

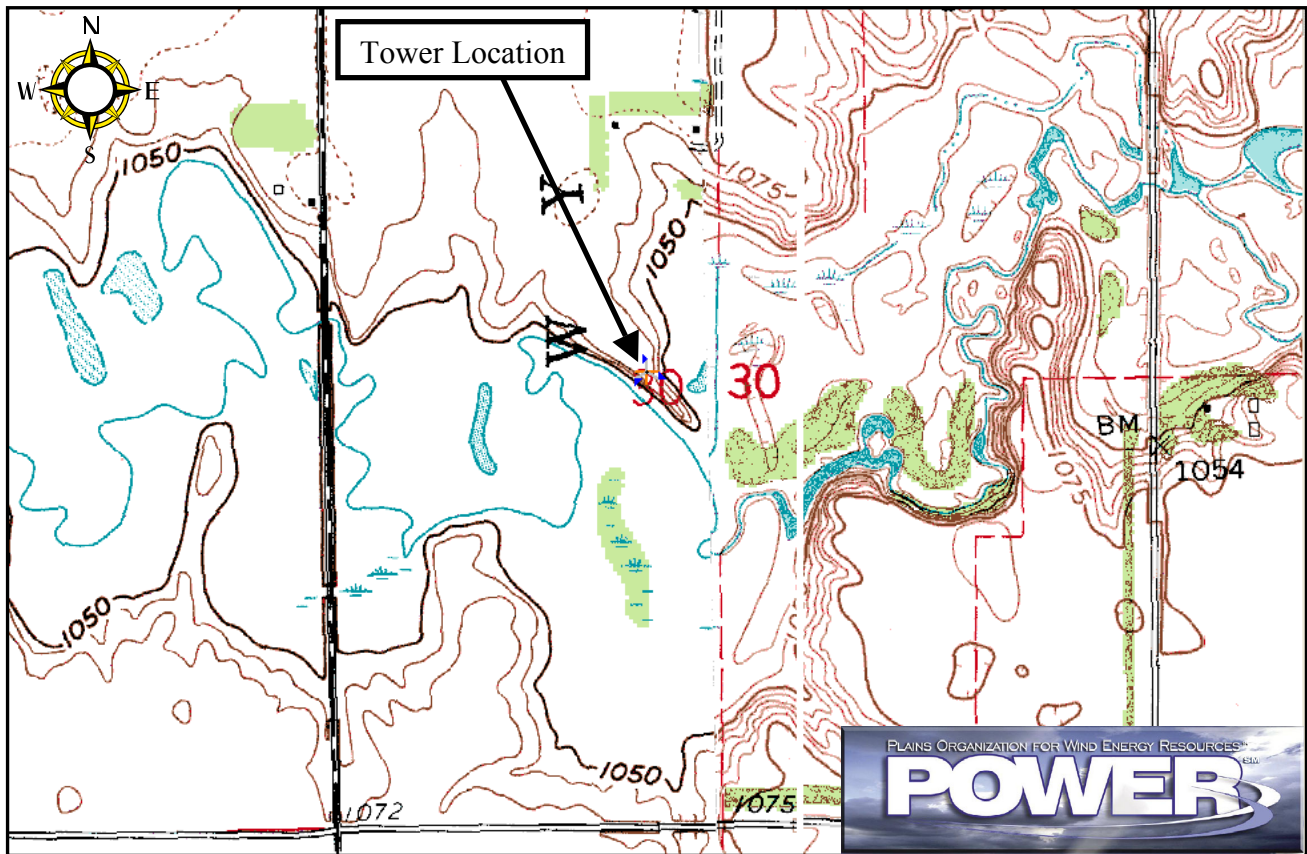
Wind Resource Summary for ALP0103 (Wyndmere, ND)

11/23/2001 – 10/24/2003

Site Description:

Latitude: N 46° 13' 2"	Township: 132 N
Longitude: W 97° 15' 6"	Range: 52 W
Elevation: 1,070 feet	Section: 30
Tower Type: NRG Tilt-Up	Tower Height: 66 feet

The site was approximately 6.5 miles southwest of the town of Wyndmere. The tower sat on a rim above the Wild Rice River Valley. Wind exposure was good in all southerly directions; however, the valley likely induced some turbulence. A farm yard and shelter belt are located 1/3 of a mile north of the tower. Wind exposure in a northerly direction is fair to good.



Summary Wind Data:	66-ft AGL^a
Mean Wind Speed	11.9 mph
Maximum, 10-min Mean Wind Speed	44.8 mph – 4/23/2002 11:10 pm
Mean Wind Power Density	170 W/m ²

^a Above ground level.

Average Hourly Wind Speeds

LST	66-ft AGL (m/s)	66-ft AGL (mph)
0000	4.95	11.1
0100	4.89	10.9
0200	4.94	11.0
0300	4.91	11.0
0400	4.86	10.9
0500	4.81	10.8
0600	4.78	10.7
0700	4.90	11.0
0800	5.02	11.2
0900	5.33	11.9
1000	5.65	12.6
1100	5.91	13.2
1200	6.05	13.5
1300	6.18	13.8
1400	6.23	13.9
1500	6.20	13.9
1600	6.03	13.5
1700	5.82	13.0
1800	5.54	12.4
1900	5.22	11.7
2000	4.93	11.0
2100	4.94	11.0
2200	4.95	11.1
2300	4.98	11.1



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701-777-5000 or bstevens@undeerc.org

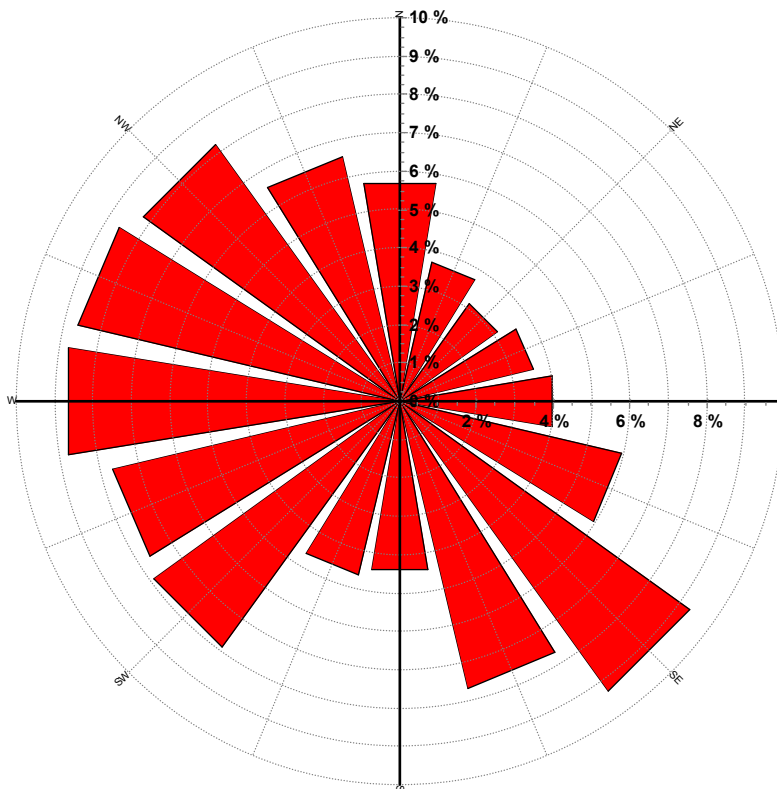
Creation Date: 12/02/2003

Wind Directional Frequency

Winds from the... Frequency (%)

NNW	6.5
NW	8.2
WNW	8.6
W	8.7
WSW	7.7
SW	7.9
SSW	4.7
S	4.5
SSE	7.7
SE	9.3
ESE	5.9
E	4.0
ENE	3.6
NE	3.1
NNE	3.7
N	5.8

North Dakota ALP Site - Wyndmere (ALP0103)
Wind Rose for 66-ft AGL
11/23/2001 - 10/24/2003



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