

HARZA-EBASCO
Susitna Joint Venture
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SUSITNA HYDROELECTRIC PROJECT

PROCESSED CLIMATIC DATA

OCTOBER 1981 THRU SEPTEMBER 1982

VOLUME 1

0610 - SUSITNA GLACIER STATION



DECEMBER 1982

HARZA-EBASCO
Susitna Joint Venture
Document Number

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ALASKA POWER AUTHORITY

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ALASKA POWER AUTHORITY
SUSITNA HYDROELECTRIC PROJECT

TASK 3 - HYDROLOGY

PROCESSED CLIMATIC DATA

VOLUME 1
0610 SUSITNA GLACIER STATION
OCTOBER 1981 - SEPTEMBER 1982

DECEMBER 1982

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Susitna Joint Venture

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SUSITNA HYDROELECTRIC PROJECT

TASK 3 - HYDROLOGY

PROCESSED CLIMATIC DATA

OCTOBER 1981 - SEPTEMBER 1982

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ALASKA POWER AUTHORITY
SUSITNA HYDROELECTRIC PROJECT

SUSITNA GLACIER CLIMATIC DATA

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Acknowledgments

These climatic data were collected under contract to Acres American, Incorporated for the Alaska Power Authority's Susitna Hydroelectric Feasibility Study. The data recorders were Model 5100 Weather Wizards manufactured by Meteorology Research, Incorporated (MRI). All sensors were supplied by MRI. Field maintenance and data collection were performed by the hydrology staff of R&M Consultants, Incorporated. Data reduction and processing were performed by Lisa Fotherby, using computer programs developed by Mark Holmstrand. The computer hardware used was a Hewlett-Packard 9845 B system.

HISTORY OF SUSITNA GLACIER STATION (0610)

The Glacier climate station lies at the headwaters of the Susitna River adjacent to Susitna Glacier. An extrapolated Susitna River Mile for Glacier Station is approximately 331. The climate station is situated on a ridge at approximately 4,700 feet elevation. The primary reason for installing Glacier station was to obtain high elevation data as specified in the Plan of Study (Acres American, Inc., 1980). The station was activated on July 20, 1980.

Due to its remote location and frequent storms, the weather wizard station was originally set to read every thirty minutes. However, it was soon changed to fifteen minute readings as are all the other climate stations.

During the 1982 water year, all relative humidity data were removed (see Interpreting Data). Glacier station operated continuously from October 1981 to September 2, 1982, when the weather wizard shut down due to technical problems, but the station was reactivated on October 21, 1982. There is no data for March 1982.

Previous data for this station are published in:

Processed Climatic Data
Volume 1
Susitna Glacier Station
March 1981
For the period: July 1980 thru September 1981



PREPARED BY: USGS TALKEETNA MTS. AND HEALY QUADRANGLES APPROX. SCALE 1" = 1 MILE PREPARED FOR:



GLACIER CLIMATE STATION UPPER SUSITNA BASIN

→ : Station Location



INTERPRETING DATA

Missing sections of data can bias or "throw off" the values listed as daily averages in the monthly summary. The user should be aware that daily solar radiation values are averages computed from whatever section of data for the day is available, whether it is extrapolated from a minimum time (night) or a maximum period (noon). The user is advised to become familiar with the methods of summation for each parameter. These are described in the section "Data Computation Standards".

The relative humidity sensors used in the Weather Wizards are printed circuit elements which sense changes in relative humidity by changes in impedance. The chemically treated surfaces of these sensors degrade with time, however, and at an individual rate. Therefore, monthly variations in relative humidity values can occasionally be noted. The variations usually appear as a decrease in the R.H. range for successive months at one station.

Blocks of R.H. readings have been completely eliminated from Watana (0650) and Glacier (0610) climate data. The deterioration patterns of the sensors at these stations were so severe as to make these data unreliable.

The relative humidity sensors will also occasionally transmit values over 100 percent. These values are a system malfunction, but are recorded and appear on the data printout as values less than 10 percent. Therefore, values under 10 percent should not be used for further computations.

Precipitation data from Watana (0650) have been reported for the entire year. The data are collected with a heated precipitation bucket which tests out at 43°F during an air temperature of 18°F. Precipitation data measured at the remaining stations are reported for April through September only. These stations do not have heated precipitation buckets so April, September and occasionally May, may only be partial or inaccurate measures of the actual precipitation for that month. This is due to Alaska's extended winters. There may be blowing snow in April, May, and September, which can not be accurately collected by the precipitation buckets without the aid of a Wyoming Wind Gage (Watana is the only precipitation Station equipped with a Wyoming Wind Gage). In addition, snow collected in the precipitation bucket may not melt until a sunny day two weeks later, thereby indicating a rainstorm on this sunny day.

DATA COMPUTATION STANDARDS

Graphical Data Plot

Graphical representation of valid recorded and/or computed data.

Hourly Precipitation Summary Table

Hourly precipitation values are calculated as the difference between valid consecutive hourly readings. When either of the hourly precipitation readings is invalid, no value is reported and zero precipitation is assumed.

Monthly Summary Table

1. Maximum daily and monthly temperatures are determined from all valid recorded temperatures.
2. Minimum daily and monthly temperatures are determined from all valid recorded temperatures.
3. Mean daily and monthly temperatures are determined from all valid recorded temperatures. The mean daily temperature is determined from the mean of the maximum and minimum temperatures. The mean monthly temperature is determined from the mean of all reported daily mean temperatures.
4. Resultant daily and monthly wind directions and speeds are summed vectorially from all valid readings.
5. Average daily and monthly wind speeds are determined for all valid readings (arithmetic mean).
6. Maximum daily and monthly gust speeds are determined from all valid readings. Associated directions are the resultant directions from the recording interval in which the peak interval gust was observed.
7. Prevailing daily and monthly directions are determined from all valid readings. The reported value is the most frequent direction observed.
8. Mean daily and monthly relative humidities are determined from all valid readings (arithmetic mean).
9. Mean daily and monthly dewpoint temperatures are determined from all valid readings (arithmetic mean). Dewpoints are omitted when the wind speed is less than 1 m/s, when the dewpoint calculates to a value greater than the recorded temperature, or

when the dewpoint calculates to less than minus 47 degrees or more than 27 degrees.

10. Daily and monthly precipitation values are determined from all valid readings.
11. Daily and monthly solar energy values are determined from all valid readings. Daily solar energy is determined by averaging the recorded solar intensity and converting the units. The monthly value is the sum of the daily values.

Three Hour Summary Tables

1. The temperature reported is the temperature recorded at the specified time.
2. The dewpoint temperature reported is the dewpoint calculated at the specified time. Dewpoints are omitted when the wind speed is less than 1 m/s, when the dewpoint is calculated to a value greater than the recorded temperature, or when the dewpoint calculates to less than minus 47 degrees or more than 27 degrees.
3. The relative humidity reported is the humidity recorded at the specified time.
4. The wind direction reported is the three-hour vectorial resultant sum of data recorded up to the specified time.
5. The wind speed reported is the three-hour vectorial resultant of data recorded up to the specified time.
6. The gust direction reported is the direction of the maximum gust recorded during the preceeding three-hour period.
7. The gust reported is the maximum recorded during the three-hour period.
8. The radiation reported is the solar radiation intensity recorded at the specified time.

Wind Frequency Summary Table

1. Reported data are determined from all valid readings.

Wind Rose Graphical Plot

1. Plot is a graphical representation of the wind frequency summary table.

General Notes

1. The following are the valid data ranges; data outside these ranges are not used:

Time: 0000 through 2400 hours - at specified time intervals.

Temperature: -50 through +35 °C

Wind: 0 through 99.9 meters per second and less than or equal to GUST

Direction: 0 through 360 degrees

Relative Humidity: 0 through 99 percent

Precipitation: 0 through 99.8 mm & greater than the last precipitation except in the case of an automatic roll-over. The difference between precipitations cannot exceed 30mm. A '-1' implies a manual re-start.

Solar: 0 through 150 milliwatts/cm

Gust: 0 through 99.9 m/sec

Battery: 9 through 14.5 volts

2. Accuracy of the MRI (Meteorology Research, Inc.) sensors and processor are as follows:

Temperature: $\pm 1^\circ\text{C}$

Wind Speed: ± 0.5 meters per second

Wind Direction: $\pm 1\%$ of full scale

Relative Humidity: $\pm 6\%$

Precipitation: $\pm 1\%$ up to 76.2 mm/hr, $\pm 5\%$ from 76.2 mm/hr to 254 mm/hr

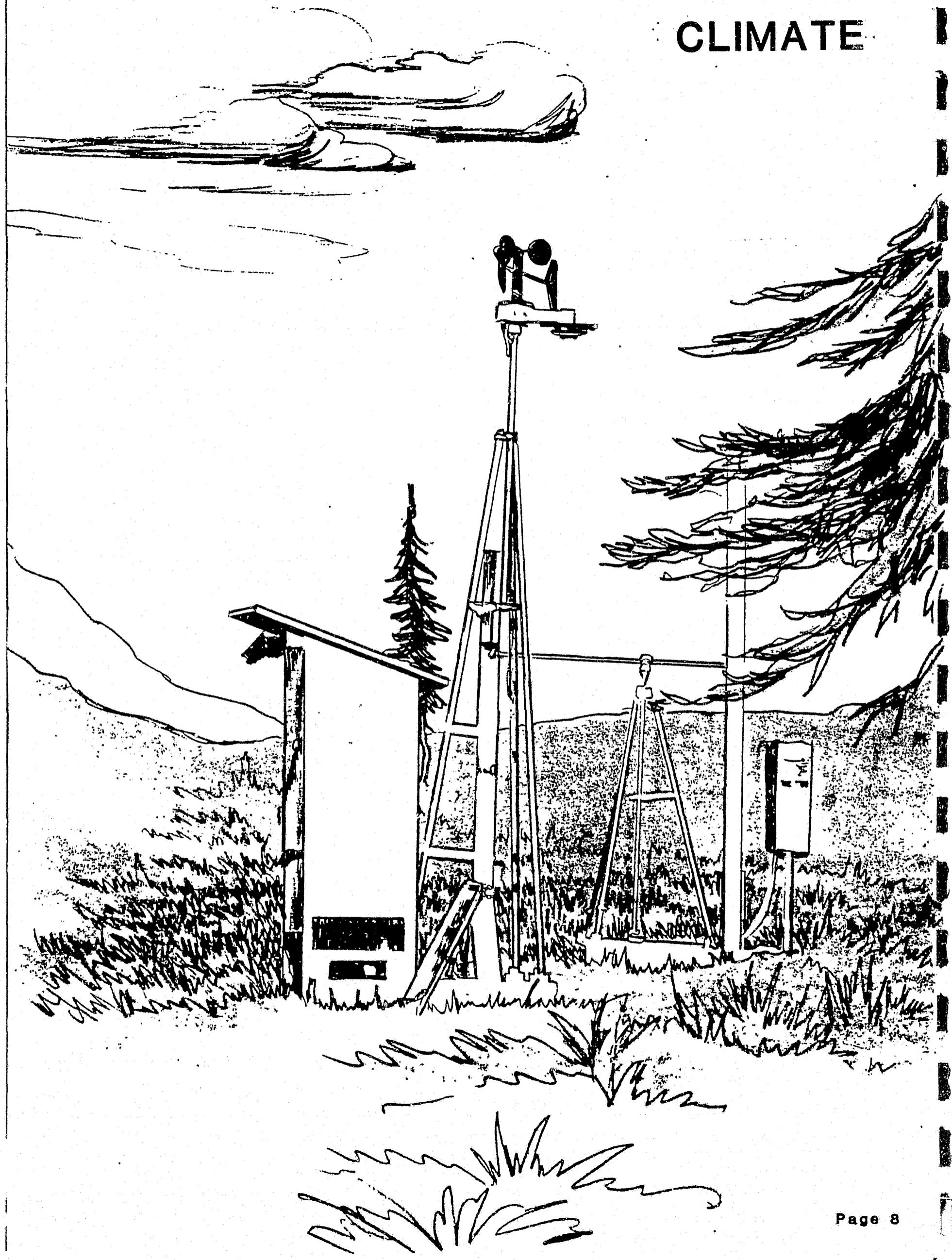
Solar Radiation: $\pm 5\text{mw cm}^{-2}$

Tape Recorder Error Rate: 1 bit in 10^7

3. The following are the direction ranges used in the prevailing direction, wind frequency and wind rose summaries:

<u>DIRECTION</u>	<u>COMPASS HEADING</u>
NORTH	350 through 11
NORTH-NORTHEAST	12 through 34
NORTHEAST	35 through 56
EAST-NORTHEAST	57 through 79
EAST	80 through 101
EAST-SOUTHEAST	102 through 124
SOUTHEAST	125 through 146
SOUTH-SOUTHEAST	147 through 169
SOUTH	170 through 191
SOUTH-SOUTHWEST	192 through 214
SOUTHWEST	215 through 236
WEST-SOUTHWEST	237 through 259
WEST	260 through 281
WEST-NORTHWEST	282 through 304
NORTHWEST	305 through 326
NORTH-NORTHWEST	327 through 349

CLIMATE



No precipitation data for October
(See INTERPRETING DATA).

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING October, 1981

DAY 01

DAY 02

DAY 03

HOUR	DEW	WIND	WIND GUST MAX.	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD			
	DEG C	DEG C	% DEG. M/S	MW	DEG C	DEG C	% DEG. M/S	MW	DEG C	DEG C	DEG C	MW	DEG C	DEG C	% DEG. M/S	MW	DEG C	DEG C	% DEG. M/S	MW	DEG C	DEG C	% DEG. M/S	MW

0300	-4.5	*****	**	111	3.5	111	8.9	1	0300	-10.1	*****	**	019	1.3	026	3.2	1	0300	*****	*****	**	***	***	***	***
0600	-7.3	*****	**	163	2.9	186	16.5	2	0600	-9.7	*****	**	026	1.2	099	2.5	1	0600	*****	*****	**	***	***	***	***
0900	-4.5	*****	**	258	5.7	240	15.2	19	0900	-9.7	*****	**	006	1.7	352	3.2	29	0900	*****	*****	**	***	***	***	***
1200	-3.0	*****	**	184	3.1	265	12.7	38	1200	-3.3	*****	**	348	.7	313	3.8	38	1200	-2.9	*****	**	205	.3	157	4.4
1500	-3.3	*****	**	123	4.5	138	8.9	17	1500	-5.8	*****	**	034	.1	009	2.5	10	1500	-5.8	*****	**	026	.3	358	3.2
1800	-5.8	*****	**	090	1.5	115	5.7	1	1800	-8.0	*****	**	068	.6	026	2.5	1	1800	-6.7	*****	**	133	.6	047	2.5
2100	-8.7	*****	**	049	1.5	105	7.0	1	2100	-7.0	*****	**	062	1.2	052	3.8	1	2100	-6.5	*****	**	115	.6	113	3.2
2400	-10.4	*****	**	001	1.9	034	4.4	1	2400	-6.7	*****	**	050	1.6	045	4.4	1	2400	-6.7	*****	**	060	.5	040	2.5

DAY 04

DAY 05

DAY 06

HOUR	DEW	WIND	WIND GUST MAX.	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD			
	DEG C	DEG C	% DEG. M/S	MW	DEG C	DEG C	% DEG. M/S	MW	DEG C	DEG C	DEG C	MW	DEG C	DEG C	% DEG. M/S	MW	DEG C	DEG C	% DEG. M/S	MW	DEG C	DEG C	% DEG. M/S	MW

0300	-6.2	*****	**	067	.6	128	2.5	1	0300	-3.8	*****	**	005	1.1	030	3.2	1	0300	-3.4	*****	**	088	5.6	098	10.8
0600	-7.1	*****	**	075	1.0	076	2.5	2	0600	-.8	*****	**	061	1.0	028	2.5	1	0600	-4.0	*****	**	046	1.2	211	8.9
0900	-5.7	*****	**	076	1.2	026	3.8	20	0900	0.0	*****	**	089	1.3	102	3.2	20	0900	-3.5	*****	**	030	.3	211	9.5
1200	-2.6	*****	**	059	2.0	056	7.0	40	1200	-2.8	*****	**	065	.6	046	3.2	39	1200	-3.4	*****	**	000	1.7	026	4.4
1500	-3.7	*****	**	067	3.3	087	8.9	10	1500	-1.9	*****	**	074	.3	058	1.9	11	1500	-5.4	*****	**	072	.9	140	4.4
1800	-5.1	*****	**	029	1.5	058	5.7	1	1800	-.9	*****	**	049	.7	003	3.2	1	1800	-6.5	*****	**	015	1.0	009	3.8
2100	-4.4	*****	**	027	1.4	055	4.4	1	2100	-1.2	*****	**	066	.9	359	3.8	1	2100	-6.7	*****	**	035	1.6	015	3.2
2400	-4.2	*****	**	012	1.2	015	3.2	1	2400	.2	*****	**	080	1.8	075	9.5	1	2400	-7.6	*****	**	070	1.0	118	3.8

DAY 07

DAY 08

DAY 09

HOUR	DEW	WIND	WIND GUST MAX.	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD			
	DEG C	DEG C	% DEG. M/S	MW	DEG C	DEG C	% DEG. M/S	MW	DEG C	DEG C	DEG C	MW	DEG C	DEG C	% DEG. M/S	MW	DEG C	DEG C	% DEG. M/S	MW	DEG C	DEG C	% DEG. M/S	MW

0300	-7.2	*****	**	059	1.2	028	3.2	1	0300	-8.3	*****	**	027	1.5	030	4.4	1	0300	-2.9	*****	**	047	1.3	036	3.2
0600	-7.3	*****	**	047	1.5	035	4.4	1	0600	-5.4	*****	**	028	2.0	015	5.1	1	0600	-2.5	*****	**	051	1.2	023	5.1
0900	-6.1	*****	**	061	1.2	1.6	3.2	22	0900	-4.2	*****	**	064	.7	012	3.8	8	0900	-2.5	*****	**	068	.8	016	4.4
1200	-5.3	*****	**	020	1.4	006	4.4	28	1200	-4.4	*****	**	351	.5	002	2.5	20	1200	-2.9	*****	**	077	.9	006	3.8
1500	-2.5	*****	**	025	1.4	034	3.8	22	1500	-4.6	*****	**	241	.5	230	1.9	8	1500	-2.7	*****	**	043	1.4	015	4.4
1800	-5.8	*****	**	079	1.2	090	4.4	1	1800	-5.4	*****	**	124	.2	231	1.3	1	1800	-4.9	*****	**	054	.6	019	3.2
2100	-4.6	*****	**	043	1.4	018	4.4	1	2100	-5.1	*****	**	059	.8	024	1.9	2	2100	-5.2	*****	**	063	.9	038	3.2
2400	-6.8	*****	**	358	1.6	048	4.4	1	2400	-3.0	*****	**	070	1.5	107	3.8	1	2400	-5.4	*****	**	114	.8	110	2.5

R & M CONSULTANTS, INC.

SISIKA TINA HYDRO ELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING October, 1981

DAY 10

DAY 11

DAY 12

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.															
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD											
DEG C	DEG C	%	DEG C	DEG C	DEG C	POINT RH	DIR.	SPD.	DIR.	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD											
			M/S	M/W											M/S	M/W										
0300	-6.0	*****	**	056	1.7	046	5.1	1	0300	-5.7	*****	**	049	1.3	047	3.2	1	0300	-2	*****	**	047	1.3	034	4.4	1
0600	-5.5	*****	**	050	2.3	042	7.0	1	0600	-5.5	*****	**	043	1.6	051	3.8	1	0600	-4	*****	**	074	1.5	105	5.7	1
0900	-4.4	*****	**	051	1.7	030	5.1	15	0900	-3.4	*****	**	028	1.1	021	3.8	13	0900	.9	*****	**	075	1.1	086	3.8	11
1200	-3.6	*****	**	104	.6	105	3.2	17	1200	-3.7	*****	**	026	.9	081	3.8	17	1200	1.9	*****	**	055	.9	029	3.2	20
1500	-5.1	*****	**	088	.9	038	3.2	8	1500	-3.6	*****	**	037	.9	034	3.8	6	1500	1.8	*****	**	053	1.8	068	4.4	8
1800	-7.1	*****	**	072	1.4	077	3.2	1	1800	-3.3	*****	**	043	.9	031	3.2	2	1800	.4	*****	**	046	.9	034	3.2	1
2100	-6.6	*****	**	063	2.2	041	4.4	1	2100	-2.5	*****	**	039	1.1	019	2.5	2	2100	.6	*****	**	048	1.0	016	3.8	2
2400	-7.0	*****	**	061	2.7	054	5.1	1	2400	-2.9	*****	**	069	1.3	038	3.8	1	2400	.4	*****	**	062	.6	013	2.5	1

DAY 13

DAY 14

DAY 15

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.															
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD											
DEG C	DEG C	%	DEG C	DEG C	DEG C	POINT RH	DIR.	SPD.	DIR.	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD											
			M/S	M/W											M/S	M/W										
0300	.4	*****	**	064	.3	068	1.9	1	0300	.3	*****	**	047	1.0	049	3.8	1	0300	-2.6	*****	**	077	1.0	106	3.2	1
0600	.2	*****	**	042	.5	048	2.5	2	0600	-.8	*****	**	337	.6	356	1.9	1	0600	-2.1	*****	**	066	1.4	057	4.4	1
0900	.9	*****	**	018	.3	350	1.9	4	0900	1.0	*****	**	050	.3	041	2.5	11	0900	-1.5	*****	**	061	1.7	068	4.4	10
1200	4.2	*****	**	294	.0	209	.6	21	1200	2.6	*****	**	047	.8	054	3.2	30	1200	1.4	*****	**	056	1.3	049	3.8	20
1500	1.1	*****	**	086	.8	078	2.5	7	1500	-1.1	*****	**	090	.7	122	2.5	6	1500	-1.0	*****	**	072	1.1	102	3.2	7
1800	.5	*****	**	124	.3	117	3.8	1	1800	-.6	*****	**	062	1.1	060	2.5	1	1800	-3.0	*****	**	023	.2	190	3.2	1
2100	1.0	*****	**	083	1.3	049	3.8	1	2100	-1.8	*****	**	066	1.1	099	3.8	2	2100	-2.4	*****	**	058	.5	016	2.5	1
2400	.5	*****	**	061	1.1	034	2.5	1	2400	-1.3	*****	**	074	.9	068	3.8	1	2400	-2.6	*****	**	061	.6	033	1.9	1

DAY 16

DAY 17

DAY 18

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.															
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD											
DEG C	DEG C	%	DEG C	DEG C	DEG C	POINT RH	DIR.	SPD.	DIR.	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD											
			M/S	M/W											M/S	M/W										
0300	-2.3	*****	**	072	1.1	051	3.2	1	0300	-2.0	*****	**	093	.6	117	6.3	1	0300	-6.8	*****	**	013	1.9	291	5.7	2
0600	-2.6	*****	**	098	.5	093	2	2	0600	-2.4	*****	**	066	1.8	056	3.8	1	0600	-6.9	*****	**	359	1.0	348	3.2	2
0900	-1.8	*****	**	091	1.2	099	4.4	11	0900	-1.9	*****	**	069	1.7	100	4.4	12	0900	-6.8	*****	**	049	.7	076	4.4	13
1200	.1	*****	**	055	.6	007	2.5	20	1200	.3	*****	**	059	1.8	067	5.1	18	1200	-3.8	*****	**	040	.6	056	4.4	30
1500	-1.1	*****	**	109	.6	158	2.5	7	1500	-.9	*****	**	034	1.7	056	8.9	6	1500	-7.8	*****	**	063	.8	352	6.3	5
1800	-2.5	*****	**	057	1.2	074	3.2	1	1800	-1.9	*****	**	030	3.1	048	8.9	1	1800	-8.0	*****	**	090	1.4	110	5.1	1
2100	-1.3	*****	**	087	1.7	097	6.3	1	2100	-2.4	*****	**	008	3.7	014	15.2	1	2100	-9.5	*****	**	073	1.4	085	6.3	1
2400	-2.4	*****	**	068	1.6	032	5.1	1	2400	-4.2	*****	**	094	4.1	085	10.8	1	2400	-9.2	*****	**	055	1.6	104	4.4	1

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING October, 1981

DAY 19

DAY 20

DAY 21

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.
NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD	DEG C	DEG C	% DEG. M/S MW	NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD	DEG C	DEG C	% DEG. M/S MW	NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD	DEG C	DEG C	% DEG. M/S MW

0300	-7.7	****	**	051	1.3	055	4.4	1 0300	-5.8	****	**	067	1.1	049	3.8	1 0300	-2.7	****	**	069	.8	059	3.2	2
0600	-6.8	****	**	049	1.0	047	3.2	1 0600	-6.2	****	**	056	1.4	034	3.8	1 0600	-.8	****	**	039	1.5	031	5.1	1
0900	-5.4	****	**	065	1.0	017	3.2	17 0900	-4.4	****	**	065	2.3	094	5.7	11 0900	0.0	****	**	043	1.6	044	7.0	6
1200	-4.9	****	**	062	1.3	055	3.8	27 1200	-4.2	****	**	065	1.5	106	3.8	13 1200	.1	****	**	330	1.6	310	5.7	8
1500	-4	****	**	077	.9	099	3.8	7 1500	-3.6	****	**	068	1.0	109	3.2	4 1500	1.8	****	**	104	4.9	111	11.4	3
1800	-7.5	****	**	066	1.8	077	3.8	1 1800	-3.7	****	**	080	.7	070	2.5	1 1800	1.1	****	**	094	1.8	113	9.5	2
2100	-7.0	****	**	087	1.6	089	3.8	1 2100	-3.7	****	**	040	1.4	051	3.8	1 2100	-.1	****	**	055	.6	055	3.8	1
2400	-7.0	****	**	064	1.2	052	4.4	1 2400	-2.8	****	**	045	.9	027	3.2	1 2400	-.2	****	**	***	0.0	080	.6	1

DAY 22

DAY 23

DAY 24

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.
NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD	DEG C	DEG C	% DEG. M/S MW	NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD	DEG C	DEG C	% DEG. M/S MW	NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD	DEG C	DEG C	% DEG. M/S MW

0300	-.8	****	**	***	0.0	***	0.0	1 0300	-1.0	****	**	326	.5	023	3.8	2 0300	-.1	****	**	129	.4	109	3.2	1
0600	-.8	****	**	***	0.0	036	.6	1 0600	-.4	****	**	063	.6	117	5.1	2 0600	.2	****	**	***	0.0	100	.6	1
0900	-.9	****	**	***	0.0	***	0.0	4 0900	-.5	****	**	056	.9	089	3.8	5 0900	-.8	****	**	***	0.0	154	.6	3
1200	.3	****	**	037	.4	051	3.2	29 1200	.8	****	**	030	1.0	029	3.8	7 1200	-2.1	****	**	329	.8	334	3.8	3
1500	-.4	****	**	017	.7	042	3.8	3 1500	1.3	****	**	351	.9	340	3.2	3 1500	-3.6	****	**	250	1.2	215	4.4	3
1800	.2	****	**	107	2.4	125	7.0	1 1800	.2	****	**	004	.4	004	1.3	1 1800	-5.2	****	**	***	***	***	***	2
2100	-1.3	****	**	097	.2	270	2.5	1 2100	1.0	****	**	002	.8	002	1.3	1 2100	-6.7	****	**	***	***	***	***	1
2400	-1.6	****	**	030	.4	051	5.1	1 2400	1.5	****	**	062	1.3	052	5.1	2 2400	-6.5	****	**	***	***	***	***	1

DAY 25

DAY 26

DAY 27

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.
NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD	DEG C	DEG C	% DEG. M/S MW	NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD	DEG C	DEG C	% DEG. M/S MW	NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD	DEG C	DEG C	% DEG. M/S MW

0300	-6.7	****	**	***	***	***	***	1 0300	-7.9	****	**	341	2.1	341	3.2	1 0300	-10.5	****	**	062	1.3	092	4.4	1
0600	-6.7	****	**	***	***	***	***	1 0600	-8.2	****	**	***	***	***	***	1 0600	-10.2	****	**	048	.9	062	3.8	1
0900	-5.5	****	**	315	1.9	296	2.5	6 0900	-7.5	****	**	349	1.6	346	2.5	28 0900	-8.5	****	**	051	.7	064	3.2	11
1200	-5.2	****	**	***	***	***	***	6 1200	-6.5	****	**	075	1.2	055	2.5	26 1200	-7.3	****	**	056	.8	078	3.2	11
1500	-5.5	****	**	***	***	***	***	2 1500	-8.4	****	**	088	1.0	118	3.2	2 1500	-8.6	****	**	120	.8	356	3.2	3
1800	-6.3	****	**	***	***	***	***	1 1800	-9.2	****	**	080	1.2	102	2.5	1 1800	-6.1	****	**	073	1.8	076	4.4	1
2100	-7.1	****	**	***	***	***	***	1 2100	-9.1	****	**	075	.9	058	2.5	1 2100	-4.2	****	**	056	1.7	072	3.8	1
2400	-7.0	****	**	***	***	***	***	1 2400	-10.1	****	**	056	.8	050	3.2	1 2400	-3.7	****	**	067	1.5	031	5.1	1

R & M CONSULTANTS, INC.

SUSITNA HYDRO ELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING October, 1981

DAY 28

DAY 29

DAY 30

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD
DEG C	DEG C	%	DEG. M/S	MW		DEG C	DEG C	%	DEG. M/S	MW	

0300	-3.2	*****	**	071	2.0	073	5.7	1	0300	-7.0	*****	**	070	1.8	065	3.8	1	0300	-8.8	*****	**	081	.9	093	2.5	1
0600	-8.0	*****	**	062	1.1	100	5.1	1	0600	-6.3	*****	**	064	1.2	033	3.2	1	0600	-6.4	*****	**	060	1.4	054	3.8	1
0900	-6.8	*****	**	060	.6	353	3.2	13	0900	-4.4	*****	**	065	1.6	040	3.8	17	0900	-6.6	*****	**	070	1.1	061	3.2	7
1200	-4.6	*****	**	043	.9	043	1.9	22	1200	-2.1	*****	**	106	2.2	125	5.1	27	1200	-6.6	*****	**	069	.8	036	2.5	14
1500	-4.8	*****	**	050	.6	024	1.9	4	1500	-4.6	*****	**	077	2.0	100	5.1	2	1500	-5.1	*****	**	064	1.2	060	3.8	4
1800	-7.9	*****	**	081	1.1	114	3.2	1	1800	-5.3	*****	**	076	2.3	054	5.1	1	1800	-8.7	*****	**	064	1.2	042	3.8	1
2100	-7.8	*****	**	072	1.7	061	3.8	1	2100	-5.9	*****	**	071	1.8	058	4.4	1	2100	-9.0	*****	**	055	1.3	047	4.4	1
2400	-8.2	*****	**	051	1.7	051	3.8	1	2400	-5.7	*****	**	075	1.5	060	3.2	1	2400	-9.2	*****	**	069	1.2	050	3.2	1

DAY 31

HOUR	DEW	WIND	WIND GUST MAX.	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD
DEG C	DEG C	%	DEG. M/S	MW					

0300	-9.6	*****	**	065	.9	053	2.5	1
0600	-10.3	*****	**	022	1.0	017	3.2	1
0900	-8.9	*****	**	066	.3	135	1.9	6
1200	-8.9	*****	**	144	.3	129	1.3	8
1500	-9.3	*****	**	003	.4	323	1.3	3
1800	-11.1	*****	**	079	1.7	069	3.2	1
2100	-10.9	*****	**	062	1.3	050	3.2	0
2400	-10.6	*****	**	070	1.6	064	3.8	0

R & M CONSULTANTS, INC.

SUSITNA HYDRO ELECTRIC PROJECT

MONTHLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING October, 1981

DAY	MAX. DEG C	MIN. DEG C	MEAN DEG C	RES. DIR.	RES. SPD. M/S	AVG. WIND SPD. M/S	MAX. DIR. DEG	MAX. GUST SPD. M/S	GUST P'VAL DIR. Z	MEAN RH	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM
1	.1	-10.4	-5.2	149	1.2	3.8	186	16.5	ESE	**	*****	***	2473 1
2	-2.6	-10.9	-6.8	030	1.0	1.4	045	4.4	NNE	**	*****	***	2453 2
3	-1.6	-6.8	-4.2	090	.4	.9	157	4.4	SSE	**	*****	***	2183 3
4	-2.5	-7.1	-4.8	054	1.4	1.7	087	8.9	NE	**	*****	***	1835 4
5	3.2	-5.1	-1.0	064	.9	1.3	075	9.5	ENE	**	*****	***	2078 5
6	.4	-7.9	-3.8	058	1.4	2.5	098	10.8	E	**	*****	***	1613 6
7	0.0	-8.7	-4.4	039	1.3	1.7	035	4.4	NNE	**	*****	***	2245 7
8	-3.0	-8.4	-5.7	042	.8	1.2	015	5.1	NNE	**	*****	***	1340 8
9	-1.4	-5.4	-3.4	063	.9	1.4	023	5.1	ESE	**	*****	***	1265 9
10	-2.4	-7.6	-5.0	062	1.6	1.8	042	7.0	NE	**	*****	***	1385 10
11	-.8	-7.4	-4.1	043	1.1	1.4	051	3.8	NNE	**	*****	***	1435 11
12	2.5	-1.6	.5	058	1.1	1.4	105	5.7	NNE	**	*****	***	1308 12
13	5.1	-.4	2.4	071	.5	.8	117	3.8	ESE	**	*****	***	1085 13
14	7.5	-3.1	2.2	057	.7	1.1	049	3.8	ENE	**	*****	***	1978 14
15	3.3	-3.1	.1	063	1.0	1.3	057	4.4	ENE	**	*****	***	1460 15
16	2.8	-3.3	-.3	078	1.0	1.3	097	6.3	ESE	**	*****	***	1318 16
17	1.7	-4.7	-1.5	052	2.0	3.1	014	15.2	E	**	*****	***	1290 17
18	-3.7	-10.1	-6.9	048	1.0	1.8	352	6.3	NE	**	*****	***	1423 18
19	.4	-9.4	-4.5	066	1.2	1.5	055	4.4	NE	**	*****	***	1405 19
20	-2.8	-7.6	-4.9	080	1.3	1.5	094	5.7	NNE	**	*****	***	995 20
21	2.6	-3.0	-.2	072	1.2	2.0	111	11.4	NE	**	*****	***	758 21
22	1.0	-1.6	-.3	079	.4	.8	125	7.0	NNW	**	*****	***	935 22
23	1.8	-1.6	.1	030	.7	1.2	117	5.1	NNW	**	*****	***	610 23
24	1.9	-7.5	-2.8	277	.3	1.0	215	4.4	NNW	**	*****	***	638 24
25	-3.5	-7.6	-5.6	315	1.9	1.4	296	2.5	NNW	**	*****	***	610 25
26	-4.2	-10.4	-7.3	064	.9	1.3	341	3.2	ENE	**	*****	***	1543 26
27	-3.3	-10.8	-7.1	065	1.1	1.4	031	5.1	ENE	**	*****	***	990 27
28	-1.9	-9.7	-5.8	063	1.2	1.3	073	5.7	NE	**	*****	***	1225 28
29	-1.5	-9.2	-5.4	077	1.8	1.9	125	5.1	ENE	**	*****	***	1338 29
30	-4.9	-9.6	-7.3	065	1.1	1.2	047	4.4	ENE	**	*****	***	815 30
31	-7.1	-12.6	-9.9	063	.8	1.1	064	3.8	ENE	**	*****	***	668 31
MONTH	7.5	-12.6	-3.6	061	1.0	.9	186	16.5	NE	**	*****	***	42691

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 8.3

GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 12.7

GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 10.2

GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 11.4

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

**** SEE NOTES AT THE BACK OF THIS REPORT ****

R & M CONSULTANTS, INC.

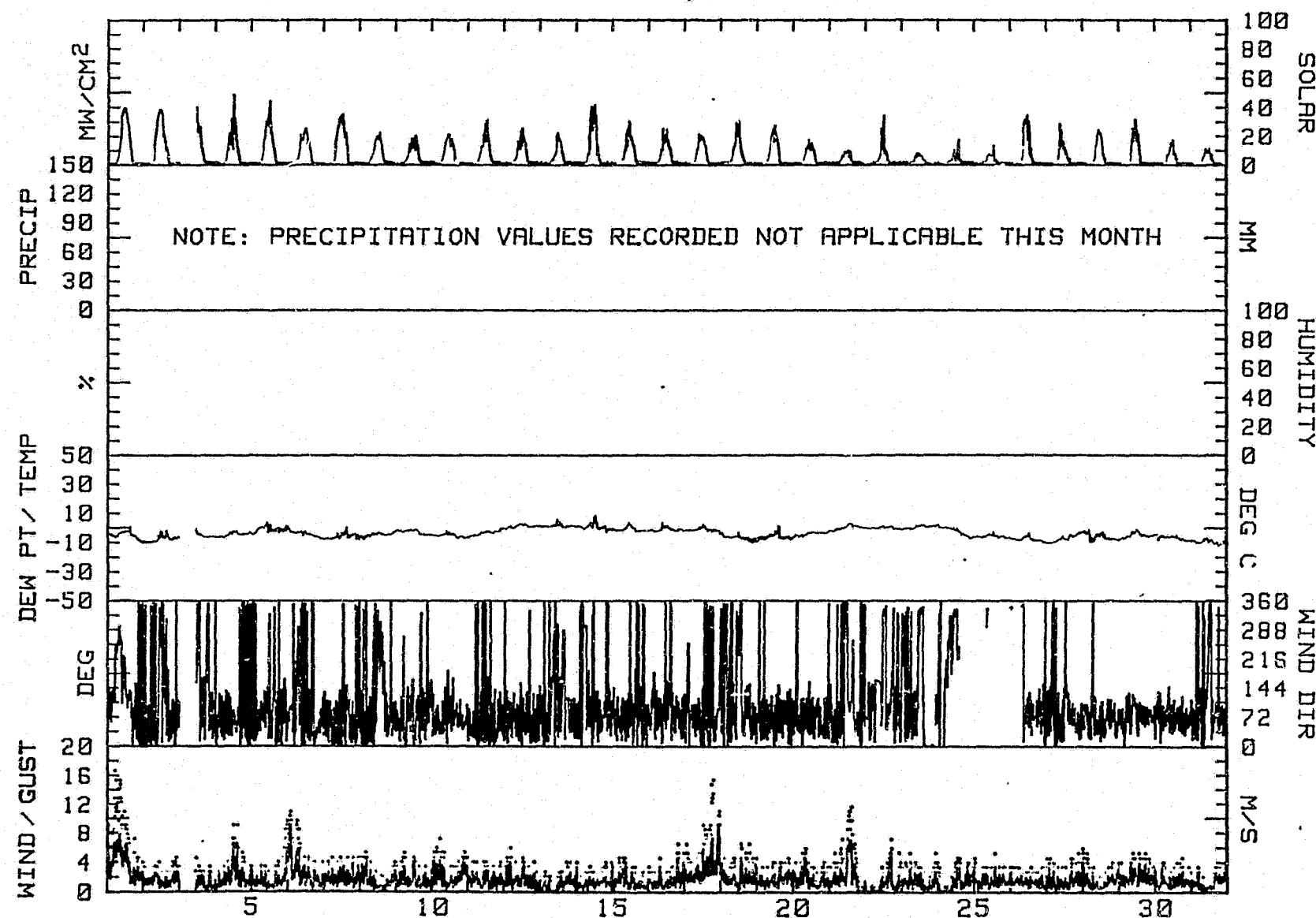
SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING October, 1981

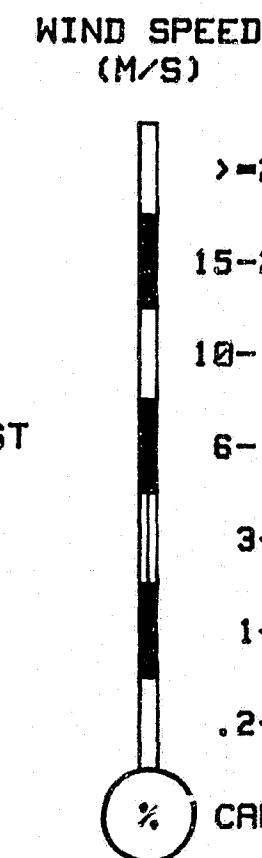
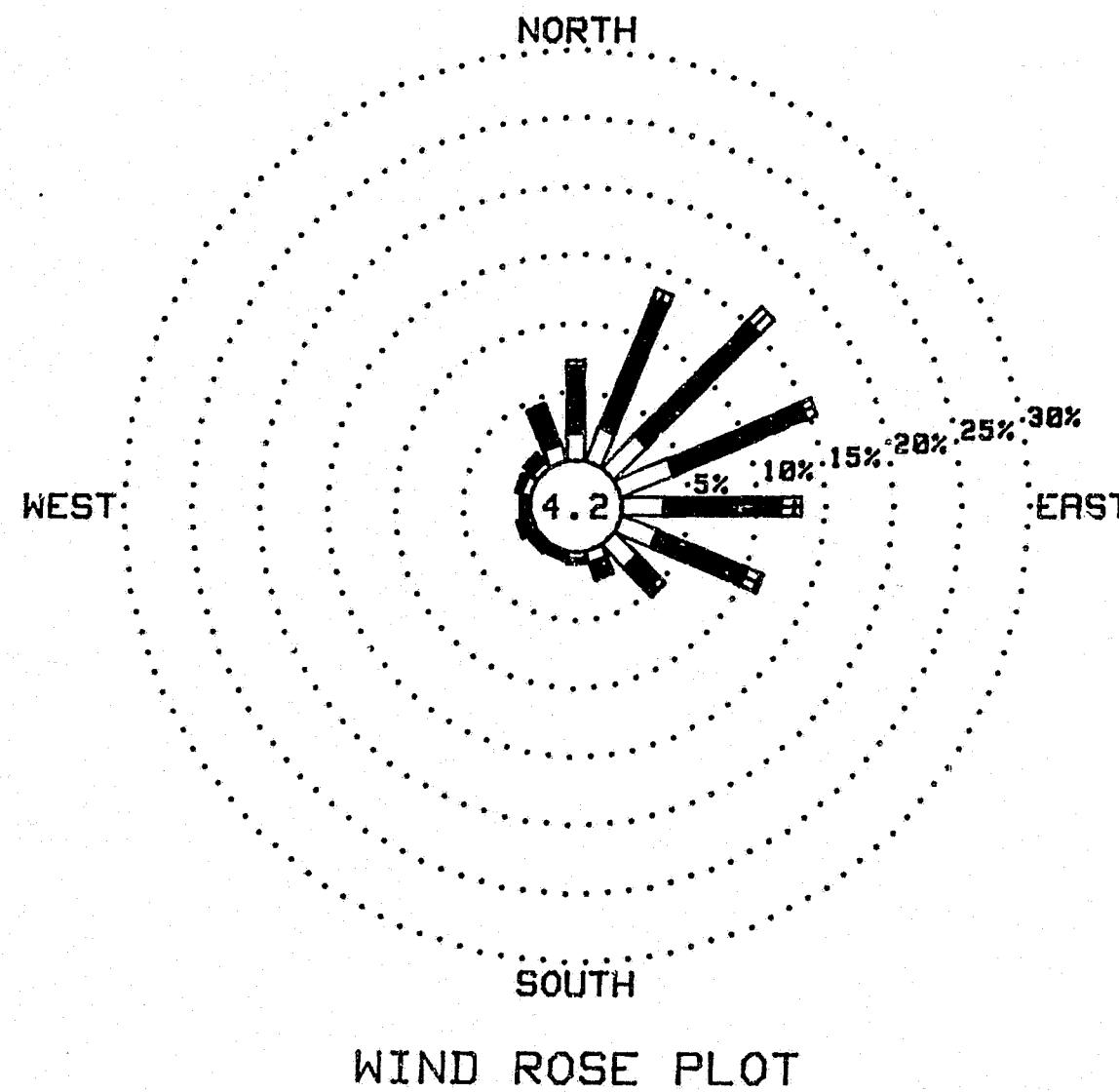
DIRECTION	VELOCITY (M/S)								TOTAL
	0.2 TO 1.0	1.0 TO 3.0	3.0 TO 6.0	6.0 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	20.0 OR GREATER		
	1.0	3.0	6.0	10.0	15.0	20.0			
N	1.97	4.86	.44	0.00	0.00	0.00	0.00	7.27	
NNE	2.63	10.16	.73	0.00	0.00	0.00	0.00	13.52	
NE	3.36	11.70	1.46	0.00	0.00	0.00	0.00	16.52	
ENE	4.20	10.49	.80	0.00	0.00	0.00	0.00	15.50	
E	3.11	8.59	.99	.51	0.00	0.00	0.00	13.19	
ESE	2.92	7.05	1.10	.22	0.00	0.00	0.00	11.29	
SE	2.38	2.19	.62	.04	0.00	0.00	0.00	5.23	
SSE	.95	1.10	.11	0.00	0.00	0.00	0.00	2.16	
S	.51	.15	.11	.04	0.00	0.00	0.00	.80	
SSW	.22	.18	.22	0.00	0.00	0.00	0.00	.62	
SW	.37	.18	.18	.04	0.00	0.00	0.00	.77	
WSW	.40	.29	.22	.18	0.00	0.00	0.00	1.10	
W	.29	.29	.07	.11	0.00	0.00	0.00	.77	
WNW	.77	.40	.07	0.00	0.00	0.00	0.00	1.24	
NW	.58	.80	0.00	.04	0.00	0.00	0.00	1.43	
NNW	1.32	2.85	.18	.07	0.00	0.00	0.00	4.42	
CALM	—	—	—	—	—	—	—	4.17	
TOTAL	25.99	61.29	7.31	1.24	0.00	0.00	0.00	100.00	

NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
2736 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
October, 1981



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
October, 1981



No Precipitation data for November

(See INTERPRETING DATA).

R & M CONSULTANTS, INC.

SUSI TINA HYDRO ELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING November, 1981

DAY 01

DAY 02

DAY 03

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST
DEG C	% DEG.	M/S	MW	DEG C	% DEG.	M/S	DEG C	% DEG.	M/S	MW	DEG C	% DEG.

0300	-8.6	*****	**	072	1.9	072	3.8	0 0300	-7.8	*****	**	084	2.9	091	6.3	1 0300	-12.5	*****	**	109	4.6	119	10.2	0
0600	-9.0	*****	**	087	2.2	103	5.1	0 0600	-7.1	*****	**	073	3.3	086	8.9	1 0600	-13.4	*****	**	110	1.9	090	7.6	0
0900	-8.4	*****	**	079	1.4	045	3.8	6 0900	-5.4	*****	**	079	4.6	079	13.3	7 0900	-15.9	*****	**	098	2.3	078	6.3	4
1200	-8.4	*****	**	029	1.3	357	3.8	15 1200	-6.7	*****	**	107	4.4	103	11.4	11 1200	-12.6	*****	**	021	1.1	052	5.1	13
1500	-8.8	*****	**	049	.9	071	3.8	2 1500	-5.0	*****	**	089	5.8	083	12.7	7 1500	-10.7	*****	**	074	2.2	074	5.1	1
1800	-10.2	*****	**	154	.8	160	2.5	2 1800	-7.8	*****	**	136	5.5	138	12.7	1 1800	-11.7	*****	**	068	2.5	071	6.3	1
2100	-9.3	*****	**	080	.9	084	3.8	1 2100	-10.1	*****	**	144	7.0	129	13.3	1 2100	-7.5	*****	**	068	4.9	067	10.2	1
2400	-9.0	*****	**	081	1.1	118	3.8	1 2400	-12.0	*****	**	117	3.9	157	9.5	0 2400	-7.5	*****	**	071	3.4	077	8.3	1

DAY 04

DAY 05

DAY 06

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST
DEG C	% DEG.	M/S	MW	DEG C	% DEG.	M/S	MW	DEG C	% DEG.	M/S	MW	

0300	-9.0	*****	**	110	1.5	071	5.7	1 0300	-13.8	*****	**	084	.6	017	1.9	1 0300	-20.3	*****	**	081	.7	122	2.5	1
0600	-8.4	*****	**	043	1.8	338	5.1	1 0600	-15.3	*****	**	092	.7	139	2.5	1 0600	-19.6	*****	**	085	.8	073	3.2	1
0900	-12.9	*****	**	341	.5	276	5.1	4 0900	-13.6	*****	**	062	.7	031	2.5	3 0900	-18.6	*****	**	071	.7	022	2.5	2
1200	-11.8	*****	**	334	.4	068	5.1	11 1200	-17.6	*****	**	050	.8	355	3.8	4 1200	-19.6	*****	**	095	.8	035	2.5	3
1500	-12.8	*****	**	018	1.2	052	5.7	2 1500	-18.8	*****	**	014	.7	066	2.5	1 1500	-19.2	*****	**	073	1.0	054	3.2	0
1800	-11.8	*****	**	103	1.4	148	5.1	1 1800	-19.7	*****	**	110	.6	129	3.2	1 1800	-17.1	*****	**	047	1.0	020	3.8	1
2100	-14.4	*****	**	089	.7	112	3.8	1 2100	-21.3	*****	**	067	.6	054	3.2	1 2100	-14.3	*****	**	056	1.3	115	4.4	1
2400	-12.5	*****	**	049	.5	111	2.5	1 2400	-20.2	*****	**	088	.7	123	2.5	1 2400	-13.0	*****	**	032	1.0	055	3.2	1

DAY 07

DAY 08

DAY 09

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST
DEG C	% DEG.	M/S	MW	DEG C	% DEG.	M/S	MW	DEG C	% DEG.	M/S	MW	

0300	-10.9	*****	**	045	.9	032	3.2	1 0300	-3.7	*****	**	063	1.9	076	5.7	1 0300	-5.2	*****	**	071	1.6	067	4.4	1
0600	-9.9	*****	**	034	.8	029	2.5	1 0600	-5.1	*****	**	012	1.0	350	3.2	1 0600	-3.8	*****	**	066	1.6	050	3.8	1
0900	-7.6	*****	**	075	.9	026	3.8	3 0900	-5.8	*****	**	074	1.1	100	3.8	3 0900	-2.5	*****	**	061	1.4	031	3.8	5
1200	-5.6	*****	**	102	4.1	096	8.9	6 1200	-5.0	*****	**	081	1.1	045	4.4	13 1200	-2.0	*****	**	057	1.7	085	5.7	11
1500	-6.3	*****	**	100	4.4	089	8.3	1 1500	-6.5	*****	**	048	.7	047	5.1	2 1500	-.5	*****	**	055	2.1	062	5.7	1
1800	-4.4	*****	**	082	4.3	089	9.5	1 1800	-8.6	*****	**	053	1.4	048	4.4	1 1800	-.9	*****	**	078	4.7	088	11.4	1
2100	-4.3	*****	**	078	2.7	082	6.3	1 2100	-4.6	*****	**	068	1.5	065	3.2	1 2100	2.8	*****	**	096	7.2	110	12.1	1
2400	-4.2	*****	**	074	3.4	076	7.6	1 2400	-4.2	*****	**	075	2.0	075	5.7	1 2400	6.1	*****	**	073	4.2	088	10.8	1

R & M CONSULTANTS, INC.

SUSITNA HYDRO ELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING November, 1981

DAY 10

DAY 11

DAY 12

HOUR	DEW	WIND	WIND GUST MAX.	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	
	DEG C	DEG C	%	DEG. M/S	MW					DEG C	DEG C	%	DEG. M/S	MW				DEG C	DEG C	%	DEG. M/S	MW

0300	3.7	*****	**	092	1.8	035	7.0	1	0300	.7	*****	**	069	2.7	077	6.3	1	0300	-1.1	*****	**	086	4.7	089	8.9	1
0600	5.0	*****	**	092	2.8	122	17.1	1	0600	-1.9	*****	**	066	2.0	102	5.7	1	0600	-2.8	*****	**	078	4.2	092	7.6	1
0900	2.6	*****	**	120	7.5	124	19.0	4	0900	.7	*****	**	071	1.5	090	5.1	4	0900	-2.7	*****	**	075	3.8	087	8.3	3
1200	1.8	*****	**	149	4.7	165	16.5	10	1200	1.3	*****	**	053	2.0	055	5.1	7	1200	-2.3	*****	**	077	3.6	076	5.7	13
1500	.9	*****	**	124	7.1	128	21.6	1	1500	-.5	*****	**	045	1.6	057	5.7	1	1500	-3.4	*****	**	081	2.8	071	5.1	1
1800	.8	*****	**	118	5.7	117	17.8	1	1800	.4	*****	**	097	2.3	154	7.6	1	1800	-4.8	*****	**	083	2.4	060	5.7	1
2100	.8	*****	**	079	3.3	131	7.6	1	2100	-.4	*****	**	094	6.4	118	15.2	1	2100	-4.8	*****	**	065	2.0	051	5.1	1
2400	.5	*****	**	074	2.4	069	5.7	1	2400	-1.1	*****	**	075	4.6	077	8.9	1	2400	-4.3	*****	**	065	1.8	051	5.1	1

DAY 13

DAY 14

DAY 15

HOUR	DEW	WIND	WIND GUST MAX.	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	
	DEG C	DEG C	%	DEG. M/S	MW					DEG C	DEG C	%	DEG. M/S	MW				DEG C	DEG C	%	DEG. M/S	MW

0300	-4.2	*****	**	068	2.0	056	4.4	1	0300	-6.4	*****	**	074	1.3	029	2.5	1	0300	-9.4	*****	**	047	2.0	011	3.8	0
0600	-4.1	*****	**	068	2.1	054	5.1	1	0600	-5.8	*****	**	056	1.8	052	4.4	1	0600	-10.1	*****	**	034	1.6	358	5.1	0
0900	-4.4	*****	**	067	1.5	049	3.2	2	0900	-6.5	*****	**	061	1.8	050	3.8	2	0900	-9.5	*****	**	036	1.2	104	4.4	3
1200	-2.9	*****	**	068	1.4	054	3.8	12	1200	-5.0	*****	**	066	1.1	082	2.5	11	1200	-8.7	*****	**	038	1.3	038	3.2	8
1500	-4.1	*****	**	070	1.0	076	2.5	1	1500	-7.7	*****	**	050	.8	097	1.9	1	1500	-9.7	*****	**	079	1.0	128	3.2	0
1800	-4.9	*****	**	059	1.5	045	3.8	1	1800	-8.4	*****	**	034	1.6	018	3.8	0	1800	-9.2	*****	**	064	1.2	033	2.5	0
2100	-4.4	*****	**	080	1.4	113	3.8	1	2100	-10.3	*****	**	036	1.4	011	5.1	0	2100	-10.3	*****	**	059	1.2	029	3.2	0
2400	-4.5	*****	**	060	1.5	051	3.2	1	2400	-9.8	*****	**	033	2.0	024	4.4	0	2400	-9.7	*****	**	057	1.2	005	2.5	0

DAY 16

DAY 17

DAY 18

HOUR	DEW	WIND	WIND GUST MAX.	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	
	DEG C	DEG C	%	DEG. M/S	MW					DEG C	DEG C	%	DEG. M/S	MW				DEG C	DEG C	%	DEG. M/S	MW

0300	-9.5	*****	**	070	1.2	042	3.2	0	0300	-13.0	*****	**	043	1.1	040	3.2	0	0300	-10.9	*****	**	068	1.3	086	4.4	0
0600	-9.7	*****	**	060	1.5	032	3	0	0600	-13.9	*****	**	038	1.2	026	3.2	0	0600	-10.4	*****	**	080	1.6	098	3.8	0
0900	-10.4	*****	**	063	1.1	028	3.2	2	0900	-11.7	*****	**	030	1.2	359	3.2	2	0900	-11.9	*****	**	089	1.8	088	4.4	2
1200	-10.0	*****	**	055	1.0	029	2.5	3	1200	-10.9	*****	**	051	1.2	016	3.8	3	1200	-9.9	*****	**	109	1.8	096	5.7	3
1500	-10.1	*****	**	079	1.1	076	3.2	0	1500	-9.9	*****	**	051	.8	009	2.5	0	1500	-12.2	*****	**	101	3.3	100	9.5	0
1800	-10.2	*****	**	060	1.2	046	3.2	0	1800	-10.3	*****	**	064	1.1	050	3.2	0	1800	-11.8	*****	**	073	2.5	094	6.3	0
2100	-11.8	*****	**	061	1.1	067	3.2	0	2100	-10.5	*****	**	092	1.3	118	3.8	0	2100	-17.7	*****	**	032	1.9	048	5.7	0
2400	-12.8	*****	**	047	1.3	061	3.2	0	2400	-9.3	*****	**	067	1.2	067	3.8	0	2400	-17.6	*****	**	037	1.4	032	3.8	0

R & M CONSULTANTS, INC.

SUSITNA HYDRO ELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING November, 1981

DAY 19

DAY 20

DAY 21

HOUR	DEW	WIND	WIND GUST MAX.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	
	DEG C	DEG C	% DEG. M/S	DEG C	DEG C	% DEG. M/S	MW	DEG C	DEG C	% DEG. M/S	MW	DEG C	DEG C	% DEG. M/S	MW	DEG C	DEG C	% DEG. M/S	MW	DEG C	DEG C	% DEG. M/S	MW	DEG C	DEG C	% DEG. M/S	MW

0300	-14.3	*****	**	067	1.1	038	3.2	0	0300	-13.6	*****	**	049	.6	099	1.9	0	0300	-10.8	*****	**	081	1.3	097	2.5	0
0600	-15.1	*****	**	048	1.0	019	2.5	0	0600	-14.5	*****	**	091	.6	116	1.9	0	0600	-12.6	*****	**	040	1.2	359	4.4	0
0900	-14.4	*****	**	062	1.2	026	3.2	2	0900	-13.6	*****	**	089	.7	062	2.5	3	0900	-12.4	*****	**	032	1.4	081	3.8	1
1200	-14.6	*****	**	046	1.1	068	3.2	4	1200	-13.0	*****	**	093	.7	006	3.2	11	1200	-13.1	*****	**	054	.8	000	2.5	2
1500	-14.5	*****	**	079	1.0	106	2.5	0	1500	-13.4	*****	**	054	1.0	130	3.2	0	1500	-13.4	*****	**	052	.8	067	1.9	0
1800	-12.6	*****	**	089	1.9	109	3.8	0	1800	-13.3	*****	**	030	1.1	358	2.5	0	1800	-16.2	*****	**	074	.4	339	1.9	0
2100	-13.1	*****	**	058	1.4	044	3.8	0	2100	-13.3	*****	**	037	1.7	042	3.8	0	2100	-16.6	*****	**	068	.5	052	1.9	0
2400	-12.9	*****	**	076	1.3	098	3.2	0	2400	-13.0	*****	**	027	1.7	014	4.4	0	2400	-14.0	*****	**	068	.6	012	2.5	0

DAY 22

DAY 23

DAY 24

HOUR	DEW	WIND	WIND GUST MAX.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	
	DEG C	DEG C	% DEG. M/S	DEG C	DEG C	% DEG. M/S	MW	DEG C	DEG C	% DEG. M/S	MW	DEG C	DEG C	% DEG. M/S	MW	DEG C	DEG C	% DEG. M/S	MW	DEG C	DEG C	% DEG. M/S	MW	DEG C	DEG C	% DEG. M/S	MW

0300	-13.4	*****	**	074	.6	356	1.9	0	0300	-7.6	*****	**	029	.6	018	2.5	1	0300	-8.0	*****	**	094	4.3	107	10.8	1
0600	-12.6	*****	**	049	.6	356	1.9	0	0600	-6.7	*****	**	027	.8	035	2.5	1	0600	-8.3	*****	**	096	6.1	097	11.4	1
0900	-11.9	*****	**	078	1.0	117	2.5	2	0900	-6.8	*****	**	085	.7	049	2.5	2	0900	-7.8	*****	**	087	3.6	100	10.8	2
1200	-8.9	*****	**	092	1.0	104	3.2	7	1200	-10.7	*****	**	162	.2	172	2.5	3	1200	-7.9	*****	**	057	1.5	053	4.4	3
1500	-7.3	*****	**	080	1.9	054	3.8	0	1500	-10.9	*****	**	345	.6	337	3.2	2	1500	-8.3	*****	**	042	.8	017	2.5	1
1800	-8.5	*****	**	057	.8	090	2.5	0	1800	-10.3	*****	**	016	.7	347	3.2	1	1800	-8.2	*****	**	069	1.2	101	3.8	1
2100	-7.5	*****	**	077	1.0	023	3.2	0	2100	-10.9	*****	**	071	1.1	040	4.4	1	2100	-8.4	*****	**	357	.7	310	2.5	1
2400	-8.5	*****	**	025	1.0	054	3.2	1	2400	-8.2	*****	**	076	1.7	092	5.1	0	2400	-8.5	*****	**	058	.3	349	1.9	1

DAY 25

DAY 26

DAY 27

HOUR	DEW	WIND	WIND GUST MAX.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	
	DEG C	DEG C	% DEG. M/S	DEG C	DEG C	% DEG. M/S	MW	DEG C	DEG C	% DEG. M/S	MW	DEG C	DEG C	% DEG. M/S	MW	DEG C	DEG C	% DEG. M/S	MW	DEG C	DEG C	% DEG. M/S	MW	DEG C	DEG C	% DEG. M/S	MW

0300	-9.3	*****	**	004	.1	035	1.9	2	0300	-10.3	*****	**	067	.8	074	3.8	1	0300	-6.1	*****	**	055	1.2	016	3.8	1
0600	-8.4	*****	**	074	1.3	035	3.8	1	0600	-8.3	*****	**	067	1.9	079	7.6	1	0600	-5.7	*****	**	040	.7	122	1.9	1
0900	-9.1	*****	**	122	1.2	099	4.4	2	0900	-8.7	*****	**	087	3.9	079	8.9	1	0900	-6.1	*****	**	090	.6	135	1.9	2
1200	-10.5	*****	**	263	2.2	256	5.7	3	1200	-6.7	*****	**	077	5.0	081	10.2	3	1200	-7.6	*****	**	053	.8	034	3.8	3
1500	-11.6	*****	**	294	1.6	257	5.1	1	1500	-6.0	*****	**	079	4.9	083	9.5	1	1500	-7.8	*****	**	342	.9	003	2.5	2
1800	-11.8	*****	**	002	1.3	017	3.8	1	1800	-5.8	*****	**	074	4.0	073	9.5	1	1800	-9.2	*****	**	293	.4	009	2.5	1
2100	-11.8	*****	**	054	1.7	055	4.4	1	2100	-6.5	*****	**	063	1.7	083	5.7	1	2100	-10.2	*****	**	086	.9	097	2.5	2
2400	-8.4	*****	**	071	1.8	047	3.8	0	2400	-6.1	*****	**	046	.7	061	1.9	1	2400	-9.8	*****	**	070	.5	028	2.5	2

R & M CONSULTANTS, INC.

SUSSEKHTNA HYDRO ELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING November, 1981

DAY 28

DAY 29

DAY 30

HOUR	DEW	WIND	WIND GUST MAX.	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD		
	DEG C	DEG C	%	DEG C	DEG C	MW	DEG C	DEG C	%	DEG C	DEG C	MW	DEG C	DEG C	%	DEG C	DEG C	MW	DEG C	DEG C	%	DEG C	MW

0300	-10.4	*****	**	103	.1	125	1.3	2	0300	-11.9	*****	**	045	.7	001	1.9	0	0300	-7.6	*****	**	075	4.1	082	8.9	0
0600	-11.4	*****	**	023	.1	002	1.3	1	0600	-12.8	*****	**	087	.7	127	2.5	1	0600	-6.8	*****	**	082	3.4	086	8.3	1
0900	-11.8	*****	**	087	.9	111	1.9	2	0900	-12.6	*****	**	041	.7	338	3.2	2	0900	-5.3	*****	**	075	3.8	085	7.6	1
1200	-13.3	*****	**	031	.8	012	2.5	3	1200	-12.0	*****	**	044	.8	004	2.5	3	1200	-5.0	*****	**	078	5.1	078	11.4	8
1500	-11.6	*****	**	060	1.1	053	3.8	1	1500	-12.9	*****	**	072	1.3	053	4.4	1	1500	-3.5	*****	**	047	2.1	073	8.9	1
1800	-11.8	*****	**	067	1.3	059	3.8	0	1800	-13.6	*****	**	065	1.4	102	3.8	1	1800	-3.5	*****	**	053	1.5	052	5.1	1
2100	-12.1	*****	**	043	1.1	025	3.2	0	2100	-10.8	*****	**	080	1.7	070	5.1	0	2100	-5.0	*****	**	058	1.7	039	5.1	1
2400	-11.6	*****	**	078	.7	008	1.9	0	2400	-9.6	*****	**	085	4.5	077	9.5	0	2400	-3.3	*****	**	083	1.8	031	5.7	1

R & M CONSULTANTS, INC.

SUSITNA HYDRO ELECTRIC PROJECT

MONTHLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING November, 1981

DAY	RES.			RES.			AVG.	MAX.	MAX.				DAY'S	
	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	WIND DIR. DEG	WIND SPD. M/S	WIND SPD. M/S	GUST DIR. DEG	GUST P'VAL SPD. M/S	DIR. RH %	MEAN DEG C	MEAN MM	SOLAR PRECIP	ENERGY WH/SQM	
1	-7.2	-11.3	-9.3	075	1.2	1.5	103	5.1	ENE	**	*****	****	680	1
2	-4.2	-12.0	-8.1	108	4.2	5.0	079	13.3	E	**	*****	****	725	2
3	-6.1	-15.9	-11.0	081	2.6	3.2	119	10.2	E	**	*****	***	633	3
4	-6.6	-15.7	-11.2	061	.7	1.7	071	5.7	ESE	**	*****	***	633	4
5	-12.5	-21.3	-16.9	071	.6	1.0	355	3.8	SE	**	*****	***	385	5
6	-13.0	-21.5	-17.3	065	.9	1.2	115	4.4	NNE	**	*****	***	375	6
7	-3.4	-13.0	-8.2	084	2.6	2.8	089	9.5	E	**	*****	***	405	7
8	-3.3	-9.0	-6.2	083	1.3	1.6	076	5.7	NE	**	*****	***	850	8
9	6.1	-5.2	-.5	077	3.0	3.2	110	12.1	ENE	**	*****	***	650	9
10	5.8	-.5	2.7	114	4.1	4.7	128	21.6	ESE	**	*****	***	695	10
11	2.4	-3.3	-.5	077	2.8	3.2	118	15.2	ENE	**	*****	***	770	11
12	-.8	-5.3	-3.1	078	3.1	3.2	089	8.9	ENE	**	*****	***	640	12
13	-2.4	-5.6	-4.0	068	1.5	1.6	054	5.1	ENE	**	*****	***	523	13
14	-4.2	-10.3	-7.3	050	1.4	1.6	011	5.1	NE	**	*****	***	365	14
15	-8.1	-12.2	-10.2	050	1.3	1.6	358	5.1	NE	**	*****	***	253	15
16	-9.1	-12.8	-11.0	062	1.2	1.3	032	3.8	ENE	**	*****	***	202	16
17	-9.2	-14.1	-11.7	055	1.1	1.3	016	3.8	ENE	**	*****	***	185	17
18	-8.4	-19.5	-14.0	077	1.8	2.1	100	9.5	E	**	*****	***	168	18
19	-11.8	-17.5	-14.7	067	1.2	1.4	109	3.8	E	**	*****	***	190	19
20	-11.4	-15.0	-13.2	049	.9	1.2	014	4.4	ENE	**	*****	***	348	20
21	-10.1	-17.1	-13.6	055	.8	1.1	359	4.4	NNE	**	*****	***	113	21
22	-7.3	-15.5	-11.4	069	.9	1.2	054	3.8	E	**	*****	***	240	22
23	-6.4	-11.1	-8.8	053	.7	1.0	092	5.1	N	**	*****	***	323	23
24	-6.4	-9.2	-7.8	083	2.2	2.5	097	11.4	E	**	*****	***	390	24
25	-7.8	-12.3	-10.1	029	.5	1.8	256	5.7	NE	**	*****	***	335	25
26	-5.8	-10.8	-8.3	075	2.9	3.0	081	10.2	ENE	**	*****	***	280	26
27	-5.4	-10.8	-8.1	048	.6	1.0	016	3.8	NNE	**	*****	***	400	27
28	-9.9	-13.3	-11.6	060	.7	.9	053	3.8	ENE	**	*****	***	298	28
29	-9.4	-14.3	-11.9	073	1.4	1.7	077	9.5	E	**	*****	***	268	29
30	-2.8	-9.2	-6.0	072	2.9	3.1	078	11.4	ENE	**	*****	***	275	30
MONTH	6.1	-21.5	-9.1	077	1.6	2.1	128	21.6	ENE	**	*****	***	12592	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 12.1

GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 16.5

GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 15.2

GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 13.3

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND, SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

**** SEE NOTES AT THE BACK OF THIS REPORT ****

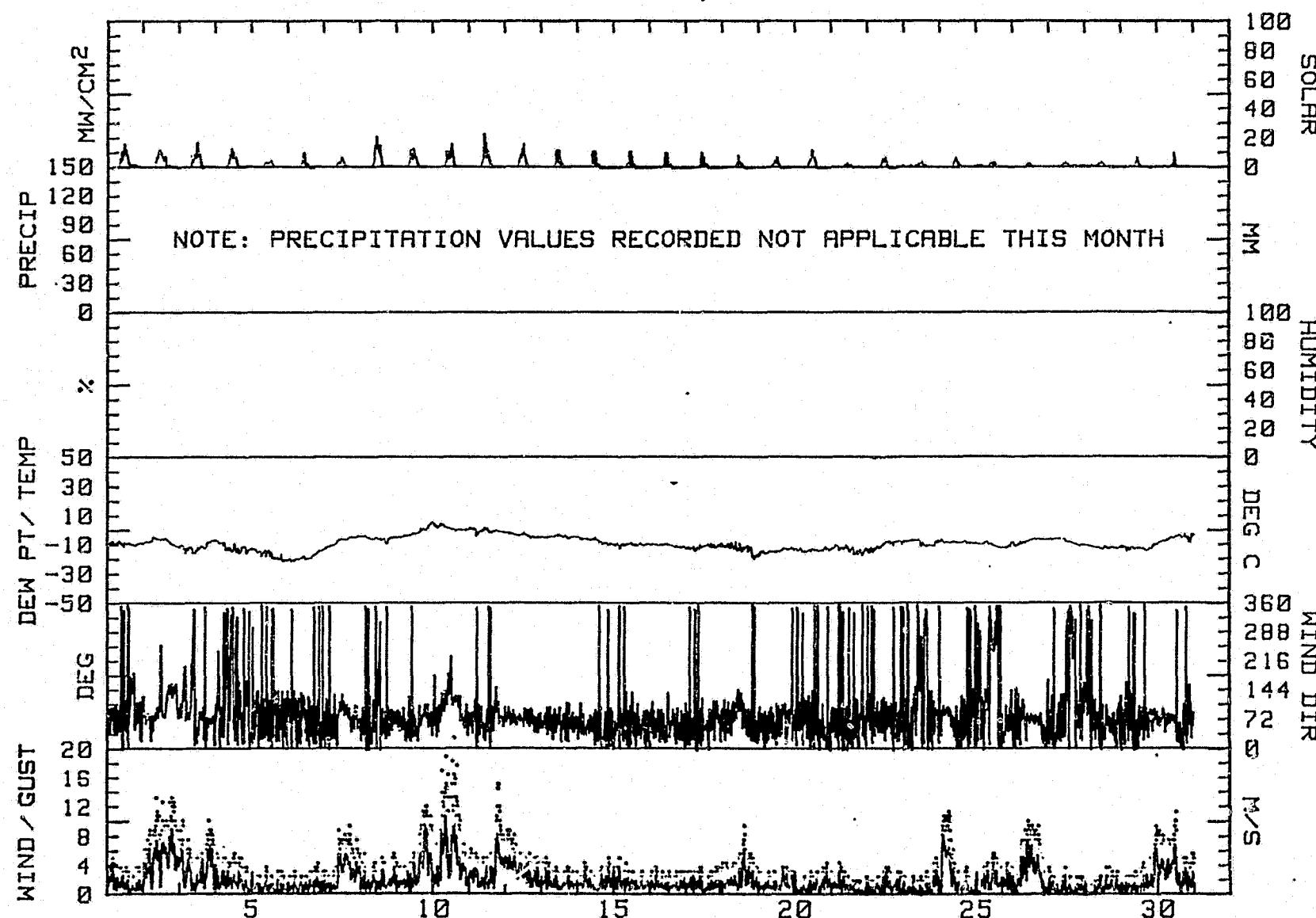
R & M CONSULTANTS, INC.
SUSITNA HYDRO ELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING November, 1981

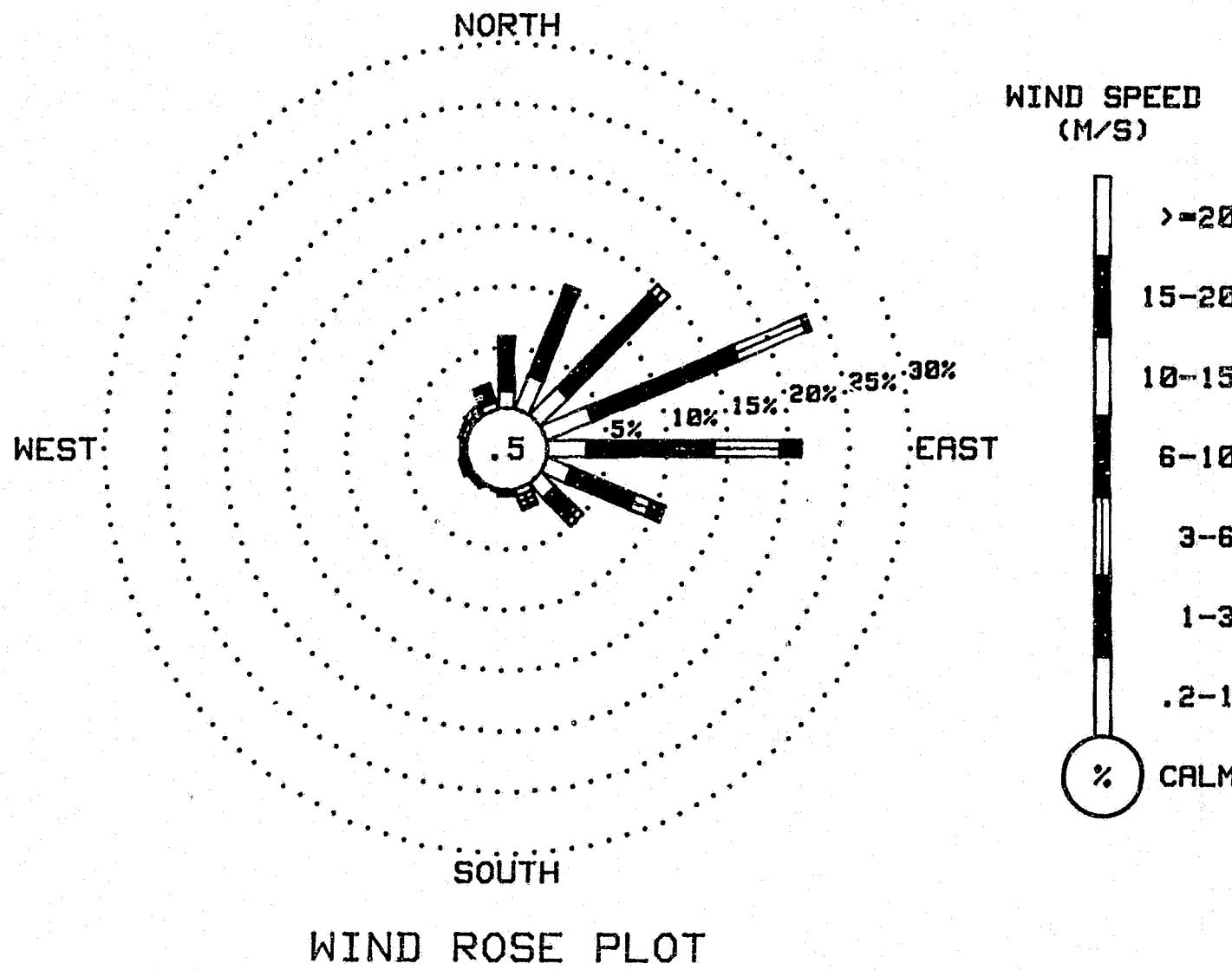
DIRECTION	VELOCITY (M/S)								TOTAL
	0.2 TO 1.0	1.0 TO 3.0	3.0 TO 6.0	6.0 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	20.0 OR GREATER		
	1.0	3.0	6.0	10.0	15.0	20.0			
N	1.42	4.06	.31	0.00	0.00	0.00	0.00	5.80	
NNE	2.99	7.57	.35	0.00	0.00	0.00	0.00	10.91	
NE	3.23	10.77	.97	0.00	0.00	0.00	0.00	14.97	
ENE	4.13	12.99	6.08	.38	0.00	0.00	0.00	23.58	
E	3.30	10.46	5.49	1.74	0.00	0.00	0.00	20.98	
ESE	2.22	5.66	1.49	1.11	.07	0.00	0.00	10.56	
SE	1.70	2.15	.42	.63	0.00	0.00	0.00	4.90	
SSE	.59	.49	.49	.21	0.00	0.00	0.00	1.77	
S	.07	.35	.07	0.00	0.00	0.00	0.00	.49	
SSW	0.00	.14	.03	0.00	0.00	0.00	0.00	.17	
SW	.21	.14	.07	0.00	0.00	0.00	0.00	.42	
WSW	.21	.17	.28	0.09	0.00	0.00	0.00	.66	
W	.17	.21	.07	0.00	0.00	0.00	0.00	.45	
WNW	.49	.21	0.00	0.00	0.00	0.00	0.00	.69	
NW	.42	.52	0.00	0.00	0.00	0.00	0.00	.94	
NNW	.66	1.49	.07	0.00	0.00	0.00	0.00	2.22	
CALM									.49
TOTAL	21.81	57.38	16.19	4.06	.07	0.00	0.00	100.00	

NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
2879 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
November, 1981



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
November, 1981



No precipitation data for December
(See INTERPRETING DATA).

R & M CONSULTANTS, INC.

SUSITNA HYDRO ELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING December, 1981

DAY 01

DAY 02

DAY 03

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST
DEG C	%	DEG. M/S	M/S	DEG. M/S	%	DEG. M/S	DEG C	%	DEG. M/S	M/S	DEG. M/S	M/S

0300	-3.6	*****	**	099	6.4	110	18.4	1 0300	-9.8	*****	**	094	4.1	097	7.0	1 0300	-6.5	*****	**	127	7.3	152	19.7	1
0600	-4.8	*****	**	123	7.7	129	17.8	1 0600	-10.6	*****	**	102	1.5	107	5.7	1 0600	-6.7	*****	**	205	3.9	211	11.4	1
0900	-5.8	*****	**	104	5.7	108	10.8	1 0900	-11.9	*****	**	109	2.5	121	9.5	2 0900	-8.3	*****	**	120	3.1	107	7.0	2
1200	-6.0	*****	**	103	6.3	113	13.3	4 1200	-14.3	*****	**	184	1.7	254	11.4	6 1200	-8.0	*****	**	179	.4	160	2.5	2
1500	-7.5	*****	**	090	4.8	112	11.4	1 1500	-13.4	*****	**	090	1.5	041	3.8	1 1500	-7.6	*****	**	012	1.5	004	8.3	1
1800	-9.0	*****	**	108	2.6	118	10.2	1 1800	-11.4	*****	**	021	1.3	068	5.7	1 1800	-5.4	*****	**	149	2.6	116	12.1	1
2100	-9.7	*****	**	086	4.2	088	8.3	1 2100	-10.3	*****	**	054	2.4	083	9.5	1 2100	-4.2	*****	**	106	7.1	137	16.5	1
2400	-9.5	*****	**	083	4.4	081	8.9	0 2400	-7.6	*****	**	068	4.2	084	10.8	1 2400	-8.4	*****	**	115	8.7	123	21.0	1

DAY 04

DAY 05

DAY 06

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST
DEG C	%	DEG. M/S	M/S	DEG. M/S	%	DEG. M/S	DEG C	%	DEG. M/S	M/S	DEG. M/S	M/S

0300	-9.9	*****	**	134	6.1	136	14.6	1 0300	-10.9	*****	**	059	.9	110	4.4	0 0300	-11.8	*****	**	073	1.5	091	3.8	1
0600	-10.3	*****	**	151	7.7	158	17.1	0 0600	-10.9	*****	**	339	.6	293	4.4	0 0600	-11.6	*****	**	038	.7	028	2.5	1
0900	-11.7	*****	**	127	4.1	124	15.2	2 0900	-11.4	*****	**	058	1.3	071	3.8	1 0900	-12.7	*****	**	025	.7	103	3.2	2
1200	-10.9	*****	**	059	2.9	074	7.6	2 1200	-12.3	*****	**	038	1.0	063	2.5	2 1200	-10.8	*****	**	079	1.7	099	5.1	3
1500	-11.8	*****	**	076	3.1	081	7.0	0 1500	-12.8	*****	**	048	2.2	069	6.3	0 1500	-12.6	*****	**	068	1.5	069	4.4	0
1800	-9.4	*****	**	062	2.9	048	7.0	0 1800	-12.5	*****	**	060	1.3	037	4.4	0 1800	-11.3	*****	**	079	1.2	088	2.5	0
2100	-9.3	*****	**	075	3.1	075	7.0	0 2100	-12.1	*****	**	067	.7	094	3.8	0 2100	-11.7	*****	**	058	1.3	050	3.2	0
2400	-11.0	*****	**	082	1.3	064	4.4	0 2400	-11.8	*****	**	083	1.1	022	3.8	1 2400	-12.2	*****	**	082	1.3	073	3.2	0

DAY 07

DAY 08

DAY 09

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST
DEG C	%	DEG. M/S	M/S	DEG. M/S	%	DEG. M/S	DEG C	%	DEG. M/S	M/S	DEG. M/S	M/S

0300	-11.2	*****	**	075	1.5	050	3.8	0 0300	-12.4	*****	**	076	1.2	060	3.2	0 0300	-12.5	*****	**	033	1.1	014	3.2	0
0600	-11.8	*****	**	061	1.5	026	3.2	0 0600	-12.9	*****	**	072	1.4	052	3.2	0 0600	-13.6	*****	**	040	1.8	038	5.7	0
0900	-11.6	*****	**	065	1.6	050	3.8	1 0900	-12.8	*****	**	062	1.5	060	2.5	1 0900	-13.6	*****	**	063	1.5	071	4.4	1
1200	-10.9	*****	**	058	1.4	049	3.8	2 1200	-11.7	*****	**	062	1.2	089	3.2	3 1200	-13.5	*****	**	064	.9	067	2.5	3
1500	-11.8	*****	**	079	1.4	073	3.2	0 1500	-10.9	*****	**	089	1.5	067	3.8	0 1500	-14.0	*****	**	051	.9	359	1.9	0
1800	-11.5	*****	**	069	1.2	087	3.2	0 1800	-11.3	*****	**	063	.8	054	3.2	0 1800	-11.8	*****	**	057	.9	031	3.2	0
2100	-11.4	*****	**	072	1.3	049	3.2	0 2100	-11.9	*****	**	058	1.3	035	3.2	0 2100	-11.7	*****	**	062	1.1	036	3.2	0
2400	-12.5	*****	**	046	1.7	045	3.8	0 2400	-12.4	*****	**	068	1.1	053	3.2	0 2400	-11.8	*****	**	065	1.0	034	2.5	0

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING December, 1981

DAY 10

DAY 11

DAY 12

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.													
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD											
DEG C	DEG C	%	DEG	DEG C	DEG C	%	DEG C	DEG C	DIR.	SPD.	DIR.	GUST	RAD											
			M/S	M/S	MW				M/S	M/S	MW													
0300	-11.3	*****	**	078	1.8	108	3.8	0 0300	-14.3	*****	**	082	.9	049	2.5	1 0300	-7.9	*****	**	046	1.2	081	6.3	1
0600	-11.2	*****	**	072	1.9	054	3.8	0 0600	-14.1	*****	**	038	,4	347	1.9	1 0600	-8.2	*****	**	058	2.2	074	5.7	1
0900	-11.8	*****	**	035	1.0	063	2.5	1 0900	-13.9	*****	**	090	1.0	110	3.2	1 0900	-7.6	*****	**	029	,8	030	2.5	2
1200	-11.3	*****	**	079	,8	121	1.9	3 1200	-11.8	*****	**	046	1.4	056	4.4	3 1200	-7.2	*****	**	016	1.1	010	3.2	2
1500	-10.7	*****	**	077	1.2	045	2.5	0 1500	-12.2	*****	**	051	1.1	110	6.3	1 1500	-6.0	*****	**	019	1.6	015	3.2	1
1800	-13.6	*****	**	063	,9	099	3.2	0 1800	-11.6	*****	**	011	,6	143	3.2	1 1800	-5.2	*****	**	053	1.4	070	3.2	1
2100	-13.3	*****	**	034	,5	350	2.5	0 2100	-10.6	*****	**	020	1.6	000	2.5	1 2100	-3.0	*****	**	072	3.3	082	7.0	0
2400	-13.4	*****	**	065	,9	034	3.2	0 2400	-9.4	*****	**	018	1.6	011	3.2	1 2400	-3.4	*****	**	084	3.2	081	8.9	0

DAY 13

DAY 14

DAY 15

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.													
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD											
DEG C	DEG C	%	DEG	DEG C	DEG C	%	DEG C	DEG C	DIR.	SPD.	DIR.	GUST	RAD											
			M/S	M/S	MW				M/S	M/S	MW													
0300	-2.5	*****	**	075	3.5	092	7.6	1 0300	-5.1	*****	**	068	1.6	073	3.8	0 0300	-9.7	*****	**	064	1.0	111	3.2	0
0600	-3.4	*****	**	076	3.3	076	6.3	1 0600	-6.0	*****	**	065	1.7	046	3.8	0 0600	-9.1	*****	**	071	1.4	110	3.8	0
0900	-4.8	*****	**	090	3.8	096	7.0	1 0900	-6.7	*****	**	070	1.2	035	3.2	1 0900	-9.0	*****	**	058	1.2	098	3.8	1
1200	-5.1	*****	**	072	1.9	050	5.1	2 1200	-7.2	*****	**	067	1.4	044	3.8	2 1200	-8.6	*****	**	083	,6	121	2.5	2
1500	-6.3	*****	**	074	1.4	095	3.2	0 1500	-7.8	*****	**	075	1.0	075	2.5	0 1500	-9.0	*****	**	077	,9	040	3.2	1
1800	-5.7	*****	**	069	1.3	103	3.2	0 1800	-8.2	*****	**	056	1.1	026	3.2	0 1800	-7.2	*****	**	068	1.4	074	3.2	1
2100	-5.6	*****	**	067	1.3	045	3.2	0 2100	-9.1	*****	**	067	1.5	052	3.8	0 2100	-5.4	*****	**	047	1.7	094	3.8	1
2400	-5.8	*****	**	060	1.7	067	3.8	0 2400	-8.6	*****	**	079	1.2	068	2.5	0 2400	-4.3	*****	**	074	1.6	082	11.4	0

DAY 16

DAY 17

DAY 18

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.													
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD											
DEG C	DEG C	%	DEG	DEG C	DEG C	%	DEG C	DEG C	DIR.	SPD.	DIR.	GUST	RAD											
			M/S	M/S	MW				M/S	M/S	MW													
0300	-4.9	*****	**	081	4.9	077	8.3	1 0300	-1.3	*****	**	118	7.2	122	15.9	1 0300	-3	*****	**	122	11.2	126	21.6	1
0600	-4.6	*****	**	078	4.1	061	8.9	0 0600	-2.1	*****	**	118	9.7	124	17.8	1 0600	-9	*****	**	121	4.4	140	14.6	1
0900	-2.5	*****	**	079	3.9	069	10.2	1 0900	-2.3	*****	**	133	9.1	131	22.9	1 0900	-4	*****	**	097	4.2	116	12.7	1
1200	-2.8	*****	**	082	4.9	073	10.8	2 1200	-2.5	*****	**	123	7.5	134	17.1	2 1200	-2.0	*****	**	104	5.1	131	13.3	3
1500	-1.6	*****	**	085	4.5	080	11.4	1 1500	-2.0	*****	**	094	5.4	112	14.0	1 1500	-3.2	*****	**	117	5.1	148	10.8	1
1800	-2.5	*****	**	112	3.6	093	12.7	1 1800	-2	*****	**	081	5.5	084	9.5	1 1800	-4.7	*****	**	074	2.4	095	7.0	2
2100	-1.5	*****	**	032	1.8	059	8.3	1 2100	-1.1	*****	**	092	3.9	120	10.8	1 2100	-4.6	*****	**	058	,8	050	3.8	2
2400	-1.4	*****	**	065	2.2	116	10.8	1 2400	1.9	*****	**	095	4.9	104	17.8	1 2400	-5.4	*****	**	131	,9	161	3.2	2

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING December, 1981

DAY 19

DAY 20

DAY 21

HOUR	DEW	WIND	WIND GUST MAX.	POINT	NDNG TEMP.	RH	DIR.	SPD.	DIR.	GUST	RAD	POINT	NDNG TEMP.	RH	DIR.	SPD.	DIR.	GUST	RAD	POINT	NDNG TEMP.	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	MW

0300	-5.9	*****	**	060	1.5	033	4.4	1	0300	-8.3	*****	**	020	1.0	008	3.8	0	0300	-8.4	*****	**	075	.7	083	3.2	1
0600	-7.3	*****	**	057	1.7	047	3.8	1	0600	-7.6	*****	**	075	.9	082	3.2	1	0600	-9.2	*****	**	048	.6	050	1.9	1
0900	-7.8	*****	**	065	1.2	044	2.5	1	0900	-9.2	*****	**	017	.9	053	2.5	1	0900	-10.6	*****	**	091	.6	046	1.9	2
1200	-7.7	*****	**	073	1.7	055	3.8	2	1200	-9.3	*****	**	058	1.0	018	3.2	2	1200	-11.7	*****	**	007	.2	137	1.9	3
1500	-6.2	*****	**	060	2.3	070	10.2	1	1500	-9.9	*****	**	034	1.1	040	3.2	1	1500	-13.3	*****	**	069	.7	049	2.5	1
1800	-6.7	*****	**	050	2.0	046	6.3	1	1800	-9.9	*****	**	084	.7	107	1.9	1	1800	-13.7	*****	**	029	.6	064	2.5	1
2100	-7.3	*****	**	063	1.6	019	4.4	1	2100	-9.2	*****	**	088	.9	078	2.5	1	2100	-13.5	*****	**	048	.5	107	2.5	1
2400	-8.6	*****	**	059	1.0	090	3.2	0	2400	-9.1	*****	**	029	.7	023	2.5	1	2400	-11.6	*****	**	077	1.1	050	2.5	1

DAY 22

DAY 23

DAY 24

HOUR	DEW	WIND	WIND GUST MAX.	POINT	NDNG TEMP.	RH	DIR.	SPD.	DIR.	GUST	RAD	POINT	NDNG TEMP.	RH	DIR.	SPD.	DIR.	GUST	RAD	POINT	NDNG TEMP.	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	MW

0300	-10.9	*****	**	064	1.7	056	4.4	0	0300	-9.3	*****	**	048	1.7	026	4.4	0	0300	-7.5	*****	**	064	1.2	064	3.2	1
0600	-11.5	*****	**	063	1.7	032	4.4	0	0600	-6.6	*****	**	052	1.2	035	3.8	1	0600	-7.4	*****	**	060	1.2	012	3.8	1
0900	-11.9	*****	**	061	1.9	050	4.4	0	0900	-6.5	*****	**	034	1.3	077	4.4	1	0900	-7.2	*****	**	059	.9	008	3.2	1
1200	-11.3	*****	**	058	1.5	035	3.2	1	1200	-5.7	*****	**	087	1.0	104	5.1	3	1200	-9.2	*****	**	071	.8	124	3.8	3
1500	-12.3	*****	**	064	1.4	067	3.8	0	1500	-7.0	*****	**	160	1.0	118	8.9	1	1500	-8.4	*****	**	047	1.0	027	5.1	1
1800	-12.2	*****	**	069	1.5	061	3.8	0	1800	-6.2	*****	**	007	.6	273	6.3	1	1800	-10.4	*****	**	347	1.1	030	5.7	1
2100	-10.9	*****	**	076	1.8	051	4.4	0	2100	-6.6	*****	**	051	.9	019	1.9	1	2100	-10.2	*****	**	028	.5	009	2.5	1
2400	-8.7	*****	**	064	1.6	061	4.4	0	2400	-6.3	*****	**	047	1.1	047	2.5	1	2400	-11.1	*****	**	054	.5	043	2.5	1

DAY 25

DAY 26

DAY 27

HOUR	DEW	WIND	WIND GUST MAX.	POINT	NDNG TEMP.	RH	DIR.	SPD.	DIR.	GUST	RAD	POINT	NDNG TEMP.	RH	DIR.	SPD.	DIR.	GUST	RAD	POINT	NDNG TEMP.	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	MW		DEG C	DEG C	%	DEG.	M/S	MW

0300	-10.7	*****	**	067	.4	134	2.5	1	0300	-15.1	*****	**	045	1.8	040	5.1	0	0300	-19.6	*****	**	053	2.1	050	5.7	0
0600	-11.5	*****	**	062	1.1	034	3.8	1	0600	-14.7	*****	**	142	1.1	176	6.3	0	0600	-20.3	*****	**	054	1.9	044	5.1	0
0900	-11.8	*****	**	087	1.5	085	5.1	1	0900	-15.2	*****	**	058	2.3	091	7.0	0	0900	-20.7	*****	**	042	1.7	018	4.4	1
1200	-12.6	*****	**	017	1.7	012	3.8	1	1200	-16.0	*****	**	107	3.3	124	8.3	1	1200	-20.4	*****	**	042	2.0	018	4.4	2
1500	-12.2	*****	**	052	1.4	062	3.8	0	1500	-16.0	*****	**	126	3.7	107	8.3	0	1500	-21.6	*****	**	036	1.8	062	4.4	0
1800	-14.6	*****	**	029	1.5	041	3.2	0	1800	-18.6	*****	**	202	3.0	257	10.8	0	1800	-20.0	*****	**	052	1.7	088	5.1	0
2100	-14.1	*****	**	034	1.3	030	3.2	0	2100	-18.5	*****	**	153	2.8	235	8.9	0	2100	-19.3	*****	**	032	1.5	045	4.4	0
2400	-14.4	*****	**	052	1.0	031	3.2	0	2400	-19.8	*****	**	083	2.3	107	5.7	0	2400	-18.6	*****	**	057	1.4	059	4.4	0

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING December, 1981

DAY 28

DAY 29

DAY 30

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD
DEG C	DEG C	%	DEG. M/S	DEG. M/S	MW	DEG C	DEG C	%	DEG. M/S	MW	MW

0300	-19.1	****	**	073	1.3	072	2.5	0	0300	-21.3	****	**	048	1.3	054	3.2	0	0300	-20.7	****	**	062	1.4	046	3.8	0
0600	-18.7	****	**	052	1.5	046	4.4	0	0600	-22.0	****	**	038	1.3	070	3.2	0	0600	-21.0	****	**	057	1.2	025	3.2	0
0900	-19.1	****	**	050	1.7	037	3.8	1	0900	-21.9	****	**	034	1.6	028	4.4	1	0900	-20.2	****	**	070	1.6	113	4.4	1
1200	-18.6	****	**	073	1.3	061	2.5	2	1200	-22.4	****	**	058	1.3	093	3.8	2	1200	-19.6	****	**	072	1.7	046	5.1	2
1500	-19.1	****	**	042	1.3	007	3.2	0	1500	-21.9	****	**	053	1.7	055	4.4	0	1500	-19.5	****	**	047	1.0	342	3.2	0
1800	-20.5	****	**	048	1.1	063	2.5	0	1800	-22.2	****	**	066	1.9	122	5.7	0	1800	-18.5	****	**	097	.7	004	3.2	0
2100	-20.5	****	**	070	1.2	102	3.2	0	2100	-20.9	****	**	049	1.8	016	4.4	0	2100	-18.2	****	**	069	.9	040	2.5	0
2400	-21.2	****	**	049	1.4	059	3.8	0	2400	-20.3	****	**	026	1.7	000	3.8	0	2400	-19.2	****	**	049	.6	340	3.2	0

DAY 31

HOUR	DEW	WIND	WIND GUST MAX.
NDNG TEMP.	POINT RH	DIR.	SPD.
DEG C	DEG C	%	DEG. M/S

0300	-17.0	****	**	071	1.1	029	3.8	0
0600	-17.9	****	**	075	.9	098	3.2	0
0900	-18.4	****	**	084	1.6	084	7.0	1
1200	-17.8	****	**	012	1.6	041	5.1	3
1500	-17.5	****	**	091	1.6	033	4.4	0
1800	-18.5	****	**	094	1.8	035	5.1	0
2100	-17.5	****	**	075	1.5	112	5.1	0
2400	-18.1	****	**	035	.9	041	1.9	0

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING December, 1981

DAY	MAX.	MIN.	MEAN	RES. WIND DIR.	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. SPD. M/S	MAX. P'VAL RH %	MEAN TEMP. DEG C	MEAN RH %	DAY'S PRECIP MM	SOLAR ENERGY WH/SQM	
	TEMP. DEG C	TEMP. DEG C	TEMP. DEG C	DIR. DEG	SPD. M/S	DIR. DEG	SPD. M/S	DIR. RH	DP DEG C	MM			
1	-2.6	-9.7	-6.2	101	5.1	5.4	110	18.4	E	**	*****	***	343 1
2	-7.6	-14.6	-11.1	086	2.0	3.0	254	11.4	E	**	*****	***	310 2
3	-2.8	-8.6	-5.7	125	3.6	4.8	123	21.0	ESE	**	*****	***	335 3
4	-8.6	-12.3	-10.5	111	3.2	4.1	158	17.1	ENE	**	*****	***	193 4
5	-10.2	-15.1	-12.7	053	1.1	1.6	069	6.3	ENE	**	*****	***	100 5
6	-9.7	-14.8	-12.3	068	1.2	1.4	099	5.1	ENE	**	*****	***	200 6
7	-10.5	-13.4	-12.0	065	1.4	1.5	050	3.8	ENE	**	*****	***	85 7
8	-10.5	-13.4	-12.0	069	1.2	1.4	067	3.8	ENE	**	*****	***	91 8
9	-10.5	-14.0	-12.3	053	1.1	1.3	038	5.7	ENE	**	*****	***	128 9
10	-10.4	-13.7	-12.1	067	1.1	1.4	108	3.8	E	**	*****	***	90 10
11	-9.4	-15.5	-12.5	042	1.0	1.4	110	6.3	NNE	**	*****	***	278 11
12	-2.6	-9.3	-6.0	057	1.7	2.0	081	8.9	ENE	**	*****	***	245 12
13	-2.4	-6.6	-4.5	075	2.2	2.3	092	7.6	ENE	**	*****	***	110 13
14	-4.5	-9.6	-7.1	068	1.3	1.5	073	3.8	ENE	**	*****	***	68 14
15	-4.0	-9.8	-6.9	066	1.2	1.6	082	11.4	E	**	*****	***	165 15
16	-1.4	-5.1	-3.3	081	3.6	4.2	093	12.7	E	**	*****	***	250 16
17	2.3	-3.3	-.5	111	6.4	6.9	131	22.9	ESE	**	*****	***	285 17
18	2.1	-5.6	-1.8	111	4.1	4.5	126	21.6	ESE	**	*****	***	348 18
19	-5.1	-10.6	-7.9	061	1.6	1.7	070	10.2	ENE	**	*****	***	265 19
20	-6.7	-11.1	-8.9	049	.6	1.1	008	3.8	E	**	*****	***	270 20
21	-8.4	-15.3	-11.9	063	.6	.9	083	3.2	ENE	**	*****	***	296 21
22	-8.7	-13.1	-10.9	065	1.6	1.7	056	4.4	ENE	**	*****	***	53 22
23	-4.6	-9.3	-7.0	055	.9	1.8	118	8.9	NE	**	*****	***	273 23
24	-6.1	-11.1	-8.6	048	.8	1.1	030	5.7	NNE	**	*****	***	310 24
25	-10.7	-15.1	-12.9	047	1.1	1.4	085	5.1	NE	**	*****	***	138 25
26	-14.4	-19.8	-17.1	117	1.8	3.1	257	10.8	ESE	**	*****	***	50 26
27	-18.5	-21.9	-20.2	046	1.8	1.9	050	5.7	NE	**	*****	***	80 27
28	-18.3	-21.2	-19.8	057	1.3	1.5	046	4.4	ENE	**	*****	***	75 28
29	-19.5	-22.8	-21.2	047	1.5	1.8	122	5.7	NE	**	*****	***	78 29
30	-15.5	-22.1	-18.8	065	1.1	1.4	046	5.1	E	**	*****	***	95 30
31	-14.4	-19.3	-16.9	071	1.2	1.6	084	7.0	E	**	*****	***	103 31
MONTH	2.3	-22.8	-10.7	083	1.7	2.0	131	22.9	ESE	**	*****	***	5706

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 17.8

GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 18.4

GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 18.4

GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 16.5

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

**** SEE NOTES AT THE BACK OF THIS REPORT ****

R & M CONSULTANTS, INC.

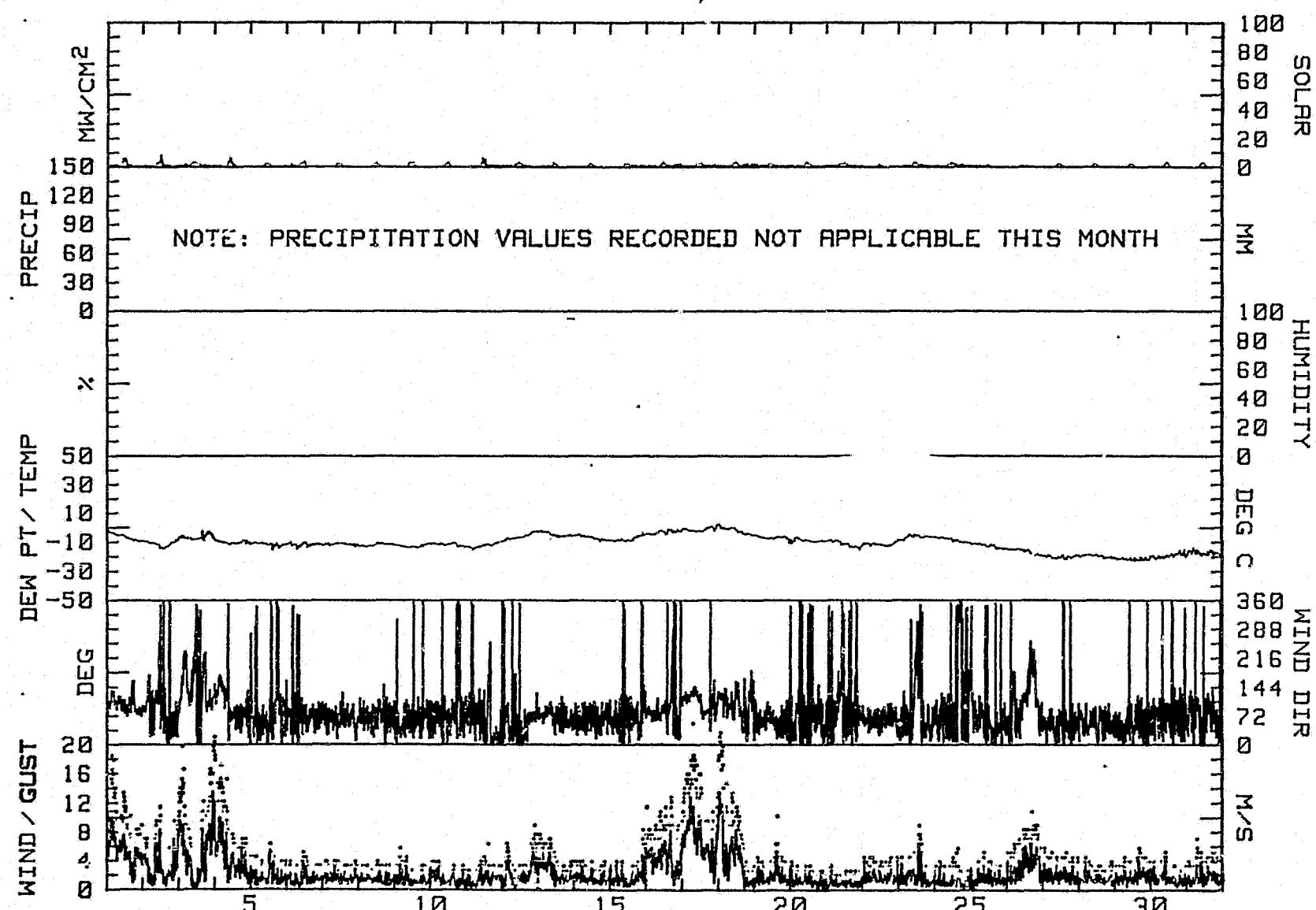
SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING December, 1981

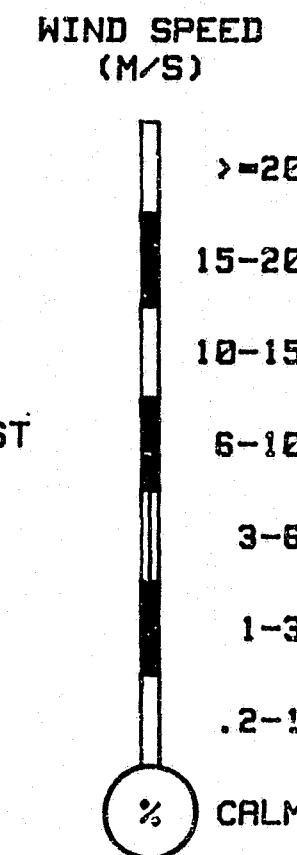
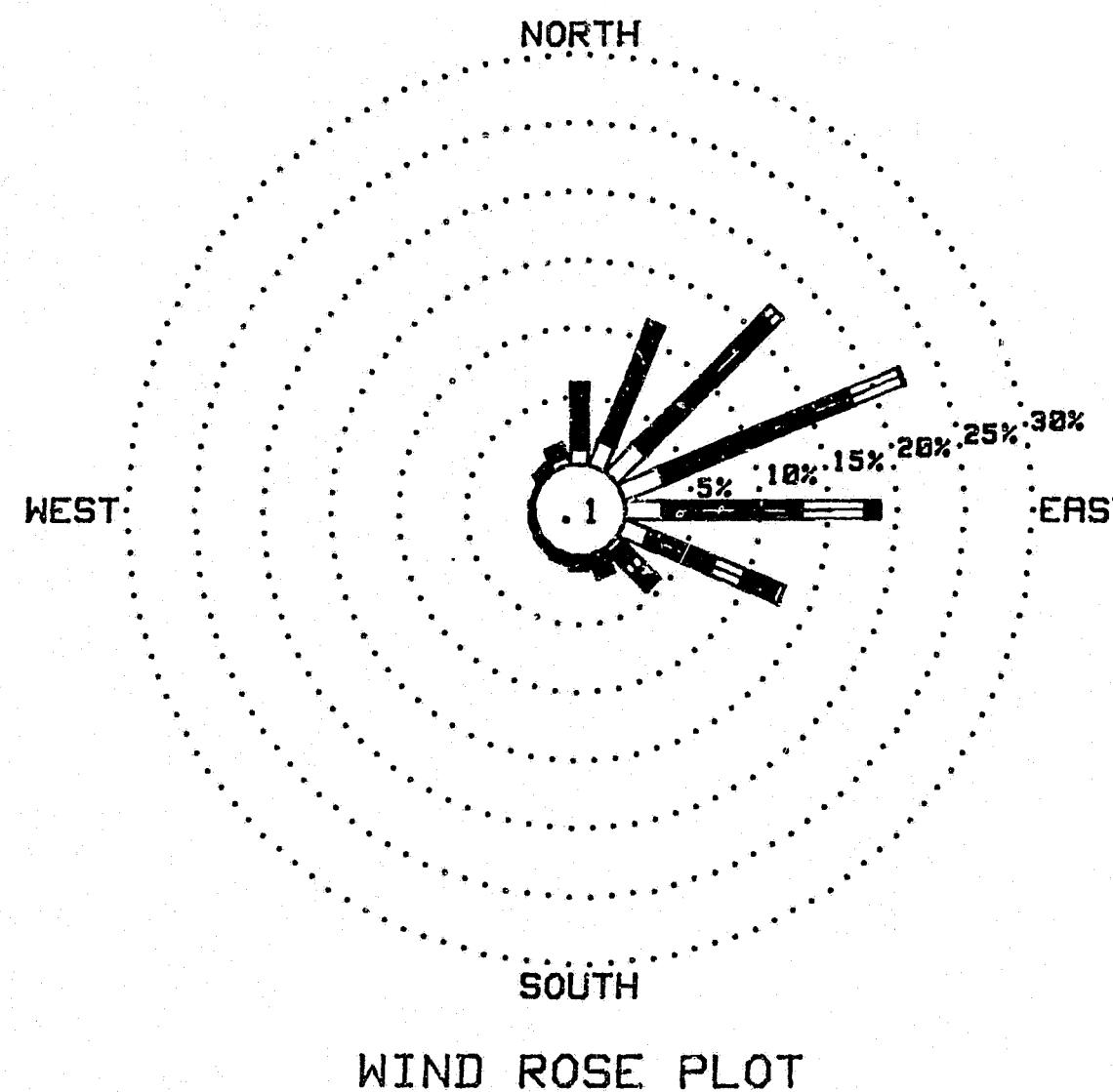
DIRECTION	VELOCITY (M/S)								TOTAL
	0.2 TO 1.0	1.0 TO 3.0	3.0 TO 6.0	6.0 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	20.0 OR GREATER		
	1.0	3.0	6.0	10.0	15.0	20.0			
N	1.11	4.64	.24	0.00	0.00	0.00	0.00	0.00	5.99
NNE	1.92	9.95	.40	0.00	0.00	0.00	0.00	0.00	11.37
NE	2.93	13.18	1.01	0.00	0.00	0.00	0.00	0.00	17.12
ENE	3.19	14.96	4.00	.10	0.00	0.00	0.00	0.00	22.26
E	2.79	10.19	4.64	1.11	0.00	0.00	0.00	0.00	18.73
ESE	2.02	5.21	2.42	2.56	.54	0.00	0.00	0.00	12.74
SE	.54	1.38	.87	1.24	.34	0.00	0.00	0.00	4.32
SSE	.30	.74	.27	.40	.07	0.00	0.00	0.00	1.78
S	.34	.34	.24	.10	0.00	0.00	0.00	0.00	1.01
SSW	.10	.27	.27	.03	0.00	0.00	0.00	0.00	.67
SW	.07	.17	.20	.03	0.00	0.00	0.00	0.00	.47
WSW	.03	.13	.10	.10	0.00	0.00	0.00	0.00	.37
W	.07	.17	.10	0.00	0.00	0.00	0.00	0.00	.34
WNW	.07	.17	0.00	0.00	0.00	0.00	0.00	0.00	.24
NW	.37	.44	0.00	0.00	0.00	0.00	0.00	0.00	.81
NNW	.64	.94	.03	0.00	0.00	0.00	0.00	0.00	1.61
CALM	—	—	—	—	—	—	—	—	.13
TOTAL	16.48	61.97	14.79	5.68	.94	0.00	0.00	0.00	100.00

NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
2974 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
December, 1981



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
December, 1981



No precipitation data for January

(See INTERPRETING DATA).

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING January, 1982

DAY 01

DAY 02

DAY 03

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST
DEG C	DEG C	%	M/S	DEG C	DEG C	%	DEG C	DIR.	SPD.	DIR.	GUST	RAD
			MW									MW

0300 -17.9	*****	**	063	1.3	062	3.8	0 0300 -19.0	*****	**	044	1.1	056	3.8	0 0300 -17.7	*****	**	082	1.3	104	3.8	1
0600 -17.7	*****	**	072	1.3	053	3.8	0 0600 -18.2	*****	**	041	.9	358	3.2	0 0600 -16.3	*****	**	069	1.4	046	3.8	0
0900 -18.5	*****	**	068	1.4	043	3.2	1 0900 -17.6	*****	**	059	.7	094	3.8	1 0900 -16.0	*****	**	053	1.3	002	3.2	1
1200 -18.5	*****	**	069	1.3	040	3.8	2 1200 -16.4	*****	**	086	.8	311	3.2	3 1200 -15.8	*****	**	061	1.3	045	3.8	2
1500 -18.6	*****	**	065	1.3	021	3.8	0 1500 -17.5	*****	**	121	1.4	124	3.8	0 1500 -15.5	*****	**	070	1.1	070	1.9	0
1800 -19.1	*****	**	043	1.2	338	3.8	0 1800 -17.7	*****	**	092	.9	117	3.2	1 1800 -15.1	*****	**	065	1.4	048	3.2	0
2100 -19.1	*****	**	038	1.0	036	3.2	0 2100 -17.0	*****	**	099	1.2	090	3.2	1 2100 -15.4	*****	**	085	1.5	062	4.4	0
2400 -18.8	*****	**	052	.9	023	2.5	0 2400 -16.4	*****	**	100	.8	117	2.5	1 2400 -14.6	*****	**	060	1.4	064	3.8	0

DAY 04

DAY 05

DAY 06

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST
DEG C	DEG C	%	M/S	DEG C	DEG C	%	DEG C	DIR.	SPD.	DIR.	GUST	RAD
			MW									MW

0300 -13.7	*****	**	047	1.2	032	4.4	0 0300 -24.3	*****	**	012	.1	174	3.2	0 0300 -32.2	*****	**	040	2.5	069	7.0	0
0600 -14.1	*****	**	058	2.1	024	5.7	0 0600 -26.2	*****	**	091	.9	099	5.7	0 0600 -31.8	*****	**	014	2.2	030	6.3	0
0900 -14.8	*****	**	084	.9	081	3.2	1 0900 -28.7	*****	**	068	1.5	088	5.7	1 0900 -30.3	*****	**	058	2.1	037	6.3	1
1200 -14.5	*****	**	061	.8	129	3.2	2 1200 -29.3	*****	**	096	1.7	122	6.3	2 1200 -29.2	*****	**	077	1.3	085	5.7	2
1500 -15.1	*****	**	088	1.8	095	5.1	1 1500 -28.6	*****	**	097	3.5	064	9.5	0 1500 -22.3	*****	**	069	1.6	087	6.3	0
1800 -16.8	*****	**	036	.7	026	3.2	1 1800 -29.6	*****	**	102	3.8	090	10.8	0 1800 -24.8	*****	**	096	1.8	128	7.0	0
2100 -17.9	*****	**	074	.6	112	3.2	1 2100 -31.2	*****	**	103	3.5	167	9.5	0 2100 -20.2	*****	**	078	1.9	115	6.3	0
2400 -21.9	*****	**	340	.7	011	5.1	1 2400 -30.2	*****	**	073	2.2	103	7.0	0 2400 -21.7	*****	**	085	3.4	091	8.9	0

DAY 07

DAY 08

DAY 09

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST
DEG C	DEG C	%	M/S	DEG C	DEG C	%	DEG C	DIR.	SPD.	DIR.	GUST	RAD
			MW									MW

0300 -19.9	*****	**	075	2.3	084	7.6	0 0300 -17.7	*****	**	063	1.7	052	6.3	0 0300 -19.6	*****	**	044	1.4	043	5.7	0
0600 -20.4	*****	**	080	2.2	104	5.7	0 0600 -13.5	*****	**	066	4.7	064	16.5	0 0600 -19.7	*****	**	036	1.0	080	2.5	0
0900 -20.8	*****	**	096	2.5	104	6.3	0 0900 -13.7	*****	**	073	7.8	077	20.3	1 0900 -20.2	*****	**	055	.7	136	3.2	1
1200 -20.2	*****	**	103	2.3	106	5.1	2 1200 -13.7	*****	**	074	8.0	080	19.0	2 1200 -15.9	*****	**	055	1.1	038	4.4	2
1500 -17.9	*****	**	096	2.3	106	7.0	0 1500 -12.8	*****	**	094	4.9	083	11.4	0 1500 -15.7	*****	**	053	.8	127	3.8	0
1800 -21.1	*****	**	065	1.4	072	4.4	0 1800 -13.2	*****	**	082	7.1	094	14.6	0 1800 -13.6	*****	**	078	.9	059	3.8	0
2100 -20.3	*****	**	095	1.2	126	5.1	0 2100 -12.3	*****	**	069	8.7	088	13.3	0 2100 -14.1	*****	**	106	1.0	043	3.8	1
2400 -18.0	*****	**	039	1.9	036	5.1	0 2400 -21.5	*****	**	038	4.2	086	12.1	0 2400 -7.0	*****	**	079	.5	080	1.9	2

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING January, 1982

DAY 10

DAY 11

DAY 12

HOUR	DEW	WIND	WIND GUST MAX.	POINT	NDNG TEMP.	RH	DIR.	SPD.	DIR.	GUST	RAD	POINT	NDNG TEMP.	RH	DIR.	SPD.	DIR.	GUST	RAD	POINT	NDNG TEMP.	RH	DIR.	SPD.	DIR.	GUST	RAD					
	DEG C	DEG C	%	DEG	M/S	DEG	M/S	MW	DEG C	DEG C	%	DEG	M/S	DEG	M/S	MW	DEG C	DEG C	%	DEG	M/S	DEG	M/S	MW	DEG C	DEG C	%	DEG	M/S	DEG	M/S	MW
0300	-5.8	*****	**	065	.5	064	1.9	1	0300	-7.8	*****	**	064	1.2	061	3.2	0	0300	-6.8	*****	**	037	.8	049	2.5	1						
0600	-6.8	*****	**	041	.7	015	2.5	1	0600	-7.4	*****	**	085	1.4	083	3.2	0	0600	-7.2	*****	**	110	.3	139	1.9	1						
0900	-7.4	*****	**	085	1.1	098	3.2	1	0900	-8.6	*****	**	044	1.1	067	3.2	0	0900	-6.8	*****	**	074	.8	016	2.5	2						
1200	-6.4	*****	**	089	1.2	106	3.2	5	1200	-7.5	*****	**	054	.5	128	2.5	3	1200	-7.2	*****	**	077	1.2	046	3.2	2						
1500	-7.7	*****	**	043	.9	083	2.5	1	1500	-8.8	*****	**	067	1.1	063	2.5	1	1500	-8.7	*****	**	073	1.4	052	3.8	1						
1800	-8.6	*****	**	084	.8	103	2.5	1	1800	-6.7	*****	**	072	1.6	101	3.8	1	1800	-8.7	*****	**	067	1.3	064	4.4	0						
2100	-9.1	*****	**	063	.9	085	2.5	1	2100	-7.7	*****	**	092	1.4	085	4.4	1	2100	-7.8	*****	**	051	1.7	033	4.4	0						
2400	-8.0	*****	**	066	1.2	027	2.5	0	2400	-6.8	*****	**	082	1.1	065	3.2	1	2400	-10.1	*****	**	076	1.3	038	3.2	0						

DAY 13

DAY 14

DAY 15

HOUR	DEW	WIND	WIND GUST MAX.	POINT	NDNG TEMP.	RH	DIR.	SPD.	DIR.	GUST	RAD	POINT	NDNG TEMP.	RH	DIR.	SPD.	DIR.	GUST	RAD	POINT	NDNG TEMP.	RH	DIR.	SPD.	DIR.	GUST	RAD					
	DEG C	DEG C	%	DEG	M/S	DEG	M/S	MW	DEG C	DEG C	%	DEG	M/S	DEG	M/S	MW	DEG C	DEG C	%	DEG	M/S	DEG	M/S	MW	DEG C	DEG C	%	DEG	M/S	DEG	M/S	MW
0300	-10.5	*****	**	028	1.3	015	3.8	0	0300	-17.7	*****	**	047	1.7	039	5.1	0	0300	-9.2	*****	**	057	1.3	047	3.8	0						
0600	-10.0	*****	**	066	1.4	080	5.7	0	0600	-18.1	*****	**	064	1.6	040	3.8	0	0600	-8.1	*****	**	059	1.5	043	6.3	0						
0900	-12.3	*****	**	098	1.8	082	7.0	1	0900	-14.7	*****	**	068	1.9	043	4.4	1	0900	-6.7	*****	**	078	1.9	104	6.3	1						
1200	-13.3	*****	**	094	3.1	122	8.3	2	1200	-11.8	*****	**	062	1.0	002	3.8	2	1200	-8.3	*****	**	076	1.4	095	3.2	2						
1500	-13.8	*****	**	079	2.9	089	6.3	0	1500	-12.7	*****	**	056	.8	004	3.8	0	1500	-6.7	*****	**	089	2.1	060	4.4	0						
1800	-16.5	*****	**	074	1.7	087	5.7	0	1800	-15.9	*****	**	038	.9	052	3.2	0	1800	-8.6	*****	**	086	2.0	097	5.7	0						
2100	-17.4	*****	**	062	2.2	074	5.7	0	2100	-10.2	*****	**	069	1.4	091	3.8	0	2100	-8.2	*****	**	082	1.6	075	3.8	0						
2400	*****	*****	**	065	1.8	054	3.8	0	2400	-9.9	*****	**	046	1.0	359	4.4	0	2400	-9.9	*****	**	058	1.2	044	3.8	0						

DAY 16

DAY 17

DAY 18

HOUR	DEW	WIND	WIND GUST MAX.	POINT	NDNG TEMP.	RH	DIR.	SPD.	DIR.	GUST	RAD	POINT	NDNG TEMP.	RH	DIR.	SPD.	DIR.	GUST	RAD	POINT	NDNG TEMP.	RH	DIR.	SPD.	DIR.	GUST	RAD					
	DEG C	DEG C	%	DEG	M/S	DEG	M/S	MW	DEG C	DEG C	%	DEG	M/S	DEG	M/S	MW	DEG C	DEG C	%	DEG	M/S	DEG	M/S	MW	DEG C	DEG C	%	DEG	M/S	DEG	M/S	MW
0300	-10.3	*****	**	058	1.1	037	3.2	0	0300	-16.7	*****	**	013	2.2	016	4.4	0	0300	-16.3	*****	**	057	1.6	023	4.4	0						
0600	-8.6	*****	**	076	1.5	084	3.8	0	0600	-19.4	*****	**	012	2.7	013	5.1	0	0600	-17.5	*****	**	103	1.0	090	3.8	0						
0900	-10.5	*****	**	080	1.6	115	4.4	1	0900	-18.2	*****	**	036	2.3	020	5.7	1	0900	-17.0	*****	**	059	1.0	358	4.4	1						
1200	-8.5	*****	**	060	1.6	101	4.4	2	1200	-18.1	*****	**	028	1.8	021	5.7	7	1200	-16.0	*****	**	097	1.3	077	3.8	5						
1500	-9.6	*****	**	063	1.2	031	3.8	0	1500	-18.8	*****	**	040	1.9	014	4.4	1	1500	-17.9	*****	**	127	.7	194	3.8	1						
1800	-11.0	*****	**	055	1.2	085	3.2	0	1800	-18.3	*****	**	047	1.8	049	4.4	0	1800	-19.1	*****	**	086	1.4	084	5.7	0						
2100	-14.0	*****	**	052	1.5	004	4.4	0	2100	-18.8	*****	**	066	1.2	071	3.8	0	2100	-17.8	*****	**	300	.7	280	7.0	0						
2400	-15.1	*****	**	028	1.4	023	3.8	0	2400	-18.1	*****	**	079	2.0	048	5.1	0	2400	-18.0	*****	**	134	2.0</td									

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING January, 1982

DAY 19

DAY 20

DAY 21

HOUR	DEW	WIND	WIND GUST MAX.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG C	M/S	DEG C	M/S	MW	DEG C	DEG C	%	DEG C	M/S	DEG C	M/S	MW	DEG C	DEG C	%	DEG C	M/S	DEG C	M/S	MW		

0300	-18.3	*****	**	071	1.3	054	5.1	0	0300	-15.3	*****	**	072	1.8	054	4.4	0	0300	-17.4	*****	**	039	1.2	022	3.8	0
0600	-19.6	*****	**	073	1.2	078	3.2	0	0600	-14.7	*****	**	082	1.8	095	3.8	0	0600	-16.9	*****	**	076	1.6	114	3.8	0
0900	-18.7	*****	**	104	2.0	118	4.4	1	0900	-12.9	*****	**	064	1.2	059	4.4	1	0900	-16.2	*****	**	061	1.3	057	4.4	1
1200	-18.5	*****	**	073	2.2	070	6.3	2	1200	-14.4	*****	**	057	1.3	045	3.2	3	1200	-16.7	*****	**	082	1.4	046	4.4	3
1500	-18.2	*****	**	083	1.8	092	6.3	1	1500	-13.4	*****	**	062	.9	356	2.5	0	1500	-17.4	*****	**	025	1.2	014	3.2	1
1800	-16.2	*****	**	060	2.3	052	6.3	0	1800	-14.2	*****	**	047	1.1	007	3.2	0	1800	-16.9	*****	**	080	1.8	080	5.1	0
2100	-15.7	*****	**	039	2.2	041	4.4	0	2100	-15.0	*****	**	069	1.1	093	2.5	0	2100	-20.0	*****	**	047	1.8	087	5.7	0
2400	-15.1	*****	**	067	1.5	074	3.2	0	2400	-15.8	*****	**	043	1.3	019	4.4	0	2400	-21.4	*****	**	355	1.4	035	4.4	0

DAY 22

DAY 23

DAY 24

HOUR	DEW	WIND	WIND GUST MAX.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG C	M/S	DEG C	M/S	MW	DEG C	DEG C	%	DEG C	M/S	DEG C	M/S	MW	DEG C	DEG C	%	DEG C	M/S	DEG C	M/S	MW		

0300	-20.8	*****	**	016	1.9	028	5.1	0	0300	-20.8	*****	**	060	2.2	082	7.6	0	0300	-20.4	*****	**	074	1.0	354	3.2	0
0600	-20.2	*****	**	038	1.3	010	4.4	0	0600	-15.0	*****	**	031	1.5	064	6.3	0	0600	-19.0	*****	**	075	1.0	045	3.2	0
0900	-21.2	*****	**	040	.8	061	2.5	1	0900	-15.0	*****	**	033	1.8	042	6.3	1	0900	-18.5	*****	**	065	1.0	052	2.5	2
1200	-19.7	*****	**	050	1.0	057	4.4	3	1200	-22.6	*****	**	000	1.6	020	5.1	3	1200	-18.1	*****	**	068	.8	072	1.9	3
1500	-20.2	*****	**	061	1.3	039	6.3	1	1500	-21.9	*****	**	022	.9	118	3.8	1	1500	-18.7	*****	**	065	.8	103	1.9	0
1800	-15.4	*****	**	005	1.8	012	5.1	0	1800	-22.3	*****	**	075	.8	011	3.8	0	1800	-19.6	*****	**	066	1.0	059	2.5	0
2100	-14.0	*****	**	011	1.6	025	5.7	0	2100	-21.9	*****	**	032	1.2	047	3.8	0	2100	-18.3	*****	**	052	.8	113	2.5	0
2400	-14.3	*****	**	062	2.5	085	8.9	0	2400	-21.4	*****	**	052	.8	069	2.5	0	2400	-17.7	*****	**	075	1.2	055	3.2	0

DAY 25

DAY 26

DAY 27

HOUR	DEW	WIND	WIND GUST MAX.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG C	M/S	DEG C	M/S	MW	DEG C	DEG C	%	DEG C	M/S	DEG C	M/S	MW	DEG C	DEG C	%	DEG C	M/S	DEG C	M/S	MW		

0300	-17.5	*****	**	088	1.4	080	2.5	0	0300	-19.4	*****	**	054	1.1	038	3.2	0	0300	-19.4	*****	**	066	1.2	058	3.2	0
0600	-17.8	*****	**	077	1.4	100	2.5	0	0600	-18.9	*****	**	054	1.1	025	3.2	0	0600	-20.0	*****	**	075	1.2	023	3.2	0
0900	-18.0	*****	**	066	1.2	102	3.2	2	0900	-19.7	*****	**	056	1.3	065	3.2	2	0900	-18.9	*****	**	073	1.5	063	3.8	2
1200	-17.2	*****	**	068	1.1	038	3.2	4	1200	-19.1	*****	**	056	1.0	023	3.2	8	1200	-17.5	*****	**	067	1.2	040	3.8	7
1500	-18.2	*****	**	064	.8	059	2.5	0	1500	-19.2	*****	**	048	1.0	019	2.5	0	1500	-16.5	*****	**	070	1.2	064	3.8	0
1800	-18.7	*****	**	048	1.1	054	3.2	0	1800	-20.0	*****	**	042	1.2	023	3.2	0	1800	-14.8	*****	**	045	1.5	053	3.8	0
2100	-19.0	*****	**	055	1.0	037	2.5	0	2100	-19.9	*****	**	064	1.0	032	2.5	0	2100	-13.6	*****	**	038	1.6	039	3.8	0
2400	-18.6	*****	**	059	1.2	051	3.2	0	2400	-20.5	*****	**	064	1.0	082	2.5	0	2400	-12.7	*****	**	040	1.3	013	3.2	1

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING January, 1982

DAY 28

DAY 29

DAY 30

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.				
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD
DEG C	DEG C	%	DEG. M/S	MW	DEG C	DEG C	%	DEG. M/S	MW	DEG C	DEG C	%	DEG. M/S	MW	

0300	-10.6	*****	**	015	1.5	084	5.1	1 0300	-8.7	*****	**	057	.8	049	2.5	1 0300	-9.9	*****	**	059	1.8	056	5.7	1
0600	-9.1	*****	**	031	1.3	015	3.2	0 0600	-8.1	*****	**	066	.7	118	1.9	1 0600	-9.2	*****	**	072	1.4	047	4.4	0
0900	-7.3	*****	**	035	1.7	041	3.8	3 0900	-9.2	*****	**	056	.8	076	2.5	4 0900	-9.4	*****	**	042	3.9	038	7.6	3
1200	-6.9	*****	**	078	2.4	107	7.0	9 1200	-9.1	*****	**	069	.5	049	2.5	7 1200	-8.8	*****	**	062	1.5	044	5.7	9
1500	-7.5	*****	**	026	.7	326	3.2	1 1500	-8.8	*****	**	080	.7	020	3.2	1 1500	-9.8	*****	**	059	1.2	046	4.4	1
1800	-7.1	*****	**	053	1.3	082	3.8	1 1800	-8.8	*****	**	079	.9	112	2.5	0 1800	-10.5	*****	**	057	1.7	041	7.0	0
2100	-6.7	*****	**	071	1.2	062	4.4	0 2100	-9.7	*****	**	053	.8	034	3.8	1 2100	-9.7	*****	**	044	2.2	036	8.3	0
2400	-8.3	*****	**	073	1.1	049	3.2	0 2400	-9.8	*****	**	058	1.0	027	3.2	1 2400	-9.4	*****	**	057	2.0	060	5.1	0

DAY 31

HOUR	DEW	WIND	WIND GUST MAX.	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD
DEG C	DEG C	%	DEG. M/S	MW					

0300	-9.6	*****	**	064	3.5	056	6.3	0
0600	-10.1	*****	**	049	1.8	036	4.4	0
0900	-10.6	*****	**	071	1.3	036	3.2	2
1200	-9.5	*****	**	061	1.2	041	3.8	13
1500	-11.0	*****	**	080	1.2	047	3.8	1
1800	-10.2	*****	**	072	1.7	085	3.8	0
2100	-10.4	*****	**	068	1.9	052	4.4	0
2400	-9.3	*****	**	068	1.8	058	5.7	0

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING January, 1982

DAY	MAX.			RES.			AVG.			MAX.			DAY'S		
	TEMP. DEG C	MIN. DEG C	MEAN DEG C	WIND DIR. DEG	WIND SPD. M/S	WIND DIR. DEG	GUST SPD. M/S	GUST DIR. DEG	P'VAL RH %	MEAN DEG C	MEAN DEG C	SOLAR PRECIP WH/SQM	DP MM	ENERGY DAY WH/SQM	
1	-17.1	-20.7	-18.9	060	1.2	1.4	062	3.8	ENE	**	*****	***	78	1	
2	-16.2	-19.0	-17.6	083	.9	1.2	056	3.8	ESE	**	*****	***	203	2	
3	-14.6	-17.7	-16.2	068	1.3	1.5	062	4.4	ENE	**	*****	***	128	3	
4	-13.4	-21.9	-17.7	061	1.0	1.6	024	5.7	NNE	**	*****	***	245	4	
5	-22.1	-31.2	-26.7	093	2.1	2.5	090	10.8	ESE	**	*****	***	98	5	
6	-18.9	-33.1	-26.0	064	1.9	2.4	091	8.9	ENE	**	*****	***	80	6	
7	-17.2	-22.5	-19.9	083	1.9	2.2	084	7.6	ESE	**	*****	***	98	7	
8	-11.2	-21.5	-16.4	076	5.7	6.3	077	20.3	E	**	*****	***	95	8	
9	-6.9	-21.7	-14.3	061	.8	1.2	043	5.7	N	**	*****	***	148	9	
10	-5.7	-11.6	-8.7	069	.9	1.1	098	3.2	ENE	**	*****	***	385	10	
11	-6.2	-9.0	-7.6	072	1.1	1.3	085	4.4	ENE	**	*****	***	218	11	
12	-5.8	-10.1	-8.0	067	1.1	1.3	064	4.4	NE	**	*****	***	288	12	
13	-9.6	-17.4	-13.5	075	1.9	2.3	122	8.3	ENE	**	*****	***	98	13	
14	-5.8	-18.3	-12.1	058	1.3	1.6	039	5.1	NE	**	*****	***	98	14	
15	-4.6	-10.8	-7.7	075	1.6	1.8	043	6.3	E	**	*****	***	95	15	
16	-6.7	-15.1	-10.9	059	1.3	1.6	115	4.4	ENE	**	*****	***	103	16	
17	-15.5	-20.1	-17.8	037	1.8	2.2	020	5.7	N	**	*****	***	213	17	
18	-14.8	-19.3	-17.1	094	.9	1.8	280	7.0	SE	**	*****	***	223	18	
19	-15.1	-19.3	-17.2	071	1.7	1.9	070	6.3	ENE	**	*****	***	118	19	
20	-11.5	-17.3	-14.4	064	1.3	1.5	054	4.4	E	**	*****	***	145	20	
21	-15.4	-21.4	-18.4	054	1.3	1.7	087	5.7	E	**	*****	***	148	21	
22	-8.6	-24.3	-16.5	035	1.4	1.8	085	8.9	N	**	*****	***	138	22	
23	-9.8	-22.7	-16.3	037	1.3	1.6	082	7.6	ENE	**	*****	***	148	23	
24	-17.7	-21.5	-19.6	068	.9	1.1	354	3.2	ENE	**	*****	***	175	24	
25	-17.0	-19.7	-18.4	067	1.1	1.2	102	3.2	NE	**	*****	***	208	25	
26	-17.6	-20.8	-19.2	054	1.1	1.2	038	3.2	NNE	**	*****	***	238	26	
27	-12.1	-20.8	-16.5	059	1.3	1.5	063	3.8	ENE	**	*****	***	265	27	
28	-5.6	-12.3	-9.0	050	1.3	1.7	107	7.0	NNE	**	*****	***	488	28	
29	-7.8	-9.9	-8.9	064	.8	1.0	034	3.8	ENE	**	*****	***	513	29	
30	-8.1	-10.6	-9.4	054	1.9	2.0	036	8.3	NE	**	*****	***	395	30	
31	-8.6	-11.8	-10.2	066	1.8	1.9	056	6.3	ENE	**	*****	***	495	31	
MONTH	-4.6	-33.1	-15.2	066	1.4	1.8	077	20.3	ENE	**	*****	***	6313		

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 18.4

GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 19.7

GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 19.0

GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 19.0

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

**** SEE NOTES AT THE BACK OF THIS REPORT ****

R & M CONSULTANTS, INC.

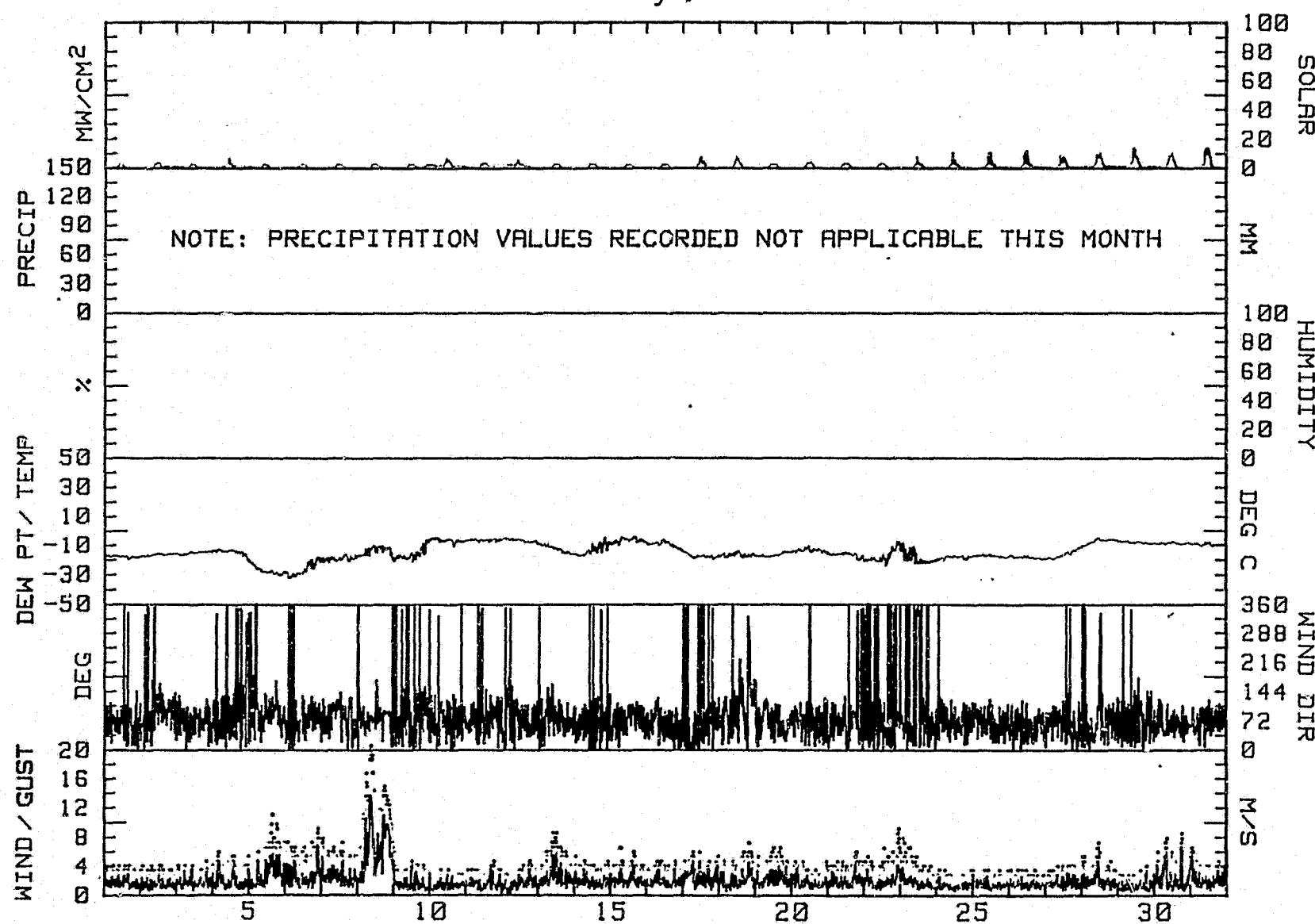
SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING January, 1982

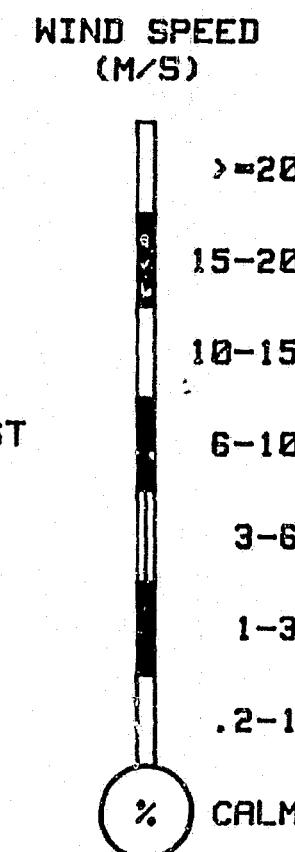
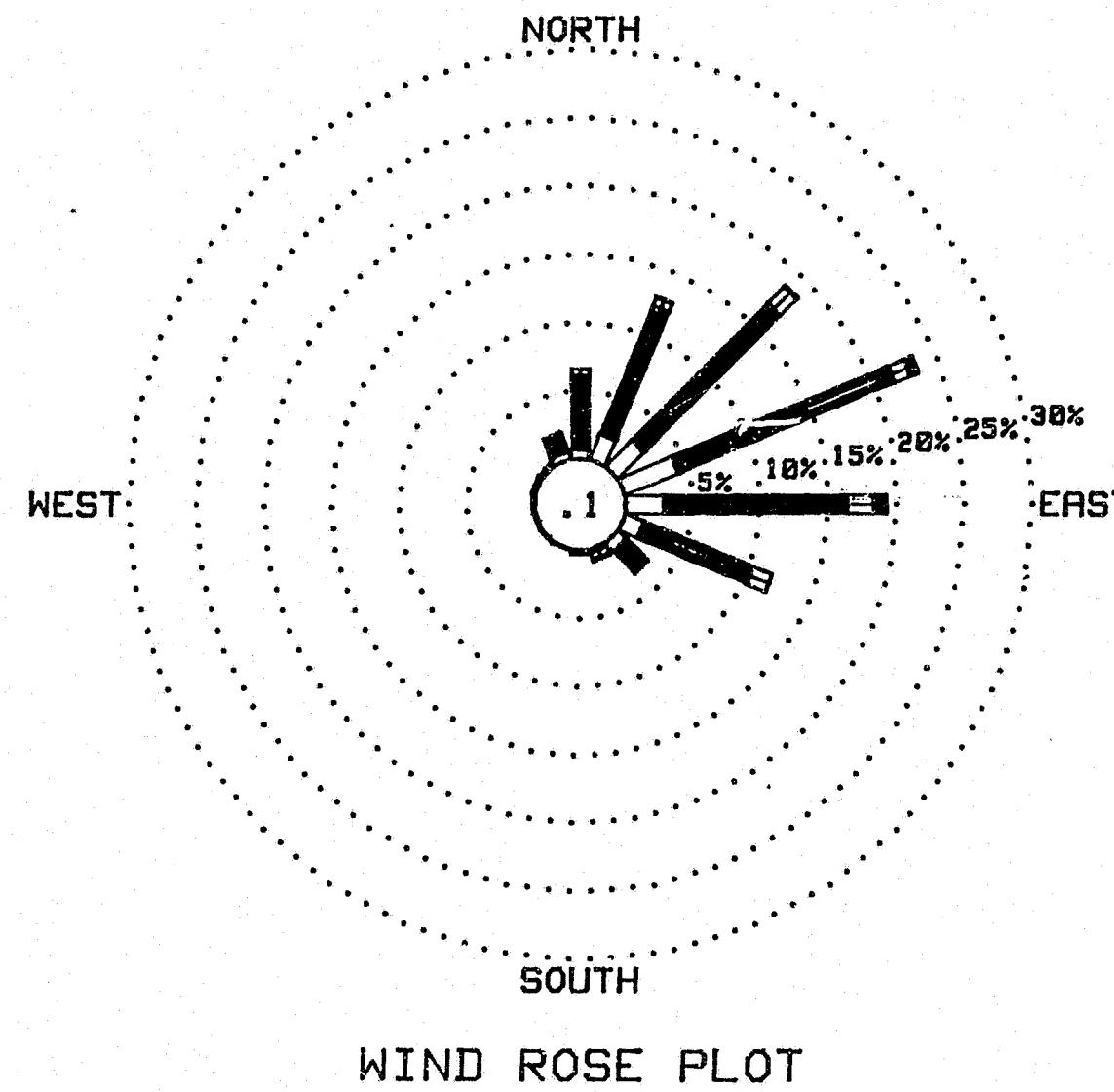
DIRECTION	VELOCITY (M/S)								TOTAL
	0.2 TO 1.0	1.0 TO 3.0	3.0 TO 6.0	6.0 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	20.0 OR GREATER		
	1.0	3.0	6.0	10.0	15.0	20.0			
N	.71	5.38	.50	0.00	0.00	0.00	0.00	0.00	6.59
NNE	2.02	10.13	.67	.03	0.00	0.00	0.00	0.00	12.85
NE	2.69	14.13	1.75	.10	0.00	0.00	0.00	0.00	18.67
ENE	4.27	17.19	1.24	.40	.24	0.00	0.00	0.00	23.35
E	2.86	13.49	1.95	.77	.20	0.00	0.00	0.00	19.28
ESE	1.55	8.65	1.55	0.00	0.00	0.00	0.00	0.00	11.74
SE	.82	1.99	.27	0.00	0.00	0.00	0.00	0.00	3.13
SSE	.24	.54	.13	0.00	0.00	0.00	0.00	0.00	.91
S	.10	.17	0.00	0.00	0.00	0.00	0.00	0.00	.27
SSW	0.00	.03	0.00	0.00	0.00	0.00	0.00	0.00	.03
SW	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	.07
WSW	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	.07
W	0.00	.13	.03	0.00	0.00	0.00	0.00	0.00	.17
WNW	.13	.10	.07	0.00	0.00	0.00	0.00	0.00	.30
NW	.07	.27	0.00	0.00	0.00	0.00	0.00	0.00	.34
NNW	.57	1.45	.07	0.00	0.00	0.00	0.00	0.00	2.09
CALM	—	—	—	—	—	—	—	—	.13
TOTAL	16.08	73.79	8.24	1.31	.44	0.00	0.00	100.00	

NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
2972 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
January, 1982



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
January, 1982



No precipitation data for February
(See INTERPRETING DATA).

R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING February, 1982

DAY 01

DAY 02

DAY 03

HOUR	DEW	WIND	WIND GUST MAX.	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD		
	DEG C	DEG C	% DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	% DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	% DEG.	M/S	DEG.	M/S	MW

0300	-8.2	*****	**	066	2.0	038	5.1	0	0300	-2.3	*****	**	091	1.0	090	4.4	1	0300	1.8	*****	**	079	1.4	106	5.7	2
0600	-7.5	*****	**	079	1.3	088	3.8	0	0600	-2.0	*****	**	076	1.3	030	5.7	1	0600	1.8	*****	**	061	1.7	021	5.1	1
0900	-8.0	*****	**	047	1.4	050	3.2	5	0900	1.2	*****	**	068	1.8	098	4.4	4	0900	3.0	*****	**	049	1.4	032	3.8	5
1200	-5.8	*****	**	040	1.5	046	3.8	8	1200	1.3	*****	**	059	1.6	034	4.4	8	1200	2.2	*****	**	019	1.0	019	3.8	8
1500	-5.3	*****	**	043	1.1	025	2.5	1	1500	1.8	*****	**	055	1.3	060	3.2	1	1500	2.3	*****	**	008	1.2	023	3.8	2
1800	-4.9	*****	**	052	1.4	085	5.1	0	1800	4.2	*****	**	086	1.5	034	3.2	1	1800	3.2	*****	**	037	1.2	036	3.8	1
2100	-5.4	*****	**	078	.9	132	3.2	1	2100	1.4	*****	**	111	.7	120	3.8	1	2100	4.9	*****	**	088	1.9	091	5.1	1
2400	-2.1	*****	**	063	1.0	035	5.1	1	2400	2.1	*****	**	064	1.5	086	6.3	1	2400	.4	*****	**	354	1.3	338	3.8	1

DAY 04

DAY 05

DAY 06

HOUR	DEW	WIND	WIND GUST MAX.	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD		
	DEG C	DEG C	% DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	% DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	% DEG.	M/S	DEG.	M/S	MW

0300	1.4	*****	**	052	.4	357	1.9	1	0300	2.9	*****	**	072	1.4	049	3.8	1	0300	1.6	*****	**	058	1.2	023	2.5	1
0600	.9	*****	**	095	.5	122	1.9	2	0600	3.5	*****	**	062	1.7	048	4.4	1	0600	.3	*****	**	080	1.1	102	2.5	1
0900	-.7	*****	**	031	.3	113	1.9	3	0900	2.8	*****	**	065	1.3	024	3.2	4	0900	0.0	*****	**	060	1.6	023	3.8	3
1200	.6	*****	**	027	.5	014	2.5	4	1200	4.7	*****	**	071	1.4	043	3.8	9	1200	1.2	*****	**	076	1.7	050	5.1	16
1500	-1.0	*****	**	031	.6	002	2.5	2	1500	2.9	*****	**	058	1.4	032	5.7	2	1500	1.3	*****	**	060	1.5	067	4.4	3
1800	-.8	*****	**	***	***	***	***	1	1800	2.3	*****	**	058	1.3	048	3.8	1	1800	1.8	*****	**	082	1.2	059	3.2	1
2100	1.3	*****	**	***	***	***	***	1	2100	1.2	*****	**	047	1.7	043	5.1	1	2100	3.3	*****	**	076	1.5	047	3.8	1
2400	2.1	*****	**	080	2.1	052	5.1	1	2400	1.4	*****	**	071	1.5	088	4.4	1	2400	1.2	*****	**	068	.8	119	3.8	1

DAY 07

DAY 08

DAY 09

HOUR	DEW	WIND	WIND GUST MAX.	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD		
	DEG C	DEG C	% DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	% DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	% DEG.	M/S	DEG.	M/S	MW

0300	.3	*****	**	075	1.5	043	3.8	1	0300	-.1	*****	**	068	1.3	108	3.2	1	0300	-6.2	*****	**	324	7.4	336	26.0	1
0600	.1	*****	**	092	1.6	054	6.3	1	0600	-.3	*****	**	061	1.1	039	3.2	1	0600	-7.7	*****	**	346	1.8	354	25.4	1
0900	.6	*****	**	051	2.2	027	6.3	2	0900	-.5	*****	**	071	.9	066	3.2	4	0900	-6.8	*****	**	349	10.3	348	22.9	4
1200	2.3	*****	**	047	1.8	051	4.4	18	1200	-1.1	*****	**	035	1.1	010	5.1	8	1200	-6.7	*****	**	018	5.7	348	22.2	22
1500	.9	*****	**	061	1.3	101	3.8	4	1500	-8.4	*****	**	061	2.1	115	7.6	3	1500	-8.6	*****	**	346	5.8	353	18.4	12
1800	.4	*****	**	064	1.1	040	2.5	1	1800	-6.1	*****	**	016	1.3	327	6.3	1	1800	-8.7	*****	**	343	8.2	355	17.1	2
2100	.5	*****	**	077	1.3	057	3.2	1	2100	-7.2	*****	**	346	1.4	353	3.8	1	2100	-9.9	*****	**	307	5.8	309	15.9	2
2400	-.1	*****	**	068	1.9	055	4.4	1	2400	-8.2	*****	**	351	1.8	015	7.0	1	2400	-12.4	*****	**	258	1.7	328	8.9	2

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING February, 1982

DAY 10

DAY 11

DAY 12

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST
DEG C	%	DEG. M/S	M/S	DEG. M/S	%	DEG. M/S	MW	DEG C	%	DEG. M/S	M/S	MW

0300	-13.5	*****	**	193	1.7	171	8.3	2	0300	-16.5	*****	**	064	1.4	039	8.9	1
0600	-13.8	*****	**	026	4.2	022	12.7	1	0600	-17.0	*****	**	006	2.8	341	14.6	1
0900	-14.7	*****	**	050	1.7	014	10.2	3	0900	-18.3	*****	**	144	1.8	192	10.2	3
1200	-14.2	*****	**	079	3.7	086	12.1	20	1200	-15.1	*****	**	021	.8	356	8.3	20
1500	-13.9	*****	**	255	2.2	197	9.5	8	1500	-12.5	*****	**	076	7.7	092	15.9	9
1800	-14.7	*****	**	012	.7	177	10.8	1	1800	-13.6	*****	**	070	7.3	078	15.2	1
2100	-16.8	*****	**	184	2.1	157	8.9	1	2100	-14.7	*****	**	083	6.9	092	12.1	1
2400	-16.0	*****	**	181	2.2	268	7.6	1	2400	-16.8	*****	**	048	3.3	092	12.1	1

DAY 13

DAY 14

DAY 15

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST
DEG C	%	DEG. M/S	M/S	DEG. M/S	%	DEG. M/S	MW	DEG C	%	DEG. M/S	M/S	MW

0300	-14.3	*****	**	062	2.3	066	6.3	1	0300	-20.9	*****	**	040	1.4	053	5.7	0
0600	-16.3	*****	**	058	1.3	085	5.7	1	0600	-21.1	*****	**	023	1.2	001	3.8	0
0900	-16.3	*****	**	085	1.2	099	2.5	6	0900	-21.1	*****	**	061	1.7	081	8.3	5
1200	-16.1	*****	**	094	.7	136	3.2	19	1200	-24.2	*****	**	112	2.7	074	14.0	14
1500	-15.9	*****	**	124	2.7	056	8.3	10	1500	-27.1	*****	**	243	2.3	268	7.0	5
1800	-19.3	*****	**	100	2.4	137	7.0	0	1800	-28.0	*****	**	314	2.0	299	12.7	0
2100	-17.9	*****	**	110	1.7	080	4.4	0	2100	-29.6	*****	**	046	1.9	081	12.1	0
2400	-19.9	*****	**	063	1.1	061	3.8	0	2400	-30.4	*****	**	014	2.2	015	7.0	0

DAY 16

DAY 17

DAY 18

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST
DEG C	%	DEG. M/S	M/S	DEG. M/S	%	DEG. M/S	MW	DEG C	%	DEG. M/S	M/S	MW

0300	-17.9	*****	**	066	3.6	073	11.4	1	0300	-18.5	*****	**	116	3.8	113	8.3	0
0600	-21.4	*****	**	083	6.0	084	12.7	0	0600	-18.3	*****	**	087	3.8	100	7.0	1
0900	-18.5	*****	**	063	1.8	084	7.6	7	0900	-18.2	*****	**	092	4.0	095	9.5	6
1200	-17.0	*****	**	094	2.3	133	9.5	16	1200	-17.2	*****	**	093	.7	110	8.3	24
1500	-16.7	*****	**	120	4.9	109	11.4	17	1500	-18.5	*****	**	008	1.4	002	2.5	6
1800	-18.7	*****	**	095	4.3	127	11.4	0	1800	-18.9	*****	**	076	2.3	083	5.1	0
2100	-18.4	*****	**	082	3.8	084	7.0	1	2100	-18.3	*****	**	061	2.0	075	4.4	0
2400	-18.4	*****	**	099	5.0	122	13.3	1	2400	-19.1	*****	**	075	3.9	071	8.3	0

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING February, 1982

DAY 19

DAY 20

DAY 21

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.				
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD				
DEG	C	DEG	C	%	DEG	M/S	MW	DEG	C	DEG	C	%	DEG	M/S	MW	DEG	C	DEG	M/S	MW	
0300	-21.7	*****	**	081	1.2	082	3.8	0	0300	-22.3	*****	**	022	1.9	033	4.4	0	0300	-25.3	*****	**
0600	-26.1	*****	**	057	,8	047	3.8	0	0600	-23.1	*****	**	024	1.5	010	3.8	0	0600	-26.4	*****	**
0900	-22.5	*****	**	035	1.2	065	4.4	11	0900	-24.9	*****	**	029	2.0	020	5.1	8	0900	-27.1	*****	**
1200	-24.4	*****	**	026	1.4	001	4.4	21	1200	-24.4	*****	**	030	1.4	005	4.4	25	1200	-25.3	*****	**
1500	-18.1	*****	**	100	1.6	185	5.7	11	1500	-22.8	*****	**	005	2.1	003	4.4	12	1500	-22.7	*****	**
1800	-20.5	*****	**	092	1.9	097	5.7	0	1800	-25.5	*****	**	019	1.2	000	4.4	0	1800	-30.9	*****	**
2100	*****	*****	**	***	***	095	6.3	***	2100	-25.3	*****	**	097	2.4	105	7.0	0	2100	-31.3	*****	**
2400	-21.2	*****	**	072	1.7	098	6.3	0	2400	-24.6	*****	**	107	3.6	101	7.0	0	2400	-30.7	*****	**
																		360	1.6	024	4.4

DAY 22

DAY 23

DAY 24

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.				
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD				
DEG	C	DEG	C	%	DEG	M/S	MW	DEG	C	DEG	C	%	DEG	M/S	MW	DEG	C	DEG	M/S	MW	
0300	-31.2	*****	**	063	1.5	123	7.0	0	0300	-18.7	*****	**	074	2.3	070	7.0	0	0300	-16.3	*****	**
0600	-21.8	*****	**	108	1.9	116	7.0	0	0600	-17.9	*****	**	078	2.0	090	5.1	0	0600	-17.6	*****	**
0900	-18.5	*****	**	120	4.0	125	7.6	12	0900	-17.7	*****	**	076	2.5	077	7.0	13	0900	-15.7	*****	**
1200	-17.2	*****	**	113	2.6	113	7.6	26	1200	-16.6	*****	**	097	2.8	094	7.0	27	1200	-14.9	*****	**
1500	-15.9	*****	**	102	2.7	067	7.0	12	1500	-11.7	*****	**	037	1.6	083	5.7	13	1500	-14.3	*****	**
1800	-18.1	*****	**	107	3.9	112	7.6	0	1800	-18.1	*****	**	142	1.7	142	5.7	0	1800	-16.2	*****	**
2100	-18.7	*****	**	101	2.7	098	6.3	0	2100	-18.0	*****	**	087	2.1	088	7.6	0	2100	-15.7	*****	**
2400	-19.1	*****	**	070	1.6	095	5.1	0	2400	-16.9	*****	**	062	3.1	083	9.5	0	2400	-16.5	*****	**
																	075	2.9	109	7.0	

DAY 25

DAY 26

DAY 27

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.				
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD				
DEG	C	DEG	C	%	DEG	M/S	MW	DEG	C	DEG	C	%	DEG	M/S	MW	DEG	C	DEG	M/S	MW	
0300	-17.6	*****	**	068	2.4	054	5.7	0	0300	-16.5	*****	**	126	2.8	133	5.1	0	0300	-15.1	*****	**
0600	-15.8	*****	**	078	2.6	048	7.0	0	0600	-16.4	*****	**	105	2.4	088	7.0	0	0600	-12.6	*****	**
0900	-14.1	*****	**	076	2.6	040	8.3	15	0900	-16.0	*****	**	116	2.0	114	3.8	15	0900	-12.5	*****	**
1200	-15.9	*****	**	079	2.4	107	8.3	29	1200	-13.5	*****	**	113	1.7	117	4.4	29	1200	-10.4	*****	**
1500	-13.4	*****	**	055	2.2	061	6.3	13	1500	-12.2	*****	**	102	2.5	120	5.7	12	1500	-13.3	*****	**
1800	-16.1	*****	**	078	2.9	117	8.9	0	1800	-15.1	*****	**	033	1.8	084	5.1	0	1800	-14.6	*****	**
2100	-17.6	*****	**	077	2.7	083	9.5	0	2100	-15.6	*****	**	055	1.4	090	3.8	0	2100	-14.8	*****	**
2400	-16.2	*****	**	111	1.4	138	3.2	0	2400	-16.0	*****	**	009	1.2	353	3.2	1	2400	-13.9	*****	**
																	052	1.0	069	3.2	

R & M CONSULTANTS, INC.

GUSSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING February, 1982

DAY 28

HOUR DEW WIND WIND GUST MAX,
NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD
DEG C DEG C % DEG. M/S DEG. M/S MW

0300	-13.0	*****	**	051	1.1	049	2.5	1
0400	-12.2	*****	**	058	1.3	106	3.8	1
0900	-10.8	*****	**	051	1.1	352	3.2	17
1200	-10.0	*****	**	042	.8	030	3.2	31
1500	-5.0	*****	**	070	.4	317	1.9	16
1800	-11.2	*****	**	083	1.0	076	3.2	1
2100	-11.4	*****	**	061	1.5	029	5.1	1
2400	-9.2	*****	**	065	1.4	053	3.8	1

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING February, 1982

DAY	MAX.			RES.			AVG.			MAX.			MAX.			DAY'S	
	TEMP. DEG C	MIN. DEG C	MEAN DEG C	WIND DIR. DEG	WIND SPD. M/S	WIND DIR. DEG	GUST SPD. M/S	GUST DIR. DEG	RH %	P'VAL Z	MEAN DEG C	MEAN MN	PRECIP	SOLAR ENERGY WH/SQH	DAY		
1	-2.1	-9.9	-6.0	058	1.3	1.5	038	5.1	NE	**	*****	***		395	1		
2	4.2	-3.4	.4	073	1.3	1.6	086	4.3	NE	**	*****	***		663	2		
3	5.1	.1	2.6	047	1.2	1.7	106	5.7	NNE	**	*****	***		695	3		
4	2.7	-1.6	.6	054	.5	1.0	052	5.1	NE	**	*****	***		470	4		
5	5.8	.1	3.0	063	1.4	1.6	032	5.7	ENE	**	*****	***		677	5		
6	3.6	-1.1	1.3	070	1.3	1.6	050	5.1	ESE	**	*****	***		855	6		
7	3.0	-1.7	.7	066	1.6	1.9	054	6.3	NE	**	*****	***		923	7		
8	.9	-8.4	-3.8	034	1.1	1.6	115	7.6	ENE	**	*****	***		643	8		
9	-5.0	-12.4	-8.7	340	6.6	7.6	336	26.0	NNW	**	*****	***		1143	9		
10	-11.6	-16.8	-14.2	093	.5	3.5	022	12.7	E	**	*****	***		1113	10		
11	-11.2	-19.2	-15.2	072	3.4	4.9	092	15.9	ENE	**	*****	***		1165	11		
12	-8.9	-17.1	-13.0	068	1.2	1.4	039	8.9	ENE	**	*****	***		1088	12		
13	-14.3	-20.4	-17.4	091	1.5	1.9	056	8.3	E	**	*****	***		785	13		
14	-18.6	-30.9	-24.8	033	.9	2.7	074	14.0	ENE	**	*****	***		705	14		
15	-16.8	-32.7	-24.8	059	1.9	2.8	133	13.3	E	**	*****	***		1093	15		
16	-15.9	-21.4	-18.7	091	3.8	4.2	122	13.3	E	**	*****	***		1133	16		
17	-17.2	-20.1	-18.7	083	2.5	2.9	095	9.5	E	**	*****	***		1025	17		
18	-12.6	-24.2	-18.4	068	2.4	2.7	046	11.4	ENE	**	*****	***		1290	18		
19	-18.0	-29.4	-23.7	070	1.3	1.8	095	6.3	ENE	**	*****	***		1392	19		
20	-21.2	-26.7	-24.0	050	1.5	2.1	105	7.0	NNE	**	*****	***		1358	20		
21	-22.7	-31.7	-27.2	058	2.2	2.9	115	9.5	N	**	*****	***		1403	21		
22	-14.3	-32.0	-23.2	103	2.5	2.8	125	7.6	ESE	**	*****	***		1465	22		
23	-11.7	-19.3	-15.5	080	2.0	2.5	083	9.5	E	**	*****	***		1528	23		
24	-11.9	-17.8	-14.9	087	2.2	2.5	087	7.6	ESE	**	*****	***		1585	24		
25	-11.9	-17.9	-14.9	076	2.3	2.6	083	9.5	ENE	**	*****	***		1645	25		
26	-12.2	-17.5	-14.9	094	1.6	2.2	088	7.0	ESE	**	*****	***		1718	26		
27	-9.3	-16.2	-12.8	033	1.2	1.5	022	5.1	NNE	**	*****	***		1683	27		
28	-4.9	-15.1	-10.0	060	1.1	1.3	029	5.1	ENE	**	*****	***		1978	28		
MONTH	5.8	-32.7	-12.7	063	1.6	2.5	336	26.0	ENE	**	*****	***		31599			

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 24.8

GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 19.7

GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 21.6

GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 23.5

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

**** SEE NOTES AT THE BACK OF THIS REPORT ****

R & M CONSULTANTS, INC.

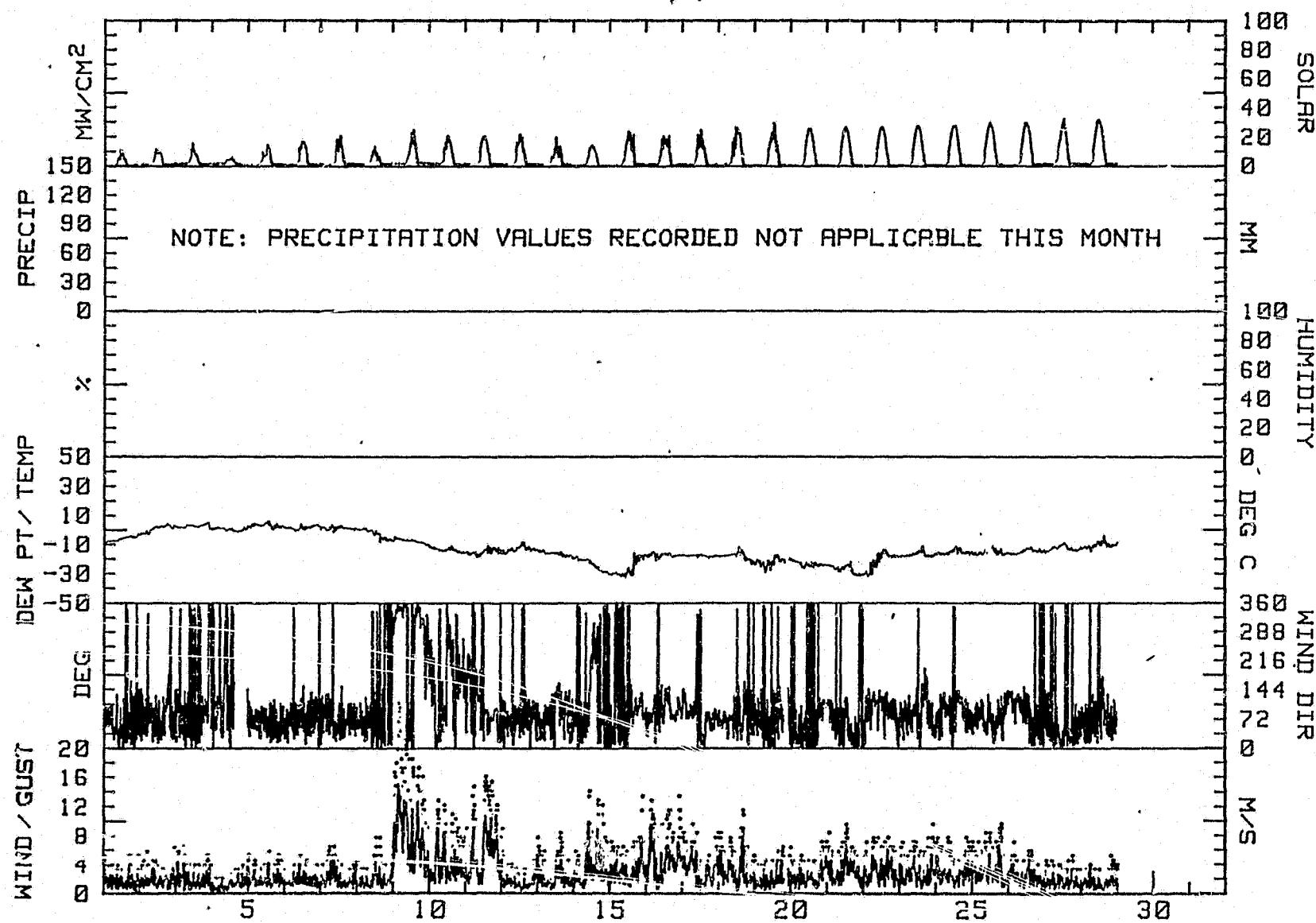
SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING February, 1982

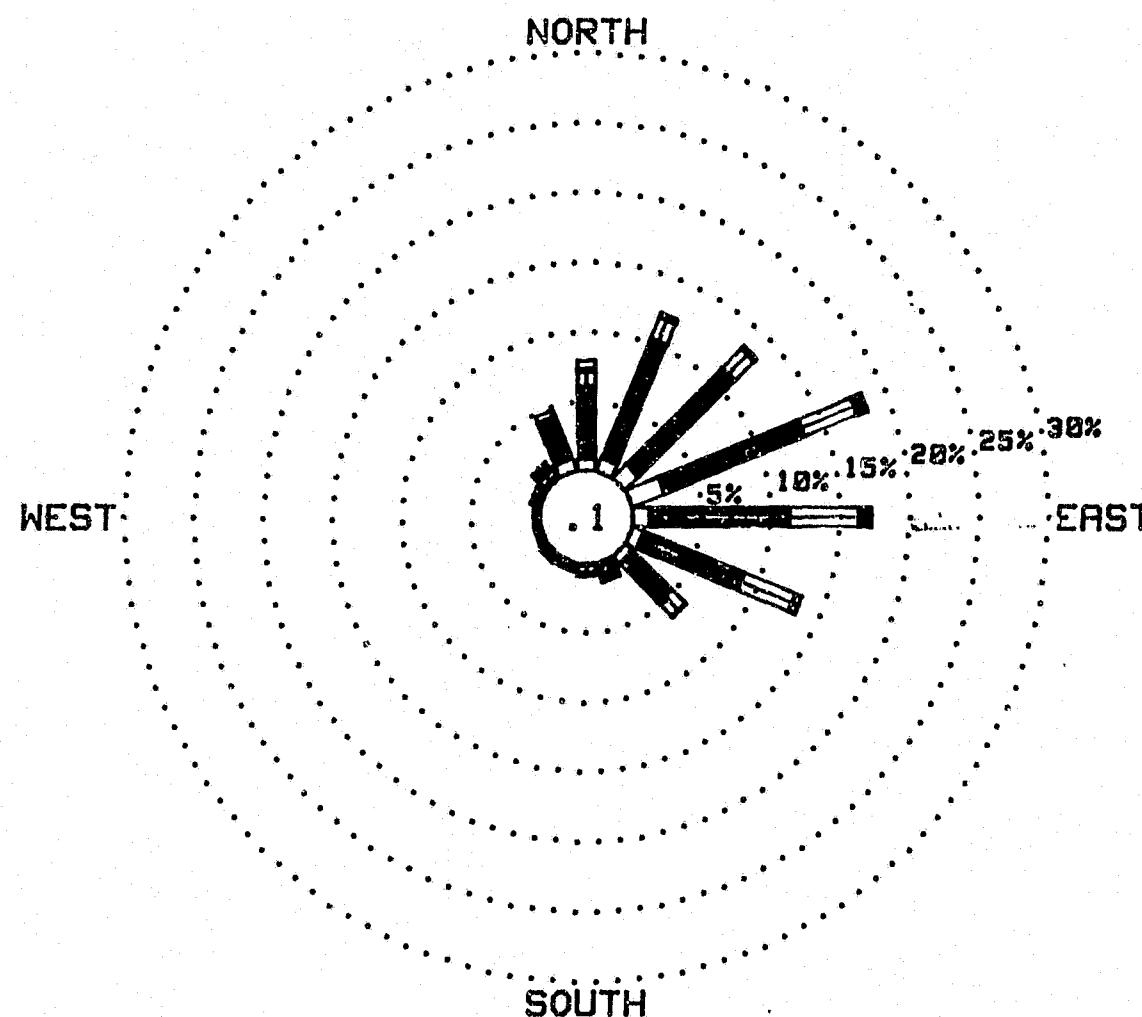
DIRECTION	VELOCITY (M/S)								TOTAL
	0.2 TO 1.0	1.0 TO 3.0	3.0 TO 6.0	6.0 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	20.0 OR GREATER		
	1.0	3.0	6.0	10.0	15.0	20.0			
N	.83	5.23	1.02	.23	.57	0.00	0.00		7.88
NNE	1.02	9.25	1.67	.30	0.00	0.00	0.00		12.24
NE	1.40	9.74	1.97	.23	0.00	0.00	0.00		13.34
ENE	2.54	10.88	4.09	.72	.04	0.00	0.00		18.26
E	1.25	10.04	5.00	.80	.11	0.00	0.00		17.20
ESE	.91	7.81	4.02	.49	0.00	0.00	0.00		13.22
SE	.72	3.94	1.44	.08	0.00	0.00	0.00		6.18
SSE	.27	.83	.34	0.00	0.00	0.00	0.00		1.44
S	.11	.53	.23	0.00	0.00	0.00	0.00		.87
SSW	0.00	.42	.19	0.00	0.00	0.00	0.00		.61
SW	0.00	.38	.27	0.00	0.00	0.00	0.00		.54
WSW	0.00	.19	.27	0.00	0.00	0.00	0.00		.45
W	0.00	.27	.23	0.00	0.00	0.00	0.00		.49
WNW	.15	.27	.27	.11	0.00	0.00	0.00		.80
NW	.30	.49	.34	.42	0.00	0.00	0.00		1.55
NNW	.95	2.27	.34	.68	.49	0.00	0.00		4.74
CALM									.08
TOTAL	10.46	62.52	21.67	4.05	1.21	0.00	0.00		100.00

NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
2639 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

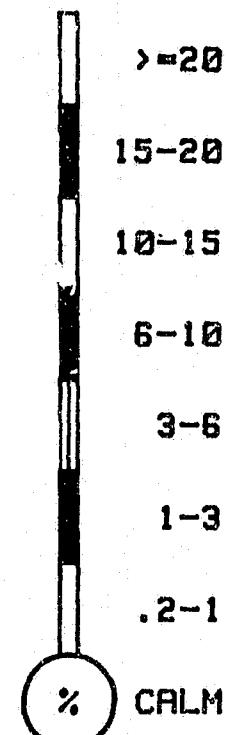
R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
February, 1982



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
February, 1982



WIND SPEED
(M/S)



s8/p12

NO DATA FOR
MARCH 1982
AT
SUSITNA GLACIER CLIMATE STATION

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING April, 1982

PRECIPITATION VALUES ARE IN MILLIMETERS

HOUR ENDING

DATE 0100 0200 0300 0400 0500 0600 0700 0800 0900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 DATE

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING April, 1982

DAY 01

DAY 02

DAY 03

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.				
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD				
DEG C	DEG C	%	DEG. M/S	MW	DEG C	DEG C	%	DEG. M/S	MW	DEG C	DEG C	%	DEG. M/S	MW	
0300	*****	****	**	***	***	***	***	0300	*****	****	**	***	***	***	***
0600	*****	****	**	***	***	***	***	0600	*****	****	**	***	***	***	***
0900	*****	****	**	***	***	***	***	0900	*****	****	**	***	***	***	***
1200	*****	****	**	***	***	***	***	1200	*****	****	**	***	***	***	***
1500	*****	****	**	***	***	***	***	1500	*****	****	**	***	***	***	***
1800	*****	****	**	***	***	***	***	1800	*****	****	**	***	***	***	***
2100	*****	****	**	***	***	***	***	2100	*****	****	**	***	***	***	***
2400	*****	****	**	***	***	***	***	2400	*****	****	**	***	***	***	***

DAY 04

DAY 05

DAY 06

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.				
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD				
DEG C	DEG C	%	DEG. M/S	MW	DEG C	DEG C	%	DEG. M/S	MW	DEG C	DEG C	%	DEG. M/S	MW	
0300	*****	****	**	***	***	***	***	0300	*****	****	**	***	***	***	***
0600	*****	****	**	***	***	***	***	0600	*****	****	**	***	***	***	***
0900	*****	****	**	***	***	***	***	0900	*****	****	**	***	***	***	***
1200	*****	****	**	***	***	***	***	1200	*****	****	**	***	***	***	***
1500	*****	****	**	***	***	***	***	1500	*****	****	**	***	***	***	***
1800	*****	****	**	***	***	***	***	1800	*****	****	**	***	***	***	***
2100	*****	****	**	***	***	***	***	2100	*****	****	**	***	***	***	***
2400	*****	****	**	***	***	***	***	2400	*****	****	**	***	***	***	***

DAY 07

DAY 08

DAY 09

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.				
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD				
DEG C	DEG C	%	DEG. M/S	MW	DEG C	DEG C	%	DEG. M/S	MW	DEG C	DEG C	%	DEG. M/S	MW	
0300	*****	****	**	***	***	***	***	0300	*****	****	**	***	***	***	***
0600	*****	****	**	***	***	***	***	0600	*****	****	**	***	***	***	***
0900	*****	****	**	***	***	***	***	0900	*****	****	**	***	***	***	***
1200	*****	****	**	***	***	***	***	1200	*****	****	**	***	***	***	***
1500	*****	****	**	***	***	***	***	1500	*****	****	**	***	***	***	***
1800	*****	****	**	***	***	***	***	1800	*****	****	**	***	***	***	***
2100	*****	****	**	***	***	***	***	2100	*****	****	**	***	***	***	***
2400	*****	****	**	***	***	***	***	2400	*****	****	**	***	***	***	***

R & M CONSULTANTS, INC.
SUSITNA HYDRO ELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING April, 1982

DAY 10

DAY 11

DAY 12

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.		
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD
DEG C	DEG C	%	DEG C	DEG C	%	DEG C	DEG C	DEG C	DEG C	DEG C	%	DEG C	DEG C
M/S	M/S	MW	M/S	M/S	MW	M/S	M/S	MW	M/S	M/S	MW	M/S	M/S

0300	*****	****	**	***	***	***	***	***	0300	*****	****	**	***	***	***	***	***	***	***	***	***
0600	*****	****	**	***	***	***	***	***	0600	*****	****	**	***	***	***	***	***	***	***	***	***
0900	*****	****	**	***	***	***	***	***	0900	*****	****	**	***	***	***	***	***	***	***	***	***
1200	*****	****	**	***	***	***	***	***	1200	*****	****	**	***	***	***	***	***	***	***	***	***
1500	*****	****	**	***	***	***	***	***	1500	*****	****	**	***	***	***	***	***	***	***	***	***
1800	*****	****	**	***	***	***	***	***	1800	*****	****	**	***	***	***	***	***	***	***	***	***
2100	*****	****	**	***	***	***	***	***	2100	*****	****	**	***	***	***	***	***	***	***	***	***
2400	*****	****	**	***	***	***	***	***	2400	*****	****	**	***	***	***	***	***	***	***	***	***

DAY 13

DAY 14

DAY 15

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.		
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD
DEG C	DEG C	%	DEG C	DEG C	%	DEG C	DEG C	DEG C	DEG C	DEG C	%	DEG C	DEG C
M/S	M/S	MW	M/S	M/S	MW	M/S	M/S	MW	M/S	M/S	MW	M/S	M/S

0300	*****	****	**	***	***	***	***	***	0300	*****	****	**	***	***	0300	-6.8	*****	**	101	1.9	113	5.7	2			
0600	*****	****	**	***	***	***	***	***	0600	*****	****	**	***	***	0600	-6.7	*****	**	080	2.6	076	5.1	11			
0900	*****	****	**	***	***	***	***	***	0900	*****	****	**	***	***	0900	-6.7	*****	**	054	1.4	084	3.8	38			
1200	*****	****	**	***	***	***	***	***	1200	-8.0	*****	**	255	.4	307	2.5	59	1200	-2.0	*****	**	333	.6	040	3.8	62
1500	*****	****	**	***	***	***	***	***	1500	-6.7	*****	**	112	.8	062	3.8	31	1500	-3.1	*****	**	101	1.1	113	6.3	55
1800	*****	****	**	***	***	***	***	***	1800	-6.8	*****	**	076	.7	358	3.8	5	1800	-5.4	*****	**	115	2.0	133	5.7	8
2100	*****	****	**	***	***	***	***	***	2100	-6.3	*****	**	080	3.3	083	6.3	1	2100	-6.1	*****	**	072	1.8	049	5.1	1
2400	*****	****	**	***	***	***	***	***	2400	-7.4	*****	**	097	3.3	089	7.0	1	2400	-6.1	*****	**	078	3.1	076	5.7	1

DAY 16

DAY 17

DAY 18

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.		
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD
DEG C	DEG C	%	DEG C	DEG C	%	DEG C	DEG C	DEG C	DEG C	DEG C	%	DEG C	DEG C
M/S	M/S	MW	M/S	M/S	MW	M/S	M/S	MW	M/S	M/S	MW	M/S	M/S

0300	-6.7	*****	**	064	2.1	073	4.4	2	0300	-9.3	*****	**	094	.9	116	1.9	1	0300	-8.2	*****	**	088	1.2	105	3.2	1
0600	-6.7	*****	**	071	1.8	064	4.4	5	0600	-8.8	*****	**	077	1.0	112	2.5	5	0600	-7.5	*****	**	086	1.2	084	7.0	11
0900	-3.7	*****	**	067	1.3	067	3.2	51	0900	-6.1	*****	**	066	.9	047	3.2	50	0900	-6.4	*****	**	103	5.1	117	9.5	39
1200	-3.8	*****	**	099	1.2	121	6.3	64	1200	-4.7	*****	**	038	.6	018	2.5	67	1200	-7.9	*****	**	126	5.0	133	10.8	47
1500	-4.5	*****	**	122	1.3	104	5.1	33	1500	-5.4	*****	**	191	.4	133	1.9	50	1500	-7.8	*****	**	188	4.5	143	17.1	53
1800	-5.8	*****	**	056	.9	105	4.4	7	1800	-7.7	*****	**	164	.4	073	1.9	7	1800	-10.9	*****	**	245	3.0	232	7.6	6
2100	-6.8	*****	**	049	1.1	051	3.2	1	2100	-7.6	*****	**	084	.8	079	2.5	1	2100	-11.1	*****	**	016	.7	269	3.8	2
2400	-8.1	*****	**	079	1.3	068	2.5	1	2400	-8.4	*****	**	060	1.2	135	3.8	1	2400	-10.1	*****	**	085	2.0	093	4.4	1

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING April, 1982

DAY 19

DAY 20

DAY 21

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.
NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD	DEG C	DEG C	% DEG. M/S MW	NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD	DEG C	DEG C	% DEG. M/S MW	NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD	DEG C	DEG C	% DEG. M/S MW
0300 -10.1 **** ** 077 2.9 066 5.1	1	0300 -2.5 **** ** 125 3.3 130 19.0	1	0300 -6.6 **** ** 071 .3 127 1.9	1						
0600 -10.1 **** ** 057 2.4 054 5.1	6	0600 -4.1 **** ** 109 8.2 104 16.5	17	0600 -5.7 **** ** 025 .1 055 1.3	6						
0900 -7.5 **** ** 074 1.8 055 5.1	55	0900 -2.8 **** ** 084 5.1 089 8.9	43	0900 -2.5 **** ** 292 .3 309 1.3	18						
1200 -6.2 **** ** 051 1.5 054 4.4	55	1200 -1.5 **** ** 115 4.2 103 11.4	82	1200 -2.0 **** ** 327 .9 346 2.5	53						
1500 -5.5 **** ** 037 1.7 017 4.4	31	1500 -3.2 **** ** 149 3.2 130 8.3	30	1500 -3.3 **** ** 339 1.1 337 2.5	34						
1800 -5.5 **** ** 046 .9 023 3.8	5	1800 -4.9 **** ** 084 .6 028 4.4	6	1800 -5.3 **** ** 002 1.3 341 2.5	8						
2100 -3.9 **** ** 025 1.6 025 4.4	1	2100 -5.8 **** ** 071 .9 073 4.4	1	2100 -5.8 **** ** 042 .9 027 1.9	1						
2400 -3.9 **** ** 109 4.8 109 15.9	1	2400 -6.5 **** ** 106 1.5 113 7.0	1	2400 -6.2 **** ** 357 .9 333 2.5	1						

DAY 22

DAY 23

DAY 24

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.
NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD	DEG C	DEG C	% DEG. M/S MW	NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD	DEG C	DEG C	% DEG. M/S MW	NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD	DEG C	DEG C	% DEG. M/S MW
0300 -6.9 **** ** 323 .4 275 3.2	1	0300 -8.3 **** ** 064 1.0 085 3.8	1	0300 -8.3 **** ** 099 .8 081 3.2	1						
0600 -6.4 **** ** 314 1.0 251 3.2	8	0600 -7.7 **** ** 077 1.6 053 3.8	14	0600 -6.7 **** ** 079 .9 074 2.5	10						
0900 -4.5 **** ** 318 1.0 023 3.2	26	0900 -5.9 **** ** 067 2.1 061 5.7	65	0900 -5.1 **** ** 062 .6 019 2.5	29						
1200 -4.1 **** ** 343 1.3 359 3.2	48	1200 0.0 **** ** 094 .9 060 2.5	64	1200 -2.5 **** ** 191 .3 016 2.5	50						
1500 -5.8 **** ** 282 1.6 258 3.2	27	1500 1.1 **** ** 077 .2 164 1.9	48	1500 -2.4 **** ** 122 .4 157 1.9	38						
1800 -6.7 **** ** 322 .9 259 3.2	6	1800 -6.4 **** ** 253 .2 129 1.9	10	1800 -4.5 **** ** 046 1.3 031 3.8	8						
2100 -7.9 **** ** 046 1.0 042 3.2	1	2100 -8.2 **** ** 120 .6 159 2.5	1	2100 -5.1 **** ** 058 1.0 059 4.4	1						
2400 -8.0 **** ** 096 .6 068 1.9	2	2400 -8.4 **** ** 083 .9 095 2.5	1	2400 -4.6 **** ** 054 1.1 114 7.0	1						

DAY 25

DAY 26

DAY 27

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.
NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD	DEG C	DEG C	% DEG. M/S MW	NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD	DEG C	DEG C	% DEG. M/S MW	NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD	DEG C	DEG C	% DEG. M/S MW
0300 -3.8 **** ** 102 3.0 138 7.0	1	0300 -7.5 **** ** 254 2.3 252 5.7	1	0300 -2.2 **** ** 058 2.4 087 8.3	1						
0600 -2.9 **** ** 093 3.4 092 8.9	10	0600 -7.8 **** ** 073 .9 049 2.5	6	0600 -2.1 **** ** 073 2.6 083 7.6	15						
0900 -2.0 **** ** 112 6.3 122 16.5	41	0900 -6.3 **** ** 059 1.7 087 3.2	54	0900 -.5 **** ** 057 1.4 080 5.1	33						
1200 -.9 **** ** 138 7.0 134 16.5	55	1200 -.2 **** ** 068 .9 059 3.2	76	1200 -.9 **** ** 077 2.4 092 5.7	46						
1500 .5 **** ** 006 .5 215 7.0	50	1500 -1.8 **** ** 339 .4 255 3.8	53	1500 .8 **** ** 068 2.8 044 6.3	38						
1800 -4.2 **** ** 109 3.9 119 10.8	9	1800 -2.6 **** ** 075 2.2 088 7.0	12	1800 .4 **** ** 097 3.6 132 8.9	10						
2100 -5.4 **** ** 155 .9 150 8.9	1	2100 -3.1 **** ** 072 2.2 086 7.0	1	2100 -.8 **** ** 077 3.9 085 9.5	1						
2400 -6.8 **** ** 255 3.7 250 8.9	1	2400 -2.3 **** ** 048 1.8 028 6.3	1	2400 -1.9 **** ** 104 1.9 101 5.7	1						

R & M CONSULTANTS, INC.
SUSITNA HYDRO ELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING April, 1982

DAY 28

DAY 29

DAY 30

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.									
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD							
DEG C	DEG C	%	DEG. M/S	MW	DEG C	DEG C	%	DEG. M/S	MW	DEG C	DEG C	%	DEG. M/S	MW						
0300	-3.4 **** **	104	3.6	088	8.3	1	0300	-5.3 **** **	067	2.1	072	5.1	1	0300	-7.1 **** **	064	1.0	051	2.5	1
0600	-2.7 **** **	080	4.6	084	11.4	11	0600	-6.0 **** **	090	2.0	113	4.4	9	0600	-6.3 **** **	104	.8	114	2.5	20
0900	-2.3 **** **	085	4.1	085	7.6	43	0900	-2.0 **** **	061	1.2	061	3.8	57	0900	-2.9 **** **	142	.5	140	1.9	50
1200	-2.0 **** **	184	1.2	121	6.3	62	1200	-1.2 **** **	337	.5	036	1.9	72	1200	-2.7 **** **	244	.6	247	1.9	66
1500	-1.2 **** **	127	1.7	121	5.7	43	1500	-1.8 **** **	282	.7	212	1.9	57	1500	-3.8 **** **	231	.4	220	1.9	41
1800	-2.3 **** **	114	4.0	102	6.3	13	1800	-4.0 **** **	286	.4	276	1.9	15	1800	-5.1 **** **	009	.3	003	1.9	13
2100	-3.3 **** **	091	3.2	078	5.1	1	2100	-6.5 **** **	082	.5	076	1.9	1	2100	-7.0 **** **	066	.9	060	2.5	1
2400	-4.2 **** **	095	3.8	090	6.3	1	2400	-6.9 **** **	081	1.0	063	2.5	1	2400	-7.2 **** **	068	1.2	073	3.2	1

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING April, 1982

DAY	RES.			RES.			AVG.	MAX.	MAX.	P'VAL			DAY'S	
	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	WIND DIR. DEG	WIND SPD. M/S	WIND DIR. DEG	GUST SPD. M/S	GUST DIR. DEG	RH %	DP DEG C	PRECIP MM	SOLAR ENERGY WH/SQM		
1	*****	*****	*****	***	****	***	***	***	**	*****	***	*****	*****	1
2	*****	*****	*****	***	****	***	***	***	**	*****	***	*****	*****	2
3	*****	*****	*****	***	****	***	***	***	**	*****	***	*****	*****	3
4	*****	*****	*****	***	****	***	***	***	**	*****	***	*****	*****	4
5	*****	*****	*****	***	****	***	***	***	**	*****	***	*****	*****	5
6	*****	*****	*****	***	****	***	***	***	**	*****	***	*****	*****	6
7	*****	*****	*****	***	****	***	***	***	**	*****	***	*****	*****	7
8	*****	*****	*****	***	****	***	***	***	**	*****	***	*****	*****	8
9	*****	*****	*****	***	****	***	***	***	**	*****	***	*****	*****	9
10	*****	*****	*****	***	****	***	***	***	**	*****	***	*****	*****	10
11	*****	*****	*****	***	****	***	***	***	**	*****	***	*****	*****	11
12	*****	*****	*****	***	****	***	***	***	**	*****	***	*****	*****	12
13	*****	*****	*****	***	****	***	***	***	**	*****	***	*****	*****	13
14	-4.2	-8.0	-6.1	090	1.8	2.3	089	7.0	E	**	*****	.2	5026	14
15	.7	-8.0	-3.7	083	1.6	2.1	113	6.3	ENE	**	*****	1.8	5105	15
16	2.7	-8.2	-2.8	076	1.3	1.5	121	6.3	ENE	**	*****	.8	5140	16
17	.4	-9.7	-4.7	080	.6	1.0	135	3.8	E	**	*****	.8	5460	17
18	-5.6	-11.4	-8.5	130	1.7	3.3	143	17.1	E	**	*****	0.0	4610	18
19	-1.6	-11.1	-6.4	070	1.9	2.5	109	15.9	ENE	**	*****	.2	4385	19
20	-.5	-6.5	-3.5	109	3.2	3.9	130	19.0	E	**	*****	0.0	4888	20
21	-1.4	-6.8	-4.1	357	.6	.9	346	2.5	NNW	**	*****	2.2	3975	21
22	-2.3	-8.4	-5.4	330	.7	1.2	275	3.2	W	**	*****	1.2	3548	22
23	5.6	-8.8	-1.6	079	.8	1.2	061	5.7	E	**	*****	1.8	5845	23
24	3.5	-8.4	-2.5	070	.7	1.2	114	7.0	ESE	**	*****	2.6	4255	24
25	.5	-6.8	-3.2	122	2.6	4.3	122	16.5	E	**	*****	0.8	5303	25
26	3.4	-8.4	-2.5	060	.9	1.8	088	7.0	ENE	**	*****	3.2	6048	26
27	2.8	-3.0	-.1	078	2.6	2.9	085	9.5	E	**	*****	0.0	4455	27
28	.5	-4.7	-2.1	099	3.0	3.8	084	11.4	E	**	*****	.4	5280	28
29	3.5	-7.0	-1.8	066	.7	1.2	072	5.1	E	**	*****	.4	6398	29
30	2.9	-7.5	-2.3	083	.4	.8	073	3.2	ENE	**	*****	1.0	5665	30
MONTH	5.6	-11.4	-3.6	089	1.3	1.5	130	19.0	E	**	*****	16.6	85384	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 5.7

GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 12.1

GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 16.5

GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 15.2

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.
 ***** SEE NOTES AT THE BACK OF THIS REPORT *****

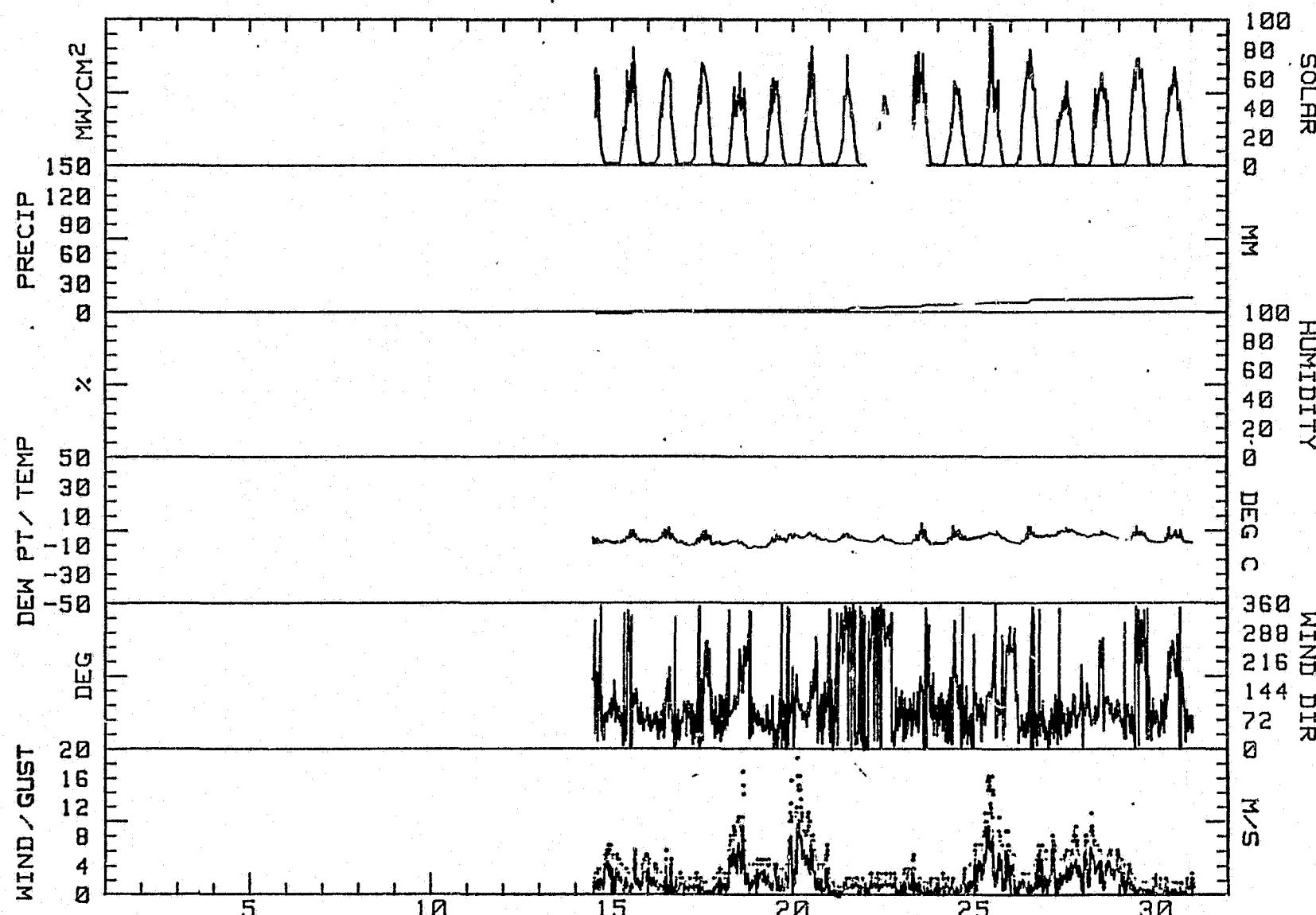
R & M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING April, 1982

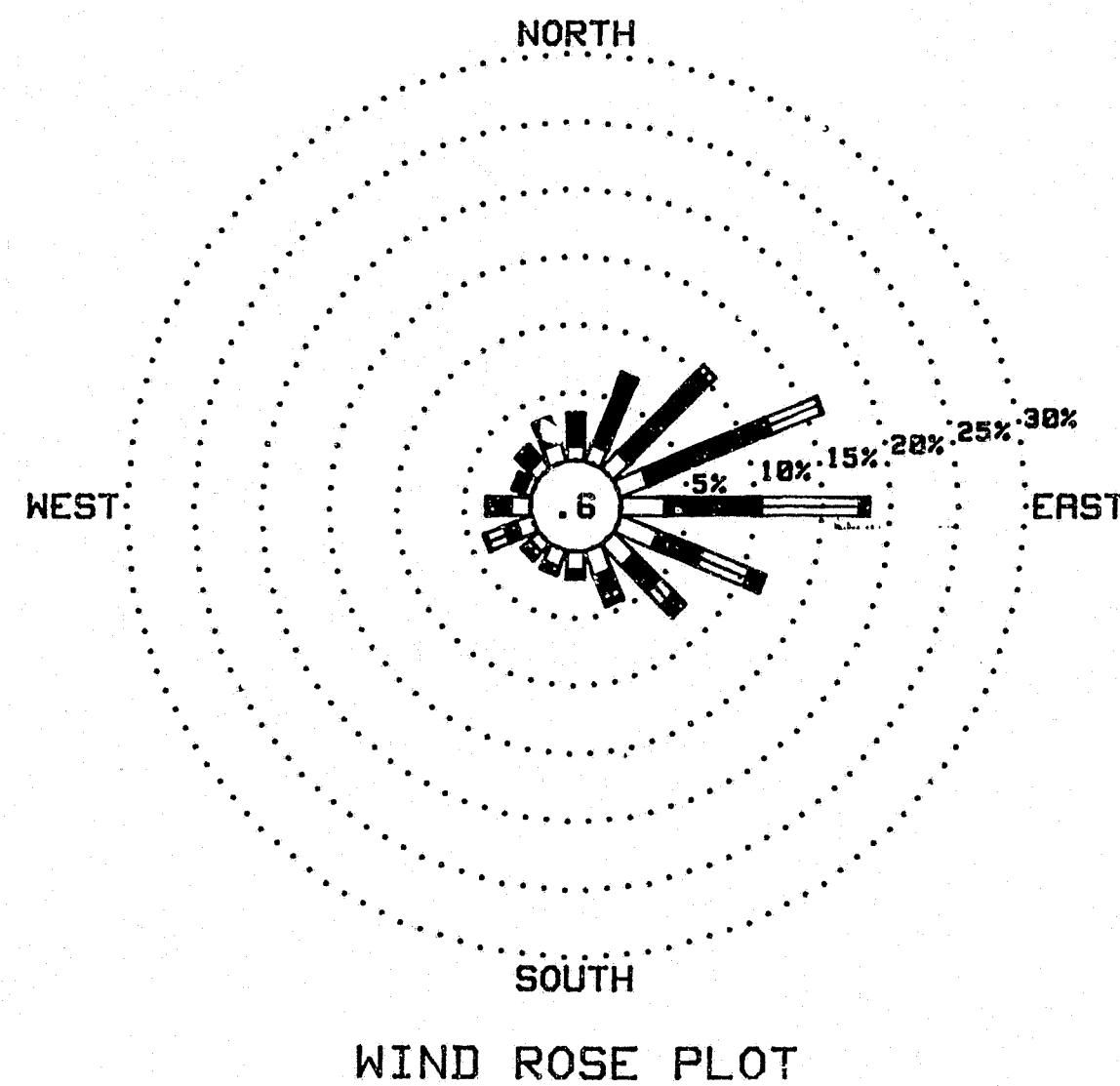
DIRECTION	VELOCITY (M/S)								TOTAL
	0.2 TO 1.0	1.0 TO 3.0	3.0 TO 6.0	6.0 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	20.0 OR GREATER		
N	1.07	2.39	.06	0.00	0.00	0.00	0.00	0.00	3.53
NNE	1.32	5.35	.38	0.00	0.00	0.00	0.00	0.00	7.05
NE	1.70	8.31	.63	0.00	0.00	0.00	0.00	0.00	10.64
ENE	2.27	9.82	4.03	.06	0.00	0.00	0.00	0.00	16.18
E	3.34	7.05	7.30	.69	0.00	0.00	0.00	0.00	18.39
ESE	3.09	3.53	3.84	1.13	.06	0.00	0.00	0.00	11.65
SE	2.27	2.52	1.57	1.20	0.00	0.00	0.00	0.00	7.56
SSE	2.02	1.39	.57	.38	0.00	0.00	0.00	0.00	4.35
S	1.39	.31	.31	0.00	0.00	0.00	0.00	0.00	2.02
SSW	1.32	.44	.06	.06	0.00	0.00	0.00	0.00	1.89
SW	.88	.50	.31	0.00	0.00	0.00	0.00	0.00	1.70
WSW	1.26	.88	1.51	.13	0.00	0.00	0.00	0.00	3.78
W	1.51	1.51	.31	0.00	0.00	0.00	0.00	0.00	3.34
WNW	.63	.88	0.00	0.00	0.00	0.00	0.00	0.00	1.51
NW	.94	1.39	0.00	0.00	0.00	0.00	0.00	0.00	2.33
NNW	1.45	2.02	0.00	0.00	0.00	0.00	0.00	0.00	3.46
CALM	-----	-----	-----	-----	-----	-----	-----	-----	.63
TOTAL	26.45	48.30	20.91	3.65	.06	0.00	0.00	0.00	100.00

NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
1588 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
April, 1982



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
April, 1982



R & M CONSULTANTS, INC.

SUSTAINABLE HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING May, 1982

PRECIPITATION VALUES ARE IN MILLIMETERS

HOUR ENDING

DATE 0100 0200 0300 0400 0500 0600 0700 0800 0900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 DATE

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING May, 1982

DAY 01

DAY 02

DAY 03

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.
NDNG TEMP.	POINT RH	DIR.	SFD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD
DEG C	DEG C	% DEG.	M/S	DEG C	% DEG.	DEG C	POINT RH	DIR.	SPD.	DIR.	GUST RAD
			MW								MW

0300	-7.3	*****	**	067	1.3	052	3.8	1	0300	-7.2	*****	**	075	1.4	092	3.2	1	0300	-6.7	*****	**	055	1.3	046	3.8	1
0600	-7.4	*****	**	071	1.1	052	1.9	5	0600	-6.3	*****	**	076	.8	090	2.5	16	0600	-6.8	*****	**	083	.5	076	1.9	16
0900	-4.5	*****	**	075	1.1	063	2.5	59	0900	-3.3	*****	**	129	1.4	109	3.8	59	0900	-3.3	*****	**	115	1.0	086	2.5	52
1200	4.3	*****	**	131	.3	109	1.3	73	1200	-2.8	*****	**	060	.7	142	5.1	73	1200	.1	*****	**	141	.3	121	4.4	75
1500	1.5	*****	**	257	.3	206	1.3	59	1500	-4.3	*****	**	185	1.5	167	4.4	58	1500	-1.5	*****	**	231	.4	180	1.3	62
1800	-5	*****	**	053	.7	054	2.5	17	1800	-4.2	*****	**	100	1.3	148	6.3	20	1800	-3.3	*****	**	141	.2	260	1.9	17
2100	-7.1	*****	**	086	1.0	056	3.8	1	2100	-7.5	*****	**	043	1.2	069	3.2	1	2100	-6.1	*****	**	129	1.5	122	4.4	1
2400	-6.3	*****	**	068	1.3	055	3.2	1	2400	-7.2	*****	**	059	1.2	056	3.2	1	2400	-6.0	*****	**	103	1.9	143	5.1	1

DAY 04

DAY 05

DAY 06

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.
NDNG TEMP.	POINT RH	DIR.	SFD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD
DEG C	DEG C	% DEG.	M/S	DEG C	% DEG.	DEG C	POINT RH	DIR.	SPD.	DIR.	GUST RAD
			MW								MW

0300	-7.1	*****	**	092	.8	082	3.2	1	0300	-6.7	*****	**	071	1.4	052	3.2	1	0300	-1.7	*****	**	070	1.3	055	3.8	2
0600	-6.3	*****	**	105	1.1	092	5.1	13	0600	-5.2	*****	**	066	2.0	061	7.0	7	0600	-1.7	*****	**	054	.9	059	1.9	7
0900	-4.0	*****	**	120	2.5	097	5.7	55	0900	-2.6	*****	**	060	1.9	056	5.7	53	0900	1.8	*****	**	093	1.3	058	3.2	60
1200	-1.8	*****	**	247	.4	199	1.9	86	1200	1.5	*****	**	080	2.4	086	7.0	75	1200	3.6	*****	**	004	.3	342	2.5	70
1500	-.9	*****	**	274	.4	268	1.9	59	1500	.7	*****	**	347	.1	078	4.4	58	1500	4.6	*****	**	043	.2	327	1.9	57
1800	-3.6	*****	**	145	.8	153	3.2	18	1800	.4	*****	**	070	1.8	085	6.3	19	1800	1.0	*****	**	123	.5	145	1.9	17
2100	-6.5	*****	**	074	1.0	034	3.2	1	2100	-1.8	*****	**	058	1.8	064	3.8	1	2100	-.6	*****	**	065	.5	050	1.9	1
2400	-6.5	*****	**	076	1.1	070	5.1	1	2400	-1.8	*****	**	063	1.3	084	3.2	1	2400	-.9	*****	**	100	.1	066	1.3	1

DAY 07

DAY 08

DAY 09

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.
NDNG TEMP.	POINT RH	DIR.	SFD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD
DEG C	DEG C	% DEG.	M/S	DEG C	% DEG.	DEG C	POINT RH	DIR.	SPD.	DIR.	GUST RAD
			MW								MW

0300	-1.3	*****	**	091	.3	083	1.9	2	0300	-2.0	*****	**	050	.4	020	2.5	1	0300	-.7	*****	**	044	.9	038	3.2	1
0600	-.9	*****	**	046	.8	031	2.5	16	0600	-1.6	*****	**	343	.2	225	2.5	12	0600	-1.0	*****	**	056	.3	035	3.8	12
0900	-.3	*****	**	098	.6	134	3.2	53	0900	-.8	*****	**	294	.7	285	2.5	39	0900	.1	*****	**	283	.6	243	3.8	49
1200	3.4	*****	**	142	.8	100	3.2	80	1200	1.5	*****	**	318	.9	224	2.5	59	1200	3.4	*****	**	084	.6	104	3.2	61
1500	1.5	*****	**	019	1.2	009	3.2	39	1500	.9	*****	**	352	.7	018	2.5	37	1500	3.2	*****	**	303	.5	226	3.2	36
1800	.8	*****	**	057	.6	018	1.9	12	1800	-.5	*****	**	077	.8	109	2.5	11	1800	-.1	*****	**	143	.5	156	3.2	10
2100	-.6	*****	**	041	.6	039	2.5	2	2100	-.2	*****	**	052	1.2	048	3.2	1	2100	-.5	*****	**	056	.9	118	3.2	1
2400	-1.4	*****	**	076	.5	040	1.9	1	2400	-1.6	*****	**	061	1.5	092	4.4	1	2400	-.8	*****	**	086	.5	035	2.5	1

R & M CONSULTANTS, INC.

SUBSTITUTIONAL HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING May, 1982

DAY 10

DAY 11

DAY 12

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD
DEG C	DEG C	%	DEG C	DEG C	M/S	DEG C	DEG C	%	DEG C	DEG C	M/S	DEG C	DEG C	%	DEG C	DEG C	M/S

0300	-1.0	*****	**	087	.9	082	3.2	1	0300	-1.9	*****	**	253	1.8	239	3.8	1	0300	-4.5	*****	**	312	.8	328	2.5	2
0600	.6	*****	**	061	1.5	053	3.8	20	0600	-2.3	*****	**	247	2.9	246	5.1	16	0600	-4.6	*****	**	301	.7	293	1.9	11
0900	2.0	*****	**	139	1.0	115	3.2	59	0900	-1.0	*****	**	257	1.9	241	1.4	44	0900	-2.1	*****	**	296	.5	327	1.9	54
1200	5.5	*****	**	118	.5	139	2.5	75	1200	-.8	*****	**	301	1.1	265	2.5	49	1200	.1	*****	**	279	.6	298	3.2	75
1500	3.9	*****	**	313	.6	317	1.9	43	1500	-1.1	*****	**	316	1.1	288	2.5	46	1500	3.6	*****	**	221	.4	260	1.9	44
1800	1.3	*****	**	018	.2	336	2.5	13	1800	-2.6	*****	**	286	1.4	259	3.2	10	1800	-2.9	*****	**	191	.5	178	1.9	9
2100	-.9	*****	**	125	.4	017	1.9	1	2100	-3.6	*****	**	285	1.3	269	3.2	1	2100	-2.8	*****	**	070	1.2	063	3.2	1
2400	-.8	*****	**	075	.5	011	1.9	1	2400	-4.2	*****	**	317	1.2	267	3.2	1	2400	-3.8	*****	**	079	.8	053	2.5	1

DAY 13

DAY 14

DAY 15

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD
DEG C	DEG C	%	DEG C	DEG C	M/S	DEG C	DEG C	%	DEG C	DEG C	M/S	DEG C	DEG C	%	DEG C	DEG C	M/S

0300	-5.5	*****	**	055	.4	108	2.5	2	0300	-3.8	*****	**	074	1.0	046	3.8	2	0300	-2.8	*****	**	068	1.2	062	3.2	2
0600	-4.1	*****	**	126	1.0	150	2.5	16	0600	-3.5	*****	**	077	1.1	021	2.5	7	0600	-3.0	*****	**	071	1.0	045	3.2	7
0900	-2.3	*****	**	146	.3	214	3.2	61	0900	-2.1	*****	**	072	.7	052	2.5	63	0900	1.6	*****	**	014	1.0	346	2.5	64
1200	5.4	*****	**	256	.5	174	2.5	83	1200	.9	*****	**	360	.1	061	2.5	77	1200	7.1	*****	**	016	.2	280	1.9	81
1500	.8	*****	**	280	.4	203	1.9	64	1500	5.5	*****	**	035	.4	024	1.9	62	1500	3.4	*****	**	322	.3	212	1.9	58
1800	.1	*****	**	348	.2	025	1.9	22	1800	.8	*****	**	183	.6	213	2.5	22	1800	2.3	*****	**	083	.2	157	2.5	22
2100	-3.6	*****	**	117	.8	178	2.5	1	2100	-2.0	*****	**	079	.6	117	1.9	1	2100	-1.6	*****	**	105	1.0	156	2.5	2
2400	-3.4	*****	**	073	1.3	078	3.8	1	2400	-2.5	*****	**	059	1.2	069	3.2	1	2400	-2.4	*****	**	071	1.3	067	4.4	1

DAY 16

DAY 17

DAY 18

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD
DEG C	DEG C	%	DEG C	DEG C	M/S	DEG C	DEG C	%	DEG C	DEG C	M/S	DEG C	DEG C	%	DEG C	DEG C	M/S

0300	-2.8	*****	**	072	.9	065	2.5	2	0300	-1.5	*****	**	059	2.1	052	5.1	3	0300	-1.6	*****	**	072	.9	056	3.2	3
0600	-2.2	*****	**	075	1.1	061	2.5	7	0600	-.2	*****	**	072	2.2	071	6.3	16	0600	.3	*****	**	106	.7	140	2.5	20
0900	.9	*****	**	053	1.6	044	4.4	64	0900	2.6	*****	**	144	1.5	148	5.7	67	0900	2.0	*****	**	087	.9	112	3.8	61
1200	2.0	*****	**	134	2.0	146	6.3	79	1200	7.5	*****	**	052	.2	156	4.4	89	1200	1.8	*****	**	092	.6	031	4.4	65
1500	3.4	*****	**	074	.3	256	3.2	77	1500	5.3	*****	**	013	.8	352	2.5	53	1500	3.8	*****	**	026	.8	027	3.2	52
1800	.7	*****	**	104	3.0	116	7.0	23	1800	1.5	*****	**	355	.1	242	2.5	21	1800	-1.4	*****	**	311	.8	274	5.7	12
2100	-.9	*****	**	078	4.1	083	7.6	2	2100	-.3	*****	**	076	.6	000	1.9	2	2100	-.7	*****	**	064	1.0	036	3.8	2
2400	-.9	*****	**	071	3.0	079	7.6	1	2400	-1.9	*****	**	100	.9	067	3.2	1	2400	-1.3	*****	**	063	1.1	074	5.1	1

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING May, 1982

DAY 19

DAY 20

DAY 21

HOUR	DEW	WIND	WIND GUST MAX.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD			
	DEG C	DEG C	% DEG.	M/S	MW				DEG C	DEG C	% DEG.	M/S	MW				DEG C	DEG C	% DEG.	M/S	MW				DEG C	DEG C	% DEG.	M/S	MW

0300	-3.4	*****	**	077	1.2	088	4.4	2	0300	.9	*****	**	071	1.7	061	3.8	3	0300	-4.2	*****	**	***	***	***	***	***	2
0600	-2.7	*****	**	046	1.5	079	4.4	15	0600	.6	*****	**	074	1.1	091	4.4	21	0600	-1.9	*****	**	046	.7	039	1.9	11	
0900	3.6	*****	**	068	1.2	044	3.2	64	0900	-8	*****	**	345	.2	230	3.2	41	0900	-4	*****	**	011	.9	014	2.5	66	
1200	2.2	*****	**	106	.4	160	3.8	78	1200	5.0	*****	**	193	.4	174	3.2	55	1200	2.6	*****	**	328	.4	252	3.8	77	
1500	4.4	*****	**	057	.4	189	3.8	57	1500	-7	*****	**	204	1.5	222	3.8	29	1500	.8	*****	**	011	.6	335	3.2	65	
1800	.6	*****	**	058	1.1	129	3.8	19	1800	-2.1	*****	**	173	.3	153	5.7	10	1800	.9	*****	**	187	.5	174	3.8	25	
2100	.1	*****	**	088	1.4	098	3.2	2	2100	-2.1	*****	**	054	1.1	060	3.2	2	2100	-2.4	*****	**	059	.3	122	2.5	2	
2400	-1	*****	**	071	1.6	063	5.1	1	2400	-3.8	*****	**	***	***	***	***	1	2400	-1.4	*****	**	066	1.7	078	4.4	2	

DAY 22

DAY 23

DAY 24

HOUR	DEW	WIND	WIND GUST MAX.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD			
	DEG C	DEG C	% DEG.	M/S	MW				DEG C	DEG C	% DEG.	M/S	MW				DEG C	DEG C	% DEG.	M/S	MW				DEG C	DEG C	% DEG.	M/S	MW

0300	-1.4	*****	**	073	1.6	052	3.8	2	0300	-1.0	*****	**	097	1.0	075	3.2	3	0300	-5	*****	**	093	.8	109	3.2	3
0600	-1.5	*****	**	072	1.5	057	4.4	7	0600	-1.3	*****	**	065	1.4	047	3.2	7	0600	1.3	*****	**	077	.8	043	2.5	18
0900	2.8	*****	**	076	.8	063	2.5	65	0900	2.6	*****	**	103	1.3	127	3.8	63	0900	2.7	*****	**	313	.7	013	2.5	57
1200	2.8	*****	**	008	.2	170	2.5	80	1200	4.5	*****	**	157	1.4	147	4.4	78	1200	5.8	*****	**	200	.4	149	3.2	77
1500	3.7	*****	**	123	.5	182	3.8	64	1500	4.5	*****	**	357	1.1	270	5.7	49	1500	6.1	*****	**	329	.8	245	2.5	62
1800	2.8	*****	**	150	.8	180	3.8	25	1800	4.4	*****	**	055	.9	070	3.8	17	1800	1.1	*****	**	048	.5	058	3.8	18
2100	-2	*****	**	112	.8	089	3.2	2	2100	1.8	*****	**	070	1.4	072	3.8	2	2100	.5	*****	**	092	.8	077	2.5	2
2400	-1.3	*****	**	083	.7	088	1.9	1	2400	1.0	*****	**	068	.8	043	3.2	2	2400	-4	*****	**	010	.9	044	2.5	1

DAY 25

DAY 26

DAY 27

HOUR	DEW	WIND	WIND GUST MAX.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD			
	DEG C	DEG C	% DEG.	M/S	MW				DEG C	DEG C	% DEG.	M/S	MW				DEG C	DEG C	% DEG.	M/S	MW				DEG C	DEG C	% DEG.	M/S	MW

0300	-1.4	*****	**	275	.4	274	2.5	2	0300	-1.2	*****	**	***	***	***	***	2	0300	1.1	*****	**	054	.9	025	4.4	2
0600	-.8	*****	**	284	.8	254	3.2	16	0600	-2	*****	**	107	.7	358	3.2	12	0600	.7	*****	**	094	.5	085	4.4	10
0900	2.0	*****	**	237	.5	215	3.2	66	0900	4.3	*****	**	088	1.0	100	3.8	47	0900	2.0	*****	**	154	1.1	184	6.3	29
1200	2.1	*****	**	322	.8	290	3.2	44	1200	5.0	*****	**	133	.6	090	3.2	42	1200	4.3	*****	**	275	.7	179	3.2	59
1500	2.6	*****	**	178	.7	160	4.4	53	1500	3.7	*****	**	140	1.7	163	4.4	26	1500	6.3	*****	**	133	2.0	125	8.3	59
1800	-.7	*****	**	177	1.4	238	6.3	8	1800	3.5	*****	**	141	2.6	141	5.7	15	1800	4.4	*****	**	137	5.8	137	8.9	9
2100	-1.0	*****	**	259	1.9	242	5.1	2	2100	3.1	*****	**	126	1.1	106	4.4	2	2100	-2	*****	**	211	3.8	212	10.8	1
2400	-1.1	*****	**	***	***	***	***	***	2400	.5	*****	**	288	.5	294	3.2	1	2400	-1.1	*****	**	251	1.3	244	3.8	1

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING May, 1982

DAY 28

DAY 29

DAY 30

HOUR	DEW	WIND	WIND GUST MAX.	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD
	DEG C	DEG C	% DEG. M/S	MW	DEG C	DEG C	% DEG. M/S	MW	DEG C	DEG C	DEG C	DEG C	% DEG. M/S	MW	DEG C	DEG C	DEG C	DEG C	% DEG. M/S	MW	

0300	-9	*****	**	327	.9	321	2.5	1	0300	-2.1	*****	**	073	1.2	052	5.7	3	0300	-1.6	*****	**	311	.2	257	1.3	1
0600	-8	*****	**	071	.2	248	3.8	9	0600	-1	*****	**	040	.5	029	2.5	20	0600	-1.2	*****	**	316	.5	271	1.9	8
0900	.1	*****	**	279	.4	220	3.2	30	0900	1.4	*****	**	281	.4	233	3.2	63	0900	-.7	*****	**	239	1.2	256	3.2	40
1200	1.2	*****	**	232	2.7	233	6.3	63	1200	1.8	*****	**	009	.9	127	3.2	63	1200	2.7	*****	**	267	.5	204	3.2	89
1500	1.5	*****	**	223	.9	209	6.3	34	1500	2.6	*****	**	105	.6	053	3.2	37	1500	4.0	*****	**	323	.9	245	3.8	61
1800	-.2	*****	**	148	.5	091	3.2	11	1800	-.5	*****	**	191	.4	175	3.2	16	1800	4.4	*****	**	169	1.4	165	4.4	26
2100	-.5	*****	**	075	.9	055	3.8	2	2100	.2	*****	**	100	.6	146	2.5	2	2100	2.5	*****	**	083	1.2	143	4.4	3
2400	-1.8	*****	**	297	.8	266	3.2	1	2400	-1.2	*****	**	322	1.0	352	2.5	1	2400	2.3	*****	**	057	1.3	055	3.2	1

DAY 31

HOUR	DEW	WIND	WIND GUST MAX.	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD
	DEG C	DEG C	% DEG. M/S	MW					

0300	1.0	*****	**	064	1.1	065	3.2	3
0600	2.0	*****	**	062	1.2	104	3.2	7
0900	5.7	*****	**	030	1.0	048	3.2	66
1200	6.6	*****	**	118	1.0	148	5.7	80
1500	8.4	*****	**	176	2.0	161	6.3	65
1800	9.3	*****	**	164	1.7	158	5.1	28
2100	5.1	*****	**	052	.2	240	3.2	3
2400	4.2	*****	**	069	1.2	069	3.2	1

R & M CONSULTANTS, INC.

SUSI SYNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING May, 1982

DAY	MAX. TEMP. DEG C			RES. WIND DIR. DEG			RES. WIND SPD. M/S			AVG. WIND SPD. M/S			MAX. GUST SPD. M/S			MAX. P'VAL DIR. RH			MEAN MEAN DEG C MM			DAY'S SOLAR ENERGY WH/SQM	
	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	WIND DIR. DEG	WIND SPD. M/S	WIND DIR. DEG	GUST SPD. M/S	DIR. DEG	P'VAL DIR. RH	MEAN DEG C	MEAN MM	SOLAR ENERGY WH/SQM											
1	4.3	-7.9	-1.8	073	.8	1.0	052	3.8	ENE	**	*****	0.0	6695	1									
2	-7	-8.2	-4.5	091	.9	1.5	148	6.3	NE	**	*****	0.0	6860	2									
3	3.4	-7.8	-2.2	106	.7	1.2	143	5.1	ESE	**	*****	0.0	6653	3									
4	3.0	-7.5	-2.3	107	.8	1.3	097	5.7	E	**	*****	.4	7043	4									
5	6.8	-6.8	0.0	067	1.6	1.9	061	7.0	NE	**	*****	0.0	6643	5									
6	8.2	-2.1	3.1	074	.6	.9	055	3.8	ENE	**	*****	0.0	6505	6									
7	9.2	-1.7	3.8	063	.5	.9	134	3.2	NNE	**	*****	0.0	6223	7									
8	5.7	-2.3	1.7	027	.5	1.2	092	4.4	N	**	*****	1.0	5068	8									
9	3.4	-1.7	.9	054	.3	1.1	035	3.8	NNE	**	*****	2.2	5001	9									
10	9.7	-1.6	4.1	086	.5	.9	053	3.8	SSE	**	*****	.8	6460	10									
11	.9	-4.2	-1.7	274	1.4	1.8	246	5.1	WSW	**	*****	2.2	5365	11									
12	5.4	-4.8	.3	326	.2	.8	298	3.2	WNW	**	*****	3.2	5935	12									
13	8.0	-5.8	1.1	102	.3	.9	078	3.8	E	**	*****	0.0	7420	13									
14	9.4	-4.2	2.6	073	.6	.9	046	3.8	NE	**	*****	0.0	7383	14									
15	8.3	-3.6	2.4	063	.7	1.0	067	4.4	ENE	**	*****	0.0	7005	15									
16	6.1	-3.3	1.4	085	1.8	2.3	083	7.6	ENE	**	*****	0.0	7570	16									
17	7.9	-2.0	3.0	076	.8	1.4	071	6.3	NE	**	*****	0.0	7148	17									
18	6.1	-2.1	2.0	064	.6	1.3	274	5.7	ESE	**	*****	0.0	6543	18									
19	5.9	-4.2	.9	069	1.1	1.5	063	5.1	ENE	**	*****	0.0	7418	19									
20	5.0	-3.8	.6	110	.4	1.6	153	5.7	E	**	*****	1.6	5095	20									
21	3.9	-4.2	-.2	041	.5	1.3	078	4.4	NNE	**	*****	4.2	7053	21									
22	8.8	-2.2	3.3	088	.7	1.1	057	4.4	ENE	**	*****	0.0	7775	22									
23	7.3	-1.6	2.9	080	.9	1.5	270	5.7	ENE	**	*****	0.0	7540	23									
24	6.6	-.5	3.1	041	.3	1.1	058	3.8	N	**	*****	0.0	7658	24									
25	6.1	-1.5	2.3	242	.5	1.3	238	6.3	N	**	*****	.6	5833	25									
26	13.0	-1.6	5.7	131	1.0	1.5	141	5.7	SE	**	*****	2.8	4890	26									
27	6.6	-1.1	2.8	161	1.3	2.5	212	10.8	SE	**	*****	0.0	4995	27									
28	3.8	-2.2	.8	249	.4	1.5	233	6.3	N	**	*****	4.8	5123	28									
29	3.4	-2.5	.5	044	.3	1.2	052	5.7	NNE	**	*****	0.0	5833	29									
30	6.7	-1.6	2.6	007	.0	1.2	165	4.4	N	**	*****	2.2	6563	30									
31	9.3	.9	5.1	107	.7	1.6	161	6.3	ENE	**	*****	0.0	8020	31									
MONTH	13.0	-8.2	1.4	033	.5	1.3	212	10.8	ENE	**	*****	26.0	201312										

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 8.9
 GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 9.5
 GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 5.3
 GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 4.4

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

***** SEE NOTES AT THE BACK OF THIS REPORT *****

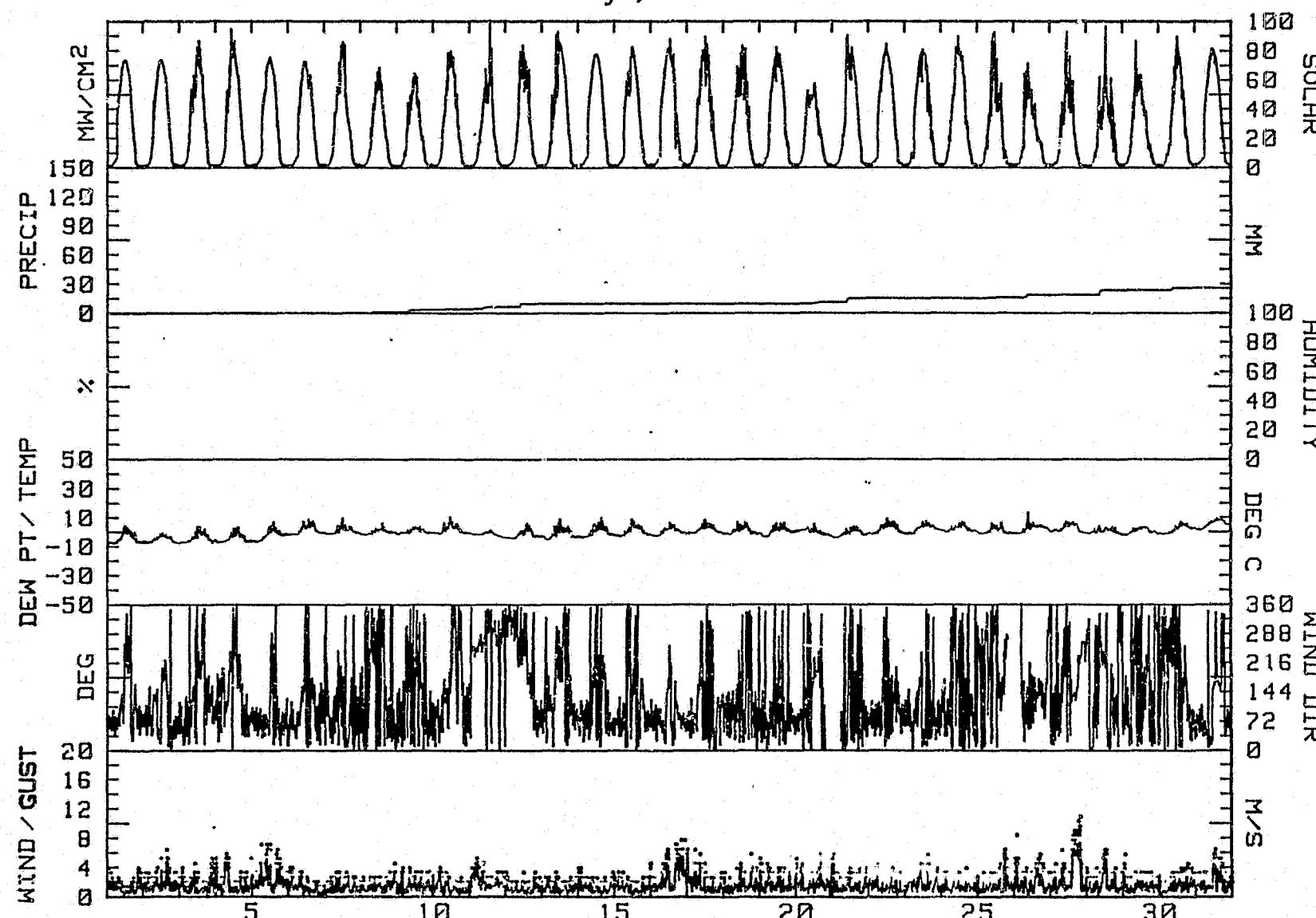
R & M CONSULTANTS, INC.
SUSITNA HYDRO ELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING May, 1982

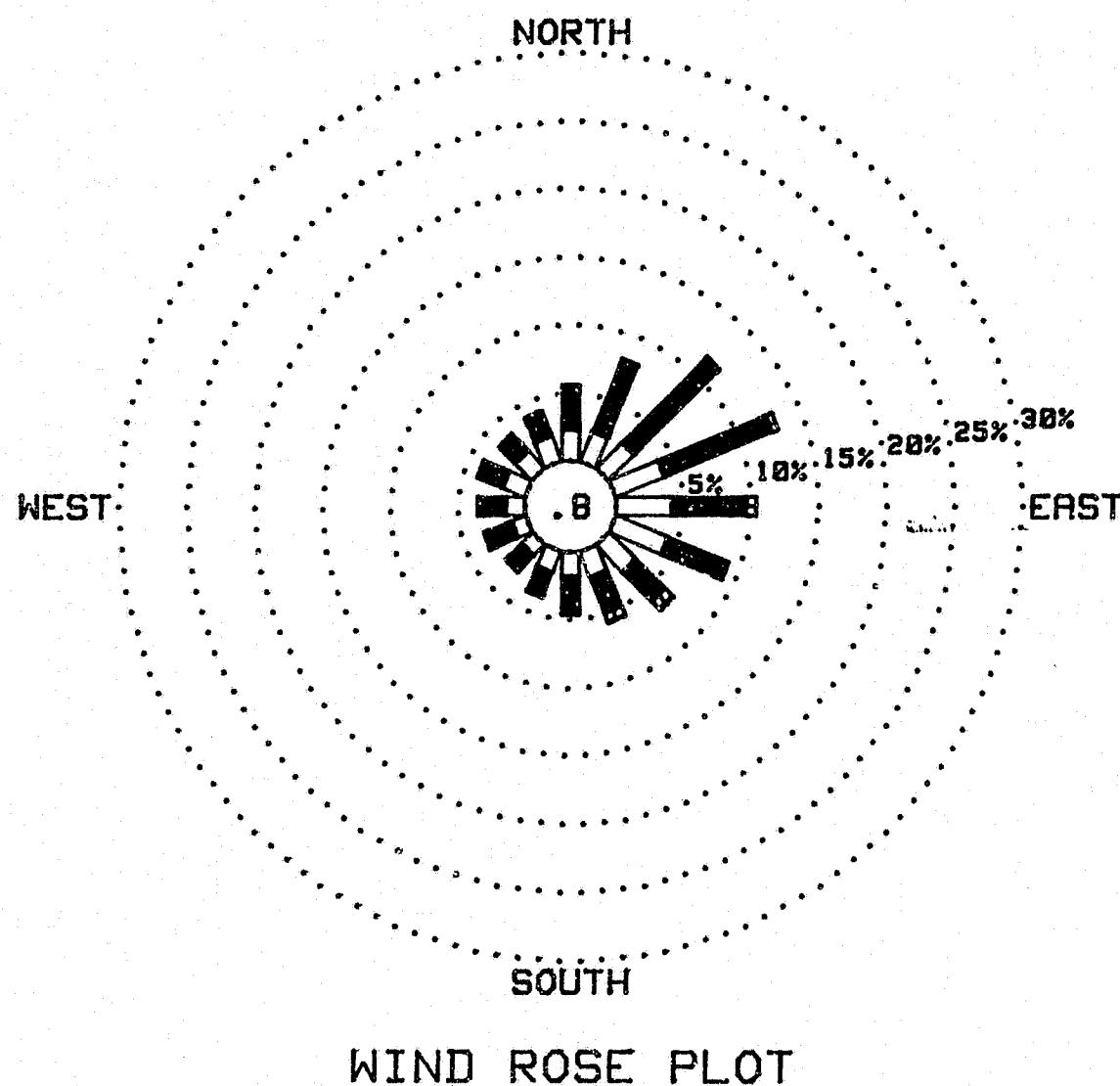
DIRECTION	VELOCITY (M/S)								TOTAL
	0.2 TO 1.0	1.0 TO 3.0	3.0 TO 6.0	6.0 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	20.0 OR GREATER		
	1.0	3.0	6.0	10.0	15.0	20.0			
N	2.28	3.31	0.00	0.00	0.00	0.00	0.00	0.00	5.58
NNE	2.34	5.72	.07	0.00	0.00	0.00	0.00	0.00	8.14
NE	2.69	8.62	.21	0.00	0.00	0.00	0.00	0.00	11.51
ENE	3.90	8.55	.48	0.00	0.00	0.00	0.00	0.00	12.93
E	4.14	5.48	.76	0.00	0.00	0.00	0.00	0.00	10.38
ESE	4.17	4.31	.48	.03	0.00	0.00	0.00	0.00	9.00
SE	2.79	3.03	.83	.10	0.00	0.00	0.00	0.00	6.76
SSE	2.03	2.83	.72	.07	0.00	0.00	0.00	0.00	5.65
S	1.79	2.69	.14	0.00	0.00	0.00	0.00	0.00	4.62
SSW	1.65	1.79	.14	.03	0.00	0.00	0.00	0.00	3.62
SW	1.14	1.34	.24	.07	0.00	0.00	0.00	0.00	2.79
WSW	1.14	1.83	.34	0.00	0.00	0.00	0.00	0.00	3.31
W	1.45	2.00	.10	0.00	0.00	0.00	0.00	0.00	3.55
WNW	1.86	2.03	0.00	0.00	0.00	0.00	0.00	0.00	3.90
NW	1.76	1.76	0.00	0.00	0.00	0.00	0.00	0.00	3.52
NNW	2.00	1.96	0.00	0.00	0.00	0.00	0.00	0.00	3.96
CALM	-----	-----	-----	-----	-----	-----	-----	-----	.79
TOTAL	37.13	57.26	4.52	.31	0.00	0.00	0.00	0.00	100.00

NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
2901 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

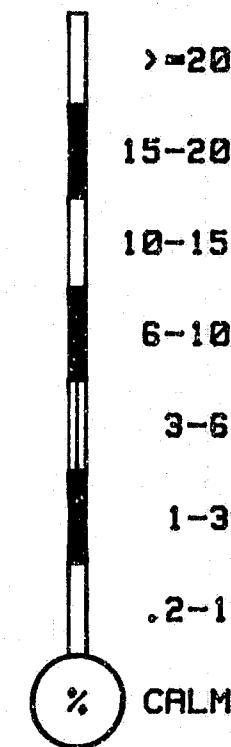
R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
May, 1982



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
May, 1982



WIND SPEED
(M/S)



R & M CONSULTANTS, INC.
SUSITNA HYDRO ELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING June, 1982

PRECIPITATION VALUES ARE IN MILLIMETERS

HOUR ENDING

DATE	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	DATE			
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1			
2	.6	.4	.6	.8	1.0	.2	0.0	0.0	3.0	3.2	1.2	2.0	1.8	2.2	1.0	0.0	.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2		
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3		
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4		
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5		
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6		
7	.2	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.6	0.0	0.0	0.0	0.0	.4	0.0	0.0	.4	0.0	.4	0.0	0.0	0.0	7	
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8		
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9		
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.8	.2	.4	.2	0.0	10		
11	.2	0.0	.2	.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	11	
12	.2	.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.6	.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12	
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.8	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13		
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14		
15	.6	1.4	0.0	0.0	0.0	0.0	0.0	1.4	3.2	3.4	3.0	1.8	2.8	1.8	3.6	2.0	2.0	2.0	2.0	.8	.6	.2	.4	.2	.2	0.0	15	
16	.2	0.0	.2	.2	.2	1.0	.4	0.0	0.0	.2	0.0	0.0	0.0	.2	0.0	.4	.6	.6	.6	1.0	1.0	.8	0.0	0.0	0.0	0.0	16	
17	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.8	1.4	.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17		
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18		
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.0	1.0	1.4	2.0	1.2	19	
20	.2	0.0	0.0	0.0	0.0	.2	0.0	2.2	5.0	3.4	.8	.6	.6	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20
21	0.0	0.0	0.0	0.0	0.0	.2	.2	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21	
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22		
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23		
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24		
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25		
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26		
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27		
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28		
29	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29		
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.6	.6	.2	0.0	0.0	0.0	0.0	0.0	0.0	30	

R & M CONSULTANTS, INC.

SUSITNA HYDRO ELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING June, 1982

DAY 01

DAY 02

DAY 03

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST
DEG C	%	DEG.	M/S	DEG.	%	MW	DEG C	POINT RH	DIR.	SPD.	DIR.	GUST

0300	4.4	****	27	074	1.2	057	3.2	3	0300	2.3	****	31	059	1.3	092	3.8	2	0300	-1.6	-16.7	31	257	.7	224	3.8	4
0600	5.0	-12.6	27	053	1.9	044	4.4	7	0400	1.2	-13.8	32	342	.3	242	3.2	8	0600	-7	****	29	002	.6	002	5.1	30
0900	8.5	-11.0	24	115	.8	162	3.2	66	0900	2.3	-14.5	28	102	.6	143	2.5	20	0900	2.1	-19.2	19	316	.8	245	5.1	64
1200	8.4	-21.8	10	189	1.5	190	3.8	48	1200	2.3	****	20	124	.8	115	2.5	20	1200	3.3	-18.2	19	004	1.3	026	3.8	89
1500	8.2	-14.8	18	157	2.3	161	5.1	40	1700	2.6	-14.6	27	007	1.5	027	3.8	38	1500	1.3	-19.3	20	025	2.1	026	4.4	66
1800	6.9	-14.0	21	118	.7	348	5.1	12	1800	.4	-16.1	28	218	1.0	219	5.1	17	1800	2.6	-19.4	18	358	1.1	267	3.8	30
2100	2.9	-13.5	29	188	.3	216	7.6	2	2100	-.1	****	31	185	1.1	200	3.8	2	2100	.1	-19.7	21	058	.8	166	3.2	3
2400	3.4	-12.7	30	048	.8	089	2.5	1	2400	-.6	-16.2	30	248	3.0	242	7.0	1	2400	0.0	-16.9	27	064	1.4	029	3.2	2

DAY 04

DAY 05

DAY 06

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST
DEG C	%	DEG.	M/S	DEG.	%	MW	DEG C	POINT RH	DIR.	SPD.	DIR.	GUST

0300	1.1	-15.5	28	069	1.9	064	4.4	4	0300	1.9	-14.0	30	092	1.0	084	4.4	3	0300	3.8	-11.9	31	015	1.0	030	3.2	2
0600	1.5	-16.5	25	037	1.5	040	3.8	13	0600	2.8	****	30	114	.8	038	3.2	19	0600	4.8	-11.5	30	054	1.6	139	5.7	10
0900	4.6	-18.4	17	080	.9	062	3.2	58	0900	4.5	-12.6	28	093	1.1	140	4.4	51	0900	8.1	-9.9	27	086	2.3	116	6.3	30
1200	5.8	-17.4	17	179	.9	170	4.4	62	1200	6.0	-15.3	20	162	1.4	165	4.4	29	1200	9.4	-13.1	19	148	2.7	153	10.2	39
1500	6.7	-26.9	7	132	2.3	140	5.7	46	1500	6.5	-14.9	20	177	.9	150	4.4	34	1500	9.6	-9.6	25	125	3.1	097	7.6	18
1800	6.8	-17.3	16	136	2.9	100	6.3	24	1800	6.5	-11.3	27	134	1.6	169	4.4	12	1800	7.9	-10.1	27	109	4.9	132	8.9	18
2100	4.3	-12.7	28	117	2.6	116	6.3	2	2100	5.8	-11.0	29	103	3.8	094	7.0	2	2100	5.5	****	30	109	3.1	102	10.8	2
2400	3.2	-13.3	29	011	1.3	352	6.3	2	2400	4.5	-11.7	30	119	2.2	119	7.0	1	2400	4.7	-11.1	31	086	.7	023	2.5	1

DAY 07

DAY 08

DAY 09

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST
DEG C	%	DEG.	M/S	DEG.	%	MW	DEG C	POINT RH	DIR.	SPD.	DIR.	GUST

0300	5.0	-11.3	30	078	.8	045	3.2	3	0300	1.8	-14.1	30	076	1.5	099	4.4	3	0300	4.2	-12.4	29	064	1.2	051	3.8	3
0600	5.3	-11.0	30	084	1.3	104	3.8	13	0600	3.2	****	31	079	1.1	045	3.2	24	0600	5.6	-11.2	29	052	1.3	055	3.2	24
0900	7.7	-9.4	29	055	1.5	064	4.4	34	0900	5.9	-11.8	27	203	.3	177	2.5	71	0900	6.8	****	27	115	.5	097	3.2	32
1200	7.4	-14.2	20	141	3.0	120	8.9	35	1200	6.8	-11.0	27	153	1.0	170	5.1	67	1200	4.1	-13.8	26	187	.4	146	5.1	39
1500	7.9	-16.4	16	121	4.3	118	7.6	38	1500	7.6	-16.7	16	127	.3	169	3.8	46	1500	5.1	-12.0	28	056	.5	139	2.5	31
1800	2.6	-12.6	32	155	2.4	215	10.8	13	1800	7.1	-13.8	21	151	1.3	166	4.4	24	1800	5.5	-11.7	28	121	.6	179	2.5	11
2100	1.1	****	36	259	1.2	210	10.8	2	2100	6.0	****	27	090	1.0	138	3.8	3	2100	5.4	-11.4	29	079	1.1	115	3.2	2
2400	1.0	-11.2	40	017	.1	234	3.8	1	2400	4.4	-12.2	29	083	1.4	095	3.8	1	2400	5.1	-11.2	30	087	1.3	083	3.8	1

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING JUNE, 1982

DAY 10

DAY 11

DAY 12

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.
NDNG TEMP, POINT RH DIR, SPD, DIR, GUST RAD	DEG C	DEG C	% DEG, M/S MW	NDNG TEMP, POINT RH DIR, SPD, DIR, GUST RAD	DEG C	DEG C	% DEG, M/S MW	NDNG TEMP, POINT RH DIR, SPD, DIR, GUST RAD	DEG C	DEG C	% DEG, M/S MW

0300	4.8	-11.5	30	071	1.9	075	5.1	4 0300	2.6	-13.0	31	062	1.7	072	5.1	1 0300	2.5	-13.5	30	119	1.6	141	7.6	2
0600	5.8	-10.6	30	072	1.5	093	4.4	26 0600	2.9	*****	31	110	1.4	128	4.4	15 0600	3.3	-12.8	30	096	4.0	100	9.5	17
0900	6.9	*****	29	069	1.0	045	3.8	21 0900	3.3	-13.2	29	126	.6	244	5.1	29 0900	4.9	-12.2	28	116	2.6	128	9.5	42
1200	7.7	-14.5	19	134	3.0	113	8.3	44 1200	4.4	-14.5	24	193	.9	130	8.3	41 1200	6.7	-16.7	17	126	5.0	124	12.1	86
1500	6.4	-13.9	22	133	5.0	129	9.5	25 1500	3.8	-13.2	28	166	.8	134	8.3	31 1500	5.1	-16.1	20	097	1.9	139	10.8	34
1800	6.4	-11.4	27	103	5.1	118	10.2	14 1800	3.4	-13.5	28	171	2.2	120	7.0	15 1800	2.2	-15.4	26	164	5.5	194	14.6	16
2100	3.4	-12.7	30	097	4.5	109	10.2	2 2100	3.3	-13.2	29	090	2.1	143	6.3	2 2100	-1.2	-13.8	38	217	3.4	219	10.8	1
2400	3.1	-12.5	31	065	1.8	108	3.8	1 2400	1.7	*****	31	062	1.1	070	3.8	1 2400	-2.2	-15.1	32	109	1.0	108	7.0	1

DAY 13

DAY 14

DAY 15

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.
NDNG TEMP, POINT RH DIR, SPD, DIR, GUST RAD	DEG C	DEG C	% DEG, M/S MW	NDNG TEMP, POINT RH DIR, SPD, DIR, GUST RAD	DEG C	DEG C	% DEG, M/S MW	NDNG TEMP, POINT RH DIR, SPD, DIR, GUST RAD	DEG C	DEG C	% DEG, M/S MW

0300	-8	-16.0	31	050	1.3	052	3.8	4 0300	2.3	*****	24	034	1.0	033	2.5	5 0300	.5	*****	35	358	1.1	331	3.2	2
0600	.1	-15.2	31	002	1.1	292	3.2	24 0600	4.0	-14.8	24	081	.9	053	2.5	23 0600	1.5	*****	29	354	.7	352	1.9	6
0900	4.4	*****	7	071	1.3	051	3.8	67 0900	7.6	-14.6	19	108	1.2	112	5.7	68 0900	3.2	*****	22	346	.8	003	2.5	22
1200	6.2	-27.2	7	157	.3	137	2.5	81 1200	8.5	-19.4	12	141	3.2	144	5.7	82 1200	4.3	*****	18	000	.8	010	2.5	46
1500	6.7	-22.9	10	180	2.2	184	5.1	66 1500	7.9	-17.2	15	139	2.3	152	7.0	58 1500	2.8	-19.2	18	124	.6	142	1.9	32
1800	5.7	-23.7	10	153	2.9	164	5.7	26 1800	5.6	-16.9	18	138	1.8	042	7.6	13 1800	2.6	*****	18	075	.5	015	2.5	20
2100	3.9	-20.4	15	096	1.5	122	4.4	3 2100	4.4	-14.5	24	096	1.3	038	5.1	3 2100	1.7	*****	29	047	.5	133	1.9	3
2400	2.9	*****	23	077	.8	082	1.9	2 2400	3.0	-13.4	29	008	1.5	031	5.1	1 2400	.6	*****	41	033	.4	040	1.3	1

DAY 16

DAY 17

DAY 18

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.
NDNG TEMP, POINT RH DIR, SPD, DIR, GUST RAD	DEG C	DEG C	% DEG, M/S MW	NDNG TEMP, POINT RH DIR, SPD, DIR, GUST RAD	DEG C	DEG C	% DEG, M/S MW	NDNG TEMP, POINT RH DIR, SPD, DIR, GUST RAD	DEG C	DEG C	% DEG, M/S MW

0300	.2	*****	39	339	.6	352	1.3	3 0300	-.3	*****	39	***	0.0	331	.6	2 0300	4.1	-14.8	24	054	1.1	052	3.8	4
0600	.6	*****	29	325	.6	333	1.3	16 0600	.5	*****	29	006	.3	035	1.9	10 0600	4.9	-15.7	21	055	1.0	117	3.2	28
0900	3.0	*****	17	250	.1	318	1.3	36 0900	1.5	-19.7	19	188	.3	028	2.5	38 0900	7.9	-12.6	22	179	.5	125	3.8	50
1200	6.9	*****	7	121	.3	169	1.3	54 1200	5.8	-22.5	11	169	.6	068	3.8	98 1200	6.8	-13.5	22	106	.3	147	5.1	38
1500	4.4	*****	13	056	.6	131	2.5	37 1500	7.5	-22.3	10	085	.8	189	3.8	81 1500	6.2	-16.4	18	130	1.5	140	5.1	36
1800	2.4	*****	21	029	1.2	033	3.2	13 1800	7.1	-23.8	9	137	1.6	166	5.1	30 1800	4.8	-15.8	21	076	1.0	137	4.4	8
2100	1.0	-14.4	31	019	1.5	014	3.2	1 2100	5.1	-18.0	17	078	1.7	128	5.1	3 2100	6.5	-11.7	26	094	2.3	118	9.5	3
2400	.1	*****	39	338	.9	315	2.5	1 2400	4.5	-15.5	22	065	1.6	104	3.8	2 2400	5.1	-12.5	27	128	2.2	116	8.9	1

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING June, 1982

DAY 19

DAY 20

DAY 21

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.
NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD	DEG C	DEG C	% DEG. M/S MW	NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD	DEG C	DEG C	% DEG. M/S MW	NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD	DEG C	DEG C	% DEG. M/S MW

0300	5.6	-11.6	28	049	1.6	055	6.3	4	0300	.1	-12.3	39	124	.5	127	2.5	2	0300	0.0	-12.1	40	301	.9	265	2.5	2
0600	7.2	-10.7	27	072	1.7	086	4.4	30	0600	1.4	*****	25	122	.5	149	1.9	8	0600	.1	-15.2	31	316	.9	314	2.5	8
0900	8.4	*****	25	135	1.9	138	4.4	44	0900	1.8	-20.7	17	286	.5	334	1.9	50	0900	2.0	-16.1	25	011	.5	012	3.2	42
1200	8.9	-12.9	20	153	1.6	123	5.7	45	1200	3.4	-19.4	17	327	.8	295	2.5	46	1200	5.1	-15.5	21	010	1.2	026	3.2	60
1500	4.6	-16.5	20	131	2.2	089	7.0	16	1500	1.2	-19.3	20	270	1.9	257	4.4	37	1500	5.4	-17.1	18	203	.8	214	3.8	43
1800	4.7	*****	24	114	2.5	119	5.7	6	1800	1.1	-16.8	25	321	1.1	279	3.2	14	1800	6.8	*****	17	251	.8	258	3.8	31
2100	2.2	-14.1	29	094	1.0	106	3.8	2	2100	.6	-15.1	30	344	1.0	011	3.2	2	2100	4.8	-15.2	22	138	.9	147	3.2	3
2400	.9	*****	34	025	.5	024	2.5	1	2400	.1	-13.7	35	283	1.0	250	3.2	1	2400	4.6	*****	26	053	.9	029	2.5	2

DAY 22

DAY 23

DAY 24

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.
NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD	DEG C	DEG C	% DEG. M/S MW	NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD	DEG C	DEG C	% DEG. M/S MW	NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD	DEG C	DEG C	% DEG. M/S MW

0300	2.4	*****	29	001	1.4	346	4.4	3	0300	6.8	-10.1	29	076	1.5	055	3.8	4	0300	10.5	-7.8	27	072	2.1	059	5.1	4
0600	3.2	*****	29	064	.3	104	1.9	20	0600	8.1	-9.9	27	068	1.2	051	4.4	31	0600	10.5	*****	27	085	.9	069	3.2	21
0900	7.0	-11.8	25	105	.7	156	4.4	61	0900	10.9	-11.2	20	210	.4	166	3.8	66	0900	13.7	*****	24	223	.6	211	2.5	72
1200	9.2	-13.3	19	224	1.6	281	5.1	77	1200	11.4	-14.4	15	220	1.5	268	5.1	79	1200	13.6	-14.4	13	201	2.3	159	5.1	79
1500	8.9	-15.6	16	149	3.1	142	5.7	37	1500	12.1	-13.8	15	263	1.6	346	6.3	50	1500	15.2	-13.1	13	229	2.2	199	5.1	65
1800	7.5	-16.0	17	144	2.5	140	5.7	19	1800	10.9	*****	16	145	.7	004	5.1	10	1800	13.4	-12.0	16	192	1.8	159	5.7	30
2100	6.8	-12.5	24	064	1.3	124	4.4	3	2100	10.9	*****	24	058	.8	016	2.5	3	2100	11.7	*****	23	020	.2	061	3.2	3
2400	7.2	*****	27	048	1.3	080	3.8	2	2400	11.1	-7.8	26	067	1.3	055	3.2	1	2400	11.0	-7.9	26	064	1.6	062	3.8	2

DAY 25

DAY 26

DAY 27

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.
NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD	DEG C	DEG C	% DEG. M/S MW	NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD	DEG C	DEG C	% DEG. M/S MW	NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD	DEG C	DEG C	% DEG. M/S MW

0300	10.9	*****	27	061	1.2	063	3.2	3	0300	12.7	-6.4	26	071	3.4	073	7.0	3	0300	11.9	-6.6	27	074	4.0	073	5.7	3
0600	11.8	-7.2	26	068	1.1	049	2.5	26	0600	13.0	*****	26	074	1.6	060	4.4	24	0600	12.0	-6.5	27	073	3.6	069	5.3	17
0900	13.9	-7.0	23	033	.4	234	2.5	65	0900	15.4	-8.8	18	064	.3	031	5.7	49	0900	14.0	-12.3	15	107	3.4	127	7.6	65
1200	15.3	-13.1	13	250	1.8	278	3.8	80	1200	15.6	-12.8	13	135	5.0	135	8.3	54	1200	16.2	-13.4	12	135	4.7	128	7.6	79
1500	15.4	-13.0	13	236	1.9	208	5.7	65	1500	17.5	-15.9	9	140	4.4	125	7.6	78	1500	17.0	-16.3	9	130	5.0	134	8.3	63
1800	16.1	*****	15	275	1.3	293	3.8	39	1800	15.6	-11.9	14	125	3.8	144	6.3	13	1800	16.4	-9.5	16	125	4.9	156	12.7	22
2100	14.1	-9.9	18	239	.1	084	5.1	3	2100	13.7	-6.1	25	104	3.2	087	8.3	2	2100	12.7	-7.4	24	141	4.2	146	12.1	3
2400	14.2	-5.1	26	072	3.8	065	5.7	2	2400	12.6	-6.5	26	077	3.7	073	6.3	1	2400	12.5	-6.1	27	121	3.7	155	11.4	2

R & M CONSULTANTS, INC.

SUSITNA HYDRO ELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING June, 1982

DAY 28

DAY 29

DAY 30

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.
NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD	DEG C	DEG C	% DEG. M/S MW	NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD	DEG C	DEG C	% DEG. M/S MW	NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD	DEG C	DEG C	% DEG. M/S MW

0300	10.5	-7.8	27	134	7.0	141	16.5	3	0300	4.3	-12.7	28	078	1.1	089	3.2	2	0300	6.6	-11.2	27	.9	031	3.8	2	
0600	7.8	-10.2	27	136	9.1	135	20.3	12	0600	4.0	-12.6	29	093	.9	047	3.8	15	0600	7.4	-11.0	26	.43	.7	005	3.8	12
0900	7.8	-12.7	22	134	8.0	113	20.3	13	0900	5.9	-13.7	23	191	1.3	132	6.3	26	0900	7.7	-12.8	22	278	.7	218	3.2	38
1200	10.1	-15.4	15	144	7.0	135	12.1	91	1200	7.4	-16.1	17	130	4.3	135	7.6	47	1200	9.3	-13.2	19	256	1.1	185	4.4	73
1500	8.9	-15.6	16	111	6.1	122	10.2	30	1500	9.2	-16.2	15	149	4.5	149	7.6	39	1500	9.2	-14.6	17	131	.9	216	4.4	12
1800	6.2	-14.6	21	124	3.1	113	10.2	16	1800	8.8	-15.7	16	142	3.7	137	7.0	9	1800	4.8	-9.2	36	247	1.3	279	5.1	5
2100	5.6	*****	26	052	.5	117	3.8	4	2100	8.9	-12.9	20	104	1.6	119	4.4	4	2100	7.4	-11.0	26	063	2.0	094	5.7	3
2400	4.2	-12.4	29	033	.7	059	2.5	2	2400	8.1	-10.9	25	062	1.5	066	5.1	2	2400	5.8	-11.4	28	.93	3.6	083	7.6	2

R & M CONSULTANTS, INC.

SUNGITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING June, 1982

DAY	RES.			RES.			AVG.	MAX.	MAX.	DAY'S			
	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	WIND DIR. DEG	WIND SPD. M/S	WIND SPD. M/S	GUST DIR. DEG	GUST P'VAL SPD. M/S	P'VAL DIR. RH %	MEAN DEG C	MEAN DP MM	PRECIP MM	SOLAR ENERGY WH/SQM
1	11.8	2.9	7.4	116	.7	1.7	216	7.6	E 23	-14.2	.2	6835	1
2	4.0	-7	1.7	221	.2	1.6	242	7.0	ESE 28	-15.3	18.6	3408	2
3	4.2	-2.1	1.1	015	.8	1.5	002	5.1	NNE 23	-18.4	0.0	8163	3
4	8.5	-3	4.1	103	1.3	2.3	100	6.3	NE 22	-16.3	0.0	6798	4
5	7.7	1.6	4.7	119	1.5	2.1	094	7.0	SE 27	-12.9	0.0	4223	5
6	11.0	3.5	7.3	106	2.1	2.8	102	10.8	ESE 28	-10.9	1.2	4533	6
7	8.1	.6	4.4	123	1.3	2.6	215	10.8	ESE 28	-12.4	2.4	4763	7
8	10.0	.9	5.5	106	.8	1.6	170	5.1	E 26	-13.0	0.0	6630	8
9	7.6	3.4	5.5	081	.7	1.4	146	5.1	E 28	-12.0	.4	4385	9
10	8.2	2.8	5.5	103	2.7	3.3	118	10.2	ESE 27	-12.2	1.6	4213	10
11	5.3	1.7	3.5	116	.9	2.1	130	8.3	ENE 29	-13.2	1.2	3775	11
12	7.6	-1.2	3.2	135	2.4	3.8	194	14.6	SE 28	-14.3	2.4	5370	12
13	7.1	-1.2	3.0	114	.8	1.6	164	5.7	NE 18	-20.5	6.0	8465	13
14	8.6	2.1	5.4	112	1.2	2.1	042	7.6	SSE 20	-16.3	0.0	7073	14
15	6.8	.5	3.7	018	.5	.8	331	3.2	N 26	-15.8	31.4	3670	15
16	10.0	.1	5.1	010	.6	.8	033	3.2	NNE 25	-15.8	7.6	5293	16
17	8.1	-.5	3.8	098	.6	1.3	166	5.1	ENE 20	-21.0	6.8	7735	17
18	8.5	3.2	5.9	101	1.0	1.9	118	9.5	SE 33	-14.2	.4	5153	18
19	10.0	.6	5.3	108	1.3	1.8	089	7.0	ESE 25	-13.3	8.2	4485	19
20	6.0	0.0	3.0	300	.6	1.1	257	4.4	WNW 26	-17.3	13.2	4483	20
21	6.8	-.2	3.3	332	.2	1.3	214	3.8	N 26	-15.1	.6	5365	21
22	10.3	2.4	6.4	121	.7	1.9	142	5.7	SE 23	-14.0	0.0	6425	22
23	15.1	5.8	10.5	105	.3	1.6	346	6.3	ENE 21	-11.7	0.0	7568	23
24	15.2	9.1	12.2	164	.5	1.8	159	5.7	ENE 20	-11.1	0.0	8340	24
25	17.0	10.6	13.8	053	.2	1.8	208	5.7	ENE 20	-9.7	0.0	7970	25
26	17.5	12.1	14.8	109	2.8	3.4	135	8.3	SE 20	-9.5	0.0	7475	26
27	18.0	11.7	14.9	116	3.8	4.3	156	12.7	SE 20	-9.6	0.0	7420	27
28	12.5	3.9	8.2	130	5.0	5.6	135	20.3	SE 23	-12.0	0.0	5123	28
29	10.2	3.2	6.7	129	2.0	2.6	135	7.6	SE 22	-14.2	.2	5588	29
30	11.5	4.7	8.1	091	.6	1.9	083	7.6	E 24	-12.4	1.4	4568	30
MONTH	18.0	-2.1	6.2	113	1.1	2.1	135	20.3	SE 24	-14.0	103.8	175490	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 14.6

GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 19.7

GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 13.3

GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 20.3

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

**** SEE NOTES AT THE BACK OF THIS REPORT ****

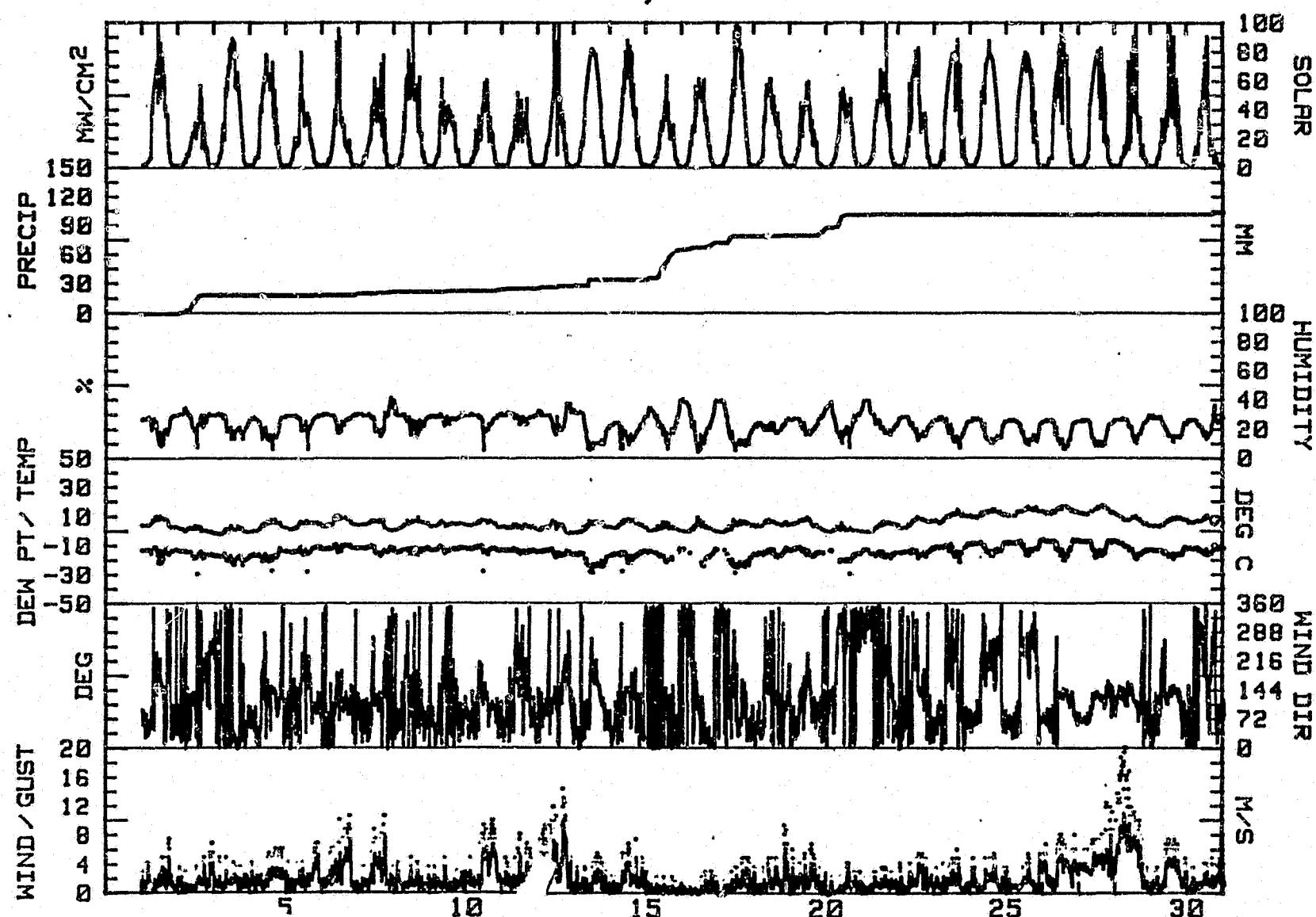
R & M CONSULTANTS, INC.
SUSITNA HYDRO ELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING June, 1982

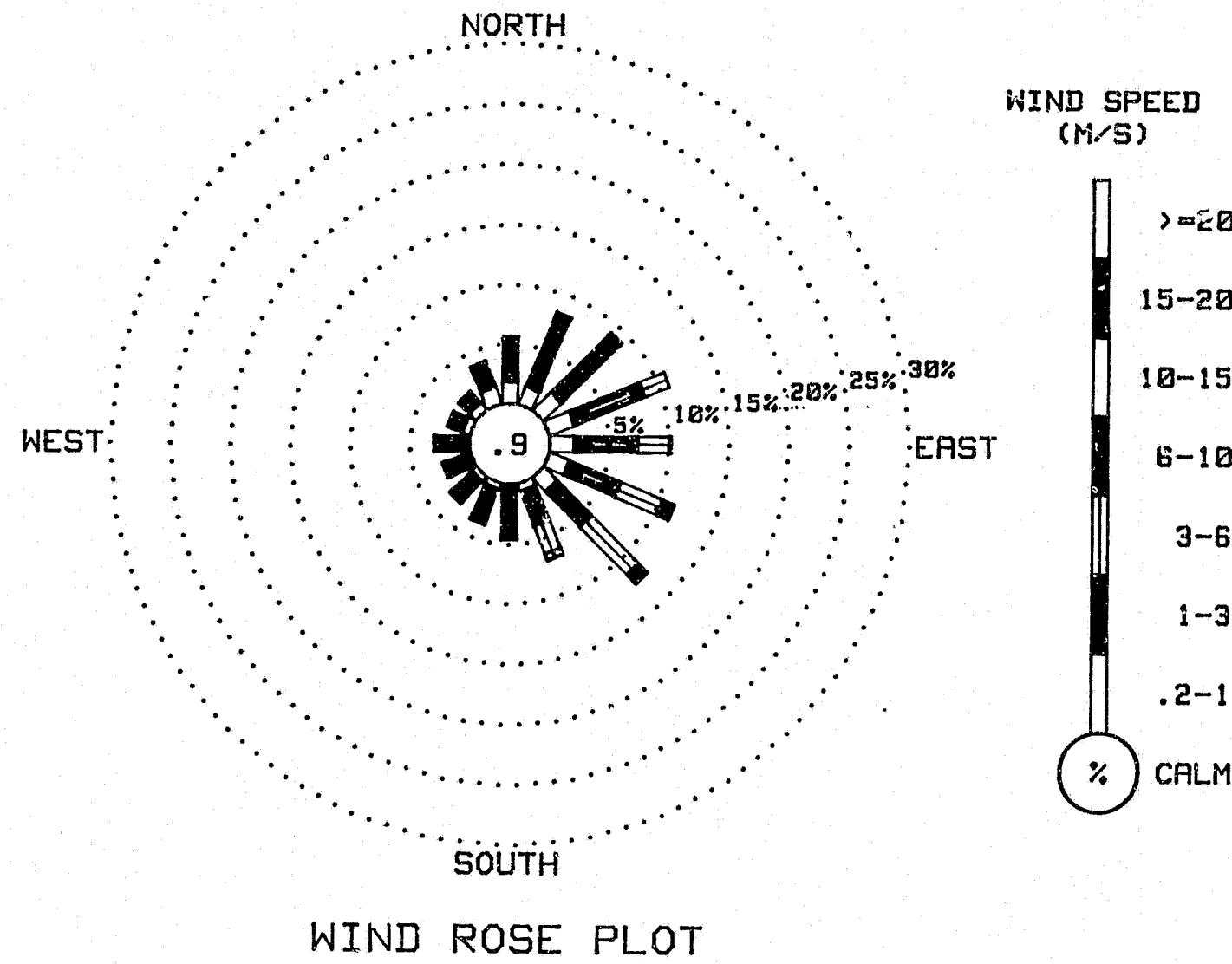
DIRECTION	VELOCITY (M/S)							TOTAL
	0.2 TO 1.0	1.0 TO 3.0	3.0 TO 6.0	6.0 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	20.0 OR GREATER	
	1.0	3.0	6.0	10.0	15.0	20.0		
N	1.81	3.75	.03	0.00	0.00	0.00	0.00	5.59
NNE	1.60	6.46	.24	0.00	0.00	0.00	0.00	8.30
NE	2.12	6.74	.28	0.00	0.00	0.00	0.00	9.14
ENE	2.29	6.29	2.15	0.00	0.00	0.00	0.00	10.73
E	2.05	5.31	2.61	.17	0.00	0.00	0.00	10.14
ESE	1.81	4.62	3.82	1.04	0.00	0.00	0.00	11.29
SE	1.60	4.10	5.52	1.08	.03	0.00	0.00	12.33
SSE	.69	3.06	2.47	.56	.03	0.00	0.00	6.81
S	.24	4.03	.28	.03	0.00	0.00	0.00	4.58
SSW	.52	2.74	.21	.14	.03	0.00	0.00	3.65
SW	.49	2.15	.24	.17	0.00	0.00	0.00	3.06
WSW	.35	1.81	.35	0.00	0.00	0.00	0.00	2.50
W	.28	2.61	.14	0.00	0.00	0.00	0.00	3.02
WNW	.73	1.32	0.00	0.00	0.00	0.00	0.00	2.05
NW	.83	1.29	0.00	0.00	0.00	0.00	0.00	2.12
NNW	1.53	2.26	.03	0.00	0.00	0.00	0.00	3.82
CALM								.87
TOTAL	18.93	58.53	18.37	3.20	.10	0.00	0.00	100.00

NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
2879 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
June, 1982



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
June, 1982



R & M CONSULTANTS, INC.

SUSTAINA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING July, 1982

PRECIPITATION VALUES ARE IN MILLIMETERS

HOUR ENDING

DATE 0100 0200 0300 0400 0500 0600 0700 0800 0900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 DATE

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING July, 1982

DAY 01

DAY 02

DAY 03

HOUR	DEW	WIND	WIND GUST MAX.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	
	DEG C	DEG C	% DEG.	M/S	MW							DEG C	DEG C	% DEG.	M/S	MW							DEG C	DEG C	% DEG.	M/S	MW		

0300	5.2	****	**	065	1.5	084	7.0	3	0300	1.8	****	**	082	1.1	062	3.8	3	0300	5.5	****	**	038	1.1	015	3.2	3
0600	4.2	****	**	008	.5	299	5.1	13	0600	3.8	****	**	078	3.1	068	6.3	8	0600	6.5	****	**	046	1.0	045	2.5	17
0900	4.7	****	**	181	1.7	180	5.7	17	0900	4.7	****	**	142	.7	140	5.7	67	0900	8.0	****	**	255	.6	006	3.2	69
1200	1.5	****	**	202	2.3	258	9.5	22	1200	7.6	****	**	152	3.8	133	8.3	81	1200	10.8	****	**	215	1.9	195	3.8	66
1500	3.2	****	**	218	.7	167	4.4	42	1500	7.8	****	**	131	4.1	125	8.3	29	1500	11.9	****	**	218	1.6	179	5.1	21
1800	.8	****	**	044	1.4	028	6.3	4	1800	8.6	****	**	132	4.1	142	7.0	10	1800	12.0	****	**	259	.6	196	3.8	29
2100	1.9	****	**	019	1.3	021	4.4	2	2100	8.0	****	**	089	2.7	105	6.3	3	2100	10.9	****	**	314	.3	340	3.2	3
2400	1.6	****	**	115	.8	097	3.2	2	2400	6.2	****	**	080	2.2	072	3.8	2	2400	9.4	****	**	057	1.2	055	3.2	2

DAY 04

DAY 05

DAY 06

HOUR	DEW	WIND	WIND GUST MAX.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	% DEG.	M/S	MW							DEG C	DEG C	% DEG.	M/S	MW						DEG C	DEG C	% DEG.	M/S	MW		

0300	7.4	****	**	069	1.4	069	4.4	3	0300	7.2	****	**	100	2.2	117	5.1	2	0300	8.3	****	**	060	1.4	049	3.2	3
0600	5.5	****	**	070	.7	164	3.2	13	0600	6.1	****	**	124	1.4	147	5.1	15	0600	8.5	****	**	083	1.0	062	3.2	8
0900	10.0	****	**	177	.8	157	3.2	63	0900	7.8	****	**	107	.8	184	3.2	32	0900	11.2	****	**	263	.5	268	3.2	63
1200	11.8	****	**	210	1.9	187	4.4	63	1200	9.2	****	**	157	1.8	148	3.8	38	1200	13.4	****	**	142	3.9	142	7.0	113
1500	12.2	****	**	284	1.1	190	4.4	29	1500	11.5	****	**	184	2.7	167	5.1	76	1500	13.4	****	**	144	3.9	148	6.3	36
1800	9.8	****	**	115	2.0	125	5.1	8	1800	9.5	****	**	150	2.3	197	4.4	9	1800	14.3	****	**	141	4.0	151	6.3	24
2100	9.7	****	**	097	1.9	127	8.3	2	2100	8.5	****	**	127	.4	098	3.2	3	2100	12.4	****	**	096	1.8	131	4.4	3
2400	7.7	****	**	133	1.0	136	6.3	1	2400	8.8	****	**	081	1.2	087	3.2	2	2400	10.7	****	**	068	1.5	078	3.8	1

DAY 07

DAY 08

DAY 09

HOUR	DEW	WIND	WIND GUST MAX.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	% DEG.	M/S	MW							DEG C	DEG C	% DEG.	M/S	MW						DEG C	DEG C	% DEG.	M/S	MW		

0300	10.2	****	**	073	1.2	103	3.2	3	0300	14.5	****	**	077	2.1	078	5.7	3	0300	6.0	****	**	120	.4	134	3.2	1
0600	11.5	****	**	073	1.2	036	3.8	6	0600	15.0	****	**	080	2.6	068	5.7	7	0600	6.2	****	**	105	.4	036	2.5	7
0900	14.4	****	**	214	.2	065	4.4	63	0900	15.6	****	**	105	1.1	074	4.4	30	0900	6.5	****	**	038	1.2	006	5.1	32
1200	16.8	****	**	247	1.1	229	4.4	72	1200	15.3	****	**	209	.2	169	3.2	38	1200	8.4	****	**	204	1.3	288	3.2	22
1500	18.6	****	**	213	2.1	226	5.7	60	1500	12.2	****	**	152	.8	230	7.6	28	1500	9.4	****	**	186	.7	195	4.4	11
1800	17.9	****	**	023	1.0	039	5.7	27	1800	12.6	****	**	342	1.3	013	6.3	36	1800	8.6	****	**	016	.4	349	3.2	9
2100	15.7	****	**	058	2.8	041	6.3	2	2100	7.8	****	**	287	1.1	251	4.4	1	2100	9.4	****	**	055	1.0	074	4.4	2
2400	15.7	****	**	071	3.0	038	7.0	2	2400	6.8	****	**	340	1.6	011	5.7	1	2400	10.0	****	**	082	1.3	102	4.4	1

R & M CONSULTANTS, INC.

SUSITNA HYDRO ELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING July, 1982

DAY 10

DAY 11

DAY 12

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD
DEG C	DEG C	%	DEG. M/S	MW		DEG C	DEG C	%	DEG. M/S	MW		DEG C	DEG C	%	DEG. M/S	MW	

0300	7.8	****	**	046	1.2	076	5.1	2	0300	5.0	****	**	022	.3	307	1.9	2	0300	5.6	****	**	338	.7	341	1.9	2
0600	8.0	****	**	111	.6	042	2.5	17	0600	4.9	****	**	133	.2	171	1.9	9	0600	5.6	****	**	308	.3	346	2.5	6
0900	8.7	****	**	184	.8	164	2.5	25	0900	5.6	****	**	227	1.0	216	2.5	33	0900	6.3	****	**	193	.4	229	1.9	24
1200	11.4	****	**	202	1.2	156	3.8	59	1200	6.8	****	**	201	1.7	200	3.2	38	1200	6.8	****	**	208	1.4	241	2.5	33
1500	12.3	****	**	189	2.1	206	5.1	65	1500	9.0	****	**	204	1.6	187	3.8	67	1500	7.1	****	**	203	1.5	204	2.5	24
1800	8.3	****	**	276	1.9	304	5.1	12	1800	8.9	****	**	208	1.4	197	4.4	12	1800	6.4	****	**	228	.8	170	2.5	5
2100	6.7	****	**	323	1.5	322	4.4	1	2100	7.6	****	**	168	.6	157	2.5	1	2100	5.4	****	**	328	1.2	296	3.8	2
2400	5.1	****	**	290	1.6	263	3.8	1	2400	6.1	****	**	288	.1	140	1.9	1	2400	4.9	****	**	332	1.1	323	2.5	1

DAY 13

DAY 14

DAY 15

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD
DEG C	DEG C	%	DEG. M/S	MW		DEG C	DEG C	%	DEG. M/S	MW		DEG C	DEG C	%	DEG. M/S	MW	

0300	4.6	****	**	338	.9	316	1.9	2	0300	7.5	****	**	087	.7	111	1.9	2	0300	5.6	****	**	058	.8	353	2.5	1
0600	4.3	****	**	322	1.1	328	2.5	9	0600	8.0	****	**	090	.8	060	2.5	15	0600	5.1	****	**	151	.4	080	2.5	12
0900	5.0	****	**	280	1.1	285	2.5	27	0900	9.8	****	**	206	.6	246	2.5	38	0900	5.1	****	**	311	1.0	018	2.5	17
1200	7.6	****	**	213	1.7	230	3.8	89	1200	10.9	****	**	199	1.9	192	3.8	54	1200	5.6	****	**	298	1.0	267	3.2	24
1500	9.2	****	**	210	2.1	235	3.8	44	1500	9.3	****	**	202	2.4	170	5.1	25	1500	6.0	****	**	356	1.2	007	3.2	12
1800	8.6	****	**	190	1.2	185	3.8	10	1800	6.7	****	**	174	.5	088	6.3	10	1800	6.3	****	**	142	1.7	137	3.8	6
2100	8.1	****	**	152	.6	160	2.5	2	2100	5.9	****	**	001	.1	191	5.7	1	2100	5.5	****	**	099	1.2	142	3.2	2
2400	7.6	****	**	079	.4	123	1.9	1	2400	6.3	****	**	057	1.1	051	3.8	1	2400	5.3	****	**	060	.7	034	2.5	1

DAY 16

DAY 17

DAY 18

HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.	HOUR	DEW	WIND	WIND	GUST	MAX.
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD
DEG C	DEG C	%	DEG. M/S	MW		DEG C	DEG C	%	DEG. M/S	MW		DEG C	DEG C	%	DEG. M/S	MW	

0300	5.6	****	**	079	.8	035	2.5	2	0300	2.2	****	**	335	.4	297	2.5	3	0300	2.7	****	**	334	.9	355	2.5	2
0600	4.9	****	**	124	1.6	113	4.4	15	0600	2.2	****	**	191	.7	263	1.9	10	0600	2.6	****	**	194	.3	354	1.9	9
0900	4.2	****	**	243	1.2	252	3.2	24	0900	3.1	****	**	184	1.3	172	2.5	20	0900	4.3	****	**	220	1.1	206	2.5	41
1200	3.3	****	**	245	1.8	247	3.8	17	1200	5.8	****	**	185	1.9	186	3.8	75	1200	6.9	****	**	214	1.6	221	3.8	46
1500	3.8	****	**	249	1.1	241	4.4	26	1500	6.0	****	**	199	2.0	175	3.8	21	1500	11.1	****	**	151	2.2	144	6.3	51
1800	4.3	****	**	190	1.2	185	2.5	16	1800	6.5	****	**	198	1.2	188	2.5	17	1800	9.4	****	**	131	1.9	145	6.3	22
2100	3.3	****	**	282	.7	253	2.5	2	2100	5.5	****	**	169	.4	162	2.5	1	2100	9.0	****	**	004	2.3	017	5.3	1
2400	2.6	****	**	049	.4	149	1.9	2	2400	3.4	****	**	344	.6	353	2.5	2	2400	8.5	****	**	015	6.5	001	12.1	0

R & M CONSULTANTS, INC.

EGUSS ITNA HYDROCELL PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING July, 1982

DAY 19

DAY 20

DAY 21

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST
DEG C	DEG C	%	DEG C	DEG C	%	DEG C	DEG C	DIR.	SPD.	DIR.	GUST	RAD
			M/S	M/S	MW			M/S	M/S	M/S	MW	

0300	8.5	****	**	079	2.0	021	7.6	2	0300	10.0	****	**	072	1.1	078	3.2	1	0300	9.5	****	**	037	.9	008	3.2	1
0600	8.9	****	**	114	2.1	123	5.1	16	0600	9.9	****	**	077	1.0	082	1.9	5	0600	9.4	****	**	356	.5	344	1.9	16
0900	11.6	****	**	112	3.2	120	7.0	57	0900	12.4	****	**	179	.7	169	3.2	61	0900	10.3	****	**	133	1.2	144	3.2	32
1200	13.4	****	**	130	4.6	122	7.6	73	1200	14.1	****	**	199	2.2	171	4.4	75	1200	11.9	****	**	141	1.5	130	6.3	34
1500	15.1	****	**	124	2.3	112	6.3	51	1500	15.9	****	**	163	2.2	152	5.1	61	1500	7.2	****	**	149	.8	110	7.0	7
1800	13.7	****	**	193	1.1	120	6.3	26	1800	14.6	****	**	224	1.4	198	4.4	34	1800	8.9	****	**	152	1.4	111	7.6	4
2100	11.2	****	**	016	.9	010	3.8	1	2100	12.8	****	**	178	1.0	162	4.4	1	2100	7.7	****	**	177	1.0	212	5.7	2
2400	10.8	****	**	074	1.0	111	2.5	0	2400	11.1	****	**	001	1.0	359	3.8	0	2400	5.1	****	**	235	3.3	223	7.0	1

DAY 22

DAY 23

DAY 24

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST
DEG C	DEG C	%	DEG C	DEG C	%	DEG C	DEG C	DIR.	SPD.	DIR.	GUST	
			M/S	M/S	MW			M/S	M/S	M/S	MW	

0300	4.1	****	**	260	2.4	229	5.7	2	0300	5.5	****	**	048	.6	010	2.5	1	0300	5.2	****	**	049	.8	114	5.1	2
0600	3.5	****	**	253	2.7	233	6.3	2	0600	5.4	****	**	063	1.2	047	4.4	4	0600	4.3	****	**	234	1.3	206	8.3	3
0900	3.2	****	**	253	2.4	245	5.1	8	0900	5.7	****	**	092	1.2	094	4.4	8	0900	5.2	****	**	240	2.6	208	8.3	26
1200	3.9	****	**	337	1.0	015	3.8	12	1200	6.1	****	**	104	1.1	113	3.8	17	1200	6.0	****	**	064	1.0	012	3.8	42
1500	4.9	****	**	126	.7	057	3.2	23	1500	6.4	****	**	349	.7	036	5.1	4	1500	5.9	****	**	102	.9	032	3.8	11
1800	5.4	****	**	170	.4	032	3.8	6	1800	5.7	****	**	203	2.5	193	7.6	3	1800	5.5	****	**	099	.6	018	3.2	4
2100	5.1	****	**	075	.7	152	3.2	1	2100	5.4	****	**	238	1.0	272	3.8	2	2100	6.5	****	**	083	1.3	063	4.4	1
2400	4.6	****	**	078	.9	076	3.2	1	2400	5.1	****	**	053	.9	004	3.8	2	2400	5.8	****	**	051	.7	099	1.9	1

DAY 25

DAY 26

DAY 27

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST
DEG C	DEG C	%	DEG C	DEG C	%	DEG C	DEG C	DIR.	SPD.	DIR.	GUST	
			M/S	M/S	MW			M/S	M/S	M/S	MW	

0300	6.1	****	**	074	1.1	122	3.2	1	0300	4.1	****	**	084	1.0	049	4.4	2	0300	8.2	****	**	053	.6	094	2.5	1
0600	5.4	****	**	059	.9	044	4.4	6	0600	5.0	****	**	009	1.2	006	3.2	7	0600	8.6	****	**	029	.5	355	1.9	15
0900	5.0	****	**	065	.7	035	3.2	8	0900	6.7	****	**	095	.2	141	3.2	16	0900	10.0	****	**	214	.7	190	2.5	24
1200	4.6	****	**	021	1.9	033	5.1	12	1200	8.5	****	**	244	.8	205	3.8	60	1200	9.4	****	**	177	.9	148	2.5	26
1500	4.3	****	**	031	1.7	026	4.4	13	1500	11.0	****	**	210	1.4	192	3.8	85	1500	12.2	****	**	131	.7	154	5.1	67
1800	5.5	****	**	129	.8	158	3.2	5	1800	10.6	****	**	174	1.2	184	3.8	7	1800	13.0	****	**	171	1.4	141	3.2	25
2100	5.2	****	**	045	1.1	036	3.8	2	2100	9.5	****	**	004	.4	354	3.2	0	2100	9.8	****	**	137	.4	008	3.2	0
2400	4.9	****	**	116	1.2	138	3.2	2	2400	9.4	****	**	066	1.2	016	4.4	0	2400	8.5	****	**	030	.4	015	3.8	1

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING July, 1982

DAY 28

DAY 29

DAY 30

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.		
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD
DEG C	DEG C	%	DEG.	DEG.	DEG C	M/S	DEG C	DEG C	%	DEG.	DEG.	M/S	MW

0300	8.9	*****	**	070	1.5	061	5.1	0 0300	7.5	*****	**	037	1.4	031	5.1	1 0300	6.6	*****	**	096	1.5	096	4.4	1
0600	9.4	*****	**	067	1.4	040	4.4	9 0600	6.4	*****	**	097	1.4	102	4.4	3 0600	3.3	*****	**	007	2.0	034	5.7	8
0900	11.6	*****	**	123	1.2	142	3.8	40 0900	5.8	*****	**	156	1.1	107	5.1	18 0900	4.8	*****	**	055	.7	048	3.2	15
1200	10.6	*****	**	093	1.5	038	5.1	20 1200	6.7	*****	**	213	.4	119	3.2	20 1200	5.2	*****	**	352	1.6	000	3.2	30
1500	12.2	*****	**	354	.3	014	3.2	7 1500	7.0	*****	**	156	1.4	140	3.8	13 1500	5.5	*****	**	237	1.8	196	4.4	15
1800	10.7	*****	**	083	1.3	163	10.2	12 1800	7.1	*****	**	110	1.0	064	3.8	7 1800	6.3	*****	**	330	1.3	329	3.8	11
2100	9.7	*****	**	058	.7	055	3.8	1 2100	8.1	*****	**	078	1.4	088	4.4	1 2100	5.5	*****	**	343	1.0	023	3.2	1
2400	6.9	*****	**	305	1.0	306	3.8	1 2400	7.6	*****	**	052	1.2	083	3.8	1 2400	4.0	*****	**	357	1.3	347	2.5	1

DAY 31

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.		
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD
DEG C	DEG C	%	DEG.	DEG.	DEG C	M/S	DEG C	DEG C	%	DEG.	DEG.	M/S	MW

0300	2.6	*****	**	079	.6	040	3.2	2
0600	2.2	*****	**	297	.2	131	1.9	13
0900	3.6	*****	**	290	.7	340	3.2	37
1200	6.3	*****	**	214	1.6	211	3.8	68
1500	6.9	*****	**	248	2.8	258	8.3	28
1800	7.4	*****	**	179	2.4	224	7.6	22
2100	3.9	*****	**	139	1.9	162	6.3	0
2400	3.4	*****	**	053	.8	110	3.2	0

R & M CONSULTANTS, INC.

CHIUSI TINA HYDRO ELECTRIC PROJECT

MONTHLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING July, 1982

DAY	MAX. TEMP. DEG C			RES. WIND DIR. DEG			RES. WIND SPD. M/S			AVG. WIND M/S	MAX. GUST SPD. M/S	MAX. P'VAL DIR. Z	MEAN RH %	MEAN DP DEG C	DAY'S PRECIP MM	SOLAR ENERGY WH/SDM
	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	WIND DIR. DEG	WIND SPD. M/S	WIND DIR. DEG	GUST DIR. DEG	GUST SPD. M/S	P'VAL DIR. Z	MEAN RH %	MEAN DP DEG C	MEAN RH %	PRECIP MM	DAY'S SOLAR ENERGY WH/SDM		
1	5.4	-2	2.6	122	.3	2.0	258	9.5	E	**	*****	5.4	3188	1		
2	9.9	1.0	5.5	115	2.4	3.1	133	8.3	SE	**	*****	1.6	7195	2		
3	13.3	5.3	9.3	237	.2	1.5	179	5.1	NE	**	*****	0.0	7158	3		
4	13.4	5.5	9.5	126	.7	1.9	127	8.3	SE	**	*****	0.0	5558	4		
5	12.5	5.1	8.8	137	1.3	2.0	117	5.1	S	**	*****	0.0	5450	5		
6	15.1	7.5	11.3	124	1.8	2.5	142	7.0	SE	**	*****	0.0	6418	6		
7	18.7	10.2	14.5	072	.8	2.0	038	7.0	ENE	**	*****	0.0	7480	7		
8	18.7	6.7	12.7	055	.6	2.1	230	7.6	ENE	**	*****	9.6	5368	8		
9	10.0	5.7	7.9	091	.4	1.4	006	5.1	NE	**	*****	4.0	3240	9		
10	13.3	5.1	9.2	249	.5	1.7	076	5.1	NW	**	*****	15.8	5015	10		
11	9.5	4.7	7.1	203	.7	1.2	197	4.4	SSW	**	*****	7.8	4430	11		
12	7.4	4.9	6.2	259	.4	1.1	296	3.8	NNW	**	*****	12.6	2890	12		
13	10.4	4.1	7.3	230	.6	1.3	230	3.8	SSW	**	*****	1.0	5325	13		
14	12.6	5.3	9.0	170	.5	1.5	088	6.3	SSW	**	*****	11.2	5720	14		
15	8.1	4.3	6.2	058	.3	1.3	137	3.8	N	**	*****	3.6	2468	15		
16	6.0	2.6	4.3	216	.5	1.4	113	4.4	WSW	**	*****	5.0	3273	16		
17	6.8	1.8	4.3	195	.8	1.2	186	3.8	S	**	*****	5.2	4323	17		
18	11.5	2.3	6.9	030	.5	2.5	001	12.1	SW	**	*****	2.4	5898	18		
19	15.1	7.5	11.3	114	1.8	2.5	021	7.6	ESE	**	*****	0.0	7188	19		
20	16.4	9.4	12.9	169	.7	1.6	152	5.1	SSE	**	*****	0.0	7118	20		
21	11.9	5.1	8.5	173	.7	1.8	111	7.6	SSW	**	*****	8.2	2325	21		
22	5.7	3.2	4.5	256	.7	1.8	233	6.3	WSW	**	*****	3.4	1643	22		
23	7.3	4.5	5.9	111	.3	1.6	193	7.6	NNE	**	*****	19.8	1285	23		
24	6.5	4.2	5.4	118	.2	1.7	206	8.3	SE	**	*****	7.4	1908	24		
25	6.2	4.3	5.3	059	1.0	1.5	033	5.1	NNE	**	*****	29.2	1893	25		
26	11.9	3.7	7.8	118	.2	1.3	049	4.4	N	**	*****	2.2	4620	26		
27	13.5	7.7	10.6	147	.4	1.2	154	5.1	SE	**	*****	0.0	4093	27		
28	13.4	6.7	10.1	074	.8	1.8	163	10.2	NE	**	*****	3.2	3278	28		
29	8.2	5.6	6.9	098	.8	1.6	031	5.1	ESE	**	*****	11.6	1883	29		
30	8.1	3.3	5.7	356	.8	1.7	034	5.7	NNW	**	*****	23.8	3238	30		
31	8.4	2.0	5.2	198	.7	1.9	258	8.3	SSW	**	*****	.2	5603	31		
MONTH	18.7	-2	7.8	129	.4	1.4	001	12.1	SSW	*****	194.2	136487				

999,664 DD

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 10.2
 GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 9.5
 GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 10.2
 GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 8.3

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

**** SEE NOTES AT THE BACK OF THIS REPORT ****

R & M CONSULTANTS, INC.

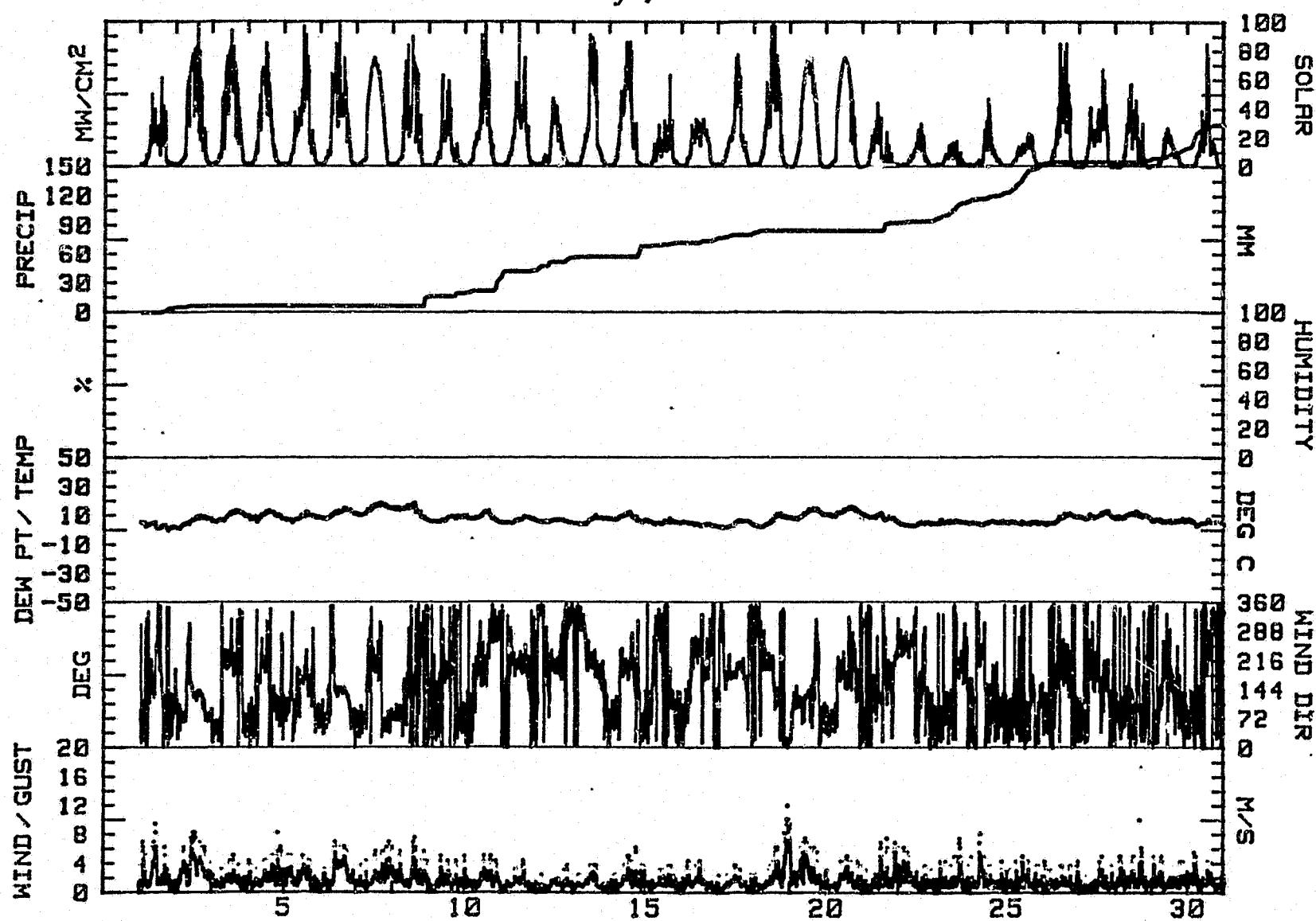
SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING July, 1982

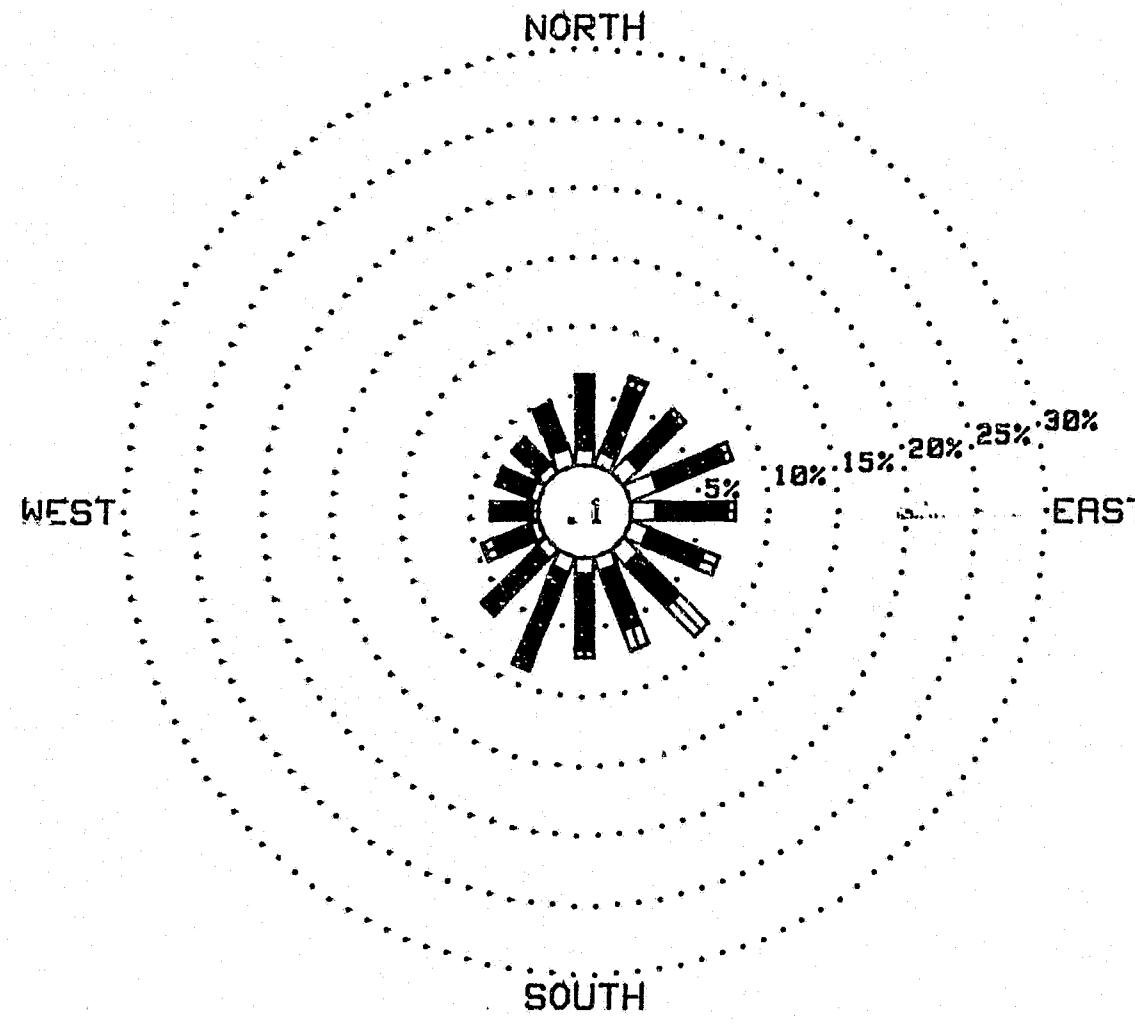
DIRECTION	VELOCITY (M/S)								TOTAL
	0.2 TO 1.0	1.0 TO 3.0	3.0 TO 6.0	6.0 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	20.0 OR GREATER		
N	1.14	5.01	.17	.13	0.00	0.00	0.00	0.00	6.45
NNE	1.08	4.94	.67	.20	0.00	0.00	0.00	0.00	6.69
NE	1.61	4.24	.50	0.00	0.00	0.00	0.00	0.00	6.35
ENE	2.22	5.14	.61	0.00	0.00	0.00	0.00	0.00	7.97
E	1.85	5.14	.57	0.00	0.00	0.00	0.00	0.00	7.56
ESE	1.48	4.20	1.24	0.00	0.00	0.00	0.00	0.00	6.92
SE	1.51	4.13	2.99	0.00	0.00	0.00	0.00	0.00	8.64
SSF	1.11	4.47	1.58	.03	0.00	0.00	0.00	0.00	7.19
S	1.14	5.45	.54	0.00	0.00	0.00	0.00	0.00	7.13
SSW	1.21	7.16	.37	0.00	0.00	0.00	0.00	0.00	8.74
SW	.91	5.28	.37	0.00	0.00	0.00	0.00	0.00	6.55
WSW	.71	2.82	.64	.07	0.00	0.00	0.00	0.00	4.44
W	.44	2.96	.10	0.00	0.00	0.00	0.00	0.00	3.50
WNW	.74	2.52	.10	0.00	0.00	0.00	0.00	0.00	3.36
NW	.81	2.62	.03	0.00	0.00	0.00	0.00	0.00	3.46
NNW	1.38	3.29	.10	0.00	0.00	0.00	0.00	0.00	4.77
CALM									,02
TOTAL	19.33	69.38	10.79	,44	0.00	0.00	0.00	0.00	100.00

NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
2975 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

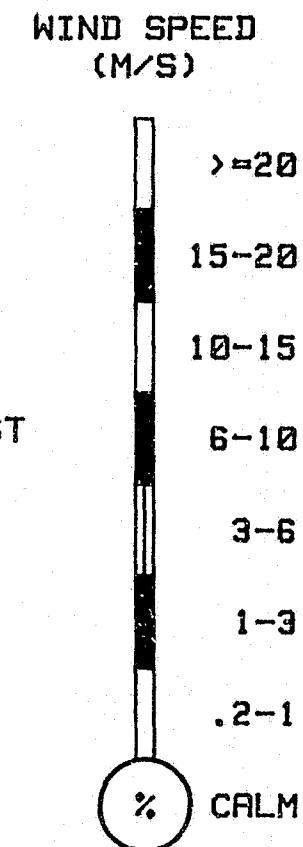
R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
July, 1982



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
July, 1982



WIND ROSE PLOT



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING August, 1982

PRECIPITATION VALUES ARE IN MILLIMETERS

HOUR ENDING

DATE	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	DATE		
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1		
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2		
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3		
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4		
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5		
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6		
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7		
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8		
9	.6	.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	0.0	0.0	.4	.2	.4	.4	0.0	0.0	0.0	.2	.2	.4	.2	0.0	9		
10	0.0	0.0	0.0	0.0	.2	0.0	.4	.2	0.0	0.0	0.0	0.0	0.0	0.0	1.2	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10	
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11		
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12		
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13		
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	1.2	3.8	2.6	.2	0.0	0.0	0.0	0.0	0.0	0.0	14	
15	0.0	0.0	0.0	0.0	.6	1.0	.2	.2	.4	.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15	
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16		
17	.2	1.2	1.4	.4	1.4	1.2	.4	.2	0.0	.2	.4	.4	.4	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18		
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19		
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20		
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21		
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22		
23	0.0	0.0	.2	.4	1.6	.8	.8	.4	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	.2	.2	.2	.2	.6	23		
24	.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24		
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25		
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26		
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27		
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28		
29	0.0	0.0	0.0	0.0	.2	.4	.6	1.2	.8	1.0	1.6	.6	1.8	.8	.4	.2	0.0	.4	.2	.4	.8	.4	1.4	1.4	29		
30	.4	0.0	0.0	1.0	.6	.8	1.0	.6	0.0	.8	3.6	3.8	2.2	.8	.2	.2	.2	.2	1.4	1.4	.6	1.8	.8	.4	30		
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	2.6	.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	.2	0.0	.2	.6	31		

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING August, 1982

DAY 01

DAY 02

DAY 03

HOUR	DEW	WIND	WIND GUST MAX.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD			
	DEG C	DEG C	% DEG.	M/S	DEG C	M/S	MW		DEG C	DEG C	% DEG.	M/S	DEG C	M/S	MW		DEG C	DEG C	% DEG.	M/S	DEG C	M/S	MW		DEG C	DEG C	% DEG.	M/S	MW
0300	2.7	*****	**	027	1.3	019	3.2	1	0300	3.4	*****	**	053	.8	035	2.5	1	0300	5.7	*****	**	077	.6	087	1.9	1			
0600	2.2	*****	**	002	1.6	057	3.8	14	0600	3.4	*****	**	045	.8	038	2.5	5	0600	5.2	*****	**	068	.5	111	1.9	11			
0900	4.1	*****	**	347	1.8	001	3.2	37	0900	7.1	*****	**	249	.3	160	5.1	56	0900	7.3	*****	**	173	1.4	181	3.8	56			
1200	7.2	*****	**	145	2.1	141	6.3	70	1200	8.5	*****	**	153	3.5	139	6.3	70	1200	9.9	*****	**	197	1.1	184	3.2	33			
1500	7.7	*****	**	153	4.2	153	7.0	59	1500	10.1	*****	**	151	2.9	147	7.0	58	1500	10.3	*****	**	214	1.7	185	3.8	34			
1800	6.8	*****	**	167	3.2	160	7.0	20	1800	9.4	*****	**	165	1.0	139	5.7	20	1800	9.1	*****	**	219	1.9	214	3.8	13			
2100	4.7	*****	**	267	.1	141	3.8	0	2100	6.4	*****	**	316	.8	250	3.8	0	2100	7.2	*****	**	171	.3	251	2.5	0			
2400	4.3	*****	**	027	1.2	006	2.5	0	2400	5.5	*****	**	031	.5	018	1.3	0	2400	5.9	*****	**	018	.7	358	2.5	0			

DAY 04

DAY 05

DAY 06

HOUR	DEW	WIND	WIND GUST MAX.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD			
	DEG C	DEG C	% DEG.	M/S	DEG C	M/S	MW		DEG C	DEG C	% DEG.	M/S	DEG C	M/S	MW		DEG C	DEG C	% DEG.	M/S	DEG C	M/S	MW		DEG C	DEG C	% DEG.	M/S	MW
0300	5.0	*****	**	035	.7	358	3.2	1	0300	6.5	*****	**	026	.8	016	2.5	0	0300	6.3	*****	**	063	1.2	064	3.2	0			
0600	5.4	*****	**	051	.7	117	1.9	6	0600	7.5	*****	**	084	1.0	093	3.8	10	0600	6.3	*****	**	099	.9	100	2.5	8			
0900	7.4	*****	**	125	.9	139	5.1	50	0900	8.9	*****	**	112	2.6	109	5.1	27	0900	9.3	*****	**	279	.4	292	2.5	38			
1200	9.8	*****	**	140	3.8	150	7.6	61	1200	8.5	*****	**	189	1.3	313	7.6	73	1200	11.5	*****	**	180	2.0	157	5.7	68			
1500	10.1	*****	**	157	3.1	142	5.7	42	1500	10.2	*****	**	276	2.8	264	7.6	54	1500	12.4	*****	**	156	2.9	147	5.7	55			
1800	9.9	*****	**	156	2.9	160	5.1	17	1800	8.8	*****	**	343	3.0	318	7.6	17	1800	12.1	*****	**	278	1.7	307	5.7	24			
2100	7.7	*****	**	085	.9	041	3.2	0	2100	7.8	*****	**	103	1.2	95	5.7	0	2100	10.2	*****	**	087	3.1	094	6.3	0			
2400	7.5	*****	**	062	1.0	107	2.5	0	2400	7.1	*****	**	066	1.8	062	3.8	0	2400	9.0	*****	**	064	1.7	047	4.4	0			

DAY 07

DAY 08

DAY 09

HOUR	DEW	WIND	WIND GUST MAX.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD			
	DEG C	DEG C	% DEG.	M/S	DEG C	M/S	MW		DEG C	DEG C	% DEG.	M/S	DEG C	M/S	MW		DEG C	DEG C	% DEG.	M/S	DEG C	M/S	MW		DEG C	DEG C	% DEG.	M/S	MW
0300	9.2	*****	**	077	1.2	097	3.2	0	0300	5.6	*****	**	100	1.3	124	5.7	0	0300	2.7	*****	**	003	.6	071	3.8	2			
0600	9.8	*****	**	081	1.3	054	5.1	15	0600	6.0	*****	**	081	1.2	043	3.8	11	0600	3.3	*****	**	024	.7	346	2.5	9			
0900	11.1	*****	**	151	.9	133	4.4	38	0900	7.5	*****	**	086	1.0	046	3.2	34	0900	2.2	*****	**	254	1.8	250	4.4	10			
1200	9.9	*****	**	204	1.6	148	4.4	52	1200	10.2	*****	**	185	1.6	164	3.2	41	1200	3.4	*****	**	352	1.3	022	3.2	18			
1500	9.6	*****	**	181	.4	135	5.7	15	1500	8.8	*****	**	196	1.2	197	5.1	34	1500	4.0	*****	**	355	1.8	007	3.8	16			
1800	6.0	*****	**	235	1.2	191	6.3	3	1800	5.0	*****	**	274	.9	244	8.3	6	1800	4.9	*****	**	108	.9	058	3.8	7			
2100	6.8	*****	**	125	1.3	136	7.6	0	2100	6.3	*****	**	065	1.4	097	5.1	0	2100	3.5	*****	**	037	1.2	019	3.2	1			
2400	6.3	*****	**	105	2.4	099	7.0	0	2400	5.1	*****	**	090	2.2	106	7.6	0	2400	3.2	*****	**	011	1.1	058	3.8	1			

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING August, 1982

DAY 10

DAY 11

DAY 12

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.									
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD							
DEG C	DEG C	%	DEG. M/S	DEG. M/S	MW		DEG C	DEG C	%	DEG. M/S	DEG. M/S	MW								
0300	3.5 **** **	007	.9	030	2.5	1	0300	2.2 **** **	079	.3	112	4.4	1	0300	5.1 **** **	044	1.0	007	2.5	0
0600	2.7 **** **	346	.3	000	1.9	4	0600	1.9 **** **	079	1.1	034	3.8	16	0600	6.3 **** **	053	1.2	042	3.8	4
0900	3.0 **** **	023	.5	022	3.8	9	0900	4.7 **** **	181	.6	113	2.5	58	0900	8.9 **** **	134	.7	180	3.8	54
1200	5.1 **** **	123	.2	355	2.5	29	1200	7.3 **** **	174	2.3	156	6.3	81	1200	10.1 **** **	203	1.9	235	3.8	63
1500	3.6 **** **	165	.6	202	4.4	3	1500	9.3 **** **	150	4.3	152	7.0	52	1500	12.5 **** **	192	2.2	179	4.4	54
1800	3.4 **** **	017	.3	254	7.6	3	1800	7.6 **** **	156	2.9	160	6.3	15	1800	11.4 **** **	182	2.0	168	4.4	13
2100	4.6 **** **	058	1.2	008	3.2	1	2100	6.5 **** **	105	2.2	124	6.3	0	2100	9.7 **** **	083	.1	201	1.9	0
2400	2.6 **** **	336	.8	280	3.8	1	2400	5.6 **** **	045	1.2	025	3.2	0	2400	9.7 **** **	069	1.1	059	3.2	0

DAY 13

DAY 14

DAY 15

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.									
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD							
DEG C	DEG C	%	DEG. M/S	DEG. M/S	MW		DEG C	DEG C	%	DEG. M/S	DEG. M/S	MW								
0300	9.0 **** **	064	.9	053	3.2	0	0300	9.4 **** **	048	1.0	072	3.8	0	0300	4.8 **** **	278	.2	344	2.5	1
0600	9.6 **** **	069	.8	113	3.2	8	0600	11.7 **** **	076	1.3	041	6.3	10	0600	3.8 **** **	280	.7	205	5.7	6
0900	9.9 **** **	299	.6	329	2.5	30	0900	11.5 **** **	079	.9	057	5.1	8	0900	5.1 **** **	004	1.2	072	8.3	8
1200	13.5 **** **	198	1.6	194	3.2	86	1200	9.6 **** **	102	1.2	102	3.8	7	1200	5.8 **** **	006	1.1	077	6.3	25
1500	13.8 **** **	232	1.3	191	3.8	51	1500	8.5 **** **	349	1.1	046	3.8	3	1500	6.4 **** **	060	1.2	113	6.3	26
1800	13.5 **** **	168	1.8	136	4.4	6	1800	9.1 **** **	102	1.4	078	5.1	10	1800	7.7 **** **	003	1.1	043	7.0	13
2100	12.9 **** **	020	.6	000	3.8	0	2100	8.5 **** **	103	1.0	122	3.2	0	2100	5.5 **** **	069	1.1	087	10.8	0
2400	10.8 **** **	010	.8	339	3.8	0	2400	6.2 **** **	020	.7	054	3.2	1	2400	4.2 **** **	043	1.4	072	3.8	0

DAY 16

DAY 17

DAY 18

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.									
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD							
DEG C	DEG C	%	DEG. M/S	DEG. M/S	MW		DEG C	DEG C	%	DEG. M/S	DEG. M/S	MW								
0300	4.3 **** **	032	1.5	052	3.2	0	0300	3.1 **** **	018	1.6	030	3.2	1	0300	2.6 **** **	052	1.0	049	3.2	1
0600	4.5 **** **	042	1.5	056	3.2	6	0600	2.3 **** **	010	1.1	027	2.5	6	0600	2.9 **** **	059	1.0	102	2.5	5
0900	6.8 **** **	009	.8	016	3.8	47	0900	2.6 **** **	324	.8	323	1.9	15	0900	5.1 **** **	356	.2	271	2.5	58
1200	7.6 **** **	104	1.7	135	6.3	26	1200	3.8 **** **	339	1.3	358	2.5	19	1200	6.6 **** **	201	1.7	222	3.8	70
1500	7.6 **** **	184	1.7	133	4.4	25	1500	3.6 **** **	280	.9	266	3.2	18	1500	7.9 **** **	204	1.6	195	3.8	48
1800	5.9 **** **	267	.7	337	4.4	4	1800	4.3 **** **	304	1.1	284	2.5	6	1800	7.8 **** **	211	1.3	169	4.4	12
2100	5.5 **** **	051	.9	084	3.8	0	2100	3.9 **** **	355	.8	329	1.9	1	2100	6.8 **** **	009	.4	217	1.9	0
2400	3.1 **** **	313	.7	077	3.8	1	2400	2.8 **** **	057	.9	069	1.9	1	2400	6.6 **** **	056	.7	088	3.8	0

R & M CONSULTANTS, INC.

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THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING August, 1982

DAY 19

DAY 20

DAY 21

HOUR	DEW	WIND	WIND GUST MAX.	POINT	NDNG TEMP.	RH	DIR.	SPD.	DIR.	GUST	RAD	POINT	NDNG TEMP.	RH	DIR.	SPD.	DIR.	GUST	RAD	POINT	NDNG TEMP.	RH	DIR.	SPD.	DIR.	GUST	RAD			
	DEG C	DEG C	%	DEG	M/S	DEG	M/S	MW	DEG	DEG C	%	DEG	M/S	MW	DEG C	DEG C	M/S	MW	DEG C	DEG C	%	DEG	M/S	MW	DEG C	DEG C	%	DEG	M/S	MW
0300	5.0	*****	**	016	.8	023	3.8	0	0300	5.5	*****	**	081	.9	083	2.5	0	0300	8.0	*****	**	089	1.0	108	2.5	0				
0600	4.2	*****	**	065	.4	122	1.9	6	0600	6.0	*****	**	047	.8	030	2.5	7	0600	8.1	*****	**	086	1.0	106	3.2	5				
0900	6.0	*****	**	177	.8	186	2.5	50	0900	6.8	*****	**	344	.2	356	3.2	31	0900	9.2	*****	**	040	.4	012	2.5	24				
1200	8.7	*****	**	207	1.9	187	4.4	67	1200	9.1	*****	**	347	1.3	353	2.5	69	1200	10.6	*****	**	211	.8	201	2.5	38				
1500	9.5	*****	**	196	2.6	180	4.4	48	1500	9.5	*****	**	251	1.8	234	4.4	46	1500	9.7	*****	**	192	1.2	269	2.5	18				
1800	8.9	*****	**	200	1.6	215	3.2	10	1800	9.2	*****	**	214	1.4	256	3.8	7	1800	9.0	*****	**	001	.4	016	3.2	4				
2100	7.0	*****	**	065	.2	155	1.9	1	2100	7.6	*****	**	058	.1	181	2.5	0	2100	8.6	*****	**	094	.5	147	2.5	0				
2400	5.4	*****	**	089	.7	096	1.9	0	2400	7.7	*****	**	050	.6	023	1.9	0	2400	8.2	*****	**	043	.8	048	2.5	0				

DAY 22

DAY 23

DAY 24

HOUR	DEW	WIND	WIND GUST MAX.	POINT	NDNG TEMP.	RH	DIR.	SPD.	DIR.	GUST	RAD	POINT	NDNG TEMP.	RH	DIR.	SPD.	DIR.	GUST	RAD	POINT	NDNG TEMP.	RH	DIR.	SPD.	DIR.	GUST	RAD			
	DEG C	DEG C	%	DEG	M/S	DEG	M/S	MW	DEG	DEG C	%	DEG	M/S	MW	DEG C	DEG C	M/S	MW	DEG C	DEG C	%	DEG	M/S	MW	DEG C	DEG C	%	DEG	M/S	MW
0300	6.0	*****	**	034	1.0	049	2.5	0	0300	8.3	*****	**	070	1.7	052	5.1	0	0300	5.8	*****	**	084	.9	077	3.8	1				
0600	6.0	*****	**	050	1.0	040	2.5	4	0600	5.3	*****	**	228	.2	126	5.1	3	0600	6.0	*****	**	013	.6	138	1.9	8				
0900	8.3	*****	**	160	.7	173	3.2	50	0900	6.5	*****	**	100	.8	112	3.2	18	0900	8.0	*****	**	140	1.1	156	3.2	42				
1200	10.2	*****	**	197	2.1	195	4.4	63	1200	6.4	*****	**	201	.7	178	2.5	25	1200	8.7	*****	**	262	.9	176	3.2	34				
1500	11.8	*****	**	194	2.2	176	4.4	45	1500	7.7	*****	**	175	1.5	159	3.8	17	1500	9.5	*****	**	196	1.6	179	3.8	17				
1800	11.9	*****	**	185	1.5	165	4.4	10	1800	6.8	*****	**	174	.5	241	2.5	2	1800	8.3	*****	**	208	.7	207	2.5	4				
2100	10.5	*****	**	101	.7	136	2.5	0	2100	6.8	*****	**	082	.7	051	3.8	1	2100	6.8	*****	**	001	.4	214	2.5	1				
2400	7.7	*****	**	120	1.5	124	5.1	0	2400	6.4	*****	**	035	.5	021	2.5	1	2400	6.3	*****	**	088	.7	093	1.9	1				

DAY 25

DAY 26

DAY 27

HOUR	DEW	WIND	WIND GUST MAX.	POINT	NDNG TEMP.	RH	DIR.	SPD.	DIR.	GUST	RAD	POINT	NDNG TEMP.	RH	DIR.	SPD.	DIR.	GUST	RAD	POINT	NDNG TEMP.	RH	DIR.	SPD.	DIR.	GUST	RAD			
	DEG C	DEG C	%	DEG	M/S	DEG	M/S	MW	DEG	DEG C	%	DEG	M/S	MW	DEG C	DEG C	M/S	MW	DEG C	DEG C	%	DEG	M/S	MW	DEG C	DEG C	%	DEG	M/S	MW
0300	6.1	*****	**	073	.9	063	3.2	0	0300	6.3	*****	**	073	1.2	043	3.2	0	0300	3.5	*****	**	080	2.6	085	6.3	0				
0600	3.9	*****	**	074	.5	073	2.5	7	0600	4.5	*****	**	080	1.2	042	3.3	4	0600	4.3	*****	**	062	1.3	053	3.8	4				
0900	6.3	*****	**	141	.9	139	3.2	24	0900	8.9	*****	**	118	1.2	038	4.4	51	0900	6.9	*****	**	004	.5	007	3.2	49				
1200	7.8	*****	**	193	.9	176	3.2	37	1200	9.9	*****	**	358	2.7	019	8.9	63	1200	8.7	*****	**	191	2.2	191	7.0	61				
1500	8.0	*****	**	171	1.2	069	3.2	20	1500	9.4	*****	**	359	4.5	357	10.2	45	1500	9.8	*****	**	192	2.2	164	5.1	41				
1800	6.9	*****	**	019	.1	138	3.8	5	1800	8.5	*****	**	359	5.4	349	10.2	8	1800	8.4	*****	**	220	1.4	231	3.8	7				
2100	6.2	*****	**	059	1.0	033	3.2	0	2100	5.9	*****	**	022	5.4	016	9.5	0	2100	6.2	*****	**	064	.5	327	1.9	0				
2400	5.9	*****	**	054	.9	106	3.2	0	2400	4.4	*****	**	018	4.1	349	8.9	0	2400	6.2	*****	**	055	1.1	074	2.5	0				

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING August, 1982

DAY 28

DAY 29

DAY 30

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD
DEG C	DEG C	%	DEG C	DEG C	%	DEG C	DEG C	DEG C	DEG C	DEG C	%
0300	5.1 **** **	067	.9	062	1.9	0 0300	4.3 **** **	059	1.0	033	3.8
0600	5.3 **** **	045	.8	105	2.5	8 0600	3.2 **** **	131	1.0	088	3.2
0900	3.8 **** **	323	.4	212	3.2	11 0900	.8 **** **	201	1.1	240	5.1
1200	6.0 **** **	229	1.0	220	3.2	39 1200	.9 **** **	341	.8	349	2.5
1500	6.1 **** **	222	.8	216	4.4	13 1500	2.2 **** **	319	.6	340	1.9
1800	5.1 **** **	005	1.7	009	5.7	1 1800	2.5 **** **	021	.5	313	2.5
2100	4.8 **** **	060	.9	027	3.8	0 2100	2.3 **** **	020	.9	010	2.5
2400	4.0 **** **	270	.8	238	3.8	1 2400	1.5 **** **	035	.7	018	2.5

DAY 31

HOUR	DEW	WIND	WIND GUST MAX.		
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD
DEG C	DEG C	%	DEG C	DEG C	MW
0300	-5 **** **	347	.0	333	.6
0600	.2 **** **	***	0.0	290	.6
0900	3.9 **** **	322	.2	351	1.3
1200	3.1 **** **	204	.6	184	2.5
1500	4.3 **** **	305	.9	202	3.8
1800	2.6 **** **	221	.7	139	3.2
2100	1.1 **** **	274	.7	206	3.2
2400	2.0 **** **	005	.3	083	2.5

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING August, 1982

DAY	MAX.	MIN.	MEAN	RES.	RES.	AVG.	MAX.	MAX.	GUST P'VAL	MEAN	MEAN	DAY'S
	TEMP.	TEMP.	TEMP.	WIND DIR.	WIND SPD.	WIND SPD.	GUST DIR.	SPD.	DIR.	RH %	DP DEG C	SOLAR ENERGY WH/SDM
	DEG C	DEG C	DEG C	DEG	M/S	M/S	DEG	M/S		NN	MM	DAY
1	8.6	1.9	5.3	124	.7	2.3	153	7.0	N	**	*****	0.0
2	10.6	3.3	7.0	139	.7	1.8	147	7.0	SSE	**	*****	0.0
3	11.1	5.2	8.2	192	.6	1.3	181	3.8	SSW	**	*****	0.0
4	11.3	4.5	7.9	131	1.4	1.9	150	7.6	SSE	**	*****	0.0
5	11.0	6.0	8.5	051	.4	2.2	313	7.6	ESE	**	*****	0.0
6	13.1	5.5	9.3	118	.8	2.0	094	6.3	E	**	*****	0.0
7	12.0	5.9	9.0	139	.9	1.8	136	7.6	E	**	*****	0.0
8	10.2	3.4	6.8	111	.7	2.1	244	8.3	E	**	*****	2.8
9	5.1	2.1	3.6	360	.7	1.4	250	4.4	NNE	**	*****	3.8
10	6.4	2.3	4.4	027	.4	1.5	254	7.6	NNE	**	*****	2.2
11	10.2	1.6	5.9	138	1.5	2.2	152	7.0	SSE	**	*****	0.0
12	12.6	4.4	8.5	156	.6	1.5	179	4.4	S	**	*****	0.0
13	14.6	8.7	11.7	169	.2	1.3	136	4.4	NE	**	*****	0.0
14	12.3	6.2	9.3	072	.8	1.4	041	6.3	ENE	**	*****	8.2
15	8.5	3.4	6.0	024	.8	1.9	087	10.8	N	**	*****	2.8
16	8.7	2.9	5.8	056	.5	1.6	135	6.3	NNE	**	*****	1.6
17	4.4	1.9	3.2	349	.8	1.2	030	3.2	NNE	**	*****	8.0
18	8.7	1.8	5.3	171	.3	1.3	169	4.4	SSW	**	*****	0.0
19	10.0	3.8	6.9	187	.7	1.3	187	4.4	SSW	**	*****	0.0
20	10.6	5.2	7.9	311	.1	1.2	234	4.4	NNE	**	*****	0.0
21	10.6	7.3	9.0	102	.3	1.1	106	3.2	NNE	**	*****	0.0
22	12.7	5.7	9.2	158	.8	1.6	124	5.1	SSW	**	*****	0.0
23	8.9	5.1	7.0	120	.5	1.2	052	5.1	ESE	**	*****	6.0
24	10.0	5.4	7.7	160	.3	1.2	077	3.8	SSW	**	*****	.4
25	8.5	3.6	6.1	111	.5	1.3	138	3.8	ESE	**	*****	0.0
26	10.2	4.2	7.2	017	2.8	3.5	357	10.2	N	**	*****	0.0
27	10.9	3.1	7.0	133	.6	1.7	191	7.0	NE	**	*****	0.0
28	8.3	2.9	5.6	003	.3	1.3	009	5.7	N	**	*****	0.3
29	5.4	.5	3.0	035	.3	1.2	240	5.1	N	**	*****	13.2
30	3.7	.2	2.0	036	.8	1.1	035	4.4	NNE	**	*****	22.8
31	5.1	-.5	2.3	268	.3	.8	202	3.8	SSW	**	*****	6.8
MONTH	14.6	-.5	6.6	096	.3	1.6	087	10.8	NNE	**	*****	78.6
												122685

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 4.4

GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 8.9

GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 8.9

GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 3.8

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

**** SEE NOTES AT THE BACK OF THIS REPORT ****

R & M CONSULTANTS, INC.

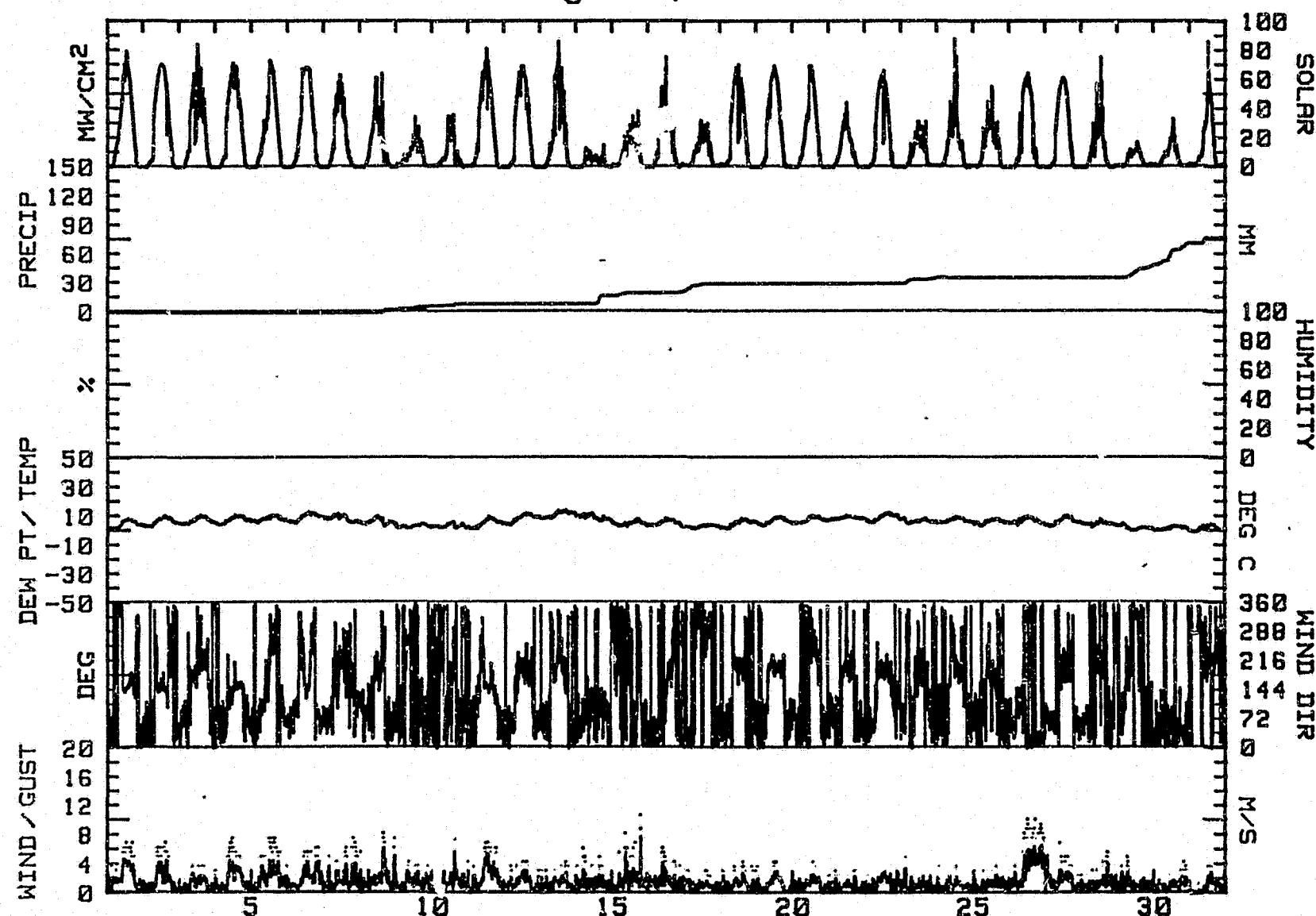
SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING August, 1982

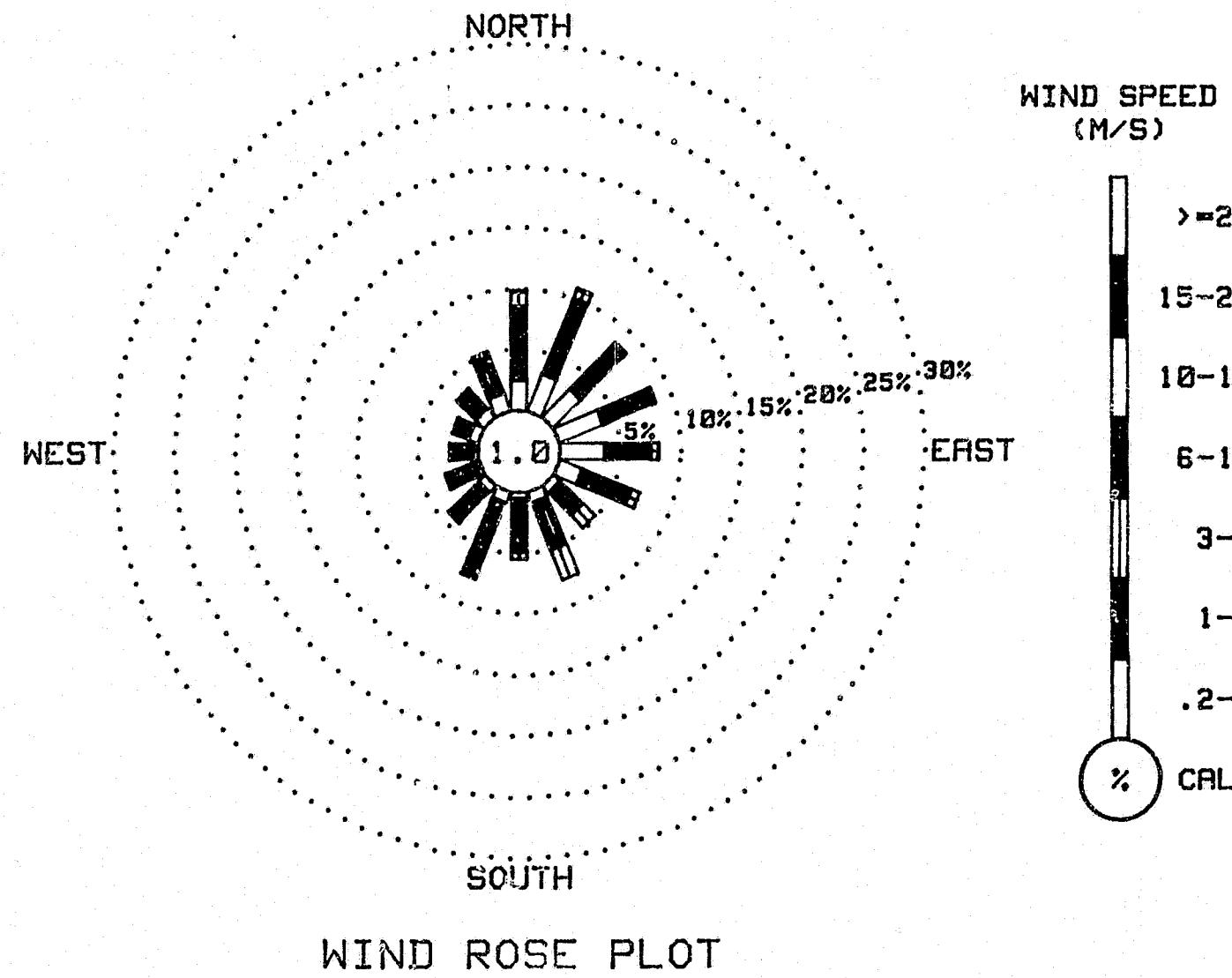
DIRECTION	VELOCITY (M/S)							TOTAL
	0.2 TO 1.0	1.0 TO 3.0	3.0 TO 6.0	6.0 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	20.0 OR GREATER	
	1.0	3.0	6.0	10.0	15.0	20.0		
N	2.42	6.15	1.14	.13	0.00	0.00	0.00	9.85
NNE	3.23	6.75	.74	.10	0.00	0.00	0.00	10.82
NE	3.19	5.01	.30	0.00	0.00	0.00	0.00	8.50
ENE	3.90	4.37	.27	0.00	0.00	0.00	0.00	8.53
E	3.70	3.80	.60	.03	0.00	0.00	0.00	8.13
ESE	2.02	4.33	.81	0.00	0.00	0.00	0.00	7.16
SE	.74	2.65	1.41	0.00	0.00	0.00	0.00	4.81
SSE	.94	4.17	2.59	0.00	0.00	0.00	0.00	7.69
S	.47	4.40	.54	0.00	0.00	0.00	0.00	5.41
SSW	.94	6.55	.13	0.00	0.00	0.00	0.00	7.63
SW	.74	3.43	.10	0.00	0.00	0.00	0.00	4.27
WSW	.40	2.28	.24	.07	0.00	0.00	0.00	2.99
W	.44	1.85	.10	0.00	0.00	0.00	0.00	2.39
WNW	.94	1.31	.10	0.00	0.00	0.00	0.00	2.35
NW	1.01	2.05	.20	0.00	0.00	0.00	0.00	3.26
NNW	1.55	3.39	.17	.07	0.00	0.00	0.00	5.17
CALM	-----	-----	-----	-----	-----	-----	-----	1.04
TOTAL	26.61	62.50	9.44	.40	0.00	0.00	0.00	100.00

NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
2976 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
August, 1982



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
August, 1982



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING September, 1982

PRECIPITATION VALUES ARE IN MILLIMETERS

HOUR ENDING

DATE 0100 0200 0300 0400 0500 0600 0700 0800 0900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 DATE

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING September, 1982

DAY 01

DAY 02

DAY 03

HOUR	DEW	WIND	WIND GUST MAX.	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD				
	DEG C	DEG C	% DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	% DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	% DEG.	M/S	DEG.	M/S	MW		
0300	1.3	*****	**	023	.6	058	1.9	1	0300	3.5	*****	**	057	.7	009	1.9	0	0300	*****	*****	**	***	***	***	***
0600	1.8	*****	**	047	.6	045	2.5	7	0600	3.9	*****	**	049	.9	039	2.5	7	0600	*****	*****	**	***	***	***	***
0900	3.4	*****	**	192	.3	171	2.5	28	0900	5.0	*****	**	273	.7	277	2.5	37	0900	*****	*****	**	***	***	***	***
1200	3.7	*****	**	211	1.5	211	3.8	27	1200	5.1	*****	**	189	1.4	164	3.8	63	1200	*****	*****	**	***	***	***	***
1500	6.0	*****	**	230	.8	217	3.2	45	1500	*****	*****	**	***	***	220	8.9	***	1500	*****	*****	**	***	***	***	***
1800	4.3	*****	**	208	1.0	202	3.8	2	1800	*****	*****	**	***	***	***	***	***	1800	*****	*****	**	***	***	***	***
2100	2.6	*****	**	063	1.2	036	3.2	0	2100	*****	*****	**	***	***	***	***	***	2100	*****	*****	**	***	***	***	***
2400	3.3	*****	**	158	1.1	034	2.5	0	2400	*****	*****	**	***	***	***	***	***	2400	*****	*****	**	***	***	***	***

DAY 04

DAY 05

DAY 06

HOUR	DEW	WIND	WIND GUST MAX.	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD			
	DEG C	DEG C	% DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	% DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	% DEG.	M/S	DEG.	M/S	MW	
0300	*****	*****	**	***	***	***	***	***	0300	*****	*****	**	***	***	***	***	0300	*****	*****	**	***	***	***	***
0600	*****	*****	**	***	***	***	***	***	0600	*****	*****	**	***	***	***	***	0600	*****	*****	**	***	***	***	***
0900	*****	*****	**	***	***	***	***	***	0900	*****	*****	**	***	***	***	***	0900	*****	*****	**	***	***	***	***
1200	*****	*****	**	***	***	***	***	***	1200	*****	*****	**	***	***	***	***	1200	*****	*****	**	***	***	***	***
1500	*****	*****	**	***	***	***	***	***	1500	*****	*****	**	***	***	***	***	1500	*****	*****	**	***	***	***	***
1800	*****	*****	**	***	***	***	***	***	1800	*****	*****	**	***	***	***	***	1800	*****	*****	**	***	***	***	***
2100	*****	*****	**	***	***	***	***	***	2100	*****	*****	**	***	***	***	***	2100	*****	*****	**	***	***	***	***
2400	*****	*****	**	***	***	***	***	***	2400	*****	*****	**	***	***	***	***	2400	*****	*****	**	***	***	***	***

DAY 07

DAY 08

DAY 09

HOUR	DEW	WIND	WIND GUST MAX.	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST RAD			
	DEG C	DEG C	% DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	% DEG.	M/S	DEG.	M/S	MW		DEG C	DEG C	% DEG.	M/S	DEG.	M/S	MW	
0300	*****	*****	**	***	***	***	***	***	0300	*****	*****	**	***	***	***	***	0300	*****	*****	**	***	***	***	***
0600	*****	*****	**	***	***	***	***	***	0600	*****	*****	**	***	***	***	***	0600	*****	*****	**	***	***	***	***
0900	*****	*****	**	***	***	***	***	***	0900	*****	*****	**	***	***	***	***	0900	*****	*****	**	***	***	***	***
1200	*****	*****	**	***	***	***	***	***	1200	*****	*****	**	***	***	***	***	1200	*****	*****	**	***	***	***	***
1500	*****	*****	**	***	***	***	***	***	1500	*****	*****	**	***	***	***	***	1500	*****	*****	**	***	***	***	***
1800	*****	*****	**	***	***	***	***	***	1800	*****	*****	**	***	***	***	***	1800	*****	*****	**	***	***	***	***
2100	*****	*****	**	***	***	***	***	***	2100	*****	*****	**	***	***	***	***	2100	*****	*****	**	***	***	***	***
2400	*****	*****	**	***	***	***	***	***	2400	*****	*****	**	***	***	***	***	2400	*****	*****	**	***	***	***	***

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING September, 1982

DAY 10

DAY 11

DAY 12

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.		
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD
DEG C	DEG C	%	DEG C	DEG C	%	DEG C	DEG C	DEG C	DEG C	DEG C	DEG C	%	DEG C
M/S	M/S	MW	M/S	M/S	MW	M/S	M/S	M/S	M/S	M/S	M/S	MW	M/S
0300	*****	***	***	***	***	***	0300	*****	***	***	***	***	***
0600	*****	***	***	***	***	***	0600	*****	***	***	***	***	***
0900	*****	***	***	***	***	***	0900	*****	***	***	***	***	***
1200	*****	***	***	***	***	***	1200	*****	***	***	***	***	***
1500	*****	***	***	***	***	***	1500	*****	***	***	***	***	***
1800	*****	***	***	***	***	***	1800	*****	***	***	***	***	***
2100	*****	***	***	***	***	***	2100	*****	***	***	***	***	***
2400	*****	***	***	***	***	***	2400	*****	***	***	***	***	***

DAY 13

DAY 14

DAY 15

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.		
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD
DEG C	DEG C	%	DEG C	DEG C	%	DEG C	DEG C	DEG C	DEG C	DEG C	DEG C	%	DEG C
M/S	M/S	MW	M/S	M/S	MW	M/S	M/S	M/S	M/S	M/S	M/S	MW	M/S
0300	*****	***	***	***	***	***	0300	*****	***	***	***	***	***
0600	*****	***	***	***	***	***	0600	*****	***	***	***	***	***
0900	*****	***	***	***	***	***	0900	*****	***	***	***	***	***
1200	*****	***	***	***	***	***	1200	*****	***	***	***	***	***
1500	*****	***	***	***	***	***	1500	*****	***	***	***	***	***
1800	*****	***	***	***	***	***	1800	*****	***	***	***	***	***
2100	*****	***	***	***	***	***	2100	*****	***	***	***	***	***
2400	*****	***	***	***	***	***	2400	*****	***	***	***	***	***

DAY 16

DAY 17

DAY 18

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.		
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD
DEG C	DEG C	%	DEG C	DEG C	%	DEG C	DEG C	DEG C	DEG C	DEG C	DEG C	%	DEG C
M/S	M/S	MW	M/S	M/S	MW	M/S	M/S	M/S	M/S	M/S	M/S	MW	M/S
0300	*****	***	***	***	***	***	0300	*****	***	***	***	***	***
0600	*****	***	***	***	***	***	0600	*****	***	***	***	***	***
0900	*****	***	***	***	***	***	0900	*****	***	***	***	***	***
1200	*****	***	***	***	***	***	1200	*****	***	***	***	***	***
1500	*****	***	***	***	***	***	1500	*****	***	***	***	***	***
1800	*****	***	***	***	***	***	1800	*****	***	***	***	***	***
2100	*****	***	***	***	***	***	2100	*****	***	***	***	***	***
2400	*****	***	***	***	***	***	2400	*****	***	***	***	***	***

R & M CONSULTANTS, INC.

SUBSTITUTION HYDRO ELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING September, 1982

DAY 19

DAY 20

DAY 21

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.		
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD
DEG C	DEG C	%	DEG C	DEG C	%	DEG C	DEG C	POINT RH	DIR.	SPD.	DIR.	GUST	RAD
			M/S	M/S	MW							M/S	MW
0300	*****	****	*	***	***	***	***	0300	*****	****	*	***	***
0600	*****	****	*	***	***	***	***	0600	*****	****	*	***	***
0900	*****	****	*	***	***	***	***	0900	*****	****	*	***	***
1200	*****	****	*	***	***	***	***	1200	*****	****	*	***	***
1500	*****	****	*	***	***	***	***	1500	*****	****	*	***	***
1800	*****	****	*	***	***	***	***	1800	*****	****	*	***	***
2100	*****	****	*	***	***	***	***	2100	*****	****	*	***	***
2400	*****	****	*	***	***	***	***	2400	*****	****	*	***	***

DAY 22

DAY 23

DAY 24

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.		
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD
DEG C	DEG C	%	DEG C	DEG C	%	DEG C	DEG C	POINT RH	DIR.	SPD.	DIR.	GUST	RAD
			M/S	M/S	MW							M/S	MW
0300	*****	****	*	***	***	***	***	0300	*****	****	*	***	***
0600	*****	****	*	***	***	***	***	0600	*****	****	*	***	***
0900	*****	****	*	***	***	***	***	0900	*****	****	*	***	***
1200	*****	****	*	***	***	***	***	1200	*****	****	*	***	***
1500	*****	****	*	***	***	***	***	1500	*****	****	*	***	***
1800	*****	****	*	***	***	***	***	1800	*****	****	*	***	***
2100	*****	****	*	***	***	***	***	2100	*****	****	*	***	***
2400	*****	****	*	***	***	***	***	2400	*****	****	*	***	***

DAY 25

DAY 26

DAY 27

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.		
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD
DEG C	DEG C	%	DEG C	DEG C	%	DEG C	DEG C	POINT RH	DIR.	SPD.	DIR.	GUST	RAD
			M/S	M/S	MW							M/S	MW
0300	*****	****	*	***	***	***	***	0300	*****	****	*	***	***
0600	*****	****	*	***	***	***	***	0600	*****	****	*	***	***
0900	*****	****	*	***	***	***	***	0900	*****	****	*	***	***
1200	*****	****	*	***	***	***	***	1200	*****	****	*	***	***
1500	*****	****	*	***	***	***	***	1500	*****	****	*	***	***
1800	*****	****	*	***	***	***	***	1800	*****	****	*	***	***
2100	*****	****	*	***	***	***	***	2100	*****	****	*	***	***
2400	*****	****	*	***	***	***	***	2400	*****	****	*	***	***

HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.	HOUR	DEW	WIND	WIND GUST MAX.		
NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD	NDNG TEMP.	POINT RH	DIR.	SPD.	DIR.	GUST	RAD
DEG C	DEG C	%	DEG C	DEG C	%	DEG C	DEG C	POINT RH	DIR.	SPD.	DIR.	GUST	RAD
			M/S	M/S	MW							M/S	MW
0300	*****	****	*	***	***	***	***	0300	*****	****	*	***	***
0600	*****	****	*	***	***	***	***	0600	*****	****	*	***	***
0900	*****	****	*	***	***	***	***	0900	*****	****	*	***	***
1200	*****	****	*	***	***	***	***	1200	*****	****	*	***	***
1500	*****	****	*	***	***	***	***	1500	*****	****	*	***	***
1800	*****	****	*	***	***	***	***	1800	*****	****	*	***	***
2100	*****	****	*	***	***	***	***	2100	*****	****	*	***	***
2400	*****	****	*	***	***	***	***	2400	*****	****	*	***	***

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING September, 1982

DAY 28

DAY 29

DAY 30

HOUR DEW WIND WIND GUST MAX. HOUR DEW WIND WIND GUST MAX. HOUR DEW WIND WIND GUST MAX.
 NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD NDNG TEMP. POINT RH DIR. SPD. DIR. GUST RAD
 DEG C DEG C % DEG. M/S DEG. M/S MW DEG C DEG C % DEG. M/S DEG. M/S MW DEG C DEG C % DEG. M/S DEG. M/S MW

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING September, 1982

DAY	MAX. DEG C	MIN. DEG C	MEAN DEG C	RES. DIR. DEG	RES. SPD. M/S	Avg. WIND M/S	Max. WIND M/S	GUST DIR. SPD. M/S	P'VAL RH %	Mean Dir. deg C	Mean DP deg C	Day's Precip mm	Solar Energy Wh/Sec	Day
1	6.4	.8	3.6	140	.1	1.3	211	3.8 ENE **	*****	.4	3275	1		
2	5.1	.1	2.6	139	.1	1.4	220	8.9 SSE **	*****	0.0	3754	2		
3	****	****	****	***	****	****	***	**** ***	**	****	***	****	3	
4	****	****	****	***	****	****	***	**** ***	**	****	***	****	4	
5	****	****	****	***	****	****	***	**** ***	**	****	***	****	5	
6	****	****	****	***	****	****	***	**** ***	**	****	***	****	6	
7	****	****	****	***	****	****	***	**** ***	**	****	***	****	7	
8	****	****	****	***	****	****	***	**** ***	**	****	***	****	8	
9	****	****	****	***	****	****	***	**** ***	**	****	***	****	9	
10	****	****	****	***	****	****	***	**** ***	**	****	***	****	10	
11	****	****	****	***	****	****	***	**** ***	**	****	***	****	11	
12	****	****	****	***	****	****	***	**** ***	**	****	***	****	12	
13	****	****	****	***	****	****	***	**** ***	**	****	***	****	13	
14	****	****	****	***	****	****	***	**** ***	**	****	***	****	14	
15	****	****	****	***	****	****	***	**** ***	**	****	***	****	15	
16	****	****	****	***	****	****	***	**** ***	**	****	***	****	16	
17	****	****	****	***	****	****	***	**** ***	**	****	***	****	17	
18	****	****	****	***	****	****	***	**** ***	**	****	***	****	18	
19	****	****	****	***	****	****	***	**** ***	**	****	***	****	19	
20	****	****	****	***	****	****	***	**** ***	**	****	***	****	20	
21	****	****	****	***	****	****	***	**** ***	**	****	***	****	21	
22	****	****	****	***	****	****	***	**** ***	**	****	***	****	22	
23	****	****	****	***	****	****	***	**** ***	**	****	***	****	23	
24	****	****	****	***	****	****	***	**** ***	**	****	***	****	24	
25	****	****	****	***	****	****	***	**** ***	**	****	***	****	25	
26	****	****	****	***	****	****	***	**** ***	**	****	***	****	26	
27	****	****	****	***	****	****	***	**** ***	**	****	***	****	27	
28	****	****	****	***	****	****	***	**** ***	**	****	***	****	28	
29	****	****	****	***	****	****	***	**** ***	**	****	***	****	29	
30	****	****	****	***	****	****	***	**** ***	**	****	***	****	30	
MONTH	6.4	.1	3.1	140	.1	1.3	220	8.9 ENE **	*****	.4	7029			

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 7.0
 GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 6.3
 GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 4.4
 GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 2.5

NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

**** SEE NOTES AT THE BACK OF THIS REPORT ****

R & M CONSULTANTS, INC.

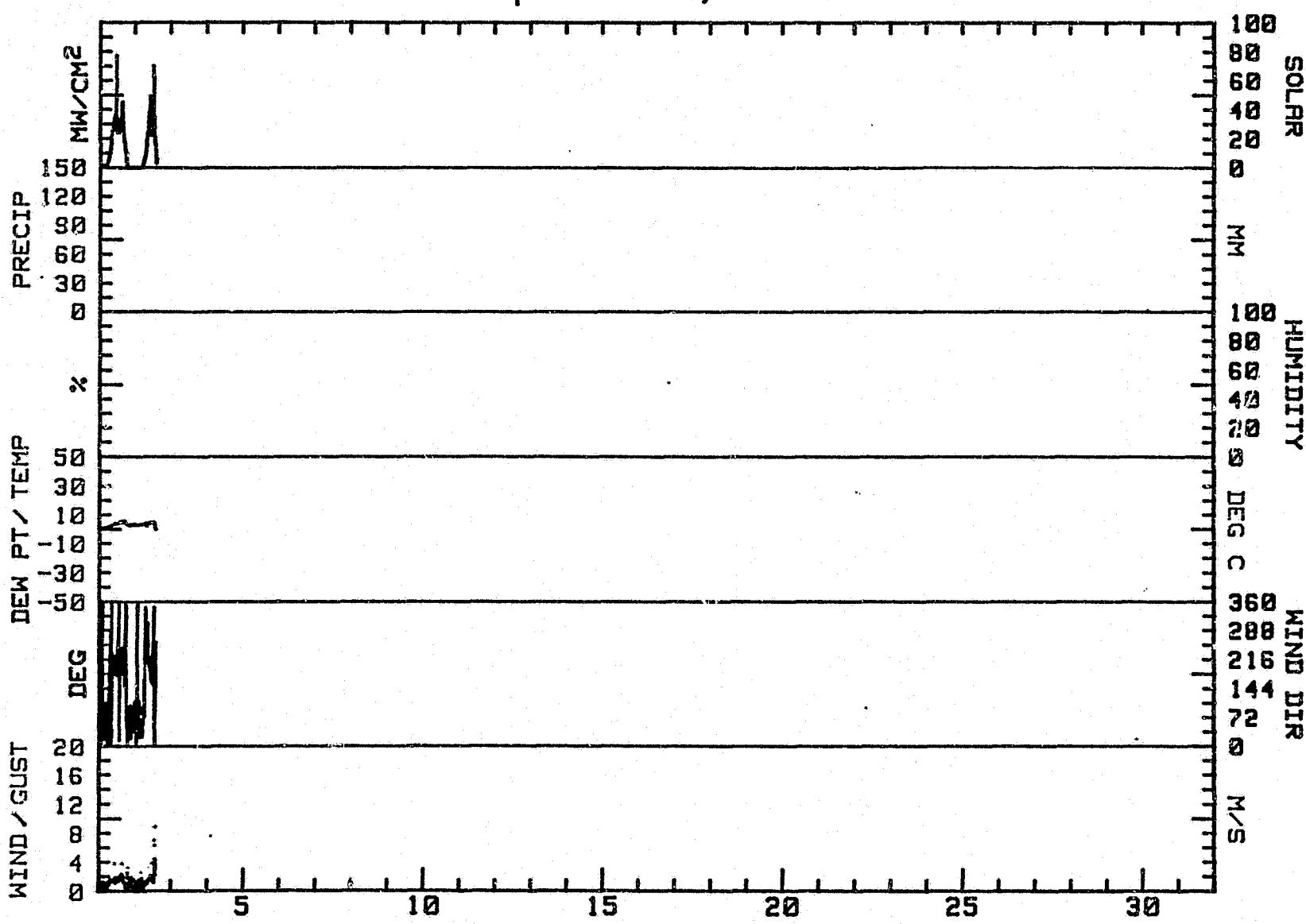
SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING September, 1982

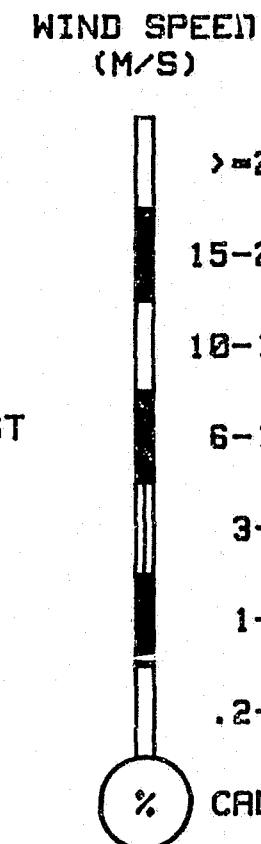
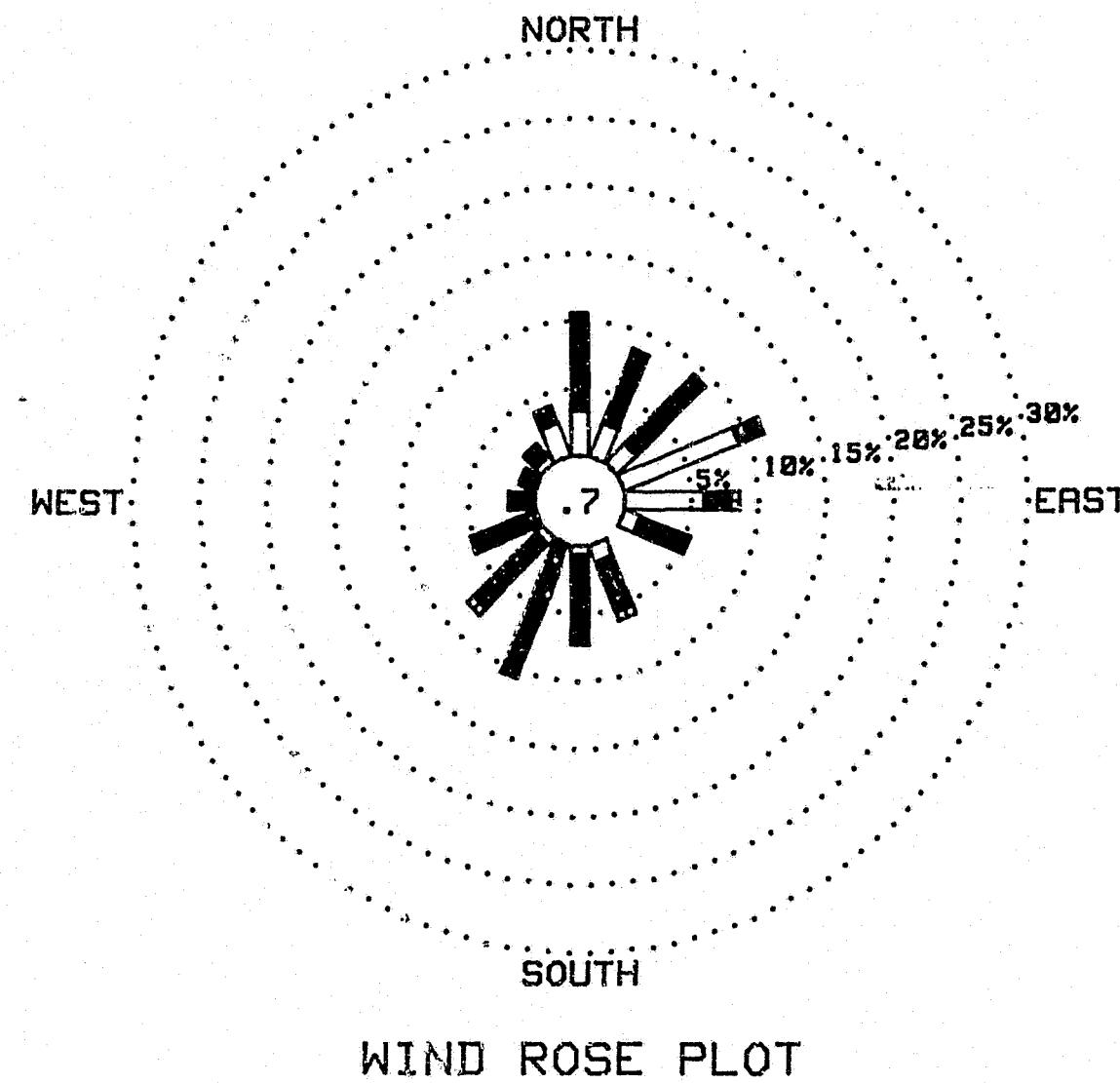
DIRECTION	VELOCITY (M/S)								TOTAL
	0.2 TO 1.0	1.0 TO 3.0	3.0 TO 6.0	6.0 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	20.0 OR GREATER		
	1.0	3.0	6.0	10.0	15.0	20.0			
N	3.29	7.24	0.00	0.00	0.00	0.00	0.00	0.00	10.53
NNE	2.63	5.92	0.00	0.00	0.00	0.00	0.00	0.00	8.55
NE	1.97	7.24	0.00	0.00	0.00	0.00	0.00	0.00	9.21
ENE	9.21	1.97	0.00	0.00	0.00	0.00	0.00	0.00	11.18
E	5.92	1.97	.66	0.00	0.00	0.00	0.00	0.00	8.55
ESE	1.32	3.95	0.00	0.00	0.00	0.00	0.00	0.00	5.26
SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SSE	1.32	3.95	.66	0.00	0.00	0.00	0.00	0.00	5.92
S	.66	6.58	0.00	0.00	0.00	0.00	0.00	0.00	7.24
SSW	0.00	10.53	0.00	0.00	0.00	0.00	0.00	0.00	10.53
SW	.66	6.58	.66	0.00	0.00	0.00	0.00	0.00	7.89
WSW	0.00	5.26	0.00	0.00	0.00	0.00	0.00	0.00	5.26
W	0.00	1.97	0.00	0.00	0.00	0.00	0.00	0.00	1.97
WNW	0.00	1.32	0.00	0.00	0.00	0.00	0.00	0.00	1.32
NW	.66	1.32	0.00	0.00	0.00	0.00	0.00	0.00	1.97
NNW	2.63	1.32	0.00	0.00	0.00	0.00	0.00	0.00	3.95
CALM	-----	-----	-----	-----	-----	-----	-----	-----	.66
TOTAL	30.26	67.11	1.97	0.00	0.00	0.00	0.00	0.00	100.00

NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
152 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY

R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
September, 1982



R&M CONSULTANTS, INC.
SUSITNA HYDROELECTRIC PROJECT
GLACIER WEATHER STATION
September, 1982



** Missing or bad data that has been deleted for various reasons (see STATION HISTORY, DATA COMPUTATION STANDARDS, or INTERPRETING DATA for an explanation).