SUSITNA
HYDROELECTRIC PROJECT

FEDERAL ENERGY REGULATORY COMMISSION
PROJECT No. 7114

PROCESSED CLIMATIC DATA
OCTOBER 1983 - DECEMBER 1984

VOLUME 1
SUSITNA GLACIER STATION
(No. 0610)

PREPARED BY

R&M CONSULTANTS, INC.
ENGINEERS GEOLOGISTS PLANNERS SURVEYORS

FINAL REPORT

UNDER CONTRACT TO

HARZA-EBASCO
SUSITNA JOINT VENTURE

JUNE 1985
DOCUMENT No. 2787

ALASKA POWER AUTHORITY

Document No. 2767
Susitna File No. 4.2.2.1

SUSITNA HYDROELECTRIC PROJECT

PROCESSED CLIMATIC DATA
OCTOBER 1983 - DECEMBER 1984

VOLUME 1

SUSITNA GLACIER STATION (No. 0610)

Report by
R&M CONSULTANTS, INC.

Under Contract to
Harza-Ebasco Susitna Joint Venture

Prepared for
Alaska Power Authority

Final Report
June 1985

ALASKA POWER AUTHORITY
SUSITNA HYDROELECTRIC PROJECT

TASK 4 - HYDROLOGY

PROCESSED CLIMATIC DATA
OCTOBER 1983 - DECEMBER 1984

VOLUME INDEX

ALASKA POWER AUTHORITY
SUSITNA HYDROELECTRIC PROJECT

PROCESSED CLIMATIC DATA - SUSITNA GLACIER STATION
OCTOBER 1983 - DECEMBER 1984

TABLE OF CONTENTS PAGE

TABLE OF CONTENTS (Continued)

LIST OF TABLES

LIST OF FIGURES

ACKNOWLEDGMENTS

These climatic data were collected under contract to Harza-Ebasco Susitna Joint Venture for the Alaska Power Authority on the Susitna Hydroelectric Project. Field maintenance and data collection were performed by the hydrology staff of R&M Consultants, Incorporated. Data reduction and processing were performed by Debbie Stephens, Len Story, Blair Parker, Jim Nelson and Jeff Coffin, using computer programs developed by Mark Holmstrand and revised by Bill Ashton.

1.0 BACKGROUND

1.1 Purpose

The Glacier climate station was installed adjacent to Susitna Glacier in the Eastern Alaska Range to obtain data representative of the high elevations within the Susitna drainage basin.

1.2 Station Description

The Glacier weather station lies near the confluence of three major glaciers eminating from the south slope of Mt. Hayes (13,832 feet). The site is located at the 4,700 feet level of a barren ridge which runs roughly east and west, and slopes steeply to the west. The instrument is on the southwest flank, approximately 500 feet above the glacier ice at 63°31'50" N latitude and 146°53'40" W longitude. Mountains rise abruptly from the glacier filled valleys to elevations over 10,000 feet. The mountains to the south of the site rise to over 7,000 feet at a distance of less than 3 miles. This site is shaded for most of the day during December and January and when sun angles are below 9° from the horizontal. (See Table 1.1 for angular elevations of terrain obstructions.)

Winds generally blow downhill in these glaciated mountains resulting in winds from the north or east at the instrument.

1.3 Methods of Data Collection

The climatic data at Glacier are collected using a Model 5100 Weather Wizard Digital Weather Station, manufactured by Meteorology Research, Inc., now part of Belfort Instrument Company. The Weather Wizard measures, processes, and records several weather parameters, which are described below. A 12-volt power supply powers the station and is kept charged by a solar panel. Data are recorded on a low-temperature cassette tape at 30-minute intervals. Fifteen-minute recording intervals were used prior to October 5, 1983. The station is visited approximately

once per month for maintenance and repairs, and to retrieve the data tapes.

Recorded data include instantaneous values of temperature, relative humidity, solar radiation intensity, and battery voltage; the cumulative amount of precipitation measured since the last reset; and several wind parameters. Wind direction is sampled every 15 seconds and averaged over the recording interval. Wind speed is measured by counting each revolution of the cup anemometer and averaging the speed over the recording interval (15 or 30 minutes). The fastest 15-second average speed for the interval is reported as the peak gust.

The anemometer and wind vane are part of a sensor array mounted atop a 3.5-meter tripod adjacent to the recorder shelter. The sensor array also contains a short boom with a radiation shield for the temperature and relative humidity sensors. A rain gage and solar radiation sensor are located on a separate platform 10 meters to the southeast from the main platform. The tipping-bucket rain gage is mounted on a 0.6-meter post and plumbed vertically. The solar sensor is installed facing vertically upward atop a 1.5-meter tripod.

Table 1.2 describes sensor types and performance characteristics for each parameter. The performance characteristics were provided by MRI. Conversion factors for the units are provided in the appendix.

1.4 Station History

The Glacier Station was installed on July 20, 1980. This report covers the period from October 1983 to December 1984 only. There are three previous data reports for this station:

	Report	Period Covered
1.	Processed Climatic Data Volume 1 Susitna Glacier Station (No. 0610) March 1982 (R&M Consultants)	July 1980 - September 1981
2.	Processed Climatic Data Volume 1 Susitna Glacier Station (No. 0610) December 1982 (R&M Consultants)	October 1981 - September 1982
3.	Processed Climatic Data Volume 1 Susitna Glacier Station (No. 0610) June 1984 (R&M Consultants)	October 1982 - September 1983

Tables 1.3 through 1.6 list the inspection dates and maintenance performed for the station, significant data gaps, adjustments to raw data, and values that have been estimated where data are missing. Periods with more than one hour of missing data are shown on Table 1.4. Intermittent gaps in the wind data occur frequently in the winter and are not identified individually. The number of missing days for these cases is approximated by the total number of missing hours during the period. The beginning and ending dates for the data gaps and for the adjustments to raw data correlate with the inspection and maintenance dates. Relative humidity data for measurements with wind speeds less than 1.0 m/sec are not valid and thus not used in calculating the percentage of total observations for each month, which are tabulated in Table 2.2. However, these missing RH values do not constitute data gaps in Table 1.4.

TABLE 1.1. ANGULAR ELEVATIONS OF TERRAIN OBSTRUCTIONS AROUND GLACIER WEATHER STATION

Azimuth(1) (True)	Elevation(2) (ft, MSL)	Vertical Angle(3)
14°	7690	11°
37°	7381	8.3°
58°	7725	8.9°
73°	7120	14°
75°	8451	11°
94°	5485	15°
139°	7250	7.2°
154°	6990	7.2°
180°	7172	9.7°
228°	5565	2.4°
287°	6490	4.8°
290°	6170	6.5°
305°	6710	7.1°
350°	7110	13°
352°	8220	14°

NOTES:

(1) Azimuth angles are in degrees from true north.

(2) Elevations were obtained from U.S.G.S 1:63,360 scale maps. Points used were selected mountain peaks and other features surrounding the weather station. Elevation differences from the weather station at 4700 ft, msl. and horizontal distances were used to triangulate the vertical angles.

(3) Vertical angles are measured above the horizontal.

TABLE 1.2 DESCRIPTION OF METEOROLOGIC SENSORS

Sensor	Model #	Manufacturer	Description	Operable Range	Accuracy
Temperature	T5100	MRI	Linearized Thermistor	-30°C - +50°C	±1°C
Relative Humidity	PCRC-11 Electro-Humidity Sensor	Phys-Chemical Research Corp.	Exposed circuit element Senses changes in RH by changes in impedance	10% to 95%	±6%
Solar Radiation	RS 1008 Photo Voltaic Pyranometer	RHO Sigma Corp.	Temperature-Compensated Silicon Photovoltaic Cell	0 to 140 Milliwatts/cm²	±5mw/cm²
Precipitation	P5100	MRI	Tipping Bucket Rain Gage	0 to 99.8 mm	±1% up to 76.2 mm/hr ±5% From 76.2 mm/hr to 254 mm/hr
Wind Speed	5100	MRI	Cup Anemometer (vertical axis)	0 to 50 m/sec	±0.5 m/sec
Wind Direction	5100	MRI	Sensitive Vane driving a 360° Plastic Film Potentiometer	0 to 359°	±3.6°

TABLE 1.3. INSPECTION DATES AND MAINTENANCE
GLACIER CLIMATE STATION
OCTOBER 1983 TO DECEMBER 1984

Inspection Date	Maintenance
10/05/83	Changed to 30 minute recording interval.
11/16/83	None.
01/09/84	Reset date to 009.
02/27/84	None.
04/09/84	Weather Wizard removed for repairs.
05/04/84	Re-installed Weather Wizard.
	RH sensor replaced and calibrated.
05/23/84	None.
07/16/84	None
08/27/84	Weather Wizard removed for repairs.
09/22/84	Weather Wizard replaced.
	Changed to 5 minute recording interval.
	RH oscillator replaced.
11/02/84	Changed to 15 minute recording interval.
	Attached new wind vane tail.
11/28/84	RH sensor calibrated.
	Changed to 30 minute recording intervals.

NOTE: Inspections noted where no maintenance was performed are dates when cassette tapes were replaced.

TABLE 1.4. EXPLANATION OF DATA GAPS AT
SUSITNA GLACIER CLIMATE STATION
OCTOBER 1983 TO DECEMBER 1984

Period	Approximate Number of Missing Days By Parameter							Explanation
	Temp	RH	WS	WD	Precip	Solar	Gust	
10/1 - 10/21/83			1	6			1	Frozen anemometer and wind vane (intermittent).
11/11 - 11/30/83		1.5						Low RH values deleted from raw data.
12/1 - 12/5/83				1				Frozen wind vane (intermittent).
2/13 - 2/25/84				1.5				Frozen wind vane (intermittent).
2/27 - 5/4/84	67	67	67	67	33	67	67	Weather Wizard not functioning.
5/4 - 5/23/84		2						Bad RH oscillator. Intermittent erratic data.
5/23 - 6/11/84		17						Bad RH oscillator.
6/11 - 6/26/84		1.5						Bad RH oscillator. Intermittent erratic data.
6/26 - 9/22/84	87.5	87.5	87.5	87.5	87.5	87.5	87.5	Weather Wizard not functioning.
10/2 - 10/8/84				0.3				Frozen wind vane (intermittent).
10/8 - 11/2/84	25	25	25	25		25	25	Data tape ran out due to 5 minute recording intervals.
11/11 - 12/14/84	2	2	1.5	3		0.5	2	Weather Wizard malfunction. Intermittent garbled data.
11/24 - 12/26/84			0.5	3.5			0.5	Frozen anemometer and wind vane (intermittent).
Total	182	204	182	195	120	180	183	

NOTE:

Precipitation data collected April through September only. Collector is not designed for winter temperatures.

TABLE 1.5. ADJUSTMENTS MADE TO RAW DATA
GLACIER CLIMATE STATION
OCTOBER 1983 TO DECEMBER 1984

Period	Solar Radiation Adjustment	RH Adjustment	Wind Direction Adjustment
10/1 - 11/16/83	-1 mW/cm^2	-15 RH Points	
11/16 - 12/31/83	-1	-12	
1/1 - 2/27/84	-1	-7	
5/4 - 6/11/84	-1		
6/12 - 6/26/84	-1	-25	
9/22 - 10/8/84	-1	-2	-180°
11/2 - 11/28/84	-1	+5	
11/28 - 12/31/84	-1	+7	

NOTE: No data 2/27 - 5/4 and 6/26 - 9/22 due to Weather Wizard malfunction.

TABLE 1.6. ESTIMATES FOR MISSING DATA
GLACIER CLIMATE STATION
OCTOBER 1983 TO DECEMBER 1984

Date	Time (AST)	Temp (°C)	Wind Speed (m/s)	Dir (Deg)	Gust (m/s)	RH (%)	Precip (mm)	Solar Radiation (mw/cm²)
11/03/84	2015					33		
11/04/84	0945	-11.0						
11/07/84	1100							8
	1315							13
	2130					94		
11/08/84	0145	-7.7				77		0
	0300	-7.1				74		0
	0315	-6.7						0
	0800	-7.8						
11/09/84	0900					90		
	1100					90		
	1415							4
	1515					80		
	1600							2
	2315					84		
	2345	-13.5	1.1			57		
11/10/84	0530							0
	0715					54		
	0845							0
	0900					52		0
	1100					45		6
	1115							9
11/11/84	0230					50		
	0245					50		
	0345-0415					50		
	0445-0900							0
	0500	-15.6						
	0600	-16.4						
	1215	-15.7				48		
	2130-2315							0
	2315	-17.8						
	2230	-17.5						
	2245	-17.7						
	2200-2315					53		

NOTES:

1. These data have been estimated where gaps exist in the record. Estimates were made by interpolating between valid data points preceding and following the missing data.
2. Precipitation values are the amounts estimated to have fallen in the preceding half-hour.

TABLE 1.6. ESTIMATES FOR MISSING DATA
GLACIER CLIMATE STATION
OCTOBER 1983 TO DECEMBER 1984
(Continued)

Date	Time (AST)	Temp (°C)	Wind Speed (m/s)	Wind Dir (Deg)	Gust (m/s)	RH (%)	Precip (mm)	Solar Radiation (mw/cm²)
11/12/84	0430	-19.0						
	1045	-17.8						
	1200	-16.7						
	0415-0915					44		
								0
11/20/84	1045							
	1300					64		
	1500					73		1
	1600					78		
	1830							0
	1915							0
	2000	-1.9				70		0
	2015	-2.0						
11/22/84	0415							
	0645	-8.0				96		
	1030							1
	1045							1
	1315							
	1330					79		1
	1800					78		
								0
11/23/84	0415							
	1300							0
	1730				1.9			2
	2230					85		
						83		
11/24/84	0600	-10.9						
	1900	-14.2						
	1830					87		
	2330					89		
						84		
11/25/84	0815							
	0830							0
	1330					87		
	1345					89		
	1315					92		
	1830							1
								0

NOTES:

1. These data have been estimated where gaps exist in the record. Estimates were made by interpolating between valid data points preceding and following the missing data.
2. Precipitation values are the amounts estimated to have fallen in the preceding half-hour.

TABLE 1.6. ESTIMATES FOR MISSING DATA
GLACIER CLIMATE STATION
OCTOBER 1983 TO DECEMBER 1984
(Continued)

Date	Time (AST)	Temp (°C)	Wind Speed (m/s)	Wind Dir (Deg)	Gust (m/s)	RH (%)	Precip (mm)	Solar Radiation (mw/cm²)
11/26/84	0045					66		
	0345					71		0
	0545-0630							0
	0715							0
	0600	-16.7						
	0830							0
	0930-1115							0
	1130					51		
	1845					74		
11/27/84	0345	-16.0				53		0
	0330							0
	0415	-16.0				53		0
	0745					48		
11/28/84	1130	-13.0				69		2
12/03/84	2100					73		
12/04/84	0830					66		
	0000					81		
12/09/84	0930					60		
	1000	-14.2						
	1030	-14.4						
	1100					57		1
	1130							1
	1200							2
	1230	-14.7						2
	1300-1330							1
	1400	-16.8						0
	1430-0000							0
	1500					70		
	1530					71		
12/10/84	0030-0230							0
	0630-1030							0
	1900	-15.6						
	1430-0000							0

NOTES:

1. These data have been estimated where gaps exist in the record. Estimates were made by interpolating between valid data points preceding and following the missing data.
2. Precipitation values are the amounts estimated to have fallen in the preceding half-hour.

TABLE 1.6. ESTIMATES FOR MISSING DATA
GLACIER CLIMATE STATION
OCTOBER 1983 TO DECEMBER 1984
(Continued)

Date	Time (AST)	Temp (°C)	Wind Speed (m/s)	Wind Dir (Deg)	Gust (m/s)	RH (%)	Precip (mm)	Solar Radiation (mw/cm²)
12/11/84	0030					53		0
	0100	-16.3						
	0130	-16.4				53		
	0200	-16.4						
	0300					53		
	0400					57		
	0500	-16.5						0
	0600							0
	1030	-13.4						
	1300							1
	2000					57		
	2130	-16.0						
	0000					55		0
12/12/84	0100					56		
	0230					60		
	0630-0730							0
	0700	-19.2						
	0900-1000							0
	1100					62		
	1130					60		
	1330							2
	1400	-17.0						
	1600	-17.5						
	1730-0000							0
	1730					54		
	1830					56		
12/13/84	0600					41		
	1600					60		
12/14/84	1700					23		
	1930					24		
	2130	-12.8						
12/15/84	1600	-14.1						
	1700					75		
12/17/84	1030	-4.0				80		0

NOTES:

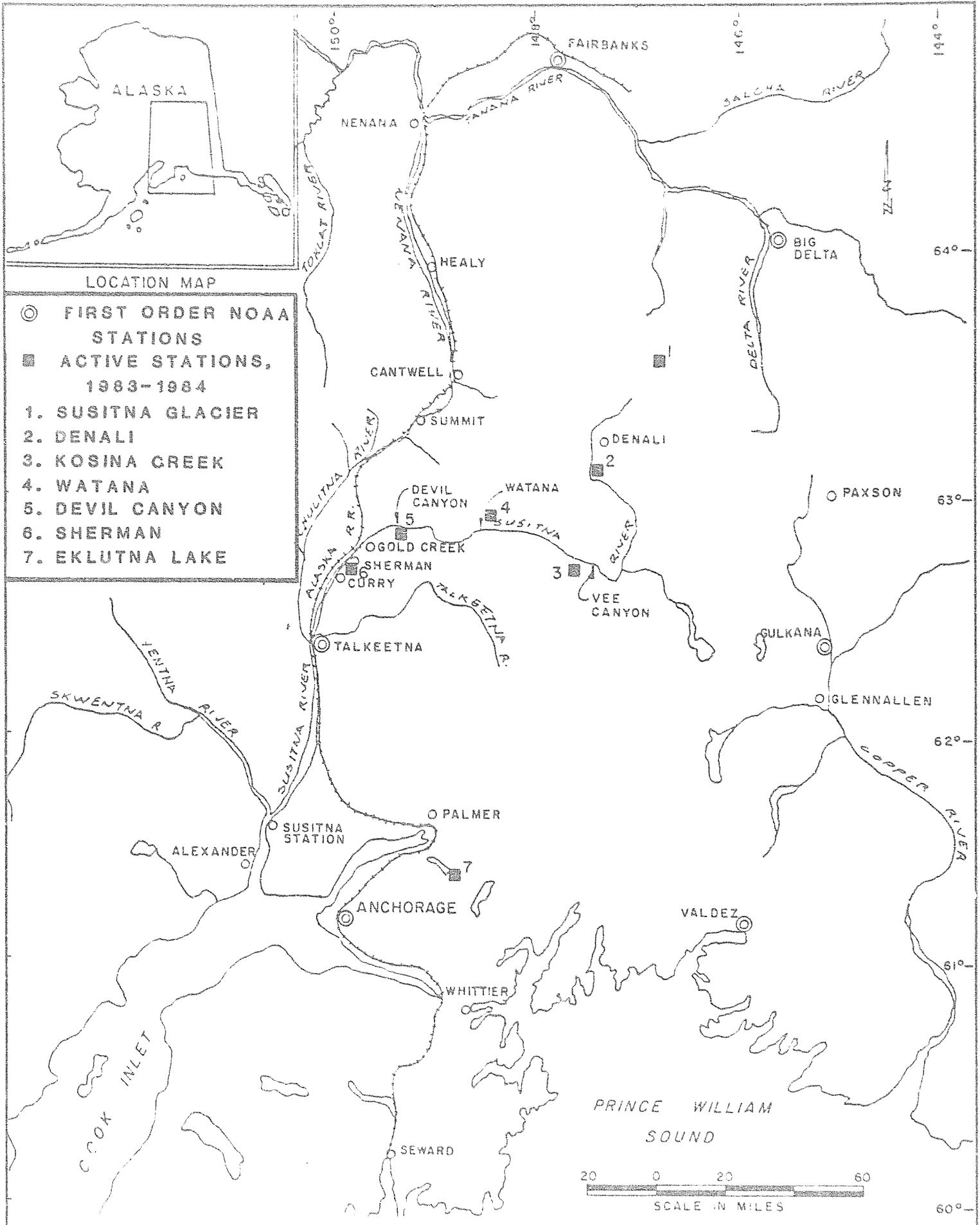
1. These data have been estimated where gaps exist in the record. Estimates were made by interpolating between valid data points preceding and following the missing data.
2. Precipitation values are the amounts estimated to have fallen in the preceding half-hour.

TABLE 1.6. ESTIMATES FOR MISSING DATA
GLACIER CLIMATE STATION
OCTOBER 1983 TO DECEMBER 1984
(Continued)

Date	Time (AST)	Temp (°C)	Wind Speed (m/s)	Wind Dir (Deg)	Gust (m/s)	RH (%)	Precip (mm)	Solar Radiation (mw/cm^2)
12/20/84	0030					30		0
	0200	-15.0				26		
12/24/84	1100	-15.7						
	1430	-15.1						
	1900	-15.0						
	1830							0
12/29/84	0400					86		

NOTES:

1. These data have been estimated where gaps exist in the record. Estimates were made by interpolating between valid data points preceding and following the missing data.
2. Precipitation values are the amounts estimated to have fallen in the preceding half-hour.



LOCATION MAP: SUSITNA PROJECT METEOROLOGIC STATIONS

PREPARED BY:
R&M CONSULTANTS, INC.
ENGINEERS GEOLOGISTS HYDROLOGISTS SURVEYORS

FIGURE 1-1

PREPARED FOR:
HARZA-EBASCO
SUSITNA JOINT VENTURE

USGS MT. HAYES (1955) SCALE 1:250,000 Figure 1.2

PREPARED BY:
R&M CONSULTANTS, INC.
ENGINEERS GEOLOGISTS HYDROLOGISTS SURVEYORS

GLACIER CLIMATE STATION

PREPARED FOR:
HARZA-EBASCO
SUSITNA JOINT VENTURE

2.0 ANNUAL DATA SUMMARY

Table 2.1 presents a summary of the monthly averages or totals for each parameter for the full period covered by this report, October 1983 to December 1984. The symbols used in the table are explained in Section 3, Report Preparation. Conversion factors are provided in the appendix. The data reported herein are also summarized in Figure 2.1, a sequential plot of all the measured parameters. Annual summaries for prior years are provided in the previous data report (R&M Consultants, 1984).

With this report, a shift has been made from presenting the climatic data on a water year basis to presenting it for the calendar year. The calendar year format matches that used by the National Oceanic and Atmospheric Administration (NOAA) in reporting climatic data, and simplifies comparisons. Future reports will also be for calendar years.

A summary of the percentage of usable data recovered for each climatic parameter by month during this reporting period is presented in Table 2.2. The cumulative percentage in this case applies for the whole 15-month period.

TABLE 2.1. SUMMARY OF CLIMATE DATA RECORDED AT SUSITNA GLACIER STATION (NO. 0610) OCTOBER 1983 TO DECEMBER 1984

	Temperature			Wind										
Month	Max (°C)	Min (°C)	Mean (°C)	Res Dir (°True)	Res Speed (m/sec)	Ave Speed (m/sec)	Max Gust Dir (°True)	Max Gust Speed (m/sec)	P' Val Dir (True)	Mean RH (%)	Mean DP (°C)	Precip (mm)	Total Solar Energy (WH/m²)
October 1983	3.6	-15.3	-5.5	M	M	1.8M	M	19.0M	M	62	M	M	31,859
November	5.5	-13.8	-5.3	083	2.2	2.5	118	19.7	ENE	46M	M	M	8,665
December	4.5	-21.5	-8.1	070M	1.3M	0.8	099M	12.7	ENE(M)	48	M	M	1,525
January 1984	1.2	-27.8	-10.4	087	1.6	2.2	118	19.7	ENE	61	M	M	3,650
February	-1.6M	-26.7M	-11.2M	-85M	1.4M	2.0M	155M	18.4M	ENE(M)	60M	M	M	15,030M
March	M	M	M	M	M	M	M	M	M	M	M	M	M
April	M	M	M	M	M	M	M	M	M	M	M	M	M
May	13.2M	-9.2M	2.9M	061M	0.9M	1.5M	027M	11.4M	ENE(M)	M	M	18.2M	187,763M
June	19.3M	-0.4M	7.2M	089M	0.8M	1.9M	128M	13.3M	ENE(M)	M	M	105.4M	168,663
July	M	M	M	M	M	M	M	M	M	M	M	M	M
August	M	M	M	M	M	M	M	M	M	M	M	M	M
September		M	M	M	M	M	M	M	M	M	M	M	M
October	M	M	M	M	M	M	M	M	M	M	M	M	M
November	-0.6M	-19.1M	-10.0M	070M	1.2M	1.6M	120M	26.0M	ENE(M)	63M	M	M	7,159M
December	1.8M	-20.0M	-11.1M	072M	1.4M	1.9M	338M	17.8M	ENE(M)	68M	M	M	1,085M
Annual-WY (10/83 - 9/84)	M	M	M	M	M	M	M	M	M	M	M	M	M
Annual-CY (1/84-12/84)	M	M	M	M	M	M	M	M	M	M	M	M	M

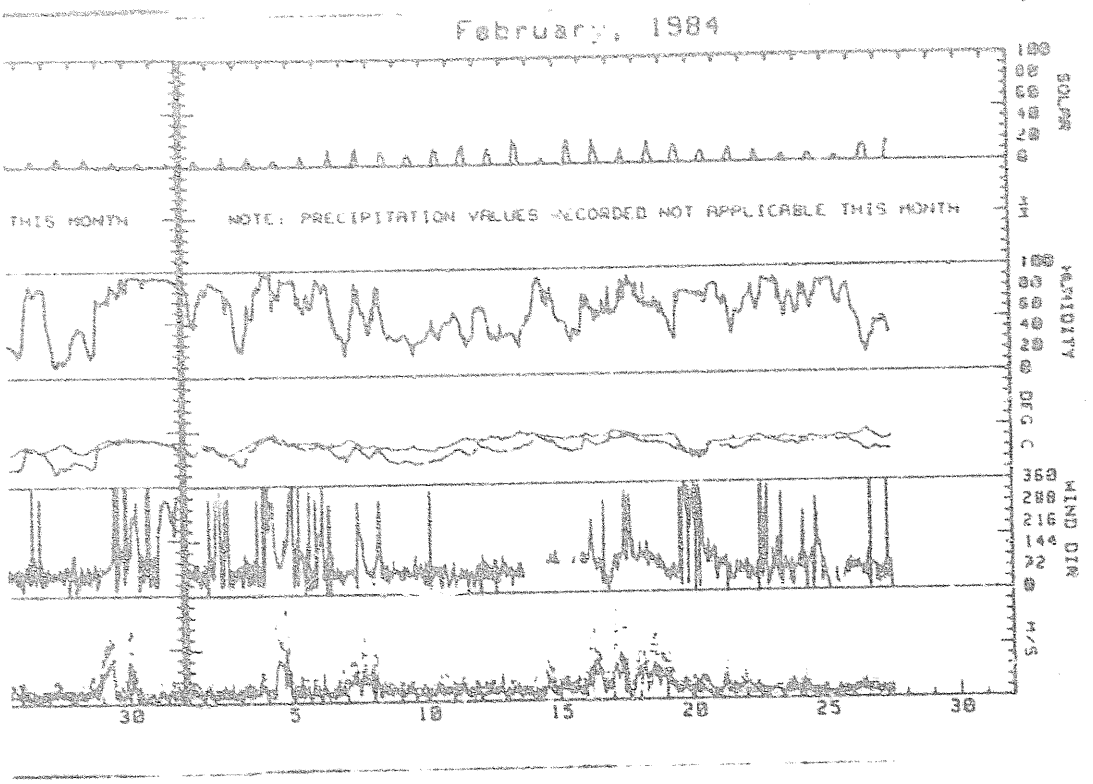
NOTE: See section on interpretation of data for explanation of symbols used. Anuual values are for water year (WY) and calendar year (CY).

TABLE 2.2. PERCENT OF TOTAL POSSIBLE OBSERVATIONS RECORDED AT SUSITNA GLACIER CLIMATE STATION OCTOBER 1983 TO DECEMBER 1984

Month	Temp	Wind Speed	Wind Direction	Peak Gust	RH	Precip	Solar Radiation	Dew Point
October 1983	100	98	80	98	77	0	100	77
November	100	100	100	100	87	0	100	87
December	100	100	96	100	77	0	100	77
January 1984	100	100	100	100	87	0	100	87
February	91	91	85	91	72	0	91	72
March	0	0	0	0	0	0	0	0
April	0	0	0	0	0	0	0	0
May	89	89	86	89	42	89	89	42
June	85	85	85	85	39	85	85	39
July	0	0	0	0	0	0	0	0
August	0	0	0	0	0	0	0	0
September	27	27	27	27	22	27	27	22
October	23	23	22	23	19	0	23	19
November	94	92	87	89	68	0	94	68
December	95	95	85	93	81	0	100	80
Total	60	60	57	60	45	13	60	45

NOTES:

1. RH and dewpoint data are not valid and have been discarded for samples when the wind speed is less than 1.0 m/s.
2. Precipitation data are recorded from April through September only. Collector is not designed for winter temperatures.
3. The percentage reported as TOTAL is for the full 15-month period (10/83-12/84).



NOTE: A larger copy of each plot is presented in Section 5, Climatic Data Summaries.

NO DATA FOR JULY 1984

STATION NOT WORKING

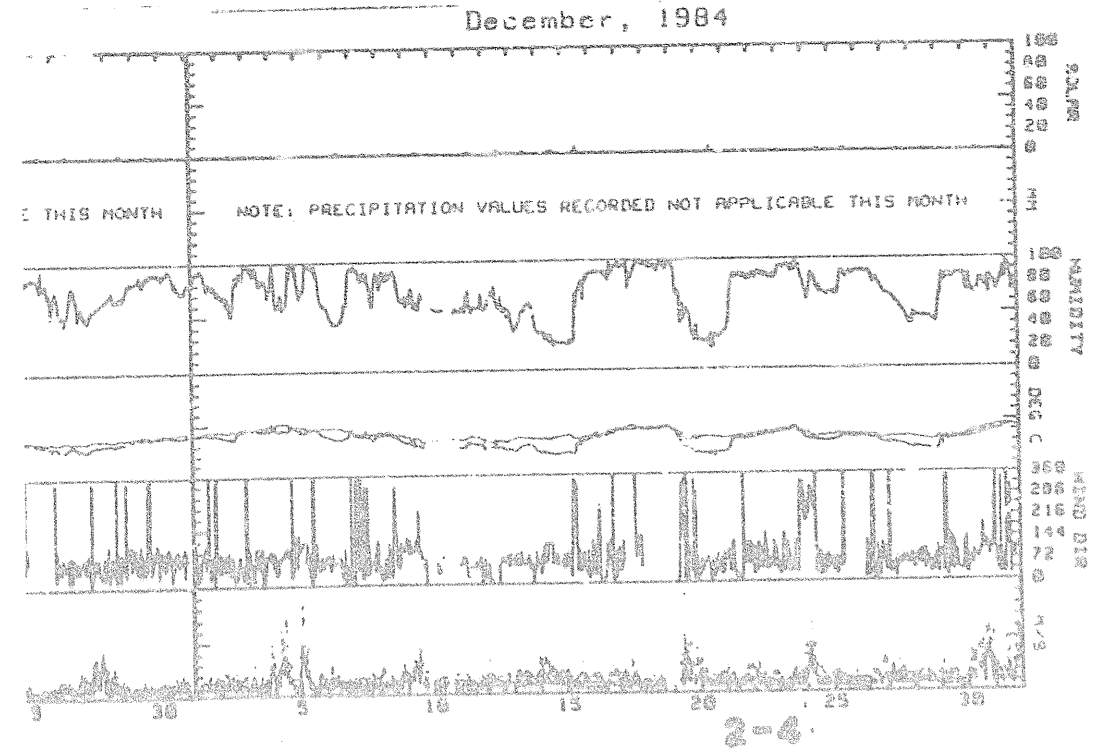
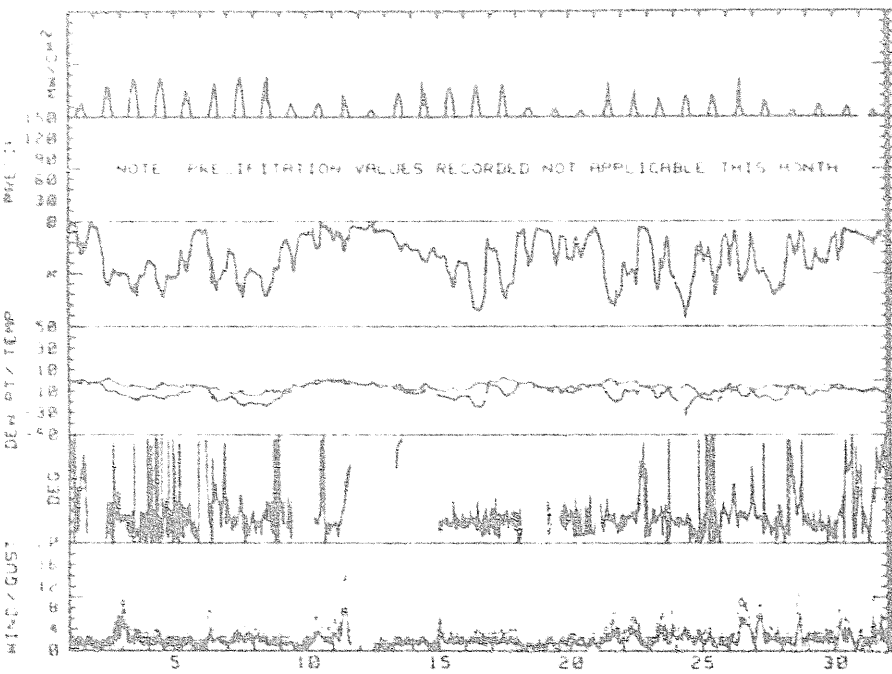
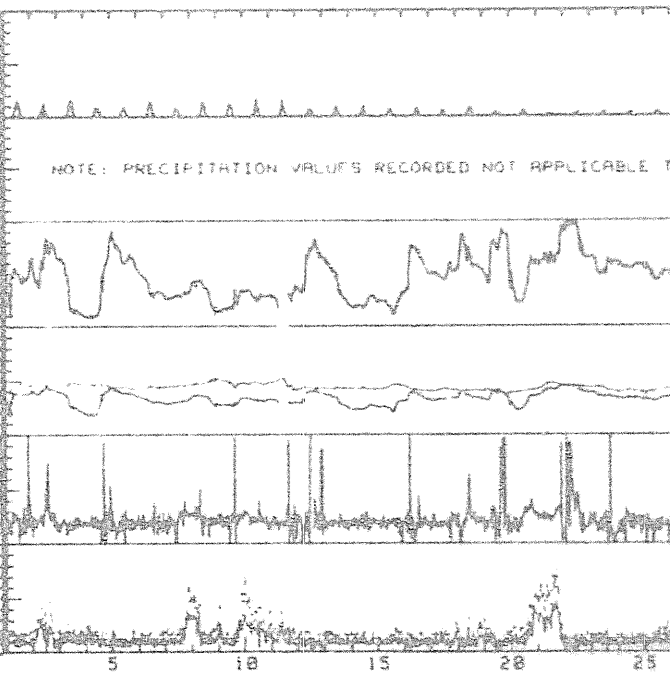


FIGURE 2.1
SEQUENTIAL PLOT OF CLIMATIC DATA SUSITNA GLACIER STATION, OCTOBER 1983-DECEMBER 1984

October, 1983



November, 1983



NO DATA FOR MARCH 1984

NO DATA FOR APRIL 1984

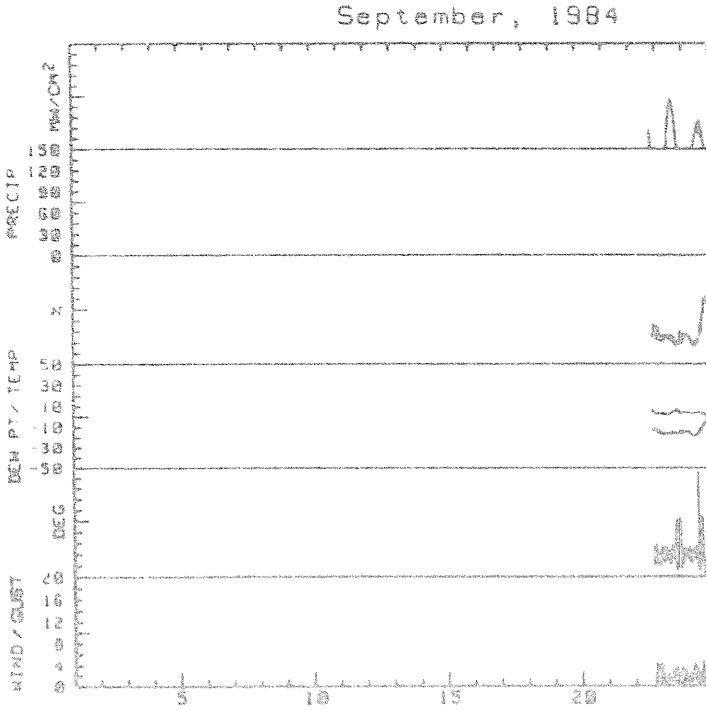
STATION NOT WORKING

STATION NOT WORKING

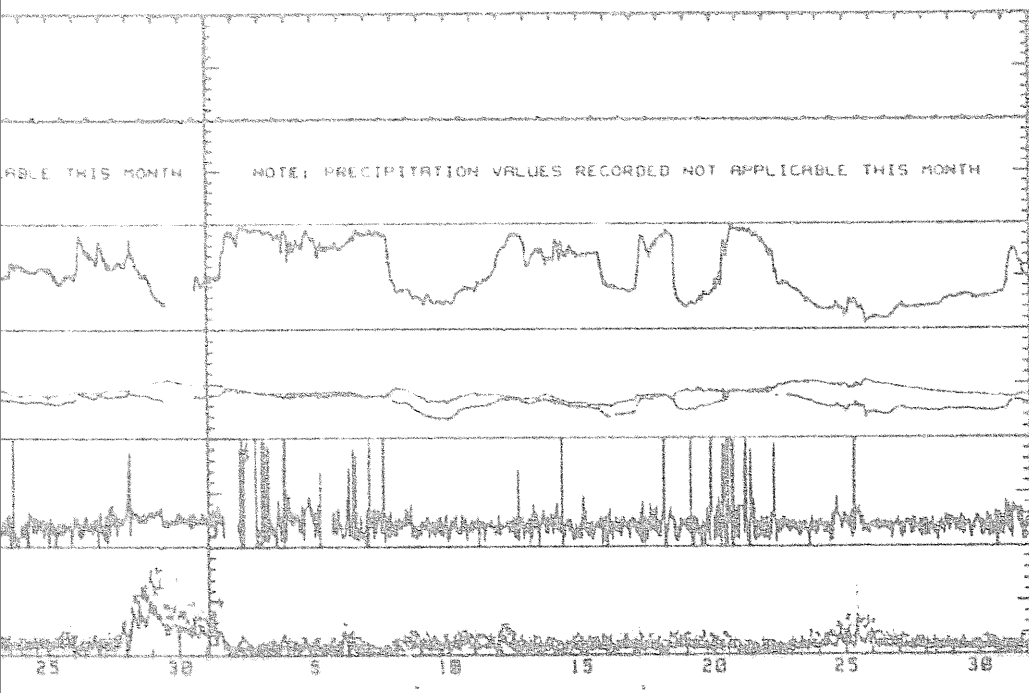
NO DATA FOR AUGUST 1984

STATION NOT WORKING

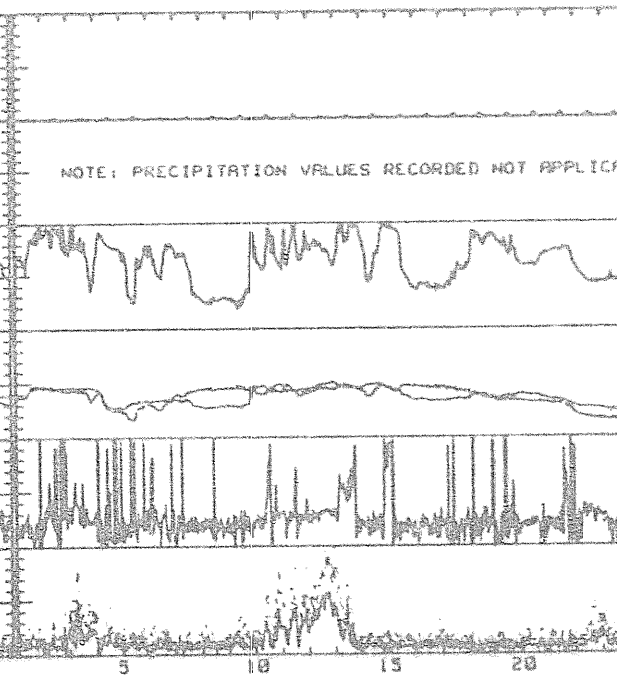
September, 1984



December, 1983

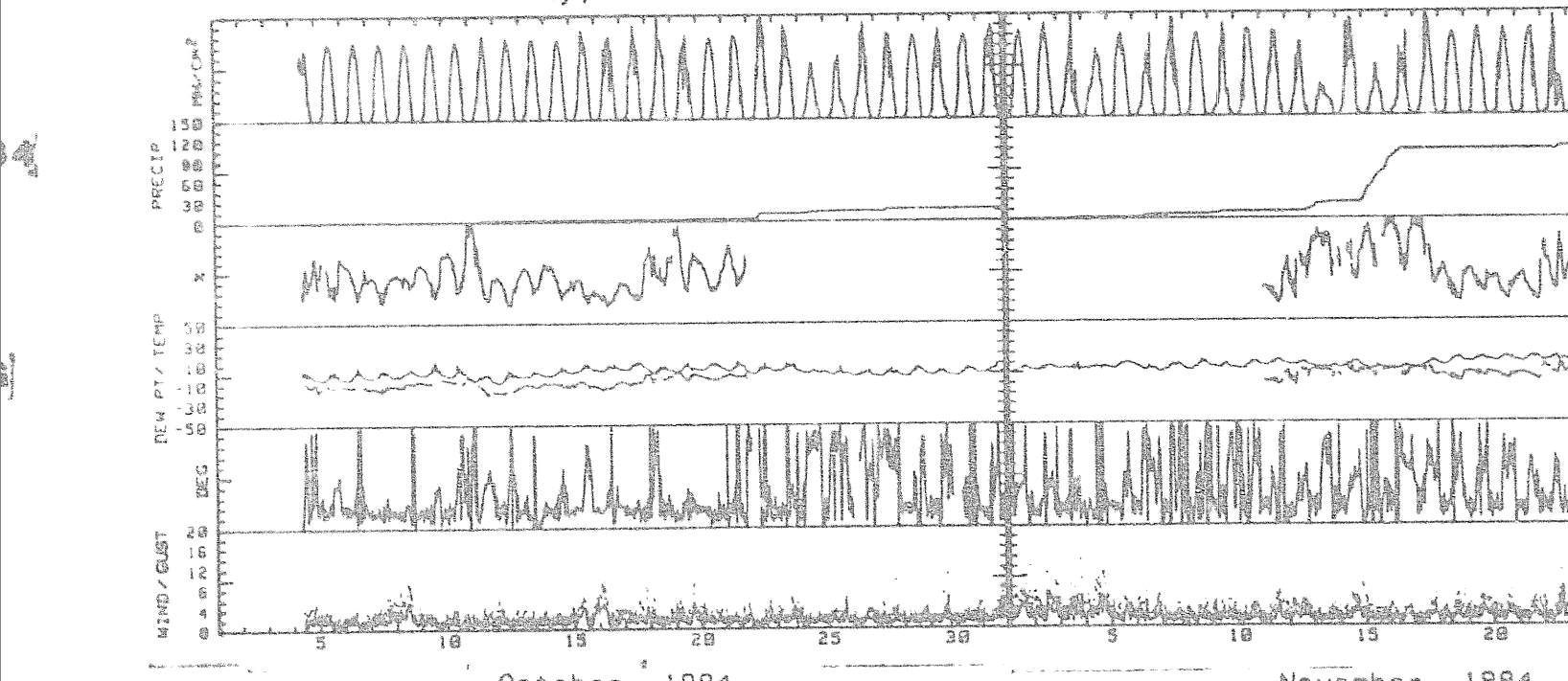


January, 1984

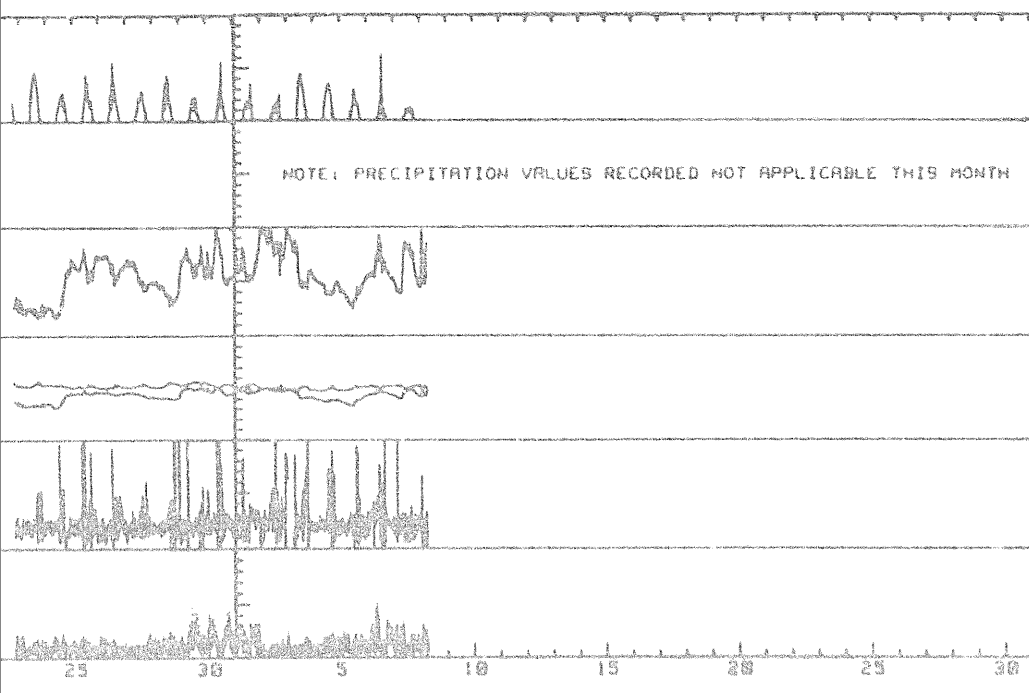


May, 1984

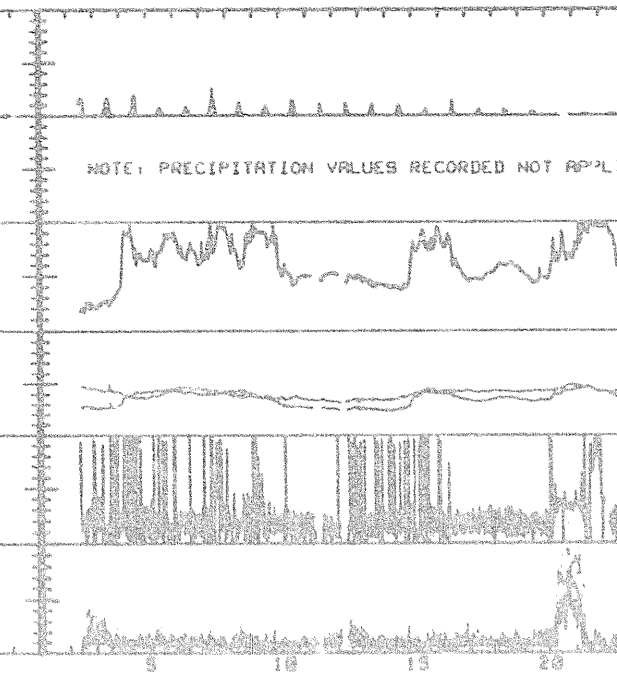
June, 1984

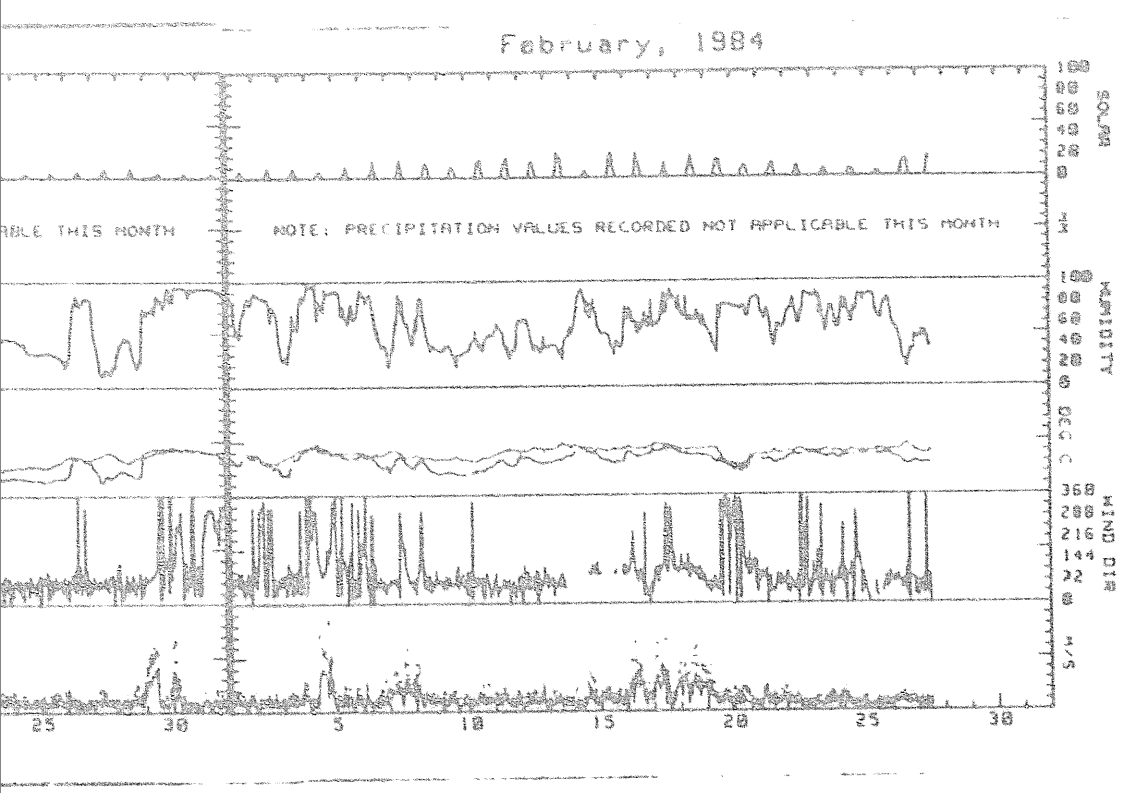


October, 1984

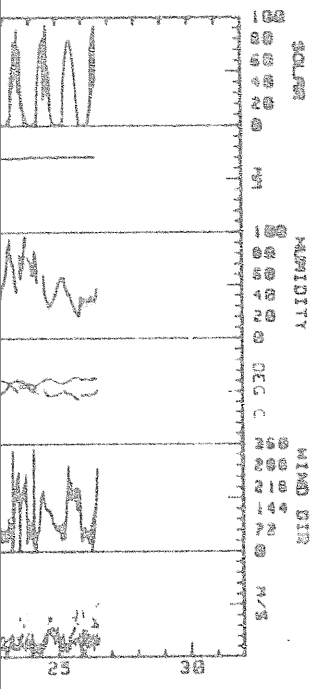


November, 1984





NOTE: A larger copy of each plot is presented in Section 5, Climatic Data Summaries.



NO DATA FOR JULY 1984

STATION NOT WORKING

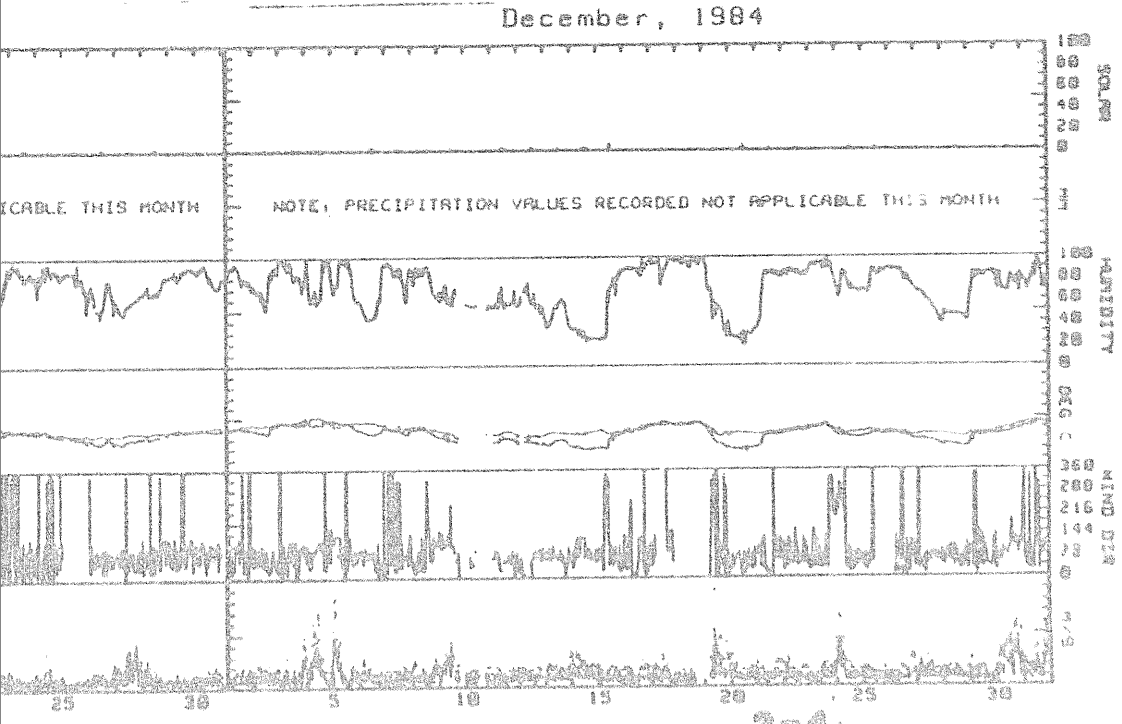


FIGURE 2.1
SEQUENTIAL PLOT OF CLIMATIC DATA, SUSITNA GLACIER STATION, OCTOBER 1983-DECEMBER 1984

3.0 REPORT PREPARATION

3.1 Description of Symbols Used in Annual and Monthly Summaries

3.1.1 Annual Summary

Blank entries for monthly values indicate the station had not yet been installed at the site or that it had been removed prior to that month. Installation and removal dates are noted on the table as well.

M — Insufficient or partial data. M follows average and/or total values if 1-9 daily values were missing data for all or part of the day. M appears alone for the month if 10 or more daily values were missing or contained missing data. Parentheses surround the M where other letters may cause confusion (i.e. in prevailing direction). M follows average and/or total values for the year if any month was missing data. M appears alone for the year if any month was missing enough data to require it to have an M alone or if three or more months were missing any data.

3.1.2 Monthly Summaries

**** — Erroneous or missing data (may be from 2 to 6 asterisks, depending on number of digits possible in the value). Asterisks appear in place of the value if all readings required for determination of the table value were missing.

\- — A dash in the hourly precipitation table indicates the volume for that hour is not known, but the cumulative total of precipitation over the interval of consecutive dashed hours is included in the next hour where a value is

reported. Similarly, a dash for precipitation in the monthly summary table indicates the volume for that day is not known, but the cumulative total over the interval of consecutive dashed days is included in the next day where a value is reported.

3.2 Data Computation Standards (Climate)

Conversion factors for units are presented in the appendix. Specific segments of the monthly reports are described below.

3.2.1 Graphical Data Plot

The data plot is a graphical representation of valid recorded and/or computed data.

3.2.2 Hourly Precipitation Summary Table

Hourly precipitation values are calculated as the difference between valid (current and preceding) consecutive hourly readings. When either of these hourly precipitation readings are invalid, no value is reported for the current hour. No table is published for the winter months (October through March) unless a heater is part of the tipping bucket installation.

3.2.3 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 from 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). When the wind speed is less than 1 m/sec, the RH value is omitted from the averaging (but is displayed in the graphical data plot and in the three-hour table).

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 Centigrade.

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 (in watt-hours per square meter) is determined by averaging the recorded solar intensity (which is in milliwatts per square centimeter) and converting the units. The monthly value is the sum of the daily values.

3.2.4 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 centigrade, or when either the temperature or R.H. reading is invalid.

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 preceding 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.

3.2.5 Wind Frequency Summary Table

Reported data are determined from all valid pairs of readings. Valid pairs of wind data are composed of valid wind speed and wind direction data for the same interval.

3.2.6 Hourly Solar Radiation Table

An addition to this year's report series, hourly solar radiation values are averages of all valid readings recorded during the preceding hour. If any data are missing or invalid, the remaining values are arithmetically averaged for the hour. The daily average values are determined by summing the hourly averages for the day and dividing by 24. If all data are missing for the hour, no value is printed; asterisks (***) appear instead, and no value is used for the hour in computing the daily average.

3.2.7 Wind Rose Graphical Plot

The plot is a graphical representation of the wind frequency summary table.

3.2.8 Observation Summary Table

Another addition to this year's report series is an observation summary. The number of usable observations for each parameter is determined by counting the number of valid readings for the entire month. The percentage of total observations is determined by dividing the number of usable observations by the number possible for the month. Data adjustments and additional comments applicable to the month are manually entered below the summary table.

3.2.9 General Notes

1. The following are the data ranges assumed valid, based on reasonable expectations for the parameters in south-central Alaska; data outside these ranges are not used:

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

   Temperature: -50 through +35 °C

   Wind Speed: 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. Precipitation during recording interval (15 or 30 minutes) should not exceed 30 mm.

   Solar: 0 through 150 milliwatts/cm^2

   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: ±1°C
Wind Speed: ±0.5 meters per second
Wind Direction: ±1% of full scale (i.e., ±3.6 degrees)
Relative Humidity: ±6%
Precipitation: ±1% up to 76.2 mm/hr, ±5% from 76.2 mm/hr to 254 mm/hr
Solar Radiation: ±5mw 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:

DIRECTION	COMPASS HEADING
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

4.0 INTERPRETATION OF DATA, 1983-84

4.1 General Comments

4.1.1 Many of the sensors or the methods of measuring various parameters have peculiarities that affect how the data should be interpreted. The user is encouraged to become familiar with the methods of summation for each parameter and each table. These are described in Section 3.2 "Data Computation Standards."

4.1.2 As described in Section 2.0, a shift is being made from presenting the climatic data on a water year basis to presenting it for the calendar year. Thus, this report includes fifteen months of data. All future reports will be for the calendar year.

4.1.3 Changes made to the format of this year's report series include addition of an hourly solar radiation table and tabulation of the actual number of usable observations on a monthly basis for each parameter. Also, the data-processing program was modified slightly to permit output of daily prevailing direction when the wind speed sensor was not operational, and output of speed-only parameters (peak gust and daily average speed) when the wind direction sensor was not operational.

4.1.4 The U.S. Department of Transportation ordered a shift in the time zones of central and Southeast Alaska in October 1983. The official time in central Alaska was advanced one hour, and the offical Southeast Alaska time was retarded one hour, making the two areas on the same time. This transition occurred when daylight savings time ended, on Sunday, October 30, 1983. The effect on the reporting of

the data is that one hour was "lost" between midnight and 0100 on October 30. There are thus no data at all for 0030 and 0100 on that date.

4.1.5 Missing data values have been estimated where possible. Estimation, which was accomplished by manually editing the raw computer data files, was generally limited to data gaps of an hour or less, where interpolation between the preceding and following valid data points could be used to estimate the missing points. Interpolation was performed in this manner for temperature, relative humidity, and solar radiation data.

Solar data have been estimated only for clear or uniformly cloudy days and then only if not near the peak value of the day. Solar data are also estimated at night where zero minimum values should occur. Precipitation is estimated only if none at all occurred during the interval or if the tips of the tipping-bucket were manually counted during a rainfall event. Wind speed and direction data have been estimated by interpolation only if the preceding and following winds were very uniform. Peak gust speeds have not been estimated at all.

4.1.6 Intermittent garbled data due to a Weather Wizard malfunction at the Glacier station caused several data gaps from mid-November 1984 through mid-December. It was possible to estimate temperature, relative humidtiy, and solar radiation values where the gaps were not more than two or three hours. However, approximately two to three days of data were lost from the record during this period.

4.1.7 The recording interval was changed prior to the winter of 1983-84 to permit recording of data for longer periods of

time in the event monthly maintenance trips to the station were delayed. The interval was changed from 15 minutes to 30 minutes, which increased the maximum record length per data tape from approximately six weeks to approximately three months. The switch was made in November 1983 at all Susitna Basin stations and in December 1983 at the Eklutna Lake Station.

4.1.8 The Weather Wizard stopped functioning on February 27 at the Glacier Station. The propane heater probably didn't supply sufficient heat to keep the unit operating. The Weather Wizard was removed on April 9 for maintenance, and then replaced on May 4. Following re-installation, data were recorded until June 26 when the unit again ceased to function. The station was inspected on July 16. However, no data were recorded following the inspection. The unit was removed from the site on August 27 and sent back to Belfort for repairs. The Weather Wizard was re-installed on September 22, after which data were recorded consistently. A total of 154 days of data for all parameters were lost during the periods from 2/27 to 5/4 and 6/26 to 9/22, as indicated on Table 1.4.

4.1.9 Normal station maintenance procedure is to switch the recording interval from 30 minutes to 5 minutes for ease and expediency of inspection. This was done at the Glacier station on September 22 when the Weather Wizard was re-installed. However, the interval was not changed back to 30 minutes upon completion of the station inspection. Since the data tapes are designed to have a duration of approximately 15 days for 5 minute data, the tape ran out on October 8, after which no data were recorded. The cassette tape was replaced and the recording interval was switched to 15 minutes on November 2, 1984.

Approx nately 25 days of data were lost from the record during nis period.

4.2 Comments on Specific Parameters

4.2.1 Precipitation

Precipitation data are generally reported for April through September only. The stations do not have heaters in their precipitation sensors (tipping-buckets), so they are unable to record precipitation when the temperature is below freezing. The sensors are calibrated to tip for 0.2 mm of rainfall and not for snowfall. The sub-freezing temperatures may cause a loss or a delay of the recorded precipitation. Winds frequently blow snow away from or out of (or occasionally into) the collector, and snow collected in the bucket may not be melted and recorded until the next occurrence of warm weather, possibly days or weeks later. The months of October through March very often have sub-freezing temperatures on nearly every day of the month, so their precipitation records have been omitted. It should be noted that even in the months where precipitation data are reported (i.e. April through September), the occurrence of sub-freezing temperatures could affect the timing and the recorded amount of precipitation. The timing within the day may not be accurate but daily totals should be reasonable. The user should exercise caution and make note of the concurrent temperatures in interpreting the precipitation records.

4.2.2 Relative Humidity and Dewpoint

The relative humidity (R.H.) sensors used are printed circuit elements which sense changes in R.H. by changes in

impedance. The sensors, manufactured by Phys-Chem Research Corporation, have chemically-treated surfaces which degrade with time, and are thus very difficult to keep in calibration. Many of the months throughout the year (and at all stations) therefore display significant variations in R.H. patterns. Theoretically, the maximum value and RH reading can attain is 99%. However, when the sensor is not calibrated correctly readings may exceed 100%, or they may be noticably too low. Adjustments are therefore made accordingly, as noted in Table 1.5.

An additional consideration with respect to dewpoint is the fact that it is not computed when the reported wind speed falls below 1 m/sec, due to inadequate aspiration of the R.H. sensor. This typically causes elimination of at least one dewpoint value on nearly every day of data-collection.

The oscillator for the Glacier relative humidity sensor was bad during May and June 1984. Data were recorded for 17 days from mid-May to mid-June, but have all been deleted due to the unreliable oscillator. Data from the beginning of May and the end of June are somewhat eratic as well, but generally follow the diurnal cycle indicative of the summer RH. The station was not functioning from June 26 to September 22. The RH oscillator was replaced on 9/22 when the Weather Wizard was re-installed. RH data are reliable after this date.

4.2.3 Solar Radiation

Daily and monthly solar radiation values are the cumulative total energy, computed from all valid readings for the period. Either the daily or monthly value can be significantly above or below the true energy value if there are

large segments of missing readings (i.e. from the period of very low intensity at night or the period of very high intensity at mid-day). A check should be made, therefore, of the hourly solar radiation summary table to get a feel for the frequency and timing of lost solar radiation data. Caution should be used when a significant amount of data are missing.

Another frequent concern in the processing of solar data is the presence of non-zero minimum values. Since the sensors have a stated accuracy of ±5 mW/cm^2, they often record a reading of 0 (during night) as 1 or even 2 mW/cm^2. This also can bias the daily or monthly totals, making the computed energy much higher than the true solar energy. An error of +1 mW/cm^2 on every reading will cause the computed daily total energy to be high by 240 watt-hr/cm^2. Readings during periods when this sensor offset was demonstrated have been adjusted downward, as noted in Table 1.5.

4.2.4 Wind Speed and Direction

Occasional measurements of wind speed, wind direction, and peak wind gusts were lost between October 1983 and February 1984 and again from October to December 1984 due to intermittent freezing of the wind vane or anemometer. One or both of the sensors typically freezes and seizes up when the temperature drops after a rainstorm or freezing rain event and then stays stuck until the temperature rises above 0°C or until a wind event occurs that is sufficiently strong to free it.

When the Glacier Weather Wizard was replaced on September 22, 1984, the wind vane tail was not attached, causing all

wind direction data to be off by 180°. A new wind vane tail was attached on November 2. Therefore, all wind direction data from September 22 to October 8 when the data tape ran out (see Section 4.1.9) have been adjusted downward 180°, as indicated in Table 1.5.

5.0 MONTHLY CLIMATIC DATA SUMMARIES
SUSITNA GLACIER STATION
OCTOBER 1983 - DECEMBER 1984

Note:

Each month's climatic data summary report consists of the following 11 pages:

(1) Hourly Precipitation Summary Table (or note page)
(2) Three-Hour Summary Table (Days 1-9)
(3) Three-Hour Summary Table (Days 10-18)
(4) Three-Hour Summary Table (Days 19-27)
(5) Three-Hour Summary Table (Days 28-31)
(6) Monthly Summary Table
(7) Monthly Graphical Plot
(8) Wind Frequency Summary Table
(9) Wind Rose Plot
(10) Hourly Solar Radiation Summary Table
(11) Observation Summary and Note Page

No precipitation data for October

(See INTERPRETATION OF DATA).

R & M CONSULTANTS, INC

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING October 1983

DAY 01

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-1.1	*****	97	273	1.0	230	3.8	0
0600	-1.5	*****	98	308	.6	279	2.5	0
0900	-.6	-3.1	83	115	.7	124	4.4	6
1200	.9	*****	69	213	.9	223	3.8	11
1500	.3	*****	71	265	.5	282	1.9	9
1800	-2.0	*****	84	120	.7	116	3.2	0
2100	-2.2	-2.5	98	***	****	***	3.2	0
2400	-2.1	*****	95	***	****	***	3.2	0

DAY 02

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-1.9	*****	94	***	****	***	1.9	0
0600	-1.2	*****	80	***	****	***	1.9	0
0900	1.1	-7.9	51	***	****	***	1.9	16
1200	1.1	*****	42	073	.9	016	2.5	21
1500	.2	-10.7	44	056	1.2	058	5.1	10
1800	-2.1	-9.9	55	023	.6	205	5.1	0
2100	-4.1	-13.3	49	099	3.5	092	8.9	0
2400	-4.2	-13.6	48	082	4.0	073	10.8	0

DAY 03

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-4.7	-13.8	49	084	4.5	093	10.2	0
0600	-6.6	-15.3	50	072	2.5	079	7.6	0
0900	-4.4	-17.3	36	062	1.8	049	5.1	24
1200	-5.6	-18.4	36	032	1.6	006	5.8	37
1500	-5.8	-17.7	39	034	2.7	036	4.4	18
1800	-6.1	*****	49	033	1.5	015	3.8	0
2100	-6.0	-15.3	48	050	1.3	021	3.2	0
2400	-8.5	-14.7	61	023	1.5	011	3.8	0

DAY 04

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-8.4	-14.4	62	041	1.2	025	3.2	0
0600	-8.1	-14.7	59	037	1.2	073	3.8	0
0900	-6.7	-17.0	44	020	2.0	028	4.4	24
1200	-3.7	-17.4	34	037	1.9	022	5.7	30
1500	-2.7	*****	30	073	.5	112	2.5	16
1800	-5.3	-14.7	48	063	.9	051	3.2	0
2100	-4.4	*****	46	067	1.0	024	3.2	0
2400	-5.5	*****	47	040	1.0	042	3.2	0

DAY 05

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-5.3	*****	48	047	1.1	037	3.8	0
0600	-6.6	*****	73	011	.7	042	3.2	0
0900	-4.7	-11.1	61	079	.9	068	3.2	15
1200	-4.0	-12.4	52	081	1.5	079	4.4	22
1500	-4.6	*****	71	089	1.4	129	5.1	7
1800	-4.3	-5.7	90	046	.8	025	2.5	0
2100	-4.9	*****	92	029	.4	015	1.9	0
2400	-5.0	*****	91	347	1.0	344	1.9	0

DAY 06

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-5.1	-6.5	90	***	****	***	7.5	0
0600	-5.9	-7.6	89	202	1.3	164	7.0	0
0900	-7.0	-12.8	63	096	2.7	097	7.6	10
1200	-6.8	-15.3	51	249	.1	087	7.0	37
1500	-6.7	-20.4	33	162	1.9	174	5.1	14
1800	-8.8	-18.9	44	178	1.7	152	4.4	6
2100	-10.4	*****	53	149	.6	134	3.2	0
2400	-10.8	-18.1	56	049	.7	058	3.8	0

DAY 07

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-11.7	-15.5	73	099	1.3	106	3.2	0
0600	-12.9	-17.2	70	061	1.2	076	3.2	0
0900	-12.8	-21.1	47	068	2.7	089	5.7	25
1200	-9.5	-22.9	33	116	2.6	119	8.3	34
1500	-10.4	-24.4	31	109	1.4	162	5.7	15
1800	-13.6	-21.8	50	055	1.6	057	4.4	0
2100	-14.3	-21.2	56	042	2.4	042	5.1	0
2400	-14.3	-22.0	52	088	1.8	108	4.4	0

DAY 08

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-14.3	-22.7	49	049	2.5	037	5.1	0
0600	-13.5	-22.0	49	063	2.0	073	4.4	0
0900	-10.8	-23.7	34	063	1.5	037	4.4	21
1200	-10.5	-24.9	30	107	1.1	089	3.2	38
1500	-9.5	*****	34	117	1.0	135	2.5	14
1800	-7.7	-.9.8	41	069	1.1	063	3.2	0
2100	-10.1	-17.9	53	299	.5	339	3.8	0
2400	-10.1	-15.6	64	005	.3	005	3.2	0

DAY 09

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-10.2	-13.1	78	095	1.1	109	3.2	0
0600	-8.5	*****	84	135	1.3	155	3.5	0
0900	-7.7	-11.8	77	092	1.1	075	3.8	12
1200	-5.8	*****	58	065	.7	068	3.2	10
1500	-5.7	*****	58	***	****	***	1.9	3
1800	-6.0	*****	65	***	****	***	1.9	0
2100	-5.1	-6.9	89	***	****	***	2.5	0
2400	-3.5	*****	88	***	****	***	2.5	0

*** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT ***

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING October, 1983

DAY 10

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-2.3	-4.0	88	***	****	***	2.5	0
0600	-1.5	-2.8	91	***	****	***	4.4	0
0900	.4	-3.7	74	070	3.2	072	7.6	9
1200	.8	-3.1	75	080	3.3	080	7.0	14
1500	-.5	-1.1	96	338	1.6	091	5.1	3
1800	.4	-.6	93	001	1.5	040	4.4	0
2100	.3	-.5	93	055	1.7	070	4.4	0
2400	.9	-2.0	81	054	1.8	058	5.7	0

DAY 11

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	0.0	-1.5	90	066	2.8	073	7.0	0
0600	.7	-1.4	86	047	1.7	068	5.1	0
0900	.6	-1.6	85	095	5.0	107	12.7	3
1200	-.2	-4.4	73	149	6.2	124	19.0	14
1500	-.9	*****	82	202	1.8	170	14.0	3
1800	-1.6	-2.2	96	263	1.6	263	3.8	0
2100	-2.2	-2.9	95	***	****	***	****	0
2400	-3.6	-4.6	93	***	****	***	****	0

DAY 12

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-3.7	-4.7	93	***	****	***	****	0
0600	-4.1	-5.2	92	***	****	***	****	0
0900	-3.2	-3.9	95	***	****	***	****	5
1200	-3.1	*****	97	***	****	***	1.9	7
1500	-3.3	-4.9	89	***	****	***	3.5	2
1800	-4.3	*****	92	***	****	***	1.9	0
2100	-4.6	*****	91	***	****	***	2.3	0
2400	-4.7	-5.6	92	***	****	***	1.9	0

DAY 13

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-5.6	*****	90	***	**.*	***	1.9	0
0600	-5.8	*****	91	***	****	***	1.3	0
0900	-4.7	-7.0	84	***	****	***	2.5	11
1200	-3.9	-6.7	80	301	1.1	247	3.8	23
1500	-4.6	*****	74	339	1.2	332	2.5	12
1800	-8.1	-11.1	79	***	****	***	2.5	0
2100	-9.0	-12.3	77	***	****	***	2.5	0
2400	-8.6	-12.5	73	***	****	***	3.2	0

DAY 14

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-8.8	-12.9	72	***	****	***	3.2	0
0600	-8.1	-11.9	74	***	****	***	1.9	0
0900	-6.6	-11.9	66	***	****	***	3.2	12
1200	-3.0	-9.0	63	***	****	***	3.2	16
1500	-5.2	*****	63	***	****	***	1.9	5
1800	-7.6	*****	71	***	****	***	1.3	0
2100	-8.1	*****	73	***	****	***	1.9	0
2400	-9.2	-14.4	66	***	****	***	5.1	0

DAY 15

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-9.0	-14.5	64	047	3.8	035	7.5	0
0600	-10.6	-15.5	67	072	1.6	079	3.1	0
0900	-8.6	-17.8	51	071	1.2	063	3.1	71
1200	-7.5	-17.7	44	056	1.9	051	3.8	27
1500	-7.4	-20.0	36	090	1.2	067	3.2	9
1800	-8.6	-15.6	57	066	1.5	042	3.2	0
2100	-8.3	-14.7	68	071	1.3	096	3.8	0
2400	-8.4	-15.0	59	070	1.2	058	3.5	0

DAY 16

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-8.3	-14.7	60	072	1.3	084	2.5	0
0600	-6.7	-19.8	35	082	1.4	118	3.2	0
0900	-3.3	-24.9	17	076	1.8	087	3.8	20
1200	-2.2	-25.4	15	075	1.3	040	3.8	30
1500	-3.2	*****	15	070	1.3	041	3.8	5
1800	-2.4	-18.6	28	055	1.1	020	5.1	0
2100	-2.8	-5.1	64	073	1.4	088	4.4	0
2400	-.9	-5.1	73	062	1.3	032	3.2	0

DAY 17

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-.7	-5.3	71	076	1.4	093	3.8	0
0600	-.6	-5.2	72	0.8	1.2	053	3.8	9
0900	1.4	-8.5	48	069	1.5	091	5.1	12
1200	2.4	-13.2	31	071	1.9	071	5.1	26
1500	.1	-14.1	34	098	1.4	103	3.2	4
1800	.3	-12.2	39	069	2.1	074	4.4	0
2100	.1	-11.7	41	079	1.3	058	3.8	0
2400	-1.6	-5.6	74	062	1.7	043	4.4	0

DAY 18

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-2.3	*****	87	088	.5	062	3.9	0
0600	-3.3	*****	91	017	.7	017	1.3	0
0900	-2.8	*****	75	***	****	***	1.3	6
1200	-1.8	*****	61	***	****	***	3.2	9
1500	-3.0	-5.3	79	***	****	***	1.9	3
1800	-4.6	*****	93	***	****	***	1.3	0
2100	-5.8	-6.9	93	***	****	***	1.5	0
2400	-6.2	*****	91	***	****	***	1.5	0

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING October, 1983

DAY 19

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-6.8	*****	90	***	****	***	2.5	0
0600	-6.7	-8.1	90	075	1.1	141	3.8	0
0900	-8.2	-11.0	80	***	****	***	3.2	4
1200	-5.2	*****	58	***	****	***	2.5	9
1500	-6.6	-11.5	68	086	2.3	086	4.4	2
1800	-9.0	*****	85	080	1.3	063	4.4	0
2100	-7.6	-10.0	83	096	.9	077	3.2	0
2400	-5.6	-11.3	64	077	1.7	059	5.1	0

DAY 20

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-5.2	-11.3	62	092	1.6	093	3.8	0
0600	-7.5	*****	85	059	.9	017	3.2	0
0900	-5.0	*****	75	046	.9	062	2.5	3
1200	-4.2	-8.8	70	044	1.1	119	2.5	6
1500	-4.5	-7.7	78	067	.5	092	3.2	1
1800	-4.4	*****	89	040	1.0	028	3.2	0
2100	-4.0	-5.4	90	045	.8	029	3.2	0
2400	-3.9	*****	94	031	1.3	030	3.8	0

DAY 21

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-3.6	*****	88	***	****	***	2.5	0
0600	-2.7	-6.0	78	080	1.3	053	4.4	0
0900	-.6	-11.4	44	074	2.1	069	4.4	7
1200	1.8	-15.8	26	096	2.0	088	5.1	34
1500	.4	-19.4	21	084	3.1	087	7.0	7
1800	-.7	-20.9	20	081	3.0	101	7.6	0
2100	-2.8	-19.3	27	044	2.0	028	6.3	0
2400	-2.7	-16.9	33	074	1.7	087	3.8	0

DAY 22

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-3.6	-9.3	61	073	1.8	097	3.8	0
0600	-1.3	-11.0	48	084	2.8	075	5.7	0
0900	-1.4	-10.0	52	090	3.7	106	7.0	6
1200	-1.0	-10.2	50	084	3.2	098	6.3	21
1500	-3.9	-9.1	67	113	2.8	096	9.5	3
1800	-5.3	*****	92	249	.9	249	3.2	0
2100	-5.4	*****	94	346	.1	012	2.5	0
2400	-5.6	*****	91	047	.7	152	3.5	0

DAY 23

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-5.8	*****	84	061	1.1	021	2.5	0
0600	-6.2	-14.2	53	080	2.0	112	5.1	0
0900	-4.1	-17.1	36	079	2.5	065	5.1	9
1200	-4.6	-11.6	58	094	3.1	127	7.0	11
1500	-5.8	-11.7	63	100	3.4	097	8.9	2
1800	-6.8	-8.9	85	034	1.2	000	3.8	0
2100	-6.2	-15.2	49	071	3.0	076	7.6	0
2400	-8.2	-17.6	47	065	2.5	076	5.1	0

DAY 24

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-7.4	-20.4	35	069	2.4	083	4.4	0
0600	-7.5	-22.2	30	075	2.[illegible]	083	5.7	0
0900	-5.9	-27.0	17	063	3.4	072	7.0	9
1200	-3.4	-25.6	16	083	2.1	076	5.7	20
1500	-7.2	-19.9	36	033	1.8	084	5.1	3
1800	-8.3	-17.2	49	031	1.8	022	5.7	0
2100	-10.7	-15.4	62	020	2.3	004	5.1	0
2400	-14.3	-16.6	83	022	1.7	002	5.1	0

DAY 25

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-11.6	-17.4	62	056	1.4	014	3.8	0
0600	-13.1	-17.9	67	025	1.4	358	4.4	0
0900	-13.5	-19.7	65	012	1.7	000	5.7	9
1200	-10.7	*****	45	359	1.0	354	6.5	20
1500	-11.1	-22.2	40	060	.6	112	2.5	5
1800	-7.4	-15.4	53	039	1.3	007	3.8	0
2100	-7.9	-10.1	84	113	.9	126	3.2	0
2400	-5.0	-7.0	86	093	1.1	116	2.5	0

DAY 26

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-2.2	-9.8	56	088	1.8	098	7.0	0
0600	-8.2	-9.9	88	163	1.2	190	5.1	0
0900	-6.5	-9.2	81	083	1.0	100	7.0	3
1200	-3.5	-15.0	41	093	5.2	084	9.5	37
1500	-5.3	-15.5	45	092	5.5	084	10.2	5
1800	-6.4	-14.7	52	086	4.7	071	8.9	0
2100	-8.1	-9.5	90	104	3.1	091	6.3	0
2400	-8.5	-12.3	74	173	.8	139	4.4	0

DAY 27

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-8.9	-14.5	54	089	4.3	085	6.3	0
0600	-7.7	-16.9	48	096	5.9	090	8.9	0
0900	-6.8	-14.8	53	080	2.0	071	6.3	7
1200	-5.6	-15.2	47	071	2.4	062	6.3	11
1500	-5.0	-16.6	40	051	2.1	045	5.1	3
1800	-3.9	-19.9	28	054	2.3	052	5.1	0
2100	-4.9	-18.8	33	033	2.1	023	5.1	0
2400	-6.4	-17.9	40	090	1.4	130	4.4	0

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING October, 1983

DAY 28

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-6.7	*****	39	058	1.2	060	5.1	0
0600	-7.7	-12.9	66	041	1.8	068	6.3	0
0900	-4.6	-6.6	86	016	1.1	065	4.4	3
1200	-3.9	*****	74	224	.6	233	3.8	5
1500	-4.6	-8.3	75	101	3.6	099	10.8	1
1800	-6.8	*****	89	137	3.7	193	14.0	0
2100	-6.7	-10.7	73	078	.7	102	3.2	0
2400	-6.9	-14.2	56	072	2.0	052	5.1	0

DAY 29

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-5.8	-13.9	53	071	2.2	080	4.4	0
0600	-5.5	-11.4	63	077	1.9	095	5.1	0
0900	-4.8	-10.2	66	047	1.8	041	3.8	5
1200	-4.5	-10.5	63	070	1.6	063	3.8	11
1500	-4.6	-10.4	64	057	1.7	068	3.8	2
1800	-4.2	*****	59	045	2.0	047	5.1	0
2100	-4.9	-8.5	76	052	2.0	031	3.8	0
2400	-4.5	-6.7	85	044	1.4	071	4.4	0

DAY 30

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-3.2	-8.4	67	060	1.9	082	7.6	0
0600	-4.2	-8.5	72	104	4.2	102	10.2	0
0900	-6.9	-7.9	93	068	2.3	089	8.9	1
1200	-7.0	-8.4	90	262	2.5	253	7.0	11
1500	-7.8	-9.3	89	252	3.0	254	5.7	5
1800	-8.4	*****	89	341	.8	278	3.2	0
2100	-8.3	-9.5	91	059	.3	118	3.2	0
2400	-9.2	-11.1	86	320	2.4	214	5.7	0

DAY 31

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-10.5	-12.3	87	027	.5	273	3.8	0
0600	-9.7	-11.1	83	071	1.4	073	3.8	0
0900	-8.4	-10.8	83	032	1.2	084	4.4	0
1200	-8.1	*****	84	141	3.3	131	12.1	3
1500	-6.8	-9.1	84	172	1.0	133	10.2	2
1800	-9.2	-11.0	87	240	2.9	229	12.7	0
2100	-10.9	-12.8	86	281	2.7	256	6.3	0
2400	-12.8	-15.1	83	339	.9	265	5.7	0

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING October, 1983

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENRGY WH/SQM	DAY
1	1.6	-2.3	-.4	243	.3	1.1	124	4.4	WNW	88	-3.1	****	708	1
2	2.6	-4.7	-1.1	081	1.9	1.9	073	10.8	ENE	56	-9.4	****	1548	2
3	-3.7	-8.5	-6.1	055	2.0	2.3	092	10.2	NE	45	-15.9	****	2276	3
4	-1.1	-8.7	-4.9	042	1.2	1.4	022	5.7	NNE	49	-15.2	****	2258	4
5	-3.2	-6.8	-5.0	056	.8	1.1	129	5.1	NE	63	-11.2	****	1135	5
6	-4.8	-10.8	-7.8	126	.9	1.7	097	7.6	SE	57	-15.5	****	1555	6
7	-8.7	-14.7	-11.7	079	1.7	2.1	119	8.3	E	52	-20.4	****	2245	7
8	-7.7	-14.7	-11.2	065	1.0	1.5	037	5.1	ENE	44	-21.6	****	1770	8
9	-3.6	-11.1	-7.1	095	1.0	.9	075	3.8	ENE	79	-11.1	****	690	9
10	.9	-3.1	-1.1	051	1.8	2.0	072	7.6	ENE	88	-2.2	****	740	10
11	1.6	-3.6	-1.0	115	2.3	3.8	124	19.0	ENE	87	-2.6	****	835	11
12	-.9	-4.9	-2.9	***	****	.6	***	2.5	***	93	-4.6	****	375	12
13	-2.8	-9.0	-5.9	323	1.1	1.0	247	3.8	NNW	79	-9.8	****	1315	13
14	-2.3	-9.4	-5.9	***	****	1.2	***	5.1	***	69	-12.2	****	1110	14
15	-6.5	-10.9	-8.7	065	1.6	1.7	035	7.6	ENE	57	-16.1	****	1635	15
16	-.3	-9.0	-4.7	071	1.4	1.6	020	5.1	ENE	40	-17.8	****	1525	16
17	3.6	-1.6	1.0	074	1.5	1.7	091	5.1	ENE	50	-9.6	****	1410	17
18	-1.3	-6.2	-3.8	051	.5	.6	002	3.8	NE	82	-6.7	****	495	18
19	-5.0	-10.5	-7.8	082	1.3	1.2	059	5.1	E	82	-10.4	****	370	19
20	-3.3	-8.4	-5.9	055	.9	1.2	093	3.8	NNE	77	-8.6	****	275	20
21	2.4	-5.3	-1.5	077	3.1	3.1	101	7.6	E	41	-14.4	****	995	21
22	-.2	-5.9	-3.1	089	1.7	2.3	096	9.5	E	61	-9.6	****	860	22
23	-3.8	-8.2	-6.0	079	2.3	2.5	097	8.9	ENE	61	-12.7	****	745	23
24	-3.4	-14.3	-8.9	053	2.1	2.4	072	7.0	ENE	39	-20.9	****	985	24
25	-5.0	-15.3	-10.2	044	1.0	1.4	000	5.7	N	66	-16.6	****	940	25
26	-2.2	-9.2	-5.7	097	2.7	3.2	084	10.2	E	66	-11.8	****	900	26
27	-3.9	-9.0	-6.5	071	2.7	3.0	090	8.9	E	45	-16.8	****	705	27
28	-3.9	-7.7	-5.8	091	1.3	2.2	193	14.0	ENE	70	-10.7	****	270	28
29	-3.9	-7.0	-5.5	058	1.8	1.9	095	5.1	ENE	65	-10.8	****	525	29
30	-3.1	-9.2	-6.2	166	.2	2.5	102	10.2	ESE	85	-8.7	****	490	30
31	-6.7	-12.8	-9.8	214	.3	2.3	229	12.7	W	85	-11.2	****	235	31
MONTH	3.6	-15.3	-5.5	072	1.3	1.8	124	19.0	ENE	62	-11.9	****	31859	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 11.4
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 13.5
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 14.0
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 12.1

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.

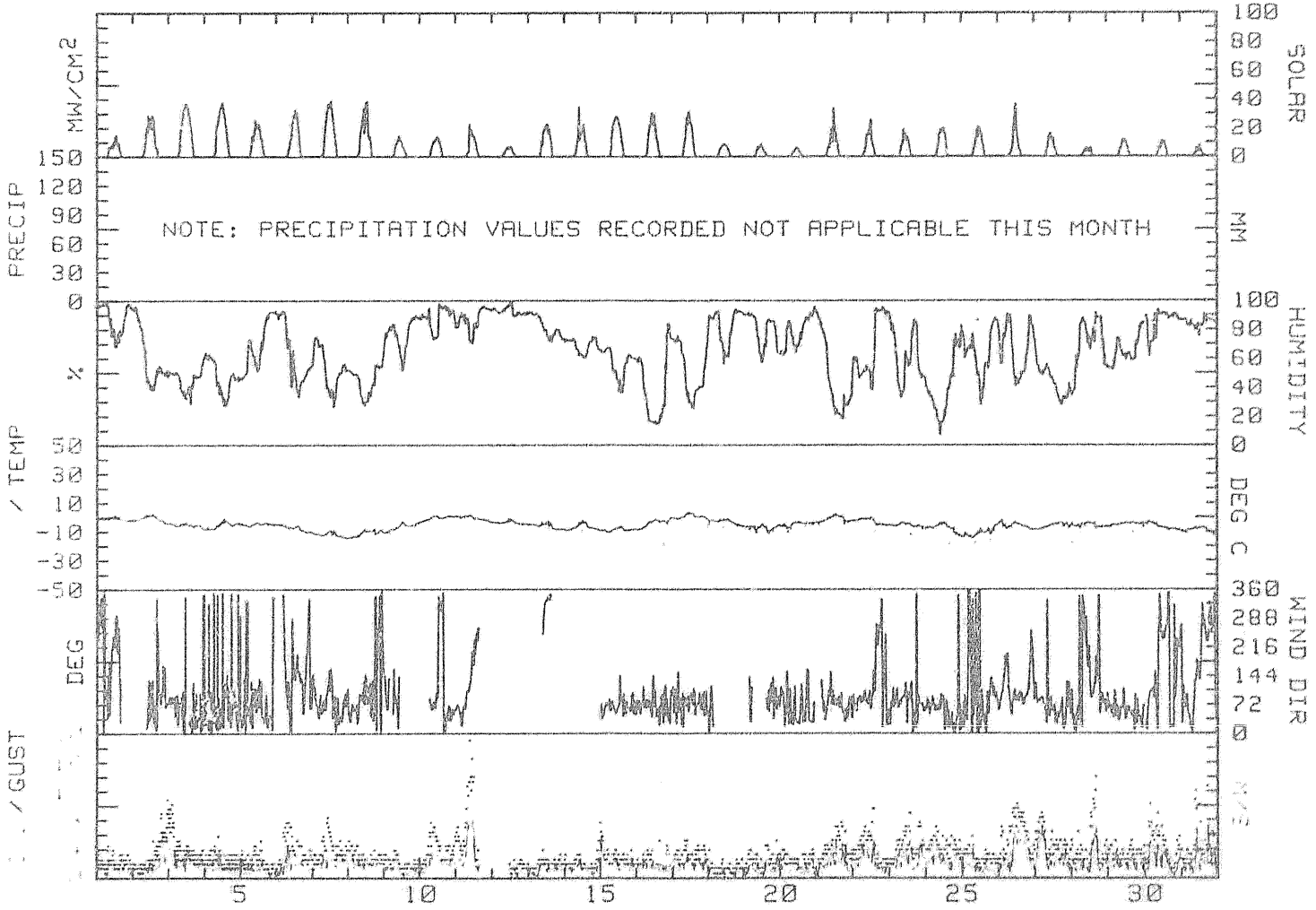
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

GLACIER WEATHER STATION

October, 1983



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING October, 1983

DIRECTION	VELOCITY (M/S) 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	TOTAL
N	1.19	3.78	.30	0.00	0.00	0.00	0.00	5.27
NNE	2.15	8.83	.96	0.00	0.00	0.00	0.00	11.94
NE	1.63	11.42	1.19	0.00	0.00	0.00	0.00	14.24
ENE	1.48	16.10	3.71	.15	0.00	0.00	0.00	21.44
E	1.48	9.87	5.12	.74	0.00	0.00	0.00	17.21
ESE	2.30	5.12	1.48	.45	0.00	0.00	0.00	9.35
SE	.67	2.97	.45	.22	0.00	0.00	0.00	4.30
SSE	.59	1.85	.22	0.00	0.00	0.00	0.00	2.67
S	.22	.74	.07	0.00	0.00	0.00	0.00	1.04
SSW	.15	1.04	.15	.15	0.00	0.00	0.00	1.48
SW	.52	1.04	.15	.07	0.00	0.00	0.00	1.78
WSW	.30	.96	.45	0.00	0.00	0.00	0.00	1.71
W	.45	1.19	.30	0.00	0.00	0.00	0.00	1.93
WNW	.89	.82	0.00	0.00	0.00	0.00	0.00	1.71
NW	.22	.59	0.00	0.00	0.00	0.00	0.00	.82
NNW	.89	2.08	0.00	0.00	0.00	0.00	0.00	2.97
CALM								.15
TOTAL	15.13	68.40	14.54	1.78	0.00	0.00	0.00	100.00

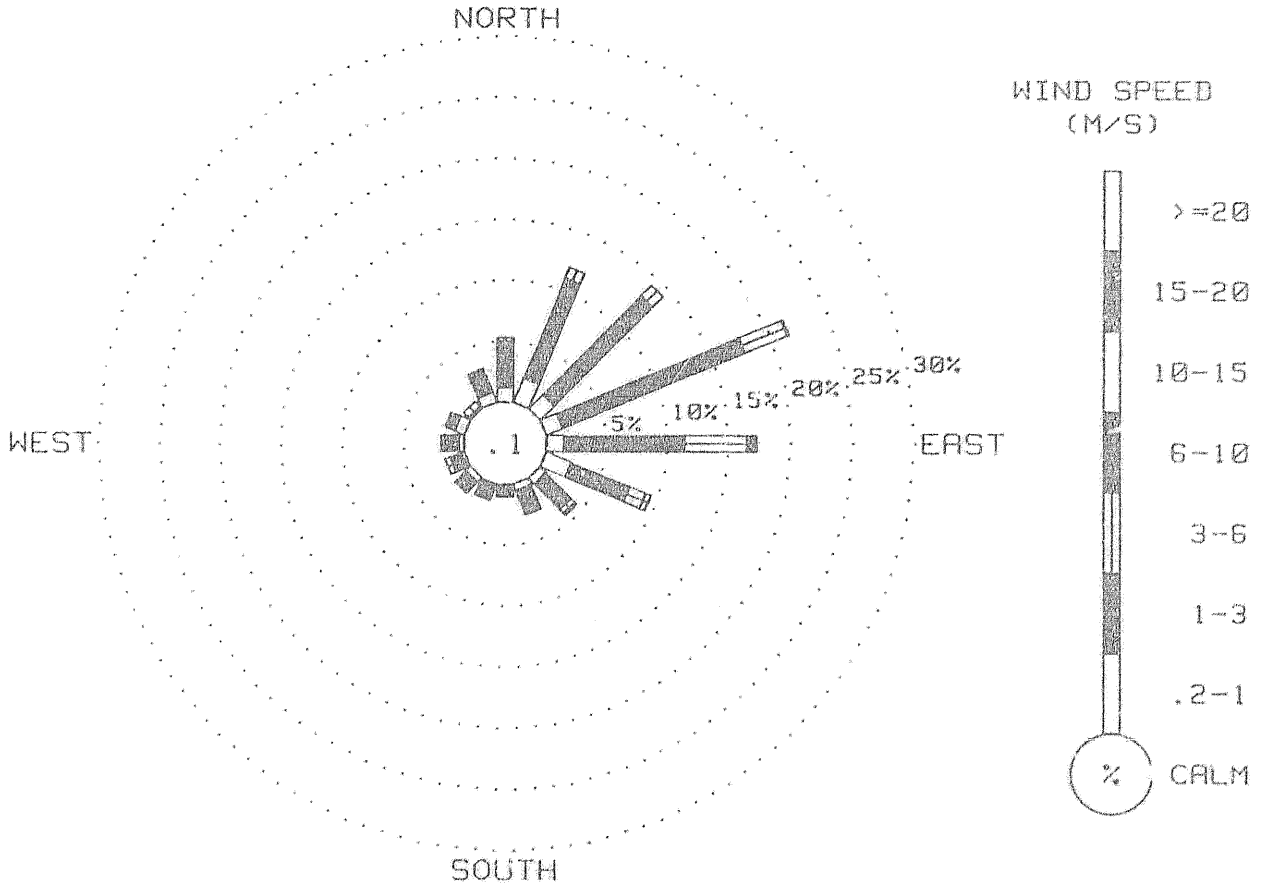
NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
1548 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
2976 WIND OBSERVATIONS WOULD HAVE BEEN CORRECT FOR 15 MINUTE DATA.
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

GLACIER WEATHER STATION

October, 1983



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SOLAR RADIATION SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING October, 1983

SOLAR RADIATION VALUES MEASURED IN MILLIWATTS PER SQUARE CENTIMETER

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	AVG
1	0	0	0	0	0	0	0	1	7	7	7	10	14	11	9	5	1	0	0	0	0	0	0	0	3
2	0	0	0	0	0	0	0	3	10	19	24	24	24	27	15	6	3	0	0	0	0	0	0	0	6
3	0	0	0	0	0	0	2	10	21	29	35	37	35	29	21	11	3	0	0	0	0	0	0	0	10
4	0	0	0	0	0	0	1	12	22	28	34	37	33	28	20	10	2	0	0	0	0	0	0	0	9
5	0	0	0	0	0	0	2	9	12	21	22	21	21	14	10	3	0	0	0	0	0	0	0	0	6
6	0	0	0	0	0	0	1	4	8	13	24	28	32	27	17	4	1	0	0	0	0	0	0	0	6
7	0	0	0	0	0	0	2	10	23	31	37	35	36	27	17	8	1	0	0	0	0	0	0	0	9
8	0	0	0	0	0	0	1	8	19	27	25	30	33	16	13	6	1	0	0	0	0	0	0	0	7
9	0	0	0	0	0	0	1	6	10	13	13	11	8	6	3	1	0	0	0	0	0	0	0	0	3
10	0	0	0	0	0	0	1	4	8	11	12	13	12	9	5	1	0	0	0	0	0	0	0	0	3
11	0	0	0	0	0	0	0	1	3	20	18	14	14	10	4	1	0	0	0	0	0	0	0	0	3
12	0	0	0	0	0	0	1	2	4	6	6	7	7	4	3	1	0	0	0	0	0	0	0	0	2
13	0	0	0	0	0	0	0	1	8	12	19	22	23	18	14	6	0	0	0	0	0	0	0	0	5
14	0	0	0	0	0	0	1	3	10	24	13	18	20	15	8	2	0	0	0	0	0	0	0	0	5
15	0	0	0	0	0	0	1	7	19	25	28	28	24	19	11	4	0	0	0	0	0	0	0	0	7
16	0	0	0	0	0	0	1	7	18	25	31	26	23	14	8	2	0	0	0	0	0	0	0	0	6
17	0	0	0	0	0	0	1	4	11	24	25	29	24	17	7	1	0	0	0	0	0	0	0	0	6
18	0	0	0	0	0	0	0	3	6	8	9	9	8	6	3	1	0	0	0	0	0	0	0	0	2
19	0	0	0	0	0	0	0	1	3	6	7	8	6	4	3	1	0	0	0	0	0	0	0	0	2
20	0	0	0	0	0	0	0	1	3	4	6	6	5	3	2	0	0	0	0	0	0	0	0	0	1
21	0	0	0	0	0	0	0	2	7	9	15	22	22	14	9	2	0	0	0	0	0	0	0	0	4
22	0	0	0	0	0	0	0	2	5	13	15	20	19	9	5	1	0	0	0	0	0	0	0	0	4
23	0	0	0	0	0	0	0	2	8	15	14	11	13	9	3	1	0	0	0	0	0	0	0	0	3
24	0	0	0	0	0	0	0	2	8	16	19	19	18	14	5	1	0	0	0	0	0	0	0	0	4
25	0	0	0	0	0	0	0	2	7	12	16	21	18	13	7	1	0	0	0	0	0	0	0	0	4
26	0	0	0	0	0	0	0	1	3	6	21	33	17	10	5	1	0	0	0	0	0	0	0	0	4
27	0	0	0	0	0	0	0	1	6	13	16	13	13	6	3	1	0	0	0	0	0	0	0	0	3
28	0	0	0	0	0	0	0	1	3	4	4	6	3	6	2	0	0	0	0	0	0	0	0	0	1
29	0	0	0	0	0	0	0	1	4	7	11	12	10	7	3	0	0	0	0	0	0	0	0	0	2
30	***	0	0	0	0	0	0	0	1	4	6	9	10	10	6	2	0	0	0	0	0	0	0	0	2
31	0	0	0	0	0	0	0	0	0	2	5	3	7	4	3	1	0	0	0	0	0	0	0	0	1

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

OBSERVATION SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING October, 1983

PARAMETER	NUMBER OF USABLE OBSERVATIONS	PERCENT OF TOTAL OBSERVATIONS
TEMPERATURE	1694	100
WIND SPEED	1653	98
WIND DIRECTION	1348	80
PEAK GUST	1653	98
RELATIVE HUMIDITY	1307	77
PRECIPITATION	0	0
SOLAR RADIATION	1694	100
DEW POINT	1307	77

THERE ARE 1694 POSSIBLE OBSERVATIONS THIS MONTH FOR EACH PARAMETER. THE DATA RECORDING INTERVAL IS 15 MINUTES.

THE FOLLOWING ADJUSTMENTS HAVE BEEN MADE TO THIS MONTH'S DATA:

1. RH -15 RH Points
2. Solar -1 mW/CM^2

Additional comments on this month's data:

1. One hour of data "lost" between 0000 and 0100 on 10/30 due to change of official time zone. See note in section 4 of text.
2. Recording time interval was changed on 10/5 from 15 minutes to 30 minutes.
3. Intermittent wind speed and direction data lost due to frozen anemometer and wind vane.

No precipitation data for November

(See INTERPRETATION OF DATA).

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR CANYON CREEK WEATHER STATION
DATA TAKEN DURING November, 1983

DAY 01

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-8.8	-23.7	29	076	2.0	099	3.8	0
0600	-5.8	-16.5	43	067	1.7	068	5.7	0
0900	-5.0	-12.7	55	091	1.4	100	3.8	1
1200	-3.7	-12.4	51	080	1.1	088	3.2	16
1500	-2.0	-13.0	43	069	1.6	054	3.8	6
1800	-1.9	-12.1	46	085	1.4	127	3.8	0
2100	-1.7	-12.2	45	053	1.5	074	4.4	0
2400	-3.3	-10.6	57	113	1.1	102	3.8	0

DAY 02

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-.8	-10.8	47	063	1.7	052	5.7	0
0600	-.2	-12.3	40	074	4.0	076	7.6	0
0900	-2.0	-7.9	64	090	5.1	099	11.4	1
1200	-1.8	*****	63	094	3.2	093	7.6	14
1500	-2.5	-7.0	71	183	1.6	110	9.5	2
1800	-4.3	-7.1	81	091	4.2	078	9.5	0
2100	-4.2	-8.1	74	088	1.1	107	5.1	0
2400	-4.6	-10.2	65	059	1.7	069	4.4	0

DAY 03

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-4.5	-10.5	63	056	1.8	055	5.1	0
0600	-5.2	-11.5	61	077	1.8	089	3.8	0
0900	-4.8	-14.7	46	045	2.6	040	5.7	1
1200	-.8	-24.2	15	059	2.2	062	5.1	15
1500	-1.0	-26.6	13	072	1.8	069	4.4	7
1800	-2.2	-26.1	14	071	1.8	051	4.4	0
2100	-2.8	-28.3	12	067	1.9	069	4.4	0
2400	-2.2	-30.9	9	069	2.1	061	5.1	0

DAY 04

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-2.2	-30.9	9	066	2.2	060	5.1	0
0600	-4.3	-29.5	12	076	1.6	067	3.8	0
0900	-2.6	-31.3	9	068	2.1	052	5.1	1
1200	-3.0	*****	11	068	1.7	050	4.4	6
1500	-2.0	-13.3	42	061	1.4	081	5.1	6
1800	-3.6	-11.6	54	027	1.3	042	3.8	0
2100	-3.1	*****	64	056	.9	016	3.8	0
2400	-4.9	-7.2	84	109	.8	041	3.8	0

DAY 05

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-5.1	-7.4	84	061	1.6	047	4.4	0
0600	-5.8	-9.0	78	040	1.0	037	2.5	0
0900	-5.8	-9.8	73	066	1.1	054	2.5	1
1200	-5.5	-12.0	60	040	1.2	054	2.5	10
1500	-5.8	*****	63	082	1.0	062	2.5	4
1800	-6.6	-12.1	65	061	1.3	048	3.8	0
2100	-6.8	-12.6	63	060	1.7	047	4.4	0
2400	-6.6	-14.4	54	076	1.4	066	2.5	0

DAY 06

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-6.4	-15.4	49	066	1.6	046	3.8	0
0600	-7.3	-16.8	47	078	1.5	050	3.2	0
0900	-6.2	-17.1	42	063	1.4	050	3.2	1
1200	-4.0	-19.5	29	073	1.6	080	3.8	14
1500	-5.8	-20.7	30	075	1.1	031	3.8	3
1800	-6.5	-20.3	33	067	1.4	103	3.2	0
2100	-4.8	-19.5	31	062	1.8	063	4.4	0
2400	-4.6	-20.5	28	070	1.6	110	3.8	0

DAY 07

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-5.8	-21.9	27	051	1.8	030	4.4	0
0600	-4.7	-21.0	27	076	1.8	073	4.4	0
0900	-5.3	-21.1	28	058	1.7	077	5.1	0
1200	-4.6	-20.1	29	062	1.6	070	4.4	8
1500	-3.5	-19.5	28	100	1.9	109	5.1	2
1800	-5.2	-19.1	33	105	2.6	104	10.2	0
2100	-3.7	-18.9	30	101	6.1	114	12.1	0
2400	-4.0	-16.4	38	096	6.2	100	11.4	0

DAY 08

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-2.0	-13.9	40	099	6.6	089	10.8	0
0600	-1.6	-12.9	42	099	4.2	107	8.9	0
0900	-3.3	-13.9	44	117	2.4	124	10.2	0
1200	-1.5	-14.4	37	062	1.7	056	3.8	15
1500	-1.6	-15.2	35	071	1.5	068	3.2	3
1800	.9	-19.6	20	063	1.9	074	4.4	0
2100	.5	-22.5	16	077	2.0	059	4.4	0
2400	1.9	-20.6	17	085	2.7	096	8.3	0

DAY 09

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	1.4	-23.3	14	084	3.5	071	8.9	0
0600	.1	-22.1	17	065	1.3	053	3.2	0
0900	-.3	-23.1	16	081	1.7	079	3.8	1
1200	-.3	-22.4	17	066	1.1	056	3.2	12
1500	-6.1	-21.4	29	077	1.0	068	3.2	2
1800	-4.0	-23.2	21	065	2.1	072	5.7	0
2100	-2.3	-16.2	34	093	4.9	101	10.8	0
2400	-2.4	-16.3	34	094	5.3	116	14.3	0

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING November, 1983

DAY 10

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-2.8	-16.6	34	102	5.5	096	13.3	0
0600	-2.2	-16.8	32	082	4.2	102	9.5	0
0900	-1.8	-18.5	27	082	4.6	091	10.2	0
1200	-.8	-17.2	28	075	4.1	083	8.3	15
1500	-2.9	-17.8	31	094	3.4	073	8.3	3
1800	-3.5	-19.5	28	076	3.5	072	7.0	0
2100	-2.5	-18.6	28	075	2.0	066	5.1	0
2400	-1.4	-17.3	29	061	3.5	063	8.3	0

DAY 11

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-1.1	-17.8	27	072	1.9	077	5.1	0
0600	-.2	-18.4	24	072	1.8	059	4.4	0
0900	2.7	*****	**	063	3.5	070	7.6	1
1200	1.7	*****	**	069	3.0	076	7.6	16
1500	-1.8	*****	**	081	1.8	057	4.4	3
1800	-5.4	-20.8	29	029	1.6	009	5.1	0
2100	-7.5	-21.1	33	070	1.7	096	4.4	0
2400	-9.2	-21.[illegible]	38	058	.9	068	3.2	0

DAY 12

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-6.9	-21.3	31	086	1.7	101	5.7	0
0600	-5.5	-18.3	36	030	1.3	030	3.8	0
0900	-6.3	-11.6	66	064	1.3	055	3.8	0
1200	-6.2	-9.9	75	055	1.0	091	3.8	4
1500	-6.6	*****	77	061	.9	052	2.5	3
1800	-7.0	-10.2	78	092	1.0	071	3.2	0
2100	-6.2	*****	66	063	.9	047	3.2	0
2400	-6.3	-11.8	65	052	.8	063	3.8	0

DAY 13

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-7.4	-13.8	60	065	2.0	057	3.8	0
0600	-7.1	-14.0	58	067	1.9	062	3.8	0
0900	-7.5	-15.9	51	064	1.6	059	3.2	0
1200	-6.1	-16.5	44	070	1.6	072	3.2	9
1500	-7.1	-21.1	32	074	1.2	073	2.5	2
1800	-6.3	-23.2	25	069	1.6	079	3.8	0
2100	-7.2	-24.4	24	067	1.5	078	3.2	0
2400	-6.7	-27.1	18	064	1.5	066	4.4	0

DAY 14

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-6.9	-27.9	17	068	1.5	065	3.2	0
0600	-7.2	-26.9	19	072	1.4	069	3.8	0
0900	-7.5	-27.2	19	073	1.6	064	3.2	1
1200	-5.6	-26.8	17	065	1.8	058	3.8	10
1500	-8.2	-26.2	22	087	1.2	082	2.5	2
1800	-7.0	-22.5	28	058	1.3	061	2.5	0
2100	-8.0	-24.2	26	072	1.7	069	3.8	0
2400	-7.8	-24.9	24	072	1.4	069	2.5	0

DAY 15

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-7.5	-25.1	23	069	1.4	076	2.5	0
0600	-7.6	-24.8	24	075	1.5	062	3.2	0
0900	-6.7	-26.0	20	065	1.5	079	3.2	0
1200	-4.8	-24.9	19	072	1.5	069	3.2	7
1500	-3.3	-29.7	11	072	1.9	066	4.4	2
1800	-3.4	-22.6	21	067	2.0	067	4.4	0
2100	-3.7	-19.7	28	070	1.6	069	3.8	0
2400	-4.8	-19.1	32	043	1.4	030	3.2	0

DAY 16

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-5.6	-19.1	34	067	1.3	064	3.8	0
0600	-7.5	*****	71	047	1.0	111	3.2	0
0900	-7.6	-11.1	76	049	1.1	071	3.2	0
1200	-7.4	*****	73	037	.9	006	2.5	8
1500	-8.7	-14.1	65	082	1.2	163	5.7	1
1800	-9.4	-15.9	59	067	1.5	057	3.2	0
2100	-9.3	-17.4	52	073	1.3	065	3.8	0
2400	-9.2	-17.8	50	059	1.4	042	3.2	0

DAY 17

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-9.3	-17.9	50	073	1.4	054	3.2	0
0600	-9.8	-18.1	51	070	1.5	073	3.8	0
0900	-8.4	-17.8	47	065	1.7	057	3.8	0
1200	-7.5	-18.0	43	065	1.9	067	4.4	6
1500	-7.3	-17.0	46	068	1.6	078	3.8	1
1800	-8.7	*****	61	049	.9	050	3.2	0
2100	-8.3	-16.2	53	092	1.4	092	3.2	0
2400	-8.4	-16.3	53	076	2.7	096	5.7	0

DAY 18

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-9.3	-12.7	76	047	1.1	105	3.8	0
0600	-10.0	*****	87	049	.8	048	2.5	0
0900	-8.7	-14.3	64	095	1.8	099	3.8	0
1200	-9.3	*****	69	159	1.1	109	6.3	7
1500	-9.3	-16.5	58	094	1.6	106	5.1	3
1800	-9.3	-16.8	56	081	1.3	085	4.4	0
2100	-9.2	-16.4	56	079	2.8	067	5.7	0
2400	-9.7	-17.5	53	074	2.6	071	6.3	0

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING November, 1983

DAY 19

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MJ
0300	-7.4	-18.3	45	057	1.8	061	4.4	0
0600	-8.3	-19.3	50	072	2.0	072	4.4	0
0900	-6.3	*****	82	076	1.1	049	3.2	0
1200	-8.0	-12.0	73	061	.9	056	1.9	3
1500	-9.8	*****	86	013	.7	039	2.5	0
1800	-10.2	-12.1	89	345	.5	276	3.2	0
2100	-12.5	-14.5	85	056	1.1	087	3.8	0
2400	-11.6	-24.1	35	070	1.7	075	3.8	0

DAY 20

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MJ
0300	-10.4	-22.7	36	063	1.9	035	5.1	0
0600	-11.1	-27.7	24	059	1.9	059	5.1	0
0900	-10.8	-27.9	23	067	2.0	039	4.4	0
1200	-10.2	-26.1	26	085	1.6	057	5.7	4
1500	-10.1	-21.5	39	113	2.1	114	6.3	0
1800	-9.1	-15.4	60	121	4.4	128	8.9	0
2100	-8.7	-14.8	61	116	5.4	103	12.7	0
2400	-7.9	-14.1	61	100	7.2	107	10.8	0

DAY 21

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MJ
0300	-7.1	-13.1	62	090	6.5	096	12.7	0
0600	-5.5	-10.4	68	094	5.4	090	10.8	0
0900	-3.1	-8.7	65	089	5.8	081	12.7	0
1200	-2.8	-7.7	69	085	5.4	091	14.6	2
1500	-1.6	-8.3	60	086	8.0	085	14.0	0
1800	-2.5	-7.6	68	109	8.4	103	15.2	0
2100	-3.8	-5.5	88	116	4.4	121	11.4	0
2400	-3.4	-5.1	88	002	1.5	337	5.1	0

DAY 22

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MJ
0300	-4.0	-4.6	96	360	1.2	006	3.2	0
0600	-4.3	*****	99	068	.6	155	4.4	0
0900	-4.8	*****	96	189	.7	162	3.2	0
1200	-4.7	*****	96	138	.9	149	3.2	2
1500	-5.4	-7.7	84	094	1.6	107	4.4	0
1800	-5.5	-10.6	67	061	1.3	042	3.2	0
2100	-5.0	-10.5	65	055	1.3	057	3.8	0
2400	-5.7	-11.2	65	082	1.3	059	3.2	0

DAY 23

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MJ
0300	-5.8	-11.1	66	086	1.6	091	3.2	0
0600	-5.3	-13.6	52	074	1.6	104	3.2	0
0900	-4.6	-14.0	48	060	1.9	051	4.4	0
1200	-5.8	-14.6	50	077	1.3	072	3.2	3
1500	-9.0	-14.5	64	054	1.2	014	4.4	1
1800	-8.9	-14.6	63	026	1.1	011	2.5	0
2100	-9.9	-15.6	63	024	1.2	020	2.5	0
2400	-10.1	-16.2	61	026	1.4	022	3.2	0

DAY 24

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MJ
0300	-10.6	-17.1	59	060	1.4	057	3.8	0
0600	-10.9	-17.8	57	068	1.1	067	3.2	0
0900	-9.4	-16.6	56	077	1.0	125	3.2	0
1200	-9.0	-16.4	55	077	1.5	051	3.8	3
1500	-10.1	*****	57	070	1.3	052	3.2	1
1800	-9.9	-16.6	58	078	1.8	061	4.4	0
2100	-10.9	-17.3	59	074	1.6	088	3.8	0
2400	-10.2	-17.3	56	075	1.7	065	4.4	0

DAY 25

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MJ
0300	-11.5	-18.1	58	042	1.3	013	3.8	0
0600	-9.2	-18.5	47	065	1.2	058	3.8	0
0900	-9.8	-19.1	47	043	1.4	076	3.2	0
1200	-8.5	-18.9	43	060	1.8	081	5.1	3
1500	-8.8	-17.7	46	067	1.9	073	4.4	1
1800	-7.7	-16.6	49	066	1.9	059	4.4	0
2100	-7.6	-16.0	51	068	2.0	059	5.7	0
2400	-7.5	-15.2	54	042	1.8	050	6.3	0

DAY 26

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MJ
0300	-6.0	*****	54	083	1.4	108	3.8	0
0600	-6.8	-8.6	87	073	.8	100	3.2	0
0900	-7.0	-9.7	81	059	1.1	078	3.2	0
1200	-6.6	*****	76	074	.9	056	3.2	3
1500	-6.7	-11.6	68	061	1.3	058	3.8	1
1800	-8.4	-13.2	68	065	1.4	039	3.2	0
2100	-6.5	-12.8	61	076	2.1	062	5.1	0
2400	-7.8	-9.8	86	058	1.3	038	3.2	0

DAY 27

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MJ
0300	-7.2	-11.7	70	085	1.4	051	3.2	0
0600	-5.6	-11.1	65	059	1.3	074	3.2	0
0900	-5.7	*****	63	059	1.3	065	4.4	0
1200	-5.4	-12.4	58	069	1.4	043	4.4	3
1500	-5.3	-11.6	61	095	1.3	065	3.8	0
1800	-5.3	-11.3	63	091	1.5	044	3.8	0
2100	-4.3	-11.1	59	084	3.2	076	6.3	0
2400	-5.8	-11.3	65	096	4.8	105	10.2	0

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R. A. M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING November, 1983

DAY 28										DAY 29										DAY 30									
HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW		HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW		HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW	
0300	-5.8	-8.7	80	169	1.1	164	7.0	0	0300	2.5	-13.5	30	105	8.3	117	16.5	0	0300	2.0	*****	**	094	4.3	087	8.3	0			
0600	-3.8	-8.6	69	099	3.3	035	9.5	0	0600	2.9	-14.4	27	117	7.6	123	15.9	0	0600	1.3	*****	**	088	5.0	084	8.3	0			
0900	-3.2	-9.2	63	113	7.4	100	11.4	0	0900	3.5	-15.3	24	116	6.9	118	19.7	0	0900	1.1	*****	**	085	4.6	093	9.5	0			
1200	-2.8	-10.1	57	102	5.6	112	11.4	2	1200	3.0	-16.2	23	078	5.4	077	12.7	2	1200	.9	*****	**	080	4.2	081	11.4	3			
1500	-1.8	-14.1	53	095	7.5	105	14.0	0	1500	5.5	*****	**	079	5.2	067	10.8	1	1500	-1.6	-10.5	51	105	5.5	104	11.4	0			
1800	-1.5	-9.9	56	096	6.4	083	13.3	0	1800	3.4	*****	**	087	5.0	085	8.9	0	1800	-1.2	-11.1	47	086	3.7	079	9.3	0			
2100	-.9	-11.1	46	099	6.8	110	14.0	0	2100	3.0	*****	**	083	5.8	090	14.0	0	2100	-1.0	-12.4	42	094	4.7	118	10.8	0			
2400	.7	-12.5	37	115	9.7	112	15.9	0	2400	1.1	*****	**	096	4.2	111	14.6	0	2400	-1.4	-10.5	50	096	4.3	099	9.3	0			

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING November, 1983

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENRGY WH/SQM	DAY
1	-.6	-12.5	-6.6	078	1.4	1.6	068	5.7	E	47	-15.1	****	615	1
2	.4	-4.6	-2.1	088	2.5	3.1	099	11.4	E	61	-9.2	****	410	2
3	-.2	-5.2	-2.7	064	2.0	2.0	040	5.7	ENE	31	-20.5	****	695	3
4	-1.6	-5.3	-3.5	065	1.4	1.7	060	5.1	ENE	28	-23.4	****	425	4
5	-5.6	-7.6	-6.3	061	1.3	1.4	047	4.4	NE	68	-11.3	****	400	5
6	-4.0	-7.3	-5.7	069	1.5	1.6	063	4.4	ENE	38	-18.4	****	575	6
7	-3.2	-6.1	-4.7	089	2.8	3.1	114	12.1	E	29	-19.9	****	335	7
8	3.2	-3.9	-.4	090	2.8	3.0	089	10.8	E	33	-16.5	****	510	8
9	2.9	-7.0	-2.1	084	2.6	2.7	116	14.0	E	21	-21.4	****	500	9
10	-.6	-4.1	-2.4	082	3.7	3.9	096	13.3	ENE	29	-18.0	****	465	10
11	2.9	-9.2	-3.2	066	2.0	2.2	070	7.6	ENE	29	-19.7	****	460	11
12	-5.0	-8.9	-7.0	063	1.1	1.3	101	5.7	E	57	-14.5	****	280	12
13	-5.8	-7.7	-6.8	067	1.6	1.7	066	4.4	ENE	42	-18.6	****	310	13
14	-5.6	-8.3	-7.0	071	1.5	1.5	069	3.8	ENE	22	-25.8	****	385	14
15	-2.1	-7.7	-4.9	067	1.6	1.6	066	4.4	ENE	22	-24.3	****	250	15
16	-4.4	-9.7	-7.1	061	1.2	1.3	163	5.7	ENE	57	-15.3	****	265	16
17	-7.0	-10.1	-8.6	071	1.6	1.7	096	5.7	ENE	49	-17.4	****	190	17
18	-8.4	-10.3	-9.4	082	1.5	1.8	098	7.0	ENE	61	-15.4	****	335	18
19	-7.5	-12.6	-10.1	059	1.1	1.5	061	4.4	ENE	67	-15.1	****	130	19
20	-7.9	-11.8	-9.9	099	3.1	3.4	103	12.7	ESE	41	-21.5	****	185	20
21	-1.5	-7.7	-4.6	093	5.4	5.7	103	15.2	E	68	-8.9	****	65	21
22	-3.6	-6.1	-4.9	076	.8	1.3	155	4.4	ENE	82	-7.6	****	80	22
23	-4.6	-10.8	-7.7	056	1.3	1.5	051	4.4	NE	58	-14.3	****	130	23
24	-8..	-12.3	-10.2	073	1.4	1.6	061	4.4	ENE	57	-16.8	****	125	24
25	-7.0	-13.8	-10.4	059	1.6	1.8	050	6.3	ENE	49	-17.6	****	140	25
26	-5.8	-8.7	-7.3	069	1.3	1.4	062	5.1	ENE	70	-11.9	****	125	26
27	-4.3	-7.8	-6.1	084	2.0	2.2	106	10.2	E	64	-11.3	****	100	27
28	.9	-5.9	-2.5	105	5.8	6.2	112	15.9	ESE	58	-10.0	****	80	28
29	5.5	.9	3.2	092	5.9	6.1	118	19.7	E	28	-14.0	****	85	29
30	2.9	-1.6	.7	092	4.5	4.6	081	11.4	E	45	-11.7	****	95	30
MONTH	5.5	-13.8	-5.3	083	2.2	2.5	118	19.7	ENE	46	-16.2	****	9665	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 14.6
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 15.9
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 12.7
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 9.3

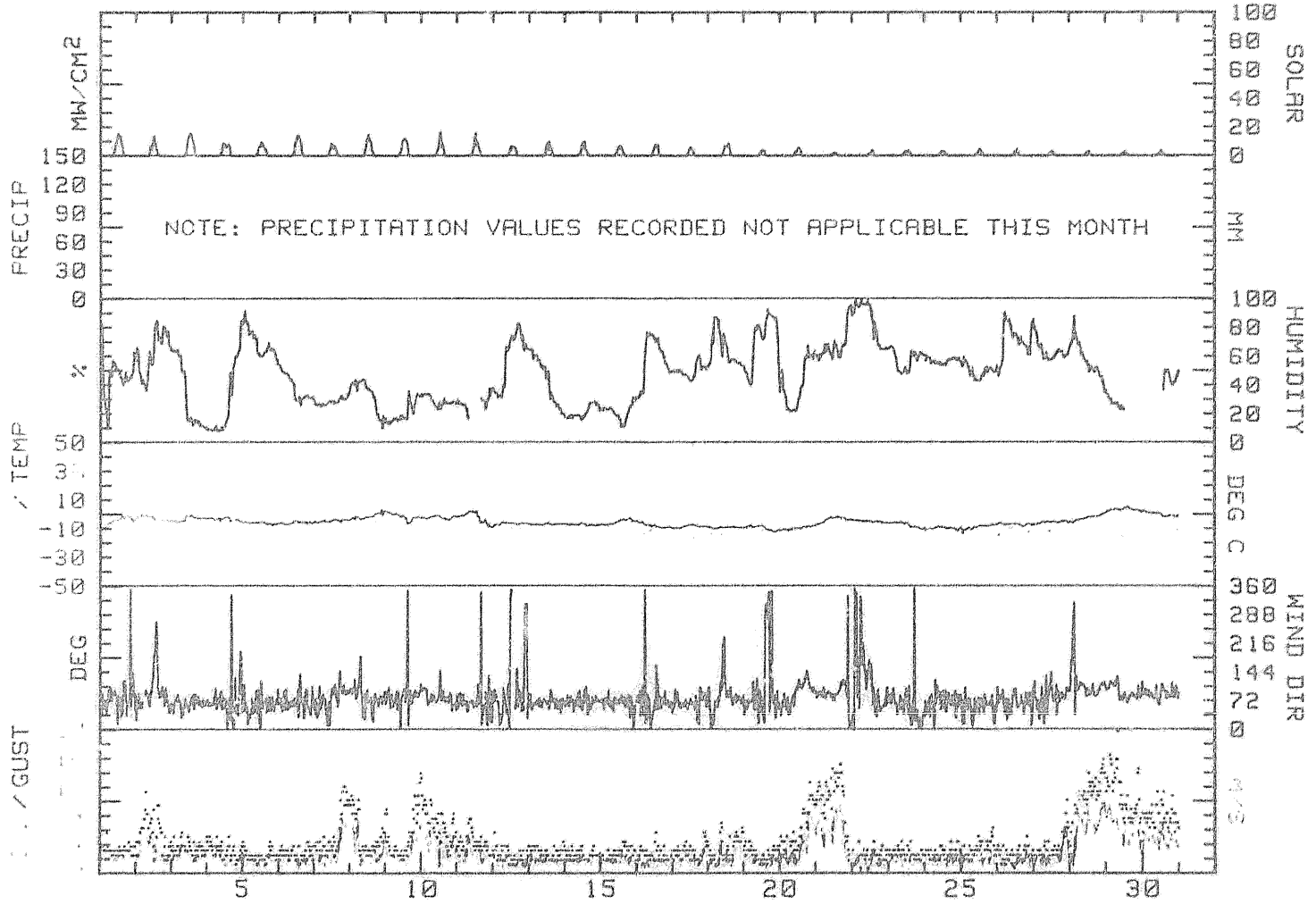
NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

GLACIER WEATHER STATION

November, 1983



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING November, 1983

DIRECTION	VELOCITY (M/S) 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	TOTAL
N	.14	2.16	.07	0.00	0.00	0.00	0.00	2.37
NNE	.56	4.04	.07	0.00	0.00	0.00	0.00	4.67
NE	1.18	11.70	.49	0.00	0.00	0.00	0.00	13.37
ENE	1.81	29.25	4.46	.14	0.00	0.00	0.00	35.65
E	1.32	14.62	6.62	4.11	0.00	0.00	0.00	26.67
ESE	.77	4.53	2.23	3.62	.14	0.00	0.00	11.28
SE	.42	1.18	.35	.21	0.00	0.00	0.00	2.16
SSE	.49	.56	.07	0.00	0.00	0.00	0.00	1.11
S	.07	.28	0.00	0.00	0.00	0.00	0.00	.35
SSW	.14	0.00	.07	0.00	0.00	0.00	0.00	.21
SW	.21	.21	0.00	0.00	0.00	0.00	0.00	.42
WSW	0.00	.07	0.00	0.00	0.00	0.00	0.00	.07
W	0.00	.21	0.00	0.00	0.00	0.00	0.00	.21
WNW	.07	0.00	0.00	0.00	0.00	0.00	0.00	.07
NW	.56	.14	0.00	0.00	0.00	0.00	0.00	.70
NNW	.14	.49	0.00	0.00	0.00	0.00	0.00	.63
CALM								.00
TOTAL	7.87	69.43	14.42	8.08	.14	0.00	0.00	100.00

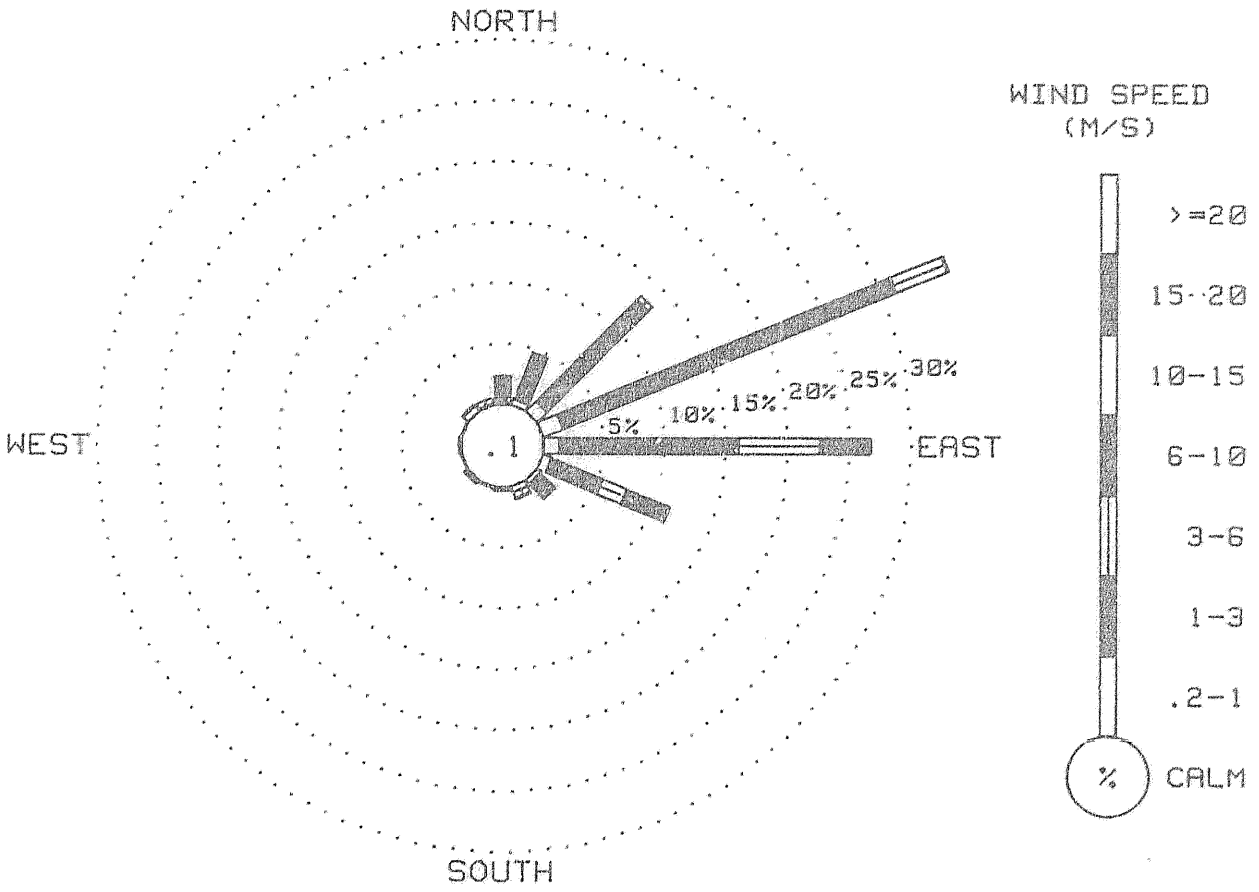
NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
1435 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
1440 WIND OBSERVATIONS WOULD HAVE BEEN CORRECT FOR 30 MINUTE DATA.
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

GLACIER WEATHER STATION

November, 1983



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SOLAR RADIATION SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING November, 1983

SOLAR RADIATION VALUES MEASURED IN MILLIWATTS PER SQUARE CENTIMETER

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	AVG
1	0	0	0	0	0	0	0	0	1	5	9	14	14	12	7	2	0	0	0	0	0	0	0	0	3
2	0	0	0	0	0	0	0	0	1	6	6	13	10	5	2	1	0	0	0	0	0	0	0	0	2
3	0	0	0	0	0	0	0	0	1	4	11	15	16	13	9	3	0	0	0	0	0	0	0	0	3
4	0	0	0	0	0	0	0	0	1	4	8	8	7	8	7	1	0	0	0	0	0	0	0	0	2
5	0	0	0	0	0	0	0	0	1	4	6	9	8	7	5	2	0	0	0	0	0	0	0	0	2
6	0	0	0	0	0	0	0	0	1	2	9	13	14	12	6	2	0	0	0	0	0	0	0	0	3
7	0	0	0	0	0	0	0	0	0	4	7	8	6	6	3	1	0	0	0	0	0	0	0	0	1
8	0	0	0	0	0	0	0	0	0	4	9	13	12	10	4	1	0	0	0	0	0	0	0	0	2
9	0	0	0	0	0	0	0	0	1	3	8	12	12	11	5	1	0	0	0	0	0	0	0	0	2
10	0	0	0	0	0	0	0	0	0	2	5	12	16	8	5	1	0	0	0	0	0	0	0	0	2
11	0	0	0	0	0	0	0	0	1	3	8	15	9	8	4	1	0	0	0	0	0	0	0	0	2
12	0	0	0	0	0	0	0	0	0	2	4	6	7	6	4	1	0	0	0	0	0	0	0	0	1
13	0	0	0	0	0	0	0	0	0	2	5	9	7	5	4	1	0	0	0	0	0	0	0	0	1
14	0	0	0	0	0	0	0	0	1	2	5	9	8	5	3	1	0	0	0	0	0	0	0	0	1
15	0	0	0	0	0	0	0	0	0	2	4	6	6	5	3	1	0	0	0	0	0	0	0	0	1
16	0	0	0	0	0	0	0	0	0	1	4	7	6	7	2	1	0	0	0	0	0	0	0	0	1
17	0	0	0	0	0	0	0	0	0	1	3	6	6	3	2	0	0	0	0	0	0	0	0	0	1
18	0	0	0	0	0	0	0	0	0	2	6	7	7	9	4	1	0	0	0	0	0	0	0	0	1
19	0	0	0	0	0	0	0	0	0	1	2	4	4	3	1	0	0	0	0	0	0	0	0	0	1
20	0	0	0	0	0	0	0	0	0	1	3	4	6	5	1	0	0	0	0	0	0	0	0	0	1
21	0	0	0	0	0	0	0	0	0	0	1	2	2	2	1	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	1	2	3	3	1	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	1	2	3	3	4	2	0	0	0	0	0	0	0	0	0	1
24	0	0	0	0	0	0	0	0	0	1	3	3	3	3	1	0	0	0	0	0	0	0	0	0	1
25	0	0	0	0	0	0	0	0	0	1	2	3	5	3	2	0	0	0	0	0	0	0	0	0	1
26	0	0	0	0	0	0	0	0	0	0	1	3	3	5	2	0	0	0	0	0	0	0	0	0	1
27	0	0	0	0	0	0	0	0	0	0	2	3	3	2	1	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	1	2	3	2	1	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	1	2	3	2	1	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	1	1	3	4	3	1	0	0	0	0	0	0	0	0	0	0

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

BSERVATION SUMMARY FOR GLACIER WEATHER STATION
ATA TAKEN DURING November, 1983

PARAMETER	NUMBER OF USABLE OBSERVATIONS	PERCENT OF TOTAL OBSERVATIONS
TEMPERATURE	1440	100
WIND SPEED	1440	100
WIND DIRECTION	1436	100
PEAK GUST	1440	100
RELATIVE HUMIDITY	1256	87
PRECIPITATION	0	0
SOLAR RADIATION	1440	100
DEW POINT	1256	87

THERE ARE 1440 POSSIBLE OBSERVATIONS THIS MONTH FOR EACH PARAMETER. THE DATA RECORDING INTERVAL IS 30 MINUTES.

THE FOLLOWING ADJUSTMENTS HAVE BEEN MADE TO THIS MONTH'S DATA:

1. RH -15 RH Points 11/1 - 11/16
   -12 11/16 - 11/30

2. Solar -1 mW/CM^2

Additional comments on this month's data:

1. RH data looks suspiciously low in several places. Bad data deleted on days 10, 29, and 30.

No precipitation data for December

(See INTERPRETATION OF DATA).

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING December, 1983

DAY 01

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
[illegible]	3	-10.3	45	087	4.9	083	10.2	0
[illegible]	-1.3	-10.4	50	111	3.5	114	8.3	0
[illegible]	1	-9.9	47	101	2.5	125	10.8	0
1200	-.6	-9.3	52	100	3.9	128	9.5	4
1500	-2.2	-6.2	74	070	1.6	078	3.8	0
1800	-3.3	*****	90	***	****	***	2.5	0
2100	-3.5	-5.2	88	***	****	***	1.9	0
2400	-3.8	*****	90	***	****	***	1.3	0

DAY 02

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-3.7	-6.5	81	067	1.4	075	2.5	0
0600	-5.0	-5.7	95	025	1.0	016	3.8	0
0900	-6.1	-6.8	95	337	.8	303	3.2	0
1200	-6.0	-6.7	95	316	1.2	330	2.5	1
1500	-6.7	*****	93	300	.8	302	1.9	0
1800	-7.2	*****	94	***	****	***	1.3	0
2100	-7.3	*****	94	027	.6	000	1.9	0
2400	-7.5	-8.2	95	013	.9	013	2.5	0

DAY 03

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-7.9	-9.3	90	001	1.1	022	3.2	0
0600	-8.2	*****	93	039	.6	021	2.5	0
0900	-8.4	*****	91	063	.7	095	2.5	0
1200	-7.7	*****	86	051	1.1	038	3.2	2
1500	-8.6	*****	88	065	.5	002	2.5	0
1800	-9.2	-11.0	87	068	.9	021	3.2	0
2100	-9.8	-10.7	93	051	1.0	105	3.8	0
2400	-9.3	-10.7	90	083	.7	103	3.2	0

DAY 04

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-8.2	-11.5	77	104	1.1	089	3.8	0
0600	-7.6	-11.4	74	097	1.0	084	2.5	0
0900	-8.4	*****	86	095	.9	090	2.5	0
1200	-7.9	-11.2	77	068	1.1	045	3.2	0
1500	-7.1	-10.4	77	058	1.7	093	4.4	0
1800	-8.3	-9.0	95	130	1.4	127	3.2	0
2100	-8.2	*****	88	138	.6	153	2.3	0
2400	-7.8	-9.9	85	085	1.0	053	3.2	0

DAY 05

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-7.0	*****	77	091	1.0	118	3.2	0
0600	-8.0	*****	80	066	.8	108	3.2	0
0900	-7.5	*****	75	***	****	***	2.5	0
1200	-7.4	-11.2	74	***	****	***	1.9	1
1500	-7.4	-10.6	78	***	****	***	3.2	0
1800	-7.2	-10.1	80	087	1.1	043	3.2	0
2100	-7.0	-9.6	82	070	.9	076	3.2	0
2400	-6.4	-10.1	75	079	1.0	077	3.8	0

DAY 06

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-7.8	-10.8	79	034	3.9	028	6.3	0
0600	-7.0	-9.7	81	074	1.5	043	5.7	0
0900	-7.6	-9.8	84	056	1.1	075	4.4	0
1200	-7.5	-9.2	88	038	1.6	036	4.4	1
1500	-9.3	-10.4	92	020	1.0	019	3.2	0
1800	-10.1	*****	90	050	.8	027	3.2	0
2100	-10.6	-11.9	90	041	.9	090	2.5	0
2400	-10.8	-12.3	89	058	.5	001	2.5	0

DAY 07

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-9.8	*****	95	040	.5	031	1.9	0
0600	-10.2	*****	91	079	.4	072	1.9	0
0900	-11.1	*****	91	089	.5	092	1.3	0
1200	-10.9	*****	91	081	.3	095	1.3	1
1500	-13.6	*****	89	044	.3	359	1.9	0
1800	-10.0	*****	84	058	.5	036	1.9	0
2100	-9.8	*****	68	082	.6	123	2.5	0
2400	-6.3	*****	46	058	.9	043	2.5	0

DAY 08

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-3.8	-17.2	35	070	1.0	085	3.2	0
0600	-4.2	*****	36	077	1.2	071	3.2	0
0900	-4.2	-17.2	36	80	1.2	095	3.8	0
1200	-4.7	-17.3	37	104	1.3	129	3.2	2
1500	-7.1	-19.1	38	110	1.3	099	4.4	0
1800	-8.3	-23.7	28	058	1.8	071	4.4	0
2100	-10.7	-24.7	31	047	1.7	045	4.4	0
2400	-11.2	-25.8	29	067	1.3	069	3.2	0

DAY 09

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-11.8	-28.8	23	069	1.4	068	5.1	0
0600	-16.4	-29.4	32	096	1.7	084	4.4	0
0900	-17.2	-29.7	33	057	1.1	091	3.2	0
1200	-15.9	-31.1	26	056	1.3	044	3.8	2
1500	-16.3	-31.8	25	071	1.1	032	3.2	0
1800	-17.0	*****	26	067	1.1	053	3.8	0
2100	-15.7	-31.7	24	050	1.3	032	3.6	0
2400	-18.1	*****	27	093	1.4	061	3.8	0

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING December, 1983

DAY 10

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-15.8	-31.4	25	051	1.0	076	2.5	0
0600	-13.8	-29.6	25	074	1.7	058	4.4	0
0900	-14.3	-27.2	33	071	1.4	044	4.4	0
1200	-11.0	-23.3	36	053	1.9	057	5.1	3
1500	-10.8	-22.8	37	079	2.2	101	4.4	0
1800	-10.6	-21.7	40	059	2.3	039	5.1	0
2100	-9.6	-21.7	37	071	1.7	074	4.4	0
2400	-8.8	-20.7	38	066	1.9	067	5.1	0

DAY 11

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-8.4	-20.9	36	074	1.4	076	3.8	0
0600	-9.4	-20.3	41	064	1.3	055	3.8	0
0900	-9.5	-19.9	43	071	1.7	065	3.8	0
1200	-10.0	-19.5	46	056	1.5	016	3.2	2
1500	-10.0	-18.5	50	070	1.7	060	4.4	0
1800	-9.9	-17.5	54	071	1.7	090	3.2	0
2100	-9.6	-15.9	60	053	1.5	056	4.4	0
2400	-10.1	-14.2	72	054	2.7	036	5.7	0

DAY 12

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-11.0	-14.2	77	066	3.1	062	5.7	0
0600	-11.4	-14.3	79	071	2.3	062	5.7	0
0900	-11.8	-13.4	88	071	1.7	083	5.1	0
1200	-12.9	-14.4	89	062	1.8	058	4.4	1
1500	-12.5	-14.1	88	041	1.3	040	4.4	0
1800	-13.0	-14.5	89	048	.7	019	3.2	0
2100	-14.4	-16.5	84	067	1.2	067	3.8	0
2400	-12.6	-17.8	65	062	1.0	036	2.5	0

DAY 13

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-13.2	*****	63	061	1.2	091	3.2	0
0600	-13.6	*****	72	089	.9	028	3.8	0
0900	-12.6	*****	76	081	1.0	058	3.2	0
1200	-11.5	*****	72	053	1.1	092	3.2	2
1500	-11.3	-14.5	77	104	.9	100	1.9	0
1800	-9.6	-15.9	60	074	1.4	059	3.2	0
2100	-10.1	-15.4	65	085	1.4	075	3.2	0
2400	-12.2	-17.0	67	073	1.2	070	3.2	0

DAY 14

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-15.9	*****	86	094	1.0	081	2.5	0
0600	-14.3	-18.2	72	069	.8	101	2.5	0
0900	-15.8	-18.5	80	048	.8	092	1.9	0
1200	-16.5	*****	73	066	.9	039	2.5	2
1500	-17.3	-21.1	72	079	.9	093	3.8	0
1800	-17.7	-21.5	72	050	1.3	046	3.2	0
2100	-17.1	-20.8	73	041	1.5	037	4.4	0
2400	-16.9	-21.1	70	045	1.6	039	3.8	0

DAY 15

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-17.4	*****	71	066	.8	025	3.2	0
0600	-17.7	-21.8	70	070	1.1	084	3.2	0
0900	-18.3	-22.1	72	053	1.2	084	3.8	0
1200	-19.5	-23.4	71	042	1.3	032	3.2	2
1500	-19.2	-23.1	71	062	1.4	042	3.2	0
1800	-19.9	-23.6	73	073	1.3	078	2.5	0
2100	-19.2	-27.3	49	066	1.5	066	3.8	0
2400	-19.5	*****	41	064	1.4	019	4.4	0

DAY 16

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-19.9	-30.4	39	088	1.0	001	3.2	0
0600	-21.2	*****	42	056	.9	042	3.8	0
0900	-18.5	*****	39	076	.9	100	2.5	0
1200	-16.8	-27.9	38	073	1.3	080	3.8	2
1500	-16.9	-28.3	37	065	1.4	060	3.8	0
1800	-16.4	-28.1	36	079	1.6	056	3.8	0
2100	-15.2	-27.3	35	060	1.3	052	4.4	0
2400	-13.6	-25.0	38	087	1.8	093	4.4	0

DAY 17

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-14.3	-25.9	37	073	1.2	067	3.2	0
0600	-10.9	-16.5	63	059	1.8	042	5.1	0
0900	-10.7	-12.5	87	078	.8	031	3.8	0
1200	-11.0	-13.6	81	044	1.1	042	2.5	1
1500	-10.2	-14.1	73	066	1.2	066	3.8	0
1800	-10.3	-13.1	80	081	1.5	047	3.8	0
2100	-9.8	-12.0	84	084	1.0	140	3.2	0
2400	-9.7	*****	86	053	1.0	085	3.2	0

DAY 18

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-9.9	*****	90	090	.6	092	3.5	0
0600	-10.3	*****	90	360	.7	084	3.5	0
0900	-11.1	-12.3	91	093	1.5	113	4.4	0
1200	-12.9	-14.4	89	105	1.3	092	3.8	1
1500	-8.4	-20.6	37	046	1.4	024	4.4	0
1800	-7.7	-23.2	28	051	1.7	057	5.1	0
2100	-6.8	-24.5	23	074	1.6	068	3.8	0
2400	-5.5	-24.4	21	073	1.8	064	3.8	0

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING December, 1985

DAY 19

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-4.4	-23.0	22	077	1.8	067	4.4	0
0600	-7.3	-24.1	25	049	1.0	080	3.8	0
0900	-6.6	-24.4	23	072	1.3	064	3.8	0
1200	-5.7	-21.8	27	062	1.4	094	3.2	2
1500	-3.5	-20.3	26	054	1.4	043	4.4	3
1800	-7.7	-21.0	34	062	1.0	043	3.8	0
2100	-4.5	-19.2	31	056	1.3	045	5.1	0
2400	-5.7	-19.2	34	077	.7	109	5.1	0

DAY 20

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-6.1	-17.3	41	076	.9	045	3.2	0
0600	-6.4	-17.0	43	072	1.0	029	3.2	0
0900	-7.0	-16.7	46	053	.5	009	3.8	0
1200	-11.2	-15.6	70	034	1.4	080	4.4	1
1500	-7.1	-9.5	83	090	1.1	125	4.4	0
1800	-6.1	-6.7	96	050	.9	098	4.4	0
2100	-6.1	-6.8	95	082	1.0	092	3.2	0
2400	-5.9	*****	94	092	.6	132	2.5	0

DAY 21

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-6.7	*****	95	134	.5	134	1.3	0
0600	-6.6	*****	94	013	.4	042	2.5	0
0900	-6.3	-7.4	92	061	.8	075	2.5	0
1200	-5.7	-6.7	93	155	.1	139	3.2	0
1500	-6.3	*****	90	079	.4	063	2.5	0
1800	-6.1	-7.6	89	056	.8	025	2.5	0
2100	-4.9	-7.5	82	077	1.3	102	3.2	0
2400	-5.1	*****	82	059	.8	024	2.5	0

DAY 22

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-3.7	-8.0	72	056	.9	084	2.5	0
0600	-4.6	*****	74	059	.6	026	2.5	0
0900	-2.1	*****	58	073	.4	343	2.5	0
1200	-.5	-11.4	44	054	.8	044	2.5	1
1500	0.0	*****	41	075	.7	081	1.9	0
1800	-.3	*****	44	080	.7	077	1.9	0
2100	-.3	*****	44	066	1.0	061	2.5	0
2400	1.8	-10.8	39	067	1.3	068	3.2	0

DAY 23

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	1.6	-11.3	38	074	1.2	055	2.5	0
0600	2.3	-11.7	35	053	1.1	032	3.2	0
0900	1.3	-13.0	34	057	1.4	035	3.2	0
1200	1.8	-14.9	28	071	1.2	052	2.5	1
1500	.7	-15.4	29	044	1.5	035	4.4	0
1800	2.6	-15.6	25	059	1.7	062	4.4	0
2100	1.9	-17.6	22	065	1.4	055	3.8	0
2400	2.1	-18.6	20	057	1.7	034	5.1	0

DAY 24

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	1.6	-20.2	18	077	1.5	077	2.5	0
0600	.2	-20.8	19	061	1.9	044	3.8	0
0900	.3	-21.3	18	058	2.1	048	4.4	0
1200	-.5	-21.3	19	062	1.6	062	4.4	2
1500	.2	-20.8	19	090	1.4	106	5.1	1
1800	-.6	-20.3	21	124	2.8	103	8.3	0
2100	-2.3	-22.3	20	080	2.8	094	7.0	0
2400	.6	-26.6	11	099	3.1	093	7.0	0

DAY 25

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-.2	-24.5	14	089	3.0	101	7.6	0
0600	-3.3	-20.6	25	069	1.7	076	7.0	0
0900	.5	-16.5	27	061	2.3	099	12.7	0
1200	1.7	-18.4	21	117	4.4	115	11.4	3
1500	-.9	-21.1	29	092	2.5	110	10.8	0
1800	3.2	-24.4	12	061	2.5	044	6.3	0
2100	3.4	-27.9	8	061	3.3	071	7.3	0
2400	1.8	-26.7	10	070	3.0	065	7.6	0

DAY 26

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	.9	-25.4	12	074	2.7	076	6.3	0
0600	0.0	-26.1	12	077	1.4	089	4.4	0
0900	-.3	-27.3	11	072	1.9	077	4.4	0
1200	-.6	-28.6	10	068	1.8	057	5.1	2
1500	-.7	-28.7	10	066	1.6	071	3.8	1
1800	-.6	-26.6	12	054	1.6	023	4.4	0
2100	-2.1	-23.9	17	062	1.7	044	3.8	0
2400	-1.7	-22.3	19	078	1.4	087	3.2	0

DAY 27

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-2.6	-21.5	22	060	1.5	073	3.8	0
0600	-3.5	-22.7	21	064	1.4	039	3.8	0
0900	-4.1	-23.8	20	081	1.6	095	3.2	0
1200	-4.4	-24.0	20	071	1.1	057	2.5	2
1500	-5.0	-24.6	21	069	1.2	045	3.2	0
1800	-4.3	-23.4	21	063	1.4	066	3.2	0
2100	-5.9	-24.2	22	058	1.4	094	3.2	0
2400	-6.2	-25.0	21	066	1.3	038	3.2	0

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING December, 1983

DAY 28

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-6.7	-25.4	21	062	1.3	033	3.2	0
0600	-6.7	-25.4	21	065	1.1	052	2.5	0
0900	-7.0	-25.2	22	063	1.3	100	3.2	0
1200	-7.6	-25.7	22	050	1.2	064	2.5	2
1500	-8.1	*****	23	075	1.2	093	2.5	0
1800	-8.0	-23.4	28	069	1.3	039	2.5	0
2100	-8.4	-23.4	29	080	1.5	070	3.8	0
2400	-9.2	-23.7	30	076	1.3	048	2.5	0

DAY 29

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-8.9	-24.2	28	078	1.3	101	2.5	0
0600	-9.2	-24.1	29	075	1.2	089	1.9	0
0900	-9.5	-23.6	31	086	1.5	107	3.2	0
1200	-10.0	-23.7	72	059	1.4	037	3.2	2
1500	-10.1	-23.4	33	073	1.3	064	1.9	0
1800	-10.1	-23.8	32	054	1.2	027	2.5	0
2100	-9.6	-24.4	29	075	1.3	079	2.5	0
2400	-9.2	-24.5	28	092	1.4	097	2.5	0

DAY 30

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-11.4	-25.6	31	069	1.2	039	3.2	0
0600	-10.4	-24.8	30	053	1.3	022	3.2	0
0900	-11.2	-25.1	31	081	1.4	035	3.8	0
1200	-10.9	-25.2	30	063	1.6	057	4.4	2
1500	-11.5	-25.4	31	071	1.1	052	3.2	0
1800	-11.7	-24.9	33	055	.9	116	2.5	0
2100	-11.0	-23.9	34	088	.8	084	2.5	0
2400	-11.3	*****	35	074	1.1	049	3.2	0

DAY 31

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-12.4	-22.0	45	106	.9	066	2.5	0
0600	-12.6	-16.6	72	101	.8	044	2.5	0
0900	-12.2	*****	77	110	.7	024	2.5	0
1200	-12.0	-15.7	74	117	1.0	128	2.5	1
1500	-10.5	-16.0	64	096	1.2	058	3.8	0
1800	-9.0	-16.6	54	048	1.1	021	3.2	0
2100	-9.2	*****	50	074	1.0	092	2.5	0
2400	-8.6	-17.0	31	071	1.5	075	3.2	0

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING December, 1983

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY cal/sq cm	DAY
1	.5	-4.1	-1.9	096	3.3	2.5	125	10.8	E	57	-8.8	****	100	1
2	-3.5	-7.5	-5.5	360	.7	.9	016	3.8	N	92	-6.7	****	35	2
3	-7.5	-10.9	-9.0	051	.8	1.1	105	3.8	NNE	90	-10.1	****	40	3
4	-6.5	-9.9	-8.2	093	1.0	1.2	093	4.4	E	81	-10.7	****	0	4
5	-6.0	-8.4	-7.2	080	1.0	1.1	077	3.8	ESE	78	-10.4	****	15	5
6	-6.5	-11.4	-9.0	043	1.4	1.7	028	6.3	NE	85	-10.2	****	25	6
7	-4.2	-12.6	-8.4	066	.5	.6	123	2.5	ENE	63	-13.6	****	35	7
8	-3.3	-11.8	-7.6	075	1.3	1.4	099	4.4	ENE	73	-20.0	****	55	8
9	-11.8	-18.1	-15.0	068	1.3	1.4	068	5.1	E	26	-30.4	****	70	9
10	-9.4	-18.1	-13.3	066	1.8	1.9	057	5.1	ENE	33	-25.1	****	75	10
11	-7.6	-11.3	-9.5	064	1.7	1.8	036	5.7	ENE	48	-18.8	****	50	11
12	-10.4	-15.0	-12.7	063	1.6	1.7	062	5.7	ENE	83	-14.6	****	40	12
13	-9.2	-13.7	-11.5	076	1.1	1.3	028	3.8	E	68	-16.3	****	45	13
14	-11.4	-18.5	-15.0	059	1.1	1.2	037	4.4	NE	74	-20.1	****	60	14
15	-16.4	-20.3	-18.4	062	1.2	1.4	019	4.4	ENE	66	-23.6	****	65	15
16	-13.6	-21.5	-17.6	074	1.3	1.4	038	4.4	E	38	-28.3	****	70	16
17	-9.2	-15.3	-12.3	068	1.1	1.4	042	5.1	E	70	-15.8	****	50	17
18	-9.5	-12.9	-9.2	070	1.2	1.4	057	5.1	E	55	-18.7	****	30	18
19	-2.7	-8.7	-5.7	064	1.3	1.5	045	5.1	E	27	-22.2	****	45	19
20	-3.3	-11.3	-7.3	067	.9	1.3	080	4.4	N	71	-11.7	****	20	20
21	-4.3	-7.0	-5.7	069	.6	.9	139	3.2	ENE	88	-7.4	****	5	21
22	2.1	-5.5	-1.7	066	.8	.9	068	3.2	ENE	52	-9.9	****	35	22
23	3.5	.6	2.1	060	1.4	1.5	034	5.1	ENE	89	-14.5	****	30	23
24	2.2	-2.5	-.2	085	2.0	2.3	103	8.3	ENE	19	-20.9	****	80	24
25	4.5	-4.7	-.1	080	2.7	3.0	099	12.7	ENE	18	-22.7	****	75	25
26	2.3	-2.7	-.3	069	1.8	1.8	076	6.3	ENE	12	-26.6	****	70	26
27	-1.9	-6.3	-4.1	067	1.4	1.4	073	3.8	ENE	21	-23.5	****	65	27
28	-5.3	-9.2	-7.3	068	1.2	1.3	070	3.8	ENE	24	-24.8	****	70	28
29	-8.5	-10.4	-9.5	074	1.3	1.4	107	3.2	E	30	-23.9	****	55	29
30	-9.7	-12.3	-11.0	069	1.2	1.3	057	4.4	NE	31	-25.0	****	70	30
31	-8.6	-13.3	-11.0	088	1.0	1.2	058	3.8	ENE	59	-17.3	****	35	31
MONTH	4.5	-21.5	-8.1	070	1.3	.8	099	12.7	ENE	48	-17.8	****	1525	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 4.4
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 10.8
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 11.4
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 9.7

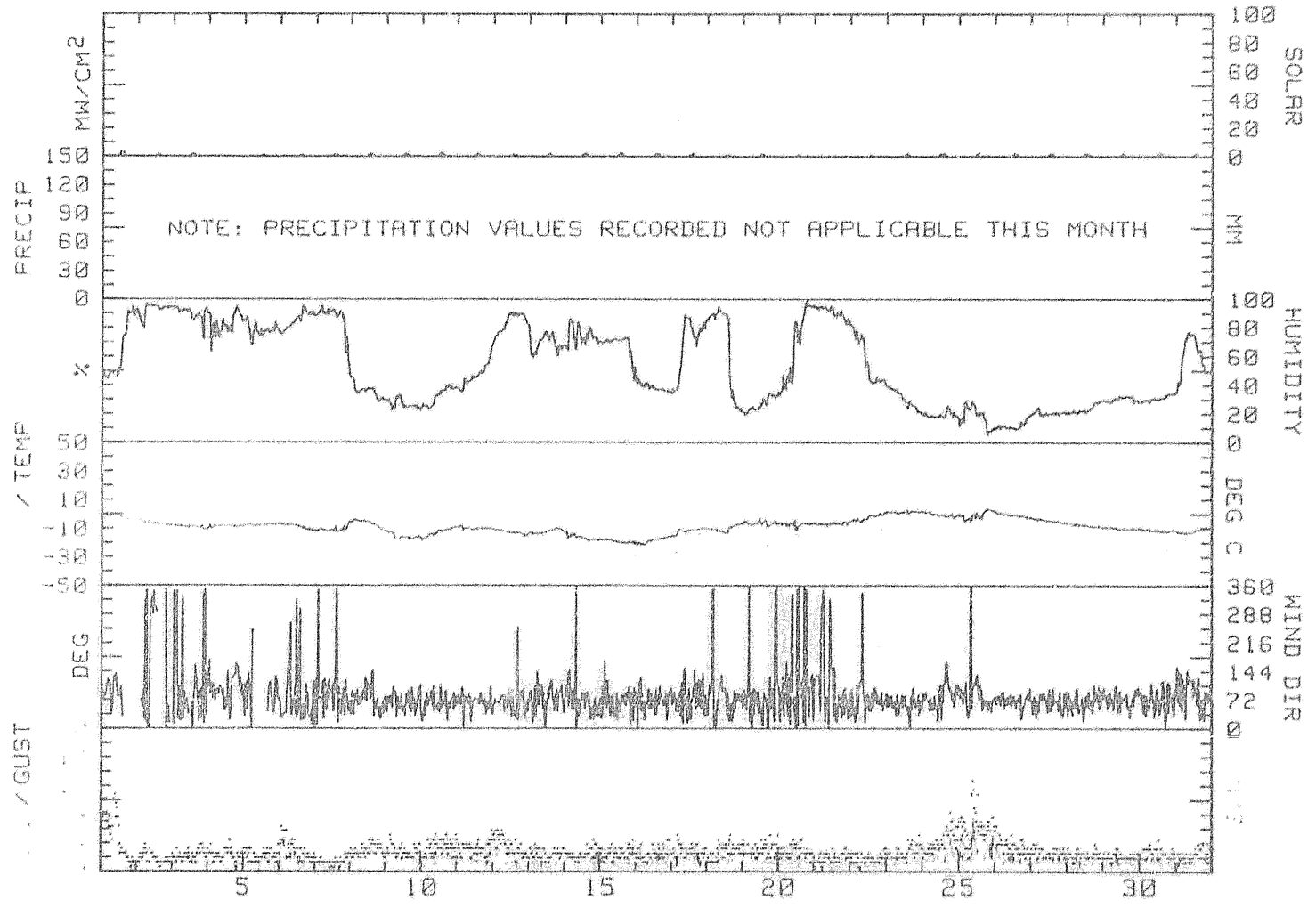
NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND, SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

GLACIER WEATHER STATION

December, 1983



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING December, 1983

	VELOCITY (M/S)							
DIRECTION	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	TOTAL
N	1.26	2.31	0.00	0.00	0.00	0.00	0.00	3.57
NNE	2.24	6.85	.35	0.00	0.00	0.00	0.00	9.44
NE	2.59	14.62	.77	0.00	0.00	0.00	0.00	17.97
ENE	4.55	22.73	1.33	0.00	0.00	0.00	0.00	28.60
E	4.13	16.71	1.26	.07	0.00	0.00	0.00	22.17
ESE	3.22	5.87	.91	.07	0.00	0.00	0.00	10.07
SE	1.47	2.52	.35	0.00	0.00	0.00	0.00	4.34
SSE	.84	.42	0.00	0.00	0.00	0.00	0.00	1.26
S	.07	.07	0.00	0.00	0.00	0.00	0.00	.14
SSW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSW	.21	0.00	0.00	0.00	0.00	0.00	0.00	.21
W	.14	0.00	0.00	0.00	0.00	0.00	0.00	.14
WNW	.14	.28	0.00	0.00	0.00	0.00	0.00	.42
NW	.14	.28	0.00	0.00	0.00	0.00	0.00	.42
NNW	.63	.56	0.00	0.00	0.00	0.00	0.00	1.19
CALM								.07
TOTAL	21.41	73.29	4.97	.14	0.00	0.00	0.00	100.00

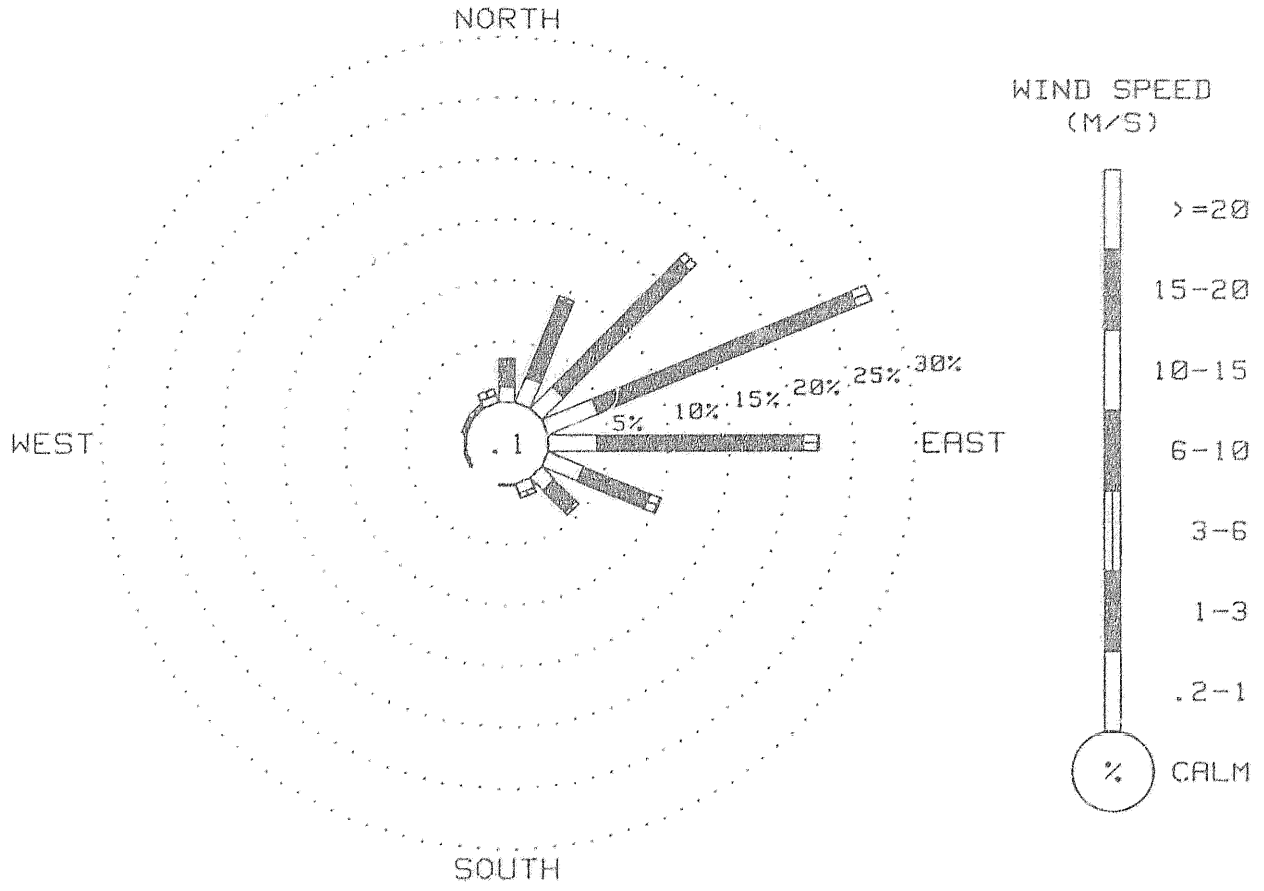
NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
1430 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
1488 WIND OBSERVATIONS SHOULD HAVE BEEN CORRECT FOR 30 MINUTE DATA.
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

GLACIER WEATHER STATION

December, 1983



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SOLAR RADIATION SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING December, 1983

SOLAR RADIATION VALUES MEASURED IN MILLIWATTS PER SQUARE CENTIMETER

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	AVG
1	0	0	0	0	0	0	0	0	0	0	1	3	3	3	1	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	2	2	1	0	0	0	0	0	0	0	0	0	0	0
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	***
5	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	1	2	2	1	1	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	1	2	2	2	1	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	1	3	2	2	1	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	1	2	2	1	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	1	1	2	1	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	2	2	1	1	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	1	2	2	2	1	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	1	2	3	2	1	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	1	2	2	2	1	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	1	1	2	2	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	1	2	2	1	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	1	1	2	1	1	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	2	2	2	2	1	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	1	2	2	2	1	0	0	0	1	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	1	2	2	2	1	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	1	2	2	2	1	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	1	2	2	2	1	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	1	2	2	1	1	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	1	2	2	2	1	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

OBSERVATION SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING December, 1983

PARAMETER	NUMBER OF USABLE OBSERVATIONS	PERCENT OF TOTAL OBSERVATIONS
TEMPERATURE	1488	100
WIND SPEED	1488	100
WIND DIRECTION	1430	96
PEAK GUST	1488	100
RELATIVE HUMIDITY	1142	77
PRECIPITATION	0	0
SOLAR RADIATION	1498	100
DEW POINT	1142	77

THERE ARE 1488 POSSIBLE OBSERVATIONS THIS MONTH FOR EACH PARAMETER. THE DATA RECORDING INTERVAL IS 30 MINUTES.

THE FOLLOWING ADJUSTMENTS HAVE BEEN MADE TO THIS MONTH'S DATA:

1. RH -12 RH Points
2. Solar -1 mW/CM^2

Additional comments on this month's data:

1. Intermittent wind direction data lost due to frozen wind vane.

No precipitation data for January

(See INTERPRETATION OF DATA).

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING January, 1984

DAY 01

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-7.6	-12.5	68	046	1.7	058	3.2	0
0600	-6.7	-12.4	64	056	1.3	064	2.5	0
0900	-5.3	-12.5	57	069	1.5	061	5.1	0
1200	-3.7	-7.5	75	062	1.4	030	5.1	1
1500	-2.9	-4.8	87	042	1.8	051	4.4	0
1800	-2.5	-3.8	91	051	1.6	040	3.2	0
2100	-2.9	-3.2	98	067	2.2	085	6.3	0
2400	-2.2	-4.1	87	022	1.4	000	3.2	0

DAY 02

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-2.6	*****	94	079	1.0	059	3.2	0
0600	-3.1	*****	95	137	.8	088	2.5	0
0900	-3.0	-6.3	78	091	2.7	083	6.3	0
1200	-4.3	-4.7	97	347	.7	089	3.8	1
1500	-4.1	-5.5	90	026	1.7	051	3.8	1
1800	-3.6	-7.0	77	102	1.0	089	8.3	0
2100	-4.4	-6.1	88	094	.5	110	7.6	0
2400	-3.7	-7.3	76	097	4.4	107	8.3	0

DAY 03

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-3.3	-5.8	83	118	3.2	125	10.2	0
0600	-3.6	-7.0	77	154	4.6	149	15.2	0
0900	-4.4	-6.7	84	133	5.7	143	15.2	0
1200	-3.3	-7.3	74	124	3.1	105	9.5	1
1500	-4.6	-6.8	85	093	3.3	090	6.3	0
1800	-3.6	-10.0	61	094	4.7	090	9.5	0
2100	-3.8	-15.2	41	081	4.5	089	10.2	0
2400	-5.1	-10.1	68	099	4.0	10A	7.6	0

DAY 04

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-6.7	-7.8	92	033	1.0	046	3.2	0
0600	-8.9	-10.3	90	023	1.9	006	5.1	0
0900	-17.5	-19.7	83	079	1.6	098	7.0	0
1200	-21.1	-23.8	79	030	2.1	025	12.7	2
1500	-21.5	-24.3	78	041	1.9	104	5.7	0
1800	-22.6	-25.5	77	007	2.2	016	4.4	0
2100	-22.3	-25.2	77	030	1.6	018	4.4	0
2400	-21.3	-25.9	66	039	1.5	016	5.1	0

DAY 05

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-22.9	-27.3	67	074	1.1	102	4.4	0
0600	-18.9	-31.9	31	066	1.8	037	4.4	0
0900	-16.9	-32.3	25	046	2.3	034	4.4	0
1200	-17.7	-33.0	25	049	1.4	089	5.1	2
1500	-18.5	-23.1	67	062	1.4	020	3.8	0
1800	-17.3	-23.4	59	095	2.2	098	5.1	0
2100	-16.7	*****	78	072	1.0	350	3.2	0
2400	-15.2	-19.9	67	083	.9	056	4.4	0

DAY 06

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-17.2	*****	80	264	.9	271	5.1	0
0600	-16.3	-21.0	67	094	1.7	037	5.7	0
0900	-16.2	-24.0	51	082	1.6	076	4.4	0
1200	-15.4	-24.0	48	074	1.4	079	4.4	1
1500	-15.9	-19.5	74	107	2.1	100	5.1	0
1800	-14.1	-17.6	75	057	1.4	035	4.4	0
2100	-13.8	-16.4	81	057	.9	051	3.5	0
2400	-12.1	*****	72	057	.6	021	3.5	0

DAY 07

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-11.1	-15.1	72	063	1.5	052	3.8	0
0600	-11.9	-16.6	68	057	1.0	075	2.5	0
0900	-11.7	-15.7	72	072	1.3	071	3.8	0
1200	-8.2	*****	60	064	1.2	048	4.4	1
1500	-7.7	-17.1	47	071	1.2	052	3.2	0
1800	-6.1	-21.0	35	071	1.2	075	2.5	0
2100	-6.7	-21.1	31	065	1.3	043	3.8	0
2400	-6.0	-21.7	28	072	1.6	077	4.4	0

DAY 08

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-5.8	-22.8	25	067	2.0	054	5.7	0
0600	-5.1	-32.6	24	083	1.8	061	3.8	0
0900	-3.1	-21.9	22	063	1.5	049	4.4	0
1200	-7.2	*****	30	038	1.1	049	3.2	2
1500	-5.2	-21.8	26	063	1.2	070	3.8	1
1800	-5.4	-21.2	28	082	1.5	080	2.5	0
2100	-5.8	-20.7	30	047	1.4	051	3.2	0
2400	-4.0	-20.4	27	071	1.5	100	3.8	0

DAY 09

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-3.9	-20.7	36	061	1.4	071	3.8	0
0600	-5.7	-21.6	27	071	1.9	076	4.4	0
0900	-1.1	-22.4	13	073	2.3	071	5.3	0
1200	-3.8	-22.5	23	068	1.8	099	7.0	2
1500	-5.6	-20.2	31	086	1.5	045	7.0	1
1800	-6.0	-19.5	34	085	1.4	103	4.4	0
2100	-4.3	-7.7	80	059	1.5	030	4.4	0
2400	-3.3	-5.8	88	070	1.7	065	5.1	0

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING January, 1984

DAY 10

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-3.0	-9.4	61	090	2.6	089	4.4	0
0600	-3.1	-10.4	57	076	1.6	058	5.1	0
0900	-2.0	-9.4	57	081	4.0	101	10.2	0
1200	-5.0	-7.9	80	169	3.2	130	10.8	4
1500	-5.3	-6.6	91	315	1.0	270	7.0	0
1800	-5.6	-7.3	88	101	3.6	083	10.2	0
2100	-1.6	-7.5	64	115	6.1	106	15.2	0
2400	-1.5	-8.0	61	109	5.2	110	12.7	0

DAY 11

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-3.8	-4.9	92	107	3.8	116	9.5	0
0600	-1.5	-8.2	60	076	2.7	097	8.3	0
0900	-3.8	-6.4	82	104	6.4	109	13.3	0
1200	-6.8	-7.1	98	155	4.6	172	15.9	2
1500	-6.5	-11.0	70	078	1.5	104	7.6	1
1800	-6.3	-12.0	64	094	5.8	109	10.8	0
2100	-5.9	-9.6	75	100	6.8	125	15.9	0
2400	-6.0	-8.4	83	126	4.3	155	10.8	0

DAY 12

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-5.0	-8.1	79	093	6.1	093	10.8	0
0600	-4.3	-6.3	86	108	7.7	121	12.7	0
0900	-2.7	-5.2	83	098	7.3	096	12.7	0
1200	-1.8	-4.8	80	115	10.1	116	16.8	1
1500	-1.3	-5.3	74	117	9.4	121	18.0	0
1800	-.5	-5.1	71	121	11.0	120	17.9	0
2100	.6	-5.8	62	109	8.7	118	16.5	0
2400	.1	-6.1	63	114	8.2	118	19.7	0

DAY 13

HOUR NDNG	TEMP. DEG C	DEW POINT DFG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-1.6	-3.2	89	116	5.5	100	15.9	0
0600	-1.6	-2.6	93	205	4.0	216	14.6	0
0900	-2.5	-3.6	92	190	3.9	180	12.7	0
1200	-1.8	-4.2	84	159	5.9	148	15.2	2
1500	-3.3	-3.9	96	196	2.5	161	10.2	0
1800	-3.8	-4.4	96	245	2.4	230	9.5	0
2100	-4.5	-5.1	96	068	1.2	081	3.2	0
2400	-5.0	-6.9	87	065	1.5	056	4.4	0

DAY 14

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-3.7	-7.8	73	075	1.4	089	3.2	0
0600	-2.1	-12.5	45	072	1.8	060	3.8	0
0900	-1.8	-12.0	46	051	1.9	084	3.8	0
1200	-1.8	-6.3	71	078	1.4	084	3.2	2
1500	-.6	-5.2	71	075	1.5	053	3.2	1
1800	-1.6	*****	93	068	1.4	085	3.2	0
2100	-2.2	-3.5	98	012	.5	020	3.8	0
2400	-3.8	-4.2	97	287	1.7	265	4.4	0

DAY 15

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-4.5	*****	95	335	1.3	340	3.2	0
0600	-6.8	-7.8	93	037	1.5	355	3.8	0
0900	-6.4	-7.2	94	066	1.2	087	3.2	0
1200	-4.1	-8.0	74	051	1.3	016	3.8	2
1500	-3.2	-11.7	52	065	1.4	071	3.2	1
1800	-2.8	-12.3	48	064	1.4	092	3.8	0
2100	-3.3	*****	41	071	1.4	060	3.2	0
2400	-3.4	-15.8	38	049	1.2	039	2.5	0

DAY 16

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-3.3	-16.4	36	035	1.5	039	3.8	0
0600	-4.0	-15.1	42	064	1.1	032	1.9	0
0900	-4.1	-15.2	42	086	1.7	058	3.8	0
1200	-4.8	-16.8	39	067	1.5	032	3.8	3
1500	-4.6	-16.9	38	054	1.3	050	3.8	1
1800	-4.4	-16.7	38	083	1.3	119	3.2	0
2100	-2.5	-16.0	33	061	2.2	071	6.3	0
2400	-4.8	-16.8	39	066	1.6	079	4.4	0

DAY 17

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-4.2	-16.9	37	066	1.5	030	3.8	0
0600	-5.3	-16.9	40	042	1.0	039	3.2	0
0900	-6.1	-16.5	44	060	1.2	087	3.8	0
1200	-4.9	-14.8	46	036	.9	081	3.8	3
1500	-8.2	*****	58	053	1.2	057	3.8	1
1800	-6.7	-14.7	53	071	1.6	094	5.1	0
2100	-7.5	-15.2	54	051	1.4	064	3.2	0
2400	-7.7	-14.7	57	078	1.3	065	3.2	0

DAY 18

HOUR NDNG	TEMP. DEG C	DEW POINT DFG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DFG.	MAX. GUST M/S	RAD MW
0300	-10.6	-13.4	80	049	1.5	098	4.4	0
0600	-9.8	*****	91	018	.5	337	1.9	0
0900	-10.1	-11.6	89	058	1.0	102	3.2	0
1200	-10.9	*****	81	059	.6	054	1.9	4
1500	-10.7	*****	83	096	1.1	055	2.5	1
1800	-11.9	-13.9	85	035	.9	037	3.2	0
2100	-13.0	*****	87	361	.8	046	3.2	0
2400	-13.3	*****	87	012	.7	006	1.9	0

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING January, 1984

DAY 19

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-15.0	-17.3	83	023	1.6	083	3.8	0
0600	-14.3	-16.8	81	040	1.3	019	3.8	0
0900	-13.3	*****	78	054	.8	102	2.5	0
1200	-11.6	-15.6	72	027	.9	337	2.5	3
1500	-15.1	*****	77	103	.9	111	2.5	1
1800	-12.2	-16.2	72	032	.2	185	3.2	0
2100	-11.2	-16.6	64	078	1.2	082	3.8	0
2400	-10.7	-16.9	60	059	1.2	075	3.2	0

DAY 20

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-10.4	-17.1	58	071	1.5	066	4.4	0
0600	-12.1	-18.3	60	071	2.1	061	4.4	0
0900	-12.1	-18.5	59	071	1.4	095	3.8	0
1200	-11.8	-18.2	59	076	1.5	075	3.2	3
1500	-12.8	-18.5	62	080	1.1	071	3.8	2
1800	-13.3	-18.1	67	043	1.8	051	4.4	0
2100	-14.0	-18.4	69	042	.7	022	3.2	0
2400	-14.8	-19.0	70	070	1.2	050	3.8	0

DAY 21

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-16.0	-19.7	73	082	1.7	066	4.4	0
0600	-16.3	-19.8	74	069	1.7	063	3.8	0
0900	-15.9	-19.6	73	072	1.1	047	2.5	0
1200	-16.0	-19.7	73	085	1.6	079	4.4	3
1500	-17.5	*****	76	353	.2	063	1.9	1
1800	-19.2	-22.6	74	041	1.2	010	4.4	0
2100	-19.5	-23.9	68	043	1.0	024	3.2	0
2400	-21.4	-27.3	59	001	1.4	316	5.7	0

DAY 22

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-22.6	-29.6	53	048	.9	112	3.2	0
0600	-22.7	-30.3	50	064	1.3	065	4.4	0
0900	-23.1	-31.8	45	124	1.7	116	4.4	0
1200	-22.9	-32.3	42	117	2.2	123	5.7	3
1500	-23.4	-32.8	42	122	2.9	134	8.3	2
1800	-23.6	-33.0	42	100	2.5	115	9.5	0
2100	-23.6	-33.2	41	109	3.3	126	8.3	0
2400	-24.7	-33.5	44	104	3.9	101	7.0	0

DAY 23

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG	MAX. GUST M/S	RAD MW
0300	-24.3	-33.4	43	101	3.5	109	7.6	0
0600	-26.0	-34.2	46	074	1.9	093	4.4	0
0900	-27.8	-35.0	50	036	1.5	015	5.7	0
1200	-24.8	-33.8	43	066	1.6	067	3.8	4
1500	-24.4	-33.0	45	041	1.2	008	3.8	2
1800	-25.3	-33.8	45	063	1.6	063	4.4	0
2100	-24.3	-32.9	45	048	1.6	066	3.8	0
2400	-24.3	-32.9	45	064	1.3	056	3.8	0

DAY 24

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-23.6	-33.0	42	070	1.2	076	2.5	0
0600	-23.4	-33.0	41	060	1.3	033	3.2	0
0900	-24.3	-33.9	41	048	1.2	030	3.2	0
1200	-22.7	*****	34	067	1.1	060	2.5	4
1500	-22.4	-35.0	31	062	1.1	028	3.2	2
1800	-23.0	-35.5	31	059	1.1	066	3.2	0
2100	-22.1	-34.7	31	058	1.1	033	3.5	0
2400	-23.4	*****	31	059	.9	095	2.5	0

DAY 25

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-24.4	*****	32	073	1.2	033	3.2	0
0600	-24.4	-36.4	32	060	1.1	061	4.4	0
0900	-25.9	-35.7	33	067	1.1	092	3.2	0
1200	-21.2	-34.2	30	067	1.4	045	3.8	4
1500	-20.7	-33.8	30	076	1.4	069	3.8	2
1800	-20.2	-33.7	29	072	1.5	050	3.8	0
2100	-19.5	-33.7	25	058	1.6	038	3.8	0
2400	-16.0	-32.0	24	061	1.8	079	4.4	0

DAY 26

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-14.5	-29.1	28	055	1.6	089	5.1	0
0600	-15.2	-19.3	71	074	1.1	064	3.2	0
0900	-16.2	*****	86	092	.8	115	2.5	0
1200	-14.2	*****	77	079	.5	042	2.5	6
1500	-15.2	*****	78	076	.6	112	1.9	3
1800	-16.3	-18.7	82	063	.6	113	2.5	0
2100	-17.7	-19.8	84	068	1.0	036	2.5	0
2400	-16.4	-20.4	71	072	1.2	078	2.5	0

DAY 27

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-14.7	-25.1	41	070	1.5	073	4.4	0
0600	-14.2	-29.2	27	067	2.0	061	4.4	0
0900	-13.2	-37.5	11	064	2.1	056	4.4	1
1200	-11.2	-32.9	16	072	1.8	059	5.1	7
1500	-10.7	-31.6	16	066	1.6	050	4.4	5
1800	-10.8	-33.9	13	081	1.2	068	3.8	0
2100	-12.5	*****	20	057	.8	011	3.5	0
2400	-15.5	-28.2	33	111	.9	150	3.2	0

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING January, 1984

DAY 28

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-16.3	-26.6	41	040	1.3	088	2.5	0
0600	-18.3	-27.1	46	054	1.3	040	3.8	0
0900	-19.8	-29.0	44	062	1.1	041	2.5	0
1200	-19.0	-30.7	35	079	1.5	104	3.8	7
1500	-16.0	-33.3	21	065	1.9	062	5.1	3
1800	-15.3	-31.8	23	079	1.8	058	5.1	0
2100	-12.7	-18.3	63	062	1.7	068	5.7	0
2400	-9.9	-14.0	72	079	3.6	087	8.3	0

DAY 29

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-8.4	-12.7	71	082	5.5	080	10.8	0
0600	-7.5	-11.5	73	089	6.4	090	12.1	0
0900	-5.8	-10.7	68	107	7.7	119	13.3	0
1200	-6.6	-9.0	83	186	1.1	151	10.8	3
1500	-6.4	-9.1	81	032	.8	060	3.2	3
1800	-6.1	-9.3	78	148	1.3	166	4.4	0
2100	-6.7	-7.5	94	049	.8	104	4.4	0
2400	-4.9	-7.8	80	107	4.1	139	13.3	0

DAY 30

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-6.2	-6.9	95	157	3.5	135	15.2	0
0600	-7.0	*****	95	256	2.8	255	6.3	0
0900	-7.3	-8.0	95	213	.3	198	3.2	0
1200	-6.7	*****	94	119	.7	095	2.5	3
1500	-6.6	*****	85	075	.8	071	2.5	1
1800	-7.5	*****	93	352	.7	066	1.9	0
2100	-7.7	*****	92	093	.5	085	1.9	0
2400	-7.6	*****	94	063	.3	084	1.3	0

DAY 31

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-8.4	-9.4	93	202	.5	166	3.8	0
0600	-9.4	-10.3	93	263	1.4	221	3.8	0
0900	-10.0	*****	94	305	.8	288	1.9	0
1200	-10.4	-11.3	93	305	.9	301	2.5	2
1500	-11.1	*****	92	258	1.9	246	4.4	2
1800	-12.8	-14.0	91	242	.9	234	3.2	0
2100	-14.1	*****	87	318	1.4	317	3.2	0
2400	-15.2	*****	86	319	1.1	319	1.9	0

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

ONTHLY SUMMARY FOR GLACIER WEATHER STATION
ATA TAKEN DURING January, 1984

DAY	MAX. TEMP, DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	-1.2	-8.9	-5.1	052	1.6	1.8	085	6.3	NE	76	-8.3	****	20	1
2	-2.2	-5.0	-3.6	085	1.3	2.1	089	8.3	E	88	-5.4	****	50	2
3	-2.9	-5.1	-4.0	113	3.8	4.4	149	15.2	E	71	-8.7	****	30	3
4	-5.5	-22.8	-14.2	034	1.6	2.2	025	12.7	NNE	60	-19.6	****	50	4
5	-15.2	-23.2	-19.2	068	1.4	1.7	089	5.1	ENE	52	-26.8	****	80	5
6	-12.1	-17.2	-14.7	077	1.0	1.6	037	5.7	E	67	-20.6	****	20	6
7	-5.4	-12.3	-8.9	067	1.3	1.4	048	4.4	ENE	51	-17.7	****	40	7
8	-3.1	-7.2	-5.2	066	1.4	1.6	054	5.7	ENE	26	-21.8	****	80	8
9	-1.1	-7.3	-4.2	071	1.7	1.8	098	7.0	ENE	37	-18.2	****	95	9
10	-.9	-6.3	-3.6	106	2.9	3.8	106	15.2	E	70	-8.3	****	90	10
11	-.8	-7.1	-4.0	107	4.2	5.2	172	15.9	E	78	-8.3	****	95	11
12	1.2	-5.8	-2.3	111	8.5	8.6	118	19.7	ESE	74	-6.1	****	40	12
13	.2	-5.0	-2.4	166	2.3	3.7	100	15.9	E	69	-4.1	****	60	13
14	-.3	-4.7	-2.5	059	1.0	1.6	265	4.4	ENE	71	-7.3	****	90	14
15	-2.2	-7.3	-4.8	050	1.2	1.4	355	3.8	ENE	69	-9.8	****	70	15
16	-2.0	-6.1	-4.1	065	1.5	1.7	071	6.3	ENE	39	-16.1	****	110	16
17	-3.7	-9.3	-6.5	059	1.2	1.5	094	5.1	ENE	48	-15.6	***	115	17
18	-7.0	-13.7	-10.4	058	.8	1.0	098	4.4	NE	80	-13.3	****	120	18
19	-10.3	-15.3	-12.8	051	.9	1.3	083	3.8	NE	74	-16.5	****	105	19
20	-10.4	-14.8	-12.6	066	1.4	1.5	066	4.4	ENE	62	-18.0	****	155	20
21	-14.8	-21.4	-18.1	058	1.1	1.5	316	5.7	ENE	71	-21.5	****	135	21
22	-21.2	-24.7	-23.0	106	2.2	2.4	115	9.5	ESE	86	-31.6	****	145	22
23	-23.8	-27.8	-25.8	068	1.6	1.9	109	7.6	ENE	45	-33.6	****	165	33
24	-22.0	-25.0	-23.5	060	1.1	1.2	033	3.2	ENE	36	-34.2	****	175	24
25	-15.6	-25.0	-20.3	067	1.4	1.5	061	4.4	ENE	29	-34.6	****	195	25
26	-12.6	-17.7	-15.2	071	.9	1.1	089	5.1	ENE	61	-22.3	****	225	26
27	-9.9	-16.6	-13.3	070	1.4	1.6	059	5.1	ENE	23	-31.2	****	390	27
28	-9.9	-20.1	-15.0	068	1.7	1.9	087	8.3	ENE	40	-27.5	****	300	28
29	-4.8	-9.4	-7.1	098	3.1	3.9	119	13.3	E	79	-10.0	****	170	29
30	-5.0	-7.9	-6.5	170	.4	1.6	135	15.2	SE	92	-7.7	****	115	30
31	-7.7	-15.2	-11.5	281	.9	1.3	246	4.4	NW	92	-13.2	****	130	31
MONTH	1.2	-27.8	-10.4	087	1.6	2.2	118	19.7	ENE	61	-17.3	****	3431	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 15.2
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 14.6
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 14.0
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 11.4

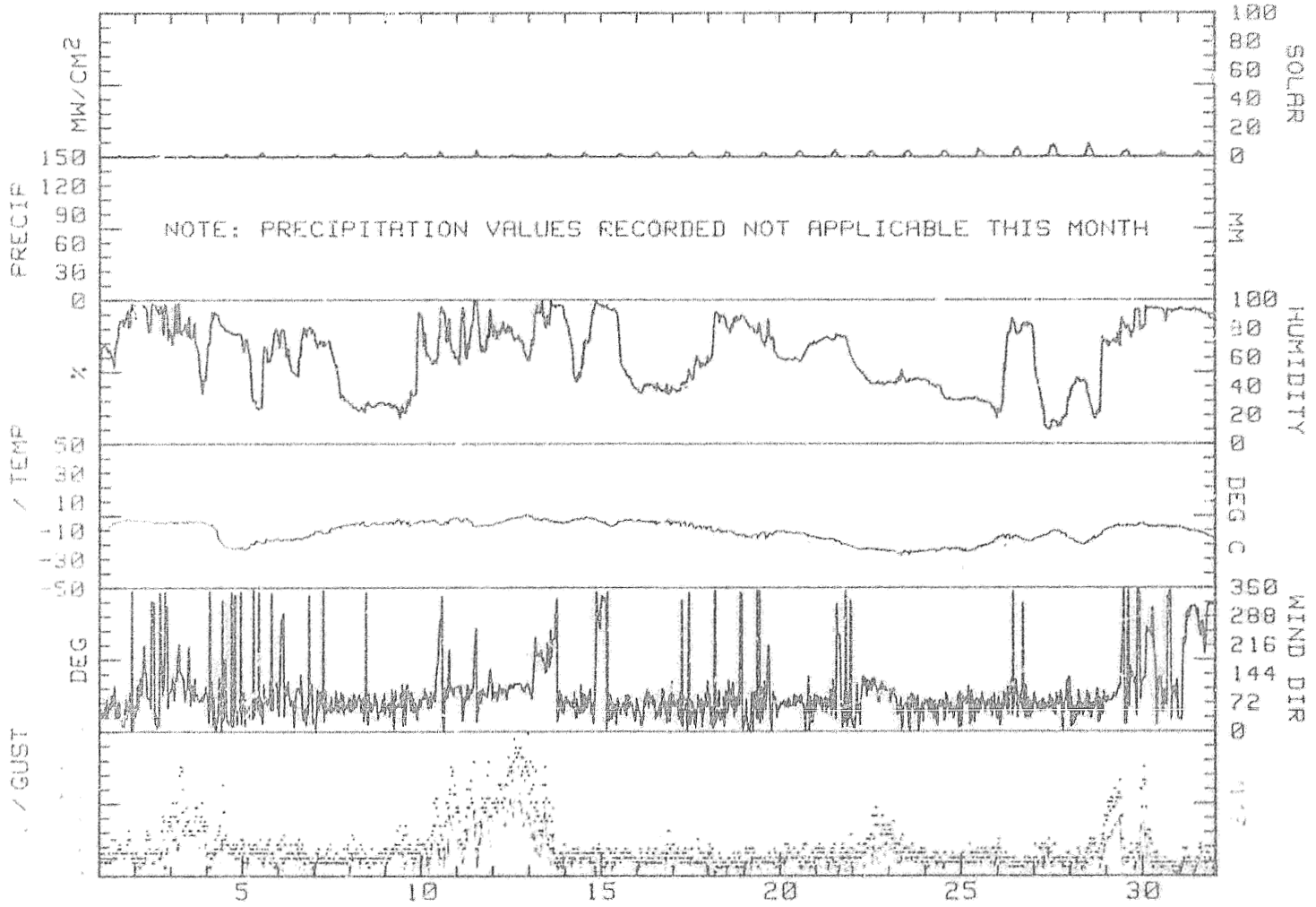
OTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

GLACIER WEATHER STATION

January, 1984



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING January, 1984

DIRECTION	VELOCITY (M/S) 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	TOTAL
N	.74	3.49	.07	0.00	0.00	0.00	0.00	4.30
NNE	1.55	7.26	.34	0.00	0.00	0.00	0.00	9.14
NE	2.02	11.96	.47	0.00	0.00	0.00	0.00	14.45
ENE	1.88	19.62	1.48	.13	0.00	0.00	0.00	23.12
E	1.01	13.24	3.76	1.75	0.00	0.00	0.00	19.76
ESE	2.02	4.64	2.35	2.76	.87	0.00	0.00	12.63
SE	1.08	1.81	.67	.60	.07	0.00	0.00	4.23
SSE	.20	.40	.34	.60	.07	0.00	0.00	1.61
S	.07	.54	.40	.07	0.00	0.00	0.00	1.08
SSW	.20	.54	.34	.07	0.00	0.00	0.00	1.14
SW	.20	.67	.20	.13	0.00	0.00	0.00	1.21
WSW	.40	.54	.34	0.00	0.00	0.00	0.00	1.28
W	.27	.87	.20	0.00	0.00	0.00	0.00	1.34
WNW	.27	.67	0.00	0.00	0.00	0.00	0.00	.94
NW	.81	1.14	0.00	0.00	0.00	0.00	0.00	1.95
NNW	.34	1.21	.07	0.00	0.00	0.00	0.00	1.61
CALM								.00
TOTAL	13.04	68.62	11.02	6.12	1.01	0.00	0.20	100.00

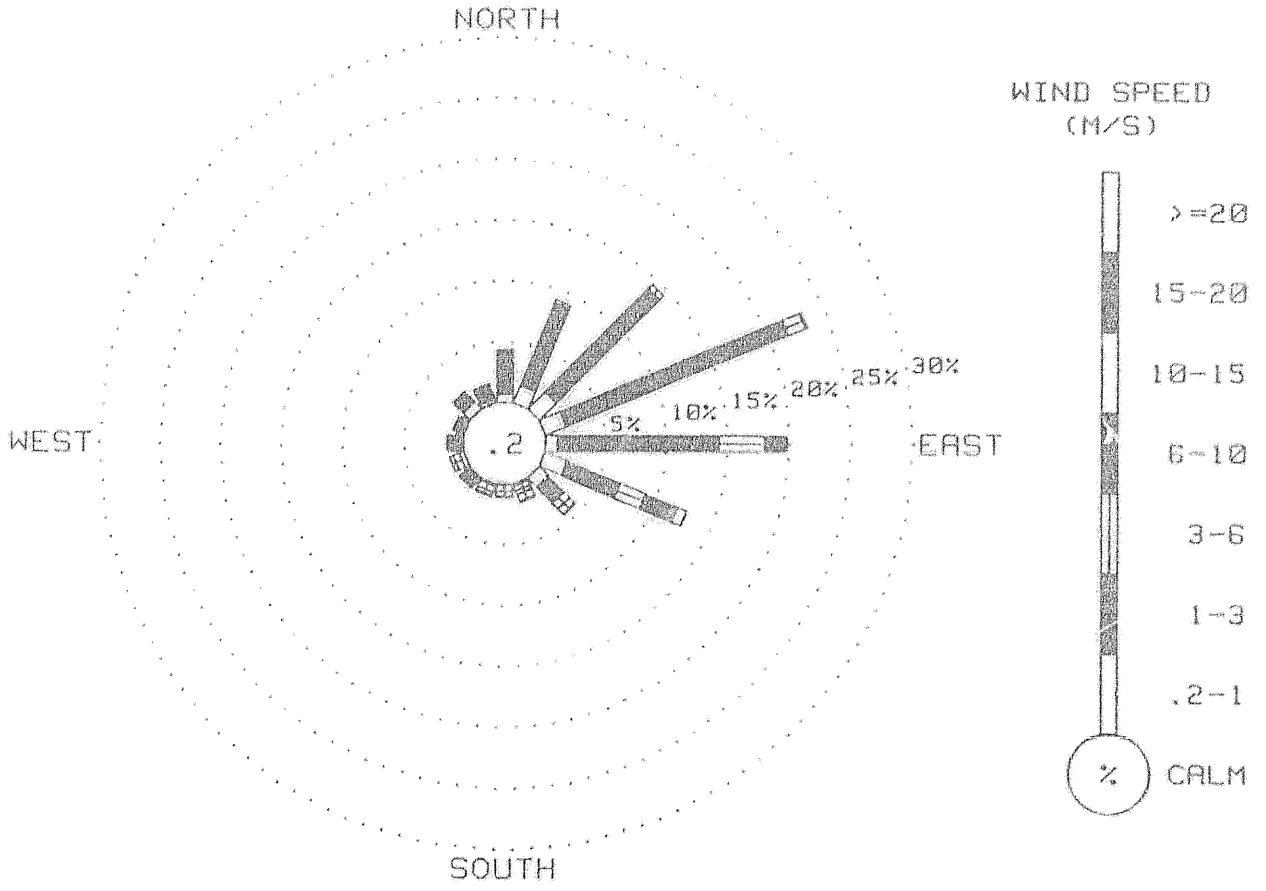
NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
1388 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
1488 WIND OBSERVATIONS WOULD HAVE BEEN CORRECT FOR 30 MINUTE DATA
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

GLACIER WEATHER STATION

January, 1984



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SOLAR RADIATION SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING January, 1984

SOLAR RADIATION VALUES MEASURED IN MILLIWATTS PER SQUARE CENTIMETER

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	AVG
1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	1	2	3	2	1	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
7	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
8	0	0	0	0	0	0	0	0	0	0	1	2	2	2	1	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	1	2	3	3	1	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	1	4	3	2	1	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	2	4	3	1	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	1	2	1	1	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	2	2	2	1	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	1	2	3	3	1	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	1	2	2	2	1	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	1	3	3	3	2	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	2	3	4	3	2	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	1	4	3	3	2	0	0	0	0	0	0	0	0	0	1
19	0	0	0	0	0	0	0	0	0	0	1	3	3	3	2	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	2	3	4	4	3	1	0	0	0	0	0	0	0	0	1
21	0	0	0	0	0	0	0	0	0	0	2	3	5	3	2	0	0	0	0	0	0	0	0	0	1
22	0	0	0	0	0	0	0	0	0	0	2	3	4	4	3	1	0	0	0	0	0	0	0	0	1
23	0	0	0	0	0	0	0	0	0	0	2	4	4	4	3	1	0	0	0	0	0	0	0	0	1
24	0	0	0	0	0	0	0	0	0	1	2	4	4	4	3	2	0	0	0	0	0	0	0	0	1
25	0	0	0	0	0	0	0	0	0	1	3	5	5	4	3	1	0	0	0	0	0	0	0	0	1
26	0	0	0	0	0	0	0	0	0	0	2	5	5	5	4	1	0	0	0	0	0	0	0	0	1
27	0	0	0	0	0	0	0	1	1	2	5	8	8	8	6	2	1	1	0	0	0	0	0	0	3
28	0	0	0	0	0	0	0	0	0	1	3	7	9	7	4	2	0	0	0	0	0	0	0	0	1
29	0	0	0	0	0	0	0	0	0	1	2	3	4	5	4	1	0	0	0	0	0	0	0	0	1
30	0	0	0	0	0	0	0	0	0	0	1	3	4	3	2	1	0	0	0	0	0	0	0	0	1
31	0	0	0	0	0	0	0	0	0	0	1	2	3	3	2	1	0	0	0	0	0	0	0	0	1

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

OBSERVATION SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING January, 1984

PARAMETER	NUMBER OF USABLE OBSERVATIONS	PERCENT OF TOTAL OBSERVATIONS
TEMPERATURE	1488	100
WIND SPEED	1488	100
WIND DIRECTION	1488	100
PEAK GUST	1488	100
RELATIVE HUMIDITY	1291	87
PRECIPITATION	0	0
SOLAR RADIATION	1488	100
DEW POINT	1291	87

THERE ARE 1488 POSSIBLE OBSERVATIONS THIS MONTH FOR EACH PARAMETER. THE DATA RECORDING INTERVAL IS 30 MINUTES.

THE FOLLOWING ADJUSTMENTS HAVE BEEN MADE TO THIS MONTH'S DATA:

1. RH -7 RH Points
2. Solar -1 mW/CM^2

No precipitation data for February

(See INTERPRETATION OF DATA).

R A M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING February, 1984

DAY 01

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-15.2	-17.3	84	043	.9	078	3.8	0
0600	-15.2	-20.3	65	072	1.5	055	3.2	0
0900	-13.4	-20.7	54	072	1.7	067	3.8	0
1200	-11.5	-18.5	56	085	1.3	068	3.2	6
1500	-10.7	*****	70	048	.7	058	2.5	3
1800	-12.2	-14.2	85	078	1.1	039	3.2	0
2100	-13.4	-16.1	80	047	1.1	088	4.4	0
2400	-12.7	*****	90	088	.8	071	3.8	0

DAY 02

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-13.0	-14.6	88	070	.7	051	2.5	0
0600	-18.1	-20.0	85	318	1.2	319	2.5	0
0900	-20.2	-22.3	83	013	1.3	029	3.8	0
1200	-20.0	-22.0	84	040	.5	129	3.2	5
1500	-20.6	*****	61	308	.9	289	2.5	5
1800	-20.8	*****	74	057	1.3	088	3.8	0
2100	-19.6	-25.0	62	061	.8	044	1.9	0
2400	-17.8	-31.3	30	074	1.2	050	4.4	0

DAY 03

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-16.8	*****	25	079	1.0	061	2.5	0
0600	-15.2	-30.9	25	072	1.0	031	3.2	0
0900	-14.4	-24.6	42	090	1.4	062	3.8	0
1200	-10.6	*****	58	075	1.1	069	3.2	6
1500	-8.7	-16.3	54	067	1.2	049	2.5	3
1800	-8.4	-10.8	83	063	1.1	102	3.8	0
2100	-6.1	-8.8	81	064	3.0	094	8.9	0
2400	-6.6	*****	94	023	1.6	031	9.5	0

DAY 04

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-4.8	-5.5	95	298	.5	215	3.2	0
0600	-4.7	*****	96	266	.9	246	2.5	0
0900	-2.7	-8.7	63	153	2.8	137	14.6	0
1200	-5.8	-9.0	78	108	7.3	134	15.9	5
1500	-6.7	-10.9	72	104	7.0	103	11.4	3
1800	-5.0	-9.5	89	151	7.0	155	18.4	0
2100	-11.4	-12.9	89	205	3.9	168	12.7	0
2400	-11.0	-12.2	91	322	1.2	335	5.1	0

DAY 05

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-10.7	-12.2	89	076	.8	359	3.2	0
0600	-10.3	-12.5	84	110	.5	359	8.3	0
0900	-11.6	*****	76	125	2.7	115	8.3	0
1200	-11.0	-16.6	63	071	1.2	128	4.4	4
1500	-11.8	*****	77	115	1.1	092	4.4	3
1800	-11.2	-16.5	65	063	1.6	070	4.4	0
2100	-10.9	-16.0	66	049	1.2	105	5.1	0
2400	-10.9	*****	92	048	1.0	023	4.4	0

DAY 06

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-13.4	-15.0	88	237	1.5	229	12.7	0
0600	-13.3	-16.0	80	056	1.4	358	4.4	0
0900	-14.8	*****	89	350	.5	032	1.9	0
1200	-13.7	*****	67	343	.5	281	4.4	7
1500	-14.4	-21.5	55	017	1.5	075	4.4	7
1800	-13.9	-24.4	41	077	2.0	076	4.4	0
2100	-13.4	-24.8	38	068	2.5	080	6.3	0
2400	-10.9	-23.2	36	053	2.0	055	4.4	0

DAY 07

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-9.2	-24.9	27	074	3.2	070	7.0	0
0600	-8.8	-21.6	35	075	3.9	069	7.6	0
0900	-9.3	-15.2	62	079	4.6	086	7.6	0
1200	-11.3	-13.3	85	013	.3	084	6.3	13
1500	-14.3	-17.1	83	196	4.0	202	9.5	7
1800	-15.5	-21.9	58	110	4.3	119	12.1	0
2100	-16.3	-24.3	50	074	3.6	074	7.0	0
2400	-14.6	-35.6	39	073	4.2	077	8.9	0

DAY 08

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-14.2	-21.5	54	085	3.5	088	8.9	0
0600	-15.8	-18.0	83	134	1.2	121	7.6	0
0900	-16.6	-20.3	73	113	.8	262	3.2	0
1200	-16.3	-24.1	51	076	2.1	094	4.4	13
1500	-16.0	-26.6	40	058	1.6	049	3.8	9
1800	-18.1	-29.0	38	061	1.2	054	3.2	0
2100	-18.1	-29.9	35	078	1.8	076	4.4	0
2400	-18.2	-30.6	33	071	1.6	065	3.8	0

DAY 09

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-17.9	-30.0	34	061	1.6	047	3.8	0
0600	-18.1	-29.0	38	079	1.2	085	3.2	0
0900	-17.9	-29.2	37	093	1.6	062	3.2	0
1200	-16.2	-29.8	30	062	1.7	055	3.8	10
1500	-14.3	*****	19	080	.9	091	3.9	8
1800	-17.7	-31.5	29	049	1.2	047	3.9	0
2100	-19.8	-31.8	31	078	1.2	052	3.2	0
2400	-18.2	*****	32	060	1.0	059	3.2	0

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING February, 1984

DAY 10

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-19.1	-30.8	35	053	.7	034	1.9	0
0600	-20.0	-29.7	42	042	1.0	019	3.2	0
0900	-20.3	-28.7	47	080	1.3	080	3.2	9
1200	-18.4	-28.5	41	077	1.9	087	5.1	9
1500	-15.7	-28.4	33	050	1.5	036	4.4	17
1800	-16.4	-25.4	46	084	1.9	085	5.1	9
2100	-16.1	-24.4	49	047	1.5	075	4.4	0
2400	-14.3	-23.0	48	047	1.7	056	3.8	0

DAY 11

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-13.6	-20.9	54	061	1.4	072	3.2	0
0600	-11.3	-18.6	55	050	1.4	048	3.2	0
0900	-10.5	-18.7	51	061	2.1	061	4.4	0
1200	-9.1	-21.3	37	065	1.7	059	4.4	11
1500	-8.8	-24.1	28	043	.9	013	2.5	13
1800	-9.5	-23.3	32	065	1.3	056	3.2	0
2100	-9.5	-21.9	36	035	1.8	022	3.8	0
2400	-10.2	-16.5	60	075	1.3	085	3.2	0

DAY 12

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-9.4	-15.3	62	055	.7	100	2.5	0
0600	-10.1	-15.8	63	066	1.3	064	3.8	0
0900	-9.7	-16.8	56	078	1.4	096	3.2	0
1200	-6.9	-19.0	38	068	1.9	067	3.8	12
1500	-8.7	-20.3	39	056	1.2	091	3.8	8
1800	-7.9	-20.5	36	058	1.4	049	3.2	0
2100	-9.3	-21.7	36	073	2.0	075	5.1	0
2400	-8.4	-20.9	36	083	.9	097	1.9	0

DAY 13

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-7.9	-20.5	36	069	1.1	070	3.8	0
0600	-7.3	-19.3	38	068	1.3	071	3.8	0
0900	-6.7	-18.8	38	063	1.5	066	3.8	0
1200	-4.0	*****	30	073	1.5	068	3.2	19
1500	-3.2	*****	27	078	.9	100	2.5	16
1800	-4.8	-15.0	45	063	1.0	062	5.1	0
2100	-5.0	-14.6	47	***	****	***	2.5	0
2400	-4.3	-12.7	52	***	****	***	3.8	0

DAY 14

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-4.6	*****	66	***	****	***	4.4	0
0600	-6.2	*****	88	***	****	***	1.9	0
0900	-7.4	*****	93	***	****	***	3.8	0
1200	-6.9	-9.2	84	***	****	***	5.7	2
1500	-7.1	-10.9	74	101	3.5	104	7.6	3
1800	-7.7	-11.5	74	109	2.5	104	7.0	0
2100	-8.3	*****	78	112	2.0	099	5.7	0
2400	-9.2	-16.6	55	096	1.7	095	3.8	0

DAY 15

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-9.5	-18.0	50	103	2.1	105	3.1	0
0600	-10.9	-19.3	50	***	****	***	4.4	0
0900	-10.0	-19.0	48	***	****	***	4.4	1
1200	-9.0	-20.9	38	100	2.0	***	3.2	22
1500	-8.5	-20.1	39	102	1.5	101	3.8	10
1800	-8.9	-19.6	42	***	****	***	5.7	0
2100	-7.8	-20.1	37	103	1.2	***	3.8	0
2400	-7.8	-11.6	74	105	2.3	105	5.1	0

DAY 16

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-5.5	-10.6	67	110	3.4	114	11.4	0
0600	-8.4	-12.5	72	176	3.4	154	12.1	0
0900	-9.3	-14.4	62	120	5.7	146	13.3	1
1200	-7.9	-15.6	54	092	5.1	109	8.9	12
1500	-7.0	-15.0	53	095	3.8	115	8.3	9
1800	-8.6	-12.9	71	074	1.5	025	5.1	0
2100	-5.9	-13.3	56	039	2.3	035	5.1	0
2400	-5.0	-8.1	79	050	2.3	072	7.6	0

DAY 17

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-3.1	-9.8	60	109	5.7	117	16.5	0
0600	-3.9	-10.1	62	097	4.5	094	12.7	0
0900	-3.8	-9.0	67	121	6.0	129	13.3	1
1200	-4.0	-8.8	69	125	1.4	141	15.9	10
1500	-4.6	*****	82	119	2.5	115	10.8	4
1800	-5.7	-8.0	84	142	.8	124	5.1	0
2100	-6.8	-9.1	84	118	3.3	110	7.0	0
2400	-8.0	-12.1	72	107	5.3	097	8.9	0

DAY 18

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-8.0	-13.0	67	122	4.6	113	13.7	3
0600	-8.7	-13.8	71	121	5.6	133	14.2	0
0900	-8.4	-13.8	65	113	5.3	106	10.2	2
1200	-8.2	-13.8	64	119	4.6	1.3	11.4	13
1500	-8.4	-13.8	65	112	5.4	117	13.1	9
1800	-8.3	-13.7	65	095	3.4	107	10.2	3
2100	-7.7	-15.8	54	102	4.7	105	8.9	0
2400	-8.1	-14.5	60	080	4.5	088	8.3	0

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THRIFT HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING February, 1984

DAY 19

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-7.1	-15.1	53	066	3.7	070	8.9	0
0600	-7.9	-16.8	49	059	2.9	074	7.0	0
0900	-8.2	*****	38	072	1.7	089	5.1	2
1200	-13.4	-16.6	77	055	1.4	043	4.4	11
1500	-17.7	-20.9	76	025	1.2	346	5.1	9
1800	-20.1	-22.9	78	334	2.2	343	5.7	0
2100	-22.0	-24.9	77	337	1.2	042	4.4	0
2400	-20.5	-23.5	77	301	1.1	311	4.4	0

DAY 20

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-23.2	-26.4	75	334	1.4	353	4.4	0
0600	-24.5	*****	74	344	.9	347	5.1	0
0900	-24.6	-27.7	75	352	1.7	350	5.7	1
1200	-22.9	-26.1	75	168	.8	233	4.4	10
1500	-16.3	-21.1	66	127	1.1	146	3.8	7
1800	-14.6	*****	83	128	.7	133	2.5	0
2100	-13.6	*****	84	130	.8	127	1.9	0
2400	-13.7	*****	85	090	.4	064	1.9	0

DAY 21

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-14.6	-19.0	69	092	1.1	096	3.6	0
0600	-13.0	-18.5	63	094	2.6	079	5.7	0
0900	-13.6	-17.5	72	086	1.7	100	7.0	1
1200	-11.8	-19.5	53	053	1.4	052	3.2	7
1500	-11.0	*****	39	041	1.3	048	4.4	10
1800	-12.6	-19.1	58	068	1.5	061	3.8	0
2100	-12.0	-19.2	55	075	1.6	056	3.8	0
2400	-10.9	-17.5	58	069	2.3	072	5.7	0

DAY 22

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-10.7	-15.1	70	070	1.3	037	4.4	0
0600	-10.3	-14.0	74	061	1.4	085	3.8	0
0900	-10.1	-13.4	77	060	1.0	061	3.2	0
1200	-7.7	*****	59	060	1.2	042	3.2	6
1500	-9.4	-13.7	71	351	.7	359	2.5	5
1800	-10.1	*****	89	066	.5	040	1.9	0
2100	-10.8	*****	87	338	.5	258	1.9	0
2400	-10.5	-12.7	84	052	.7	065	1.9	0

DAY 23

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-10.8	-13.0	84	098	.8	062	2.5	0
0600	-11.0	-12.9	86	096	1.2	110	3.2	0
0900	-10.4	*****	81	081	.3	037	2.5	0
1200	-9.2	-15.3	61	065	.9	061	2.5	6
1500	-9.9	*****	61	084	1.3	090	3.2	3
1800	-10.9	-14.6	74	071	1.4	073	3.8	0
2100	-10.7	-15.1	70	052	1.5	044	3.8	0
2400	-11.1	-17.3	60	085	1.7	115	5.1	0

DAY 24

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-12.0	-16.0	72	111	1.6	105	5.7	0
0600	-10.6	-14.5	73	077	.8	105	5.1	0
0900	-10.7	-14.1	76	072	1.2	119	3.2	1
1200	-9.6	*****	63	106	.8	112	2.5	5
1500	-10.1	*****	74	032	.5	070	1.9	5
1800	-11.3	*****	86	187	.4	264	1.9	0
2100	-11.4	-13.3	86	112	.6	028	2.5	0
2400	-11.0	*****	94	076	.8	063	2.5	0

DAY 25

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-10.9	*****	86	050	.6	057	2.5	0
0600	-10.8	*****	86	014	.5	014	1.3	0
0900	-10.1	*****	83	***	****	***	1.3	1
1200	-8.4	-13.2	68	035	1.0	026	3.5	5
1500	-8.4	*****	63	024	1.6	024	2.5	3
1800	-9.6	-12.6	79	051	1.1	035	3.5	0
2100	-9.8	-12.3	82	076	.8	082	3.5	0
2400	-9.9	-14.1	71	078	1.0	050	1.9	0

DAY 26

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-9.7	-16.6	57	075	1.4	068	2.5	0
0600	-8.9	-16.8	53	077	1.5	067	4.4	0
0900	-7.5	-18.3	42	080	1.7	100	3.2	1
1200	-5.1	-21.7	26	063	1.7	068	4.4	14
1500	-2.6	*****	17	082	1.0	090	2.5	16
1800	-8.0	-21.2	34	018	1.0	357	3.2	0
2100	-8.4	*****	33	084	1.3	082	3.2	0
2400	-10.5	-20.2	45	045	1.2	035	3.2	0

DAY 27

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-12.4	-22.0	45	057	1.0	071	2.5	0
0600	-12.3	-21.4	47	052	.9	044	1.9	0
0900	-12.9	-21.9	47	067	.8	356	2.5	3
1200	-10.1	*****	36	058	.8	098	2.5	13
1500	*****	*****	**	***	****	***	****	***
1800	*****	*****	**	***	****	***	****	***
2100	*****	*****	**	***	****	***	****	***
2400	*****	*****	**	***	****	***	****	***

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING February, 1984

	DAY 28								DAY 29							
HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW	HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	*****	*****	**	***	****	***	****	***	0300	*****	*****	**	***	****	***	****	***
0600	*****	*****	**	***	****	***	****	***	0600	*****	*****	**	***	****	***	****	***
0900	*****	*****	**	***	****	***	****	***	0900	*****	*****	**	***	****	***	****	***
1200	*****	*****	**	***	****	***	****	***	1200	*****	*****	**	***	****	***	****	***
1500	*****	*****	**	***	****	***	****	***	1500	*****	*****	**	***	****	***	****	***
1800	*****	*****	**	***	****	***	****	***	1800	*****	*****	**	***	****	***	****	***
2100	*****	*****	**	***	****	***	****	***	2100	*****	*****	**	***	****	***	****	***
2400	*****	*****	**	***	****	***	****	***	2400	*****	*****	**	***	****	***	****	***

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING February, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	-10.0	-15.6	-12.8	068	1.1	1.3	088	4.4	ENE	72	-17.6	****	245	1
2	-12.2	-22.0	-17.1	031	.7	1.2	050	4.4	NW	76	-21.8	****	255	2
3	-5.9	-17.8	-11.9	065	1.4	1.7	031	9.5	ENE	58	-18.7	****	290	3
4	-2.3	-11.4	-6.9	135	2.6	4.2	155	18.4	ESE	85	-9.2	****	255	4
5	-10.1	-12.1	-11.1	086	1.1	1.7	359	8.3	NNE	75	-14.7	****	305	5
6	-10.8	-14.8	-12.8	061	1.0	1.7	229	12.7	ENE	59	-20.3	****	455	6
7	-8.7	-16.4	-12.6	090	2.7	3.8	119	12.1	ENE	53	-20.9	****	525	7
8	-14.1	-18.7	-16.4	081	1.6	2.0	088	8.9	ENE	50	-24.9	****	630	8
9	-14.3	-18.9	-16.6	069	1.3	1.4	047	3.[illegible]	ENE	33	-30.4	****	485	9
10	-14.3	-20.6	-17.5	062	1.4	1.6	087	5.1	E	43	-27.3	****	720	10
11	-7.4	-13.6	-10.5	057	1.5	1.5	061	4.4	ENE	46	-20.5	****	790	11
12	-6.1	-14.0	-10.1	067	1.3	1.5	075	5.1	ENE	46	-18.6	****	640	12
13	-1.6	-9.9	-5.8	069	1.2	1.3	***	5.1	ENE	40	-17.8	****	970	13
14	-4.2	-9.2	-6.7	105	2.4	1.7	104	7.6	E	72	-11.3	****	200	14
15	-6.6	-10.9	-8.8	103	1.8	2.0	***	5.7	ESE	45	-18.9	****	975	15
16	-5.0	-8.7	-6.9	099	2.7	3.7	146	13.3	NE	63	-12.9	****	800	16
17	-2.5	-8.0	-5.3	113	3.6	4.3	117	16.5	ESE	73	-9.1	****	435	17
18	-7.7	-9.6	-8.7	109	4.4	4.7	113	12.7	ESE	67	-13.4	****	870	18
19	-6.7	-22.0	-14.4	037	1.4	2.2	070	8.9	NE	61	-19.7	****	880	19
20	-13.4	-26.7	-20.1	046	.3	1.3	350	5.7	SE	74	-25.8	****	555	20
21	-8.9	-14.6	-11.8	074	1.6	1.8	100	7.0	ENE	60	-19.0	****	575	21
22	-7.7	-11.1	-9.4	052	.8	1.0	037	4.4	ENE	72	-14.2	****	395	22
23	-8.5	-12.1	-10.3	078	1.1	1.3	115	5.1	ENE	71	-14.8	****	290	23
24	-8.9	-12.2	-10.6	092	.7	1.1	105	5.7	ESE	74	-14.8	****	365	24
25	-7.8	-11.3	-9.6	054	.8	.8	057	2.5	NE	74	-13.1	****	230	25
26	-2.6	-11.5	-7.1	068	1.3	1.5	067	4.4	ENE	41	-19.3	****	935	26
27	-10.1	-14.3	-12.2	058	.8	1.0	071	2.5	E	47	-21.8	****	1010	27
28	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	28
29	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	29
MONTH	-1.6	-26.7	-11.2	085	1.4	2.0	155	18.4	ENE	60	-19.2	****	15030	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 16.5
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 17.1
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 10.8
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 6.[illegible]

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.

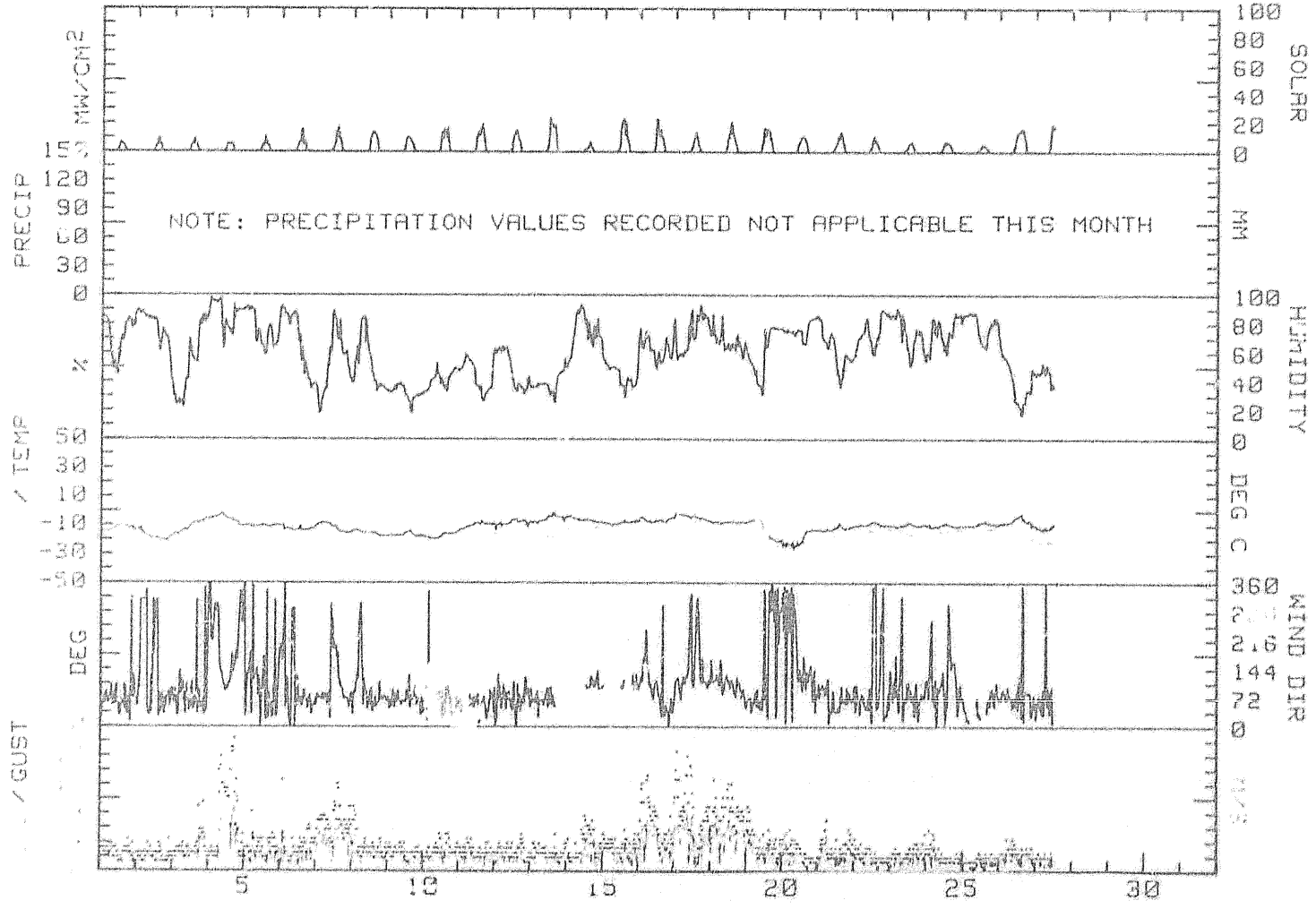
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

GLACIER WEATHER STATION

February, 1984



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING February, 1984

DIRECTION	VELOCITY (M/S) 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	TOTAL
N	.59	2.03	.17	0.00	0.00	0.00	0.00	2.79
NNE	2.20	5.24	.08	0.00	0.00	0.00	0.00	7.52
NE	2.79	11.91	.59	0.00	0.00	0.00	0.00	15.29
ENE	3.46	17.57	2.87	.08	0.00	0.00	0.00	23.99
E	3.04	11.23	3.55	.59	0.00	0.00	0.00	18.41
ESE	1.44	5.66	4.26	1.94	0.00	0.00	0.00	13.24
SE	1.60	1.69	.68	.93	0.00	0.00	0.00	4.90
SSE	.59	.51	.25	.34	.08	0.00	0.00	1.77
S	.25	.84	.42	.17	0.00	0.00	0.00	1.69
SSW	.51	.17	.17	.17	0.00	0.00	0.00	1.01
SW	.34	.42	.08	0.00	0.00	0.00	0.00	.85
WSW	.34	.42	.17	0.00	0.00	0.00	0.00	.93
W	.31	.93	0.00	0.00	0.00	0.00	0.00	1.27
WNW	.51	.68	0.00	0.00	0.00	0.00	0.00	1.18
NW	1.18	1.27	0.00	0.00	0.00	0.00	0.00	2.46
NNW	.42	1.44	.25	0.00	0.00	0.00	0.00	2.11
CALM								.25
TOTAL	19.59	62.50	13.51	4.32	.08	0.00	0.00	100.00

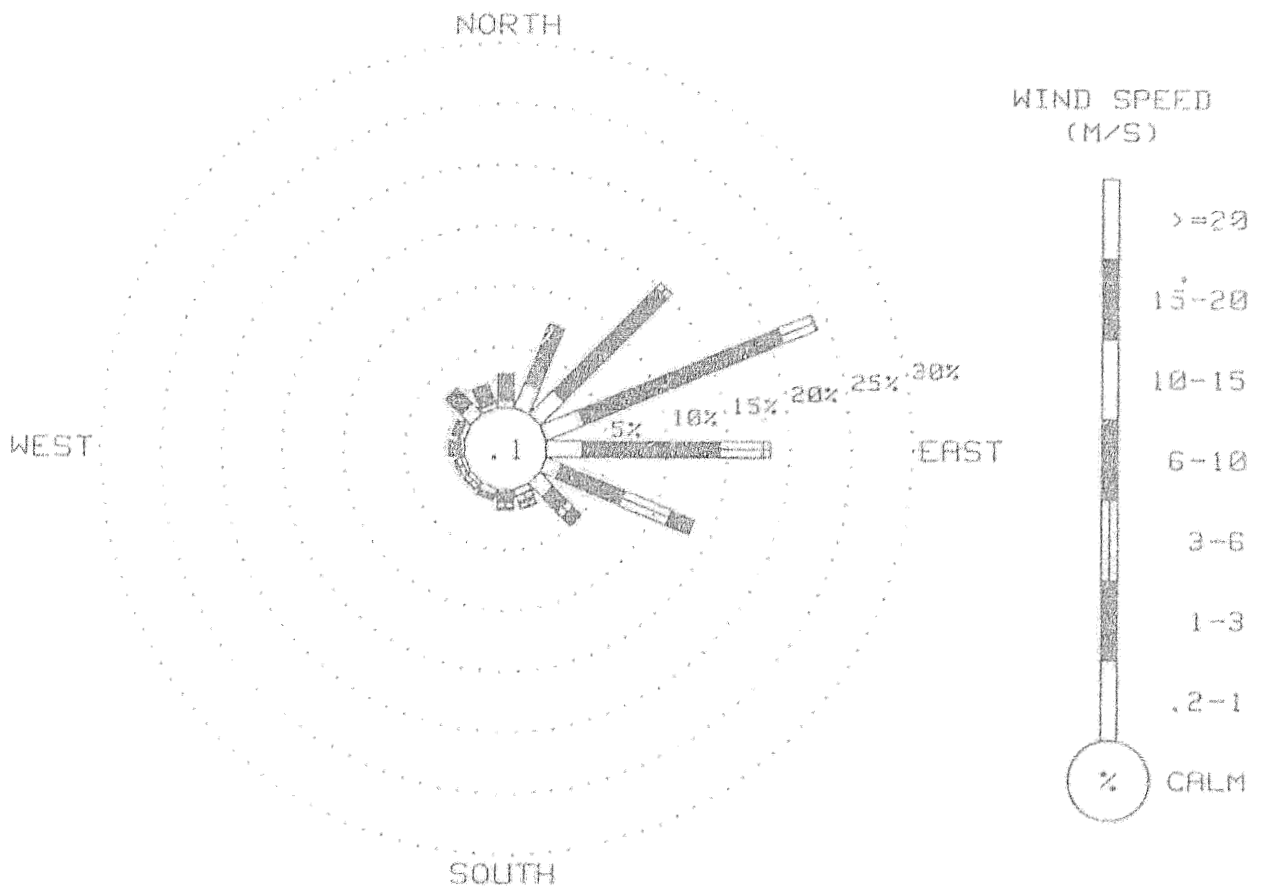
NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
1484 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
1500 WIND OBSERVATIONS WOULD HAVE BEEN CORRECT FOR 31 MINUTE PERIOD
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

GLACIER WEATHER STATION

February, 1984



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SOLAR RADIATION SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING February, 1984

SOLAR RADIATION VALUES MEASURED IN MILLIWATTS PER SQUARE CENTIMETER

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	AVG
1	0	0	0	0	0	0	0	0	0	1	2	6	7	5	4	2	0	0	0	0	0	0	0	0	1
2	0	0	0	0	0	0	0	0	0	0	2	4	5	10	5	1	0	0	0	0	0	0	0	0	1
3	0	0	0	0	0	0	0	0	0	1	4	6	9	6	4	2	0	0	0	0	0	0	0	0	1
4	0	0	0	0	0	0	0	0	0	1	4	6	5	6	4	1	0	0	0	0	0	0	0	0	1
5	0	0	0	0	0	0	0	0	0	1	5	5	9	6	4	2	0	0	0	0	0	0	0	0	1
6	0	0	0	0	0	0	0	0	0	2	4	7	11	11	8	4	1	0	0	0	0	0	0	0	2
7	0	1	0	0	0	0	0	0	0	2	4	10	14	14	8	2	1	0	0	0	0	0	0	0	2
8	0	0	0	0	0	0	0	0	0	1	9	12	14	13	10	4	1	0	0	0	0	0	0	0	3
9	0	0	0	0	0	0	0	0	0	2	7	10	10	9	7	4	2	0	0	0	0	0	0	0	2
10	0	0	0	0	0	0	0	0	0	2	11	10	15	15	14	5	3	0	0	0	0	0	0	0	3
11	0	0	0	0	0	0	0	0	0	3	11	13	15	15	16	7	2	0	0	0	0	0	0	0	3
12	0	0	0	0	0	0	0	0	0	2	8	12	15	14	9	6	1	0	0	0	0	0	0	0	3
13	0	0	0	0	0	0	0	0	0	3	11	22	19	17	18	8	1	0	0	0	0	0	0	0	4
14	0	0	0	0	0	0	0	0	0	1	3	2	4	6	4	3	1	0	0	0	0	0	0	0	1
15	0	0	0	0	0	0	0	0	1	4	17	22	23	17	10	6	2	0	0	0	0	0	0	0	4
16	0	0	0	0	0	0	0	0	1	4	19	18	12	14	10	4	1	0	0	0	0	0	0	0	4
17	0	0	0	0	0	0	0	0	1	2	4	9	12	10	5	2	0	0	0	0	0	0	0	0	2
18	0	0	0	0	0	0	0	0	1	6	11	14	20	13	10	6	2	0	0	0	0	0	0	0	3
19	0	0	0	0	0	0	0	0	1	6	14	14	15	16	12	8	3	0	0	0	0	0	0	0	4
20	0	0	0	0	0	0	0	0	1	5	7	10	10	11	8	5	1	0	0	0	0	0	0	0	3
21	0	0	0	0	0	0	0	0	1	3	4	6	11	11	12	8	4	0	0	0	0	0	0	0	3
22	0	0	0	0	0	0	0	0	0	3	4	7	11	7	6	3	1	0	0	0	0	0	0	0	2
23	0	0	0	0	0	0	0	0	0	2	3	6	6	7	4	2	1	0	0	0	0	0	0	0	2
24	0	0	0	0	0	0	0	0	1	3	6	6	7	7	6	3	1	0	0	0	0	0	0	0	2
25	0	0	0	0	0	0	0	0	1	2	3	4	5	4	4	2	1	0	0	0	0	0	0	0	1
26	0	0	0	0	0	0	0	0	1	4	10	13	14	15	16	11	3	1	0	0	0	0	0	0	3
27	0	0	0	0	0	0	0	0	2	14	18	17	***	***	***	***	***	***	***	***	***	***	***	***	*
28	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
AVG	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

OBSERVATION SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING February, 1984

PARAMETER	NUMBER OF USABLE OBSERVATIONS	PERCENT OF TOTAL OBSERVATIONS
TEMPERATURE	1272	91
WIND SPEED	1272	91
WIND DIRECTION	1194	85
PEAK GUST	1272	91
RELATIVE HUMIDITY	1009	72
PRECIPITATION	0	0
SOLAR RADIATION	1272	91
DEW POINT	1009	72

THERE ARE 1392 POSSIBLE OBSERVATIONS THIS MONTH FOR EACH PARAMETER. THE DATA RECORDING INTERVAL IS 30 MINUTES.

THE FOLLOWING ADJUSTMENTS HAVE BEEN MADE TO THIS MONTH'S DATA:

1. RH -7 RH Points
2. Solar -1 mW/CM^2

Additional comments on this month's data:

1. No data after 2/27. Weather wizard not functioning.
2. Intermittent wind direction data lost due to frozen wind vane.

No Data for March
(See INTERPRETATION OF DATA)

No Data for April
(See INTERPRETATION OF DATA)

R A M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING May 1984

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	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	1
2	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	2
3	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	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	4
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.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	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	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	0.0	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	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	1.0	.8	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11
12	0.0	0.0	0.4	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	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	.8	.2	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	.2	1.8	4.0	1.8	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	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	23
24	0.0	.4	0.0	0.0	.2	0.0	.2	.4	.4	.4	.4	0.0	.2	0.0	.2	0.0	0.0	0.0	.2	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	.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	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	.2	.4	1.8	.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	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	.2	.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	30
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

DAY 01

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

DAY 02

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

DAY 03

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

DAY 04

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	*****	*****	**	***	****	***	****	***
0600	*****	*****	**	***	****	***	****	***
0900	-1.2	*****	30	006	.2	006	3.8	57
1200	3.3	*****	39	092	.3	050	3.8	47
1500	3.1	-12.5	31	030	.5	089	5.7	65
1800	-.9	-12.9	40	061	1.4	063	4.4	19
2100	-4.7	*****	**	121	1.4	102	5.1	0
2400	-4.7	-16.7	39	041	1.2	346	3.2	0

DAY 05

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-5.1	-15.3	45	078	1.6	045	3.2	0
0600	-5.2	*****	**	057	1.2	038	3.8	3
0900	-3.4	-12.1	51	056	1.6	059	3.2	57
1200	1.4	*****	32	075	1.2	052	3.2	72
1500	.2	*****	33	108	.5	050	1.9	66
1800	-1.7	*****	38	143	.9	140	2.5	30
2100	-4.3	*****	62	140	.5	157	2.5	0
2400	-4.5	-11.3	59	070	1.2	054	2.5	0

DAY 06

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-4.9	-12.3	56	061	1.3	042	3.8	0
0600	-5.0	-12.9	54	063	1.2	066	2.5	3
0900	-1.5	-12.9	42	062	1.3	070	3.2	51
1200	2.0	*****	31	074	1.3	107	3.8	74
1500	.9	*****	30	324	.4	317	1.9	67
1800	-.9	*****	37	087	.2	055	1.9	31
2100	-3.0	-11.5	52	082	1.0	041	3.2	0
2400	-3.2	-14.7	41	056	1.1	038	3.5	0

DAY 07

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-3.8	-14.1	45	057	1.3	060	3.2	0
0600	-3.3	-14.2	43	047	1.3	048	3.5	4
0900	-3.1	-16.4	33	056	1.6	066	4.4	51
1200	2.1	-16.0	21	043	1.5	042	4.4	73
1500	3.0	-16.1	25	061	1.5	060	6.3	66
1800	1.3	-11.7	38	082	2.1	087	6.3	30
2100	-1.2	-12.0	44	059	2.6	076	6.3	1
2400	-1.9	-11.8	47	055	2.7	048	7.0	0

DAY 08

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-1.6	-11.8	46	051	1.9	062	7.0	0
0600	-2.1	-12.5	45	049	3.3	065	7.6	1
0900	.3	-13.3	36	043	2.5	042	5.7	51
1200	2.2	-8.9	44	082	4.7	096	8.9	73
1500	5.9	-8.9	34	056	2.7	087	8.3	66
1800	4.1	*****	38	352	1.4	018	5.1	30
2100	.9	-7.6	53	038	1.1	037	4.4	1
2400	-.2	-7.7	57	048	1.9	053	5.7	0

DAY 09

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-.6	-8.3	56	054	1.0	052	3.3	0
0600	-.1	-8.3	54	064	1.6	062	3.3	5
0900	2.2	-8.9	44	044	1.4	042	4.3	51
1200	7.2	*****	39	042	1.2	038	3.5	74
1500	8.6	*****	31	038	.6	137	3.5	66
1800	3.4	*****	38	142	.5	137	1.9	31
2100	.1	*****	66	045	.7	037	1.9	1
2400	0.0	-5.8	65	061	1.1	077	3.2	0

*** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT ***

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING May, 1984

DAY 10

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-2.6	-6.9	72	052	1.0	042	2.5	0
0600	-1.6	-7.1	66	057	1.5	044	3.8	4
0900	-.7	-7.3	61	087	1.6	110	5.1	51
1200	4.1	*****	37	165	.6	086	3.2	74
1500	5.3	*****	32	348	.1	325	1.9	67
1800	1.5	-7.8	50	199	.5	236	3.2	24
2100	-1.7	-2.6	94	336	.1	280	3.8	1
2400	-4.0	-5.9	87	075	.7	081	3.2	0

DAY 11

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-5.5	-6.5	93	322	.9	093	3.8	0
0600	-6.2	-12.1	63	042	.8	123	2.5	5
0900	-1.2	*****	50	049	.8	053	1.9	29
1200	-2.9	-15.1	39	119	1.5	128	4.4	58
1500	-1.8	-18.0	28	154	1.1	162	3.2	75
1800	-1.4	-19.5	24	185	1.2	170	3.8	32
2100	-7.2	-17.5	44	135	.7	130	2.5	1
2400	-7.3	-18.4	41	099	1.6	104	5.1	0

DAY 12

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-9.0	-18.8	45	048	2.2	051	5.7	0
0600	-8.1	-19.1	41	049	1.5	065	3.8	5
0900	-4.5	-17.8	35	061	1.1	054	3.2	68
1200	5.0	*****	18	135	.5	067	1.9	79
1500	2.5	*****	18	324	.6	349	2.5	67
1800	-2.2	-16.1	34	145	.8	125	3.8	36
2100	-2.2	-13.5	42	048	1.2	043	3.8	1
2400	-2.0	-11.6	48	057	1.5	061	3.8	0

DAY 13

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-2.7	-10.7	54	067	1.3	051	3.8	0
0600	-3.5	-10.8	53	061	.8	031	2.5	5
0900	-1.1	-11.3	46	041	1.4	039	3.8	39
1200	3.6	*****	30	346	.7	006	1.9	74
1500	1.6	-12.7	34	019	1.2	030	2.5	66
1800	-.5	*****	44	023	1.2	024	2.5	28
2100	-1.4	-9.3	53	058	1.7	039	3.8	1
2400	-3.0	-9.2	58	077	1.3	094	2.5	0

DAY 14

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-2.2	-10.0	55	064	1.0	061	3.2	0
0600	-1.3	-9.4	54	058	1.3	064	2.5	10
0900	1.4	-9.9	43	077	1.3	035	3.2	50
1200	2.7	-11.4	35	059	1.0	037	3.2	75
1500	3.0	-13.4	29	125	.7	174	2.5	68
1800	5.3	*****	30	095	1.0	040	2.5	33
2100	2.1	-13.4	31	055	1.7	060	4.4	2
2400	1.3	-9.7	44	059	1.7	051	4.4	0

DAY 15

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	2.8	-10.9	36	065	1.4	066	3.8	0
0600	3.0	-8.8	42	071	2.7	077	4.4	6
0900	4.7	-8.2	39	072	3.5	060	6.3	51
1200	8.9	*****	26	144	1.9	115	5.7	81
1500	6.8	-10.6	28	233	.7	173	5.1	71
1800	5.9	-11.8	27	179	.7	100	4.4	33
2100	3.6	-11.3	33	064	3.3	067	6.3	2
2400	3.8	-12.3	30	065	3.9	059	7.6	0

DAY 16

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	2.9	-14.8	26	057	4.7	056	8.9	0
0600	3.6	-16.2	22	061	4.1	060	9.5	11
0900	5.8	*****	20	091	1.6	089	5.7	52
1200	9.0	*****	19	133	.7	145	3.2	74
1500	5.6	-12.8	35	027	1.1	028	3.8	62
1800	7.3	-10.1	28	107	1.2	101	3.8	34
2100	5.3	-8.3	38	078	2.0	069	3.8	2
2400	4.6	-8.6	38	074	1.8	073	3.8	0

DAY 17

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	4.0	-8.8	39	064	1.6	076	3.8	0
0600	3.7	-10.1	36	055	1.5	053	3.8	4
0900	8.2	-9.4	28	056	1.4	056	3.2	54
1200	9.7	-8.5	27	070	1.9	069	3.8	78
1500	10.5	-8.8	25	077	2.2	101	5.7	69
1800	10.0	-8.3	27	053	1.5	043	4.4	44
2100	6.0	-.9	61	042	2.4	021	8.3	2
2400	5.1	*****	66	075	1.6	106	5.7	0

DAY 18

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	.5	-4.9	67	075	1.4	073	6.3	0
0600	1.2	-4.9	57	083	.4	107	5.7	5
0900	6	*****	44	123	.7	258	3.5	33
1200	4.9	-3.4	33	119	.6	144	3.5	76
1500	6.5	-5.3	43	050	1.1	035	3.8	69
1800	4.5	-5.9	47	086	1.0	119	5.1	35
2100	3.1	-5.2	65	075	2.1	086	7.0	2
2400	2.9	*****	**	089	2.1	080	7.6	0

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING May, 1984

DAY 19

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	2.1	.6	96	045	1.8	023	4.4	0
0600	2.7	.6	86	037	2.5	045	5.7	6
0900	6.8	-3.4	51	062	1.6	058	3.8	58
1200	7.7	-7.7	33	089	1.0	046	3.8	29
1500	6.7	-6.4	39	066	1.3	033	4.4	46
1800	6.6	-1.5	56	100	3.6	079	8.9	40
2100	4.5	-1.3	66	072	1.8	073	4.4	1
2400	4.4	-3.1	58	064	1.9	068	4.4	0

DAY 20

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	3.5	*****	59	067	2.1	077	6.3	0
0600	3.8	-4.7	54	064	1.7	073	4.4	3
0900	6.4	-5.4	43	058	1.2	076	3.2	54
1200	10.2	-6.3	31	032	1.2	048	3.8	76
1500	8.8	-6.7	33	049	1.3	060	3.8	63
1800	7.8	-6.5	36	065	1.1	127	3.2	34
2100	5.9	*****	50	065	1.4	076	3.8	1
2400	5.5	-3.3	53	048	1.3	027	3.8	0

DAY 21

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	3.7	-2.4	69	038	1.0	063	3.5	0
0600	2.6	-1.5	74	055	1.0	027	2.5	9
0900	6.0	-3.1	52	091	1.3	067	3.2	70
1200	10.0	*****	41	026	.3	354	3.5	80
1500	8.4	*****	41	034	.6	359	1.9	70
1800	7.4	-2.9	48	058	1.4	083	4.4	15
2100	2.8	-5.1	56	342	.8	245	4.4	2
2400	1.0	*****	**	317	1.4	270	5.1	0

DAY 22

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	0.0	*****	**	285	.7	264	1.9	0
0600	-.1	*****	**	***	****	***	1.9	1
0900	6.4	*****	**	355	.8	346	1.9	53
1200	3.6	*****	**	110	.6	104	3.8	83
1500	4.5	*****	**	335	.6	240	3.2	74
1800	5.6	*****	**	112	2.0	133	5.7	38
2100	3.4	*****	**	056	1.1	032	3.8	1
2400	2.3	*****	**	072	1.2	063	4.4	0

DAY 23

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	3.7	*****	**	057	1.9	064	8.9	0
0600	3.9	*****	**	048	1.5	019	3.8	4
0900	4.6	*****	**	053	1.0	067	2.5	31
1200	8.1	*****	**	353	1.5	341	3.8	58
1500	7.7	*****	**	122	2.6	101	6.3	60
1800	8.1	*****	**	105	1.8	118	5.1	38
2100	3.1	*****	**	345	1.3	003	5.1	2
2400	2.5	*****	**	070	1.8	096	4.4	0

DAY 24

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	.9	*****	**	039	.7	037	2.5	0
0600	.3	*****	**	235	.5	250	3.5	5
0900	1.3	*****	**	284	.9	257	3.3	27
1200	3.6	*****	**	299	.8	293	1.9	48
1500	1.7	*****	**	300	1.0	261	3.2	35
1800	1.0	*****	**	322	1.9	343	3.5	15
2100	1.6	*****	**	007	1.0	317	3.5	1
2400	1.6	*****	**	050	1.1	027	3.8	0

DAY 25

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-.6	*****	**	144	.3	274	3.2	0
0600	-1.4	*****	**	300	1.6	253	4.4	3
0900	-.8	*****	**	328	1.0	017	3.8	14
1200	.3	*****	**	318	1.3	337	3.2	52
1500	.9	*****	**	334	.3	154	7.2	44
1800	.1	*****	**	239	3.8	227	6.3	16
2100	-.6	*****	**	081	.3	056	2.5	2
2400	-1.2	*****	**	060	.9	029	2.5	0

DAY 26

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-3.0	*****	**	***	****	***	3.2	0
0600	-1.9	*****	**	***	****	***	1.9	1
0900	-.6	*****	**	264	.8	353	1.9	30
1200	.1	*****	**	334	1.3	357	3.2	55
1500	1.4	*****	**	077	.3	055	3.8	71
1800	1.2	*****	**	188	1.6	192	3.8	24
2100	-2.2	*****	**	211	.4	323	5.7	2
2400	-2.5	*****	**	115	.5	102	3.2	0

DAY 27

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-3.3	*****	**	274	1.0	253	5.1	0
0600	-1.3	*****	**	267	1.3	253	5.1	11
0900	1.7	*****	**	275	.7	250	3.5	38
1200	3.6	*****	**	296	.8	317	3.8	62
1500	-1.9	*****	**	233	1.4	213	9.5	48
1800	2.7	*****	**	214	1.5	167	8.3	19
2100	-1.7	*****	**	113	.8	343	3.2	3
2400	-2.3	*****	**	071	1.1	043	3.2	0

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DRAFT HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING May, 1984

DAY 28

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-3.1	*****	**	066	.9	054	1.9	0
0600	-2.8	*****	**	062	1.3	041	3.2	4
0900	.3	*****	**	080	.9	143	3.2	57
1200	1.6	*****	**	117	.6	194	2.5	79
1500	6.8	*****	**	029	.9	042	3.8	72
1800	3.0	*****	**	265	.8	278	3.2	39
2100	0.0	*****	**	124	1.1	114	4.4	2
2400	-.7	*****	**	048	1.1	030	3.2	0

DAY 29

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-2.1	*****	**	080	.8	086	2.5	9
0600	-1.6	*****	**	067	1.1	037	2.5	6
0900	.9	*****	**	042	1.0	040	2.5	50
1200	.1	*****	**	347	1.2	287	7.0	53
1500	1.4	*****	**	219	1.4	170	4.4	52
1800	-.8	*****	**	260	1.3	251	10.8	16
2100	-1.7	*****	**	254	1.0	228	2.5	7
2400	-2.4	*****	**	123	1.7	131	3.8	0

DAY 30

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-2.6	*****	**	***	****	***	1.9	0
0600	-1.7	*****	**	***	****	***	2.5	10
0900	.3	*****	**	112	1.1	138	3.2	67
1200	2.7	*****	**	101	.8	173	3.8	79
1500	4.6	*****	**	313	1.2	349	3.2	75
1800	3.1	*****	**	010	1.2	029	3.2	24
2100	.9	*****	**	004	.9	342	3.8	3
2400	.5	*****	**	080	1.9	140	5.1	0

DAY 31

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	.3	*****	**	056	1.3	073	3.8	0
0600	.2	*****	**	045	1.1	030	2.5	7
0900	1.1	*****	**	044	.7	193	3.2	75
1200	3.7	*****	**	252	.5	177	3.8	84
1500	4.7	*****	**	168	1.9	166	5.1	80
1800	3.7	*****	**	316	1.0	323	8.3	29
2100	0.0	*****	**	041	3.4	027	11.4	6
2400	1.7	*****	**	062	1.9	019	8.9	0

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING May, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	1
2	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	2
3	*****	*****	*****	***	****	****	**	****	***	**	*****	****	******	3
4	3.8	-5.2	-.7	071	.8	1.6	08?	5.7	E	44	-12.2	0.0	7852	4
5	4.3	-6.2	-1.0	079	.9	1.2	038	3.8	ENE	51	-12.5	.4	6705	5
6	9.2	-5.4	1.9	067	.9	1.1	107	3.8	ENE	49	-12.7	0.0	6615	6
7	8.7	-4.1	.3	059	1.8	1.9	048	7.0	NE	37	-13.9	0.0	6615	7
8	5.9	-3.2	1.4	053	2.3	2.5	086	8.9	NE	45	-10.2	0.0	6650	8
9	13.2	-.8	6.2	060	.9	1.1	052	3.2	ENE	55	-7.8	0.0	6770	9
10	11.0	-4.0	3.5	079	.5	1.1	110	5.1	NE	64	-6.9	0.0	6895	10
11	.1	-8.0	-4.0	113	.6	1.3	104	5.1	SE	53	-14.1	2.0	5965	11
12	5.0	-9.2	-2.1	064	.9	1.4	051	5.7	ENE	39	-17.2	0.0	6950	12
13	4.1	-2.9	.6	045	1.1	1.3	051	3.8	NNE	47	-10.9	0.0	6815	13
14	8.5	-2.2	3.2	069	1.1	1.3	060	4.4	ENE	41	-10.8	0.0	7075	14
15	10.4	1.5	6.0	078	1.8	2.5	058	7.6	ENE	34	-10.5	0.0	7020	15
16	10.4	2.8	6.6	070	2.0	2.2	060	9.5	ENE	28	-12.1	0.0	7080	16
17	11.8	3.7	7.8	061	1.6	1.8	021	8.3	ENE	34	-8.1	0.0	7075	17
18	8.5	.5	4.5	059	1.0	1.5	020	7.6	NE	57	-4.3	0.0	6575	18
19	10.9	1.8	6.4	069	1.8	2.1	079	8.9	ENE	63	-2.1	1.8	6220	19
20	10.9	3.4	7.2	058	1.4	1.5	077	6.3	ENE	44	-5.0	0.0	7275	20
21	12.6	1.6	6.9	034	.7	1.3	270	5.1	NE	58	-2.5	0.0	7230	21
22	11.2	-.2	5.5	077	.7	1.1	133	5.7	NNE	**	*****	7.8	7200	22
23	11.9	2.3	7.1	064	1.2	1.9	064	8.9	NE	**	*****	0.6	6470	23
24	3.7	0.0	1.9	331	.6	1.1	027	3.8	NW	**	*****	3.0	3960	24
25	7.9	-1.5	3.2	291	.6	1.5	227	6.3	NW	**	*****	.8	5955	25
26	3.7	-3.0	.4	226	.2	1.2	223	5.7	S	**	*****	0.0	6130	26
27	6.3	-3.6	1.4	260	.5	1.3	210	9.5	NNW	**	*****	2.6	6810	27
28	6.8	-3.9	1.6	071	.6	1.2	114	4.4	ENE	**	*****	0.0	7470	28
29	3.6	-2.4	.6	317	.1	1.5	251	10.8	E	**	*****	1.0	3975	29
30	5.7	-3.3	1.2	055	.9	1.3	140	5.1	N	**	*****	.6	7410	30
31	8.4	-.3	4.1	052	.9	2.0	027	11.4	NE	**	*****	0.0	7395	31
MONTH	13.2	-9.2	2.9	061	.9	1.5	027	11.4	ENE	46	-9.6	18.2	.07763	

GUST VEL., AT MAX. GUST MINUS 2 INTERVALS 5.7
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 5.7

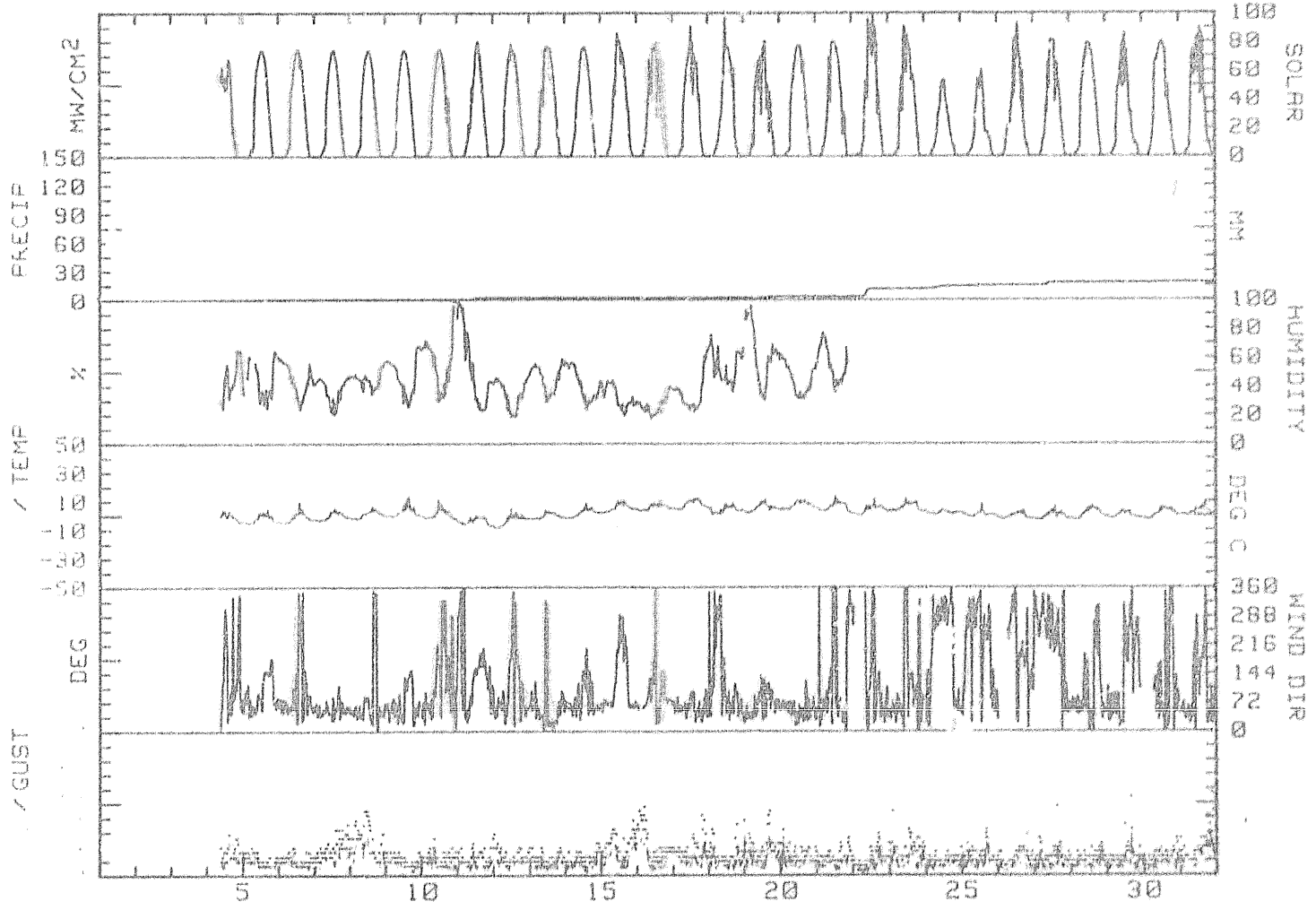
NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

GLACIER WEATHER STATION

May, 1984



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

IND FREQUENCY SUMMARY FOR GLACIER WEATHER STATION
ATA TAKEN DURING May, 1984

	VELOCITY (M/S)							
DIRECTION	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	TOTAL
N	1.17	3.13	0.00	0.00	0.00	0.00	0.00	4.30
NNE	3.12	7.09	.55	0.00	0.00	0.00	0.00	10.75
NE	2.18	15.42	1.09	0.00	0.00	0.00	0.00	18.69
ENE	3.12	17.06	3.12	0.00	0.00	0.00	0.00	23.29
E	1.87	6.00	1.01	0.00	0.00	0.00	0.00	8.89
ESE	1.17	3.43	.70	0.00	0.00	0.00	0.00	5.30
SE	2.49	1.79	.47	0.00	0.00	0.00	0.00	4.75
SSE	1.32	1.87	.31	0.00	0.00	0.00	0.00	3.50
S	.70	2.10	.08	0.00	0.00	0.00	0.00	2.89
SSW	.86	1.17	.08	0.00	0.00	0.00	0.00	2.10
SW	.78	1.01	.39	0.00	0.00	0.00	0.00	2.18
WSW	.39	1.01	.31	0.00	0.00	0.00	0.00	1.71
W	.78	1.48	0.00	0.00	0.00	0.00	0.00	2.26
WNW	1.32	1.32	0.00	0.00	0.00	0.00	0.00	2.6
NW	1.17	1.87	.08	0.00	0.00	0.00	0.00	3.1
NNW	.86	2.80	0.00	0.00	0.00	0.00	0.00	3.65
CALM								4.30
TOTAL	25.99	68.54	8.18	0.00	0.00	0.00	0.00	100.00

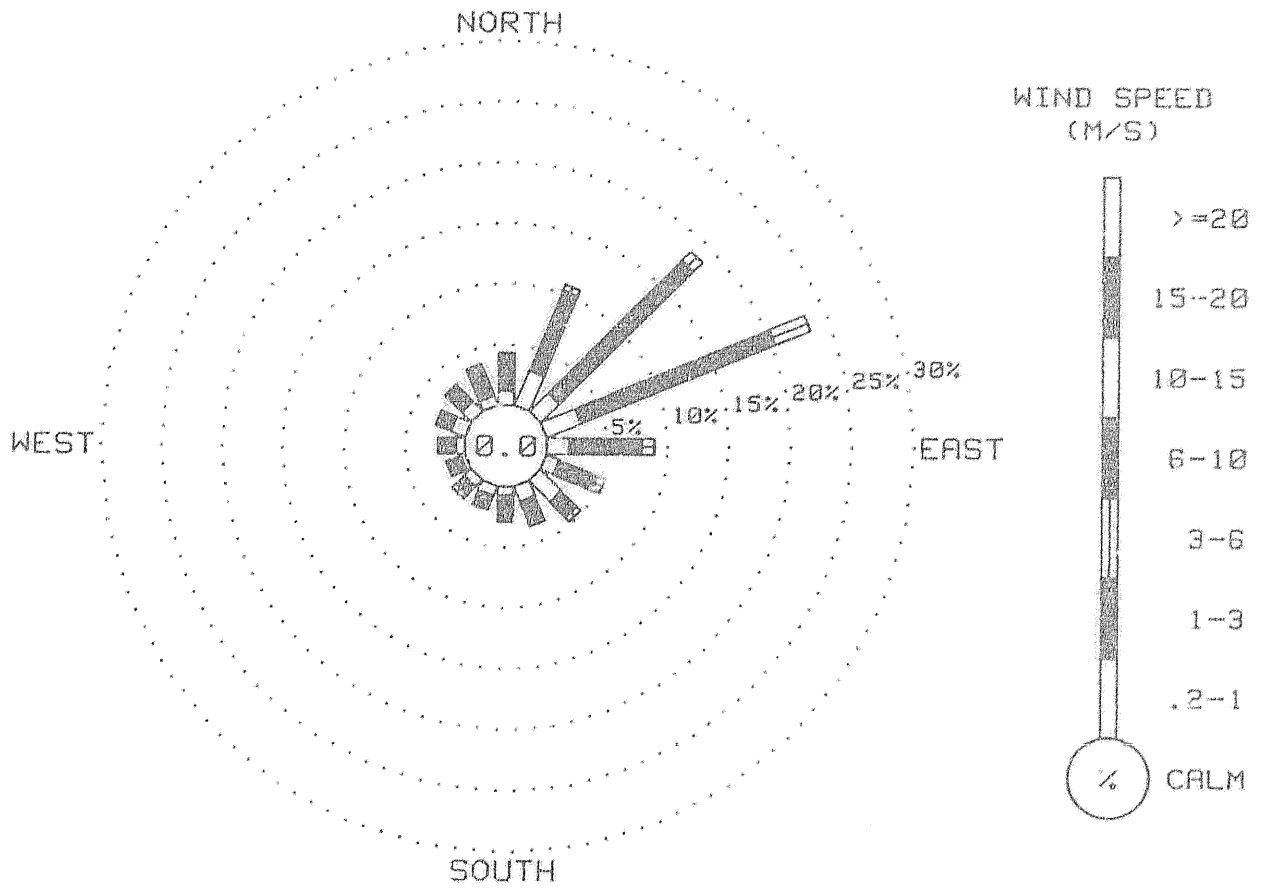
OTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
1344 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
1488 WIND OBSERVATIONS WOULD HAVE BEEN CORRECT FOR 30 MINUTE DATA.
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

GLACIER WEATHER STATION

May, 1984



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SOLAR RADIATION SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING May, 1984

SOLAR RADIATION VALUES MEASURED IN MILLIWATTS PER SQUARE CENTIMETER

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	AVG
1	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
2	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
3	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
4	***	***	***	***	***	***	***	***	57	57	55	52	50	55	67	62	42	18	15	9	2	0	0	0	22
5	0	0	0	0	1	4	5	23	52	62	68	72	74	72	68	60	48	34	20	10	1	0	0	0	26
6	0	0	0	0	1	3	6	22	48	59	67	73	75	68	69	61	48	36	21	10	1	0	0	0	26
7	0	0	0	0	1	4	6	23	48	59	66	72	74	72	67	60	48	34	20	10	2	0	0	0	26
8	0	0	0	0	2	4	6	23	48	59	67	72	74	72	68	60	48	34	21	10	2	0	0	0	26
9	0	0	0	0	2	4	6	28	48	59	67	73	74	73	68	60	49	35	22	10	2	0	0	0	28
10	0	0	0	0	2	4	7	33	48	59	68	73	75	73	69	61	51	39	34	7	2	0	0	0	29
11	0	0	0	0	1	4	9	17	19	36	44	56	71	78	78	65	52	36	22	12	2	0	0	0	25
12	0	0	0	0	2	4	7	35	49	60	69	73	74	74	69	61	50	36	22	12	2	0	0	0	29
13	0	0	0	0	3	5	7	35	43	44	74	75	76	75	68	61	48	35	20	12	2	0	0	0	28
14	0	0	0	0	2	8	15	33	47	55	68	74	76	75	70	62	51	37	23	12	3	1	0	0	29
15	0	0	0	0	2	5	10	21	41	47	72	84	80	78	73	65	53	39	30	11	3	1	0	0	29
16	0	0	0	1	4	9	20	36	60	51	61	75	77	78	45	67	52	38	24	11	3	1	0	0	30
17	0	0	0	0	2	4	6	38	52	62	69	76	72	62	71	63	59	42	22	10	3	0	0	0	29
18	0	0	0	0	3	5	11	18	27	45	63	87	76	76	71	63	53	44	13	6	3	0	0	0	27
19	0	0	0	1	2	8	11	40	57	66	58	49	74	72	64	42	29	43	24	15	2	1	0	0	27
20	0	0	0	1	2	3	5	40	52	63	71	76	78	77	69	63	51	39	23	14	3	1	0	0	30
21	0	0	0	1	3	8	14	24	55	47	77	80	79	76	71	63	50	29	20	22	6	0	0	0	30
22	0	0	0	1	2	1	4	9	42	44	68	80	87	87	80	77	55	43	25	15	3	1	0	0	30
23	0	0	0	1	2	4	6	38	44	58	90	72	82	78	68	56	54	42	29	15	3	1	1	0	31
24	0	0	0	0	2	5	8	13	23	32	42	50	53	46	38	30	23	15	10	8	2	1	0	0	17
25	0	0	0	0	1	3	5	8	13	30	47	53	48	59	48	24	17	17	12	10	3	1	0	0	16
26	0	0	0	1	3	10	18	21	26	40	62	49	75	91	72	54	47	24	12	8	4	1	0	0	26
27	0	0	0	0	2	8	13	20	34	66	57	82	81	81	63	59	52	43	25	14	6	1	0	0	28
28	0	0	0	1	2	4	6	42	55	65	71	79	80	78	74	65	55	43	29	17	6	1	0	0	32
29	0	0	0	1	3	6	9	42	51	57	75	51	69	69	59	34	30	17	11	9	3	1	0	0	25
30	0	0	0	1	4	8	18	45	68	69	75	78	80	79	75	49	45	31	27	14	6	2	0	0	32
31	0	0	0	2	3	5	7	35	72	62	69	82	70	75	62	84	48	34	15	3	7	2	0	0	31

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

OBSERVATION SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING May, 1984

PARAMETER	NUMBER OF USABLE OBSERVATIONS	PERCENT OF TOTAL OBSERVATIONS
TEMPERATURE	1326	89
WIND SPEED	1325	89
WIND DIRECTION	1284	86
PEAK GUST	1325	89
RELATIVE HUMIDITY	632	42
PRECIPITATION	1326	89
SOLAR RADIATION	1326	89
DEW POINT	632	42

THERE ARE 1488 POSSIBLE OBSERVATIONS THIS MONTH FOR EACH PARAMETER. THE DATA RECORDING INTERVAL IS 30 MINUTES.

THE FOLLOWING ADJUSTMENTS HAVE BEEN MADE TO THIS MONTH'S DATA:

1. Solar -1 mW/CM^2

Additional comments on this month's data:

1. Station reinstalled on 5/4. No data prior to this date.

2. RH data suspected to be poor all month due to bad oscillator, but have been published as indicative of true RH. All RH data invalid after 5/23. Many erratic values have been deleted prior to this date also.

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY PRECIPITATION SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING June 1980

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	.4	0.0	0.0	0.0	.2	0.0	0.0	0.0	1.0	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	.2	0.0	0.0	0.0	0.0	0.0	.6	.8	1.0	.4	.6	0.0	0.0	0.0	0.0	.2	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	.2	.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	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	8
9	0.0	.8	.2	0.0	0.0	0.0	0.0	.2	.8	.8	.6	.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	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	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	.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	.4	2.2	0.0	.4	.6	.6	12
13	.6	1.2	2.4	1.4	.6	.4	.2	0.0	0.0	0.0	.2	0.0	.2	.6	.2	.2	0.0	.2	.2	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	.2	.4	2.4	2.0	14
15	3.2	3.6	3.8	4.0	1.8	1.6	0.0	1.2	3.0	3.2	2.6	2.6	2.0	2.0	1.4	1.2	1.6	.6	.8	2.0	2.8	3.8	4.2	4.8	15
16	1.2	1.2	.6	1.2	.8	1.8	1.4	2.2	1.2	1.6	.8	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	16
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	1.2	2.2	0.0	.2	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	1.0	0.0	0.0	.2	.6	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	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	****	****	****	****	****	****	****	****	****	****	****	****	26
27	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	27
28	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	28
29	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	29
30	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	30

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING June, 1984

DAY 01

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	.3	*****	**	080	1.6	080	7.0	0
0600	1.0	*****	**	028	1.8	045	6.3	30
0900	3.4	*****	**	121	2.4	106	7.0	61
1200	4.6	*****	**	136	4.4	151	10.2	81
1500	3.6	*****	**	156	3.6	322	8.3	72
1800	5.3	*****	**	052	.7	261	10.2	39
2100	2.9	*****	**	032	2.2	001	12.1	3
2400	2.8	*****	**	064	1.9	086	7.0	0

DAY 02

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	2.6	*****	**	039	3.0	039	8.3	0
0600	2.2	*****	**	052	2.2	043	5.1	5
0900	5.5	*****	**	101	1.2	093	3.8	63
1200	5.1	*****	**	011	1.3	321	10.8	86
1500	6.1	*****	**	141	3.4	118	7.0	72
1800	7.0	*****	**	153	2.7	131	5.7	40
2100	5.1	*****	**	059	2.9	108	8.9	2
2400	3.8	*****	**	062	2.0	346	8.3	0

DAY 03

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	4.1	*****	**	067	1.6	079	3.8	0
0600	4.3	*****	**	067	1.6	092	3.8	10
0900	4.4	*****	**	073	2.0	040	5.1	40
1200	4.8	*****	**	009	2.3	329	8.3	57
1500	2.8	*****	**	121	2.7	101	7.6	21
1800	6.0	*****	**	108	2.4	128	6.3	32
2100	2.8	*****	**	067	2.5	128	13.3	6
2400	3.9	*****	**	064	1.7	071	7.4	0

DAY 04

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	3.3	*****	**	034	2.6	032	6.3	0
0600	4.4	*****	**	027	1.6	085	3.8	18
0900	4.6	*****	**	033	3.2	040	12.1	28
1200	5.4	*****	**	358	3.4	334	9.5	52
1500	4.7	*****	**	014	4.0	346	10.8	61
1800	5.4	*****	**	008	4.2	350	10.8	30
2100	5.2	*****	**	095	2.1	010	10.2	5
2400	4.3	*****	**	069	1.7	078	3.8	0

DAY 05

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	4.4	*****	**	067	1.9	057	5.1	0
0600	3.7	*****	**	061	1.5	049	3.8	4
0900	5.9	*****	**	061	1.4	048	4.4	58
1200	7.9	*****	**	112	1.1	125	5.7	77
1500	9.9	*****	**	147	2.6	186	5.1	60
1800	8.9	*****	**	191	1.2	150	4.4	40
2100	7.7	*****	**	108	1.5	158	4.4	2
2400	7.7	*****	**	075	1.8	096	5.1	0

DAY 06

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	5.3	*****	**	070	2.7	057	7.0	0
0600	3.5	*****	**	072	.5	200	6.3	5
0900	1.0	*****	**	249	2.0	239	7.0	14
1200	2.6	*****	**	300	.8	278	4.4	42
1500	3.8	*****	**	314	1.0	191	3.2	33
1800	2.6	*****	**	198	1.5	236	3.8	19
2100	.9	*****	**	125	2.3	193	7.6	2
2400	-.4	*****	**	258	1.8	249	6.3	0

DAY 07

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	1.7	*****	**	051	.9	026	3.8	0
0600	2.0	*****	**	062	1.1	039	2.5	5
0900	3.8	*****	**	034	1.0	071	2.5	60
1200	8.2	*****	**	316	.7	291	2.5	88
1500	5.8	*****	**	089	1.1	127	4.4	34
1800	7.7	*****	**	027	.2	114	4.4	43
2100	4.8	*****	**	056	.6	058	2.5	3
2400	3.6	*****	**	006	1.2	346	3.8	0

DAY 08

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	1.9	*****	**	023	1.4	347	3.2	0
0600	1.5	*****	**	047	1.1	095	2.5	5
0900	3.5	*****	**	108	.4	163	2.5	58
1200	7.0	*****	**	101	.7	181	3.8	79
1500	11.7	*****	**	004	.8	275	3.2	72
1800	10.5	*****	**	188	.9	168	5.1	43
2100	7.2	*****	**	008	1.1	006	4.4	5
2400	5.3	*****	**	035	1.0	056	3.8	0

DAY 09

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	4.9	*****	**	077	2.2	085	7.0	0
0600	3.6	*****	**	030	.8	065	3.5	6
0900	3.9	*****	**	098	1.2	044	5.1	14
1200	5.8	*****	**	096	1.1	150	3.8	58
1500	7.8	*****	**	168	.6	100	5.1	24
1800	3.5	*****	**	267	1.5	249	5.1	25
2100	3.9	*****	**	357	.3	062	4.4	3
2400	3.3	*****	**	033	.8	051	2.5	0

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THRIFT HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING June, 1984

DAY 10

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	2.6	*****	**	318	.5	346	1.9	0
0600	1.9	*****	**	054	.5	055	3.8	7
0900	3.9	*****	**	065	.9	072	3.2	16
1200	7.0	*****	**	039	.9	038	3.8	81
1500	10.2	*****	**	177	1.2	161	4.4	80
1800	8.1	*****	**	233	1.5	210	4.4	41
2100	7.7	*****	**	291	.6	222	3.2	6
2400	5.9	*****	**	071	1.0	085	2.5	0

DAY 11

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	5.3	*****	33	068	1.0	054	3.2	0
0600	6.2	*****	28	054	1.2	043	3.8	12
0900	9.4	*****	26	129	.8	122	4.4	51
1200	8.6	-11.5	23	110	1.4	072	6.3	82
1500	11.0	-13.2	17	102	2.4	133	7.0	81
1800	8.8	-10.3	25	297	1.5	300	5.1	15
2100	7.7	-2.4	49	035	1.6	029	5.7	10
2400	7.1	-.1	61	042	1.5	061	4.4	0

DAY 12

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	5.6	-5.2	46	045	1.5	025	5.1	0
0600	6.1	-10.3	30	036	2.6	038	5.1	6
0900	5.7	-3.7	51	095	1.5	064	3.8	25
1200	8.3	*****	**	110	2.3	105	5.1	51
1500	8.2	-.0	56	142	2.3	164	5.1	48
1800	7.1	*****	**	161	1.8	173	4.4	10
2100	5.8	-2.8	54	044	1.5	000	3.8	6
2400	4.6	*****	83	074	.8	085	2.5	0

DAY 13

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	4.0	.4	77	071	1.2	052	3.2	0
0600	3.9	*****	81	054	1.0	048	3.2	17
0900	3.9	1.3	83	235	.8	178	1.9	30
1200	3.8	1.5	85	271	.9	284	1.9	21
1500	3.2	.6	83	257	.7	250	3.2	17
1800	4.6	-4.2	53	010	.8	312	3.8	15
2100	5.6	*****	**	055	1.4	015	4.4	6
2400	3.6	*****	**	037	1.0	346	3.8	0

DAY 14

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	3.4	*****	**	078	1.0	049	3.2	0
0600	4.1	*****	**	056	1.6	026	3.8	7
0900	7.7	1.8	66	089	1.1	047	2.5	90
1200	6.7	*****	**	130	2.2	147	6.3	52
1500	9.8	-2.6	42	170	2.6	147	5.7	74
1800	10.0	-3.1	40	166	3.2	154	5.7	47
2100	6.5	*****	**	070	.3	059	8.3	6
2400	3.6	-.0	77	023	2.1	004	5.7	0

DAY 15

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	2.9	.6	85	033	1.7	018	5.1	0
0600	1.5	-.4	87	046	1.0	063	3.8	4
0900	1.8	*****	73	354	.8	342	3.2	20
1200	3.8	*****	58	357	1.2	352	3.2	47
1500	4.3	*****	**	048	.7	170	3.2	31
1800	3.0	.1	81	109	1.0	095	3.2	23
2100	2.4	.9	90	098	.7	058	3.2	1
2400	2.0	1.4	96	082	1.2	073	4.4	0

DAY 16

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	2.4	1.7	95	092	1.3	083	3.8	0
0600	1.9	*****	91	025	1.0	089	2.5	7
0900	1.7	*****	86	337	.4	002	1.9	15
1200	2.9	-2.6	67	232	.9	231	3.2	49
1500	3.8	-2.6	63	205	1.7	203	3.2	53
1800	3.7	-.1	76	197	2.1	193	3.8	24
2100	3.2	*****	88	223	.7	202	3.2	3
2400	3.8	*****	96	148	.7	167	1.9	0

DAY 17

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	2.8	*****	91	083	.8	118	2.5	0
0600	3.2	*****	92	101	.7	046	1.9	7
0900	5.1	2.1	81	153	1.1	156	2.5	33
1200	6.5	*****	**	213	1.5	204	4.4	73
1500	8.7	.9	58	221	2.0	198	4.4	80
1800	9.3	-3.7	40	164	3.4	145	6.3	48
2100	7.3	*****	41	218	.9	180	3.8	3
2400	6.2	-4.3	47	062	1.1	074	3.8	0

DAY 18

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	5.1	-4.0	52	062	1.4	062	3.8	8
0600	6.3	*****	43	057	1.2	051	3.5	4
0900	9.0	-4.7	38	089	.8	109	5.2	57
1200	10.7	-4.7	34	330	1.4	294	5.7	77
1500	12.7	-10.4	19	147	2.6	147	8.3	72
1800	13.8	*****	20	242	1.4	238	7.0	42
2100	9.6	-4.5	37	153	1.0	174	7.0	4
2400	9.4	-1.7	46	064	1.8	051	3.8	0

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THRFE HOUR SUMMARY FOR GLACIFR WEATHFR STATION
DATA TAKEN DURING June, 1984

DAY 19

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	8.9	-1.3	49	051	1.3	091	4.4	0
0600	8.5	-1.6	49	058	1.3	051	3.8	4
0900	10.5	-3.6	40	097	.7	042	3.2	58
1200	13.6	-.9	37	111	.6	019	5.7	81
1500	13.0	-4.3	30	179	2.6	140	7.0	68
1800	12.5	-5.2	29	217	1.9	168	5.1	33
2100	11.2	-3.7	38	042	1.6	080	7.6	5
2400	10.3	-3.2	39	065	1.4	094	3.8	0

DAY 20

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	9.1	-3.6	41	059	1.5	076	4.4	0
0600	9.5	-3.5	40	073	1.3	105	3.8	3
0900	12.1	-7.4	25	069	.6	068	3.8	57
1200	13.8	-6.0	25	235	.9	185	4.4	77
1500	14.0	-8.7	20	200	2.4	229	5.7	76
1800	12.3	-4.1	32	232	2.0	222	7.6	42
2100	10.7	-5.5	32	205	.9	208	3.2	9
2400	9.7	*****	40	050	1.2	076	3.2	0

DAY 21

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	9.4	-3.0	42	061	1.1	069	3.5	0
0600	8.3	-2.4	47	048	1.3	067	3.5	4
0900	10.9	*****	35	075	.6	108	2.5	56
1200	13.7	-5.1	27	204	1.8	184	4.4	77
1500	14.3	-7.2	22	156	2.5	159	5.7	75
1800	14.2	-8.5	20	134	1.4	168	5.1	41
2100	12.2	-7.4	25	065	1.6	096	5.1	3
2400	9.8	3.8	66	075	2.0	036	5.7	0

DAY 22

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	10.3	2.4	58	069	1.1	075	4.4	0
0600	10.2	1.8	56	064	1.0	064	2.5	6
0900	12.7	-1.4	38	125	.7	163	3.8	57
1200	12.7	-2.9	34	185	1.6	134	5.7	39
1500	8.9	4.9	76	110	2.9	081	10.8	7
1800	10.3	5.5	72	063	3.7	064	7.6	17
2100	11.4	-2.9	37	080	1.6	093	3.8	10
2400	10.1	.1	50	056	1.8	027	3.8	0

DAY 23

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	8.5	3.6	71	052	1.4	065	3.2	0
0600	9.3	5.3	76	080	2.3	093	4.4	4
0900	9.3	4.4	71	017	.7	002	3.8	34
1200	11.9	.9	47	204	1.4	168	3.8	62
1500	10.4	3.0	60	232	.7	231	7.6	73
1800	10.2	6.0	75	202	1.9	198	6.3	21
2100	7.7	*****	**	195	.3	227	8.3	6
2400	6.7	1.9	71	081	1.6	093	5.1	0

DAY 24

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	6.1	-1.1	60	050	1.3	043	3.2	0
0600	6.8	-2.4	52	036	.8	043	3.5	3
0900	8.5	*****	**	114	1.0	185	3.2	57
1200	10.3	2.9	60	186	2.1	180	4.4	78
1500	13.2	-3.3	32	143	4.4	141	7.6	93
1800	12.8	-4.5	30	133	4.4	140	7.6	47
2100	10.7	-3.9	36	102	3.0	127	5.7	3
2400	8.8	-2.2	46	078	3.2	082	5.7	0

DAY 25

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	7.6	-1.1	54	082	1.8	085	3.8	0
0600	7.3	-1.1	55	066	1.7	071	4.4	3
0900	9.1	-2.0	46	115	.8	171	3.8	57
1200	10.1	-2.7	41	198	1.8	176	4.4	78
1500	13.3	-3.9	31	193	2.7	239	7.6	72
1800	13.3	-7.5	23	176	3.2	169	8.9	42
2100	12.4	*****	26	172	1.4	176	4.4	3
2400	11.4	-4.0	34	055	3.8	052	8.9	0

DAY 26

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	12.0	-3.5	34	061	2.1	057	5.1	0
0600	12.1	-3.4	34	049	2.8	045	5.7	8
0900	11.3	-3.0	37	082	2.4	093	7.6	27
1200	12.2	-1.8	38	139	1.7	139	9.5	93
1500	*****	*****	**	***	****	278	10.2	***
1800	*****	*****	**	***	****	***	****	***
2100	*****	*****	**	***	****	***	****	***
2400	*****	*****	**	***	****	***	****	***

DAY 27

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

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

1 HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING June, 1984

DAY 28									DAY 29									DAY 30								
HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW	HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW	HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD 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	*****	*****	**	***	****	***	****	***

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING June, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	6.8	.3	3.6	102	1.6	2.8	001	12.1	SE	**	*****	0.0	8065	1
2	7.4	1.7	4.6	081	1.6	2.7	321	10.8	NE	**	*****	0.0	7965	2
3	9.9	1.1	5.5	075	1.8	2.5	138	13.3	ENE	**	*****	1.6	5425	3
4	6.8	2.6	4.7	030	2.5	3.2	040	12.1	NE	**	*****	0.0	6160	4
5	10.1	3.6	6.9	099	1.2	2.0	125	5.7	ENE	**	*****	0.0	7645	5
6	6.9	-.4	3.2	189	.4	2.1	193	7.6	W	**	*****	3.8	4335	6
7	8.5	-.1	4.2	041	.7	1.2	127	4.4	N	**	*****	1.0	7495	7
8	11.7	1.5	6.6	041	.6	1.4	168	5.1	NE	**	*****	0.0	7930	8
9	8.4	3.1	5.8	075	.5	1.5	085	7.0	NE	**	*****	3.6	5120	9
10	10.2	1.9	6.1	073	.1	1.2	161	4.4	E	**	*****	0.0	7580	10
11	11.4	5.0	8.2	068	.9	1.7	133	7.0	NE	31	-0.8	0.0	7085	11
12	9.4	4.6	7.0	090	1.2	2.0	025	5.1	ENE	48	-4.0	4.4	4985	12
13	5.8	2.8	4.3	030	.4	1.2	015	4.4	NE	75	-.3	8.6	2015	13
14	10.4	2.6	6.5	117	1.1	2.1	059	8.3	S	58	-.9	5.0	7100	14
15	6.8	.7	3.8	047	.8	1.2	018	5.1	N	83	-.5	57.8	3480	15
16	5.1	1.6	3.4	188	.5	1.2	083	3.8	SSW	77	-.8	18.2	4830	16
17	10.7	2.5	6.6	171	.8	1.5	145	6.3	SSW	64	-.6	0.0	7425	17
18	13.8	4.8	9.3	100	.5	1.7	174	7.0	ENE	35	-6.0	0.0	7895	18
19	13.6	8.3	11.0	104	.6	2.0	080	7.6	NE	39	-2.8	0.0	7755	19
20	14.4	8.6	11.5	169	.3	1.7	222	7.0	NE	33	-5.0	0.0	7525	20
21	13.2	7.9	11.6	106	.9	1.8	159	5.7	ENE	33	-5.1	0.0	7765	21
22	15.3	8.9	12.1	085	1.4	2.1	081	10.8	ENE	50	.5	3.6	5110	22
23	11.9	5.7	8.8	114	.5	2.0	227	8.3	ENE	70	3.6	1.8	5220	23
24	13.2	5.9	9.6	118	1.9	2.6	141	7.6	SE	45	-2.3	0.0	7115	24
25	13.8	7.0	10.4	134	1.1	2.4	169	8.9	S	40	-3.1	0.0	7845	25
26	13.6	10.7	12.2	073	1.7	2.7	278	10.2	NE	36	-2.8	0.0	6403	26
27	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	27
28	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	28
29	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	29
30	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	30
MONTH	15.3	-.4	7.2	089	.9	1.9	188	13.3	ENE	49	-2.4	165.4	168663	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 3.8
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 5.1
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 9.5
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 6.3

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.

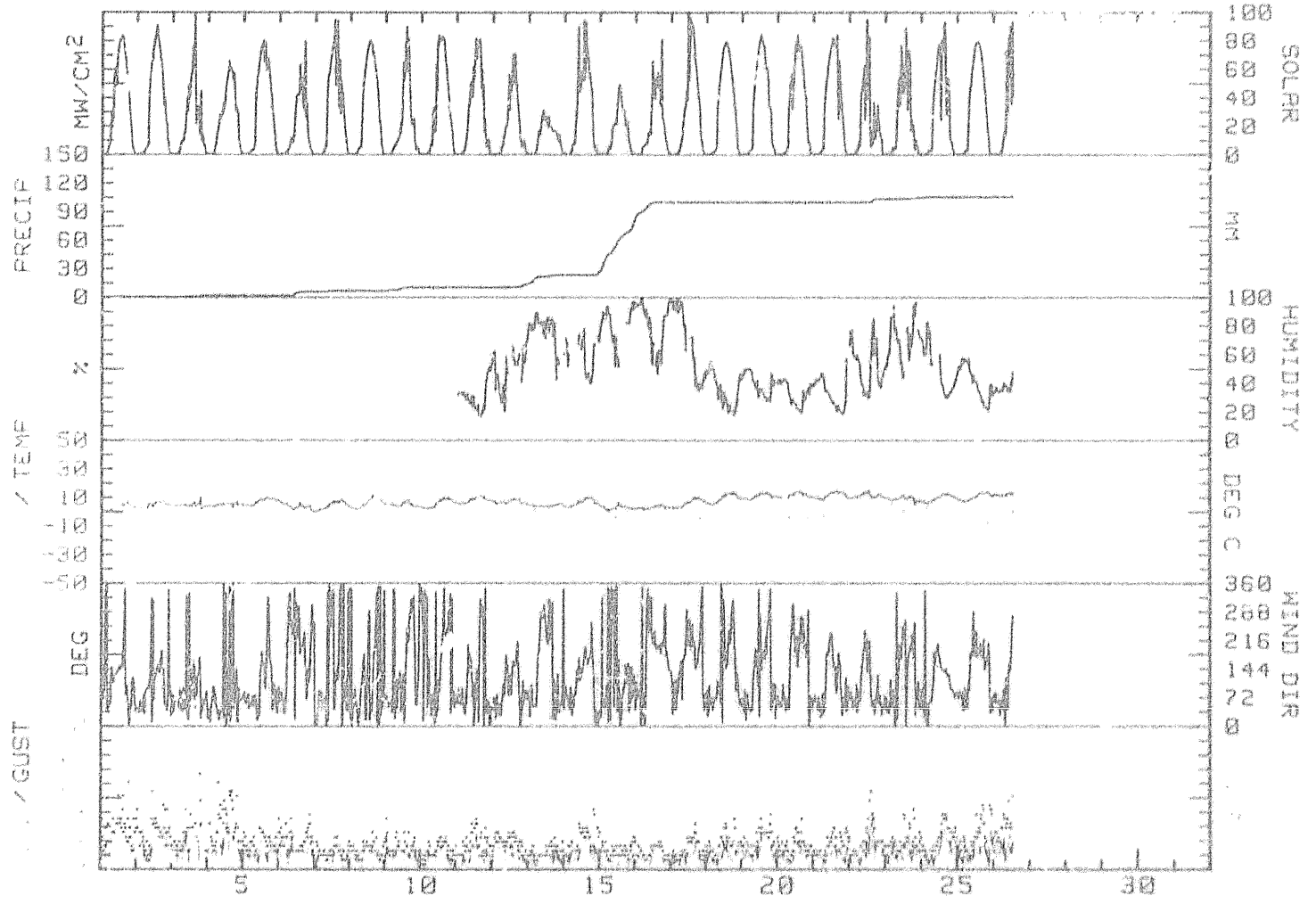
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

GLACIER WEATHER STATION

June, 1984



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING June, 1984

	VELOCITY (M/S)							
DIRECTION	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	TOTAL
N	1.22	3.18	.73	.08	0.00	0.00	0.00	5.22
NNE	1.22	4.82	.98	.08	0.00	0.00	0.00	7.10
NE	1.71	11.59	1.71	.08	0.00	0.00	0.00	15.10
ENE	1.71	12.33	1.14	.08	0.00	0.00	0.00	15.27
E	2.37	6.94	1.71	0.00	0.00	0.00	0.00	11.02
ESE	1.22	3.92	1.06	0.00	0.00	0.00	0.00	6.20
SE	.65	2.53	3.35	0.00	0.00	0.00	0.00	6.53
SSE	.24	3.18	2.53	0.00	0.00	0.00	0.00	5.96
S	.57	4.33	1.22	0.00	0.00	0.00	0.00	6.12
SSW	.16	5.31	.16	0.00	0.00	0.00	0.00	5.63
SW	.16	2.29	.49	0.00	0.00	0.00	0.00	2.94
WSW	.24	1.80	.08	0.00	0.00	0.00	0.00	2.12
W	.41	1.63	.33	0.00	0.00	0.00	0.00	2.37
WNW	.65	1.31	.08	0.00	0.00	0.00	0.00	2.04
NW	.98	1.06	0.00	.08	0.00	0.00	0.00	2.12
NNW	1.63	2.04	.49	0.00	0.00	0.00	0.00	4.16
CALM								.08
TOTAL	15.18	68.34	16.08	.41	0.00	0.00	0.00	100.00

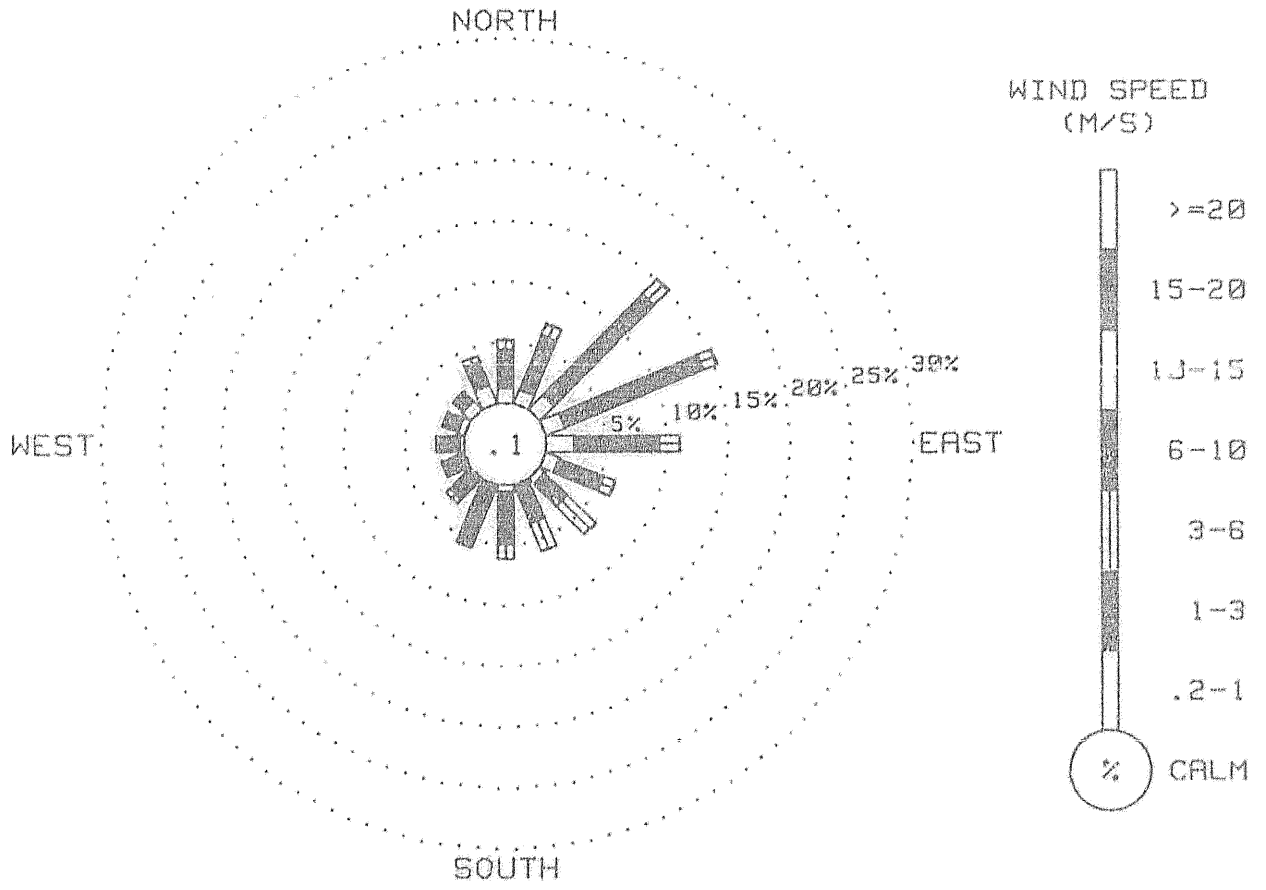
NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
1225 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
1440 WIND OBSERVATIONS WOULD HAVE BEEN CORRECT FOR 30 MINUTE DATA.
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

GLACIER WEATHER STATION

June, 1984



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SOLAR RADIATION SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING June, 1984

SOLAR RADIATION VALUES MEASURED IN MILLIWATTS PER SQUARE CENTIMETER

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	AVG
1	0	0	0	2	6	15	26	40	60	56	74	80	80	83	75	66	56	43	29	15	4	2	0	0	34
2	0	0	0	1	3	5	7	47	60	67	78	83	90	82	74	65	52	37	27	16	6	1	0	0	33
3	0	0	0	2	6	10	12	17	34	40	41	55	67	67	60	35	30	23	27	13	7	2	0	0	23
4	0	0	0	3	9	17	25	25	29	34	40	51	58	64	60	55	55	34	33	26	7	2	0	0	26
5	0	0	0	2	3	4	8	43	56	65	73	77	73	79	60	67	58	44	30	19	7	2	0	0	32
6	0	0	0	1	3	5	10	10	12	29	42	42	54	52	44	33	53	28	11	6	3	1	0	0	18
7	0	0	0	1	2	4	12	50	58	66	74	79	72	82	64	50	40	44	30	17	7	2	0	0	31
8	0	0	0	2	4	5	15	45	56	65	73	78	80	78	71	66	57	47	29	21	6	1	0	0	33
9	0	0	0	2	5	7	9	11	14	21	47	55	75	74	78	43	22	23	16	5	5	3	0	0	21
10	0	0	0	1	2	7	18	24	16	54	79	83	80	82	81	66	57	45	31	22	11	2	0	0	32
11	0	0	0	2	4	11	22	35	50	43	58	73	71	79	79	58	50	33	20	8	9	1	0	0	29
12	0	0	0	1	2	6	13	19	23	48	41	48	69	58	60	44	30	15	7	8	8	2	0	0	21
13	0	0	0	1	4	13	14	21	29	28	26	23	23	21	19	17	16	16	12	12	8	3	1	0	13
14	0	0	0	2	5	7	15	31	73	45	56	55	73	76	76	63	55	47	22	6	5	1	0	0	30
15	0	0	0	0	2	5	6	13	21	22	25	40	46	44	33	30	23	23	12	5	2	1	0	0	15
16	0	0	0	3	6	7	7	12	14	22	55	46	47	50	56	43	59	25	18	11	5	2	0	0	20
17	0	0	0	1	3	6	12	25	33	43	71	62	90	92	85	68	57	45	33	12	6	2	0	0	31
18	0	0	0	1	2	4	19	43	54	63	73	77	79	78	74	66	57	45	33	19	4	2	0	0	33
19	0	0	0	1	3	4	19	44	55	65	73	80	84	79	72	61	58	34	31	8	6	2	0	0	32
20	0	0	0	1	2	3	18	43	55	37	57	77	82	75	77	69	57	45	33	14	8	2	0	0	31
21	0	0	0	1	2	4	18	43	54	63	72	77	81	77	75	61	46	48	32	20	5	2	0	0	32
22	0	0	0	1	3	7	10	44	54	44	58	67	81	10	10	26	16	19	31	19	12	2	0	0	21
23	0	0	0	1	5	4	8	41	44	61	61	53	69	45	55	68	21	19	8	7	6	1	1	0	24
24	0	0	0	2	3	3	17	43	54	64	76	78	53	80	83	55	28	51	13	9	3	1	0	0	30
25	0	0	0	1	2	3	15	43	53	64	72	78	79	78	74	66	58	46	31	18	7	1	0	0	33
26	0	0	0	1	2	5	13	16	50	82	83	64	***	***	***	***	***	***	***	***	***	***	***	***	15
27	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
28	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
29	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
30	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

OBSERVATION SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING June, 1984

PARAMETER	NUMBER OF USABLE OBSERVATIONS	PERCENT OF TOTAL OBSERVATIONS
TEMPERATURE	1225	85
WIND SPEED	1225	85
WIND DIRECTION	1225	85
PEAK GUST	1225	85
RELATIVE HUMIDITY	564	39
PRECIPITATION	1225	85
SOLAR RADIATION	1225	85
DEW POINT	564	39

THERE ARE 1440 POSSIBLE OBSERVATIONS THIS MONTH FOR EACH PARAMETER. THE DATA RECORDING INTERVAL IS 30 MINUTES.

THE FOLLOWING ADJUSTMENTS HAVE BEEN MADE TO THIS MONTH'S DATA:

1. RH -25 RH Points

2. Solar -1 mW/CM^2

Additional comments on this month's data:

1. No data after 6/26 due to weather wizard malfunction.

2. Recorded RH data invalid 6/1 - 6/11. RH data suspected to be poor 6/11 - 6/26, but have been published as indicative of true RH. Many eratic values have been deleted during this period.

No Data for July
(See INTERPRETATION OF DATA)

No Data fcr August
(See INTERPRETATION OF DATA)

R A M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING September, 1984

PRECIPITATION VALUES ARE IN MILLIMETERS

DATE	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	
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	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	14
15	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	15
16	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	16
17	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	17
18	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	18
19	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	19
20	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	20
21	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	21
22	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	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	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	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	****	****	30

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING September, 1984

DAY 01

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

DAY 02

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

DAY 03

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

DAY 04

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

DAY 05

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

DAY 06

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

DAY 07

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

DAY 08

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

DAY 09

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

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING September, 1984

DAY 10

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

DAY 11

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

DAY 12

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

DAY 13

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

DAY 14

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

DAY 15

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

DAY 16

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

DAY 17

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

DAY 18

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

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING September, 1984

DAY 19

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

DAY 20

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

DAY 21

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

DAY 22

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	*****	*****	**	***	****	***	****	***
0600	*****	*****	**	***	****	***	****	***
0900	*****	*****	**	***	****	***	****	***
1200	*****	*****	**	***	****	***	****	***
1500	*****	*****	**	***	****	***	****	***
1800	5.9	-11.8	27	059	1.1	039	4.4	14
2100	2.8	-14.0	28	071	1.6	052	4.4	0
2400	2.7	-13.3	30	056	1.7	051	4.4	0

DAY 23

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	2.9	-16.3	23	075	1.5	059	3.8	0
0600	2.2	-15.9	25	074	1.2	059	2.5	0
0900	1.5	-16.5	25	065	1.3	056	2.5	2
1200	4.2	-14.7	24	081	1.4	105	3.2	42
1500	6.9	*****	19	114	.9	150	3.8	43
1800	3.3	*****	28	131	.8	136	3.8	4
2100	3.3	-14.0	27	064	1.2	071	3.2	0
2400	4.2	-14.2	25	081	1.3	081	2.5	0

DAY 24

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	3.7	-14.6	25	064	1.3	048	3.2	0
0600	3.3	-18.2	19	074	1.9	057	3.4	0
0900	3.4	-17.5	20	073	1.6	050	3.8	3
1200	3.4	-14.0	27	081	1.2	124	5.1	18
1500	2.4	-7.8	47	088	1.1	134	4.4	38
1800	2.3	-5.3	57	047	1.6	036	3.2	8
2100	1.0	-3.5	72	078	1.5	149	3.2	9
2400	1.4	-4.0	67	071	1.9	049	3.8	0

DAY 25

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	2.4	-4.3	61	074	1.2	076	3.2	0
0600	3.2	*****	61	082	1.3	075	3.8	0
0900	-.2	-3.4	79	334	.6	290	4.4	2
1200	2.6	-3.9	62	069	1.1	273	3.2	21
1500	2.7	*****	55	067	.8	027	3.8	25
1800	2.9	*****	58	076	.6	124	2.5	10
2100	1.1	*****	73	071	.7	131	2.5	0
2400	.7	-3.7	72	051	1.7	032	5.1	0

DAY 26

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	.3	-3.9	73	058	1.6	039	3.8	0
0600	.7	-3.7	72	044	1.4	034	3.8	0
0900	1.3	-4.5	65	074	1.3	100	3.2	5
1200	.9	-4.5	67	046	1.2	336	3.8	17
1500	2.7	-5.7	54	094	.8	155	2.5	29
1800	2.1	-4.8	60	113	.8	048	3.2	6
2100	1.9	*****	63	078	1.4	063	3.2	0
2400	1.2	-3.8	69	050	.8	019	3.2	0

DAY 27

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	1.3	*****	69	066	1.2	050	3.8	0
0600	1.8	-3.4	68	071	.9	043	3.2	6
0900	1.8	*****	64	058	1.3	070	3.2	3
1200	3.3	-5.4	53	086	.9	041	3.8	32
1500	4.3	*****	44	075	.9	043	3.2	24
1800	2.8	-7.8	44	122	1.0	150	3.8	5
2100	1.5	-8.4	48	063	2.1	062	5.1	0
2400	1.6	-8.3	48	063	1.5	058	4.4	0

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING September, 1984

	DAY 28									DAY 29									DAY 30								
HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW	HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW	HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	1.2	-8.1	50	069	1.6	056	3.8	0	0300	4.1	-1.0	69	065	1.3	038	3.2	0	0300	4.3	-3.5	57	076	3.3	119	8.9	0
0600	1.8	-9.3	44	068	1.3	063	3.2	0	0600	3.1	-.2	79	055	1.4	053	6.3	0	0600	3.2	-2.9	64	084	3.9	074	7.6	0
0900	1.6	-8.9	46	069	1.6	062	5.1	2	0900	5.3	.3	70	074	3.5	071	9.5	1	0900	.3	-.4	95	075	1.6	094	5.1	2
1200	4.5	-8.7	38	082	1.6	134	4.4	36	1200	6.7	-.3	61	071	3.3	090	8.3	20	1200	2.8	*****	77	325	.4	276	3.8	35
1500	4.9	-9.1	36	098	1.8	127	5.1	22	1500	6.7	-.7	59	080	3.6	106	8.3	16	1500	4.0	-4.5	50	095	2.3	092	8.3	16
1800	5.4	-10.5	31	047	1.6	038	4.4	6	1800	5.1	.1	70	082	1.8	116	6.3	3	1800	3.9	-5.6	50	091	4.1	117	8.9	6
2100	4.5	-9.8	35	062	1.2	000	3.2	0	2100	5.9	*****	65	071	1.8	165	5.1	0	2100	3.4	-5.3	53	085	3.0	092	7.6	0
2400	3.6	*****	53	068	1.4	046	4.4	0	2400	4.9	-1.5	63	120	1.7	175	9.5	0	2400	*****	*****	**	***	****	069	8.1	***

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING September 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C **	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
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	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	14
15	*****	*****	*****	***	***	****	***	****	***	**	*****	****	******	15
16	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	16
17	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	17
18	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	18
19	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	19
20	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	20
21	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	21
22	7.4	1.9	4.7	063	1.6	1.7	039	4.4	NE	30	-12.8	0.0	592	22
23	8.5	1.4	5.0	082	1.1	1.3	059	3.8	ENE	24	-15.4	0.0	2829	23
24	4.3	.8	2.6	072	1.5	1.7	124	5.1	ENE	39	-11.4	0.0	1574	24
25	5.1	-.4	2.4	064	.9	1.3	032	5.1	NE	67	-4.0	0.0	1296	25
26	5.1	-.3	2.4	066	1.1	1.4	039	3.8	ENE	65	-4.4	0.0	2087	26
27	5.8	.4	3.1	069	1.3	1.4	062	5.1	ENE	55	-6.1	0.0	1662	27
28	7.7	.9	4.3	071	1.5	1.7	062	5.1	ENE	41	-9.0	0.0	2088	28
29	7.7	2.2	5.0	077	2.3	2.6	071	9.5	ENE	67	-.5	0.0	1151	29
30	5.2	.3	2.8	083	2.5	3.0	119	8	E	65	-3.0	0.0	1419	30
MONTH	8.5	-.4	3.6	074	1.5	1.8	071	9.5	ENE	51	-7.4	0.0	15219	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 5.7
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 9.3
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 8.5
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 6.6

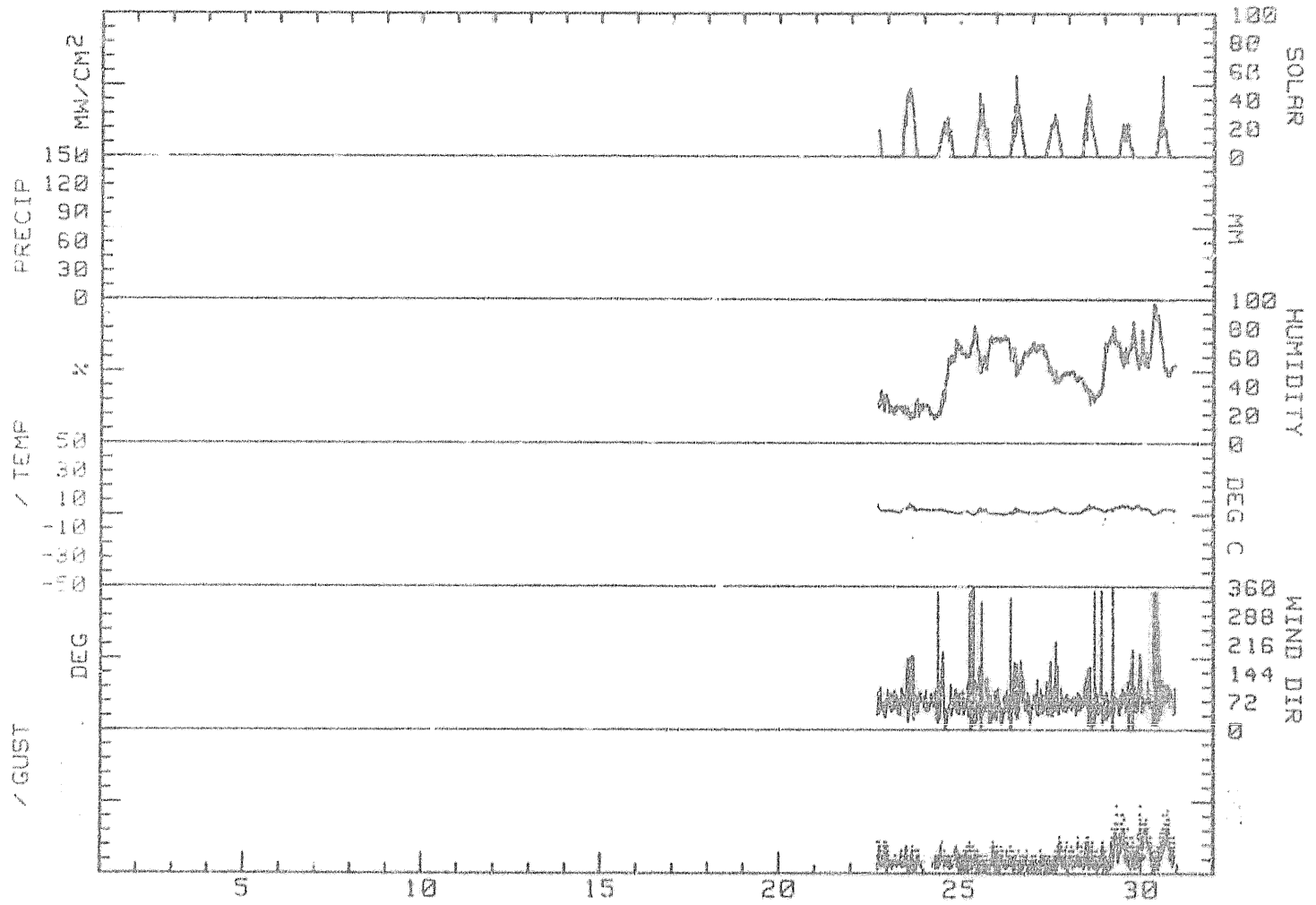
** NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.
*** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

GLACIER WEATHER STATION

September, 1984



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING September, 1984

	VELOCITY (M/S)							
DIRECTION	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	TOTAL
N	.21	1.10	.09	0.00	0.00	0.00	0.00	1.40
NNE	.51	4.36	.38	0.00	0.00	0.00	0.00	5.25
NE	3.09	15.50	1.31	0.00	0.00	0.00	0.00	19.90
ENE	8.76	23.12	4.70	.08	0.00	0.00	0.00	36.66
E	4.66	12.36	3.98	0.00	0.00	0.00	0.00	21.00
ESE	1.40	4.19	1.61	.04	0.00	0.00	0.00	7.24
SE	.04	2.92	.72	0.00	0.00	0.00	0.00	3.68
SSE	.04	1.52	.21	0.00	0.00	0.00	0.00	1.78
S	0.00	.80	.13	0.00	0.00	0.00	0.00	.93
SSW	0.00	.13	.04	0.00	0.00	0.00	0.00	.17
SW	0.00	.04	0.00	0.00	0.00	0.00	0.00	.04
WSW	0.00	.17	0.00	0.00	0.00	0.00	0.00	.17
W	0.00	.47	.04	0.00	0.00	0.00	0.00	.51
WNW	0.00	.25	0.00	0.00	0.00	0.00	0.00	.25
NW	0.00	.30	0.00	0.00	0.00	0.00	0.00	.30
NNW	0.00	.38	.04	0.00	0.00	0.00	0.00	.42
CALM								.34
TOTAL	18.71	67.61	13.25	.13	0.00	0.00	0.00	100.00

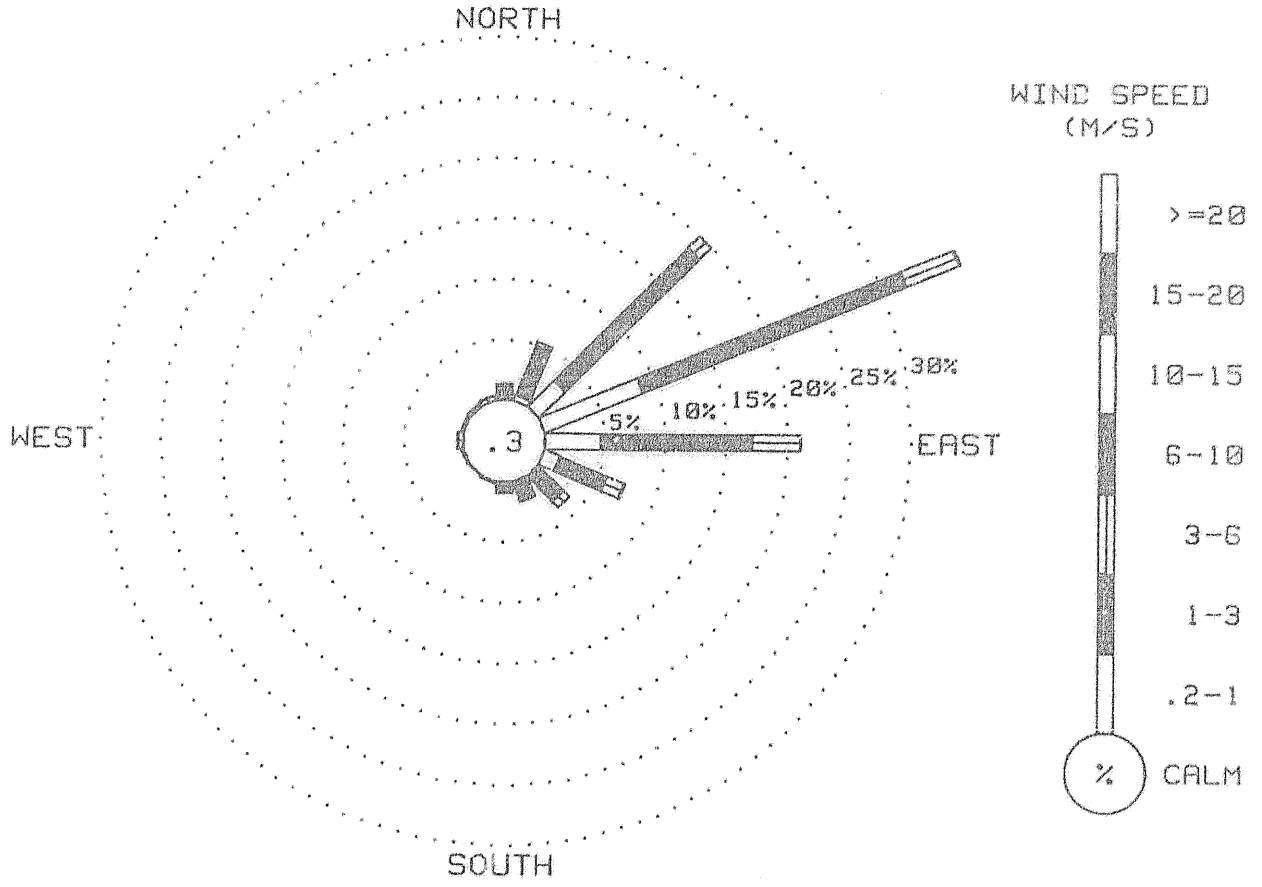
NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
2367 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
8640 WIND OBSERVATIONS WOULD HAVE BEEN CORRECT FOR 5 MINUTE DATA.
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

GLACIER WEATHER STATION

September, 1984



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SOLAR RADIATION SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING September, 1984

SOLAR RADIATION VALUES MEASURED IN MILLIWATTS PER SQUARE CENTIMETER

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	AVG
1	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
2	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
3	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
4	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
5	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
6	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
7	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
8	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
9	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
10	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
11	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
12	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
13	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
14	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
15	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
16	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
17	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
18	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
19	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
20	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
21	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
22	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	16	7	0	0	0	0	0	1
23	0	0	0	0	0	0	0	0	1	11	26	35	43	42	45	38	28	12	4	0	0	0	0	0	12
24	0	0	0	0	0	0	0	0	2	7	12	17	21	23	21	23	15	15	4	0	0	0	0	0	7
25	0	0	0	0	0	0	0	0	2	5	13	21	31	32	31	18	15	15	6	1	0	0	0	0	8
26	0	0	0	0	0	0	0	0	2	11	17	23	32	32	33	24	15	9	3	0	0	0	0	0	8
27	0	0	0	0	0	0	0	0	2	6	12	19	21	23	26	24	17	11	5	0	0	0	0	0	7
28	0	0	0	0	0	0	0	0	1	9	22	28	34	38	30	21	15	8	3	0	0	0	0	0	9
29	0	0	0	0	0	0	0	0	0	4	12	19	17	12	18	19	8	5	1	0	0	0	0	0	5
30	0	0	0	0	0	0	0	0	0	3	10	20	22	21	22	18	10	6	2	0	0	0	***	***	6

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

OBSERVATION SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING September, 1984

PARAMETER	NUMBER OF USABLE OBSERVATIONS	PERCENT OF TOTAL OBSERVATIONS
TEMPERATURE	2364	27
WIND SPEED	2364	27
WIND DIRECTION	2362	27
PEAK GUST	2364	27
RELATIVE HUMIDITY	1915	22
PRECIPITATION	2364	27
SOLAR RADIATION	2364	27
DEW POINT	1915	22

THERE ARE 8640 POSSIBLE OBSERVATIONS THIS MONTH FOR EACH PARAMETER. THE DATA RECORDING INTERVAL IS 5 MINUTES.

THE FOLLOWING ADJUSTMENTS HAVE BEEN MADE TO THIS MONTH'S DATA:

1. RH -2 RH Points
2. Solar -1 mW/CM^2
3. Wind Direction -180 degrees

Additional comments on this month's data:

1. Station reinstalled on 9/22. No data prior to this date.
2. Data recorded at 5 minute intervals.
3. Wind vane tail not attached. All wind direction data off by 180 degrees, but have been adjusted prior to publication.

No precipitation data for October

(See INTERPRETATION OF DATA).

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING October, 1984

DAY 01

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	4.1	-2.3	63	072	2.6	083	6.3	0
0600	3.4	*****	62	081	3.5	099	6.3	0
0900	1.8	-2.3	74	048	.9	243	5.7	2
1200	4.0	-5.0	52	058	1.3	052	4.4	15
1500	4.5	-4.0	54	112	2.7	122	7.0	23
1800	3.8	-3.9	57	103	3.2	101	6.3	2
2100	1.9	-2.0	75	094	3.3	086	6.3	0
2400	.1	-.5	96	068	1.5	075	6.3	0

DAY 02

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	0.0	*****	96	063	.7	044	2.5	0
0600	.7	*****	86	077	.6	079	1.3	0
0900	-.6	-1.2	96	120	.8	132	2.5	2
1200	.5	-2.9	78	111	.7	125	2.5	11
1500	.5	-2.5	80	074	.9	086	3.2	12
1800	1.1	*****	80	087	.8	102	2.5	5
2100	.6	-3.3	75	091	1.6	068	3.8	0
2400	-1.2	*****	97	273	1.0	227	5.1	0

DAY 03

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-1.0	-2.5	90	***	****	***	3.2	0
0600	-1.4	-3.3	87	036	1.1	047	2.5	0
0900	-1.7	-4.4	82	077	1.1	056	2.5	2
1200	.7	-10.0	45	078	1.2	070	2.5	42
1500	1.0	-9.1	47	142	1.1	147	3.8	31
1800	1.3	-9.1	46	183	1.4	162	3.8	7
2100	-1.4	-8.4	59	067	1.0	063	3.2	0
2400	-1.4	-9.5	54	071	1.4	064	2.5	0

DAY 04

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-2.0	-11.1	50	068	1.1	079	2.5	0
0600	-2.3	-11.9	48	074	1.2	066	3.2	0
0900	-2.2	-12.3	46	075	1.3	065	3.8	1
1200	.1	-12.0	40	090	1.4	062	3.8	30
1500	.9	-11.3	40	131	2.0	139	4.4	31
1800	.8	*****	40	094	.8	133	5.1	7
2100	-2.0	*****	48	065	1.5	058	5.1	0
2400	-1.6	*****	41	065	1.6	060	4.4	0

DAY 05

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-1.8	-13.7	40	067	2.0	093	5.1	0
0600	-1.2	-15.9	32	062	1.9	070	5.1	0
0900	-.4	*****	28	071	1.4	057	4.4	3
1200	2.6	-13.4	30	061	1.3	011	4.4	29
1500	.9	-12.0	38	087	.5	281	5.1	14
1800	1.1	-10.8	41	063	1.4	131	4.4	3
2100	2.1	-7.3	50	070	2.0	058	4.4	0
2400	2.0	-6.3	54	075	1.5	052	3.8	0

DAY 06

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	2.6	-5.3	56	088	2.1	104	5.7	0
0600	2.5	-5.6	55	108	2.2	120	4.3	0
0900	1.3	-3.7	69	118	4.1	139	16.5	1
1200	1.1	*****	78	141	1.3	115	7.0	9
1500	1.8	-4.0	65	045	.8	015	3.2	9
1800	2.5	-4.7	59	080	2.6	077	9.5	1
2100	2.4	-6.5	52	075	3.1	091	6.3	0
2400	2.6	-7.1	49	073	2.6	074	5.7	0

DAY 07

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	2.8	-9.6	40	067	3.0	089	6.3	0
0600	2.4	-10.0	40	072	1.7	052	5.7	0
0900	-.1	-2.6	83	069	2.6	073	7.0	0
1200	.9	*****	79	053	1.1	040	2.5	9
1500	1.5	-1.7	79	054	1.3	036	4.4	10
1800	2.9	-3.0	65	051	1.6	023	4.4	7
2100	3.1	-5.6	49	068	1.8	081	4.4	0
2400	2.6	-8.2	45	074	1.6	065	4.4	0

DAY 08

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	2.3	-6.3	53	057	2.2	087	7.0	0
0600	*****	*****	**	***	****	102	7.0	***
0900	*****	*****	**	***	****	***	****	***
1200	*****	*****	**	***	****	***	****	***
1500	*****	*****	**	***	****	***	****	***
1800	*****	*****	**	***	****	***	****	***
2100	*****	*****	**	***	****	***	****	***
2400	*****	*****	**	***	****	***	****	***

DAY 09

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

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING October, 1984

DAY 10

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

DAY 11

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

DAY 12

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

DAY 13

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

DAY 14

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

DAY 15

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

DAY 16

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

DAY 17

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

DAY 18

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

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING October, 1984

DAY 19

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

DAY 20

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

DAY 21

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

DAY 22

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

DAY 23

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

DAY 24

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

DAY 25

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

DAY 26

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

DAY 27

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

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING October, 1984

DAY 28

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

DAY 29

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

DAY 30

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

DAY 31

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

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING October, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	5.1	-.1	2.5	086	2.3	2.7	122	7.0	E	66	-2.9	****	1243	1
2	4.3	-1.4	1.5	089	.7	1.1	***	5.1	E	83	-2.2	****	872	2
3	3.2	-2.2	.5	094	.8	1.3	147	3.8	ENE	64	-6.8	****	2538	3
4	3.1	-2.7	.2	084	1.3	1.6	133	5.1	ENE	44	-11.7	****	2073	4
5	3.3	-2.5	.4	068	1.5	1.8	093	5.1	ENE	39	-12.4	****	1327	5
6	3.3	-.8	1.3	093	2.1	2.6	139	16.5	ENE	61	-4.9	****	945	6
7	3.9	-.4	1.8	065	1.8	2.0	073	7.0	ENE	58	-5.7	****	741	7
8	3.5	-2.9	.3	045	2.2	3.0	087	7.0	NE	65	-5.5	****	0	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
31	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	31
MONTH	5.1	-2.9	1.0	081	1.5	1.9	139	16.5	ENE	58	-6.5	****	9769	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 8.9
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 9.6
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 10.2
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 9.5

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.

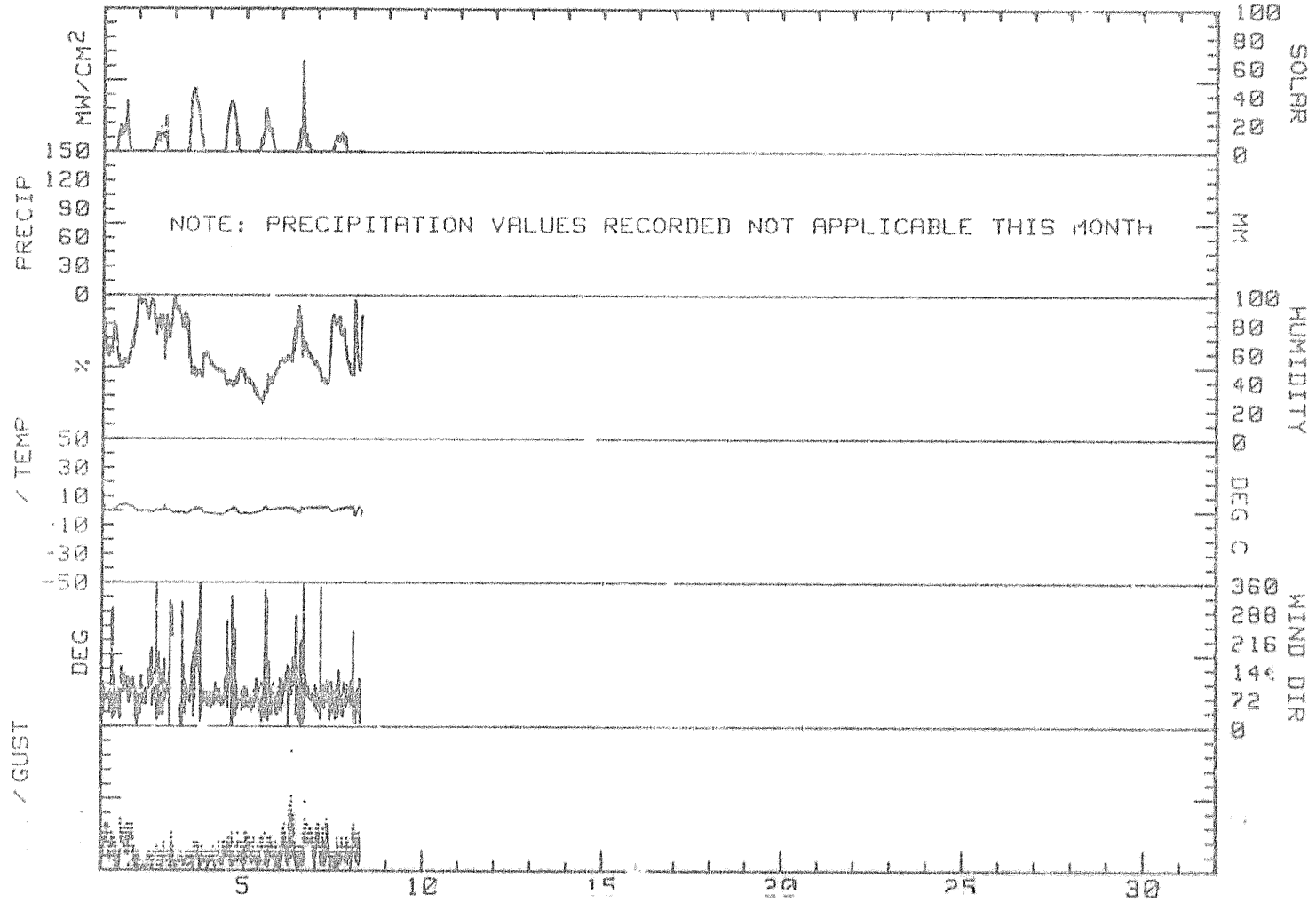
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

GLACIER WEATHER STATION

October, 1984



P & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING October, 1984

DIRECTION	VELOCITY (M/S) 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	TOTAL
N	0.00	.95	.15	0.00	0.00	0.00	0.00	1.10
NNE	.20	4.55	.65	0.00	0.00	0.00	0.00	5.40
NE	2.10	11.39	1.75	0.00	0.00	0.00	0.00	15.24
ENE	7.75	17.69	5.25	.05	0.00	0.00	0.00	30.73
E	7.00	12.29	4.85	.05	0.00	0.00	0.00	24.19
ESE	2.05	5.70	3.50	.10	0.00	0.00	0.00	11.34
SE	.25	2.80	1.55	.15	0.00	0.00	0.00	4.75
SSE	.05	2.00	.20	0.00	0.00	0.00	0.00	2.25
S	0.00	1.25	.05	0.00	0.00	0.00	0.00	1.30
SSW	0.00	.60	.05	0.00	0.00	0.00	0.00	.65
SW	0.00	.30	.15	0.00	0.00	0.00	0.00	.45
WSW	0.00	.40	.20	0.00	0.00	0.00	0.00	.60
W	0.00	.60	.15	0.00	0.00	0.00	0.00	.75
WNW	0.00	.50	.05	0.00	0.00	0.00	0.00	.55
NW	0.00	.20	0.00	0.00	0.00	0.00	0.00	.21
NNW	0.00	.10	0.00	0.00	0.00	0.00	0.00	.10
CALM								.41
TOTAL	19.39	61.52	18.54	.35	0.00	0.00	0.00	100.00

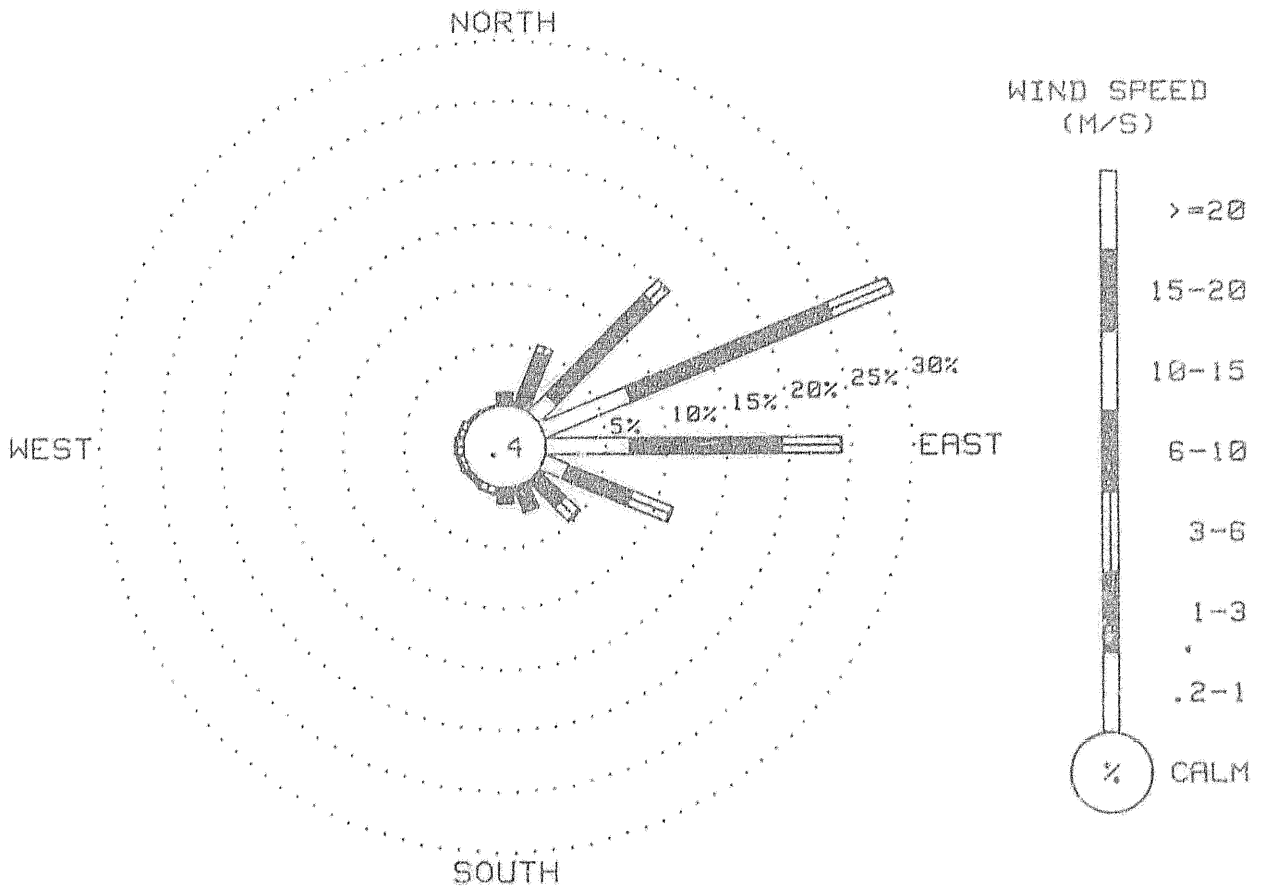
NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
2101 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
8228 WIND OBSERVATIONS WOULD HAVE BEEN CORRECT FOR 5 MINUTE DATA
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

GLACIER WEATHER STATION

October, 1984



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SOLAR RADIATION SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING October, 1984

SOLAR RADIATION VALUES MEASURED IN MILLIWATTS PER SQUARE CENTIMETER

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	AVG
1	0	0	0	0	0	0	0	0	1	7	13	15	16	16	18	21	14	4	1	0	0	0	0	0	5
2	0	0	0	0	0	0	0	0	0	2	6	10	9	12	12	10	9	15	2	0	0	0	0	0	4
3	0	0	0	0	0	0	0	0	1	9	30	41	44	40	34	28	19	10	3	0	0	0	0	0	11
4	0	0	0	0	0	0	0	0	1	6	19	27	32	35	33	28	18	8	2	0	0	0	0	0	9
5	0	0	0	0	0	0	0	0	1	8	9	17	24	22	17	16	13	7	1	0	0	0	0	0	6
6	0	0	0	0	0	0	0	0	0	2	4	8	12	39	14	7	5	4	0	0	0	0	0	0	4
7	0	0	0	0	0	0	0	0	0	2	5	9	9	9	10	11	8	9	2	0	0	0	0	0	3
8	0	0	0	0	0	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
9	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
10	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
11	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
12	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
13	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
14	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
15	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
16	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
17	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
18	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
19	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
20	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
21	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
22	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
23	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
24	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
25	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
26	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
27	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
28	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
29	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
30	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
31	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

OBSERVATION SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING October, 1984

PARAMETER	NUMBER OF USABLE OBSERVATIONS	PERCENT OF TOTAL OBSERVATIONS
TEMPERATURE	2085	23
WIND SPEED	2085	23
WIND DIRECTION	2001	22
PEAK GUST	2085	23
RELATIVE HUMIDITY	1655	19
PRECIPITATION	0	0
SOLAR RADIATION	2085	23
DEW POINT	1655	19

THERE ARE 8928 POSSIBLE OBSERVATIONS THIS MONTH FOR EACH PARAMETER. THE DATA RECORDING INTERVAL IS 5 MINUTES.

THE FOLLOWING ADJUSTMENTS HAVE BEEN MADE TO THIS MONTH'S DATA:

1. RH -2 RH Points
2. Solar -1 mW/CM^2
3. Wind Direction -180 degrees

Additional comments on this month's data:

1. No data after 10/8. Data tape ran out due to 5 minute recording intervals.
2. Intermittent wind direction data lost due to frozen wind vane.
3. Wind vane tail not attached. All wind direction data off by 180 degrees, but have been adjusted prior to publication.

No precipitation data for November

(See INTERPRETATION OF DATA).

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING November, 1984

DAY 01

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

DAY 02

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	*****	*****	**	***	****	***	****	***
0600	*****	*****	**	***	****	***	****	***
0900	*****	*****	**	***	****	***	****	***
1200	-3.1	-24.1	18	046	1.0	056	3.2	12
1500	-2.5	-23.0	19	062	1.5	083	7.0	7
1800	-5.4	-22.0	26	096	2.1	115	8.3	0
2100	-4.0	-22.6	22	097	2.3	093	7.0	0
2400	-4.4	-23.0	22	020	1.5	147	7.0	0

DAY 03

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-6.7	-24.9	22	097	1.7	085	5.7	0
0600	-5.9	-22.8	25	121	1.6	152	6.3	0
0900	-8.7	-24.4	27	001	2.2	317	7.0	1
1200	-7.3	-23.2	27	045	2.0	037	4.4	6
1500	-7.0	*****	27	051	1.0	100	5.7	9
1800	-9.2	-23.3	31	063	1.0	341	3.8	0
2100	-8.3	*****	34	067	1.3	111	5.1	0
2400	-8.2	-19.2	41	076	1.5	036	4.4	0

DAY 04

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-11.6	*****	92	359	.3	356	3.2	0
0600	-10.9	-12.4	89	025	.7	356	2.5	0
0900	-11.5	*****	91	013	.7	345	2.5	1
1200	-9.2	-13.5	71	040	.9	026	2.5	19
1500	-8.9	-13.4	70	058	1.1	119	3.8	2
1800	-9.8	*****	72	044	.9	087	3.2	0
2100	-7.9	-13.5	64	074	1.1	059	3.2	0
2400	-7.8	-13.2	65	064	1.5	041	3.8	0

DAY 05

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-8.4	-12.0	75	079	.9	106	2.5	0
0600	-6.7	-11.8	67	041	1.4	028	4.4	0
0900	-7.2	-11.5	71	032	1.6	027	6.3	0
1200	-6.4	-10.3	74	058	[illegible]	097	5.1	7
1500	-5.9	-8.6	81	044	1.0	039	3.8	2
1800	-5.8	-7.8	86	041	1.2	071	3.2	0
2100	-5.0	-7.0	86	039	1.5	056	5.7	0
2400	-5.1	-6.9	87	006	1.4	063	2.5	0

DAY 06

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-4.6	*****	82	047	1.1	039	3.2	0
0600	-4.1	-7.9	75	066	1.4	072	3.8	0
0900	-3.9	*****	67	077	1.5	028	3.8	0
1200	-3.5	*****	65	052	1.2	042	3.5	7
1500	-5.0	-7.8	81	055	1.1	039	3.2	3
1800	-5.1	-9.0	74	065	1.4	040	3.2	0
2100	-4.5	-9.7	67	073	1.4	063	3.2	0
2400	-4.6	-10.8	62	067	1.5	094	3.5	0

DAY 07

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-4.6	-10.0	66	077	.7	116	3.5	0
0600	-6.7	*****	70	058	1.3	002	3.8	0
0900	-8.4	-8.5	99	056	.9	079	4.4	0
1200	-5.4	-9.8	71	345	.6	352	2.5	36
1500	-7.0	-7.7	81	307	.4	001	3.2	2
1800	-6.4	-9.1	95	356	.8	034	3.2	0
2100	-7.8	-8.5	95	087	.7	131	3.5	0
2400	-8.2	*****	90	079	.6	317	3.2	0

DAY 08

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-7.1	-10.4	77	057	1.0	307	3.2	0
0600	-7.6	-10.6	79	092	1.1	049	3.8	0
0900	-7.6	-11.8	72	041	1.4	034	3.8	0
1200	-5.8	-12.5	59	061	1.9	059	5.1	9
1500	-6.5	*****	51	065	.8	085	3.8	3
1800	-8.9	-11.4	82	112	.9	038	3.2	0
2100	-9.7	-11.8	85	089	.7	119	3.8	0
2400	-9.8	-11.3	89	001	.7	359	3.2	0

DAY 09

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-11.9	*****	92	032	.4	330	3.2	0
0600	-12.4	*****	[illegible]	161	.6	114	3.5	0
0900	-12.1	-13.4	91	175	.9	076	3.8	0
1200	-13.0	-14.7	87	[illegible]	.7	[illegible]	[illegible]	5
1500	-13.0	-15.4	87	075	.9	090	3.2	2
1800	-14.9	-16.5	88	357	1.3	047	1.4	0
2100	-15.0	*****	87	156	1.0	[illegible]	[illegible]	[illegible]
2400	-13.7	*****	56	070	1.0	059	[illegible]	[illegible]

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

P & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING November, 1984

DAY 10

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-15.0	-22.9	51	082	1.1	014	3.2	0
0600	-16.1	-23.1	55	064	.7	102	2.3	0
0900	-14.9	-22.6	52	064	.8	097	1.9	0
1200	-12.4	*****	42	071	1.0	063	2.5	15
1500	-13.5	-22.7	46	052	.8	033	1.9	2
1800	-14.5	-22.9	49	071	1.3	036	3.2	0
2100	-15.3	-23.4	51	040	1.1	027	3.2	0
2400	-15.5	-23.6	50	062	1.3	036	4.4	0

DAY 11

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-16.3	-24.3	50	048	1.0	074	2.7	0
0600	-16.4	*****	**	044	1.6	030	3.2	0
0900	-16.8	*****	**	***	****	***	****	0
1200	-15.3	-24.4	46	089	1.7	***	****	***
1500	-16.0	-24.3	49	040	1.2	058	3.2	2
1800	-17.6	-25.3	51	055	1.6	080	3.8	0
2100	-17.3	-24.6	53	040	1.6	044	3.8	0
2400	-17.7	-25.2	52	046	1.8	040	3.8	0

DAY 12

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-17.7	-25.2	52	037	1.3	047	4.4	0
0600	*****	*****	**	050	2.6	056	5.7	0
0900	*****	*****	**	***	****	***	****	0
1200	-16.7	-26.2	44	041	2.6	064	5.7	11
1500	-16.0	-24.3	49	064	1.5	092	6.3	2
1800	-14.3	-23.2	47	021	1.5	005	5.1	0
2100	-15.5	-23.6	50	053	1.2	055	6.3	0
2400	-17.2	-25.2	50	045	1.5	072	5.1	0

DAY 13

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-15.3	-24.6	45	043	1.5	050	4.4	0
0600	-16.5	*****	47	056	1.2	064	3.2	0
0900	-16.0	*****	45	065	1.3	019	3.2	0
1200	-14.1	-24.9	40	047	1.0	070	2.5	11
1500	-15.4	-25.3	42	058	.7	072	3.2	2
1800	-17.0	*****	47	073	.9	002	3.2	0
2100	-17.2	-27.1	42	065	1.0	005	3.2	0
2400	-16.0	-26.3	41	063	.9	103	3.5	0

DAY 14

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-17.5	*****	41	023	.9	341	2.5	0
0600	-16.4	*****	41	039	.9	035	3.2	0
0900	-15.0	-26.0	39	061	1.1	011	3.2	0
1200	-12.6	*****	38	071	1.0	026	3.2	10
1500	-13.0	-23.9	40	057	.9	060	2.5	2
1800	-12.9	*****	42	036	1.1	014	5.1	0
2100	-10.9	-19.1	51	067	.9	352	2.5	0
2400	-10.3	*****	82	055	.9	047	2.5	0

DAY 15

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-8.3	*****	75	023	1.2	026	3.2	0
0600	-7.6	*****	91	034	.6	028	1.9	0
0900	-6.9	*****	88	023	.6	019	1.9	0
1200	-4.5	*****	75	045	1.3	072	3.5	6
1500	-4.6	-8.5	74	069	1.3	051	4.4	1
1800	-5.1	-8.5	77	076	1.4	019	3.8	0
2100	-8.3	-9.0	95	076	1.0	112	3.2	0
2400	-7.5	*****	86	027	.8	359	3.8	0

DAY 16

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-7.0	-10.0	79	049	1.5	017	3.8	0
0600	-6.7	-9.4	88	066	.8	037	3.5	0
0900	-7.4	-9.5	85	064	.7	054	2.5	0
1200	-5.6	-13.3	59	051	1.2	074	3.8	10
1500	-7.5	-12.9	65	056	1.4	033	3.8	1
1800	-7.7	-14.5	58	069	1.3	039	3.2	0
2100	-6.9	-15.1	51	058	1.4	041	3.8	0
2400	-6.7	-16.2	47	072	2.2	067	5.7	0

DAY 17

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-6.5	-16.8	44	056	1.4	045	3.8	0
0600	-8.5	*****	47	085	1.3	095	3.2	0
0900	-9.3	-17.7	47	061	1.5	048	4.4	0
1200	-8.9	-17.9	48	081	1.4	119	3.2	5
1500	-8.4	-17.8	47	074	1.4	095	3.2	2
1800	-8.3	-16.7	51	075	1.1	071	2.5	0
2100	-9.2	*****	53	071	1.0	050	3.2	0
2400	-7.5	*****	55	063	.9	022	2.5	0

DAY 18

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-6.8	-14.1	54	068	1.0	094	3.8	0
0600	-7.7	-13.7	69	061	1.5	109	3.8	0
0900	-8.2	*****	71	043	1.2	076	3.8	0
1200	-7.2	-13.6	63	074	1.0	113	3.8	0
1500	-8.0	-13.8	63	062	.9	053	3.8	0
1800	-8.5	-14.3	63	053	1.9	045	3.8	0
2100	-8.4	-15.0	59	059	1.4	061	3.2	0
2400	-8.1	-15.1	57	057	1.1	051	3.8	0

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

DAY 19

HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-8.4	-15.8	55	059	1.0	052	3.8	0
0600	-8.1	-16.5	51	056	1.4	034	5.2	0
0900	-7.8	-17.2	47	068	1.1	076	1.9	0
1200	-7.4	-17.7	44	055	1.6	036	4.4	4
1500	-6.7	-17.3	43	074	1.5	055	3.8	2
1800	-7.6	-17.9	47	064	1.4	054	4.4	0
2100	-8.3	-17.4	48	055	1.9	044	4.4	0
2400	-6.9	-16.4	47	074	1.6	101	4.4	0

DAY 20

HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-7.7	-15.6	53	020	1.3	346	4.4	0
0600	-7.5	-9.9	83	105	2.1	117	10.8	0
0900	-5.4	-11.3	63	106	5.6	103	15.2	0
1200	-5.0	-10.5	65	130	7.6	121	17.8	1
1500	-4.3	-7.6	78	127	4.7	125	13.3	0
1800	-2.0	-7.3	67	117	10.6	130	24.1	0
2100	-1.6	-6.7	68	118	10.4	120	26.0	0
2400	-1.5	-6.0	71	118	8.1	128	17.8	0

DAY 21

HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-1.7	-5.2	77	130	7.8	148	23.5	0
0600	-3.8	*****	99	120	5.0	122	17.8	0
0900	-3.5	-3.8	98	080	3.2	095	12.7	0
1200	-2.9	*****	91	048	.8	***	3.5	2
1500	-4.2	-4.3	99	315	.2	243	2.5	0
1800	-5.9	-6.3	97	273	1.4	275	4.4	0
2100	-6.9	-7.6	95	320	1.8	281	5.1	0
2400	-8.1	*****	95	294	.5	311	2.5	0

DAY 22

HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-7.6	-8.1	96	107	.5	015	2.5	0
0600	-8.2	*****	95	***	****	***	1.3	0
0900	-8.8	*****	89	061	1.4	051	3.2	0
1200	-7.7	-9.9	84	088	1.6	122	4.4	1
1500	-6.6	-13.3	59	061	1.1	000	4.4	0
1800	-9.2	-14.2	67	059	1.0	354	3.2	0
2100	-10.1	*****	83	029	.8	011	3.2	0
2400	-8.9	-10.9	86	132	1.2	042	3.9	0

DAY 23

HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-10.9	-11.7	94	352	1.2	342	3.2	0
0600	-10.2	*****	92	032	.4	095	4.3	0
0900	-10.6	*****	87	026	.7	019	2.5	0
1200	-9.8	*****	86	048	.5	057	1.9	1
1500	-10.3	*****	81	060	.7	012	1.9	0
1800	-10.9	*****	87	072	.5	016	1.9	0
2100	-10.3	*****	81	068	.6	047	2.5	0
2400	-9.7	-13.1	76	044	1.2	050	3.2	0

DAY 24

HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-10.1	-13.2	78	053	.9	089	3.2	0
0600	-10.9	-11.7	94	037	1.1	018	2.5	0
0900	-11.2	-12.0	94	068	1.3	053	7.0	0
1200	-12.8	-14.4	88	329	.9	299	4.4	1
1500	-13.4	*****	88	348	1.7	355	3.4	0
1800	-14.2	*****	89	084	.6	128	2.5	0
2100	-13.9	*****	83	089	.7	093	1.9	0
2400	-14.2	-16.2	85	099	.7	357	2.5	0

DAY 25

HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-14.9	*****	87	106	1.0	117	3.5	0
0600	-15.1	*****	86	***	****	***	1.3	0
0900	-16.0	*****	87	***	****	***	1.3	1
1200	-15.8	-18.6	79	***	****	***	1.9	1
1500	-16.5	-18.6	79	***	****	***	1.9	0
1800	-16.5	*****	93	***	****	***	1.9	0
2100	-16.8	*****	72	***	****	***	1.9	0
2400	-16.9	*****	81	***	****	***	3.5	0

DAY 26

HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-16.4	-20.1	73	046	.8	341	1.9	0
0600	-16.7	*****	**	067	1.6	061	3.2	0
0900	-16.0	-23.6	52	077	1.5	065	3.2	0
1200	-15.0	-22.5	53	072	1.7	083	3.2	1
1500	-15.5	*****	65	064	1.2	098	3.2	0
1800	-16.8	-19.7	78	053	.9	028	1.9	0
2100	-13.5	-20.2	67	064	1.3	059	3.2	0
2400	-16.1	-22.3	59	059	2.7	060	5.1	0

DAY 27

HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-15.9	-23.1	54	076	2.0	052	4.4	0
0600	-15.5	-24.5	50	072	1.4	079	3.5	0
0900	-14.3	-21.8	55	069	3.0	041	5.7	0
1200	-14.0	-23.7	51	077	2.4	072	5.1	1
1500	-13.4	-19.5	61	068	3.2	079	5.1	0
1800	-14.4	-23.3	51	045	3.6	039	5.1	0
2100	-13.8	-19.1	62	043	4.0	036	5.1	0
2400	-13.7	-18.7	65	047	2.2	037	3.5	0

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING November, 1984

DAY 28									DAY 29									DAY 30								
HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW	HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW	HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-14.1	-18.4	70	046	1.4	033	4.4	0	0300	-11.2	*****	83	090	.6	049	1.9	0	0300	-9.4	-11.0	88	088	.9	107	3.2	0
0600	-15.1	-19.2	71	062	1.9	057	5.7	0	0600	-11.2	*****	89	091	.6	104	1.9	0	0600	-9.1	-10.5	90	153	.7	117	3.5	0
0900	-14.3	*****	67	050	1.4	038	4.4	0	0900	-10.1	*****	85	073	1.0	036	3.2	0	0900	-10.0	-11.1	92	091	.9	069	3.2	0
1200	-13.2	*****	69	088	1.8	096	3.8	2	1200	-10.1	*****	87	054	.5	069	1.9	1	1200	-9.1	-11.3	84	067	1.1	090	3.8	0
1500	-12.1	-17.1	66	084	1.1	109	3.2	0	1500	-10.9	*****	89	064	.3	354	2.5	0	1500	-9.2	*****	82	108	1.3	083	3.2	0
1800	-12.6	*****	75	050	.7	105	2.5	0	1800	-10.8	*****	90	084	.7	040	1.9	0	1800	-8.3	-11.9	75	081	1.4	073	3.8	0
2100	-12.2	*****	83	119	.5	111	1.3	0	2100	-10.5	-11.7	91	114	.7	123	1.9	0	2100	-7.5	*****	72	109	1.2	104	4.4	0
2400	-11.8	-14.3	82	095	.7	132	1.9	0	2400	-9.9	*****	90	072	.5	125	2.5	0	2400	-7.7	-10.4	81	090	1.4	082	4.4	0

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING November, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP mm	DAY'S SOLAR ENERGY WH/SQM	DAY
1	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	1
2	-1.9	-6.8	-4.4	073	1.5	2.0	115	8.3	NE	22	-23.0	****	1217	2
3	-.6	-9.4	-5.0	063	1.3	1.8	317	7.0	NE	28	-23.0	****	620	3
4	-7.3	-11.8	-9.6	048	.8	1.3	119	3.8	NNE	74	-13.4	****	565	4
5	-5.0	-8.4	-6.7	041	1.3	1.6	027	6.3	NNE	77	-9.9	****	285	5
6	-3.5	-5.6	-4.6	064	1.3	1.5	072	3.8	E	73	-8.6	****	275	6
7	-4.2	-9.8	-7.0	051	.6	1.1	079	4.4	ESE	80	-9.7	****	630	7
8	-5.6	-11.3	-8.5	065	.9	1.3	059	5.1	NE	76	-11.6	****	355	8
9	-9.6	-15.1	-12.4	067	.8	1.0	047	4.4	ENE	83	-15.8	****	323	9
10	-11.4	-16.3	-13.9	063	1.0	1.1	036	4.4	ENE	50	-22.6	****	490	10
11	-13.6	-18.0	-15.8	046	1.4	1.6	080	3.8	NE	51	-24.5	****	249	11
12	-14.3	-19.1	-16.7	045	1.5	1.9	092	6.3	NE	49	-24.8	****	297	12
13	-13.8	-17.8	-15.9	058	1.1	1.3	050	4.4	NE	44	-25.3	****	289	13
14	-13.3	-17.5	-13.9	051	.9	1.2	014	5.1	NE	42	-24.1	****	360	14
15	-4.5	-10.1	-7.3	050	.9	1.2	051	4.4	NNE	81	-9.3	****	173	15
16	-6.0	-8.9	-7.5	061	1.3	1.5	067	5.7	ENE	65	-12.8	****	189	16
17	-6.1	-9.2	-7.7	071	1.2	1.4	048	4.4	E	48	-17.1	****	198	17
18	-6.7	-9.7	-8.2	061	1.2	1.4	049	4.4	NE	60	-14.2	****	206	18
19	-6.4	-9.8	-8.1	063	1.4	1.6	036	4.4	E	48	-16.8	****	140	19
20	-.9	-8.3	-4.6	117	5.9	6.5	120	36.0	ESE	68	-9.8	****	35	20
21	-1.3	-8.1	-4.7	115	1.5	2.9	148	23.5	ESE	90	-5.5	****	61	21
22	-6.4	-10.4	-8.4	061	1.0	1.3	122	4.4	E	83	-10.9	****	43	22
23	-6.5	-11.2	-9.9	038	.6	.9	095	4.3	NNE	87	-11.9	****	48	23
24	-8.9	-14.6	-11.8	036	.7	1.2	053	7.0	NNE	85	-13.9	****	33	24
25	-13.7	-16.8	-15.3	106	1.8	.7	***	3.5	ESE	75	-19.2	****	78	25
26	-14.6	-17.5	-16.1	063	1.4	1.5	060	5.1	ENE	63	-21.6	****	38	26
27	-13.3	-16.8	-15.1	054	2.5	2.7	035	8.9	NE	58	-21.2	****	48	27
28	-11.8	-15.4	-13.6	061	1.1	1.3	057	5.7	ENE	69	-18.2	****	65	28
29	-9.5	-11.9	-10.7	082	.6	.8	036	3.2	ESE	86	-12.4	****	20	29
30	-7.3	-10.0	-8.7	090	1.1	1.2	104	4.4	E	81	-11.3	****	5	30
MONTH	-.6	-19.1	-10.0	078	1.7	1.6	120	36.0	ENE	63	-16.0	****	7154	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 18.4
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 23.5
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 15.9
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 15.0

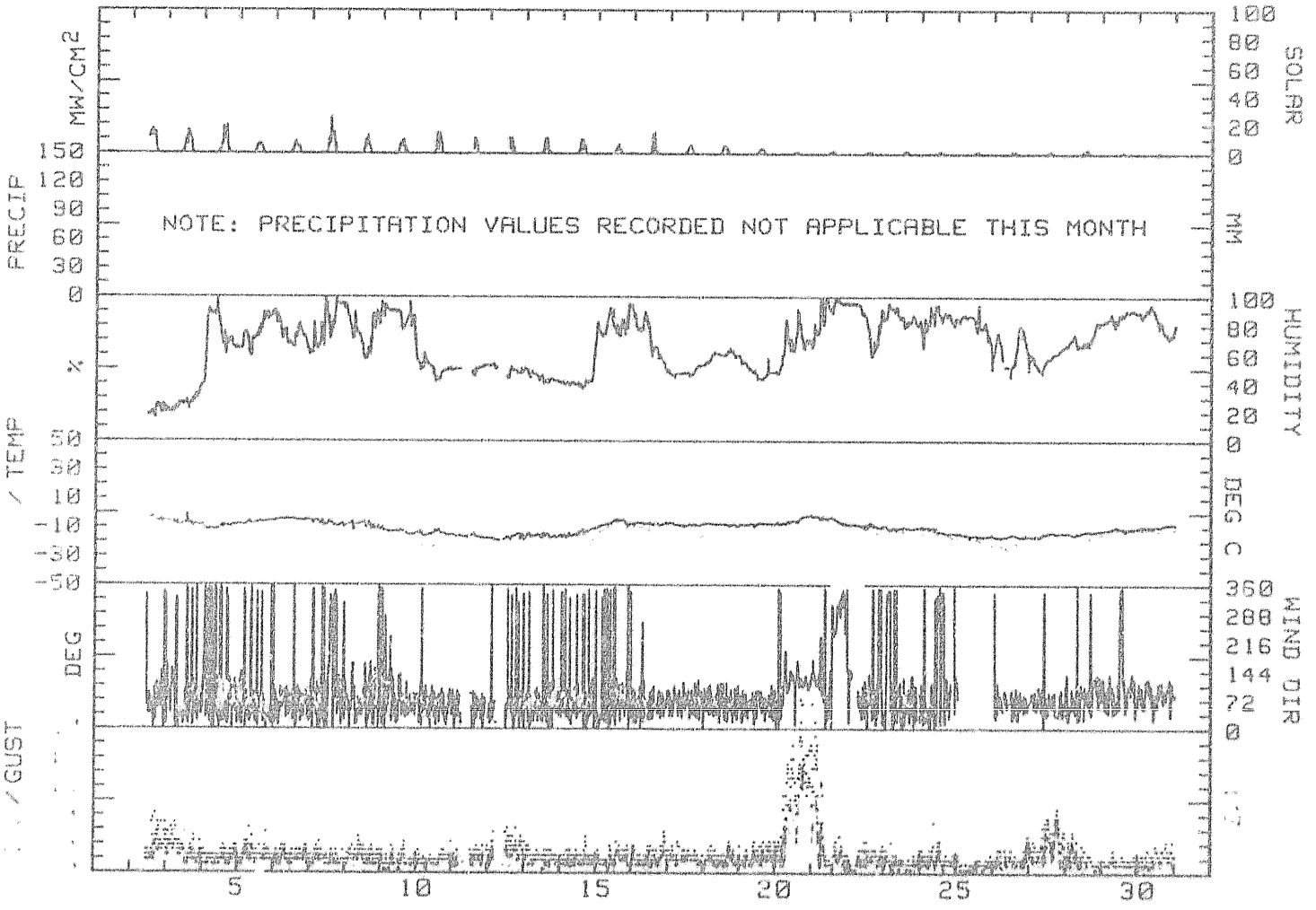
NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.
SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT.

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

GLACIER WEATHER STATION

November, 1984



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING November, 1984

	VELOCITY (M/S)							
DIRECTION	0.3 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	TOTAL
N	1.76	4.73	.08	.04	0.00	0.00	0.00	6.61
NNE	3.09	9.53	.50	.08	0.00	0.00	0.00	13.21
NE	4.39	13.38	1.34	.13	0.00	0.00	0.00	19.23
ENE	5.10	14.09	.59	0.00	0.00	0.00	0.00	19.77
E	3.76	13.83	.46	.25	0.00	0.00	0.00	17.31
ESE	2.93	5.69	.29	1.46	.42	.04	0.00	10.83
SE	1.21	1.84	.33	.67	.17	0.00	0.00	4.23
SSE	.63	.59	.17	.08	0.00	0.00	0.00	1.46
S	.08	0.00	.08	0.00	0.00	0.00	0.00	.17
SSW	.04	.04	0.00	0.00	0.00	0.00	0.00	.08
SW	.13	.25	0.00	0.00	0.00	0.00	0.00	.38
WSW	.25	.21	0.00	0.00	0.00	0.00	0.00	.46
W	.08	.13	0.00	0.00	0.00	0.00	0.00	.21
WNW	.21	.25	0.00	0.00	0.00	0.00	0.00	.46
NW	.54	.88	.04	0.00	0.00	0.00	[illegible]	[illegible]
NNW	.88	[illegible]	.08	0.00	0.00	[illegible]	[illegible]	[illegible]
CALM								[illegible]
TOTAL	25.0[illegible]	67.2[illegible]	3.97	2.72	.59	.04	0.00	[illegible]

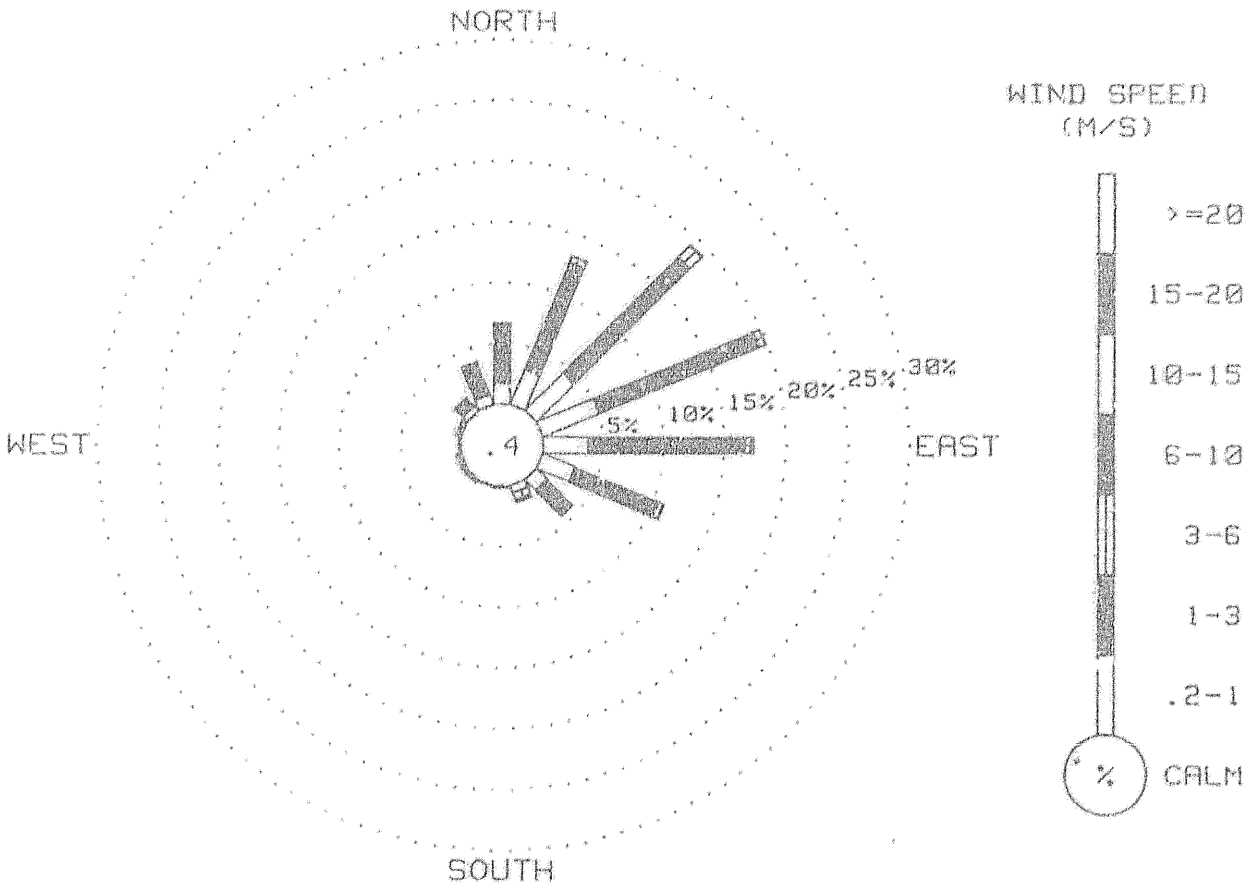
ALL FREQUENCIES ARE EXPRESSED IN PERCENT
[illegible] VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
[illegible] WIND OBSERVATIONS WOULD HAVE BEEN CORRECT FOR 15 MINUTE [illegible]
SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

GLACIER WEATHER STATION

November, 1984



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

SOLAR RADIATION SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING November, 1980

SOLAR RADIATION VALUES MEASURED IN MILLIWATTS PER SQUARE CENTIMETER

	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	AVG
1	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
2	***	***	***	***	***	***	***	***	***	***	12	15	17	14	12	3	1	0	0	0	0	0	0	0	3
3	0	0	0	0	0	0	0	0	1	2	7	9	16	15	10	2	0	0	0	0	0	0	0	0	3
4	0	0	0	0	0	0	0	0	0	3	4	11	15	12	11	2	0	0	0	0	0	0	0	0	3
5	0	0	0	0	0	0	0	0	0	1	3	6	7	6	4	1	0	0	0	0	0	0	0	0	1
6	0	0	0	0	0	0	0	0	0	1	3	7	7	5	5	1	0	0	0	0	0	0	0	0	2
7	0	0	0	0	0	0	0	0	0	3	9	15	14	13	7	2	0	0	0	0	0	0	0	0	3
8	0	0	0	0	0	0	0	0	0	1	3	9	9	9	4	1	0	0	0	0	0	0	0	0	2
9	0	0	0	0	0	0	0	0	0	2	6	6	9	5	4	1	0	0	0	0	0	0	0	0	2
10	0	0	0	0	0	0	0	0	0	1	3	13	12	13	7	1	0	0	0	0	0	0	0	0	3
11	0	0	0	0	0	0	0	0	0	***	***	***	8	10	5	1	0	0	0	0	0	0	0	0	1
12	0	0	0	0	0	0	0	0	0	***	***	***	8	8	3	1	0	0	0	0	0	0	0	0	1
13	0	0	0	0	0	0	0	0	0	1	3	9	7	5	2	1	0	0	0	0	0	0	0	0	1
14	0	0	0	0	0	0	0	0	0	1	3	6	6	4	1	0	0	0	0	0	0	0	0	0	1
15	0	0	0	0	0	0	0	0	0	1	2	4	4	4	2	0	0	0	0	0	0	0	0	0	1
16	0	0	0	0	0	0	0	0	0	0	1	9	5	2	1	0	0	0	0	0	0	0	0	0	1
17	0	0	0	0	0	0	0	0	0	1	2	4	6	5	3	1	0	0	0	0	0	0	0	0	1
18	0	0	0	0	0	0	0	0	0	1	3	6	5	4	2	0	0	0	0	0	0	0	0	0	1
19	0	0	0	0	0	0	0	0	0	0	1	5	3	3	3	1	0	0	0	0	0	0	0	0	1
20	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	1	2	2	1	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	1	0	1	2	2	1	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	1	2	2	1	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	1	2	2	1	0	0	0	0	0	0	0	0	0	0
AVG	0	0	0	0	0	0	0	0	0	1	3	6	7	6	4	1	0	0	0	0	0	0	0	0	1

*** USE CONSIDERATION NOTES AT END OF MONTHLY REPORT ***

P A M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

OBSERVATION SUMMARY FOR CLOUDY WEATHER STATION
DATA TAKEN DURING November, 1985

PARAMETER	NUMBER OF USABLE OBSERVATIONS	PERCENT OF TOTAL OBSERVATIONS
TEMPERATURE	3587	94
WIND SPEED	2523	92
WIND DIRECTION	3405	87
PEAK GUST	3484	89
RELATIVE HUMIDITY	2611	68
PRECIPITATION	0	0
SOLAR RADIATION	3599	94
DEW POINT	2641	68

THERE ARE 2756 POSSIBLE OBSERVATIONS THIS MONTH FOR EACH PARAMETER. THE DATA RECORDING INTERVAL IS 15 MINUTES.

THE FOLLOWING ADJUSTMENTS HAVE BEEN MADE TO THIS MONTH'S DATA:

1. RH +5 RH Points 11/2 - 11/28
   +7 11/28 - 11/30

2. Solar -1 mW/CM^2

Additional comments on this month's data:

1. No data on day 1 and half of day 2. Data tape ran out due to 5 minute recording intervals.

2. Intermittent wind speed and direction data lost due to frozen anemometer and wind vane.

3. Intermittent data for all parameters lost due to weather wizard malfunction. RH, Temperature, and Solar data estimated where possible.

4. Data recorded at 15 minute time intervals 11/2 - 11/28. Changed to 30 minutes on 11/28.

No precipitation data for December

(See INTERPRETATION OF DATA).

R A M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING December, 1982

DAY 01

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-8.4	*****	95	066	.6	021	2.5	0
0600	-8.7	-9.4	92	048	1.0	047	2.5	0
0900	-7.9	-8.7	94	081	1.0	101	3.2	0
1200	-7.1	-8.8	88	089	1.1	108	2.5	0
1500	-6.2	-9.7	76	083	1.1	357	3.8	0
1800	-6.7	*****	79	053	.9	018	2.5	0
2100	-7.4	-10.4	79	009	1.1	325	3.8	0
2400	-6.4	-10.9	70	064	1.4	072	3.2	0

DAY 02

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-6.4	-11.3	68	071	1.2	043	4.4	0
0600	-6.8	-11.9	67	079	1.7	077	4.4	0
0900	-7.1	-12.2	67	066	1.5	050	3.2	0
1200	-5.6	-14.2	51	064	1.7	030	3.8	0
1500	-7.0	-9.7	81	038	1.5	029	4.4	0
1800	-4.5	-7.1	82	065	1.3	097	3.1	0
2100	-4.1	-6.1	86	048	1.6	035	3.8	0
2400	-4.2	*****	97	035	1.4	020	3.8	0

DAY 03

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-3.8	*****	96	056	.6	058	3.2	0
0600	-4.1	-5.2	92	051	1.2	324	3.7	0
0900	-4.2	*****	89	055	.8	044	3.2	0
1200	-4.4	-5.5	92	077	1.0	093	3.2	0
1500	-3.7	*****	83	044	1.0	045	3.8	0
1800	-3.0	-5.8	81	059	1.3	068	3.2	0
2100	-1.3	-5.5	73	100	2.2	111	8.3	0
2400	1.5	-1.4	81	095	4.4	109	9.5	0

DAY 04

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-2.1	-4.3	85	062	1.6	054	3.8	0
0600	.9	-6.4	58	073	3.8	070	12.1	0
0900	6.3	-4.8	70	099	5.8	095	10.8	0
1200	.8	-6.1	80	107	4.9	105	14.0	1
1500	-1.0	-4.2	79	103	3.0	102	6.3	0
1800	-1.0	-3.9	93	060	1.5	091	4.4	0
2100	-2.6	-3.1	96	105	.9	071	4.4	0
2400	-3.0	-5.8	81	115	2.9	113	10.8	0

DAY 05

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-3.2	-7.3	73	127	7.5	129	16.5	0
0600	-3.6	-7.0	77	104	4.3	139	9.5	0
0900	-4.7	-5.3	96	088	1.2	136	5.1	0
1200	-4.6	*****	96	014	1.0	029	2.5	0
1500	-4.7	*****	93	063	.3	112	1.9	0
1800	-4.8	-6.5	88	069	1.6	062	5.1	0
2100	-3.8	-9.8	63	069	1.7	075	3.8	0
2400	-4.9	-11.5	60	070	1.6	054	3.2	0

DAY 06

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-4.4	-12.1	55	074	2.2	058	5.7	0
0600	-3.9	-13.4	48	080	1.6	074	5.1	0
0900	-3.3	-14.2	43	071	1.9	064	3.8	0
1200	-4.1	-15.2	42	075	1.5	075	3.8	2
1500	-5.3	*****	48	057	1.1	087	3.2	0
1800	-7.2	-13.4	61	059	.9	044	2.5	0
2100	-6.8	-9.5	81	035	1.2	046	3.2	0
2400	-8.3	-9.4	93	019	1.2	019	3.2	0

DAY 07

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-9.7	-10.5	94	154	1.4	095	3.2	0
0600	-10.6	*****	93	026	.8	339	3.2	0
0900	-9.8	-12.2	83	052	.9	356	3.2	0
1200	-5.9	-7.3	89	047	.7	060	3.2	1
1500	-10.4	*****	89	093	.8	044	3.2	0
1800	-10.2	-15.7	64	066	3.9	056	4.2	0
2100	-10.1	-12.7	83	073	1.7	337	1.4	0
2400	-9.0	-10.6	88	056	1.3	037	1.4	0

DAY 08

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-9.1	-10.3	81	034	1.9	021	5.1	0
0600	-8.3	-10.0	88	051	1.1	017	2.5	0
0900	-8.7	-11.2	89	044	1.3	040	3.8	0
1200	-9.1	*****	90	053	1.0	029	3.2	1
1500	-11.1	*****	90	180	.6	150	2.5	0
1800	-11.9	-13.8	80	073	1.5	060	4.4	0
2100	-11.3	-16.9	63	113	2.7	138	5.7	0
2400	-13.4	-19.6	65	118	2.9	103	4.4	0

DAY 09

HOUR MDNG	TEMP DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-13.4	-19.2	67	131	2.1	112	4.4	0
0600	-15.4	-17.5	71	111	3.4	095	6.2	0
0900	-14.1	-20.9	57	121	5.1	122	7.6	0
1200	-14.3	-21.4	56	121	2.8	132	7.6	1
1500	-18.8	-22.9	72	097	1.8	***	4.7	0
1800	-18.4	*****	**	138	1.2	141	4.4	0
2100	*****	*****	**	***	****	***	****	0
2400	-16.5	*****	**	***	****	***	****	0

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING December, 1982

DAY 10

HOUR MDNG	DEW TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	*****	*****	**	***	****	***	2.6	0
0600	*****	*****	54	058	.9	059	3.2	0
0900	*****	*****	**	060	1.2	***	3.4	0
1200	*****	*****	**	***	****	***	4.2	***
1500	*****	*****	**	***	****	***	****	0
1800	*****	*****	**	***	****	***	6.1	0
2100	*****	*****	55	***	****	***	3.8	0
2400	*****	*****	53	***	****	***	6.2	0

DAY 11

HOUR MDNG	DEW TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-16.0	-33.4	53	072	1.5	072	3.8	0
0600	-16.3	*****	56	076	1.4	083	3.6	0
0900	-14.9	-20.5	62	031	1.4	041	3.2	0
1200	-12.6	*****	56	051	1.2	048	2.5	2
1500	-12.5	-19.5	56	056	1.0	053	3.2	0
1800	-13.5	-20.4	56	052	1.2	056	3.2	0
2100	-16.1	-20.4	69	038	1.4	086	3.8	0
2400	-17.7	-24.6	55	043	1.8	046	3.8	0

DAY 12

HOUR MDNG	DEW TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	*****	*****	63	030	1.0	***	6.4	0
0600	-19.0	-22.9	71	010	1.8	010	3.8	0
0900	-19.8	-22.9	76	***	****	***	4.3	0
1200	-18.0	-24.4	57	037	1.3	056	3.2	1
1500	-18.4	*****	67	068	.9	080	4.6	1
1800	*****	*****	56	072	1.6	083	7.8	0
2100	*****	*****	**	079	2.1	090	3.8	0
2400	-17.2	-25.4	49	081	1.8	***	****	0

DAY 13

HOUR MDNG	DEW TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-15.2	-27.0	36	072	1.8	056	4.4	0
0600	-14.3	-25.0	41	069	1.7	096	4.6	0
0900	-14.3	-22.0	52	072	1.8	104	3.8	0
1200	-15.0	-22.7	52	065	2.2	070	4.4	1
1500	-15.1	-21.6	58	074	1.7	089	3.8	0
1800	-15.1	-21.9	56	058	1.6	078	3.2	0
2100	-16.1	-25.4	46	046	1.4	036	3.8	0
2400	-15.7	-28.1	34	067	3.4	085	7.0	0

DAY 14

HOUR MDNG	DEW TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-15.7	-29.4	33	054	2.3	053	6.3	0
0600	-14.8	-27.9	32	098	2.4	117	7.0	0
0900	-15.2	-29.0	30	100	1.9	090	5.7	0
1200	-17.5	-30.3	32	094	1.6	063	6.7	2
1500	-15.7	-30.9	26	080	2.1	063	4.4	3
1800	-14.0	-29.8	25	076	1.9	080	4.4	0
2100	-12.7	-29.1	24	067	1.8	069	4.4	0
2400	-12.7	-29.1	24	064	1.6	055	4.4	0

DAY 15

HOUR MDNG	DEW TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-11.9	-29.9	23	090	1.6	078	4.4	0
0600	-14.3	*****	25	037	1.1	052	3.2	0
0900	-16.6	-29.5	32	322	1.0	295	3.2	0
1200	-14.5	-18.7	70	074	1.4	109	4.6	2
1500	-15.6	-18.1	81	073	1.9	090	6.0	0
1800	-13.9	-17.1	77	069	1.4	052	3.8	0
2100	-13.6	*****	82	047	1.0	056	3.2	0
2400	-12.4	-14.1	87	048	1.1	041	3.6	0

DAY 16

HOUR MDNG	DEW TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-2.6	*****	89	095	1.6	131	3.8	0
0600	-12.6	*****	69	131	.9	108	3.8	0
0900	-11.3	*****	86	357	.5	299	3.5	0
1200	-7.1	*****	88	043	.7	343	3.5	0
1500	-8.4	-8.0	94	093	1.6	076	3.8	0
1800	-9.4	-10.3	93	193	1.0	134	5.1	0
2100	-7.2	-8.8	84	089	1.0	074	4.4	0
2400	-6.7	*****	95	079	1.3	051	3.8	0

DAY 17

HOUR MDNG	DEW TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-6.4	-7.6	93	055	1.5	049	5.1	0
0600	-5.8	-6.8	97	109	1.9	135	4.4	0
0900	-4.9	-5.6	95	***	****	***	6.3	0
1200	-4.2	-6.7	83	***	****	***	7.6	1
1500	-4.9	-6.5	89	022	1.1	354	6.3	0
1800	-5.7	*****	97	118	.7	114	3.5	0
2100	-6.3	-7.1	96	110	.4	050	3.5	0
2400	-6.4	*****	96	***	****	***	2.5	0

DAY 18

HOUR MDNG	DEW TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-6.6	-7.2	94	***	****	***	7.2	0
0600	-5.9	-6.7	92	***	****	***	5.2	1
0900	-5.8	*****	95	***	****	***	4.3	3
1200	-5.0	-6.6	89	***	****	***	5.2	4
1500	-5.4	*****	94	***	****	***	7.8	1
1800	-4.9	-5.3	97	***	****	***	7.8	0
2100	-4.7	-5.1	97	***	****	***	****	0
2400	-7.1	-7.7	94	***	****	***	****	1

** END OF INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING December, 1984

DAY 19

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-8.0	-9.1	92	***	****	***	****	0
0600	-10.[illegible]	-15.0	67	037	1.5	011	7.0	0
0900	-11.3	-22.0	41	329	3.8	338	17.8	0
1200	-15.6	-24.9	45	329	3.0	337	7.6	1
1500	-18.3	-25.3	54	029	1.6	095	9.5	0
1800	-15.6	-26.0	41	077	2.1	077	5.7	0
2100	-14.7	-23.5	30	343	2.1	005	8.3	0
2400	-17.8	-29.4	36	347	2.9	046	6.3	0

DAY 20

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-14.8	-30.5	25	044	2.3	064	6.1	0
0600	-14.8	-30.9	24	056	2.0	054	4.4	0
0900	-14.4	-30.2	25	067	1.2	085	2.5	0
1200	-15.2	-30.1	27	039	1.1	056	3.2	2
1500	-15.5	-33.9	19	041	1.1	075	3.2	1
1800	-15.3	-29.4	29	059	1.4	059	3.8	0
2100	-15.9	-29.9	29	048	1.4	044	3.8	0
2400	-16.2	-28.9	33	067	1.5	081	5.1	0

DAY 21

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-16.1	-26.4	41	106	1.7	080	4.4	0
0600	-15.2	-19.8	68	083	1.3	091	3.6	[illegible]
0900	-14.7	-16.7	85	050	.9	069	2.5	0
1200	-14.1	-16.2	84	014	1.0	014	2.5	2
1500	-15.0	-16.7	87	007	1.3	356	3.2	0
1800	-14.4	-16.8	82	079	1.9	059	5.1	0
2100	-13.8	-16.5	80	083	1.6	055	5.1	0
2400	-12.1	-14.7	81	104	2.3	098	5.1	0

DAY 22

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-13.2	-15.3	84	060	1.5	049	5.7	0
0600	-12.2	-13.8	88	080	1.4	035	5.1	0
0900	-11.8	-13.5	87	081	1.1	069	3.2	0
1200	-10.3	*****	85	093	1.0	077	3.8	1
1500	-10.7	-12.6	86	056	1.0	036	3.2	0
1800	-1[illegible].8	-13.1	83	078	1.5	070	3.8	0
2100	-9.2	-11.7	82	083	1.2	104	3.8	0
2400	-9.2	-10.7	89	050	1.3	058	4.4	0

DAY 23

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-9.0	*****	93	068	.7	027	2.5	0
0600	-8.0	-9.4	90	054	.7	035	2.5	0
0900	-8.1	-8.9	94	076	.7	029	3.2	0
1200	-5.5	-7.2	88	047	1.4	051	4.4	1
1500	-6.3	-7.1	94	064	1.6	031	7.6	0
1800	-9.9	-10.7	94	355	1.3	041	5.1	0
2100	-10.3	-12.4	85	298	1.4	283	7.0	0
2400	-12.6	-16.3	74	223	3.3	196	8.9	0

DAY 24

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-10.8	-16.3	64	271	5.4	311	16.5	0
0600	-14.3	-16.1	86	270	4.8	300	11.4	0
0900	-15.6	-18.0	82	269	.6	232	8.9	0
1200	-15.1	-19.2	71	048	1.2	036	4.4	1
1500	-14.7	-18.9	70	055	1.1	061	3.8	0
1800	-15.1	-19.5	69	056	1.2	030	3.5	0
2100	-14.7	-19.8	65	063	1.7	054	4.4	0
2400	-15.0	-19.4	69	060	1.5	046	3.9	0

DAY 25

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-13.5	-17.3	69	049	1.7	031	3.8	0
0600	-1[illegible].9	-16.8	67	045	1.6	038	3.8	0
0900	-13.8	*****	88	073	.6	353	3.2	0
1200	[illegible].7	[illegible].9	84	081	.9	081	2.5	2
1500	-13.[illegible]	*****	[illegible]	***	****	***	2.5	0
1800	-13.6	*****	86	***	****	***	3.8	0
2100	-13.9	*****	88	***	****	***	3.8	0
2400	[illegible]	-15.7	88	***	****	***	3.2	0

DAY 26

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-13.8	*****	88	***	****	***	2.5	0
0600	-14.4	*****	87	044	.7	023	3.8	0
0900	-14.8	-16.4	88	045	.8	021	3.8	0
1200	-15.5	-17.3	86	356	1.2	031	3.8	0
1500	-15.1	-17.9	79	028	1.4	032	3.8	0
1800	-16.2	-19.0	79	055	1.2	014	5.1	0
2100	-17.3	-20.7	75	095	2.2	083	6.3	0
2400	-16.6	-21.1	68	076	2.1	059	7.1	0

DAY 27

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-17.1	-21.[illegible]	67	[illegible]	2.2	[illegible]	[illegible]	0
0600	-15.6	-20.7	65	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0900	-17.0	[illegible]	[illegible]	043	2.0	[illegible]	[illegible]	[illegible]
1200	-16.6	-22.9	58	[illegible]	2.1	040	[illegible]	[illegible]
1500	-16.0	-23.2	54	[illegible]	1.6	[illegible]	[illegible]	[illegible]
1800	-15.9	-24.2	[illegible]	[illegible]	1.4	[illegible]	[illegible]	[illegible]
2100	-16.0	-26.1	42	067	1.5	075	3.3	[illegible]
2400	-16.6	-26.9	41	071	1.5	045	3.3	[illegible]

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R A M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING December, 1984

DAY 28

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-16.9	-26.1	45	058	1.6	036	3.8	0
0600	-17.0	-26.2	45	076	1.8	078	3.8	0
0900	-18.1	-27.0	46	067	1.7	050	3.8	0
1200	-17.7	-26.8	45	071	1.9	032	3.8	1
1500	-19.2	-28.2	45	060	1.5	079	3.2	0
1800	-19.4	-28.4	45	039	1.4	034	3.2	0
2100	-18.5	-28.1	43	068	1.6	053	3.4	0
2400	-15.2	-22.6	53	062	1.3	066	5.1	0

DAY 29

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-17.9	-21.5	73	087	2.2	094	5.7	0
0600	-14.8	-17.5	80	020	.7	043	3.2	0
0900	-16.8	-19.0	83	061	1.0	028	3.8	0
1200	-15.0	*****	82	095	1.0	087	3.8	0
1500	-15.1	-17.3	83	080	1.3	125	3.8	0
1800	-14.7	*****	85	046	.5	076	1.9	0
2100	-14.3	*****	85	055	.7	076	2.5	0
2400	-13.8	-15.8	85	074	.9	145	3.8	0

DAY 30

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-12.9	-15.1	84	073	3.4	078	7.6	0
0600	-11.6	-15.5	73	075	7.6	075	7.6	0
0900	-10.6	-15.2	69	081	4.9	083	8.3	0
1200	-9.9	-14.2	67	085	5.4	083	8.9	1
1500	-9.6	-12.4	80	132	3.9	113	11.4	0
1800	-8.4	-12.4	73	107	7.6	101	13.1	0
2100	-8.6	-11.0	83	102	3.7	111	9.5	0
2400	-7.7	-10.2	82	123	3.1	122	13.8	0

DAY 31

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-6.3	-9.5	78	045	1.8	075	5.1	0
0600	-6.4	*****	75	059	1.5	080	3.8	0
0900	-4.2	-7.3	78	061	2.4	076	8.3	0
1200	-3.8	-6.3	83	055	2.1	071	9.5	0
1500	-4.4	-5.1	95	133	1.3	130	6.3	0
1800	-3.6	-5.7	79	094	3.1	093	8.3	0
2100	-2.3	-4.5	73	103	6.6	110	12.1	0
2400	-3.2	-5.3	84	113	6.1	102	10.2	0

** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR GLACIER WEATHER STATION
DATA TAKEN DURING December, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	-5.6	-8.4	-7.0	063	.9	1.2	357	3.8	ENE	83	-9.5	****	10	1
2	-3.4	-8.4	-5.9	058	1.4	1.6	043	4.4	NE	73	-10.4	****	10	2
3	1.5	-4.6	-1.6	080	1.5	1.7	109	9.5	E	85	-5.2	****	10	3
4	1.8	-3.3	-.8	091	2.9	3.2	105	14.0	E	76	-4.9	****	35	4
5	-2.4	-5.0	-3.7	098	2.0	2.5	129	16.5	ENE	78	-7.4	****	5	5
6	-3.3	-8.3	-5.8	061	1.3	1.5	058	5.7	ENE	56	-12.8	****	85	6
7	-5.8	-11.3	-8.6	047	1.1	1.4	097	4.4	ENE	82	-12.3	****	35	7
8	-7.3	-13.4	-10.4	085	1.3	1.8	108	5.7	NE	80	-12.7	****	25	8
9	-13.1	-19.2	-16.2	113	2.7	3.1	122	8.6	ESE	64	-20.2	****	40	9
10	-15.1	-16.8	-16.0	056	1.1	1.4	***	6.2	E	54	*****	****	0	10
11	-12.5	-18.8	-15.7	051	1.3	1.4	072	3.8	NE	58	-21.6	****	80	11
12	-15.6	-19.8	-17.7	058	1.4	1.7	***	6.4	E	59	-23.9	****	75	12
13	-14.0	-16.3	-15.2	066	1.9	2.0	085	7.0	ENE	48	-24.0	****	40	13
14	-12.7	-17.5	-15.1	079	1.9	2.1	117	7.0	E	28	-29.6	****	105	14
15	-11.4	-18.8	-15.1	061	1.1	1.5	090	6.0	E	57	-22.1	****	105	15
16	-6.5	-13.3	-9.9	074	.9	1.4	134	5.1	N	89	-10.9	****	0	16
17	-3.4	-7.1	-5.3	072	.9	1.3	***	7.6	NE	90	-6.8	****	0	17
18	-4.0	-7.3	-5.7	***	****	.9	***	3.2	***	95	-6.0	****	0	18
19	-7.3	-18.8	-13.1	006	1.7	2.9	338	17.8	N	56	-21.6	****	35	19
20	-14.3	-16.9	-15.6	052	1.5	1.6	064	6.1	ENE	27	-30.1	****	100	20
21	-12.1	-16.3	-14.2	072	1.3	1.6	059	5.1	NNE	73	-18.9	****	45	21
22	-8.4	-13.4	-10.9	073	1.2	1.4	049	5.7	ENE	85	-13.3	****	30	22
23	-5.5	-12.6	-9.1	030	.3	1.7	196	8.9	NNE	90	-10.1	****	[illegible]	23
24	-10.5	-16.0	-13.3	301	.9	2.7	311	16.5	ENE	72	-18.3	****	60	24
25	-11.8	-14.8	-13.3	052	1.3	1.3	031	3.8	NE	79	-16.2	****	60	25
26	-13.1	-17.9	-15.5	056	1.2	1.5	059	7.1	NNE	80	-18.4	****	5	26
27	-15.4	-17.7	-16.6	052	1.7	1.9	022	7.0	ENE	56	-23.2	****	5	27
28	-15.2	-20.0	-17.6	064	1.6	1.8	066	5.1	ENE	45	-27.1	****	40	28
29	-13.8	-19.5	-16.7	072	.9	1.3	094	5.7	NNE	79	-18.1	****	0	29
30	-6.7	-12.9	-9.8	098	4.1	4.6	101	12.1	E	74	-13.7	****	25	30
31	-1.9	-7.0	-4.5	092	2.5	3.5	110	12.1	ESE	81	-7.2	****	20	31
MONTH	1.8	-20.0	-11.1	072	1.4	1.9	338	17.8	ENE	68	-15.9	****	1085	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS [illegible]
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL [illegible]
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL [illegible]
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS [illegible]

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.

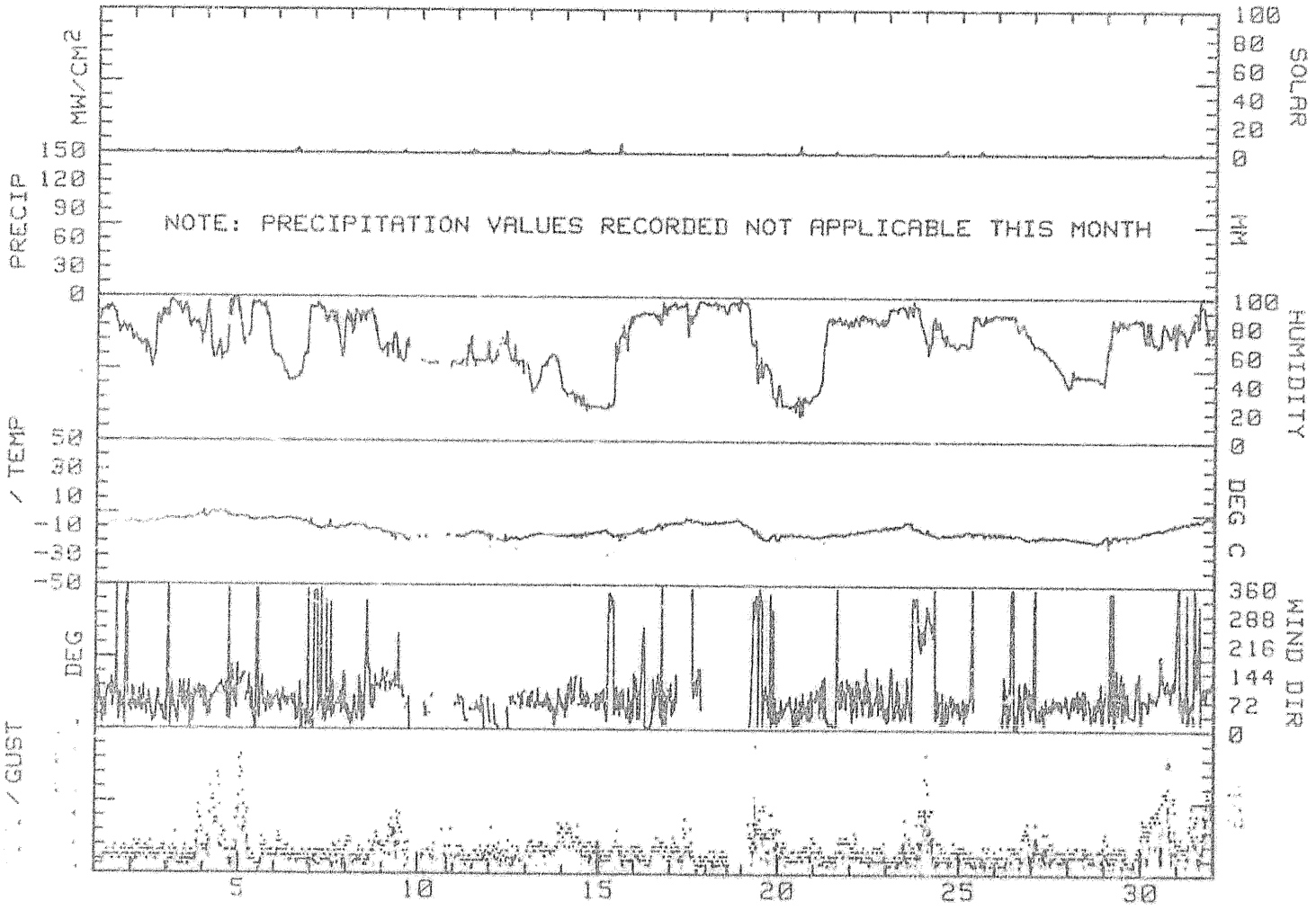
* SEE PRECIPITATION NOTES AT END OF MONTHLY REPORT *

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

GLACIER WEATHER STATION

December, 1984



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

DIRECTION	VELOCITY (M/S) 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	TOTAL
N	1.12	3.91	.24	0.00	0.00	0.00	0.00	5.27
NNE	1.76	9.98	.48	0.00	0.00	0.00	0.00	12.21
NE	3.00	15.24	.60	0.00	0.00	0.00	0.00	18.84
ENE	2.15	19.07	1.68	0.00	0.00	0.00	0.00	22.91
E	1.84	12.05	2.87	.64	0.00	0.00	0.00	17.41
ESE	1.68	5.11	2.47	1.76	0.00	0.00	0.00	11.01
SE	1.84	2.55	.48	.40	0.00	0.00	0.00	4.47
SSE	.80	.72	.08	0.00	0.00	0.00	0.00	1.60
S	0.00	.16	.08	0.00	0.00	0.00	0.00	.24
SSW	.08	.24	.16	0.00	0.00	0.00	0.00	.48
SW	.08	.32	.24	.08	0.00	0.00	0.00	.72
WSW	.08	.24	.16	.08	0.00	0.00	0.00	.56
W	0.00	.08	.32	.08	0.00	0.00	0.00	.48
WNW	.08	.48	.16	.08	0.00	0.00	0.00	.81
NW	.24	.88	.24	.16	0.00	0.00	0.00	1.52
NNW	.56	1.52	.08	0.00	.08	0.00	0.00	2.24
CALM								
TOTAL	15.49	72.55	10.93	3.27	.08	0.00	0.00	100.00

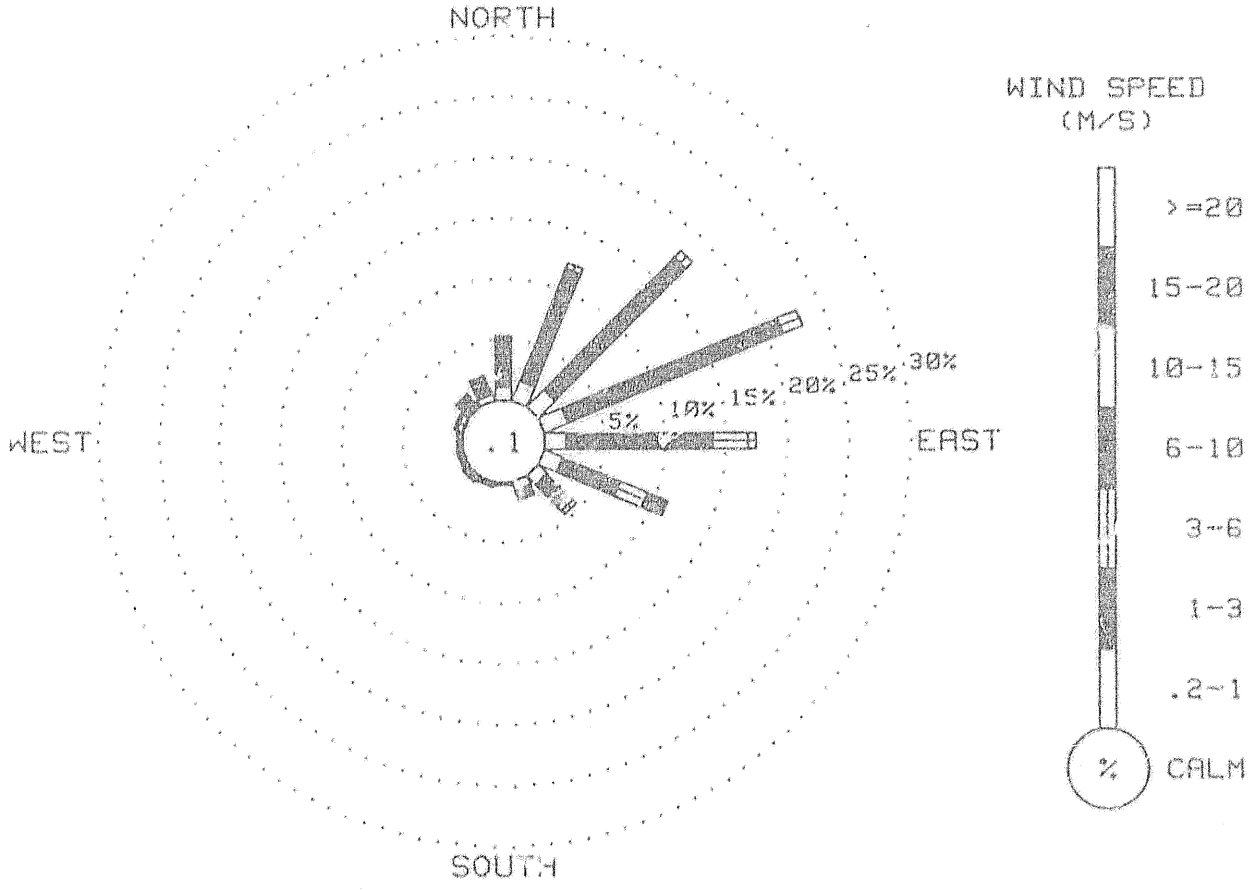
NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
(1) VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
(2) VALID OBSERVATIONS WOULD HAVE BEEN CORRECT FOR 30 MINUTE DATA
(3) SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

GLACIER WEATHER STATION

December, 1984



WIND ROSE PLOT

P & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

[illegible] SOLAR RADIATION SUMMARY FOR GLACIER WEATHER STATION
Data Taken During December, 1984

[illegible] AR RADIATION VALUES MEASURED IN MILLIWATTS PER SQUARE CENTIMETER

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	AVG
1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	1	2	3	3	1	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	1	2	2	1	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	***	***	***	***	0	0	0	0	0	0	0	0	0	0	***
11	0	0	0	0	0	0	0	1	1	1	2	2	2	1	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	1	3	2	1	1	1	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	1	2	2	2	3	1	1	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	1	4	5	1	1	0	0	0	0	0	0	0	0	0	0
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	***
17	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	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	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	1	2	5	2	1	1	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	2	3	1	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0
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	***
24	0	0	0	0	0	0	0	0	0	0	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	2	3	2	1	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	***
30	0	0	0	0	0	0	0	0	0	0	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0

*** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT ***

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DATA RECOVERY SUMMARY FOR GLACIER WEATHER STATION
DURING DURING December, 1984

PARAMETER	NUMBER OF USABLE OBSERVATIONS	PERCENT OF TOTAL OBSERVATIONS
TEMPERATURE	1410	95
WIND SPEED	1409	95
WIND DIRECTION	1263	85
PEAK GUST	1385	93
RELATIVE HUMIDITY	1212	81
PRECIPITATION	0	0
SOLAR RADIATION	1421	100
DEW POINT	1189	80

THERE ARE 1488 POSSIBLE OBSERVATIONS THIS MONTH FOR EACH PARAMETER. THE DATA RECORDING INTERVAL IS 30 MINUTES.

THE FOLLOWING ADJUSTMENTS HAVE BEEN MADE TO THIS MONTH'S DATA:

1. RH +7 RH Points
2. Solar -1 mW/CM^2

Additional comments on this month's data:

1. Intermittent data for all parameters lost due to weather wizard malfunction. Temperature, RH, and Solar data estimated where possible.
2. Intermittent wind speed and direction data lost due to frozen anemometer and wind vane.

6.0 REFERENCES

Coffin, J. H. 1984. Solar and longwave radiation data for south-central Alaska. In: Proceedings, Alaska Section AWRA Annual Conference, Alyeska Resort, Alaska, November 1984. Published by Institute of Water Resources, University of Alaska, Fairbanks, Alaska, as Report IWR-106.

R&M Consultants, Inc. 1984. Processed climatic data, October 1982 - September 1983, Volume I, Susitna Glacier Station (No. 0610). Prepared under contract to Harza-Ebasco Susitna Joint Venture for Alaska Power Authority. Document No. 1088. June.

APPENDIX

TABLE A.1 CONVERSION FACTORS

Multiply	by	To Obtain
millimeter (mm)	0.03937	inch (in)
centimeter (cm)	0.3937	inch (in)
square centimeter (cm^2)	0.1550	square inch (in^2)
meter (m)	3.281	foot (ft)
square meter (m^2)	10.76	square foot (ft^2)
meter per second (m/s)	3.821	foot per second (ft/s)
meter per second (m/s)	2.237	mile per hour (mph)
meter per second (m/s)	1.944	knot (kt)
degree Celsius (°C)	°F= 9/5(C) +32	degree Fahrenheit (°F)
watt-hour (WH)	3.413	British Thermal Unit (BTU)
watt-hour (WH)	3600	joule (J)
milliwatt (mw)	0.003413	BTU per hour (BTU/hr)
milliwatt per square centimeter (mw/cm^2)	0.1040	BTU per hour per square foot ($BTU/hr\text{-}ft^2$)
watt-hour per square meter (WH/m^2)	0.3171	BTU per square foot (BTU/ft^2)
watt-hour per square meter (WH/m^2)	0.0860	langley (ly)