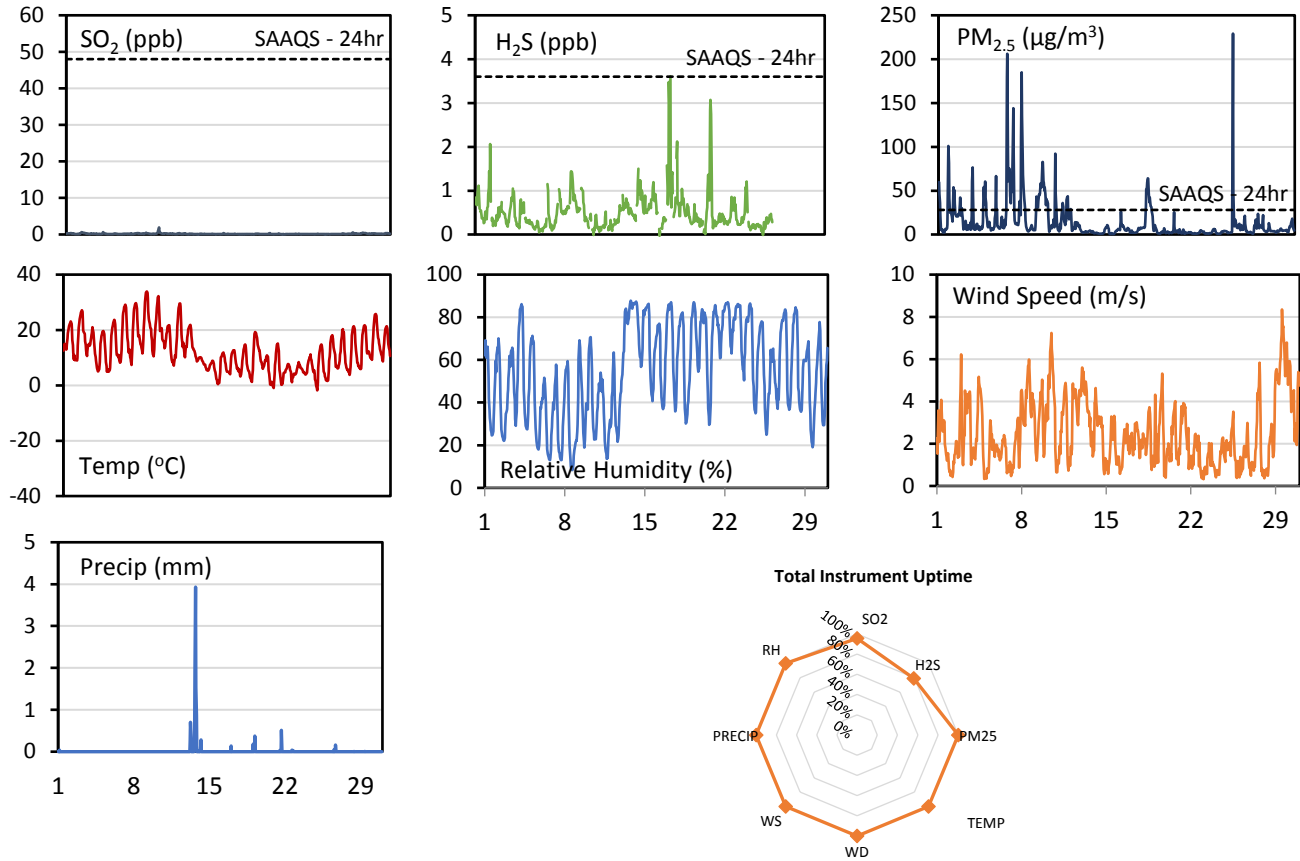
## Monthly Update

- \*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. There are no operational issues.

## WYAMZ Kindersley Station - September 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 <sub>2</sub>	ppb	0.2	96%	0.5	Sep-09	48	0	1.9	Sep-09 14:00	172	0
H <sub>2</sub> S	ppb	0.5	79%	1.1	Sep-17	3.6	0	3.6	Sep-17 18:00	11	0
PM <sub>2.5</sub>	µg/m <sup>3</sup>	14.2	100%	42.5	Sep-07	28	4	229.1	Sep-25 19:00	-	-

SAAQS: Saskatchewan Ambient Air Quality Standards



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 <sub>2</sub>	ppb	0 ≤ C < 1	1 ≤ C < 5	5 ≤ C < 10	10 ≤ C < 57	57 ≤ C < 172	C ≥ 172
H <sub>2</sub> S	ppb	0 ≤ C < 1	1 ≤ C < 3.6	3.6 ≤ C < 5	5 ≤ C < 8	8 ≤ C < 10.8	C ≥ 10.8
PM <sub>2.5</sub>	µg/m <sup>3</sup>	0 ≤ C < 2	2 ≤ C < 4	4 ≤ C < 10	10 ≤ C < 20	20 ≤ C < 30	C ≥ 30

### Monthly Update

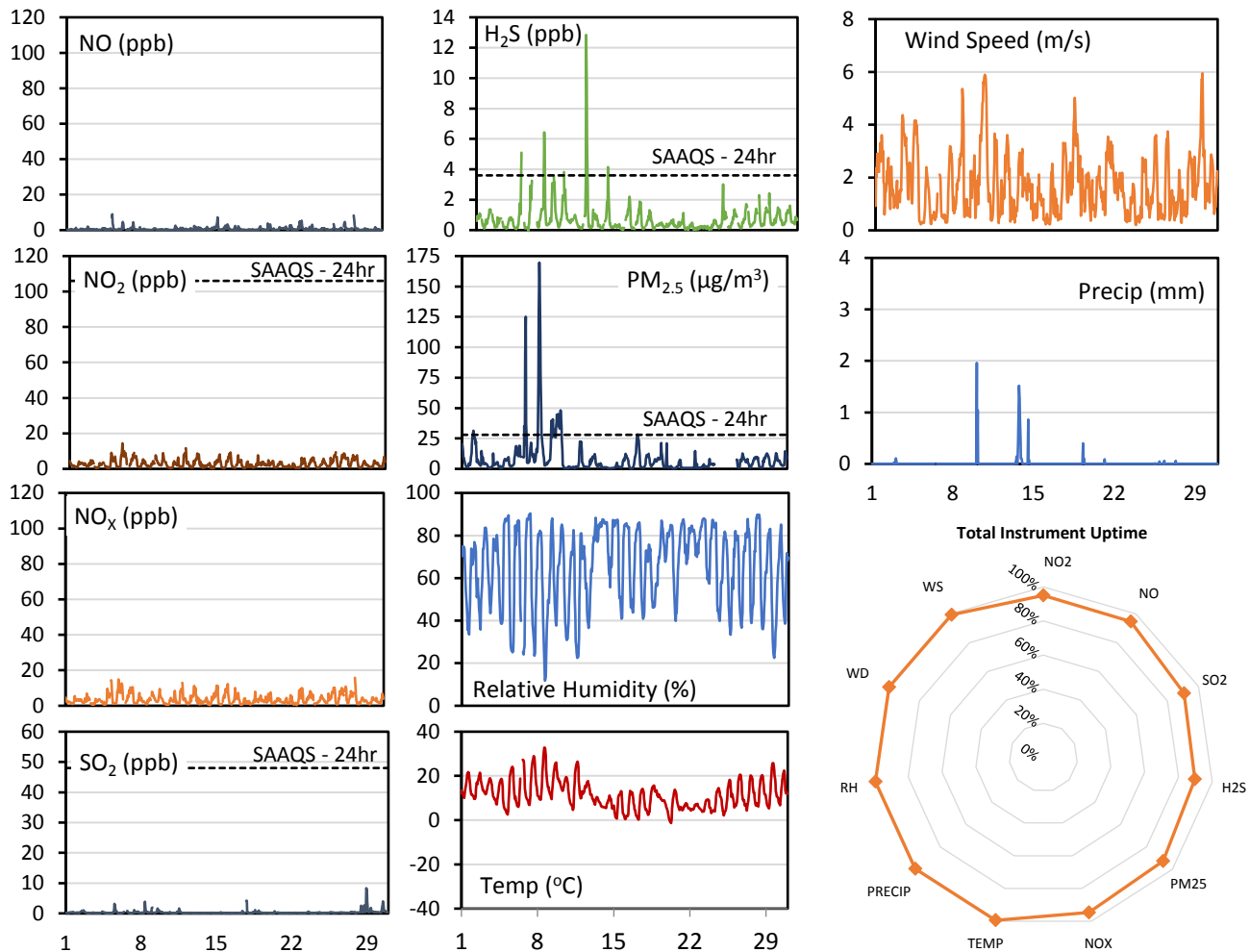
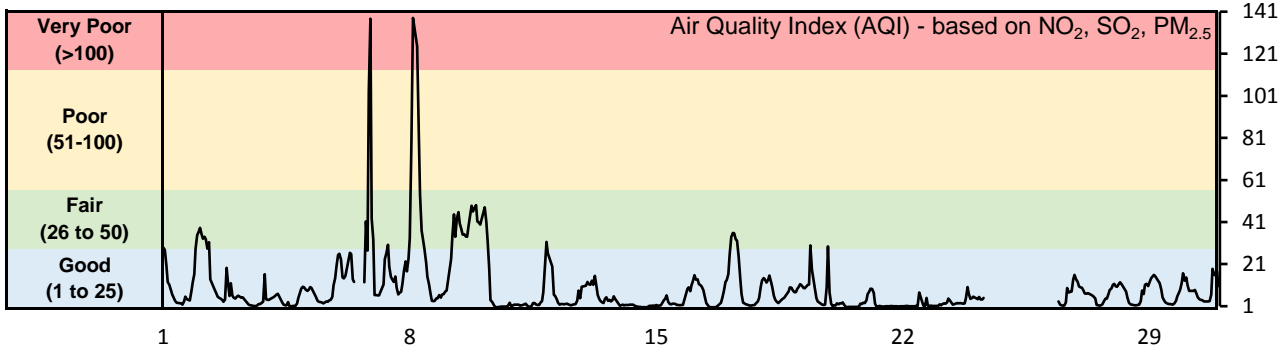
- Achieved >90% of scheduled uptime for all parameters except H<sub>2</sub>S (79%)
- Downtime of 4% results from routine daily internal zeroes and spans
- H<sub>2</sub>S analyzer removed September 26 for repairs

Exceedance Summary (24- Hour Average - Exceedances Highlighted)						
Exceedance Day	SO <sub>2</sub> ppb	PM <sub>2.5</sub> µg/m <sup>3</sup>	H <sub>2</sub> S ppb	Temp °C	WD deg	WS m/s
Sep-06	0.2	<b>37.3</b>	0.1	18.3	182.0	1.5
Sep-07	0.2	<b>42.5</b>	0.3	19.4	109.0	1.8
Sep-08	0.3	<b>31.2</b>	0.6	22.8	145.1	4.2
Sep-09	0.5	<b>41.4</b>	0.9	21.0	196.5	2.9

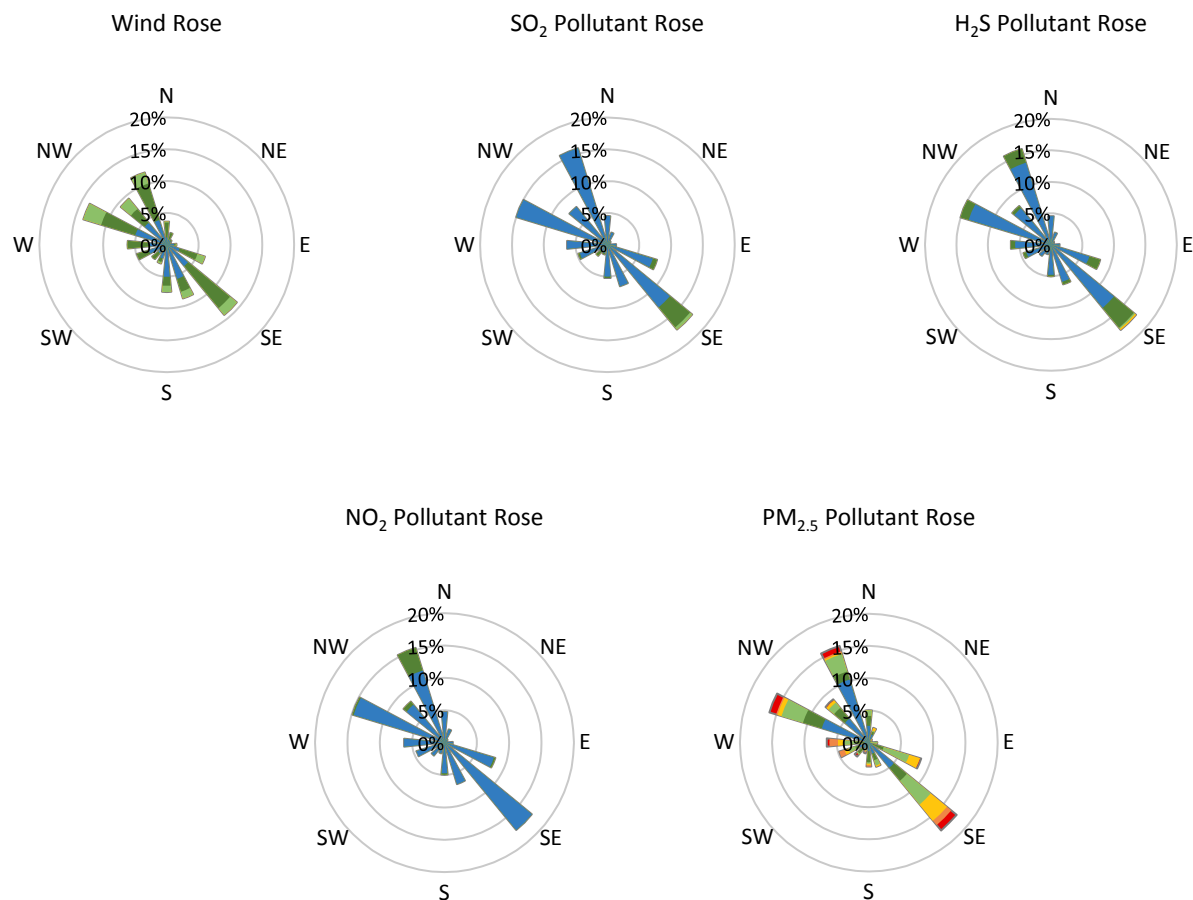
## WYAMZ Maidstone Station - September 2017 Summary Report

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%	1.5	Sep-23	-	-	9.0	Sep-05 08:00	-	-
NO <sub>2</sub>	ppb	3.0	95%	6.2	Sep-06	106	0	14.4	Sep-06 00:00	159	0
NO <sub>x</sub>	ppb	3.6	95%	7.1	Sep-06	-	-	15.8	Sep-28 07:00	-	-
SO <sub>2</sub>	ppb	0.3	91%	1.2	Sep-28	48	0	8.3	Sep-28 23:00	172	0
H <sub>2</sub> S	ppb	0.7	90%	2.1	Sep-11	3.6	0	12.8	Sep-11 06:00	11	1
PM <sub>2.5</sub>	µg/m <sup>3</sup>	8.2	93%	39.1	Sep-08	28	2	169.6	Sep-08 03:00	-	-

SAAQS: Saskatchewan Ambient Air Quality Standards



## WYAMZ Maidstone Station - September 2017 Summary Report



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 <sub>2</sub>	ppb	0 ≤ C < 1	1 ≤ C < 5	5 ≤ C < 10	10 ≤ C < 57	57 ≤ C < 172	C ≥ 172
NO <sub>2</sub>	ppb	0 ≤ C < 5	5 ≤ C < 15	15 ≤ C < 30	30 ≤ C < 100	100 ≤ C < 212	C ≥ 212
H <sub>2</sub> S	ppb	0 ≤ C < 1	1 ≤ C < 3.6	3.6 ≤ C < 5	5 ≤ C < 8	8 ≤ C < 10.8	C ≥ 10.8
PM <sub>2.5</sub>	µg/m <sup>3</sup>	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
- Downtime of 4% results from routine daily internal zeroes and spans (8% for H<sub>2</sub>S and SO<sub>2</sub>)

#### Exceedance Summary (1- Hour Average - Exceedances Highlighted)

Exceedance Time	AQI	NO <sub>2</sub> ppb	NO ppb	SO <sub>2</sub> ppb	PM <sub>2.5</sub> µg/m <sup>3</sup>	NO <sub>x</sub> ppb	H <sub>2</sub> S ppb	Temp °C	WD deg	WS m/s
Sep-11 06:00	2.0	4.7	0.3	0.1	1.6	5.0	<b>12.8</b>	4.6	192.8	0.5

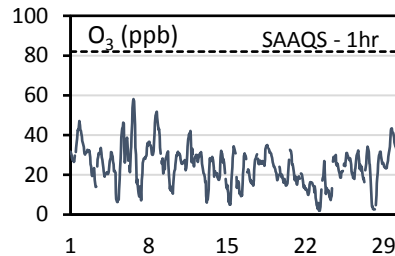
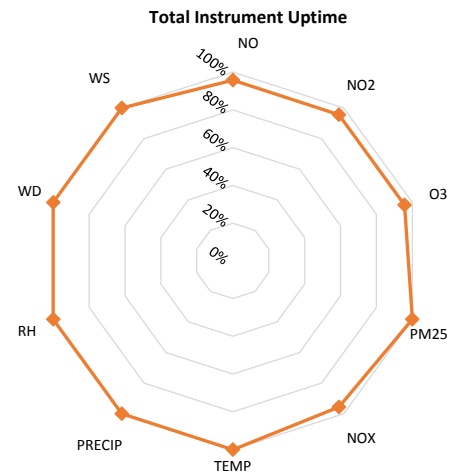
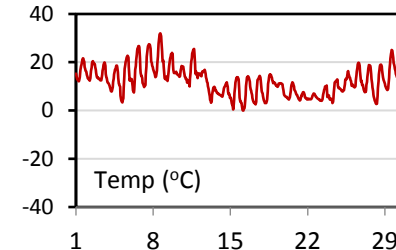
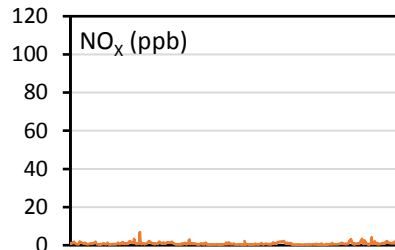
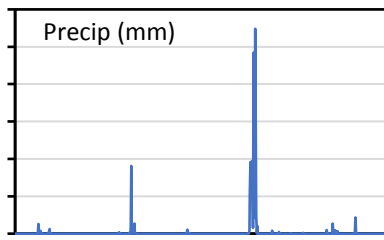
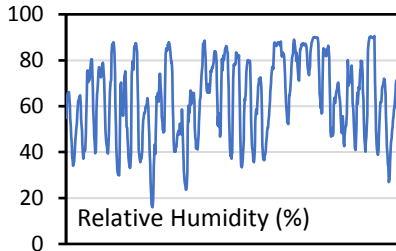
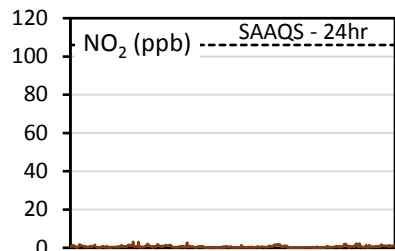
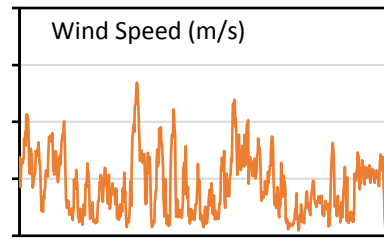
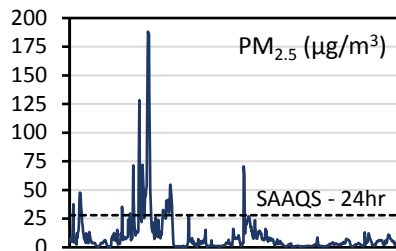
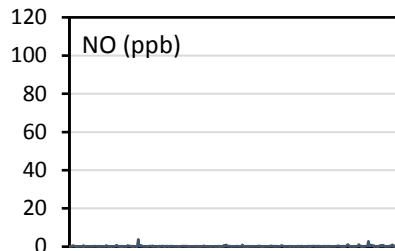
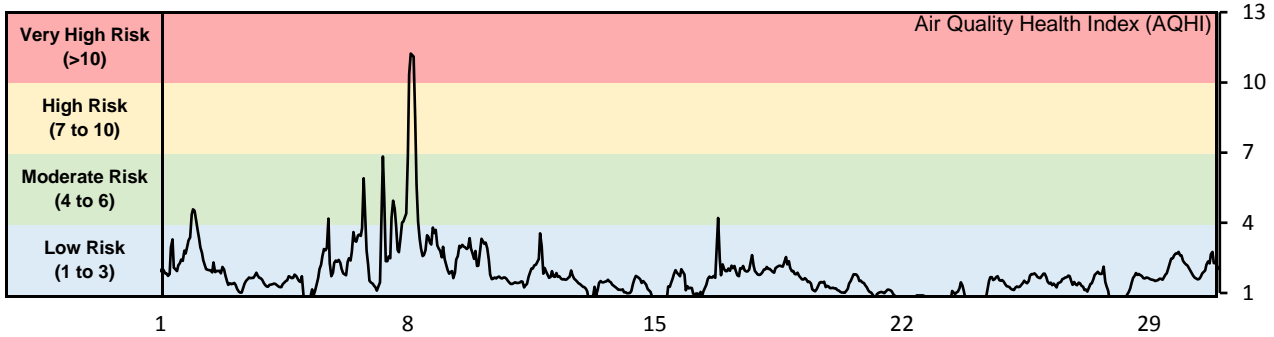
#### Exceedance Summary (24- Hour Average - Exceedances Highlighted)

Exceedance Day	AQI	NO <sub>2</sub> ppb	NO ppb	SO <sub>2</sub> ppb	PM <sub>2.5</sub> µg/m <sup>3</sup>	NO <sub>x</sub> ppb	H <sub>2</sub> S ppb	Temp °C	WD deg	WS m/s
Sep-08	44.4	2.4	0.2	0.6	<b>39.1</b>	2.7	1.2	18.8	152.3	2.2
Sep-09	36.6	4.1	0.4	0.6	<b>29.1</b>	4.5	1.2	17.8	238.0	1.4

## WYAMZ Meadow Lake Station - September 2017 Summary Report

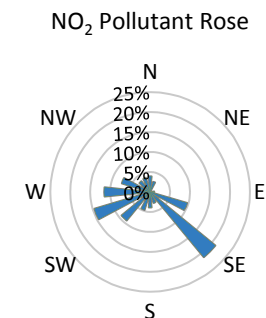
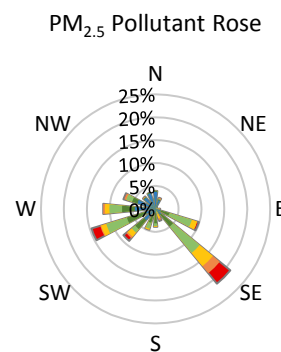
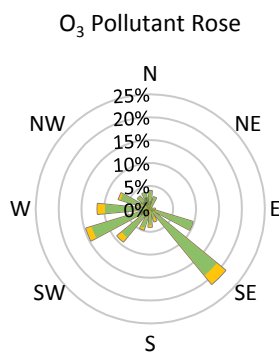
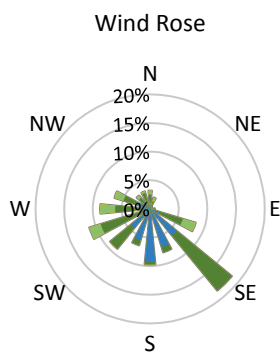
Pollutants		Month Records		24-Hour Records				1-Hour Records			
Name	Conc. Unit	Avg. Conc.	Total Uptime	Maximum		SAAQS Standard	Exceed Days	Maximum		SAAQS Standard	Exceed Hours
				Conc.	Time			Conc.	Time		
NO	ppb	0.2	96%	0.5	Sep-28	-	-	3.8	Sep-07 07:00	-	-
NO <sub>2</sub>	ppb	0.6	96%	1.2	Sep-20	106	0	3.1	Sep-06 19:00	159	0
NO <sub>x</sub>	ppb	0.8	96%	1.4	Sep-20	-	-	6.9	Sep-07 07:00	-	-
O <sub>3</sub>	ppb	24.7	96%	40.1	Sep-08	-	-	58.1	Sep-06 15:00	82	0
PM <sub>2.5</sub>	µg/m <sup>3</sup>	9.8	100%	57.4	Sep-08	28	2	188.1	Sep-08 02:00	-	-

SAAQS: Saskatchewan Ambient Air Quality Standards





## WYAMZ Meadow Lake Station - September 2017 Summary Report



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	
O <sub>3</sub>	ppb	0 ≤ C < 10	10 ≤ C < 20	20 ≤ C < 40	40 ≤ C < 60	60 ≤ C < 82	C ≥ 82	
NO <sub>2</sub>	ppb	0 ≤ C < 5	5 ≤ C < 15	15 ≤ C < 30	30 ≤ C < 100	100 ≤ C < 212	C ≥ 212	
PM <sub>2.5</sub>	µg/m <sup>3</sup>	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
- Downtime of 4% results from routine daily internal zeroes and spans

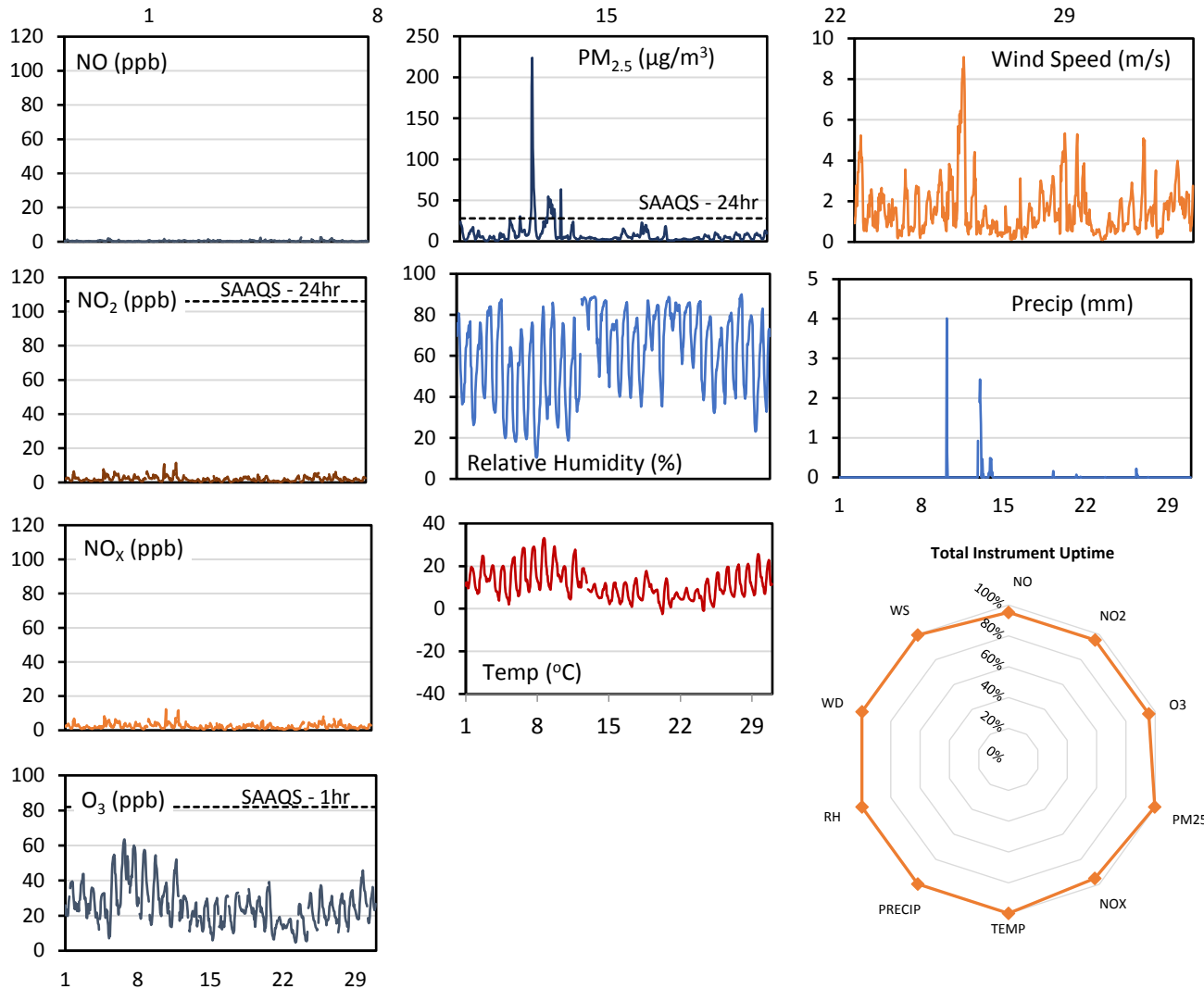
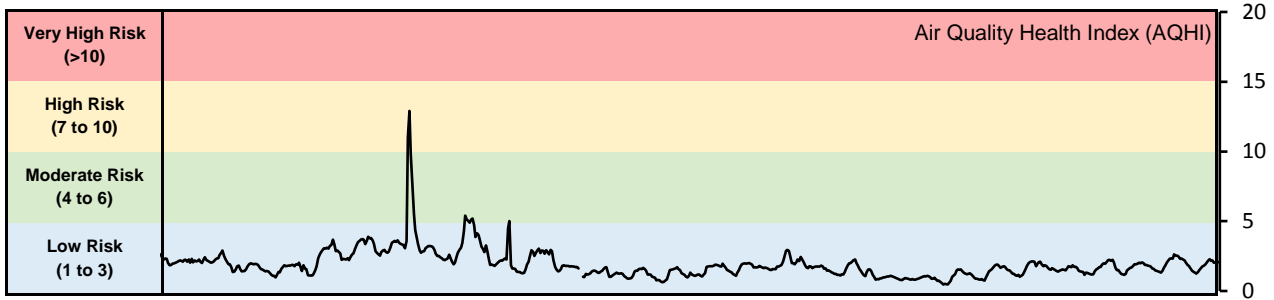
### Exceedance Summary (24- Hour Average - Exceedances Highlighted)

Exceedance Time	AQI	NO <sub>2</sub>	NO	O <sub>3</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	Temp	WD	WS
	-	ppb	ppb	ppb	µg/m <sup>3</sup>	ppb	°C	deg	m/s
Sep-07	3.2	0.7	0.5	22.8	<b>41.6</b>	1.2	18.9	142.7	1.2
Sep-08	4.9	0.9	0.2	40.1	<b>57.4</b>	1.1	21.8	140.3	1.6

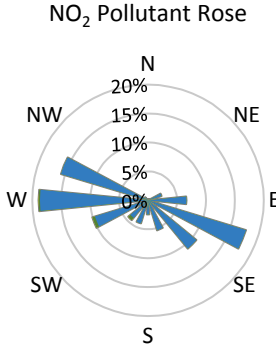
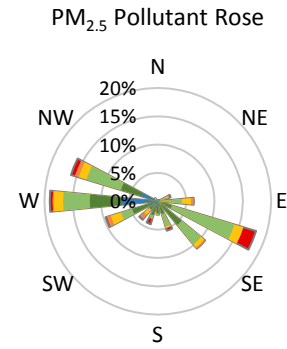
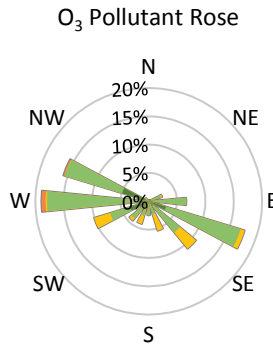
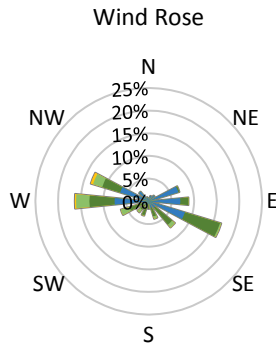
## WYAMZ Unity Station - September 2017 Summary Report

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	0.4	95%	0.7	Sep-05	-	-	2.7	Sep-26 07:00	-	-
NO <sub>2</sub>	ppb	2.0	96%	3.4	Sep-09	106	0	11.5	Sep-12 02:00	159	0
NO <sub>x</sub>	ppb	2.4	95%	3.7	Sep-09	-	-	12.3	Sep-10 21:00	-	-
O <sub>3</sub>	ppb	25.8	96%	44.9	Sep-07	-	-	63.5	Sep-06 17:00	82	0
PM <sub>2.5</sub>	µg/m <sup>3</sup>	8.6	100%	45.5	Sep-08	28	2	223.8	Sep-08 01:00	-	-

SAAQS: Saskatchewan Ambient Air Quality Standards



## WYAMZ Unity Station - September 2017 Summary Report



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	
O <sub>3</sub>	ppb	0 ≤ C < 10	10 ≤ C < 20	20 ≤ C < 40	40 ≤ C < 60	60 ≤ C < 82	C ≥ 82	
NO <sub>2</sub>	ppb	0 ≤ C < 5	5 ≤ C < 15	15 ≤ C < 30	30 ≤ C < 100	100 ≤ C < 212	C ≥ 212	
PM <sub>2.5</sub>	µg/m <sup>3</sup>	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
- Downtime of 4% results from routine daily internal zeroes and spans

#### Exceedance Summary (24- Hour Average - Exceedances Highlighted)

Exceedance Time	AQHI	NO <sub>2</sub> ppb	NO ppb	O <sub>3</sub> ppb	PM <sub>2.5</sub> µg/m <sup>3</sup>	NO <sub>x</sub> ppb	Temp °C	WD deg	WS m/s
Sep-08	4.3	1.9	0.2	37.9	45.5	2.0	20.4	124.6	2.1
Sep-09	3.4	3.4	0.3	33.0	30.6	3.7	18.5	188.8	1.9