



HINTON PULP
A DIVISION OF WEST FRASER MILLS LIMITED
Continuous Ambient Air Quality
Monitoring Program
Annual Summary for 2014

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 6th, 2015

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 2014.
For Hinton Pulp – A Division of West Fraser Mills Ltd.

The West Central Airshed Society (WCAS) presents the 2014 Annual Report containing ambient air quality and meteorological information from the following site:

Network Station is AMS 906 Hinton
Identified as:

SO₂, O₃ and NO_x analyzers were added to the station in 2014. 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".

Patrick Andersen
Environmental Specialist

Summary Report

Continuous air quality/meteorological monitoring measurements

West Central Airshed Society

Hinton Pulp / Hinton Station 906												24 Hour Average Max (ppm)
January to December 2014												
Parameter	Calibration Hours	Number of Data	Percent Uptime	Mean	Min	Max	P10	Q1	Percentile Median	Q3	P90	
TRS (ppb)	438	8307	99.8	1.5	0.0	51.0	0.2	0.4	0.6	1.4	3.3	0.011
SO ₂ (ppb)	470	7556	91.6	0.4	0.0	59.5	0.0	0.0	0.0	0.2	0.8	0.009
O ₃ (ppb)	435	8309	99.8	23.6	0.0	66.1	3.1	9.7	23.9	36.3	44.2	0.047
NO (ppb)	443	8305	99.9	5.4	0.0	193.1	0.1	0.4	1.2	3.9	13.4	-
NO ₂ (ppb)	443	8305	99.9	7.8	0.0	65.3	1.7	3.0	5.5	10.0	17.1	0.026
NO _x (ppb)	443	8305	99.9	13.1	0.0	226.5	2.1	3.9	7.3	14.2	29.3	-
Particulate Matter 2.5 microns (µ/m ³)	17	8698	99.5	9.7	0.0	341.5	3.2	4.6	6.9	10.9	17.7	96.3 ug/m3
Wind Speed (kph)	0	8754	99.9	3.1	0.0	21.0	0.5	1.0	2.1	4.2	7.1	-
Temperature (°C)	0	8754	99.9	3.5	-35.7	33.2	-13.1	-3.8	4.4	11.9	18.6	-
Relative Humidity (%)	0	8754	99.9	61.7	6.0	92.7	28.5	44.6	66.0	80.4	87.6	-
Std Dev Wind Direction (deg)	0	8754	99.9	52.9	10.4	117.6	28.7	36.9	48.2	66.9	85.8	-
Std Dev Wind Speed (kph)	0	8754	99.9	2.4	0.0	11.7	1.0	1.3	2.0	3.1	4.6	-

Hinton Pulp
A Division of West Fraser Mills Limited
Frequency Distribution Charts
Monthly Averages
Year 2014

West Central Airshed Society - Hinton (AMS 906)
 Annual Summary for 2014
 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	709	1.2	5.4	51.4	100.0	1	3	94.64	4.94	0.28	0.14
February	636	1.5	4.6	18.2	100.0	1	4	87.89	11.32	0.79	0.00
March	709	0.9	1.7	4.8	100.0	0	0	97.88	2.12	0.00	0.00
April	683	1.3	3.0	16.0	100.0	0	2	89.17	10.54	0.29	0.00
May	705	0.9	1.5	6.5	100.0	0	0	97.02	2.98	0.00	0.00
June	684	0.9	1.3	7.1	100.0	0	0	95.61	4.39	0.00	0.00
July	700	1.3	3.1	20.1	99.5	0	6	87.86	11.14	1.00	0.00
August	701	1.5	4.2	22.1	99.1	1	15	86.16	11.41	2.43	0.00
September	681	2.2	10.7	41.6	99.4	7	40	84.14	9.84	6.02	0.00
October	706	2.3	6.6	46.1	100.0	9	29	76.49	19.26	4.25	0.00
November	685	1.8	6.1	28.2	100.0	3	11	81.61	16.06	2.34	0.00
December	708	1.8	4.9	18.9	100.0	4	12	84.18	13.56	2.26	0.00
Annual	8307	1.5	10.7	51.4	99.8	26	122	88.58	9.77	1.64	0.01

* 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 2014
 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	709	0.6	8.9	59.5	100.0	0	0	99.44	0.56	0.00	0.00	0.00	0.00
February	636	0.4	1.9	7.4	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
March	709	0.4	2.7	11.4	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
April	683	0.6	4.4	13.8	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
May	705	0.2	0.9	8.0	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
June	684	0.3	0.9	16.6	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
July	700	0.5	1.7	11.0	99.5	0	0	100.00	0.00	0.00	0.00	0.00	0.00
August	703	0.4	2.4	9.0	99.2	0	0	100.00	0.00	0.00	0.00	0.00	0.00
September	417	0.2	0.9	4.2	64.4	0	0	100.00	0.00	0.00	0.00	0.00	0.00
October	217	0.2	0.6	3.9	37.1	0	0	100.00	0.00	0.00	0.00	0.00	0.00
November	685	0.2	0.7	2.5	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
December	708	0.2	1.0	4.8	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
Annual	7556	0.4	8.9	59.5	91.6	0	0	99.95	0.05	0.00	0.00	0.00	0.00

West Central Airshed Society - Hinton (AMS 906)
 Annual Summary for 2014
 O3 (ppb)

Month	Number of Data	Mean	Maximum 24-Hour Value	Maximum 1-Hour Value	Operational Time (%)	Number 1-Hour Violations
January	706	28.5	45.9	54.0	100.0	0
February	636	21.5	36.2	47.2	100.0	0
March	709	33.0	47.3	55.1	100.0	0
April	679	33.9	43.0	65.4	99.6	0
May	707	30.2	38.7	56.1	100.0	0
June	684	28.0	36.3	60.0	100.0	0
July	702	25.7	39.9	66.1	99.5	0
August	703	20.5	30.4	52.5	99.2	0
September	683	14.6	21.9	45.1	99.7	0
October	707	16.4	33.1	48.4	99.9	0
November	685	15.4	29.2	39.9	100.0	0
December	708	15.8	36.5	40.7	100.0	0
Annual	8309	23.6	47.3	66.1	99.8	0

West Central Airshed Society - Hinton (AMS 906)
 Annual Summary for 2014
 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	8.9	15.5	40.4	100.0	0	0	100.00	0	0	0
February	638	13.0	26.2	52.1	100.0	0	0	99.84	0.16	0	0
March	707	8.6	16.4	42.3	100.0	0	0	100.00	0	0	0
April	684	7.7	16.0	41.6	100.0	0	0	100.00	0	0	0
May	707	4.4	7.6	25.5	100.0	0	0	100.00	0	0	0
June	680	3.5	5.5	12.9	100.0	0	0	100.00	0	0	0
July	699	4.5	6.8	15.4	99.5	0	0	100.00	0	0	0
August	702	4.8	8.9	24.8	99.2	0	0	100.00	0	0	0
September	682	5.4	11.2	24.9	99.7	0	0	100.00	0	0	0
October	707	8.2	12.4	28.6	100.0	0	0	100.00	0	0	0
November	684	10.8	17.4	38.7	100.0	0	0	100.00	0	0	0
December	707	13.6	26.0	65.3	100.0	0	0	99.72	0.28	0	0
Annual	8305	7.8	26.2	65.3	99.9	0	0	99.96	0.04	0	0

West Central Airshed Society - Hinton (AMS 906)
 Annual Summary for 2014
 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	737	6.2	13.0	46.4	99.1	0	0
February	672	8.3	15.8	35.6	100.0	0	0
March	744	7.3	10.9	36.6	100.0	0	0
April	720	9.5	22.5	67.2	100.0	0	0
May	744	7.0	11.0	29.0	100.0	0	0
June	720	15.5	96.3	341.5	100.0	2	18
July	726	16.8	68.4	151.5	98.9	3	9
August	735	13.1	37.2	68.1	98.9	1	0
September	717	8.5	27.5	101.9	99.6	0	2
October	738	9.8	22.2	90.2	100.0	0	1
November	701	6.4	12.9	53.2	97.4	0	0
December	744	7.6	17.7	35.8	100.0	0	0
Annual	8698	9.7	96.3	341.5	99.5	7	30

Hinton Pulp
A Division of West Fraser Mills Limited
Frequency Distribution Charts
Wind Speed and Direction
Year 2014

West Central Airshed Society - Hinton (AMS 906)
 Annual Summary for 2014
 Percentage Frequency Distribution of Wind

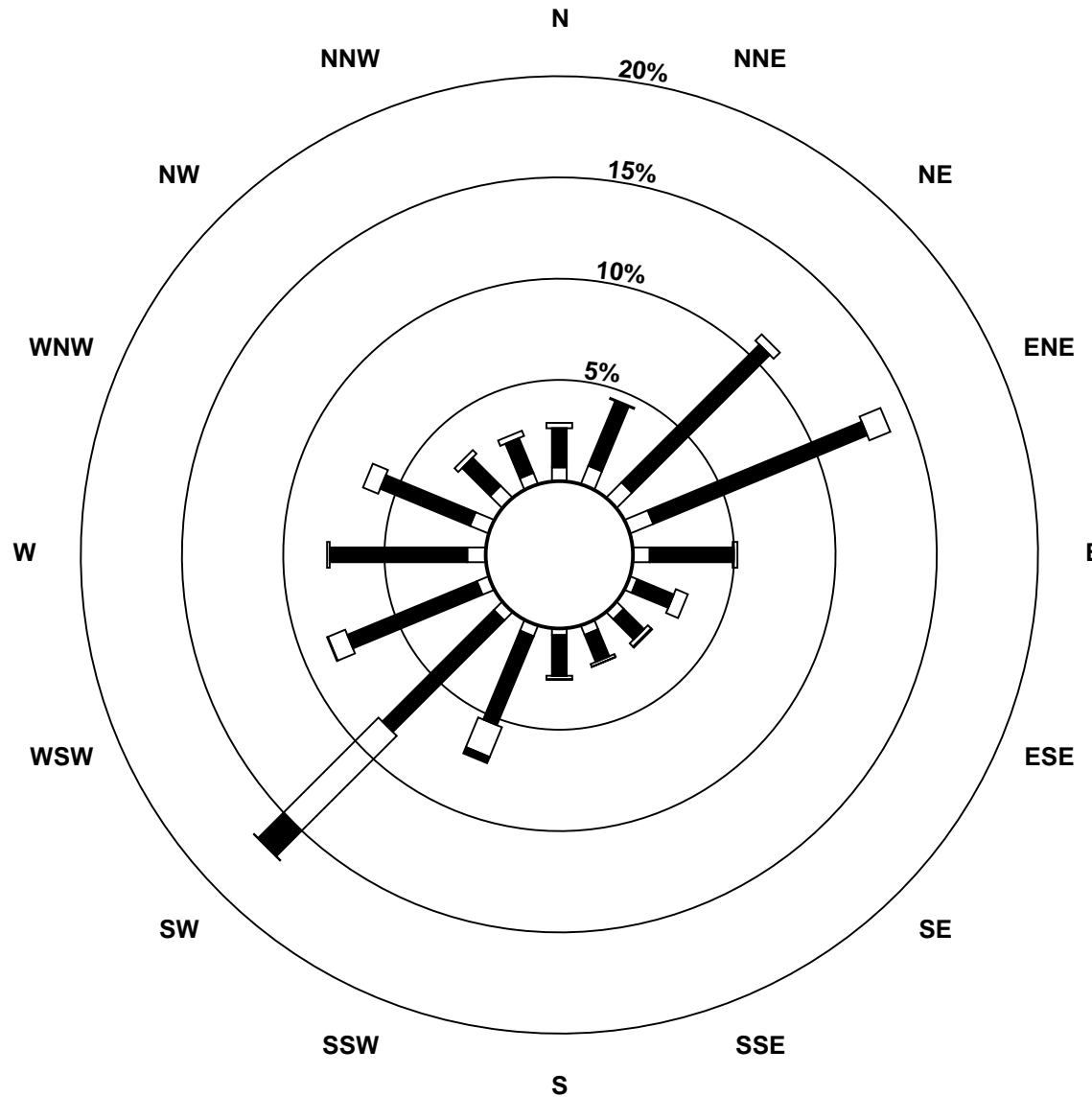
Speed (kph)							
Direction	>1 to 5	>5 to 11	>11 to 19	>19 to 28	>28 to 38	>38	Totals
N	2.11	0.36	0.00	0.00	0.00	0.00	2.46
NNE	3.60	0.08	0.00	0.00	0.00	0.00	3.67
NE	11.11	0.59	0.00	0.00	0.00	0.00	11.70
ENE	13.05	1.52	0.00	0.00	0.00	0.00	14.57
E	4.04	0.31	0.00	0.00	0.00	0.00	4.35
ESE	1.77	0.87	0.00	0.00	0.00	0.00	2.63
SE	1.41	0.31	0.09	0.00	0.00	0.00	1.81
SSE	1.22	0.20	0.02	0.00	0.00	0.00	1.44
S	2.08	0.23	0.03	0.00	0.00	0.00	2.34
SSW	5.49	2.15	0.45	0.00	0.00	0.00	8.09
SW	9.14	9.00	2.40	0.03	0.00	0.00	20.58
WSW	7.50	1.26	0.06	0.00	0.00	0.00	8.82
W	7.10	0.17	0.00	0.00	0.00	0.00	7.27
WNW	5.02	1.10	0.00	0.00	0.00	0.00	6.12
NW	1.69	0.36	0.00	0.00	0.00	0.00	2.05
NNW	1.70	0.39	0.00	0.00	0.00	0.00	2.09
Totals	78.03	18.89	3.05	0.03	0.00	0.00	100.00

Number of Data Values		6453
Hours in Time Period		8760

WCAS - Hinton
Wind Speed Rose



Wind Speed (WS) - kph
2014



Wind Frequency (kph)

