

Wind Resource Summary for Cavalier Site

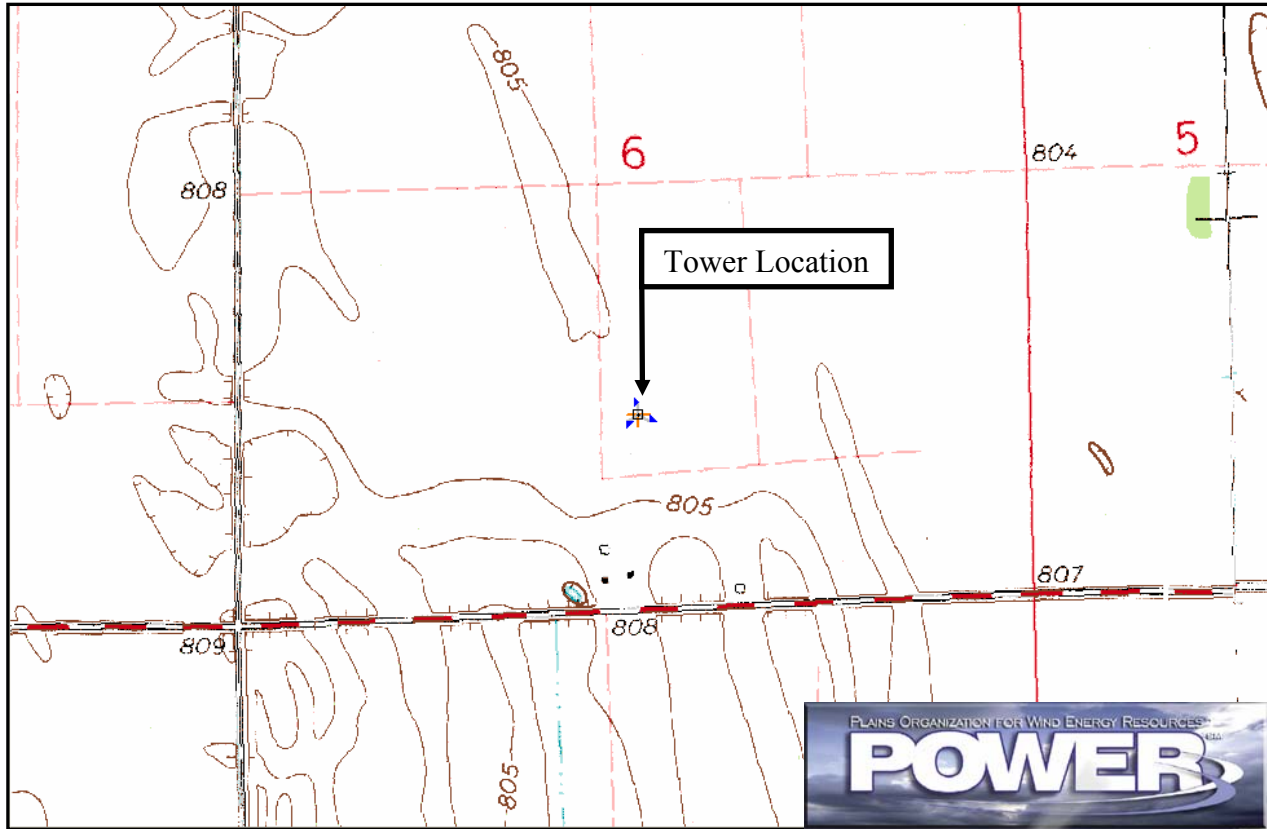
Cavalier Economic Development Corporation

Falls^a 2001, 2002 & 2003

Site Description:

Latitude: N 48° 42' 19"	Township: 160 N
Longitude: W 97° 15' 56"	Range: 51 W
Elevation: 804 feet	Section: 6
Tower Type: NRG Tilt-up	Tower Height: 164 feet

The monitoring site was 10 miles northeast of the town of St. Thomas, North Dakota, and 6.5 miles west of the Red River. The tower was instrumented at three levels: 33 feet (10 m), 125 feet (38 m), and 164 feet (50 m). The site was roughly 800 feet north of a farmstead, which may affect winds from the south. The landscape is very flat and primarily used for agriculture.



Summary Wind Data:	33 ft AGL^b	125 ft AGL	164 ft AGL
Mean Wind Speed	10.5 mph	14.4 mph	15.9 mph
Maximum, 60-min Mean Wind Speed	52.3 mph at 164 ft AGL – 9/6/2002 8:00 p.m.		
Estimated Wind Power Class^c	Class 3 (360 W/m ² at 164 ft AGL)		

^a Data recovery rates at 33, 125, and 164 feet were 81%, 81%, and 81%, respectively.

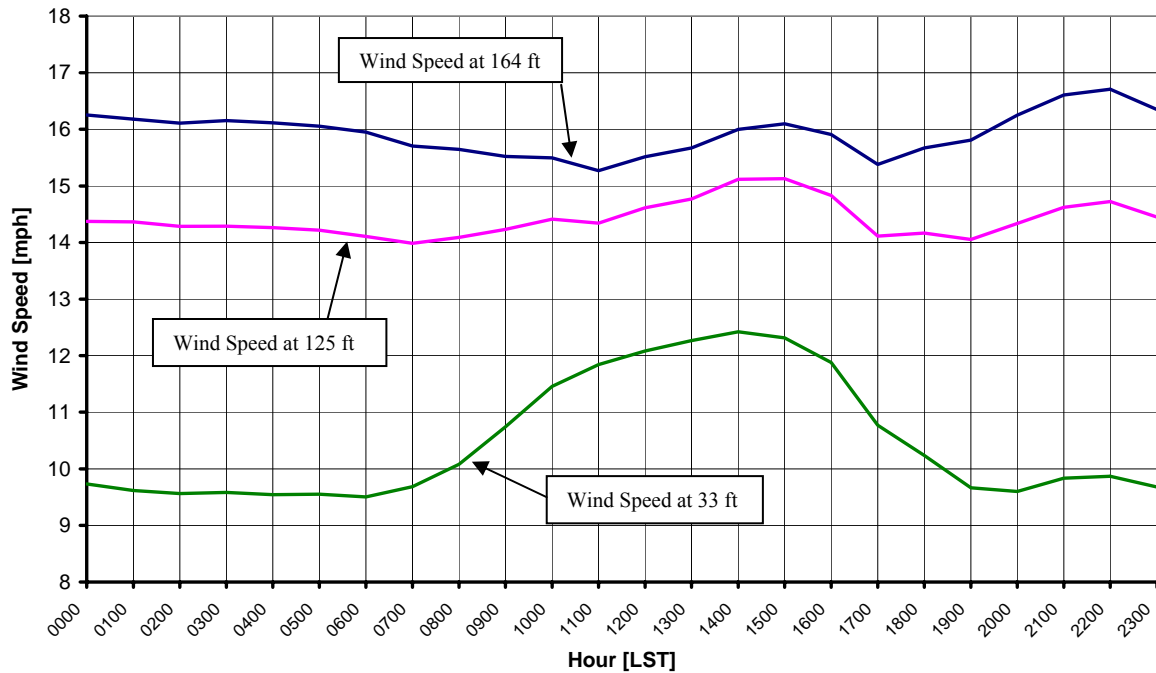
^b Above ground level.

^c Air temperature was not factored into calculations.

Average Hourly Wind Speeds

LST ^d	164 ft AGL		125 ft AGL		33 ft AGL	
	mph	m/s	mph	m/s	mph	m/s
0000	16.3	7.27	14.4	6.43	9.7	4.35
0100	16.2	7.23	14.4	6.42	9.6	4.30
0200	16.1	7.20	14.3	6.39	9.6	4.28
0300	16.2	7.22	14.3	6.39	9.6	4.29
0400	16.1	7.20	14.3	6.38	9.5	4.27
0500	16.1	7.18	14.2	6.36	9.6	4.27
0600	16.0	7.13	14.1	6.31	9.5	4.25
0700	15.7	7.02	14.0	6.25	9.7	4.33
0800	15.6	7.00	14.1	6.30	10.1	4.51
0900	15.5	6.94	14.2	6.36	10.7	4.80
1000	15.5	6.93	14.4	6.44	11.5	5.12
1100	15.3	6.83	14.3	6.41	11.8	5.29
1200	15.5	6.94	14.6	6.53	12.1	5.40
1300	15.7	7.01	14.8	6.60	12.3	5.48
1400	16.0	7.15	15.1	6.76	12.4	5.55
1500	16.1	7.20	15.1	6.76	12.3	5.50
1600	15.9	7.11	14.8	6.63	11.9	5.31
1700	15.4	6.88	14.1	6.31	10.8	4.82
1800	15.7	7.01	14.2	6.33	10.2	4.58
1900	15.8	7.07	14.1	6.28	9.7	4.32
2000	16.2	7.26	14.3	6.41	9.6	4.29
2100	16.6	7.42	14.6	6.54	9.8	4.40
2200	16.7	7.47	14.7	6.58	9.9	4.41
2300	16.3	7.31	14.4	6.46	9.7	4.33

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^d Local standard time.



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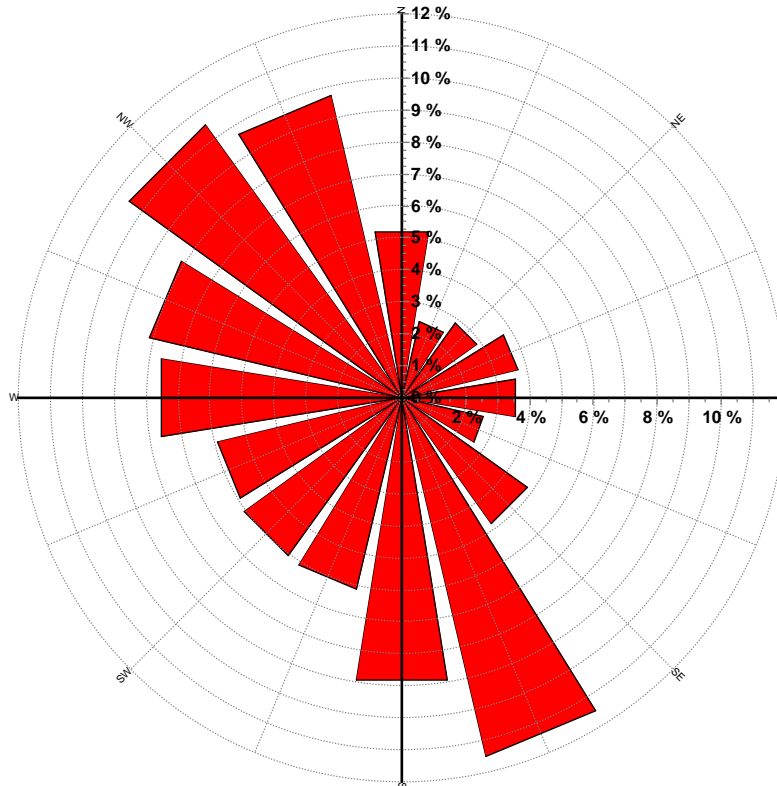
Creation Date: 5/23/2005

Wind Directional Frequency

Winds from the... Frequency (%)

NNW	9.7
NW	10.5
WNW	8.1
W	7.6
WSW	5.9
SW	6.1
SSW	6.2
S	8.9
SSE	11.5
SE	4.8
ESE	2.6
E	3.6
ENE	3.7
NE	2.9
NNE	2.4
N	5.3

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Wind Rose for 164 ft AGL
Falls 2001, 2002 & 2003



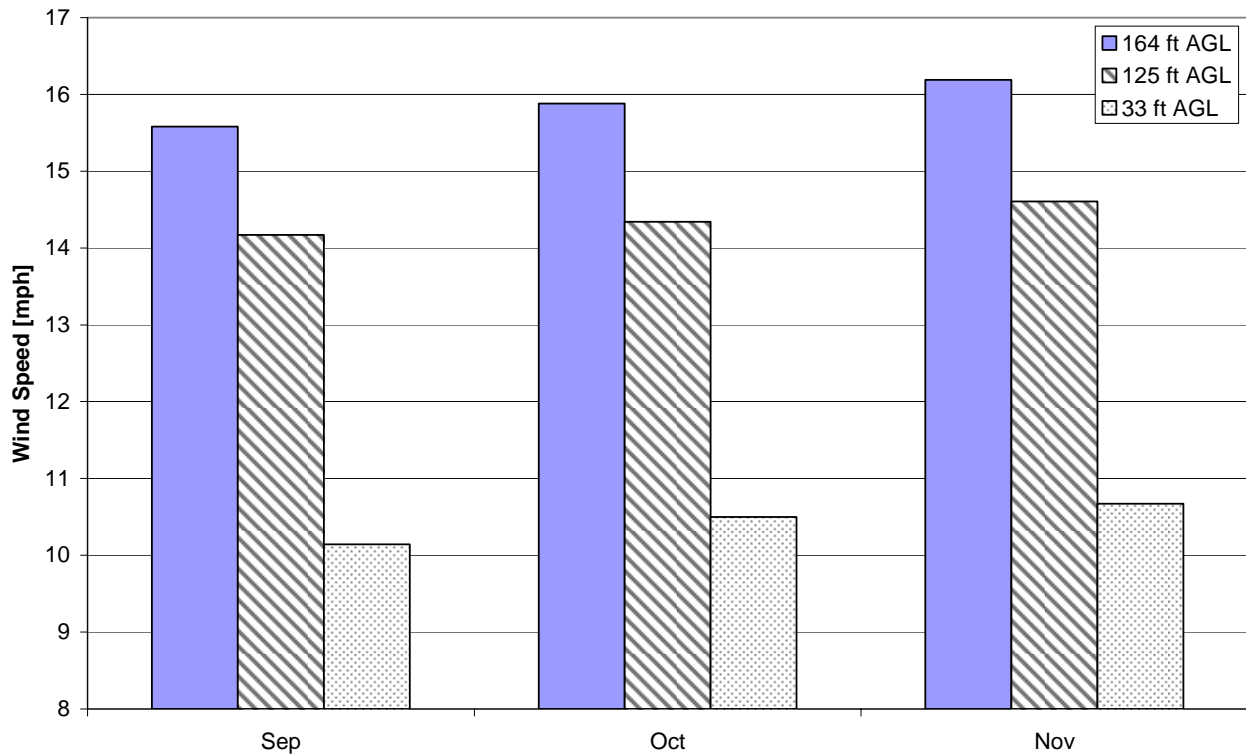
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Monthly Wind Speed Averages

Month	164 ft AGL		125 ft AGL		33 ft AGL	
	mph	m/s	mph	m/s	mph	m/s
Sep	15.6	6.97	14.2	6.33	10.1	4.53
Oct	15.9	7.10	14.3	6.41	10.5	4.69
Nov	16.2	7.24	14.6	6.53	10.7	4.77

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