SUSITNA
HYDROELECTRIC PROJECT

FEDERAL ENERGY REGULATORY COMMISSION
PROJECT No. 7114

PROCESSED CLIMATIC DATA
OCTOBER 1983 - DECEMBER 1984

VOLUME 2
DENALI STATION
(No. 0620)

PREPARED BY

R&M CONSULTANTS, INC.
ENGINEERS GEOLOGISTS PLANNERS SURVEYORS

UNDER CONTRACT TO

HARZA-EBASCO
SUSITNA JOINT VENTURE

FINAL REPORT

JUNE 1985
DOCUMENT No. 2768

ALASKA POWER AUTHORITY

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TASK 4 - HYDROLOGY

PROCESSED CLIMATIC DATA
OCTOBER 1983 - DECEMBER 1984

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ALASKA POWER AUTHORITY
SUSITNA HYDROELECTRIC PROJECT

PROCESSED CLIMATIC DATA - DENALI STATION
OCTOBER 1983 - DECEMBER 1984

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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 Denali climate site was chosen to represent the high plateau at the base of the Alaska Range in the Susitna drainage basin.

1.2 Station Description

The Denali weather station is about 1 mile east of the east bank of the Susitna River, about 100 yards south of Susitna Lodge, and about 200 feet east of the Denali Highway. This site lies in a mountain pass through which the Susitna River flows. To the east of the station the Clearwater Mountains rise abruptly to over 6,000 feet within 2 miles of the site. On the west an unnamed range rises more gradually to 4,000 feet in 5 miles. The station lies on open tundra at the top of a low rise. The approximate elevation is 2,700 feet at 63°05'20" N latitude and 147°28'20" W longitude. The surrounding mountains shade the instrument in the morning and afternoon throughout the year. The eastern mountains shade to 20° from the horizontal and the western mountains shade to less than 4° above the horizontal (Refer to Table 1.1 for angular elevations of terrain obstructions).

The location is particularly windy. Air movement through the pass is either from the north or south. Historically, the highest recorded wind velocities are from the south.

1.3 Methods of Data Collection

The climatic data at Denali 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 Denali Station was installed on July 17, 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 2 Denali Station (No. 0620) March 1982 (R&M Consultants)	July 1980 - September 1981
2.	Processed Climatic Data Volume 2 Denali Station (No. 0620) December 1982 (R&M Consultants)	October 1981 - September 1982
3.	Processed Climatic Data Volume II Denali Station (No. 0620) 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 DENALI WEATHER STATION

Azimuth(1) (True)	Elevation(2) (ft, MSL)	Vertical Angle(3)
6°	3581	2.9°
24°	5500	9.0°
36°	4766	6.4°
71°	4506	13°
82°	4806	9.4°
113°	6017	18°
284°	4046	3.2°
300°	3416	2.0°

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 2700 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
DENALI CLIMATE STATION
OCTOBER 1983 TO DECEMBER 1984

Inspection Date	Maintenance
10/05/83	Switched to 30 minute recording intervals Magnetic reed switch in anemometer repaired
11/16/83	None
01/10/84	Replaced battery Reset date to 010 RH sensor replaced and calibrated
02/22/84	Power supply connection repaired RH sensor calibrated
04/09/84	None
05/23/84	RH sensor replaced and calibrated
07/13/84	RH sensor calibrated
08/22/84	Sensor array disconnected for annual maintenance Data tape removed
08/24/84	RH sensor calibrated Weather Wizard and sensor array removed for annual maintenance Installed precipitation collector bottle
08/26/84	Reinstalled Weather Wizard and sensor array Removed solar radiation sensor Data tape replaced
10/05/84	Sensor array replaced with new RH oscillator RH sensor calibrated Switched to 5 minute recording intervals
11/02/84	Switched to 30 minute recording intervals
11/28/84	RH sensor calibrated Solor sensor replaced

NOTE: Inspection notes where no maintenance was performed are dates when cassette tapes were replaced.

TABLE 1.4. EXPLANATION OF DATA GAPS AT
DENALI 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 - 10/5/83			4.5				4.5	Problem with magnetic reed switch in anemometer.
10/1/83 - 10/5/84		290						Bad RH oscillator.
10/12 - 10/15/83				2				Frozen wind vane (intermittent).
12/6 - 12/11/83	5	5	5	5		5	5	Problem with power supply connection.
12/13 - 2/22/84	71.5	71.5	71.5	71.5		71.5	71.5	Bad power supply connection.
7/28 - 10/5/84			65				65	Problem with reed switch in anemometer.
8/22 - 8/26/84	4	4	4	4	4	4	4	Station down for annual maintenance.
8/26 - 11/28/84						85.5		Solar radiation sensor not installed.
9/30 - 10/5/84					5.5			Precipitation gage was blown over.
10/20 - 11/2/84	12.5	12.5	12.5	12.5	11	12.5	12.5	Data tape ran out because of 5 minute data.
10/9 - 10/10/84				0.5				Frozen wind vane (interm. ttent).
11/21 - 12/19/84			1.5	2			1.5	Frozen anemometer and wind vane (intermittent)
Total	93	383	164	97.5	20.5	178.5	164	

NOTE: Precipitation data collected from April through September only. Collector is not designed for winter temperatures. See Section 4.2 of text.

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

Period	Solar Radiation Adjustment	RH Adjustment
10/1/83 - 12/13/83	-1 mW/cm^2	
02/22/84 - 8/22/84	-1	
11/28/84 - 12/31/84	-2	

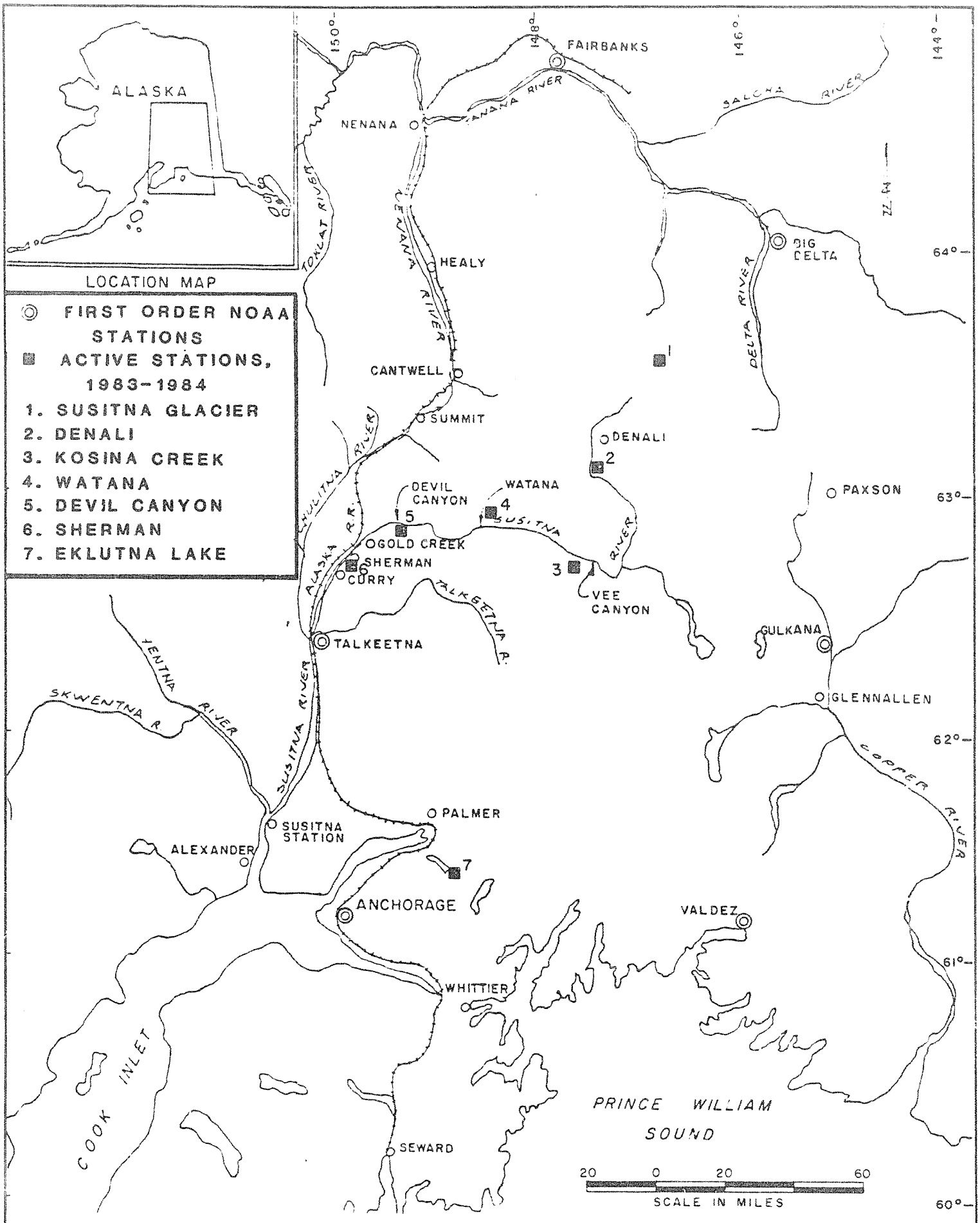
NOTE:

No RH data from 10/01/83 to 10/05/84 due to a bad RH sensor oscillator. The oscillator was replaced on 10/05/84.

TABLE 1.6. ESTIMATED MISSING DATA
DENALI CLIMATE STATION
OCTOBER 1983 TO DECEMBER 1984

Date	Time (AST)	Temp (°C)	Wind Speed (m/s)	Wind Dir (Deg)	Gust (m/s)	RH (%)	Precip (mm)	Solar Radiation (mw/cm²)
05/23/84	1030						0.0	
	1100	9.8					0.0	50
07/13/84	0830	8.1					0.0	40
11/28/84	1300	-21.6				80		

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

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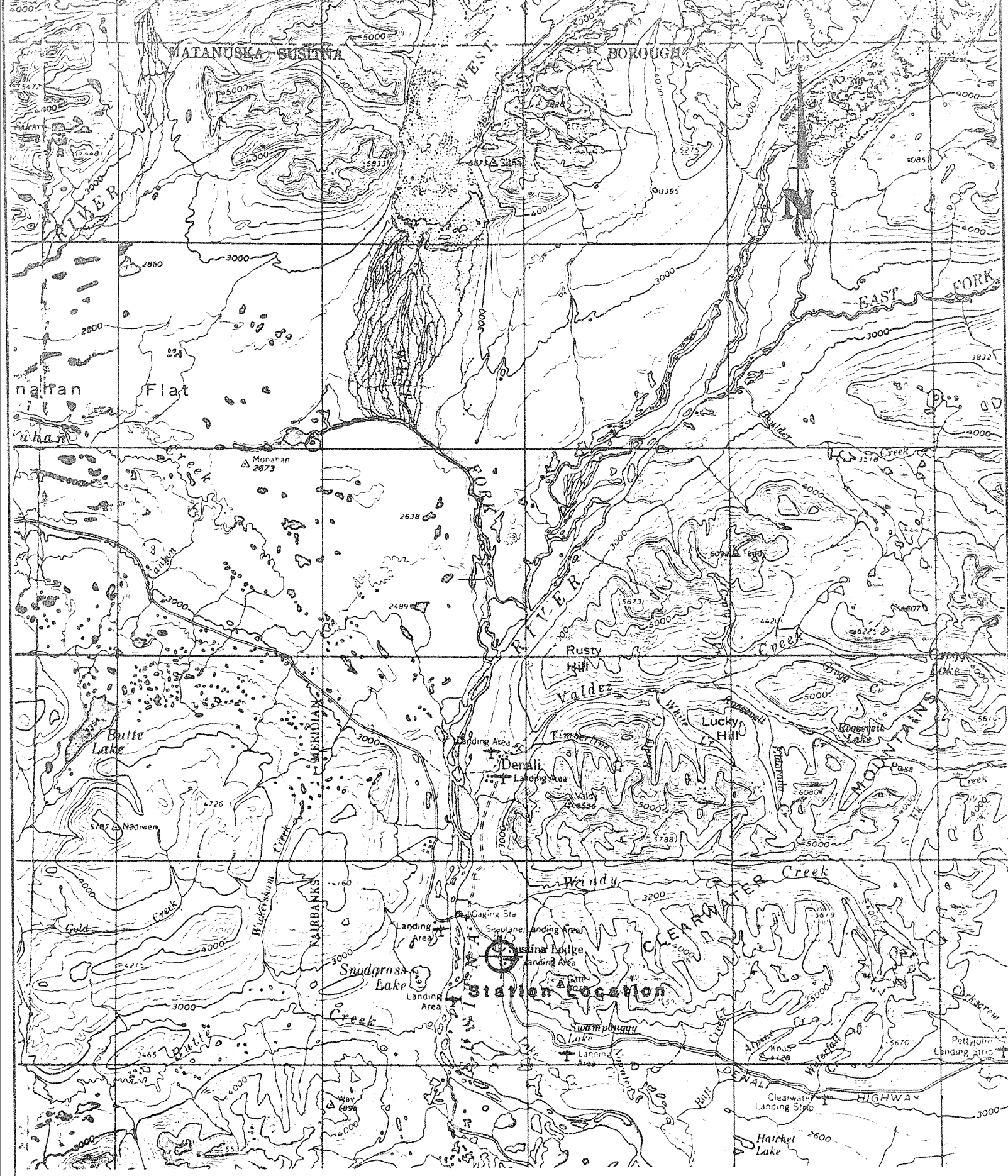
ENGINEERS GEOLOGISTS HYDROLOGISTS SURVEYORS

FIGURE 1-1

PREPARED FOR:

HARZA-EBASCO

SUSITNA JOINT VENTURE



USGS HEALY (1958) SCALE 1:250,000 Figure 1.2

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DENALI CLIMATE STATION

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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 DENALI STATION (No. 0620) 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	6.0	-18.9	-4.9	170M	0.7M	3.0M	146M	21.6M	N(M)	M	M	M	36,381
November	5.0	-24.3	-11.7	170	1.0	2.4	152	22.2	N	M	M	M	11,900
December	M	M	M	M	M	M	M	M	M	M	M	M	M
January 1984	M	M	M	M	M	M	M	M	M	M	M	M	M
February	M	M	M	M	M	M	M	M	M	M	M	M	M
March	5.1	-24.8	-6.4	181	0.6	2.3	153	21.6	N	M	M	M	86,520
April	8.0	-17.8	-4.0	353	0.3	3.0	159	21.0	N	M	M	0.8	150,925
May	15.4	-7.7	3.1	350	1.0	2.7	357	12.7	N	M	M	28.2	196,550
June	22.4	-0.9	10.0	322	0.7	2.7	150	14.6	N	M	M	63.8	184,610
July	20.6	3.8	10.9	328M	0.8M	2.6M	169M	14.0M	N	M	M	76.4	127,435
August	20.9M	-6.6M	9.7M	M	M	M	M	M	N(M)	M	M	37.6M	M
September	14.7	-5.0	5.4	M	M	M	M	M	NNW	M	M	44.4M	M
October	M	M	M	M	M	M	M	M	M	M	M	M	M
November	3.3M	-32.3M	-14.5M	103M	0.3M	1.6M	141M	26.7M	N(M)	78M	M	M	M
December	5.1	-35.7	-15.2	129M	0.6M	3.1M	226M	25.4M	NNE	77	M	M	1,585
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. Annual values are for water year (WY) and for calendar year (CY).

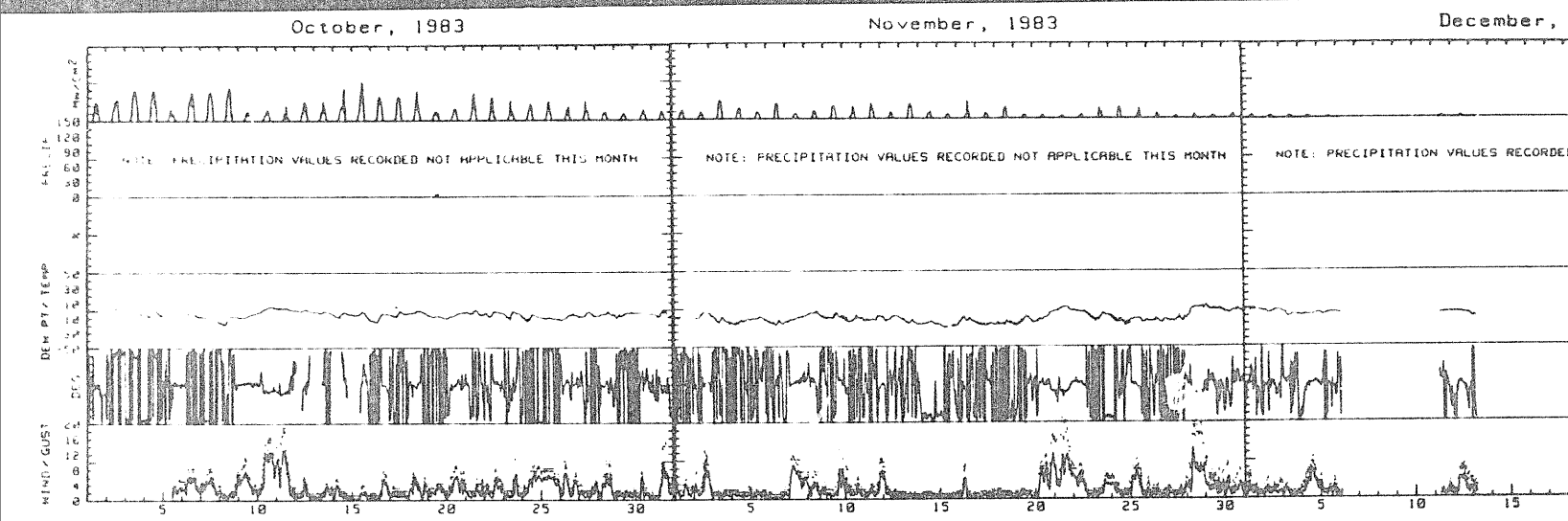
TABLE 2.2. PERCENT OF TOTAL POSSIBLE OBSERVATIONS RECORDED AT DENALI CLIMATE STATION OCTOBER 1983 TO DECEMBER 1984

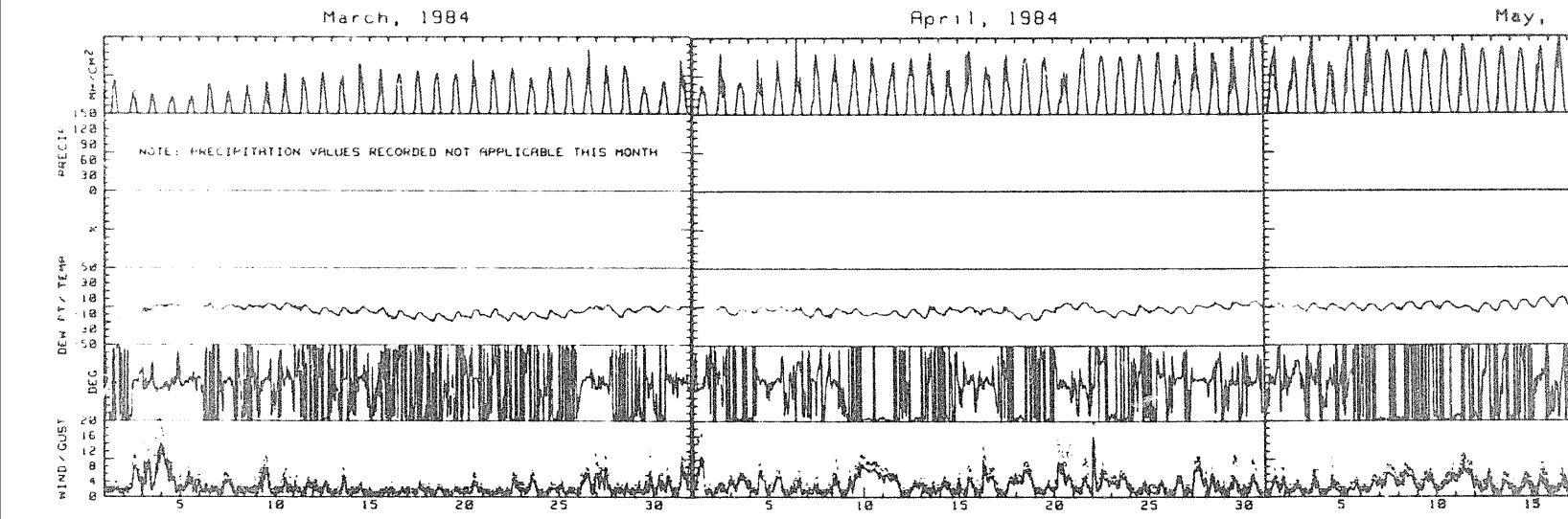
Month	Temp	Wind Speed	Wind Direction	Peak Gust	RH	Precip	Solar Radiation	Dew Point
October 1983	100	75	94	75	0	0	100	0
November	100	100	100	100	0	0	100	0
December	23	23	23	23	0	0	23	0
January 1984	0	0	0	0	0	0	0	0
February	26	26	26	26	0	0	26	0
March	100	100	100	100	0	0	100	0
April	100	100	100	100	0	100	100	0
May	100	100	100	100	0	100	100	0
June	100	100	100	100	0	100	100	0
July	100	89	100	89	0	100	100	0
August	87	0	87	0	0	87	70	0
September	100	4	100	4	0	97	0	0
October	59	56	57	56	48	56	0	48
November	76	75	70	75	44	0	7	44
December	100	96	100	96	84	0	100	84
Total	78	63	77	63	12	43	62	12

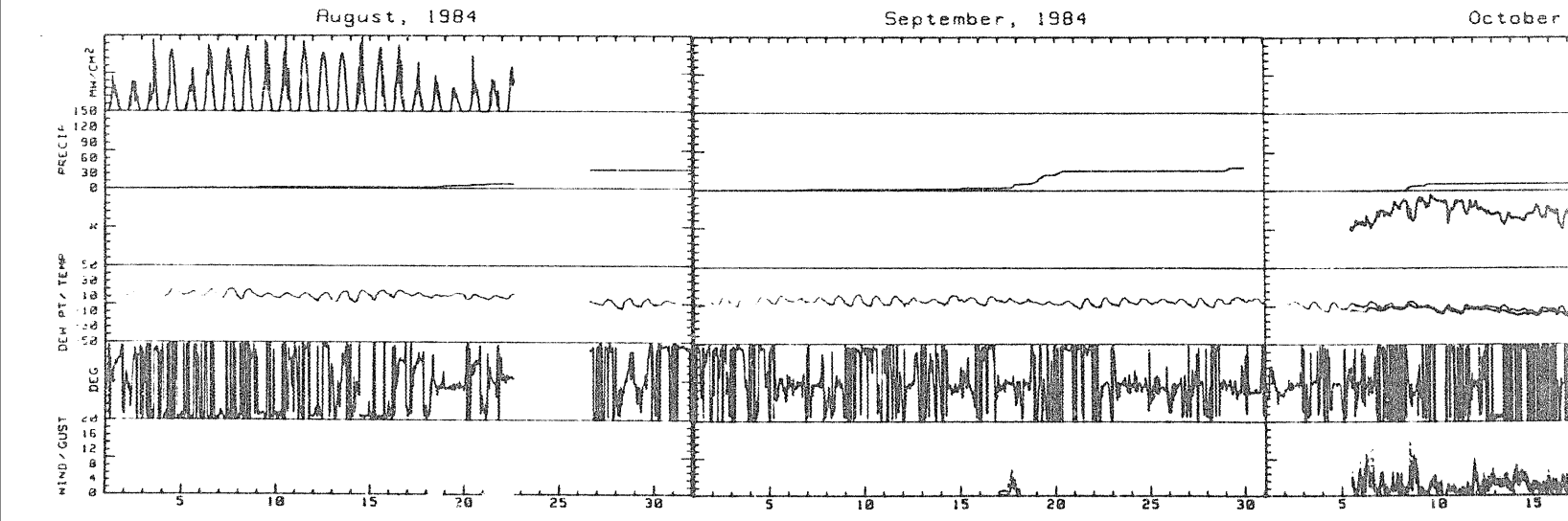
NOTES:

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).

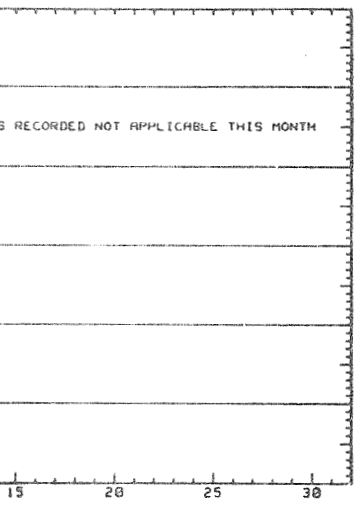
M19/36


October, 1983
November, 1983
December,
NOTE: PRECIPITATION VALUES RECORDED NOT APPLICABLE THIS MONTH
NOTE: PRECIPITATION VALUES RECORDED NOT APPLICABLE THIS MONTH
NOTE: PRECIPITATION VALUES RECORDE
PRECIP MM/CM2
DEW PT/TEMP
WIND/GUST


March, 1984
April, 1984
May,
NOTE: PRECIPITATION VALUES RECORDED NOT APPLICABLE THIS MONTH
PRECIP MM/CM2
DEW PT/TEMP
WIND/GUST


August, 1984
September, 1984
October
PRECIP MM/CM2
DEW PT/TEMP
WIND/GUST

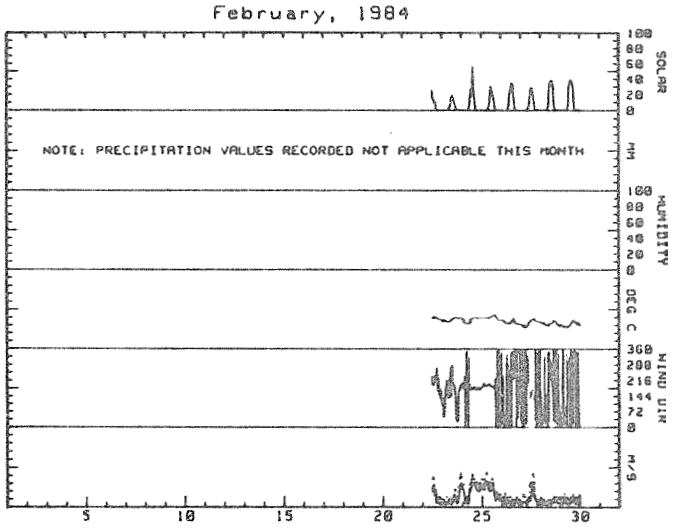
mber, 1983



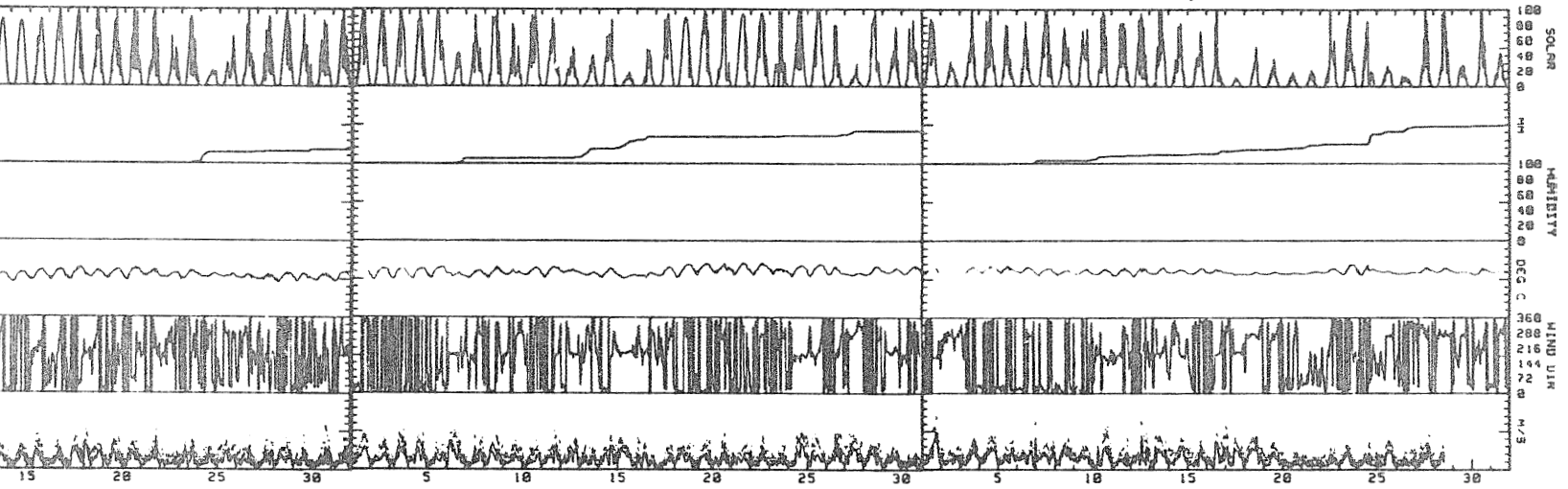
NO DATA FOR JANUARY 1984

STATION NOT WORKING

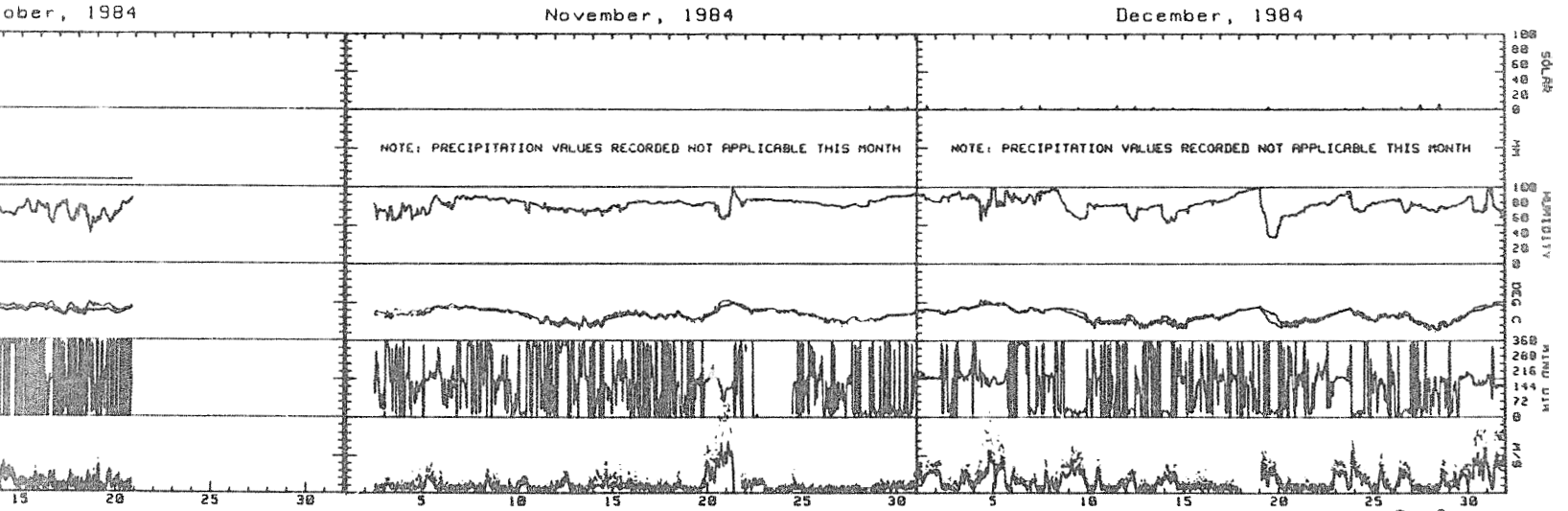
February, 1984



May, 1984 June, 1984 July, 1984

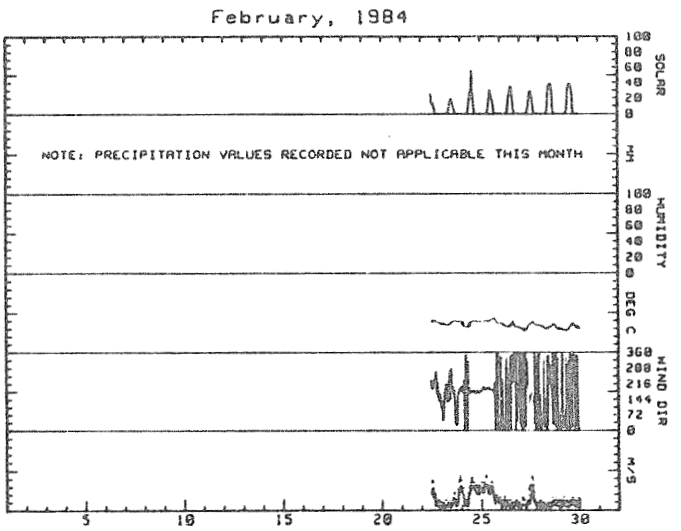


ober, 1984 November, 1984 December, 1984

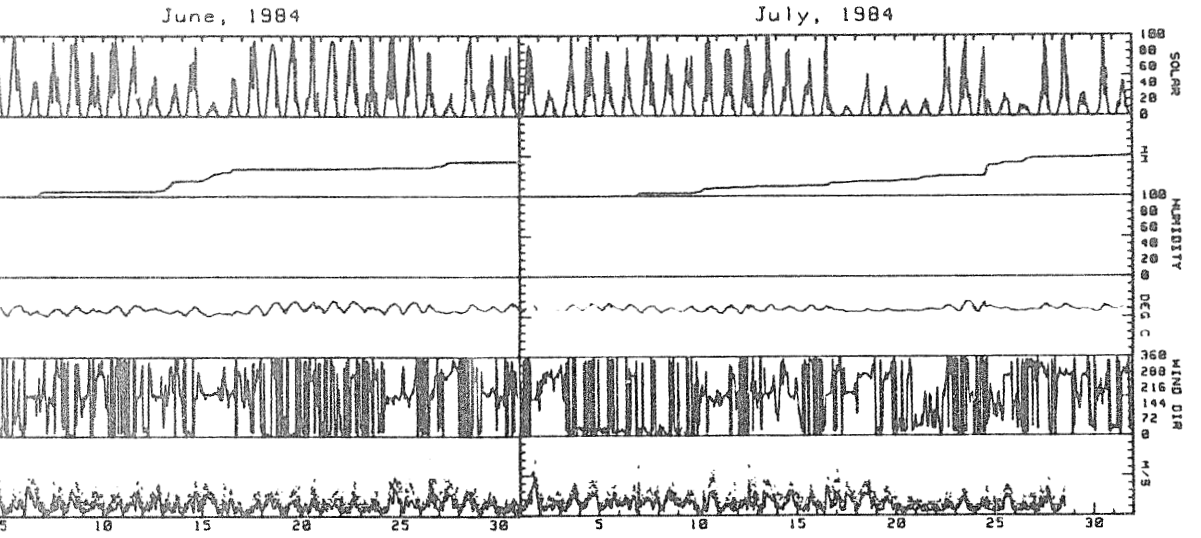


O DATA FOR JANUARY 1984

STATION NOT WORKING



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



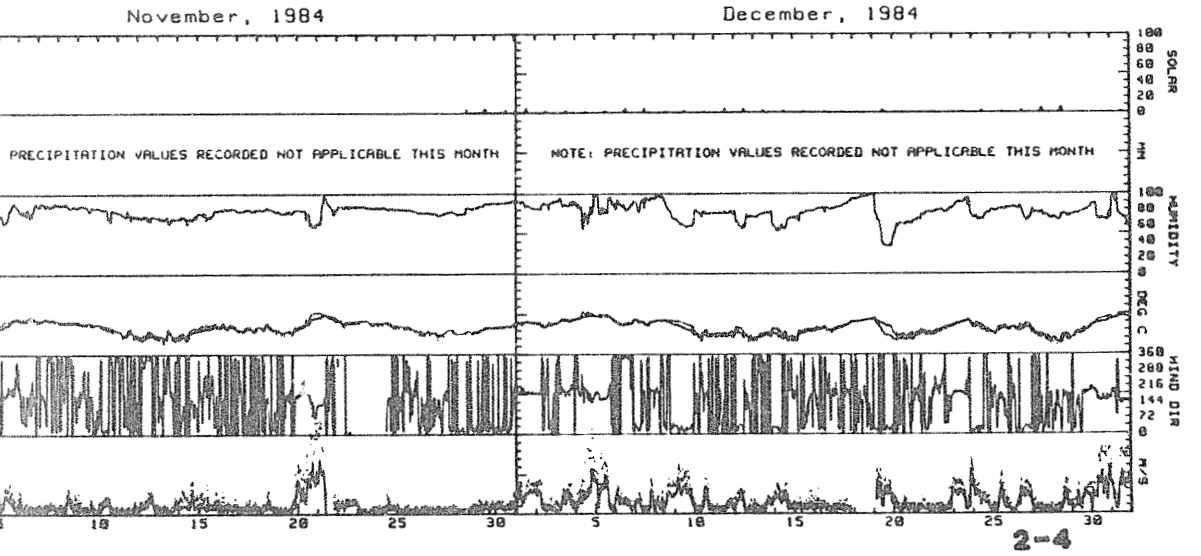


FIGURE 2.1 SEQUENTIAL PLOT OF CLIMATIC DATA, DENALI STATION, OCTOBER 1983-DECEMBER 1984

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. 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 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.

4.1.7 The Denali Weather Wizard was not functioning properly beginning on December 6, 1983 due to a problem with the

power supply connection. The poor connection was repaired on February 22, 1984. As a result, a total of 71.5 days of data for all parameters are missing during December, January, and February (see Table 1.4).

4.1.8 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 Denali station on October 5, 1984. 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 recording intervals, the tape ran out on October 20, after which no data are recorded. The cassette tape was replaced and the recording interval was switched back to 30 minutes on November 2, 1984. Approximately $12\frac{1}{2}$ days of data are lost from the record during this 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 the daily total should be reasonable. The user should exercise caution and make note of the concurrent temperatures in interpreting the precipitation records.

While the Denali station was down for annual maintenance from August 22 to August 26, 1984, a precipitation collector bottle was installed on August 24. The total amount of precipitation for the period (8/24 - 8/26) was measured, as indicated on the hourly precipitation table for August.

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 an RH reading can attain is 99%. However, when the sensor is not calibrated correctly, readings may exceed 100%, or they may be noticeably too low. Adjustments are therefore made accordingly.

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 Denali relative humidity sensor was bad for several months, which caused erratic reporting of the data. Data were recorded from October 1983 through September, 1984, but have all been deleted due to the unreliable oscillator. The oscillator was replaced October 5, 1984, after which the data are reliable.

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 is 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 $watt\text{-}hr/cm^2$. Readings during periods when this sensor

offset was demonstrated have been adjusted downward, as noted in Table 1.5.

The solar radiation sensor was removed from the Denali site on August 26, 1984 due to a break in the connection at the solar cell. The sensor was replaced on November 28, 1984. A spare sensor was not available prior to this date. Approximately 86 days of solar data are lost from 8/26 - 11/28.

4.2.4 Wind Speed and Direction

Occasional measurements of wind speed, wind direction, and peak wind gusts were lost in October 1983 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.

Due to a problem with the magnetic reed switch in the anemometer, no wind speed or gust data were recorded for the first 5 days of October in 1983 and again from the end of July until the beginning of October in 1984. Approximately 70 days were lost because of this problem.

5.0 MONTHLY CLIMATIC DATA SUMMARIES
DENALI 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

(3ee INTERPRETATION OF DATA).

[illegible] [illegible] [illegible] [illegible]

[illegible] [illegible] [illegible] [illegible]

[illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]

DAY 01

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	.9	*****	**	***	****	***	****	0
0600	.3	*****	**	***	****	***	****	0
0900	1.9	*****	**	***	****	***	****	19
1200	2.9	*****	**	***	****	***	****	10
1500	3.4	*****	**	***	****	***	****	8
1800	1.9	*****	**	***	****	***	****	0
2100	3.1	*****	**	***	****	***	****	0
2400	2.5	*****	**	***	****	***	****	0

DAY 02

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	.3	*****	**	***	****	***	****	0
0600	.4	*****	**	***	****	***	****	0
0900	2.3	*****	**	***	****	***	****	16
1200	3.5	*****	**	***	****	***	****	23
1500	4.8	*****	**	***	****	***	****	22
1800	1.2	*****	**	***	****	***	****	0
2100	0.0	*****	**	***	****	***	****	0
2400	-.8	*****	**	***	****	***	****	0

[illegible]

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	-2.1	*****	**	***	****	***	****	0
0600	-3.3	*****	**	***	****	***	****	0
0900	-1.6	*****	**	***	****	***	****	21
1200	0.0	*****	**	***	****	***	****	10
1500	-.8	*****	**	***	****	***	****	21
1800	-3.2	*****	**	***	****	***	****	0
2100	-4.5	*****	**	***	****	***	****	0
2400	-4.2	*****	**	***	****	***	****	0

DAY 04

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	-4.3	*****	**	***	****	***	****	0
0600	-8.2	*****	**	***	****	***	****	0
0900	-3.9	*****	**	***	****	***	****	25
1200	-.3	*****	**	***	****	***	****	40
1500	1.1	*****	**	***	****	***	****	20
1800	-3.5	*****	**	***	****	***	****	0
2100	-6.8	*****	**	***	****	***	****	0
2400	-5.3	*****	**	***	****	***	****	0

DAY 05

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	-3.3	*****	**	***	****	***	****	0
0600	-4.6	*****	**	***	****	***	****	0
0900	-2.6	*****	**	***	****	***	****	12
1200	-.3	*****	**	165	.9	177	3.2	7
1500	-.3	*****	**	192	2.8	195	6.3	3
1800	-1.5	*****	**	188	2.5	185	5.7	0
2100	-2.2	*****	**	185	3.1	183	5.7	0
2400	-2.1	*****	**	181	2.9	177	5.7	0

[illegible]

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	-2.2	*****	**	137	2.9	138	[illegible]	0
0600	-2.6	*****	**	345	[illegible]	334	[illegible]	0
0900	-3.4	*****	**	011	5.9	356	[illegible]	21
1200	-2.6	*****	**	355	5.1	337	[illegible]	39
1500	-3.1	*****	**	352	5.7	345	[illegible]	19
1800	-4.6	*****	**	010	4.4	003	[illegible]	0
2100	-7.1	*****	**	007	3.6	356	[illegible]	0
2400	-6.5	*****	**	357	3.5	005	[illegible]	0

DAY 07

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	-6.1	*****	**	089	3.7	078	7.6	0
0600	-4.6	*****	**	084	3.7	356	7.6	0
0900	-7.3	*****	**	015	4.9	014	8.3	24
1200	-5.5	*****	**	013	5.3	012	8.3	78
1500	-5.5	*****	**	003	5.1	006	8.9	59
1800	-5.9	*****	**	012	3.4	019	7.6	1
2100	-13.5	*****	**	005	1.9	029	3.9	0
2400	-15.2	*****	**	346	2.5	338	4.9	0

DAY 08

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	-12.7	*****	**	342	1.3	344	3.8	0
0600	-13.9	*****	**	034	.9	041	1.9	0
0900	-13.1	*****	**	023	.9	030	1.9	39
1200	-8.3	*****	**	007	.9	001	1.9	67
1500	-7.5	*****	**	331	1.3	355	3.5	[illegible]
1800	-7.6	*****	**	350	1.3	339	3.8	0
2100	-9.0	*****	**	193	2.1	174	6.3	0
2400	-8.3	*****	**	185	5.6	191	8.3	0

DAY 09

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	-8.6	*****	**	[illegible]	4.6	[illegible]	[illegible]	[illegible]
0600	-9.0	*****	**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0900	-8.5	*****	**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1200	-6.7	*****	**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1500	-4.9	*****	**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1800	-4.2	*****	**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2100	-3.6	*****	**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2400	-3.5	*****	**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

R A M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING October, 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	-1.7	*****	**	186	1.8	177	3.2	0
0600	1.4	*****	**	219	3.1	209	9.3	0
0900	3.1	*****	**	157	7.6	149	15.9	6
1200	4.2	*****	**	156	11.5	151	15.9	12
1500	5.3	*****	**	151	11.6	146	16.5	6
1800	5.5	*****	**	156	11.8	157	16.5	0
2100	5.0	*****	**	162	8.4	156	13.3	0
2400	3.8	*****	**	159	9.1	159	15.2	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	4.6	*****	**	151	9.1	153	14.0	0
0600	3.6	*****	**	145	6.8	145	15.2	0
0900	3.1	*****	**	145	11.9	146	19.0	3
1200	4.2	*****	**	149	11.4	146	21.6	11
1500	2.6	*****	**	153	7.9	145	13.3	5
1800	2.0	*****	**	167	2.6	155	7.0	0
2100	.8	*****	**	202	1.2	231	3.8	0
2400	.9	*****	**	271	2.2	284	6.3	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	.5	*****	**	329	1.3	253	3.2	0
0600	-.6	*****	**	***	****	***	2.5	0
0900	.7	*****	**	191	.9	063	3.5	11
1200	2.0	*****	**	175	3.8	186	7.0	18
1500	1.5	*****	**	178	2.5	147	5.7	7
1800	-.7	*****	**	203	1.0	191	3.4	0
2100	-1.6	*****	**	***	****	***	[illegible]	0
2400	-1.5	*****	**	***	****	***	[illegible]	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	-1.4	*****	**	***	****	***	2.5	0
0600	-3.6	*****	**	***	****	***	2.5	0
0900	-2.7	*****	**	***	****	***	1.9	12
1200	-.5	*****	**	194	1.4	186	3.2	19
1500	-1.6	*****	**	348	2.4	000	5.7	7
1800	-3.1	*****	**	001	2.6	351	5.7	0
2100	-5.8	*****	**	004	1.6	346	3.9	0
2400	-4.4	*****	**	344	1.9	344	[illegible]	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	-8.0	*****	**	***	****	***	5.7	0
0600	-7.7	*****	**	***	****	***	5.7	0
0900	-6.3	*****	**	***	****	***	5.1	14
1200	-2.8	*****	**	331	1.1	342	2.5	16
1500	-1.9	*****	**	223	.9	260	2.5	19
1800	-4.2	*****	**	175	.5	221	1.9	0
2100	-4.2	*****	**	***	****	***	1.3	0
2400	-4.7	*****	**	***	****	***	1.3	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	-5.9	*****	**	***	****	***	[illegible]	0
0600	-5.8	*****	**	***	****	***	[illegible]	0
0900	-4.9	*****	**	***	****	***	[illegible]	19
1200	-2.4	*****	**	133	1.4	135	[illegible]	24
1500	-2.0	*****	**	352	1.6	341	[illegible]	19
1800	-6.8	*****	**	334	1.2	357	[illegible]	0
2100	-12.1	*****	**	109	.2	339	[illegible]	0
2400	-12.9	*****	**	014	.6	035	[illegible]	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	-14.3	*****	**	354	7	006	1.9	0
0600	-15.	*****	**	020	.4	340	1.9	0
0900	-13.1	*****	**	053	.2	091	1.5	22
1200	-7.3	*****	**	087	.9	354	2.5	21
1500	-4.3	*****	**	80	3.7	176	7.6	10
1800	-4.7	*****	**	182	4.7	183	7.6	0
2100	-4.6	*****	**	169	3.6	173	7.0	0
2400	-5.3	*****	**	162	.6	138	3.3	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	-6.7	*****	**	223	.9	241	3.8	0
0600	-6.6	*****	**	019	1.6	356	3.8	0
0900	-6.3	*****	**	008	1.1	310	3.2	21
1200	-3.2	*****	**	350	.4	001	3.8	38
1500	-1.6	*****	**	336	1.1	352	2.5	5
1800	-4.6	*****	**	341	1.5	276	3.2	0
2100	-3.9	*****	**	304	.8	295	2.5	0
2400	-3.9	*****	**	162	.2	196	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	-3.2	*****	**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0600	-2.9	*****	**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0900	-1.8	*****	**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1200	-.3	*****	**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1500	-.3	*****		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1800	-1.1	*****	**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2100	-2.9	*****	**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2400	-6.3	*****	**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

** END OF INFORMATION FOR NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

[illegible] HOUR SUMMARY FOR DENALI WEATHER STATION
[illegible] 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	-6.7	*****	**	351	1.7	000	5.1	0
0600	-8.1	*****	**	343	2.1	318	3.8	0
0900	-7.5	*****	**	355	1.7	359	3.2	9
1200	-6.7	*****	**	356	2.8	359	4.4	12
1500	-7.1	*****	**	354	3.3	351	5.1	10
1800	-8.7	*****	**	359	2.6	000	4.4	0
2100	-10.0	*****	**	358	2.3	004	4.4	0
2400	-10.1	*****	**	345	.8	353	2.3	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	-8.4	*****	**	057	1.0	110	4.4	0
0600	-8.0	*****	**	164	2.6	169	7.0	0
0900	-6.9	*****	**	175	4.2	157	8.3	6
1200	-5.8	*****	**	183	6.0	176	8.9	14
1500	-3.7	*****	**	194	4.6	185	9.5	4
1800	-3.3	*****	**	192	4.0	180	8.9	0
2100	-2.3	*****	**	180	3.0	182	8.3	0
2400	-2.0	*****	**	193	3.3	184	7.6	0

DAY [illegible]

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	-1.5	*****	**	300	1.7	199	4.4	0
0600	-3.3	*****	**	140	.5	183	3.2	0
0900	-4.3	*****	**	041	1.3	070	3.2	9
1200	-.4	*****	**	147	.1	135	3.2	36
1500	0.0	*****	**	360	2.9	024	6.3	7
1800	-5.0	*****	**	004	1.1	028	[illegible]	0
2100	-5.4	*****	**	208	2.1	187	4.5	0
2400	-5.0	*****	**	068	.7	105	3.6	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	-2.8	*****	**	176	2.1	174	7.0	0
0600	-7.9	*****	**	139	1.4	097	4.4	0
0900	-6.7	*****	**	085	.7	035	2.5	9
1200	-1.6	*****	**	222	1.8	194	7.6	20
1500	-1.8	*****	**	194	5.4	185	9.3	5
1800	-3.1	*****	**	193	3.3	183	6.3	0
2100	-3.2	*****	**	181	3.3	183	5.7	0
2400	-3.3	*****	**	185	2.3	178	5.1	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	-5.5	*****	**	193	.4	171	3.2	0
0600	-8.7	*****	**	062	.4	026	2.5	0
0900	-11.8	*****	**	127	.4	072	2.5	5
1200	-3.5	*****	**	161	1.9	154	12.1	10
1500	-1.6	*****	**	165	4.3	179	10.8	5
1800	-4.0	*****	**	192	2.7	164	10.8	0
2100	-3.7	*****	**	314	1.5	307	4.4	0
2400	-6.7	*****	**	034	.9	006	3.2	0

DAY [illegible]

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	-10.1	*****	**	316	1.1	344	[illegible]	0
0600	-12.1	*****	**	063	2.3	129	5.2	0
0900	-10.8	*****	**	358	4.9	349	[illegible]	[illegible]
1200	-6.4	*****	**	353	5.2	355	[illegible]	[illegible]
1500	-5.6	*****	**	358	6.5	345	[illegible]	[illegible]
1800	-7.3	*****	**	010	5.7	004	[illegible]	[illegible]
2100	-8.5	*****	**	012	6.4	004	[illegible]	[illegible]
2400	-9.6	*****	**	006	5.4	345	[illegible]	[illegible]

DAY [illegible]

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	-13.1	*****	**	004	5.7	004	8.3	0
0600	-11.5	*****	**	358	5.9	357	8.3	0
0900	-9.4	*****	**	354	6.2	348	9.5	8
1200	-8.3	*****	**	355	5.9	000	8.3	16
1500	-7.7	*****	**	349	6.6	350	8.3	3
1800	-7.3	*****	**	359	4.5	350	7.0	0
2100	-7.0	*****	**	359	4.6	005	7.0	0
2400	-7.7	*****	**	358	2.6	353	7.0	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	-12.6	*****	**	260	1.0	319	7.6	0
0600	-11.3	*****	**	171	5.6	157	11.4	0
0900	-9.7	*****	**	197	5.5	190	10.2	5
1200	-8.7	*****	**	202	2.3	194	5.7	4
1500	-5.8	*****	**	152	1.3	191	5.7	3
1800	-6.4	*****	**	187	3.3	173	8.9	0
2100	-5.8	*****	**	189	4.6	182	7.6	0
2400	-7.9	*****	**	208	2.0	225	5.1	0

DAY [illegible]

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	-6.1	*****	**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0600	-9.4	*****	**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0900	-8.8	*****	**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1200	-8.3	*****	**	341	3	337	[illegible]	[illegible]
1500	-7.7	*****	**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1800	-8.2	*****	**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2100	-7.8	*****	**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2400	-7.6	*****	**	341	1.9	355	[illegible]	[illegible]

[illegible] [illegible] STATION NOTES AT END OF MONTHLY REPORT [illegible]

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOUR Summary FOR OFFAIT WEATHER STATION
DATA TAKEN DURING October 1985

DAY 28

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	-7.2	*****	**	280	.4	262	5.1	0
0600	-5.6	*****	**	178	3.5	181	6.3	0
0900	-5.3	*****	**	174	4.1	175	8.9	6
1200	-3.9	*****	**	192	5.6	178	10.3	8
1500	-3.5	*****	**	162	4.5	167	10.2	2
1800	-6.6	*****	**	201	3.7	202	10.8	0
2100	-5.4	*****	**	127	.7	193	2.5	0
2400	-9.4	*****	**	169	.6	192	3.2	0

DAY 29

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	-7.5	*****	**	003	1.2	018	2.5	0
0600	-8.4	*****	**	337	1.0	343	2.5	0
0900	-5.7	*****	**	342	.8	006	2.5	4
1200	-5.0	*****	**	315	1.1	254	8.3	9
1500	-3.7	*****	**	347	1.3	005	3.8	2
1800	-3.0	*****	**	349	.8	324	2.5	0
2100	-4.2	*****	**	006	1.2	005	3.2	0
2400	-3.8	*****	**	002	1.3	359	2.5	0

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
0300	-3.7	*****	**	334	.6	018	1.9	0
0600	-3.4	*****	**	199	.5	199	8.9	0
0900	-3.9	*****	**	211	4.5	213	7.6	1
1200	-5.0	*****	**	230	1.1	197	4.4	11
1500	-3.8	*****	**	241	1.4	197	3.2	6
1800	-5.3	*****	**	199	.7	225	1.9	0
2100	-5.2	*****	**	176	.6	191	2.5	0
2400	-5.7	*****	**	180	.6	144	1.9	0

DAY 31

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	-7.0	*****	**	169	.4	117	1.3	0
0600	-9.1	*****	**	185	.7	214	3.2	0
0900	-3.9	*****	**	177	4.4	144	13.3	0
1200	-4.2	*****	**	150	8.6	174	17.1	12
1500	-2.0	*****	**	153	6.4	162	17.1	3
1800	-5.3	*****	**	183	3.6	154	10.8	0
2100	-6.8	*****	**	002	1.3	039	5.1	0
2400	-7.7	*****	**	030	2.3	034	5.7	0

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

R & M CONSULTANTS, INC.

SUSSITNA HYDROELECTRIC PROJECT

SUMMARY FOR DEVIL WEATHER STATION
DURING October 1985

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	DAILY SOLAR ENERGY Ly/Day	DAY
1	4.1	.1	2.1	***	****	****	***	****	S	**	*****	****	.169	1
2	4.8	-1.0	1.9	***	****	****	***	****	NNW	**	*****	****	.595	2
3	.3	-5.3	-2.5	***	****	****	***	****	NNE	**	*****	****	.415	3
4	1.1	-3.4	-1.7	***	****	****	***	****	NNW	**	*****	****	.333	4
5	.1	-5.4	-2.7	186	2.6	2.7	195	6.3	S	**	*****	****	.230	5
6	-2.0	-8.8	-5.4	356	2.8	4.1	356	9.5	N	**	*****	****	.155	6
7	-5.1	-16.5	-10.8	006	3.7	3.8	008	8.9	N	**	*****	****	.215	7
8	-6.6	-18.9	-12.8	213	.4	1.9	191	8.3	N	**	*****	****	.335	8
9	-2.5	-9.0	-5.8	191	4.3	4.4	184	11.4	S	**	*****	****	.510	9
10	6.0	-2.3	1.9	159	7.9	8.2	146	16.5	SSE	**	*****	****	.730	10
11	4.9	.4	2.7	153	6.1	6.7	146	21.6	SSE	**	*****	****	.550	11
12	2.5	-1.8	.4	181	1.9	1.5	186	7.0	S	**	*****	****	.190	12
13	-.3	-4.6	-2.5	352	1.3	1.6	000	5.7	N	**	*****	****	.435	13
14	-1.2	-9.5	-5.4	243	.4	1.4	***	5.7	SSW	**	*****	****	.335	14
15	-1.9	-13.6	-7.3	228	.6	.9	241	4.4	SW	**	*****	****	.270	15
16	-3.6	-16.0	-9.8	174	1.2	2.1	176	7.6	N	**	*****	****	.235	16
17	.1	-8.5	-4.2	346	.8	1.4	196	5.7	N	**	*****	****	.565	17
18	.1	-6.3	-3.1	185	1.3	2.8	185	7.6	S	**	*****	****	.395	18
19	-6.3	-10.5	-8.4	354	2.2	2.2	000	5.1	N	**	*****	****	.270	19
20	-2.0	-10.7	-6.4	182	3.3	3.8	185	9.5	S	**	*****	****	.770	20
21	1.7	-6.9	-2.6	020	.1	1.8	187	9.5	NNE	**	*****	****	.390	21
22	-.8	-8.6	-4.7	187	2.2	2.8	185	8.3	S	**	*****	****	.095	22
23	-.5	-12.0	-6.3	171	.9	2.0	154	12.1	SSE	**	*****	****	.695	23
24	-4.3	-14.7	-9.5	000	4.5	4.7	355	10.2	N	**	*****	****	.975	24
25	-9.6	-12.0	-10.8	357	5.2	5.2	348	9.5	N	**	*****	****	.930	25
26	-3.7	-13.7	-8.7	189	3.0	3.4	157	11.4	S	**	*****	****	.595	26
27	-1.7	-9.6	-5.7	345	.6	1.8	353	7.0	N	**	*****	****	.735	27
28	-1.5	-9.4	-5.5	181	2.6	3.1	178	10.8	S	**	*****	****	.075	28
29	-2.5	-10.8	-6.7	349	1.0	1.2	254	8.3	N	**	*****	****	.270	29
30	-2.9	-5.7	-4.1	209	1.3	1.6	192	8.9	SSW	**	*****	****	.555	30
31	-1.3	-10.4	-5.9	154	3.7	3.7	174	12.1	S	**	*****	****	.440	31
MONTH-	6.0	-18.9	-4.9	170	.7	3.0	146	21.6	N	**	*****	****	9.581	

GUST VEL. AT MAX. GUST MINUS 2 INTERVAL = 12.4
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL = 13.1
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL = 12.4
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS = 9.4

** RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN USED IN THE CALCULATION OF MONTHLY MEAN RELATIVE HUMIDITY AND DEW POINT.

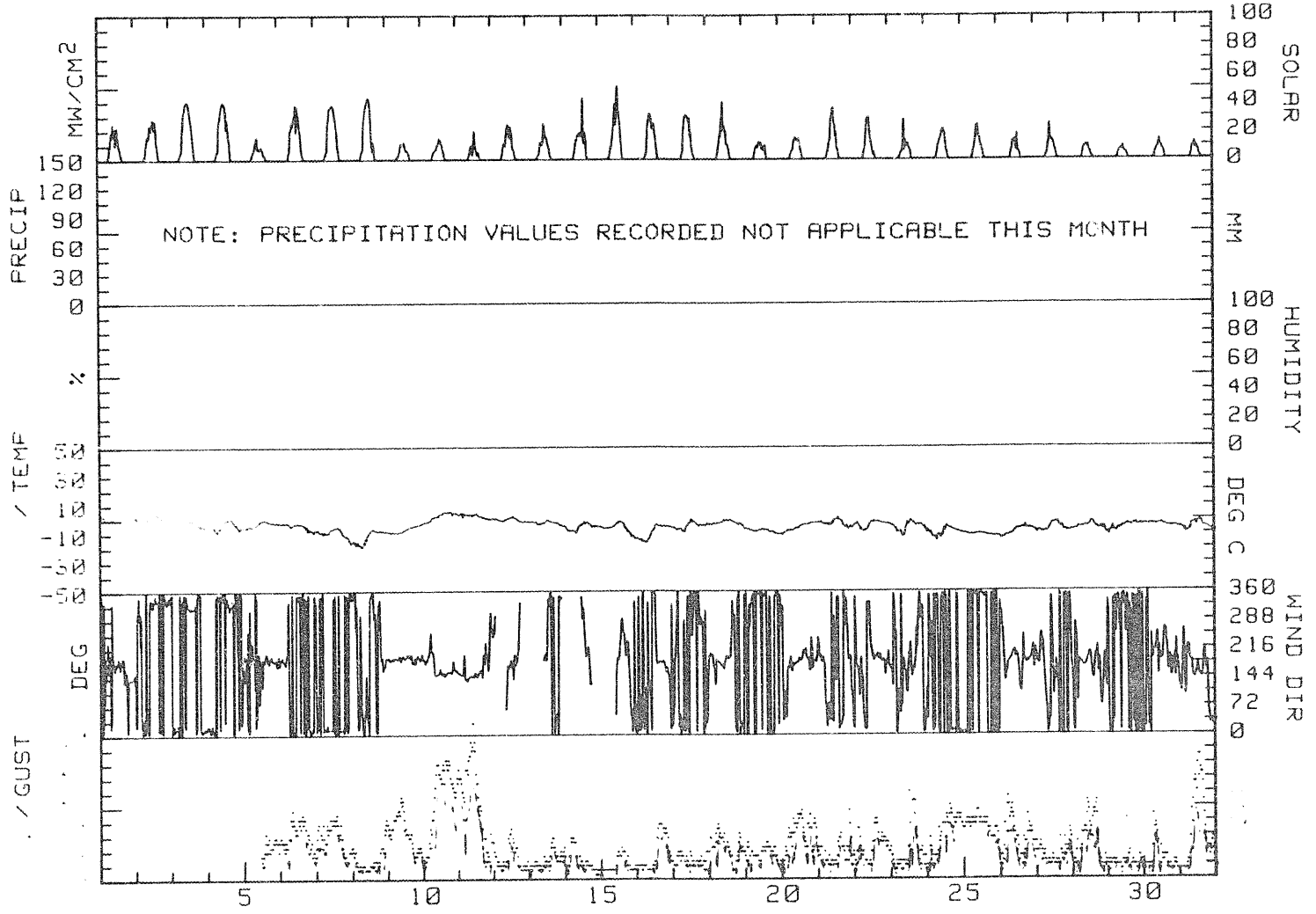
*** DATA INTERPOLATION NOTES AT END OF MONTHLY RECORD.

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DENALI WEATHER STATION

October, 1983



P & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR DENALI WEATHER STATION
YEAR = 1985 DURING October, 1985

DIRECTION	VELOCITY (M/S) 0.5 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	9.22	9.30	7.25	2.90	0.00	0.00	0.00	21.67
NNE	1.79	3.07	1.88	0.00	0.00	0.00	0.00	6.74
NE	1.11	2.22	.09	0.00	0.00	0.00	0.00	3.42
ENE	.85	.51	0.00	0.00	0.00	0.00	0.00	1.37
E	.60	.34	0.00	0.00	0.00	0.00	0.00	.94
ESE	1.02	1.54	0.00	0.00	0.00	0.00	0.00	2.56
SE	.94	.77	.26	.94	.77	0.00	0.00	3.67
SSE	1.19	1.88	1.79	2.39	2.47	0.00	0.00	9.73
S	.77	6.48	9.30	1.79	0.00	0.00	0.00	18.34
SSW	.43	5.63	4.95	.94	0.00	0.00	0.00	11.95
SW	.68	1.96	.34	0.00	0.00	0.00	0.00	3.08
WSW	.17	1.79	.09	0.00	0.00	0.00	0.00	2.05
W	.60	1.88	0.00	0.00	0.00	0.00	0.00	2.48
WNW	.85	1.28	.09	0.00	0.00	0.00	0.00	2.22
NW	.34	1.71	0.00	0.00	0.00	0.00	0.00	2.05
NNW	1.71	5.75	1.96	.43	0.00	0.00	0.00	9.85
CALM								.17
TOTAL	25.37	44.11	27.99	9.39	3.25	0.00	0.00	100.00

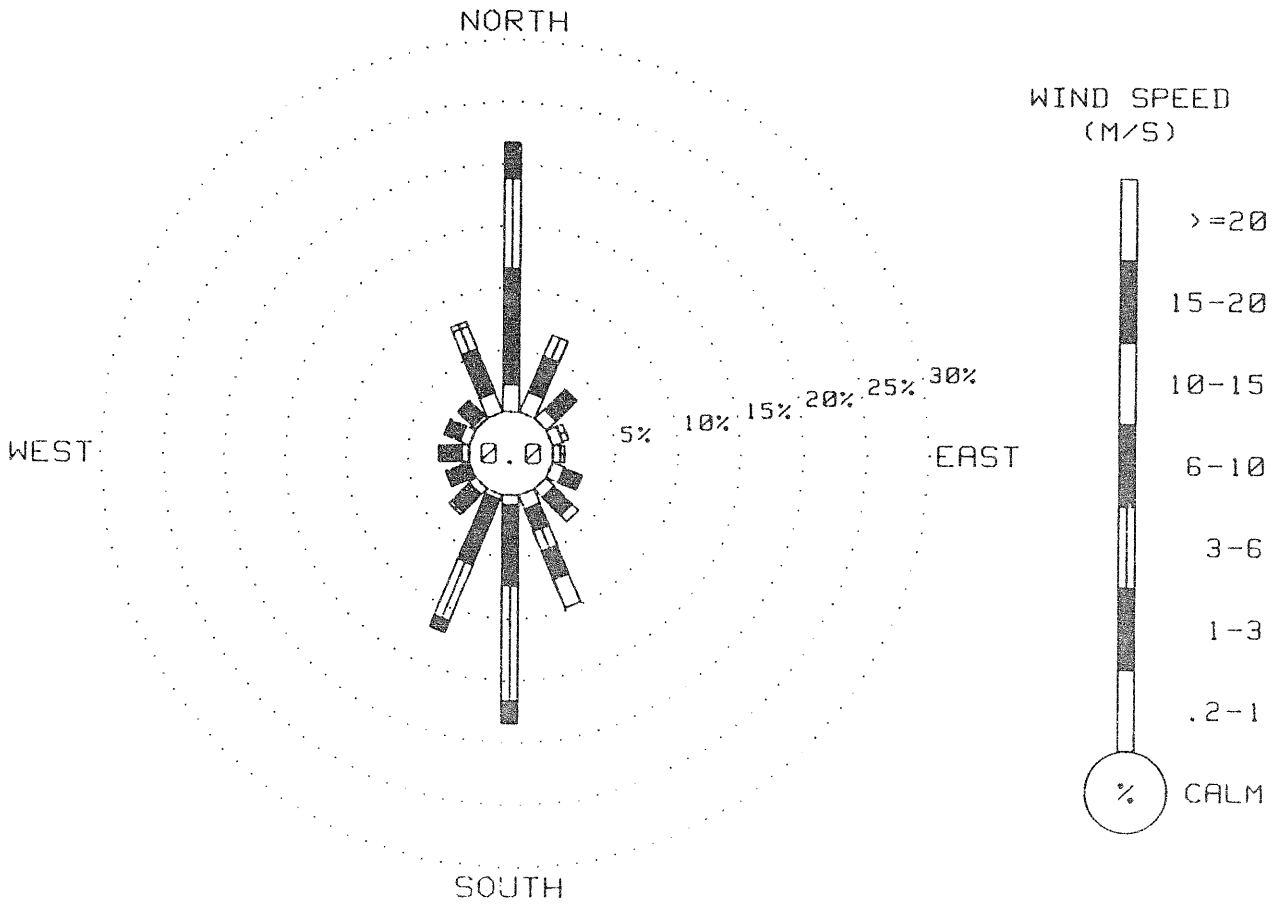
ALL FREQUENCIES ARE EXPRESSED IN PERCENT
VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
WIND OBSERVATIONS WOULD HAVE BEEN CORRECT FOR 15 MINUTE DATA.
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DENALI WEATHER STATION

October, 1983



WIND ROSE PLOT

P & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

[illegible] SOLAR RADIATION SUMMARY FOR DENALI WEATHER STATION
[illegible]TA TAKEN DURING October, 1983

[illegible]AM 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	1	4	12	17	21	17	16	16	10	5	1	0	0	0	0	0	0	0	5
2	0	0	0	0	0	0	1	3	12	15	21	22	25	24	20	11	[illegible]	0	0	0	0	0	0	0	[illegible]
3	0	0	0	0	0	0	2	4	14	31	37	40	39	33	25	15	[illegible]	0	0	[illegible]	0	0	0	0	10
4	0	0	0	0	0	0	1	4	15	29	36	40	38	29	24	14	3	0	[illegible]	0	0	0	0	0	10
5	0	0	0	0	0	0	1	5	9	13	10	7	9	8	4	2	1	0	0	0	0	0	0	[illegible]	5
6	0	0	0	0	0	0	1	6	21	25	28	34	28	31	22	10	2	0	0	0	0	0	[illegible]	[illegible]	9
7	0	0	0	0	0	0	2	4	15	32	36	38	36	30	22	8	1	0	0	0	0	0	0	0	9
8	0	0	0	0	0	0	1	6	18	32	38	43	41	28	8	9	1	0	0	0	0	0	0	[illegible]	9
9	0	0	0	0	0	0	1	2	4	9	11	11	11	7	6	3	1	0	0	0	0	0	0	0	3
10	0	0	0	0	0	0	0	2	6	7	9	11	15	12	8	4	1	0	0	0	0	0	0	0	5
11	0	0	0	0	0	0	0	0	2	8	8	7	16	8	4	4	0	0	0	0	0	0	0	0	2
12	0	0	0	0	0	0	1	5	11	11	20	22	19	20	8	5	1	0	0	0	0	0	0	[illegible]	5
13	0	0	0	0	0	0	1	3	8	11	11	22	16	13	9	3	1	0	0	0	0	0	0	0	4
14	0	0	0	0	0	0	1	4	11	15	17	18	17	28	15	9	1	0	0	0	0	0	0	0	6
15	0	0	0	0	0	0	1	4	9	17	31	32	50	34	23	9	1	0	0	0	0	0	0	0	9
16	0	0	0	0	0	0	1	3	14	28	32	26	24	21	15	3	0	0	0	0	0	0	0	0	7
17	0	0	0	0	0	0	0	3	13	28	31	29	28	18	8	3	0	0	0	0	0	0	0	0	7
18	0	0	0	0	0	0	1	5	13	22	30	23	20	11	9	2	0	0	0	0	0	0	0	0	6
19	0	0	0	0	0	0	0	2	7	9	10	11	9	8	10	3	0	0	0	0	0	0	0	0	3
20	0	0	0	0	0	0	0	2	6	10	15	14	13	13	6	1	0	0	0	0	[illegible]	0	0	[illegible]	[illegible]
21	0	0	0	0	0	0	0	3	7	14	30	36	25	18	7	2	0	0	0	0	0	0	0	[illegible]	[illegible]
22	0	0	0	0	0	0	0	2	8	22	29	25	13	8	4	1	0	0	0	0	[illegible]	0	0	[illegible]	[illegible]
23	0	0	0	0	0	0	0	2	5	9	17	12	10	10	6	1	0	0	0	0	0	0	0	[illegible]	3
24	0	0	0	0	0	0	0	2	8	12	15	20	20	15	6	2	0	0	0	[illegible]	0	0	0	[illegible]	[illegible]
25	0	0	0	0	0	0	0	2	7	13	23	20	14	9	5	1	0	0	0	[illegible]	0	0	0	0	[illegible]
26	0	0	0	0	0	0	0	0	3	10	12	12	10	6	4	1	0	0	0	0	0	0	0	0	[illegible]
27	0	0	0	0	0	0	0	1	4	11	19	14	12	9	5	1	0	0	0	0	0	0	0	0	3
28	0	0	0	0	0	0	0	1	5	9	9	9	8	6	3	1	0	0	0	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]
29	0	0	0	0	0	0	0	1	3	6	7	8	6	5	3	0	0	0	0	[illegible]	0	0	[illegible]	[illegible]	[illegible]
30	***	0	0	0	0	0	0	0	1	5	8	10	12	9	7	4	0	0	0	0	[illegible]	0	0	[illegible]	[illegible]
31	0	0	0	0	0	0	0	0	0	4	9	11	7	8	5	2	0	0	0	[illegible]	0	0	[illegible]	[illegible]	[illegible]

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

PARAMETER	NUMBER OF USABLE OBSERVATIONS	PERCENT OF TOTAL OBSERVATIONS
TEMPERATURE	1700	100
WIND SPEED	1273	75
WIND DIRECTION	1599	94
PEAK GUST	1273	75
RELATIVE HUMIDITY	0	0
PRECIPITATION	0	0
SOLAR RADIATION	1700	100
DEW POINT	0	0

THERE ARE 1700 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. 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. Recorded RH data invalid due to bad oscillator.

3. Wind speed and gust data lost 10/1 to 10/5 due to problem with magnetic reed switch in anemometer.

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

5. Recording time interval was changed on 10/5 from 15 minutes to 30 minutes.

No precipitation data for November

(See INTERPRETATION OF DATA).

1 HOUR Summary FOR DENALI WEATHER STATION
Data Taken DURING November, 1985

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	-11.3	*****	**	003	3.0	350	6.3	0
0600	-11.8	*****	**	350	.5	357	3.2	0
0900	-9.6	*****	**	323	1.0	284	3.8	1
1200	-10.0	*****	**	341	1.5	354	4.4	7
1500	-8.8	*****	**	355	3.6	347	5.7	7
1800	-10.6	*****	**	356	1.5	001	3.8	0
2100	-9.2	*****	**	296	1.0	313	3.8	0
2400	-7.3	*****	**	184	1.3	172	7.6	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	-7.5	*****	**	183	2.4	164	7.6	0
0600	-11.6	*****	**	103	.7	185	7.0	0
0900	-10.5	*****	**	340	1.3	293	4.4	1
1200	-6.2	*****	**	174	1.8	177	9.5	5
1500	-5.0	*****	**	178	6.9	176	14.0	6
1800	-5.2	*****	**	190	7.1	193	12.1	0
2100	-5.0	*****	**	188	4.4	188	8.9	0
2400	-9.3	*****	**	177	1.1	166	3.2	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	-10.3	*****	**	350	1.4	339	3.2	0
0600	-15.5	*****	**	329	.9	312	3.2	0
0900	-17.2	*****	**	317	.5	299	3.5	1
1200	-12.4	*****	**	089	.3	206	3.2	24
1500	-11.5	*****	**	350	1.3	334	3.5	14
1800	-14.5	*****	**	348	1.5	342	3.2	0
2100	-16.0	*****	**	349	1.1	349	3.5	0
2400	-17.7	*****	**	304	.8	305	3.5	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	-18.9	*****	**	357	1.6	017	3.8	0
0600	-20.5	*****	**	005	1.1	003	2.5	0
0900	-17.2	*****	**	351	1.3	008	2.5	0
1200	-16.8	*****	**	338	.9	333	2.5	14
1500	-14.7	*****	**	334	.7	006	2.5	5
1800	-15.7	*****	**	302	.3	335	3.2	0
2100	-11.8	*****	**	105	.3	130	3.2	0
2400	-11.7	*****	**	340	1.4	337	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	-13.2	*****	**	347	.5	040	3.2	0
0600	-11.9	*****	**	069	.5	167	4.4	0
0900	-11.9	*****	**	348	1.2	349	3.2	0
1200	-10.9	*****	**	297	.7	001	3.2	10
1500	-10.0	*****	**	211	.8	206	2.5	5
1800	-13.5	*****	**	305	.8	278	2.5	0
2100	-14.3	*****	**	003	.6	343	2.5	0
2400	-16.7	*****	**	000	.8	002	1.9	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	-18.3	*****	**	178	.3	119	1.9	0
0600	-17.7	*****	**	097	.4	136	1.3	0
0900	-20.8	*****	**	168	.4	012	1.5	0
1200	-17.4	*****	**	179	.3	173	1.3	21
1500	-16.7	*****	**	317	.4	333	1.9	3
1800	-19.4	*****	**	121	.2	011	2.5	0
2100	-16.0	*****	**	013	1.6	009	2.8	0
2400	-16.1	*****	**	344	1.1	325	3.8	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	-13.8	*****	**	185	3.1	172	10.8	0
0600	-13.6	*****	**	181	8.1	181	11.4	0
0900	-13.5	*****	**	187	7.7	181	10.8	0
1200	-11.8	*****	**	191	6.8	194	10.8	7
1500	-9.9	*****	**	199	5.7	199	10.2	3
1800	-9.0	*****	**	203	4.1	208	8.9	0
2100	-8.9	*****	**	216	4.6	187	10.8	0
2400	-7.8	*****	**	202	4.6	211	8.3	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	-5.9	*****	**	233	2.0	221	7.0	0
0600	-4.6	*****	**	200	3.2	193	6.3	0
0900	-4.8	*****	**	203	3.6	209	7.6	0
1200	-2.5	*****	**	180	3.6	171	7.0	5
1500	-5.6	*****	**	09[illegible]	1.1	152	7.0	3
1800	-9.2	*****	**	350	.9	317	3.2	0
2100	-10.7	*****	**	331	1.5	332	4.4	0
2400	-10.0	*****	**	282	.6	357	5.1	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	-10.6	*****	**	321	.1	199	3.8	0
0600	-11.3	*****	**	321	.7	349	3.2	0
0900	-11.7	*****	**	340	.8	335	3.5	1
1200	-7.1	*****	**	039	1.6	05[illegible]	5.7	17
1500	-6.8	*****	**	358	1.3	201	10.2	7
1800	-10.0	*****	**	199	5.6	197	[illegible]	0
2100	-7.5	*****	**	192	5.5	17[illegible]	11.6	0
2400	-8.9	*****	**	193	3.2	195	8.3	0

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

P & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

3-HOUR SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING November, 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	-10.3	*****	*	159	3.1	168	8.9	0
0600	-10.8	*****	**	079	.8	155	8.3	0
0900	-15.8	*****	**	333	1.2	351	3.8	0
1200	-12.4	*****	**	347	1.2	350	3.8	8
1500	-9.8	*****	**	333	.1	115	8.3	5
1800	-11.7	*****	**	298	.2	200	6.3	0
2100	-10.9	*****	**	016	.5	140	3.2	0
2400	-11.6	*****	**	055	.5	301	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	-13.8	*****	**	206	1.1	161	3.2	0
0600	-14.7	*****	**	071	.2	340	2.5	0
0900	-14.2	*****	**	359	2.1	007	3.8	0
1200	-12.2	*****	**	347	1.6	000	4.4	20
1500	-13.9	*****	**	236	1.0	293	3.8	7
1800	-9.2	*****	**	035	1.1	125	7.0	0
2100	-8.6	*****	**	161	4.9	173	10.8	0
2400	-9.9	*****	**	178	6.4	175	10.2	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	-14.9	*****	**	173	4.0	177	9.5	0
0600	-13.2	*****	**	013	1.4	012	3.2	0
0900	-13.8	*****	**	199	.7	210	2.5	0
1200	-10.4	*****	**	195	.6	223	1.9	8
1500	-9.2	*****	**	229	.7	195	2.5	3
1800	-9.1	*****	**	038	.6	009	2.5	0
2100	-10.6	*****	**	210	.6	209	1.9	0
2400	-12.9	*****	**	046	.1	175	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	-13.4	*****	**	031	.8	013	1.9	0
0600	-16.7	*****	**	174	.5	184	1.9	0
0900	-18.8	*****	**	004	.6	352	1.9	0
1200	-16.8	*****	**	313	.5	341	1.9	18
1500	-15.3	*****	**	180	.2	175	1.9	10
1800	-18.5	*****	**	337	.4	270	1.9	0
2100	-19.2	*****	**	186	.5	192	1.3	0
2400	-19.0	*****	**	114	.3	192	1.3	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	-19.4	*****	**	020	.7	006	1.9	0
0600	-18.6	*****	**	038	.8	045	1.9	0
0900	-18.0	*****	**	024	.9	018	1.9	0
1200	-16.6	*****	**	033	1.1	038	1.9	7
1500	-17.0	*****	**	014	.7	039	1.3	5
1800	-19.2	*****	**	024	.4	005	1.3	0
2100	-19.6	*****	**	030	.8	064	1.3	0
2400	-20.2	*****	**	034	.9	039	1.9	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	-22.1	*****	**	039	.7	055	1.3	0
0600	-24.3	*****	**	015	.6	026	1.3	0
0900	-24.3	*****	**	343	.1	002	1.3	0
1200	-23.7	*****	**	325	.5	278	2.5	6
1500	-21.5	*****	**	247	.4	322	1.3	2
1800	-21.6	*****	**	242	.2	265	1.9	0
2100	-21.9	*****	**	106	.5	147	1.9	0
2400	-18.9	*****	**	342	.3	061	1.9	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	-13.1	*****	**	009	1.1	014	3.8	0
0600	-10.0	*****	**	168	2.3	194	8.3	0
0900	-14.8	*****	**	156	2.5	153	8.9	0
1200	-14.3	*****	**	356	.8	331	2.5	7
1500	-13.1	*****	**	336	.6	304	2.5	6
1800	-15.1	*****	**	310	.2	257	1.3	0
2100	-16.7	*****	**	051	.3	019	1.9	0
2400	-17.6	*****	**	357	.3	262	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	-19.0	*****	**	359	.7	018	1.9	0
0600	-21.1	*****	**	356	.7	347	1.9	0
0900	-20.4	*****	**	359	1.0	348	1.9	0
1200	-21.8	*****	**	210	.6	229	1.9	6
1500	-19.5	*****	**	196	.6	199	1.9	2
1800	-18.9	*****	**	346	.5	312	2.5	0
2100	-20.1	*****	**	355	1.0	000	3.2	0
2400	-20.3	*****	**	356	1.0	353	2.5	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	-18.8	*****	**	012	1.0	004	3.5	0
0600	-19.1	*****	**	012	1.1	346	3.5	0
0900	-18.5	*****	**	310	.9	017	1.9	0
1200	-17.3	*****	**	356	1.1	008	1.9	12
1500	-17.3	*****	**	348	.8	339	1.9	3
1800	-16.3	*****	**	079	.4	012	1.9	0
2100	-18.5	*****	**	335	.3	117	1.3	0
2400	-18.8	*****	**	027	.7	040	1.9	0

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

HOUR SUMMARY FOR DENALI WEATHER STATION
Data Taken During November, 1983

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	-19.1	*****	**	091	.2	149	2.5	0
0600	-18.3	*****	**	331	.4	261	2.5	0
0900	-17.1	*****	**	339	1.3	350	2.5	0
1200	-11.1	*****	**	004	.9	292	2.5	5
1500	-10.8	*****	**	172	.3	171	2.5	4
1800	-13.4	*****	**	194	1.0	177	2.5	0
2100	-16.0	*****	**	180	.4	207	1.9	0
2400	-17.0	*****	**	185	.5	303	1.3	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	-16.2	*****	**	053	.3	035	1.9	0
0600	-13.6	*****	**	173	4.2	185	8.9	0
0900	-14.2	*****	**	185	7.2	185	10.8	0
1200	-11.8	*****	**	181	5.1	173	10.8	4
1500	-10.4	*****	**	179	6.4	187	12.1	1
1800	-8.5	*****	**	194	3.6	200	8.9	0
2100	-4.8	*****	**	160	8.1	145	16.5	0
2400	-3.5	*****	**	145	10.2	143	17.1	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	-2.2	*****	**	142	5.8	140	15.2	0
0600	-2.0	*****	**	135	6.3	127	13.5	0
0900	.7	*****	**	158	5.5	143	21.0	0
1200	1.8	*****	**	140	8.9	152	22.3	3
1500	2.6	*****	**	142	9.8	144	20.3	1
1800	1.9	*****	**	146	10.0	145	18.4	0
2100	-1.0	*****	**	162	7.4	158	13.3	0
2400	-1.9	*****	**	182	6.2	177	9.5	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	-1.6	*****	**	187	5.5	183	8.3	0
0600	-2.5	*****	**	196	3.5	185	7.6	0
0900	-3.0	*****	**	185	5.9	191	10.8	0
1200	-3.8	*****	**	185	5.3	184	8.9	4
1500	-2.8	*****	**	170	3.1	170	6.3	1
1800	-5.3	*****	**	158	.8	179	3.9	0
2100	-7.0	*****	**	020	.1	157	2.5	0
2400	-11.6	*****	**	041	.7	016	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	-11.2	*****	**	357	1.2	353	2.5	0
0600	-14.3	*****	**	342	.1	193	2.5	0
0900	-14.5	*****	**	347	1.2	352	3.8	0
1200	-10.9	*****	**	353	1.5	358	3.2	14
1500	-5.0	*****	**	006	2.6	357	7.0	3
1800	-8.2	*****	**	019	4.1	010	7.0	0
2100	-7.5	*****	**	028	3.8	020	6.3	0
2400	-8.4	*****	**	022	3.7	015	5.7	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	-12.1	*****	**	019	3.7	021	6.3	0
0600	-15.5	*****	**	014	2.0	024	4.4	0
0900	-17.3	*****	**	285	.7	334	3.8	0
1200	-16.2	*****	**	143	.9	130	1.9	19
1500	-16.0	*****	**	332	.3	160	2.5	3
1800	-16.8	*****	**	048	.2	276	2.5	0
2100	-19.9	*****	**	278	.7	337	2.4	0
2400	-19.2	*****	**	326	1.6	335	6.3	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	-15.9	*****	**	190	3.1	179	8.3	0
0600	-13.6	*****	**	180	5.4	186	9.3	0
0900	-12.9	*****	**	174	6.9	175	10.3	0
1200	-13.4	*****	**	162	4.5	166	8.9	5
1500	-14.9	*****	**	139	1.5	158	7.0	2
1800	-17.3	*****	**	337	.7	318	1.9	0
2100	-15.4	*****	**	002	1.0	000	3.8	0
2400	-16.2	*****	**	054	1.2	047	5.7	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	-15.2	*****	**	302	.5	249	2.5	0
0600	-15.2	*****	**	162	.4	180	3.8	0
0900	-13.4	*****	**	178	.6	224	3.2	0
1200	-14.1	*****	**	240	.7	296	3.8	7
1500	-17.3	*****	**	312	.4	238	1.9	2
1800	-16.8	*****	**	016	.9	012	2.5	0
2100	-13.9	*****	**	004	.9	007	2.5	0
2400	-14.7	*****	**	005	1.0	021	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	-15.2	*****	**	017	1.5	012	3.2	0
0600	-14.3	*****	**	334	1.1	337	3.8	0
0900	-15.6	*****	**	345	.4	354	1.9	0
1200	-12.6	*****	**	356	.8	008	1.9	3
1500	-7.6	*****	**	294	.6	192	3.8	1
1800	-14.6	*****	**	313	1.4	198	5.0	0
2100	-14.4	*****	**	006	1.2	035	7.2	0
2400	-11.9	*****	**	296	3.5	286	8.7	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

3-HOUR SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING November 1983

DAY 28

HOUR (AKST)	TEMP. 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	*****	**	189	3.6	183	8.9	0
0600	-.3	*****	**	198	2.7	192	9.5	0
0900	1.7	*****	**	151	11.3	154	21.6	0
1200	2.6	*****	**	141	8.4	157	20.3	3
1500	1.7	*****	**	145	8.0	146	21.6	1
1800	2.6	*****	**	144	7.6	149	19.7	0
2100	3.5	*****	**	137	7.6	122	19.0	0
2400	4.2	*****	**	168	5.0	141	14.0	0

DAY 29

HOUR (AKST)	TEMP. 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	*****	**	156	3.3	142	14.6	0
0600	.1	*****	**	215	2.6	226	8.9	0
0900	.5	*****	**	208	2.9	192	7.6	0
1200	.8	*****	**	191	3.0	172	7.6	3
1500	-.5	*****	**	166	1.3	193	5.7	1
1800	-.1	*****	**	144	2.6	097	9.5	0
2100	.1	*****	**	163	2.1	198	8.9	0
2400	-1.4	*****	**	160	2.0	177	7.0	0

DAY 30

HOUR (AKST)	TEMP. 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	*****	**	167	1.3	198	8.3	0
0600	-3.7	*****	**	173	2.8	191	9.5	0
0900	-3.7	*****	**	080	1.2	098	5.1	0
1200	-2.2	*****	**	249	1.1	259	6.3	3
1500	-1.6	*****	**	169	2.3	192	7.0	2
1800	.6	*****	**	228	2.2	247	9.9	0
2100	-1.8	*****	**	196	3.7	182	11.4	0
2400	-3.3	*****	**	199	1.9	210	5.7	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DAILY SUMMARY FOR DENALI 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 ENERGY W-HR/SQM	DAY
1	-7.3	-13.0	-10.2	347	1.3	2.1	172	7.6	N	**	*****	****	335	1
2	-2.4	-12.7	-7.6	183	2.8	3.7	176	14.0	S	**	*****	****	385	2
3	-7.5	-19.4	-13.5	343	.9	1.2	339	3.2	N	**	*****	****	1120	3
4	-11.7	-20.5	-16.1	349	.9	1.2	017	3.8	N	**	*****	****	540	4
5	-9.5	-16.7	-13.1	334	.5	1.1	167	4.4	NNW	**	*****	****	415	5
6	-13.4	-20.8	-17.1	002	.3	.8	009	3.8	NNE	**	*****	****	790	6
7	-7.8	-16.6	-12.3	192	5.5	5.8	181	11.4	S	**	*****	****	325	7
8	-2.1	-11.7	-6.9	208	1.1	2.4	209	7.6	SSW	**	*****	****	415	8
9	-3.8	-12.7	-8.3	199	1.4	2.7	197	14.0	SSW	**	*****	****	750	9
10	-6.8	-16.8	-11.8	072	.2	1.8	168	8.9	N	**	*****	****	480	10
11	-8.1	-15.7	-11.9	174	1.0	2.7	173	10.8	N	**	*****	****	700	11
12	-8.2	-16.0	-12.1	179	.5	1.3	177	9.5	SSW	**	*****	****	305	12
13	-12.0	-20.5	-16.3	015	.1	.6	013	1.9	S	**	*****	****	620	13
14	-15.9	-20.4	-18.2	028	.8	.8	006	1.9	NNE	**	*****	****	325	14
15	-18.9	-24.3	-21.6	004	.2	.6	278	3.5	N	**	*****	****	235	15
16	-9.4	-19.4	-14.4	136	.3	1.3	153	8.9	NNE	**	*****	****	485	16
17	-17.8	-21.9	-19.9	347	.5	.9	000	3.2	N	**	*****	****	265	17
18	-14.7	-21.2	-18.0	009	.8	.8	006	2.5	N	**	*****	****	535	18
19	-7.8	-22.0	-14.9	295	.1	.9	149	2.5	SSW	**	*****	****	165	19
20	-3.5	-16.9	-10.2	169	5.4	5.8	143	17.1	S	**	*****	****	135	20
21	2.6	-2.8	-.1	150	6.9	7.3	152	22.2	SE	**	*****	****	115	21
22	-1.1	-11.6	-6.4	183	2.9	3.3	191	10.8	S	**	*****	****	175	22
23	-5.0	-16.0	-10.5	014	2.2	2.4	357	7.0	NNE	**	*****	****	380	23
24	-8.5	-21.8	-15.2	000	.8	1.7	021	6.3	NNE	**	*****	****	525	24
25	-12.1	-17.7	-14.9	170	2.3	3.4	175	10.2	S	**	*****	****	275	25
26	-11.8	-18.3	-15.1	339	.3	1.1	180	3.8	NNE	**	*****	****	190	26
27	-7.6	-16.1	-11.9	289	.3	1.6	188	6.3	N	**	*****	****	95	27
28	4.2	-10.6	-3.2	152	6.5	6.9	154	21.6	SE	**	*****	****	145	28
29	5.9	-2.1	1.5	177	2.2	2.8	141	14.6	SSW	**	*****	****	165	29
30	.9	-5.3	-2.2	193	1.7	2.4	182	11.4	S	**	*****	****	140	30
MONTH	5.9	-24.3	-11.7	170	1.9	2.4	152	22.2	N	**	*****	****	11910	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 21.0
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 21.7
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 15.2
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 13.4

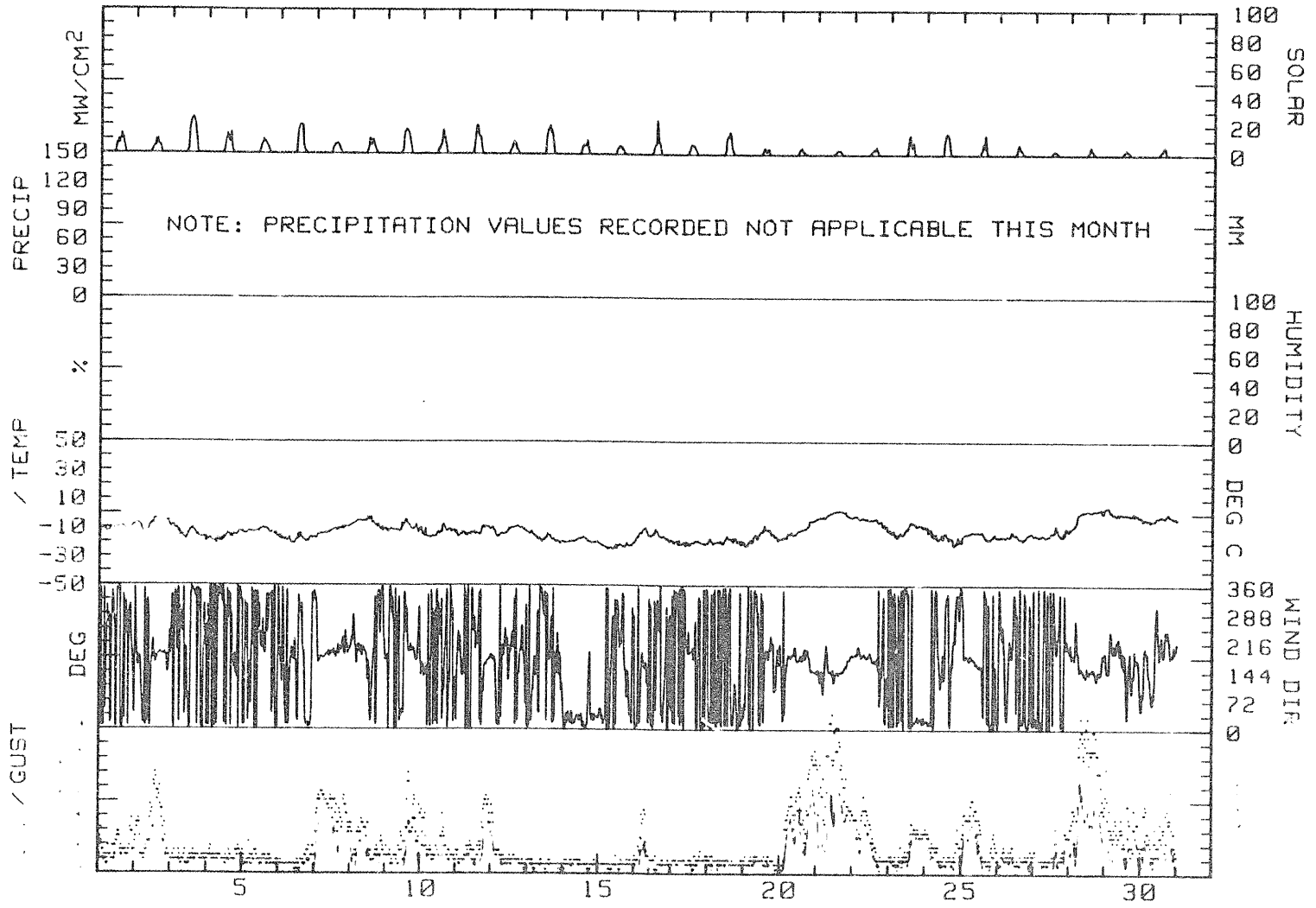
** RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN UTILIZED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.
SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DENALI WEATHER STATION

November, 1983



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING November, 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	4.44	10.97	.90	0.00	0.00	0.00	0.00	[illegible]
NNE	4.93	5.42	1.53	0.00	0.00	0.00	0.00	11.88
NE	2.01	2.15	.07	0.00	0.00	0.00	0.00	[illegible]
ENE	1.32	.56	0.00	0.00	0.00	0.00	0.00	1.88
E	.97	1.04	.14	0.00	0.00	0.00	0.00	[illegible]
ESE	.90	.63	.28	.14	0.00	0.00	0.00	[illegible]
SE	1.04	1.60	.49	1.88	.90	0.00	0.00	[illegible]
SSE	1.04	1.46	2.15	1.74	.49	0.00	0.00	6.88
S	1.81	2.57	5.14	4.72	.07	0.00	0.00	[illegible]
SSW	2.57	3.06	4.44	.69	0.00	0.00	0.00	[illegible]
SW	1.04	1.46	1.04	0.00	0.00	0.00	0.00	[illegible]
WSW	1.18	1.67	.21	0.00	0.00	0.00	0.00	[illegible]
W	1.74	.83	0.00	0.00	0.00	0.00	0.00	[illegible]
WNW	1.60	.97	0.00	0.00	0.00	0.00	0.00	[illegible]
NW	1.94	2.50	0.00	0.00	0.00	0.00	0.00	[illegible]
NNW	3.34	4.72	.97	0.00	0.00	0.00	0.00	[illegible]
CALM								[illegible]
TOTAL	30.90	41.60	18.45	9.17	1.46	0.00	0.00	[illegible]

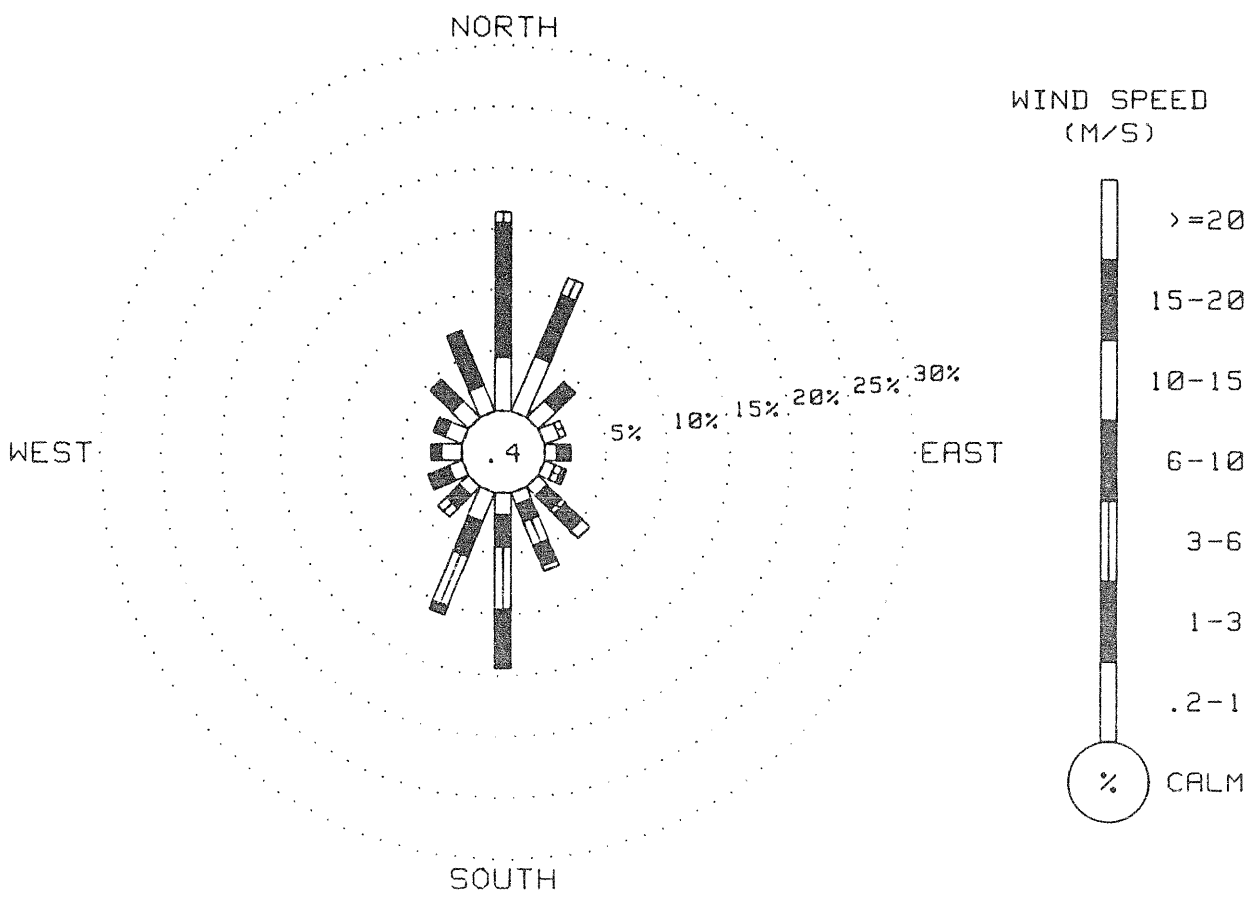
NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
1446 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
1446 WIND OBSERVATIONS SHOULD HAVE BEEN CORRECT FOR 30 MINUTE DATA
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DENALI WEATHER STATION

November, 1983



WIND ROSE PLOT

P & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SOLAR RADIATION SUMMARY FOR DENALI 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	6	9	10	12	9	3	0	0	0	0	0	0	0	0	2
2	0	0	0	0	0	0	0	0	1	2	5	5	9	8	6	4	0	0	0	0	0	0	0	0	2
3	0	0	0	0	0	0	0	0	1	3	15	23	25	24	17	6	0	0	0	0	0	0	0	0	5
4	0	0	0	0	0	0	0	0	0	3	9	12	11	8	10	2	0	0	0	0	0	0	0	0	3
5	0	0	0	0	0	0	0	0	0	2	6	9	9	8	6	3	0	0	0	0	0	0	0	0	2
6	0	0	0	0	0	0	0	0	0	3	13	19	20	20	5	3	0	0	0	0	0	0	0	0	5
7	0	0	0	0	0	0	0	0	0	2	5	7	7	7	4	2	0	0	0	0	0	0	0	0	1
8	0	0	0	0	0	0	0	0	0	3	8	8	10	9	4	2	0	0	0	0	0	0	0	0	3
9	0	0	0	0	0	0	0	0	0	3	13	17	17	15	9	3	0	0	0	0	0	0	0	0	5
10	0	0	0	0	0	0	0	0	0	3	4	7	15	12	7	2	0	0	0	0	0	0	0	0	2
11	0	0	0	0	0	0	0	0	0	2	9	19	18	12	10	2	0	0	0	0	0	0	0	0	3
12	0	0	0	0	0	0	0	0	0	1	4	7	8	7	3	2	0	0	0	0	0	0	0	0	2
13	0	0	0	0	0	0	0	0	0	2	12	18	20	16	13	3	0	0	0	0	0	0	0	0	3
14	0	0	0	0	0	0	0	0	0	1	5	6	6	7	8	2	0	0	0	0	0	0	0	0	1
15	0	0	0	0	0	0	0	0	0	1	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	3	7	17	14	7	2	0	0	0	0	0	0	0	0	3
17	0	0	0	0	0	0	0	0	0	1	4	7	7	5	3	1	0	0	0	0	0	0	0	0	1
18	0	0	0	0	0	0	0	0	0	1	7	13	14	14	4	1	0	0	0	0	0	0	0	0	2
19	0	0	0	0	0	0	0	0	0	1	2	5	3	3	4	1	0	0	0	0	0	0	0	0	1
20	0	0	0	0	0	0	0	0	0	1	2	4	4	2	1	0	0	0	0	0	0	0	0	0	1
21	0	0	0	0	0	0	0	0	0	1	1	3	3	3	2	0	0	0	0	0	0	0	0	0	1
22	0	0	0	0	0	0	0	0	0	1	3	4	4	5	3	1	0	0	0	0	0	0	0	0	1
23	0	0	0	0	0	0	0	0	0	1	6	13	7	6	6	1	0	0	0	0	0	0	0	0	2
24	0	0	0	0	0	0	0	0	0	1	6	13	15	13	6	1	0	0	0	0	0	0	0	0	3
25	0	0	0	0	0	0	0	0	0	0	2	4	7	10	6	1	0	0	0	0	0	0	0	0	1
26	0	0	0	0	0	0	0	0	0	0	2	5	6	4	3	1	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	3	6	4	3	1	0	0	0	0	0	0	0	0	1
29	0	0	0	0	0	0	0	0	0	0	2	3	4	3	2	0	0	0	0	0	0	0	0	0	1
30	0	0	0	0	0	0	0	0	0	0	1	3	4	5	4	0	0	0	0	0	0	0	0	0	1

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DATA VALIDATION SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING NOVEMBER, 1983

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

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. Solar -1 mW/CM^2

Additional comments on this month's data:

1. Recorded RH data invalid due to bad oscillator.

No precipitation data for December

(See INTERPRETATION OF DATA).

R. A. M. CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

TWENTY HOUR SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING December, 1983

DAY 01

HOUR		DEW		WIND	WIND	GUST	MAX.	
ENDING	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-2.8	*****	**	115	1.0	100	2.5	0
0600	-3.9	*****	**	182	2.6	189	7.0	0
0900	-2.5	*****	**	201	2.3	207	7.0	0
1200	-.8	*****	**	195	1.1	178	5.7	2
1500	-2.4	*****	**	227	1.1	193	5.1	1
1800	-1.8	*****	**	127	.7	156	2.5	0
2100	-2.9	*****	**	140	.8	162	1.9	0
2400	-1.9	*****	**	026	.7	042	1.9	0

DAY 02

HOUR		DEW		WIND	WIND	GUST	MAX.	
ENDING	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-3.5	*****	**	170	1.6	170	4.4	0
0600	-5.1	*****	**	171	2.2	163	5.7	0
0900	-6.9	*****	**	167	.3	118	2.5	0
1200	-4.2	*****	**	184	1.3	194	3.8	3
1500	-2.6	*****	**	180	1.9	182	4.4	1
1800	-2.5	*****	**	146	1.1	169	3.2	0
2100	-2.7	*****	**	154	1.6	152	5.7	0
2400	-3.1	*****	**	182	.9	281	5.1	0

DAY 03

HOUR		DEW		WIND	WIND	GUST	MAX.	
ENDING	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-5.3	*****	**	345	.7	198	3.3	0
0600	-5.9	*****	**	191	3.1	189	5.8	0
0900	-11.6	*****	**	199	1.2	189	3.5	0
1200	-10.1	*****	**	216	.2	347	1.9	3
1500	-8.3	*****	**	218	.3	069	1.9	1
1800	-8.6	*****	**	216	.3	154	1.9	0
2100	-9.2	*****	**	298	.4	224	1.9	0
2400	-9.1	*****	**	031	.9	092	3.2	0

DAY 04

HOUR		DEW		WIND	WIND	GUST	MAX.	
ENDING	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-9.4	*****	**	056	1.2	027	4.4	0
0600	-9.6	*****	**	145	2.4	158	6.3	0
0900	-8.5	*****	**	169	4.3	172	7.6	0
1200	-8.8	*****	**	181	5.7	186	9.5	1
1500	-8.8	*****	**	183	7.2	183	10.8	0
1800	-7.8	*****	**	187	5.3	184	10.8	0
2100	-7.0	*****	**	193	3.1	188	7.0	0
2400	-6.5	*****	**	176	2.8	174	5.7	0

DAY 05

HOUR		DEW		WIND	WIND	GUST	MAX.	
ENDING	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-8.4	*****	**	174	2.6	176	6.3	0
0600	-9.3	*****	**	267	.5	189	1.9	0
0900	-7.1	*****	**	353	.7	017	1.9	0
1200	-6.6	*****	**	176	1.6	178	3.2	1
1500	-5.5	*****	**	164	1.2	162	3.8	0
1800	-5.5	*****	**	176	2.4	173	5.7	0
2100	-5.8	*****	**	161	1.4	167	4.4	0
2400	-6.5	*****	**	263	.3	258	1.9	0

DAY 06

HOUR		DEW		WIND	WIND	GUST	MAX.	
ENDING	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-6.6	*****	**	339	.4	303	1.9	0
0600	*****	*****	**	***	****	***	****	***
0900	*****	*****	**	***	****	***	****	***
1200	*****	*****	**	***	****	***	****	***
1500	*****	*****	**	***	****	***	****	***
1800	*****	*****	**	***	****	***	****	***
2100	*****	*****	**	***	****	***	****	***
2400	*****	*****	**	***	****	***	****	***

DAY 07

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

DAY 08

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

DAY 09

HOUR		DEW		WIND	WIND	GUST	MAX.	
ENDING	TEMP.	POINT	RH	DIR.	SPD.	DIR	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	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 DENALI 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	*****	*****	**	***	****	***	****	***
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	-7.1	*****	**	214	.8	246	1.9	0
1200	-6.8	*****	**	215	.9	201	2.5	2
1500	-6.3	*****	**	001	.4	011	1.3	0
1800	-6.1	*****	**	186	1.2	164	3.2	0
2100	-5.8	*****	**	146	1.5	168	5.1	0
2400	-6.2	*****	**	099	.9	158	3.8	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	-6.0	*****	**	043	.6	129	1.9	0
0600	-5.4	*****	**	139	.9	136	5..	0
0900	-5.5	*****	**	182	5.2	174	9.5	0
1200	-6.5	*****	**	192	4.9	183	8.3	2
1500	-6.9	*****	**	171	4.6	172	8.9	0
1800	-7.7	*****	**	140	2.1	149	7.6	0
2100	-8.7	*****	**	137	1.8	106	6.3	0
2400	-12.0	*****	**	149	1.5	169	6.3	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	-10.9	*****	**	347	1.4	339	3.8	0
0600	*****	*****	**	***	****	071	4.4	***
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

3-HOUR SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING December, 1985

DAY 19

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

DAY 20

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

DAY 21

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

DAY 22

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

DAY 23

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

DAY 24

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

DAY 25

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

DAY 26

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

DAY 27

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

HOURLY SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING December, 1983

DAY 28

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

DAY 30

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 31

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

MONTHLY SUMMARY FOR DENALI 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 WH/SQM	DAY
1	-.8	-4.9	-2.9	179	.9	1.5	189	7.0	S	**	*****	****	125	1
2	-2.0	-7.5	-4.8	170	1.3	1.6	163	5.7	SSE	**	*****	****	115	2
3	-3.1	-11.7	-7.4	209	.5	1.0	189	3.8	SSW	**	*****	****	90	3
4	-6.2	-10.8	-8.5	177	3.7	4.0	183	10.8	S	**	*****	****	60	4
5	-5.4	-9.3	-7.4	177	1.1	1.5	176	6.3	S	**	*****	****	55	5
6	-6.5	-6.6	-6.6	229	.4	.8	303	1.9	WNW	**	*****	****	0	6
7	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	7
8	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	8
9	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	9
10	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	10
11	-5.3	-7.1	-6.2	167	.6	1.1	168	5.1	SSW	**	*****	****	92	11
12	-5.4	-12.0	-8.7	165	2.4	3.0	174	9.5	S	**	*****	****	75	12
13	-10.7	-12.6	-11.7	007	1.3	1.5	071	4.4	NNW	**	*****	****	1	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	-.8	-12.6	-7.1	174	1.4	2.0	183	10.8	S	**	*****	****	>13	

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

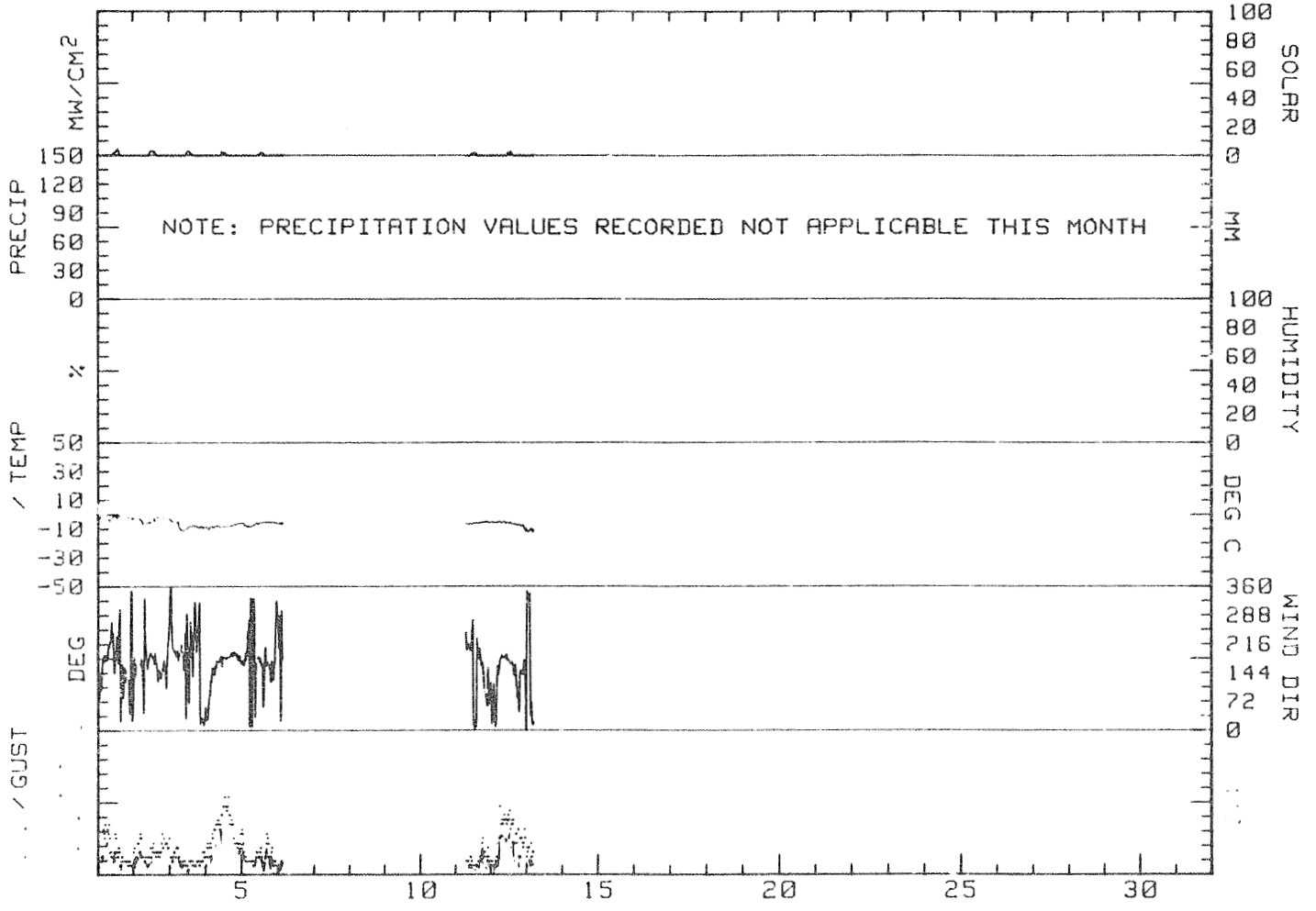
** RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DENALI WEATHER STATION

December, 1983



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING December, 1985

	VELOCITY (M/S)							
DIRECTION	0.5 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	2.37	.89	0.00	0.00	0.00	0.00	0.00	3.25
NNE	3.85	2.96	0.00	0.00	0.00	0.00	0.00	6.80
NE	.89	1.78	0.00	0.00	0.00	0.00	0.00	2.66
ENE	1.48	1.48	0.00	0.00	0.00	0.00	0.00	2.96
E	0.00	1.78	0.00	0.00	0.00	0.00	0.00	1.78
ESE	1.78	2.96	0.00	0.00	0.00	0.00	0.00	4.73
SE	2.96	5.03	.30	0.00	0.00	0.00	0.00	8.28
SSE	2.66	9.17	2.96	0.00	0.00	0.00	0.00	14.79
S	1.78	12.13	10.95	2.96	0.00	0.00	0.00	27.81
SSW	2.37	7.69	1.78	0.00	0.00	0.00	0.00	11.83
SW	2.37	1.18	0.00	0.00	0.00	0.00	0.00	3.55
WSW	2.07	.89	0.00	0.00	0.00	0.00	0.00	2.96
W	.89	1.18	0.00	0.00	0.00	0.00	0.00	2.07
WNW	2.07	0.00	0.00	0.00	0.00	0.00	0.00	2.07
NW	1.78	.30	0.00	0.00	0.00	0.00	0.00	2.07
NNW	.59	2.37	0.00	0.00	0.00	0.00	0.00	2.96
CALM								1.48
TOTAL	29.29	51.78	15.98	2.96	0.00	0.00	0.00	100.00

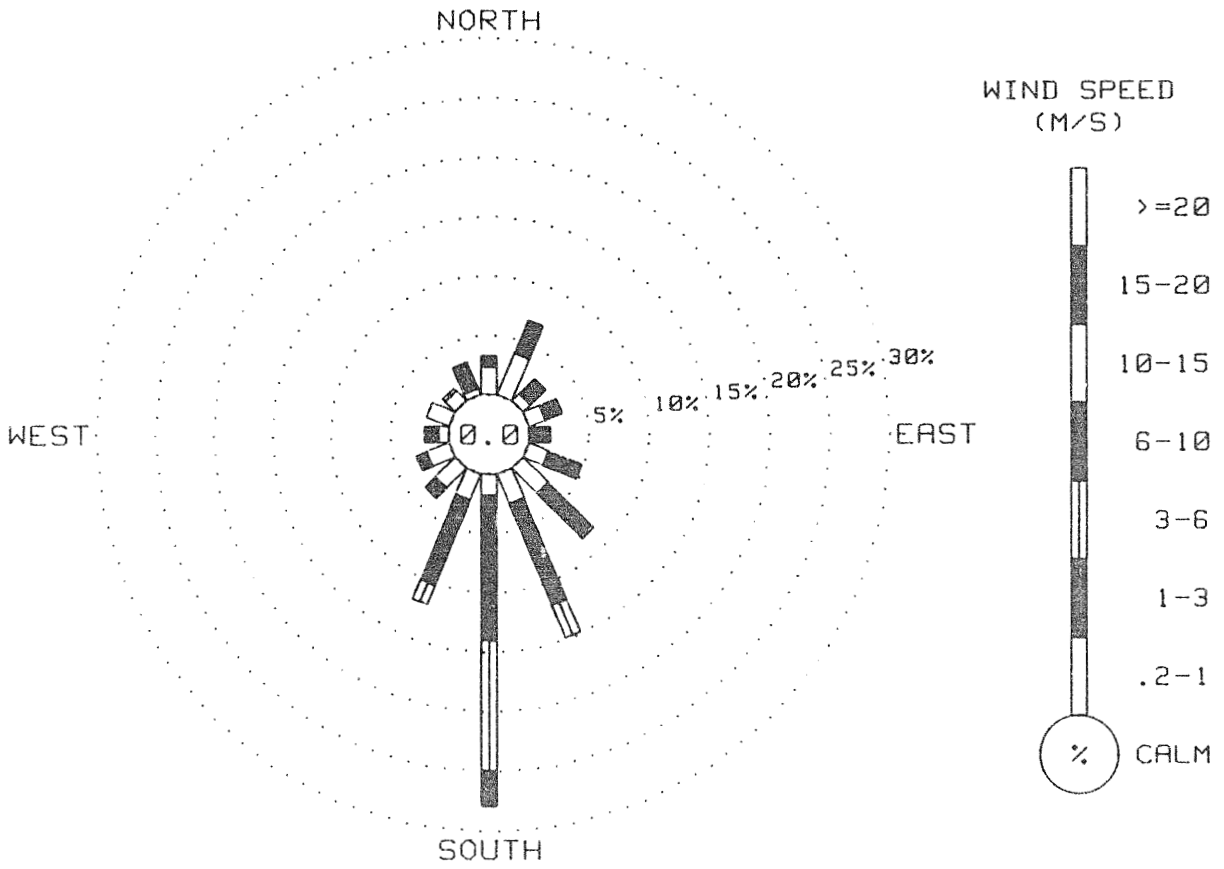
ALL FREQUENCIES ARE EXPRESSED IN PERCENT
THERE WERE 1010 HOURLY OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
THESE WIND OBSERVATIONS WOULD HAVE BEEN CORRECT FOR 50 FT ABOVE GROUND
SEE CALIBRATION NOTES AT END OF MONTHLY REPORT

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DENALI WEATHER STATION

December, 1983



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SOLAR RADIATION SUMMARY FOR DENALI 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	2	2	3	4	2	0	0	0	0	0	0	0	0	0	1
2	0	0	0	0	0	0	0	0	0	0	2	3	3	3	1	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	1	3	3	2	1	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	2	1	2	2	0	0	0	0	0	0	0	0	0	0	0
5	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
6	0	0	0	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
7	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
8	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
9	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
10	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
11	***	***	***	***	***	***	***	0	0	0	1	2	2	2	1	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	1	2	2	3	1	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
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 DENALI WEATHER STATION
DATA TAKEN DURING December, 1985

PARAMETER	NUMBER OF USABLE OBSERVATIONS	PERCENT OF TOTAL OBSERVATIONS
TEMPERATURE	337	23
WIND SPEED	337	23
WIND DIRECTION	337	23
PEAK GUST	336	23
RELATIVE HUMIDITY	0	0
PRECIPITATION	0	0
SOLAR RADIATION	337	23
DEW POINT	0	0

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. Recorded RH data invalid due to bad oscillator.

2. Data for all parameters lost from 12/6 to 12/11 and again from 12/13 to 12/31 due to a poor power supply connection.

No data for January

(SEE INTERPRETATION OF DATA)

No precipitation data for February

(See INTERPRETATION OF DATA).

P A M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY HOUR SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING February 1984

DAY 01

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

DAY 02

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

DAY 03

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

DAY 04

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

DAY 05

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

DAY 06

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

DAY 07

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

DAY 08

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

DAY 09

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

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SUMMARY FOR DENALI 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	*****	*****	**	***	****	***	****	***
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

HOURLY SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING February, 1984

DAY 19

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

DAY 20

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

DAY 21

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

DAY 22

HOUR	TEMP.	DEW POINT	RH	WIND DIR.	WIND SPD.	GUST DIR.	MAX. GUST	RAD
MDNG	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	*****	*****	**	***	****	***	****	***
0600	*****	*****	**	***	****	***	****	***
0900	*****	*****	**	***	****	***	****	***
1200	-9.1	*****	**	215	4.2	199	7.6	26
1500	-10.4	*****	**	202	4.2	195	7.6	11
1800	-11.1	*****	**	229	1.6	214	4.4	0
2100	-13.4	*****	**	185	.8	193	2.5	0
2400	-13.4	*****	**	146	.9	132	2.5	0

DAY 23

HOUR	TEMP.	DEW POINT	RH	WIND DIR.	WIND SPD.	GUST DIR.	MAX. GUST	RAD
MDNG	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-13.2	*****	**	092	.6	137	1.9	0
0600	-14.7	*****	**	181	.9	183	2.5	0
0900	-13.7	*****	**	198	1.0	196	3.2	3
1200	-11.6	*****	**	227	.6	234	2.5	16
1500	-9.8	*****	**	193	2.2	202	4.4	12
1800	-10.9	*****	**	137	.7	194	5.1	0
2100	-10.4	*****	**	162	1.9	190	7.6	0
2400	-11.8	*****	**	188	5.5	201	8.9	0

DAY 24

HOUR	TEMP.	DEW POINT	RH	WIND DIR.	WIND SPD.	GUST DIR.	MAX. GUST	RAD
MDNG	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-17.4	*****	**	196	3.5	205	5.7	0
0600	-17.8	*****	**	357	.8	002	2.5	0
0900	-12.5	*****	**	216	.8	191	5.7	3
1200	-11.1	*****	**	183	5.1	183	8.3	23
1500	-10.1	*****	**	181	5.8	179	8.3	35
1800	-10.8	*****	**	177	4.8	184	7.6	0
2100	-10.9	*****	**	181	4.2	180	6.5	0
2400	-10.9	*****	**	178	5.0	182	8.3	0

DAY 25

HOUR	TEMP.	DEW POINT	RH	WIND DIR.	WIND SPD.	GUST DIR.	MAX. GUST	RAD
MDNG	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-10.2	*****	**	192	5.0	184	7.0	0
0600	-7.9	*****	**	192	6.1	188	8.9	0
0900	-9.5	*****	**	195	5.4	199	8.3	4
1200	-6.8	*****	**	192	5.0	190	8.3	30
1500	-7.3	*****	**	196	4.7	188	7.6	17
1800	-10.3	*****	**	031	.4	018	3.8	0
2100	-13.5	*****	**	358	2.2	004	5.6	0
2400	-13.0	*****	**	007	3.0	347	4.8	0

DAY 26

HOUR	TEMP.	DEW POINT	RH	WIND DIR.	WIND SPD.	GUST DIR.	MAX. GUST	RAD
MDNG	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-15.7	*****	**	022	.6	001	3.2	0
0600	-17.9	*****	**	011	1.5	332	3.8	0
0900	-17.8	*****	**	343	1.1	015	3.2	4
1200	-16.5	*****	**	329	.6	021	2.5	23
1500	-14.2	*****	**	334	.4	001	1.9	29
1800	-17.2	*****	**	350	1.3	356	3.2	0
2100	-18.2	*****	**	342	.4	333	2.5	0
2400	-19.9	*****	**	030	.3	358	1.9	0

DAY 27

HOUR	TEMP.	DEW POINT	RH	WIND DIR.	WIND SPD.	GUST DIR.	MAX. GUST	RAD
MDNG	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-22.9	*****	**	360	1.3	352	3.2	1
0600	-21.3	*****	**	000	1.1	023	3.2	0
0900	-15.5	*****	**	214	1.2	356	5.7	-
1200	-12.5	*****	**	163	2.3	177	6.5	34
1500	-11.2	*****	**	22	5.0	177	6.9	31
1800	-14.5	*****	**	049	1.0	135	4.3	-
2100	-16.1	*****	**	014	.7	017	1.9	0
2400	-15.8	*****	**	010	1.4	357	3.6	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

DAY 28

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	-17.0	*****	**	073	.5	170	2.5	0
0600	-19.4	*****	**	113	.2	150	1.9	0
0900	-20.8	*****	**	035	.3	150	1.9	3
1200	-18.5	*****	**	316	.4	027	1.9	37
1500	-14.5	*****	**	189	.5	196	3.2	34
1800	-15.2	*****	**	006	1.5	025	3.8	0
2100	-19.5	*****	**	011	1.2	357	3.8	0
2400	-18.7	*****	**	016	.9	343	2.5	0

DAY 29

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	-21.8	*****	**	311	.0	192	2.5	0
0600	-21.8	*****	**	016	1.3	350	3.8	0
0900	-21.9	*****	**	016	.7	000	2.5	3
1200	-18.0	*****	**	314	.3	025	2.5	37
1500	-13.1	*****	**	359	1.7	355	3.8	34
1800	-15.2	*****	**	347	1.4	352	3.2	0
2100	-16.3	*****	**	348	1.2	352	2.5	0
2400	-19.4	*****	**	011	1.7	013	5.1	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR DENALI 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	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	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	-8.8	-15.4	-12.1	202	1.9	2.2	199	7.6	SSW	**	*****	****	1505	22
23	-9.8	-15.7	-12.8	182	1.5	2.0	201	8.9	SSW	**	*****	****	475	23
24	-9.9	-18.5	-14.2	183	3.5	4.0	183	8.3	S	**	*****	****	1745	24
25	-6.7	-13.8	-10.3	193	2.7	4.1	188	8.9	S	**	*****	****	1440	25
26	-10.2	-19.9	-15.1	355	.7	1.1	032	3.8	N	**	*****	****	1820	26
27	-11.3	-22.9	-17.1	141	.3	2.0	177	8.9	N	**	*****	****	1300	27
28	-13.2	-21.5	-17.4	017	.5	1.1	025	3.8	NNE	**	*****	****	2185	28
29	-12.6	-23.3	-18.9	090	1.0	1.3	013	5.1	N	**	*****	****	2315	29
MONTH	-6.7	-23.3	-14.6	188	.9	2.2	201	8.9	N	**	*****	****	17485	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 7.6
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 8.3
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 8.9
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 7.6

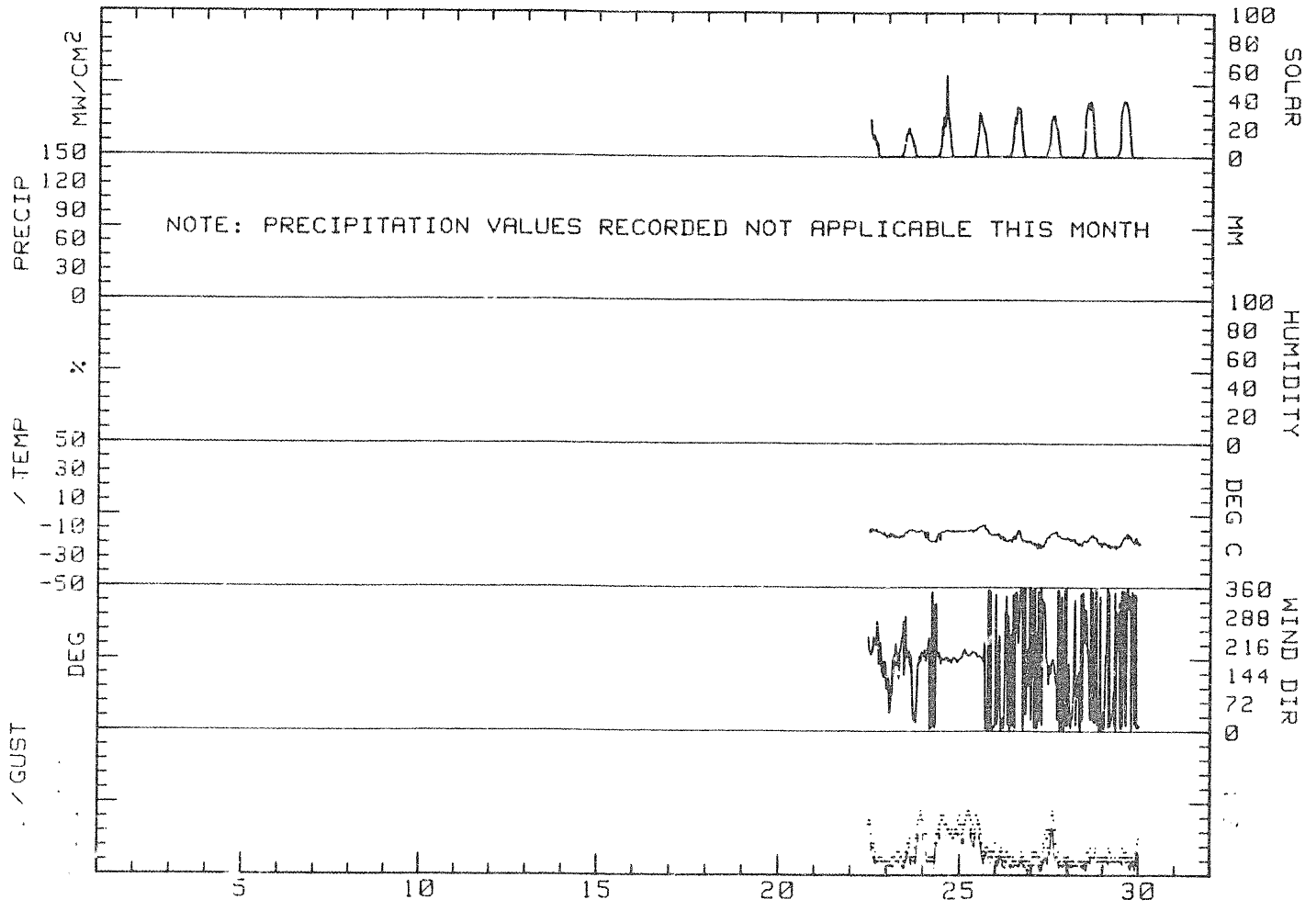
NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE CALCULATION OF MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DENALI WEATHER STATION

February, 1984



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR DENALI 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 & GREATER	TOTAL
N	2.76	16.85	.55	0.00	0.00	0.00	0.00	20.17
NNE	3.31	9.94	0.00	0.00	0.00	0.00	0.00	13.25
NE	1.66	1.38	0.00	0.00	0.00	0.00	0.00	3.03
ENE	.55	.55	0.00	0.00	0.00	0.00	0.00	1.10
E	.83	.55	0.00	0.00	0.00	0.00	0.00	1.38
ESE	.83	.83	0.00	0.00	0.00	0.00	0.00	1.66
SE	1.93	1.66	.28	0.00	0.00	0.00	0.00	3.86
SSE	1.66	1.93	1.38	0.00	0.00	0.00	0.00	4.97
S	1.10	2.49	12.43	3.31	0.00	0.00	0.00	19.34
SSW	1.10	3.87	6.63	.83	0.00	0.00	0.00	12.43
SW	1.38	2.49	.28	0.00	0.00	0.00	0.00	4.14
WSW	.28	1.66	0.00	0.00	0.00	0.00	0.00	1.93
W	1.38	.55	0.00	0.00	0.00	0.00	0.00	1.93
WNW	.83	1.10	0.00	0.00	0.00	0.00	0.00	1.93
NW	.55	2.21	0.00	0.00	0.00	0.00	0.00	2.76
NNW	1.21	3.59	0.00	0.00	0.00	0.00	0.00	4.80
CALM								
TOTAL	20.45	51.66	21.55	4.14	0.00	0.00	0.00	100.00

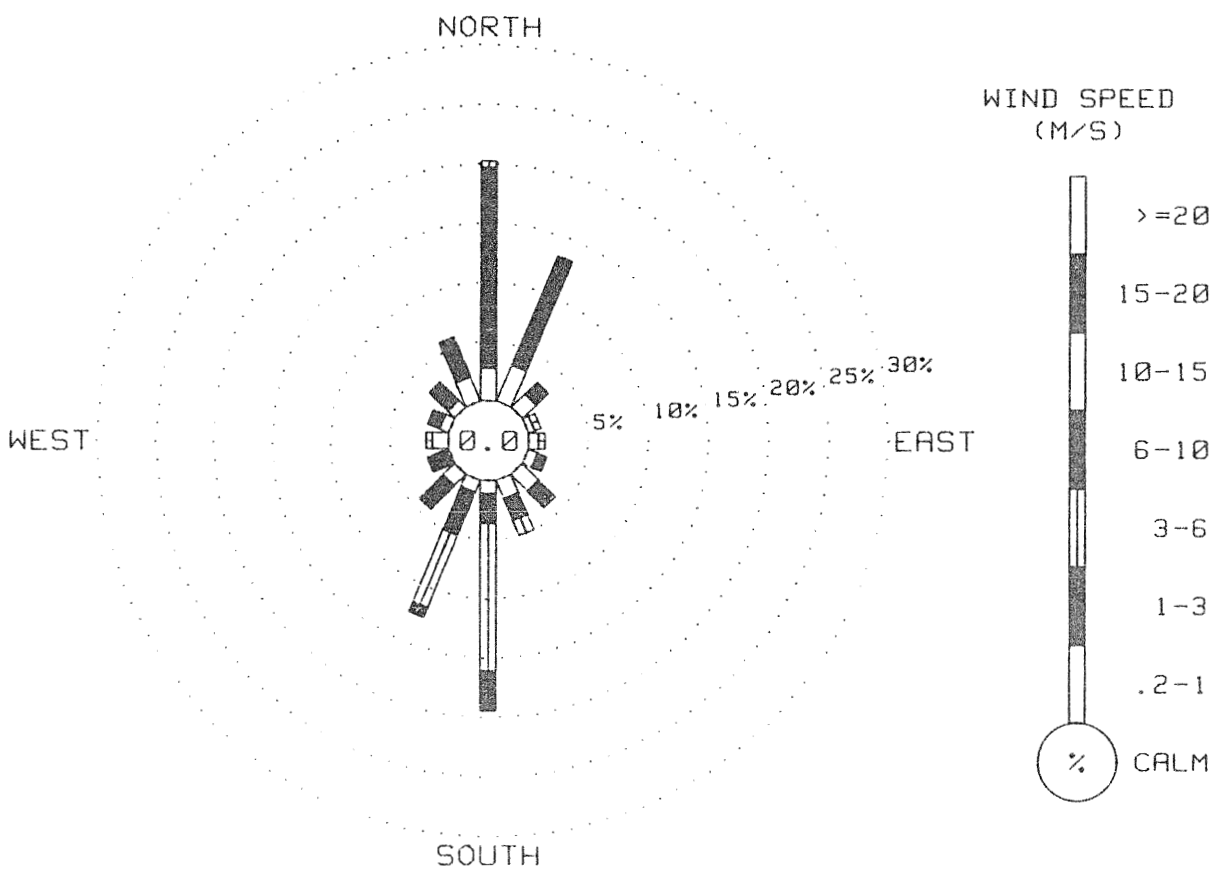
1. ALL VELOCITIES ARE EXPRESSED IN METERS/SEC
2. WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
3. WIND OBSERVATIONS WOULD HAVE BEEN CORRECT FOR TO MINUTE
4. SEE OBSERVATION NOTES AT END OF MONTHLY REPORT

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DENALI WEATHER STATION

February, 1984



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

[illegible] HP NR RADIATION SUMMARY FOR DENALI WEATHER STATION
[illegible] TAKEN DURING February, 1964

ALL NR 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	***	***	***	***	***	***	***	***	***	***	***	26	15	13	13	10	5	1	0	0	0	0	0	[illegible]	[illegible]
23	0	0	0	0	0	0	0	0	2	6	11	16	20	16	13	9	6	1	0	0	0	0	0	[illegible]	4
24	0	0	0	0	0	0	0	0	3	7	18	26	24	49	27	17	6	1	0	0	0	0	0	[illegible]	[illegible]
25	0	0	0	0	0	0	0	0	3	9	17	31	26	22	19	13	5	1	0	0	0	0	0	0	[illegible]
26	0	0	0	0	0	0	0	0	3	9	23	26	35	32	32	17	7	1	0	0	0	0	0	0	9
27	0	0	0	0	0	0	0	0	3	7	13	26	29	27	21	17	8	1	0	0	0	0	0	0	6
28	0	0	0	0	0	0	0	0	3	6	30	36	38	36	36	25	9	2	0	0	0	0	0	[illegible]	[illegible]
29	0	0	0	0	0	0	0	0	3	6	31	36	39	39	35	28	15	3	0	0	0	0	0	[illegible]	[illegible]

[illegible] INSTRUMENTATION CHECKS AT END OF MONTH Y REPORT [illegible]

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

PARAMETER	NUMBER OF USABLE OBSERVATIONS	PERCENT OF TOTAL OBSERVATIONS
TEMPERATURE	362	26
WIND SPEED	362	26
WIND DIRECTION	362	26
PEAK GUST	362	26
RELATIVE HUMIDITY	0	0
PRECIPITATION	0	0
SOLAR RADIATION	362	26
DEW POINT	0	0

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. Solar -1 mW/CM^2

Additional comments on this month's data:

1. Power supply connection repaired on 2/22. No data prior to this date.

2. RH sensor calibrated 2/22. Recorded data still invalid due to bad oscillator.

No precipitation data for March

(See INTERPRETATION OF DATA).

R A M CONSULTANTS, INC.

ALASKA HYDROELECTRIC PROJECTS

HOURLY SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING March 1984

DAY 01

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	-19.8	*****	**	321	.6	302	3.2	0
0600	-20.8	*****	**	195	1.4	201	3.2	0
0900	-18.5	*****	**	029	1.2	036	3.8	4
1200	-14.3	*****	**	006	1.1	336	3.2	39
1500	-11.7	*****	**	007	1.9	007	3.8	25
1800	-15.1	*****	**	351	1.7	353	3.8	0
2100	-16.0	*****	**	353	.9	348	2.5	0
2400	-16.9	*****	**	353	1.0	021	3.2	0

DAY 02

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	-15.5	*****	**	006	1..	022	3.2	0
0600	-14.3	*****	**	010	1.4	024	3.8	0
0900	-13.4	*****	**	018	1.9	022	3.2	6
1200	-9.2	*****	**	107	.6	182	8.9	27
1500	-8.3	*****	**	187	7.1	193	11.4	20
1800	-9.2	*****	**	192	7.1	190	10.8	1
2100	-10.1	*****	**	201	4.4	188	7.0	0
2400	-8.7	*****	**	233	3.3	225	8.9	0

DAY 03

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	*****	**	157	5.6	152	15.2	0
0600	-1.8	*****	**	175	5.0	181	15.2	0
0900	-3.4	*****	**	177	8.6	178	13.3	4
1200	-2.5	*****	**	189	4.2	170	14.0	37
1500	-.2	*****	**	209	2.2	165	12.7	17
1800	.5	*****	**	156	5.8	153	16.5	0
2100	1.1	*****	**	149	9.2	153	21.6	0
2400	1.2	*****	**	151	11.8	150	21.6	0

DAY 04

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	*****	**	156	12.5	158	18.4	0
0600	.8	*****	**	171	9.6	176	16.5	0
0900	2.0	*****	**	173	7.6	166	14.0	7
1200	2.0	*****	**	157	5.8	168	11.4	16
1500	2.6	*****	**	188	4.6	182	10.2	16
1800	1.2	*****	**	183	3.8	180	8.9	1
2100	1.6	*****	**	266	.6	191	2.5	0
2400	.7	*****	**	337	1.5	187	5.7	0

DAY 05

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	*****	**	171	2.4	165	5.7	0
0600	-2.3	*****	**	171	1.8	158	3.8	0
0900	-1.7	*****	**	186	2.9	190	5.1	5
1200	.6	*****	**	191	5.0	178	11.4	12
1500	2.5	*****	**	199	4.2	205	8.3	20
1800	2.9	*****	**	207	2.2	238	5.7	1
2100	2.6	*****	**	187	2.2	203	7.6	0
2400	1.3	*****	**	202	3.5	199	8.3	0

DAY 06

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	.5	*****	**	168	3.0	205	5.7	0
0600	-1.1	*****	**	136	.7	160	3.8	0
0900	-.8	*****	**	351	1.8	344	5.1	6
1200	1.9	*****	**	015	1.6	006	3.2	37
1500	.7	*****	**	342	1.1	001	3.5	29
1800	-3.2	*****	**	002	1.9	007	3.8	1
2100	-4.4	*****	**	011	1.8	009	3.2	0
2400	-4.3	*****	**	006	1.5	003	3.2	0

DAY 07

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	-3.6	*****	**	354	.3	354	2.5	0
0600	-3.7	*****	**	167	.6	177	3.8	0
0900	-.7	*****	**	154	3.4	165	6.3	7
1200	.8	*****	**	183	3.9	177	6.3	15
1500	1.1	*****	**	201	3.8	202	5.7	17
1800	1.8	*****	**	187	3.8	198	5.1	1
2100	-.1	*****	**	099	.5	166	3.8	0
2400	.1	*****	**	031	.6	067	1.9	0

DAY 08

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	-1.5	*****	**	224	1.4	211	4.4	0
0600	-1.6	*****	**	124	.4	180	3.2	0
0900	-4.7	*****	**	019	1.0	009	3.2	7
1200	-1.2	*****	**	073	.3	194	2.5	34
1500	2.6	*****	**	360	1.5	346	2.5	19
1800	-.2	*****	**	005	1.6	001	3.2	1
2100	-1.2	*****	**	306	.5	004	3.2	0
2400	.6	*****	**	199	3.1	195	5.7	0

DAY 09

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	*****	**	012	.7	011	5.1	0
0600	.4	*****	**	140	1.1	144	7.0	0
0900	.1	*****	**	181	5.8	175	10.9	7
1200	1.4	*****	**	190	6.2	193	11.5	34
1500	3.6	*****	**	201	6.9	203	13.9	12
1800	3.6	*****	**	214	3.4	193	7.6	1
2100	2.6	*****	**	039	.5	047	3.2	0
2400	1.4	*****	**	121	.7	151	2.5	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

3 HOUR SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING March, 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	-2.9	*****	**	145	.8	158	2.5	0
0600	-3.6	*****	**	302	.8	330	4.4	0
0900	-1.8	*****	**	284	.8	241	6.3	9
1200	3.2	*****	**	186	2.4	188	6.3	54
1500	5.0	*****	**	203	4.0	201	7.6	21
1800	3.6	*****	**	218	1.5	190	5.1	3
2100	-.9	*****	**	212	2.5	231	5.1	0
2400	-.8	*****	**	138	.9	186	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	-2.1	*****	**	252	1.1	220	7.6	0
0600	-1.6	*****	**	253	1.1	211	5.7	0
0900	-4.8	*****	**	265	.4	221	3.8	8
1200	.1	*****	**	347	.7	358	2.5	48
1500	2.6	*****	**	284	.7	226	2.5	31
1800	-1.2	*****	**	356	2.7	351	5.1	3
2100	-4.4	*****	**	357	2.9	345	5.1	0
2400	-8.0	*****	**	355	2.2	006	3.8	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	-7.5	*****	**	000	2.2	009	4.4	0
0600	-8.1	*****	**	008	2.2	355	4.4	0
0900	-8.4	*****	**	324	.9	350	2.5	8
1200	-2.7	*****	**	351	.6	345	3.5	51
1500	-1.8	*****	**	005	1.9	011	3.8	34
1800	-2.0	*****	**	012	3.3	011	5.1	3
2100	-6.6	*****	**	357	1.6	011	3.8	0
2400	-6.7	*****	**	143	.2	357	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	-9.6	*****	**	141	.4	098	1.9	0
0600	-10.9	*****	**	122	.3	355	1.9	0
0900	-11.8	*****	**	111	.7	171	2.5	5
1200	-8.4	*****	**	007	.5	331	2.5	43
1500	-1.7	*****	**	223	1.3	199	7.6	19
1800	-2.5	*****	**	196	4.4	194	7.0	3
2100	-5.0	*****	**	329	.3	216	3.8	0
2400	-8.6	*****	**	030	.7	065	1.9	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	-8.7	*****	**	132	.3	054	3.2	0
0600	-7.5	*****	**	008	.9	347	2.5	0
0900	-6.1	*****	**	230	.8	203	4.4	7
1200	-2.9	*****	**	201	1.5	191	3.2	66
1500	0.0	*****	**	206	2.2	211	3.8	40
1800	-2.2	*****	**	234	.6	195	1.9	2
2100	-3.8	*****	**	207	.7	235	1.9	0
2400	-6.6	*****	**	097	.2	123	1.9	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	-7.9	*****	**	016	.5	262	1.9	0
0600	-7.9	*****	**	082	.5	163	1.3	0
0900	-8.9	*****	**	139	.6	144	1.3	6
1200	-3.6	*****	**	193	.2	109	1.3	44
1500	-3.2	*****	**	344	.2	175	2.5	47
1800	-3.5	*****	**	321	.2	012	1.9	5
2100	-10.0	*****	**	359	1.2	008	3.2	0
2400	-11.6	*****	**	018	1.1	025	3.5	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	-13.4	*****	**	018	1.0	348	2.5	0
0600	-14.8	*****	**	128	.3	177	3.8	0
0900	-15.8	*****	**	014	.4	137	1.9	5
1200	-7.0	*****	**	329	.2	236	1.3	49
1500	-5.9	*****	**	337	.6	349	1.3	44
1800	-7.3	*****	**	357	1.4	007	3.5	5
2100	-11.8	*****	**	001	1.1	345	3.5	0
2400	-12.5	*****	**	005	1.3	358	3.5	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	-13.8	*****	**	005	1.6	002	3.2	0
0600	-14.8	*****	**	344	.1	029	1.9	0
0900	-17.7	*****	**	027	.8	007	2.5	6
1200	-9.9	*****	**	349	.4	065	1.9	54
1500	-7.9	*****	**	002	1.7	358	3.8	38
1800	-8.4	*****	**	002	2.5	354	5.1	5
2100	-13.2	*****	**	358	1.8	004	3.2	0
2400	-14.7	*****	**	023	1.9	003	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	-16.4	*****	**	351	1.6	007	3.8	0
0600	-18.3	*****	**	319	.5	343	3.2	0
0900	-17.1	*****	**	356	.2	003	1.3	6
1200	-11.7	*****	**	347	.7	034	1.3	44
1500	-9.1	*****	**	004	1.7	003	3.8	43
1800	-11.8	*****	**	004	2.0	359	3.8	5
2100	-13.0	*****	**	006	1.4	004	3.2	0
2400	-16.5	*****	**	002	.4	047	1.3	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING March, 1984

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	-18.2	*****	**	136	.3	177	1.9	0
0600	-18.0	*****	**	176	.3	214	1.9	0
0900	-20.6	*****	**	167	.3	224	1.9	6
1200	-13.2	*****	**	011	.5	002	3.2	49
1500	-7.3	*****	**	359	1.6	007	2.5	44
1800	-6.9	*****	**	353	1.2	007	2.5	6
2100	-11.8	*****	**	357	.9	345	3.2	0
2400	-13.0	*****	**	357	.5	027	1.9	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	-14.0	*****	**	263	1.0	262	3.8	0
0600	-13.2	*****	**	084	.4	239	2.5	0
0900	-14.6	*****	**	274	.7	212	3.2	11
1200	-5.1	*****	**	147	1.1	165	7.0	43
1500	-4.0	*****	**	202	3.9	200	6.3	32
1800	-5.0	*****	**	197	2.2	198	3.8	4
2100	-11.8	*****	**	356	1.6	348	3.2	0
2400	-9.8	*****	**	010	1.2	021	3.8	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	-11.8	*****	**	038	.9	024	3.5	0
0600	-13.6	*****	**	025	.9	015	1.9	0
0900	-14.4	*****	**	089	.1	015	1.9	6
1200	-7.7	*****	**	024	.3	302	1.9	56
1500	-4.6	*****	**	259	.6	218	1.9	41
1800	-3.8	*****	**	294	.4	273	3.5	7
2100	-10.9	*****	**	004	1.5	042	3.2	0
2400	-12.4	*****	**	017	1.1	019	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	-13.9	*****	**	066	.6	034	1.9	0
0600	-18.6	*****	**	354	.5	011	2.5	0
0900	-18.5	*****	**	317	.5	354	2.5	6
1200	-10.7	*****	**	008	1.0	010	2.5	53
1500	-7.5	*****	**	004	4.2	002	7.0	42
1800	-9.3	*****	**	000	3.7	005	5.7	7
2100	-13.9	*****	**	002	2.7	355	5.7	0
2400	-12.1	*****	**	011	1.6	043	3.8	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	-16.6	*****	**	354	2.0	001	3.8	0
0600	-16.8	*****	**	326	1.2	003	3.2	0
0900	-12.9	*****	**	318	.9	352	3.2	16
1200	-7.5	*****	**	355	2.1	358	5.1	49
1500	-7.2	*****	**	002	4.7	005	7.0	34
1800	-8.5	*****	**	005	3.8	011	6.3	8
2100	-13.3	*****	**	009	1.9	011	3.8	0
2400	-14.1	*****	**	040	.4	071	1.9	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	-14.8	*****	**	127	.5	118	1.9	0
0600	-15.3	*****	**	325	.2	040	3.5	0
0900	-16.7	*****	**	160	.5	159	1.9	9
1200	-4.8	*****	**	339	.7	356	3.5	55
1500	-4.0	*****	**	239	1.0	291	3.8	26
1800	-8.7	*****	**	004	2.1	333	3.2	3
2100	-8.3	*****	**	009	1.9	005	3.2	0
2400	-12.4	*****	**	013	1.8	019	3.2	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	-14.0	*****	**	004	2.5	002	4.4	0
0600	-14.7	*****	**	006	3.0	011	3.5	0
0900	-11.8	*****	**	355	.8	354	3.5	2
1200	-6.1	*****	**	001	.9	001	3.5	61
1500	-3.6	*****	**	002	1.5	011	3.5	45
1800	-7.1	*****	**	356	1.3	358	3.5	6
2100	-6.6	*****	**	352	.1	356	3.5	0
2400	-6.8	*****	**	033	.5	124	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	-7.6	*****	**	088	1.2	110	6.3	0
0600	-6.5	*****	**	168	3.2	182	7.6	0
0900	-5.1	*****	**	193	4.0	194	5.7	29
1200	-2.8	*****	**	202	5.5	205	10.2	58
1500	-.8	*****	**	204	5.3	207	7.6	62
1800	-1.6	*****	**	214	2.3	209	5.7	9
2100	-2.2	*****	**	192	1.9	181	5.1	0
2400	.6	*****	**	161	4.4	195	11.4	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	-3.4	*****	**	167	3.6	155	5.7	1
0600	-3.6	*****	**	174	3.9	162	11.3	0
0900	-2.5	*****	**	190	4.4	194	7.6	13
1200	1.0	*****	**	176	5.6	171	10.2	59
1500	.3	*****	**	171	5.8	175	11.4	51
1800	.1	*****	**	87	1.4	164	7.6	7
2100	-5.5	*****	**	342	.5	339	1.9	0
2400	-8.2	*****	**	013	1.1	004	2.5	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING March, 1984

DAY 28

HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. m/S	GUST DIR. DEG.	GUST MAX. m/S	RAD MW
0300	-9.4	*****	**	009	1.6	015	5.1	0
0600	-12.5	*****	**	353	1.3	013	3.8	0
0900	-14.4	*****	**	350	1.3	010	3.2	7
1200	-6.2	*****	**	358	.8	349	2.5	63
1500	-1.9	*****	**	005	2.5	008	3.8	47
1800	-2.7	*****	**	004	1.3	332	2.5	11
2100	-5.5	*****	**	008	.9	007	2.5	0
2400	-7.6	*****	**	019	1.0	022	3.2	0

DAY 29

HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	GUST MAX. M/S	RAD MW
0300	-6.0	*****	**	019	1.3	045	4.4	0
0600	-4.2	*****	**	140	.8	200	4.4	0
0900	-2.4	*****	**	012	.6	261	4.4	18
1200	0.0	*****	**	016	.9	008	1.9	34
1500	.4	*****	**	326	.6	012	5.7	28
1800	-.9	*****	**	192	1.9	210	8.3	5
2100	.7	*****	**	157	4.8	159	12.7	0
2400	-4.0	*****	**	197	2.4	171	9.5	0

DAY 30

HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	GUST MAX. M/S	RAD MW
0300	-5.2	*****	**	063	1.1	077	2.5	0
0600	-6.6	*****	**	020	1.9	009	5.7	0
0900	-5.4	*****	**	001	3.9	002	7.6	16
1200	-2.3	*****	**	009	2.8	005	6.3	40
1500	1.6	*****	**	014	2.0	025	4.4	40
1800	.4	*****	**	211	1.8	196	7.6	9
2100	-.6	*****	**	199	4.0	196	9.3	0
2400	-2.2	*****	**	200	2.0	192	4.4	0

DAY 31

HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. m/S	GUST DIR. DEG.	GUST MAX. m/S	RAD MW
0300	-3.0	*****	**	172	.9	184	2.5	0
0600	-3.8	*****	**	182	.8	162	3.2	0
0900	-3.9	*****	**	196	1.4	208	3.8	17
1200	-.7	*****	**	192	5.5	181	12.1	59
1500	.5	*****	**	191	6.2	167	10.8	34
1800	.4	*****	**	184	5.5	180	9.5	9
2100	0.0	*****	**	172	4.6	160	12.1	0
2400	-.3	*****	**	151	7.9	152	12.1	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

Monthly Summary FOR DENALI WEATHER STATION
Data taken During March, 1982

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 W/M2	DAY
1	-11.7	-24.8	-18.3	358	.8	1.4	036	3.8	N	**	*****	****	2205	1
2	-8.3	-17.1	-12.7	198	2.1	3.8	193	11.4	NNE	**	*****	****	1835	2
3	1.5	-7.5	-3.0	164	6.3	6.8	153	21.6	SSE	**	*****	****	1270	3
4	3.8	-1.1	.9	170	5.5	6.0	158	18.4	SSE	**	*****	****	1345	4
5	3.8	-2.5	.7	191	3.0	3.1	178	11.4	SSW	**	*****	****	1300	5
6	5.1	-5.0	.1	005	.9	1.7	205	5.7	N	**	*****	****	2185	6
7	2.0	-4.4	-1.2	188	1.7	2.2	185	6.3	S	**	*****	****	1545	7
8	2.6	-4.9	-1.2	321	.2	1.4	195	5.7	N	**	*****	****	1945	8
9	4.4	-3.3	.6	191	2.4	3.4	193	10.8	SSW	**	*****	****	1925	9
10	5.0	-5.0	0.0	204	1.4	2.0	201	7.6	SSW	**	*****	****	2410	10
11	2.7	-8.3	-2.8	334	1.1	1.9	220	7.6	N	**	*****	****	2240	11
12	-1.1	-11.0	-6.1	003	1.5	1.8	011	5.1	N	**	*****	****	3035	12
13	-.8	-13.5	-7.2	189	.6	1.6	199	7.6	N	**	*****	****	2645	13
14	.9	-9.6	-4.4	209	.6	1.2	203	4.4	SSW	**	*****	****	3080	14
15	-.5	-14.3	-7.4	026	.3	.9	008	3.2	NNE	**	*****	****	2810	15
16	-4.2	-17.0	-10.6	004	.7	1.1	177	3.8	N	**	*****	****	3305	16
17	-7.5	-17.7	-12.6	005	1.2	1.4	354	5.1	N	**	*****	****	3290	17
18	-8.2	-20.0	-14.1	359	.8	1.3	007	3.8	N	**	*****	****	3320	18
19	-5.5	-20.6	-13.1	002	.5	1.0	002	3.2	N	**	*****	****	3315	19
20	-4.0	-15.7	-9.9	215	.6	1.8	165	7.0	SSW	**	*****	****	3005	20
21	-2.6	-14.8	-8.7	007	.5	1.0	042	3.2	N	**	*****	****	3445	21
22	-7.1	-19.8	-13.5	004	1.8	2.0	002	7.0	N	**	*****	****	3570	22
23	-7.0	-18.3	-12.7	358	2.1	3.2	005	7.0	N	**	*****	****	3490	23
24	-4.0	-16.8	-10.4	004	.7	1.3	291	3.8	N	**	*****	****	3490	24
25	-3.9	-15.4	-9.2	002	1.3	1.4	002	4.4	N	**	*****	****	3810	25
26	1.1	-8.4	-3.7	188	3.1	3.5	195	11.4	SSW	**	*****	****	3640	26
27	3.0	-8.9	-2.6	175	2.6	3.5	175	11.4	S	**	*****	****	3575	27
28	-1.6	-14.4	-8.0	003	1.3	1.4	015	5.1	N	**	*****	****	1195	28
29	-.3	-7.7	-3.3	163	.8	2.4	159	13.7	NNE	**	*****	****	2515	29
30	1.9	-7.2	-2.7	358	.5	2.7	196	8.3	N	**	*****	****	3935	30
31	3.4	-4.5	-1.6	177	3.9	4.2	181	12.1	S	**	*****	****	3640	31
MONTH	5.1	-24.8	-6.4	181	.6	3.3	153	21.6	N	**	*****	****	84530	

LAST YR. AT MAX. GUST MEANS 2 INTERVALS 10.5
GUST YRS. AT MAX. GUST MINUS 1 INTERVAL -6.4
GUST YR. AT MAX. GUST PLUS 1 INTERVAL 23.3
GUST YR. AT MAX. GUST PLUS 2 INTERVALS 34.2

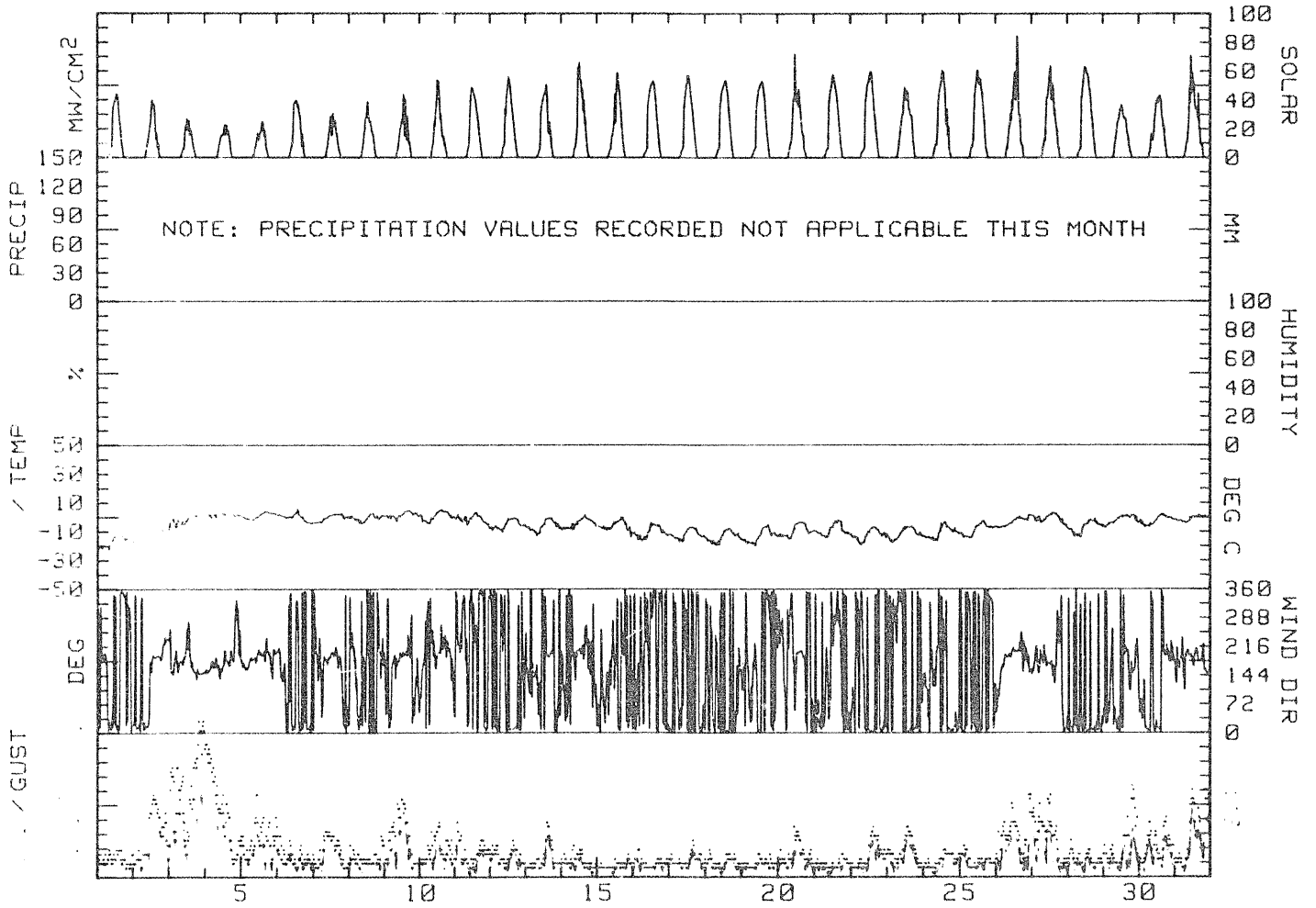
** RELATIVE HUMIDITY READINGS ARE UNREPRESENTATIVE WHEN WIND SPEEDS ARE LESS THAN
ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE CALCULATION
OF MONTHLY MEAN RELATIVE HUMIDITY AND DEW POINT.
*** SEE INTERPRETATIVE NOTES AT END OF MONTHLY REPORT ***

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DENALI WEATHER STATION

March, 1984



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING March, 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	4.10	17.34	2.76	0.00	0.00	0.00	0.00	24.19
NNE	2.42	8.53	.40	0.00	0.00	0.00	0.00	11.36
NE	1.68	1.61	0.00	0.00	0.00	0.00	0.00	3.29
ENE	1.55	.81	0.00	0.00	0.00	0.00	0.00	2.36
E	1.14	.54	0.00	0.00	0.00	0.00	0.00	1.68
ESE	1.81	.67	0.00	0.00	0.00	0.00	0.00	2.49
SE	1.21	.87	.20	.13	0.00	0.00	0.00	2.42
SSE	1.55	1.81	1.75	2.15	.94	0.00	0.00	8.20
S	1.14	3.49	4.37	2.35	0.00	0.00	0.00	11.35
SSW	1.28	4.77	5.91	1.34	0.00	0.00	0.00	13.31
SW	1.08	2.28	1.01	0.00	0.00	0.00	0.00	4.37
WSW	.60	.87	.20	0.00	0.00	0.00	0.00	1.67
W	1.01	.94	.07	0.00	0.00	0.00	0.00	2.02
WNW	1.01	.81	0.00	0.00	0.00	0.00	0.00	1.81
NW	.67	1.08	0.00	0.00	0.00	0.00	0.00	1.75
NNW	2.35	1.41	.27	0.00	0.00	0.00	0.00	4.03
CALM								
TOTAL	29.80	57.29	16.91	5.98	.94	0.00	0.00	100.00

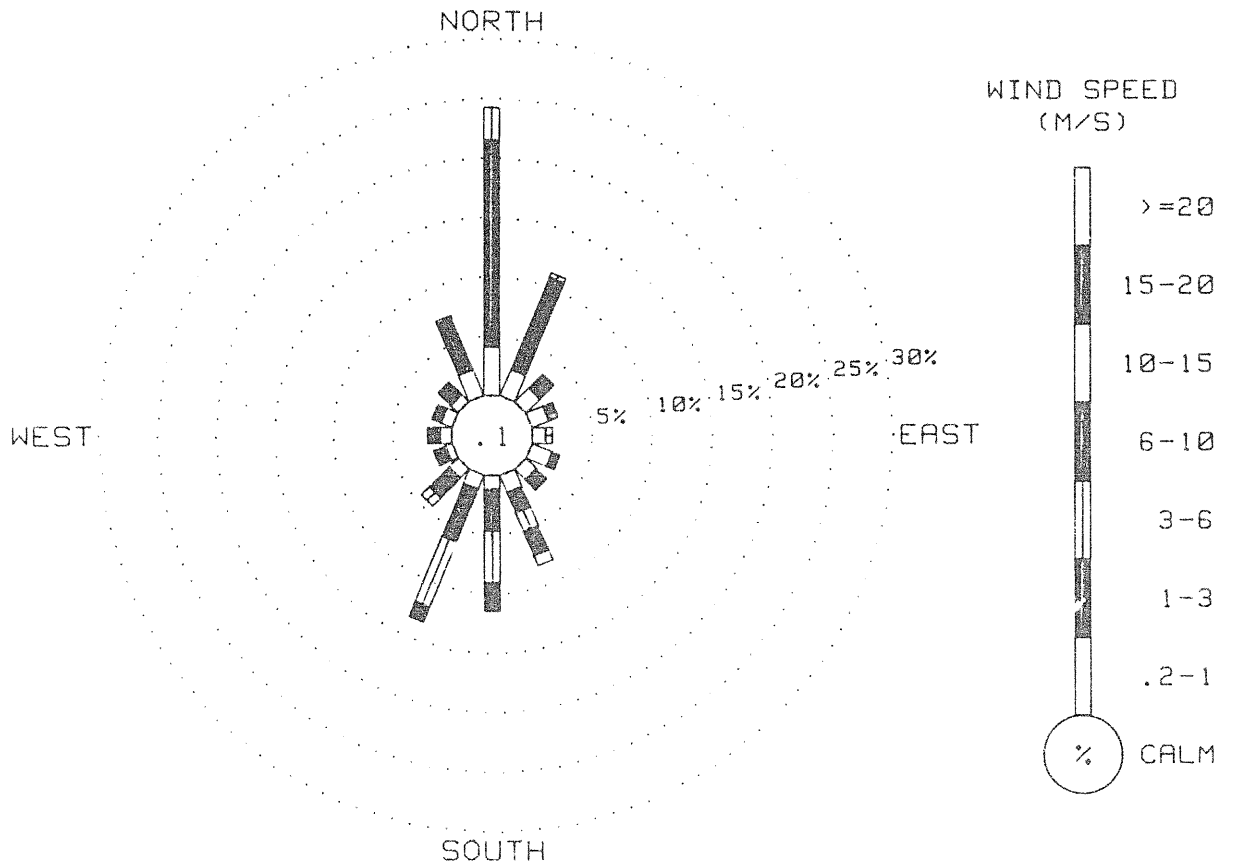
ALL WIND SPEEDS ARE EXPRESSED IN METERS PER SECOND
NUMBER OF OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY: 1488
NUMBER OF OBSERVATIONS USED TO MOVE DATA FROM CORRECT TIME TO MIDNIGHT DATA: 0
NUMBER OF INTERPOLATIONS MADE AT END OF MONTH'S PERIOD: 0

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DENALI WEATHER STATION

March, 1984



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

[illegible] SOLAR RADIATION SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING March, 1984

ALL SOLAR RADIATION VALUES MEASURED IN MILLIWATTS PER SQUARE CENTIMETER

HOUR ENDING

DAY	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	3	7	33	39	43	44	30	20	9	2	0	0	0	0	0	0	9
2	0	0	0	0	0	0	0	0	4	10	17	24	40	36	29	15	9	2	0	0	0	0	0	0	8
3	0	0	0	0	0	0	0	1	3	6	17	23	21	21	19	11	6	1	0	0	0	0	0	0	5
4	0	0	0	0	0	0	0	1	5	11	16	16	21	20	19	17	9	2	0	0	0	0	0	0	8
5	0	0	0	0	0	0	0	1	4	8	16	14	17	23	23	17	8	3	0	0	0	0	0	0	5
6	0	0	0	0	0	0	0	1	5	10	28	39	40	36	31	15	14	3	0	0	0	0	0	0	9
7	0	0	0	0	0	0	0	1	6	13	23	22	24	24	22	14	6	2	0	0	0	0	0	0	6
8	0	0	0	0	0	0	0	1	6	14	23	31	35	26	22	17	10	2	0	0	0	0	0	0	8
9	0	0	0	0	0	0	0	1	6	13	21	25	41	28	21	24	11	4	0	0	0	0	0	0	8
10	0	0	0	0	0	0	0	2	8	20	27	45	47	37	26	15	11	5	0	0	0	0	0	0	10
11	0	0	0	0	0	0	0	2	7	20	43	49	45	41	34	26	15	5	0	0	0	0	0	0	12
12	0	0	0	0	0	0	0	2	8	22	36	49	55	49	37	27	16	6	1	0	0	0	0	0	13
13	0	0	0	0	0	0	0	2	4	18	37	42	45	49	32	21	17	5	1	0	0	0	0	0	11
14	0	0	0	0	0	0	0	2	7	13	43	64	54	47	37	26	13	4	1	0	0	0	0	0	13
15	0	0	0	0	0	0	0	2	6	13	18	35	34	59	50	37	21	8	1	0	0	0	0	0	12
16	0	0	0	0	0	0	0	3	5	21	41	48	52	53	48	34	20	8	1	0	0	0	0	0	14
17	0	0	0	0	0	0	0	3	6	21	43	52	57	52	41	30	19	8	1	0	0	0	0	0	14
18	0	0	0	0	0	0	1	3	6	21	42	48	52	54	46	32	20	9	1	0	0	0	0	0	14
19	0	0	0	0	0	0	1	3	6	21	41	48	52	53	47	33	20	9	1	0	0	0	0	0	14
20	0	0	0	0	0	0	1	5	10	22	41	58	42	42	36	22	17	6	2	0	0	0	0	0	13
21	0	0	0	0	0	0	1	3	6	23	45	53	57	51	44	33	22	10	1	0	0	0	0	0	14
22	0	0	0	0	0	0	1	4	6	24	45	52	58	58	45	33	22	10	2	0	0	0	0	0	14
23	0	0	0	0	0	0	1	5	14	24	31	47	44	45	34	30	26	10	2	0	0	0	0	0	13
24	0	0	0	0	0	0	1	6	9	28	46	53	61	56	37	29	19	5	1	0	0	0	0	0	15
25	0	0	0	0	0	0	1	6	10	35	51	60	53	53	47	35	23	7	2	0	0	0	0	0	16
26	0	0	0	0	0	0	1	7	16	26	33	44	58	45	74	30	21	10	3	0	0	0	0	0	15
27	0	0	0	0	0	0	1	8	12	35	44	57	52	48	40	30	22	9	2	0	0	0	0	0	15
28	0	0	0	0	0	0	1	5	7	45	55	63	60	57	49	38	26	14	4	1	0	0	0	0	17
29	0	0	0	0	0	0	1	6	16	25	29	34	36	29	26	23	15	7	3	0	0	0	0	0	11
30	0	0	0	0	0	0	2	7	17	19	37	38	40	43	42	29	25	13	3	0	0	0	0	0	11
31	0	0	0	0	0	0	2	8	14	37	55	52	53	37	35	37	28	10	6	0	0	0	0	0	15

[illegible] INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DATA RECOVERY SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING MARCH, 1984

PARAMETER	NUMBER OF USABLE OBSERVATIONS	PERCENT OF TOTAL OBSERVATIONS
TEMPERATURE	1488	100
WIND SPEED	1488	100
WIND DIRECTION	1433	100
PEAK GUST	1488	100
RELATIVE HUMIDITY	0	0
PRECIPITATION	0	0
SOLAR RADIATION	1488	100
DEW POINT	0	0

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. Recorded RH data invalid due to bad oscillator.

P A M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

PRECIPITATION SUMMARY FOR DENALI WEATHER STATION
WATER YEAR DURING APRIL 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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	.2	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	.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	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	.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	17
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	30

* = Accumulation goes at End of Missing Period **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOUR SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING APRIL 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	-3.5	*****	**	170	3.9	162	12.7	0
0600	-1	*****	**	194	1.8	143	15.2	0
0900	.9	*****	**	155	7.9	155	18.4	17
1200	.9	*****	**	159	9.9	159	21.0	37
1500	2.1	*****	**	167	5.1	156	13.3	31
1800	1.5	*****	**	343	.4	173	1.9	12
2100	-.8	*****	**	335	1.1	206	6.3	0
2400	-2.6	*****	**	344	.8	313	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	-3.3	*****	**	321	.5	006	2.5	0
0600	-3.4	*****	**	347	.9	001	2.5	0
0900	-2.1	*****	**	211	3.5	171	8.9	15
1200	1.8	*****	**	201	1.8	170	8.3	81
1500	-.7	*****	**	072	2.1	071	7.0	46
1800	-.7	*****	**	248	1.2	333	3.2	17
2100	-5.5	*****	**	007	1.9	010	4.4	0
2400	-8.2	*****	**	003	3.8	019	5.7	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	-8.3	*****	**	006	3.7	003	5.7	0
0600	-10.5	*****	**	351	2.3	348	5.	0
0900	-6.0	*****	**	006	3.9	007	5.1	36
1200	-3.4	*****	**	009	5.0	003	7.0	92
1500	-2.4	*****	**	008	4.8	014	6.3	57
1800	-3.1	*****	**	003	4.5	009	7.0	7
2100	-4.3	*****	**	006	3.1	012	5.1	0
2400	-4.8	*****	**	007	3.4	005	5.7	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	-5.5	*****	**	016	1.9	021	5.7	0
0600	-7.7	*****	**	355	1.1	029	2.5	0
0900	-5.8	*****	**	338	.1	202	1.9	20
1200	-1.3	*****	**	211	3.7	209	8.9	79
1500	.5	*****	**	186	6.0	175	10.8	25
1800	-.1	*****	**	199	4.5	192	7.0	10
2100	-1.3	*****	**	176	2.4	188	5.7	0
2400	-4.1	*****	**	163	1.2	172	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	-4.4	*****	**	170	1.7	165	4.4	0
0600	-4.5	*****	**	175	1.7	192	3.8	0
0900	-3.4	*****	**	185	3.6	193	7.0	25
1200	-.8	*****	**	199	5.2	199	7.6	72
1500	.7	*****	**	197	5.2	183	8.9	39
1800	.1	*****	**	223	1.4	186	8.3	12
2100	-2.8	*****	**	304	.3	268	2.5	0
2400	-3.6	*****	**	099	.5	138	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	-3.9	*****	**	129	.2	125	3.8	0
0600	-4.7	*****	**	339	1.6	336	5.7	1
0900	-3.8	*****	**	333	1.3	347	5.1	15
1200	-2.1	*****	**	310	.5	345	6.3	100
1500	-2.8	*****	**	339	3.4	338	7.0	42
1800	-3.3	*****	**	346	3.1	339	7.0	12
2100	-6.7	*****	**	023	.9	039	5.8	0
2400	-10.7	*****	**	021	1.1	033	5.8	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	-10.3	*****	**	029	.8	047	3.8	0
0600	-9.9	*****	**	355	.8	330	2.5	0
0900	-8.9	*****	**	135	1.4	192	3.8	17
1200	-1.3	*****	**	189	3.3	199	5.1	78
1500	.3	*****	**	93	1.2	102	5.7	52
1800	-1.9	*****	**	268	1.6	256	3.8	6
2100	-2.7	*****	**	283	.4	002	1.9	0
2400	-13.2	*****	**	053	.6	032	1.9	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	-9.9	*****	**	186	1.2	189	3.2	0
0600	-9.1	*****	**	259	1.3	319	3.8	1
0900	-7.3	*****	**	164	1.7	165	6.3	35
1200	-2.5	*****	**	194	4.1	193	7.0	83
1500	-1.3	*****	**	180	4.8	193	16.2	45
1800	-3.3	*****	**	119	1.1	189	7.6	12
2100	-4.3	*****	**	107	.3	272	1.9	0
2400	-5.8	*****	**	069	.8	033	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	-8.4	*****	**	153	1.0	078	3.8	0
0600	-7.8	*****	**	135	.3	118	.	0
0900	-7.9	*****	**	074	4.0	084	7.0	37
1200	-2.6	*****	**	091	5.8	084	8.3	83
1500	-.3	*****	**	104	5.4	103	8.3	37
1800	-3.5	*****	**	101	4.5	093	7.0	11
2100	-6.6	*****	**	094	3.1	107	5.1	0
2400	-9.2	*****	**	107	6.3	107	10.8	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING April 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	-9.9	*****	**	012	7.8	010	10.8	0
0600	-10.4	*****	**	013	7.1	011	10.2	1
0900	-9.4	*****	**	013	7.1	012	10.2	33
1200	-7.5	*****	**	010	7.2	012	9.5	77
1500	-7.1	*****	**	003	7.4	359	10.2	45
1800	-7.5	*****	**	003	6.6	001	9.5	12
2100	-9.2	*****	**	013	5.7	013	8.9	0
2400	-9.5	*****	**	017	5.4	018	7.6	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	-9.5	*****	**	017	4.8	018	7.6	0
0600	-9.9	*****	**	009	5.9	005	8.3	2
0900	-8.6	*****	**	009	4.8	008	7.0	32
1200	-6.3	*****	**	006	4.6	011	6.3	53
1500	-4.0	*****	**	001	5.0	000	6.3	44
1800	-3.7	*****	**	359	4.5	359	6.3	17
2100	-7.9	*****	**	008	3.2	004	5.1	0
2400	-10.8	*****	**	349	1.0	005	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	-11.4	*****	**	339	.7	013	3.5	0
0600	-11.8	*****	**	324	.6	041	3.9	1
0900	-9.3	*****	**	160	.4	041	3.9	42
1200	-4.6	*****	**	004	1.5	006	3.5	78
1500	-2.1	*****	**	006	3.6	004	4.4	55
1800	-2.4	*****	**	010	3.2	004	5.1	18
2100	-5.9	*****	**	017	2.6	018	3.8	0
2400	-7.3	*****	**	017	3.2	019	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	-12.6	*****	**	004	2.4	016	5.1	0
0600	-14.7	*****	**	014	3.4	013	5.1	2
0900	-9.2	*****	**	179	.2	329	3.2	44
1200	3.3	*****	**	246	.5	213	3.2	75
1500	-3.5	*****	**	278	.7	217	3.8	26
1800	1.8	*****	**	009	1.9	015	4.4	18
2100	-6.3	*****	**	001	1.5	347	3.2	0
2400	-6.7	*****	**	003	1.8	012	3.2	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	-8.2	*****	**	001	2.2	000	3.8	0
0600	-8.2	*****	**	359	3.3	011	5.7	2
0900	-5.2	*****	**	003	2.5	003	5.1	21
1200	-1.6	*****	**	014	2.6	010	4.4	46
1500	0.0	*****	**	286	.7	244	3.8	32
1800	-2.6	*****	**	002	1.7	003	4.4	13
2100	-3.3	*****	**	316	.6	324	3.8	0
2400	-3.4	*****	**	212	1.7	196	6.3	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	-6.3	*****	**	156	1.5	179	3.2	0
0600	-4.2	*****	**	123	.7	149	2.5	4
0900	-1.1	*****	**	232	.6	172	3.2	33
1200	0.0	*****	**	159	3.4	161	11.4	69
1500	.9	*****	**	187	4.7	191	9.3	74
1800	-.3	*****	**	249	3.1	234	9.1	31
2100	-5.4	*****	**	193	.5	231	3.2	0
2400	-3.6	*****	**	196	1.0	144	7.4	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	-8.3	*****	**	192	.8	134	3.2	0
0600	-8.3	*****	**	198	2.2	183	10.8	2
0900	-5.0	*****	**	187	9.1	156	17.6	43
1200	-3.3	*****	**	202	5.4	198	10.2	87
1500	-1.9	*****	**	195	5.0	199	9.3	84
1800	-1.3	*****	**	178	5.2	178	7.6	40
2100	-6.1	*****	**	217	3.1	149	5.5	0
2400	-5.7	*****	**	187	1.4	150	3.1	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	-7.3	*****	**	054	.8	071	3.8	0
0600	-7.3	*****	**	088	.3	176	2.5	2
0900	-4.1	*****	**	295	.4	357	1.9	24
1200	-1.7	*****	**	219	.7	295	3.2	61
1500	-2.3	*****	**	350	2.3	004	5.1	42
1800	-5.0	*****	**	359	4.0	000	5.7	11
2100	-7.4	*****	**	358	3.5	349	5.1	0
2400	-10.6	*****	**	006	4.4	002	7.0	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	-14.9	*****	**	113	3.8	111	5.7	0
0600	-16.5	*****	**	091	4.8	112	7.2	1
0900	-10.5	*****	**	033	4.3	047	7.4	44
1200	-9.1	*****	**	027	7.1	013	9.8	91
1500	-7.6	*****	**	356	6.6	358	9.7	84
1800	-7.2	*****	**	357	5.5	350	8.2	51
2100	-12.0	*****	**	005	4.3	021	7.4	0
2400	-16.8	*****	**	354	1.9	355	3.2	0

*** END OF DATA FOR THIS STATION AT END OF MONTHLY REPORT ***

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SUMMARY FOR DEVIL WEATHER STATION
DATA TAKEN DURING APRIL, 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	-17.8	*****	**	354	1.3	342	2.5	0
0600	-15.1	*****	**	350	.7	025	2.5	3
0900	-10.8	*****	**	347	1.2	005	3.2	26
1200	-3.5	*****	**	332	.9	331	1.9	65
1500	-2.6	*****	**	000	2.1	006	3.2	62
1800	-2.9	*****	**	010	3.1	006	4.4	19
2100	-5.4	*****	**	005	1.8	014	2.5	0
2400	-4.8	*****	**	356	1.7	001	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	.2	*****	**	306	2.2	270	7.0	0
0600	1.1	*****	**	167	5.6	154	15.9	3
0900	.1	*****	**	177	6.8	157	14.0	19
1200	2.4	*****	**	174	7.4	159	12.7	36
1500	5.0	*****	**	180	4.5	202	9.5	44
1800	5.2	*****	**	169	4.9	157	14.6	16
2100	4.6	*****	**	157	5.2	148	17.1	0
2400	.7	*****	**	125	1.8	116	11.4	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	-1.3	*****	**	177	1.6	195	4.4	1
0600	-1.2	*****	**	126	.6	187	3.2	5
0900	.5	*****	**	064	.5	195	3.2	46
1200	5.2	*****	**	207	2.1	184	8.9	76
1500	6.8	*****	**	169	4.5	173	11.4	83
1800	6.0	*****	**	154	3.8	166	10.8	17
2100	1.6	*****	**	089	1.7	113	8.3	0
2400	0.0	*****	**	143	.8	135	3.2	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	-1.7	*****	**	159	12.2	158	19.7	0
0600	-5.5	*****	**	337	2.4	175	13.3	3
0900	-6.2	*****	**	344	3.3	356	7.0	38
1200	-4.6	*****	**	297	2.8	275	7.6	76
1500	-1.0	*****	**	288	6.2	286	10.2	66
1800	-1.9	*****	**	345	4.2	302	7.0	23
2100	-3.0	*****	**	005	3.5	006	6.3	0
2400	-8.9	*****	**	1.7	3.6	010	5.7	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	-12.9	*****	**	028	3.6	017	5.7	0
0600	-12.3	*****	**	025	3.7	031	5.7	3
0900	-8.0	*****	**	011	2.7	022	4.4	48
1200	-4.8	*****	**	007	4.2	007	7.0	75
1500	-4.2	*****	**	003	5.2	359	8.3	65
1800	-4.6	*****	**	002	4.9	002	6.3	23
2100	-7.2	*****	**	012	3.2	008	5.7	0
2400	-8.2	*****	**	005	2.2	014	3.8	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	-10.2	*****	**	351	1.1	035	3.2	1
0600	-10.6	*****	**	013	.6	054	2.5	1
0900	-5.8	*****	**	185	.6	195	1.9	43
1200	2.5	*****	**	206	.6	073	3.5	77
1500	1.8	*****	**	240	.8	335	3.5	67
1800	-.9	*****	**	002	3.8	014	5.1	14
2100	-2.9	*****	**	017	1.6	356	4.4	1
2400	-6.9	*****	**	193	1.0	093	3.2	1

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	-4.1	*****	**	098	1.5	017	3.8	0
0600	-4.5	*****	**	041	1.0	059	3.2	0
0900	-1.5	*****	**	031	1.0	002	3.2	19
1200	1.2	*****	**	284	1.0	268	3.2	80
1500	-.6	*****	**	329	3.6	285	5.1	13
1800	-1.0	*****	**	317	3.0	314	4.4	2
2100	-3.3	*****	**	348	.8	336	3.5	0
2400	-5.0	*****	**	085	.4	186	3.5	1

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	-6.9	*****	**	173	.4	139	3.5	1
0600	-6.0	*****	**	067	.5	072	1.9	5
0900	-3.9	*****	**	216	.8	319	3.5	44
1200	-.4	*****	**	199	3.4	205	5.7	75
1500	1.1	*****	**	237	3.9	205	5.7	65
1800	-.1	*****	**	206	3.9	203	5.7	19
2100	-1.8	*****	**	256	.6	215	3.2	0
2400	-5.3	*****	**	019	1.7	011	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	-7.6	*****	**	090	.9	043	3.2	0
0600	-7.8	*****	**	051	.5	107	1.9	0
0900	-3.8	*****	**	032	1.3	293	3.2	0
1200	1.4	*****	**	144	4.9	240	8.3	0
1500	3.0	*****	**	244	7.7	254	11.4	0
1800	2.2	*****	**	247	7.0	249	11.4	0
2100	.8	*****	**	192	4.2	260	7.6	0
2400	1.0	*****	**	197	3.4	140	6.3	0

* MEAN ENTRAINMENT RATES AT END OF MONTH Y REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

1-2-3 HOUR SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING APRIL, 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	- 2	*****	**	189	2.6	184	7.0	0	0300	-1.6	*****	**	153	.8	201	3.8	0	0300	2.7	*****	**	362	.9	291	3.9	0
0600	.9	*****	**	178	1.4	200	3.8	3	0600	-2.4	*****	**	140	.8	160	2.5	4	0600	1.9	*****	**	273	.8	218	3.3	6
0900	2.2	*****	**	197	5.3	188	9.5	33	0900	.9	*****	**	187	2.5	197	5.7	27	0900	4.7	*****	**	197	1.7	317	5.1	50
1200	6.0	*****	**	244	2.6	236	5.7	91	1200	4.9	*****	**	200	3.4	190	10.8	39	1200	7.0	*****	**	181	4.9	173	12.1	94
1500	4.3	*****	**	285	1.1	255	4.4	67	1500	6.0	*****	**	180	4.5	185	11.4	62	1500	7.2	*****	**	184	4.5	187	8.9	50
1800	3.3	*****	**	286	3.2	289	4.4	19	1800	5.1	*****	**	227	1.6	185	8.3	23	1800	6.6	*****	**	209	3.0	180	7.6	30
2100	2.3	*****	**	296	6	290	2.5	0	2100	3.4	*****	**	018	1.4	006	5.1	0	2100	3.1	*****	**	267	.7	322	3.5	0
2400	-.4	*****	**	043	1.3	048	4.4	0	2400	2.3	*****	**	338	.6	037	3.2	0	2400	2.2	*****	**	066	.2	100	1.2	0

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

MONTHLY SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING APRIL, 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	2.6	-3.1	-.3	166	3.4	4.4	159	21.0	SSE	**	*****	0.0	2795	1
2	2.3	-8.4	-3.1	341	.4	2.1	171	8.9	N	**	*****	.4	4370	2
3	-2.0	-10.9	-6.5	005	3.7	3.7	003	7.0	N	**	*****	0.0	3360	3
4	.3	-7.9	-3.6	194	1.8	2.8	175	10.8	SSW	**	*****	0.0	3510	4
5	1.9	-5.1	-1.6	192	2.3	2.7	183	8.9	S	**	*****	0.0	4070	5
6	1.9	-10.7	-4.4	265	.7	1.9	270	7.0	ENE	**	*****	0.0	3895	6
7	.7	-14.3	-6.8	206	.3	1.4	103	5.7	SSW	**	*****	0.0	4950	7
8	-.6	-13.8	-7.2	183	1.5	2.3	183	10.2	S	**	*****	0.0	3440	8
9	-.3	-9.5	-4.9	005	4.7	4.8	012	11.4	N	**	*****	0.0	4835	9
10	-6.7	-10.4	-8.6	010	6.7	6.8	010	10.8	N	**	*****	0.0	4860	10
11	-3.5	-10.9	-7.2	007	4.3	4.2	005	8.3	N	**	*****	0.0	4915	11
12	-1.7	-14.0	-7.9	011	1.7	2.0	004	5.1	N	**	*****	0.0	5315	12
13	3.3	-14.7	-5.7	360	1.3	1.7	016	5.1	N	**	*****	0.0	5.70	13
14	1.5	-11.0	-4.8	354	1.4	2.2	196	6.3	N	**	*****	0.0	3520	14
15	1.6	-6.7	-2.6	182	1.6	2.2	180	11.4	S	**	*****	.2	5425	15
16	- 7	-9.7	-5.2	185	3.7	4.1	156	14.6	SSW	**	*****	0.0	4520	16
17	1.9	-10.6	-4.4	360	1.8	2.4	002	7.0	N	**	*****	.2	4660	17
18	-6.9	-16.8	-11.9	006	4.7	4.8	008	9.5	N	**	*****	0.0	6110	18
19	-2.5	-17.8	-10.2	358	1.6	1.7	001	5.1	N	**	*****	0.0	5400	19
20	5.8	-6.2	- .2	171	4.2	5.2	148	17.1	SSE	**	*****	0.0	7325	20
21	6.8	-3.2	1.8	156	1.5	2.4	173	11.4	S	**	*****	0.0	6270	21
22	1.6	-9.5	-4.0	399	.9	5.0	158	19.7	N	**	*****	0.0	4830	22
23	-3.9	-13.9	-8.9	011	3.7	3.7	359	8.3	N	**	*****	0.0	6305	23
24	4.0	-11.2	-3.6	359	.7	1.4	004	5.1	N	**	*****	0.0	4490	24
25	1.8	-6.9	-2.6	253	.5	1.6	305	5.1	SW	**	*****	0.0	6150	25
26	1.1	-8.4	-3.7	206	1.3	2.1	205	5.7	SSW	**	*****	0.0	5695	26
27	2.9	-8.1	-2.6	195	3.9	4.4	196	10.8	SSW	**	*****	0.0	5820	27
28	6.7	-1.1	2.8	221	1.3	2.4	188	9.5	S	**	*****	0.0	5660	28
29	6.9	-3.3	2.0	189	1.3	2.3	185	11.4	S	**	*****	0.0	6810	29
30	8.0	1.5	4.9	198	1.7	2.3	173	12.1	S	**	*****	0.0	7210	30
MONTH	8.6	-17.8	-4.0	355	.3	3.0	159	21.0	N	**	*****	.2	151525	

GUST DIR. AT MAX. GUST SPEED IS INTERMITTENT (C.)
GUST DIR. AT MAX. GUST SPEED IS INTERMITTENT (C.)
GUST DIR. AT MAX. GUST SPEED IS INTERMITTENT (C.)
GUST DIR. AT MAX. GUST SPEED IS INTERMITTENT (C.)

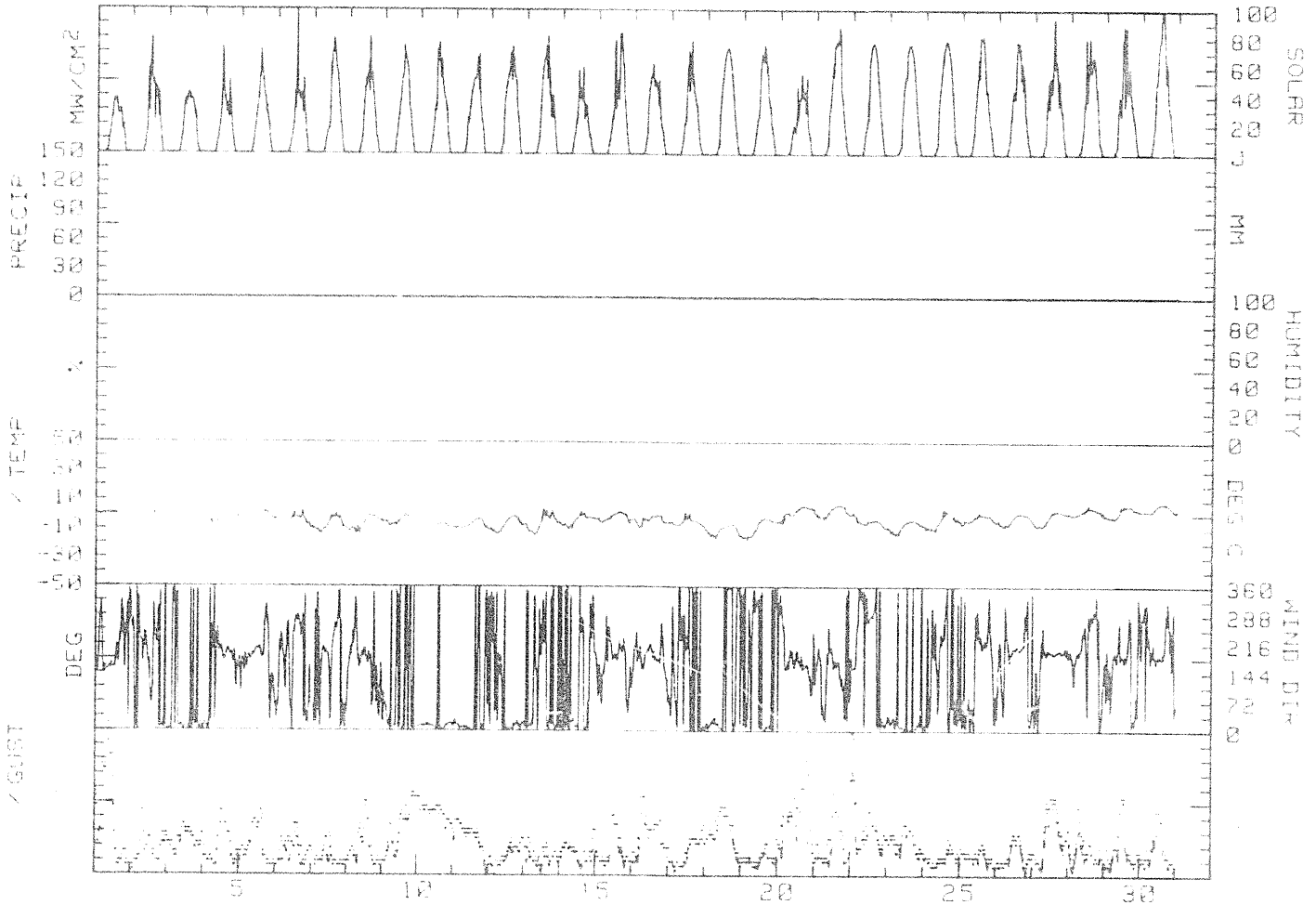
(*) = MISSING HUMIDITY READINGS ARE UNDER DAY F WHEN WIND SPEED AVG. LESS
THAN METER PER SECOND. SUCH READINGS MAY NOT BE REPRESENTATIVE
OF MONTH'S MEAN FOR RELATIVE HUMIDITY AND DEW POINT.
(**) SEE PRECIPITATION NOTES AT END OF MONTHLY REPORT (***)

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DENALI WEATHER STATION

April, 1984



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING April, 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	.90	8.82	10.69	3.54	0.00	0.00	0.00	23.95
NNE	1.53	6.18	4.86	1.46	0.00	0.00	0.00	14.03
NE	.76	1.81	.21	0.00	0.00	0.00	0.00	2.78
ENE	1.74	1.81	.21	0.00	0.00	0.00	0.00	3.76
E	.69	.69	.21	0.00	0.00	0.00	0.00	1.39
ESE	.56	.69	.21	0.00	0.00	0.00	0.00	1.46
SE	.76	.90	.28	.07	0.00	0.00	0.00	2.01
SSE	.83	2.15	1.46	1.46	.69	.07	0.00	6.67
S	1.04	3.26	5.07	1.11	0.00	0.00	0.00	10.48
SSW	.90	2.92	6.18	1.67	0.00	0.00	0.00	11.67
SW	.83	2.99	.69	0.00	0.00	0.00	0.00	4.51
WSW	.69	1.94	.56	0.00	0.00	0.00	0.00	3.19
W	.63	2.01	.83	0.00	0.00	0.00	0.00	3.47
WNW	1.11	3.19	.42	.28	0.00	0.00	0.00	5.00
NW	.76	1.53	.14	0.00	0.00	0.00	0.00	2.43
NNW	1.18	2.64	.42	0.00	0.00	0.00	0.00	4.24
CALM								
TOTAL	13.95	49.55	32.45	9.56	.69	.07	0.00	100.00

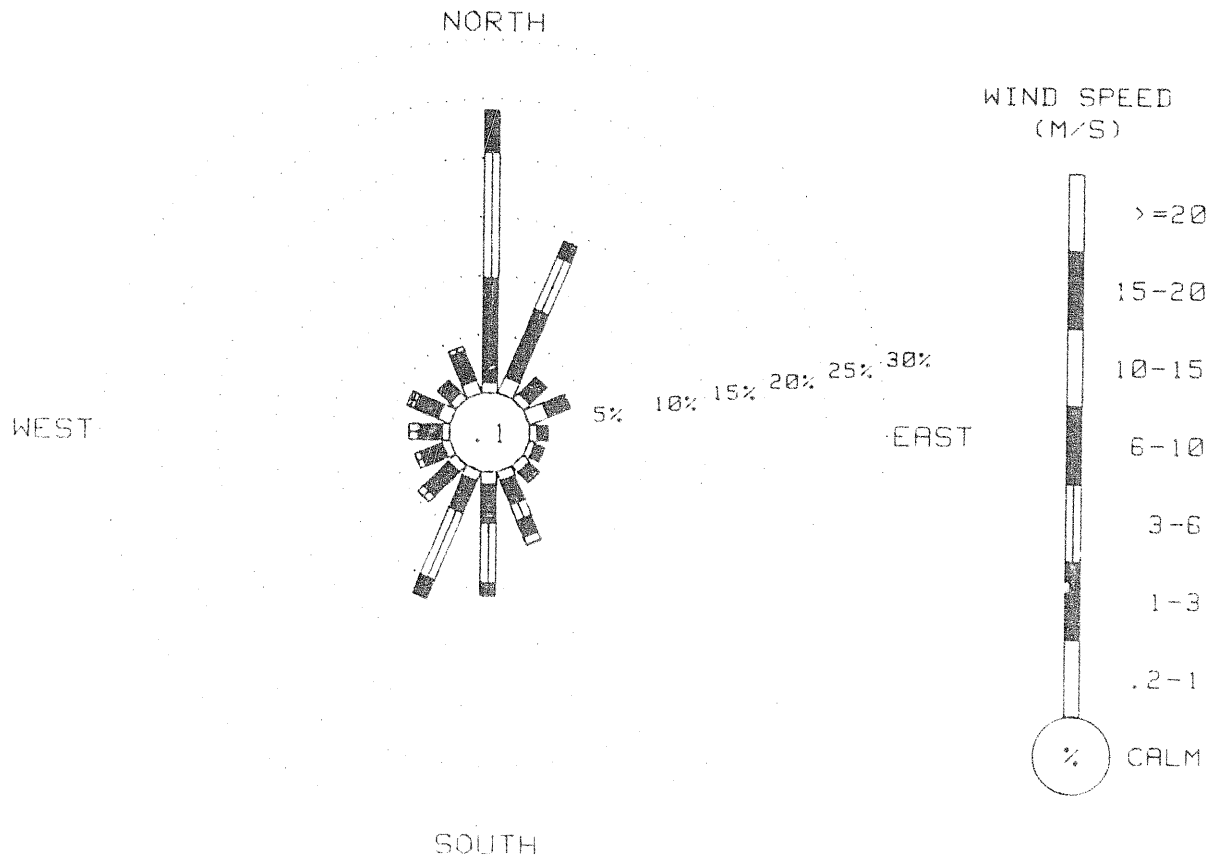
[illegible] OBSERVATIONS ARE EXPRESSED IN PERCENT
[illegible] WITH OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
[illegible] WIND OBSERVATIONS WITH 0 MPH SPEED CORRECT FOR 33 MINUTES [illegible]
[illegible] INTERPRETATION NOTES AT END OF NORTHERN REPORT [illegible]

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DENALI WEATHER STATION

April, 1984



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SOLAR RADIATION SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING April, 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	2	9	15	25	35	37	37	28	29	30	17	16	4	0	0	0	0	0	12
2	0	0	0	0	0	0	1	6	13	53	46	74	50	37	47	42	35	20	7	1	0	0	0	0	18
3	0	0	0	0	0	0	3	10	22	35	37	41	38	40	38	33	28	11	4	1	0	0	0	0	14
4	0	0	0	0	0	0	4	10	18	29	64	48	34	33	27	42	29	13	4	1	0	0	0	0	15
5	0	0	0	0	0	0	4	12	22	33	45	63	63	48	40	32	26	17	5	1	0	0	0	0	17
6	0	0	0	0	0	0	2	7	13	24	37	82	41	40	42	39	44	21	8	1	0	0	0	0	16
7	0	0	0	0	0	1	5	12	16	24	59	70	78	69	58	48	32	19	7	1	0	0	0	0	21
8	0	0	0	0	0	1	5	10	31	48	51	57	62	52	50	38	25	12	6	1	0	0	0	0	19
9	0	0	0	0	0	1	7	15	25	36	47	56	73	68	60	42	31	17	9	1	0	0	0	0	20
10	0	0	0	0	0	1	6	13	28	31	68	75	54	60	47	39	34	23	11	2	0	0	0	0	21
11	0	0	0	0	0	1	8	25	27	39	44	52	52	64	54	52	28	21	8	1	0	0	0	0	20
12	0	0	0	0	0	1	4	14	40	48	54	66	61	70	60	53	34	22	7	1	0	0	0	0	22
13	0	0	0	0	0	1	6	14	36	53	65	71	67	58	43	26	41	24	10	2	0	0	0	0	22
14	0	0	0	0	0	1	8	14	22	49	41	46	49	26	34	28	18	13	6	2	0	0	0	0	15
15	0	0	0	0	0	2	8	15	24	53	55	40	45	82	79	63	40	25	11	2	0	0	0	0	23
16	0	0	0	0	0	1	5	13	41	51	55	55	49	48	39	47	23	17	8	2	0	0	0	0	19
17	0	0	0	0	0	1	7	16	23	54	61	53	71	53	43	36	30	16	6	2	0	0	0	0	21
18	0	0	0	0	0	2	6	29	44	55	65	71	74	73	65	53	38	24	12	3	0	0	0	0	25
19	0	0	0	0	0	2	9	18	25	48	66	68	70	72	59	40	34	20	13	5	0	0	0	0	23
20	0	0	0	0	0	2	10	18	18	19	36	32	42	53	42	36	43	20	13	4	0	0	0	0	18
21	0	0	0	0	0	3	6	30	40	59	65	75	77	77	86	44	34	21	11	3	0	0	0	0	26
22	0	0	0	0	0	1	9	17	29	43	68	75	77	75	68	55	42	27	14	5	1	0	0	0	23
23	0	0	0	0	0	3	6	29	45	54	61	74	76	74	68	57	42	27	14	5	0	0	0	0	24
24	0	0	0	0	0	3	6	34	46	59	69	76	79	76	69	58	43	28	10	3	0	0	0	0	25
25	0	0	0	0	1	4	12	29	45	61	67	81	81	72	51	45	32	21	14	5	1	0	0	0	25
26	0	0	0	0	0	4	11	25	42	40	49	77	75	63	58	51	38	23	13	6	1	0	0	0	24
27	0	0	0	0	1	6	16	37	42	51	48	78	77	64	41	48	35	27	12	4	1	0	0	0	26
28	0	0	0	0	0	3	8	17	34	62	44	71	60	62	68	56	43	26	9	5	1	0	0	0	24
29	0	0	0	0	1	4	12	38	32	61	80	36	77	45	55	40	32	25	16	6	1	0	0	0	23
30	0	0	0	0	1	4	12	25	50	64	77	87	100	95	60	61	36	39	16	6	1	0	0	0	27

* SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

OBSERVATION SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING April, 1984

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

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. Solar -1 mW/CM^2

Additional comments on this month's data:

1. Recorded RH data invalid due to bad oscillator.

2. Timing and quantity of precipitation are suspect since freezing temperatures occurred almost every day. However, thawing temperatures also occurred almost every day, so daily totals should be accurate.

R A M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR DENALI 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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22
23	0.0	0.0	0.0	0.0	0.0	0.0	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	.2	0.0	0.0	0.0	23
24	3.2	3.6	2.6	.6	1.0	2.2	.4	1.8	.4	0.0	.6	.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	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	.2	0.0	.2	.6	.2	1.0	0.0	26
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	.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	.2	0.0	1.2	2.0	.2	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	.2	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	0.2	0.0	0.0	0.0	31

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOUR SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING MAY, 1984

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	.6	*****	**	070	.5	053	1.9	0
0600	-1.2	*****	**	130	.5	090	1.9	8
0900	3.5	*****	**	202	1.7	202	4.4	56
1200	5.4	*****	**	194	3.9	173	8.3	75
1500	6.8	*****	**	188	3.7	176	8.9	88
1800	6.4	*****	**	276	1.5	224	5.1	29
2100	3.8	*****	**	035	1.0	039	7.6	1
2400	1.6	*****	**	157	4.5	171	9.5	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	-1.5	*****	**	248	.9	177	5.1	0
0600	-1.8	*****	**	198	.8	247	3.8	7
0900	-.4	*****	**	187	1.5	158	3.2	29
1200	0.0	*****	**	227	1.4	212	3.2	39
1500	1.3	*****	**	250	2.1	261	5.7	75
1800	2.2	*****	**	281	2.6	285	4.4	49
2100	-1.0	*****	**	252	1.7	287	3.2	0
2400	-2.3	*****	**	190	.7	197	1.9	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	-4.2	*****	**	113	.4	034	2.5	0
0600	-5.4	*****	**	001	.2	072	1.9	6
0900	-.1	*****	**	214	.1	198	3.2	63
1200	4.3	*****	**	222	2.1	200	7.0	79
1500	3.7	*****	**	196	3.9	191	10.8	34
1800	2.5	*****	**	208	2.4	179	9.5	10
2100	-.8	*****	**	245	1.1	239	7.0	0
2400	-1.5	*****	**	013	.8	020	1.9	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	-1.2	*****	**	084	.8	099	1.9	0
0600	-3.6	*****	**	101	.4	195	2.5	6
0900	.4	*****	**	174	1.5	168	2.5	33
1200	3.2	*****	**	206	2.7	179	10.8	54
1500	5.0	*****	**	182	3.0	179	8.3	45
1800	2.6	*****	**	222	.6	214	5.1	20
2100	.3	*****	**	338	.7	243	3.8	1
2400	-1.4	*****	**	188	1.0	171	3.2	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	*****	**	295	.5	269	3.8	0
0600	-4.0	*****	**	353	.7	339	2.5	5
0900	-.3	*****	**	143	.7	119	1.9	27
1200	3.3	*****	**	219	2.2	191	3.8	82
1500	5.1	*****	**	239	1.8	235	3.8	102
1800	2.6	*****	**	009	2.0	000	6.3	33
2100	-.8	*****	**	356	3.4	351	5.1	1
2400	-1.3	*****	**	359	1.3	352	4.4	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	-5.0	*****	**	217	.4	332	3.8	0
0600	-4.1	*****	**	349	1.9	345	4.4	7
0900	.1	*****	**	356	1.6	350	4.4	41
1200	3.0	*****	**	358	1.1	009	3.2	86
1500	3.3	*****	**	347	2.4	357	5.1	91
1800	3.2	*****	**	359	4.2	000	9.7	31
2100	.1	*****	**	359	3.6	351	5.7	1
2400	-3.6	*****	**	007	3.2	009	5.1	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	-5.4	*****	**	007	3.1	001	5.1	0
0600	-4.2	*****	**	010	3.9	013	6.3	6
0900	-.1	*****	**	007	4.2	011	8.3	54
1200	3.1	*****	**	005	4.2	005	9.9	81
1500	3.6	*****	**	004	5.9	002	9.5	71
1800	1.2	*****	**	357	3.6	003	7.6	29
2100	.9	*****	**	001	4.4	001	7.0	1
2400	-1.2	*****	**	013	3.0	016	5.1	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	-2.8	*****	**	007	3.4	016	6.3	0
0600	-2.9	*****	**	010	3.4	007	6.3	5
0900	3.2	*****	**	006	6.0	007	8.9	54
1200	5.0	*****	**	001	6.0	006	8.3	81
1500	6.2	*****	**	354	5.6	000	7.6	71
1800	6.0	*****	**	356	5.3	353	7.0	19
2100	3.4	*****	**	356	3.8	353	6.3	1
2400	-.2	*****	**	000	2.5	000	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	-2.3	*****	**	005	1.8	010	3.8	0
0600	-3.3	*****	**	112	2.2	002	5.1	6
0900	3.4	*****	**	007	3.4	044	6.7	50
1200	5.4	*****	**	004	4.8	355	7.0	83
1500	6.4	*****	**	007	4.2	359	7.0	73
1800	7.1	*****	**	354	4.6	351	7.4	32
2100	7.7	*****	**	013	3.1	357	5.1	0
2400	-.5	*****	**	027	1.9	015	3.2	0

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

HOURLY WEATHER SUMMARY FOR DENALI 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	-1.6	*****	**	015	1.6	035	3.8	0
0600	-1.9	*****	**	004	1.7	003	3.8	6
0900	3.7	*****	**	002	2.4	006	4.4	56
1200	5.7	*****	**	004	3.8	003	5.7	82
1500	6.6	*****	**	006	3.7	001	6.3	73
1800	5.1	*****	**	003	4.1	001	7.0	16
2100	2.2	*****	**	006	5.5	005	8.9	1
2400	.2	*****	**	018	4.3	018	7.0	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	-1.6	*****	**	024	4.4	026	8.3	0
0600	-1.7	*****	**	027	5.4	025	8.9	7
0900	-.8	*****	**	010	6.6	021	10.8	23
1200	.6	*****	**	357	7.8	357	12.7	88
1500	1.0	*****	**	347	6.6	353	10.2	72
1800	-.1	*****	**	357	6.8	354	9.5	30
2100	-2.2	*****	**	009	6.2	000	9.5	2
2400	-4.7	*****	**	357	2.4	347	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	-5.1	*****	**	031	3.3	037	5.7	0
0600	-6.7	*****	**	009	2.7	007	4.4	6
0900	.1	*****	**	020	1.3	008	3.8	56
1200	3.0	*****	**	210	1.5	176	4.4	82
1500	4.3	*****	**	240	1.9	232	4.4	72
1800	3.0	*****	**	351	4.7	353	7.6	30
2100	0.0	*****	**	001	3.9	359	7.1	2
2400	-3.9	*****	**	017	1.7	008	5.1	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	-3.6	*****	**	010	1.1	003	2.5	0
0600	-4.6	*****	**	047	.8	024	3.8	7
0900	4.5	*****	**	056	.5	089	1.9	56
1200	6.3	*****	**	189	1.2	283	6.3	82
1500	7.2	*****	**	299	3.7	284	6.3	74
1800	6.5	*****	**	345	3.6	325	5.7	31
2100	3.3	*****	**	014	2.0	356	5.7	2
2400	-.6	*****	**	010	2.2	012	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	-3.0	*****	**	010	1.5	028	5.1	0
0600	-3.4	*****	**	028	.8	004	1.9	7
0900	4.5	*****	**	035	.7	356	1.9	58
1200	7.7	*****	**	339	1.6	305	4.4	82
1500	7.8	*****	**	310	2.4	344	6.3	73
1800	8.6	*****	**	351	4.4	348	6.3	31
2100	4.2	*****	**	348	3.4	342	5.7	2
2400	1.1	*****	**	009	3.2	012	5.1	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	.8	*****	**	017	1.3	019	3.3	0
0600	-.1	*****	**	160	.9	155	3.6	7
0900	6.8	*****	**	195	1.7	199	4.4	62
1200	9.8	*****	**	197	4.6	193	10.3	77
1500	11.9	*****	**	223	4.1	240	9.6	74
1800	11.6	*****	**	233	2.8	221	7.1	39
2100	7.5	*****	**	355	3.4	003	6.3	2
2400	2.6	*****	**	194	.5	312	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	-.6	*****	**	134	.8	169	3.2	0
0600	2.3	*****	**	086	.8	095	3.5	10
0900	7.8	*****	**	170	1.6	172	3.2	59
1200	11.5	*****	**	245	1.4	041	5.7	88
1500	13.3	*****	**	192	2.9	194	7.6	74
1800	11.9	*****	**	286	1.9	347	5.7	35
2100	6.4	*****	**	104	2.3	354	5.1	2
2400	3.2	*****	**	357	1.2	345	3.2	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	*****	**	032	.9	008	3.2	0
0600	-.6	*****	**	053	.6	353	1.9	5
0900	8.5	*****	**	357	3.0	351	5.7	60
1200	11.1	*****	**	001	5.3	002	9.3	71
1500	15.1	*****	**	004	5.3	359	8.3	83
1800	15.2	*****	**	049	3.3	057	6.3	37
2100	11.6	*****	**	119	1.9	171	8.9	3
2400	4.9	*****	**	191	2.4	199	7.0	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	4.7	*****	**	186	4.7	191	11.2	0
0600	2.6	*****	**	195	4.3	193	9.8	5
0900	5.8	*****	**	193	1.6	218	9.1	33
1200	8.9	*****	**	224	3.0	222	8.7	57
1500	12.2	*****	**	247	3.7	236	8.7	37
1800	9.9	*****	**	332	3.4	313	7.1	14
2100	7.5	*****	**	355	4.6	000	9.3	2
2400	3.4	*****	**	018	2.8	010	5.7	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

[illegible] HOUR SUMMARY FOR DENALI WEATHER STATION
[illegible] TAKEN DURING MAY, 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	3.1	*****	**	010	2.1	348	3.8	0
0600	4.1	*****	**	333	.7	352	3.2	29
0900	8.4	*****	**	176	1.6	190	3.8	60
1200	10.8	*****	**	002	3.1	355	6.3	86
1500	12.6	*****	**	003	4.4	351	7.6	57
1800	12.8	*****	**	175	1.8	078	7.0	38
2100	8.6	*****	**	178	3.0	123	8.3	3
2400	4.2	*****	**	290	.3	011	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	-.3	*****	**	350	1.3	352	3.8	0
0600	2.5	*****	**	349	.8	000	2.5	10
0900	9.6	*****	**	358	3.1	355	5.7	67
1200	12.5	*****	**	038	2.7	065	7.0	22
1500	15.2	*****	**	072	4.3	067	7.0	96
1800	12.7	*****	**	357	1.2	283	7.0	16
2100	9.9	*****	**	209	3.2	185	7.0	3
2400	7.0	*****	**	200	1.5	200	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	4.8	*****	**	195	1.0	180	3.2	0
0600	5.1	*****	**	358	1.5	002	3.9	19
0900	7.8	*****	**	010	2.3	001	5.1	32
1200	10.2	*****	**	003	2.7	003	5.1	36
1500	12.1	*****	**	336	2.9	338	7.0	11
1800	11.6	*****	**	335	3.1	213	9.5	33
2100	5.1	*****	**	197	4.8	180	12.1	1
2400	7.[illegible]	*****	**	201	1.6	217	[illegible]	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	3.0	*****	**	171	2.0	163	5.1	0
0600	2.4	*****	**	186	1.4	175	5.1	2
0900	3.6	*****	**	228	1.1	143	3.8	17
1200	7.2	*****	**	250	1.5	235	3.8	30
1500	8.5	*****	**	263	1.0	308	3.2	23
1800	8.0	*****	**	219	1.2	158	4.4	14
2100	7.7	*****	**	304	1.7	296	5.1	5
2400	-.2	*****	**	343	1.2	323	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	2.2	*****	**	021	1.7	010	3.8	0
0600	2.9	*****	**	351	2.0	354	4.4	19
0900	7.7	*****	**	008	3.9	356	7.0	63
1200	10.2	*****	**	354	1.9	000	4.4	89
1500	10.3	*****	**	071	.5	061	5.7	23
1800	8.2	*****	**	240	3.9	279	8.9	26
2100	8.1	*****	**	250	1.2	275	6.3	2
2400	5.1	*****	**	236	.5	339	4.4	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	3.2	*****	**	099	.7	135	3.2	0
0600	3.8	*****	**	047	1.3	050	5.1	2
0900	3.3	*****	**	011	1.5	029	5.1	10
1200	3.7	*****	**	253	1.8	277	5.7	14
1500	6.8	*****	**	281	3.6	280	7.0	31
1800	7.7	*****	**	333	1.4	274	5.7	19
2100	6.4	*****	**	087	1.6	039	5.8	2
2400	5.1	*****	**	095	.8	135	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	4.3	*****	**	103	1.6	054	5.7	0
0600	3.1	*****	**	054	2.4	060	6.3	3
0900	7.4	*****	**	329	2.0	292	6.3	30
1200	9.9	*****	**	302	4.6	279	7.6	11
1500	9.1	*****	**	302	1.6	274	6.3	26
1800	6.5	*****	**	026	1.5	268	6.3	18
2100	4.6	*****	**	276	3.3	274	6.3	5
2400	3.6	*****	**	342	.3	285	6.3	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	2.1	*****	**	070	1.5	052	8.9	0
0600	1.9	*****	**	277	1.4	295	5.7	14
0900	3.6	*****	**	256	2.0	270	5.7	31
1200	6.7	*****	**	292	2.7	290	5.7	75
1500	5.1	*****	**	251	1.1	142	5.7	43
1800	2.8	*****	**	307	2.5	267	8.9	32
2100	1.9	*****	**	165	1.5	151	4.4	2
2400	.5	*****	**	173	1.2	200	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	.4	*****	**	205	.3	178	3.2	0
0600	.9	*****	**	339	.1	010	1.9	3
0900	.2	*****	**	193	.2	359	1.8	6
1200	4.5	*****	**	142	1.2	183	5.7	35
1500	7.5	*****	**	179	3.1	188	7.4	33
1800	5.0	*****	**	321	1.6	345	7.4	19
2100	3.7	*****	**	167	3.0	181	7.1	5
2400	-.6	*****	**	195	2.9	193	7.2	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY HOUR SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING MAY, 1984

DAY 28

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	-3.0	*****	**	288	.5	016	2.5	0
0600	-.3	*****	**	357	2.1	007	4.4	25
0900	4.1	*****	**	102	3.2	359	5.7	62
1200	7.0	*****	**	357	3.4	008	5.7	95
1500	9.1	*****	**	343	2.8	358	9.3	84
1800	8.6	*****	**	314	2.2	349	7.0	38
2100	6.4	*****	**	342	3.7	335	7.0	4
2400	1.8	*****	**	324	2.2	018	4.4	0

DAY 29

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	-2.7	*****	**	012	1.4	325	3.2	0
0600	1.1	*****	**	359	2.3	002	4.4	20
0900	6.4	*****	**	129	.9	140	3.2	31
1200	7.9	*****	**	005	1.8	340	5.7	36
1500	7.0	*****	**	317	3.0	282	8.9	29
1800	2.4	*****	**	069	1.3	043	5.1	10
2100	1.9	*****	**	210	.3	068	3.8	3
2400	.1	*****	**	013	.2	156	2.5	0

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
0300	-.7	*****	**	296	.4	248	2.5	0
0600	.2	*****	**	192	.6	209	3.5	14
0900	5.3	*****	**	095	.8	094	3.2	55
1200	7.7	*****	**	080	1.8	060	5.7	86
1500	7.9	*****	**	177	.5	216	7.0	60
1800	6.2	*****	**	098	3.8	116	11.4	24
2100	4.1	*****	**	181	1.5	193	8.9	5
2400	0.0	*****	**	012	3.7	017	7.0	0

DAY 31

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	-1.4	*****	**	357	1.3	023	3.2	0
0600	.2	*****	**	314	.3	192	2.5	21
0900	6.1	*****	**	144	.3	172	4.4	66
1200	8.3	*****	**	246	1.1	303	5.1	23
1500	10.9	*****	**	273	1.1	358	4.4	31
1800	9.8	*****	**	191	3.9	171	8.3	22
2100	5.0	*****	**	201	3.5	187	8.3	3
2400	3.1	*****	**	157	.7	194	3.2	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR DENALI 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 W-H/SQM	DAY
1	7.1	-1.3	3.0	182	1.5	2.5	171	9.5	SSW	**	*****	0.0	6500	1
2	2.6	-2.6	0.0	240	1.2	1.7	261	5.7	SSW	**	*****	0.0	5850	2
3	6.0	-5.8	.1	210	1.0	1.9	181	10.8	SSW	**	*****	0.0	7225	3
4	5.0	-4.5	.3	186	1.0	1.8	179	10.8	S	**	*****	0.0	5065	4
5	5.6	-5.0	.3	326	.7	1.8	000	6.3	N	**	*****	0.0	8410	5
6	4.4	-5.1	-.4	357	2.2	2.5	000	5.7	N	**	*****	0.0	7610	6
7	4.6	-5.4	-.4	004	4.5	4.6	002	9.5	N	**	*****	0.0	7425	7
8	6.6	-4.4	1.1	001	4.5	4.5	007	8.9	N	**	*****	0.0	7495	8
9	7.3	-3.2	2.1	005	3.3	3.3	351	7.6	N	**	*****	0.0	7545	9
10	8.0	-3.2	2.4	007	3.4	3.4	005	8.9	N	**	*****	0.0	7095	10
11	1.2	-5.0	-1.9	005	5.6	5.8	357	12.7	N	**	*****	0.0	7465	11
12	5.1	-7.7	-1.3	000	1.8	2.8	353	7.6	N	**	*****	0.0	7604	12
13	7.7	-6.3	.7	347	1.3	2.1	283	6.3	N	**	*****	0.0	7540	13
14	8.9	-4.2	2.4	351	2.0	2.2	344	6.3	N	**	*****	0.0	7675	14
15	12.5	-2.1	5.2	217	1.2	2.5	192	10.2	SSW	**	*****	0.0	6495	15
16	13.0	-1.4	5.8	100	.1	1.9	194	7.6	S	**	*****	0.0	7955	16
17	15.4	-.6	7.4	020	1.8	3.1	171	8.9	N	**	*****	0.0	7235	17
18	12.2	2.1	7.2	233	1.0	3.7	180	10.2	SSW	**	*****	0.0	6430	18
19	12.8	.7	6.8	008	.5	2.7	123	8.3	N	**	*****	0.0	6355	19
20	15.2	-1.3	7.0	029	.8	2.7	065	7.0	N	**	*****	0.0	6095	20
21	12.7	3.0	7.9	272	.7	2.7	180	12.1	N	**	*****	0.0	5125	21
22	8.9	-.2	4.4	238	.8	1.7	163	5.1	WSW	**	*****	0.0	3570	22
23	11.9	.7	6.3	330	1.0	2.6	279	8.9	N	**	*****	4.6	6055	23
24	9.1	2.9	5.5	335	.7	2.0	280	7.0	NE	**	*****	16.8	1645	24
25	7.7	2.8	5.3	314	1.1	2.8	279	7.6	W	**	*****	0.0	3430	25
26	7.0	.3	3.8	268	.9	2.3	052	8.9	W	**	*****	1.2	5100	26
27	7.5	-.6	3.5	183	1.1	2.2	188	7.6	S	**	*****	1.2	5885	27
28	9.1	-3.5	2.8	353	2.3	2.8	358	8.3	N	**	*****	0.0	7815	28
29	8.3	-2.7	2.8	09:	.9	1.9	282	8.9	N	**	*****	3.6	4615	29
30	8.2	-.8	3.7	082	.8	2.4	116	11.4	S	**	*****	.2	5490	30
31	10.4	-2.1	4.2	210	1.0	2.0	171	8.3	S	**	*****	1.2	6795	31
MONTH	15.4	-7.7	3.1	350	1.0	2.7	357	12.7	N	**	*****	28.2	194350	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 8.5
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 11.4
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 11.4
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 10.2

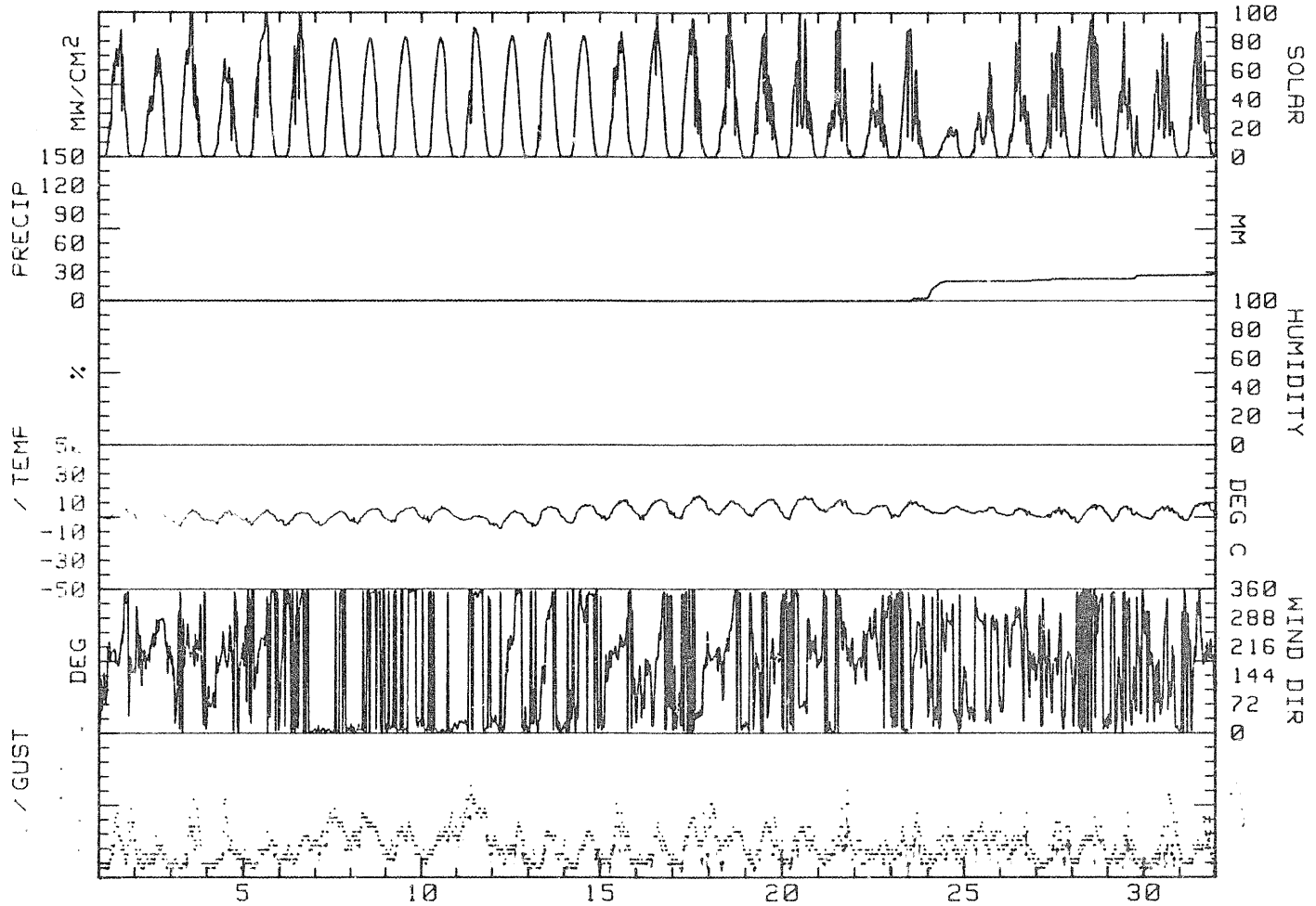
NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND, SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DENALI WEATHER STATION

May, 1384



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR DENALI WEATHER STATION
DATA 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	1.21	9.95	13.92	2.62	0.00	0.00	0.00	27.71
NNE	1.48	5.58	3.43	.40	0.00	0.00	0.00	10.89
NE	1.21	3.09	.81	0.00	0.00	0.00	0.00	5.11
ENE	.81	1.75	.94	0.00	0.00	0.00	0.00	3.50
E	1.08	1.34	.34	0.00	0.00	0.00	0.00	2.76
ESE	1.01	.94	.20	0.00	0.00	0.00	0.00	2.15
SE	.74	1.48	.13	.07	0.00	0.00	0.00	2.42
SSE	.54	3.03	.67	0.00	0.00	0.00	0.00	4.23
S	.87	4.10	2.29	.40	0.00	0.00	0.00	7.66
SSW	.67	3.56	3.23	.13	0.00	0.00	0.00	7.60
SW	.34	3.56	.81	0.00	0.00	0.00	0.00	4.71
WSW	.47	2.76	.81	0.00	0.00	0.00	0.00	4.03
W	0.00	1.55	1.75	.07	0.00	0.00	0.00	3.36
WNW	.27	1.82	1.68	0.00	0.00	0.00	0.00	3.77
NW	.54	2.35	.61	0.00	0.00	0.00	0.00	3.50
NNW	.67	3.43	2.29	.27	0.00	0.00	0.00	6.67
CALM								
TOTAL	11.90	50.30	33.53	3.97	0.00	0.00	0.00	100.00

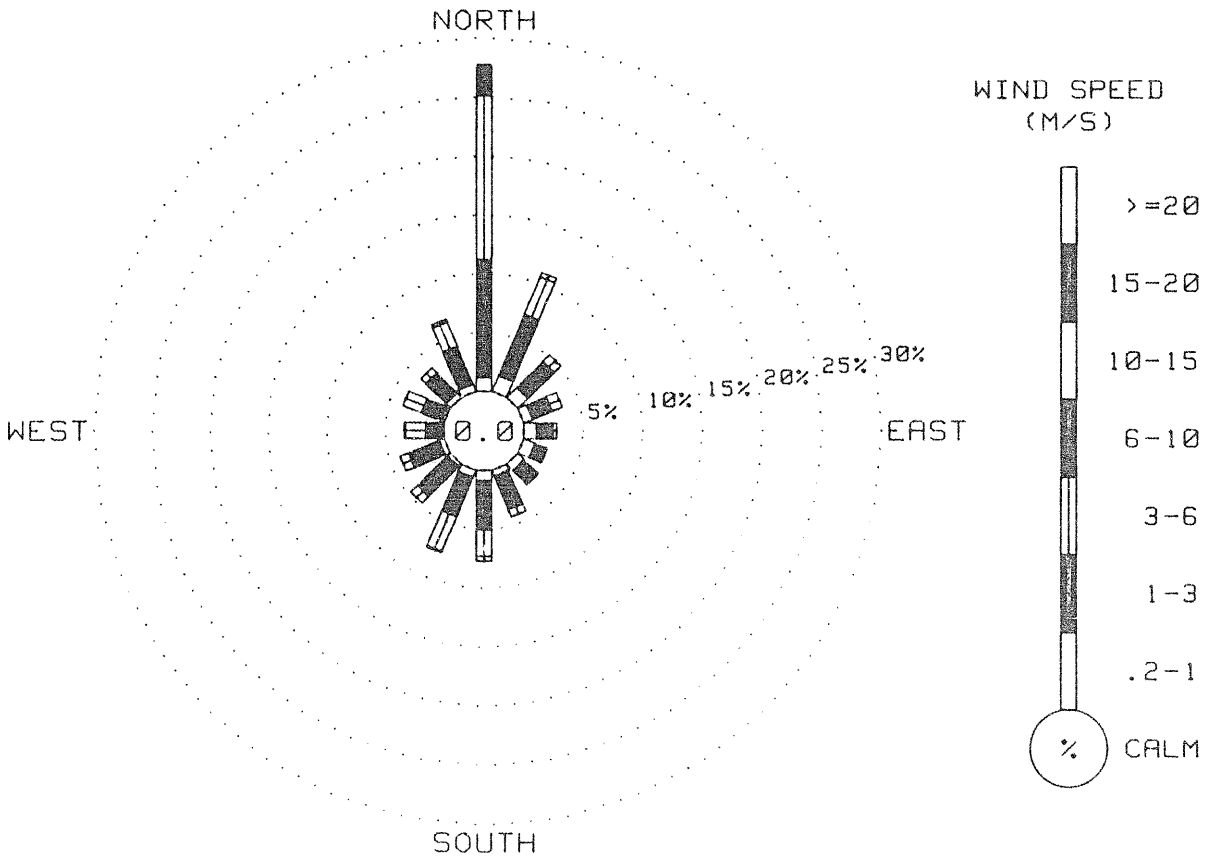
ALL FREQUENCIES ARE EXPRESSED IN PERCENT
1482 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
1488 WIND OBSERVATIONS WOULD HAVE BEEN CORRECT FOR 30 MINUTE DATA
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DENALI WEATHER STATION

May, 1984



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

[illegible] RADIATION SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING MAY, 1982

ALL 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	1	6	15	32	40	59	58	73	63	73	85	51	50	31	20	5	2	0	0	0	27
2	0	0	0	0	1	6	10	21	31	40	37	36	50	65	66	65	65	51	33	13	3	1	0	0	24
3	0	0	0	0	1	5	24	42	56	70	65	73	98	107	45	63	37	26	19	4	1	0	0	0	38
4	0	0	0	0	2	5	9	22	30	45	59	61	53	54	54	22	47	27	14	4	2	0	0	0	21
5	0	0	0	0	1	5	26	44	41	66	74	82	85	89	104	92	68	36	21	9	2	0	0	0	35
6	0	0	0	0	2	6	24	37	55	50	75	77	73	102	82	66	51	35	20	9	2	0	0	0	32
7	0	0	0	0	2	5	22	37	51	64	74	80	82	80	73	63	49	33	20	9	2	0	0	0	31
8	0	0	0	0	2	5	23	38	53	65	74	80	82	80	74	63	52	30	21	9	2	0	0	0	31
9	0	0	0	0	2	6	24	38	53	65	74	81	83	81	74	64	47	34	21	9	2	0	0	0	31
10	0	0	0	0	2	5	23	38	53	65	74	81	83	80	75	64	31	20	13	7	2	0	0	0	30
11	0	0	0	0	2	6	26	36	35	45	79	89	87	85	75	64	51	35	21	11	4	1	0	0	31
12	0	0	0	0	2	6	24	39	53	65	75	81	84	81	75	64	51	35	21	11	4	0	0	0	32
13	0	0	0	0	2	6	22	17	53	66	75	82	86	85	77	63	53	35	22	11	3	0	0	0	31
14	0	0	0	0	2	6	18	36	55	66	76	81	84	82	75	65	53	35	22	11	4	0	0	0	32
15	0	0	0	0	3	9	19	25	49	48	63	67	78	80	79	68	54	36	14	9	4	1	0	0	29
16	0	0	0	1	3	8	20	35	55	69	78	85	75	95	79	68	54	39	22	9	4	1	0	0	33
17	0	0	0	0	3	5	27	42	57	68	82	78	92	87	52	48	28	39	10	7	3	1	0	0	30
18	0	0	0	0	2	4	10	21	27	34	54	53	79	95	81	67	39	38	24	13	5	1	0	0	27
19	0	0	0	1	4	15	33	28	55	69	82	65	58	62	53	26	50	25	17	13	5	1	0	0	27
20	0	0	0	1	3	8	34	50	63	26	93	61	24	26	74	49	27	28	39	14	5	1	0	0	31
21	0	0	0	1	5	14	19	21	33	25	59	42	62	95	19	24	46	40	7	4	3	0	0	0	21
22	0	0	0	0	1	2	7	13	16	29	46	35	26	27	26	40	32	39	15	10	8	2	0	0	15
23	0	0	0	1	4	13	29	44	60	82	32	90	80	14	24	61	35	18	10	10	5	0	0	0	25
24	0	0	0	0	0	2	3	5	8	11	12	14	18	17	31	16	15	19	18	7	3	1	0	0	9
25	0	0	0	1	3	4	12	20	25	30	21	10	12	15	28	39	49	38	25	12	6	1	0	0	14
26	0	0	0	0	3	11	14	17	27	73	60	64	69	35	36	35	19	21	20	7	3	1	0	0	21
27	0	0	0	1	5	6	14	34	7	45	47	39	45	78	90	24	41	34	28	14	7	2	1	0	33
28	0	0	0	1	8	22	36	47	59	71	81	92	31	82	59	33	67	43	29	15	6	3	1	1	34
29	0	0	0	2	8	17	33	45	32	64	65	39	33	41	32	12	9	7	27	9	4	2	1	1	19
30	0	0	0	1	4	13	41	46	58	25	33	63	24	36	66	50	15	24	23	11	5	2	1	1	21
31	0	1	1	2	4	14	24	42	61	76	64	25	76	50	36	43	35	36	28	8	4	2	1	1	26

[illegible] INSTRUMENTATION DATES AT END OF MONTHLY REPORT ***

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

PARAMETER	NUMBER OF USABLE OBSERVATIONS	PERCENT OF TOTAL OBSERVATIONS
TEMPERATURE	1488	100
WIND SPEED	1487	100
WIND DIRECTION	1487	100
PEAK GUST	1487	100
RELATIVE HUMIDITY	0	0
PRECIPITATION	1488	100
SOLAR RADIATION	1488	100
DEW POINT	0	0

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. RH sensor replaced and calibrated 5/23. Recorded data still invalid due to bad oscillator.

2. Timing and quantity of precipitation data suspect on several days where freezing temperatures occur. However, thawing temperatures occur on these days also, so daily totals should be accurate.

R A M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

[illegible] PRECIPITATION SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING June 1982

PRECIPITATION VALUES ARE IN MILLIMETERS

HOUR ENDING

DAY	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	DAY
1	1.6	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	3
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.6	1.2	0.0	0.0	0.0	1.6	2.4	2.2	.2	.2	.4	.2	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	.2	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	1.0	0.0	0.0	0.0	0.0	0.0	0.0	11
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12
13	.4	.6	1.2	2.4	1.2	.8	.6	1.0	1.4	2.0	2.4	1.6	.4	.2	.2	0.0	0.0	0.6	0.0	.2	3	0.0	0.0	1.0	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	.6	.4	0.0	.2	0.0	0.0	14
15	.4	1.2	.6	.4	1.2	.2	.4	.8	1.6	.8	.8	1.2	1.2	.6	.2	.2	.2	.4	0.0	0.0	.8	1.0	2	.4	15
16	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	.6	.8	2.2	2.4	.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	.2	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	.2	.2	21
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	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	.2	0.0	.2	.2	0.0	0.0	.4	.6	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	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	1.0	0.0	0.0	1	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	1.0	.4	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	26
27	2	0.0	0.0	.6	.8	1.0	.2	.4	1.0	1.8	1.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	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	0.2	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	1.0	0.0	0.0	29
30	.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	30

[illegible] INTERPRETATION NOTES AT END OF [illegible]

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING June, 1994

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	3.2	*****	**	038	1.4	032	3.2	0
0600	4.9	*****	**	028	2.1	028	5.1	16
0900	9.0	*****	**	036	3.2	031	5.7	65
1200	11.2	*****	**	014	3.5	032	7.0	89
1500	11.6	*****	**	354	4.7	357	8.9	99
1800	11.8	*****	**	341	5.8	336	9.5	39
2100	10.1	*****	**	352	4.5	350	7.6	5
2400	4.8	*****	**	360	1.4	335	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	1.5	*****	**	001	1.1	004	2.5	0
0600	4.1	*****	**	349	1.9	340	3.8	20
0900	10.1	*****	**	003	2.0	359	3.2	66
1200	13.6	*****	**	009	2.7	002	6.3	101
1500	13.0	*****	**	350	2.8	345	6.3	24
1800	13.4	*****	**	357	3.6	359	8.3	36
2100	12.6	*****	**	007	3.3	016	7.6	6
2400	5.2	*****	**	024	1.7	346	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	1.3	*****	**	355	1.4	344	3.8	0
0600	3.4	*****	**	333	.8	343	3.2	19
0900	10.7	*****	**	012	1.8	012	4.4	62
1200	13.0	*****	**	004	3.8	020	9.5	100
1500	13.7	*****	**	359	5.6	007	8.9	84
1800	13.6	*****	**	011	4.9	010	10.2	34
2100	9.0	*****	**	008	4.3	021	7.0	7
2400	4.2	*****	**	038	1.5	034	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	1.7	*****	**	356	1.9	023	3.8	0
0600	3.5	*****	**	004	2.3	010	5.8	9
0900	10.2	*****	**	360	2.2	003	5.1	49
1200	12.5	*****	**	358	4.7	352	8.3	68
1500	14.3	*****	**	012	4.2	025	10.2	82
1800	14.1	*****	**	023	2.7	041	7.0	43
2100	10.7	*****	**	015	4.1	002	9.5	5
2400	4.9	*****	**	339	1.1	355	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	3.3	*****	**	034	.8	043	2.5	0
0600	6.9	*****	**	034	.8	357	2.5	20
0900	11.9	*****	**	005	1.8	008	3.2	63
1200	14.4	*****	**	341	2.9	347	7.0	98
1500	15.3	*****	**	090	2.5	091	5.1	33
1800	16.4	*****	**	169	1.5	242	6.3	48
2100	15.2	*****	**	040	2.2	273	6.3	9
2400	7.6	*****	**	019	2.8	010	6.3	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	8.2	*****	**	191	.4	196	7.0	0
0600	5.6	*****	**	195	6.3	194	9.2	5
0900	5.4	*****	**	198	5.9	197	9.5	16
1200	8.6	*****	**	187	5.1	186	10.2	43
1500	9.5	*****	**	177	2.8	193	9.3	42
1800	5.9	*****	**	189	4.5	197	9.5	3
2100	5.0	*****	**	173	1.1	273	5.1	1
2400	3.3	*****	**	205	1.6	183	5.1	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	1.9	*****	**	218	.6	349	3.2	0
0600	4.3	*****	**	119	.5	139	1.9	19
0900	7.6	*****	**	173	1.2	17A	3.8	34
1200	8.6	*****	**	191	1.7	244	4.9	46
1500	11.1	*****	**	310	2.1	279	6.3	31
1800	11.4	*****	**	286	2.3	291	7.0	31
2100	8.8	*****	**	276	4.6	273	7.6	5
2400	6.5	*****	**	003	1.9	059	8.3	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	3.1	*****	**	328	1.0	343	5.1	0
0600	6.0	*****	**	010	1.6	351	3.2	17
0900	9.3	*****	**	011	4.1	007	6.3	91
1200	12.1	*****	**	007	4.6	007	7.0	88
1500	16.9	*****	**	350	2.9	002	5.7	98
1800	13.9	*****	**	069	.7	150	8.9	27
2100	9.8	*****	**	249	3.8	294	7.0	5
2400	7.7	*****	**	127	1.8	140	6.3	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	6.1	*****	**	171	1.5	197	[illegible]	[illegible]
0600	7.6	*****	**	195	1.7	191	[illegible]	[illegible]
0900	9.6	*****	**	339	1.6	353	[illegible]	[illegible]
1200	13.3	*****	**	196	3.1	015	[illegible]	[illegible]
1500	8.9	*****	**	194	1.1	094	[illegible]	[illegible]
1800	9.4	*****	**	244	3.1	265	[illegible]	[illegible]
2100	8.4	*****	**	299	2.8	297	[illegible]	[illegible]
2400	7.3	*****	**	248	3.5	196	[illegible]	[illegible]

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

FIRST HOUR SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING June, 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	6.5	*****	**	359	1.2	276	4.4	0
0600	6.3	*****	**	192	.4	145	2.5	21
0900	10.4	*****	**	017	1.7	019	3.8	83
1200	12.2	*****	**	356	2.3	354	5.7	62
1500	15.1	*****	**	021	1.9	003	5.7	100
1800	14.8	*****	**	326	2.3	345	7.6	53
2100	12.9	*****	**	357	3.6	358	6.3	9
2400	6.4	*****	**	009	2.1	344	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	2.6	*****	**	009	1.4	341	3.2	0
0600	6.6	*****	**	356	1.9	341	3.8	15
0900	11.1	*****	**	010	2.8	020	5.1	47
1200	14.1	*****	**	012	3.3	013	5.1	65
1500	17.0	*****	**	002	3.6	007	6.3	62
1800	14.9	*****	**	162	2.7	127	10.2	27
2100	15.1	*****	**	184	4.3	180	8.9	11
2400	10.2	*****	**	272	2.1	295	7.6	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	9.0	*****	**	034	1.6	023	3.3	0
0600	10.0	*****	**	039	2.3	022	4.4	9
0900	11.3	*****	**	311	1.5	296	5.1	16
1200	11.8	*****	**	341	1.9	184	6.3	34
1500	13.2	*****	**	191	4.0	191	7.0	36
1800	11.3	*****	**	192	3.3	188	7.6	12
2100	10.4	*****	**	186	5.0	185	8.3	1
2400	8.7	*****	**	193	2.1	192	5.3	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	7.5	*****	**	149	.6	212	4.4	0
0600	6.6	*****	**	189	1.6	142	4.4	3
0900	6.0	*****	**	214	1.8	193	6.3	7
1200	7.0	*****	**	303	1.5	300	3.2	27
1500	8.5	*****	**	245	1.1	285	5.7	33
1800	9.7	*****	**	351	3.1	344	5.7	20
2100	7.8	*****	**	273	2.2	292	5.1	5
2400	5.7	*****	**	180	.9	222	2.5	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	3.7	*****	**	353	1.4	344	3.8	0
0600	6.7	*****	**	013	1.8	342	3.2	17
0900	9.4	*****	**	021	3.9	030	5.7	66
1200	12.4	*****	**	015	3.4	017	5.1	68
1500	13.3	*****	**	132	1.0	174	8.3	34
1800	12.3	*****	**	185	5.2	179	8.9	17
2100	8.8	*****	**	281	2.3	287	5.7	2
2400	6.0	*****	**	215	3.1	214	6.3	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	4.7	*****	**	196	4.4	177	6.3	0
0600	2.2	*****	**	190	5.1	179	8.3	6
0900	2.6	*****	**	195	4.7	197	7.0	19
1200	3.3	*****	**	194	4.3	194	6.3	10
1500	5.1	*****	**	199	3.6	194	5.7	9
1800	5.8	*****	**	201	2.6	201	4.4	3
2100	6.1	*****	**	209	1.9	219	3.2	0
2400	5.1	*****	**	221	1.4	247	4.4	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	5.1	*****	**	300	1.8	321	8.3	0
0600	5.1	*****	**	231	3.1	238	7.6	1
0900	5.0	*****	**	184	1.8	193	5.7	13
1200	3.8	*****	**	197	4.1	197	7.0	49
1500	6.3	*****	**	206	1.9	216	6.4	47
1800	8.7	*****	**	339	1.0	042	2.5	11
2100	7.5	*****	**	285	3.0	277	5.8	2
2400	6.3	*****	**	251	.9	287	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	5.2	*****	**	198	.4	182	1.3	0
0600	6.1	*****	**	207	.6	176	1.9	6
0900	8.0	*****	**	193	.6	145	1.9	37
1200	13.0	*****	**	043	1.0	036	3.2	87
1500	15.6	*****	**	292	1.0	342	5.7	94
1800	15.3	*****	**	255	2.3	212	5.7	48
2100	12.7	*****	**	281	3.9	302	6.3	7
2400	7.6	*****	**	018	1.7	343	5.1	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	3.8	*****	**	006	1.9	007	3.8	0
0600	6.0	*****	**	011	3.2	010	5.7	22
0900	11.2	*****	**	296	4.0	006	5.7	64
1200	16.4	*****	**	000	4.2	356	6.3	94
1500	19.5	*****	**	312	3.2	345	5.1	99
1800	19.6	*****	**	344	2.5	001	4.3	44
2100	18.3	*****	**	360	3.1	006	7.0	10
2400	13.6	*****	**	349	1.5	348	6.3	

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY HOUR SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING June, 1984

DAY 19

HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	GUST MAX. M/S	RAD MW
0300	10.5	*****	**	041	.7	035	2.5	1
0600	9.9	*****	**	026	.9	000	3.2	21
0900	15.5	*****	**	350	1.5	005	5.1	63
1200	18.7	*****	**	011	3.4	013	6.3	93
1500	19.9	*****	**	016	3.8	021	7.0	95
1800	19.8	*****	**	359	3.3	346	7.6	24
2100	15.8	*****	**	003	2.9	008	7.6	6
2400	11.4	*****	**	005	1.6	353	5.1	0

DAY 20

HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	GUST MAX. M/S	RAD MW
0300	9.0	*****	**	017	1.0	346	3.2	1
0600	11.4	*****	**	004	1.8	019	3.8	23
0900	13.8	*****	**	347	1.1	013	3.2	24
1200	16.6	*****	**	293	1.8	269	7.0	68
1500	21.1	*****	**	277	3.3	284	7.6	106
1800	12.2	*****	**	016	2.7	064	9.5	11
2100	15.3	*****	**	222	.8	140	5.1	7
2400	13.2	*****	**	002	1.2	016	3.8	0

DAY 21

HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	GUST MAX. M/S	RAD MW
0300	7.2	*****	**	037	1.5	035	4.4	0
0600	9.9	*****	**	348	2.2	347	3.8	21
0900	14.7	*****	**	007	2.5	024	4.4	62
1200	19.8	*****	**	014	2.8	017	4.4	91
1500	22.0	*****	**	314	2.3	286	5.7	89
1800	20.6	*****	**	041	2.6	068	6.3	57
2100	13.5	*****	**	279	.8	221	7.0	6
2400	11.4	*****	**	091	.8	153	4.4	0

DAY 22

HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	GUST MAX. M/S	RAD MW
0300	7.9	*****	**	012	2.9	004	6.3	0
0600	10.2	*****	**	000	1.7	007	3.8	21
0900	14.8	*****	**	357	1.7	342	3.8	55
1200	19.7	*****	**	003	1.0	277	4.4	91
1500	21.7	*****	**	273	3.4	266	6.3	86
1800	18.0	*****	**	294	3.6	281	8.9	15
2100	16.9	*****	**	347	2.8	344	5.1	8
2400	14.5	*****	**	008	1.1	068	5.1	0

DAY 23

HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	GUST MAX. M/S	RAD MW
0300	9.3	*****	**	027	1.2	041	3.2	0
0600	10.8	*****	**	001	1.9	359	4.4	23
0900	14.0	*****	**	349	1.9	339	3.2	29
1200	13.7	*****	**	269	1.4	257	5.1	36
1500	14.1	*****	**	357	1.1	217	4.4	26
1800	11.9	*****	**	288	2.5	286	7.6	32
2100	11.0	*****	**	294	2.4	289	6.3	3
2400	8.5	*****	**	066	1.1	098	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.	GUST MAX. M/S	RAD MW
0300	7.1	*****	**	016	1.0	023	1.9	0
0600	7.7	*****	**	172	.3	030	3.8	21
0900	12.6	*****	**	173	1.6	192	4.4	53
1200	15.4	*****	**	176	4.1	181	8.9	21
1500	16.6	*****	**	173	4.1	168	9.3	22
1800	18.0	*****	**	184	5.9	189	10.2	46
2100	15.3	*****	**	184	5.7	188	9.5	8
2400	11.3	*****	**	178	3.9	183	10.2	0

DAY 25

HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	GUST MAX. M/S	RAD MW
0300	5.4	*****	**	212	2.1	200	7.6	0
0600	7.6	*****	**	208	1.4	189	7.0	20
0900	14.1	*****	**	187	3.8	202	9.3	46
1200	18.2	*****	**	168	3.1	170	9.5	102
1500	20.3	*****	**	199	3.6	196	8.3	103
1800	19.8	*****	**	223	2.5	200	6.3	44
2100	17.5	*****	**	346	2.7	004	5.1	6
2400	12.3	*****	**	014	2.1	351	4.4	0

DAY 26

HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	GUST MAX. M/S	RAD MW
0300	7.6	*****	**	352	1.5	343	3.8	0
0600	8.4	*****	**	004	2.0	348	3.8	9
0900	13.7	*****	**	349	2.9	347	5.1	38
1200	15.3	*****	**	027	1.9	150	14.6	42
1500	14.0	*****	**	193	6.2	188	12.7	31
1800	11.1	*****	**	200	4.4	173	9.5	3
2100	8.5	*****	**	276	3.9	280	9.5	0
2400	8.1	*****	**	026	1.6	049	6.3	0

DAY 27

HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	GUST MAX. M/S	RAD MW
0300	7.1	*****	**	330	2.7	293	6.3	0
0600	6.8	*****	**	318	2.9	283	9.3	9
0900	6.0	*****	**	290	4.7	277	8.9	5
1200	6.3	*****	**	336	5.1	292	9.5	15
1500	8.5	*****	**	331	5.4	292	9.3	31
1800	8.7	*****	**	317	3.2	299	7.6	7
2100	8.5	*****	**	329	3.4	317	7.0	1
2400	7.9	*****	**	313	2.3	329	7.6	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HALF HOUR SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING June, 1984

	DAY 28								DAY 29								DAY 30							
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	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	5.7	*****	**	352	1.6	339	3.2	0	0300	10.8	*****	**	055	.9	079	3.2	0	0300	7.7	*****	**	165	1.0	197	2.5	0
0600	7.2	*****	**	360	2.6	356	5.1	7	0600	9.1	*****	**	246	1.2	308	4.4	4	0600	8.1	*****	**	179	1.1	186	3.5	10
0900	8.9	*****	**	001	4.0	357	7.0	42	0900	9.6	*****	**	201	2.6	209	4.4	19	0900	11.2	*****	**	347	1.0	354	3.8	65
1200	12.7	*****	**	355	4.5	349	6.3	88	1200	10.4	*****	**	193	2.2	202	5.1	24	1200	14.1	*****	**	002	1.4	351	4.4	48
1500	17.0	*****	**	009	3.8	357	5.7	80	1500	13.4	*****	**	197	3.9	191	6.3	39	1500	17.0	*****	**	247	1.3	298	3.8	45
1800	17.2	*****	**	001	2.6	006	6.3	29	1800	14.4	*****	**	217	3.1	229	5.1	19	1800	14.5	*****	**	359	1.7	048	7.0	11
2100	15.1	*****	**	263	3.8	277	7.0	8	2100	12.7	*****	**	200	2.3	214	5.1	4	2100	15.9	*****	**	032	1.0	068	6.3	7
2400	11.5	*****	**	324	.9	273	5.1	0	2400	10.1	*****	**	256	.2	352	3.8	0	2400	11.4	*****	**	212	1.0	298	3.8	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR DENALI 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	12.4	2.2	7.3	003	3.1	3.4	336	9.5	NNE	**	*****	.2	9030	1
2	14.5	-.9	6.8	002	2.4	2.5	359	8.3	N	**	*****	0.0	8740	2
3	14.5	.9	7.7	006	2.9	3.2	010	10.2	N	**	*****	0.0	8435	3
4	14.9	.8	7.9	006	2.9	3.1	025	10.2	N	**	*****	0.0	8010	4
5	16.6	1.5	9.1	031	1.3	2.3	347	7.0	N	**	*****	0.0	8430	5
6	9.5	3.3	6.4	187	3.4	3.9	186	10.2	S	**	*****	9.6	3035	6
7	12.3	1.9	7.1	281	1.0	2.3	244	8.9	S	**	*****	0.0	5995	7
8	16.9	1.9	9.4	000	1.5	3.1	050	8.9	N	**	*****	0.0	8245	8
9	13.3	5.6	9.5	286	1.1	2.6	203	7.6	WNW	**	*****	.2	4790	9
10	16.2	6.0	11.1	354	1.6	2.1	345	7.6	N	**	*****	0.0	7805	10
11	17.0	2.6	9.8	358	.8	3.1	127	10.2	NNE	**	*****	0.0	6220	11
12	13.9	8.6	11.2	194	1.4	3.0	185	8.3	S	**	*****	1.8	3200	12
13	9.7	5.1	7.4	261	.7	2.0	193	6.3	WNW	**	*****	16.9	2765	13
14	15.6	2.9	9.3	328	.3	3.0	179	8.9	NNE	**	*****	1.2	5365	14
15	6.4	2.1	4.3	197	3.4	3.5	177	8.3	SSW	**	*****	14.8	1240	15
16	9.3	2.7	6.0	232	1.3	2.2	321	8.3	SSW	**	*****	6.4	2850	16
17	16.5	5.2	10.9	283	.8	1.7	302	6.3	W	**	*****	.4	7310	17
18	20.1	2.7	11.4	357	2.7	2.9	006	7.0	N	**	*****	0.0	8035	18
19	21.2	6.1	13.7	008	2.2	2.4	346	7.6	N	**	*****	0.0	8315	19
20	21.1	8.7	14.9	332	1.2	2.2	064	9.5	NNE	**	*****	0.0	8195	20
21	22.4	5.9	14.2	007	1.5	2.4	221	7.0	N	**	*****	.6	8610	21
22	21.7	6.2	14.0	332	1.8	2.5	281	8.9	N	**	*****	0.0	8775	22
23	14.4	7.4	10.9	329	1.2	2.0	286	7.6	N	**	*****	1.6	4395	23
24	18.7	4.0	11.4	179	3.1	3.5	189	10.2	S	**	*****	0.0	7870	24
25	20.3	4.8	12.6	204	1.5	2.9	170	9.5	SSW	**	*****	0.0	9110	25
26	17.8	6.8	12.3	267	.7	3.4	150	14.6	N	**	*****	2.8	4225	26
27	9.0	5.8	7.4	296	3.4	3.8	285	9.5	WNW	**	*****	7.2	1545	27
28	17.7	5.7	11.7	347	2.5	3.1	357	7.0	N	**	*****	0.0	6965	28
29	15.3	5.6	10.0	204	1.8	2.3	191	6.3	SSW	**	*****	0.0	7210	29
30	18.7	7.6	13.2	322	.2	1.5	068	8.3	SSW	**	*****	.2	5405	30
MONTH	22.4	-.9	10.0	332	.7	2.7	150	14.6	N	**	*****	63.8	190614	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 5.7
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 9.4
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 12.7
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 9.5

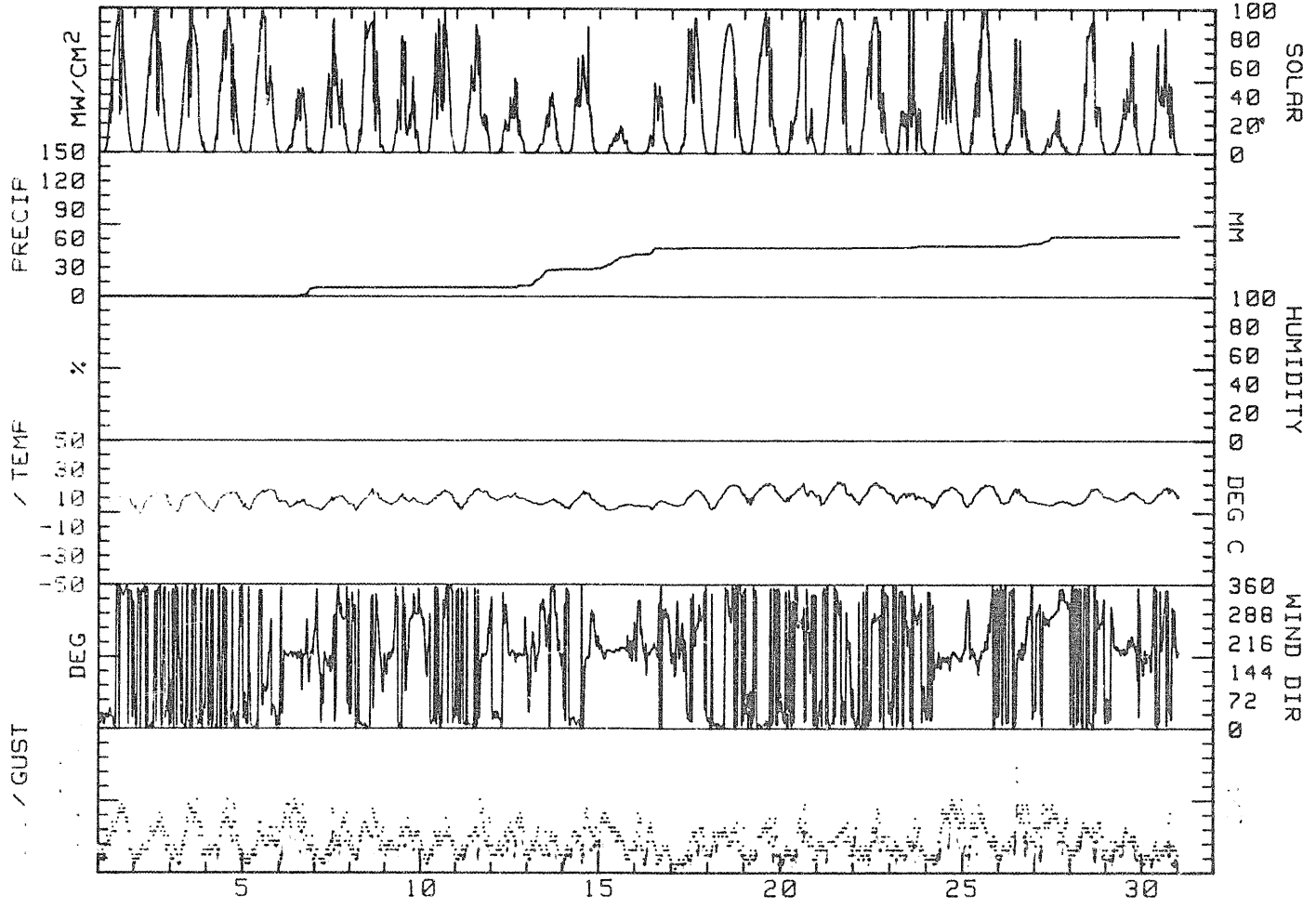
** RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DENALI WEATHER STATION

June, 1984



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR DENALI 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	.56	11.32	9.44	.28	0.00	0.00	0.00	21.60
NNE	.69	7.92	4.51	0.00	0.00	0.00	0.00	13.13
NE	.56	3.47	.69	0.00	0.00	0.00	0.00	4.72
ENE	.42	1.32	.49	.07	0.00	0.00	0.00	2.29
E	.42	.69	.21	0.00	0.00	0.00	0.00	1.32
ESE	.28	.69	.07	0.00	0.00	0.00	0.00	1.04
SE	.76	.76	.07	0.00	0.00	0.00	0.00	1.60
SSE	.21	1.67	.35	.07	0.00	0.00	0.00	2.29
S	.76	3.40	5.97	1.32	0.00	0.00	0.00	11.46
SSW	.76	4.38	4.38	.42	0.00	0.00	0.00	9.93
SW	.35	1.25	.56	0.00	0.00	0.00	0.00	2.15
WSW	.42	2.15	.63	0.00	0.00	0.00	0.00	3.17
W	.21	2.36	3.06	.14	0.00	0.00	0.00	5.77
WNW	.07	2.85	2.99	.07	0.00	0.00	0.00	5.97
NW	.56	3.06	.90	0.00	0.00	0.00	0.00	4.51
NNW	.28	4.18	2.36	.21	0.00	0.00	0.00	6.97
CALM								.07
TOTAL	7.29	53.47	36.67	2.57	0.00	0.00	0.00	100.00

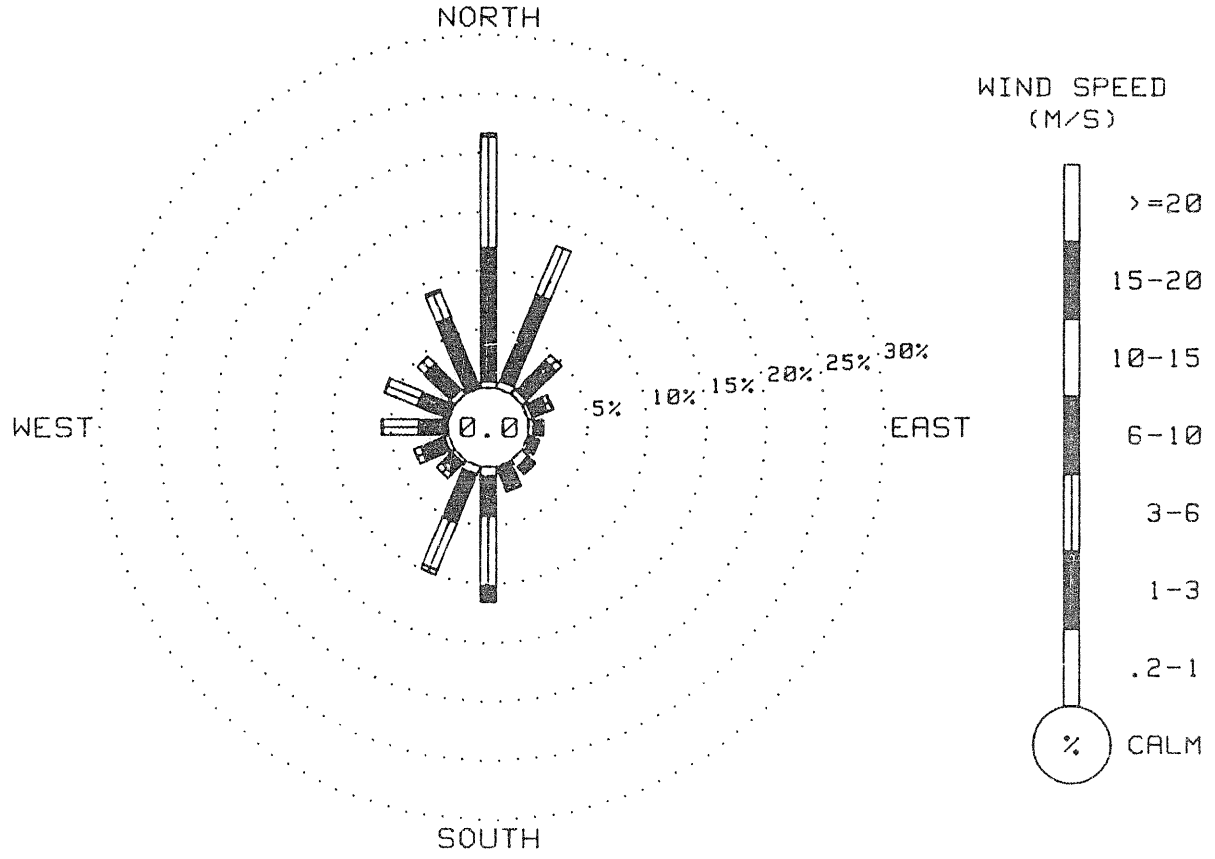
NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
(440 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
(446 WIND OBSERVATIONS WOULD HAVE BEEN CORRECT FOR 30 MINUTE DATA.
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DENALI WEATHER STATION

June, 1984



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SOLAR RADIATION SUMMARY FOR DENALI 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	1	4	13	30	36	47	72	83	89	101	40	64	73	59	43	27	15	7	2	0	0	33
2	0	0	0	2	9	18	30	47	62	64	83	96	92	66	64	77	66	45	33	16	8	3	1	0	38
3	0	0	0	2	6	17	30	45	59	71	51	102	73	89	86	78	67	43	14	8	6	2	0	0	35
4	0	0	0	1	5	10	26	43	52	73	81	66	98	92	85	23	44	47	30	19	6	3	1	0	33
5	0	0	0	2	9	17	31	47	60	74	89	98	94	73	35	42	56	49	35	19	12	4	1	0	35
6	0	0	0	1	2	4	4	7	16	25	30	44	27	40	44	32	24	3	1	2	2	1	0	0	10
7	0	0	0	2	8	17	29	45	40	31	72	70	59	51	34	29	44	31	17	18	6	2	1	0	25
8	0	0	0	2	13	12	20	49	74	84	83	87	90	91	67	19	53	38	35	4	5	2	0	0	34
9	0	0	0	1	5	12	15	30	29	48	78	62	19	14	22	23	34	38	23	15	12	3	0	0	20
10	0	0	0	2	7	19	32	43	74	32	67	75	33	59	68	81	73	52	35	17	10	3	1	0	33
11	0	0	0	2	5	13	29	33	42	53	47	54	87	67	72	25	22	26	18	24	13	4	0	0	26
12	0	0	0	1	3	5	15	21	19	17	20	32	25	31	39	38	17	18	11	9	4	1	0	0	13
13	0	0	0	0	1	2	5	6	7	11	17	26	22	29	35	38	31	24	12	7	5	2	1	0	12
14	0	0	0	2	5	14	32	36	51	33	37	61	60	47	36	61	39	33	10	3	2	0	0	0	22
15	0	0	0	0	1	4	5	6	10	10	12	10	16	17	13	8	7	6	2	1	0	0	0	0	5
16	0	0	0	0	0	1	2	4	11	10	6	35	40	31	41	37	34	16	9	6	3	1	0	0	12
17	0	0	0	0	2	5	6	12	35	68	79	70	39	62	94	81	66	52	34	18	9	3	1	0	30
18	0	0	0	2	10	20	33	48	61	72	81	88	90	89	84	75	39	49	32	19	11	4	2	1	38
19	0	0	1	2	9	19	32	47	60	69	78	91	96	79	91	22	73	25	16	15	6	4	1	0	35
20	0	0	1	2	6	19	12	21	25	34	44	84	92	93	101	19	9	12	17	23	8	4	2	1	26
21	0	0	0	2	9	19	31	47	59	71	81	90	94	94	91	57	45	58	10	3	4	0	0	0	36
22	0	0	0	2	13	19	32	46	58	78	62	89	95	93	89	58	56	15	36	25	10	5	2	1	37
23	0	0	0	1	5	20	25	28	24	25	6	69	23	43	70	34	6	26	24	9	4	3	1	0	19
24	0	0	0	2	10	19	31	46	45	53	78	57	81	33	28	70	71	50	33	19	10	4	1	1	31
25	0	0	0	2	12	14	30	38	51	49	73	95	93	100	103	83	59	51	32	15	9	4	1	1	35
26	0	0	0	2	7	7	8	14	28	75	55	35	61	43	23	24	22	10	9	3	1	1	0	0	19
27	0	0	0	0	1	2	6	9	6	6	13	15	15	18	27	11	9	6	5	3	3	1	1	1	8
28	0	0	0	1	3	7	9	16	46	61	81	85	89	78	90	27	36	29	31	11	8	3	1	1	31
29	0	0	0	1	2	3	6	9	15	21	33	26	37	37	34	53	75	22	35	13	6	2	1	0	18
30	0	0	0	1	3	9	11	24	59	57	40	41	36	44	66	33	42	12	31	24	8	4	1	1	27

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

USA AVIATION SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING June, 1984

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

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. Solar -1 mW/CM^2

Additional comments on this month's data:

1. Recorded RH data invalid due to bad oscillator.

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING July 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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	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	.2	1.8	3.2		6
7	.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	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		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	.6	0.0	0.0	1.6	.2	0.0	9
10	0.0	0.0	.2	.4	1.2	1.4	1.2	.6	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	1.2	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	.6	0.0	0.0	.6	0.0	0.0	0.0	0.0	0.0	0.0	11
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	1.0	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	.2	.4	.4	.4	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	.2	0.0	0.0	0.0	0.0	0.0	2.0	1.8	.8	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	.6	0.0	0.0	.2	0.0	0.0	.2	0.0	.2	.4	.2	.2	.2	0.0	0.0		17
18	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	.4	.2	.2	.4	0.0	19
20	0.0	.2	.2	.2	.2	.2	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	.2	0.0	0.0	.2	0.0	0.0	.2	0.0	0.0	0.0	20
21	0.0	0.0	.6	.6	.6	1.0	.6	1.0	.4	.2	.2	0.0	0.0	0.0	.2	0.0	.2	.2	.6	0.0	0.0	0.0	0.0	0.0	21
22	.8	.2	0.0	0.0	.2	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	5.0	2.0	8.2	1.8	2.4	.2	0.0	0.0	0.0	0.0	0.0	0.0	24
25	0.0	0.0	0.0	.2	.4	.6	.6	.6	.6	1.0	.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	25
26	0.0	0.0	0.0	0.0	.2	0.0	.2	.2	0.0	.2	1.6	1.4	1.4	.6	.8	.6	.2	.2	.2	.6	.2	.2	0.0	.2	26
27	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	.4	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	.4		29
30	.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	.2	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	.6	.6	.6	.6	1.0	0.0	1.0	31

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOUR SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING July, 1984

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	6.3	*****	**	218	.2	195	3.2	0
0600	10.3	*****	**	357	1.6	349	3.8	21
0900	15.3	*****	**	359	2.4	355	5.1	58
1200	19.1	*****	**	359	4.0	002	6.3	90
1500	18.9	*****	**	173	1.7	168	10.8	76
1800	15.2	*****	**	172	8.2	169	14.0	19
2100	9.0	*****	**	186	6.0	175	13.3	3
2400	8.2	*****	**	210	1.6	260	7.6	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	7.3	*****	**	249	2.7	265	5.7	0
0600	7.6	*****	**	266	1.4	239	5.1	2
0900	8.7	*****	**	274	1.4	297	4.4	19
1200	10.7	*****	**	285	2.5	292	5.1	34
1500	12.3	*****	**	280	2.2	272	4.4	20
1800	11.7	*****	**	244	2.0	269	4.4	5
2100	10.1	*****	**	276	3.1	273	5.7	3
2400	9.2	*****	**	288	2.2	283	6.3	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	8.4	*****	**	298	2.1	295	5.7	0
0600	8.6	*****	**	299	1.4	193	4.4	6
0900	10.3	*****	**	317	1.4	306	5.8	14
1200	13.6	*****	**	006	2.5	357	5.7	32
1500	17.0	*****	**	011	3.9	012	6.3	101
1800	15.7	*****	**	356	4.8	353	8.3	40
2100	13.8	*****	**	105	4.1	352	7.6	7
2400	11.3	*****	**	339	3.1	329	7.6	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	9.3	*****	**	035	2.0	028	3.2	0
0600	11.0	*****	**	020	1.9	030	4.4	4
0900	13.5	*****	**	005	2.5	012	5.7	72
1200	15.3	*****	**	351	3.4	347	8.3	44
1500	16.7	*****	**	007	4.6	353	8.9	38
1800	16.9	*****	**	360	5.3	348	8.9	22
2100	15.3	*****	**	023	5.2	007	8.9	5
2400	11.8	*****	**	021	2.6	028	7.0	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	9.4	*****	**	025	1.4	021	3.2	0
0600	13.3	*****	**	030	1.7	041	3.8	10
0900	15.4	*****	**	029	2.5	029	4.4	34
1200	18.8	*****	**	010	3.3	026	6.3	80
1500	15.0	*****	**	343	2.6	326	7.0	29
1800	14.2	*****	**	010	3.8	019	7.0	15
2100	12.3	*****	**	017	4.4	014	7.6	2
2400	10.9	*****	**	017	2.5	017	4.4	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	9.6	*****	**	024	2.8	023	5.1	0
0600	10.2	*****	**	025	2.8	015	5.1	7
0900	12.8	*****	**	010	3.3	356	6.3	63
1200	17.3	*****	**	006	2.8	356	6.3	64
1500	16.2	*****	**	353	1.4	293	5.1	34
1800	14.2	*****	**	228	4.3	227	7.6	0
2100	12.8	*****	**	293	2.9	292	7.6	3
2400	7.8	*****	**	329	3.4	021	13.7	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	6.9	*****	**	024	2.9	040	6.3	0
0600	7.8	*****	**	019	2.5	339	5.7	38
0900	11.5	*****	**	029	3.2	023	5.7	66
1200	13.6	*****	**	014	4.1	010	8.3	99
1500	13.7	*****	**	006	3.8	006	7.8	32
1800	13.9	*****	**	010	2.0	356	5.7	13
2100	11.5	*****	**	341	3.8	003	6.3	5
2400	9.3	*****	**	018	4.0	018	7.6	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	8.0	*****	**	037	1.6	018	4.4	0
0600	7.9	*****	**	034	1.5	347	3.8	9
0900	9.5	*****	**	018	2.5	011	5.1	29
1200	11.1	*****	**	006	4.5	001	6.3	78
1500	11.7	*****	**	005	4.3	012	7.0	37
1800	11.4	*****	**	339	4.9	339	8.3	12
2100	9.8	*****	**	028	3.0	354	5.7	4
2400	7.7	*****	**	012	3.7	015	5.7	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	7.2	*****	**	014	2.6	016	4.4	0
0600	7.7	*****	**	026	2.0	039	5.8	5
0900	10.0	*****	**	017	2.8	021	5.1	46
1200	11.5	*****	**	012	3.5	026	6.3	81
1500	13.3	*****	**	009	3.1	019	6.3	38
1800	12.4	*****	**	011	3.3	013	5.7	21
2100	10.1	*****	**	345	1.1	044	6.3	5
2400	7.6	*****	**	013	.7	071	3.6	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING July, 1982

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	6.9	*****	**	134	.4	163	1.9	0
0600	7.3	*****	**	189	.8	184	5.7	3
0900	9.1	*****	**	198	3.1	191	6.3	26
1200	11.3	*****	**	021	.9	044	3.8	28
1500	14.4	*****	**	181	4.9	185	9.5	94
1800	13.6	*****	**	170	5.3	167	10.8	14
2100	11.1	*****	**	152	4.7	132	11.4	2
2400	7.8	*****	**	178	2.3	163	7.0	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	5.8	*****	**	175	.9	192	3.2	0
0600	5.1	*****	**	162	1.2	182	2.5	10
0900	9.3	*****	**	183	1.8	183	3.8	33
1200	12.0	*****	**	189	2.3	176	5.1	34
1500	15.1	*****	**	260	1.0	007	5.7	84
1800	12.3	*****	**	328	1.3	290	4.4	8
2100	11.1	*****	**	273	2.5	268	8.3	6
2400	9.6	*****	**	174	1.0	112	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	4.3	*****	**	355	1.6	341	3.8	0
0600	6.3	*****	**	350	2.0	342	3.8	20
0900	11.1	*****	**	360	2.9	358	5.1	23
1200	14.0	*****	**	346	1.6	005	4.4	49
1500	14.1	*****	**	165	.7	052	13.7	27
1800	13.9	*****	**	332	2.0	212	8.9	40
2100	10.8	*****	**	178	1.6	170	9.5	3
2400	8.5	*****	**	191	2.1	202	7.0	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	7.6	*****	**	181	1.5	201	5.1	0
0600	8.1	*****	**	021	.4	337	2.5	3
0900	8.5	*****	**	189	3.9	184	8.9	53
1200	12.7	*****	**	194	5.1	195	8.9	112
1500	14.8	*****	**	187	4.6	189	8.9	100
1800	15.9	*****	**	206	3.9	193	7.6	44
2100	10.7	*****	**	250	3.4	271	7.6	2
2400	9.5	*****	**	124	1.8	115	5.7	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	8.9	*****	**	116	1.5	067	5.7	0
0600	9.1	*****	**	293	1.4	279	5.1	6
0900	10.4	*****	**	309	1.7	312	4.4	22
1200	12.5	*****	**	294	2.7	293	5.1	79
1500	14.2	*****	**	232	2.9	189	7.6	84
1800	12.2	*****	**	182	5.7	178	8.3	21
2100	11.1	*****	**	178	3.9	184	7.6	0
2400	8.4	*****	**	248	2.2	267	5.7	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	7.7	*****	**	159	1.2	181	5.7	0
0600	7.1	*****	**	064	1.4	101	7.1	3
0900	8.4	*****	**	351	.5	017	4.4	25
1200	10.9	*****	**	327	1.8	306	4.4	75
1500	13.8	*****	**	360	1.4	002	4.4	45
1800	15.3	*****	**	349	4.9	352	7.6	40
2100	13.9	*****	**	346	3.0	342	5.7	6
2400	9.4	*****	**	004	2.0	001	4.4	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	8.5	*****	**	011	1.9	354	3.8	0
0600	9.1	*****	**	008	1.7	005	3.8	3
0900	10.9	*****	**	357	.6	345	3.2	22
1200	13.7	*****	**	177	3.9	189	9.5	56
1500	12.1	*****	**	189	6.1	189	9.5	22
1800	13.6	*****	**	206	2.4	249	7.6	11
2100	9.6	*****	**	309	3.4	317	8.3	4
2400	9.4	*****	**	347	2.5	036	12.1	3

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	9.9	*****	**	304	5.0	328	11.4	0
0600	8.5	*****	**	352	1.7	341	6.3	0
0900	8.5	*****	**	240	.8	221	4.4	3
1200	6.6	*****	**	208	3.3	199	8.3	13
1500	7.1	*****	**	200	5.0	193	8.3	9
1800	7.1	*****	**	200	4.0	199	6.3	5
2100	6.9	*****	**	197	3.6	201	6.3	0
2400	7.4	*****	**	205	1.5	232	4.4	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	6.9	*****	**	350	1.2	341	3.8	0
0600	7.0	*****	**	332	3.6	334	6.3	2
0900	7.5	*****	**	330	4.7	334	8.9	14
1200	9.4	*****	**	346	5.3	347	8.9	5
1500	9.8	*****	**	352	5.6	333	8.9	7
1800	8.6	*****	**	331	3.8	356	8.3	4
2100	7.7	*****	**	307	3.5	310	8.9	1
2400	7.4	*****	**	335	2.0	321	8.9	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

1-HOUR SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING July, 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	7.3	*****	**	027	1.5	019	6.3	0
0600	7.5	*****	**	004	1.2	337	4.4	5
0900	7.9	*****	**	174	.3	252	6.3	18
1200	9.0	*****	**	268	3.5	273	7.0	17
1500	10.0	*****	**	269	3.8	260	7.0	15
1800	9.3	*****	**	293	3.0	297	6.3	7
2100	8.1	*****	**	359	1.4	003	5.7	0
2400	8.0	*****	**	014	1.7	353	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	7.3	*****	**	023	1.3	338	4.4	0
0600	7.3	*****	**	059	1.0	051	2.5	2
0900	7.7	*****	**	009	.5	036	1.9	7
1200	8.0	*****	**	035	1.0	023	1.9	9
1500	8.7	*****	**	276	.5	258	4.4	13
1800	8.2	*****	**	303	1.3	313	4.4	4
2100	8.5	*****	**	013	1.1	302	4.4	0
2400	7.7	*****	**	063	.9	048	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	7.5	*****	**	049	1.6	036	3.8	0
0600	7.9	*****	**	050	1.8	053	3.8	2
0900	8.5	*****	**	064	.9	046	3.2	8
1200	7.3	*****	**	160	.9	114	2.5	12
1500	9.6	*****	**	086	.8	108	3.2	7
1800	10.3	*****	**	129	.8	097	3.2	3
2100	10.2	*****	**	069	.9	183	3.2	0
2400	9.9	*****	**	069	.9	121	3.2	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	9.4	*****	**	160	.8	150	3.2	0
0600	9.4	*****	**	050	1.0	086	3.8	2
0900	10.5	*****	**	033	.4	002	2.5	17
1200	12.7	*****	**	210	1.5	249	4.4	48
1500	14.3	*****	**	284	2.0	251	5.7	46
1800	14.4	*****	**	356	2.6	341	5.7	45
2100	12.4	*****	**	338	1.4	278	4.4	5
2400	10.2	*****	**	022	1.0	350	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	7.7	*****	**	004	1.7	352	3.8	0
0600	7.5	*****	**	006	2.3	000	3.8	5
0900	11.5	*****	**	358	3.7	358	6.3	60
1200	16.1	*****	**	000	4.1	359	6.3	35
1500	18.9	*****	**	342	1.7	012	5.7	34
1800	19.1	*****	**	261	.5	300	3.2	19
2100	17.2	*****	**	193	1.2	182	3.2	3
2400	12.5	*****	**	064	.6	031	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	7.9	*****	**	099	.4	156	2.5	0
0600	8.4	*****	**	009	1.4	004	3.8	16
0900	13.1	*****	**	348	2.4	340	6.4	56
1200	18.7	*****	**	002	1.7	357	7.2	66
1500	11.9	*****	**	049	2.9	051	7.0	7
1800	13.6	*****	**	117	.9	065	5.2	17
2100	12.9	*****	**	089	1.1	146	3.8	3
2400	11.7	*****	**	135	1.2	166	4.4	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	10.8	*****	**	130	1.1	145	3.8	0
0600	10.1	*****	**	168	1.0	206	3.8	3
0900	9.9	*****	**	117	1.1	153	5..	7
1200	10.9	*****	**	339	.9	190	6.3	30
1500	10.7	*****	**	326	4.8	279	7.6	19
1800	10.1	*****	**	279	4.7	275	7.0	10
2100	8.4	*****	**	281	3.7	278	6.3	0
2400	7.9	*****	**	121	.9	065	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	7.9	*****	**	139	.8	135	3.2	3
0600	7.6	*****	**	076	.5	066	3.8	3
0900	7.9	*****	**	069	.6	311	3.2	9
1200	7.7	*****	**	332	1.7	010	5.1	12
1500	8.0	*****	**	334	1.3	005	4.4	5
1800	9.2	*****	**	342	1.2	304	4.4	2
2100	9.4	*****	**	325	2.1	341	6.3	0
2400	9.6	*****	**	338	2.4	330	7.0	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	9.4	*****	**	321	1.1	339	5.7	1
0600	9.4	*****	**	337	1.3	335	5.7	3
0900	12.5	*****	**	318	3.5	301	7.2	33
1200	15.0	*****	**	346	2.8	350	6.3	74
1500	15.6	*****	**	332	3.2	3..	7..	46
1800	12.4	*****	**	311	4.8	333	9.5	9
2100	12.3	*****	**	334	3.5	321	8.7	1
2400	11.1	*****	**	315	1.5	319	4.4	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING July, 1984

DAY 28

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	9.4	*****	**	293	.4	230	3.2	0
0600	10.2	*****	**	259	1.1	282	3.8	5
0900	11.5	*****	**	295	2.1	304	4.4	23
1200	14.2	*****	**	281	3.7	284	7.0	98
1500	14.6	*****	**	269	1.8	269	7.0	51
1800	14.7	*****	**	***	****	***	****	45
2100	12.0	*****	**	***	****	***	****	2
2400	10.9	*****	**	***	****	***	****	0

DAY 29

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	9.6	*****	**	***	****	***	****	0
0600	8.8	*****	**	***	****	***	****	3
0900	9.8	*****	**	***	****	***	****	17
1200	10.2	*****	**	***	****	***	****	21
1500	10.1	*****	**	***	****	***	****	16
1800	9.7	*****	**	***	****	***	****	7
2100	8.7	*****	**	***	****	***	****	0
2400	8.2	*****	**	***	****	***	****	0

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
0300	6.7	*****	**	***	****	***	****	0
0600	7.2	*****	**	***	****	***	****	4
0900	8.5	*****	**	***	****	***	****	18
1200	13.3	*****	**	***	****	***	****	44
1500	12.3	*****	**	***	****	***	****	34
1800	13.6	*****	**	***	****	***	****	14
2100	11.5	*****	**	***	****	***	****	2
2400	10.4	*****	**	***	****	***	****	0

DAY 31

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	9.7	*****	**	***	****	***	****	0
0600	10.1	*****	**	***	****	***	****	19
0900	10.9	*****	**	***	****	***	****	11
1200	12.7	*****	**	***	****	***	****	44
1500	13.1	*****	**	***	****	***	****	30
1800	10.2	*****	**	***	****	***	****	8
2100	9.4	*****	**	***	****	***	****	1
2400	9.2	*****	**	***	****	***	****	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING July, 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	DAILY SOLAR ENERGY kH/SQM	DAY
1	20.6	6.3	13.5	182	1.2	4.0	169	14.0	N	**	*****	0.0	6975	1
2	13.1	6.8	10.0	271	2.1	2.3	283	6.3	W	**	*****	0.0	2320	2
3	17.0	8.0	12.5	358	2.3	3.1	355	8.3	N	**	*****	0.0	5175	3
4	18.7	8.2	13.5	010	3.4	3.6	353	8.9	NNE	**	*****	0.0	5830	4
5	18.8	7.8	13.3	014	2.7	2.8	014	7.6	NNE	**	*****	.4	4615	5
6	17.3	7.8	12.6	351	2.2	3.1	020	12.7	NNE	**	*****	5.2	4145	6
7	14.9	5.4	10.2	012	3.1	3.3	010	8.3	NNE	**	*****	.6	7575	7
8	13.0	5.6	9.3	009	3.0	3.2	339	8.3	NNE	**	*****	0.0	4880	8
9	15.0	7.1	11.1	013	2.1	2.7	006	6.3	N	**	*****	2.4	5615	9
10	14.6	6.7	10.7	173	2.5	3.0	132	11.4	S	**	*****	6.4	4500	10
11	16.3	4.7	10.5	213	.9	1.8	268	8.3	S	**	*****	1.2	5840	11
12	16.1	3.8	10.0	313	.5	2.9	052	12.7	N	**	*****	1.4	5795	12
13	16.2	7.1	11.7	196	2.6	3.3	184	8.9	SSW	**	*****	0.0	7180	13
14	14.2	8.4	11.3	219	1.6	3.1	178	8.3	S	**	*****	0.0	4215	14
15	15.3	7.1	11.2	357	1.6	2.2	353	7.6	N	**	*****	1.6	4370	15
16	14.5	8.4	11.5	231	.6	3.1	036	12.1	NNE	**	*****	5.0	3780	16
17	9.6	6.3	8.0	223	2.1	3.3	328	11.4	SSW	**	*****	2.6	825	17
18	10.4	6.8	8.6	284	3.4	3.8	272	8.9	W	**	*****	.2	2595	18
19	10.6	6.9	8.8	305	1.3	2.3	273	7.0	NNE	**	*****	1.2	2020	19
20	9.1	7.2	8.2	016	.7	1.2	338	4.4	NE	**	*****	1.8	1200	20
21	11.1	7.5	9.3	074	.9	1.2	036	3.8	NE	**	*****	6.4	1175	21
22	15.1	8.8	12.0	337	.6	1.6	251	5.7	N	**	*****	1.4	4390	22
23	20.1	6.6	13.3	358	1.5	2.2	358	6.3	N	**	*****	9.0	5965	23
24	19.5	5.7	12.6	028	.7	1.8	051	7.0	NNE	**	*****	19.6	4230	24
25	11.6	7.9	9.8	261	1.2	2.5	279	7.6	W	**	*****	4.4	1960	25
26	9.8	7.3	8.6	344	1.0	1.6	330	7.0	NNW	**	*****	9.6	1190	26
27	16.3	9.8	12.6	319	2.3	2.7	283	9.5	NNW	**	*****	.8	4170	27
28	15.7	9.4	12.6	282	1.8	2.0	284	7.0	WNW	**	*****	0.0	4105	28
29	11.8	8.1	9.6	***	****	****	***	****	W	**	*****	.6	2615	29
30	16.2	6.3	11.3	***	****	****	***	****	S	**	*****	1.2	4720	30
31	13.1	9.2	11.2	***	****	****	***	****	NE	**	*****	2.4	2430	31
MONTH	20.6	3.8	10.9	328	.8	2.6	169	14.0	N	**	*****	78.8	127475	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 10.9
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 10.6
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 13.3
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 9.5

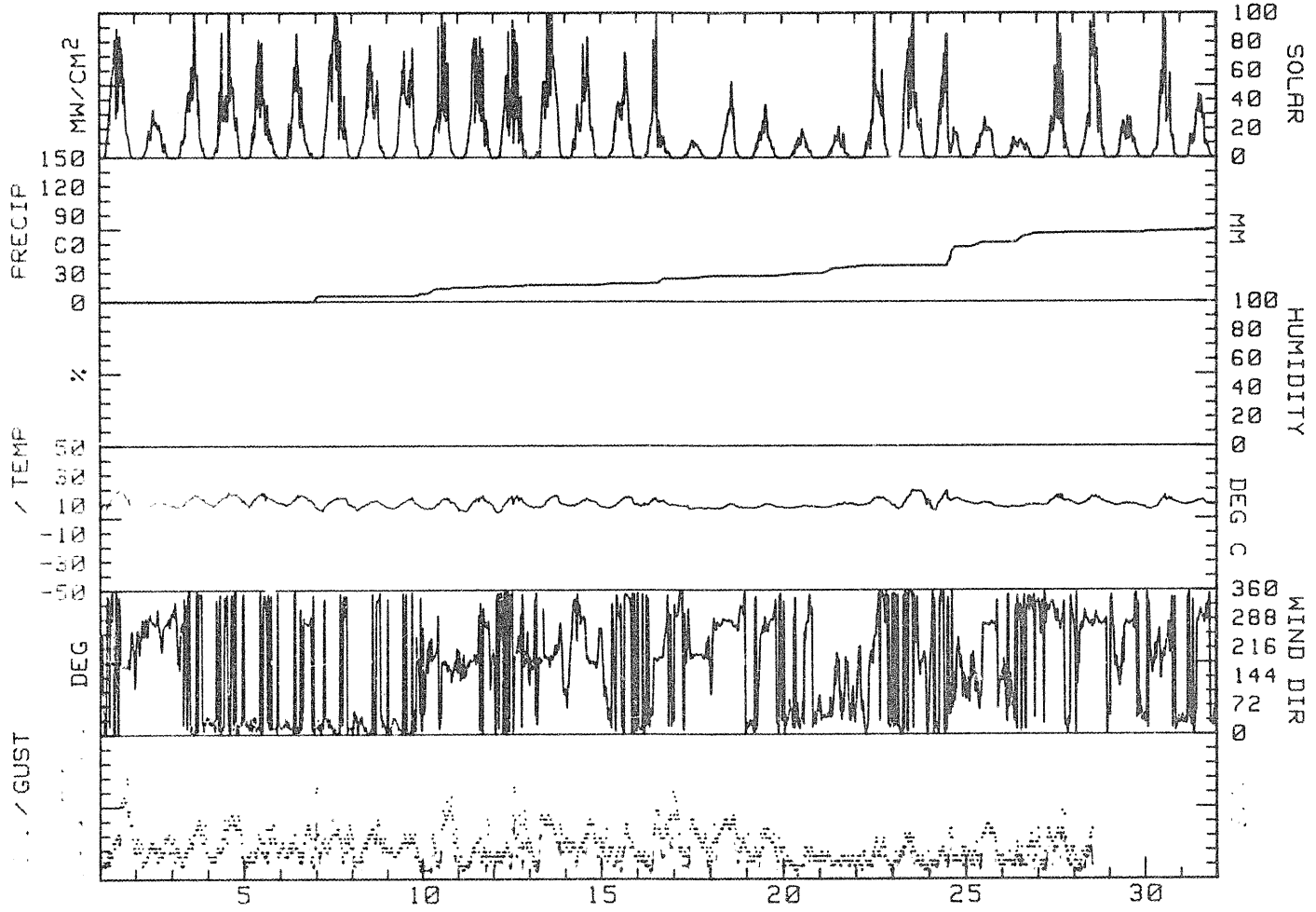
** RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DENALI WEATHER STATION

July, 1984



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING July, 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	.30	8.41	7.80	.08	0.00	0.00	0.00	16.59
NNE	1.21	9.17	5.00	.15	0.00	0.00	0.00	15.53
NE	.68	5.91	1.06	.08	0.00	0.00	0.00	7.73
ENE	.45	2.12	.08	0.00	0.00	0.00	0.00	2.65
E	.53	1.74	.08	0.00	0.00	0.00	0.00	2.35
ESE	.38	1.52	.08	0.00	0.00	0.00	0.00	1.97
SE	.15	1.44	.15	0.00	0.00	0.00	0.00	1.74
SSE	.98	1.89	.76	.15	.08	0.00	0.00	3.83
S	.83	2.50	2.58	1.59	0.00	0.00	0.00	7.51
SSW	.53	2.88	3.48	.08	0.00	0.00	0.00	6.97
SW	.32	1.82	.38	0.00	0.00	0.00	0.00	2.52
WSW	.30	2.12	.76	0.00	0.00	0.00	0.00	3.18
W	.30	3.03	4.39	.09	0.00	0.00	0.00	7.81
WNW	.23	3.91	3.71	.23	0.00	0.00	0.00	8.08
NW	0.00	3.48	.83	0.98	0.00	0.00	0.00	5.30
NNW	.53	5.00	1.36	.23	0.00	0.00	0.00	7.12
CALM								0.15
TOTAL	7.85	56.97	32.50	2.65	.08	0.00	0.00	100.00

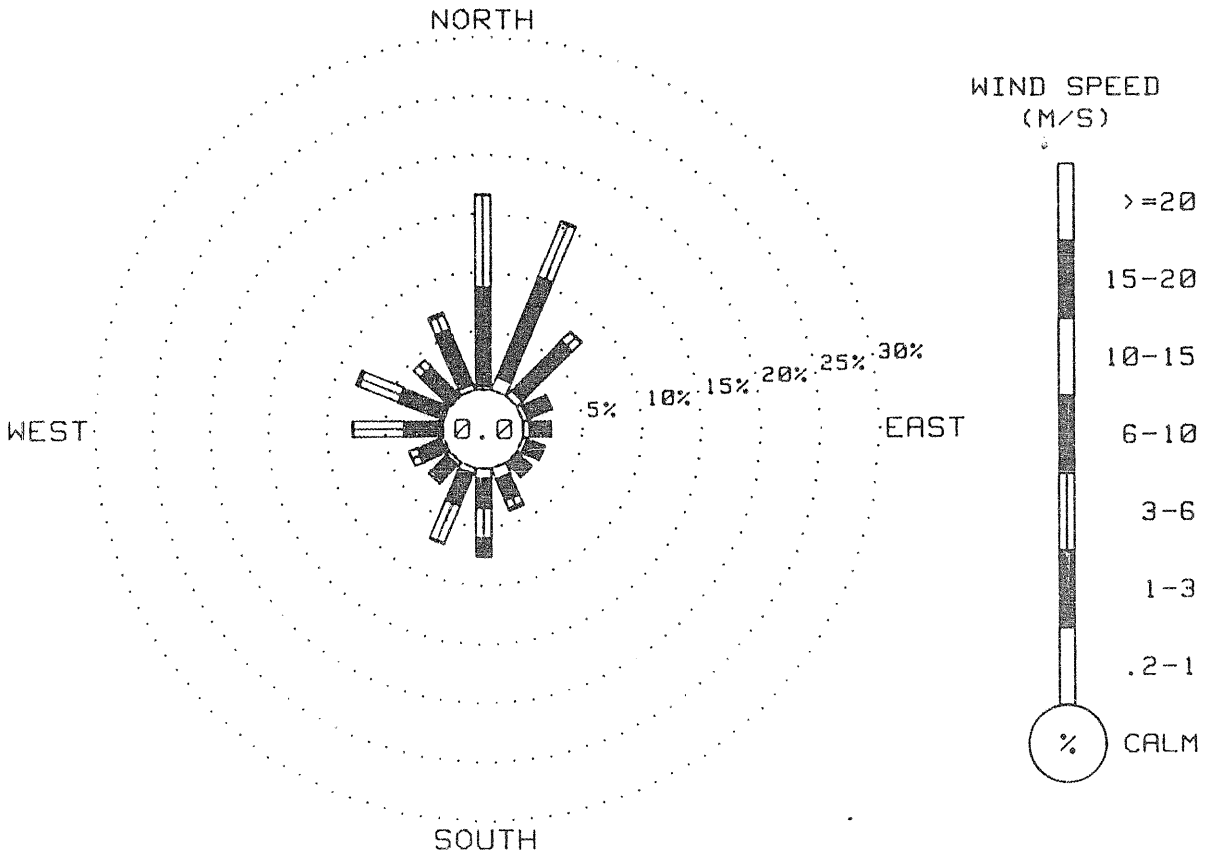
ALL FREQUENCIES ARE EXPRESSED IN PERCENT
2520 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
2683 WIND OBSERVATIONS WOULD HAVE BEEN CORRECT FOR 31 MONTH DATA
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DENALI WEATHER STATION

July, 1984



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOUR : SOLAR RADIATION SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING July, 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	9	16	26	43	57	69	76	59	38	81	64	55	50	24	16	12	5	1	0	0	29
2	0	0	0	0	1	2	5	7	17	16	17	31	25	24	21	22	18	11	7	8	1	1	0	0	10
3	0	0	0	0	1	4	11	11	15	32	42	38	53	44	72	74	56	35	14	9	6	3	1	0	22
4	0	0	0	1	4	6	12	31	49	57	33	45	26	68	73	51	48	26	24	23	9	3	1	0	24
5	0	0	0	1	6	14	19	36	50	76	39	59	38	29	23	27	16	13	11	4	4	2	0	0	19
6	0	0	0	1	4	16	13	28	53	47	69	55	24	43	23	16	10	8	4	3	3	3	0	0	17
7	0	0	0	1	6	18	30	45	67	60	62	87	82	80	51	81	21	15	28	18	8	2	1	0	32
8	0	0	0	1	5	8	11	16	26	38	50	68	60	47	28	36	47	27	7	5	4	3	0	0	20
9	0	0	0	1	3	5	10	25	40	52	46	58	40	41	45	53	60	33	11	6	7	0	0	0	22
10	0	0	0	0	2	3	9	22	23	29	54	26	69	41	62	30	51	16	8	4	3	1	0	0	19
11	0	0	0	1	3	7	13	22	31	72	81	29	66	54	58	26	54	21	24	15	6	4	0	0	24
12	0	0	0	1	6	15	29	46	40	55	19	39	62	15	58	54	32	28	28	10	3	3	1	0	22
13	0	0	0	1	3	4	2	20	47	45	23	84	71	108	71	66	62	48	36	17	4	1	1	0	30
14	0	0	0	1	6	10	13	31	26	19	25	62	47	50	71	54	24	20	13	3	1	0	0	0	20
15	0	0	0	0	1	2	4	7	19	23	37	37	30	32	43	55	61	44	19	20	7	2	0	0	18
16	0	0	0	0	1	2	3	12	19	25	58	56	65	14	24	12	15	13	6	3	4	3	0	0	14
17	0	0	0	0	0	0	1	2	3	5	7	11	12	9	10	9	7	5	3	3	1	0	0	0	3
18	0	0	0	0	1	2	3	4	12	17	21	27	32	36	42	29	16	4	3	1	0	0	0	0	11
19	0	0	0	0	1	5	8	10	17	13	22	22	35	26	15	12	8	7	3	1	1	0	0	0	8
20	0	0	0	0	0	3	4	4	8	10	12	9	18	17	14	9	7	4	4	1	0	0	0	0	5
21	0	0	0	0	1	2	4	4	8	10	14	13	19	11	7	13	8	3	3	2	0	0	0	0	5
22	0	0	0	0	0	2	8	8	16	8	25	38	82	46	45	37	33	53	27	9	5	1	0	0	19
23	0	0	0	0	2	5	10	32	53	69	48	59	64	94	41	45	23	21	25	13	5	1	0	0	25
24	0	0	0	0	2	8	26	31	53	54	58	85	35	7	5	10	19	17	16	9	3	0	0	0	18
25	0	0	0	0	0	2	3	8	9	12	16	19	24	23	19	20	20	18	7	2	1	0	0	0	9
26	0	0	0	0	2	3	7	10	12	10	8	11	13	10	8	6	9	7	5	2	0	0	0	0	5
27	0	0	0	0	1	3	4	11	25	19	22	52	33	73	36	55	49	13	14	5	4	1	0	0	17
28	0	0	0	0	1	5	9	13	20	29	32	92	79	96	71	72	21	47	25	7	5	1	0	0	21
29	0	0	0	0	1	2	5	14	19	26	16	17	24	15	22	13	13	10	5	2	1	0	0	0	8
30	0	0	0	0	1	3	5	6	13	34	49	47	96	74	39	38	47	17	16	5	3	1	0	0	21
31	0	0	0	0	1	3	10	13	13	32	33	40	34	41	29	28	11	9	6	3	1	0	0	0	13

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DATA RECOVERY SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING July, 1984

PARAMETER	NUMBER OF USABLE OBSERVATIONS	PERCENT OF TOTAL OBSERVATIONS
TEMPERATURE	1488	100
WIND SPEED	1320	89
WIND DIRECTION	1487	100
PEAK GUST	1320	89
RELATIVE HUMIDITY	0	0
PRECIPITATION	1488	100
SOLAR RADIATION	1488	100
DEW POINT	0	0

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. RH sensor calibrated 7/13. Recorded data still invalid due to bad oscillator.

2. All wind speed and gust data lost after 7/28 due to problem with reed switch in anemometer.

R M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOUR - PRECIPITATION SUMMARY FOR TYONEK WEATHER STATION
DATA TAKEN DURING August 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	.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	1
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	.2	0.0	4
5	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	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	.6	.4	.2	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	.2	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	.6	0.0	0.0	0.0	.4	.6	.4	.4	.4	0.0	0.0	18
19	0.0	0.0	0.0	0.0	0.0	.2	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	19
20	0.0	0.0	0.0	0.0	0.0	0.0	.2	.4	.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	0.0	0.0	20
21	0.0	0.0	.2	.4	.2	.8	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	****	****	****	****	****	****	****	****	****	****	22
23	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	23
24	****	****	****	****	****	****	****	****	****	****	--	--	--	--	--	--	--	--	--	--	--	--	--	--	24
25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	25
26	--	--	--	--	--	--	--	--	--	--	--	--	--	28.2	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	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

3-HR & 1-HOUR SUMMARY FOR DENALI WEATHER STATION
USING TAPE3M DURING August, 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	8.5	*****	**	***	****	***	****	0
0600	8.4	*****	**	***	****	***	****	3
0900	10.0	*****	**	***	****	***	****	16
1200	12.6	*****	**	***	****	***	****	23
1500	13.3	*****	**	***	****	***	****	25
1800	11.7	*****	**	***	****	***	****	15
2100	10.6	*****	**	***	****	***	****	1
2400	10.7	*****	**	***	****	***	****	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	10.7	*****	**	***	****	***	****	0
0600	11.0	*****	**	***	****	***	****	2
0900	11.8	*****	**	***	****	***	****	6
1200	14.3	*****	**	***	****	***	****	31
1500	15.1	*****	**	***	****	***	****	39
1800	15.2	*****	**	***	****	***	****	12
2100	12.7	*****	**	***	****	***	****	1
2400	12.0	*****	**	***	****	***	****	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	9.8	*****	**	***	****	***	****	0
0600	10.5	*****	**	***	****	***	****	3
0900	12.8	*****	**	***	****	***	****	34
1200	14.0	*****	**	***	****	***	****	34
1500	16.5	*****	**	***	****	***	****	42
1800	16.0	*****	**	***	****	***	****	10
2100	14.6	*****	**	***	****	***	****	1
2400	12.9	*****	**	***	****	***	****	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	10.1	*****	**	***	****	***	****	0
0600	11.2	*****	**	***	****	***	****	6
0900	12.5	*****	**	***	****	***	****	29
1200	17.8	*****	**	***	****	***	****	79
1500	20.7	*****	**	***	****	***	****	72
1800	19.5	*****	**	***	****	***	****	15
2100	16.0	*****	**	***	****	***	****	1
2400	14.2	*****	**	***	****	***	****	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	12.0	*****	**	***	****	***	****	0
0600	12.6	*****	**	***	****	***	****	3
0900	12.4	*****	**	***	****	***	****	14
1200	13.7	*****	**	***	****	***	****	31
1500	16.7	*****	**	***	****	***	****	31
1800	16.6	*****	**	***	****	***	****	32
2100	13.2	*****	**	***	****	***	****	1
2400	11.9	*****	**	***	****	***	****	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	9.8	*****	**	***	****	***	****	0
0600	9.6	*****	**	***	****	***	****	5
0900	13.5	*****	**	***	****	***	****	47
1200	16.0	*****	**	***	****	***	****	91
1500	19.1	*****	**	***	****	***	****	82
1800	16.6	*****	**	***	****	***	****	17
2100	14.0	*****	**	***	****	***	****	1
2400	12.3	*****	**	***	****	***	****	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	10.9	*****	**	***	****	***	****	0
0600	9.5	*****	**	***	****	***	****	3
0900	12.6	*****	**	***	****	***	****	44
1200	13.0	*****	**	***	****	***	****	89
1500	13.9	*****	**	***	****	***	****	88
1800	13.7	*****	**	***	****	***	****	18
2100	10.5	*****	**	***	****	***	****	1
2400	10.2	*****	**	***	****	***	****	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	6.5	*****	**	***	****	***	****	0
0600	5.6	*****	**	***	****	***	****	3
0900	13.4	*****	**	***	****	***	****	50
1200	17.1	*****	**	***	****	***	****	79
1500	18.7	*****	**	***	****	***	****	80
1800	16.1	*****	**	***	****	***	****	15
2100	13.5	*****	**	***	****	***	****	1
2400	11.1	*****	**	***	****	***	****	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	9.7	*****	**	***	****	***	****	0
0600	8.3	*****	**	***	****	***	****	3
0900	10.6	*****	**	***	****	***	****	33
1200	12.4	*****	**	***	****	***	****	72
1500	13.0	*****	**	***	****	***	****	64
1800	12.3	*****	**	***	****	***	****	13
2100	10.2	*****	**	***	****	***	****	1
2400	8.5	*****	**	***	****	***	****	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOUR SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING August, 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	8.4	*****	**	***	****	***	****	0
0600	7.8	*****	**	***	****	***	****	6
0900	10.3	*****	**	***	****	***	****	26
1200	13.1	*****	**	***	****	***	****	75
1500	13.8	*****	**	***	****	***	****	47
1800	12.4	*****	**	***	****	***	****	15
2100	10.9	*****	**	***	****	***	****	0
2400	9.4	*****	**	***	****	***	****	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	8.2	*****	**	***	****	***	****	0
0600	7.1	*****	**	***	****	***	****	3
0900	11.1	*****	**	***	****	***	****	52
1200	13.3	*****	**	***	****	***	****	82
1500	14.4	*****	**	***	****	***	****	70
1800	12.8	*****	**	***	****	***	****	24
2100	9.3	*****	**	***	****	***	****	1
2400	8.0	*****	**	***	****	***	****	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	5.8	*****	**	***	****	***	****	0
0600	5.5	*****	**	***	****	***	****	2
0900	9.4	*****	**	***	****	***	****	49
1200	12.1	*****	**	***	****	***	****	76
1500	14.7	*****	**	***	****	***	****	69
1800	14.7	*****	**	***	****	***	****	28
2100	10.2	*****	**	***	****	***	****	1
2400	6.7	*****	**	***	****	***	****	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	*****	**	***	****	***	****	0
0600	3.6	*****	**	***	****	***	****	3
0900	9.1	*****	**	***	****	***	****	48
1200	13.9	*****	**	***	****	***	****	76
1500	16.8	*****	**	***	****	***	****	68
1800	16.6	*****	**	***	****	***	****	28
2100	10.9	*****	**	***	****	***	****	1
2400	9.6	*****	**	***	****	***	****	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	3.2	*****	**	***	****	***	****	0
0600	2.9	*****	**	***	****	***	****	4
0900	8.5	*****	**	***	****	***	****	48
1200	16.0	*****	**	***	****	***	****	51
1500	17.8	*****	**	***	****	***	****	39
1800	15.9	*****	**	***	****	***	****	8
2100	13.9	*****	**	***	****	***	****	1
2400	11.9	*****	**	***	****	***	****	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	6.0	*****	**	***	****	***	****	0
0600	4.8	*****	**	***	****	***	****	3
0900	12.8	*****	**	***	****	***	****	47
1200	16.6	*****	**	***	****	***	****	80
1500	17.3	*****	**	***	****	***	****	67
1800	18.1	*****	**	***	****	***	****	29
2100	13.5	*****	**	***	****	***	****	1
2400	12.3	*****	**	***	****	***	****	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	11.2	*****	**	***	****	***	****	0
0600	7.9	*****	**	***	****	***	****	3
0900	14.3	*****	**	***	****	***	****	36
1200	17.3	*****	**	***	****	***	****	37
1500	7.9	*****	**	***	****	***	****	63
1800	16.1	*****	**	***	****	***	****	7
2100	13.9	*****	**	***	****	***	****	0
2400	13.6	*****	**	***	****	***	****	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	11.2	*****	**	***	****	***	****	0
0600	10.1	*****	**	***	****	***	****	4
0900	12.4	*****	**	***	****	***	****	23
1200	13.9	*****	**	***	****	***	****	48
1500	14.7	*****	**	***	****	***	****	39
1800	12.4	*****	**	***	****	***	****	10
2100	10.6	*****	**	***	****	***	****	0
2400	10.2	*****	**	***	****	***	****	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	*****	**	***	****	***	****	0
0600	8.9	*****	**	***	****	***	****	1
0900	10.2	*****	**	***	****	***	****	14
1200	12.1	*****	**	***	****	***	****	31
1500	11.5	*****	**	***	****	***	****	51
1800	9.5	*****	**	***	****	***	****	7
2100	10.9	*****	**	***	****	***	****	0
2400	11.0	*****	**	***	****	***	****	1

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING August, 1984

DAY 19

HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	GUST M/S	MAX. RAD MW
0300	10.1	*****	**	***	****	***	****	0
0600	10.7	*****	**	***	****	***	****	1
0900	12.0	*****	**	***	****	***	****	31
1200	14.3	*****	**	***	****	***	****	26
1500	14.4	*****	**	***	****	***	****	15
1800	13.0	*****	**	***	****	***	****	6
2100	13.1	*****	**	***	****	***	****	0
2400	12.2	*****	**	***	****	***	****	0

DAY 20

HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	GUST M/S	MAX. RAD MW
0300	6.6	*****	**	***	****	***	****	0
0600	6.0	*****	**	***	****	***	****	1
0900	8.5	*****	**	***	****	***	****	17
1200	11.6	*****	**	***	****	***	****	42
1500	12.8	*****	**	***	****	***	****	32
1800	11.0	*****	**	***	****	***	****	11
2100	9.1	*****	**	***	****	***	****	0
2400	8.2	*****	**	***	****	***	****	0

DAY 21

HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	GUST M/S	MAX. RAD MW
0300	7.4	*****	**	***	****	***	****	0
0600	5.8	*****	**	***	****	***	****	0
0900	7.0	*****	**	***	****	***	****	7
1200	10.2	*****	**	***	****	***	****	38
1500	11.1	*****	**	***	****	***	****	37
1800	10.4	*****	**	***	****	***	****	13
2100	9.1	*****	**	***	****	***	****	0
2400	8.5	*****	**	***	****	***	****	0

DAY 22

HOUR ENDING	TEMP. DEG C	DEW POINT DFG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	GUST M/S	MAX. RAD MW
0300	7.7	*****	**	***	****	***	****	0
0600	6.6	*****	**	***	****	***	****	1
0900	9.2	*****	**	***	****	***	****	27
1200	12.7	*****	**	***	****	***	****	60
1500	*****	*****	**	***	****	***	****	***
1800	*****	*****	**	***	****	***	****	***
2100	*****	*****	**	***	****	***	****	***
2400	*****	*****	**	***	****	***	****	***

DAY 23

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

DAY 24

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

DAY 25

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

DAY 26

HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	GUST M/S	MAX. RAD MW
0300	*****	*****	**	***	****	***	****	***
0600	*****	*****	**	***	****	***	****	***
0900	*****	*****	**	***	****	***	****	***
1200	*****	*****	**	***	****	***	****	***
1500	-4.8	*****	**	***	****	***	****	***
1800	2.1	*****	**	***	****	***	****	***
2100	1.1	*****	**	***	****	***	****	***
2400	.8	*****	**	***	****	***	****	***

DAY 27

HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	GUST M/S	MAX. RAD MW
0300	-.5	*****	**	***	****	***	****	***
0600	-1.1	*****	**	***	****	***	****	***
0900	2.3	*****	**	***	****	***	****	***
1200	5.3	*****	**	***	****	***	****	***
1500	5.9	*****	**	***	****	***	****	***
1800	4.6	*****	**	***	****	***	****	***
2100	1.8	*****	**	***	****	***	****	***
2400	-1.6	*****	**	***	****	***	****	***

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY HOUR SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING August, 1984

DAY 28

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	-4.7	*****	**	***	****	***	****	***
0600	-5.9	*****	**	***	****	***	****	***
0900	-1.9	*****	**	***	****	***	****	***
1200	4.4	*****	**	***	****	***	****	***
1500	6.6	*****	**	***	****	***	****	***
1800	7.0	*****	**	***	****	***	****	***
2100	1.5	*****	**	***	****	***	****	***
2400	-.9	*****	**	***	****	***	****	***

DAY 29

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	-3.2	*****	**	***	****	***	****	***
0600	-2.5	*****	**	***	****	***	****	***
0900	.2	*****	**	***	****	***	****	***
1200	4.6	*****	**	***	****	***	****	***
1500	6.8	*****	**	***	****	***	****	***
1800	6.0	*****	**	***	****	***	****	***
2100	1.2	*****	**	***	****	***	****	***
2400	-.2	*****	**	***	****	***	****	***

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
0300	-1.2	*****	**	***	****	***	****	***
0600	-.8	*****	**	***	****	***	****	***
0900	.3	*****	**	***	****	***	****	***
1200	3.0	*****	**	***	****	***	****	***
1500	4.8	*****	**	***	****	***	****	***
1800	4.3	*****	**	***	****	***	****	***
2100	2.8	*****	**	***	****	***	****	***
2400	2.1	*****	**	***	****	***	****	***

DAY 31

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	1.8	*****	**	***	****	***	****	***
0600	1.6	*****	**	***	****	***	****	***
0900	2.9	*****	**	***	****	***	****	***
1200	5.4	*****	**	***	****	***	****	***
1500	7.0	*****	**	***	****	***	****	***
1800	6.0	*****	**	***	****	***	****	***
2100	3.7	*****	**	***	****	***	****	***
2400	4.1	*****	**	***	****	***	****	***

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

CLIMATE SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING AUGUST, 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	13.5	7.5	10.4	***	****	****	***	****	WNW	**	*****	.2	2780	1
2	15.3	10.2	12.8	***	****	****	***	****	WNW	**	*****	0.0	2880	2
3	17.4	9.8	13.6	***	****	****	***	****	N	**	*****	0.0	3695	3
4	20.9	8.8	14.9	***	****	****	***	****	N	**	*****	.6	5835	4
5	17.5	10.5	14.0	***	****	****	***	****	NNE	**	*****	.4	3185	5
6	19.4	9.5	14.5	***	****	****	***	****	N	**	*****	0.0	6135	6
7	20.6	6.5	13.6	***	****	****	***	****	N	**	*****	0.0	6665	7
8	19.5	5.5	12.5	***	****	****	***	****	N	**	*****	0.0	6545	8
9	14.2	8.0	11.1	***	****	****	***	****	NNE	**	*****	1.4	4435	9
10	15.0	7.3	11.2	***	****	****	***	****	N	**	*****	0.0	5470	10
11	14.9	7.1	11.0	***	****	****	***	****	NNE	**	*****	0.0	6650	11
12	14.8	2.6	8.7	***	****	****	***	****	NE	**	*****	0.0	6630	12
13	17.0	2.5	9.8	***	****	****	***	****	N	**	*****	0.0	6740	13
14	18.7	1.2	10.0	***	****	****	***	****	NNE	**	*****	0.0	6940	14
15	18.2	4.3	11.3	***	****	****	***	****	N	**	*****	0.0	6130	15
16	18.6	7.4	13.0	***	****	****	***	****	W	**	*****	0.0	4935	16
17	15.3	10.1	12.7	***	****	****	***	****	W	**	*****	.2	3010	17
18	12.4	7.8	10.1	***	****	****	***	****	SSE	**	*****	2.8	2440	18
19	14.7	10.1	12.4	***	****	****	***	****	SSE	**	*****	.6	2140	19
20	13.3	5.7	9.5	***	****	****	***	****	W	**	*****	1.4	2985	20
21	11.9	5.8	8.9	***	****	****	***	****	S	**	*****	1.8	2825	21
22	13.7	6.6	10.2	***	****	****	***	****	SSW	**	*****	0.0	4866	22
23	*****	*****	*****	***	****	****	***	****	***	**	*****	--	******	23
24	*****	*****	*****	***	****	****	***	****	***	**	*****	--	******	24
25	*****	*****	*****	***	****	****	***	****	***	**	*****	--	******	25
26	4.4	.8	2.6	***	****	****	***	****	NNW	**	*****	28.2	******	26
27	7.6	-2.0	2.8	***	****	****	***	****	N	**	*****	0.5	******	27
28	8.2	-6.6	.8	***	****	****	***	****	SW	**	*****	0.0	******	28
29	7.7	-3.3	2.2	***	****	****	***	****	SSE	**	*****	0.0	******	29
30	5.1	-3.0	1.6	***	****	****	***	****	NNW	**	*****	0.0	*****	30
31	8.2	1.0	4.6	***	****	****	***	****	ONW	**	*****	0.0	******	31
MONTH	20.9	-6.6	9.7	***	****	****	***	****	N	**	*****	32.6	*****	

GUST SPD. AT MAX. GUST MINUS 2 INTERVALS = 999.0
GUST SPD. AT MAX. GUST MINUS 1 INTERVAL = 999.0
GUST SPD. AT MAX. GUST PLUS 1 INTERVAL = 999.0
GUST SPD. AT MAX. GUST PLUS 2 INTERVALS = 999.0

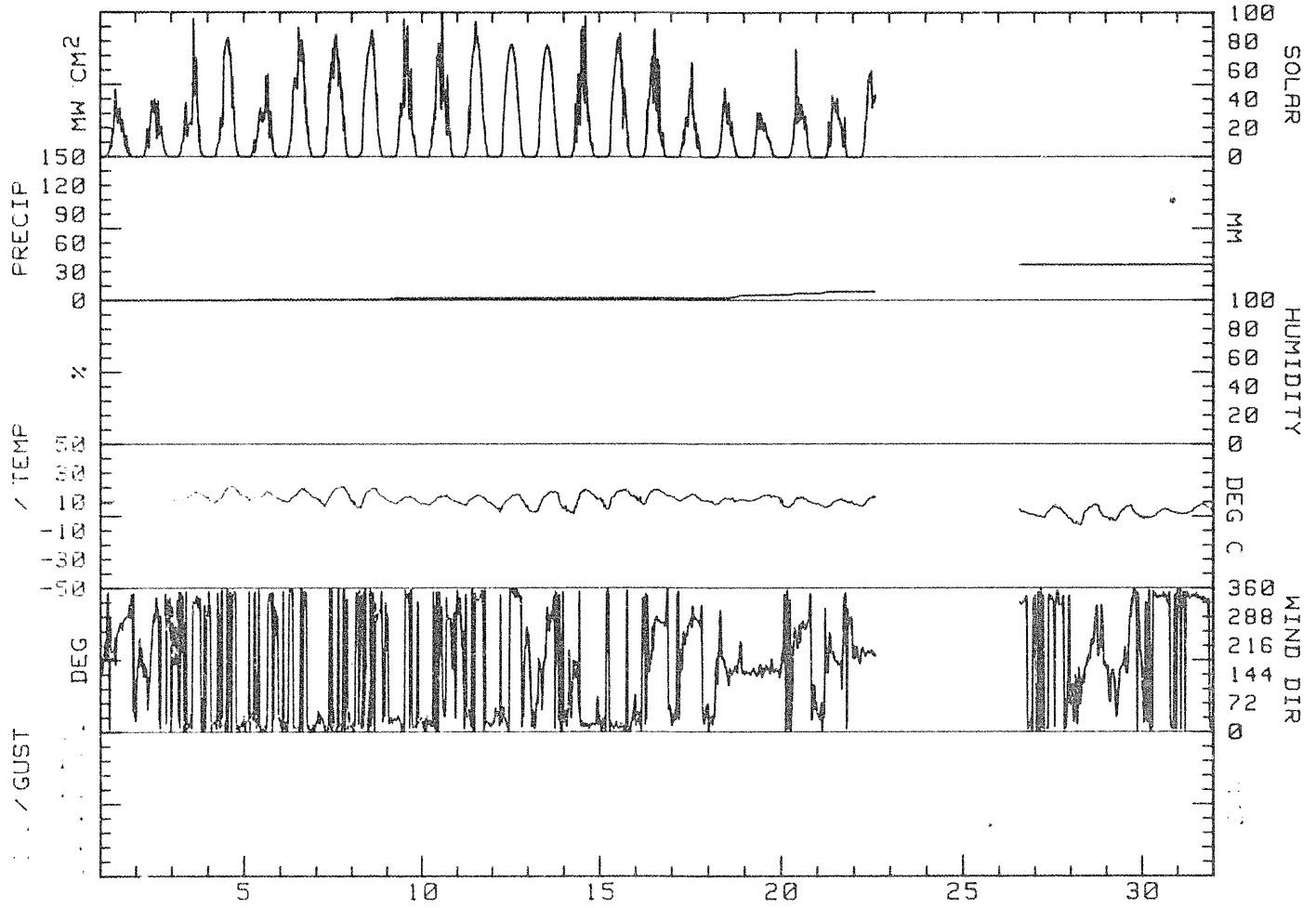
*** RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY, MONTHLY OR MEAN FOR RELATIVE HUMIDITY AND DEW POINT.
** SEE INTERPRETATION NOTES AT END OF MONTHLY RETURN **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DENALI WEATHER STATION

August, 1984



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING August, 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NNE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ENE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
E	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ESE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SSE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
W	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WNW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NNW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VARIABLE								0.00
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

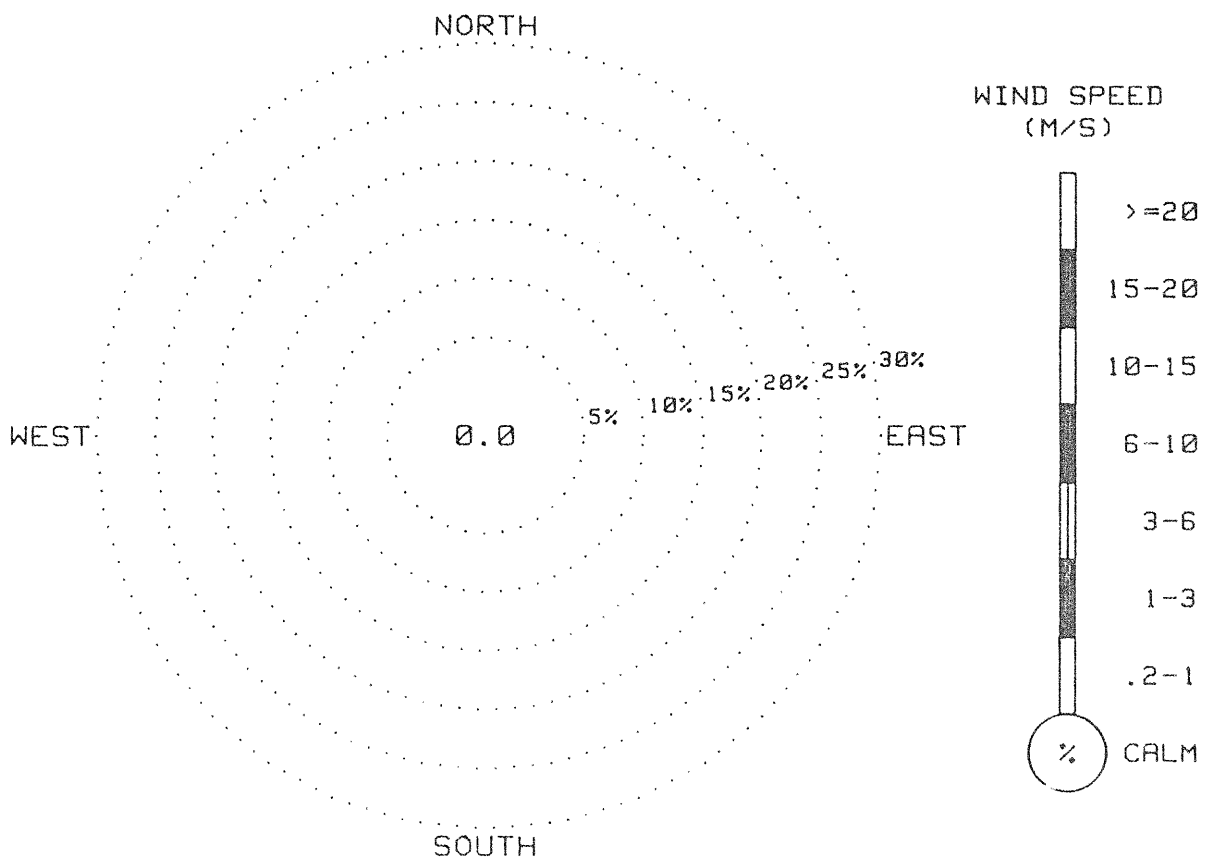
FREQUENCIES ARE EXPRESSED IN PERCENT
0 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
0 WIND OBSERVATIONS WOULD HAVE BEEN CORRECT FOR 10 MINUTE DATA.
SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DENALI WEATHER STATION

August, 1984



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SOLAR RADIATION SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING August, 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	3	7	7	18	32	43	27	30	30	21	23	13	11	3	1	2	0	0	0	11
2	0	0	0	0	0	2	6	20	8	22	36	32	39	20	36	24	17	17	9	3	3	0	0	0	12
3	0	0	0	0	1	3	9	11	29	28	16	24	25	36	69	50	55	19	15	3	1	0	0	0	16
4	0	0	0	0	1	4	9	11	24	35	70	78	79	83	72	49	46	25	10	1	1	0	0	0	24
5	0	0	0	0	1	3	9	5	13	23	33	28	28	29	44	47	16	24	14	5	2	0	0	0	13
6	0	0	0	0	0	4	11	20	47	54	50	69	72	74	74	55	36	26	16	6	1	0	0	0	26
7	0	0	0	0	1	3	12	22	48	62	67	68	81	75	59	58	44	31	26	10	2	1	0	0	28
8	0	0	0	0	1	3	5	32	47	59	71	77	84	82	71	55	39	17	10	4	1	0	0	0	24
9	0	0	0	0	0	1	5	12	31	29	35	65	81	86	28	48	40	15	13	4	1	0	0	0	20
10	0	0	0	0	1	6	15	18	29	56	65	77	38	87	43	26	36	39	19	5	1	0	0	0	25
11	0	0	0	0	0	3	6	33	34	62	71	79	87	82	74	62	45	26	16	5	2	1	0	0	27
12	0	0	0	0	1	3	12	30	46	58	68	75	78	77	71	61	47	32	19	6	2	1	0	0	28
13	0	0	0	0	0	3	7	30	45	58	68	75	78	76	70	61	47	31	19	8	2	0	0	0	28
14	0	0	0	0	0	4	9	25	29	56	22	70	73	39	69	37	30	12	10	3	1	0	0	0	20
15	0	0	0	0	0	2	3	28	44	55	65	76	82	79	61	29	45	29	12	5	1	0	0	0	25
16	0	0	0	0	0	2	6	25	38	46	62	54	82	42	58	40	17	9	13	2	0	0	0	0	21
17	0	0	0	0	0	3	8	14	17	27	22	42	46	48	27	22	9	13	7	1	0	0	0	0	15
18	0	0	0	0	0	1	2	4	11	24	36	40	27	33	32	20	14	8	4	1	0	0	0	0	11
19	0	0	0	0	0	1	3	11	24	28	25	28	19	22	18	14	11	9	4	1	1	0	0	0	9
20	0	0	0	0	0	1	3	7	13	29	53	33	28	32	31	23	26	17	6	1	0	0	0	0	12
21	0	0	0	0	0	0	2	15	9	19	39	37	31	35	27	23	16	10	18	3	0	0	0	0	13
22	0	0	0	0	0	1	*	12	26	44	55	56	32	39	***	***	***	***	***	***	***	***	***	***	1.
23	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
24	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
25	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
26	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
27	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
28	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
29	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
30	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
31	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***

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

R A M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DATA COLLECTION SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING August, 1984

PARAMETER	NUMBER OF USABLE OBSERVATIONS	PERCENT OF TOTAL OBSERVATIONS
TEMPERATURE	1296	87
WIND SPEED	0	0
WIND DIRECTION	1296	87
PEAK GUST	0	0
RELATIVE HUMIDITY	0	0
PRECIPITATION	1296	87
SOLAR RADIATION	1037	70
DEW POINT	0	0

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. No data for all parameters 8/22 to 8/26. Station down for annual maintenance.

2. RH sensor calibrated 8/24. Recorded data still invalid due to bad oscillator.

3. All wind speed and gust data lost due to problem with reed switch in anemometer.

4. Broken solar sensor removed from site 8/26. No data following this date.

5. Hourly precipitation data are not available from 8/24 at 1100 to 8/26 at 1400, but a collector bottle recorded the total for the period at 28.2 mm.

P A M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING September, 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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5
6	0.0	0.0	.2	0.0	0.0	0.0	.4	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.6	.2	6
7	0.0	.2	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	11
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14
15	0.0	1.0	1.0	.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	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	.4	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	1.6	.2	1.0	.6	0.0	0.0	17
18	0.0	0.0	0.0	0.0	.2	.2	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	.2	.2	0.0	.2	1.6	.4	.2	.2	.6	18
19	.8	1.0	2.6	1.2	1.4	1.0	.8	.8	1.2	1.2	1.0	.4	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	1.0	.6	0.0	0.0	19
20	.2	.8	1.2	.8	0.0	.2	1.4	1.4	.8	.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	20
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	.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	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	.2	.2	.2	28
29	.0	.8	.8	.4	.8	1.0	.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	0.0	0.0	0.0	0.0	29
30	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	**	

** PRECIPITATION NOTES AT END OF MONTH REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

DAY 10

HOUR	DEW		WIND	WIND	GUST	MAX.	
ENDING	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-.8	*****	**	***	****	***	****	***
0600	.7	*****	**	***	****	***	****	***
0900	.9	*****	**	***	****	***	****	***
1200	10.5	*****	**	***	****	***	****	***
1500	13.3	*****	**	***	****	***	****	***
1800	8.5	*****	**	***	****	***	****	***
2100	4.5	*****	**	***	****	***	****	***
2400	.9	*****	**	***	****	***	****	***

DAY 11

HOUR	DEW		WIND	WIND	GUST	MAX.	
ENDING	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	0.0	*****	**	***	****	***	****	***
0600	.9	*****	**	***	****	***	****	***
0900	2.8	*****	**	***	****	***	****	***
1200	10.3	*****	**	***	****	***	****	***
1500	11.9	*****	**	***	****	***	****	***
1800	10.2	*****	**	***	****	***	****	***
2100	5.2	*****	**	***	****	***	****	***
2400	2.8	*****	**	***	****	***	****	***

DAY 12

HOUR	DEW		WIND	WIND	GUST	MAX.	
ENDING	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	2.2	*****	**	***	****	***	****	***
0600	2.8	*****	**	***	****	***	****	***
0900	5.4	*****	**	***	****	***	****	***
1200	9.4	*****	**	***	****	***	****	***
1500	9.9	*****	**	***	****	***	****	***
1800	6.3	*****	**	***	****	***	****	***
2100	5.0	*****	**	***	****	***	****	***
2400	3.7	*****	**	***	****	***	****	***

DAY 13

HOUR	DEW		WIND	WIND	GUST	MAX.	
ENDING	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	3.9	*****	**	***	****	***	****	***
0600	3.9	*****	**	***	****	***	****	***
0900	5.4	*****	**	***	****	***	****	***
1200	7.7	*****	**	***	****	***	****	***
1500	8.9	*****	**	***	****	***	****	***
1800	7.7	*****	**	***	****	***	****	***
2100	3.5	*****	**	***	****	***	****	***
2400	3.9	*****	**	***	****	***	****	***

DAY 14

HOUR	DEW		WIND	WIND	GUST	MAX.	
ENDING	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	2.5	*****	**	***	****	***	****	***
0600	2.4	*****	**	***	****	***	****	***
0900	6.3	*****	**	***	****	***	****	***
1200	11.6	*****	**	***	****	***	****	***
1500	13.5	*****	**	***	****	***	****	***
1800	12.9	*****	**	***	****	***	****	***
2100	8.5	*****	**	***	****	***	****	***
2400	7.0	*****	**	***	****	***	****	***

DAY 15

HOUR	DEW		WIND	WIND	GUST	MAX.	
ENDING	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	6.7	*****	**	***	****	***	****	***
0600	5.3	*****	**	***	****	***	****	***
0900	7.4	*****	**	***	****	***	****	***
1200	10.3	*****	**	***	****	***	****	***
1500	10.1	*****	**	***	****	***	****	***
1800	9.0	*****	**	***	****	***	****	***
2100	4.6	*****	**	***	****	***	****	***
2400	1.5	*****	**	***	****	***	****	***

DAY 16

HOUR	DEW		WIND	WIND	GUST	MAX.	
ENDING	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	1.2	*****	**	***	****	***	****	***
0600	1	*****	**	***	****	***	****	***
0900	3.6	*****	**	***	****	***	****	***
1200	10.0	*****	**	***	****	***	****	***
1500	13.2	*****	**	***	****	***	****	***
1800	10.7	*****	**	***	****	***	****	***
2100	6.6	*****	**	***	****	***	****	***
2400	7.1	*****	**	***	****	***	****	***

DAY 17

HOUR	DEW		WIND	WIND	GUST	MAX.	
ENDING	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	5.2	*****	**	156	.2	146	1.3	***
0600	4.6	*****	**	162	.1	162	1.6	***
0900	3.9	*****	**	175	.1	163	1.6	***
1200	7.6	*****	**	180	.4	187	3.2	***
1500	9.4	*****	**	177	1.9	172	5.7	***
1800	6.0	*****	**	174	3.4	174	7.0	***
2100	4.3	*****	**	164	3.2	165	4.4	***
2400	4.2	*****	**	099	.8	082	3.2	***

DAY 18

HOUR	DEW		WIND	WIND	GUST	MAX.	
ENDING	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	3.2	*****	**	159	.9	111	1.9	***
0600	3.5	*****	**	***	****	***	****	***
0900	4.7	*****	**	***	****	***	****	***
1200	6.4	*****	**	***	****	***	****	***
1500	8.7	*****	**	***	****	***	****	***
1800	5.7	*****	**	***	****	***	****	***
2100	3.6	*****	**	***	****	***	****	***
2400	4.1	*****	**	***	****	***	****	***

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING September, 1984

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	2.5	*****	**	***	****	***	****	***
0600	1.0	*****	**	***	****	***	****	***
0900	1.3	*****	**	***	****	***	****	***
1200	2.6	*****	**	***	****	***	****	***
1500	1.7	*****	**	***	****	***	****	***
1800	-.1	*****	**	***	****	***	****	***
2100	1.1	*****	**	***	****	***	****	***
2400	1.2	*****	**	***	****	***	****	***

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	.6	*****	**	***	****	***	****	***
0600	1.5	*****	**	***	****	***	****	***
0900	2.0	*****	**	***	****	***	****	***
1200	4.3	*****	**	***	****	***	****	***
1500	5.6	*****	**	***	****	***	****	***
1800	5.1	*****	**	***	****	***	****	***
2100	2.2	*****	**	***	****	***	****	***
2400	-1.1	*****	**	***	****	***	****	***

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	-1.1	*****	**	***	****	***	****	***
0600	-4.3	*****	**	***	****	***	****	***
0900	-2.9	*****	**	***	****	***	****	***
1200	4.8	*****	**	***	****	***	****	***
1500	9.0	*****	**	***	****	***	****	***
1800	8.4	*****	**	***	****	***	****	***
2100	2.1	*****	**	***	****	***	****	***
2400	-1.1	*****	**	***	****	***	****	***

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	-1.9	*****	**	***	****	***	****	***
0600	-1.7	*****	**	***	****	***	****	***
0900	-2.6	*****	**	***	****	***	****	***
1200	7.1	*****	**	***	****	***	****	***
1500	10.5	*****	**	***	****	***	****	***
1800	6.9	*****	**	***	****	***	****	***
2100	3.7	*****	**	***	****	***	****	***
2400	1.7	*****	**	***	****	***	****	***

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	-.3	*****	**	***	****	***	****	***
0600	1.1	*****	**	***	****	***	****	***
0900	.9	*****	**	***	****	***	****	***
1200	7.9	*****	**	***	****	***	****	***
1500	10.5	*****	**	***	****	***	****	***
1800	8.4	*****	**	***	****	***	****	***
2100	4.3	*****	**	***	****	***	****	***
2400	4.4	*****	**	***	****	***	****	***

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	2.6	*****	**	***	****	***	****	***
0600	1.4	*****	**	***	****	***	****	***
0900	3.4	*****	**	***	****	***	****	***
1200	8.2	*****	**	***	****	***	****	***
1500	8.8	*****	**	***	****	***	****	***
1800	7.7	*****	**	***	****	***	****	***
2100	5.1	*****	**	***	****	***	****	***
2400	3.2	*****	**	***	****	***	****	***

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	3.3	*****	**	***	****	***	****	***
0600	1.6	*****	**	***	****	***	****	***
0900	3.7	*****	**	***	****	***	****	***
1200	7.3	*****	**	***	****	***	****	***
1500	8.7	*****	**	***	****	***	****	***
1800	7.6	*****	**	***	****	***	****	***
2100	5.6	*****	**	***	****	***	****	***
2400	3.2	*****	**	***	****	***	****	***

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	4.3	*****	**	***	****	***	****	***
0600	1.6	*****	**	***	****	***	****	***
0900	3.5	*****	**	***	****	***	****	***
1200	7.1	*****	**	***	****	***	****	***
1500	8.1	*****	**	***	****	***	****	***
1800	6.9	*****	**	***	****	***	****	***
2100	4.5	*****	**	***	****	***	****	***
2400	3.1	*****	**	***	****	***	****	***

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	.1	*****	**	***	****	***	****	***
0600	-2.3	*****	**	***	****	***	****	***
0900	-.7	*****	**	***	****	***	****	***
1200	4.6	*****	**	***	****	***	****	***
1500	9.7	*****	**	***	****	***	****	***
1800	7.6	*****	**	***	****	***	****	***
2100	2.3	*****	**	***	****	***	****	***
2400	.2	*****	**	***	****	***	****	***

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR DENALI WEATHER STATION
Data taken during September, 1984

DAY 28									DAY 29									DAY 30								
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	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	*****	**	***	****	***	****	***	0300	2.5	*****	**	***	****	***	****	***	0300	5.0	*****	**	***	****	***	****	***
0600	-3.0	*****	**	***	****	***	****	***	0600	2.8	*****	**	***	****	***	****	***	0600	3.4	*****	**	***	****	***	****	***
0900	-1.7	*****	**	***	****	***	****	***	0900	8.8	*****	**	***	****	***	****	***	0900	5.6	*****	**	***	****	***	****	***
1200	6.0	*****	**	***	****	***	****	***	1200	11.1	*****	**	***	****	***	****	***	1200	8.7	*****	**	***	****	***	****	***
1500	8.9	*****	**	***	****	***	****	***	1500	10.6	*****	**	***	****	***	****	***	1500	9.3	*****	**	***	****	***	****	***
1800	8.5	*****	**	***	****	***	****	***	1800	9.4	*****	**	***	****	***	****	***	1800	9.1	*****	**	***	****	***	****	***
2100	5.2	*****	**	***	****	***	****	***	2100	6.8	*****	**	***	****	***	****	***	2100	4.6	*****	**	***	****	***	****	***
2400	2.4	*****	**	***	****	***	****	***	2400	6.0	*****	**	***	****	***	****	***	2400	3.0	*****	**	***	****	***	****	***

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY WEATHER SUMMARY FOR DENALI WEATHER STATION
Data taken during September, 1984

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	1.0	*****	**	***	****	***	****	***
0600	-3.1	*****	**	***	****	***	****	***
0900	1.6	*****	**	***	****	***	****	***
1200	9.7	*****	**	***	****	***	****	***
1500	11.7	*****	**	***	****	***	****	***
1800	11.5	*****	**	***	****	***	****	***
2100	6.2	*****	**	***	****	***	****	***
2400	3.2	*****	**	***	****	***	****	***

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	-.1	*****	**	***	****	***	****	***
0600	.4	*****	**	***	****	***	****	***
0900	3.2	*****	**	***	****	***	****	***
1200	9.4	*****	**	***	****	***	****	***
1500	11.9	*****	**	***	****	***	****	***
1800	9.3	*****	**	***	****	***	****	***
2100	2.8	*****	**	***	****	***	****	***
2400	4.5	*****	**	***	****	***	****	***

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	0.0	*****	**	***	****	***	****	***
0600	-2.3	*****	**	***	****	***	****	***
0900	3.8	*****	**	***	****	***	****	***
1200	9.0	*****	**	***	****	***	****	***
1500	10.8	*****	**	***	****	***	****	***
1800	10.1	*****	**	***	****	***	****	***
2100	5.7	*****	**	***	****	***	****	***
2400	5.5	*****	**	***	****	***	****	***

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	3.2	*****	**	***	****	***	****	***
0600	1.9	*****	**	***	****	***	****	***
0900	5.0	*****	**	***	****	***	****	***
1200	10.6	*****	**	***	****	***	****	***
1500	11.5	*****	**	***	****	***	****	***
1800	10.3	*****	**	***	****	***	****	***
2100	9.3	*****	**	***	****	***	****	***
2400	6.7	*****	**	***	****	***	****	***

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	2.3	*****	**	***	****	***	****	***
0600	1.4	*****	**	***	****	***	****	***
0900	5.2	*****	**	***	****	***	****	***
1200	11.1	*****	**	***	****	***	****	***
1500	12.4	*****	**	***	****	***	****	***
1800	10.2	*****	**	***	****	***	****	***
2100	8.0	*****	**	***	****	***	****	***
2400	6.0	*****	**	***	****	***	****	***

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	5.1	*****	**	***	****	***	****	***
0600	4.5	*****	**	***	****	***	****	***
0900	6.0	*****	**	***	****	***	****	***
1200	7.5	*****	**	***	****	***	****	***
1500	8.6	*****	**	***	****	***	****	***
1800	8.5	*****	**	***	****	***	****	***
2100	5.9	*****	**	***	****	***	****	***
2400	4.1	*****	**	***	****	***	****	***

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	1.3	*****	**	***	****	***	****	***
0600	1.3	*****	**	***	****	***	****	***
0900	4.4	*****	**	***	****	***	****	***
1200	9.2	*****	**	***	****	***	****	***
1500	11.5	*****	**	***	****	***	****	***
1800	9.5	*****	**	***	****	***	****	***
2100	6.7	*****	**	***	****	***	****	***
2400	3.6	*****	**	***	****	***	****	***

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	3.0	*****	**	***	****	***	****	***
0600	1.5	*****	**	***	****	***	****	***
0900	1.9	*****	**	***	****	***	****	***
1200	10.6	*****	**	***	****	***	****	***
1500	12.9	*****	**	***	****	***	****	***
1800	11.3	*****	**	***	****	***	****	***
2100	7.6	*****	**	***	****	***	****	***
2400	3.3	*****	**	***	****	***	****	***

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	.9	*****	**	***	****	***	****	***
0600	-1.2	*****	**	***	****	***	****	***
0900	3.5	*****	**	***	****	***	****	***
1200	11.9	*****	**	***	****	***	****	***
1500	14.2	*****	**	***	****	***	****	***
1800	14.4	*****	**	***	****	***	****	***
2100	4.5	*****	**	***	****	***	****	***
2400	1.3	*****	**	***	****	***	****	***

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

MET. & ... SUMMARY FOR DENALI 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 GM/SQM	DAY
1	13.6	-3.1	4.5	***	****	****	***	****	NNW	**	*****	0.0	******	1
2	11.9	-.1	5.9	***	****	****	***	****	NNW	**	*****	0.0	******	2
3	10.8	-2.3	4.3	***	****	****	***	****	NNW	**	*****	0.0	******	3
4	11.9	1.7	6.8	***	****	****	***	****	NNW	**	*****	0.0	******	4
5	12.8	1.3	7.1	***	****	****	***	****	SSE	**	*****	0.0	******	5
6	10.8	3.3	7.1	***	****	****	***	****	S	**	*****	1.4	******	6
7	11.5	3.5	7.5	***	****	****	***	****	S	**	*****	.4	******	7
8	13.7	.5	7.1	***	****	****	***	****	SSE	**	*****	0.0	******	8
9	14.7	-1.2	6.8	***	****	****	***	****	NNW	**	*****	0.0	******	9
10	13.0	-1.6	5.7	***	****	****	***	****	NNW	**	*****	0.0	******	10
11	13.1	-.5	6.3	***	****	****	***	****	N	**	*****	.2	******	11
12	10.8	-1.6	4.6	***	****	****	***	****	S	**	*****	1.0	******	12
13	8.4	2.3	5.4	***	****	****	***	****	N	**	*****	0.0	******	13
14	13.5	-.4	6.6	***	****	****	***	****	SSE	**	*****	0.0	******	14
15	14.6	1.5	6.1	***	****	****	***	****	SSE	**	*****	2.4	******	15
16	12.2	-.5	5.9	***	****	****	***	****	NNW	**	*****	0.0	******	16
17	19.5	3.5	7.0	167	1.1	1.2	174	7.0	S	**	*****	7.2	******	17
18	8.6	1.6	5.2	158	.8	.9	112	1.9	S	**	*****	4.6	******	18
19	5.7	.4	3.1	***	****	****	***	****	N	**	*****	14.2	******	19
20	6.0	-1.1	2.5	***	****	****	***	****	NNW	**	*****	7.2	******	20
21	9.5	-5.0	2.3	***	****	****	***	****	NNW	**	*****	0.0	******	21
22	11.1	-3.1	4.0	***	****	****	***	****	S	**	*****	0.0	******	22
23	11.3	-1.4	4.9	***	****	****	***	****	S	**	*****	0.0	******	23
24	9.7	.9	5.3	***	****	****	***	****	S	**	*****	0.0	******	24
25	8.7	.9	4.8	***	****	****	***	****	SSE	**	*****	.2	******	25
26	8.7	1.5	5.1	***	****	****	***	****	S	**	*****	0.0	******	26
27	10.4	-2.7	3.9	***	****	****	***	****	S	**	*****	0.0	******	27
28	9.3	-2.9	3.2	***	****	****	***	****	S	**	*****	.4	******	28
29	11.5	2.1	6.8	***	****	****	***	****	SE	**	*****	5.2	******	29
30	9.7	3.3	6.4	***	****	****	***	****	SE	**	*****	****	******	30
MONTH	14.7	-5.9	5.4	166	1.0	1.2	174	7.0	NNW	**	*****	44.4	******	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 5.2
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 6.3
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 7.1
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS ***

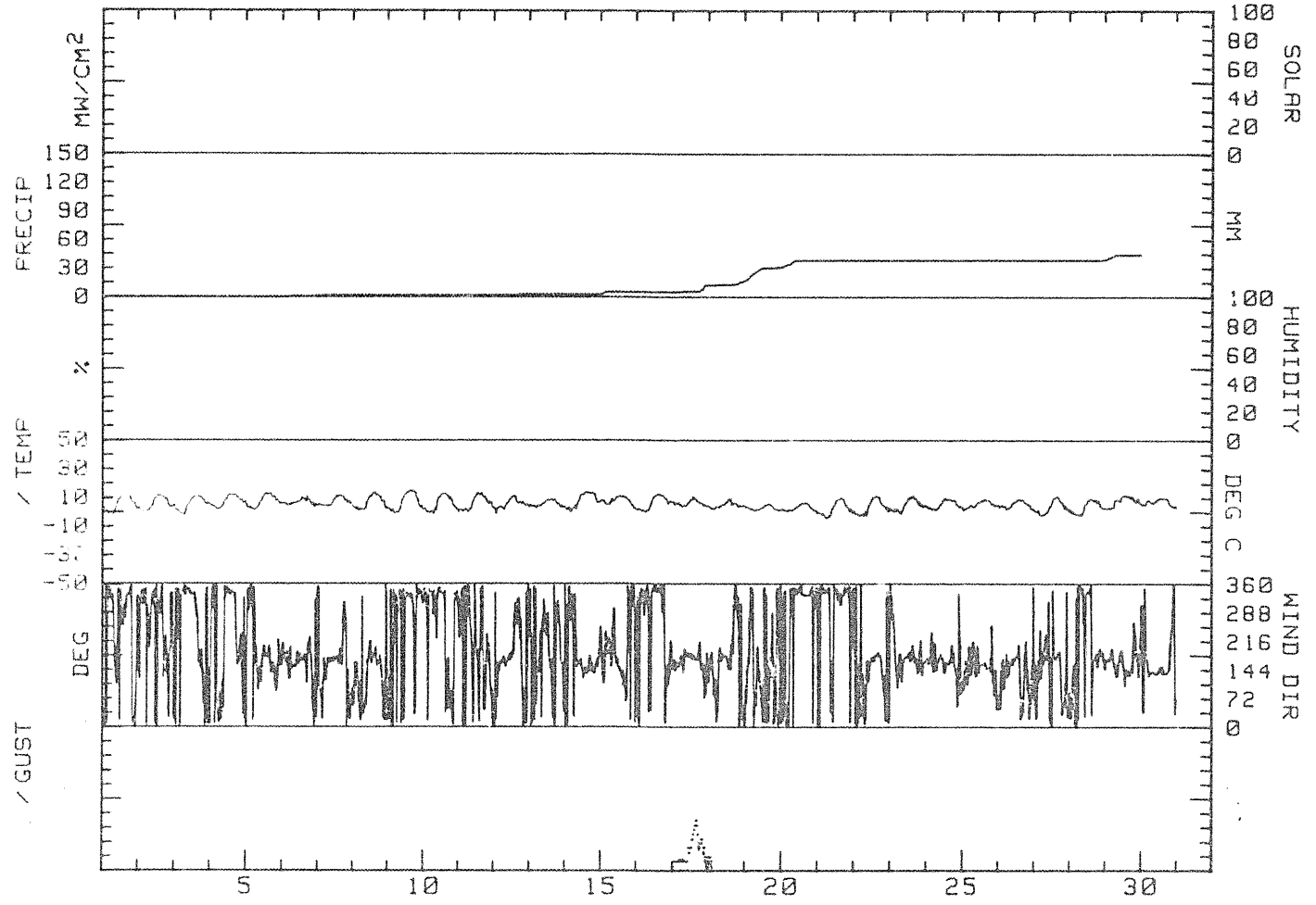
*** RELATIVE HUMIDITY READINGS ARE UNREPLIABLE WHEN WIND SPEED ARE LESS THAN ONE METER PER SECOND, SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DENALI WEATHER STATION

September, 1984



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR DENALI WEATHER STATION
Data taken During September, 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NNE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ENE	0.00	1.89	0.00	0.00	0.00	0.00	0.00	1.89
E	1.89	1.89	0.00	0.00	0.00	0.00	0.00	3.77
ESE	0.00	3.77	0.00	0.00	0.00	0.00	0.00	3.77
SE	3.77	3.77	0.00	0.00	0.00	0.00	0.00	7.55
SSE	13.32	9.43	1.89	0.00	0.00	0.00	0.00	24.64
S	22.61	11.32	7.55	0.00	0.00	0.00	0.00	41.51
SSW	1.89	1.89	0.00	0.00	0.00	0.00	0.00	3.77
SW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
W	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WNW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NNW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VARIABLE								0.00
TOTAL	43.51	37.74	9.43	0.00	0.00	0.00	0.00	100.00

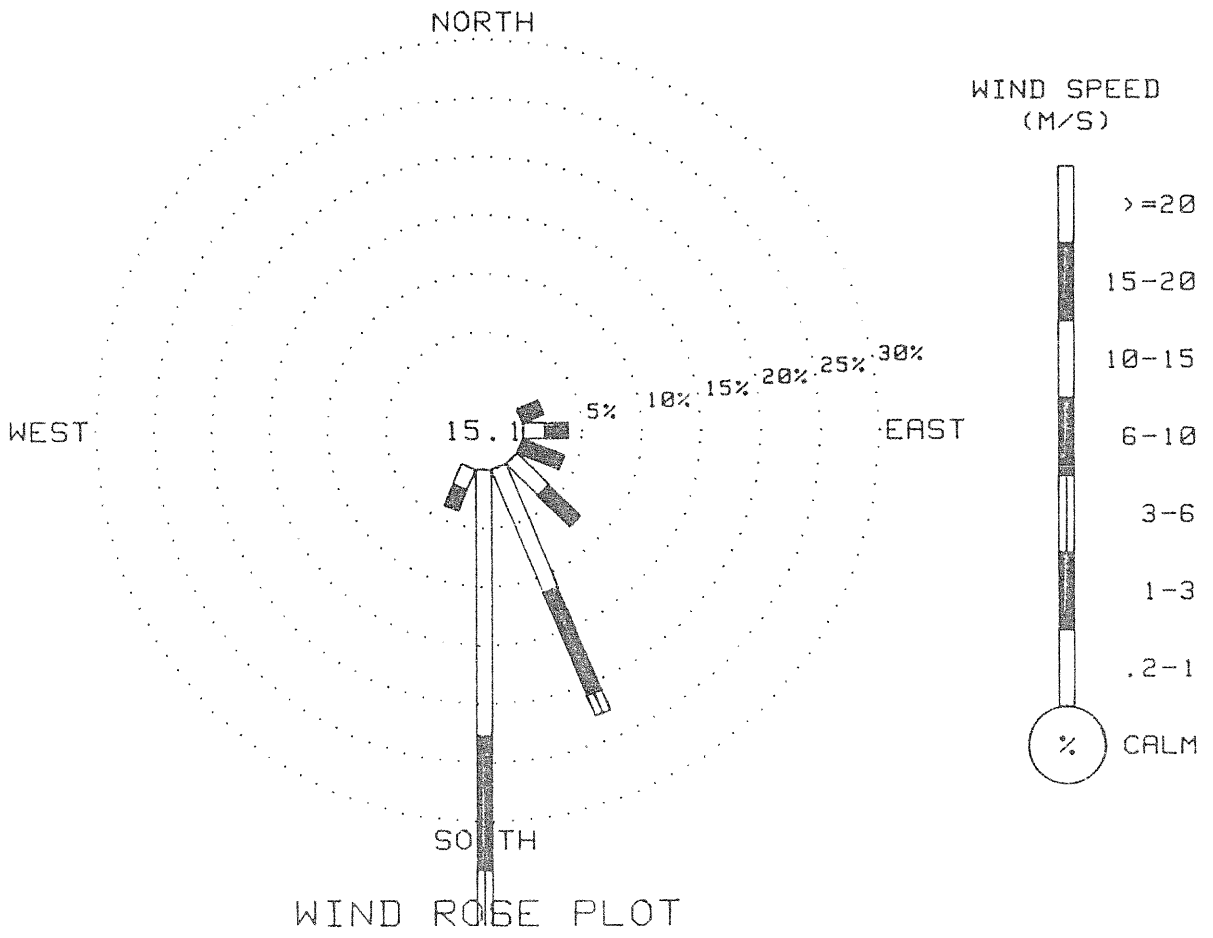
ALL VALUES ARE EXPRESSED IN PERCENT
% OF VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
WIND DIRECTIONS WOULD HAVE BEEN CORRECT FOR TRUE NORTH
VARIABLE INTERPRETATION GIVEN AT END OF MONTHLY REPORT

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DENALI WEATHER STATION

September, 1984



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

SOLAR RADIATION SUMMARY FOR DENALI WEATHER STATION
(With Tower) 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	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
23	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
24	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
25	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
26	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
27	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
28	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
29	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
30	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***

* SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DATA COLLECTION SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING September, 1984

PARAMETER	NUMBER OF USABLE OBSERVATIONS	PERCENT OF TOTAL OBSERVATIONS
TEMPERATURE	1440	100
WIND SPEED	53	4
WIND DIRECTION	1440	100
PEAK GUST	53	4
RELATIVE HUMIDITY	0	0
PRECIPITATION	1392	97
SOLAR RADIATION	0	0
DEW POINT	0	0

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:

None

Additional comments on this month's data:

1. Wind speed and gust data lost due to problem with reed switch in anemometer. Some data on day 17, but probably not accurate.

2. Recorded RH data invalid due to bad oscillator.

3. All solar radiation data lost. Sensor not installed.

4. Precipitation gage was blown over sometime after 9/29 at 0800 hr. Data deleted from record on 9/30.

5. Timing and quantity of precipitation data suspect on several days where freezing temperatures occur. However, thawing temperatures occur on these days also, so daily totals should be accurate.

P A M CONSULTANTS, INC.

SLATTERY MACKENZIE PROJECT

PRECIPITATION SUMMARY FOR PEARL WEATHER STATION
[illegible] during October 1980

PRECIPITATION VALUES ARE IN MILLIMETERS

HOUR ENDING

DAY	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	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	4
5	****	****	****	****	****	****	****	****	****	****	****	****	****	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	3.0	2.2	.4	.6	.6	1.4	.4	0.0	0.0	0.0	0.0	0.0	.2	8
9	0.0	.2	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	1.4	1.4	.4	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	.2	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	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	****	****	****	****	****	20
21	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	21
22	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	22
23	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	23
24	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	24
25	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	25
26	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	26
27	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	27
28	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	28
29	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	29
30	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	30
31	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	31

[illegible] precipitation entries at end of month [illegible]

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

...Y ...ROM SUMMARY FOR DENALI WEATHER STATION
...TAKEN DURING October, 1984

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	3.1	***** **	***	****	***	****	***	
0600	3.9	***** **	***	****	***	****	***	
0900	4.7	***** **	***	****	***	****	***	
1200	7.7	***** **	***	****	***	****	***	
1500	8.4	***** **	***	****	***	****	***	
1800	6.1	***** **	***	****	***	****	***	
2100	5.6	***** **	***	****	***	****	***	
2400	5.9	***** **	***	****	***	****	***	

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	5.1	***** **	***	****	***	****	***	
0600	2.7	***** **	***	****	***	****	***	
0900	3.9	***** **	***	****	***	****	***	
1200	5.7	***** **	***	****	***	****	***	
1500	7.7	***** **	***	****	***	****	***	
1800	5.1	***** **	***	****	***	****	***	
2100	3.5	***** **	***	****	***	****	***	
2400	1.2	***** **	***	****	***	****	***	

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	0.0	***** **	***	****	***	****	***	
0600	-2.6	***** **	***	****	***	****	***	
0900	-.9	***** **	***	****	***	****	***	
1200	5.1	***** **	***	****	***	****	***	
1500	6.8	***** **	***	****	***	****	***	
1800	4.4	***** **	***	****	***	****	***	
2100	1.4	***** **	***	****	***	****	***	
2400	-3.5	***** **	***	****	***	****	***	

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	-4.6	***** **	***	****	***	****	***	
0600	-5.6	***** **	***	****	***	****	***	
0900	-6.2	***** **	***	****	***	****	***	
1200	3.8	***** **	***	****	***	****	***	
1500	6.7	***** **	***	****	***	****	***	
1800	5.5	***** **	***	****	***	****	***	
2100	1.1	***** **	***	****	***	****	***	
2400	-2.5	***** **	***	****	***	****	***	

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	-2.5	***** **	***	****	***	****	***	
0600	-.3	***** **	***	****	***	****	***	
0900	-1.4	***** **	***	****	***	****	***	
1200	*****	***** **	***	****	***	****	***	
1500	5.3	-4.6	49	194	2.9	189	7.0	***
1800	3.0	-5.2	55	195	.5	350	2.5	***
2100	2.6	-5.3	56	163	1.4	176	6.3	***
2400	1.2	-5.9	59	181	4.4	177	9.5	***

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	-.2	-7.2	59	176	1.6	201	5.1	***
0600	1.0	-6.6	57	162	2.8	187	7.0	***
0900	.2	-5.9	68	173	7.3	179	11.4	***
1200	5.9	-1.2	61	192	4.2	168	8.3	***
1500	7.4	-1.6	53	175	3.3	171	12.7	***
1800	5.7	-1.9	58	192	2.6	157	5.9	***
2100	3.4	*****	65	147	.1	303	3.2	***
2400	.1	-4.3	72	357	1.6	339	4.4	***

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	- 3	-4.8	74	341	4.4	340	7.0	***
0600	-	-4.4	70	339	3.2	336	7.1	***
0900	.7	-3.4	72	079	.3	324	3.2	***
1200	3.4	-1.7	77	045	.4	029	1.9	***
1500	7.5	-.3	71	052	1.9	353	3.5	***
1800	5.4	-.2	77	350	3.5	339	7.0	***
2100	.9	-1.6	85	355	3.4	004	6.3	***
2400	.4	*****	82	348	3.7	347	6.3	***

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	.1	-3.4	77	002	3.0	305	6.3	***
0600	-.9	-3.1	85	006	1.5	336	3.2	***
0900	.3	*****	89	355	.6	344	3.2	***
1200	2.6	.6	87	236	1.1	193	5.1	***
1500	7.1	.4	67	149	4.2	139	14.6	***
1800	6.8	.9	66	131	4.2	156	12.1	***
2100	5.5	- 9	63	135	6.6	133	11.4	***
2400	3.6	*****	77	163	4.3	158	10.2	***

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	.4	*****	*	100	5	311	7.3	***
0600	1.0	*****	87	133	.2	176	3.9	***
0900	.7	*****	98	077	.5	354	1.9	***
1200	1.4	*****	97	310	.5	037	1.9	***
1500	1.8	-1.1	91	293	1.3	344	3.9	***
1800	- .4	-1..	95	347	3.3	332	5..	***
2100	-1.5	-2.6	93	354	3.4	354	5.7	***
2400	-3.2	-4.8	89	003	3.6	354	5	***

*** M.A.P. INTERROGATION NOTES AT END OF MONTHLY REPORT ***

R. M. CONSULTANTS, INC.

SUBSETTING HYDROCOLLECTOR PROJECT

HOURLY SUMMARY FOR PENAL WEATHER STATION
WATER YEAR DURING October 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
0100	-6.1	-7.9	87	***	****	***	3.8	***
0200	-6.5	*****	86	***	****	***	4.4	***
0900	-7.2	-9.0	87	***	****	***	.6	***
1200	-.5	-3.3	86	004	.6	343	2.5	***
1500	3.1	-1.3	79	343	2.0	342	3.2	***
1800	-.2	-3.0	78	351	1.6	353	2.5	***
2100	-3.0	-6.6	76	339	1.7	324	3.2	***
2400	-5.4	-5.9	93	034	.7	002	3.2	***

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	-4.2	-6.5	84	074	.5	027	1.9	***
0600	-5.8	*****	87	154	.1	339	1.9	***
0900	-6.4	*****	86	065	.2	179	2.5	***
1200	.2	*****	79	153	.5	165	1.9	***
1500	1.7	-2.8	72	235	.4	217	3.8	***
1800	.7	-3.0	76	358	.6	009	3.8	***
2100	.6	-1.6	85	187	1.5	190	6.3	***
2400	-.7	-3.7	80	180	5.8	172	10.2	***

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	-.8	-2.6	88	173	3.7	162	7.0	***
0600	-.2	*****	86	131	.9	154	3.8	***
0900	-1.0	-4.2	79	130	.7	103	4.4	***
1200	.1	-3.4	77	307	3.3	337	6.3	***
1500	1.0	-2.9	75	333	2.0	004	5.1	***
1800	.7	-3.4	74	005	2.5	010	6.3	***
2100	.2	-4.6	73	353	3.6	018	7.0	***
2400	-.6	-5.4	79	005	4.1	351	7.6	***

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	-1.1	-5.8	70	025	3.2	030	5.1	***
0600	-2.2	-6.7	71	028	3.3	029	5.1	***
0900	-1.7	-6.2	71	027	2.9	019	5.1	***
1200	.3	-3.7	68	024	3.1	022	5.7	***
1500	1.8	-6.0	56	356	3.8	341	6.3	***
1800	-1.0	-7.1	66	354	2.7	324	5.7	***
2100	-5.3	-8.3	68	018	2.1	020	3.8	***
2400	-5.8	-9.4	65	353	2.8	350	7.0	***

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	-4.5	-10.1	65	346	4.5	349	8.3	***
0600	-5.9	-11.2	66	355	4.5	346	8.3	***
0900	-5.6	-11.1	65	007	3.8	354	7.0	***
1200	-4.7	-10.4	64	352	4.8	347	7.0	***
1500	-3.0	-9.4	61	344	4.6	339	6.3	***
1800	-5.0	-10.0	68	352	3.3	339	6.3	***
2100	-5.3	-9.7	71	003	1.7	027	3.2	***
2400	-5.0	-9.4	71	357	2.0	355	3.8	***

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	-6.4	-10.8	71	349	2.9	339	5.8	***
0600	-8.4	-11.4	79	344	2.1	343	5.8	**
0900	-8.8	-11.5	81	354	1.4	357	3.2	***
1200	-3.8	*****	68	332	.3	320	3.2	***
1500	-1.6	-7.1	66	352	1.8	343	5.8	***
1800	-1.9	-7.4	66	005	1.7	013	3.8	***
2100	-3.5	-8.5	68	007	2.7	354	5.1	***
2400	-2.8	-8.1	75	120	1.9	013	3.8	***

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	-7.5	74	014	2.6	035	4.4	***
0600	-7.8	-7.8	98	168	3.0	357	5.7	***
0900	-7.5	-13.8	77	144	.9	326	5.7	***
1200	-1.6	-9.6	59	154	.9	157	3.8	***
1500	.3	-5.9	59	182	3.0	197	5.7	***
1800	-3.2	-11.7	44	201	2.1	193	5.1	***
2100	-7.1	-11.3	72	344	1.6	339	5.7	***
2400	-8.7	*****	73	181	.4	342	7.6	***

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	-11.8	*****	78	346	.5	005	2.5	***
0600	-14.5	-7.6	77	354	.5	317	3.5	***
0900	-13.4	*****	83	202	.2	175	3.2	***
1200	-6.4	-11.7	66	137	.3	168	1.9	***
1500	-3.5	-9.4	57	343	2.2	354	4.4	***
1800	-5.3	-12.5	57	354	2.5	343	5.7	***
2100	-6.9	-14.1	66	346	2.5	009	4.4	***
2400	-7.3	-13.3	62	338	.2	316	3.8	***

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	-12.4	-14.1	94	186	.2	191	3.8	***
0600	-12.0	-15.0	84	180	.5	347	3.8	***
0900	-12.8	*****	94	114	.5	0.3	3.8	***
1200	-8.0	-11.3	87	010	.9	345	3.8	***
1500	-4.1	-11.0	69	351	2.1	345	5.7	***
1800	-4.4	-11.2	69	183	1.0	175	3.8	***
2100	-3.3	-11.3	57	167	.6	183	3.2	***
2400	-3.6	-10.9	61	164	1.1	187	3.2	***

** END OF INTERROGATION NOTES AT END OF MONTHLY REPORT **

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SUMMARY FOR DENALI WEATHER STATION
[illegible] DURING OCTOBER, 1984

DAY 19

HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	GUST MAX. M/S	RAD MW
0300	-4.1	-11.5	56	094	.9	143	8.9	***
0600	-5.6	-10.5	69	143	1.2	150	8.3	***
0900	-5.6	*****	71	343	.3	039	3.8	***
1200	-3.6	*****	61	191	.8	227	3.5	***
1500	-2.0	-9.6	56	360	1.8	013	5.1	***
1800	-4.9	-11.9	58	347	4.1	359	6.3	***
2100	-7.5	-13.6	62	007	3.1	350	5.7	***
2400	-7.1	-15.0	67	016	1.8	019	3.8	***

DAY 20

HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	GUST MAX. M/S	RAD MW
0300	-10.3	-15.2	67	008	2.4	021	4.4	***
0600	-10.3	-14.7	70	005	2.2	010	5.1	***
0900	-10.3	-13.1	80	348	1.4	351	3.2	***
1200	-7.3	*****	76	352	1.5	005	3.2	***
1500	-6.9	-9.9	79	002	1.1	346	3.2	***
1800	-6.7	-9.1	83	347	1.9	337	4.4	***
2100	*****	*****	**	***	****	186	3.8	***
2400	*****	*****	**	***	****	***	****	***

DAY 21

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

DAY 22

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

DAY 23

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

DAY 24

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

DAY 25

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

DAY 26

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

DAY 27

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

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

R A M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

[illegible] Hour Summary FOR DEVIL WEATHER STATION
[illegible] During October, 1984

DAY 28

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

DAY 29

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

DAY 30

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

DAY 31

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

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DAILY SUMMARY FOR DENALI 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 LY	DAY
1	9.9	2.6	6.3	***	****	****	***	****	SE	**	*****	****	******	1
2	7.7	1.2	4.5	***	****	****	***	****	S	**	*****	****	******	2
3	7.0	-3.5	1.8	***	****	****	***	****	S	**	*****	****	******	3
4	6.7	-6.7	0.0	***	****	****	***	****	S	**	*****	****	******	4
5	6.1	-3.8	1.2	182	2.2	2.5	177	9.5	S	56	-5.3	0.0	******	5
6	8.4	-1.5	3.5	178	2.5	3.3	131	12.7	S	60	-4.0	0.0	******	6
7	5.5	-2.2	1.7	347	2.0	2.4	340	7.8	NNW	75	-2.4	0.0	******	7
8	7.5	-1.0	3.3	134	2.0	3.6	139	14.6	SE	76	-.7	8.8	******	8
9	2.9	-4.9	-.6	353	1.0	1.7	356	5.7	N	88	-1.9	4.0	******	9
10	3.1	-7.9	-2.4	350	1.3	1.7	***	4.4	NNW	81	-5.9	.2	******	10
11	3.3	-8.4	-3.1	177	.9	1.7	172	10.2	S	81	-4.4	0.0	******	11
12	1.7	-1.1	.3	002	.9	2.7	351	7.6	N	76	-3.7	.2	******	12
13	2.1	-5.1	-1.5	013	2.9	3.0	350	7.0	NNE	67	-6.8	0.0	******	13
14	-3.7	-6.7	-4.7	353	3.6	.2	349	8.3	N	66	-10.2	0.0	******	14
15	-1.6	-10.1	-5.9	359	1.7	2.0	356	7.0	N	73	-9.0	0.0	******	15
16	.3	-9.9	-4.8	066	.2	2.1	357	5.7	S	67	-9.3	3.0	******	16
17	-1.2	-15.5	-8.4	348	1.0	1.7	343	5.7	NNW	66	-13.2	0.0	******	17
18	1.9	-14.9	-6.5	026	.4	1.7	143	6.3	NNW	61	-13.0	0.0	******	18
19	-1.9	-11.1	-6.5	010	1.0	2.2	143	8.9	NNE	61	-11.5	0.0	******	19
20	-4.3	-11.3	-7.8	358	1.6	1.7	010	5.1	N	76	-12.2	0.0	******	20
21	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	21
22	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	22
23	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	23
24	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	24
25	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	25
26	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	26
27	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	27
28	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	28
29	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	29
30	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	30
31	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	31
MONTH	9.9	-15.5	-1.5	037	.7	2.4	139	14.6	N	71	-7.1	13.2	******	

LAST VEL. AT MAX. GUST MINUS 2 INTERVALS 14.0
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 13.4
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 14.0
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 8.1

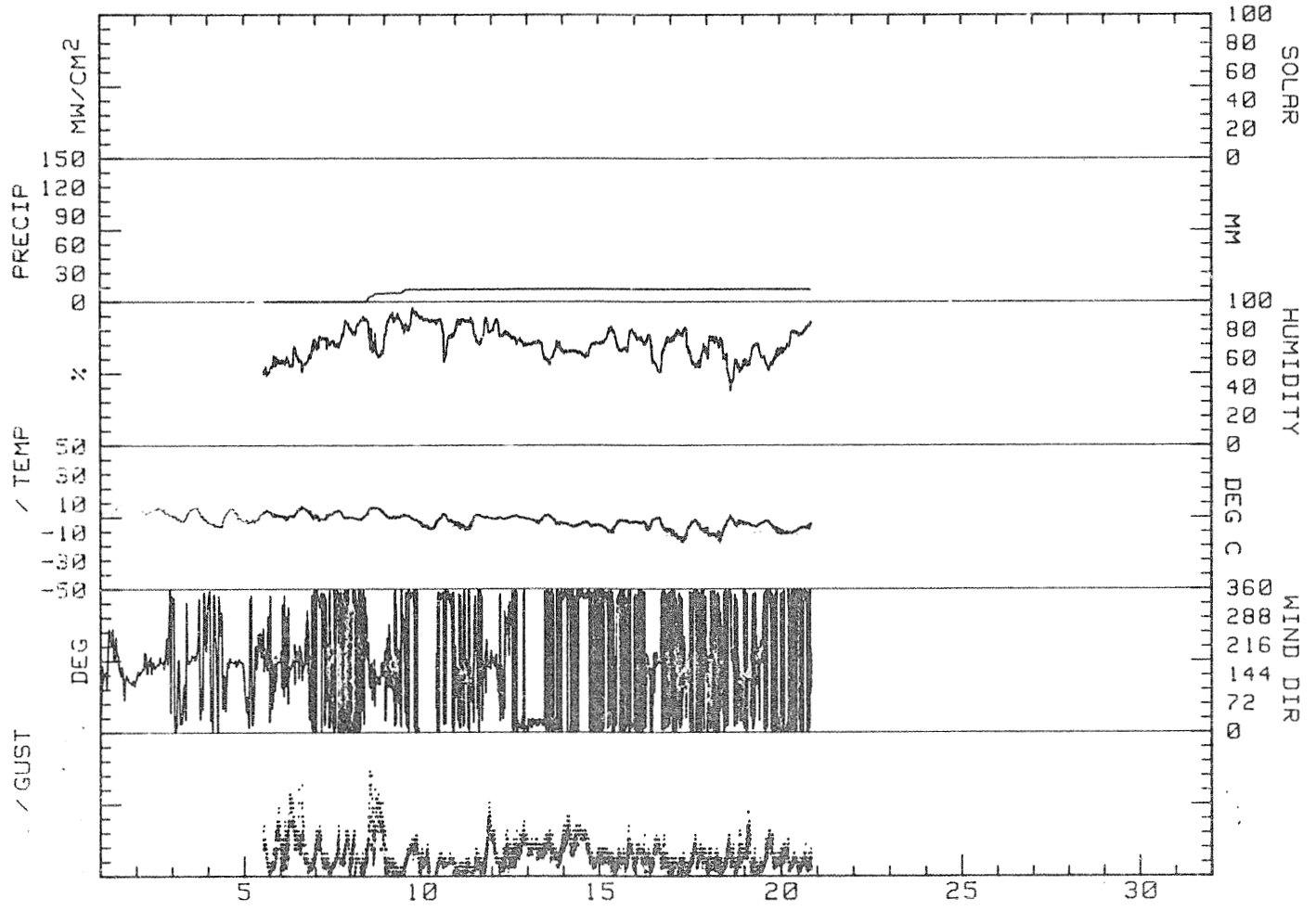
1/ ALL RH AND DP HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEED IS LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE MEAN.
2/ MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.
3/ SEE INTERPRETATION NOTES AT END OF MONTHLY RECORD

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DENALI WEATHER STATION

October, 1984



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

...FREQUENCY SUMMARY FOR DENALI 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	.94	15.32	7.09	.05	0.00	0.00	0.00	23.40
NNE	1.22	8.97	4.70	0.00	0.00	0.00	0.00	14.89
NE	.89	2.61	.23	0.00	0.00	0.00	0.00	3.73
ENE	1.03	.89	0.00	0.00	0.00	0.00	0.00	1.92
E	.96	.94	.05	0.00	0.00	0.00	0.00	1.95
ESE	1.27	1.34	.19	.23	0.00	0.00	0.00	3.03
SE	1.43	1.62	.73	.96	0.00	0.00	0.00	4.74
SSE	1.67	2.61	1.36	.63	0.00	0.00	0.00	6.27
S	1.17	3.52	3.55	1.13	0.00	0.00	0.00	9.37
SSW	.96	2.21	1.50	.07	0.00	0.00	0.00	4.74
SW	.38	1.20	.09	0.00	0.00	0.00	0.00	1.67
WSW	.40	.87	.02	0.00	0.00	0.00	0.00	1.28
W	.38	.69	.26	0.00	0.00	0.00	0.00	1.32
WNW	.49	1.37	.16	0.00	0.00	0.00	0.00	2.03
NW	.79	2.14	.19	0.00	0.00	0.00	0.00	3.12
NNW	.94	10.73	6.48	.07	0.00	0.00	0.00	18.22
CALM								0
TOTAL	14.91	54.80	26.61	3.10	0.00	0.00	0.00	100.00

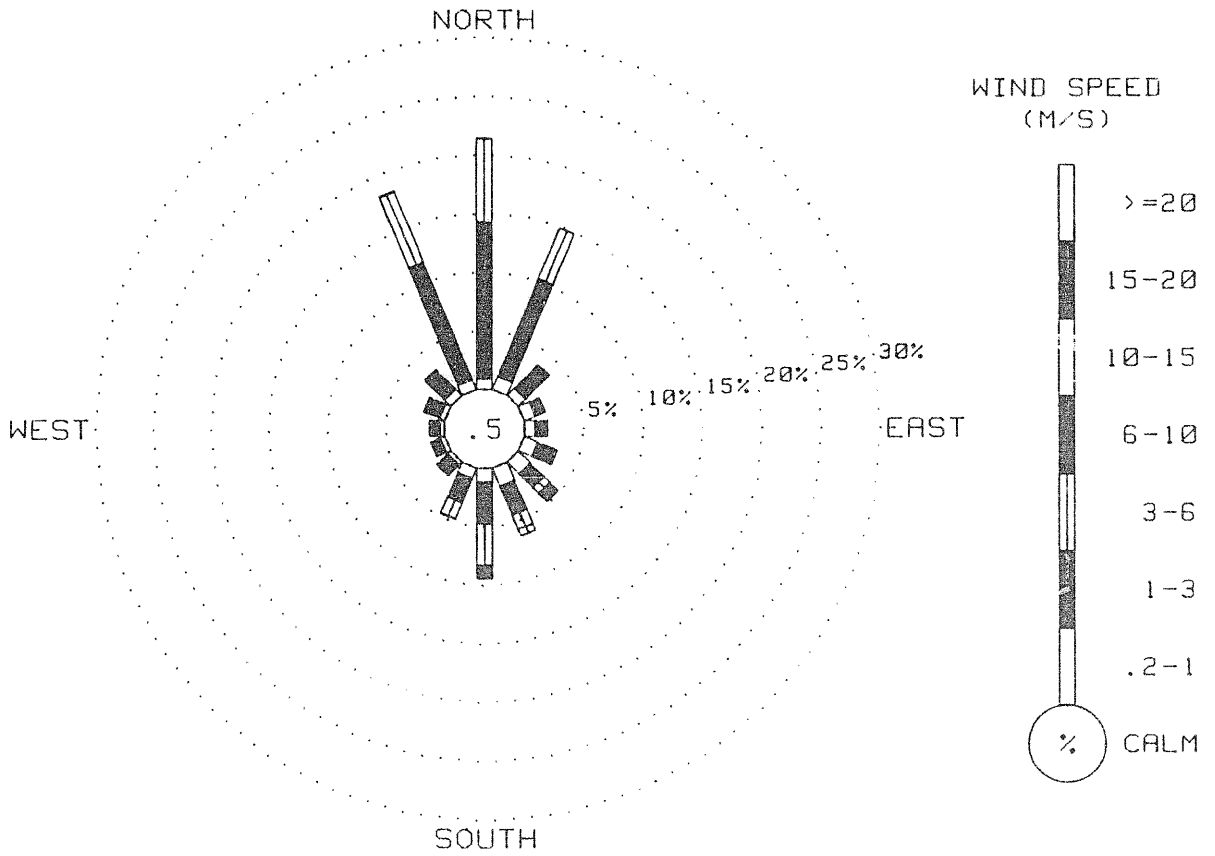
...TES: 1. FREQUENCIES ARE EXPRESSED IN PERCENT
...SED ON 1319 WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
...ING WIND OBSERVATIONS WOULD HAVE BEEN CORRECT FOR STABILITY DATA.
...SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT ***

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DENALI WEATHER STATION

October, 1984



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SOLAR RADIATION SUMMARY FOR DENALI 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	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
2	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
3	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
4	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
5	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
6	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
7	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
8	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
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 DENALI WEATHER STATION
DATA TAKEN DURING October, 1984

PARAMETER	NUMBER OF USABLE OBSERVATIONS	PERCENT OF TOTAL OBSERVATIONS
TEMPERATURE	4630	59
WIND SPEED	4357	56
WIND DIRECTION	4481	57
PEAK GUST	4357	56
RELATIVE HUMIDITY	3750	48
PRECIPITATION	4427	56
SOLAR RADIATION	0	0
DEW POINT	3750	48

THERE ARE 7848 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

None

Additional comments on this month's data:

1. Recording time interval was changed on 10/5 from 30 minutes to 5 minutes.

2. No data after 10/20. Cassette data tape ran out due to 5 minute recording intervals.

3. RH oscillator replaced 10/5. Recorded data invalid prior to this date.

4. Sensor array replaced 10/5. No wind speed and gust data prior to this date due to problem with reed switch in anemometer.

5. All solar radiation data lost. Sensor not installed.

6. Timing and quantity of precipitation data suspect since freezing temperatures occurred almot every day. However, thawing temperatures also occurred almost every day, so daily totals should be accurate.

7. Precipitation data lost 10/1 to 10/5. Gage was blown over by wind from scuth.

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

No precipitation data for November

(See INTERPRETATION OF DATA).

R. A. M. CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

EIGHT HOUR SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING November, 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	*****	*****	**	***	****	***	****	***
0600	*****	*****	**	***	****	***	****	***
0900	*****	*****	**	***	****	***	****	***
1200	*****	*****	**	***	****	***	****	***
1500	*****	*****	**	***	****	***	****	***
1800	*****	*****	**	***	****	***	****	***
2100	*****	*****	**	***	****	***	****	***
2400	*****	*****	**	***	****	***	****	***

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	*****	*****	**	***	****	***	****	***
0600	*****	*****	**	***	****	***	****	***
0900	*****	*****	**	***	****	***	****	***
1200	-14.4	*****	77	170	.4	170	1.9	***
1500	-10.7	-16.7	61	207	.4	196	2.5	***
1800	-13.4	*****	72	196	.5	203	1.9	***
2100	-13.3	*****	70	073	.6	112	2.5	***
2400	-13.4	*****	68	058	.6	040	1.9	***

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	-15.0	-19.7	67	360	1.4	359	3.8	***
0600	-12.9	-18.6	62	336	2.1	329	3.8	***
0900	-18.5	-22.1	73	228	.7	329	3.8	***
1200	-11.3	-17.3	61	188	.4	240	2.5	***
1500	-8.5	*****	58	258	.4	166	1.9	***
1800	-10.9	-16.7	62	281	.6	249	3.2	***
2100	-9.2	*****	59	024	.3	181	1.9	***
2400	-13.0	*****	79	185	.4	194	3.2	***

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	-12.3	*****	70	009	1.0	008	2.5	***
0600	-12.9	-16.5	74	182	1.1	158	2.5	***
0900	-14.3	*****	75	304	.2	202	2.5	***
1200	-9.8	-16.1	60	144	.9	178	5.7	***
1500	-11.3	*****	64	129	1.2	151	5.7	***
1800	-12.7	-16.5	73	128	1.0	141	3.8	***
2100	-10.9	-15.8	67	131	1.6	137	5.1	***
2400	-13.1	*****	74	152	2.3	152	6.3	***

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	-11.9	-16.1	71	033	.6	113	2.5	***
0600	-8.3	-13.7	65	174	3.1	169	6.3	***
0900	-7.9	-13.1	66	172	4.3	171	7.0	***
1200	-6.5	-9.4	80	201	3.4	186	7.6	***
1500	-5.2	-7.2	86	192	3.9	187	9.5	***
1800	-4.7	-6.3	89	190	1.5	176	4.4	***
2100	-3.5	*****	83	275	.7	230	3.2	***
2400	-4.1	-7.5	77	220	2.0	191	7.6	***

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	-4.1	*****	77	168	1.2	207	5.1	***
0600	-3.9	*****	76	151	.7	183	3.2	***
0900	-5.1	-7.9	81	077	.8	181	3.8	***
1200	-2.2	*****	73	124	.5	114	1.9	***
1500	-1.9	*****	73	151	.6	197	3.5	***
1800	-4.2	-6.4	85	175	.8	246	1.9	***
2100	-5.2	*****	88	029	.3	144	1.9	***
2400	-5.8	-8.1	84	341	1.4	332	3.8	***

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	-5.8	-7.5	89	172	.4	183	3.2	***
0600	-4.8	*****	87	170	1.0	172	3.2	***
0900	-5.2	*****	86	111	.7	064	3.5	***
1200	-5.6	-7.1	85	339	1.4	336	3.2	***
1500	-6.4	-6.7	84	359	1.6	354	3.2	***
1800	-5.9	-7.7	87	018	1.0	013	2.5	***
2100	-9.3	*****	96	079	.3	192	1.9	***
2400	-8.1	-10.0	86	324	.6	285	1.9	***

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	-8.2	-10.1	86	012	1.0	016	2.5	***
0600	-8.3	*****	87	300	.2	355	1.9	***
0900	-8.3	-10.0	88	336	.8	354	4.4	***
1200	-8.0	-10.2	84	351	3.9	000	6.3	***
1500	-8.3	-10.5	84	319	2.0	351	4.4	***
1800	-7.6	-9.7	85	015	.3	344	3.8	***
2100	-7.8	*****	84	163	1.8	174	5.1	***
2400	-8.7	-10.9	84	165	1.6	177	5.1	***

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	-10.0	-13.1	85	165	1.0	147	3.2	***
0600	-10.2	*****	85	209	.6	192	1.9	***
0900	-10.6	-12.6	85	193	.5	171	1.9	***
1200	-10.0	*****	91	032	.3	035	1.9	***
1500	-10.1	-12.7	81	157	.9	179	3.2	***
1800	-13.9	*****	82	136	.5	174	3.8	***
2100	-11.9	*****	83	033	.5	040	1.3	***
2400	-12.2	*****	82	056	.4	020	1.3	***

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

DAY 10

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	-12.8	-15.4	81	298	.1	211	3.2	***
0600	-13.4	-16.0	81	017	2.0	014	3.8	***
0900	-14.3	-16.8	81	019	2.4	024	4.4	***
1200	-14.4	-18.8	69	019	2.5	027	4.4	***
1500	-15.0	*****	65	347	1.2	350	3.8	***
1800	-18.5	*****	79	357	.6	319	1.9	***
2100	-19.3	*****	78	001	.7	347	1.9	***
2400	-21.0	*****	77	343	.9	339	1.9	***

DAY 11

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	-22.2	*****	76	340	.5	330	1.9	***
0600	-25.7	*****	74	342	.7	339	1.9	***
0900	-27.9	*****	72	129	.3	036	1.3	***
1200	-24.0	*****	73	049	.5	357	1.9	***
1500	-18.5	*****	69	322	.4	342	2.5	***
1800	-25.2	*****	73	033	.4	033	1.9	***
2100	-25.5	*****	72	356	1.4	343	3.2	***
2400	-27.1	-30.7	71	060	.5	078	1.9	***

DAY 12

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	-26.8	-30.4	71	002	1.3	032	3.2	***
0600	-25.3	-28.8	72	343	1.8	005	3.2	***
0900	-25.2	-28.7	72	326	2.0	337	3.6	***
1200	-23.5	-28.0	66	346	2.8	348	5.7	***
1500	-21.3	-25.9	66	344	3.4	344	5.7	***
1800	-24.6	-28.2	72	352	2.4	347	5.1	***
2100	-25.3	-29.0	71	343	.4	005	3.5	***
2400	-26.7	*****	71	350	1.0	347	3.5	***

DAY 13

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	-27.1	*****	70	130	.7	162	1.9	***
0600	-29.0	-33.0	68	055	.6	119	1.9	***
0900	-29.5	*****	69	257	.6	284	2.5	***
1200	-19.7	*****	65	320	.5	342	1.9	***
1500	-22.0	*****	65	244	.2	182	1.9	***
1800	-27.6	-31.5	69	164	.6	195	1.9	***
2100	-27.8	-30.9	69	006	1.5	000	4.4	***
2400	-26.8	-30.7	69	356	1.7	002	3.2	***

DAY 14

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	-26.1	-30.1	69	008	1.7	007	4.4	***
0600	-23.4	-27.2	71	092	1.6	090	6.3	***
0900	-26.5	-30.3	70	049	1.3	128	5.1	***
1200	-26.5	-30.9	66	005	1.6	357	4.4	***
1500	-18.5	-22.8	69	097	1.6	121	7.6	***
1800	-17.6	-21.7	70	154	4.1	161	8.3	***
2100	-16.1	-20.4	69	113	1.5	122	4.4	***
2400	-17.1	-20.5	75	064	1.2	127	5.1	***

DAY 15

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	-16.1	-19.3	76	191	1.6	175	5.1	***
0600	-15.6	-18.9	76	135	1.5	162	5.7	***
0900	-17.1	*****	75	237	1.0	258	4.4	***
1200	-14.5	-18.6	71	192	1.7	169	7.6	***
1500	-12.6	-16.6	72	186	.5	162	5.1	***
1800	-12.2	-15.9	74	237	1.0	164	3.2	***
2100	-9.8	-12.6	80	077	1.3	119	5.7	***
2400	-13.4	-16.3	79	061	.6	175	5.1	***

DAY 16

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	-14.3	-17.0	80	351	1.1	020	3.2	***
0600	-9.7	-12.7	79	091	.7	145	5.7	***
0900	-13.4	-15.8	82	053	.8	154	4.4	***
1200	-14.3	-16.8	81	018	1.2	016	3.2	***
1500	-13.7	-15.1	82	020	1.2	013	2.5	***
1800	-13.1	-15.5	82	001	.9	002	2.5	***
2100	-14.7	-17.2	81	001	1.7	348	3.8	***
2400	-18.0	*****	78	016	.8	015	2.5	***

DAY 17

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	-19.1	*****	78	269	.4	345	1.9	***
0600	-18.8	*****	78	043	.4	155	1.9	***
0900	-16.0	-18.7	80	359	1.0	002	3.2	***
1200	-14.7	*****	80	044	.6	034	2.5	***
1500	-15.8	-18.3	81	019	.9	028	3.8	***
1800	-18.4	-21.1	79	018	.8	336	2.5	***
2100	-17.7	-20.6	78	004	1.2	000	3.2	***
2400	-16.9	*****	80	346	.9	015	2.5	***

DAY 18

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	-15.3	*****	81	345	.2	347	1.9	***
0600	-17.3	-20.0	79	015	.6	016	2.5	***
0900	-13.4	-16.0	81	010	1.0	337	3.5	***
1200	-10.9	-13.4	82	357	2.9	179	7.0	***
1500	-14.5	-17.0	81	050	1.0	134	3.2	***
1800	-17.4	*****	79	020	.9	020	1.9	***
2100	-19.2	*****	79	346	.6	044	1.9	***
2400	-21.1	*****	78	012	.6	013	1.9	***

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

DAY 19

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	GUST MAX. M/S	RAD MW
0300	-21.1	*****	77	005	.5	327	1.9	***
0600	-23.4	*****	75	347	.6	003	1.3	***
0900	-22.8	*****	75	131	.2	184	1.9	***
1200	-21.3	*****	77	158	.5	100	1.3	***
1500	-18.3	*****	79	182	.6	183	1.9	***
1800	-20.7	-23.8	76	011	.9	024	3.2	***
2100	-14.4	-17.2	79	106	1.4	121	10.2	***
2400	-14.8	-17.5	80	172	6.5	164	12.7	***

DAY 20

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	GUST MAX. M/S	RAD MW
0300	-13.7	-16.4	80	183	5.4	168	12.1	***
0600	-12.4	-15.4	78	200	5.2	175	11.4	***
0900	-9.7	-12.5	80	209	3.6	178	10.2	***
1200	-8.4	-12.4	73	185	7.7	182	15.2	***
1500	-2.6	-8.0	66	180	7.1	166	17.8	***
1800	1.4	-5.5	60	144	11.0	141	26.7	***
2100	2.6	-4.6	59	099	7.7	146	25.4	***
2400	2.3	-4.0	63	098	8.4	130	22.9	***

DAY 21

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	GUST MAX. M/S	RAD MW
0300	3.1	-3.4	62	133	12.6	129	23.5	***
0600	1.5	-1.1	83	134	10.5	134	22.9	***
0900	.2	*****	97	148	6.5	138	15.9	***
1200	-1.4	-2.6	93	089	.4	089	5.7	***
1500	-1.4	-3.3	87	***	****	***	****	***
1800	-2.1	-4.8	82	***	****	***	****	***
2100	-4.2	-7.0	81	358	1.6	319	5.1	***
2400	-4.2	-7.1	80	341	3.6	341	5.1	***

DAY 22

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	GUST MAX. M/S	RAD MW
0300	-6.4	-8.7	84	322	1.6	322	3.8	***
0600	-10.0	-12.2	84	***	****	***	3.8	***
0900	-10.5	-12.9	83	348	2.8	348	3.8	***
1200	-8.9	-11.0	85	002	2.4	003	3.8	***
1500	-8.8	-11.0	84	010	2.2	***	3.8	***
1800	-9.1	-11.3	84	012	2.6	013	4.4	***
2100	-8.6	-10.8	84	***	****	***	3.8	***
2400	-8.2	-10.6	83	***	****	***	3.8	***

DAY 23

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	GUST MAX. M/S	RAD MW
0300	-7.6	*****	84	***	****	***	2.5	***
0600	-8.2	*****	84	***	****	***	1.3	***
0900	-7.8	*****	84	***	****	***	1.3	***
1200	-7.6	*****	83	***	****	***	1.3	***
1500	-10.1	*****	83	***	****	***	1.3	***
1800	-10.6	-12.9	83	***	****	***	1.9	***
2100	-11.5	*****	82	***	****	***	1.9	***
2400	-10.6	*****	83	***	****	***	1.9	***

DAY 24

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	GUST MAX. M/S	RAD MW
0300	-10.6	*****	83	***	****	***	3.5	***
0600	-10.8	*****	82	***	****	***	1.9	***
0900	-10.8	*****	83	***	****	***	1.9	***
1200	-9.2	-11.9	81	071	1.2	016	3.1	***
1500	-9.5	-12.2	81	156	1.8	162	3.3	***
1800	-11.7	-14.2	82	050	.6	167	3.5	***
2100	-13.8	-16.5	80	350	1.3	007	3.5	***
2400	-13.8	*****	81	353	.9	004	1.9	***

DAY 25

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	GUST MAX. M/S	RAD MW
0300	-14.3	*****	81	066	.1	134	1.9	***
0600	-15.7	*****	80	167	.4	154	1.3	***
0900	-15.3	-17.8	81	013	.5	351	1.9	***
1200	-15.0	*****	80	356	.3	334	1.9	***
1500	-15.5	*****	81	215	.4	189	2.5	***
1800	-17.5	*****	79	175	.3	310	1.3	***
2100	-16.5	*****	79	148	.4	194	1.9	***
2400	-21.0	*****	78	204	.6	174	1.9	***

DAY 26

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	GUST MAX. M/S	RAD MW
0300	-22.3	*****	76	289	.1	237	1.3	***
0600	-22.9	*****	76	024	.6	046	1.9	***
0900	-23.9	*****	76	117	.5	159	1.9	***
1200	-24.0	*****	76	072	.5	017	2.5	***
1500	-20.7	*****	76	344	.6	004	1.9	***
1800	-21.9	*****	76	351	.7	340	1.9	***
2100	-22.4	*****	75	093	.4	154	1.9	***
2400	-22.9	*****	75	126	.3	085	1.3	***

DAY 27

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	GUST MAX. M/S	RAD MW
0300	-28.7	-32.1	72	132	.5	118	1.9	***
0600	-28.0	*****	73	165	.5	189	1.9	***
0900	-24.4	*****	75	057	.4	046	1.3	***
1200	-22.6	*****	74	177	.7	186	1.9	***
1500	-20.0	*****	77	131	.4	230	1.9	***
1800	-18.7	*****	78	116	.5	334	1.9	***
2100	-19.0	-21.9	78	013	.9	019	3.5	***
2400	-22.2	*****	76	347	.5	016	1.9	***

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

*** HOUR SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING November, 1984

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	-23.0	*****	74	016	.7	009	1.9	***	0300	-20.9	*****	82	029	1.2	033	2.5	0	0300	-15.1	-16.7	88	021	1.4	032	3.2	0
0600	-24.4	*****	75	015	.7	016	1.3	***	0600	-18.5	-20.5	84	016	1.3	022	3.8	0	0600	-14.9	-16.5	88	021	1.6	009	3.2	0
0900	-23.6	*****	74	021	.5	015	1.3	***	0900	-17.7	*****	84	013	.7	020	3.2	0	0900	-15.0	-16.6	88	024	1.3	030	3.2	0
1200	-22.7	*****	76	013	.6	017	1.3	***	1200	-16.2	-17.9	87	020	1.6	029	3.2	5	1200	-14.7	-16.3	88	025	.8	071	3.2	1
1500	-20.9	*****	83	358	.5	004	1.3	0	1500	-15.5	-17.1	88	025	1.5	023	3.2	0	1500	-14.0	-15.4	89	357	1.0	344	2.5	0
1800	-22.3	*****	81	353	.4	255	1.9	0	1800	-15.8	-17.5	87	032	.7	058	2.5	0	1800	-14.3	-15.7	89	023	1.5	019	3.2	0
2100	-22.5	-25.0	80	025	.5	022	2.5	0	2100	-15.8	-17.4	88	033	1.9	029	3.2	0	2100	-12.6	-13.8	91	042	1.2	031	3.2	0
2400	-20.2	-22.3	83	019	1.5	010	2.5	0	2400	-15.4	-17.0	88	017	1.2	040	2.5	0	2400	-12.1	-13.3	91	176	2.3	186	5.7	0

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

P & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR DENALI 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	-10.1	-15.1	-12.6	127	.2	.7	196	2.5	ENE	65	-16.8	****	******	2
3	-7.6	-18.5	-13.1	316	.4	1.4	359	3.8	NNW	65	-18.2	****	******	3
4	-9.2	-14.3	-11.8	139	.8	1.4	152	6.3	SE	68	-16.2	****	******	4
5	-3.1	-13.0	-8.1	190	2.1	2.6	187	9.5	S	76	-10.6	****	******	5
6	-1.5	-7.8	-4.7	131	.3	1.1	207	5.1	SSE	81	-7.6	****	******	6
7	-3.6	-8.3	-6.0	011	.4	1.1	183	3.2	NNW	86	-7.3	****	******	7
8	-7.5	-8.7	-8.1	343	.5	1.8	000	6.3	N	85	-10.2	****	******	8
9	-8.5	-13.9	-11.2	147	.3	.9	178	3.8	S	83	-12.3	****	******	9
10	-11.8	-21.4	-16.6	009	1.3	1.4	024	4.4	NNE	78	-17.5	****	******	10
11	-16.8	-28.4	-22.6	069	.5	.8	343	3.2	NNW	73	-27.9	****	******	11
12	-19.4	-28.7	-24.1	345	1.9	2.1	348	5.7	NNW	71	-28.6	****	******	12
13	-17.1	-32.3	-24.7	002	.3	1.0	000	4.4	N	69	-31.7	****	******	13
14	-16.1	-29.4	-22.8	089	1.1	2.3	161	8.3	N	70	-25.8	****	******	14
15	-9.8	-17.4	-13.6	174	.7	1.7	169	7.6	SSW	75	-16.9	****	******	15
16	-9.3	-18.6	-14.0	017	.9	1.3	145	5.7	N	81	-16.0	****	******	16
17	-14.6	-19.4	-17.0	008	.7	.9	028	3.8	N	79	-19.9	****	******	17
18	-10.1	-21.1	-15.6	062	.4	1.2	175	7.0	NNE	81	-16.9	****	******	18
19	-14.4	-23.8	-19.1	156	.8	1.7	164	12.7	N	78	-21.3	****	******	19
20	3.3	-15.9	-6.3	156	5.4	7.3	141	26.7	S	71	-10.6	****	******	20
21	3.1	-5.8	-1.4	134	6.4	6.5	129	23.5	SE	80	-3.8	****	******	21
22	-5.3	-13.3	-9.3	357	2.2	2.2	013	4.4	N	84	-10.7	****	******	22
23	-6.9	-13.2	-9.6	***	****	.7	***	2.5	***	83	-11.8	****	******	23
24	-9.9	-15.4	-12.2	054	.4	1.1	162	6.3	N	81	-13.9	****	******	24
25	-14.0	-21.0	-17.5	194	.2	.7	189	2.5	SSW	80	-18.3	****	******	25
26	-19.4	-24.4	-21.9	040	.3	.6	017	2.5	NNE	76	-25.5	****	******	26
27	-18.7	-28.7	-23.7	063	.2	.7	019	3.5	NNE	76	-24.9	****	******	27
28	-20.2	-25.2	-22.7	015	.7	.8	022	2.5	NNE	82	-23.7	****	87	28
29	-15.4	-21.1	-18.3	024	1.3	1.4	023	3.8	NNE	86	-19.0	****	116	29
30	-13.0	-15.4	-13.7	032	.8	1.5	186	5.7	NNE	89	-15.8	****	50	30
MONTH	3.3	-32.3	-14.5	183	.3	1.6	141	26.7	N	78	-17.2	****	353	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 19.0
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 24.3
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 19.7
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 25.2

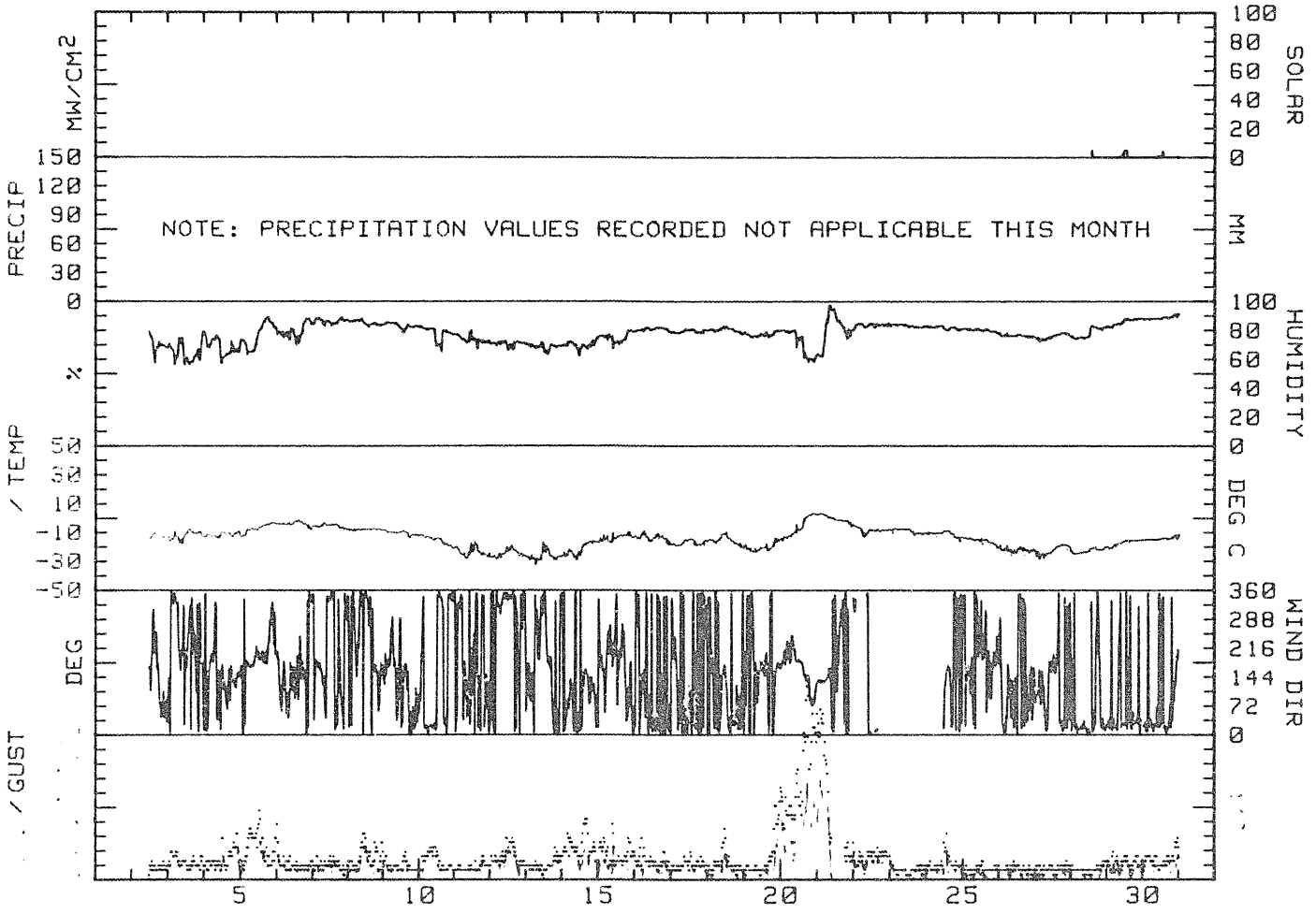
NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE CALCULATION OF MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DENALI WEATHER STATION

November, 1984



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING November, 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	4.67	10.63	.64	0.00	0.00	0.00	0.00	15.94
NNE	6.28	9.42	.16	0.00	0.00	0.00	0.00	15.86
NE	2.98	3.22	0.00	0.00	0.00	0.00	0.00	6.20
ENE	2.82	1.13	0.00	.08	.16	0.00	0.00	4.19
E	2.33	.64	0.00	.24	.08	0.00	0.00	3.30
ESE	2.42	1.45	.24	.24	0.00	0.00	0.00	4.35
SE	2.42	2.25	0.00	.24	1.21	0.00	0.89	6.12
SSE	3.30	2.58	1.53	.64	.16	0.00	0.00	8.21
S	2.66	4.19	1.69	1.29	0.00	0.00	0.00	9.83
SSW	2.58	1.93	1.05	.16	0.00	0.00	0.00	5.71
SW	.81	.89	.24	0.00	0.00	0.00	0.00	1.94
WSW	1.29	.64	.08	0.00	0.00	0.00	0.00	2.01
W	.72	.40	0.00	0.00	0.00	0.00	0.00	1.12
WNW	.81	.40	0.00	0.00	0.00	0.00	0.00	1.21
NW	2.01	1.37	0.00	0.00	0.00	0.00	0.00	3.38
NNW	3.38	5.95	.97	0.00	0.00	0.00	0.00	10.31
CALM								.24
TOTAL	41.47	47.10	6.60	2.90	1.61	0.00	0.89	100.00

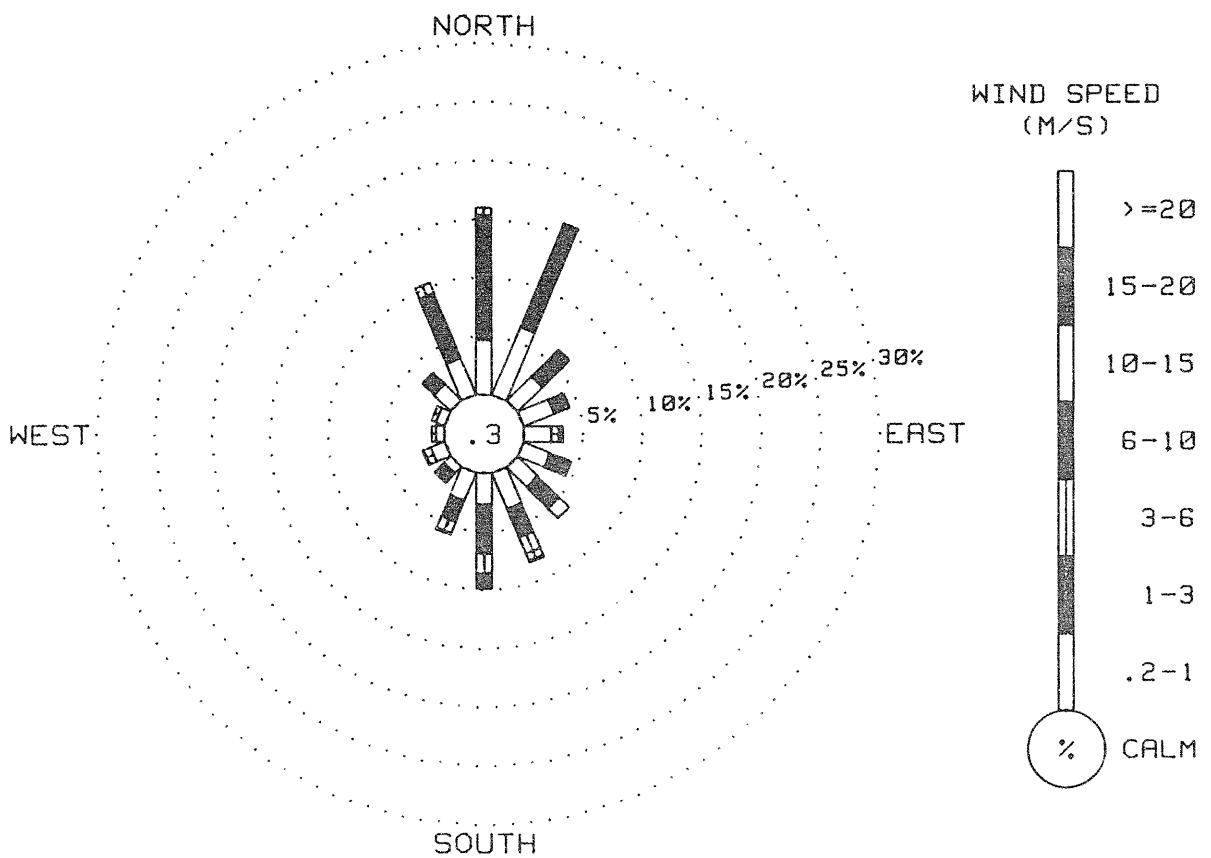
NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
2459 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
1440 WIND OBSERVATIONS WOULD HAVE BEEN CORRECT FOR 30 MINUTE DATA.
SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DENALI WEATHER STATION

November, 1984



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SOLAR RADIATION SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING November, 1984

ALL 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	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
23	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
24	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
25	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
26	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
27	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
28	***	***	***	***	***	***	***	***	***	***	***	***	***	A	1	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	1	1	4	4	3	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	1	1	1	1	3	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 SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING November, 1984

PARAMETER	NUMBER OF USABLE OBSERVATIONS	PERCENT OF TOTAL OBSERVATIONS
TEMPERATURE	1370	76
WIND SPEED	1352	75
WIND DIRECTION	1259	70
PEAK GUST	1352	75
RELATIVE HUMIDITY	797	44
PRECIPITATION	0	0
SOLAR RADIATION	118	7
DEW POINT	797	44

THERE ARE 1796 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 -2 mW/CM^2

Additional comments on this month's data:

1. No data on 11/1 and 11/2. Data tape ran out due to 5 minute recording intervals.

2. Recording interval was changed on 11/2 from 5 minutes to 30 minutes.

3. Solar radiation sensor replaced 11/28. No date prior to this date.

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

No precipitation data for December

(See INTERPRETATION OF DATA).

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY HOUR SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING December, 1984

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	-9.8	-11.0	91	201	4.4	209	7.0	0
0600	-9.7	-10.8	89	185	5.2	178	8.3	0
0900	-8.9	-10.3	90	200	3.2	182	7.0	0
1200	-7.4	-9.4	86	191	4.1	186	7.6	3
1500	-7.8	-9.9	85	186	5.4	189	8.9	0
1800	-8.3	-10.7	83	186	5.7	196	8.9	0
2100	-8.2	-10.7	82	186	5.7	180	8.3	0
2400	-8.6	-11.3	81	182	6.1	185	8.3	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	-9.5	-12.2	81	183	5.6	178	8.3	0
0600	-8.8	-11.6	80	183	5.6	193	8.9	0
0900	-13.4	-15.1	87	264	.6	199	7.6	0
1200	-13.7	*****	87	138	.5	167	3.2	2
1500	-12.4	-14.1	87	278	.8	348	3.8	0
1800	-10.8	-12.3	89	038	1.3	023	3.8	0
2100	-11.6	-12.8	91	055	.8	065	4.4	0
2400	-10.1	-11.3	91	070	.2	045	3.2	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	-8.8	-10.2	95	314	.8	320	3.6	0
0600	-8.0	-8.8	94	281	.6	294	2.5	0
0900	-5.0	-7.0	86	199	3.3	192	7.6	0
1200	-5.2	-7.0	87	193	4.1	198	8.3	2
1500	-5.8	-8.1	84	189	4.4	196	8.9	0
1800	-7.5	-8.9	90	191	4.1	196	8.9	0
2100	-5.8	-7.3	89	218	2.7	211	7.6	0
2400	-5.0	-6.7	88	263	.8	212	4.4	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	-2.6	-5.3	82	255	1.1	203	5.7	0
0600	-2.3	-5.1	81	185	3.4	166	7.0	0
0900	3.4	-2.9	63	216	3.9	226	25.4	0
1200	.1	-3.4	77	184	4.2	160	16.5	1
1500	4.5	-2.1	62	190	4.7	188	16.5	0
1800	.5	-2.5	80	174	5.6	178	16.5	0
2100	1.1	-2.3	78	148	10.0	144	21.6	0
2400	-2.4	-2.5	99	171	8.7	159	14.6	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	-2.5	-2.6	99	187	7.1	190	12.7	0
0600	.3	-3.8	74	169	4.4	152	15.9	0
0900	.2	-3.3	77	155	7.0	152	15.2	0
1200	.4	-2.8	79	159	7.8	153	13.3	2
1500	-.5	-3.4	81	163	8.4	160	12.7	0
1800	-2.6	-3.5	94	194	2.7	171	9.5	0
2100	-5.0	-6.9	87	071	.7	171	2.5	0
2400	-6.8	-9.5	81	006	1.8	001	5.7	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	-10.2	-11.0	94	353	4.7	347	7.0	0
0600	-10.2	-12.0	87	007	3.2	018	7.0	0
0900	-11.1	-13.3	84	359	2.9	007	6.3	0
1200	-9.4	-11.9	82	348	2.8	342	6.4	4
1500	-10.1	-12.7	81	348	2.5	349	5.9	0
1800	-9.0	-11.5	82	345	2.2	347	5.6	0
2100	-9.8	-11.7	86	295	.7	319	3.2	0
2400	-5.5	-6.9	90	017	1.6	032	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	-6.3	-8.4	85	036	2.7	049	5.8	0
0600	-8.5	-11.0	82	021	3.1	014	5.1	0
0900	-8.3	*****	92	002	1.1	335	3.8	0
1200	-10.1	-12.4	83	166	.7	200	3.2	6
1500	-13.5	-14.4	93	069	.5	119	1.9	1
1800	-9.2	-10.4	91	018	.9	028	4.4	0
2100	-9.1	-9.8	95	199	5.1	193	8.9	0
2400	-8.1	-8.8	95	181	1.7	193	4.4	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	-7.5	-7.9	97	200	2.5	196	4.4	0
0600	-7.4	-7.7	98	182	1.4	187	4.4	0
0900	-7.9	-8.3	97	356	2.6	357	5.7	0
1200	-6.7	-8.1	90	015	1.1	348	3.2	0
1500	-7.0	-9.3	84	021	2.8	345	7.6	1
1800	-7.2	-10.2	79	352	5.5	348	8.9	0
2100	-7.4	-11.9	70	024	4.7	031	8.3	0
2400	-8.5	-13.1	69	038	4.6	052	8.9	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	-8.6	-13.4	68	047	5.7	042	8.5	3
0600	-9.1	-14.6	61	014	2.5	010	10.2	0
0900	-9.8	-15.9	61	030	5.2	024	13.9	0
1200	-11.2	-17.6	59	015	6.8	015	17.4	3
1500	-12.6	-18.9	59	020	6.4	014	18.8	1
1800	-13.2	-19.5	56	022	5.9	019	18.8	0
2100	-14.3	-20.5	59	034	4.8	022	16.7	0
2400	-22.3	-25.1	73	034	1.4	022	3.6	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOUR SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING December, 1984

DAY 10

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	-23.1	*****	79	140	.7	137	2.5	0
0600	-23.6	*****	76	037	.8	036	2.5	0
0900	-30.4	-33.9	71	264	.6	232	3.2	0
1200	-20.6	-23.4	78	174	2.4	175	8.9	0
1500	-20.2	-23.3	76	183	5.3	185	8.9	0
1800	-24.9	*****	75	143	.5	187	7.6	0
2100	-24.2	-27.2	76	012	1.1	002	2.5	0
2400	-23.4	*****	76	014	.6	344	1.9	0

DAY 11

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	-23.7	-26.7	76	360	1.0	332	2.5	0
0600	-23.3	*****	76	007	.8	009	1.9	0
0900	-24.2	-27.2	76	102	.3	204	1.9	0
1200	-24.4	-27.3	77	057	.4	008	2.5	2
1500	-25.7	-28.8	75	003	1.4	002	3.2	0
1800	-23.1	-26.1	76	358	2.0	002	3.8	0
2100	-20.1	-22.8	79	005	2.6	012	3.8	0
2400	-23.8	-26.7	77	345	1.7	004	3.8	0

DAY 12

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	-15.1	-20.4	64	019	2.5	038	5.1	0
0600	-16.7	-22.4	61	030	3.5	014	5.7	0
0900	-18.5	-24.7	58	042	3.9	047	6.3	0
1200	-23.9	-29.3	61	024	2.7	027	5.7	4
1500	-26.3	*****	71	162	.5	197	2.5	0
1800	-30.7	-34.3	70	144	.9	137	2.5	0
2100	-27.3	*****	72	035	1.3	006	3.8	0
2400	-28.5	-32.1	71	329	.9	351	3.8	0

DAY 13

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	-29.2	*****	71	011	1.0	011	3.2	0
0600	-26.8	*****	73	339	.7	002	2.5	0
0900	-23.8	*****	75	340	.7	002	2.5	0
1200	-23.9	-26.9	76	333	.8	274	2.5	2
1500	-22.5	-25.6	76	012	1.3	015	4.4	0
1800	-21.3	-24.2	77	000	2.9	005	4.4	0
2100	-24.7	-27.8	75	357	2.4	347	3.8	0
2400	-17.7	-23.6	60	029	3.4	032	6.3	0

DAY 14

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	-17.2	-24.1	55	028	4.2	029	7.6	0
0600	-21.8	-28.0	57	024	4.3	036	7.6	0
0900	-21.2	-27.1	59	020	3.2	025	5.7	0
1200	-22.2	-28.6	56	002	3.6	359	5.7	2
1500	-22.1	-28.1	58	005	4.2	355	7.6	0
1800	-28.7	-32.7	68	346	1.4	005	7.6	0
2100	-27.0	-30.8	70	241	.7	234	3.2	0
2400	-27.4	-31.2	70	185	1.4	168	3.2	0

DAY 15

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	-28.6	-32.5	69	186	1.0	204	1.4	0
0600	-22.3	-26.3	70	091	.6	204	1.4	0
0900	-20.5	*****	74	022	1.4	027	5.1	0
1200	-19.9	-23.0	76	025	1.3	033	2.5	1
1500	-18.5	-21.5	77	055	1.5	049	3.8	1
1800	-18.4	-21.1	79	129	1.5	149	5.7	0
2100	-18.2	-21.1	79	169	2.4	152	7.6	0
2400	-18.3	-21.0	79	392	.2	147	3.8	0

DAY 16

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	-16.9	-19.5	80	189	1.0	213	5.1	0
0600	-16.1	-18.6	81	099	1.0	175	6.3	0
0900	-16.5	-18.9	82	012	1.3	357	3.2	0
1200	-15.6	-16.8	87	029	1.7	030	3.2	0
1500	-16.7	-18.2	83	354	1.0	032	3.2	0
1800	-16.9	*****	82	199	1.2	215	3.2	0
2100	-19.1	-21.8	81	160	.3	174	3.2	0
2400	-16.0	*****	81	189	.9	206	2.5	0

DAY 17

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	-17.6	-19.9	82	199	1.0	191	2.5	0
0600	-15.3	-17.4	83	148	.8	161	4.4	0
0900	-14.9	-17.0	84	022	.6	036	3.2	0
1200	-14.0	-15.9	86	313	.6	322	3.2	1
1500	-12.8	-14.4	88	209	.2	194	3.8	0
1800	-11.5	*****	89	192	1.0	205	1.9	0
2100	-9.1	-10.2	92	154	.2	187	1.9	0
2400	-8.3	-9.0	95	***	****	***	****	0

DAY 18

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	-9.2	94	***	****	***	****	0
0600	-8.3	-9.1	95	***	****	***	****	0
0900	-8.1	-8.6	96	***	****	***	****	0
1200	-7.6	-8.3	94	***	****	***	****	1
1500	-6.8	-7.2	97	***	****	***	****	0
1800	-6.3	-6.4	99	***	****	***	****	0
2100	-5.8	-5.9	99	***	****	***	****	0
2400	-6.1	-6.2	99	***	****	***	****	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

3-HOUR SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING December, 1984

DAY 19

HOUR		DEW		WIND	WIND	GUST	MAX.	
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-5.4	-9.0	76	017	3.6	017	10.8	0
0600	-7.8	-12.7	68	011	7.0	016	11.4	0
0900	-10.4	-16.9	59	006	6.1	006	11.4	0
1200	-11.7	-23.3	38	009	2.6	349	8.3	2
1500	-13.0	-25.9	35	016	5.7	023	9.5	0
1800	-13.6	-26.2	34	032	5.1	028	8.3	0
2100	-15.8	-27.6	36	021	5.6	012	10.2	0
2400	-22.0	-31.0	44	027	2.9	036	5.1	0

DAY 20

HOUR		DEW		WIND	WIND	GUST	MAX.	
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-23.7	-31.0	51	003	2.5	358	4.4	0
0600	-23.9	*****	59	359	1.0	355	3.2	0
0900	-26.4	-31.1	64	159	.3	175	2.5	0
1200	-25.4	-30.5	62	048	.8	000	4.4	0
1500	-26.2	-31.4	61	343	1.9	000	3.8	0
1800	-26.3	-31.2	63	218	1.0	198	3.2	0
2100	-22.4	-27.7	62	060	.7	029	2.5	0
2400	-22.4	-27.7	62	314	.1	285	3.2	0

DAY 21

HOUR		DEW		WIND	WIND	GUST	MAX.	
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-24.2	*****	67	190	1.2	194	3.8	0
0600	-22.7	*****	69	198	1.1	202	2.5	0
0900	-20.3	-24.5	69	239	.3	226	2.5	0
1200	-19.6	-23.0	74	019	1.0	339	5.7	0
1500	-21.5	*****	75	230	.5	194	3.8	0
1800	-21.9	-24.8	77	022	1.1	021	2.5	0
2100	-21.7	*****	77	141	.8	127	2.5	0
2400	-22.0	*****	77	171	.7	151	2.5	0

DAY 22

HOUR		DEW		WIND	WIND	GUST	MAX.	
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-20.2	*****	78	221	.9	207	3.2	0
0600	-19.0	*****	80	209	.9	229	2.5	0
0900	-18.1	*****	80	207	1.1	218	3.2	0
1200	-16.8	*****	81	235	1.1	214	3.8	0
1500	-15.6	*****	78	308	.3	232	1.9	0
1800	-14.3	-17.3	78	103	.7	059	3.2	0
2100	-13.4	-15.8	82	160	2.0	163	7.0	0
2400	-12.0	-14.9	83	168	4.8	169	8.9	0

DAY 23

HOUR		DEW		WIND	WIND	GUST	MAX.	
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-11.8	-13.7	86	185	5.8	183	8.9	0
0600	-9.5	-11.0	89	189	5.0	192	8.3	0
0900	-9.9	-11.3	90	190	5.9	191	8.9	0
1200	-8.4	-9.9	89	187	5.5	193	8.3	1
1500	-7.7	-8.8	92	184	4.2	190	7.0	0
1800	-6.7	-7.7	93	225	1.3	240	4.4	0
2100	-8.2	-9.3	92	347	1.7	015	11.4	0
2400	-11.1	-15.1	72	013	9.9	008	14.0	0

DAY 24

HOUR		DEW		WIND	WIND	GUST	MAX.	
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-11.7	-16.0	70	014	6.1	011	8.3	0
0600	-10.2	-14.4	71	027	5.3	025	8.1	0
0900	-13.4	-17.7	76	015	4.3	014	7.6	0
1200	-15.9	-20.3	69	027	3.6	021	6.3	2
1500	-16.1	-19.8	73	004	3.8	025	6.3	0
1800	-19.9	-22.9	77	356	2.6	352	4.4	0
2100	-19.3	-22.4	76	013	1.8	012	4.4	0
2400	-20.1	*****	81	208	.7	197	1.9	0

DAY 25

HOUR		DEW		WIND	WIND	GUST	MAX.	
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-21.4	-23.9	80	194	1.0	280	3.2	0
0600	-20.5	-23.2	79	094	.4	059	3.8	0
0900	-16.7	-19.1	82	158	3.4	150	8.3	0
1200	-15.2	-17.6	82	176	5.5	187	10.8	0
1500	-14.6	-17.1	81	139	2.2	152	7.6	0
1800	-16.2	-19.1	83	189	1.6	160	7.0	0
2100	-17.0	-19.3	82	014	1.5	031	3.8	0
2400	-16.0	*****	83	006	.5	025	2.5	0

DAY 26

HOUR		DEW		WIND	WIND	GUST	MAX.	
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-15.9	*****	83	187	.5	169	1.3	0
0600	-17.7	-20.0	82	011	1.5	009	3.2	0
0900	-16.9	-19.3	82	011	2.4	014	4.4	0
1200	-14.3	-16.6	83	015	5.4	015	8.9	0
1500	-12.4	-16.6	71	021	4.6	018	7.6	0
1800	-11.2	-16.3	66	033	5.4	034	8.3	0
2100	-12.2	-16.7	69	030	4.9	032	7.6	0
2400	-17.7	-20.6	78	025	3.3	039	7.0	0

DAY 27

HOUR		DEW		WIND	WIND	GUST	MAX.	
NDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-20.2	-23.5	75	356	1.7	008	3.8	0
0600	-22.7	-25.5	78	347	.6	032	3.8	0
0900	-25.7	-28.8	75	006	.9	335	2.5	0
1200	-25.7	*****	78	229	.4	177	3.8	0
1500	-26.0	*****	74	028	.7	007	1.9	0
1800	-28.7	-32.1	77	190	.2	151	1.9	0
2100	-30.8	-34.4	77	139	.6	018	1.9	0
2400	-31.7	*****	69	160	.7	185	2.5	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY HOUR SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING December, 1984

DAY 28

HOUR NONE	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-30.3	*****	70	067	.7	054	1.9	0
0600	-30.3	-34.1	70	143	.6	183	2.5	0
0900	-35.7	*****	67	148	.7	130	2.5	0
1200	-28.8	-31.8	75	060	.7	010	4.4	6
1500	-22.5	-25.6	76	166	2.1	197	7.0	0
1800	-23.3	-26.6	74	174	5.6	167	8.9	0
2100	-24.6	-27.9	74	135	2.1	187	8.3	0
2400	-25.8	-29.0	74	101	.9	166	6.3	0

DAY 29

HOUR NONE	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-25.1	-28.4	74	010	1.6	359	3.2	0
0600	-21.2	-24.3	76	073	1.2	069	5.7	0
0900	-20.5	-23.8	75	157	3.9	136	8.3	0
1200	-20.8	*****	77	039	1.3	086	3.2	0
1500	-16.6	-19.4	79	185	3.3	187	6.3	0
1800	-16.6	-19.2	80	184	5.1	183	7.0	0
2100	-16.2	-18.6	82	190	4.8	189	7.6	0
2400	-13.3	-15.2	86	204	3.8	195	7.6	0

DAY 30

HOUR NONE	TEMP. 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	-13.2	87	203	4.6	208	8.3	0
0600	-10.0	-11.8	87	190	4.6	188	8.9	0
0900	-6.2	-11.1	68	165	6.9	154	15.9	0
1200	-5.8	-10.4	70	152	8.2	153	15.9	0
1500	-4.7	-9.7	68	157	7.6	153	17.1	0
1800	-4.3	-9.3	68	152	8.4	148	16.5	0
2100	-3.3	-7.6	72	158	5.8	153	15.9	0
2400	-2.3	-7.0	70	163	9.8	159	17.8	0

DAY 31

HOUR NONE	TEMP. 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	-5.6	98	193	6.6	173	13.3	0
0600	-3.5	-5.1	89	180	2.6	181	5.7	0
0900	.1	-3.4	77	314	1.3	284	9.5	0
1200	1.1	-3.2	73	148	7.3	142	15.9	0
1500	1.5	-3.3	70	146	9.0	139	16.5	0
1800	3.0	-3.2	68	150	8.0	147	15.9	0
2100	2.6	-4.4	60	146	8.0	144	19.0	0
2400	1.9	-4.4	63	147	9.8	151	19.7	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR DENALI 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	-6.9	-12.9	-9.9	189	5.0	5.0	189	8.9	S	86	-10.8	****	135	1
2	-7.8	-14.6	-11.2	180	1.2	2.4	193	8.9	S	85	-13.0	****	35	2
3	-3.7	-10.9	-7.3	203	2.3	2.8	196	8.9	SSW	88	-8.0	****	60	3
4	5.1	-4.8	.2	176	4.8	5.6	226	25.4	S	78	-3.3	****	20	4
5	.9	-7.3	-3.2	166	4.3	5.1	152	15.9	SSE	86	-3.7	****	45	5
6	-5.5	-12.2	-8.9	354	2.5	2.6	347	7.0	N	85	-11.5	****	150	6
7	-5.6	-13.5	-9.6	090	.3	2.1	193	8.9	NNE	89	-10.2	****	80	7
8	-6.6	-8.5	-7.6	015	2.1	3.4	348	8.9	NNE	87	-9.3	****	25	8
9	-7.9	-22.3	-15.1	024	5.3	5.5	010	12.7	NNE	62	-17.6	****	30	9
10	-18.6	-30.5	-24.6	171	.8	1.9	175	8.9	N	76	-26.3	****	20	10
11	-20.1	-26.1	-23.1	003	1.2	1.5	002	3.8	N	76	-26.8	****	90	11
12	-15.1	-30.7	-22.9	032	1.7	2.2	047	6.3	NE	66	-26.4	****	95	12
13	-16.6	-29.6	-23.1	005	1.6	1.7	032	6.3	N	73	-26.5	****	50	13
14	-16.7	-31.0	-23.9	013	2.3	3.1	029	7.6	NNE	61	-29.0	****	40	14
15	-17.8	-30.4	-24.1	095	.5	1.6	152	7.0	NNE	75	-24.2	****	25	15
16	-14.2	-20.7	-17.5	075	.2	1.3	175	6.3	S	81	-19.2	****	15	16
17	-8.3	-17.6	-13.0	196	.4	1.2	161	4.4	SSW	87	-15.1	****	15	17
18	-5.5	-8.9	-7.2	***	****	****	***	****	NE	96	-7.9	****	0	18
19	-3.7	-22.0	-12.9	017	4.9	5.1	016	11.4	NNE	53	-19.9	****	65	19
20	-22.4	-28.3	-25.4	002	.7	1.4	358	4.4	N	60	-30.7	****	15	20
21	-18.6	-27.4	-23.0	175	.2	1.2	339	5.7	S	73	-25.1	****	10	21
22	-12.5	-21.9	-17.2	183	1.2	1.7	169	8.9	SSW	80	-18.8	****	0	22
23	-5.0	-12.2	-8.6	189	2.0	5.2	008	14.0	S	88	-10.9	****	25	23
24	-9.6	-20.5	-15.1	016	3.3	3.6	011	8.3	NNE	72	-18.4	****	45	24
25	-13.5	-22.7	-18.1	153	1.4	2.3	187	10.8	S	81	-19.3	****	20	25
26	-11.0	-19.5	-15.3	023	3.4	3.6	015	8.9	NNE	76	-18.0	****	40	26
27	-17.9	-33.0	-25.5	019	.4	1.0	008	3.8	N	76	-27.0	****	165	27
28	-21.9	-35.7	-28.8	151	1.4	2.2	167	8.9	S	73	-30.6	****	190	28
29	-13.3	-25.9	-19.6	178	2.2	3.3	136	8.3	S	78	-22.4	****	10	29
30	-2.2	-12.8	-7.5	164	6.7	7.0	159	17.8	SSE	74	-10.4	****	5	30
31	2.6	-5.6	-1.5	155	6.0	6.8	151	19.7	SE	78	-4.2	****	45	31
MONTH	5.1	-35.7	-15.2	129	.6	3.1	226	25.4	NNE	77	-17.6	****	1555	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 8.3
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 12.7
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 15.2
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 6.6

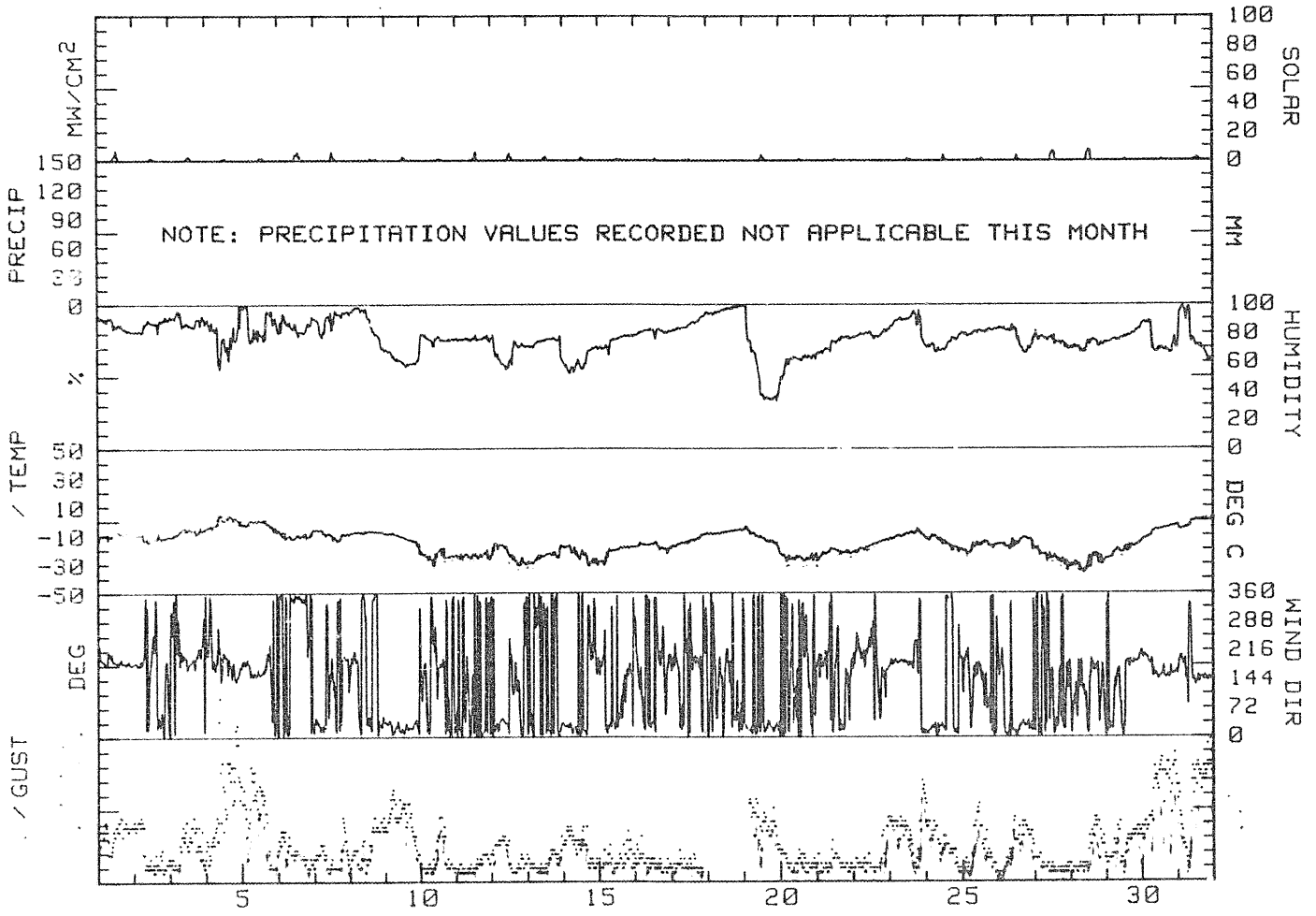
WHEN RELATIVE HUMIDITY READINGS ARE UNREPORTABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND, SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.
SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DENALI WEATHER STATION

December, 1984



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING December, 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	1.33	8.22	3.16	.63	.14	0.00	0.00	13.48
NNE	2.04	6.81	7.09	2.25	.07	0.00	0.00	18.26
NE	1.33	2.95	2.88	.14	0.00	0.00	0.00	7.30
ENE	.56	1.19	0.00	0.00	0.00	0.00	0.00	1.76
E	.63	1.26	0.00	0.00	0.00	0.00	0.00	1.90
ESE	1.40	.98	.14	0.00	0.00	0.00	0.00	2.53
SE	1.12	.91	.21	1.12	.35	0.00	0.00	3.70
SSE	1.05	2.32	1.47	3.93	.63	0.00	0.00	9.41
S	1.90	3.44	7.51	2.88	0.00	0.00	0.00	15.73
SSW	1.83	4.28	4.71	.70	0.00	0.00	0.00	11.52
SW	.56	1.90	.35	.07	0.00	0.00	0.00	2.88
WSW	.84	.91	.07	0.00	0.00	0.00	0.00	1.83
W	.49	.56	.07	0.00	0.00	0.00	0.00	1.12
WNW	.35	.84	.14	0.00	0.00	0.00	0.00	1.33
NW	.70	.84	0.00	0.00	0.00	0.00	0.00	1.54
NNW	.77	1.19	.56	.07	0.00	0.00	0.00	2.59
CALM								
TOTAL	16.92	41.57	28.57	11.90	.19	0.00	0.00	100.00

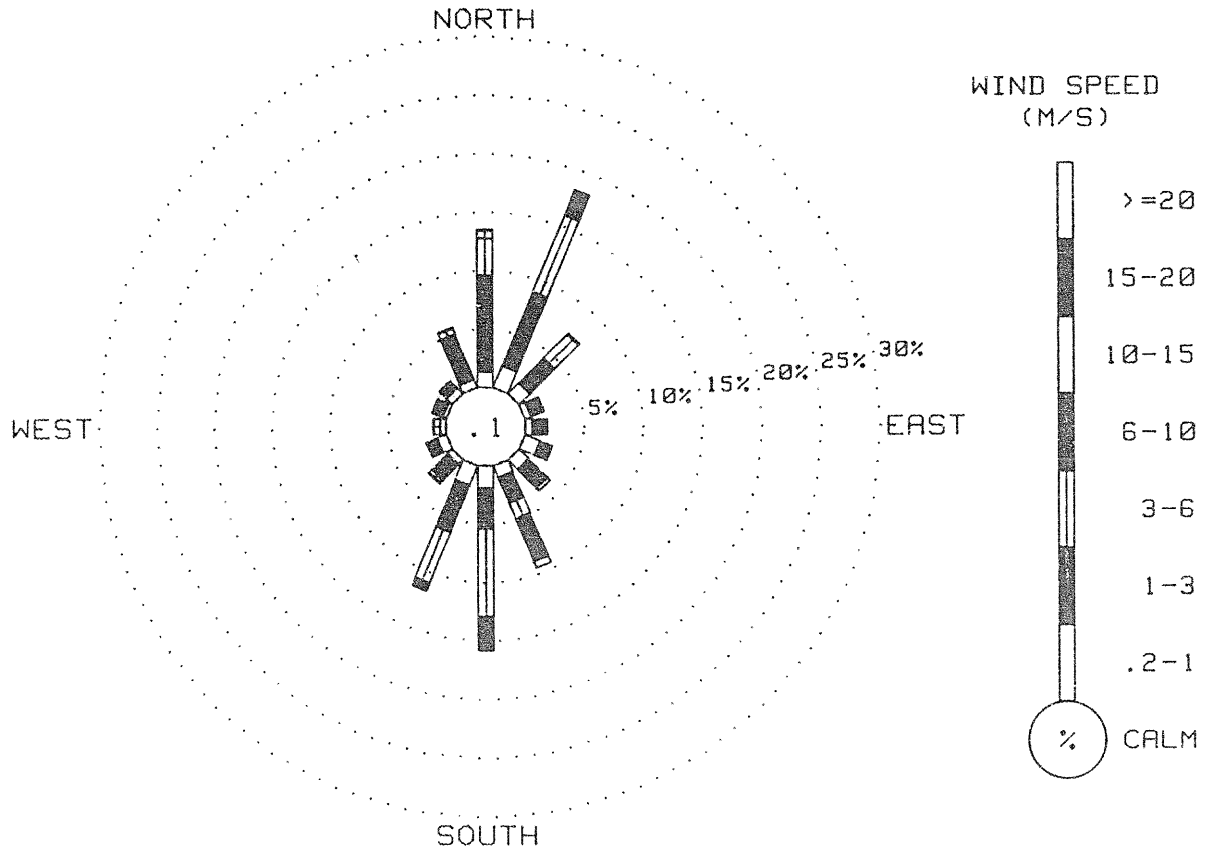
ALL FREQUENCIES ARE EXPRESSED IN PERCENT
1284 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
1444 WIND OBSERVATIONS WOULD HAVE BEEN CORRECT FOR 30 MINUTE DATA
SEE INTERPRETATION NOTES AT END OF MET Y REPORT >>>

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DENALI WEATHER STATION

December, 1984



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

PUBLIC SOLAR RADIATION SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING December, 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	2	3	5	4	1	0	0	0	0	0	0	0	0	0	1
2	0	0	0	0	0	0	0	0	0	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	2	3	2	0	0	0	0	0	0	0	0	0	0	0
4	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
5	0	0	0	0	0	0	0	0	0	0	0	2	1	2	1	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	1	4	5	4	1	0	0	0	0	0	0	0	0	0	1
7	0	0	0	0	0	0	0	0	0	0	0	5	3	1	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	0	0	0	0	0
9	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
10	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
11	0	0	0	0	0	0	0	0	0	0	1	1	2	6	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	1	4	4	2	0	0	0	0	0	0	0	0	0	0	0
13	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
14	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
15	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
16	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	1	0	1	1	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	0
19	0	0	0	0	0	0	0	0	0	0	0	2	3	2	0	0	0	0	0	0	0	0	0	0	0
20	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
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	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	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
24	0	0	0	0	0	0	0	0	0	0	0	1	3	1	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	5	7	6	0	0	0	0	0	0	0	0	0	0	1
28	0	0	0	0	0	0	0	0	0	0	0	5	8	7	0	0	0	0	0	0	0	0	0	0	1
29	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
30	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
31	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

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DATA EVALUATION SUMMARY FOR DENALI WEATHER STATION
DATA TAKEN DURING December, 1984

PARAMETER	NUMBER OF USABLE OBSERVATIONS	PERCENT OF TOTAL OBSERVATIONS
TEMPERATURE	1488	100
WIND SPEED	1428	96
WIND DIRECTION	1484	100
PEAK GUST	1428	96
RELATIVE HUMIDITY	1245	84
PRECIPITATION	0	0
SOLAR RADIATION	1488	100
DEW POINT	1245	84

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 -2 mW/CM^2

Additional comments on this month's data:

1. Intermittent wind speed and direction 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 II, Denali Station (No. 0620). Prepared under contract to Harza-Ebasco Susitna Joint Venture for Alaska Power Authority. Document No. 1089. 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)