



HINTON PULP
A DIVISION OF WEST FRASER MILLS LIMITED
Continuous Ambient Air Quality
Monitoring Program
Annual Summary for 2016

Operations and Data Collection by:
West Central Airshed Society
Drayton Valley, Alberta

QA/QC, Data Validation and Reporting by:
West Central Airshed Society
Drayton Valley, Alberta



February 21st, 2017

Hinton Pulp
A Division of West Fraser Mills Ltd.
Mr. Phil Whitney
760 Switzer Drive
Hinton, Alberta
T7V 1V7

Dear Mr. Whitney:

Re: Annual Ambient Air Quality Monitoring Report. January – December 2016.
For Hinton Pulp – A Division of West Fraser Mills Ltd.

The West Central Airshed Society (WCAS) presents the 2016 Annual Report containing ambient air quality and meteorological information from the following site:

Network Station is AMS 906 Hinton
Identified as:

The following is a list of the reported ambient air and meteorological parameters measured at the site location:

AMS 906 (Hinton)

TRS, SO₂, O₃ NO_x, Particulate Matter (2.5 microns), Wind Speed and Direction, Relative Humidity, and External Temperature.

If additional information is required please contact Patrick Andersen at (780) 514-3533 or (403) 505-1041.

Sincerely,

A handwritten signature in black ink, appearing to read 'Patrick Andersen', is written over a light blue horizontal line.

Patrick Andersen
Interim Executive Director

Summary Report

Continuous air quality/meteorological monitoring measurements

West Central Airshed Society

Hinton Pulp / Hinton Station 906												January to December 2016		24 Hour Average Maximum (ppm)
Parameter	Calibration Hours	Number of Data	Percent Uptime	Mean	Min	Max	Percentile					Exceedences		24 Hour Average Maximum (ppm)
							P10	Q1	Median	Q3	P90	1-hour	24-hour	
TRS (ppb)	444	2682	35.6	0.9	0.0	19.0	0.2	0.2	0.4	1.1	2.3	9	1	0.004
SO ₂ (ppb)	440	8302	99.5	0.4	0.0	18.8	0.0	0.0	0.1	0.3	0.9	0	-	0.005
O ₃ (ppb)	433	8323	99.7	20.2	0.0	65.1	2.0	7.1	19.0	32.0	39.7	0	0	0.045
NO (ppb)	439	8298	99.5	3.9	0.0	164.2	0.1	0.3	0.9	3.0	9.5	-	-	-
NO ₂ (ppb)	439	8298	99.5	6.5	0.1	43.7	1.5	2.6	4.6	8.5	14.1	0	0	0.023
NO _x (ppb)	439	8298	99.5	10.4	0.1	186.9	1.9	3.3	5.9	11.7	22.6	-	-	-
Particulate Matter 2.5 microns (µ/m ³)	28	8541	97.6	8.1	0.0	214.2	2.4	4.1	6.4	9.9	14.8	11	1	37.37 µg/m ³
Wind Speed (kph)	0	8432	96.0	3.3	0.0	19.3	0.5	1.0	2.4	4.7	7.7	-	-	-
Temperature (°C)	0	8757	99.7	4.7	-31.8	30.3	-8.3	-1.7	5.1	12.3	17.8	-	-	-
Relative Humidity (%)	0	8757	99.7	62.8	4.7	92.5	27.6	44.5	68.4	83.2	88.5	-	-	-
Std Dev Wind Direction (deg)	0	8432	96.0	50.9	11.7	118.1	27.1	34.9	47.0	64.4	82.2	-	-	-
Std Dev Wind Speed (kph)	0	8432	96.0	2.6	0.0	11.3	1.0	1.4	2.1	3.2	4.9	-	-	-

Hinton Pulp
A Division of West Fraser Mills Limited
Frequency Distribution Charts
Monthly Averages
Year 2016

West Central Airshed Society - Hinton (AMS 906)
 Annual Summary for 2016
 TRS (ppb)

Month	Number of Data	Mean	Maximum 24-Hour Value	Maximum 1-Hour Value	Operational Time (%)	Number 24-Hour Exceedances**	Number 1-Hour Exceedances*	Percent of Data in each Concentration Range			
								<=3	>3-10	>10-50	>50
January	0	-	-	-	-	-	-	-	-	-	-
February	0	-	-	-	-	-	-	-	-	-	-
March	0	-	-	-	-	-	-	-	-	-	-
April	0	-	-	-	-	-	-	-	-	-	-
May	0	-	-	-	-	-	-	-	-	-	-
June	0	-	-	-	-	-	-	-	-	-	-
July	0	-	-	-	-	-	-	-	-	-	-
August	0	-	-	-	-	-	-	-	-	-	-
September	597	1.4	4.3	19.4	87.8	1	7	88.78	10.05	1.17	0.00
October	694	0.6	2.2	7.7	98.4	0	0	96.97	3.03	0.00	0.00
November	684	0.8	2.4	8.7	100.0	0	0	94.59	5.41	0.00	0.00
December	707	1.0	2.4	11.2	100.0	0	2	94.63	4.95	0.42	0.00
Annual	2682	0.9	4.3	19.4	96.5	1	9	94.52	5.06	0.42	0.00

* Hours of TRS above 10 ppb H₂S Hourly Average Guideline.

**Hours of TRS above 3 ppb H₂S Daily Average Guideline.

West Central Airshed Society - Hinton (AMS 906)
 Annual Summary for 2016
 SO2 (ppb)

Month	Number of Data	Mean	Maximum 24-Hour Value	Maximum 1-Hour Value	Operational Time (%)	Number 24-Hour Violations	Number 1-Hour Violations	Percent of Data in each Concentration Range					
								<=0.02	>0.02-0.06	>0.06-0.11	>0.11-0.17	>0.17-0.34	>0.34
January	706	0.4	2.7	9.5	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
February	658	0.5	5.1	9.8	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
March	709	0.2	0.8	18.8	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
April	683	0.4	1.9	5.2	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
May	710	0.2	1.0	6.5	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
June	685	0.5	2.0	6.4	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
July	690	0.4	1.4	5.7	97.9	0	0	100.00	0.00	0.00	0.00	0.00	0.00
August	701	0.2	0.7	3.5	99.6	0	0	100.00	0.00	0.00	0.00	0.00	0.00
September	685	0.4	2.6	10.0	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
October	698	0.4	2.0	8.1	98.9	0	0	100.00	0.00	0.00	0.00	0.00	0.00
November	685	0.5	3.2	11.0	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
December	692	0.9	4.3	14.6	98.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
Annual	8302	0.4	5.1	18.8	99.5	0	0	100.00	0.00	0.00	0.00	0.00	0.00

West Central Airshed Society - Hinton (AMS 906)
 Annual Summary for 2016
 NO2 (ppb)

Month	Number of Data	Mean	Maximum 24-Hour Value	Maximum 1-Hour Value	Operational Time (%)	Number 24-Hour Violations	Number 1-Hour Violations	Percent of Data in each Concentration Range			
								<=0.05	>0.05-0.11	>0.11-0.21	>0.21
January	708	13.4	22.3	43.6	100.0	0	0	100.00	0	0	0
February	661	9.5	18.3	39.3	100.0	0	0	100.00	0	0	0
March	707	7.6	12.4	30.7	100.0	0	0	100.00	0	0	0
April	685	6.1	8.6	26.0	100.0	0	0	100.00	0	0	0
May	707	5.0	8.4	19.8	100.0	0	0	100.00	0	0	0
June	684	3.2	5.6	14.1	100.0	0	0	100.00	0	0	0
July	693	3.0	4.2	13.0	97.9	0	0	100.00	0	0	0
August	700	2.6	4.1	8.8	99.6	0	0	100.00	0	0	0
September	684	3.9	8.6	22.7	100.0	0	0	100.00	0	0	0
October	700	5.6	10.7	20.6	98.9	0	0	100.00	0	0	0
November	684	9.0	15.6	32.6	100.0	0	0	100.00	0	0	0
December	685	9.7	22.5	43.7	97.3	0	0	100.00	0	0	0
Annual	8298	6.5	22.5	43.7	99.5	0	0	100.00	0	0	0

West Central Airshed Society - Hinton (AMS 906)
 Annual Summary for 2016
 O3 (ppb)

Month	Number of Data	Mean	Maximum 24-Hour Value	Maximum 1-Hour Value	Operational Time (%)	Number 1-Hour Violations
January	708	16.1	40.8	45.5	100.0	0
February	661	23.5	37.0	49.9	100.0	0
March	709	22.8	33.2	48.0	100.0	0
April	684	29.2	40.9	57.5	100.0	0
May	709	28.9	45.2	62.4	100.0	0
June	685	27.2	43.0	65.1	100.0	0
July	693	18.4	27.8	43.2	97.9	0
August	697	16.0	26.2	40.3	99.6	0
September	684	15.3	26.8	39.6	99.9	0
October	701	10.6	26.3	39.8	98.9	0
November	685	12.4	29.0	43.9	100.0	0
December	707	22.0	35.2	43.0	100.0	0
Annual	8323	20.2	45.2	65.1	99.7	0

West Central Airshed Society - Hinton (AMS 906)

Annual Summary for 2016

PM_{2.5} (µg/m³)

Month	Number of Data	Mean	Maximum 24-Hour Value	Maximum 1-Hour Value	Operational Time (%)	Number 24-Hour Violations	Number 1-Hour Violations
January	739	7.9	18.4	35.1	100.0	0	0
February	696	10.0	37.4	98.2	100.0	1	3
March	743	7.8	13.3	124.3	99.9	0	1
April	713	11.8	25.0	214.2	100.0	0	6
May	744	8.5	17.7	85.0	100.0	0	1
June	719	7.2	19.2	73.2	99.9	0	0
July	719	6.7	10.1	26.5	97.7	0	0
August	719	6.8	12.9	25.8	97.7	0	0
September	693	7.4	17.7	51.8	96.3	0	0
October	691	7.1	19.1	59.4	92.9	0	0
November	686	8.4	16.8	38.1	95.3	0	0
December	679	7.5	17.9	29.1	91.3	0	0
Annual	8541	8.1	37.4	214.2	97.6	1	11

Hinton Pulp
A Division of West Fraser Mills Limited
Frequency Distribution Charts
Meteorological Measurements
Year 2016

West Central Airshed Society - Hinton (AMS 906)
 Annual Summary for 2016
 Percentage Frequency Distribution of Wind

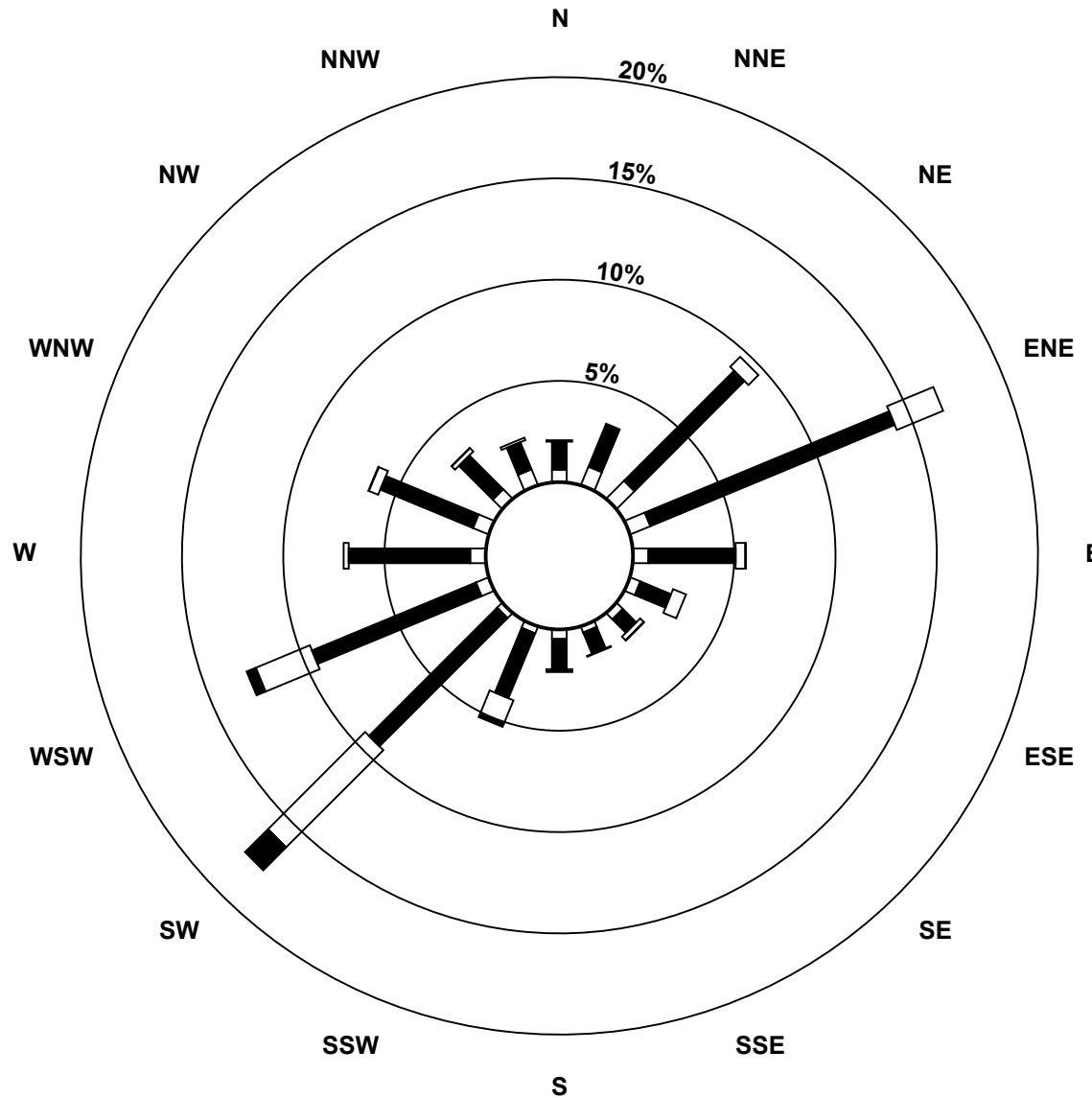
Speed (kph)							
Direction	>1 to 5	>5 to 11	>11 to 19	>19 to 28	>28 to 38	>38	Totals
N	1.31	0.09	0.00	0.00	0.00	0.00	1.40
NNE	2.26	0.00	0.00	0.00	0.00	0.00	2.26
NE	8.31	0.92	0.00	0.00	0.00	0.00	9.23
ENE	15.21	3.26	0.00	0.00	0.00	0.00	18.47
E	4.24	0.64	0.02	0.00	0.00	0.00	4.89
ESE	1.57	0.90	0.00	0.00	0.00	0.00	2.48
SE	0.76	0.34	0.02	0.00	0.00	0.00	1.12
SSE	0.98	0.06	0.00	0.00	0.00	0.00	1.04
S	1.50	0.16	0.02	0.00	0.00	0.00	1.67
SSW	3.83	1.65	0.22	0.00	0.00	0.00	5.71
SW	10.60	8.92	2.10	0.00	0.00	0.00	21.62
WSW	9.71	3.80	0.64	0.00	0.00	0.00	14.15
W	6.11	0.33	0.00	0.00	0.00	0.00	6.44
WNW	4.93	0.65	0.03	0.00	0.00	0.00	5.61
NW	2.15	0.31	0.02	0.00	0.00	0.00	2.48
NNW	1.25	0.17	0.00	0.00	0.00	0.00	1.42
Totals	74.73	22.21	3.06	0.00	0.00	0.00	100.00

Number of Data Values		6415
Hours in Time Period		8784

**WCAS - Hinton
Wind Speed Rose**



**Wind Speed (WS) - kph
2016**



Wind Frequency (kph)

