SUSITNA
HYDROELECTRIC PROJECT

FEDERAL ENERGY REGULATORY COMMISSION
PROJECT No. 7114

PROCESSED CLIMATIC DATA
OCTOBER 1983 - DECEMBER 1984

VOLUME 3
KOSINA CREEK STATION
(No. 0640)

PREPARED BY

R&M CONSULTANTS, INC.
ENGINEERS GEOLOGISTS PLANNERS SURVEYORS

FINAL REPORT

UNDER CONTRACT TO

HARZA-EBASCO
SUSITNA JOINT VENTURE

JUNE 1985
DOCUMENT No. 2769

ALASKA POWER AUTHORITY

Document No. 2769
Susitna File No. 4.2.2.1

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Final Report
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SUSITNA HYDROELECTRIC PROJECT

TASK 4 - HYDROLOGY

PROCESSED CLIMATIC DATA
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VOLUME INDEX

ALASKA POWER AUTHORITY
SUSITNA HYDROELECTRIC PROJECT

PROCESSED CLIMATIC DATA - KOSINA STATION
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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 Kosina climate station was installed to aid the Alaska Department of Fish and Game (ADF&G) with their caribou studies in the area, and to satisfy hydrology data requirements for the area south of the Susitna River in the Talkeetna Mountain drainages.

1.2 Station Description

The Kosina weather station is situated on a bluff at elevation 2,700 feet, about 6 miles south of the Susitna River, and approximately ½ mile south of the Kosina Creek and Gilbert Creek confluence at latitude 62°41'40"N and longitude 147°58'20"W (refer to Figures 1.1 and 1.2 for location). The terrain to the south of this site rises gradually and is characteristically rolling tundra with patches of dense willow and a few isolated spruce trees. The elevation increases to 3,500 feet within 10 miles of the station, and the Talkeetna mountains rise to over 6,000 feet about 8 miles south of the site. These shade the instrument at sun angles less than 3-4° above horizontal (see Table 1.1 for angular elevations of terrain obstructions). Mt. Watana to the west rises to 6,255 feet less than 6 miles from the station. This feature is significant in that it shades the instrument from a western sun throughout the year, particularly in the summer.

Winds in this area are variable depending upon the movement of storm systems. Southwest winds are typical during the summer when storms blow in from the Gulf of Alaska, and north or east winds occur frequently during the winter.

1.3 Methods of Data Collection

The climatic data at Kosina are collected using a Model 5100 Weather Wizard Digital Weather Station, manufactured by Meteorology Research, Inc., now

p .ifort Instrument Company. The Weather Wizard measures, pr 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. 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 Kosina Station was installed on August 25, 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 4 Kosina Creek Station (No. 0640) March 1982 (R&M Consultants)	August 1980 - September 1981
2.	Processed Climatic Data Volume 4 Kosina Creek Station (No. 0640) December 1982 (R&M Consultants)	October 1981 - September 1982
3.	Processed Climatic Data Volume 3 Kosina Creek Station (No. 0640) 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 KOSINA WEATHER STATION

Azimuth (1) (true)	Elevation (2) (ft, MSL)	Vertical Angle (3)
24°	3204	1.4°
48°	3704	3.2°
61°	3609	3.8°
98°	3576	6.1°
158°	3432	3.4°
265°	2940	1.3°
295°	6255	7.7°
332°	2895	1.6°

NOTES:

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

(2) Elevations were obtained from U.S.G.S. 1:63,630 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
KOSINA CLIMATE STATION
OCTOBER 1983 TO DECEMBER 1984

Inspection Date	Maintenance
11/17/83	Weather Wizard reinstalled
	RH sensor calibrated
01/06/84	Reset date to 006
02/22/84	RH sensor calibrated
04/09/84	None
05/22/84	None
05/24/84	Weather Wizard removed for maintenance
06/15/84	Weather Wizard reinstalled
	Anemometer cups and wind vane exchanged with damaged ones from Eklutna station
	RH sensor calibrated
07/13/84	Replaced anemometer cups and wind vane
08/22/84	Sensor array disconnected for annual maintenance
08/23/84	Sensor array reconnected
	RH sensor calibrated
10/05/84	RH oscillator replaced
11/02/84	None
11/28/84	RH sensor calibrated

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

TABLE 1.4. EXPLANATION OF DATA GAPS AT
KOSINA 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 - 11/17/83	47.5	47.5	47.5	47.5		47.5	47.5	Station not installed.
11/19/83				0.2				Wind vane stuck.
1/4 - 1/6/84	2.5	2.5	2.5	2.5		2.5	2.5	Weather Wizard not operating.
1/13 - 2/2/84				1				Frozen wind vane (intermittent).
2/27 - 3/3/84			0.2	0.3			0.2	Intermittent garbled data. Malfunction in Weather Wizard
3/4 - 3/5/84				0.3				Wind vane stuck.
4/9 - 4/19/84	0.7	0.7	1	1		0.2	1	Intermittent garbled data. Malfunction in Weather Wizard
4/11 - 4/14/84				1				Frozen wind vane. Intermittent.
5/19 - 5/24/84	4	4	4	4	4	4	4	Weather Wizard not operating.
5/24 - 6/15/84	22	22	22	22	22	22	22	Weather Wizard removed for maintenance.
6/15 - 10/5/84		112						Bad RH oscillator.
6/20 - 7/13/84	23		23	23	23	23	23	Weather Wizard not operating. Power failure.
8/22 - 8/23/84	1		1	1			1	Sensor array disconnected for annual maintenance.
10/9 - 10/10/84			0.7					Frozen wind vane (intermittent).
Total	100.7	188.7	101.9	103.8	49	99.2	101.2	

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

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

Period	Solar Radiation Adjustment	RH Adjustment
11/17/83 - 5/24/84	-1 mW/cm^2	+5 RH points
6/15 - 10/5/84	-1	
10/5 - 11/2/84	-1	-20
11/2 - 11/28/84	-1	-16
11/28 - 12/31/84	-1	-11

NOTE: No RH data from 6/15 to 10/5 due to a bad RH sensor oscillator. The oscillator was replaced on 10/5/84.

TABLE 1.6. ESTIMATES FOR MISSING DATA
KOSINA 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)
02/26/84	0030					82		
02/27/84	0100	-12.1				82		0
	0130	-12.4				83		0
	0600	-15.5						
	1630							10
02/28/84	0300	-11.6				89		0
	0100	-11.5				88		
	0430							0
	0930					83		
	1300	-11.7						
	1600	-11.7						
	1630					83		4
	1700	-11.8				82		3
02/29/84	0030							0
	1230	-13.7						
	1300	-13.3						
	2000							0
	2030	-16.3				81		0
03/01/84	0330							0
	0400	-15.8				82		0
	0430	-15.5						
	1130					68		
	1200	-13.4				72		
	1600	-11.0						
03/02/84	0730	-15.2				89		1
	2300					86		
03/03/84	0600	-13.3				87		0
	0630	-13.8				87		0
04/09/84	1600					49	0	38
	1630	-01.3				51	0	34
	2230	-9.0						
	2300	-9.4						
	2330					58		

NOTES:

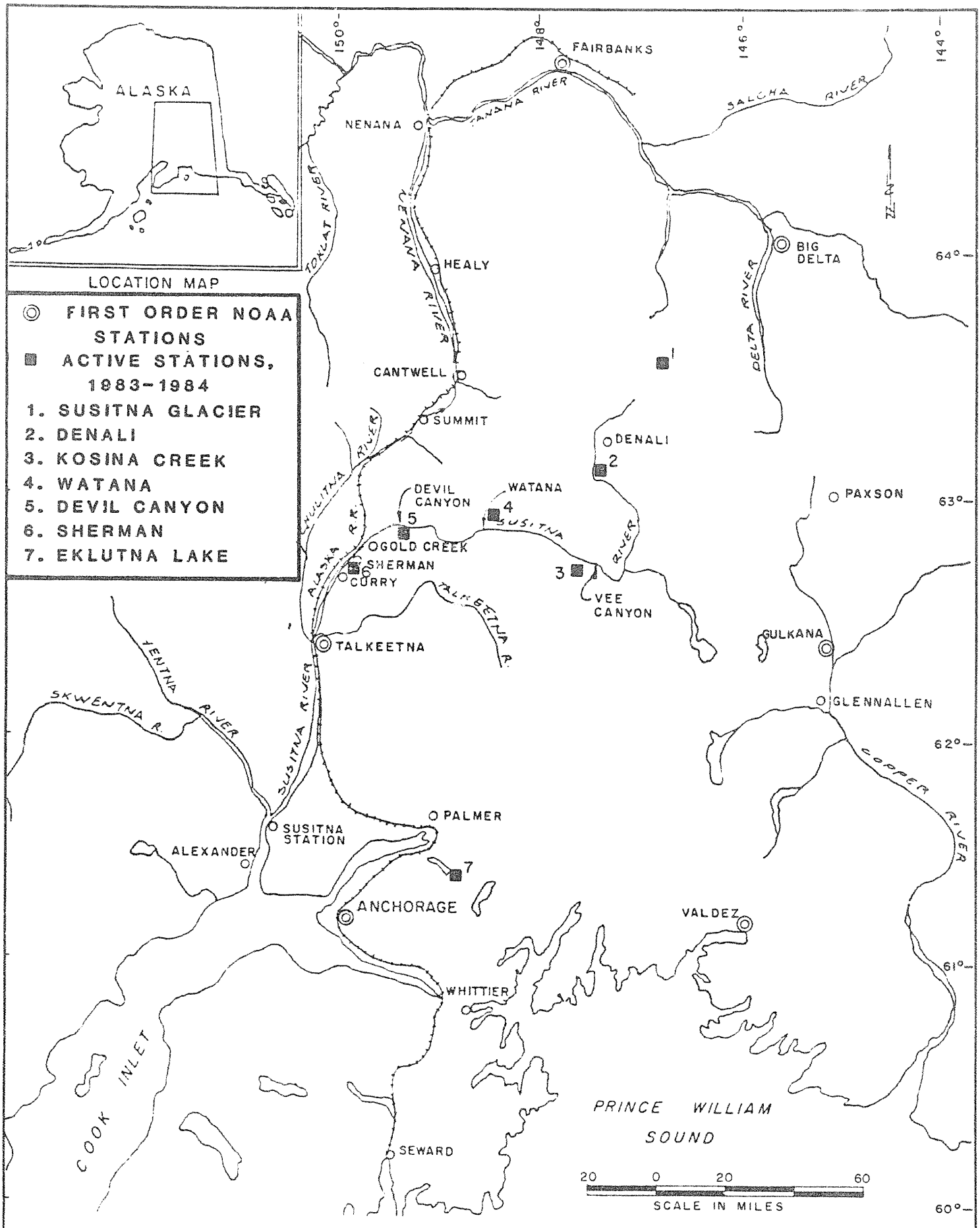
1. These data have been estimated where gaps exist in the record. Estimates were made by interpolating between valid data points preceding and following the missing data.
2. Precipitation values are the amounts estimated to have fallen in the preceding half-hour.

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

Date	Time (AST)	Temp (°C)	Wind Speed (m/s)	Wind Dir (Deg)	Gust (m/s)	RH (%)	Precip (mm)	Solar Radiation (mw/cm²)
04/10/84	0600					66	0	
	0630						0	2
	0700						0	
	0730	-10.0				58	0	11
	0800	-9.3				59	0	17
	1600							46
	0000						0	0
04/11/84	0030-0600						0	0
	0630-0830						0	
	2300-0000						0	0
04/12/84	0030-0300						0	0
	0400					92	0	0
	0630-0830						0	
	2030					80		
	2100					80		
04/16/84	0730							24
	0830					70		
	1230							57
04/19/84	0200	-11.5						
06/15/84	0800	+3.8					0	10
08/23/84	1300-1400						0	
	1430						0.2	43
10/05/84	1530	+3.8						11
	1600	+3.7						9

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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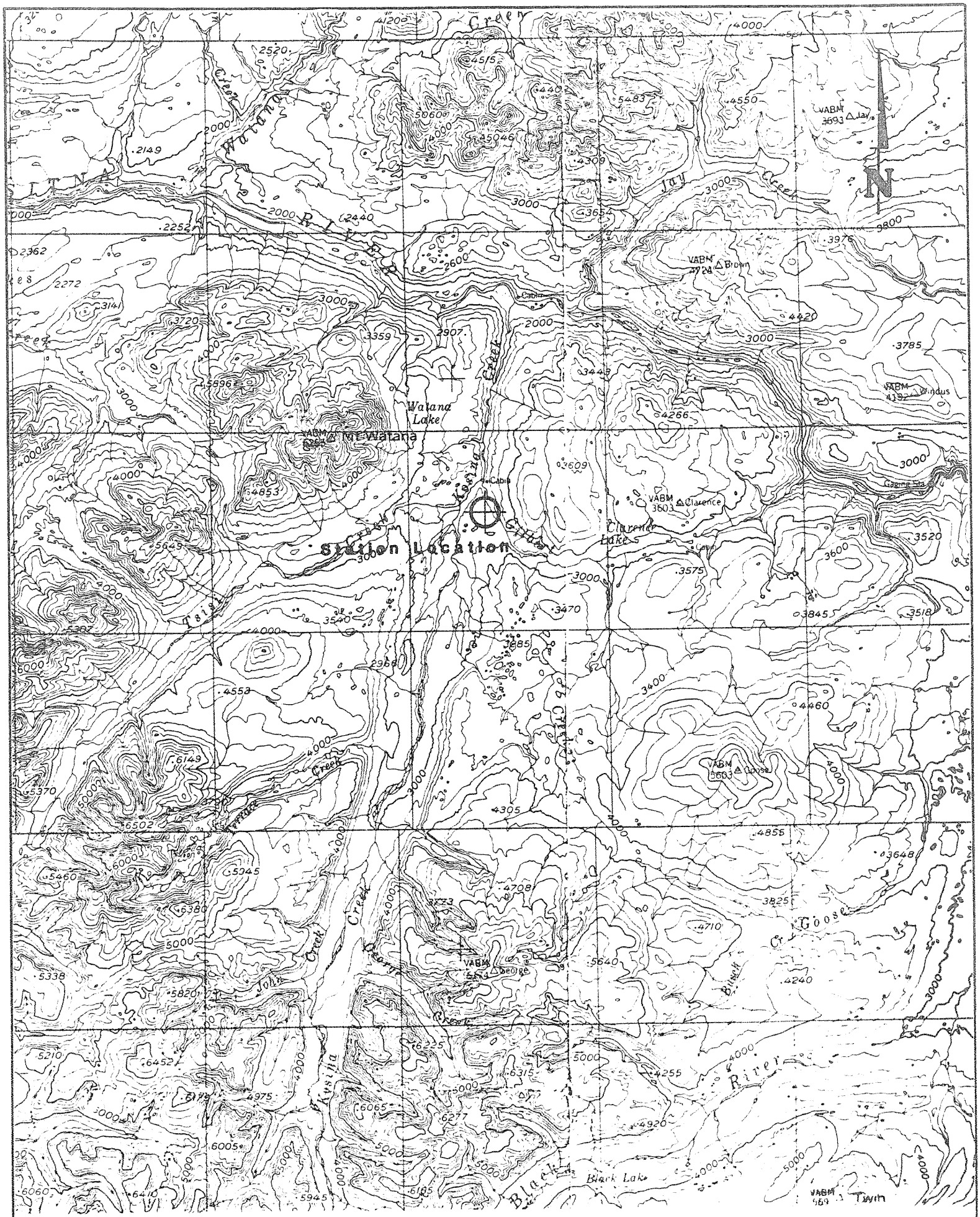
FIGURE 1-1

PREPARED FOR:

HARZA-EBASCO
SUSITNA JOINT VENTURE



USGS TALKEETNA MOUNTAINS (1954) SCALE 1:250,000 Figure 1.2

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KOSINA CLIMATE STATION

PREPARED FOR:

HARZA-EBASCO

SUSITNA JOINT VENTURE

2.0 ANNUAL DATA SUMMARY

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

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

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

TABLE 2.1. SUMMARY OF CLIMATE DATA RECORDED AT KOSINA STATION (NO. 0640) 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	M	M	M	M	M	M	M	M	M	M	M	M	M
November	M	M	M	M	M	M	M	M	M	M	M	M	M
December	-1.4	-28.2	-14.6	183	2.8	3.1	116	11.4	S	85	-16.4	M	5,740
January 1984	2.2M	-33.8M	-14.4M	182M	2.4M	3.0M	116M	15.9M	SSW(M)	87M	-16.1M	M	6,708M
February	-4.7	-29.5	-15.0	188	2.1	2.8	091	12.1	SSW	85	-16.7M	M	25,420
March	6.0	-17.7	-6.6	196M	2.2M	2.6M	143M	10.8	SSW(M)	82	-9.4M	M	90,155
April	7.5M	-14.6M	-4.1M	190M	1.6M	2.3M	190M	32.0M	SSW(M)	73M	M	3.4	148,042M
May	M	M	M	M	M	M	M	M	M	M	M	M	M
June	M	M	M	M	M	M	M	M	M	M	M	M	M
July	M	M	M	M	M	M	M	M	M	M	M	M	M
August	21.6M	-6.6M	8.7M	025M	1.1M	2.8M	338M	14.0M	NNE(M)	M	M	31.2	120,127M
September	13.5	-4.1	5.0	153	1.0	2.2	124	14.0	SSW	M	M	18.4	76,600
October	9.2	-21.7	-3.9	161M	1.4M	2.4M	096M	10.2	S(M)	59M	M	M	44,400
November	0.9	-25.6	-13.1	170	2.3	2.7	154	19.0	S	68	-18.1M	M	12,285
December	-1.6	-30.1	-14.0	181	2.0	2.8	252	12.1	SSW	72	-18.1M	M	4,530
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

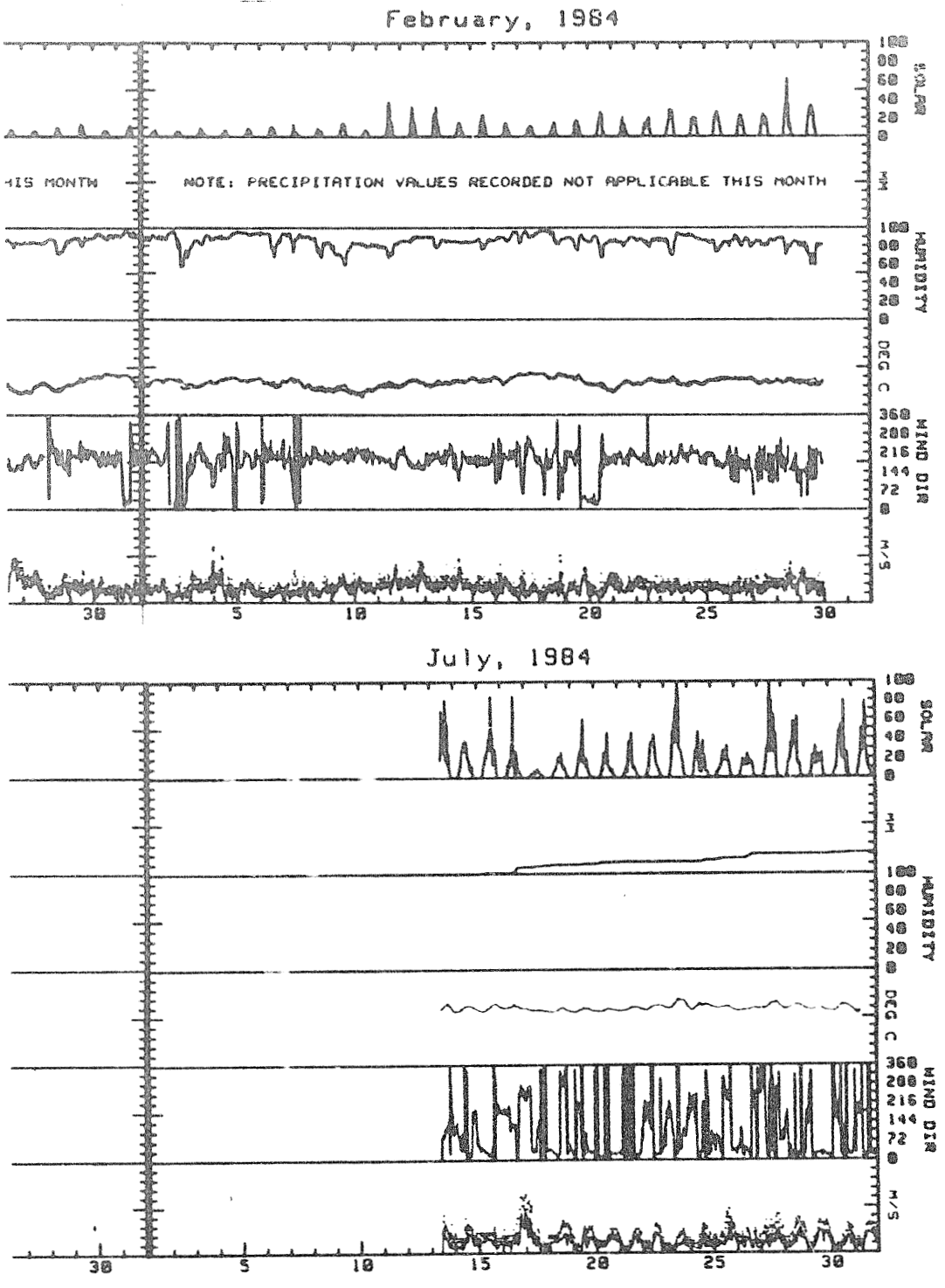
NOTE: See section on interpretation of data for explanation of symbols used. Annual values are for water year (WY) and for calendar year (CY).

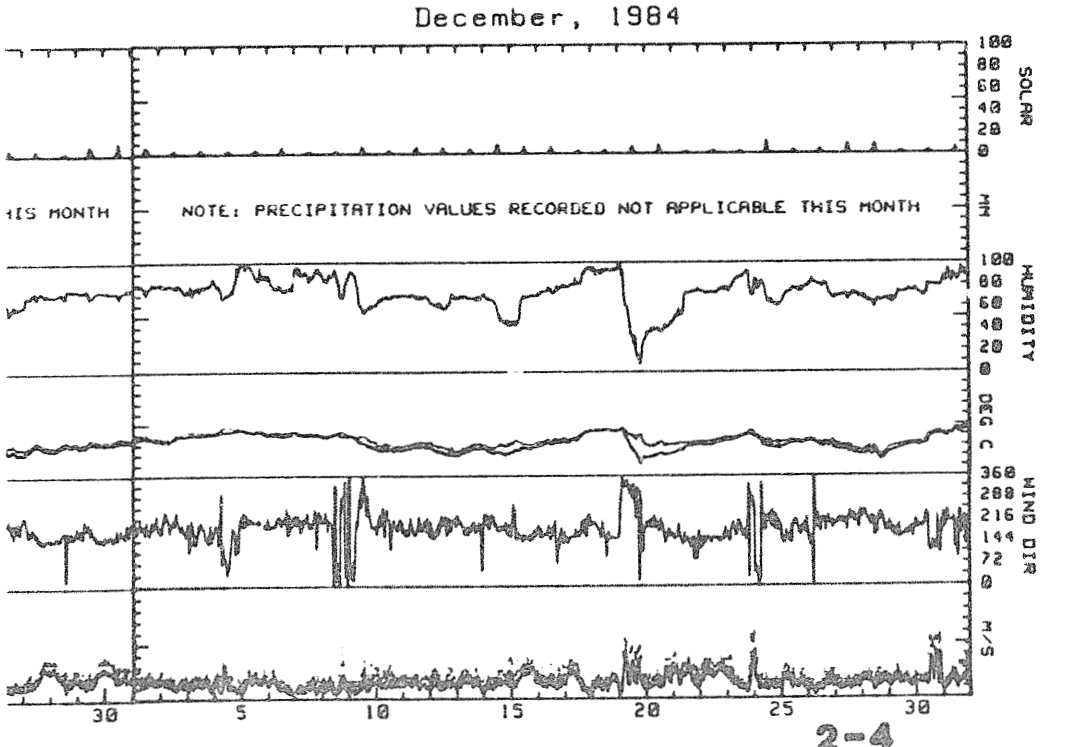
TABLE 2.2. PERCENT OF TOTAL POSSIBLE OBSERVATIONS RECORDED AT KOSINA CLIMATE STATION OCTOBER 1983 TO DECEMBER 1984

Month	Temp	Wind Speed	Wind Direction	Peak Gust	RH	Precip	Solar Radiation	Dew Point
October 1983	0	0	0	0	0	0	0	0
November	45	45	44	45	44	0	45	44
December	100	100	100	100	100	0	100	100
January 1984	92	92	89	92	90	0	92	90
February	100	99	99	99	96	0	100	96
March	100	99	99	100	98	0	100	98
April	98	96	94	96	94	99	99	94
May	63	63	63	63	60	63	63	60
June	17	17	17	17	0	17	17	0
July	60	60	60	60	0	60	60	0
August	96	96	96	96	0	100	100	0
September	100	100	100	100	0	100	100	0
October	100	100	98	100	79	0	100	79
November	100	100	100	100	92	0	100	92
December	100	100	100	100	98	0	100	98
Total	78	78	77	78	57	29	78	57

NOTES:

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



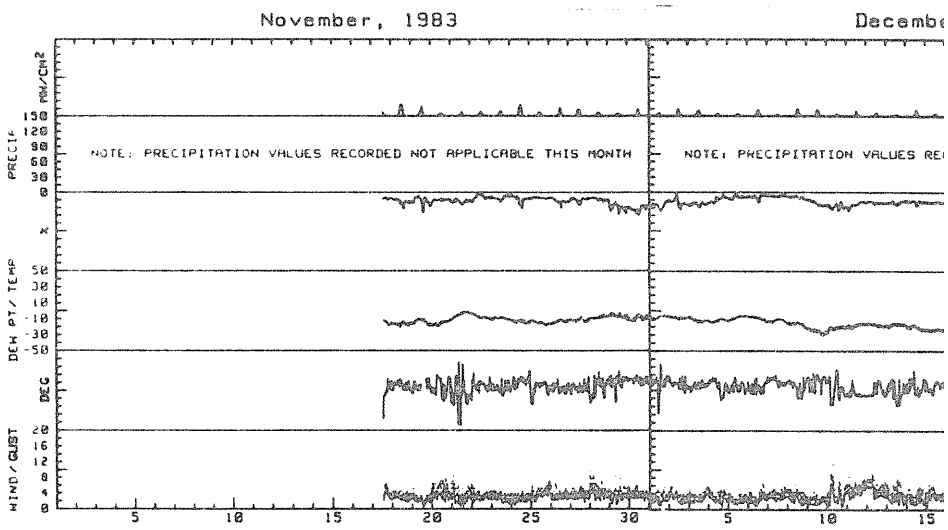


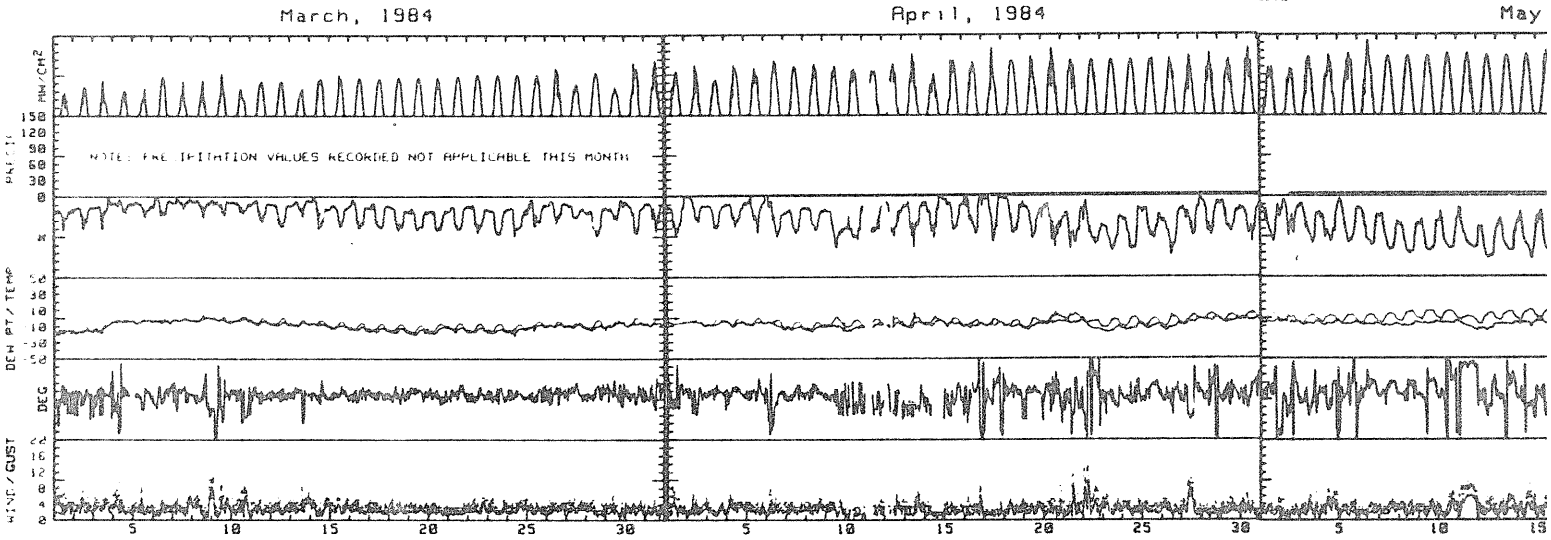
NOTE: A larger copy of each plot is presented in Section 5, Climatic Data Summaries.

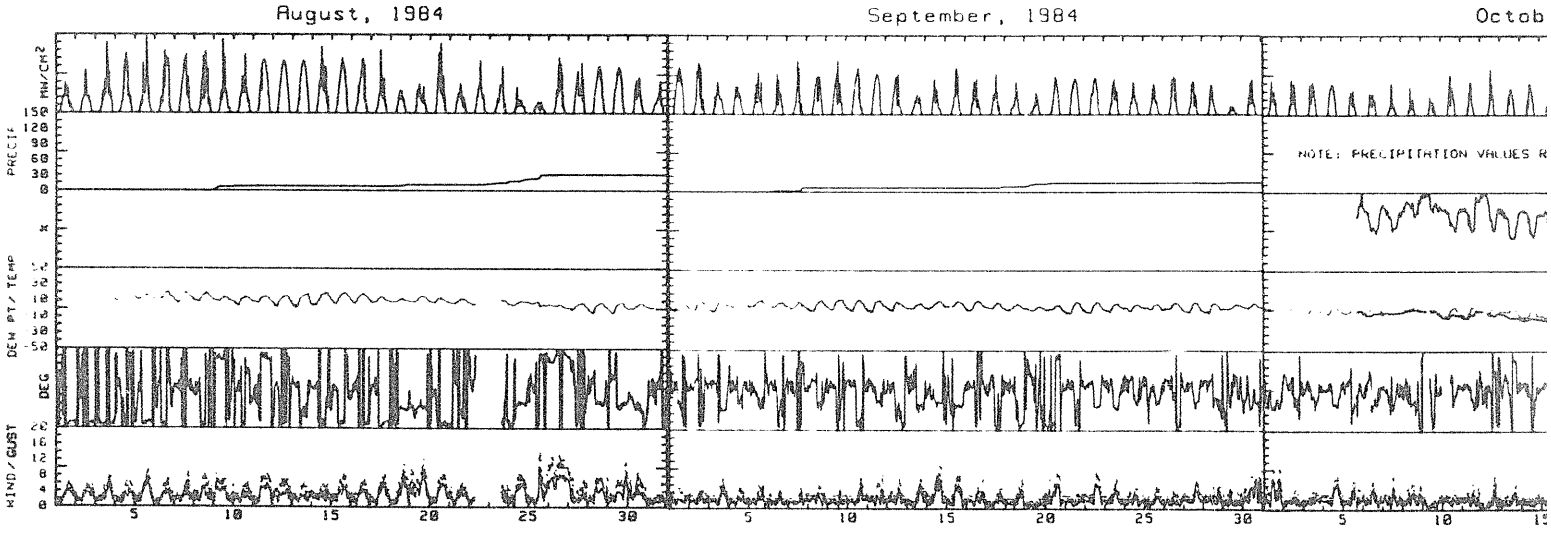
FIGURE 2.1 SEQUENTIAL PLOT OF CLIMATIC DATA, KOSINA STATION, OCTOBER 1983-DECEMBER 1984

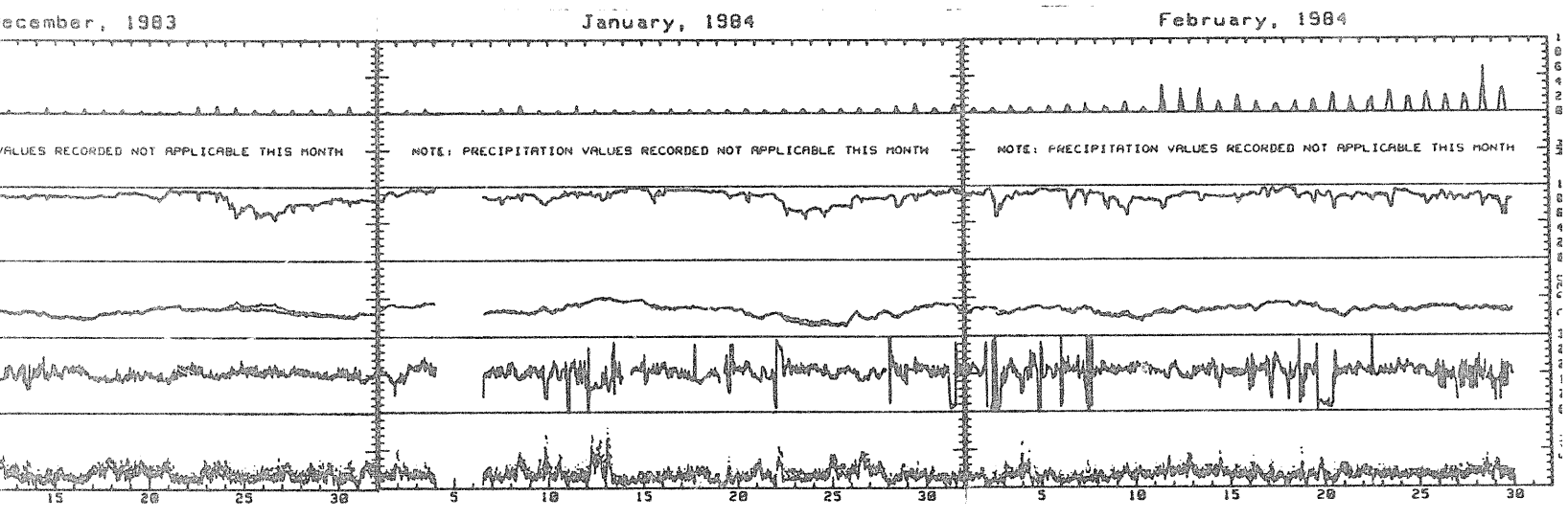
NO DATA FOR OCTOBER 1983

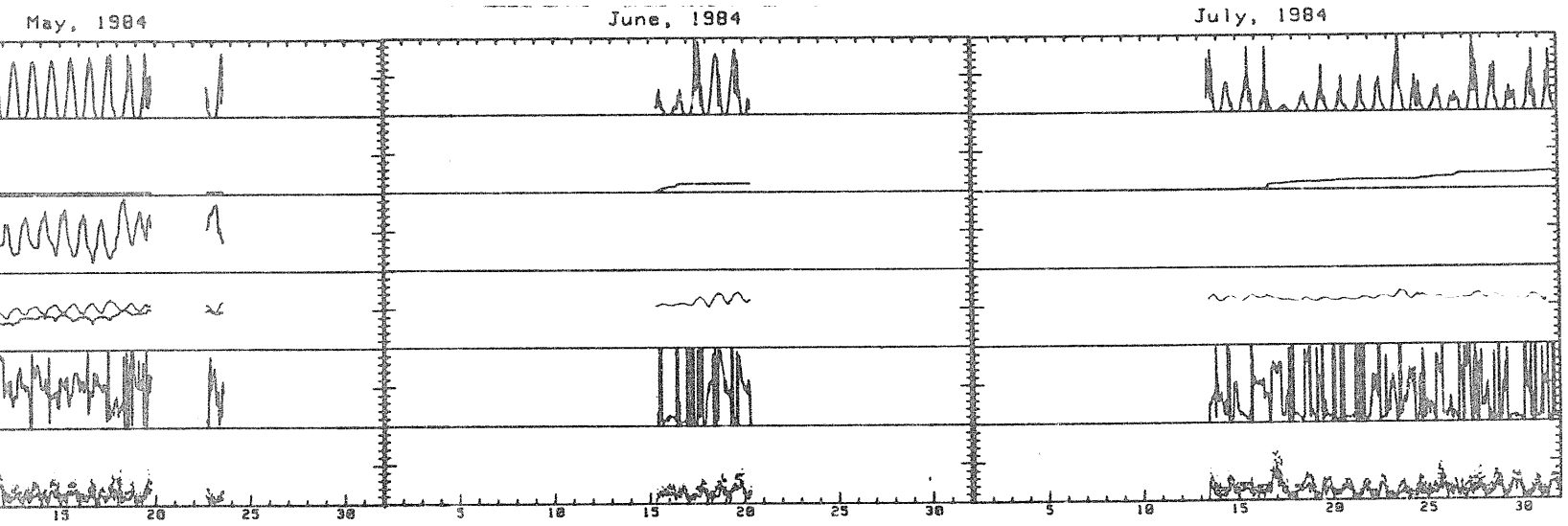
STATION NOT INSTALLED








ecember, 1983
January, 1984
February, 1984
VALUES RECORDED NOT APPLICABLE THIS MONTH
NOTE: PRECIPITATION VALUES RECORDED NOT APPLICABLE THIS MONTH
NOTE: PRECIPITATION VALUES RECORDED NOT APPLICABLE THIS MONTH
15 20 25 30
5 10 15 20 25 30
5 10 15 20 25 30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June, 1984
July, 1984
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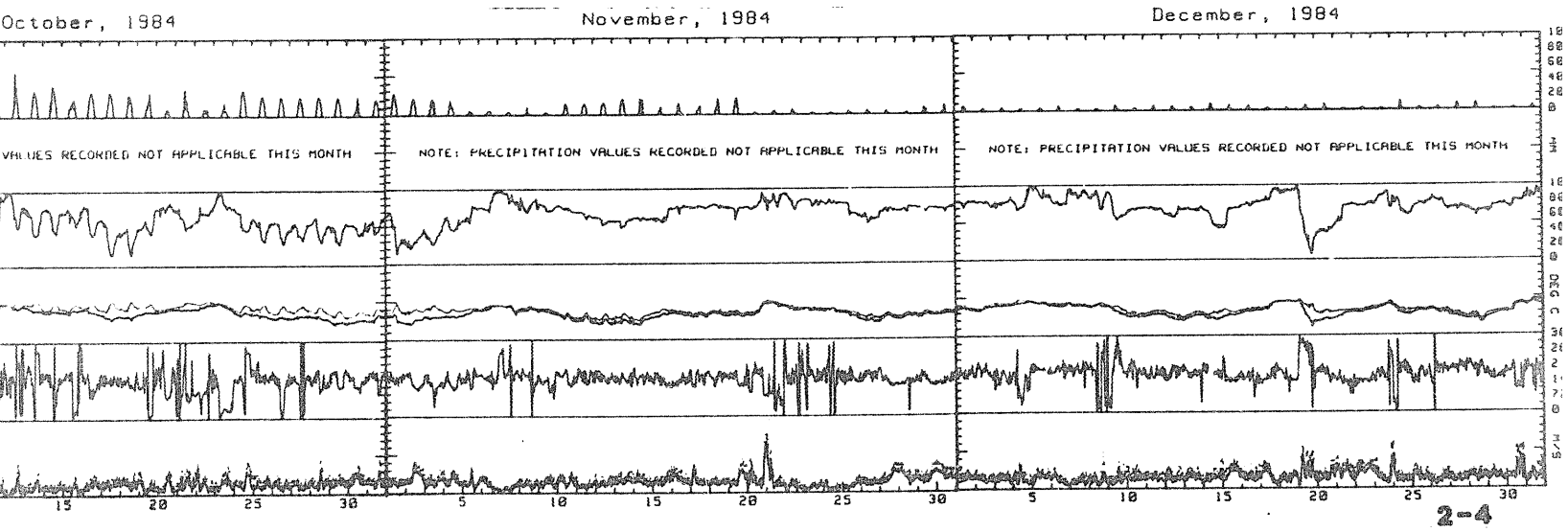
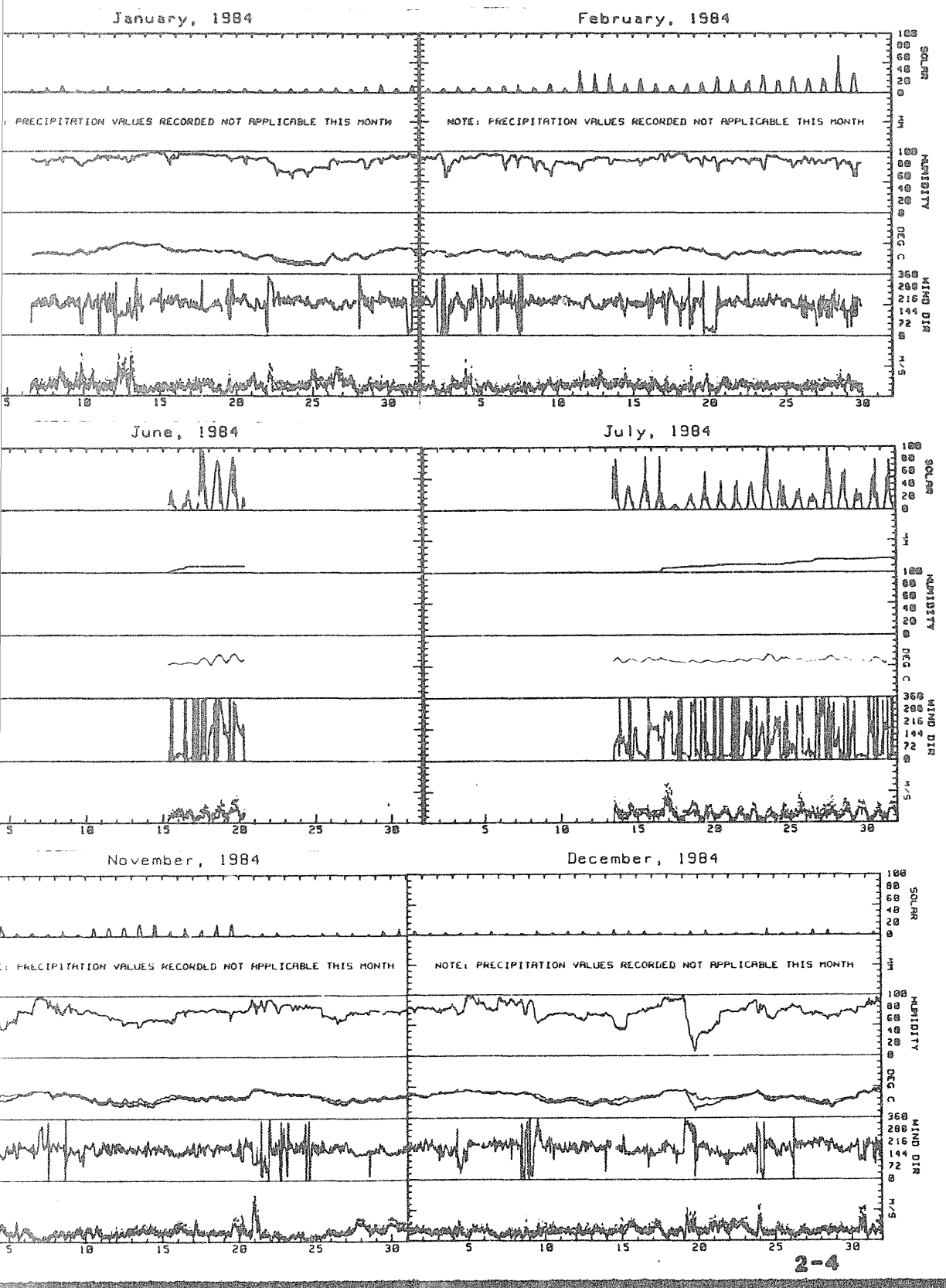
5 10 15 20 25 30


October, 1984
November, 1984
December, 1984
VALUES RECORDED NOT APPLICABLE THIS MONTH
NOTE: PRECIPITATION VALUES RECORDED NOT APPLICABLE THIS MONTH
NOTE: PRECIPITATION VALUES RECORDED NOT APPLICABLE THIS MONTH
15 20 25 30
5 10 15 20 25 30
5 10 15 20 25 30



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

FIGURE 2.1 SEQUENTIAL PLOT OF CLIMATIC DATA, KOSINA 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:

4.0 INTERPRETATION OF DATA, 1983-84

4.1 General Comments

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

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

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

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

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

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

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

4.1.6 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 Kosina Weather Wizard was removed from the site on June 14, 1983 to use as a replacement for other stations. It was not reinstalled until November 17, 1983. Thus, there are no data for October and the first half of November 1983 in this report.

4.1.8 The station was removed for maintenance on May 24, 1984 because of an increasing amount of garbled data. It stopped functioning completely on May 19. The Weather Wizard was reinstalled at the site on June 14. However, following reinstallation, all data were lost from June 20 to July 13 due to a power failure. A total of 49 days of data are missing during May, June, and July (see Table 1.4).

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.

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 noticably too low. Adjustments are therefore made accordingly, as indicated in Table 1.5.

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

The oscillator for the Kosina Creek relative humidity sensor was bad for several months, which caused erratic reporting of the data. Data were recorded from mid-June 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 are missing.

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

4.2.4 Wind Speed and Direction

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

5.0 MONTHLY CLIMATIC DATA SUMMARIES
KOSINA CREEK 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 data for October 1983
(see INTERPRETATION OF DATA)

No precipitation data for November

(See INTERPRETATION OF DATA).

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

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	*****	*****	**	***	****	***	****	***
1500	*****	*****	**	***	****	***	****	***
1800	*****	*****	**	***	****	***	****	***
2100	*****	*****	**	***	****	***	****	***
2400	*****	*****	**	***	****	***	****	***

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

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

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

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

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

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

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

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

1-HOUR SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING November, 1983

DAY 10

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

DAY 11

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

DAY 12

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

DAY 13

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

DAY 14

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

DAY 15

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

DAY 16

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	*****	*****	**	***	****	***	****	***
0600	*****	*****	**	***	****	***	****	***
0900	*****	*****	**	***	****	***	****	***
1200	*****	*****	**	***	****	***	****	***
1500	-12.1	-13.7	92	146	2.7	151	5.7	3
1800	-13.7	-14.9	91	168	3.9	161	6.3	0
2100	-16.7	-17.8	91	218	2.7	199	4.4	0
2400	-15.8	-16.8	92	199	2.3	191	3.8	0

DAY 17

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	*****	*****	**	***	****	***	****	***
0600	*****	*****	**	***	****	***	****	***
0900	*****	*****	**	***	****	***	****	***
1200	*****	*****	**	***	****	***	****	***
1500	-13.4	-16.4	78	191	2.3	210	5.6	7
1800	-16.4	-17.3	89	98	2.3	102	4.1	1
2100	-14.2	-16.2	85	214	2.0	210	3.6	1
2400	-15.4	-17.1	87	182	2.4	178	3.8	0

DAY 18

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-16.3	-17.5	90	195	3.8	203	6.4	1
0600	-16.0	-17.4	89	205	3.8	204	5.[illegible]	1
0900	-15.5	-16.8	90	215	3.[illegible]	21[illegible]	[illegible]	[illegible]
1200	-14.8	-16.9	84	215	3.3	233	[illegible]	15
1500	-13.4	-16.4	78	191	2.3	210	5.6	7
1800	-16.4	-17.3	89	98	2.3	102	[illegible]	1
2100	-14.2	-16.2	85	214	2.0	210	[illegible]	1
2400	-15.4	-17.1	87	182	2.4	178	[illegible]	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR KOSINA 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	.07	.45	.15	0.00	0.00	0.00	0.00	.67
NNE	.15	.75	.37	0.00	0.00	0.00	0.00	1.27
NE	.07	.30	.30	.22	0.00	0.00	0.00	.89
ENE	0.00	.45	.22	0.00	0.00	0.00	0.00	.67
E	0.00	.97	.52	.30	0.00	0.00	0.00	1.80
ESE	.15	2.69	1.42	.97	0.00	0.00	0.00	5.24
SE	.22	3.23	1.95	0.00	0.00	0.00	0.00	5.39
SSE	.22	8.83	3.29	0.00	0.00	0.00	0.00	12.35
S	.07	12.65	3.07	0.00	0.00	0.00	0.00	15.79
SSW	.45	21.48	4.94	0.00	0.00	0.00	0.00	26.87
SW	.60	14.00	1.35	0.00	0.00	0.00	0.00	15.94
WSW	.45	7.49	.67	0.00	0.00	0.00	0.00	8.61
W	.22	1.50	.37	.22	0.00	0.00	0.00	2.32
WNW	.37	.37	.45	.07	0.00	0.00	0.00	1.27
NW	.15	.22	0.00	0.00	0.00	0.00	0.00	.37
NNW	.07	.30	.15	0.00	0.00	0.00	0.00	.52
CALM								0.00
TOTAL	3.29	75.67	19.94	1.80	0.00	0.00	0.00	100.00

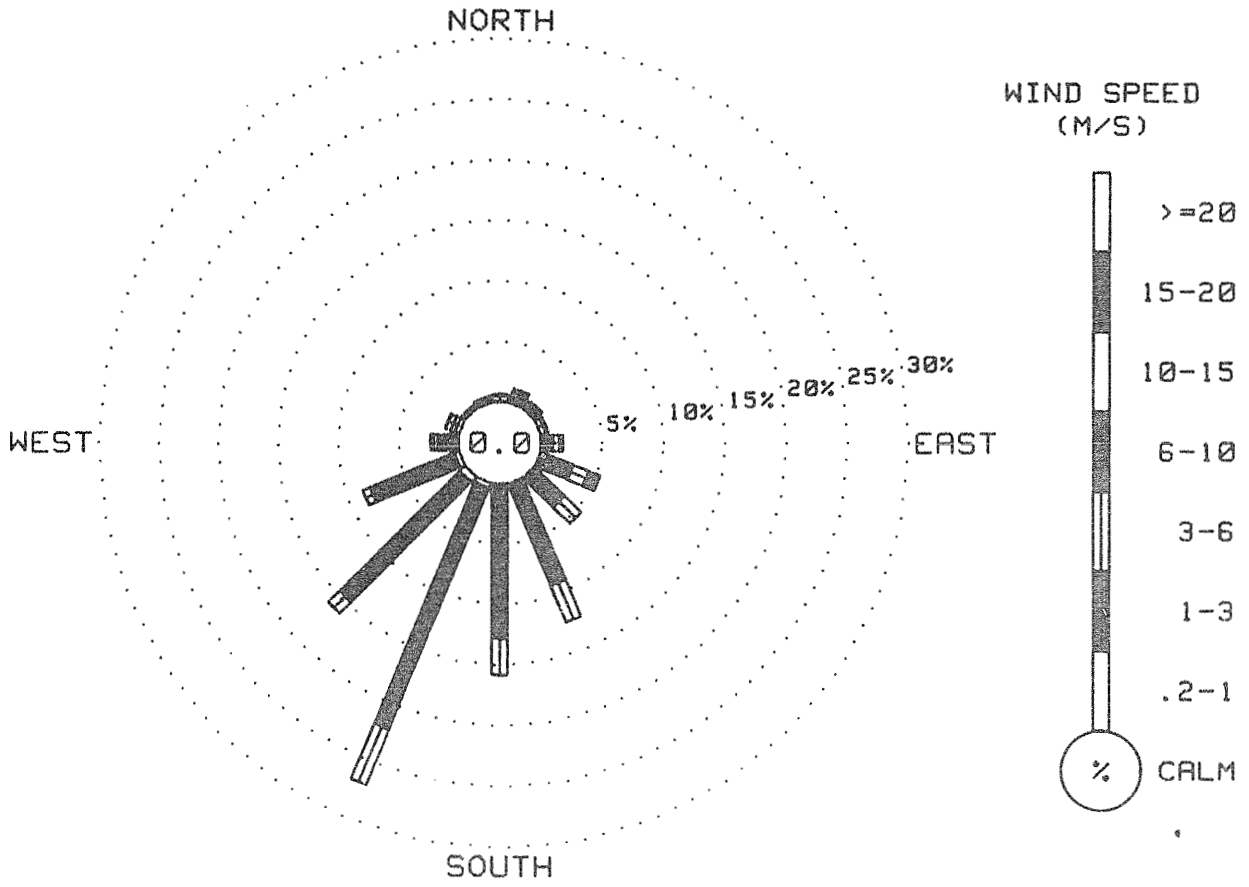
NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
1536 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
1440 WIND OBSERVATIONS WOULD HAVE BEEN CORRECT FOR 30 MINUTE DATA.
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

KOSINA WEATHER STATION

April, 1984



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SOLAR RADIATION SUMMARY FOR KOSINA 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	3	9	28	30	37	37	46	51	50	39	29	18	10	1	0	0	0	0	16
2	0	0	0	0	0	0	2	5	10	20	23	35	45	43	51	43	24	13	7	1	0	0	0	0	15
3	0	0	0	0	0	0	5	11	21	26	37	41	40	43	41	32	22	12	6	1	0	0	0	0	14
4	0	0	0	0	0	0	5	17	29	30	42	60	58	57	52	44	33	14	5	1	0	0	0	0	18
5	0	0	0	0	0	1	4	11	20	37	44	53	48	51	49	40	33	18	7	1	0	0	0	0	17
6	0	0	0	0	0	1	4	11	30	45	52	57	63	63	58	45	34	21	9	1	0	0	0	0	20
7	0	0	0	0	0	1	5	15	18	38	51	57	60	58	54	44	34	22	9	2	0	0	0	0	19
8	0	0	0	0	0	1	5	16	32	32	45	52	52	55	51	52	28	17	7	2	0	0	0	0	19
9	0	0	0	0	0	1	5	12	21	32	48	47	50	59	57	41	32	16	9	2	0	0	0	0	18
10	0	0	0	0	0	1	3	14	33	44	52	45	52	51	50	49	32	22	9	2	0	0	0	0	19
11	0	0	0	0	0	0	***	***	39	43	54	52	51	51	54	47	36	14	12	2	0	0	0	0	19
12	0	0	0	0	0	2	***	***	***	42	54	55	63	51	49	49	24	8	8	2	0	0	0	0	17
13	0	0	0	0	0	2	10	15	37	42	49	55	67	41	49	32	30	15	8	2	0	0	0	1	19
14	0	0	0	0	0	1	8	13	26	33	34	34	42	51	44	29	27	19	10	2	0	0	0	0	15
15	0	0	0	0	0	1	7	16	19	31	58	52	57	67	61	57	43	29	15	3	0	0	0	0	21
16	0	0	0	0	0	2	12	29	37	43	52	56	62	55	58	53	33	16	8	2	0	0	0	1	21
17	0	0	0	0	0	2	8	19	26	36	40	70	69	53	44	37	30	16	8	2	0	0	0	0	19
18	0	0	0	0	0	2	11	17	44	56	64	67	67	66	61	51	40	27	14	3	1	0	0	0	25
19	0	0	0	0	0	2	8	14	28	42	53	69	60	60	45	37	31	21	12	4	1	0	0	0	20
20	0	0	0	0	0	2	12	33	50	50	56	50	79	69	64	45	30	33	14	5	1	0	0	0	21
21	0	0	0	0	0	5	15	35	54	55	61	68	49	57	57	46	32	14	9	4	1	0	0	0	23
22	0	0	0	0	0	3	11	21	36	51	60	66	68	67	56	48	44	39	17	4	1	0	0	0	24
23	0	0	0	0	1	5	16	28	40	52	60	66	68	67	62	54	42	30	18	5	1	0	0	0	25
24	0	0	0	0	1	6	19	30	41	52	60	67	69	68	63	54	43	31	11	5	1	0	0	0	25
25	0	0	0	0	1	6	17	29	41	52	61	67	67	64	66	55	39	26	17	5	1	0	0	0	25
26	0	0	0	0	1	5	13	26	30	43	54	66	60	64	58	44	46	27	15	6	1	0	0	0	25
27	0	0	0	0	1	5	18	25	37	39	57	50	72	52	56	44	36	22	13	5	1	0	0	0	22
28	0	0	0	0	1	3	6	16	37	49	45	61	61	69	58	42	44	22	15	5	1	0	0	0	22
29	0	0	0	0	2	9	22	31	50	54	50	57	65	43	58	40	29	20	13	6	2	0	1	0	23
30	0	0	0	0	1	7	16	24	39	59	62	69	80	45	50	66	38	29	15	6	2	1	0	0	26

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

PARAMETER	NUMBER OF USABLE OBSERVATIONS	PERCENT OF TOTAL OBSERVATIONS
TEMPERATURE	1406	98
WIND SPEED	1386	96
WIND DIRECTION	1351	94
PEAK GUST	1387	96
RELATIVE HUMIDITY	1357	94
PRECIPITATION	1429	99
SOLAR RADIATION	1429	99
DEW POINT	1352	94

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

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

1. RH +5 RH Points
2. Solar -1 mW/CM^2

Additional comments on this month's data:

1. Malfunction in weather wizard caused data to be lost intermittantly from 4/9 to 4/19 for all parameters. Missing temperature, RH, precipitation, and solar radiation values estimated where possible.
2. Intermittent wind direction data lost due to frozen wind vane.
3. Timing and quantity of precipitation are suspect since freezing temperatures occurred almost every day.

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR KOSINA 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	.2	3.8	1.2	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	.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	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	****	****	****	****	****	****	19
20	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	20
21	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	21
22	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	0.0	0.0	.2	.2	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	****	****	****	****	****	****	****	****	****	****	****	23
24	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	24
25	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	25
26	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	26
27	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	27
28	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	28
29	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	29
30	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	30
31	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	31

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THMIT HOUR SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING May, 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	-2.5	-4.5	86	199	1.8	182	3.8	0
0600	.5	-5.8	84	203	1.9	181	3.8	9
0900	1.1	-5.3	73	226	2.0	242	3.8	28
1200	3.1	-4.3	58	232	2.3	231	3.8	51
1500	5.0	-4.1	52	233	2.3	252	4.4	44
1800	5.7	-3.9	50	259	.9	324	3.2	34
2100	1.8	-1.1	81	006	1.7	025	4.4	1
2400	-.4	-4.3	75	035	2.8	046	5.7	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	-1.7	-4.1	84	040	1.4	031	5.1	0
0600	-2.1	-2.7	96	193	1.7	206	5.1	3
0900	-1.2	-3.7	83	149	1.1	152	3.2	15
1200	1.6	*****	58	134	.8	148	2.5	49
1500	.7	-2.5	79	265	1.4	241	3.2	46
1800	1.2	-5.0	63	328	1.2	017	3.2	30
2100	-2.1	-4.1	86	251	2.4	258	3.8	1
2400	-3.5	-4.9	90	178	1.3	186	2.5	0

DAY 03

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-6.1	-7.4	91	168	2.2	163	3.8	0
0600	-4.5	-7.6	79	182	1.9	179	3.3	14
0900	-.8	-5.9	68	182	1.7	165	4.4	27
1200	1.9	-6.4	54	127	2.8	138	6.3	72
1500	3.8	-6.5	47	155	3.2	151	6.3	57
1800	4.0	*****	46	216	1.1	160	2.5	23
2100	-.4	-3.4	80	146	2.1	115	7.0	1
2400	-.4	-3.4	80	212	1.6	201	3.2	0

DAY 04

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-4.3	-7.6	78	210	2.0	214	3.8	0
0600	-4.1	-8.7	70	215	2.1	219	3.8	16
0900	1.1	-7.2	54	177	1.8	139	5.1	48
1200	2.3	-6.8	51	137	4.6	131	7.6	60
1500	3.3	-6.7	48	159	2.9	135	5.1	65
1800	1.9	-5.7	57	255	4.7	259	8.3	27
2100	-.8	-3.3	83	354	1.3	047	7.0	1
2400	-2.6	*****	94	002	1.3	030	6.3	0

DAY 05

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-5.9	-6.9	93	194	1.0	167	3.2	0
0600	-3.5	-7.3	75	197	2.4	193	3.8	18
0900	1.3	-7.0	54	206	2.4	189	3.8	55
1200	2.9	-7.4	47	242	1.1	240	3.2	69
1500	3.5	-7.4	45	247	2.0	253	4.4	65
1800	2.6	-5.8	54	305	1.6	311	4.4	31
2100	-.3	-3.2	81	264	2.0	264	5.1	1
2400	-3.3	-5.2	87	168	1.2	186	3.2	0

DAY 06

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-4.9	-7.0	85	196	1.8	200	2.5	0
0600	-5.1	-8.3	78	209	1.8	206	3.2	6
0900	-.4	-6.6	63	227	1.4	217	3.5	30
1200	2.9	-7.7	46	263	1.1	291	3.2	76
1500	5.1	-7.5	40	249	2.0	270	4.4	65
1800	3.3	-8.8	41	259	2.4	265	3.8	29
2100	-.7	-6.4	65	247	2.4	257	3.8	1
2400	-3.6	-7.0	77	208	2.3	198	3.8	0

DAY 07

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-4.5	-8.1	76	196	2.3	189	3.8	0
0600	-4.0	-9.2	67	210	1.9	207	3.2	13
0900	1.0	-8.3	50	202	1.5	215	3.2	48
1200	4.3	-9.6	36	231	1.7	231	3.8	72
1500	5.7	-9.1	34	256	2.7	256	4.4	65
1800	4.9	-8.6	39	259	3.4	262	5.1	31
2100	.4	-6.0	62	247	2.4	255	4.4	1
2400	-2.4	-7.5	68	206	2.7	209	3.8	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	-4.0	-9.2	67	200	2.8	204	4.4	0
0600	-2.0	-9.4	57	201	2.9	197	4.4	14
0900	4.3	-9.3	37	196	1.7	171	3.8	49
1200	7.3	-9.3	30	235	1.1	267	3.8	72
1500	7.0	-8.7	32	248	2.0	240	5.1	65
1800	7.4	-8.0	33	236	1.9	246	4.4	31
2100	2.4	-4.3	61	227	2.1	204	3.8	2
2400	.1	-5.5	66	201	2.5	203	3.8	0

DAY 09

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-.7	-6.2	66	199	2.3	208	3.8	0
0600	-.5	-6.9	62	187	2.3	186	3.3	14
0900	6.3	*****	42	170	1.5	144	3.2	49
1200	8.2	-7.3	33	191	.8	316	3.2	72
1500	8.3	-6.8	34	240	2.6	258	5.1	64
1800	8.5	-6.2	33	261	3.2	258	5.1	34
2100	4.1	-4.4	54	260	1.8	276	3.8	2
2400	.9	-4.1	69	199	2.6	210	4.4	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KOSINA 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	-.8	-5.2	72	190	2.1	184	3.8	0
0600	.3	-6.1	62	209	1.3	225	2.5	14
0900	6.7	*****	43	139	.3	357	2.5	49
1200	8.3	-5.3	38	353	1.4	334	3.8	72
1500	8.5	-5.5	37	317	2.1	317	6.3	67
1800	7.5	-6.4	37	275	4.7	270	7.0	33
2100	4.1	-3.9	56	274	2.5	273	5.1	2
2400	.1	-4.0	74	048	2.3	024	4.4	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	-1.0	-5.2	73	002	2.4	330	7.6	0
0600	-.9	-7.5	61	326	4.4	329	8.3	13
0900	.3	-8.7	51	338	4.8	340	8.3	48
1200	1.4	-10.2	42	324	6.0	320	9.5	68
1500	1.2	-10.7	41	338	6.0	341	8.9	65
1800	.7	-12.1	38	339	6.0	339	8.3	25
2100	-1.5	-14.4	37	328	5.2	335	8.3	2
2400	-3.7	-15.8	39	311	2.1	320	7.0	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	-7.6	-14.0	60	197	2.2	219	3.8	0
0600	-4.9	-13.0	53	189	1.9	178	3.2	15
0900	.9	-13.7	33	178	1.3	170	3.2	49
1200	3.7	-14.6	25	125	2.1	102	5.7	72
1500	5.7	-12.4	26	148	2.4	150	5.1	65
1800	6.1	-12.1	26	207	2.0	153	5.7	33
2100	2.5	-7.7	47	266	2.1	260	3.8	2
2400	-1.6	-7.3	65	204	1.8	210	3.8	0

DAY 13

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-2.2	-6.9	70	191	2.1	202	4.4	0
0600	-.9	-7.0	63	189	2.4	189	5.1	9
0900	4.7	-7.2	42	154	.8	196	4.4	49
1200	6.4	-7.7	36	333	1.7	286	6.3	72
1500	7.7	-7.7	33	262	2.6	274	6.3	67
1800	7.1	-8.2	33	275	2.9	262	5.7	33
2100	3.4	-5.0	54	271	2.6	288	5.7	2
2400	.1	-5.3	67	196	2.1	241	3.2	0

DAY 14

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-1.4	-5.9	71	188	2.4	186	4.4	0
0600	-.2	-5.4	68	190	2.0	173	4.4	14
0900	6.3	-4.5	46	211	.3	332	2.5	48
1200	7.7	-5.5	39	150	3.4	158	7.0	72
1500	9.7	-6.3	32	157	3.7	162	8.9	66
1800	9.6	-8.6	27	152	2.6	167	7.0	32
2100	4.8	-5.1	49	106	2.9	097	6.3	3
2400	.3	-3.4	76	213	1.5	165	3.2	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	.3	-3.9	73	205	2.0	196	3.2	0
0600	-.2	-3.2	80	207	1.7	223	3.2	9
0900	5.1	-5.9	45	164	1.5	131	5.7	38
1200	8.0	-7.1	34	136	3.2	133	5.7	74
1500	10.3	-11.1	21	170	3.4	147	6.3	70
1800	10.7	-10.2	22	253	3.7	259	7.0	36
2100	6.7	-8.2	34	252	2.7	254	5.7	5
2400	-.8	-6.5	65	213	2.0	204	3.2	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	-1.5	-6.4	69	205	1.6	203	3.2	0
0600	-1.0	-5.7	70	192	1.7	169	3.2	11
0900	6.5	-7.6	36	225	1.2	205	3.2	51
1200	9.8	-7.1	30	109	1.4	130	5.1	70
1500	11.1	-11.1	20	162	3.9	159	7.0	66
1800	9.6	-9.6	25	238	2.3	254	5.7	16
2100	5.7	*****	34	243	1.7	250	5.1	3
2400	3.9	-6.1	55	212	1.7	210	3.8	0

DAY 17

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-1.2	-5.9	70	191	2.7	191	4.4	0
0600	3.0	-5.7	53	183	2.4	169	5.1	17
0900	10.1	-6.0	32	182	1.1	195	3.8	51
1200	13.0	-9.5	20	032	1.6	351	5.1	74
1500	16.1	-8.3	18	077	2.4	045	5.7	81
1800	12.8	-5.4	28	083	4.2	062	8.3	14
2100	10.7	-5.1	33	106	2.4	084	7.0	3
2400	6.6	-3.4	49	106	2.6	119	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	3.2	.6	83	092	4.4	099	9.5	0
0600	2.4	1.1	91	110	1.8	116	5.7	3
0900	3.8	2.1	89	011	1.7	009	3.8	23
1200	6.8	1.4	68	304	1.9	001	3.8	39
1500	10.4	-1.4	44	298	1.1	247	7.0	42
1800	11.0	-3.6	36	343	2.0	359	6.3	44
2100	7.5	-2.3	60	314	2.3	345	5.1	3
2400	3.8	-2.3	64	203	1.6	207	3.2	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING MAY, 1984

DAY 19

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	1.0	-2.1	80	200	1.1	193	3.2	0
0600	2.6	-1.5	74	196	1.6	195	3.8	16
0900	7.7	-.8	55	354	1.0	018	3.8	54
1200	9.8	-2.3	43	032	2.1	028	5.1	25
1500	7.3	1.6	67	202	2.2	098	9.5	12
1800	9.1	1.3	58	226	3.7	234	6.3	31
2100	*****	*****	**	***	****	***	****	***
2400	*****	*****	**	***	****	***	****	***

DAY 20

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 21

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 22

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	7.0	.0	61	025	2.4	027	4.4	10
2100	5.2	1.5	77	229	.7	262	3.2	3
2400	.9	*****	81	202	1.2	204	3.2	0

DAY 23

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-1.4	-3.5	86	242	.9	211	3.2	0
0600	.3	-3.4	76	142	1.3	104	2.5	17
0900	7.0	-.9	57	050	1.0	048	3.2	51
1200	12.2	-1.5	39	095	.9	055	3.8	84
1500	*****	*****	**	***	****	161	3.8	***
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.	MAX. GUST 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.	MAX. GUST 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.	MAX. GUST 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.	MAX. GUST M/S	RAD MW
0300	*****	*****	**	***	****	***	****	***
0600	*****	*****	**	***	****	***	****	***
0900	*****	*****	**	***	****	***	****	***
1200	*****	*****	**	***	****	***	****	***
1500	*****	*****	**	***	****	***	****	***
1800	*****	*****	**	***	****	***	****	***
2100	*****	*****	**	***	****	***	****	***
2400	*****	*****	**	***	****	***	****	***

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

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 KOSINA WEATHER STATION
DATA TAKEN DURING May, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQ*	DAY
1	6.8	-4.3	1.3	235	.8	2.1	046	5.7	SW	71	-4.0	0.0	5250	1
2	4.3	-3.5	.4	218	.5	1.6	031	5.1	WSW	79	-4.1	5.2	4680	2
3	5.0	-7.1	-1.1	166	1.9	2.2	115	7.0	S	69	-6.1	0.0	6120	3
4	3.9	-4.9	-.5	194	1.3	3.1	259	8.3	SW	63	-6.3	0.0	6395	4
5	4.3	-6.2	-1.0	227	1.3	2.0	264	5.1	SSW	66	-6.3	0.0	7050	5
6	5.1	-6.1	-.5	231	1.7	1.9	270	4.4	WSW	63	-7.3	0.0	6955	6
7	5.7	-5.8	-.1	229	2.1	2.4	262	5.1	SSW	54	-8.3	0.0	6895	7
8	9.4	-4.2	2.6	215	2.0	2.2	240	5.1	SSW	48	-8.0	0.0	6965	8
9	9.0	-2.5	3.3	226	1.7	2.2	258	5.1	SSW	51	-6.0	0.0	7005	9
10	8.8	-2.5	3.2	281	1.0	2.3	270	7.0	W	52	-5.2	0.0	7060	10
11	1.8	-4.2	-1.2	333	4.5	4.7	320	9.5	NNW	50	-9.9	0.0	6630	11
12	6.8	-7.7	-.5	187	1.5	2.2	102	5.7	SSW	41	-12.4	0.0	7095	12
13	8.4	-2.9	2.8	240	1.4	2.4	286	6.3	SSW	49	-7.0	0.0	7065	13
14	10.3	-3.4	3.5	160	2.0	2.6	162	8.9	SSE	50	-6.0	0.0	7100	14
15	11.8	-1.3	5.3	202	1.9	2.7	259	7.0	SSW	47	-6.7	0.0	6830	15
16	12.4	-3.3	4.6	196	1.6	2.2	159	7.0	SSW	43	-8.0	0.0	6800	16
17	16.1	-1.2	7.5	114	1.6	2.6	082	8.3	E	39	-6.1	0.0	6665	17
18	12.3	2.4	7.4	027	.7	2.4	099	9.5	NNE	64	-.7	.2	5400	18
19	10.3	.3	5.3	217	.9	2.6	098	9.5	SW	64	-.6	0.0	6933	19
20	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	20
21	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	21
22	8.5	.9	4.7	360	.2	1.6	027	4.4	SW	65	.2	.4	2920	22
23	12.2	-1.4	5.4	132	.4	1.4	055	3.8	NE	63	-2.1	0.0	6129	23
24	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	24
25	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	25
26	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	26
27	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	27
28	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	28
29	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	29
30	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	30
31	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	31
MONTH	16.1	-7.7	2.5	217	.9	2.4	320	9.5	SSW	56	-5.8	5.8	133172	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 8.3
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 8.3
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 7.6
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 DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.

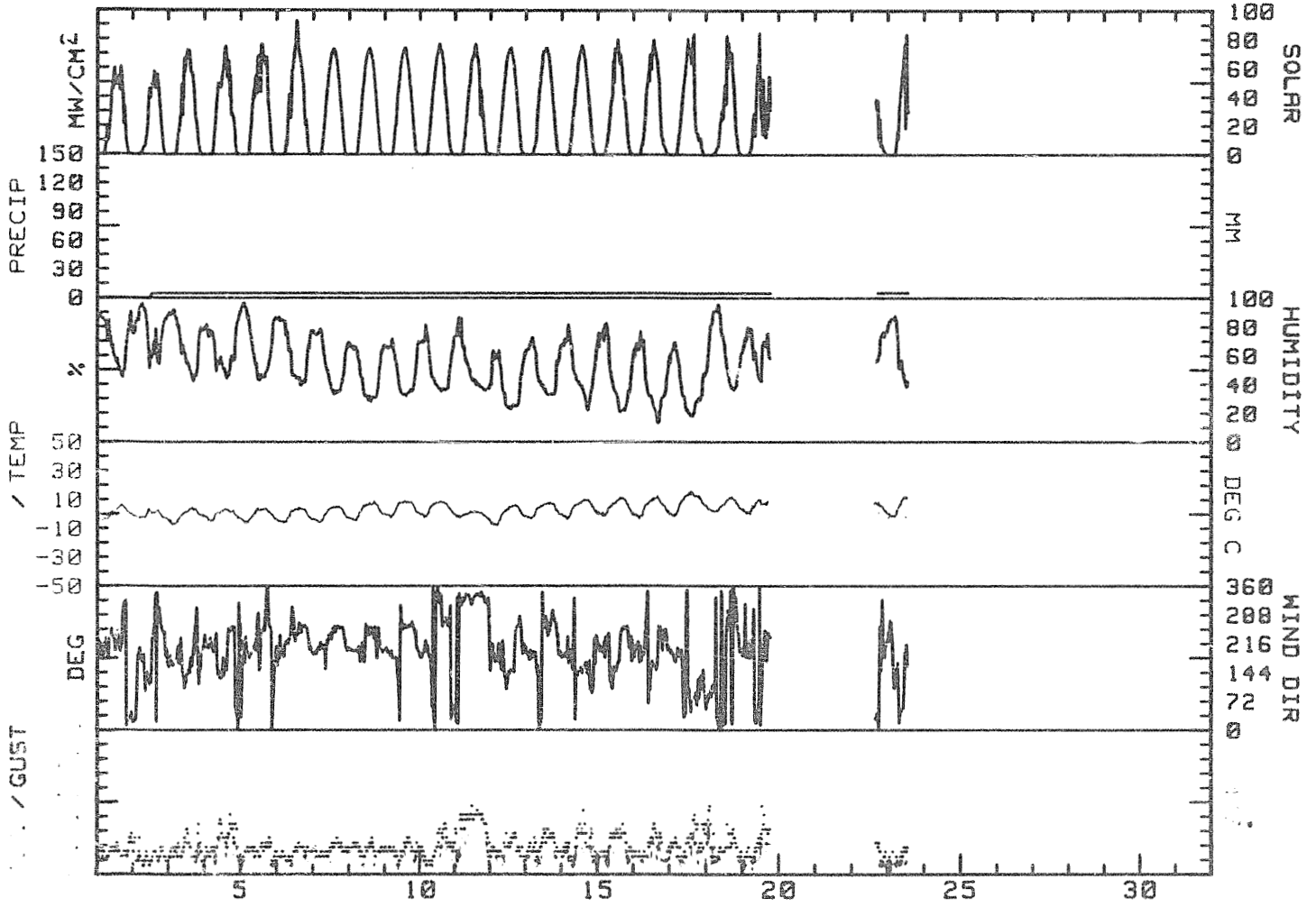
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

KOSINA WEATHER STATION

May, 1984



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING MAY, 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	.21	2.02	.11	0.00	0.00	0.00	0.00	2.34
NNE	.21	3.62	.74	0.00	0.00	0.00	0.00	4.57
NE	0.00	1.81	.64	0.00	0.00	0.00	0.00	2.45
ENE	.21	.85	.43	0.00	0.00	0.00	0.00	1.49
E	.21	1.17	.96	.21	0.00	0.00	0.00	2.50
ESE	.43	1.38	1.17	.11	0.00	0.00	0.00	3.09
SE	.53	1.91	1.60	.11	0.00	0.00	0.00	4.15
SSE	.32	4.47	3.19	0.00	0.00	0.00	0.00	7.98
S	.21	10.32	.64	0.00	0.00	0.00	0.00	11.17
SSW	.53	17.98	1.17	0.00	0.00	0.00	0.00	19.68
SW	.64	8.72	.53	0.00	0.00	0.00	0.00	9.89
WSW	.64	8.72	3.72	0.00	0.00	0.00	0.00	13.09
W	.64	4.57	1.91	0.00	0.00	0.00	0.00	7.13
WNW	0.00	1.49	.96	0.00	0.00	0.00	0.00	2.45
NW	.32	1.70	.74	.32	0.00	0.00	0.00	3.07
NNW	.11	1.38	2.34	1.06	0.00	0.00	0.00	4.89
CALM								3.26
TOTAL	5.21	72.13	20.85	1.81	0.00	0.00	0.00	100.00

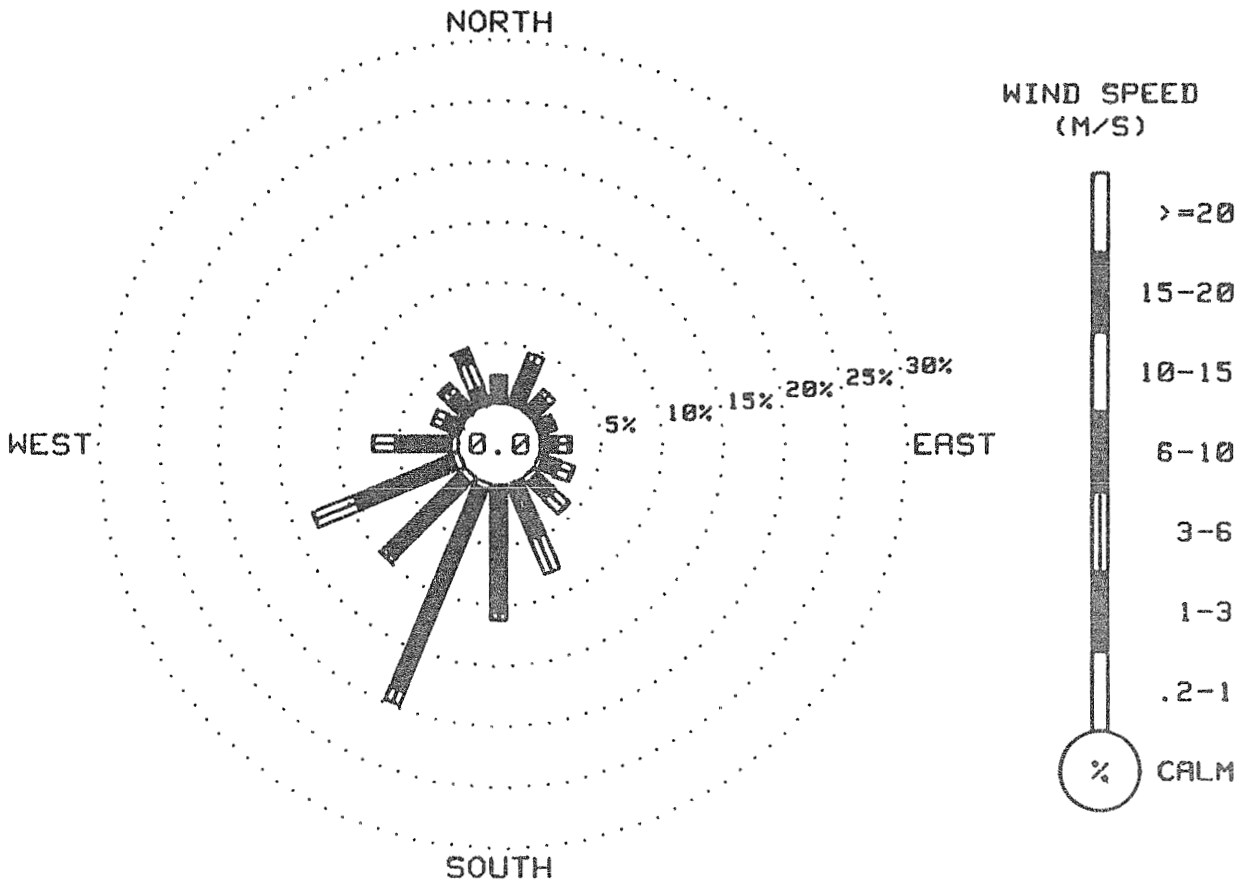
NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
 940 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
 1488 WIND OBSERVATIONS WOULD HAVE BEEN CORRECT FOR 30 MINUTE DATA.
 ** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

KOSINA WEATHER STATION

May, 1984



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

SOLAR RADIATION VALUES MEASURED IN MILLIWATTS PER SQUARE CENTIMETER

HOUR ENDING

DATE	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	AVG
1	0	0	0	0	2	7	17	14	26	47	51	56	50	53	49	59	46	28	17	6	2	0	0	0	22
2	0	0	0	0	1	3	5	7	13	26	45	44	50	55	46	55	49	34	20	9	2	0	0	0	19
3	0	0	0	0	2	11	19	27	38	53	59	70	70	69	57	53	39	24	16	6	2	0	0	0	26
4	0	0	0	0	2	12	25	39	49	47	50	59	70	72	59	53	41	28	24	12	2	0	0	0	27
5	0	0	0	0	2	15	28	42	47	48	67	67	60	74	67	63	62	35	22	9	2	0	0	0	29
6	0	0	0	0	2	8	24	34	28	59	66	76	91	73	67	60	50	26	23	10	2	0	0	0	29
7	0	0	0	0	2	10	21	34	46	57	65	71	74	72	67	58	47	35	22	11	2	0	0	0	29
8	0	0	0	0	2	12	22	35	47	57	66	71	74	72	67	58	47	35	22	11	3	1	0	0	30
9	0	0	0	0	2	11	21	35	47	57	66	71	74	73	66	59	48	37	23	12	3	1	0	0	29
10	0	0	0	1	3	12	23	35	47	57	65	71	77	72	70	62	45	36	23	9	3	1	0	0	29
11	0	0	0	0	3	12	22	34	45	54	66	69	76	74	67	54	37	33	25	12	3	1	1	0	28
12	0	0	0	1	4	12	23	35	47	58	67	72	74	73	67	59	49	36	23	13	3	1	0	0	30
13	0	0	0	1	4	8	18	35	47	58	68	72	74	73	69	59	49	36	24	13	3	1	0	0	29
14	0	0	0	1	3	12	24	34	46	55	66	72	76	73	68	58	49	36	23	13	4	1	0	0	30
15	0	0	0	1	3	8	16	26	38	54	62	73	76	71	67	62	49	38	26	13	4	1	0	0	28
16	0	0	0	1	5	9	18	34	49	55	68	65	77	75	69	62	51	24	12	7	4	1	0	0	28
17	0	0	0	1	5	14	25	37	49	59	68	78	71	66	77	60	19	15	11	12	4	1	0	0	28
18	0	0	0	1	1	3	5	8	19	28	25	44	37	72	75	68	66	48	26	13	5	2	0	0	25
19	0	0	0	1	4	11	26	17	39	60	75	34	22	43	25	20	38	43	***	***	***	***	***	***	19
20	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
21	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
22	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	37	35	11	16	7	4	2	0	1	5
23	0	0	0	1	3	13	18	37	49	60	73	51	30	***	***	***	***	***	***	***	***	***	***	***	14
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 KOSINA WEATHER STATION
DATA TAKEN DURING May, 1984

PARAMETER	NUMBER OF USABLE OBSERVATIONS	PERCENT OF TOTAL OBSERVATIONS
TEMPERATURE	943	63
WIND SPEED	941	63
WIND DIRECTION	943	63
PEAK GUST	942	63
RELATIVE HUMIDITY	895	60
PRECIPITATION	944	63
SOLAR RADIATION	944	63
DEW POINT	894	60

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

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

1. RH +5 RH Points
2. Solar -1 mW/CM^2

Additional comments on this month's data:

1. Data lost for all parameters from 5/19 to 5/22 and again from 5/23 to 5/24, when the weather wizard was removed from the site for maintenance. No data after 5/24.

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING June, 1984

PRECIPITATION VALUES ARE IN MILLIMETERS

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

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING June, 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

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

DAY 10

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	*****	*****	**	***	****	***	****	***
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	3.5	*****	**	090	.8	051	3.3	9
1200	5.0	*****	**	003	1.7	352	3.2	29
1500	5.8	*****	**	008	2.5	356	4.4	11
1800	5.8	*****	**	020	2.3	019	3.8	6
2100	5.4	*****	**	032	2.5	033	4.4	1
2400	4.5	*****	**	038	2.5	038	5.1	0

DAY 16

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	4.3	*****	**	046	2.6	055	4.4	0
0600	4.4	*****	**	044	2.6	044	5.1	2
0900	5.7	*****	**	030	1.6	044	3.8	7
1200	5.9	*****	**	019	1.5	111	4.4	14
1500	6.8	*****	**	056	1.2	116	3.8	.7
1800	7.1	*****	**	018	3.2	016	5.1	15
2100	6.5	*****	**	028	2.7	023	4.4	3
2400	5.3	*****	**	017	1.4	011	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	4.7	*****	**	008	1.1	022	1.9	0
0600	5.1	*****	**	013	1.2	013	2.5	7
0900	9.2	*****	**	012	1.3	015	3.8	46
1200	12.4	*****	**	012	2.3	011	4.4	86
1500	14.6	*****	**	337	1.6	339	4.4	92
1800	13.3	*****	**	024	1.1	345	6.3	11
2100	11.1	*****	**	011	3.8	014	5.7	9
2400	6.2	*****	**	075	1.6	014	5.1	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	2.6	*****	**	171	1.5	146	3.2	1
0600	7.4	*****	**	197	1.9	197	4.4	23
0900	12.0	*****	**	087	1.2	013	4.4	54
1200	17.4	*****	**	348	1.5	275	4.4	77
1500	20.3	*****	**	027	1.3	034	5.7	75
1800	19.8	*****	**	331	3.5	346	7.0	46
2100	16.0	*****	**	278	3.8	291	7.6	9
2400	9.8	*****	**	282	3.0	225	6.3	3

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

DAY 19

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	5.9	*****	**	162	2.0	180	3.2	1
0600	10.6	*****	**	156	1.2	161	3.2	21
0900	13.6	*****	**	004	3.0	013	5.1	51
1200	19.0	*****	**	022	4.2	023	7.0	77
1500	20.3	*****	**	012	4.1	024	7.6	62
1800	19.1	*****	**	313	4.4	320	7.6	22
2100	15.6	*****	**	232	4.7	259	8.9	9
2400	11.4	*****	**	189	3.1	202	7.6	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	7.6	*****	**	173	1.4	161	3.2	1
0600	11.5	*****	**	179	1.3	159	3.2	16
0900	*****	*****	**	***	****	004	4.4	***
1200	*****	*****	**	***	****	***	****	***
1500	*****	*****	**	***	****	***	****	***
1800	*****	*****	**	***	****	***	****	***
2100	*****	*****	**	***	****	***	****	***
2400	*****	*****	**	***	****	***	****	***

DAY 21

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

DAY 22

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

DAY 23

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

DAY 24

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

DAY 25

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

DAY 26

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

DAY 27

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

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

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	*****	*****	**	***	****	***	****	***

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR KOSINA 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/SQ*	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	6.5	3.5	5.0	023	2.1	2.2	028	5.1	NNE	**	*****	9.8	2541	15
16	7.2	4.4	5.8	032	2.1	2.3	044	5.1	NNE	**	*****	6.2	2060	16
17	15.7	4.7	10.2	015	1.6	2.2	345	6.3	N	**	*****	0.0	7090	17
18	20.8	2.2	11.5	282	.8	2.4	291	7.6	NNE	**	*****	0.0	7840	18
19	21.4	5.9	13.7	322	.8	3.5	259	8.9	NNE	**	*****	0.0	7415	19
20	11.5	7.6	9.6	157	.6	1.7	004	4.4	S	**	*****	0.0	1890	20
21	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	21
22	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	22
23	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	23
24	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	24
25	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	25
26	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	26
27	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	27
28	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	28
29	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	29
30	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	30
MONTH	21.4	2.2	9.3	010	1.0	2.5	259	8.9	NNE	**	*****	16.0	2883*	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 5.7
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 7.0
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 8.9
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 8.9

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.

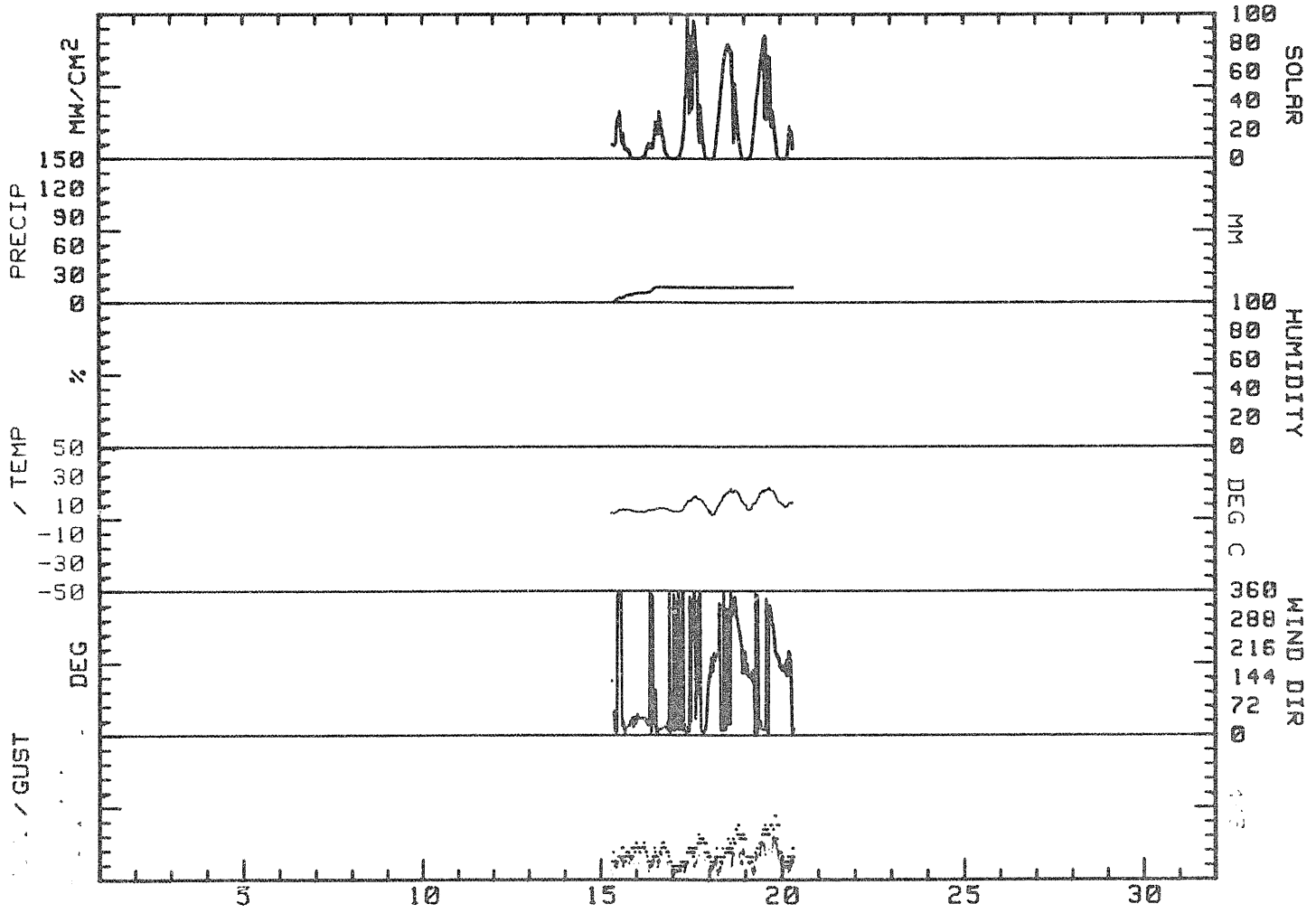
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

KOSINA WEATHER STATION

June, 1984



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING June, 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	.41	14.52	3.73	0.00	0.00	0.00	0.00	18.67
NNE	.83	18.26	8.71	0.00	0.00	0.00	0.00	27.80
NE	.83	8.30	2.49	0.00	0.00	0.00	0.00	11.62
ENE	0.00	.83	0.00	0.00	0.00	0.00	0.00	.83
E	0.00	.83	0.00	0.00	0.00	0.00	0.00	.83
ESE	.41	.83	.83	0.00	0.00	0.00	0.00	2.07
SE	.41	2.49	0.00	0.00	0.00	0.00	0.00	2.90
SSE	.41	6.64	0.00	0.00	0.00	0.00	0.00	7.05
S	.41	4.56	.83	0.00	0.00	0.00	0.00	5.81
SSW	.41	3.32	2.49	.41	0.00	0.00	0.00	6.64
SW	.41	.41	.41	0.00	0.00	0.00	0.00	1.24
WSW	0.00	.41	.83	.41	0.00	0.00	0.00	1.66
W	0.00	.83	1.66	0.00	0.00	0.00	0.00	2.49
WNW	0.00	.41	.83	0.00	0.00	0.00	0.00	1.24
NW	0.00	1.66	2.49	0.00	0.00	0.00	0.00	4.15
NNW	.41	1.66	2.90	0.00	0.00	0.00	0.00	4.97
CALM								0.00
TOTAL	4.98	65.98	28.22	.83	0.00	0.00	0.00	100.00

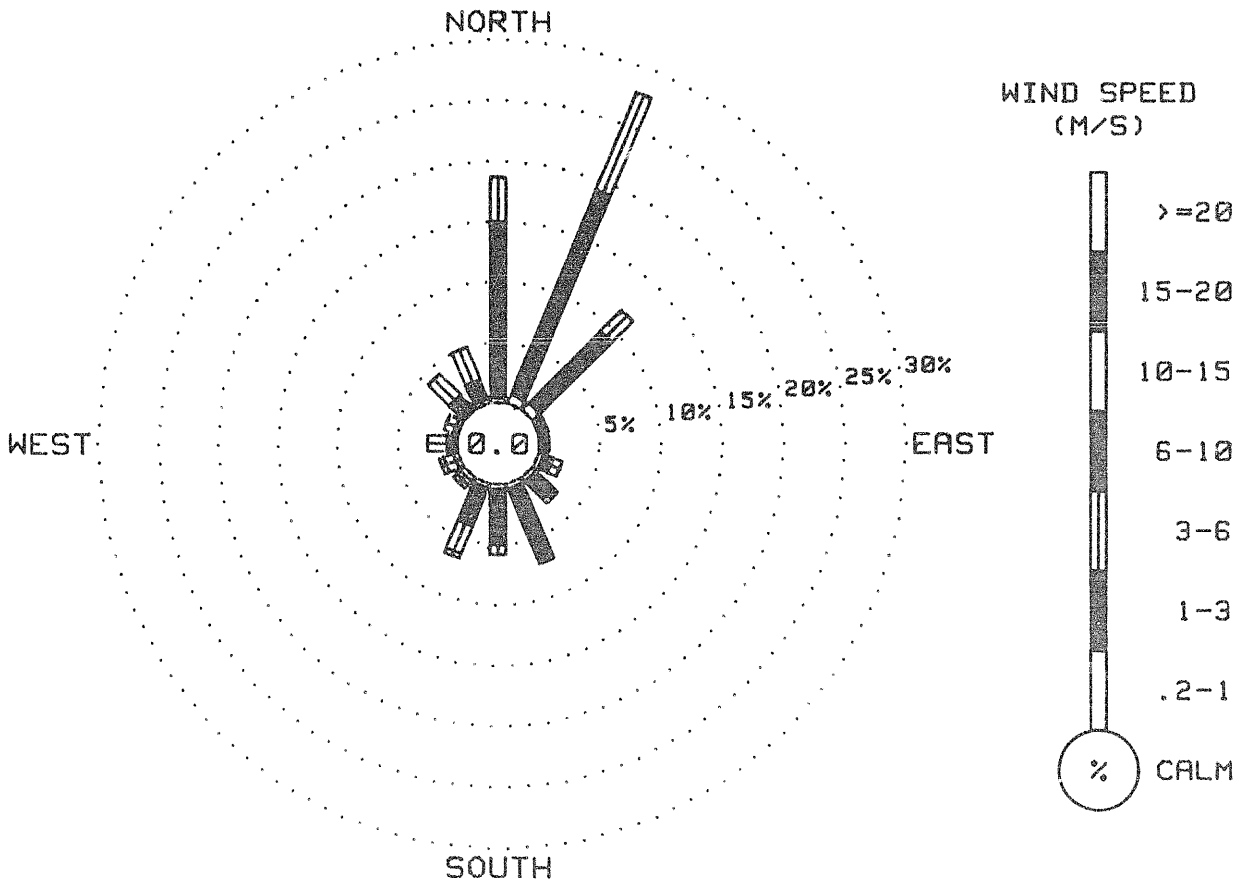
NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
241 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
1446 WIND OBSERVATIONS WOULD HAVE BEEN CORRECT FOR 30 MINUTE DATA.
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

KOSINA WEATHER STATION

June, 1984



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SOLAR RADIATION SUMMARY FOR KOSINA 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	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
2	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
3	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
4	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
5	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
6	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
7	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
8	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
9	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
10	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
11	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
12	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
13	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
14	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
15	***	***	***	***	***	***	***	10	9	10	19	28	30	23	11	14	8	7	6	5	2	1	0	0	8
16	0	0	0	1	1	2	6	9	9	9	11	11	22	21	18	26	23	18	12	5	3	3	1	0	9
17	0	0	0	1	2	6	11	20	44	73	91	59	41	59	94	77	48	14	35	22	11	4	1	0	30
18	0	0	1	3	10	20	30	41	52	63	71	76	80	79	76	55	13	50	33	21	11	4	1	0	33
19	0	0	1	3	8	19	29	41	49	60	70	76	56	85	45	46	66	23	32	22	12	3	1	0	31
20	0	0	1	2	13	20	18	11	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	3
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

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

PARAMETER	NUMBER OF USABLE OBSERVATIONS	PERCENT OF TOTAL OBSERVATIONS
TEMPERATURE	242	17
WIND SPEED	241	17
WIND DIRECTION	241	17
PEAK GUST	241	17
RELATIVE HUMIDITY	0	0
PRECIPITATION	242	17
SOLAR RADIATION	242	17
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. Weather wizard reinstalled on 6/15. No data prior to this date.
2. Recorded RH data invalid after 6/15 due to bad oscillator.
3. No data after 6/20 due to power failure.

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR KOSINA 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	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	1
2	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	2
3	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	3
4	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	4
5	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	5
6	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	6
7	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	7
8	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	8
9	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	9
10	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	10
11	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	11
12	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	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	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	.2	.4	.6	.2	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	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	3.0	1.2	4.2	0.0	0.0	.2	.4	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	.4	0.0	.6	0.0	.2	.2	0.0	.2	0.0	.4	.2	.2	0.0	0.0	0.0	.4	17
18	0.0	.2	0.0	.4	.2	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	18
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	19
20	0.0	0.0	.2	.2	.8	.4	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	.2	.2	0.0	0.0	0.0	0.0	0.0	20
21	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	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	.8	.8	0.0	.8	0.0	0.0	.2	0.0	0.0	0.0	0.0	24
25	0.0	0.0	0.0	.2	.4	.2	.2	.4	.2	.4	.4	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	.2	25
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.8	.8	.8	.8	1.0	1.0	.6	.2	0.0	.2	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	.2	29
30	.4	.2	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	1.0	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	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	.2	0.0	31

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

DAY 01

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

DAY 02

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

DAY 03

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

DAY 04

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

DAY 05

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

DAY 06

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

DAY 07

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

DAY 08

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

DAY 09

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

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING July, 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	10.0	*****	**	086	3.9	086	8.3	30
1500	13.8	*****	**	108	3.2	103	6.3	81
1800	13.8	*****	**	121	1.9	106	4.4	16
2100	10.5	*****	**	340	.2	351	6.3	3
2400	6.5	*****	**	118	1.7	116	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	6.7	*****	**	122	1.5	126	3.2	0
0600	7.3	*****	**	068	1.3	047	3.2	6
0900	10.6	*****	**	056	1.5	044	5.7	29
1200	11.7	*****	**	025	2.6	357	7.6	33
1500	12.3	*****	**	020	4.1	026	6.3	21
1800	11.3	*****	**	046	1.5	016	5.1	13
2100	9.3	*****	**	168	2.2	192	4.4	2
2400	8.1	*****	**	077	1.5	051	4.4	0

DAY 15

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	6.6	*****	**	043	2.6	032	4.4	0
0600	6.4	*****	**	041	2.6	041	4.4	6
0900	8.3	*****	**	029	3.2	027	4.4	20
1200	10.2	*****	**	020	3.1	015	4.4	39
1500	13.2	*****	**	024	2.2	005	5.7	46
1800	14.0	*****	**	338	.8	338	4.4	16
2100	12.4	*****	**	196	1.7	205	3.2	2
2400	10.6	*****	**	182	2.0	181	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	9.6	*****	**	186	2.0	173	5.1	0
0600	10.4	*****	**	179	1.8	185	3.8	2
0900	10.8	*****	**	149	1.6	136	3.8	12
1200	12.3	*****	**	131	2.7	137	5.1	28
1500	11.1	*****	**	081	1.9	065	7.6	4
1800	11.1	*****	**	239	2.7	248	12.1	11
2100	9.9	*****	**	252	6.6	241	12.1	4
2400	9.2	*****	**	236	7.8	227	12.7	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	9.0	*****	**	250	5.0	251	11.4	0
0600	7.7	*****	**	276	2.7	242	10.2	1
0900	7.7	*****	**	038	2.5	043	4.4	3
1200	6.9	*****	**	089	2.4	081	5.1	4
1500	7.6	*****	**	067	.5	089	3.2	6
1800	7.4	*****	**	106	.5	119	2.5	3
2100	6.8	*****	**	005	.8	359	1.9	1
2400	6.1	*****	**	037	2.0	036	3.8	0

DAY 18

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	5.7	*****	**	039	2.4	037	3.8	0
0600	5.8	*****	**	026	2.5	024	3.8	4
0900	6.7	*****	**	017	2.6	015	4.4	11
1200	9.5	*****	**	352	2.5	297	6.3	32
1500	10.2	*****	**	290	3.6	281	7.6	37
1800	8.4	*****	**	332	2.5	329	6.3	16
2100	6.9	*****	**	036	3.3	002	6.3	1
2400	6.0	*****	**	038	2.3	051	5.8	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOUR SUMMARY FOR KOSINA 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	5.6	*****	**	010	1.0	026	3.2	0
0600	6.2	*****	**	195	.5	201	1.9	4
0900	8.3	*****	**	037	.4	359	3.8	26
1200	10.2	*****	**	015	3.1	016	5.7	60
1500	9.1	*****	**	053	1.8	039	5.1	15
1800	8.8	*****	**	033	3.3	037	5.7	7
2100	7.2	*****	**	032	2.9	031	5.7	1
2400	6.8	*****	**	002	1.4	027	3.2	0

DAY 20

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	6.5	*****	**	001	1.4	344	2.5	0
0600	6.2	*****	**	013	1.4	010	2.5	2
0900	6.8	*****	**	007	1.6	018	2.5	10
1200	8.6	*****	**	006	2.4	010	3.8	28
1500	8.5	*****	**	014	3.5	004	5.1	10
1800	7.7	*****	**	026	3.3	022	5.1	5
2100	7.3	*****	**	024	3.0	029	5.1	1
2400	6.9	*****	**	030	2.4	026	4.4	0

DAY 21

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	6.9	*****	**	018	.9	021	2.5	0
0600	7.1	*****	**	001	.4	350	1.3	2
0900	7.8	*****	**	356	.9	355	2.5	12
1200	9.8	*****	**	001	1.4	011	3.2	27
1500	10.3	*****	**	359	3.1	001	5.1	20
1800	10.8	*****	**	016	2.6	003	5.1	11
2100	9.7	*****	**	021	2.8	021	5.1	1
2400	8.2	*****	**	084	.7	033	2.5	0

DAY 22

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	7.5	*****	**	184	1.0	211	2.5	0
0600	7.9	*****	**	190	1.1	164	2.5	2
0900	10.4	*****	**	018	.5	353	3.8	29
1200	11.6	*****	**	008	3.3	024	6.3	33
1500	12.2	*****	**	021	4.1	026	6.3	18
1800	12.5	*****	**	014	2.2	027	5.7	7
2100	11.9	*****	**	046	1.1	042	3.2	1
2400	10.2	*****	**	120	.6	110	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	9.4	*****	**	178	.9	159	1.9	0
0600	10.0	*****	**	176	.5	210	1.3	8
0900	13.6	*****	**	028	.8	026	3.2	48
1200	17.8	*****	**	019	1.7	038	3.8	77
1500	18.4	*****	**	051	1.7	346	4.4	30
1800	18.3	*****	**	100	2.3	091	5.1	21
2100	14.4	*****	**	109	1.5	084	3.2	3
2400	9.5	*****	**	197	1.2	151	3.2	0

DAY 24

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	6.9	*****	**	207	1.3	209	3.5	0
0600	9.4	*****	**	194	.8	244	1.9	9
0900	12.1	*****	**	013	1.2	024	3.8	22
1200	12.3	*****	**	032	1.9	065	5.7	6
1500	12.9	*****	**	198	1.8	194	6.3	34
1800	14.1	*****	**	346	1.2	009	5.7	16
2100	12.1	*****	**	015	1.1	236	4.4	4
2400	10.9	*****	**	085	1.6	094	3.8	0

DAY 25

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	10.2	*****	**	065	1.4	053	3.8	0
0600	9.6	*****	**	073	1.9	086	3.8	6
0900	10.1	*****	**	031	2.0	029	4.4	13
1200	11.1	*****	**	281	2.4	269	7.6	28
1500	11.3	*****	**	239	4.3	230	9.5	28
1800	11.0	*****	**	275	1.9	250	7.6	18
2100	8.2	*****	**	038	3.6	043	6.3	1
2400	7.2	*****	**	037	2.0	038	3.8	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	6.7	*****	**	051	2.0	039	3.8	0
0600	7.1	*****	**	097	1.5	122	4.4	6
0900	8.3	*****	**	037	2.4	042	5.1	17
1200	7.5	*****	**	036	2.7	049	5.1	16
1500	8.3	*****	**	018	1.3	015	2.5	16
1800	9.3	*****	**	215	2.1	284	5.1	13
2100	9.4	*****	**	219	.3	195	4.4	1
2400	9.7	*****	**	305	1.0	317	3.8	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	9.6	*****	**	310	1.7	324	5.7	0
0600	10.6	*****	**	310	1.3	241	7.3	5
0900	12.2	*****	**	339	1.1	351	7.3	25
1200	15.3	*****	**	321	1.7	293	7.3	33
1500	14.7	*****	**	311	2.4	023	7.4	44
1800	16.1	*****	**	298	2.3	011	8.3	45
2100	12.6	*****	**	342	.6	261	7.1	1
2400	10.0	*****	**	088	1.9	090	5.7	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

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	9.3	*****	**	151	1.3	154	3.2	0
0600	9.3	*****	**	046	.8	008	3.8	5
0900	11.1	*****	**	035	2.2	040	5.1	19
1200	13.8	*****	**	014	3.3	009	7.6	44
1500	12.7	*****	**	020	4.4	005	7.6	39
1800	12.3	*****	**	015	3.7	014	6.3	13
2100	10.6	*****	**	024	3.3	027	6.3	1
2400	9.0	*****	**	104	.8	026	4.4	0

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	8.0	*****	**	218	.5	192	1.9	0
0600	7.4	*****	**	007	1.1	038	3.2	3
0900	8.7	*****	**	020	2.6	027	5.1	15
1200	9.1	*****	**	028	4.8	026	7.0	16
1500	9.7	*****	**	030	4.2	038	7.6	19
1800	8.5	*****	**	029	4.5	023	7.0	12
2100	6.9	*****	**	020	3.8	024	7.0	1
2400	6.5	*****	**	017	2.2	021	5.1	0

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	6.2	*****	**	358	1.1	004	2.5	0
0600	6.8	*****	**	185	.3	155	1.9	6
0900	9.9	*****	**	186	.7	269	1.9	34
1200	13.6	*****	**	014	1.3	355	3.8	54
1500	13.8	*****	**	080	1.7	110	4.4	80
1800	12.3	*****	**	005	3.4	345	6.3	9
2100	10.1	*****	**	025	2.7	032	5.7	2
2400	8.4	*****	**	061	1.4	027	5.1	0

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	4.3	*****	**	159	.5	156	3.2	0
0600	5.1	*****	**	202	1.6	201	3.2	11
0900	10.2	*****	**	339	.7	005	3.8	50
1200	11.4	*****	**	018	3.7	029	5.7	41
1500	12.4	*****	**	004	4.4	354	7.0	26
1800	9.4	*****	**	014	4.4	023	7.6	7
2100	8.4	*****	**	021	3.0	021	5.1	1
2400	7.6	*****	**	015	2.5	021	5.1	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR KOSINA 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	DAY'S SOLAR ENERGY kH/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	16.0	6.4	11.2	104	2.0	2.5	086	8.3	ESE	**	*****	0.0	6323	13
14	12.4	5.7	9.1	057	1.4	2.3	357	7.6	NNE	**	*****	0.0	3965	14
15	14.7	6.2	10.5	035	1.3	2.4	005	5.7	NNE	**	*****	1.6	4056	15
16	15.1	9.2	12.2	216	2.2	3.9	227	12.7	S	**	*****	9.0	3455	16
17	9.7	6.1	7.9	338	.4	2.4	251	11.4	NE	**	*****	2.8	665	17
18	10.4	5.7	8.1	006	2.1	2.9	281	7.0	NNE	**	*****	1.0	1855	18
19	10.2	5.2	7.7	027	1.6	2.0	016	5.7	NNE	**	*****	1.4	2645	19
20	9.2	6.2	7.7	017	2.3	2.4	004	5.1	NNE	**	*****	2.4	1990	20
21	11.1	6.8	9.0	012	1.5	1.6	001	5.1	NNE	**	*****	.2	3195	21
22	12.8	7.0	9.9	025	1.1	1.9	024	6.3	NNE	**	*****	0.0	3910	22
23	20.3	9.2	14.8	090	.7	1.5	091	5.1	E	**	*****	0.0	6058	23
24	15.3	6.9	11.1	043	.3	1.8	194	6.3	NNE	**	*****	2.6	3935	24
25	12.1	7.2	9.7	356	.7	2.7	230	9.5	NE	**	*****	3.0	2435	25
26	10.0	6.4	8.2	040	.8	1.9	042	5.1	NE	**	*****	6.2	2150	26
27	16.9	8.6	12.8	331	1.2	2.7	011	8.3	NNE	**	*****	0.0	5250	27
28	13.8	7.7	10.8	027	2.1	2.8	009	7.6	NNE	**	*****	0.0	3830	28
29	9.7	6.5	8.1	024	2.8	3.0	038	7.6	NNE	**	*****	.2	2390	29
30	14.3	6.0	10.2	029	1.2	1.8	345	6.3	NNE	**	*****	1.8	4010	30
31	13.1	3.2	8.2	013	2.1	2.8	023	7.6	NNE	**	*****	.6	3685	31
MONTH	20.3	3.2	9.8	023	1.1	2.4	227	12.7	NNE	**	*****	32.8	*****	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 12.1
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 12.1
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 12.7
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 10.3

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

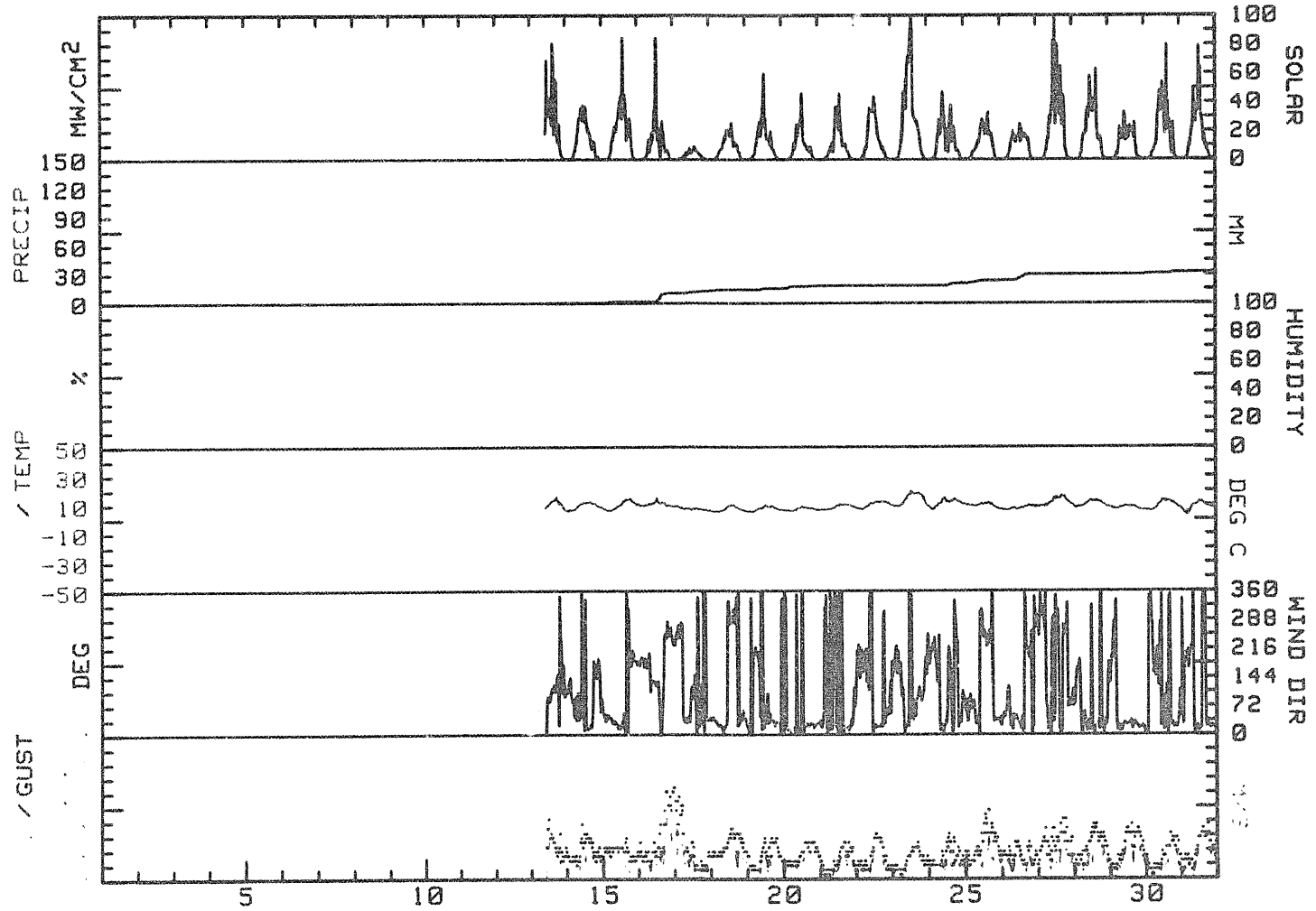
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

KOSINA WEATHER STATION

July, 1984

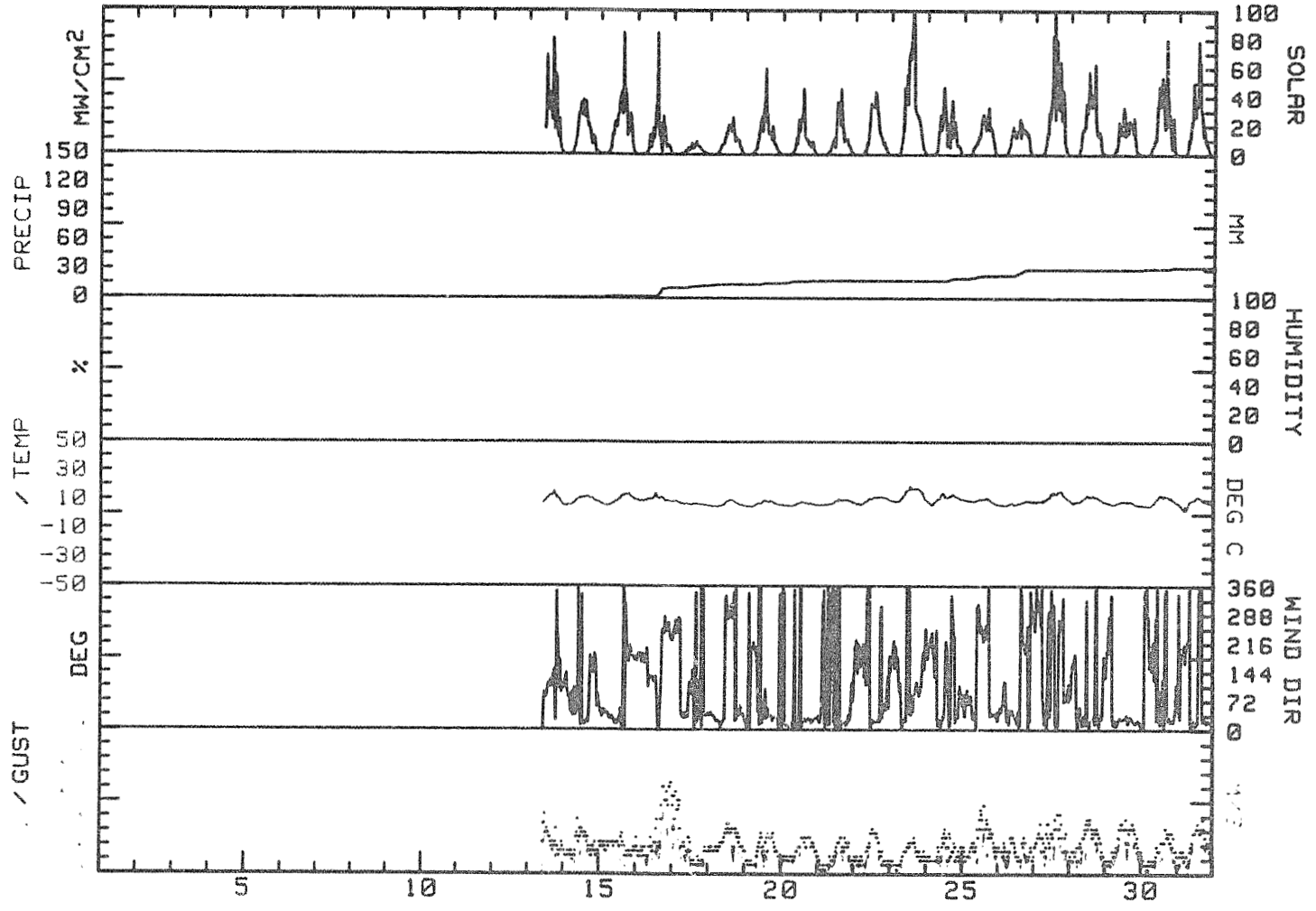


R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

KOSINA WEATHER STATION

July, 1984



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR KOSINA 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 M/S GREATER	TOTAL
N	1.12	8.17	3.58	0.00	0.00	0.00	0.00	12.86
NNE	1.34	13.77	13.66	0.00	0.00	0.00	0.00	28.76
NE	.78	9.18	2.69	0.00	0.00	0.00	0.00	12.65
ENE	.78	3.36	.34	0.00	0.00	0.00	0.00	4.48
E	.22	3.02	.90	0.00	0.00	0.00	0.00	4.14
ESE	.56	3.36	.67	0.00	0.00	0.00	0.00	4.59
SE	.56	2.46	.56	0.00	0.00	0.00	0.00	3.58
SSE	.56	2.46	0.00	0.00	0.00	0.00	0.00	3.02
S	1.01	3.47	.22	0.00	0.00	0.00	0.00	4.70
SSW	1.79	2.58	.45	0.00	0.00	0.00	0.00	4.82
SW	.34	1.79	.34	.56	0.00	0.00	0.00	3.02
WSW	.22	.90	1.46	1.01	0.00	0.00	0.00	3.58
W	.34	.34	1.68	0.00	0.00	0.00	0.00	2.35
WNW	.34	1.23	1.01	0.00	0.00	0.00	0.00	2.58
NW	.45	.78	.22	0.00	0.00	0.00	0.00	1.46
NNW	.90	1.68	.45	0.00	0.00	0.00	0.00	3.02
CALM								.22
TOTAL	11.31	68.57	28.22	1.57	0.00	0.00	0.00	100.00

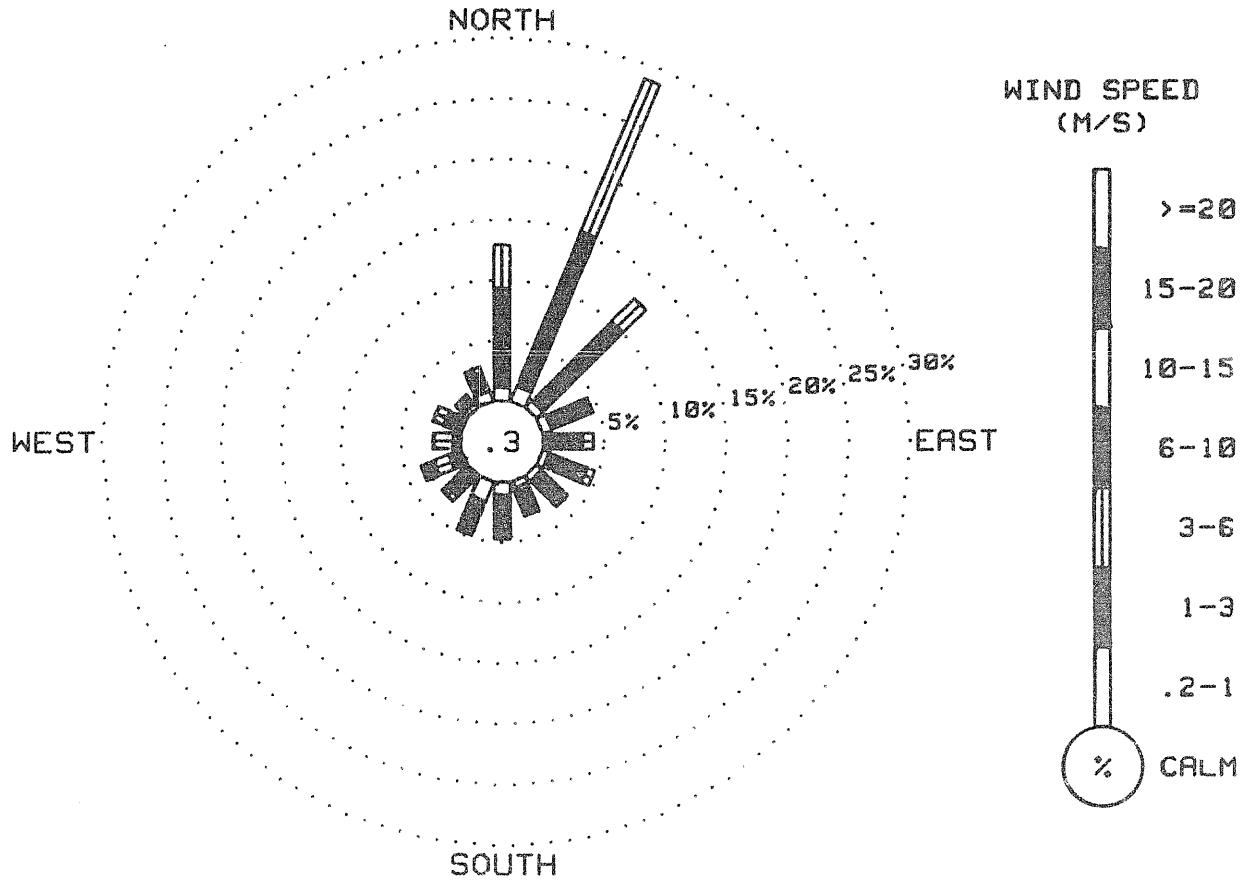
NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
893 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
4468 WIND OBSERVATIONS WOULD HAVE BEEN CORRECT FOR 30 MINUTE DATA.
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

KOSINA WEATHER STATION

July, 1984



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

SOLAR RADIATION SUMMARY FOR KOSINA 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	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
2	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
3	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
4	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
5	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
6	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
7	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
8	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
9	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
10	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
11	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
12	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
13	***	***	***	***	***	***	***	***	***	18	47	32	41	35	53	43	54	35	12	17	5	2	1	0	16
14	0	0	0	1	2	6	11	19	29	34	28	36	32	25	20	18	10	10	11	4	2	2	0	0	12
15	0	0	0	1	2	5	14	17	22	23	29	40	38	57	38	38	20	19	28	15	4	1	0	1	17
16	0	0	0	1	1	2	6	12	9	15	17	31	59	18	8	12	24	15	6	2	5	2	0	0	10
17	0	0	0	0	1	1	3	3	4	4	7	5	6	8	8	6	5	4	3	3	1	0	0	0	3
18	0	0	0	0	2	3	6	7	10	14	17	21	20	18	22	12	12	11	8	5	2	1	0	0	8
19	0	0	0	1	3	4	10	16	25	22	31	50	26	16	16	13	18	8	6	3	2	1	0	0	11
20	0	0	0	0	1	2	4	10	9	25	19	26	35	22	11	10	8	6	8	5	2	0	0	0	8
21	0	0	0	0	1	2	4	8	9	6	21	32	32	33	26	12	11	11	7	5	2	1	0	0	9
22	0	0	0	0	1	3	8	10	24	35	34	34	43	32	22	14	13	8	7	5	2	1	0	0	13
23	0	0	0	1	2	6	14	36	42	46	69	72	86	95	33	29	27	23	17	8	4	2	0	0	28
24	0	0	0	1	2	6	18	26	20	42	34	16	18	8	28	25	24	20	7	2	5	1	0	0	13
25	0	0	0	0	1	6	6	8	11	12	18	27	27	19	24	31	19	18	13	7	2	0	0	0	10
26	0	0	0	1	2	5	11	14	19	13	14	17	21	17	16	18	16	15	14	5	2	1	0	0	9
27	0	0	0	0	1	4	9	15	28	34	59	73	48	56	42	48	37	43	24	6	2	1	0	0	23
28	0	0	0	0	1	5	14	18	20	35	32	51	36	38	37	45	17	15	15	7	2	1	0	0	13
29	0	0	0	0	2	4	9	19	16	19	32	15	19	18	22	22	17	19	6	2	1	1	0	0	11
30	0	0	0	0	3	6	9	10	26	42	34	48	43	21	56	31	28	15	9	14	5	1	0	0	17
31	0	0	0	0	2	8	11	21	36	36	32	37	58	48	29	14	14	8	6	2	1	0	0	0	15

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

OBSERVATION SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING July, 1984

PARAMETER	NUMBER OF USABLE OBSERVATIONS	PERCENT OF TOTAL OBSERVATIONS
TEMPERATURE	893	60
WIND SPEED	893	60
WIND DIRECTION	893	60
PEAK GUST	893	60
RELATIVE HUMIDITY	0	0
PRECIPITATION	893	60
SOLAR RADIATION	893	60
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. Weather wizard not functioning prior to 7/13 due to power failure.

2. Recorded RH data invalid due to bad oscillator.

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR KOSINA 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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	.8	.6	8
9	.4	.2	2.2	1.2	1.0	.4	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	.6	9
10	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	.2	0.0	10
11	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	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	.2	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	.4	0.0	0.0	0.0	.6	.6	.4	.2	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	.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	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	.6	.4	.2	0.0	.2	0.0	.2	22
23	0.0	0.0	.4	.6	0.0	0.0	.2	.2	0.0	.2	0.0	.2	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.8	3.0	23
24	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	.4	.4	.6	.4	1.0	.6	.4	.2	.2	0.0	0.0	1.0	24
25	0.0	.4	.2	0.0	0.0	.2	0.0	0.0	0.0	.2	.2	.8	2.4	3.2	.6	.2	.2	0.0	0.0	0.0	1.0	3.0	0.0	0.0	25
26	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	0.2	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

THREE HOUR SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING August, 1984

DAY 01

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	7.3	*****	**	006	.7	359	2.5	0
0600	7.4	*****	**	214	.3	011	1.3	5
0900	9.9	*****	**	295	.3	222	1.9	18
1200	12.1	*****	**	358	2.0	359	3.8	33
1500	12.6	*****	**	009	3.3	013	5.7	31
1800	10.2	*****	**	024	4.1	030	6.3	6
2100	9.8	*****	**	026	3.4	025	5.1	1
2400	9.0	*****	**	026	2.3	027	3.8	0

DAY 02

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	8.9	*****	**	006	1.6	014	3.2	0
0600	9.1	*****	**	312	.3	358	1.9	2
0900	11.4	*****	**	340	.4	009	2.5	18
1200	13.9	*****	**	357	2.6	357	4.4	56
1500	13.6	*****	**	358	3.4	006	5.7	22
1800	13.5	*****	**	020	3.3	002	5.1	9
2100	11.4	*****	**	028	3.0	030	5.7	1
2400	10.4	*****	**	013	2.0	024	4.4	0

DAY 03

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	10.0	*****	**	354	1.2	354	1.9	0
0600	9.7	*****	**	014	1.2	027	3.5	2
0900	12.1	*****	**	020	1.6	024	3.8	16
1200	15.3	*****	**	014	2.2	018	5.1	42
1500	17.2	*****	**	001	2.7	010	5.7	63
1800	15.6	*****	**	004	4.9	355	7.6	23
2100	12.7	*****	**	018	3.6	014	7.6	2
2400	9.9	*****	**	030	1.3	030	3.8	0

DAY 04

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	8.9	*****	**	333	.5	328	2.5	0
0600	8.1	*****	**	208	1.3	201	1.9	3
0900	11.6	*****	**	097	.3	006	3.2	17
1200	19.1	*****	**	051	1.4	024	5.1	68
1500	21.6	*****	**	010	3.2	008	6.3	61
1800	19.5	*****	**	330	2.7	325	6.3	12
2100	15.8	*****	**	354	3.2	321	5.7	1
2400	13.8	*****	**	024	.9	347	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	10.4	*****	**	077	.8	019	2.5	0
0600	10.8	*****	**	176	1.5	162	3.2	9
0900	13.2	*****	**	356	.7	024	4.4	27
1200	14.1	*****	**	021	3.9	031	6.3	41
1500	15.3	*****	**	022	5.4	024	8.9	39
1800	13.7	*****	**	033	6.0	038	9.5	8
2100	11.9	*****	**	026	3.3	028	7.0	1
2400	11.1	*****	**	348	.8	359	2.5	0

DAY 06

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	10.7	*****	**	138	.1	084	1.9	0
0600	10.5	*****	**	199	.8	184	1.9	7
0900	11.4	*****	**	359	.9	027	3.8	12
1200	17.2	*****	**	021	2.9	025	5.7	50
1500	20.1	*****	**	007	3.3	354	6.3	64
1800	15.1	*****	**	332	3.2	347	8.3	5
2100	13.8	*****	**	180	1.4	202	4.4	1
2400	10.3	*****	**	174	1.6	164	3.5	0

DAY 07

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	8.0	*****	**	192	1.6	179	3.2	0
0600	8.7	*****	**	196	1.9	189	3.2	10
0900	15.3	*****	**	219	.4	194	3.5	43
1200	17.7	*****	**	011	2.1	013	5.1	58
1500	18.7	*****	**	000	3.2	356	6.3	21
1800	15.6	*****	**	192	4.7	189	8.9	9
2100	12.5	*****	**	203	3.3	219	6.3	3
2400	9.8	*****	**	165	2.1	165	5.7	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	8.2	*****	**	157	2.0	143	4.4	0
0600	7.8	*****	**	181	1.7	174	3.8	7
0900	13.9	*****	**	060	.4	004	4.4	47
1200	16.1	*****	**	015	4.2	007	7.6	20
1500	17.8	*****	**	353	2.9	016	8.3	35
1800	16.1	*****	**	310	2.1	346	7.0	29
2100	12.3	*****	**	045	1.1	116	4.4	1
2400	9.9	*****	**	026	2.1	044	5.1	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	9.4	*****	**	332	2.3	315	5.5	0
0600	8.3	*****	**	315	4.8	314	9.3	3
0900	10.5	*****	**	321	3.9	335	6.3	19
1200	12.4	*****	**	312	4.4	319	7.6	33
1500	12.9	*****	**	341	4.5	349	7.6	23
1800	9.6	*****	**	329	1.9	335	5.1	7
2100	9.3	*****	**	191	1.2	099	3.4	1
2400	8.3	*****	**	352	1.3	342	5.7	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SUMMARY FOR KOSINA 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	5.7	*****	**	164	.4	276	3.8	0
0600	8.6	*****	**	186	1.9	164	3.2	6
0900	9.7	*****	**	185	1.3	164	3.2	30
1200	11.5	*****	**	007	1.9	007	5.1	25
1500	13.6	*****	**	349	1.8	265	5.7	35
1800	12.4	*****	**	262	3.2	265	6.3	16
2100	9.4	*****	**	238	1.2	273	5.1	1
2400	8.0	*****	**	125	2.0	115	3.8	0

DAY 11

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	7.2	*****	**	167	1.1	180	2.5	0
0600	6.0	*****	**	142	.6	111	2.5	4
0900	11.1	*****	**	062	.6	028	4.4	44
1200	13.3	*****	**	334	4.7	336	7.6	67
1500	13.6	*****	**	326	4.9	322	8.9	61
1800	13.1	*****	**	320	5.1	309	8.3	23
2100	9.2	*****	**	312	5.0	314	8.3	1
2400	7.0	*****	**	342	2.2	316	6.3	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	1.7	*****	**	154	.8	199	4.4	0
0600	3.6	*****	**	199	2.7	211	5.1	10
0900	10.0	*****	**	340	.8	001	5.7	43
1200	13.6	*****	**	355	2.7	313	7.0	66
1500	14.6	*****	**	353	3.2	321	6.3	60
1800	14.4	*****	**	337	3.4	342	7.0	39
2100	8.8	*****	**	328	2.8	319	7.6	1
2400	3.7	*****	**	176	2.0	152	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	*****	**	205	2.0	217	3.2	0
0600	1.6	*****	**	190	2.0	182	3.2	6
0900	10.8	*****	**	190	.8	214	2.5	43
1200	14.4	*****	**	045	2.0	039	5.1	66
1500	16.0	*****	**	069	2.7	057	6.3	60
1800	17.5	*****	**	086	1.9	069	5.1	29
2100	11.3	*****	**	177	1.4	125	5.1	1
2400	3.7	*****	**	191	2.5	183	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	4.4	*****	**	183	2.5	180	3.8	0
0600	5.8	*****	**	187	2.1	177	3.2	9
0900	11.4	*****	**	113	.5	180	3.2	40
1200	15.6	*****	**	002	3.0	000	5.1	33
1500	17.2	*****	**	023	2.7	040	5.7	28
1800	18.4	*****	**	048	1.2	008	5.1	15
2100	14.2	*****	**	334	.7	145	5.7	1
2400	9.5	*****	**	100	1.5	091	3.2	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	7.1	*****	**	150	1.2	140	3.2	0
0600	5.2	*****	**	182	1.8	196	3.2	8
0900	12.5	*****	**	0[illegible]	.6	021	5.1	41
1200	15.6	*****	**	021	4.1	017	7.0	65
1500	18.3	*****	**	026	3.7	026	7.6	58
1800	18.0	*****	**	334	4.5	027	8.3	36
2100	13.9	*****	**	321	1.1	336	5.7	1
2400	10.2	*****	**	147	1.6	129	3.8	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	6.0	*****	**	163	1.8	139	3.8	0
0600	7.2	*****	**	201	1.4	221	3.8	9
0900	13.6	*****	**	238	.4	167	3.2	35
1200	16.1	*****	**	000	3.1	007	5.1	33
1500	17.8	*****	**	013	3.9	011	6.3	62
1800	15.3	*****	**	013	4.2	029	7.0	10
2100	12.5	*****	**	025	2.8	016	5.7	1
2400	7.8	*****	**	077	.4	017	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	6.3	*****	**	193	1.4	199	3.2	0
0600	7.6	*****	**	200	1.1	194	2.5	3
0900	11.1	*****	**	195	.6	224	2.5	21
1200	14.3	*****	**	008	3.0	012	6.3	50
1500	13.6	*****	**	017	4.4	025	7.6	20
1800	10.7	*****	**	026	5.7	030	8.3	11
2100	8.9	*****	**	033	3.8	028	7.6	3
2400	8.1	*****	**	016	2.3	032	4.4	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	7.6	*****	**	351	.7	331	[illegible]	0
0600	7.7	*****	**	009	.2	356	[illegible]	1
0900	9.1	*****	**	334	.8	183	[illegible]	[illegible]
1200	10.3	*****	**	042	2.8	295	[illegible]	[illegible]
1500	11.8	*****	**	193	4.1	191	[illegible]	[illegible]
1800	9.4	*****	**	169	7.6	040	[illegible]	[illegible]
2100	9.3	*****	**	053	5.3	[illegible]	[illegible]	[illegible]
2400	8.4	*****	**	109	2.4	136	[illegible]	[illegible]

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R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

DAY 19

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	7.8	*****	**	100	4.4	104	9.5	0
0600	7.7	*****	**	077	3.9	089	8.9	1
0900	10.4	*****	**	086	3.4	090	7.0	24
1200	13.9	*****	**	100	4.2	100	7.0	25
1500	14.4	*****	**	106	5.3	089	10.2	12
1800	14.0	*****	**	098	7.8	100	12.1	11
2100	10.0	*****	**	085	4.9	096	8.9	0
2400	8.3	*****	**	003	2.5	004	4.4	0

DAY 20

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	7.0	*****	**	337	.6	356	2.5	0
0600	6.8	*****	**	155	1.2	153	2.5	1
0900	11.6	*****	**	134	.8	184	2.5	52
1200	11.8	*****	**	360	3.3	349	7.0	26
1500	11.4	*****	**	014	5.1	028	7.6	28
1800	9.1	*****	**	021	5.7	021	8.3	7
2100	7.5	*****	**	026	4.4	039	8.3	0
2400	6.8	*****	**	015	2.3	024	5.1	0

DAY 21

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	6.0	*****	**	092	2.7	026	5.1	0
0600	5.5	*****	**	346	1.0	005	3.8	2
0900	7.9	*****	**	292	.4	351	3.2	21
1200	10.2	*****	**	359	2.5	352	4.4	33
1500	11.2	*****	**	082	3.5	087	5.7	14
1800	11.3	*****	**	034	2.5	074	6.3	13
2100	8.0	*****	**	004	3.0	359	5.1	0
2400	6.6	*****	**	350	1.9	012	3.8	0

DAY 22

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	4.9	*****	**	238	.6	326	1.9	0
0600	4.3	*****	**	205	1.4	220	2.5	2
0900	*****	*****	**	279	.9	223	2.5	20
1200	*****	*****	**	***	****	***	****	35
1500	*****	*****	**	***	****	***	****	20
1800	*****	*****	**	***	****	***	****	3
2100	*****	*****	**	***	****	***	****	0
2400	*****	*****	**	***	****	***	****	0

DAY 23

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	*****	*****	**	***	****	***	****	0
0600	*****	*****	**	***	****	***	****	1
0900	*****	*****	**	***	****	***	****	18
1200	*****	*****	**	***	****	***	****	30
1500	*****	*****	**	267	2.5	267	3.8	46
1800	9.4	*****	**	032	3.0	030	5.7	9
2100	8.0	*****	**	118	1.4	112	4.4	0
2400	4.9	*****	**	033	2.4	030	5.7	0

DAY 24

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	4.3	*****	**	024	1.7	003	4.4	0
0600	3.5	*****	**	016	1.5	017	3.2	1
0900	6.1	*****	**	099	1.2	110	5.7	34
1200	7.7	*****	**	110	4.5	100	7.6	17
1500	8.5	*****	**	116	5.4	119	9.3	14
1800	8.0	*****	**	115	5.5	119	7.6	9
2100	7.6	*****	**	109	4.3	114	7.0	0
2400	7.0	*****	**	174	.9	167	3.2	1

DAY 25

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	*****	**	195	.7	119	2.5	0
0600	6.0	*****	**	193	1.6	218	2.5	1
0900	7.7	*****	**	211	.5	187	1.9	9
1200	7.9	*****	**	017	1.6	021	3.2	9
1500	5.2	*****	**	339	8.2	338	14.0	9
1800	4.7	*****	**	318	4.2	334	9.5	5
2100	3.1	*****	**	065	2.5	340	5.7	0
2400	4.8	*****	**	316	5.2	303	10.8	0

DAY 26

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	4.3	*****	**	306	6.3	301	12.7	0
0600	3.5	*****	**	300	7.3	295	12.7	1
0900	3.8	*****	**	329	5.0	330	9.5	30
1200	3.6	*****	**	343	7.1	353	10.8	26
1500	4.3	*****	**	353	7.8	349	13.3	56
1800	1.6	*****	**	354	7.7	001	12.1	5
2100	.7	*****	**	341	7.4	341	12.1	0
2400	.2	*****	**	328	7.4	331	10.2	0

DAY 27

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	.1	*****	**	329	5.9	327	9.3	0
0600	-.1	*****	**	331	3.8	318	7.6	2
0900	3.1	*****	**	327	.9	342	5.7	33
1200	4.3	*****	**	319	1.9	039	4.4	33
1500	5.5	*****	**	044	1.9	077	5.1	33
1800	6.0	*****	**	347	2.3	354	6.3	25
2100	2.6	*****	**	031	2.4	003	7.0	1
2400	-.5	*****	**	139	2.4	125	6.3	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

EMSS HOUR SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING August, 1984

DAY 28

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-4.3	*****	**	179	1.2	159	3.2	0
0600	-6.6	*****	**	223	1.6	224	3.2	2
0900	2.7	*****	**	187	1.2	136	7.0	35
1200	4.7	*****	**	116	4.7	114	7.6	60
1500	6.1	*****	**	117	3.9	112	7.6	56
1800	6.2	*****	**	111	4.7	112	7.6	19
2100	1.5	*****	**	127	3.2	112	5.7	0
2400	-.6	*****	**	136	2.1	138	7.6	0

DAY 29

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-4.4	*****	**	348	.8	049	4.4	0
0600	-6.2	*****	**	239	1.9	213	3.8	2
0900	1.4	*****	**	237	1.5	226	3.2	33
1200	5.4	*****	**	069	1.6	100	7.0	56
1500	7.0	*****	**	091	3.9	092	7.0	53
1800	6.0	*****	**	109	3.4	114	7.0	9
2100	1.8	*****	**	114	4.0	109	10.8	0
2400	.1	*****	**	115	6.5	113	11.4	0

DAY 30

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	.2	*****	**	151	2.9	136	7.6	0
0600	-.5	*****	**	141	3.1	143	7.0	1
0900	2.3	*****	**	111	2.4	104	5.1	35
1200	3.9	*****	**	109	4.0	123	8.3	30
1500	6.0	*****	**	103	4.0	098	8.9	24
1800	5.2	*****	**	081	3.5	077	6.3	6
2100	2.8	*****	**	037	2.1	078	5.7	0
2400	2.3	*****	**	046	1.6	039	5.1	0

DAY 31

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	0.0	*****	**	192	.9	146	2.5	0
0600	-.4	*****	**	200	1.0	156	2.5	1
0900	2.6	*****	**	202	.9	221	2.5	11
1200	4.2	*****	**	198	1.3	218	3.2	17
1500	7.3	*****	**	217	1.2	233	3.2	43
1800	7.3	*****	**	345	1.0	050	6.3	8
2100	5.3	*****	**	024	1.5	003	3.2	0
2400	2.4	*****	**	181	.8	190	3.2	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR KOSINA 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	12.6	7.0	9.8	016	1.9	2.2	030	6.3	NNE	**	*****	0.0	2590	1
2	14.4	8.8	11.6	009	2.0	2.2	006	5.7	N	**	*****	0.0	2755	2
3	17.2	9.7	13.5	011	2.3	2.4	355	7.6	NNE	**	*****	0.0	4540	3
4	21.6	7.2	14.4	359	1.2	2.0	008	6.3	NNW	**	*****	0.0	4785	4
5	17.0	9.4	13.2	028	2.4	3.0	038	9.5	NNE	**	*****	0.0	4110	5
6	20.5	10.2	15.4	359	.7	2.0	347	8.3	NNE	**	*****	0.0	5370	6
7	20.4	5.7	13.1	196	.9	2.5	189	8.9	S	**	*****	0.0	5165	7
8	19.7	7.0	13.4	015	1.0	2.6	016	8.3	NNE	**	*****	1.4	4545	8
9	14.0	7.8	10.9	324	2.6	3.3	315	9.5	NW	**	*****	6.4	3385	9
10	14.1	2.5	8.3	234	.4	2.1	265	6.3	W	**	*****	.4	3655	10
11	14.7	6.0	10.4	325	2.5	3.2	322	8.9	NW	**	*****	.2	6190	11
12	15.0	1.1	8.1	334	1.0	2.8	321	8.3	SSW	**	*****	0.0	6200	12
13	17.6	.3	9.0	145	.9	2.0	057	6.3	SSW	**	*****	0.0	6040	13
14	19.6	2.4	11.0	060	.5	2.4	040	5.7	N	**	*****	0.0	5055	14
15	19.2	4.6	11.9	022	1.1	2.8	027	8.3	NNE	**	*****	0.0	5850	15
16	18.2	5.4	11.8	017	1.3	2.5	020	7.0	NNE	**	*****	0.0	4815	16
17	14.4	6.3	10.4	022	2.0	2.8	030	8.3	NNE	**	*****	0.0	3010	17
18	11.9	7.6	9.8	085	2.7	3.1	090	10.8	E	**	*****	2.8	1975	18
19	15.0	7.5	11.3	090	4.2	4.7	100	12.1	E	**	*****	0.0	3635	19
20	13.2	6.5	9.9	020	2.5	3.1	021	8.3	NNE	**	*****	.2	4240	20
21	11.5	5.4	8.5	020	1.8	2.4	074	6.3	N	**	*****	0.0	2270	21
22	6.4	3.9	5.2	223	.9	1.3	220	2.5	SW	**	*****	1.4	1985	22
23	10.5	4.6	7.6	044	1.7	2.5	030	5.7	NNE	**	*****	5.0	2437	23
24	8.6	3.2	5.9	106	2.7	3.2	119	8.3	ESE	**	*****	4.4	1495	24
25	6.2	2.3	5.3	329	2.3	3.2	338	14.0	NNW	**	*****	8.6	1165	25
26	4.5	.2	2.4	332	6.6	7.1	349	13.3	NNW	**	*****	.2	3895	26
27	6.9	-2.5	2.2	339	1.4	2.8	327	8.9	NW	**	*****	0.0	4155	27
28	6.8	-6.6	.1	130	2.4	3.1	114	7.6	ESE	**	*****	0.0	5010	28
29	7.1	-6.2	.5	112	2.0	3.2	113	11.4	ESE	**	*****	0.0	4965	29
30	6.0	-.8	2.6	104	2.5	3.1	098	8.9	ESE	**	*****	0.0	3940	30
31	7.8	-.4	3.7	206	.5	1.3	050	6.3	SW	**	*****	0.0	3070	31
MONTH	21.6	-6.6	8.7	025	1.1	2.8	338	14.0	NNE	**	*****	31.2	121137	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 12.7
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 13.1
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 13.3
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 12.1

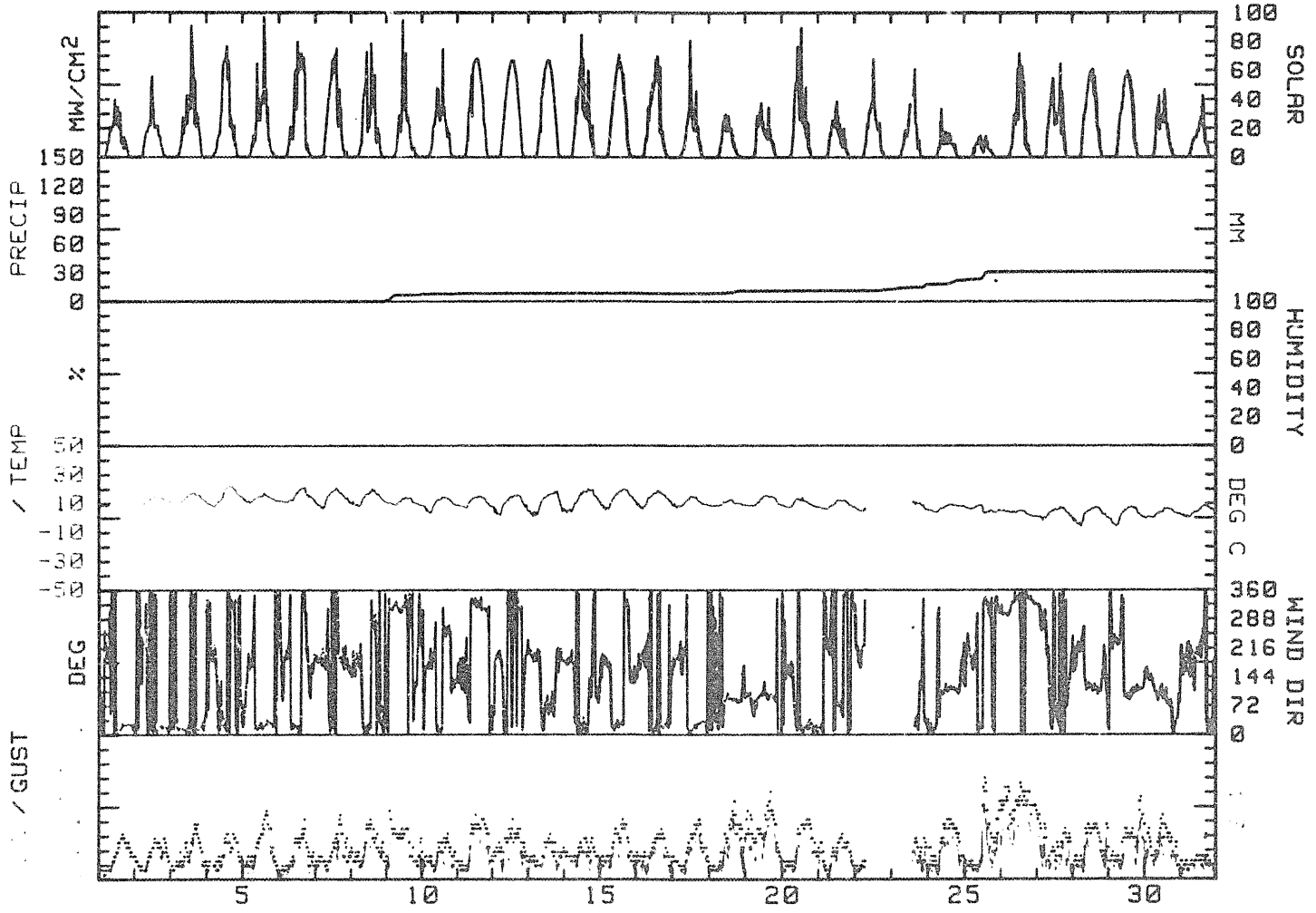
** RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

KOSINA WEATHER STATION

August, 1984



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING August, 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	.77	8.35	4.56	.63	0.00	0.00	0.00	14.32
NNE	.63	7.93	8.63	.49	0.00	0.00	0.00	17.68
NE	.56	2.39	.70	.14	0.00	0.00	0.00	3.79
ENE	.42	1.75	.63	0.00	0.00	0.00	0.00	2.81
E	.21	1.40	3.65	1.19	0.00	0.00	0.00	6.46
ESE	.63	1.96	4.84	.70	0.00	0.00	0.00	8.13
SE	.56	1.89	1.26	0.00	0.00	0.00	0.00	3.70
SSE	.70	3.16	.14	0.00	0.00	0.00	0.00	4.00
S	.91	6.11	.28	.14	0.00	0.00	0.00	7.44
SSW	1.33	5.82	.07	0.00	0.00	0.00	0.00	7.22
SW	.91	3.09	.21	0.00	0.00	0.00	0.00	4.21
WSW	.91	1.40	.07	0.00	0.00	0.00	0.00	2.39
W	.70	.77	.49	0.00	0.00	0.00	0.00	1.96
WNW	.56	.49	.35	.84	0.00	0.00	0.00	2.24
NW	.98	.98	3.86	.70	0.00	0.00	0.00	5.32
NNW	.42	2.53	3.16	1.61	.07	0.00	0.00	7.79
CALM								
TOTAL	10.55	50.04	32.91	6.46	.07	0.00	0.00	[illegible]

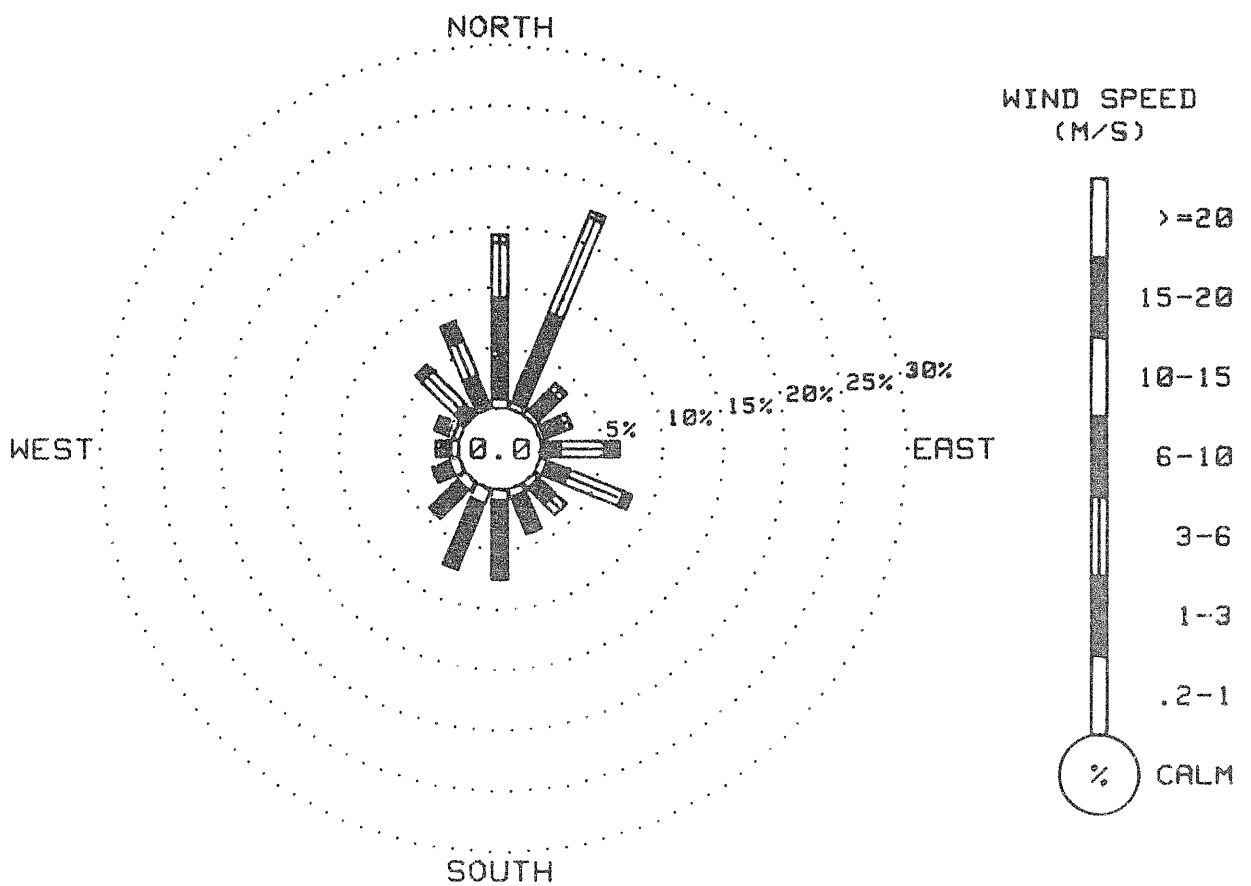
NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
1425 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
1488 WIND OBSERVATIONS WOULD HAVE BEEN CORRECT FOR 30 MINUTE DATA
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

KOSINA WEATHER STATION

August, 1984



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

SOLAR RADIATION SUMMARY FOR KOSINA 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	1	4	10	16	20	22	25	37	23	31	26	12	9	10	10	5	1	1	0	0	11
2	0	0	0	0	1	2	9	16	18	22	22	51	37	22	22	22	15	12	6	2	1	1	0	0	11
3	0	0	0	0	1	2	7	14	22	23	36	33	42	62	70	39	37	27	24	15	4	1	0	0	19
4	0	0	0	0	2	3	7	14	16	30	55	67	70	66	64	25	23	16	15	8	2	1	0	0	20
5	0	0	0	0	2	6	11	10	20	51	31	34	42	67	61	36	24	11	5	3	2	1	0	0	17
6	0	0	0	0	1	5	13	18	15	36	59	57	59	66	68	65	59	8	7	3	2	0	0	0	22
7	0	0	0	0	1	6	19	30	42	51	59	63	68	67	25	35	32	12	5	3	4	1	0	0	22
8	0	0	0	0	2	5	9	31	45	53	45	24	32	71	42	47	11	20	15	5	2	0	0	0	19
9	0	0	0	0	0	2	7	19	24	21	72	45	57	26	26	18	8	6	7	2	2	0	0	0	14
10	0	0	0	0	2	5	10	22	27	42	39	27	33	55	32	26	18	18	13	3	1	0	0	0	15
11	0	0	0	0	1	3	11	32	41	43	63	66	68	68	63	55	47	32	21	9	2	0	0	0	26
12	0	0	0	0	1	6	18	29	41	51	59	65	67	67	62	54	44	32	20	6	3	0	0	0	26
13	0	0	0	0	1	4	13	19	42	51	59	65	67	67	62	54	44	32	20	6	2	0	0	0	25
14	0	0	0	0	1	6	18	33	35	52	57	59	61	31	28	43	43	17	16	7	1	0	0	0	21
15	0	0	0	0	1	5	17	28	39	49	57	64	69	64	59	52	40	30	10	3	1	0	0	0	24
16	0	0	0	0	1	6	13	25	30	41	46	50	61	63	63	40	19	14	8	4	1	0	0	0	20
17	0	0	0	0	1	2	5	8	17	25	32	66	36	22	19	34	21	11	6	1	0	0	0	0	13
18	0	0	0	0	0	1	2	9	15	23	29	21	24	22	20	16	9	6	3	1	1	0	0	0	8
19	0	0	0	0	0	1	7	29	23	32	36	23	17	17	13	28	17	12	8	2	1	0	0	0	11
20	0	0	0	0	0	1	6	19	46	53	71	30	58	43	27	35	17	16	5	1	0	0	0	0	16
21	0	0	0	0	0	2	5	15	18	24	23	27	32	22	19	9	14	12	5	3	0	0	0	0	9
22	0	0	0	0	0	2	7	15	22	32	34	37	53	30	23	21	18	4	1	1	0	0	0	0	12
23	0	0	0	0	0	1	4	7	14	18	15	26	***	***	42	43	21	8	9	1	0	0	0	0	8
24	0	0	0	0	0	1	5	6	24	17	9	18	10	17	15	9	9	8	4	1	0	0	0	0	5
25	0	0	0	0	0	1	5	9	10	12	12	10	4	10	12	9	6	5	3	2	0	0	0	0	4
26	0	0	0	0	0	1	4	8	22	24	32	44	67	56	60	41	17	7	2	3	1	0	0	0	16
27	0	0	0	0	0	2	9	22	33	44	53	34	29	26	32	54	31	33	14	3	0	1	0	0	17
28	0	0	0	0	0	3	14	27	33	43	51	58	58	61	59	44	31	20	9	3	1	1	0	0	21
29	0	0	0	0	0	2	11	26	32	39	52	56	59	57	55	48	38	17	10	2	0	1	0	0	21
30	0	0	0	0	0	1	4	15	33	37	24	29	24	44	29	21	13	8	4	2	0	1	0	0	12
31	0	0	0	0	0	1	3	7	12	14	14	18	21	27	34	28	15	9	5	1	0	0	0	0	9

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

OBSERVATION SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING August, 1984

PARAMETER	NUMBER OF USABLE OBSERVATIONS	PERCENT OF TOTAL OBSERVATIONS
TEMPERATURE	1425	96
WIND SPEED	1425	96
WIND DIRECTION	1425	96
PEAK GUST	1425	96
RELATIVE HUMIDITY	0	0
PRECIPITATION	1485	100
SOLAR RADIATION	1485	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.

2. Sensor array disconnected on 8/22 and 8/23 for annual maintenance: No temperature, RH, or wind data recorded.

R A M CONSULTANTS, INC.

AUSTIN HYDROELECTRIC PROJECT

PRECIPITATION SUMMARY FOR MOSINA WEATHER STATION
[illegible] DURING September, 1984

PRECIPITATION VALUES ARE IN MILLIMETERS

HOUR ENDING

DY	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	.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	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	.2	.2	.2	.2	0.0	.4	0.0	.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	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	5.0	.8	0.0	0.0	0.0	0.0	0.0	1.0	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	1.0	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	1.3	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	.2	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	1.0	1.0	.2	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	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18
19	.2	.8	.4	.2	0.0	1.6	.2	.2	0.0	.2	.4	.8	.2	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	.2	.4	.4	.2	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	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

<< END OF INTERROGATION NOTES AT END OF MONTHLY REPORT >>

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

1984 HOUR SUMMARY FOR KOSINA WEATHER STATION
Data taken DURING September, 1984

DAY 01

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	2.2	*****	**	167	1.5	138	4.4	0
0600	-1.2	*****	**	168	2.5	157	4.4	1
0900	6.2	*****	**	201	1.4	182	3.8	33
1200	9.8	*****	**	129	2.0	115	5.1	57
1500	12.0	*****	**	101	2.0	089	5.1	54
1800	12.7	*****	**	341	1.5	350	4.4	22
2100	6.0	*****	**	274	1.1	227	5.1	0
2400	1.6	*****	**	185	2.3	205	3.8	0

DAY 02

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	.1	*****	**	194	2.2	168	5.1	0
0600	-.6	*****	**	187	1.9	180	3.2	1
0900	3.8	*****	**	222	1.5	218	2.5	19
1200	10.5	*****	**	353	1.0	022	4.4	57
1500	10.4	*****	**	307	.5	183	7.6	61
1800	9.7	*****	**	108	1.8	032	7.6	19
2100	3.4	*****	**	218	1.9	236	3.8	0
2400	1.7	*****	**	199	2.0	187	3.2	0

DAY 03

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-.4	*****	**	205	1.8	203	3.8	0
0600	-1.1	*****	**	216	1.9	223	3.8	1
0900	3.4	*****	**	203	1.9	209	3.2	19
1200	9.6	*****	**	308	.3	349	3.2	34
1500	9.9	*****	**	087	1.6	307	5.7	33
1800	9.6	*****	**	087	4.6	094	7.6	7
2100	6.2	*****	**	092	3.4	088	5.7	0
2400	6.0	*****	**	178	1.5	151	4.4	0

DAY 04

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	5.1	*****	**	195	1.3	212	3.2	0
0600	4.6	*****	**	199	1.4	226	2.5	1
0900	7.9	*****	**	193	1.1	197	2.5	36
1200	10.2	*****	**	146	1.4	114	5.7	31
1500	10.6	*****	**	137	2.3	130	5.1	19
1800	8.0	*****	**	179	1.9	155	5.1	3
2100	6.7	*****	**	198	1.5	222	3.2	0
2400	5.7	*****	**	178	1.7	169	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	4.9	*****	**	185	1.3	187	2.5	0
0600	6.0	*****	**	191	1.6	164	3.2	1
0900	8.2	*****	**	175	1.4	192	3.2	15
1200	11.3	*****	**	130	2.2	106	6.3	26
1500	11.9	*****	**	118	2.6	090	7.0	19
1800	8.9	*****	**	116	3.6	102	9.5	5
2100	7.7	*****	**	206	.4	183	3.2	0
2400	5.5	*****	**	200	1.0	257	3.2	0

DAY 06

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	4.7	*****	**	210	2.1	213	3.8	0
0600	4.2	*****	**	193	1.3	209	3.2	1
0900	5.1	*****	**	200	1.3	175	3.2	5
1200	8.5	*****	**	072	.6	025	7.6	35
1500	8.7	*****	**	114	3.8	139	6.3	29
1800	9.2	*****	**	054	.5	179	5.1	12
2100	5.6	*****	**	042	.3	012	2.5	0
2400	5.3	*****	**	214	1.0	234	3.8	0

DAY 07

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	1.8	*****	**	209	1.7	215	4.4	0
0600	1.7	*****	**	199	1.4	185	3.2	0
0900	5.2	*****	**	184	1.4	158	3.2	10
1200	9.3	*****	**	341	1.0	010	3.2	38
1500	9.6	*****	**	340	1.5	038	5.1	27
1800	6.4	*****	**	286	2.1	255	7.0	5
2100	5.4	*****	**	189	1.5	173	3.8	0
2400	1.4	*****	**	179	2.3	175	3.8	0

DAY 08

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-1.0	*****	**	197	2.0	196	3.8	0
0600	-1.2	*****	**	224	2.5	218	3.2	1
0900	3.2	*****	**	220	2.6	220	3.8	29
1200	8.5	*****	**	141	1.0	106	5.1	56
1500	11.2	*****	**	119	3.1	112	6.3	50
1800	12.4	*****	**	132	1.2	087	5.7	16
2100	7.6	*****	**	147	2.1	143	4.4	0
2400	4.3	*****	**	207	1.4	235	2.5	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	2.2	*****	**	196	1.4	180	3.8	1
0600	1.2	*****	**	208	1.7	216	3.2	1
0900	6.8	*****	**	194	1.4	211	3.2	33
1200	12.6	*****	**	053	.7	147	5.1	54
1500	12.0	*****	**	45	1.1	111	4.4	3
1800	13.1	*****	**	49	1.6	119	4.4	14
2100	4.7	*****	**	242	.3	3.2	3.2	1
2400	3.8	*****	**	210	1.8	197	3.8	1

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

DAY 10

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	.9	*****	**	217	1.8	218	3.2	0
0600	-1.1	*****	**	206	2.0	229	3.2	1
0900	6.8	*****	**	210	1.4	196	2.5	28
1200	12.0	*****	**	035	.9	019	3.2	52
1500	12.0	*****	**	039	2.5	051	7.6	20
1800	9.0	*****	**	065	3.8	093	8.9	5
2100	5.4	*****	**	255	.4	004	5.7	0
2400	1.0	*****	**	189	2.3	174	4.4	0

DAY 11

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-.8	*****	**	210	2.1	181	4.4	0
0600	-1.2	*****	**	199	2.4	210	4.4	0
0900	6.6	*****	**	189	2.0	206	3.2	28
1200	11.0	*****	**	134	1.9	121	7.0	51
1500	12.0	*****	**	128	2.8	130	6.3	46
1800	9.4	*****	**	119	2.6	111	8.9	5
2100	5.7	*****	**	203	2.7	215	8.3	0
2400	3.6	*****	**	178	1.6	175	3.2	0

DAY 12

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	1.0	*****	**	199	1.8	229	3.2	0
0600	.1	*****	**	195	2.2	168	1.4	0
0900	6.2	*****	**	189	2.0	194	4.4	28
1200	10.8	*****	**	069	1.2	037	3.8	47
1500	8.9	*****	**	090	3.3	129	7.6	33
1800	7.3	*****	**	064	2.6	059	6.3	7
2100	5.0	*****	**	073	2.0	073	4.4	0
2400	2.5	*****	**	303	.8	341	2.5	0

DAY 13

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	2.8	*****	**	199	1.3	159	3.2	0
0600	2.1	*****	**	201	1.2	172	2.5	0
0900	4.0	*****	**	192	.8	185	1.9	8
1200	6.5	*****	**	122	.6	093	4.4	16
1500	7.8	*****	**	104	2.8	111	6.3	14
1800	8.6	*****	**	113	4.9	117	8.9	12
2100	4.3	*****	**	103	3.1	099	5.1	0
2400	3.0	*****	**	178	2.1	158	4.4	0

DAY 14

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	1.7	*****	**	178	1.9	180	3.8	0
0600	4.5	*****	**	158	1.7	138	4.4	0
0900	7.3	*****	**	152	2.0	137	6.3	24
1200	8.6	*****	**	118	4.6	101	9.5	23
1500	11.3	*****	**	125	5.6	129	10.8	14
1800	10.5	*****	**	120	6.2	122	10.8	4
2100	6.8	*****	**	130	.5	123	7.0	0
2400	4.7	*****	**	133	.6	123	5.1	0

DAY 15

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	6.0	*****	**	187	1.0	119	[illegible]	0
0600	5.3	*****	**	096	1.2	135	4.4	0
0900	6.8	*****	**	043	.6	334	3.8	10
1200	10.2	*****	**	108	4.5	101	7.6	57
1500	10.7	*****	**	110	5.1	110	8.3	26
1800	9.4	*****	**	105	4.4	100	8.3	4
2100	5.9	*****	**	129	1.2	107	4.4	0
2400	.6	*****	**	195	1.6	177	4.4	[illegible]

DAY 16

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	.5	*****	**	199	1.8	180	3.8	0
0600	.8	*****	**	202	3.1	216	3.2	0
0900	5.1	*****	**	199	1.6	186	3.2	14
1200	10.1	*****	**	027	.9	016	3.8	25
1500	11.2	*****	**	[illegible]	2.7	332	5.7	30
1800	9.4	*****	**	050	1.5	110	4.4	4
2100	6.7	*****	**	220	2.6	225	7.6	0
2400	4.2	*****	**	195	1.7	190	3.8	0

DAY 17

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	3.9	*****	**	175	.9	216	1.9	0
0600	2.8	*****	**	212	.7	177	2.5	0
0900	4.2	*****	**	233	.7	191	1.9	14
1200	7.8	*****	**	028	1.1	011	3.2	24
1500	9.3	*****	**	055	1.1	007	3.8	14
1800	7.6	*****	**	062	2.1	080	5.1	1
2100	3.3	*****	**	217	1.9	255	6.3	0
2400	1.7	*****	**	199	1.6	160	3.2	0

DAY 18

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	0.0	*****	**	204	1.5	214	[illegible]	[illegible]
0600	2.2	*****	**	[illegible]	1.4	[illegible]	[illegible]	[illegible]
0900	4.2	*****	**	[illegible]	1.4	[illegible]	[illegible]	[illegible]
1200	6.2	*****	**	[illegible]	.8	[illegible]	[illegible]	[illegible]
1500	6.8	*****	**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1800	5.8	*****	**	[illegible]	3.2	[illegible]	[illegible]	[illegible]
2100	2.9	*****	**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2400	3.0	*****	**	[illegible]	.7	057	3.2	[illegible]

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

DAY 19

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	1.8	*****	**	266	.6	195	1.9	0
0600	.6	*****	**	263	.9	265	2.5	0
0900	.2	*****	**	230	.9	252	1.9	2
1200	2.0	*****	**	226	.2	257	1.9	12
1500	5.3	*****	**	047	.7	080	2.5	23
1800	4.7	*****	**	245	.4	227	2.5	3
2100	2.8	*****	**	056	1.0	098	3.8	0
2400	1.3	*****	**	007	1.7	020	4.4	0

DAY 20

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	.3	*****	**	020	2.3	029	5.1	0
0600	1.7	*****	**	068	2.3	093	7.6	0
0900	2.5	*****	**	023	2.3	024	4.4	6
1200	6.0	*****	**	017	3.7	029	6.3	32
1500	6.2	*****	**	330	5.7	331	8.9	38
1800	6.1	*****	**	343	4.8	346	8.3	7
2100	.7	*****	**	173	1.3	174	3.2	0
2400	-2.2	*****	**	182	2.1	178	3.2	0

DAY 21

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-3.9	*****	**	200	1.7	186	3.2	0
0600	-4.1	*****	**	204	1.9	212	3.2	0
0900	3.4	*****	**	205	1.4	225	3.2	31
1200	8.1	*****	**	145	.4	219	3.5	46
1500	10.6	*****	**	099	1.1	076	3.8	38
1800	8.6	*****	**	015	1.7	082	3.8	7
2100	2.6	*****	**	217	2.3	208	3.8	0
2400	1.0	*****	**	196	2.1	195	3.8	0

DAY 22

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-1.8	*****	**	199	2.1	198	3.8	0
0600	-1.7	*****	**	209	2.3	208	3.8	0
0900	2.8	*****	**	219	2.2	220	3.8	29
1200	8.4	*****	**	120	2.4	102	7.6	46
1500	10.6	*****	**	105	6.3	102	9.5	35
1800	7.9	*****	**	108	5.3	105	8.3	4
2100	1.9	*****	**	186	1.7	133	5.7	0
2400	.9	*****	**	215	2.1	238	3.2	0

DAY 23

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	.1	*****	**	210	1.8	222	3.2	0
0600	-1.6	*****	**	197	1.7	202	3.2	0
0900	3.1	*****	**	217	2.1	221	3.8	13
1200	8.3	*****	**	114	3.1	108	6.3	47
1500	8.1	*****	**	098	4.4	096	7.6	26
1800	5.8	*****	**	122	2.1	105	4.4	2
2100	3.6	*****	**	176	1.7	187	3.2	0
2400	3.1	*****	**	210	1.3	181	3.2	0

DAY 24

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	3.4	*****	**	298	1.2	175	3.2	0
0600	.1	*****	**	211	1.6	224	4.4	0
0900	1.0	*****	**	234	2.0	222	[illegible]	[illegible]
1200	6.6	*****	**	169	1.5	136	4.4	40
1500	7.2	*****	**	123	3.3	115	6.3	16
1800	6.8	*****	**	155	.9	132	5.1	[illegible]
2100	4.2	*****	**	182	1.4	210	3.2	[illegible]
2400	2.6	*****	**	227	1.6	213	[illegible]	[illegible]

DAY 25

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	3.5	*****	**	220	1.2	237	3.2	0
0600	1.8	*****	**	116	1.2	119	3.2	0
0900	2.3	*****	**	160	1.1	163	1.9	9
1200	6.2	*****	**	188	1.5	177	3.8	32
1500	7.7	*****	**	133	2.5	123	5.7	14
1800	6.8	*****	**	126	3.2	117	5.1	4
2100	3.6	*****	**	165	1.9	134	3.2	0
2400	3.6	*****	**	191	1.5	162	2.5	0

DAY 26

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	2.3	*****	**	228	1.8	236	3.2	0
0600	2.6	*****	**	213	1.8	225	3.2	0
0900	4.3	*****	**	221	1.2	228	2.5	9
1200	8.2	*****	**	153	2.0	134	5.1	43
1500	9.2	*****	**	073	.8	137	3.8	16
1800	7.7	*****	**	012	1.2	007	3.8	2
2100	2.8	*****	**	297	.6	263	3.2	0
2400	.9	*****	**	197	2.4	194	3.8	0

DAY 27

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-1.9	*****	**	[illegible]	2.5	[illegible]	[illegible]	[illegible]
0600	-1.5	*****	**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0900	1.9	*****	**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1200	8.5	*****	**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1500	9.3	*****	**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1800	6.8	*****	**	[illegible]	4.4	[illegible]	[illegible]	[illegible]
2100	.9	*****	**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2400	-.8	*****	**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY HOUR SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING September, 1984

DAY 28									DAY 29									DAY 30								
HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW	HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW	HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-1.6	*****	**	221	2.2	217	3.8	0	0300	2.3	*****	**	077	1.2	101	3.8	0	0300	4.3	*****	**	113	2.2	133	5.7	0
0600	-.4	*****	**	204	2.1	210	3.8	0	0600	2.3	*****	**	004	1.3	357	3.8	0	0600	3.4	*****	**	178	1.7	134	6.3	0
0900	.7	*****	**	220	2.5	226	3.8	14	0900	2.6	*****	**	125	2.1	102	8.3	3	0900	4.9	*****	**	130	1.9	094	5.3	34
1200	8.5	*****	**	204	1.4	200	5.7	29	1200	5.0	*****	**	169	1.9	134	6.3	6	1200	6.5	*****	**	103	5.6	092	8.3	18
1500	8.5	*****	**	135	2.2	109	5.1	11	1500	6.9	*****	**	238	1.1	263	3.2	9	1500	8.7	*****	**	161	3.4	122	7.6	13
1800	6.5	*****	**	127	2.2	117	8.9	1	1800	7.3	*****	**	203	1.0	246	4.4	1	1800	7.0	*****	**	121	6.0	119	19.2	1
2100	2.0	*****	**	102	3.1	109	7.0	0	2100	6.7	*****	**	175	1.3	141	5.1	0	2100	4.6	*****	**	096	3.3	134	14.0	0
2400	2.0	*****	**	065	.8	127	3.8	0	2400	5.3	*****	**	159	1.5	138	6.3	0	2400	3.7	*****	**	129	3.2	122	11.4	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR KOSINA WEATHER STATION
Data Taken During September, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	12.7	-2.1	5.3	165	1.0	2.1	115	5.1	SSW	**	*****	0.0	4815	1
2	11.2	-1.5	4.9	197	1.0	2.2	183	7.6	SW	**	*****	0.0	3740	2
3	10.6	-2.5	4.1	132	1.1	2.4	084	7.6	E	**	*****	.2	2465	3
4	10.6	3.6	7.1	175	1.4	1.8	114	5.7	S	**	*****	0.0	2305	4
5	12.7	4.0	8.4	147	1.5	2.0	102	9.5	SSE	**	*****	0.0	2340	5
6	10.0	3.8	6.9	167	.7	1.8	135	6.3	SSW	**	*****	2.0	2260	6
7	10.7	1.2	6.0	204	.7	1.9	255	7.0	S	**	*****	5.8	2325	7
8	12.4	-2.0	5.2	176	1.5	2.3	112	6.3	SW	**	*****	0.0	3710	8
9	13.5	1.0	7.3	190	.7	1.7	092	6.3	SSW	**	*****	0.0	3295	9
10	13.1	-1.1	6.0	139	.4	2.3	093	8.9	SSW	**	*****	0.0	3835	10
11	12.7	-2.6	5.1	170	1.8	2.4	111	8.9	S	**	*****	0.0	3885	11
12	11.2	-.5	5.4	110	.7	2.2	129	7.6	SSW	**	*****	.2	2970	12
13	8.7	1.9	5.3	132	1.7	2.4	117	8.9	ESE	**	*****	0.0	1675	13
14	11.3	1.7	6.5	131	2.8	3.4	129	10.8	ESE	**	*****	0.0	3075	14
15	11.6	.6	6.1	115	2.1	2.7	110	8.3	ESE	**	*****	0.0	3615	15
16	12.6	0.0	6.3	210	.6	2.2	228	7.6	SSW	**	*****	0.0	3955	16
17	10.0	1.8	5.9	161	.3	1.6	255	6.3	S	**	*****	2.2	1970	17
18	8.6	0.0	4.3	059	.5	2.0	035	7.6	NNE	**	*****	.2	1685	18
19	5.3	.1	2.7	326	.3	1.1	020	4.4	WSW	**	*****	5.2	1245	19
20	6.7	-2.2	2.3	003	1.8	3.2	331	8.9	NNE	**	*****	1.6	2250	20
21	10.6	-4.1	3.3	196	1.0	1.8	076	3.8	S	**	*****	0.0	3540	21
22	10.6	-3.0	3.8	147	2.0	3.2	102	9.5	ESE	**	*****	0.0	3295	22
23	9.0	-1.6	3.7	152	1.5	2.4	096	7.6	SSW	**	*****	0.0	2660	23
24	7.7	-.8	3.5	185	1.3	1.9	115	6.3	WSW	**	*****	0.0	1960	24
25	7.7	.6	4.2	156	1.5	1.9	123	5.7	SSW	**	*****	.2	1625	25
26	9.6	.`	5.0	203	°	1.8	134	5.1	SW	**	*****	0.0	2660	26
27	9.8	-2..	3.7	167	2.1	2.7	100	8.3	SSW	**	*****	0.0	2270	27
28	8.5	-4.0	2.3	165	1.3	2.3	117	8.9	SW	**	*****	0.0	1740	28
29	7.7	2.0	4.9	155	.8	1.7	102	8.3	SE	**	*****	.8	675	29
30	9.0	2.6	5.8	123	3.1	3.9	124	14.0	ESE	**	*****	0.0	1995	30
MONTH	13.5	-4.1	5.0	153	1.0	2.2	124	14.0	SSW	**	*****	18.4	76801	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 7.9
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 9.5
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 13.5
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 8.3

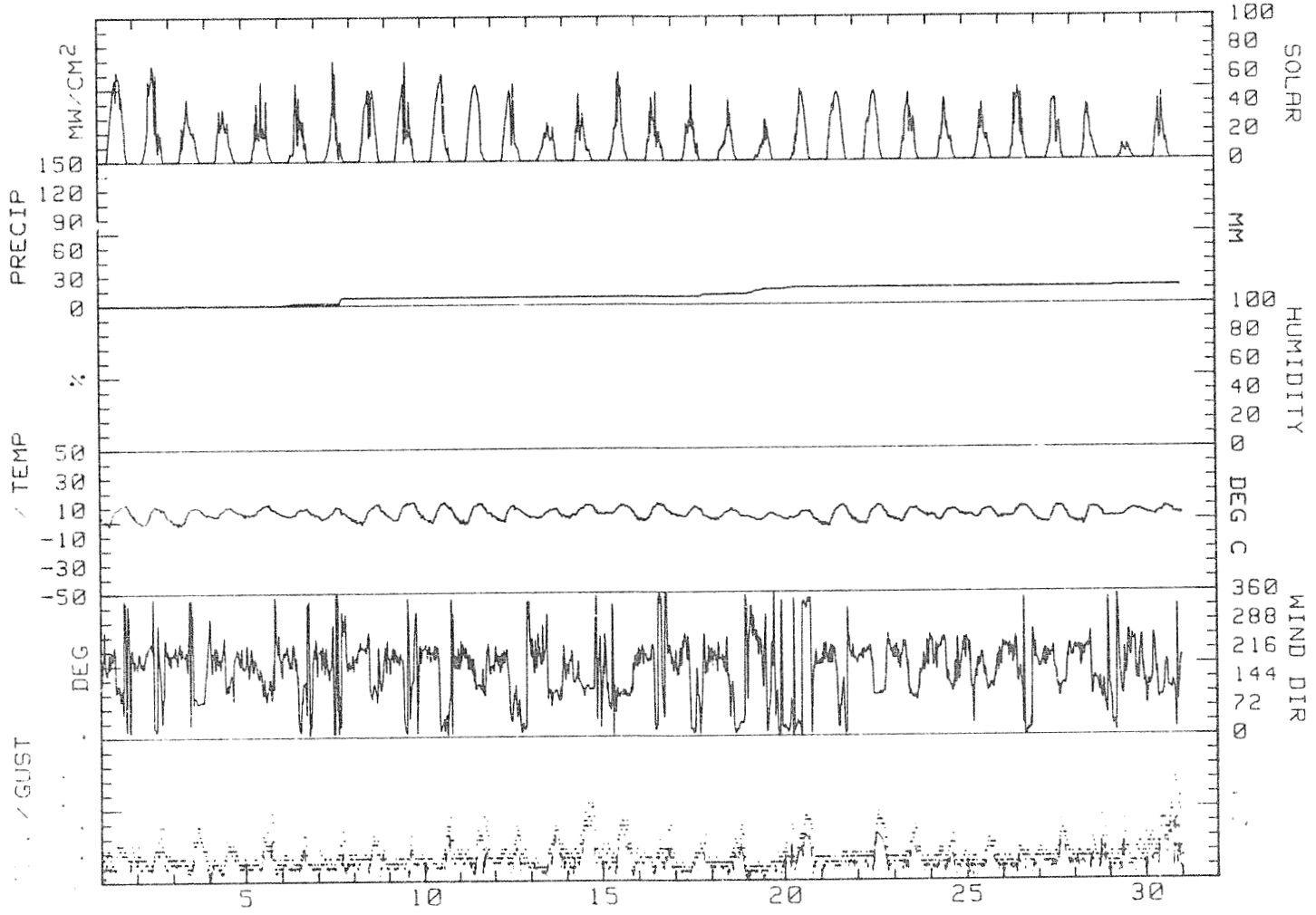
** RELATIVE HUMIDITY READINGS ARE UNREPLIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE MAX. OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.
*** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT ***

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

KOSINA WEATHER STATION

September, 1984



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR KOSINA 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	.28	2.57	.49	0.00	0.00	0.00	0.00	3.34
NNE	.21	4.72	1.11	0.00	0.00	0.00	0.00	6.04
NE	0.00	1.39	.49	0.00	0.00	0.00	0.00	1.88
ENE	.21	1.60	.21	0.00	0.00	0.00	0.00	2.01
E	.21	1.74	3.61	.14	0.00	0.00	0.00	5.69
ESE	.21	4.58	4.72	1.11	0.00	0.00	0.00	10.63
SE	.35	4.44	3.06	.14	0.00	0.00	0.00	7.99
SSE	.69	6.11	.63	0.00	0.00	0.00	0.00	7.43
S	.42	13.26	.42	0.00	0.00	0.00	0.00	14.11
SSW	1.04	15.28	.49	0.00	0.00	0.00	0.00	16.81
SW	1.04	12.22	.35	0.00	0.00	0.00	0.00	13.61
WSW	.83	3.82	.21	0.00	0.00	0.00	0.00	4.86
W	.49	.97	0.00	0.00	0.00	0.00	0.00	1.46
WNW	.28	.42	.07	0.00	0.00	0.00	0.00	.76
NW	.35	.76	0.00	.14	0.00	0.00	0.00	1.25
NNW	.28	1.11	.76	.07	0.00	0.00	0.00	2.22
CALM								0.00
TOTAL	6.81	75.00	16.60	1.60	0.00	0.00	0.00	100.00

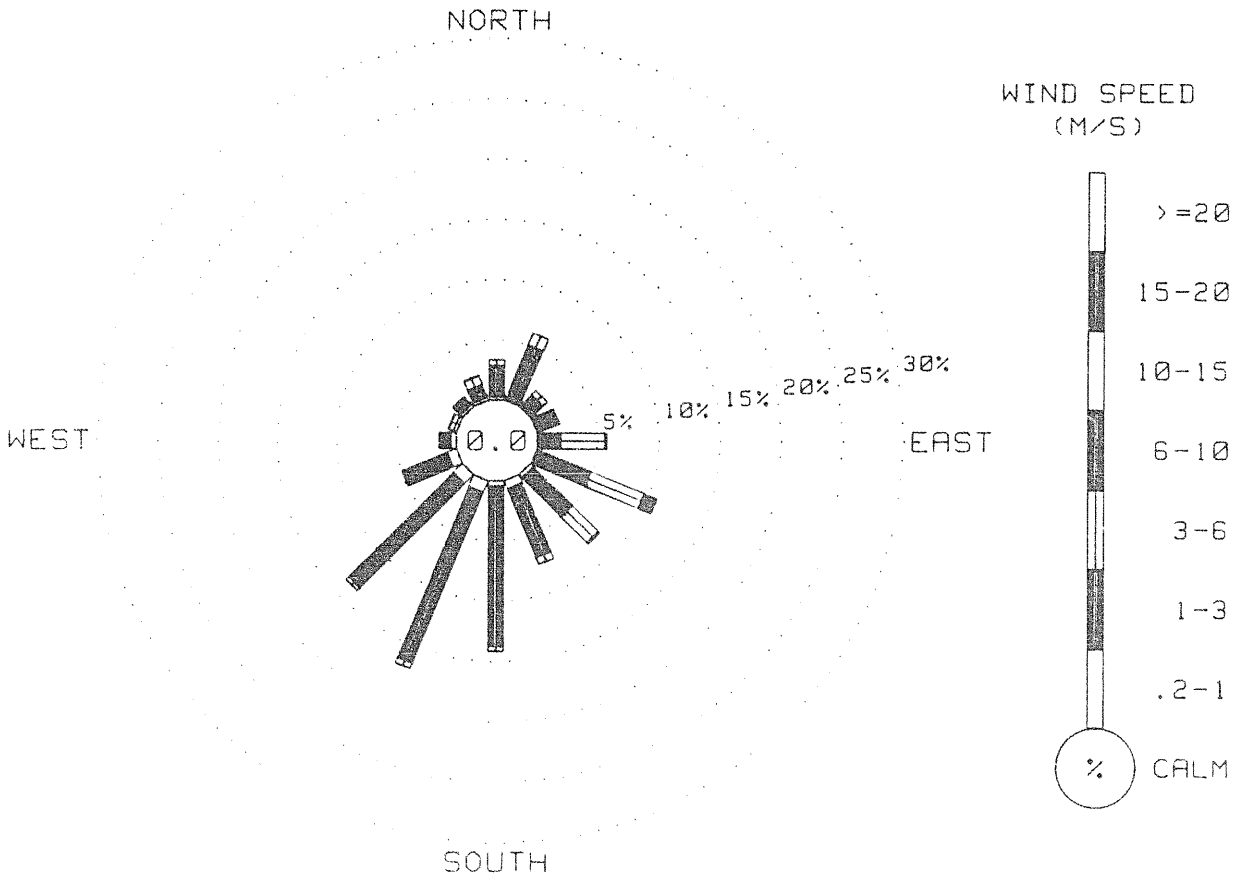
NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
(440 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
(440 WIND OBSERVATIONS WOULD HAVE BEEN CORRECT FOR 31 MINUTE DATA.
(SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT)

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

KOSINA WEATHER STATION

September, 1984



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DAILY SOLAR RADIATION SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING September, 1984

SOLAR RADIATION VALUES MEASURED IN MILLIWATTS PER SQUARE CENTIMETER

HOUR ENDING

DATE	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	AVG
1	0	0	0	0	0	1	6	19	30	41	50	57	53	59	56	42	38	25	7	3	0	0	0	0	20
2	0	0	0	0	0	1	3	8	16	40	49	55	65	47	41	13	14	15	9	1	0	0	0	0	16
3	0	0	0	0	0	1	5	16	15	24	33	39	26	23	21	20	16	9	4	1	0	0	0	0	10
4	0	0	0	0	0	1	6	18	30	23	26	34	23	22	24	11	9	5	2	0	0	0	0	0	10
5	0	0	0	0	0	1	6	10	21	34	17	21	37	21	18	30	13	6	3	1	0	0	0	0	10
6	0	0	0	0	0	0	2	5	5	7	36	45	12	35	26	20	19	13	3	1	0	0	0	0	9
7	0	0	0	0	0	0	2	4	8	14	22	36	51	52	21	6	8	10	3	1	0	0	0	0	10
8	0	0	0	0	0	1	6	13	26	37	41	48	33	23	49	45	30	18	5	1	0	0	0	0	15
9	0	0	0	0	0	1	5	15	27	36	45	51	14	50	17	30	21	14	6	1	0	0	0	0	14
10	0	0	0	0	0	1	4	14	24	36	43	51	55	58	40	34	13	7	6	1	0	0	0	0	16
11	0	0	0	0	0	0	3	15	26	36	44	50	53	53	47	41	17	6	2	1	0	0	0	0	15
12	0	0	0	0	0	0	2	14	25	32	42	49	33	18	44	12	10	8	2	0	0	0	0	0	12
13	0	0	0	0	0	0	2	4	7	10	16	18	19	26	16	16	29	13	3	1	0	0	0	0	7
14	0	0	0	0	0	0	1	6	22	31	36	19	29	27	16	8	9	6	2	0	0	0	0	0	9
15	0	0	0	0	0	0	2	5	10	19	23	40	45	46	39	18	10	5	2	0	0	0	0	0	11
16	0	0	0	0	0	0	2	11	14	27	42	28	24	29	17	17	11	7	1	0	0	0	0	0	9
17	0	0	0	0	0	0	1	4	12	23	22	26	43	26	21	8	12	2	0	0	0	0	0	0	8
18	0	0	0	0	0	0	1	8	8	10	12	17	23	35	26	18	9	3	1	0	0	0	0	0	7
19	0	0	0	0	0	0	1	4	2	5	11	10	13	29	19	18	12	4	1	0	0	0	0	0	5
20	0	0	0	0	0	0	1	4	5	15	21	32	49	47	40	32	32	10	2	0	0	0	0	0	11
21	0	0	0	0	0	0	2	15	28	36	35	45	47	45	40	32	21	10	2	0	0	0	0	0	15
22	0	0	0	0	0	0	2	14	27	27	33	44	48	47	39	31	15	6	1	0	0	0	0	0	14
23	0	0	0	0	0	0	2	10	15	31	38	45	28	30	23	28	9	3	1	0	0	0	0	0	11
24	0	0	0	0	0	0	1	4	15	19	29	42	36	23	15	15	8	3	1	0	0	0	0	0	9
25	0	0	0	0	0	0	1	2	7	13	28	22	37	24	16	18	11	7	1	0	0	0	0	0	8
26	0	0	0	0	0	0	1	5	9	35	35	42	47	32	32	19	6	3	1	0	0	0	0	0	11
27	0	0	0	0	0	0	1	3	8	11	31	41	43	27	18	25	17	4	1	0	0	0	0	0	9
28	0	0	0	0	0	0	1	4	11	30	35	34	23	15	12	7	4	1	0	0	0	0	0	0	8
29	0	0	0	0	0	0	0	1	3	4	11	7	6	11	8	5	3	2	0	0	0	0	0	0	2
30	0	0	0	0	0	0	1	7	21	32	28	17	41	24	13	15	5	2	0	0	0	0	0	0	8

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DATA RECOVERY SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING September, 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 occured frequently. However, thawing temperatures also occurred, so daily totals should be accurate.

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

DAY 19

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-13.8	-15.7	86	182	2.7	166	5.1	0
0600	-11.2	-12.6	94	201	1.7	196	3.2	0
0900	-10.6	-11.3	95	190	1.7	204	2.5	0
1200	-12.3	-13.6	90	190	2.0	176	3.2	6
1500	-10.4	*****	77	***	****	***	1.9	5
1800	-14.5	-15.8	90	224	1.8	222	3.2	0
2100	-17.2	-19.0	86	212	1.8	187	3.2	0
2400	-18.1	-19.9	86	180	3.0	166	6.3	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	-17.4	-18.8	89	185	3.4	178	6.3	0
0600	-18.5	-19.8	90	168	2.7	175	6.3	0
0900	-16.2	-17.5	90	243	3.6	238	6.3	0
1200	-12.7	-13.8	92	219	3.1	233	7.0	4
1500	-13.4	-14.6	91	145	3.6	139	8.3	2
1800	-13.0	-14.3	90	155	3.3	141	7.6	0
2100	-12.2	-13.4	91	211	2.2	177	5.7	0
2400	-10.2	-12.0	87	178	2.1	215	7.6	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	-7.5	-9.3	87	132	3.6	130	8.3	0
0600	-6.6	-7.6	93	196	1.3	183	5.1	0
0900	-4.2	-5.6	90	065	.6	038	5.7	0
1200	-3.2	-4.9	88	162	1.1	164	5.8	3
1500	-1.2	-3.4	85	196	1.4	191	6.3	2
1800	-1.6	-3.1	90	158	1.6	121	4.4	0
2100	-1.9	-3.5	89	136	2.6	113	5.7	0
2400	-3.1	-4.8	88	149	3.3	153	6.3	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	-4.3	-5.9	89	200	1.5	131	5.7	0
0600	-6.6	-7.6	93	195	2.6	198	5.1	0
0900	-7.4	-7.7	98	202	2.1	204	4.4	0
1200	-10.3	-10.7	97	209	2.1	166	4.4	5
1500	-8.4	-8.9	96	212	2.3	208	3.8	2
1800	-8.3	-9.7	90	200	2.9	203	4.4	0
2100	-9.3	-10.2	93	184	2.5	186	3.8	0
2400	-8.9	-10.1	91	208	2.4	192	4.4	0

DAY 23

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-9.2	-10.3	92	195	2.5	183	4.4	0
0600	-7.6	-8.7	92	182	2.5	184	4.4	0
0900	-9.0	-10.2	91	194	2.3	186	3.8	0
1200	-7.9	-9.7	87	172	2.6	169	4.4	6
1500	-8.7	-9.9	91	172	1.6	183	3.2	2
1800	-10.5	-11.3	94	187	2.0	165	3.8	0
2100	-10.1	*****	97	200	1.6	177	3.8	0
2400	-12.5	-13.3	94	187	2.0	170	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	-13.5	-14.0	96	203	1.7	193	3.8	0
0600	-13.0	-13.8	94	215	1.5	183	3.8	0
0900	-12.6	-13.4	94	205	2.0	218	3.8	0
1200	-13.2	-14.9	87	223	1.7	218	3.2	13
1500	-13.3	-16.2	79	229	2.4	229	4.4	7
1800	-15.5	-16.5	92	227	2.0	227	3.8	0
2100	-14.8	-16.0	91	223	2.1	234	3.8	0
2400	-11.8	-12.7	93	241	1.6	212	3.8	0

DAY 25

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-12.4	-13.5	92	120	3.1	116	5.7	0
0600	-14.0	-14.9	93	186	1.7	208	3.8	0
0900	-15.5	-16.4	93	208	3.2	205	5.1	0
1200	-14.3	-15.2	93	203	3.3	204	5.1	5
1500	-15.0	-16.0	92	207	3.2	214	5.1	1
1800	-17.5	-18.5	92	216	3.6	214	5.1	0
2100	-16.0	-17.0	92	198	3.2	216	5.7	0
2400	-16.6	-17.6	92	182	3.5	160	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	-15.2	-16.2	92	190	3.5	200	5.7	0
0600	-13.5	-14.8	90	189	3.8	186	6.3	0
0900	-11.8	-13.3	89	205	2.3	197	5.1	0
1200	-11.0	-12.6	88	183	2.7	192	4.4	3
1500	-11.4	-13.2	87	185	2.3	187	3.8	2
1800	-13.1	-14.6	89	183	3.1	183	5.1	0
2100	-12.5	-14.2	87	188	2.5	199	4.4	0
2400	-10.7	-12.3	88	206	2.6	205	3.8	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	-11.6	-12.7	92	176	3.7	159	5.1	0
0600	-10.9	-11.8	93	208	3.9	210	5.1	0
0900	-10.6	-11.9	93	190	3.5	200	4.4	0
1200	-9.0	-10.9	86	181	3.8	175	5.1	7
1500	-9.0	-10.8	87	183	3.1	177	5.7	5
1800	-13.7	-14.9	91	189	2.4	173	5.1	0
2100	-12.1	-13.3	91	193	2.8	186	4.4	0
2400	-9.0	-10.1	92	202	3.5	157	6.3	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING November, 1983

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	-9.2	-10.3	92	133	4.4	123	9.5	0	0300	-2.6	-6.1	77	227	2.2	219	4.4	0	0300	-10.0	-12.9	79	229	3.8	227	5.1	0
0600	-9.5	-10.6	92	158	4.2	156	8.3	0	0600	-2.8	-6.1	78	220	2.4	227	5.7	0	0600	-10.2	-13.5	77	227	3.0	231	4.4	0
0900	-9.1	-10.1	93	194	2.5	153	6.3	0	0900	-6.6	-8.4	87	224	2.6	233	8.3	0	0900	-7.3	-10.8	76	225	3.4	240	5.7	0
1200	-6.4	-7.7	91	222	2.9	210	5.7	5	1200	-5.1	-7.4	84	233	2.4	224	4.4	3	1200	-5.8	-9.0	78	231	2.8	231	5.7	3
1500	-7.5	-8.9	90	220	3.2	221	7.0	2	1500	-5.5	-8.2	81	234	2.5	220	7.6	2	1500	-5.2	-9.1	74	219	2.8	211	4.4	2
1800	-4.2	-5.9	88	200	2.6	190	5.1	0	1800	-5.2	-8.3	79	224	2.7	245	5.7	0	1800	-7.4	-10.3	80	218	2.7	219	4.4	0
2100	-6.3	-7.8	89	193	2.8	144	5.1	0	2100	-7.8	-10.6	80	229	3.2	229	5.1	0	2100	-9.0	-11.5	82	228	2.6	229	5.1	0
2400	-5.9	-7.3	90	219	2.8	212	5.1	0	2400	-7.7	-10.7	79	230	2.9	218	5.7	0	2400	-7.2	-9.8	82	223	2.5	245	4.4	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

DAILY SUMMARY FOR KOSINA 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 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	-11.8	-17.9	-14.9	184	2.6	3.1	161	6.3	SSE	92	-15.8	****	218	17
18	-12.6	-20.2	-16.4	202	2.4	2.5	204	5.1	SSW	88	-17.3	****	625	18
19	-9.5	-18.6	-14.1	193	2.0	2.0	166	6.3	S	89	-15.0	****	400	19
20	-8.9	-19.4	-14.2	187	2.5	3.3	129	8.3	SSE	90	-16.0	****	145	20
21	-.8	-8.4	-4.6	149	1.7	2.3	130	8.3	SSE	88	-5.5	****	145	21
22	-2.7	-10.9	-6.8	201	2.3	2.4	131	5.7	SSW	94	-8.3	****	305	22
23	-7.2	-12.5	-9.9	186	2.1	2.2	183	4.4	S	93	-10.4	****	260	23
24	-10.6	-15.6	-13.1	220	1.8	2.0	229	4.4	SW	91	-14.4	****	545	24
25	-11.8	-18.3	-15.1	192	2.8	3.2	160	7.0	SSW	92	-15.9	****	185	25
26	-10.2	-16.5	-13.4	191	2.6	2.7	186	6.3	SSW	89	-14.1	****	275	26
27	-7.2	-13.9	-10.6	190	2.7	2.9	157	8.3	S	90	-12.2	****	335	27
28	-4.2	-9.5	-6.9	188	2.7	3.4	123	9.5	SW	91	-8.8	****	180	28
29	-1.6	-9.7	-5.7	228	2.6	2.7	233	8.3	SW	81	-8.2	****	150	29
30	-3.7	-11.1	-7.4	225	2.8	2.9	240	5.7	SW	78	-10.9	****	240	30
MONTH	-.8	-20.2	-10.9	197	2.3	2.7	123	9.5	SSW	89	-12.3	****	3678	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS = 8.3
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL = 6.3
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL = 7.4
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS = 6.3

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

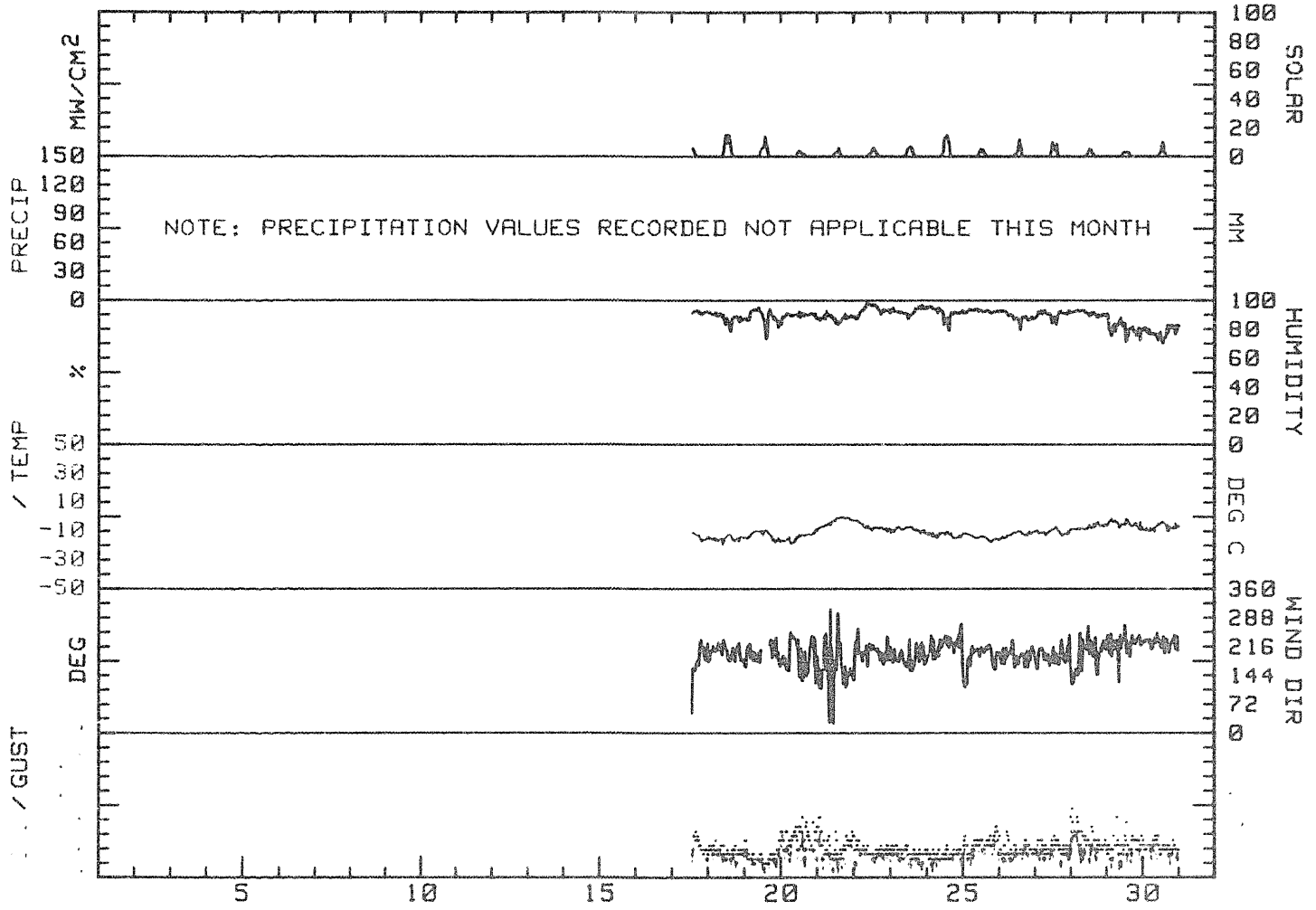
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

KOSINA WEATHER STATION

November, 1983



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

DIRECTION	VELOCITY (M/S) 0.2 TO 1.0	1.0 TO 3.0	3.0 TO 6.0	6.0 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	20.0 OR GREATER	TOTAL
N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NNE	.16	.16	0.00	0.00	0.00	0.00	0.00	.31
NE	0.00	.16	.16	0.00	0.00	0.00	0.00	.31
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	.63	1.42	.16	0.00	0.00	0.00	2.20
SE	.16	.94	2.04	.16	0.00	0.00	0.00	3.30
SSE	.16	3.30	6.76	.16	0.00	0.00	0.00	10.38
S	.16	15.88	4.09	0.00	0.00	0.00	0.00	20.13
SSW	0.00	21.86	8.81	0.00	0.00	0.00	0.00	30.66
SW	.31	16.67	8.02	0.00	0.00	0.00	0.00	25.00
WSW	0.00	4.72	1.89	0.00	0.00	0.00	0.00	6.60
W	0.00	.79	0.00	0.00	0.00	0.00	0.00	.79
WNW	.16	0.00	0.00	0.00	0.00	0.00	0.00	.16
NW	0.00	.16	0.00	0.00	0.00	0.00	0.00	.16
NNW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CALM								0.00
TOTAL	.16	65.25	33.19	.47	0.00	0.00	0.00	100.00

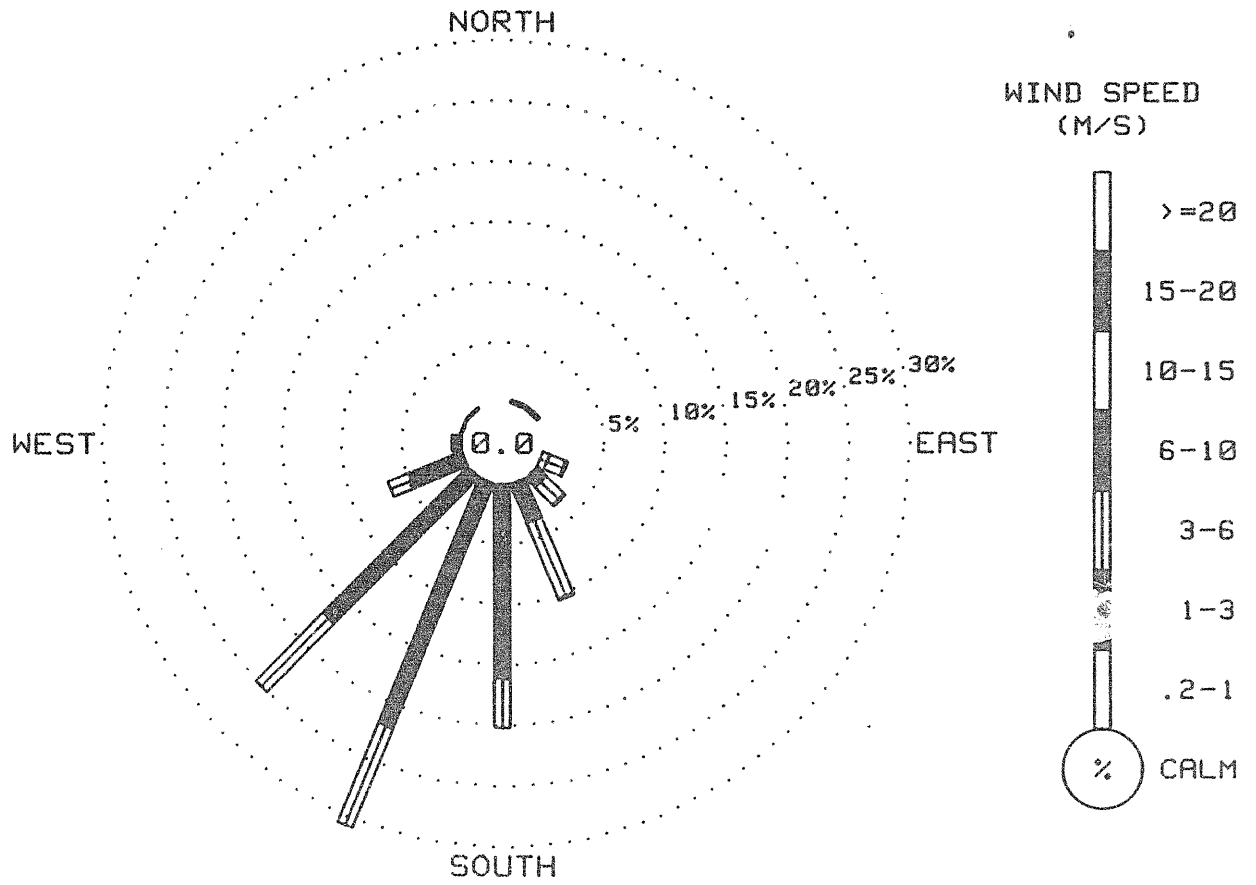
NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
6336 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
6440 WIND OBSERVATIONS WOULD HAVE BEEN CORRECT FOR 30 MINUTE DATA.
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

KOSINA WEATHER STATION

November, 1983



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

OBSERVATION SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING November, 1983

PARAMETER	NUMBER OF USABLE OBSERVATIONS	PERCENT OF TOTAL OBSERVATIONS
TEMPERATURE	646	45
WIND SPEED	646	45
WIND DIRECTION	636	44
PEAK GUST	646	45
RELATIVE HUMIDITY	634	44
PRECIPITATION	0	0
SOLAR RADIATION	646	45
DEW POINT	634	44

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

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

1. RH +5 RH Points
2. Solar -1 mW/CM^2

Additional comments on this month's data:

1. Weather wizard reinstalled on 11/17/83.
2. A few hours of wind direction data lost on 11/19 due to frozen wind vane.

No precipitation data for December

(See INTERPRETATION OF DATA).

R & M CONSULTANTS INC.

SUSITNA HYDROELECTRIC PROJECT

HOUR SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING December 1983

DAY 01

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-8.0	-10.7	81	224	2.1	245	3.8	0
0600	-8.6	-10.7	85	218	2.2	216	3.8	0
0900	-7.5	-9.9	83	228	2.8	244	4.4	0
1200	-3.5	-6.6	79	167	1.4	229	5.1	3
1500	-2.5	-6.1	76	253	1.0	289	3.8	1
1800	-3.9	-5.7	81	210	2.5	213	5.7	0
2100	-5.2	-7.0	87	226	2.2	194	5.7	0
2400	-7.0	-8.2	91	234	2.4	248	4.4	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	-7.1	-8.8	88	217	3.6	214	5.7	0
0600	-6.7	-8.2	89	207	2.8	200	5.7	0
0900	-8.0	-9.4	90	211	3.4	209	5.1	0
1200	-8.4	-11.2	80	203	2.2	210	3.8	10
1500	-6.3	-9.0	81	202	1.6	196	3.8	2
1800	-7.0	-9.0	86	199	1.7	181	3.8	0
2100	-6.3	-8.6	84	190	2.1	165	5.1	0
2400	-6.0	-8.4	83	195	2.3	190	3.8	0

DAY 03

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-6.6	-9.2	82	183	2.3	186	5.1	0
0600	-10.8	-12.6	87	196	2.1	193	3.8	0
0900	-11.2	-13.1	86	200	2.1	199	3.8	0
1200	-11.9	-14.5	81	205	2.1	219	3.8	7
1500	-10.4	-12.7	83	199	2.2	185	3.8	2
1800	-10.3	-12.2	86	212	2.4	220	4.4	0
2100	-9.7	-12.1	83	202	3.2	212	5.1	0
2400	-10.3	-12.4	85	205	3.8	197	5.7	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	-12.9	-14.4	89	222	3.1	228	5.1	0
0600	-12.2	-14.1	86	227	2.5	220	4.4	0
0900	-11.1	-11.9	94	225	2.1	222	3.2	0
1200	-11.6	-13.1	89	201	2.2	197	4.4	4
1500	-9.0	-10.2	91	160	2.4	133	5.1	1
1800	-9.2	-9.6	97	153	1.9	161	5.1	0
2100	-10.7	-11.6	93	203	2.7	200	4.4	0
2400	-11.8	-12.9	92	184	2.2	171	3.8	0

DAY 05

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-9.2	-10.6	90	177	2.5	167	4.4	0
0600	-8.6	-9.8	91	187	2.0	185	3.2	0
0900	-7.9	-8.4	96	219	1.6	184	2.5	0
1200	-6.3	-7.0	95	193	1.5	207	2.5	3
1500	-5.8	-6.6	94	186	1.9	185	3.8	1
1800	-6.1	-6.9	94	207	1.8	192	3.2	0
2100	-5.4	-6.2	94	179	2.2	175	3.8	0
2400	-6.4	-7.2	94	187	1.8	178	3.2	0

DAY 06

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-6.6	-7.3	95	181	2.6	181	4.4	0
0600	-6.2	-7.0	94	186	2.0	192	3.8	0
0900	-7.3	-7.8	96	202	1.4	204	3.2	0
1200	-7.5	-9.2	88	190	1.3	160	3.2	8
1500	-8.7	-9.4	95	181	2.7	166	5.1	3
1800	-10.1	-10.5	97	179	3.3	169	5.1	0
2100	-12.8	-13.3	96	201	2.8	167	5.7	0
2400	-12.7	-13.2	96	227	2.4	214	3.8	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	-12.4	-13.1	95	225	3.0	217	4.4	0
0600	-13.4	-14.1	95	232	3.1	227	5.1	0
0900	-11.1	-11.8	95	231	2.8	226	5.1	0
1200	-9.5	-10.3	94	222	2.6	251	4.4	2
1500	-9.2	-10.0	94	206	2.8	192	4.4	1
1800	-10.3	-10.8	96	213	3.5	211	5.1	0
2100	-12.3	-13.0	95	207	3.4	218	5.7	0
2400	-14.9	-15.7	94	213	3.4	210	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	-16.4	-17.3	93	217	3.0	211	5.1	0
0600	-13.8	-14.5	95	208	2.8	209	5.1	0
0900	-16.3	-17.1	94	210	3.4	217	4.4	0
1200	-13.3	-14.0	95	182	3.4	200	6.3	9
1500	-14.8	-15.7	93	187	2.0	142	4.4	1
1800	-15.2	-16.1	93	163	2.4	143	4.4	0
2100	-19.8	-21.0	90	200	1.8	171	4.4	0
2400	-21.1	-22.3	90	226	2.0	218	3.2	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	-20.9	-22.1	90	217	1.4	219	3.2	0
0600	-22.6	-24.1	88	207	1.4	185	3.2	0
0900	-23.4	-25.0	87	221	1.2	235	1.4	0
1200	-22.7	-24.7	84	243	1.5	242	3.8	5
1500	-23.1	-25.1	84	227	1.6	232	3.2	1
1800	-28.2	-30.3	82	214	1.9	162	3.2	0
2100	-26.2	-28.4	82	232	2.2	233	3.2	1
2400	-26.2	-28.4	82	221	2.1	224	3.8	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY HOUR SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING December, 1983

DAY 10

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-18.8	-21.1	82	328	2.1	217	4.4	0
0600	-19.4	-22.3	78	127	4.9	114	8.9	0
0900	-20.3	-22.7	81	140	3.7	116	11.4	0
1200	-19.3	-21.2	85	244	1.9	222	3.2	3
1500	-18.6	-21.5	78	155	2.4	140	7.0	1
1800	-17.7	-19.5	86	185	2.1	179	5.1	0
2100	-18.3	-21.1	80	171	2.4	165	5.7	0
2400	-18.2	-20.7	81	159	4.3	152	6.3	0

DAY 11

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-16.8	-19.7	78	159	4.2	150	8.3	0
0600	-19.6	-21.6	84	175	2.9	168	5.7	0
0900	-17.1	-19.2	84	192	3.4	190	5.7	0
1200	-15.9	-18.0	84	160	4.4	166	7.0	7
1500	-15.2	-17.0	86	161	4.4	164	6.3	1
1800	-15.5	-17.1	88	159	4.3	158	7.0	0
2100	-15.5	-17.1	88	157	5.5	158	7.6	0
2400	-14.3	-16.0	87	156	5.7	156	7.0	0

DAY 12

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-14.4	-16.0	88	157	5.9	157	7.6	0
0600	-15.7	-17.3	88	159	5.7	159	8.9	0
0900	-14.7	-16.7	85	169	4.7	161	8.3	0
1200	-16.1	-18.1	85	185	3.7	176	6.3	5
1500	-17.7	-19.4	87	220	3.5	223	5.1	1
1800	-17.2	-18.9	87	204	3.7	201	6.3	0
2100	-18.0	-19.8	86	174	3.8	162	6.3	0
2400	-17.1	-18.8	87	158	4.2	158	7.0	0

DAY 13

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-17.7	-19.5	86	196	2.9	189	5.7	0
0600	-16.0	-17.7	87	212	2.3	234	4.4	0
0900	-14.9	-16.6	87	192	2.2	144	6.3	0
1200	-14.8	-16.8	85	143	3.0	113	7.0	2
1500	-14.9	-16.7	86	128	3.0	114	7.6	1
1800	-15.7	-17.3	88	146	3.6	114	7.0	0
2100	-15.5	-16.9	89	182	2.0	174	3.8	0
2400	-17.5	-19.0	88	187	2.1	167	3.2	0

DAY 14

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-20.4	-21.9	88	181	2.8	171	5.1	0
0600	-20.0	-21.5	88	204	2.2	178	5.1	0
0900	-16.8	-18.2	89	225	1.5	224	3.2	0
1200	-17.7	-20.0	82	171	1.6	167	3.8	7
1500	-20.7	-22.3	87	167	3.1	153	5.7	1
1800	-21.6	-23.1	88	177	2.8	178	5.1	0
2100	-22.1	-23.7	87	207	1.8	208	5.1	0
2400	-21.9	-23.5	87	205	1.8	177	4.4	0

DAY 15

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-22.4	-24.0	87	184	3.6	173	6.3	0
0600	-22.1	-23.7	87	182	3.0	177	5.7	0
0900	-22.5	-24.1	87	168	3.8	182	5.7	0
1200	-22.5	-24.1	87	209	2.8	206	4.4	3
1500	-20.9	-22.4	88	217	2.9	220	5.8	1
1800	-23.0	-24.7	86	201	2.5	210	5.8	0
2100	-22.7	-24.3	87	211	2.8	216	4.4	0
2400	-22.6	-24.3	86	205	2.2	216	3.9	0

DAY 16

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-25.5	-25.3	85	209	2.1	202	3.2	0
0600	-24.1	-25.8	86	209	1.9	220	3.2	0
0900	-24.4	-26.1	86	189	2.2	178	4.4	0
1200	-24.1	-25.8	86	208	1.8	199	3.8	6
1500	-23.6	-25.4	85	191	2.4	193	3.8	1
1800	-24.2	-25.9	86	186	2.5	186	4.4	0
2100	-24.2	-25.9	86	167	3.5	171	5.1	0
2400	-23.2	-24.9	86	169	4.1	175	6.3	0

DAY 17

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-22.2	-23.8	87	161	4.6	158	6.3	0
0600	-20.5	-22.1	87	160	4.7	156	7.0	0
0900	-18.9	-20.3	89	159	4.7	151	7.0	0
1200	-19.6	-21.1	88	162	4.3	160	7.0	3
1500	-17.5	-19.2	87	166	3.9	158	6.3	1
1800	-17.5	-19.2	87	155	5.0	151	7.6	0
2100	-18.0	-19.8	86	156	6.1	163	8.3	0
2400	-16.0	-17.7	87	156	5.7	155	8.3	0

DAY 18

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-17.5	-19.2	87	159	4.9	156	7.6	0
0600	-15.3	-16.5	91	167	4.2	161	7.2	1
0900	-15.7	-16.6	93	167	3.9	170	5.7	
1200	-17.6	-18.7	91	160	4.5	158	7.6	5
1500	-16.6	-17.7	91	151	4.7	141	6.3	1
1800	-16.8	-17.9	91	172	3.9	179	7.0	0
2100	-16.2	-17.4	91	164	4.4	161	6.3	0
2400	-17.1	-18.2	91	190	3.1	189	7.0	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

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	-16.4	-17.4	92	180	3.5	164	6.3	0
0600	-16.8	-17.9	91	166	4.3	156	7.6	0
0900	-13.1	-14.3	91	186	4.2	181	6.3	0
1200	-17.3	-18.6	90	169	4.6	155	8.9	2
1500	-16.9	-18.3	89	166	5.1	176	7.6	1
1800	-14.6	-15.9	90	181	4.5	163	7.0	0
2100	-13.7	-15.1	89	185	4.0	195	6.3	0
2400	-12.4	-14.3	86	178	3.8	165	6.3	0

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	-11.8	-13.5	87	178	3.8	169	6.3	0
0600	-10.6	-12.6	85	171	3.8	162	6.3	0
0900	-10.7	-12.6	86	168	3.8	164	6.3	0
1200	-9.2	-12.0	80	165	4.1	181	6.3	3
1500	-9.6	-11.7	85	180	3.5	178	5.7	1
1800	-11.4	-13.3	86	153	4.8	152	7.0	0
2100	-9.7	-10.8	92	159	5.2	153	7.0	0
2400	-9.8	-10.6	94	150	5.2	136	8.3	0

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	-9.5	-10.0	96	160	3.8	164	7.0	0
0600	-8.7	-9.5	94	178	2.9	156	6.3	0
0900	-8.9	-9.7	94	186	2.2	210	3.8	0
1200	-7.9	-8.9	93	193	2.4	173	4.4	2
1500	-8.9	-10.1	91	199	1.9	192	3.3	1
1800	-12.5	-13.3	94	211	2.3	175	3.8	0
2100	-12.6	-13.3	95	199	1.8	206	3.2	0
2400	-12.2	-13.1	93	205	2.3	173	3.9	0

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	-12.5	-13.3	94	211	2.1	206	3.2	0
0600	-11.4	-12.2	94	214	2.1	182	4.4	0
0900	-13.7	-14.5	94	209	2.3	185	4.4	0
1200	-11.3	-13.3	85	198	2.0	183	3.8	9
1500	-12.1	-13.2	92	209	1.8	182	3.2	1
1800	-11.6	-12.5	93	203	2.3	197	5.1	0
2100	-12.6	-13.4	94	176	4.1	169	7.6	0
2400	-11.7	-12.6	93	178	4.5	172	7.0	0

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	-13.3	-14.0	95	176	3.8	186	6.3	0
0600	-13.8	-15.0	91	181	3.1	167	6.3	0
0900	-12.1	-13.2	92	170	4.0	171	7.0	0
1200	-12.3	-15.0	80	166	4.9	172	7.0	10
1500	-13.8	-14.7	93	167	4.8	164	7.6	1
1800	-12.6	-13.7	92	173	4.3	173	7.0	0
2100	-10.2	-12.7	82	181	3.7	176	6.3	0
2400	-10.1	-12.2	85	176	4.3	166	7.6	0

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	-9.8	-12.8	79	177	4.1	183	7.6	0
0600	-8.9	-12.7	74	179	3.5	166	7.0	0
0900	-7.6	-11.8	72	207	2.4	186	4.4	0
1200	-4.5	-11.5	58	196	2.7	187	5.1	7
1500	-5.1	-11.0	63	190	2.4	186	5.1	1
1800	-6.3	-12.2	63	200	2.6	187	5.1	0
2100	-8.1	-12.8	69	211	2.5	195	5.1	0
2400	-10.7	-14.7	72	202	2.5	159	3.8	0

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	-8.5	-12.5	73	197	2.7	186	5.7	0
0600	-8.0	-11.6	75	205	2.6	218	4.4	0
0900	-7.7	-11.8	72	205	2.0	202	3.8	0
1200	-9.5	-14.8	65	195	2.1	191	5.1	5
1500	-8.7	-12.7	62	201	2.4	181	5.3	1
1800	-7.8	-13.6	63	187	2.9	176	5.1	0
2100	-4.7	-11.7	58	187	3.0	173	5.1	3
2400	-8.4	-14.2	63	179	3.7	171	6.3	0

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	-8.4	-13.8	65	189	3.3	168	5.1	0
0600	-7.9	-13.5	64	196	3.3	209	5.7	0
0900	-7.3	-13.3	62	203	2.9	214	5.1	0
1200	-6.0	-13.4	56	192	3.1	190	5.7	5
1500	-7.1	-13.7	59	207	2.4	188	5.7	1
1800	-9.6	-15.5	62	197	2.8	173	6.3	0
2100	-11.2	-16.5	65	183	4.2	175	8.3	0
2400	-11.9	-16.3	66	186	3.8	193	6.3	0

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	-11.9	-16.9	66	190	3.5	187	6.3	0
0600	-12.9	-16.9	73	177	4.7	173	7.0	0
0900	-14.1	-17.4	76	179	4.7	178	7.0	0
1200	-14.4	-19.2	67	194	3.1	185	6.3	5
1500	-13.4	-17.2	73	211	2.6	218	5.1	1
1800	-16.0	-19.4	75	191	3.9	187	5.1	0
2100	-15.2	-18.6	75	195	2.7	189	5.1	0
2400	-15.6	-18.7	72	199	2.2	204	4.4	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY HOUR SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING December, 1983

DAY 28

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-16.0	-19.2	76	194	2.2	180	5.1	0
0600	-19.2	-22.3	76	184	2.6	174	6.3	0
0900	-17.7	-20.7	77	192	2.6	182	5.7	0
1200	-16.0	-20.0	71	182	3.5	176	7.0	5
1500	-15.3	-18.9	74	181	3.5	177	7.0	1
1800	-17.6	-20.8	76	179	3.3	172	5.7	0
2100	-19.8	-22.0	76	193	2.7	188	5.1	0
2400	-18.6	-21.5	78	172	4.0	172	7.6	0

DAY 29

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-19.7	-22.3	80	170	4.0	164	7.0	0
0600	-19.7	-22.4	79	176	3.2	182	6.3	0
0900	-19.4	-22.0	80	175	2.9	161	6.3	0
1200	-18.5	-21.5	77	166	5.0	160	7.0	6
1500	-19.4	-21.3	85	167	4.8	158	7.6	2
1800	-20.4	-22.5	83	176	3.0	164	6.3	0
2100	-19.5	-21.4	85	179	3.5	182	5.7	0
2400	-21.2	-23.5	82	194	1.9	190	4.4	0

DAY 30

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-19.7	-21.6	85	184	3.1	173	5.3	0
0600	-19.3	-21.7	81	197	2.3	203	4.4	0
0900	-21.3	-23.7	81	188	2.9	171	5.7	0
1200	-21.1	-23.9	78	179	3.2	174	7.0	6
1500	-21.9	-24.3	81	170	3.9	164	7.6	2
1800	-23.2	-25.7	80	170	3.4	171	5.7	0
2100	-20.8	-23.6	78	200	2.0	191	5.7	0
2400	-18.5	-20.7	83	170	1.5	177	3.8	0

DAY 31

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-16.6	-18.7	84	177	1.9	149	5.1	0
0600	-16.5	-18.7	83	150	4.0	158	5.7	0
0900	-17.8	-20.0	83	154	4.4	161	6.3	0
1200	-16.4	-18.6	83	158	5.1	161	7.6	3
1500	-16.3	-18.7	82	167	4.8	161	7.0	1
1800	-17.1	-19.3	83	168	4.4	163	7.0	0
2100	-16.1	-18.5	82	179	4.7	175	7.0	0
2400	-13.8	-16.4	81	189	3.2	185	5.7	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR KOSINA 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	-1.4	-10.5	-6.0	221	2.0	2.3	213	5.7	SW	83	-8.3	****	140	1
2	-5.7	-9.3	-7.5	205	2.4	2.5	214	5.7	SSW	87	-8.8	****	305	2
3	-6.3	-13.4	-9.9	201	2.5	2.6	197	5.7	SSW	85	-12.1	****	270	3
4	-8.8	-13.3	-11.1	199	2.1	2.4	228	5.1	SW	91	-12.3	****	120	4
5	-5.4	-11.4	-8.4	190	1.9	2.0	167	4.4	S	93	-8.?	****	100	5
6	-6.1	-13.9	-10.0	192	2.2	2.4	169	6.3	SSW	94	-9.5	****	280	6
7	-9.2	-14.9	-12.1	218	3.0	3.1	218	5.7	SW	95	-12.2	****	80	7
8	-13.2	-21.6	-17.4	199	2.3	2.6	200	6.3	SSW	93	-16.8	****	310	8
9	-20.2	-28.2	-24.2	224	1.7	1.8	235	4.4	SW	85	-25.8	****	285	9
10	-17.7	-24.2	-21.0	163	2.4	3.2	116	11.4	SSE	81	-21.8	****	90	10
11	-14.3	-19.6	-17.0	163	4.3	4.4	150	8.3	SSE	84	-18.4	****	125	11
12	-14.2	-18.1	-16.2	175	4.1	4.5	159	8.9	SSE	87	-17.9	****	140	12
13	-14.2	-19.4	-16.8	170	2.3	2.8	114	7.6	S	87	-17.6	****	75	13
14	-15.9	-23.6	-19.8	189	2.1	2.3	153	5.7	S	88	-21.1	****	255	14
15	-20.9	-24.0	-22.5	196	2.7	2.9	173	6.3	SSW	87	-23.9	****	.05	15
16	-22.1	-25.4	-23.8	187	2.5	2.6	175	6.3	SSW	86	-25.3	****	205	16
17	-16.0	-24.0	-20.0	159	4.9	4.9	163	8.3	SSE	87	-20.8	****	140	17
18	-14.5	-20.1	-17.3	165	4.0	4.2	151	8.3	SSE	90	-17.7	****	190	18
19	-12.4	-18.1	-15.3	176	4.2	4.3	155	8.9	S	90	-16.8	****	90	19
20	-9.0	-12.2	-10.6	164	4.2	4.3	136	8.3	SSE	86	-12.3	****	90	20
21	-7.6	-14.8	-11.2	188	2.4	2.6	164	7.0	SSW	94	-11.1	****	115	21
22	-10.1	-15.0	-12.6	195	2.6	2.7	169	7.6	SSW	93	-13.4	****	285	22
23	-10.1	-14.0	-12.1	173	4.1	4.1	164	7.6	S	90	-13.8	****	335	23
24	-3.5	-12.2	-7.4	193	2.8	2.9	183	7.6	SSW	70	-12.4	****	225	24
25	-4.7	-11.8	-8.3	193	2.6	2.8	181	6.3	S	67	-13.3	****	175	25
26	-4.9	-11.8	-8.4	193	3.2	3.3	175	8.3	SSW	62	-14.4	****	185	26
27	-10.8	-18.0	-14.4	190	3.2	3.3	172	7.0	S	73	-18.4	****	185	27
28	-14.6	-19.2	-16.9	183	3.0	3.1	172	7.6	S	76	-20.1	****	190	28
29	-17.6	-21.2	-19.4	173	3.5	3.6	158	7.6	S	81	-21.6	****	220	29
30	-17.9	-23.2	-20.6	181	2.7	2.9	164	7.6	S	81	-23.0	****	300	30
31	-13.8	-17.8	-15.8	166	4.0	4.1	161	7.6	SSE	82	-18.8	****	130	31
MONTH	-1.4	-28.2	-14.6	183	2.8	3.1	116	11.4	S	85	-16.4	****	5740	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 6.3
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 8.3
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 7.0
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 7.0

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

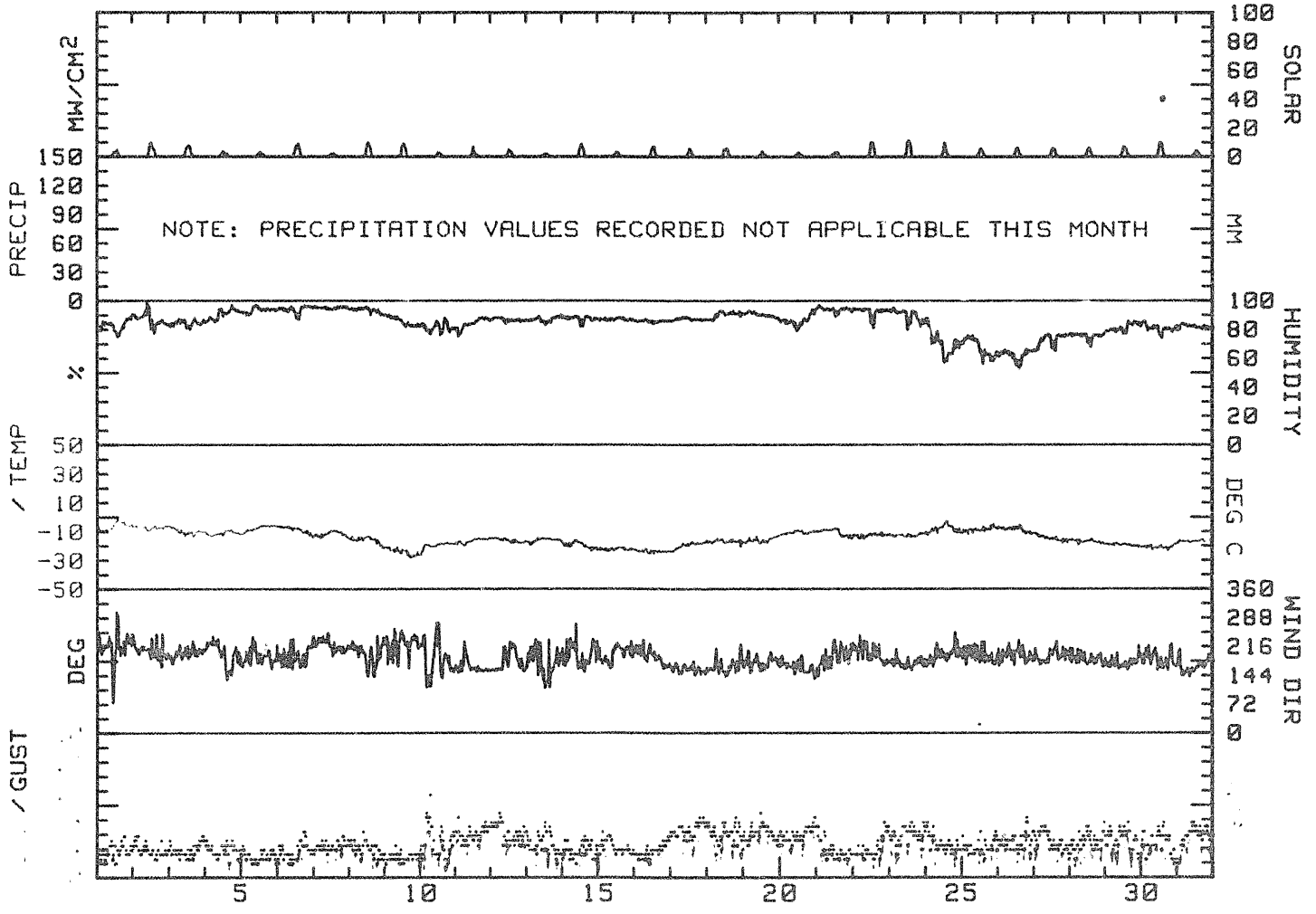
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

KOSINA WEATHER STATION

December, 1983



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

DIRECTION	VELOCITY (M/S) 0.2 TO 1.0	1.0 TO 3.0	3.0 TO 6.0	6.0 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	20.0 OR GREATER	TOTAL
N	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	.07	0.00	0.00	0.00	0.00	0.00	.07
E	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ESE	0.00	.07	.27	.20	0.00	0.00	0.00	.54
SE	0.00	.47	1.61	.13	0.00	0.00	0.00	2.22
SSE	.13	2.08	18.28	1.21	0.00	0.00	0.00	21.71
S	0.00	12.77	16.94	.07	0.00	0.00	0.00	29.77
SSW	.13	21.37	6.05	0.00	0.00	0.00	0.00	27.55
SW	.13	11.42	3.09	0.00	0.00	0.00	0.00	14.64
WSW	0.00	2.82	.20	0.00	0.00	0.00	0.00	3.02
W	0.00	.27	0.00	0.00	0.00	0.00	0.00	.27
WNW	0.00	.13	0.00	0.00	0.00	0.00	0.00	.13
NW	.07	0.00	0.00	0.00	0.00	0.00	0.00	.07
NNW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CALM								0.00
TOTAL	.47	51.48	46.44	1.61	0.00	0.00	0.00	100.00

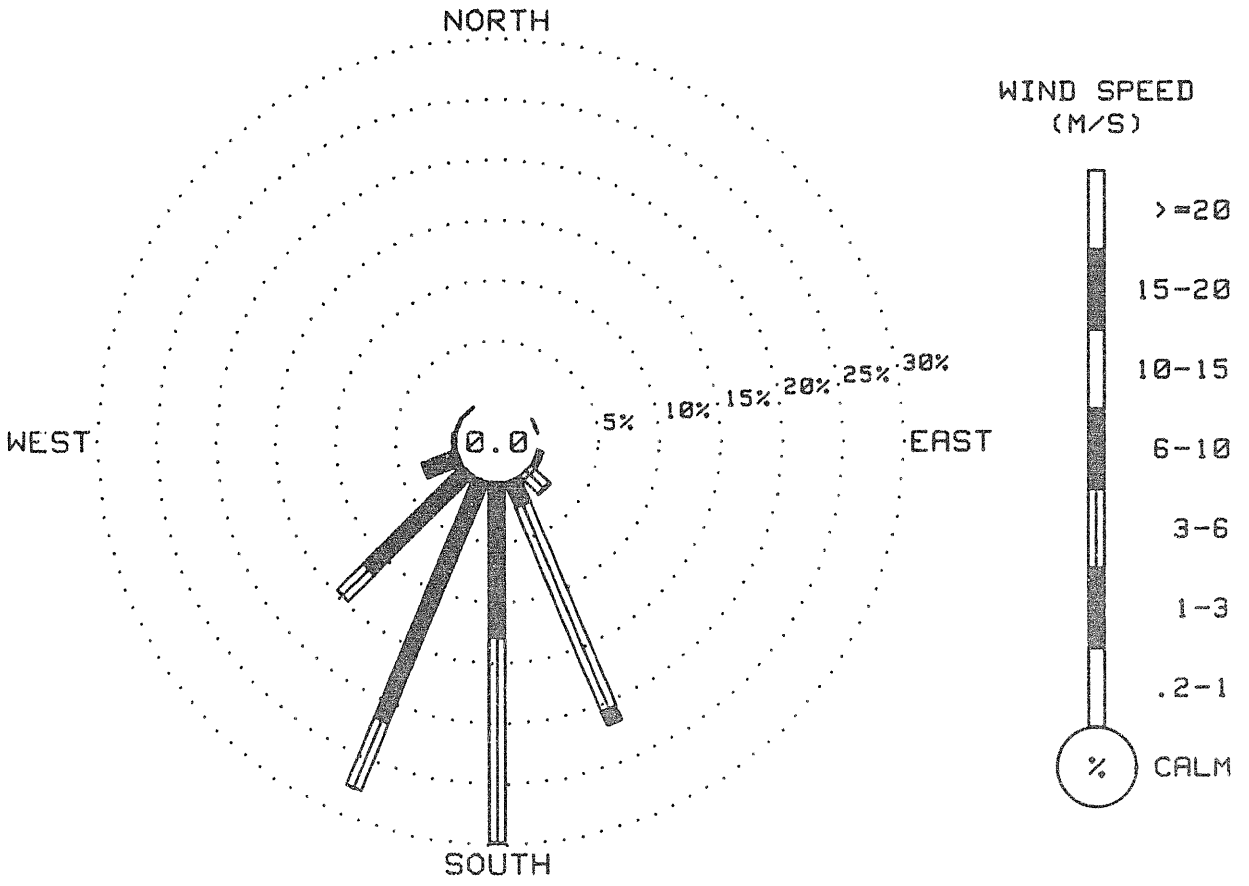
NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
1488 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
1488 WIND OBSERVATIONS WOULD HAVE BEEN CORRECT FOR 30 MINUTE DATA.
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

KOSINA WEATHER STATION

December, 1983



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

PARAMETER	NUMBER OF USABLE OBSERVATIONS	PERCENT OF TOTAL OBSERVATIONS
TEMPERATURE	1488	100
WIND SPEED	1488	100
WIND DIRECTION	1488	100
PEAK GUST	1488	100
RELATIVE HUMIDITY	1481	100
PRECIPITATION	0	0
SOLAR RADIATION	1488	100
DEW POINT	1481	100

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

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

1. RH +5 RH Points
2. Solar -1 mW/CM^2

No precipitation data for January

(See INTERPRETATION OF DATA).

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HRLY HOUR SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING January, 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	-13.4	-15.7	83	217	3.1	219	6.3	0
0600	-11.0	-13.6	80	194	2.4	200	3.8	0
0900	-10.3	-11.8	89	189	2.8	197	5.1	0
1200	-8.0	-9.0	93	183	2.9	199	5.1	2
1500	-8.0	-9.0	93	159	3.0	160	5.1	1
1800	-6.8	-8.1	91	149	2.4	139	5.1	0
2100	-7.7	-8.9	91	130	3.3	132	6.3	0
2400	-8.9	-10.7	87	152	5.9	153	9.5	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	-9.2	-10.6	90	155	4.8	159	10.2	0
0600	-9.0	-10.5	89	179	3.0	197	5.1	0
0900	-9.8	-10.9	92	158	4.3	152	7.0	0
1200	-9.5	-10.2	95	177	3.7	185	5.7	3
1500	-10.0	-10.8	94	209	2.5	178	5.1	1
1800	-11.3	-11.7	97	219	3.0	211	4.4	0
2100	-9.8	-10.5	95	208	2.7	204	5.1	0
2400	-8.4	-9.1	95	216	3.3	226	6.3	0

DAY 03

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-8.4	-8.8	97	212	2.9	222	4.4	0
0600	-9.1	-9.8	95	218	3.1	230	5.1	0
0900	-7.8	-8.5	95	245	2.6	234	4.4	0
1200	-5.7	-6.5	94	225	3.2	267	7.0	6
1500	-6.0	-7.0	93	228	3.1	233	5.1	2
1800	-6.2	-7.0	94	210	3.0	209	5.7	0
2100	-5.5	-6.3	94	208	2.0	223	4.4	0
2400	-6.8	-7.4	96	202	1.8	211	3.8	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	*****	*****	**	***	****	***	****	***
0600	*****	*****	**	***	****	***	****	***
0900	*****	*****	**	***	****	***	****	***
1200	*****	*****	**	***	****	***	****	***
1500	*****	*****	**	***	****	***	****	***
1800	*****	*****	**	***	****	***	****	***
2100	*****	*****	**	***	****	***	****	***
2400	*****	*****	**	***	****	***	****	***

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

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	*****	*****	**	***	****	***	****	***
0600	*****	*****	**	***	****	***	****	***
0900	*****	*****	**	***	****	***	****	***
1200	*****	*****	**	***	****	***	****	***
1500	-18.3	-19.9	87	179	1.9	173	4.4	1
1800	-16.8	-18.7	85	176	3.0	180	5.1	0
2100	-17.1	-19.2	84	186	3.6	193	5.7	0
2400	-14.8	-17.1	83	195	2.6	173	5.7	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	-15.1	-17.3	83	202	2.1	199	4.4	0
0600	-15.2	-17.4	83	179	3.1	168	5.7	0
0900	-16.0	-17.8	86	198	2.4	201	3.8	0
1200	-15.0	-18.3	76	195	2.1	189	4.4	7
1500	-14.1	-17.1	78	195	2.0	185	3.8	3
1800	-15.0	-17.0	85	171	3.5	170	5.7	0
2100	-16.6	-18.5	87	200	3.0	171	6.3	0
2400	-16.2	-17.9	87	209	2.8	182	6.3	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	-14.6	-16.6	85	229	3.4	215	5.7	0
0600	-15.4	-17.2	86	203	3.0	175	6.3	0
0900	-17.6	-19.0	89	172	4.0	161	8.3	0
1200	-17.5	-19.4	85	158	6.9	153	9.5	10
1500	-17.1	-18.9	86	171	5.2	168	8.3	5
1800	-16.5	-17.7	91	173	4.8	163	7.6	0
2100	-18.5	-19.8	90	190	3.0	198	6.3	0
2400	-20.1	-21.5	89	199	3.1	178	5.7	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	-17.9	-19.3	89	205	2.2	217	4.4	0
0600	-16.0	-17.3	90	199	2.4	199	4.4	0
0900	-15.9	-17.6	87	206	2.2	209	3.8	0
1200	-14.1	-16.2	84	176	3.8	170	7.6	3
1500	-13.1	-15.5	83	191	3.2	170	7.6	2
1800	-10.8	-14.0	77	167	3.7	194	10.8	0
2100	-11.1	-14.3	77	187	7.5	214	14.3	0
2400	-13.6	-16.4	81	144	4.0	063	12.1	3

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

DAY 10

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-16.0	-18.4	82	179	3.6	169	6.3	0
0600	-17.2	-19.0	86	203	2.5	169	5.7	0
0900	-17.0	-18.8	86	234	3.1	232	5.7	0
1200	-12.6	-14.6	85	188	3.1	170	7.0	3
1500	-12.6	-14.3	87	160	6.0	165	8.9	2
1800	-13.3	-14.8	89	194	3.0	162	8.3	0
2100	-9.0	-9.7	95	199	3.2	202	5.7	0
2400	-7.0	-8.4	90	117	.3	024	4.4	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	-7.6	-8.7	92	035	.3	012	5.1	0
0600	-9.0	-10.1	92	215	3.0	240	4.4	0
0900	-6.0	-7.4	90	233	1.7	257	5.7	0
1200	-5.1	-6.4	91	172	2.2	148	5.1	4
1500	-10.1	-11.0	93	166	2.5	159	6.3	2
1800	-5.8	-7.3	89	187	2.1	137	7.0	0
2100	-6.2	-7.6	90	204	1.7	181	5.1	0
2400	-4.2	*****	91	137	2.3	118	7.6	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	-3.3	-4.9	89	043	1.2	006	5.7	0
0600	-2.3	-3.2	94	114	5.2	112	12.1	0
0900	-.5	-2.3	88	113	8.6	107	14.0	0
1200	.8	-1.3	86	131	5.8	132	10.2	5
1500	1.2	-.4	89	125	6.7	143	10.9	1
1800	1.3	-.2	90	120	7.9	122	12.7	0
2100	1.8	-1.1	81	150	3.8	193	5.9	0
2400	.4	-2.0	84	145	3.3	133	8.9	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	.3	-.7	93	132	6.0	116	15.9	0
0600	2.2	-.1	85	123	6.4	099	13.3	0
0900	.1	-1.2	91	157	2.6	155	8.3	0
1200	-1.2	-2.4	92	265	1.0	247	3.8	3
1500	-2.2	-3.1	94	204	1.3	226	3.2	2
1800	-2.6	-3.6	93	202	1.7	167	3.2	0
2100	-2.9	*****	95	158	1.2	134	3.2	0
2400	-3.6	*****	94	172	.9	172	3.8	0

DAY 14

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-3.6	-4.6	93	***	****	***	3.2	0
0600	-3.1	-3.2	99	***	****	***	1.9	0
0900	-3.0	-3.1	99	185	2.3	180	3.2	0
1200	-2.6	-2.9	98	205	1.9	201	3.2	3
1500	-1.9	-2.2	98	209	1.4	212	2.5	1
1800	-2.2	-2.5	98	208	2.2	204	4.4	0
2100	-1.3	-1.6	98	204	2.1	200	4.4	0
2400	-2.3	-2.9	96	241	1.6	241	4.4	0

DAY 15

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-5.4	-6.0	96	170	1.2	151	3.8	0
0600	-6.9	-7.5	96	180	2.3	184	4.4	0
0900	-8.4	-9.6	91	200	2.7	195	4.4	0
1200	-10.7	-13.0	83	201	2.3	202	3.8	6
1500	-7.8	-11.1	77	200	1.8	206	3.2	3
1800	-10.8	-11.7	93	205	2.1	188	4.4	0
2100	-10.9	-11.4	96	199	2.3	131	4.4	0
2400	-13.7	-15.0	90	219	1.6	235	3.8	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	-14.7	90	219	3.0	214	5.1	0
0600	-11.8	-12.3	96	208	2.5	202	5.1	0
0900	-11.3	-11.8	96	179	3.4	169	5.7	0
1200	-11.8	-12.3	96	188	2.7	184	4.4	5
1500	-12.2	-12.9	95	212	2.0	211	3.2	2
1800	-11.7	-12.2	96	204	2.3	195	4.4	0
2100	-11.4	-12.1	95	179	3.3	166	5.7	0
2400	-10.5	-11.0	96	179	2.9	181	4.4	0

DAY 17

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-11.5	-12.0	96	179	2.6	167	5.1	0
0600	-10.4	-10.9	96	178	2.6	162	5.1	0
0900	-11.8	-12.5	95	166	3.4	155	6.3	0
1200	-12.6	-13.3	95	169	2.7	169	5.7	5
1500	-9.6	-10.3	95	155	3.2	153	5.7	1
1800	-10.6	-11.1	96	214	1.3	262	4.4	0
2100	-11.0	-11.5	96	148	4.1	147	5.7	0
2400	-11.7	-12.4	95	148	3.6	157	5.1	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	-12.6	-13.4	94	166	4.0	138	5.7	0
0600	-13.4	-14.2	94	161	3.5	153	5.1	0
0900	-13.0	-13.8	94	169	3.2	171	5.7	0
1200	-12.6	-13.5	93	175	3.6	177	5.7	3
1500	-12.0	-13.1	93	193	1.5	184	3.8	2
1800	-14.3	-15.1	94	185	1.6	169	3.8	0
2100	-14.9	-15.8	95	196	2.0	175	5.8	0
2400	-12.8	*****	94	179	1.6	169	3.8	0

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R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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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	-12.6	*****	94	140	1.3	140	1.9	0
0600	-12.4	*****	93	***	****	***	1.3	0
0900	-12.1	*****	92	219	.9	221	3.2	0
1200	-11.8	-13.4	88	131	2.1	122	8.3	4
1500	-10.9	-13.2	83	086	1.5	092	7.0	2
1800	-11.9	-13.6	87	257	1.1	264	4.4	0
2100	-15.2	-16.8	88	208	1.8	209	3.8	0
2400	-13.9	-15.3	89	208	2.8	213	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	-13.5	-14.7	91	208	1.9	208	3.8	0
0600	-13.6	-14.9	90	205	2.3	215	4.4	0
0900	-19.3	-20.4	91	204	2.3	178	3.8	0
1200	-18.9	-21.3	81	223	2.1	222	4.4	6
1500	-19.6	-22.4	78	227	1.9	242	3.2	3
1800	-21.0	-22.2	90	192	2.7	195	5.1	0
2100	-23.1	-24.6	88	171	3.7	164	5.7	0
2400	-23.4	-24.8	88	169	3.9	166	6.3	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	-24.8	-26.4	87	159	5.3	155	7.6	0
0600	-23.5	-24.9	88	153	4.6	156	7.6	0
0900	-23.6	-25.2	87	212	2.5	202	4.4	0
1200	-20.5	-21.9	89	195	2.6	208	3.8	4
1500	-20.9	-22.1	90	161	3.6	164	5.1	2
1800	-19.3	-20.5	90	159	2.7	156	4.4	0
2100	-18.8	-19.9	91	187	1.6	196	3.2	0
2400	-18.0	-19.4	89	062	.7	038	3.8	0

DAY 22

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-17.8	-19.7	85	342	5.0	329	10.8	0
0600	-18.8	-21.2	81	316	6.7	324	10.8	0
0900	-22.6	-25.0	81	302	4.8	309	9.5	0
1200	-23.0	-26.8	71	186	2.0	178	5.1	5
1500	-24.9	-30.4	60	221	2.1	213	5.7	3
1800	-25.0	-28.7	71	248	2.3	226	5.1	0
2100	-25.1	-29.4	67	192	2.3	179	5.1	0
2400	-27.4	-31.6	67	214	2.5	213	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	-25.8	-30.2	66	203	2.3	202	4.4	0
0600	-26.9	-31.3	66	205	2.6	198	4.4	0
0900	-29.8	-33.8	68	211	2.0	184	5.1	0
1200	-27.7	-32.9	61	204	2.0	194	4.4	6
1500	-27.9	-34.1	55	200	1.9	200	3.8	3
1800	-31.1	-35.2	67	207	2.3	191	3.8	0
2100	-32.1	-36.0	68	216	2.2	202	3.8	0
2400	-29.5	-33.0	71	214	2.6	210	4.4	0

DAY 24

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-32.0	-35.6	70	227	3.1	231	5.1	0
0600	-30.0	-33.7	70	206	2.5	194	5.1	0
0900	-29.9	-33.6	70	203	2.8	206	5.1	0
1200	-28.7	-33.3	64	191	3.6	176	5.1	6
1500	-27.2	-32.9	58	193	2.3	173	4.4	4
1800	-29.8	-33.9	67	194	3.6	181	5.1	0
2100	-30.3	-34.2	68	185	3.8	174	5.3	0
2400	-32.0	-35.0	74	165	5.8	159	8.9	0

DAY 25

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-32.9	-35.9	74	166	5.8	158	8.9	0
0600	-33.6	-36.7	73	170	4.5	172	7.6	0
0900	-33.3	-36.3	73	189	3.0	169	5.7	0
1200	-31.0	-34.1	74	198	3.4	209	6.3	6
1500	-31.3	-34.5	73	205	3.9	197	6.3	3
1800	-33.6	-36.7	73	199	3.1	213	5.7	0
2100	-29.8	-32.1	73	215	3.3	216	5.1	0
2400	-24.8	-28.5	71	201	2.9	198	5.7	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	-21.6	-23.6	84	190	4.2	197	6.3	0
0600	-17.9	-19.8	85	201	4.9	210	7.6	0
0900	-16.0	-17.6	88	171	3.1	188	5.7	0
1200	-20.8	-22.7	85	162	5.0	158	8.3	6
1500	-22.8	-25.6	78	152	7.7	156	9.5	5
1800	-24.1	-26.0	84	155	6.8	150	9.5	0
2100	-25.4	-27.4	83	165	5.5	160	8.9	0
2400	-25.3	-27.8	83	160	5.2	155	8.9	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	-23.8	-25.6	85	192	3.5	193	5.7	0
0600	-25.3	-27.3	83	200	3.9	197	6.3	0
0900	-24.7	-26.6	84	193	3.4	210	5.7	0
1200	-19.5	-21.5	81	169	4.3	158	7.6	6
1500	-18.1	-20.2	84	171	4.5	158	7.6	3
1800	-16.1	-18.3	83	192	3.8	174	5.7	0
2100	-15.7	-17.9	83	197	3.4	192	5.1	0
2400	-16.7	*****	85	203	1.5	205	3.8	0

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SUSITNA HYDROELECTRIC PROJECT

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DAY 28

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-18.5	-20.1	87	022	1.6	354	3.8	0
0600	-22.2	-23.7	88	254	1.1	215	2.5	0
0900	-24.0	-25.7	86	225	1.3	227	3.8	0
1200	-21.8	-25.5	72	205	2.0	206	3.2	10
1500	-21.7	-25.2	73	189	2.3	178	5.1	4
1800	-19.6	-22.3	79	173	3.2	158	6.3	0
2100	-17.4	-19.2	86	167	3.6	150	6.3	0
2400	-16.6	-18.5	85	172	1.6	131	5.7	0

DAY 29

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-17.2	-18.9	87	207	3.1	204	5.1	0
0600	-15.4	-16.7	90	204	3.4	208	5.1	0
0900	-13.8	-15.5	87	202	2.8	203	5.1	0
1200	-11.2	-14.0	80	232	2.4	213	5.1	14
1500	-13.5	-15.2	87	209	3.0	206	7.0	5
1800	-9.7	-11.5	87	206	2.8	226	4.4	0
2100	-9.3	-10.9	88	217	3.2	208	5.1	0
2400	-8.4	-9.8	90	219	3.1	226	5.1	0

DAY 30

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-8.3	-9.1	94	206	1.5	206	3.2	0
0600	-8.2	-9.2	93	183	2.4	168	4.4	0
0900	-9.1	-10.3	91	192	2.7	163	5.1	0
1200	-5.1	-6.7	89	195	2.1	223	3.2	6
1500	-5.6	-7.3	88	190	1.9	223	3.8	5
1800	-7.3	-8.3	93	187	2.0	189	3.2	0
2100	-7.1	-8.5	90	186	2.2	184	3.2	0
2400	-7.8	-8.8	93	189	1.5	161	3.8	0

DAY 31

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-8.7	-10.1	90	195	2.1	189	3.8	0
0600	-7.5	*****	93	164	.8	166	3.2	0
0900	-7.7	-8.1	97	029	2.2	034	4.4	0
1200	-7.6	-8.1	96	029	2.2	018	3.8	10
1500	-10.2	-11.0	94	342	.6	037	3.2	8
1800	-14.5	-15.1	95	203	2.0	224	5.1	0
2100	-13.8	-15.0	91	195	2.0	171	4.4	0
2400	-14.3	-16.0	87	204	1.8	201	3.8	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING January, 1984

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY MH/SQM	DAY
1	6.4	-14.7	-10.6	169	2.9	3.3	153	9.5	SSE	88	-11.0	****	75	1
2	-8.2	-11.3	-9.8	186	3.1	3.5	159	10.2	SSW	93	-10.6	****	145	2
3	-3.9	-10.0	-7.0	219	2.6	2.8	267	7.0	SW	95	-7.5	****	175	3
4	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	4
5	*****	*****	*****	***	****	****	***	****	***	**	*****	****	******	5
6	-14.2	-18.6	-16.4	184	2.8	2.9	193	5.7	S	85	-18.4	****	188	6
7	-13.0	-16.8	-14.9	192	2.6	2.7	171	6.3	S	84	-17.1	****	260	7
8	-13.8	-20.1	-17.0	181	3.9	4.3	153	9.5	S	88	-18.6	****	395	8
9	-9.3	-18.6	-14.0	162	2.8	3.8	114	14.0	SSW	83	-16.4	****	130	9
10	-6.9	-18.2	-12.6	188	2.8	3.4	165	8.9	SSW	86	-15.2	****	135	10
11	-3.9	-10.1	-7.0	186	1.7	2.5	118	7.6	SSW	91	-8.4	****	230	11
12	2.0	-4.4	-1.2	123	5.1	5.5	107	14.0	ESE	88	-2.1	****	140	12
13	2.2	-5.0	-1.4	147	2.3	3.1	116	15.9	SSE	91	-2.2	****	175	13
14	-1.2	-4.3	-2.8	206	1.9	1.7	204	4.4	SSW	97	-2.9	****	100	14
15	-2.5	-14.0	-8.3	198	2.0	2.2	184	4.4	SSW	91	-9.8	****	215	15
16	-9.8	-15.0	-12.4	193	2.6	2.8	169	5.7	SSW	95	-12.7	****	175	16
17	-9.1	-12.7	-10.9	164	2.8	3.1	155	6.3	SSE	95	-11.8	****	155	17
18	-11.6	-15.2	-13.4	170	2.4	2.6	138	5.7	S	93	-13.9	****	165	18
19	-10.9	-15.2	-13.1	184	1.1	1.7	122	8.3	SSW	89	-14.2	****	175	19
20	-13.1	-23.4	-18.3	195	2.4	2.6	166	6.3	SSW	89	-19.8	****	265	20
21	-18.0	-26.1	-22.1	168	2.7	3.0	155	7.6	SSE	89	-23.1	****	175	21
22	-17.6	-27.4	-22.5	282	2.0	3.6	329	10.8	SSW	74	-25.7	****	235	22
23	-25.7	-32.9	-29.3	208	2.2	2.3	184	5.1	SSW	66	-33.0	****	270	23
24	-27.2	-33.2	-30.2	192	3.0	3.2	159	8.9	SSW	68	-34.2	****	290	24
25	-24.8	-33.8	-29.3	190	3.6	3.8	158	8.9	SSW	73	-34.6	****	255	25
26	-15.5	-26.1	-20.8	167	5.1	5.3	156	9.5	SSE	83	-23.8	****	315	26
27	-14.6	-26.0	-20.4	186	3.4	3.3	158	7.0	SSW	84	-22.4	****	260	27
28	-16.3	-24.0	-20.2	186	1.7	2.3	158	6.3	S	82	-22.3	****	350	28
29	-8.4	-17.7	-13.1	212	2.9	3.0	206	7.0	SSW	87	-14.4	****	460	29
30	-5.1	-11.4	-8.3	190	2.0	2.1	163	5.7	S	91	-8.8	****	330	30
31	-7.1	-16.0	-11.6	187	.5	1.9	224	5.1	SSW	93	-11.3	****	450	31
MONTH	2.2	-33.8	-14.4	182	2.4	3.0	116	15.9	SSW	87	-16.1	****	6788	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 10.2
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 14.6
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 14.6
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.

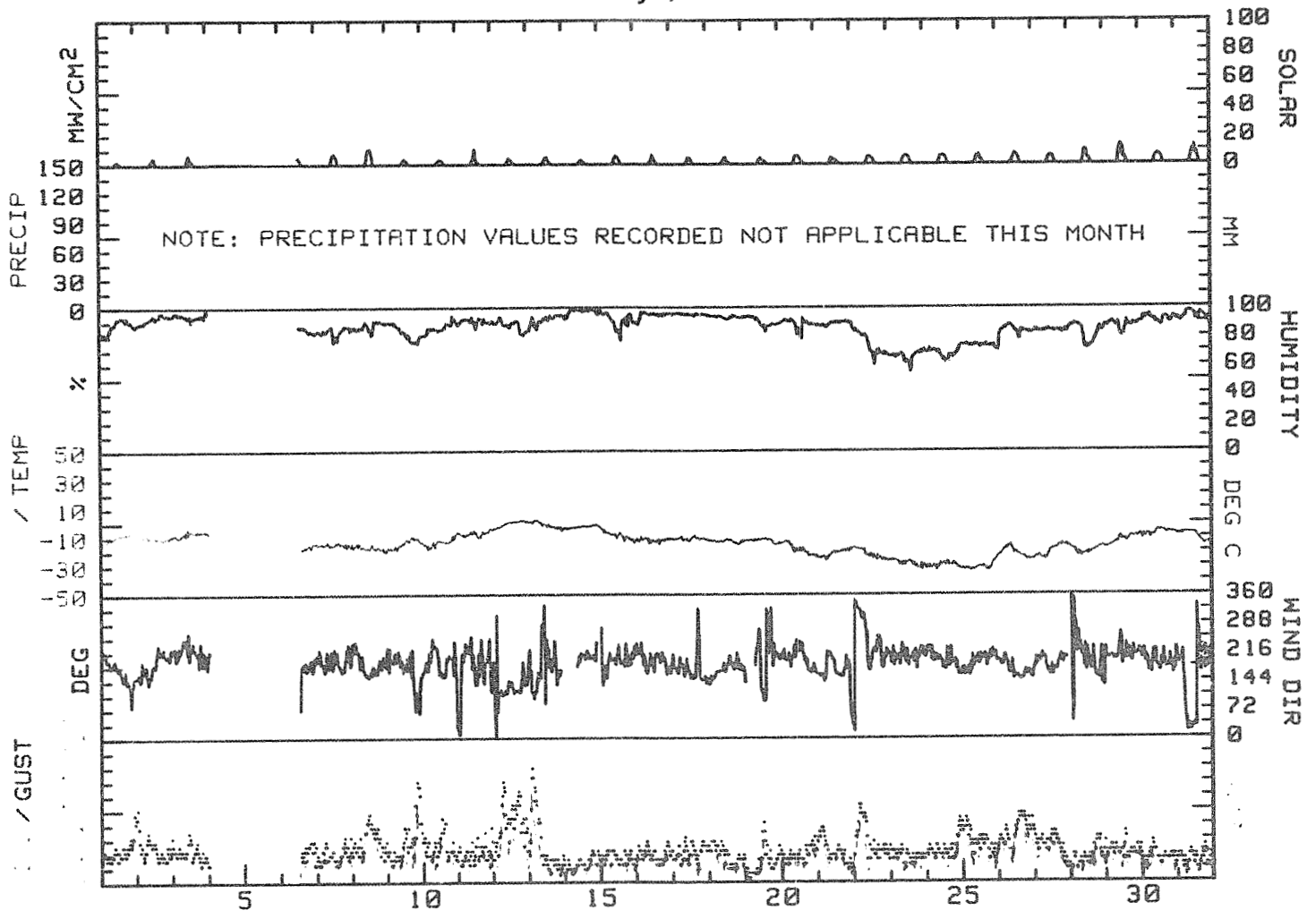
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

KOSINA WEATHER STATION

January, 1984



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

IND FREQUENCY SUMMARY FOR KOSINA WEATHER STATION
ATA TAKEN DURING January, 1984

DIRECTION	VELOCITY (M/S) 0.2 TO 1.0	1.0 TO 3.0	3.0 TO 6.0	6.0 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	20.0 OR GREATER	TOTAL
N	0.00	.30	.08	0.00	0.00	0.00	0.00	.38
NNE	0.00	.91	.23	0.00	0.00	0.00	0.00	1.13
NE	.15	.53	0.00	0.00	0.00	0.00	0.00	.68
ENE	.15	.38	.08	0.00	0.00	0.00	0.00	.61
E	.08	.38	.08	.15	0.00	0.00	0.00	.68
ESE	0.00	.08	1.06	1.66	.30	0.00	0.00	3.10
SE	0.00	.68	2.57	.45	0.00	0.00	0.00	3.71
SSE	.15	2.57	10.74	2.57	0.00	0.00	0.00	16.04
S	.08	12.86	8.85	.08	0.00	0.00	0.00	21.86
SSW	.23	21.79	9.30	0.00	0.00	0.00	0.00	31.32
SW	.08	9.68	4.16	0.00	0.00	0.00	0.00	13.92
WSW	.08	2.95	.45	0.00	0.00	0.00	0.00	3.48
W	.08	.76	.23	0.00	0.00	0.00	0.00	1.06
WNW	0.00	.45	.15	0.00	0.00	0.00	0.00	.61
NW	.08	.23	.08	.53	0.00	0.00	0.00	.91
NNW	.08	.15	.15	.15	0.00	0.00	0.00	.53
CALM								0.00
TOTAL	1.91	54.69	38.30	5.60	.30	0.00	0.00	100.00

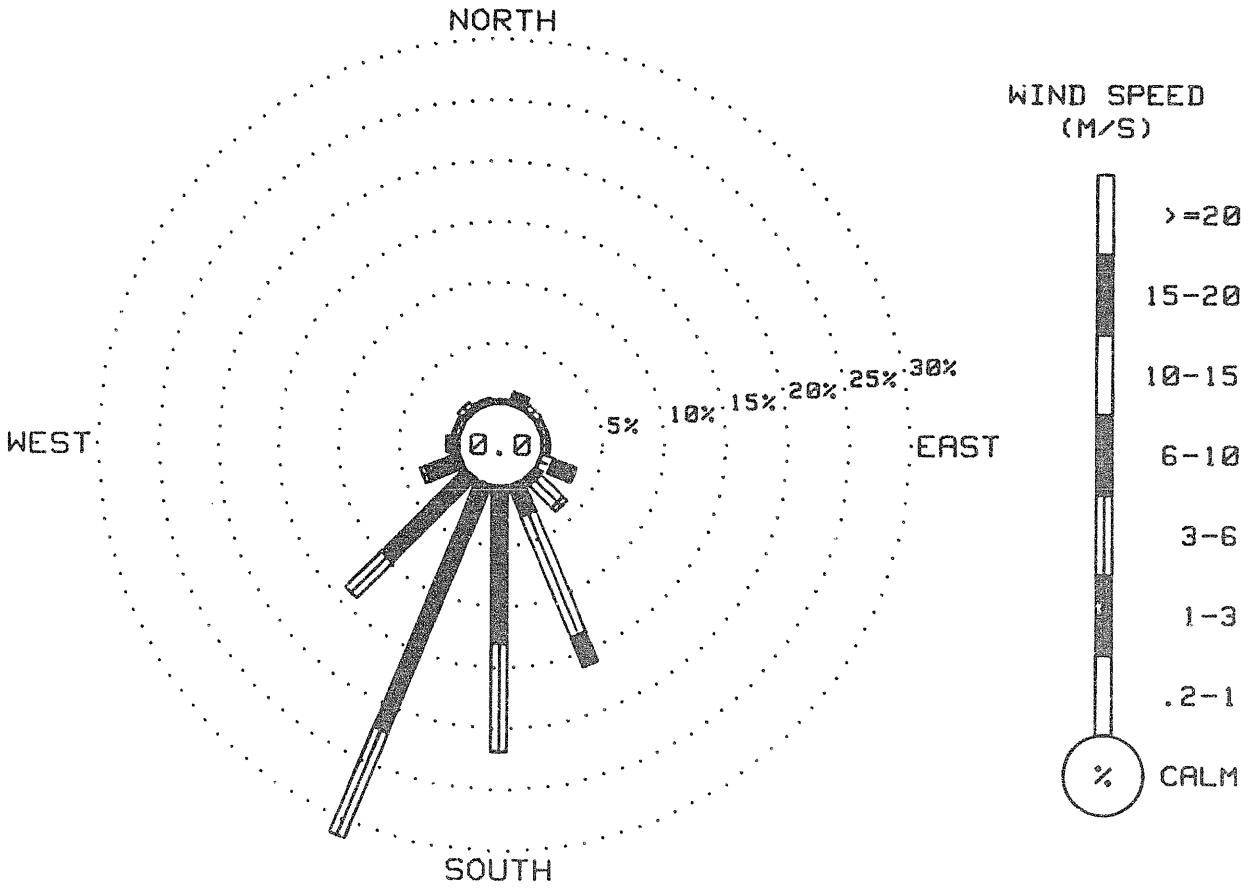
OTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
1322 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
1488 WIND OBSERVATIONS WOULD HAVE BEEN CORRECT FOR 30 MINUTE DATA.
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

KOSINA WEATHER STATION

January, 1984



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

SOLAR RADIATION VALUES MEASURED IN MILLIWATTS PER SQUARE CENTIMETER

HOUR ENDING

DATE	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	AVG
1	0	0	0	0	0	0	0	0	0	0	1	2	3	2	1	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	2	3	5	5	2	0	0	0	0	0	0	0	0	0	1
3	0	0	0	0	0	0	0	0	0	0	2	5	6	3	3	1	0	0	0	0	0	0	0	0	1
4	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
5	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
6	***	***	***	***	***	***	***	***	***	***	***	***	5	4	2	1	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	2	6	8	7	4	1	0	0	0	0	0	0	0	0	1
8	0	0	0	0	0	0	0	0	0	0	3	9	11	11	6	1	0	0	0	0	0	0	0	0	2
9	0	0	0	0	0	0	0	0	0	0	1	3	4	4	2	1	0	0	0	0	0	0	0	0	1
10	0	0	0	0	0	0	0	0	0	0	2	3	4	3	3	1	0	0	0	0	0	0	0	0	1
11	0	0	0	0	0	0	0	0	0	0	2	4	11	4	2	1	0	0	0	0	0	0	0	0	1
12	0	0	0	0	0	0	0	0	0	0	2	4	4	3	2	1	0	0	0	0	0	0	0	0	1
13	0	0	0	0	0	0	0	0	0	0	1	3	5	5	3	1	0	0	0	0	0	0	0	0	1
14	0	0	0	0	0	0	0	0	0	0	1	3	3	2	2	1	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	1	3	6	6	5	3	1	0	0	0	0	0	0	0	0	1
16	0	0	0	0	0	0	0	0	0	0	2	4	6	4	2	1	0	0	0	0	0	0	0	0	1
17	0	0	0	0	0	0	0	0	0	0	2	4	3	5	2	1	0	0	0	0	0	0	0	0	1
18	0	0	0	0	0	0	0	0	0	0	2	3	5	4	2	1	0	0	0	0	0	0	0	0	1
19	0	0	0	0	0	0	0	0	0	1	2	4	5	3	3	2	0	0	0	0	0	0	0	0	1
20	0	0	0	0	0	0	0	0	0	1	4	6	6	6	4	2	0	0	0	0	0	0	0	0	1
21	0	0	0	0	0	0	0	0	0	1	3	5	4	3	3	1	0	0	0	0	0	0	0	0	1
22	0	0	0	0	0	0	0	0	0	1	3	5	6	5	4	2	0	0	0	0	0	0	0	0	1
23	0	0	0	0	0	0	0	0	0	1	4	6	6	6	4	2	0	0	0	0	0	0	0	0	1
24	0	0	0	0	0	0	0	0	0	1	4	6	6	6	5	2	0	0	0	0	0	0	0	0	1
25	0	0	0	0	0	0	0	0	0	1	3	6	7	5	4	2	0	0	0	0	0	0	0	0	1
26	0	0	0	0	0	0	0	0	0	1	3	5	8	7	6	3	1	0	0	0	0	0	0	0	1
27	0	0	0	0	0	0	0	0	0	1	3	6	6	6	4	2	0	0	0	0	0	0	0	0	1
28	0	0	0	0	0	0	0	0	0	1	5	10	9	5	4	2	1	0	0	0	0	0	0	0	1
29	0	0	0	0	0	0	0	0	0	2	9	13	10	9	5	2	0	0	0	0	0	0	0	0	2
30	0	0	0	0	0	0	0	0	0	1	4	6	7	7	6	3	1	0	0	0	0	0	0	0	2
31	0	0	0	0	0	0	0	0	0	1	4	9	9	12	7	4	1	0	0	0	0	0	0	0	2

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

PARAMETER	NUMBER OF USABLE OBSERVATIONS	PERCENT OF TOTAL OBSERVATIONS
TEMPERATURE	1367	92
WIND SPEED	1367	92
WIND DIRECTION	1322	89
PEAK GUST	1367	92
RELATIVE HUMIDITY	1333	90
PRECIPITATION	0	0
SOLAR RADIATION	1367	92
DEW POINT	1333	90

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

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

1. RH +5 Points
2. Solar -1 mW/CM^2

Additional comments on this month's data:

1. Lost data from 1/4 to 1/6 for all parameters. Weather wizard not functioning properly.
2. Intermittent wind direction data lost due to frozen wind vane.

No precipitation data for February

(See INTERPRETATION OF DATA).

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING February, 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	-16.2	-17.7	88	196	2.2	173	3.8	0
0600	-16.8	-18.3	88	206	2.1	170	5.1	0
0900	-15.7	-17.5	86	214	1.7	213	3.2	0
1200	-12.9	-13.8	93	221	2.2	208	3.8	5
1500	-12.0	-13.5	89	211	2.7	209	3.8	5
1800	-13.6	-14.6	92	183	2.3	164	4.4	0
2100	-13.4	-15.0	88	176	3.5	168	5.1	0
2400	-12.5	-14.1	88	201	2.3	185	5.1	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	-12.3	-13.2	93	290	.6	203	3.2	0
0600	-12.6	-13.1	96	020	1.1	020	1.9	0
0900	-13.1	-13.8	95	028	1.0	042	3.8	0
1200	-13.4	-14.9	89	015	1.5	029	3.8	5
1500	-12.8	-15.1	83	333	1.3	008	5.7	5
1800	-16.8	-22.9	59	032	.9	027	3.2	0
2100	-18.9	-22.1	76	043	.9	181	3.2	0
2400	-17.3	-21.3	71	161	1.5	175	5.1	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	-17.5	-20.3	79	165	.4	133	7.0	0
0600	-19.6	-21.4	86	183	2.9	161	5.7	0
0900	-18.5	-20.1	87	220	2.7	209	5.1	0
1200	-16.7	-19.1	82	246	2.5	256	5.1	10
1500	-16.6	-18.4	86	212	2.6	207	4.4	5
1800	-15.2	-16.2	92	190	3.1	208	5.1	0
2100	-14.0	-15.3	90	169	3.4	168	5.7	0
2400	-15.4	-17.0	88	097	4.9	091	12.1	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	-15.4	-16.7	90	140	2.8	112	8.9	0
0600	-14.3	-15.7	89	206	4.5	208	7.0	0
0900	-12.1	-13.0	93	173	4.9	170	10.2	0
1200	-11.9	-13.4	89	226	1.5	211	6.3	7
1500	-11.5	-13.0	89	247	2.0	240	5.7	5
1800	-11.4	-12.6	91	245	1.7	225	4.4	0
2100	-10.3	-11.0	95	164	.4	206	5.1	0
2400	-11.5	*****	95	017	1.5	021	3.2	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	-13.3	-14.0	95	192	.8	161	4.4	0
0600	-14.3	-14.9	95	165	3.2	158	4.4	0
0900	-13.3	-14.0	95	198	2.5	214	4.4	0
1200	-14.8	-15.6	94	209	3.8	206	5.1	1
1500	-12.3	-13.4	92	195	2.6	205	4.4	5
1800	-12.6	-13.4	94	166	2.3	163	4.4	0
2100	-11.8	-12.5	95	203	1.2	224	2.5	0
2400	-11.1	-12.0	93	202	2.3	203	4.4	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	-13.4	*****	95	031	.7	171	3.2	0
0600	-16.3	-17.2	93	219	.6	076	3.2	0
0900	-16.5	-17.4	93	218	1.5	207	3.2	0
1200	-16.8	-19.4	80	212	1.1	200	3.2	11
1500	-14.1	-18.5	69	204	1.8	202	3.8	1
1800	-19.5	-21.8	82	203	2.2	192	4.4	0
2100	-18.0	-20.1	84	198	2.2	196	3.8	0
2400	-13.3	-14.1	94	229	1.8	237	3.2	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	-15.3	-16.1	94	179	2.1	193	3.8	0
0600	-18.6	*****	95	201	1.5	199	4.4	0
0900	-10.9	-12.8	86	138	1.3	109	5.1	0
1200	-12.7	-14.7	85	016	2.0	359	7.0	5
1500	-12.8	-14.3	89	356	.2	167	5.1	3
1800	-16.2	-17.2	92	353	.7	208	4.4	0
2100	-19.9	-21.1	90	180	2.7	161	5.7	0
2400	-18.3	-19.4	91	199	1.7	189	4.4	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	-18.1	-19.2	91	193	3.0	199	4.4	0
0600	-22.3	-23.9	87	201	2.2	173	4.4	0
0900	-21.8	-23.0	90	212	1.6	228	3.2	0
1200	-21.9	-24.6	79	212	1.4	236	2.5	5
1500	-19.8	-23.4	73	197	1.7	190	4.4	7
1800	-23.1	-25.2	83	198	2.7	196	5.7	0
2100	-22.6	-24.6	84	197	2.4	182	5.1	0
2400	-21.9	-23.9	84	187	2.4	172	3.8	0

DAY 09

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-24.0	-27.0	76	200	2.0	178	4.4	0
0600	-19.8	-23.7	71	200	2.3	193	3.8	0
0900	-20.2	-23.9	72	196	3.5	199	5.7	0
1200	-19.5	-23.9	68	202	4.0	211	6.3	12
1500	-17.8	-23.9	59	206	4.0	215	6.3	14
1800	-23.3	-26.5	75	201	2.5	199	3.8	0
2100	-23.6	-26.2	72	206	3.1	197	4.4	0
2400	-25.5	-27.5	83	207	2.5	194	6.3	0

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DAY 10

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-27.2	-29.3	82	226	2.2	206	4.4	0
0600	-26.6	-28.6	83	220	4.1	215	5.7	0
0900	-27.0	-29.0	83	215	2.9	221	4.4	0
1200	-23.0	-25.2	82	211	2.5	223	4.4	7
1500	-22.0	-24.6	79	200	3.4	187	4.4	5
1800	-22.4	-24.9	80	210	2.8	216	4.4	0
2100	-22.2	-24.6	81	199	1.9	195	3.2	0
2400	-19.2	-21.4	83	202	3.0	203	4.4	0

DAY 11

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-18.0	-20.5	81	194	3.2	202	6.3	0
0600	-18.3	-20.9	80	195	3.1	197	5.1	0
0900	-17.6	-20.4	79	186	3.4	190	5.7	1
1200	-14.5	-18.9	69	187	3.7	187	6.3	33
1500	-16.1	-20.0	72	174	3.0	162	5.1	13
1800	-18.4	-20.6	83	161	5.2	157	7.6	0
2100	-17.6	-19.7	84	184	3.8	160	8.3	0
2400	-19.0	-20.8	86	222	3.7	222	5.7	0

DAY 12

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-18.5	-20.3	86	230	3.4	221	5.1	0
0600	-15.2	-17.2	85	207	4.1	201	5.7	0
0900	-13.4	-15.3	86	179	3.8	172	7.0	1
1200	-11.3	-13.2	86	169	3.8	158	6.3	26
1500	-12.6	-14.2	88	162	4.3	174	5.7	14
1800	-14.8	-16.1	90	168	4.6	159	8.9	0
2100	-15.7	-17.0	90	161	6.1	156	8.9	0
2400	-15.5	-16.8	90	159	5.4	168	8.3	0

DAY 13

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-18.0	-19.3	90	199	3.2	216	5.7	0
0600	-17.8	-19.2	89	182	3.2	166	5.7	0
0900	-18.5	-19.8	90	200	2.4	210	4.4	1
1200	-14.4	-17.1	80	203	2.8	196	5.7	26
1500	-14.3	-16.8	81	205	2.8	203	5.7	11
1800	-16.2	-18.0	86	185	3.6	184	5.7	0
2100	-15.6	-17.3	87	204	3.0	193	5.7	0
2400	-16.3	-18.2	85	198	4.1	166	8.3	0

DAY 14

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-15.1	-17.1	85	228	3.3	214	5.1	0
0600	-12.9	-14.9	85	195	2.7	155	7.6	0
0900	-12.2	-14.4	84	187	3.2	145	5.7	1
1200	-13.6	-15.7	84	134	5.2	115	9.5	15
1500	-13.6	-15.7	84	179	3.7	154	7.0	1
1800	-14.1	-16.2	84	203	3.3	200	5.1	0
2100	-11.8	-14.0	84	191	3.2	189	5.1	0
2400	-10.1	-12.3	84	190	2.6	193	4.4	0

DAY 15

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-10.8	-12.8	85	185	1.9	177	3.8	0
0600	-12.6	-14.5	86	173	3.1	160	5.7	0
0900	-15.3	-16.9	88	178	3.2	172	5.7	2
1200	-13.2	-16.2	78	180	2.9	172	5.1	24
1500	-13.7	-16.3	81	181	2.8	166	5.7	13
1800	-12.7	-14.3	88	182	2.8	186	5.1	0
2100	-11.0	-12.9	86	191	2.4	183	5.1	0
2400	-9.6	-11.5	86	218	1.4	219	5.1	0

DAY 16

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-11.0	-12.5	89	127	2.4	099	6.3	0
0600	-13.0	-14.5	89	181	1.1	116	8.3	0
0900	-18.2	-19.5	90	190	2.4	173	5.1	1
1200	-14.3	-15.9	88	206	4.0	214	5.7	14
1500	-13.1	-14.0	86	202	2.7	192	4.4	7
1800	-11.1	-12.2	92	210	2.1	227	3.8	0
2100	-9.7	-10.4	95	212	1.8	202	4.4	0
2400	-6.7	-7.7	93	228	1.2	249	5.1	0

DAY 17

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-6.1	-8.2	85	154	1.3	102	7.0	0
0600	-8.0	-8.7	95	109	2.8	125	6.3	0
0900	-8.6	-9.1	96	224	1.5	218	3.8	1
1200	-5.3	-6.9	89	260	1.5	246	3.8	11
1500	-6.1	-7.4	91	240	2.5	232	6.3	10
1800	-6.5	-7.3	94	203	2.4	224	5.1	0
2100	-6.7	*****	95	186	1.5	180	3.2	0
2400	-6.5	-6.9	97	177	1.7	162	3.2	0

DAY 18

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-6.6	*****	97	125	1.1	118	3.8	0
0600	-9.5	-10.0	96	138	1.7	150	5.1	0
0900	-12.3	-12.8	96	169	3.3	153	5.1	1
1200	-11.5	-12.2	95	193	2.3	212	4.4	13
1500	-9.9	-11.7	87	227	2.7	237	4.4	8
1800	-5.7	-8.3	82	140	.9	132	10.2	0
2100	-8.4	-10.1	88	146	2.9	170	10.2	0
2400	-8.0	-9.7	88	154	1.0	141	3.8	0

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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	-9.6	-11.1	89	203	1.8	210	4.4	0
0600	-9.6	-11.1	89	206	2.6	206	4.4	0
0900	-12.1	-13.7	88	196	3.0	188	5.1	2
1200	-9.2	-12.5	77	196	2.3	170	4.4	18
1500	-8.8	-10.5	88	228	.6	009	3.8	12
1800	-13.4	-14.3	93	044	4.5	049	7.0	0
2100	-16.0	-17.8	86	048	5.1	047	7.6	0
2400	-16.8	-18.7	85	033	2.5	037	5.7	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	-17.0	-18.9	85	038	2.2	041	3.8	0
0600	-17.7	-18.8	91	029	2.1	022	3.8	0
0900	-17.9	-19.0	91	028	1.6	030	3.2	3
1200	-16.6	-19.4	79	150	1.3	139	6.3	21
1500	-18.3	-22.4	70	218	.8	158	4.4	23
1800	-19.7	-21.9	83	201	2.6	199	5.1	0
2100	-23.6	-25.5	84	178	3.8	171	6.3	0
2400	-23.7	-25.4	86	186	4.0	181	6.3	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	-23.1	-24.8	86	192	3.2	180	6.3	0
0600	-19.6	-21.5	85	190	3.3	172	6.3	0
0900	-17.2	-19.1	85	208	3.0	212	5.1	2
1200	-14.7	-17.4	80	193	2.2	213	3.8	22
1500	-13.4	-15.5	84	192	2.2	187	3.2	12
1800	-15.1	-16.7	88	187	3.1	164	5.7	0
2100	-17.7	-19.1	89	226	2.4	231	4.4	0
2400	-18.0	-19.5	88	213	3.5	209	5.1	0

DAY 22

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-16.4	-18.2	86	198	3.8	207	5.7	0
0600	-17.0	-18.5	88	190	3.0	197	5.7	0
0900	-14.8	-16.6	86	199	3.0	212	5.1	3
1200	-13.1	-15.4	83	187	3.1	201	5.1	14
1500	-11.9	-14.7	80	199	2.0	238	4.4	15
1800	-12.4	-14.0	88	173	3.1	171	4.4	0
2100	-14.3	-16.0	87	173	3.2	167	5.7	0
2400	-15.3	-16.7	89	199	2.2	213	3.8	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	-14.3	-16.0	87	190	2.8	207	5.7	0
0600	-14.2	-15.9	87	190	2.4	173	5.1	0
0900	-13.7	-15.3	88	192	2.9	182	5.1	5
1200	-12.0	-15.5	75	182	2.4	169	4.4	19
1500	-9.5	-13.9	70	199	2.4	195	5.1	29
1800	-14.3	-16.1	86	185	2.8	173	5.1	0
2100	-17.4	-18.2	94	202	2.6	180	5.1	0
2400	-17.3	-18.3	92	240	2.0	224	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	-19.0	-20.1	91	207	2.4	222	3.8	0
0600	-19.4	-20.5	91	202	2.5	178	5.1	0
0900	-18.1	-19.1	93	218	2.2	215	3.8	2
1200	-15.3	-16.5	91	224	2.4	225	[illegible]	20
1500	-14.4	-16.0	88	216	3.2	215	[illegible]	21
1800	-16.4	-17.8	89	207	3.0	238	[illegible]	0
2100	-16.6	-18.4	86	182	2.7	173	4.4	0
2400	-14.1	-16.0	86	190	2.4	212	5.1	0

DAY 25

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-14.3	-16.3	85	216	3.4	218	5.1	0
0600	-13.9	-14.9	85	208	2.9	210	4.4	0
0900	-13.8	-14.7	86	204	2.8	214	4.4	6
1200	-11.4	-15.1	74	177	3.0	174	4.4	19
1500	-10.7	-13.9	77	174	2.7	164	3.8	17
1800	-11.1	-13.3	84	165	3.4	167	3.8	1
2100	-11.7	-13.9	84	173	3.4	164	3.8	0
2400	-10.3	-12.5	84	216	2.0	201	4.4	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	-10.9	-12.9	85	198	1.8	213	4.4	0
0600	-10.1	-11.0	93	160	1.8	104	4.4	0
0900	-11.3	-13.5	91	202	2.2	205	5.7	4
1200	-11.0	-13.5	82	172	2.5	171	5.1	24
1500	-11.2	-13.2	85	171	2.7	165	5.1	17
1800	-11.5	-12.8	90	172	2.7	175	5.1	1
2100	-10.7	-12.5	87	187	2.6	155	5.3	0
2400	-11.1	-13.6	82	139	1.7	155	5.3	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	-12.1	-14.4	83	147	2.5	155	7.6	0
0600	-15.5	-17.5	85	149	2.1	119	5.7	0
0900	-15.3	-17.1	86	197	1.7	217	3.8	[illegible]
1200	-13.4	-16.0	81	177	3.0	157	[illegible]	25
1500	-12.4	-15.0	81	190	3.4	243	[illegible]	21
1800	-14.5	-16.2	87	150	2.2	185	[illegible]	[illegible]
2100	-14.5	-16.2	87	187	2.7	211	[illegible]	[illegible]
2400	-13.2	-15.1	86	210	3.6	209	[illegible]	0

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DAY 28									DAY 29								
HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW	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	-13.1	-14.6	89	202	2.5	201	5.1	0	0300	-13.1	-15.4	83	138	3.9	153	7.6	0
0600	-15.4	-16.7	90	185	3.0	177	5.1	0	0600	-14.9	-17.0	84	147	4.6	155	7.0	0
0900	-14.5	-16.5	85	170	3.4	172	7.0	11	0900	-14.5	-17.3	79	119	1.7	052	5.1	10
1200	-12.4	-15.9	75	174	3.7	189	6.3	34	1200	-14.1	-20.4	59	203	2.5	205	5.1	33
1500	-10.3	-13.1	80	167	4.8	152	8.9	9	1500	-12.9	-17.2	70	205	2.3	218	5.1	27
1800	-12.7	-14.9	84	167	2.9	144	5.7	1	1800	-15.9	-18.3	82	177	2.0	211	5.7	1
2100	-14.4	-16.4	85	193	2.4	192	5.7	0	2100	-17.3	-19.9	80	207	2.8	207	6.4	0
2400	-13.4	-16.3	79	145	3.8	142	6.3	0	2400	-14.5	-16.9	82	185	2.6	186	4.4	0

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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	-11.8	-18.3	-15.1	199	2.3	2.4	170	5.1	SSW	89	-15.8	****	320	1
2	-11.4	-19.3	-15.4	020	.6	1.3	008	5.7	NNE	80	-17.4	****	290	2
3	-12.2	-20.2	-16.2	180	2.2	3.2	091	12.1	SSE	86	-18.8	****	375	3
4	-10.0	-15.9	-13.0	195	1.6	2.8	170	10.2	SSW	90	-13.7	****	310	4
5	-10.9	-15.0	-13.0	191	2.2	2.5	206	5.1	SSW	94	-13.7	****	375	5
6	-10.7	-19.5	-15.1	208	1.2	1.6	192	4.4	SSW	87	-18.0	****	545	6
7	-10.5	-21.1	-15.8	176	.7	1.9	359	7.0	S	90	-16.0	****	335	7
8	-16.8	-24.1	-20.5	198	2.2	2.3	196	5.7	SSW	83	-23.2	****	355	8
9	-17.7	-25.9	-21.8	202	2.9	2.9	211	6.3	SSW	73	-25.1	****	695	9
10	-19.2	-29.5	-24.4	211	2.7	2.8	215	5.7	SSW	82	-26.3	****	360	10
11	-14.3	-19.9	-17.1	187	3.5	3.7	160	8.3	S	78	-20.4	****	1245	11
12	-11.3	-19.0	-15.2	175	4.2	4.5	159	8.9	SSE	88	-16.2	****	1040	12
13	-13.1	-20.6	-16.9	196	3.1	3.2	166	8.3	SSW	86	-18.3	****	1080	13
14	-10.1	-16.8	-13.5	185	3.0	3.6	115	9.5	SSW	85	-15.7	****	695	14
15	-9.2	-15.3	-12.3	183	2.5	2.7	160	5.7	S	84	-14.2	****	1005	15
16	-8.7	-18.2	-12.5	195	2.0	2.6	116	8.3	SSW	90	-13.4	****	615	16
17	-4.7	-8.6	-6.7	194	1.3	2.2	102	7.0	SW	92	-7.8	****	610	17
18	-5.4	-12.6	-9.0	173	1.7	2.4	132	10.2	SSE	91	-10.1	****	600	18
19	-7.0	-16.8	-11.9	099	.6	3.0	047	7.6	NE	86	-13.2	****	860	19
20	-16.3	-24.0	-20.2	164	.9	2.5	139	6.3	NNE	83	-21.3	****	1200	20
21	-13.4	-25.8	-19.6	200	2.8	3.0	180	6.3	SSW	86	-19.7	****	290	21
22	-10.8	-17.7	-14.3	189	2.9	3.0	207	5.7	S	86	-16.1	****	1040	22
23	-9.3	-19.1	-14.2	196	2.5	2.6	207	5.7	S	85	-15.9	****	1505	23
24	-14.1	-19.4	-16.8	206	2.5	2.7	178	5.1	SSW	90	-17.9	****	1120	24
25	-10.0	-16.0	-13.0	193	2.5	2.7	218	5.1	S	82	-14.4	****	1495	25
26	-9.6	-12.7	-11.2	176	2.3	2.6	205	5.7	S	86	-13.0	****	1140	26
27	-11.5	-16.8	-14.2	180	2.5	3.2	155	7.0	SSW	84	-16.2	****	1360	27
28	-10.3	-16.5	-13.4	173	3.2	3.8	152	8.9	S	84	-15.2	****	2035	28
29	-11.5	-17.4	-14.5	166	2.4	3.2	153	7.6	SE	77	-17.6	****	2335	29
MONTH	-4.7	-29.5	-15.0	188	2.1	2.8	091	12.1	SSW	85	-16.7	****	25439	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 8.9
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 8.4
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 8.9
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 9.5

** RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEED IS 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

MONTHLY SUMMARY FOR KOSINA 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	-11.8	-18.3	-15.1	199	2.3	2.4	170	5.1	SSW	89	-15.8	****	320	1
2	-11.4	-19.3	-15.4	020	.6	1.3	008	5.7	NNE	80	-17.4	****	290	2
3	-12.2	-20.2	-16.2	180	2.2	3.2	091	12.1	SSE	86	-18.8	****	375	3
4	-10.0	-15.9	-13.0	195	1.6	2.8	170	10.2	SSW	90	-13.7	****	310	4
5	-10.9	-15.0	-13.0	191	2.2	2.5	206	5.1	SSW	94	-13.7	****	375	5
6	-10.7	-19.5	-15.1	208	1.2	1.6	192	4.4	SSW	87	-18.0	****	545	6
7	-10.5	-21.1	-15.8	176	.7	1.9	359	7.0	S	90	-16.0	****	335	7
8	-16.8	-24.1	-20.5	198	2.2	2.3	196	5.7	SSW	83	-23.2	****	355	8
9	-17.7	-25.9	-21.8	202	2.9	2.9	211	6.3	SSW	73	-25.1	****	695	9
10	-19.2	-29.5	-24.4	211	2.7	2.8	215	5.7	SSW	82	-26.3	****	360	10
11	-14.3	-19.9	-17.1	187	3.5	3.7	160	8.3	S	78	-20.4	****	1245	11
12	-11.3	-19.0	-15.2	175	4.2	4.5	159	8.9	SSE	88	-16.2	****	1040	12
13	-13.1	-20.6	-16.9	196	3.1	3.2	166	8.3	SSW	86	-18.3	****	1080	13
14	-10.1	-16.8	-13.5	185	3.0	3.6	115	9.5	SSW	85	-15.7	****	695	14
15	-9.2	-15.3	-12.3	183	2.5	2.7	160	5.7	S	84	-14.2	****	1005	15
16	-6.7	-18.2	-12.5	195	2.0	2.6	116	8.3	SSW	90	-13.4	****	615	16
17	-4.7	-8.6	-6.7	194	1.3	2.2	102	7.0	SW	92	-7.8	****	610	17
18	-5.4	-12.6	-9.0	173	1.7	2.4	132	10.2	SSE	91	-10.1	****	600	18
19	-7.0	-16.8	-11.9	099	.6	3.0	047	7.6	NE	86	-13.2	****	860	19
20	-16.3	-24.0	-20.2	164	.9	2.5	139	6.3	NNE	83	-21.3	****	1200	20
21	-13.4	-25.8	-19.6	200	2.8	3.0	180	6.3	SSW	86	-19.7	****	790	21
22	-10.8	-17.7	-14.3	189	2.9	3.0	207	5.7	S	86	-16.1	****	1040	22
23	-9.3	-19.1	-14.2	196	2.5	2.6	207	5.7	S	85	-15.9	****	1505	23
24	-14.1	-19.4	-16.8	206	2.5	2.7	178	5.1	SSW	90	-17.9	****	1120	24
25	-10.0	-16.0	-13.0	193	2.5	2.7	218	5.1	S	82	-14.4	****	1485	25
26	-9.6	-12.7	-11.2	176	2.2	2.6	205	5.7	S	86	-13.0	****	1140	26
27	-11.5	-16.8	-14.2	180	2.5	3.2	155	7.0	SSW	84	-16.2	****	1360	27
28	-10.3	-16.5	-13.4	173	3.2	3.8	152	8.9	S	84	-15.2	****	2035	28
29	-11.5	-17.4	-14.5	166	2.4	3.2	153	7.6	SE	77	-17.6	****	2035	29
MONTH	-4.7	-29.5	-15.0	188	2.1	2.8	091	12.1	SSW	85	-16.7	****	25430	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 8.9
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 11.4
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 8.9
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 6.4

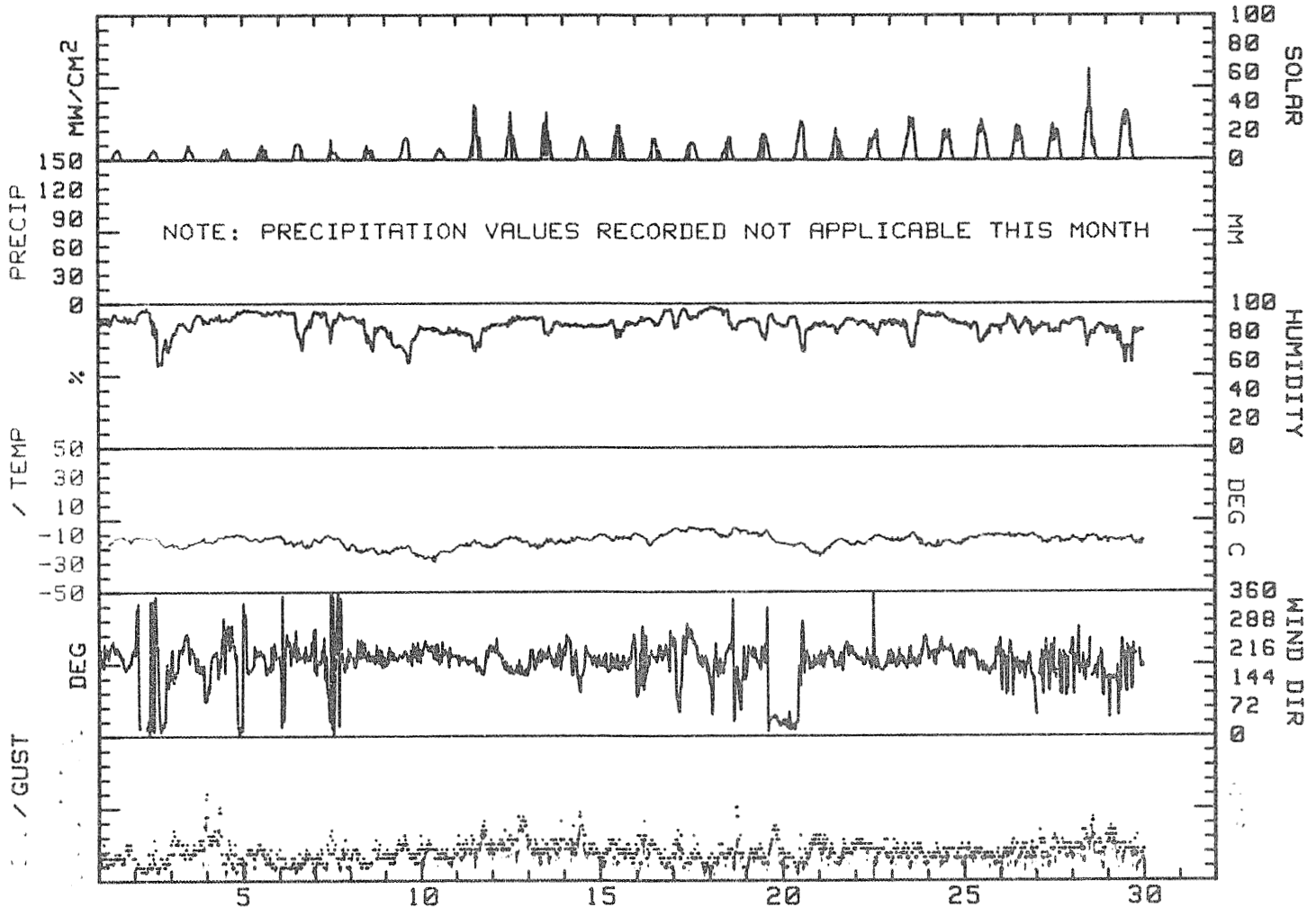
* RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

KOSINA WEATHER STATION

February, 1984



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

DIRECTION	VELOCITY (M/S) 0.2 TO 1.0	1.0 TO 3.0	3.0 TO 6.0	6.0 TO 10.0	10.0 TO 15.0	15.0 TO 20.0	20.0 OR GREATER	TOTAL
N	0.00	.88	0.00	0.00	0.00	0.00	0.00	.88
NNE	.15	2.63	.15	0.00	0.00	0.00	0.00	2.93
NE	.51	1.02	1.09	0.00	0.00	0.00	0.00	2.63
ENE	0.00	.44	.07	0.00	0.00	0.00	0.00	.51
E	0.00	.36	.44	.22	0.00	0.00	0.00	1.02
ESE	.07	1.02	1.09	.07	0.00	0.00	0.00	2.26
SE	.22	1.09	1.75	0.00	0.00	0.00	0.00	3.05
SSE	.22	2.48	6.93	1.09	0.00	0.00	0.00	10.73
S	.36	12.99	10.22	.15	0.00	0.00	0.00	23.72
SSW	.44	17.66	12.41	0.00	0.00	0.00	0.00	30.51
SW	.15	9.93	4.09	0.00	0.00	0.00	0.00	14.16
WSW	.44	3.28	1.09	0.00	0.00	0.00	0.00	4.82
W	.15	1.09	0.00	0.00	0.00	0.00	0.00	1.24
WNW	0.00	.51	0.00	0.00	0.00	0.00	0.00	.73
NW	.29	.07	0.00	0.00	0.00	0.00	0.00	.36
NNW	.07	.51	0.00	0.00	0.00	0.00	0.00	.58
CALM								.00
TOTAL	3.07	55.99	39.34	1.53	0.00	0.00	0.00	100.00

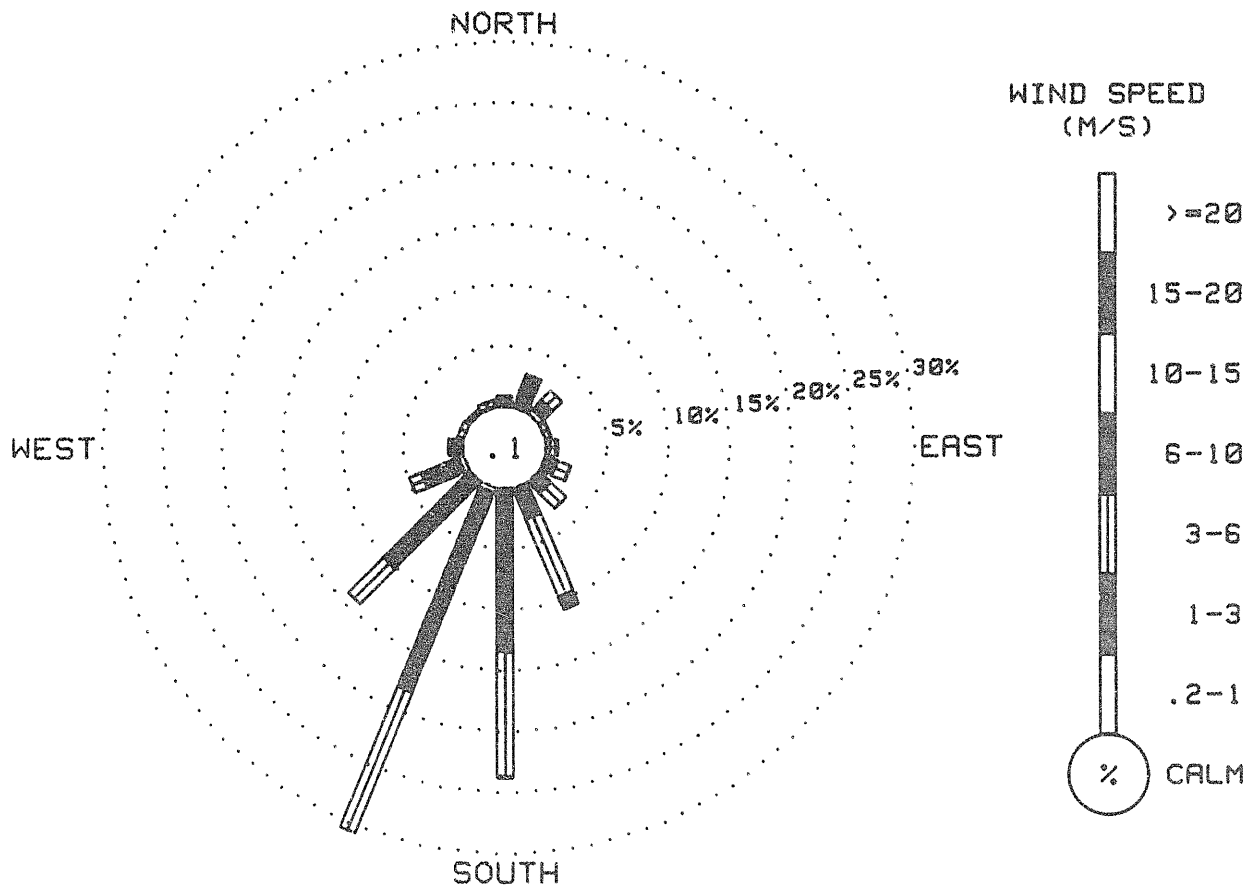
NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
1370 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
1392 WIND OBSERVATIONS WOULD HAVE BEEN CORRECT FOR 30 MINUTE DATA.
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

KOSINA WEATHER STATION

February, 1984



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

SOLAR RADIATION VALUES MEASURED IN MILLIWATTS PER SQUARE CENTIMETER

HOUR ENDING

DATE	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	AVG
1	0	0	0	0	0	0	0	0	0	2	3	5	6	7	6	3	1	0	0	0	0	0	0	0	1
2	0	0	0	0	0	0	0	0	0	1	3	5	6	6	6	3	1	0	0	0	0	0	0	0	1
3	0	0	0	0	0	0	0	0	0	2	5	8	9	7	5	3	1	0	0	0	0	0	0	0	2
4	0	0	0	0	0	0	0	0	0	2	4	7	7	5	6	3	1	0	0	0	0	0	0	0	1
5	0	0	0	0	0	0	0	0	0	2	5	5	10	4	6	5	1	0	0	0	0	0	0	0	2
6	0	0	0	0	0	0	0	0	0	3	9	11	11	11	6	5	1	0	0	0	0	0	0	0	2
7	0	0	0	0	0	0	0	0	0	5	8	5	5	5	4	2	1	0	0	0	0	0	0	0	1
8	0	0	0	0	0	0	0	0	0	3	4	8	6	6	4	5	1	0	0	0	0	0	0	0	1
9	0	0	0	0	0	0	0	0	0	2	5	10	14	15	15	7	3	0	0	0	0	0	0	0	3
10	0	0	0	0	0	0	0	0	0	2	4	7	7	7	5	4	2	0	0	0	0	0	0	0	2
11	0	0	0	0	0	0	0	0	1	3	10	18	37	28	14	9	6	0	0	0	0	0	0	0	5
12	0	0	0	0	0	0	0	0	1	4	15	20	29	9	16	9	3	0	0	0	0	0	0	0	4
13	0	0	0	0	0	0	0	0	1	9	23	15	28	12	12	7	4	0	0	0	0	0	0	0	5
14	0	0	0	0	0	0	0	0	1	4	9	14	16	13	6	6	3	0	0	0	0	0	0	0	3
15	0	0	0	0	0	0	0	0	1	10	10	21	21	13	15	9	3	0	0	0	0	0	0	0	4
16	0	0	0	0	0	0	0	0	1	4	6	15	15	11	4	6	2	0	0	0	0	0	0	0	3
17	0	0	0	0	0	0	0	0	1	5	6	6	12	12	11	7	3	1	0	0	0	0	0	0	3
18	0	0	0	0	0	0	0	0	1	5	7	9	6	14	12	5	3	1	0	0	0	0	0	0	3
19	0	0	0	0	0	0	0	0	2	3	15	16	10	17	13	8	3	1	0	0	0	0	0	0	4
20	0	0	0	0	0	0	0	0	2	5	13	19	25	27	24	2	5	1	0	0	0	0	0	0	5
21	0	0	0	0	0	0	0	0	2	3	12	19	15	8	13	4	4	1	0	0	0	0	0	0	3
22	0	0	0	0	0	0	0	0	2	9	13	11	15	17	18	14	6	1	0	0	0	0	0	0	4
23	0	0	0	0	0	0	0	0	3	8	14	18	28	25	27	20	9	1	0	0	0	0	0	0	5
24	0	0	0	0	0	0	0	0	2	6	16	17	18	17	18	13	6	1	0	0	0	0	0	0	5
25	0	0	0	0	0	0	0	0	4	14	23	22	27	22	19	13	6	2	0	0	0	0	0	0	6
26	0	0	0	0	0	0	0	0	3	8	14	23	13	20	16	13	4	2	0	0	0	0	0	0	5
27	0	0	0	0	0	0	0	0	3	11	16	24	17	18	21	18	8	2	0	0	0	0	0	0	5
28	0	0	0	0	0	0	0	0	7	17	32	35	48	35	10	14	4	2	0	0	0	0	0	0	8
29	0	0	0	0	0	0	0	0	6	18	27	32	29	34	29	16	12	3	0	0	0	0	0	0	8

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

PARAMETER	NUMBER OF USABLE OBSERVATIONS	PERCENT OF TOTAL OBSERVATIONS
TEMPERATURE	1392	100
WIND SPEED	1383	99
WIND DIRECTION	1375	99
PEAK GUST	1381	99
RELATIVE HUMIDITY	1343	96
PRECIPITATION	0	0
SOLAR RADIATION	1392	100
DEW POINT	1343	96

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

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

1. RH +5 RH Points
2. Solar -1 mW/CM^2

Additional comments on this month's data:

1. Malfunction in weather wizard caused data to be lost intermittantly from 2/26 to 2/29 for all parameters. Missing temperature, RH, and solar radiation values estimated where possible.

No precipitation data for March

(See INTERPRETATION OF DATA).

R A M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING March, 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	-14.7	-17.1	82	161	4.6	160	7.0	0
0600	-13.6	-15.9	83	160	4.9	054	8.9	0
0900	-14.5	-17.0	81	162	3.0	157	7.0	6
1200	-13.4	-19.5	60	224	2.7	241	6.4	14
1500	-12.3	-16.1	73	182	2.5	164	7.0	17
1800	-12.8	-15.2	82	197	2.6	189	5.7	1
2100	-13.6	-15.7	84	187	1.8	200	4.4	0
2400	-13.4	-16.1	60	190	2.1	151	5.1	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	-15.5	-17.5	85	215	2.2	207	3.8	0
0600	-13.9	-15.8	86	168	2.0	103	5.1	0
0900	-14.5	-17.9	75	190	2.3	220	5.1	11
1200	-11.1	-17.3	60	169	3.9	154	7.5	33
1500	-8.7	-13.5	68	200	2.3	200	4.4	34
1800	-13.1	-15.4	83	205	2.8	197	6.3	2
2100	-14.3	-16.0	87	185	2.1	197	4.4	0
2400	-13.4	-15.1	87	158	1.4	100	3.4	0

DAY 03

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-11.5	-13.3	87	185	3.1	195	5.7	0
0600	-13.3	-15.0	87	198	3.1	228	6.3	0
0900	-12.4	-15.6	77	220	2.4	230	5.7	13
1200	-9.6	-12.6	79	187	1.8	111	5.1	25
1500	-7.6	-10.0	83	202	3.8	199	7.0	15
1800	-7.3	-7.7	97	199	3.8	201	5.1	1
2100	-4.1	-5.4	91	212	2.0	209	5.1	0
2400	-2.8	-3.8	93	215	.6	243	8.3	0

DAY 04

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-2.5	-3.5	93	158	3.9	136	7.0	0
0600	-1.0	-2.6	89	157	2.9	160	7.6	0
0900	-1.8	-2.7	94	048	2.6	048	9.5	6
1200	-1.1	-3.9	81	211	2.9	235	5.1	24
1500	.1	-3.1	79	226	2.0	220	3.8	30
1800	-2.4	-4.6	89	208	2.2	221	3.8	2
2100	-1.8	-3.0	92	196	1.9	197	3.2	0
2400	-2.5	-3.8	91	***	****	***	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	-4.3	-5.1	94	194	2.9	201	4.4	0
0600	-4.4	-5.5	92	201	2.5	201	4.4	0
0900	-3.4	-4.8	90	191	2.5	192	5.1	6
1200	0.0	-2.4	84	151	3.5	133	8.3	20
1500	1.4	-2.3	76	188	1.3	152	3.8	29
1800	0.0	-2.4	84	215	2.2	218	3.8	1
2100	-.8	-2.9	86	204	1.9	218	3.2	0
2400	-2.2	-3.8	89	189	2.3	195	3.8	0

DAY 06

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-1.7	*****	98	160	1.7	165	3.8	0
0600	-2.4	-3.0	96	168	1.5	157	3.2	0
0900	-.4	-2.8	84	225	1.3	211	3.5	16
1200	-1.1	-3.9	81	169	2.9	159	5.1	46
1500	-.1	-3.5	78	191	2.3	167	4.4	37
1800	-1.6	-2.5	94	222	2.4	222	3.8	3
2100	-3.3	-4.0	95	213	2.2	217	3.8	0
2400	-1.1	-2.3	92	333	2.2	234	3.8	0

DAY 07

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-.3	-1.5	92	229	1.7	258	5.1	0
0600	-1.9	-2.3	97	163	2.1	125	7.0	0
0900	-3.0	-2.9	94	223	2.7	224	5.1	7
1200	-.1	-1.6	90	216	2.5	207	3.8	29
1500	1.3	-.5	88	240	1.8	219	3.2	33
1800	.1	-1.1	92	203	2.3	211	4.4	3
2100	-1.1	-1.8	95	201	3.8	205	5.7	0
2400	-1.1	-2.1	93	201	4.6	201	6.3	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	-.8	-1.8	93	193	3.4	193	5.1	0
0600	-3.3	-4.0	95	185	3.2	193	6.3	0
0900	-.4	-1.9	90	187	4.1	201	6.3	11
1200	1.3	-1.3	83	183	2.3	167	5.1	34
1500	2.5	.4	86	216	1.1	178	3.8	21
1800	2.4	1.1	91	201	.7	191	3.2	2
2100	2.0	.5	90	139	2.0	137	5.7	0
2400	.9	.0	94	121	6.4	108	10.2	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	2.1	.6	99	133	6.5	143	10.6	0
0600	0.0	-1.2	92	071	1.8	041	5.8	0
0900	-.1	-1.7	89	246	.3	247	5.1	11
1200	-.2	-1.5	91	165	2.5	152	8.3	27
1500	1.5	-1.4	81	113	3.4	075	8.2	32
1800	-2.5	-3.5	93	217	2.4	215	5.7	4
2100	-2.2	-3.2	93	198	4.3	204	7.6	0
2400	-2.2	-3.2	93	205	2.4	180	3.8	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING March, 1984

DAY 10

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-1.9	-2.9	93	216	2.7	223	5.7	0
0600	-.7	-2.0	91	206	1.8	212	3.8	0
0900	-.8	-2.1	91	202	2.6	177	5.1	8
1200	1.2	-.6	88	197	2.4	156	7.0	34
1500	2.6	*****	80	096	2.6	090	7.6	22
1800	2.2	-.1	85	100	5.4	099	8.3	5
2100	-2.3	-3.6	91	124	3.0	102	7.6	0
2400	-.9	-2.2	91	181	1.0	171	4.4	0

DAY 11

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-4.4	-5.2	94	216	2.0	221	4.4	0
0600	-6.1	-6.8	95	218	2.7	205	4.4	0
0900	-6.0	-8.4	83	195	2.3	191	3.8	21
1200	-1.2	-5.8	71	183	2.9	161	5.1	40
1500	1.4	-3.3	71	199	1.4	164	2.5	34
1800	-1.2	-3.9	82	188	2.6	199	3.8	5
2100	-3.6	-4.9	91	197	2.3	190	3.8	0
2400	-5.0	-6.3	91	193	2.2	184	4.4	0

DAY 12

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-5.5	-6.9	90	204	2.3	190	3.8	0
0600	-5.2	-6.9	88	199	2.8	198	4.4	0
0900	-4.2	-7.3	79	202	2.7	205	4.4	16
1200	-.7	-6.2	66	194	2.4	187	5.7	40
1500	1.6	-4.7	63	205	1.5	183	3.2	35
1800	-1.3	-5.0	76	195	2.3	190	3.8	5
2100	-4.8	-6.5	88	195	2.5	201	4.4	0
2400	-4.3	-6.0	88	198	2.4	185	5.1	0

DAY 13

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-6.8	-8.6	89	202	2.6	193	4.4	0
0600	-7.3	-8.3	93	202	2.8	181	6.3	0
0900	-8.0	-9.0	93	221	2.6	215	4.4	8
1200	-4.7	-6.7	86	216	2.8	222	3.8	28
1500	-.2	-4.1	75	130	2.0	098	8.3	34
1800	-4.0	-5.4	90	178	2.1	207	5.7	3
2100	-5.5	-6.2	95	202	4.3	196	5.7	0
2400	-5.9	-6.7	94	201	4.8	206	7.0	0

DAY 14

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-5.4	-6.2	94	201	3.6	198	5.7	0
0600	-6.2	-6.9	95	204	3.6	207	5.1	0
0900	-6.0	-9.0	79	184	1.7	190	3.8	29
1200	-4.7	-7.6	80	177	1.8	158	4.4	42
1500	-2.5	-7.2	70	232	1.3	187	4.4	38
1800	-4.5	-7.1	82	200	2.7	194	5.1	4
2100	-7.2	-9.3	85	188	3.8	188	5.7	0
2400	-8.2	-10.4	84	185	3.6	184	5.7	0

DAY 15

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-10.1	-11.9	87	197	2.6	179	4.4	0
0600	-10.7	-12.0	90	196	2.2	193	3.1	0
0900	-7.8	-10.0	84	202	2.8	199	5.7	9
1200	-4.6	-9.2	70	197	3.8	200	5.7	33
1500	-3.7	-8.7	68	219	1.9	201	3.2	35
1800	-7.8	-10.2	83	214	2.3	225	3.8	4
2100	-8.4	-10.6	84	203	3.4	198	5.7	0
2400	-9.9	-11.7	87	182	3.2	168	5.1	0

DAY 16

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-13.7	-13.4	95	194	2.4	192	3.8	0
0600	-13.3	-14.2	93	192	2.6	166	4.4	0
0900	-10.5	-13.3	80	181	2.8	178	5.1	25
1200	-7.3	-13.5	61	188	2.4	201	5.1	46
1500	-4.3	-9.7	67	212	2.2	221	3.2	38
1800	-7.9	-11.9	73	217	2.0	208	3.8	7
2100	-12.0	-13.9	86	210	2.0	212	3.8	0
2400	-14.8	-16.6	86	215	2.5	216	4.4	0

DAY 17

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-13.0	-14.5	89	203	2.8	199	5.1	0
0600	-12.0	-14.0	85	199	2.5	202	4.4	0
0900	-11.3	-16.4	66	196	2.5	179	4.4	21
1200	-8.9	-14.4	64	199	2.4	181	4.4	44
1500	-5.8	-12.1	61	208	2.4	212	3.8	39
1800	-8.4	-12.4	73	191	1.8	209	2.5	7
2100	-13.4	-15.0	88	192	2.0	186	4.4	0
2400	-14.6	-16.2	88	198	1.9	188	3.2	0

DAY 18

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-14.7	-16.4	87	185	2.4	179	4.4	0
0600	-14.8	-16.8	85	185	2.6	187	3.8	0
0900	-12.5	-16.8	70	209	1.9	207	5.1	21
1200	-8.2	-15.0	58	203	2.2	210	4.4	46
1500	-5.9	-12.0	62	180	2.9	184	5.1	40
1800	-9.0	-13.4	70	213	1.9	206	3.8	8
2100	-12.7	-15.3	81	188	2.0	172	3.8	0
2400	-14.4	-16.9	81	202	2.4	199	4.4	0

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R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

TWENTY HOUR SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING March, 1984

DAY 19

HOUR		DEW		WIND	WIND	GUST	MAX.	
ENDNG	TEMP	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-16.0	-18.1	84	212	2.3	205	4.4	0
0600	-16.9	-19.3	82	222	2.3	235	4.4	0
0900	-14.1	-19.4	64	219	2.4	211	4.4	21
1200	-10.4	-16.5	61	215	2.2	212	3.2	46
1500	-8.1	-13.9	63	219	2.9	223	3.8	40
1800	-9.9	-13.3	76	195	2.3	215	3.8	9
2100	-13.6	-16.0	82	204	2.0	208	3.8	0
2400	-13.4	-16.0	81	203	2.3	210	4.4	0

DAY 20

HOUR		DEW		WIND	WIND	GUST	MAX.	
ENDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-14.8	-17.3	81	217	1.8	207	3.8	0
0600	-14.6	-16.9	83	195	2.3	213	4.4	0
0900	-12.4	-18.2	62	203	2.2	202	4.4	23
1200	-7.4	-14.0	59	203	2.2	183	5.1	41
1500	-4.6	-11.4	59	176	2.3	202	3.8	32
1800	-7.2	-10.5	77	179	1.5	178	3.2	6
2100	-7.9	-10.4	82	186	1.7	165	3.2	0
2400	-8.8	-11.5	81	185	2.0	170	3.8	0

DAY 21

HOUR		DEW		WIND	WIND	GUST	MAX.	
ENDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-10.6	-12.9	83	186	2.0	169	4.4	0
0600	-12.4	-14.3	86	217	1.5	203	3.2	0
0900	-10.9	-15.4	69	202	1.9	213	3.2	24
1200	-7.5	-14.1	59	201	1.9	177	4.4	47
1500	-5.3	-11.4	62	232	1.8	185	3.2	42
1800	-8.1	-11.6	76	230	1.9	214	3.2	9
2100	-13.1	-15.0	86	205	2.4	217	4.4	0
2400	-13.1	-14.8	87	197	2.4	198	3.8	0

DAY 22

HOUR		DEW		WIND	WIND	GUST	MAX.	
ENDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-14.1	-15.7	88	184	2.4	173	5.1	0
0600	-14.7	-16.5	86	193	2.5	197	4.4	0
0900	-11.3	-16.4	66	179	2.9	165	5.7	29
1200	-6.1	-13.7	55	185	2.2	214	4.4	50
1500	-5.7	-11.4	64	211	2.0	185	3.8	42
1800	-8.2	-12.7	70	205	3.0	201	5.7	10
2100	-13.2	-15.5	83	193	3.7	204	5.7	0
2400	-13.4	-15.7	83	190	2.7	185	5.1	0

DAY 23

HOUR		DEW		WIND	WIND	GUST	MAX.	
ENDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-13.4	-16.0	81	209	2.3	221	4.4	0
0600	-15.4	-17.6	83	186	2.8	166	5.7	0
0900	-10.1	-15.8	63	193	2.5	195	5.1	25
1200	-7.8	-14.8	57	197	1.8	175	3.8	48
1500	-5.8	-13.9	53	208	1.5	202	2.5	44
1800	-8.1	-12.8	69	221	1.9	200	3.2	9
2100	-12.7	-15.1	82	185	2.8	184	5.1	0
2400	-14.4	-16.7	83	184	2.2	170	4.4	0

DAY 24

HOUR		DEW		WIND	WIND	GUST	MAX.	
ENDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-13.3	-15.3	85	209	2.0	224	3.6	0
0600	-14.5	-16.5	85	210	2.2	216	4.4	0
0900	-13.8	-20.3	58	190	2.2	189	3.8	24
1200	-9.0	-15.1	61	213	2.5	212	4.4	49
1500	-6.8	-12.8	62	209	3.0	208	4.4	44
1800	-8.3	-13.1	68	201	3.5	204	5.1	9
2100	-11.0	-13.3	83	187	3.0	190	5.1	0
2400	-10.1	-12.4	83	187	3.4	191	5.7	0

DAY 25

HOUR		DEW		WIND	WIND	GUST	MAX.	
ENDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-9.5	-11.0	89	192	2.7	186	5.1	0
0600	-10.1	-11.0	93	195	3.6	184	4.4	0
0900	-10.1	-15.6	64	182	1.9	174	3.8	28
1200	-4.2	-8.6	75	180	2.3	170	5.7	46
1500	-3.9	-7.9	68	214	2.6	187	3.8	44
1800	-4.5	-7.4	80	207	2.0	229	3.2	10
2100	-9.4	-10.8	90	209	1.8	178	3.8	0
2400	-8.4	-9.9	89	207	1.9	209	3.8	0

DAY 26

HOUR		DEW		WIND	WIND	GUST	MAX.	
ENDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-6.7	-8.2	89	201	1.9	172	3.8	0
0600	-6.5	-7.8	91	179	2.0	157	5.1	0
0900	-8.7	-10.5	87	203	2.7	175	4.4	15
1200	-4.5	-6.6	73	216	2.8	228	4.4	59
1500	-2.8	-6.9	73	188	2.2	155	5.1	52
1800	-3.8	-6.9	79	218	2.8	201	4.4	19
2100	-7.4	-8.6	91	208	3.2	208	4.4	0
2400	-7.7	-8.9	91	207	2.7	207	4.4	0

DAY 27

HOUR		DEW		WIND	WIND	GUST	MAX.	
ENDNG	TEMP.	POINT	RH	DIR.	SPD.	DIR.	GUST	RAD
	DEG C	DEG C	%	DEG.	M/S	DEG.	M/S	MW
0300	-6.8	-8.5	88	207	2.6	202	5.1	0
0600	-8.7	-10.2	89	218	3.6	215	5.1	0
0900	-6.7	-10.1	77	223	2.6	223	4.4	17
1200	-4.0	-7.8	75	230	3.5	249	5.7	38
1500	-3.3	-6.9	76	225	2.5	224	5.1	34
1800	-4.7	-7.0	69	199	3.1	198	4.4	7
2100	-8.4	-10.5	85	193	3.2	211	5.1	0
2400	-8.9	-11.9	79	199	2.8	184	4.4	0

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THREE HOUR SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING March, 1984

DAY 28

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-9.6	-12.6	79	189	2.6	171	4.4	0
0600	-12.6	-14.9	83	191	2.8	190	4.4	0
0900	-7.5	-13.5	62	186	2.7	175	5.1	27
1200	-4.2	-10.8	60	206	1.9	199	3.8	51
1500	-1.0	-9.6	52	238	1.3	230	2.5	46
1800	-2.3	-8.6	62	210	1.6	196	3.2	11
2100	-7.6	*****	85	220	1.6	185	4.4	0
2400	-9.4	-11.5	85	213	2.5	219	3.8	0

DAY 29

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-6.5	-8.9	83	228	2.3	226	4.4	0
0600	-9.0	-10.9	86	214	1.9	209	4.4	0
0900	-5.8	-8.9	79	210	2.8	210	5.7	21
1200	-2.7	-6.3	76	236	2.9	256	6.3	35
1500	-1.2	-5.4	73	194	2.3	196	3.8	23
1800	-3.3	-4.0	95	226	.8	172	1.9	6
2100	-3.3	-4.6	91	160	2.1	154	4.4	0
2400	-7.5	-8.3	94	226	1.7	206	4.4	0

DAY 30

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-9.2	-10.4	91	204	2.6	200	4.4	0
0600	-5.9	-7.9	86	195	2.2	207	3.8	0
0900	-2.9	-6.4	77	195	2.2	191	3.8	27
1200	1.7	-6.4	55	203	2.5	207	4.4	57
1500	1.2	-6.6	56	177	2.1	157	3.8	53
1800	-2.7	-5.0	84	233	2.8	218	4.4	10
2100	-4.5	-6.5	86	198	2.7	208	5.1	0
2400	-6.7	-8.0	91	191	1.8	203	4.4	0

DAY 31

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-5.9	-7.3	90	195	1.6	187	3.2	0
0600	-8.0	-9.1	92	187	2.2	188	3.8	0
0900	-3.2	-7.2	74	214	1.7	187	3.2	34
1200	-1.9	-5.4	77	162	2.4	163	5.1	40
1500	-.9	-5.7	70	219	1.5	131	6.3	28
1800	-2.4	-5.4	80	245	1.9	244	3.8	9
2100	-7.2	-8.6	90	215	2.4	223	3.8	0
2400	-4.9	-6.3	90	233	2.3	232	3.8	0

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SUSITNA HYDROELECTRIC PROJECT

...LY SUMMARY FOR KOSINA WEATHER STATION
...TA TAKEN DURING March, 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 kH/SQm	DAY °
1	-10.5	-16.7	-13.5	181	2.7	3.3	054	8.9	SSE	78	-16.8	****	1460	1
2	-8.7	-17.7	-13.2	187	2.3	2.7	154	7.5	SSW	81	-16.3	****	2130	2
3	-2.4	-16.3	-9.4	200	2.5	3.2	243	8.3	SSW	86	-11.5	****	1785	3
4	.1	-3.9	-1.9	178	1.7	2.7	048	9.5	SSW	90	-3.6	****	1670	4
5	1.6	-6.2	-2.3	189	2.2	2.5	133	8.3	SSW	87	-3.7	****	1495	5
6	.3	-6.2	-3.0	197	1.8	2.1	159	5.1	SW	89	-3.5	****	3005	6
7	1.4	-2.6	-.6	207	2.6	2.8	125	7.0	SSW	93	-1.7	****	1750	7
8	6.0	-3.3	1.4	167	2.5	3.1	108	10.2	S	91	-1.1	****	1845	8
9	3.1	-5.2	-1.1	161	2.0	3.3	143	10.8	SSW	90	-1.9	****	2585	9
10	3.0	-3.9	-.5	153	1.7	2.9	099	8.3	SW	88	-1.8	****	1985	10
11	1.7	-6.8	-2.6	198	2.2	3.4	161	5.1	SSW	86	-5.0	****	2960	11
12	1.6	-7.9	-3.2	199	2.4	2.4	187	5.7	SSW	81	-6.6	****	2880	12
13	-.2	-9.1	-4.7	199	2.8	3.3	098	8.3	SSW	90	-6.8	****	1960	13
14	-1.6	-8.3	-5.0	195	2.7	2.8	198	5.7	S	83	-7.5	****	3285	14
15	-2.9	-12.1	-7.5	200	2.7	2.8	199	5.7	SSW	81	-10.6	****	2870	15
16	-4.2	-14.8	-9.5	200	2.3	2.4	178	5.1	SSW	80	-12.9	****	3420	16
17	-5.5	-14.7	-10.1	199	2.3	2.3	199	5.1	SSW	78	-14.1	****	3305	17
18	-5.9	-16.2	-11.1	194	2.3	2.4	167	5.7	SSW	76	-15.1	****	3470	18
19	-7.5	-17.5	-12.5	212	2.3	2.4	205	4.4	SW	73	-16.8	****	3430	19
20	-4.6	-16.9	-10.8	193	2.0	2.1	183	5.1	SSW	73	-14.3	****	3015	20
21	-5.0	-15.5	-10.3	207	1.9	2.0	169	4.4	SSW	76	-13.3	****	3600	21
22	-5.0	-16.0	-10.5	192	2.6	2.7	165	5.7	S	76	-14.7	****	3855	22
23	-5.8	-15.9	-10.9	196	2.2	2.3	166	5.7	SSW	72	-15.5	****	3670	23
24	-6.5	-17.5	-12.0	199	2.7	2.8	191	5.7	SSW	73	-15.0	****	3830	24
25	-2.8	-10.9	-6.8	198	2.2	2.3	170	5.7	S	81	-9.9	****	3[illegible]	25
26	-2.5	-9.9	-6.2	204	2.5	2.7	157	5.1	SSW	85	-8.5	****	3560	26
27	-3.0	-9.9	-6.5	209	2.7	2.8	208	5.7	SSW	82	-9.1	****	3790	27
28	-.9	-12.6	-6.8	203	2.1	2.2	175	5.1	S	72	-11.4	****	4085	28
29	-.7	-13.0	-6.9	212	1.9	2.2	256	6.3	SSW	81	-7.6	****	2520	29
30	2.0	-9.2	-3.6	201	2.3	2.4	208	5.1	SSW	79	-7.1	****	4390	30
31	.6	-8.9	-4.2	208	1.8	2.2	131	6.3	SW	84	-7.1	****	4040	31
MONTH	6.0	-17.7	-6.6	196	2.2	2.6	143	10.8	SSW	82	-9.4	****	[illegible]	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 10.2
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL [illegible]
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 10.2
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS [illegible]

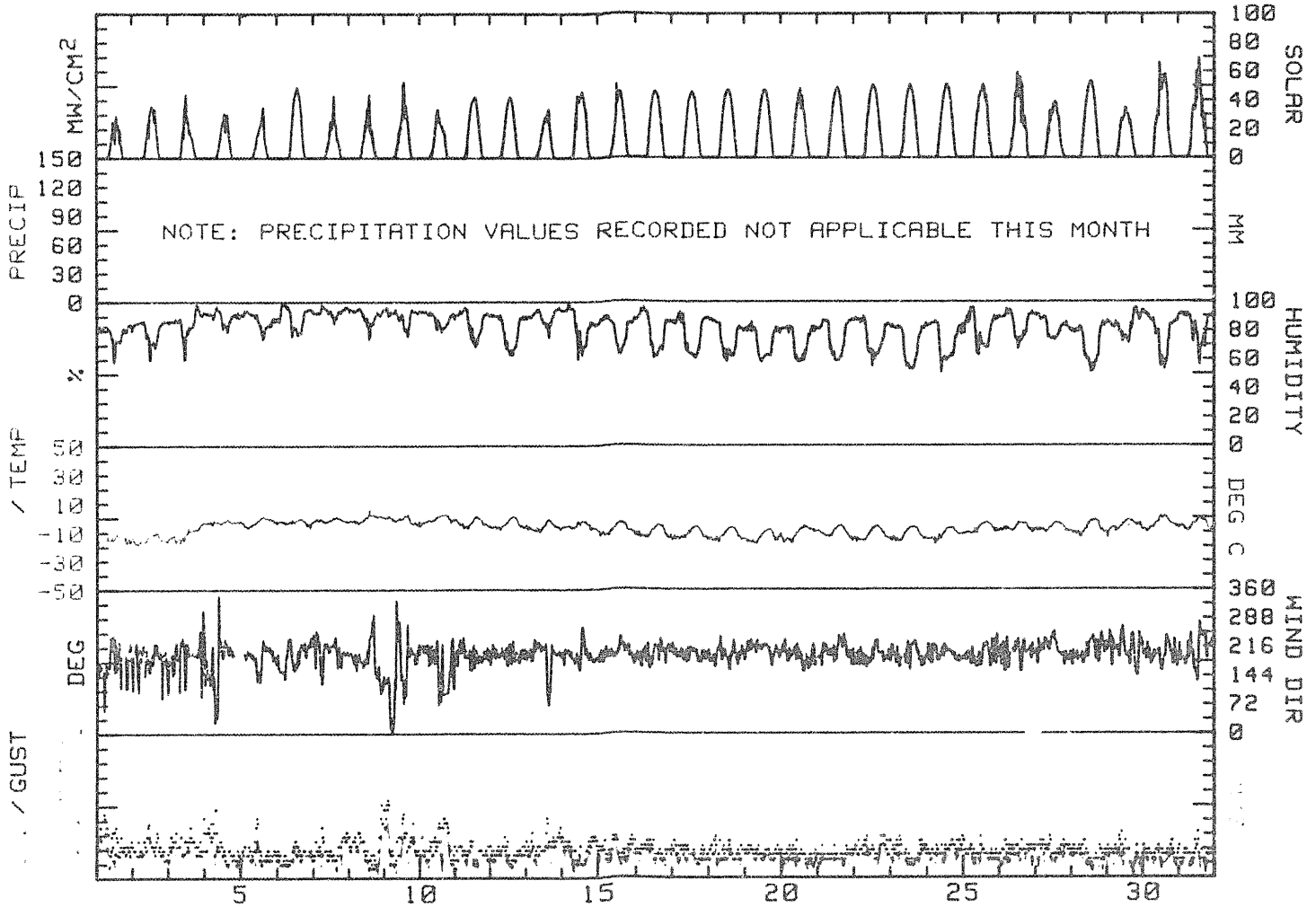
1 = RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTH'S MEAN FOR RELATIVE HUMIDITY AND DEW POINT.
2 = SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT.

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

KOSINA WEATHER STATION

March, 1984



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR KOSINA 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	0.00	.07	0.00	0.00	0.00	0.00	0.00	.07
NNE	0.00	.27	0.00	0.00	0.00	0.00	0.00	.27
NE	0.00	.34	.07	0.00	0.00	0.00	0.00	.41
ENE	0.00	.14	.21	0.00	0.00	0.00	0.00	.34
E	0.00	.34	.48	.21	0.00	0.00	0.00	1.02
ESE	.07	.48	.82	.21	0.00	0.00	0.00	1.57
SE	.14	.55	.68	.55	0.00	0.00	0.00	1.91
SSE	.14	3.28	3.28	.21	0.00	0.00	0.00	6.91
S	.21	15.80	5.95	0.00	0.00	0.00	0.00	21.96
SSW	.07	27.43	11.70	0.00	0.00	0.00	0.00	39.21
SW	.14	17.03	3.28	0.00	0.00	0.00	0.00	20.45
WSW	.68	4.17	.21	0.00	0.00	0.00	0.00	5.06
W	.07	.34	.07	0.00	0.00	0.00	0.00	.48
WNW	.07	.07	0.00	0.00	0.00	0.00	0.00	.14
NW	.00	.07	0.00	0.00	0.00	0.00	0.00	.07
NNW	.07	.07	0.00	0.00	0.00	0.00	0.00	.14
CALM								
TOTAL	1.64	70.45	26.71	1.16	0.00	0.00	0.00	100.00

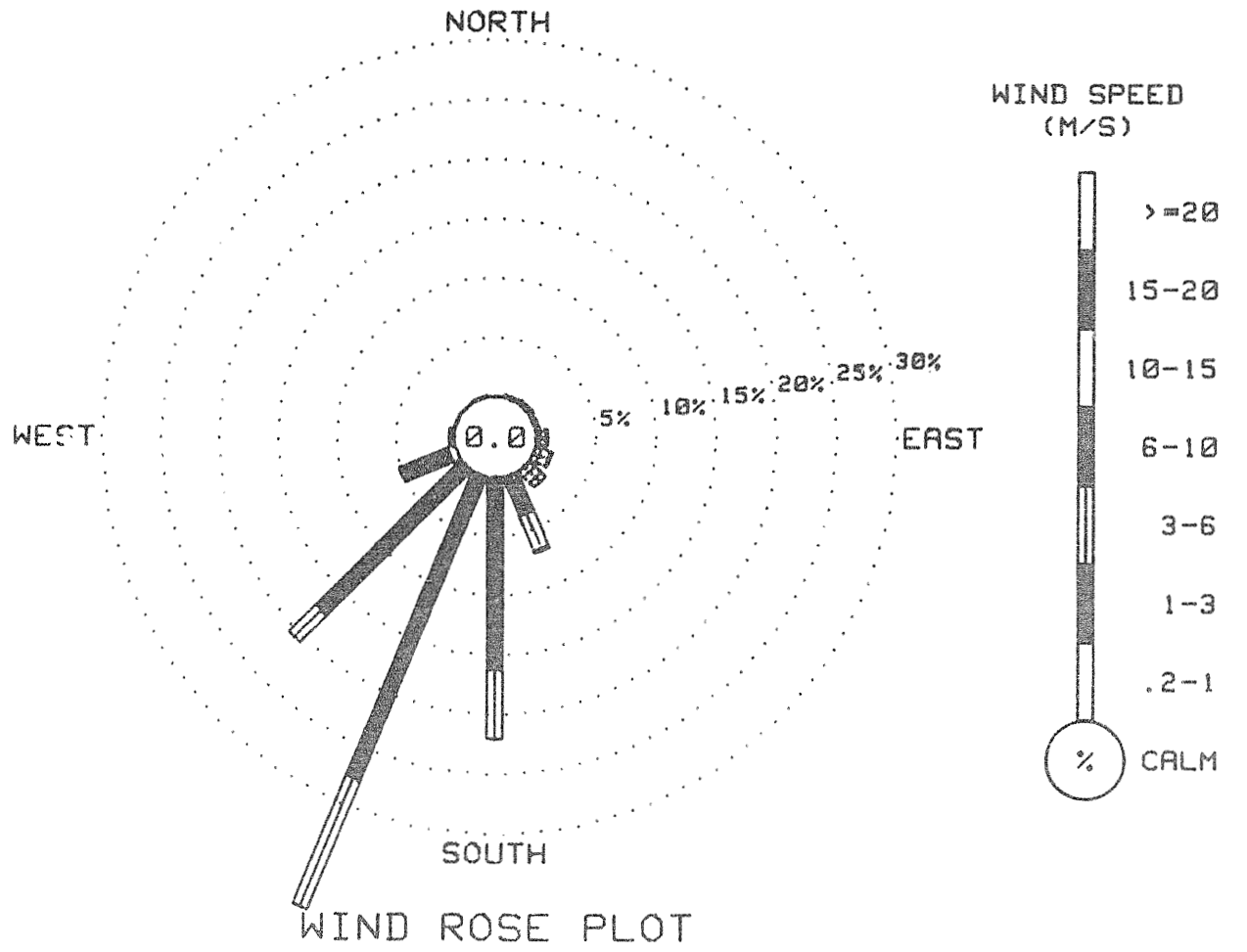
ALL FREQUENCIES ARE EXPRESSED IN PERCENT
1408 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
1408 WIND OBSERVATIONS WOULD HAVE BEEN CORRECT FOR 52 MINUTE DATA.
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

KOSINA WEATHER STATION

March, 1984



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SOLAR RADIATION SUMMARY FOR KOSINA WEATHER STATION
WITH TAPER DURING March, 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	1	4	11	22	18	18	27	20	15	10	2	0	0	0	0	0	0	6
2	0	0	0	0	0	0	1	1	8	16	19	32	36	34	30	24	13	3	0	0	0	0	0	0	9
3	0	0	0	0	0	0	0	1	10	17	36	35	27	19	16	13	7	2	0	0	0	0	0	0	7
4	0	0	0	0	0	0	0	1	5	11	18	25	30	21	26	20	10	3	0	0	0	0	0	0	7
5	0	0	0	0	0	0	0	1	5	8	15	19	23	27	32	13	7	2	0	0	0	0	0	0	6
6	0	0	0	0	0	0	0	1	11	27	39	45	49	46	40	28	13	4	1	0	0	0	0	0	13
7	0	0	0	0	0	0	0	1	6	11	21	28	30	35	23	13	11	5	1	0	0	0	0	0	7
8	0	0	0	0	0	0	0	2	8	14	21	30	26	37	20	16	9	4	1	0	0	0	0	0	8
9	0	0	0	0	0	0	0	3	9	16	1.	27	44	37	35	27	17	7	1	0	0	0	0	0	10
10	0	0	0	0	0	0	0	2	7	16	25	34	27	24	22	19	18	7	1	0	0	0	0	0	9
11	0	0	0	0	0	0	0	2	18	28	36	40	42	42	37	28	18	8	1	0	0	0	0	0	12
12	0	0	0	0	0	0	0	4	14	24	33	39	42	42	37	29	19	8	1	0	0	0	0	0	12
13	0	0	0	0	0	0	0	3	7	15	20	26	27	27	34	22	12	5	1	0	0	0	0	0	8
14	0	0	0	0	0	0	0	5	23	32	39	41	44	45	40	34	21	6	1	0	0	0	0	0	14
15	0	0	0	0	0	0	0	2	8	16	27	45	46	46	41	31	20	8	1	0	0	0	0	0	12
16	0	0	0	0	0	0	1	7	22	34	41	45	46	45	40	32	21	10	2	0	0	0	0	0	14
17	0	0	0	0	0	0	1	6	18	30	39	43	46	45	41	32	22	10	2	0	0	0	0	0	14
18	0	0	0	0	0	0	1	7	21	32	41	45	47	46	42	33	23	11	2	0	0	0	0	0	14
19	0	0	0	0	0	0	1	7	19	30	38	45	47	47	42	34	23	12	3	0	0	0	0	0	14
20	0	0	0	0	0	0	1	5	19	31	39	43	41	42	33	25	15	8	2	0	0	0	0	0	13
21	0	0	0	0	0	0	1	8	22	32	40	46	49	48	44	35	24	12	3	0	0	0	0	0	15
22	0	0	0	0	0	0	1	10	26	37	45	49	51	49	44	36	25	13	3	0	0	0	0	0	16
23	0	0	0	0	0	0	1	6	18	32	41	47	51	49	45	37	26	13	3	0	0	0	0	0	15
24	0	0	0	0	0	0	1	12	25	33	41	48	51	50	46	37	26	13	4	0	0	0	0	0	15
25	0	0	0	0	0	0	2	13	25	33	43	46	49	50	42	37	22	10	4	0	0	0	0	0	16
26	0	0	0	0	0	0	1	6	14	22	45	53	49	49	38	29	25	20	5	0	0	0	0	0	16
27	0	0	0	0	0	0	4	11	19	29	29	35	38	38	31	25	14	7	3	1	0	0	0	0	12
28	0	0	0	0	0	0	3	12	24	36	44	50	55	53	48	40	28	15	5	1	0	0	0	0	1
29	0	0	0	0	0	0	2	8	18	26	28	32	33	31	26	24	16	8	3	0	0	0	0	0	11
30	0	0	0	0	0	0	3	15	25	32	48	57	52	55	50	51	32	13	4	1	0	0	0	0	15
31	0	0	0	0	0	0	3	9	28	36	34	50	56	65	41	38	25	19	6	1	0	0	0	0	17

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

OBSERVATION SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING March, 1984

PARAMETER	NUMBER OF USABLE OBSERVATIONS	PERCENT OF TOTAL OBSERVATIONS
TEMPERATURE	1488	100
WIND SPEED	1478	99
WIND DIRECTION	1468	99
PEAK GUST	1481	100
RELATIVE HUMIDITY	1465	98
PRECIPITATION	0	0
SOLAR RADIATION	1488	100
DEW POINT	1463	98

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

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

1. RH +5 RH Points
2. Solar -1 mW/CM^2

Additional comments on this month's data:

1. Wind direction data lost on 3/4 and 3/5 due to frozen wind vane.
2. Malfunction in weather wizard caused data to be lost intermittantly from 3/1 to 3/4 for all parameters. Missing temperature, RH, and solar radiation values estimated where possible.

R A M CONSULTANTS INC.

KUSKOKWIM HYDROELECTRIC PROJECT

HOURLY PRECIPITATION SUMMARY FOR KUSKOKWIM WEATHER STATION
DATA TAKEN DURING AUGUST 1982

PRECIPITATION VALUES ARE IN MILLIMETERS

	HOUR ENDING																								
DATE	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	DATE
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	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	.6	.2	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	.2	.2	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	.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
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	.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	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	.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	17
18	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	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

SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT

P & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING APRIL, 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	-3.3	-5.6	84	172	1.0	156	4.4	0
0600	-4.3	-6.8	83	181	2.3	174	7.6	0
0900	-3.3	-7.8	71	148	4.2	129	8.3	21
1200	-.2	*****	54	166	1.8	136	5.7	38
1500	.4	-6.4	60	160	2.0	135	5.7	53
1800	-3.0	-6.7	70	240	2.3	245	4.4	15
2100	-4.0	-6.2	85	207	2.3	208	3.8	0
2400	-5.0	-5.1	99	222	1.1	230	2.5	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	-4.7	-4.8	99	206	1.4	205	2.5	0
0600	-3.1	-3.4	98	167	1.8	113	7.0	0
0900	-3.8	-5.1	91	144	1.8	118	6.3	10
1200	-1.3	-5.7	72	136	2.0	124	5.1	37
1500	-1.4	-5.6	73	188	1.6	143	3.8	49
1800	-3.8	-6.3	83	212	2.1	191	3.8	15
2100	-8.7	-10.2	89	195	2.6	214	4.4	0
2400	-7.7	-9.5	87	194	3.3	201	5.7	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	-7.1	-8.8	88	200	2.4	219	[illegible]	0
0600	-8.0	-9.8	87	209	3.2	207	5.2	0
0900	-6.3	-9.8	76	208	1.4	225	3.2	35
1200	-2.4	-8.3	64	222	1.1	225	1.9	48
1500	-.6	-6.7	63	214	1.9	216	3.2	38
1800	-1.8	-4.5	82	211	3.8	238	7.4	11
2100	-2.4	-4.3	87	203	2.4	208	[illegible]	0
2400	-3.5	-4.8	91	185	1.2	206	[illegible]	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	-4.9	-6.3	90	182	2.4	158	5.1	0
0600	-9.4	-10.6	91	200	4.0	206	6.3	0
0900	-7.1	-10.9	74	222	2.9	225	5.1	31
1200	-4.5	-7.2	85	227	2.6	233	4.4	57
1500	-.9	-5.8	69	224	2.9	223	4.4	50
1800	-3.2	-5.8	82	208	3.5	203	5.1	11
2100	-3.7	-5.9	85	197	2.7	201	4.4	0
2400	-7.5	-8.5	93	195	2.8	192	5.1	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	-6.1	-7.2	92	192	2.5	210	4.4	0
0600	-7.6	-8.1	96	193	2.5	176	4.4	1
0900	-5.2	-7.5	84	213	2.2	215	3.8	23
1200	-.7	-5.5	70	195	2.1	171	3.8	58
1500	1.5	-6.8	54	211	1.9	195	4.4	48
1800	-2.2	-4.7	83	230	1.7	225	3.2	15
2100	-5.6	-7.0	90	199	2.7	201	5.1	0
2400	-6.2	-6.8	96	199	1.4	202	3.2	0

DAY 06

HOUR MDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-4.8	-4.9	99	147	1.1	130	[illegible]	0
0600	-5.0	-6.0	93	319	.9	021	[illegible]	1
0900	-3.4	-7.3	74	069	2.2	079	[illegible]	41
1200	-3.2	-9.0	64	153	3.1	142	[illegible]	53
1500	-2.1	-10.7	53	177	2.1	157	[illegible]	53
1800	-4.6	-11.[illegible]	[illegible]	345	3.6	343	[illegible]	[illegible]
2100	-11.7	-14.9	77	04	1.9	132	[illegible]	[illegible]
2400	-11.5	-14.6	78	196	2.2	192	[illegible]	[illegible]

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	-10.2	-13.8	81	180	2.3	167	[illegible]	0
0600	-13.8	-15.1	93	183	3.5	182	[illegible]	1
0900	-8.6	-14.0	65	197	2.6	199	[illegible]	36
1200	-6.2	-12.9	59	206	3.1	189	[illegible]	58
1500	-9.6	-11.6	87	223	1.8	227	[illegible]	53
1800	-8.6	-10.8	72	213	2.3	202	[illegible]	18
2100	-11.3	-13.3	85	199	2.4	197	[illegible]	0
2400	-12.9	-14.8	86	193	2.7	184	[illegible]	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	-12.0	-14.3	83	206	2.6	212	4.4	0
0600	-14.4	-16.5	84	207	2.3	225	4.4	1
0900	-11.8	-16.8	66	214	1.9	250	3.8	35
1200	-7.0	-12.8	63	227	2.6	219	5.1	61
1500	-5.6	-12.3	59	226	3.2	242	3.8	45
1800	-6.9	-10.6	75	207	3.6	206	5.7	13
2100	-9.2	-11.7	82	205	3.1	208	5.1	0
2400	-9.2	-11.6	83	191	2.2	188	3.8	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	-9.9	81	[illegible]	2.5	[illegible]	[illegible]	[illegible]
0600	-8.3	-11.[illegible]	81	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0900	-5.1	-9.5	71	193	[illegible]	[illegible]	[illegible]	[illegible]
1200	-.8	-9.5	53	151	3.4	171	[illegible]	[illegible]
1500	1.2	-12.[illegible]	37	184	1.3	210	[illegible]	[illegible]
1800	-2.3	-10.1	55	135	[illegible]	[illegible]	[illegible]	[illegible]
2100	-7.0	-13.4	[illegible]	166	1.8	164	[illegible]	[illegible]
2400	-5.4	-12.1	59	207	1.4	210	[illegible]	[illegible]

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING April, 1984

DAY 10

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-10.5	*****	59	139	.9	103	3.1	0
0600	-10.3	-15.4	66	151	1.2	147	2.5	0
0900	-7.5	-13.9	60	258	2.5	107	2.5	43
1200	-5.0	-13.4	52	135	1.1	154	3.1	40
1500	-1.7	-11.1	49	151	1.6	164	3.2	50
1800	-4.4	-11.0	60	190	1.2	151	3.2	19
2100	-9.3	-11.4	85	175	.8	207	2.5	0
2400	-10.3	*****	**	150	1.3	157	6.1	0

DAY 11

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	*****	*****	**	***	****	***	****	0
0600	*****	*****	**	***	****	***	****	0
0900	-5.2	-12.0	59	200	1.7	200	3.4	39
1200	-3.1	-9.3	62	139	1.5	154	3.4	50
1500	-1.3	-8.0	60	154	1.3	***	3.8	54
1800	-2.4	-9.3	59	201	2.2	201	3.8	10
2100	-5.4	-7.5	85	141	2.4	154	5.1	0
2400	*****	*****	**	161	2.6	144	4.4	0

DAY 12

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-9.8	*****	**	***	****	***	****	0
0600	-10.7	-12.0	90	160	1.1	244	3.4	3
0900	*****	*****	61	162	2.7	***	****	***
1200	-.4	-8.3	55	123	1.9	127	3.1	56
1500	.8	-5.6	62	129	3.1	124	6.3	54
1800	-3.1	-7.8	79	213	3.2	217	4.4	4
2100	-5.4	-8.3	80	119	2.7	087	5.1	0
2400	-7.5	-9.5	86	148	2.4	145	5.1	0

DAY 13

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-9.9	-11.5	88	141	1.7	144	4.4	0
0600	-9.7	-10.6	93	139	1.9	174	4.4	3
0900	-3.5	-10.3	59	131	1.1	151	3.4	39
1200	.6	-5.6	63	146	2.0	156	5.1	64
1500	-.3	-5.5	68	139	3.3	141	7.0	32
1800	.3	-5.1	67	141	4.1	148	7.0	15
2100	-4.9	-6.8	87	195	2.0	201	4.4	0
2400	-6.1	-7.5	90	180	2.3	199	4.4	0

DAY 14

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-5.0	-6.1	92	168	1.3	188	3.8	0
0600	-5.7	-8.8	79	165	1.9	181	4.4	2
0900	-3.4	-10.5	58	104	1.5	105	3.4	31
1200	-1.5	-7.8	62	***	****	***	1.9	39
1500	.6	*****	62	***	****	***	3.2	40
1800	-1.2	-3.3	86	***	****	***	1.9	18
2100	-3.2	*****	99	***	****	***	1.9	0
2400	-5.1	-5.8	95	152	1.5	154	3.8	0

DAY 15

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-9.0	-9.5	96	172	2.2	155	5.7	0
0600	-5.5	-6.6	92	117	1.2	117	3.4	3
0900	-4.0	-5.7	88	171	1.7	103	4.4	18
1200	-.9	-8.1	58	172	1.8	190	32.0	52
1500	-1.0	-7.1	63	184	1.8	166	3.2	56
1800	-2.5	-6.5	74	239	2.0	236	3.5	25
2100	-6.7	-8.2	89	192	1.9	173	3.6	0
2400	-8.8	-9.9	92	167	1.7	169	4.4	0

DAY 16

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-6.3	-8.7	97	175	1.0	238	3.4	0
0600	-9.2	-9.7	96	142	1.5	155	5.7	3
0900	-5.3	-9.2	73	183	1.6	168	3.8	34
1200	-1.9	-10.1	67	225	2.0	221	3.8	54
1500	-3.7	-10.0	57	215	2.1	205	3.8	52
1800	-4.7	-6.3	59	265	1.4	357	5.7	12
2100	-6.5	-7.1	96	034	4.5	040	9.3	0
2400	-7.7	*****	99	357	1.0	010	4.4	0

DAY 17

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-9.0	-9.5	96	167	1.1	194	2.5	0
0600	-8.6	-9.0	97	206	1.4	219	2.5	3
0900	-5.8	-9.0	78	174	1.2	168	2.5	29
1200	-.8	*****	44	186	.8	156	2.5	72
1500	-2.6	-8.6	63	242	1.5	238	2.5	46
1800	-4.0	-5.7	88	263	1.5	266	3.2	12
2100	-5.5	-5.8	98	022	1.7	035	4.4	0
2400	-7.8	-8.2	97	340	.4	211	2.5	0

DAY 18

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-9.7	-10.2	96	231	1.2	222	3.5	0
0600	-9.3	-10.0	95	206	3.0	193	37.0	3
0900	-7.2	-10.9	75	[illegible]	3.2	[illegible]	[illegible]	[illegible]
1200	-3.9	-10.7	59	225	1.8	259	3.3	67
1500	-2.8	-9.5	[illegible]	231	[illegible]	[illegible]	[illegible]	58
1800	-3.6	-6.6	67	211	[illegible]	207	3.2	34
2100	-8.5	-10.4	86	[illegible]	2.1	[illegible]	[illegible]	[illegible]
2400	-10.4	-11.3	93	145	2.2	165	[illegible]	[illegible]

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HRLY. HOUR SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING April, 1984

DAY 19

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	-12.6	-14.5	86	148	1.4	177	4.4	0
0600	-13.7	-16.0	83	206	1.8	210	3.8	3
0900	-6.4	-11.1	69	215	2.2	202	3.8	29
1200	-1.1	-10.8	48	210	2.2	204	3.8	65
1500	-.8	-6.7	55	223	1.8	222	3.2	46
1800	-3.2	-7.0	75	208	3.1	214	4.4	18
2100	-4.3	-7.1	81	204	3.2	210	4.4	0
2400	-4.2	-6.7	85	164	1.8	183	3.8	0

DAY 20

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	-7.9	85	208	1.5	179	3.2	0
0600	-5.4	-6.7	91	232	2.2	232	4.4	3
0900	.1	-4.3	72	183	1.5	119	5.1	56
1200	.9	-4.3	68	201	1.9	200	5.1	34
1500	7.2	*****	37	228	1.8	209	4.4	61
1800	4.2	*****	51	237	1.3	272	3.2	30
2100	2.1	-4.4	62	169	2.8	140	8.3	0
2400	.1	-4.3	72	127	1.3	162	4.4	0

DAY 21

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. m/s	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-1.3	-4.5	79	160	1.2	207	[illegible]	0
0600	-1.5	-5.2	76	201	1.5	221	3.2	7
0900	4.3	-7.0	44	194	2.1	216	[illegible]	54
1200	3.1	-5.6	53	195	4.9	110	11.4	87
1500	5.2	-6.5	43	140	1.6	111	7.6	61
1800	3.4	-4.6	55	181	1.9	158	6.3	11
2100	.3	-3.6	75	161	2.0	188	4.4	0
2400	.1	-2.8	81	153	1.5	110	6.3	0

DAY 22

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-4.9	-6.2	91	082	5.9	118	12.7	0
0600	-6.2	-9.1	80	298	3.9	278	13.3	5
0900	-5.6	-11.7	62	299	3.2	277	10.8	43
1200	-3.9	-13.6	47	010	2.6	339	6.3	66
1500	-4.2	-14.2	46	288	4.4	281	8.3	49
1800	-4.1	-14.6	44	262	2.8	276	7.6	25
2100	-8.9	-15.7	58	141	.4	259	5.1	0
2400	-10.2	-15.9	63	195	2.9	212	5.7	0

DAY 23

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	-11.2	-17.0	62	198	3.2	213	5.1	0
0600	-10.6	-17.7	56	188	3.3	194	6.3	7
0900	-7.6	-17.3	46	201	2.0	203	4.4	43
1200	-2.6	-16.4	34	192	1.4	179	2.5	67
1500	-1.2	-14.2	37	163	2.2	149	3.8	60
1800	-2.8	-11.8	50	146	2.9	143	5.1	26
2100	-6.7	-10.5	74	194	1.9	147	3.8	0
2400	-9.1	-13.2	72	200	2.4	195	4.4	0

DAY 24

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	-9.9	-14.1	71	180	3.1	180	[illegible]	0
0600	-9.0	-14.7	63	181	3.9	176	[illegible]	9
0900	-4.9	-13.3	52	174	2.5	187	[illegible]	44
1200	.1	*****	34	188	1.3	212	3.5	68
1500	1.0	-12.2	37	194	1.7	166	3.2	60
1800	-1.4	-10.8	49	199	1.4	158	[illegible]	12
2100	-5.0	-7.3	84	131	2.0	244	[illegible]	[illegible]
2400	-5.8	-8.4	82	179	2.3	193	[illegible]	0

DAY 25

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	-9.1	-11.2	85	176	3.0	181	6.3	0
0600	-8.6	-11.0	83	199	2.3	184	4.4	8
0900	-7.1	-13.3	61	202	1.9	216	3.2	43
1200	-2.4	-10.9	52	336	2.0	229	3.2	68
1500	-.1	-9.9	49	242	2.2	245	3.8	79
1800	-1.7	-8.4	69	252	3.1	258	5.8	33
2100	-4.8	-8.5	75	217	1.9	196	3.8	0
2400	-7.5	-12.0	78	199	2.4	217	[illegible]	0

DAY 26

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	-14.3	71	178	3.1	184	5.1	0
0600	-10.1	-15.2	66	187	2.7	167	5.1	7
0900	-5.2	-12.6	56	188	2.4	205	4.4	31
1200	4.5	-13.0	27	159	1.8	162	3.8	71
1500	.6	-11.9	39	186	1.3	165	3.2	54
1800	-.1	-9.6	49	221	2.1	222	3.8	22
2100	-3.2	-6.5	78	221	1.5	229	2.5	0
2400	-5.4	-7.7	84	174	2.3	167	4.4	0

DAY 27

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	-7.4	-9.5	85	172	3.0	163	[illegible]	[illegible]
0600	-5.0	-7.9	80	210	1.6	140	[illegible]	[illegible]
0900	-2.4	-5.2	81	116	4.2	135	[illegible]	[illegible]
1200	-.4	-5.2	70	135	[illegible]	100	[illegible]	[illegible]
1500	3.5	-4.7	51	110	[illegible]	104	[illegible]	[illegible]
1800	3.1	*****	55	170	1.1	332	[illegible]	[illegible]
2100	-.1	-3.0	87	225	1.4	225	[illegible]	[illegible]
2400	-.8	-1.5	95	214	2.0	302	[illegible]	[illegible]

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOUR Summary FOR KOSTNA WEATHER STATION
Data Taken DURING April, 1984

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
DAY 28								
0300	-1.1	-2.0	94	201	1.5	207	3.2	0
0600	-1.0	-2.5	90	186	1.8	175	3.2	3
0900	2.0	-3.1	69	187	1.5	191	3.8	39
1200	4.2	-3.5	57	180	.8	161	2.5	63
1500	5.1	-3.7	53	252	1.7	250	3.2	61
1800	2.8	-.5	79	320	1.6	328	4.4	21
2100	.9	-.1	93	004	.7	015	2.5	0
2400	-.9	-2.4	90	189	1.5	172	3.9	0
DAY 29								
0300	-2.7	-4.0	91	173	2.3	167	4.4	0
0600	-2.8	-5.3	83	198	1.7	210	3.8	13
0900	.5	-5.9	62	220	2.0	217	4.4	52
1200	1.8	-4.5	63	181	2.0	147	5.7	49
1500	3.8	-3.7	58	227	2.4	246	5.1	59
1800	2.0	-3.2	68	228	2.3	232	3.8	19
2100	1.0	-1.9	81	206	2.1	212	3.2	1
2400	-.5	-3.0	83	179	2.3	187	3.8	0
DAY 30								
0300	.8	-1.3	86	206	2.2	199	5.1	0
0600	-.1	-2.6	83	181	2.0	146	5.1	9
0900	2.8	-1.3	74	169	3.6	172	6.3	45
1200	5.4	-2.9	55	166	1.9	142	4.4	71
1500	4.5	-2.3	61	331	2.6	327	7.4	49
1800	4.8	-2.7	58	244	1.6	238	3.8	31
2100	.9	-1.7	83	233	1.1	249	2.5	1
2400	-2.1	-3.5	90	255	1.0	259	2.5	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR KOSINA 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 W-H/SQM	DAY
1	1.4	-5.7	-2.2	181	1.8	2.4	129	8.3	SW	76	-6.5	.2	3843	1
2	-.9	-9.0	-5.0	182	1.9	2.4	113	7.0	SSW	87	-6.2	.8	3180	2
3	-.6	-8.7	-4.7	206	1.9	2.6	219	4.4	SSW	80	-7.2	.4	3345	3
4	-.8	-9.6	-5.2	207	2.9	3.0	206	6.3	SSW	81	-7.3	0.0	4435	4
5	1.5	-9.1	-3.8	203	2.1	2.2	201	5.1	SSW	84	-6.9	0.0	4125	5
6	-1.2	-12.8	-7.0	175	1.3	2.4	021	8.9	SSW	76	-9.3	.2	4905	6
7	-4.2	-12.9	-8.6	197	2.3	2.4	167	5.1	S	73	-13.1	0.0	4635	7
8	-4.7	-14.6	-9.7	210	2.5	2.6	206	5.7	SSW	75	-13.3	0.0	4441	8
9	1.8	-9.9	-4.1	180	2.1	2.4	167	5.1	SSW	64	-11.2	0.0	4361	9
10	-1.4	-11.5	-6.5	158	1.0	1.4	157	6.1	SSE	61	-13.4	0.0	4535	10
11	-1.1	-7.4	-4.3	164	1.8	2.2	154	5.1	SSW	68	-8.7	0.0	4833	11
12	3.4	-10.7	-3.7	151	2.1	2.7	124	6.3	SE	74	-8.2	0.0	4629	12
13	7.1	-11.0	-2.0	151	2.2	2.5	141	7.0	SSE	75	-8.4	0.0	4505	13
14	1.7	-7.7	-3.0	157	1.5	1.3	181	4.4	S	84	-6.4	0.0	3685	14
15	.1	-10.5	-5.2	181	1.6	2.1	190	32.0	SSE	81	-7.6	.4	5130	15
16	-2.1	-10.0	-6.1	195	.3	2.2	040	8.3	SW	80	-9.4	0.0	5135	16
17	-.8	-10.0	-5.4	220	.5	1.5	035	4.4	WSW	86	-8.1	.8	4575	17
18	-1.9	-11.3	-6.6	208	1.9	2.3	193	32.0	SSW	78	-10.2	.6	5280	18
19	-.3	-13.7	-7.0	201	2.1	2.3	177	4.4	SSW	74	-10.3	0.0	4835	19
20	7.2	-6.7	.3	200	1.5	2.1	140	8.3	WSW	71	-5.4	0.0	5280	20
21	5.8	-3.1	1.4	152	1.7	2.6	110	11.4	SSE	63	-5.1	0.0	5670	21
22	.3	-11.9	-5.8	302	1.1	4.1	278	13.3	WNW	61	-11.9	0.0	5790	22
23	-1.2	-12.4	-6.8	184	2.3	2.6	194	6.3	SSW	54	-15.1	0.0	6110	23
24	1.0	-11.7	-5.4	188	2.0	2.3	244	5.1	S	59	-13.4	0.0	6050	24
25	-.4	-11.3	-5.9	213	2.0	2.3	181	6.3	WSW	67	-10.7	0.0	6100	25
26	4.5	-11.8	-3.7	187	2.0	2.2	184	5.1	S	59	-11.6	0.0	5525	26
27	4.1	-7.7	-1.8	138	1.9	3.3	100	10.2	SW	75	-5.6	0.0	5295	27
28	5.3	-1.4	2.0	213	.8	1.6	328	4.4	SSW	80	-2.1	0.0	5275	28
29	4.3	-4.3	0.0	202	2.0	2.3	147	5.7	S	75	-5.9	0.0	5464	29
30	7.5	-2.1	2.7	205	1.6	2.0	172	6.3	WSW	72	-2.3	0.0	6051	30
MONTH	7.5	-14.6	-4.1	199	1.6	2.3	190	32.0	SSW	73	-8.6	3.4	14-643	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 5.1
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 7.1
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 8.5
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 5.1

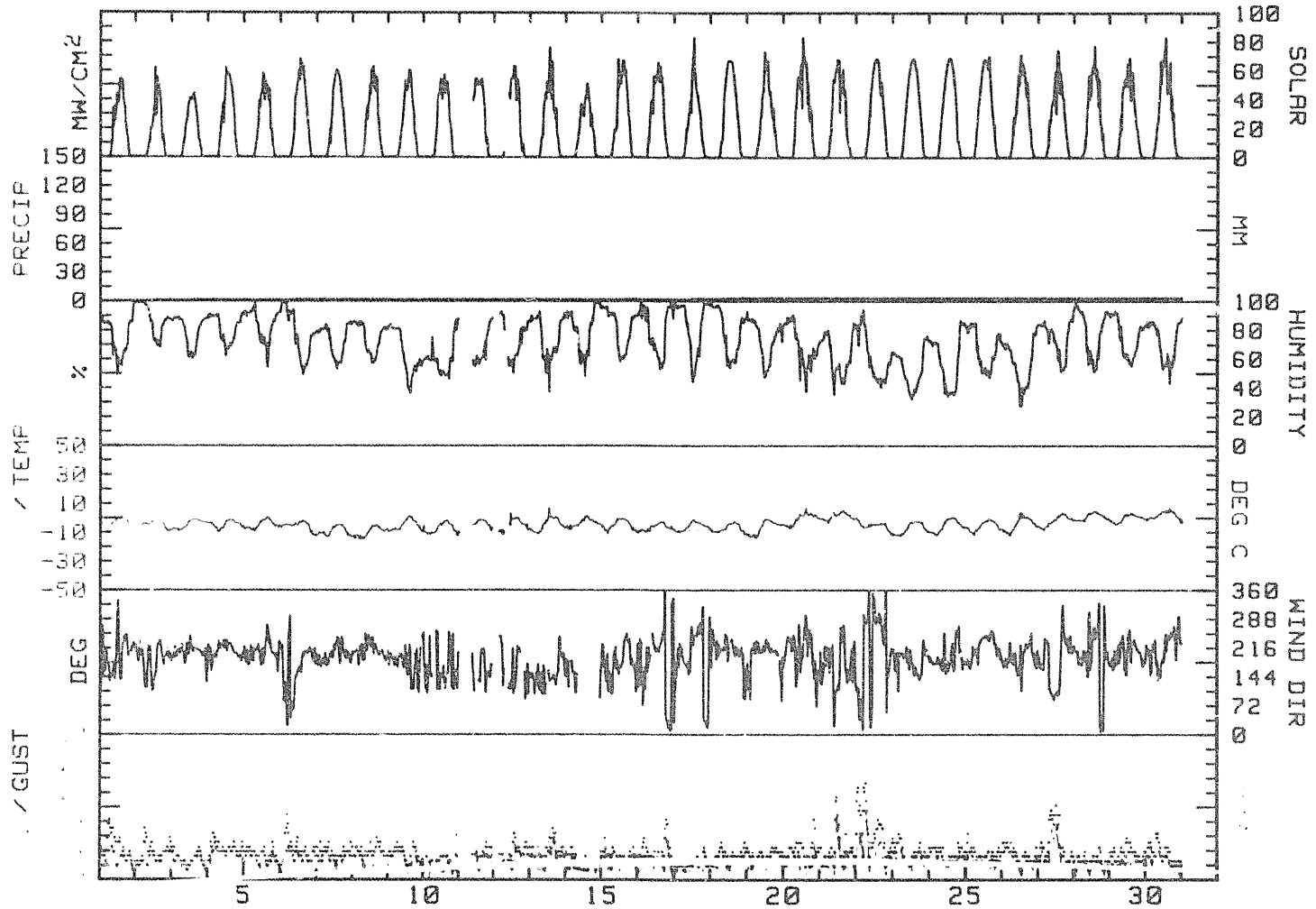
(1) RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND, SUCH READINGS HAVE NOT BEEN INCLUDED IN THE CALCULATION OF MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.
(2) SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

KOSINA WEATHER STATION

April, 1984



No precipitation data for October

(See INTERPRETATION OF DATA).

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

[illegible] HOUR SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING October, 1984

DAY 01

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	3.1	*****	**	163	1.8	145	7.0	0
0600	1.9	*****	**	134	2.5	138	5.1	0
0900	3.3	*****	**	166	1.6	182	4.4	7
1200	5.6	*****	**	100	6.4	096	10.2	21
1500	8.5	*****	**	104	4.4	102	9.5	14
1800	6.9	*****	**	130	3.7	123	7.6	1
2100	2.6	*****	**	105	6.9	096	10.2	0
2400	1.8	*****	**	169	1.6	147	5.1	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	.9	*****	**	253	1.4	248	2.5	0
0600	-.3	*****	**	207	1.5	244	2.5	0
0900	.4	*****	**	199	1.8	223	3.2	13
1200	4.6	*****	**	219	1.5	214	3.2	28
1500	7.1	*****	**	130	2.2	106	5.1	34
1800	4.5	*****	**	109	2.0	091	5.1	1
2100	.9	*****	**	160	.3	140	2.5	0
2400	0.0	*****	**	177	1.6	156	3.8	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	-1.6	*****	**	181	1.6	171	3.8	0
0600	-1.7	*****	**	208	1.5	204	3.8	0
0900	-.4	*****	**	201	1.7	229	3.2	9
1200	3.5	*****	**	151	2.5	144	5.1	26
1500	6.9	*****	**	134	2.1	157	4.4	39
1800	3.2	*****	**	133	2.7	137	5.1	1
2100	-.8	*****	**	187	2.1	146	3.8	0
2400	-2.7	*****	**	183	2.4	182	3.8	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	-4.0	*****	**	182	2.3	188	3.8	0
0600	-5.0	*****	**	184	2.2	180	3.8	0
0900	-1.1	*****	**	197	1.9	182	3.8	23
1200	5.6	*****	**	160	1.5	119	5.7	38
1500	6.0	*****	**	118	5.1	119	7.6	29
1800	3.2	*****	**	109	6.2	104	8.9	1
2100	-.2	*****	**	147	3.9	125	7.6	0
2400	-1.9	*****	**	201	1.9	191	4.4	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	-2.5	*****	**	194	1.4	232	2.5	0
0600	-3.7	*****	**	213	1.9	206	3.2	0
0900	-2.2	*****	**	224	1.7	227	3.2	5
1200	2.4	*****	**	092	2.2	086	8.3	20
1500	4.1	*****	**	106	3.7	096	7.0	15
1800	3.3	-2.2	67	140	1.7	133	5.1	0
2100	1.7	-.9	83	192	2.3	166	5.7	0
2400	-1.1	-1.4	98	179	2.2	201	5.1	0

DAY 06

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-.7	-4.7	74	166	2.3	145	4.4	0
0600	-2.3	-6.1	75	195	1.7	153	3.2	0
0900	.2	-6.6	60	244	2.3	279	5.7	9
1200	3.4	-5.3	53	119	1.5	093	[illegible]	19
1500	5.6	-3.8	51	128	3.6	126	7.0	17
1800	4.5	-4.3	53	116	2.7	111	6.3	1
2100	1.4	-3.3	71	164	1.4	175	3.8	0
2400	-1.9	-4.4	83	194	2.1	189	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	-.8	-3.8	80	189	2.4	185	3.8	0
0600	1.3	-2.8	74	181	2.5	185	4.4	0
0900	.8	-4.0	70	143	2.1	120	7.0	4
1200	4.7	-4.3	52	141	1.0	107	8.3	39
1500	4.9	-3.9	53	106	4.0	105	8.3	8
1800	4.4	-3.1	58	174	1.7	146	4.4	0
2100	.9	-3.2	74	161	2.3	152	4.4	0
2400	1.5	-2.3	76	185	1.8	152	4.4	0

DAY 08

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	1.7	-2.2	75	165	1.6	139	3.2	0
0600	1.2	-.3	90	187	1.5	136	5.1	0
0900	1.9	-.5	84	140	2.6	122	7.0	8
1200	3.0	.6	84	124	2.8	116	7.0	10
1500	5.6	-.0	67	124	3.4	123	6.3	7
1800	4.5	-.1	72	111	1.7	142	3.8	0
2100	1.1	-.7	88	061	.8	.025	5.7	0
2400	.1	-.3	97	018	2.8	031	6.3	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	-.5	-1.4	94	352	1.7	354	3.2	[illegible]
0600	-.6	*****	99	***	****	***	3.2	0
0900	-.3	*****	99	***	****	***	[illegible]	3
1200	1.6	*****	79	135	.4	064	3.5	16
1500	1.6	-1.0	83	036	1.1	017	3.2	17
1800	.1	*****	93	315	.5	193	3.5	1
2100	-3.5	-6.0	77	163	2.2	164	3.5	0
2400	-4.6	-7.8	78	192	2.2	184	3.8	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY HOUR SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING October 1984

DAY 10

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-5.4	-9.0	76	***	****	***	4.4	0
0600	-4.9	-9.1	72	***	****	***	3.8	0
0900	-4.4	-9.8	66	***	****	***	3.8	16
1200	.7	-5.9	61	240	1.5	257	3.2	12
1500	3.9	-4.6	54	136	1.8	109	5.1	26
1800	.9	-6.4	56	159	2.1	149	3.8	0
2100	-3.0	-7.1	73	198	2.0	195	3.2	0
2400	-5.1	-8.5	77	198	2.1	208	3.2	0

DAY 11

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-6.9	-10.2	77	198	2.3	180	3.8	0
0600	-6.7	-10.2	76	202	2.4	206	4.4	0
0900	-3.4	-7.7	72	200	2.5	191	4.4	5
1200	4.6	-5.2	49	174	1.4	202	3.2	42
1500	3.0	-6.2	51	129	3.1	125	7.0	10
1800	-.2	-.8	96	134	1.2	103	5.1	0
2100	-.5	-1.8	91	141	1.7	123	5.7	0
2400	-1.2	*****	97	229	.7	278	2.5	0

DAY 12

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-1.6	*****	97	143	.5	120	1.9	0
0600	-1.9	*****	97	150	.4	101	1.9	0
0900	-4.2	-6.4	85	191	1.1	209	3.5	3
1200	.8	-4.8	66	162	.8	165	3.2	58
1500	2.2	-7.5	49	270	2.0	257	8.3	37
1800	.4	-5.4	65	261	2.5	256	8.3	0
2100	-.7	-3.9	79	016	1.1	033	3.8	0
2400	-1.0	-4.2	79	275	.8	325	5.7	0

DAY 13

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-1.2	-5.8	71	189	1.2	227	4.4	0
0600	-1.8	-7.1	67	248	1.6	244	3.8	0
0900	-2.3	-8.6	62	204	1.2	203	3.8	5
1200	3.0	-10.0	41	106	.9	030	3.8	32
1500	3.0	-9.4	40	345	2.2	331	4.4	25
1800	-.1	-8.8	52	318	3.7	318	6.3	0
2100	-6.0	-10.0	73	185	1.8	169	3.2	0
2400	-7.5	-11.2	75	209	1.6	213	2.5	0

DAY 14

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-9.3	-13.1	74	205	1.7	190	3.2	0
0600	-9.3	-13.1	74	207	1.6	207	3.2	0
0900	-6.2	-12.7	60	176	1.6	153	3.2	20
1200	-1.2	-10.6	49	150	1.0	157	2.5	38
1500	.9	-10.7	42	039	.8	352	3.2	23
1800	-3.0	-10.3	57	130	1.4	136	3.2	0
2100	-7.6	-12.1	70	186	1.8	173	3.8	0
2400	-8.3	-12.4	72	184	2.1	181	4.4	0

DAY 15

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-8.2	-12.7	70	196	1.9	199	3.8	0
0600	-8.1	-11.4	77	208	1.4	186	2.5	0
0900	-7.9	-14.5	59	202	1.6	206	3.2	11
1200	-4.2	-9.6	66	210	9	228	3.5	19
1500	-2.2	-9.1	59	023	2.6	038	5.1	33
1800	-2.5	-10.1	56	038	2.7	026	5.1	9
2100	-4.3	*****	65	005	.2	022	2.5	0
2400	-4.4	-8.5	73	290	.6	342	3.8	1

DAY 16

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-5.7	-8.4	81	200	1.1	186	3.2	0
0600	-4.2	-7.8	76	186	1.9	192	3.8	0
0900	-3.3	-10.1	55	199	1.7	193	3.8	12
1200	.2	-11.3	42	131	2.8	129	5.1	30
1500	-.3	-12.1	41	125	2.5	135	5.7	22
1800	-4.0	-12.9	50	130	3.8	114	5.7	0
2100	-8.5	-15.1	59	165	2.6	145	5.1	0
2400	-9.2	-15.5	60	178	2.3	153	4.4	0

DAY 17

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-8.5	-15.7	56	178	2.1	167	4.4	0
0600	-11.5	-18.7	55	185	1.9	159	3.8	0
0900	-6.9	-19.9	35	181	2.9	200	4.4	10
1200	1.1	-19.4	20	180	2.0	174	3.8	29
1500	2.5	-21.6	15	180	2.7	158	5.1	18
1800	-3.8	-19.4	29	189	2.7	211	4.4	0
2100	-6.4	-17.3	42	183	3.0	187	5.7	0
2400	-6.8	-16.8	45	176	3.0	161	5.1	0

DAY 18

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-6.7	-17.9	41	178	2.8	150	4.4	0
0600	-9.9	-19.2	47	175	3.1	155	5.1	0
0900	-9.6	-18.6	48	180	3.0	185	5.1	3
1200	-2.2	-13.4	29	195	3.4	193	5.4	17
1500	3.8	-22.1	14	157	2.0	151	5.1	31
1800	-2.5	-17.5	31	147	5.4	144	8.3	0
2100	-5.2	-16.8	40	171	2.3	143	5.7	0
2400	-5.2	-14.3	49	170	2.4	148	5.1	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

1-HR. HOUR SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN 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.	MAX. GUST M/S	RAD MW
0300	-4.9	-14.3	48	148	3.9	146	6.3	0
0600	-4.8	-12.7	54	164	2.2	153	4.4	0
0900	-4.8	-11.4	60	179	.9	175	3.2	2
1200	-2.5	-11.8	49	070	.3	202	2.5	17
1500	-.8	-11.6	44	013	1.9	016	3.8	15
1800	-4.4	-12.6	53	016	1.7	019	4.4	0
2100	-8.3	-11.9	75	169	1.5	140	4.4	0
2400	-8.8	-12.4	75	204	1.0	163	2.5	0

DAY 20

HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-7.1	-12.4	66	208	.9	155	3.2	0
0600	-7.2	-10.7	76	230	.8	142	3.8	0
0900	-7.0	-10.7	75	224	.4	116	4.4	1
1200	-6.1	-9.1	79	099	3.3	090	5.7	5
1500	-5.8	-8.4	82	104	4.5	109	7.0	4
1800	-5.3	-8.2	80	139	1.9	130	5.7	0
2100	-4.3	*****	76	233	.9	249	3.2	0
2400	-4.2	-8.3	73	075	.5	143	3.2	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	-4.2	-7.5	78	346	.8	044	5.1	0
0600	-3.5	-9.5	63	081	2.3	110	7.0	0
0900	-1.2	-8.9	56	170	1.2	107	6.3	11
1200	0.0	-9.2	50	293	.2	256	7.0	11
1500	.7	-8.3	51	104	3.8	096	7.0	7
1800	-.2	-9.2	51	101	3.5	104	7.0	0
2100	-.2	-8.2	55	139	1.6	112	7.6	0
2400	-1.1	-7.9	60	111	2.9	114	6.3	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	-1.5	-8.5	59	123	5.1	121	9.5	0
0600	-1.4	-6.1	70	113	1.9	125	5.7	0
0900	-1.0	-5.6	71	093	1.9	096	5.7	2
1200	.7	-4.5	68	124	3.6	119	7.0	7
1500	2.6	-2.9	67	133	1.8	129	4.4	8
1800	1.2	-2.9	74	283	.6	216	3.8	0
2100	.1	-3.4	77	171	1.3	123	4.4	0
2400	.1	-2.6	82	185	1.2	143	3.2	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	.1	-1.4	90	188	1.8	217	3.8	0
0600	-.6	-1.2	96	109	.4	177	2.5	0
0900	-1.8	-2.1	98	023	2.7	026	5.1	2
1200	-1.6	-4.3	82	043	3.4	032	5.7	12
1500	-2.0	-5.5	77	046	3.4	050	6.3	7
1800	-4.2	-7.3	79	038	4.3	036	7.6	0
2100	-5.6	-9.5	74	043	2.5	038	6.3	0
2400	-9.7	-13.1	76	122	1.3	184	3.8	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	-9.9	-14.0	72	182	2.6	181	4.4	0
0600	-12.1	-16.4	70	178	2.4	172	3.8	0
0900	-9.5	-18.0	50	196	2.4	207	4.4	10
1200	-5.1	-14.2	49	162	1.4	174	3.8	33
1500	-2.6	-13.0	45	000	2.2	324	7.0	17
1800	-4.3	-14.3	46	314	5.5	319	9.5	0
2100	-8.7	-15.7	57	302	4.0	311	7.6	1
2400	-9.2	-15.5	60	317	2.1	198	5.7	1

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	-9.4	-16.1	58	217	2.0	223	7.0	0
0600	-8.8	-15.3	51	238	2.2	263	8.9	0
0900	-10.5	-20.0	46	214	1.7	275	8.4	6
1200	-5.9	-17.6	34	195	1.5	205	3.2	25
1500	-3.5	-17.8	30	191	2.0	207	3.8	16
1800	-8.6	-18.5	45	194	3.9	193	5.1	0
2100	-12.6	-19.8	55	183	3.6	179	5.1	0
2400	-13.6	-21.1	54	191	2.1	183	5.1	0

DAY 26

HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-16.0	-22.6	57	199	2.2	187	3.8	0
0600	-15.4	-22.4	55	187	2.6	193	5.1	0
0900	-13.1	-20.7	53	166	2.2	157	5.1	3
1200	-7.3	-19.3	38	081	.9	125	4.4	24
1500	-3.5	*****	27	015	1.0	001	2.5	15
1800	-8.8	-20.4	39	147	2.5	155	4.4	0
2100	-11.0	-20.7	45	176	2.1	196	5.1	0
2400	-12.4	-21.7	46	183	1.7	218	3.2	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	-13.0	-21.0	51	185	3.2	193	5.8	0
0600	-11.6	-19.5	53	187	3.4	204	5.8	0
0900	-9.5	-20.7	42	187	2.7	164	4.4	5
1200	-5.8	-18.0	36	199	.7	165	3.2	24
1500	-3.8	-18.2	32	174	1.5	358	5.1	15
1800	-8.6	-19.0	43	198	.6	134	5.1	0
2100	-11.7	-19.4	53	156	1.3	161	4.4	1
2400	-10.0	-17.6	54	191	2.1	205	5.8	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THIS 1-HOUR SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING October, 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	-11.4	-18.7	55	163	2.9	155	6.3	0
0600	-13.5	-19.4	61	184	2.1	166	4.4	0
0900	-12.8	-21.3	49	200	1.8	203	3.8	6
1200	-5.6	-17.8	38	212	1.3	159	3.8	24
1500	-6.5	-21.0	31	129	5.0	127	8.9	14
1800	-11.0	-21.8	41	159	2.1	134	7.0	0
2100	-13.7	-21.9	50	148	3.2	138	5.7	0
2400	-15.2	-23.9	52	151	3.2	144	5.1	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	-15.2	-25.1	43	177	2.4	164	5.7	0
0600	-16.6	-26.1	44	212	2.3	217	4.4	0
0900	-17.4	-28.7	37	216	2.7	215	4.4	5
1200	-12.1	-26.3	30	174	2.6	156	5.1	23
1500	-10.9	-25.9	28	141	3.0	140	5.7	14
1800	-15.5	-24.8	45	145	3.3	145	4.4	0
2100	-20.9	-27.6	55	210	2.3	190	3.8	0
2400	-19.4	-26.8	52	214	2.4	204	3.8	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	-18.6	-26.3	51	192	2.5	197	4.4	0
0600	-18.5	-25.9	52	195	2.8	191	5.7	0
0900	-17.5	-25.5	50	166	3.6	145	7.0	1
1200	-14.4	-23.8	45	145	4.4	145	7.0	11
1500	-12.8	-24.0	39	139	5.0	137	7.6	5
1800	-13.4	-23.7	42	154	3.2	152	5.7	0
2100	-14.9	-23.8	47	167	2.8	172	5.1	0
2400	-15.0	-24.4	45	184	2.7	182	5.1	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	-17.6	-24.5	55	192	3.1	192	4.4	0
0600	-17.6	-24.1	57	207	2.7	194	4.4	0
0900	-15.4	-25.0	44	208	2.7	221	4.4	4
1200	-9.9	-20.5	42	203	1.8	208	3.8	21
1500	-6.6	-16.9	44	156	2.2	106	6.3	12
1800	-10.4	-17.3	57	128	4.3	117	8.9	0
2100	-12.7	-18.6	61	197	2.8	201	5.7	0
2400	-14.7	-20.0	64	213	2.8	203	5.1	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

DAY	MAX. TEMP. DEG C	MIN. TEMP. DEG C	MEAN TEMP. DEG C	RES. WIND DIR. DEG	RES. WIND SPD. M/S	AVG. WIND SPD. M/S	MAX. GUST DIR. DEG	MAX. GUST SPD. M/S	P'VAL DIR.	MEAN RH %	MEAN DP DEG C	PRECIP MM	DAY'S SOLAR ENERGY WH/SQM	DAY
1	9.2	1.0	5.1	119	3.3	3.8	096	10.2	ESE	**	*****	****	1865	1
2	7.6	-1.0	3.3	179	1.1	1.8	106	5.1	S	**	*****	****	1940	2
3	6.9	-3.5	1.7	169	1.9	2.2	144	5.1	S	**	*****	****	2390	3
4	6.0	-5.8	.1	146	2.6	3.2	104	8.9	S	**	*****	****	2710	4
5	4.4	-5.0	-.3	161	1.4	2.4	086	8.3	SW	81	-1.3	****	1395	5
6	6.8	-3.6	1.6	160	1.6	2.5	093	7.0	S	65	-5.1	****	1595	6
7	6.0	-3.6	1.2	157	1.9	2.4	107	8.3	S	67	-3.6	****	1185	7
8	5.9	.1	3.0	120	1.5	2.5	122	7.0	ESE	82	-.4	****	955	8
9	2.3	-4.7	-1.2	165	.5	1.4	164	3.8	SSE	85	-3.2	****	995	9
10	3.9	-6.9	-1.5	183	1.6	2.2	109	5.1	SSW	68	-7.6	****	2255	10
11	4.7	-7.5	-1.4	173	1.6	2.1	125	7.0	SSW	73	-6.4	****	1585	11
12	2.2	-4.2	-1.0	248	.6	1.6	257	8.3	S	69	-5.4	****	1665	12
13	3.0	-8.7	-2.9	255	.7	1.9	318	6.3	SW	59	-8.8	****	1896	13
14	1.5	-9.7	-4.1	178	1.2	1.6	181	4.4	S	65	-11.7	****	2060	14
15	-1.4	-11.2	-6.3	194	.1	1.6	028	5.1	SSW	66	-11.1	****	1365	15
16	.4	-9.2	-4.4	155	2.1	2.4	135	5.7	SE	58	-11.3	****	1870	16
17	2.5	-11.5	-4.5	182	2.5	2.6	187	5.7	S	38	-18.5	****	1730	17
18	2.8	-10.5	-3.9	170	2.7	2.9	144	6.3	SSE	37	-17.7	****	1390	18
19	-.1	-9.4	-4.8	144	.8	1.9	146	6.3	SSE	55	-13.2	****	1105	19
20	-4.1	-8.7	-6.4	124	1.1	2.0	109	7.0	ESE	77	-9.5	****	400	20
21	1.3	-4.3	-1.5	107	1.7	2.8	112	7.6	ESE	58	-8.6	****	1150	21
22	2.8	-2.4	.2	128	1.9	2.4	121	9.5	SE	69	-4.9	****	890	22
23	.6	-9.7	-4.6	049	1.9	2.7	036	7.6	NE	84	-5.0	****	610	23
24	-2.6	-12.6	-7.6	256	1.1	3.0	318	8.3	S	58	-14.8	****	1765	24
25	-2.5	-13.8	-8.2	202	2.0	2.2	263	8.9	SSW	48	-17.8	****	1350	25
26	-3.3	-16.0	-9.7	170	1.5	2.1	193	5.1	S	45	-20.7	****	1245	26
27	-3.5	-14.0	-8.8	175	1.2	2.0	134	5.1	S	45	-19.1	****	1230	27
28	-5.6	-15.2	-10.4	158	2.5	2.8	127	8.9	SSE	47	-20.2	****	1310	28
29	-10.5	-21.7	-16.1	184	2.3	2.7	164	5.7	SSW	43	-26.3	****	1215	29
30	-12.5	-20.2	-16.4	163	3.2	3.5	137	7.6	S	47	-24.7	****	615	30
31	-6.6	-18.1	-12.4	185	2.4	3.0	117	8.9	SSW	52	-21.1	****	1135	31
MONTH	9.2	-21.7	-3.9	161	1.4	2.4	096	10.2	S	59	-11.8	****	44410	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 7.4
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 9.1
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 10.2
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 9.1

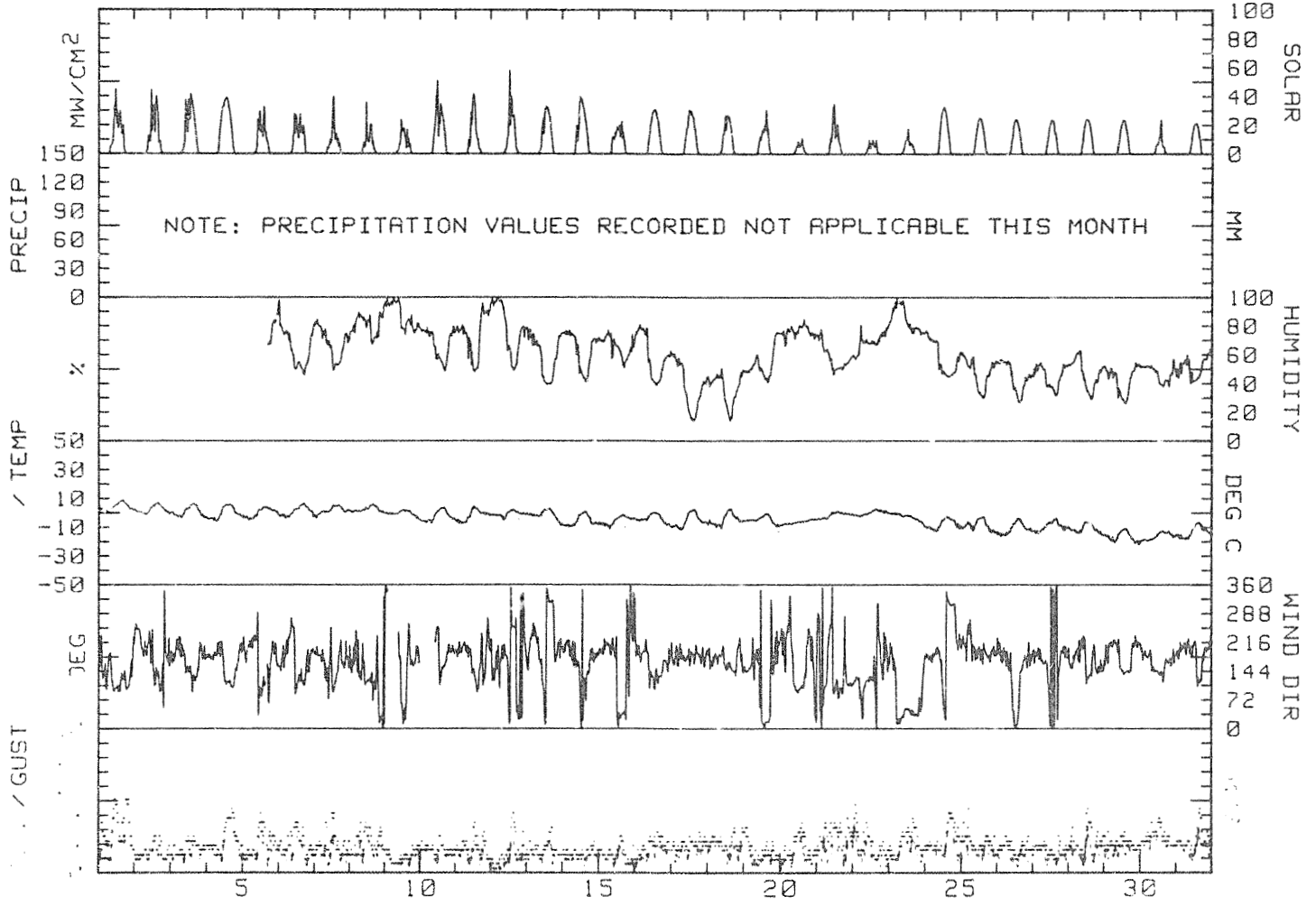
** RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

KOSINA WEATHER STATION

October, 1984



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING October, 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	.14	2.13	0.00	0.00	0.00	0.00	0.00	2.27
NNE	.07	2.89	.90	0.00	0.00	0.00	0.00	3.86
NE	.21	1.65	1.03	0.00	0.00	0.00	0.00	2.89
ENE	.28	.76	0.00	0.00	0.00	0.00	0.00	1.05
E	.14	1.24	1.52	.41	0.00	0.00	0.00	3.31
ESE	.28	2.89	4.41	.96	0.00	0.00	0.00	8.54
SE	.14	4.96	5.72	.14	0.00	0.00	0.00	10.96
SSE	.90	9.02	3.37	0.00	0.00	0.00	0.00	13.29
S	.90	15.63	2.41	0.00	0.00	0.00	0.00	18.94
SSW	1.03	15.50	1.38	0.00	0.00	0.00	0.00	17.91
SW	.76	8.20	.48	0.00	0.00	0.00	0.00	9.44
WSW	.28	2.69	.48	0.00	0.00	0.00	0.00	3.45
W	.14	.90	.14	0.00	0.00	0.00	0.00	1.17
WNW	.21	.28	0.00	0.00	0.00	0.00	0.00	.48
NW	0.00	.29	1.17	.07	0.00	0.00	0.00	1.53
NNW	.14	.69	.07	0.00	0.00	0.00	0.00	.90
CALM								
TOTAL	5.58	69.20	23.07	1.58	0.00	0.00	0.00	100.00

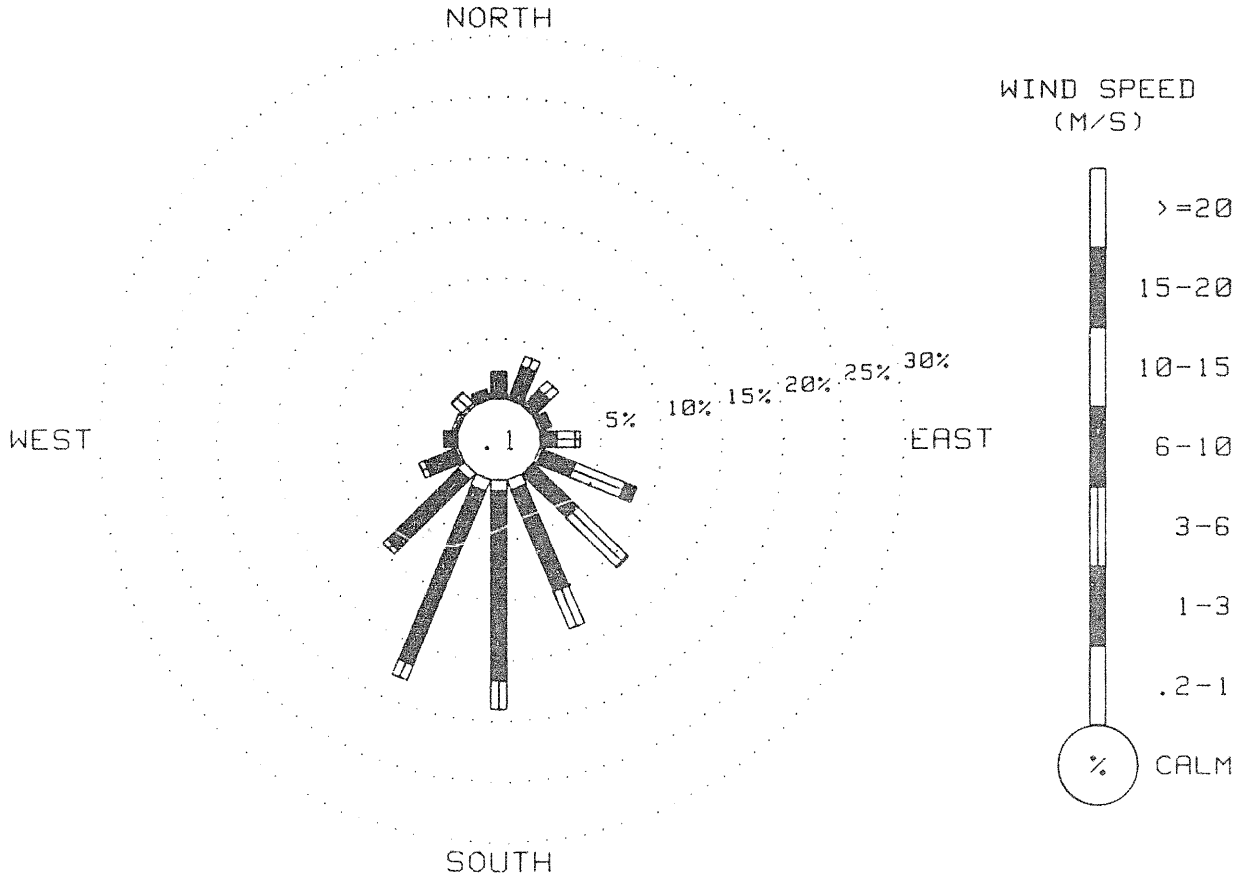
ALL FREQUENCIES ARE EXPRESSED IN PERCENT
1452 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
1488 WIND OBSERVATIONS WOULD HAVE BEEN CORRECT FOR 30 MINUTE DATA.
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

KOSINA WEATHER STATION

October, 1984



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

SOLAR RADIATION VALUES MEASURED IN MILLIWATTS PER SQUARE CENTIMETER

HOUR ENDING

DATE	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	AVG
1	0	0	0	0	0	0	0	4	7	13	30	33	24	24	22	17	13	2	0	0	0	0	0	0	8
2	0	0	0	0	0	0	0	2	8	10	27	22	34	27	37	18	9	2	0	0	0	0	0	0	8
3	0	0	0	0	0	0	1	3	7	35	23	32	33	38	32	22	13	3	0	0	0	0	0	0	10
4	0	0	0	0	0	0	1	6	20	30	33	38	39	37	31	23	12	3	0	0	0	0	0	0	11
5	0	0	0	0	0	0	0	1	4	21	24	18	14	28	16	10	6	1	0	0	0	0	0	0	6
6	0	0	0	0	0	0	0	1	6	24	21	22	11	26	16	17	15	2	0	0	0	0	0	0	7
7	0	0	0	0	0	0	0	2	5	8	8	29	30	11	11	8	7	1	0	0	0	0	0	0	5
8	0	0	0	0	0	0	0	1	6	6	23	10	10	19	14	6	3	1	0	0	0	0	0	0	4
9	0	0	0	0	0	0	0	1	3	7	18	17	17	12	11	8	7	2	0	0	0	0	0	0	4
10	0	0	0	0	0	0	0	2	12	23	41	32	23	34	28	21	11	1	0	0	0	0	0	0	9
11	0	0	0	0	0	0	0	2	8	19	22	41	37	15	11	4	2	0	0	0	0	0	0	0	7
12	0	0	0	0	0	0	0	1	2	5	12	43	28	34	27	15	3	1	0	0	0	0	0	0	7
13	0	0	0	0	0	0	0	1	4	19	28	30	33	31	27	18	8	1	0	0	0	0	0	0	8
14	0	0	0	0	0	0	0	1	15	11	27	39	37	32	25	16	5	1	0	0	0	0	0	0	9
15	0	0	0	0	0	0	0	1	12	10	14	17	18	16	19	13	8	1	0	0	0	0	0	0	5
16	0	0	0	0	0	0	0	1	10	18	25	30	31	29	24	15	6	1	0	0	0	0	0	0	8
17	0	0	0	0	0	0	0	1	8	16	22	30	29	27	22	15	5	1	0	0	0	0	0	0	7
18	0	0	0	0	0	0	0	1	3	9	16	22	26	26	22	14	4	1	0	0	0	0	0	0	8
19	0	0	0	0	0	0	0	0	2	8	11	16	18	19	23	13	3	1	0	0	0	0	0	0	5
20	0	0	0	0	0	0	0	0	1	3	6	7	7	10	5	3	1	0	0	0	0	0	0	0	2
21	0	0	0	0	0	0	0	1	8	13	29	23	15	18	8	5	1	0	0	0	0	0	0	0	5
22	0	0	0	0	0	0	0	0	3	5	9	6	9	7	7	7	1	0	0	0	0	0	0	0	3
23	0	0	0	0	0	0	0	0	2	5	9	11	14	7	8	6	2	0	0	0	0	0	0	0	3
24	0	0	0	0	0	0	0	1	6	19	28	32	32	29	20	11	3	0	0	0	0	0	0	0	7
25	0	0	0	0	0	0	0	0	4	12	19	24	25	23	18	9	2	0	0	0	0	0	0	0	5
26	0	0	0	0	0	0	0	0	2	10	17	23	24	22	17	9	2	0	0	0	0	0	0	0	5
27	0	0	0	0	0	0	0	0	3	10	18	23	24	22	15	9	2	0	0	0	0	0	0	0	5
28	0	0	0	0	0	0	0	0	4	13	20	24	24	22	16	8	2	0	0	0	0	0	0	0	5
29	0	0	0	0	0	0	0	0	3	10	18	22	24	22	16	8	1	0	0	0	0	0	0	0	5
30	0	0	0	0	0	0	0	0	1	4	7	9	15	18	5	4	1	0	0	0	0	0	0	0	3
31	0	0	0	0	0	0	0	0	3	9	16	21	21	20	14	7	1	0	0	0	0	0	0	0	5

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

R & M CONSULTANTS, INC.

KUSKOKWIM HYDROELECTRIC PROJECT

DATA COLLECTION SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING October, 1984

PARAMETER	NUMBER OF USABLE OBSERVATIONS	PERCENT OF TOTAL OBSERVATIONS
TEMPERATURE	1488	100
WIND SPEED	1486	100
WIND DIRECTION	1452	98
PEAK GUST	1486	100
RELATIVE HUMIDITY	1178	79
PRECIPITATION	0	0
SOLAR RADIATION	1488	100
DEW POINT	1178	79

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

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

1. RH -20 RH Points 10/5 - 10/31
2. Solar -1 mW/CM^2

Additional comments on this month's data:

1. RH oscillator replaced on 10/5. RH data poor prior to 10/5.
2. Intermittent wind data lost on 10/9 and 10/10 due to frozen wind vane.

No precipitation data for November

(See INTERPRETATION OF DATA).

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING November, 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	-15.1	-20.0	66	207	2.9	211	4.4	0
0600	-16.1	-20.8	67	184	2.6	203	4.4	0
0900	-13.0	-20.6	53	191	2.8	179	4.4	6
1200	-6.1	-15.1	49	169	2.7	159	4.4	27
1500	-2.3	-26.2	14	177	1.9	160	3.2	12
1800	-11.0	-26.4	27	180	2.3	173	3.8	0
2100	-12.5	-27.0	29	187	2.3	187	4.4	0
2400	-13.9	-27.5	31	196	2.5	191	3.8	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	-12.9	-28.1	27	201	2.5	202	4.4	0
0600	-16.5	-29.1	33	198	2.5	188	4.4	0
0900	-12.4	-30.2	21	190	3.0	162	6.3	3
1200	-10.1	-26.0	26	152	5.8	154	8.3	20
1500	-8.9	-24.2	28	140	5.9	145	8.3	11
1800	-10.9	-24.2	33	133	5.4	143	7.6	0
2100	-11.8	-24.0	36	146	4.9	149	6.3	0
2400	-12.1	-22.2	43	156	3.7	153	7.0	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	-9.0	-19.7	42	194	1.9	183	5.1	0
0600	-8.2	-19.8	39	186	2.3	208	5.1	0
0900	-8.5	-22.0	33	160	2.5	147	5.1	2
1200	-3.9	-20.7	26	150	2.5	151	5.1	19
1500	-3.6	-20.0	27	097	1.5	098	3.8	13
1800	-8.4	-20.6	37	137	2.9	141	5.1	0
2100	-10.5	-21.0	42	153	3.6	145	6.3	0
2400	-10.9	-20.3	46	160	3.5	170	5.7	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	-12.8	-19.5	57	148	3.3	140	6.3	0
0600	-13.2	-18.9	62	188	1.9	179	3.8	0
0900	-13.4	-20.1	57	177	2.4	164	5.1	2
1200	-9.4	-18.7	47	149	3.9	150	5.7	10
1500	-9.6	-19.4	45	135	4.2	130	6.3	6
1800	-12.3	-20.9	49	141	3.1	140	5.1	0
2100	-12.7	-18.7	59	188	2.3	176	5.1	0
2400	-11.6	-18.4	57	178	2.1	168	3.2	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	-11.8	-18.6	57	179	2.2	163	3.8	0
0600	-9.6	-15.7	61	180	1.9	179	3.2	0
0900	-9.2	-15.1	62	195	1.9	185	3.2	1
1200	-8.3	-14.1	63	151	3.4	132	7.0	6
1500	-7.7	-11.0	77	153	2.4	137	6.3	3
1800	-7.8	-11.1	77	215	1.2	238	2.5	0
2100	-8.0	-11.6	75	196	2.2	192	3.8	0
2400	-7.9	-11.4	76	197	3.2	195	4.4	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	-8.4	-11.9	76	197	3.5	194	5.1	0
0600	-6.4	-10.1	75	185	2.9	186	4.4	0
0900	-6.0	-10.0	73	184	2.3	183	4.4	1
1200	-4.4	-9.0	70	189	2.0	195	3.2	5
1500	-4.1	*****	85	176	1.0	169	2.5	3
1800	-4.5	*****	97	170	.9	156	1.9	0
2100	-4.6	*****	98	172	1.0	159	1.9	0
2400	-4.9	*****	98	225	.3	181	1.3	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	-5.0	*****	97	309	.2	316	1.3	0
0600	-5.9	*****	95	233	.4	222	1.9	0
0900	-6.5	-7.2	95	198	.9	205	1.9	0
1200	-4.5	*****	87	212	.7	203	1.9	3
1500	-4.6	*****	84	351	.5	034	2.5	2
1800	-10.5	-12.4	86	185	1.5	184	2.5	0
2100	-15.2	-18.0	79	204	1.7	177	3.8	0
2400	-9.9	-12.1	84	209	2.1	202	3.8	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	-8.4	-12.4	73	190	2.1	195	3.8	0
0600	-9.1	-10.3	84	210	1.6	172	3.8	0
0900	-7.8	-11.3	76	200	2.1	196	3.8	0
1200	-7.0	-11.3	71	196	2.2	195	3.8	3
1500	-5.4	-8.5	79	189	1.7	218	3.8	1
1800	-6.7	-9.3	82	083	.7	094	3.2	0
2100	-8.1	-10.2	85	146	1.6	125	3.2	0
2400	-9.6	-13.4	74	165	2.4	153	3.8	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	-9.4	-12.1	81	182	1.8	186	3.8	0
0600	-9.2	-12.0	80	147	1.9	155	3.8	0
0900	-9.6	-12.4	80	164	2.1	164	3.8	0
1200	-9.2	-13.3	72	173	2.6	175	4.4	3
1500	-9.6	-13.9	71	150	2.7	121	5.1	1
1800	-10.9	-15.1	71	139	2.7	113	5.1	0
2100	-12.0	-15.8	73	123	1.5	095	4.4	1
2400	-13.5	-16.7	77	208	2.0	215	4.4	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING November, 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	-15.0	-18.0	78	204	3.0	206	5.1	0
0600	-16.4	-19.5	77	192	3.3	196	5.1	0
0900	-18.5	-21.8	75	195	3.2	191	5.1	0
1200	-15.9	-19.1	76	214	2.0	203	3.8	14
1500	-15.2	-19.1	72	179	2.0	159	4.4	9
1800	-18.9	-22.5	73	149	3.5	144	5.7	0
2100	-20.2	-24.2	70	161	3.1	156	5.1	0
2400	-21.8	-25.8	70	175	1.9	187	4.4	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	-21.1	-25.1	70	185	1.7	163	4.4	0
0600	-20.7	-24.9	69	217	1.4	201	2.5	0
0900	-21.6	-25.7	69	195	1.6	171	3.8	1
1200	-16.0	-20.5	68	197	1.3	218	2.5	13
1500	-14.3	-20.4	60	183	.9	216	2.5	9
1800	-19.9	-24.6	66	172	2.0	161	3.8	0
2100	-22.7	-27.8	63	213	1.6	212	3.2	0
2400	-22.4	-27.7	62	177	2.5	163	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	-22.7	-27.9	62	201	1.8	224	5.1	0
0600	-25.1	-30.6	60	198	1.6	205	3.2	0
0900	-22.7	-28.3	60	191	2.2	172	4.4	0
1200	-17.6	-25.1	52	197	1.9	196	3.8	14
1500	-17.1	-24.0	55	172	1.9	160	3.2	9
1800	-22.6	-28.8	57	170	2.6	157	4.4	0
2100	-22.3	-28.7	56	186	2.4	178	5.1	0
2400	-21.8	-27.8	58	187	2.7	181	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	-21.9	-28.1	57	184	2.8	162	5.1	0
0600	-21.9	-28.1	57	179	2.6	192	5.1	0
0900	-20.0	-26.3	57	168	3.1	166	5.7	0
1200	-15.6	-23.9	49	200	2.5	191	4.4	18
1500	-16.3	-24.1	51	179	2.9	178	4.4	8
1800	-20.1	-26.4	57	166	3.7	162	5.7	0
2100	-21.6	-27.1	61	186	3.1	166	5.7	0
2400	-22.3	-27.7	61	160	2.8	146	5.7	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	-23.7	-28.9	62	218	2.7	227	4.4	0
0600	-24.6	-29.8	62	171	3.3	149	6.3	0
0900	-24.9	-30.2	61	186	2.9	174	5.1	1
1200	-21.9	-27.7	59	193	2.8	187	5.1	5
1500	-19.0	-24.4	62	169	2.8	152	5.1	1
1800	-18.0	-24.0	59	195	2.3	195	4.4	0
2100	-17.2	-23.1	60	185	2.5	201	5.1	0
2400	-15.6	-21.4	61	186	2.2	195	3.8	0

DAY 15

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-15.3	-20.9	62	167	2.4	154	4.4	0
0600	-13.9	-20.2	59	194	2.8	202	4.4	0
0900	-14.7	-20.7	60	188	2.2	189	3.8	0
1200	-11.8	-18.6	57	177	2.5	182	4.4	5
1500	-9.5	-16.9	55	175	2.3	176	4.4	1
1800	-11.0	-17.8	57	157	3.2	141	5.7	0
2100	-11.8	-16.8	66	154	3.9	168	5.7	0
2400	-11.5	-15.0	75	146	4.0	140	7.0	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	-11.5	-15.2	74	157	4.2	167	7.0	0
0600	-11.3	-15.3	75	156	4.7	155	6.3	0
0900	-13.7	-16.9	77	160	4.0	152	7.0	0
1200	-11.8	-16.7	67	177	3.5	173	5.7	14
1500	-13.3	-16.6	76	181	2.9	162	6.3	3
1800	-14.9	-17.7	79	178	3.7	187	5.1	0
2100	-15.3	-18.6	76	173	2.9	164	5.1	0
2400	-15.7	-19.0	76	192	2.1	180	3.8	0

DAY 17

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-16.3	-19.5	76	166	2.9	142	7.0	0
0600	-16.5	-19.9	75	148	5.0	143	7.6	0
0900	-16.8	-20.2	75	182	2.5	139	6.3	0
1200	-14.0	-17.0	78	198	2.0	162	3.8	6
1500	-13.4	-16.7	76	196	2.1	195	3.8	11
1800	-15.8	-19.0	76	165	2.5	156	4.4	0
2100	-17.6	-21.1	74	192	2.2	165	3.8	0
2400	-14.7	-18.0	76	211	2.0	207	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	-12.6	-15.5	79	190	2.2	188	3.8	0
0600	-11.9	-14.7	80	181	2.5	185	3.8	0
0900	-12.6	-15.3	80	151	2.5	148	4.4	0
1200	-13.6	-16.5	79	185	2.2	186	3.8	5
1500	-11.4	-15.1	74	205	2.1	204	3.8	9
1800	-16.0	-19.2	76	187	2.5	159	3.8	0
2100	-16.3	-19.7	75	189	2.3	181	3.8	0
2400	-16.1	-19.5	75	195	2.6	203	3.8	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

DAY 19

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	-15.8	-19.2	75	188	2.2	194	3.8	0
0600	-14.4	-18.0	74	187	2.3	184	3.8	0
0900	-13.5	-19.2	73	195	2.2	192	3.8	0
1200	-12.2	-17.2	66	199	1.7	167	5.1	19
1500	-14.1	-17.7	74	152	4.6	154	7.6	11
1800	-16.8	-20.2	75	150	5.4	146	8.9	0
2100	-16.8	-20.2	75	152	4.8	146	8.3	0
2400	-15.5	-18.8	76	174	3.2	146	7.6	0

DAY 20

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	-14.6	-17.9	76	162	2.2	126	8.3	0
0600	-15.1	-18.8	73	117	5.4	117	9.5	0
0900	-15.5	-18.9	75	197	2.9	138	7.0	0
1200	-12.9	-16.1	77	225	2.4	197	5.1	2
1500	-12.0	-15.1	78	206	2.1	204	3.8	1
1800	-6.2	-8.8	82	215	1.8	219	4.4	0
2100	-1.6	-2.9	91	166	1.8	102	13.3	0
2400	-.6	-3.3	82	100	11.2	103	16.5	0

DAY 21

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	-3.5	72	102	9.5	102	15.2	0
0600	-.2	-2.7	83	121	5.7	154	19.0	0
0900	-.3	-2.5	85	115	3.6	120	8.3	0
1200	-1.5	-2.5	93	029	.9	029	4.4	3
1500	-1.4	-4.1	82	071	1.5	021	3.8	2
1800	-3.7	-5.7	86	103	1.9	087	5.1	0
2100	-4.4	-5.4	93	071	1.8	102	3.8	0
2400	-5.0	-5.7	95	007	1.4	058	3.2	0

DAY 22

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-5.3	*****	92	247	.6	304	2.5	0
0600	-7.7	-9.4	88	179	1.3	169	3.2	0
0900	-5.7	-8.0	84	173	2.0	223	5.1	0
1200	-8.6	-11.9	77	206	2.1	231	5.1	6
1500	-8.4	*****	73	203	1.5	205	3.8	1
1800	-8.9	-11.1	84	027	1.2	006	3.2	0
2100	-9.6	*****	84	233	.5	003	1.9	0
2400	-9.0	-10.9	86	226	.6	231	1.9	0

DAY 23

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-8.9	*****	86	166	.4	188	1.9	0
0600	-8.9	*****	86	323	.3	036	1.3	0
0900	-10.1	-12.2	85	205	1.1	191	2.5	0
1200	-9.0	-12.4	76	209	1.4	212	2.5	2
1500	-8.2	-11.0	80	173	1.6	188	3.2	1
1800	-9.9	-12.0	85	202	1.0	224	2.5	0
2100	-10.0	-12.9	79	182	1.7	195	3.2	0
2400	-9.9	-12.3	83	187	1.5	213	3.2	0

DAY 24

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	-12.8	82	210	1.8	233	3.2	0
0600	-9.9	*****	79	195	1.1	238	3.2	0
0900	-10.7	*****	86	296	.3	269	1.3	0
1200	-10.1	*****	81	183	.2	011	1.3	2
1500	-9.9	*****	83	305	.3	236	1.3	1
1800	-12.4	-15.1	80	174	1.1	218	3.5	0
2100	-12.4	*****	81	195	.7	190	1.9	0
2400	-12.9	-15.3	82	261	1.0	206	1.9	0

DAY 25

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	-13.3	*****	80	189	1.0	190	1.9	0
0600	-.2.9	*****	81	180	.9	196	1.9	0
0900	-13.5	-16.2	80	173	.8	160	1.9	0
1200	-16.1	-20.8	67	211	1.2	199	2.5	2
1500	-14.5	-19.1	68	189	1.3	164	2.5	1
1800	-15.2	-19.9	67	178	2.2	166	3.8	0
2100	-18.1	-22.7	67	163	2.8	168	5.1	0
2400	-18.4	-23.2	66	176	3.2	156	4.4	0

DAY 26

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	-19.3	-24.9	61	168	2.7	161	5.1	0
0600	-21.5	-26.8	62	196	2.2	198	3.8	0
0900	-22.6	-27.3	65	203	2.0	214	3.8	0
1200	-20.1	-27.2	53	205	2.0	197	3.2	6
1500	-17.6	-23.9	58	190	1.7	194	3.2	2
1800	-22.5	-28.3	59	183	2.2	188	3.8	0
2100	-21.9	-27.5	60	189	2.2	179	3.8	0
2400	-21.8	-27.1	62	202	2.1	170	4.4	0

DAY 27

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	-21.0	-25.0	73	200	2.4	204	3.8	0
0600	-20.4	-24.6	69	175	2.8	162	5.1	0
0900	-17.5	-21.2	73	179	2.6	171	5.1	0
1200	-15.5	-19.5	71	174	2.9	175	5.1	3
1500	-16.4	-19.9	74	158	3.6	147	5.2	1
1800	-19.1	-22.9	72	146	5.0	146	7.2	0
2100	-18.8	-22.4	73	148	5.7	143	7.6	0
2400	-20.5	-24.4	71	153	5.4	155	7.6	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

DAY 28									DAY 29									DAY 30								
HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW	HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW	HOUR ENDING	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-20.0	-23.9	71	151	5.5	148	7.6	0	0300	-19.5	-22.9	74	175	3.5	174	5.7	0	0300	-14.6	-18.4	73	159	5.4	167	8.3	0
0600	-19.9	-23.8	71	154	5.3	148	7.6	0	0600	-17.2	-20.4	76	174	3.2	160	5.7	0	0600	-14.6	-18.4	73	159	5.2	153	7.6	0
0900	-17.8	-21.4	73	153	4.2	156	7.0	0	0900	-15.7	-18.8	77	200	2.5	213	4.4	0	0900	-14.9	-18.6	73	155	4.9	163	7.0	0
1200	-16.9	-21.2	69	168	3.6	154	5.1	2	1200	-14.4	-18.6	70	183	3.0	169	5.7	6	1200	-14.1	-18.0	72	163	3.6	156	6.3	4
1500	-16.0	-19.4	75	172	2.6	172	5.7	2	1500	-13.6	-17.4	73	175	2.9	172	5.7	2	1500	-13.2	-16.8	74	170	3.7	161	6.3	1
1800	-17.7	-21.0	75	164	2.6	179	4.4	0	1800	-15.1	-18.7	74	157	4.0	151	7.6	0	1800	-14.3	-17.9	74	167	4.1	171	6.3	0
2100	-16.0	-19.2	76	163	3.2	154	5.7	0	2100	-15.1	-18.5	75	154	5.0	158	7.0	0	2100	-13.7	-17.2	75	177	4.0	153	6.3	0
2400	-16.4	-19.6	76	173	3.5	170	5.7	0	2400	-15.2	-18.8	74	149	5.5	150	7.6	0	2400	-13.8	-17.0	77	186	3.4	178	6.3	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR KOSINA 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	-2.0	-16.1	-9.1	187	2.5	2.6	211	4.4	S	45	-21.8	****	1340	1
2	-8.4	-16.7	-12.6	156	3.9	4.3	154	8.3	SSE	30	-26.1	****	1030	2
3	-3.3	-11.9	-7.6	156	2.4	2.7	148	6.3	SSE	36	-20.7	****	925	3
4	-8.8	-14.5	-11.7	158	2.7	3.0	140	6.3	SE	53	-19.6	****	700	4
5	-6.8	-11.9	-9.4	180	2.1	2.4	132	7.0	SSW	67	-14.0	****	335	5
6	-4.0	-8.4	-6.2	187	1.7	1.8	194	5.1	S	78	-9.3	****	255	6
7	-3.8	-15.2	-9.5	208	.8	1.1	177	3.8	SSW	86	-11.7	****	175	7
8	-5.2	-9.7	-7.5	182	1.6	1.9	195	3.8	SSW	79	-10.9	****	170	8
9	-8.7	-13.5	-11.1	161	2.0	2.3	121	5.1	S	76	-13.7	****	145	9
10	-13.8	-21.8	-17.8	182	2.6	2.8	144	5.7	SSW	74	-21.0	****	540	10
11	-14.0	-23.5	-18.8	190	1.6	1.7	163	5.1	SSW	66	-24.8	****	660	11
12	-15.4	-25.1	-20.3	187	2.1	2.2	224	5.1	S	58	-27.5	****	700	12
13	-15.2	-23.6	-19.4	177	2.9	3.0	166	5.7	S	56	-26.6	****	885	13
14	-15.6	-25.6	-20.6	187	2.6	2.8	149	6.3	S	61	-26.6	****	430	14
15	-9.1	-15.7	-12.4	167	2.8	3.0	140	7.0	S	62	-18.3	****	265	15
16	-9.9	-16.0	-13.0	169	3.3	3.5	167	7.0	SSE	75	-16.6	****	425	16
17	-13.4	-17.7	-15.6	176	2.5	2.8	143	7.6	SSW	76	-18.9	****	375	17
18	-10.3	-17.1	-13.7	185	2.3	2.4	159	5.7	S	77	-16.7	****	545	18
19	-11.5	-16.9	-14.2	167	3.1	3.4	146	8.9	SSE	73	-18.3	****	790	19
20	-.6	-15.5	-8.1	142	2.5	4.1	103	16.5	SSW	79	-13.7	****	105	20
21	.9	-5.4	-2.3	099	2.9	3.6	154	19.0	ESE	86	-4.1	****	175	21
22	-5.1	-9.7	-7.4	198	.8	1.4	223	5.1	SSW	84	-9.8	****	205	22
23	-8.2	-11.5	-9.9	192	1.0	1.2	188	3.2	S	82	-12.0	****	90	23
24	-9.4	-13.5	-11.5	203	.7	1.0	233	3.2	SSW	82	-13.8	****	80	24
25	-12.7	-19.8	-16.3	179	1.5	1.6	168	5.1	SSE	72	-19.3	****	125	25
26	-17.6	-23.4	-20.5	191	2.1	2.2	161	5.1	SSW	61	-26.3	****	160	26
27	-14.9	-23.9	-19.4	162	3.6	3.8	140	7.6	SSE	71	-22.8	****	115	27
28	-15.1	-20.8	-18.0	161	3.8	3.9	148	7.6	SSE	73	-21.3	****	95	28
29	-12.6	-19.5	-16.1	167	3.6	3.7	151	7.6	SSE	74	-19.2	****	285	29
30	-11.8	-15.7	-13.8	166	4.2	4.4	167	8.3	SSE	74	-17.5	****	275	30
MONTH	.9	-25.6	-13.1	170	2.3	2.7	154	19.0	S	68	-18.1	****	12295	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 12.7
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 14.0
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 7.0
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 7.0

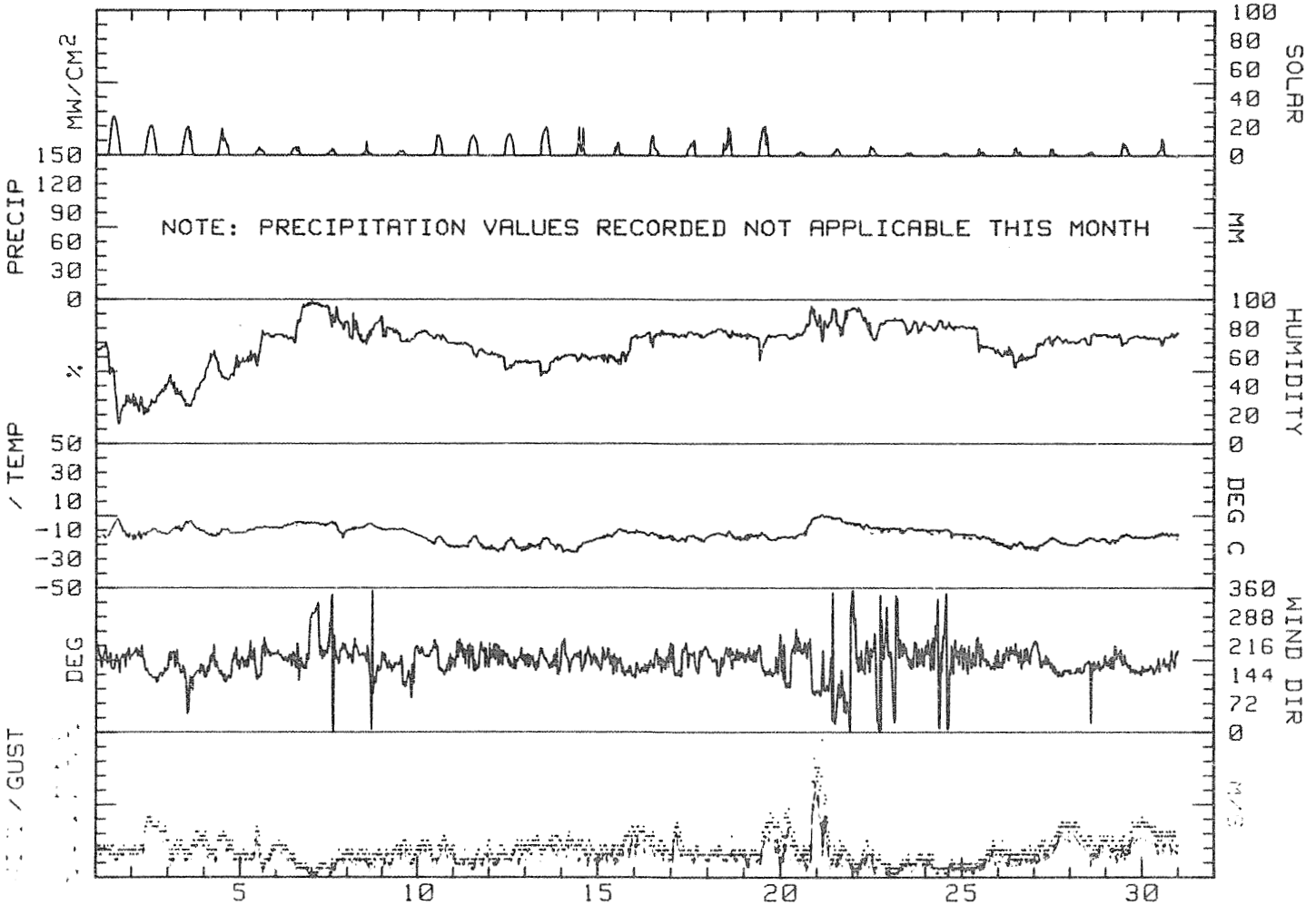
NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

KOSINA WEATHER STATION

November, 1984



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR KOSINA 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	.21	.69	0.00	0.00	0.00	0.00	0.00	.90
NNE	.14	.56	0.00	0.00	0.00	0.00	0.00	.69
NE	.14	.35	0.00	0.00	0.00	0.00	0.00	.49
ENE	0.00	.56	0.00	0.00	0.00	0.00	0.00	.56
E	.14	.56	.07	.14	.21	0.00	0.00	1.11
ESE	0.00	.56	.97	.49	.35	0.00	0.00	2.36
SE	.28	1.60	5.00	.56	0.00	0.00	0.00	7.46
SSE	.63	9.72	14.72	.28	0.00	0.00	0.00	25.35
S	1.32	19.17	5.69	0.00	0.00	0.00	0.00	26.18
SSW	1.53	19.79	2.92	0.00	0.00	0.00	0.00	24.24
SW	1.04	5.69	.69	0.00	0.00	0.00	0.00	7.43
WSW	.42	.42	0.00	0.00	0.00	0.00	0.00	.83
W	.49	.07	0.00	0.00	0.00	0.00	0.00	.56
WNW	.21	.21	0.00	0.00	0.00	0.00	0.00	.42
NW	.42	.07	0.00	0.00	0.00	0.00	0.00	.49
NNW	.42	.14	0.00	0.00	0.00	0.00	0.00	.56
CALM								.42
TOTAL	7.36	60.14	30.07	1.46	.56	0.00	0.00	100.00

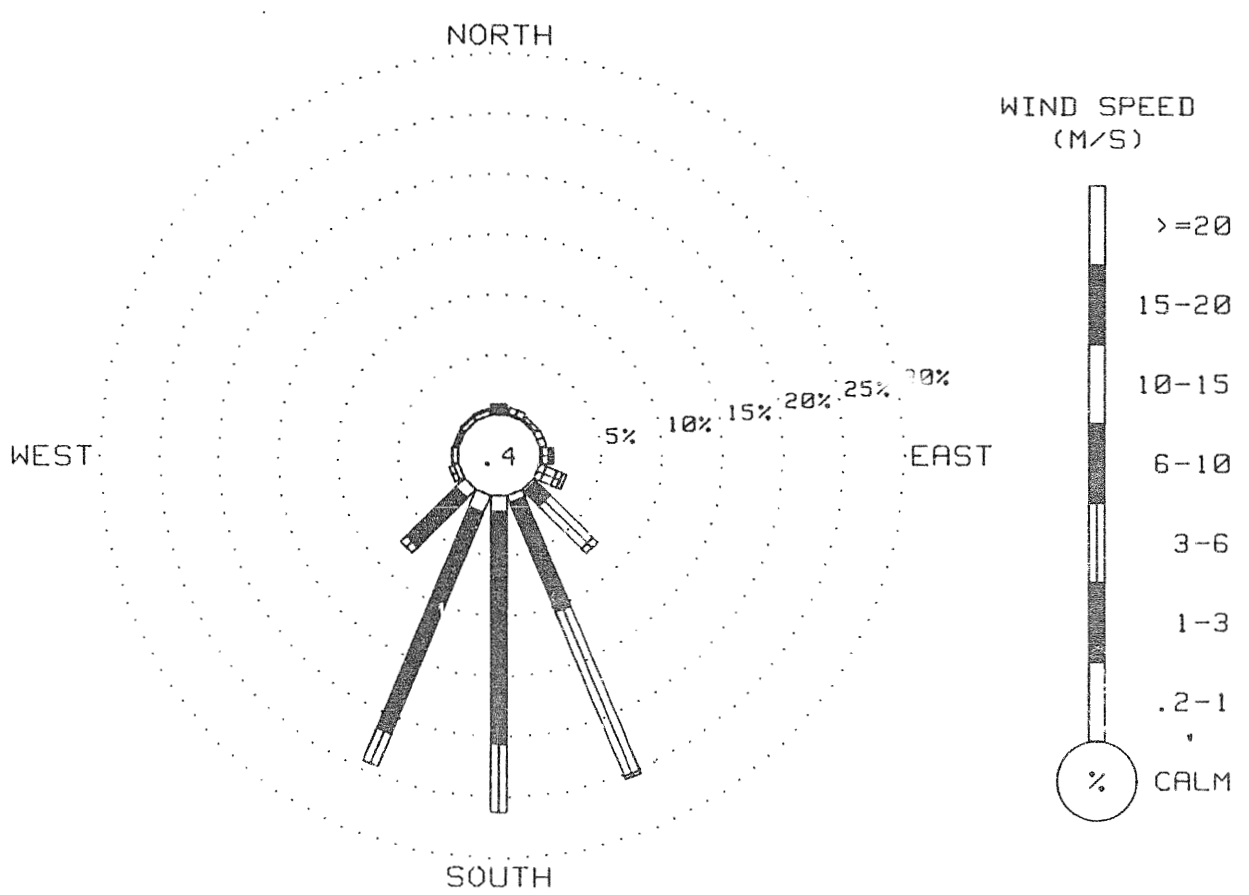
NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
1440 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
1440 WIND OBSERVATIONS WOULD HAVE BEEN CORRECT FOR 30 MINUTE DATA.
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

KOSINA WEATHER STATION

November, 1984



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

HOURLY SOLAR RADIATION SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING November, 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	4	14	23	27	25	21	14	7	1	0	0	0	0	0	0	0	6
2	0	0	0	0	0	0	0	0	2	8	15	20	21	19	13	7	1	0	0	0	0	0	0	0	4
3	0	0	0	0	0	0	0	0	2	8	14	19	20	14	14	4	1	0	0	0	0	0	0	0	4
4	0	0	0	0	0	0	0	0	2	7	14	15	11	11	7	5	1	0	0	0	0	0	0	0	3
5	0	0	0	0	0	0	0	0	1	2	3	5	5	4	3	2	0	0	0	0	0	0	0	0	1
6	0	0	0	0	0	0	0	0	1	3	5	5	5	3	4	1	0	0	0	0	0	0	0	0	1
7	0	0	0	0	0	0	0	0	0	1	2	3	4	3	3	1	0	0	0	0	0	0	0	0	1
8	0	0	0	0	0	0	0	0	0	1	2	3	7	2	2	1	0	0	0	0	0	0	0	0	1
9	0	0	0	0	0	0	0	0	0	1	3	3	3	3	2	1	0	0	0	0	0	0	0	0	1
10	0	0	0	0	0	0	0	0	0	1	3	10	14	13	10	4	0	0	0	0	0	0	0	0	2
11	0	0	0	0	0	0	0	0	1	4	10	13	14	13	10	4	0	0	0	0	0	0	0	0	3
12	0	0	0	0	0	0	0	0	0	4	11	14	15	14	10	4	0	0	0	0	0	0	0	0	3
13	0	0	0	0	0	0	0	0	0	5	14	17	19	19	12	4	0	0	0	0	0	0	0	0	4
14	0	0	0	0	0	0	0	0	1	4	14	7	3	12	3	1	0	0	0	0	0	0	0	0	2
15	0	0	0	0	0	0	0	0	0	1	4	4	9	6	2	1	0	0	0	0	0	0	0	0	1
16	0	0	0	0	0	0	0	0	0	2	11	14	7	5	4	1	0	0	0	0	0	0	0	0	2
17	0	0	0	0	0	0	0	0	0	1	4	6	8	8	11	2	0	0	0	0	0	0	0	0	2
18	0	0	0	0	0	0	0	0	0	2	7	5	9	19	13	2	0	0	0	0	0	0	0	0	2
19	0	0	0	0	0	0	0	0	0	3	11	18	19	15	13	2	0	0	0	0	0	0	0	0	3
20	0	0	0	0	0	0	0	0	0	1	2	2	3	2	2	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	1	2	3	5	5	3	1	0	0	0	0	0	0	0	0	1
22	0	0	0	0	0	0	0	0	0	1	3	7	5	4	2	1	0	0	0	0	0	0	0	0	1
23	0	0	0	0	0	0	0	0	0	0	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	1	1	2	2	2	1	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	1	3	4	2	3	2	0	0	0	0	0	0	0	0	0	1
26	0	0	0	0	0	0	0	0	0	1	3	6	3	2	3	0	0	0	0	0	0	0	0	0	1
27	0	0	0	0	0	0	0	0	0	1	3	3	4	1	1	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	1	2	2	2	3	1	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	1	5	8	7	6	3	1	0	0	0	0	0	0	0	0	1
30	0	0	0	0	0	0	0	0	0	1	3	4	8	10	2	1	0	0	0	0	0	0	0	1	1

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

OBSERVATION SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING November, 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	1328	92
PRECIPITATION	0	0
SOLAR RADIATION	1440	100
DEW POINT	1328	92

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

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

1. RH
   - -20 RH Points 11/1 - 11/2
   - -16 11/2 - 11/28
   - -11 11/28 - 11/30

2. Solar -1 mW/CM^2

No precipitation data for December

(See INTERPRETATION OF DATA).

R A M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

THREE HOUR SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING December, 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	-13.8	-16.0	78	186	2.8	191	3.8	0
0600	-11.0	-13.9	79	181	3.4	181	5.7	0
0900	-10.8	-13.9	78	192	2.6	190	4.4	0
1200	-10.6	-14.6	72	182	2.4	164	4.4	6
1500	-10.2	-13.3	78	172	3.2	162	6.3	1
1800	-13.3	-16.2	79	192	2.8	179	5.1	0
2100	-13.4	-16.3	79	204	2.4	180	3.8	0
2400	-13.0	-15.7	80	182	2.8	166	5.1	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	-13.6	-16.5	79	184	3.0	189	5.1	0
0600	-12.1	-15.3	77	226	2.6	243	3.8	0
0900	-13.3	-16.2	79	200	2.3	200	4.4	0
1200	-10.4	-13.5	78	202	2.3	196	3.8	2
1500	-9.3	-12.6	77	215	1.7	197	3.8	1
1800	-8.8	-11.9	78	191	2.2	180	3.8	0
2100	-7.9	-12.0	72	182	2.1	185	3.8	0
2400	-7.0	-10.7	75	170	2.2	153	4.4	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	-7.5	-10.5	79	156	1.6	189	3.8	0
0600	-6.4	-10.4	73	184	2.0	217	3.8	0
0900	-7.0	-10.7	75	143	2.6	132	5.1	0
1200	-7.8	-11.0	78	191	2.3	171	4.4	4
1500	-6.6	-10.1	76	188	2.3	195	3.8	1
1800	-7.3	-10.3	79	149	3.0	147	5.1	0
2100	-7.1	-9.8	81	162	1.6	151	3.8	0
2400	-6.9	-9.3	83	161	2.0	171	3.8	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	-5.3	-8.4	79	188	2.8	175	6.3	0
0600	-4.0	-8.1		178	.9	140	4.4	0
0900	-2.6	-7.7	68	099	3.3	095	7.0	0
1200	-2.4	-7.3	69	070	3.0	088	6.3	3
1500	-3.4	-7.2	75	099	1.6	117	4.4	1
1800	-3.5	-6.5	80	174	1.7	188	5.7	0
2100	-3.3	-4.9	89	134	1.3	135	4.4	0
2400	-5.5	-5.6	99	181	.9	109	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	-5.5	-6.2	95	209	1.4	188	3.8	0
0600	-6.7	-7.0	98	212	3.0	222	5.1	0
0900	-7.0	-8.0	93	207	3.1	205	5.7	0
1200	-5.8	-7.8	86	203	3.4	203	5.1	3
1500	-5.0	-7.5	83	202	3.1	206	5.1	2
1800	-5.8	-7.6	87	206	2.8	211	3.8	0
2100	-7.3	-9.0	88	190	3.8	189	5.7	0
2400	-8.6	-10.1	89	195	2.7	198	4.4	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	-7.4	-10.3	80	188	3.1	183	5.1	0
0600	-7.0	-10.3	77	190	3.3	188	5.7	0
0900	-8.7	-11.5	80	207	2.2	189	3.8	0
1200	-8.4	-12.0	75	207	1.9	189	3.8	4
1500	-7.5	-11.5	73	210	1.6	198	3.2	1
1800	-7.5	*****	76	191	1.2	183	3.8	0
2100	-5.9	*****	74	196	1.0	167	2.5	0
2400	-7.1	-7.8	95	215	.8	238	1.9	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	-7.9	-9.4	89	208	1.4	202	2.5	0
0600	-9.1	-10.7	88	191	1.3	191	3.2	0
0900	-9.2	-10.6	90	206	1.1	218	3.2	0
1200	-8.4	-10.9	82	211	1.8	206	3.2	2
1500	-8.9	-10.8	86	193	2.3	201	3.8	1
1800	-9.1	*****	92	218	1.9	198	4.4	0
2100	-9.8	-10.6	94	195	.9	143	4.4	0
2400	-10.7	-12.2	89	212	2.0	208	3.8	0

DAY 08

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-11.0	-13.3	83	211	2.0	208	3.8	0
0600	-10.1	-11.6	89	204	2.3	200	4.4	0
0900	-9.4	*****	89	202	2.4	209	4.4	0
1200	-8.9	*****	91	008	.8	008	3.2	2
1500	-7.1	-9.8	81	050	1.2	034	4.4	1
1800	-6.7	-11.8	67	278	2.1	248	9.5	0
2100	-8.7	-11.4	81	320	1.5	266	7.0	0
2400	-10.5	-11.8	90	022	1.2	061	3.2	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	-11.8	91	029	1.6	045	3.2	0
0600	-12.5	-14.5	85	046	.7	053	3.2	0
0900	-10.5	-16.6	61	323	1.1	257	3.2	0
1200	-11.2	-18.3	56	293	1.5	351	5.1	7
1500	-13.0	-19.7	57	315	3.1	331	7.0	1
1800	-15.2	-21.6	58	350	1.5	244	4.4	0
2100	-16.6	-22.7	59	300	2.8	287	6.3	0
2400	-16.7	-22.6	60	197	2.9	183	5.7	0

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R & M CONSULTANTS, INC.

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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	-20.7	-25.5	65	191	2.8	163	5.7	0
0600	-20.9	-25.4	67	219	2.1	256	5.1	0
0900	-20.2	-24.5	68	204	1.9	155	5.1	0
1200	-20.1	-24.8	66	221	2.5	212	5.7	3
1500	-22.2	-26.5	68	167	2.5	167	6.3	1
1800	-21.1	-25.1	70	199	2.6	211	4.4	0
2100	-21.8	-25.9	69	186	2.3	174	3.8	0
2400	-21.8	-25.9	69	200	2.6	212	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	-19.9	-24.1	69	167	2.7	171	4.4	0
0600	-19.8	-24.2	68	174	2.7	182	3.8	0
0900	-18.1	-22.2	70	192	2.2	188	3.8	0
1200	-17.6	-22.1	68	165	3.1	160	4.4	3
1500	-17.3	-21.6	69	193	1.9	179	4.4	1
1800	-17.7	-22.1	68	184	2.4	205	3.8	0
2100	-18.9	-23.3	68	192	2.2	211	5.1	0
2400	-17.7	-22.8	64	197	1.7	203	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	-19.2	-24.6	62	170	2.4	151	5.1	0
0600	-21.4	-27.1	60	163	2.8	151	5.7	0
0900	-21.8	-27.1	62	181	2.3	158	5.1	0
1200	-22.1	-28.3	57	206	1.7	186	5.2	6
1500	-23.5	-29.4	58	201	2.0	159	4.4	1
1800	-22.8	-27.2	67	197	2.5	166	5.7	0
2100	-25.7	-30.0	67	195	2.8	175	5.7	0
2400	-26.9	-31.1	67	210	2.0	213	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	-25.0	-29.0	69	210	2.5	200	4.4	0
0600	-23.6	-27.7	69	192	3.2	205	5.1	0
0900	-22.6	-26.9	68	170	3.1	162	5.7	0
1200	-21.0	-25.5	67	177	3.0	160	5.1	5
1500	-19.0	-23.6	67	191	2.4	198	3.8	1
1800	-19.1	-23.7	67	183	2.9	167	5.7	0
2100	-19.8	-24.7	65	194	2.2	177	3.8	0
2400	-19.4	-23.1	72	143	.7	194	3.8	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	-21.9	-26.2	68	206	1.7	190	3.8	0
0600	-21.7	-26.5	65	204	2.3	220	4.4	0
0900	-21.9	-26.7	65	218	1.9	205	3.8	0
1200	-21.3	-27.7	56	189	2.6	181	5.1	8
1500	-19.4	-27.9	47	179	3.1	174	5.1	1
1800	-20.1	-29.3	44	188	2.8	186	5.1	0
2100	-18.6	-27.9	44	186	3.1	187	7.0	0
2400	-17.1	-27.3	41	166	3.7	161	7.6	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	-15.5	-24.6	46	216	2.2	180	6.3	0
0600	-16.1	-25.4	45	166	2.5	184	7.0	0
0900	-17.2	-22.2	65	159	3.9	150	5.7	0
1200	-18.6	-23.2	67	151	4.5	153	7.6	6
1500	-19.5	-23.9	68	153	4.8	151	7.6	1
1800	-19.9	-24.1	69	148	4.7	144	8.3	0
2100	-18.4	-22.7	69	161	3.9	164	7.0	0
2400	-17.6	-21.9	69	172	3.1	182	5.1	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	-16.4	-19.9	74	171	2.9	154	5.7	0
0600	-15.5	-19.2	73	161	2.6	162	4.4	0
0900	-14.2	-17.6	75	166	2.5	161	3.8	0
1200	-16.0	-19.2	76	167	3.2	156	6.3	4
1500	-13.3	-17.3	72	177	2.4	195	4.4	1
1800	-14.3	-17.9	74	139	2.1	141	5.7	0
2100	-13.4	-16.3	79	158	2.4	148	5.1	0
2400	-13.4	-16.3	79	151	3.4	154	6.3	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	-14.8	-17.8	78	145	4.3	133	7.0	0
0600	-12.6	-15.3	80	151	4.7	151	7.0	0
0900	-12.8	-15.4	81	154	4.6	157	6.3	0
1200	-11.8	-14.6	80	168	3.9	159	6.3	2
1500	-8.2	-10.6	83	169	2.1	156	3.8	1
1800	-6.5	-7.6	92	184	1.5	211	3.2	0
2100	-6.3	-7.0	95	195	.7	214	1.9	0
2400	-5.6	-6.7	92	207	1.6	220	3.2	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	-5.2	-6.5	91	201	1.9	200	3.8	0
0600	-5.0	-6.0	93	189	2.4	183	4.4	0
0900	-5.5	-7.1	89	167	1.9	181	3.8	0
1200	-4.5	-5.6	92	172	2.1	156	3.8	2
1500	-5.0	-6.0	93	150	1.8	145	3.8	1
1800	-5.7	-6.8	92	152	2.2	149	5.1	0
2100	-5.9	-6.9	93	151	2.2	152	4.4	0
2400	-5.6	-6.8	92	151	2.2	148	3.8	0

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DAY 19

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-2.6	-4.2	89	321	1.2	352	8.3	0
0600	-6.7	-13.0	61	327	6.8	326	10.8	0
0900	-10.0	-18.5	50	332	3.1	345	6.3	0
1200	-10.1	-23.8	32	303	5.4	323	9.5	6
1500	-15.0	-28.1	32	288	3.4	298	8.3	1
1800	-10.3	-34.3	12	307	4.8	295	9.5	0
2100	-15.9	-32.3	23	276	1.5	315	9.5	0
2400	-20.8	-33.6	31	170	2.2	184	5.7	0

DAY 20

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	-21.9	-33.0	36	198	2.3	204	4.4	0
0600	-21.1	-31.5	39	202	2.1	207	4.4	0
0900	-18.5	-29.4	38	205	2.6	183	5.1	0
1200	-17.0	-28.6	36	192	2.5	194	5.1	8
1500	-17.1	-28.4	37	193	2.1	191	3.8	1
1800	-19.1	-29.1	41	156	4.2	151	7.0	0
2100	-19.5	-29.2	42	162	4.2	157	7.0	0
2400	-19.2	-28.2	45	163	4.1	158	7.6	0

DAY 21

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	-19.2	-27.0	50	154	4.9	165	8.3	0
0600	-17.8	-25.1	53	171	2.8	152	6.3	0
0900	-18.0	-25.3	53	144	4.1	146	6.3	0
1200	-17.7	-21.5	72	148	4.6	134	6.3	1
1500	-17.2	-21.0	72	145	5.1	140	7.6	1
1800	-16.8	-20.5	73	134	3.5	154	6.3	0
2100	-16.7	-20.2	74	135	3.3	148	5.7	0
2400	-17.0	-20.4	75	141	2.3	143	5.1	0

DAY 22

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-16.5	-20.2	73	138	3.9	137	7.0	0
0600	-16.8	-20.8	71	147	4.8	144	7.0	0
0900	-15.8	-19.7	72	151	4.7	151	7.0	0
1200	-15.5	-19.4	72	145	4.2	137	6.3	2
1500	-14.7	-18.8	71	150	4.5	150	6.3	1
1800	-14.3	-17.7	75	147	5.1	154	7.6	0
2100	-13.3	-16.5	77	150	4.7	137	7.0	0
2400	-13.1	-16.1	78	167	4.4	158	8.3	0

DAY 23

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	-12.6	-15.9	76	149	4.5	144	7.6	0
0600	-12.2	-14.8	81	191	2.6	180	5.1	0
0900	-11.7	-13.9	84	172	2.4	180	3.8	0
1200	-10.7	-12.5	87	200	1.9	208	3.8	1
1500	-9.8	-11.4	88	176	1.8	195	3.2	1
1800	-9.2	-10.6	90	177	1.3	176	2.5	0
2100	-5.5	-9.0	76	294	2.8	281	11.4	0
2400	-7.8	-11.6	74	277	7.1	252	12.1	0

DAY 24

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	-10.8	-13.0	84	037	3.2	266	8.9	0
0600	-12.0	-14.9	79	024	1.9	045	3.8	0
0900	-16.3	-18.9	80	247	1.3	342	4.4	0
1200	-15.9	-20.6	67	200	1.8	192	4.4	9
1500	-14.5	-19.4	66	213	2.0	212	3.2	1
1800	-18.1	-23.4	63	209	1.8	202	4.4	0
2100	-17.6	-23.1	62	206	1.9	178	3.8	0
2400	-17.3	-22.8	62	193	1.9	185	4.4	0

DAY 25

HOUR ENDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-16.8	-21.3	68	140	3.5	134	5.7	0
0600	-16.0	-19.9	72	155	3.6	144	6.3	0
0900	-14.7	-18.4	73	154	2.7	154	5.7	0
1200	-15.5	-18.6	77	188	2.7	170	6.3	2
1500	-15.0	-18.7	77	204	1.9	212	3.2	1
1800	-15.2	-18.9	73	166	3.1	159	5.1	0
2100	-14.8	-17.8	78	191	2.4	191	5.1	0
2400	-15.9	-16.9	78	184	1.6	184	3.8	0

DAY 26

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	-13.9	-16.5	81	143	1.7	136	3.2	0
0600	-16.2	*****	82	067	.3	157	3.2	0
0900	-16.8	-19.4	80	211	1.4	230	2.5	0
1200	-19.0	-21.7	79	200	1.5	218	3.2	3
1500	-17.1	-19.7	80	213	2.2	222	5.1	1
1800	-17.9	-20.8	78	208	2.1	173	4.4	0
2100	-15.8	-20.0	70	206	2.8	204	5.1	0
2400	-19.1	-23.5	68	199	2.6	201	5.1	0

DAY 27

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	-19.7	-24.1	68	303	2.0	200	3.8	0
0600	-21.6	-25.9	68	216	1.7	221	3.2	0
0900	-21.9	-26.0	69	211	1.8	217	3.2	0
1200	-19.3	-24.0	66	204	2.8	211	3.8	7
1500	-21.6	-25.6	70	218	1.8	216	3.2	1
1800	-22.9	-26.4	73	217	2.1	219	4.4	0
2100	-23.8	-27.5	71	217	2.6	219	5.1	0
2400	-24.0	-28.0	69	228	2.4	239	4.4	0

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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	-23.0	-27.2	68	232	2.9	218	4.4	0
0600	-21.5	-26.3	65	222	3.1	218	5.1	0
0900	-23.6	-28.5	64	210	2.8	210	4.4	0
1200	-21.7	-27.7	58	197	1.4	160	4.4	8
1500	-26.1	-30.7	65	193	2.7	192	5.1	1
1800	-29.8	-34.4	64	224	2.8	209	5.1	0
2100	-26.9	-31.3	66	203	3.0	219	4.4	0
2400	-22.9	-27.5	66	183	2.9	173	5.7	0

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	-21.3	-25.6	68	188	2.3	210	3.8	0
0600	-20.8	-25.6	65	170	3.1	154	5.7	0
0900	-20.2	-23.9	72	171	3.5	177	5.7	0
1200	-19.4	-23.1	72	160	2.7	151	4.4	2
1500	-18.0	-21.8	72	163	2.9	164	4.4	1
1800	-17.3	-20.7	75	169	2.7	175	4.4	0
2100	-17.1	-20.6	74	178	2.1	186	3.2	0
2400	-16.7	-19.9	76	181	2.7	151	4.4	0

DAY 30

HOUR NDNG	TEMP. DEG C	DEW POINT DFG C	RH %	WIND DIR. DEG.	WIND SPD. M/S	GUST DIR. DFG.	MAX. GUST M/S	RAD MW
0300	-17.5	-21.3	72	192	2.6	213	3.8	0
0600	-15.7	-19.7	71	189	2.6	193	3.8	0
0900	-14.7	-18.9	70	209	3.0	209	5.1	0
1200	-9.8	-12.6	80	155	2.4	115	10.8	2
1500	-8.4	-11.2	80	113	5.5	105	10.8	1
1800	-7.6	-10.6	79	120	6.9	115	10.8	0
2100	-6.5	-9.7	78	127	4.7	121	11.4	0
2400	-7.9	-10.6	81	137	2.1	100	10.2	0

DAY 31

HOUR NDNG	TEMP. DEG C	DEW POINT DEG C	RH %	WIND DIR. DFG.	WIND SPD. M/S	GUST DIR. DEG.	MAX. GUST M/S	RAD MW
0300	-10.0	-12.4	83	201	1.5	237	3.2	0
0600	-8.0	-9.0	93	227	2.4	229	3.8	0
0900	-6.7	-9.4	81	204	3.9	203	6.3	0
1200	-4.1	-6.0	87	151	2.0	125	7.6	3
1500	-5.7	-7.7	86	167	1.2	119	7.0	2
1800	-3.4	-4.5	92	201	2.7	161	6.3	0
2100	-4.1	-6.0	87	172	3.4	125	9.5	0
2400	-4.2	-6.2	86	151	3.0	138	7.6	0

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

MONTHLY SUMMARY FOR KOSINA 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	-8.4	-14.3	-11.4	186	2.8	2.9	162	6.3	S	78	-14.5	****	225	1
2	-7.0	-16.0	-11.5	196	2.2	2.4	189	5.1	SSW	77	-14.1	****	105	2
3	-6.0	-7.8	-6.9	166	2.1	2.3	132	5.1	SSE	77	-10.4	****	120	3
4	-1.9	-6.8	-4.4	130	1.4	2.2	095	7.0	S	78	-7.3	****	120	4
5	-4.7	-9.0	-6.9	203	2.8	2.9	205	5.7	SSW	91	-7.8	****	125	5
6	-5.9	-8.9	-7.4	198	1.9	1.9	188	5.7	SSW	78	-10.7	****	155	6
7	-7.0	-11.0	-9.0	205	1.6	1.7	198	4.4	SSW	90	-10.5	****	85	7
8	-6.5	-11.0	-8.8	246	.6	2.0	248	9.5	SSW	82	-11.6	****	85	8
9	-10.3	-18.0	-14.2	247	.8	2.1	330	7.0	S	67	-18.1	****	200	9
10	-18.0	-23.0	-20.5	198	2.3	2.6	167	6.3	SSW	67	-25.1	****	95	10
11	-16.1	-21.5	-18.8	181	2.3	2.4	211	5.1	S	68	-22.9	****	155	11
12	-16.2	-27.0	-21.6	189	2.2	2.4	151	5.7	SSW	62	-27.7	****	170	12
13	-17.7	-27.0	-22.4	186	2.4	2.7	162	5.7	S	68	-25.8	****	135	13
14	-17.1	-24.4	-20.8	188	2.6	2.7	161	7.6	S	55	-27.6	****	275	14
15	-15.1	-20.2	-17.7	161	3.5	3.8	144	8.3	SSE	61	-24.0	****	175	15
16	-11.9	-17.5	-14.7	162	2.6	2.8	156	6.3	SSE	75	-18.4	****	170	16
17	-5.4	-15.0	-10.2	162	2.8	3.0	133	7.0	SSE	84	-13.1	****	90	17
18	-4.4	-6.0	-5.2	165	2.2	2.4	149	5.1	SSE	92	-6.4	****	100	18
19	-2.6	-20.8	-11.7	308	2.9	4.0	326	10.8	NW	41	-23.2	****	200	19
20	-16.2	-22.5	-19.4	178	2.9	3.1	158	7.6	S	39	-30.1	****	220	20
21	-16.3	-20.2	-18.3	146	3.8	3.9	165	8.3	SE	64	-23.0	****	55	21
22	-12.1	-17.0	-14.6	149	4.5	4.6	158	8.3	SSE	73	-18.7	****	95	22
23	-5.2	-12.6	-8.9	214	1.8	3.2	252	12.1	S	82	-12.6	****	60	23
24	-8.1	-18.9	-13.5	208	.8	2.2	266	8.9	SW	70	-19.3	****	265	24
25	-13.9	-17.2	-15.6	169	2.5	2.8	144	6.3	SSW	73	-19.1	****	95	25
26	-13.6	-19.9	-16.8	199	1.6	1.9	222	5.1	SSW	78	-19.3	****	105	26
27	-16.8	-25.8	-21.3	215	2.0	2.1	210	5.1	SSW	69	-25.6	****	270	27
28	-20.0	-30.1	-25.1	209	2.6	2.8	173	5.7	SW	65	-29.3	****	265	28
29	-16.4	-22.9	-19.7	172	2.7	2.8	154	5.7	SSE	71	-23.1	****	70	29
30	-6.3	-17.7	-12.0	143	3.1	4.1	121	11.4	ESE	76	-14.7	****	90	30
31	-1.6	-10.3	-5.9	185	2.3	3.0	125	9.5	SSW	88	-7.3	****	155	31
MONTH	-1.6	-30.1	-14.0	181	2.0	2.8	252	12.1	SSW	72	-18.1	****	4530	

GUST VEL. AT MAX. GUST MINUS 2 INTERVALS 10.2
GUST VEL. AT MAX. GUST MINUS 1 INTERVAL 11.4
GUST VEL. AT MAX. GUST PLUS 1 INTERVAL 8.9
GUST VEL. AT MAX. GUST PLUS 2 INTERVALS 7.6

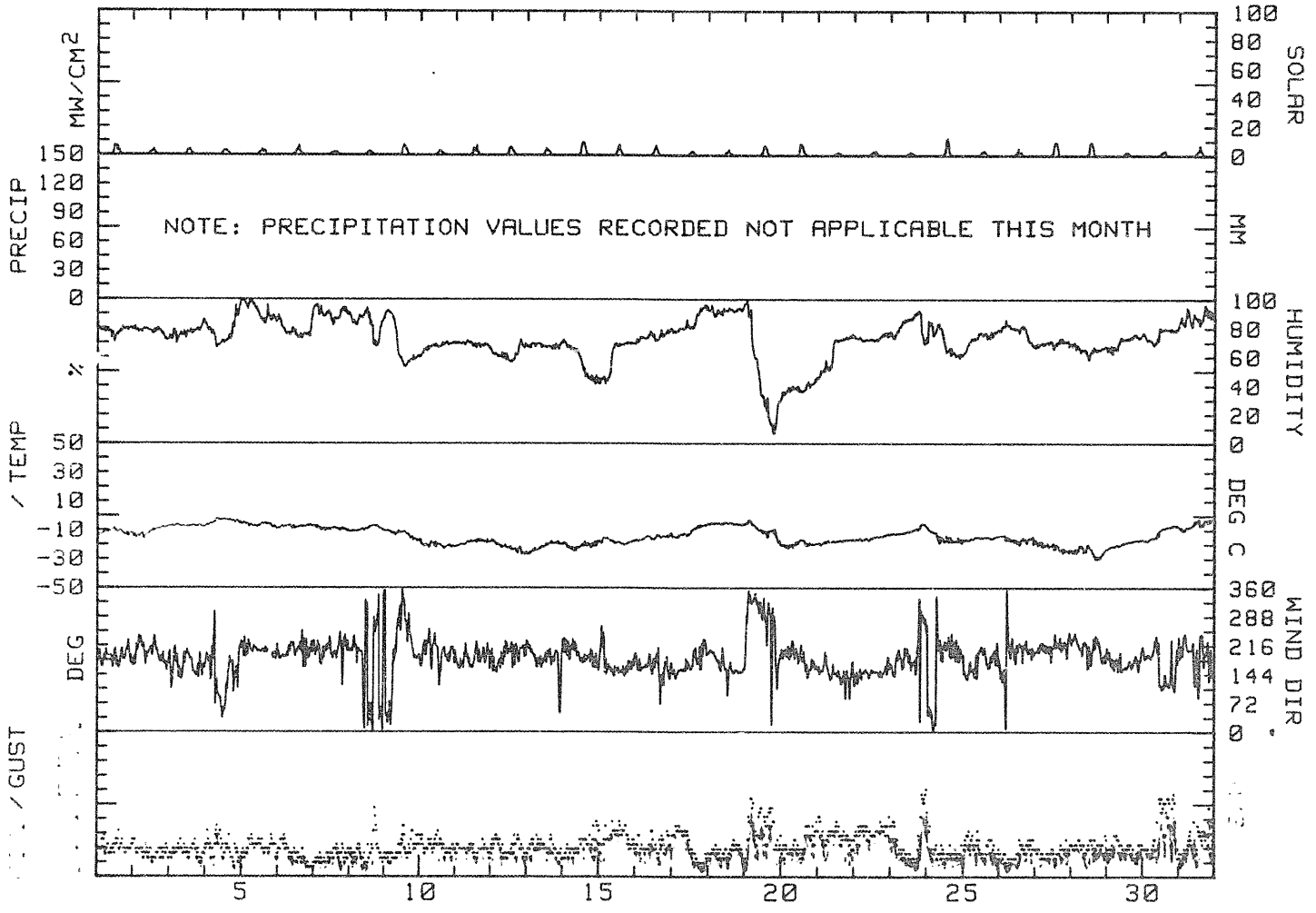
NOTE: RELATIVE HUMIDITY READINGS ARE UNRELIABLE WHEN WIND SPEEDS ARE LESS THAN ONE METER PER SECOND. SUCH READINGS HAVE NOT BEEN INCLUDED IN THE DAILY OR MONTHLY MEAN FOR RELATIVE HUMIDITY AND DEW POINT.
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

KOSINA WEATHER STATION

December, 1984



R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

WIND FREQUENCY SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING December, 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	.07	.54	.07	0.00	0.00	0.00	0.00	.67
NNE	0.00	.88	.07	0.00	0.00	0.00	0.00	.94
NE	.07	.94	.20	0.00	0.00	0.00	0.00	1.21
ENE	.07	.81	.13	0.00	0.00	0.00	0.00	1.01
E	0.00	.34	.40	.07	0.00	0.00	0.00	.81
ESE	0.00	1.15	.61	.74	0.00	0.00	0.00	2.49
SE	.07	2.02	4.59	.07	0.00	0.00	0.00	6.74
SSE	.34	7.01	11.94	.07	0.00	0.00	0.00	19.35
S	.20	16.52	5.60	0.00	0.00	0.00	0.00	22.32
SSW	.47	20.84	4.52	0.00	0.00	0.00	0.00	25.83
SW	54	9.37	1.35	0.00	0.00	0.00	0.00	11.26
WSW	.07	1.96	.40	.07	0.00	0.00	0.00	2.49
W	.13	.67	.40	.13	0.00	0.00	0.00	1.35
WNW	.07	.54	.54	.27	0.00	0.00	0.00	1.47
NW	.07	.20	.61	.34	0.00	0.00	0.00	1.21
NNW	.07	.34	.40	.07	0.00	0.00	0.00	.87
CALM								9.30
TOTAL	2.23	64.13	31.83	1.62	0.00	0.00	0.00	100.00

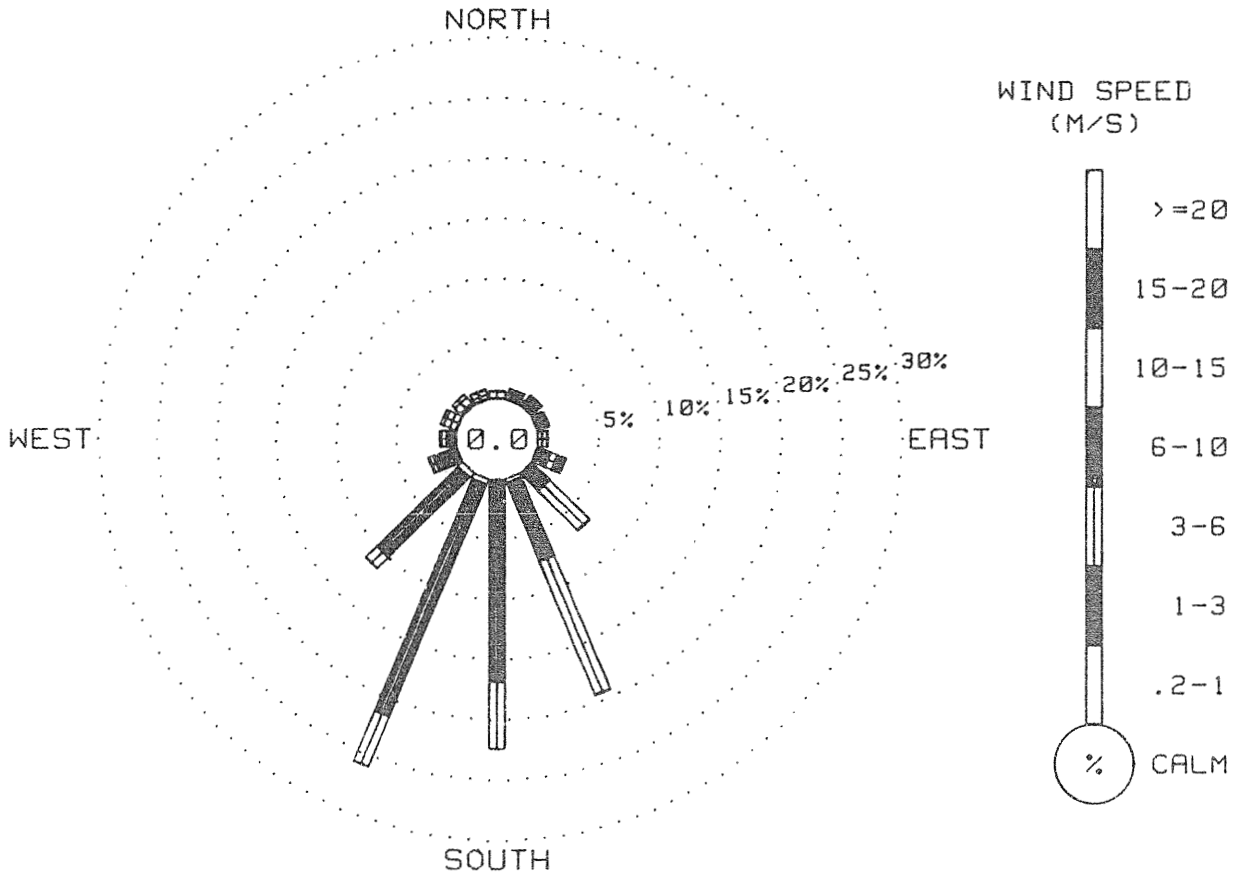
NOTE: ALL FREQUENCIES ARE EXPRESSED IN PERCENT
1465 VALID WIND OBSERVATIONS USED TO DEVELOP FREQUENCY SUMMARY
1488 WIND OBSERVATIONS WOULD HAVE BEEN CORRECT FOR 30 MINUTE DATA.
** SEE INTERPRETATION NOTES AT END OF MONTHLY REPORT **

R&M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

KOSINA WEATHER STATION

December, 1984



WIND ROSE PLOT

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

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

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

R & M CONSULTANTS, INC.

SUSITNA HYDROELECTRIC PROJECT

OBSERVATION SUMMARY FOR KOSINA WEATHER STATION
DATA TAKEN DURING December, 1984

PARAMETER	NUMBER OF USABLE OBSERVATIONS	PERCENT OF TOTAL OBSERVATIONS
TEMPERATURE	1488	100
WIND SPEED	1488	100
WIND DIRECTION	1483	100
PEAK GUST	1488	100
RELATIVE HUMIDITY	1455	98
PRECIPITATION	0	0
SOLAR RADIATION	1488	100
DEW POINT	1455	98

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

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

1. RH -11 RH Points
2. Solar -1 mW/CM^2

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 III, Kosina Creek Station (No. 0640). Prepared under contract to Harza-Ebasco Susitna Joint Venture for Alaska Power Authority. Document No. 1090. 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)