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April 27, 1988

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RETURN ORIGINAL TO PDR, HQ.

Scott Grace
Nuclear Regulatory Commission
730 Simms, Suite 100
Golden, CO 80401

RE: Additional Wind Blown Information for License Amendment Application

Dear Scott:

Please fined enclosed additional material to supplement our March 30, 1988 application for an amendment to the L-Bar NRC Materials License, SUA-1472, to incorporate the provisions of License Condition No. 28 regarding windblown contamination. Included is a figure showing the location of background soil sample locations which were analyzed for Radium-226 concentrations. Also included are the results of soil samples to depth at two sites along the east transect line, and three sites along the west transect line which were collected on March 3 and 4, 1988. Finally, we have enclosed figures and information on wind direction published in the L-Bar Environmental Report of 1974.

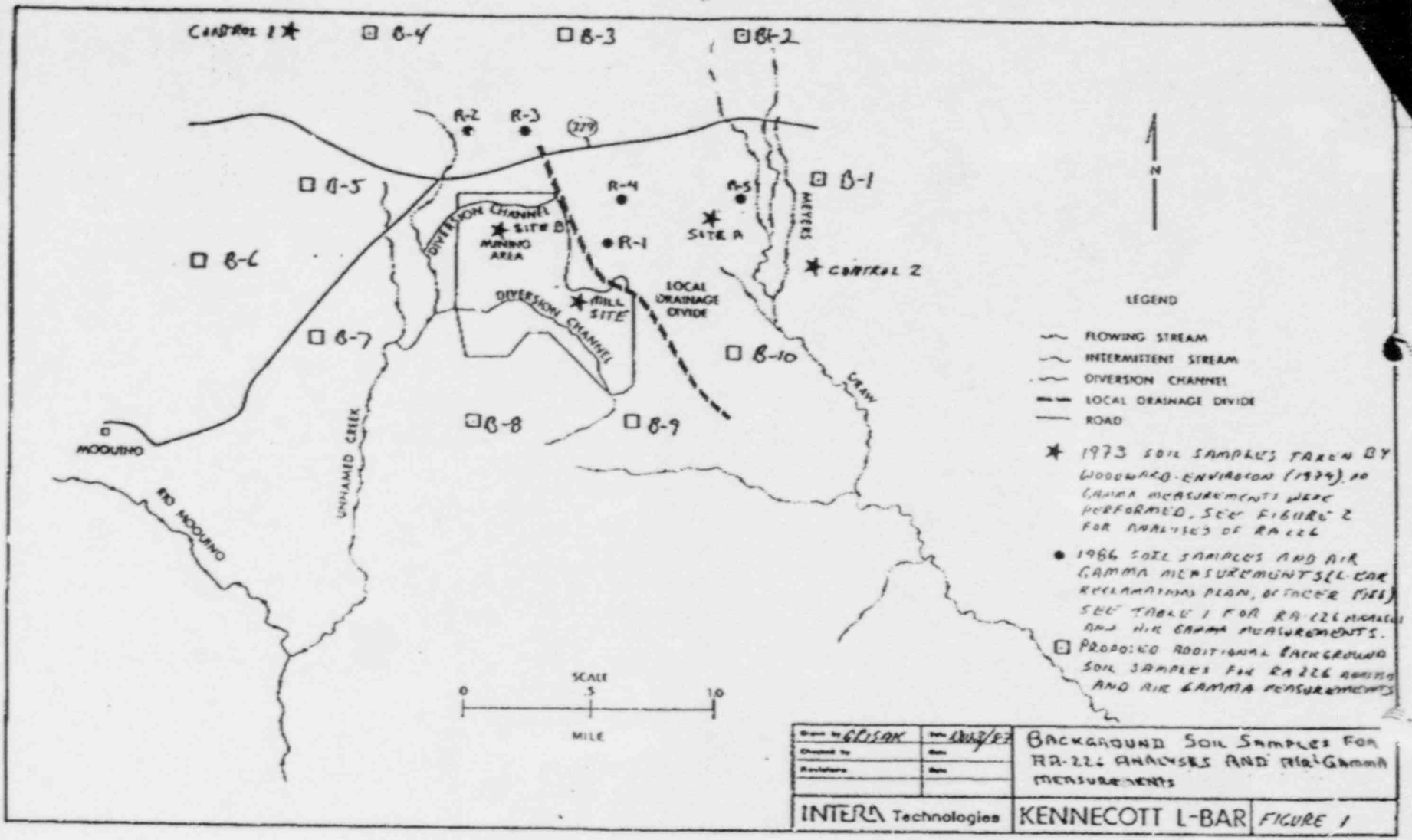
If you have a need for any other information, please call.

Sincerely Yours,

T.G. Osborn
Project Coordinator

TGO:lli
enclosure

H01100C283



Drawn by GRISAK	Date 10/17/87	BACKGROUND SOIL SAMPLES FOR RA-226 ANALYSES AND AIR GAMMA MEASUREMENTS
Checked by	Date	
Reviewed	Date	
INTERA Technologies	KENNECOTT L-BAR	FIGURE 1

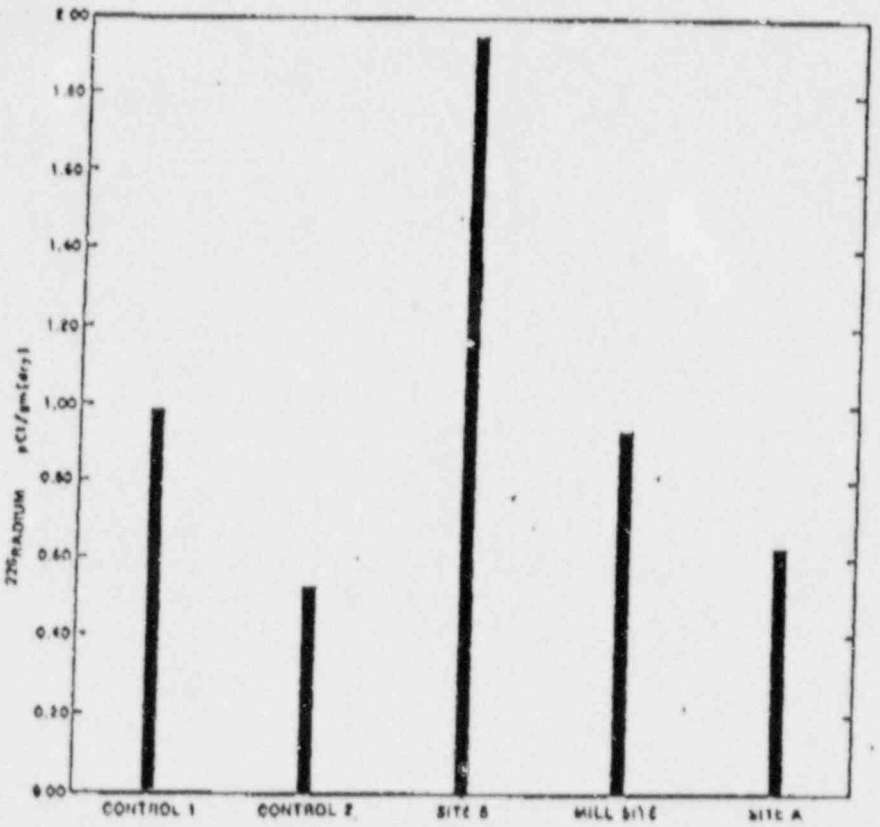


FIGURE 2 SOIL RA-226 ANALYSES FOR SAMPLES COLLECTED IN 1973 BY WOODWARD-ENVIROCON (1974). SEE FIGURE 1 FOR SAMPLE LOCATIONS

REM

RADIANT ENERGY MANAGEMENT

LYDA W. HERSLOFF, Ph.D.
Health Physicist

April 1, 1988

Tom Osborn
Intera Technologies, Inc.
Suite 300
6850 Austin Center Blvd.
Austin, TX 78731

Re: Soil Samples to depth along East and South Transect Lines - L-Bar; March 1988

On March 3 and 4, 1988, soil samples to a maximum depth of 3 feet were collected at two sites along the east transect line and three sites along the south transect line. The soil samples were analyzed for Radium-226 concentrations by Hazen Research.

The results indicate that the Radium-226 concentrations at depths greater than 6 inches (15cm) approximated background concentrations of 1.66±1.008 pCi/g and well below the allowable of 15 pCi/g below the top 6 inches. The attached sheet shows the concentrations to depth for the above five locations. As was mentioned previously, March 5, 1988, the rocky terrain along the south transect prohibited sampling to 3' for the three locations.

If you have any questions, please call me at (303) 642-7530.

Sincerely,

Lyda

Lyda W. Hersloff

10854 DIANE DR. GOLDEN, Co. 80403 (303) 642-7530

L-Bar Site
Radium-226 Soil Concentrations to depth

Location	Depth	Ra-226,pCi/g
E-1	0- 6"	8.2
	6-12"	1.7
	12-18"	1.2
	18-24"	1.3
	24-30"	1.1
	30-36"	1.0
E-4	0- 6"	13.0
	6-12"	0.4
	12-18"	2.4
	18-24"	1.0
	24-30"	1.5
	30-36"	3.7
S-1	0- 6"	8.6
	6-12"	1.3
	12-18"	2.1
	18-24"	1.6
	24-30"	1.1
	30-36"	1.1

Location	Depth	Ra-226,pCi/g
A-3	0- 6"	6.1
	6-12"	3.6
B-5	0- 6"	6.4
	6-12"	2.8
	12-18"	1.7
	18-24"	1.1

Project 73 034

APPLICANT'S ENVIRONMENTAL REPORT

L-BAR URANIUM MINE and MILL

— VALENCIA COUNTY, NEW MEXICO —

Proposed by SOHIO PETROLEUM COMPANY

and RESERVE OIL AND MINERALS CORPORATION

Albuquerque, New Mexico

May 1974

expected to be cooler than the Albuquerque means because of the higher elevation and the absence of urban heat effects. One year of onsite data (January 1973 to January 1974) averaged 7.4°F less than the long-term (1948 to 1968) Albuquerque means; short-term data collected at Albuquerque (January 1973 to January 1974) averaged only 1.7°F cooler than long-term Albuquerque means.

Table 2.7B presents monthly and annual precipitation and snowfall data for the area. Precipitation and the percentage of precipitation that falls as snow vary considerably with elevation in the site area. Snow rarely remains on the ground more than 24 hours at lower elevations, but it covers the ground throughout the winter in the mountains.

Table 2.7C presents the monthly and annual mean daily variations in relative humidity and the frequency of occurrence of various ranges of relative humidity. Humidity is quite low throughout the year. Relative humidities greater than 69 percent occur only 11 percent of the time.

Wind Speed and Direction

Figure 2.7A and Table 2.7D present the annual wind direction - speed joint frequency distribution for Albuquerque. Surface wind speeds are generally moderate, averaging 8.9 mph. Based on 20 years of data, the most frequent winds are northerly (11.2 percent), southeasterly (9.9 percent), and southerly (9.1 percent). Tables A2.7.5 through A2.7-16 (in Appendix A2.7) present similar distributions on a monthly basis. Wind speeds are greatest in the spring, averaging 10.5 mph in April, and are slowest in winter, averaging 7.3 mph in December.

Table 2.7E and Figure 2.7B present annual and monthly joint frequency distributions of wind speed and direction based on one year of onsite data. Tables A2.7-18 through A2.7-29 present similar data on a monthly basis. Wind speeds were slower at the site; the average wind speed was 8.0 mph. The average wind speed for the same period at Albuquerque was 9.1 mph. The most frequent wind directions were northwest through north, with a total frequency of 34.4 percent. Frequencies from

southeast and south were 7.9 percent and 7.2 percent respectively.

SEVERE WEATHER

Hurricanes

Full-strength hurricanes should not affect the site area. Rarely, however, a Gulf Coast hurricane may move into central New Mexico causing localized heavy rainfall; resulting wind speeds would be well below the hurricane level of 74 mph.

Tornadoes

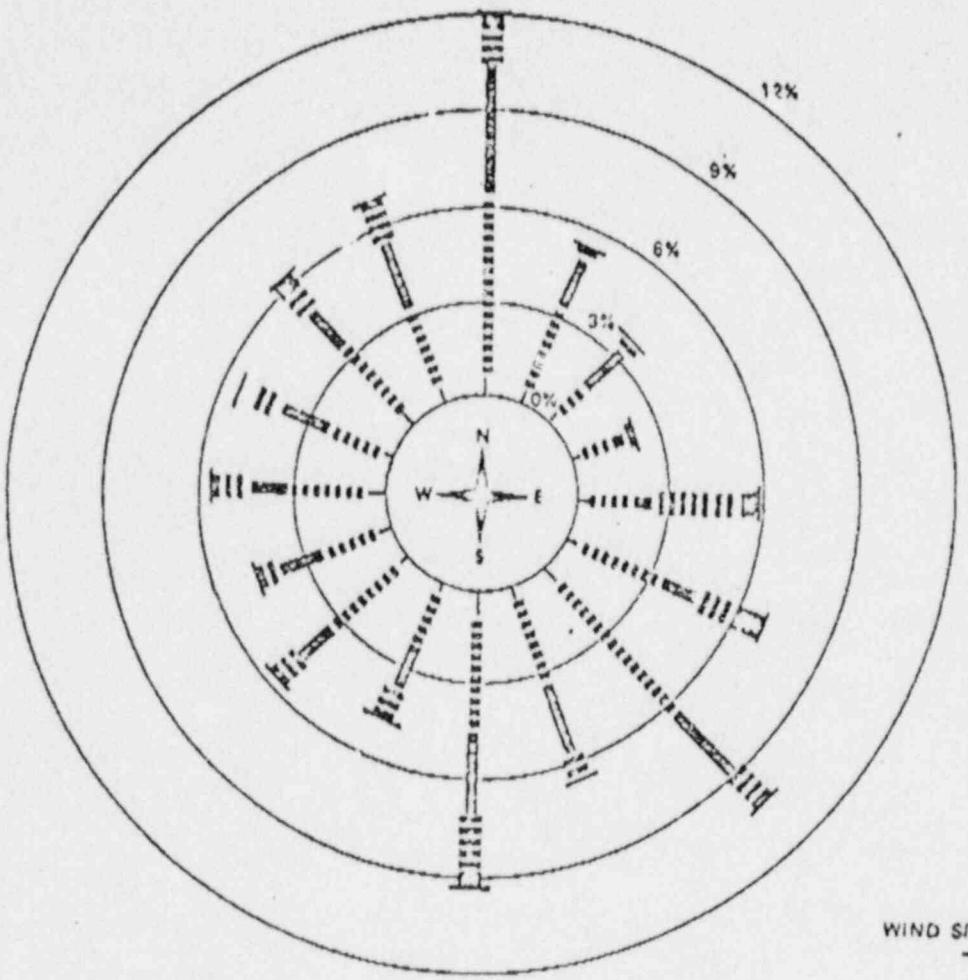
The site lies in an area where the tornado frequency is 0.3 per year; thus the probability of a tornado's hitting a specific point in this region is 0.000218. This figure is based on computations of mean annual frequencies of tornadoes for sections of the United States (Thom, 1963).

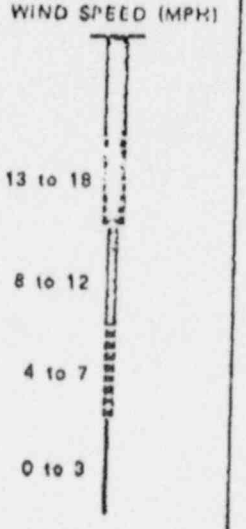
Strong Winds

Based on computations by Thom (1968), the mean recurrence interval for wind speeds 30 ft above the ground is estimated for the site area as:

Recurrence interval (years)	2	10	50	100
Maximum speed (mph)	58	60	81	88

Waters (1970) has defined areas of the United States which are often subjected to high winds because of the recurrence of certain synoptic features in the atmosphere. The site area is included in an area referred to as the "Dusty Box." During the winter and spring, low pressure systems approaching from the west can induce surface winds in excess of 60 mph. These strong winds blowing from the south-southwest to west-southwest pick up considerable dust while crossing the plains, thus giving the area its name. Visibilities less than 5/16 mile because of blowing dust have been reported in eastern New Mexico.





PERCENT CALM: 3.9

Figure 2.7A. WINDROSE FOR ALBUQUERQUE STATION, ANNUAL AVERAGE CONDITIONS

Table 2.7D. RELATIVE FREQUENCY DISTRIBUTION, 1948 to 1963, ALBUQUERQUE

	WIND SPEED (MPH)										
DIRECTION	0-3	4-7	8-12	13-18	19-24	25-31	32-38	39-46	>46	TOTAL	CALM DIST
N	0.0082	0.0565	0.0405	0.0120	0.0018	0.0003	0.0000	0.0000	0.0000	0.192	0.0044
NNE	0.0085	0.0301	0.0161	0.0026	0.0002	0.0001	0.0	0.0	0.0	0.0537	0.0023
NE	0.0041	0.0229	0.0063	0.0009	0.0001	0.0000	0.0000	0.0	0.0	0.0343	0.0020
ENE	0.0022	0.0125	0.0045	0.0033	0.0009	0.0002	0.0000	0.0	0.0	0.0236	0.0011
E	0.0032	0.0154	0.0085	0.0108	0.0101	0.0043	0.0010	0.0002	0.0000	0.0575	0.0015
ESE	0.0041	0.0275	0.0133	0.0126	0.0073	0.0025	0.0006	0.0001	0.0000	0.0680	0.0021
SE	0.0074	0.0505	0.0281	0.0067	0.0019	0.0006	0.0001	0.0000	0.0	0.0993	0.0041
SSE	0.0038	0.0292	0.0197	0.0081	0.0022	0.0008	0.0002	0.0000	0.0000	0.0640	0.0021
S	0.0081	0.0397	0.0258	0.0133	0.0046	0.0014	0.0004	0.0001	0.0000	0.0910	0.0032
SSW	0.0029	0.0199	0.0134	0.0047	0.0019	0.0005	0.0001	0.0000	0.0000	0.0453	0.0018
SW	0.0048	0.0267	0.0157	0.0061	0.0016	0.0004	0.0001	0.0000	0.0	0.0552	0.0025
WSW	0.0032	0.0213	0.0140	0.0067	0.0018	0.0005	0.0001	0.0000	0.0000	0.0479	0.0019
W	0.0050	0.0257	0.0124	0.0081	0.0035	0.0012	0.0002	0.0000	0.0000	0.0561	0.0025
WNW	0.0037	0.0226	0.0122	0.0086	0.0040	0.0013	0.0003	0.0001	0.0000	0.0527	0.0020
NW	0.0058	0.0288	0.0121	0.0095	0.0046	0.0015	0.0002	0.0001	0.0000	0.0623	0.0027
NNW	0.0085	0.0315	0.0169	0.0109	0.0032	0.0009	0.0001	0.0000	0.0	0.0700	0.0025
TOTAL	0.0730	0.4648	0.2811	0.1309	0.0495	0.0164	0.0035	0.0006	0.0001	1.0000	0.0386

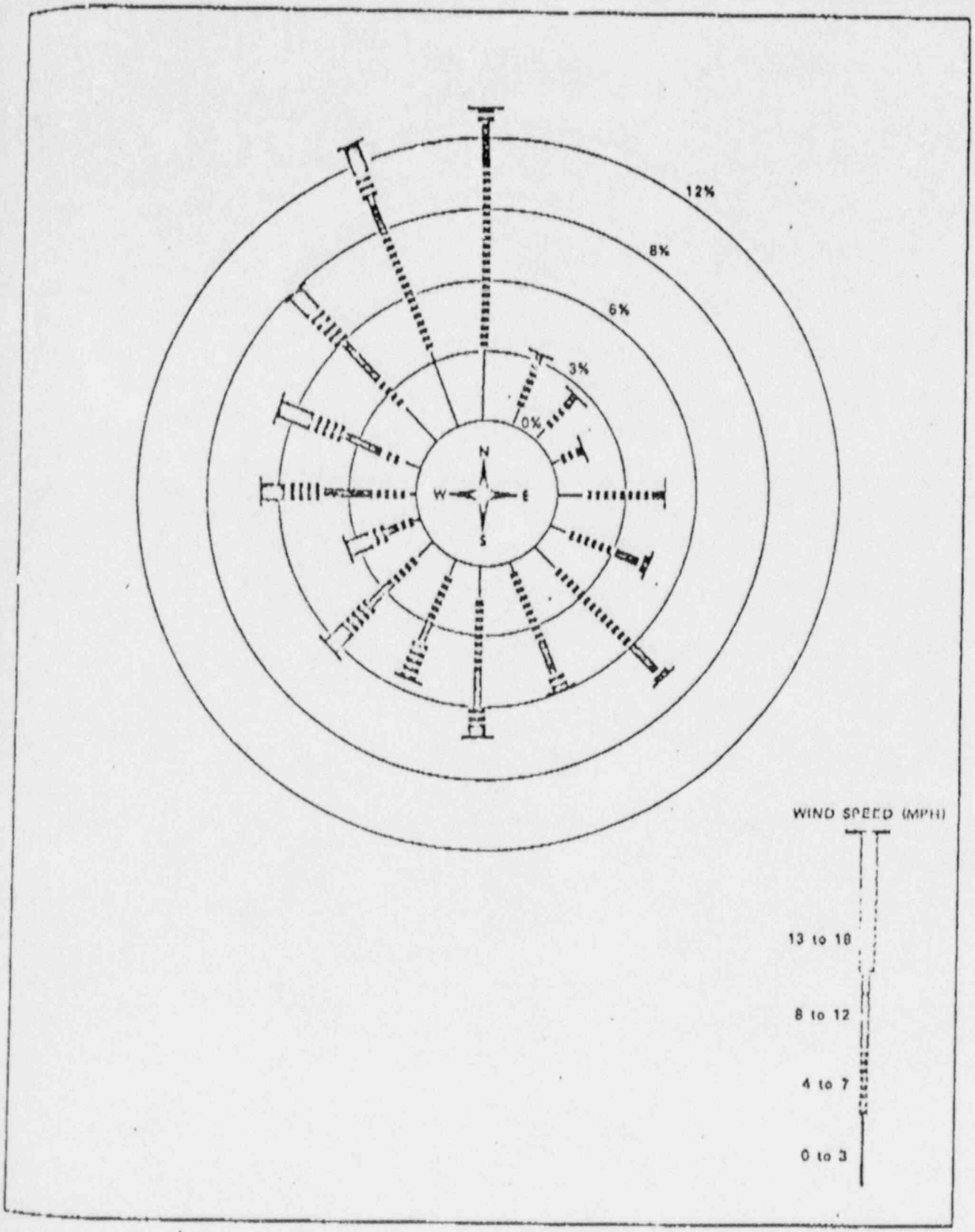


Figure 2.7B. WINDROSE FOR MAIN ONSITE METEOROLOGICAL STATION, ANNUAL AVERAGE CONDITIONS

Table 2.7E. FREQUENCY DISTRIBUTION FROM JANUARY 1973 TO JANUARY 1974 FOR ALBUQUERQUE: MAIN STATION WIND DATA

DIRECTION	WIND SPEED (MPH) 0 - 3	4 - 7	8 -12	13-18	19-24	25-31	32-38	39-46	> 46	TOTAL	AVG WIND SPEED	CALM DIST
N	82.	172.	38.	9.	2.	0.	0.	0.	0.	303.	5.3	0.5
NNE	20.	33.	17.	4.	0.	0.	0.	0.	0.	74.	6.0	0.1
NE	19.	28.	12.	1.	0.	0.	0.	0.	0.	60.	5.2	0.2
ENE	11.	18.	10.	1.	0.	0.	0.	0.	0.	40.	5.5	0.1
E	27.	45.	29.	4.	0.	0.	0.	0.	0.	105.	6.1	0.3
ESE	28.	66.	14.	3.	0.	0.	0.	0.	0.	111.	5.3	0.3
SE	39.	113.	32.	4.	0.	0.	0.	0.	0.	188.	5.5	0.7
SSE	21.	73.	41.	2.	0.	0.	0.	0.	0.	137.	6.3	0.5
S	38.	73.	49.	9.	1.	2.	0.	0.	0.	172.	6.8	0.5
SSW	27.	43.	28.	8.	2.	0.	0.	0.	0.	128.	8.1	0.3
SW	26.	38.	30.	2.	19.	6.	0.	0.	0.	151.	10.7	0.2
WSW	11.	15.	19.	9.	17.	9.	1.	0.	0.	91.	13.4	0.1
W	12.	33.	51.	5.	15.	8.	3.	0.	0.	157.	12.2	0.2
WNW	22.	21.	35.	2.	16.	11.	4.	3.	0.	154.	13.7	0.1
NW	49.	33.	40.	8.	25.	12.	6.	1.	0.	212.	11.9	0.2
NNW	43.	142.	34.	7.	8.	1.	0.	0.	0.	305.	6.1	0.5
TOTAL	526.	948.	479.	218.	105.	49.	14.	4.	0.	2391.		5.0
AVG SPD	2.4	5.2	9.7	11.3	21.0	27.8	34.1	42.0	0.0		8.0	