



*WOOD BUFFALO
ENVIRONMENTAL
ASSOCIATION*



**2011
ANNUAL REPORT**

CONTINUOUS MONITORING
March 10, 2012

Operations and Data Collection by:
Measair Corporation &
Wood Buffalo Environmental Association
Fort McMurray, Alberta

QA/QA, Data Validation and Reporting by:
Aurora Atmospherics Inc
Fort McMurray, Alberta

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WOOD BUFFALO ENVIRONMENTAL ASSOCIATION
MONTHLY AIR MONITORING SUMMARY
for AMD SECTION III.B.1(c)

JANUARY to DECEMBER 2011

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prepared 10MAR12:10:29

APPROVAL NUMBERS	REPORT DATE						
	MONTH	YEAR					
94-02-00	1 - 12	2011					
26-01-00							
20809-01-00							
149968-00-01	CONTINUOUS AMBIENT MONITORING						
137467-00-00			ONE-HOUR AVERAGE		24-HOUR AVERAGE		
46586-00-01	PARAMETER	STN. NO.	% TIME OPERATIONAL	MAXIMUM CONCENTRATION	NO. READINGS > REGULATION	MAXIMUM CONCENTRATION	NO. READINGS > REGULATION
206355-00-00							
48263-00-00							
	SO2 (ppm)	1	99.11	0.083	0	0.015	0
	SO2 (ppm)	2	99.52	0.112	0	0.030	0
	SO2 (ppm)	4	99.42	0.095	0	0.017	0
	SO2 (ppm)	5	99.02	0.123	0	0.019	0
	SO2 (ppm)	6	96.38	0.065	0	0.010	0
	SO2 (ppm)	7	99.01	0.062	0	0.007	0
	SO2 (ppm)	8	99.91	0.012	0	0.006	0
	SO2 (ppm)	11	97.00	0.092	0	0.022	0
	SO2 (ppm)	12	99.87	0.105	0	0.012	0
	SO2 (ppm)	13	99.59	0.058	0	0.011	0
	SO2 (ppm)	14	99.78	0.073	0	0.006	0
	SO2 (ppm)	15	99.60	0.056	0	0.009	0
	SO2 (ppm)	16	99.11	0.075	0	0.012	0
	SO2 (ppm)	101	97.84	0.052	0	0.019	0
	H2S (ppm)	2	99.32	0.098	18	0.010	4
	H2S (ppm)	4	99.77	0.007	0	0.002	0
	H2S (ppm)	5	99.60	0.012	2	0.003	0
	H2S (ppm)	11	99.86	0.030	13	0.005	3
	H2S (ppm)	101	97.57	0.060	3	0.007	1
	TRS (ppm)	1	98.70	0.006	0	0.003	0
	TRS (ppm)	6	99.73	0.003	0	0.001	0
	TRS (ppm)	7	99.23	0.004	0	0.001	0
	TRS (ppm)	9	99.60	0.009	0	0.003	0
	TRS (ppm)	12	99.89	0.093	133	0.023	23
	TRS (ppm)	13	99.52	0.008	0	0.002	0
	TRS (ppm)	14	99.84	0.007	0	0.001	0
	TRS (ppm)	15	98.69	0.006	0	0.001	0
	THC (ppm)	1	95.10	5.4	-	3.0	-
	THC (ppm)	2	94.11	6.5	-	3.1	-
	THC (ppm)	4	97.41	7.2	-	2.9	-
	THC (ppm)	5	98.36	7.9	-	2.9	-
	THC (ppm)	6	99.46	3.3	-	2.6	-
	THC (ppm)	7	96.37	3.8	-	2.7	-
	THC (ppm)	9	99.22	9.0	-	3.1	-
	THC (ppm)	11	99.24	5.6	-	2.9	-
	THC (ppm)	12	99.51	9.1	-	4.6	-
	THC (ppm)	13	98.97	8.2	-	3.5	-
	THC (ppm)	14	98.87	3.1	-	2.4	-
	THC (ppm)	15	96.43	9.4	-	3.8	-
	THC (ppm)	16	99.00	6.9	-	4.4	-
	O3 (ppm)	1	99.05	0.089	8	0.057	-
	O3 (ppm)	6	88.93	0.077	0	0.053	-
	O3 (ppm)	7	99.08	0.077	0	0.053	-
	O3 (ppm)	8	99.41	0.084	1	0.057	-

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION
MONTHLY AIR MONITORING SUMMARY
for AMD SECTION III.B.1(c)

JANUARY to DECEMBER 2011

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APPROVAL NUMBERS	REPORT DATE						
	MONTH	YEAR					
94-02-00	1 - 12	2011					
26-01-00							
20809-01-00							
149968-00-01	CONTINUOUS AMBIENT MONITORING						
137467-00-00			ONE-HOUR AVERAGE		24-HOUR AVERAGE		
46586-00-01	PARAMETER	STN. NO.	% TIME OPERATIONAL	MAXIMUM CONCENTRATION	NO. READINGS > REGULATION	MAXIMUM CONCENTRATION	NO. READINGS > REGULATION
206355-00-00	O3 (ppm)	13	99.60	0.091	6	0.052	-
48263-00-00	O3 (ppm)	14	99.71	0.079	0	0.060	-
	NO2 (ppm)	1	99.05	0.051	0	0.030	0
	NO2 (ppm)	6	99.50	0.045	0	0.028	0
	NO2 (ppm)	7	99.19	0.064	0	0.034	0
	NO2 (ppm)	8	99.82	0.042	0	0.011	0
	NO2 (ppm)	12	99.13	0.154	0	0.047	0
	NO2 (ppm)	13	99.75	0.056	0	0.031	0
	NO2 (ppm)	14	99.71	0.066	0	0.016	0
	NO2 (ppm)	15	99.68	0.052	0	0.030	0
	NO2 (ppm)	16	99.49	0.079	0	0.040	0
	NO2 (ppm)	101	97.94	0.069	0	0.019	0
	CO (ppm)	7	99.15	2.70	-	0.900	-
	NH3 (ppm)	1	98.66	0.123	-	0.002	-
	NH3 (ppm)	6	98.87	0.049	-	0.001	-
	PM2.5 (ug/m3)	1	96.05	449.8	-	164.4	12
	PM2.5 (ug/m3)	6	94.74	449.4	-	118.9	11
	PM2.5 (ug/m3)	7	97.63	448.6	-	137.1	17
	PM2.5 (ug/m3)	8	88.09	406.5	-	132.0	3
	PM2.5 (ug/m3)	12	97.26	451.4	-	120.3	16
	PM2.5 (ug/m3)	13	94.91	450.7	-	221.4	9
	PM2.5 (ug/m3)	14	90.91	222.9	-	79.6	6
	PM2.5 (ug/m3)	15	95.23	437.2	-	190.6	13
	PM2.5 (ug/m3)	16	93.72	449.8	-	160.5	10
	WIND	1	99.32	-	-	-	-
	WIND	2	97.93	-	-	-	-
	WIND	4	97.07	-	-	-	-
	WIND	5	99.60	-	-	-	-
	WIND	6	98.63	-	-	-	-
	WIND	7	95.47	-	-	-	-
	WIND	8	99.94	-	-	-	-
	WIND	9	97.24	-	-	-	-
	WIND	11	98.33	-	-	-	-
	WIND	12	98.40	-	-	-	-
	WIND	13	99.10	-	-	-	-
	WIND	14	97.44	-	-	-	-
	WIND	15	98.38	-	-	-	-
	WIND	16	98.29	-	-	-	-
	WIND	101	99.24	-	-	-	-
SIGNATURE OF ASSOCIATION REPRESENTATIVE				FOR ALBERTA ENVIRONMENT USE ONLY			

Wood Buffalo Environmental Association - Fort McKay (AMS 1)
Annual Summary for the Year 2011
SO2 (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline	% of Data in Each Concentration Range					
								0 - 20	21 - 60	61 - 110	111 - 170	171 - 340	>340
Jan	97.85	691	1.1	24	0	4	0	99.71	0.29	0	0	0	0
Feb	99.55	637	1.6	19	0	5	0	100.00	0	0	0	0	0
Mar	99.60	705	2.9	43	0	8	0	98.58	1.42	0	0	0	0
Apr	99.86	683	1.7	52	0	10	0	98.68	1.32	0	0	0	0
May	94.09	666	2.5	83	0	11	0	98.50	1.35	0.15	0	0	0
Jun	99.72	685	2.0	79	0	15	0	98.54	1.17	0.29	0	0	0
Jul	100.00	707	1.6	58	0	10	0	98.87	1.13	0	0	0	0
Aug	99.46	705	1.0	31	0	5	0	99.57	0.43	0	0	0	0
Sep	99.72	678	1.6	29	0	8	0	99.12	0.88	0	0	0	0
Oct	99.60	705	1.1	27	0	4	0	99.86	0.14	0	0	0	0
Nov	100.00	684	0.7	10	0	2	0	100.00	0	0	0	0	0
Dec	100.00	706	1.1	9	0	2	0	100.00	0	0	0	0	0
Annual	99.11	8252	1.6	83	0	15	0	99.28	0.68	0.04	0	0	0

Length of Monthly Periods with Data Collection: 8760 Hours

Wood Buffalo Environmental Association - Mildred Lake (AMS 2)
Annual Summary for the Year 2011
SO2 (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline	% of Data in Each Concentration Range					
								0 - 20	21 - 60	61 - 110	111 - 170	171 - 340	>340
Jan	100.00	709	1.2	25	0	5	0	99.72	0.28	0	0	0	0
Feb	99.85	631	1.9	85	0	19	0	97.78	2.06	0.16	0	0	0
Mar	100.00	707	2.9	86	0	18	0	96.75	2.55	0.71	0	0	0
Apr	99.03	678	2.6	92	0	21	0	97.35	2.06	0.59	0	0	0
May	99.73	703	3.1	67	0	17	0	96.44	3.13	0.43	0	0	0
Jun	96.67	660	2.7	63	0	17	0	94.55	5.3	0.15	0	0	0
Jul	100.00	708	3.9	60	0	30	0	93.50	6.5	0	0	0	0
Aug	100.00	709	4.6	73	0	17	0	92.24	7.33	0.42	0	0	0
Sep	99.86	682	5.5	101	0	18	0	90.18	8.5	1.32	0	0	0
Oct	99.46	702	4.1	112	0	21	0	94.87	4.27	0.71	0.14	0	0
Nov	99.72	684	1.9	65	0	7	0	98.54	1.32	0.15	0	0	0
Dec	99.87	706	3.2	97	0	20	0	95.33	4.25	0.42	0	0	0
Annual	99.52	8279	3.1	112	0	30	0	95.51	4.05	0.43	0.01	0	0

Length of Monthly Periods with Data Collection: 8760 Hours

**Wood Buffalo Environmental Association - Buffalo Viewpoint (AMS 4)
Annual Summary for the Year 2011
SO2 (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline	% of Data in Each Concentration Range					
								0 - 20	21 - 60	61 - 110	111 - 170	171 - 340	>340
Jan	100.00	709	0.8	22	0	3	0	99.86	0.14	0	0	0	0
Feb	99.85	638	1.5	34	0	11	0	98.59	1.41	0	0	0	0
Mar	100.00	708	1.7	74	0	12	0	98.02	1.69	0.28	0	0	0
Apr	97.78	670	2.0	48	0	9	0	97.46	2.54	0	0	0	0
May	99.60	705	2.1	55	0	10	0	98.44	1.56	0	0	0	0
Jun	99.31	681	1.8	71	0	10	0	97.80	2.06	0.15	0	0	0
Jul	97.45	689	0.5	38	0	4	0	99.71	0.29	0	0	0	0
Aug	99.33	704	1.4	95	0	17	0	98.30	1.56	0.14	0	0	0
Sep	99.86	683	0.5	29	0	8	0	99.56	0.44	0	0	0	0
Oct	100.00	709	0.5	67	0	7	0	99.58	0.28	0.14	0	0	0
Nov	100.00	686	0.4	14	0	3	0	100.00	0	0	0	0	0
Dec	99.87	708	0.4	21	0	3	0	99.86	0.14	0	0	0	0
Annual	99.42	8290	1.1	95	0	17	0	98.91	1.03	0.06	0	0	0

Length of Monthly Periods with Data Collection: 8760 Hours

Wood Buffalo Environmental Association - Mannix (AMS 5)
Annual Summary for the Year 2011
SO2 (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline	% of Data in Each Concentration Range					
								0 - 20	21 - 60	61 - 110	111 - 170	171 - 340	>340
Jan	99.73	707	2.9	64	0	12	0	97.60	2.26	0.14	0	0	0
Feb	95.68	611	2.6	70	0	13	0	97.55	2.13	0.33	0	0	0
Mar	97.18	687	2.6	103	0	15	0	97.09	2.77	0.15	0	0	0
Apr	100.00	687	2.5	63	0	12	0	97.38	2.47	0.15	0	0	0
May	99.19	702	3.9	76	0	19	0	95.87	3.56	0.57	0	0	0
Jun	99.86	684	2.2	123	0	11	0	98.39	1.46	0	0.15	0	0
Jul	100.00	707	0.8	20	0	8	0	100.00	0	0	0	0	0
Aug	100.00	708	1.6	71	0	15	0	97.88	1.98	0.14	0	0	0
Sep	100.00	683	1.0	64	0	11	0	99.12	0.73	0.15	0	0	0
Oct	99.87	705	1.0	43	0	6	0	99.29	0.71	0	0	0	0
Nov	96.39	661	1.1	51	0	6	0	99.24	0.76	0	0	0	0
Dec	100.00	709	1.5	117	0	14	0	99.01	0.85	0	0.14	0	0
Annual	99.02	8251	2.0	123	0	19	0	98.22	1.62	0.13	0.02	0	0

Length of Monthly Periods with Data Collection: 8760 Hours

Wood Buffalo Environmental Association - Patricia McInnes (AMS 6)
Annual Summary for the Year 2011
SO2 (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline	% of Data in Each Concentration Range					
								0 - 20	21 - 60	61 - 110	111 - 170	171 - 340	>340
Jan	99.87	706	2.0	23	0	5	0	99.72	0.28	0	0	0	0
Feb	99.85	638	1.7	22	0	7	0	99.53	0.47	0	0	0	0
Mar	99.87	704	2.0	65	0	7	0	98.86	0.99	0.14	0	0	0
Apr	100.00	683	1.3	24	0	5	0	99.56	0.44	0	0	0	0
May	99.73	704	1.0	20	0	4	0	100.00	0	0	0	0	0
Jun	98.75	676	0.6	19	0	3	0	100.00	0	0	0	0	0
Jul	100.00	707	0.3	14	0	3	0	100.00	0	0	0	0	0
Aug	99.60	705	0.5	20	0	3	0	100.00	0	0	0	0	0
Sep	59.31	400	0.4	15	0	3	0	100.00	0	0	0	0	0
Oct	99.87	706	0.6	40	0	10	0	99.29	0.71	0	0	0	0
Nov	99.58	681	0.8	32	0	5	0	99.56	0.44	0	0	0	0
Dec	99.60	705	0.7	11	0	3	0	100.00	0	0	0	0	0
Annual	96.38	8015	1.0	65	0	10	0	99.70	0.29	0.01	0	0	0

Length of Monthly Periods with Data Collection: 8760 Hours

Wood Buffalo Environmental Association - Athabasca Valley (AMS 7)
Annual Summary for the Year 2011
SO2 (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline	% of Data in Each Concentration Range					
								0 - 20	21 - 60	61 - 110	111 - 170	171 - 340	>340
Jan	100.00	707	0.9	11	0	2	0	100.00	0	0	0	0	0
Feb	99.55	635	1.1	18	0	4	0	100.00	0	0	0	0	0
Mar	100.00	705	1.4	62	0	7	0	99.15	0.71	0.14	0	0	0
Apr	99.03	677	1.1	21	0	4	0	99.85	0.15	0	0	0	0
May	99.33	701	0.7	19	0	4	0	100.00	0	0	0	0	0
Jun	99.86	684	0.5	24	0	3	0	99.85	0.15	0	0	0	0
Jul	98.94	526	0.4	32	0	4	0	99.81	0.19	0	0	0	0
Aug	95.18	603	0.3	17	0	1	0	100.00	0	0	0	0	0
Sep	100.00	680	0.3	16	0	2	0	100.00	0	0	0	0	0
Oct	98.79	700	0.4	30	0	6	0	99.57	0.43	0	0	0	0
Nov	99.58	681	0.5	23	0	3	0	99.85	0.15	0	0	0	0
Dec	97.58	692	0.2	7	0	1	0	100.00	0	0	0	0	0
Annual	99.01	7991	0.7	62	0	7	0	99.84	0.15	0.01	0	0	0

Length of Monthly Periods with Data Collection: 8760 Hours

Wood Buffalo Environmental Association - Fort Chipewyan (AMS 8)
Annual Summary for the Year 2011
SO2 (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline	% of Data in Each Concentration Range					
								0 - 20	21 - 60	61 - 110	111 - 170	171 - 340	>340
Jan	99.87	706	0.6	12	0	3	0	100.00	0	0	0	0	0
Feb	100.00	634	0.5	12	0	6	0	100.00	0	0	0	0	0
Mar	100.00	707	0.7	7	0	3	0	100.00	0	0	0	0	0
Apr	100.00	684	0.1	2	0	1	0	100.00	0	0	0	0	0
May	100.00	704	0.2	4	0	1	0	100.00	0	0	0	0	0
Jun	99.86	683	0.2	3	0	1	0	100.00	0	0	0	0	0
Jul	99.60	696	0.1	2	0	0	0	100.00	0	0	0	0	0
Aug	99.87	703	0.1	3	0	1	0	100.00	0	0	0	0	0
Sep	100.00	684	0.3	7	0	3	0	100.00	0	0	0	0	0
Oct	100.00	709	0.2	7	0	1	0	100.00	0	0	0	0	0
Nov	99.72	682	0.4	9	0	3	0	100.00	0	0	0	0	0
Dec	100.00	707	0.5	9	0	3	0	100.00	0	0	0	0	0
Annual	99.91	8299	0.3	12	0	6	0	100.00	0	0	0	0	0

Length of Monthly Periods with Data Collection: 8760 Hours

Wood Buffalo Environmental Association - Lower Camp (AMS 11)
Annual Summary for the Year 2011
SO2 (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline	% of Data in Each Concentration Range					
								0 - 20	21 - 60	61 - 110	111 - 170	171 - 340	>340
Jan	84.81	596	1.4	51	0	15	0	98.49	1.51	0	0	0	0
Feb	87.80	557	1.2	26	0	2	0	99.82	0.18	0	0	0	0
Mar	92.88	655	2.0	77	0	15	0	97.86	1.98	0.15	0	0	0
Apr	100.00	686	2.0	66	0	10	0	97.81	2.04	0.15	0	0	0
May	99.73	706	3.2	92	0	22	0	96.74	2.83	0.42	0	0	0
Jun	100.00	686	1.8	51	0	10	0	97.96	2.04	0	0	0	0
Jul	98.79	697	0.7	23	0	4	0	99.86	0.14	0	0	0	0
Aug	99.87	705	1.3	26	0	3	0	99.57	0.43	0	0	0	0
Sep	99.86	680	1.7	65	0	10	0	98.68	1.18	0.15	0	0	0
Oct	100.00	708	1.4	48	0	6	0	98.31	1.69	0	0	0	0
Nov	99.72	682	1.2	47	0	5	0	99.71	0.29	0	0	0	0
Dec	100.00	708	1.0	34	0	4	0	99.72	0.28	0	0	0	0
Annual	97.00	8066	1.6	92	0	22	0	98.68	1.24	0.08	0	0	0

Length of Monthly Periods with Data Collection: 8760 Hours

Wood Buffalo Environmental Association - Millennium (AMS 12)
Annual Summary for the Year 2011
SO2 (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline	% of Data in Each Concentration Range					
								0 - 20	21 - 60	61 - 110	111 - 170	171 - 340	>340
Jan	100.00	706	0.8	12	0	2	0	100.00	0	0	0	0	0
Feb	100.00	638	1.2	27	0	5	0	99.69	0.31	0	0	0	0
Mar	99.19	700	1.1	65	0	9	0	98.86	1	0.14	0	0	0
Apr	100.00	684	1.2	51	0	7	0	98.54	1.46	0	0	0	0
May	100.00	707	1.3	54	0	8	0	98.87	1.13	0	0	0	0
Jun	99.58	681	1.2	105	0	11	0	98.97	0.88	0.15	0	0	0
Jul	99.87	708	0.7	46	0	6	0	99.72	0.28	0	0	0	0
Aug	100.00	706	1.5	44	0	8	0	98.58	1.42	0	0	0	0
Sep	100.00	685	1.0	17	0	3	0	100.00	0	0	0	0	0
Oct	99.87	707	1.1	32	0	6	0	99.58	0.42	0	0	0	0
Nov	100.00	685	1.1	16	0	5	0	100.00	0	0	0	0	0
Dec	100.00	707	1.2	27	0	12	0	99.29	0.71	0	0	0	0
Annual	99.87	8314	1.1	105	0	12	0	99.33	0.65	0.02	0	0	0

Length of Monthly Periods with Data Collection: 8760 Hours

Wood Buffalo Environmental Association - Syncrude UE-1 (AMS 13)
Annual Summary for the Year 2011
SO2 (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline	% of Data in Each Concentration Range					
								0 - 20	21 - 60	61 - 110	111 - 170	171 - 340	>340
Jan	99.87	706	1.5	9	0	3	0	100.00	0	0	0	0	0
Feb	99.70	633	1.5	33	0	7	0	99.53	0.47	0	0	0	0
Mar	100.00	705	1.9	31	0	7	0	98.72	1.28	0	0	0	0
Apr	99.86	683	1.1	43	0	8	0	98.54	1.46	0	0	0	0
May	98.66	699	2.1	46	0	9	0	99.43	0.57	0	0	0	0
Jun	99.31	680	1.5	58	0	11	0	98.38	1.62	0	0	0	0
Jul	100.00	706	1.4	57	0	10	0	98.87	1.13	0	0	0	0
Aug	99.73	707	1.1	22	0	4	0	99.86	0.14	0	0	0	0
Sep	99.44	677	1.3	35	0	9	0	99.26	0.74	0	0	0	0
Oct	99.19	702	0.6	35	0	4	0	99.86	0.14	0	0	0	0
Nov	99.31	679	0.5	21	0	2	0	99.85	0.15	0	0	0	0
Dec	100.00	708	0.5	12	0	2	0	100.00	0	0	0	0	0
Annual	99.59	8285	1.2	58	0	11	0	99.36	0.64	0	0	0	0

Length of Monthly Periods with Data Collection: 8760 Hours

Wood Buffalo Environmental Association - Anzac (AMS 14)
Annual Summary for the Year 2011
SO2 (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline	% of Data in Each Concentration Range					
								0 - 20	21 - 60	61 - 110	111 - 170	171 - 340	>340
Jan	100.00	708	1.1	18	0	5	0	100.00	0	0	0	0	0
Feb	99.40	634	1.1	18	0	3	0	100.00	0	0	0	0	0
Mar	99.73	704	0.9	12	0	3	0	100.00	0	0	0	0	0
Apr	100.00	685	0.7	8	0	2	0	100.00	0	0	0	0	0
May	100.00	708	0.8	73	0	6	0	99.86	0	0.14	0	0	0
Jun	99.58	677	0.4	10	0	1	0	100.00	0	0	0	0	0
Jul	99.46	704	0.3	9	0	1	0	100.00	0	0	0	0	0
Aug	99.33	700	0.3	7	0	1	0	100.00	0	0	0	0	0
Sep	100.00	680	0.4	9	0	1	0	100.00	0	0	0	0	0
Oct	100.00	707	0.4	15	0	4	0	100.00	0	0	0	0	0
Nov	99.86	683	0.3	9	0	1	0	100.00	0	0	0	0	0
Dec	100.00	706	0.5	9	0	2	0	100.00	0	0	0	0	0
Annual	99.78	8296	0.6	73	0	6	0	99.99	0	0.01	0	0	0

Length of Monthly Periods with Data Collection: 8760 Hours

Wood Buffalo Environmental Association - CNRL Horizon (AMS 15)
Annual Summary for the Year 2011
SO2 (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline	% of Data in Each Concentration Range					
								0 - 20	21 - 60	61 - 110	111 - 170	171 - 340	>340
Jan	99.60	704	0.8	16	0	3	0	100.00	0	0	0	0	0
Feb	100.00	640	0.4	13	0	2	0	100.00	0	0	0	0	0
Mar	97.18	689	2.1	37	0	8	0	98.84	1.16	0	0	0	0
Apr	100.00	685	0.4	22	0	4	0	99.85	0.15	0	0	0	0
May	99.46	703	1.8	35	0	9	0	99.00	1	0	0	0	0
Jun	99.86	685	0.5	56	0	8	0	99.27	0.73	0	0	0	0
Jul	99.73	705	0.6	29	0	6	0	99.57	0.43	0	0	0	0
Aug	99.73	704	0.5	37	0	5	0	99.72	0.28	0	0	0	0
Sep	99.72	676	0.6	18	0	3	0	100.00	0	0	0	0	0
Oct	100.00	704	0.4	19	0	3	0	100.00	0	0	0	0	0
Nov	100.00	679	0.6	14	0	3	0	100.00	0	0	0	0	0
Dec	100.00	706	0.4	38	0	5	0	99.58	0.42	0	0	0	0
Annual	99.60	8280	0.8	56	0	9	0	99.64	0.36	0	0	0	0

Length of Monthly Periods with Data Collection: 8760 Hours

Wood Buffalo Environmental Association - Albian Muskeg River (AMS 16)
Annual Summary for the Year 2011
SO2 (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline	% of Data in Each Concentration Range					
								0 - 20	21 - 60	61 - 110	111 - 170	171 - 340	>340
Jan	99.46	703	2.2	75	0	12	0	99.15	0.71	0.14	0	0	0
Feb	100.00	635	1.7	27	0	6	0	99.84	0.16	0	0	0	0
Mar	99.33	704	1.5	33	0	6	0	99.57	0.43	0	0	0	0
Apr	100.00	685	0.9	33	0	5	0	99.27	0.73	0	0	0	0
May	99.87	708	1.6	26	0	6	0	99.86	0.14	0	0	0	0
Jun	100.00	684	1.3	45	0	8	0	99.12	0.88	0	0	0	0
Jul	100.00	707	1.0	26	0	5	0	99.43	0.57	0	0	0	0
Aug	91.13	639	0.8	42	0	7	0	99.53	0.47	0	0	0	0
Sep	99.72	681	1.4	44	0	9	0	99.27	0.73	0	0	0	0
Oct	100.00	707	1.1	46	0	5	0	99.72	0.28	0	0	0	0
Nov	100.00	681	0.7	14	0	4	0	100.00	0	0	0	0	0
Dec	100.00	708	1.0	17	0	5	0	100.00	0	0	0	0	0
Annual	99.11	8242	1.3	75	0	12	0	99.63	0.37	0	0	0	0

Length of Monthly Periods with Data Collection: 8760 Hours

Wood Buffalo Environmental Association - Portable (AMS101)
Annual Summary for the Year 2011
SO2 (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guidance	% of Data in Each Concentration Range						
								0 - 20	21 - 60	61 - 110	111 - 170	171 - 340	>340	
Jan	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mar	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Apr	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jun	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jul	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aug	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sep	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oct	94.89	670	2.0	38	0	13	0	98.21	1.79	0	0	0	0	0
Nov	99.31	680	2.0	38	0	9	0	98.09	1.91	0	0	0	0	0
Dec	99.33	703	4.4	52	0	19	0	91.61	8.39	0	0	0	0	0
Annual	97.84	2053	2.8	52	0	19	0	95.73	4.27	0	0	0	0	0

Length of monthly periods with data collections: 2208 Hours

Wood Buffalo Environmental Association - Mildred Lake (AMS 2)
Annual Summary for the Year 2011
H2S (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline	% of Data in Each Concentration Range			
								0 - 3	4 - 10	11 - 50	> 50
Jan	97.98	694	0.7	9	0	4	1	96.54	3.46	0	0
Feb	100.00	631	1.3	98	7	10	2	95.4	3.49	0.48	0.63
Mar	100.00	709	0.6	12	1	3	0	96.76	3.1	0.14	0
Apr	99.03	676	0.3	10	0	1	0	97.78	2.22	0	0
May	99.60	707	0.3	8	0	1	0	98.59	1.41	0	0
Jun	96.67	662	0.2	10	0	1	0	99.4	0.6	0	0
Jul	99.73	707	0.3	11	1	2	0	98.16	1.7	0.14	0
Aug	100.00	707	0.5	14	1	2	0	98.3	1.56	0.14	0
Sep	99.86	682	1.0	44	4	4	1	96.48	2.93	0.59	0
Oct	99.06	701	1.0	16	4	3	0	96.43	3	0.57	0
Nov	99.86	684	0.7	7	0	2	0	98.39	1.61	0	0
Dec	100.00	709	0.7	9	0	2	0	97.88	2.12	0	0
Annual	99.32	8269	0.6	98	18	10	4	97.48	2.3	0.17	0.05

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Buffalo Viewpoint (AMS 4)
Annual Summary for the Year 2011
H2S (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values		% of Data in Each Concentration Range				
					Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Exceeding 24-Hour Guideline	0 - 3	4 - 10	11 - 50	> 50
Jan	100.00	710	0.4	3	0	1	0	100	0	0	0
Feb	100.00	640	0.4	7	0	2	0	97.97	2.03	0	0
Mar	100.00	708	0.2	4	0	1	0	99.86	0.14	0	0
Apr	100.00	687	0.4	6	0	1	0	99.27	0.73	0	0
May	99.33	702	0.5	6	0	1	0	99.72	0.28	0	0
Jun	99.44	682	0.3	5	0	1	0	99.41	0.59	0	0
Jul	100.00	709	0.2	7	0	1	0	99.44	0.56	0	0
Aug	100.00	706	0.2	6	0	1	0	99.58	0.42	0	0
Sep	100.00	684	0.2	5	0	1	0	99.71	0.29	0	0
Oct	100.00	709	0.3	4	0	1	0	99.86	0.14	0	0
Nov	100.00	686	0.3	7	0	1	0	99.42	0.58	0	0
Dec	98.52	696	0.2	5	0	1	0	99.86	0.14	0	0
Annual	99.77	8319	0.3	7	0	2	0	99.5	0.5	0	0

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Mannix (AMS 5)
Annual Summary for the Year 2011
H2S (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline	% of Data in Each Concentration Range			
								0 - 3	4 - 10	11 - 50	> 50
Jan	100.00	709	0.7	6	0	2	0	99.72	0.28	0	0
Feb	99.85	640	0.5	8	0	2	0	98.91	1.09	0	0
Mar	100.00	708	0.5	7	0	1	0	99.58	0.42	0	0
Apr	99.86	686	0.7	7	0	2	0	97.96	2.04	0	0
May	99.46	706	0.7	7	0	2	0	96.88	3.12	0	0
Jun	99.86	686	0.5	8	0	2	0	99.13	0.87	0	0
Jul	100.00	708	0.3	8	0	1	0	98.73	1.27	0	0
Aug	100.00	708	0.5	10	0	2	0	98.02	1.98	0	0
Sep	100.00	684	0.6	12	1	2	0	97.37	2.49	0.15	0
Oct	99.87	708	0.5	6	0	3	0	98.31	1.69	0	0
Nov	96.39	660	0.5	6	0	2	0	98.79	1.21	0	0
Dec	99.87	708	0.6	11	1	2	0	98.45	1.41	0.14	0
Annual	99.60	8311	0.6	12	2	3	0	98.48	1.49	0.02	0

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Lower Camp (AMS 11)
Annual Summary for the Year 2011
H2S (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values	Maximum	Number of Values	% of Data in Each Concentration Range			
					Exceeding 1-Hour Guideline	24-Hour Value	Exceeding 24-Hour Guideline	0 - 3	4 - 10	11 - 50	> 50
Jan	100.00	709	0.7	8	0	3	0	97.6	2.4	0	0
Feb	100.00	640	0.7	7	0	2	0	97.5	2.5	0	0
Mar	99.87	708	1.2	16	9	5	3	91.53	7.2	1.27	0
Apr	100.00	686	0.7	7	0	2	0	97.23	2.77	0	0
May	99.87	708	0.6	11	1	1	0	99.01	0.85	0.14	0
Jun	99.86	685	0.5	9	0	2	0	98.54	1.46	0	0
Jul	99.06	702	0.5	7	0	1	0	97.44	2.56	0	0
Aug	100.00	708	0.7	7	0	1	0	98.87	1.13	0	0
Sep	100.00	681	0.9	30	3	3	0	97.21	2.35	0.44	0
Oct	100.00	709	0.6	9	0	1	0	98.87	1.13	0	0
Nov	99.72	682	0.5	4	0	1	0	99.41	0.59	0	0
Dec	100.00	709	0.7	3	0	1	0	100	0	0	0
Annual	99.86	8327	0.7	30	13	5	3	97.77	2.07	0.16	0

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Fort McKay (AMS 1)
Annual Summary for the Year 2011
TRS (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values	Maximum 24-Hour Value	Number of Values	% of Data in Each Concentration Range			
					Exceeding 1-Hour Guideline	Exceeding 24-Hour Guideline	0 - 3	4 - 10	11 - 50	> 50	
Jan	100.00	709	1.0	5	0	3	0	97.18	2.82	0	0
Feb	100.00	640	0.7	4	0	2	0	99.69	0.31	0	0
Mar	100.00	710	0.6	4	0	1	0	99.86	0.14	0	0
Apr	100.00	686	0.5	4	0	1	0	99.85	0.15	0	0
May	95.30	676	0.7	5	0	1	0	99.85	0.15	0	0
Jun	99.58	683	0.5	2	0	1	0	100	0	0	0
Jul	100.00	708	0.5	3	0	1	0	100	0	0	0
Aug	94.35	665	0.5	4	0	1	0	99.4	0.6	0	0
Sep	99.58	680	0.5	3	0	1	0	100	0	0	0
Oct	96.51	685	0.5	6	0	1	0	98.98	1.02	0	0
Nov	99.44	681	0.6	3	0	1	0	100	0	0	0
Dec	99.87	706	0.8	4	0	2	0	99.72	0.28	0	0
Annual	98.70	8229	0.6	6	0	3	0	99.54	0.46	0	0

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Patricia McInnes (AMS 6)
Annual Summary for the Year 2011
TRS (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values	Maximum	Number of Values	% of Data in Each Concentration Range			
					Exceeding 1-Hour Guideline	24-Hour Value	Exceeding 24-Hour Guideline	0 - 3	4 - 10	11 - 50	> 50
Jan	99.87	708	0.4	2	0	1	0	100	0	0	0
Feb	99.85	639	0.3	2	0	1	0	100	0	0	0
Mar	99.46	700	0.3	2	0	0	0	100	0	0	0
Apr	99.58	680	0.3	3	0	1	0	100	0	0	0
May	99.73	707	0.3	2	0	1	0	100	0	0	0
Jun	99.72	684	0.3	1	0	0	0	100	0	0	0
Jul	100.00	707	0.2	3	0	1	0	100	0	0	0
Aug	99.60	706	0.2	1	0	0	0	100	0	0	0
Sep	99.86	681	0.2	2	0	0	0	100	0	0	0
Oct	99.87	708	0.3	3	0	1	0	100	0	0	0
Nov	99.58	683	0.4	3	0	1	0	100	0	0	0
Dec	99.60	704	0.4	2	0	1	0	100	0	0	0
Annual	99.73	8307	0.3	3	0	1	0	100	0	0	0

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Athabasca Valley (AMS 7)
Annual Summary for the Year 2011
TRS (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values	Maximum 24-Hour Value	Number of Values	% of Data in Each Concentration Range			
					Exceeding 1-Hour Guideline	Exceeding 24-Hour Guideline	0 - 3	4 - 10	11 - 50	> 50	
Jan	100.00	707	0.8	3	0	1	0	100	0	0	0
Feb	100.00	641	0.5	3	0	1	0	100	0	0	0
Mar	100.00	706	0.4	3	0	1	0	100	0	0	0
Apr	99.17	682	0.4	4	0	1	0	99.85	0.15	0	0
May	99.33	705	0.4	2	0	1	0	100	0	0	0
Jun	99.86	685	0.5	2	0	1	0	100	0	0	0
Jul	99.82	533	0.5	1	0	1	0	100	0	0	0
Aug	96.21	626	0.5	2	0	1	0	100	0	0	0
Sep	100.00	680	0.5	1	0	1	0	100	0	0	0
Oct	98.79	700	0.6	3	0	1	0	100	0	0	0
Nov	100.00	686	0.6	3	0	1	0	100	0	0	0
Dec	97.58	696	0.6	3	0	1	0	100	0	0	0
Annual	99.23	8047	0.5	4	0	1	0	99.99	0.01	0	0

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Barge Landing (AMS 9)
Annual Summary for the Year 2011
TRS (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values		% of Data in Each Concentration Range				
					Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Exceeding 24-Hour Guideline	0 - 3	4 - 10	11 - 50	> 50
Jan	100.00	710	0.9	4	0	3	0	98.31	1.69	0	0
Feb	100.00	640	0.6	5	0	2	0	99.06	0.94	0	0
Mar	99.73	708	0.5	9	0	2	0	98.87	1.13	0	0
Apr	99.72	684	0.3	4	0	1	0	99.85	0.15	0	0
May	98.39	698	0.4	6	0	1	0	99.57	0.43	0	0
Jun	98.47	672	0.3	1	0	1	0	100	0	0	0
Jul	100.00	709	0.3	3	0	1	0	100	0	0	0
Aug	100.00	708	0.3	3	0	1	0	100	0	0	0
Sep	99.58	680	0.4	2	0	1	0	100	0	0	0
Oct	100.00	709	0.4	5	0	1	0	99.86	0.14	0	0
Nov	99.44	681	0.4	7	0	1	0	99.41	0.59	0	0
Dec	99.87	709	0.5	3	0	2	0	100	0	0	0
Annual	99.60	8308	0.4	9	0	3	0	99.64	0.36	0	0

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Millennium (AMS 12)
Annual Summary for the Year 2011
TRS (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values		% of Data in Each Concentration Range				
					Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Exceeding 24-Hour Guideline	0 - 3	4 - 10	11 - 50	> 50
Jan	100.00	709	1.8	22	20	9	3	89.28	7.9	2.82	0
Feb	100.00	639	2.0	41	23	6	7	86.07	10.33	3.6	0
Mar	99.46	704	0.9	38	7	4	2	95.74	3.27	0.99	0
Apr	100.00	686	4.2	93	83	23	11	69.53	18.51	11.37	0.58
May	100.00	707	0.7	10	0	2	0	98.02	1.98	0	0
Jun	99.44	682	0.5	3	0	1	0	100	0	0	0
Jul	100.00	709	0.3	3	0	1	0	100	0	0	0
Aug	100.00	709	0.4	4	0	1	0	99.86	0.14	0	0
Sep	100.00	686	0.3	9	0	1	0	99.56	0.44	0	0
Oct	99.87	705	0.4	3	0	1	0	100	0	0	0
Nov	99.86	685	0.4	2	0	1	0	100	0	0	0
Dec	100.00	706	0.5	2	0	1	0	100	0	0	0
Annual	99.89	8327	1.0	93	133	23	23	95.44	3.12	1.39	0.05

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Syncrude UE-1 (AMS 13)
Annual Summary for the Year 2011
TRS (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values	Maximum	Number of Values	% of Data in Each Concentration Range			
					Exceeding 1-Hour Guideline	24-Hour Value	Exceeding 24-Hour Guideline	0 - 3	4 - 10	11 - 50	> 50
Jan	100.00	708	0.6	4	0	2	0	99.72	0.28	0	0
Feb	100.00	641	0.4	2	0	1	0	100	0	0	0
Mar	100.00	709	0.3	4	0	1	0	99.86	0.14	0	0
Apr	100.00	687	0.2	2	0	0	0	100	0	0	0
May	95.56	676	0.3	2	0	1	0	100	0	0	0
Jun	99.72	685	0.2	1	0	1	0	100	0	0	0
Jul	100.00	709	0.1	2	0	1	0	100	0	0	0
Aug	100.00	709	0.1	4	0	1	0	99.86	0.14	0	0
Sep	99.58	680	0.2	3	0	1	0	100	0	0	0
Oct	99.87	708	0.3	8	0	1	0	99.86	0.14	0	0
Nov	99.58	683	0.5	4	0	1	0	99.85	0.15	0	0
Dec	100.00	709	0.5	2	0	1	0	100	0	0	0
Annual	99.52	8304	0.3	8	0	2	0	99.93	0.07	0	0

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Anzac (AMS 14)
Annual Summary for the Year 2011
TRS (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values	Maximum 24-Hour Value	Number of Values	% of Data in Each Concentration Range			
					Exceeding 1-Hour Guideline	Exceeding 24-Hour Guideline	0 - 3	4 - 10	11 - 50	> 50	
Jan	100.00	708	0.4	3	0	1	0	100	0	0	0
Feb	100.00	637	0.5	2	0	1	0	100	0	0	0
Mar	99.87	706	0.4	1	0	1	0	100	0	0	0
Apr	100.00	686	0.4	2	0	1	0	100	0	0	0
May	99.87	707	0.4	3	0	1	0	100	0	0	0
Jun	99.58	684	0.4	1	0	1	0	100	0	0	0
Jul	99.46	705	0.3	1	0	0	0	100	0	0	0
Aug	99.33	704	0.3	1	0	1	0	100	0	0	0
Sep	100.00	680	0.3	2	0	1	0	100	0	0	0
Oct	100.00	709	0.3	2	0	1	0	100	0	0	0
Nov	100.00	686	0.4	2	0	1	0	100	0	0	0
Dec	100.00	709	0.4	7	0	1	0	99.86	0.14	0	0
Annual	99.84	8321	0.4	7	0	1	0	99.99	0.01	0	0

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - CNRL Horizon (AMS 15)
Annual Summary for the Year 2011
TRS (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values		% of Data in Each Concentration Range				
					Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Exceeding 24-Hour Guideline	0 - 3	4 - 10	11 - 50	> 50
Jan	99.46	704	0.6	2	0	1	0	100	0	0	0
Feb	100.00	640	0.5	2	0	1	0	100	0	0	0
Mar	97.04	688	0.3	1	0	0	0	100	0	0	0
Apr	100.00	685	0.3	1	0	0	0	100	0	0	0
May	99.33	704	0.6	5	0	1	0	99.57	0.43	0	0
Jun	99.86	685	0.5	2	0	1	0	100	0	0	0
Jul	95.83	678	0.5	2	0	1	0	100	0	0	0
Aug	100.00	706	0.5	2	0	1	0	100	0	0	0
Sep	99.72	678	0.4	3	0	1	0	100	0	0	0
Oct	99.73	706	0.5	3	0	1	0	100	0	0	0
Nov	93.33	632	0.5	6	0	1	0	99.84	0.16	0	0
Dec	100.00	708	0.5	2	0	1	0	100	0	0	0
Annual	98.69	8214	0.5	6	0	1	0	99.95	0.05	0	0

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Portable (AMS101)
Annual Summary for the Year 2011
H2S (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline	% of Data in Each Concentration Range			
								0 - 3	4 - 10	11 - 50	> 50
Jan	-	-	-	-	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-	-	-	-	-
Mar	-	-	-	-	-	-	-	-	-	-	-
Apr	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-
Jun	-	-	-	-	-	-	-	-	-	-	-
Jul	-	-	-	-	-	-	-	-	-	-	-
Aug	-	-	-	-	-	-	-	-	-	-	-
Sep	-	-	-	-	-	-	-	-	-	-	-
Oct	94.35	668	0.6	7	0	2	0	99.25	0.75	0	0
Nov	99.03	679	0.7	60	3	7	1	98.67	0.88	0.15	0.29
Dec	99.33	704	0.6	3	0	2	0	100	0	0	0
Annual	97.57	2051	0.6	60	3	7	1	99.25	0.61	0.05	0.09

Length of monthly periods with data collection: 2208 Hours

Wood Buffalo Environmental Association - Fort McKay (AMS 1)
Annual Summary for the Year 2011
THC (ppm) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline
Jan	97.18	687	2.3	3.5	-	3.0	-
Feb	92.86	592	2.1	3.9	-	2.7	-
Mar	91.40	644	2.0	2.8	-	2.3	-
Apr	98.33	672	2.1	3.4	-	2.3	-
May	89.11	628	2.3	5.4	-	2.4	-
Jun	75.00	506	2.0	3.7	-	2.3	-
Jul	98.79	698	2.2	3.2	-	2.7	-
Aug	99.87	705	2.3	3.4	-	2.6	-
Sep	99.58	677	2.4	3.4	-	2.9	-
Oct	99.60	705	2.2	4.4	-	2.6	-
Nov	99.03	678	2.2	3.1	-	2.6	-
Dec	100.00	706	2.2	3.4	-	2.7	-
Annual	95.10	7898	2.2	5.4	-	3.0	-

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Mildred Lake (AMS 2)
Annual Summary for the Year 2011
THC (ppm) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline
Jan	100.00	709	2.4	4.4	-	2.8	-
Feb	98.96	625	2.4	6.5	-	2.8	-
Mar	100.00	707	2.3	4.5	-	2.9	-
Apr	94.86	649	2.5	5.8	-	3.1	-
May	90.32	633	2.5	4.4	-	2.7	-
Jun	56.11	369	2.3	4.6	-	2.5	-
Jul	91.67	646	2.3	4.1	-	2.7	-
Aug	100.00	709	2.4	6.0	-	2.7	-
Sep	99.58	681	2.4	5.5	-	2.7	-
Oct	97.85	690	2.3	6.4	-	2.8	-
Nov	99.72	684	2.4	5.4	-	2.8	-
Dec	99.87	706	2.5	6.0	-	2.9	-
Annual	94.11	7808	2.4	6.5	-	3.1	-

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Buffalo Viewpoint (AMS 4)
Annual Summary for the Year 2011
THC (ppm) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline
Jan	100.00	710	2.3	6.3	-	2.9	-
Feb	100.00	639	2.3	7.2	-	2.8	-
Mar	99.06	702	2.3	4.0	-	2.7	-
Apr	100.00	686	2.2	7.2	-	2.5	-
May	99.60	705	2.3	5.3	-	2.7	-
Jun	70.97	485	2.2	4.4	-	2.5	-
Jul	99.19	702	2.1	3.5	-	2.3	-
Aug	100.00	709	2.2	4.2	-	2.6	-
Sep	99.72	682	2.2	4.7	-	2.7	-
Oct	100.00	709	2.2	3.8	-	2.6	-
Nov	100.00	685	2.2	3.3	-	2.6	-
Dec	100.00	709	2.3	4.7	-	2.8	-
Annual	97.41	8123	2.2	7.2	-	2.9	-

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Mannix (AMS 5)
Annual Summary for the Year 2011
THC (ppm) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline
Jan	99.73	707	2.4	4.2	-	2.9	-
Feb	100.00	640	2.3	5.4	-	2.8	-
Mar	100.00	708	2.2	3.4	-	2.7	-
Apr	99.72	685	2.2	3.3	-	2.6	-
May	98.52	696	2.3	5.3	-	2.7	-
Jun	95.69	654	2.1	3.2	-	2.5	-
Jul	98.92	700	2.0	3.6	-	2.3	-
Aug	99.60	701	2.1	5.0	-	2.5	-
Sep	97.92	668	2.1	6.0	-	2.4	-
Oct	99.46	703	2.2	3.5	-	2.6	-
Nov	95.56	655	2.2	4.6	-	2.4	-
Dec	95.16	673	2.1	7.9	-	2.8	-
Annual	98.36	8190	2.2	7.9	-	2.9	-

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Patricia McInnes (AMS 6)
Annual Summary for the Year 2011
THC (ppm) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline
Jan	99.87	706	2.2	3.1	-	2.6	-
Feb	98.96	632	2.1	3.3	-	2.5	-
Mar	100.00	705	2.1	2.6	-	2.3	-
Apr	99.86	683	2.1	2.7	-	2.2	-
May	99.46	704	2.2	3.2	-	2.4	-
Jun	99.31	680	2.0	2.5	-	2.1	-
Jul	100.00	706	2.0	2.4	-	2.1	-
Aug	99.60	705	2.0	2.5	-	2.2	-
Sep	99.31	679	2.0	2.6	-	2.2	-
Oct	99.73	704	2.1	3.3	-	2.6	-
Nov	97.78	669	2.2	2.8	-	2.4	-
Dec	99.60	705	2.2	3.0	-	2.4	-
Annual	99.46	8278	2.1	3.3	-	2.6	-

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Athabasca Valley (AMS 7)
Annual Summary for the Year 2011
THC (ppm) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline
Jan	100.00	707	2.3	2.8	-	2.7	-
Feb	99.55	635	2.2	3.3	-	2.5	-
Mar	100.00	706	2.3	2.9	-	2.5	-
Apr	98.06	669	2.2	2.6	-	2.4	-
May	98.39	695	2.2	3.2	-	2.4	-
Jun	83.19	559	2.2	3.0	-	2.3	-
Jul	89.38	452	2.2	2.6	-	2.2	-
Aug	96.54	587	2.0	2.5	-	2.1	-
Sep	100.00	681	2.0	2.7	-	2.1	-
Oct	97.04	681	2.0	2.6	-	2.3	-
Nov	95.83	655	2.0	3.0	-	2.3	-
Dec	96.64	685	2.0	3.8	-	2.3	-
Annual	96.37	7712	2.1	3.8	-	2.7	-

Length of monthly periods with data collections: 8760 Hours

Wood Buffalo Environmental Association - Barge Landing (AMS 9)
Annual Summary for the Year 2011
THC (ppm) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline
Jan	100.00	709	2.5	3.5	-	2.9	-
Feb	100.00	640	2.4	3.6	-	2.8	-
Mar	98.39	700	2.4	3.5	-	2.8	-
Apr	97.92	673	2.3	4.3	-	2.7	-
May	99.19	703	2.5	9.0	-	3.1	-
Jun	99.58	684	2.3	3.9	-	2.6	-
Jul	96.64	685	2.2	3.2	-	2.4	-
Aug	100.00	706	2.4	3.8	-	2.7	-
Sep	99.58	681	2.4	3.7	-	2.6	-
Oct	100.00	710	2.3	3.4	-	2.8	-
Nov	99.72	684	2.4	3.4	-	2.8	-
Dec	99.73	705	2.4	3.6	-	3.1	-
Annual	99.22	8280	2.4	9.0	-	3.1	-

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Lower Camp (AMS 11)
Annual Summary for the Year 2011
THC (ppm) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline
Jan	100.00	709	2.4	3.7	-	2.9	-
Feb	100.00	640	2.3	3.7	-	2.5	-
Mar	99.87	708	2.2	4.2	-	2.7	-
Apr	100.00	686	2.1	3.5	-	2.3	-
May	96.77	681	2.2	4.0	-	2.5	-
Jun	99.58	684	2.1	3.4	-	2.3	-
Jul	96.10	680	2.1	3.6	-	2.3	-
Aug	99.87	705	2.3	3.9	-	2.5	-
Sep	99.31	678	2.3	5.6	-	2.6	-
Oct	99.73	706	2.3	4.1	-	2.4	-
Nov	99.86	682	2.4	3.9	-	2.8	-
Dec	99.87	708	2.4	3.8	-	2.8	-
Annual	99.24	8267	2.3	5.6	-	2.9	-

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Millennium (AMS 12)
Annual Summary for the Year 2011
THC (ppm) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline
Jan	97.45	687	2.7	9.1	-	4.6	-
Feb	98.51	630	2.5	5.8	-	3.2	-
Mar	99.46	698	2.4	6.8	-	3.6	-
Apr	100.00	684	2.4	5.1	-	2.8	-
May	99.87	705	2.4	6.0	-	2.9	-
Jun	99.58	681	2.3	5.7	-	2.6	-
Jul	100.00	709	2.3	4.4	-	2.6	-
Aug	100.00	706	2.4	5.4	-	2.7	-
Sep	100.00	685	2.5	5.4	-	3.0	-
Oct	99.46	704	2.5	5.0	-	3.2	-
Nov	99.86	684	2.5	5.0	-	2.9	-
Dec	99.87	706	2.6	6.4	-	3.5	-
Annual	99.51	8279	2.5	9.1	-	4.6	-

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Syncrude UE-1 (AMS 13)
Annual Summary for the Year 2011
THC (ppm) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline
Jan	99.73	705	2.5	5.3	-	3.5	-
Feb	99.40	636	2.4	4.7	-	3.0	-
Mar	100.00	709	2.3	4.5	-	2.9	-
Apr	99.58	681	2.1	8.2	-	2.6	-
May	95.16	674	2.1	3.1	-	2.3	-
Jun	99.72	683	2.0	3.6	-	2.2	-
Jul	100.00	706	2.0	3.0	-	2.2	-
Aug	99.60	706	2.0	2.7	-	2.2	-
Sep	99.72	679	2.1	3.2	-	2.4	-
Oct	99.06	701	2.1	2.9	-	2.4	-
Nov	97.64	668	2.2	3.5	-	2.7	-
Dec	98.12	695	2.3	3.9	-	2.8	-
Annual	98.97	8243	2.2	8.2	-	3.5	-

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Anzac (AMS 14)
Annual Summary for the Year 2011
THC (ppm) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline
Jan	100.00	708	2.2	2.8	-	2.4	-
Feb	100.00	638	2.2	3.1	-	2.4	-
Mar	99.33	701	2.1	2.7	-	2.3	-
Apr	100.00	684	2.1	2.5	-	2.2	-
May	100.00	708	2.1	2.4	-	2.1	-
Jun	97.92	670	2.0	2.3	-	2.1	-
Jul	92.20	652	2.0	2.7	-	2.1	-
Aug	98.66	696	2.0	2.7	-	2.1	-
Sep	99.86	681	2.0	2.4	-	2.1	-
Oct	99.19	701	2.1	2.4	-	2.2	-
Nov	99.58	682	2.2	2.5	-	2.3	-
Dec	99.87	705	2.2	2.6	-	2.3	-
Annual	98.87	8226	2.1	3.1	-	2.4	-

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - CNRL Horizon (AMS 15)
Annual Summary for the Year 2011
THC (ppm) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline
Jan	99.87	706	2.2	3.5	-	2.5	-
Feb	99.40	636	2.1	3.8	-	2.4	-
Mar	97.04	688	2.1	3.5	-	2.4	-
Apr	98.89	677	2.0	2.6	-	2.1	-
May	83.60	585	2.2	5.0	-	2.9	-
Jun	92.08	629	2.1	3.2	-	2.4	-
Jul	100.00	707	2.0	2.6	-	2.2	-
Aug	95.16	674	2.0	4.1	-	2.3	-
Sep	96.25	657	2.1	3.7	-	2.3	-
Oct	95.43	667	2.3	4.6	-	2.6	-
Nov	99.72	683	2.3	9.4	-	3.8	-
Dec	100.00	707	2.3	6.5	-	3.1	-
Annual	96.43	8016	2.2	9.4	-	3.8	-

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Albian Muskeg River (AMS 16)
Annual Summary for the Year 2011
THC (ppm) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline
Jan	99.46	703	2.3	6.1	-	3.1	-
Feb	100.00	639	2.2	4.4	-	2.8	-
Mar	99.33	704	2.0	3.7	-	2.3	-
Apr	100.00	686	2.2	6.6	-	2.6	-
May	98.79	700	2.4	6.9	-	4.4	-
Jun	100.00	686	2.2	3.9	-	2.7	-
Jul	95.83	679	2.0	3.5	-	2.3	-
Aug	98.12	692	2.2	4.3	-	2.5	-
Sep	99.58	679	2.4	4.5	-	3.0	-
Oct	97.58	691	2.3	4.6	-	2.6	-
Nov	99.86	684	2.4	4.3	-	2.8	-
Dec	99.60	705	2.4	5.9	-	3.0	-
Annual	99.00	8248	2.3	6.9	-	4.4	-

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Fort McKay (AMS 1)
Annual Summary for the Year 2011
O3 (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline
Jan	100.00	708	14.18	40.3	0	34.8	-
Feb	100.00	639	22.70	43.4	0	35.6	-
Mar	100.00	708	29.37	56.7	0	44.1	-
Apr	99.31	679	35.70	60.8	0	49.0	-
May	94.62	670	41.25	88.8	8	57.0	-
Jun	96.25	660	25.61	67.3	0	40.3	-
Jul	99.87	707	18.74	57.3	0	26.3	-
Aug	99.60	707	16.89	56.6	0	24.2	-
Sep	99.72	680	17.62	42.0	0	28.0	-
Oct	99.60	705	14.16	39.7	0	28.8	-
Nov	99.86	684	14.56	39.3	0	26.1	-
Dec	99.87	708	16.13	37.0	0	35.1	-
Annual	99.05	8255	22.13	88.8	8	57.0	-

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Patricia McInnes (AMS 6)
Annual Summary for the Year 2011
O3 (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline
Jan	99.87	708	16.43	42.4	0	32.4	-
Feb	99.85	638	27.44	47.5	0	41.1	-
Mar	43.15	307	27.19	43.9	0	35.0	-
Apr	28.33	191	33.96	55.6	0	39.0	-
May	99.19	702	36.04	77.3	0	53.1	-
Jun	99.58	683	29.27	65.2	0	46.7	-
Jul	99.73	705	21.88	51.8	0	29.0	-
Aug	100.00	707	19.55	60.3	0	31.2	-
Sep	99.86	681	21.95	42.8	0	30.4	-
Oct	99.87	707	18.41	39.3	0	29.0	-
Nov	99.31	680	17.89	36.9	0	29.5	-
Dec	98.52	697	21.89	39.5	0	36.4	-
Annual	88.93	7406	23.48	77.3	0	53.1	-

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Athabasca Valley (AMS 7)
Annual Summary for the Year 2011
O3 (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline
Jan	100.00	708	12.66	34.4	0	30.4	-
Feb	99.55	635	16.59	42.0	0	31.6	-
Mar	99.87	708	24.16	47.9	0	40.5	-
Apr	99.03	676	31.11	57.1	0	38.7	-
May	99.06	700	34.43	76.8	0	52.6	-
Jun	99.31	681	24.86	59.1	0	40.1	-
Jul	97.88	521	19.27	51.4	0	26.3	-
Aug	96.38	583	15.67	57.6	0	29.2	-
Sep	100.00	679	14.84	37.8	0	24.3	-
Oct	99.73	704	12.24	38.8	0	26.7	-
Nov	100.00	686	13.34	36.1	0	26.4	-
Dec	97.58	692	14.57	35.3	0	31.9	-
Annual	99.08	7973	19.54	76.8	0	52.6	-

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Fort Chipeywan (AMS 8)
Annual Summary for the Year 2011
O3 (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline
Jan	99.87	708	28.10	39.9	0	37.9	-
Feb	100.00	640	31.59	41.7	0	36.4	-
Mar	100.00	708	35.70	52.7	0	49.4	-
Apr	100.00	686	36.35	48.7	0	42.4	-
May	100.00	709	36.92	83.5	1	56.7	-
Jun	93.75	643	32.38	80.4	0	51.2	-
Jul	99.60	695	24.15	52.5	0	33.9	-
Aug	99.87	707	20.79	36.3	0	26.9	-
Sep	100.00	687	23.23	48.2	0	34.9	-
Oct	100.00	709	21.67	34.6	0	29.2	-
Nov	99.72	683	25.21	35.9	0	34.1	-
Dec	100.00	709	27.89	41.0	0	38.3	-
Annual	99.41	8284	28.62	83.5	1	56.7	-

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Syncrude UE-1 (AMS 13)
Annual Summary for the Year 2011
O3 (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline
Jan	99.06	700	13.45	37.5	0	33.6	-
Feb	100.00	640	21.12	43.6	0	34.6	-
Mar	100.00	708	28.14	56.4	0	42.5	-
Apr	99.31	679	32.70	58.2	0	43.8	-
May	98.25	695	35.17	90.6	6	51.6	-
Jun	99.72	685	25.02	70.5	0	39.6	-
Jul	99.87	707	17.07	58.5	0	24.6	-
Aug	100.00	708	15.17	61.9	0	22.9	-
Sep	99.58	681	15.40	41.0	0	24.4	-
Oct	99.87	708	11.59	40.4	0	28.7	-
Nov	99.58	681	12.37	34.6	0	25.4	-
Dec	100.00	710	14.62	38.0	0	34.9	-
Annual	99.60	8302	20.11	90.6	6	51.6	-

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Anzac (AMS 14)
Annual Summary for the Year 2011
O3 (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline
Jan	98.39	698	22.35	43.7	0	33.7	-
Feb	100.00	641	30.41	45.3	0	39.5	-
Mar	99.87	705	36.68	58.4	0	53.9	-
Apr	100.00	686	40.48	63.9	0	50.4	-
May	100.00	709	38.56	78.9	0	59.6	-
Jun	99.72	684	30.01	64.8	0	49.5	-
Jul	99.46	703	22.43	54.5	0	32.3	-
Aug	99.33	702	20.36	43.3	0	29.0	-
Sep	100.00	681	23.57	45.3	0	33.7	-
Oct	100.00	710	20.22	38.3	0	31.0	-
Nov	99.86	686	22.27	39.5	0	33.1	-
Dec	100.00	710	26.63	40.6	0	35.8	-
Annual	99.71	8315	27.81	78.9	0	59.6	-

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Fort McKay (AMS 1)
Annual Summary for the Year 2011
NO2 (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values		% of Data in Each Concentration Range				
					Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Exceeding 24-Hour Guideline	0 - 50	51 - 110	111 - 210	>210
Jan	100.00	706	15.3	51	0	30	0	99.86	0.14	0	0
Feb	100.00	637	11.2	42	0	26	0	100.00	0	0	0
Mar	100.00	703	9.3	43	0	26	0	100.00	0	0	0
Apr	100.00	683	4.0	36	0	9	0	100.00	0	0	0
May	95.30	671	3.7	26	0	8	0	100.00	0	0	0
Jun	99.44	678	3.2	29	0	10	0	100.00	0	0	0
Jul	100.00	704	1.9	15	0	7	0	100.00	0	0	0
Aug	96.24	668	2.3	22	0	8	0	100.00	0	0	0
Sep	99.58	668	4.2	31	0	9	0	100.00	0	0	0
Oct	99.60	698	5.3	25	0	13	0	100.00	0	0	0
Nov	99.86	669	8.3	29	0	22	0	100.00	0	0	0
Dec	98.79	692	10.6	34	0	24	0	100.00	0	0	0
Annual	99.05	8177	6.6	51	0	30	0	99.99	0.01	0	0

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Patricia McInnes (AMS 6)
Annual Summary for the Year 2011
NO2 (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values		% of Data in Each Concentration Range				
					Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Exceeding 24-Hour Guideline	0 - 50	51 - 110	111 - 210	>210
Jan	99.87	704	13.5	45	0	28	0	100.00	0	0	0
Feb	99.85	636	9.7	42	0	23	0	100.00	0	0	0
Mar	99.73	701	8.7	40	0	19	0	100.00	0	0	0
Apr	99.44	677	5.1	37	0	10	0	100.00	0	0	0
May	99.46	701	5.0	33	0	12	0	100.00	0	0	0
Jun	99.44	678	3.4	23	0	8	0	100.00	0	0	0
Jul	100.00	697	1.8	14	0	4	0	100.00	0	0	0
Aug	99.33	694	1.9	18	0	7	0	100.00	0	0	0
Sep	99.86	670	2.9	17	0	6	0	100.00	0	0	0
Oct	99.33	694	5.5	33	0	17	0	100.00	0	0	0
Nov	99.44	673	7.9	34	0	16	0	100.00	0	0	0
Dec	98.25	692	8.2	38	0	19	0	100.00	0	0	0
Annual	99.50	8217	6.1	45	0	28	0	100.00	0	0	0

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Athabasca Valley (AMS 7)
Annual Summary for the Year 2011
NO2 (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values		% of Data in Each Concentration Range				
					Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Exceeding 24-Hour Guideline	0 - 50	51 - 110	111 - 210	>210
Jan	100.00	707	17.6	43	0	33	0	100.00	0	0	0
Feb	99.70	636	19.2	64	0	34	0	99.37	0.63	0	0
Mar	100.00	706	15.1	52	0	25	0	99.72	0.28	0	0
Apr	99.17	679	9.8	50	0	17	0	100.00	0	0	0
May	99.46	702	8.2	37	0	15	0	100.00	0	0	0
Jun	99.86	681	7.1	27	0	13	0	100.00	0	0	0
Jul	99.47	525	5.2	28	0	7	0	100.00	0	0	0
Aug	96.08	607	5.6	20	0	10	0	100.00	0	0	0
Sep	100.00	678	8.4	38	0	15	0	100.00	0	0	0
Oct	98.79	698	11.4	44	0	22	0	100.00	0	0	0
Nov	100.00	684	12.1	42	0	21	0	100.00	0	0	0
Dec	97.58	690	13.6	42	0	26	0	100.00	0	0	0
Annual	99.19	7993	11.3	64	0	34	0	99.92	0.08	0	0

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Fort Chipeywan (AMS 8)
Annual Summary for the Year 2011
NO2 (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values		% of Data in Each Concentration Range				
					Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Exceeding 24-Hour Guideline	0 - 50	51 - 110	111 - 210	>210
Jan	99.87	705	2.8	26	0	9	0	100.00	0	0	0
Feb	99.70	634	1.7	20	0	9	0	100.00	0	0	0
Mar	100.00	701	1.3	28	0	7	0	100.00	0	0	0
Apr	100.00	684	0.5	8	0	2	0	100.00	0	0	0
May	100.00	698	0.4	10	0	4	0	100.00	0	0	0
Jun	100.00	684	1.1	42	0	6	0	100.00	0	0	0
Jul	99.60	699	0.3	3	0	1	0	100.00	0	0	0
Aug	99.46	699	0.3	7	0	2	0	100.00	0	0	0
Sep	99.86	683	0.8	25	0	6	0	100.00	0	0	0
Oct	100.00	707	1.0	12	0	4	0	100.00	0	0	0
Nov	99.72	681	1.3	16	0	6	0	100.00	0	0	0
Dec	99.60	704	2.2	18	0	11	0	100.00	0	0	0
Annual	99.82	8279	1.1	42	0	11	0	100.00	0	0	0

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Millennium (AMS 12)
Annual Summary for the Year 2011
NO2 (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values		% of Data in Each Concentration Range				
					Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Exceeding 24-Hour Guideline	0 - 50	51 - 110	111 - 210	>210
Jan	100.00	706	22.6	85	0	47	0	95.47	4.53	0	0
Feb	100.00	638	20.5	57	0	39	0	99.06	0.94	0	0
Mar	98.39	694	17.5	75	0	44	0	97.41	2.59	0	0
Apr	100.00	684	14.4	51	0	29	0	99.85	0.15	0	0
May	100.00	707	13.9	64	0	29	0	99.29	0.71	0	0
Jun	91.94	629	10.4	55	0	22	0	99.84	0.16	0	0
Jul	99.60	702	8.3	28	0	14	0	100.00	0	0	0
Aug	99.73	704	9.3	41	0	15	0	100.00	0	0	0
Sep	100.00	685	12.0	35	0	21	0	100.00	0	0	0
Oct	99.87	707	15.6	41	0	29	0	100.00	0	0	0
Nov	100.00	685	17.0	42	0	27	0	100.00	0	0	0
Dec	100.00	708	20.8	154	0	44	0	98.45	0.99	0.56	0
Annual	99.13	8249	15.2	154	0	47	0	99.18	0.78	0.05	0

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Syncrude UE-1 (AMS 13)
Annual Summary for the Year 2011
NO2 (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values		% of Data in Each Concentration Range				
					Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Exceeding 24-Hour Guideline	0 - 50	51 - 110	111 - 210	>210
Jan	100.00	701	13.8	56	0	31	0	99.71	0.29	0	0
Feb	100.00	638	10.9	40	0	26	0	100.00	0	0	0
Mar	100.00	707	10.1	42	0	19	0	100.00	0	0	0
Apr	100.00	684	4.2	41	0	13	0	100.00	0	0	0
May	98.66	697	5.9	39	0	11	0	100.00	0	0	0
Jun	99.72	682	3.2	24	0	9	0	100.00	0	0	0
Jul	99.73	704	1.7	15	0	5	0	100.00	0	0	0
Aug	99.73	705	2.0	18	0	5	0	100.00	0	0	0
Sep	99.72	678	2.9	21	0	8	0	100.00	0	0	0
Oct	100.00	708	3.9	29	0	9	0	100.00	0	0	0
Nov	99.44	680	7.8	27	0	17	0	100.00	0	0	0
Dec	100.00	708	9.0	35	0	20	0	100.00	0	0	0
Annual	99.75	8292	6.3	56	0	31	0	99.98	0.02	0	0

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Anzac (AMS 14)
Annual Summary for the Year 2011
NO2 (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values		% of Data in Each Concentration Range				
					Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Exceeding 24-Hour Guideline	0 - 50	51 - 110	111 - 210	>210
Jan	98.39	696	7.2	66	0	16	0	99.86	0.14	0	0
Feb	100.00	637	5.0	34	0	13	0	100.00	0	0	0
Mar	100.00	706	3.9	37	0	13	0	100.00	0	0	0
Apr	100.00	684	2.3	37	0	6	0	100.00	0	0	0
May	100.00	706	2.1	20	0	4	0	100.00	0	0	0
Jun	99.58	680	1.1	14	0	2	0	100.00	0	0	0
Jul	99.46	702	0.6	7	0	1	0	100.00	0	0	0
Aug	99.19	699	1.3	12	0	3	0	100.00	0	0	0
Sep	100.00	677	1.7	21	0	3	0	100.00	0	0	0
Oct	100.00	707	2.3	19	0	10	0	100.00	0	0	0
Nov	100.00	685	3.4	24	0	10	0	100.00	0	0	0
Dec	100.00	706	3.7	26	0	8	0	100.00	0	0	0
Annual	99.71	8285	2.9	66	0	16	0	99.99	0.01	0	0

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - CNRL Horizon (AMS 15)
Annual Summary for the Year 2011
NO2 (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values		% of Data in Each Concentration Range				
					Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Exceeding 24-Hour Guideline	0 - 50	51 - 110	111 - 210	>210
Jan	99.87	706	12.1	52	0	30	0	99.86	0.14	0	0
Feb	100.00	638	8.3	52	0	27	0	99.84	0.16	0	0
Mar	97.18	688	5.3	39	0	19	0	100.00	0	0	0
Apr	100.00	685	2.6	32	0	5	0	100.00	0	0	0
May	99.73	705	5.5	43	0	13	0	100.00	0	0	0
Jun	100.00	684	2.0	24	0	5	0	100.00	0	0	0
Jul	99.73	705	1.3	18	0	4	0	100.00	0	0	0
Aug	100.00	705	1.9	21	0	6	0	100.00	0	0	0
Sep	99.72	677	2.3	26	0	5	0	100.00	0	0	0
Oct	100.00	704	3.6	31	0	11	0	100.00	0	0	0
Nov	100.00	685	6.3	44	0	19	0	100.00	0	0	0
Dec	100.00	707	7.7	35	0	27	0	100.00	0	0	0
Annual	99.68	8289	4.9	52	0	30	0	99.98	0.02	0	0

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Albian Muskeg River (AMS 16)
Annual Summary for the Year 2011
NO2 (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline	% of Data in Each Concentration Range			
								0 - 50	51 - 110	111 - 210	>210
Jan	99.46	703	20.9	76	0	35	0	99.15	0.85	0	0
Feb	100.00	638	22.2	79	0	40	0	97.65	2.35	0	0
Mar	99.33	702	14.9	50	0	29	0	100.00	0	0	0
Apr	100.00	684	14.6	59	0	30	0	99.85	0.15	0	0
May	99.87	707	11.8	69	0	26	0	99.29	0.71	0	0
Jun	100.00	685	8.5	43	0	22	0	100.00	0	0	0
Jul	100.00	708	5.6	39	0	21	0	100.00	0	0	0
Aug	100.00	706	5.9	28	0	12	0	100.00	0	0	0
Sep	95.14	644	7.5	29	0	14	0	100.00	0	0	0
Oct	100.00	707	8.5	32	0	15	0	100.00	0	0	0
Nov	100.00	684	12.6	48	0	23	0	100.00	0	0	0
Dec	100.00	708	13.9	49	0	25	0	100.00	0	0	0
Annual	99.49	8276	12.2	79	0	40	0	99.68	0.32	0	0

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Portable (AMS101)
Annual Summary for the Year 2011
NO2 (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values		% of Data in Each Concentration Range					
					Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Exceeding 24-Hour Guideline	0 - 50	51 - 110	111 - 210	>210	
Jan	-	-	-	-	-	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-	-	-	-	-	-
Mar	-	-	-	-	-	-	-	-	-	-	-	-
Apr	-	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-	-
Jun	-	-	-	-	-	-	-	-	-	-	-	-
Jul	-	-	-	-	-	-	-	-	-	-	-	-
Aug	-	-	-	-	-	-	-	-	-	-	-	-
Sep	-	-	-	-	-	-	-	-	-	-	-	-
Oct	94.76	669	5.5	55	0	19	0	99.70	0.3	0	0	
Nov	99.72	683	8.2	69	0	19	0	99.56	0.44	0	0	
Dec	99.33	703	6.4	65	0	14	0	99.86	0.14	0	0	
Annual	97.94	2055	6.7	69	0	19	0	99.72	0.28	0	0	

Length of monthly periods with data collection: 2208 Hours

Wood Buffalo Environmental Association - Athabasca Valley (AMS 7)
Annual Summary for the Year 2011
CO (ppm) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline
Jan	100.00	707	0.22	0.9	0	0.4	-
Feb	99.55	635	0.27	1.6	0	0.6	-
Mar	100.00	706	0.22	0.7	0	0.3	-
Apr	98.75	675	0.19	0.8	0	0.3	-
May	99.33	701	0.29	2.7	0	0.9	-
Jun	99.86	684	0.23	1.3	0	0.5	-
Jul	99.30	524	0.17	0.4	0	0.2	-
Aug	96.41	587	0.15	0.4	0	0.2	-
Sep	100.00	680	0.13	0.6	0	0.2	-
Oct	98.79	697	0.11	0.7	0	0.2	-
Nov	100.00	686	0.12	1.0	0	0.2	-
Dec	97.58	696	0.17	2.2	0	0.5	-
Annual	99.15	7978	0.19	2.7	0	0.9	-

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Fort McKay (AMS 1)
Annual Summary for the Year 2011
NH3 (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guidance	% of Data in Each Concentration Range		
								0 - 1000	1001 - 2000	> 2000
Jan	100.00	704	0.0	0	0	0	-	100	0	0
Feb	100.00	633	0.0	0	0	0	-	100	0	0
Mar	100.00	693	0.0	0	0	0	-	100	0	0
Apr	100.00	649	0.0	0	0	0	-	100	0	0
May	95.30	634	6.0	123	0	25	-	100	0	0
Jun	99.72	648	0.6	36	0	10	-	100	0	0
Jul	100.00	701	0.0	0	0	0	-	100	0	0
Aug	93.82	647	0.0	0	0	0	-	100	0	0
Sep	99.58	659	0.0	0	0	0	-	100	0	0
Oct	99.60	695	0.0	0	0	0	-	100	0	0
Nov	97.36	652	0.0	0	0	0	-	100	0	0
Dec	98.79	689	0.0	0	0	0	-	100	0	0
Annual	98.66	8004	0.5	123	0	25	-	100	0	0

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Patricia McInnes (AMS 6)
Annual Summary for the Year 2011
NH3 (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guidance	% of Data in Each Concentration Range		
								0 - 1000	1001 - 2000	> 2000
Jan	99.87	702	0.0	0	0	0	-	100	0	0
Feb	99.85	631	0.0	0	0	0	-	100	0	0
Mar	100.00	699	0.0	0	0	0	-	100	0	0
Apr	99.58	669	0.0	0	0	0	-	100	0	0
May	99.46	700	1.6	49	0	14	-	100	0	0
Jun	98.47	667	0.0	0	0	0	-	100	0	0
Jul	100.00	691	0.0	14	0	1	-	100	0	0
Aug	99.46	670	0.0	12	0	1	-	100	0	0
Sep	91.81	581	0.0	0	0	0	-	100	0	0
Oct	100.00	658	0.0	12	0	1	-	100	0	0
Nov	99.44	638	0.0	0	0	0	-	100	0	0
Dec	98.39	659	0.1	14	0	3	-	100	0	0
Annual	98.87	7965	0.2	49	0	14	-	100	0	0

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Fort McKay (AMS 1)
Annual Summary for the Year 2011
PM2.5 (ug/m3) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline
Jan	98.52	733	3.95	25.2	-	11.6	0
Feb	98.81	664	3.42	15.7	-	8.9	0
Mar	99.46	740	4.29	29.6	-	10.1	0
Apr	98.06	706	3.32	94.6	-	8.5	0
May	76.08	566	55.68	449.8	-	164.4	4
Jun	92.08	663	24.64	379.9	-	122.1	6
Jul	95.56	711	6.26	33.1	-	17.7	0
Aug	99.87	743	4.69	45.6	-	11.3	0
Sep	99.58	717	5.97	192.1	-	25.8	0
Oct	99.19	738	5.57	96.9	-	20.2	0
Nov	99.72	718	8.91	163.8	-	32.1	2
Dec	96.1	715	7.15	121.5	-	20.8	0
Annual	96.05	8414	10.26	449.8	-	164.4	12

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Patricia McInnes (AMS 6)
Annual Summary for the Year 2011
PM2.5 (ug/m3) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline
Jan	98.25	731	3.34	23.2	-	8.0	0
Feb	98.07	659	2.98	19.4	-	8.2	0
Mar	99.06	737	3.97	18.3	-	6.8	0
Apr	99.44	716	3.15	13.4	-	6.4	0
May	89.25	664	36.14	449.4	-	118.9	8
Jun	92.64	667	16.72	174.3	-	64.8	3
Jul	87.77	653	3.95	23.6	-	10.1	0
Aug	88.31	657	3.45	22.5	-	9.9	0
Sep	93.19	668	2.11	16.4	-	4.1	0
Oct	99.46	740	2.27	20.3	-	7.8	0
Nov	95.42	687	3.32	23.0	-	10.1	0
Dec	96.37	717	2.93	30.3	-	9.7	0
Annual	94.74	8296	6.88	449.4	-	118.9	11

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Athabasca Valley (AMS 7)
Annual Summary for the Year 2011
PM2.5 (ug/m3) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline
Jan	99.06	737	5.95	17.1	-	11.3	0
Feb	98.51	662	6.68	24.5	-	12.3	0
Mar	99.33	739	7.81	18.5	-	11.8	0
Apr	99.03	713	6.89	18.0	-	10.3	0
May	95.16	708	34.15	448.6	-	137.1	11
Jun	95.83	690	20.21	175.9	-	76.0	6
Jul	90.28	511	8.12	32.3	-	14.9	0
Aug	96.20	605	7.58	36.8	-	16.3	0
Sep	100.00	718	7.02	58.1	-	13.8	0
Oct	98.79	735	6.73	37.5	-	12.6	0
Nov	100.00	720	6.28	81.4	-	14.8	0
Dec	97.58	726	5.50	139.0	-	15.5	0
Annual	97.63	8264	10.27	448.6	-	137.1	17

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Fort Chipewyan (AMS 8)
Annual Summary for the Year 2011
PM2.5 (ug/m3) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline
Jan	99.46	740	1.85	12.7	-	5.2	0
Feb	98.66	663	1.93	11.5	-	7.6	0
Mar	99.60	736	2.85	12.7	-	7.6	0
Apr	96.67	696	1.80	24.6	-	4.9	0
May	97.31	724	6.01	355.9	-	111.6	1
Jun	56.94	410	17.54	406.5	-	132.0	2
Jul	60.48	450	1.57	12.1	-	4.9	0
Aug	79.17	589	1.81	15.5	-	5.2	0
Sep	82.64	595	1.89	12.2	-	4.3	0
Oct	95.43	710	1.41	9.8	-	4.8	0
Nov	95.14	685	1.99	12.4	-	7.3	0
Dec	95.97	714	2.20	17.7	-	9.0	0
Annual	88.09	7712	3.16	406.5	-	132.0	3

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Millennium (AMS 12)
Annual Summary for the Year 2011
PM2.5 (ug/m3) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline
Jan	99.33	739	9.61	55.8	-	22.2	0
Feb	98.96	665	9.65	45.8	-	18.3	0
Mar	99.19	738	10.60	52.9	-	25.7	0
Apr	98.47	709	9.59	62.3	-	18.1	0
May	85.48	636	38.37	451.4	-	120.3	9
Jun	98.19	707	22.47	149.6	-	75.4	7
Jul	97.04	722	8.66	34.6	-	14.1	0
Aug	93.68	697	9.67	54.7	-	22.3	0
Sep	99.44	716	9.53	49.6	-	18.7	0
Oct	99.46	740	9.72	48.6	-	20.0	0
Nov	98.75	711	10.20	43.9	-	20.1	0
Dec	99.46	740	8.68	44.7	-	19.9	0
Annual	97.26	8520	12.81	451.4	-	120.3	16

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Syncrude UE-1 (AMS 13)
Annual Summary for the Year 2011
PM2.5 (ug/m3) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline
Jan	98.66	734	4.19	21.3	-	9.1	0
Feb	99.70	670	3.73	16.3	-	10.2	0
Mar	99.87	743	4.94	24.9	-	10.4	0
Apr	99.72	718	3.52	22.9	-	9.3	0
May	81.32	605	59.27	450.7	-	221.4	4
Jun	90.83	654	21.12	368.4	-	127.9	5
Jul	89.52	666	4.67	35.0	-	16.5	0
Aug	91.80	683	3.34	27.3	-	9.8	0
Sep	96.81	691	3.60	32.9	-	12.0	0
Oct	99.06	737	3.13	45.8	-	13.8	0
Nov	96.67	696	3.61	29.8	-	9.2	0
Dec	95.56	711	3.26	52.5	-	9.2	0
Annual	94.91	8308	9.20	450.7	-	221.4	9

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Anzac (AMS 14)
Annual Summary for the Year 2011
PM2.5 (ug/m3) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline
Jan	96.37	717	2.16	49.5	-	4.0	0
Feb	96.43	648	2.35	21.6	-	6.0	0
Mar	97.98	729	3.57	19.5	-	8.3	0
Apr	99.44	716	2.37	12.1	-	6.0	0
May	93.28	694	11.73	222.9	-	79.6	3
Jun	81.39	586	15.53	160.7	-	57.5	3
Jul	69.35	516	5.71	45.9	-	12.0	0
Aug	77.15	574	4.47	54.9	-	11.6	0
Sep	81.67	581	3.11	82.8	-	6.7	0
Oct	98.79	730	3.37	36.9	-	7.8	0
Nov	99.72	718	5.49	40.9	-	14.0	0
Dec	99.87	743	3.65	23.7	-	6.7	0
Annual	90.91	7952	5.16	222.9	-	79.6	6

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - CNRL Horizon (AMS 15)
Annual Summary for the Year 2011
PM2.5 (ug/m3) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guidance
Jan	99.46	740	6.03	31.7	-	11.3	0
Feb	99.40	668	6.24	64.2	-	13.3	0
Mar	96.77	720	7.66	27.9	-	13.0	0
Apr	99.72	718	6.11	50.9	-	12.4	0
May	73.12	544	55.71	437.2	-	190.6	5
Jun	90.42	651	27.94	327.0	-	132.4	7
Jul	95.83	713	7.60	53.1	-	17.3	0
Aug	97.45	725	7.26	106.7	-	18.5	0
Sep	94.31	676	10.29	185.1	-	37.3	1
Oct	99.19	738	6.79	67.3	-	19.1	0
Nov	98.61	710	7.50	69.4	-	18.0	0
Dec	98.92	736	5.64	22.7	-	12.1	0
Annual	95.23	8339	11.89	437.2	-	190.6	13

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Albian Muskeg River (AMS 16)
Annual Summary for the Year 2011
PM2.5 (ug/m3) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Guideline
Jan	93.55	696	8.15	46.0	-	15.2	0
Feb	85.27	573	5.94	37.5	-	17.7	0
Mar	92.47	688	4.89	27.1	-	10.6	0
Apr	99.58	717	4.06	59.5	-	9.4	0
May	83.47	621	51.40	449.8	-	160.5	4
Jun	92.50	666	19.46	185.0	-	89.7	6
Jul	85.62	637	5.23	29.1	-	10.6	0
Aug	94.22	701	2.74	48.9	-	7.9	0
Sep	98.33	708	3.70	23.5	-	8.2	0
Oct	99.46	734	4.18	36.5	-	12.1	0
Nov	99.86	719	6.87	69.6	-	17.7	0
Dec	100.00	744	7.35	140.7	-	18.9	0
Annual	93.72	8204	9.94	449.8	-	160.5	10

Length of monthly periods with data collection: 8760 Hours

Wood Buffalo Environmental Association - Fort McKay (AMS 1)
Annual Summary for the Year 2011
Wind Direction 10 m and Wind Speed 10 m (km/hr)

Percentage Frequency Distribution of Wind

Speed	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	4.80	1.80	1.05	1.00	0.93	0.80	1.68	2.86	5.67	4.99	3.25	2.76	3.02	3.59	4.11	4.20	46.52
6 - 11	7.72	2.11	1.33	1.07	0.99	0.45	1.87	4.31	6.94	2.16	2.08	2.09	2.71	2.95	1.36	2.10	42.26
12 - 19	2.02	0.25	0.06	0.09	0.14	0.14	0.37	2.26	1.43	0.31	0.48	0.26	0.33	0.83	0.76	0.64	10.38
20 - 28	0.01	.	.	.	.	0.01	0.24	0.37	0.02	0.06	.	.	.	0.02	0.05	0.02	0.80
29 - 38	.	.	.	.	.	.	0.03	.	.	.	.	.	.	.	.	.	0.03
> 38	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Totals	14.56	4.17	2.44	2.16	2.06	1.40	4.20	9.80	14.06	7.52	5.82	5.11	6.07	7.39	6.28	6.97	100.00

Total Number of Valid Hours 8700
Total Number of Hours 8760

Wood Buffalo Environmental Association - Mildred Lake (AMS 2)
Annual Summary for the Year 2011
Wind Direction 10 m and Wind Speed 10 m (km/hr)

Percentage Frequency Distribution of Wind

Speed	Wind Direction															Totals	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW		NNW
0 - 5	2.60	1.55	0.87	0.75	1.11	1.27	1.73	1.90	2.37	2.04	1.57	1.19	0.63	0.84	0.77	1.45	22.63
6 - 11	8.79	3.97	0.83	0.69	0.85	1.18	3.09	4.83	5.01	3.56	2.80	2.59	1.55	2.31	1.60	2.53	46.16
12 - 19	4.30	2.81	0.22	0.14	0.28	0.71	2.35	4.35	1.29	0.50	0.72	2.31	2.10	2.76	1.42	1.07	27.35
20 - 28	0.69	0.3	0.01	0.03	.	0.09	0.47	0.82	0.13	0.09	0.05	0.06	0.2	0.16	0.31	0.23	3.65
29 - 38	.	.	.	.	.	.	0.08	0.06	.	.	.	.	.	.	0.03	0.05	0.22
> 38	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Totals	16.38	8.64	1.93	1.61	2.24	3.25	7.72	11.95	8.80	6.19	5.14	6.14	4.48	6.07	4.14	5.33	100.00

Total Number of Valid Hours 8579
Total Number of Hours 8760

Wood Buffalo Environmental Association - Buffalo Viewpoint (AMS 4)
Annual Summary for the Year 2011
Wind Direction 10 m and Wind Speed 10 m (km/hr)

Percentage Frequency Distribution of Wind

Speed	Wind Direction															Totals	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW		NNW
0 - 5	1.21	0.67	0.45	0.33	0.45	0.74	1.42	1.56	1.09	1.06	0.75	0.62	0.79	0.80	0.66	1.05	13.65
6 - 11	4.62	2.06	0.93	0.44	0.59	2.65	9.28	6.62	1.69	1.67	2.00	1.82	2.14	1.96	1.52	1.80	41.79
12 - 19	6.64	1.73	0.21	0.12	0.34	1.62	6.01	2.20	0.42	0.59	1.82	3.53	2.34	1.62	1.08	1.13	31.41
20 - 28	2.96	0.35	0.04	0.08	0.06	0.21	0.92	0.24	0.11	0.18	0.31	2.14	1.02	0.80	0.76	0.46	10.63
29 - 38	1.45	0.04	.	.	.	0.13	0.07	.	.	0.05	.	0.14	0.04	0.16	0.12	0.15	2.34
> 38	0.14	.	.	.	.	.	.	.	.	.	.	.	.	0.01	0.01	0.01	0.18
Totals	17.03	4.85	1.62	0.96	1.43	5.35	17.70	10.62	3.32	3.54	4.88	8.26	6.33	5.36	4.15	4.60	100.00

Total Number of Valid Hours 8503
Total Number of Hours 8760

Wood Buffalo Environmental Association - Mannix (AMS 5)
Annual Summary for the Year 2011
Wind Direction 20 m and Wind Speed 20 m (km/hr)

Percentage Frequency Distribution of Wind

Speed	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	5.07	2.83	1.56	1.38	2.76	4.32	9.50	9.79	3.85	3.00	3.99	4.13	3.83	2.95	3.00	3.85	65.80
6 - 11	5.19	0.89	0.06	0.25	0.88	2.96	4.16	1.65	0.26	0.52	1.71	3.93	3.42	1.91	1.57	2.01	31.37
12 - 19	0.41	0.01	.	.	0.03	0.36	0.24	.	.	0.07	0.16	0.46	0.50	0.34	0.13	0.09	2.81
20 - 28	0.01	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.01	0.02
29 - 38	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
> 38	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Totals	10.68	3.74	1.62	1.63	3.68	7.63	13.90	11.44	4.11	3.59	5.86	8.52	7.75	5.20	4.70	5.96	100.00

Total Number of Valid Hours 8725
Total Number of Hours 8760

Wood Buffalo Environmental Association - Patricia McInnes (AMS 6)

Annual Summary for the Year 2011

Wind Direction 10 m and Wind Speed 10 m (km/hr)

Percentage Frequency Distribution of Wind

Speed	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	1.00	0.57	0.51	0.63	0.89	1.12	1.40	1.83	2.13	2.48	2.19	1.54	1.39	1.45	1.47	1.17	21.75
6 - 11	3.25	2.09	1.24	0.78	1.31	2.20	4.33	2.33	2.42	3.32	5.29	3.46	1.90	1.81	1.79	3.44	40.95
12 - 19	4.61	1.12	0.30	0.38	0.67	2.97	2.20	0.66	0.86	1.01	3.22	4.22	2.41	1.64	0.97	2.38	29.63
20 - 28	1.68	0.09	0.01	0.1	0.14	0.39	0.35	0.19	0.14	0.09	0.41	1.03	1.17	0.57	0.19	0.57	7.11
29 - 38	0.08	0.02	.	.	.	0.08	0.07	0.02	.	0.03	0.01	0.03	0.06	0.03	0.01	0.09	0.56
> 38	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.01	0.01
Totals	10.61	3.90	2.06	1.89	3.01	6.77	8.34	5.02	5.54	6.93	11.11	10.29	6.92	5.50	4.43	7.66	100.00

Total Number of Valid Hours 8640

Total Number of Hours 8760

Wood Buffalo Environmental Association - Athabasca Valley (AMS 7)
Annual Summary for the Year 2011
Wind Direction 10 m and Wind Speed 10 m (km/hr)

Percentage Frequency Distribution of Wind

Speed	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	1.73	1.23	1.22	1.39	1.95	3.28	4.66	2.74	2.12	2.02	2.00	2.07	1.67	1.96	2.13	2.02	34.19
6 - 11	1.78	0.62	0.26	0.55	0.77	3.17	12.38	1.69	0.69	1.69	2.89	1.35	0.55	0.69	1.33	6.29	36.70
12 - 19	0.96	0.05	0.05	0.20	0.33	1.28	5.63	0.72	0.04	0.32	1.94	2.20	1.15	0.62	1.03	6.18	22.70
20 - 28	0.29	.	.	.	0.02	0.14	0.31	0.01	.	0.05	0.12	0.45	1.15	0.68	0.24	2.27	5.74
29 - 38	.	.	.	.	.	.	0.05	.	.	.	.	.	0.18	0.14	0.08	0.2	0.66
> 38	.	.	.	.	.	.	.	.	.	.	.	.	0.01	.	0.01	.	0.02
Totals	4.76	1.90	1.53	2.14	3.07	7.87	23.03	5.15	2.85	4.08	6.95	6.07	4.71	4.10	4.82	16.97	100.00

Total Number of Valid Hours 8363
Total Number of Hours 8760

Wood Buffalo Environmental Association - Fort Chipewyan (AMS 8)
Annual Summary for the Year 2011
Wind Direction 10 m and Wind Speed 10 m (km/hr)

Percentage Frequency Distribution of Wind

Speed	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	0.49	0.51	0.27	0.35	0.86	0.72	0.43	0.39	0.33	0.48	0.71	0.57	0.59	0.75	0.63	0.49	8.59
6 - 11	2.83	1.40	0.80	1.39	2.20	3.91	1.47	1.21	0.70	1.04	1.67	2.02	2.41	4.75	3.23	2.96	34.00
12 - 19	2.09	0.66	0.47	2.12	3.67	5.06	1.55	1.19	1.21	1.06	1.17	1.71	3.31	3.94	2.08	2.63	33.92
20 - 28	0.14	0.03	0.17	1.75	4.53	3.43	1.04	0.65	1.25	0.91	0.21	0.37	1.64	1.29	0.65	0.78	18.83
29 - 38	.	.	.	1.15	0.94	0.81	0.08	0.07	0.25	0.58	0.09	0.05	0.1	0.06	0.05	0.02	4.25
> 38	.	.	.	0.17	0.03	0.05	0.03	0.06	.	0.02	0.01	0.02	.	.	.	.	0.4
Totals	5.55	2.62	1.71	6.94	12.23	13.97	4.61	3.56	3.74	4.10	3.85	4.74	8.06	10.79	6.64	6.88	100.00

Total Number of Valid Hours 8755
Total Number of Hours 8760

Wood Buffalo Environmental Association - Barge Landing (AMS 9)
Annual Summary for the Year 2011
Wind Direction 10 m and Wind Speed 10 m (km/hr)

Percentage Frequency Distribution of Wind

Speed	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	3.67	2.03	1.58	2.01	1.74	2.02	2.69	4.06	5.19	4.39	3.38	2.36	2.10	2.24	3.64	7.09	50.20
6 - 11	3.86	4.57	2.02	1.08	0.41	0.61	1.98	4.06	6.45	2.99	3.67	3.11	1.29	1.08	0.96	2.11	40.27
12 - 19	0.70	1.14	0.09	0.08	0.02	0.08	0.61	1.03	0.74	0.23	0.95	2.16	0.48	0.38	0.31	0.16	9.18
20 - 28	.	.	.	.	.	.	0.20	0.07	.	0.02	0.04	0.01	.	.	.	0.01	0.35
29 - 38	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
> 38	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Totals	8.24	7.74	3.70	3.17	2.17	2.71	5.48	9.23	12.37	7.64	8.04	7.64	3.87	3.70	4.91	9.38	100.00

Total Number of Valid Hours 8518
Total Number of Hours 8760

Wood Buffalo Environmental Association - Lower Camp - Air Quality- (AMS 11)
Annual Summary for the Year 2011
Wind Direction 10 m and Wind Speed 10 m (km/hr)

Percentage Frequency Distribution of Wind

Speed	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	1.53	1.40	1.22	1.35	2.11	2.10	1.42	0.62	0.42	0.20	0.26	0.46	0.74	2.44	3.10	2.24	21.60
6 - 11	1.79	0.63	0.29	0.38	0.50	1.66	5.61	1.37	0.68	0.56	0.74	0.82	1.10	2.17	4.52	4.97	27.79
12 - 19	3.23	0.98	0.29	0.29	0.60	2.43	9.87	1.63	0.24	0.33	0.79	2.46	1.53	0.77	1.30	2.48	29.21
20 - 28	1.90	0.46	0.1	0.03	0.23	1.94	3.77	0.27	.	0.07	0.29	2.81	2.19	0.98	0.36	0.59	16.01
29 - 38	0.55	0.13	0.02	0.02	0.06	0.33	1.10	.	.	.	0.08	0.85	0.88	0.44	0.19	0.08	4.72
> 38	.	0.02	.	.	.	0.15	0.34	.	.	.	0.02	0.01	0.07	0.02	0.02	.	0.66
Totals	9.00	3.62	1.93	2.08	3.51	8.60	22.10	3.88	1.35	1.15	2.18	7.42	6.52	6.81	9.48	10.37	100.00

Total Number of Valid Hours 8614
Total Number of Hours 8760

Wood Buffalo Environmental Association - Millenium Mine (AMS 12)
Annual Summary for the Year 2011
Wind Direction 10 m and Wind Speed 10 m (km/hr)

Percentage Frequency Distribution of Wind

Speed	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	1.68	1.21	1.18	0.96	0.85	1.42	2.98	5.43	5.94	4.77	3.33	2.24	1.47	1.90	2.13	1.65	39.14
6 - 11	4.87	4.11	1.22	0.49	0.49	0.95	5.14	5.74	3.77	2.82	2.45	2.33	2.48	2.47	2.39	1.62	43.34
12 - 19	1.94	4.16	0.85	0.23	0.06	0.09	3.13	0.79	0.22	0.29	0.36	0.48	0.94	1.26	0.65	0.21	15.66
20 - 28	0.35	0.99	0.02	.	.	.	0.39	.	.	0.02	0.03	.	.	.	.	0.03	1.84
29 - 38	.	0.01	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.01
> 38	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Totals	8.84	10.48	3.27	1.68	1.39	2.46	11.65	11.96	9.93	7.90	6.17	5.05	4.90	5.64	5.17	3.52	100.00

Total Number of Valid Hours 8620
Total Number of Hours 8760

Wood Buffalo Environmental Association - Syncrude Upgrader Expansion (AMS 13)
Annual Summary for the Year 2011
Wind Direction 10 m and Wind Speed 10 m (km/hr)

Percentage Frequency Distribution of Wind

Speed	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	8.09	3.78	1.44	1.05	1.19	1.69	2.45	3.62	8.17	7.41	6.82	6.60	4.49	3.21	2.79	4.08	66.87
6 - 11	6.32	3.12	0.50	0.16	0.16	0.33	1.59	2.56	2.45	1.76	1.88	4.31	2.63	1.39	0.76	0.78	30.71
12 - 19	0.73	0.28	0.01	0.01	.	.	0.22	0.21	0.08	0.10	0.10	0.39	0.10	0.14	0.01	0.02	2.41
20 - 28	.	.	.	.	.	.	.	.	.	.	0.01	.	.	.	.	.	0.01
29 - 38	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
> 38	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Totals	15.14	7.18	1.95	1.22	1.35	2.03	4.26	6.38	10.70	9.27	8.81	11.30	7.22	4.75	3.56	4.88	100.00

Total Number of Valid Hours 8681

Total Number of Hours 8760

Wood Buffalo Environmental Association - Anzac (AMS 14)
Annual Summary for the Year 2011
Wind Direction 20 m and Wind Speed 20 m (km/hr)

Percentage Frequency Distribution of Wind

Speed	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	1.72	1.09	0.94	1.01	1.42	1.42	1.63	1.84	2.61	2.67	3.13	2.58	2.19	3.17	2.45	2.39	32.25
6 - 11	1.92	1.49	1.16	1.55	1.90	2.06	3.91	4.85	2.75	1.11	1.89	2.20	3.85	9.06	5.51	3.37	48.58
12 - 19	0.42	0.05	0.12	0.12	0.49	0.40	1.91	2.64	1.02	0.42	0.83	0.69	2.52	3.82	1.63	1.03	18.10
20 - 28	0.01	.	.	.	.	.	0.13	0.19	0.09	.	0.23	0.01	0.12	0.07	0.11	0.09	1.05
29 - 38	.	.	.	.	.	.	.	.	.	.	0.01	.	.	.	.	.	0.01
> 38	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Totals	4.08	2.62	2.21	2.67	3.81	3.88	7.58	9.51	6.48	4.21	6.09	5.48	8.68	16.12	9.69	6.89	100.00

Total Number of Valid Hours 8536
Total Number of Hours 8760

Wood Buffalo Environmental Association - CNRL Horizon (AMS 15)
Annual Summary for the Year 2011
Wind Direction 10 m and Wind Speed 10 m (km/hr)

Percentage Frequency Distribution of Wind

Speed	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	3.32	2.18	1.43	1.04	0.84	0.96	1.06	1.67	2.43	3.60	2.97	1.67	1.30	1.53	1.81	2.25	30.05
6 - 11	4.22	6.05	1.86	0.82	0.59	0.75	1.52	3.30	6.99	9.27	6.21	2.10	1.33	1.24	1.10	1.06	48.41
12 - 19	1.75	3.46	0.75	0.09	0.17	0.12	0.34	0.88	1.52	1.93	3.28	1.24	1.28	0.91	0.64	0.64	19.00
20 - 28	0.58	0.64	0.03	0.03	.	0.02	0.17	0.08	.	0.09	0.19	0.03	0.16	0.27	0.09	0.13	2.53
29 - 38	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.01	0.01
> 38	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Totals	9.87	12.32	4.07	2.00	1.60	1.86	3.09	5.93	10.93	14.89	12.65	5.05	4.07	3.95	3.64	4.08	100.00

Total Number of Valid Hours 8618
Total Number of Hours 8760

Wood Buffalo Environmental Association - Albian Muskeg River (AMS 16)
Annual Summary for the Year 2011
Wind Direction 20 m and Wind Speed 20 m (km/hr)

Percentage Frequency Distribution of Wind

Speed	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	0.15	0.20	0.16	0.15	0.22	0.49	0.70	1.37	2.81	6.79	6.18	2.02	0.94	0.52	0.23	0.23	23.17
6 - 11	0.62	0.38	0.72	1.22	2.06	1.53	1.03	0.85	1.86	8.86	12.56	4.44	2.33	1.36	1.05	0.98	41.84
12 - 19	0.62	1.20	2.11	6.12	2.08	0.33	0.15	0.24	1.00	2.86	2.04	1.99	3.26	1.51	0.87	0.53	26.91
20 - 28	0.08	0.57	1.2	2.43	0.2	0.06	.	0.12	0.42	0.44	0.09	0.1	0.62	0.50	0.60	0.24	7.67
29 - 38	0.01	.	0.13	0.21	.	.	.	.	.	.	.	0.01	.	.	0.05	0.01	0.42
> 38	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Totals	1.48	2.35	4.32	10.13	4.55	2.40	1.88	2.58	6.09	18.95	20.87	8.56	7.15	3.89	2.80	2.00	100.00

Total Number of Valid Hours 8610
Total Number of Hours 8760

Wood Buffalo Environmental Association - Portable (AMS 101)
Annual Summary for the Year 2011
Wind Direction 10 m and Wind Speed 10 m (km/hr)

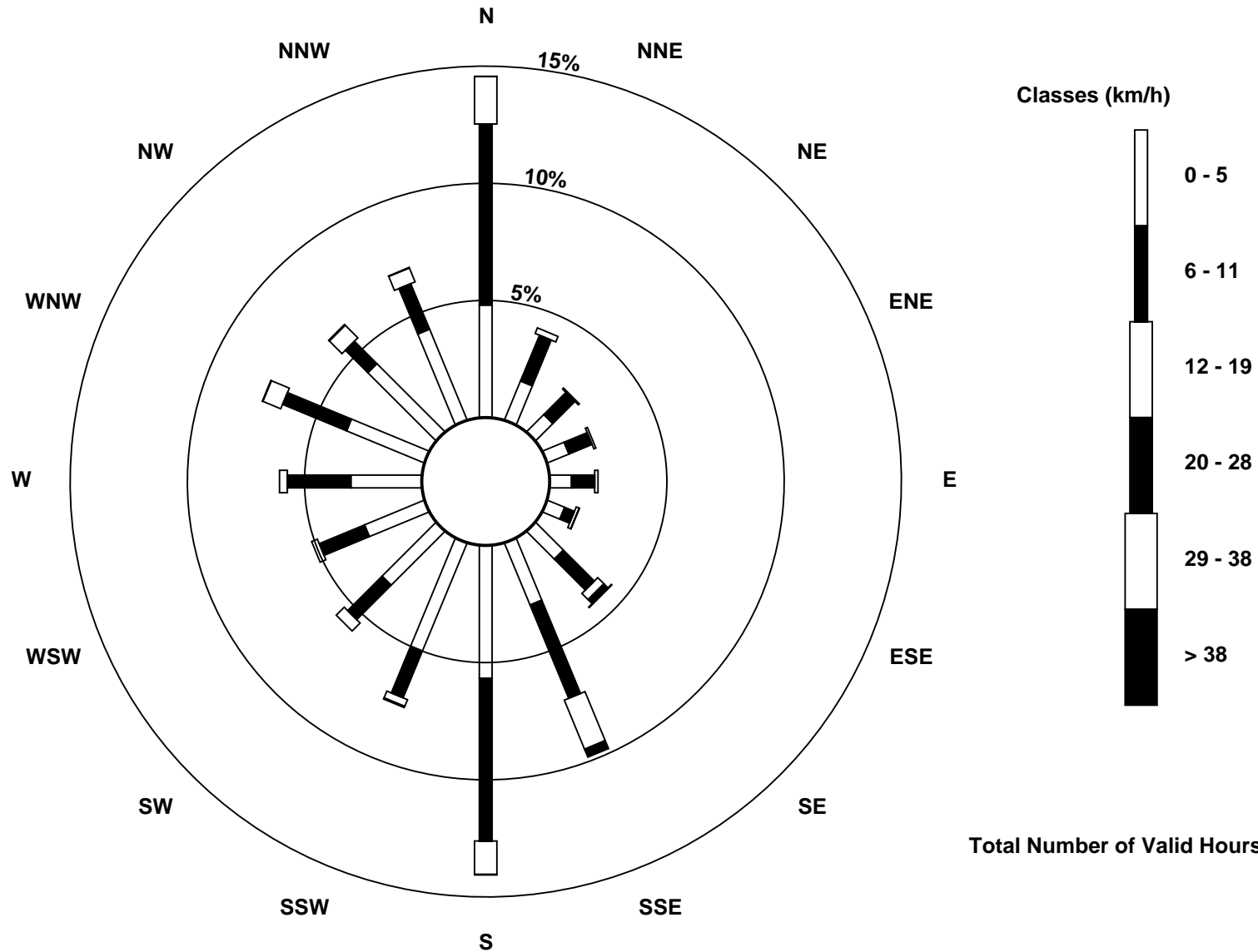
Percentage Frequency Distribution of Wind

Speed	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	0.68	0.64	0.41	0.68	0.32	0.59	0.68	0.46	0.59	0.50	0.23	0.27	0.64	0.37	0.59	0.73	8.40
6 - 11	3.61	2.83	0.55	0.50	0.37	0.32	1.05	1.37	2.24	2.24	2.19	2.51	2.74	3.15	3.47	2.65	31.77
12 - 19	2.51	1.55	0.78	0.27	0.05	0.27	0.64	1.23	2.24	2.46	2.65	3.33	5.57	5.80	8.72	4.70	42.77
20 - 28	0.55	.	.	.	.	.	.	.	0.09	0.78	1.00	1.69	5.02	3.01	1.23	0.41	13.78
29 - 38	.	.	.	.	.	.	.	.	.	0.14	0.14	0.64	1.87	0.14	.	.	2.92
> 38	.	.	.	.	.	.	.	.	.	.	.	.	0.37	.	.	.	0.37
Totals	7.35	5.02	1.73	1.46	0.73	1.19	2.37	3.06	5.16	6.12	6.21	8.44	16.20	12.46	14.01	8.49	100.00

Total Number of Valid Hours 2191
Total Number of Hours 2208

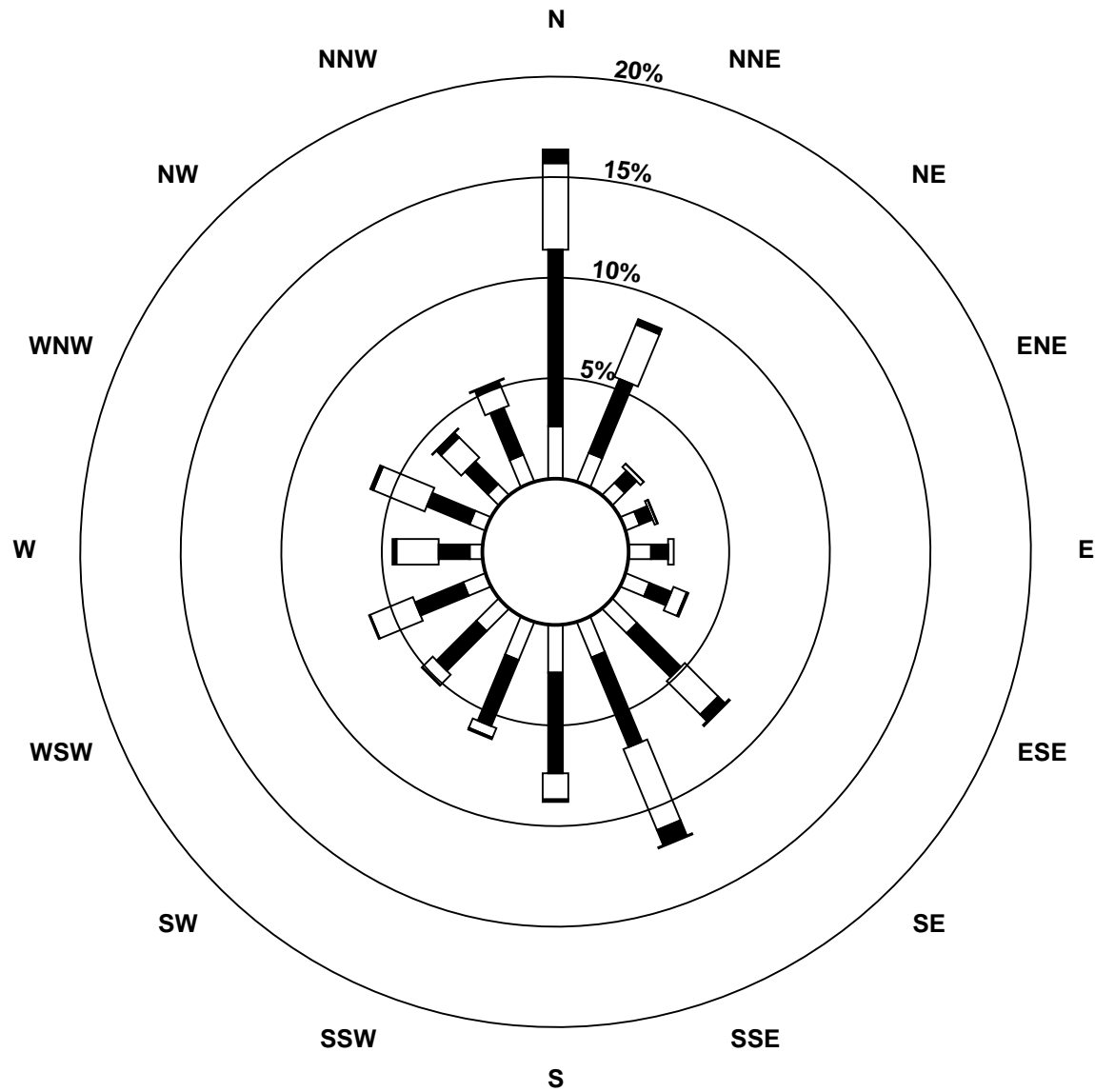
Wood Buffalo Environmental Association
Annual Wind Rose 2011

Wind Speed (WS) - km/h
Fort McKay (AMS 1)

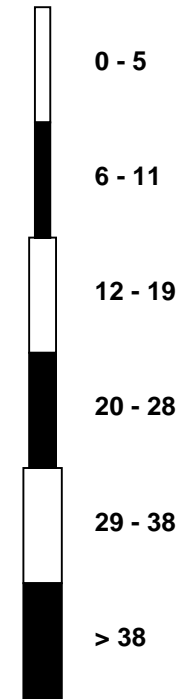


Wood Buffalo Environmental Association
Annual Wind Rose 2011

Wind Speed (WS) - km/h
Mildred Lake (AMS 2)



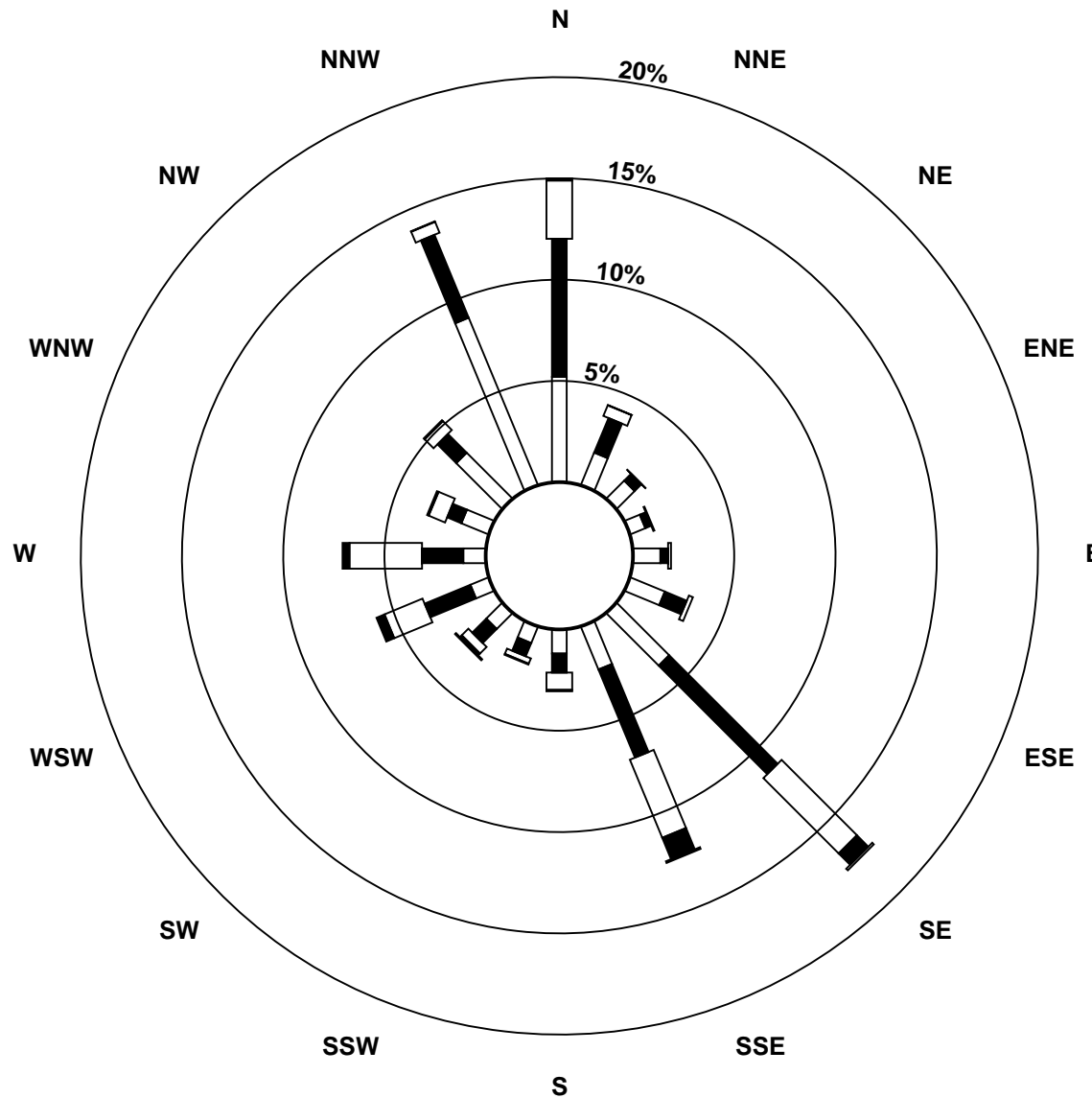
Classes (km/h)



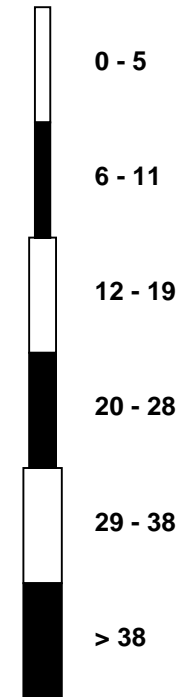
Total Number of Valid Hours: 8579

**Wood Buffalo Environmental Association
Annual Wind Rose 2011**

**Wind Speed 20 m (WS20m) - km/h
Lower Camp Met Tower (AMS 3)**



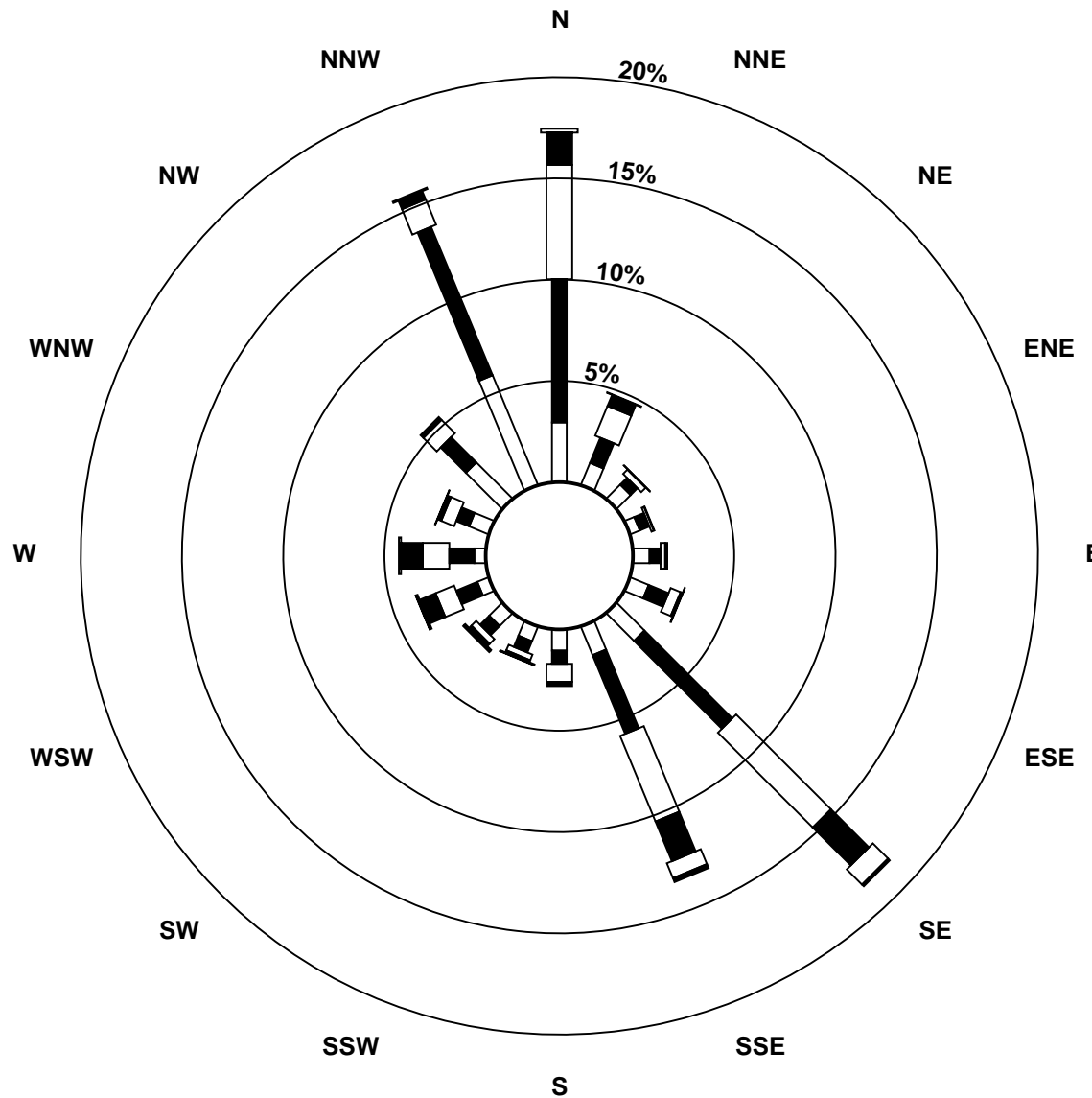
Classes (km/h)



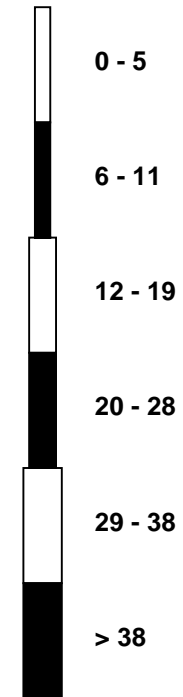
Total Number of Valid Hours: 7906

Wood Buffalo Environmental Association
Annual Wind Rose 2011

Wind Speed 45 m (WS45m) - km/h
Lower Camp Met Tower (AMS 3)



Classes (km/h)



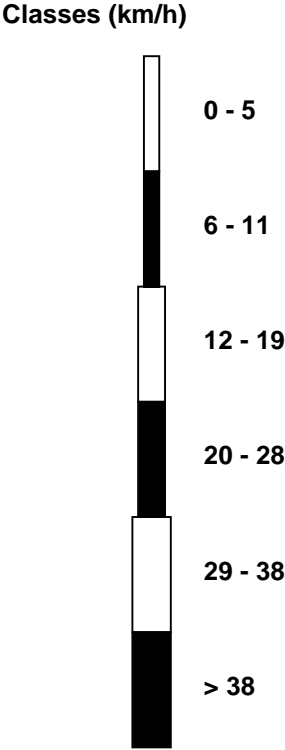
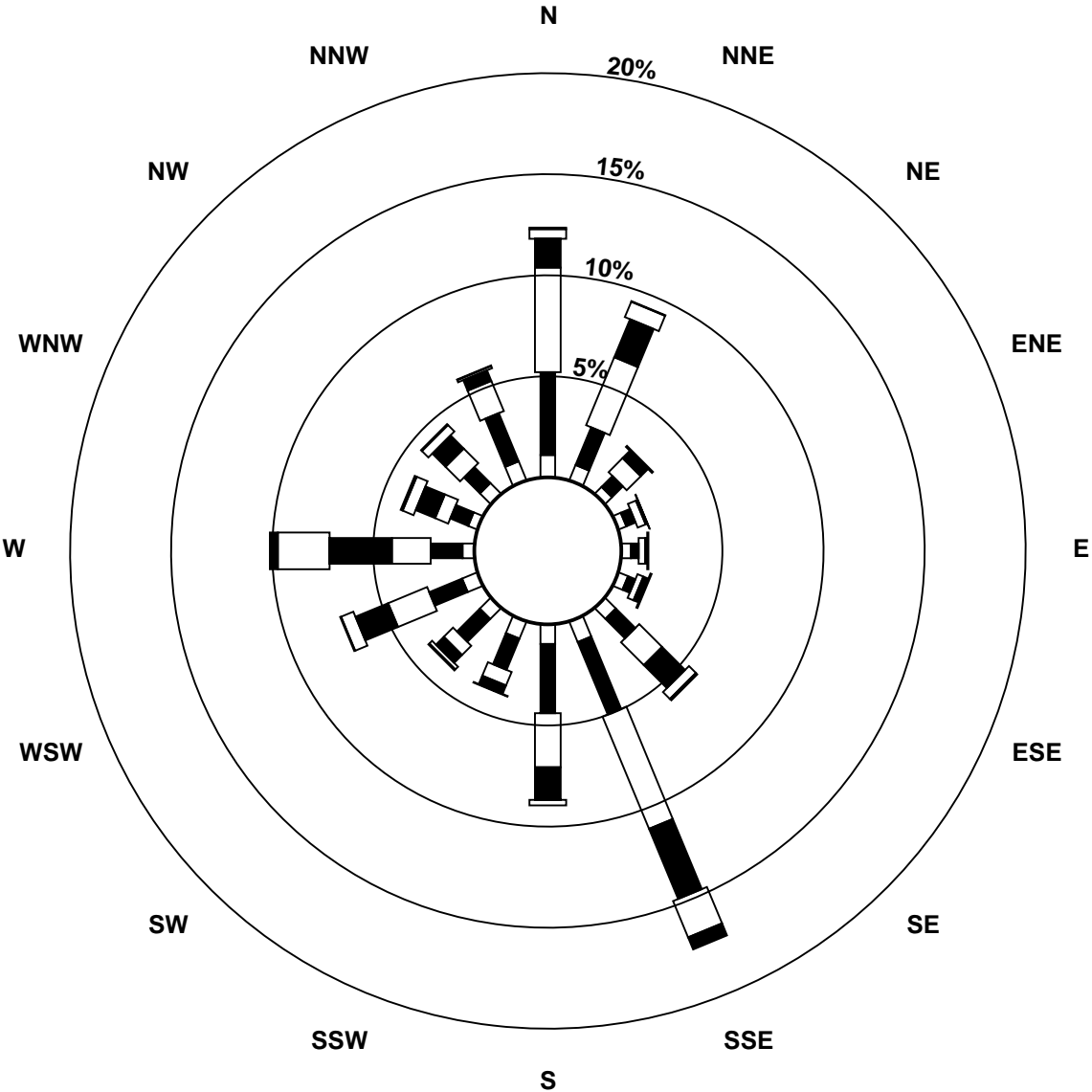
Total Number of Valid Hours: 5661

Wood Buffalo Environmental Association

Annual Wind Rose 2011

Wind Speed 100 m (WS100m) - km/h

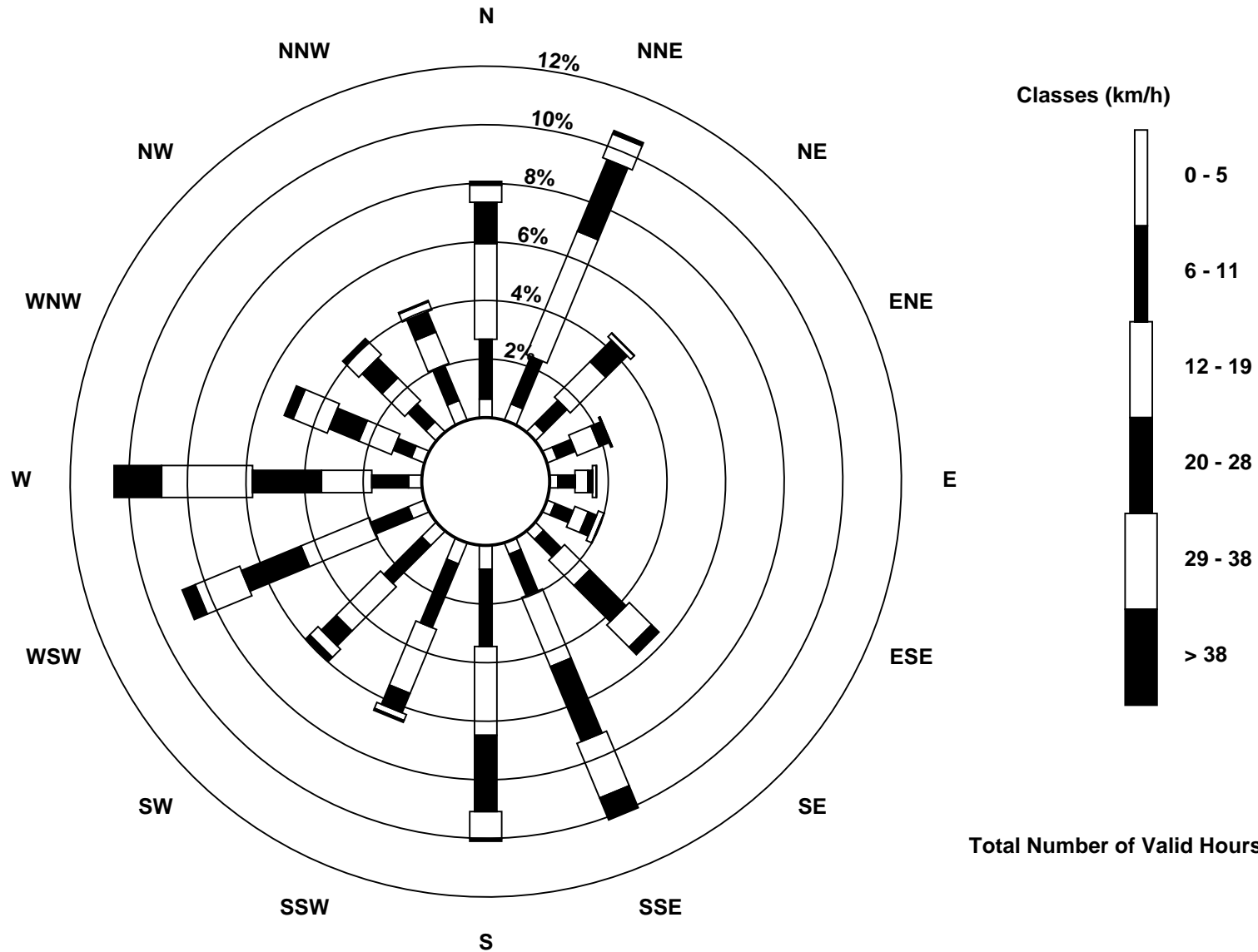
Lower Camp Met Tower (AMS 3)



Total Number of Valid Hours: 8680

Wood Buffalo Environmental Association
Annual Wind Rose 2011

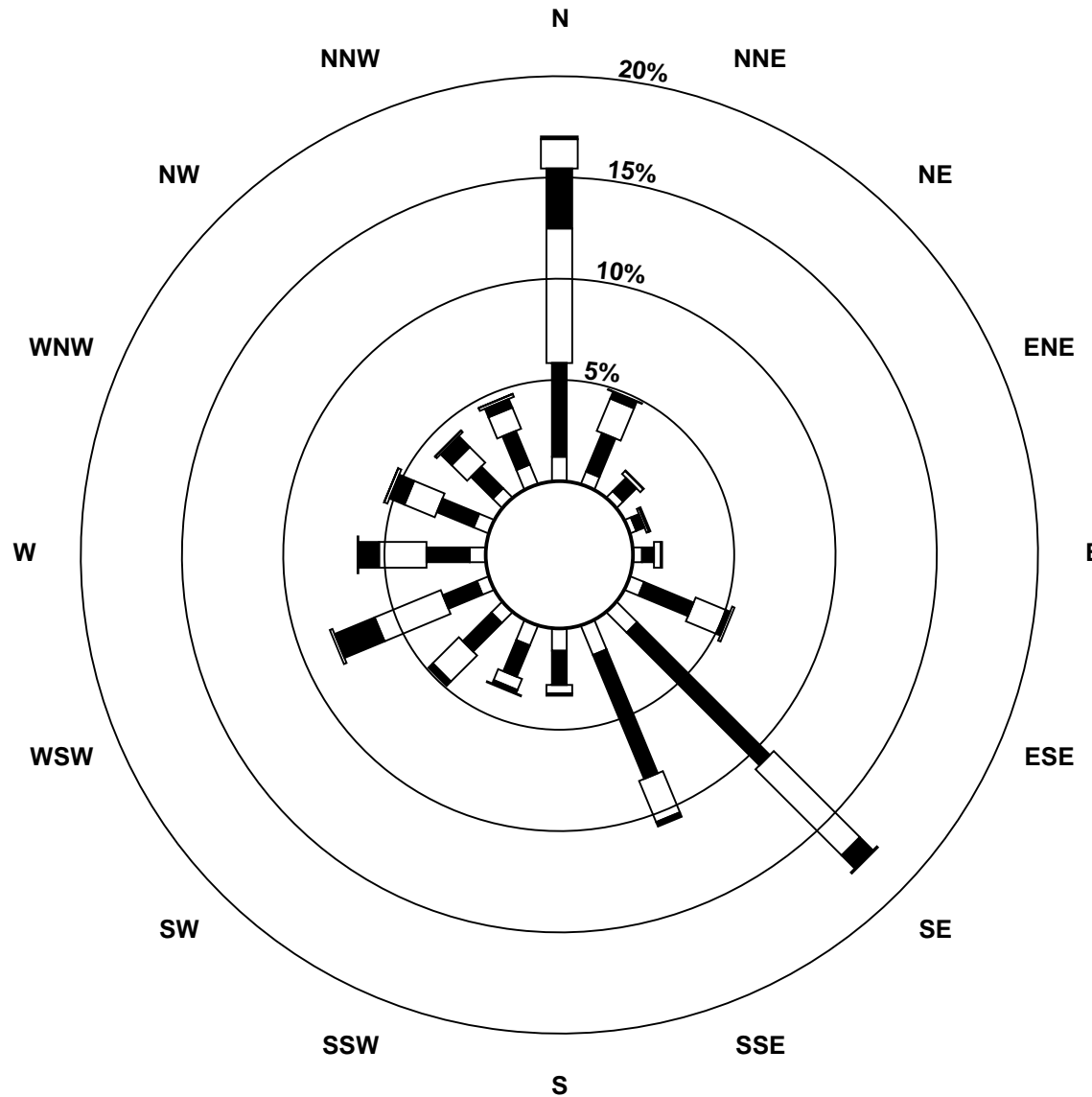
Wind Speed 167 m (WS167m) - km/h
Lower Camp Met Tower (AMS 3)



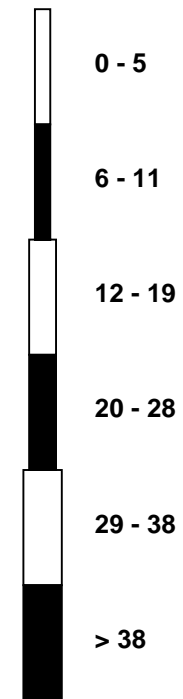
Total Number of Valid Hours: 8379

Wood Buffalo Environmental Association
Annual Wind Rose 2011

Wind Speed (WS) - km/h
Buffalo Viewpoint (AMS 4)



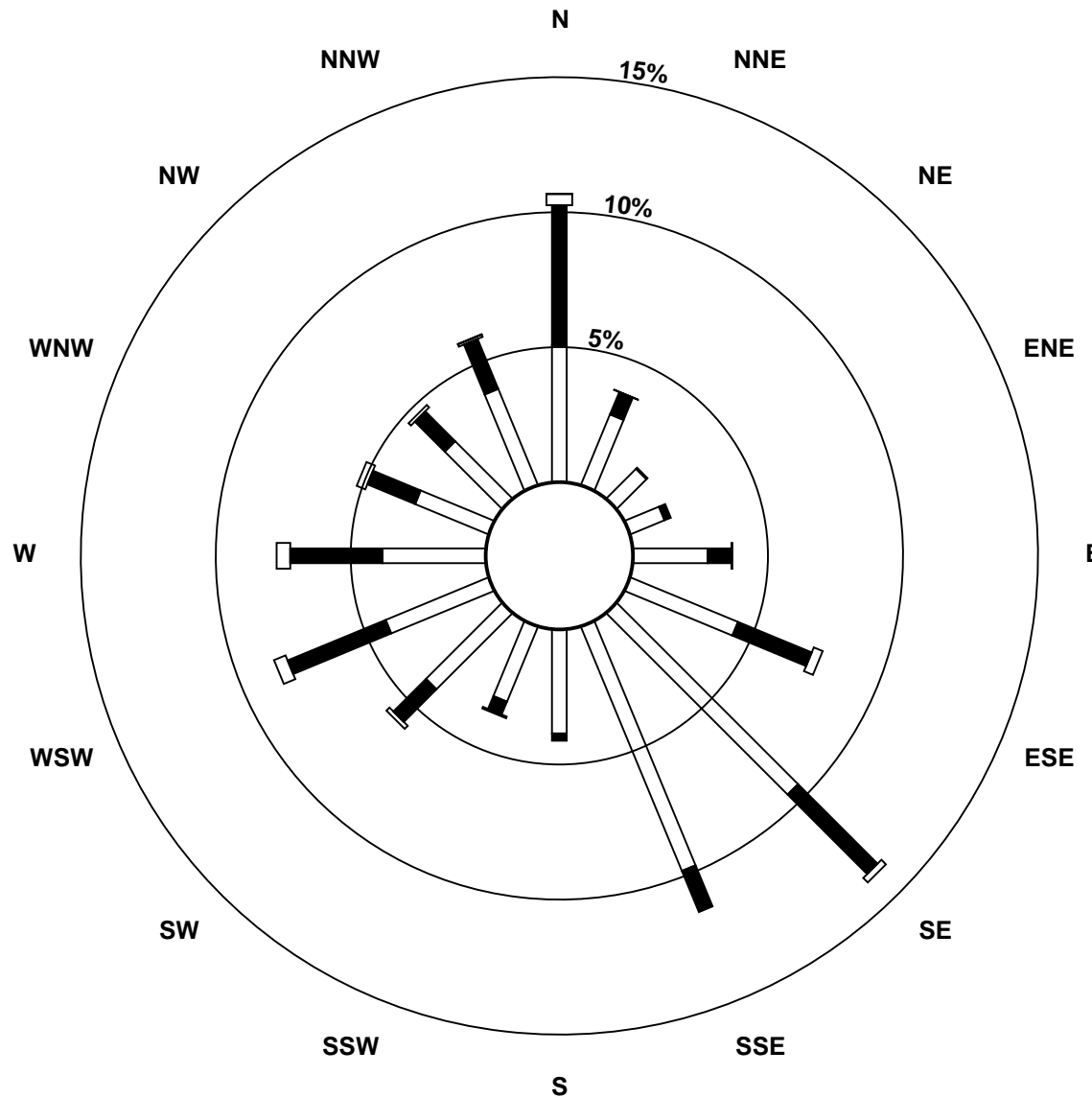
Classes (km/h)



Total Number of Valid Hours: 8503

Wood Buffalo Environmental Association
Annual Wind Rose 2011

Wind Speed 20 m (WS20m) - km/h
Mannix (AMS 5)



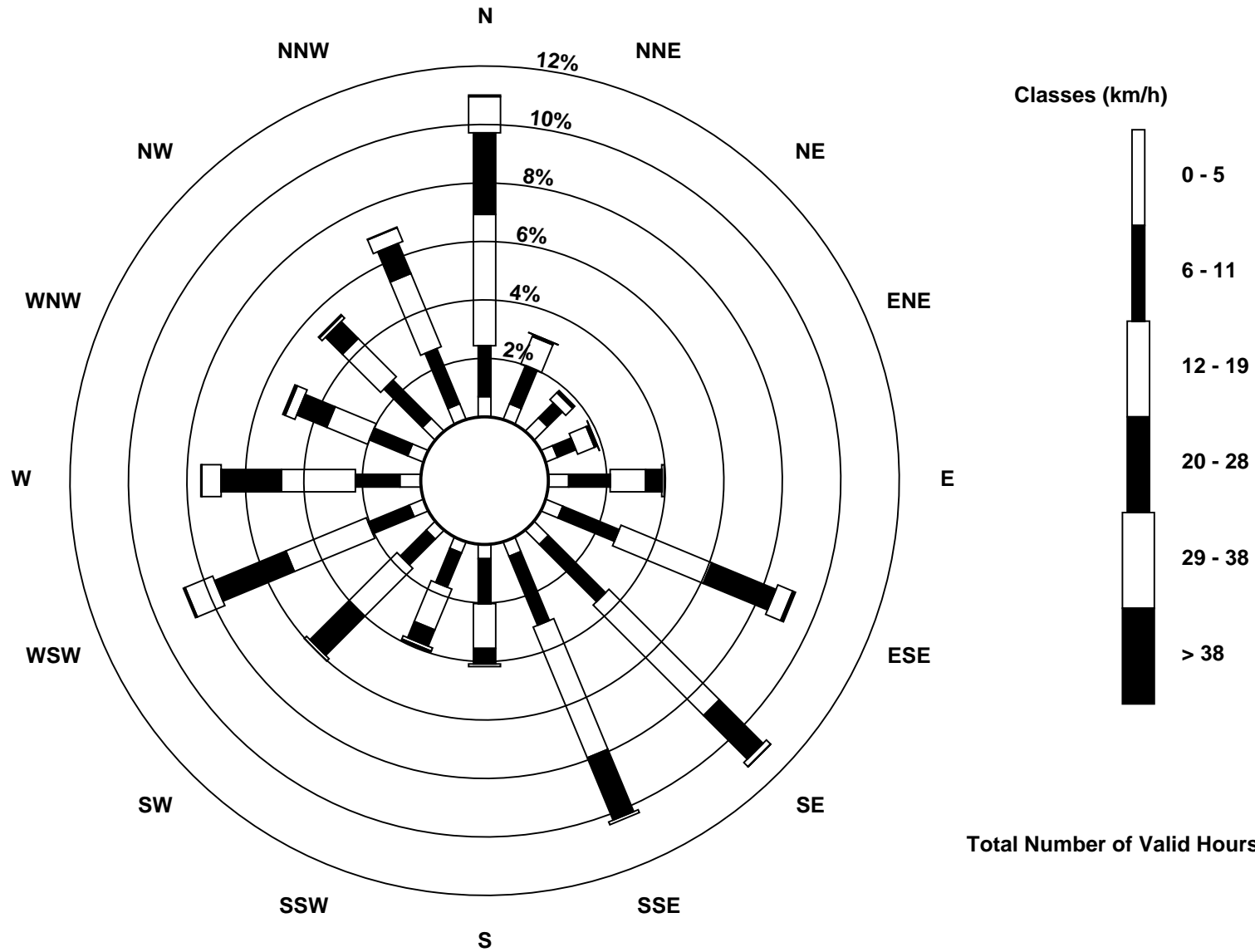
Classes (km/h)



Total Number of Valid Hours: 8725

Wood Buffalo Environmental Association
Annual Wind Rose 2011

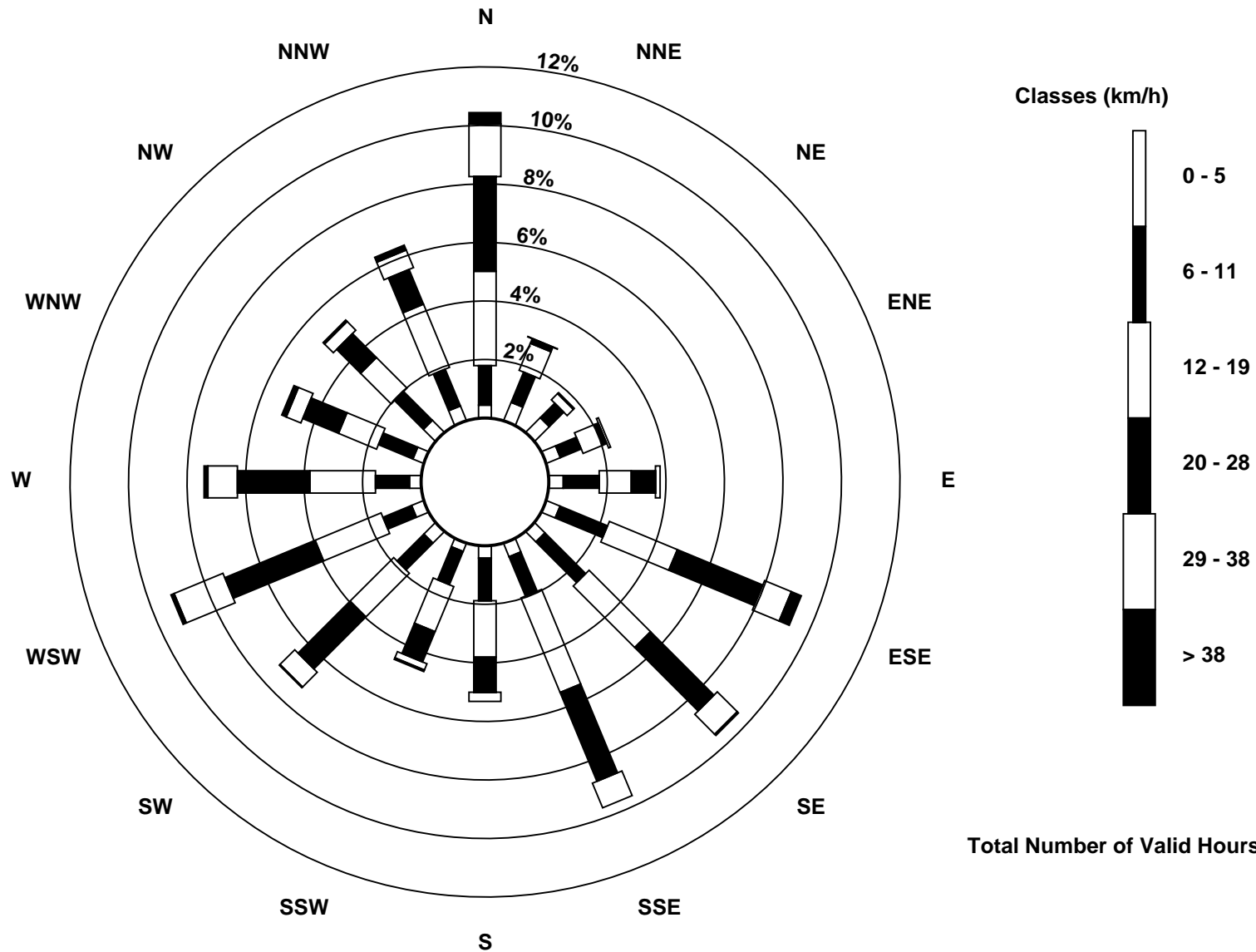
Wind Speed 45 m (WS45m) - km/h
Mannix (AMS 5)



Total Number of Valid Hours: 8666

Wood Buffalo Environmental Association
Annual Wind Rose 2011

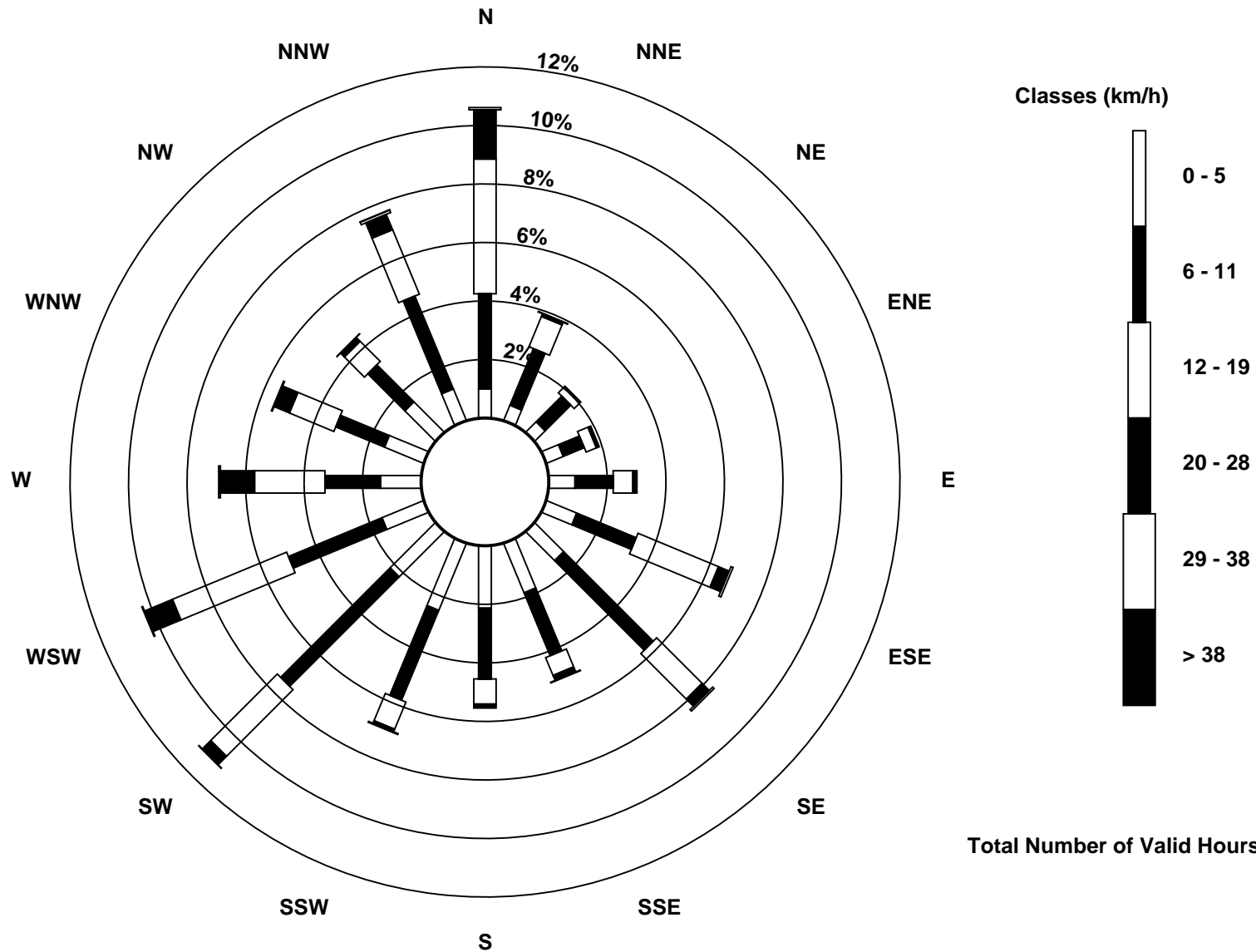
Wind Speed 75 m (WS75m) - km/h
Mannix (AMS 5)



Total Number of Valid Hours: 8315

**Wood Buffalo Environmental Association
Annual Wind Rose 2011**

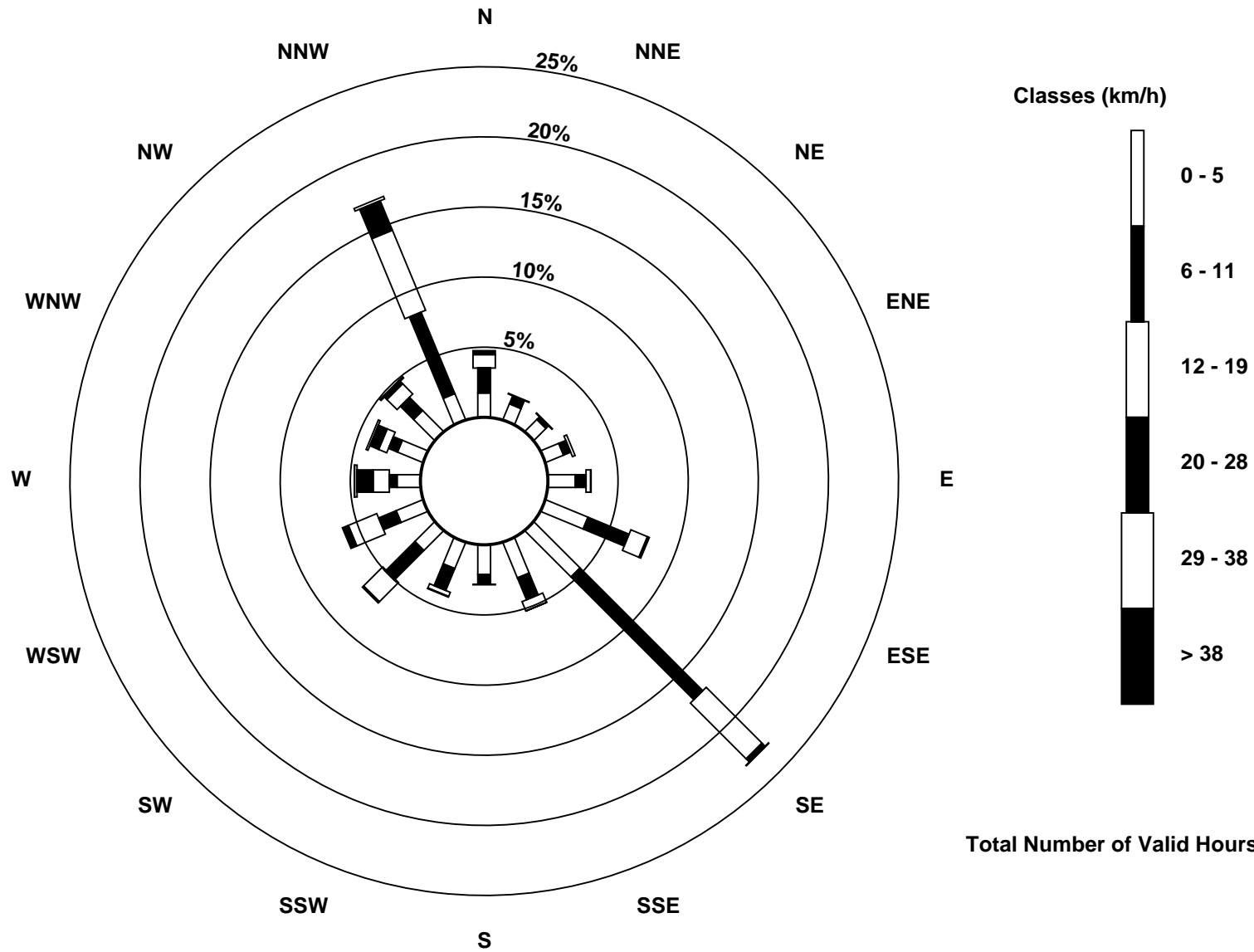
**Wind Speed (WS) - km/h
Patricia McInnes (AMS 6)**



Total Number of Valid Hours: 8640

Wood Buffalo Environmental Association
Annual Wind Rose 2011

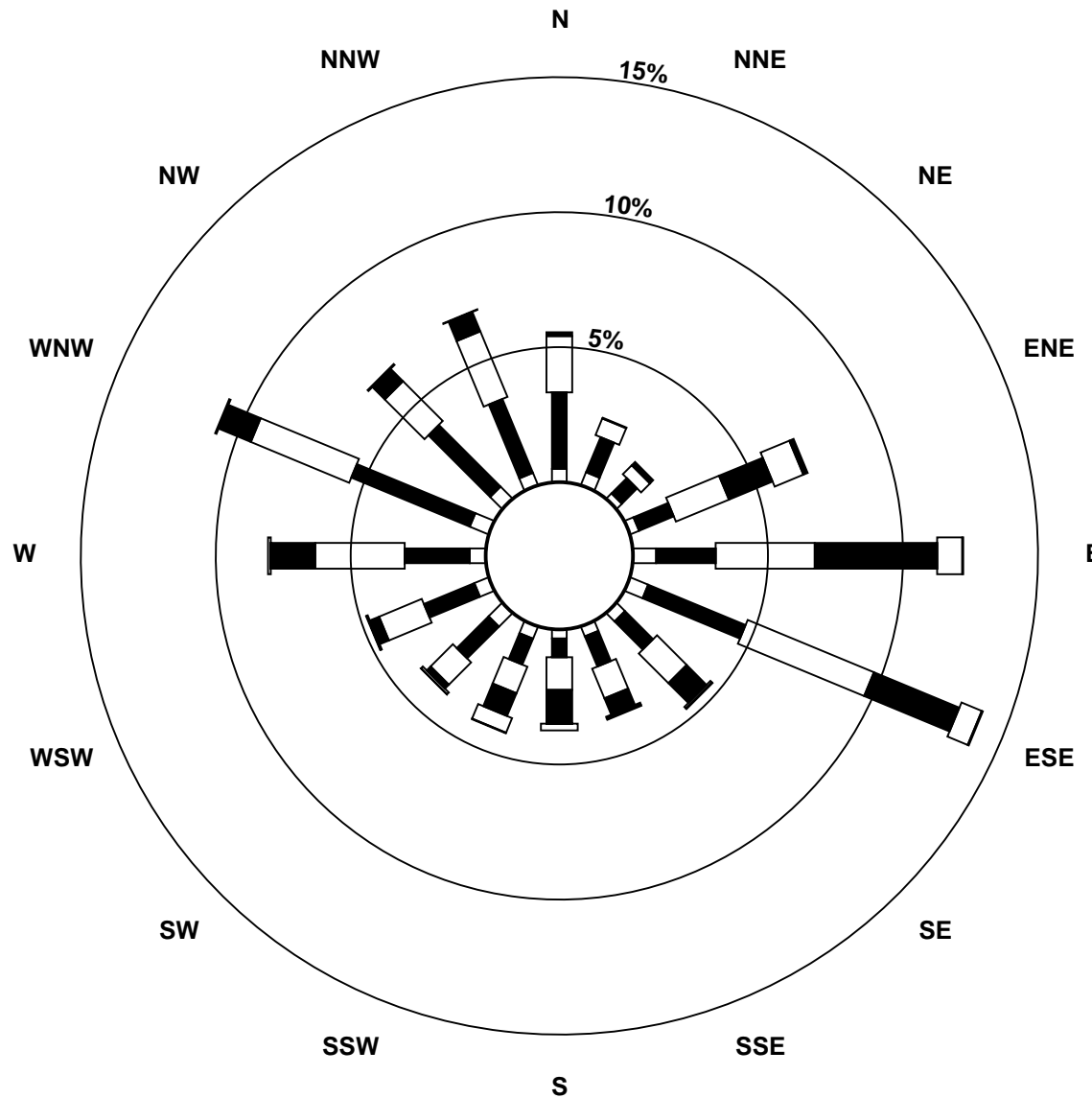
Wind Speed (WS) - km/h
Athabasca Valley (AMS 7)



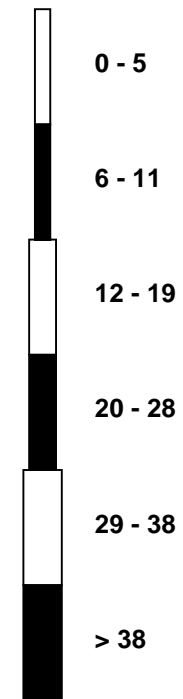
Total Number of Valid Hours: 8363

Wood Buffalo Environmental Association
Annual Wind Rose 2011

Wind Speed (WS) - km/h
Fort Chipeywan (AMS 8)



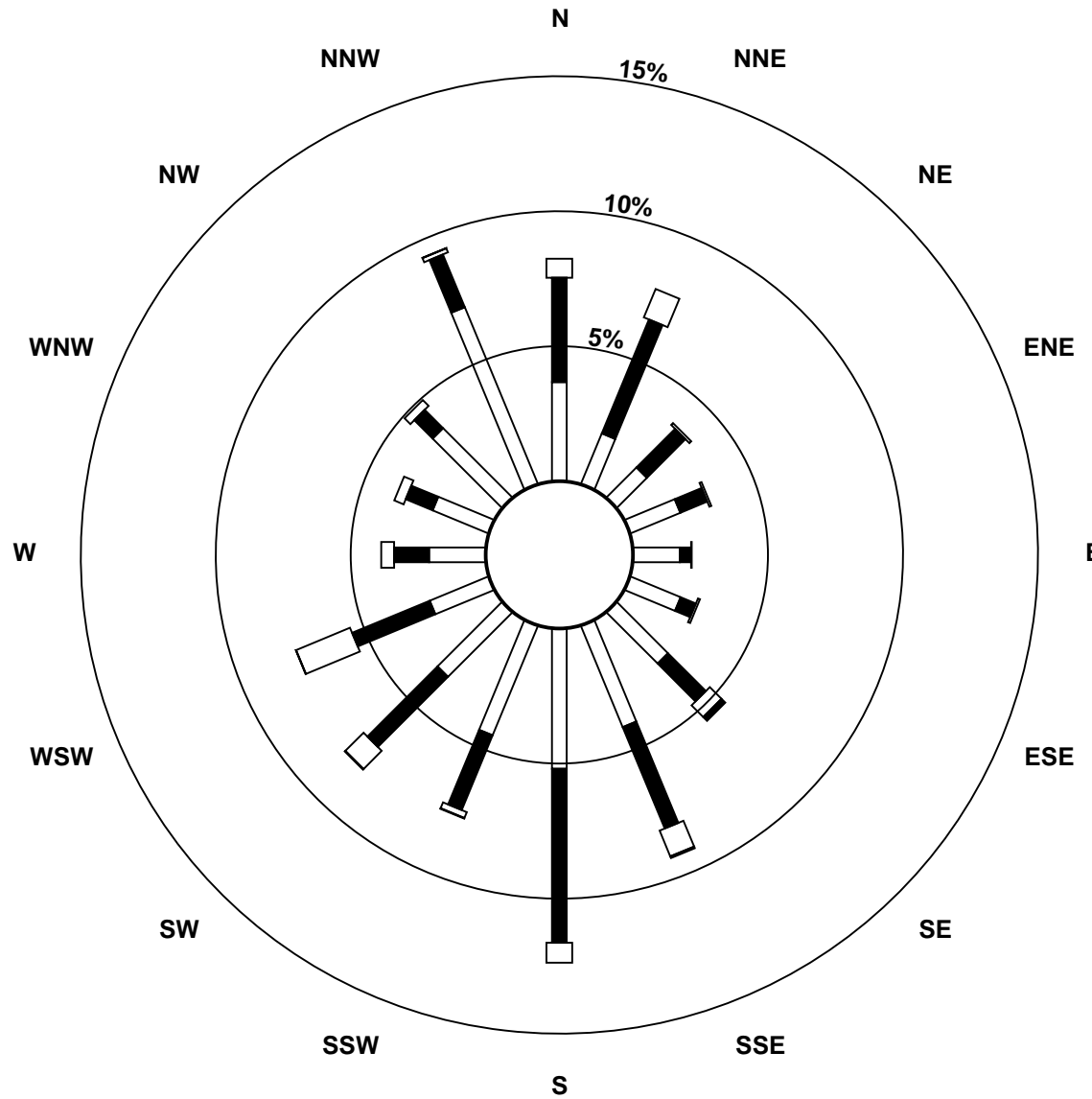
Classes (km/h)



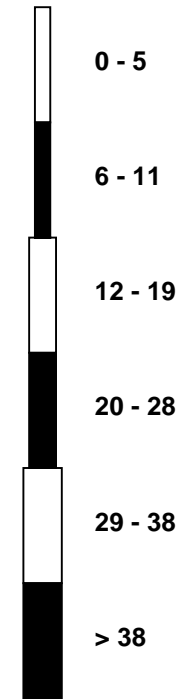
Total Number of Valid Hours: 8755

Wood Buffalo Environmental Association
Annual Wind Rose 2011

Wind Speed (WS) - km/h
Barge Landing (AMS 9)



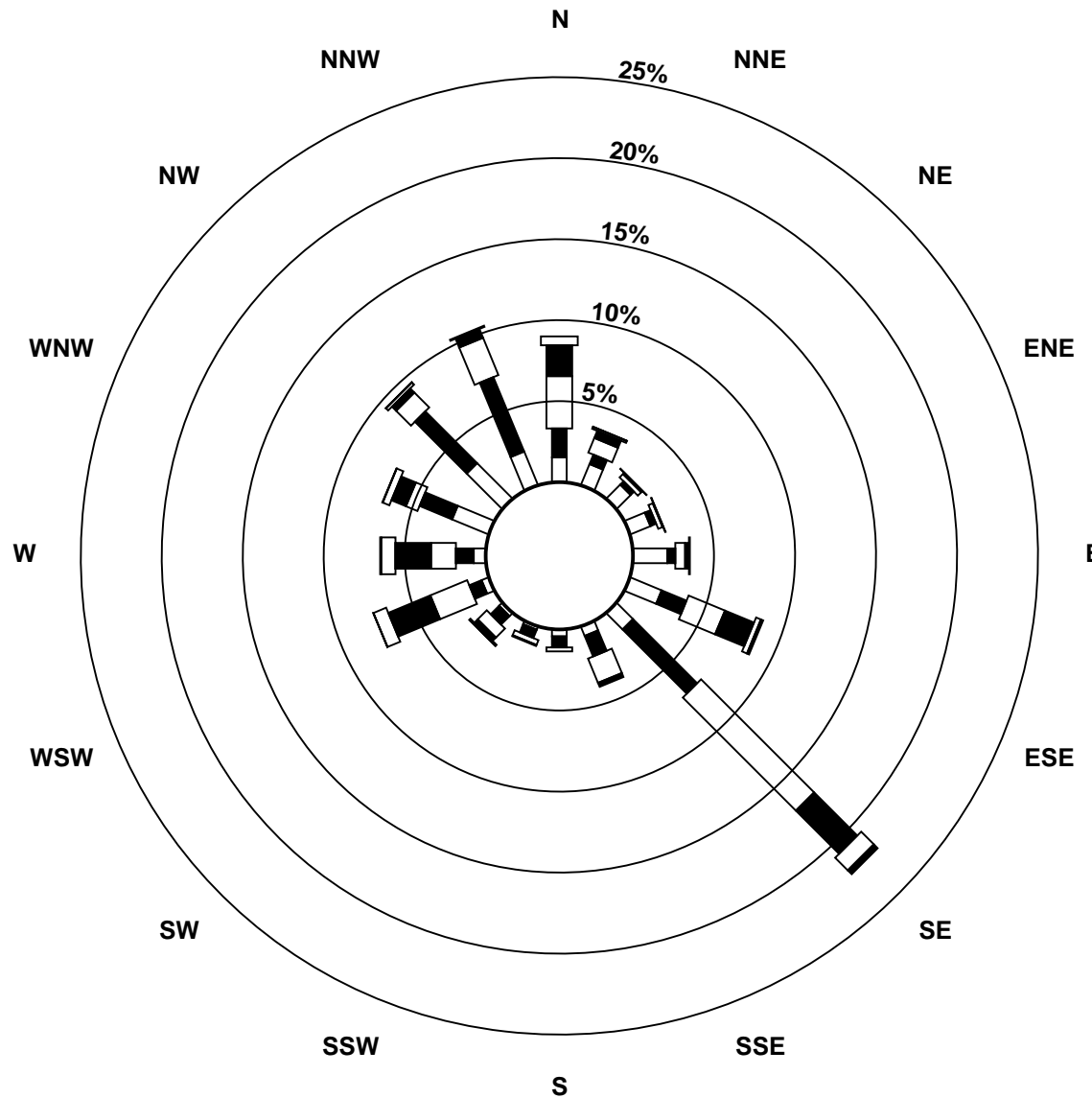
Classes (km/h)



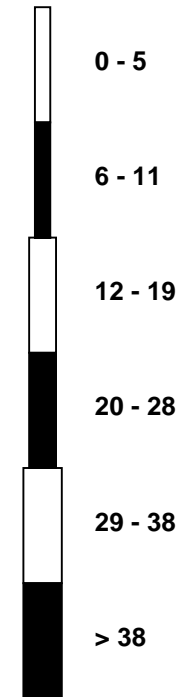
Total Number of Valid Hours: 8518

Wood Buffalo Environmental Association
Annual Wind Rose 2011

Wind Speed (WS) - km/h
Lower Camp (AMS 11)



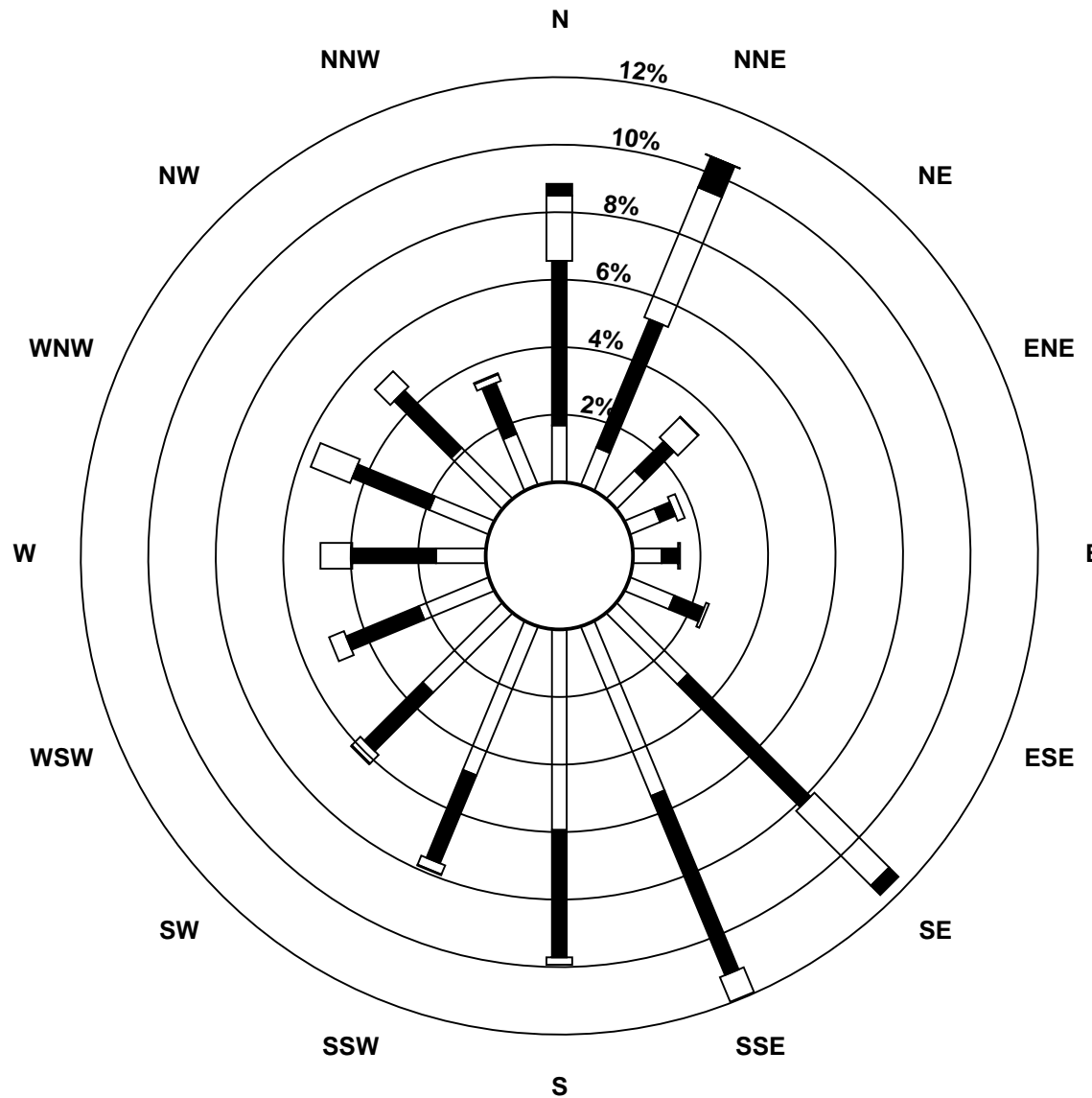
Classes (km/h)



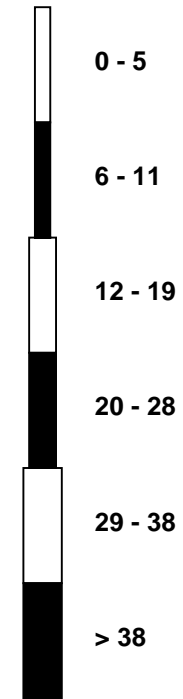
Total Number of Valid Hours: 8614

**Wood Buffalo Environmental Association
Annual Wind Rose 2011**

**Wind Speed (WS) - km/h
Millennium (AMS 12)**



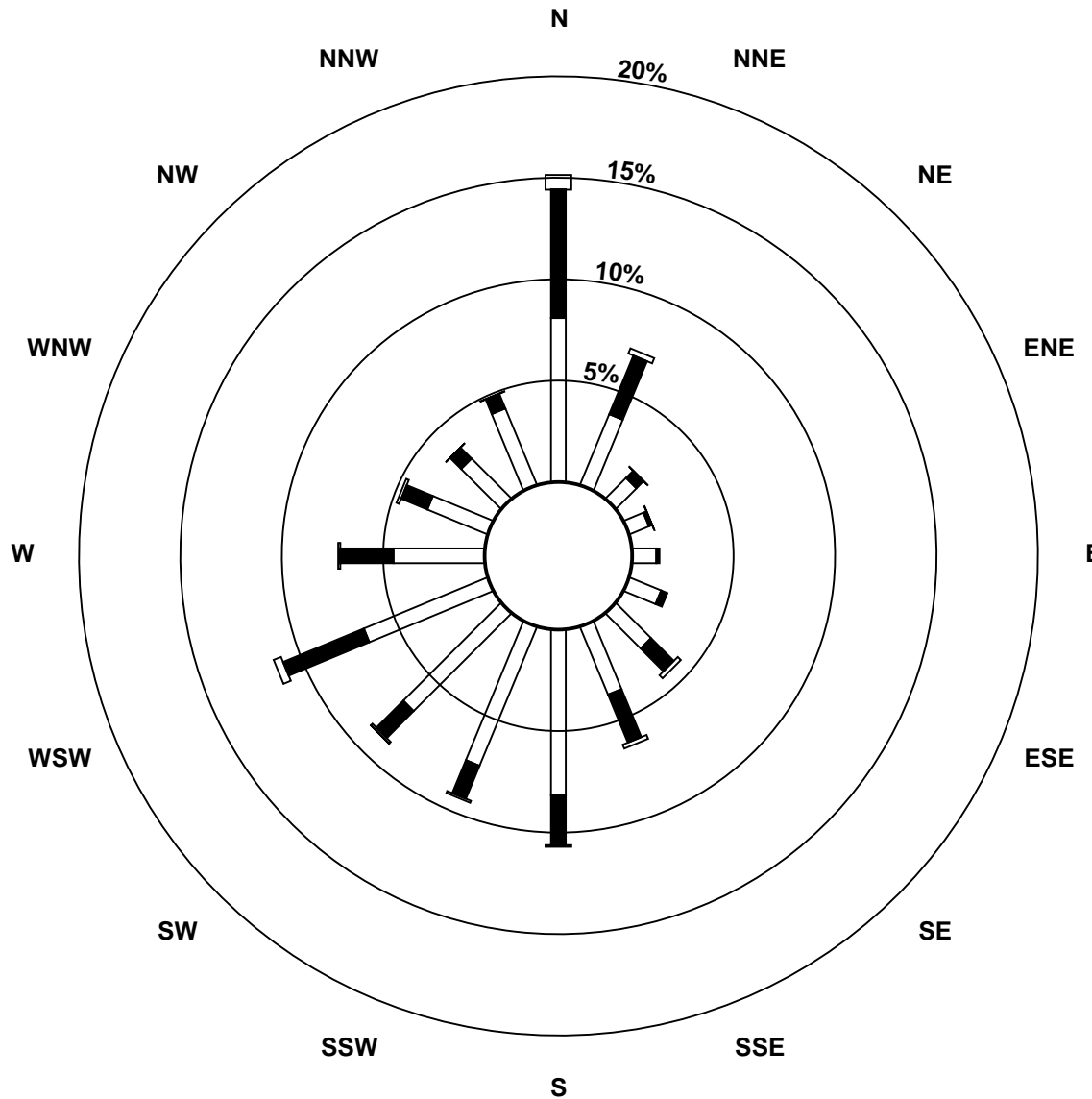
Classes (km/h)



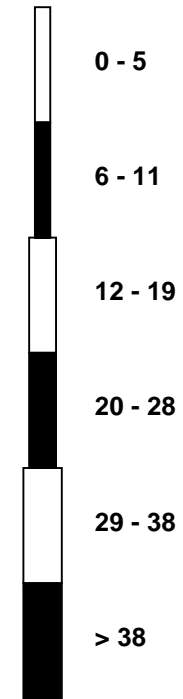
Total Number of Valid Hours: 8620

Wood Buffalo Environmental Association
Annual Wind Rose 2011

Wind Speed (WS) - km/h
Syncrude UE-1 (AMS 13)



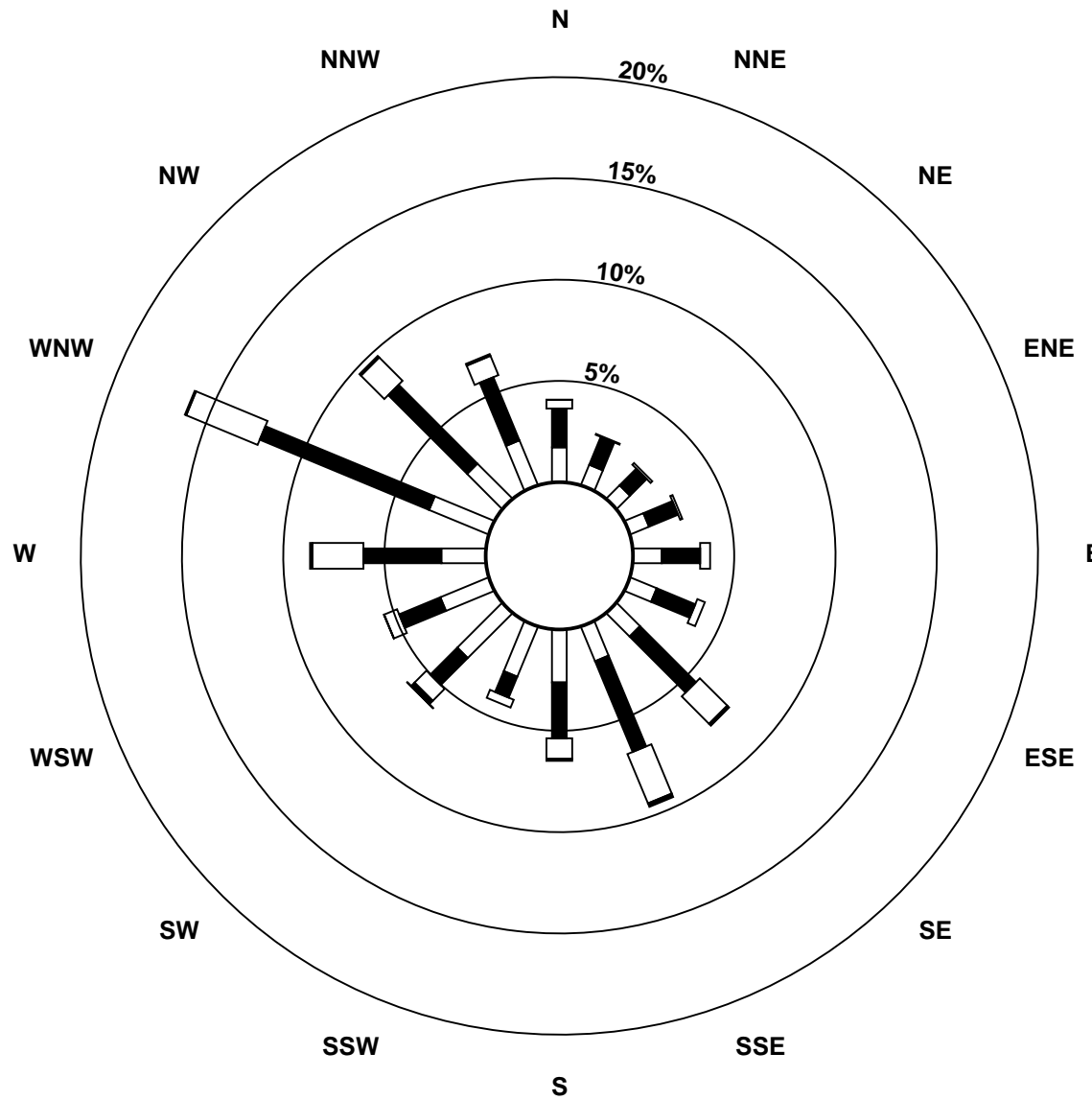
Classes (km/h)



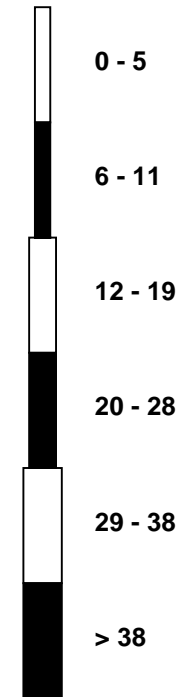
Total Number of Valid Hours: 8681

**Wood Buffalo Environmental Association
Annual Wind Rose 2011**

**Wind Speed (WS) - km/h
Anzac (AMS 14)**



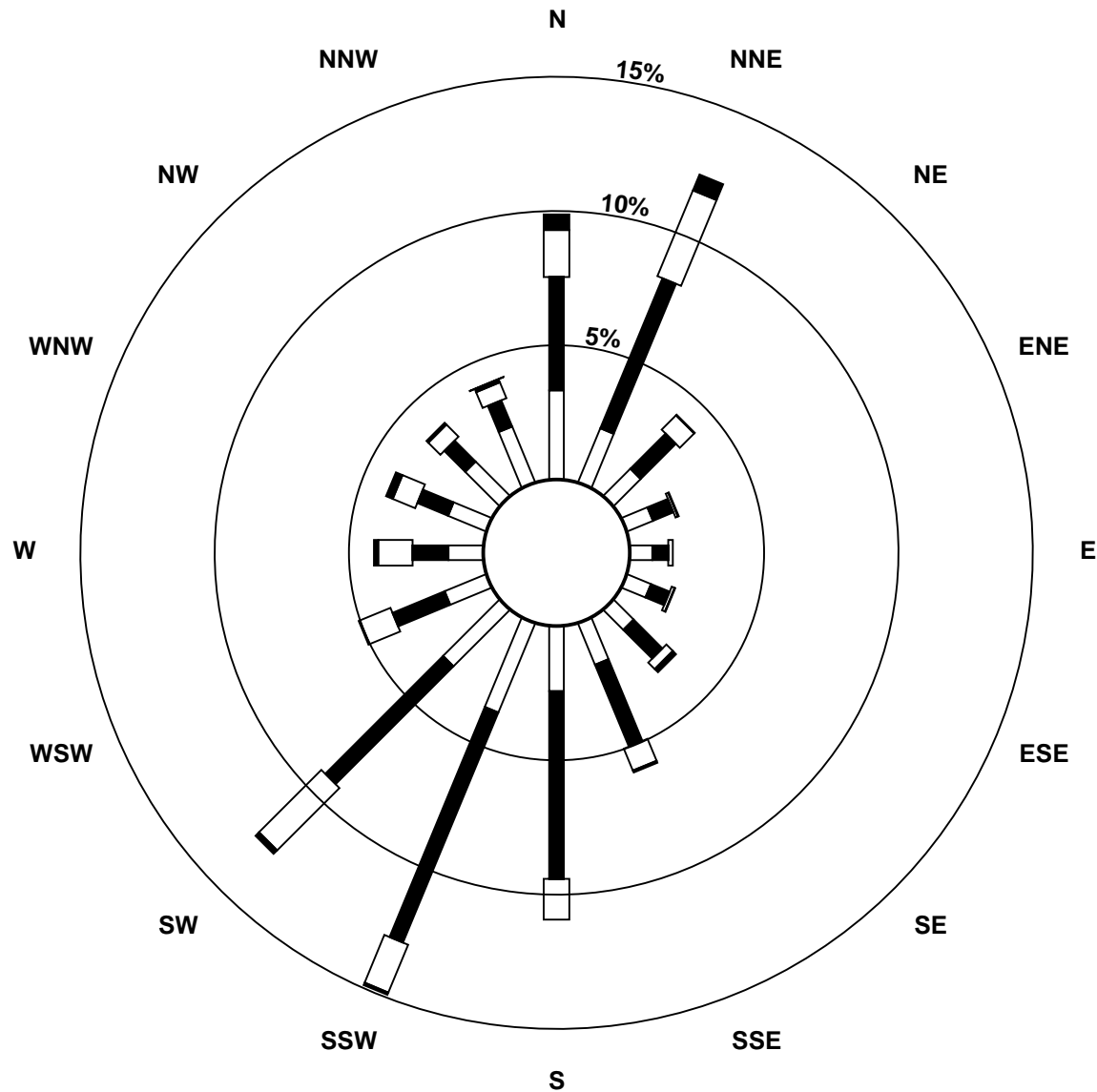
Classes (km/h)



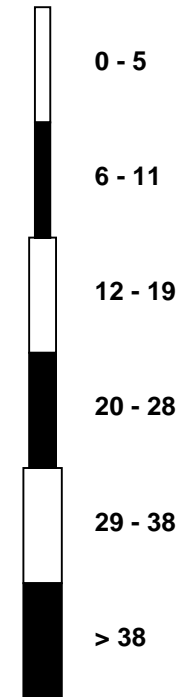
Total Number of Valid Hours: 8536

Wood Buffalo Environmental Association
Annual Wind Rose 2011

Wind Speed (WS) - km/h
CNRL Horizon (AMS 15)



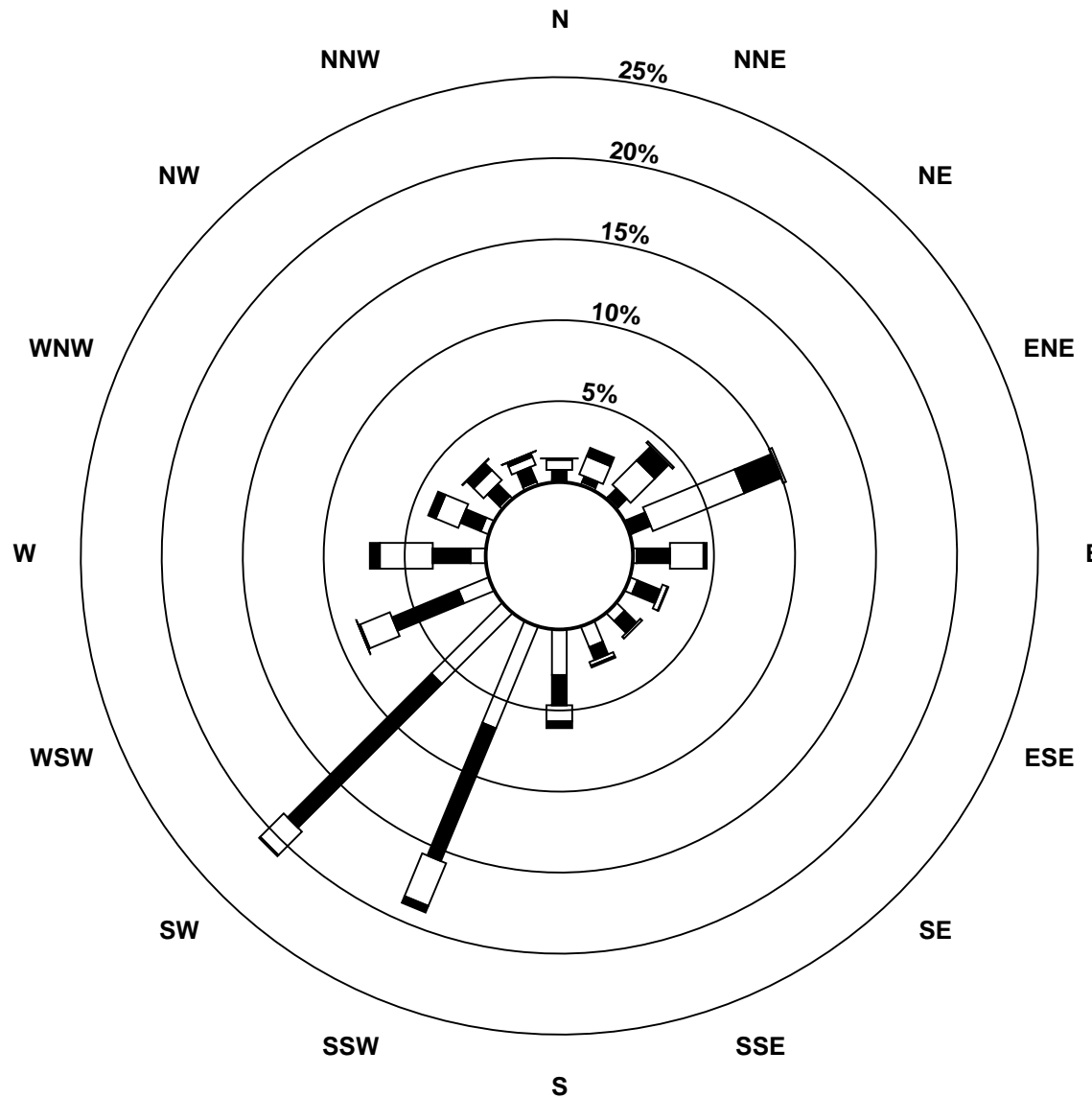
Classes (km/h)



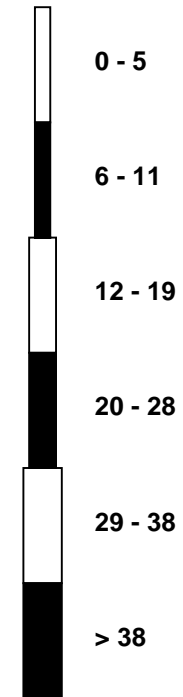
Total Number of Valid Hours: 8618

Wood Buffalo Environmental Association
Annual Wind Rose 2011

Wind Speed (WS) - km/h
Albian Muskeg River (AMS 16)



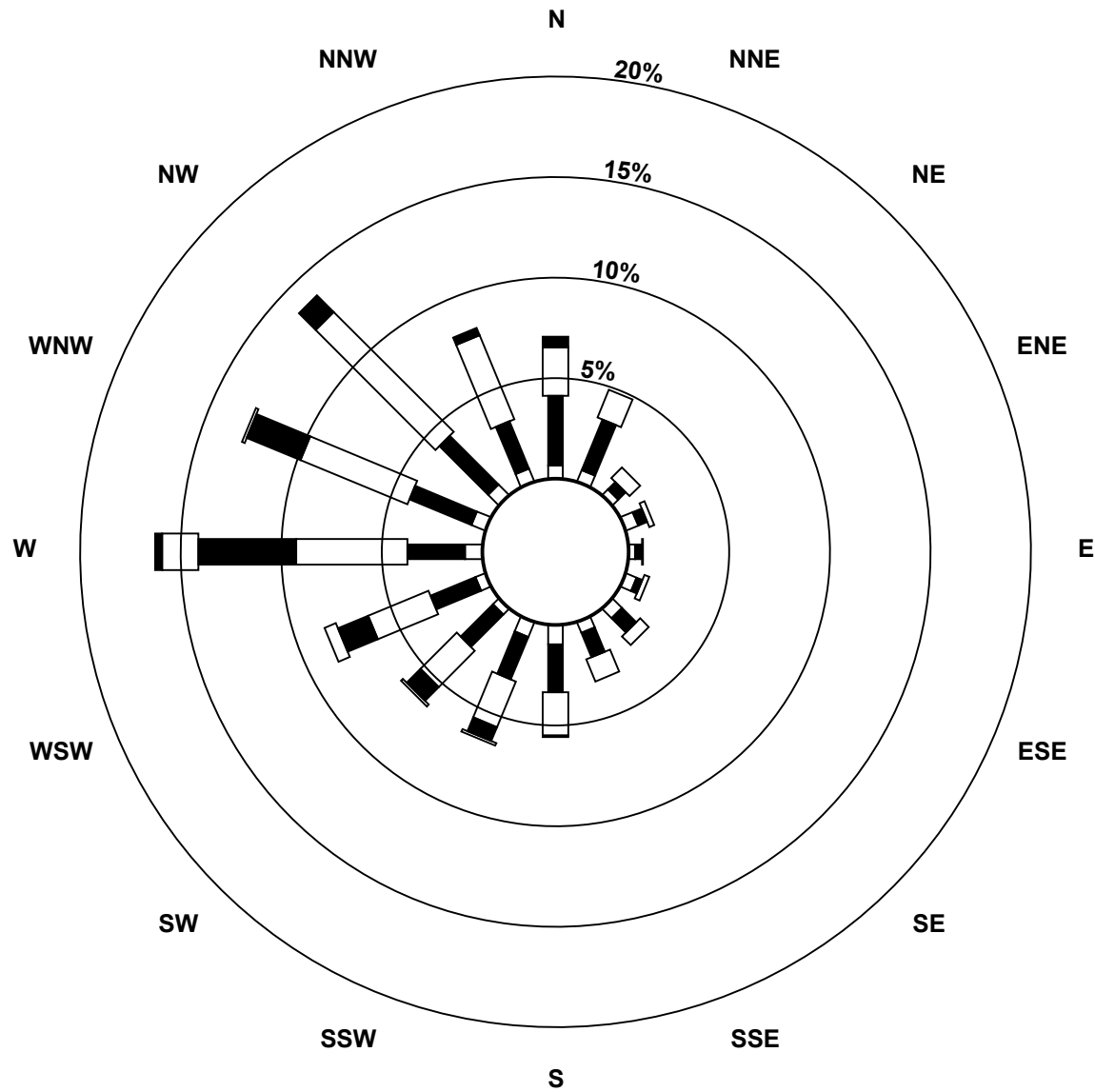
Classes (km/h)



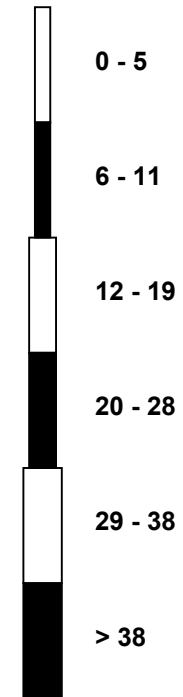
Total Number of Valid Hours: 8610

**Wood Buffalo Environmental Association
Annual Wind Rose 2011**

**Wind Speed (WS) - km/h
AMS 101 Portable (AMS101)**



Classes (km/h)



Total Number of Valid Hours: 2278